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LABORATORY REPORT

May 4, 2016

Shane Lowe
CH2M Hill
1034 South Brentwood Blvd., Suite 2300
Richmond Heights, MO 63117

RE: EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund

Dear Shane:

Enclosed are the results of the samples submitted to our laboratory on April 26, 2016. For your reference, these analyses have been assigned our service request number P1602147.

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.

Respectfully submitted,

ALS | Environmental

Kelly Horiuchi
Laboratory Director

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Client: CH2M Hill Service Request No: P1602147
Project: EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund

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CASE NARRATIVE

The samples were received intact under chain of custody on April 26, 2016 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 in scan and SIM mode for volatile organic 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, however it is not part of the AIHA-LAP 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. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L15-398
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-15-6
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272015-5
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: CH2M Hill
Service Request: P1602147
Project ID: EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund

Date Received: 4/26/2016
Time Received: 09:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans	TO-15 - VOC SIM
GM-SS-029-042016	P1602147-001	Air	4/20/2016	10:01	AS00711	-4.12	3.59	X	
GM-SS-030-042016	P1602147-002	Air	4/20/2016	10:00	SC01897	-5.13	3.90	X	
GM-IA-012-042016	P1602147-003	Air	4/20/2016	10:03	AC02142	-6.79	3.58		X
GM-OA-001-041916	P1602147-004	Air	4/19/2016	17:40	AS00867	-5.57	3.61		X
GM-SS-016-042016	P1602147-005	Air	4/20/2016	14:55	SSC00274	-5.23	3.55	X	
GM-SS-017-042016	P1602147-006	Air	4/20/2016	14:57	SSC00350	-5.65	3.57	X	
GM-SS-018-042016	P1602147-007	Air	4/20/2016	15:03	SC01063	-5.21	3.59	X	
GM-SS-FD-018-042016	P1602147-008	Air	4/20/2016	15:03	SC00447	-5.35	3.58	X	
GM-IA-014-042016	P1602147-009	Air	4/20/2016	15:12	AS00345	-6.73	3.56		X
GM-IA-015-042016	P1602147-010	Air	4/20/2016	15:13	AC01932	-7.39	3.59		X
GM-OA-002-042016	P1602147-011	Air	4/20/2016	17:30	AC01590	-5.80	3.61		X
GM-OA-FD-002-042016	P1602147-012	Air	4/20/2016	17:30	AC02149	-5.01	3.57		X

P1602147

, COPY)
016
Ex
1254885

CHAIN OF CUSTODY RECORD

Contact Name: Kaitlin Ma
Contact Phone: 917-273-8482

No: 5-042016-111250-0028
Lab: ALS Analytical Services
Lab Contact:
Lab Phone:

	dentifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
1	GM-SS-029-042016	16CN02-32	Sub Slab/ CH2M	Grab	TO 15(7)	5-23782 (NONE) (1)	GM-SS-029	04/20/2016 10:01	
2	GM-SS-030-042016	16CN02-34	Sub Slab/ CH2M	Grab	TO 15(7)	5-23784 (NONE) (1)	GM-SS-030	04/20/2016 10:00	
3	GM-IA-012-042016	16CN02-60	Indoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23713 (NONE) (1)	GM-IA-012	04/20/2016 10:03	
4	GM-OA-001-041920	16CN02-79	Outdoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23732 (NONE) (1)	GM-OA-001	04/19/2016 17:40	

Special Instructions: Custody Seal Nos: 56997, 56998 7 Day TAT

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: TO 15=TO-15 VOCs- (site-specific), TO-15 SIM=TO-15 VOCs SIM (site-specific)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	James F. Mallison	4/20/16 13:00	4/20/16 0915		

P1602147

USEPA CLP COC (LAB COPY)
DateShipped: 4/21/2016
CarrierName: FedEx
AirbillNo: 649211254896

CHAIN OF CUSTODY RECORD

Contact Name: Kaitlin Ma
Contact Phone: 917-273-8482

No: 5-042016-213620-0029
Lab: ALS Analytical Services
Lab Contact:
Lab Phone:

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
GM-SS-016-042016	16CN02-17	Sub Slab/ CH2M	Grab	TO 15(7)	5-23767 (NONE) (1)	GM-SS-016	04/20/2016 14:55	
GM-SS-017-042016	16CN02-18	Sub Slab/ CH2M	Grab	TO 15(7)	5-23768 (NONE) (1)	GM-SS-017	04/20/2016 14:57	
GM-SS-018-042016	16CN02-19	Sub Slab/ CH2M	Grab	TO 15(7)	5-23769 (NONE) (1)	GM-SS-018	04/20/2016 15:03	
GM-SS-FD-018-042016	16CN02-20	Sub Slab/ CH2M	Grab	TO 15(7)	5-23770 (NONE) (1)	GM-SS-018	04/20/2016 15:03	

Special Instructions: Custody Seal Nos: 56999, 57000	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: TO 15=TO-15 VOCs- (site-specific)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	CH2M	4/21/16 0800	4/22/16 0915		

P1602147

USEPA CLP COC (LAB COPY)
DateShipped: 4/21/2016
CarrierName: FedEx
AirbillNo: 649211254900

CHAIN OF CUSTODY RECORD

Contact Name: Kaitlin Ma
Contact Phone: 917-273-8482

No: 5-042016-222646-0030
Lab: ALS Analytical Services
Lab Contact:
Lab Phone:

	Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
9	GM-IA-014-042016	16CN02-62	Indoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23715 (NONE) (1)	GM-IA-014	04/20/2016 15:12	
10	GM-IA-015-042016	16CN02-63	Indoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23716 (NONE) (1)	GM-IA-015	04/20/2016 15:13	
11	GM-OA-002-042016	16CN02-80	Outdoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23733 (NONE) (1)	GM-OA-002	04/20/2016 17:30	
12	GM-OA-FD-002-042016	16CN02-86	Outdoor Air/ CH2M	Grab	TO-15 SIM(7)	5-23739 (NONE) (1)	GM-OA-002	04/20/2016 17:30	

Special Instructions: Custody Seal Nos: 180101, 180103

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: TO-15 SIM=TO-15 VOCs SIM (site-specific)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	CH2M	4/21/16 0800	4/27/16 0915		

ALS Environmental
Sample Acceptance Check Form

Client: CH2M Hill Work order: P1602147

Project: EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund

Sample(s) received on: 4/26/16 Date opened: 4/26/16 by: KKELPE

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 box 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?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1602147-001.01	6.0 L Silonite Can					
P1602147-002.01	6.0 L Source Can					
P1602147-003.01	6.0 L Ambient Can					
P1602147-004.01	6.0 L Silonite Can					
P1602147-005.01	6.0 L Silonite Can					
P1602147-006.01	6.0 L Silonite Can					
P1602147-007.01	6.0 L Source Can					
P1602147-008.01	6.0 L Source Can					
P1602147-009.01	6.0 L Silonite Can					
P1602147-010.01	6.0 L Ambient Can					
P1602147-011.01	6.0 L Ambient Can					
P1602147-012.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers):
received in 2 separate shipments

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-029-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-001

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/26/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00711

Initial Pressure (psig): -4.12 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.87	ND	0.34	
75-09-2	Methylene Chloride	ND	0.87	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.87	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.87	ND	0.21	
156-59-2	cis-1,2-Dichloroethene	ND	0.87	ND	0.22	
71-55-6	1,1,1-Trichloroethane	**1.3**	0.87	**0.24**	0.16	
79-01-6	Trichloroethene	**96**	0.87	**18**	0.16	
127-18-4	Tetrachloroethene	**22**	0.87	**3.2**	0.13	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-030-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-002

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/26/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SC01897

Initial Pressure (psig): -5.13 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.97	ND	0.38	
75-09-2	Methylene Chloride	ND	0.97	ND	0.28	
156-60-5	trans-1,2-Dichloroethene	ND	0.97	ND	0.24	
75-34-3	1,1-Dichloroethane	ND	0.97	ND	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	0.97	ND	0.24	
71-55-6	1,1,1-Trichloroethane	**3.6**	0.97	**0.66**	0.18	
79-01-6	Trichloroethene	**230**	9.7	**43**	1.8	**D**
127-18-4	Tetrachloroethene	**40**	0.97	**5.8**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting 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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-016-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-005

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/27/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: SSC00274

Initial Pressure (psig): -5.23 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.97	ND	0.38	
75-09-2	Methylene Chloride	ND	0.97	ND	0.28	
156-60-5	trans-1,2-Dichloroethene	ND	0.97	ND	0.24	
75-34-3	1,1-Dichloroethane	ND	0.97	ND	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	0.97	ND	0.24	
71-55-6	1,1,1-Trichloroethane	ND	0.97	ND	0.18	
79-01-6	Trichloroethene	**20**	0.97	**3.8**	0.18	
127-18-4	Tetrachloroethene	ND	0.97	ND	0.14	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-017-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-006

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/27/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SSC00350

Initial Pressure (psig): -5.65 Final Pressure (psig): 3.57

Canister Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	1.0	ND	0.40	
75-09-2	Methylene Chloride	ND	1.0	ND	0.29	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ND	0.25	
75-34-3	1,1-Dichloroethane	ND	1.0	ND	0.25	
156-59-2	cis-1,2-Dichloroethene	**8.4**	1.0	**2.1**	0.25	
71-55-6	1,1,1-Trichloroethane	**6.1**	1.0	**1.1**	0.19	
79-01-6	Trichloroethene	**220**	10	**42**	1.9	**D**
127-18-4	Tetrachloroethene	**1.3**	1.0	**0.20**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting 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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-018-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-007

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/27/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SC01063

Initial Pressure (psig): -5.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.97	ND	0.38	
75-09-2	Methylene Chloride	ND	0.97	ND	0.28	
156-60-5	trans-1,2-Dichloroethene	**4.7**	0.97	**1.2**	0.24	
75-34-3	1,1-Dichloroethane	**0.97**	0.97	**0.24**	0.24	
156-59-2	cis-1,2-Dichloroethene	**79**	0.97	**20**	0.24	
71-55-6	1,1,1-Trichloroethane	**12**	0.97	**2.1**	0.18	
79-01-6	Trichloroethene	**510**	9.7	**94**	1.8	**D**
127-18-4	Tetrachloroethene	**1.4**	0.97	**0.20**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting 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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-FD-018-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-008

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/27/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SC00447

Initial Pressure (psig): -5.35 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.98	ND	0.38	
75-09-2	Methylene Chloride	ND	0.98	ND	0.28	
156-60-5	trans-1,2-Dichloroethene	**4.8**	0.98	**1.2**	0.25	
75-34-3	1,1-Dichloroethane	ND	0.98	ND	0.24	
156-59-2	cis-1,2-Dichloroethene	**79**	0.98	**20**	0.25	
71-55-6	1,1,1-Trichloroethane	**12**	0.98	**2.2**	0.18	
79-01-6	Trichloroethene	**510**	9.8	**95**	1.8	**D**
127-18-4	Tetrachloroethene	**1.4**	0.98	**0.20**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting 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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **Method Blank** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/29/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

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

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CH2M Hill**
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Project ID: P1602147

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date(s) Collected: 4/20/16
Analyst: Wida Ang Date(s) Received: 4/26 - 4/27/16
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 4/29 - 4/30/16
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	P160429-MB	**103**	**98**	**105**	70-130	
Lab Control Sample	P160429-LCS	**100**	**94**	**105**	70-130	
GM-SS-029-042016	P1602147-001	**103**	**97**	**104**	70-130	
GM-SS-029-042016	P1602147-001DUP	**104**	**97**	**103**	70-130	
GM-SS-030-042016	P1602147-002	**103**	**97**	**104**	70-130	
GM-SS-016-042016	P1602147-005	**104**	**97**	**104**	70-130	
GM-SS-017-042016	P1602147-006	**103**	**97**	**103**	70-130	
GM-SS-018-042016	P1602147-007	**103**	**98**	**103**	70-130	
GM-SS-FD-018-042016	P1602147-008	**102**	**96**	**104**	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 SUMMARY

Client: **CH2M Hill**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160429-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/29/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
75-01-4	Vinyl Chloride	200	**212**	**106**	65-128	
75-09-2	Methylene Chloride	222	**188**	**85**	63-117	
156-60-5	trans-1,2-Dichloroethene	210	**214**	**102**	69-129	
75-34-3	1,1-Dichloroethane	212	**196**	**92**	66-122	
156-59-2	cis-1,2-Dichloroethene	218	**215**	**99**	65-125	
71-55-6	1,1,1-Trichloroethane	210	**206**	**98**	68-120	
79-01-6	Trichloroethene	216	**193**	**89**	71-121	
127-18-4	Tetrachloroethene	202	**174**	**86**	65-126	

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 DUPLICATE SUMMARY RESULTS

Client: **CH2M Hill**
Client Sample ID: **GM-SS-029-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-001DUP

Test Code: EPA TO-15 Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/26/16
Analyst: Wida Ang Date Analyzed: 4/30/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00711

Initial Pressure (psig): -4.12 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.73

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result** ppbV	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	1.30	0.238	1.30	0.239	1.3	**0**	25	
Trichloroethene	95.9	17.9	95.1	17.7	95.5	**0.8**	25	
Tetrachloroethene	21.9	3.23	21.7	3.20	21.8	**0.9**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **CH2M Hill** ALS Project ID: P1602147

Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 04291627.D
Analyst: Wida Ang Date Analyzed: 4/29/16
Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 22:07
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	123035		8.81		589789		10.54		254569		14.57	
	Upper Limit	172249		9.14		825705		10.87		356397		14.90	
	Lower Limit	73821		8.48		353873		10.21		152741		14.24	
	Client Sample ID												
01	Method Blank	118585		8.79		617802		10.53		254117		14.57	
02	Lab Control Sample	127619		8.81		611592		10.54		264650		14.57	
03	GM-SS-029-042016	119538		8.79		611384		10.53		249260		14.57	
04	GM-SS-029-042016 (Lab Duplicate)	118247		8.79		609828		10.53		249085		14.57	
05	GM-SS-030-042016	117636		8.79		600081		10.54		245799		14.57	
06	GM-SS-016-042016	117047		8.79		603235		10.54		246764		14.57	
07	GM-SS-017-042016	119064		8.79		603604		10.54		248452		14.57	
08	GM-SS-018-042016	118588		8.79		606121		10.54		247483		14.57	
09	GM-SS-018-042016 (Dilution)	115237		8.78		581693		10.53		239942		14.57	
10	GM-SS-FD-018-042016	118155		8.79		593385		10.54		244179		14.57	
11	GM-SS-FD-018-042016 (Dilution)	117641		8.79		584848		10.53		245007		14.57	
12	GM-SS-030-042016 (Dilution)	126149		8.79		620004		10.54		261197		14.57	
13	GM-SS-017-042016 (Dilution)	115826		8.79		578374		10.54		241863		14.57	
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 specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-IA-012-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-003

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/26/16
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02142
Initial Pressure (psig): -6.79 Final Pressure (psig): 3.58

Canister Dilution Factor: 2.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.058	ND	0.023	
75-09-2	Methylene Chloride	**1.4**	0.23	**0.40**	0.067	
156-60-5	trans-1,2-Dichloroethene	ND	0.058	ND	0.015	
75-34-3	1,1-Dichloroethane	ND	0.058	ND	0.014	
156-59-2	cis-1,2-Dichloroethene	ND	0.058	ND	0.015	
71-55-6	1,1,1-Trichloroethane	**0.081**	0.058	**0.015**	0.011	
79-01-6	Trichloroethene	**2.8**	0.058	**0.53**	0.011	
127-18-4	Tetrachloroethene	**1.6**	0.058	**0.23**	0.0085	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-OA-001-041916** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-004

Test Code: EPA TO-15 SIM Date Collected: 4/19/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/26/16
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00867
Initial Pressure (psig): -5.57 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.01

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.050	ND	0.020	
75-09-2	Methylene Chloride	**0.36**	0.20	**0.10**	0.058	
156-60-5	trans-1,2-Dichloroethene	ND	0.050	ND	0.013	
75-34-3	1,1-Dichloroethane	ND	0.050	ND	0.012	
156-59-2	cis-1,2-Dichloroethene	ND	0.050	ND	0.013	
71-55-6	1,1,1-Trichloroethane	ND	0.050	ND	0.0092	
79-01-6	Trichloroethene	ND	0.050	ND	0.0094	
127-18-4	Tetrachloroethene	**0.55**	0.050	**0.081**	0.0074	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-IA-014-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-009

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/27/16
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00345
Initial Pressure (psig): -6.73 Final Pressure (psig): 3.56

Canister Dilution Factor: 2.29

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	**0.059**	0.057	**0.023**	0.022	
75-09-2	Methylene Chloride	**2.1**	0.23	**0.61**	0.066	
156-60-5	trans-1,2-Dichloroethene	ND	0.057	ND	0.014	
75-34-3	1,1-Dichloroethane	ND	0.057	ND	0.014	
156-59-2	cis-1,2-Dichloroethene	**0.23**	0.057	**0.058**	0.014	
71-55-6	1,1,1-Trichloroethane	**0.22**	0.057	**0.041**	0.010	
79-01-6	Trichloroethene	**3.5**	0.057	**0.65**	0.011	
127-18-4	Tetrachloroethene	**0.40**	0.057	**0.059**	0.0084	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-IA-015-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-010

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/27/16
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01932
Initial Pressure (psig): -7.39 Final Pressure (psig): 3.59

Canister Dilution Factor: 2.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.063	ND	0.024	
75-09-2	Methylene Chloride	**1.8**	0.25	**0.53**	0.072	
156-60-5	trans-1,2-Dichloroethene	ND	0.063	ND	0.016	
75-34-3	1,1-Dichloroethane	**0.066**	0.063	**0.016**	0.015	
156-59-2	cis-1,2-Dichloroethene	**0.15**	0.063	**0.038**	0.016	
71-55-6	1,1,1-Trichloroethane	**0.16**	0.063	**0.029**	0.011	
79-01-6	Trichloroethene	**1.8**	0.063	**0.33**	0.012	
127-18-4	Tetrachloroethene	**0.43**	0.063	**0.064**	0.0092	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-OA-002-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-011

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/27/16
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01590
Initial Pressure (psig): -5.80 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.06

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.052	ND	0.020	
75-09-2	Methylene Chloride	**0.34**	0.21	**0.099**	0.059	
156-60-5	trans-1,2-Dichloroethene	ND	0.052	ND	0.013	
75-34-3	1,1-Dichloroethane	ND	0.052	ND	0.013	
156-59-2	cis-1,2-Dichloroethene	ND	0.052	ND	0.013	
71-55-6	1,1,1-Trichloroethane	ND	0.052	ND	0.0094	
79-01-6	Trichloroethene	ND	0.052	ND	0.0096	
127-18-4	Tetrachloroethene	**0.093**	0.052	**0.014**	0.0076	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **GM-OA-FD-002-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-012

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/27/16
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02149
Initial Pressure (psig): -5.01 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.047	ND	0.018	
75-09-2	Methylene Chloride	**0.29**	0.19	**0.082**	0.054	
156-60-5	trans-1,2-Dichloroethene	ND	0.047	ND	0.012	
75-34-3	1,1-Dichloroethane	ND	0.047	ND	0.012	
156-59-2	cis-1,2-Dichloroethene	ND	0.047	ND	0.012	
71-55-6	1,1,1-Trichloroethane	ND	0.047	ND	0.0087	
79-01-6	Trichloroethene	ND	0.047	ND	0.0088	
127-18-4	Tetrachloroethene	**0.078**	0.047	**0.011**	0.0070	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **Method Blank** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160428-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CH2M Hill**
Client Sample ID: **Method Blank** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160429-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	

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

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CH2M Hill**
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Project ID: P1602147

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date(s) Collected: 4/19 - 4/20/16
Analyst: Cory Lewis Date(s) Received: 4/26 - 4/27/16
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 4/28 - 4/29/16
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	Toluene-d8 % Recovered	Bromofluorobenzene % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P160428-MB	**104**	**104**	**93**	70-130	
Method Blank	P160429-MB	**95**	**100**	**112**	70-130	
Lab Control Sample	P160428-LCS	**105**	**98**	**98**	70-130	
Lab Control Sample	P160429-LCS	**97**	**98**	**114**	70-130	
GM-IA-012-042016	P1602147-003	**92**	**101**	**127**	70-130	
GM-OA-001-041916	P1602147-004	**91**	**99**	**130**	70-130	
GM-IA-014-042016	P1602147-009	**91**	**101**	**124**	70-130	
GM-IA-015-042016	P1602147-010	**90**	**101**	**122**	70-130	
GM-OA-002-042016	P1602147-011	**96**	**102**	**112**	70-130	
GM-OA-FD-002-042016	P1602147-012	**96**	**103**	**117**	70-130	
GM-OA-FD-002-042016	P1602147-012DUP	**96**	**102**	**117**	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 SUMMARY

Client: **CH2M Hill**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160428-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.00	**3.80**	**95**	64-118	
75-09-2	Methylene Chloride	4.44	**4.13**	**93**	65-112	
156-60-5	trans-1,2-Dichloroethene	4.20	**3.87**	**92**	70-115	
75-34-3	1,1-Dichloroethane	4.24	**3.98**	**94**	66-117	
156-59-2	cis-1,2-Dichloroethene	4.36	**4.17**	**96**	72-115	
71-55-6	1,1,1-Trichloroethane	4.20	**3.82**	**91**	69-113	
79-01-6	Trichloroethene	4.32	**3.50**	**81**	70-112	
127-18-4	Tetrachloroethene	4.04	**3.43**	**85**	67-114	

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 SUMMARY

Client: **CH2M Hill**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P160429-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.00	**3.49**	**87**	64-118	
75-09-2	Methylene Chloride	4.44	**3.96**	**89**	65-112	
156-60-5	trans-1,2-Dichloroethene	4.20	**3.87**	**92**	70-115	
75-34-3	1,1-Dichloroethane	4.24	**3.77**	**89**	66-117	
156-59-2	cis-1,2-Dichloroethene	4.36	**4.15**	**95**	72-115	
71-55-6	1,1,1-Trichloroethane	4.20	**3.78**	**90**	69-113	
79-01-6	Trichloroethene	4.32	**3.59**	**83**	70-112	
127-18-4	Tetrachloroethene	4.04	**3.61**	**89**	67-114	

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 DUPLICATE SUMMARY RESULTS

Client: **CH2M Hill**
Client Sample ID: **GM-OA-FD-002-042016** ALS Project ID: P1602147
Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund** ALS Sample ID: P1602147-012DUP

Test Code: EPA TO-15 SIM Date Collected: 4/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 4/27/16
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02149

Initial Pressure (psig): -5.01 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.89

CAS #	Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result **µg/m³**	Duplicate Sample Result ppbV	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
75-01-4	Vinyl Chloride	ND	ND	ND	ND	-	**-**	25	
75-09-2	Methylene Chloride	0.286	0.0823	0.290	0.0835	0.288	**1**	25	
156-60-5	trans-1,2-Dichloroethene	ND	ND	ND	ND	-	**-**	25	
75-34-3	1,1-Dichloroethane	ND	ND	ND	ND	-	**-**	25	
156-59-2	cis-1,2-Dichloroethene	ND	ND	ND	ND	-	**-**	25	
71-55-6	1,1,1-Trichloroethane	ND	ND	ND	ND	-	**-**	25	
79-01-6	Trichloroethene	ND	ND	ND	ND	-	**-**	25	
127-18-4	Tetrachloroethene	0.0779	0.0115	0.0773	0.0114	0.0776	**0.8**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Client: **CH2M Hill** ALS Project ID: P1602147

Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund**

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 04281602.D
Analyst: Cory Lewis Date Analyzed: 4/28/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 08:49
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	18647		9.75	99523		11.70		20543		16.05	
	Upper Limit	26106		10.08	139332		12.03		28760		16.38	
	Lower Limit	11188		9.42	59714		11.37		12326		15.72	
	Client Sample ID											
01	Method Blank	17984		9.77	88771		11.71		19963		16.05	
02	Lab Control Sample	18238		9.75	98027		11.70		20112		16.05	
03	GM-IA-012-042016	22201		9.77	118678		11.71		23985		16.05	
04	GM-OA-001-041916	22234		9.75	117112		11.70		22806		16.05	
05	GM-IA-014-042016	22466		9.75	120051		11.70		24387		16.05	
06	GM-IA-015-042016	22900		9.75	120376		11.71		24907		16.05	
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 specified limits. See case narrative.

Client: **CH2M Hill** ALS Project ID: P1602147

Client Project ID: **EPA Region 5/ Galen Myers Dump/Drum Salvage Superfund**

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 04291602.D
Analyst: Cory Lewis Date Analyzed: 4/29/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 04:59
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	20127		9.75	106358		11.70		20827		16.05	
	Upper Limit	28178		10.08	148901		12.03		29158		16.38	
	Lower Limit	12076		9.42	63815		11.37		12496		15.72	
	Client Sample ID											
01	Method Blank	19690		9.77	101458		11.71		20780		16.05	
02	Lab Control Sample	19349		9.75	103450		11.70		20509		16.05	
03	GM-OA-002-042016	18618		9.75	99010		11.70		20271		16.05	
04	GM-OA-FD-002-042016	18874		9.75	99469		11.70		20253		16.05	
05	GM-OA-FD-002-042016 (Lab Duplicate)	19011		9.75	100531		11.70		20323		16.05	
06												
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 specified limits. See case narrative.

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 07:05:50 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	119538	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	611384	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	249260	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	171346	12.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	12.77	98	582129	12.083	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	16.07	174	265838	12.943	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
Target Compounds							Qvalue
2) Propene	3.88	42	11601	1.087	ng		89
3) Dichlorodifluoromethan...	3.98	85	28227	1.323	ng		98
4) Chloromethane	4.23	50	1151	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	552	N.D.			
6) Vinyl Chloride	4.30	62	1903	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.02	94	518	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	117707	14.779	ng		99
11) Acetonitrile	5.58	41	3065	N.D.			
12) Acrolein	5.71	56	1458	N.D.			
13) Acetone	5.84	58	63086	7.193	ng		95
14) Trichlorofluoromethane	6.00	101	11448	0.610	ng		97
15) 2-Propanol (Isopropanol)	6.13	45	58810	2.240	ng		96
16) Acrylonitrile	6.50	53	51	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.74	59	11183	N.D.			
19) Methylene Chloride	6.78	84	2457	N.D.			
20) 3-Chloro-1-propene (Al...	6.83	41	534	N.D.			
21) Trichlorotrifluoroethane	7.06	151	2779	N.D.			
22) Carbon Disulfide	7.05	76	5173	N.D.			
23) trans-1,2-Dichloroethene	7.69	61	560	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	7.88	73	1335	N.D.			
26) Vinyl Acetate	8.01	86	1053	N.D.			
27) 2-Butanone (MEK)	8.24	72	11115	1.249	ng	#	88
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	8.91	87	595	N.D.			
30) Ethyl Acetate	8.84	61	10044	2.954	ng		95
31) n-Hexane	8.85	57	5120	N.D.			
32) Chloroform	8.91	83	6966	N.D.			
34) Tetrahydrofuran (THF)	9.26	72	21400	3.054	ng		100
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	9.82	97	12401	0.750	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.23	78	11099	N.D.			
42) Carbon Tetrachloride	10.37	117	891	N.D.			
43) Cyclohexane	10.48	84	6101	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.17	63	1588	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.17	130	756515	55.438	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.23	57	7426	N.D.			

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 07:05:50 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

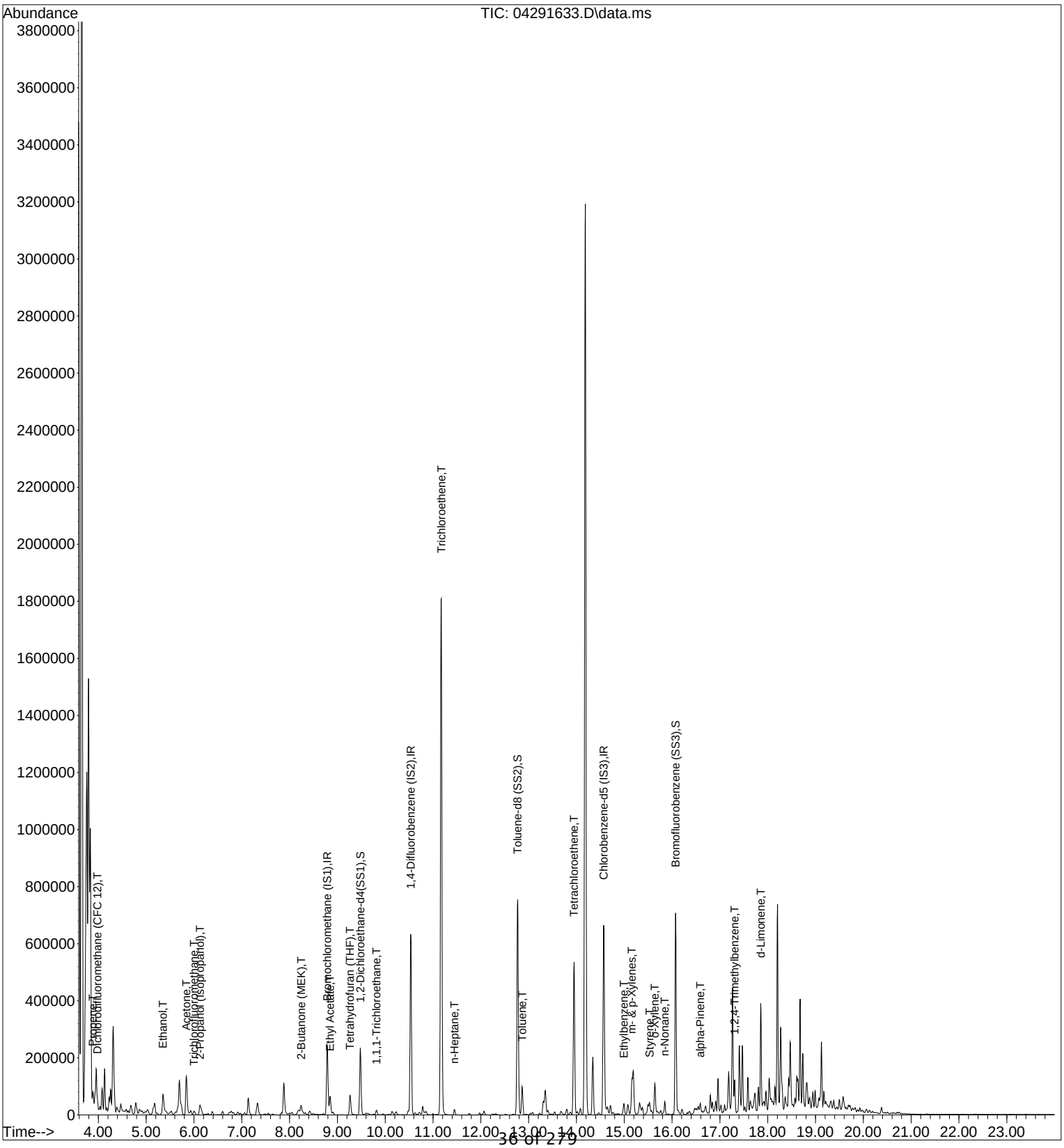
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	1590	N.D.	
51) n-Heptane	11.45	71	5246	0.464 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.97	58	2278	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	83141	1.443 ng	100
59) 2-Hexanone	13.09	43	5171	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.67	43	9651	N.D.	
63) n-Octane	13.80	57	3806	N.D.	
64) Tetrachloroethene	13.95	166	209707	12.652 ng	100
65) Chlorobenzene	14.64	112	4365	N.D.	
66) Ethylbenzene	14.99	91	33610	0.611 ng	99
67) m- & p-Xylenes	15.16	91	105660	2.414 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.53	104	23919	0.722 ng	95
70) o-Xylene	15.64	91	50578	1.099 ng	99
71) n-Nonane	15.85	43	17279	0.767 ng	93
72) 1,1,2,2-Tetrachloroethane	15.64	83	1308	N.D.	
74) Cumene	16.21	105	8505	N.D.	
75) alpha-Pinene	16.59	93	15116	0.506 ng	91
76) n-Propylbenzene	16.70	91	17002	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	16.84	105	18589	N.D.	
79) 1,3,5-Trimethylbenzene	16.91	105	15166	N.D.	
80) alpha-Methylstyrene	17.06	118	1807	N.D.	
81) 2-Ethyltoluene	17.10	105	14405	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	54066	1.091 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	17.44	91	1270	N.D.	
85) 1,3-Dichlorobenzene	17.46	146	1468	N.D.	
86) 1,4-Dichlorobenzene	17.52	146	2409	N.D.	
87) sec-Butylbenzene	17.56	105	3037	N.D.	
88) 4-Isopropyltoluene (p-...	17.71	119	7151	N.D.	
89) 1,2,3-Trimethylbenzene	17.71	105	14078	N.D.	
90) 1,2-Dichlorobenzene	17.84	146	548	N.D.	
91) d-Limonene	17.85	68	88283	5.075 ng	100
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	19.46	180	760	N.D.	
95) Naphthalene	19.57	128	18167	N.D.	
96) n-Dodecane	19.58	57	7565	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	17.31	119	7175	N.D.	
100) n-Butylbenzene	18.11	91	8033	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

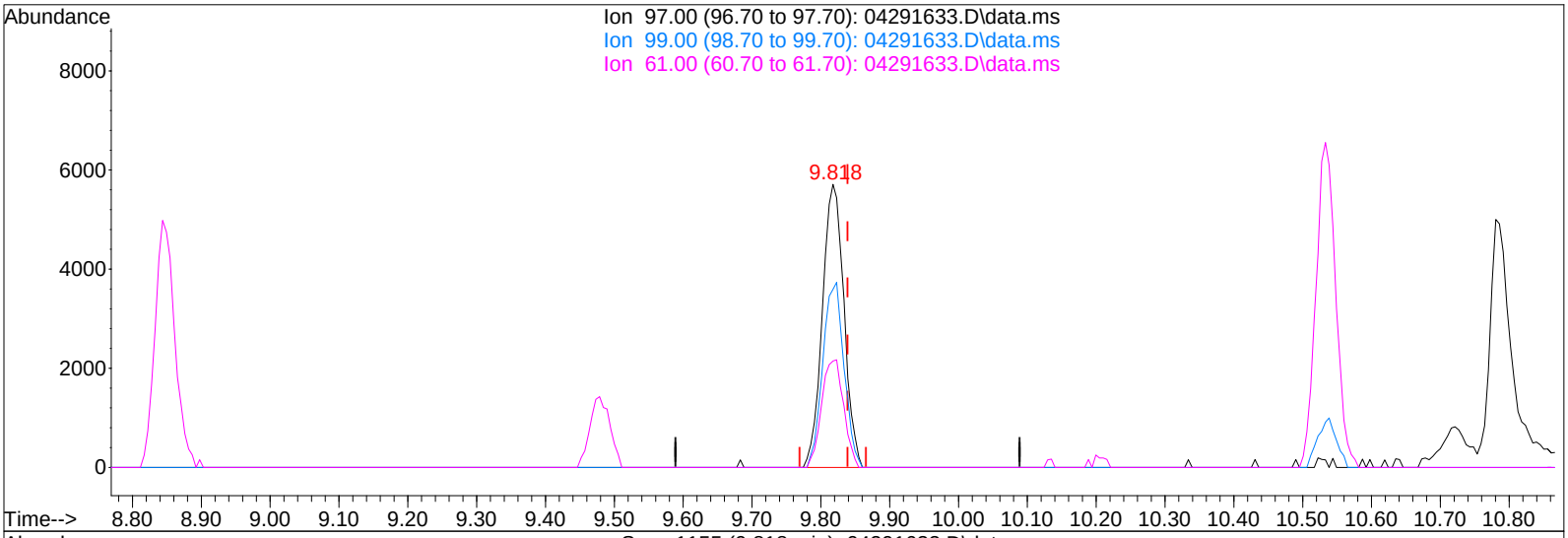
Quant Time: May 03 07:05:50 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

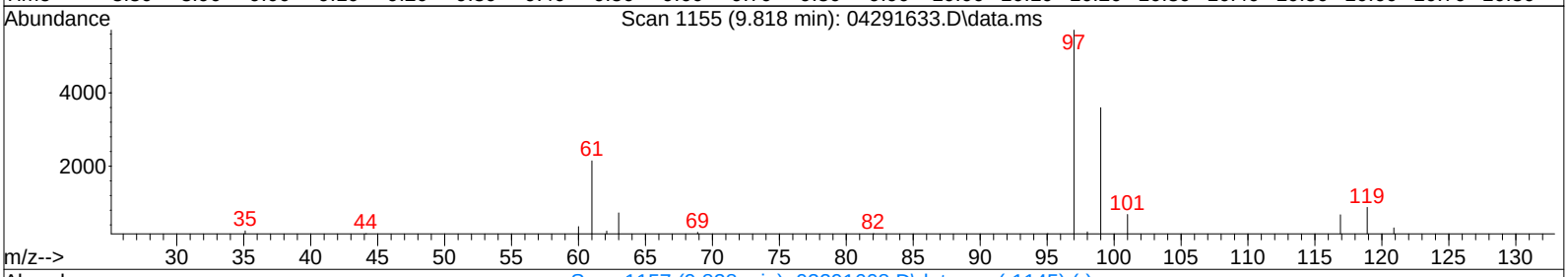


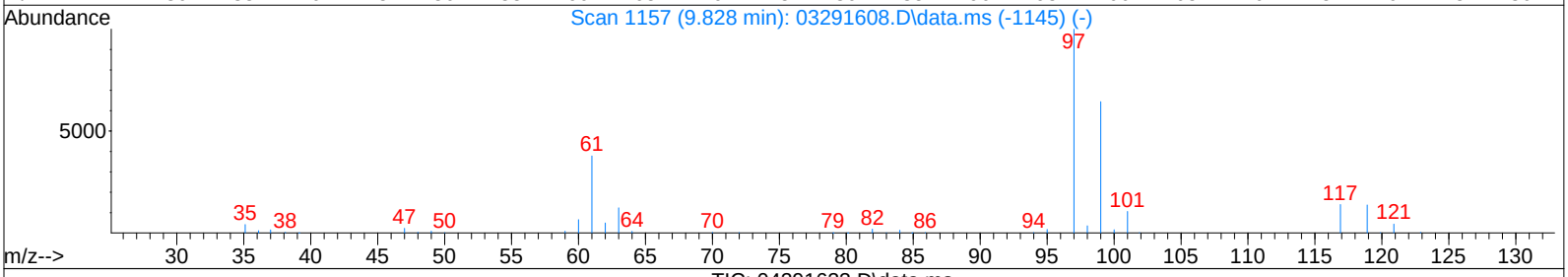
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:10 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291633.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.818min (-0.021) 0.75ng

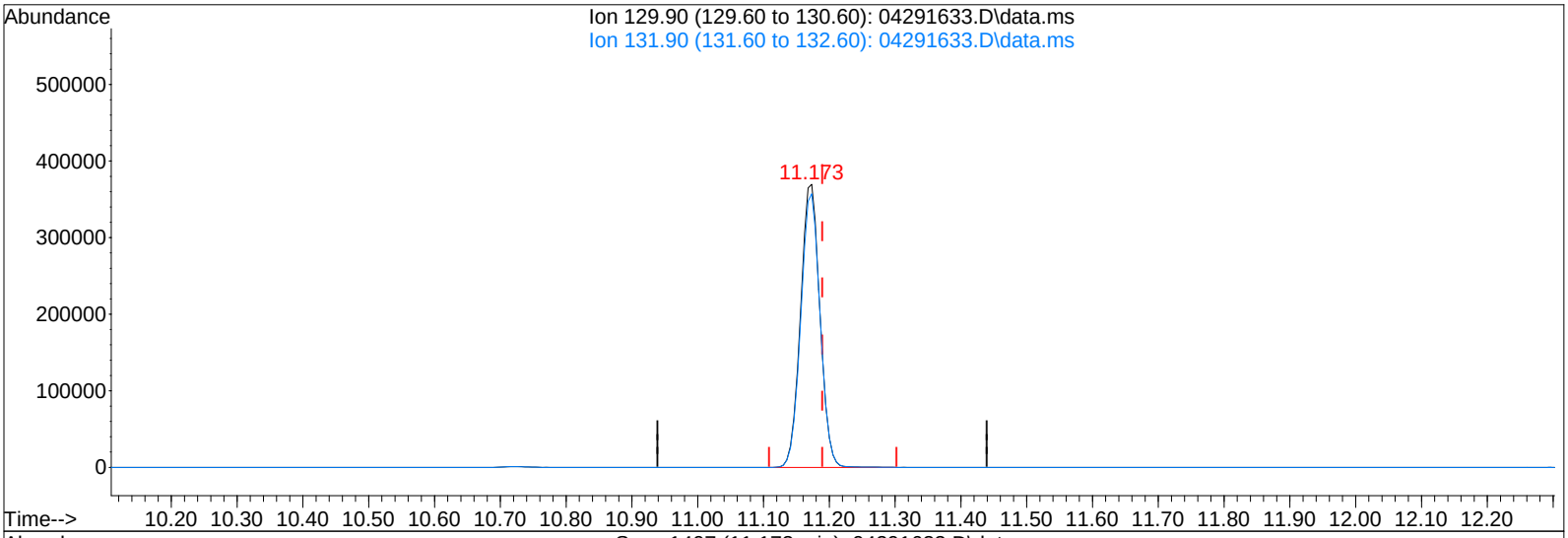
response 12401

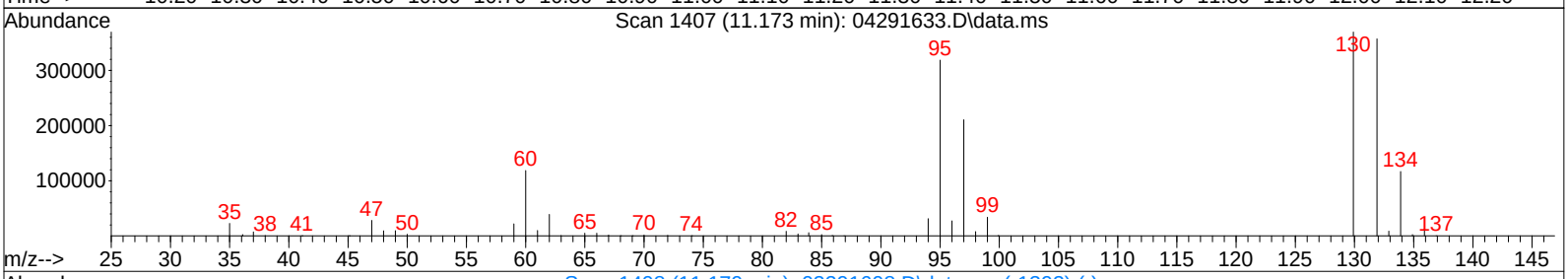
Ion	Exp%	Act%
97.00	100	100
99.00	64.50	64.43
61.00	37.50	38.88
0.00	0.00	0.00

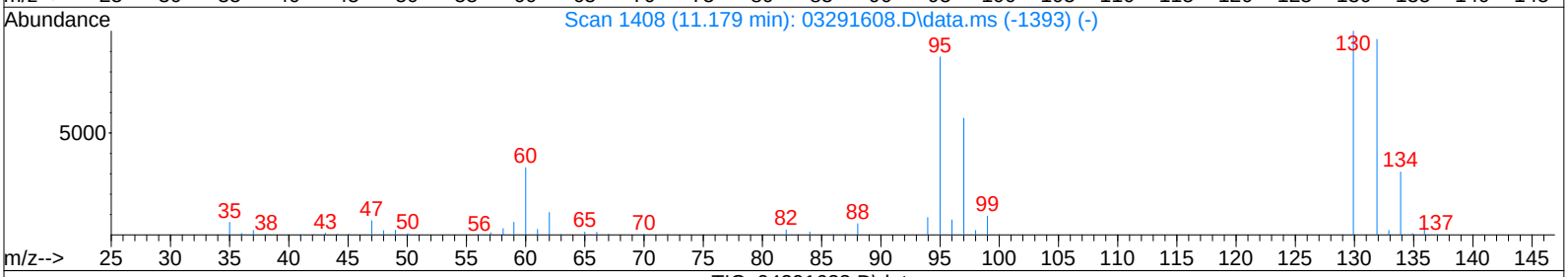
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:10 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291633.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 55.44ng

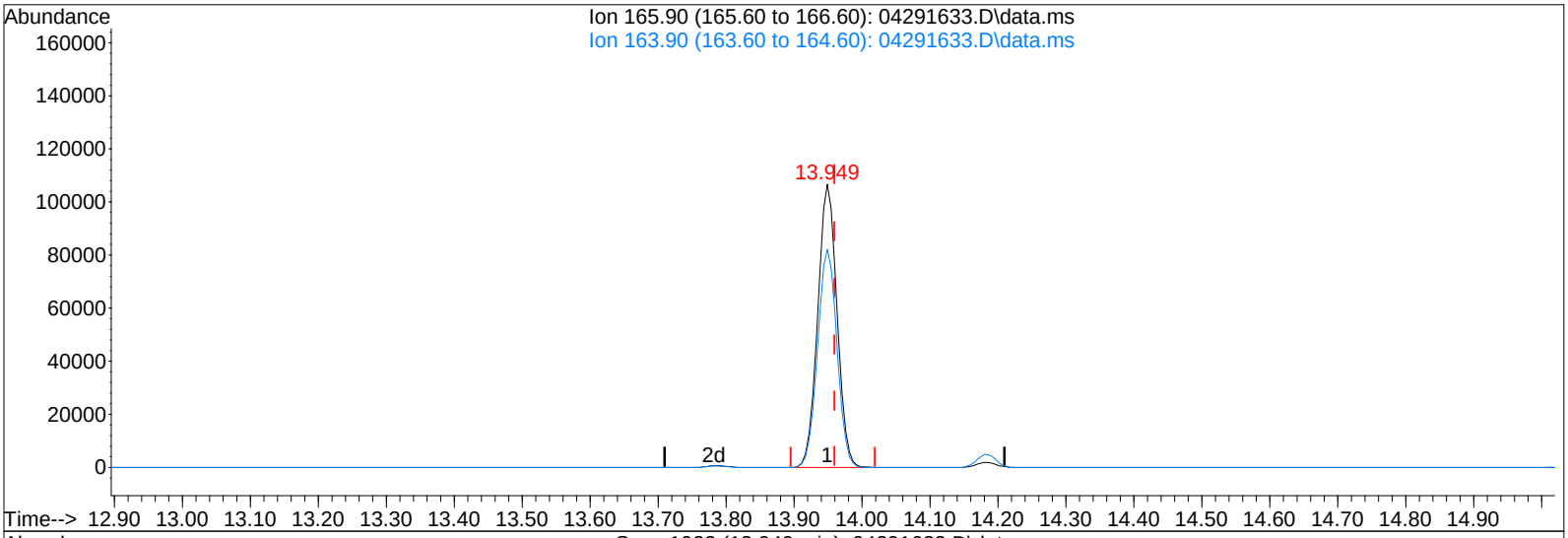
response 756515

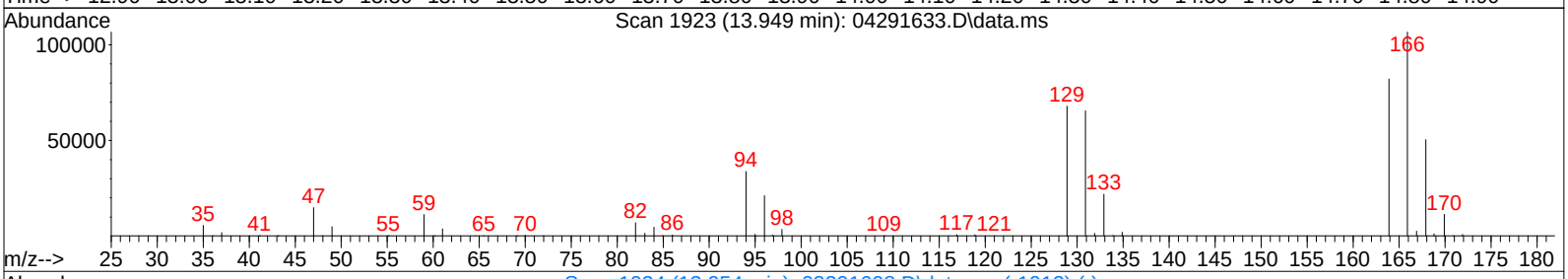
Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.37
0.00	0.00	0.00
0.00	0.00	0.00

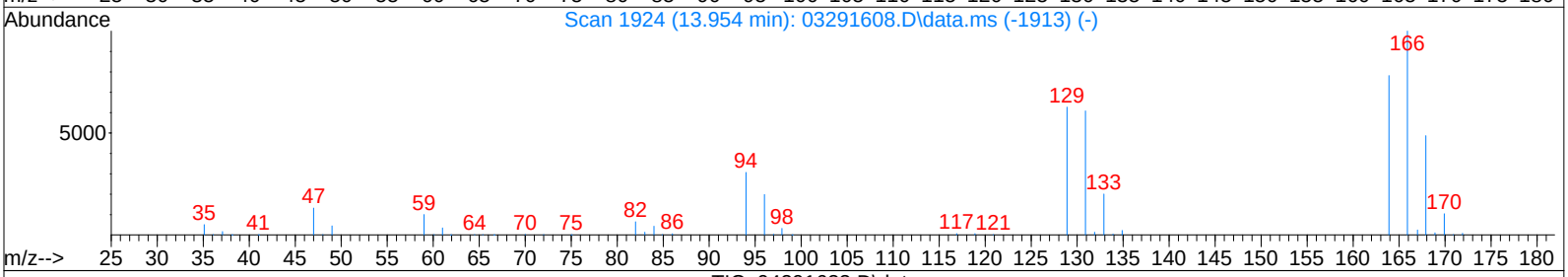
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291633.D
Acq On : 30 Apr 2016 1:21 Operator: WA
Sample : P1602147-001 (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:10 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291633.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.011) 12.65ng

response 209707

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	77.88
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 06:41:06 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 5/3/16
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	117636	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	600081	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	245799	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	168611	12.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	12.77	98	573907	12.080	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	16.07	174	263183	12.994	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	3.89	42	8488	0.808	ng		94
3) Dichlorodifluoromethan...	3.99	85	25956	1.236	ng		98
4) Chloromethane	4.13	50	748	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	659	N.D.			
6) Vinyl Chloride	4.32	62	5301	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.02	94	1626	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	55705	7.107	ng		98
11) Acetonitrile	5.59	41	3229	N.D.			
12) Acrolein	5.71	56	4066	0.658	ng		90
13) Acetone	5.85	58	70644	8.185	ng		87
14) Trichlorofluoromethane	6.01	101	10787	0.584	ng		90
15) 2-Propanol (Isopropanol)	6.13	45	41344	1.600	ng		100
16) Acrylonitrile	6.50	53	63	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	6.78	84	2393	N.D.			
20) 3-Chloro-1-propene (Al...	6.74	41	3300	N.D.			
21) Trichlorotrifluoroethane	7.06	151	2803	N.D.			
22) Carbon Disulfide	7.05	76	9840	N.D.			
23) trans-1,2-Dichloroethene	7.69	61	872	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	7.88	73	1366	N.D.			
26) Vinyl Acetate	8.01	86	3401	1.267	ng	#	48
27) 2-Butanone (MEK)	8.24	72	14244	1.627	ng		92
28) cis-1,2-Dichloroethene	8.64	61	1363	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	8.85	61	15355	4.590	ng		94
31) n-Hexane	8.85	57	5009	N.D.			
32) Chloroform	8.91	83	3981	N.D.			
34) Tetrahydrofuran (THF)	9.27	72	15161	2.198	ng		99
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	9.82	97	30056	1.853	ng		99
39) Isopropyl Acetate	10.19	61	2294	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.23	78	8905	N.D.			
42) Carbon Tetrachloride	10.36	117	1036	N.D.			
43) Cyclohexane	10.48	84	18569	0.979	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.17	63	3825	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.17	130	1708927	127.591	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.23	57	13448	N.D.			

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 06:41:06 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

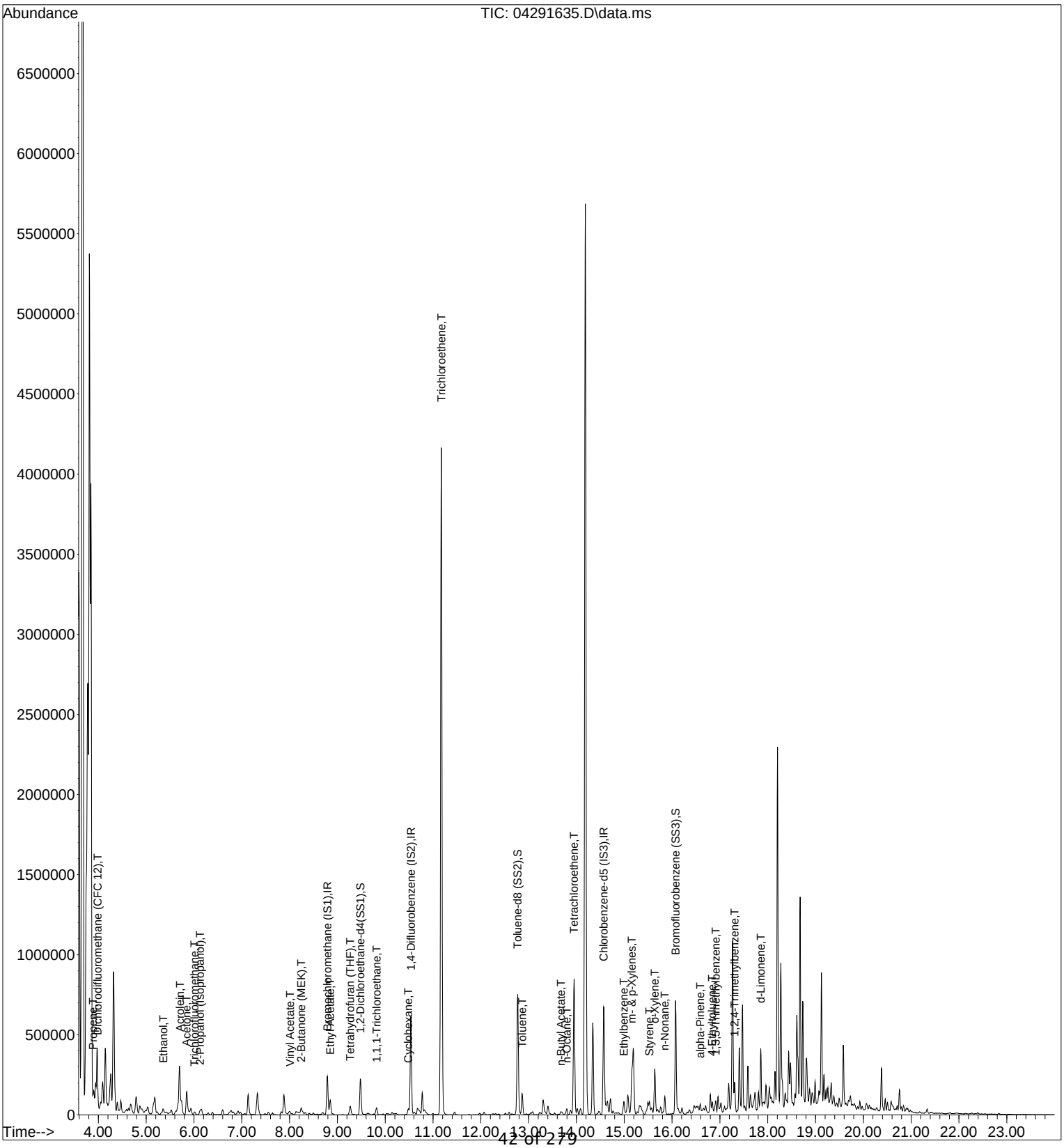
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	1671	N.D.	
51) n-Heptane	11.45	71	4949	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.97	58	3317	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	111611	1.964 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.67	43	14825	0.633 ng	82
63) n-Octane	13.80	57	7158	0.740 ng	92
64) Tetrachloroethene	13.95	166	333292	20.392 ng	100
65) Chlorobenzene	14.65	112	12838	N.D.	
66) Ethylbenzene	14.99	91	67077	1.237 ng	99
67) m- & p-Xylenes	15.16	91	233315	5.406 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.53	104	44054	1.349 ng	95
70) o-Xylene	15.64	91	121700	2.683 ng	99
71) n-Nonane	15.85	43	40588	1.828 ng	97
72) 1,1,2,2-Tetrachloroethane	15.64	83	2224	N.D.	
74) Cumene	16.21	105	17129	N.D.	
75) alpha-Pinene	16.59	93	24943	0.847 ng	93
76) n-Propylbenzene	16.70	91	29816	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	16.84	105	31457	0.557 ng	98
79) 1,3,5-Trimethylbenzene	16.91	105	24706	0.501 ng	97
80) alpha-Methylstyrene	17.06	118	1929	N.D.	
81) 2-Ethyltoluene	17.10	105	23140	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	81610	1.671 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	17.47	91	559	N.D.	
85) 1,3-Dichlorobenzene	17.52	146	2293	N.D.	
86) 1,4-Dichlorobenzene	17.52	146	2293	N.D.	
87) sec-Butylbenzene	17.57	105	6140	N.D.	
88) 4-Isopropyltoluene (p-...	17.71	119	6811	N.D.	
89) 1,2,3-Trimethylbenzene	17.71	105	21084	N.D.	
90) 1,2-Dichlorobenzene	17.84	146	590	N.D.	
91) d-Limonene	17.85	68	87982	5.129 ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	19.46	180	829	N.D.	
95) Naphthalene	19.57	128	27874	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	17.31	119	10031	N.D.	
100) n-Butylbenzene	18.11	91	10280	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

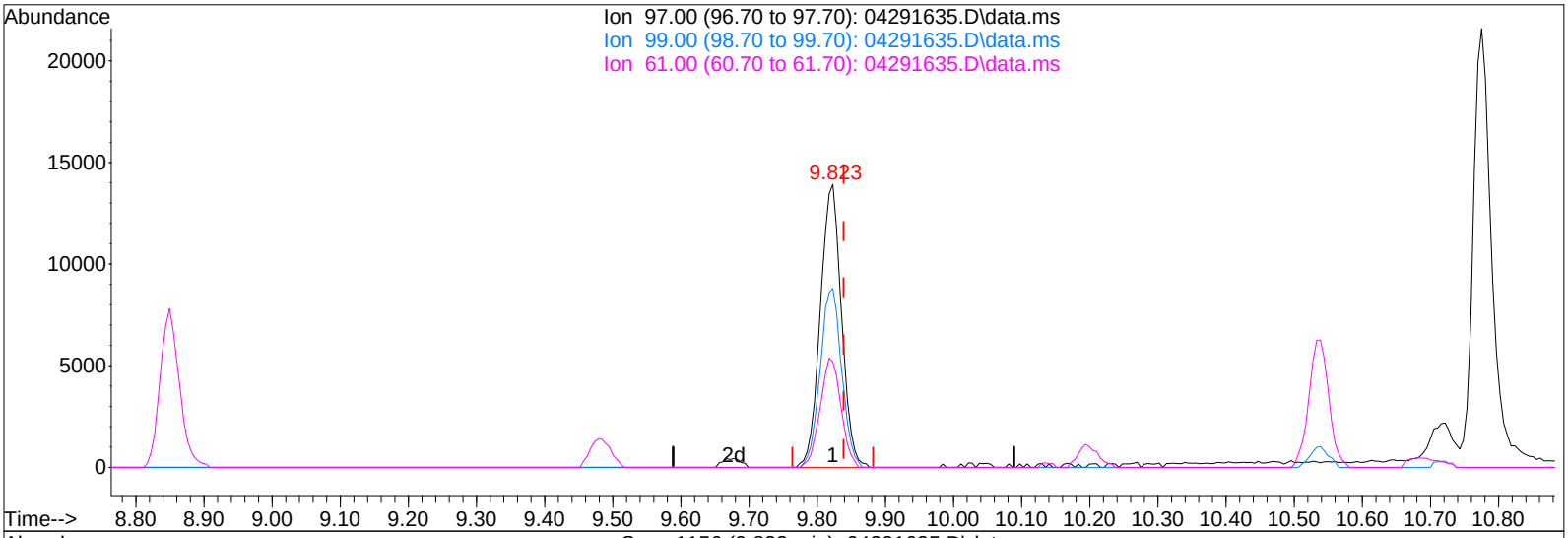
Quant Time: May 03 06:41:06 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

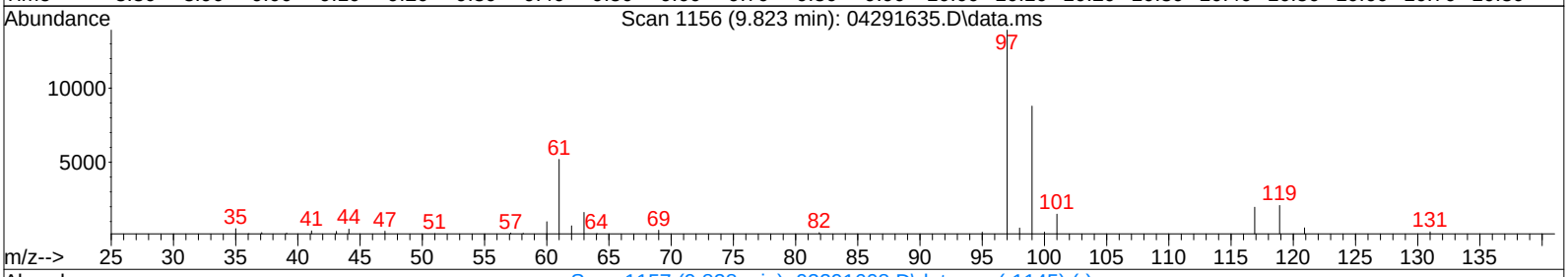


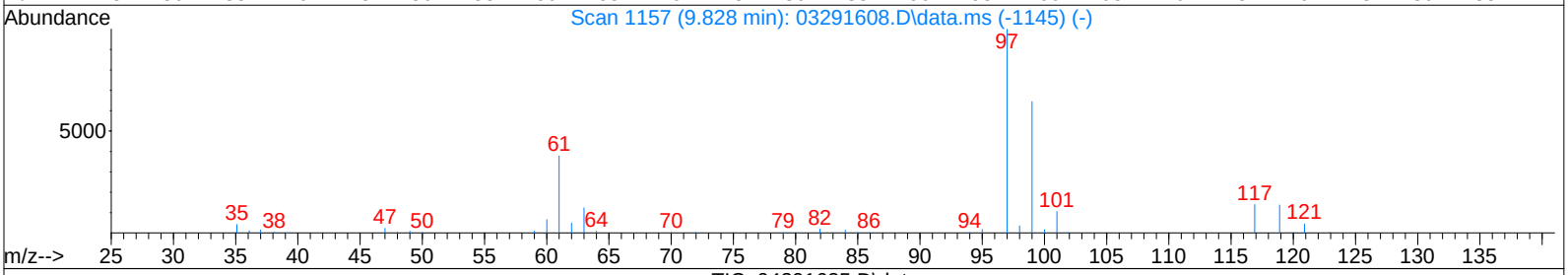
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 02 07:10:14 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291635.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.823min (-0.016) 1.85ng

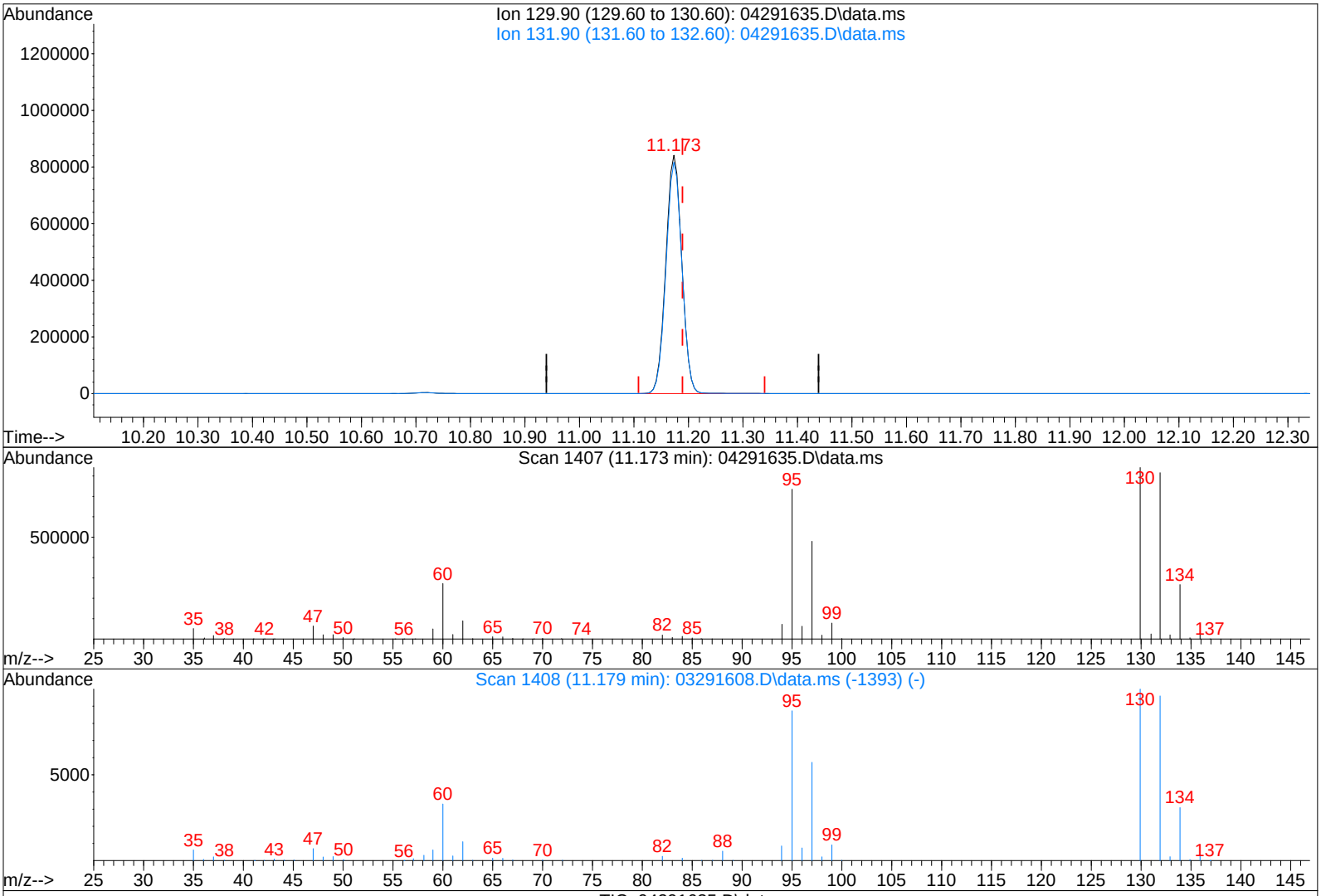
response 30056

Ion	Exp%	Act%
97.00	100	100
99.00	64.50	64.24
61.00	37.50	37.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 02 07:10:14 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04291635.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 127.59ng

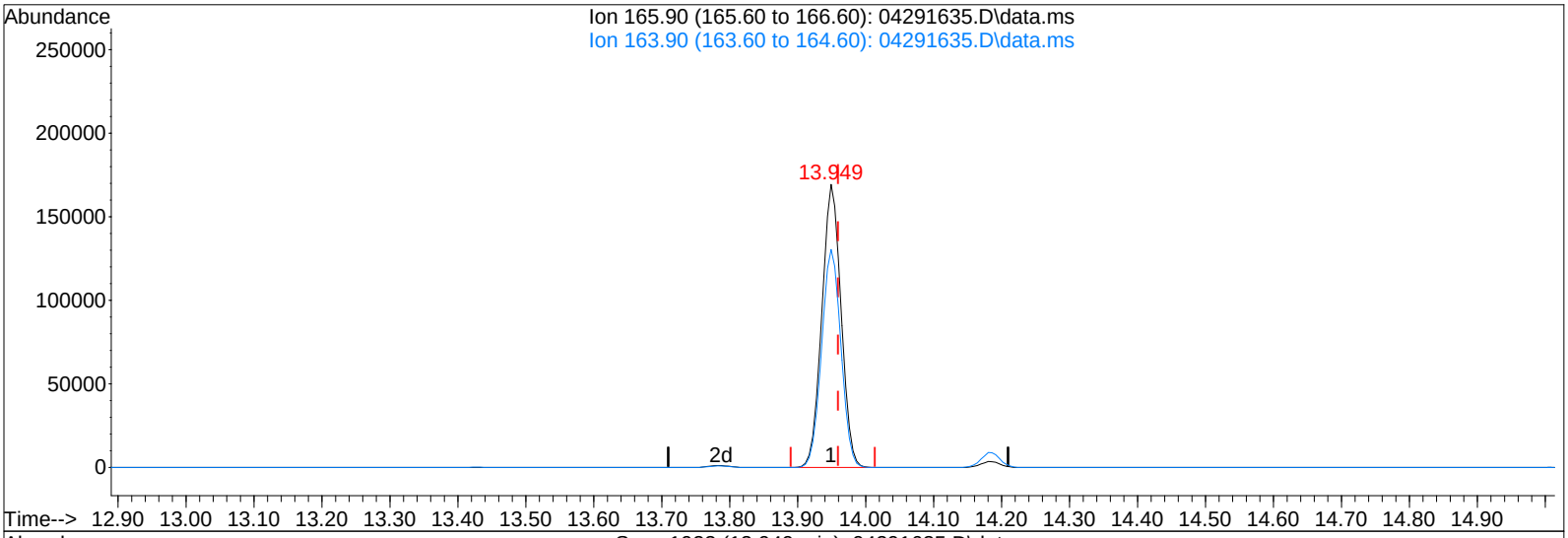
response 1708927

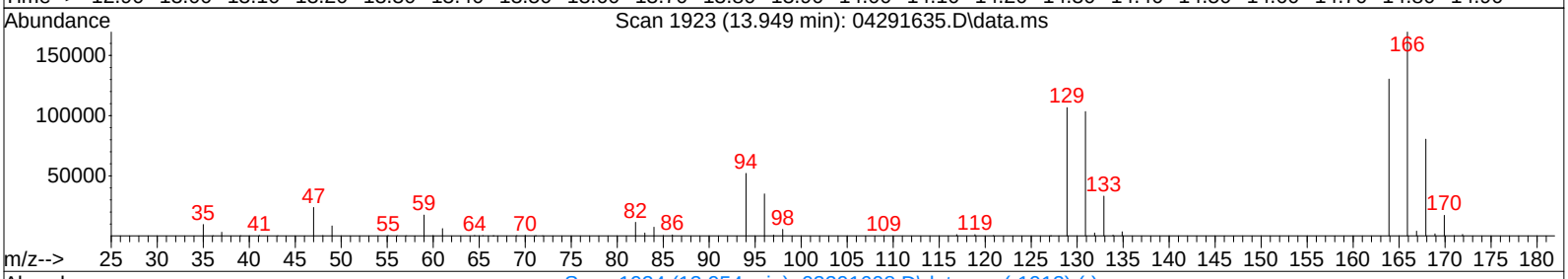
Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.65
0.00	0.00	0.00
0.00	0.00	0.00

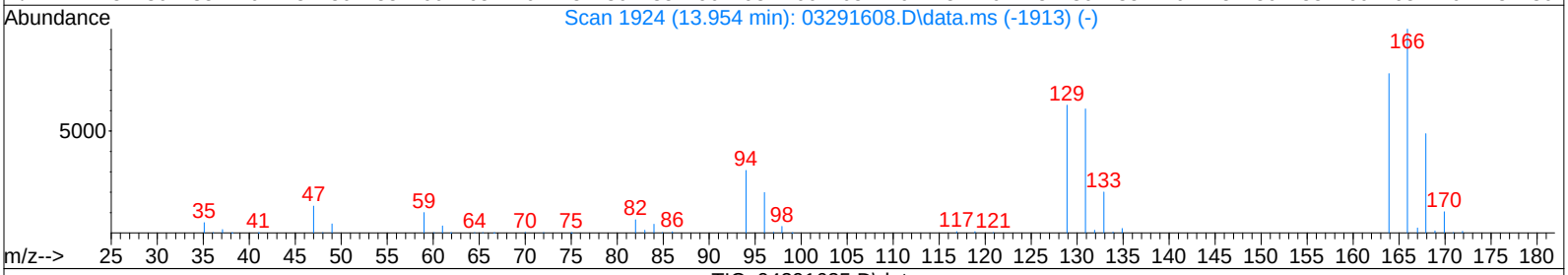
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291635.D
Acq On : 30 Apr 2016 2:26 Operator: WA
Sample : P1602147-002 (1000mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 02 07:10:14 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291635.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.011) 20.39ng

response 333292

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	77.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291642.D
Acq On : 30 Apr 2016 12:11 Operator: WA
Sample : P1602147-002dil (100mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 06:52:09 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	126149	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	620004	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	261197	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	178877	12.690	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	12.77	98	606204	12.007	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	16.08	174	286093	13.292	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	3.89	42	544	N.D.			
3) Dichlorodifluoromethan...	3.99	85	2896	N.D.			
4) Chloromethane	4.32	50	1089	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	5.47	45	178	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.86	58	7599	0.821	ng	#	80
14) Trichlorofluoromethane	6.02	101	942	N.D.			
15) 2-Propanol (Isopropanol)	6.14	45	5988	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...	6.76	59	2568	N.D.			
19) Methylene Chloride	6.79	84	2006	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	7.07	76	8405	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)	8.27	72	1062	N.D.			
28) cis-1,2-Dichloroethene	8.86	61	546	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	8.86	61	1080	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	9.29	72	1253	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	9.82	97	3061	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.24	78	1038	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	10.48	84	1709	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	11.17	83	1444	N.D.			
47) Trichloroethene	11.17	130	166169	12.008	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.23	57	1295	N.D.			

Data File: I:\MS08\Data\2016 04\29\04291642.D
Acq On : 30 Apr 2016 12:11 Operator: WA
Sample : P1602147-002dil (100mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 06:52:09 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

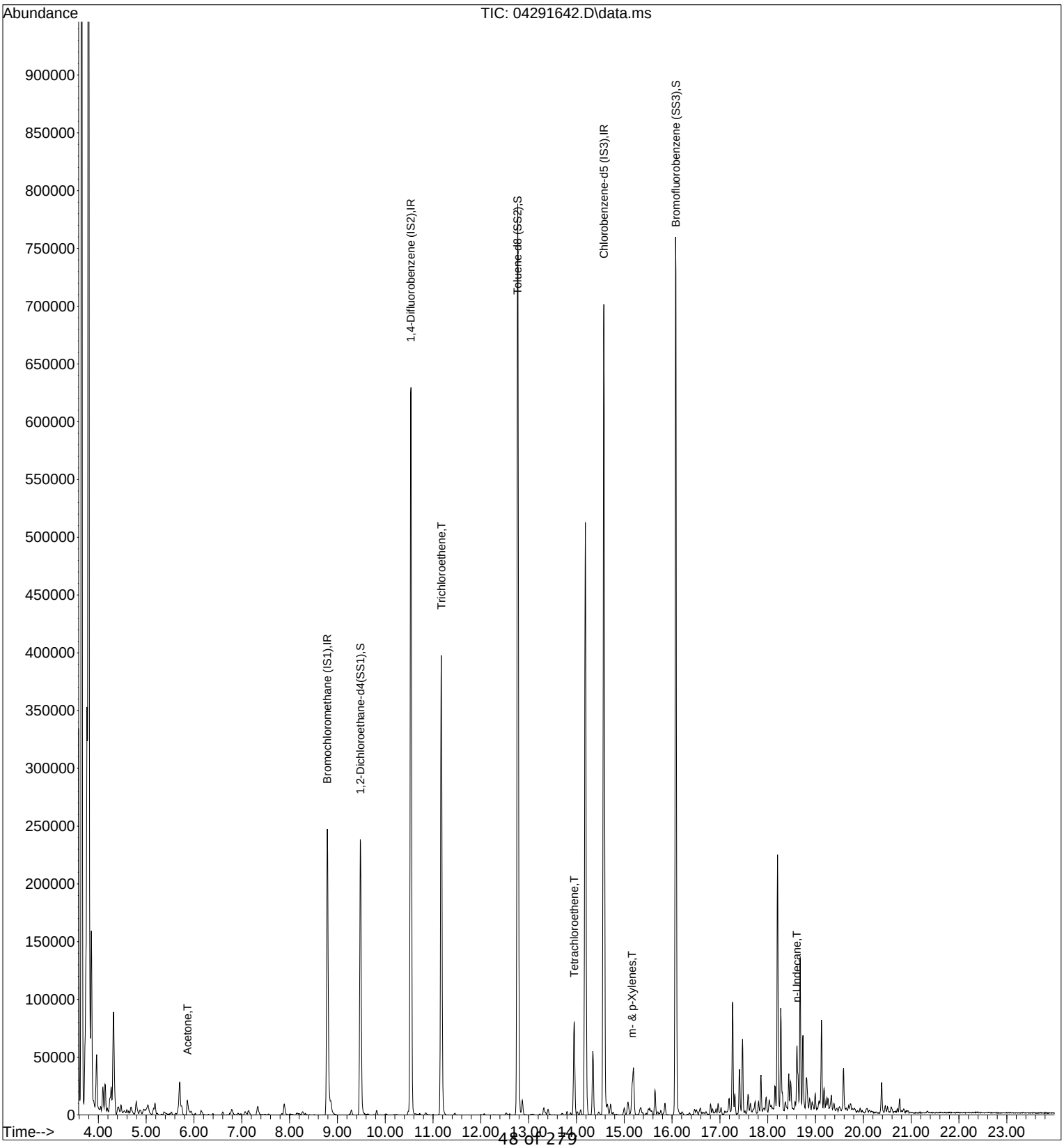
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.87	91	10966	N.D.	
59) 2-Hexanone	13.09	43	895	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.70	43	1023	N.D.	
63) n-Octane	13.80	57	543	N.D.	
64) Tetrachloroethene	13.95	166	32572	1.875 ng	99
65) Chlorobenzene	14.65	112	1224	N.D.	
66) Ethylbenzene	15.00	91	6182	N.D.	
67) m- & p-Xylenes	15.16	91	22973	0.501 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.54	104	3657	N.D.	
70) o-Xylene	15.64	91	12062	N.D.	
71) n-Nonane	15.85	43	4159	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.21	105	1506	N.D.	
75) alpha-Pinene	16.60	93	2263	N.D.	
76) n-Propylbenzene	16.71	91	2780	N.D.	
77) 3-Ethyltoluene	16.81	105	5773	N.D.	
78) 4-Ethyltoluene	16.84	105	3070	N.D.	
79) 1,3,5-Trimethylbenzene	16.92	105	2211	N.D.	
80) alpha-Methylstyrene	17.26	118	1420	N.D.	
81) 2-Ethyltoluene	17.11	105	2105	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	7975	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	17.31	91	771	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	17.72	105	1995	N.D.	
88) 4-Isopropyltoluene (p-...	17.72	119	574	N.D.	
89) 1,2,3-Trimethylbenzene	17.72	105	1995	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.86	68	8138	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.61	57	20273	0.746 ng	79
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	19.58	128	2397	N.D.	
96) n-Dodecane	19.59	57	9926	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.33	55	2732	N.D.	
99) tert-Butylbenzene	17.31	119	937	N.D.	
100) n-Butylbenzene	18.11	91	793	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291642.D
Acq On : 30 Apr 2016 12:11 Operator: WA
Sample : P1602147-002dil (100mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

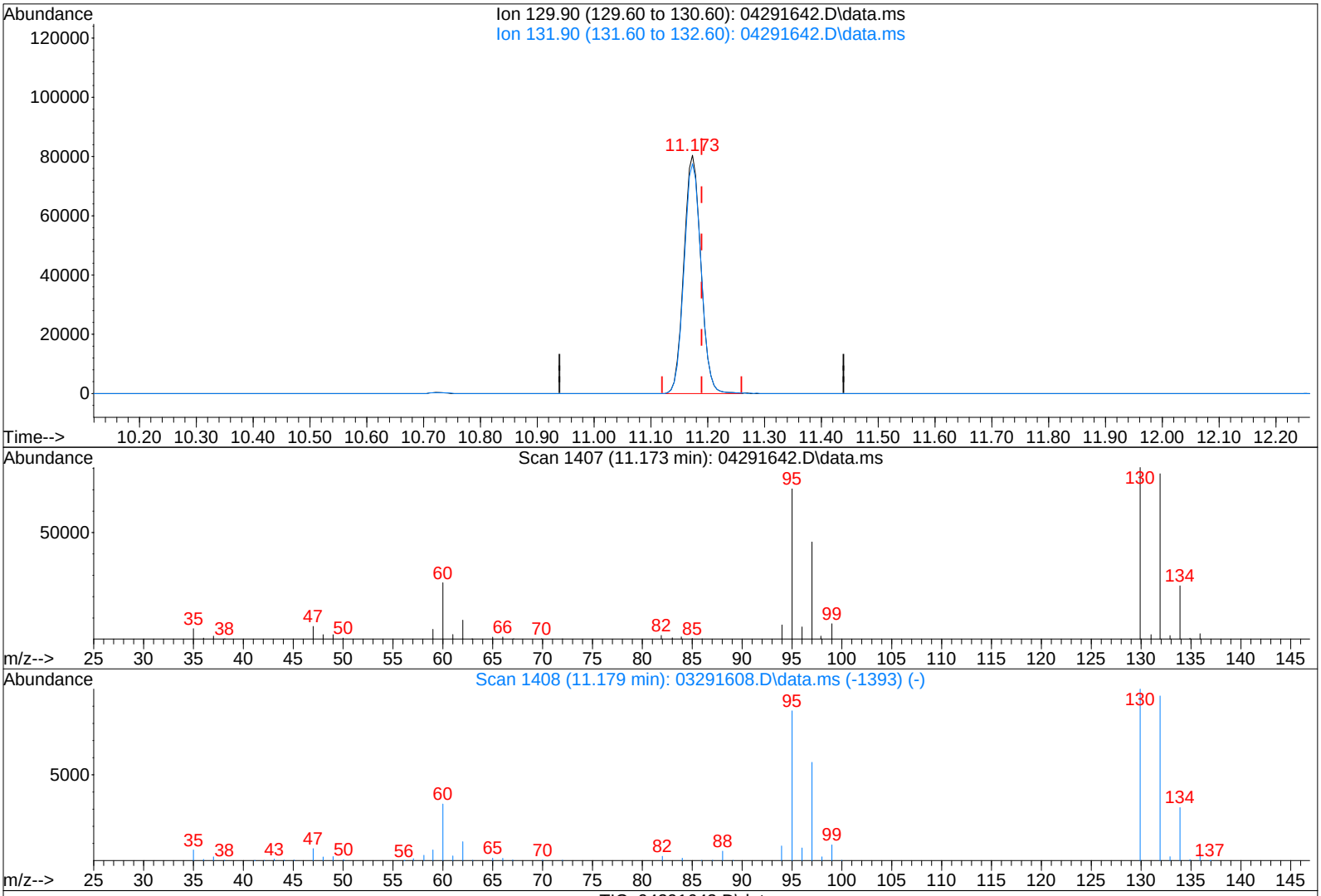
Quant Time: May 03 06:52:09 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291642.D
Acq On : 30 Apr 2016 12:11 Operator: WA
Sample : P1602147-002dil (100mL)
Misc : S29-04131602
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 02 07:10:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04291642.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 12.01ng

response 166169

Ion	Exp%	Act%
129.90	100	100
131.90	96.10	97.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291636.D
Acq On : 30 Apr 2016 2:58 Operator: WA
Sample : P1602147-005 (1000mL)
Misc : S29-04131602
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 06:42:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016 5/3/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	117047	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	603235	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	246764	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	170267	13.019	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	12.77	98	575819	12.073	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	16.07	174	263686	12.968	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
Target Compounds							Qvalue
2) Propene	3.89	42	5912	0.566	ng	#	85
3) Dichlorodifluoromethan...	3.99	85	23030	1.103	ng		97
4) Chloromethane	4.23	50	830	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	602	N.D.			
6) Vinyl Chloride	4.32	62	3982	N.D.			
7) 1,3-Butadiene	4.59	54	624	N.D.			
8) Bromomethane	5.02	94	1229	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	134023	17.186	ng		100
11) Acetonitrile	5.58	41	4162	N.D.			
12) Acrolein	5.71	56	1832	N.D.			
13) Acetone	5.84	58	39753	4.629	ng		87
14) Trichlorofluoromethane	6.00	101	12012	0.653	ng		97
15) 2-Propanol (Isopropanol)	6.14	45	21501	0.836	ng		98
16) Acrylonitrile	6.39	53	403	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	6.78	84	2623	N.D.			
20) 3-Chloro-1-propene (Al...	6.83	41	1003	N.D.			
21) Trichlorotrifluoroethane	7.07	151	3256	N.D.			
22) Carbon Disulfide	7.05	76	7706	N.D.			
23) trans-1,2-Dichloroethene	7.88	61	3889	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	7.88	73	1529	N.D.			
26) Vinyl Acetate	8.03	86	2234	0.837	ng	#	61
27) 2-Butanone (MEK)	8.25	72	3239	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	8.84	87	3738	N.D.			
30) Ethyl Acetate	8.84	61	166815	50.113	ng		96
31) n-Hexane	8.85	57	7970	0.467	ng		95
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	9.28	72	1419	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.58	62	1171	N.D.			
38) 1,1,1-Trichloroethane	9.82	97	7998	0.491	ng		97
39) Isopropyl Acetate	10.20	61	2460	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.23	78	15740	N.D.			
42) Carbon Tetrachloride	10.36	117	1464	N.D.			
43) Cyclohexane	10.48	84	18851	0.988	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.17	83	2433	N.D.			
47) Trichloroethene	11.17	130	140752	10.454	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			

Data File: I:\MS08\Data\2016 04\29\04291636.D
Acq On : 30 Apr 2016 2:58 Operator: WA
Sample : P1602147-005 (1000mL)
Misc : S29-04131602
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 06:42:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

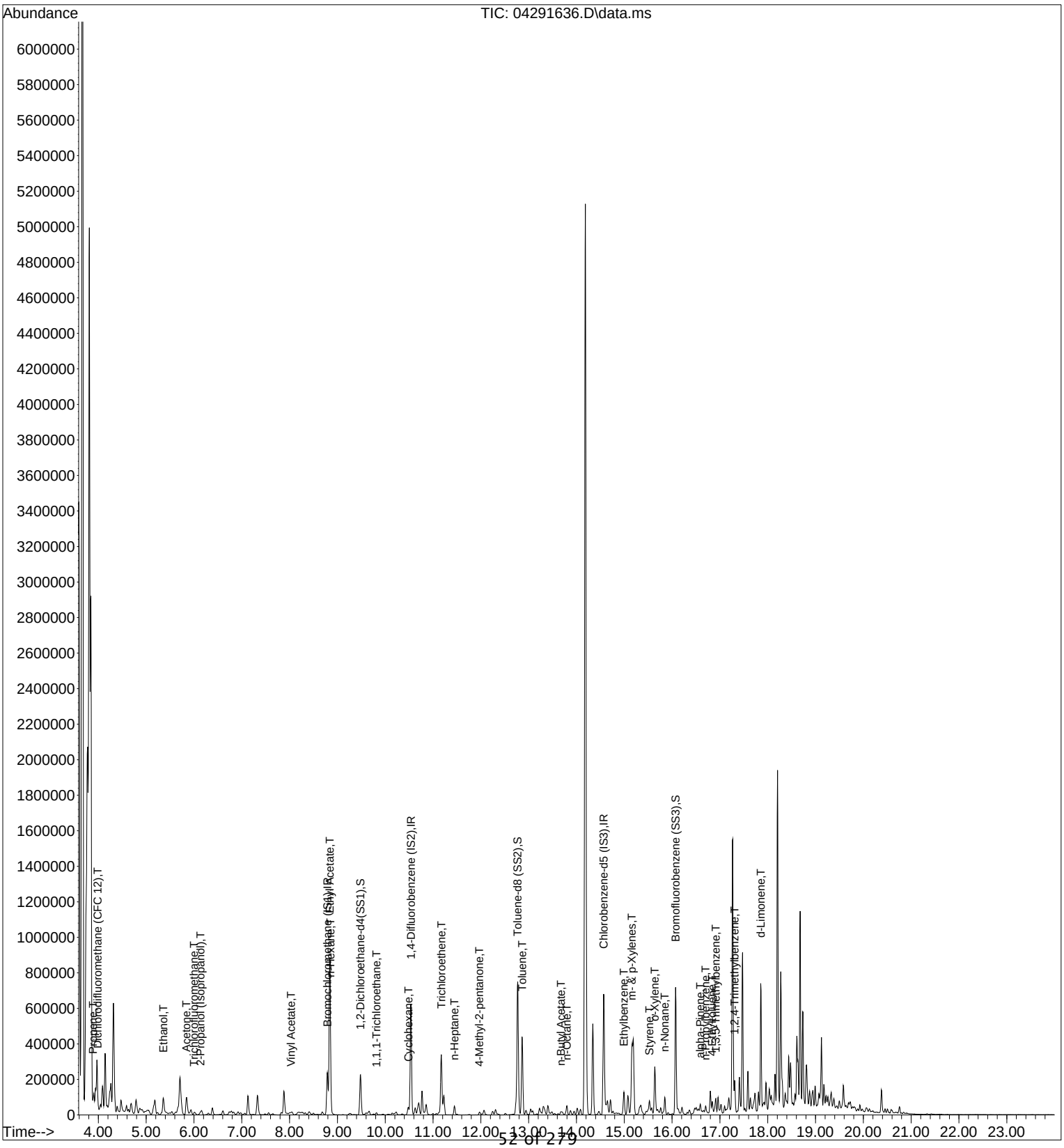
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D. d		
51) n-Heptane	11.45	71	13686	1.227 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	5462	0.561 ng		89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	364240	6.384 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	10984	0.467 ng	#	68
63) n-Octane	13.80	57	10349	1.065 ng		94
64) Tetrachloroethene	13.95	166	7249	N.D.		
65) Chlorobenzene	14.65	112	11670	N.D.		
66) Ethylbenzene	14.99	91	107698	1.978 ng		99
67) m- & p-Xylenes	15.16	91	327649	7.561 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	39770	1.213 ng		96
70) o-Xylene	15.64	91	146942	3.227 ng		100
71) n-Nonane	15.85	43	34513	1.548 ng		97
72) 1,1,2,2-Tetrachloroethane	15.64	83	1112	N.D.		
74) Cumene	16.21	105	17347	N.D.		
75) alpha-Pinene	16.59	93	23064	0.780 ng		99
76) n-Propylbenzene	16.70	91	33553	0.476 ng		95
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	16.84	105	35764	0.631 ng		98
79) 1,3,5-Trimethylbenzene	16.91	105	28529	0.577 ng		98
80) alpha-Methylstyrene	17.06	118	1350	N.D.		
81) 2-Ethyltoluene	17.10	105	25407	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	83588	1.704 ng		88
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	17.53	91	1238	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	2270	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	2270	N.D.		
87) sec-Butylbenzene	17.57	105	5504	N.D.		
88) 4-Isopropyltoluene (p-...	17.72	119	6405	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	18714	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	167757	9.741 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	7547	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	17.31	119	10278	N.D.		
100) n-Butylbenzene	18.11	91	6284	N.D.		

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291636.D
Acq On : 30 Apr 2016 2:58 Operator: WA
Sample : P1602147-005 (1000mL)
Misc : S29-04131602
ALS Vial : 11 Sample Multiplier: 1

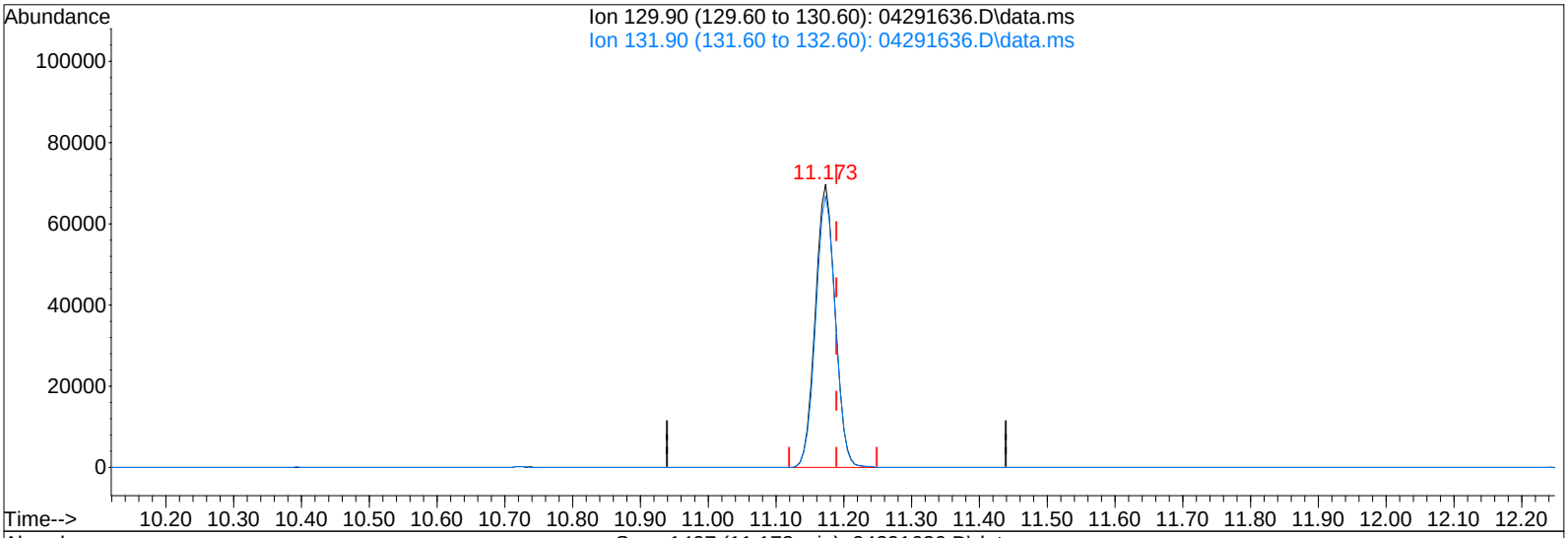
Quant Time: May 03 06:42:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

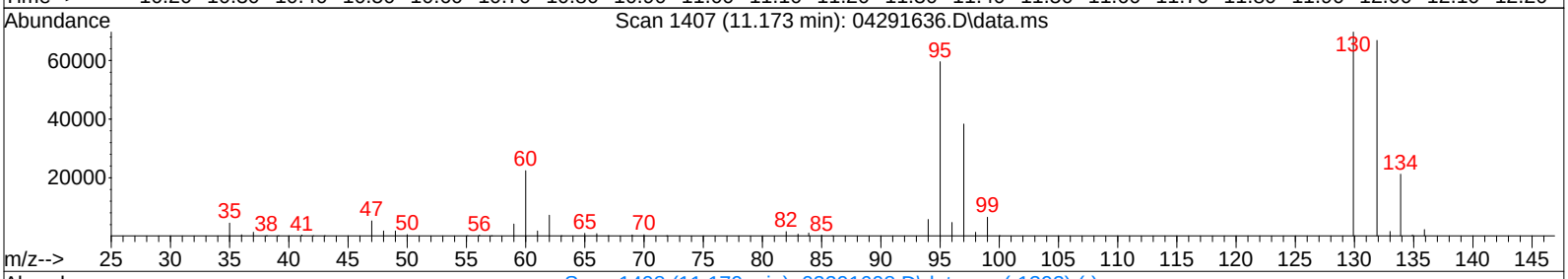


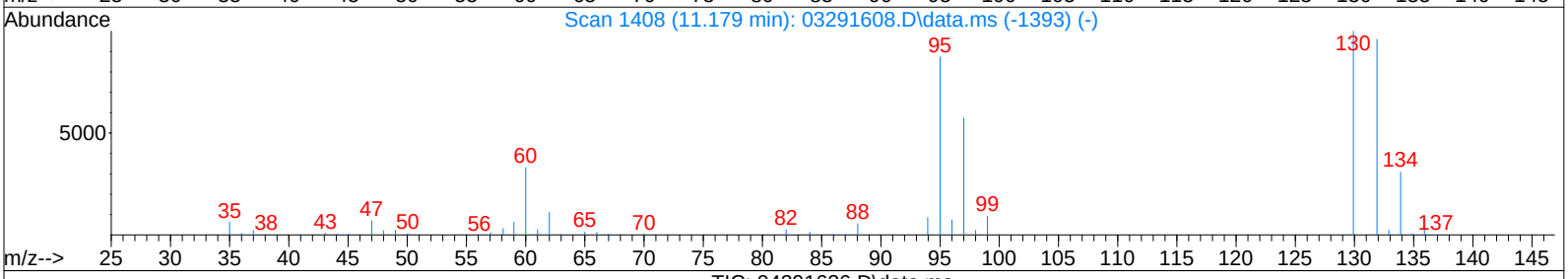
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291636.D
Acq On : 30 Apr 2016 2:58 Operator: WA
Sample : P1602147-005 (1000mL)
Misc : S29-04131602
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 02 07:10:16 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291636.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 10.45ng

response 140752

Ion	Exp%	Act%
129.90	100	100
131.90	96.10	95.92
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 03 06:44:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016 5/3/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	119064	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	603604	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	248452	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	171578	12.897	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	12.77	98	579580	12.069	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	16.07	174	264860	12.937	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
Target Compounds							Qvalue
2) Propene	3.88	42	5481	0.515	ng	#	60
3) Dichlorodifluoromethan...	3.98	85	21563	1.015	ng		98
4) Chloromethane	4.13	50	593	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	551	N.D.			
6) Vinyl Chloride	4.32	62	4735	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.02	94	1463	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	85165	10.736	ng		99
11) Acetonitrile	5.58	41	3318	N.D.			
12) Acrolein	5.70	56	2565	N.D.			
13) Acetone	5.84	58	36198	4.143	ng		88
14) Trichlorofluoromethane	6.01	101	11412	0.610	ng		92
15) 2-Propanol (Isopropanol)	6.13	45	20943	0.801	ng		100
16) Acrylonitrile	6.38	53	295	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	6.78	84	2464	N.D.			
20) 3-Chloro-1-propene (Al...	6.84	41	617	N.D.			
21) Trichlorotrifluoroethane	7.06	151	2741	N.D.			
22) Carbon Disulfide	7.04	76	30548	0.672	ng		97
23) trans-1,2-Dichloroethene	7.69	61	1644	N.D.			
24) 1,1-Dichloroethane	7.87	63	3463	N.D.			
25) Methyl tert-Butyl Ether	7.88	73	1623	N.D.			
26) Vinyl Acetate	8.03	86	2925	1.077	ng	#	76
27) 2-Butanone (MEK)	8.25	72	4371	0.493	ng	#	80
28) cis-1,2-Dichloroethene	8.64	61	55111	4.178	ng		98
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	8.84	61	212018	62.613	ng		96
31) n-Hexane	8.85	57	9925	0.572	ng		99
32) Chloroform	8.91	83	6470	N.D.			
34) Tetrahydrofuran (THF)	9.28	72	1286	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.58	62	642	N.D.			
38) 1,1,1-Trichloroethane	9.82	97	49210	3.016	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.23	78	17758	N.D.			
42) Carbon Tetrachloride	10.36	117	1453	N.D.			
43) Cyclohexane	10.48	84	16421	0.860	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.17	63	3361	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.17	130	1504789	111.694	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 03 06:44:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

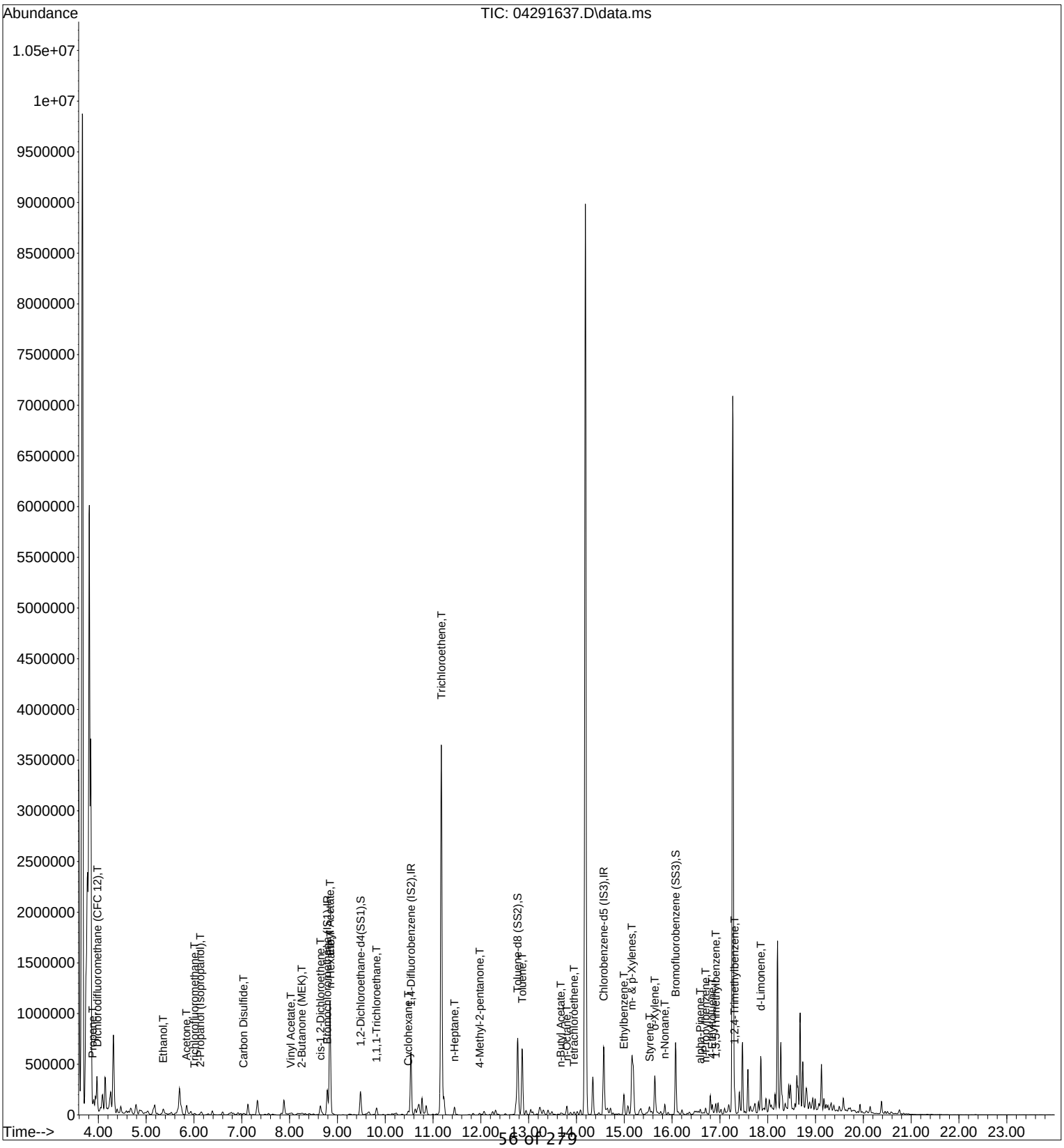
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	11.23	100	812	N.D.		
51) n-Heptane	11.45	71	20922	1.875 ng		100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	5288	0.543 ng		78
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	534723	9.309 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	12208	0.516 ng	#	73
63) n-Octane	13.80	57	16714	1.709 ng		98
64) Tetrachloroethene	13.95	166	10973	0.664 ng		100
65) Chlorobenzene	14.65	112	9406	N.D.		
66) Ethylbenzene	14.99	91	172560	3.148 ng		99
67) m- & p-Xylenes	15.16	91	512107	11.738 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	34596	1.048 ng		96
70) o-Xylene	15.64	91	207503	4.525 ng		100
71) n-Nonane	15.85	43	34866	1.554 ng		99
72) 1,1,2,2-Tetrachloroethane	15.65	83	1334	N.D.		
74) Cumene	16.21	105	19190	N.D.		
75) alpha-Pinene	16.59	93	20171	0.677 ng		90
76) n-Propylbenzene	16.70	91	48663	0.686 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	16.84	105	50712	0.889 ng		99
79) 1,3,5-Trimethylbenzene	16.91	105	40882	0.821 ng		100
80) alpha-Methylstyrene	17.06	118	1391	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	17.31	105	106811	2.163 ng		89
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	17.47	91	540	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	2560	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	2560	N.D.		
87) sec-Butylbenzene	17.57	105	5707	N.D.		
88) 4-Isopropyltoluene (p-...	17.72	119	9055	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	20381	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	131396	7.578 ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	10668	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	18.11	91	7140	N.D.		

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

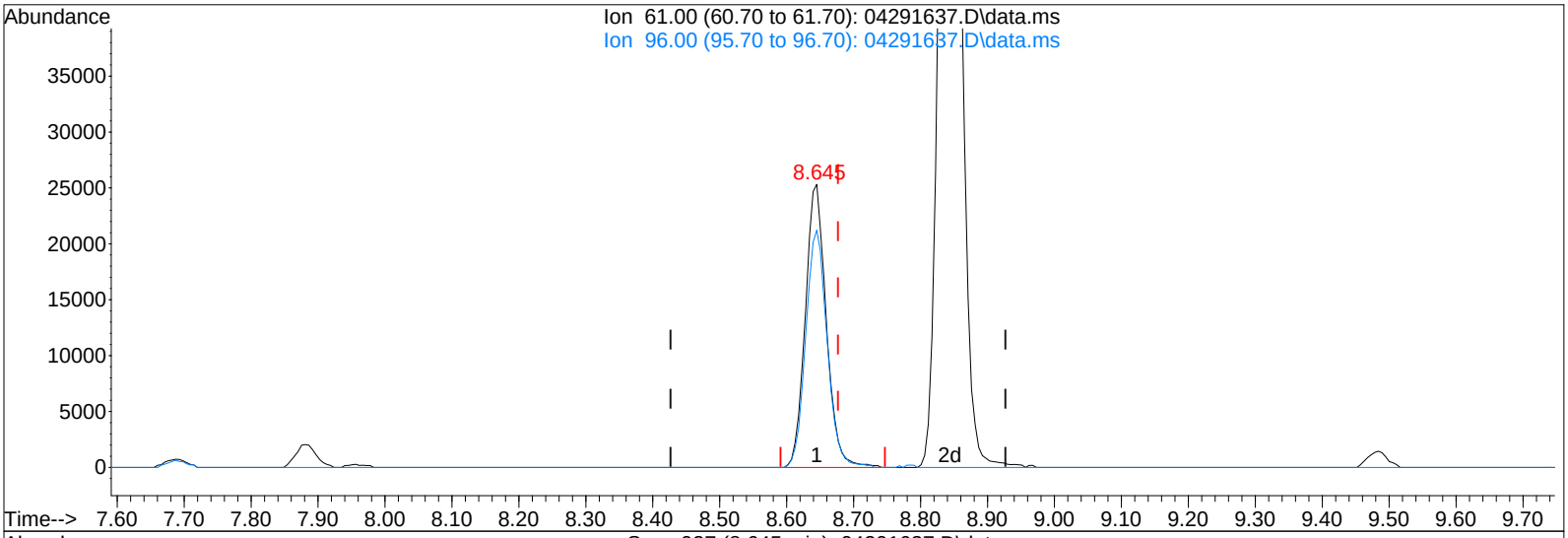
Quant Time: May 03 06:44:42 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

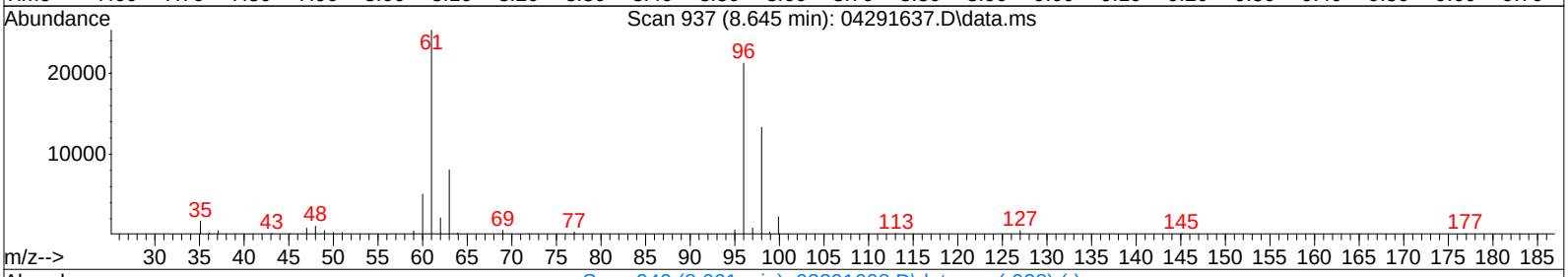


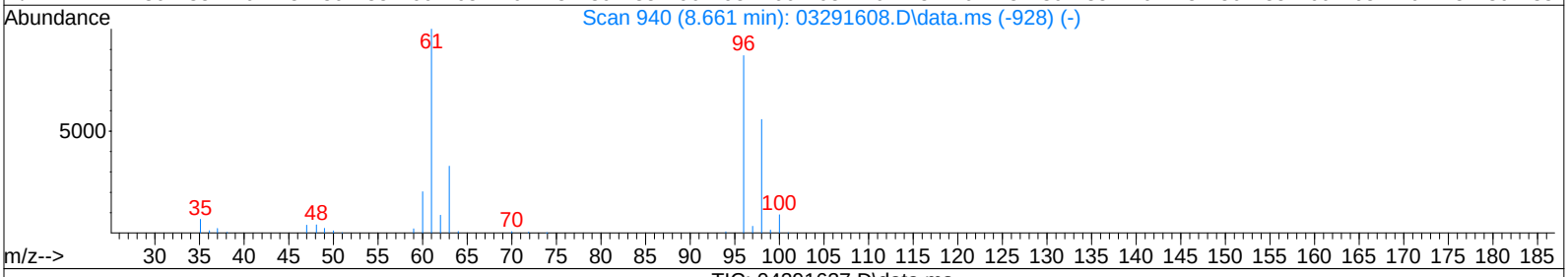
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 02 07:10:18 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291637.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.645min (-0.032) 4.18ng

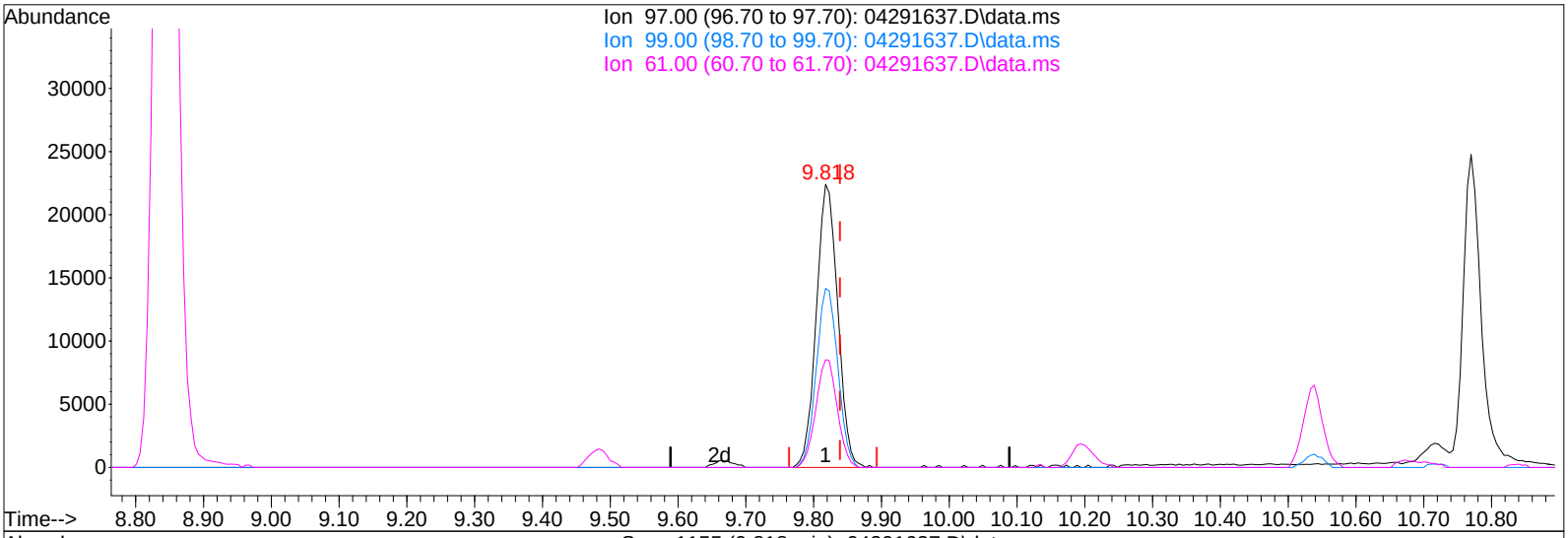
response 55111

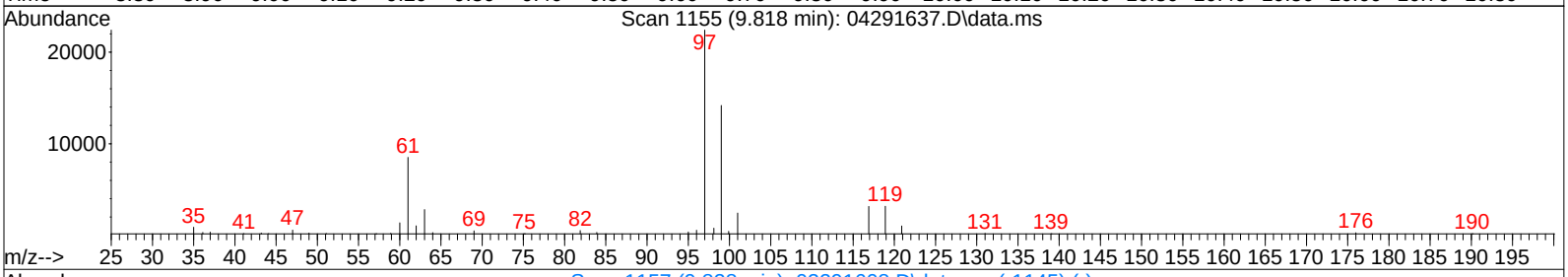
Ion	Exp%	Act%
61.00	100	100
96.00	87.60	85.88
0.00	0.00	0.00
0.00	0.00	0.00

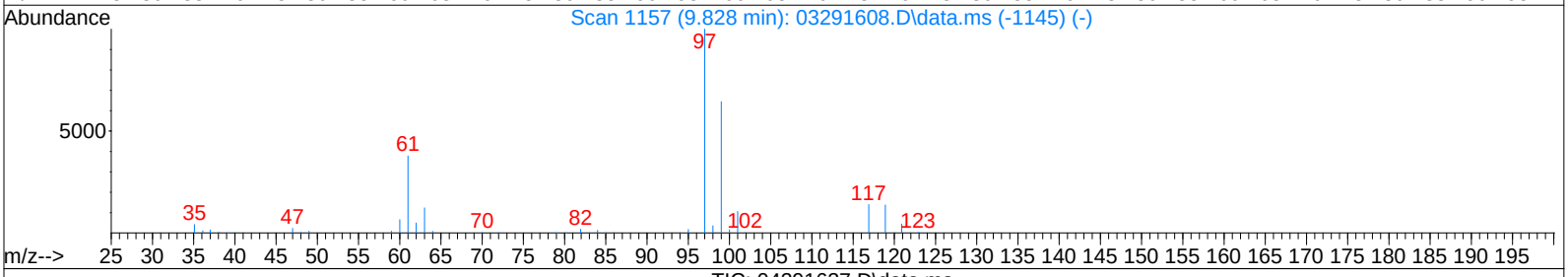
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 02 07:10:18 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291637.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.818min (-0.021) 3.02ng

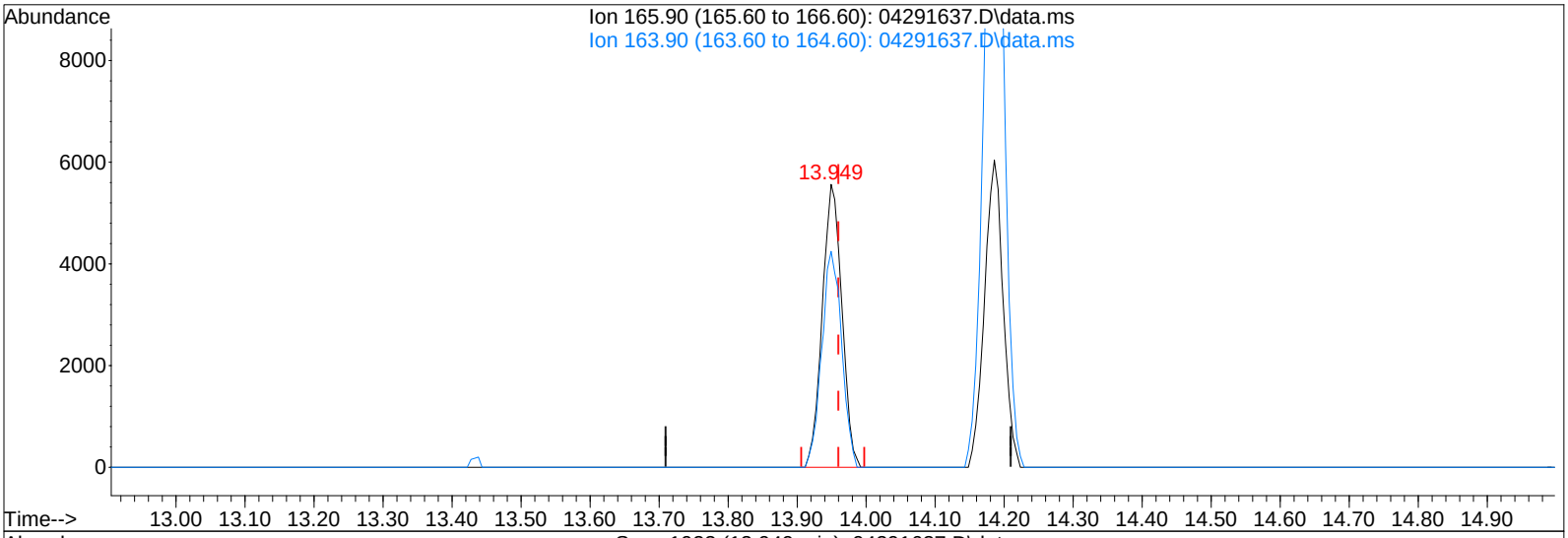
response 49210

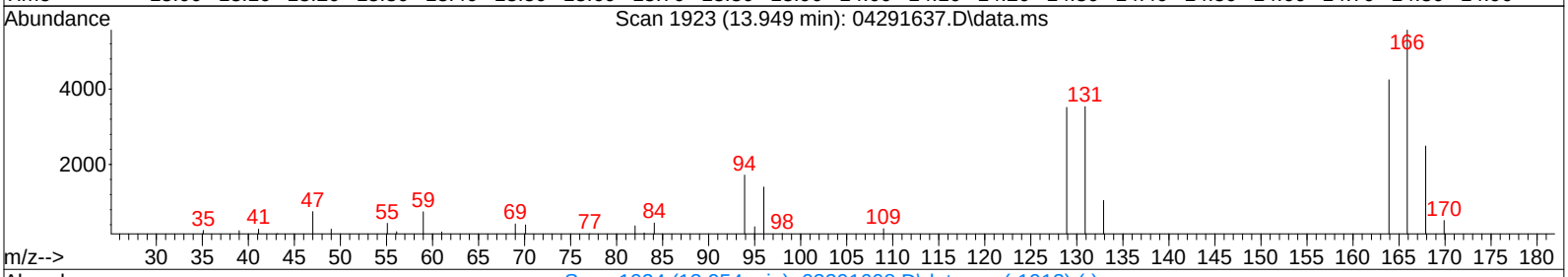
Ion	Exp%	Act%
97.00	100	100
99.00	64.50	63.52
61.00	37.50	37.95
0.00	0.00	0.00

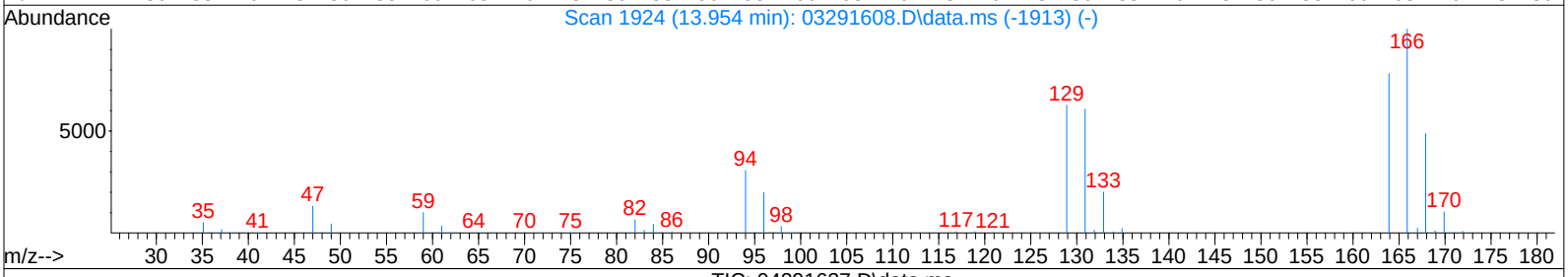
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291637.D
Acq On : 30 Apr 2016 3:31 Operator: WA
Sample : P1602147-006 (1000mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 02 07:10:18 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291637.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.011) 0.66ng

response 10973

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	77.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291643.D
Acq On : 30 Apr 2016 12:44 Operator: WA
Sample : P1602147-006dil (100mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 03 06:52:48 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016 5/3/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	115826	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	578374	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	241863	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.48	65	165234	12.767	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%			
57) Toluene-d8 (SS2)	12.77	98	559684	11.972	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%			
73) Bromofluorobenzene (SS3)	16.07	174	265788	13.336	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.72%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	3.99	85	2309	N.D.		
4) Chloromethane	4.32	50	920	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	5.36	45	8054	1.044	ng	98
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	5.87	56	62	N.D.		
13) Acetone	5.87	58	3553	N.D.		
14) Trichlorofluoromethane	6.01	101	963	N.D.		
15) 2-Propanol (Isopropanol)	6.15	45	2585	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...	6.77	59	2447	N.D.		
19) Methylene Chloride	6.79	84	1929	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	7.07	76	5071	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	8.65	61	4924	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	19827	6.019	ng	97
31) n-Hexane	8.87	57	909	N.D.		
32) Chloroform	8.91	83	584	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	9.82	97	4726	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.24	78	1770	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.48	84	1630	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	11.17	83	1487	N.D.		
47) Trichloroethene	11.17	130	143418	11.110	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.23	57	16022	N.D.		

Data File: I:\MS08\Data\2016 04\29\04291643.D
Acq On : 30 Apr 2016 12:44 Operator: WA
Sample : P1602147-006dil (100mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 03 06:52:48 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

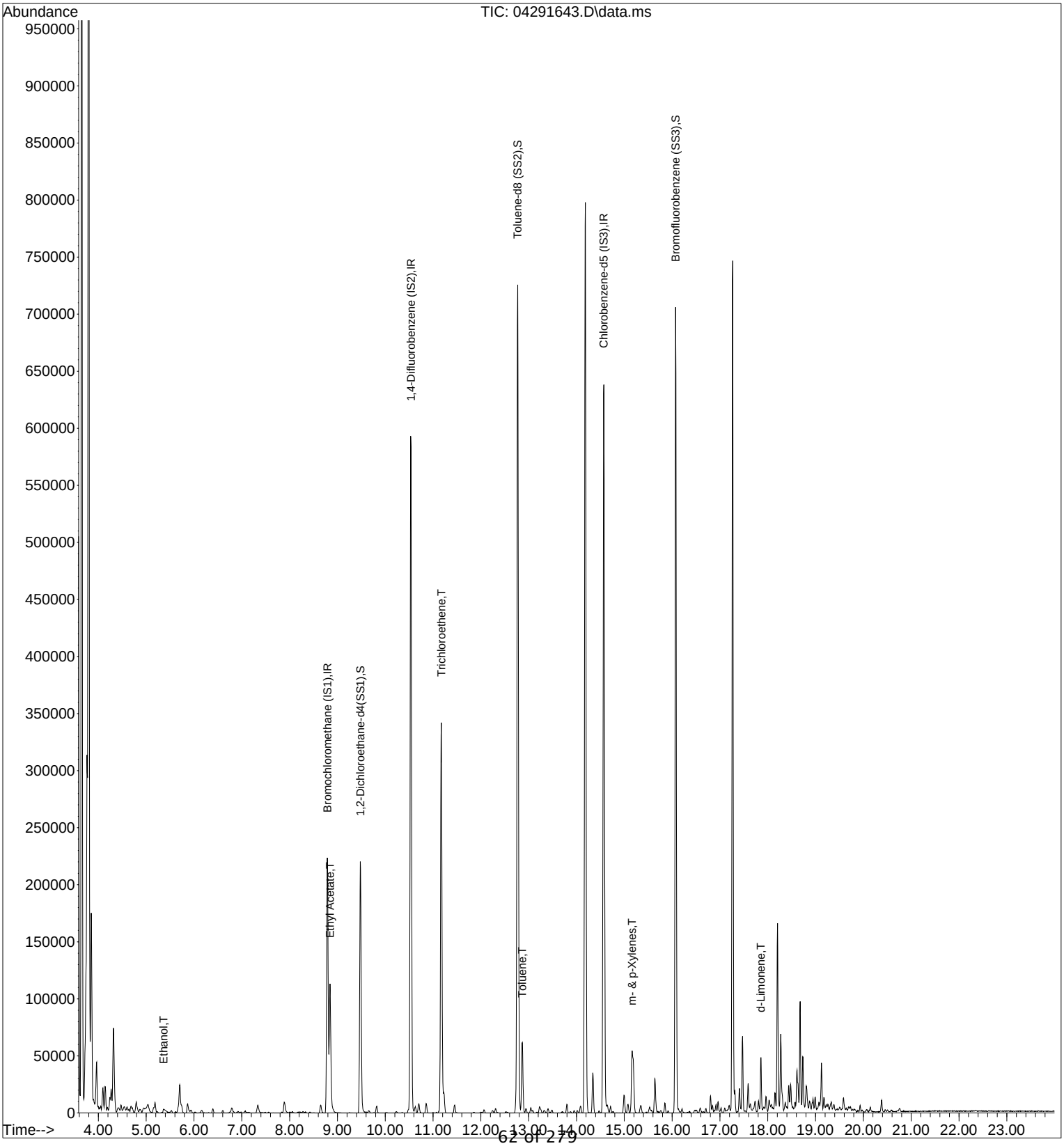
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	544	N.D.	
51) n-Heptane	11.45	71	1951	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	52670	0.942 ng	100
59) 2-Hexanone	13.08	43	1137	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.71	43	670	N.D.	
63) n-Octane	13.80	57	1545	N.D.	
64) Tetrachloroethene	13.95	166	1057	N.D.	
65) Chlorobenzene	14.64	112	743	N.D.	
66) Ethylbenzene	15.00	91	16319	N.D.	
67) m- & p-Xylenes	15.16	91	49529	1.166 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.54	104	2800	N.D.	
70) o-Xylene	15.64	91	20002	N.D.	
71) n-Nonane	15.85	43	3286	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.21	105	1733	N.D.	
75) alpha-Pinene	16.60	93	1770	N.D.	
76) n-Propylbenzene	16.71	91	4464	N.D.	
77) 3-Ethyltoluene	16.80	105	10379	N.D.	
78) 4-Ethyltoluene	16.85	105	4812	N.D.	
79) 1,3,5-Trimethylbenzene	16.92	105	3994	N.D.	
80) alpha-Methylstyrene	17.27	118	9606	N.D.	
81) 2-Ethyltoluene	17.10	105	3131	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	9935	N.D.	
83) n-Decane	17.41	57	8061	N.D.	
84) Benzyl Chloride	17.31	91	891	N.D.	
85) 1,3-Dichlorobenzene	17.26	146	746	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	17.72	105	1970	N.D.	
88) 4-Isopropyltoluene (p-...	17.72	119	791	N.D.	
89) 1,2,3-Trimethylbenzene	17.72	105	1970	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.85	68	11435	0.677 ng	100
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	19.59	128	718	N.D.	
96) n-Dodecane	19.59	57	2890	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.33	55	2045	N.D.	
99) tert-Butylbenzene	17.31	119	1168	N.D.	
100) n-Butylbenzene	18.11	91	514	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291643.D
Acq On : 30 Apr 2016 12:44 Operator: WA
Sample : P1602147-006dil (100mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

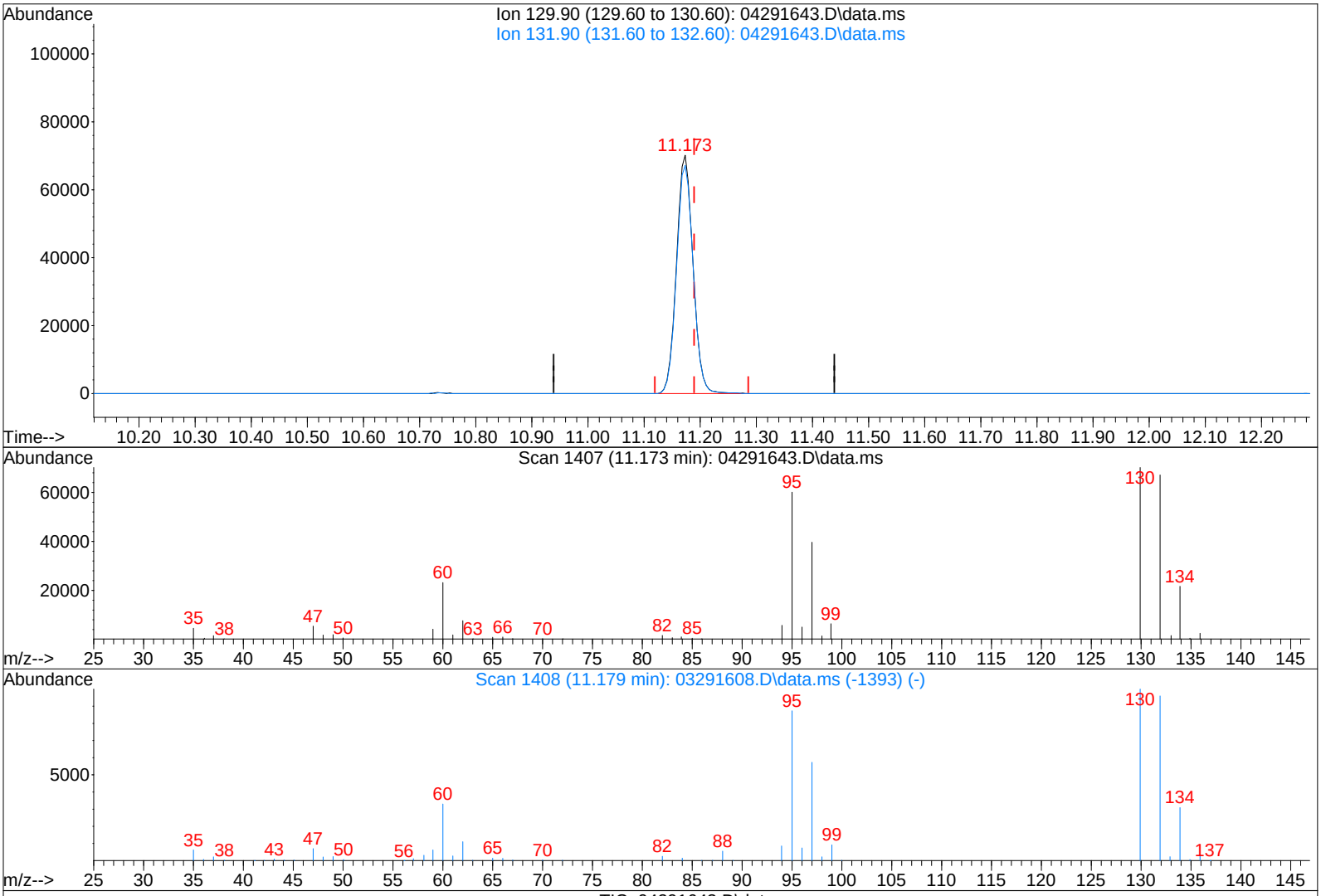
Quant Time: May 03 06:52:48 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291643.D
Acq On : 30 Apr 2016 12:44 Operator: WA
Sample : P1602147-006dil (100mL)
Misc : S29-04131602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 02 07:10:30 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04291643.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 11.11ng

response 143418

Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 06:47:40 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	118588	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	606121	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	247483	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	170713	12.883	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	12.77	98	584388	12.217	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
73) Bromofluorobenzene (SS3)	16.07	174	262782	12.886	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.99	85	22994	1.087	ng		97
4) Chloromethane	4.22	50	1958	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	523	N.D.			
6) Vinyl Chloride	4.31	62	3019	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.02	94	843	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	226543	28.672	ng		100
11) Acetonitrile	5.58	41	2505	N.D.			
12) Acrolein	5.72	56	2191	N.D.			
13) Acetone	5.85	58	50724	5.830	ng	#	76
14) Trichlorofluoromethane	6.00	101	11420	0.613	ng		94
15) 2-Propanol (Isopropanol)	6.13	45	24572	0.943	ng		100
16) Acrylonitrile	6.39	53	783	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.77	84	2870	N.D.			
20) 3-Chloro-1-propene (Al...	6.83	41	2184	N.D.			
21) Trichlorotrifluoroethane	7.06	151	9401	0.910	ng		99
22) Carbon Disulfide	7.04	76	33232	0.734	ng		97
23) trans-1,2-Dichloroethene	7.69	61	32730	2.411	ng		99
24) 1,1-Dichloroethane	7.88	63	9152	0.500	ng		98
25) Methyl tert-Butyl Ether	7.88	73	1128	N.D.			
26) Vinyl Acetate	8.03	86	3591	1.327	ng	#	56
27) 2-Butanone (MEK)	8.25	72	4671	0.529	ng	#	81
28) cis-1,2-Dichloroethene	8.64	61	538540	40.996	ng		99
29) Diisopropyl Ether	8.84	87	3883	N.D.			
30) Ethyl Acetate	8.84	61	170156	50.452	ng		95
31) n-Hexane	8.86	57	13742	0.795	ng		98
32) Chloroform	8.91	83	21005	1.190	ng		100
34) Tetrahydrofuran (THF)	9.28	72	2544	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.59	62	2080	N.D.			
38) 1,1,1-Trichloroethane	9.82	97	99379	6.066	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.23	78	21213	0.482	ng		98
42) Carbon Tetrachloride	10.37	117	1025	N.D.			
43) Cyclohexane	10.48	84	17741	0.926	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	11.08	83	1063	N.D.			
47) Trichloroethene	11.18	130	3512136	259.608	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 06:47:40 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

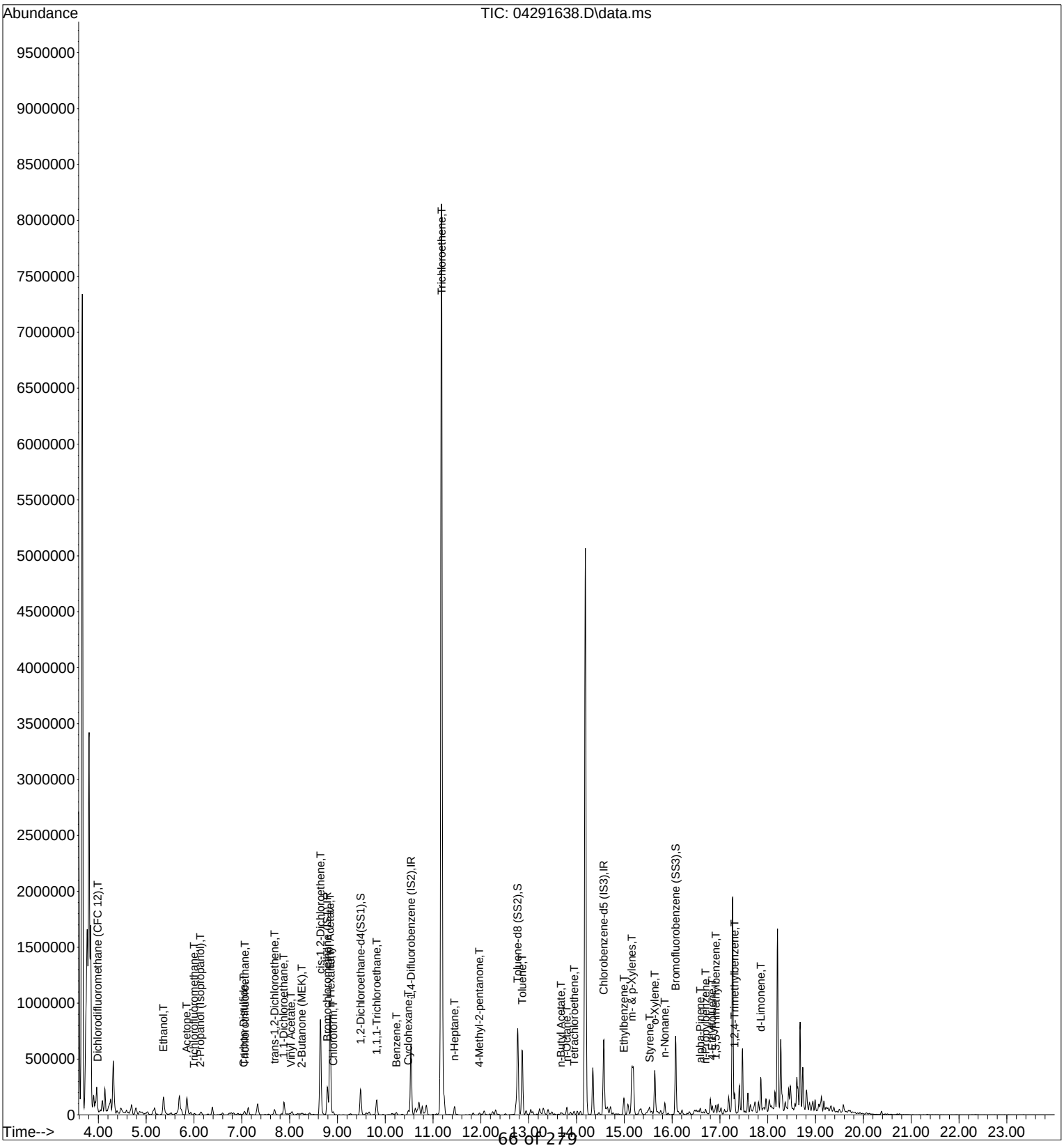
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	11.23	100	731	N.D.		
51) n-Heptane	11.45	71	20345	1.815 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	5765	0.589 ng		85
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	472492	8.258 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	10808	0.459 ng	#	66
63) n-Octane	13.80	57	13353	1.370 ng		97
64) Tetrachloroethene	13.95	166	11608	0.705 ng		99
65) Chlorobenzene	14.65	112	10021	N.D.		
66) Ethylbenzene	14.99	91	127766	2.340 ng		99
67) m- & p-Xylenes	15.16	91	371601	8.551 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	31394	0.955 ng		97
70) o-Xylene	15.64	91	153735	3.366 ng		99
71) n-Nonane	15.85	43	37560	1.680 ng		99
72) 1,1,2,2-Tetrachloroethane	15.65	83	1190	N.D.		
74) Cumene	16.21	105	17520	N.D.		
75) alpha-Pinene	16.59	93	22328	0.753 ng		97
76) n-Propylbenzene	16.70	91	34335	0.486 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	16.84	105	36342	0.640 ng		98
79) 1,3,5-Trimethylbenzene	16.91	105	28041	0.565 ng		98
80) alpha-Methylstyrene	17.06	118	576	N.D.		
81) 2-Ethyltoluene	17.10	105	24519	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	79127	1.609 ng		88
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	17.48	91	524	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1820	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1820	N.D.		
87) sec-Butylbenzene	17.57	105	5514	N.D.		
88) 4-Isopropyltoluene (p-...	17.72	119	6992	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	17216	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	74379	4.306 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.58	128	2785	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	17.31	119	9723	N.D.		
100) n-Butylbenzene	18.11	91	7161	N.D.		

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

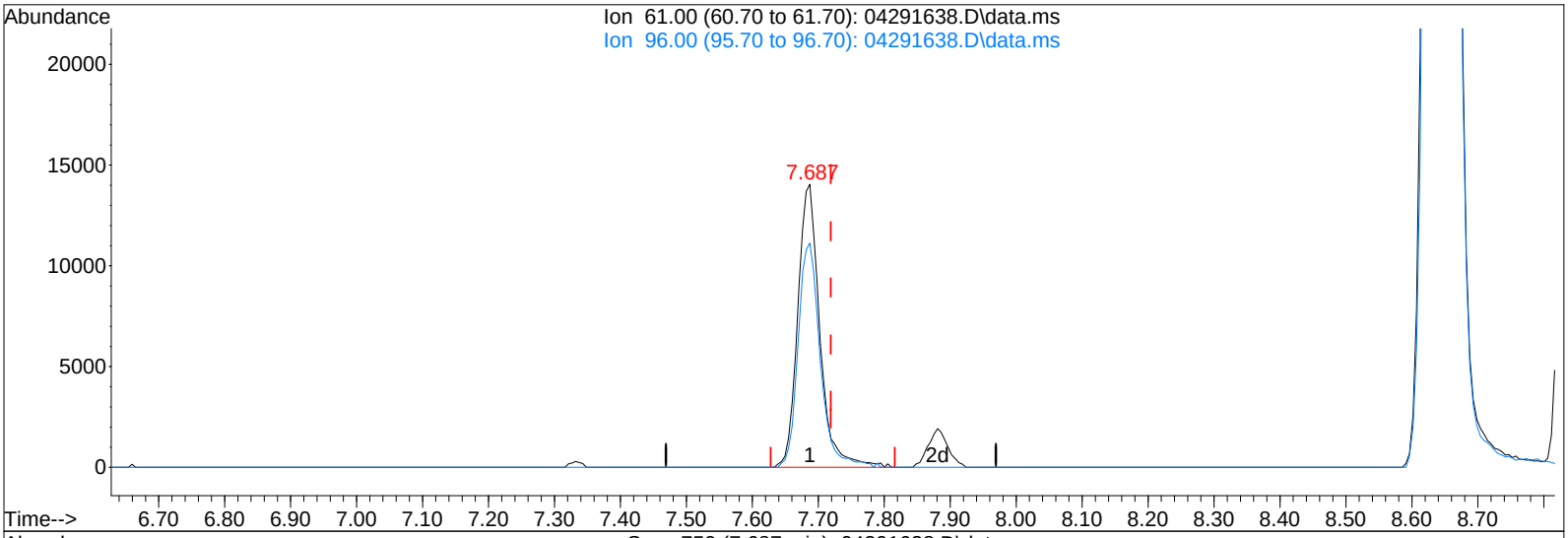
Quant Time: May 03 06:47:40 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

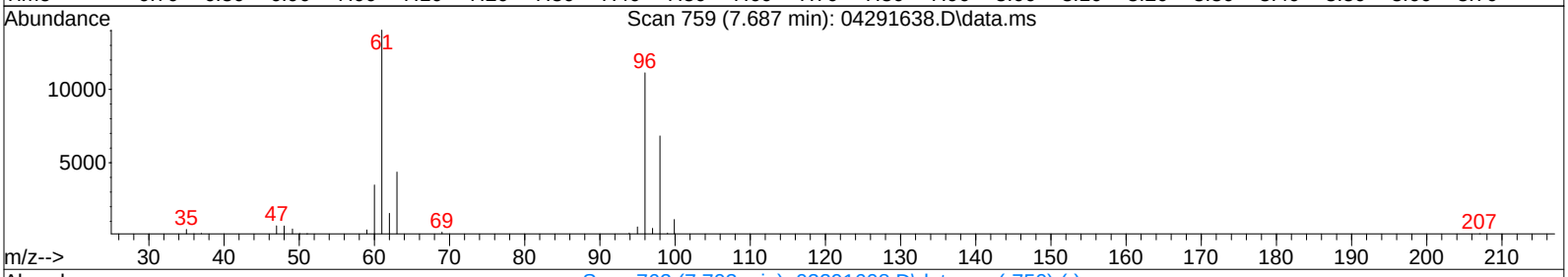


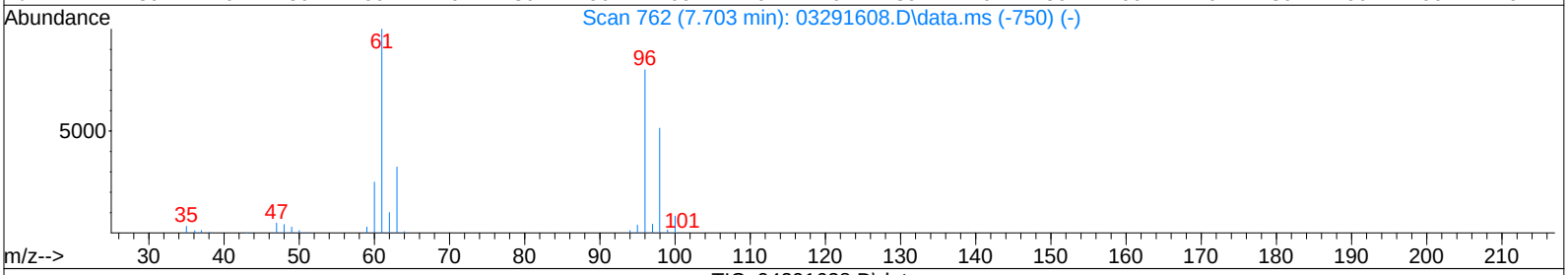
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:20 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291638.D\data.ms

(23) trans-1,2-Dichloroethene (T)

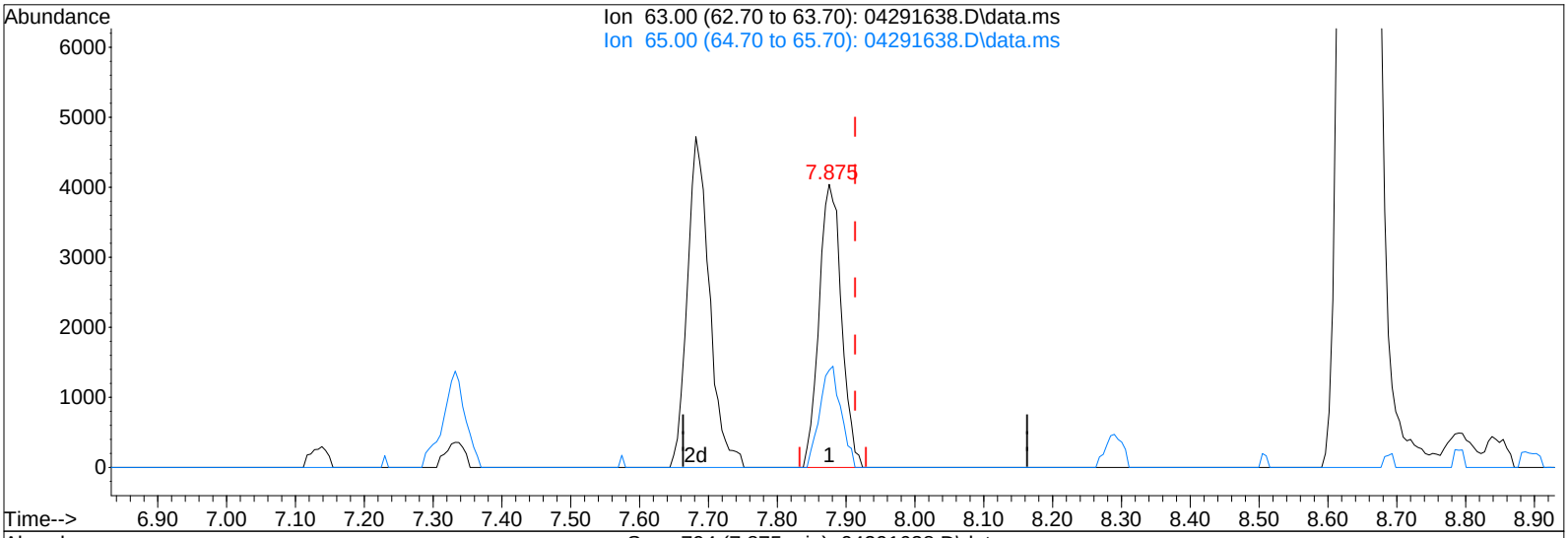
7.687min (-0.032) 2.41ng

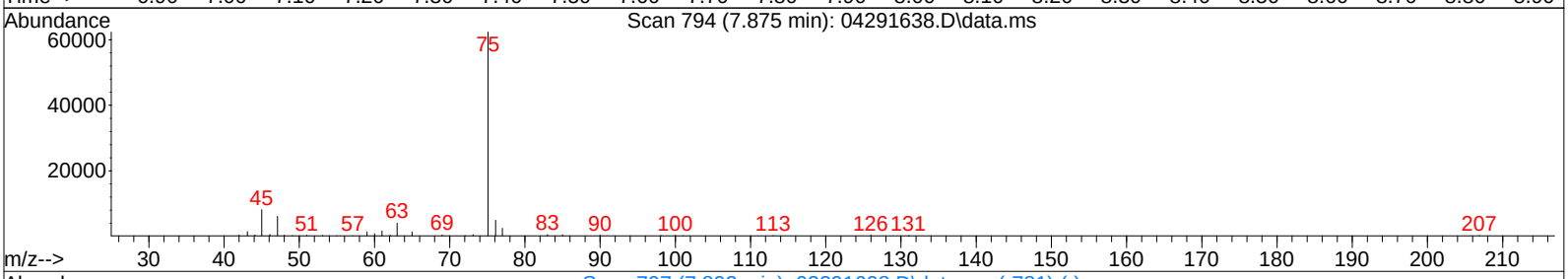
response 32730

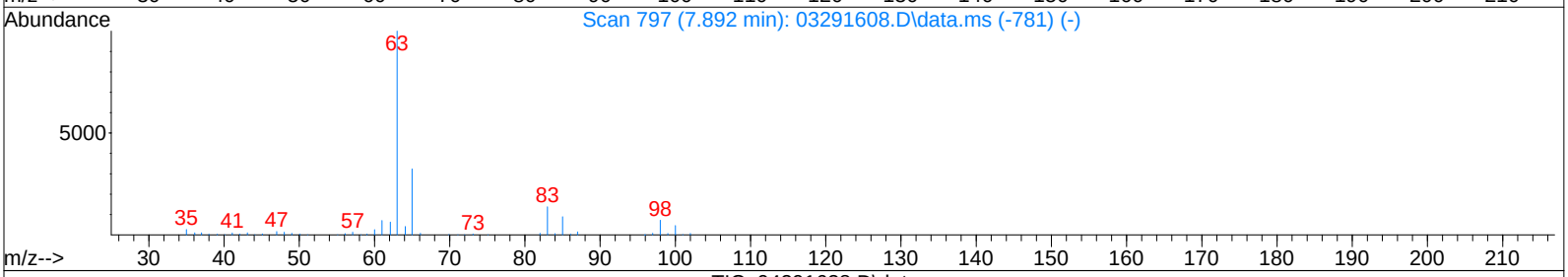
Ion	Exp%	Act%
61.00	100	100
96.00	80.30	79.58
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:20 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291638.D\data.ms

(24) 1,1-Dichloroethane (T)

7.875min (-0.038) 0.50ng

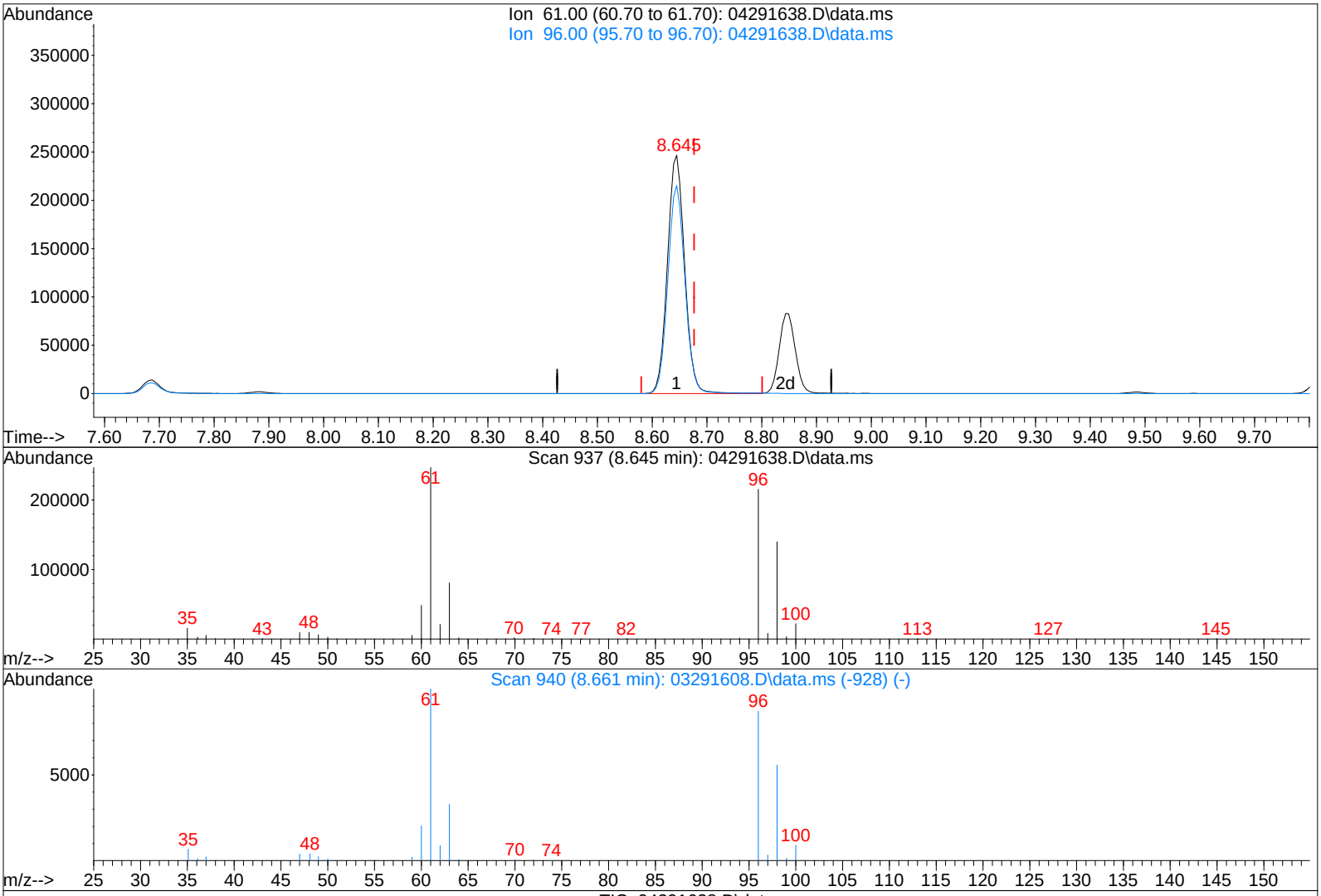
response 9152

Ion	Exp%	Act%
63.00	100	100
65.00	32.40	33.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:20 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04291638.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.645min (-0.032) 41.00ng

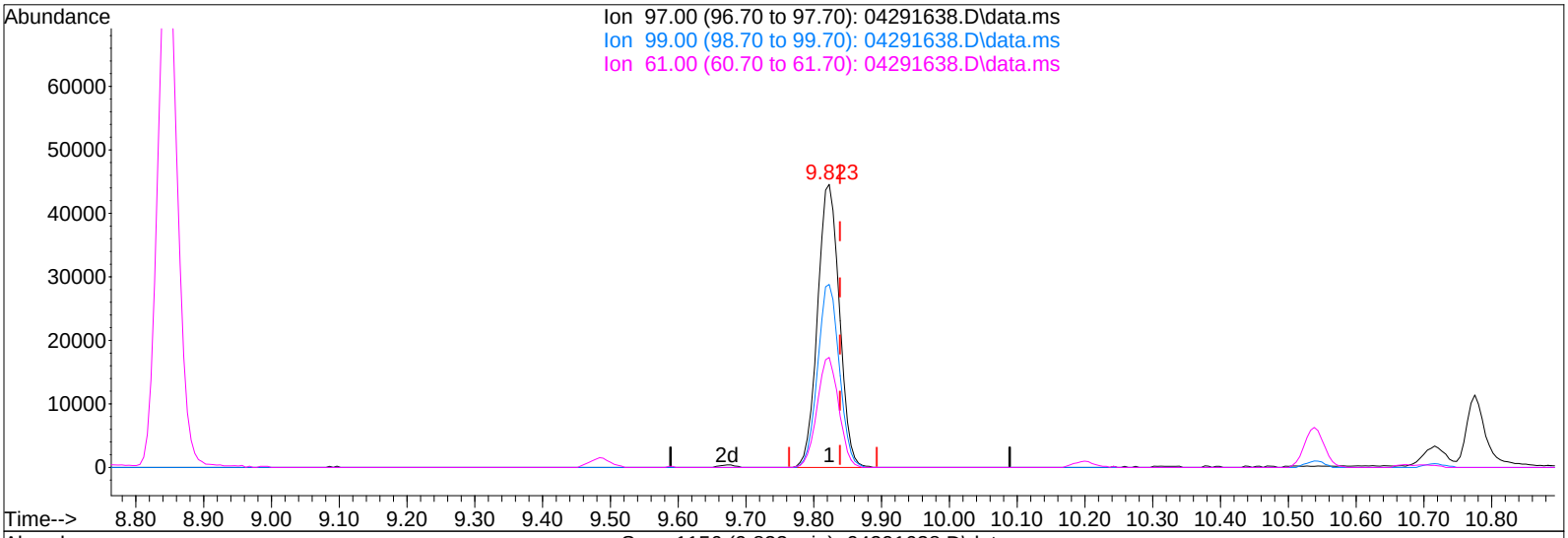
response 538540

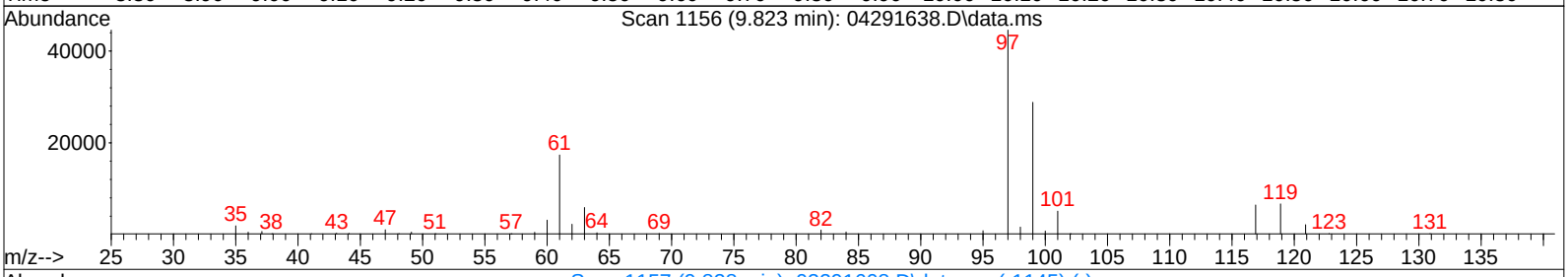
Ion	Exp%	Act%
61.00	100	100
96.00	87.60	87.00
0.00	0.00	0.00
0.00	0.00	0.00

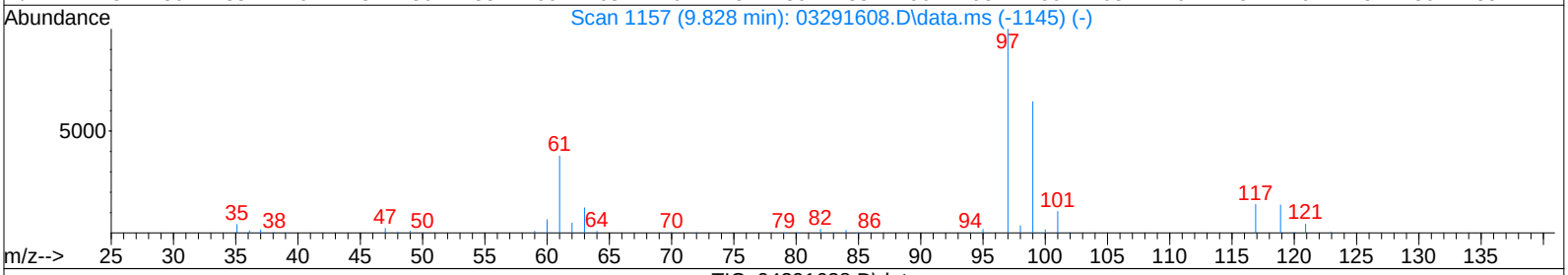
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:20 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291638.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.823min (-0.016) 6.07ng

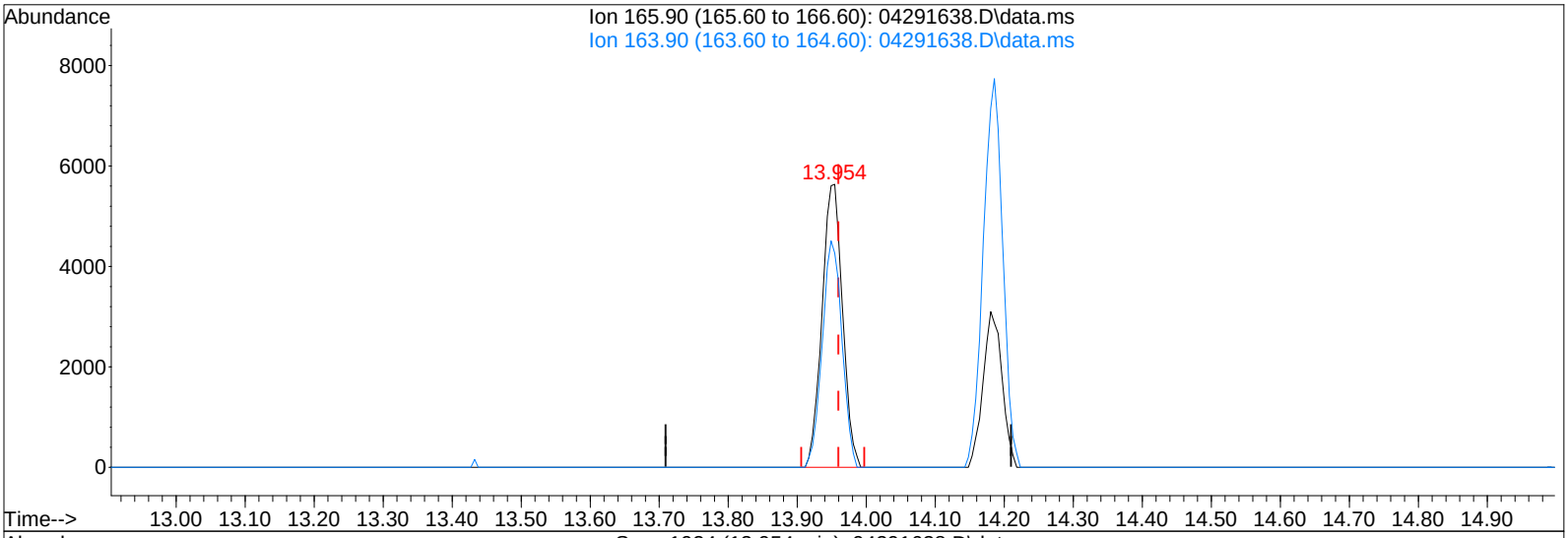
response 99379

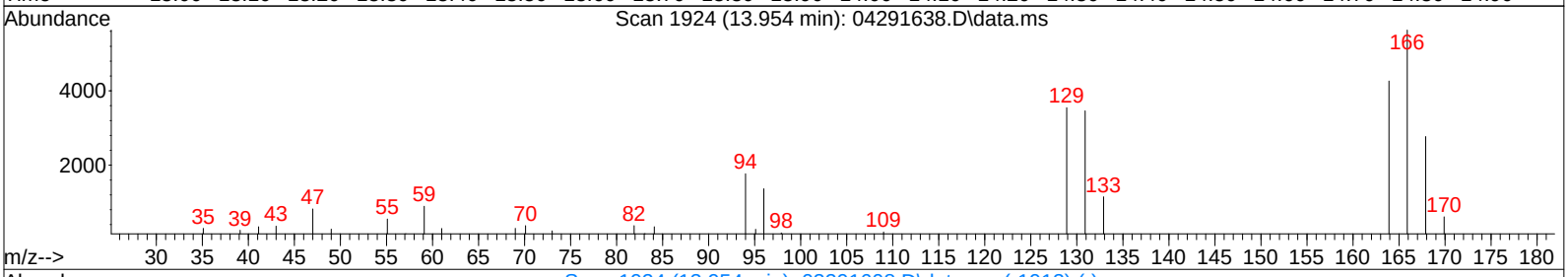
Ion	Exp%	Act%
97.00	100	100
99.00	64.50	64.21
61.00	37.50	38.56
0.00	0.00	0.00

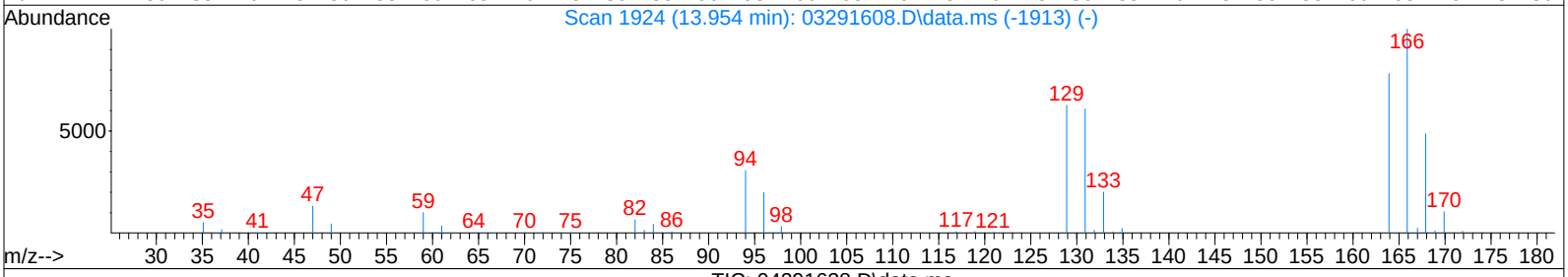
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291638.D
Acq On : 30 Apr 2016 4:03 Operator: WA
Sample : P1602147-007 (1000mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:20 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291638.D\data.ms

(64) Tetrachloroethene (T)

13.954min (-0.005) 0.71ng

response 11608

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	77.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291639.D
Acq On : 30 Apr 2016 4:36 Operator: WA
Sample : P1602147-007dil (100mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 06:48:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.78	130	115237	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	581693	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	239942	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	164789	12.798	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
57) Toluene-d8 (SS2)	12.77	98	564123	12.164	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	16.07	174	258103	13.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
Target Compounds							Qvalue
2) Propene	3.90	42	871	N.D.			
3) Dichlorodifluoromethan...	3.98	85	2290	N.D.			
4) Chloromethane	4.30	50	520	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	5.35	45	23268	3.031	ng		97
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	5.86	56	595	N.D.			
13) Acetone	5.85	58	5100	0.603	ng	#	72
14) Trichlorofluoromethane	6.01	101	1015	N.D.			
15) 2-Propanol (Isopropanol)	6.14	45	3358	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...	6.75	59	2542	N.D.			
19) Methylene Chloride	6.79	84	1869	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.06	151	814	N.D.			
22) Carbon Disulfide	7.07	76	4679	N.D.			
23) trans-1,2-Dichloroethene	7.69	61	2846	N.D.			
24) 1,1-Dichloroethane	7.88	63	779	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	8.64	61	52076	4.080	ng		99
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	8.84	61	16403	5.005	ng		94
31) n-Hexane	8.86	57	1288	N.D.			
32) Chloroform	8.91	83	1873	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	9.82	97	9905	0.630	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.23	78	2214	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	10.48	84	1735	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.17	63	680	N.D.			
46) Bromodichloromethane	11.16	83	3360	N.D.			
47) Trichloroethene	11.17	130	340920	26.258	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.23	57	15558	N.D.			

Data File: I:\MS08\Data\2016 04\29\04291639.D
Acq On : 30 Apr 2016 4:36 Operator: WA
Sample : P1602147-007dil (100mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 06:48:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

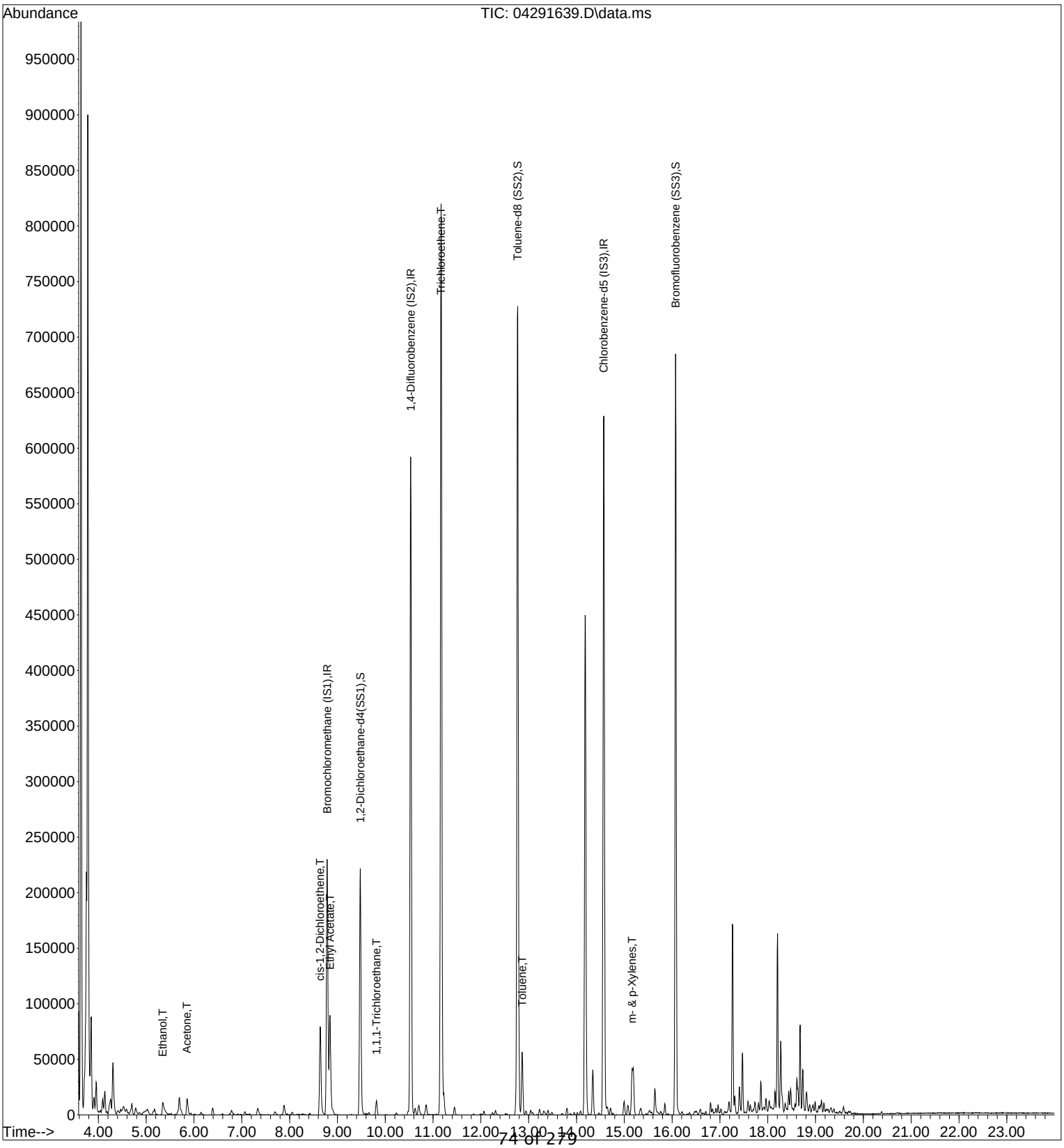
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	641	N.D.	
51) n-Heptane	11.45	71	1880	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	47141	0.850 ng	99
59) 2-Hexanone	13.09	43	1277	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.70	43	760	N.D.	
63) n-Octane	13.80	57	1231	N.D.	
64) Tetrachloroethene	13.95	166	1137	N.D.	
65) Chlorobenzene	14.65	112	869	N.D.	
66) Ethylbenzene	15.00	91	12434	N.D.	
67) m- & p-Xylenes	15.16	91	36304	0.862 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.53	104	2613	N.D.	
70) o-Xylene	15.64	91	15264	N.D.	
71) n-Nonane	15.85	43	3888	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.21	105	1712	N.D.	
75) alpha-Pinene	16.59	93	2038	N.D.	
76) n-Propylbenzene	16.71	91	3181	N.D.	
77) 3-Ethyltoluene	16.80	105	7427	N.D.	
78) 4-Ethyltoluene	16.84	105	3508	N.D.	
79) 1,3,5-Trimethylbenzene	16.92	105	2896	N.D.	
80) alpha-Methylstyrene	17.26	118	2458	N.D.	
81) 2-Ethyltoluene	17.10	105	2382	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	7728	N.D.	
83) n-Decane	17.41	57	8248	N.D.	
84) Benzyl Chloride	17.31	91	616	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	17.73	105	1602	N.D.	
88) 4-Isopropyltoluene (p-...	17.73	119	622	N.D.	
89) 1,2,3-Trimethylbenzene	17.73	105	1602	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.85	68	6841	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	19.59	57	1977	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.33	55	2000	N.D.	
99) tert-Butylbenzene	17.31	119	966	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291639.D
Acq On : 30 Apr 2016 4:36 Operator: WA
Sample : P1602147-007dil (100mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

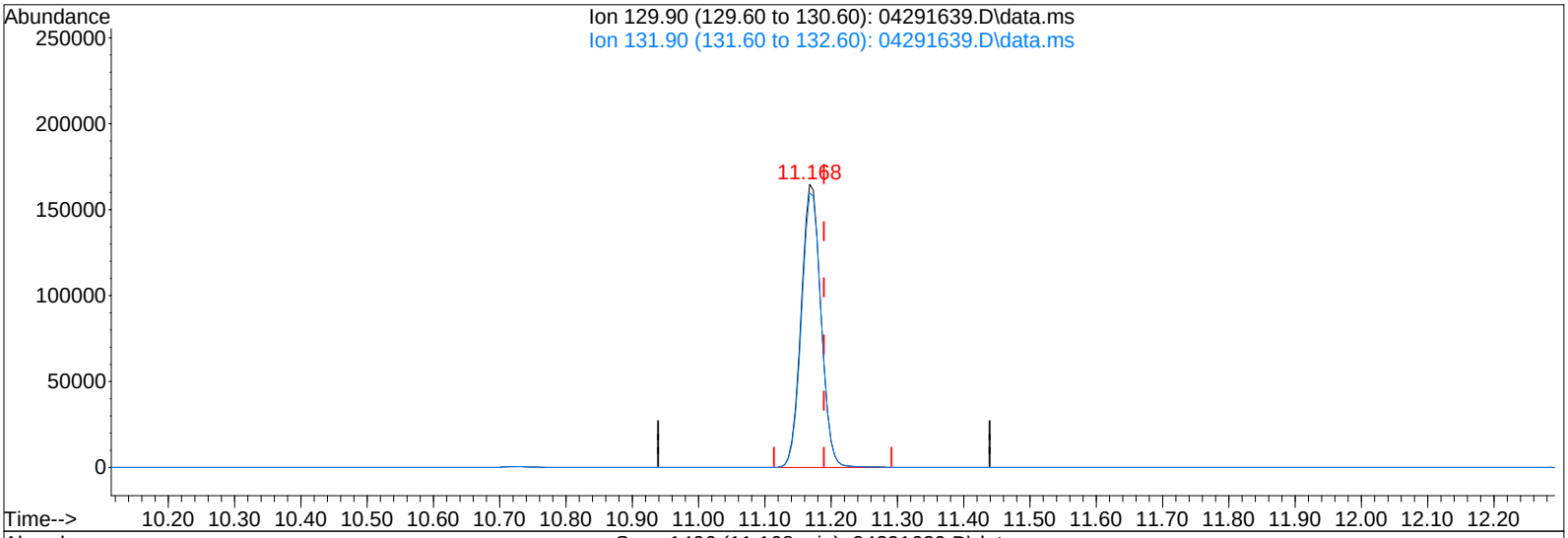
Quant Time: May 03 06:48:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

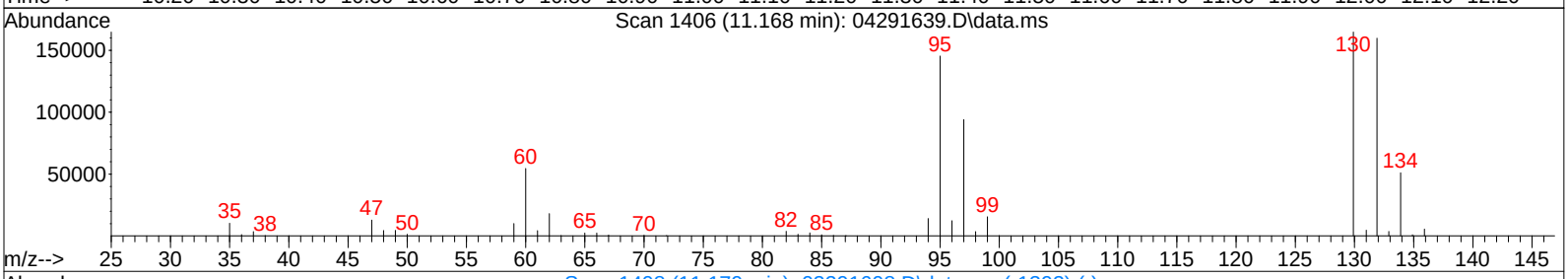


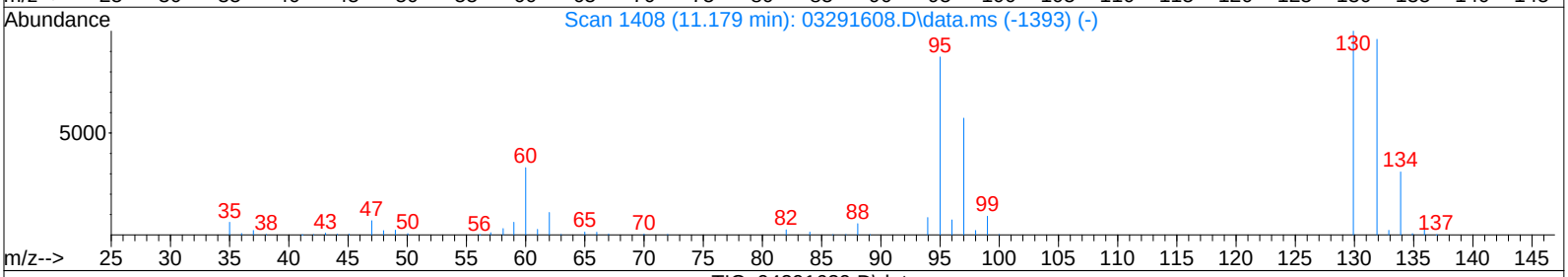
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291639.D
Acq On : 30 Apr 2016 4:36 Operator: WA
Sample : P1602147-007dil (100mL)
Misc : S29-04131602
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 02 07:10:21 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291639.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.022) 26.26ng

response 340920

Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 03 06:50:47 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	118155	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.54	114	593385	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	244179	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	169077	12.807	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	12.77	98	567304	12.020	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
73) Bromofluorobenzene (SS3)	16.07	174	260907	12.967	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
Target Compounds							Qvalue
2) Propene	3.88	42	14140	1.340	ng	#	65
3) Dichlorodifluoromethan...	3.98	85	22336	1.059	ng		97
4) Chloromethane	4.12	50	790	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	555	N.D.			
6) Vinyl Chloride	4.31	62	2673	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.02	94	815	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	196065	24.906	ng		99
11) Acetonitrile	5.58	41	2617	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.84	58	81049	9.349	ng		97
14) Trichlorofluoromethane	6.00	101	10740	0.579	ng		98
15) 2-Propanol (Isopropanol)	6.13	45	41769	1.610	ng		99
16) Acrylonitrile	6.39	53	915	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	6.77	84	2921	N.D.			
20) 3-Chloro-1-propene (Al...	6.83	41	1640	N.D.			
21) Trichlorotrifluoroethane	7.06	151	9093	0.883	ng		99
22) Carbon Disulfide	7.04	76	24634	0.546	ng		99
23) trans-1,2-Dichloroethene	7.68	61	32862	2.430	ng		97
24) 1,1-Dichloroethane	7.88	63	8931	0.490	ng		100
25) Methyl tert-Butyl Ether	7.96	73	530	N.D.			
26) Vinyl Acetate	8.02	86	5627	2.088	ng	#	90
27) 2-Butanone (MEK)	8.25	72	8995	1.023	ng	#	1
28) cis-1,2-Dichloroethene	8.64	61	529195	40.432	ng		99
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	8.84	61	199153	59.266	ng		95
31) n-Hexane	8.86	57	13328	0.774	ng		97
32) Chloroform	8.91	83	20464	1.163	ng		100
34) Tetrahydrofuran (THF)	9.28	72	2655	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.59	62	1591	N.D.			
38) 1,1,1-Trichloroethane	9.82	97	96913	6.043	ng		99
39) Isopropyl Acetate	10.20	61	1831	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.23	78	22252	0.517	ng		99
42) Carbon Tetrachloride	10.37	117	904	N.D.			
43) Cyclohexane	10.48	84	18769	1.000	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	11.08	83	1107	N.D.			
47) Trichloroethene	11.18	130	3411015	257.545	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 03 06:50:47 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

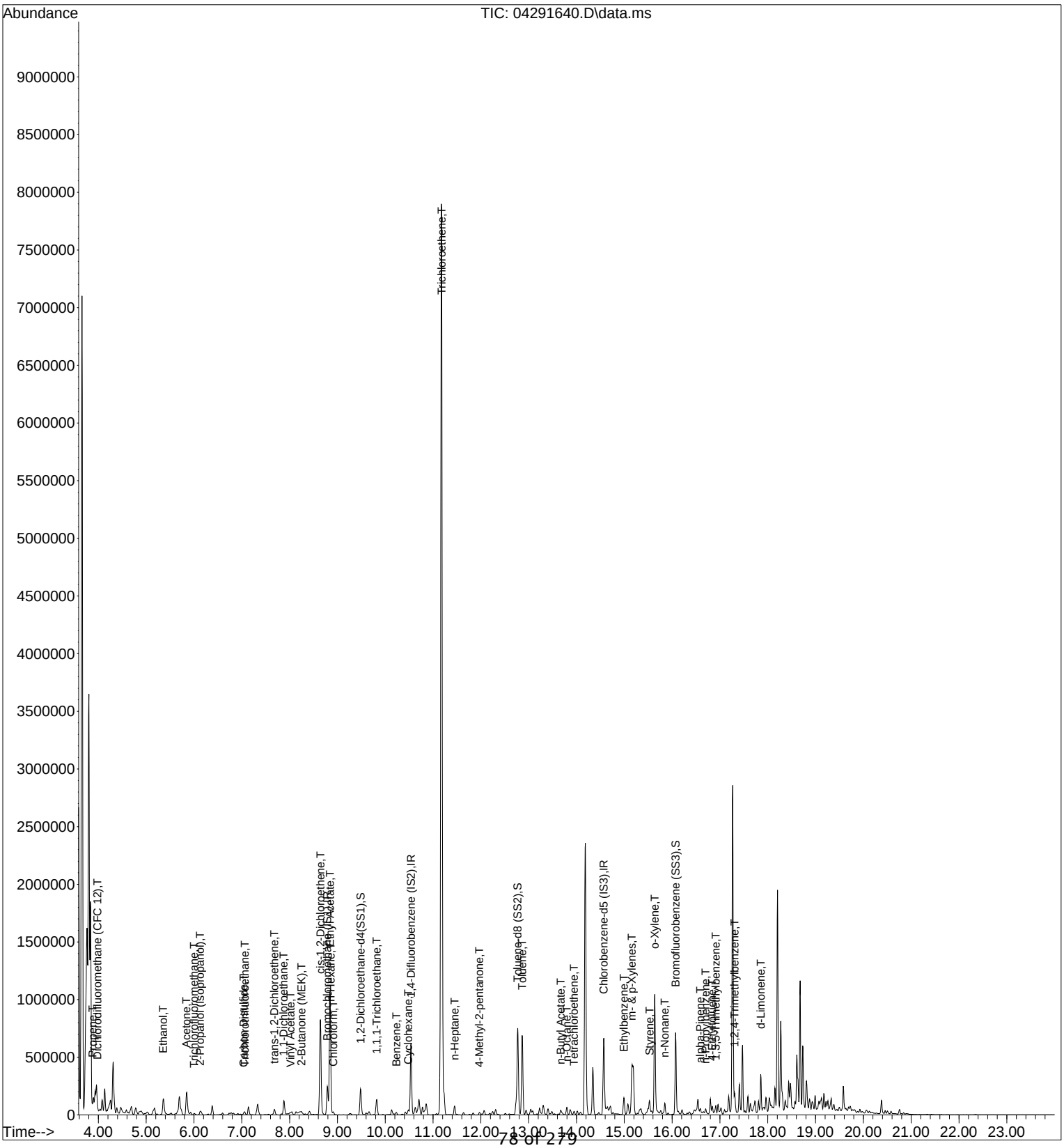
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.23	100	874	N.D.	
51) n-Heptane	11.45	71	21495	1.959 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.97	58	7029	0.734 ng	96
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.51	97	505	N.D.	
58) Toluene	12.86	91	568705	10.074 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.67	43	28652	1.232 ng	87
63) n-Octane	13.80	57	12924	1.344 ng	98
64) Tetrachloroethene	13.95	166	11248	0.693 ng	99
65) Chlorobenzene	14.65	112	10419	N.D.	
66) Ethylbenzene	14.99	91	129657	2.406 ng	99
67) m- & p-Xylenes	15.16	91	366178	8.540 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.53	104	65905	2.031 ng	98
70) o-Xylene	15.64	91	152218	3.378 ng	100
71) n-Nonane	15.85	43	35504	1.610 ng	99
72) 1,1,2,2-Tetrachloroethane	15.64	83	1073	N.D.	
74) Cumene	16.21	105	16588	N.D.	
75) alpha-Pinene	16.59	93	20854	0.713 ng	91
76) n-Propylbenzene	16.70	91	33102	0.475 ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	16.84	105	33881	0.604 ng	98
79) 1,3,5-Trimethylbenzene	16.91	105	25886	0.529 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	17.10	105	22988	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	78172	1.611 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	17.47	91	504	N.D.	
85) 1,3-Dichlorobenzene	17.45	146	626	N.D.	
86) 1,4-Dichlorobenzene	17.52	146	2063	N.D.	
87) sec-Butylbenzene	17.57	105	5569	N.D.	
88) 4-Isopropyltoluene (p-...	17.71	119	7969	N.D.	
89) 1,2,3-Trimethylbenzene	17.71	105	17818	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.85	68	76757	4.504 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	19.57	128	11523	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	17.31	119	8185	N.D.	
100) n-Butylbenzene	18.11	91	8549	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

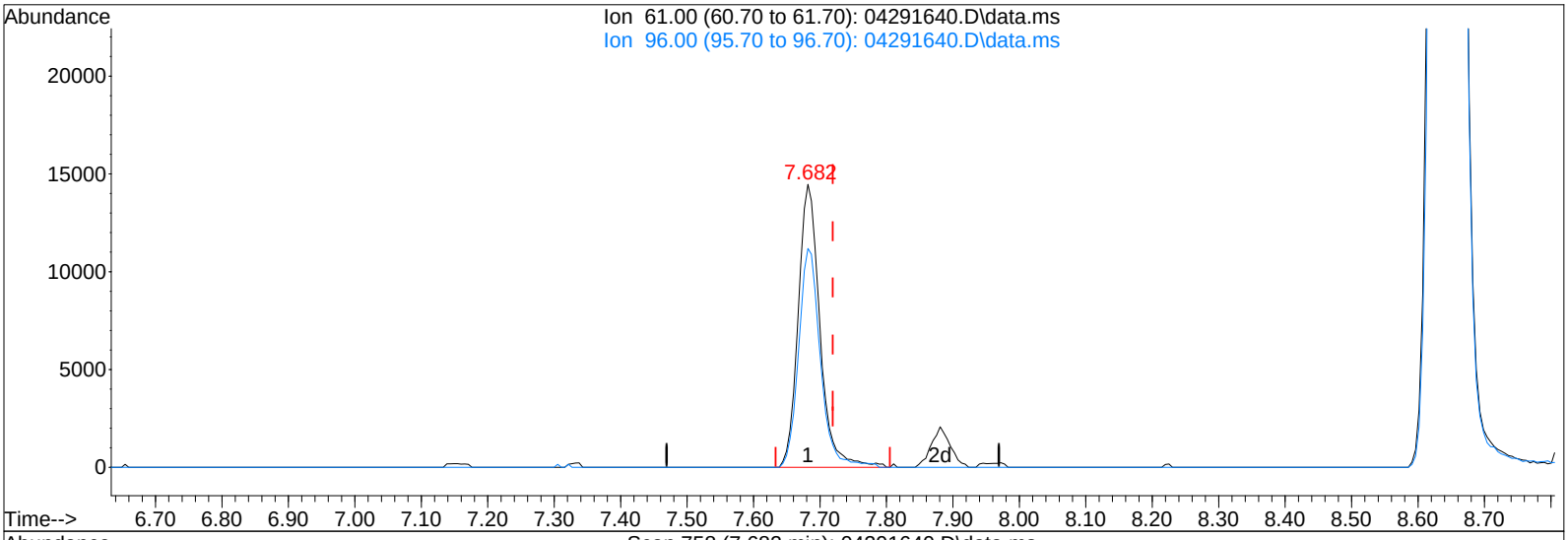
Quant Time: May 03 06:50:47 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

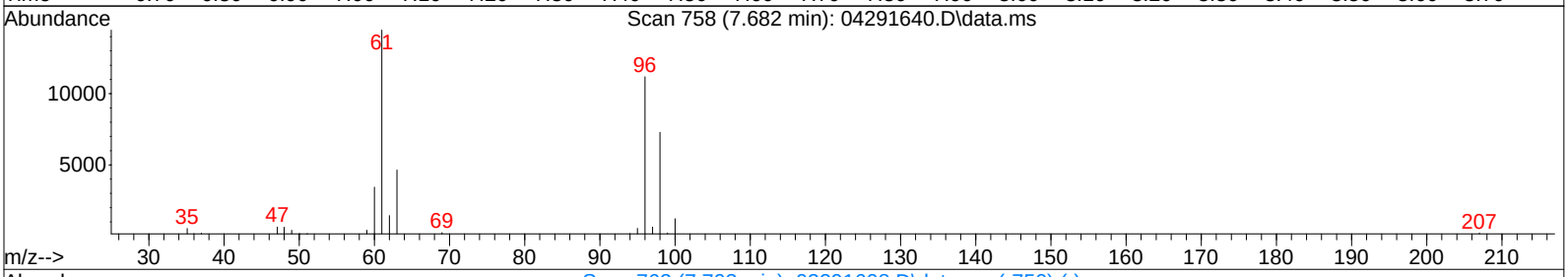


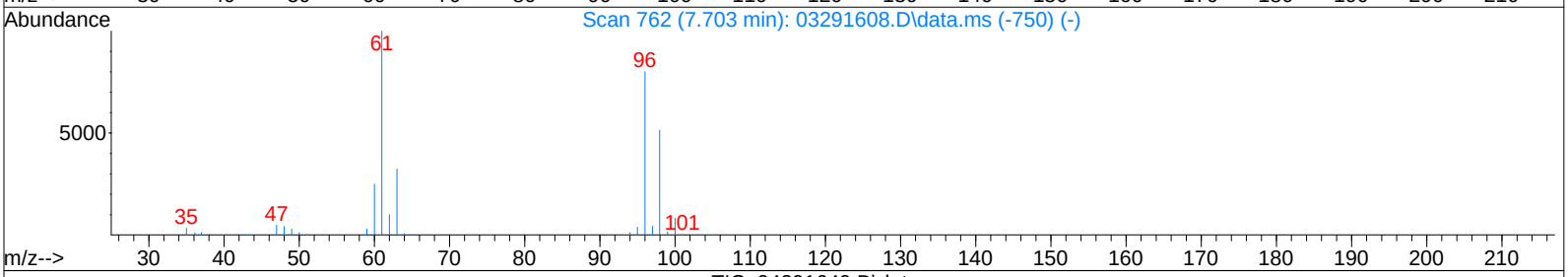
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 02 07:10:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291640.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.682min (-0.038) 2.43ng

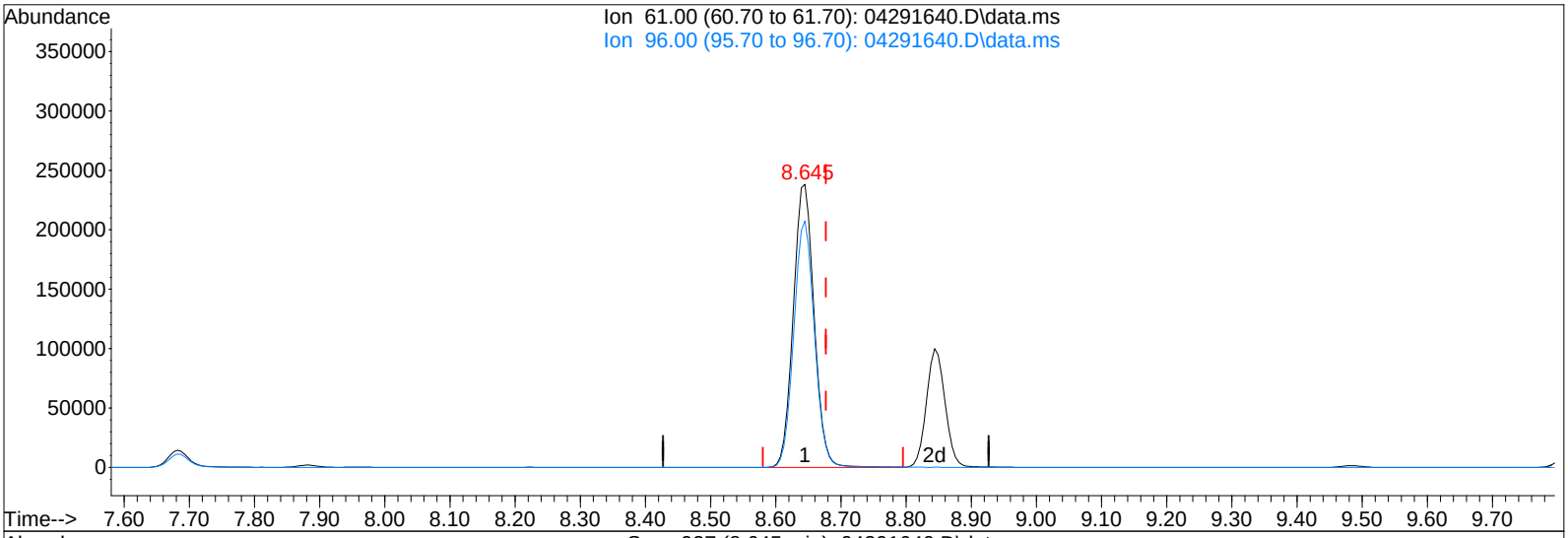
response 32862

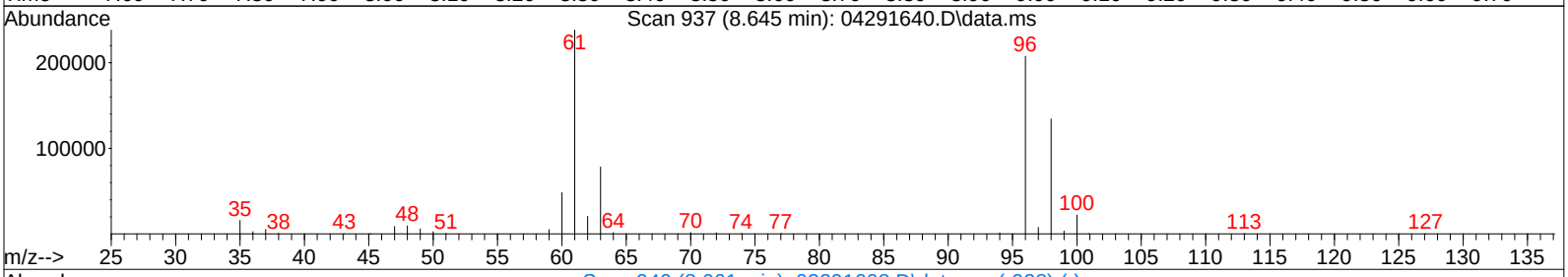
Ion	Exp%	Act%
61.00	100	100
96.00	80.30	77.80
0.00	0.00	0.00
0.00	0.00	0.00

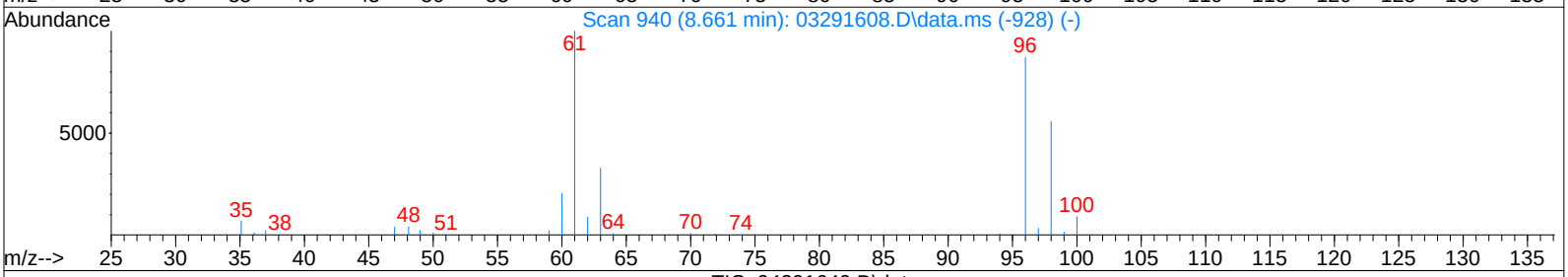
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 02 07:10:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291640.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.645min (-0.032) 40.43ng

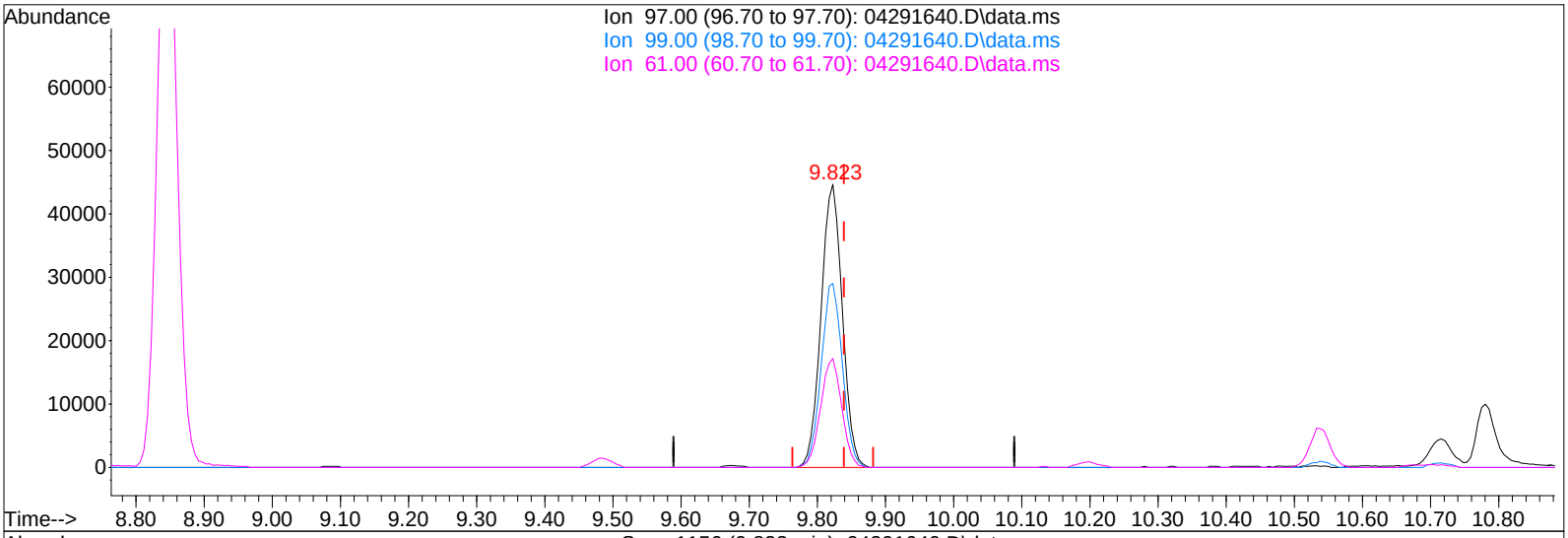
response 529195

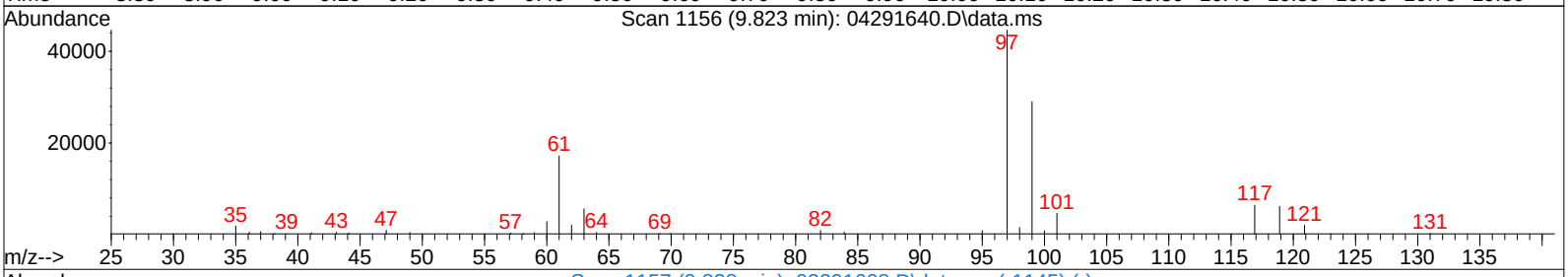
Ion	Exp%	Act%
61.00	100	100
96.00	87.60	86.77
0.00	0.00	0.00
0.00	0.00	0.00

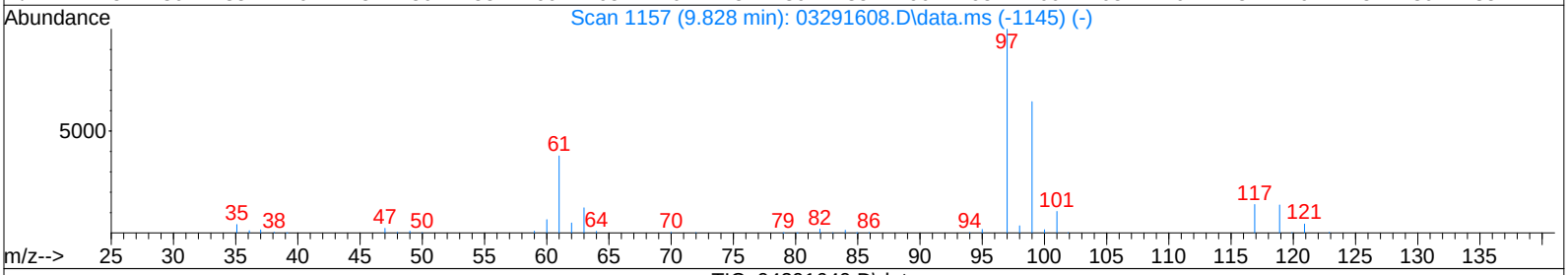
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 02 07:10:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291640.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.823min (-0.016) 6.04ng

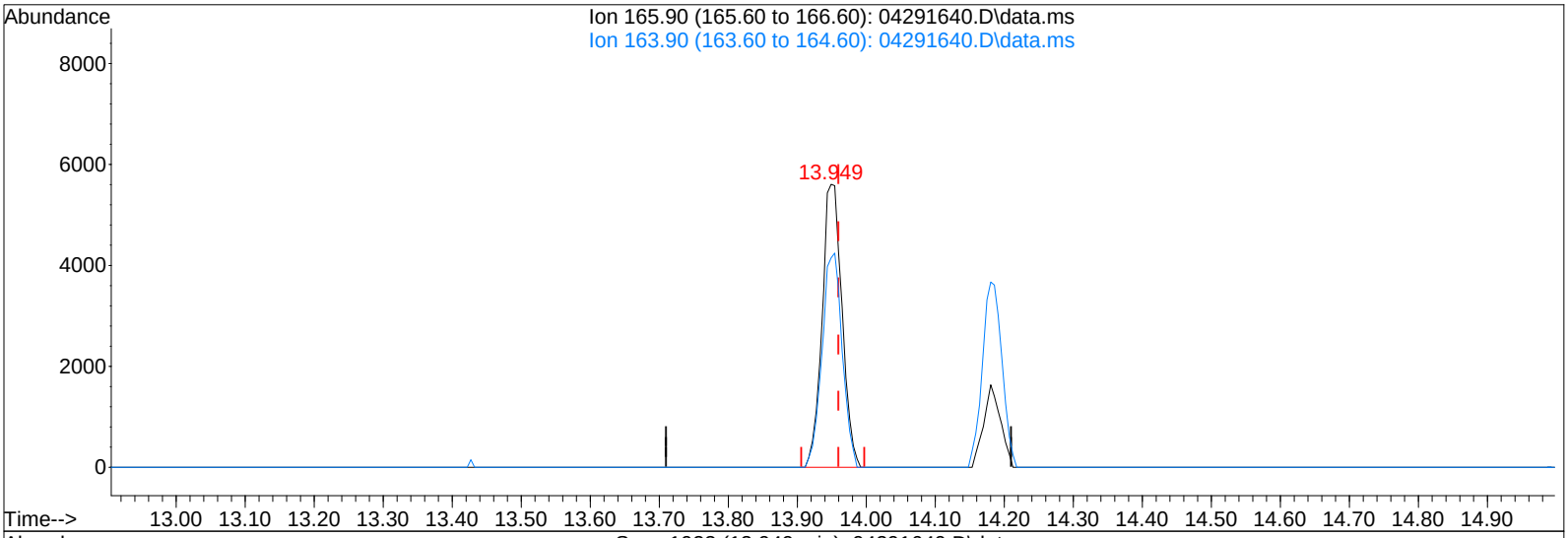
response 96913

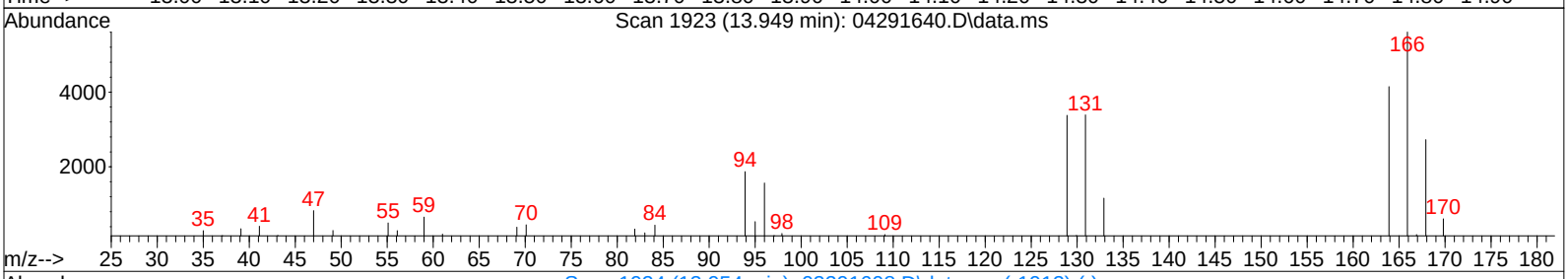
Ion	Exp%	Act%
97.00	100	100
99.00	64.50	64.93
61.00	37.50	38.21
0.00	0.00	0.00

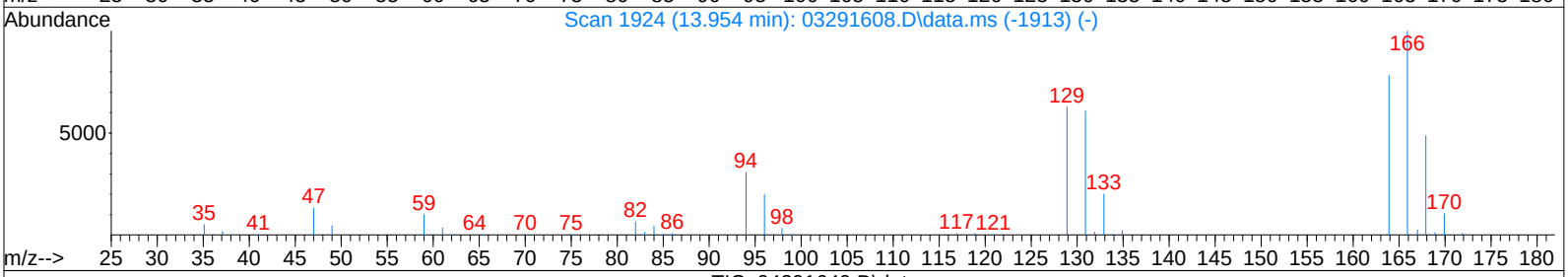
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291640.D
Acq On : 30 Apr 2016 5:08 Operator: WA
Sample : P1602147-008 (1000mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 02 07:10:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291640.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.011) 0.69ng

response 11248

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	76.83
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291641.D
Acq On : 30 Apr 2016 5:41 Operator: WA
Sample : P1602147-008dil (100mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 03 06:51:35 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/3/16
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	117641	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	584848	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	245007	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.48	65	166422	12.661	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
57) Toluene-d8 (SS2)	12.77	98	571399	12.066	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%			
73) Bromofluorobenzene (SS3)	16.07	174	262352	12.995	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
Target Compounds						Qvalue
2) Propene	3.92	42	826	N.D.		
3) Dichlorodifluoromethan...	3.99	85	2221	N.D.		
4) Chloromethane	4.31	50	501	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	5.35	45	20656	2.635	ng	96
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	5.87	56	712	N.D.		
13) Acetone	5.86	58	8851	1.025	ng	93
14) Trichlorofluoromethane	6.02	101	999	N.D.		
15) 2-Propanol (Isopropanol)	6.14	45	6616	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...	6.75	59	2931	N.D.		
19) Methylene Chloride	6.78	84	1935	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.07	151	870	N.D.		
22) Carbon Disulfide	7.07	76	3583	N.D.		
23) trans-1,2-Dichloroethene	7.69	61	2830	N.D.		
24) 1,1-Dichloroethane	7.88	63	770	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)	8.26	72	529	N.D.		
28) cis-1,2-Dichloroethene	8.64	61	52756	4.048	ng	99
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	19907	5.950	ng	94
31) n-Hexane	8.87	57	1341	N.D.		
32) Chloroform	8.91	83	1981	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	9.82	97	9567	0.605	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.16	56	2533	N.D.		
41) Benzene	10.23	78	2249	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.48	84	1770	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.17	63	715	N.D.		
46) Bromodichloromethane	11.17	83	3458	N.D.		
47) Trichloroethene	11.17	130	340757	26.104	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.23	57	18109	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291641.D
Acq On : 30 Apr 2016 5:41 Operator: WA
Sample : P1602147-008dil (100mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 03 06:51:35 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

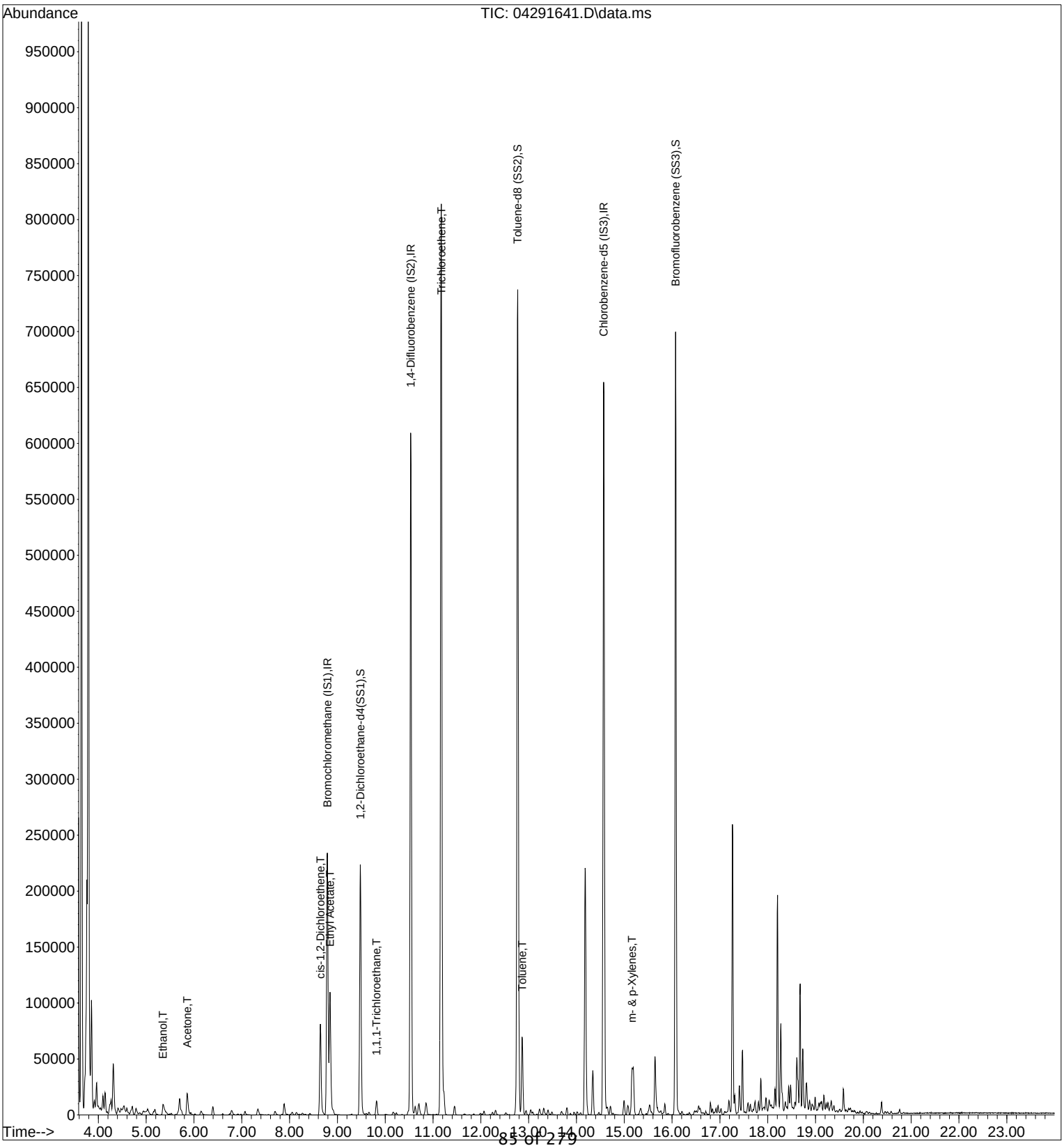
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	721	N.D.	
51) n-Heptane	11.45	71	2304	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	59145	1.044 ng	100
59) 2-Hexanone	13.08	43	1421	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.69	43	2680	N.D.	
63) n-Octane	13.80	57	1273	N.D.	
64) Tetrachloroethene	13.95	166	1121	N.D.	
65) Chlorobenzene	14.64	112	932	N.D.	
66) Ethylbenzene	15.00	91	13041	N.D.	
67) m- & p-Xylenes	15.16	91	37048	0.861 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.54	104	5971	N.D.	
70) o-Xylene	15.64	91	15564	N.D.	
71) n-Nonane	15.85	43	4126	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	16.21	105	1654	N.D.	
75) alpha-Pinene	16.59	93	1985	N.D.	
76) n-Propylbenzene	16.70	91	3094	N.D.	
77) 3-Ethyltoluene	16.80	105	7064	N.D.	
78) 4-Ethyltoluene	16.84	105	3379	N.D.	
79) 1,3,5-Trimethylbenzene	16.92	105	2647	N.D.	
80) alpha-Methylstyrene	17.26	118	3433	N.D.	
81) 2-Ethyltoluene	17.10	105	2240	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	7770	N.D.	
83) n-Decane	17.41	57	8088	N.D.	
84) Benzyl Chloride	17.31	91	671	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	17.72	105	1711	N.D.	
88) 4-Isopropyltoluene (p-...	17.72	119	714	N.D.	
89) 1,2,3-Trimethylbenzene	17.72	105	1711	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.85	68	7007	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	19.59	128	1125	N.D.	
96) n-Dodecane	19.58	57	6966	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.33	55	2208	N.D.	
99) tert-Butylbenzene	17.31	119	957	N.D.	
100) n-Butylbenzene	18.12	91	644	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291641.D
Acq On : 30 Apr 2016 5:41 Operator: WA
Sample : P1602147-008dil (100mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

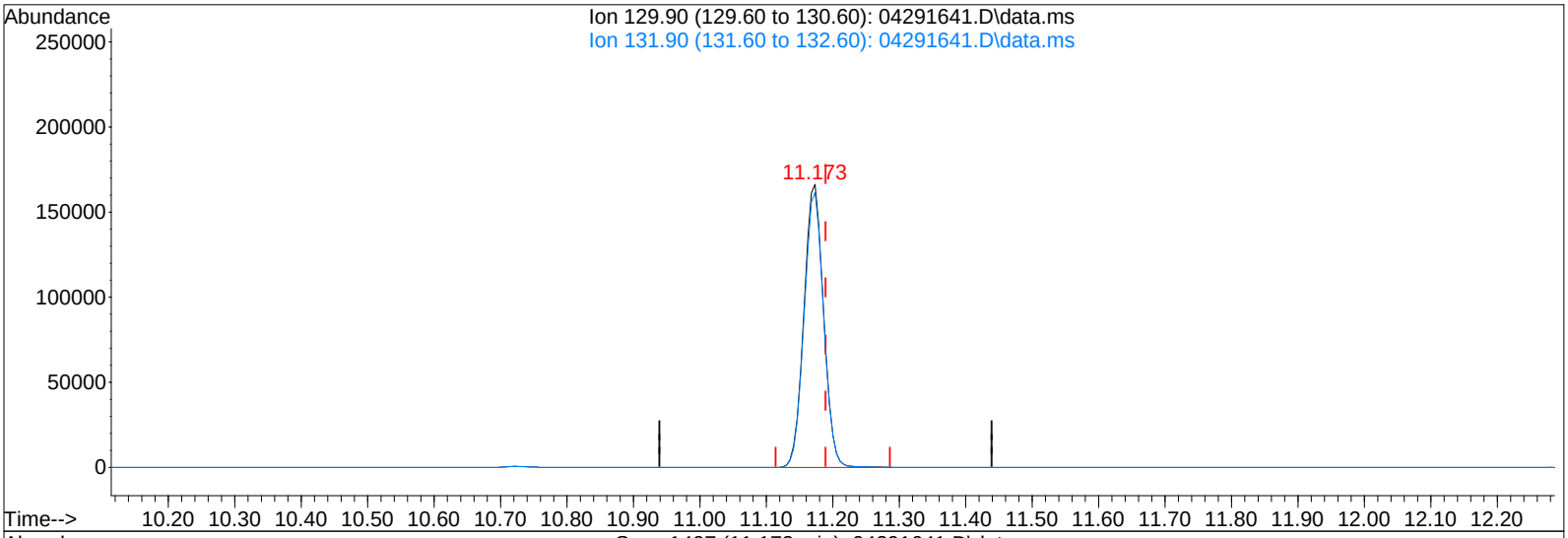
Quant Time: May 03 06:51:35 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

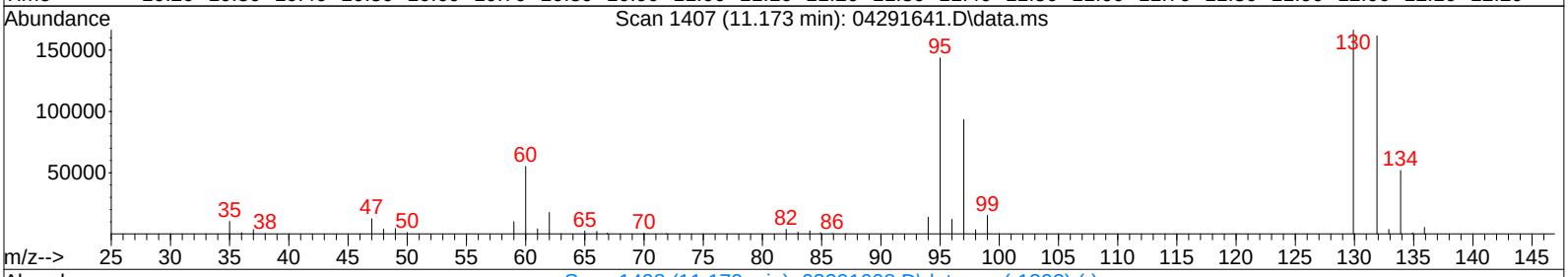


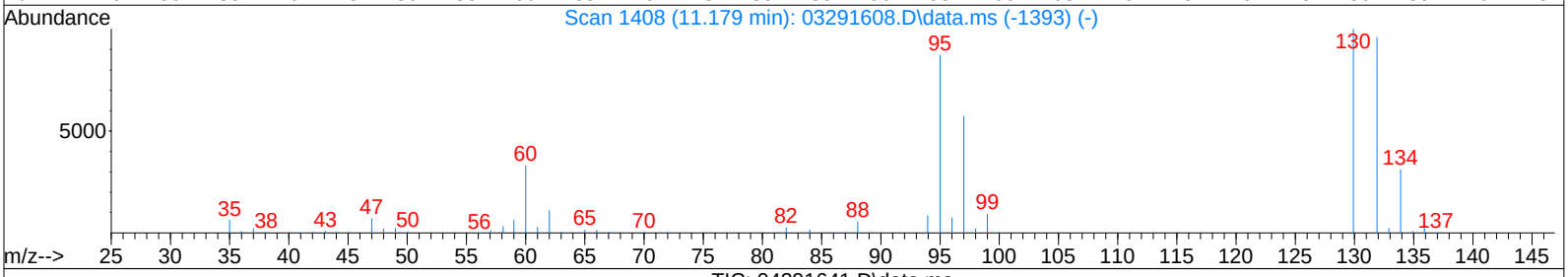
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291641.D
Acq On : 30 Apr 2016 5:41 Operator: WA
Sample : P1602147-008dil (100mL)
Misc : S29-04131602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 02 07:10:25 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291641.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 26.10ng

response 340757

Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291629.D
Acq On : 29 Apr 2016 23:12 Operator: WA
Sample : MB2 R8043016 1000mL
Misc : S29-04131602 AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:01 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016 5/3/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	118585	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	617802	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	254117	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	170818	12.892	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
57) Toluene-d8 (SS2)	12.77	98	601710	12.250	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	16.07	174	274143	13.092	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
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	5.41	45	958	0.121	ng	#	62
11) Acetonitrile	5.64	41	62	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.90	58	559	N.D.			
14) Trichlorofluoromethane	0.00	101	0	N.D.			
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	6.80	84	2085	0.177	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	7.08	76	1844	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	0.00	78	0	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			

Data File: I:\MS08\Data\2016 04\29\04291629.D
Acq On : 29 Apr 2016 23:12 Operator: WA
Sample : MB2 R8043016 1000mL
Misc : S29-04131602 AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:01 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

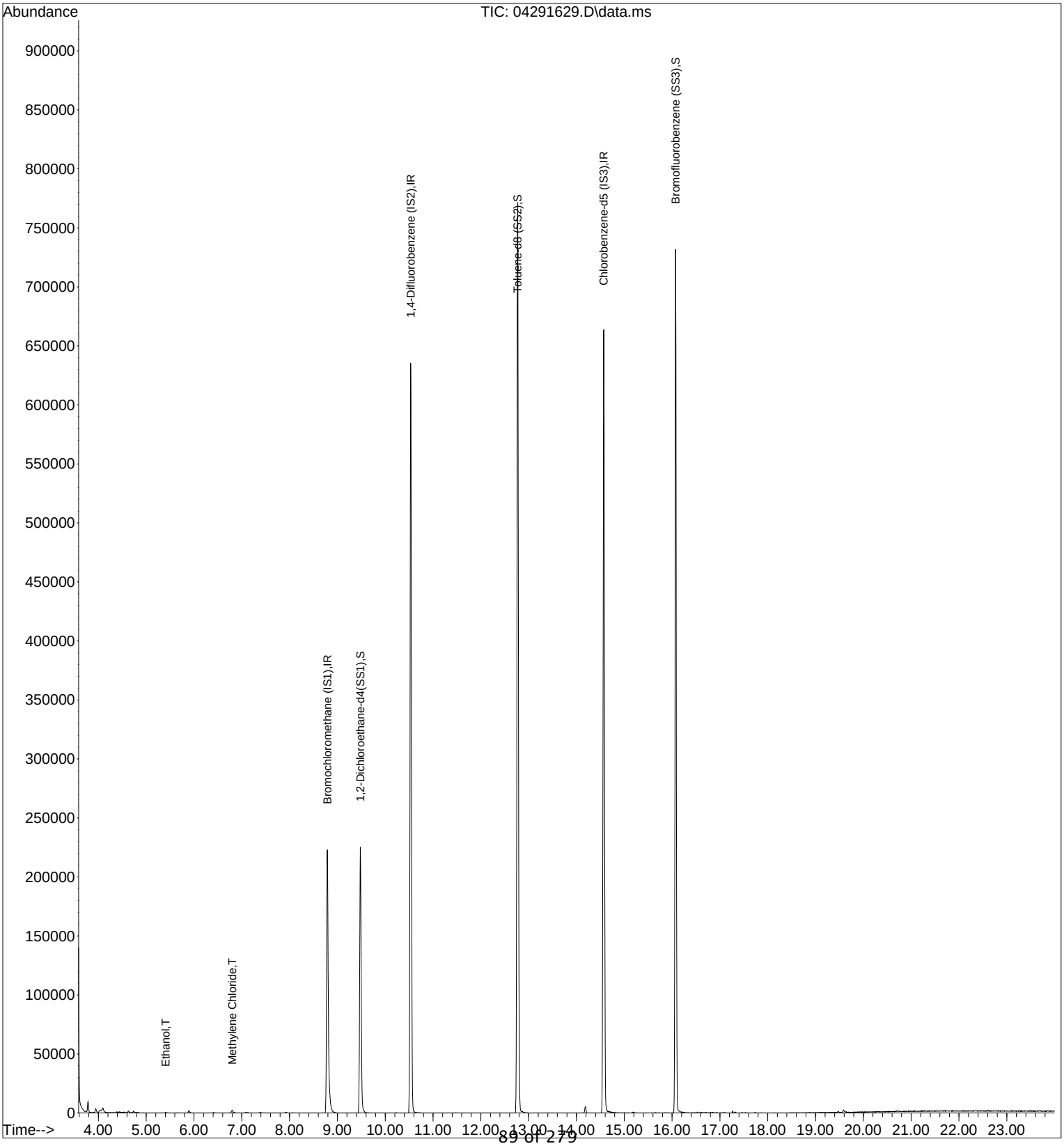
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.87	91	811	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	15.18	91	1071	N.D.		
67) m- & p-Xylenes	15.18	91	1207	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	16.22	105	1021	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	16.71	91	539	N.D.		
77) 3-Ethyltoluene	16.81	105	604	N.D.		
78) 4-Ethyltoluene	16.84	105	876	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	572	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	16.92	105	572	N.D.		
82) 1,2,4-Trimethylbenzene	17.32	105	912	N.D.		
83) n-Decane	0.00	57	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	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	19.47	180	598	N.D.		
95) Naphthalene	19.59	128	3347	N.D.		
96) n-Dodecane	0.00	57	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.		

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291629.D
Acq On : 29 Apr 2016 23:12 Operator: WA
Sample : MB2 R8043016 1000mL
Misc : S29-04131602 AS00703
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:01 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291630.D
Acq On : 29 Apr 2016 23:44 Operator: WA
Sample : LCS2 R80430916 25ng
Misc : S29-04131602/S29-04281603 (5/26)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:04 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016 WA 5/3/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	127619	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	611592	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	264650	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.49	65	177855	12.473	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
57) Toluene-d8 (SS2)	12.78	98	603217	11.792	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%			
73) Bromofluorobenzene (SS3)	16.07	174	285542	13.093	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%			
Target Compounds						Qvalue
2) Propene	3.87	42	245421	21.535	ng	100
3) Dichlorodifluoromethan...	3.98	85	485232	21.307	ng	100
4) Chloromethane	4.18	50	360490	26.430	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	300952	23.182	ng	99
6) Vinyl Chloride	4.47	62	358156	26.485	ng	100
7) 1,3-Butadiene	4.64	54	283571	28.830	ng	99
8) Bromomethane	4.95	94	262484	25.468	ng	100
9) Chloroethane	5.17	64	218735	24.315	ng	100
10) Ethanol	5.40	45	976542	114.850	ng	100
11) Acetonitrile	5.59	41	493767	23.483	ng	99
12) Acrolein	5.71	56	166270	24.798	ng	98
13) Acetone	5.85	58	1066625	113.909	ng	100
14) Trichlorofluoromethane	6.01	101	432740	21.588	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	1420015	50.665	ng	99
16) Acrylonitrile	6.35	53	378064	26.971	ng	99
17) 1,1-Dichloroethene	6.66	96	292863	26.517	ng	99
18) 2-Methyl-2-Propanol (t...	6.75	59	1500218	51.844	ng	100
19) Methylene Chloride	6.80	84	297650	23.533	ng	98
20) 3-Chloro-1-propene (Al...	6.91	41	397265	29.617	ng	99
21) Trichlorotrifluoroethane	7.07	151	281611	25.321	ng	99
22) Carbon Disulfide	7.05	76	976052	20.040	ng	100
23) trans-1,2-Dichloroethene	7.70	61	391125	26.775	ng	100
24) 1,1-Dichloroethane	7.89	63	483663	24.552	ng	100
25) Methyl tert-Butyl Ether	7.94	73	900626	25.185	ng	100
26) Vinyl Acetate	8.04	86	405921	139.436	ng	97
27) 2-Butanone (MEK)	8.24	72	203163	21.392	ng	99
28) cis-1,2-Dichloroethene	8.66	61	380479	26.914	ng	100
29) Diisopropyl Ether	8.85	87	251150	24.896	ng	99
30) Ethyl Acetate	8.85	61	192063	52.918	ng	99
31) n-Hexane	8.87	57	375356	20.185	ng	99
32) Chloroform	8.93	83	477019	25.106	ng	100
34) Tetrahydrofuran (THF)	9.26	72	202140	27.019	ng	95
35) Ethyl tert-Butyl Ether	9.33	87	388937	25.856	ng	99
36) 1,2-Dichloroethane	9.59	62	335515	25.138	ng	99
38) 1,1,1-Trichloroethane	9.83	97	425943	25.767	ng	99
39) Isopropyl Acetate	10.13	61	333461	54.133	ng	99
40) 1-Butanol	10.14	56	626562	60.064	ng	98
41) Benzene	10.24	78	1083132	24.413	ng	100
42) Carbon Tetrachloride	10.37	117	375865	27.407	ng	100
43) Cyclohexane	10.49	84	936012	48.408	ng	100
44) tert-Amyl Methyl Ether	10.76	73	878194	26.130	ng	100
45) 1,2-Dichloropropane	10.97	63	269985	25.443	ng	100
46) Bromodichloromethane	11.13	83	379879	27.767	ng	100
47) Trichloroethene	11.18	130	330012	24.175	ng	99
48) 1,4-Dioxane	11.15	88	258539	29.094	ng	99
49) 2,2,4-Trimethylpentane...	11.23	57	1238472	24.969	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291630.D
Acq On : 29 Apr 2016 23:44 Operator: WA
Sample : LCS2 R80430916 25ng
Misc : S29-04131602/S29-04281603 (5/26)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:04 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

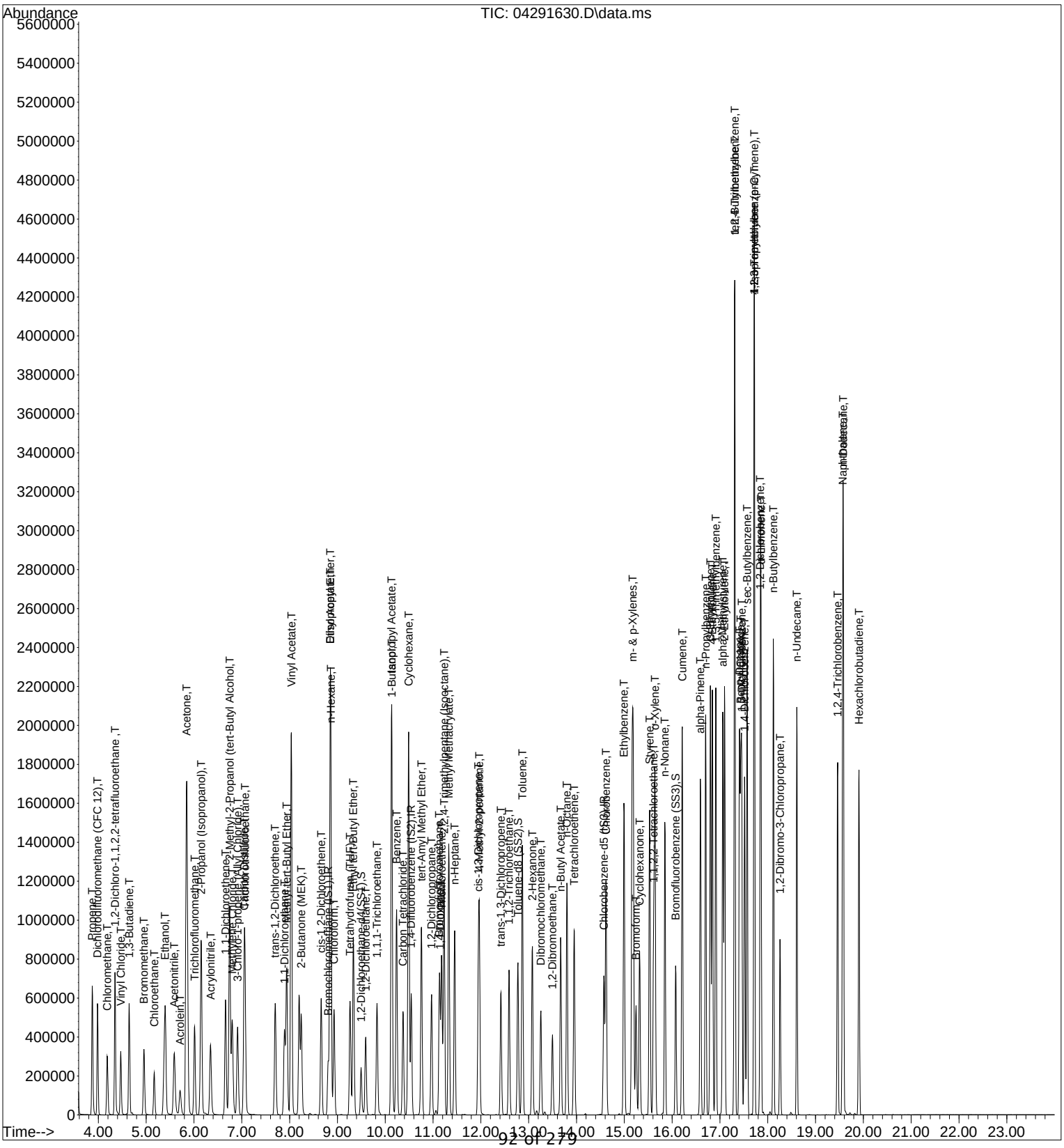
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	273101	51.265	ng	100
51) n-Heptane	11.45	71	267927	23.695	ng	99
52) cis-1,3-Dichloropropene	11.95	75	444602	26.610	ng	100
53) 4-Methyl-2-pentanone	11.97	58	276167	27.975	ng	100
54) trans-1,3-Dichloropropene	12.42	75	420733	28.237	ng	100
55) 1,1,2-Trichloroethane	12.59	97	293869	26.614	ng	100
58) Toluene	12.87	91	1205251	19.698	ng	99
59) 2-Hexanone	13.08	43	638632	26.570	ng	100
60) Dibromochloromethane	13.25	129	358203	27.886	ng	100
61) 1,2-Dibromoethane	13.50	107	337867	25.931	ng	100
62) n-Butyl Acetate	13.67	43	718643	28.516	ng	100
63) n-Octane	13.80	57	238319	22.872	ng	100
64) Tetrachloroethene	13.95	166	382748	21.750	ng	100
65) Chlorobenzene	14.62	112	860965	24.219	ng	100
66) Ethylbenzene	14.99	91	1427132	24.439	ng	100
67) m- & p-Xylenes	15.18	91	2213566	47.632	ng	100
68) Bromoform	15.25	173	334306	27.765	ng	99
69) Styrene	15.53	104	963986	27.409	ng	100
70) o-Xylene	15.64	91	1147505	23.494	ng	100
71) n-Nonane	15.85	43	558409	23.360	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	523788	24.392	ng	100
74) Cumene	16.21	105	1521660	23.156	ng	100
75) alpha-Pinene	16.59	93	774435	24.416	ng	100
76) n-Propylbenzene	16.70	91	1744253	23.088	ng	100
77) 3-Ethyltoluene	16.80	105	1525406	23.813	ng	100
78) 4-Ethyltoluene	16.84	105	1478915	24.338	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	1272760	23.987	ng	100
80) alpha-Methylstyrene	17.06	118	723357	26.046	ng	100
81) 2-Ethyltoluene	17.10	105	1480367	23.825	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1311805	24.940	ng	99
83) n-Decane	17.41	57	628713	23.436	ng	99
84) Benzyl Chloride	17.43	91	1168991	30.833	ng	100
85) 1,3-Dichlorobenzene	17.46	146	820964	25.490	ng	100
86) 1,4-Dichlorobenzene	17.52	146	809503	23.821	ng	100
87) sec-Butylbenzene	17.57	105	1693694	24.339	ng	100
88) 4-Isopropyltoluene (p-...	17.72	119	1644686	24.076	ng	100
89) 1,2,3-Trimethylbenzene	17.72	105	1350628	24.873	ng	100
90) 1,2-Dichlorobenzene	17.84	146	777355	24.964	ng	100
91) d-Limonene	17.86	68	480106	25.993	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	300154	27.795	ng	99
93) n-Undecane	18.61	57	649466	23.591	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	634606	25.588	ng	100
95) Naphthalene	19.57	128	1866515	24.656	ng	100
96) n-Dodecane	19.58	57	626971	24.497	ng	99
97) Hexachlorobutadiene	19.91	225	393595	23.876	ng	99
98) Cyclohexanone	15.32	55	409997	26.010	ng	100
99) tert-Butylbenzene	17.31	119	1312658	24.213	ng	100
100) n-Butylbenzene	18.12	91	1317088	25.175	ng	100

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291630.D
Acq On : 29 Apr 2016 23:44 Operator: WA
Sample : LCS2 R80430916 25ng
Misc : S29-04131602/S29-04281603 (5/26)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:10:04 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 06:39:19 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	118247	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	609828	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	249085	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.48	65	171172	12.955	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%			
57) Toluene-d8 (SS2)	12.77	98	581728	12.083	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
73) Bromofluorobenzene (SS3)	16.07	174	263797	12.852	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%			
Target Compounds						Qvalue
2) Propene	3.88	42	12130	1.149	ng	89
3) Dichlorodifluoromethan...	3.98	85	27774	1.316	ng	98
4) Chloromethane	4.23	50	1095	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	595	N.D.		
6) Vinyl Chloride	4.31	62	1918	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.02	94	512	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.35	45	116125	14.740	ng	99
11) Acetonitrile	5.58	41	1960	N.D.		
12) Acrolein	5.71	56	1300	N.D.		
13) Acetone	5.84	58	61036	7.035	ng	92
14) Trichlorofluoromethane	6.00	101	11263	0.606	ng	96
15) 2-Propanol (Isopropanol)	6.13	45	55917	2.153	ng	94
16) Acrylonitrile	6.49	53	75	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.73	59	10382	N.D.		
19) Methylene Chloride	6.79	84	2465	N.D.		
20) 3-Chloro-1-propene (Al...	6.73	41	1825	N.D.		
21) Trichlorotrifluoroethane	7.06	151	2707	N.D.		
22) Carbon Disulfide	7.06	76	4962	N.D.		
23) trans-1,2-Dichloroethene	7.69	61	607	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	7.88	73	1328	N.D.		
26) Vinyl Acetate	8.02	86	947	N.D.		
27) 2-Butanone (MEK)	8.24	72	10939	1.243	ng	95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	8.91	87	665	N.D.		
30) Ethyl Acetate	8.85	61	9673	2.876	ng	97
31) n-Hexane	8.85	57	4860	N.D.		
32) Chloroform	8.91	83	6801	N.D.		
34) Tetrahydrofuran (THF)	9.26	72	20865	3.010	ng	99
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	9.82	97	12403	0.752	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.23	78	11043	N.D.		
42) Carbon Tetrachloride	10.37	117	905	N.D.		
43) Cyclohexane	10.48	84	5712	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.17	63	1677	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.17	130	748384	54.982	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.22	57	7076	N.D.		

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 06:39:19 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

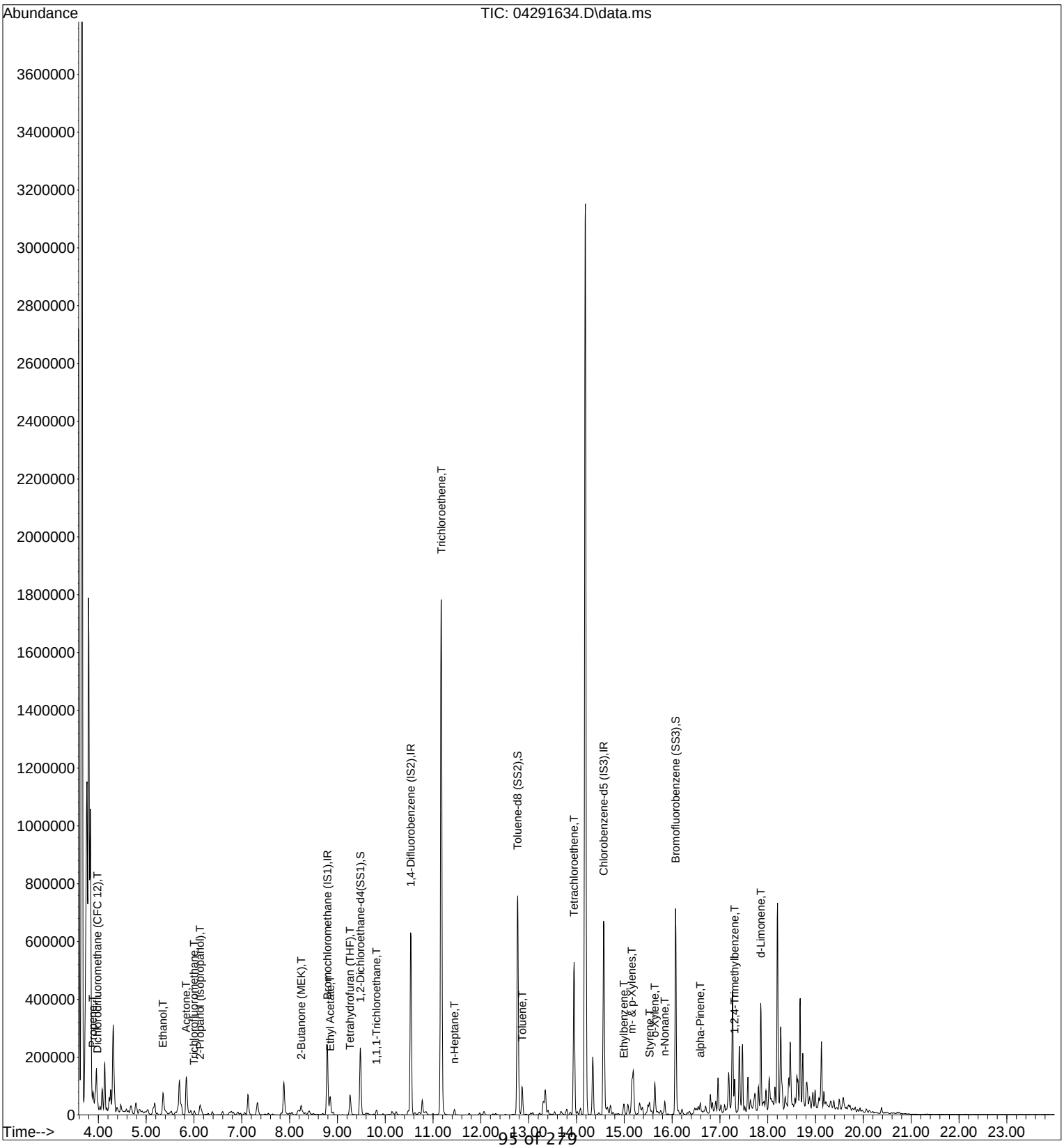
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.45	100	1712	N.D.	
51) n-Heptane	11.45	71	5234	0.464 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.97	58	2293	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.86	91	81879	1.422 ng	99
59) 2-Hexanone	13.08	43	5060	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.67	43	9498	N.D.	
63) n-Octane	13.80	57	3659	N.D.	
64) Tetrachloroethene	13.95	166	207415	12.523 ng	100
65) Chlorobenzene	14.64	112	4377	N.D.	
66) Ethylbenzene	14.99	91	33329	0.606 ng	100
67) m- & p-Xylenes	15.16	91	104068	2.379 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.53	104	24091	0.728 ng	97
70) o-Xylene	15.64	91	49825	1.084 ng	100
71) n-Nonane	15.85	43	16245	0.722 ng	97
72) 1,1,2,2-Tetrachloroethane	15.64	83	1230	N.D.	
74) Cumene	16.21	105	8299	N.D.	
75) alpha-Pinene	16.59	93	15140	0.507 ng	91
76) n-Propylbenzene	16.70	91	16289	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	16.84	105	18416	N.D.	
79) 1,3,5-Trimethylbenzene	16.91	105	14378	N.D.	
80) alpha-Methylstyrene	17.06	118	1876	N.D.	
81) 2-Ethyltoluene	17.10	105	14262	N.D.	
82) 1,2,4-Trimethylbenzene	17.31	105	53138	1.073 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	17.43	91	804	N.D.	
85) 1,3-Dichlorobenzene	17.46	146	1180	N.D.	
86) 1,4-Dichlorobenzene	17.52	146	2223	N.D.	
87) sec-Butylbenzene	17.57	105	3104	N.D.	
88) 4-Isopropyltoluene (p-...	17.71	119	6888	N.D.	
89) 1,2,3-Trimethylbenzene	17.71	105	14189	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	17.85	68	87646	5.042 ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	19.57	128	16574	N.D.	
96) n-Dodecane	19.58	57	8259	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	17.31	119	6903	N.D.	
100) n-Butylbenzene	18.11	91	7034	N.D.	

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

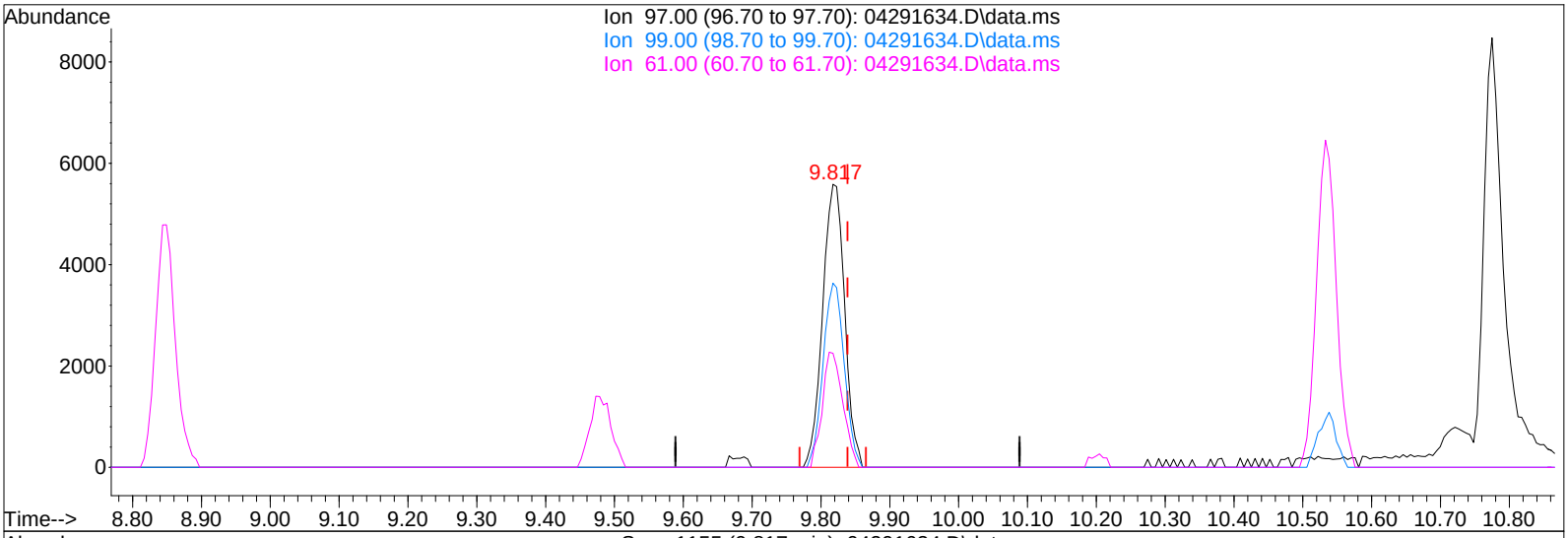
Quant Time: May 03 06:39:19 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

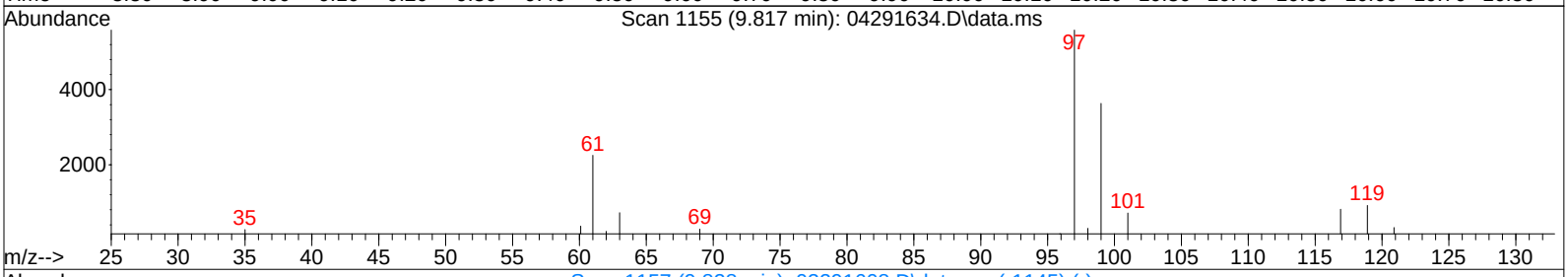


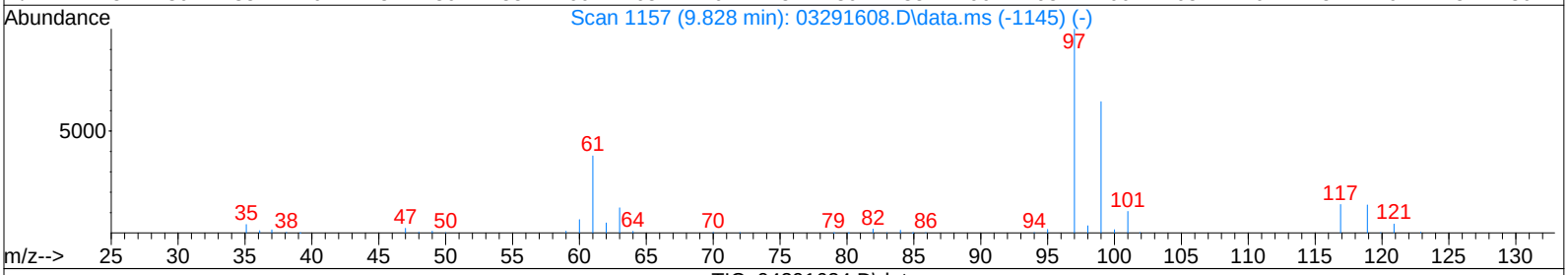
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:12 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291634.D\data.ms

(38) 1,1,1-Trichloroethane (T)

9.817min (-0.022) 0.75ng

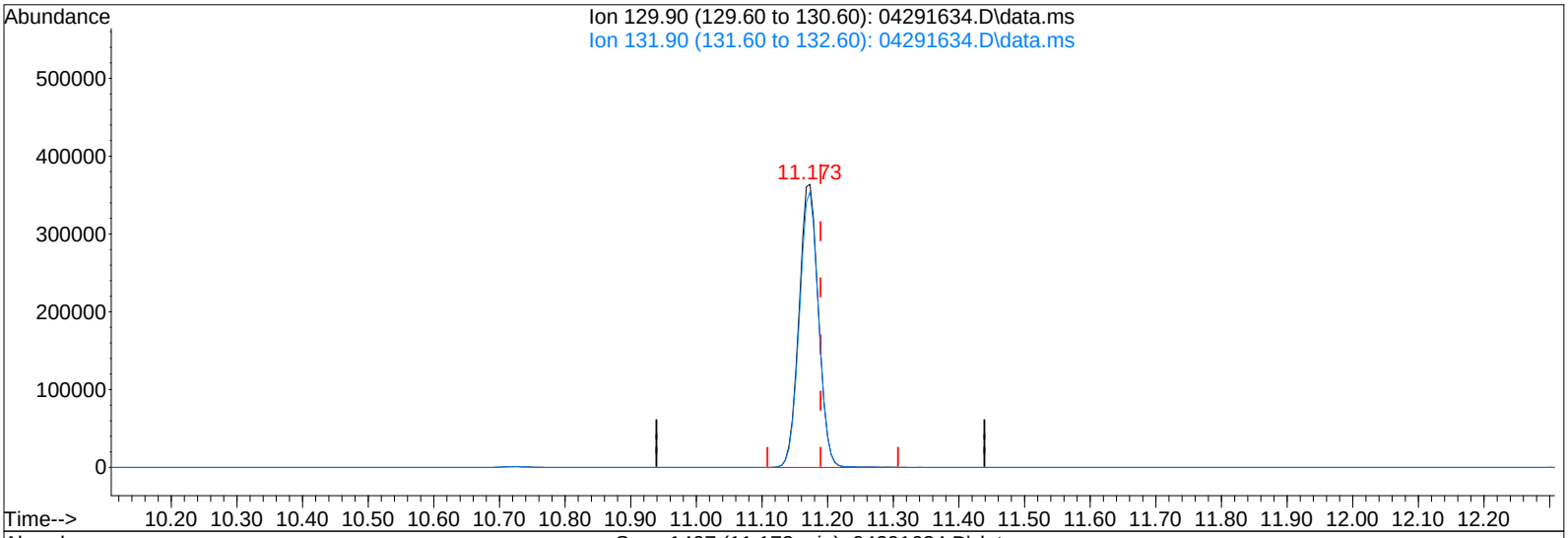
response 12403

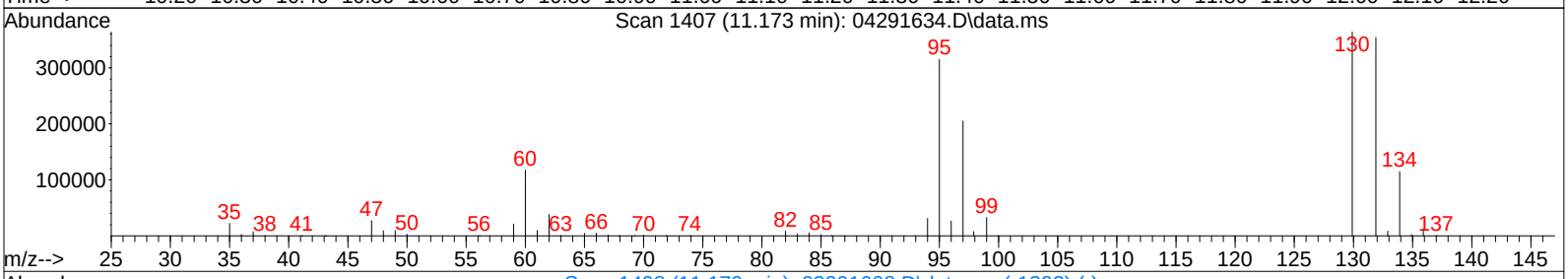
Ion	Exp%	Act%
97.00	100	100
99.00	64.50	62.79
61.00	37.50	37.93
0.00	0.00	0.00

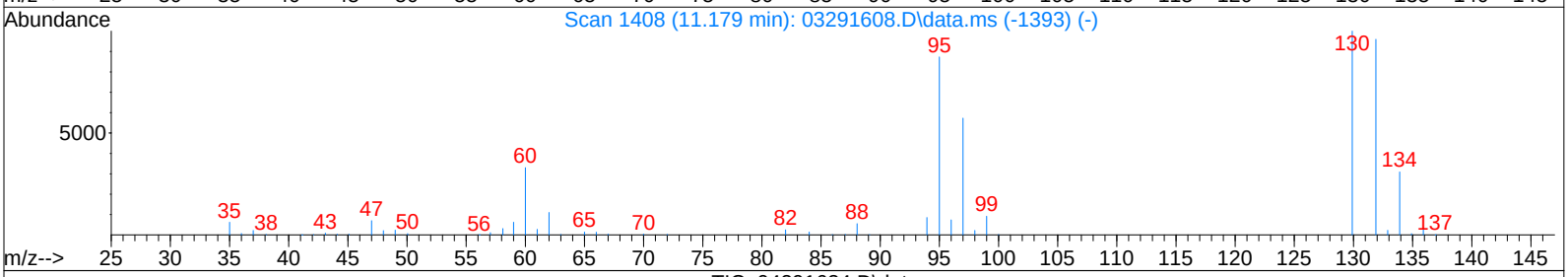
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:12 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291634.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 54.98ng

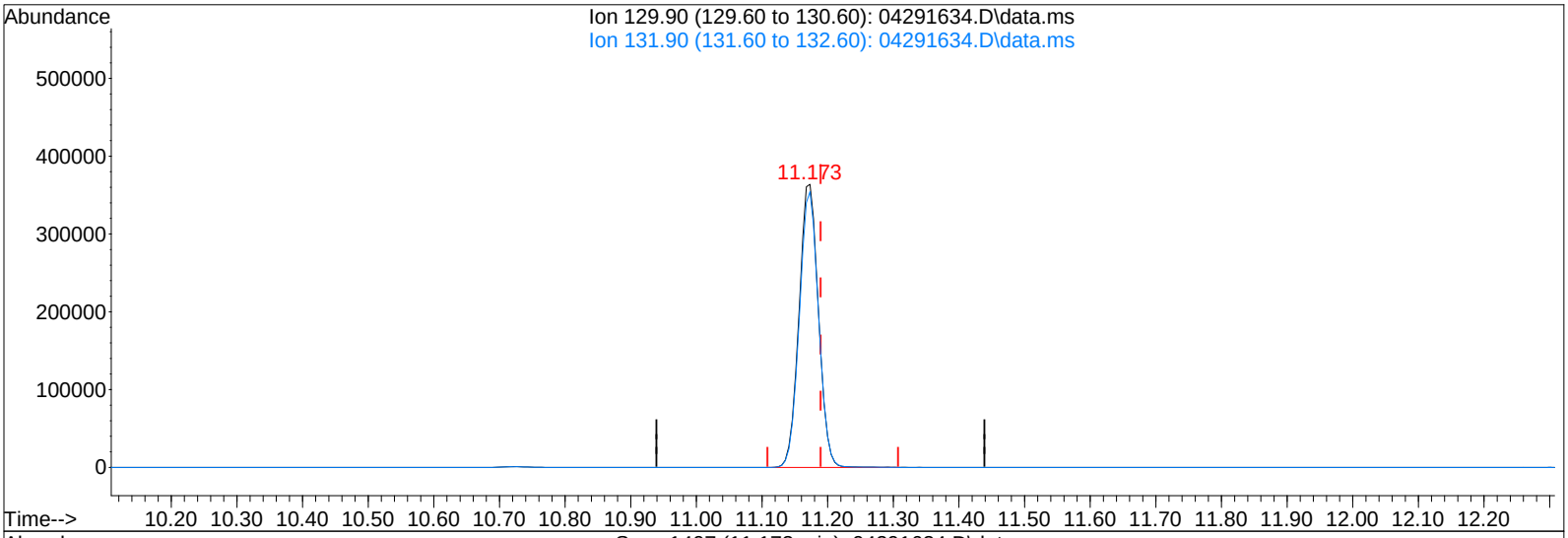
response 748384

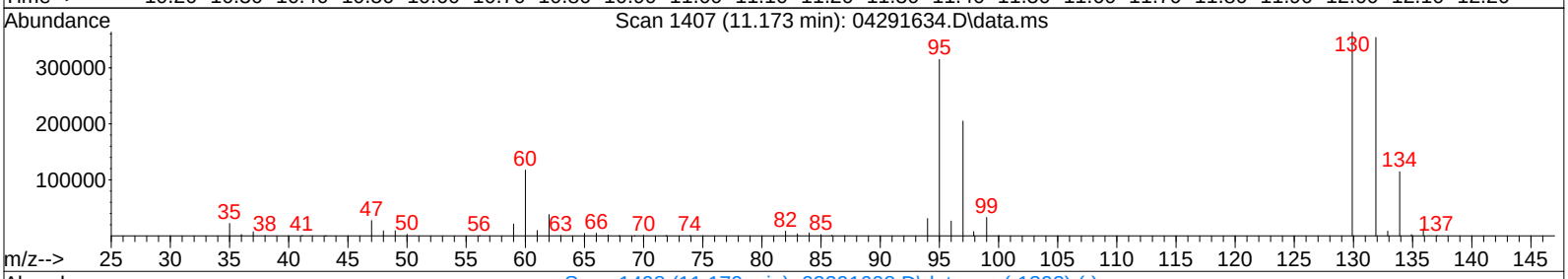
Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.28
0.00	0.00	0.00
0.00	0.00	0.00

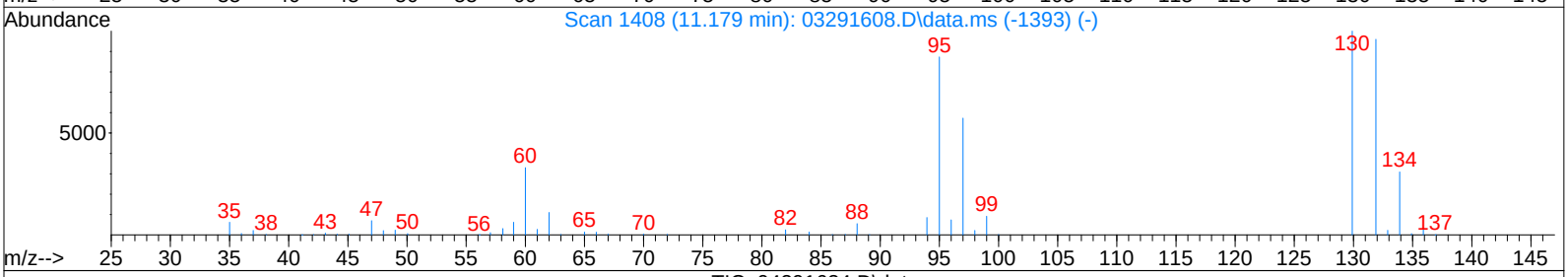
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:12 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291634.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.016) 54.98ng

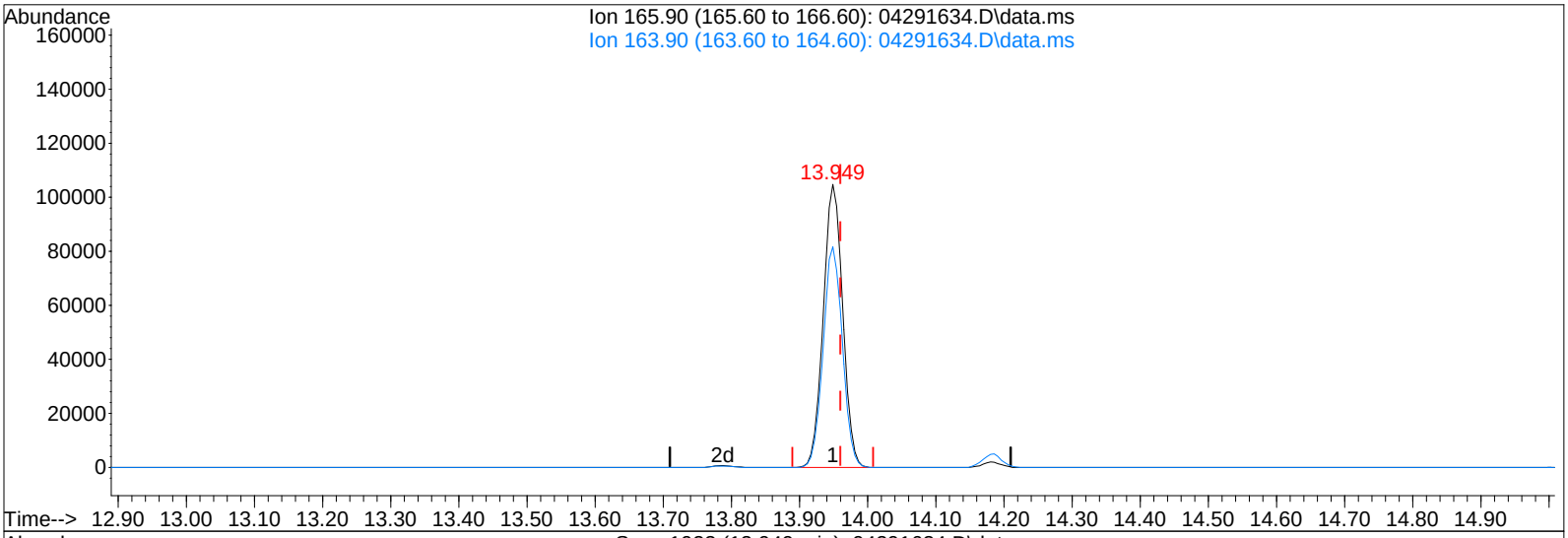
response 748384

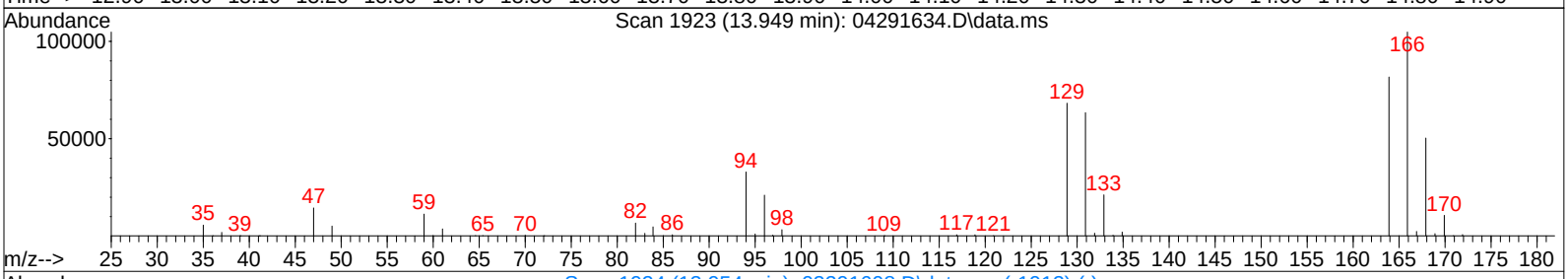
Ion	Exp%	Act%
129.90	100	100
131.90	96.10	96.28
0.00	0.00	0.00
0.00	0.00	0.00

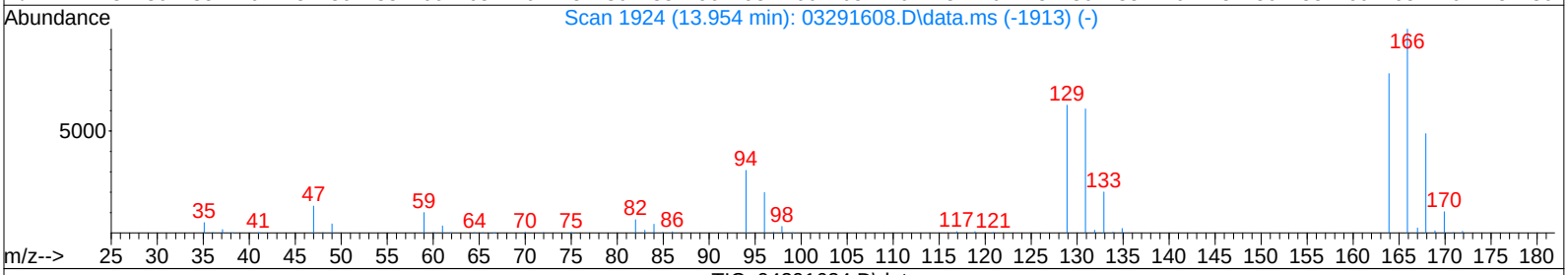
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016 04\29\04291634.D
Acq On : 30 Apr 2016 1:54 Operator: WA
Sample : P1602147-001dup (1000mL)
Misc : S29-04131602
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 02 07:10:12 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 04291634.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.011) 12.52ng

response 207415

Ion	Exp%	Act%
165.90	100	100
163.90	78.00	77.63
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report Instrument #MS08

Method Path : I:\MS08\Methods\
Method File : R8032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 29 13:08:11 2016
Response Via : Initial Calibration

Calibration Files
0.08=03291602.D 0.10=03291603.D 0.20=03291604.D 0.40=03291605.D 1.0 =03291606.D 5.0 =03291607.D 25 =03291608.D
50 =03291609.D 100 =03291610.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------				ISTD	----------					
2)	T	Propene	1.339	1.209	1.059	1.096	1.096	1.004	1.092	1.023	1.129	1.116	9.21
3)	T	Dichlorodifluo...	2.181	2.534	2.212	2.058	2.391	2.136	2.340	2.172	2.053	2.231	7.20
4)	T	Chloromethane	1.279	1.297	1.200	1.051	1.535	1.328	1.629	1.505	1.200	1.336	13.94
5)	T	1,2-Dichloro-1...	1.268	1.374	1.200	1.158	1.339	1.187	1.329	1.313	1.276	1.272	5.92
6)	T	Vinyl Chloride	1.002	1.085	1.150	1.213	1.480	1.383	1.561	1.520	1.527	1.325	16.18
7)	T	1,3-Butadiene	0.970	0.864	0.715	0.738	1.082	0.923	1.129	1.125	1.124	0.963	17.12
8)	T	Bromomethane	0.912	0.902	0.853	0.882	1.135	1.011	1.182	1.122	1.086	1.009	12.43
9)	T	Chloroethane		0.859	0.803	0.795	0.956	0.853	0.981	0.920	0.882	0.881	7.66
10)	T	Ethanol	1.147	0.929	0.797	0.733	0.842	0.729	0.835	0.771	0.712	0.833	16.35
11)	T	Acetonitrile	2.274	2.229	1.993	1.901	2.067	1.910	2.142	2.043	1.977	2.059	6.44
12)	T	Acrolein		0.454	0.708	0.666	0.663	0.645	0.752	0.695	0.670	0.657	13.48
13)	T	Acetone				1.428	0.888	0.799	0.873	0.797	0.719	0.917	28.09
14)	T	Trichlorofluor...	2.017	2.111	1.954	1.872	2.051	1.856	2.022	1.923	1.863	1.963	4.67
15)	T	2-Propanol (Is...	2.914	3.108	2.802	2.556	2.790	2.573	2.969	2.753	2.241	2.745	9.42
16)	T	Acrylonitrile			0.990	1.129	1.455	1.395	1.614	1.540	1.488	1.373	16.63
17)	T	1,1-Dichloroet...	0.934	1.104	1.023	0.955	1.169	1.068	1.215	1.154	1.113	1.082	8.89
18)	T	2-Methyl-2-Pro...	2.813	3.152	2.686	2.551	2.958	2.737	3.155	2.934	2.523	2.834	8.26
19)	T	Methylene Chlo...				1.491	1.367	1.110	1.221	1.149	1.095	1.239	12.79
20)	T	3-Chloro-1-pro...	1.026	1.148	1.075	1.134	1.375	1.363	1.631	1.572	1.500	1.314	17.18
21)	T	Trichlorotrifl...	1.115	1.156	1.021	1.024	1.142	1.038	1.156	1.092	1.060	1.089	5.12
22)	T	Carbon Disulfide	5.572	6.403	4.668	4.133	4.613	4.171	4.749	4.443	4.184	4.771	15.83
23)	T	trans-1,2-Dich...	1.074	1.339	1.270	1.325	1.616	1.485	1.669	1.583	1.516	1.431	13.46
24)	T	1,1-Dichloroet...	1.965	2.090	1.793	1.790	2.051	1.867	2.020	1.933	1.857	1.930	5.71
25)	T	Methyl tert-Bu...	3.417	3.824	3.372	3.205	3.717	3.399	3.732	3.518	3.341	3.503	5.99
26)	T	Vinyl Acetate	0.184	0.230	0.254	0.277	0.299	0.307	0.350	0.338	0.328	0.285	19.17
27)	T	2-Butanone (MEK)	0.942	1.146	1.153	1.163	0.777	0.756	0.835	0.812	0.787	0.930	18.92
28)	T	cis-1,2-Dichlo...	1.206	1.377	1.263	1.277	1.502	1.398	1.553	1.479	1.407	1.385	8.49
29)	T	Diisopropyl Ether	0.975	1.086	0.945	0.934	1.065	0.969	1.024	0.969	0.927	0.988	5.79
30)	T	Ethyl Acetate	0.278	0.323	0.317	0.378	0.395	0.384	0.399	0.377	0.348	0.355	11.70
31)	T	n-Hexane	2.009	2.359	1.966	1.891	1.950	1.715	1.584	1.498	1.421	1.821	16.23
32)	T	Chloroform	1.897	2.045	1.745	1.687	1.959	1.780	1.966	1.872	1.799	1.861	6.30
33)	S	1,2-Dichloroet...	1.394	1.407	1.403	1.405	1.394	1.396	1.393	1.392	1.385	1.397	0.50
34)	T	Tetrahydrofura...	0.697	0.683	0.623	0.656	0.808	0.744	0.823	0.788	0.773	0.733	9.68
35)	T	Ethyl tert-But...	1.313	1.542	1.320	1.380	1.589	1.463	1.629	1.543	1.481	1.473	7.78
36)	T	1,2-Dichloroet...	1.256	1.415	1.246	1.202	1.383	1.265	1.386	1.335	1.278	1.307	5.71
37)	IR	1,4-Difluorobenzen...	----------				ISTD	----------					
38)	T	1,1,1-Trichlor...	0.333	0.329	0.311	0.302	0.363	0.335	0.375	0.356	0.337	0.338	6.97
39)	T	Isopropyl Acetate	0.125	0.121	0.115	0.117	0.138	0.129	0.137	0.130	0.120	0.126	6.61
40)	T	1-Butanol	0.206	0.176	0.176	0.192	0.217	0.219	0.263	0.246	0.224	0.213	13.88
41)	T	Benzene	1.113	1.084	0.848	0.813	0.927	0.829	0.883	0.855	0.809	0.907	12.65
42)	T	Carbon Tetrach...	0.254	0.281	0.258	0.244	0.301	0.282	0.315	0.303	0.286	0.280	8.63

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Method Path : I:\MS08\Methods\
Method File : R8032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.423	0.465	0.377	0.363	0.413	0.377	0.403	0.382	0.352	0.395	8.86
44)	T	tert-Amyl Meth...	0.665	0.715	0.630	0.613	0.733	0.676	0.762	0.720	0.668	0.687	7.16
45)	T	1,2-Dichloropr...	0.221	0.229	0.199	0.200	0.232	0.211	0.231	0.220	0.210	0.217	5.84
46)	T	Bromodichlorom...	0.239	0.277	0.244	0.237	0.297	0.284	0.328	0.314	0.296	0.280	11.89
47)	T	Trichloroethene	0.258	0.307	0.263	0.256	0.295	0.271	0.295	0.288	0.277	0.279	6.53
48)	T	1,4-Dioxane	0.149	0.152	0.168	0.168	0.201	0.190	0.212	0.204	0.191	0.182	12.77
49)	T	2,2,4-Trimethy...	1.055	1.115	0.983	0.956	1.076	0.978	1.065	1.000	0.897	1.014	6.80
50)	T	Methyl Methacr...				0.088	0.110	0.107	0.120	0.117	0.112	0.109	10.30
51)	T	n-Heptane	0.236	0.250	0.221	0.224	0.249	0.227	0.231	0.225	0.216	0.231	5.13
52)	T	cis-1,3-Dichlo...			0.276	0.285	0.351	0.342	0.397	0.382	0.358	0.341	13.43
53)	T	4-Methyl-2-pen...			0.160	0.182	0.211	0.205	0.233	0.220	0.202	0.202	12.11
54)	T	trans-1,3-Dich...			0.225	0.233	0.304	0.309	0.369	0.356	0.336	0.305	18.57
55)	T	1,1,2-Trichlor...	0.198	0.232	0.202	0.209	0.242	0.224	0.254	0.242	0.229	0.226	8.57
56)	IR	Chlorobenzene-d5 (...	----------	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	2.468	2.461	2.460	2.458	2.405	2.408	2.365	2.362	2.355	2.416	1.95
58)	T	Toluene	3.655	3.802	3.319	3.101	2.588	2.338	2.541	2.400	2.266	2.890	20.45
59)	T	2-Hexanone	0.964	1.091	1.109	1.193	1.186	1.119	1.275	1.187	1.093	1.135	7.77
60)	T	Dibromochlorom...	0.507	0.543	0.489	0.516	0.638	0.635	0.746	0.707	0.680	0.607	15.73
61)	T	1,2-Dibromoethane	0.518	0.582	0.543	0.556	0.664	0.632	0.714	0.679	0.651	0.615	11.06
62)	T	n-Butyl Acetate	0.995	1.022	1.030	1.100	1.293	1.266	1.440	1.343	1.226	1.190	13.41
63)	T	n-Octane	0.464	0.515	0.491	0.467	0.539	0.483	0.520	0.490	0.461	0.492	5.54
64)	T	Tetrachloroethene	0.818	0.890	0.771	0.777	0.883	0.799	0.883	0.842	0.818	0.831	5.52
65)	T	Chlorobenzene	1.720	1.880	1.576	1.550	1.759	1.587	1.783	1.668	1.588	1.679	6.78
66)	T	Ethylbenzene	2.805	2.930	2.576	2.504	2.931	2.672	2.998	2.796	2.612	2.758	6.37
67)	T	m- & p-Xylenes	2.278	2.390	2.067	2.023	2.333	2.089	2.353	2.189	2.033	2.195	6.69
68)	T	Bromoform	0.422	0.469	0.452	0.447	0.578	0.602	0.747	0.712	0.689	0.569	22.26
69)	T	Styrene	1.459	1.541	1.437	1.460	1.751	1.705	1.987	1.864	1.745	1.661	11.86
70)	T	o-Xylene	2.358	2.434	2.214	2.105	2.442	2.229	2.497	2.322	2.162	2.307	5.93
71)	T	n-Nonane	1.193	1.198	1.087	1.048	1.198	1.115	1.228	1.111	0.983	1.129	7.25
72)	T	1,1,2,2-Tetrac...	0.875	1.009	0.920	0.914	1.080	1.036	1.176	1.096	1.022	1.014	9.63
73)	S	Bromofluoroben...	1.026	1.004	1.018	1.027	1.035	1.042	1.044	1.042	1.032	1.030	1.26
74)	T	Cumene	3.231	3.394	2.931	2.769	3.265	3.000	3.370	3.115	2.856	3.104	7.31
75)	T	alpha-Pinene	1.458	1.611	1.358	1.353	1.543	1.476	1.674	1.562	1.449	1.498	7.27
76)	T	n-Propylbenzene	3.670	3.736	3.360	3.255	3.809	3.529	3.914	3.591	3.252	3.568	6.71
77)	T	3-Ethyltoluene	3.214	3.195	2.706	2.670	3.196	3.017	3.301	3.167	2.765	3.026	8.14
78)	T	4-Ethyltoluene	3.009	3.053	2.798	2.644	2.984	2.729	3.160	2.783	2.671	2.870	6.44
79)	T	1,3,5-Trimethy...	2.603	2.726	2.337	2.254	2.671	2.417	2.716	2.513	2.318	2.506	7.25
80)	T	alpha-Methylst...	1.079	1.150	1.160	1.151	1.402	1.365	1.602	1.492	1.403	1.312	13.88
81)	T	2-Ethyltoluene	3.080	3.131	2.764	2.684	3.123	2.855	3.189	2.920	2.667	2.935	6.92
82)	T	1,2,4-Trimethy...	2.570	2.564	2.297	2.230	2.623	2.439	2.773	2.562	2.300	2.484	7.23
83)	T	n-Decane	1.322	1.308	1.213	1.199	1.358	1.260	1.389	1.252	1.102	1.267	7.00
84)	T	Benzyl Chloride	1.492	1.498	1.349	1.376	1.750	1.907	2.415	2.261	2.068	1.791	22.02
85)	T	1,3-Dichlorobe...	1.558	1.615	1.402	1.354	1.583	1.451	1.686	1.568	1.475	1.521	7.07
86)	T	1,4-Dichlorobe...	1.712	1.821	1.508	1.426	1.618	1.490	1.733	1.621	1.516	1.605	8.17
87)	T	sec-Butylbenzene	3.358	3.517	3.133	2.941	3.542	3.250	3.603	3.285	2.953	3.287	7.45
88)	T	4-Isopropyltol...	3.132	3.478	2.986	2.936	3.487	3.227	3.622	3.307	2.864	3.227	8.32
89)	T	1,2,3-Trimethy...	2.565	2.730	2.324	2.289	2.771	2.533	2.864	2.646	2.361	2.565	8.07
90)	T	1,2-Dichlorobe...	1.503	1.538	1.379	1.296	1.548	1.419	1.632	1.511	1.411	1.471	6.99
91)	T	d-Limonene	0.761	0.865	0.765	0.812	0.932	0.912	1.037	0.943	0.824	0.872	10.52
92)	T	1,2-Dibromo-3-...	0.418	0.456	0.409	0.417	0.524	0.541	0.647	0.606	0.574	0.510	17.46
93)	T	n-Undecane	1.261	1.366	1.237	1.243	1.397	1.307	1.448	1.305	1.140	1.300	7.19
94)	T	1,2,4-Trichlor...	1.237	1.255	1.002	1.024	1.146	1.090	1.343	1.257	1.188	1.171	9.82

Method Path : I:\MS08\Methods\
Method File : R8032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	4.226	3.852	3.086	2.988	3.378	3.272	4.153	3.807	3.417	3.576	12.61
96)	T	n-Dodecane	1.223	1.258	1.181	1.209	1.205	1.179	1.375	1.223	1.025	1.209	7.50
97)	T	Hexachlorobuta...	0.788	0.835	0.736	0.676	0.814	0.751	0.847	0.797	0.764	0.779	6.85
98)	T	Cyclohexanone	0.709	0.732	0.693	0.698	0.735	0.726	0.863	0.801	0.744	0.745	7.33
99)	T	tert-Butylbenzene	2.608	2.719	2.461	2.281	2.747	2.494	2.813	2.599	2.324	2.561	7.25
100)	T	n-Butylbenzene	2.470	2.542	2.321	2.321	2.643	2.458	2.743	2.504	2.237	2.471	6.56

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: S29-03251605
4ng/L Std. ID:
20ng/L Std. ID: S29-03251603
200ng/L Std. ID: S29-03251602

3/30/16

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	200	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
Propene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Dichlorodifluoromethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Chloromethane	0.98	196	19.6	3.92	0.98		0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
Freon-114	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Vinyl Chloride	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
Bromomethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Chloroethane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
Ethanol	5.06	1012	101.2	20.24	5.06		0.4048	0.506	1.012	2.024	5.06	25.30	126.50	253.0	506
Acetonitrile	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
Acrolein	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Acetone	5.37	1074	107.4	21.48	5.37		0.4296	0.537	1.074	2.148	5.37	26.85	134.25	268.5	537
Trichlorofluoromethane	0.99	198	19.8	3.96	0.99		0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Isopropanol	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
Acrylonitrile	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
1,1-Dichloroethene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
tert-Butanol	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
Methylene Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Carbon Disulfide	0.98	196	19.6	3.92	0.98		0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
trans-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Methyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Vinyl Acetate	5.07	1014	101.4	20.28	5.07		0.4056	0.507	1.014	2.028	5.07	25.35	126.75	253.5	507
2-Butanone	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
cis-1,2-Dichloroethene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.12	424	42.4	8.48	2.12		0.1696	0.212	0.424	0.848	2.12	10.60	53.00	106.0	212
n-Hexane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Chloroform	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,2-Dichloroethane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,1,1-Trichloroethane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Isopropyl Acetate	2.21	442	44.2	8.84	2.21		0.1768	0.221	0.442	0.884	2.21	11.05	55.25	110.5	221
1-Butanol	2.26	452	45.2	9.04	2.26		0.1808	0.226	0.452	0.904	2.26	11.30	56.50	113.0	226
Benzene	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
Carbon Tetrachloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Cyclohexane	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dichloropropane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Trichloroethene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Isooctane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Methyl Methacrylate	2.08	416	41.6	8.32	2.08		0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208
n-Heptane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: S29-03251605
4ng/L Std. ID:
20ng/L Std. ID: S29-03251603
200ng/L Std. ID: S29-03251602
Dilution Factors: 5 50 250 1000

	Source Std.	Primary Working Standards				Working STD Conc.(ng/L):	4	4	4	4	20	200	200	200	200
						Injection (L):	0.020	0.025	0.050	0.100	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.12	224	22.4	4.48	1.12		0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: S29-03251605
4ng/L Std. ID:
20ng/L Std. ID: S29-03251603
200ng/L Std. ID: S29-03251602
Dilution Factors: 5 50 250 1000

	Source Std.	Primary Working Standards				Working STD Conc.(ng/L):	4	4	4	4	20	200	200	200	200
						Injection (L):	0.020	0.025	0.050	0.100	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
4-Methyl-2-pentanone	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
trans-1,3-Dichloropropene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
1,1,2-Trichloroethane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Toluene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
2-Hexanone	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
Dibromochloromethane	1.10	220	22.0	4.40	1.10		0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
n-Octane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Tetrachloroethene	0.99	198	19.8	3.96	0.99		0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.08	416	41.6	8.32	2.08		0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208
Bromoform	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Styrene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
o-Xylene	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
n-Nonane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
1,1,2,2-Tetrachloroethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Cumene	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
alpha-Pinene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
n-Propylbenzene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
3-Ethyltoluene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
4-Ethyltoluene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,3,5-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
alpha-Methylstyrene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
2-Ethyltoluene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
n-Decane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
1,4-Dichlorobenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
sec-Butylbenzene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
1,2,3-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
d-Limonene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dibromo-3-chloropropane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
n-Undecane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
1,2,4-Trichlorobenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Naphthalene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
n-Dodecane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Methacrylonitrile	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Cyclohexanone	1.12	224	22.4	4.48	1.12		0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112
tert-Butylbenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
n-Butylbenzene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108

Calibration Status Report Instrument #MS08

Method : I:\MS08\Methods\R8032916.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration

3/29/16

#	ID	Conc	ISTD Conc	Path\File
1	0.08	0	13	I:\MS08\Data\2016_03\29\03291602.D
2	0.10	0	13	I:\MS08\Data\2016_03\29\03291603.D
3	0.20	0	13	I:\MS08\Data\2016_03\29\03291604.D
4	0.40	0	13	I:\MS08\Data\2016_03\29\03291605.D
5	1.0	1	13	I:\MS08\Data\2016_03\29\03291606.D
6	5.0	5	13	I:\MS08\Data\2016_03\29\03291607.D
7	25	26	13	I:\MS08\Data\2016_03\29\03291608.D
8	50	52	13	I:\MS08\Data\2016_03\29\03291609.D
9	100	103	13	I:\MS08\Data\2016_03\29\03291610.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Mar 29 12:19 2016	Mar 29 11:15 2016	29 Mar 2016 7:33
2	0.10	Mar 29 12:19 2016	Mar 29 11:15 2016	29 Mar 2016 8:05
3	0.20	Mar 29 12:19 2016	Mar 29 11:15 2016	29 Mar 2016 8:38
4	0.40	Mar 29 12:20 2016	Mar 29 11:15 2016	29 Mar 2016 9:10
5	1.0	Mar 29 12:20 2016	Mar 29 11:15 2016	29 Mar 2016 9:43
6	5.0	Mar 29 12:20 2016	Mar 29 11:15 2016	29 Mar 2016 10:15
7	25	Mar 29 12:20 2016	Mar 29 11:15 2016	29 Mar 2016 10:48
8	50	Mar 29 12:20 2016	Mar 29 12:01 2016	29 Mar 2016 11:20
9	100	Mar 29 12:21 2016	Mar 29 12:17 2016	29 Mar 2016 11:53

R8032916.M Tue Mar 29 13:14:18 2016

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291602.D
Acq On : 29 Mar 2016 7:33 Operator: WA
Sample : 0.08ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:22 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 3/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	148594	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	749312	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	291416	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	207207	11.057	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
57) Toluene-d8 (SS2)	12.77	98	719358	13.659	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
73) Bromofluorobenzene (SS3)	16.07	174	299101	13.029	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
Target Compounds							Qvalue
2) Propene	3.93	42	1312	0.087	ng		94
3) Dichlorodifluoromethan...	4.03	85	2074	0.077	ng	#	92
4) Chloromethane	4.24	50	1192	0.062	ng	#	42
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	1242	0.083	ng	#	43
6) Vinyl Chloride	4.52	62	953	0.046	ng	#	42
7) 1,3-Butadiene	4.69	54	978	0.069	ng		92
8) Bromomethane	4.99	94	867	0.073	ng		91
9) Chloroethane	5.20	64	744	0.070	ng	#	43
10) Ethanol	5.38	45	5519	0.550	ng		96
11) Acetonitrile	5.64	41	2206	0.087	ng		82
12) Acrolein	5.74	56	576	0.076	ng	#	63
13) Acetone	5.86	58	8905	0.816	ng	#	83
14) Trichlorofluoromethane	6.03	101	1899	0.082	ng		97
15) 2-Propanol (Isopropanol)	6.15	45	5792	0.174	ng		96
16) Acrylonitrile	6.38	53	134	0.008	ng		84
17) 1,1-Dichloroethene	6.68	96	950	0.077	ng		97
18) 2-Methyl-2-Propanol (t...	6.77	59	5591	0.158	ng		93
19) Methylene Chloride	6.79	84	3576	0.226	ng		96
20) 3-Chloro-1-propene (Al...	6.92	41	1054	0.064	ng	#	35
21) Trichlorotrifluoroethane	7.07	151	1145	0.098	ng		100
22) Carbon Disulfide	7.08	76	5193	0.089	ng	#	73
23) trans-1,2-Dichloroethene	7.71	61	1083	0.061	ng		92
24) 1,1-Dichloroethane	7.88	63	1943	0.084	ng	#	42
25) Methyl tert-Butyl Ether	7.96	73	3412	0.084	ng		93
26) Vinyl Acetate	8.05	86	885	0.242	ng	#	34
27) 2-Butanone (MEK)	8.27	72	959	0.119	ng	#	14
28) cis-1,2-Dichloroethene	8.65	61	1227	0.072	ng		100
29) Diisopropyl Ether	8.87	87	1001	0.086	ng	#	75
30) Ethyl Acetate	8.87	61	561	0.130	ng	#	8
31) n-Hexane	8.86	57	1987	0.092	ng	#	82
32) Chloroform	8.91	83	1930	0.088	ng		96
34) Tetrahydrofuran (THF)	9.29	72	676	0.078	ng		90
35) Ethyl tert-Butyl Ether	9.34	87	1311	0.078	ng	#	83
36) 1,2-Dichloroethane	9.58	62	1254	0.077	ng	#	4
38) 1,1,1-Trichloroethane	9.82	97	1643	0.082	ng		93
39) Isopropyl Acetate	10.15	61	1330	0.166	ng	#	89
40) 1-Butanol	10.18	56	2237	0.156	ng	#	75
41) Benzene	10.23	78	5924	0.111	ng		97
42) Carbon Tetrachloride	10.36	117	1314	0.080	ng		99
43) Cyclohexane	10.48	84	4244	0.184	ng		96
44) tert-Amyl Methyl Ether	10.76	73	3318	0.082	ng		96
45) 1,2-Dichloropropane	10.97	63	1114	0.086	ng		87
46) Bromodichloromethane	11.13	83	1227	0.074	ng		95
47) Trichloroethene	11.18	130	1276	0.084	ng		90
48) 1,4-Dioxane	11.17	88	774	0.071	ng	#	19
49) 2,2,4-Trimethylpentane...	11.23	57	5212	0.087	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291602.D
Acq On : 29 Mar 2016 7:33 Operator: WA
Sample : 0.08ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:22 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

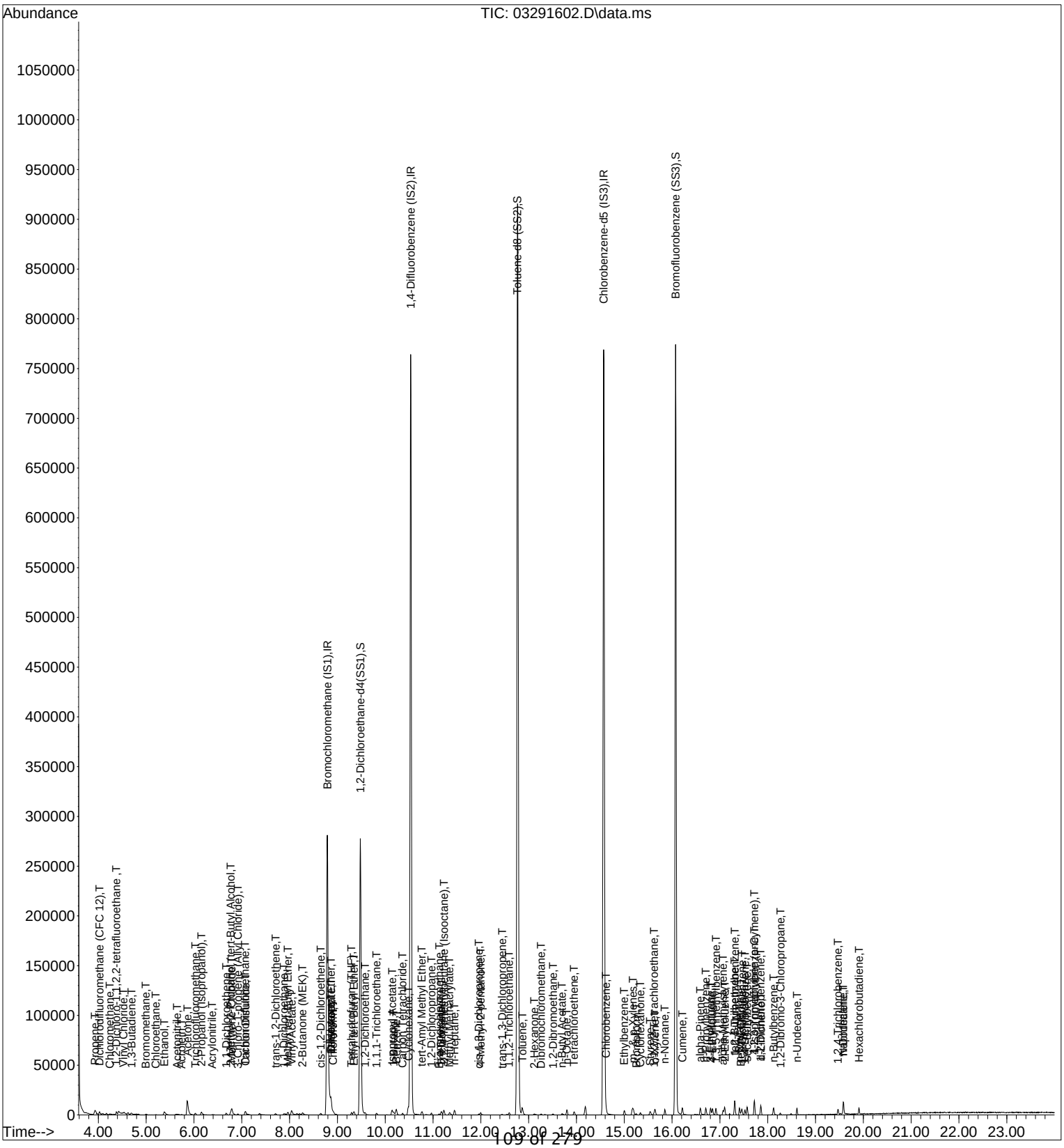
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	11.34	100	587	0.101	ng	#	51
51) n-Heptane	11.45	71	1212	0.093	ng	#	80
52) cis-1,3-Dichloropropene	11.96	75	1393	0.072	ng	#	43
53) 4-Methyl-2-pentanone	12.00	58	664	0.057	ng	#	37
54) trans-1,3-Dichloropropene	12.45	75	870	0.046	ng	#	42
55) 1,1,2-Trichloroethane	12.59	97	998	0.077	ng		95
58) Toluene	12.87	91	7158	0.148	ng		99
59) 2-Hexanone	13.12	43	1996	0.082	ng		90
60) Dibromochloromethane	13.26	129	1041	0.089	ng		94
61) 1,2-Dibromoethane	13.51	107	1033	0.086	ng		93
62) n-Butyl Acetate	13.70	43	2059	0.076	ng	#	75
63) n-Octane	13.80	57	891	0.087	ng		92
64) Tetrachloroethene	13.95	166	1510	0.103	ng		96
65) Chlorobenzene	14.62	112	3433	0.106	ng		94
66) Ethylbenzene	15.00	91	5494	0.104	ng		94
67) m- & p-Xylenes	15.18	91	8836	0.206	ng		94
68) Bromoform	15.25	173	842	0.076	ng	#	28
69) Styrene	15.54	104	2939	0.094	ng		95
70) o-Xylene	15.64	91	4486	0.099	ng		99
71) n-Nonane	15.85	43	2248	0.094	ng		87
72) 1,1,2,2-Tetrachloroethane	15.62	83	1631	0.080	ng		98
74) Cumene	16.21	105	6087	0.102	ng		97
75) alpha-Pinene	16.59	93	2801	0.099	ng	#	8
76) n-Propylbenzene	16.70	91	6844	0.099	ng		98
77) 3-Ethyltoluene	16.81	105	6234	0.112	ng		98
78) 4-Ethyltoluene	16.84	105	5892	0.109	ng		94
79) 1,3,5-Trimethylbenzene	16.92	105	5049	0.105	ng		91
80) alpha-Methylstyrene	17.06	118	2073	0.086	ng	#	81
81) 2-Ethyltoluene	17.10	105	5975	0.108	ng		97
82) 1,2,4-Trimethylbenzene	17.31	105	4985	0.104	ng		93
83) n-Decane	17.41	57	2490	0.096	ng		95
84) Benzyl Chloride	17.44	91	3005	0.076	ng		87
85) 1,3-Dichlorobenzene	17.46	146	3138	0.114	ng		100
86) 1,4-Dichlorobenzene	17.53	146	3352	0.115	ng		99
87) sec-Butylbenzene	17.57	105	6638	0.107	ng		97
88) 4-Isopropyltoluene (p-...	17.72	119	5841	0.097	ng		97
89) 1,2,3-Trimethylbenzene	17.72	105	4975	0.100	ng		96
90) 1,2-Dichlorobenzene	17.85	146	3000	0.112	ng		94
91) d-Limonene	17.86	68	1476	0.085	ng		96
92) 1,2-Dibromo-3-Chloropr...	18.27	157	810	0.084	ng	#	76
93) n-Undecane	18.61	57	2375	0.093	ng		96
94) 1,2,4-Trichlorobenzene	19.47	180	2400	0.118	ng		99
95) Naphthalene	19.58	128	7881	0.120	ng		93
96) n-Dodecane	19.58	57	2373	0.100	ng		96
97) Hexachlorobutadiene	19.91	225	1572	0.119	ng		100
98) Cyclohexanone	15.34	55	1482	0.095	ng		90
99) tert-Butylbenzene	17.31	119	5107	0.106	ng		97
100) n-Butylbenzene	18.12	91	4976	0.104	ng		94

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291602.D
Acq On : 29 Mar 2016 7:33 Operator: WA
Sample : 0.08ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:22 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291603.D
Acq On : 29 Mar 2016 8:05 Operator: WA
Sample : 0.10ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:23 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration 3/29/16
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	136468	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	696790	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	269984	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	192005	11.156	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
57) Toluene-d8 (SS2)	12.77	98	664351	13.616	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%				
73) Bromofluorobenzene (SS3)	16.07	174	271173	12.750	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	3.93	42	1359	0.099	ng		85
3) Dichlorodifluoromethan...	4.03	85	2766	0.112	ng	#	87
4) Chloromethane	4.24	50	1388	0.079	ng	#	42
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	1545	0.113	ng	#	43
6) Vinyl Chloride	4.52	62	1184	0.062	ng	#	42
7) 1,3-Butadiene	4.68	54	1000	0.077	ng		96
8) Bromomethane	5.00	94	985	0.091	ng		97
9) Chloroethane	5.20	64	947	0.096	ng	#	43
10) Ethanol	5.38	45	5132	0.557	ng		92
11) Acetonitrile	5.64	41	2482	0.106	ng		72
12) Acrolein	5.74	56	530	0.076	ng	#	55
13) Acetone	5.86	58	10236	1.021	ng		88
14) Trichlorofluoromethane	6.03	101	2282	0.108	ng		95
15) 2-Propanol (Isopropanol)	6.15	45	7092	0.232	ng		98
16) Acrylonitrile	6.39	53	931	0.063	ng	#	68
17) 1,1-Dichloroethene	6.68	96	1290	0.114	ng		100
18) 2-Methyl-2-Propanol (t...	6.77	59	7193	0.221	ng		91
19) Methylene Chloride	6.79	84	3709	0.255	ng		95
20) 3-Chloro-1-propene (Al...	6.91	41	1354	0.089	ng	#	35
21) Trichlorotrifluoroethane	7.07	151	1363	0.127	ng		96
22) Carbon Disulfide	7.07	76	6851	0.128	ng	#	73
23) trans-1,2-Dichloroethene	7.70	61	1550	0.095	ng		97
24) 1,1-Dichloroethane	7.88	63	2373	0.111	ng		90
25) Methyl tert-Butyl Ether	7.97	73	4384	0.118	ng		89
26) Vinyl Acetate	8.04	86	1274	0.380	ng	#	41
27) 2-Butanone (MEK)	8.27	72	1339	0.181	ng	#	37
28) cis-1,2-Dichloroethene	8.65	61	1609	0.102	ng		100
29) Diisopropyl Ether	8.87	87	1280	0.120	ng	#	76
30) Ethyl Acetate	8.87	61	747	0.189	ng	#	8
31) n-Hexane	8.87	57	2679	0.134	ng	#	83
32) Chloroform	8.91	83	2389	0.119	ng		99
34) Tetrahydrofuran (THF)	9.30	72	761	0.096	ng	#	80
35) Ethyl tert-Butyl Ether	9.35	87	1768	0.114	ng		92
36) 1,2-Dichloroethane	9.59	62	1622	0.109	ng	#	41
38) 1,1,1-Trichloroethane	9.82	97	1891	0.101	ng		96
39) Isopropyl Acetate	10.14	61	1495	0.201	ng	#	81
40) 1-Butanol	10.18	56	2214	0.166	ng	#	74
41) Benzene	10.23	78	6706	0.135	ng		94
42) Carbon Tetrachloride	10.37	117	1692	0.111	ng		89
43) Cyclohexane	10.48	84	5421	0.253	ng		95
44) tert-Amyl Methyl Ether	10.76	73	4143	0.110	ng		95
45) 1,2-Dichloropropane	10.96	63	1339	0.111	ng		96
46) Bromodichloromethane	11.13	83	1652	0.107	ng		93
47) Trichloroethene	11.17	130	1760	0.124	ng		94
48) 1,4-Dioxane	11.17	88	913	0.090	ng		92
49) 2,2,4-Trimethylpentane...	11.23	57	6493	0.114	ng		100

Data File: I:\MS08\Data\2016 03\29\03291603.D
Acq On : 29 Mar 2016 8:05 Operator: WA
Sample : 0.10ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:23 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

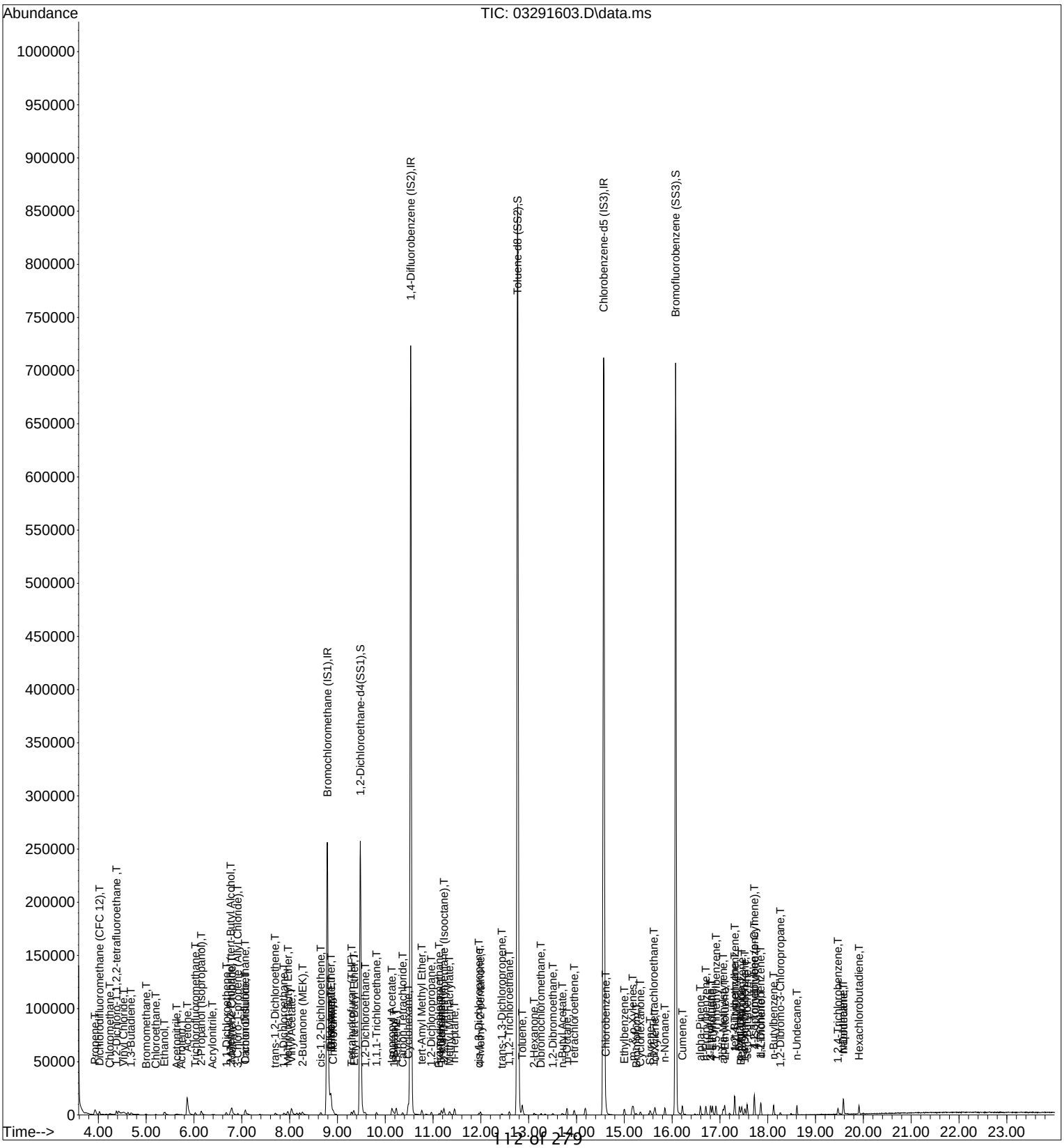
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	11.34	100	868	0.160	ng	#	86
51) n-Heptane	11.45	71	1489	0.122	ng	#	82
52) cis-1,3-Dichloropropene	11.96	75	1729	0.097	ng	#	43
53) 4-Methyl-2-pentanone	11.99	58	811	0.075	ng	#	40
54) trans-1,3-Dichloropropene	12.44	75	1127	0.064	ng	#	42
55) 1,1,2-Trichloroethane	12.59	97	1357	0.112	ng		92
58) Toluene	12.87	91	8622	0.192	ng		99
59) 2-Hexanone	13.12	43	2615	0.116	ng		79
60) Dibromochloromethane	13.25	129	1290	0.118	ng		95
61) 1,2-Dibromoethane	13.51	107	1346	0.122	ng		98
62) n-Butyl Acetate	13.71	43	2450	0.098	ng	#	75
63) n-Octane	13.80	57	1145	0.121	ng		99
64) Tetrachloroethene	13.95	166	1902	0.139	ng		92
65) Chlorobenzene	14.62	112	4345	0.145	ng		98
66) Ethylbenzene	15.00	91	6645	0.135	ng		93
67) m- & p-Xylenes	15.18	91	10736	0.271	ng		96
68) Bromoform	15.25	173	1083	0.105	ng	#	28
69) Styrene	15.54	104	3594	0.125	ng		91
70) o-Xylene	15.64	91	5362	0.128	ng		99
71) n-Nonane	15.85	43	2613	0.117	ng		95
72) 1,1,2,2-Tetrachloroethane	15.62	83	2179	0.115	ng		95
74) Cumene	16.21	105	7405	0.134	ng		95
75) alpha-Pinene	16.59	93	3583	0.137	ng		65
76) n-Propylbenzene	16.70	91	8069	0.125	ng		96
77) 3-Ethyltoluene	16.80	105	7176	0.139	ng		99
78) 4-Ethyltoluene	16.84	105	6924	0.139	ng		96
79) 1,3,5-Trimethylbenzene	16.92	105	6124	0.137	ng		96
80) alpha-Methylstyrene	17.07	118	2559	0.115	ng		87
81) 2-Ethyltoluene	17.10	105	7033	0.137	ng		96
82) 1,2,4-Trimethylbenzene	17.31	105	5759	0.130	ng		99
83) n-Decane	17.41	57	2854	0.119	ng		94
84) Benzyl Chloride	17.44	91	3495	0.095	ng		91
85) 1,3-Dichlorobenzene	17.46	146	3768	0.147	ng		99
86) 1,4-Dichlorobenzene	17.52	146	4130	0.153	ng		96
87) sec-Butylbenzene	17.57	105	8051	0.140	ng		97
88) 4-Isopropyltoluene (p-...	17.72	119	7511	0.134	ng		98
89) 1,2,3-Trimethylbenzene	17.72	105	6133	0.133	ng		96
90) 1,2-Dichlorobenzene	17.85	146	3555	0.143	ng		97
91) d-Limonene	17.86	68	1944	0.121	ng		97
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1024	0.115	ng	#	74
93) n-Undecane	18.61	57	2979	0.125	ng		97
94) 1,2,4-Trichlorobenzene	19.47	180	2820	0.149	ng		96
95) Naphthalene	19.58	128	8320	0.137	ng		92
96) n-Dodecane	19.59	57	2826	0.129	ng		96
97) Hexachlorobutadiene	19.91	225	1929	0.157	ng		100
98) Cyclohexanone	15.34	55	1771	0.123	ng		89
99) tert-Butylbenzene	17.31	119	6167	0.138	ng		97
100) n-Butylbenzene	18.12	91	5930	0.133	ng		98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291603.D
Acq On : 29 Mar 2016 8:05 Operator: WA
Sample : 0.10ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:23 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291604.D
Acq On : 29 Mar 2016 8:38 Operator: WA
Sample : 0.20ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 3/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.78	130	149805	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	758172	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	293260	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	210224	11.127	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%				
57) Toluene-d8 (SS2)	12.77	98	721525	13.614	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
73) Bromofluorobenzene (SS3)	16.07	174	298467	12.920	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	3.92	42	2614	0.173	ng		88
3) Dichlorodifluoromethan...	4.01	85	5302	0.195	ng	#	90
4) Chloromethane	4.23	50	2818	0.146	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	2962	0.197	ng		95
6) Vinyl Chloride	4.50	62	2756	0.132	ng		92
7) 1,3-Butadiene	4.68	54	1817	0.127	ng		90
8) Bromomethane	4.98	94	2044	0.171	ng		100
9) Chloroethane	5.19	64	1945	0.180	ng		89
10) Ethanol	5.36	45	9670	0.956	ng		94
11) Acetonitrile	5.63	41	4872	0.190	ng		84
12) Acrolein	5.73	56	1817	0.238	ng		76
13) Acetone	5.85	58	19862	1.805	ng		84
14) Trichlorofluoromethane	6.02	101	4637	0.200	ng		95
15) 2-Propanol (Isopropanol)	6.13	45	14038	0.418	ng		100
16) Acrylonitrile	6.35	53	2443	0.151	ng		97
17) 1,1-Dichloroethene	6.67	96	2624	0.211	ng		98
18) 2-Methyl-2-Propanol (t...	6.75	59	13455	0.377	ng		98
19) Methylene Chloride	6.78	84	5390	0.338	ng		98
20) 3-Chloro-1-propene (Al...	6.91	41	2783	0.167	ng		90
21) Trichlorotrifluoroethane	7.06	151	2643	0.224	ng		96
22) Carbon Disulfide	7.07	76	10964	0.186	ng		87
23) trans-1,2-Dichloroethene	7.69	61	3226	0.179	ng		97
24) 1,1-Dichloroethane	7.88	63	4470	0.191	ng		98
25) Methyl tert-Butyl Ether	7.95	73	8487	0.207	ng		95
26) Vinyl Acetate	8.03	86	3082	0.837	ng	#	86
27) 2-Butanone (MEK)	8.26	72	2957	0.365	ng	#	67
28) cis-1,2-Dichloroethene	8.65	61	3238	0.188	ng		96
29) Diisopropyl Ether	8.86	87	2445	0.209	ng	#	75
30) Ethyl Acetate	8.86	61	1610	0.370	ng		97
31) n-Hexane	8.87	57	4900	0.224	ng		99
32) Chloroform	8.91	83	4476	0.204	ng		99
34) Tetrahydrofuran (THF)	9.29	72	1523	0.175	ng	#	78
35) Ethyl tert-Butyl Ether	9.34	87	3323	0.195	ng		90
36) 1,2-Dichloroethane	9.58	62	3135	0.192	ng		97
38) 1,1,1-Trichloroethane	9.82	97	3881	0.191	ng		98
39) Isopropyl Acetate	10.13	61	3089	0.381	ng	#	90
40) 1-Butanol	10.16	56	4831	0.333	ng		89
41) Benzene	10.23	78	11419	0.212	ng		99
42) Carbon Tetrachloride	10.37	117	3374	0.203	ng		94
43) Cyclohexane	10.48	84	9563	0.410	ng		97
44) tert-Amyl Methyl Ether	10.76	73	7945	0.194	ng		96
45) 1,2-Dichloropropane	10.96	63	2532	0.193	ng		95
46) Bromodichloromethane	11.13	83	3168	0.188	ng		99
47) Trichloroethene	11.18	130	3287	0.213	ng		96
48) 1,4-Dioxane	11.16	88	2198	0.199	ng		96
49) 2,2,4-Trimethylpentane...	11.23	57	12277	0.202	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291604.D
Acq On : 29 Mar 2016 8:38 Operator: WA
Sample : 0.20ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

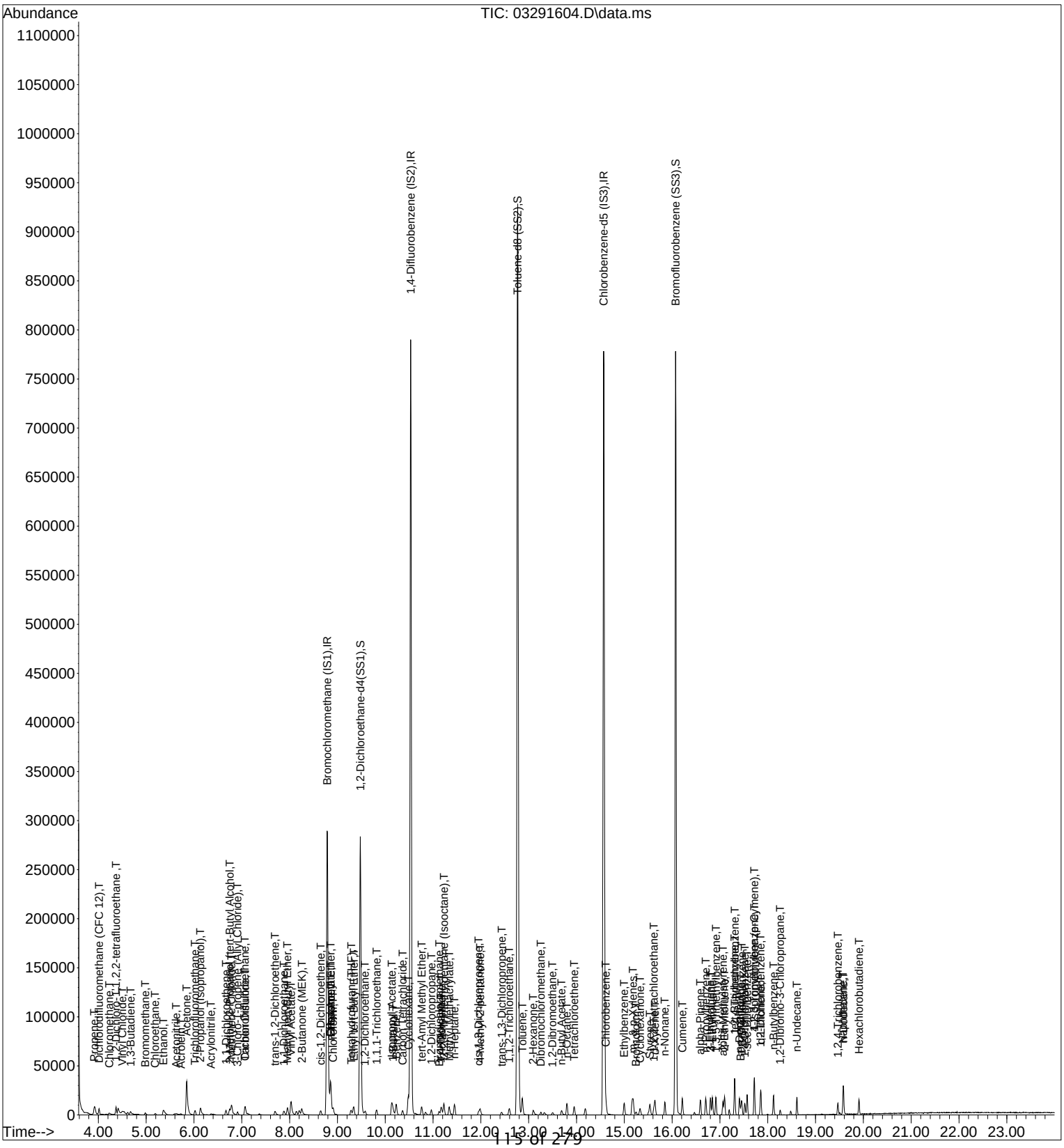
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	11.34	100	1825	0.309	ng	#	77
51) n-Heptane	11.45	71	2874	0.217	ng		96
52) cis-1,3-Dichloropropene	11.95	75	3744	0.192	ng		97
53) 4-Methyl-2-pentanone	11.99	58	2090	0.178	ng		84
54) trans-1,3-Dichloropropene	12.44	75	2925	0.152	ng		81
55) 1,1,2-Trichloroethane	12.59	97	2567	0.195	ng		96
58) Toluene	12.87	91	16353	0.335	ng		100
59) 2-Hexanone	13.09	43	5777	0.235	ng		91
60) Dibromochloromethane	13.25	129	2522	0.213	ng		97
61) 1,2-Dibromoethane	13.50	107	2727	0.227	ng		100
62) n-Butyl Acetate	13.69	43	5362	0.197	ng		93
63) n-Octane	13.80	57	2375	0.230	ng		93
64) Tetrachloroethene	13.95	166	3583	0.242	ng		98
65) Chlorobenzene	14.61	112	7912	0.243	ng		100
66) Ethylbenzene	15.00	91	12689	0.238	ng		97
67) m- & p-Xylenes	15.18	91	20169	0.468	ng		97
68) Bromoform	15.25	173	2270	0.203	ng		97
69) Styrene	15.54	104	7283	0.232	ng		99
70) o-Xylene	15.64	91	10596	0.233	ng		100
71) n-Nonane	15.85	43	5153	0.213	ng		95
72) 1,1,2,2-Tetrachloroethane	15.62	83	4315	0.210	ng		98
74) Cumene	16.21	105	13892	0.232	ng		97
75) alpha-Pinene	16.59	93	6564	0.231	ng		67
76) n-Propylbenzene	16.70	91	15767	0.226	ng		98
77) 3-Ethyltoluene	16.80	105	13207	0.236	ng		99
78) 4-Ethyltoluene	16.84	105	13787	0.254	ng		97
79) 1,3,5-Trimethylbenzene	16.92	105	11406	0.236	ng		100
80) alpha-Methylstyrene	17.06	118	5606	0.232	ng		92
81) 2-Ethyltoluene	17.10	105	13487	0.241	ng		96
82) 1,2,4-Trimethylbenzene	17.31	105	11209	0.233	ng		99
83) n-Decane	17.41	57	5748	0.221	ng		96
84) Benzyl Chloride	17.43	91	6838	0.172	ng		92
85) 1,3-Dichlorobenzene	17.46	146	7104	0.256	ng		100
86) 1,4-Dichlorobenzene	17.52	146	7432	0.254	ng		96
87) sec-Butylbenzene	17.57	105	15584	0.249	ng		98
88) 4-Isopropyltoluene (p-...	17.72	119	14012	0.230	ng		99
89) 1,2,3-Trimethylbenzene	17.72	105	11342	0.226	ng		99
90) 1,2-Dichlorobenzene	17.85	146	6921	0.256	ng		100
91) d-Limonene	17.85	68	3732	0.214	ng		98
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1997	0.206	ng		90
93) n-Undecane	18.61	57	5863	0.227	ng		95
94) 1,2,4-Trichlorobenzene	19.47	180	4890	0.239	ng		98
95) Naphthalene	19.58	128	14482	0.219	ng		96
96) n-Dodecane	19.59	57	5765	0.242	ng		96
97) Hexachlorobutadiene	19.91	225	3695	0.277	ng		100
98) Cyclohexanone	15.33	55	3641	0.233	ng		98
99) tert-Butylbenzene	17.31	119	12123	0.250	ng		99
100) n-Butylbenzene	18.12	91	11761	0.244	ng		97

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291604.D
Acq On : 29 Mar 2016 8:38 Operator: WA
Sample : 0.20ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:24 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291605.D
Acq On : 29 Mar 2016 9:10 Operator: WA
Sample : 0.40ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:26 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016 3/29/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	152215	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	763539	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	297554	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	213872	11.141	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
57) Toluene-d8 (SS2)	12.77	98	731525	13.604	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.07	174	305593	13.037	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
Target Compounds							Qvalue
2) Propene	3.91	42	5500	0.358	ng		91
3) Dichlorodifluoromethan...	4.01	85	10022	0.363	ng	#	97
4) Chloromethane	4.22	50	5015	0.255	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	5808	0.380	ng		99
6) Vinyl Chloride	4.50	62	5909	0.279	ng		97
7) 1,3-Butadiene	4.67	54	3808	0.262	ng		96
8) Bromomethane	4.98	94	4296	0.354	ng		96
9) Chloroethane	5.19	64	3911	0.357	ng		97
10) Ethanol	5.36	45	18076	1.760	ng		95
11) Acetonitrile	5.58	41	9445	0.363	ng		88
12) Acrolein	5.72	56	3473	0.449	ng		92
13) Acetone	5.84	58	37354	3.340	ng		86
14) Trichlorofluoromethane	6.02	101	9029	0.382	ng		98
15) 2-Propanol (Isopropanol)	6.13	45	26021	0.763	ng		98
16) Acrylonitrile	6.35	53	5666	0.344	ng		98
17) 1,1-Dichloroethene	6.67	96	4978	0.394	ng		94
18) 2-Methyl-2-Propanol (t...	6.73	59	25969	0.716	ng		95
19) Methylene Chloride	6.79	84	7844	0.484	ng		95
20) 3-Chloro-1-propene (Al...	6.91	41	5963	0.352	ng		90
21) Trichlorotrifluoroethane	7.07	151	5386	0.449	ng		97
22) Carbon Disulfide	7.06	76	19728	0.329	ng		91
23) trans-1,2-Dichloroethene	7.69	61	6843	0.374	ng		94
24) 1,1-Dichloroethane	7.88	63	9068	0.381	ng		96
25) Methyl tert-Butyl Ether	7.95	73	16390	0.394	ng		97
26) Vinyl Acetate	8.03	86	6845	1.831	ng	#	92
27) 2-Butanone (MEK)	8.25	72	6061	0.736	ng	#	77
28) cis-1,2-Dichloroethene	8.65	61	6653	0.379	ng		100
29) Diisopropyl Ether	8.85	87	4911	0.413	ng	#	80
30) Ethyl Acetate	8.85	61	3908	0.885	ng		92
31) n-Hexane	8.87	57	9579	0.431	ng		99
32) Chloroform	8.91	83	8791	0.393	ng		100
34) Tetrahydrofuran (THF)	9.28	72	3260	0.368	ng	#	90
35) Ethyl tert-Butyl Ether	9.34	87	7059	0.408	ng		99
36) 1,2-Dichloroethane	9.59	62	6147	0.370	ng		99
38) 1,1,1-Trichloroethane	9.82	97	7604	0.371	ng		98
39) Isopropyl Acetate	10.13	61	6321	0.774	ng		95
40) 1-Butanol	10.15	56	10579	0.725	ng		88
41) Benzene	10.23	78	22057	0.406	ng		99
42) Carbon Tetrachloride	10.37	117	6440	0.385	ng		98
43) Cyclohexane	10.48	84	18554	0.790	ng		99
44) tert-Amyl Methyl Ether	10.76	73	15575	0.378	ng		97
45) 1,2-Dichloropropane	10.96	63	5126	0.388	ng		99
46) Bromodichloromethane	11.12	83	6197	0.365	ng		99
47) Trichloroethene	11.17	130	6437	0.414	ng		100
48) 1,4-Dioxane	11.15	88	4420	0.398	ng		100
49) 2,2,4-Trimethylpentane...	11.23	57	24047	0.392	ng		98

Data File: I:\MS08\Data\2016 03\29\03291605.D
Acq On : 29 Mar 2016 9:10 Operator: WA
Sample : 0.40ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:26 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

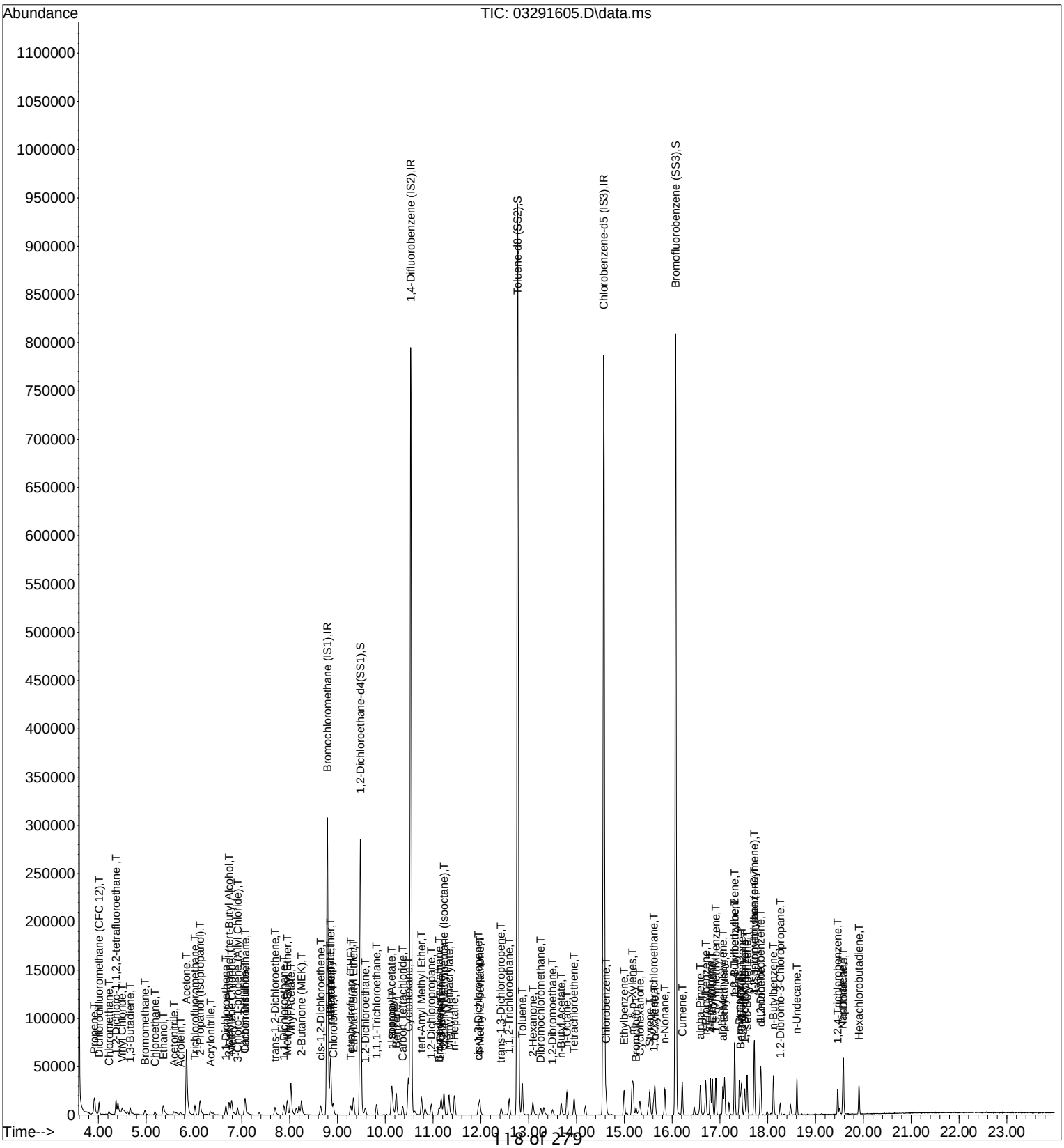
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	4488	0.755	ng	96
51) n-Heptane	11.45	71	5853	0.439	ng	99
52) cis-1,3-Dichloropropene	11.95	75	7802	0.398	ng	95
53) 4-Methyl-2-pentanone	11.98	58	4805	0.406	ng	93
54) trans-1,3-Dichloropropene	12.42	75	6092	0.315	ng	98
55) 1,1,2-Trichloroethane	12.59	97	5357	0.405	ng	94
58) Toluene	12.86	91	31004	0.627	ng	99
59) 2-Hexanone	13.09	43	12604	0.506	ng	93
60) Dibromochloromethane	13.25	129	5400	0.450	ng	99
61) 1,2-Dibromoethane	13.50	107	5660	0.464	ng	97
62) n-Butyl Acetate	13.68	43	11621	0.420	ng	98
63) n-Octane	13.80	57	4576	0.438	ng	99
64) Tetrachloroethene	13.95	166	7322	0.487	ng	99
65) Chlorobenzene	14.62	112	15791	0.478	ng	97
66) Ethylbenzene	15.00	91	25034	0.462	ng	97
67) m- & p-Xylenes	15.17	91	40064	0.916	ng	97
68) Bromoform	15.25	173	4552	0.400	ng	97
69) Styrene	15.53	104	15016	0.472	ng	99
70) o-Xylene	15.64	91	20445	0.444	ng	96
71) n-Nonane	15.85	43	10081	0.411	ng	99
72) 1,1,2,2-Tetrachloroethane	15.62	83	8706	0.418	ng	99
74) Cumene	16.21	105	26632	0.439	ng	98
75) alpha-Pinene	16.59	93	13266	0.460	ng	65
76) n-Propylbenzene	16.70	91	30994	0.437	ng	98
77) 3-Ethyltoluene	16.80	105	26437	0.466	ng	99
78) 4-Ethyltoluene	16.84	105	26438	0.481	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	22324	0.454	ng	98
80) alpha-Methylstyrene	17.06	118	11292	0.460	ng	92
81) 2-Ethyltoluene	17.10	105	26574	0.469	ng	98
82) 1,2,4-Trimethylbenzene	17.31	105	22082	0.452	ng	100
83) n-Decane	17.41	57	11529	0.437	ng	96
84) Benzyl Chloride	17.43	91	14153	0.351	ng	97
85) 1,3-Dichlorobenzene	17.46	146	13926	0.494	ng	100
86) 1,4-Dichlorobenzene	17.52	146	14255	0.480	ng	99
87) sec-Butylbenzene	17.57	105	29680	0.467	ng	99
88) 4-Isopropyltoluene (p-...	17.72	119	27952	0.453	ng	98
89) 1,2,3-Trimethylbenzene	17.72	105	22664	0.446	ng	100
90) 1,2-Dichlorobenzene	17.85	146	13200	0.481	ng	100
91) d-Limonene	17.86	68	8036	0.455	ng	94
92) 1,2-Dibromo-3-Chloropr...	18.26	157	4127	0.420	ng	92
93) n-Undecane	18.61	57	11953	0.456	ng	98
94) 1,2,4-Trichlorobenzene	19.46	180	10144	0.488	ng	99
95) Naphthalene	19.57	128	28449	0.424	ng	98
96) n-Dodecane	19.59	57	11972	0.495	ng	97
97) Hexachlorobutadiene	19.91	225	6890	0.510	ng	99
98) Cyclohexanone	15.33	55	7444	0.469	ng	98
99) tert-Butylbenzene	17.31	119	22807	0.463	ng	99
100) n-Butylbenzene	18.12	91	23865	0.487	ng	95

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291605.D
Acq On : 29 Mar 2016 9:10 Operator: WA
Sample : 0.40ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251605 (4/23)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:15:26 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291606.D
Acq On : 29 Mar 2016 9:43 Operator: WA
Sample : 1.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016 WA 3/29/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	142418	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	697523	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	276021	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	198586	11.056	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
57) Toluene-d8 (SS2)	12.77	98	663887	13.309	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
73) Bromofluorobenzene (SS3)	16.07	174	285612	13.135	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
2) Propene	3.90	42	12856	0.894	ng		99
3) Dichlorodifluoromethan...	4.00	85	27241	1.053	ng		99
4) Chloromethane	4.21	50	17143	0.932	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	15717	1.098	ng		99
6) Vinyl Chloride	4.49	62	16860	0.851	ng		98
7) 1,3-Butadiene	4.65	54	13067	0.962	ng		98
8) Bromomethane	4.97	94	12935	1.140	ng		98
9) Chloroethane	5.17	64	11003	1.073	ng		97
10) Ethanol	5.35	45	48517	5.048	ng		100
11) Acetonitrile	5.57	41	24023	0.986	ng		95
12) Acrolein	5.71	56	8086	1.116	ng		91
13) Acetone	5.84	58	54308	5.191	ng		98
14) Trichlorofluoromethane	6.01	101	23134	1.047	ng		100
15) 2-Propanol (Isopropanol)	6.12	45	66444	2.083	ng		97
16) Acrylonitrile	6.33	53	17073	1.109	ng		100
17) 1,1-Dichloroethene	6.66	96	14257	1.207	ng		97
18) 2-Methyl-2-Propanol (t...	6.72	59	70447	2.077	ng		98
19) Methylene Chloride	6.78	84	16819	1.108	ng		97
20) 3-Chloro-1-propene (Al...	6.91	41	16925	1.069	ng		96
21) Trichlorotrifluoroethane	7.07	151	14057	1.252	ng		99
22) Carbon Disulfide	7.06	76	51509	0.919	ng		97
23) trans-1,2-Dichloroethene	7.69	61	19513	1.141	ng		98
24) 1,1-Dichloroethane	7.88	63	24298	1.090	ng		99
25) Methyl tert-Butyl Ether	7.95	73	44468	1.143	ng		98
26) Vinyl Acetate	8.03	86	17279	4.939	ng	#	87
27) 2-Butanone (MEK)	8.24	72	9475	1.230	ng	#	82
28) cis-1,2-Dichloroethene	8.65	61	18312	1.116	ng		99
29) Diisopropyl Ether	8.85	87	13103	1.178	ng	#	90
30) Ethyl Acetate	8.85	61	9548	2.310	ng		97
31) n-Hexane	8.86	57	23108	1.112	ng		97
32) Chloroform	8.91	83	23880	1.142	ng		98
34) Tetrahydrofuran (THF)	9.27	72	9388	1.132	ng		99
35) Ethyl tert-Butyl Ether	9.33	87	19013	1.173	ng		98
36) 1,2-Dichloroethane	9.58	62	16547	1.064	ng		99
38) 1,1,1-Trichloroethane	9.82	97	20853	1.114	ng		99
39) Isopropyl Acetate	10.12	61	17043	2.285	ng		99
40) 1-Butanol	10.14	56	27331	2.049	ng		90
41) Benzene	10.23	78	57422	1.158	ng		100
42) Carbon Tetrachloride	10.37	117	18124	1.186	ng		100
43) Cyclohexane	10.48	84	48177	2.245	ng		99
44) tert-Amyl Methyl Ether	10.75	73	42550	1.131	ng		99
45) 1,2-Dichloropropane	10.96	63	13569	1.126	ng		99
46) Bromodichloromethane	11.12	83	17733	1.144	ng		100
47) Trichloroethene	11.17	130	16962	1.194	ng		100
48) 1,4-Dioxane	11.15	88	12085	1.191	ng		99
49) 2,2,4-Trimethylpentane...	11.23	57	61827	1.104	ng		100

Data File: I:\MS08\Data\2016 03\29\03291606.D
Acq On : 29 Mar 2016 9:43 Operator: WA
Sample : 1.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

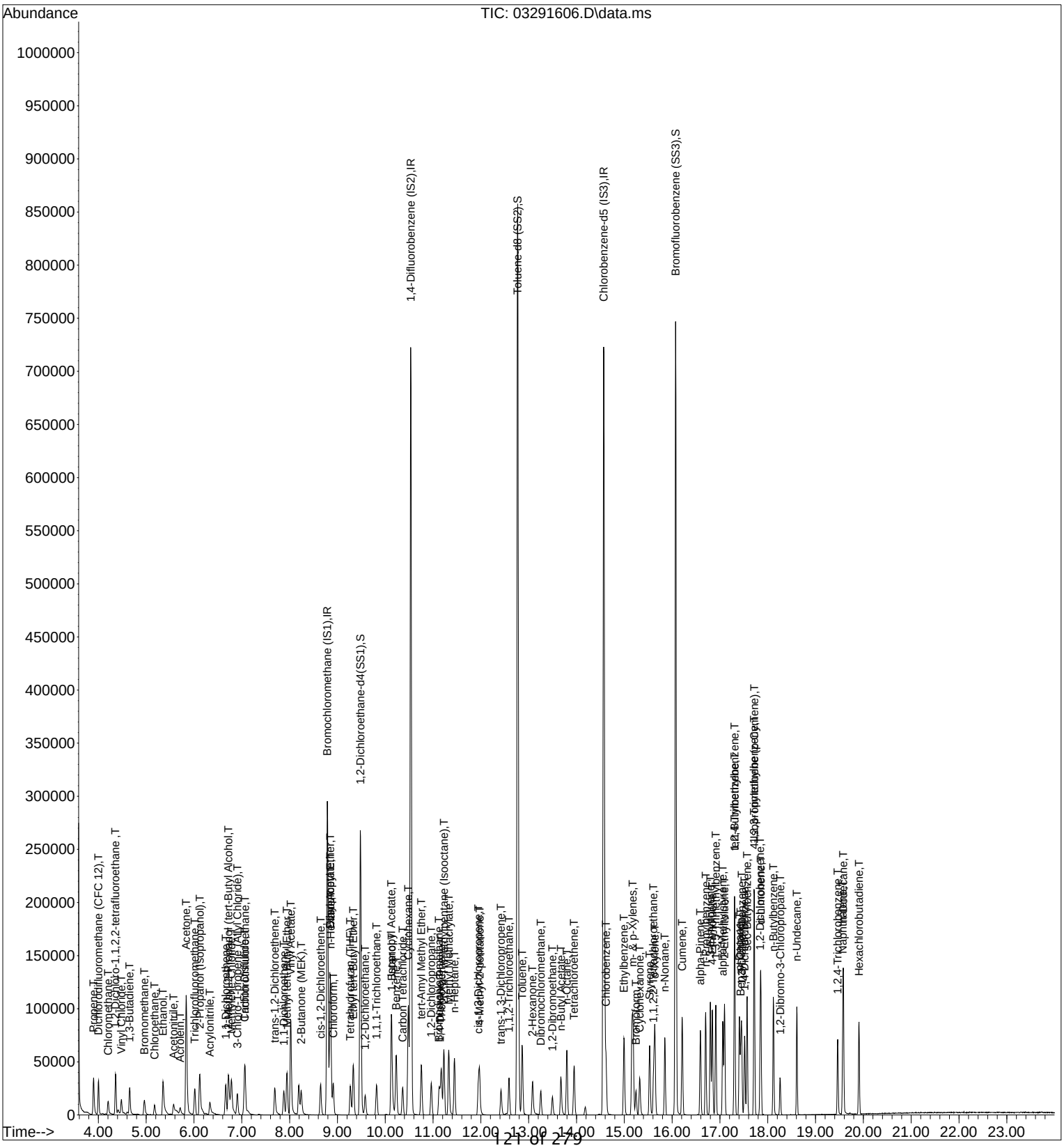
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	12734	2.345 ng	99
51) n-Heptane	11.45	71	14891	1.223 ng	99
52) cis-1,3-Dichloropropene	11.95	75	21915	1.223 ng	98
53) 4-Methyl-2-pentanone	11.97	58	12689	1.173 ng	95
54) trans-1,3-Dichloropropene	12.42	75	18133	1.026 ng	98
55) 1,1,2-Trichloroethane	12.59	97	14161	1.171 ng	99
58) Toluene	12.86	91	60013	1.308 ng	100
59) 2-Hexanone	13.08	43	29073	1.259 ng	95
60) Dibromochloromethane	13.25	129	15494	1.391 ng	100
61) 1,2-Dibromoethane	13.50	107	15680	1.385 ng	98
62) n-Butyl Acetate	13.67	43	31689	1.236 ng	99
63) n-Octane	13.80	57	12255	1.263 ng	96
64) Tetrachloroethene	13.95	166	19311	1.385 ng	100
65) Chlorobenzene	14.62	112	41556	1.355 ng	99
66) Ethylbenzene	14.99	91	67948	1.352 ng	99
67) m- & p-Xylenes	15.18	91	107169	2.643 ng	97
68) Bromoform	15.25	173	13668	1.296 ng	100
69) Styrene	15.53	104	41767	1.416 ng	99
70) o-Xylene	15.64	91	54994	1.287 ng	99
71) n-Nonane	15.85	43	26725	1.175 ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	23858	1.234 ng	100
74) Cumene	16.21	105	72823	1.294 ng	98
75) alpha-Pinene	16.59	93	35090	1.313 ng	95
76) n-Propylbenzene	16.70	91	84099	1.279 ng	99
77) 3-Ethyltoluene	16.80	105	73394	1.394 ng	99
78) 4-Ethyltoluene	16.84	105	69193	1.357 ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	61334	1.346 ng	99
80) alpha-Methylstyrene	17.06	118	31882	1.400 ng	92
81) 2-Ethyltoluene	17.10	105	71713	1.364 ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	60247	1.329 ng	100
83) n-Decane	17.41	57	30295	1.237 ng	98
84) Benzyl Chloride	17.43	91	41726	1.115 ng	98
85) 1,3-Dichlorobenzene	17.46	146	37743	1.444 ng	99
86) 1,4-Dichlorobenzene	17.52	146	37513	1.360 ng	99
87) sec-Butylbenzene	17.57	105	82915	1.407 ng	99
88) 4-Isopropyltoluene (p-...	17.72	119	77002	1.344 ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	63643	1.350 ng	99
90) 1,2-Dichlorobenzene	17.84	146	36579	1.437 ng	99
91) d-Limonene	17.85	68	21414	1.307 ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	12023	1.319 ng	94
93) n-Undecane	18.61	57	31164	1.282 ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	26325	1.365 ng	99
95) Naphthalene	19.57	128	74602	1.197 ng	98
96) n-Dodecane	19.58	57	27668	1.232 ng	98
97) Hexachlorobutadiene	19.91	225	19231	1.534 ng	99
98) Cyclohexanone	15.32	55	18180	1.236 ng	99
99) tert-Butylbenzene	17.31	119	63685	1.393 ng	99
100) n-Butylbenzene	18.12	91	63041	1.387 ng	98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291606.D
Acq On : 29 Mar 2016 9:43 Operator: WA
Sample : 1.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291607.D
Acq On : 29 Mar 2016 10:15 Operator: WA
Sample : 5.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:29 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 3/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	149747	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	731532	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	292009	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.48	65	209053	11.069	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
57) Toluene-d8 (SS2)	12.77	98	703277	13.327	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
73) Bromofluorobenzene (SS3)	16.07	174	304289	13.228	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	3.88	42	61940	4.098	ng		99
3) Dichlorodifluoromethan...	3.99	85	127916	4.705	ng		99
4) Chloromethane	4.19	50	77958	4.032	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	73233	4.867	ng		100
6) Vinyl Chloride	4.47	62	82857	3.979	ng		99
7) 1,3-Butadiene	4.64	54	58632	4.104	ng		100
8) Bromomethane	4.95	94	60572	5.078	ng		99
9) Chloroethane	5.16	64	51582	4.783	ng		99
10) Ethanol	5.37	45	221088	21.876	ng		99
11) Acetonitrile	5.57	41	116712	4.555	ng		99
12) Acrolein	5.70	56	41350	5.428	ng		100
13) Acetone	5.84	58	256909	23.353	ng		99
14) Trichlorofluoromethane	6.01	101	110084	4.739	ng		100
15) 2-Propanol (Isopropanol)	6.13	45	322172	9.605	ng		99
16) Acrylonitrile	6.33	53	86086	5.319	ng		99
17) 1,1-Dichloroethene	6.66	96	68433	5.509	ng		99
18) 2-Methyl-2-Propanol (t...	6.72	59	342616	9.607	ng		99
19) Methylene Chloride	6.78	84	71835	4.503	ng		100
20) 3-Chloro-1-propene (Al...	6.91	41	88181	5.295	ng		98
21) Trichlorotrifluoroethane	7.07	151	67147	5.686	ng		100
22) Carbon Disulfide	7.04	76	244834	4.155	ng		99
23) trans-1,2-Dichloroethene	7.69	61	94280	5.244	ng		99
24) 1,1-Dichloroethane	7.88	63	116329	4.963	ng		99
25) Methyl tert-Butyl Ether	7.93	73	213747	5.224	ng		98
26) Vinyl Acetate	8.03	86	93085	25.305	ng	#	88
27) 2-Butanone (MEK)	8.24	72	48478	5.984	ng		98
28) cis-1,2-Dichloroethene	8.65	61	89593	5.192	ng		99
29) Diisopropyl Ether	8.85	87	62659	5.357	ng	#	91
30) Ethyl Acetate	8.84	61	48816	11.232	ng		99
31) n-Hexane	8.86	57	106821	4.887	ng		99
32) Chloroform	8.92	83	114089	5.190	ng		100
34) Tetrahydrofuran (THF)	9.26	72	45435	5.210	ng		99
35) Ethyl tert-Butyl Ether	9.33	87	92004	5.400	ng		98
36) 1,2-Dichloroethane	9.58	62	79532	4.862	ng		99
38) 1,1,1-Trichloroethane	9.82	97	100977	5.146	ng		99
39) Isopropyl Acetate	10.12	61	83531	10.676	ng		99
40) 1-Butanol	10.13	56	144900	10.359	ng		95
41) Benzene	10.23	78	269135	5.174	ng		100
42) Carbon Tetrachloride	10.37	117	89165	5.562	ng		100
43) Cyclohexane	10.48	84	230658	10.248	ng		97
44) tert-Amyl Methyl Ether	10.75	73	205780	5.215	ng		100
45) 1,2-Dichloropropane	10.96	63	64833	5.129	ng		99
46) Bromodichloromethane	11.12	83	89022	5.478	ng		99
47) Trichloroethene	11.17	130	81771	5.489	ng		99
48) 1,4-Dioxane	11.14	88	59900	5.629	ng		100
49) 2,2,4-Trimethylpentane...	11.23	57	294785	5.018	ng		100

Data File: I:\MS08\Data\2016 03\29\03291607.D
Acq On : 29 Mar 2016 10:15 Operator: WA
Sample : 5.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:29 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

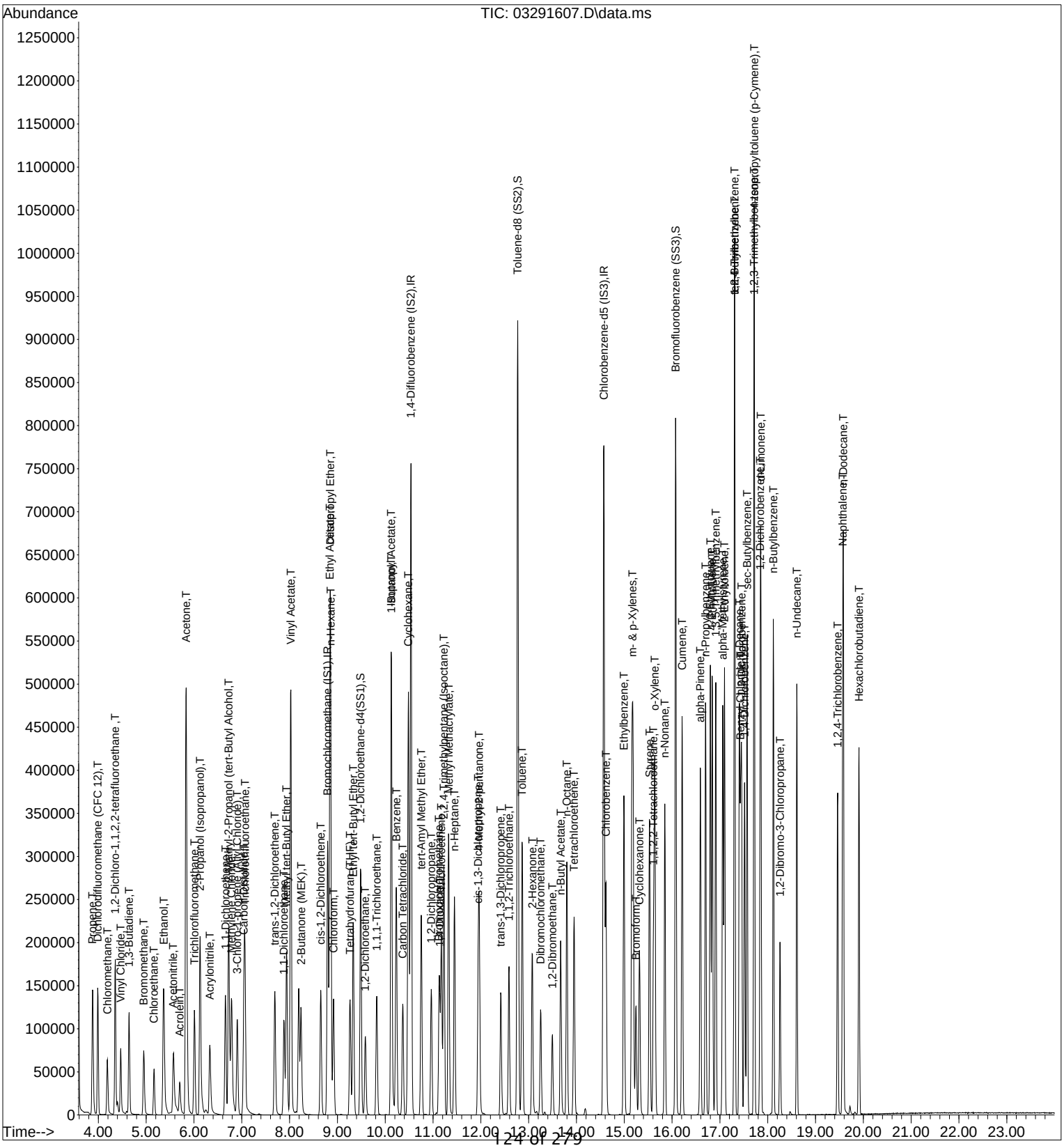
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	64930	11.401	ng	99
51) n-Heptane	11.45	71	71049	5.562	ng	99
52) cis-1,3-Dichloropropene	11.94	75	112079	5.966	ng	100
53) 4-Methyl-2-pentanone	11.96	58	64627	5.697	ng	98
54) trans-1,3-Dichloropropene	12.42	75	96705	5.220	ng	99
55) 1,1,2-Trichloroethane	12.59	97	68884	5.429	ng	100
58) Toluene	12.86	91	286713	5.905	ng	100
59) 2-Hexanone	13.08	43	145059	5.936	ng	99
60) Dibromochloromethane	13.25	129	81535	6.920	ng	100
61) 1,2-Dibromoethane	13.50	107	79037	6.600	ng	99
62) n-Butyl Acetate	13.67	43	164089	6.049	ng	99
63) n-Octane	13.80	57	58097	5.661	ng	99
64) Tetrachloroethene	13.95	166	92433	6.265	ng	99
65) Chlorobenzene	14.62	112	198359	6.115	ng	100
66) Ethylbenzene	14.99	91	327765	6.166	ng	100
67) m- & p-Xylenes	15.17	91	507603	11.831	ng	100
68) Bromoform	15.25	173	75207	6.743	ng	99
69) Styrene	15.53	104	215134	6.894	ng	100
70) o-Xylene	15.64	91	265540	5.873	ng	99
71) n-Nonane	15.85	43	131559	5.468	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	121017	5.917	ng	99
74) Cumene	16.21	105	353973	5.944	ng	100
75) alpha-Pinene	16.59	93	177535	6.279	ng	98
76) n-Propylbenzene	16.70	91	412237	5.927	ng	99
77) 3-Ethyltoluene	16.80	105	366475	6.579	ng	99
78) 4-Ethyltoluene	16.84	105	334635	6.202	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	293555	6.087	ng	99
80) alpha-Methylstyrene	17.06	118	164250	6.819	ng	99
81) 2-Ethyltoluene	17.10	105	346800	6.236	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	296304	6.176	ng	99
83) n-Decane	17.41	57	148665	5.737	ng	99
84) Benzyl Chloride	17.43	91	240624	6.078	ng	99
85) 1,3-Dichlorobenzene	17.45	146	183020	6.618	ng	99
86) 1,4-Dichlorobenzene	17.52	146	182764	6.265	ng	100
87) sec-Butylbenzene	17.57	105	402405	6.455	ng	99
88) 4-Isopropyltoluene (p-...	17.72	119	376867	6.217	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	307716	6.170	ng	99
90) 1,2-Dichlorobenzene	17.84	146	177384	6.589	ng	100
91) d-Limonene	17.85	68	110823	6.395	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	65686	6.811	ng	98
93) n-Undecane	18.61	57	154190	5.996	ng	98
94) 1,2,4-Trichlorobenzene	19.46	180	132386	6.488	ng	99
95) Naphthalene	19.57	128	382214	5.799	ng	99
96) n-Dodecane	19.58	57	143229	6.029	ng	99
97) Hexachlorobutadiene	19.91	225	93883	7.078	ng	100
98) Cyclohexanone	15.32	55	94934	6.099	ng	99
99) tert-Butylbenzene	17.31	119	305851	6.326	ng	100
100) n-Butylbenzene	18.12	91	310076	6.451	ng	99

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291607.D
Acq On : 29 Mar 2016 10:15 Operator: WA
Sample : 5.0ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251603 (4/23)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:15:29 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291608.D
Acq On : 29 Mar 2016 10:48 Operator: WA
Sample : 25ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 11:15:31 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016 WA 3/29/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	149058	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.54	114	725607	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	295886	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.49	65	207630	11.045	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%			
57) Toluene-d8 (SS2)	12.78	98	699881	13.088	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%			
73) Bromofluorobenzene (SS3)	16.08	174	308930	13.254	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
Target Compounds						Qvalue
2) Propene	3.87	42	335214	22.283	ng	100
3) Dichlorodifluoromethan...	3.98	85	697445	25.770	ng	100
4) Chloromethane	4.18	50	475885	24.725	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	407982	27.239	ng	100
6) Vinyl Chloride	4.46	62	465491	22.457	ng	100
7) 1,3-Butadiene	4.64	54	356633	25.079	ng	100
8) Bromomethane	4.95	94	352415	29.682	ng	100
9) Chloroethane	5.16	64	295294	27.505	ng	100
10) Ethanol	5.40	45	1259644	125.212	ng	100
11) Acetonitrile	5.59	41	651222	25.532	ng	100
12) Acrolein	5.71	56	239858	31.632	ng	100
13) Acetone	5.85	58	1397519	127.622	ng	100
14) Trichlorofluoromethane	6.01	101	596627	25.803	ng	100
15) 2-Propanol (Isopropanol)	6.15	45	1849671	55.399	ng	100
16) Acrylonitrile	6.35	53	495498	30.756	ng	100
17) 1,1-Dichloroethene	6.66	96	387711	31.358	ng	100
18) 2-Methyl-2-Propanol (t...	6.75	59	1965776	55.377	ng	100
19) Methylene Chloride	6.80	84	392987	24.747	ng	100
20) 3-Chloro-1-propene (Al...	6.91	41	524998	31.672	ng	100
21) Trichlorotrifluoroethane	7.07	151	372289	31.670	ng	100
22) Carbon Disulfide	7.05	76	1387566	23.657	ng	100
23) trans-1,2-Dichloroethene	7.70	61	527361	29.470	ng	100
24) 1,1-Dichloroethane	7.89	63	626308	26.843	ng	100
25) Methyl tert-Butyl Ether	7.94	73	1168136	28.680	ng	100
26) Vinyl Acetate	8.04	86	528459	144.322	ng	100
27) 2-Butanone (MEK)	8.25	72	266291	33.025	ng	99
28) cis-1,2-Dichloroethene	8.66	61	495528	28.850	ng	100
29) Diisopropyl Ether	8.85	87	329838	28.332	ng	100
30) Ethyl Acetate	8.85	61	251911	58.229	ng	100
31) n-Hexane	8.87	57	491091	22.570	ng	100
32) Chloroform	8.93	83	627064	28.658	ng	100
34) Tetrahydrofuran (THF)	9.26	72	250154	28.815	ng	100
35) Ethyl tert-Butyl Ether	9.33	87	509864	30.065	ng	100
36) 1,2-Dichloroethane	9.59	62	433954	26.653	ng	100
38) 1,1,1-Trichloroethane	9.83	97	559931	28.766	ng	100
39) Isopropyl Acetate	10.13	61	439054	56.575	ng	100
40) 1-Butanol	10.14	56	862640	62.176	ng	100
41) Benzene	10.24	78	1422567	27.570	ng	100
42) Carbon Tetrachloride	10.37	117	493279	31.023	ng	100
43) Cyclohexane	10.49	84	1222817	54.773	ng	100
44) tert-Amyl Methyl Ether	10.76	73	1149938	29.383	ng	100
45) 1,2-Dichloropropane	10.97	63	351541	28.035	ng	100
46) Bromodichloromethane	11.13	83	509203	31.591	ng	100
47) Trichloroethene	11.18	130	441584	29.887	ng	100
48) 1,4-Dioxane	11.15	88	333039	31.555	ng	100
49) 2,2,4-Trimethylpentane...	11.23	57	1592464	27.327	ng	100

Data File: I:\MS08\Data\2016 03\29\03291608.D
Acq On : 29 Mar 2016 10:48 Operator: WA
Sample : 25ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 11:15:31 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

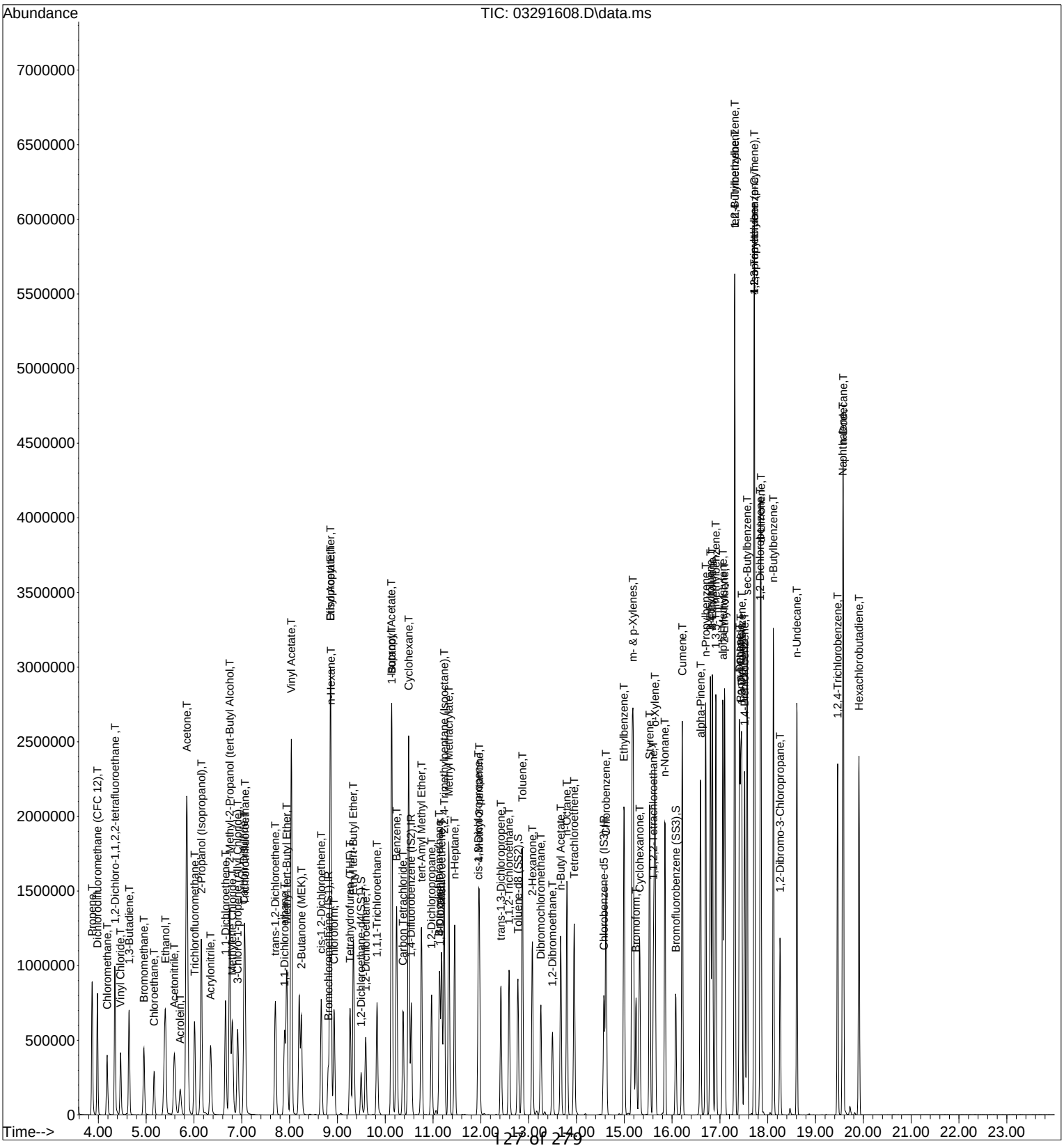
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	363389	64.331	ng	100
51) n-Heptane	11.45	71	359238	28.354	ng	100
52) cis-1,3-Dichloropropene	11.95	75	645374	34.634	ng	100
53) 4-Methyl-2-pentanone	11.97	58	365362	32.469	ng	100
54) trans-1,3-Dichloropropene	12.42	75	572800	31.171	ng	100
55) 1,1,2-Trichloroethane	12.59	97	386899	30.743	ng	100
58) Toluene	12.87	91	1579055	32.096	ng	100
59) 2-Hexanone	13.08	43	837791	33.835	ng	100
60) Dibromochloromethane	13.26	129	485752	40.685	ng	100
61) 1,2-Dibromoethane	13.50	107	451894	37.244	ng	100
62) n-Butyl Acetate	13.67	43	945897	34.411	ng	100
63) n-Octane	13.80	57	316985	30.483	ng	100
64) Tetrachloroethene	13.95	166	517216	34.597	ng	100
65) Chlorobenzene	14.62	112	1129294	34.359	ng	100
66) Ethylbenzene	14.99	91	1862920	34.585	ng	100
67) m- & p-Xylenes	15.18	91	2896803	66.633	ng	100
68) Bromoform	15.25	173	473194	41.868	ng	100
69) Styrene	15.53	104	1269972	40.165	ng	100
70) o-Xylene	15.64	91	1507045	32.896	ng	100
71) n-Nonane	15.85	43	733919	30.104	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	695875	33.577	ng	100
74) Cumene	16.21	105	2014301	33.382	ng	100
75) alpha-Pinene	16.60	93	1020267	35.610	ng	100
76) n-Propylbenzene	16.70	91	2316063	32.862	ng	100
77) 3-Ethyltoluene	16.80	105	2031760	35.999	ng	100
78) 4-Ethyltoluene	16.84	105	1963312	35.908	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1671429	34.205	ng	100
80) alpha-Methylstyrene	17.06	118	976668	40.017	ng	100
81) 2-Ethyltoluene	17.10	105	1962484	34.827	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1706839	35.113	ng	100
83) n-Decane	17.41	57	830365	31.621	ng	100
84) Benzyl Chloride	17.43	91	1543228	38.472	ng	100
85) 1,3-Dichlorobenzene	17.46	146	1077338	38.446	ng	100
86) 1,4-Dichlorobenzene	17.52	146	1076925	36.433	ng	100
87) sec-Butylbenzene	17.57	105	2259849	35.775	ng	100
88) 4-Isopropyltoluene (p-...	17.72	119	2143604	34.899	ng	100
89) 1,2,3-Trimethylbenzene	17.72	105	1762676	34.880	ng	100
90) 1,2-Dichlorobenzene	17.84	146	1033265	37.879	ng	100
91) d-Limonene	17.86	68	638200	36.344	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.26	157	398058	40.732	ng	100
93) n-Undecane	18.61	57	865209	33.206	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	826295	39.963	ng	100
95) Naphthalene	19.57	128	2457869	36.804	ng	100
96) n-Dodecane	19.58	57	846373	35.161	ng	100
97) Hexachlorobutadiene	19.91	225	536463	39.916	ng	100
98) Cyclohexanone	15.32	55	571892	36.259	ng	100
99) tert-Butylbenzene	17.31	119	1748092	35.680	ng	100
100) n-Butylbenzene	18.12	91	1753319	35.998	ng	100

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291608.D
Acq On : 29 Mar 2016 10:48 Operator: WA
Sample : 25ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 11:15:31 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291609.D
Acq On : 29 Mar 2016 11:20 Operator: WA
Sample : 50ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:01:55 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WDA 3/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.82	130	156014	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.55	114	754999	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	311564	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.50	65	217135	11.035	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
57) Toluene-d8 (SS2)	12.78	98	736023	13.072	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
73) Bromofluorobenzene (SS3)	16.08	174	324614	13.226	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	3.88	42	657706	41.771	ng		100
3) Dichlorodifluoromethan...	3.99	85	1355655	47.857	ng		100
4) Chloromethane	4.20	50	920543	45.696	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	844128	53.847	ng		100
6) Vinyl Chloride	4.47	62	948639	43.726	ng		100
7) 1,3-Butadiene	4.65	54	744292	50.006	ng		100
8) Bromomethane	4.97	94	700001	56.329	ng		100
9) Chloroethane	5.17	64	580175	51.632	ng		99
10) Ethanol	5.42	45	2434783	231.234	ng		100
11) Acetonitrile	5.61	41	1300134	48.701	ng		100
12) Acrolein	5.73	56	464048	58.469	ng		92
13) Acetone	5.87	58	2671237	233.061	ng		98
14) Trichlorofluoromethane	6.02	101	1188189	49.096	ng		100
15) 2-Propanol (Isopropanol)	6.18	45	3590069	102.730	ng		99
16) Acrylonitrile	6.36	53	990087	58.715	ng		100
17) 1,1-Dichloroethene	6.67	96	770806	59.563	ng		99
18) 2-Methyl-2-Propanol (t...	6.77	59	3826636	102.993	ng		98
19) Methylene Chloride	6.82	84	774313	46.585	ng		100
20) 3-Chloro-1-propene (Al...	6.92	41	1059427	61.063	ng		99
21) Trichlorotrifluoroethane	7.07	151	735707	59.796	ng		100
22) Carbon Disulfide	7.06	76	2716979	44.257	ng		100
23) trans-1,2-Dichloroethene	7.71	61	1047008	55.900	ng		100
24) 1,1-Dichloroethane	7.90	63	1254595	51.373	ng		100
25) Methyl tert-Butyl Ether	7.95	73	2304954	54.069	ng		100
26) Vinyl Acetate	8.05	86	1070555	279.333	ng	#	89
27) 2-Butanone (MEK)	8.26	72	542037	64.225	ng		97
28) cis-1,2-Dichloroethene	8.67	61	987820	54.947	ng		100
29) Diisopropyl Ether	8.86	87	653272	53.612	ng	#	93
30) Ethyl Acetate	8.86	61	498414	110.072	ng		99
31) n-Hexane	8.87	57	971966	42.678	ng		100
32) Chloroform	8.94	83	1249888	54.576	ng		100
34) Tetrahydrofuran (THF)	9.27	72	501905	55.237	ng		99
35) Ethyl tert-Butyl Ether	9.34	87	1010872	56.949	ng		99
36) 1,2-Dichloroethane	9.60	62	874740	51.330	ng		99
38) 1,1,1-Trichloroethane	9.83	97	1108602	54.737	ng		99
39) Isopropyl Acetate	10.13	61	868531	107.559	ng		96
40) 1-Butanol	10.16	56	1679133	116.314	ng		99
41) Benzene	10.24	78	2866026	53.382	ng		100
42) Carbon Tetrachloride	10.38	117	987282	59.675	ng		100
43) Cyclohexane	10.50	84	2411861	103.828	ng		98
44) tert-Amyl Methyl Ether	10.76	73	2262026	55.548	ng		100
45) 1,2-Dichloropropane	10.97	63	698567	53.541	ng		99
46) Bromodichloromethane	11.14	83	1015138	60.527	ng		99
47) Trichloroethene	11.18	130	896887	58.339	ng		99
48) 1,4-Dioxane	11.15	88	666040	60.650	ng		99
49) 2,2,4-Trimethylpentane...	11.23	57	3109157	51.277	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291609.D
Acq On : 29 Mar 2016 11:20 Operator: WA
Sample : 50ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:01:55 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

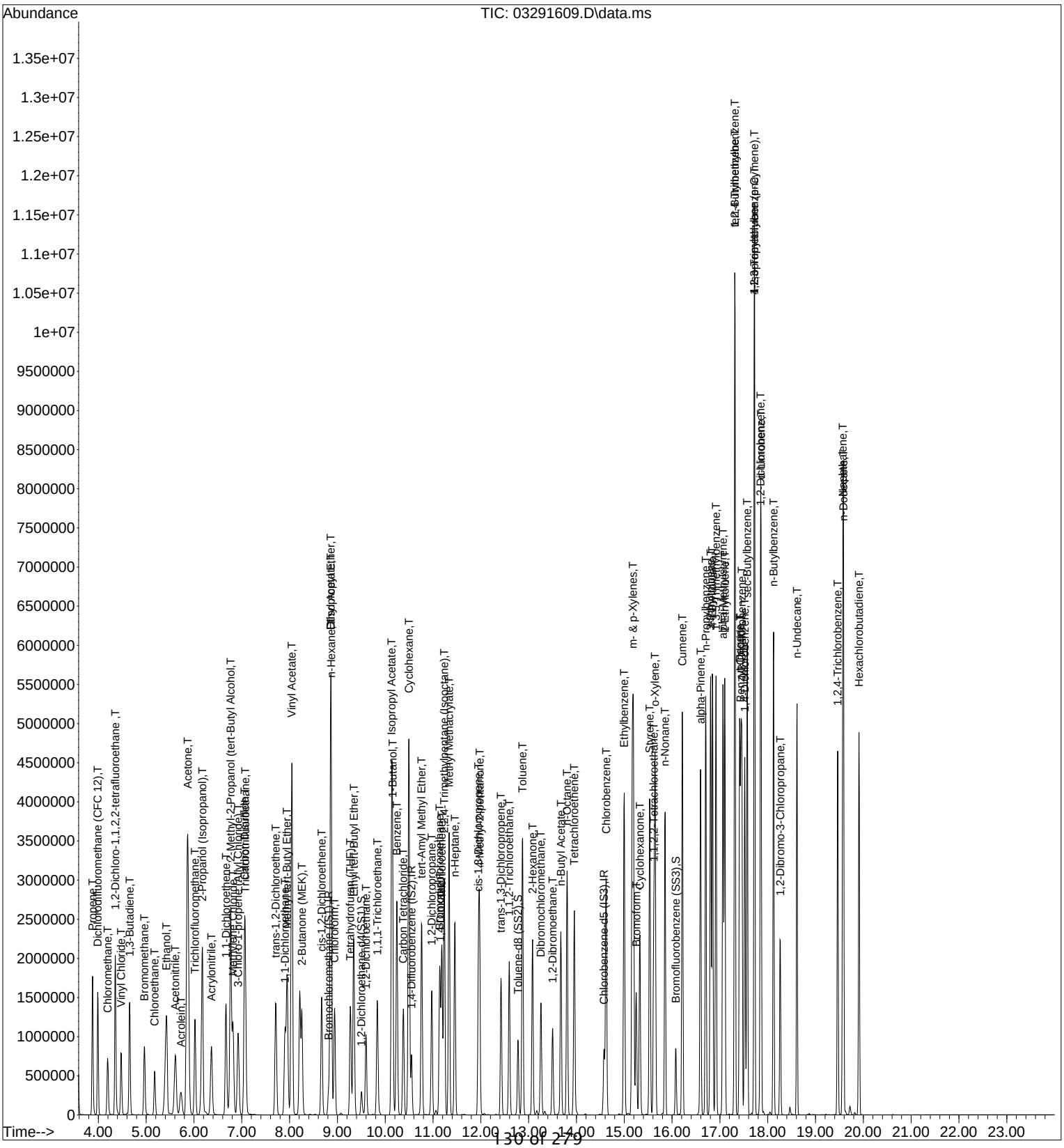
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	732701	124.661	ng	98
51) n-Heptane	11.46	71	726253	55.091	ng	99
52) cis-1,3-Dichloropropene	11.95	75	1292220	66.647	ng	100
53) 4-Methyl-2-pentanone	11.97	58	718647	61.378	ng	98
54) trans-1,3-Dichloropropene	12.42	75	1150717	60.182	ng	100
55) 1,1,2-Trichloroethane	12.59	97	767001	58.573	ng	100
58) Toluene	12.87	91	3140219	60.616	ng	99
59) 2-Hexanone	13.08	43	1642404	62.992	ng	99
60) Dibromochloromethane	13.26	129	968990	77.075	ng	99
61) 1,2-Dibromoethane	13.50	107	906037	70.916	ng	99
62) n-Butyl Acetate	13.67	43	1857802	64.184	ng	100
63) n-Octane	13.80	57	628496	57.399	ng	99
64) Tetrachloroethene	13.95	166	1038812	65.990	ng	100
65) Chlorobenzene	14.62	112	2224463	64.273	ng	100
66) Ethylbenzene	15.00	91	3658295	64.498	ng	100
67) m- & p-Xylenes	15.18	91	5674143	123.950	ng	100
68) Bromoform	15.25	173	950034	79.828	ng	99
69) Styrene	15.53	104	2508934	75.356	ng	100
70) o-Xylene	15.64	91	2951899	61.191	ng	99
71) n-Nonane	15.85	43	1398171	54.464	ng	98
72) 1,1,2,2-Tetrachloroethane	15.62	83	1366466	62.616	ng	99
74) Cumene	16.21	105	3921349	61.717	ng	99
75) alpha-Pinene	16.60	93	2005231	66.465	ng	99
76) n-Propylbenzene	16.70	91	4474804	60.298	ng	99
77) 3-Ethyltoluene	16.81	105	4104221	69.059	ng	99
78) 4-Ethyltoluene	16.84	105	3641521	63.250	ng	99
79) 1,3,5-Trimethylbenzene	16.92	105	3256767	63.294	ng	99
80) alpha-Methylstyrene	17.06	118	1915210	74.522	ng	99
81) 2-Ethyltoluene	17.10	105	3785261	63.795	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	3320485	64.871	ng	100
83) n-Decane	17.41	57	1575519	56.979	ng	99
84) Benzyl Chloride	17.43	91	3043633	72.059	ng	99
85) 1,3-Dichlorobenzene	17.46	146	2110625	71.529	ng	100
86) 1,4-Dichlorobenzene	17.52	146	2121764	68.169	ng	100
87) sec-Butylbenzene	17.57	105	4340228	65.251	ng	99
88) 4-Isopropyltoluene (p-...	17.72	119	4121734	63.727	ng	99
89) 1,2,3-Trimethylbenzene	17.72	105	3429024	64.439	ng	100
90) 1,2-Dichlorobenzene	17.85	146	2014836	70.146	ng	99
91) d-Limonene	17.86	68	1222316	66.106	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.26	157	785252	76.309	ng	99
93) n-Undecane	18.61	57	1642003	59.847	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	1629222	74.830	ng	100
95) Naphthalene	19.57	128	4744538	67.470	ng	99
96) n-Dodecane	19.59	57	1585261	62.544	ng	98
97) Hexachlorobutadiene	19.91	225	1062358	75.068	ng	100
98) Cyclohexanone	15.33	55	1117481	67.284	ng	99
99) tert-Butylbenzene	17.31	119	3400552	65.915	ng	99
100) n-Butylbenzene	18.12	91	3369881	65.706	ng	100

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291609.D
Acq On : 29 Mar 2016 11:20 Operator: WA
Sample : 50ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:01:55 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291610.D
Acq On : 29 Mar 2016 11:53 Operator: WA
Sample : 100ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:17:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016 3/29/16
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.83	130	160666	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.55	114	797499	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.58	82	324980	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.51	65	222578	10.984	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.84%				
57) Toluene-d8 (SS2)	12.78	98	765447	13.033	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
73) Bromofluorobenzene (SS3)	16.08	174	335400	13.101	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
Target Compounds							Qvalue
2) Propene	3.88	42	1494484	92.168	ng		99
3) Dichlorodifluoromethan...	3.99	85	2638717	90.454	ng		99
4) Chloromethane	4.20	50	1510976	72.833	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	1689853	104.674	ng		99
6) Vinyl Chloride	4.49	62	1962234	87.826	ng		100
7) 1,3-Butadiene	4.66	54	1531954	99.947	ng		99
8) Bromomethane	4.97	94	1396392	109.114	ng		100
9) Chloroethane	5.19	64	1144556	98.908	ng		99
10) Ethanol	5.45	45	4628788	426.872	ng		100
11) Acetonitrile	5.63	41	2591656	94.269	ng		100
12) Acrolein	5.74	56	921443	112.738	ng		92
13) Acetone	5.88	58	4959398	420.171	ng		94
14) Trichlorofluoromethane	6.02	101	2371029	95.134	ng		100
15) 2-Propanol (Isopropanol)	6.20	45	6021017	167.303	ng		99
16) Acrylonitrile	6.39	53	1969625	113.422	ng		100
17) 1,1-Dichloroethene	6.68	96	1530547	114.847	ng		97
18) 2-Methyl-2-Propanol (t...	6.79	59	6776490	177.106	ng		99
19) Methylene Chloride	6.83	84	1520306	88.819	ng		98
20) 3-Chloro-1-propene (Al...	6.93	41	2082068	116.532	ng		99
21) Trichlorotrifluoroethane	7.08	151	1471637	116.147	ng		99
22) Carbon Disulfide	7.06	76	5270224	83.361	ng		99
23) trans-1,2-Dichloroethene	7.72	61	2065710	107.095	ng		99
24) 1,1-Dichloroethane	7.91	63	2482480	98.708	ng		100
25) Methyl tert-Butyl Ether	7.96	73	4509000	102.708	ng		100
26) Vinyl Acetate	8.06	86	2138298	541.777	ng	#	70
27) 2-Butanone (MEK)	8.27	72	1082964	124.604	ng		93
28) cis-1,2-Dichloroethene	8.68	61	1935135	104.523	ng		98
29) Diisopropyl Ether	8.87	87	1287372	102.591	ng	#	77
30) Ethyl Acetate	8.88	61	948626	203.432	ng		97
31) n-Hexane	8.88	57	1900109	81.016	ng		99
32) Chloroform	8.96	83	2473708	104.886	ng		100
34) Tetrahydrofuran (THF)	9.28	72	1013524	108.312	ng		97
35) Ethyl tert-Butyl Ether	9.35	87	1998848	109.348	ng		97
36) 1,2-Dichloroethane	9.61	62	1725294	98.310	ng		100
38) 1,1,1-Trichloroethane	9.84	97	2215287	103.550	ng		100
39) Isopropyl Acetate	10.15	61	1686118	197.682	ng	#	89
40) 1-Butanol	10.18	56	3230357	211.843	ng		99
41) Benzene	10.25	78	5731529	101.066	ng		99
42) Carbon Tetrachloride	10.39	117	1971023	112.787	ng		100
43) Cyclohexane	10.50	84	4692789	191.254	ng		96
44) tert-Amyl Methyl Ether	10.77	73	4431895	103.033	ng		99
45) 1,2-Dichloropropane	10.98	63	1405057	101.951	ng		99
46) Bromodichloromethane	11.14	83	2020636	114.059	ng		99
47) Trichloroethene	11.19	130	1820925	112.131	ng		99
48) 1,4-Dioxane	11.16	88	1319397	113.742	ng		98
49) 2,2,4-Trimethylpentane...	11.24	57	5893063	92.011	ng		99

Data File: I:\MS08\Data\2016 03\29\03291610.D
Acq On : 29 Mar 2016 11:53 Operator: WA
Sample : 100ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:17:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

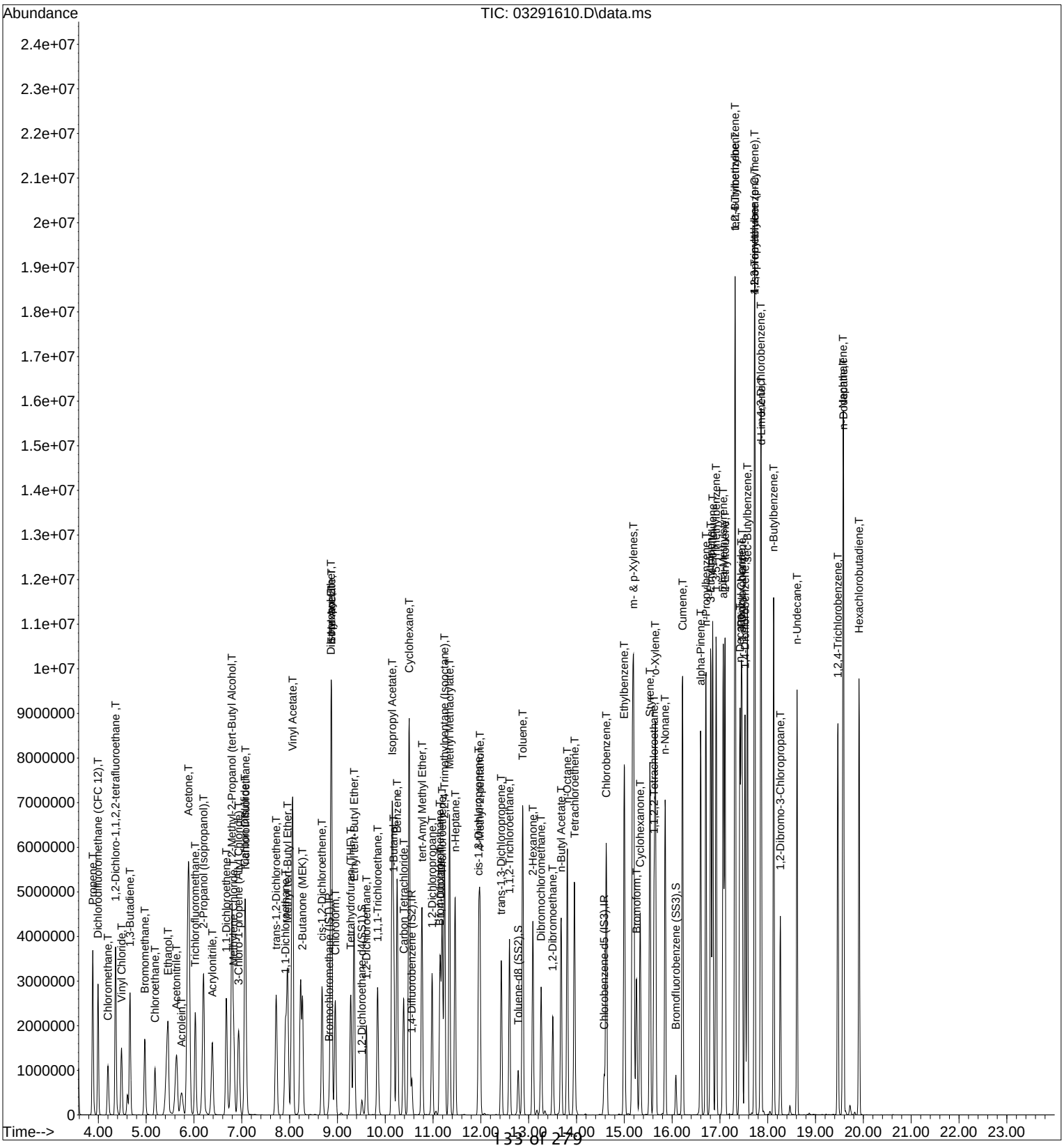
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.35	100	1480311	238.436	ng	94
51) n-Heptane	11.46	71	1477292	106.091	ng	99
52) cis-1,3-Dichloropropene	11.95	75	2558067	124.903	ng	99
53) 4-Methyl-2-pentanone	11.98	58	1393630	112.684	ng	96
54) trans-1,3-Dichloropropene	12.43	75	2292379	113.501	ng	100
55) 1,1,2-Trichloroethane	12.60	97	1534238	110.920	ng	99
58) Toluene	12.87	91	6184831	114.458	ng	98
59) 2-Hexanone	13.09	43	3154766	116.001	ng	98
60) Dibromochloromethane	13.26	129	1945484	148.359	ng	99
61) 1,2-Dibromoethane	13.50	107	1810424	135.852	ng	99
62) n-Butyl Acetate	13.68	43	3537913	117.184	ng	98
63) n-Octane	13.81	57	1235704	108.195	ng	97
64) Tetrachloroethene	13.96	166	2104740	128.183	ng	99
65) Chlorobenzene	14.62	112	4416434	122.340	ng	99
66) Ethylbenzene	15.00	91	7129204	120.503	ng	98
67) m- & p-Xylenes	15.19	91	10993961	230.246	ng	99
68) Bromoform	15.26	173	1916548	154.393	ng	99
69) Styrene	15.54	104	4900839	141.121	ng	99
70) o-Xylene	15.65	91	5733630	113.949	ng	98
71) n-Nonane	15.85	43	2580580	96.373	ng	95
72) 1,1,2,2-Tetrachloroethane	15.62	83	2657710	116.758	ng	99
74) Cumene	16.22	105	7499793	113.164	ng	98
75) alpha-Pinene	16.60	93	3879923	123.295	ng	99
76) n-Propylbenzene	16.71	91	8453456	109.207	ng	97
77) 3-Ethyltoluene	16.81	105	7474758	120.580	ng	98
78) 4-Ethyltoluene	16.85	105	7291914	121.426	ng	97
79) 1,3,5-Trimethylbenzene	16.92	105	6268038	116.789	ng	98
80) alpha-Methylstyrene	17.07	118	3758168	140.197	ng	98
81) 2-Ethyltoluene	17.11	105	7210686	116.508	ng	98
82) 1,2,4-Trimethylbenzene	17.32	105	6219768	116.497	ng	99
83) n-Decane	17.42	57	2894471	100.357	ng	96
84) Benzyl Chloride	17.45	91	5806463	131.795	ng	96
85) 1,3-Dichlorobenzene	17.46	146	4140700	134.535	ng	100
86) 1,4-Dichlorobenzene	17.53	146	4138886	127.487	ng	99
87) sec-Butylbenzene	17.57	105	8137169	117.284	ng	97
88) 4-Isopropyltoluene (p-...	17.73	119	7446973	110.386	ng	96
89) 1,2,3-Trimethylbenzene	17.73	105	6383351	115.006	ng	100
90) 1,2-Dichlorobenzene	17.85	146	3924783	131.000	ng	100
91) d-Limonene	17.87	68	2228057	115.524	ng	94
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1552524	144.642	ng	98
93) n-Undecane	18.61	57	2993202	104.591	ng	96
94) 1,2,4-Trichlorobenzene	19.47	180	3211124	141.398	ng	100
95) Naphthalene	19.58	128	8884449	121.127	ng	98
96) n-Dodecane	19.59	57	2772614	104.873	ng	93
97) Hexachlorobutadiene	19.91	225	2124834	143.946	ng	100
98) Cyclohexanone	15.33	55	2166542	125.064	ng	98
99) tert-Butylbenzene	17.32	119	6343763	117.889	ng	98
100) n-Butylbenzene	18.12	91	6280468	117.401	ng	98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291610.D
Acq On : 29 Mar 2016 11:53 Operator: WA
Sample : 100ng TO-15 ICAL Std
Misc : S29-03281601/S29-03251602 (4/23)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 12:17:27 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 11:14:55 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291611.D
Acq On : 29 Mar 2016 12:25 Operator: WA
Sample : 25ng TO-15 ICV Std
Misc : S29-03281601/S29-03101601 (4/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 13:08:32 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	163028	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	787533	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	328119	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.49	65	224255	12.311	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%			
57) Toluene-d8 (SS2)	12.78	98	765656	12.073	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%			
73) Bromofluorobenzene (SS3)	16.08	174	344659	12.747	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
Target Compounds						Qvalue
2) Propene	3.88	42	315438	21.667	ng	100
3) Dichlorodifluoromethan...	3.99	85	611149	21.008	ng	100
4) Chloromethane	4.19	50	469043	26.920	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	396372	23.901	ng	99
6) Vinyl Chloride	4.47	62	481810	27.891	ng	100
7) 1,3-Butadiene	4.65	54	366558	29.173	ng	100
8) Bromomethane	4.96	94	335908	25.513	ng	99
9) Chloroethane	5.17	64	277994	24.191	ng	100
10) Ethanol	5.40	45	1234902	113.691	ng	100
11) Acetonitrile	5.59	41	626349	23.319	ng	100
12) Acrolein	5.71	56	212185	24.773	ng	100
13) Acetone	5.85	58	1352923	113.102	ng	98
14) Trichlorofluoromethane	6.01	101	552511	21.577	ng	100
15) 2-Propanol (Isopropanol)	6.15	45	1794492	50.120	ng	98
16) Acrylonitrile	6.35	53	478058	26.697	ng	100
17) 1,1-Dichloroethene	6.66	96	370864	26.286	ng	100
18) 2-Methyl-2-Propanol (t...	6.75	59	1897279	51.325	ng	98
19) Methylene Chloride	6.80	84	379154	23.466	ng	100
20) 3-Chloro-1-propene (Al...	6.91	41	504481	29.442	ng	100
21) Trichlorotrifluoroethane	7.07	151	354395	24.944	ng	99
22) Carbon Disulfide	7.05	76	1236584	19.874	ng	100
23) trans-1,2-Dichloroethene	7.70	61	493506	26.446	ng	100
24) 1,1-Dichloroethane	7.90	63	609071	24.202	ng	100
25) Methyl tert-Butyl Ether	7.94	73	1130260	24.741	ng	100
26) Vinyl Acetate	8.04	86	518309	139.372	ng	99
27) 2-Butanone (MEK)	8.25	72	260791	21.495	ng	98
28) cis-1,2-Dichloroethene	8.66	61	479644	26.559	ng	99
29) Diisopropyl Ether	8.85	87	318960	24.751	ng	99
30) Ethyl Acetate	8.85	61	246080	53.075	ng	99
31) n-Hexane	8.87	57	491042	20.670	ng	99
32) Chloroform	8.93	83	607510	25.030	ng	100
34) Tetrahydrofuran (THF)	9.26	72	256654	26.855	ng	100
35) Ethyl tert-Butyl Ether	9.34	87	491681	25.587	ng	100
36) 1,2-Dichloroethane	9.59	62	419265	24.590	ng	99
38) 1,1,1-Trichloroethane	9.83	97	536378	25.199	ng	100
39) Isopropyl Acetate	10.13	61	430220	54.238	ng	97
40) 1-Butanol	10.14	56	806108	60.012	ng	99
41) Benzene	10.24	78	1402415	24.548	ng	100
42) Carbon Tetrachloride	10.37	117	476197	26.965	ng	100
43) Cyclohexane	10.49	84	1187357	47.688	ng	99
44) tert-Amyl Methyl Ether	10.76	73	1112691	25.711	ng	100
45) 1,2-Dichloropropane	10.97	63	344531	25.214	ng	99
46) Bromodichloromethane	11.13	83	483022	27.418	ng	100
47) Trichloroethene	11.18	130	426800	24.281	ng	100
48) 1,4-Dioxane	11.15	88	328870	28.740	ng	100
49) 2,2,4-Trimethylpentane...	11.23	57	1558884	24.407	ng	99

Data File: I:\MS08\Data\2016 03\29\03291611.D
Acq On : 29 Mar 2016 12:25 Operator: WA
Sample : 25ng TO-15 ICV Std
Misc : S29-03281601/S29-03101601 (4/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 13:08:32 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

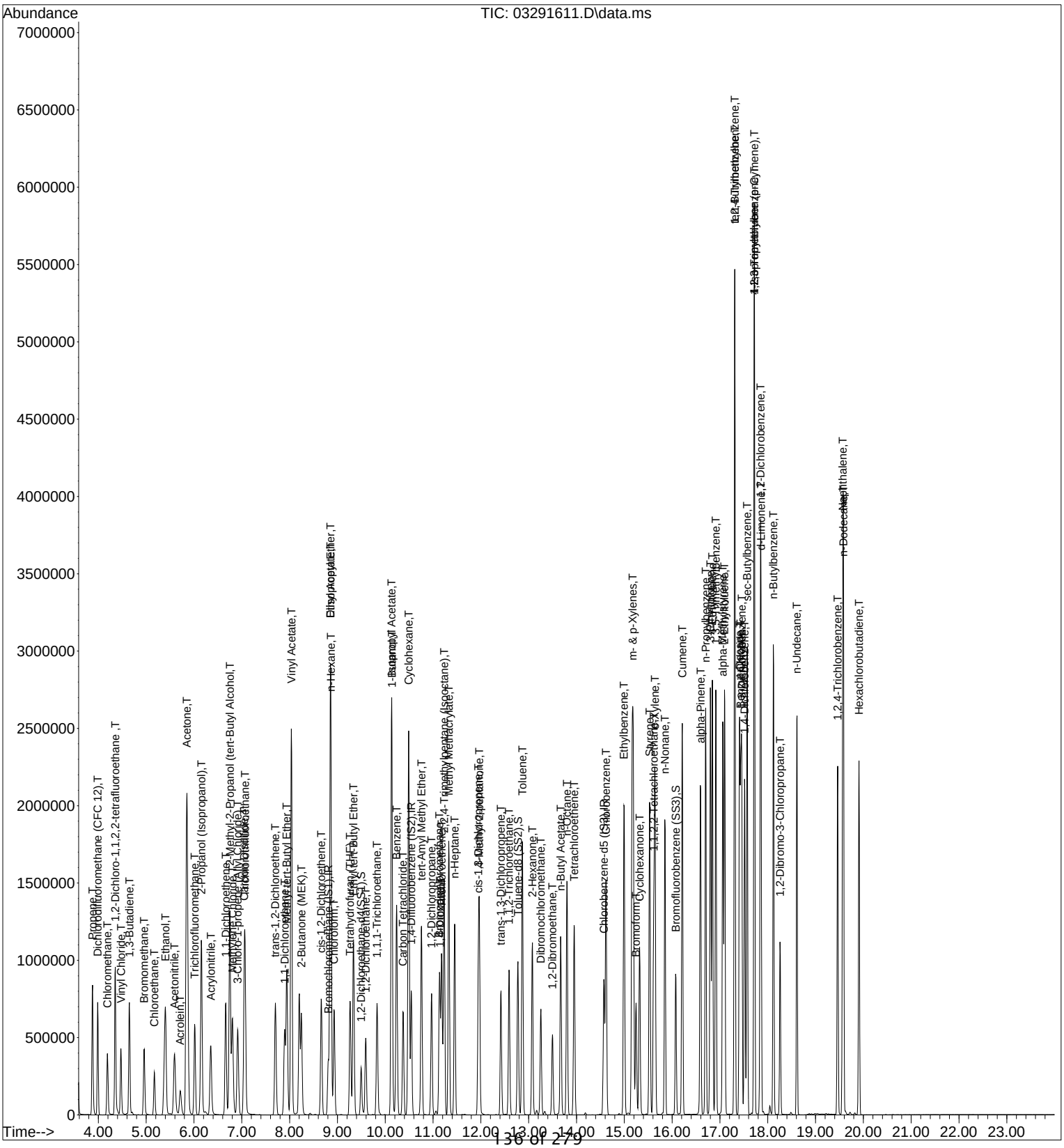
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	350272	51.062	ng	100
51) n-Heptane	11.45	71	350831	24.095	ng	100
52) cis-1,3-Dichloropropene	11.95	75	568444	26.421	ng	100
53) 4-Methyl-2-pentanone	11.97	58	352104	27.699	ng	99
54) trans-1,3-Dichloropropene	12.42	75	531703	27.713	ng	100
55) 1,1,2-Trichloroethane	12.59	97	374354	26.329	ng	100
58) Toluene	12.87	91	1547381	20.397	ng	100
59) 2-Hexanone	13.08	43	807852	27.109	ng	100
60) Dibromochloromethane	13.25	129	455900	28.626	ng	100
61) 1,2-Dibromoethane	13.50	107	434553	26.900	ng	100
62) n-Butyl Acetate	13.67	43	917160	29.353	ng	100
63) n-Octane	13.80	57	306531	23.728	ng	100
64) Tetrachloroethene	13.95	166	495549	22.713	ng	99
65) Chlorobenzene	14.62	112	1090665	24.746	ng	100
66) Ethylbenzene	14.99	91	1817804	25.108	ng	100
67) m- & p-Xylenes	15.18	91	2815990	48.874	ng	100
68) Bromoform	15.25	173	429716	28.785	ng	99
69) Styrene	15.53	104	1220266	27.985	ng	100
70) o-Xylene	15.64	91	1459059	24.094	ng	100
71) n-Nonane	15.85	43	704019	23.754	ng	99
72) 1,1,2,2-Tetrachloroethane	15.62	83	673292	25.289	ng	100
74) Cumene	16.21	105	1929818	23.687	ng	100
75) alpha-Pinene	16.60	93	981029	24.947	ng	100
76) n-Propylbenzene	16.70	91	2220346	23.705	ng	100
77) 3-Ethyltoluene	16.80	105	1936486	24.383	ng	100
78) 4-Ethyltoluene	16.84	105	1881110	24.969	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1609049	24.459	ng	100
80) alpha-Methylstyrene	17.06	118	895626	26.011	ng	100
81) 2-Ethyltoluene	17.10	105	1873303	24.318	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1649983	25.302	ng	100
83) n-Decane	17.41	57	800940	24.081	ng	99
84) Benzyl Chloride	17.43	91	1467525	31.220	ng	100
85) 1,3-Dichlorobenzene	17.46	146	1044164	26.148	ng	100
86) 1,4-Dichlorobenzene	17.52	146	1029729	24.440	ng	99
87) sec-Butylbenzene	17.57	105	2146677	24.881	ng	100
88) 4-Isopropyltoluene (p-...	17.72	119	2070533	24.447	ng	100
89) 1,2,3-Trimethylbenzene	17.72	105	1704575	25.319	ng	100
90) 1,2-Dichlorobenzene	17.85	146	988208	25.597	ng	100
91) d-Limonene	17.86	68	595223	25.992	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	378499	28.270	ng	100
93) n-Undecane	18.61	57	828218	24.265	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	786081	25.565	ng	100
95) Naphthalene	19.57	128	2298595	24.490	ng	100
96) n-Dodecane	19.59	57	819945	25.840	ng	100
97) Hexachlorobutadiene	19.91	225	501834	24.554	ng	100
98) Cyclohexanone	15.32	55	531882	27.215	ng	99
99) tert-Butylbenzene	17.31	119	1662675	24.737	ng	100
100) n-Butylbenzene	18.12	91	1670378	25.752	ng	100

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 03\29\03291611.D
Acq On : 29 Mar 2016 12:25 Operator: WA
Sample : 25ng TO-15 ICV Std
Misc : S29-03281601/S29-03101601 (4/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 13:08:32 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



INITIAL CALIBRATION VERIFICATION CHECK SHEET

WA 3/29/16

Data File Name: **03291611.D** Acq. Method File: **TO15.M**

Data File Path: **I:\MS08\Data\2016_03\29** Sample Name: **25ng TO-15 ICV Std**

Operator: **WA** Misc Info: **S29-03281601/S29-03101601 (**

Date Acquired: **3/29/2016 12:25** Instrument Name: **Instrument #MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
2)	**Propene**	**3.88**	**21.7**	**24.50**	89	**70**	**130**	*
3)	**Dichlorodifluoromethane (CFC 12**	**3.99**	**21.0**	**23.50**	89	**70**	**130**	*
4)	**Chloromethane**	**4.19**	**26.9**	**25.00**	108	**70**	**130**	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.35**	**23.9**	**25.50**	94	**70**	**130**	*
6)	**Vinyl Chloride**	**4.47**	**27.9**	**25.00**	112	**70**	**130**	*
7)	**1,3-Butadiene**	**4.65**	**29.2**	**25.75**	113	**70**	**130**	*
8)	**Bromomethane**	**4.96**	**25.5**	**25.25**	101	**70**	**130**	*
9)	**Chloroethane**	**5.17**	**24.2**	**25.00**	97	**70**	**130**	*
10)	**Ethanol**	**5.40**	**114**	**124.75**	91	**70**	**130**	*
11)	**Acetonitrile**	**5.59**	**23.3**	**26.50**	88	**70**	**130**	*
12)	**Acrolein**	**5.71**	**24.8**	**26.75**	93	**70**	**130**	*
13)	**Acetone**	**5.85**	**113**	**134.75**	84	**70**	**130**	*
14)	**Trichlorofluoromethane**	**6.01**	**21.6**	**27.00**	80	**70**	**130**	*
15)	**2-Propanol (Isopropanol)**	**6.15**	**50.1**	**52.25**	96	**70**	**130**	*
16)	**Acrylonitrile**	**6.35**	**26.7**	**26.50**	101	**70**	**130**	*
17)	**1,1-Dichloroethene**	**6.66**	**26.3**	**27.00**	97	**70**	**130**	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.75	51.3	50.00	103	**70**	**130**	*
19)	**Methylene Chloride**	**6.80**	**23.5**	**27.75**	85	**70**	**130**	*
20)	**3-Chloro-1-propene (Allyl Chlorid**	**6.91**	**29.4**	**27.25**	108	**70**	**130**	*
21)	**Trichlorotrifluoroethane**	**7.07**	**24.9**	**27.50**	91	**70**	**130**	*
22)	**Carbon Disulfide**	**7.05**	**19.9**	**26.25**	76	**70**	**130**	*
23)	**trans-1,2-Dichloroethene**	**7.70**	**26.4**	**26.25**	101	**70**	**130**	*
24)	**1,1-Dichloroethane**	**7.90**	**24.2**	**26.50**	91	**70**	**130**	*
25)	**Methyl tert-Butyl Ether**	**7.94**	**24.7**	**27.00**	91	**70**	**130**	*
26)	**Vinyl Acetate**	**8.04**	**139**	**129.75**	107	**70**	**130**	*
27)	**2-Butanone (MEK)**	**8.25**	**21.5**	**27.50**	78	**70**	**130**	*
28)	**cis-1,2-Dichloroethene**	**8.66**	**26.6**	**27.25**	98	**70**	**130**	*
29)	Diisopropyl Ether	8.85	24.8	27.00	92	**70**	**130**	*
30)	**Ethyl Acetate**	**8.85**	**53.1**	**53.50**	99	**70**	**130**	*
31)	**n-Hexane**	**8.87**	**20.7**	**26.50**	78	**70**	**130**	*
32)	**Chloroform**	**8.93**	**25.0**	**28.00**	89	**70**	**130**	*
34)	**Tetrahydrofuran (THF)**	**9.26**	**26.9**	**27.50**	98	**70**	**130**	*
35)	Ethyl tert-Butyl Ether	9.34	25.6	26.75	96	**70**	**130**	*
36)	**1,2-Dichloroethane**	**9.59**	**24.6**	**26.75**	92	**70**	**130**	*
38)	**1,1,1-Trichloroethane**	**9.83**	**25.2**	**26.25**	96	**70**	**130**	*
39)	Isopropyl Acetate	10.13	54.2	57.25	95	**70**	**130**	*
40)	1-Butanol	10.14	60.0	51.25	117	**70**	**130**	*
41)	**Benzene**	**10.24**	**24.5**	**28.25**	87	**70**	**130**	*
42)	**Carbon Tetrachloride**	**10.37**	**27.0**	**28.75**	94	**70**	**130**	*
43)	**Cyclohexane**	**10.49**	**47.7**	**53.00**	90	**70**	**130**	*
44)	tert-Amyl Methyl Ether	10.76	25.7	26.75	96	**70**	**130**	*
45)	**1,2-Dichloropropane**	**10.97**	**25.2**	**27.00**	93	**70**	**130**	*
46)	**Bromodichloromethane**	**11.13**	**27.4**	**27.25**	101	**70**	**130**	*
47)	**Trichloroethene**	**11.18**	**24.3**	**27.00**	90	**70**	**130**	*
48)	**1,4-Dioxane**	**11.15**	**28.7**	**26.25**	109	**70**	**130**	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.23	24.4	26.75	91	**70**	**130**	*

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **03291611.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS08\Data\2016_03\29** Sample Name: **25ng TO-15 ICV Std**
Operator: **WA** Misc Info: **S29-03281601/S29-03101601 (**
Date Acquired: **3/29/2016 12:25** Instrument Name: **Instrument #MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
50)	**Methyl Methacrylate**	**11.33**	**51.1**	**52.75**	97	**70**	**130**	*
51)	**n-Heptane**	**11.45**	**24.1**	**27.00**	89	**70**	**130**	*
52)	**cis-1,3-Dichloropropene**	**11.95**	**26.4**	**26.00**	102	**70**	**130**	*
53)	**4-Methyl-2-pentanone**	**11.97**	**27.7**	**27.50**	101	**70**	**130**	*
54)	**trans-1,3-Dichloropropene**	**12.42**	**27.7**	**26.25**	106	**70**	**130**	*
55)	**1,1,2-Trichloroethane**	**12.59**	**26.3**	**27.00**	97	**70**	**130**	*
58)	**Toluene**	**12.87**	**20.4**	**27.25**	75	**70**	**130**	*
59)	**2-Hexanone**	**13.08**	**27.1**	**27.50**	99	**70**	**130**	*
60)	**Dibromochloromethane**	**13.25**	**28.6**	**27.50**	104	**70**	**130**	*
61)	**1,2-Dibromoethane**	**13.50**	**26.9**	**27.25**	99	**70**	**130**	*
62)	**n-Butyl Acetate**	**13.67**	**29.4**	**28.25**	104	**70**	**130**	*
63)	**n-Octane**	**13.80**	**23.7**	**26.25**	90	**70**	**130**	*
64)	**Tetrachloroethene**	**13.95**	**22.7**	**25.25**	90	**70**	**130**	*
65)	**Chlorobenzene**	**14.62**	**24.7**	**27.50**	90	**70**	**130**	*
66)	**Ethylbenzene**	**14.99**	**25.1**	**27.25**	92	**70**	**130**	*
67)	**m- & p-Xylenes**	**15.18**	**48.9**	**53.50**	91	**70**	**130**	*
68)	**Bromoform**	**15.25**	**28.8**	**28.50**	101	**70**	**130**	*
69)	**Styrene**	**15.53**	**28.0**	**27.75**	101	**70**	**130**	*
70)	**o-Xylene**	**15.64**	**24.1**	**26.25**	92	**70**	**130**	*
71)	**n-Nonane**	**15.85**	**23.8**	**25.50**	93	**70**	**130**	*
72)	**1,1,2,2-Tetrachloroethane**	**15.62**	**25.3**	**26.25**	96	**70**	**130**	*
74)	**Cumene**	**16.21**	**23.7**	**26.00**	91	**70**	**130**	*
75)	**alpha-Pinene**	**16.60**	**24.9**	**26.50**	94	**70**	**130**	*
76)	**n-Propylbenzene**	**16.70**	**23.7**	**25.50**	93	**70**	**130**	*
77)	3-Ethyltoluene	16.80	24.4	26.75	91	**70**	**130**	*
78)	**4-Ethyltoluene**	**16.84**	**25.0**	**26.75**	**93**	**70**	**130**	*
79)	**1,3,5-Trimethylbenzene**	**16.91**	**24.5**	**26.75**	**92**	**70**	**130**	*
80)	alpha-Methylstyrene	17.06	26.0	26.25	**99**	**70**	**130**	*
81)	2-Ethyltoluene	17.10	24.3	26.75	**91**	**70**	**130**	*
82)	**1,2,4-Trimethylbenzene**	**17.31**	**25.3**	**27.25**	**93**	**70**	**130**	*
83)	n-Decane	17.41	24.1	26.25	**92**	**70**	**130**	*
84)	**Benzyl Chloride**	**17.43**	**31.2**	**27.50**	**113**	**70**	**130**	*
85)	**1,3-Dichlorobenzene**	**17.46**	**26.1**	**28.50**	**92**	**70**	**130**	*
86)	**1,4-Dichlorobenzene**	**17.52**	**24.4**	**26.00**	**94**	**70**	**130**	*
87)	sec-Butylbenzene	17.57	24.9	27.25	**91**	**70**	**130**	*
88)	4-Isopropyltoluene (p-Cymene)	17.72	24.4	26.00	**94**	**70**	**130**	*
89)	1,2,3-Trimethylbenzene	17.72	25.3	26.50	**95**	**70**	**130**	*
90)	**1,2-Dichlorobenzene**	**17.85**	**25.6**	**27.50**	**93**	**70**	**130**	*
91)	**d-Limonene**	**17.86**	**26.0**	**26.25**	**99**	**70**	**130**	*
92)	**1,2-Dibromo-3-Chloropropane**	**18.26**	**28.3**	**27.25**	**104**	**70**	**130**	*
93)	n-Undecane	18.61	24.3	25.25	**96**	**70**	**130**	*
94)	**1,2,4-Trichlorobenzene**	**19.46**	**25.6**	**28.75**	**89**	**70**	**130**	*
95)	**Naphthalene**	**19.57**	**24.5**	**27.25**	**90**	**70**	**130**	*
96)	n-Dodecane	19.59	25.8	27.25	**95**	**70**	**130**	*
97)	**Hexachlorobutadiene**	**19.91**	**24.6**	**28.75**	**86**	**70**	**130**	*
98)	Cyclohexanone	15.32	27.2	27.50	99	**70**	**130**	*
99)	tert-Butylbenzene	17.31	24.7	26.75	92	**70**	**130**	*
100)	n-Butylbenzene	18.12	25.8	28.00	92	**70**	**130**	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2016 04\29\04291627.D
Acq On : 29 Apr 2016 22:07 Operator: WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:09:58 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WH 5/3/16

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 (IS1)	1.000	1.000	0.0	83	-0.02
2	T	Propene	1.116	0.954	14.5	72	0.00
3	T	Dichlorodifluoromethane (CF	2.231	2.057	7.8	73	0.00
4	T	Chloromethane	1.336	1.430	-7.0	72	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.272	1.239	2.6	77	-0.01
6	T	Vinyl Chloride	1.325	1.487	-12.2	79	-0.02
7	T	1,3-Butadiene	0.963	1.147	-19.1	84	-0.01
8	T	Bromomethane	1.009	1.036	-2.7	72	-0.01
9	T	Chloroethane	0.881	0.879	0.2	74	-0.02
10	T	Ethanol	0.833	0.780	6.4	77	-0.06
11	T	Acetonitrile	2.059	1.979	3.9	76	-0.04
12	T	Acrolein	0.657	0.634	3.5	70	-0.03
13	T	Acetone	0.917	0.788	14.1	75	-0.04
14	T	Trichlorofluoromethane	1.963	1.820	7.3	74	-0.01
15	T	2-Propanol (Isopropanol)	2.745	2.666	2.9	74	-0.05
16	T	Acrylonitrile	1.373	1.460	-6.3	75	-0.04
17	T	1,1-Dichloroethene	1.082	1.083	-0.1	74	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.834	2.771	2.2	72	-0.05
19	T	Methylene Chloride	1.239	1.084	12.5	73	-0.03
20	T	3-Chloro-1-propene (Allyl C	1.314	1.484	-12.9	75	-0.02
21	T	Trichlorotrifluoroethane	1.089	1.040	4.5	74	-0.01
22	T	Carbon Disulfide	4.771	4.229	11.4	74	-0.02
23	T	trans-1,2-Dichloroethene	1.431	1.509	-5.5	75	-0.02
24	T	1,1-Dichloroethane	1.930	1.841	4.6	75	-0.02
25	T	Methyl tert-Butyl Ether	3.503	3.411	2.6	75	-0.02
26	T	Vinyl Acetate	0.285	0.276	3.2	65	-0.03
27	T	2-Butanone (MEK)	0.930	0.749	19.5	74	-0.03
28	T	cis-1,2-Dichloroethene	1.385	1.397	-0.9	74	-0.02
29	T	Diisopropyl Ether	0.988	0.944	4.5	76	-0.01
30	T	Ethyl Acetate	0.355	0.359	-1.1	74	-0.03
31	T	n-Hexane	1.821	1.495	17.9	78	-0.01
32	T	Chloroform	1.861	1.747	6.1	73	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.397	1.400	-0.2	83	-0.02
34	T	Tetrahydrofuran (THF)	0.733	0.741	-1.1	74	-0.02
35	T	Ethyl tert-Butyl Ether	1.473	1.467	0.4	74	-0.02
36	T	1,2-Dichloroethane	1.307	1.252	4.2	75	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	81	-0.01
38	T	1,1,1-Trichloroethane	0.338	0.340	-0.6	74	-0.01
39	T	Isopropyl Acetate	0.126	0.126	0.0	75	-0.02
40	T	1-Butanol	0.213	0.229	-7.5	71	-0.04
41	T	Benzene	0.907	0.805	11.2	74	-0.01
42	T	Carbon Tetrachloride	0.280	0.289	-3.2	75	-0.02
43	T	Cyclohexane	0.395	0.375	5.1	76	-0.01
44	T	tert-Amyl Methyl Ether	0.687	0.696	-1.3	74	-0.01
45	T	1,2-Dichloropropane	0.217	0.209	3.7	74	-0.01
46	T	Bromodichloromethane	0.280	0.294	-5.0	73	-0.01
47	T	Trichloroethene	0.279	0.265	5.0	73	-0.01
48	T	1,4-Dioxane	0.182	0.192	-5.5	73	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.014	0.982	3.2	75	0.00
50	T	Methyl Methacrylate	0.109	0.107	1.8	73	-0.02
51	T	n-Heptane	0.231	0.212	8.2	75	-0.01
52	T	cis-1,3-Dichloropropene	0.341	0.355	-4.1	73	0.00
53	T	4-Methyl-2-pentanone	0.202	0.208	-3.0	72	-0.01
54	T	trans-1,3-Dichloropropene	0.305	0.326	-6.9	72	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2016 04\29\04291627.D
Acq On : 29 Apr 2016 22:07 Operator: WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:09:58 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	1,1,2-Trichloroethane	0.226	0.227	-0.4	73	-0.01
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	86	0.00
57	S	Toluene-d8 (SS2)	2.416	2.290	5.2	83	-0.01
58	T	Toluene	2.890	2.168	25.0	73	0.00
59	T	2-Hexanone	1.135	1.053	7.2	71	-0.01
60	T	Dibromochloromethane	0.607	0.628	-3.5	72	0.00
61	T	1,2-Dibromoethane	0.615	0.592	3.7	71	0.00
62	T	n-Butyl Acetate	1.190	1.166	2.0	70	-0.01
63	T	n-Octane	0.492	0.449	8.7	74	-0.01
64	T	Tetrachloroethene	0.831	0.739	11.1	72	0.00
65	T	Chlorobenzene	1.679	1.495	11.0	72	0.00
66	T	Ethylbenzene	2.758	2.550	7.5	73	0.00
67	T	m- & p-Xylenes	2.195	1.999	8.9	73	-0.02
68	T	Bromoform	0.569	0.614	-7.9	71	-0.01
69	T	Styrene	1.661	1.627	2.0	70	0.00
70	T	o-Xylene	2.307	2.127	7.8	73	0.00
71	T	n-Nonane	1.129	1.051	6.9	74	0.00
72	T	1,1,2,2-Tetrachloroethane	1.014	0.997	1.7	73	-0.01
73	S	Bromofluorobenzene (SS3)	1.030	1.095	-6.3	90	0.00
74	T	Cumene	3.104	2.856	8.0	73	0.00
75	T	alpha-Pinene	1.498	1.413	5.7	73	0.00
76	T	n-Propylbenzene	3.568	3.300	7.5	73	0.00
77	T	3-Ethyltoluene	3.026	2.807	7.2	73	0.00
78	T	4-Ethyltoluene	2.870	2.635	8.2	72	0.00
79	T	1,3,5-Trimethylbenzene	2.506	2.287	8.7	72	0.00
80	T	alpha-Methylstyrene	1.312	1.318	-0.5	71	-0.01
81	T	2-Ethyltoluene	2.935	2.683	8.6	72	-0.01
82	T	1,2,4-Trimethylbenzene	2.484	2.340	5.8	73	0.00
83	T	n-Decane	1.267	1.180	6.9	73	-0.01
84	T	Benzyl Chloride	1.791	1.821	-1.7	65	-0.01
85	T	1,3-Dichlorobenzene	1.521	1.333	12.4	68	0.00
86	T	1,4-Dichlorobenzene	1.605	1.334	16.9	66	-0.01
87	T	sec-Butylbenzene	3.287	3.041	7.5	73	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.227	3.072	4.8	73	0.00
89	T	1,2,3-Trimethylbenzene	2.565	2.424	5.5	73	0.00
90	T	1,2-Dichlorobenzene	1.471	1.323	10.1	70	-0.01
91	T	d-Limonene	0.872	0.878	-0.7	73	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.510	0.531	-4.1	71	0.00
93	T	n-Undecane	1.300	1.195	8.1	71	0.00
94	T	1,2,4-Trichlorobenzene	1.171	0.966	17.5	62	0.00
95	T	Naphthalene	3.576	2.772	22.5	57	0.00
96	T	n-Dodecane	1.209	1.023	15.4	64	0.00
97	T	Hexachlorobutadiene	0.779	0.696	10.7	71	0.00
98	T	Cyclohexanone	0.745	0.671	9.9	67	-0.01
99	T	tert-Butylbenzene	2.561	2.397	6.4	73	0.00
100	T	n-Butylbenzene	2.471	2.268	8.2	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291627.D
Acq On : 29 Apr 2016 22:07 Operator: WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:09:58 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/3/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	123035	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	589789	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	254569	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.49	65	172242	12.529	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
57) Toluene-d8 (SS2)	12.77	98	583081	11.850	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%			
73) Bromofluorobenzene (SS3)	16.07	174	278663	13.284	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	3.88	42	241688	21.998	ng	100
3) Dichlorodifluoromethan...	3.99	85	506047	23.049	ng	100
4) Chloromethane	4.19	50	344917	26.230	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	314065	25.094	ng	100
6) Vinyl Chloride	4.47	62	365931	28.068	ng	100
7) 1,3-Butadiene	4.65	54	299051	31.537	ng	99
8) Bromomethane	4.96	94	254814	25.645	ng	100
9) Chloroethane	5.17	64	218354	25.177	ng	100
10) Ethanol	5.40	45	971232	118.481	ng	100
11) Acetonitrile	5.59	41	496783	24.507	ng	100
12) Acrolein	5.71	56	166970	25.830	ng	99
13) Acetone	5.85	58	1041909	115.415	ng	99
14) Trichlorofluoromethane	6.01	101	443307	22.939	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	1371303	50.750	ng	99
16) Acrylonitrile	6.35	53	370078	27.385	ng	99
17) 1,1-Dichloroethene	6.67	96	285120	26.777	ng	99
18) 2-Methyl-2-Propanol (t...	6.75	59	1424874	51.075	ng	98
19) Methylene Chloride	6.80	84	288002	23.619	ng	98
20) 3-Chloro-1-propene (Al...	6.91	41	394439	30.502	ng	98
21) Trichlorotrifluoroethane	7.07	151	276391	25.778	ng	99
22) Carbon Disulfide	7.05	76	1019926	21.721	ng	100
23) trans-1,2-Dichloroethene	7.70	61	393606	27.949	ng	98
24) 1,1-Dichloroethane	7.89	63	471184	24.809	ng	99
25) Methyl tert-Butyl Ether	7.94	73	881185	25.559	ng	100
26) Vinyl Acetate	8.04	86	343915	122.538	ng	95
27) 2-Butanone (MEK)	8.24	72	197335	21.552	ng	99
28) cis-1,2-Dichloroethene	8.66	61	367693	26.979	ng	98
29) Diisopropyl Ether	8.85	87	250788	25.786	ng	99
30) Ethyl Acetate	8.85	61	187374	53.549	ng	99
31) n-Hexane	8.87	57	382644	21.343	ng	99
32) Chloroform	8.93	83	459866	25.105	ng	100
34) Tetrahydrofuran (THF)	9.26	72	186093	25.801	ng	96
35) Ethyl tert-Butyl Ether	9.33	87	378966	26.131	ng	99
36) 1,2-Dichloroethane	9.59	62	323459	25.138	ng	99
38) 1,1,1-Trichloroethane	9.83	97	413640	25.948	ng	99
39) Isopropyl Acetate	10.13	61	327376	55.110	ng	100
40) 1-Butanol	10.14	56	609287	60.567	ng	98
41) Benzene	10.24	78	1054000	24.635	ng	100
42) Carbon Tetrachloride	10.37	117	367581	27.793	ng	100
43) Cyclohexane	10.49	84	924079	49.558	ng	100
44) tert-Amyl Methyl Ether	10.76	73	853557	26.336	ng	100
45) 1,2-Dichloropropane	10.97	63	258875	25.298	ng	99
46) Bromodichloromethane	11.13	83	370762	28.102	ng	99
47) Trichloroethene	11.18	130	322111	24.469	ng	100
48) 1,4-Dioxane	11.15	88	244446	28.525	ng	100
49) 2,2,4-Trimethylpentane...	11.23	57	1192894	24.939	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291627.D
Acq On : 29 Apr 2016 22:07 Operator: WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 07:09:58 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

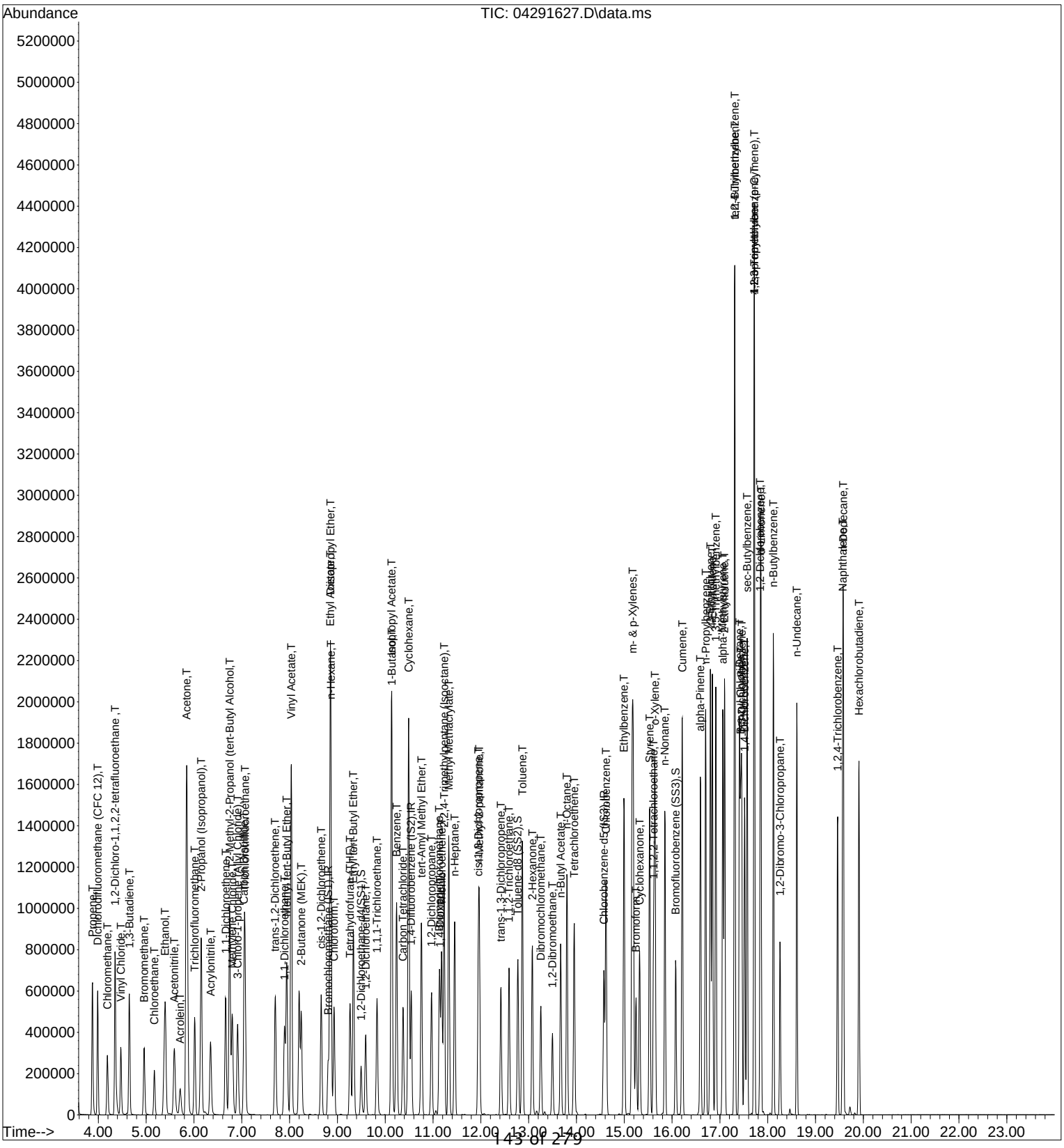
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	263696	51.330	ng	99
51) n-Heptane	11.45	71	267678	24.548	ng	99
52) cis-1,3-Dichloropropene	11.95	75	468620	29.084	ng	100
53) 4-Methyl-2-pentanone	11.97	58	264728	27.807	ng	100
54) trans-1,3-Dichloropropene	12.42	75	411049	28.607	ng	99
55) 1,1,2-Trichloroethane	12.59	97	280750	26.366	ng	100
58) Toluene	12.87	91	1158904	19.690	ng	100
59) 2-Hexanone	13.08	43	595054	25.737	ng	99
60) Dibromochloromethane	13.26	129	351836	28.475	ng	100
61) 1,2-Dibromoethane	13.50	107	322282	25.714	ng	100
62) n-Butyl Acetate	13.67	43	659222	27.194	ng	99
63) n-Octane	13.80	57	235538	23.500	ng	99
64) Tetrachloroethene	13.95	166	372317	21.995	ng	99
65) Chlorobenzene	14.62	112	814296	23.814	ng	100
66) Ethylbenzene	14.99	91	1363348	24.271	ng	100
67) m- & p-Xylenes	15.18	91	2116769	47.353	ng	100
68) Bromoform	15.25	173	334747	28.902	ng	98
69) Styrene	15.53	104	894911	26.453	ng	100
70) o-Xylene	15.64	91	1104462	23.508	ng	100
71) n-Nonane	15.85	43	540467	23.504	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	507711	24.579	ng	99
74) Cumene	16.21	105	1468468	23.232	ng	100
75) alpha-Pinene	16.59	93	740849	24.282	ng	100
76) n-Propylbenzene	16.70	91	1680086	23.119	ng	100
77) 3-Ethyltoluene	16.80	105	1486120	24.119	ng	100
78) 4-Ethyltoluene	16.84	105	1408633	24.099	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1210994	23.727	ng	100
80) alpha-Methylstyrene	17.06	118	691116	25.871	ng	99
81) 2-Ethyltoluene	17.10	105	1420697	23.771	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1239190	24.492	ng	100
83) n-Decane	17.41	57	606987	23.522	ng	100
84) Benzyl Chloride	17.43	91	1001491	27.461	ng	100
85) 1,3-Dichlorobenzene	17.46	146	732754	23.652	ng	100
86) 1,4-Dichlorobenzene	17.52	146	713405	21.824	ng	100
87) sec-Butylbenzene	17.57	105	1641396	24.521	ng	100
88) 4-Isopropyltoluene (p-...	17.72	119	1564319	23.806	ng	100
89) 1,2,3-Trimethylbenzene	17.72	105	1283293	24.568	ng	100
90) 1,2-Dichlorobenzene	17.84	146	720611	24.058	ng	99
91) d-Limonene	17.86	68	465059	26.176	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	281345	27.084	ng	99
93) n-Undecane	18.61	57	614621	23.209	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	511659	21.448	ng	100
95) Naphthalene	19.57	128	1411179	19.379	ng	100
96) n-Dodecane	19.58	57	541820	22.009	ng	99
97) Hexachlorobutadiene	19.91	225	379096	23.907	ng	99
98) Cyclohexanone	15.32	55	382498	25.226	ng	100
99) tert-Butylbenzene	17.31	119	1281485	24.574	ng	100
100) n-Butylbenzene	18.12	91	1247176	24.783	ng	100

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 04\29\04291627.D
Acq On : 29 Apr 2016 22:07 Operator: WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

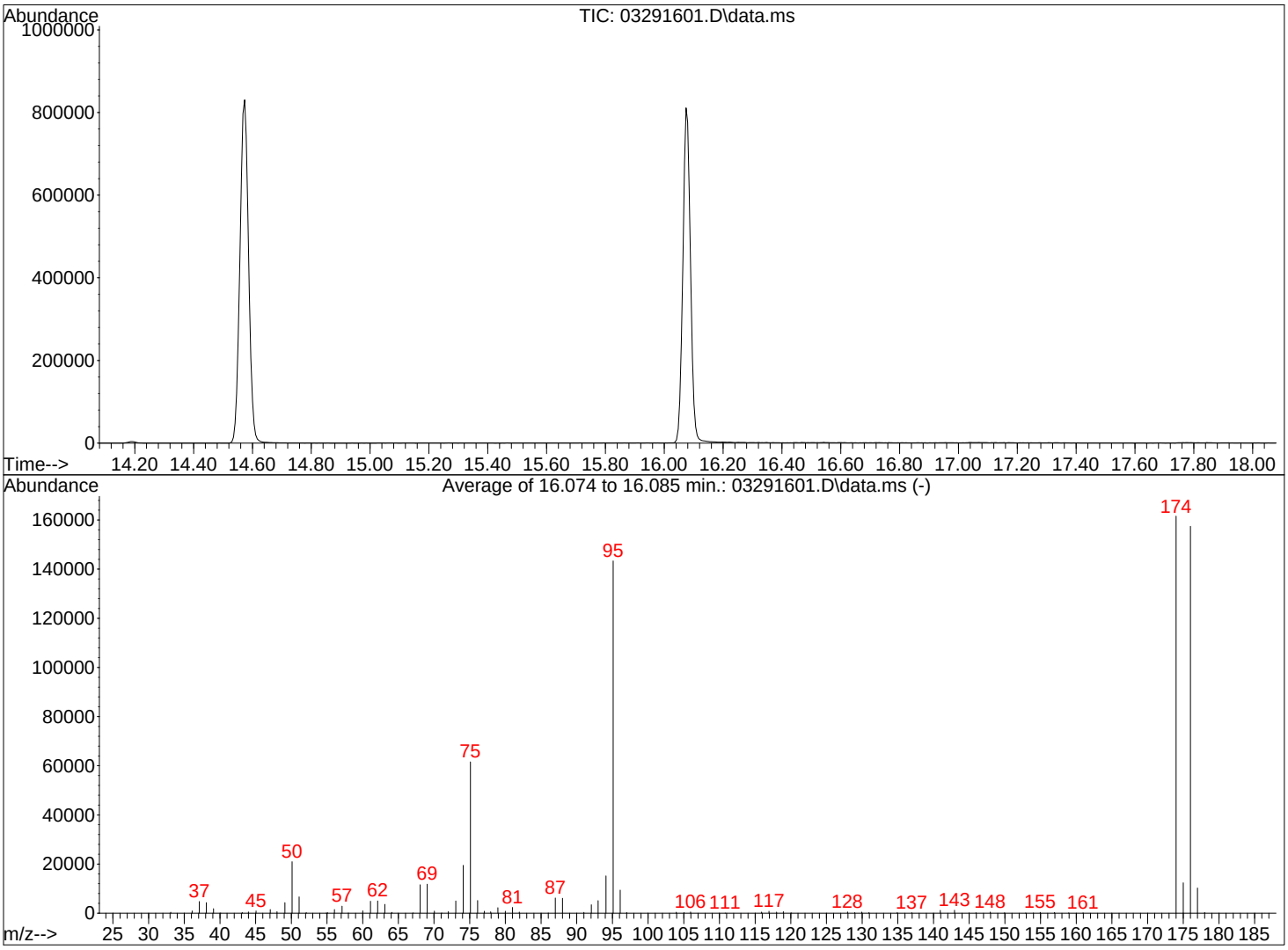
Quant Time: May 02 07:09:58 2016
Quant Method : I:\MS08\Methods\R8032916.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 29 13:08:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS08\Data\2016 03\29\
Data File : 03291601.D
Acq On : 29 Mar 2016 7:01
Operator : WA
Sample : BFB R8032916
Misc : S29-03281601
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 29 13:08:11 2016



AutoFind: Scans 2318, 2319, 2320; Background Corrected with Scan 2309

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.6	20962	PASS
75	95	30	66	43.0	61587	PASS
95	95	100	100	100.0	143352	PASS
96	95	5	9	6.6	9418	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	112.7	161557	PASS
175	174	4	9	7.7	12404	PASS
176	174	93	101	97.5	157461	PASS
177	176	5	9	6.5	10255	PASS

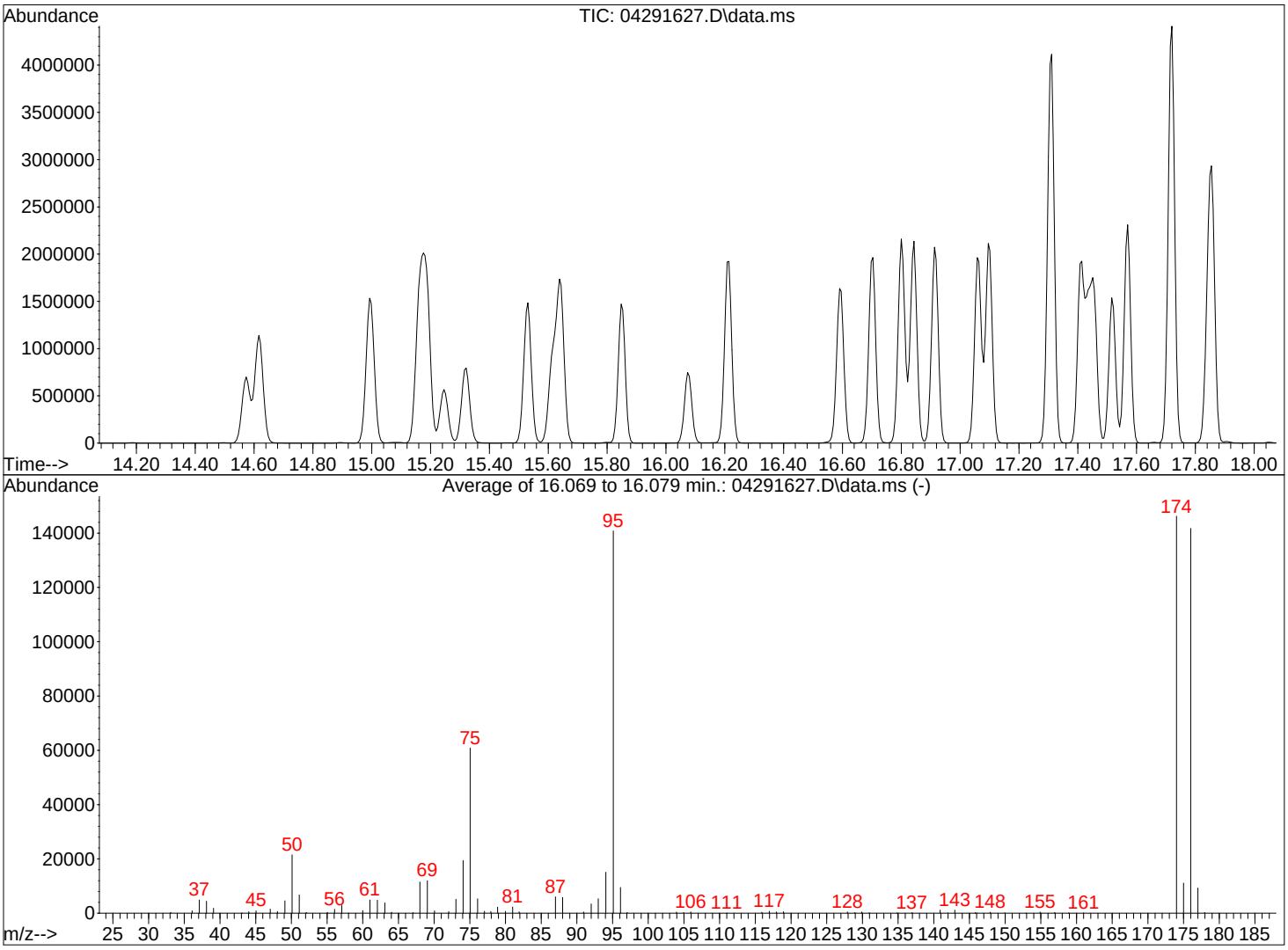
WA 3/29/16

Data Path : I:\MS08\Data\2016 04\29\
Data File : 04291627.D
Acq On : 29 Apr 2016 22:07
Operator : WA
Sample : CCV2 R8043016 25ng
Misc : S29-04131602/S29-04131606 (5/11)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 29 13:08:11 2016

5/3/16



AutoFind: Scans 2317, 2318, 2319; Background Corrected with Scan 2305

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.3	21531	PASS
75	95	30	66	43.2	60811	PASS
95	95	100	100	100.0	140805	PASS
96	95	5	9	6.8	9519	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	103.9	146261	PASS
175	174	4	9	7.6	11084	PASS
176	174	93	101	96.9	141765	PASS
177	176	5	9	6.5	9270	PASS

Injection Log

Directory: I:\MS08\Data\2016_03\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/29/16 7:01	03291601.D	BFB R8032916	S29-03281601	WA	1	Passed
2	3/29/16 7:33	03291602.D	0.08ng TO-15 ICAL Std	S29-03281601/S29-03251605 (4/23)	WA	13	
3	3/29/16 8:05	03291603.D	0.10ng TO-15 ICAL Std	S29-03281601/S29-03251605 (4/23)	WA	13	
4	3/29/16 8:38	03291604.D	0.20ng TO-15 ICAL Std	S29-03281601/S29-03251605 (4/23)	WA	13	
5	3/29/16 9:10	03291605.D	0.40ng TO-15 ICAL Std	S29-03281601/S29-03251605 (4/23)	WA	13	
6	3/29/16 9:43	03291606.D	1.0ng TO-15 ICAL Std	S29-03281601/S29-03251603 (4/23)	WA	14	
7	3/29/16 10:15	03291607.D	5.0ng TO-15 ICAL Std	S29-03281601/S29-03251603 (4/23)	WA	14	
8	3/29/16 10:48	03291608.D	25ng TO-15 ICAL Std	S29-03281601/S29-03251602 (4/23)	WA	16	
9	3/29/16 11:20	03291609.D	50ng TO-15 ICAL Std	S29-03281601/S29-03251602 (4/23)	WA	16	
10	3/29/16 11:53	03291610.D	100ng TO-15 ICAL Std	S29-03281601/S29-03251602 (4/23)	WA	16	
11	3/29/16 12:25	03291611.D	25ng TO-15 ICV Std	S29-03281601/S29-03101601 (4/8)	WA	1	Passed all cmpds
12	3/29/16 12:57	03291612.D	25ng TO-15 ICV Std	S29-03281601/S29-03101601 (4/8)	WA	1	Passed all cmpds
	Saved as R8032916.M: good for low-level 75 compounds (see checklist for specific ranges)						
					WA 3/29/16		

Injection Log

Directory: I:\MS08\Data\2016_04\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/29/16 22:07	04291627.D	CCV2 R8043016_25ng	S29-04131602/S29-04131606 (5/11)	WA	1	Passed
2	4/29/16 22:40	04291628.D	CCV2 R8043016_5ng	S29-04131602/S29-04131610 (5/11)	WA	16	Passed
3	4/29/16 23:12	04291629.D	MB2 R8043016_1000mL	S29-04131602_AS00703	WA	1	Passed
4	4/29/16 23:44	04291630.D	LCS2 R80430916_25ng	S29-04131602/S29-04281603 (5/26)	WA	1	Passed
5	4/30/16 0:17	04291631.D	LCSD2 R80430916_25ng	S29-04131602/S29-04281603 (5/26)	WA	1	Passed
6	4/30/16 0:49	04291632.D	Blank	S29-04131602	WA	4	
7	4/30/16 1:21	04291633.D	P1602147-001 (1000mL)	S29-04131602	WA	2	
8	4/30/16 1:54	04291634.D	P1602147-001dup (1000mL)	S29-04131602	WA	2	Passed for dup
9	4/30/16 2:26	04291635.D	P1602147-002 (1000mL)	S29-04131602	WA	3	
10	4/30/16 2:58	04291636.D	P1602147-005 (1000mL)	S29-04131602	WA	11	
11	4/30/16 3:31	04291637.D	P1602147-006 (1000mL)	S29-04131602	WA	12	
12	4/30/16 4:03	04291638.D	P1602147-007 (1000mL)	S29-04131602	WA	13	
13	4/30/16 4:36	04291639.D	P1602147-007dil (100mL)	S29-04131602	WA	13	
14	4/30/16 5:08	04291640.D	P1602147-008 (1000mL)	S29-04131602	WA	14	
15	4/30/16 5:41	04291641.D	P1602147-008dil (100mL)	S29-04131602	WA	14	
16	4/30/16 12:11	04291642.D	P1602147-002dil (100mL)	S29-04131602	WA	3	
17	4/30/16 12:44	04291643.D	P1602147-006dil (100mL)	S29-04131602	WA	12	
	No Exception					WA 5/3/16	

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:06:40 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	22201	1000.000	pg		0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	118678	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	23985	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	44071	922.155	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 92.22%				
33) Toluene-d8 (SS2)	14.14	98	128003	1005.210	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.52%				
45) Bromofluorobenzene (SS3)	17.55	174	77527	1270.813	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.40	85	353270	4885.590	pg		99
3) Chloromethane	4.62	52	5453	296.480	pg		99
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	2845	37.019	pg		100
5) Vinyl Chloride	4.92	62	186	N.D.			
6) 1,3-Butadiene	5.12	54	5919	165.979	pg		96
7) Bromomethane	5.44	94	667	24.528	pg		96
8) Chloroethane	5.67	64	512	27.291	pg		96
9) Acrolein	6.26	56	27599	2196.159	pg		97
10) Acetone	6.40	58	4479835	266763.059	pg	#	86
11) Trichlorofluoromethane	6.59	101	22738	435.734	pg		100
12) 1,1-Dichloroethene	7.33	96	671	24.692	pg	#	87
13) Methylene Chloride	7.49	84	18526	598.142	pg		92
14) Trichlorotrifluoroethane	7.79	151	5516	215.473	pg		99
15) trans-1,2-Dichloroethene	8.52	96	55	N.D.			
16) 1,1-Dichloroethane	0.00	63	0	N.D. d			
17) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.			
19) Chloroform	9.90	83	56430	977.357	pg		100
21) 1,2-Dichloroethane	10.65	62	1876	44.518	pg		100
22) 1,1,1-Trichloroethane	10.92	97	1802	35.001	pg		99
23) Benzene	11.37	78	158458	1325.058	pg		100
24) Carbon Tetrachloride	11.53	117	28820	654.064	pg		100
26) 1,2-Dichloropropane	12.18	63	695	22.449	pg		95
27) Bromodichloromethane	12.36	83	13890	301.190	pg		91
28) Trichloroethene	12.41	130	43038	1223.359	pg		99
29) 1,4-Dioxane	0.00	88	0	N.D. d			
30) cis-1,3-Dichloropropene	13.25	75	112	N.D.			
31) trans-1,3-Dichloropropene	13.72	75	237	N.D.			
32) 1,1,2-Trichloroethane	0.00	83	0	N.D. d			
34) Toluene	14.24	91	1257822	9643.854	pg		99
35) Dibromochloromethane	14.66	129	4360	134.916	pg		100
36) 1,2-Dibromoethane	0.00	107	0	N.D.			
37) Tetrachloroethene	15.40	166	22843	675.553	pg		93
39) Chlorobenzene	0.00	112	0	N.D. d			
40) Ethylbenzene	16.48	91	246433	2094.143	pg		98
41) m,p-Xylene	16.64	91	670792	7351.786	pg		98
42) Styrene	17.01	104	81153	1294.144	pg		100
43) o-Xylene	17.12	106	110080	2384.113	pg		94
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d			
46) 1,3,5-Trimethylbenzene	18.38	105	56983	597.743	pg		97
47) 1,2,4-Trimethylbenzene	18.77	105	241172	2483.180	pg		90
48) 1,3-Dichlorobenzene	18.92	146	64	N.D.			
49) 1,4-Dichlorobenzene	18.98	146	1798	31.231	pg		100
50) 1,2-Dichlorobenzene	19.31	146	825	N.D.			
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.			
52) 1,2,4-Trichlorobenzene	20.94	182	176	N.D.			
53) Naphthalene	21.05	128	53295	462.631	pg		95

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:06:40 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

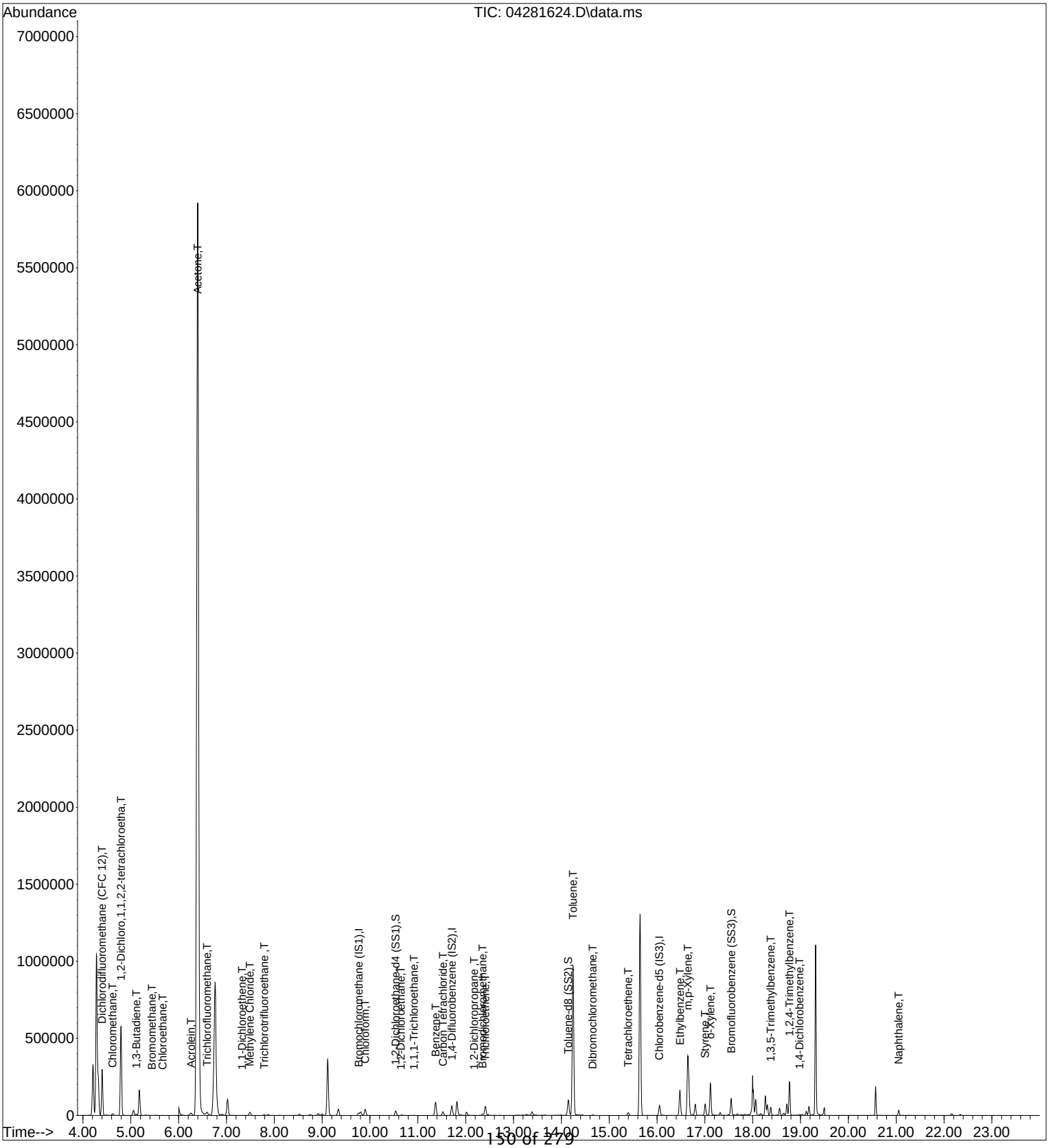
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

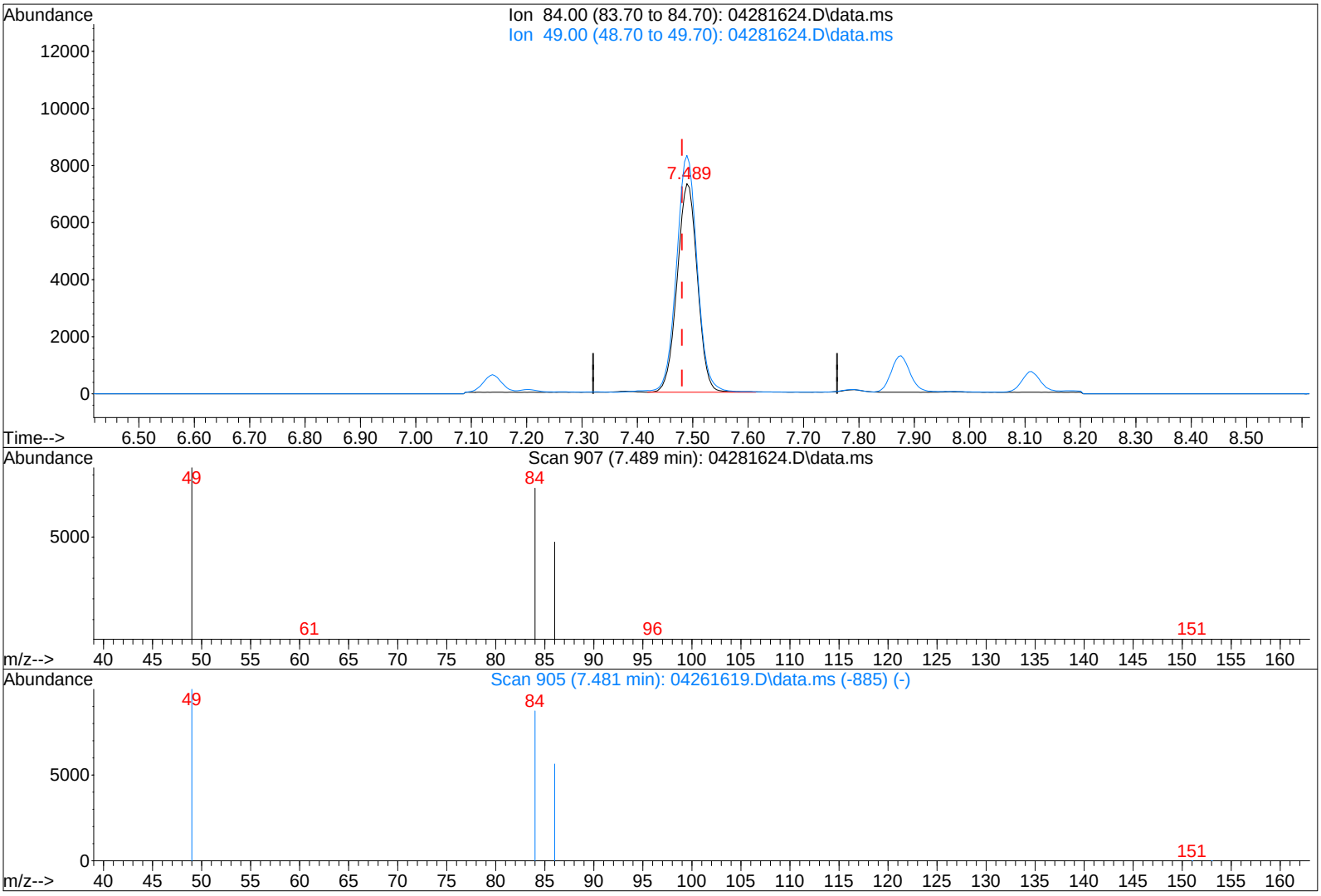
Quant Time: May 02 12:06:40 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:12 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281624.D\data.ms

(13) Methylene Chloride (T)

7.489min (+0.009) 598.14pg

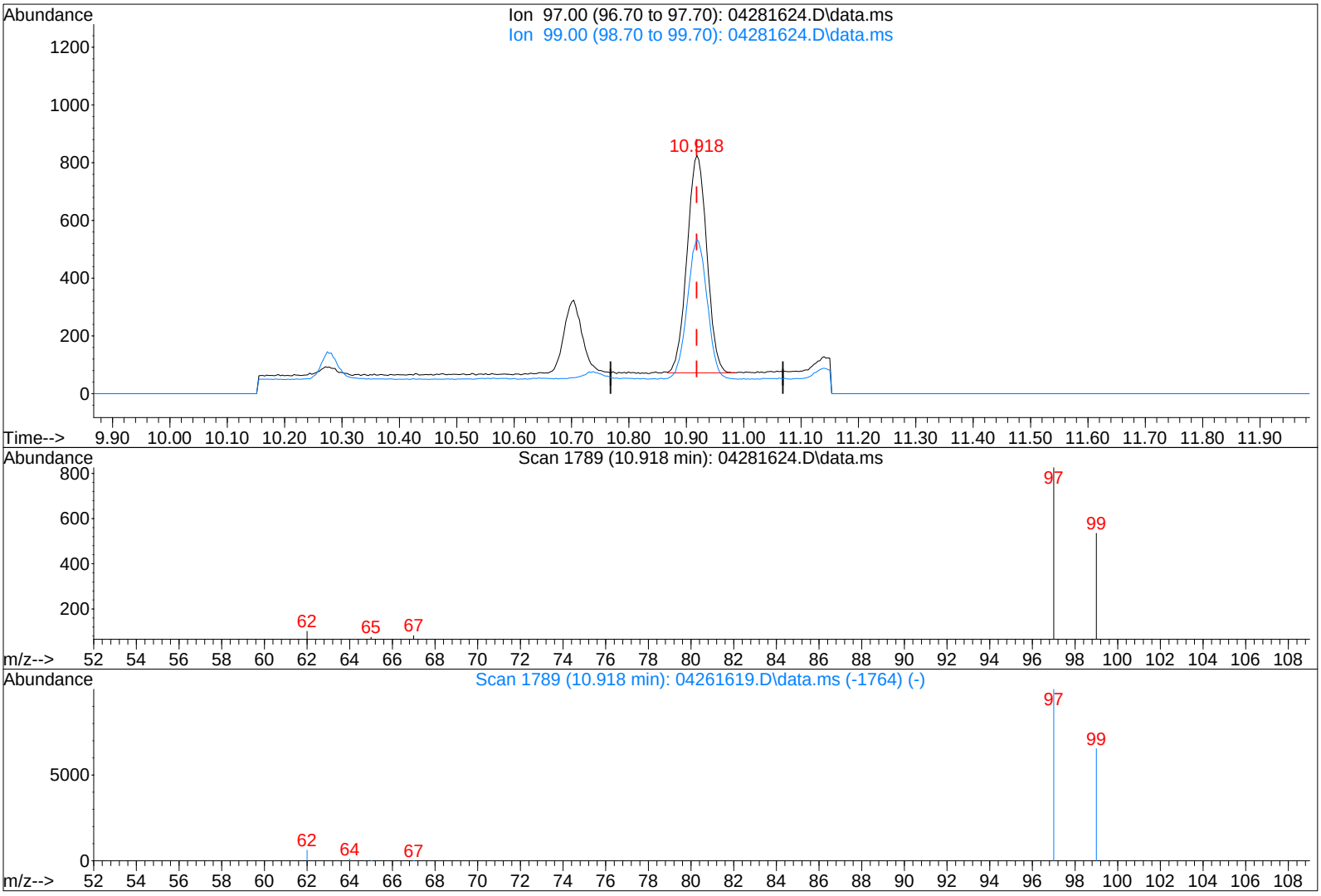
response 18526

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	115.96
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:12 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281624.D\data.ms

(22) 1,1,1-Trichloroethane (T)

10.918min (-0.000) 35.00pg

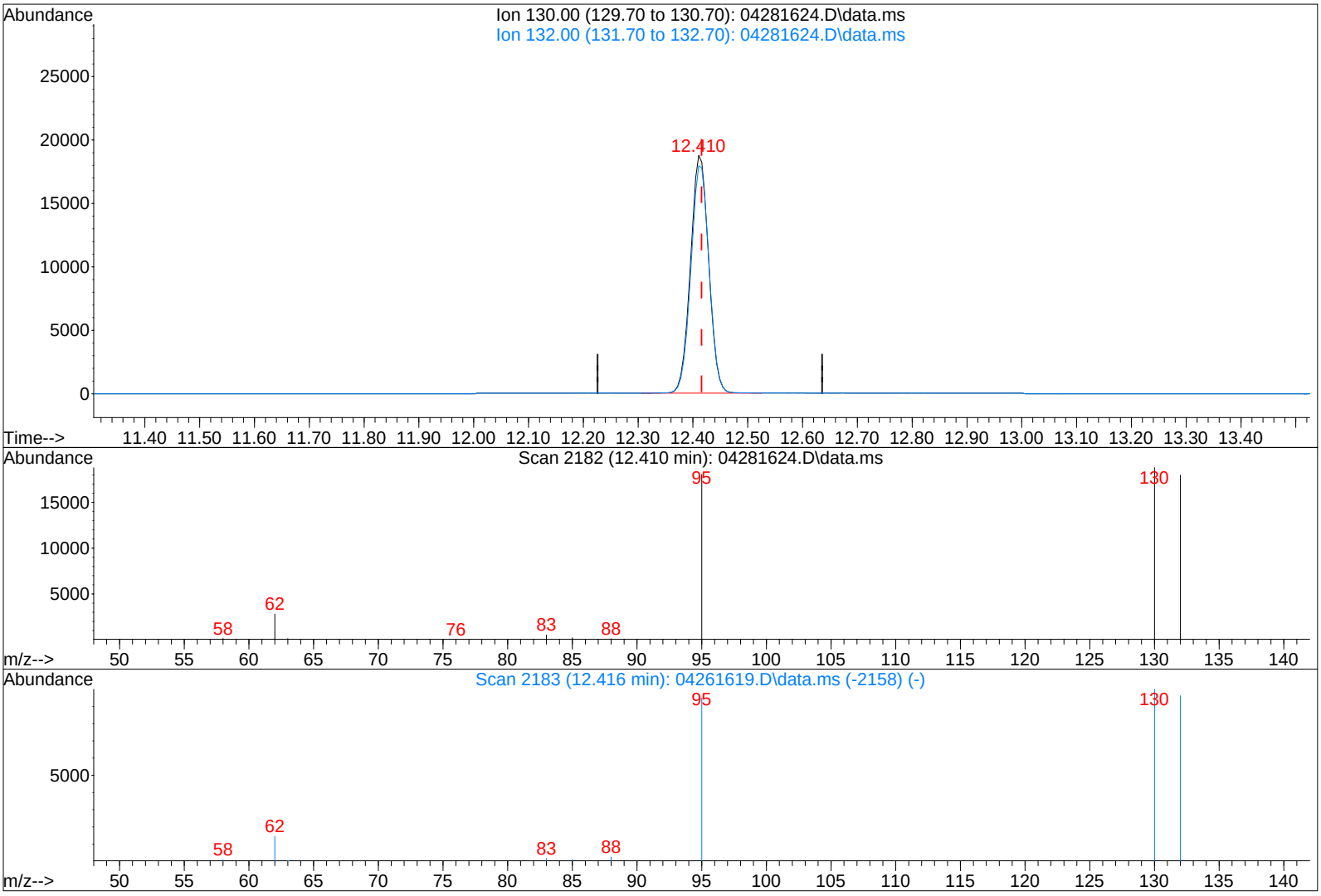
response 1802

Ion	Exp%	Act%
97.00	100	100
99.00	64.40	64.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:12 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281624.D\data.ms

(28) Trichloroethene (T)

12.410min (-0.005) 1223.36pg

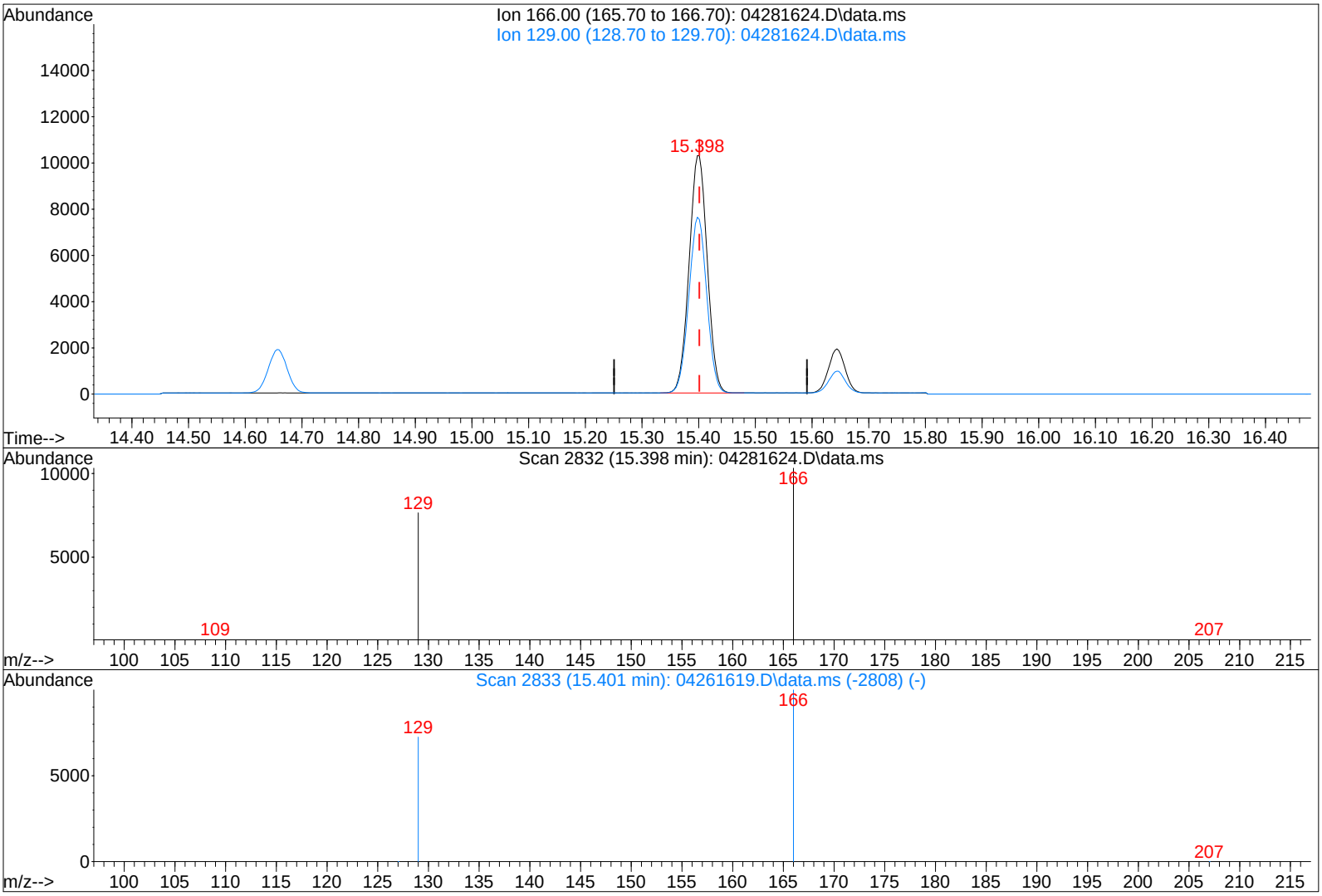
response 43038

Ion	Exp%	Act%
130.00	100	100
132.00	95.40	96.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281624.D Vial: 10
Acq On : 28 Apr 2016 22:15 Operator: CL
Sample : P1602147-003 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:12 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281624.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.003) 675.55pg

response 22843

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	73.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:07:21 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	22234	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	117112	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	22806	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	43630	911.572 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 91.16%		
33) Toluene-d8 (SS2)	14.14	98	124365	989.700 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.97%		
45) Bromofluorobenzene (SS3)	17.55	174	75176	1295.981 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 129.60%		
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	73168	1010.384 pg	100
3) Chloromethane	4.63	52	5555	301.577 pg	97
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	3283	42.655 pg	99
5) Vinyl Chloride	4.94	62	55	N.D.	
6) 1,3-Butadiene	0.00	54	0	N.D. d	
7) Bromomethane	5.45	94	711	26.107 pg	98
8) Chloroethane	5.67	64	222	N.D.	
9) Acrolein	6.25	56	2795	222.079 pg	99
10) Acetone	6.38	58	101407	6029.573 pg #	83
11) Trichlorofluoromethane	6.59	101	27684	529.728 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.46	84	5586	180.085 pg	91
14) Trichlorotrifluoroethane	7.79	151	6552	255.563 pg	99
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.	
16) 1,1-Dichloroethane	8.71	63	152	N.D.	
17) Methyl tert-Butyl Ether	8.79	73	129	N.D.	
18) cis-1,2-Dichloroethene	9.59	96	59	N.D.	
19) Chloroform	9.88	83	4077	70.508 pg	100
21) 1,2-Dichloroethane	10.64	62	1392	32.984 pg	99
22) 1,1,1-Trichloroethane	10.90	97	1089	21.121 pg	94
23) Benzene	11.36	78	48694	406.585 pg	100
24) Carbon Tetrachloride	11.51	117	9909	224.549 pg	99
26) 1,2-Dichloropropane	12.17	63	243	N.D.	
27) Bromodichloromethane	12.38	83	621	N.D.	
28) Trichloroethene	12.40	130	301	N.D.	
29) 1,4-Dioxane	12.39	88	111	N.D.	
30) cis-1,3-Dichloropropene	13.25	75	61	N.D.	
31) trans-1,3-Dichloropropene	13.72	75	293	N.D.	
32) 1,1,2-Trichloroethane	13.94	83	76	N.D.	
34) Toluene	14.24	91	180501	1402.426 pg	99
35) Dibromochloromethane	14.66	129	85	N.D.	
36) 1,2-Dibromoethane	14.92	107	56	N.D.	
37) Tetrachloroethene	15.40	166	9165	274.668 pg	93
39) Chlorobenzene	16.13	112	1327	N.D.	
40) Ethylbenzene	16.48	91	29352	262.323 pg	98
41) m,p-Xylene	16.64	91	83038	957.133 pg	98
42) Styrene	17.01	104	18685	313.373 pg	95
43) o-Xylene	17.12	106	16378	373.052 pg	96
44) 1,1,2,2-Tetrachloroethane	17.12	83	660	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	12467	137.538 pg	97
47) 1,2,4-Trimethylbenzene	18.77	105	53191	575.984 pg	90
48) 1,3-Dichlorobenzene	18.92	146	94	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	977	N.D.	
50) 1,2-Dichlorobenzene	19.31	146	114	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	169	N.D.	
53) Naphthalene	21.05	128	45795	418.078 pg	94

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:07:21 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

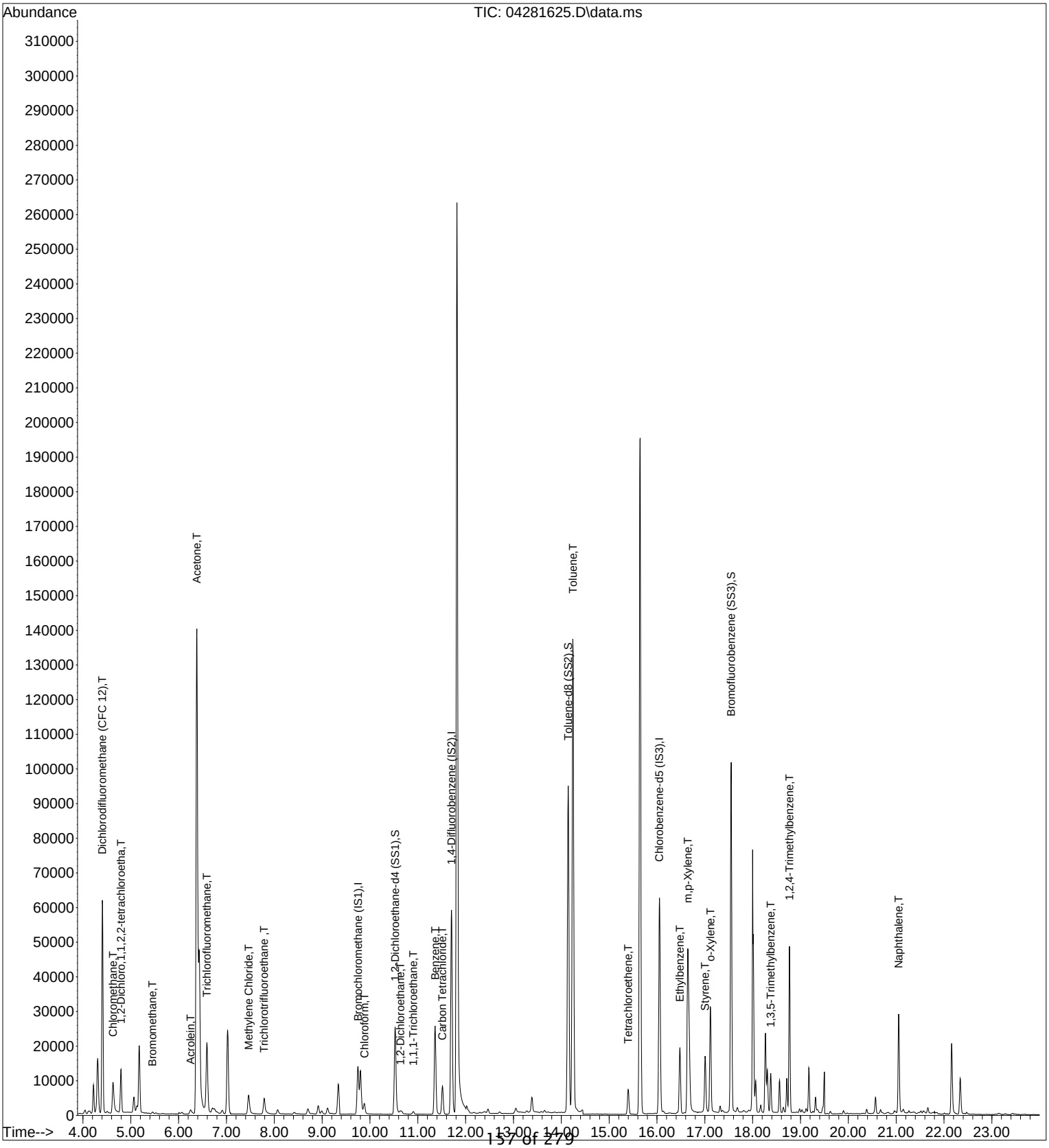
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.35	225	54	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

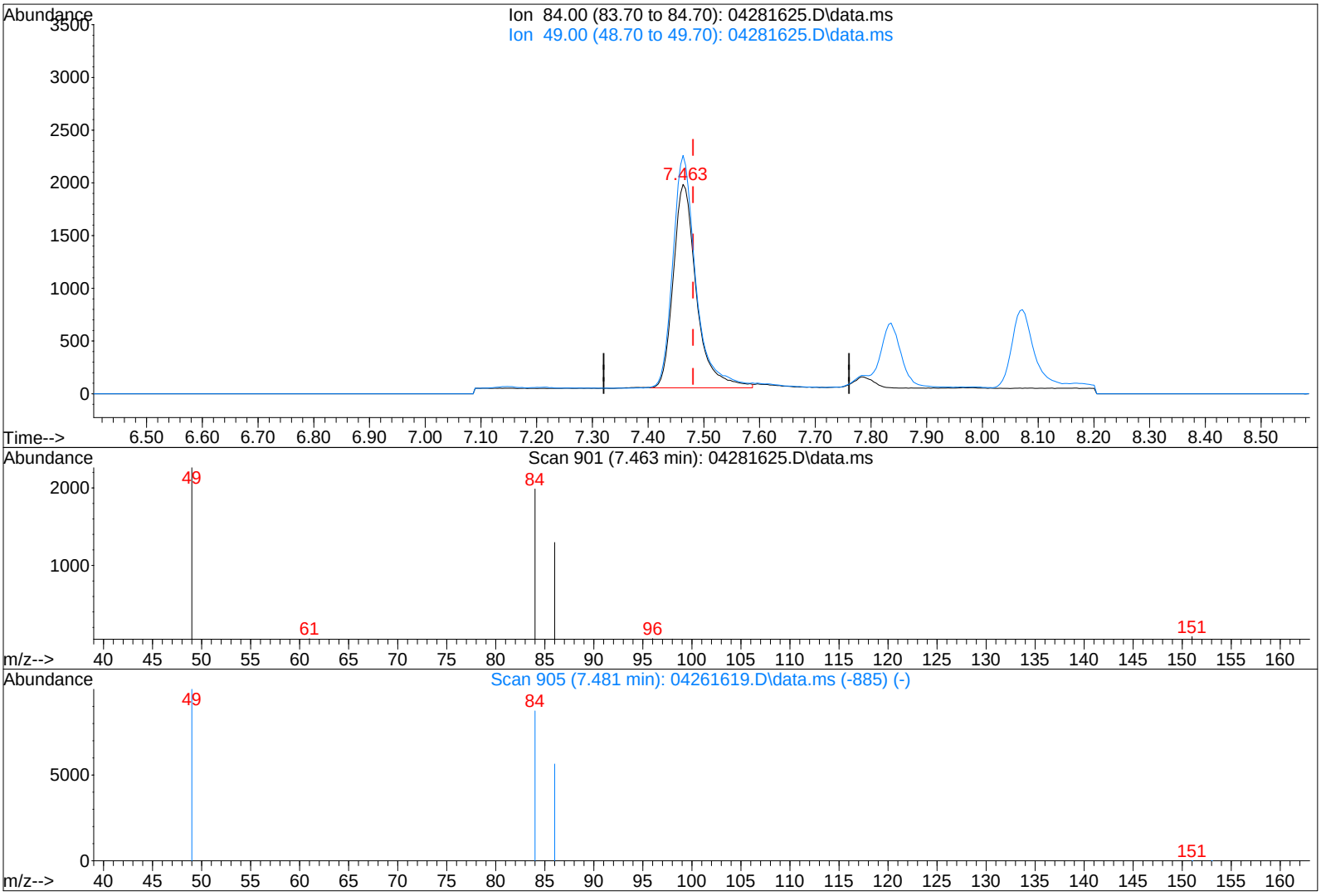
Quant Time: May 02 12:07:21 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281625.D\data.ms

(13) Methylene Chloride (T)

7.463min (-0.018) 180.09pg

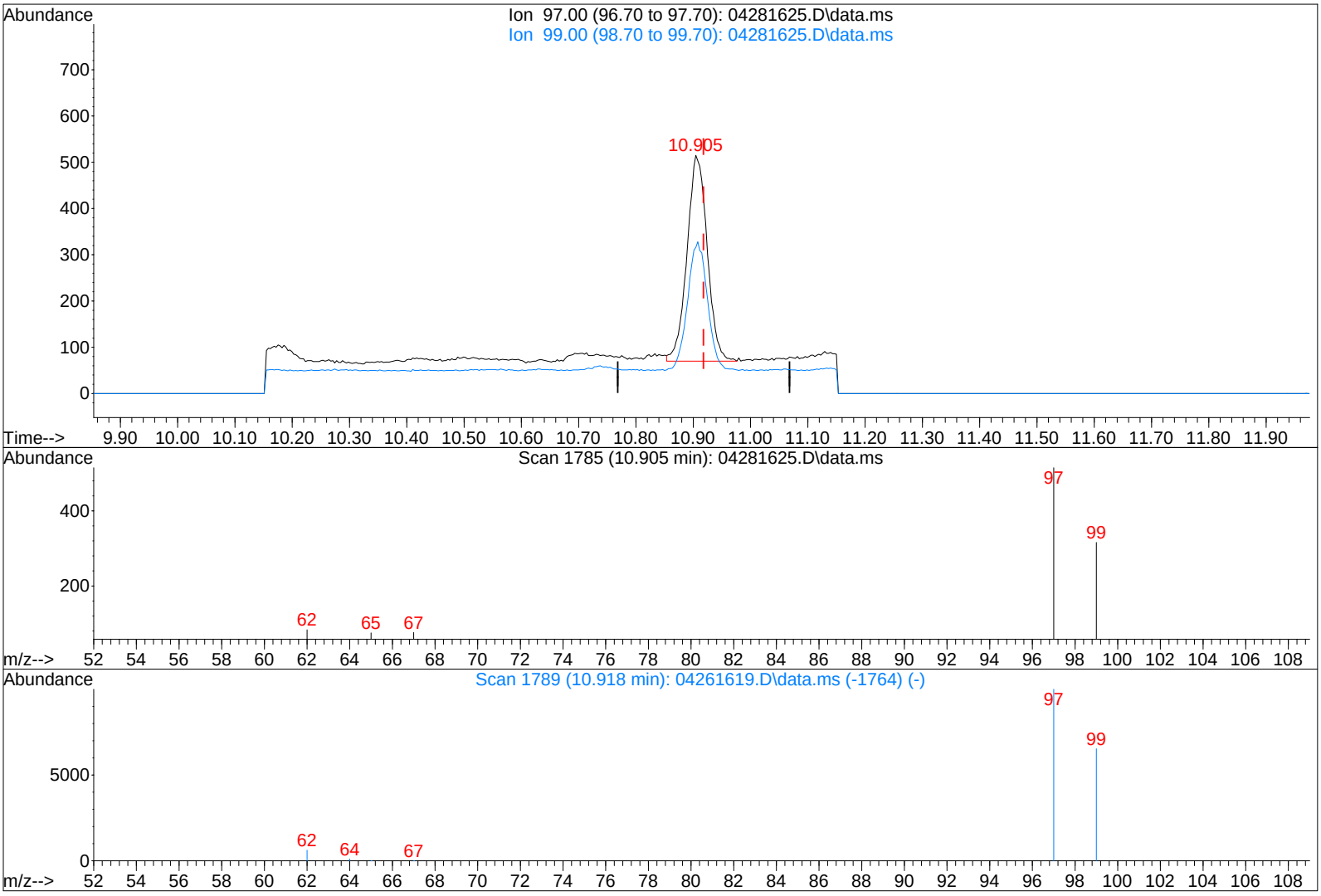
response 5586

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	117.44
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281625.D\data.ms

(22) 1,1,1-Trichloroethane (T)

10.905min (-0.014) 21.12pg

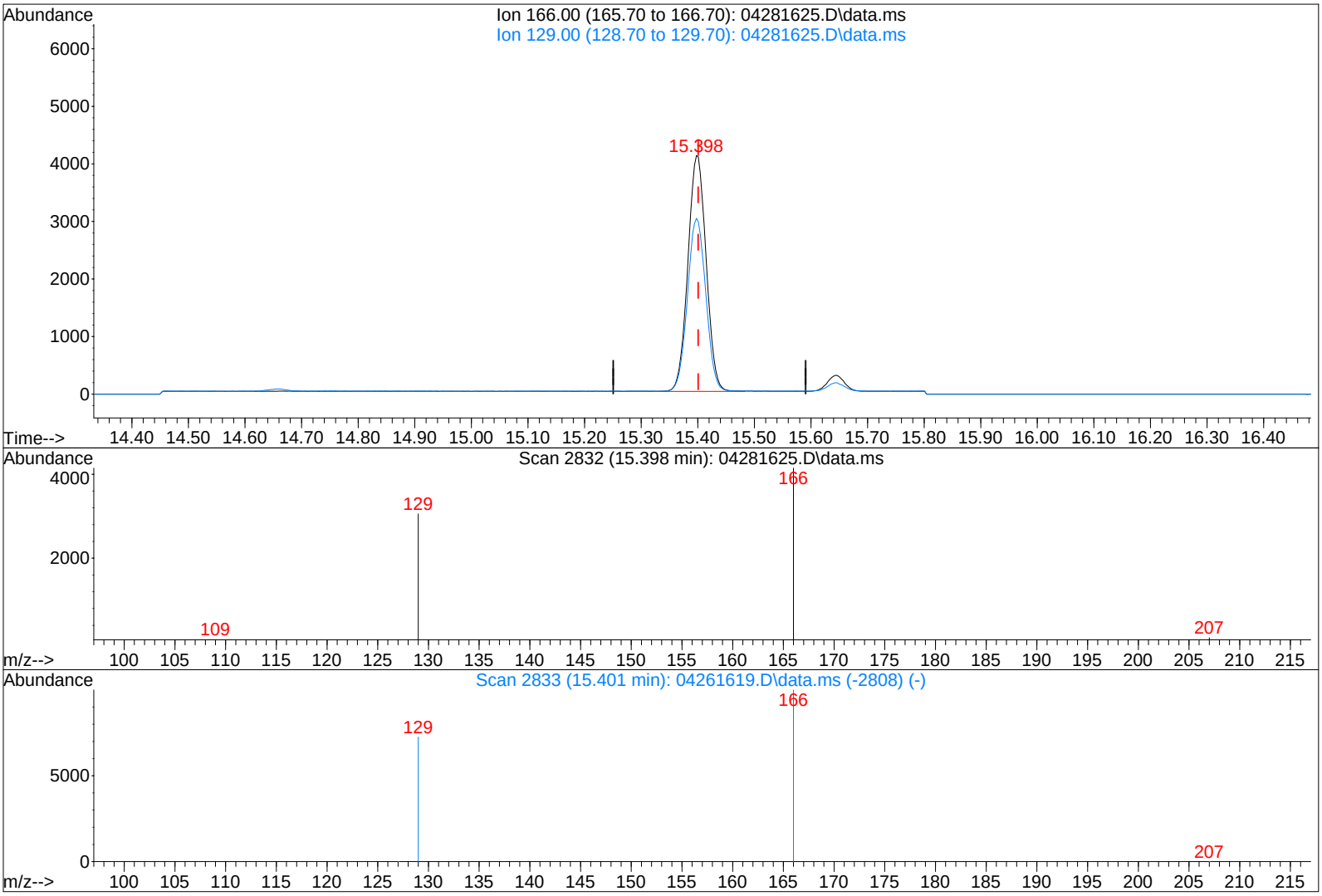
response 1089

Ion	Exp%	Act%
97.00	100	100
99.00	64.40	59.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281625.D Vial: 11
Acq On : 28 Apr 2016 22:47 Operator: CL
Sample : P1602147-004 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281625.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.003) 274.67pg

response 9165

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	73.86
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:59:57 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	22466	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	120051	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	24387	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.52	65	43976	909.313 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 90.93%		
33) Toluene-d8 (SS2)	14.14	98	129770	1007.431 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.74%		
45) Bromofluorobenzene (SS3)	17.55	174	76837	1238.741 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.87%		
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.40	85	67024	915.983 pg	100
3) Chloromethane	4.62	52	5553	298.356 pg	97
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	2813	36.171 pg	100
5) Vinyl Chloride	4.93	62	1687	25.926 pg	99
6) 1,3-Butadiene	0.00	54	0	N.D. d	
7) Bromomethane	0.00	94	0	N.D. d	
8) Chloroethane	5.67	64	275	N.D.	
9) Acrolein	6.24	56	13447	1057.408 pg	98
10) Acetone	6.37	58	441268	25966.468 pg	98
11) Trichlorofluoromethane	6.59	101	30965	586.390 pg	100
12) 1,1-Dichloroethene	7.33	96	65	N.D.	
13) Methylene Chloride	7.46	84	28859	920.769 pg	94
14) Trichlorotrifluoroethane	7.79	151	5566	214.862 pg	100
15) trans-1,2-Dichloroethene	8.50	96	332	N.D.	
16) 1,1-Dichloroethane	8.71	63	420	N.D.	
17) Methyl tert-Butyl Ether	8.78	73	27546	358.010 pg	94
18) cis-1,2-Dichloroethene	9.58	96	3167	100.963 pg	99
19) Chloroform	9.88	83	57200	979.007 pg	93
21) 1,2-Dichloroethane	10.63	62	171459	4020.787 pg	99
22) 1,1,1-Trichloroethane	10.91	97	5039	96.721 pg	100
23) Benzene	11.36	78	367285	3035.085 pg	99
24) Carbon Tetrachloride	11.51	117	8637	193.703 pg	99
26) 1,2-Dichloropropane	12.17	63	579	N.D.	
27) Bromodichloromethane	0.00	83	0	N.D. d	
28) Trichloroethene	12.40	130	53977	1516.754 pg	99
29) 1,4-Dioxane	0.00	88	0	N.D. d	
30) cis-1,3-Dichloropropene	13.24	75	213	N.D.	
31) trans-1,3-Dichloropropene	13.77	75	118	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D. d	
34) Toluene	14.24	91	2654838	20122.127 pg	98
35) Dibromochloromethane	14.66	129	4002	122.422 pg	100
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	5966	174.419 pg	93
39) Chlorobenzene	0.00	112	0	N.D. d	
40) Ethylbenzene	16.48	91	364982	3050.425 pg	98
41) m,p-Xylene	16.64	91	942521	10159.618 pg	98
42) Styrene	17.01	104	63624	997.884 pg	89
43) o-Xylene	17.12	106	152222	3242.479 pg	95
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
46) 1,3,5-Trimethylbenzene	18.38	105	71463	737.278 pg	97
47) 1,2,4-Trimethylbenzene	18.77	105	227481	2303.604 pg	90
48) 1,3-Dichlorobenzene	18.92	146	90	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	3056	52.207 pg	99
50) 1,2-Dichlorobenzene	19.31	146	511	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	199	N.D.	
53) Naphthalene	21.06	128	10527	89.874 pg	92

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 12:59:57 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

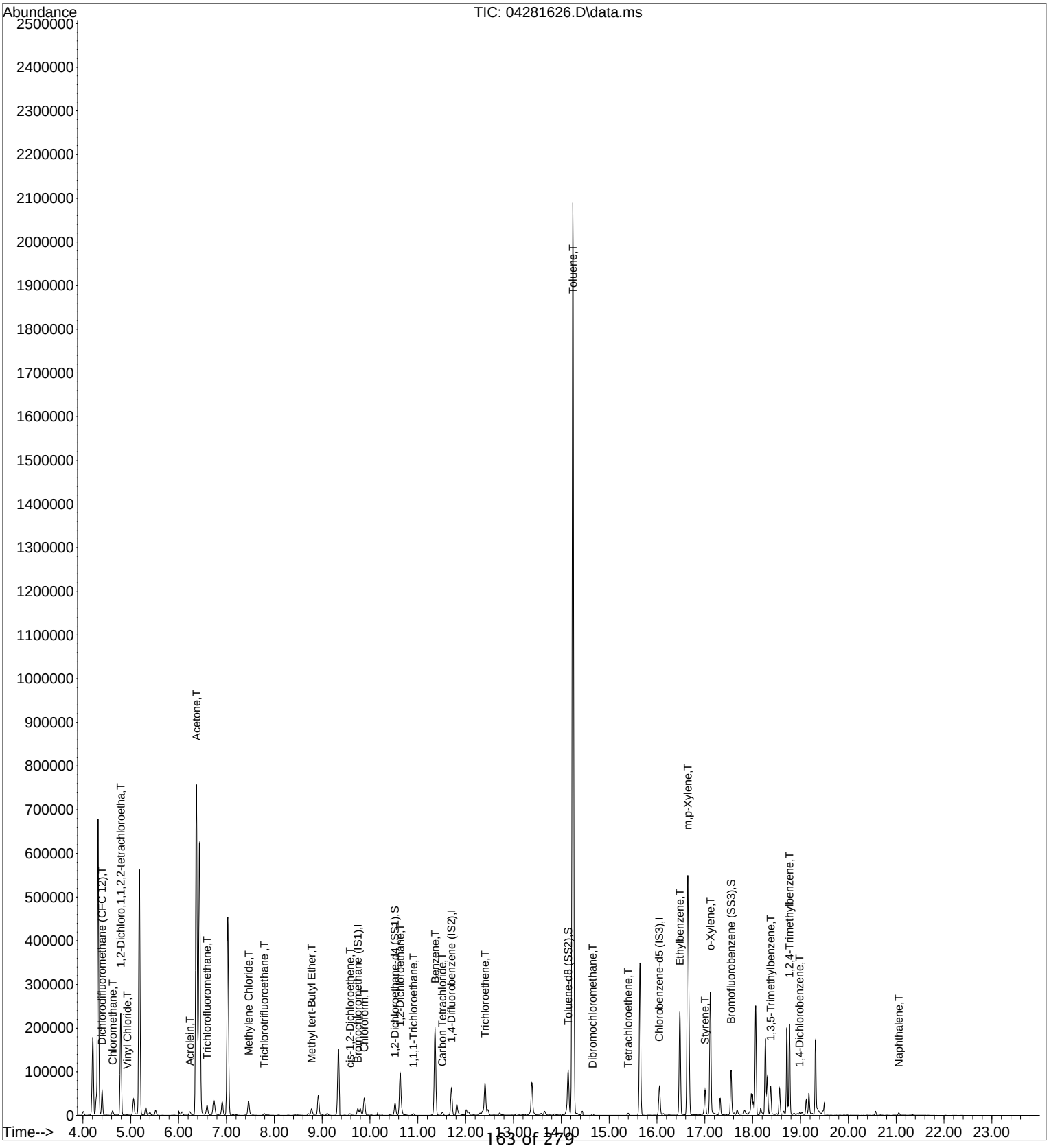
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

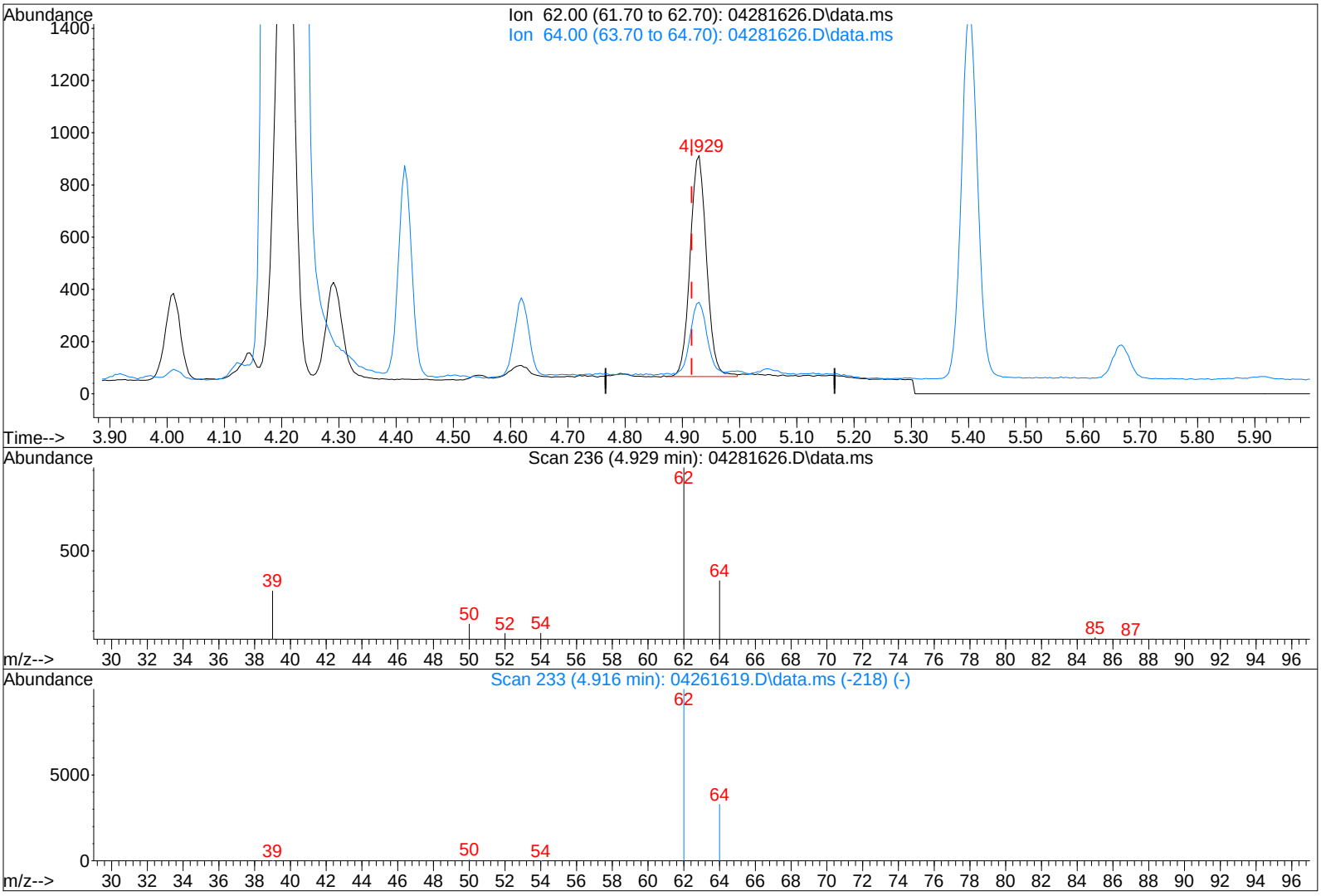
Quant Time: May 02 12:59:57 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281626.D\data.ms

(5) Vinyl Chloride (T)

4.929min (+0.013) 25.93pg

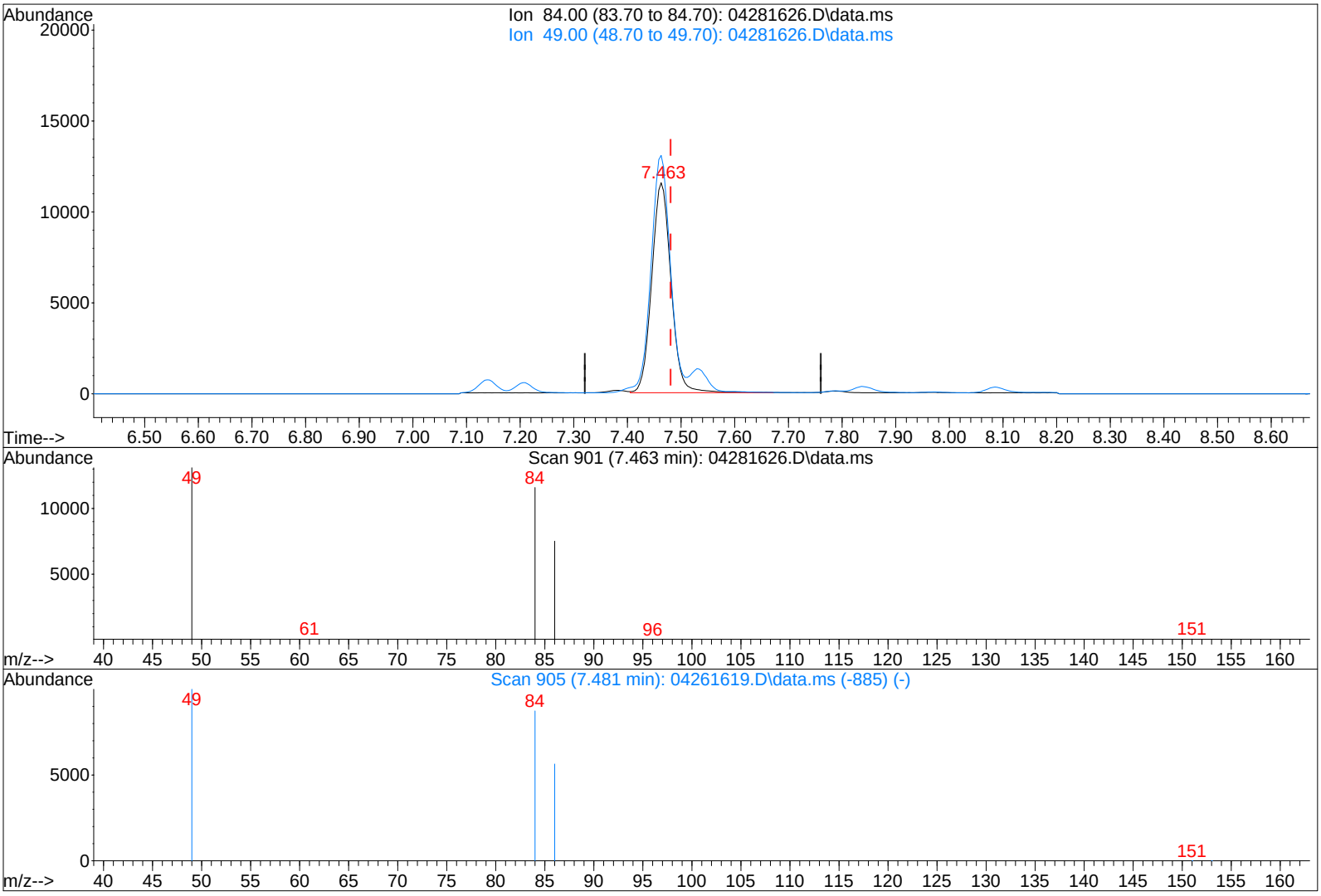
response 1687

Ion	Exp%	Act%
62.00	100	100
64.00	32.80	33.43
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281626.D\data.ms

(13) Methylene Chloride (T)

7.463min (-0.018) 920.77pg

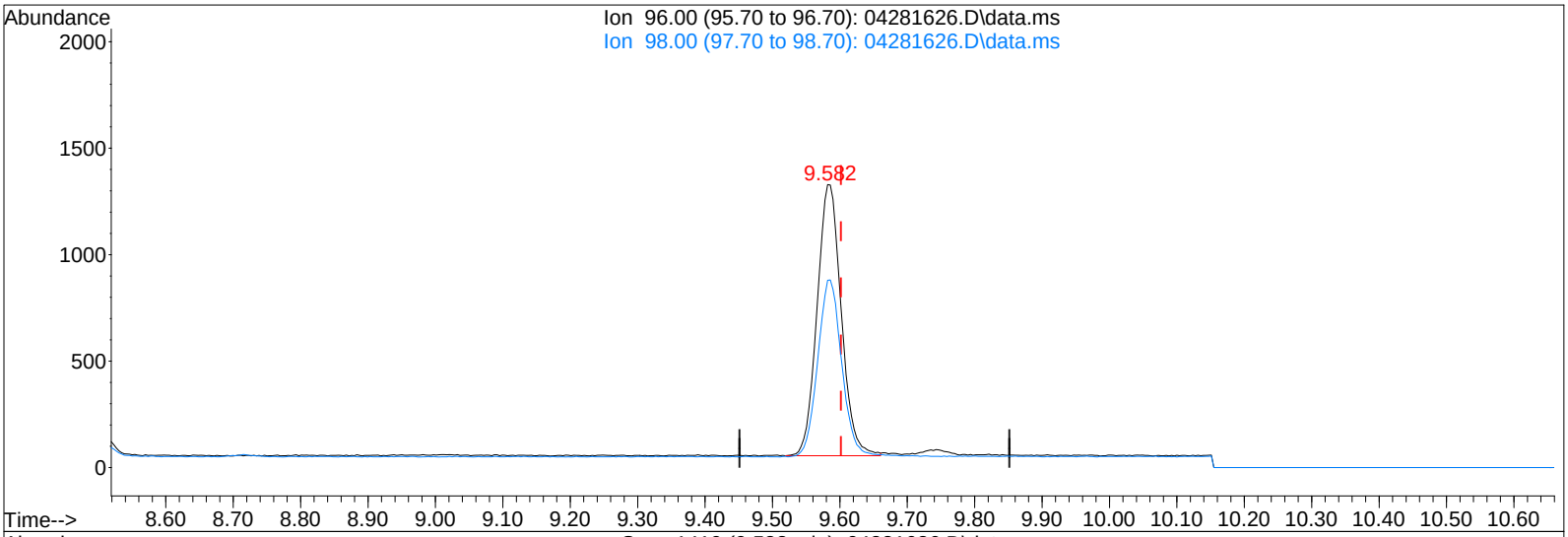
response 28859

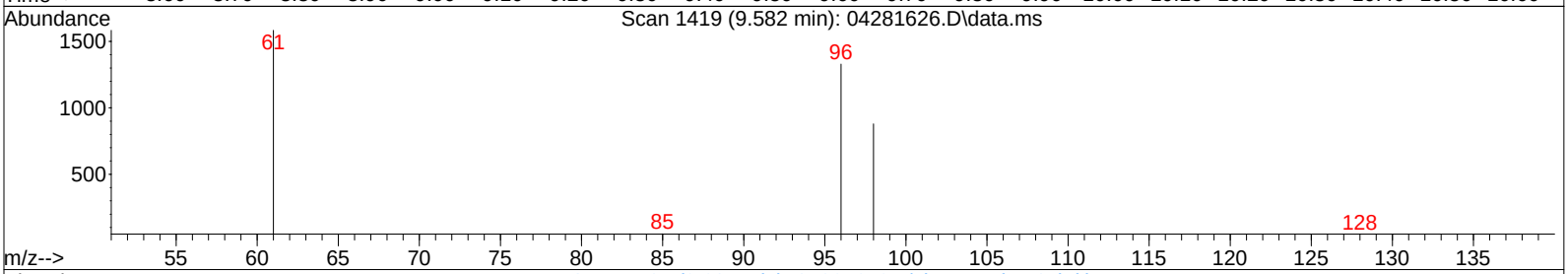
Ion	Exp%	Act%
84.00	100	100
49.00	107.70	113.48
0.00	0.00	0.00
0.00	0.00	0.00

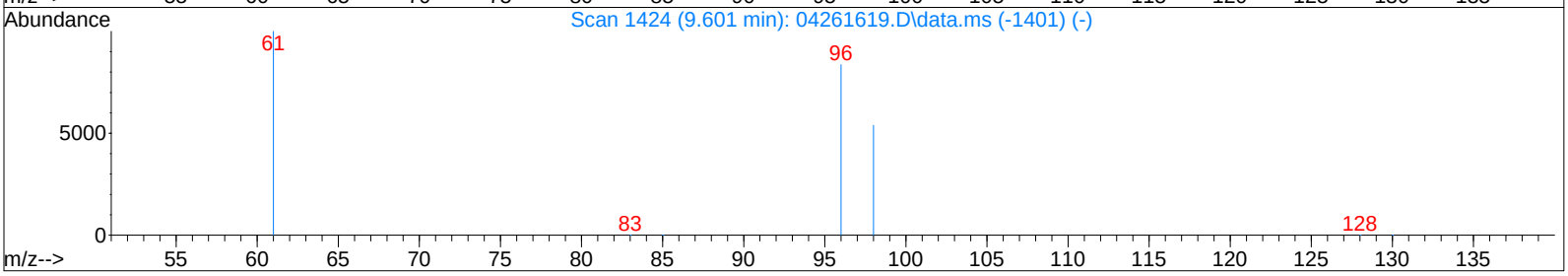
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04281626.D\data.ms

(18) cis-1,2-Dichloroethene (T)

9.582min (-0.020) 100.96pg

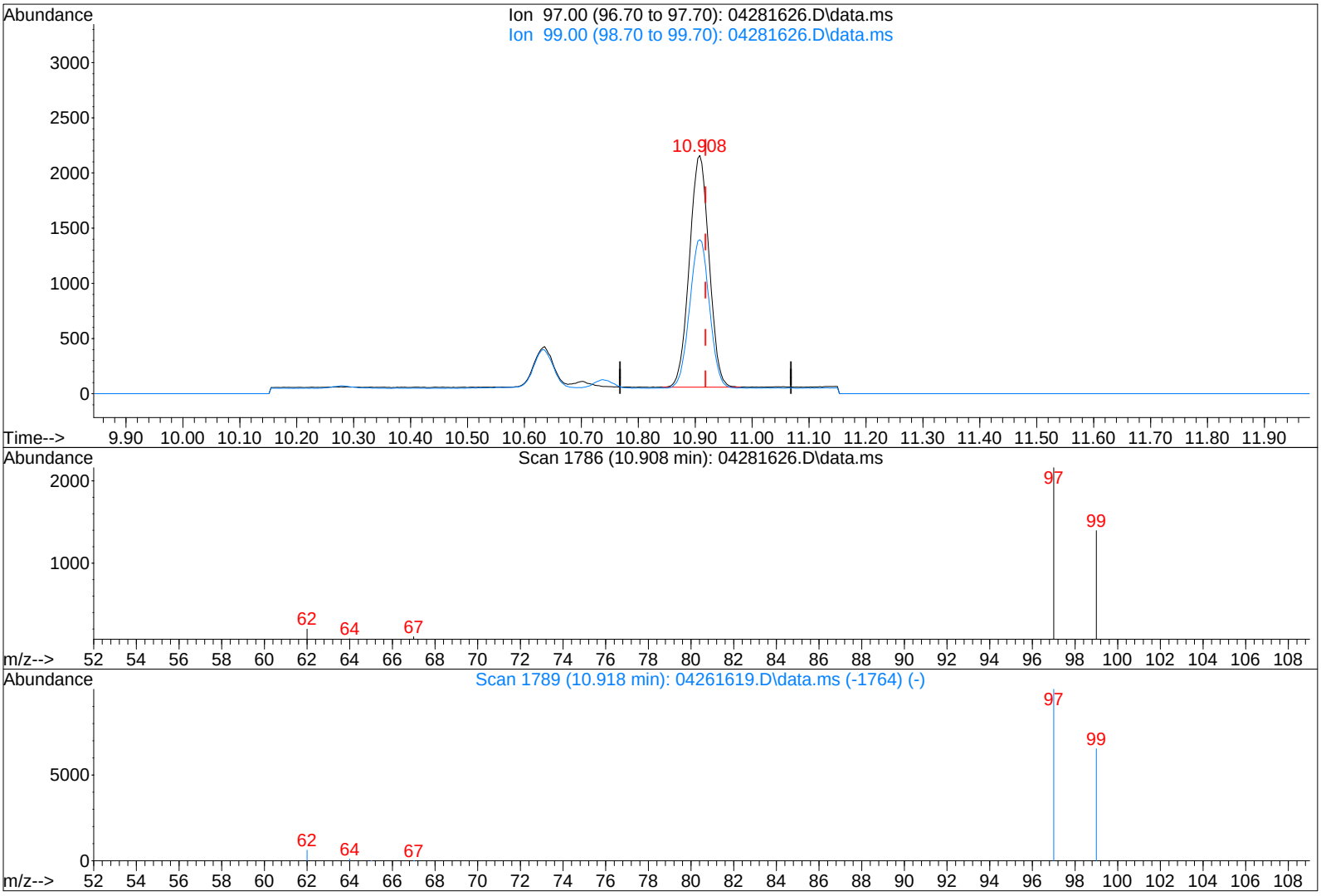
response 3167

Ion	Exp%	Act%
96.00	100	100
98.00	64.10	65.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281626.D\data.ms

(22) 1,1,1-Trichloroethane (T)

10.908min (-0.010) 96.72pg

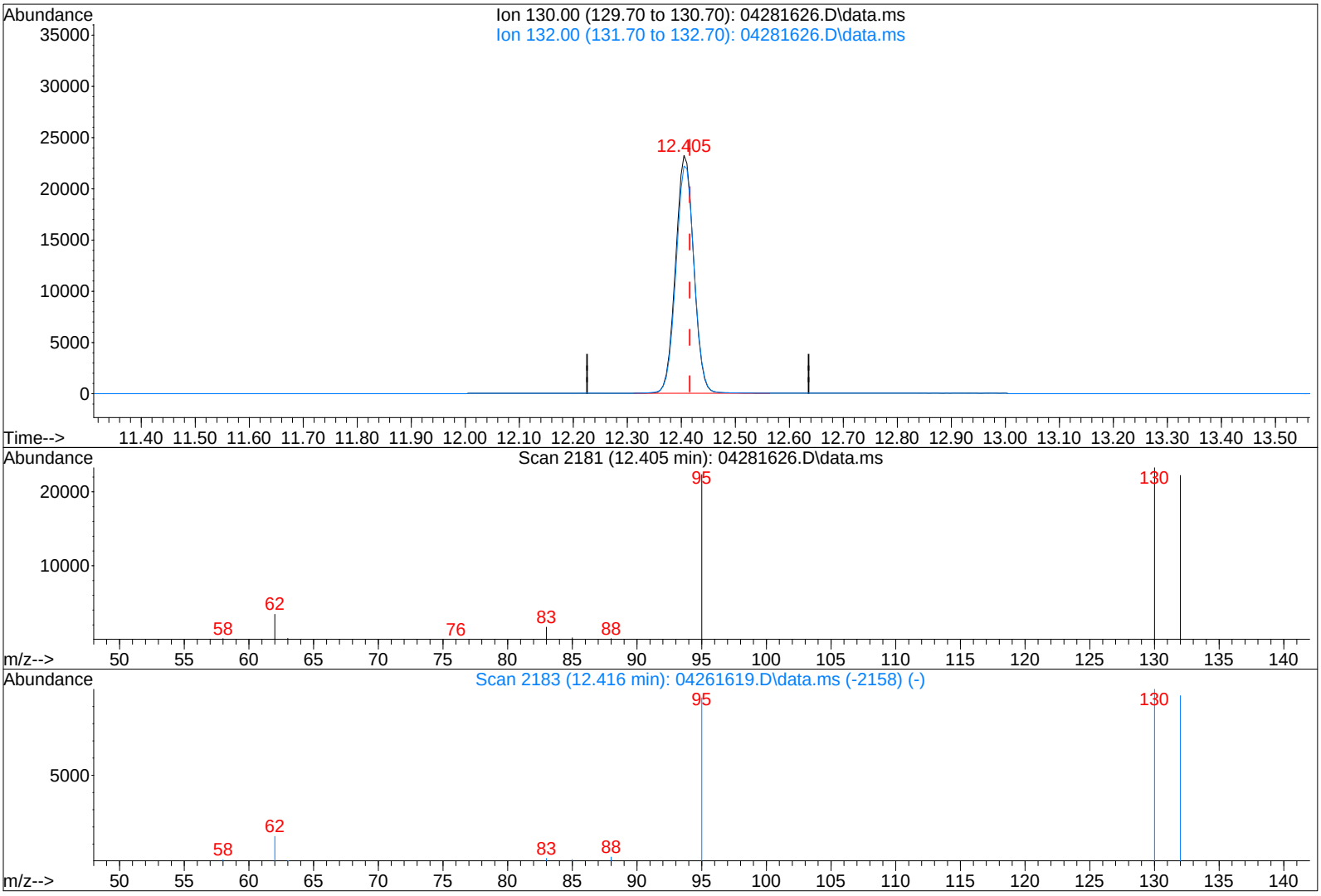
response 5039

Ion	Exp%	Act%
97.00	100	100
99.00	64.40	64.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281626.D\data.ms

(28) Trichloroethene (T)

12.405min (-0.011) 1516.75pg

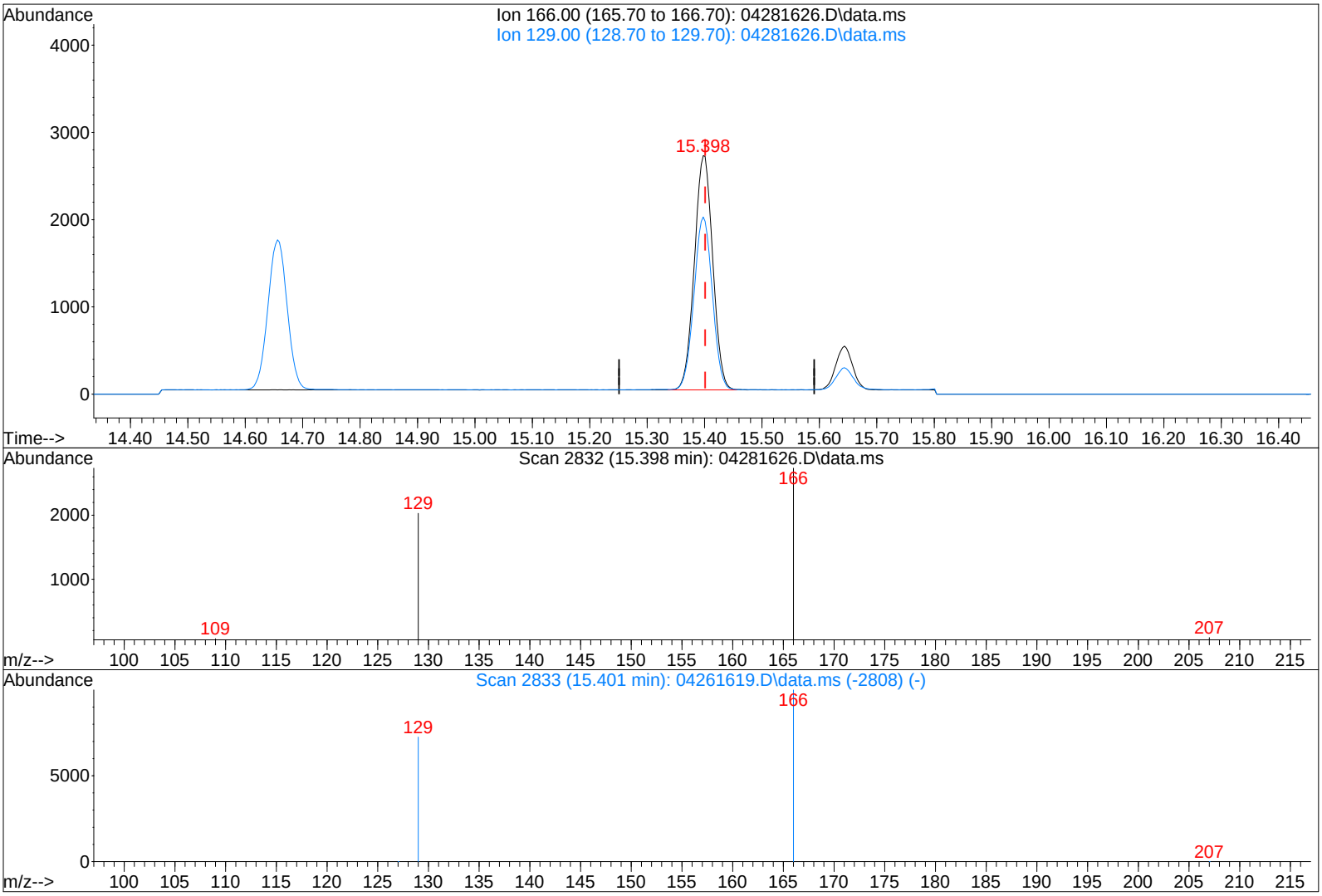
response 53977

Ion	Exp%	Act%
130.00	100	100
132.00	95.40	96.33
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281626.D Vial: 12
Acq On : 28 Apr 2016 23:19 Operator: CL
Sample : P1602147-009 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:14 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281626.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.004) 174.42pg

response 5966

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	73.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 13:01:30 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	22900	1000.000 pg		-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	120376	1000.000 pg		-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	24907	1000.000 pg		0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.53	65	44491	902.527 pg		-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 90.25%			
33) Toluene-d8 (SS2)	14.14	98	130125	1007.460 pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.75%			
45) Bromofluorobenzene (SS3)	17.55	174	76940	1214.505 pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 121.45%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	58894	789.620 pg		100
3) Chloromethane	4.62	52	6147	324.011 pg		99
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	2580	32.546 pg		100
5) Vinyl Chloride	4.93	62	978	N.D.		
6) 1,3-Butadiene	0.00	54	0	N.D. d		
7) Bromomethane	5.40	94	6830	243.500 pg	#	1
8) Chloroethane	5.67	64	367	N.D.		
9) Acrolein	6.24	56	15889	1225.756 pg		97
10) Acetone	6.37	58	715457	41303.253 pg	#	84
11) Trichlorofluoromethane	6.59	101	31632	587.669 pg		100
12) 1,1-Dichloroethene	7.32	96	110	N.D.		
13) Methylene Chloride	7.46	84	23620	739.332 pg		93
14) Trichlorotrifluoroethane	7.79	151	5105	193.331 pg		100
15) trans-1,2-Dichloroethene	8.50	96	512	N.D.		
16) 1,1-Dichloroethane	8.73	63	1452	26.232 pg		99
17) Methyl tert-Butyl Ether	8.77	73	21698	276.660 pg		98
18) cis-1,2-Dichloroethene	9.59	96	1901	59.455 pg		99
19) Chloroform	9.89	83	76255	1280.408 pg		96
21) 1,2-Dichloroethane	10.64	62	377877	8693.436 pg		99
22) 1,1,1-Trichloroethane	10.91	97	3307	62.273 pg		100
23) Benzene	11.36	78	292044	2367.588 pg		99
24) Carbon Tetrachloride	11.51	117	8103	178.283 pg		100
26) 1,2-Dichloropropane	12.17	63	922	29.362 pg		95
27) Bromodichloromethane	12.36	83	23515	502.706 pg	#	78
28) Trichloroethene	12.41	130	25612	717.754 pg		98
29) 1,4-Dioxane	0.00	88	0	N.D. d		
30) cis-1,3-Dichloropropene	13.25	75	738	N.D.		
31) trans-1,3-Dichloropropene	13.76	75	655	N.D.		
32) 1,1,2-Trichloroethane	0.00	83	0	N.D. d		
34) Toluene	14.24	91	2451953	18534.201 pg		98
35) Dibromochloromethane	14.66	129	6028	183.900 pg		100
36) 1,2-Dibromoethane	14.91	107	397	N.D.		
37) Tetrachloroethene	15.40	166	5967	173.977 pg		93
39) Chlorobenzene	0.00	112	0	N.D. d		
40) Ethylbenzene	16.48	91	345823	2829.956 pg		98
41) m,p-Xylene	16.64	91	931502	9831.212 pg		98
42) Styrene	17.01	104	74554	1144.899 pg	#	79
43) o-Xylene	17.12	106	157138	3277.313 pg		96
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
46) 1,3,5-Trimethylbenzene	18.38	105	92454	933.927 pg		97
47) 1,2,4-Trimethylbenzene	18.77	105	281044	2786.595 pg		90
48) 1,3-Dichlorobenzene	18.92	146	454	N.D.		
49) 1,4-Dichlorobenzene	18.98	146	3062	51.218 pg		99
50) 1,2-Dichlorobenzene	19.31	146	548	N.D.		
51) 1,2-Dibromo-3-chloropr...	19.76	157	83	N.D.		
52) 1,2,4-Trichlorobenzene	20.94	182	453	N.D.		
53) Naphthalene	21.06	128	23844	199.318 pg		89

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: May 02 13:01:30 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

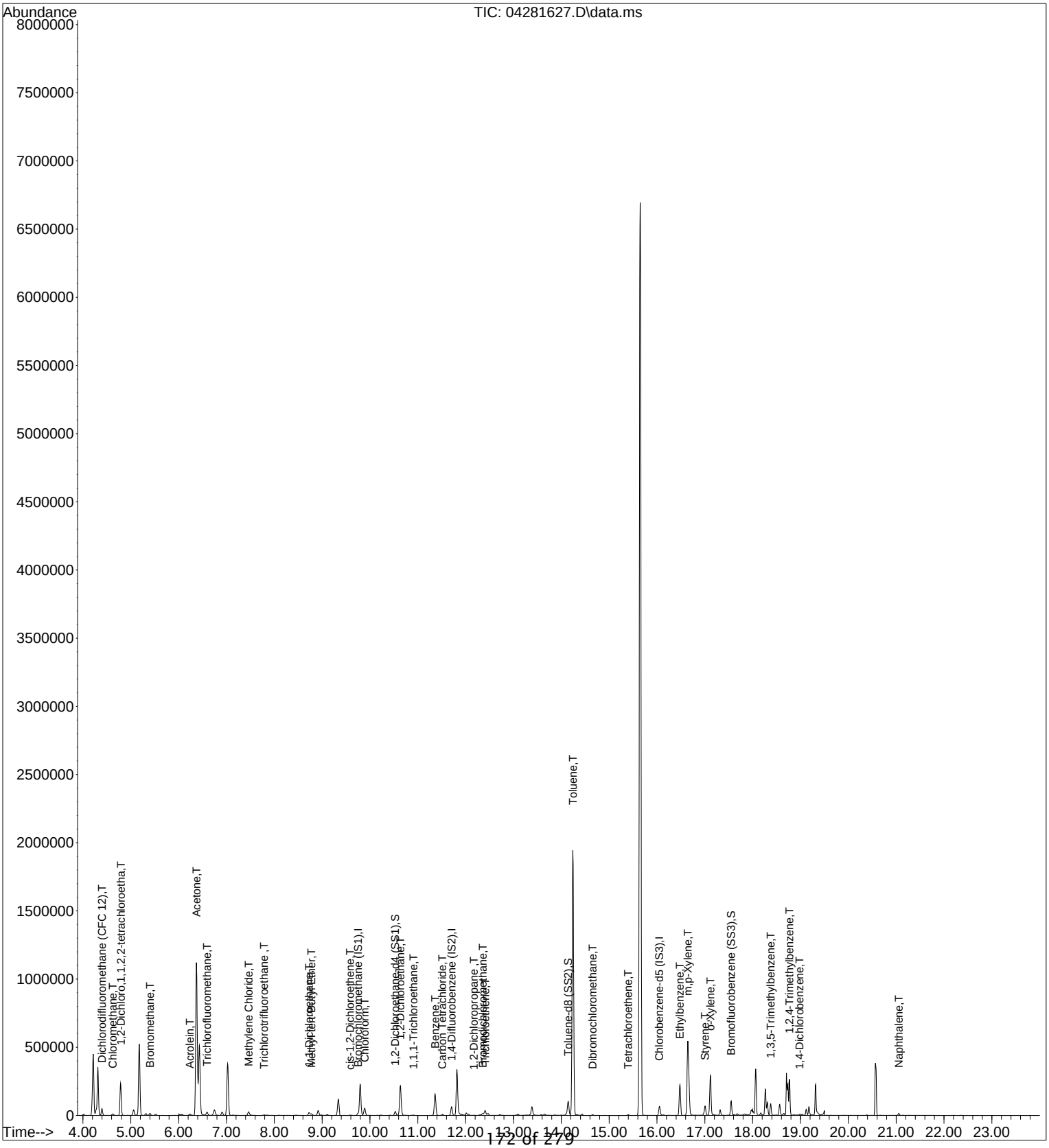
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	83	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

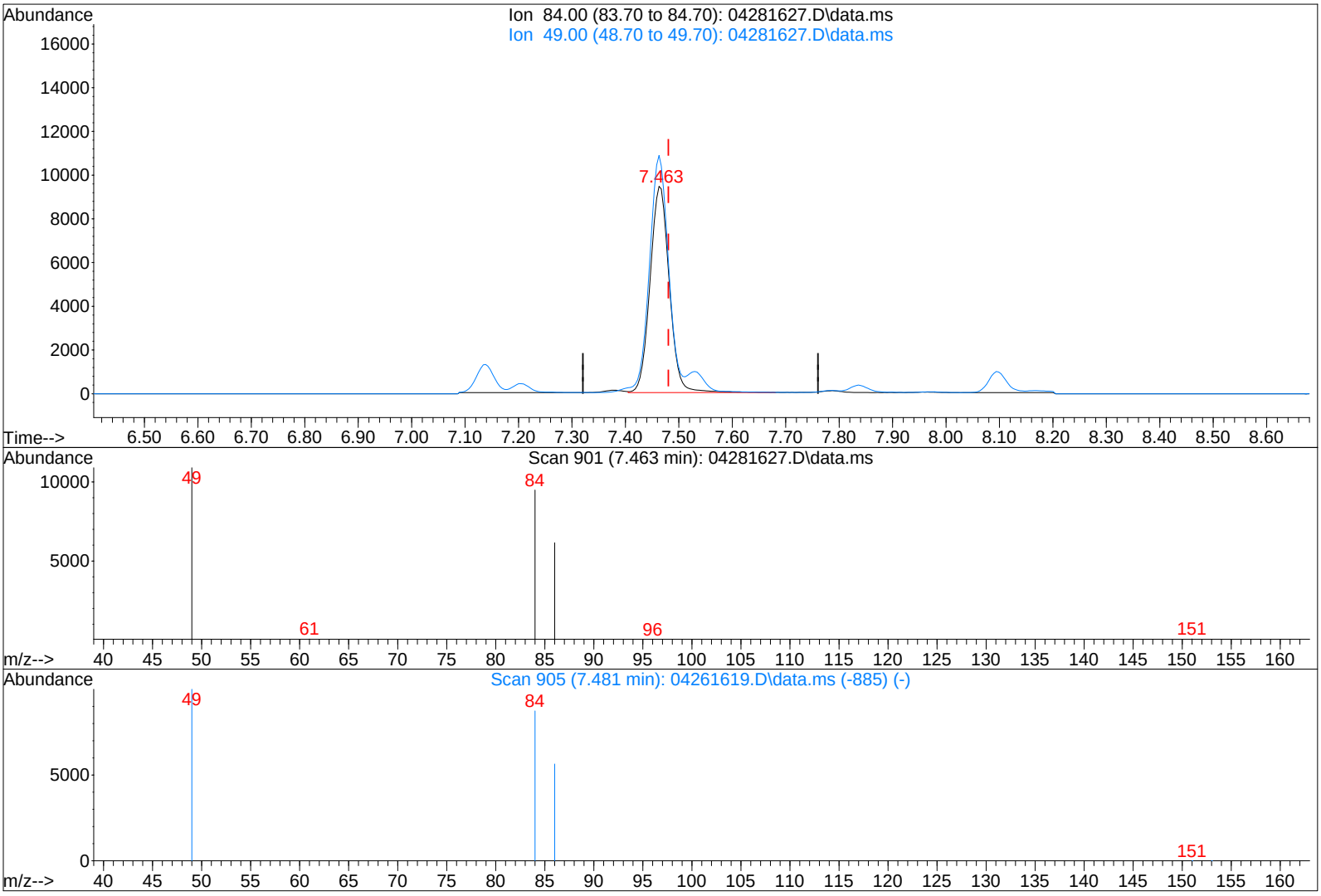
Quant Time: May 02 13:01:30 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(13) Methylene Chloride (T)

7.463min (-0.018) 739.33pg

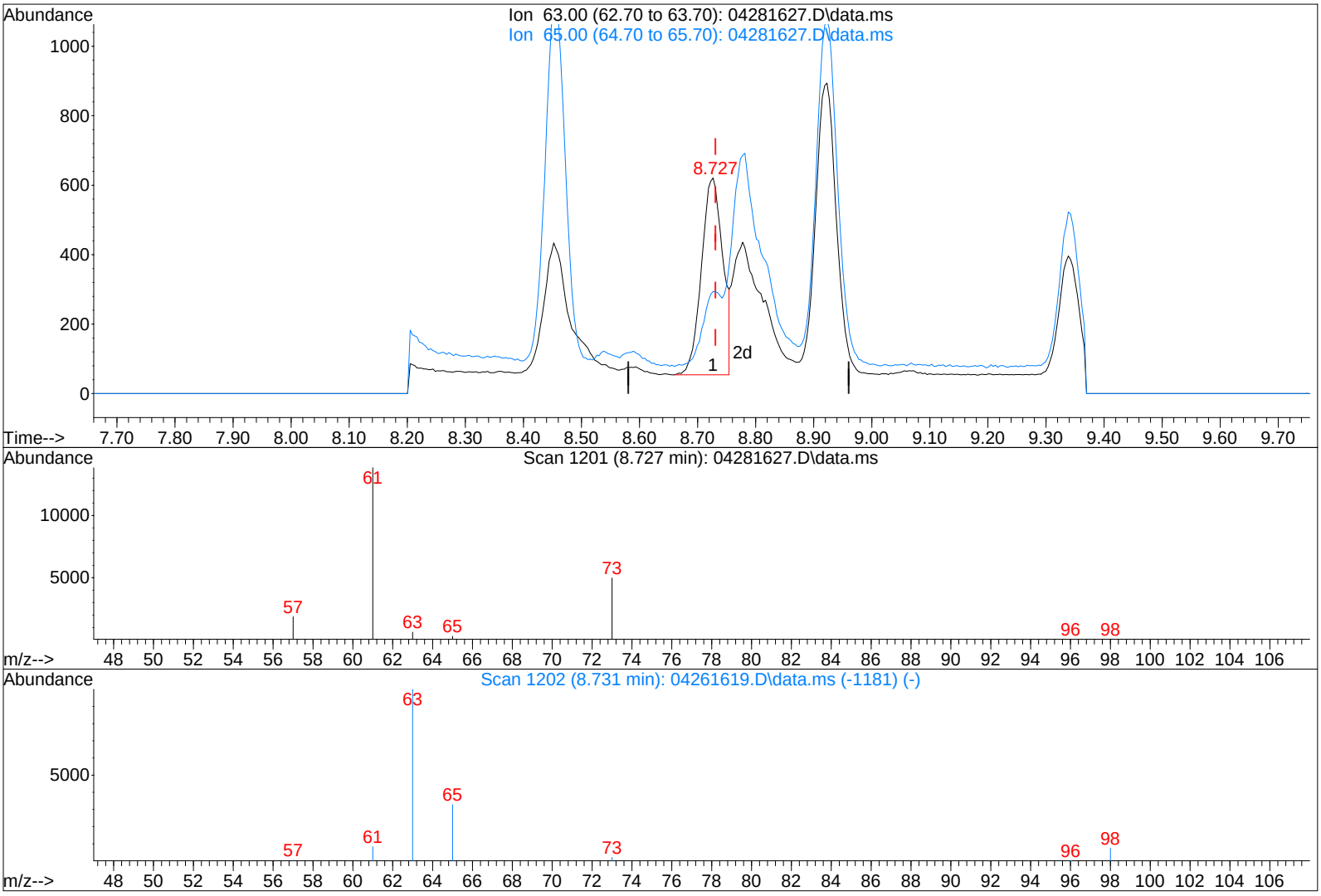
response 23620

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	115.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(16) 1,1-Dichloroethane (T)

8.727min (-0.004) 26.23pg

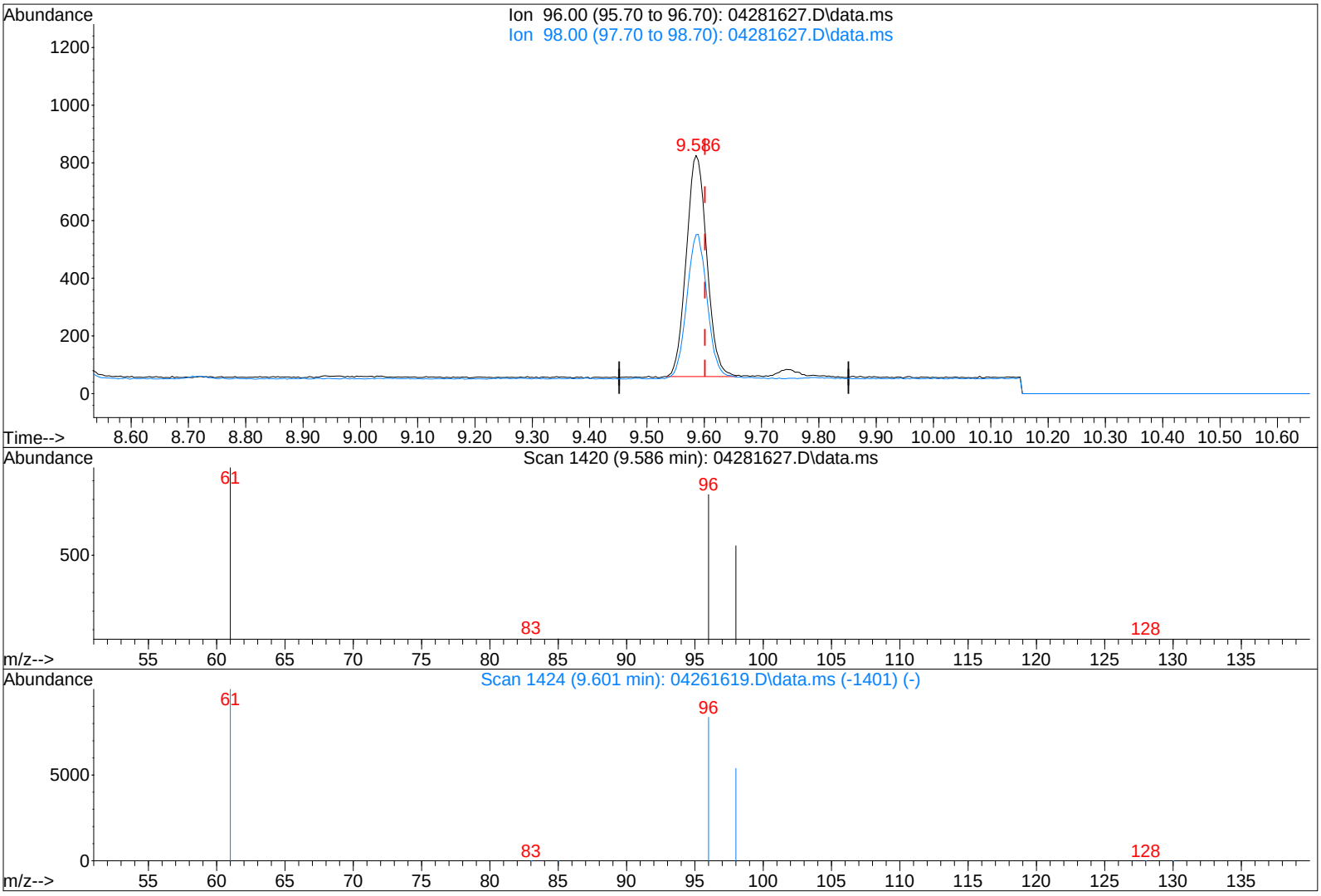
response 1452

Ion	Exp%	Act%
63.00	100	100
65.00	32.00	32.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(18) cis-1,2-Dichloroethene (T)

9.586min (-0.016) 59.46pg

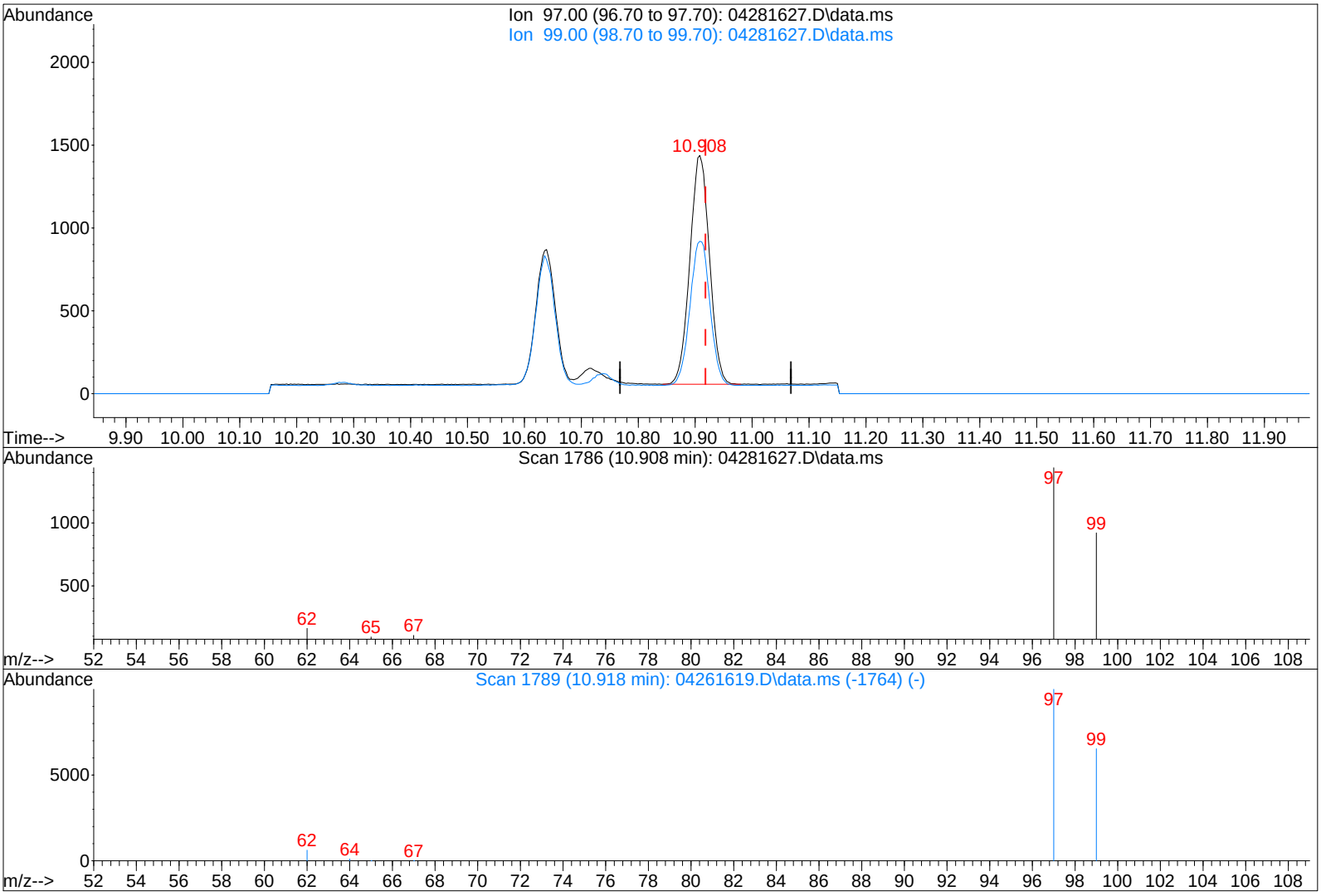
response 1901

Ion	Exp%	Act%
96.00	100	100
98.00	64.10	65.18
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(22) 1,1,1-Trichloroethane (T)

10.908min (-0.010) 62.27pg

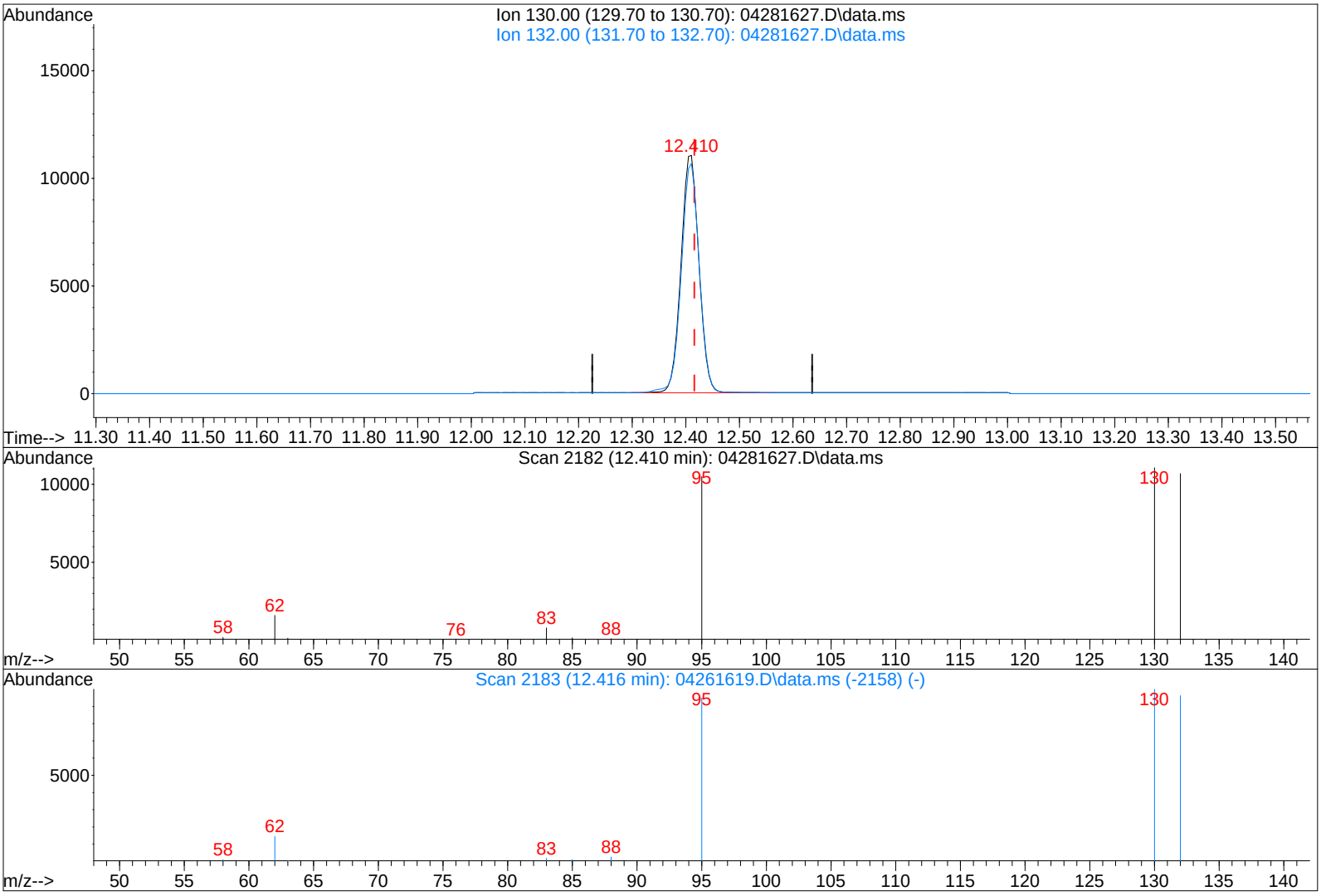
response 3307

Ion	Exp%	Act%
97.00	100	100
99.00	64.40	64.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(28) Trichloroethene (T)

12.410min (-0.005) 717.75pg

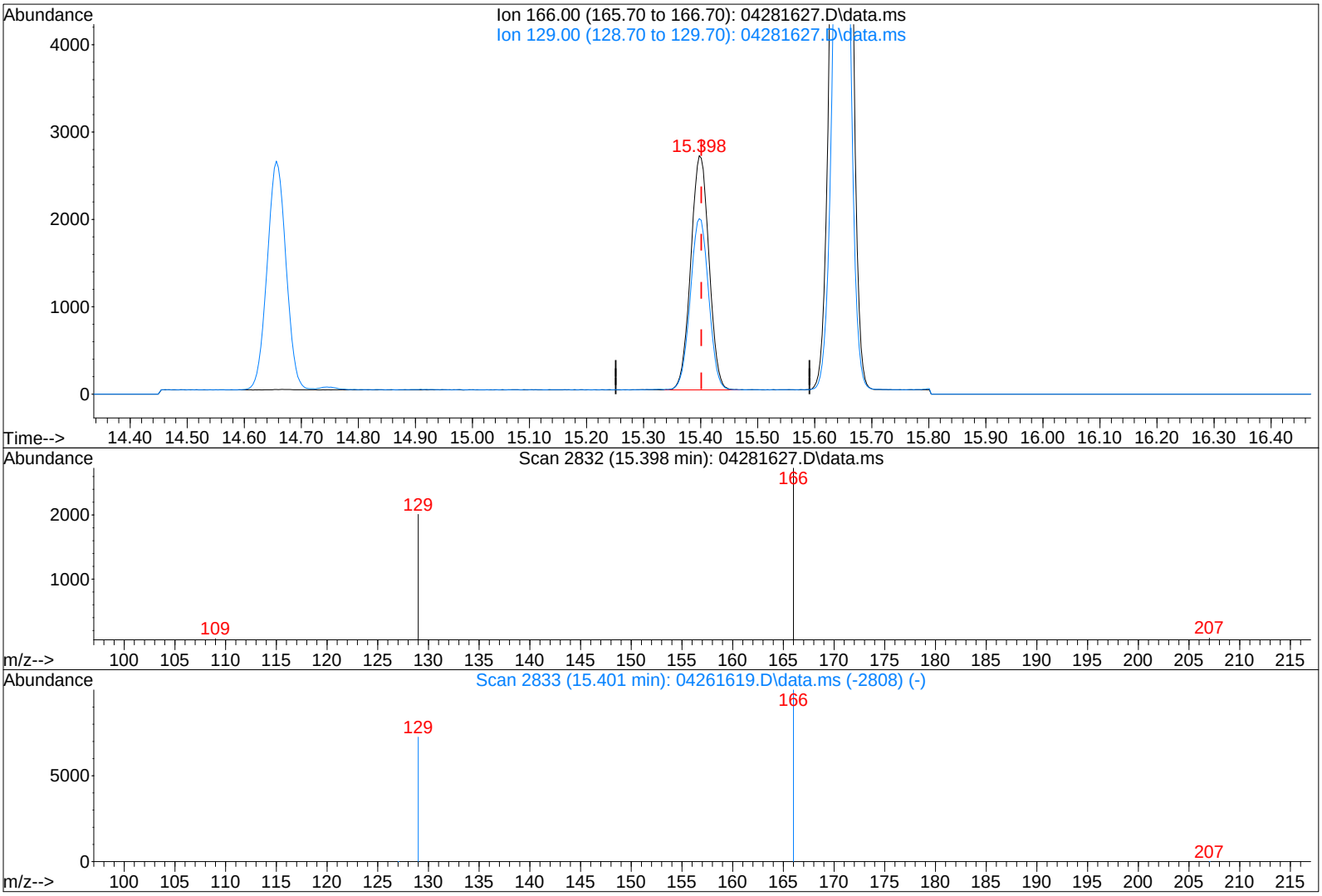
response 25612

Ion	Exp%	Act%
130.00	100	100
132.00	95.40	97.13
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\28\04281627.D Vial: 13
Acq On : 28 Apr 2016 23:51 Operator: CL
Sample : P1602147-010 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04281627.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.003) 173.98pg

response 5967

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	73.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291606.D Vial: 14
Acq On : 29 Apr 2016 7:04 Operator: CL
Sample : P1602147-011 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:22 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18618	1000.000	pg		-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	99010	1000.000	pg		-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20271	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.53	65	38552	961.916	pg		-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.19%				
33) Toluene-d8 (SS2)	14.14	98	108570	1021.969	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.20%				
45) Bromofluorobenzene (SS3)	17.55	174	57546	1116.114	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 111.61%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.41	85	61433	1013.098	pg		100
3) Chloromethane	4.64	52	4723	306.209	pg		96
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	2785	43.212	pg		100
5) Vinyl Chloride	4.94	62	59	N.D.			
6) 1,3-Butadiene	5.12	54	302	N.D.			
7) Bromomethane	5.45	94	429	N.D.			
8) Chloroethane	5.67	64	144	N.D.			
9) Acrolein	6.25	56	2932	278.211	pg		99
10) Acetone	6.38	58	103510	7349.969	pg	#	73
11) Trichlorofluoromethane	6.59	101	22804	521.098	pg		100
12) 1,1-Dichloroethene	0.00	96	0	N.D.			
13) Methylene Chloride	7.46	84	4321	166.359	pg		92
14) Trichlorotrifluoroethane	7.79	151	5073	236.306	pg		100
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.			
16) 1,1-Dichloroethane	8.72	63	124	N.D.			
17) Methyl tert-Butyl Ether	8.79	73	640	N.D.			
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.			
19) Chloroform	9.88	83	2735	56.486	pg		97
21) 1,2-Dichloroethane	10.64	62	2020	57.160	pg		98
22) 1,1,1-Trichloroethane	10.90	97	334	N.D.			
23) Benzene	11.36	78	26420	263.447	pg		99
24) Carbon Tetrachloride	11.51	117	7708	208.597	pg		100
26) 1,2-Dichloropropane	12.17	63	402	N.D.			
27) Bromodichloromethane	12.38	83	679	N.D.			
28) Trichloroethene	12.40	130	519	N.D.			
29) 1,4-Dioxane	0.00	88	0	N.D.			
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
32) 1,1,2-Trichloroethane	13.92	83	174	N.D.			
34) Toluene	14.24	91	468685	4307.285	pg		99
35) Dibromochloromethane	0.00	129	0	N.D.			
36) 1,2-Dibromoethane	0.00	107	0	N.D.			
37) Tetrachloroethene	15.40	166	1274	45.161	pg		97
39) Chlorobenzene	16.10	112	1573	23.965	pg		82
40) Ethylbenzene	16.48	91	42283	425.146	pg		99
41) m,p-Xylene	16.64	91	106811	1385.114	pg		99
42) Styrene	17.01	104	49524	934.455	pg		100
43) o-Xylene	17.12	106	17713	453.916	pg		98
44) 1,1,2,2-Tetrachloroethane	17.05	83	66	N.D.			
46) 1,3,5-Trimethylbenzene	18.38	105	5075	62.990	pg		99
47) 1,2,4-Trimethylbenzene	18.77	105	12638	153.966	pg		89
48) 1,3-Dichlorobenzene	18.92	146	949	N.D.			
49) 1,4-Dichlorobenzene	18.98	146	514	N.D.			
50) 1,2-Dichlorobenzene	19.31	146	104	N.D.			
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.			
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
53) Naphthalene	21.07	128	3115	31.994	pg		96

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291606.D Vial: 14
Acq On : 29 Apr 2016 7:04 Operator: CL
Sample : P1602147-011 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:22 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

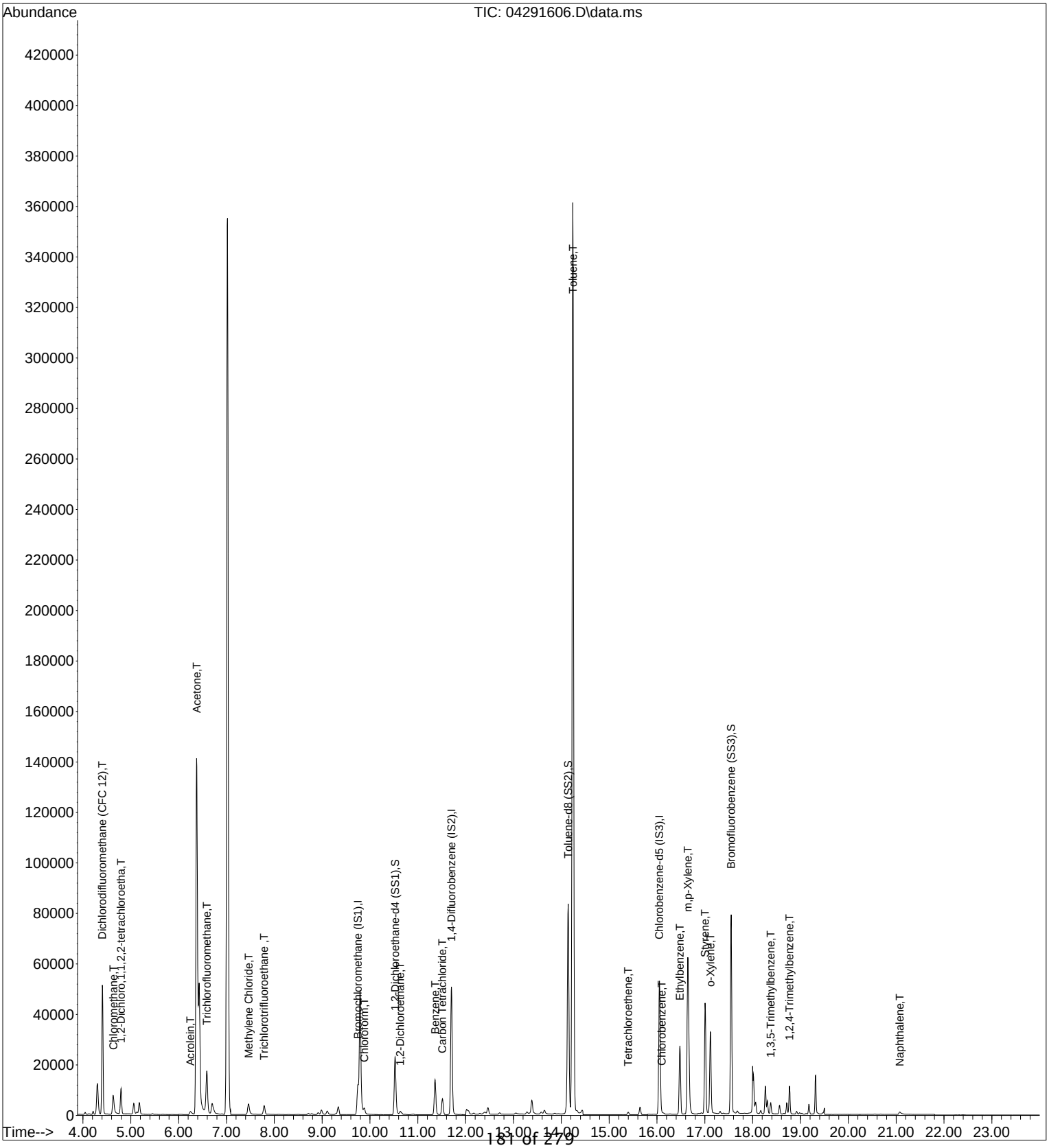
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291606.D Vial: 14
Acq On : 29 Apr 2016 7:04 Operator: CL
Sample : P1602147-011 (1000mL) Inst : MS19
Misc : S29-04191602

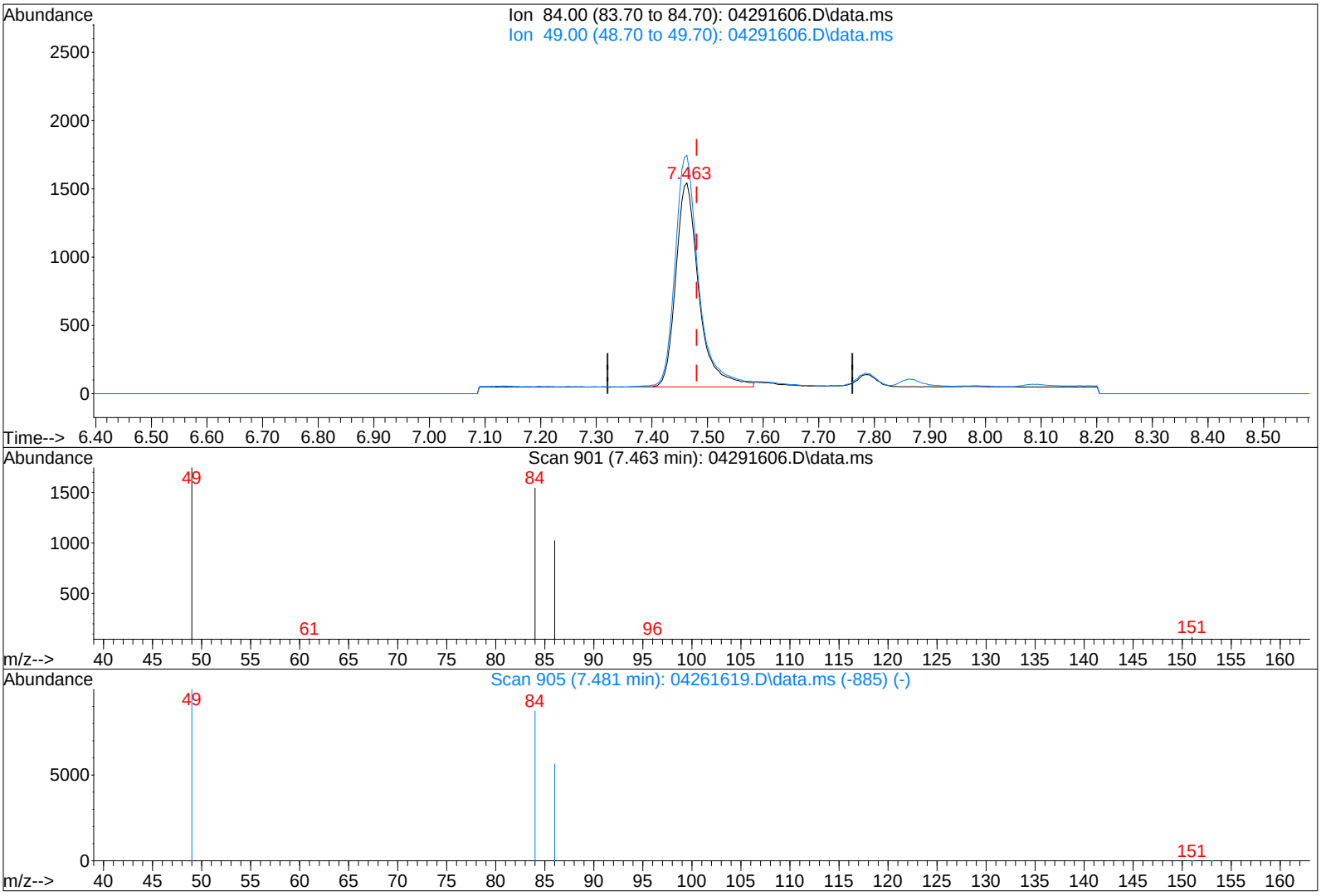
Quant Time: Apr 29 07:30:22 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291606.D Vial: 14
Acq On : 29 Apr 2016 7:04 Operator: CL
Sample : P1602147-011 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:22 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291606.D\data.ms

(13) Methylene Chloride (T)

7.463min (-0.018) 166.36pg

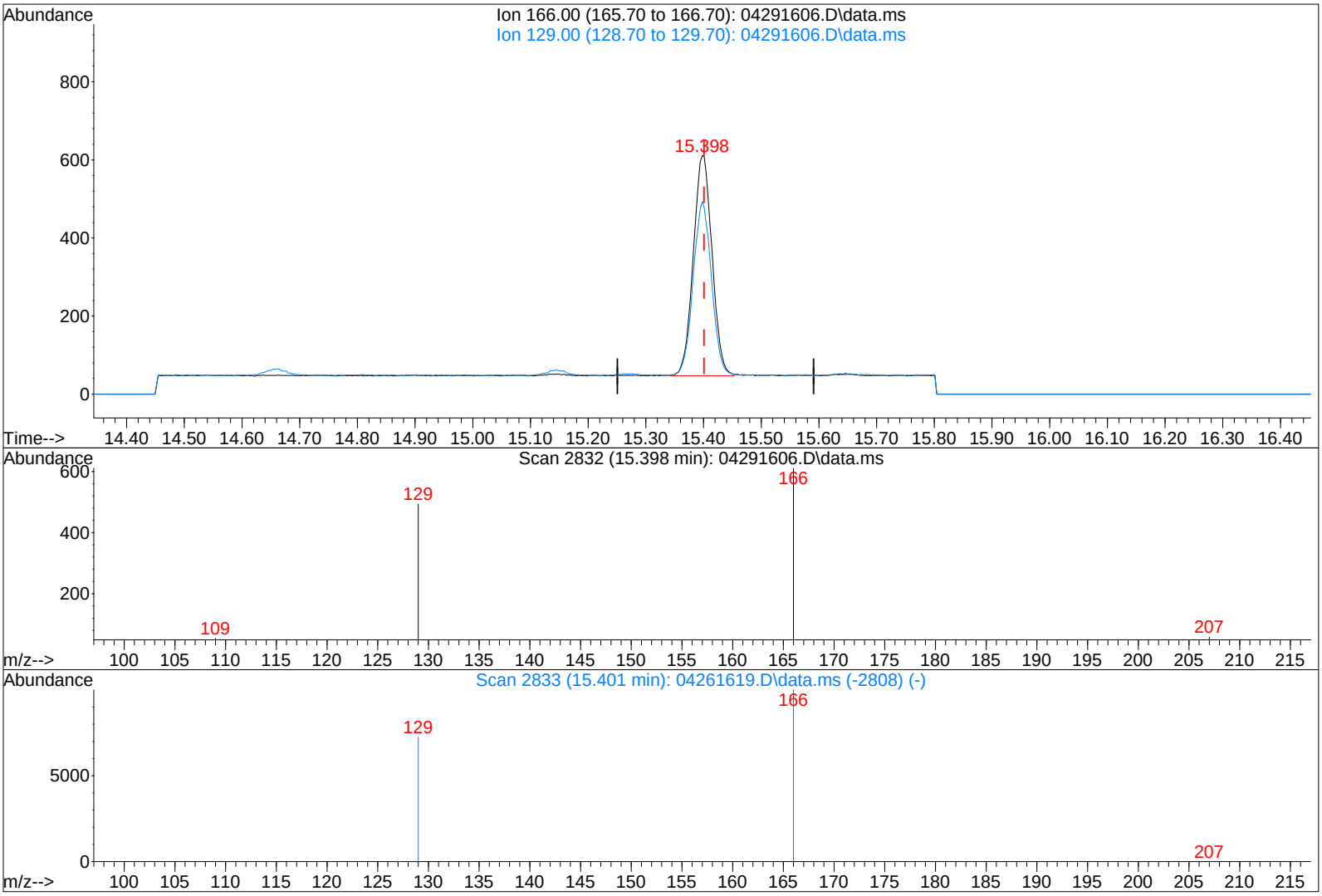
response 4321

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	115.76
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291606.D Vial: 14
Acq On : 29 Apr 2016 7:04 Operator: CL
Sample : P1602147-011 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 07:30:22 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291606.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.003) 45.16pg

response 1274

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	76.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291607.D Vial: 15
Acq On : 29 Apr 2016 7:35 Operator: CL
Sample : P1602147-012 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/3/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18874	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	99469	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20253	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.52	65	39020	960.388 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.04%		
33) Toluene-d8 (SS2)	14.14	98	109743	1028.244 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.82%		
45) Bromofluorobenzene (SS3)	17.55	174	60135	1167.364 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.74%		
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	67635	1100.247 pg	100
3) Chloromethane	4.63	52	5219	333.776 pg	96
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	3018	46.192 pg	99
5) Vinyl Chloride	0.00	62	0	N.D.	
6) 1,3-Butadiene	5.12	54	337	N.D.	
7) Bromomethane	5.44	94	424	N.D.	
8) Chloroethane	5.66	64	128	N.D.	
9) Acrolein	6.24	56	6996	654.830 pg	99
10) Acetone	6.38	58	73225	5128.987 pg #	64
11) Trichlorofluoromethane	6.59	101	25036	564.342 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.46	84	3980	151.152 pg	95
14) Trichlorotrifluoroethane	7.79	151	5375	246.977 pg	99
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.	
16) 1,1-Dichloroethane	8.70	63	215	N.D.	
17) Methyl tert-Butyl Ether	8.79	73	221	N.D.	
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.	
19) Chloroform	9.88	83	2788	56.799 pg	99
21) 1,2-Dichloroethane	10.63	62	1294	36.120 pg	100
22) 1,1,1-Trichloroethane	10.91	97	344	N.D.	
23) Benzene	11.36	78	22083	217.214 pg	100
24) Carbon Tetrachloride	11.51	117	8904	237.695 pg	99
26) 1,2-Dichloropropane	12.17	63	346	N.D.	
27) Bromodichloromethane	12.38	83	486	N.D.	
28) Trichloroethene	12.40	130	236	N.D.	
29) 1,4-Dioxane	0.00	88	0	N.D.	
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	13.73	75	127	N.D.	
32) 1,1,2-Trichloroethane	13.94	83	164	N.D.	
34) Toluene	14.24	91	158312	1448.197 pg	99
35) Dibromochloromethane	0.00	129	0	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	1168	41.213 pg	97
39) Chlorobenzene	16.10	112	962	N.D.	
40) Ethylbenzene	16.48	91	32945	331.549 pg	99
41) m,p-Xylene	16.64	91	84280	1093.906 pg	99
42) Styrene	17.01	104	21783	411.383 pg	100
43) o-Xylene	17.12	106	14316	367.190 pg	95
44) 1,1,2,2-Tetrachloroethane	17.06	83	52	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	4061	50.449 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	10623	129.533 pg	89
48) 1,3-Dichlorobenzene	18.92	146	80	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	420	N.D.	
50) 1,2-Dichlorobenzene	19.31	146	94	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	67	N.D.	
53) Naphthalene	21.06	128	3678	37.810 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291607.D Vial: 15
Acq On : 29 Apr 2016 7:35 Operator: CL
Sample : P1602147-012 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

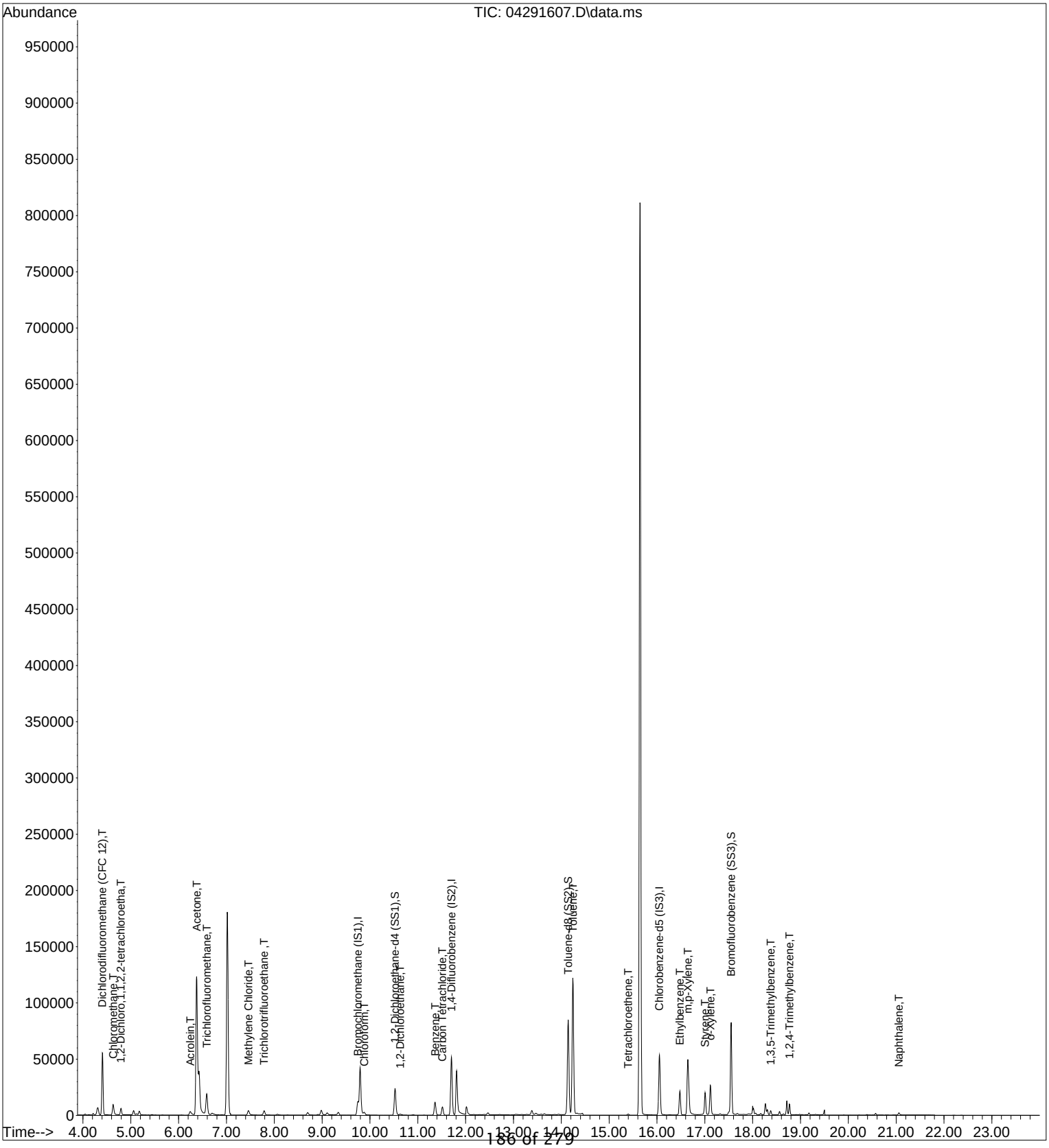
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291607.D Vial: 15
Acq On : 29 Apr 2016 7:35 Operator: CL
Sample : P1602147-012 (1000mL) Inst : MS19
Misc : S29-04191602

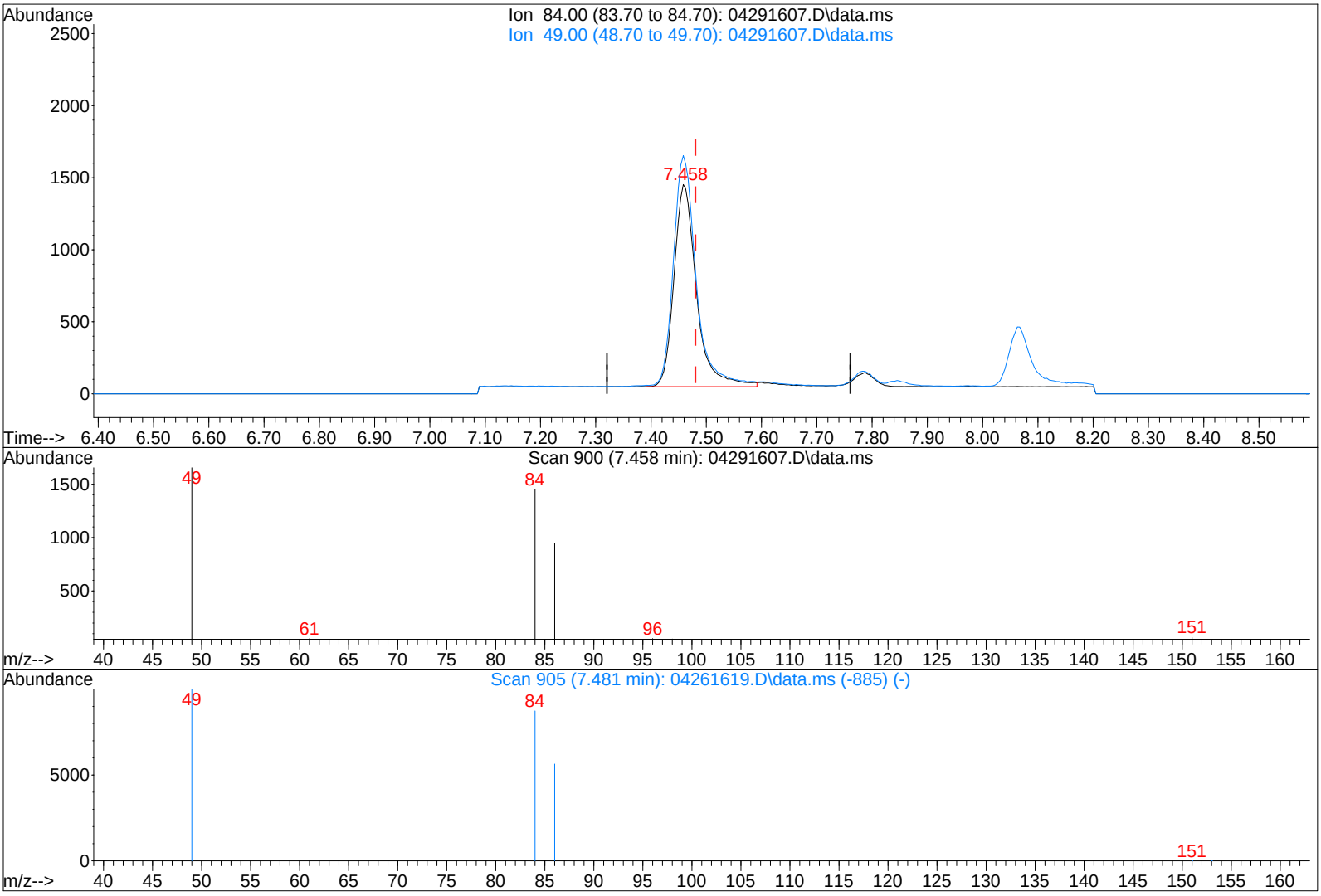
Quant Time: Apr 29 09:28:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291607.D Vial: 15
Acq On : 29 Apr 2016 7:35 Operator: CL
Sample : P1602147-012 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291607.D\data.ms

(13) Methylene Chloride (T)

7.458min (-0.022) 151.15pg

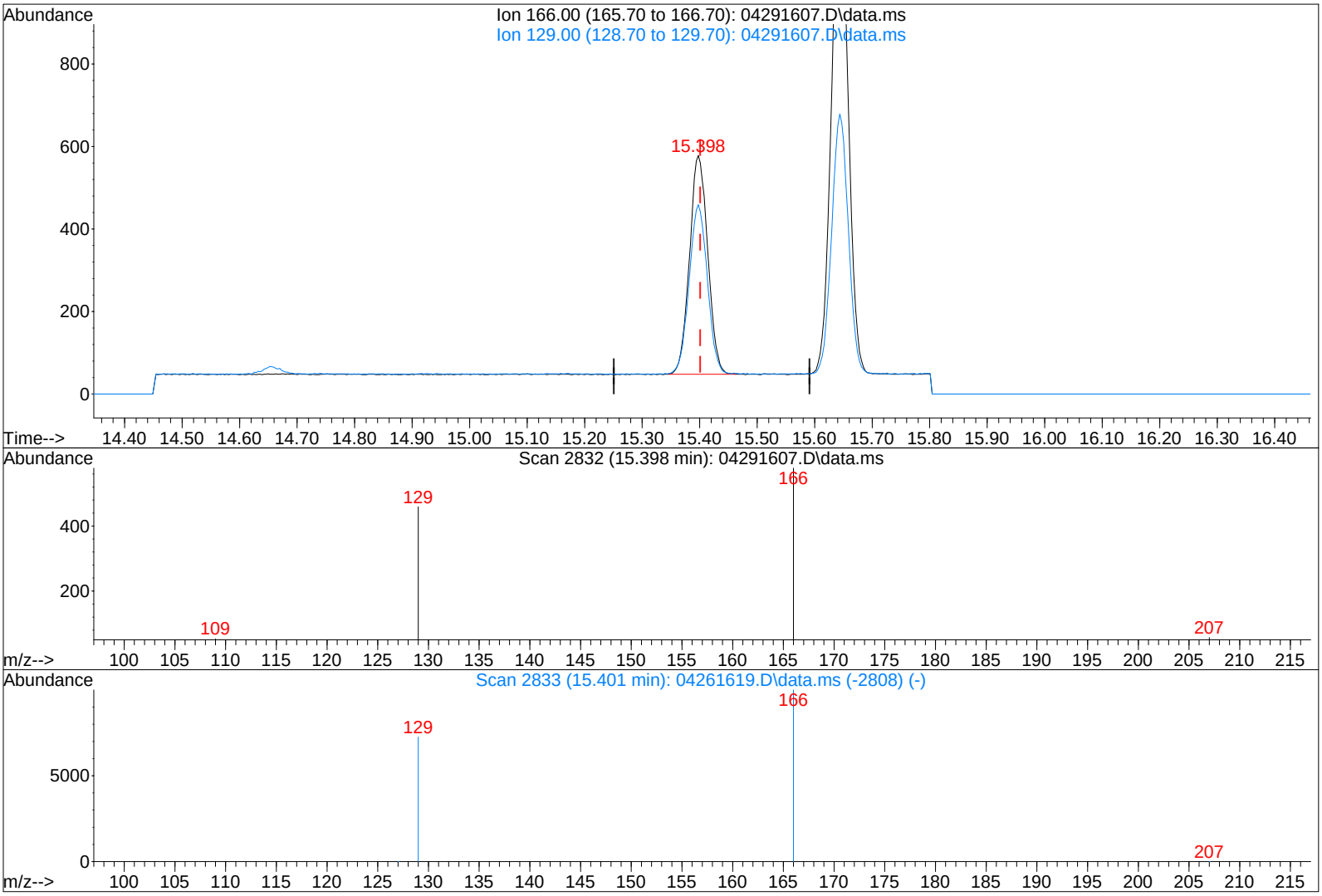
response 3980

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	113.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291607.D Vial: 15
Acq On : 29 Apr 2016 7:35 Operator: CL
Sample : P1602147-012 (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291607.D\data.ms

(37) Tetrachloroethene (T)

15.398min (-0.003) 41.21pg

response 1168

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	77.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281603.D Vial: 2
Acq On : 28 Apr 2016 9:21 Operator: CL
Sample : MB S19042816_1000mL Inst : MS19
Misc : S29-04191602

Quant Time: Apr 28 09:46:10 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/28/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	17984	1000.000	pg		0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	88771	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	19963	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	40205	1038.525	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 103.85%				
33) Toluene-d8 (SS2)	14.15	98	98494	1034.060	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 103.41%				
45) Bromofluorobenzene (SS3)	17.55	174	47316	931.860	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 93.19%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.44	85	547	9.339	pg		99
3) Chloromethane	4.68	52	85	5.705	pg	#	78
4) 1,2-Dichloro,1,1,2,2-t...	0.00	85	0	N.D.			
5) Vinyl Chloride	0.00	62	0	N.D.			
6) 1,3-Butadiene	0.00	54	0	N.D.			
7) Bromomethane	5.50	94	94	N.D.			
8) Chloroethane	0.00	64	0	N.D.			
9) Acrolein	6.32	56	367	36.051	pg	#	51
10) Acetone	6.45	58	3162	232.440	pg	#	78
11) Trichlorofluoromethane	0.00	101	0	N.D.			
12) 1,1-Dichloroethene	0.00	96	0	N.D.			
13) Methylene Chloride	7.50	84	396	15.784	pg	#	78
14) Trichlorotrifluoroethane	0.00	151	0	N.D.			
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.			
16) 1,1-Dichloroethane	0.00	63	0	N.D.			
17) Methyl tert-Butyl Ether	8.73	73	64	N.D.			
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.			
19) Chloroform	9.89	83	973	20.804	pg		99
21) 1,2-Dichloroethane	0.00	62	0	N.D.			
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
23) Benzene	11.37	78	2137	22.060	pg		97
24) Carbon Tetrachloride	0.00	117	0	N.D.			
26) 1,2-Dichloropropane	0.00	63	0	N.D.			
27) Bromodichloromethane	0.00	83	0	N.D.			
28) Trichloroethene	0.00	130	0	N.D.			
29) 1,4-Dioxane	0.00	88	0	N.D.			
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
34) Toluene	14.25	91	607	6.222	pg		97
35) Dibromochloromethane	0.00	129	0	N.D.			
36) 1,2-Dibromoethane	0.00	107	0	N.D.			
37) Tetrachloroethene	0.00	166	0	N.D.			
39) Chlorobenzene	0.00	112	0	N.D.			
40) Ethylbenzene	0.00	91	0	N.D.			
41) m,p-Xylene	16.66	91	120	N.D.			
42) Styrene	17.03	104	54	N.D.			
43) o-Xylene	0.00	106	0	N.D.			
44) 1,1,2,2-Tetrachloroethane	17.13	83	55	N.D.			
46) 1,3,5-Trimethylbenzene	18.38	105	51	N.D.			
47) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.			
48) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
49) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.			
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
53) Naphthalene	0.00	128	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281603.D Vial: 2
Acq On : 28 Apr 2016 9:21 Operator: CL
Sample : MB S19042816_1000mL Inst : MS19
Misc : S29-04191602

Quant Time: Apr 28 09:46:10 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

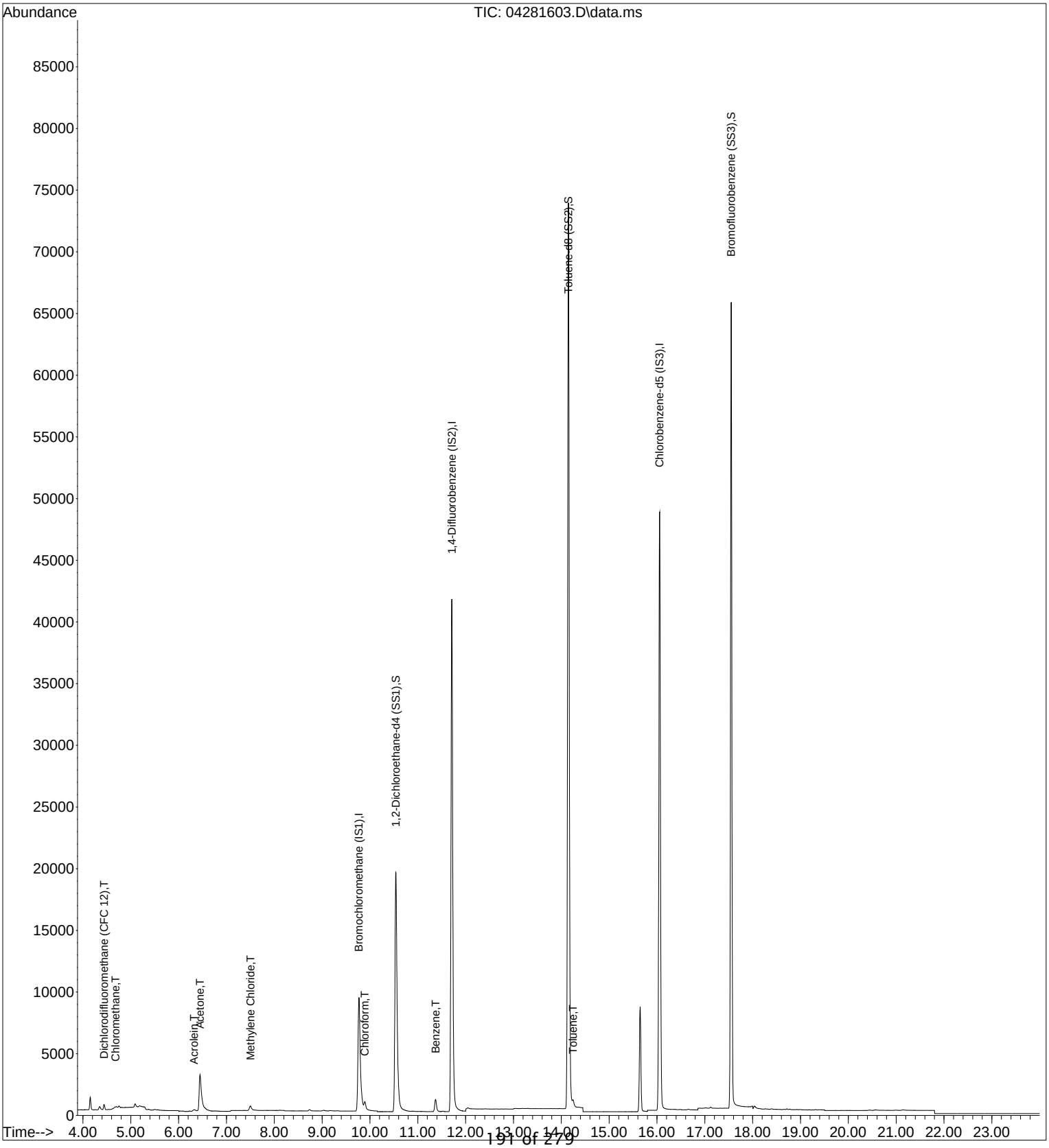
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281603.D Vial: 2
Acq On : 28 Apr 2016 9:21 Operator: CL
Sample : MB S19042816_1000mL Inst : MS19
Misc : S29-04191602

Quant Time: Apr 28 09:46:10 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291603.D Vial: 2
Acq On : 29 Apr 2016 5:30 Operator: CL
Sample : MB S19042916 1000mL Inst : MS19
Misc : S29-04191602/AC01205

Quant Time: Apr 29 07:30:19 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	19690	1000.000	pg		0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	101458	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	20780	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	40321	951.281	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 95.13%				
33) Toluene-d8 (SS2)	14.15	98	108968	1000.967	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.10%				
45) Bromofluorobenzene (SS3)	17.55	174	59210	1120.258	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 112.03%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.44	85	561	N.D.			
3) Chloromethane	0.00	52	0	N.D.			
4) 1,2-Dichloro,1,1,2,2-t...	0.00	85	0	N.D.			
5) Vinyl Chloride	0.00	62	0	N.D.			
6) 1,3-Butadiene	0.00	54	0	N.D.			
7) Bromomethane	0.00	94	0	N.D.			
8) Chloroethane	0.00	64	0	N.D.			
9) Acrolein	6.32	56	398	35.709	pg		97
10) Acetone	6.44	58	4165	279.644	pg	#	78
11) Trichlorofluoromethane	0.00	101	0	N.D.			
12) 1,1-Dichloroethene	0.00	96	0	N.D.			
13) Methylene Chloride	7.49	84	446	N.D.			
14) Trichlorotrifluoroethane	0.00	151	0	N.D.			
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.			
16) 1,1-Dichloroethane	0.00	63	0	N.D.			
17) Methyl tert-Butyl Ether	8.73	73	88	N.D.			
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.			
19) Chloroform	9.89	83	690	N.D.			
21) 1,2-Dichloroethane	0.00	62	0	N.D.			
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
23) Benzene	11.37	78	2176	20.517	pg		98
24) Carbon Tetrachloride	0.00	117	0	N.D.			
26) 1,2-Dichloropropane	0.00	63	0	N.D.			
27) Bromodichloromethane	0.00	83	0	N.D.			
28) Trichloroethene	0.00	130	0	N.D.			
29) 1,4-Dioxane	0.00	88	0	N.D.			
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
34) Toluene	14.25	91	658	N.D.			
35) Dibromochloromethane	0.00	129	0	N.D.			
36) 1,2-Dibromoethane	0.00	107	0	N.D.			
37) Tetrachloroethene	0.00	166	0	N.D.			
39) Chlorobenzene	0.00	112	0	N.D.			
40) Ethylbenzene	16.49	91	54	N.D.			
41) m,p-Xylene	16.66	91	135	N.D.			
42) Styrene	17.02	104	71	N.D.			
43) o-Xylene	0.00	106	0	N.D.			
44) 1,1,2,2-Tetrachloroethane	17.13	83	55	N.D.			
46) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.			
47) 1,2,4-Trimethylbenzene	18.77	105	53	N.D.			
48) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
49) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.			
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
53) Naphthalene	0.00	128	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291603.D Vial: 2
Acq On : 29 Apr 2016 5:30 Operator: CL
Sample : MB S19042916 1000mL Inst : MS19
Misc : S29-04191602/AC01205

Quant Time: Apr 29 07:30:19 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

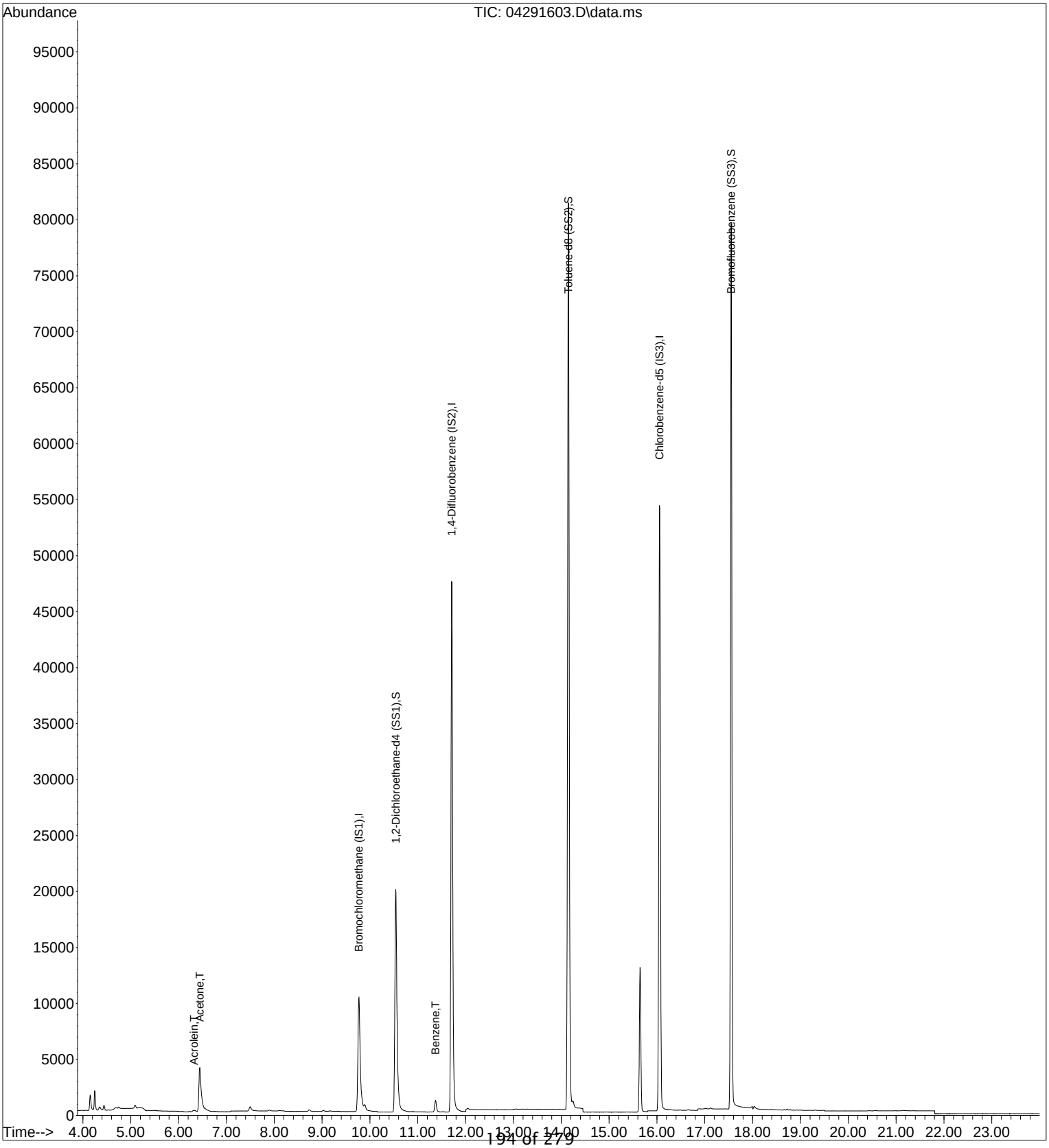
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291603.D Vial: 2
Acq On : 29 Apr 2016 5:30 Operator: CL
Sample : MB S19042916 1000mL Inst : MS19
Misc : S29-04191602/AC01205

Quant Time: Apr 29 07:30:19 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281604.D Vial: 2
Acq On : 28 Apr 2016 9:52 Operator: CL
Sample : LCS S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 28 10:21:31 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/25/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18238	1000.000	pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	98027	1000.000	pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20112	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.53	65	41106	1047.011	pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 104.70%			
33) Toluene-d8 (SS2)	14.14	98	102632	975.762	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.58%			
45) Bromofluorobenzene (SS3)	17.55	174	49903	975.528	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.55%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.42	85	26331	443.275	pg	100
3) Chloromethane	4.65	52	7428	491.617	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	26556	420.628	pg	100
5) Vinyl Chloride	4.94	62	25062	474.436	pg	99
6) 1,3-Butadiene	5.13	54	17255	589.000	pg	100
7) Bromomethane	5.46	94	10471	468.732	pg	100
8) Chloroethane	5.69	64	7329	475.550	pg	99
9) Acrolein	6.26	56	4921	476.671	pg	88
10) Acetone	6.39	58	35716	2588.939	pg	99
11) Trichlorofluoromethane	6.61	101	19582	456.795	pg	100
12) 1,1-Dichloroethene	7.34	96	11245	503.727	pg	99
13) Methylene Chloride	7.47	84	13149	516.786	pg	99
14) Trichlorotrifluoroethane	7.79	151	10403	494.679	pg	100
15) trans-1,2-Dichloroethene	8.51	96	11990	483.160	pg	98
16) 1,1-Dichloroethane	8.71	63	21910	497.010	pg	100
17) Methyl tert-Butyl Ether	8.79	73	32135	514.474	pg	100
18) cis-1,2-Dichloroethene	9.59	96	13271	521.157	pg	99
19) Chloroform	9.88	83	24562	517.848	pg	100
21) 1,2-Dichloroethane	10.64	62	17539	506.645	pg	100
22) 1,1,1-Trichloroethane	10.91	97	20198	477.564	pg	100
23) Benzene	11.36	78	53501	544.601	pg	100
24) Carbon Tetrachloride	11.51	117	17407	480.890	pg	100
26) 1,2-Dichloropropane	12.17	63	12029	470.408	pg	100
27) Bromodichloromethane	12.35	83	17405	456.917	pg	100
28) Trichloroethene	12.40	130	12727	437.978	pg	100
29) 1,4-Dioxane	12.38	88	9081	484.493	pg	99
30) cis-1,3-Dichloropropene	13.25	75	16121	446.790	pg	100
31) trans-1,3-Dichloropropene	13.77	75	14024	454.863	pg	100
32) 1,1,2-Trichloroethane	13.95	83	10520	467.803	pg	99
34) Toluene	14.24	91	48258	447.946	pg	100
35) Dibromochloromethane	14.66	129	12151	455.212	pg	100
36) 1,2-Dibromoethane	14.92	107	12549	467.157	pg	100
37) Tetrachloroethene	15.40	166	11962	428.287	pg	99
39) Chlorobenzene	16.10	112	31847	489.025	pg	100
40) Ethylbenzene	16.48	91	49090	497.491	pg	100
41) m,p-Xylene	16.66	91	79219	1035.425	pg	100
42) Styrene	17.01	104	26367	501.445	pg	100
43) o-Xylene	17.12	106	19601	506.269	pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	21410	466.933	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	42368	530.019	pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	42246	518.742	pg	100
48) 1,3-Dichlorobenzene	18.92	146	24204	500.680	pg	100
49) 1,4-Dichlorobenzene	18.98	146	23294	482.531	pg	100
50) 1,2-Dichlorobenzene	19.31	146	23167	485.425	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6816	454.229	pg	100
52) 1,2,4-Trichlorobenzene	20.94	182	11237	425.778	pg	98
53) Naphthalene	21.06	128	40126	415.393	pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281604.D Vial: 2
Acq On : 28 Apr 2016 9:52 Operator: CL
Sample : LCS S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 28 10:21:31 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

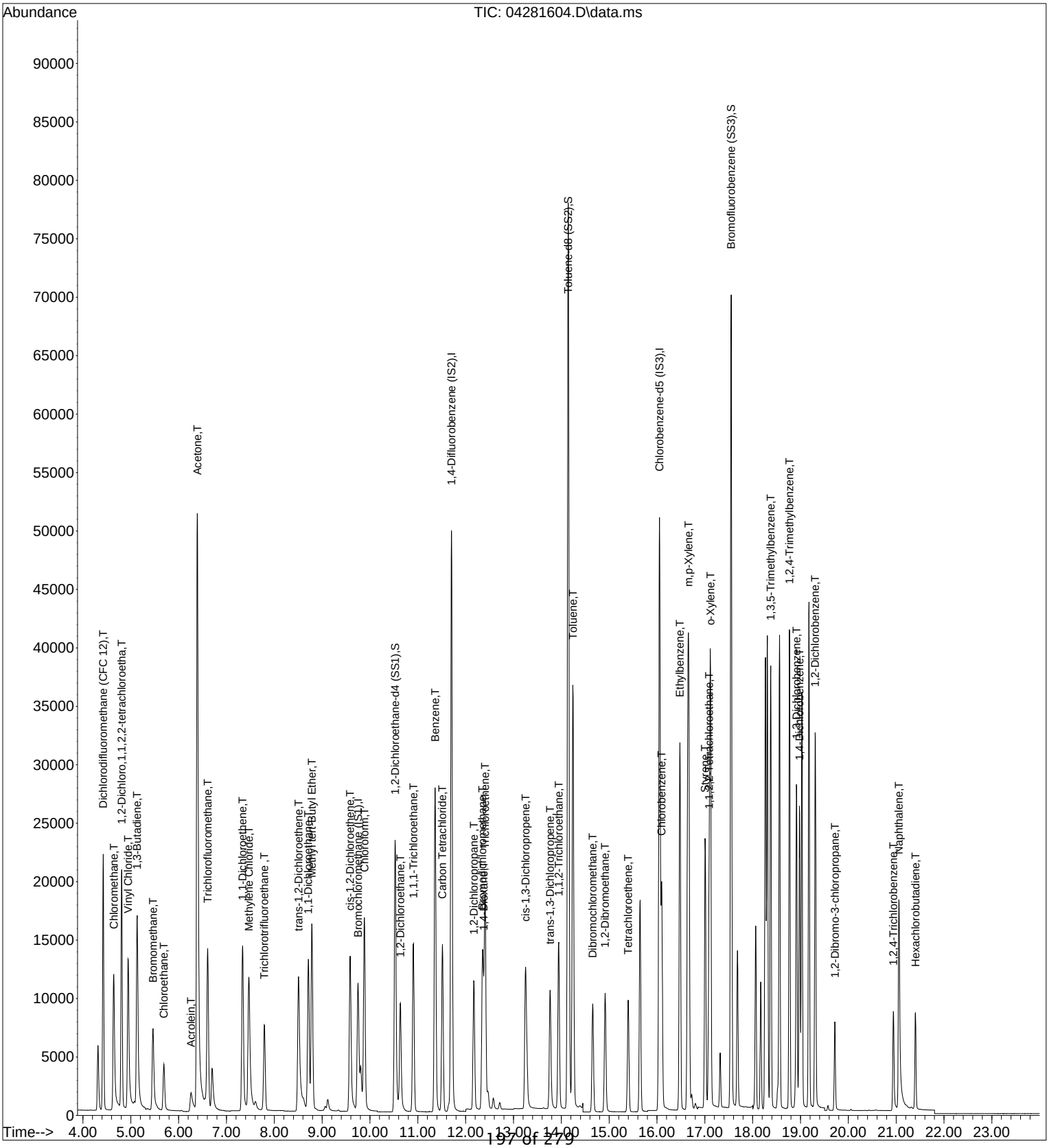
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	7975	450.774	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281604.D Vial: 2
Acq On : 28 Apr 2016 9:52 Operator: CL
Sample : LCS S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 28 10:21:31 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291604.D Vial: 2
Acq On : 29 Apr 2016 6:01 Operator: CL
Sample : LCS S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 29 07:30:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration CL 4/29/16
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	19349	1000.000	pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	103450	1000.000	pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20509	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	40295	967.422	pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.74%			
33) Toluene-d8 (SS2)	14.14	98	108181	974.602	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.46%			
45) Bromofluorobenzene (SS3)	17.55	174	59437	1139.412	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 113.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.41	85	27080	429.708	pg	100
3) Chloromethane	4.63	52	7191	448.604	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	26392	394.027	pg	100
5) Vinyl Chloride	4.93	62	24457	436.399	pg	98
6) 1,3-Butadiene	5.12	54	16553	532.593	pg	98
7) Bromomethane	5.46	94	10849	457.767	pg	99
8) Chloroethane	5.68	64	7504	458.948	pg	98
9) Acrolein	6.25	56	4979	454.597	pg	90
10) Acetone	6.38	58	35563	2429.831	pg	99
11) Trichlorofluoromethane	6.60	101	20259	445.452	pg	100
12) 1,1-Dichloroethene	7.33	96	12027	507.822	pg	96
13) Methylene Chloride	7.46	84	13372	495.374	pg	98
14) Trichlorotrifluoroethane	7.79	151	11288	505.942	pg	99
15) trans-1,2-Dichloroethene	8.50	96	12748	484.209	pg	97
16) 1,1-Dichloroethane	8.71	63	22032	471.081	pg	100
17) Methyl tert-Butyl Ether	8.78	73	35600	537.222	pg	99
18) cis-1,2-Dichloroethene	9.58	96	14029	519.290	pg	100
19) Chloroform	9.88	83	24496	486.802	pg	100
21) 1,2-Dichloroethane	10.63	62	17437	474.777	pg	100
22) 1,1,1-Trichloroethane	10.90	97	21194	472.340	pg	100
23) Benzene	11.36	78	53734	515.566	pg	100
24) Carbon Tetrachloride	11.51	117	18444	480.281	pg	100
26) 1,2-Dichloropropane	12.17	63	12123	449.232	pg	100
27) Bromodichloromethane	12.35	83	17583	437.393	pg	100
28) Trichloroethene	12.41	130	13755	448.541	pg	100
29) 1,4-Dioxane	12.38	88	9964	503.735	pg	96
30) cis-1,3-Dichloropropene	13.25	75	17385	456.564	pg	100
31) trans-1,3-Dichloropropene	13.77	75	15395	473.155	pg	100
32) 1,1,2-Trichloroethane	13.94	83	10703	450.991	pg	98
34) Toluene	14.24	91	50684	445.802	pg	100
35) Dibromochloromethane	14.66	129	13087	464.577	pg	100
36) 1,2-Dibromoethane	14.92	107	13348	470.852	pg	99
37) Tetrachloroethene	15.40	166	13297	451.128	pg	97
39) Chlorobenzene	16.10	112	34068	513.003	pg	99
40) Ethylbenzene	16.48	91	54456	541.188	pg	99
41) m,p-Xylene	16.65	91	85430	1094.991	pg	99
42) Styrene	17.01	104	29101	542.727	pg	100
43) o-Xylene	17.12	106	21307	539.680	pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	21574	461.402	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	45601	559.421	pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	45884	552.507	pg	99
48) 1,3-Dichlorobenzene	18.92	146	26416	535.860	pg	100
49) 1,4-Dichlorobenzene	18.98	146	25618	520.399	pg	99
50) 1,2-Dichlorobenzene	19.31	146	25206	517.926	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	7741	505.886	pg	91
52) 1,2,4-Trichlorobenzene	20.94	182	13540	503.109	pg	98
53) Naphthalene	21.06	128	46111	468.110	pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291604.D Vial: 2
Acq On : 29 Apr 2016 6:01 Operator: CL
Sample : LCS S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 29 07:30:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

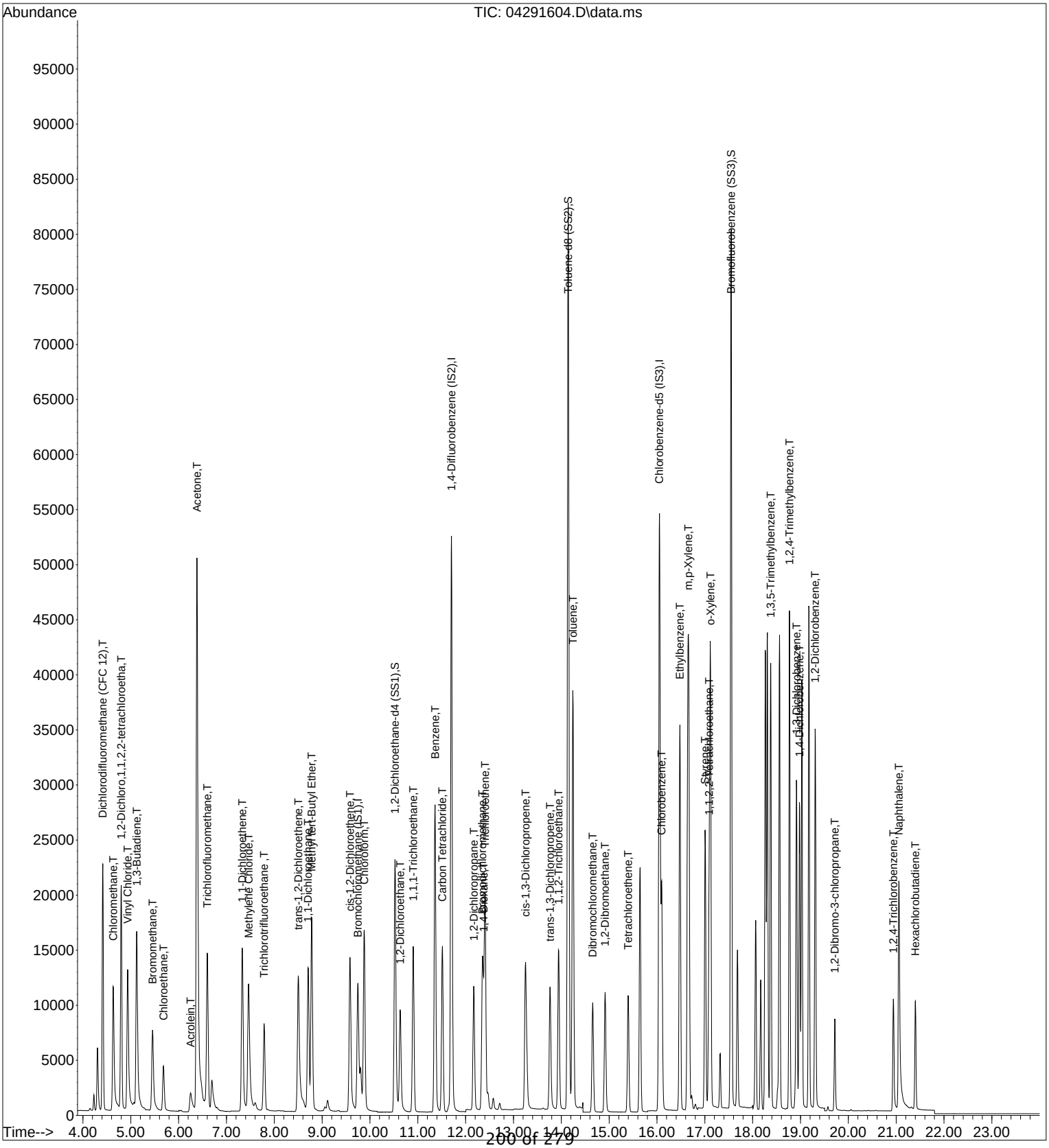
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	9618	533.118	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291604.D Vial: 2
Acq On : 29 Apr 2016 6:01 Operator: CL
Sample : LCS S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 29 07:30:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291608.D Vial: 15
Acq On : 29 Apr 2016 8:07 Operator: CL
Sample : P1602147-012dup (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 5/2/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	19011	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	100531	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20323	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	39069	954.664 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 95.47%		
33) Toluene-d8 (SS2)	14.14	98	110312	1022.656 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.27%		
45) Bromofluorobenzene (SS3)	17.55	174	60222	1165.026 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.50%		
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	67867	1096.066 pg	100
3) Chloromethane	4.64	52	4350	276.196 pg	95
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	3049	46.330 pg	100
5) Vinyl Chloride	0.00	62	0	N.D.	
6) 1,3-Butadiene	5.12	54	302	N.D.	
7) Bromomethane	5.45	94	416	N.D.	
8) Chloroethane	5.67	64	122	N.D.	
9) Acrolein	6.25	56	7097	659.497 pg	99
10) Acetone	6.38	58	73345	5100.371 pg #	63
11) Trichlorofluoromethane	6.59	101	25124	562.245 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.46	84	4069	153.419 pg	95
14) Trichlorotrifluoroethane	7.79	151	5426	247.524 pg	100
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.	
16) 1,1-Dichloroethane	8.70	63	220	N.D.	
17) Methyl tert-Butyl Ether	8.79	73	218	N.D.	
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.	
19) Chloroform	9.88	83	2793	56.491 pg	98
21) 1,2-Dichloroethane	10.63	62	1286	35.638 pg	100
22) 1,1,1-Trichloroethane	10.90	97	337	N.D.	
23) Benzene	11.36	78	21867	213.539 pg	100
24) Carbon Tetrachloride	11.51	117	8942	236.989 pg	99
26) 1,2-Dichloropropane	12.17	63	352	N.D.	
27) Bromodichloromethane	12.38	83	485	N.D.	
28) Trichloroethene	12.40	130	241	N.D.	
29) 1,4-Dioxane	0.00	88	0	N.D.	
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	13.72	75	175	N.D.	
32) 1,1,2-Trichloroethane	13.93	83	178	N.D.	
34) Toluene	14.24	91	158763	1436.981 pg	99
35) Dibromochloromethane	0.00	129	0	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	1172	40.917 pg	98
39) Chlorobenzene	16.10	112	939	N.D.	
40) Ethylbenzene	16.48	91	32947	330.427 pg	99
41) m,p-Xylene	16.64	91	84069	1087.409 pg	99
42) Styrene	17.01	104	21705	408.498 pg	100
43) o-Xylene	17.12	106	14258	364.442 pg	95
44) 1,1,2,2-Tetrachloroethane	17.06	83	67	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	4075	50.449 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	10585	128.625 pg	89
48) 1,3-Dichlorobenzene	18.92	146	74	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	417	N.D.	
50) 1,2-Dichlorobenzene	19.31	146	88	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.	
53) Naphthalene	21.06	128	3511	35.969 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291608.D Vial: 15
Acq On : 29 Apr 2016 8:07 Operator: CL
Sample : P1602147-012dup (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

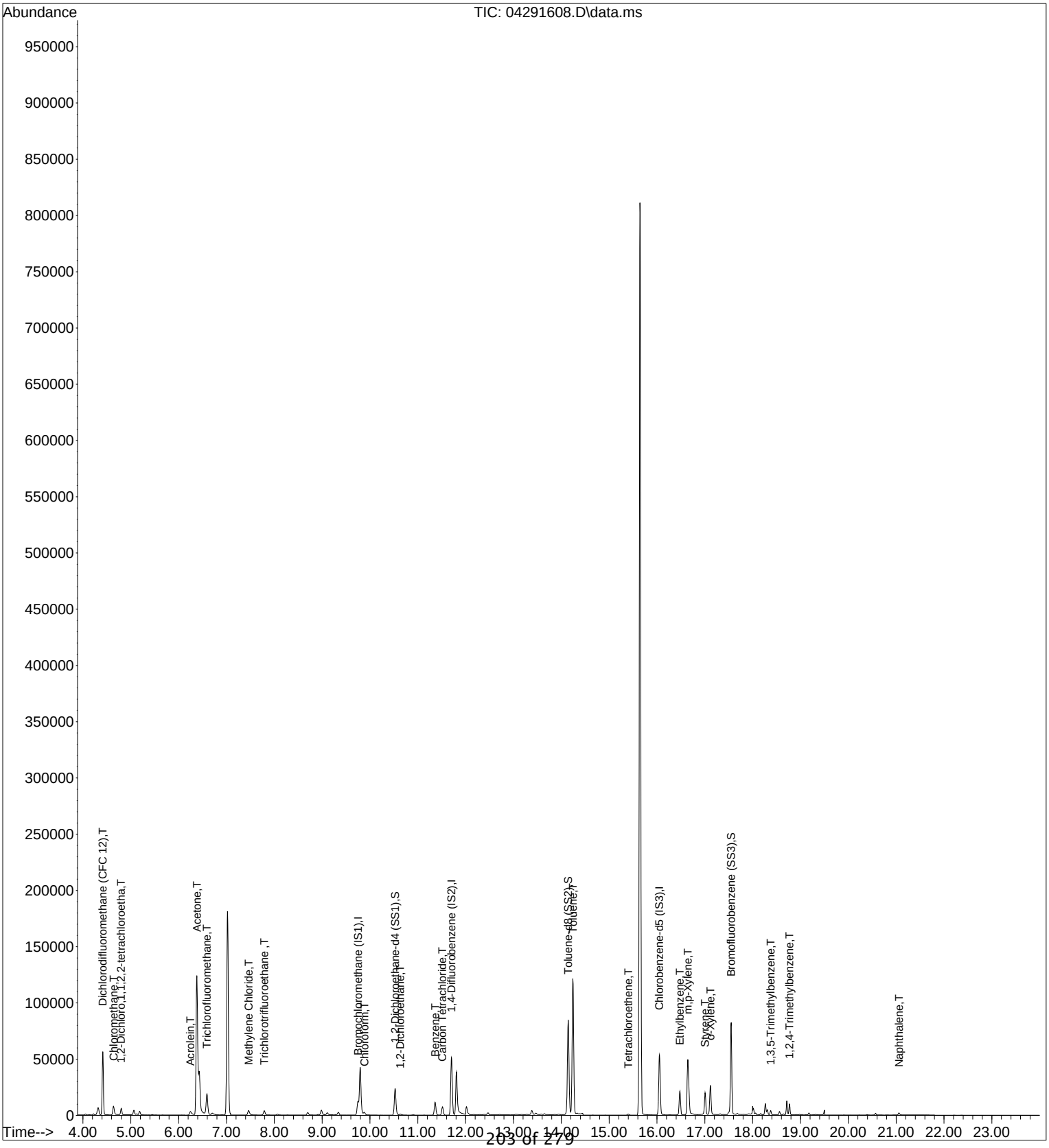
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.		

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\29\04291608.D Vial: 15
Acq On : 29 Apr 2016 8:07 Operator: CL
Sample : P1602147-012dup (1000mL) Inst : MS19
Misc : S29-04191602

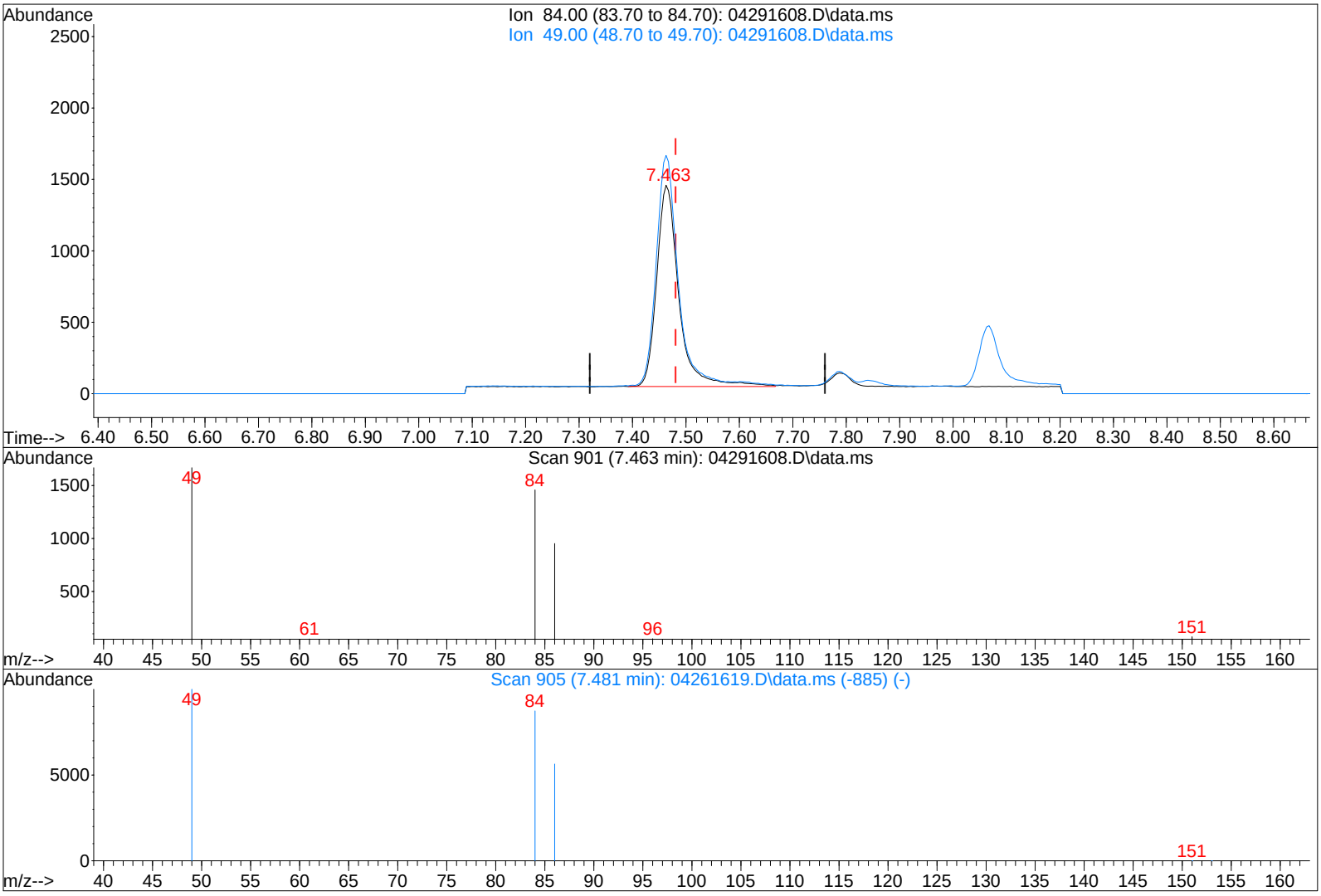
Quant Time: Apr 29 09:28:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291608.D Vial: 15
Acq On : 29 Apr 2016 8:07 Operator: CL
Sample : P1602147-012dup (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291608.D\data.ms

(13) Methylene Chloride (T)

7.463min (-0.018) 153.42pg

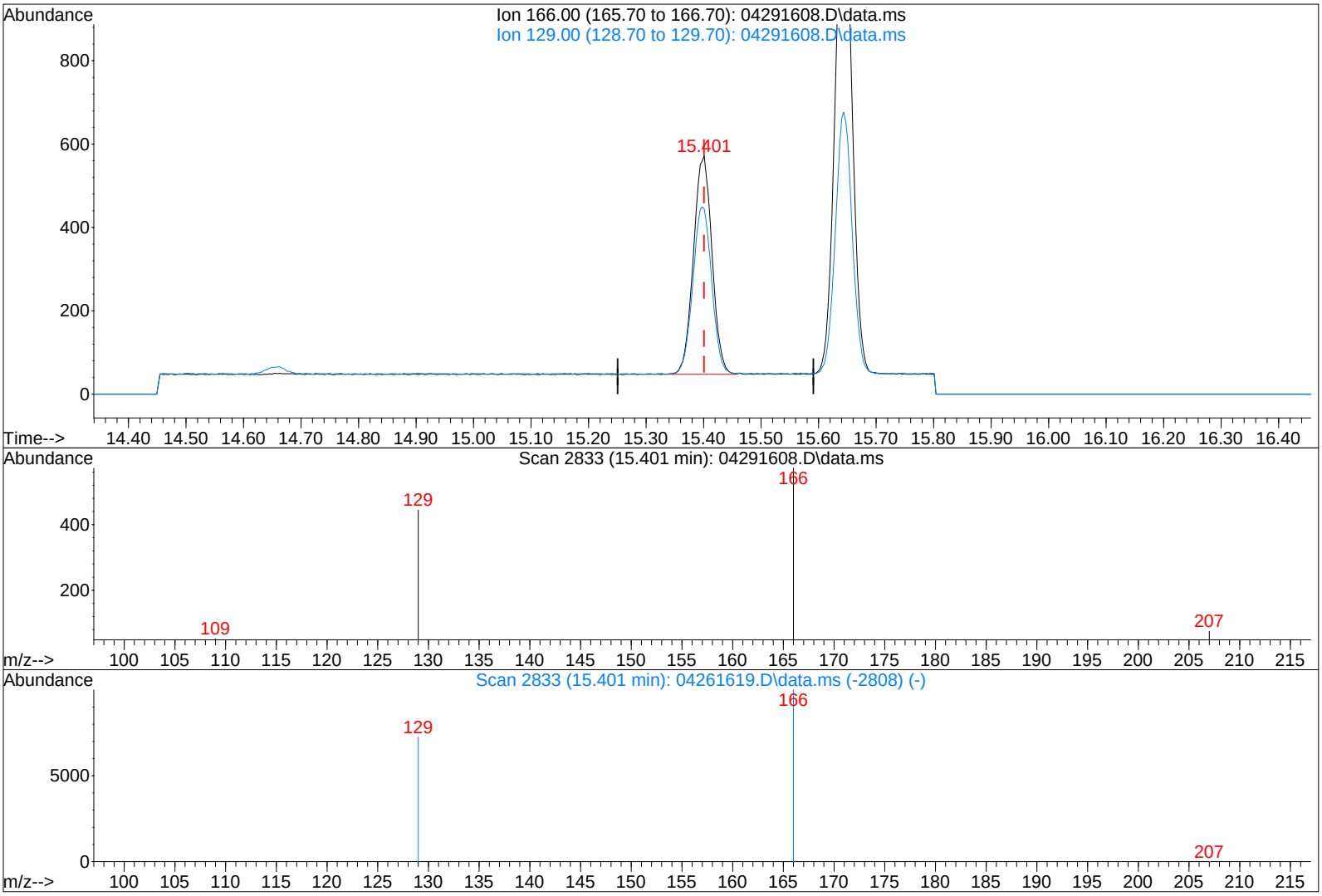
response 4069

Ion	Exp%	Act%
84.00	100	100
49.00	107.70	112.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\29\04291608.D Vial: 15
Acq On : 29 Apr 2016 8:07 Operator: CL
Sample : P1602147-012dup (1000mL) Inst : MS19
Misc : S29-04191602

Quant Time: Apr 29 09:28:13 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04291608.D\data.ms

(37) Tetrachloroethene (T)

15.401min (0.000) 40.92pg

response 1172

Ion	Exp%	Act%
166.00	100	100
129.00	79.80	78.16
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report MS19

Method Path : I:\MS19\METHODS\
Method File : S19042716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Apr 27 11:03:51 2016
Response Via : Initial Calibration

CL 4/27/16

Calibration Files
10 =04261607.D 20 =04261608.D 50 =04261609.D 100 =04261610.D 500 =04261611.D 1000=04261612.D 2000=04261613.D
5000=04261614.D 10K =04261615.D 50K =04261619.D

		Compound	10	20	50	100	500	1000	2000	5000	10K	50K	Avg	%RSD
1)	I	Bromochloromethane...	----------	ISTD	----------									
2)	T	Dichlorodifluo...	3.564	4.209	3.494	3.110	3.145	3.683	3.158	2.919	2.810	2.478	3.257	15.19
3)	T	Chloromethane			1.133	0.971	0.871	0.982	0.808	0.695	0.623	0.545	0.828	24.11
4)	T	1,2-Dichloro,1...	3.909	4.713	3.819	3.358	3.386	3.885	3.239	2.917	2.764	2.628	3.462	18.31
5)	T	Vinyl Chloride	3.217	3.483	3.233	2.848	2.882	3.305	2.797	2.491	2.401	2.308	2.896	14.07
6)	T	1,3-Butadiene	1.024	1.524	1.319	1.203	1.759	2.173	1.849	1.722	1.664	1.826	1.606	21.37
7)	T	Bromomethane	1.410	1.514	1.312	1.157	1.164	1.366	1.157	1.067	1.107	0.993	1.225	13.63
8)	T	Chloroethane	0.818	1.055	0.889	0.804	0.818	0.967	0.834	0.773	0.759	0.732	0.845	11.80
9)	T	Acrolein	1.014	0.592	0.500	0.405	0.454	0.579	0.529	0.527	0.525	0.535	0.566	29.45
10)	T	Acetone			0.851	0.753	0.705	0.882	0.755	0.689	0.661		0.756	10.95
11)	T	Trichlorofluor...	2.509	3.005	2.544	2.253	2.302	2.658	2.256	2.060	2.002	1.915	2.350	14.19
12)	T	1,1-Dichloroet...	1.251	1.355	1.239	1.116	1.173	1.402	1.233	1.178	1.166	1.128	1.224	7.66
13)	T	Methylene Chlo...			1.790	1.532	1.370	1.569	1.346	1.234	1.189	1.130	1.395	15.95
14)	T	Trichlorotrifl...	1.250	1.425	1.179	1.064	1.076	1.260	1.098	1.042	1.036	1.101	1.153	10.86
15)	T	trans-1,2-Dich...	1.362	1.611	1.389	1.207	1.315	1.556	1.362	1.296	1.282	1.227	1.361	9.66
16)	T	1,1-Dichloroet...	2.611	3.004	2.544	2.295	2.369	2.758	2.365	2.168	2.082	1.976	2.417	13.11
17)	T	Methyl tert-Bu...	3.069	3.661	3.162	2.844	3.228	4.058	3.679	3.551	3.507	3.489	3.425	10.30
18)	T	cis-1,2-Dichlo...	1.395	1.544	1.350	1.244	1.354	1.636	1.449	1.367	1.338	1.286	1.396	8.46
19)	T	Chloroform			3.638	2.787	2.556	2.926	2.479	2.243	2.146	2.031	2.601	20.00
20)	S	1,2-Dichloroet...	2.240	2.244	2.235	2.232	2.256	2.169	2.104	2.059	2.034	1.954	2.153	5.01
21)	T	1,2-Dichloroet...	1.910	2.355	1.992	1.785	1.858	2.190	1.882	1.729	1.668	1.611	1.898	12.19
22)	T	1,1,1-Trichlor...	2.503	2.935	2.418	2.143	2.225	2.615	2.261	2.092	2.032	1.966	2.319	12.95
23)	T	Benzene		7.925	6.012	5.008	5.039	5.971	5.127	4.664	4.492	4.240	5.386	20.90
24)	T	Carbon Tetrach...	2.208	2.617	2.033	1.818	1.866	2.195	1.902	1.759	1.727	1.721	1.985	14.37
25)	I	1,4-Difluorobenzen...	----------	ISTD	----------									
26)	T	1,2-Dichloropr...	0.293	0.350	0.280	0.243	0.238	0.281	0.245	0.228	0.223	0.228	0.261	15.39
27)	T	Bromodichlorom...	0.440	0.518	0.414	0.357	0.350	0.412	0.362	0.341	0.334	0.358	0.389	14.83
28)	T	Trichloroethene	0.404	0.371	0.307	0.257	0.260	0.311	0.274	0.259	0.252	0.269	0.296	17.71
29)	T	1,4-Dioxane	0.195	0.220	0.177	0.159	0.160	0.218	0.198	0.192	0.189	0.203	0.191	10.95
30)	T	cis-1,3-Dichlo...	0.350	0.403	0.343	0.308	0.325	0.406	0.378	0.376	0.378	0.414	0.368	9.70
31)	T	trans-1,3-Dich...	0.262	0.321	0.281	0.252	0.277	0.357	0.338	0.343	0.347	0.368	0.315	13.56
32)	T	1,1,2-Trichlor...	0.258	0.302	0.247	0.214	0.208	0.248	0.217	0.203	0.197	0.199	0.229	14.74
33)	S	Toluene-d8 (SS2)	1.128	1.120	1.100	1.080	1.037	1.036	1.051	1.062	1.066	1.050	1.073	3.09
34)	T	Toluene	1.549	1.478	1.126	0.958	0.932	1.126	1.012	0.961	0.931	0.918	1.099	21.09
35)	T	Dibromochlorom...	0.278	0.335	0.276	0.239	0.238	0.291	0.265	0.260	0.261	0.280	0.272	10.20
36)	T	1,2-Dibromoethane	0.282	0.328	0.277	0.245	0.244	0.301	0.274	0.265	0.261	0.264	0.274	9.31
37)	T	Tetrachloroethene	0.305	0.357	0.290	0.254	0.247	0.298	0.270	0.265	0.266	0.298	0.285	11.29
38)	I	Chlorobenzene-d5 (...	----------	ISTD	----------									
39)	T	Chlorobenzene	3.328	3.883	3.290	2.937	2.952	3.674	3.328	3.175	3.046	2.768	3.238	10.59
40)	T	Ethylbenzene	4.426	5.117	4.272	3.900	4.426	5.953	5.630	5.483	5.215	4.641	4.906	13.66
41)	T	m,p-Xylene	3.083	3.607	3.042	2.871	3.652	4.979	4.552	4.306	4.085	3.866	3.804	18.19

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Method Path : I:\MS19\METHODS\
Method File : S19042716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

42)	T	Styrene	1.881	2.167	1.883	1.819	2.338	3.344	3.248	3.256	3.163	3.046	2.614	24.91
43)	T	o-Xylene	1.577	1.768	1.526	1.470	1.854	2.497	2.287	2.170	2.063	2.038	1.925	17.89
44)	T	1,1,2,2-Tetrac...	2.376	2.608	2.216	2.062	2.102	2.701	2.389	2.227	2.108	2.010	2.280	10.28
45)	S	Bromofluoroben...	2.263	2.136	2.303	2.425	2.537	2.612	2.743	2.899	2.939	2.577	2.543	10.52
46)	T	1,3,5-Trimethy...	2.967	3.352	2.979	3.024	3.880	5.385	4.897	4.647	4.438	4.177	3.975	21.95
47)	T	1,2,4-Trimethy...	2.822	3.167	2.858	2.889	3.744	5.449	5.049	4.868	4.741	4.907	4.049	26.01
48)	T	1,3-Dichlorobe...	2.055	2.343	2.097	2.033	2.105	2.967	2.714	2.624	2.515	2.584	2.404	13.54
49)	T	1,4-Dichlorobe...	2.004	2.499	1.992	2.073	2.097	2.963	2.727	2.614	2.526	2.509	2.400	14.09
50)	T	1,2-Dichlorobe...	2.040	2.325	2.053	1.953	2.012	2.898	2.652	2.568	2.489	2.740	2.373	14.48
51)	T	1,2-Dibromo-3-...	0.497	0.609	0.541	0.559	0.576	0.939	0.916	0.935	0.946	0.943	0.746	27.07
52)	T	1,2,4-Trichlor...	1.125	1.215	1.017	0.924	0.833	1.537	1.524	1.587	1.608	1.753	1.312	24.95
53)	T	Naphthalene	4.016	3.975	3.064	3.079	3.146	6.220	6.177	6.143	6.036	6.174	4.803	30.36
54)	T	Hexachlorobuta...	0.835	0.979	0.786	0.708	0.625	0.993	0.930	0.937	0.945	1.059	0.880	15.63

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

CL 4/27/16

0.2ng/L Std. ID: S29-04251604 | 20ng/L Std. ID: S29-04131605
1ng/L Std. ID: S29-04251603 | 200ng/L Std. ID: S29-04131605
4ng/L Std. ID: S29-04251601

Dilution Factors: 5 | 50 | 250 | 1000 | 5000

Compounds	Source Std. mg/m³	Primary Working Standards 200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	Working STD Conc.(ng/L):	0.2	0.2	0.2	4	1	20	4	200	200	200
							Injection (L):	0.050	0.100	0.250	0.025	0.500	0.050	0.625	0.050	0.100	0.250
							ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
Propene	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Dichlorodifluoromethane	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
Chloromethane	0.98	196	19.6	3.92	0.98	0.196		0.0098	0.0196	0.0490	0.098	0.490	0.98	2.450	9.80	19.6	49.0
Freon-114	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Vinyl Chloride	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
1,3-Butadiene	1.06	212	21.2	4.24	1.06	0.212		0.0106	0.0212	0.0530	0.106	0.530	1.06	2.650	10.60	21.2	53.0
Bromomethane	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
Chloroethane	1.01	202	20.2	4.04	1.01	0.202		0.0101	0.0202	0.0505	0.101	0.505	1.01	2.525	10.10	20.2	50.5
Ethanol	5.06	1012	101.2	20.24	5.06	1.012		0.0506	0.1012	0.2530	0.506	2.530	5.06	12.650	50.60	101.2	253.0
Acetonitrile	1.02	204	20.4	4.08	1.02	0.204		0.0102	0.0204	0.0510	0.102	0.510	1.02	2.550	10.20	20.4	51.0
Acrolein	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Acetone	5.37	1074	107.4	21.48	5.37	1.074		0.0537	0.1074	0.2685	0.537	2.685	5.37	13.425	53.70	107.4	268.5
Trichlorofluoromethane	0.99	198	19.8	3.96	0.99	0.198		0.0099	0.0198	0.0495	0.099	0.495	0.99	2.475	9.90	19.8	49.5
Isopropanol	2.09	418	41.8	8.36	2.09	0.418		0.0209	0.0418	0.1045	0.209	1.045	2.09	5.225	20.90	41.8	104.5
Acrylonitrile	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
1,1-Dichloroethene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
tert-Butanol	2.09	418	41.8	8.36	2.09	0.418		0.0209	0.0418	0.1045	0.209	1.045	2.09	5.225	20.90	41.8	104.5
Methylene Chloride	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Allyl Chloride	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Carbon Disulfide	0.98	196	19.6	3.92	0.98	0.196		0.0098	0.0196	0.0490	0.098	0.490	0.98	2.450	9.80	19.6	49.0
trans-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06	0.212		0.0106	0.0212	0.0530	0.106	0.530	1.06	2.650	10.60	21.2	53.0
1,1-Dichloroethane	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
Methyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
Vinyl Acetate	5.07	1014	101.4	20.28	5.07	1.014		0.0507	0.1014	0.2535	0.507	2.535	5.07	12.675	50.70	101.4	253.5
2-Butanone	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
cis-1,2-Dichloroethene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Diisopropyl Ether	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Ethyl Acetate	2.12	424	42.4	8.48	2.12	0.424		0.0212	0.0424	0.1060	0.212	1.060	2.12	5.300	21.20	42.4	106.0
n-Hexane	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
Chloroform	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Tetrahydrofuran	1.02	204	20.4	4.08	1.02	0.204		0.0102	0.0204	0.0510	0.102	0.510	1.02	2.550	10.20	20.4	51.0
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
1,2-Dichloroethane	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
1,1,1-Trichloroethane	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Isopropyl Acetate	2.21	442	44.2	8.84	2.21	0.442		0.0221	0.0442	0.1105	0.221	1.105	2.21	5.525	22.10	44.2	110.5
1-Butanol	2.26	452	45.2	9.04	2.26	0.452		0.0226	0.0452	0.1130	0.226	1.130	2.26	5.650	22.60	45.2	113.0
Benzene	1.11	222	22.2	4.44	1.11	0.222		0.0111	0.0222	0.0555	0.111	0.555	1.11	2.775	11.10	22.2	55.5
Carbon Tetrachloride	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Cyclohexane	2.09	418	41.8	8.36	2.09	0.418		0.0209	0.0418	0.1045	0.209	1.045	2.09	5.225	20.90	41.8	104.5
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
1,2-Dichloropropane	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
Bromodichloromethane	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Trichloroethene	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
1,4-Dioxane	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
Isooctane	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Methyl Methacrylate	2.08	416	41.6	8.32	2.08	0.416		0.0208	0.0416	0.1040	0.208	1.040	2.08	5.200	20.80	41.6	104.0
n-Heptane	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5

Primary Source Standards Concentrations (Working & Initial Calibration)

0.2ng/L Std. ID: S29-04251604			20ng/L Std. ID: S29-04131605															
1ng/L Std. ID: S29-04251603			200ng/L Std. ID: S29-04131605															
4ng/L Std. ID: S29-04251601																		
Dilution Factors:		5	50	250	1000	5000	Working STD Conc.(ng/L):	0.2	0.2	0.2	4	1	20	4	200	200	200
	Source Std.	Primary Working Standards					Injection (L):	0.050	0.100	0.250	0.025	0.500	0.050	0.625	0.050	0.100	0.250
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
cis-1,3-Dichloropropene	1.12	224	22.4	4.48	1.12	0.224		0.0112	0.0224	0.0560	0.112	0.560	1.12	2.800	11.20	22.4	56.0

Primary Source Standards Concentrations (Working & Initial Calibration)

0.2ng/L Std. ID:	S29-04251604		20ng/L Std. ID:	S29-04131605	
1ng/L Std. ID:	S29-04251603		200ng/L Std. ID:	S29-04131605	
4ng/L Std. ID:	S29-04251601				

Dilution Factors:		5	50	250	1000	5000	Working STD Conc.(ng/L):	0.2	0.2	0.2	4	1	20	4	200	200	200
	Source Std.	Primary Working Standards					Injection (L):	0.050	0.100	0.250	0.025	0.500	0.050	0.625	0.050	0.100	0.250
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
4-Methyl-2-pentanone	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
trans-1,3-Dichloropropene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
1,1,2-Trichloroethane	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
Toluene	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
2-Hexanone	1.11	222	22.2	4.44	1.11	0.222		0.0111	0.0222	0.0555	0.111	0.555	1.11	2.775	11.10	22.2	55.5
Dibromochloromethane	1.10	220	22.0	4.40	1.10	0.220		0.0110	0.0220	0.0550	0.110	0.550	1.10	2.750	11.00	22.0	55.0
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
n-Butyl Acetate	1.11	222	22.2	4.44	1.11	0.222		0.0111	0.0222	0.0555	0.111	0.555	1.11	2.775	11.10	22.2	55.5
n-Octane	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Tetrachloroethene	0.99	198	19.8	3.96	0.99	0.198		0.0099	0.0198	0.0495	0.099	0.495	0.99	2.475	9.90	19.8	49.5
Chlorobenzene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Ethylbenzene	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
m-&p-Xylene	2.08	416	41.6	8.32	2.08	0.416		0.0208	0.0416	0.1040	0.208	1.040	2.08	5.200	20.80	41.6	104.0
Bromoform	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Styrene	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
o-Xylene	1.02	204	20.4	4.08	1.02	0.204		0.0102	0.0204	0.0510	0.102	0.510	1.02	2.550	10.20	20.4	51.0
n-Nonane	1.01	202	20.2	4.04	1.01	0.202		0.0101	0.0202	0.0505	0.101	0.505	1.01	2.525	10.10	20.2	50.5
1,1,2,2-Tetrachloroethane	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
Cumene	1.01	202	20.2	4.04	1.01	0.202		0.0101	0.0202	0.0505	0.101	0.505	1.01	2.525	10.10	20.2	50.5
alpha-Pinene	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
n-Propylbenzene	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
3-Ethyltoluene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
4-Ethyltoluene	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
1,3,5-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
alpha-Methylstyrene	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
2-Ethyltoluene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
1,2,4-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
n-Decane	1.01	202	20.2	4.04	1.01	0.202		0.0101	0.0202	0.0505	0.101	0.505	1.01	2.525	10.10	20.2	50.5
Benzyl Chloride	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
1,3-Dichlorobenzene	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0
1,4-Dichlorobenzene	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
sec-Butylbenzene	1.06	212	21.2	4.24	1.06	0.212		0.0106	0.0212	0.0530	0.106	0.530	1.06	2.650	10.60	21.2	53.0
p-Isopropyltoluene	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
1,2,3-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
d-Limonene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
1,2-Dibromo-3-chloropropane	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
n-Undecane	1.01	202	20.2	4.04	1.01	0.202		0.0101	0.0202	0.0505	0.101	0.505	1.01	2.525	10.10	20.2	50.5
1,2,4-Trichlorobenzene	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
Naphthalene	1.00	200	20.0	4.00	1.00	0.200		0.0100	0.0200	0.0500	0.100	0.500	1.00	2.500	10.00	20.0	50.0
n-Dodecane	1.04	208	20.8	4.16	1.04	0.208		0.0104	0.0208	0.0520	0.104	0.520	1.04	2.600	10.40	20.8	52.0
Hexachloro-1,3-butadiene	1.07	214	21.4	4.28	1.07	0.214		0.0107	0.0214	0.0535	0.107	0.535	1.07	2.675	10.70	21.4	53.5
Methacrylonitrile	1.03	206	20.6	4.12	1.03	0.206		0.0103	0.0206	0.0515	0.103	0.515	1.03	2.575	10.30	20.6	51.5
Cyclohexanone	1.12	224	22.4	4.48	1.12	0.224		0.0112	0.0224	0.0560	0.112	0.560	1.12	2.800	11.20	22.4	56.0
tert-Butylbenzene	1.05	210	21.0	4.20	1.05	0.210		0.0105	0.0210	0.0525	0.105	0.525	1.05	2.625	10.50	21.0	52.5
n-Butylbenzene	1.08	216	21.6	4.32	1.08	0.216		0.0108	0.0216	0.0540	0.108	0.540	1.08	2.700	10.80	21.6	54.0

Calibration Status Report MS19

Method : I:\MS19\METHODS\S19042716.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration

CL 4/27/16

#	ID	Conc	ISTD Conc	Path\File
1	10	10	1000	I:\MS19\DATA\2016_04\26\04261607.D
2	20	20	1000	I:\MS19\DATA\2016_04\26\04261608.D
3	50	50	1000	I:\MS19\DATA\2016_04\26\04261609.D
4	100	100	1000	I:\MS19\DATA\2016_04\26\04261610.D
5	500	500	1000	I:\MS19\DATA\2016_04\26\04261611.D
6	1000	1000	1000	I:\MS19\DATA\2016_04\26\04261612.D
7	2000	2000	1000	I:\MS19\DATA\2016_04\26\04261613.D
8	5000	5000	1000	I:\MS19\DATA\2016_04\26\04261614.D
9	10K	10000	1000	I:\MS19\DATA\2016_04\26\04261615.D
10	50K	50000	1000	I:\MS19\DATA\2016_04\26\04261619.D

#	ID	Update Time	Quant Time	Acquisition Time
1	10	Apr 27 10:57 2016	Apr 27 08:09 2016	26 Apr 2016 12:42
2	20	Apr 27 10:58 2016	Apr 27 08:13 2016	26 Apr 2016 14:07
3	50	Apr 27 10:58 2016	Apr 27 08:16 2016	26 Apr 2016 14:39
4	100	Apr 27 10:58 2016	Apr 27 07:43 2016	26 Apr 2016 15:10
5	500	Apr 27 10:58 2016	Apr 27 08:23 2016	26 Apr 2016 15:42
6	1000	Apr 27 10:58 2016	Apr 27 08:46 2016	26 Apr 2016 16:13
7	2000	Apr 27 10:58 2016	Apr 27 08:53 2016	26 Apr 2016 16:45
8	5000	Apr 27 10:58 2016	Apr 27 08:56 2016	26 Apr 2016 17:16
9	10K	Apr 27 10:58 2016	Apr 27 09:02 2016	26 Apr 2016 17:48
10	50K	Apr 27 11:03 2016	Apr 27 10:56 2016	27 Apr 2016 10:14

S19042716.M Wed Apr 27 11:32:45 2016

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 08:09:08 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	18154	1000.000	pg		0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	84895	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	19150	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	40662	1334.380	pg		0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 133.44%#				
33) Toluene-d8 (SS2)	14.15	98	95777	1234.168	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.42%				
45) Bromofluorobenzene (SS3)	17.55	174	43340	991.993	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.44	85	647	12.387	pg		97
3) Chloromethane	4.67	52	283	23.127	pg	#	89
4) 1,2-Dichloro,1,1,2,2-t...	4.82	85	731	14.491	pg		99
5) Vinyl Chloride	4.97	62	584m	14.389	pg		
6) 1,3-Butadiene	5.18	54	197	8.400	pg	#	44
7) Bromomethane	5.49	94	256	12.967	pg		92
8) Chloroethane	5.72	64	150	11.654	pg	#	42
9) Acrolein	6.35	56	197m	22.793	pg		
10) Acetone	6.45	58	2517	181.333	pg	#	84
11) Trichlorofluoromethane	6.62	101	451	11.723	pg		98
12) 1,1-Dichloroethene	7.36	96	243	11.962	pg		95
13) Methylene Chloride	7.49	84	713	31.984	pg		94
14) Trichlorotrifluoroethane	7.81	151	245	12.042	pg		94
15) trans-1,2-Dichloroethene	8.53	96	262	11.807	pg		95
16) 1,1-Dichloroethane	8.73	63	493	13.972	pg		99
17) Methyl tert-Butyl Ether	8.82	73	585	10.781	pg		97
18) cis-1,2-Dichloroethene	9.60	96	271	11.870	pg	#	37
19) Chloroform	9.89	83	1667	40.704	pg		100
21) 1,2-Dichloroethane	10.65	62	364	13.046	pg		71
22) 1,1,1-Trichloroethane	10.91	97	468	12.917	pg		97
23) Benzene	11.37	78	1976	24.451	pg		99
24) Carbon Tetrachloride	11.51	117	433	13.767	pg		97
26) 1,2-Dichloropropane	12.18	63	261	14.349	pg		96
27) Bromodichloromethane	12.36	83	400	14.355	pg		97
28) Trichloroethene	12.42	130	353	14.656	pg		100
29) 1,4-Dioxane	12.41	88	179	11.957	pg		91
30) cis-1,3-Dichloropropene	13.26	75	333	11.984	pg		98
31) trans-1,3-Dichloropropene	13.78	75	238	9.957	pg		93
32) 1,1,2-Trichloroethane	13.96	83	230	13.661	pg		98
34) Toluene	14.25	91	1381	15.092	pg		99
35) Dibromochloromethane	14.66	129	260	12.193	pg		96
36) 1,2-Dibromoethane	14.92	107	256	11.780	pg		98
37) Tetrachloroethene	15.40	166	256	10.397	pg		98
39) Chlorobenzene	16.10	112	682	8.341	pg		90
40) Ethylbenzene	16.48	91	890	7.021	pg		99
41) m,p-Xylene	16.66	91	1228	12.396	pg		99
42) Styrene	17.02	104	389	5.579	pg		94
43) o-Xylene	17.12	106	308	6.047	pg		90
44) 1,1,2,2-Tetrachloroethane	17.10	83	455	8.768	pg		97
46) 1,3,5-Trimethylbenzene	18.38	105	591	5.763	pg		96
47) 1,2,4-Trimethylbenzene	18.77	105	562	5.336	pg		98
48) 1,3-Dichlorobenzene	18.92	146	425	6.735	pg		99
49) 1,4-Dichlorobenzene	18.99	146	403	6.295	pg		90
50) 1,2-Dichlorobenzene	19.31	146	418	6.678	pg		97
51) 1,2-Dibromo-3-chloropr...	19.72	157	99	5.167	pg		84
52) 1,2,4-Trichlorobenzene	20.95	182	224	6.227	pg		94
53) Naphthalene	21.11	128	769	5.836	pg	#	73

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 08:09:08 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

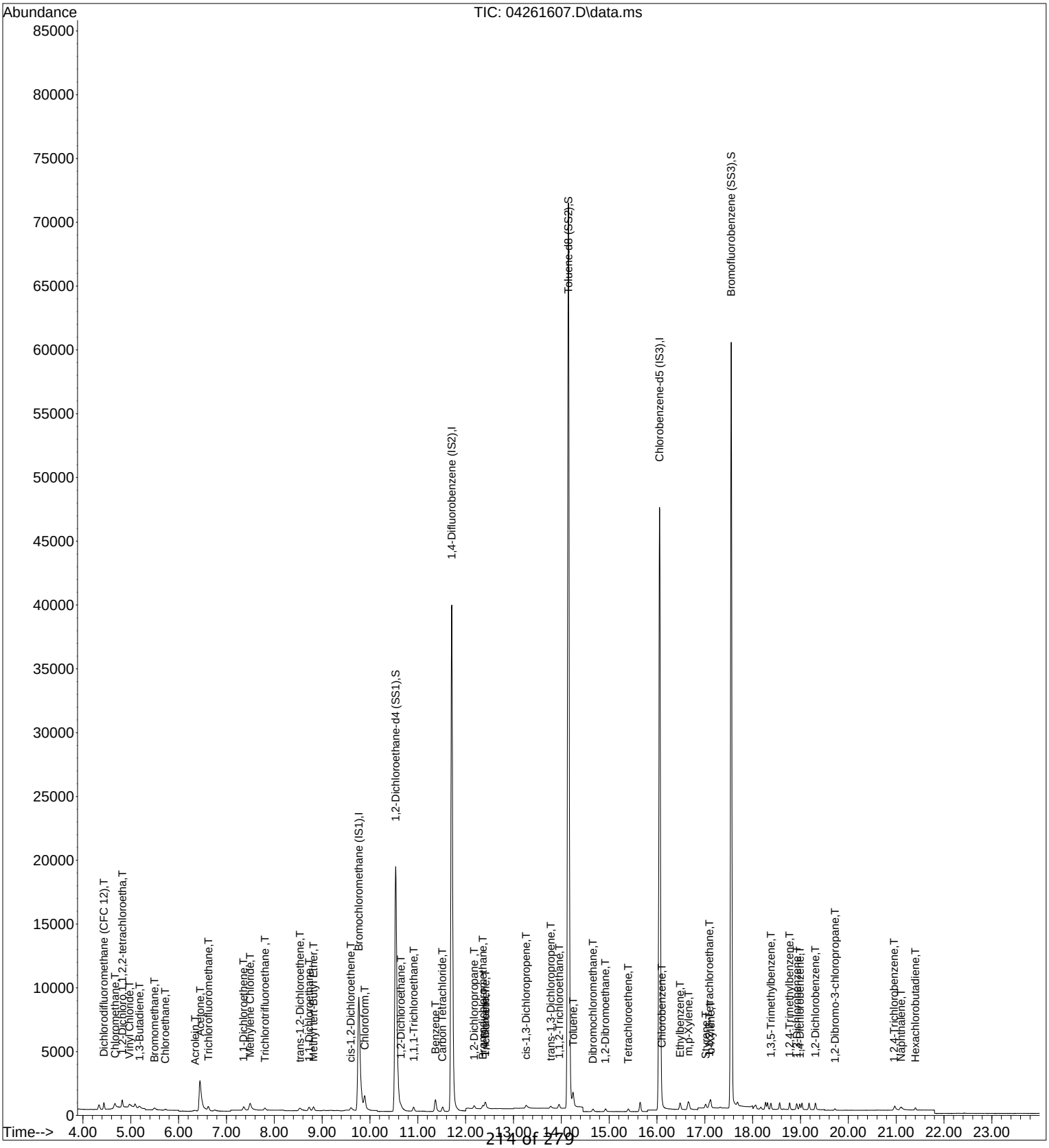
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	171	6.894	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

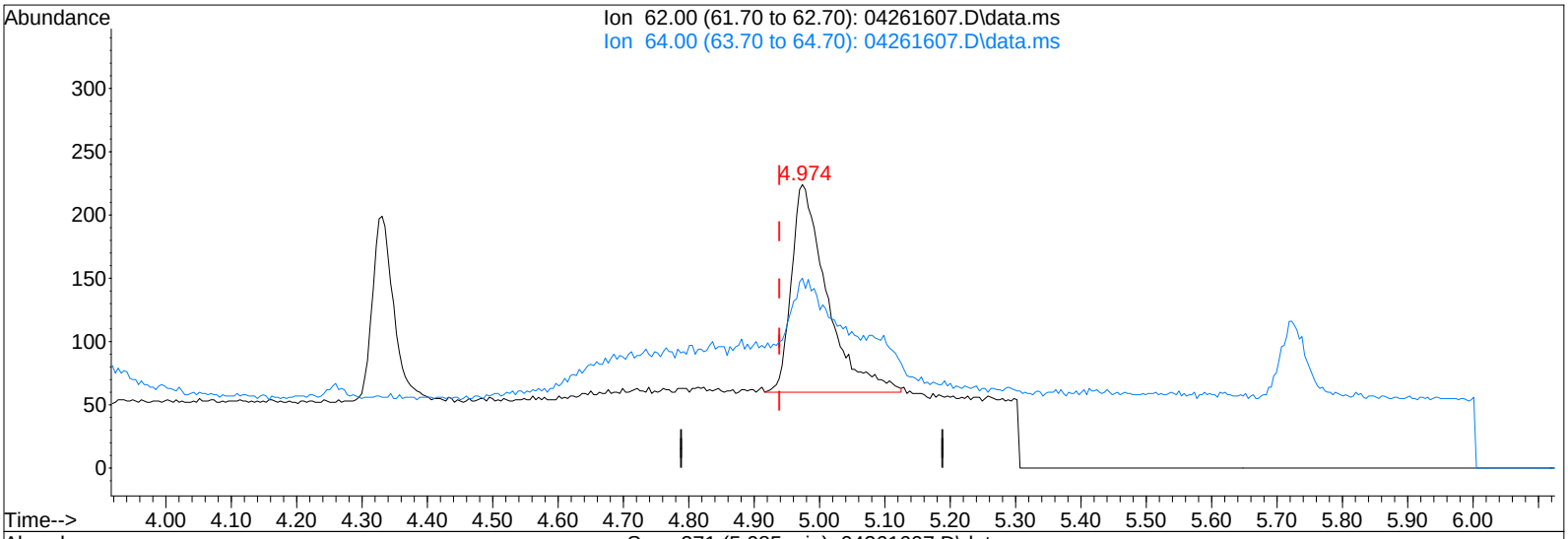
Quant Time: Apr 27 08:09:08 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

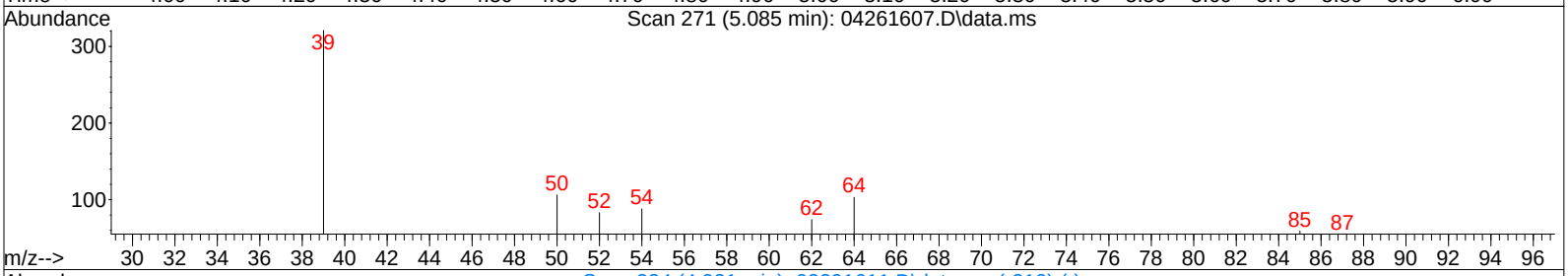


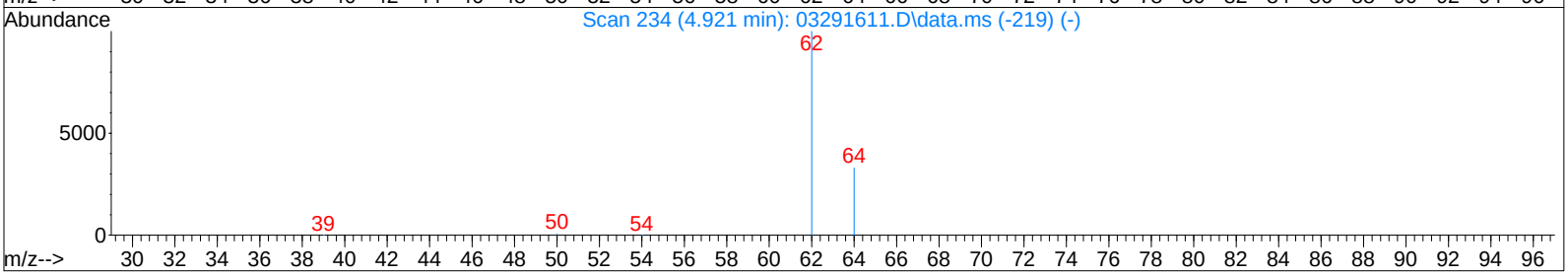
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 07:42:59 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04261607.D\data.ms

(5) Vinyl Chloride (T)

4.974min (+0.036) 15.28pg

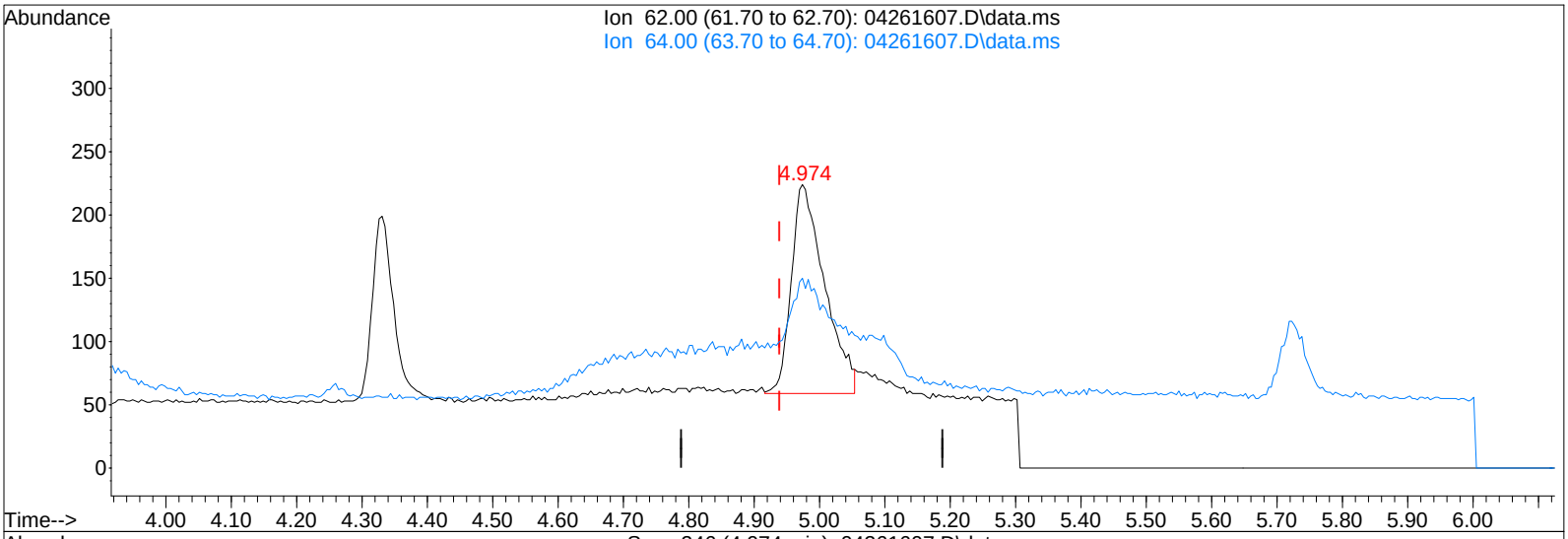
response 620

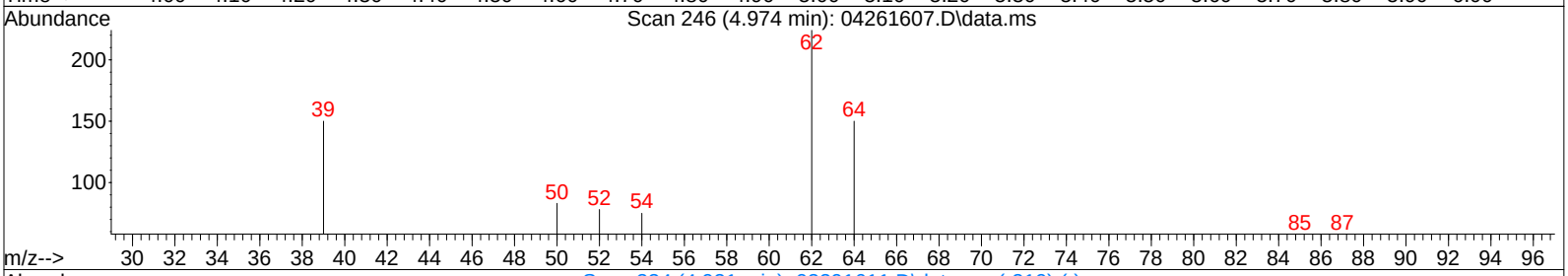
Ion	Exp%	Act%
62.00	100	100
64.00	32.80	30.97
0.00	0.00	0.00
0.00	0.00	0.00

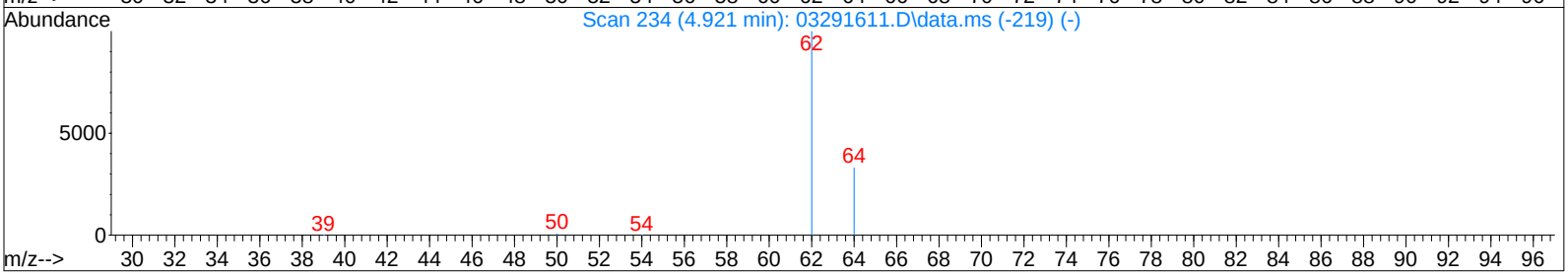
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 07:42:59 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04261607.D\data.ms

(5) Vinyl Chloride (T)

4.974min (+0.036) 14.39pg m

response 584

Ion	Exp%	Act%
62.00	100	100
64.00	32.80	32.88
0.00	0.00	0.00
0.00	0.00	0.00

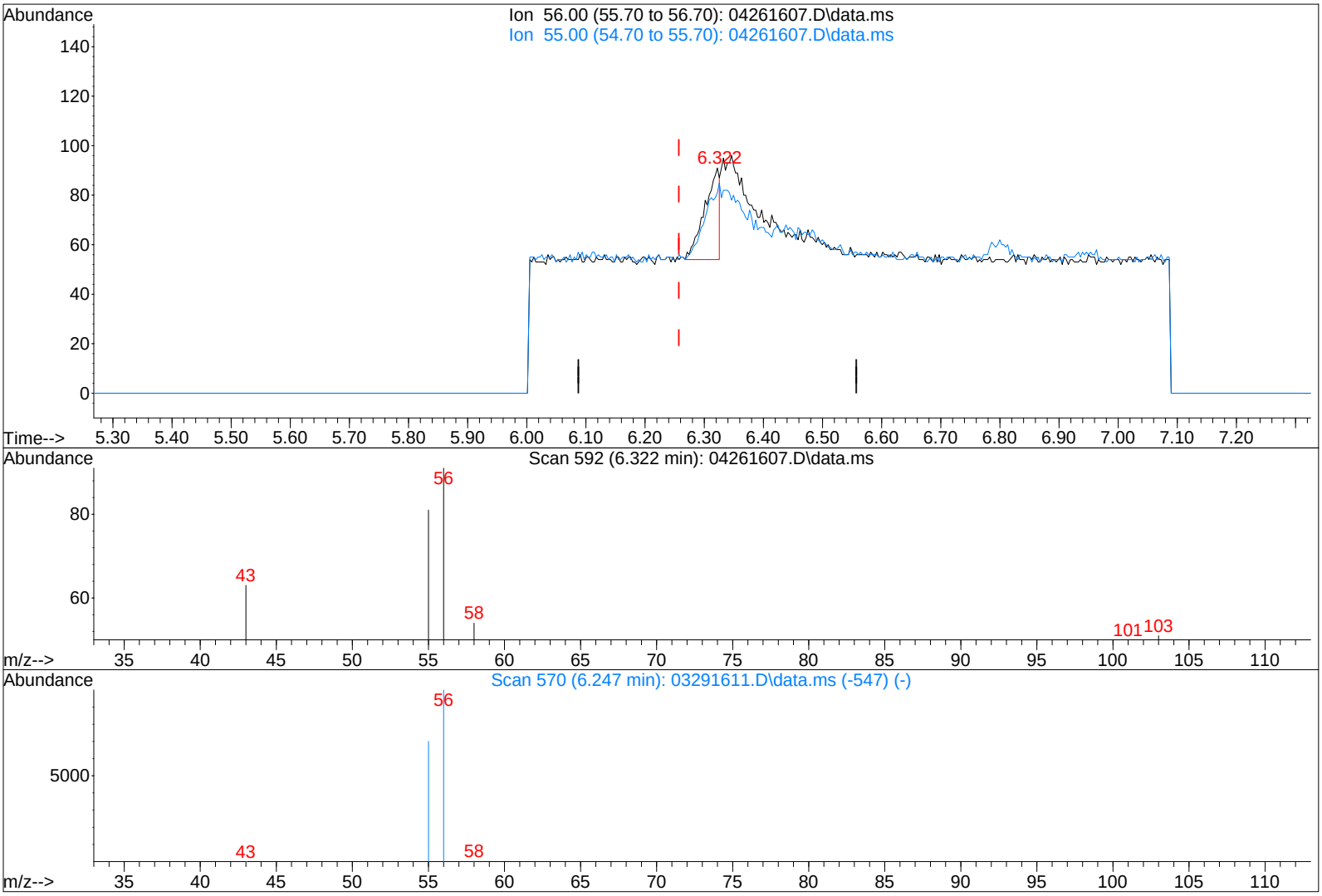
BLC

CL 4/27/16 VOA 5/3/16

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 07:42:59 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261607.D\data.ms

(9) Acrolein (T)

6.322min (+0.065) 7.52pg

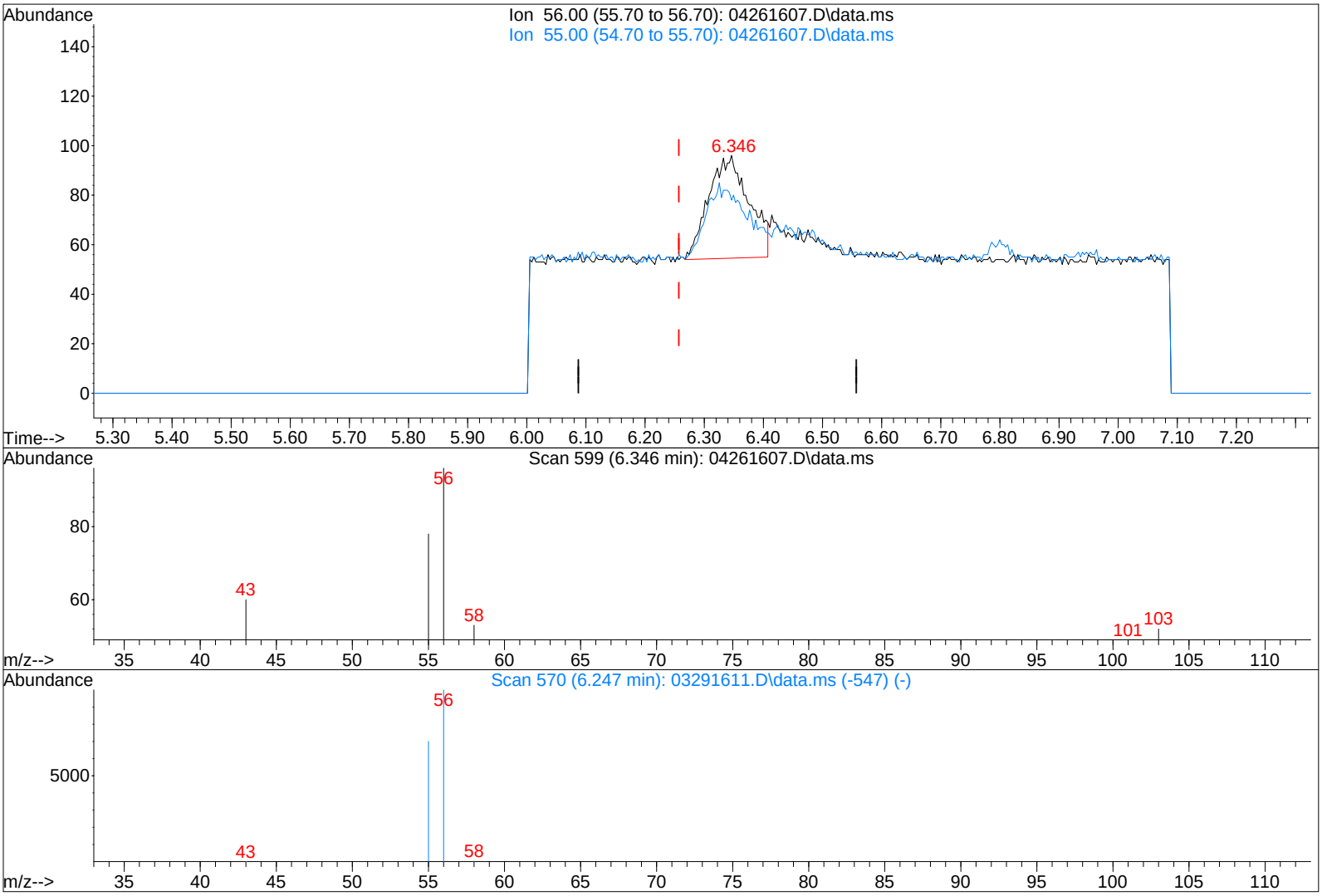
response 65

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261607.D Vial: 14
Acq On : 26 Apr 2016 12:42 Operator: CL
Sample : 10pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251604 (5/24)

Quant Time: Apr 27 07:42:59 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261607.D\data.ms

(9) Acrolein (T)

6.346min (+0.089) 22.79pg m

response 197

BLC

CL 4/27/16

5/3/16

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 08:13:35 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	17831	1000.000	pg		0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	83158	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	18715	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	40018	1337.035	pg		0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 133.70%#				
33) Toluene-d8 (SS2)	14.15	98	93115	1224.928	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.49%				
45) Bromofluorobenzene (SS3)	17.55	174	39979	936.333	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 93.63%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.45	85	1501	29.257	pg		100
3) Chloromethane	4.67	52	573	47.673	pg	#	80
4) 1,2-Dichloro,1,1,2,2-t...	4.83	85	1731	34.937	pg		99
5) Vinyl Chloride	4.97	62	1242	31.155	pg		86
6) 1,3-Butadiene	5.18	54	576	25.005	pg		93
7) Bromomethane	5.50	94	540	27.848	pg		97
8) Chloroethane	5.72	64	380	30.058	pg		67
9) Acrolein	6.35	56	226m	26.622	pg		
10) Acetone	6.45	58	2309	169.361	pg		98
11) Trichlorofluoromethane	6.62	101	1061	28.078	pg		100
12) 1,1-Dichloroethene	7.36	96	517	25.911	pg		90
13) Methylene Chloride	7.49	84	1080	49.324	pg		100
14) Trichlorotrifluoroethane	7.81	151	549	27.473	pg		99
15) trans-1,2-Dichloroethene	8.54	96	609m	27.943	pg		
16) 1,1-Dichloroethane	8.73	63	1114	32.143	pg		98
17) Methyl tert-Butyl Ether	8.82	73	1371	25.724	pg		100
18) cis-1,2-Dichloroethene	9.60	96	589	26.265	pg		99
19) Chloroform	9.89	83	3342	83.081	pg		100
21) 1,2-Dichloroethane	10.65	62	882	32.185	pg		96
22) 1,1,1-Trichloroethane	10.91	97	1078	30.293	pg		100
23) Benzene	11.37	78	3137	39.520	pg		100
24) Carbon Tetrachloride	11.52	117	1008	32.630	pg		98
26) 1,2-Dichloropropane	12.18	63	612	34.348	pg		98
27) Bromodichloromethane	12.36	83	921	33.743	pg		99
28) Trichloroethene	12.41	130	635	26.914	pg		100
29) 1,4-Dioxane	12.40	88	395	26.938	pg		98
30) cis-1,3-Dichloropropene	13.26	75	751	27.590	pg		96
31) trans-1,3-Dichloropropene	13.78	75	571	24.388	pg		93
32) 1,1,2-Trichloroethane	13.95	83	528	32.016	pg		98
34) Toluene	14.25	91	2581	28.796	pg		99
35) Dibromochloromethane	14.66	129	612	29.300	pg		99
36) 1,2-Dibromoethane	14.93	107	584	27.434	pg		99
37) Tetrachloroethene	15.40	166	588	24.379	pg		99
39) Chlorobenzene	16.10	112	1555	19.459	pg		97
40) Ethylbenzene	16.48	91	2011	16.233	pg		100
41) m,p-Xylene	16.66	91	2808	29.004	pg		100
42) Styrene	17.01	104	876	12.856	pg		99
43) o-Xylene	17.12	106	675	13.560	pg		92
44) 1,1,2,2-Tetrachloroethane	17.09	83	976	19.245	pg		99
46) 1,3,5-Trimethylbenzene	18.38	105	1305	13.021	pg		99
47) 1,2,4-Trimethylbenzene	18.77	105	1233	11.979	pg		100
48) 1,3-Dichlorobenzene	18.92	146	947	15.356	pg		99
49) 1,4-Dichlorobenzene	18.98	146	982	15.697	pg		95
50) 1,2-Dichlorobenzene	19.31	146	931	15.220	pg		98
51) 1,2-Dibromo-3-chloropr...	19.73	157	237	12.656	pg		89
52) 1,2,4-Trichlorobenzene	20.96	182	473	13.454	pg		92
53) Naphthalene	21.10	128	1488	11.556	pg		96

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 08:13:35 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

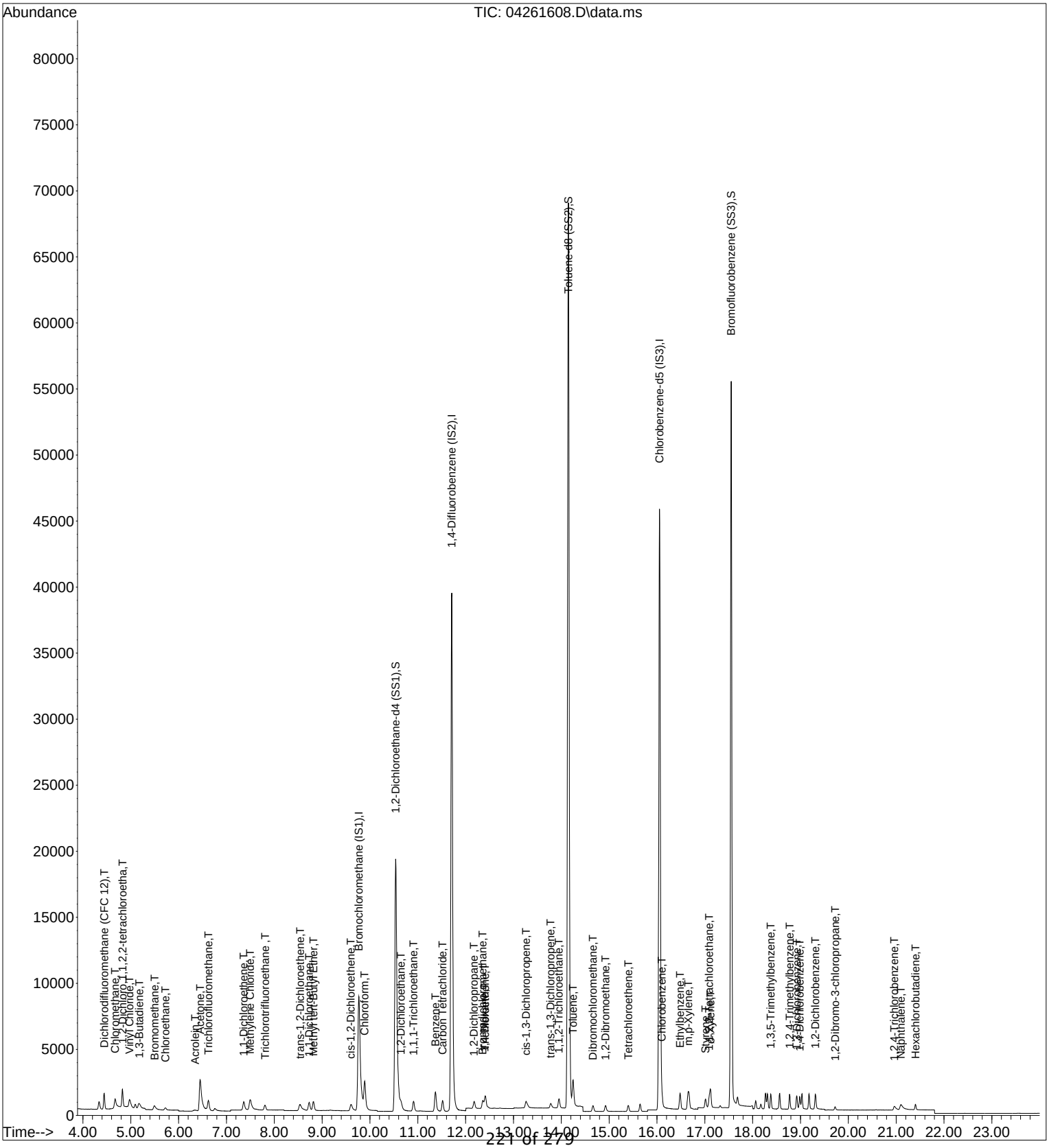
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	392	16.171	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

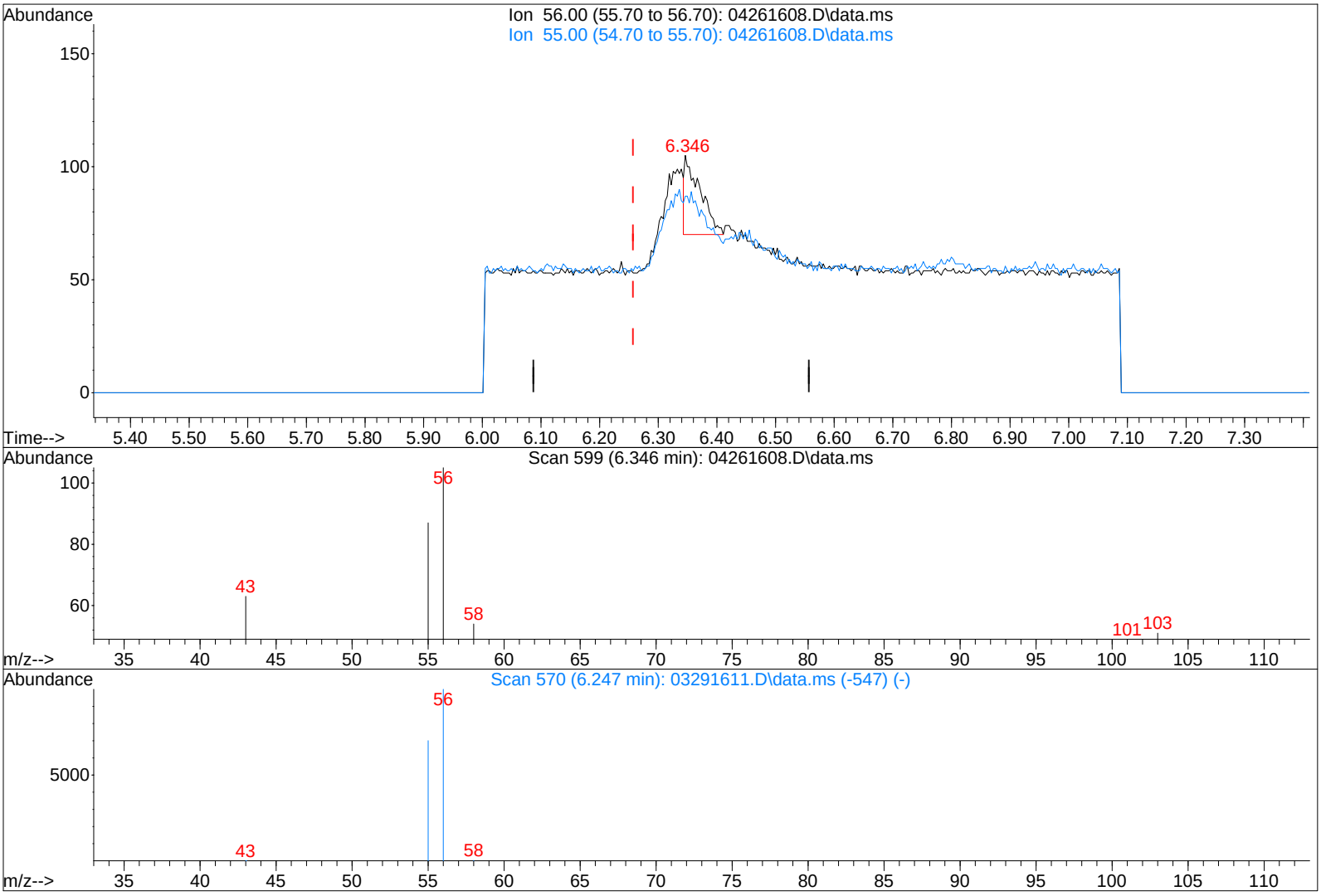
Quant Time: Apr 27 08:13:35 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:00 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261608.D\data.ms

(9) Acrolein (T)

6.346min (+0.089) 7.54pg

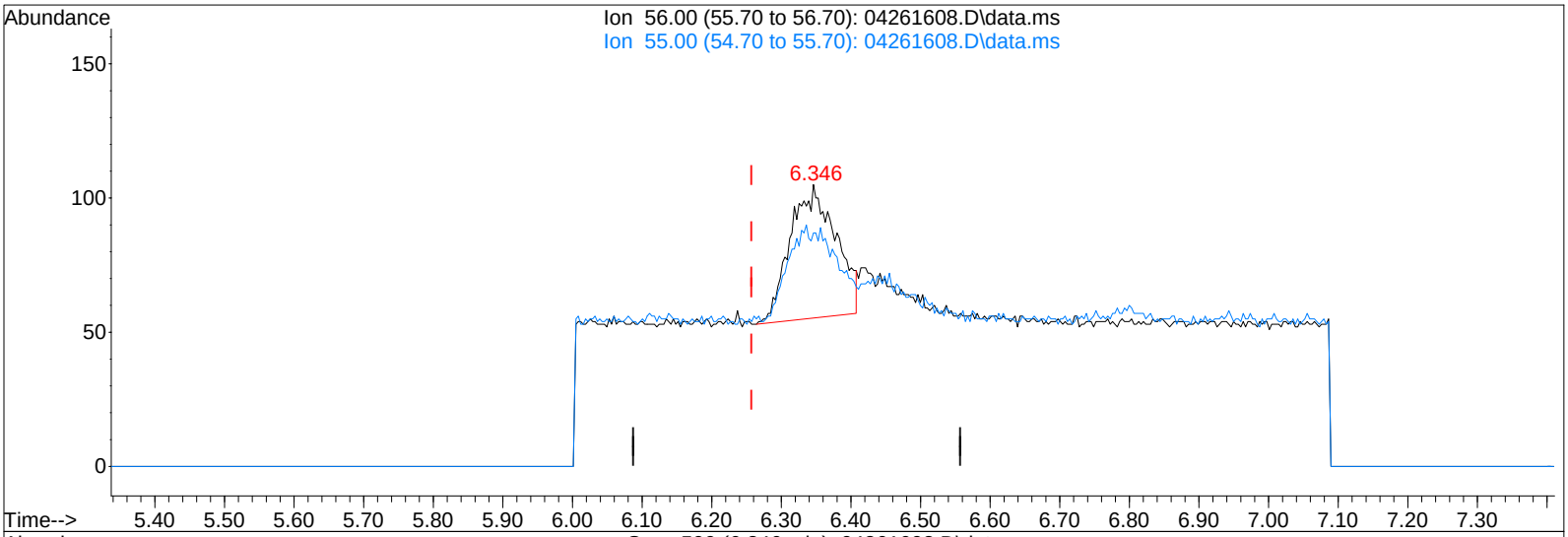
response 64

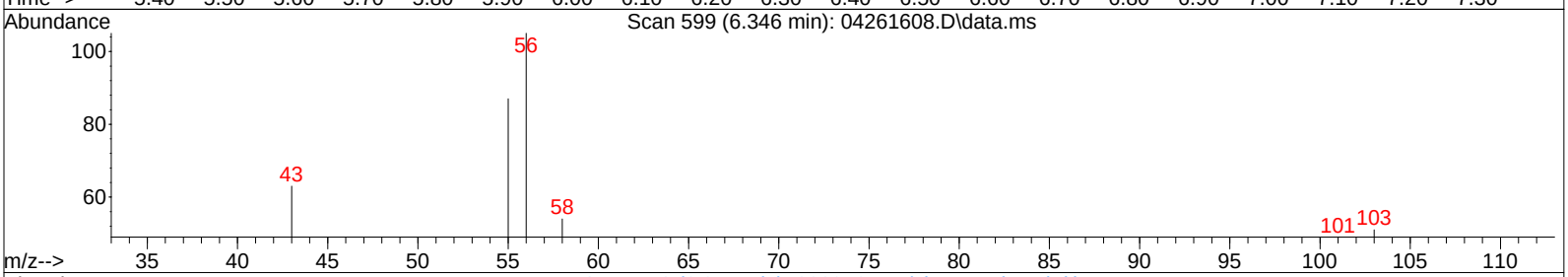
Ion	Exp%	Act%
56.00	100	100
55.00	67.20	128.13#
0.00	0.00	0.00
0.00	0.00	0.00

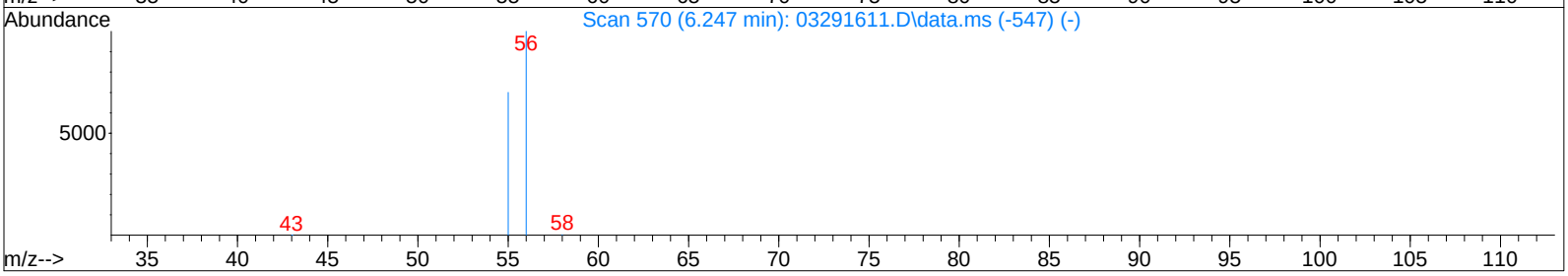
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:00 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04261608.D\data.ms

(9) Acrolein (T)

6.346min (+0.089) 26.62pg m

response 226

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	36.28#
0.00	0.00	0.00
0.00	0.00	0.00

BLC

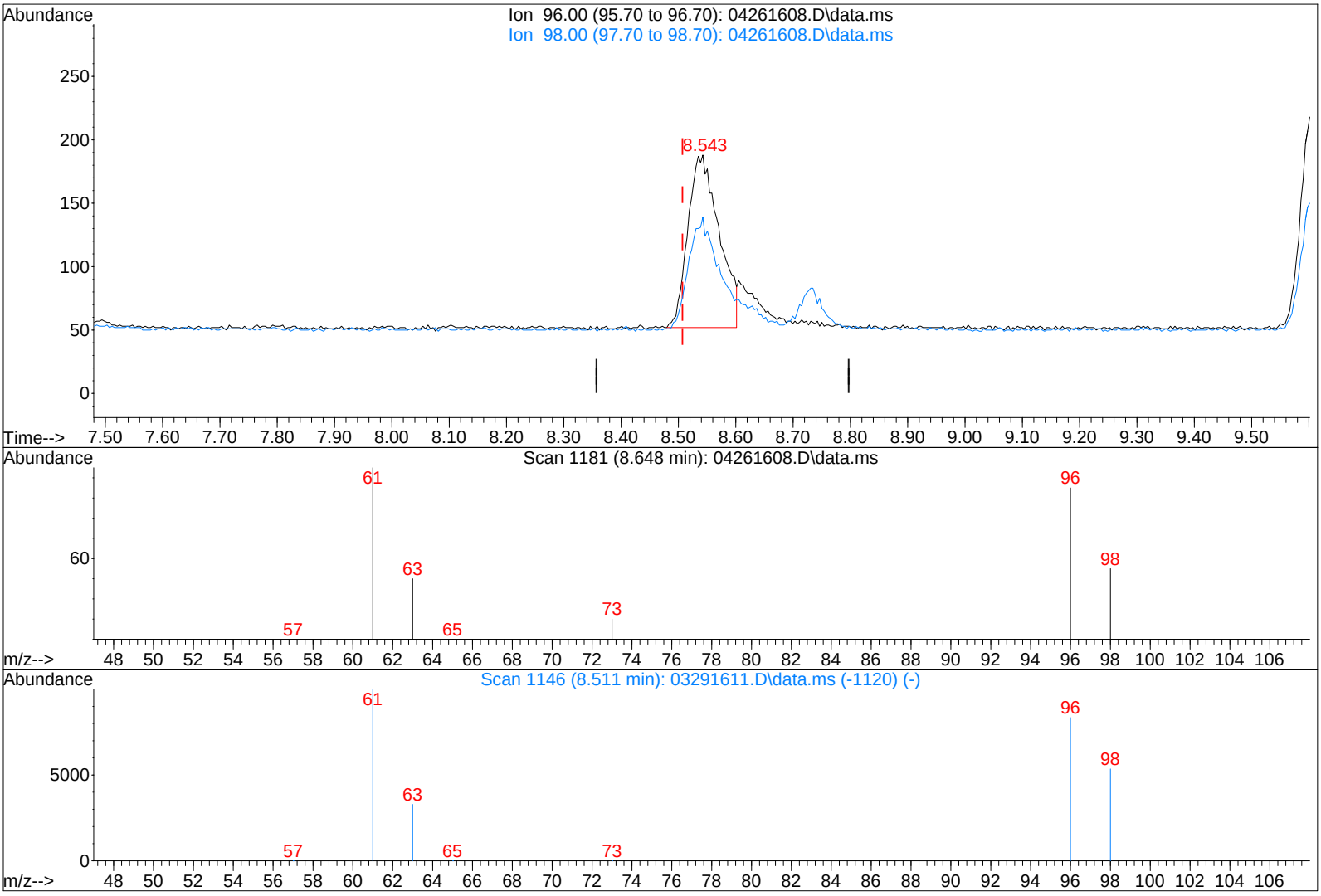
CL 4/27/16

5/3/16

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:00 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261608.D\data.ms

(15) trans-1,2-Dichloroethene (T)

8.543min (+0.035) 23.63pg

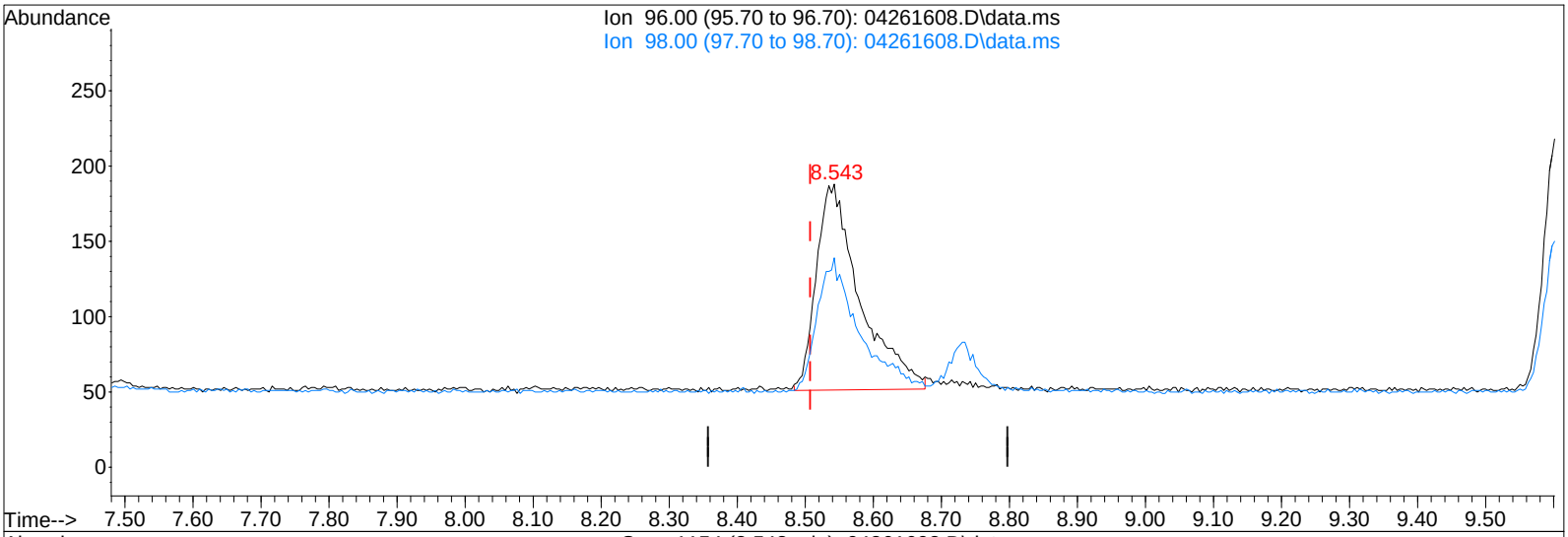
response 515

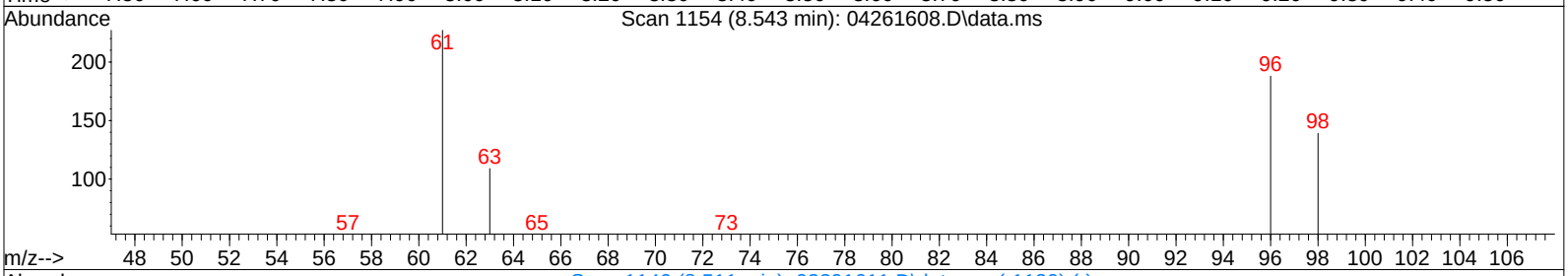
Ion	Exp%	Act%
96.00	100	100
98.00	61.70	22.52#
0.00	0.00	0.00
0.00	0.00	0.00

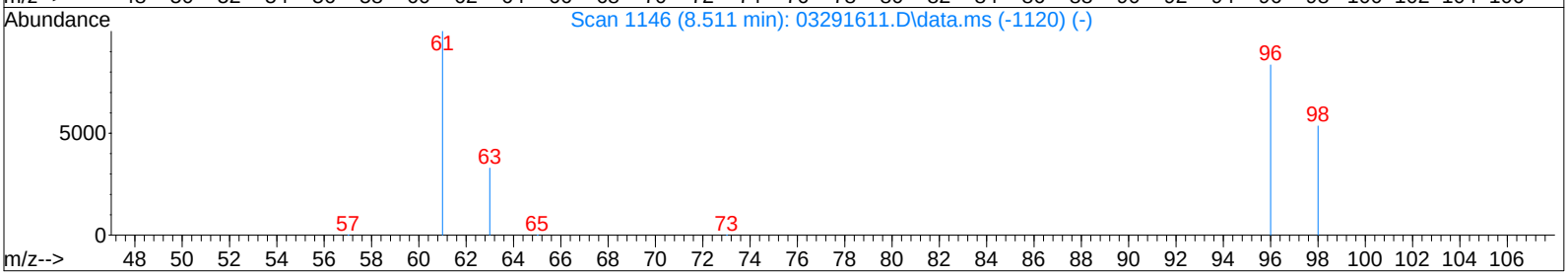
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261608.D Vial: 15
Acq On : 26 Apr 2016 14:07 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:00 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04261608.D\data.ms

(15) trans-1,2-Dichloroethene (T)

8.543min (+0.035) 27.94pg m

response 609

BLC

CL 4/27/16 WA 5/3/16

Ion	Exp%	Act%
96.00	100	100
98.00	61.70	19.05#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261609.D Vial: 15
Acq On : 26 Apr 2016 14:39 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 08:16:25 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	18640	1000.000	pg		0.01
25) 1,4-Difluorobenzene (IS2)	11.71	114	89221	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	19797	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.54	65	41652	1331.230	pg		0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 133.12%#				
33) Toluene-d8 (SS2)	14.15	98	98147	1203.386	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 120.34%				
45) Bromofluorobenzene (SS3)	17.55	174	45595	1009.500	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.95%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.44	85	3256	60.710	pg		99
3) Chloromethane	4.67	52	1035	82.374	pg	#	87
4) 1,2-Dichloro,1,1,2,2-t...	4.82	85	3666	70.780	pg		100
5) Vinyl Chloride	4.97	62	3013	72.300	pg		99
6) 1,3-Butadiene	5.16	54	1303	54.110	pg		91
7) Bromomethane	5.49	94	1223	60.333	pg		100
8) Chloroethane	5.71	64	837	63.333	pg		96
9) Acrolein	6.32	56	499m	56.230	pg		
10) Acetone	6.44	58	4259	298.832	pg		96
11) Trichlorofluoromethane	6.62	101	2347	59.414	pg		99
12) 1,1-Dichloroethene	7.36	96	1236	59.256	pg		98
13) Methylene Chloride	7.50	84	1802	78.726	pg		83
14) Trichlorotrifluoroethane	7.80	151	1187	56.822	pg		99
15) trans-1,2-Dichloroethene	8.54	96	1372	60.219	pg		99
16) 1,1-Dichloroethane	8.73	63	2466	68.066	pg		99
17) Methyl tert-Butyl Ether	8.82	73	3094	55.532	pg		99
18) cis-1,2-Dichloroethene	9.60	96	1346	57.417	pg		99
19) Chloroform	9.89	83	3628	86.277	pg		100
21) 1,2-Dichloroethane	10.65	62	1949	68.034	pg		96
22) 1,1,1-Trichloroethane	10.91	97	2321	62.392	pg		100
23) Benzene	11.37	78	6220	74.958	pg		100
24) Carbon Tetrachloride	11.52	117	2046	63.357	pg		100
26) 1,2-Dichloropropane	12.18	63	1311	68.578	pg		99
27) Bromodichloromethane	12.36	83	1978	67.544	pg		99
28) Trichloroethene	12.41	130	1410	55.701	pg		99
29) 1,4-Dioxane	12.39	88	853	54.218	pg		98
30) cis-1,3-Dichloropropene	13.26	75	1716	58.759	pg		100
31) trans-1,3-Dichloropropene	13.78	75	1339	53.305	pg		100
32) 1,1,2-Trichloroethane	13.95	83	1156	65.332	pg		99
34) Toluene	14.25	91	5274	54.843	pg		99
35) Dibromochloromethane	14.66	129	1352	60.329	pg		99
36) 1,2-Dibromoethane	14.93	107	1321	57.837	pg		100
37) Tetrachloroethene	15.40	166	1279	49.425	pg		100
39) Chlorobenzene	16.10	112	3485	41.228	pg		99
40) Ethylbenzene	16.48	91	4440	33.881	pg		100
41) m,p-Xylene	16.66	91	6263	61.156	pg		100
42) Styrene	17.01	104	2013	27.929	pg		99
43) o-Xylene	17.12	106	1541	29.265	pg		97
44) 1,1,2,2-Tetrachloroethane	17.10	83	2194	40.897	pg		100
46) 1,3,5-Trimethylbenzene	18.38	105	3067	28.929	pg		100
47) 1,2,4-Trimethylbenzene	18.77	105	2942	27.019	pg		99
48) 1,3-Dichlorobenzene	18.92	146	2242	34.369	pg		99
49) 1,4-Dichlorobenzene	18.98	146	2070	31.280	pg		93
50) 1,2-Dichlorobenzene	19.31	146	2174	33.598	pg		98
51) 1,2-Dibromo-3-chloropr...	19.72	157	557	28.120	pg		93
52) 1,2,4-Trichlorobenzene	20.97	182	1047	28.154	pg		92
53) Naphthalene	21.09	128	3033	22.267	pg		100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261609.D Vial: 15
Acq On : 26 Apr 2016 14:39 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 08:16:25 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

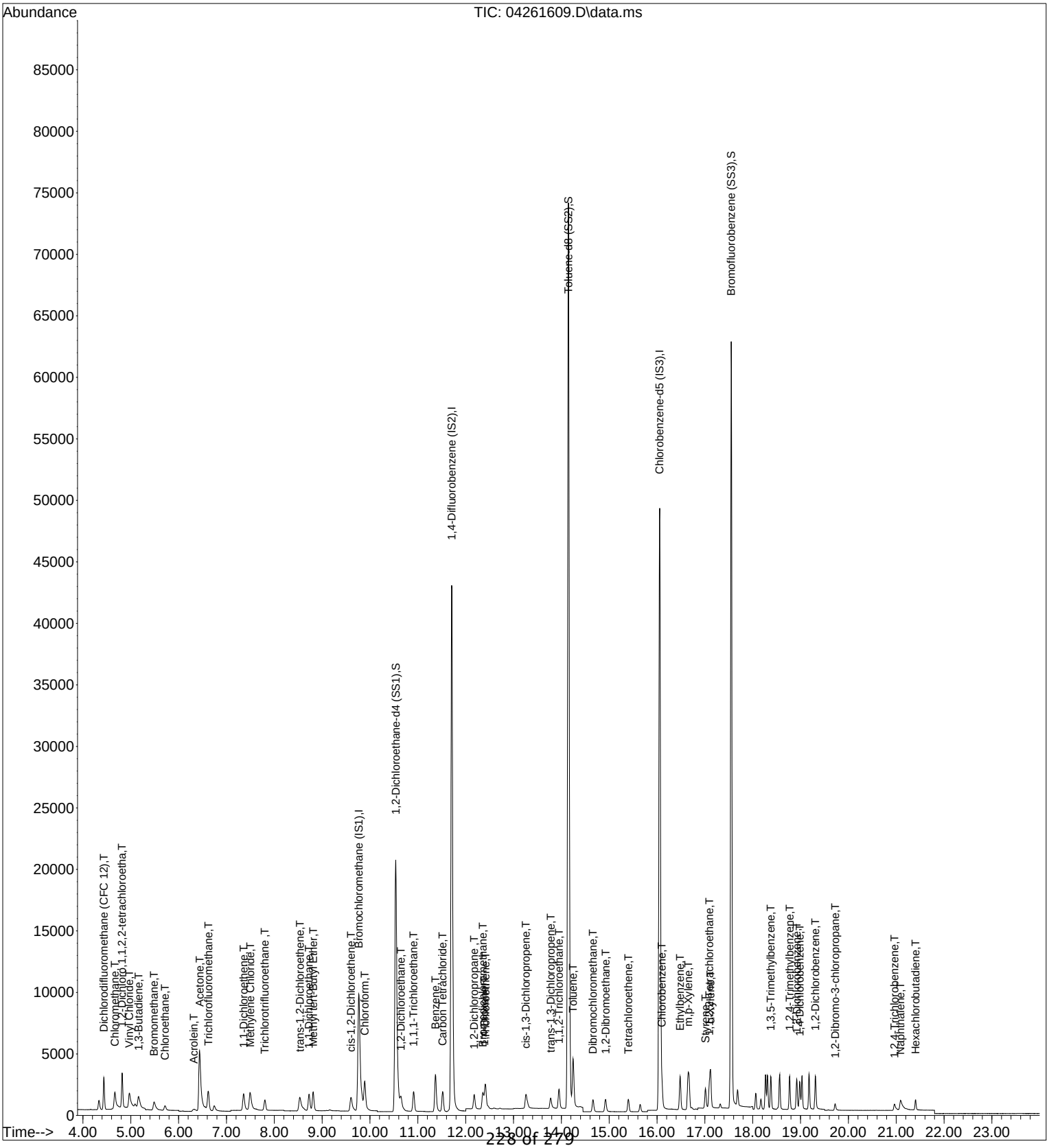
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	833	32.485	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261609.D Vial: 15
Acq On : 26 Apr 2016 14:39 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

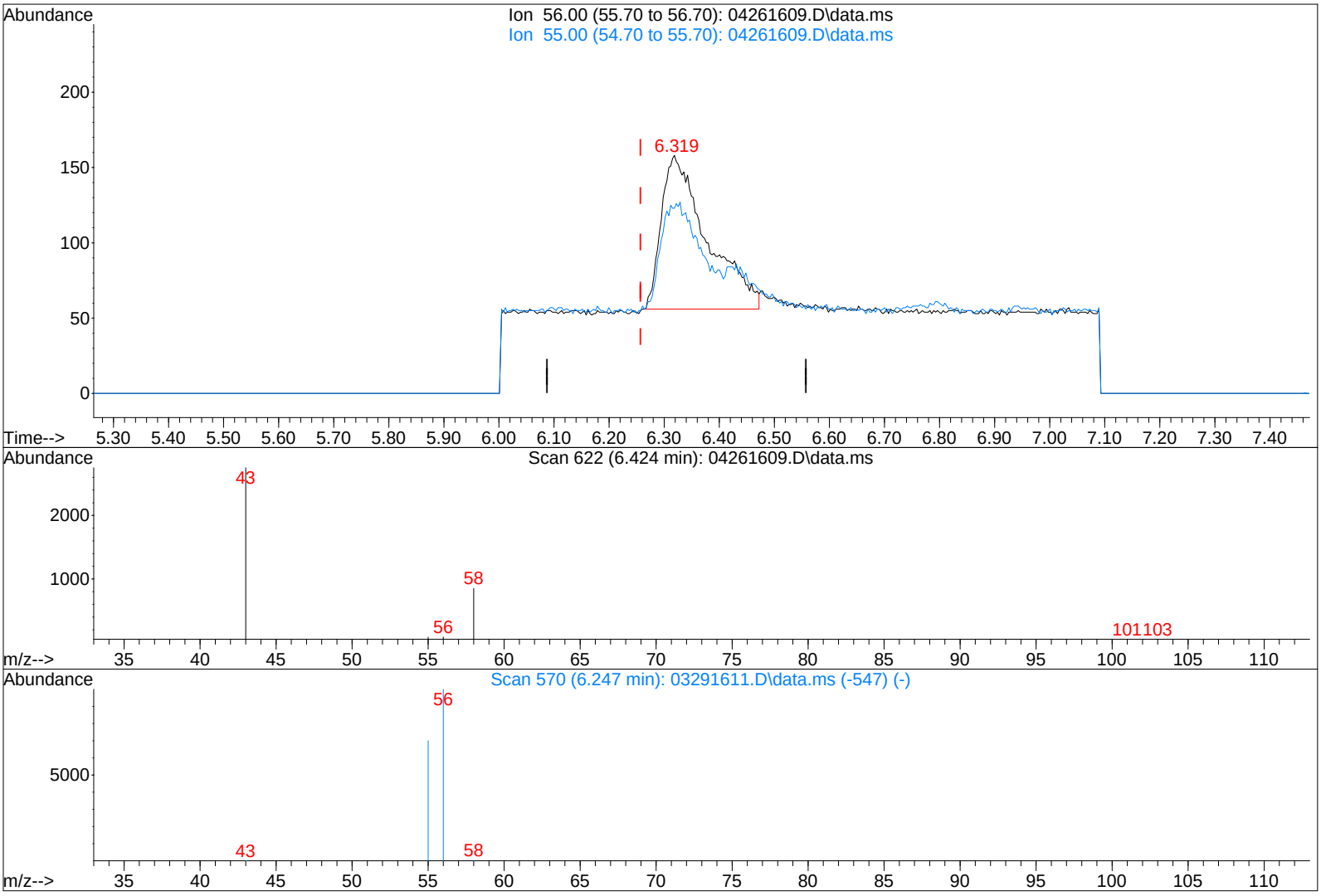
Quant Time: Apr 27 08:16:25 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261609.D Vial: 15
Acq On : 26 Apr 2016 14:39 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261609.D\data.ms

(9) Acrolein (T)

6.319min (+0.061) 65.81pg

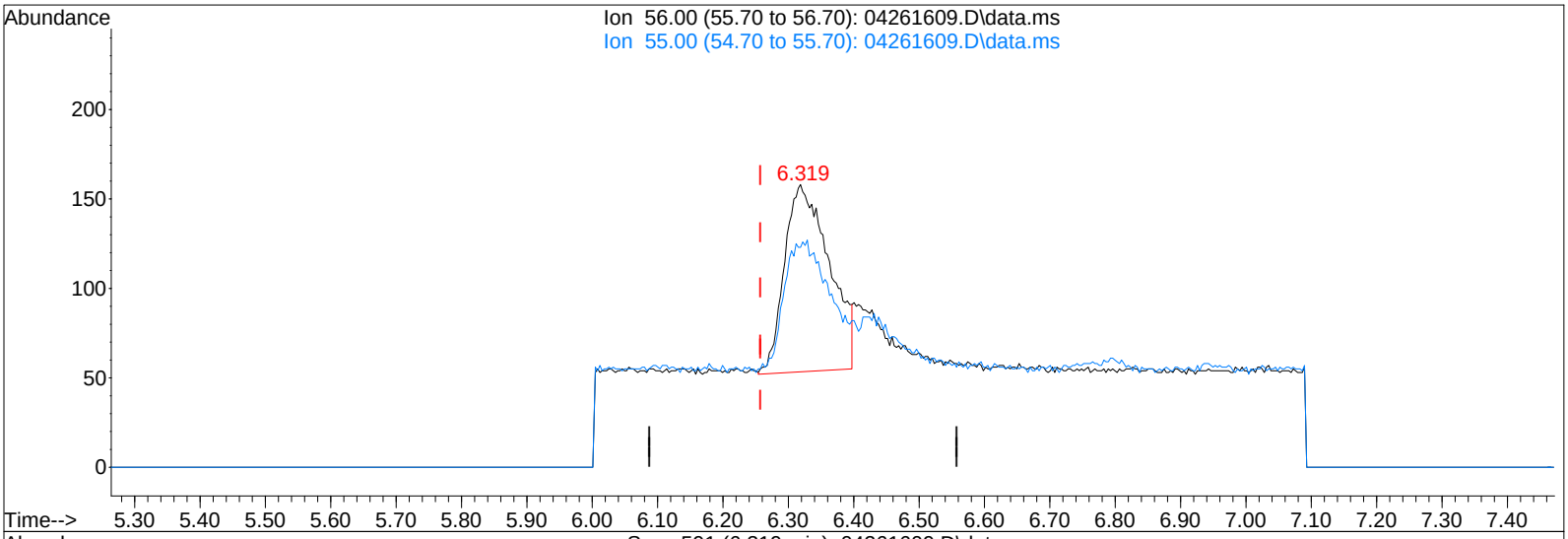
response 584

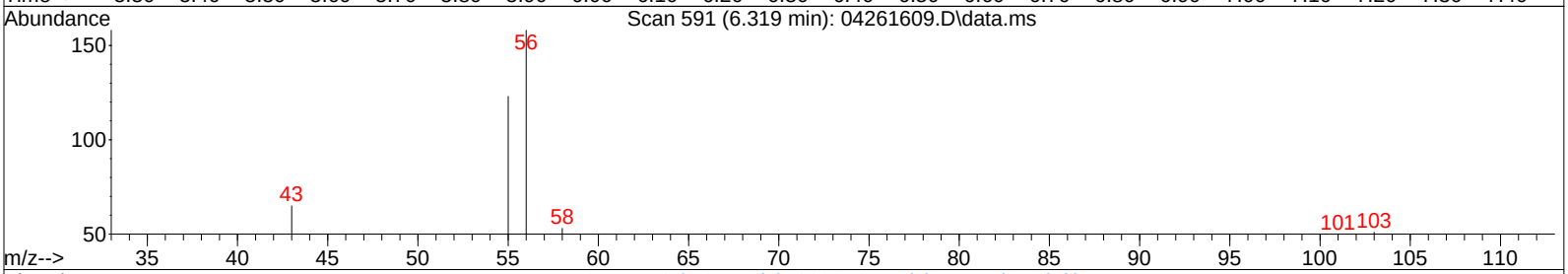
Ion	Exp%	Act%
56.00	100	100
55.00	67.20	57.53
0.00	0.00	0.00
0.00	0.00	0.00

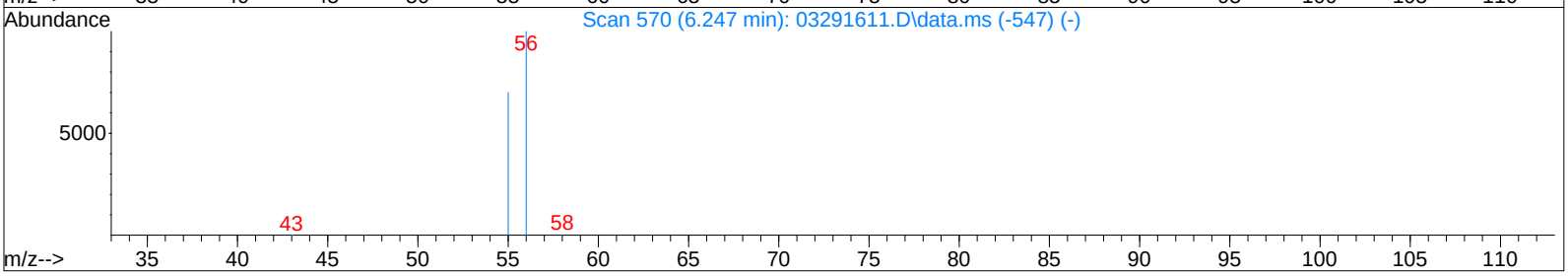
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261609.D Vial: 15
Acq On : 26 Apr 2016 14:39 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 04261609.D\data.ms

(9) Acrolein (T)

6.319min (+0.061) 56.23pg m

response 499

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	67.33
0.00	0.00	0.00
0.00	0.00	0.00

BLC

CL 4/27/16

5/3/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261610.D Vial: 15
Acq On : 26 Apr 2016 15:10 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:02 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	20383	1000.000	pg		0.01
25) 1,4-Difluorobenzene (IS2)	11.71	114	101011	1000.000	pg		0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	21770	1000.000	pg		0.00
System Monitoring Compounds							
20) 1,2-Dichloroethane-d4 ...	10.53	65	45502	1329.920	pg		0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 132.99%#				
33) Toluene-d8 (SS2)	14.15	98	109114	1181.699	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 118.17%				
45) Bromofluorobenzene (SS3)	17.55	174	52794	1062.954	pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 106.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	4.43	85	6339	108.087	pg		100
3) Chloromethane	4.66	52	1939	141.126	pg	#	86
4) 1,2-Dichloro,1,1,2,2-t...	4.82	85	7050	124.475	pg		100
5) Vinyl Chloride	4.97	62	5805	127.385	pg		99
6) 1,3-Butadiene	5.16	54	2599	98.701	pg		99
7) Bromomethane	5.48	94	2359	106.422	pg		100
8) Chloroethane	5.71	64	1656	114.590	pg		97
9) Acrolein	6.30	56	883	90.992	pg		92
10) Acetone	6.43	58	8239	528.654	pg		99
11) Trichlorofluoromethane	6.62	101	4547	105.265	pg		100
12) 1,1-Dichloroethene	7.35	96	2433	106.668	pg		99
13) Methylene Chloride	7.49	84	3373	134.759	pg		98
14) Trichlorotrifluoroethane	7.80	151	2343	102.570	pg		100
15) trans-1,2-Dichloroethene	8.53	96	2608	104.681	pg		95
16) 1,1-Dichloroethane	8.72	63	4864	122.775	pg		100
17) Methyl tert-Butyl Ether	8.81	73	6086	99.893	pg		100
18) cis-1,2-Dichloroethene	9.60	96	2713	105.834	pg		100
19) Chloroform	9.89	83	6078	132.180	pg		100
21) 1,2-Dichloroethane	10.64	62	3820	121.943	pg		100
22) 1,1,1-Trichloroethane	10.91	97	4500	110.622	pg		99
23) Benzene	11.37	78	11330	124.864	pg		100
24) Carbon Tetrachloride	11.52	117	4002	113.329	pg		99
26) 1,2-Dichloropropane	12.18	63	2579	119.160	pg		99
27) Bromodichloromethane	12.36	83	3854	116.244	pg		99
28) Trichloroethene	12.41	130	2677	93.409	pg		99
29) 1,4-Dioxane	12.39	88	1733	97.296	pg		99
30) cis-1,3-Dichloropropene	13.26	75	3481	105.283	pg		100
31) trans-1,3-Dichloropropene	13.77	75	2725	95.818	pg		99
32) 1,1,2-Trichloroethane	13.95	83	2274	113.515	pg		99
34) Toluene	14.25	91	10165	93.366	pg		99
35) Dibromochloromethane	14.66	129	2660	104.841	pg		100
36) 1,2-Dibromoethane	14.92	107	2643	102.212	pg		99
37) Tetrachloroethene	15.40	166	2543	86.799	pg		99
39) Chlorobenzene	16.10	112	6841	73.595	pg		99
40) Ethylbenzene	16.48	91	8914	61.856	pg		100
41) m,p-Xylene	16.66	91	12999	115.427	pg		100
42) Styrene	17.01	104	4276	53.949	pg		99
43) o-Xylene	17.12	106	3264	56.368	pg		98
44) 1,1,2,2-Tetrachloroethane	17.09	83	4488	76.077	pg		99
46) 1,3,5-Trimethylbenzene	18.38	105	6847	58.730	pg		99
47) 1,2,4-Trimethylbenzene	18.77	105	6542	54.637	pg		99
48) 1,3-Dichlorobenzene	18.92	146	4780	66.634	pg		99
49) 1,4-Dichlorobenzene	18.98	146	4738	65.107	pg		99
50) 1,2-Dichlorobenzene	19.31	146	4550	63.945	pg		100
51) 1,2-Dibromo-3-chloropr...	19.72	157	1265	58.075	pg		95
52) 1,2,4-Trichlorobenzene	20.95	182	2091	51.131	pg		99
53) Naphthalene	21.08	128	6703	44.750	pg		99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261610.D Vial: 15
Acq On : 26 Apr 2016 15:10 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:02 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

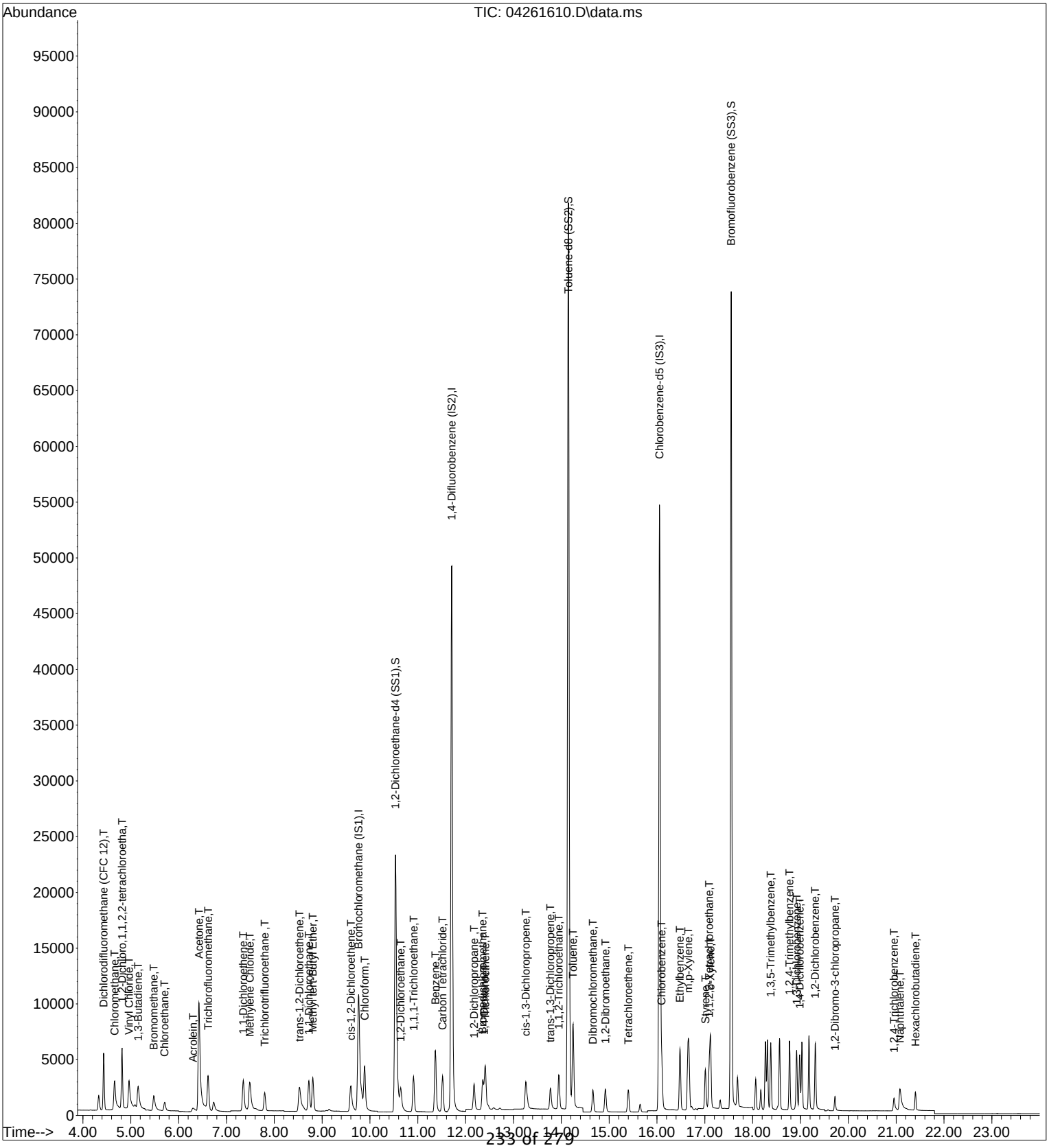
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	1649	58.479	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261610.D Vial: 15
Acq On : 26 Apr 2016 15:10 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251603 (5/24)

Quant Time: Apr 27 07:43:02 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261611.D Vial: 16
Acq On : 26 Apr 2016 15:42 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 27 08:23:09 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	20532	1000.000	pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.70	114	109325	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	22308	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	46313	1343.800	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 134.38%#			
33) Toluene-d8 (SS2)	14.14	98	113360	1134.320	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 113.43%			
45) Bromofluorobenzene (SS3)	17.55	174	56601	1112.120	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 111.21%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.42	85	32282	546.450	pg	100
3) Chloromethane	4.64	52	8758	632.806	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	35801	627.518	pg	100
5) Vinyl Chloride	4.94	62	29583	644.458	pg	99
6) 1,3-Butadiene	5.13	54	19144	721.746	pg	100
7) Bromomethane	5.46	94	11952	535.280	pg	100
8) Chloroethane	5.69	64	8485	582.873	pg	100
9) Acrolein	6.26	56	4988	510.279	pg	100
10) Acetone	6.39	58	38842	2474.202	pg	100
11) Trichlorofluoromethane	6.60	101	23391	537.579	pg	100
12) 1,1-Dichloroethene	7.33	96	12881	560.635	pg	100
13) Methylene Chloride	7.47	84	15193	602.589	pg	100
14) Trichlorotrifluoroethane	7.79	151	11928	518.383	pg	100
15) trans-1,2-Dichloroethene	8.51	96	14313	570.331	pg	100
16) 1,1-Dichloroethane	8.71	63	25288	633.674	pg	100
17) Methyl tert-Butyl Ether	8.79	73	34797	567.000	pg	100
18) cis-1,2-Dichloroethene	9.59	96	14868	575.791	pg	100
19) Chloroform	9.88	83	28081	606.252	pg	100
21) 1,2-Dichloroethane	10.64	62	20032	634.828	pg	100
22) 1,1,1-Trichloroethane	10.90	97	23528	574.185	pg	100
23) Benzene	11.36	78	57426	628.280	pg	100
24) Carbon Tetrachloride	11.51	117	20685	581.510	pg	100
26) 1,2-Dichloropropane	12.17	63	13676	583.834	pg	100
27) Bromodichloromethane	12.35	83	20497	571.212	pg	100
28) Trichloroethene	12.41	130	14645	472.149	pg	100
29) 1,4-Dioxane	12.38	88	9472	491.345	pg	100
30) cis-1,3-Dichloropropene	13.25	75	19872	555.323	pg	100
31) trans-1,3-Dichloropropene	13.77	75	16182	525.731	pg	100
32) 1,1,2-Trichloroethane	13.94	83	11956	551.441	pg	100
34) Toluene	14.24	91	53484	453.892	pg	100
35) Dibromochloromethane	14.66	129	14284	520.175	pg	100
36) 1,2-Dibromoethane	14.92	107	14261	509.569	pg	100
37) Tetrachloroethene	15.40	166	13357	421.239	pg	100
39) Chlorobenzene	16.10	112	35234	369.904	pg	100
40) Ethylbenzene	16.48	91	51832	350.998	pg	100
41) m,p-Xylene	16.66	91	84727	734.203	pg	100
42) Styrene	17.01	104	28162	346.745	pg	100
43) o-Xylene	17.12	106	21094	355.501	pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	23446	387.852	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	45005	376.718	pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	43426	353.933	pg	100
48) 1,3-Dichlorobenzene	18.92	146	25360	344.998	pg	100
49) 1,4-Dichlorobenzene	18.98	146	24554	329.269	pg	100
50) 1,2-Dichlorobenzene	19.31	146	24007	329.253	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6687	299.588	pg	100
52) 1,2,4-Trichlorobenzene	20.95	182	9666	230.661	pg	100
53) Naphthalene	21.06	128	35088	228.604	pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261611.D Vial: 16
Acq On : 26 Apr 2016 15:42 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 27 08:23:09 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

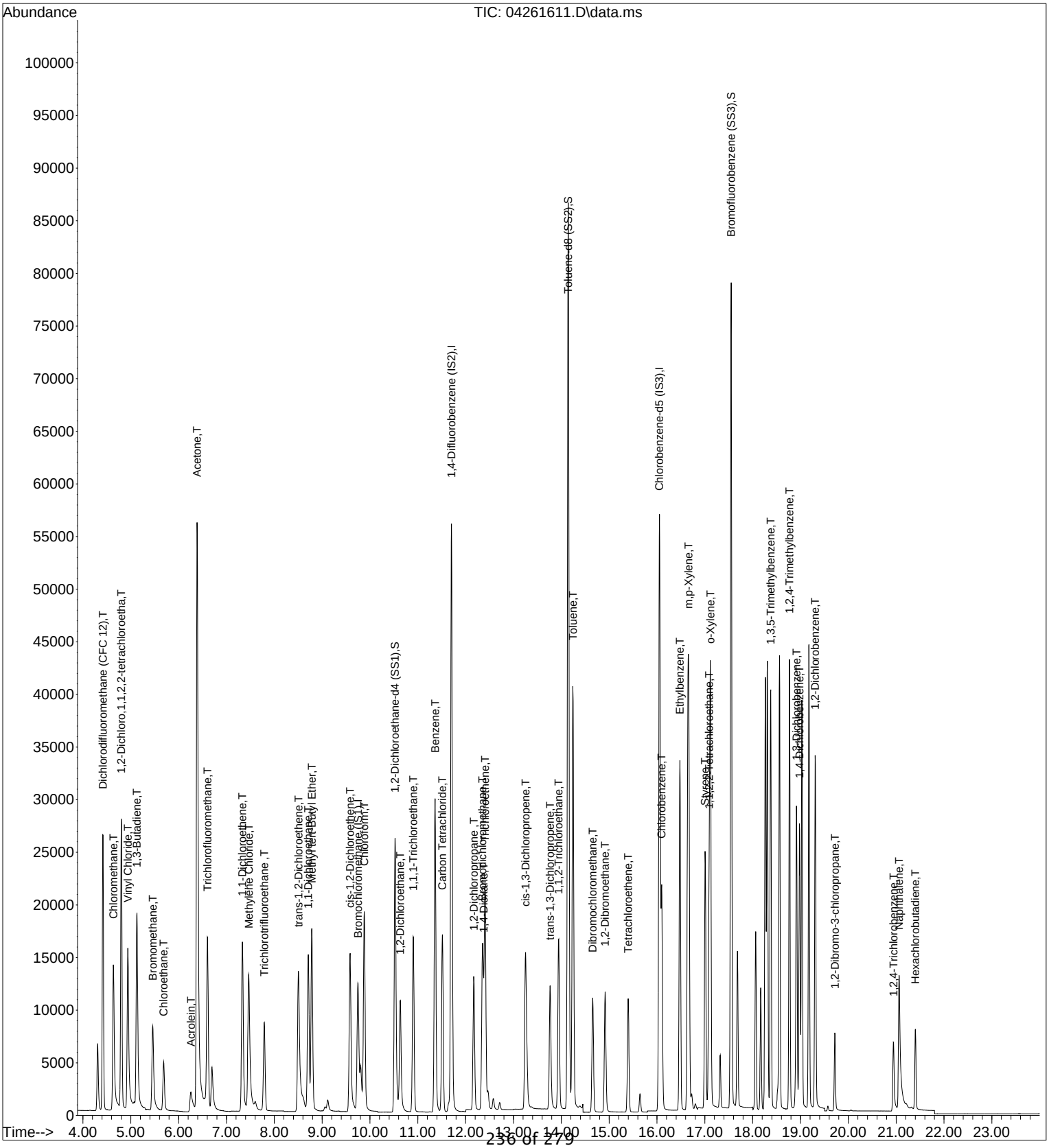
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	7454	257.969	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261611.D Vial: 16
Acq On : 26 Apr 2016 15:42 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 27 08:23:09 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261612.D Vial: 9
Acq On : 26 Apr 2016 16:13 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:46:55 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18922	1000.000	pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.70	114	102445	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	20624	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	41050	1292.436	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 129.24%			
33) Toluene-d8 (SS2)	14.14	98	106125	1133.240	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 113.32%			
45) Bromofluorobenzene (SS3)	17.55	174	53871	1144.908	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 114.49%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.41	85	69694	1280.117	pg	100
3) Chloromethane	4.63	52	18207	1427.475	pg	92
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	75710	1439.954	pg	100
5) Vinyl Chloride	4.92	62	62543	1478.412	pg	99
6) 1,3-Butadiene	5.12	54	43588	1783.129	pg	100
7) Bromomethane	5.45	94	25841	1255.780	pg	99
8) Chloroethane	5.68	64	18482	1377.639	pg	99
9) Acrolein	6.24	56	11728m	1301.875	pg	
10) Acetone	6.38	58	89626	6194.866	pg	97
11) Trichlorofluoromethane	6.60	101	49794	1241.753	pg	100
12) 1,1-Dichloroethene	7.33	96	28394	1340.977	pg	99
13) Methylene Chloride	7.46	84	32056	1379.595	pg	98
14) Trichlorotrifluoroethane	7.79	151	25742	1213.919	pg	100
15) trans-1,2-Dichloroethene	8.50	96	31210	1349.443	pg	99
16) 1,1-Dichloroethane	8.71	63	54279	1475.869	pg	100
17) Methyl tert-Butyl Ether	8.78	73	80626	1425.543	pg	100
18) cis-1,2-Dichloroethene	9.58	96	33122	1391.852	pg	100
19) Chloroform	9.88	83	59245	1387.896	pg	100
21) 1,2-Dichloroethane	10.63	62	43518	1496.459	pg	100
22) 1,1,1-Trichloroethane	10.90	97	50970	1349.727	pg	100
23) Benzene	11.36	78	125403	1488.732	pg	100
24) Carbon Tetrachloride	11.51	117	44863	1368.528	pg	100
26) 1,2-Dichloropropane	12.17	63	30185	1375.149	pg	100
27) Bromodichloromethane	12.35	83	45159	1343.013	pg	100
28) Trichloroethene	12.41	130	32837	1129.748	pg	100
29) 1,4-Dioxane	12.37	88	24103	1334.273	pg	99
30) cis-1,3-Dichloropropene	13.25	75	46570	1388.797	pg	100
31) trans-1,3-Dichloropropene	13.76	75	39108	1355.895	pg	99
32) 1,1,2-Trichloroethane	13.94	83	26676	1312.994	pg	99
34) Toluene	14.24	91	121074	1096.500	pg	100
35) Dibromochloromethane	14.66	129	32842	1276.315	pg	100
36) 1,2-Dibromoethane	14.91	107	33005	1258.524	pg	100
37) Tetrachloroethene	15.40	166	30187	1015.941	pg	100
39) Chlorobenzene	16.10	112	81069	920.598	pg	100
40) Ethylbenzene	16.48	91	128916	944.280	pg	100
41) m,p-Xylene	16.66	91	213581	2001.911	pg	100
42) Styrene	17.01	104	74492	992.074	pg	100
43) o-Xylene	17.12	106	52529	957.566	pg	99
44) 1,1,2,2-Tetrachloroethane	17.09	83	55706	996.751	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	115500	1045.744	pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	116867	1030.269	pg	100
48) 1,3-Dichlorobenzene	18.92	146	66089	972.488	pg	99
49) 1,4-Dichlorobenzene	18.98	146	64172	930.812	pg	99
50) 1,2-Dichlorobenzene	19.31	146	63952	948.709	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	20138	975.881	pg	95
52) 1,2,4-Trichlorobenzene	20.94	182	32966	850.907	pg	100
53) Naphthalene	21.06	128	128279	903.998	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261612.D Vial: 9
Acq On : 26 Apr 2016 16:13 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:46:55 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

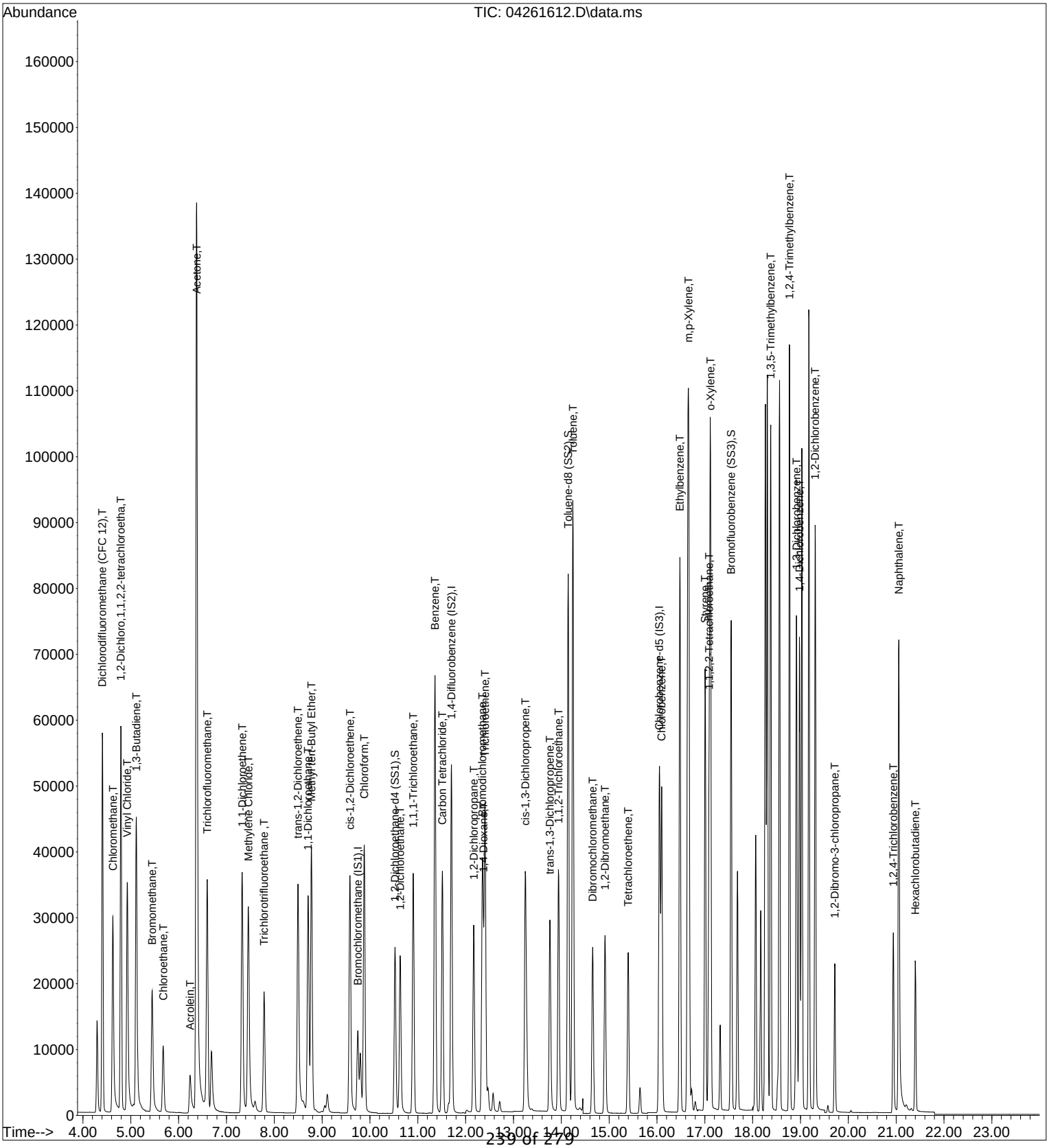
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	21920	820.554	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261612.D Vial: 9
Acq On : 26 Apr 2016 16:13 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

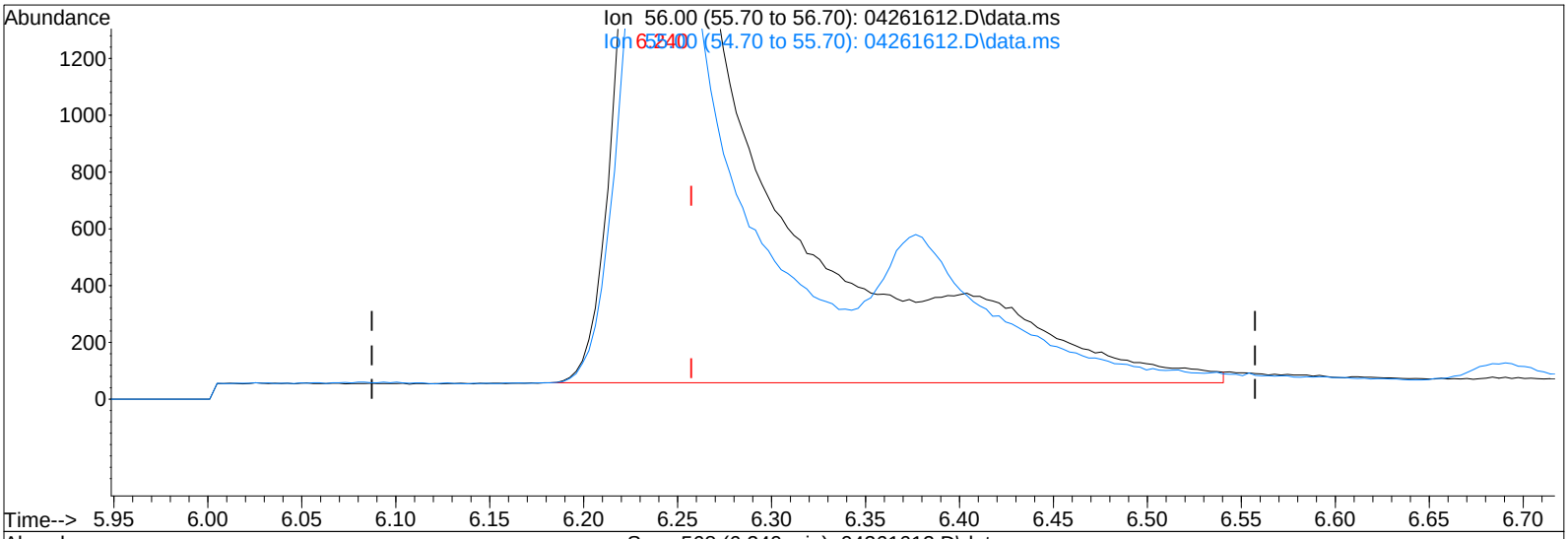
Quant Time: Apr 27 08:46:55 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

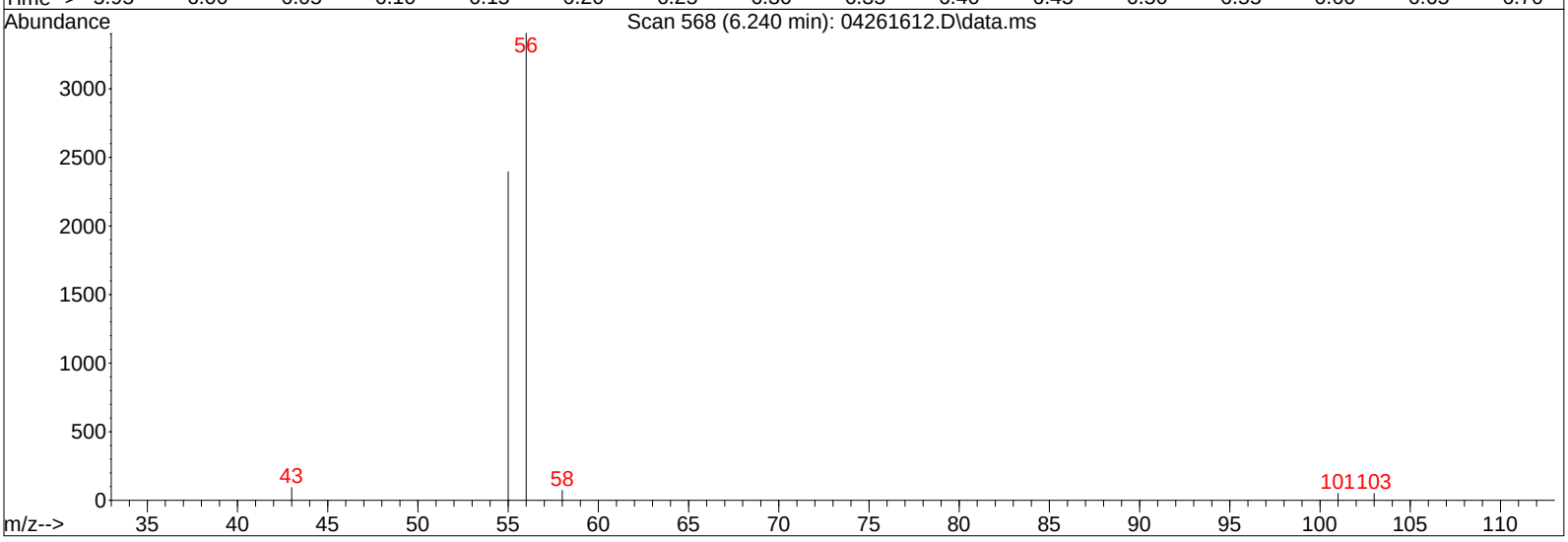


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261612.D Vial: 9
Acq On : 26 Apr 2016 16:13 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:03 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 04261612.D\data.ms

(9) Acrolein (T)

6.240min (-0.017) 1478.93pg

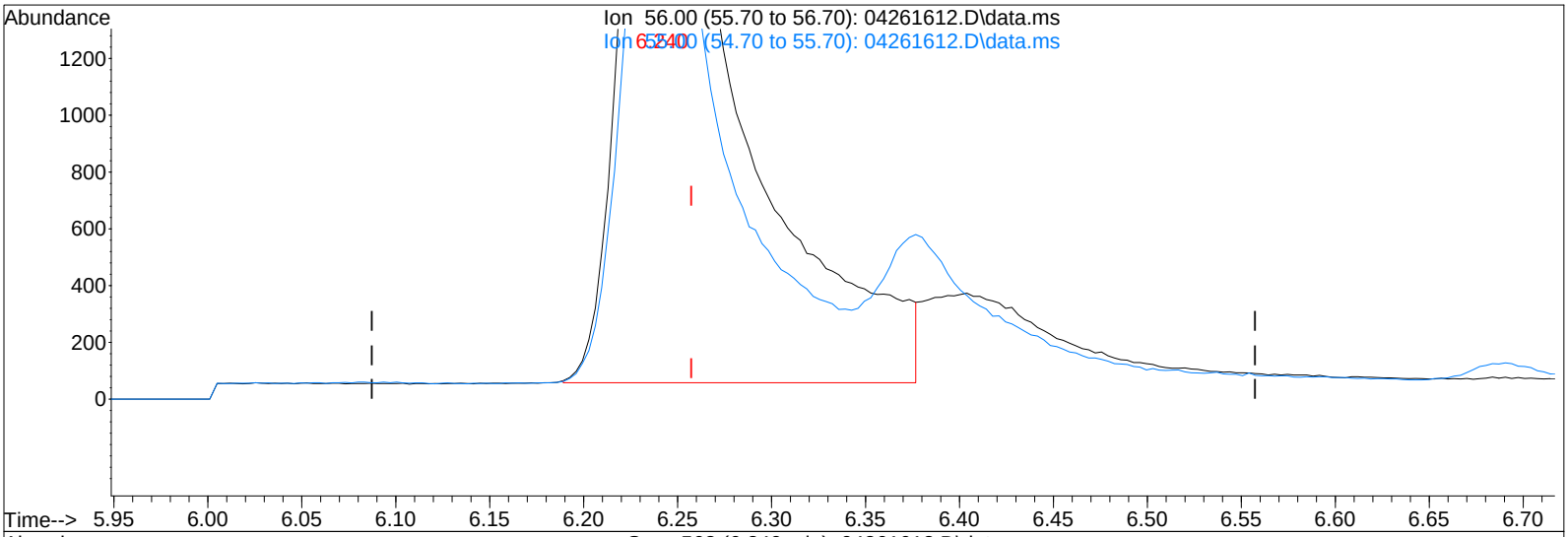
response 13323

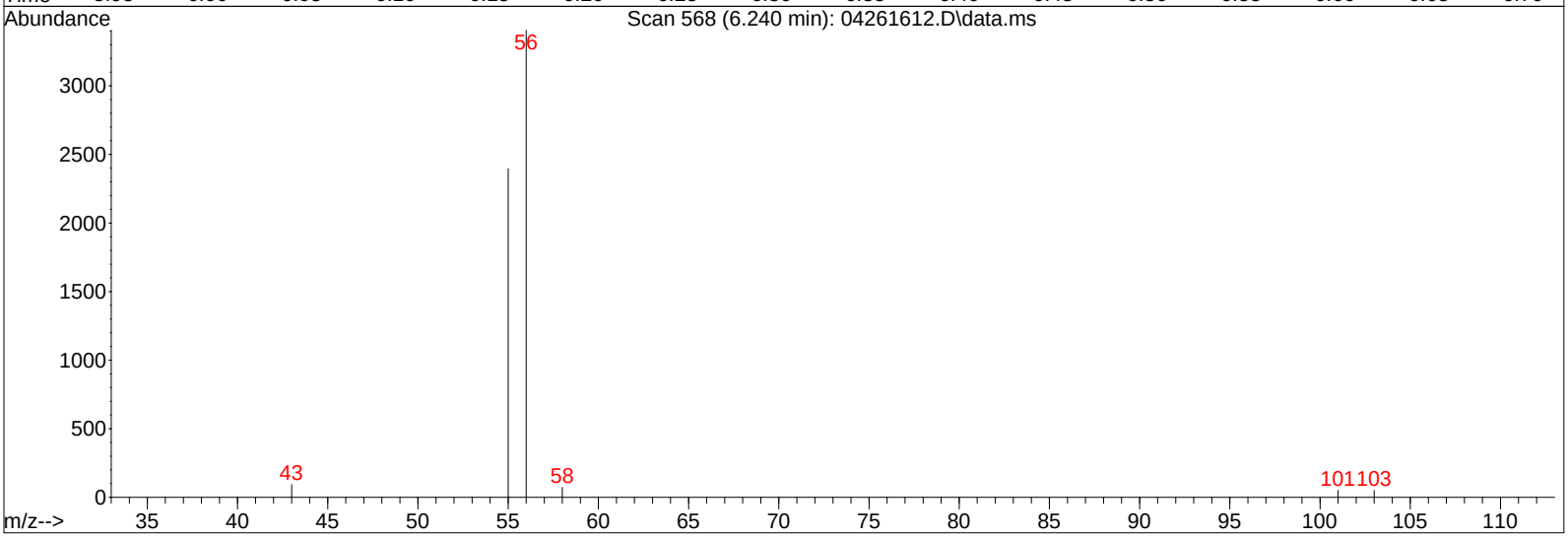
Ion	Exp%	Act%
56.00	100	100
55.00	67.20	58.99
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261612.D Vial: 9
Acq On : 26 Apr 2016 16:13 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:03 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 04261612.D\data.ms

(9) Acrolein (T)

6.240min (-0.017) 1301.87pg m

response 11728

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	67.01
0.00	0.00	0.00
0.00	0.00	0.00

IPC

CL 4/27/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261613.D Vial: 9
Acq On : 26 Apr 2016 16:45 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:53:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	21883	1000.000	pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.70	114	117773	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	23661	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	46032	1253.187	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 125.32%			
33) Toluene-d8 (SS2)	14.14	98	123760	1149.555	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 114.95%			
45) Bromofluorobenzene (SS3)	17.55	174	64902	1202.301	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 120.23%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	138221	2195.272	pg	100
3) Chloromethane	4.62	52	34673	2350.615	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	146018	2401.387	pg	100
5) Vinyl Chloride	4.92	62	122407	2501.976	pg	99
6) 1,3-Butadiene	5.11	54	85774	3034.112	pg	100
7) Bromomethane	5.44	94	50655	2128.565	pg	99
8) Chloroethane	5.67	64	36885	2377.368	pg	99
9) Acrolein	6.23	56	24774m	2377.943	pg	
10) Acetone	6.37	58	177466	10606.527	pg	96
11) Trichlorofluoromethane	6.59	101	97756	2107.957	pg	100
12) 1,1-Dichloroethene	7.33	96	57736	2357.772	pg	98
13) Methylene Chloride	7.46	84	63628	2367.831	pg	97
14) Trichlorotrifluoroethane	7.79	151	51902	2116.370	pg	100
15) trans-1,2-Dichloroethene	8.50	96	63195	2362.673	pg	98
16) 1,1-Dichloroethane	8.71	63	107665	2531.340	pg	100
17) Methyl tert-Butyl Ether	8.77	73	169080	2584.983	pg	99
18) cis-1,2-Dichloroethene	9.58	96	67852	2465.467	pg	100
19) Chloroform	9.88	83	116072	2351.217	pg	100
21) 1,2-Dichloroethane	10.63	62	86508	2572.246	pg	100
22) 1,1,1-Trichloroethane	10.90	97	101922	2333.777	pg	100
23) Benzene	11.36	78	249074	2556.803	pg	100
24) Carbon Tetrachloride	11.51	117	89923	2371.901	pg	100
26) 1,2-Dichloropropane	12.17	63	60525	2398.493	pg	99
27) Bromodichloromethane	12.35	83	91114	2357.035	pg	100
28) Trichloroethene	12.41	130	66561	1991.971	pg	100
29) 1,4-Dioxane	12.37	88	50487	2431.074	pg	97
30) cis-1,3-Dichloropropene	13.25	75	99770	2588.079	pg	100
31) trans-1,3-Dichloropropene	13.76	75	85221	2570.112	pg	99
32) 1,1,2-Trichloroethane	13.94	83	53733	2300.531	pg	98
34) Toluene	14.24	91	250205	1971.055	pg	100
35) Dibromochloromethane	14.66	129	68643	2320.436	pg	100
36) 1,2-Dibromoethane	14.91	107	68981	2288.001	pg	100
37) Tetrachloroethene	15.40	166	62903	1841.470	pg	99
39) Chlorobenzene	16.10	112	168494	1667.782	pg	100
40) Ethylbenzene	16.48	91	279760	1786.156	pg	99
41) m,p-Xylene	16.65	91	448019	3660.315	pg	99
42) Styrene	17.01	104	166003	1927.037	pg	100
43) o-Xylene	17.12	106	110398	1754.166	pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	113052	1763.205	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	240988	1901.860	pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	248472	1909.308	pg	99
48) 1,3-Dichlorobenzene	18.92	146	138730	1779.365	pg	99
49) 1,4-Dichlorobenzene	18.98	146	135490	1713.024	pg	99
50) 1,2-Dichlorobenzene	19.31	146	134294	1736.503	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	45065	1903.530	pg	89
52) 1,2,4-Trichlorobenzene	20.94	182	74986	1687.080	pg	99
53) Naphthalene	21.05	128	292314	1795.566	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261613.D Vial: 9
Acq On : 26 Apr 2016 16:45 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:53:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

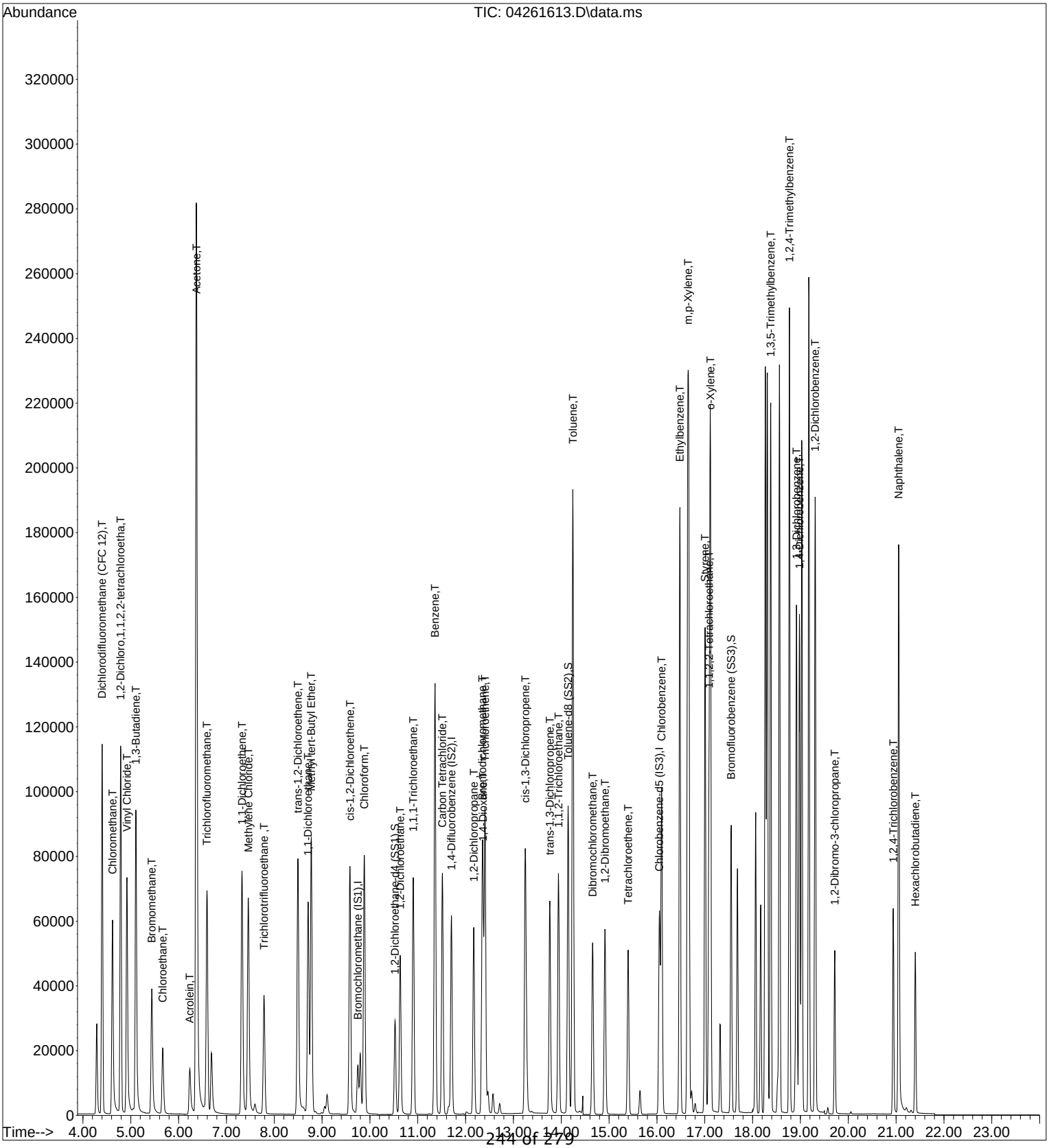
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	47109	1537.129	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261613.D Vial: 9
Acq On : 26 Apr 2016 16:45 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

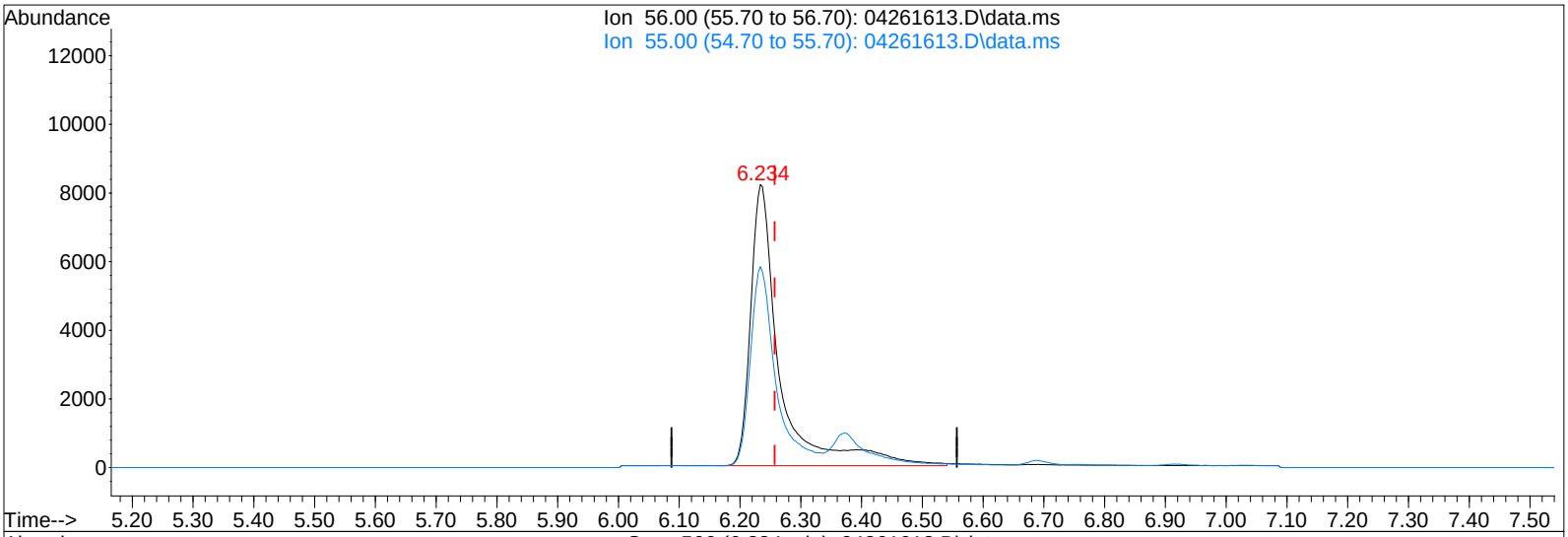
Quant Time: Apr 27 08:53:01 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

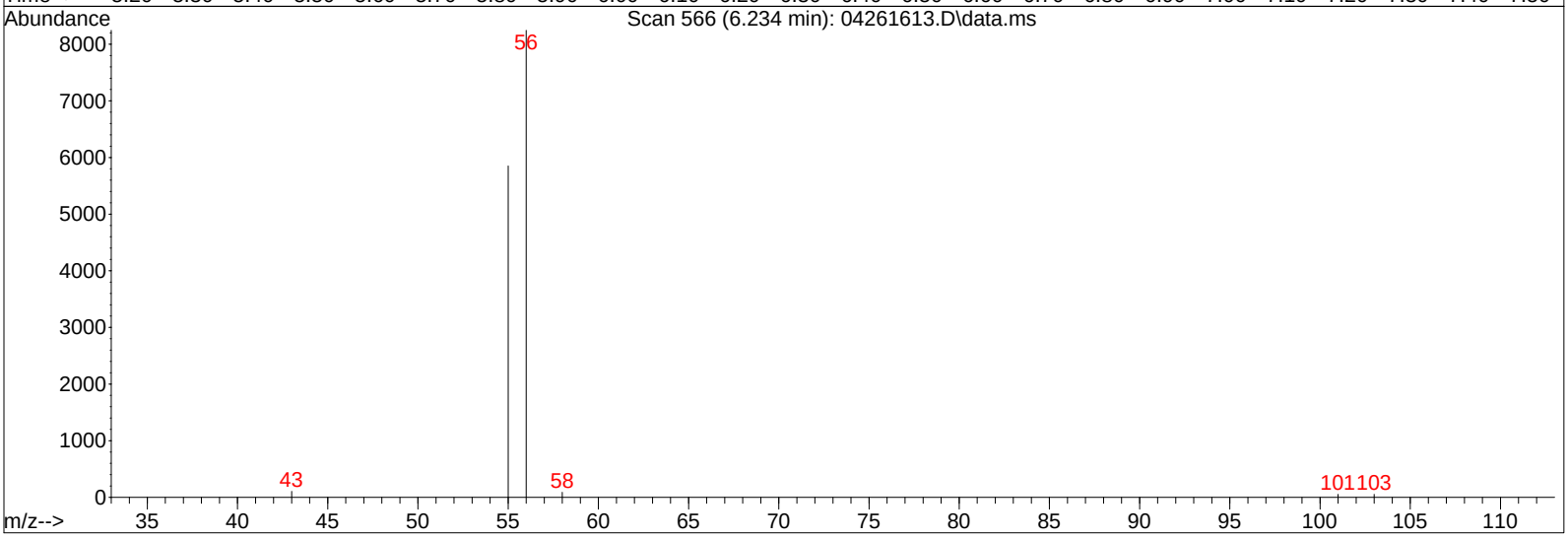


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261613.D Vial: 9
Acq On : 26 Apr 2016 16:45 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:04 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 04261613.D\data.ms

(9) Acrolein (T)

6.234min (-0.024) 2626.74pg

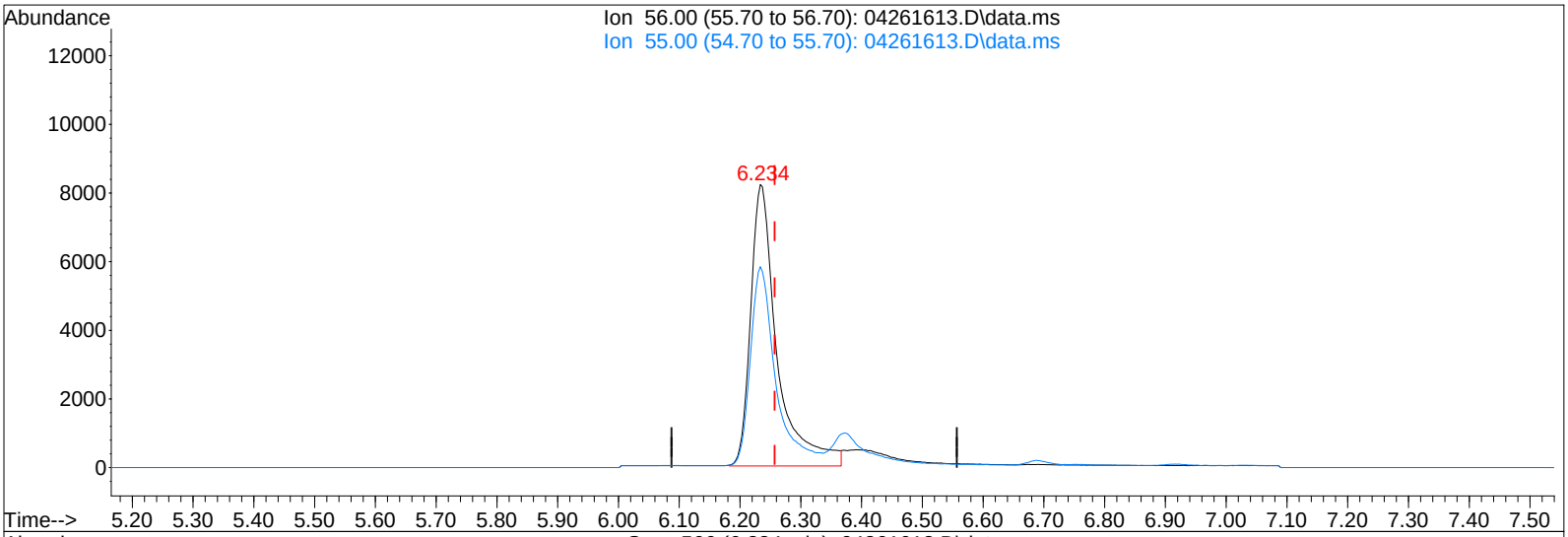
response 27366

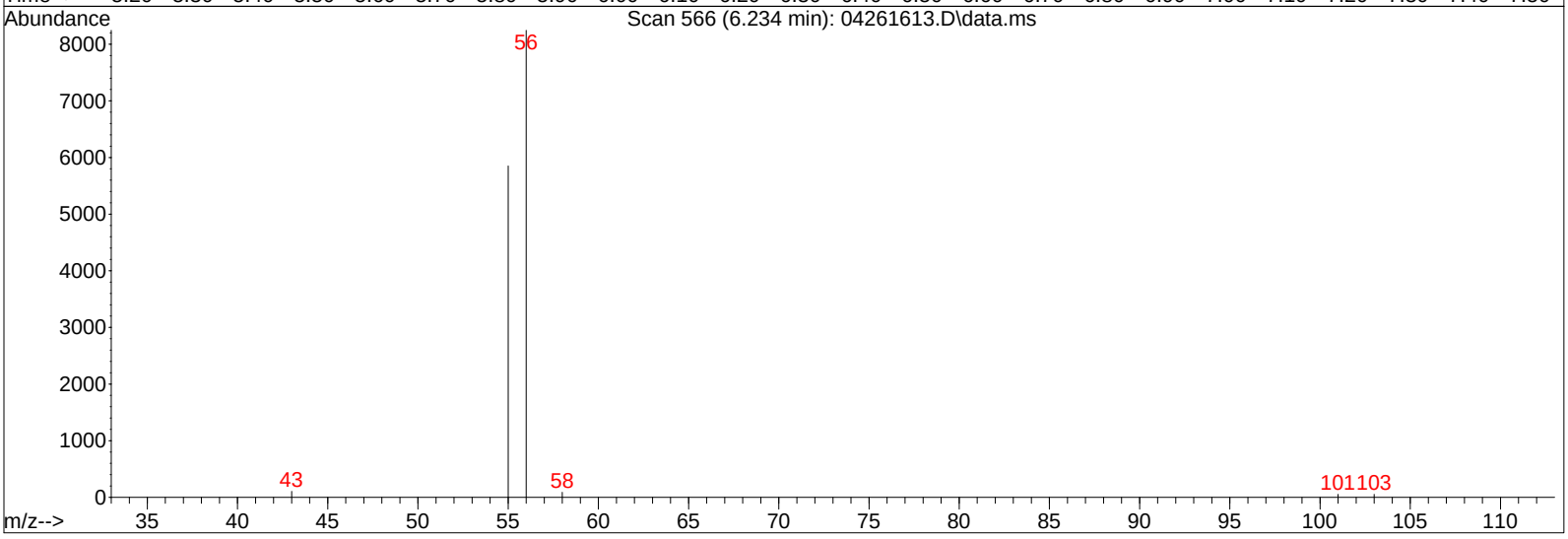
Ion	Exp%	Act%
56.00	100	100
55.00	67.20	61.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261613.D Vial: 9
Acq On : 26 Apr 2016 16:45 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:04 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 04261613.D\data.ms

(9) Acrolein (T)

6.234min (-0.024) 2377.94pg m

response 24774

IPC

CL 4/27/16

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	68.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261614.D Vial: 9
Acq On : 26 Apr 2016 17:16 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:56:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	23009	1000.000	pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.70	114	123188	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	25018	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.53	65	47377	1226.684	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.67%			
33) Toluene-d8 (SS2)	14.14	98	130836	1161.860	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.19%			
45) Bromofluorobenzene (SS3)	17.55	174	72518	1270.520	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.05%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	335813	5072.487	pg	100
3) Chloromethane	4.61	52	78405	5055.255	pg	94
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	345609	5405.674	pg	100
5) Vinyl Chloride	4.92	62	286564	5570.674	pg	99
6) 1,3-Butadiene	5.10	54	210020	7065.545	pg	100
7) Bromomethane	5.44	94	122808	4907.952	pg	100
8) Chloroethane	5.66	64	89795	5504.373	pg	99
9) Acrolein	6.23	56	64844m	5919.490	pg	
10) Acetone	6.37	58	425658	24195.130	pg	94
11) Trichlorofluoromethane	6.59	101	234650	4812.247	pg	100
12) 1,1-Dichloroethene	7.32	96	144978	5630.751	pg	97
13) Methylene Chloride	7.46	84	153366	5428.009	pg	97
14) Trichlorotrifluoroethane	7.79	151	129433	5019.515	pg	100
15) trans-1,2-Dichloroethene	8.50	96	158090	5621.271	pg	97
16) 1,1-Dichloroethane	8.71	63	259405	5800.474	pg	100
17) Methyl tert-Butyl Ether	8.77	73	428993	6237.704	pg	99
18) cis-1,2-Dichloroethene	9.58	96	168316	5816.626	pg	100
19) Chloroform	9.89	83	276056	5318.284	pg	100
21) 1,2-Dichloroethane	10.63	62	208898	5907.443	pg	99
22) 1,1,1-Trichloroethane	10.91	97	247916	5398.899	pg	100
23) Benzene	11.36	78	595594	5814.713	pg	100
24) Carbon Tetrachloride	11.52	117	218592	5483.642	pg	100
26) 1,2-Dichloropropane	12.17	63	147682	5595.109	pg	99
27) Bromodichloromethane	12.35	83	224976	5564.093	pg	100
28) Trichloroethene	12.41	130	164356	4702.471	pg	100
29) 1,4-Dioxane	12.37	88	127652	5876.566	pg	96
30) cis-1,3-Dichloropropene	13.25	75	259375	6432.547	pg	100
31) trans-1,3-Dichloropropene	13.76	75	225759	6509.204	pg	99
32) 1,1,2-Trichloroethane	13.94	83	131450	5380.528	pg	97
34) Toluene	14.24	91	621355	4679.719	pg	99
35) Dibromochloromethane	14.66	129	176441	5702.301	pg	100
36) 1,2-Dibromoethane	14.91	107	174754	5541.550	pg	100
37) Tetrachloroethene	15.40	166	161554	4521.561	pg	97
39) Chlorobenzene	16.10	112	425003	3978.573	pg	100
40) Ethylbenzene	16.48	91	720180	4348.659	pg	98
41) m,p-Xylene	16.65	91	1120455	8657.588	pg	98
42) Styrene	17.01	104	439921	4829.802	pg	100
43) o-Xylene	17.12	106	276812	4159.824	pg	96
44) 1,1,2,2-Tetrachloroethane	17.09	83	278595	4109.400	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	604514	4512.009	pg	97
47) 1,2,4-Trimethylbenzene	18.77	105	633240	4602.008	pg	98
48) 1,3-Dichlorobenzene	18.92	146	354466	4299.815	pg	100
49) 1,4-Dichlorobenzene	18.98	146	343273	4104.653	pg	99
50) 1,2-Dichlorobenzene	19.31	146	343736	4203.629	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	121680	4860.938	pg	86
52) 1,2,4-Trichlorobenzene	20.94	182	206471	4393.342	pg	98
53) Naphthalene	21.05	128	768456	4464.280	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261614.D Vial: 9
Acq On : 26 Apr 2016 17:16 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 08:56:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

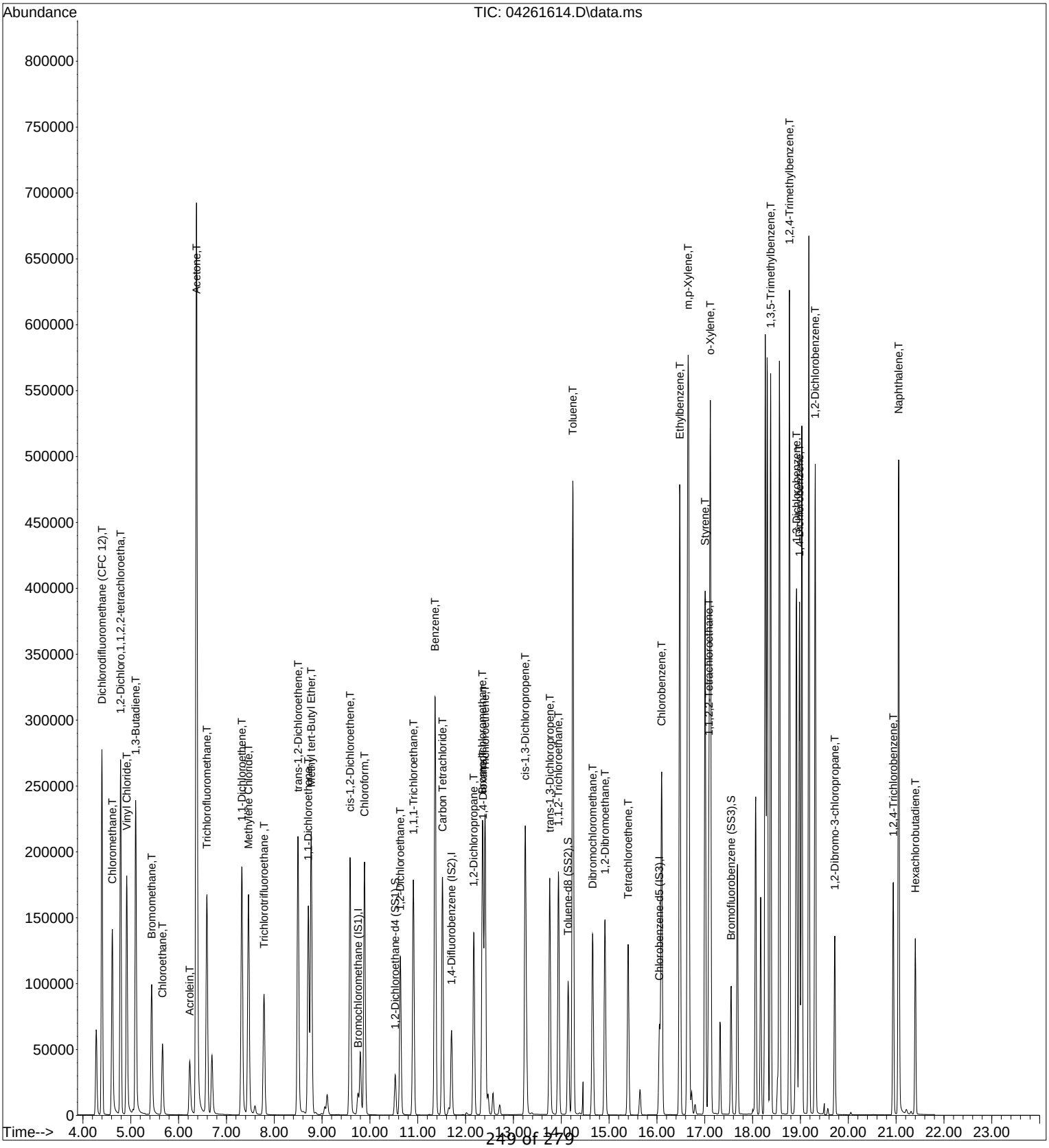
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	125380	3869.146	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261614.D Vial: 9
Acq On : 26 Apr 2016 17:16 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

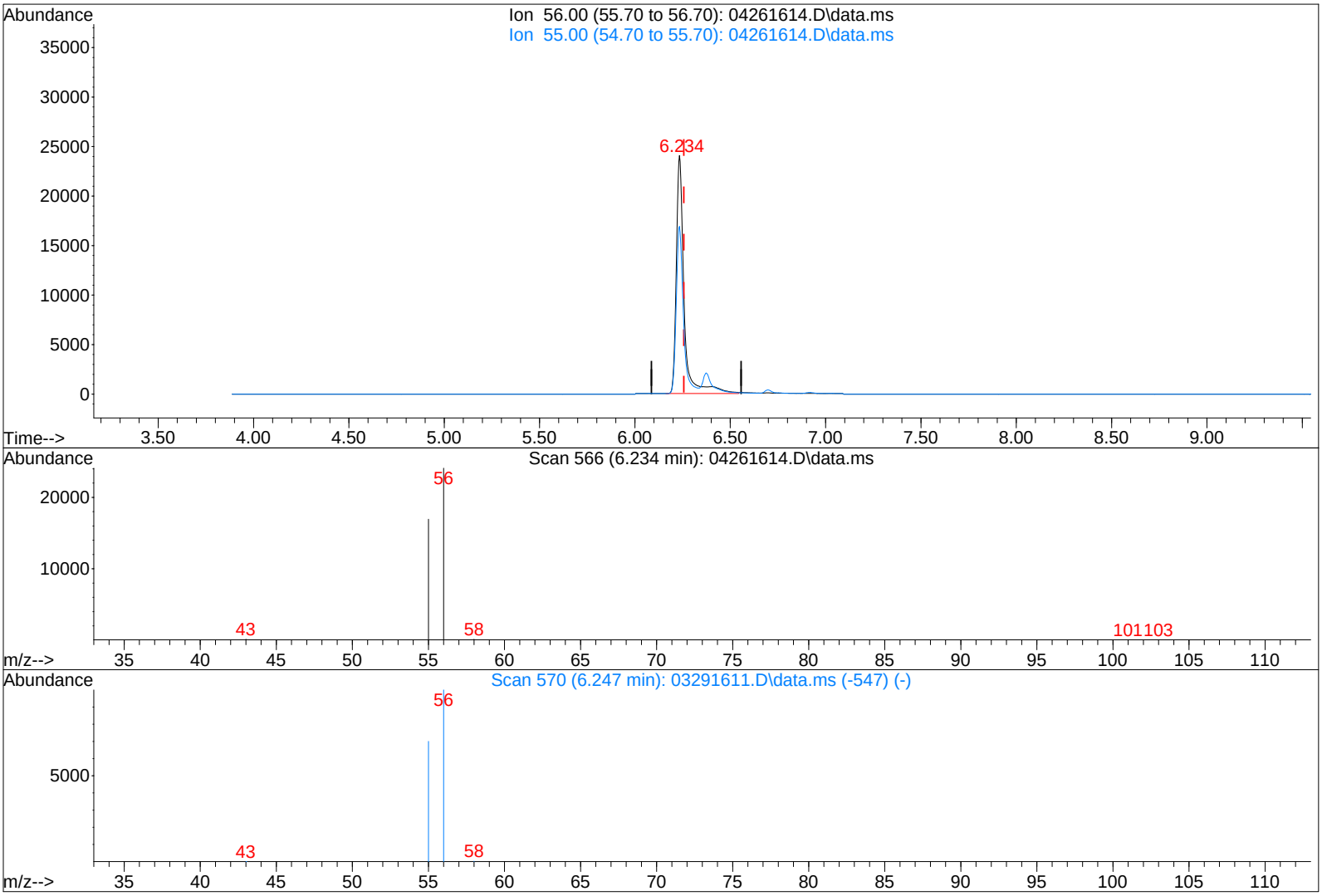
Quant Time: Apr 27 08:56:20 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261614.D Vial: 9
Acq On : 26 Apr 2016 17:16 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:05 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261614.D\data.ms

(9) Acrolein (T)

6.234min (-0.024) 6248.13pg

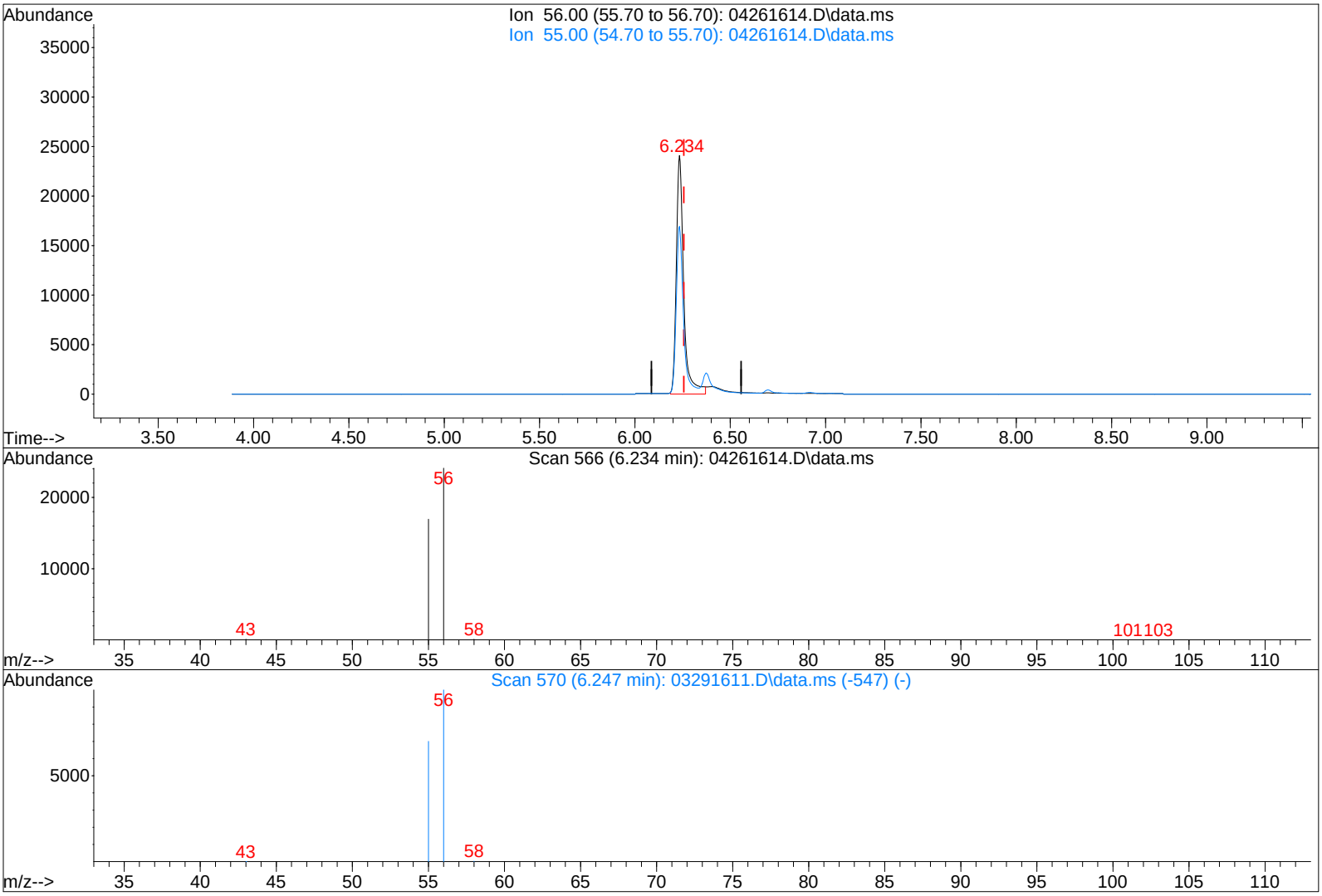
response 68444

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	64.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261614.D Vial: 9
Acq On : 26 Apr 2016 17:16 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:05 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261614.D\data.ms

(9) Acrolein (T)

6.234min (-0.024) 5919.49pg m

response 64844

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	68.27
0.00	0.00	0.00
0.00	0.00	0.00

BLC

CL 4/27/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261615.D Vial: 9
Acq On : 26 Apr 2016 17:48 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 09:02:33 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	24128	1000.000	pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	130153	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	27035	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.54	65	49072	1211.645	pg	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 121.17%			
33) Toluene-d8 (SS2)	14.14	98	138736	1166.085	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.61%			
45) Bromofluorobenzene (SS3)	17.55	174	79459	1288.265	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 128.83%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	678091	9767.600	pg	99
3) Chloromethane	4.61	52	147256	9054.171	pg	94
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	686928	10245.955	pg	100
5) Vinyl Chloride	4.92	62	579210	10737.386	pg	99
6) 1,3-Butadiene	5.11	54	425568	13653.073	pg	98
7) Bromomethane	5.44	94	267027	10176.660	pg	99
8) Chloroethane	5.67	64	185021	10815.663	pg	100
9) Acrolein	6.24	56	135427m	11789.521	pg	
10) Acetone	6.38	58	855838	46391.151	pg	94
11) Trichlorofluoromethane	6.60	101	478266	9353.481	pg	100
12) 1,1-Dichloroethene	7.33	96	301010	11148.631	pg	96
13) Methylene Chloride	7.47	84	309845	10457.609	pg	96
14) Trichlorotrifluoroethane	7.79	151	269941	9983.021	pg	99
15) trans-1,2-Dichloroethene	8.50	96	327770	11114.136	pg	97
16) 1,1-Dichloroethane	8.72	63	522391	11139.283	pg	100
17) Methyl tert-Butyl Ether	8.77	73	888474	12319.574	pg	99
18) cis-1,2-Dichloroethene	9.59	96	345553	11387.720	pg	100
19) Chloroform	9.89	83	553963	10177.276	pg	100
21) 1,2-Dichloroethane	10.64	62	422647	11397.760	pg	99
22) 1,1,1-Trichloroethane	10.91	97	504992	10487.248	pg	100
23) Benzene	11.36	78	1203151	11201.458	pg	100
24) Carbon Tetrachloride	11.52	117	450116	10768.015	pg	100
26) 1,2-Dichloropropane	12.18	63	304452	10917.271	pg	99
27) Bromodichloromethane	12.36	83	465005	10885.040	pg	100
28) Trichloroethene	12.41	130	337702	9145.098	pg	100
29) 1,4-Dioxane	12.37	88	265986	11589.614	pg	95
30) cis-1,3-Dichloropropene	13.25	75	550691	12926.385	pg	100
31) trans-1,3-Dichloropropene	13.76	75	483534	13195.445	pg	99
32) 1,1,2-Trichloroethane	13.94	83	268663	10408.458	pg	97
34) Toluene	14.24	91	1271777	9065.780	pg	99
35) Dibromochloromethane	14.66	129	373986	11439.846	pg	100
36) 1,2-Dibromoethane	14.91	107	363627	10913.761	pg	99
37) Tetrachloroethene	15.40	166	343205	9091.562	pg	96
39) Chlorobenzene	16.10	112	881012	7632.089	pg	100
40) Ethylbenzene	16.48	91	1480448	8272.441	pg	98
41) m,p-Xylene	16.66	91	2296859	16423.398	pg	97
42) Styrene	17.01	104	923509	9382.574	pg	100
43) o-Xylene	17.12	106	568946	7912.020	pg	95
44) 1,1,2,2-Tetrachloroethane	17.09	83	569830	7778.155	pg	99
46) 1,3,5-Trimethylbenzene	18.38	105	1247756	8618.257	pg	96
47) 1,2,4-Trimethylbenzene	18.77	105	1332938	8964.276	pg	97
48) 1,3-Dichlorobenzene	18.92	146	734185	8241.512	pg	100
49) 1,4-Dichlorobenzene	18.98	146	717191	7935.929	pg	99
50) 1,2-Dichlorobenzene	19.31	146	720083	8149.072	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	265866	9828.560	pg	83
52) 1,2,4-Trichlorobenzene	20.94	182	452157	8903.308	pg	97
53) Naphthalene	21.05	128	1631829	8772.699	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261615.D Vial: 9
Acq On : 26 Apr 2016 17:48 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 09:02:33 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

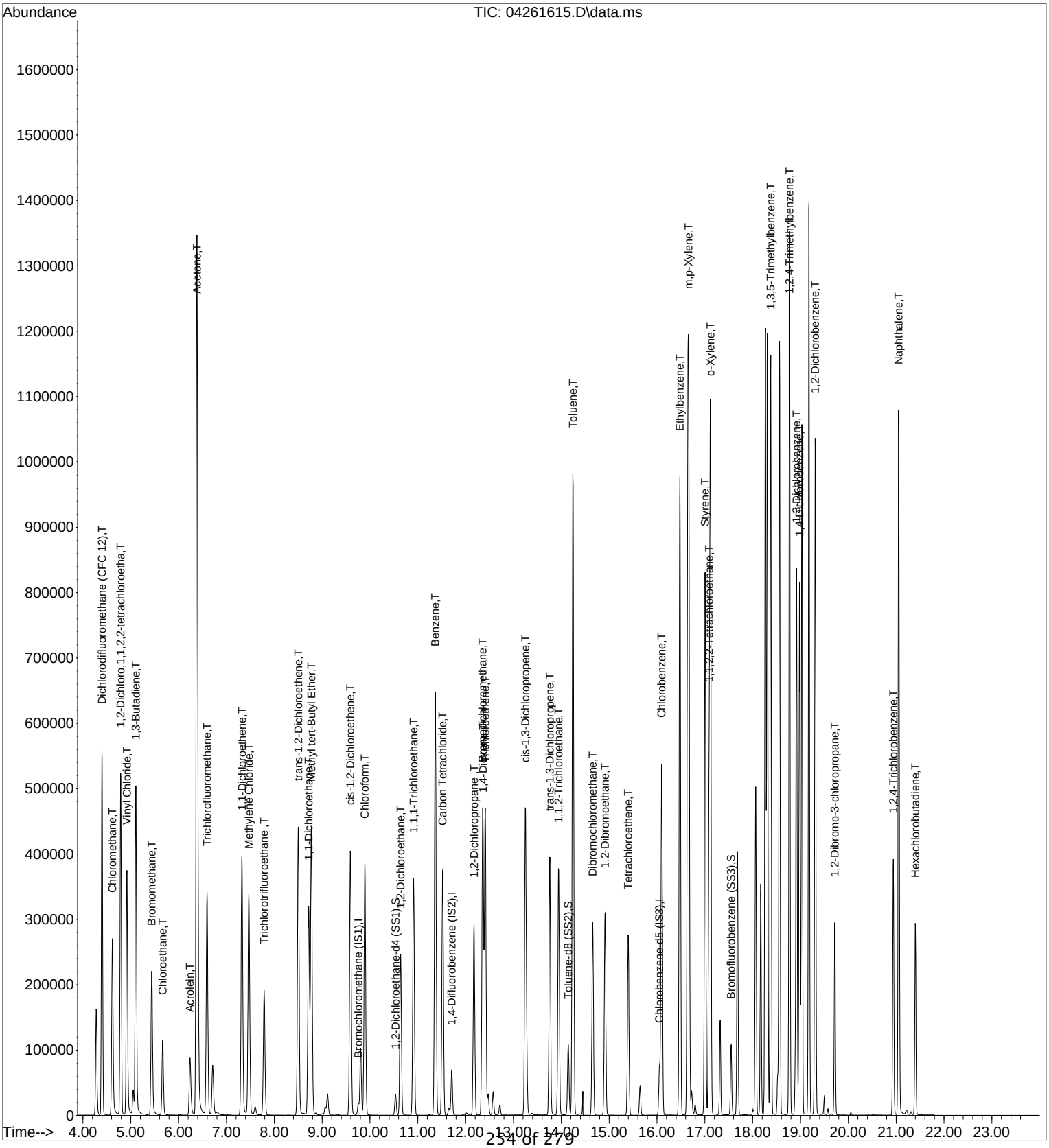
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	273423	7808.148	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261615.D Vial: 9
Acq On : 26 Apr 2016 17:48 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

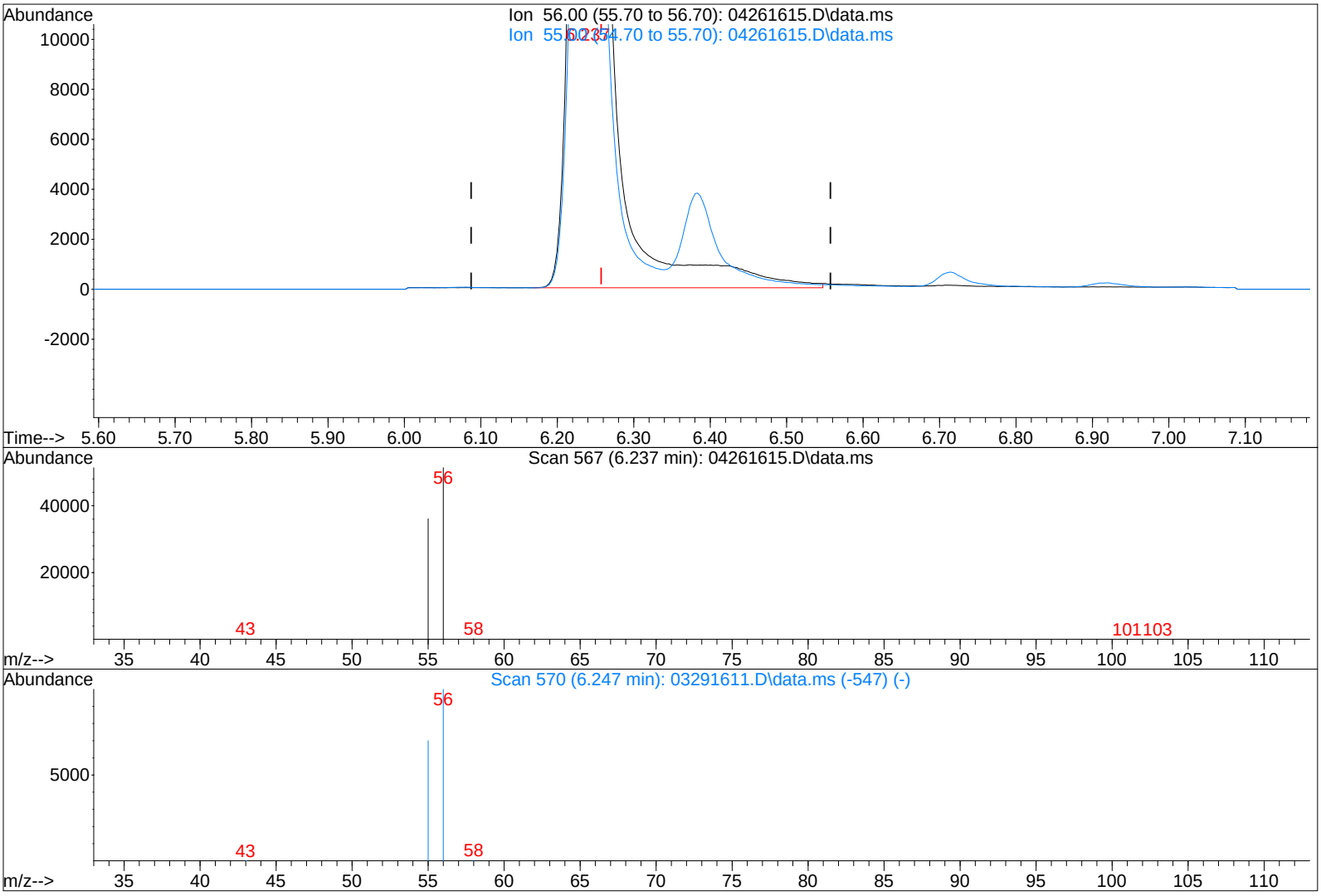
Quant Time: Apr 27 09:02:33 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261615.D Vial: 9
Acq On : 26 Apr 2016 17:48 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:06 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261615.D\data.ms

(9) Acrolein (T)

6.237min (-0.020) 12296.00pg

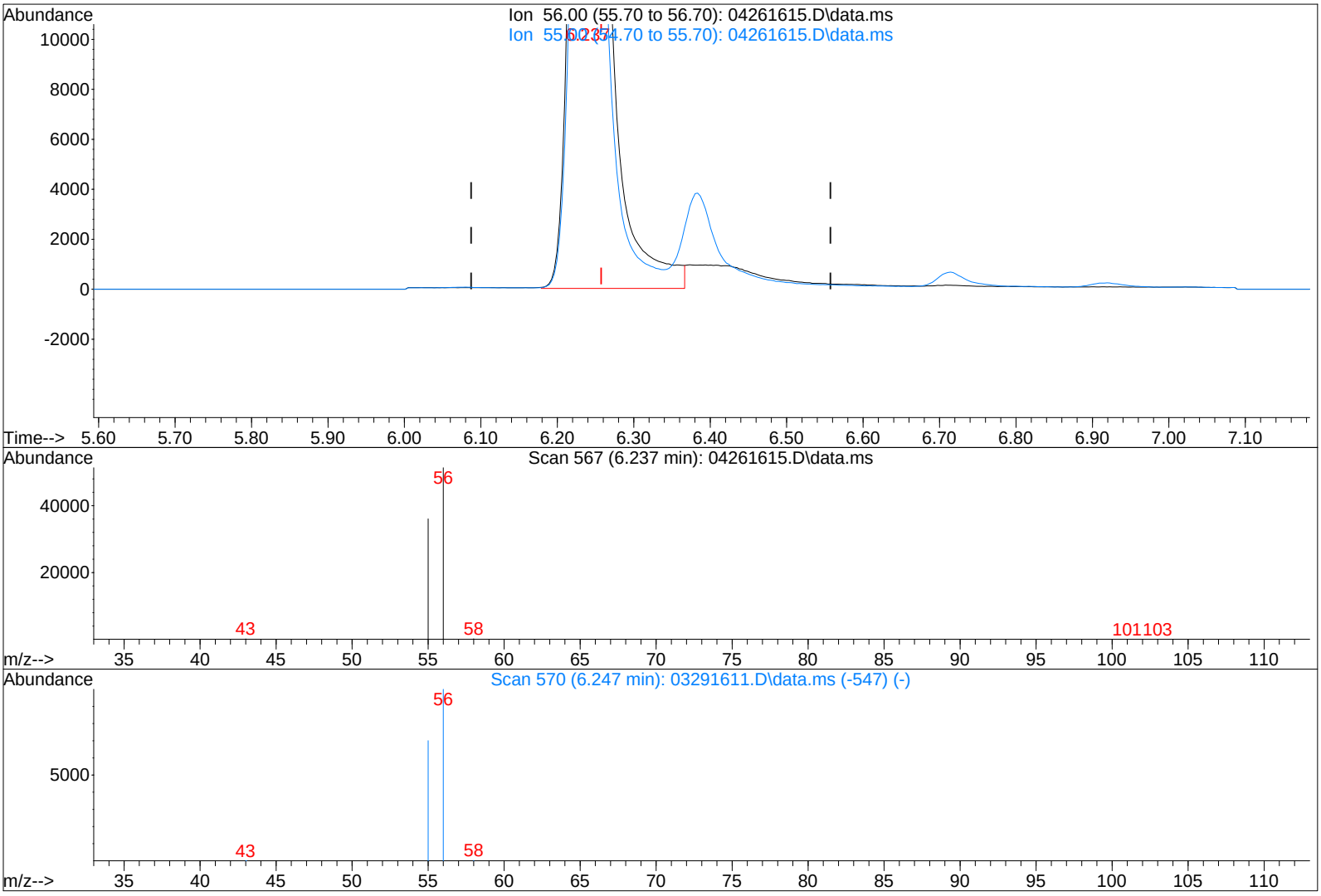
response 141245

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	66.46
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 04\26\04261615.D Vial: 9
Acq On : 26 Apr 2016 17:48 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131609 (5/12)

Quant Time: Apr 27 07:43:06 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 07:42:07 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 04261615.D\data.ms

(9) Acrolein (T)

6.237min (-0.020) 11789.52pg m

response 135427

Ion	Exp%	Act%
56.00	100	100
55.00	67.20	69.31
0.00	0.00	0.00
0.00	0.00	0.00

IPC

CL 4/27/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261619.D Vial: 11
Acq On : 27 Apr 2016 10:14 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131606 (5/12)

Quant Time: Apr 27 10:56:49 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 09:30:03 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	26217	1000.000	pg	-0.01
25) 1,4-Difluorobenzene (IS2)	11.72	114	135145	1000.000	pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	31513	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.54	65	51231	912.265	pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 91.23%			
33) Toluene-d8 (SS2)	14.15	98	141897	979.404	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.94%			
45) Bromofluorobenzene (SS3)	17.55	174	81220	1027.693	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.77%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.39	85	3248563	35329.741	pg	98
3) Chloromethane	4.61	52	699844	26771.226	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	3513466	35962.564	pg	98
5) Vinyl Chloride	4.92	62	3026043	36954.945	pg	100
6) 1,3-Butadiene	5.11	54	2537294	61181.200	pg	99
7) Bromomethane	5.44	94	1301914	37331.685	pg	99
8) Chloroethane	5.67	64	968790	40058.262	pg	100
9) Acrolein	6.25	56	750595	49699.758	pg	97
10) Acetone	6.41	58	4824575	226468.825	pg	# 87
11) Trichlorofluoromethane	6.59	101	2485248	37054.337	pg	99
12) 1,1-Dichloroethene	7.33	96	1581729	44654.102	pg	95
13) Methylene Chloride	7.48	84	1599533	39086.151	pg	92
14) Trichlorotrifluoroethane	7.78	151	1558655	51301.924	pg	99
15) trans-1,2-Dichloroethene	8.51	96	1704578	43415.139	pg	97
16) 1,1-Dichloroethane	8.73	63	2693466	39055.799	pg	99
17) Methyl tert-Butyl Ether	8.78	73	4801805	53590.165	pg	100
18) cis-1,2-Dichloroethene	9.60	96	1803476	44755.047	pg	99
19) Chloroform	9.91	83	2848678	37854.476	pg	100
21) 1,2-Dichloroethane	10.65	62	2217184	40911.000	pg	99
22) 1,1,1-Trichloroethane	10.92	97	2653902	39983.552	pg	99
23) Benzene	11.37	78	6169496	37619.791	pg	100
24) Carbon Tetrachloride	11.53	117	2436379	42726.341	pg	99
26) 1,2-Dichloropropane	12.18	63	1614684	41459.344	pg	99
27) Bromodichloromethane	12.36	83	2587329	48838.228	pg	99
28) Trichloroethene	12.42	130	1873338	46288.265	pg	99
29) 1,4-Dioxane	12.37	88	1482443	50089.772	pg	95
30) cis-1,3-Dichloropropene	13.25	75	3132058	55155.209	pg	99
31) trans-1,3-Dichloropropene	13.76	75	2663221	55142.710	pg	98
32) 1,1,2-Trichloroethane	13.95	83	1412658	41142.446	pg	97
34) Toluene	14.25	91	6513505	40355.235	pg	95
35) Dibromochloromethane	14.66	129	2078362	50219.514	pg	99
36) 1,2-Dibromoethane	14.92	107	1909968	46371.151	pg	99
37) Tetrachloroethene	15.40	166	1994108	45683.724	pg	92
39) Chlorobenzene	16.10	112	4666290	42793.608	pg	98
40) Ethylbenzene	16.48	91	7677717	46703.738	pg	93
41) m,p-Xylene	16.66	91	12669016	99576.254	pg	92
42) Styrene	17.01	104	5182594	57639.158	pg	100
43) o-Xylene	17.12	106	3276141	48942.404	pg	89
44) 1,1,2,2-Tetrachloroethane	17.09	83	3167096	40684.078	pg	98
46) 1,3,5-Trimethylbenzene	18.38	105	6844221	51266.389	pg	91
47) 1,2,4-Trimethylbenzene	18.77	105	8041028	59583.785	pg	93
48) 1,3-Dichlorobenzene	18.92	146	4396528	53198.280	pg	98
49) 1,4-Dichlorobenzene	18.98	146	4150846	50729.969	pg	97
50) 1,2-Dichlorobenzene	19.31	146	4619622	57134.861	pg	97
51) 1,2-Dibromo-3-chloropr...	19.72	157	1545928	59341.675	pg	82
52) 1,2,4-Trichlorobenzene	20.94	182	2872297	61981.966	pg	96
53) Naphthalene	21.06	128	9727606	60619.373	pg	92

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261619.D Vial: 11
Acq On : 27 Apr 2016 10:14 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131606 (5/12)

Quant Time: Apr 27 10:56:49 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 09:30:03 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

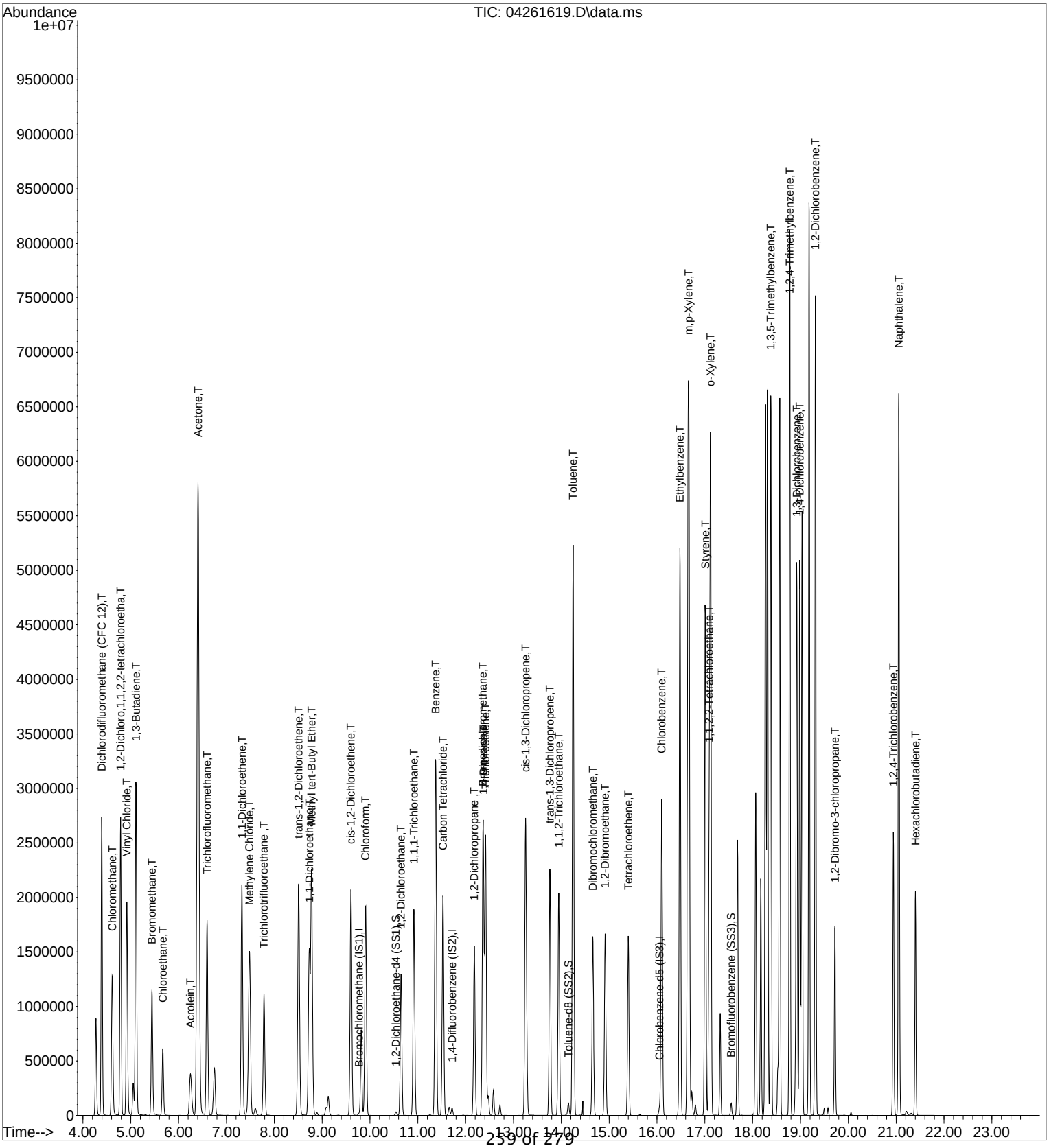
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	1784981	57541.771	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261619.D Vial: 11
Acq On : 27 Apr 2016 10:14 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-04191602/S29-04131606 (5/12)

Quant Time: Apr 27 10:56:49 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 09:30:03 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261620.D Vial: 12
Acq On : 27 Apr 2016 10:46 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 27 11:10:43 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/27/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	23856	1000.000	pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	127899	1000.000	pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	25426	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.53	65	49545	964.774	pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.48%			
33) Toluene-d8 (SS2)	14.14	98	133489	972.714	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.27%			
45) Bromofluorobenzene (SS3)	17.55	174	73630	1138.532	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 113.85%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.42	85	32977	424.420	pg	100
3) Chloromethane	4.64	52	9123	461.607	pg	92
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	32359	391.841	pg	100
5) Vinyl Chloride	4.94	62	30969	448.197	pg	99
6) 1,3-Butadiene	5.13	54	23643	616.996	pg	94
7) Bromomethane	5.46	94	14376	491.987	pg	99
8) Chloroethane	5.69	64	9472	469.865	pg	99
9) Acrolein	6.26	56	7237	535.925	pg	89
10) Acetone	6.39	58	45127	2500.777	pg	100
11) Trichlorofluoromethane	6.61	101	24732	441.065	pg	100
12) 1,1-Dichloroethene	7.34	96	14807	507.087	pg	98
13) Methylene Chloride	7.47	84	16446	494.149	pg	100
14) Trichlorotrifluoroethane	7.79	151	14633	531.959	pg	99
15) trans-1,2-Dichloroethene	8.50	96	16016	493.407	pg	99
16) 1,1-Dichloroethane	8.71	63	27435	475.781	pg	100
17) Methyl tert-Butyl Ether	8.79	73	44349	542.811	pg	99
18) cis-1,2-Dichloroethene	9.59	96	17249	517.855	pg	100
19) Chloroform	9.88	83	29787	480.114	pg	100
21) 1,2-Dichloroethane	10.64	62	21663	478.407	pg	100
22) 1,1,1-Trichloroethane	10.90	97	25507	461.065	pg	100
23) Benzene	11.36	78	63255	492.256	pg	100
24) Carbon Tetrachloride	11.51	117	22063	465.979	pg	99
26) 1,2-Dichloropropane	12.17	63	15046	450.967	pg	100
27) Bromodichloromethane	12.35	83	21271	427.986	pg	100
28) Trichloroethene	12.40	130	17212	453.980	pg	100
29) 1,4-Dioxane	12.38	88	12495	510.938	pg	98
30) cis-1,3-Dichloropropene	13.25	75	21535	457.441	pg	100
31) trans-1,3-Dichloropropene	13.77	75	19212	477.595	pg	97
32) 1,1,2-Trichloroethane	13.95	83	13127	447.395	pg	99
34) Toluene	14.24	91	65896	468.806	pg	97
35) Dibromochloromethane	14.66	129	15779	453.065	pg	100
36) 1,2-Dibromoethane	14.92	107	16639	474.744	pg	99
37) Tetrachloroethene	15.40	166	16998	466.452	pg	94
39) Chlorobenzene	16.10	112	42749	519.237	pg	100
40) Ethylbenzene	16.48	91	69167	554.457	pg	99
41) m,p-Xylene	16.66	91	108415	1120.872	pg	99
42) Styrene	17.01	104	37770	568.181	pg	98
43) o-Xylene	17.12	106	26692	545.332	pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	26006	448.630	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	57837	572.317	pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	58767	570.790	pg	100
48) 1,3-Dichlorobenzene	18.92	146	33990	556.163	pg	100
49) 1,4-Dichlorobenzene	18.98	146	33845	554.565	pg	99
50) 1,2-Dichlorobenzene	19.31	146	32523	539.039	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	9840	518.701	pg	89
52) 1,2,4-Trichlorobenzene	20.94	182	20025	600.182	pg	98
53) Naphthalene	21.06	128	71002	581.408	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261620.D Vial: 12
Acq On : 27 Apr 2016 10:46 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 27 11:10:43 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

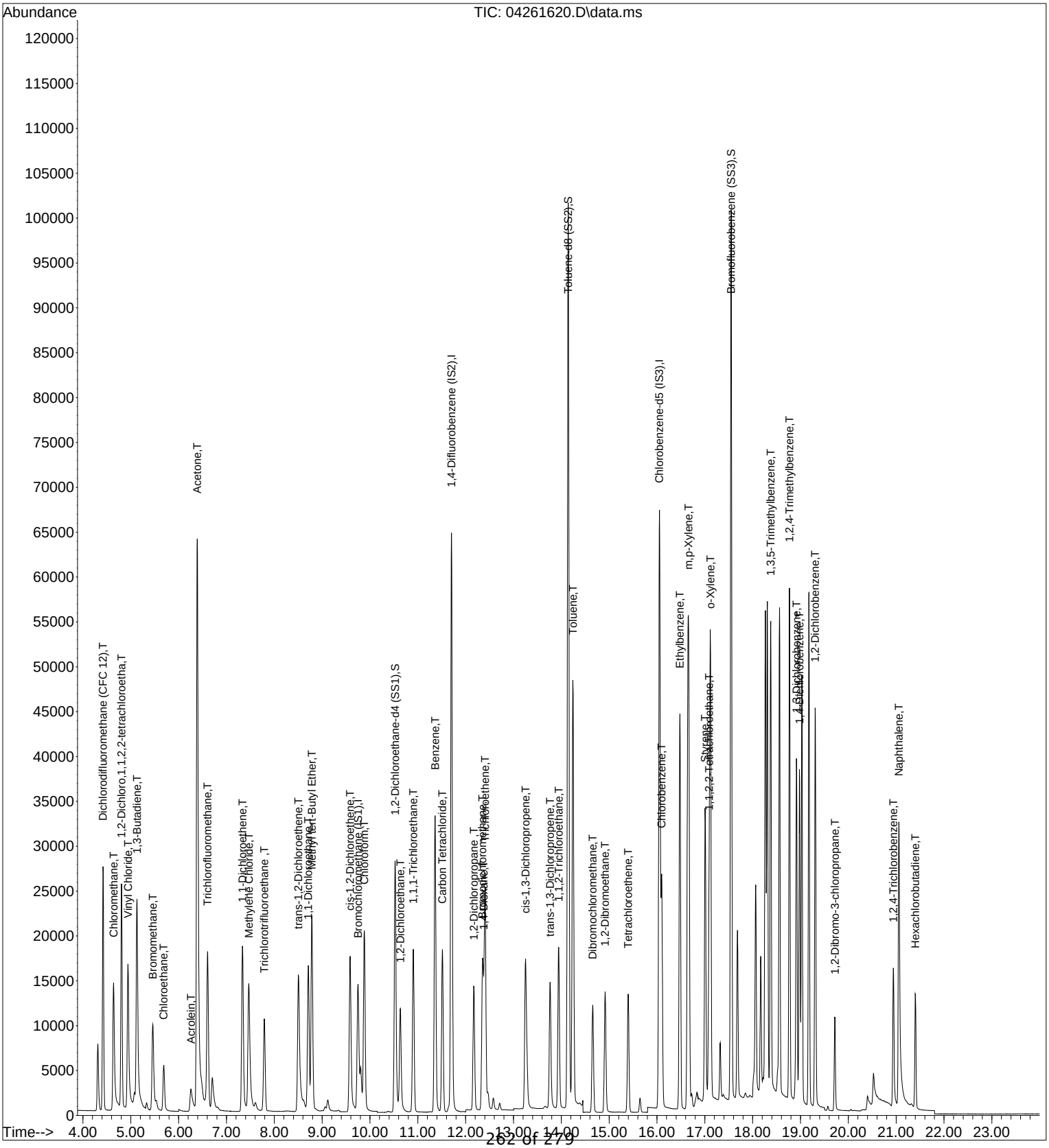
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	12547	560.977	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\26\04261620.D Vial: 12
Acq On : 27 Apr 2016 10:46 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-04191602/S29-04141605 (5/13)

Quant Time: Apr 27 11:10:43 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Data File Name: 04261620.D
Data File Path: I:\MS19\DATA\2016_04\26\
Operator: CL
Instrument Name: MS19
Sample Name: 500pg TO15SIM ICV
Misc Info: S29-04191602/S29-04141605 (5/13)
Date Acquired: 4/27/16 10:46
Acq. Method File: TO15SIM.M

CL 5/3/16

#	Compound Name	Ret. Time	Amount Spiked (pg)	Amount Found (pg)	Percent Recovery	Lower Limit	Upper Limit	Flag
2)	Dichlorodifluoromethane (CFC 12)	4.42	470.0	424.4	90.3	70	130	*
3)	Chloromethane	4.64	500.0	461.6	92.3	70	130	*
4)	*1,2-Dichloro,1,1,2,2-tetrachloroetha*	4.81	510.0	391.8	76.8	70	130	*
5)	Vinyl Chloride	4.94	500.0	448.2	89.6	70	130	*
6)	*1,3-Butadiene*	5.13	515.0	617.0	119.8	70	130	*
7)	Bromomethane	5.46	505.0	492.0	97.4	70	130	*
8)	Chloroethane	5.69	500.0	469.9	94.0	70	130	*
9)	*Acrolein*	6.26	535.0	535.9	100.2	70	130	*
10)	Acetone	6.39	2695.0	2500.8	92.8	70	130	*
11)	Trichlorofluoromethane	6.61	540.0	441.1	81.7	70	130	*
12)	1,1-Dichloroethene	7.34	540.0	507.1	93.9	70	130	*
13)	Methylene Chloride	7.47	555.0	494.1	89.0	70	130	*
14)	Trichlorotrifluoroethane	7.79	550.0	532.0	96.7	70	130	*
15)	trans-1,2-Dichloroethene	8.50	525.0	493.4	94.0	70	130	*
16)	1,1-Dichloroethane	8.71	530.0	475.8	89.8	70	130	*
17)	Methyl tert-Butyl Ether	8.79	540.0	542.8	100.5	70	130	*
18)	cis-1,2-Dichloroethene	9.59	545.0	517.9	95.0	70	130	*
19)	Chloroform	9.88	560.0	480.1	85.7	70	130	*
21)	1,2-Dichloroethane	10.64	535.0	478.4	89.4	70	130	*
22)	1,1,1-Trichloroethane	10.90	525.0	461.1	87.8	70	130	*
25)	Benzene	11.36	565.0	492.3	87.1	70	130	*
24)	Carbon Tetrachloride	11.51	575.0	466.0	81.0	70	130	*
26)	1,2-Dichloropropane	12.17	540.0	451.0	83.5	70	130	*
27)	Bromodichloromethane	12.35	545.0	428.0	78.5	70	130	*
28)	Trichloroethene	12.40	540.0	454.0	84.1	70	130	*
29)	1,4-Dioxane	12.38	525.0	510.9	97.3	70	130	*
30)	cis-1,3-Dichloropropene	13.25	520.0	457.4	88.0	70	130	*
31)	trans-1,3-Dichloropropene	13.77	525.0	477.6	91.0	70	130	*
32)	1,1,2-Trichloroethane	13.95	540.0	447.4	82.9	70	130	*
34)	Toluene	14.14	545.0	468.8	86.0	70	130	*
35)	*Dibromochloromethane*	14.66	550.0	453.1	82.4	70	130	*
36)	1,2-Dibromoethane	14.92	545.0	474.7	87.1	70	130	*
37)	Tetrachloroethene	15.40	505.0	495.0	98.0	70	130	*
39)	Chlorobenzene	16.10	550.0	519.2	94.4	70	130	*
40)	Ethylbenzene	16.48	545.0	554.5	101.7	70	130	*
41)	m,p-Xylene	16.66	1070.0	1120.9	104.8	70	130	*
42)	*Styrene*	17.01	555.0	568.2	102.4	70	130	*
43)	o-Xylene	17.12	525.0	545.3	103.9	70	130	*
44)	1,1,2,2-Tetrachloroethane	17.09	525.0	448.6	85.5	70	130	*
46)	*1,3,5-Trimethylbenzene*	18.38	535.0	572.3	107.0	70	130	*
47)	*1,2,4-Trimethylbenzene*	18.77	545.0	570.8	104.7	70	130	*
48)	1,3-Dichlorobenzene	18.92	570.0	556.2	97.6	70	130	*
49)	1,4-Dichlorobenzene	18.98	520.0	554.6	106.6	70	130	*
50)	1,2-Dichlorobenzene	19.31	550.0	539.0	98.0	70	130	*
51)	*1,2-Dibromo-3-chloropropane*	19.72	545.0	518.7	95.2	70	130	*
52)	1,2,4-Trichlorobenzene	20.94	575.0	600.2	104.4	70	130	*
53)	Naphthalene	19.31	545.0	581.4	106.7	70	130	*
54)	Hexachlorobutadiene	21.40	575.0	561.0	97.6	70	130	*

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 04\28\04281602.D Vial: 16
Acq On : 28 Apr 2016 8:49 Operator: CL
Sample : CCV S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 28 09:23:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	91	-0.02
2	T	Dichlorodifluoromethane (CF	3.257	3.150	3.3	91	0.03
3	T	Chloromethane	0.828	0.833	-0.6	87	0.03
4	T	1,2-Dichloro,1,1,2,2-tetrac	3.462	3.434	0.8	92	0.02
5	T	Vinyl Chloride	2.896	2.898	-0.1	91	0.02
6	T	1,3-Butadiene	1.606	1.992	-24.0	103	0.02
7	T	Bromomethane	1.225	1.197	2.3	93	0.02
8	T	Chloroethane	0.845	0.841	0.5	93	0.02
9	T	Acrolein	0.566	0.563	0.5	113	0.01
10	T	Acetone	0.756	0.714	5.6	92	-0.02
11	T	Trichlorofluoromethane	2.350	2.295	2.3	91	0.01
12	T	1,1-Dichloroethene	1.224	1.190	2.8	92	0.00
13	T	Methylene Chloride	1.395	1.357	2.7	90	-0.01
14	T	Trichlorotrifluoroethane	1.153	1.088	5.6	92	0.00
15	T	trans-1,2-Dichloroethene	1.361	1.328	2.4	92	0.00
16	T	1,1-Dichloroethane	2.417	2.352	2.7	90	-0.02
17	T	Methyl tert-Butyl Ether	3.425	3.445	-0.6	97	0.00
18	T	cis-1,2-Dichloroethene	1.396	1.369	1.9	92	-0.02
19	T	Chloroform	2.601	2.540	2.3	90	-0.03
20	S	1,2-Dichloroethane-d4 (SS1)	2.153	2.247	-4.4	90	-0.02
21	T	1,2-Dichloroethane	1.898	1.832	3.5	90	-0.02
22	T	1,1,1-Trichloroethane	2.319	2.202	5.0	90	-0.01
23	T	Benzene	5.386	5.090	5.5	92	-0.01
24	T	Carbon Tetrachloride	1.985	1.848	6.9	90	-0.01
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	91	-0.01
26	T	1,2-Dichloropropane	0.261	0.235	10.0	90	-0.01
27	T	Bromodichloromethane	0.389	0.342	12.1	89	-0.01
28	T	Trichloroethene	0.296	0.256	13.5	90	-0.01
29	T	1,4-Dioxane	0.191	0.164	14.1	93	0.00
30	T	cis-1,3-Dichloropropene	0.368	0.334	9.2	94	0.00
31	T	trans-1,3-Dichloropropene	0.315	0.287	8.9	94	0.00
32	T	1,1,2-Trichloroethane	0.229	0.204	10.9	89	0.00
33	S	Toluene-d8 (SS2)	1.073	1.046	2.5	92	0.00
34	T	Toluene	1.099	0.935	14.9	91	0.00
35	T	Dibromochloromethane	0.272	0.233	14.3	89	0.00
36	T	1,2-Dibromoethane	0.274	0.241	12.0	90	0.00
37	T	Tetrachloroethene	0.285	0.246	13.7	91	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	92	0.00
39	T	Chlorobenzene	3.238	2.897	10.5	90	0.00
40	T	Ethylbenzene	4.906	4.542	7.4	95	0.00
41	T	m,p-Xylene	3.804	3.676	3.4	93	0.00
42	T	Styrene	2.614	2.359	9.8	93	0.00
43	T	o-Xylene	1.925	1.851	3.8	92	0.00
44	T	1,1,2,2-Tetrachloroethane	2.280	2.010	11.8	88	0.00
45	S	Bromofluorobenzene (SS3)	2.543	2.524	0.7	92	0.00
46	T	1,3,5-Trimethylbenzene	3.975	3.804	4.3	90	0.00
47	T	1,2,4-Trimethylbenzene	4.049	3.668	9.4	90	0.00
48	T	1,3-Dichlorobenzene	2.404	2.028	15.6	89	0.00
49	T	1,4-Dichlorobenzene	2.400	1.984	17.3	87	0.00
50	T	1,2-Dichlorobenzene	2.373	1.925	18.9	88	0.00
51	T	1,2-Dibromo-3-chloropropane	0.746	0.554	25.7	88	0.00
52	T	1,2,4-Trichlorobenzene	1.312	0.841	35.9#	93	0.00
53	T	Naphthalene	4.803	3.148	34.5#	92	0.00
54	T	Hexachlorobutadiene	0.880	0.621	29.4	92	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 04\28\04281602.D Vial: 16
Acq On : 28 Apr 2016 8:49 Operator: CL
Sample : CCV S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 28 09:23:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281602.D Vial: 16
Acq On : 28 Apr 2016 8:49 Operator: CL
Sample : CCV S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 28 09:23:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/28/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18647	1000.000	pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	99523	1000.000	pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20543	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	41908	1044.026	pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 104.40%			
33) Toluene-d8 (SS2)	14.14	98	104098	974.823	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.48%			
45) Bromofluorobenzene (SS3)	17.55	174	51854	992.400	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.42	85	29372	483.623	pg	100
3) Chloromethane	4.64	52	7608	492.486	pg	93
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	32978	510.891	pg	100
5) Vinyl Chloride	4.94	62	27018	500.246	pg	99
6) 1,3-Butadiene	5.13	54	19688	657.310	pg	99
7) Bromomethane	5.46	94	11162	488.704	pg	100
8) Chloroethane	5.69	64	7920	502.626	pg	99
9) Acrolein	6.26	56	5618	532.250	pg	89
10) Acetone	6.39	58	35769	2535.911	pg	99
11) Trichlorofluoromethane	6.61	101	21179	483.212	pg	100
12) 1,1-Dichloroethene	7.33	96	11867	519.930	pg	99
13) Methylene Chloride	7.47	84	13660	525.094	pg	99
14) Trichlorotrifluoroethane	7.79	151	10954	509.455	pg	100
15) trans-1,2-Dichloroethene	8.50	96	13126	517.336	pg	100
16) 1,1-Dichloroethane	8.71	63	22805	505.966	pg	99
17) Methyl tert-Butyl Ether	8.79	73	33730	528.166	pg	100
18) cis-1,2-Dichloroethene	9.58	96	13659	524.629	pg	99
19) Chloroform	9.88	83	25344	522.615	pg	100
21) 1,2-Dichloroethane	10.63	62	17935	506.721	pg	100
22) 1,1,1-Trichloroethane	10.90	97	21147	489.035	pg	100
23) Benzene	11.36	78	52673	524.412	pg	100
24) Carbon Tetrachloride	11.51	117	18606	502.740	pg	100
26) 1,2-Dichloropropane	12.17	63	12264	472.389	pg	100
27) Bromodichloromethane	12.35	83	18191	470.373	pg	100
28) Trichloroethene	12.40	130	13140	445.394	pg	100
29) 1,4-Dioxane	12.38	88	8801	462.496	pg	99
30) cis-1,3-Dichloropropene	13.25	75	18592	507.528	pg	100
31) trans-1,3-Dichloropropene	13.77	75	15263	487.608	pg	99
32) 1,1,2-Trichloroethane	13.94	83	10656	466.727	pg	100
34) Toluene	14.24	91	48833	446.469	pg	100
35) Dibromochloromethane	14.66	129	12768	471.137	pg	100
36) 1,2-Dibromoethane	14.92	107	12847	471.061	pg	100
37) Tetrachloroethene	15.40	166	12131	427.809	pg	99
39) Chlorobenzene	16.10	112	31844	478.720	pg	100
40) Ethylbenzene	16.48	91	48989	486.051	pg	100
41) m,p-Xylene	16.66	91	78532	1004.911	pg	100
42) Styrene	17.01	104	26174	487.331	pg	100
43) o-Xylene	17.12	106	19388	490.261	pg	99
44) 1,1,2,2-Tetrachloroethane	17.09	83	20645	440.802	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	40634	497.662	pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	39185	471.061	pg	99
48) 1,3-Dichlorobenzene	18.92	146	22499	455.646	pg	99
49) 1,4-Dichlorobenzene	18.98	146	21398	433.956	pg	99
50) 1,2-Dichlorobenzene	19.31	146	21161	434.090	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	5916	385.980	pg	99
52) 1,2,4-Trichlorobenzene	20.94	182	8989	333.454	pg	100
53) Naphthalene	21.06	128	32333	327.695	pg	98

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281602.D Vial: 16
Acq On : 28 Apr 2016 8:49 Operator: CL
Sample : CCV S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 28 09:23:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

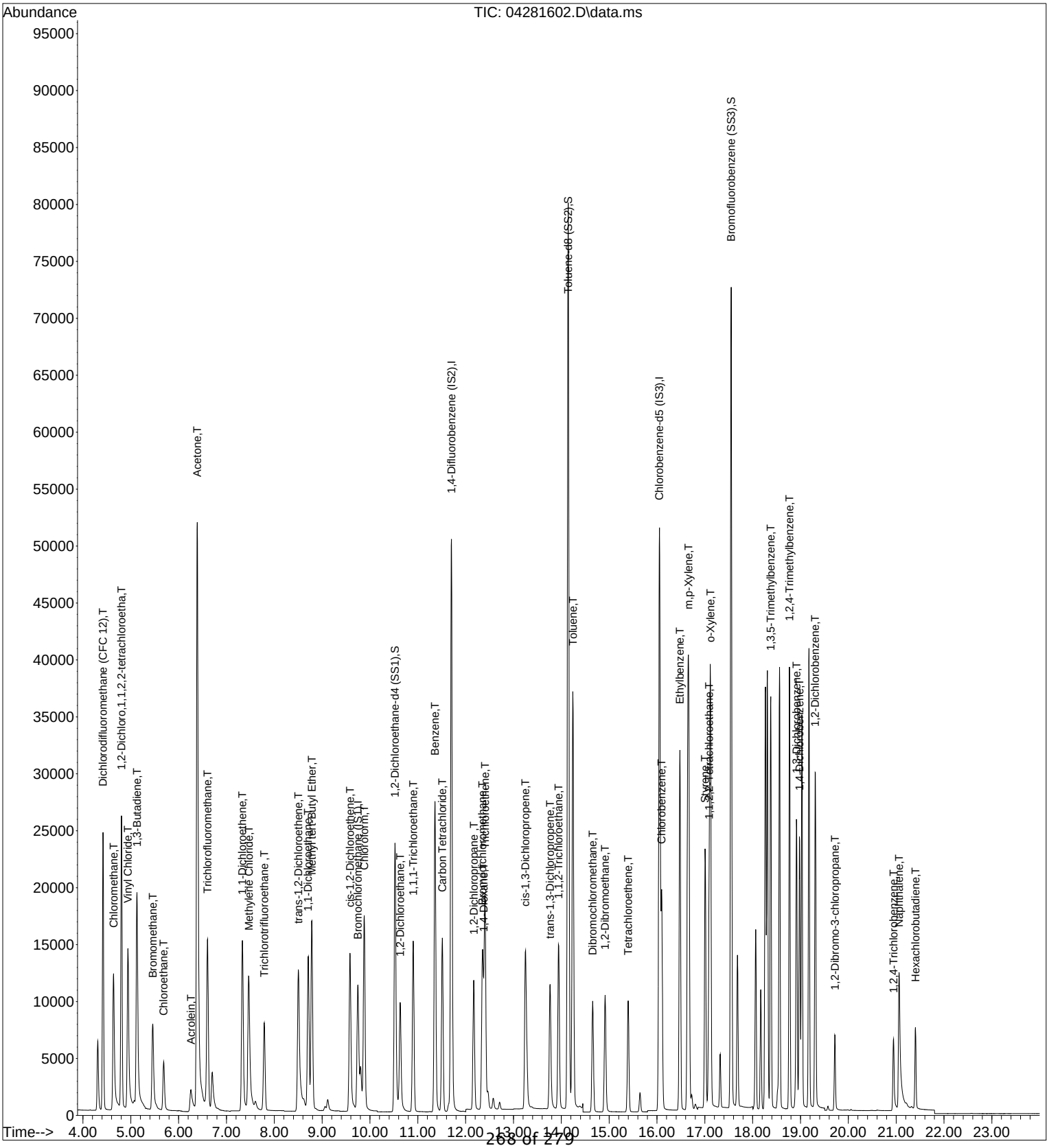
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	6823	377.568	pg	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04281602.D Vial: 16
Acq On : 28 Apr 2016 8:49 Operator: CL
Sample : CCV S19042816 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 28 09:23:15 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 04\28\04291602.D Vial: 16
Acq On : 29 Apr 2016 4:59 Operator: CL
Sample : CCV S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 29 07:30:18 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/29/16

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	I	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.02
2	T	Dichlorodifluoromethane (CF	3.257	2.979	8.5	93	0.02
3	T	Chloromethane	0.828	0.708	14.5	80	0.02
4	T	1,2-Dichloro,1,1,2,2-tetrac	3.462	3.077	11.1	89	0.01
5	T	Vinyl Chloride	2.896	2.576	11.0	88	0.02
6	T	1,3-Butadiene	1.606	1.702	-6.0	95	0.00
7	T	Bromomethane	1.225	1.099	10.3	93	0.00
8	T	Chloroethane	0.845	0.770	8.9	92	0.01
9	T	Acrolein	0.566	0.410	27.6	88	0.00
10	T	Acetone	0.756	0.721	4.6	100	-0.02
11	T	Trichlorofluoromethane	2.350	2.166	7.8	92	0.00
12	T	1,1-Dichloroethene	1.224	1.153	5.8	96	0.00
13	T	Methylene Chloride	1.395	1.208	13.4	86	-0.02
14	T	Trichlorotrifluoroethane	1.153	1.089	5.6	99	0.00
15	T	trans-1,2-Dichloroethene	1.361	1.280	6.0	95	-0.01
16	T	1,1-Dichloroethane	2.417	2.141	11.4	89	-0.02
17	T	Methyl tert-Butyl Ether	3.425	3.443	-0.5	105	0.00
18	T	cis-1,2-Dichloroethene	1.396	1.319	5.5	96	-0.02
19	T	Chloroform	2.601	2.300	11.6	88	-0.03
20	S	1,2-Dichloroethane-d4 (SS1)	2.153	2.044	5.1	89	-0.02
21	T	1,2-Dichloroethane	1.898	1.649	13.1	87	-0.02
22	T	1,1,1-Trichloroethane	2.319	2.085	10.1	92	-0.01
23	T	Benzene	5.386	4.527	15.9	88	-0.01
24	T	Carbon Tetrachloride	1.985	1.717	13.5	90	-0.01
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	-0.01
26	T	1,2-Dichloropropane	0.261	0.215	17.6	88	-0.01
27	T	Bromodichloromethane	0.389	0.314	19.3	87	-0.01
28	T	Trichloroethene	0.296	0.258	12.8	97	-0.01
29	T	1,4-Dioxane	0.191	0.157	17.8	95	0.00
30	T	cis-1,3-Dichloropropene	0.368	0.318	13.6	95	0.00
31	T	trans-1,3-Dichloropropene	0.315	0.269	14.6	95	0.00
32	T	1,1,2-Trichloroethane	0.229	0.187	18.3	88	0.00
33	S	Toluene-d8 (SS2)	1.073	1.045	2.6	98	0.00
34	T	Toluene	1.099	0.897	18.4	94	0.00
35	T	Dibromochloromethane	0.272	0.226	16.9	93	0.00
36	T	1,2-Dibromoethane	0.274	0.230	16.1	92	0.00
37	T	Tetrachloroethene	0.285	0.252	11.6	99	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
39	T	Chlorobenzene	3.238	2.907	10.2	92	0.00
40	T	Ethylbenzene	4.906	4.800	2.2	101	0.00
41	T	m,p-Xylene	3.804	3.749	1.4	96	0.00
42	T	Styrene	2.614	2.305	11.8	92	0.00
43	T	o-Xylene	1.925	1.925	0.0	97	0.00
44	T	1,1,2,2-Tetrachloroethane	2.280	1.888	17.2	84	0.00
45	S	Bromofluorobenzene (SS3)	2.543	2.953	-16.1	109	0.00
46	T	1,3,5-Trimethylbenzene	3.975	3.852	3.1	93	0.00
47	T	1,2,4-Trimethylbenzene	4.049	3.694	8.8	92	0.00
48	T	1,3-Dichlorobenzene	2.404	1.864	22.5	83	0.00
49	T	1,4-Dichlorobenzene	2.400	1.820	24.2	81	0.00
50	T	1,2-Dichlorobenzene	2.373	1.853	21.9	86	0.00
51	T	1,2-Dibromo-3-chloropropane	0.746	0.563	24.5	91	0.00
52	T	1,2,4-Trichlorobenzene	1.312	0.668	49.1#	75	0.00
53	T	Naphthalene	4.803	1.887	60.7#	56	0.00
54	T	Hexachlorobutadiene	0.880	0.682	22.5	102	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 04\28\04291602.D Vial: 16
Acq On : 29 Apr 2016 4:59 Operator: CL
Sample : CCV S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 29 07:30:18 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291602.D Vial: 16
Acq On : 29 Apr 2016 4:59 Operator: CL
Sample : CCV S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 29 07:30:18 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 4/29/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	20127	1000.000	pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.70	114	106358	1000.000	pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	20827	1000.000	pg	0.00
System Monitoring Compounds						
20) 1,2-Dichloroethane-d4 ...	10.52	65	41143	949.599	pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 94.96%			
33) Toluene-d8 (SS2)	14.14	98	111173	974.173	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.42%			
45) Bromofluorobenzene (SS3)	17.55	174	61509	1161.129	pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.11%			
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.41	85	29981	457.351	pg	100
3) Chloromethane	4.63	52	6983	418.789	pg	92
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	31894	457.765	pg	100
5) Vinyl Chloride	4.93	62	25923	444.678	pg	98
6) 1,3-Butadiene	5.12	54	18157	561.620	pg	96
7) Bromomethane	5.45	94	11062	448.712	pg	100
8) Chloroethane	5.68	64	7827	460.199	pg	99
9) Acrolein	6.25	56	4411	387.169	pg	97
10) Acetone	6.38	58	38944	2557.983	pg	94
11) Trichlorofluoromethane	6.60	101	21580	456.156	pg	100
12) 1,1-Dichloroethene	7.33	96	12411	503.779	pg	96
13) Methylene Chloride	7.46	84	13131	467.642	pg	99
14) Trichlorotrifluoroethane	7.79	151	11831	509.782	pg	100
15) trans-1,2-Dichloroethene	8.50	96	13658	498.721	pg	96
16) 1,1-Dichloroethane	8.71	63	22413	460.703	pg	100
17) Methyl tert-Butyl Ether	8.78	73	36381	527.786	pg	99
18) cis-1,2-Dichloroethene	9.58	96	14208	505.587	pg	100
19) Chloroform	9.88	83	24769	473.200	pg	100
21) 1,2-Dichloroethane	10.63	62	17421	456.006	pg	100
22) 1,1,1-Trichloroethane	10.90	97	21617	463.145	pg	100
23) Benzene	11.36	78	50566	466.415	pg	100
24) Carbon Tetrachloride	11.51	117	18658	467.073	pg	99
26) 1,2-Dichloropropane	12.17	63	11988	432.083	pg	100
27) Bromodichloromethane	12.35	83	17846	431.797	pg	100
28) Trichloroethene	12.41	130	14150	448.806	pg	100
29) 1,4-Dioxane	12.38	88	9042	444.625	pg	95
30) cis-1,3-Dichloropropene	13.25	75	18958	484.261	pg	100
31) trans-1,3-Dichloropropene	13.77	75	15325	458.125	pg	100
32) 1,1,2-Trichloroethane	13.94	83	10468	429.028	pg	98
34) Toluene	14.24	91	50062	428.292	pg	99
35) Dibromochloromethane	14.66	129	13215	456.294	pg	100
36) 1,2-Dibromoethane	14.92	107	13069	448.406	pg	99
37) Tetrachloroethene	15.40	166	13272	437.968	pg	96
39) Chlorobenzene	16.10	112	32390	480.288	pg	100
40) Ethylbenzene	16.48	91	52485	513.636	pg	98
41) m,p-Xylene	16.65	91	81199	1024.870	pg	98
42) Styrene	17.01	104	25918	475.984	pg	100
43) o-Xylene	17.12	106	20442	509.865	pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	19657	413.984	pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	41720	503.995	pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	40001	474.313	pg	97
48) 1,3-Dichlorobenzene	18.92	146	20965	418.790	pg	100
49) 1,4-Dichlorobenzene	18.98	146	19898	398.033	pg	100
50) 1,2-Dichlorobenzene	19.31	146	20643	417.690	pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6093	392.107	pg	90
52) 1,2,4-Trichlorobenzene	20.95	182	7234	264.692	pg	98
53) Naphthalene	21.07	128	19652	196.457	pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291602.D Vial: 16
Acq On : 29 Apr 2016 4:59 Operator: CL
Sample : CCV S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 29 07:30:18 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

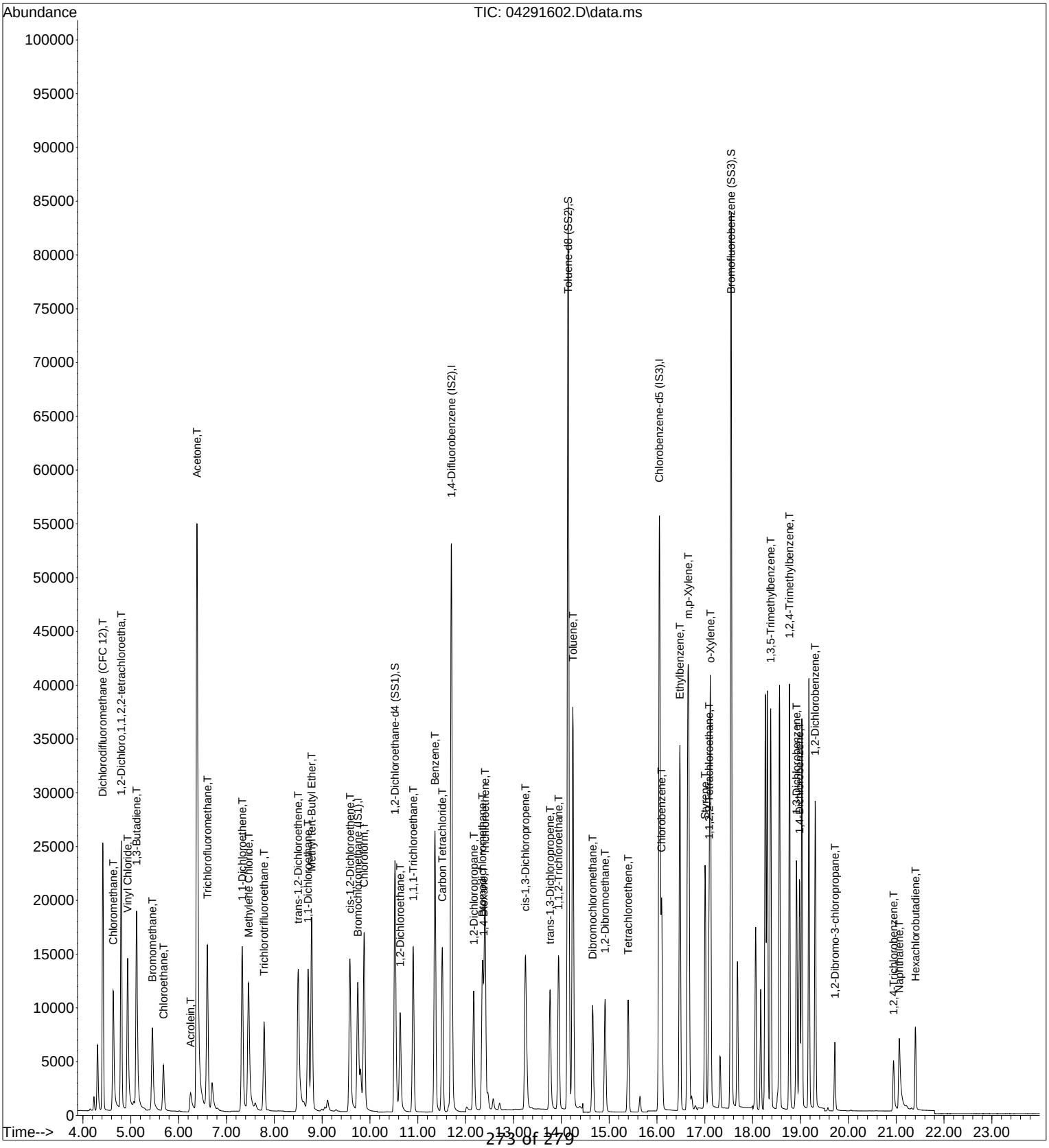
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	7594	414.503	pg	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 04\28\04291602.D Vial: 16
Acq On : 29 Apr 2016 4:59 Operator: CL
Sample : CCV S19042916 500pg Inst : MS19
Misc : S29-04191602/S29-04251601 (5/24)

Quant Time: Apr 29 07:30:18 2016
Quant Method : I:\MS19\METHODS\S19042716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Apr 27 11:03:51 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



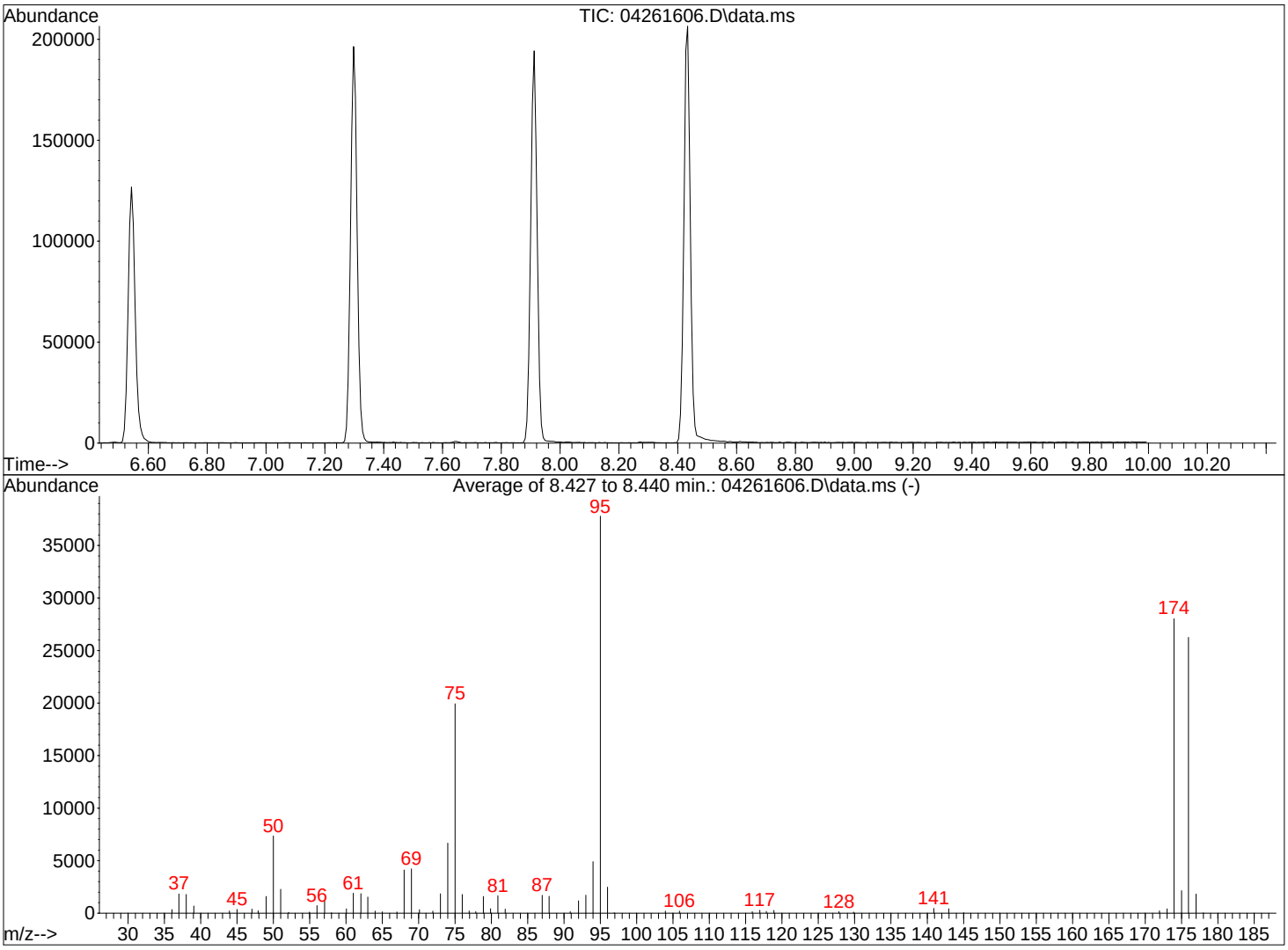
BFB

Data Path : I:\MS19\DATA\2016 04\26\
Data File : 04261606.D
Acq On : 26 Apr 2016 12:12
Operator : CL
Sample : BFB S19042616
Misc : S29-04191602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\S19032916.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 30 08:03:56 2016

CL 4/26/16



AutoFind: Scans 707, 708, 709; Background Corrected with Scan 701

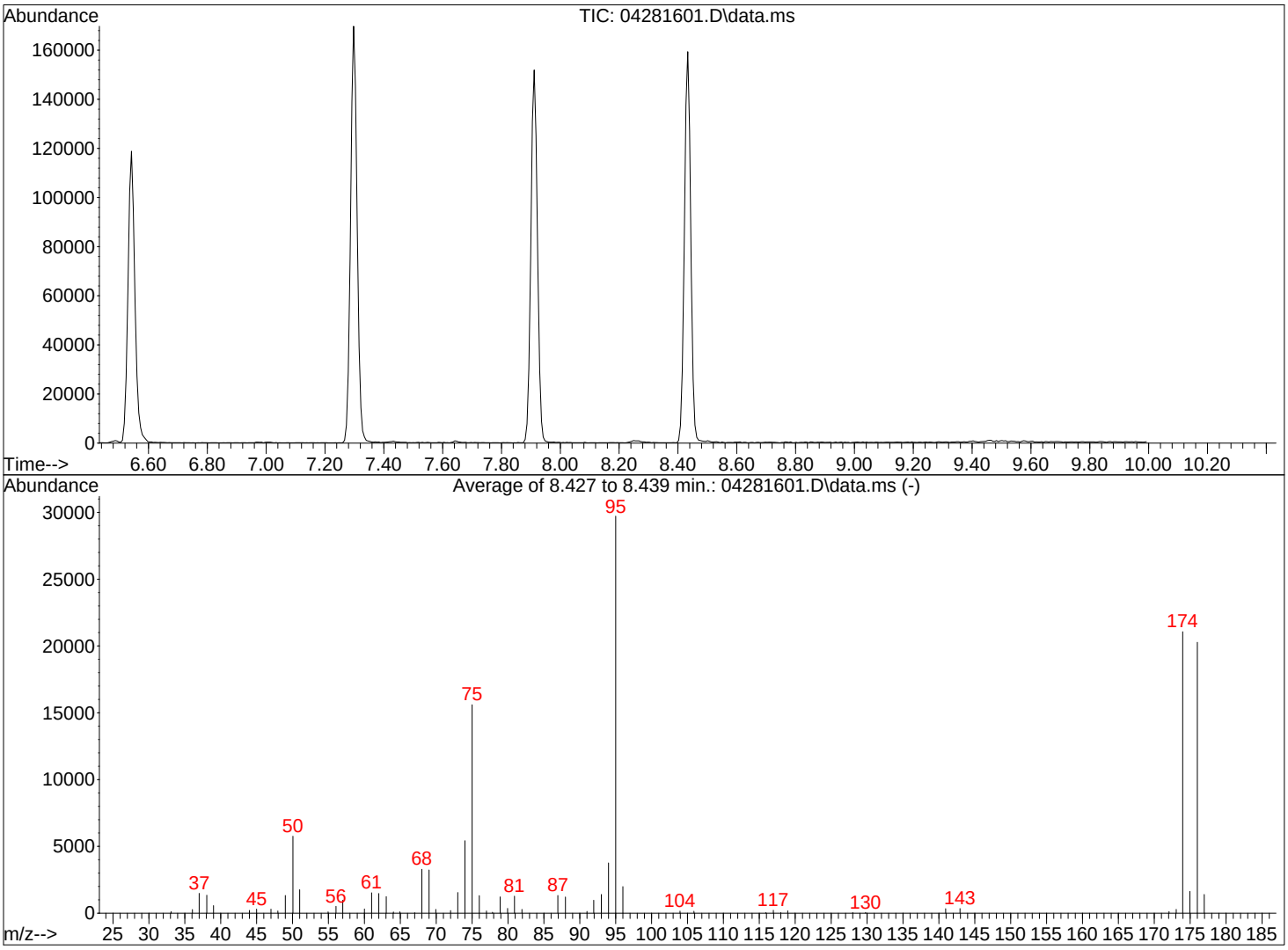
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.5	7351	PASS
75	95	30	66	52.7	19931	PASS
95	95	100	100	100.0	37789	PASS
96	95	5	9	6.6	2476	PASS
173	174	0.00	2	1.5	413	PASS
174	95	50	120	74.2	28024	PASS
175	174	4	9	7.7	2145	PASS
176	174	93	101	93.7	26259	PASS
177	176	5	9	6.9	1825	PASS

Data Path : I:\MS19\DATA\2016 04\28\
Data File : 04281601.D
Acq On : 28 Apr 2016 8:27
Operator : CL
Sample : BFB S19042816
Misc : S29-04191602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\S19042716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Apr 27 11:03:51 2016

CL 4/28/16



AutoFind: Scans 707, 708, 709; Background Corrected with Scan 701

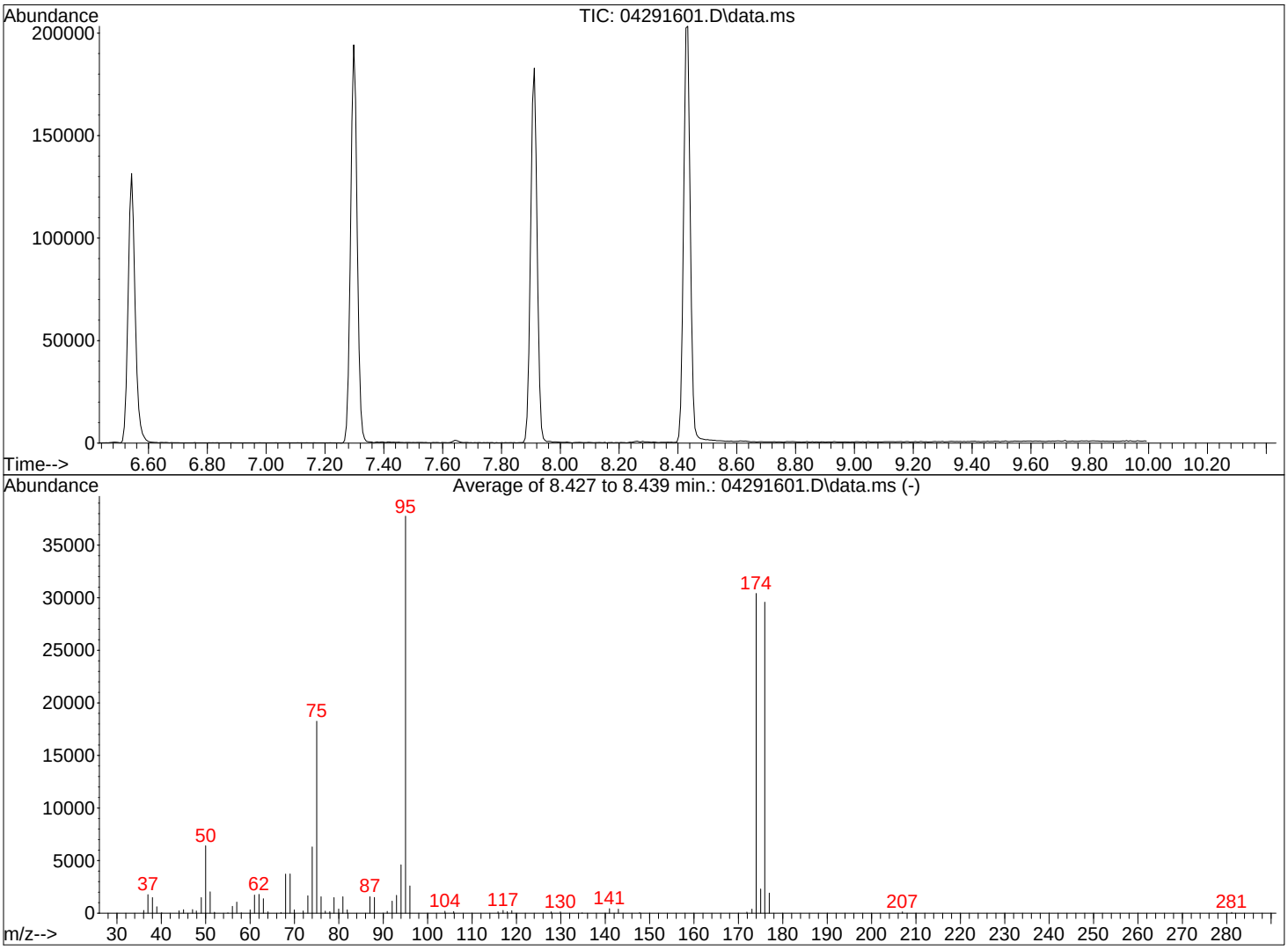
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.4	5758	PASS
75	95	30	66	52.5	15596	PASS
95	95	100	100	100.0	29715	PASS
96	95	5	9	6.7	1989	PASS
173	174	0.00	2	1.4	289	PASS
174	95	50	120	70.9	21069	PASS
175	174	4	9	7.7	1632	PASS
176	174	93	101	96.3	20283	PASS
177	176	5	9	6.9	1404	PASS

Data Path : I:\MS19\DATA\2016 04\28\
Data File : 04291601.D
Acq On : 29 Apr 2016 4:36
Operator : CL
Sample : BFB S19042916
Misc : S29-04191602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

CL 4/29/16

Method : I:\MS19\METHODS\S19042716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Apr 27 11:03:51 2016



AutoFind: Scans 707, 708, 709; Background Corrected with Scan 700

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.0	6410	PASS
75	95	30	66	48.3	18254	PASS
95	95	100	100	100.0	37757	PASS
96	95	5	9	6.9	2596	PASS
173	174	0.00	2	1.3	382	PASS
174	95	50	120	80.5	30411	PASS
175	174	4	9	7.6	2306	PASS
176	174	93	101	97.3	29584	PASS
177	176	5	9	6.4	1908	PASS

Injection Log

Directory: I:\MS19\DATA\2016_04\26\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/26/16 8:26	04261601.D	BFB S19042616	S29-04191602	CL	2	Not Used
2	4/26/16 8:57	04261602.D	Blank	S29-04191602	CL	2	
3	4/26/16 9:30	04261603.D	10pg TO15SIM ICAL STD	S29-04191602/S29-04251604 (5/24)	CL	14	Not Used
4	4/26/16 10:44	04261604.D	Blank (After Quick Tune)	S29-04191602	CL	2	
5	4/26/16 11:40	04261605.D	Blank	S29-04191602	CL	2	
6	4/26/16 12:12	04261606.D	BFB S19042616	S29-04191602	CL	2	Pass
7	4/26/16 12:42	04261607.D	10pg TO15SIM ICAL STD	S29-04191602/S29-04251604 (5/24)	CL	14	
8	4/26/16 14:07	04261608.D	20pg TO15SIM ICAL STD	S29-04191602/S29-04251603 (5/24)	CL	15	
9	4/26/16 14:39	04261609.D	50pg TO15SIM ICAL STD	S29-04191602/S29-04251603 (5/24)	CL	15	
10	4/26/16 15:10	04261610.D	100pg TO15SIM ICAL STD	S29-04191602/S29-04251603 (5/24)	CL	15	
11	4/26/16 15:42	04261611.D	500pg TO15SIM ICAL STD	S29-04191602/S29-04251601 (5/24)	CL	16	
12	4/26/16 16:13	04261612.D	1000pg TO15SIM ICAL STD	S29-04191602/S29-04131609 (5/12)	CL	9	
13	4/26/16 16:45	04261613.D	2000pg TO15SIM ICAL STD	S29-04191602/S29-04131609 (5/12)	CL	9	
14	4/26/16 17:16	04261614.D	5000pg TO15SIM ICAL STD	S29-04191602/S29-04131609 (5/12)	CL	9	
15	4/26/16 17:48	04261615.D	10000pg TO15SIM ICAL STD	S29-04191602/S29-04131609 (5/12)	CL	9	
16	4/26/16 18:19	04261616.D	xx50000pg TO15SIM ICAL STDxx	S29-04191602/S29-04131605 (5/12)	CL	13	Not Used
17	4/26/16 18:50	04261617.D	xx500pg TO15SIM ICVxx	S29-04191602/S29-04141606 (5/13)	CL	2	Not Used
18	4/26/16 19:22	04261618.D	500pg TO15SIM ICV	S29-04191602/S29-04141605 (5/13)	CL	12	Not Used
19	4/27/16 10:14	04261619.D	50000pg TO15SIM ICAL STD	S29-04191602/S29-04131606 (5/12)	CL	11	
20	4/27/16 10:46	04261620.D	500pg TO15SIM ICV	S29-04191602/S29-04141605 (5/13)	CL	12	Pass
				CL 4/27/16			

Injection Log

Directory: I:\MS19\DATA\2016_04\28\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/28/16 8:27	04281601.D	BFB S19042816	S29-04191602	CL	2	Pass
2	4/28/16 8:49	04281602.D	CCV S19042816_500pg	S29-04191602/S29-04251601 (5/24)	CL	16	Pass
3	4/28/16 9:21	04281603.D	MB S19042816_1000mL	S29-04191602	CL	2	Pass
4	4/28/16 9:52	04281604.D	LCS S19042816_500pg	S29-04191602/S29-04141605 (5/13)	CL	2	Pass
5	4/28/16 10:23	04281605.D	LCSD S19042816_500pg	S29-04191602/S29-04141605 (5/13)	CL	2	Pass
6	4/28/16 11:59	04281606.D	P1602143-002 (1000mL)	S29-04191602	CL	1	
7	4/28/16 12:31	04281607.D	P1602143-003 (1000mL)	S29-04191602	CL	3	
8	4/28/16 13:02	04281608.D	P1602143-004 (1000mL)	S29-04191602	CL	4	
9	4/28/16 13:34	04281609.D	P1602143-007 (1000mL)	S29-04191602	CL	5	
10	4/28/16 14:06	04281610.D	P1602143-008 (1000mL)	S29-04191602	CL	6	
11	4/28/16 14:38	04281611.D	P1602144-003 (1000mL)	S29-04191602	CL	7	
12	4/28/16 15:09	04281612.D	P1602144-004 (1000mL)	S29-04191602	CL	8	
13	4/28/16 16:28	04281613.D	Blank	S29-04191602	CL	2	
14	4/28/16 16:59	04281614.D	P1602145-004 (1000mL)	S29-04191602	CL	1	
15	4/28/16 17:31	04281615.D	P1602145-004dup (1000mL)	S29-04191602	CL	1	Pass for Dup
16	4/28/16 18:02	04281616.D	P1602145-007 (1000mL)	S29-04191602	CL	3	
17	4/28/16 18:34	04281617.D	P1602145-008 (1000mL)	S29-04191602	CL	4	
18	4/28/16 19:05	04281618.D	P1602146-001 (1000mL)	S29-04191602	CL	5	
19	4/28/16 19:37	04281619.D	P1602146-002 (1000mL)	S29-04191602	CL	6	
20	4/28/16 20:09	04281620.D	P1602146-003 (1000mL)	S29-04191602	CL	7	
21	4/28/16 20:41	04281621.D	P1602146-004 (1000mL)	S29-04191602	CL	8	
22	4/28/16 21:12	04281622.D	Blank	S29-04191602	CL	2	
23	4/28/16 21:44	04281623.D	P1602146-008 (1000mL)	S29-04191602	CL	9	
24	4/28/16 22:15	04281624.D	P1602147-003 (1000mL)	S29-04191602	CL	10	
25	4/28/16 22:47	04281625.D	P1602147-004 (1000mL)	S29-04191602	CL	11	
26	4/28/16 23:19	04281626.D	P1602147-009 (1000mL)	S29-04191602	CL	12	
27	4/28/16 23:51	04281627.D	P1602147-010 (1000mL)	S29-04191602	CL	13	
28	4/29/16 0:22	04281628.D	Blank	S29-04191602	CL	2	
29	4/29/16 4:05	04281629.D	Blank	S29-04191602	CL	2	
				CL 4/29/16			

Injection Log

Directory: I:\MS19\DATA\2016_04\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/29/16 4:36	04291601.D	BFB S19042916	S29-04191602	CL	2	Pass
2	4/29/16 4:59	04291602.D	CCV S19042916_500pg	S29-04191602/S29-04251601 (5/24)	CL	16	Pass
3	4/29/16 5:30	04291603.D	MB S19042916_1000mL	S29-04191602/AC01205	CL	2	Pass
4	4/29/16 6:01	04291604.D	LCS S19042916_500pg	S29-04191602/S29-04141605 (5/13)	CL	2	Pass
5	4/29/16 6:33	04291605.D	LCSD S19042916_500pg	S29-04191602/S29-04141605 (5/13)	CL	2	Pass
6	4/29/16 7:04	04291606.D	P1602147-011 (1000mL)	S29-04191602	CL	14	
7	4/29/16 7:35	04291607.D	P1602147-012 (1000mL)	S29-04191602	CL	15	
8	4/29/16 8:07	04291608.D	P1602147-012dup (1000mL)	S29-04191602	CL	15	Pass for Dup
9	4/29/16 11:22	04291609.D	Blank	S29-04191602	CL	2	
10	4/29/16 11:54	04291610.D	2000pg STD Check	S29-04191602/S29-04041604 (5/3)	CL	13	
11	4/29/16 12:25	04291611.D	P1601978-003 (25mL)	S29-04191602/S29-04251603 (5/24)	CL	14	
12	4/29/16 12:57	04291612.D	P1601978-004 (100mL)	S29-04191602/S29-04251603 (5/24)	CL	14	
13	4/29/16 13:29	04291613.D	Blank	S29-04191602	CL	2	
14	4/29/16 14:00	04291614.D	P1602216-001 (1000mL)	S29-04191602	CL	1	
15	4/29/16 14:32	04291615.D	P1602216-002 (1000mL)	S29-04191602	CL	3	
16	4/29/16 15:04	04291616.D	P1602216-003 (1000mL)	S29-04191602	CL	4	
17	4/29/16 15:49	04291617.D	P1602216-004 (1000mL)	S29-04191602	CL	5	
18	4/29/16 16:21	04291618.D	P1602217-001 (1000mL)	S29-04191602	CL	6	
19	4/29/16 16:52	04291619.D	P1602217-005 (1000mL)	S29-04191602	CL	7	
20	4/29/16 17:24	04291620.D	Blank	S29-04191602	CL	2	
21	4/29/16 17:55	04291621.D	P1602218-001 (1000mL)	S29-04191602	CL	8	
22	4/29/16 18:27	04291622.D	P1602218-002 (1000mL)	S29-04191602	CL	9	
23	4/29/16 18:58	04291623.D	P1602218-003 (1000mL)	S29-04191602	CL	10	
24	4/29/16 19:29	04291624.D	P1602218-004 (1000mL)	S29-04191602	CL	11	
25	4/29/16 20:00	04291625.D	P1602218-008 (1000mL)	S29-04191602	CL	12	
26	4/29/16 20:31	04291626.D	Blank	S29-04191602	CL	2	
				CL 5/2/16			