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Automated Report

Technical Report for

Integral Consulting Inc.

CF1165, Thorofare,NJ

WO# CF1165.4001.01

SGS Job Number: JC95316

Sampling Dates: 09/18/19 - 09/19/19

Report to:

Integral Consulting Inc.
319 SW Washington Street, Suite 1150
Portland, OR 97204
GEsler@Integral-Corp.com

ATTN: Glenn Esler

Total number of pages in report: **821**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Ayesha Kapadia 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Oct 03, 2019

Mr. Glenn Esler
Integral Consulting Inc.
319 SW Washington Street, Suite 1150
Portland, OR 97204

Re: SGS North America – Dayton, NJ Jobs # JC95316 – Reissues

Dear Mr. Esler,

The final reports for SGS jobs number JC95316 have been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, for sample JC95316-3 the ID has been revised to match Chain of Custody. The attached revised report incorporates these revisions.

Please contact me at 732-329-0200 if I can be of further assistance in this matter.

Sincerely,

Report Department

SGS North America Inc

CONTINUOUS SERVICE IMPROVEMENT!

Our goal is to continuously improve our service to you. Please share your ideas about how we can serve you better at EHS.US.CustomerCare@sgs.com. Your feedback is appreciated!

SGS North America Inc. Mid-Atlantic 2235 US Highway 130 Dayton, NJ 08810, USA t +1 (0)732 329 0200 www.sgs.com

Member of the SGS Group (SGS SA)

October 4, 2019

Mr. Glenn Esler
Integral Consulting Inc,
319 SW Washington Street, Suite 1150
Portland, OR 97204

RE: SGS – Dayton, Job # JC95316 – Reissues #2

Dear Mr. Esler,

The final report for SGS job number JC95316 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, the completed list of LCID537SL for sample JC95316-4 has been reported. The attached revised report incorporates these revisions.

SGS apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me if I can be of further assistance in this matter.

Sincerely,

Report Department

SGS North America Inc.

CONTINUOUS SERVICE IMPROVEMENT!

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SGS North America Inc.

Sample Summary

Integral Consulting Inc.

Job No: JC95316

CF1165, Thorofare, NJ
Project No: WO# CF1165.4001.01

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC95316-1	09/18/19	17:48	JP	09/19/19	AQ	Ground Water	MW15D-MATT-091819
JC95316-2	09/19/19	09:52	JP	09/19/19	AQ	Ground Water	MW10D-MATT-091919
JC95316-3	09/19/19	11:26	JP	09/19/19	AQ	Ground Water	MW10S-MATT-091919
JC95316-4	09/19/19	14:15	JP	09/19/19	AQ	Ground Water	MW13S-MATT-091919
JC95316-5	09/19/19	09:00	JP	09/19/19	AQ	Equipment Blank	EB4-MATT-091919
JC95316-6	09/19/19	13:45	JP	09/19/19	AQ	Ground Water	MW13D-MATT-091919

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Integral Consulting Inc.	**Job No**	JC95316
Site:	CF1165, Thorofare,NJ	**Report Date**	10/1/2019 9:57:02 AM

On 09/19/2019, 6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC95316 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP76964

- The data for EPA 537M BY ID meets quality control requirements.
- JC95316-1: Dilution required due to matrix interference. Analysis performed at SGS Orlando, FL.
- JC95316-2: Analysis performed at SGS Orlando, FL.
- JC95316-2: Dilution required due to matrix interference. Analysis performed at SGS Orlando, FL.
- JC95316-3: Analysis performed at SGS Orlando, FL.
- JC95316-4: Analysis performed at SGS Orlando, FL.
- JC95316-5: Analysis performed at SGS Orlando, FL.
- JC95316-6: Analysis performed at SGS Orlando, FL.
- JC95316-1: Analysis performed at SGS Orlando, FL.
- JC95316-2 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC95316-4 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC95316-1 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

Metals Analysis By Method EPA 200.7

Matrix: AQ **Batch ID:** MP17533

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95316-1MS, JC95316-1MSD, JC95316-1SDL were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP23788

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95246-1DUP, JC95269-1MS were used as the QC samples for Bromide, Chloride, Fluoride, Sulfate, Bromide.

General Chemistry By Method SM2320 B-11

Matrix: AQ	Batch ID: GN589

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95263-2DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC95316-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

Matrix: AQ	Batch ID: GN607

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95308-4DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC95316-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC95316-6 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC95316-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC95316-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ
Site: INTCWAO: CF1165, Thorofare, NJ
Job No: JC95316
Report Date 9/30/2019 5:04:42
10/4/2019 1:18:32

6 Samples were collected between 09/18/2019 and 09/19/2019 and were received at SGS North America Inc - Orlando on 09/19/2019 properly preserved, at 1.3 Deg. C and intact. These Samples received an SGS Orlando job number of JC95316. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP76964

All samples were extracted within the recommended method holding time.
All samples were analyzed within the recommended method holding time.
Sample(s) JC95269-4MS, JC95269-5DUP were used as the QC samples indicated.
All method blanks for this batch meet method specific criteria.
Sample(s) JC95316-1, JC95316-2, JC95316-4, JC95316-6 have compounds reported from the diluted analysis.
Sample(s) JC95316-1, JC95316-2, JC95316-4 have surrogates outside control limits.
JC95316-1 for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by reanalysis.
JC95316-1 for 13C2-PFTeDA: Outside control limits.
JC95316-1: Dilution required due to matrix interference.
JC95316-2 for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by reanalysis.
JC95316-2 for 13C2-PFTeDA: Outside control limits.
JC95316-2: Dilution required due to matrix interference.
JC95316-4 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
JC95316-4 for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____
Ariel Hartney, Client Services *(Signature on file)*

Revised Narrative prepared by:

_____
Ariel Hartney, Client Services *(Signature on file)*

Summary of Hits

Job Number: JC95316
Account: Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Collected: 09/18/19 thru 09/19/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC95316-1	**MW15D-MATT-091819**					
Perfluorohexanoic acid [a]		0.00889	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		0.00544	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		0.00997	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorononanoic acid [a]		0.0944	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorodecanoic acid [a]		0.00262 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroundecanoic acid [a]		0.00437	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		0.00296 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		0.00291 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		0.0559	0.0037	0.0014	ug/l	EPA 537M BY ID
Calcium		16900	5000		ug/l	EPA 200.7
Iron		5450	100		ug/l	EPA 200.7
Manganese		27.8	15		ug/l	EPA 200.7
Sodium		23800	10000		ug/l	EPA 200.7
Alkalinity, Total as CaCO3 [b]		39.0	5.0		mg/l	SM2320 B-11
Chloride		38.3	2.0		mg/l	EPA 300/SW846 9056A
Sulfate		24.0	2.0		mg/l	EPA 300/SW846 9056A
JC95316-2	**MW10D-MATT-091919**					
Perfluorohexanoic acid [a]		0.0102	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		0.00691	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		0.0216	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorononanoic acid [a]		0.108	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorodecanoic acid [a]		0.00283 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroundecanoic acid [a]		0.0273	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		0.00366 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		0.00363 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		0.0355	0.0037	0.0014	ug/l	EPA 537M BY ID
Calcium		17100	5000		ug/l	EPA 200.7
Iron		18300	100		ug/l	EPA 200.7
Magnesium		7020	5000		ug/l	EPA 200.7
Manganese		296	15		ug/l	EPA 200.7
Sodium		29800	10000		ug/l	EPA 200.7
Alkalinity, Total as CaCO3 [b]		67.0	5.0		mg/l	SM2320 B-11
Chloride		41.6	2.0		mg/l	EPA 300/SW846 9056A
Sulfate		26.6	2.0		mg/l	EPA 300/SW846 9056A
JC95316-3	**MW10S-MATT-091919**					
Perfluorohexanoic acid [a]		0.00204 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		0.00198 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorononanoic acid [a]		0.00583	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroundecanoic acid [a]		0.0227	0.0037	0.00093	ug/l	EPA 537M BY ID

Summary of Hits

Job Number: JC95316
Account: Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Collected: 09/18/19 thru 09/19/19

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Perfluorobutanesulfonic acid [a]	0.00150 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]	0.00839	0.0037	0.0014	ug/l	EPA 537M BY ID
Calcium	22300	5000		ug/l	EPA 200.7
Iron	1120	100		ug/l	EPA 200.7
Magnesium	5450	5000		ug/l	EPA 200.7
Manganese	115	15		ug/l	EPA 200.7
Sodium	24400	10000		ug/l	EPA 200.7
Alkalinity, Total as CaCO3 [b]	31.0	5.0		mg/l	SM2320 B-11
Chloride	50.4	2.0		mg/l	EPA 300/SW846 9056A
Sulfate	25.6	2.0		mg/l	EPA 300/SW846 9056A
JC95316-4 MW13S-MATT-091919					
Perfluorohexanoic acid [a]	0.386	0.037	0.0093	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]	0.275	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanoic acid [a]	1.49	0.037	0.0093	ug/l	EPA 537M BY ID
Perfluorononanoic acid [a]	0.0962	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorodecanoic acid [a]	0.00520	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]	0.0830	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]	0.197	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]	0.814	0.037	0.014	ug/l	EPA 537M BY ID
Calcium	115000	5000		ug/l	EPA 200.7
Iron	8780	100		ug/l	EPA 200.7
Magnesium	16300	5000		ug/l	EPA 200.7
Manganese	41.1	15		ug/l	EPA 200.7
Potassium	29500	10000		ug/l	EPA 200.7
Sodium	22900	10000		ug/l	EPA 200.7
Alkalinity, Total as CaCO3 [b]	285	10		mg/l	SM2320 B-11
Chloride	42.4	2.0		mg/l	EPA 300/SW846 9056A
Sulfate	97.9	2.0		mg/l	EPA 300/SW846 9056A
JC95316-5 EB4-MATT-091919					
No hits reported in this sample.					
JC95316-6 MW13D-MATT-091919					
Perfluorohexanoic acid [a]	0.0207	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]	0.0161	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorooctanoic acid [a]	0.0784	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorononanoic acid [a]	0.686	0.019	0.0046	ug/l	EPA 537M BY ID
Perfluorodecanoic acid [a]	0.00225 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluoroundecanoic acid [a]	0.00460	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]	0.00277 J	0.0037	0.00093	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]	0.00721	0.0037	0.00093	ug/l	EPA 537M BY ID

Summary of Hits

Job Number: JC95316
Account: Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Collected: 09/18/19 thru 09/19/19

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Perfluorooctanesulfonic acid [a]	0.0251	0.0037	0.0014	ug/l	EPA 537M BY ID
Calcium	22200	5000		ug/l	EPA 200.7
Iron	2670	100		ug/l	EPA 200.7
Magnesium	8100	5000		ug/l	EPA 200.7
Manganese	186	15		ug/l	EPA 200.7
Sodium	26100	10000		ug/l	EPA 200.7
Alkalinity, Total as CaCO3 [b]	94.0	5.0		mg/l	SM2320 B-11
Chloride	42.2	2.0		mg/l	EPA 300/SW846 9056A
Fluoride	0.26	0.20		mg/l	EPA 300/SW846 9056A

(a) Analysis performed at SGS Orlando, FL.
(b) Sample was titrated to a final pH of 4.5.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW15D-MATT-091819		
Lab Sample ID:	JC95316-1	**Date Sampled:**	09/18/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36665.D	1	09/26/19 01:40	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2 [b]	2Q36737.D	5	09/26/19 20:51	AFL	09/24/19 14:00	F:OP76964	F:S2Q571

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.00889	0.0037	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	0.00544	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.00997	0.0037	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0944	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	0.00262	0.0037	0.00093	ug/l	J
2058-94-8	Perfluoroundecanoic acid	0.00437	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid [c]	ND [d]	0.019	0.0069	ug/l	
72629-94-8	Perfluorotridecanoic acid [c]	ND [d]	0.019	0.0046	ug/l	
376-06-7	Perfluorotetradecanoic acid [c]	ND [d]	0.019	0.0046	ug/l	
375-73-5	Perfluorobutanesulfonic acid	0.00296	0.0037	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.00291	0.0037	0.00093	ug/l	J
1763-23-1	Perfluorooctanesulfonic acid	0.0559	0.0037	0.0014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	87%	101%	50-150%
	13C4-PFHpA	88%	99%	50-150%
	13C8-PFOA	95%	105%	50-150%
	13C9-PFNA	89%	99%	50-150%
	13C6-PFDA	70%	75%	50-150%
	13C7-PFUnDA	53%	54%	50-150%
	13C2-PFDoDA	40% [f]	44% [e]	50-150%
	13C2-PFTeDA	28% [f]	35% [e]	40-150%
	13C3-PFBS	84%	98%	50-150%
	13C3-PFHxS	88%	99%	50-150%
	13C8-PFOS	67%	75%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Dilution required due to matrix interference. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Result is from Run# 2
(e) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW15D-MATT-091819		
Lab Sample ID:	JC95316-1	**Date Sampled:**	09/18/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q

(f) Outside control limits.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW15D-MATT-091819		
Lab Sample ID:	JC95316-1	**Date Sampled:**	09/18/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	16900	5000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Iron	5450	100	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium	< 5000	5000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Manganese	27.8	15	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Potassium	< 10000	10000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Sodium	23800	10000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA47520
(2) Prep QC Batch: MP17533

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW15D-MATT-091819		
Lab Sample ID:	JC95316-1	**Date Sampled:**	09/18/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	39.0	5.0	mg/l	1	09/30/19 12:16	UP	SM2320 B-11
Bromide	< 0.50	0.50	mg/l	1	09/20/19 17:57	NV	EPA 300/SW846 9056A
Chloride	38.3	2.0	mg/l	1	09/20/19 17:57	NV	EPA 300/SW846 9056A
Fluoride	< 0.20	0.20	mg/l	1	09/20/19 17:57	NV	EPA 300/SW846 9056A
Sulfate	24.0	2.0	mg/l	1	09/20/19 17:57	NV	EPA 300/SW846 9056A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW10D-MATT-091919		
Lab Sample ID:	JC95316-2	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36666.D	1	09/26/19 01:56	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2 [b]	2Q36738.D	5	09/26/19 21:07	AFL	09/24/19 14:00	F:OP76964	F:S2Q571

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.0102	0.0037	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	0.00691	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0216	0.0037	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.108	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	0.00283	0.0037	0.00093	ug/l	J
2058-94-8	Perfluoroundecanoic acid	0.0273	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid [c]	ND [d]	0.019	0.0069	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND [d]	0.019	0.0046	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND [d]	0.019	0.0046	ug/l	
375-73-5	Perfluorobutanesulfonic acid	0.00366	0.0037	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.00363	0.0037	0.00093	ug/l	J
1763-23-1	Perfluorooctanesulfonic acid	0.0355	0.0037	0.0014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	79%	99%	50-150%
	13C4-PFHpA	80%	97%	50-150%
	13C8-PFOA	93%	106%	50-150%
	13C9-PFNA	89%	104%	50-150%
	13C6-PFDA	78%	81%	50-150%
	13C7-PFUnDA	56%	57%	50-150%
	13C2-PFDoDA	43% [f]	45% [e]	50-150%
	13C2-PFTeDA	38% [f]	44%	40-150%
	13C3-PFBS	81%	99%	50-150%
	13C3-PFHxS	82%	97%	50-150%
	13C8-PFOS	71%	81%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Dilution required due to matrix interference. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Result is from Run# 2
(e) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW10D-MATT-091919		
Lab Sample ID:	JC95316-2	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q

(f) Outside control limits.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW10D-MATT-091919		
Lab Sample ID:	JC95316-2	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	17100	5000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Iron	18300	100	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium	7020	5000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Manganese	296	15	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Potassium	< 10000	10000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Sodium	29800	10000	ug/l	1	09/26/19	09/26/19	ND	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA47520
(2) Prep QC Batch: MP17533

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW10D-MATT-091919		
Lab Sample ID:	JC95316-2	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	67.0	5.0	mg/l	1	09/30/19 16:37	UP	SM2320 B-11
Bromide	< 0.50	0.50	mg/l	1	09/20/19 18:21	NV	EPA 300/SW846 9056A
Chloride	41.6	2.0	mg/l	1	09/20/19 18:21	NV	EPA 300/SW846 9056A
Fluoride	< 0.20	0.20	mg/l	1	09/20/19 18:21	NV	EPA 300/SW846 9056A
Sulfate	26.6	2.0	mg/l	1	09/20/19 18:21	NV	EPA 300/SW846 9056A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW10S-MATT-091919		
Lab Sample ID:	JC95316-3	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36667.D	1	09/26/19 02:11	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.00204	0.0037	0.00093	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.00198	0.0037	0.00093	ug/l	J
375-95-1	Perfluorononanoic acid	0.00583	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0037	0.00093	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0227	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0037	0.0014	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0037	0.00093	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0037	0.00093	ug/l	
375-73-5	Perfluorobutanesulfonic acid	0.00150	0.0037	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	ND	0.0037	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.00839	0.0037	0.0014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	96%		50-150%
	13C4-PFHpA	97%		50-150%
	13C8-PFOA	104%		50-150%
	13C9-PFNA	103%		50-150%
	13C6-PFDA	91%		50-150%
	13C7-PFUnDA	74%		50-150%
	13C2-PFDoDA	62%		50-150%
	13C2-PFTeDA	54%		40-150%
	13C3-PFBS	92%		50-150%
	13C3-PFHxS	96%		50-150%
	13C8-PFOS	88%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW10S-MATT-091919		
Lab Sample ID:	JC95316-3	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	22300	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Iron	1120	100	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium	5450	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Manganese	115	15	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Potassium	< 10000	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Sodium	24400	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA47520
(2) Prep QC Batch: MP17533

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW10S-MATT-091919		
Lab Sample ID:	JC95316-3	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	31.0	5.0	mg/l	1	09/30/19 16:37	UP	SM2320 B-11
Bromide	< 0.50	0.50	mg/l	1	09/20/19 18:45	NV	EPA 300/SW846 9056A
Chloride	50.4	2.0	mg/l	1	09/20/19 18:45	NV	EPA 300/SW846 9056A
Fluoride	< 0.20	0.20	mg/l	1	09/20/19 18:45	NV	EPA 300/SW846 9056A
Sulfate	25.6	2.0	mg/l	1	09/20/19 18:45	NV	EPA 300/SW846 9056A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW13S-MATT-091919		
Lab Sample ID:	JC95316-4	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36668.D	1	09/26/19 02:27	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2 [a]	2Q36739.D	10	09/26/19 21:23	AFL	09/24/19 14:00	F:OP76964	F:S2Q571

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.386 [b]	0.037	0.0093	ug/l	
375-85-9	Perfluoroheptanoic acid	0.275	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	1.49 [b]	0.037	0.0093	ug/l	
375-95-1	Perfluorononanoic acid	0.0962	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	0.00520	0.0037	0.00093	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid [c]	ND [b]	0.037	0.014	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND [b]	0.037	0.0093	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND [b]	0.037	0.0093	ug/l	
375-73-5	Perfluorobutanesulfonic acid	0.0830	0.0037	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.197	0.0037	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.814 [b]	0.037	0.014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	65%	90%	50-150%
	13C4-PFHpA	69%	93%	50-150%
	13C8-PFOA	72%	97%	50-150%
	13C9-PFNA	78%	96%	50-150%
	13C6-PFDA	72%	76%	50-150%
	13C7-PFUnDA	58%	53%	50-150%
	13C2-PFDoDA	37%	40% [d]	50-150%
	13C2-PFTeDA	34%	41%	40-150%
	13C3-PFBS	70%	90%	50-150%
	13C3-PFHxS	71%	91%	50-150%
	13C8-PFOS	61%	72%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Result is from Run# 2
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW13S-MATT-091919		
Lab Sample ID:	JC95316-4	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	115000	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Iron	8780	100	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium	16300	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Manganese	41.1	15	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Potassium	29500	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Sodium	22900	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA47520
(2) Prep QC Batch: MP17533

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW13S-MATT-091919		
Lab Sample ID:	JC95316-4	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	285	10	mg/l	1	09/30/19 16:37	UP	SM2320 B-11
Bromide	< 0.50	0.50	mg/l	1	09/20/19 19:09	NV	EPA 300/SW846 9056A
Chloride	42.4	2.0	mg/l	1	09/20/19 19:09	NV	EPA 300/SW846 9056A
Fluoride	< 0.20	0.20	mg/l	1	09/20/19 19:09	NV	EPA 300/SW846 9056A
Sulfate	97.9	2.0	mg/l	1	09/20/19 19:09	NV	EPA 300/SW846 9056A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	EB4-MATT-091919		
Lab Sample ID:	JC95316-5	**Date Sampled:**	09/19/19
Matrix:	AQ - Equipment Blank	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36669.D	1	09/26/19 02:43	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0037	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0037	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0037	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0037	0.00093	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0037	0.0014	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0037	0.00093	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0037	0.00093	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0037	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0037	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0037	0.0014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	88%		50-150%
	13C4-PFHpA	88%		50-150%
	13C8-PFOA	93%		50-150%
	13C9-PFNA	94%		50-150%
	13C6-PFDA	92%		50-150%
	13C7-PFUnDA	84%		50-150%
	13C2-PFDoDA	81%		50-150%
	13C2-PFTeDA	86%		40-150%
	13C3-PFBS	88%		50-150%
	13C3-PFHxS	88%		50-150%
	13C8-PFOS	89%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW13D-MATT-091919		
Lab Sample ID:	JC95316-6	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	CF1165, Thorofare,NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q36671.D	1	09/26/19 03:15	AFL	09/24/19 14:00	F:OP76964	F:S2Q570
Run #2 [a]	2Q36740.D	5	09/26/19 21:39	AFL	09/24/19 14:00	F:OP76964	F:S2Q571

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

PFAS Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.0207	0.0037	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0161	0.0037	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0784	0.0037	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.686 [b]	0.019	0.0046	ug/l	
335-76-2	Perfluorodecanoic acid	0.00225	0.0037	0.00093	ug/l	J
2058-94-8	Perfluoroundecanoic acid	0.00460	0.0037	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0037	0.0014	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0037	0.00093	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0037	0.00093	ug/l	
375-73-5	Perfluorobutanesulfonic acid	0.00277	0.0037	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.00721	0.0037	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0251	0.0037	0.0014	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	89%	96%	50-150%
	13C4-PFHpA	87%	92%	50-150%
	13C8-PFOA	94%	99%	50-150%
	13C9-PFNA	88%	97%	50-150%
	13C6-PFDA	90%	90%	50-150%
	13C7-PFUnDA	70%	68%	50-150%
	13C2-PFDoDA	52%	53%	50-150%
	13C2-PFTeDA	46%	53%	40-150%
	13C3-PFBS	86%	94%	50-150%
	13C3-PFHxS	87%	89%	50-150%
	13C8-PFOS	82%	87%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW13D-MATT-091919		
Lab Sample ID:	JC95316-6	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	22200	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Iron	2670	100	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium	8100	5000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Manganese	186	15	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Potassium	< 10000	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]
Sodium	26100	10000	ug/l	1	09/26/19	09/27/19	ND	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA47520
(2) Prep QC Batch: MP17533

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW13D-MATT-091919		
Lab Sample ID:	JC95316-6	**Date Sampled:**	09/19/19
Matrix:	AQ - Ground Water	**Date Received:**	09/19/19
		Percent Solids:	n/a
Project:	CF1165, Thorofare,NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	94.0	5.0	mg/l	1	09/30/19 16:37	UP	SM2320 B-11
Bromide	< 0.50	0.50	mg/l	1	09/20/19 19:33	NV	EPA 300/SW846 9056A
Chloride	42.2	2.0	mg/l	1	09/20/19 19:33	NV	EPA 300/SW846 9056A
Fluoride	0.26	0.20	mg/l	1	09/20/19 19:33	NV	EPA 300/SW846 9056A
Sulfate	< 2.0	2.0	mg/l	1	09/20/19 19:33	NV	EPA 300/SW846 9056A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

SGS

GW
EB

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

FED-EX Tracking #:
Bottle Order Control #: AK-091219-130
SGS Quote #:
SGS Job #: JC95316

Client / Reporting Information

Company Name: Integral Consulting
Street Address: 923 Haddonfield Rd.
City / State / Zip: Cherry Hill NJ 08002
Project Contact: Erin Palko
E-mail: epalko@integral-corp.com
Phone #: 609-221-7913
Sampler(s) Name(s): K. Lobo/J. Perrin
Phone #:

contact Erin Palko
Glenn Esler
(503) 284-5545

Project Information

Project Name: CF1165 Solvay
Street:
City / State:
Project # CF1165
Client Purchase Order #:
Project Manager: E. Palko

Billing Information (if different from Report to)
Company Name: Integral Consulting
Street Address: 285 Century Pl Suite
City / State / Zip: Louisville CO 80027
Attention: Accounts Payable

Requested Analysis

PFAS; SO_4, Cl, Alkalinity; Na, Mn, Mg, K, Fe, Ca; F, Br, O

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Grab (G) / Comp (C)	Matrix	# of bottles	HCl	NaOH	HNO_3	H_2SO_4	NONE	DI Water	MEOH	ENCORE	PFAS	SO_4, Cl, Alk	Na, Mn, Mg, K, Fe, Ca	F, Br, O	LAB USE ONLY
1	MW15D-MATT-091919		9/19/19	1748	JP	G	GW	6			X						X	X	X	X	A18
2	MW10D-MATT-091919		9/19/19	0952	JP	G	GW	6			X						X	X	X	X	C20
3	MW10S-MATT-091919		9/19/19	1126	JP	G	GW	6			X						X	X	X	X	SUB
4	MW13S-MATT-091919		9/19/19	1415	JP	G	GW	6			X						X	X	X	X	
5	EB4-MATT-091919		9/19/19	0900	JP	G	GW	2									X				
6	MW13D-MATT-091919		9/19/19	1345	JP	G	GW	6			X						X	X	X	X	
~~7~~	~~MW13S-MATT-091919~~		~~9/19/19~~																		

KC 9/19/19

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- 10 Business Days
- 5 Business Days
- 3 Business Days
- 2 Business Days
- 1 Business Day
- Other

Standard TAT

All data available via Lablink

Approval needed for 1-3 Business Day TAT

Deliverable

- Commercial "A" (Level 1)
- Commercial "B" (Level 2)
- NJ Reduced (Level 3)
- Full Tier I (Level 4)
- Commercial "C"
- NJ DKQP
- NYASP Category A
- NYASP Category B
- MA MCP Criteria
- CT RCP Criteria
- State Forms
- EDD Format
- DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

PRELIMINARY ASSESSMENT YB JR
QC VERIFICATION
1740
http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1 [signature] 9/19/19	1437	1 [signature]	2 [signature]	9-19-19	2 [signature]
3	1530	3	4		4
5		5			

Custody Seal # ☐ Intact ☐ Not intact
Preserved where applicable ☐ Absent
Therm. ID:
On Ice ☐
Cooler Temp. °C: 3.2 c-up

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

5.1
5

JC95316: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC95316 **Client:** INTEGRAL CONSULTING INC. **Project:** CF1165.2501.02 THOROFARE, NJ

Date / Time Received: 9/19/2019 5:40:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC95316: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Integral Consulting Inc.

Job No: JC95316

CF1165, Thorofare,NJ
Project No: WO# CF1165.4001.01

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC95316-1 Collected: 18-SEP-19 17:48 By: JP Received: 19-SEP-19 By: AS MW15D-MATT-091819						
JC95316-1	EPA 300/SW846 9056A	20-SEP-19 17:57	NV	20-SEP-19	NV	BRO,CHL,F,SO4
JC95316-1	EPA 537M BY ID	26-SEP-19 01:40	AFL	24-SEP-19		LCID537SL
JC95316-1	EPA 537M BY ID	26-SEP-19 20:51	AFL	24-SEP-19		LCID537SL
JC95316-1	EPA 200.7	26-SEP-19 23:47	ND	26-SEP-19	TG	CA,FE,K,MG,MN,NA
JC95316-1	SM2320 B-11	30-SEP-19 12:16	UP			ALK
JC95316-2 Collected: 19-SEP-19 09:52 By: JP Received: 19-SEP-19 By: AS MW10D-MATT-091919						
JC95316-2	EPA 300/SW846 9056A	20-SEP-19 18:21	NV	20-SEP-19	NV	BRO,CHL,F,SO4
JC95316-2	EPA 537M BY ID	26-SEP-19 01:56	AFL	24-SEP-19		LCID537SL
JC95316-2	EPA 537M BY ID	26-SEP-19 21:07	AFL	24-SEP-19		LCID537SL
JC95316-2	EPA 200.7	26-SEP-19 23:57	ND	26-SEP-19	TG	CA,FE,K,MG,MN,NA
JC95316-2	SM2320 B-11	30-SEP-19 16:37	UP			ALK
JC95316-3 Collected: 19-SEP-19 11:26 By: JP Received: 19-SEP-19 By: AS MW10S-MATT-091919						
JC95316-3	EPA 300/SW846 9056A	20-SEP-19 18:45	NV	20-SEP-19	NV	BRO,CHL,F,SO4
JC95316-3	EPA 537M BY ID	26-SEP-19 02:11	AFL	24-SEP-19		LCID537SL
JC95316-3	EPA 200.7	27-SEP-19 00:02	ND	26-SEP-19	TG	CA,FE,K,MG,MN,NA
JC95316-3	SM2320 B-11	30-SEP-19 16:37	UP			ALK
JC95316-4 Collected: 19-SEP-19 14:15 By: JP Received: 19-SEP-19 By: AS MW13S-MATT-091919						
JC95316-4	EPA 300/SW846 9056A	20-SEP-19 19:09	NV	20-SEP-19	NV	BRO,CHL,F,SO4
JC95316-4	EPA 537M BY ID	26-SEP-19 02:27	AFL	24-SEP-19		LCID537SL
JC95316-4	EPA 537M BY ID	26-SEP-19 21:23	AFL	24-SEP-19		LCID537SL
JC95316-4	EPA 200.7	27-SEP-19 00:17	ND	26-SEP-19	TG	CA,FE,K,MG,MN,NA
JC95316-4	SM2320 B-11	30-SEP-19 16:37	UP			ALK
JC95316-5 Collected: 19-SEP-19 09:00 By: JP Received: 19-SEP-19 By: AS EB4-MATT-091919						
JC95316-5	EPA 537M BY ID	26-SEP-19 02:43	AFL	24-SEP-19		LCID537SL

Internal Sample Tracking Chronicle

Integral Consulting Inc.

Job No: JC95316

CF1165, Thorofare,NJ
Project No: WO# CF1165.4001.01

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC95316-6 Collected: 19-SEP-19 13:45 By: JP Received: 19-SEP-19 By: AS MW13D-MATT-091919						
JC95316-6	EPA 300/SW846 9056A	20-SEP-19 19:33	NV	20-SEP-19	NV	BRO,CHL,F,SO4
JC95316-6	EPA 537M BY ID	26-SEP-19 03:15	AFL	24-SEP-19		LCID537SL
JC95316-6	EPA 537M BY ID	26-SEP-19 21:39	AFL	24-SEP-19		LCID537SL
JC95316-6	EPA 200.7	27-SEP-19 00:22	ND	26-SEP-19	TG	CA,FE,K,MG,MN,NA
JC95316-6	SM2320 B-11	30-SEP-19 16:37	UP			ALK

SGS Internal Chain of Custody

Job Number: JC95316
Account: INTCWAO Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Received: 09/19/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95316-1.1	Secured Storage	Taylor Gorman	09/26/19 07:29	Retrieve from Storage
JC95316-1.1	Taylor Gorman	Secured Storage	09/26/19 09:02	Return to Storage
JC95316-1.1.1	Taylor Gorman	Metals Digestion	09/26/19 07:29	Digestate from JC95316-1.1
JC95316-1.1.1	Metals Digestion	Taylor Gorman	09/26/19 07:30	Digestate from JC95316-1.1
JC95316-1.1.1	Taylor Gorman	Metals Digestate Storage	09/26/19 07:30	Return to Storage
JC95316-1.2	Secured Storage	Todd Shoemaker	09/20/19 14:35	Retrieve from Storage
JC95316-1.2	Todd Shoemaker	Secured Staging Area	09/20/19 14:35	Return to Storage
JC95316-1.2	Secured Staging Area	Natasha Verma	09/20/19 15:22	Retrieve from Storage
JC95316-1.2	Natasha Verma	Secured Storage	09/20/19 17:01	Return to Storage
JC95316-1.4	Secured Storage	Todd Shoemaker	09/30/19 08:49	Retrieve from Storage
JC95316-1.4	Todd Shoemaker	Secured Staging Area	09/30/19 08:49	Return to Storage
JC95316-1.4	Secured Staging Area	Unnati Patel	09/30/19 17:07	Retrieve from Storage
JC95316-1.4	Unnati Patel	Secured Storage	09/30/19 17:09	Return to Storage
JC95316-1.5	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-1.6	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-2.1	Secured Storage	Taylor Gorman	09/26/19 07:29	Retrieve from Storage
JC95316-2.1	Taylor Gorman	Secured Storage	09/26/19 09:02	Return to Storage
JC95316-2.1.1	Taylor Gorman	Metals Digestion	09/26/19 07:29	Digestate from JC95316-2.1
JC95316-2.1.1	Metals Digestion	Taylor Gorman	09/26/19 07:30	Digestate from JC95316-2.1
JC95316-2.1.1	Taylor Gorman	Metals Digestate Storage	09/26/19 07:30	Return to Storage
JC95316-2.2	Secured Storage	Todd Shoemaker	09/20/19 14:35	Retrieve from Storage
JC95316-2.2	Todd Shoemaker	Secured Staging Area	09/20/19 14:35	Return to Storage
JC95316-2.2	Secured Staging Area	Natasha Verma	09/20/19 15:22	Retrieve from Storage
JC95316-2.2	Natasha Verma	Secured Storage	09/20/19 17:01	Return to Storage
JC95316-2.3	Secured Storage	Matthew Robbins	09/30/19 15:26	Retrieve from Storage
JC95316-2.3	Matthew Robbins	Secured Staging Area	09/30/19 15:26	Return to Storage
JC95316-2.3	Secured Staging Area	Unnati Patel	09/30/19 17:08	Retrieve from Storage
JC95316-2.3	Unnati Patel	Secured Storage	09/30/19 17:09	Return to Storage
JC95316-2.5	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-2.6	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-3.1	Secured Storage	Taylor Gorman	09/26/19 07:29	Retrieve from Storage
JC95316-3.1	Taylor Gorman	Secured Storage	09/26/19 09:02	Return to Storage

SGS Internal Chain of Custody

Job Number: JC95316
Account: INTCWAO Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Received: 09/19/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95316-3.1.1	Taylor Gorman	Metals Digestion	09/26/19 07:29	Digestate from JC95316-3.1
JC95316-3.1.1	Metals Digestion	Taylor Gorman	09/26/19 07:30	Digestate from JC95316-3.1
JC95316-3.1.1	Taylor Gorman	Metals Digestate Storage	09/26/19 07:30	Return to Storage
JC95316-3.2	Secured Storage	Todd Shoemaker	09/20/19 14:35	Retrieve from Storage
JC95316-3.2	Todd Shoemaker	Secured Staging Area	09/20/19 14:35	Return to Storage
JC95316-3.2	Secured Staging Area	Natasha Verma	09/20/19 15:22	Retrieve from Storage
JC95316-3.2	Natasha Verma	Secured Storage	09/20/19 17:01	Return to Storage
JC95316-3.4	Secured Storage	Dwayne Johnson	09/30/19 12:01	Retrieve from Storage
JC95316-3.4	Dwayne Johnson	Secured Staging Area	09/30/19 12:01	Return to Storage
JC95316-3.4	Secured Staging Area	Unnati Patel	09/30/19 17:08	Retrieve from Storage
JC95316-3.4	Unnati Patel	Secured Storage	09/30/19 17:09	Return to Storage
JC95316-3.5	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-3.6	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-4.1	Secured Storage	Taylor Gorman	09/26/19 07:29	Retrieve from Storage
JC95316-4.1	Taylor Gorman	Secured Storage	09/26/19 09:02	Return to Storage
JC95316-4.1.1	Taylor Gorman	Metals Digestion	09/26/19 07:29	Digestate from JC95316-4.1
JC95316-4.1.1	Metals Digestion	Taylor Gorman	09/26/19 07:30	Digestate from JC95316-4.1
JC95316-4.1.1	Taylor Gorman	Metals Digestate Storage	09/26/19 07:30	Return to Storage
JC95316-4.2	Secured Storage	Todd Shoemaker	09/20/19 14:35	Retrieve from Storage
JC95316-4.2	Todd Shoemaker	Secured Staging Area	09/20/19 14:35	Return to Storage
JC95316-4.2	Secured Staging Area	Natasha Verma	09/20/19 15:22	Retrieve from Storage
JC95316-4.2	Natasha Verma	Secured Storage	09/20/19 17:01	Return to Storage
JC95316-4.4	Secured Storage	Dwayne Johnson	09/30/19 12:01	Retrieve from Storage
JC95316-4.4	Dwayne Johnson	Secured Staging Area	09/30/19 12:01	Return to Storage
JC95316-4.4	Secured Staging Area	Unnati Patel	09/30/19 17:08	Retrieve from Storage
JC95316-4.4	Unnati Patel	Secured Storage	09/30/19 17:09	Return to Storage
JC95316-4.5	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-4.6	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-5.1	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-5.2	Dominic Guerriero		09/20/19 13:02	Subcontract

SGS Internal Chain of Custody

Job Number: JC95316
Account: INTCWAO Integral Consulting Inc.
Project: CF1165, Thorofare,NJ
Received: 09/19/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95316-6.1	Secured Storage	Taylor Gorman	09/26/19 07:29	Retrieve from Storage
JC95316-6.1	Taylor Gorman	Secured Storage	09/26/19 09:02	Return to Storage
JC95316-6.1.1	Taylor Gorman	Metals Digestion	09/26/19 07:29	Digestate from JC95316-6.1
JC95316-6.1.1	Metals Digestion	Taylor Gorman	09/26/19 07:30	Digestate from JC95316-6.1
JC95316-6.1.1	Taylor Gorman	Metals Digestate Storage	09/26/19 07:30	Return to Storage
JC95316-6.2	Secured Storage	Todd Shoemaker	09/20/19 14:35	Retrieve from Storage
JC95316-6.2	Todd Shoemaker	Secured Staging Area	09/20/19 14:35	Return to Storage
JC95316-6.2	Secured Staging Area	Natasha Verma	09/20/19 15:22	Retrieve from Storage
JC95316-6.2	Natasha Verma	Secured Storage	09/20/19 17:01	Return to Storage
JC95316-6.4	Secured Storage	Dwayne Johnson	09/30/19 12:01	Retrieve from Storage
JC95316-6.4	Dwayne Johnson	Secured Staging Area	09/30/19 12:01	Return to Storage
JC95316-6.4	Secured Staging Area	Unnati Patel	09/30/19 17:08	Retrieve from Storage
JC95316-6.4	Unnati Patel	Secured Storage	09/30/19 17:09	Return to Storage
JC95316-6.5	Dominic Guerriero		09/20/19 13:02	Subcontract
JC95316-6.6	Dominic Guerriero		09/20/19 13:02	Subcontract

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:33	MA47520-STD1	1		STDA
11:38	MA47520-STD2	1		STDB
11:43	ZZZZZZ	1		
11:49	ZZZZZZ	1		
11:54	MA47520-ICV1	1		
11:59	MA47520-ICB1	1		
12:06	MA47520-ICCV1	1		
12:19	MA47520-CCB1	1		
12:24	MA47520-CRID1	1		
12:29	MA47520-CRI1	1		
12:34	MA47520-ICSA1	1		
12:39	MA47520-ICSAB1	1		
12:44	MA47520-HSTD1	1		
12:50	MA47520-HSTD2	1		
12:55	ZZZZZZ	1		
13:00	ZZZZZZ	1		
13:05	ZZZZZZ	1		
13:10	MA47520-CCV1	1		
13:15	MA47520-CCB2	1		
13:20	ZZZZZZ	1		
13:25	ZZZZZZ	1		
13:30	MP17471-B1	1		
13:36	MP17471-MB1	1		
13:42	MP17471-S1	1		
13:47	MP17471-S2	1		
13:52	JC94997-3	1		(sample used for QC only; not part of login JC95316)
13:57	MP17471-SD1	5		
14:02	MA47520-CCV2	1		
14:07	MA47520-CCB3	1		
14:12	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:23	ZZZZZZ	1		
14:28	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:33	ZZZZZZ	1		
14:38	ZZZZZZ	1		
14:42	ZZZZZZ	1		
14:47	ZZZZZZ	1		
14:52	ZZZZZZ	1		
14:57	MA47520-CCV3	1		
15:03	MA47520-CCB4	1		
15:08	ZZZZZZ	1		
15:13	ZZZZZZ	1		
15:18	ZZZZZZ	1		
15:23	MA47520-CCV4	1		
15:28	MA47520-CCB5	1		
15:33	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	1		
15:53	ZZZZZZ	1		
15:58	MP17500-S1	1		
16:03	MP17500-S2	1		
16:08	JC95286-2	1		(sample used for QC only; not part of login JC95316)
16:13	MP17500-SD1	5		
16:18	MA47520-CCV5	1		
16:23	MA47520-CCB6	1		
16:28	ZZZZZZ	25		
16:33	ZZZZZZ	25		
16:38	ZZZZZZ	25		
16:43	ZZZZZZ	25		
16:49	ZZZZZZ	25		
16:54	ZZZZZZ	25		
16:59	ZZZZZZ	25		
17:04	ZZZZZZ	25		
17:09	ZZZZZZ	25		
17:14	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:19	MA47520-CCV6	1		
17:24	MA47520-CCB7	1		
17:29	ZZZZZZ	1		
17:34	ZZZZZZ	1		
17:39	ZZZZZZ	1		
17:45	ZZZZZZ	1		
17:50	ZZZZZZ	1		
17:55	ZZZZZZ	1		
18:00	ZZZZZZ	1		
18:05	ZZZZZZ	1		
18:10	MA47520-CCV7	1		
18:15	MA47520-CCB8	1		
18:22	ZZZZZZ	1		
18:27	ZZZZZZ	1		
18:32	ZZZZZZ	1		
18:40	ZZZZZZ	1		
18:45	ZZZZZZ	1		
18:51	ZZZZZZ	1		
18:56	ZZZZZZ	1		
19:01	ZZZZZZ	1		
19:06	ZZZZZZ	1		
19:11	ZZZZZZ	1		
19:16	MA47520-CCV8	1		
19:21	MA47520-CCB9	1		
19:27	MA47520-ICSA2	1		
19:32	MA47520-ICSAB2	1		
19:37	ZZZZZZ	1		
19:43	ZZZZZZ	1		
19:48	MP17476-PS1	1		
19:53	MP17510-B1	1		
19:58	MP17510-MB1	1		
20:03	ZZZZZZ	1		
20:08	MA47520-CCV9	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:13	MA47520-CCB10	1		
20:18	MP17510-S1	1		needs post spike for Sb
20:23	MP17510-S2	1		
20:28	JC95557-1	1		(sample used for QC only; not part of login JC95316)
20:33	MP17510-SD1	5		rerun for confirmation
20:38	ZZZZZZ	1		
20:43	ZZZZZZ	1		
20:48	ZZZZZZ	1		
20:54	ZZZZZZ	1		
20:59	ZZZZZZ	1		
21:04	ZZZZZZ	1		
21:09	MA47520-CCV10	1		
21:14	MA47520-CCB11	1		
21:19	ZZZZZZ	1		
21:25	ZZZZZZ	1		
21:30	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:40	ZZZZZZ	1		
21:45	ZZZZZZ	1		
21:51	ZZZZZZ	1		
21:56	ZZZZZZ	1		
22:01	ZZZZZZ	1		
22:06	MA47520-CCV11	1		
22:11	MA47520-CCB12	1		
22:16	ZZZZZZ	10		
22:21	ZZZZZZ	2		
22:26	ZZZZZZ	1		
22:31	ZZZZZZ	5		
22:36	ZZZZZZ	10		
22:41	ZZZZZZ	5		
22:46	ZZZZZZ	10		
22:51	ZZZZZZ	5		
22:56	ZZZZZZ	10		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	23:01	ZZZZZZ	2		
	23:06	MA47520-CCV12	1		
	23:12	MA47520-CCB13	1		
	23:17	ZZZZZZ	5		
	23:22	MP17531-SD1	25		
	23:27	MP17533-MB1	1		
	23:32	MP17533-B1	1		
	23:37	MP17533-S1	1		
	23:42	MP17533-S2	1		
	23:47	JC95316-1	1		
	23:52	MP17533-SD1	5		
	23:57	JC95316-2	1		
	00:02	JC95316-3	1		
	00:07	MA47520-CCV13	1		
	00:12	MA47520-CCB14	1		
	00:17	JC95316-4	1		
	00:22	JC95316-6	1		
---------->	Last reportable sample/prep for job JC95316				
	00:27	ZZZZZZ	1		
	00:32	ZZZZZZ	1		
	00:37	ZZZZZZ	1		
	00:42	ZZZZZZ	1		
	00:47	ZZZZZZ	1		
	00:52	MP17501-MB1	1		
	00:57	MP17501-B1	1		
	01:03	MP17501-S1	1		
	01:08	MA47520-CCV14	1		
	01:13	MA47520-CCB15	1		
---------->	Last reportable CCB for job JC95316				
	01:18	MP17501-S2	1		
	01:23	JC95266-2	1		(sample used for QC only; not part of login JC95316)
	01:28	MP17501-SD1	5		
	01:33	ZZZZZZ	1		
	01:38	ZZZZZZ	1		
	01:43	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:48	ZZZZZZ	1		
01:53	ZZZZZZ	1		
01:58	ZZZZZZ	1		
02:03	ZZZZZZ	1		
02:08	MA47520-CCV15	1		
02:13	MA47520-CCB16	1		
02:19	ZZZZZZ	1		
02:24	ZZZZZZ	1		
02:29	ZZZZZZ	1		
02:34	ZZZZZZ	1		
02:39	ZZZZZZ	1		
02:44	ZZZZZZ	1		
02:49	ZZZZZZ	1		
02:54	ZZZZZZ	1		
02:59	ZZZZZZ	1		
03:04	ZZZZZZ	1		
03:09	MA47520-CCV16	1		
03:14	MA47520-CCB17	1		
03:19	MP17558-MB1	5		
03:24	MP17558-B1	5		
03:29	MP17558-S1	5		
03:33	MP17558-S2	5		
03:38	JC95484-4A	5		(sample used for QC only; not part of login JC95316)
03:43	MP17558-SD1	25		
03:48	ZZZZZZ	5		
03:53	ZZZZZZ	5		
03:58	ZZZZZZ	5		
04:03	MA47520-CCV17	1		
04:08	MA47520-CCB18	1		
04:13	ZZZZZZ	5		
04:18	ZZZZZZ	5		
04:23	ZZZZZZ	5		
04:28	ZZZZZZ	5		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
04:33	ZZZZZZ	5		
04:38	ZZZZZZ	5		
04:43	ZZZZZZ	5		
04:48	ZZZZZZ	5		
04:53	ZZZZZZ	5		
04:58	ZZZZZZ	5		
05:03	MA47520-CCV18	1		
05:09	MA47520-CCB19	1		
05:14	ZZZZZZ	5		
05:19	ZZZZZZ	5		
05:24	ZZZZZZ	5		
05:29	ZZZZZZ	5		
05:34	ZZZZZZ	5		
05:39	ZZZZZZ	5		
05:44	MA47520-CCV19	1		
05:49	MA47520-CCB20	1		
05:54	ZZZZZZ	1		
05:59	ZZZZZZ	1		
06:04	ZZZZZZ	1		
06:09	ZZZZZZ	1		
06:14	ZZZZZZ	1		
06:19	ZZZZZZ	1		
06:24	ZZZZZZ	1		
06:29	ZZZZZZ	1		
08:27	ZZZZZZ	1		
08:32	MA47520-CCV20	1		
08:37	MA47520-CCB21	1		
08:42	ZZZZZZ	2		
08:47	MP17557-MB1	1		
08:52	MP17557-B1	1		
08:57	MP17557-S1	1		
09:03	MP17557-S2	1		
09:08	JC93171-2T	1		(sample used for QC only; not part of login JC95316)

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:13	MP17557-SD1	5		
09:17	ZZZZZZ	1		
09:22	ZZZZZZ	10		
09:28	MA47520-CCV21	1		
09:33	MA47520-CCB22	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
11:43	ZZZZZZ	1							
11:49	ZZZZZZ	1							
11:54	MA47520-ICV1	1	X	X	X	X	X	X	
11:59	MA47520-ICB1	1	X	X	X	X	X	X	
12:06	MA47520-ICCV1	1	X	X	X	X	X	X	
12:19	MA47520-CCB1	1	X	X	X	X	X	X	
12:24	MA47520-CRID1	1	X	X	X	X	X	X	
12:29	MA47520-CRI1	1	X	X	X	X	X	X	
12:34	MA47520-ICSA1	1	X	X	X	X	X	X	
12:39	MA47520-ICSAB1	1	X	X	X	X	X	X	
12:44	MA47520-HSTD1	1	X	X	X	X	X	X	
12:50	MA47520-HSTD2	1	X	X	X	X	X	X	
12:55	ZZZZZZ	1							
13:00	ZZZZZZ	1							
13:05	ZZZZZZ	1							
13:10	MA47520-CCV1	1	X	X	X	X	X	X	
13:15	MA47520-CCB2	1	X	X	X	X	X	X	
13:20	ZZZZZZ	1							
13:25	ZZZZZZ	1							
13:30	MP17471-B1	1		X					
13:36	MP17471-MB1	1		X					
13:42	MP17471-S1	1		X					
13:47	MP17471-S2	1		X					
13:52	JC94997-3	1		X					(a)
13:57	MP17471-SD1	5		X					
14:02	MA47520-CCV2	1	X	X	X	X	X	X	
14:07	MA47520-CCB3	1	X	X	X	X	X	X	
14:12	ZZZZZZ	1							
14:18	ZZZZZZ	1							
14:23	ZZZZZZ	1							
14:28	ZZZZZZ	1							
14:33	ZZZZZZ	1							
14:38	ZZZZZZ	1							
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
14:42	ZZZZZZ	1							
14:47	ZZZZZZ	1							
14:52	ZZZZZZ	1							
14:57	MA47520-CCV3	1	X	X	X	X	X	X	
15:03	MA47520-CCB4	1	X	X	X	X	X	X	
15:08	ZZZZZZ	1							
15:13	ZZZZZZ	1							
15:18	ZZZZZZ	1							
15:23	MA47520-CCV4	1	X	X	X	X	X	X	
15:28	MA47520-CCB5	1	X	X	X	X	X	X	
15:33	ZZZZZZ	1							
15:38	ZZZZZZ	1							
15:43	ZZZZZZ	1							
15:48	ZZZZZZ	1							
15:53	ZZZZZZ	1							
15:58	MP17500-S1	1	X	X	X	X	X	X	
16:03	MP17500-S2	1	X	X	X	X	X	X	
16:08	JC95286-2	1							(a)
16:13	MP17500-SD1	5	X	X	X	X	X	X	
16:18	MA47520-CCV5	1	X	X	X	X	X	X	
16:23	MA47520-CCB6	1	X	X	X	X	X	X	
16:28	ZZZZZZ	25							
16:33	ZZZZZZ	25							
16:38	ZZZZZZ	25							
16:43	ZZZZZZ	25							
16:49	ZZZZZZ	25							
16:54	ZZZZZZ	25							
16:59	ZZZZZZ	25							
17:04	ZZZZZZ	25							
17:09	ZZZZZZ	25							
17:14	ZZZZZZ	1							
17:19	MA47520-CCV6	1	X	X	X	X	X	X	
17:24	MA47520-CCB7	1	X	X	X	X	X	X	
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na
17:29	ZZZZZZ	1						
17:34	ZZZZZZ	1						
17:39	ZZZZZZ	1						
17:45	ZZZZZZ	1						
17:50	ZZZZZZ	1						
17:55	ZZZZZZ	1						
18:00	ZZZZZZ	1						
18:05	ZZZZZZ	1						
18:10	MA47520-CCV7	1	X	X	X	X	X	X
18:15	MA47520-CCB8	1	X	X	X	X	X	X
18:22	ZZZZZZ	1						
18:27	ZZZZZZ	1						
18:32	ZZZZZZ	1						
18:40	ZZZZZZ	1						
18:45	ZZZZZZ	1						
18:51	ZZZZZZ	1						
18:56	ZZZZZZ	1						
19:01	ZZZZZZ	1						
19:06	ZZZZZZ	1						
19:11	ZZZZZZ	1						
19:16	MA47520-CCV8	1	X	X	X	X	X	X
19:21	MA47520-CCB9	1	X	X	X	X	X	X
19:27	MA47520-ICSA2	1	X	X	X	X	X	X
19:32	MA47520-ICSAB2	1	X	X	X	X	X	X
19:37	ZZZZZZ	1						
19:43	ZZZZZZ	1						
19:48	MP17476-PS1	1						
19:53	MP17510-B1	1	X	X	X	X	X	X
19:58	MP17510-MB1	1	X	X	X	X	X	X
20:03	ZZZZZZ	1						
20:08	MA47520-CCV9	1	X	X	X	X	X	X
20:13	MA47520-CCB10	1	X	X	X	X	X	X
20:18	MP17510-S1	1	X	X	X	X	X	X
		Element:	Ca	Fe	Mg	Mn	K	Na

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
20:23	MP17510-S2	1	X	X	X	X	X	X	
20:28	JC95557-1	1	X	X	X	X	X	X	(a)
20:33	MP17510-SD1	5	X	X	X	X	X		
20:38	ZZZZZZ	1							
20:43	ZZZZZZ	1							
20:48	ZZZZZZ	1							
20:54	ZZZZZZ	1							
20:59	ZZZZZZ	1							
21:04	ZZZZZZ	1							
21:09	MA47520-CCV10	1	X	X	X	X	X	X	
21:14	MA47520-CCB11	1	X	X	X	X	X	X	
21:19	ZZZZZZ	1							
21:25	ZZZZZZ	1							
21:30	ZZZZZZ	1							
21:35	ZZZZZZ	1							
21:40	ZZZZZZ	1							
21:45	ZZZZZZ	1							
21:51	ZZZZZZ	1							
21:56	ZZZZZZ	1							
22:01	ZZZZZZ	1							
22:06	MA47520-CCV11	1	X	X	X	X	X	X	
22:11	MA47520-CCB12	1	X	X	X	X	X	X	
22:16	ZZZZZZ	10							
22:21	ZZZZZZ	2							
22:26	ZZZZZZ	1							
22:31	ZZZZZZ	5							
22:36	ZZZZZZ	10							
22:41	ZZZZZZ	5							
22:46	ZZZZZZ	10							
22:51	ZZZZZZ	5							
22:56	ZZZZZZ	10							
23:01	ZZZZZZ	2							
23:06	MA47520-CCV12	1	X	X	X	X	X	X	
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
23:12	MA47520-CCB13	1	X	X	X	X	X	X	
23:17	ZZZZZZ	5							
23:22	MP17531-SD1	25							
23:27	MP17533-MB1	1	X	X	X	X	X	X	
23:32	MP17533-B1	1	X	X	X	X	X	X	
23:37	MP17533-S1	1	X	X	X	X	X	X	
23:42	MP17533-S2	1	X	X	X	X	X	X	
23:47	JC95316-1	1	X	X	X	X	X	X	
23:52	MP17533-SD1	5	X	X	X	X	X	X	
23:57	JC95316-2	1	X	X	X	X	X	X	
00:02	JC95316-3	1	X	X	X	X	X	X	
00:07	MA47520-CCV13	1	X	X	X	X	X	X	
00:12	MA47520-CCB14	1	X	X	X	X	X	X	
00:17	JC95316-4	1	X	X	X	X	X	X	
00:22	JC95316-6	1	X	X	X	X	X	X	
00:27	ZZZZZZ	1							
00:32	ZZZZZZ	1							
00:37	ZZZZZZ	1							
00:42	ZZZZZZ	1							
00:47	ZZZZZZ	1							
00:52	MP17501-MB1	1	X	X	X	X		X	
00:57	MP17501-B1	1	X	X	X	X		X	
01:03	MP17501-S1	1	X	X	X	X		X	
01:08	MA47520-CCV14	1	X	X	X	X	X	X	
01:13	MA47520-CCB15	1	X	X	X	X	X	X	
01:18	MP17501-S2	1	X	X	X	X		X	
01:23	JC95266-2	1							(a)
01:28	MP17501-SD1	5	X	X	X	X		X	
01:33	ZZZZZZ	1							
01:38	ZZZZZZ	1							
01:43	ZZZZZZ	1							
01:48	ZZZZZZ	1							
01:53	ZZZZZZ	1							
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
01:58	ZZZZZZ	1							
02:03	ZZZZZZ	1							
02:08	MA47520-CCV15	1	X	X	X	X	X	X	
02:13	MA47520-CCB16	1	X	X	X	X	X	X	
02:19	ZZZZZZ	1							
02:24	ZZZZZZ	1							
02:29	ZZZZZZ	1							
02:34	ZZZZZZ	1							
02:39	ZZZZZZ	1							
02:44	ZZZZZZ	1							
02:49	ZZZZZZ	1							
02:54	ZZZZZZ	1							
02:59	ZZZZZZ	1							
03:04	ZZZZZZ	1							
03:09	MA47520-CCV16	1	X	X	X	X	X	X	
03:14	MA47520-CCB17	1	X	X	X	X	X	X	
03:19	MP17558-MB1	5							
03:24	MP17558-B1	5							
03:29	MP17558-S1	5							
03:33	MP17558-S2	5							
03:38	JC95484-4A	5							(a)
03:43	MP17558-SD1	25							
03:48	ZZZZZZ	5							
03:53	ZZZZZZ	5							
03:58	ZZZZZZ	5							
04:03	MA47520-CCV17	1	X	X	X	X	X	X	
04:08	MA47520-CCB18	1	X	X	X	X	X	X	
04:13	ZZZZZZ	5							
04:18	ZZZZZZ	5							
04:23	ZZZZZZ	5							
04:28	ZZZZZZ	5							
04:33	ZZZZZZ	5							
04:38	ZZZZZZ	5							
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na	
04:43	ZZZZZZ	5							
04:48	ZZZZZZ	5							
04:53	ZZZZZZ	5							
04:58	ZZZZZZ	5							
05:03	MA47520-CCV18	1	X	X	X	X	X	X	
05:09	MA47520-CCB19	1	X	X	X	X	X	X	
05:14	ZZZZZZ	5							
05:19	ZZZZZZ	5							
05:24	ZZZZZZ	5							
05:29	ZZZZZZ	5							
05:34	ZZZZZZ	5							
05:39	ZZZZZZ	5							
05:44	MA47520-CCV19	1	X	X	X	X	X	X	
05:49	MA47520-CCB20	1	X	X	X	X	X	X	
05:54	ZZZZZZ	1							
05:59	ZZZZZZ	1							
06:04	ZZZZZZ	1							
06:09	ZZZZZZ	1							
06:14	ZZZZZZ	1							
06:19	ZZZZZZ	1							
06:24	ZZZZZZ	1							
06:29	ZZZZZZ	1							
08:27	ZZZZZZ	1							
08:32	MA47520-CCV20	1	X	X	X	X	X	X	
08:37	MA47520-CCB21	1	X	X	X	X	X	X	
08:42	ZZZZZZ	2							
08:47	MP17557-MB1	1							
08:52	MP17557-B1	1							
08:57	MP17557-S1	1							
09:03	MP17557-S2	1							
09:08	JC93171-2T	1							(a)
09:13	MP17557-SD1	5							
09:17	ZZZZZZ	1							
		Element:	Ca	Fe	Mg	Mn	K	Na	

REPORTED ELEMENTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Element: Dilution	Ca	Fe	Mg	Mn	K	Na
09:22	ZZZZZZ	10						
09:28	MA47520-CCV21	1	X	X	X	X	X	X
09:33	MA47520-CCB22	1	X	X	X	X	X	X

(a) Sample used for QC only; not part of login JC95316.

Element: Ca Fe Mg Mn K Na

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:33	MA47520-STD1	7872 R	184630 R	34912 R	10717 R
11:38	MA47520-STD2	7361	172920	34000	9679
11:43	ZZZZZZ	7613	177620	34422	9950
11:49	ZZZZZZ	7918	186620	34985	10767
11:54	MA47520-ICV1	7599	177010	34351	9937
11:59	MA47520-ICB1	7869	182890	34562	10713
12:06	MA47520-ICCV1	7619	178020	34511	9968
12:19	MA47520-CCB1	7871	184870	34527	10716
12:24	MA47520-CRID1	7883	185010	34829	10696
12:29	MA47520-CRI1	7816	183740	34922	10537
12:34	MA47520-ICSA1	6975	160980	33301	8999
12:39	MA47520-ICSAB1	6983	161140	33135	9016
12:44	MA47520-HSTD1	7612	182010	34580	10616
12:50	MA47520-HSTD2	7131	165730	33773	9122
12:55	ZZZZZZ	7792	183750	34922	10914
13:00	ZZZZZZ	7691	184210	34498	10725
13:05	ZZZZZZ	7921	185770	34374	10756
13:10	MA47520-CCV1	7626	178300	34434	9951
13:15	MA47520-CCB2	7930	186480	34811	10771
13:20	ZZZZZZ	8040	187480	35441	11049
13:25	ZZZZZZ	8044	188560	35308	11038
13:30	MP17471-B1	10814 !	180800	34903	999999 !
13:36	MP17471-MB1	7887	186460	35188	10711
13:42	MP17471-S1	7372	171610	34472	9407
13:47	MP17471-S2	7335	170620	34055	9367
13:52	JC94997-3	7402	172350	34055	9495
13:57	MP17471-SD1	7696	180840	34575	10172
14:02	MA47520-CCV2	7595	176890	34029	9911
14:07	MA47520-CCB3	7852	184960	34711	10676
14:12	ZZZZZZ	7391	174990	34284	9506
14:18	ZZZZZZ	7439	172910	34711	9536
14:23	ZZZZZZ	7526	175990	34499	9737
14:28	ZZZZZZ	7444	173450	34649	9505

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:33	ZZZZZZ	7665	180530	34636	10126
14:38	ZZZZZZ	7875	184830	34884	10641
14:42	ZZZZZZ	7571	179580	34665	9877
14:47	ZZZZZZ	7469	177510	34621	9774
14:52	ZZZZZZ	7289	172140	33719	9440
14:57	MA47520-CCV3	7569	176790	33943	9877
15:03	MA47520-CCB4	7845	186470	34753	10663
15:08	ZZZZZZ	7415	172740	34604	9492
15:13	ZZZZZZ	7384	171530	34215	9453
15:18	ZZZZZZ	7448	173960	34117	9643
15:23	MA47520-CCV4	7578	176990	34209	9891
15:28	MA47520-CCB5	7877	185860	34504	10697
15:33	ZZZZZZ	7373	172180	34597	9414
15:38	ZZZZZZ	7656	181640	34921	10141
15:43	ZZZZZZ	7897	186520	35358	10666
15:48	ZZZZZZ	7515	177850	34270	9850
15:53	ZZZZZZ	7549	177680	34376	9884
15:58	MP17500-S1	7687	180340	34883	10092
16:03	MP17500-S2	7717	180870	35151	10122
16:08	JC95286-2	7849	185620	35091	10577
16:13	MP17500-SD1	7916	187150	35227	10757
16:18	MA47520-CCV5	7597	177690	34489	9939
16:23	MA47520-CCB6	7881	185170	34746	10732
16:28	ZZZZZZ	7537	176430	34349	9832
16:33	ZZZZZZ	7512	175350	34108	9818
16:38	ZZZZZZ	7490	175540	33916	9789
16:43	ZZZZZZ	7515	175550	33881	9815
16:49	ZZZZZZ	7527	176650	33834	9809
16:54	ZZZZZZ	7543	176060	34305	9830
16:59	ZZZZZZ	7557	178120	34203	9864
17:04	ZZZZZZ	7676	180780	34548	10164
17:09	ZZZZZZ	7695	180510	34411	10157
17:14	ZZZZZZ	7345	173370	34245	9539

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:19	MA47520-CCV6	7613	178120	34224	9954
17:24	MA47520-CCB7	7903	186950	34410	10742
17:29	ZZZZZZ	7378	171930	34266	9409
17:34	ZZZZZZ	7137	164220	33629	8991
17:39	ZZZZZZ	6952	159920	33122	8682
17:45	ZZZZZZ	6962	159290	33166	8649
17:50	ZZZZZZ	5141 !	120130 !	32357	4182 !
17:55	ZZZZZZ	7135	163490	33976	8972
18:00	ZZZZZZ	7224	167150	33908	9131
18:05	ZZZZZZ	6680	148700	33432	7422 !
18:10	MA47520-CCV7	7628	178170	34030	9939
18:15	MA47520-CCB8	7945	187620	34848	10774
18:22	ZZZZZZ	7942	189650	35086	10773
18:27	ZZZZZZ	7614	184150	35073	10031
18:32	ZZZZZZ	7921	188770	35072	10740
18:40	ZZZZZZ	7930	186070	34496	10766
18:45	ZZZZZZ	7967	186670	34552	10804
18:51	ZZZZZZ	7977	187550	34869	10807
18:56	ZZZZZZ	7907	186610	34605	10724
19:01	ZZZZZZ	7945	187140	34666	10839
19:06	ZZZZZZ	8004	188330	34872	10850
19:11	ZZZZZZ	8027	189880	35024	10923
19:16	MA47520-CCV8	7653	178520	34257	10002
19:21	MA47520-CCB9	7936	186690	34571	10811
19:27	MA47520-ICSA2	7104	163760	33562	9155
19:32	MA47520-ICSAB2	7127	163960	33503	9184
19:37	ZZZZZZ	7983	188810	34930	10952
19:43	ZZZZZZ	7309	171320	34037	9528
19:48	MP17476-PS1	7737	182780	35586	10301
19:53	MP17510-B1	7762	182990	35041	10255
19:58	MP17510-MB1	8041	190060	35629	10950
20:03	ZZZZZZ	8135	192490	36134	11102
20:08	MA47520-CCV9	7676	179420	34639	10045

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:13	MA47520-CCB10	7970	188140	35037	10860
20:18	MP17510-S1	7884	184500	36145	10280
20:23	MP17510-S2	7862	183210	35851	10243
20:28	JC95557-1	8159	190670	36726	10727
20:33	MP17510-SD1	8039	188070	35885	10811
20:38	ZZZZZZ	8165	187750	37376	10570
20:43	ZZZZZZ	8127	189070	37247	10653
20:48	ZZZZZZ	8225	189530	37830	10385
20:54	ZZZZZZ	8302	193210	38314	10502
20:59	ZZZZZZ	8390	192470	38038	10537
21:04	ZZZZZZ	8388	195310	38185	10563
21:09	MA47520-CCV10	7667	179850	34915	10107
21:14	MA47520-CCB11	7989	187600	35802	10962
21:19	ZZZZZZ	8197	190730	37750	10415
21:25	ZZZZZZ	8296	192530	37870	10567
21:30	ZZZZZZ	8182	188470	37654	10516
21:35	ZZZZZZ	8367	193280	38221	10556
21:40	ZZZZZZ	8522	198030	39154	10576
21:45	ZZZZZZ	8463	195890	38807	10538
21:51	ZZZZZZ	8056	186940	37126	10618
21:56	ZZZZZZ	8770	202310	40562	10730
22:01	ZZZZZZ	8015	189560	35879	10984
22:06	MA47520-CCV11	7707	181040	35426	10170
22:11	MA47520-CCB12	8012	188750	35729	11017
22:16	ZZZZZZ	7746	182070	35151	10280
22:21	ZZZZZZ	7749	181650	35688	10223
22:26	ZZZZZZ	8092	190650	36115	11111
22:31	ZZZZZZ	7598	179160	35512	9767
22:36	ZZZZZZ	7711	181450	35271	10139
22:41	ZZZZZZ	7649	179910	35647	9814
22:46	ZZZZZZ	7745	182780	35277	10153
22:51	ZZZZZZ	7749	182740	35981	10001
22:56	ZZZZZZ	7643	180150	35125	10000

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:01	ZZZZZZ	8229	193720	37665	10645
23:06	MA47520-CCV12	7691	179800	34941	10178
23:12	MA47520-CCB13	7998	188940	35653	11038
23:17	ZZZZZZ	7541	174890	34940	9854
23:22	MP17531-SD1	7788	181880	35278	10477
23:27	MP17533-MB1	8137	190350	36248	11337
23:32	MP17533-B1	7862	183970	36010	10556
23:37	MP17533-S1	7803	184070	36262	10395
23:42	MP17533-S2	7803	183950	36532	10389
23:47	JC95316-1	7941	186720	36314	10807
23:52	MP17533-SD1	7922	186990	36054	10906
23:57	JC95316-2	7944	186950	36909	10780
00:02	JC95316-3	7933	185640	36448	10773
00:07	MA47520-CCV13	7660	179530	35302	10166
00:12	MA47520-CCB14	7948	189130	36037	10987
00:17	JC95316-4	7774	184110	36762	10294
00:22	JC95316-6	7953	187300	36673	10748
00:27	ZZZZZZ	7853	183850	36414	10439
00:32	ZZZZZZ	7854	184230	36728	10452
00:37	ZZZZZZ	7685	180940	36072	10295
00:42	ZZZZZZ	7697	181040	35863	10297
00:47	ZZZZZZ	6562	153640	33854	8361
00:52	MP17501-MB1	7954	188610	36345	11008
00:57	MP17501-B1	7776	184620	36129	10422
01:03	MP17501-S1	7651	180290	36027	10071
01:08	MA47520-CCV14	7692	181090	35392	10246
01:13	MA47520-CCB15	7992	190650	35763	11083
01:18	MP17501-S2	7666	179870	35717	10089
01:23	JC95266-2	7766	182420	35778	10319
01:28	MP17501-SD1	7905	186130	35573	10791
01:33	ZZZZZZ	7760	181740	35938	10176
01:38	ZZZZZZ	7701	182020	35840	10243
01:43	ZZZZZZ	7461	175300	35120	9832

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
01:48	ZZZZZZ	7742	181130	35627	10324
01:53	ZZZZZZ	7641	178570	35643	10112
01:58	ZZZZZZ	7607	179260	35876	10054
02:03	ZZZZZZ	7499	173750	35341	9727
02:08	MA47520-CCV15	7696	181060	35368	10253
02:13	MA47520-CCB16	7982	185910	35600	11064
02:19	ZZZZZZ	7642	178000	35416	10103
02:24	ZZZZZZ	7736	179500	35668	10312
02:29	ZZZZZZ	7643	180430	35733	10223
02:34	ZZZZZZ	7467	175500	35609	9855
02:39	ZZZZZZ	7760	181910	35969	10388
02:44	ZZZZZZ	7650	178840	35549	10162
02:49	ZZZZZZ	7618	178460	35654	10106
02:54	ZZZZZZ	7474	173770	35462	9720
02:59	ZZZZZZ	7874	186830	36311	10689
03:04	ZZZZZZ	7822	185050	36533	10505
03:09	MA47520-CCV16	7682	180220	35413	10263
03:14	MA47520-CCB17	7981	188190	35588	11089
03:19	MP17558-MB1	7635	178380	35095	10129
03:24	MP17558-B1	7664	178840	35375	10091
03:29	MP17558-S1	7533	174460	35416	9771
03:33	MP17558-S2	7538	174800	35468	9771
03:38	JC95484-4A	7489	172940	35088	9789
03:43	MP17558-SD1	7781	181460	35450	10476
03:48	ZZZZZZ	7539	176630	35360	9875
03:53	ZZZZZZ	7578	176580	35488	9973
03:58	ZZZZZZ	7457	172980	35523	9727
04:03	MA47520-CCV17	7688	180700	35300	10281
04:08	MA47520-CCB18	7981	189050	36073	11101
04:13	ZZZZZZ	7585	175430	35218	9969
04:18	ZZZZZZ	7518	174590	35285	9848
04:23	ZZZZZZ	7503	173960	35349	9832
04:28	ZZZZZZ	7561	176070	35602	9926

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
04:33	ZZZZZZ	7552	175410	35456	9920
04:38	ZZZZZZ	7523	175380	35340	9832
04:43	ZZZZZZ	7537	175540	35162	9909
04:48	ZZZZZZ	7595	176430	35377	9985
04:53	ZZZZZZ	7579	176310	35410	9971
04:58	ZZZZZZ	7650	178710	35615	10107
05:03	MA47520-CCV18	7666	180000	35540	10275
05:09	MA47520-CCB19	7991	190030	35876	11145
05:14	ZZZZZZ	7559	176200	35357	9879
05:19	ZZZZZZ	7631	178340	35395	10105
05:24	ZZZZZZ	7658	178890	35641	10151
05:29	ZZZZZZ	7669	178920	35545	10175
05:34	ZZZZZZ	7496	174350	35450	9801
05:39	ZZZZZZ	7452	172800	35494	9714
05:44	MA47520-CCV19	7678	180720	35388	10303
05:49	MA47520-CCB20	7990	187430	35632	11156
05:54	ZZZZZZ	7990	186440	35681	11156
05:59	ZZZZZZ	7978	187500	35822	11130
06:04	ZZZZZZ	7987	190100	35789	11152
06:09	ZZZZZZ	8006	188920	35775	11178
06:14	ZZZZZZ	7990	187730	35582	11159
06:19	ZZZZZZ	7983	188890	35683	11146
06:24	ZZZZZZ	8002	186440	35592	11164
06:29	ZZZZZZ	7992	188490	35528	11163
08:27	ZZZZZZ	7870	185160	35023	11027
08:32	MA47520-CCV20	7578	175650	34473	10196
08:37	MA47520-CCB21	7903	185590	35311	11064
08:42	ZZZZZZ	6876	158990	33269	8924
08:47	MP17557-MB1	7980	188130	36049	11153
08:52	MP17557-B1	7721	180840	35569	10455
08:57	MP17557-S1	7721	180170	35509	10320
09:03	MP17557-S2	7751	180790	35733	10355
09:08	JC93171-2T	7906	184920	35821	10745

INTERNAL STANDARD SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA47520
Parameters: Ca,Fe,Mg,Mn,K,Na

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
09:13	MP17557-SD1	7950	186720	35541	11023
09:17	ZZZZZZ	7932	185320	35707	10773
09:22	ZZZZZZ	7493	174600	34393	9968
09:28	MA47520-CCV21	7674	179010	34908	10290
09:33	MA47520-CCB22	7983	186260	35284	11130

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			11:59		12:19		13:15		14:07	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8								
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	2.50	<5000	2.80	<5000	1.30	<5000	2.50	<5000
Cerium	100									
Chromium	10	.3	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	4.00	<100	2.60	<100	2.70	<100	4.90	<100
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16	4.80	<5000	-0.800	<5000	-4.90	<5000	1.30	<5000
Manganese	15	.1	0.200	<15	0.200	<15	0.100	<15	0.200	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	16.6	<10000	17.0	<10000	-27.6	<10000	-9.30	<10000
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	-8.00	<10000	-25.8	<10000	-70.8	<10000	-19.5	<10000
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7								
Titanium	10	.5	anr							
Tungsten	50	1.7								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			11:59		12:19		13:15		14:07	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.2	anr							
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			15:03		15:28		16:23		17:24	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8								
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	2.10	<5000	1.00	<5000	1.00	<5000	-3.80	<5000
Cerium	100									
Chromium	10	.3	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	4.50	<100	4.50	<100	3.90	<100	0.00	<100
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16	-1.30	<5000	2.10	<5000	1.30	<5000	-6.10	<5000
Manganese	15	.1	0.200	<15	0.200	<15	0.200	<15	0.100	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	-15.3	<10000	-22.2	<10000	-2.90	<10000	-20.8	<10000
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	-28.5	<10000	-3.30	<10000	-53.0	<10000	-30.6	<10000
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7								
Titanium	10	.5	anr							
Tungsten	50	1.7								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			15:03		15:28		16:23		17:24	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.2	anr							
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			18:15		19:21		20:13		21:14	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8								
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	1.10	<5000	-0.700	<5000	3.40	<5000	0.700	<5000
Cerium	100									
Chromium	10	.3	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	4.10	<100	3.30	<100	8.80	<100	4.40	<100
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16	-0.200	<5000	4.70	<5000	4.50	<5000	1.40	<5000
Manganese	15	.1	0.400	<15	0.700	<15	0.400	<15	0.200	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	620	<10000	81.7	<10000	24.2	<10000	-19.4	<10000
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	4690	<10000	824	<10000	455	<10000	188	<10000
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7								
Titanium	10	.5	anr							
Tungsten	50	1.7								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			18:15		19:21		20:13		21:14	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.2	anr							
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			22:11		23:12		00:12		01:13	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8								
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	3.90	<5000	1.00	<5000	-0.100	<5000	1.20	<5000
Cerium	100									
Chromium	10	.3	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	2.6	6.20	<100	4.10	<100	3.90	<100	4.20	<100
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16	2.70	<5000	-1.00	<5000	0.400	<5000	-0.400	<5000
Manganese	15	.1	0.300	<15	0.200	<15	0.200	<15	0.200	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79	0.00	<10000	-23.0	<10000	-8.90	<10000	-6.40	<10000
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	135	<10000	89.2	<10000	87.2	<10000	186	<10000
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3	anr							
Tin	10	.7								
Titanium	10	.5	anr							
Tungsten	50	1.7								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47520 Units: ug/l

Time:			22:11		23:12		00:12		01:13	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.2	anr							
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47520 Units: ug/l

Time:		12:06	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron			
Cadmium	anr		
Calcium	40000	40000	100.0
Cerium			
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	40000	40000	100.0
Lead	anr		
Lithium			
Magnesium	40000	39700	99.3
Manganese	2000	2040	102.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	40000	39200	98.0
Selenium	anr		
Silicon			
Silver	anr		
Sodium	40000	40100	100.3
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium	anr		
Tungsten			
Vanadium	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47520 Units: ug/l

Time:		12:06	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zinc	anr		
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		11:54			13:10			14:02	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	40000	39000	97.5	40000	39600	99.0	40000	40800	102.0
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	38900	97.3	40000	39500	98.8	40000	40600	101.5
Lead	anr								
Lithium									
Magnesium	40000	38600	96.5	40000	39500	98.8	40000	40400	101.0
Manganese	2000	1990	99.5	2000	2000	100.0	2000	2050	102.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	40000	39300	98.3	40000	38700	96.8	40000	39800	99.5
Selenium	anr								
Silicon									
Silver	anr								
Sodium	40000	40500	101.3	40000	39500	98.8	40000	40500	101.3
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium	anr								
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		11:54			13:10			14:02	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zinc	anr								
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		14:57			15:23			16:18	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	40000	40700	101.8	40000	40400	101.0	40000	40300	100.8
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	40500	101.3	40000	40300	100.8	40000	40400	101.0
Lead	anr								
Lithium									
Magnesium	40000	40300	100.8	40000	40000	100.0	40000	40000	100.0
Manganese	2000	2060	103.0	2000	2050	102.5	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	40000	39700	99.3	40000	39400	98.5	40000	39400	98.5
Selenium	anr								
Silicon									
Silver	anr								
Sodium	40000	40300	100.8	40000	40100	100.3	40000	39900	99.8
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium	anr								
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		14:57			15:23			16:18	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zinc	anr								
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		17:19			18:10			19:16	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	40000	39700	99.3	40000	39700	99.3	40000	39800	99.5
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	39800	99.5	40000	39700	99.3	40000	39900	99.8
Lead	anr								
Lithium									
Magnesium	40000	39700	99.3	40000	39800	99.5	40000	39900	99.8
Manganese	2000	2040	102.0	2000	2010	100.5	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	40000	38800	97.0	40000	39100	97.8	40000	38900	97.3
Selenium	anr								
Silicon									
Silver	anr								
Sodium	40000	39600	99.0	40000	43600	109.0	40000	40200	100.5
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium	anr								
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		17:19			18:10			19:16	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zinc	anr								
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		20:08			21:09			22:06	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	40000	39100	97.8	40000	38600	96.5	40000	38400	96.0
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	39400	98.5	40000	39100	97.8	40000	39000	97.5
Lead	anr								
Lithium									
Magnesium	40000	39200	98.0	40000	38800	97.0	40000	38500	96.3
Manganese	2000	2020	101.0	2000	2050	102.5	2000	2040	102.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	40000	38100	95.3	40000	37700	94.3	40000	37500	93.8
Selenium	anr								
Silicon									
Silver	anr								
Sodium	40000	39500	98.8	40000	39000	97.5	40000	38800	97.0
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium	anr								
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		20:08			21:09			22:06	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zinc	anr								
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		23:06			00:07			01:08	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	40000	38400	96.0	40000	38000	95.0	40000	37900	94.8
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	39000	97.5	40000	38800	97.0	40000	38700	96.8
Lead	anr								
Lithium									
Magnesium	40000	38400	96.0	40000	38100	95.3	40000	38000	95.0
Manganese	2000	2040	102.0	2000	2050	102.5	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	40000	37500	93.8	40000	37200	93.0	40000	37100	92.8
Selenium	anr								
Silicon									
Silver	anr								
Sodium	40000	38500	96.3	40000	38300	95.8	40000	38200	95.5
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium	anr								
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47520 Units: ug/l

Time:		23:06			00:07			01:08	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zinc	anr								
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47520 Units: ug/l

Time:		12:44			12:50	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium				200000	191000	95.5
Cerium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron				200000	187000	93.5
Lead	anr					
Lithium						
Magnesium				300000	290000	96.7
Manganese	8000	8170	102.1			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium				200000	197000	98.5
Selenium	anr					
Silicon						
Silver	anr					
Sodium				200000	201000	100.5
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium	anr					
Tungsten						
Vanadium	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47520 Units: ug/l

Time:		12:44			12:50	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zinc	anr					
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47520 Units: ug/l

Time:				12:24		12:29	
Sample ID:	CRI	CRIA	CRID	CRID1		CRI1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0				
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10				
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	1040	104.0	5120	102.4
Cerium							
Chromium	10		2.0	anr			
Cobalt	50		3.0	anr			
Copper	10		2.0				
Iron	100	500				103	103.0
Lead	3.0	20	2.5				
Lithium	50						
Magnesium	5000	2000	100	97.4	97.4	5140	102.8
Manganese	15		3.0	3.20	106.7	15.7	104.7
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000	1980	99.0	4970	99.4
Selenium	10	20	5.0				
Silicon	200						
Silver	5.0		2.0				
Sodium	5000		1000	1000	100.0	5080	101.6
Strontium	10						
Sulfur	50						
Thallium	10		2.0	anr			
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47520 Units: ug/l

Time:				12:24		12:29	
Sample ID:	CRI	CRIA	CRID	CRID1		CRI1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zinc	20		10	anr			
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47520 Units: ug/l

Time:			12:34		12:39		19:27		19:32	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	505000	101.0	501000	100.2	484000	96.8	496000	99.2
Antimony		1000	0.800		1010	101.0	0.200		999	99.9
Arsenic		1000	1.90		1060	106.0	0.600		1040	104.0
Barium		500	0.400		516	103.2	0.200		500	100.0
Beryllium		500	-0.400		505	101.0	-0.300		494	98.8
Bismuth		500	-5.70		506	101.2	-5.60		500	100.0
Boron		500	-1.70		490	98.0	-5.30		481	96.2
Cadmium		1000	0.300		1010	101.0	0.300		997	99.7
Calcium	400000	400000	397000	99.3	383000	95.8	380000	95.0	376000	94.0
Cerium			25.3		10.7		24.2		6.00	
Chromium		500	1.00		488	97.6	0.800		480	96.0
Cobalt		500	-0.300		487	97.4	-0.400		480	96.0
Copper		500	2.70		512	102.4	2.10		501	100.2
Iron	200000	200000	198000	99.0	188000	94.0	193000	96.5	185000	92.5
Lead		1000	1.30		910	91.0	-2.20		899	89.9
Lithium		500	-8.70		524	104.8	-7.50		507	101.4
Magnesium	500000	500000	505000	101.0	502000	100.4	497000	99.4	496000	99.2
Manganese		500	0.00		506	101.2	0.200		505	101.0
Molybdenum		500	2.20		490	98.0	2.30		481	96.2
Nickel		1000	0.600		962	96.2	0.100		956	95.6
Phosphorus		500	-12.1		469	93.8	-11.5		463	92.6
Potassium			142		162		314		304	
Selenium		1000	-0.400		995	99.5	-0.600		981	98.1
Silicon		500	8.90		504	100.8	9.00		501	100.2
Silver		1000	-1.00		1030	103.0	-1.30		1020	102.0
Sodium			98.1		85.1		1590		1520	
Strontium		500	-2.20		515	103.0	-2.00		506	101.2
Sulfur		500	17.5		499	99.8	178*		624	124.8*
Thallium		1000	0.00		967	96.7	3.00		963	96.3
Tin		500	-1.20		468	93.6	-1.20		462	92.4
Titanium		500	-1.00		506	101.2	-1.00		504	100.8
Tungsten		500	1.90		474	94.8	-0.500		463	92.6
Vanadium		500	1.50		492	98.4	1.00		490	98.0

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: SC092619M1.ICP Date Analyzed: 09/26/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47520 Units: ug/l

Time:			12:34		12:39		19:27		19:32	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zinc		1000	3.30		951	95.1	3.70		943	94.3
Zirconium		500	1.90		512	102.4	1.70		507	101.4

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	77		
Antimony	6.0	1.4	4.1		
Arsenic	3.0	1.5	2.5		
Barium	200	.5	17		
Beryllium	1.0	.1	.5		
Bismuth	20	1.8	4.8		
Boron	100	.8	85		
Cadmium	3.0	.3	1.2		
Calcium	5000	3.9	130	1.2	<5000
Cerium	100				
Chromium	10	.3	1.5		
Cobalt	50	.3	2.5		
Copper	10	.6	4.1		
Iron	100	2.6	30	-0.10	<100
Lead	3.0	1.6	2.4		
Lithium	50	2.1	9.1		
Magnesium	5000	16	200	-2.1	<5000
Manganese	15	.1	2	0.0	<15
Molybdenum	20	.4	4.5		
Nickel	10	.5	1.8		
Phosphorus	50	1.9	14		
Potassium	10000	79	200	-59	<10000
Selenium	10	3	5.5		
Silicon	200	1.2	130		
Silver	10	.5	2.4		
Sodium	10000	9.9	900	3.7	<10000
Strontium	10	.3	1.6		
Sulfur	50	3.5	18		
Thallium	10	1.3	1.9		
Tin	50	.7	4.7		
Titanium	10	.5	1.9		
Tungsten	50	1.7	19		
Vanadium	50	.5	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.2	8.5		
Zirconium	10	.3	4.9		

Associated samples MP17533: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original	MS	Spikelot MPEPA200.7	% Rec	QC Limits
Aluminum	anr				
Antimony					
Arsenic	anr				
Barium					
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	16900	40600	25000	94.8	70-130
Cerium					
Chromium	anr				
Cobalt					
Copper	anr				
Iron	5450	29900	25000	97.8	70-130
Lead	anr				
Lithium					
Magnesium	3710	27800	25000	96.4	70-130
Manganese	27.8	2050	2000	101.1	70-130
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium	2060	25800	25000	95.0	70-130
Selenium	anr				
Silicon					
Silver	anr				
Sodium	23800	47500	25000	94.8	70-130
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533 Methods: EPA 200.7
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original MS	Spikelot MPEPA200.7% Rec	QC Limits
Zinc	anr		
Zirconium			

Associated samples MP17533: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original	MSD	Spikelot MPEPA200.7	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony						
Arsenic	anr					
Barium						
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	16900	40600	25000	94.8	0.0	10
Cerium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron	5450	29900	25000	97.8	0.0	10
Lead	anr					
Lithium						
Magnesium	3710	27700	25000	96.0	0.4	10
Manganese	27.8	2060	2000	101.6	0.5	10
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium	2060	25800	25000	95.0	0.0	10
Selenium	anr					
Silicon						
Silver	anr					
Sodium	23800	47500	25000	94.8	0.0	17
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533 Methods: EPA 200.7
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original MSD	Spikelot MPEPA200.7% Rec	MSD RPD	QC Limit
Zinc	anr			
Zirconium				

Associated samples MP17533: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	BSP Result	Spikelot MPEPA200.7	% Rec	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium				
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	24500	25000	98.0	85-115
Cerium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron	25000	25000	100.0	85-115
Lead	anr			
Lithium				
Magnesium	24700	25000	98.8	85-115
Manganese	2070	2000	103.5	85-115
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	24000	25000	96.0	85-115
Selenium	anr			
Silicon				
Silver	anr			
Sodium	24800	25000	99.2	85-115
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533 Methods: EPA 200.7
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/26/19

Metal	BSP Result	Spikelot MPEPA200.7	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP17533: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium				
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	16900	17100	1.3	0-10
Cerium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron	5450	5550	1.8	0-10
Lead	anr			
Lithium				
Magnesium	3710	3750	1.3	0-10
Manganese	27.8	28.3	1.8	0-10
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	2060	2030	1.4	0-10
Selenium	anr			
Silicon				
Silver	anr			
Sodium	23800	24600	3.3	0-10
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

QC Batch ID: MP17533
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/26/19

Metal	JC95316-1 Original SDL 1:5	%DIF	QC Limits
Zinc	anr		
Zirconium			

Associated samples MP17533: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC95316
Account: INTCWAO Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

Instrument ID: SSTRACE3 **Effective Date:** 02/18/19

Analyte	IDL ug/l
Aluminum	14.3
Antimony	1.4
Arsenic	1.5
Barium	.5
Beryllium	.1
Bismuth	1.8
Boron	.8
Cadmium	.3
Calcium	3.9
Chromium	.3
Cobalt	.3
Copper	.6
Iron	2.6
Lead	1.6
Lithium	2.1
Magnesium	16.3
Manganese	.1
Molybdenum	.4
Nickel	.5
Phosphorus	1.9
Potassium	79
Selenium	3
Silicon	1.2
Silver	.5
Sodium	9.9
Sulfur	3.5
Strontium	.3
Thallium	1.3
Tin	.7
Titanium	.5
Tungsten	1.7
Vanadium	.5
Yttrium	5
Zinc	.2
Zirconium	.3

The above applies to the following instrument runs:
MA47520

Instrument Linear Ranges

Job Number: JC95316
Account: INTCWAO Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

Instrument ID: SSTRACE3 **Effective Date:** 08/22/19

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Cerium	8000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA47520

Metals Analysis

Raw Data

Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 9/26/2019 11:33:19 Type: Cal
Method: SGS 3 NO Valve(v244) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0091**	**-.0013**	**.0003**	**.0000**	**-.0000**	**.0029**	**-.0000**	**.0000**	**-.0004**
Stddev	.0001	.0001	.0001	.0001	.0000	.0001	.0000	.0001	.0000
%RSD	1.383	6.321	22.20	942.4	134.1	1.900	280.8	761.3	2.450
#1	.0092	-.0013	.0003	.0001	-.0001	.0029	-.0001	.0002	-.0004
#2	.0089	-.0014	.0004	.0001	-.0000	.0030	-.0000	-.0001	-.0004
#3	.0091	-.0013	.0003	-.0001	-.0000	.0029	.0000	-.0001	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0003**	**.0005**	**-.0004**	**-.0001**	**.0003**	**.0001**	**.0003**	**.0004**	**.0087**
Stddev	.0000	.0001	.0001	.0000	.0001	.0001	.0001	.0003	.0001
%RSD	12.06	23.61	24.18	60.97	46.98	139.9	36.85	57.56	1.463
#1	.0003	.0003	-.0004	-.0001	.0001	.0001	.0004	.0004	.0086
#2	.0004	.0006	-.0003	-.0001	.0003	.0001	.0002	.0002	.0088
#3	.0003	.0005	-.0005	-.0000	.0004	-.0000	.0002	.0007	.0087

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0003**	**-.0001**	**-.0008**	**.0055**	**.0009**	**.0003**	**.0012**	**.0003**	**-.0013**
Stddev	.0000	.0001	.0005	.0004	.0001	.0001	.0001	.0000	.0004
%RSD	14.96	203.7	68.22	6.916	9.160	38.55	8.836	12.17	28.67
#1	.0002	-.0002	-.0007	.0058	.0009	.0003	.0013	.0002	-.0016
#2	.0003	-.0001	-.0014	.0051	.0009	.0004	.0012	.0003	-.0009
#3	.0003	.0001	-.0003	.0058	.0008	.0002	.0011	.0003	-.0015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0011**	**-.0003**	**-.0020**	**-.0000**	**.0014**	**-.0117**	**.0006**
Stddev	.0001	.0003	.0000	.0001	.0002	.0003	.0000	.0001
%RSD	89.35	29.83	8.519	7.102	3658.	23.78	.3041	12.32
#1	.0000	.0008	-.0003	-.0022	-.0002	.0012	-.0117	.0006
#2	.0001	.0012	-.0003	-.0019	.0003	.0012	-.0117	.0005
#3	.0000	.0014	-.0003	-.0020	-.0001	.0018	-.0117	.0006

◀ Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 9/26/2019 11:33:19 Type: Cal
Method: SGS 3 NO Valve(v244) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184630.**	**34912.**	**7872.0**	**10717.**
Stddev	962.	180.	7.2	9.
%RSD	.52114	.51469	.09107	.08415
#1	183630.	35095.	7863.8	10708.
#2	185550.	34906.	7877.0	10717.
#3	184720.	34736.	7875.2	10726.

◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 9/26/2019 11:38:16 Type: Cal
Method: SGS 3 NO Valve(v244) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**8.197**	**14.10**	**4.913**	**3.270**	**.6881**	**1.172**	**3.637**	**2.717**	**.0841**
Stddev	.095	.10	.007	.005	.0008	.001	.006	.003	.0002
%RSD	1.164	.7403	.1459	.1647	.1177	.0688	.1794	.0919	.1965
#1	8.279	13.98	4.911	3.266	.6887	1.173	3.644	2.716	.0841
#2	8.220	14.17	4.907	3.267	.6872	1.172	3.633	2.715	.0839
#3	8.093	14.17	4.921	3.276	.6885	1.171	3.633	2.720	.0842

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.9273**	**6.981**	**.5641**	**.4302**	**1.243**	**.4454**	**.7110**	**3.717**	**10.14**
Stddev	.0017	.008	.0009	.0005	.000	.0012	.0011	.008	.04
%RSD	.1813	.1155	.1521	.1209	.0258	.2744	.1515	.2089	.4097
#1	.9291	6.982	.5635	.4296	1.242	.4448	.7099	3.725	10.10
#2	.9258	6.972	.5637	.4305	1.243	.4446	.7110	3.716	10.18
#3	.9270	6.987	.5651	.4305	1.243	.4468	.7121	3.710	10.13

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.288**	**1.110**	**1.858**	**6.718**	**1.114**	**3.728**	**2.422**	**1.147**	**14.84**
Stddev	.005	.001	.004	.105	.002	.006	.003	.002	.29
%RSD	.0785	.1230	.2295	1.556	.2125	.1631	.1362	.1851	1.923
#1	6.294	1.110	1.863	6.686	1.113	3.725	2.419	1.145	14.58
#2	6.287	1.112	1.855	6.834	1.113	3.723	2.423	1.147	14.78
#3	6.284	1.109	1.856	6.632	1.117	3.735	2.425	1.149	15.15

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.7611**	**1.775**	**2.248**	**.2900**	**.7785**	**2.083**	**.6750**	**.1595**
Stddev	.0008	.003	.018	.0002	.0017	.005	.0007	.0003
%RSD	.0998	.1387	.7809	.0780	.2206	.2481	.1034	.1586
#1	.7616	1.772	2.254	.2899	.7767	2.089	.6744	.1598
#2	.7602	1.775	2.228	.2899	.7787	2.081	.6747	.1595
#3	.7614	1.777	2.262	.2903	.7802	2.079	.6757	.1593

◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 9/26/2019 11:38:16 Type: Cal
Method: SGS 3 NO Valve(v244) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172920.**	**34000.**	**7361.3**	**9679.1**
Stddev	287.	189.	7.5	8.7
%RSD	.16576	.55464	.10141	.08971
#1	172930.	34075.	7356.6	9673.2
#2	173200.	33785.	7369.9	9689.1
#3	172630.	34139.	7357.4	9675.1

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 9/26/2019 11:43:57 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.036**	**2.041**	**2.003**	**2.048**	**2.028**	**2.002**	**2.050**	**2.056**	**.2474**
Stddev	.003	.025	.002	.000	.002	.004	.015	.001	.0006
%RSD	.1238	1.219	.1004	.0016	.1062	.2210	.7301	.0385	.2407
#1	2.039	2.063	2.001	2.048	2.027	2.003	2.036	2.057	.2477
#2	2.034	2.014	2.002	2.048	2.030	2.006	2.066	2.056	.2477
#3	2.036	2.045	2.005	2.048	2.026	1.998	2.048	2.056	.2467
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.021**	**2.039**	**1.996**	**2.087**	**2.062**	**2.011**	**1.992**	**39.37**	**40.13**
Stddev	.002	.002	.004	.004	.003	.004	.006	.08	.10
%RSD	.0887	.0797	.1877	.2030	.1387	.2188	.2858	.1928	.2489
#1	2.021	2.038	1.996	2.091	2.064	2.008	1.990	39.45	40.25
#2	2.023	2.040	1.992	2.082	2.058	2.010	1.988	39.30	40.05
#3	2.019	2.041	1.999	2.087	2.063	2.016	1.999	39.35	40.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.06**	**39.81**	**39.39**	**40.16**	**2.031**	**2.012**	**5.012**	**2.037**	**2.040**
Stddev	.10	.13	.11	.09	.003	.003	.006	.003	.052
%RSD	.2575	.3193	.2794	.2355	.1536	.1404	.1268	.1401	2.541
#1	40.18	39.96	39.47	40.27	2.028	2.009	5.008	2.034	2.091
#2	40.01	39.73	39.26	40.10	2.032	2.013	5.009	2.040	1.988
#3	39.99	39.75	39.43	40.11	2.034	2.014	5.020	2.037	2.042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 9/26/2019 11:43:57 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.016**	**1.972**	**2.021**	**1.988**	**1.991**	**2.002**	**1.999**	**2.003**
Stddev	.002	.003	.001	.002	.002	.004	.004	.003
%RSD	.0820	.1633	.0625	.0993	.1196	.1932	.2232	.1420
#1	2.018	1.969	2.022	1.990	1.988	2.007	1.994	2.003
#2	2.015	1.974	2.022	1.986	1.992	2.000	2.001	2.005
#3	2.016	1.974	2.020	1.989	1.993	2.000	2.003	2.000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177620.**	**34422.**	**7613.1**	**9949.7**
Stddev	211.	298.	5.6	4.2
%RSD	.11866	.86625	.07321	.04187
#1	177550.	34080.	7618.4	9948.4
#2	177460.	34625.	7613.5	9954.3
#3	177860.	34562.	7607.3	9946.2

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 9/26/2019 11:49:01 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0002**	**.0003**	**.0004**	**.0005**	**.0006**	**.0003**	**.0001**	**-.0002**
Stddev	.0001	.0000	.0000	.0000	.0002	.0002	.0000	.0002	.0002
%RSD	274.3	27.77	15.35	7.904	29.89	29.39	7.123	134.3	110.7
#1	.0001	.0001	.0003	.0004	.0004	.0004	.0003	.0000	.0000
#2	-.0001	.0002	.0003	.0004	.0007	.0005	.0004	.0003	-.0003
#3	-.0001	.0002	.0003	.0004	.0005	.0007	.0003	.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0001**	**.0001**	**.0006**	**.0001**	**.0007**	**-.0001**	**.0000**	**.0023**
Stddev	.0002	.0001	.0004	.0008	.0002	.0003	.0005	.0056	.0019
%RSD	128.2	54.57	335.7	144.7	250.4	48.37	341.2	40500.	83.28
#1	.0003	.0001	.0004	.0015	.0002	.0008	-.0002	-.0057	.0016
#2	-.0001	.0000	.0002	.0002	-.0002	.0003	.0004	.0003	.0008
#3	.0002	.0002	-.0003	.0000	.0002	.0010	-.0006	.0055	.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**-.0028**	**.0010**	**-.0180**	**.0021**	**.0006**	**.0014**	**.0006**	**.0002**
Stddev	.0003	.0046	.0268	.0044	.0001	.0002	.0008	.0001	.0001
%RSD	13.15	165.2	2805.	24.53	5.262	31.19	55.14	19.00	69.60
#1	.0024	-.0065	.0060	-.0144	.0022	.0007	.0005	.0006	.0001
#2	.0020	.0023	-.0280	-.0167	.0020	.0008	.0018	.0006	.0001
#3	.0026	-.0041	.0249	-.0229	.0020	.0004	.0020	.0004	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 9/26/2019 11:49:01 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0000**	**.0002**	**-.0001**	**.0006**	**.0008**	**.0006**	**.0009**
Stddev	.0001	.0006	.0001	.0010	.0008	.0007	.0002	.0012
%RSD	21.22	2410.	30.99	1310.	135.1	94.49	29.79	123.5
#1	.0005	.0005	.0001	-.0012	.0014	.0016	.0007	.0016
#2	.0004	-.0006	.0002	.0009	.0006	.0001	.0004	-.0004
#3	.0006	.0002	.0003	.0001	-.0002	.0007	.0006	.0017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186620.**	**34985.**	**7917.8**	**10767.**
Stddev	691.	144.	3.4	12.
%RSD	.36999	.41128	.04290	.11228
#1	185940.	34827.	7921.6	10777.
#2	187320.	35107.	7916.7	10771.
#3	186620.	35022.	7915.1	10753.

Zoom In Zoom Out

Sample Name: ICV 1 Acquired: 9/26/2019 11:54:01 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.037**	**2.082**	**1.984**	**1.967**	**1.983**	**1.986**	**1.987**	**2.009**
Stddev	.010	.037	.003	.004	.006	.002	.005	.003
%RSD	.4691	1.756	.1598	.2161	.3214	.0864	.2725	.1241
#1	2.034	2.113	1.987	1.968	1.990	1.987	1.994	2.010
#2	2.048	2.091	1.984	1.970	1.981	1.988	1.984	2.011
#3	2.030	2.041	1.980	1.962	1.978	1.985	1.985	2.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2456**	**2.039**	**1.975**	**1.966**	**2.048**	**1.948**	**2.007**	**1.954**
Stddev	.0001	.003	.002	.001	.003	.005	.005	.007
%RSD	.0384	.1337	.1210	.0341	.1668	.2500	.2332	.3501
#1	.2457	2.041	1.977	1.966	2.050	1.952	2.010	1.950
#2	.2455	2.040	1.974	1.967	2.049	1.951	2.010	1.962
#3	.2456	2.036	1.972	1.967	2.044	1.943	2.002	1.949
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.79**	**38.98**	**38.89**	**38.56**	**39.28**	**40.45**	**2.020**	**1.960**
Stddev	.17	.15	.11	.08	.18	.08	.004	.003
%RSD	.4198	.3756	.2939	.1983	.4494	.1923	.2062	.1547
#1	39.67	38.91	38.82	38.53	39.21	40.41	2.024	1.961
#2	39.98	39.15	39.02	38.65	39.48	40.53	2.021	1.963
#3	39.71	38.89	38.82	38.50	39.16	40.39	2.015	1.957
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Zoom In Zoom Out

Sample Name: ICV 1 Acquired: 9/26/2019 11:54:01 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.895**	**1.973**	**1.997**	**1.992**	F **1.859**	**1.969**	**1.957**	**1.986**
Stddev	.007	.003	.013	.003	.005	.002	.008	.004
%RSD	.1401	.1336	.6670	.1313	.2447	.1100	.3865	.2094
#1	4.901	1.976	2.010	1.991	1.854	1.969	1.957	1.986
#2	4.895	1.972	1.983	1.994	1.861	1.971	1.964	1.990
#3	4.887	1.971	1.998	1.989	1.863	1.967	1.949	1.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					2.000			
Range					-5.000%			

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**2.054**	**1.926**	F **-.0529**
Stddev	.008	.003	.0009
%RSD	.3911	.1422	1.609
#1	2.049	1.928	-.0524
#2	2.064	1.927	-.0539
#3	2.050	1.923	-.0524
Check ?	Chk Pass	Chk Pass	Chk Fail
Value			2.000
Range			-5.000%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177010.**	**34351.**	**7598.6**	**9937.1**
Stddev	1197.	162.	11.1	10.8
%RSD	.67619	.47254	.14662	.10875
#1	175650.	34501.	7588.0	9924.6
#2	177480.	34179.	7610.2	9942.9
#3	177910.	34373.	7597.7	9943.7

Zoom In Zoom Out

Sample Name: ICB 7 Acquired: 9/26/2019 11:59:06 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0002**	**.0003**	**.0002**	**.0001**	**.0001**	**.0002**	**-.0000**	**-.0004**
Stddev	.0001	.0000	.0002	.0001	.0002	.0002	.0001	.0001	.0002
%RSD	14.93	24.46	58.54	36.56	229.7	160.1	34.36	613.7	43.93
#1	.0004	.0002	.0002	.0002	.0002	.0003	.0001	-.0001	-.0003
#2	.0005	.0002	.0002	.0002	.0003	-.0001	.0002	.0001	-.0006
#3	.0004	.0002	.0005	.0001	-.0002	.0002	.0001	-.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0000**	**.0005**	**.0003**	**.0002**	**-.0007**	**.0011**	**.0040**	**.0025**
Stddev	.0001	.0000	.0004	.0003	.0004	.0005	.0011	.0010	.0009
%RSD	23.29	99.86	70.83	85.55	250.1	70.94	105.6	26.11	35.35
#1	.0004	-.0001	.0009	.0007	-.0002	-.0011	.0011	.0028	.0015
#2	.0006	.0000	.0002	.0003	.0006	-.0009	-.0000	.0045	.0033
#3	.0004	-.0000	.0004	.0001	.0001	-.0001	.0023	.0047	.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0048**	**.0166**	**-.0080**	**.0015**	**.0004**	**.0001**	**.0001**	**.0002**
Stddev	.0009	.0023	.0093	.0052	.0006	.0001	.0003	.0003	.0000
%RSD	22.57	47.74	56.14	64.40	40.34	23.08	322.8	400.4	19.68
#1	.0050	.0042	.0223	-.0056	.0018	.0005	.0005	-.0000	.0002
#2	.0036	.0029	.0217	-.0139	.0019	.0005	-.0000	.0003	.0003
#3	.0033	.0074	.0058	-.0045	.0008	.0003	-.0001	-.0001	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICB 7 Acquired: 9/26/2019 11:59:06 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	F **.0139**	F **.0010**	**.0009**	**.0010**	**.0008**	**.0001**	**.0007**
Stddev	.0001	.0017	.0000	.0006	.0015	.0007	.0004	.0012
%RSD	23.80	12.43	1.273	68.75	161.9	86.22	236.7	160.7
#1	.0004	.0158	.0010	.0010	-.0006	.0000	-.0002	-.0005
#2	.0003	.0137	.0010	.0013	.0010	.0012	.0002	.0009
#3	.0006	.0123	.0010	.0002	.0025	.0012	.0005	.0019
Check ?	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0050	.0010					
Low Limit		-.0050	-.0010					

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182890.**	**34562.**	**7868.8**	**10713.**
Stddev	921.	154.	8.2	9.
%RSD	.50365	.44673	.10370	.08695
#1	183060.	34384.	7861.8	10707.
#2	183720.	34657.	7867.0	10709.
#3	181900.	34646.	7877.8	10724.

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 9/26/2019 12:06:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.023**	**2.026**	**1.995**	**2.039**	**2.018**	**1.997**	**2.041**	**2.045**	**.2475**
Stddev	.005	.025	.002	.001	.005	.003	.012	.001	.0006
%RSD	.2451	1.238	.0972	.0636	.2602	.1404	.5915	.0581	.2565
#1	2.020	2.051	1.994	2.038	2.016	1.998	2.025	2.044	.2474
#2	2.022	1.992	1.997	2.040	2.023	2.001	2.053	2.044	.2484
#3	2.021	2.024	1.992	2.039	2.020	1.997	2.047	2.045	.2473
#4	2.031	2.037	1.995	2.041	2.011	1.994	2.039	2.047	.2469
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.011**	**2.033**	**1.986**	**2.075**	**2.053**	**2.005**	**1.985**	**39.17**	**39.96**
Stddev	.004	.004	.003	.005	.002	.002	.002	.10	.07
%RSD	.1779	.2205	.1475	.2215	.1049	.1044	.0785	.2600	.1673
#1	2.010	2.032	1.982	2.068	2.055	2.002	1.987	39.17	39.96
#2	2.015	2.038	1.988	2.076	2.055	2.007	1.986	39.14	39.94
#3	2.011	2.028	1.987	2.075	2.052	2.004	1.984	39.06	39.90
#4	2.007	2.035	1.988	2.079	2.051	2.005	1.984	39.31	40.05
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 9/26/2019 12:06:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.97**	**39.73**	**39.16**	**40.06**	**2.022**	**2.013**	**4.991**	**2.032**	**2.024**
Stddev	.09	.06	.06	.07	.001	.003	.004	.004	.032
%RSD	.2134	.1450	.1612	.1772	.0409	.1225	.0885	.2118	1.588
#1	39.91	39.79	39.13	39.99	2.021	2.011	4.985	2.031	2.034
#2	39.98	39.70	39.13	40.14	2.022	2.016	4.996	2.038	2.053
#3	39.91	39.66	39.13	40.02	2.022	2.012	4.992	2.028	1.978
#4	40.09	39.76	39.26	40.11	2.023	2.013	4.991	2.031	2.033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.012**	**1.975**	**2.016**	**1.978**	**1.987**	**1.983**	**1.995**	**1.990**
Stddev	.003	.004	.003	.003	.005	.006	.002	.007
%RSD	.1435	.1853	.1270	.1327	.2425	.2804	.1079	.3630
#1	2.013	1.974	2.016	1.980	1.985	1.980	1.994	1.984
#2	2.015	1.981	2.018	1.979	1.990	1.984	1.999	1.997
#3	2.011	1.973	2.016	1.974	1.992	1.978	1.994	1.995
#4	2.009	1.974	2.012	1.980	1.982	1.991	1.994	1.984
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 9/26/2019 12:06:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178020.**	**34511.**	**7618.7**	**9968.3**
Stddev	617.	175.	20.3	16.0
%RSD	.34678	.50754	.26585	.16039
#1	178040.	34252.	7630.4	9983.9
#2	177400.	34634.	7593.6	9952.2
#3	177800.	34566.	7639.0	9980.1
#4	178860.	34592.	7611.6	9957.1

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 9/26/2019 12:19:36 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0002**	**.0002**	**.0003**	**.0003**	**.0002**	**.0002**	**.0002**	**-.0002**
Stddev	.0002	.0000	.0001	.0001	.0002	.0003	.0000	.0001	.0002
%RSD	146.8	17.39	48.90	23.51	61.85	178.3	22.64	58.41	93.21
#1	.0001	.0002	.0001	.0002	.0002	-.0001	.0002	.0003	-.0003
#2	-.0001	.0002	.0002	.0003	.0005	.0005	.0002	.0001	-.0003
#3	.0003	.0002	.0001	.0004	.0002	.0001	.0001	.0003	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0000**	**.0003**	**.0001**	**-.0001**	**.0000**	**-.0000**	**.0048**	**.0028**
Stddev	.0001	.0000	.0005	.0002	.0012	.0014	.0006	.0033	.0004
%RSD	88.88	70.46	194.8	178.0	1247.	3635.	2050.	68.94	14.34
#1	-.0000	-.0001	.0008	.0003	-.0013	.0013	-.0003	.0042	.0030
#2	.0001	-.0000	-.0000	-.0000	.0010	-.0015	.0006	.0085	.0023
#3	.0001	-.0000	-.0001	.0000	-.0000	.0003	-.0004	.0019	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**-.0008**	**.0170**	**-.0258**	**.0018**	**.0003**	**-.0000**	**-.0002**	**.0003**
Stddev	.0013	.0073	.0177	.0041	.0005	.0002	.0007	.0000	.0000
%RSD	51.23	967.3	104.0	16.02	30.41	62.50	13490.	11.17	13.50
#1	.0028	.0070	.0369	-.0305	.0024	.0004	-.0007	-.0002	.0003
#2	.0012	-.0074	.0032	-.0241	.0014	.0005	.0007	-.0002	.0003
#3	.0039	-.0019	.0109	-.0228	.0015	.0001	-.0000	-.0002	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 9/26/2019 12:19:36 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0014**	**.0002**	**.0012**	**.0012**	**.0003**	**.0003**	**.0023**
Stddev	.0003	.0004	.0000	.0005	.0011	.0006	.0007	.0010
%RSD	104.0	30.35	17.97	44.30	91.74	239.8	273.5	43.03
#1	.0006	.0018	.0002	.0010	.0006	-.0002	.0010	.0021
#2	-.0000	.0012	.0002	.0008	.0024	.0010	.0001	.0014
#3	.0004	.0010	.0002	.0018	.0005	-.0000	-.0004	.0033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184870.**	**34527.**	**7871.1**	**10716.**
Stddev	210.	139.	13.8	23.
%RSD	.11357	.40247	.17550	.21286
#1	184670.	34484.	7856.5	10693.
#2	184850.	34683.	7872.8	10718.
#3	185080.	34416.	7883.9	10739.

Zoom In Zoom Out

Sample Name: CRID Acquired: 9/26/2019 12:24:20 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**.0010**	**.0010**	**.0033**	**.0020**	F **.0000**	**.0032**	**.0041**
Stddev	.0001	.0000	.0000	.0001	.0002	.0002	.0001	.0001
%RSD	1.863	3.504	1.044	4.173	9.553	1454.	2.227	2.926
#1	.0040	.0010	.0010	.0034	.0022	.0002	.0033	.0041
#2	.0041	.0010	.0010	.0032	.0018	-.0001	.0031	.0041
#3	.0040	.0011	.0010	.0034	.0020	-.0001	.0032	.0039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value						.0020		
Range						-20.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0003**	**.0019**	**.0106**	**.0029**	**.0023**	F **-.0004**	F **.0038**	F **.0008**
Stddev	.0002	.0002	.0001	.0004	.0001	.0007	.0005	.0009
%RSD	85.84	8.190	1.285	14.67	4.381	167.1	14.26	109.4
#1	-.0002	.0020	.0105	.0032	.0022	-.0008	.0032	.0001
#2	-.0000	.0018	.0107	.0024	.0024	.0004	.0042	.0018
#3	-.0005	.0017	.0106	.0030	.0023	-.0008	.0039	.0005
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail
Value	.0020					.0025	.0050	.0030
Range	-20.00%					-20.00%	-20.00%	-20.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1015**	**1.036**	**.0041**	**.0974**	**1.981**	**.9997**	**.0009**	**-.0000**
Stddev	.0037	.002	.0005	.0101	.023	.0073	.0004	.0001
%RSD	3.606	.1879	11.63	10.37	1.168	.7273	45.99	508.9
#1	.1052	1.036	.0039	.0858	1.969	1.006	.0005	.0001
#2	.1016	1.034	.0047	.1020	2.008	1.002	.0014	.0000
#3	.0979	1.038	.0038	.1044	1.967	.9915	.0009	-.0002
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Zoom In Zoom Out

Sample Name: CRID Acquired: 9/26/2019 12:24:20 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0012**	**.0000**	**.0000**	**.0005**	**.0000**	**.0054**	**-.0003**
Stddev	.0004	.0001	.0001	.0002	.0002	.0002	.0008	.0009
%RSD	27.83	8.855	127.1	1722.	39.94	2345.	14.70	353.4
#1	.0020	.0011	.0001	.0001	.0005	-.0002	.0056	-.0003
#2	.0012	.0013	.0001	-.0002	.0006	.0003	.0061	-.0012
#3	.0014	.0012	-.0000	.0002	.0003	-.0001	.0046	.0007
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0005**	**.0003**	**.0002**
Stddev	.0012	.0003	.0008
%RSD	262.4	117.4	378.1
#1	.0002	.0006	.0008
#2	.0003	.0002	-.0007
#3	-.0018	.0000	.0005
Check ?	None	None	None
Value			
Range			

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185010.**	**34829.**	**7883.0**	**10696.**
Stddev	1519.	149.	7.7	15.
%RSD	.82074	.42657	.09805	.13894
#1	183690.	34957.	7875.1	10681.
#2	184680.	34666.	7890.6	10695.
#3	186670.	34864.	7883.4	10711.

Zoom In Zoom Out

Sample Name: CRI Acquired: 9/26/2019 12:29:19 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2028**	**.0020**	**.0030**	**.0513**	**.0105**	**.0096**	**.0157**	**.0101**	**.0049**
Stddev	.0007	.0000	.0001	.0002	.0000	.0002	.0000	.0002	.0001
%RSD	.3646	1.484	3.621	.2929	.4181	1.668	.1166	2.415	1.895
#1	.2034	.0020	.0031	.0514	.0105	.0094	.0157	.0102	.0049
#2	.2029	.0020	.0029	.0512	.0105	.0098	.0157	.0099	.0049
#3	.2020	.0020	.0030	.0514	.0104	.0096	.0157	.0103	.0050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0502**	**.0210**	**.0078**	**.0107**	**.0026**	**.0095**	**.0059**	**.2029**	**5.120**
Stddev	.0003	.0000	.0010	.0001	.0001	.0008	.0008	.0022	.014
%RSD	.6123	.2165	12.15	1.282	3.525	8.676	12.64	1.099	.2650
#1	.0501	.0210	.0076	.0107	.0027	.0099	.0058	.2043	5.130
#2	.0499	.0209	.0089	.0105	.0027	.0101	.0053	.2042	5.126
#3	.0505	.0210	.0070	.0108	.0025	.0086	.0067	.2004	5.105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1029**	**5.135**	**4.968**	**5.082**	**.1014**	**.0207**	**.2120**	**.0111**	**.0102**
Stddev	.0008	.011	.018	.001	.0002	.0002	.0004	.0001	.0001
%RSD	.7488	.2103	.3603	.0109	.2169	.9454	.1929	.9056	1.014
#1	.1036	5.134	4.983	5.082	.1016	.0209	.2115	.0112	.0101
#2	.1031	5.147	4.948	5.081	.1012	.0207	.2124	.0110	.0103
#3	.1021	5.125	4.972	5.082	.1014	.0205	.2120	.0111	.0103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CRI Acquired: 9/26/2019 12:29:19 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0103**	**.0498**	**.0115**	**.0534**	**.0209**	**.0535**	**.0497**	**.0018**
Stddev	.0004	.0001	.0001	.0018	.0005	.0006	.0002	.0017
%RSD	4.192	.2890	.7580	3.307	2.402	1.185	.3546	98.47
#1	.0099	.0497	.0116	.0553	.0212	.0531	.0496	-.0000
#2	.0107	.0499	.0116	.0518	.0211	.0542	.0499	.0034
#3	.0101	.0499	.0114	.0532	.0203	.0532	.0496	.0018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183740.**	**34922.**	**7816.1**	**10537.**
Stddev	397.	118.	8.3	12.
%RSD	.21617	.33685	.10643	.11388
#1	183580.	34907.	7815.4	10533.
#2	184190.	34812.	7824.7	10551.
#3	183450.	35046.	7808.1	10528.

Zoom In
Zoom Out

Sample Name: ICSA Acquired: 9/26/2019 12:34:08 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0004**	**.0003**	**-.0003**	**.0010**	**.0027**	**-.0000**	**.0006**	**-.0010**
Stddev	.0001	.0001	.0000	.0001	.0001	.0000	.0000	.0003	.0005
%RSD	23.94	18.84	14.92	39.03	5.475	1.666	88.17	50.20	53.63
#1	.0005	-.0004	.0003	-.0002	.0010	.0026	-.0001	.0009	-.0004
#2	.0003	-.0003	.0004	-.0002	.0009	.0027	-.0000	.0004	-.0014
#3	.0004	-.0005	.0003	-.0004	.0010	.0027	-.0000	.0004	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0033**	**.0019**	**.0000**	**.0013**	**-.0004**	**.0008**	**505.3**	**396.9**
Stddev	.0002	.0001	.0017	.0016	.0022	.0010	.0000	3.5	7.4
%RSD	12.75	2.159	92.37	4073.	175.9	245.0	2.785	.7010	1.858
#1	.0013	.0033	-.0001	.0019	.0009	-.0007	.0008	505.1	395.4
#2	.0016	.0034	.0027	-.0005	-.0008	.0007	.0008	501.8	390.4
#3	.0016	.0032	.0030	-.0012	.0036	-.0012	.0008	508.9	405.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**197.5**	**504.8**	**.1419**	**.0981**	**-.0017**	**.0022**	**.0089**	**-.0012**	**-.0022**
Stddev	1.3	1.7	.0382	.0038	.0003	.0001	.0010	.0004	.0002
%RSD	.6529	.3403	26.92	3.864	14.87	3.321	10.74	35.23	6.987
#1	199.0	505.6	.1450	.1024	-.0016	.0021	.0096	-.0008	-.0021
#2	196.9	502.8	.1785	.0964	-.0020	.0022	.0078	-.0012	-.0021
#3	196.6	505.9	.1023	.0954	-.0016	.0022	.0092	-.0017	-.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ICSA Acquired: 9/26/2019 12:34:08 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0010**	**.0019**	**.0019**	**.0175**	**-.0057**	**-.0087**	**-.0121**	**.0253**
Stddev	.0003	.0021	.0002	.0047	.0006	.0021	.0013	.0019
%RSD	30.43	111.6	8.336	26.53	10.40	23.83	10.56	7.608
#1	-.0014	.0024	.0021	.0138	-.0061	-.0065	-.0106	.0234
#2	-.0008	.0036	.0018	.0161	-.0060	-.0090	-.0125	.0273
#3	-.0009	-.0004	.0018	.0227	-.0050	-.0106	-.0131	.0252
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**160980.**	**33301.**	**6974.7**	**8998.6**
Stddev	377.	219.	8.5	11.1
%RSD	.23401	.65902	.12166	.12300
#1	160740.	33257.	6965.8	8993.3
#2	160780.	33539.	6975.5	8991.2
#3	161410.	33107.	6982.8	9011.3

Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 9/26/2019 12:39:18 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5157**	**.5053**	**1.005**	**.4868**	**.4878**	**.5121**	**.5058**	**.9624**	**1.031**
Stddev	.0006	.0001	.002	.0005	.0005	.0011	.0007	.0008	.001
%RSD	.1191	.0287	.1890	.1130	.1068	.2163	.1312	.0791	.0752
#1	.5151	.5055	1.005	.4865	.4873	.5123	.5050	.9620	1.031
#2	.5157	.5052	1.007	.4875	.4879	.5131	.5062	.9632	1.032
#3	.5163	.5053	1.003	.4865	.4883	.5109	.5061	.9619	1.030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4920**	**.9505**	**1.057**	**.9665**	**.9096**	**.9953**	**1.007**	**501.4**	**382.6**
Stddev	.0005	.0009	.003	.0013	.0014	.0007	.002	5.4	4.5
%RSD	.0920	.0993	.2532	.1335	.1572	.0744	.2348	1.079	1.178
#1	.4914	.9505	1.055	.9650	.9104	.9951	1.007	502.1	387.8
#2	.4923	.9514	1.060	.9676	.9103	.9948	1.010	506.4	380.0
#3	.4922	.9495	1.057	.9668	.9079	.9962	1.006	495.7	380.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**187.9**	**502.1**	**.1623**	**.0851**	**.4898**	**.4895**	**.5035**	**.4679**	**.5151**
Stddev	2.2	.8	.0197	.0046	.0012	.0010	.0020	.0008	.0009
%RSD	1.180	.1645	12.11	5.371	.2386	.2020	.3900	.1665	.1763
#1	189.6	503.0	.1776	.0845	.4887	.4900	.5040	.4672	.5143
#2	188.6	502.1	.1401	.0899	.4910	.4902	.5013	.4676	.5148
#3	185.4	501.3	.1692	.0809	.4899	.4884	.5051	.4687	.5161
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 9/26/2019 12:39:18 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5060**	**.4742**	**.5115**	**.4989**	**.5061**	**.5236**	**.4692**	**.0107**
Stddev	.0009	.0011	.0006	.0023	.0019	.0011	.0004	.0002
%RSD	.1852	.2314	.1081	.4601	.3815	.2096	.0864	1.439
#1	.5060	.4731	.5108	.5016	.5049	.5224	.4695	.0108
#2	.5069	.4742	.5117	.4977	.5083	.5242	.4693	.0108
#3	.5050	.4753	.5119	.4975	.5051	.5243	.4688	.0105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**161140.**	**33135.**	**6982.5**	**9015.8**
Stddev	283.	280.	13.0	3.5
%RSD	.17554	.84616	.18683	.03913
#1	161360.	32915.	6993.7	9019.3
#2	161230.	33040.	6968.2	9012.2
#3	160820.	33451.	6985.6	9016.0

Zoom In
Zoom Out

Sample Name: HSTD Acquired: 9/26/2019 12:44:22 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.230**	**8.295**	**8.119**	**8.189**	**8.327**	**8.176**	**8.165**	**8.181**	**.6185**
Stddev	.085	.159	.010	.008	.040	.092	.040	.006	.0010
%RSD	1.029	1.916	.1227	.0970	.4764	1.121	.4951	.0782	.1579
#1	8.156	8.322	8.128	8.193	8.297	8.071	8.184	8.187	.6187
#2	8.211	8.125	8.120	8.194	8.372	8.242	8.192	8.181	.6194
#3	8.322	8.440	8.108	8.180	8.312	8.215	8.118	8.174	.6174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.179**	**8.400**	**7.729**	**8.388**	**8.005**	**8.223**	**7.833**	**.0127**	**-.0230**
Stddev	.013	.010	.004	.012	.007	.005	.006	.0116	.0013
%RSD	.1599	.1184	.0575	.1459	.0888	.0650	.0824	90.99	5.820
#1	8.165	8.410	7.725	8.397	8.008	8.225	7.831	.0005	-.0229
#2	8.179	8.399	7.734	8.394	8.011	8.227	7.840	.0142	-.0217
#3	8.191	8.390	7.726	8.374	7.997	8.217	7.828	.0235	-.0244
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0289**	**.0126**	**.4330**	**.0268**	**8.192**	**7.958**	**24.91**	**8.158**	**8.306**
Stddev	.0010	.0025	.0087	.0081	.008	.005	.01	.006	.084
%RSD	3.367	20.05	1.999	30.04	.0929	.0600	.0516	.0762	1.008
#1	-.0280	.0107	.4393	.0347	8.198	7.961	24.90	8.153	8.345
#2	-.0289	.0117	.4364	.0271	8.195	7.960	24.92	8.165	8.362
#3	-.0299	.0155	.4231	.0186	8.183	7.953	24.90	8.157	8.209
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: HSTD Acquired: 9/26/2019 12:44:22 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.752**	**8.094**	**7.609**	**94.97**	**8.155**	**7.940**	**8.220**	**7.772**
Stddev	.066	.004	.043	.03	.014	.003	.006	.009
%RSD	.8564	.0499	.5670	.0346	.1767	.0325	.0743	.1170
#1	7.719	8.097	7.601	95.00	8.149	7.941	8.218	7.761
#2	7.828	8.096	7.656	94.98	8.171	7.942	8.226	7.778
#3	7.708	8.090	7.571	94.93	8.145	7.937	8.215	7.775
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182010.**	**34580.**	**7611.9**	**10616.**
Stddev	673.	109.	4.3	8.
%RSD	.36981	.31449	.05628	.07967
#1	181800.	34457.	7609.1	10612.
#2	181460.	34662.	7609.9	10611.
#3	182760.	34621.	7616.9	10626.

Zoom In
Zoom Out

Sample Name: HSTD Acquired: 9/26/2019 12:50:22 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0002**	**.0001**	**-.0002**	**.0020**	**.0026**	**.0010**	**.0008**	**-.0010**
Stddev	.0001	.0000	.0003	.0001	.0003	.0002	.0000	.0001	.0007
%RSD	16.34	17.50	385.1	53.37	13.96	9.031	4.228	16.64	72.49
#1	.0007	.0002	.0002	-.0003	.0021	.0028	.0010	.0007	-.0004
#2	.0010	.0002	-.0002	-.0001	.0022	.0024	.0009	.0009	-.0018
#3	.0010	.0002	.0002	-.0002	.0017	.0026	.0010	.0007	-.0008
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**.0017**	**.0005**	**.0016**	**-.0003**	**.0005**	**-.0016**	**284.7**	**190.7**
Stddev	.0002	.0000	.0007	.0014	.0013	.0021	.0014	2.0	1.1
%RSD	7.281	1.787	134.4	85.07	379.0	402.7	88.45	.7088	.5527
#1	.0019	.0017	-.0000	.0010	-.0012	.0009	-.0018	283.5	189.5
#2	.0020	.0018	.0003	.0007	.0011	-.0017	-.0029	287.0	190.8
#3	.0022	.0017	.0013	.0032	-.0009	.0024	-.0001	283.7	191.6
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.7**	**290.1**	**196.9**	**200.8**	**.0030**	**.0024**	**.0212**	**-.0009**	**-.0008**
Stddev	.8	.3	.2	2.6	.0011	.0006	.0013	.0006	.0001
%RSD	.4105	.1132	.0819	1.291	37.81	26.95	6.234	61.78	10.73
#1	187.3	290.4	197.0	203.7	.0036	.0023	.0218	-.0010	-.0009
#2	185.8	290.1	197.0	199.8	.0037	.0030	.0220	-.0015	-.0008
#3	186.8	289.8	196.7	198.8	.0017	.0017	.0197	-.0003	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 9/26/2019 12:50:22 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0009**	**.0063**	**-.0089**	**-.0031**	**-.0069**	**-.0011**	**.0218**
Stddev	.0001	.0007	.0001	.0014	.0013	.0005	.0004	.0011
%RSD	108.0	75.77	1.743	15.34	42.71	7.684	36.69	4.907
#1	-.0000	.0003	.0065	-.0105	-.0037	-.0075	-.0007	.0210
#2	.0001	.0009	.0063	-.0082	-.0016	-.0065	-.0015	.0230
#3	.0002	.0017	.0063	-.0080	-.0039	-.0067	-.0012	.0213
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**165730.**	**33773.**	**7130.5**	**9122.2**
Stddev	588.	118.	22.8	18.3
%RSD	.35486	.35025	.31986	.20040
#1	165550.	33641.	7142.8	9120.2
#2	165260.	33870.	7104.1	9104.9
#3	166390.	33808.	7144.4	9141.3

Zoom In Zoom Out

Sample Name: FECONF Acquired: 9/26/2019 12:55:42 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**-.0001**	**-.0002**	**.0001**	**.0022**	**.0016**	**.0001**
Stddev	.0001	.0000	.0001	.0001	.0001	.0007	.0000	.0005
%RSD	240.5	8.469	144.6	40.28	50.25	34.10	1.778	418.8
#1	-.0001	.0001	-.0002	-.0001	.0002	.0015	.0016	.0006
#2	-.0001	.0001	-.0002	-.0003	.0001	.0020	.0015	-.0004
#3	.0001	.0001	.0001	-.0003	.0001	.0030	.0016	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0031**	**-.0014**	**.0019**	**.0017**	**-.0017**	**-.0032**	F **-.0032**
Stddev	.0012	.0002	.0001	.0004	.0007	.0005	.0007	.0000
%RSD	111.4	5.412	5.178	21.15	38.84	31.05	20.71	1.437
#1	.0003	.0029	-.0014	.0015	.0011	-.0021	-.0034	-.0032
#2	.0005	.0032	-.0013	.0023	.0016	-.0011	-.0037	-.0031
#3	.0025	.0030	-.0015	.0020	.0024	-.0018	-.0024	-.0032

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0199**	**198.8**	**.0047**	**.0904**	**-.0039**	**.0002**	**.0010**
Stddev	.0022	.0030	3.6	.0029	.0136	.0079	.0002	.0001
%RSD	97.79	15.23	1.832	62.64	15.01	202.4	92.76	6.975
#1	.0005	.0228	196.4	.0013	.0873	.0031	.0005	.0011
#2	.0016	.0202	196.9	.0068	.0787	-.0125	.0002	.0009
#3	.0047	.0168	203.0	.0060	.1053	-.0023	.0000	.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**-.0004**	**.0001**	**.0001**	**-.0002**	**.0023**	**-.0261**	**-.0016**
Stddev	.0010	.0005	.0000	.0003	.0006	.0002	.0010	.0015
%RSD	21.71	121.4	19.38	193.8	287.5	6.550	3.709	89.79
#1	.0046	-.0009	.0001	.0004	-.0000	.0024	-.0253	-.0016
#2	.0038	-.0005	.0001	.0001	-.0009	.0021	-.0257	-.0002
#3	.0059	.0001	.0001	-.0001	.0003	.0024	-.0272	-.0031

Zoom In Zoom Out

Sample Name: FECONF Acquired: 9/26/2019 12:55:42 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0168**	**-.0041**	**.0192**
Stddev	.0005	.0009	.0010
%RSD	2.877	23.16	4.986
#1	-.0162	-.0037	.0201
#2	-.0169	-.0051	.0192
#3	-.0172	-.0033	.0182

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183750.**	**34922.**	**7791.8**	**10914.**
Stddev	731.	65.	5.5	7.
%RSD	.39781	.18604	.07113	.06308
#1	183030.	34923.	7785.5	10919.
#2	184490.	34987.	7793.6	10906.
#3	183730.	34857.	7796.2	10918.

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 9/26/2019 13:00:44 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**-.0000**	**.0012**	F **10.01**	**.0009**	**.0000**	**.0001**	**-.0006**
Stddev	.0001	.0000	.0001	.0001	.05	.0002	.0000	.0002	.0002
%RSD	49.33	45.51	217.3	7.730	.5169	23.36	35.04	232.5	29.93
#1	.0001	-.0000	-.0000	.0011	10.07	.0008	.0000	.0000	-.0004
#2	.0002	-.0001	.0000	.0012	9.988	.0012	.0000	-.0001	-.0007
#3	.0003	-.0001	-.0001	.0012	9.981	.0008	.0000	.0003	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0137**	**.0344**	**-.0027**	**.0004**	**-.0003**	**-.0007**	**.0016**	**.0028**	**.0067**
Stddev	.0002	.0002	.0006	.0008	.0007	.0007	.0013	.0074	.0012
%RSD	1.451	.6210	22.32	212.9	219.2	111.8	79.66	261.3	17.54
#1	.0135	.0347	-.0032	.0011	-.0010	-.0015	.0031	-.0048	.0080
#2	.0137	.0343	-.0028	.0007	.0004	-.0003	.0013	.0098	.0058
#3	.0139	.0344	-.0020	-.0006	-.0003	-.0001	.0005	.0035	.0062

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**-.0001**	**-.0163**	**-.0582**	**.0016**	**.0005**	**.0092**	**.0004**	**.0001**
Stddev	.0004	.0041	.0171	.0025	.0003	.0002	.0008	.0000	.0000
%RSD	15.93	6091.	104.9	4.279	21.00	37.09	8.890	13.15	33.56
#1	.0022	-.0041	.0023	-.0553	.0017	.0003	.0092	.0004	.0002
#2	.0030	.0040	-.0313	-.0597	.0012	.0007	.0084	.0003	.0001
#3	.0026	-.0001	-.0200	-.0595	.0019	.0005	.0100	.0004	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0037**	**.0033**	**.0015**	**.0007**	**.0009**	**.0006**	**-.0012**	**.0020**
Stddev	.0002	.0008	.0001	.0004	.0004	.0013	.0003	.0024
%RSD	5.166	23.06	8.845	60.55	40.30	233.6	21.14	120.5
#1	-.0039	.0039	.0013	.0012	.0009	.0010	-.0014	.0031
#2	-.0035	.0036	.0016	.0006	.0013	.0016	-.0014	.0036
#3	-.0037	.0025	.0015	.0004	.0006	-.0009	-.0009	-.0008

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 9/26/2019 13:00:44 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184210.**	**34498.**	**7691.3**	**10725.**
Stddev	1183.	160.	6.8	7.
%RSD	.64196	.46429	.08777	.06500
#1	182860.	34493.	7695.5	10722.
#2	185060.	34660.	7683.5	10720.
#3	184710.	34340.	7694.9	10733.

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 9/26/2019 13:05:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0001**	**.0001**	**.0002**	**.0001**	**-.0002**	**-.0000**	**-.0000**	**-.0006**
Stddev	.0002	.0000	.0000	.0001	.0003	.0002	.0000	.0002	.0001
%RSD	853.9	16.89	42.74	58.56	289.0	99.23	1534.	9679.	13.07
#1	-.0002	-.0001	.0001	.0001	.0004	-.0003	-.0000	-.0001	-.0007
#2	-.0001	-.0000	.0001	.0001	.0002	-.0002	.0000	-.0002	-.0006
#3	.0002	-.0001	.0001	.0003	-.0002	.0000	-.0000	.0003	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0005**	**5.029**	**-.0005**	**-.0008**	**-.0012**	**.0003**	**-.0024**	**-.0491**
Stddev	.0002	.0000	.007	.0009	.0003	.0012	.0006	.0018	.0011
%RSD	1058.	7.753	.1356	178.9	42.36	98.98	198.2	75.56	2.274
#1	.0001	-.0005	5.022	-.0011	-.0012	-.0023	.0000	-.0003	-.0503
#2	-.0003	-.0004	5.034	-.0010	-.0006	-.0015	-.0001	-.0034	-.0489
#3	.0002	-.0004	5.033	.0006	-.0007	.0001	.0011	-.0034	-.0481

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**-.0038**	**-.0179**	**-.0725**	**.0002**	**-.0001**	**.0123**	**-.0004**	**.0001**
Stddev	.0002	.0090	.0217	.0044	.0003	.0003	.0003	.0003	.0000
%RSD	11.25	237.7	121.1	6.127	149.3	430.5	2.250	89.30	51.93
#1	.0020	-.0044	-.0338	-.0776	.0005	-.0003	.0122	-.0000	.0000
#2	.0017	-.0124	.0068	-.0704	-.0001	.0003	.0126	-.0007	.0000
#3	.0016	.0055	-.0268	-.0695	.0002	-.0002	.0121	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0015**	**-.0002**	**.0012**	**-.0002**	**.0006**	**.0003**	**-.0013**
Stddev	.0003	.0001	.0000	.0003	.0011	.0009	.0006	.0030
%RSD	100.6	8.535	4.993	25.23	562.2	153.2	194.7	235.3
#1	.0004	-.0014	-.0002	.0009	-.0011	-.0004	.0007	-.0025
#2	-.0000	-.0015	-.0002	.0013	-.0004	.0014	.0006	.0021
#3	.0004	-.0017	-.0002	.0014	.0010	.0008	-.0004	-.0034

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 9/26/2019 13:05:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185770.**	**34374.**	**7921.1**	**10756.**
Stddev	724.	155.	9.7	6.
%RSD	.38984	.45054	.12190	.05424
#1	185280.	34518.	7930.6	10752.
#2	185420.	34394.	7911.3	10762.
#3	186600.	34210.	7921.5	10753.

Zoom In Zoom Out

Sample Name: CCV Acquired: 9/26/2019 13:10:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.001**	**2.005**	**1.969**	**2.035**	**1.998**	**1.975**	**2.004**	**2.029**	**.2440**
Stddev	.003	.052	.003	.004	.003	.004	.013	.003	.0004
%RSD	.1419	2.587	.1273	.1807	.1695	.1977	.6217	.1286	.1823
#1	2.003	2.060	1.967	2.033	1.998	1.973	2.014	2.030	.2436
#2	2.003	1.957	1.968	2.032	1.995	1.972	1.990	2.026	.2439
#3	1.998	1.997	1.972	2.039	2.002	1.979	2.009	2.031	.2444
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.982**	**2.007**	**1.973**	**2.048**	**2.034**	**1.990**	**1.965**	**38.67**	**39.60**
Stddev	.001	.002	.002	.004	.003	.003	.003	.06	.07
%RSD	.0347	.1102	.0885	.1992	.1641	.1527	.1403	.1655	.1799
#1	1.982	2.005	1.971	2.049	2.032	1.987	1.966	38.73	39.67
#2	1.982	2.007	1.974	2.044	2.033	1.989	1.962	38.68	39.60
#3	1.981	2.009	1.974	2.052	2.038	1.993	1.967	38.60	39.53
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.51**	**39.47**	**38.69**	**39.52**	**2.005**	**2.000**	**4.942**	**2.022**	**1.980**
Stddev	.06	.07	.04	.01	.001	.004	.004	.002	.016
%RSD	.1444	.1825	.1150	.0365	.0718	.2034	.0704	.0950	.7850
#1	39.57	39.54	38.74	39.51	2.004	1.997	4.939	2.020	1.983
#2	39.50	39.45	38.67	39.51	2.006	1.998	4.943	2.023	1.994
#3	39.46	39.40	38.65	39.54	2.006	2.004	4.946	2.023	1.963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CCV Acquired: 9/26/2019 13:10:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.989**	**1.954**	**1.986**	**1.954**	**1.973**	**1.944**	**1.982**	**1.966**
Stddev	.000	.003	.001	.003	.002	.002	.004	.006
%RSD	.0088	.1671	.0679	.1509	.0777	.1254	.1991	.3146
#1	1.989	1.950	1.986	1.952	1.972	1.945	1.978	1.968
#2	1.988	1.955	1.985	1.954	1.973	1.945	1.980	1.960
#3	1.988	1.956	1.987	1.958	1.975	1.941	1.986	1.971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178300.**	**34434.**	**7626.0**	**9950.9**
Stddev	200.	193.	13.2	8.0
%RSD	.11227	.55953	.17307	.08079
#1	178370.	34263.	7639.7	9960.2
#2	178460.	34643.	7613.4	9946.1
#3	178080.	34396.	7624.9	9946.5

Zoom In
Zoom Out

Sample Name: CCB Acquired: 9/26/2019 13:15:53 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0001**	**.0001**	**.0001**	**.0000**	**.0002**	**.0001**	**-.0001**	**-.0008**
Stddev	.0002	.0000	.0000	.0002	.0001	.0005	.0000	.0003	.0001
%RSD	92.66	35.45	32.22	170.0	187.1	294.9	65.50	407.3	12.34
#1	.0003	.0001	.0002	.0002	.0000	-.0004	.0001	-.0002	-.0009
#2	-.0000	.0001	.0002	-.0001	.0001	.0005	.0000	.0002	-.0007
#3	.0004	.0000	.0001	.0002	-.0000	.0004	.0001	-.0002	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0001**	**.0006**	**-.0003**	**-.0005**	**-.0003**	**.0037**	**.0013**
Stddev	.0002	.0001	.0003	.0006	.0008	.0006	.0008	.0076	.0006
%RSD	99.90	42.03	268.9	105.5	265.1	107.6	245.7	209.4	46.72
#1	.0000	-.0002	.0003	.0001	.0001	-.0005	-.0013	.0117	.0009
#2	-.0002	-.0001	-.0003	.0003	.0002	-.0011	.0001	.0027	.0010
#3	-.0003	-.0001	.0004	.0013	-.0012	.0000	.0002	-.0035	.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**-.0049**	**-.0276**	**-.0708**	**.0015**	**.0003**	**.0014**	**-.0001**	**.0002**
Stddev	.0005	.0011	.0064	.0019	.0004	.0002	.0006	.0002	.0001
%RSD	16.69	23.23	23.04	2.742	24.38	57.36	39.07	333.6	33.43
#1	.0022	-.0057	-.0265	-.0687	.0019	.0004	.0014	.0001	.0003
#2	.0029	-.0036	-.0344	-.0725	.0011	.0002	.0020	-.0002	.0002
#3	.0031	-.0054	-.0218	-.0713	.0015	.0002	.0009	-.0000	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: CCB Acquired: 9/26/2019 13:15:53 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0008**	**.0001**	**-.0005**	**.0007**	**.0001**	**.0006**	**.0010**
Stddev	.0001	.0003	.0001	.0006	.0006	.0010	.0004	.0019
%RSD	334.6	43.49	120.5	121.7	76.51	1015.	62.60	185.6
#1	.0001	-.0006	.0001	-.0001	.0010	.0009	.0004	-.0004
#2	-.0000	-.0012	.0000	-.0011	.0001	.0004	.0003	.0032
#3	-.0001	-.0006	.0000	-.0002	.0011	-.0010	.0010	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186480.**	**34811.**	**7930.3**	**10771.**
Stddev	227.	99.	10.7	20.
%RSD	.12192	.28561	.13460	.18866
#1	186740.	34735.	7942.7	10794.
#2	186380.	34775.	7924.6	10754.
#3	186320.	34923.	7923.7	10764.

Zoom In
Zoom Out

Sample Name: p1conf Acquired: 9/26/2019 13:20:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0000**	**.0000**	**.0002**	**-.0003**	**.0002**	**-.0000**	**.0000**	**-.0004**
Stddev	.0000	.0001	.0001	.0000	.0001	.0003	.0000	.0001	.0002
%RSD	164.4	355.4	2867.	20.22	24.26	155.2	54.40	403.4	52.44
#1	.0000	-.0001	-.0002	.0002	-.0002	.0004	-.0000	.0001	-.0002
#2	.0001	.0000	.0000	.0002	-.0004	-.0002	-.0000	-.0001	-.0004
#3	-.0000	-.0000	.0001	.0002	-.0004	.0004	-.0001	.0000	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**.0009**	**.0006**	**-.0008**	**-.0009**	**-.0014**	**.0002**	**.0007**
Stddev	.0001	.0000	.0000	.0010	.0004	.0018	.0005	.0049	.0020
%RSD	23.09	102.2	4.491	164.1	50.97	202.8	37.98	2993.	289.8
#1	-.0002	.0000	.0008	.0003	-.0005	-.0030	-.0019	-.0033	.0027
#2	-.0003	.0001	.0009	.0018	-.0006	.0001	-.0008	.0058	-.0012
#3	-.0002	.0000	.0008	-.0002	-.0012	.0002	-.0014	-.0020	.0005

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0010**	**-.0032**	**-.0818**	**-.1340**	**-.0000**	**-.0002**	**-.0005**	**-.0005**	**.0000**
Stddev	.0019	.0062	.0064	.0057	.0005	.0001	.0007	.0001	.0000
%RSD	185.6	193.6	7.889	4.220	1963.	41.65	128.9	28.85	18.76
#1	-.0011	-.0028	-.0857	-.1405	.0003	-.0003	-.0005	-.0005	.0000
#2	.0009	.0028	-.0852	-.1303	-.0006	-.0001	.0002	-.0006	.0000
#3	-.0028	-.0097	-.0743	-.1312	.0002	-.0003	-.0012	-.0003	.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0013**	**-.0002**	**.0047**	**.0014**	**-.0022**	**.0003**	**.0014**
Stddev	.0001	.0002	.0000	.0011	.0010	.0000	.0001	.0033
%RSD	188.0	18.73	17.96	22.32	71.35	1.503	29.35	233.1
#1	-.0000	-.0010	-.0002	.0059	.0023	-.0022	.0002	-.0004
#2	.0000	-.0015	-.0002	.0039	.0015	-.0022	.0004	-.0006
#3	-.0002	-.0014	-.0002	.0044	.0003	-.0022	.0003	.0053

Zoom In
Zoom Out

Sample Name: p1conf Acquired: 9/26/2019 13:20:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187480.**	**35441.**	**8040.3**	**11049.**
Stddev	1601.	132.	10.3	13.
%RSD	.85369	.37236	.12799	.12021
#1	187240.	35533.	8039.7	11061.
#2	189190.	35290.	8030.4	11034.
#3	186020.	35500.	8050.9	11051.

Zoom In
Zoom Out

Sample Name: p2conf Acquired: 9/26/2019 13:25:54 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**-.0002**	**.0002**	**-.0003**	**.0004**	**-.0000**	**-.0001**	**-.0003**
Stddev	.0001	.0000	.0000	.0000	.0001	.0001	.0000	.0002	.0001
%RSD	69.21	67.32	20.19	24.46	55.71	20.54	219.1	354.2	29.89
#1	-.0001	-.0001	-.0001	.0001	-.0004	.0004	-.0000	-.0002	-.0004
#2	-.0000	-.0000	-.0002	.0002	-.0001	.0004	.0000	-.0002	-.0002
#3	-.0001	-.0001	-.0002	.0002	-.0003	.0003	-.0000	.0002	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0011**	**.0014**	**.0006**	**-.0005**	**-.0013**	**-.0016**	**-.0007**	**.0019**
Stddev	.0002	.0000	.0001	.0003	.0003	.0014	.0012	.0069	.0015
%RSD	338.9	2.411	7.885	54.48	50.72	100.3	72.45	983.5	78.32
#1	-.0000	.0011	.0013	.0008	-.0005	-.0025	-.0005	.0009	.0020
#2	.0001	.0011	.0014	.0008	-.0002	-.0017	-.0015	.0053	.0034
#3	-.0003	.0010	.0015	.0002	-.0007	.0002	-.0029	-.0083	.0004

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0046**	**-.0605**	**-.1362**	**-.0009**	**-.0003**	**.0020**	**-.0007**	**.0001**
Stddev	.0007	.0086	.0238	.0036	.0002	.0001	.0001	.0002	.0000
%RSD	429.5	185.2	39.39	2.653	16.70	29.66	3.892	23.12	65.90
#1	.0009	.0052	-.0478	-.1378	-.0008	-.0004	.0020	-.0009	.0000
#2	-.0005	-.0085	-.0880	-.1321	-.0011	-.0004	.0020	-.0007	.0001
#3	.0000	-.0106	-.0457	-.1388	-.0010	-.0002	.0021	-.0006	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0018**	**-.0001**	**.0057**	**.0010**	**-.0021**	**.0002**	**.0015**
Stddev	.0002	.0003	.0001	.0010	.0008	.0012	.0004	.0018
%RSD	54.62	14.90	64.53	17.33	79.29	57.64	204.4	118.7
#1	.0006	-.0018	-.0003	.0050	.0010	-.0033	.0006	.0035
#2	.0003	-.0016	-.0001	.0068	.0002	-.0021	.0002	.0004
#3	.0002	-.0021	-.0001	.0052	.0017	-.0009	-.0002	.0005

Zoom In
Zoom Out

Sample Name: p2conf Acquired: 9/26/2019 13:25:54 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188560.**	**35308.**	**8043.7**	**11038.**
Stddev	1773.	112.	13.6	15.
%RSD	.94011	.31596	.16947	.13314
#1	186900.	35322.	8029.0	11022.
#2	188360.	35190.	8046.3	11050.
#3	190430.	35412.	8055.9	11043.

Zoom In
Zoom Out

Sample Name: mp17471-b1 Acquired: 9/26/2019 13:30:57 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.993**	**1.975**	**1.233**	**1.359**	**1.962**	**1.953**	**2.009**	**1.359**
Stddev	.011	.062	.949	1.035	.004	.012	.007	1.032
%RSD	.5260	3.160	76.95	76.17	.1870	.5889	.3525	75.91
#1	2.005	2.046	1.925	2.004	1.960	1.958	2.016	2.000
#2	1.984	1.945	1.623	1.907	1.960	1.940	2.002	1.907
#3	1.990	1.932	.1514	.1650	1.966	1.961	2.010	.1689

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2453**	**1.951**	**1.273**	**1.255**	**1.361**	**1.350**	**1.239**	**1.248**
Stddev	.0014	.014	.949	.962	1.004	1.019	.956	.988
%RSD	.5736	.7290	74.58	76.65	73.76	75.44	77.10	79.22
#1	.2452	1.956	1.961	1.957	2.038	1.991	1.941	1.970
#2	.2468	1.934	1.667	1.649	1.836	1.885	1.626	1.652
#3	.2440	1.961	.1900	.1585	.2076	.1757	.1510	.1213

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.66**	**25.34**	**24.98**	**25.43**	**24.38**	**33.88**	**1.261**	**1.283**
Stddev	.11	.17	.14	.24	.24	.22	.971	.980
%RSD	.4638	.6568	.5622	.9536	.9715	.6489	77.02	76.40
#1	24.78	25.52	25.14	25.71	24.63	34.13	1.936	2.002
#2	24.56	25.21	24.87	25.30	24.15	33.70	1.699	1.682
#3	24.65	25.28	24.94	25.28	24.35	33.82	.1479	.1664

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1043**	**1.303**	**1.974**	**2.002**	**1.213**	**1.992**	**7.177**	**.0527**
Stddev	.0942	.985	.042	.004	.924	.003	5.576	.0854
%RSD	90.28	75.62	2.143	.1982	76.17	.1677	77.68	162.1
#1	.1157	2.022	1.994	1.998	1.885	1.991	11.28	.0620
#2	.1923	1.707	2.003	2.002	1.596	1.990	9.428	-.0370
#3	.0050	.1798	1.926	2.005	.1592	1.996	.8283	.1331

Zoom In Zoom Out

Sample Name: mp17471-b1 Acquired: 9/26/2019 13:30:57 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0008**	**1.233**	W **-.0604**
Stddev	.0011	.904	.0029
%RSD	133.4	73.33	4.884
#1	.0006	1.930	-.0578
#2	.0021	1.559	-.0636
#3	-.0001	.2112	-.0597

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180800.**	**34903.**	**10814.**	*****
Stddev	537.	484.	4440.	-----
%RSD	.29684	1.3873	41.055	-----
#1	181290.	34368.	7715.4	10082.
#2	180900.	35030.	8826.0	-----
#3	180230.	35310.	15900.	20794.

Zoom In Zoom Out

Sample Name: mp17471-mb1 Acquired: 9/26/2019 13:36:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0003**	**.0001**	**.0004**	**.0005**	**.0007**	**.0022**	**.0003**	**-.0004**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0001	.0002	.0001
%RSD	158.1	2.296	62.66	19.90	21.88	41.53	2.399	58.06	19.08
#1	.0003	.0003	.0001	.0005	.0004	.0009	.0023	.0001	-.0005
#2	.0003	.0003	.0002	.0004	.0006	.0004	.0022	.0004	-.0003
#3	-.0001	.0003	.0000	.0003	.0005	.0008	.0023	.0003	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0019**	**.0006**	**.0008**	**-.0004**	**.0000**	**.0003**	**.0649**	**.0824**
Stddev	.0002	.0003	.0005	.0007	.0001	.0005	.0010	.0029	.0005
%RSD	715.7	13.73	85.85	85.93	25.04	10170.	411.7	4.431	.5917
#1	.0003	.0022	.0001	.0011	-.0004	-.0002	.0014	.0678	.0819
#2	-.0001	.0019	.0012	.0000	-.0003	-.0004	-.0006	.0620	.0825
#3	-.0001	.0016	.0005	.0014	-.0005	.0006	-.0001	.0648	.0829

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0095**	**.1949**	**-.0190**	**2.335**	**.0010**	**.0004**	**.0088**	**-.0001**	**.0008**
Stddev	.0001	.0041	.0361	.017	.0004	.0002	.0010	.0004	.0001
%RSD	1.273	2.118	189.5	.7267	45.86	41.08	11.18	345.3	13.15
#1	.0094	.1995	.0156	2.354	.0013	.0004	.0098	-.0002	.0009
#2	.0096	.1938	-.0162	2.328	.0011	.0003	.0088	.0003	.0009
#3	.0094	.1915	-.0564	2.321	.0005	.0006	.0078	-.0004	.0007

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0035**	**.0012**	**1.147**	**.0006**	**-.0005**	**.0012**	**.0010**
Stddev	.0002	.0004	.0001	.145	.0006	.0004	.0004	.0018
%RSD	46.48	11.30	8.738	12.66	105.1	87.35	32.34	188.9
#1	.0005	.0036	.0013	1.304	.0012	-.0010	.0011	.0031
#2	.0002	.0037	.0013	1.121	.0000	-.0004	.0009	-.0001
#3	.0007	.0030	.0011	1.017	.0005	-.0001	.0017	-.0000

Zoom In Zoom Out

Sample Name: mp17471-mb1 Acquired: 9/26/2019 13:36:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186460.**	**35188.**	**7887.2**	**10711.**
Stddev	1364.	86.	9.2	12.
%RSD	.73171	.24523	.11656	.10846
#1	186730.	35276.	7894.3	10717.
#2	187670.	35185.	7876.9	10698.
#3	184980.	35103.	7890.6	10719.

Zoom In Zoom Out

Sample Name: mp17471-s1 Acquired: 9/26/2019 13:42:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.148**	**2.014**	**1.968**	**2.037**	**1.972**	**1.981**	**2.550**	**2.036**
Stddev	.001	.033	.002	.002	.003	.003	.020	.002
%RSD	.0360	1.624	.1173	.0901	.1346	.1298	.7716	.1190
#1	2.148	2.044	1.969	2.036	1.975	1.984	2.550	2.035
#2	2.149	2.020	1.970	2.039	1.971	1.980	2.530	2.038
#3	2.148	1.979	1.965	2.037	1.970	1.979	2.569	2.034

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2525**	**1.975**	**2.087**	**2.032**	**1.995**	**2.008**	**2.001**	**2.005**
Stddev	.0002	.002	.002	.004	.004	.003	.003	.004
%RSD	.0919	.0808	.0721	.1780	.2227	.1268	.1371	.1803
#1	.2523	1.977	2.085	2.035	1.990	2.006	2.000	2.008
#2	.2527	1.974	2.088	2.028	1.999	2.011	2.005	2.006
#3	.2524	1.974	2.088	2.033	1.996	2.006	2.000	2.001

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.95**	**67.82**	**33.17**	**32.92**	**29.45**	F **295.5**	**2.016**	**2.022**
Stddev	.02	1.23	.02	.03	.06	3.3	.003	.001
%RSD	.0651	1.809	.0609	.0932	.1873	1.131	.1311	.0290
#1	24.96	68.89	33.18	32.93	29.42	298.6	2.018	2.021
#2	24.96	68.09	33.19	32.95	29.42	295.9	2.018	2.023
#3	24.93	66.48	33.15	32.89	29.51	292.0	2.013	2.022

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6737**	**2.005**	**2.359**	**2.009**	**1.981**	**2.014**	**28.79**	**.0598**
Stddev	.0016	.002	.039	.001	.004	.001	.03	.0013
%RSD	.2375	.0842	1.645	.0675	.1836	.0511	.1054	2.181
#1	.6752	2.003	2.402	2.008	1.978	2.015	28.81	.0611
#2	.6720	2.005	2.327	2.011	1.980	2.014	28.81	.0585
#3	.6738	2.006	2.348	2.008	1.985	2.013	28.75	.0598

Zoom In Zoom Out

Sample Name: mp17471-s1 Acquired: 9/26/2019 13:42:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0849**	**2.068**	W **-.0594**
Stddev	.0005	.001	.0010
%RSD	.5726	.0506	1.738
#1	.0850	2.069	-.0597
#2	.0844	2.067	-.0583
#3	.0853	2.068	-.0603

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**171610.**	**34472.**	**7372.1**	**9406.7**
Stddev	140.	106.	17.0	15.4
%RSD	.08183	.30606	.23049	.16424
#1	171570.	34386.	7386.9	9422.2
#2	171770.	34440.	7375.8	9406.7
#3	171500.	34590.	7353.6	9391.3

Zoom In Zoom Out

Sample Name: mp17471-s2 Acquired: 9/26/2019 13:47:45 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.134**	**2.004**	**1.942**	**2.011**	**1.948**	**1.954**	**2.542**	**2.008**
Stddev	.006	.006	.003	.002	.004	.002	.011	.001
%RSD	.2980	.3066	.1588	.0846	.1881	.0866	.4366	.0676
#1	2.139	2.008	1.946	2.011	1.952	1.956	2.542	2.007
#2	2.127	1.997	1.940	2.013	1.946	1.953	2.531	2.009
#3	2.136	2.008	1.940	2.009	1.945	1.953	2.553	2.007

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2493**	**1.953**	**2.059**	**2.009**	**1.972**	**1.982**	**1.973**	**1.978**
Stddev	.0005	.002	.005	.002	.003	.002	.003	.002
%RSD	.1871	.1160	.2338	.1076	.1371	.0745	.1607	.0764
#1	.2498	1.955	2.064	2.010	1.968	1.980	1.976	1.977
#2	.2490	1.951	2.058	2.007	1.973	1.983	1.970	1.977
#3	.2490	1.954	2.054	2.011	1.973	1.982	1.973	1.980

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.57**	**68.48**	**33.30**	**32.52**	**29.38**	F **298.8**	**1.994**	**2.001**
Stddev	.08	.80	.05	.09	.07	1.5	.004	.001
%RSD	.3435	1.174	.1593	.2799	.2458	.4883	.1766	.0692
#1	24.64	67.69	33.32	32.47	29.43	297.2	1.997	2.003
#2	24.48	68.45	33.23	32.46	29.30	299.2	1.990	2.001
#3	24.60	69.29	33.33	32.62	29.42	300.1	1.995	2.000

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7497**	**1.989**	**2.348**	**1.993**	**1.956**	**1.988**	**20.98**	**.0599**
Stddev	.0022	.001	.007	.001	.003	.001	.04	.0007
%RSD	.2879	.0365	.3125	.0478	.1568	.0599	.1764	1.246
#1	.7519	1.989	2.342	1.994	1.959	1.988	21.02	.0594
#2	.7497	1.988	2.346	1.993	1.956	1.987	20.96	.0596
#3	.7476	1.989	2.356	1.992	1.953	1.989	20.96	.0608

Zoom In Zoom Out

Sample Name: mp17471-s2 Acquired: 9/26/2019 13:47:45 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0908**	**2.044**	W **-.0592**
Stddev	.0006	.001	.0012
%RSD	.7027	.0603	2.013
#1	.0903	2.045	-.0596
#2	.0906	2.043	-.0578
#3	.0915	2.043	-.0601

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**170620.**	**34055.**	**7334.6**	**9367.3**
Stddev	576.	168.	22.7	23.9
%RSD	.33787	.49298	.30983	.25469
#1	169970.	34143.	7321.7	9368.0
#2	171090.	34161.	7321.3	9343.1
#3	170780.	33862.	7360.8	9390.8

Zoom In Zoom Out

Sample Name: jc94997-3 Acquired: 9/26/2019 13:52:58 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1552**	**.0001**	**.0006**	**.0006**	**.0024**	**.0122**	**.5989**	**.0064**	**-.0003**
Stddev	.0001	.0000	.0000	.0002	.0003	.0000	.0007	.0003	.0004
%RSD	.0653	27.49	5.780	25.84	12.20	.2798	.1140	4.244	123.3
#1	.1551	.0001	.0006	.0007	.0027	.0122	.5984	.0065	-.0001
#2	.1553	.0001	.0005	.0004	.0023	.0122	.5987	.0061	-.0001
#3	.1553	.0002	.0006	.0007	.0022	.0121	.5997	.0066	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0028**	**.0992**	**.0011**	**.0009**	**-.0007**	**-.0004**	**.0014**	**.2132**	**44.12**
Stddev	.0003	.0002	.0010	.0004	.0007	.0002	.0002	.0050	.04
%RSD	9.137	.1835	84.45	44.92	87.24	56.41	13.64	2.333	.0934
#1	.0026	.0993	.0009	.0013	-.0000	-.0004	.0013	.2098	44.12
#2	.0031	.0990	.0003	.0005	-.0013	-.0002	.0016	.2110	44.07
#3	.0027	.0993	.0022	.0008	-.0010	-.0007	.0013	.2189	44.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.461**	**7.989**	**4.613**	F **273.3**	**.0676**	**.0082**	**.5517**	**-.0001**	**.4091**
Stddev	.019	.022	.075	4.3	.0004	.0001	.0021	.0002	.0002
%RSD	.2289	.2797	1.618	1.564	.5544	1.726	.3887	407.4	.0530
#1	8.465	7.971	4.614	275.6	.0679	.0083	.5492	.0001	.4090
#2	8.439	7.983	4.538	268.4	.0677	.0081	.5527	-.0003	.4089
#3	8.477	8.014	4.687	276.0	.0671	.0081	.5531	.0001	.4093

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0083**	**.0037**	**.0033**	**17.13**	**.0000**	**.0902**	**.0661**	**.0034**
Stddev	.0002	.0001	.0003	.01	.0004	.0008	.0007	.0019
%RSD	2.659	3.890	10.17	.0424	1173.	.8747	1.058	56.72
#1	.0081	.0036	.0036	17.13	.0005	.0910	.0654	.0036
#2	.0083	.0039	.0033	17.14	-.0004	.0894	.0663	.0052
#3	.0085	.0036	.0030	17.13	.0000	.0902	.0668	.0014

Zoom In
Zoom Out

Sample Name: jc94997-3 Acquired: 9/26/2019 13:52:58 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172350.**	**34055.**	**7402.0**	**9495.0**
Stddev	497.	102.	17.4	18.5
%RSD	.28846	.30080	.23570	.19514
#1	172240.	34139.	7384.3	9477.3
#2	172890.	34084.	7402.5	9493.5
#3	171910.	33941.	7419.1	9514.3

Zoom In
Zoom Out

Sample Name: mp17471-sd1 Acquired: 9/26/2019 13:57:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1537**	**-.0002**	**.0009**	**.0006**	**.0024**	**.0121**	**.5959**	**.0059**	**-.0021**
Stddev	.0008	.0002	.0005	.0008	.0004	.0011	.0010	.0006	.0007
%RSD	.5356	94.86	57.56	117.5	15.82	9.313	.1648	9.639	36.02
#1	.1545	-.0004	.0008	.0009	.0027	.0121	.5969	.0056	-.0016
#2	.1528	-.0001	.0013	.0012	.0019	.0133	.5959	.0066	-.0029
#3	.1538	-.0000	.0004	-.0002	.0025	.0110	.5949	.0056	-.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.1345**	**.0061**	**.0024**	**-.0017**	**-.0007**	**-.0013**	**.2058**	**44.09**
Stddev	.0005	.0003	.0013	.0022	.0016	.0015	.0006	.0233	.05
%RSD	19.26	.2273	20.49	92.16	94.38	238.0	44.21	11.34	.1167
#1	.0026	.1345	.0053	.0008	-.0020	-.0023	-.0016	.2285	44.11
#2	.0022	.1348	.0076	.0016	-.0031	.0007	-.0016	.2072	44.12
#3	.0032	.1342	.0055	.0050	.0000	-.0003	-.0006	.1818	44.03

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.498**	**8.000**	**4.586**	**276.5**	**.0675**	**.0078**	**.6875**	**-.0017**	**.4073**
Stddev	.011	.011	.089	.5	.0024	.0004	.0030	.0010	.0008
%RSD	.1249	.1352	1.937	.1688	3.508	5.241	.4317	60.89	.1956
#1	8.506	8.004	4.513	277.1	.0695	.0075	.6879	-.0020	.4079
#2	8.486	8.008	4.560	276.3	.0680	.0083	.6843	-.0025	.4064
#3	8.503	7.988	4.685	276.2	.0648	.0076	.6902	-.0005	.4075

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097**	**.0013**	**.0003**	**16.72**	**-.0038**	**.0948**	**.0696**	**.0060**
Stddev	.0005	.0031	.0005	.01	.0054	.0035	.0045	.0107
%RSD	5.047	244.3	185.2	.0841	143.5	3.708	6.405	177.1
#1	.0092	-.0023	.0003	16.70	-.0096	.0987	.0728	.0024
#2	.0102	.0027	-.0003	16.73	.0011	.0920	.0715	-.0024
#3	.0098	.0034	.0008	16.72	-.0028	.0936	.0645	.0181

Zoom In
Zoom Out

Sample Name: mp17471-sd1 Acquired: 9/26/2019 13:57:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180840.**	**34575.**	**7696.1**	**10172.**
Stddev	757.	116.	21.2	21.
%RSD	.41887	.33607	.27566	.20902
#1	180140.	34449.	7720.2	10197.
#2	181650.	34677.	7687.8	10160.
#3	180730.	34598.	7680.2	10160.

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 14:02:48 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.058**	**2.048**	**2.007**	**2.073**	**2.040**	**2.016**	**2.049**	**2.065**	**.2489**
Stddev	.007	.062	.002	.004	.001	.005	.020	.002	.0010
%RSD	.3434	3.028	.0899	.2075	.0372	.2627	.9702	.0858	.3894
#1	2.052	1.977	2.006	2.068	2.041	2.016	2.047	2.063	.2499
#2	2.066	2.079	2.009	2.076	2.040	2.022	2.029	2.066	.2490
#3	2.057	2.088	2.006	2.074	2.039	2.011	2.069	2.065	.2479
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.019**	**2.048**	**2.009**	**2.083**	**2.071**	**2.029**	**2.000**	**39.78**	**40.76**
Stddev	.002	.003	.003	.004	.003	.003	.004	.13	.16
%RSD	.1188	.1401	.1536	.2100	.1539	.1317	.2029	.3361	.3924
#1	2.021	2.049	2.005	2.081	2.067	2.027	1.996	39.65	40.59
#2	2.017	2.045	2.010	2.088	2.073	2.032	2.004	39.92	40.90
#3	2.020	2.050	2.011	2.079	2.072	2.027	2.001	39.77	40.80
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.61**	**40.40**	**39.79**	**40.46**	**2.027**	**2.036**	**4.914**	**2.060**	**2.073**
Stddev	.14	.12	.09	.09	.003	.001	.005	.001	.026
%RSD	.3429	.3039	.2300	.2103	.1350	.0356	.0960	.0395	1.249
#1	40.46	40.27	39.69	40.37	2.023	2.036	4.909	2.060	2.077
#2	40.74	40.51	39.87	40.54	2.029	2.036	4.916	2.059	2.046
#3	40.63	40.43	39.81	40.47	2.027	2.037	4.917	2.061	2.098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 14:02:48 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.025**	**1.995**	**2.022**	**1.985**	**1.995**	**1.985**	**2.023**	**2.003**
Stddev	.002	.005	.003	.003	.001	.007	.001	.004
%RSD	.0989	.2491	.1256	.1241	.0513	.3663	.0521	.2022
#1	2.027	1.991	2.025	1.985	1.995	1.978	2.021	2.006
#2	2.023	1.993	2.021	1.982	1.996	1.993	2.023	2.005
#3	2.026	2.000	2.021	1.987	1.994	1.984	2.023	1.999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176890.**	**34029.**	**7594.5**	**9911.0**
Stddev	563.	102.	18.3	13.6
%RSD	.31804	.29864	.24060	.13729
#1	177140.	34031.	7583.0	9907.6
#2	177290.	34130.	7615.6	9926.0
#3	176250.	33927.	7584.9	9899.4

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 14:07:55 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0002**	**.0002**	**.0003**	**.0002**	**.0003**	**.0002**	**.0002**	**-.0006**
Stddev	.0002	.0000	.0001	.0001	.0001	.0001	.0000	.0001	.0003
%RSD	93.34	11.91	73.30	30.38	79.57	30.62	17.64	58.21	43.25
#1	.0003	.0002	.0002	.0003	.0003	.0003	.0003	.0001	-.0003
#2	.0004	.0002	.0003	.0004	.0001	.0004	.0002	.0002	-.0006
#3	-.0000	.0002	.0000	.0002	.0001	.0002	.0002	.0003	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**-.0002**	**-.0001**	**-.0005**	**-.0002**	**.0001**	**.0039**	**.0025**
Stddev	.0000	.0000	.0001	.0006	.0007	.0007	.0006	.0046	.0008
%RSD	56.71	37.34	28.27	750.0	132.5	293.8	661.4	115.6	33.21
#1	.0000	-.0001	-.0002	-.0005	.0002	-.0001	-.0006	-.0002	.0022
#2	.0001	-.0000	-.0002	-.0004	-.0011	.0004	.0005	.0088	.0019
#3	.0001	-.0001	-.0001	.0007	-.0006	-.0010	.0003	.0032	.0034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0049**	**.0013**	**-.0093**	**-.0195**	**.0014**	**.0003**	**.0009**	**-.0002**	**.0004**
Stddev	.0015	.0066	.0232	.0055	.0001	.0000	.0005	.0002	.0000
%RSD	30.38	499.5	248.1	28.06	7.657	10.79	53.84	88.90	12.30
#1	.0033	-.0058	-.0205	-.0134	.0014	.0002	.0014	-.0003	.0003
#2	.0062	.0026	-.0248	-.0210	.0014	.0003	.0010	-.0000	.0004
#3	.0054	.0072	.0173	-.0240	.0012	.0003	.0004	-.0002	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 14:07:55 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0003**	**.0002**	**.0005**	**.0010**	**-.0002**	**.0004**	**-.0007**
Stddev	.0002	.0004	.0001	.0012	.0011	.0010	.0005	.0020
%RSD	45.90	121.9	60.58	256.3	108.8	408.3	146.7	300.9
#1	.0002	-.0001	.0004	.0004	.0005	-.0000	.0004	-.0027
#2	.0005	.0006	.0002	.0016	.0002	.0006	-.0002	-.0007
#3	.0005	.0004	.0001	-.0007	.0022	-.0014	.0009	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184960.**	**34711.**	**7851.8**	**10676.**
Stddev	1733.	105.	15.0	12.
%RSD	.93691	.30307	.19096	.11591
#1	186950.	34686.	7868.7	10690.
#2	184160.	34620.	7846.6	10670.
#3	183770.	34826.	7840.1	10667.

Zoom In Zoom Out

Sample Name: jc94997-1 Acquired: 9/26/2019 14:12:59 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6558**	F **-.0011**	**.0001**	**.0028**	**.0031**	**.0140**	**2.428**	**.0099**
Stddev	.0015	.0001	.0001	.0001	.0001	.0001	.023	.0002
%RSD	.2343	4.806	178.6	4.679	1.620	.8269	.9416	2.249
#1	.6567	-.0010	.0001	.0028	.0032	.0141	2.450	.0098
#2	.6567	-.0011	-.0001	.0029	.0031	.0140	2.428	.0102
#3	.6541	-.0011	.0001	.0027	.0031	.0139	2.405	.0098

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0131**	**.0449**	**.0021**	**.0010**	**.0013**	**-.0026**	**.0012**
Stddev	.0001	.0001	.0001	.0004	.0005	.0005	.0015	.0005
%RSD	19.52	.4422	.2338	19.13	47.05	40.58	57.49	44.10
#1	-.0005	.0131	.0450	.0026	.0014	.0009	-.0009	.0014
#2	-.0005	.0131	.0448	.0020	.0005	.0020	-.0032	.0015
#3	-.0007	.0130	.0448	.0018	.0011	.0012	-.0038	.0006

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.961**	**196.1**	**17.22**	**58.89**	**5.783**	**59.72**	**1.270**	**.0019**
Stddev	.008	.6	.03	.11	.013	.07	.002	.0000
%RSD	.4266	.3231	.1518	.1820	.2163	.1218	.1205	.7201
#1	1.966	196.6	17.23	58.92	5.771	59.75	1.271	.0019
#2	1.966	195.4	17.24	58.98	5.783	59.78	1.269	.0019
#3	1.952	196.2	17.19	58.77	5.796	59.64	1.269	.0019

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.60**	**-.0014**	**.9974**	**.1411**	**.0001**	**.0009**	**3.773**	**.0085**
Stddev	.01	.0004	.0010	.0004	.0003	.0002	.004	.0007
%RSD	.0882	28.86	.1001	.2674	203.0	19.88	.0956	8.422
#1	12.61	-.0019	.9982	.1415	.0001	.0007	3.776	.0078
#2	12.60	-.0010	.9978	.1410	-.0001	.0010	3.773	.0084
#3	12.59	-.0014	.9963	.1408	.0005	.0010	3.769	.0092

Zoom In Zoom Out

Sample Name: jc94997-1 Acquired: 9/26/2019 14:12:59 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0425**	**.0991**	**.0139**
Stddev	.0006	.0001	.0021
%RSD	1.507	.0965	14.82
#1	.0432	.0992	.0160
#2	.0423	.0990	.0119
#3	.0420	.0991	.0137

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**174990.**	**34284.**	**7391.0**	**9506.0**
Stddev	149.	199.	10.4	12.3
%RSD	.08510	.58128	.14076	.12965
#1	175150.	34155.	7399.9	9519.7
#2	174960.	34183.	7393.6	9502.5
#3	174850.	34513.	7379.5	9495.8

Zoom In Zoom Out

Sample Name: jc94997-2 Acquired: 9/26/2019 14:18:05 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1637**	**-.0003**	**.0007**	**.0004**	**.0044**	**.0211**	**.6517**	**.0089**	**-.0001**
Stddev	.0003	.0000	.0001	.0002	.0001	.0001	.0008	.0003	.0002
%RSD	.1925	3.604	7.717	45.79	2.497	.3050	.1302	3.496	189.1
#1	.1641	-.0003	.0007	.0003	.0045	.0211	.6522	.0087	-.0002
#2	.1635	-.0003	.0007	.0006	.0045	.0211	.6523	.0093	.0001
#3	.1636	-.0003	.0008	.0003	.0043	.0212	.6508	.0087	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035**	**.2447**	**.0012**	**.0008**	**.0011**	**-.0008**	**-.0001**	**.3465**	**45.27**
Stddev	.0004	.0006	.0006	.0006	.0002	.0007	.0010	.0074	.08
%RSD	10.47	.2421	44.41	85.63	15.96	82.13	937.9	2.143	.1805
#1	.0039	.2445	.0007	.0005	.0012	-.0011	.0006	.3379	45.36
#2	.0035	.2442	.0018	.0015	.0009	-.0014	.0003	.3506	45.27
#3	.0032	.2454	.0012	.0003	.0010	-.0001	-.0012	.3509	45.19

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.33**	**8.191**	**4.647**	F **281.1**	**.0682**	**.0079**	**.7486**	**-.0000**	**.4214**
Stddev	.03	.028	.030	3.8	.0006	.0001	.0016	.0001	.0005
%RSD	.1839	.3434	.6571	1.347	.8132	.6861	.2136	293.4	.1205
#1	18.36	8.195	4.664	285.3	.0681	.0079	.7473	-.0000	.4218
#2	18.32	8.217	4.611	277.9	.0677	.0078	.7482	-.0002	.4214
#3	18.30	8.161	4.665	280.2	.0688	.0079	.7504	.0001	.4208

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0143**	**.0036**	**.0031**	**17.55**	**.0002**	**.0891**	**.0850**	**.0047**
Stddev	.0001	.0006	.0002	.02	.0006	.0012	.0002	.0019
%RSD	.3847	16.88	5.885	.1101	302.0	1.332	.2437	41.16
#1	.0144	.0042	.0033	17.55	.0004	.0886	.0852	.0032
#2	.0143	.0030	.0031	17.53	-.0005	.0883	.0850	.0068
#3	.0143	.0038	.0029	17.57	.0006	.0905	.0848	.0039

Zoom In Zoom Out

Sample Name: jc94997-2 Acquired: 9/26/2019 14:18:05 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172910.**	**34711.**	**7439.1**	**9536.2**
Stddev	124.	76.	11.6	7.1
%RSD	.07189	.21821	.15555	.07459
#1	172800.	34625.	7446.5	9536.7
#2	172890.	34745.	7445.1	9543.0
#3	173050.	34765.	7425.8	9528.8

Zoom In Zoom Out

Sample Name: jc94997-5 Acquired: 9/26/2019 14:23:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2353**	**-.0002**	**.0001**	**.0000**	**.0004**	**.0019**	**.1364**	**.0009**	**-.0006**
Stddev	.0006	.0000	.0001	.0002	.0002	.0002	.0001	.0002	.0002
%RSD	.2659	11.16	55.33	877.1	46.14	7.915	.0469	19.66	36.29
#1	.2360	-.0001	.0000	-.0001	.0006	.0020	.1365	.0011	-.0006
#2	.2349	-.0002	.0001	.0002	.0004	.0020	.1365	.0010	-.0007
#3	.2350	-.0002	.0001	-.0000	.0002	.0017	.1363	.0007	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0201**	**.0006**	**-.0004**	**-.0006**	**-.0008**	**.0005**	**.0843**	**41.78**
Stddev	.0002	.0000	.0004	.0007	.0008	.0006	.0003	.0062	.12
%RSD	15.28	.1863	76.31	180.8	140.4	82.72	72.01	7.383	.2899
#1	.0009	.0201	.0002	-.0013	-.0015	-.0005	.0005	.0915	41.91
#2	.0011	.0201	.0004	.0001	.0000	-.0003	.0008	.0807	41.69
#3	.0012	.0202	.0010	-.0001	-.0003	-.0015	.0001	.0807	41.73

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.869**	**19.77**	**3.513**	**145.0**	**.0492**	**.0006**	**2.181**	**-.0009**	**.4263**
Stddev	.027	.05	.012	2.9	.0004	.0001	.005	.0001	.0009
%RSD	.3397	.2532	.3314	1.985	.7973	12.88	.2106	16.79	.2076
#1	7.899	19.82	3.522	145.2	.0491	.0006	2.186	-.0008	.4273
#2	7.858	19.73	3.516	147.7	.0489	.0005	2.178	-.0009	.4257
#3	7.849	19.75	3.500	142.0	.0496	.0006	2.179	-.0011	.4259

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0027**	**-.0001**	**.9060**	**-.0001**	**.0225**	**.0234**	**.0023**
Stddev	.0003	.0003	.0001	.0006	.0004	.0009	.0001	.0011
%RSD	8.204	12.31	51.73	.0675	259.2	4.126	.5532	46.54
#1	.0037	.0024	-.0002	.9057	-.0005	.0225	.0235	.0016
#2	.0033	.0029	-.0001	.9067	-.0002	.0216	.0233	.0017
#3	.0038	.0029	-.0001	.9055	.0003	.0235	.0235	.0035

Zoom In
Zoom Out

Sample Name: jc94997-5 Acquired: 9/26/2019 14:23:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**175990.**	**34499.**	**7526.0**	**9736.9**
Stddev	914.	214.	6.2	8.7
%RSD	.51934	.61980	.08235	.08960
#1	176980.	34287.	7530.4	9735.4
#2	175180.	34714.	7518.9	9729.1
#3	175800.	34496.	7528.8	9746.3

Zoom In
Zoom Out

Sample Name: jc94997-6 Acquired: 9/26/2019 14:28:04 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5129**	**-.0002**	**.0006**	**-.0000**	**.0009**	**.0034**	**.1903**	**.0021**	**-.0005**
Stddev	.0002	.0000	.0001	.0001	.0002	.0000	.0001	.0002	.0002
%RSD	.0447	10.02	19.37	2521.	19.06	.9096	.0352	8.826	39.82
#1	.5126	-.0002	.0007	.0001	.0008	.0034	.1904	.0021	-.0003
#2	.5131	-.0002	.0006	-.0002	.0011	.0034	.1902	.0023	-.0006
#3	.5129	-.0002	.0005	.0000	.0007	.0035	.1903	.0020	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0237**	**.0008**	**.0001**	**-.0004**	**-.0014**	**.0006**	**.1839**	**34.67**
Stddev	.0002	.0001	.0006	.0001	.0011	.0007	.0007	.0038	.01
%RSD	17.36	.5302	74.87	104.3	293.4	45.70	109.2	2.088	.0419
#1	.0012	.0237	.0001	.0002	.0008	-.0016	.0004	.1877	34.68
#2	.0016	.0238	.0013	-.0000	-.0006	-.0007	.0013	.1838	34.66
#3	.0016	.0236	.0010	.0002	-.0012	-.0020	.0001	.1801	34.66

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.311**	**7.574**	**2.331**	F **275.3**	**.0325**	**.0013**	**.8464**	**-.0004**	**.2213**
Stddev	.006	.019	.027	2.1	.0005	.0001	.0007	.0005	.0002
%RSD	.1318	.2525	1.163	.7553	1.420	8.623	.0794	116.2	.0875
#1	4.308	7.589	2.359	275.5	.0322	.0012	.8470	.0001	.2213
#2	4.317	7.580	2.305	277.3	.0330	.0012	.8457	-.0006	.2215
#3	4.307	7.552	2.330	273.1	.0322	.0014	.8464	-.0008	.2211

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0134**	**-.0002**	**.0000**	**.7528**	**.0007**	**.0175**	**.0230**	**.0039**
Stddev	.0004	.0006	.0001	.0007	.0014	.0007	.0005	.0017
%RSD	2.632	267.0	263.1	.0919	193.8	3.858	2.042	42.65
#1	.0130	.0000	.0001	.7528	.0021	.0178	.0233	.0025
#2	.0137	.0002	-.0000	.7536	.0009	.0168	.0224	.0057
#3	.0135	-.0009	.0000	.7522	-.0008	.0180	.0233	.0034

Zoom In
Zoom Out

Sample Name: jc94997-6 Acquired: 9/26/2019 14:28:04 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**173450.**	**34649.**	**7444.3**	**9504.6**
Stddev	373.	199.	20.2	9.8
%RSD	.21532	.57341	.27163	.10306
#1	173210.	34441.	7442.0	9515.4
#2	173260.	34837.	7425.3	9496.4
#3	173880.	34667.	7465.6	9501.8

Zoom In
Zoom Out

Sample Name: jc94997-7 Acquired: 9/26/2019 14:33:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4961**	**-.0003**	**.0000**	**.0002**	**.0014**	**.0056**	**.6847**	**.0013**	**-.0002**
Stddev	.0011	.0000	.0001	.0002	.0000	.0001	.0018	.0003	.0003
%RSD	.2233	1.901	751.9	97.31	.4380	1.851	.2558	24.33	154.4
#1	.4962	-.0004	-.0001	.0001	.0014	.0056	.6863	.0017	-.0005
#2	.4950	-.0003	.0001	.0001	.0014	.0057	.6828	.0010	.0001
#3	.4972	-.0004	.0001	.0004	.0014	.0055	.6850	.0013	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0073**	**.0162**	**.0017**	**.0007**	**-.0002**	**-.0019**	**.0004**	**.6247**	**58.16**
Stddev	.0004	.0000	.0004	.0004	.0001	.0011	.0001	.0111	.66
%RSD	5.219	.1935	21.08	52.69	64.53	54.58	25.98	1.770	1.137
#1	.0076	.0162	.0013	.0007	-.0002	-.0017	.0004	.6120	57.51
#2	.0069	.0162	.0018	.0003	-.0003	-.0010	.0005	.6323	58.83
#3	.0074	.0162	.0019	.0011	-.0001	-.0031	.0003	.6298	58.13

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.26**	**4.575**	**1.346**	**24.00**	**.0192**	**.0003**	**3.719**	**-.0012**	**.2035**
Stddev	.02	.009	.024	.05	.0006	.0000	.008	.0006	.0001
%RSD	.0684	.1997	1.809	.2133	3.331	10.60	.2111	53.01	.0586
#1	25.27	4.585	1.374	24.03	.0197	.0003	3.728	-.0012	.2036
#2	25.24	4.568	1.327	24.02	.0193	.0003	3.714	-.0005	.2034
#3	25.25	4.571	1.339	23.94	.0185	.0004	3.715	-.0018	.2034

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0226**	**-.0007**	**.0004**	**.8402**	**.0005**	**.0119**	**.0496**	**.0070**
Stddev	.0002	.0003	.0002	.0021	.0005	.0004	.0002	.0005
%RSD	.7006	42.49	42.76	.2556	95.31	3.107	.4169	7.458
#1	.0227	-.0007	.0003	.8427	.0011	.0122	.0496	.0073
#2	.0227	-.0010	.0004	.8392	.0002	.0114	.0497	.0064
#3	.0224	-.0004	.0006	.8388	.0002	.0120	.0493	.0072

Zoom In Zoom Out

Sample Name: jc94997-7 Acquired: 9/26/2019 14:33:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180530.**	**34636.**	**7665.3**	**10126.**
Stddev	755.	67.	20.4	15.
%RSD	.41840	.19214	.26560	.14962
#1	179660.	34560.	7650.7	10116.
#2	181020.	34676.	7688.5	10144.
#3	180910.	34673.	7656.6	10119.

Zoom In Zoom Out

Sample Name: jc94997-8 Acquired: 9/26/2019 14:38:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0372**	**-.0001**	**.0000**	**.0001**	**.0004**	**.0049**	**.0504**	**.0002**	**-.0004**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0006	.0002	.0004
%RSD	.3066	21.48	192.4	215.9	13.25	5.527	1.279	86.49	84.33
#1	.0373	-.0001	.0000	.0001	.0005	.0048	.0499	.0001	-.0000
#2	.0371	-.0000	-.0000	.0002	.0005	.0052	.0511	.0004	-.0006
#3	.0371	-.0001	.0001	-.0001	.0004	.0047	.0501	.0001	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0084**	**.0006**	**.0006**	**.0002**	**-.0006**	**.0012**	**.1223**	**6.147**
Stddev	.0000	.0000	.0006	.0002	.0004	.0007	.0004	.0044	.016
%RSD	3.365	.2277	107.8	28.74	233.7	133.1	29.45	3.608	.2648
#1	.0010	.0084	.0001	.0005	-.0003	-.0008	.0011	.1173	6.166
#2	.0010	.0085	.0004	.0005	.0003	-.0011	.0016	.1258	6.137
#3	.0011	.0084	.0012	.0008	.0006	.0003	.0009	.1237	6.138

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.627**	**.4856**	**.4103**	**3.971**	**.0179**	**.0004**	**.7226**	**-.0007**	**.0257**
Stddev	.010	.0136	.0107	.007	.0006	.0001	.0014	.0001	.0001
%RSD	.2068	2.791	2.612	.1860	3.526	29.92	.1911	8.894	.2555
#1	4.637	.4703	.4213	3.967	.0180	.0003	.7223	-.0007	.0258
#2	4.618	.4903	.3999	3.966	.0185	.0004	.7241	-.0006	.0257
#3	4.626	.4962	.4098	3.979	.0172	.0005	.7214	-.0007	.0257

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043**	**.0036**	**.0002**	**.9089**	**.0002**	**.0029**	**.0236**	**.0007**
Stddev	.0001	.0008	.0001	.0029	.0005	.0009	.0004	.0001
%RSD	1.486	23.64	39.56	.3212	295.8	31.03	1.660	19.44
#1	.0044	.0040	.0002	.9118	.0004	.0039	.0238	.0008
#2	.0043	.0042	.0001	.9060	-.0004	.0021	.0239	.0007
#3	.0042	.0026	.0002	.9088	.0005	.0027	.0232	.0006

Zoom In Zoom Out

Sample Name: jc94997-8 Acquired: 9/26/2019 14:38:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184830.**	**34884.**	**7875.0**	**10641.**
Stddev	2351.	107.	8.5	19.
%RSD	1.2718	.30656	.10742	.18273
#1	186610.	34782.	7866.4	10621.
#2	182160.	34995.	7875.4	10642.
#3	185710.	34876.	7883.3	10659.

Zoom In Zoom Out

Sample Name: jc94997-9 Acquired: 9/26/2019 14:42:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9792**	**-.0006**	**.0005**	**-.0000**	**.0016**	**.0048**	**.3073**	**.0013**	**-.0005**
Stddev	.0013	.0000	.0001	.0001	.0003	.0001	.0003	.0000	.0002
%RSD	.1305	5.541	17.80	2816.	15.80	2.875	.0969	2.867	47.99
#1	.9787	-.0007	.0006	-.0001	.0014	.0046	.3075	.0014	-.0004
#2	.9806	-.0006	.0004	.0001	.0019	.0049	.3074	.0013	-.0007
#3	.9781	-.0006	.0006	-.0001	.0015	.0049	.3069	.0013	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0032**	**.0293**	**.0013**	**.0004**	**.0012**	**-.0021**	**.0016**	**.2266**	**114.4**
Stddev	.0002	.0000	.0006	.0007	.0003	.0002	.0005	.0020	.6
%RSD	5.694	.1299	43.10	167.1	28.04	8.534	29.96	.9026	.5218
#1	.0034	.0293	.0008	.0012	.0009	-.0021	.0021	.2249	113.7
#2	.0032	.0293	.0012	.0003	.0011	-.0024	.0012	.2288	114.6
#3	.0031	.0293	.0019	-.0002	.0015	-.0020	.0016	.2259	114.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.113**	**35.12**	**4.002**	**29.40**	**.0848**	**.0014**	**11.66**	**-.0019**	**.8814**
Stddev	.005	.03	.015	.01	.0004	.0002	.01	.0004	.0004
%RSD	.0960	.0925	.3640	.0184	.4944	11.55	.0874	19.60	.0501
#1	5.110	35.11	4.014	29.40	.0844	.0014	11.67	-.0023	.8814
#2	5.119	35.16	3.986	29.41	.0852	.0016	11.66	-.0015	.8818
#3	5.110	35.09	4.007	29.40	.0848	.0013	11.65	-.0019	.8809

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0159**	**.0015**	**-.0006**	**.6930**	**.0007**	**.0238**	**.0390**	**.0041**
Stddev	.0002	.0003	.0001	.0010	.0006	.0012	.0003	.0022
%RSD	1.319	21.97	20.83	.1511	81.70	5.060	.8627	53.78
#1	.0156	.0011	-.0006	.6939	.0002	.0252	.0386	.0058
#2	.0160	.0015	-.0007	.6931	.0006	.0235	.0390	.0048
#3	.0160	.0018	-.0004	.6919	.0014	.0228	.0393	.0016

Zoom In Zoom Out

Sample Name: jc94997-9 Acquired: 9/26/2019 14:42:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179580.**	**34665.**	**7570.6**	**9877.3**
Stddev	656.	134.	9.4	12.9
%RSD	.36549	.38792	.12372	.13037
#1	179890.	34813.	7575.7	9881.2
#2	178830.	34633.	7576.4	9887.9
#3	180020.	34550.	7559.8	9863.0

Zoom In Zoom Out

Sample Name: jc94997-10 Acquired: 9/26/2019 14:47:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9706**	**-.0006**	**.0002**	**-.0001**	**.0007**	**.0024**	**.3028**	**.0008**	**-.0007**
Stddev	.0029	.0000	.0001	.0001	.0003	.0002	.0003	.0002	.0001
%RSD	.2940	6.393	29.81	120.0	37.74	7.744	.1053	23.36	18.37
#1	.9682	-.0007	.0002	-.0001	.0004	.0023	.3029	.0010	-.0009
#2	.9700	-.0006	.0003	.0000	.0008	.0026	.3025	.0007	-.0007
#3	.9738	-.0006	.0003	-.0002	.0008	.0024	.3031	.0006	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.0159**	**.0012**	**.0008**	**-.0003**	**-.0026**	**.0014**	**.1071**	**113.8**
Stddev	.0001	.0001	.0008	.0011	.0007	.0009	.0012	.0021	1.6
%RSD	2.454	.6989	69.63	136.1	199.2	34.86	88.30	1.925	1.411
#1	.0023	.0158	.0020	.0016	-.0006	-.0035	.0018	.1049	115.2
#2	.0025	.0159	.0012	-.0004	-.0008	-.0025	.0024	.1076	112.1
#3	.0024	.0160	.0004	.0011	.0004	-.0017	.0000	.1089	114.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.637**	**34.76**	**3.967**	**29.18**	**.0845**	**.0012**	**11.35**	**-.0016**	**.8739**
Stddev	.003	.02	.029	.03	.0003	.0000	.02	.0002	.0019
%RSD	.0678	.0710	.7239	.0906	.3164	2.257	.1641	9.421	.2209
#1	4.634	34.78	3.946	29.16	.0848	.0012	11.35	-.0015	.8723
#2	4.635	34.73	3.954	29.17	.0843	.0011	11.33	-.0018	.8732
#3	4.640	34.76	4.000	29.21	.0845	.0012	11.37	-.0017	.8760

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**-.0001**	**-.0005**	**.6985**	**.0005**	**.0230**	**.0318**	**.0031**
Stddev	.0003	.0002	.0000	.0024	.0007	.0004	.0004	.0028
%RSD	4.157	237.1	.8390	.3392	140.8	1.834	1.171	89.45
#1	.0070	-.0001	-.0005	.6958	.0002	.0228	.0316	.0040
#2	.0065	-.0003	-.0005	.7003	.0000	.0228	.0323	.0054
#3	.0070	.0001	-.0005	.6993	.0014	.0235	.0317	-.0000

Zoom In Zoom Out

Sample Name: jc94997-10 Acquired: 9/26/2019 14:47:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177510.**	**34621.**	**7468.7**	**9773.8**
Stddev	361.	137.	22.4	27.5
%RSD	.20331	.39595	.30015	.28137
#1	177180.	34468.	7473.9	9774.2
#2	177460.	34662.	7488.0	9801.1
#3	177900.	34733.	7444.1	9746.2

Zoom In Zoom Out

Sample Name: jc94997-1f Acquired: 9/26/2019 14:52:49 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5989**	F **-.0012**	**-.0002**	**.0013**	**-.0001**	**.0008**	**2.395**	**.0041**
Stddev	.0008	.0000	.0001	.0002	.0001	.0001	.010	.0002
%RSD	.1304	1.188	56.05	18.13	122.7	14.03	.4223	4.276
#1	.5983	-.0012	-.0003	.0010	-.0002	.0007	2.383	.0043
#2	.5998	-.0012	-.0001	.0014	.0000	.0008	2.398	.0040
#3	.5987	-.0012	-.0002	.0015	-.0002	.0009	2.402	.0041

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0053**	**.0100**	**.0013**	**.0010**	**-.0021**	**-.0034**	**.0011**
Stddev	.0004	.0002	.0000	.0004	.0009	.0004	.0010	.0011
%RSD	59.48	3.824	.1359	33.78	85.31	20.26	29.59	93.20
#1	-.0009	.0053	.0100	.0017	.0005	-.0018	-.0030	.0002
#2	-.0002	.0056	.0100	.0012	.0020	-.0026	-.0027	.0009
#3	-.0008	.0052	.0100	.0009	.0005	-.0020	-.0045	.0023

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**197.6**	**.3359**	**58.85**	**5.455**	**59.72**	**1.295**	**.0011**
Stddev	.0061	1.9	.0008	.04	.042	.02	.003	.0001
%RSD	179.2	.9684	.2257	.0726	.7646	.0342	.2640	5.497
#1	-.0012	199.8	.3353	58.88	5.418	59.74	1.296	.0011
#2	.0011	196.7	.3356	58.80	5.500	59.73	1.298	.0012
#3	.0103	196.3	.3367	58.87	5.446	59.70	1.291	.0011

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.400**	**-.0016**	**1.000**	**-.0010**	**.0002**	**-.0005**	**2.699**	**.0000**
Stddev	.021	.0005	.001	.0002	.0001	.0001	.006	.0012
%RSD	.2845	34.33	.0958	22.38	82.30	20.25	.2291	4480.
#1	7.420	-.0022	.9998	-.0010	.0001	-.0005	2.705	.0014
#2	7.403	-.0014	1.001	-.0012	.0003	-.0004	2.699	-.0009
#3	7.378	-.0012	.9995	-.0008	.0001	-.0006	2.693	-.0005

Zoom In Zoom Out

Sample Name: jc94997-1f Acquired: 9/26/2019 14:52:49 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0418**	**.0224**	**.0046**
Stddev	.0010	.0008	.0013
%RSD	2.493	3.544	28.17
#1	.0415	.0216	.0060
#2	.0430	.0224	.0036
#3	.0410	.0231	.0041

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172140.**	**33719.**	**7289.3**	**9440.4**
Stddev	914.	99.	5.8	7.3
%RSD	.53076	.29492	.07900	.07692
#1	173100.	33621.	7291.4	9448.4
#2	171270.	33820.	7282.8	9434.3
#3	172060.	33716.	7293.7	9438.4

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 14:57:57 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.055**	**2.049**	**2.003**	**2.072**	**2.036**	**2.013**	**2.064**	**2.061**	**.2483**
Stddev	.006	.030	.001	.001	.004	.000	.021	.001	.0006
%RSD	.3147	1.456	.0638	.0445	.1915	.0204	.9937	.0422	.2614
#1	2.062	2.033	2.004	2.071	2.040	2.012	2.077	2.060	.2490
#2	2.051	2.031	2.001	2.073	2.037	2.013	2.073	2.062	.2478
#3	2.052	2.084	2.004	2.072	2.032	2.012	2.040	2.061	.2480
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.016**	**2.040**	**2.004**	**2.084**	**2.065**	**2.023**	**1.994**	**39.73**	**40.68**
Stddev	.002	.004	.004	.003	.002	.005	.002	.13	.11
%RSD	.1117	.1816	.1790	.1647	.1149	.2334	.1143	.3179	.2638
#1	2.015	2.042	2.008	2.085	2.062	2.021	1.996	39.87	40.80
#2	2.019	2.036	2.001	2.087	2.067	2.020	1.995	39.64	40.60
#3	2.014	2.043	2.003	2.080	2.065	2.029	1.991	39.67	40.64
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.49**	**40.31**	**39.67**	**40.29**	**2.026**	**2.033**	**4.897**	**2.054**	**2.036**
Stddev	.08	.06	.11	.02	.001	.001	.003	.003	.035
%RSD	.2051	.1594	.2784	.0421	.0429	.0378	.0690	.1353	1.742
#1	40.58	40.37	39.80	40.27	2.027	2.034	4.898	2.057	2.043
#2	40.41	40.24	39.60	40.29	2.027	2.033	4.894	2.051	1.998
#3	40.47	40.33	39.62	40.31	2.025	2.033	4.900	2.054	2.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 14:57:57 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.019**	**1.988**	**2.016**	**1.977**	**1.990**	**1.979**	**2.013**	**2.001**
Stddev	.001	.002	.001	.001	.002	.003	.001	.006
%RSD	.0638	.1181	.0302	.0541	.1196	.1729	.0655	.2888
#1	2.020	1.987	2.016	1.976	1.993	1.983	2.013	2.007
#2	2.018	1.986	2.016	1.978	1.990	1.976	2.012	1.999
#3	2.020	1.991	2.017	1.976	1.988	1.978	2.014	1.997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176790.**	**33943.**	**7569.1**	**9876.7**
Stddev	757.	119.	21.6	16.9
%RSD	.42797	.34936	.28509	.17068
#1	176070.	33806.	7555.0	9864.3
#2	176730.	34014.	7593.9	9895.9
#3	177580.	34008.	7558.3	9869.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 15:03:05 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0002**	**.0002**	**.0001**	**.0003**	**.0003**	**.0002**	**.0001**	**-.0006**
Stddev	.0002	.0000	.0001	.0002	.0001	.0002	.0000	.0002	.0001
%RSD	50.03	19.68	41.02	189.6	27.71	70.81	21.55	158.4	17.87
#1	.0002	.0002	.0002	-.0001	.0002	.0001	.0003	.0002	-.0007
#2	.0004	.0001	.0001	.0003	.0003	.0002	.0002	.0001	-.0006
#3	.0006	.0002	.0002	.0003	.0004	.0005	.0002	-.0001	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**.0000**	**.0004**	**-.0004**	**-.0009**	**.0000**	**.0092**	**.0021**
Stddev	.0002	.0001	.0004	.0001	.0003	.0007	.0004	.0033	.0021
%RSD	278.2	83.93	1499.	33.66	67.87	76.74	24310.	35.45	102.8
#1	-.0003	-.0000	.0005	.0006	-.0006	-.0009	-.0004	.0119	.0041
#2	.0001	-.0001	-.0001	.0003	-.0007	-.0002	.0001	.0056	-.0001
#3	-.0000	-.0001	-.0004	.0004	-.0001	-.0015	.0003	.0102	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0045**	**-.0013**	**-.0153**	**-.0285**	**.0006**	**.0002**	**-.0000**	**.0001**	**.0003**
Stddev	.0009	.0108	.0262	.0054	.0003	.0001	.0007	.0001	.0001
%RSD	20.01	833.0	170.8	18.89	60.51	45.06	2109.	66.01	19.96
#1	.0054	.0061	.0142	-.0251	.0009	.0003	.0005	.0002	.0003
#2	.0045	-.0137	-.0243	-.0347	.0005	.0002	.0001	.0000	.0002
#3	.0036	.0036	-.0358	-.0257	.0002	.0001	-.0008	.0001	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 15:03:05 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0007**	**.0002**	**-.0011**	**.0017**	**.0011**	**.0015**	**-.0007**
Stddev	.0002	.0005	.0001	.0018	.0007	.0008	.0003	.0012
%RSD	103.6	69.05	28.54	163.2	44.51	72.15	20.68	159.8
#1	.0001	-.0002	.0003	.0007	.0025	.0016	.0018	-.0007
#2	.0004	-.0007	.0002	-.0011	.0010	.0015	.0012	-.0019
#3	.0000	-.0011	.0002	-.0029	.0016	.0002	.0014	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186470.**	**34753.**	**7845.1**	**10663.**
Stddev	185.	181.	11.5	9.
%RSD	.09938	.52051	.14611	.08581
#1	186650.	34949.	7851.3	10672.
#2	186280.	34717.	7852.1	10663.
#3	186470.	34592.	7831.9	10653.

Zoom In Zoom Out

Sample Name: jc94997-2f Acquired: 9/26/2019 15:08:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1449**	**-.0003**	**-.0000**	**.0001**	**-.0001**	**.0031**	**.4543**	**.0064**	**-.0006**
Stddev	.0005	.0000	.0001	.0002	.0001	.0002	.0005	.0000	.0001
%RSD	.3788	16.27	2009.	332.3	90.16	7.592	.1132	.6278	19.06
#1	.1443	-.0003	.0000	-.0001	-.0000	.0030	.4546	.0064	-.0005
#2	.1452	-.0002	-.0001	.0000	-.0001	.0034	.4537	.0065	-.0005
#3	.1452	-.0003	.0000	.0003	-.0001	.0029	.4545	.0064	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0104**	**.0001**	**.0002**	**.0000**	**-.0002**	**.0002**	**.0202**	**44.53**
Stddev	.0001	.0001	.0002	.0007	.0013	.0017	.0006	.0048	.13
%RSD	6.603	.8859	308.2	410.7	87130.	744.6	366.7	23.59	.2880
#1	.0013	.0103	-.0001	.0003	.0012	-.0009	-.0006	.0170	44.39
#2	.0013	.0104	.0003	-.0006	.0003	-.0015	.0005	.0257	44.65
#3	.0015	.0105	.0001	.0008	-.0014	.0017	.0006	.0180	44.54

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0752**	**7.958**	**4.537**	F **272.7**	**.0660**	**.0074**	**.3457**	**-.0007**	**.4109**
Stddev	.0008	.010	.010	3.9	.0009	.0001	.0009	.0000	.0002
%RSD	1.117	.1256	.2192	1.445	1.319	1.594	.2524	6.383	.0483
#1	.0750	7.958	4.532	268.6	.0664	.0073	.3447	-.0007	.4107
#2	.0761	7.969	4.549	276.5	.0666	.0073	.3461	-.0006	.4109
#3	.0745	7.949	4.530	272.9	.0650	.0075	.3464	-.0007	.4111

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0003**	**.0021**	**16.69**	**-.0002**	**.0882**	**.0315**	**.0030**
Stddev	.0001	.0004	.0001	.02	.0002	.0007	.0001	.0023
%RSD	33.82	124.1	6.838	.0980	95.08	.8132	.3625	79.08
#1	-.0003	.0001	.0022	16.68	-.0000	.0876	.0314	.0056
#2	-.0006	.0000	.0020	16.71	-.0004	.0890	.0316	.0023
#3	-.0005	.0007	.0019	16.68	-.0002	.0880	.0314	.0010

Zoom In Zoom Out

Sample Name: jc94997-2f Acquired: 9/26/2019 15:08:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172740.**	**34604.**	**7415.4**	**9492.0**
Stddev	393.	176.	7.4	9.9
%RSD	.22769	.50895	.09973	.10453
#1	172660.	34771.	7408.8	9484.0
#2	173160.	34420.	7423.4	9503.1
#3	172380.	34621.	7413.8	9489.0

Zoom In Zoom Out

Sample Name: jc94997-3f Acquired: 9/26/2019 15:13:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1516**	**-.0003**	**-.0000**	**.0000**	**.0002**	**.0011**	**.4983**	**.0055**	**-.0007**
Stddev	.0002	.0000	.0001	.0001	.0000	.0001	.0003	.0001	.0003
%RSD	.1518	7.569	444.0	784.1	13.10	7.973	.0562	1.825	39.86
#1	.1517	-.0003	.0000	.0002	.0002	.0012	.4984	.0056	-.0006
#2	.1514	-.0003	.0001	-.0000	.0002	.0010	.4986	.0054	-.0005
#3	.1518	-.0003	-.0002	-.0001	.0001	.0010	.4980	.0056	-.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0079**	**.0005**	**.0001**	**-.0006**	**-.0013**	**.0002**	**.0128**	**45.56**
Stddev	.0002	.0001	.0003	.0002	.0008	.0014	.0005	.0023	.04
%RSD	16.34	.6875	69.66	172.1	125.3	102.5	306.1	18.34	.0865
#1	.0015	.0079	.0007	-.0001	-.0004	-.0016	.0008	.0109	45.56
#2	.0016	.0078	.0001	.0002	.0000	-.0026	-.0000	.0121	45.52
#3	.0012	.0078	.0007	.0003	-.0015	.0001	-.0002	.0154	45.60

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0716**	**8.145**	**4.685**	F **276.4**	**.0666**	**.0074**	**.3411**	**-.0008**	**.4201**
Stddev	.0008	.018	.010	1.5	.0001	.0002	.0016	.0000	.0004
%RSD	1.141	.2244	.2041	.5320	.2064	2.294	.4735	5.488	.1024
#1	.0725	8.164	4.680	274.8	.0666	.0075	.3394	-.0008	.4203
#2	.0711	8.128	4.678	277.6	.0667	.0073	.3411	-.0008	.4196
#3	.0712	8.141	4.696	276.9	.0664	.0072	.3426	-.0007	.4204

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0007**	**.0010**	**16.97**	**.0002**	**.0917**	**.0333**	**.0019**
Stddev	.0002	.0007	.0001	.02	.0008	.0008	.0003	.0009
%RSD	588.5	99.60	14.00	.1285	405.8	.9041	1.026	49.94
#1	-.0002	.0012	.0011	17.00	-.0005	.0908	.0331	.0028
#2	-.0001	.0010	.0011	16.96	.0011	.0920	.0337	.0009
#3	.0002	-.0001	.0009	16.97	-.0001	.0924	.0332	.0019

Zoom In Zoom Out

Sample Name: jc94997-3f Acquired: 9/26/2019 15:13:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**171530.**	**34215.**	**7384.0**	**9453.2**
Stddev	701.	93.	9.1	19.4
%RSD	.40891	.27263	.12303	.20558
#1	171660.	34241.	7389.1	9463.5
#2	170770.	34293.	7373.5	9430.8
#3	172160.	34112.	7389.5	9465.3

Zoom In Zoom Out

Sample Name: jc94997-5f Acquired: 9/26/2019 15:18:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2163**	**-.0002**	**-.0001**	**-.0000**	**-.0000**	**.0007**	**.1022**	**.0005**	**-.0007**
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0000	.0000	.0003
%RSD	.0945	13.32	102.9	710.3	336.5	29.99	.0245	5.315	36.35
#1	.2161	-.0002	-.0001	-.0001	.0001	.0010	.1022	.0004	-.0009
#2	.2164	-.0002	.0000	.0001	-.0001	.0006	.1022	.0004	-.0004
#3	.2165	-.0002	-.0001	-.0001	-.0001	.0006	.1022	.0005	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0053**	**.0001**	**.0005**	**-.0014**	**-.0007**	**.0005**	**.0045**	**41.33**
Stddev	.0001	.0001	.0005	.0004	.0003	.0018	.0005	.0015	.09
%RSD	45.46	1.136	541.1	94.65	24.78	242.9	102.8	33.11	.2076
#1	.0004	.0053	-.0001	-.0000	-.0010	-.0025	.0000	.0050	41.23
#2	.0002	.0054	.0007	.0009	-.0016	.0011	.0005	.0056	41.37
#3	.0003	.0052	-.0002	.0005	-.0015	-.0009	.0011	.0028	41.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0220**	**19.47**	**3.484**	**142.0**	**.0471**	**.0003**	**1.690**	**-.0011**	**.4188**
Stddev	.0006	.01	.018	1.7	.0007	.0000	.003	.0002	.0003
%RSD	2.881	.0763	.5074	1.198	1.572	12.90	.1911	18.23	.0664
#1	.0224	19.45	3.466	140.3	.0465	.0003	1.686	-.0014	.4190
#2	.0223	19.47	3.484	143.7	.0479	.0003	1.693	-.0010	.4190
#3	.0212	19.48	3.501	142.0	.0469	.0004	1.691	-.0010	.4185

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0001**	**-.0003**	**.3390**	**-.0007**	**.0229**	**.0069**	**.0026**
Stddev	.0000	.0008	.0001	.0019	.0009	.0002	.0005	.0020
%RSD	13.67	595.4	15.61	.5687	121.0	.7951	7.179	77.35
#1	-.0003	-.0004	-.0003	.3400	-.0008	.0227	.0067	.0006
#2	-.0004	-.0002	-.0004	.3403	.0002	.0229	.0074	.0025
#3	-.0004	.0011	-.0004	.3368	-.0016	.0231	.0065	.0046

Zoom In Zoom Out

Sample Name: jc94997-5f Acquired: 9/26/2019 15:18:02 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**173960.**	**34117.**	**7448.4**	**9642.7**
Stddev	405.	183.	18.5	15.1
%RSD	.23309	.53682	.24774	.15637
#1	173990.	34328.	7463.1	9652.2
#2	173530.	34021.	7454.5	9650.6
#3	174340.	34001.	7427.7	9625.3

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 15:23:05 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.046**	**2.028**	**1.995**	**2.064**	**2.029**	**2.006**	**2.047**	**2.052**	**.2468**
Stddev	.001	.037	.002	.000	.002	.004	.028	.001	.0007
%RSD	.0648	1.840	.0922	.0050	.0851	.2160	1.377	.0364	.2956
#1	2.047	2.052	1.993	2.064	2.028	2.002	2.062	2.051	.2460
#2	2.046	2.047	1.996	2.064	2.028	2.007	2.015	2.053	.2474
#3	2.045	1.985	1.996	2.064	2.031	2.010	2.065	2.052	.2470
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.008**	**2.030**	**1.995**	**2.078**	**2.057**	**2.011**	**1.991**	**39.47**	**40.44**
Stddev	.002	.004	.004	.001	.002	.002	.003	.03	.03
%RSD	.0951	.1800	.1961	.0640	.1041	.1096	.1567	.0661	.0648
#1	2.006	2.026	1.992	2.079	2.055	2.010	1.988	39.50	40.44
#2	2.009	2.030	1.999	2.076	2.059	2.010	1.994	39.47	40.47
#3	2.010	2.033	1.993	2.077	2.057	2.014	1.992	39.44	40.42
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.30**	**40.01**	**39.40**	**40.14**	**2.018**	**2.028**	**4.882**	**2.047**	**2.035**
Stddev	.01	.07	.05	.01	.002	.001	.011	.003	.005
%RSD	.0218	.1763	.1381	.0304	.1191	.0650	.2156	.1422	.2474
#1	40.31	39.99	39.37	40.15	2.016	2.027	4.870	2.044	2.036
#2	40.30	40.09	39.47	40.15	2.021	2.029	4.890	2.046	2.029
#3	40.30	39.96	39.38	40.13	2.017	2.026	4.884	2.050	2.039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 15:23:05 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.013**	**1.979**	**2.011**	**1.968**	**1.984**	**1.968**	**2.007**	**1.999**
Stddev	.002	.002	.002	.002	.001	.002	.002	.004
%RSD	.0954	.1056	.0833	.0972	.0603	.1237	.1093	.1945
#1	2.012	1.977	2.009	1.966	1.985	1.971	2.004	1.995
#2	2.012	1.980	2.012	1.970	1.985	1.967	2.008	1.999
#3	2.015	1.981	2.011	1.967	1.983	1.967	2.007	2.003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176990.**	**34209.**	**7578.2**	**9891.4**
Stddev	590.	228.	12.2	9.1
%RSD	.33331	.66600	.16050	.09222
#1	176560.	34272.	7592.2	9901.6
#2	177660.	33956.	7570.9	9888.3
#3	176730.	34398.	7571.5	9884.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 15:28:12 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0002**	**.0002**	**.0003**	**.0003**	**.0002**	**.0002**	**.0000**	**-.0003**
Stddev	.0001	.0000	.0000	.0000	.0002	.0001	.0000	.0001	.0004
%RSD	42.87	9.637	29.85	10.96	68.70	63.22	5.818	462.0	103.7
#1	.0004	.0002	.0002	.0003	.0001	.0001	.0002	.0001	-.0005
#2	.0003	.0002	.0001	.0002	.0002	.0002	.0002	-.0001	.0001
#3	.0002	.0002	.0002	.0003	.0005	.0004	.0002	-.0000	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**-.0004**	**.0003**	**.0002**	**.0004**	**-.0004**	**-.0008**	**.0010**
Stddev	.0002	.0000	.0003	.0008	.0007	.0004	.0012	.0024	.0007
%RSD	201.1	36.38	70.95	283.5	429.0	104.3	319.7	286.9	67.49
#1	.0003	-.0002	-.0001	.0005	.0006	.0006	.0009	.0014	.0017
#2	.0001	-.0002	-.0006	-.0006	.0004	.0007	-.0014	-.0007	.0008
#3	-.0001	-.0001	-.0004	.0009	-.0006	-.0001	-.0006	-.0033	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0045**	**.0021**	**-.0222**	**-.0033**	**.0001**	**.0003**	**.0006**	**.0001**	**.0003**
Stddev	.0005	.0051	.0056	.0051	.0004	.0001	.0007	.0004	.0000
%RSD	10.17	238.3	25.40	153.5	366.8	19.94	134.9	290.4	11.23
#1	.0050	-.0035	-.0174	-.0055	.0002	.0003	.0006	-.0003	.0003
#2	.0044	.0064	-.0284	.0025	-.0003	.0004	.0013	.0005	.0003
#3	.0041	.0035	-.0208	-.0070	.0005	.0002	-.0002	.0002	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 15:28:12 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0002**	**.0003**	**-.0003**	**.0005**	**.0014**	**.0014**	**.0020**
Stddev	.0001	.0001	.0001	.0006	.0001	.0012	.0005	.0013
%RSD	40.17	71.27	44.88	222.6	23.81	84.16	38.73	63.51
#1	.0002	-.0003	.0002	-.0006	.0005	.0027	.0008	.0006
#2	.0002	-.0002	.0005	-.0006	.0006	.0003	.0018	.0022
#3	.0001	-.0000	.0003	.0004	.0004	.0012	.0016	.0032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185860.**	**34504.**	**7876.7**	**10697.**
Stddev	732.	237.	17.8	19.
%RSD	.39403	.68542	.22549	.17607
#1	185090.	34232.	7857.8	10677.
#2	185970.	34618.	7893.0	10714.
#3	186540.	34662.	7879.4	10700.

Zoom In Zoom Out

Sample Name: jc94997-6f Acquired: 9/26/2019 15:33:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4975**	**-.0002**	**-.0001**	**-.0000**	**.0003**	**.0011**	**.1348**	**.0006**	**-.0005**
Stddev	.0014	.0001	.0001	.0002	.0002	.0003	.0003	.0002	.0002
%RSD	.2805	35.70	47.73	546.0	81.22	29.37	.2115	25.99	45.87
#1	.4965	-.0002	-.0001	-.0000	.0000	.0010	.1345	.0008	-.0007
#2	.4970	-.0003	-.0002	-.0002	.0004	.0009	.1348	.0005	-.0002
#3	.4991	-.0002	-.0001	.0001	.0003	.0015	.1350	.0005	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0041**	**.0003**	**.0007**	**-.0008**	**-.0005**	**.0005**	**.0014**	**34.49**
Stddev	.0001	.0001	.0006	.0005	.0005	.0012	.0012	.0027	.11
%RSD	17.81	2.045	198.7	70.22	57.17	220.1	270.0	197.7	.3253
#1	.0006	.0040	.0011	.0010	-.0011	.0008	.0019	.0036	34.41
#2	.0008	.0042	-.0000	.0001	-.0011	-.0014	-.0005	.0022	34.45
#3	.0006	.0041	-.0001	.0010	-.0003	-.0011	-.0000	-.0017	34.62

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0146**	**7.504**	**2.248**	**F 278.4**	**.0321**	**.0015**	**.4293**	**-.0007**	**.2213**
Stddev	.0001	.034	.030	4.0	.0003	.0002	.0001	.0003	.0003
%RSD	.8563	.4475	1.340	1.434	1.041	10.84	.0167	43.58	.1384
#1	.0147	7.470	2.214	276.1	.0325	.0016	.4292	-.0009	.2210
#2	.0144	7.504	2.263	276.1	.0318	.0017	.4293	-.0007	.2213
#3	.0146	7.538	2.268	283.0	.0320	.0014	.4293	-.0004	.2216

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**.0006**	**.1910**	**-.0000**	**.0182**	**.0076**	**.0019**
Stddev	.0002	.0007	.0001	.0009	.0007	.0009	.0006	.0016
%RSD	115.1	13790.	8.478	.4776	38800.	4.798	8.312	87.18
#1	-.0004	.0007	.0006	.1909	.0006	.0172	.0069	.0025
#2	.0000	-.0002	.0006	.1901	-.0007	.0184	.0080	.0000
#3	-.0002	-.0006	.0007	.1919	.0001	.0189	.0080	.0031

Zoom In
Zoom Out

Sample Name: jc94997-6f Acquired: 9/26/2019 15:33:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**172180.**	**34597.**	**7373.2**	**9413.6**
Stddev	144.	237.	13.2	15.1
%RSD	.08345	.68589	.17935	.16072
#1	172330.	34829.	7358.0	9397.7
#2	172160.	34608.	7381.3	9415.3
#3	172040.	34354.	7380.3	9427.8

Zoom In
Zoom Out

Sample Name: jc94997-7f Acquired: 9/26/2019 15:38:12 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4515**	**-.0004**	**.0001**	**-.0001**	**.0001**	**.0007**	**.6216**	**.0004**	**-.0006**
Stddev	.0012	.0000	.0000	.0002	.0002	.0001	.0004	.0001	.0002
%RSD	.2601	9.117	56.18	186.9	187.3	9.103	.0625	24.06	36.36
#1	.4506	-.0004	.0001	.0001	-.0001	.0006	.6213	.0003	-.0009
#2	.4511	-.0004	.0000	-.0003	.0001	.0007	.6220	.0005	-.0004
#3	.4528	-.0005	.0001	-.0002	.0003	.0008	.6214	.0003	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0124**	**.0006**	**-.0000**	**-.0009**	**-.0015**	**.0010**	**.0064**	**57.42**
Stddev	.0000	.0001	.0005	.0005	.0007	.0008	.0005	.0048	.85
%RSD	2.482	.9157	84.78	3417.	83.27	50.06	44.79	74.79	1.473
#1	.0016	.0123	.0003	.0005	-.0010	-.0016	.0015	.0060	56.57
#2	.0015	.0125	.0011	-.0001	-.0001	-.0007	.0006	.0115	57.44
#3	.0015	.0123	.0003	-.0005	-.0015	-.0023	.0009	.0018	58.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4045**	**4.261**	**1.171**	**23.59**	**.0171**	**-.0000**	**1.441**	**-.0003**	**.2000**
Stddev	.0011	.014	.043	.06	.0003	.0001	.002	.0002	.0006
%RSD	.2664	.3316	3.639	.2398	1.563	2139.	.1527	70.31	.2869
#1	.4046	4.272	1.130	23.64	.0170	.0001	1.441	-.0002	.2001
#2	.4034	4.245	1.215	23.53	.0174	.0000	1.439	-.0001	.1993
#3	.4055	4.265	1.168	23.61	.0170	-.0002	1.444	-.0005	.2004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0007**	**.0011**	**.6332**	**-.0001**	**.0124**	**.0070**	**.0016**
Stddev	.0002	.0002	.0001	.0028	.0011	.0011	.0006	.0007
%RSD	378.4	21.20	4.866	.4416	785.4	8.962	9.161	43.77
#1	.0001	.0007	.0012	.6304	-.0013	.0123	.0076	.0025
#2	-.0003	.0009	.0011	.6359	-.0002	.0135	.0072	.0013
#3	.0000	.0006	.0011	.6333	.0010	.0113	.0063	.0011

Zoom In
Zoom Out

Sample Name: jc94997-7f Acquired: 9/26/2019 15:38:12 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181640.**	**34921.**	**7656.3**	**10141.**
Stddev	192.	93.	9.8	6.
%RSD	.10593	.26772	.12743	.05826
#1	181810.	34921.	7667.5	10143.
#2	181430.	35014.	7650.2	10135.
#3	181690.	34827.	7651.1	10146.

Zoom In
Zoom Out

Sample Name: jc94997-8f Acquired: 9/26/2019 15:43:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0227**	**-.0001**	**.0000**	**.0000**	**-.0000**	**.0029**	**.0166**	**.0002**	**-.0005**
Stddev	.0001	.0000	.0001	.0001	.0000	.0002	.0001	.0001	.0003
%RSD	.2362	32.36	450.2	435.8	150.6	8.638	.6856	38.56	48.63
#1	.0227	-.0001	-.0001	-.0000	.0000	.0028	.0166	.0001	-.0008
#2	.0227	-.0001	.0001	-.0001	-.0000	.0031	.0167	.0002	-.0003
#3	.0228	-.0001	.0001	.0001	-.0001	.0026	.0165	.0002	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0071**	**.0005**	**-.0003**	**-.0005**	**.0003**	**.0006**	**.0162**	**5.801**
Stddev	.0001	.0001	.0004	.0008	.0004	.0016	.0015	.0015	.025
%RSD	47.34	.9031	70.21	239.4	82.93	480.0	268.3	9.007	.4390
#1	-.0001	.0071	.0007	-.0011	-.0000	-.0000	.0022	.0172	5.830
#2	-.0001	.0071	.0001	.0005	-.0008	.0021	.0002	.0145	5.782
#3	-.0002	.0072	.0007	-.0005	-.0007	-.0011	-.0007	.0169	5.792

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3536**	**.4175**	**.3648**	**4.060**	**.0177**	**.0003**	**.3624**	**-.0007**	**.0240**
Stddev	.0016	.0071	.0140	.007	.0004	.0003	.0008	.0002	.0001
%RSD	.4639	1.689	3.827	.1632	2.002	102.6	.2191	34.67	.2455
#1	.3553	.4093	.3798	4.058	.0180	.0005	.3622	-.0008	.0240
#2	.3520	.4219	.3624	4.055	.0173	.0000	.3633	-.0009	.0239
#3	.3536	.4211	.3522	4.068	.0179	.0002	.3618	-.0004	.0239

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0007**	**.0002**	**.8184**	**.0003**	**.0028**	**.0088**	**.0002**
Stddev	.0001	.0010	.0001	.0009	.0005	.0011	.0003	.0009
%RSD	97.76	159.1	27.74	.1145	196.2	40.31	2.858	443.8
#1	.0001	-.0007	.0002	.8184	.0007	.0015	.0089	-.0005
#2	.0002	-.0017	.0001	.8175	-.0003	.0031	.0089	.0012
#3	.0000	.0004	.0003	.8193	.0004	.0037	.0085	-.0001

Zoom In
Zoom Out

Sample Name: jc94997-8f Acquired: 9/26/2019 15:43:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186520.**	**35358.**	**7896.7**	**10666.**
Stddev	599.	447.	16.1	14.
%RSD	.32108	1.2641	.20328	.13099
#1	186200.	34847.	7898.3	10666.
#2	186150.	35676.	7911.8	10680.
#3	187210.	35551.	7879.9	10652.

Zoom In
Zoom Out

Sample Name: jc94997-9f Acquired: 9/26/2019 15:48:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9297**	**-.0006**	**.0000**	**-.0001**	**.0002**	**.0004**	**.2936**	**.0007**	**-.0009**
Stddev	.0014	.0000	.0002	.0001	.0004	.0003	.0001	.0001	.0002
%RSD	.1504	3.105	505.5	101.0	237.5	64.77	.0342	11.80	27.66
#1	.9301	-.0006	-.0001	.0000	-.0002	.0002	.2937	.0008	-.0007
#2	.9309	-.0006	.0002	-.0002	.0001	.0004	.2937	.0007	-.0008
#3	.9282	-.0006	.0000	-.0002	.0005	.0007	.2935	.0007	-.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0085**	**.0007**	**-.0004**	**-.0023**	**-.0019**	**.0018**	**.0001**	**115.6**
Stddev	.0005	.0000	.0008	.0004	.0008	.0008	.0008	.0060	1.3
%RSD	46.37	.5168	125.2	101.6	33.49	39.06	44.95	5328.	1.112
#1	.0006	.0084	.0016	-.0007	-.0021	-.0027	.0021	-.0064	115.5
#2	.0016	.0085	.0000	-.0005	-.0031	-.0013	.0024	.0053	116.9
#3	.0009	.0084	.0004	.0000	-.0017	-.0018	.0009	.0014	114.3

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1146**	**35.09**	**3.970**	**29.13**	**.0830**	**.0015**	**10.77**	**-.0019**	**.8786**
Stddev	.0005	.02	.018	.03	.0003	.0001	.02	.0002	.0011
%RSD	.4543	.0654	.4581	.1183	.3982	5.990	.1555	12.87	.1255
#1	.1140	35.09	3.976	29.14	.0827	.0016	10.79	-.0016	.8782
#2	.1151	35.12	3.950	29.16	.0833	.0014	10.77	-.0018	.8798
#3	.1146	35.08	3.985	29.09	.0828	.0014	10.75	-.0021	.8777

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0001**	**-.0007**	**.6028**	**-.0007**	**.0230**	**.0219**	**.0030**
Stddev	.0003	.0008	.0001	.0010	.0009	.0009	.0007	.0002
%RSD	76.70	866.2	8.117	.1656	137.9	3.777	3.108	6.948
#1	-.0003	.0010	-.0007	.6019	.0004	.0233	.0220	.0029
#2	-.0007	-.0002	-.0007	.6027	-.0014	.0237	.0212	.0033
#3	-.0001	-.0005	-.0008	.6039	-.0010	.0221	.0225	.0029

Zoom In
Zoom Out

Sample Name: jc94997-9f Acquired: 9/26/2019 15:48:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177850.**	**34270.**	**7514.5**	**9850.1**
Stddev	272.	152.	5.7	10.9
%RSD	.15302	.44254	.07562	.11073
#1	178160.	34317.	7513.7	9846.9
#2	177650.	34101.	7509.3	9841.1
#3	177740.	34393.	7520.6	9862.2

Zoom In
Zoom Out

Sample Name: jc94997-10f Acquired: 9/26/2019 15:53:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9110**	**-.0006**	**.0001**	**-.0002**	**.0003**	**.0005**	**.2923**	**.0007**	**-.0005**
Stddev	.0014	.0000	.0001	.0001	.0002	.0001	.0003	.0001	.0003
%RSD	.1514	7.547	106.1	77.76	66.19	23.97	.0953	20.59	56.64
#1	.9125	-.0006	.0001	-.0002	.0004	.0007	.2926	.0005	-.0002
#2	.9107	-.0006	.0002	-.0000	.0004	.0005	.2923	.0007	-.0004
#3	.9098	-.0006	-.0000	-.0003	.0001	.0004	.2921	.0008	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0091**	**.0007**	**.0004**	**-.0022**	**-.0020**	**.0010**	**-.0001**	**112.9**
Stddev	.0001	.0001	.0003	.0005	.0004	.0015	.0009	.0057	1.4
%RSD	8.610	1.396	36.85	117.0	17.61	77.28	96.73	4079.	1.241
#1	.0012	.0092	.0005	.0000	-.0024	-.0012	.0009	-.0034	111.6
#2	.0010	.0090	.0007	.0003	-.0018	-.0010	.0020	-.0034	114.3
#3	.0010	.0090	.0010	.0010	-.0025	-.0038	.0001	.0064	112.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1072**	**34.59**	**3.950**	**28.94**	**.0825**	**.0014**	**10.64**	**-.0021**	**.8634**
Stddev	.0014	.05	.013	.01	.0004	.0001	.01	.0003	.0011
%RSD	1.320	.1410	.3169	.0494	.4570	7.926	.1313	14.45	.1306
#1	.1088	34.53	3.965	28.95	.0824	.0015	10.63	-.0018	.8647
#2	.1060	34.62	3.941	28.94	.0821	.0013	10.65	-.0021	.8631
#3	.1068	34.61	3.945	28.93	.0829	.0015	10.62	-.0024	.8625

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0003**	**-.0009**	**.5995**	**-.0006**	**.0232**	**.0217**	**.0036**
Stddev	.0001	.0005	.0001	.0040	.0009	.0010	.0008	.0029
%RSD	13.99	138.0	8.497	.6644	134.8	4.442	3.537	81.22
#1	-.0007	.0002	-.0009	.5961	.0004	.0235	.0214	.0047
#2	-.0008	.0009	-.0010	.6039	-.0012	.0241	.0211	.0058
#3	-.0009	-.0001	-.0008	.5986	-.0010	.0221	.0226	.0003

Zoom In
Zoom Out

Sample Name: jc94997-10f Acquired: 9/26/2019 15:53:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177680.**	**34376.**	**7549.1**	**9884.2**
Stddev	372.	128.	2.3	8.5
%RSD	.20922	.37175	.03092	.08598
#1	177260.	34462.	7550.4	9876.5
#2	177980.	34229.	7546.4	9893.3
#3	177800.	34436.	7550.5	9882.7

Zoom In
Zoom Out

Sample Name: mp17500-s1 Acquired: 9/26/2019 15:58:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.991**	**1.998**	**1.950**	**2.010**	**1.984**	**1.966**	**2.017**	**2.016**
Stddev	.002	.047	.001	.002	.001	.004	.015	.002
%RSD	.1002	2.345	.0633	.1144	.0624	.2235	.7600	.1016
#1	1.993	1.997	1.950	2.012	1.986	1.965	2.012	2.016
#2	1.991	1.951	1.951	2.012	1.984	1.971	2.034	2.017
#3	1.989	2.045	1.948	2.008	1.984	1.962	2.005	2.013

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2477**	**1.986**	**1.998**	**1.996**	**2.056**	**2.012**	**1.956**	**2.005**
Stddev	.0002	.001	.001	.003	.002	.001	.003	.005
%RSD	.0659	.0632	.0348	.1688	.0858	.0359	.1360	.2374
#1	.2479	1.986	1.998	1.994	2.058	2.012	1.957	2.010
#2	.2475	1.985	1.997	2.000	2.056	2.013	1.957	2.002
#3	.2476	1.988	1.999	1.994	2.054	2.013	1.953	2.002

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.61**	**28.52**	**25.26**	**26.05**	**25.12**	**37.94**	**1.963**	**2.038**
Stddev	.02	.04	.01	.09	.05	.05	.001	.002
%RSD	.0875	.1231	.0521	.3395	.2015	.1438	.0696	.1147
#1	24.63	28.49	25.25	25.99	25.14	37.90	1.962	2.039
#2	24.59	28.50	25.26	26.01	25.06	37.93	1.964	2.040
#3	24.61	28.56	25.28	26.15	25.15	38.00	1.964	2.035

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.411**	**2.062**	**1.993**	**2.034**	**1.984**	**2.027**	**1.466**	**.0584**
Stddev	.004	.002	.029	.002	.002	.001	.001	.0011
%RSD	.1809	.1044	1.441	.0903	.0946	.0322	.0975	1.851
#1	2.406	2.064	1.977	2.034	1.984	2.027	1.467	.0580
#2	2.415	2.060	1.976	2.033	1.985	2.027	1.466	.0596
#3	2.412	2.062	2.026	2.037	1.982	2.026	1.464	.0576

Zoom In
Zoom Out

Sample Name: mp17500-s1 Acquired: 9/26/2019 15:58:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0002**	**2.271**	W **-.0620**
Stddev	.0008	.003	.0017
%RSD	344.1	.1231	2.678
#1	.0012	2.271	-.0602
#2	-.0005	2.274	-.0625
#3	.0000	2.268	-.0634

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180340.**	**34883.**	**7686.9**	**10092.**
Stddev	389.	314.	10.5	10.
%RSD	.21594	.90126	.13721	.09682
#1	180700.	35031.	7680.8	10086.
#2	180400.	35096.	7699.0	10103.
#3	179930.	34522.	7680.7	10086.

Zoom In
Zoom Out

Sample Name: mp17500-s2 Acquired: 9/26/2019 16:03:14 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.000**	**2.030**	**1.954**	**2.014**	**1.986**	**1.971**	**2.027**	**2.020**
Stddev	.007	.026	.002	.001	.003	.002	.003	.001
%RSD	.3413	1.263	.1025	.0520	.1368	.0982	.1363	.0385
#1	2.005	2.023	1.956	2.015	1.986	1.969	2.029	2.021
#2	2.003	2.058	1.952	2.013	1.983	1.971	2.029	2.021
#3	1.993	2.008	1.954	2.015	1.989	1.973	2.024	2.020

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2487**	**1.990**	**1.998**	**1.999**	**2.061**	**2.015**	**1.959**	**2.008**
Stddev	.0007	.001	.002	.003	.003	.001	.002	.003
%RSD	.2803	.0643	.0794	.1383	.1199	.0686	.1227	.1695
#1	.2489	1.990	1.997	1.997	2.063	2.013	1.958	2.011
#2	.2479	1.988	1.997	1.997	2.058	2.015	1.957	2.004
#3	.2492	1.991	1.999	2.002	2.061	2.016	1.962	2.009

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.79**	**28.68**	**25.43**	**26.14**	**25.29**	**38.23**	**1.970**	**2.040**
Stddev	.10	.09	.04	.09	.10	.07	.004	.002
%RSD	.4144	.3164	.1605	.3274	.4048	.1838	.1899	.1063
#1	24.84	28.71	25.46	26.12	25.26	38.29	1.966	2.041
#2	24.85	28.76	25.45	26.23	25.40	38.25	1.970	2.037
#3	24.67	28.58	25.38	26.07	25.20	38.16	1.973	2.041

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.483**	**2.061**	**2.008**	**2.038**	**1.987**	**2.033**	**1.493**	**.0597**
Stddev	.002	.000	.059	.000	.002	.002	.001	.0002
%RSD	.0985	.0189	2.947	.0209	.1049	.0773	.0832	.3588
#1	2.485	2.060	2.014	2.038	1.989	2.032	1.494	.0598
#2	2.481	2.061	2.063	2.038	1.985	2.033	1.492	.0597
#3	2.481	2.061	1.946	2.037	1.987	2.035	1.494	.0594

Zoom In
Zoom Out

Sample Name: mp17500-s2 Acquired: 9/26/2019 16:03:14 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0003**	**2.278**	W **-.0640**
Stddev	.0008	.004	.0017
%RSD	274.2	.1620	2.693
#1	.0008	2.279	-.0647
#2	-.0006	2.274	-.0620
#3	.0007	2.281	-.0652

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180870.**	**35151.**	**7717.0**	**10122.**
Stddev	360.	273.	9.3	6.
%RSD	.19921	.77540	.12112	.06206
#1	180720.	35247.	7722.3	10124.
#2	181290.	34844.	7722.6	10126.
#3	180610.	35363.	7706.2	10114.

Zoom In
Zoom Out

Sample Name: jc95286-2 Acquired: 9/26/2019 16:08:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0096**	**.0004**	**.0004**	**.0005**	**.0017**	**.0017**	**.0012**	**.0010**	**-.0004**
Stddev	.0001	.0001	.0001	.0001	.0001	.0001	.0000	.0000	.0003
%RSD	1.342	12.43	19.43	21.41	5.668	7.803	2.011	4.857	65.77
#1	.0097	.0004	.0003	.0006	.0017	.0016	.0012	.0009	-.0006
#2	.0095	.0004	.0005	.0004	.0016	.0018	.0012	.0010	-.0001
#3	.0097	.0005	.0004	.0007	.0018	.0016	.0012	.0010	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0108**	**.0002**	**.0013**	**-.0007**	**.0008**	**.0011**	**.0103**	**3.342**
Stddev	.0001	.0001	.0015	.0009	.0003	.0001	.0007	.0044	.012
%RSD	30.17	.5178	960.0	69.71	43.53	17.33	66.39	42.43	.3611
#1	.0003	.0108	.0003	.0010	-.0004	.0008	.0005	.0125	3.355
#2	.0005	.0107	.0015	.0023	-.0006	.0009	.0019	.0131	3.340
#3	.0004	.0108	-.0014	.0006	-.0010	.0007	.0008	.0053	3.331

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0340**	**.9949**	**.6381**	**13.08**	**.0111**	**.0007**	**2.308**	**.0001**	**.0207**
Stddev	.0015	.0039	.0092	.01	.0004	.0001	.001	.0002	.0000
%RSD	4.380	.3900	1.441	.0983	3.361	19.00	.0605	241.4	.2202
#1	.0331	.9952	.6358	13.09	.0115	.0006	2.310	.0002	.0207
#2	.0357	.9986	.6303	13.09	.0111	.0009	2.309	-.0002	.0208
#3	.0331	.9909	.6483	13.07	.0108	.0007	2.307	.0003	.0207

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0002**	**.0023**	**1.480**	**-.0003**	**.0013**	**.3413**	**.0002**
Stddev	.0002	.0003	.0002	.002	.0003	.0012	.0011	.0019
%RSD	24.77	139.1	9.989	.1464	120.0	89.21	.3091	1003.
#1	.0005	.0000	.0024	1.482	-.0006	.0006	.3424	.0007
#2	.0008	.0001	.0024	1.480	-.0003	.0027	.3413	-.0019
#3	.0006	.0006	.0020	1.478	.0001	.0007	.3402	.0018

Zoom In
Zoom Out

Sample Name: jc95286-2 Acquired: 9/26/2019 16:08:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185620.**	**35091.**	**7849.3**	**10577.**
Stddev	665.	239.	9.6	14.
%RSD	.35803	.68179	.12266	.13682
#1	184890.	34979.	7844.2	10564.
#2	185780.	34929.	7860.4	10593.
#3	186200.	35366.	7843.2	10575.

Zoom In
Zoom Out

Sample Name: mp17500-sd1 Acquired: 9/26/2019 16:13:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0094**	**.0001**	**.0000**	**.0009**	**.0012**	**.0015**	**.0013**	**-.0001**	**-.0006**
Stddev	.0004	.0001	.0007	.0007	.0010	.0003	.0001	.0017	.0009
%RSD	4.731	199.3	19230.	70.93	78.66	19.38	7.064	1148.	144.6
#1	.0093	-.0001	-.0008	.0004	.0019	.0013	.0013	.0001	-.0013
#2	.0090	.0001	.0001	.0008	.0017	.0018	.0011	-.0019	-.0009
#3	.0099	.0001	.0006	.0017	.0001	.0015	.0013	.0014	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0119**	**.0013**	**.0034**	**-.0028**	**-.0012**	**-.0016**	**.0071**	**3.345**
Stddev	.0006	.0001	.0023	.0032	.0007	.0063	.0005	.0259	.012
%RSD	357.1	.6800	179.5	94.76	25.94	505.7	30.07	363.5	.3542
#1	.0003	.0119	-.0011	.0014	-.0037	-.0084	-.0016	.0301	3.358
#2	-.0005	.0118	.0014	.0016	-.0024	.0036	-.0011	-.0210	3.337
#3	.0007	.0120	.0034	.0071	-.0024	.0010	-.0020	.0123	3.339

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0348**	**.9885**	**.4893**	**12.78**	**.0090**	**.0004**	**2.332**	**-.0004**	**.0210**
Stddev	.0012	.0309	.0383	.04	.0010	.0007	.002	.0006	.0001
%RSD	3.556	3.130	7.818	.3305	11.14	177.5	.0969	158.5	.6144
#1	.0350	1.022	.5147	12.76	.0101	.0011	2.335	-.0009	.0211
#2	.0359	.9812	.5079	12.75	.0086	.0000	2.331	-.0004	.0209
#3	.0334	.9619	.4453	12.83	.0083	-.0000	2.331	.0002	.0210

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017**	**-.0011**	**.0013**	**1.459**	**-.0017**	**-.0009**	**.3381**	**.0075**
Stddev	.0009	.0032	.0002	.006	.0015	.0049	.0021	.0015
%RSD	56.57	300.3	19.32	.3820	87.01	547.6	.6245	20.17
#1	.0014	-.0004	.0012	1.463	-.0017	.0023	.3358	.0058
#2	.0027	-.0045	.0016	1.461	-.0003	-.0065	.3384	.0086
#3	.0009	.0018	.0011	1.452	-.0033	.0015	.3400	.0080

Zoom In Zoom Out

Sample Name: mp17500-sd1 Acquired: 9/26/2019 16:13:09 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187150.**	**35227.**	**7915.9**	**10757.**
Stddev	2361.	142.	4.6	8.
%RSD	1.2613	.40243	.05795	.07757
#1	188000.	35071.	7915.2	10757.
#2	188980.	35263.	7911.8	10749.
#3	184490.	35347.	7920.8	10766.

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 16:18:13 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.042**	**2.080**	**2.013**	**2.053**	**2.036**	**2.009**	**2.063**	**2.062**	**.2481**
Stddev	.006	.004	.005	.005	.005	.003	.016	.004	.0002
%RSD	.3027	.2051	.2437	.2675	.2415	.1706	.7702	.1848	.0964
#1	2.040	2.080	2.010	2.052	2.041	2.012	2.064	2.061	.2482
#2	2.049	2.083	2.010	2.049	2.035	2.005	2.047	2.058	.2482
#3	2.037	2.075	2.019	2.059	2.031	2.010	2.079	2.065	.2478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**2.046**	**2.003**	**2.095**	**2.068**	**2.016**	**2.001**	**39.54**	**40.31**
Stddev	.004	.004	.007	.007	.004	.004	.008	.12	.13
%RSD	.1790	.2037	.3345	.3243	.2188	.2152	.3845	.3016	.3157
#1	2.034	2.045	1.999	2.092	2.067	2.015	1.996	39.54	40.35
#2	2.029	2.043	2.000	2.089	2.065	2.012	1.997	39.66	40.42
#3	2.028	2.051	2.011	2.102	2.073	2.020	2.010	39.42	40.17
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.37**	**39.96**	**39.36**	**39.94**	**2.027**	**2.020**	**4.909**	**2.040**	**2.035**
Stddev	.09	.19	.10	.08	.007	.006	.010	.007	.015
%RSD	.2304	.4683	.2446	.1977	.3673	.2791	.1969	.3236	.7400
#1	40.40	40.07	39.37	40.02	2.028	2.019	4.904	2.039	2.022
#2	40.44	40.06	39.46	39.94	2.019	2.015	4.903	2.034	2.052
#3	40.26	39.74	39.26	39.86	2.034	2.026	4.920	2.047	2.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 16:18:13 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.018**	**1.978**	**2.026**	**1.989**	**1.984**	**1.978**	**2.003**	**2.008**
Stddev	.003	.004	.002	.005	.007	.006	.004	.003
%RSD	.1607	.1763	.0981	.2498	.3403	.3069	.2077	.1286
#1	2.022	1.978	2.028	1.987	1.980	1.976	2.003	2.009
#2	2.016	1.975	2.025	1.986	1.982	1.985	2.000	2.011
#3	2.016	1.982	2.025	1.995	1.992	1.973	2.008	2.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**177690.**	**34489.**	**7596.5**	**9938.8**
Stddev	217.	280.	16.3	19.5
%RSD	.12237	.81233	.21516	.19592
#1	177480.	34290.	7606.5	9948.2
#2	177680.	34368.	7605.4	9951.8
#3	177920.	34809.	7577.7	9916.5

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 16:23:20 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0002**	**.0002**	**.0003**	**.0003**	**.0003**	**.0002**	**-.0000**	**-.0001**
Stddev	.0001	.0000	.0001	.0002	.0001	.0004	.0000	.0002	.0003
%RSD	35.23	16.20	35.56	64.81	43.34	153.6	12.10	12260.	214.6
#1	.0005	.0002	.0002	.0001	.0002	.0004	.0002	-.0002	.0000
#2	.0002	.0002	.0002	.0004	.0003	.0006	.0002	.0003	-.0005
#3	.0005	.0002	.0003	.0004	.0005	-.0002	.0002	-.0001	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0000**	**.0005**	**-.0001**	**-.0003**	**-.0011**	**-.0001**	**.0065**	**.0010**
Stddev	.0004	.0000	.0008	.0008	.0002	.0010	.0007	.0056	.0004
%RSD	156.2	322.9	172.8	696.8	77.42	86.78	644.2	85.72	37.32
#1	.0003	-.0000	-.0001	.0007	-.0005	-.0001	-.0008	.0101	.0006
#2	.0007	-.0000	.0014	-.0003	-.0001	-.0013	-.0002	.0001	.0014
#3	-.0002	.0000	.0001	-.0008	-.0002	-.0020	.0007	.0093	.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.0013**	**-.0029**	**-.0530**	**.0004**	**.0002**	**.0004**	**.0002**	**.0003**
Stddev	.0012	.0041	.0261	.0078	.0004	.0000	.0008	.0002	.0001
%RSD	30.29	311.6	892.8	14.75	102.9	26.92	195.6	111.2	20.51
#1	.0049	.0060	.0122	-.0480	.0008	.0002	.0010	.0001	.0002
#2	.0026	-.0006	-.0331	-.0489	.0002	.0001	.0006	.0000	.0003
#3	.0041	-.0015	.0121	-.0620	.0001	.0002	-.0005	.0004	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 16:23:20 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0004**	**.0001**	**-.0001**	**.0006**	**.0005**	**-.0000**	**.0009**
Stddev	.0003	.0001	.0000	.0011	.0003	.0014	.0009	.0001
%RSD	90.36	27.97	30.01	788.8	43.01	276.1	5814.	12.81
#1	.0005	-.0003	.0001	-.0014	.0009	-.0005	.0010	.0008
#2	-.0000	-.0006	.0001	.0003	.0004	-.0001	-.0007	.0009
#3	.0005	-.0004	.0001	.0007	.0005	.0021	-.0004	.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185170.**	**34746.**	**7881.1**	**10732.**
Stddev	1873.	196.	6.5	10.
%RSD	1.0114	.56427	.08237	.08963
#1	185010.	34520.	7881.8	10729.
#2	183380.	34869.	7874.2	10724.
#3	187120.	34849.	7887.2	10743.

Zoom In Zoom Out

Sample Name: jc95180-1 Acquired: 9/26/2019 16:28:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.141**	**-.0150**	**.0006**	**-.0029**	**.0074**	**.0146**	**.0439**	**.0205**	**-.0013**
Stddev	.005	.0006	.0016	.0028	.0060	.0063	.0009	.0067	.0043
%RSD	.4281	3.681	280.1	95.83	80.47	43.28	2.127	32.69	340.1
#1	1.135	-.0155	-.0006	-.0010	.0131	.0137	.0442	.0185	-.0054
#2	1.145	-.0144	.0023	-.0016	.0013	.0214	.0428	.0280	.0033
#3	1.142	-.0152	-.0000	-.0061	.0078	.0088	.0445	.0151	-.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0372**	**.0068**	**.0123**	**-.0266**	**-.0470**	**-.0134**	**.3512**	**2189.**
Stddev	.0014	.0013	.0158	.0241	.0068	.0241	.0285	.0965	22.
%RSD	264.7	3.464	233.2	195.7	25.51	51.26	213.5	27.49	1.021
#1	-.0020	.0387	.0080	.0392	-.0300	-.0200	.0125	.2672	2164.
#2	-.0001	.0366	-.0096	-.0076	-.0188	-.0547	-.0439	.4567	2199.
#3	.0006	.0363	.0219	.0054	-.0311	-.0662	-.0086	.3297	2205.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0100**	**8.235**	**68.58**	**1868.**	**-.0020**	**.0072**	**2.481**	**-.0197**	**15.38**
Stddev	.0163	.127	.46	14.	.0035	.0048	.021	.0061	.04
%RSD	162.5	1.541	.6646	.7719	171.6	67.54	.8448	31.04	.2564
#1	-.0265	8.091	68.87	1877.	-.0001	.0124	2.460	-.0236	15.36
#2	.0060	8.330	68.82	1851.	.0001	.0061	2.481	-.0127	15.36
#3	-.0096	8.285	68.05	1875.	-.0060	.0029	2.502	-.0228	15.43

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0059**	**.0095**	**-.0022**	**14.45**	**.0218**	**.5762**	**.0492**	**.0904**
Stddev	.0033	.0063	.0015	.05	.0194	.0351	.0111	.0136
%RSD	55.90	66.26	69.36	.3491	89.09	6.085	22.51	15.09
#1	-.0032	.0165	-.0035	14.50	.0403	.5859	.0619	.1058
#2	-.0096	.0073	-.0005	14.40	.0234	.6054	.0434	.0801
#3	-.0049	.0046	-.0025	14.44	.0016	.5373	.0421	.0852

Zoom In Zoom Out

Sample Name: jc95180-1 Acquired: 9/26/2019 16:28:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176430.**	**34349.**	**7536.5**	**9832.1**
Stddev	260.	226.	17.3	15.7
%RSD	.14747	.65926	.22918	.15972
#1	176320.	34461.	7538.8	9839.8
#2	176240.	34498.	7518.2	9814.1
#3	176730.	34088.	7552.5	9842.5

Zoom In Zoom Out

Sample Name: jc95180-2 Acquired: 9/26/2019 16:33:32 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.147**	**-.0154**	**-.0007**	**.0005**	**.0103**	**.0212**	**.1042**	**.0224**	**-.0054**
Stddev	.006	.0005	.0020	.0014	.0018	.0015	.0008	.0026	.0057
%RSD	.4867	3.027	266.5	290.3	17.59	7.131	.7214	11.80	106.8
#1	1.151	-.0154	.0007	-.0011	.0093	.0208	.1049	.0235	-.0117
#2	1.149	-.0150	-.0030	.0008	.0093	.0200	.1034	.0194	-.0040
#3	1.141	-.0159	.0001	.0017	.0124	.0229	.1042	.0243	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0051**	**.1882**	**.0268**	**.0228**	**-.0246**	**-.0371**	**-.0026**	**4.314**	**2240.**
Stddev	.0040	.0024	.0055	.0231	.0308	.0239	.0117	.076	12.
%RSD	79.13	1.283	20.46	101.1	125.2	64.57	442.4	1.768	.5404
#1	.0094	.1885	.0331	-.0033	.0107	-.0621	.0101	4.244	2236.
#2	.0014	.1856	.0234	.0404	-.0456	-.0145	-.0128	4.395	2254.
#3	.0044	.1904	.0238	.0315	-.0389	-.0346	-.0052	4.301	2231.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0934**	**7.762**	**69.61**	**1910.**	**-.0157**	**.0073**	**2.518**	**-.0147**	**15.45**
Stddev	.0371	.130	.70	30.	.0062	.0035	.007	.0050	.03
%RSD	39.75	1.670	1.004	1.589	39.42	47.71	.2824	34.34	.2137
#1	.1081	7.911	68.81	1936.	-.0099	.0062	2.521	-.0152	15.49
#2	.0512	7.688	69.95	1917.	-.0222	.0111	2.524	-.0194	15.44
#3	.1210	7.686	70.08	1877.	-.0150	.0044	2.510	-.0094	15.43

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0012**	**.0045**	**-.0026**	**15.38**	**.0168**	**.6075**	**.0606**	**.0924**
Stddev	.0045	.0055	.0015	.02	.0167	.0082	.0065	.0396
%RSD	373.1	123.6	56.07	.1465	99.38	1.348	10.80	42.89
#1	.0040	.0085	-.0019	15.40	.0073	.6065	.0533	.0685
#2	-.0037	.0067	-.0017	15.36	.0361	.5998	.0660	.0706
#3	-.0039	-.0018	-.0043	15.39	.0071	.6161	.0624	.1381

Zoom In
Zoom Out

Sample Name: jc95180-2 Acquired: 9/26/2019 16:33:32 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**175350.**	**34108.**	**7512.2**	**9817.8**
Stddev	688.	70.	6.6	9.5
%RSD	.39232	.20501	.08844	.09682
#1	174580.	34044.	7518.3	9824.7
#2	175920.	34099.	7505.1	9806.9
#3	175550.	34183.	7513.3	9821.7

Zoom In
Zoom Out

Sample Name: jc95180-3 Acquired: 9/26/2019 16:38:41 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.130**	**-.0157**	**-.0012**	**.0020**	**.0100**	**.0109**	**.0308**	**.0199**	**-.0137**
Stddev	.005	.0009	.0028	.0013	.0056	.0067	.0002	.0060	.0066
%RSD	.4685	5.885	231.6	62.36	55.94	61.31	.7095	30.08	48.03
#1	1.135	-.0149	.0014	.0023	.0051	.0158	.0311	.0263	-.0067
#2	1.131	-.0167	-.0042	.0031	.0087	.0033	.0307	.0191	-.0147
#3	1.125	-.0154	-.0008	.0006	.0160	.0136	.0307	.0144	-.0198

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0066**	**.0293**	**.0210**	**.0149**	**-.0345**	**-.0447**	**-.0104**	**.2778**	**2195.**
Stddev	.0079	.0012	.0046	.0191	.0070	.0200	.0139	.0251	14.
%RSD	119.2	4.074	21.77	128.0	20.39	44.74	133.7	9.044	.6242
#1	-.0008	.0280	.0180	.0170	-.0408	-.0401	-.0014	.3035	2183.
#2	.0149	.0298	.0263	.0329	-.0359	-.0274	-.0264	.2532	2192.
#3	.0058	.0302	.0188	-.0051	-.0269	-.0666	-.0034	.2767	2210.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0177**	**7.420**	**68.64**	**1842.**	**-.0170**	**.0101**	**2.338**	**-.0062**	**15.18**
Stddev	.0128	.089	.58	20.	.0037	.0053	.012	.0035	.07
%RSD	72.14	1.202	.8475	1.094	21.75	52.32	.5294	55.36	.4858
#1	.0171	7.485	69.30	1819.	-.0202	.0141	2.325	-.0088	15.26
#2	.0052	7.318	68.42	1856.	-.0179	.0120	2.349	-.0023	15.15
#3	.0307	7.456	68.20	1851.	-.0130	.0041	2.341	-.0076	15.13

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056**	**.0568**	**-.0019**	**14.25**	**.0121**	**.5976**	**.0763**	**.0776**
Stddev	.0032	.0100	.0011	.04	.0144	.0047	.0239	.0428
%RSD	56.83	17.67	56.37	.2920	119.3	.7848	31.28	55.13
#1	.0020	.0452	-.0007	14.20	-.0035	.6006	.0665	.1268
#2	.0071	.0633	-.0028	14.27	.0147	.6000	.0588	.0493
#3	.0078	.0618	-.0022	14.27	.0250	.5922	.1035	.0567

Zoom In
Zoom Out

Sample Name: jc95180-3 Acquired: 9/26/2019 16:38:41 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**175540.**	**33916.**	**7490.1**	**9789.3**
Stddev	406.	87.	6.3	9.0
%RSD	.23128	.25670	.08379	.09201
#1	175730.	33831.	7494.7	9792.5
#2	175810.	34005.	7492.7	9796.2
#3	175070.	33912.	7483.0	9779.1

Zoom In
Zoom Out

Sample Name: jc95180-4 Acquired: 9/26/2019 16:43:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.116**	**-.0156**	**-.0006**	**-.0044**	**.0123**	**.0116**	**.0354**	**.0159**	**-.0099**
Stddev	.006	.0011	.0038	.0031	.0075	.0018	.0011	.0091	.0022
%RSD	.5722	7.131	612.0	69.19	61.37	15.59	3.103	57.12	21.87
#1	1.112	-.0146	-.0006	-.0078	.0166	.0124	.0366	.0060	-.0088
#2	1.113	-.0154	.0032	-.0034	.0036	.0130	.0350	.0238	-.0124
#3	1.124	-.0168	-.0045	-.0020	.0167	.0096	.0345	.0177	-.0085

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**.0268**	**.0195**	**.0168**	**-.0158**	**-.0273**	**-.0133**	**.1438**	**2205.**
Stddev	.0011	.0026	.0188	.0236	.0090	.0185	.0097	.1361	26.
%RSD	52.78	9.546	96.17	140.6	57.08	67.80	73.06	94.63	1.201
#1	.0027	.0297	.0291	.0005	-.0072	-.0486	-.0231	-.0127	2196.
#2	.0008	.0252	-.0021	.0438	-.0251	-.0173	-.0037	.2340	2184.
#3	.0028	.0253	.0316	.0060	-.0149	-.0159	-.0130	.2102	2235.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0159**	**7.339**	**66.89**	**1860.**	**-.0225**	**.0084**	**2.308**	**-.0175**	**14.98**
Stddev	.0228	.071	.92	15.	.0044	.0010	.003	.0072	.01
%RSD	143.3	.9706	1.371	.8319	19.61	11.46	.1382	41.04	.0695
#1	-.0071	7.385	67.70	1874.	-.0268	.0076	2.307	-.0250	14.99
#2	-.0418	7.375	65.89	1843.	-.0227	.0081	2.306	-.0169	14.97
#3	.0012	7.257	67.08	1863.	-.0180	.0095	2.312	-.0107	14.98

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0041**	**.0013**	**-.0047**	**14.28**	**.0227**	**.5824**	**.0634**	**.1229**
Stddev	.0069	.0064	.0008	.04	.0251	.0058	.0326	.0228
%RSD	167.5	508.6	17.53	.2566	110.8	1.003	51.45	18.53
#1	-.0027	-.0052	-.0049	14.31	.0341	.5886	.0989	.1135
#2	.0020	.0076	-.0038	14.24	-.0061	.5815	.0346	.1064
#3	-.0115	.0015	-.0054	14.29	.0400	.5770	.0569	.1489

Zoom In
Zoom Out

Sample Name: jc95180-4 Acquired: 9/26/2019 16:43:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**175550.**	**33881.**	**7515.4**	**9814.8**
Stddev	462.	128.	7.9	12.3
%RSD	.26293	.37704	.10543	.12544
#1	175020.	33959.	7523.5	9825.8
#2	175750.	33950.	7507.7	9801.5
#3	175870.	33734.	7514.9	9817.2

Zoom In
Zoom Out

Sample Name: jc95180-5 Acquired: 9/26/2019 16:49:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.142**	**-.0159**	**-.0026**	**.0007**	**.0075**	**.0120**	**.0385**	**.0207**	**-.0065**
Stddev	.005	.0006	.0013	.0016	.0031	.0021	.0003	.0075	.0085
%RSD	.4595	3.886	51.46	221.2	41.56	17.17	.7121	36.44	130.4
#1	1.148	-.0159	-.0041	.0022	.0040	.0099	.0384	.0208	.0030
#2	1.139	-.0166	-.0015	.0009	.0083	.0140	.0388	.0282	-.0133
#3	1.139	-.0153	-.0022	-.0010	.0100	.0123	.0383	.0131	-.0091

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0173**	**.0282**	**.0141**	**-.0303**	**-.0232**	**-.0214**	**.1905**	**2255.**
Stddev	.0045	.0009	.0151	.0095	.0227	.0242	.0090	.0466	41.
%RSD	554.9	5.433	53.42	67.40	75.02	104.3	42.15	24.48	1.798
#1	-.0060	.0163	.0163	.0131	-.0175	-.0294	-.0314	.1511	2282.
#2	.0014	.0174	.0232	.0051	-.0169	-.0438	-.0138	.2420	2274.
#3	.0021	.0182	.0452	.0241	-.0566	.0035	-.0191	.1784	2208.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0205**	**7.384**	**68.32**	**1900.**	**-.0352**	**.0008**	**2.439**	**-.0138**	**15.35**
Stddev	.0255	.091	.68	13.	.0077	.0016	.021	.0041	.05
%RSD	124.6	1.231	.9968	.7092	21.89	215.9	.8593	29.77	.3100
#1	.0021	7.308	69.01	1915.	-.0440	.0026	2.431	-.0181	15.40
#2	.0495	7.485	67.65	1896.	-.0313	-.0005	2.423	-.0135	15.31
#3	.0098	7.359	68.31	1888.	-.0302	.0001	2.463	-.0099	15.33

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0107**	**-.0126**	**-.0043**	**14.46**	**.0028**	**.6174**	**.0744**	**.1132**
Stddev	.0045	.0152	.0009	.03	.0295	.0134	.0266	.0630
%RSD	41.82	120.3	20.83	.2162	1055.	2.174	35.69	55.72
#1	-.0108	.0019	-.0034	14.50	-.0312	.6116	.0508	.0570
#2	-.0152	-.0284	-.0042	14.44	.0186	.6078	.1032	.1012
#3	-.0062	-.0115	-.0052	14.45	.0209	.6327	.0692	.1813

Zoom In
Zoom Out

Sample Name: jc95180-5 Acquired: 9/26/2019 16:49:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176650.**	**33834.**	**7526.5**	**9808.8**
Stddev	873.	276.	14.3	9.1
%RSD	.49395	.81585	.19036	.09252
#1	177660.	33519.	7512.1	9798.5
#2	176150.	33952.	7526.6	9812.4
#3	176150.	34032.	7540.7	9815.5

Zoom In
Zoom Out

Sample Name: jc95180-6 Acquired: 9/26/2019 16:54:14 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.158**	**-.0157**	**-.0025**	**.0040**	**.0105**	**.0151**	**.1043**	**.0194**	**-.0158**
Stddev	.004	.0013	.0017	.0017	.0027	.0009	.0001	.0022	.0041
%RSD	.3283	8.497	65.00	43.10	25.45	5.738	.0686	11.54	26.08
#1	1.162	-.0164	-.0029	.0046	.0126	.0143	.1044	.0199	-.0188
#2	1.154	-.0142	-.0007	.0054	.0113	.0160	.1043	.0170	-.0111
#3	1.157	-.0167	-.0040	.0021	.0075	.0150	.1043	.0213	-.0176

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0123**	**.0213**	**.0123**	**-.0117**	**-.0423**	**-.0136**	**.2251**	**2302.**
Stddev	.0052	.0010	.0120	.0136	.0078	.0062	.0081	.0879	36.
%RSD	221.3	8.245	56.40	110.2	66.59	14.75	59.89	39.04	1.554
#1	.0040	.0134	.0335	.0004	-.0207	-.0433	-.0067	.3256	2343.
#2	.0065	.0114	.0211	.0271	-.0064	-.0479	-.0225	.1628	2279.
#3	-.0035	.0120	.0094	.0095	-.0081	-.0356	-.0114	.1869	2284.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0721**	**7.599**	**68.53**	**1912.**	**-.0327**	**.0055**	**2.387**	**.0019**	**15.55**
Stddev	.0292	.104	.58	19.	.0070	.0022	.028	.0084	.03
%RSD	40.49	1.371	.8466	.9968	21.24	40.59	1.166	452.2	.2046
#1	.0816	7.589	68.35	1928.	-.0253	.0030	2.399	.0098	15.58
#2	.0954	7.708	68.06	1917.	-.0337	.0072	2.355	.0026	15.52
#3	.0394	7.500	69.18	1891.	-.0391	.0062	2.407	-.0069	15.54

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0053**	**.0112**	**-.0059**	**14.45**	**.0114**	**.5941**	**.0568**	**.1056**
Stddev	.0004	.0036	.0029	.08	.0353	.0178	.0039	.0569
%RSD	8.559	31.82	48.91	.5267	310.9	2.990	6.910	53.82
#1	-.0048	.0071	-.0080	14.54	-.0294	.6113	.0543	.0680
#2	-.0057	.0133	-.0071	14.39	.0336	.5758	.0613	.1710
#3	-.0053	.0131	-.0026	14.43	.0299	.5952	.0548	.0779

Zoom In
Zoom Out

Sample Name: jc95180-6 Acquired: 9/26/2019 16:54:14 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**176060.**	**34305.**	**7543.2**	**9829.5**
Stddev	596.	205.	10.2	18.0
%RSD	.33879	.59693	.13543	.18291
#1	175940.	34077.	7535.8	9810.7
#2	175530.	34365.	7554.9	9846.5
#3	176700.	34473.	7539.0	9831.3

Zoom In
Zoom Out

Sample Name: jc95180-7 Acquired: 9/26/2019 16:59:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.135**	**-.0142**	**-.0023**	**.0018**	**.0062**	**.0173**	**.1208**	**.0225**	**-.0126**
Stddev	.005	.0001	.0016	.0009	.0040	.0045	.0006	.0070	.0118
%RSD	.4450	.4984	69.67	47.49	64.22	26.10	.5019	31.17	93.76
#1	1.140	-.0142	-.0039	.0008	.0101	.0217	.1215	.0147	.0009
#2	1.136	-.0143	-.0007	.0023	.0064	.0127	.1203	.0247	-.0176
#3	1.130	-.0142	-.0022	.0023	.0021	.0174	.1206	.0282	-.0210

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0131**	**.0257**	**.0220**	**-.0138**	**-.0304**	**.0005**	**.5634**	**2102.**
Stddev	.0027	.0016	.0088	.0013	.0159	.0174	.0233	.0832	9.
%RSD	555.7	12.32	34.05	6.115	114.7	57.41	4691.	14.77	.4266
#1	.0035	.0113	.0289	.0231	-.0099	-.0463	-.0174	.5264	2094.
#2	-.0002	.0137	.0158	.0223	-.0313	-.0329	.0268	.5051	2112.
#3	-.0018	.0143	.0325	.0205	-.0003	-.0118	-.0080	.6587	2099.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0371**	**9.241**	**69.58**	**1814.**	**-.0347**	**.0020**	**3.037**	**-.0195**	**15.21**
Stddev	.0366	.126	.45	13.	.0097	.0014	.014	.0057	.03
%RSD	98.63	1.363	.6423	.7100	27.99	67.25	.4560	29.35	.1827
#1	.0565	9.127	69.26	1802.	-.0458	.0006	3.053	-.0257	15.23
#2	-.0051	9.219	70.09	1812.	-.0286	.0034	3.027	-.0183	15.22
#3	.0599	9.376	69.38	1827.	-.0295	.0021	3.031	-.0144	15.18

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0060**	**-.0023**	**15.24**	**.0148**	**.5736**	**.0632**	**.0763**
Stddev	.0083	.0063	.0002	.02	.0222	.0048	.0037	.0440
%RSD	12060.	103.6	8.795	.1564	149.7	.8431	5.841	57.62
#1	-.0021	-.0016	-.0024	15.26	.0080	.5690	.0648	.0557
#2	.0090	-.0033	-.0020	15.21	-.0032	.5732	.0658	.1268
#3	-.0072	-.0132	-.0023	15.24	.0396	.5786	.0590	.0464

Zoom In
Zoom Out

Sample Name: jc95180-7 Acquired: 9/26/2019 16:59:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178120.**	**34203.**	**7556.5**	**9863.7**
Stddev	450.	62.	16.0	17.9
%RSD	.25268	.18269	.21197	.18181
#1	178280.	34252.	7570.3	9877.1
#2	177620.	34132.	7539.0	9843.3
#3	178480.	34223.	7560.3	9870.7

Zoom In
Zoom Out

Sample Name: jc95180-8 Acquired: 9/26/2019 17:04:36 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6156**	**-.0072**	**-.0009**	**.0005**	**.0027**	**.0024**	**.0344**	**.0302**	**-.0005**
Stddev	.0036	.0004	.0048	.0029	.0030	.0070	.0008	.0026	.0030
%RSD	.5924	6.218	519.6	564.6	109.5	289.8	2.321	8.604	616.7
#1	.6154	-.0069	-.0023	-.0004	-.0006	.0046	.0342	.0274	-.0014
#2	.6194	-.0077	.0044	.0037	.0053	.0080	.0338	.0305	.0029
#3	.6121	-.0070	-.0049	-.0018	.0035	-.0054	.0353	.0326	-.0030

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0052**	**.0014**	**.0067**	**.0148**	**-.0215**	**-.0204**	**-.0163**	**.1185**	**967.7**
Stddev	.0122	.0011	.0120	.0150	.0089	.0197	.0117	.1455	4.3
%RSD	233.9	76.97	179.1	101.1	41.63	96.23	71.83	122.8	.4440
#1	-.0047	.0005	-.0040	.0069	-.0298	-.0247	-.0035	.2529	972.5
#2	-.0177	.0010	.0045	.0321	-.0226	.0010	-.0189	-.0361	966.2
#3	.0067	.0026	.0197	.0054	-.0120	-.0376	-.0266	.1387	964.4

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0105**	**.8900**	**45.08**	**783.8**	**-.0538**	**.0028**	**3.051**	**-.0104**	**8.554**
Stddev	.0097	.1368	.62	2.1	.0130	.0077	.024	.0045	.026
%RSD	92.40	15.37	1.386	.2653	24.14	276.3	.7827	42.98	.3058
#1	.0216	.9836	45.74	785.9	-.0533	.0013	3.039	-.0085	8.581
#2	.0033	.7330	44.51	783.8	-.0411	-.0040	3.079	-.0072	8.553
#3	.0067	.9534	44.98	781.7	-.0671	.0111	3.036	-.0155	8.529

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0052**	**-.0297**	**-.0073**	**10.87**	**-.0097**	**.2889**	**.0562**	**.0293**
Stddev	.0044	.0239	.0035	.03	.0216	.0152	.0107	.0440
%RSD	84.89	80.62	47.67	.3123	222.7	5.265	18.99	150.1
#1	-.0084	-.0161	-.0090	10.84	-.0199	.2737	.0516	.0767
#2	-.0002	-.0573	-.0096	10.90	.0151	.2888	.0685	.0216
#3	-.0069	-.0156	-.0033	10.88	-.0243	.3041	.0487	-.0103

Zoom In
Zoom Out

Sample Name: jc95180-8 Acquired: 9/26/2019 17:04:36 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180780.**	**34548.**	**7676.4**	**10164.**
Stddev	255.	107.	14.4	21.
%RSD	.14091	.31104	.18730	.21018
#1	180500.	34429.	7683.6	10175.
#2	180880.	34578.	7685.8	10177.
#3	180980.	34637.	7659.9	10139.

Zoom In
Zoom Out

Sample Name: jc95180-9 Acquired: 9/26/2019 17:09:29 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6825**	**-.0073**	**-.0017**	**-.0037**	**.0050**	**.0143**	**.0344**	**.0360**	**-.0091**
Stddev	.0039	.0001	.0028	.0027	.0024	.0029	.0010	.0010	.0026
%RSD	.5667	1.142	170.0	72.35	48.88	20.01	2.853	2.790	29.07
#1	.6791	-.0072	-.0029	-.0038	.0031	.0169	.0345	.0350	-.0094
#2	.6817	-.0074	-.0037	-.0063	.0078	.0113	.0353	.0370	-.0115
#3	.6867	-.0073	.0016	-.0010	.0042	.0149	.0333	.0359	-.0063

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0025**	**.0015**	**.0157**	**.0196**	**-.0191**	**-.0038**	**.0106**	**.4812**	**1072.**
Stddev	.0056	.0006	.0083	.0080	.0046	.0180	.0092	.0819	1.
%RSD	222.2	38.77	52.62	40.88	24.22	478.8	87.01	17.03	.0547
#1	-.0089	.0014	.0076	.0169	-.0240	-.0195	-.0000	.5593	1072.
#2	-.0002	.0010	.0154	.0133	-.0148	-.0077	.0158	.4884	1072.
#3	.0016	.0021	.0242	.0286	-.0186	.0159	.0160	.3959	1073.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0854**	**1.094**	**49.33**	**913.3**	**-.0437**	**.0051**	**3.185**	**-.0126**	**9.189**
Stddev	.0169	.214	.20	1.0	.0076	.0044	.017	.0063	.003
%RSD	19.74	19.54	.4136	.1073	17.40	86.94	.5315	50.48	.0374
#1	.1041	1.250	49.56	913.4	-.0450	-.0000	3.169	-.0145	9.192
#2	.0807	.8502	49.20	912.3	-.0355	.0078	3.203	-.0177	9.188
#3	.0714	1.180	49.22	914.2	-.0505	.0075	3.183	-.0055	9.186

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0050**	**.0049**	**-.0026**	**11.30**	**.0030**	**.3230**	**.0490**	**.0345**
Stddev	.0073	.0121	.0027	.01	.0234	.0274	.0089	.0174
%RSD	147.0	245.5	102.5	.1123	776.9	8.498	18.26	50.29
#1	-.0131	-.0054	-.0052	11.31	-.0168	.3081	.0415	.0466
#2	-.0028	.0019	-.0027	11.31	-.0030	.3063	.0466	.0146
#3	.0010	.0182	.0001	11.29	.0288	.3547	.0589	.0423

Zoom In
Zoom Out

Sample Name: jc95180-9 Acquired: 9/26/2019 17:09:29 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180510.**	**34411.**	**7695.1**	**10157.**
Stddev	629.	212.	17.9	13.
%RSD	.34860	.61556	.23274	.12913
#1	180460.	34596.	7674.7	10141.
#2	181170.	34458.	7702.0	10164.
#3	179910.	34180.	7708.5	10164.

Zoom In
Zoom Out

Sample Name: jc95328-1 Acquired: 9/26/2019 17:14:23 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5052**	**-.0004**	**.0000**	**.0003**	**.0007**	**.0012**	**.1382**	**.0014**	**-.0001**
Stddev	.0011	.0000	.0002	.0002	.0003	.0003	.0007	.0001	.0003
%RSD	.2216	11.24	559.2	75.34	46.42	24.52	.4717	4.402	254.3
#1	.5041	-.0004	.0001	.0000	.0010	.0008	.1383	.0014	-.0004
#2	.5064	-.0003	.0002	.0004	.0008	.0013	.1375	.0013	-.0002
#3	.5052	-.0003	-.0002	.0003	.0003	.0014	.1388	.0013	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017**	**.0068**	**.0024**	**.0005**	**-.0016**	**-.0021**	**.0013**	**-.0040**	**102.9**
Stddev	.0001	.0000	.0006	.0001	.0002	.0015	.0007	.0105	1.3
%RSD	6.172	.4793	26.95	21.15	10.73	74.33	53.23	265.7	1.258
#1	.0017	.0068	.0031	.0005	-.0017	-.0036	.0019	-.0110	104.0
#2	.0015	.0067	.0019	.0004	-.0014	-.0005	.0016	-.0090	101.5
#3	.0017	.0068	.0021	.0006	-.0017	-.0021	.0005	.0081	103.1

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**62.44**	**3.483**	**143.9**	**.0483**	**.0001**	**8.250**	**-.0015**	**1.131**
Stddev	.0003	.04	.014	.2	.0005	.0001	.019	.0001	.001
%RSD	7.449	.0662	.3965	.1615	.9995	181.0	.2257	5.828	.0966
#1	.0039	62.39	3.468	144.1	.0488	.0002	8.267	-.0014	1.130
#2	.0037	62.46	3.496	143.7	.0479	-.0000	8.253	-.0016	1.132
#3	.0034	62.46	3.484	143.9	.0482	.0000	8.230	-.0016	1.131

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0003**	**-.0003**	**9.695**	**.0002**	**.0146**	**.0313**	**.0051**
Stddev	.0001	.0003	.0001	.018	.0008	.0007	.0005	.0010
%RSD	17.88	90.53	44.66	.1881	374.7	4.800	1.548	20.08
#1	-.0009	.0007	-.0004	9.710	-.0003	.0141	.0318	.0051
#2	-.0006	.0001	-.0002	9.700	-.0002	.0144	.0308	.0061
#3	-.0009	.0003	-.0002	9.675	.0011	.0154	.0313	.0041

Zoom In Zoom Out

Sample Name: jc95328-1 Acquired: 9/26/2019 17:14:23 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**173370.**	**34245.**	**7345.4**	**9539.1**
Stddev	862.	62.	31.2	26.3
%RSD	.49714	.18189	.42494	.27594
#1	173100.	34245.	7327.5	9526.3
#2	174330.	34307.	7327.3	9521.7
#3	172670.	34182.	7381.4	9569.4

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 17:19:34 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.011**	**1.983**	**2.033**	**2.008**	**1.976**	**2.041**	**2.041**	**.2442**
Stddev	.006	.013	.003	.004	.003	.001	.023	.004	.0004
%RSD	.3023	.6218	.1639	.2225	.1343	.0492	1.131	.2193	.1752
#1	1.996	2.024	1.987	2.038	2.007	1.975	2.064	2.046	.2445
#2	2.008	2.011	1.983	2.031	2.011	1.976	2.018	2.039	.2444
#3	2.001	1.999	1.980	2.029	2.006	1.977	2.041	2.038	.2437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.025**	**1.945**	**2.070**	**2.069**	**1.990**	**1.941**	**38.86**	**39.73**
Stddev	.001	.003	.003	.003	.004	.004	.002	.08	.10
%RSD	.0495	.1493	.1396	.1421	.1749	.1772	.1220	.2089	.2579
#1	2.002	2.028	1.947	2.073	2.072	1.987	1.944	38.79	39.66
#2	2.003	2.026	1.942	2.068	2.069	1.994	1.939	38.95	39.84
#3	2.001	2.022	1.944	2.069	2.065	1.990	1.940	38.83	39.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.77**	**39.65**	**38.75**	**39.64**	**1.995**	**1.962**	**4.759**	**1.991**	**2.008**
Stddev	.07	.13	.10	.06	.004	.003	.007	.003	.033
%RSD	.1858	.3266	.2628	.1536	.2019	.1372	.1568	.1606	1.638
#1	39.75	39.63	38.72	39.64	1.999	1.965	4.767	1.994	1.976
#2	39.86	39.78	38.87	39.70	1.992	1.961	4.755	1.991	2.042
#3	39.71	39.52	38.67	39.58	1.992	1.960	4.754	1.988	2.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 17:19:34 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**1.920**	**1.962**	**1.984**	**1.973**	**1.943**	**1.981**	**1.979**
Stddev	.001	.003	.002	.003	.003	.003	.005	.006
%RSD	.0572	.1651	.0754	.1290	.1498	.1610	.2532	.2817
#1	1.964	1.923	1.961	1.986	1.976	1.939	1.986	1.979
#2	1.966	1.919	1.964	1.982	1.972	1.944	1.976	1.984
#3	1.964	1.917	1.962	1.982	1.970	1.945	1.981	1.973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178120.**	**34224.**	**7612.6**	**9953.7**
Stddev	437.	204.	11.7	15.9
%RSD	.24549	.59514	.15311	.16006
#1	177630.	34196.	7604.9	9938.6
#2	178250.	34036.	7606.9	9952.1
#3	178470.	34440.	7626.0	9970.4

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 17:24:41 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0000**	**.0001**	**.0003**	**.0003**	**.0001**	**.0001**	**.0000**	**-.0005**
Stddev	.0001	.0001	.0001	.0001	.0002	.0001	.0000	.0002	.0004
%RSD	249.9	155.3	106.7	27.55	54.65	143.8	12.20	336.7	83.99
#1	.0002	-.0001	.0003	.0002	.0005	.0001	.0001	.0002	-.0007
#2	-.0001	-.0000	.0001	.0003	.0001	-.0000	.0002	-.0001	-.0000
#3	.0001	.0000	.0000	.0004	.0003	.0001	.0002	.0000	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0002**	**.0001**	**.0001**	**.0000**	**-.0009**	**.0000**	**.0352**	**-.0038**
Stddev	.0003	.0000	.0004	.0004	.0005	.0007	.0004	.0062	.0012
%RSD	113.3	17.10	313.9	753.5	1013.	86.19	5869.	17.72	30.58
#1	.0005	-.0001	.0002	.0005	-.0002	-.0011	-.0000	.0376	-.0046
#2	.0002	-.0001	-.0003	-.0003	-.0003	-.0000	-.0004	.0281	-.0043
#3	-.0000	-.0002	.0005	-.0000	.0006	-.0014	.0005	.0399	-.0024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0061**	**-.0208**	**-.0306**	**-.0005**	**.0003**	**.0004**	**-.0003**	**.0001**
Stddev	.0010	.0029	.0118	.0102	.0000	.0001	.0005	.0003	.0000
%RSD	2519.	48.11	56.98	33.20	9.168	30.56	108.1	118.8	62.99
#1	.0012	-.0031	-.0266	-.0343	-.0005	.0002	.0007	.0001	.0000
#2	-.0004	-.0063	-.0072	-.0191	-.0004	.0004	.0006	-.0005	.0001
#3	-.0007	-.0089	-.0286	-.0383	-.0005	.0003	-.0001	-.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 17:24:41 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0006**	**.0000**	**-.0013**	**-.0001**	**.0014**	**.0002**	**.0019**
Stddev	.0002	.0007	.0001	.0003	.0007	.0008	.0002	.0018
%RSD	171.3	116.5	596.8	20.17	809.5	58.77	92.97	98.38
#1	.0001	.0002	.0001	-.0014	-.0002	.0005	.0000	.0015
#2	.0002	-.0010	-.0001	-.0010	.0007	.0014	.0002	.0039
#3	-.0001	-.0011	.0000	-.0015	-.0008	.0021	.0004	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186950.**	**34410.**	**7903.3**	**10742.**
Stddev	681.	339.	32.9	36.
%RSD	.36430	.98649	.41679	.33239
#1	187690.	34033.	7933.2	10778.
#2	186810.	34693.	7868.0	10706.
#3	186350.	34503.	7908.7	10741.

Zoom In Zoom Out

Sample Name: jc95455-2f Acquired: 9/26/2019 17:29:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3248**	**-.0005**	**.0002**	**.0003**	**.0041**	**.0057**	**.3961**	**.0009**	**-.0004**
Stddev	.0011	.0000	.0001	.0001	.0002	.0002	.0002	.0001	.0003
%RSD	.3331	1.432	42.30	17.63	4.725	3.227	.0453	13.22	59.62
#1	.3251	-.0005	.0003	.0004	.0042	.0059	.3959	.0008	-.0003
#2	.3236	-.0005	.0001	.0003	.0038	.0055	.3963	.0011	-.0003
#3	.3257	-.0005	.0003	.0004	.0042	.0057	.3962	.0009	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017**	**.0640**	**.0031**	**.0006**	**-.0010**	**.0020**	**.0026**	**.0047**	**71.18**
Stddev	.0003	.0000	.0003	.0002	.0001	.0004	.0017	.0053	1.00
%RSD	20.14	.0586	8.304	35.20	11.48	19.83	66.16	113.8	1.410
#1	.0013	.0640	.0031	.0009	-.0012	.0018	.0045	-.0014	70.63
#2	.0020	.0640	.0029	.0006	-.0009	.0024	.0022	.0083	72.33
#3	.0017	.0641	.0034	.0004	-.0010	.0017	.0011	.0072	70.56

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0081**	**12.70**	**17.13**	F **310.0**	**.0830**	**.0031**	**4.790**	**.0032**	**.7261**
Stddev	.0005	.03	.05	4.0	.0003	.0001	.003	.0002	.0010
%RSD	5.711	.2413	.3121	1.285	.4087	2.667	.0626	7.488	.1312
#1	.0077	12.69	17.18	307.4	.0827	.0030	4.793	.0034	.7267
#2	.0086	12.68	17.08	308.0	.0834	.0030	4.789	.0033	.7250
#3	.0081	12.73	17.13	314.6	.0830	.0031	4.787	.0029	.7265

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0300**	**.0011**	**9.519**	**-.0008**	**.0050**	**.0185**	**.0047**
Stddev	.0001	.0012	.0002	.009	.0008	.0012	.0006	.0021
%RSD	11.40	4.155	14.12	.0973	108.9	24.55	2.980	45.66
#1	.0011	.0293	.0012	9.509	.0000	.0052	.0180	.0064
#2	.0014	.0314	.0011	9.519	-.0007	.0037	.0186	.0023
#3	.0013	.0292	.0009	9.528	-.0016	.0061	.0191	.0054

Zoom In Zoom Out

Sample Name: jc95455-2f Acquired: 9/26/2019 17:29:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**171930.**	**34266.**	**7377.8**	**9409.3**
Stddev	446.	60.	3.6	14.6
%RSD	.25911	.17436	.04870	.15501
#1	172040.	34330.	7379.0	9393.9
#2	172320.	34257.	7380.6	9411.1
#3	171440.	34211.	7373.7	9422.9

Zoom In Zoom Out

Sample Name: jc95455-3f Acquired: 9/26/2019 17:34:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2094**	**-.0006**	**.0001**	**.0005**	**.0017**	**.0098**	**.0065**	**.0305**	**-.0005**
Stddev	.0011	.0000	.0001	.0000	.0001	.0003	.0000	.0005	.0001
%RSD	.5125	2.667	135.4	8.538	7.773	2.837	.5285	1.549	18.72
#1	.2082	-.0006	.0002	.0005	.0017	.0101	.0065	.0303	-.0005
#2	.2097	-.0006	-.0001	.0006	.0019	.0097	.0065	.0310	-.0004
#3	.2104	-.0006	.0002	.0005	.0016	.0096	.0065	.0302	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0182**	**-.0000**	**.0001**	**-.0005**	**-.0000**	**.0008**	**-.0016**	**84.22**
Stddev	.0001	.0000	.0005	.0006	.0009	.0001	.0013	.0010	1.04
%RSD	15.62	.1456	1235.	520.4	186.2	693.4	156.2	60.14	1.235
#1	.0008	.0182	.0005	.0008	-.0010	-.0001	.0016	-.0008	83.25
#2	.0008	.0182	-.0004	.0001	-.0009	.0001	.0016	-.0014	85.32
#3	.0006	.0182	-.0002	-.0005	.0005	-.0000	-.0007	-.0027	84.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0392**	**9.912**	**18.83**	F **677.9**	**.1663**	**.0011**	**2.966**	**-.0010**	**.4233**
Stddev	.0006	.040	.10	11.8	.0005	.0001	.010	.0004	.0006
%RSD	1.446	.4078	.5264	1.745	.3032	8.467	.3452	34.53	.1360
#1	.0385	9.909	18.71	682.9	.1667	.0011	2.977	-.0013	.4226
#2	.0393	9.954	18.86	686.5	.1657	.0011	2.966	-.0012	.4236
#3	.0397	9.873	18.90	664.5	.1663	.0010	2.956	-.0006	.4237

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0106**	**.0003**	**20.44**	**-.0004**	**.0111**	**.0308**	**.0040**
Stddev	.0004	.0004	.0001	.05	.0005	.0008	.0003	.0012
%RSD	60.58	3.743	27.30	.2345	146.6	7.044	1.081	28.82
#1	-.0009	.0102	.0004	20.49	-.0008	.0103	.0312	.0027
#2	-.0009	.0104	.0002	20.43	-.0005	.0111	.0305	.0048
#3	-.0002	.0110	.0002	20.40	.0002	.0119	.0307	.0045

Zoom In
Zoom Out

Sample Name: jc95455-3f Acquired: 9/26/2019 17:34:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**164220.**	**33629.**	**7137.2**	**8990.9**
Stddev	283.	198.	5.4	2.9
%RSD	.17213	.58900	.07616	.03183
#1	163950.	33702.	7131.1	8988.6
#2	164520.	33405.	7138.6	8994.1
#3	164200.	33781.	7141.7	8989.9

Zoom In
Zoom Out

Sample Name: jc95455-4f Acquired: 9/26/2019 17:39:58 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1656**	**-.0010**	**.0002**	**.0003**	**.0018**	**.0109**	**.0219**	**.0025**
Stddev	.0002	.0000	.0001	.0002	.0000	.0006	.0000	.0001
%RSD	.1057	2.057	71.31	66.48	2.483	5.473	.1624	1.996
#1	.1658	-.0010	.0001	.0002	.0018	.0102	.0219	.0026
#2	.1655	-.0010	.0001	.0002	.0018	.0113	.0219	.0025
#3	.1654	-.0010	.0004	.0005	.0018	.0111	.0219	.0025

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0014**	**.0207**	**.0032**	**-.0019**	F **-.0048**	**.0055**	**.0013**
Stddev	.0001	.0001	.0002	.0013	.0011	.0007	.0010	.0002
%RSD	19.04	8.692	.8147	41.37	59.52	15.32	17.96	17.19
#1	-.0004	.0015	.0207	.0042	-.0022	-.0043	.0060	.0011
#2	-.0005	.0014	.0206	.0017	-.0006	-.0046	.0043	.0012
#3	-.0003	.0013	.0209	.0038	-.0028	-.0057	.0061	.0015

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0047**	**143.2**	**-.0008**	**11.35**	**14.13**	F **1027.**	**.2456**	**.0006**
Stddev	.0084	.7	.0010	.02	.02	22.	.0001	.0002
%RSD	180.6	.5185	125.9	.1846	.1150	2.098	.0351	26.85
#1	.0141	142.8	-.0012	11.33	14.12	1035.	.2457	.0008
#2	-.0019	142.7	.0003	11.37	14.15	1002.	.2456	.0005
#3	.0018	144.0	-.0015	11.34	14.13	1043.	.2455	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.641**	**-.0019**	**.6619**	**-.0006**	**.0011**	**.0004**	F **297.2**	**.0008**
Stddev	.002	.0004	.0002	.0003	.0008	.0001	.2	.0002
%RSD	.0391	21.39	.0299	40.59	68.90	40.79	.0779	20.03
#1	5.644	-.0023	.6620	-.0009	.0016	.0003	297.5	.0009
#2	5.640	-.0020	.6616	-.0005	.0016	.0002	297.1	.0006
#3	5.640	-.0015	.6619	-.0005	.0002	.0005	297.1	.0008

Zoom In
Zoom Out

Sample Name: jc95455-4f Acquired: 9/26/2019 17:39:58 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0225**	**.0927**	**.0063**
Stddev	.0017	.0001	.0014
%RSD	7.635	.1324	21.79
#1	.0233	.0928	.0074
#2	.0205	.0928	.0065
#3	.0237	.0926	.0048

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**159920.**	**33122.**	**6952.1**	**8682.4**
Stddev	621.	98.	12.9	15.4
%RSD	.38849	.29564	.18622	.17780
#1	159420.	33054.	6952.9	8683.5
#2	160610.	33235.	6964.6	8697.2
#3	159720.	33079.	6938.7	8666.4

Zoom In
Zoom Out

Sample Name: jc95455-5f Acquired: 9/26/2019 17:45:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2199**	**-.0008**	**.0003**	**-.0002**	**.0063**	**.0111**	**.0028**	**.0102**
Stddev	.0004	.0000	.0001	.0001	.0002	.0003	.0000	.0001
%RSD	.1690	2.638	22.14	43.67	3.315	2.544	1.003	.7710
#1	.2196	-.0008	.0003	-.0002	.0061	.0115	.0028	.0102
#2	.2203	-.0008	.0002	-.0001	.0061	.0110	.0028	.0102
#3	.2198	-.0008	.0003	-.0003	.0065	.0110	.0028	.0101

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0001**	**.9281**	**.0039**	F **-.0042**	F **-.0050**	**.0041**	**.0027**
Stddev	.0001	.0001	.0014	.0007	.0009	.0011	.0010	.0004
%RSD	316.5	72.39	.1555	18.42	21.99	22.50	24.59	14.30
#1	.0001	.0002	.9288	.0047	-.0052	-.0038	.0049	.0028
#2	.0001	.0000	.9291	.0033	-.0037	-.0052	.0044	.0023
#3	-.0001	.0003	.9265	.0037	-.0036	-.0060	.0029	.0031

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0113**	**119.1**	**.0074**	**9.616**	**13.79**	F **1114.**	**.2045**	**.0006**
Stddev	.0014	.8	.0003	.016	.04	5.	.0008	.0001
%RSD	12.72	.6393	4.699	.1699	.2938	.4829	.3981	10.20
#1	.0101	119.6	.0071	9.633	13.75	1120.	.2037	.0006
#2	.0129	119.5	.0077	9.615	13.81	1114.	.2053	.0005
#3	.0110	118.2	.0075	9.600	13.82	1109.	.2045	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.553**	**-.0015**	**.5379**	**-.0008**	**-.0008**	**.0007**	F **408.7**	**.0002**
Stddev	.013	.0002	.0002	.0001	.0002	.0000	.8	.0003
%RSD	.1539	15.44	.0464	15.65	25.74	5.089	.1935	201.8
#1	8.556	-.0013	.5377	-.0009	-.0006	.0007	409.0	-.0001
#2	8.564	-.0014	.5377	-.0009	-.0009	.0007	409.3	.0001
#3	8.539	-.0018	.5382	-.0007	-.0009	.0006	407.8	.0005

Zoom In Zoom Out

Sample Name: jc95455-5f Acquired: 9/26/2019 17:45:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0232**	**.1140**	**.0054**
Stddev	.0012	.0009	.0004
%RSD	5.366	.7519	7.838
#1	.0218	.1131	.0056
#2	.0237	.1148	.0049
#3	.0242	.1141	.0057

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**159290.**	**33166.**	**6961.7**	**8649.0**
Stddev	513.	111.	8.1	3.0
%RSD	.32236	.33575	.11683	.03436
#1	159550.	33122.	6960.2	8646.2
#2	159620.	33083.	6954.4	8648.6
#3	158700.	33292.	6970.5	8652.1

Zoom In Zoom Out

Sample Name: jc95455-6f Acquired: 9/26/2019 17:50:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2066**	**.0289**	**.0154**	**.1858**	**.5284**	**.8353**	**.4290**	**.7102**
Stddev	.0003	.0001	.0001	.0007	.0027	.0029	.0012	.0003
%RSD	.1449	.2046	.5745	.3524	.5094	.3456	.2814	.0451
#1	.2066	.0289	.0155	.1852	.5309	.8320	.4303	.7101
#2	.2069	.0290	.0154	.1865	.5255	.8375	.4280	.7105
#3	.2063	.0289	.0155	.1857	.5288	.8364	.4285	.7099

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0119**	**.0062**	**2.015**	**.0369**	F **-.0330**	F **-.0220**	**.0304**	**.0008**
Stddev	.0004	.0004	.004	.0021	.0017	.0007	.0020	.0015
%RSD	3.456	6.167	.1848	5.736	5.001	3.122	6.519	181.6
#1	-.0123	.0066	2.012	.0393	-.0315	-.0213	.0318	-.0009
#2	-.0116	.0059	2.019	.0355	-.0328	-.0222	.0282	.0015
#3	-.0117	.0060	2.014	.0359	-.0348	-.0226	.0313	.0019

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**68.07**	F **284.7**	**118.4**	**126.9**	**193.5**	*****	**.0755**	**.0010**
Stddev	.10	1.2	1.3	.1	1.5	-----	.0003	.0000
%RSD	.1531	.4134	1.084	.0905	.7508	-----	.4111	3.872
#1	67.97	285.5	117.0	127.0	191.8	-----	.0752	.0010
#2	68.17	285.4	119.1	126.9	194.0	-----	.0758	.0010
#3	68.06	283.4	119.2	126.8	194.5	-----	.0756	.0010

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **27.23**	F **-.0204**	**1.260**	**.0383**	**.0051**	**.0109**	F **2797.**	**-.0060**
Stddev	.10	.0004	.002	.0001	.0009	.0001	21.	.0014
%RSD	.3828	1.731	.1756	.3759	18.06	1.191	.7609	22.87
#1	27.14	-.0207	1.261	.0382	.0057	.0109	2779.	-.0045
#2	27.20	-.0200	1.262	.0383	.0054	.0110	2791.	-.0071
#3	27.34	-.0205	1.258	.0384	.0040	.0107	2820.	-.0065

Zoom In Zoom Out

Sample Name: jc95455-6f Acquired: 9/26/2019 17:50:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3082**	**2.037**	**.1895**
Stddev	.0088	.006	.0019
%RSD	2.854	.2753	1.027
#1	.3166	2.036	.1874
#2	.3089	2.033	.1900
#3	.2991	2.044	.1912

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**120130.**	**32357.**	**5140.7**	**4182.2**
Stddev	507.	153.	6.0	5.8
%RSD	.42170	.47281	.11593	.13888
#1	119550.	32211.	5144.1	4181.5
#2	120490.	32345.	5133.8	4176.7
#3	120340.	32516.	5144.1	4188.3

Zoom In Zoom Out

Sample Name: jc95455-7f Acquired: 9/26/2019 17:55:31 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1545**	**-.0004**	**.0001**	**.0010**	**.0018**	**.0062**	**.0182**	**.0473**	**-.0002**
Stddev	.0006	.0000	.0001	.0002	.0002	.0003	.0001	.0002	.0002
%RSD	.4095	4.476	59.41	17.50	12.78	4.409	.2928	.4514	81.95
#1	.1552	-.0004	.0001	.0009	.0015	.0059	.0182	.0470	-.0001
#2	.1542	-.0004	.0001	.0011	.0019	.0064	.0182	.0473	-.0004
#3	.1541	-.0005	.0002	.0012	.0019	.0064	.0182	.0474	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0131**	**.0008**	**-.0002**	**-.0014**	**-.0008**	**.0014**	**.0147**	**62.72**
Stddev	.0001	.0001	.0001	.0005	.0004	.0013	.0011	.0054	.68
%RSD	36.90	.4181	15.60	317.7	30.50	165.4	78.30	36.87	1.078
#1	.0001	.0131	.0009	-.0007	-.0009	-.0006	.0001	.0159	62.00
#2	.0003	.0131	.0007	.0002	-.0017	-.0022	.0021	.0194	62.79
#3	.0002	.0130	.0008	.0001	-.0016	.0004	.0020	.0087	63.35

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1037**	**6.223**	**9.337**	F **687.9**	**.2040**	**.0028**	**3.083**	**-.0008**	**.4180**
Stddev	.0037	.030	.152	10.6	.0002	.0002	.007	.0002	.0011
%RSD	3.529	.4903	1.628	1.540	.1078	6.329	.2172	25.27	.2592
#1	.0998	6.247	9.506	689.2	.2040	.0029	3.087	-.0007	.4192
#2	.1071	6.189	9.295	676.8	.2037	.0030	3.086	-.0011	.4176
#3	.1041	6.234	9.211	697.8	.2042	.0026	3.075	-.0008	.4172

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0051**	**-.0003**	**40.37**	**-.0006**	**.0057**	**.0247**	**.0016**
Stddev	.0004	.0006	.0002	2.34	.0009	.0009	.0007	.0024
%RSD	112.9	10.79	47.60	5.789	153.0	16.04	2.795	150.2
#1	.0001	.0046	-.0002	42.65	-.0000	.0053	.0246	-.0010
#2	-.0008	.0057	-.0004	40.47	-.0001	.0050	.0254	.0021
#3	-.0004	.0050	-.0005	37.98	-.0016	.0067	.0240	.0037

Zoom In Zoom Out

Sample Name: jc95455-7f Acquired: 9/26/2019 17:55:31 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**163490.**	**33976.**	**7134.6**	**8971.5**
Stddev	237.	223.	16.8	20.7
%RSD	.14494	.65539	.23520	.23117
#1	163770.	33987.	7115.8	8947.8
#2	163360.	34193.	7148.0	8986.0
#3	163350.	33748.	7140.1	8980.9

Zoom In Zoom Out

Sample Name: jc95455-8f Acquired: 9/26/2019 18:00:37 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1775**	**-.0005**	**.0012**	**-.0001**	**.0007**	**.0061**	**.0007**	**.0003**	**-.0007**
Stddev	.0004	.0000	.0001	.0002	.0001	.0002	.0000	.0004	.0001
%RSD	.2285	5.218	4.932	237.4	13.74	2.685	1.053	136.3	15.54
#1	.1776	-.0005	.0011	-.0000	.0006	.0062	.0007	.0000	-.0006
#2	.1779	-.0006	.0011	-.0003	.0008	.0062	.0007	.0001	-.0008
#3	.1771	-.0005	.0012	.0001	.0007	.0059	.0007	.0008	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0168**	**-.0002**	**.0005**	**-.0012**	**-.0006**	**.0009**	**.0059**	**72.12**
Stddev	.0003	.0000	.0012	.0004	.0006	.0007	.0005	.0031	.67
%RSD	48.39	.0829	517.1	70.37	50.07	125.9	55.65	52.81	.9281
#1	.0003	.0168	.0002	.0007	-.0010	-.0013	.0008	.0094	72.18
#2	.0008	.0168	.0007	.0001	-.0018	-.0005	.0004	.0034	72.75
#3	.0009	.0168	-.0016	.0007	-.0007	.0001	.0014	.0049	71.42

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**5.827**	**6.485**	F **522.8**	**.1291**	**.0009**	**3.710**	**-.0014**	**.3269**
Stddev	.0011	.023	.069	7.6	.0004	.0002	.004	.0001	.0002
%RSD	429.6	.3927	1.068	1.448	.3348	16.98	.1074	4.837	.0660
#1	-.0008	5.850	6.554	531.5	.1286	.0007	3.709	-.0015	.3270
#2	.0002	5.827	6.486	519.5	.1291	.0010	3.706	-.0013	.3271
#3	.0014	5.804	6.416	517.5	.1294	.0009	3.714	-.0013	.3266

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0088**	**-.0004**	**21.11**	**-.0006**	**.0061**	**.0238**	**.0031**
Stddev	.0003	.0010	.0001	.67	.0017	.0008	.0003	.0005
%RSD	98.25	11.02	16.71	3.173	278.4	13.62	1.228	16.18
#1	-.0006	.0097	-.0005	21.80	-.0021	.0063	.0241	.0028
#2	-.0001	.0078	-.0004	21.06	.0013	.0069	.0237	.0029
#3	-.0001	.0089	-.0004	20.46	-.0011	.0052	.0236	.0037

Zoom In Zoom Out

Sample Name: jc95455-8f Acquired: 9/26/2019 18:00:37 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**167150.**	**33908.**	**7224.0**	**9130.6**
Stddev	537.	103.	12.1	18.7
%RSD	.32140	.30349	.16799	.20530
#1	166640.	33803.	7217.5	9119.6
#2	167710.	33911.	7238.0	9152.3
#3	167100.	34009.	7216.5	9120.0

Zoom In Zoom Out

Sample Name: jc95455-6fa Acquired: 9/26/2019 18:05:45 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0361**	**.0050**	**.0016**	**.0268**	**.0973**	**.1011**	**.1894**	**.0945**
Stddev	.0001	.0001	.0002	.0003	.0002	.0003	.0002	.0001
%RSD	.3080	1.900	10.14	1.224	.1955	.3073	.1075	.1014
#1	.0360	.0051	.0017	.0264	.0975	.1010	.1896	.0944
#2	.0363	.0049	.0017	.0270	.0971	.1014	.1892	.0946
#3	.0361	.0050	.0014	.0269	.0972	.1008	.1893	.0944

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0126**	**.3792**	**.0247**	F **-.0192**	F **-.0153**	**.0264**	**-.0001**
Stddev	.0002	.0003	.0004	.0007	.0011	.0002	.0006	.0004
%RSD	30.30	2.087	.1049	2.868	5.513	1.330	2.331	597.2
#1	-.0005	.0123	.3788	.0239	-.0198	-.0154	.0259	.0002
#2	-.0009	.0127	.3794	.0252	-.0180	-.0151	.0262	-.0006
#3	-.0008	.0128	.3795	.0250	-.0199	-.0154	.0271	.0002

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.49**	**45.88**	**34.23**	**20.98**	**25.24**	*****	**.0087**	**.0010**
Stddev	.01	.02	.01	.01	.11	-----	.0004	.0001
%RSD	.1013	.0413	.0419	.0500	.4508	-----	4.118	6.030
#1	10.49	45.86	34.25	20.98	25.13	-----	.0084	.0010
#2	10.48	45.89	34.23	20.97	25.24	-----	.0087	.0011
#3	10.50	45.90	34.23	20.99	25.36	-----	.0091	.0010

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.115**	**-.0031**	**.1683**	**.0828**	**-.0000**	**.0057**	F **1952.**	**.0032**
Stddev	.009	.0006	.0004	.0024	.0006	.0003	6.	.0007
%RSD	.1727	18.09	.2162	2.923	20020.	4.585	.3078	22.58
#1	5.105	-.0034	.1687	.0818	.0004	.0058	1946.	.0040
#2	5.122	-.0034	.1681	.0855	.0003	.0054	1958.	.0028
#3	5.119	-.0024	.1680	.0810	-.0007	.0059	1951.	.0028

Zoom In Zoom Out

Sample Name: jc95455-6fa Acquired: 9/26/2019 18:05:45 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0310**	**.6159**	**.0363**
Stddev	.0003	.0012	.0022
%RSD	1.057	.2013	5.953
#1	.0307	.6148	.0380
#2	.0311	.6173	.0369
#3	.0313	.6158	.0338

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148700.**	**33432.**	**6679.9**	**7421.5**
Stddev	216.	85.	11.3	6.7
%RSD	.14553	.25533	.16988	.08960
#1	148750.	33476.	6692.6	7426.6
#2	148460.	33487.	6676.5	7424.0
#3	148890.	33334.	6670.7	7414.0

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 18:10:47 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.997**	**2.005**	**1.962**	**2.037**	**1.996**	**1.969**	**2.011**	**2.031**	**.2425**
Stddev	.002	.018	.001	.001	.002	.005	.015	.002	.0002
%RSD	.0964	.9129	.0455	.0591	.1222	.2552	.7430	.0805	.0986
#1	1.999	1.984	1.962	2.037	1.995	1.965	2.002	2.031	.2426
#2	1.996	2.019	1.961	2.036	1.994	1.967	2.028	2.029	.2427
#3	1.996	2.012	1.962	2.038	1.999	1.974	2.002	2.032	.2422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.980**	**2.003**	**1.931**	**2.050**	**2.051**	**1.976**	**1.923**	**38.72**	**39.73**
Stddev	.001	.003	.001	.004	.001	.002	.003	.02	.04
%RSD	.0550	.1410	.0431	.2141	.0557	.1092	.1400	.0583	.0991
#1	1.979	2.006	1.930	2.048	2.052	1.979	1.920	38.70	39.68
#2	1.980	2.002	1.932	2.046	2.050	1.975	1.924	38.74	39.74
#3	1.981	2.001	1.930	2.055	2.052	1.976	1.924	38.72	39.76
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.67**	**39.75**	**39.07**	**43.64**	**1.980**	**1.960**	**4.719**	**1.986**	**2.005**
Stddev	.01	.08	.03	.07	.003	.000	.002	.001	.008
%RSD	.0327	.2125	.0835	.1579	.1349	.0145	.0500	.0459	.4034
#1	39.66	39.66	39.11	43.60	1.976	1.959	4.720	1.987	1.997
#2	39.67	39.77	39.04	43.72	1.981	1.960	4.716	1.986	2.004
#3	39.68	39.82	39.07	43.61	1.981	1.960	4.720	1.986	2.013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 18:10:47 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.959**	**1.913**	**1.948**	F **3.715**	**1.966**	**1.934**	**1.978**	**1.961**
Stddev	.001	.000	.001	.121	.002	.002	.002	.004
%RSD	.0538	.0224	.0731	3.254	.0905	.1035	.0785	.1800
#1	1.959	1.913	1.946	3.834	1.966	1.935	1.979	1.960
#2	1.957	1.912	1.949	3.718	1.964	1.936	1.979	1.958
#3	1.959	1.913	1.948	3.592	1.967	1.932	1.976	1.965
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				2.000				
Range				10.00%				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178170.**	**34030.**	**7628.4**	**9939.3**
Stddev	353.	346.	15.0	10.9
%RSD	.19823	1.0175	.19662	.11000
#1	178490.	34429.	7613.4	9928.3
#2	177790.	33851.	7628.4	9939.5
#3	178230.	33811.	7643.4	9950.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 18:15:51 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0002**	**.0002**	**.0004**	**.0004**	**.0005**	**.0004**	**.0003**	**-.0004**
Stddev	.0001	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0002
%RSD	32.52	50.10	33.55	21.10	26.42	24.07	50.72	62.03	53.37
#1	.0003	.0001	.0002	.0005	.0003	.0004	.0006	.0004	-.0007
#2	.0003	.0002	.0001	.0004	.0005	.0006	.0005	.0004	-.0004
#3	.0005	.0003	.0002	.0003	.0003	.0005	.0002	.0001	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0002**	**.0002**	**.0009**	**-.0005**	**.0000**	**.0010**	**.0439**	**.0011**
Stddev	.0003	.0001	.0007	.0003	.0006	.0012	.0009	.0096	.0020
%RSD	219.9	71.81	402.0	31.59	129.4	4111.	89.40	21.95	178.5
#1	.0005	-.0003	-.0003	.0009	-.0010	-.0013	.0008	.0427	-.0009
#2	-.0000	-.0000	.0010	.0006	.0002	.0010	.0002	.0349	.0011
#3	-.0000	-.0002	-.0002	.0012	-.0006	.0004	.0019	.0540	.0032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**-.0002**	F **.6204**	F **4.694**	**-.0010**	**.0003**	**.0030**	**.0001**	**.0004**
Stddev	.0025	.0082	.0438	.060	.0004	.0001	.0002	.0002	.0001
%RSD	59.91	5210.	7.058	1.287	41.44	34.42	6.147	427.9	38.66
#1	.0021	.0041	.6710	4.764	-.0008	.0004	.0032	.0003	.0002
#2	.0033	-.0096	.5954	4.659	-.0006	.0002	.0028	.0000	.0004
#3	.0069	.0050	.5949	4.659	-.0014	.0003	.0030	-.0002	.0005
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			.5000	1.000					
Low Limit			-.5000	-1.000					

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 18:15:51 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**-.0001**	**.0003**	F **.8543**	**.0003**	**.0029**	**.0018**	**.0007**
Stddev	.0001	.0004	.0002	.0368	.0010	.0006	.0003	.0007
%RSD	9.722	394.6	61.40	4.312	303.1	19.83	15.02	100.4
#1	.0005	.0002	.0004	.8900	-.0008	.0031	.0019	-.0000
#2	.0006	.0001	.0003	.8564	.0012	.0023	.0020	.0007
#3	.0005	-.0006	.0001	.8164	.0005	.0034	.0015	.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.0500				
Low Limit				-.0500				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187620.**	**34848.**	**7944.7**	**10774.**
Stddev	1876.	161.	4.7	8.
%RSD	.99995	.46316	.05889	.07393
#1	189550.	34939.	7939.6	10767.
#2	187480.	34943.	7945.9	10773.
#3	185810.	34661.	7948.7	10783.

Zoom In Zoom Out

Sample Name: mp17500-mb1conf Acquired: 9/26/2019 18:22:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0001**	**.0002**	**.0002**	**-.0001**	**.0002**	**.0001**	**-.0000**	**-.0004**
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0000	.0001	.0003
%RSD	1244.	35.46	56.78	40.97	196.7	142.1	23.59	934.9	67.20
#1	.0003	-.0000	.0002	.0001	-.0000	.0003	.0001	.0001	-.0007
#2	-.0001	-.0001	.0001	.0001	-.0002	.0002	.0001	-.0002	-.0001
#3	-.0001	-.0000	.0002	.0002	.0000	-.0001	.0001	.0000	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0067**	**.0000**	**-.0006**	**-.0004**	**-.0006**	**.0006**	**-.0028**	**.0035**
Stddev	.0000	.0002	.0007	.0005	.0003	.0015	.0012	.0015	.0009
%RSD	8.735	3.483	1628.	80.90	80.51	270.6	211.2	55.11	26.95
#1	-.0003	.0064	.0005	-.0001	-.0001	.0009	-.0008	-.0027	.0035
#2	-.0003	.0069	.0004	-.0012	-.0008	-.0021	.0012	-.0013	.0045
#3	-.0003	.0068	-.0008	-.0006	-.0003	-.0005	.0014	-.0043	.0026

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**-.0022**	**.4021**	**3.154**	**-.0017**	**.0000**	**.0096**	**.0002**	**.0001**
Stddev	.0001	.0101	.0076	.040	.0003	.0001	.0004	.0002	.0000
%RSD	5.972	452.5	1.884	1.252	18.28	145600.	4.005	134.4	25.22
#1	.0020	.0068	.3954	3.189	-.0018	-.0001	.0096	.0003	.0001
#2	.0021	-.0132	.4103	3.163	-.0013	.0000	.0092	.0003	.0001
#3	.0022	-.0003	.4007	3.111	-.0019	.0001	.0100	-.0001	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0009**	**.0001**	**.5251**	**.0003**	**.0011**	**.0019**	**.0008**
Stddev	.0003	.0007	.0000	.0184	.0006	.0006	.0002	.0010
%RSD	123.6	77.16	35.62	3.510	186.6	56.79	10.14	126.0
#1	.0002	.0001	.0002	.5440	.0009	.0004	.0020	.0002
#2	-.0000	.0016	.0001	.5240	.0003	.0013	.0020	.0003
#3	.0005	.0011	.0001	.5072	-.0003	.0015	.0017	.0019

Zoom In Zoom Out

Sample Name: mp17500-mb1conf Acquired: 9/26/2019 18:22:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189650.**	**35086.**	**7942.3**	**10773.**
Stddev	557.	116.	11.8	18.
%RSD	.29369	.32950	.14817	.17166
#1	189180.	34978.	7945.5	10766.
#2	190270.	35208.	7952.2	10795.
#3	189490.	35072.	7929.3	10760.

Zoom In Zoom Out

Sample Name: mp17500-b1conf Acquired: 9/26/2019 18:27:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.964**	**1.968**	**1.930**	**1.994**	**1.945**	**1.945**	**1.974**	**1.988**
Stddev	.001	.029	.004	.007	.004	.002	.018	.009
%RSD	.0248	1.458	.2125	.3568	.2008	.0859	.9164	.4555
#1	1.964	1.983	1.930	2.000	1.941	1.943	1.987	1.996
#2	1.964	1.986	1.934	1.986	1.945	1.944	1.953	1.978
#3	1.965	1.935	1.925	1.995	1.948	1.946	1.981	1.990

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2455**	**1.945**	**1.973**	**1.972**	**2.031**	**1.989**	**1.947**	**1.985**
Stddev	.0004	.002	.004	.004	.008	.013	.003	.006
%RSD	.1484	.0891	.1913	.1925	.4057	.6670	.1685	.2902
#1	.2454	1.946	1.977	1.975	2.040	2.000	1.949	1.987
#2	.2452	1.943	1.970	1.973	2.024	1.974	1.948	1.990
#3	.2459	1.946	1.972	1.968	2.030	1.992	1.943	1.979

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.38**	**25.09**	**25.13**	**25.02**	**24.53**	**26.64**	**1.939**	**2.029**
Stddev	.04	.04	.04	.07	.07	.07	.005	.003
%RSD	.1521	.1402	.1564	.2748	.2716	.2454	.2711	.1297
#1	24.33	25.05	25.09	24.95	24.45	26.57	1.937	2.029
#2	24.40	25.12	25.17	25.09	24.57	26.66	1.944	2.032
#3	24.40	25.10	25.13	25.02	24.57	26.70	1.934	2.027

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0415**	**2.056**	**1.983**	**2.013**	**1.914**	**1.996**	**.4713**	**.0633**
Stddev	.0026	.003	.068	.002	.001	.002	.0205	.0009
%RSD	6.317	.1199	3.417	.0789	.0619	.0818	4.348	1.420
#1	.0389	2.057	1.907	2.014	1.915	1.997	.4635	.0623
#2	.0442	2.054	2.037	2.011	1.913	1.994	.4946	.0636
#3	.0415	2.059	2.005	2.012	1.913	1.997	.4559	.0640

Zoom In
Zoom Out

Sample Name: mp17500-b1conf Acquired: 9/26/2019 18:27:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0004**	**1.929**	W **-.0604**
Stddev	.0007	.002	.0021
%RSD	184.9	.1020	3.435
#1	-.0002	1.927	-.0596
#2	.0002	1.931	-.0589
#3	.0012	1.928	-.0628

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184150.**	**35073.**	**7614.2**	**10031.**
Stddev	132.	215.	159.9	172.
%RSD	.07184	.61367	2.0995	1.7179
#1	184130.	35299.	7744.5	10176.
#2	184290.	34870.	7435.8	9840.3
#3	184030.	35049.	7662.3	10076.

Zoom In
Zoom Out

Sample Name: mp17476-mb1conf Acquired: 9/26/2019 18:32:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0000**	**.0002**	**.0002**	**.0005**	**.0007**	**.0002**	**.0005**	**-.0006**
Stddev	.0002	.0000	.0002	.0001	.0002	.0002	.0000	.0002	.0002
%RSD	137.2	357.9	107.4	49.82	50.63	29.40	12.20	41.76	42.91
#1	.0003	-.0001	.0001	.0004	.0007	.0005	.0002	.0006	-.0004
#2	-.0001	.0000	.0003	.0001	.0002	.0008	.0002	.0003	-.0004
#3	.0001	.0000	.0000	.0003	.0005	.0009	.0002	.0006	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0201**	**.0012**	**.0008**	**-.0001**	**-.0007**	**.0007**	**.0030**	**.0655**
Stddev	.0002	.0000	.0006	.0005	.0003	.0009	.0009	.0058	.0016
%RSD	111.5	.2353	47.58	61.55	353.6	129.2	134.5	191.3	2.452
#1	-.0004	.0201	.0017	.0004	.0001	-.0016	-.0003	.0097	.0636
#2	.0000	.0202	.0013	.0013	.0001	-.0008	.0015	.0001	.0662
#3	-.0003	.0201	.0006	.0006	-.0004	.0002	.0008	-.0007	.0666

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0179**	**.0131**	**.3370**	**2.398**	**-.0001**	**.0007**	**.0114**	**.0157**	**.0004**
Stddev	.0010	.0050	.0072	.025	.0004	.0002	.0005	.0002	.0000
%RSD	5.632	37.84	2.129	1.046	308.6	28.82	4.581	1.060	1.905
#1	.0169	.0180	.3294	2.390	.0002	.0009	.0120	.0158	.0004
#2	.0189	.0132	.3436	2.378	-.0000	.0005	.0110	.0155	.0004
#3	.0179	.0081	.3381	2.426	-.0005	.0007	.0112	.0158	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0010**	**.0011**	**.3439**	**.0003**	**.0006**	**.0182**	**.0022**
Stddev	.0001	.0002	.0001	.0094	.0010	.0007	.0002	.0015
%RSD	19.13	21.92	10.16	2.747	319.5	130.3	1.115	66.66
#1	.0004	.0007	.0011	.3521	.0010	.0009	.0179	.0018
#2	.0005	.0010	.0011	.3461	.0008	.0010	.0183	.0038
#3	.0004	.0011	.0009	.3336	-.0009	-.0003	.0182	.0009

Zoom In
Zoom Out

Sample Name: mp17476-mb1conf Acquired: 9/26/2019 18:32:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188770.**	**35072.**	**7921.4**	**10740.**
Stddev	970.	48.	16.0	20.
%RSD	.51369	.13584	.20172	.18730
#1	188970.	35017.	7921.9	10744.
#2	189620.	35093.	7905.2	10719.
#3	187710.	35105.	7937.1	10759.

Zoom In
Zoom Out

Sample Name: vconf Acquired: 9/26/2019 18:40:46 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0001**	**-.0002**	**.0003**	**-.0001**	**-.0014**	**-.0000**	**-.0000**
Stddev	.0001	.0002	.0001	.0002	.0002	.0001	.0000	.0003
%RSD	28.17	219.1	30.73	76.20	125.3	9.048	81.87	1597.
#1	.0004	.0003	-.0002	.0004	-.0001	-.0015	-.0001	.0000
#2	.0002	.0002	-.0003	.0000	-.0003	-.0015	-.0000	.0002
#3	.0004	-.0002	-.0002	.0005	.0000	-.0013	-.0000	-.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	F **10.62**	**.0006**	**.0011**	**.0078**	**-.0006**	**.0033**	F **-.0035**
Stddev	.0001	.11	.0000	.0009	.0035	.0002	.0015	.0015
%RSD	35.36	1.046	4.068	82.76	44.28	31.38	46.08	41.62
#1	.0004	10.53	.0006	.0020	.0046	-.0007	.0015	-.0029
#2	.0002	10.60	.0006	.0014	.0074	-.0004	.0040	-.0052
#3	.0003	10.74	.0006	.0001	.0115	-.0006	.0043	-.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0075**	**.0294**	**.0067**	**-.0061**	**.2232**	**1.657**	**-.0015**	**-.0037**
Stddev	.0030	.0007	.0011	.0076	.0162	.011	.0004	.0002
%RSD	39.80	2.408	16.37	124.4	7.248	.6806	27.85	4.488
#1	.0090	.0287	.0063	-.0077	.2415	1.657	-.0010	-.0035
#2	.0095	.0293	.0058	.0022	.2173	1.646	-.0016	-.0037
#3	.0041	.0301	.0079	-.0129	.2108	1.669	-.0019	-.0039

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0954**	**-.0001**	**.0001**	**.0004**	**.0018**	**.0032**	**.2640**	**.0020**
Stddev	.0009	.0004	.0001	.0003	.0004	.0004	.0054	.0007
%RSD	.9616	461.3	49.28	64.23	22.21	13.79	2.045	33.99
#1	.0946	.0002	.0001	.0001	.0022	.0036	.2697	.0020
#2	.0964	.0001	.0001	.0006	.0014	.0032	.2633	.0026
#3	.0951	-.0006	.0000	.0005	.0019	.0027	.2590	.0013

Zoom In
Zoom Out

Sample Name: vconf Acquired: 9/26/2019 18:40:46 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0004**	**.0157**	**.0027**
Stddev	.0007	.0008	.0006
%RSD	161.5	5.280	22.23
#1	-.0003	.0148	.0034
#2	.0010	.0160	.0026
#3	.0006	.0164	.0022

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186070.**	**34496.**	**7929.6**	**10766.**
Stddev	1065.	122.	5.6	9.
%RSD	.57242	.35459	.07076	.08577
#1	187220.	34364.	7925.4	10762.
#2	185870.	34520.	7927.5	10759.
#3	185120.	34605.	7936.0	10776.

Zoom In
Zoom Out

Sample Name: ticonf Acquired: 9/26/2019 18:45:54 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0009**	**-.0000**	**.0040**	**-.0007**	**.0006**	**.0001**	**.0001**	**-.0006**
Stddev	.0001	.0001	.0001	.0005	.0002	.0001	.0000	.0001	.0003
%RSD	106.0	6.396	378.2	11.89	35.16	18.53	33.87	136.3	48.36
#1	-.0000	.0010	-.0001	.0037	-.0005	.0005	.0001	.0002	-.0008
#2	.0001	.0009	.0001	.0038	-.0009	.0006	.0001	.0001	-.0005
#3	.0002	.0009	-.0000	.0046	-.0005	.0007	.0001	-.0000	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0027**	**-.0012**	**.0019**	**.0004**	**-.0000**	**-.0010**	**.0121**	**.0173**
Stddev	.0003	.0001	.0011	.0004	.0005	.0017	.0006	.0033	.0012
%RSD	45.40	2.692	92.89	18.73	110.2	4382.	57.39	26.92	7.055
#1	-.0009	.0027	-.0004	.0023	.0000	.0019	-.0016	.0152	.0185
#2	-.0005	.0026	-.0024	.0017	.0010	-.0014	-.0004	.0087	.0174
#3	-.0004	.0028	-.0007	.0017	.0003	-.0006	-.0011	.0125	.0160

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064**	**-.0367**	**.1672**	**1.334**	**-.0008**	**-.0002**	**.0081**	**.0285**	**.0001**
Stddev	.0003	.0064	.0031	.021	.0003	.0002	.0017	.0010	.0000
%RSD	4.868	17.40	1.833	1.581	36.80	83.11	21.55	3.350	37.23
#1	.0063	-.0320	.1637	1.336	-.0012	-.0001	.0072	.0291	.0002
#2	.0068	-.0440	.1696	1.353	-.0007	-.0002	.0069	.0289	.0001
#3	.0062	-.0342	.1682	1.311	-.0006	-.0004	.0101	.0274	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **11.05**	**-.0020**	**-.0017**	**.2211**	**.5774**	**.0011**	**.1460**	**-.0023**
Stddev	.27	.0003	.0001	.0019	.0191	.0009	.0070	.0022
%RSD	2.477	17.37	6.114	.8591	3.313	82.77	4.824	94.30
#1	11.30	-.0024	-.0018	.2231	.5956	.0001	.1525	-.0003
#2	11.08	-.0017	-.0017	.2209	.5790	.0017	.1469	-.0046
#3	10.76	-.0019	-.0016	.2193	.5574	.0015	.1385	-.0021

Zoom In
Zoom Out

Sample Name: ticonf Acquired: 9/26/2019 18:45:54 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186670.**	**34552.**	**7967.4**	**10804.**
Stddev	1817.	174.	3.6	12.
%RSD	.97345	.50274	.04569	.11483
#1	184580.	34716.	7965.1	10801.
#2	187840.	34370.	7971.6	10817.
#3	187600.	34571.	7965.4	10792.

Zoom In
Zoom Out

Sample Name: snconf Acquired: 9/26/2019 18:51:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0000**	**.0000**	**.0002**	**.0002**	**.0004**	**.0001**	**.0001**	**-.0003**
Stddev	.0001	.0000	.0001	.0002	.0002	.0002	.0000	.0001	.0002
%RSD	58.46	121.3	289.7	108.2	76.48	58.66	24.27	132.0	56.93
#1	.0002	-.0000	-.0001	.0004	.0002	.0006	.0001	-.0000	-.0003
#2	.0000	.0000	.0002	-.0000	.0000	.0002	.0001	.0001	-.0001
#3	.0002	.0001	.0000	.0002	.0004	.0003	.0001	.0002	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0059**	**.0021**	**.0005**	**-.0006**	**-.0007**	**.0010**	**.0132**	**.0402**
Stddev	.0001	.0000	.0005	.0006	.0006	.0013	.0005	.0018	.0001
%RSD	49.61	.2502	23.91	125.2	90.24	170.5	46.33	14.01	.1698
#1	-.0002	.0059	.0016	.0008	-.0013	.0006	.0006	.0143	.0401
#2	-.0001	.0059	.0025	-.0002	-.0003	-.0019	.0015	.0141	.0403
#3	-.0003	.0059	.0022	.0008	-.0003	-.0009	.0009	.0110	.0402

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**-.0020**	**.1850**	**1.160**	**.0027**	**-.0002**	**-.0289**	F **10.95**	**.0001**
Stddev	.0008	.0077	.0124	.005	.0004	.0001	.0001	.00	.0000
%RSD	31.10	375.6	6.703	.4615	14.73	30.68	.3343	.0441	13.40
#1	.0029	.0042	.1904	1.157	.0030	-.0002	-.0289	10.94	.0002
#2	.0030	-.0106	.1708	1.157	.0022	-.0003	-.0290	10.95	.0001
#3	.0016	.0003	.1937	1.166	.0028	-.0002	-.0288	10.95	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**-.0154**	**.0003**	**.1890**	**.0008**	**.0012**	**.0009**	**.0020**
Stddev	.0003	.0001	.0000	.0011	.0016	.0004	.0004	.0015
%RSD	30.30	.6442	15.17	.6045	202.3	33.01	42.28	77.65
#1	.0010	-.0155	.0004	.1888	.0019	.0010	.0008	.0002
#2	.0012	-.0153	.0003	.1879	-.0010	.0009	.0013	.0029
#3	.0007	-.0153	.0003	.1902	.0015	.0016	.0005	.0028

Zoom In
Zoom Out

Sample Name: snconf Acquired: 9/26/2019 18:51:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187550.**	**34869.**	**7977.2**	**10807.**
Stddev	2021.	95.	6.1	14.
%RSD	1.0778	.27287	.07688	.12631
#1	189880.	34886.	7980.1	10809.
#2	186370.	34767.	7970.2	10792.
#3	186390.	34955.	7981.4	10819.

Zoom In
Zoom Out

Sample Name: mnconf Acquired: 9/26/2019 18:56:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0002**	**-.0005**	**-.0000**	**-.0013**	**.0001**	F **10.39**	**-.0001**	**.0007**
Stddev	.0001	.0001	.0001	.0001	.0001	.0001	.07	.0002	.0001
%RSD	410.4	39.27	15.84	1469.	8.353	72.78	.6287	177.6	10.36
#1	-.0000	-.0001	-.0005	-.0000	-.0013	.0001	10.43	-.0002	.0007
#2	.0000	-.0003	-.0005	-.0001	-.0014	.0000	10.31	-.0003	.0007
#3	.0001	-.0001	-.0004	.0001	-.0012	.0001	10.42	.0001	.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0021**	**.0003**	**.0033**	**.0009**	**-.0020**	**-.0004**	**.0013**	**.0075**
Stddev	.0002	.0000	.0006	.0006	.0005	.0006	.0009	.0049	.0006
%RSD	7.995	1.750	181.9	17.71	62.61	28.20	208.0	375.9	8.049
#1	.0019	.0022	-.0002	.0029	.0005	-.0019	-.0012	-.0029	.0081
#2	.0020	.0021	.0003	.0040	.0015	-.0026	.0006	.0001	.0069
#3	.0017	.0021	.0010	.0031	.0007	-.0015	-.0007	.0067	.0074

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0049**	**.0047**	**.2169**	**1.156**	**-.0026**	**-.0007**	**.0025**	**.0009**	**.0001**
Stddev	.0000	.0083	.0272	.011	.0003	.0002	.0001	.0001	.0001
%RSD	1.022	174.6	12.53	.9814	9.798	33.44	5.372	11.29	60.66
#1	-.0049	-.0004	.2395	1.167	-.0024	-.0007	.0026	.0009	.0001
#2	-.0048	.0004	.2245	1.144	-.0029	-.0010	.0024	.0008	.0001
#3	-.0048	.0143	.1868	1.155	-.0025	-.0005	.0026	.0009	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0011**	**-.0003**	**.1753**	**.0009**	**-.0002**	**.0108**	**.0097**
Stddev	.0002	.0005	.0001	.0010	.0011	.0014	.0004	.0012
%RSD	177.2	40.87	46.29	.5768	115.8	630.1	4.051	11.87
#1	.0004	-.0014	-.0004	.1763	-.0002	.0002	.0108	.0104
#2	-.0000	-.0006	-.0002	.1743	.0011	.0009	.0103	.0084
#3	.0000	-.0013	-.0003	.1754	.0019	-.0018	.0112	.0105

Zoom In
Zoom Out

Sample Name: mnconf Acquired: 9/26/2019 18:56:06 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186610.**	**34605.**	**7907.3**	**10724.**
Stddev	533.	135.	24.6	25.
%RSD	.28571	.39129	.31169	.23684
#1	186050.	34455.	7908.3	10721.
#2	187110.	34717.	7931.5	10751.
#3	186680.	34644.	7882.2	10700.

Zoom In
Zoom Out

Sample Name: moconf Acquired: 9/26/2019 19:01:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**.0000**	**.0010**	**-.0005**	**.0010**	**.0002**	**-.0015**	**-.0004**
Stddev	.0003	.0000	.0000	.0002	.0002	.0005	.0000	.0001	.0001
%RSD	313.8	16.66	102.9	19.45	32.59	57.07	9.605	7.130	18.01
#1	-.0002	.0002	.0001	.0008	-.0004	.0012	.0002	-.0016	-.0004
#2	.0003	.0002	.0001	.0011	-.0004	.0014	.0002	-.0014	-.0004
#3	-.0004	.0001	-.0000	.0010	-.0007	.0003	.0002	-.0016	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0033**	**-.0020**	**.0005**	**-.0008**	**-.0010**	**-.0008**	**.0051**	**.0728**	**.0089**
Stddev	.0002	.0001	.0006	.0002	.0005	.0010	.0002	.0024	.0013
%RSD	6.664	2.502	128.0	20.57	54.10	118.8	3.444	3.329	14.82
#1	-.0034	-.0021	.0010	-.0008	-.0005	.0003	.0051	.0754	.0074
#2	-.0034	-.0020	-.0002	-.0006	-.0015	-.0016	.0052	.0724	.0098
#3	-.0030	-.0021	.0008	-.0009	-.0008	-.0013	.0049	.0706	.0094

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0467**	**.0219**	**.1252**	**1.034**	**.0150**	F **9.643**	**.0035**	**.0003**	**.0001**
Stddev	.0016	.0032	.0130	.014	.0008	.003	.0013	.0001	.0001
%RSD	3.385	14.66	10.41	1.354	5.187	.0270	37.45	46.20	65.27
#1	.0483	.0251	.1263	1.047	.0143	9.643	.0026	.0001	.0000
#2	.0466	.0187	.1117	1.036	.0150	9.645	.0050	.0004	.0001
#3	.0451	.0218	.1377	1.019	.0158	9.640	.0029	.0003	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0030**	**.0004**	**.1458**	**.0003**	**.0010**	**.0196**	**-.0015**
Stddev	.0003	.0003	.0000	.0011	.0012	.0010	.0003	.0017
%RSD	71.00	9.453	4.137	.7430	474.6	103.6	1.443	115.0
#1	.0006	.0030	.0004	.1469	.0016	.0016	.0192	-.0001
#2	.0007	.0033	.0004	.1448	-.0005	.0015	.0197	-.0010
#3	.0001	.0027	.0004	.1458	-.0004	-.0002	.0198	-.0034

Zoom In
Zoom Out

Sample Name: moconf Acquired: 9/26/2019 19:01:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187140.**	**34666.**	**7944.5**	**10839.**
Stddev	1530.	185.	5.1	14.
%RSD	.81751	.53449	.06402	.12715
#1	188000.	34465.	7948.1	10831.
#2	185370.	34704.	7938.7	10831.
#3	188040.	34830.	7946.8	10855.

Zoom In
Zoom Out

Sample Name: siconf Acquired: 9/26/2019 19:06:08 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**.0000**	**.0000**	**.0002**	**.0002**	**-.0000**	**.0001**	**-.0003**
Stddev	.0001	.0000	.0001	.0001	.0003	.0002	.0000	.0002	.0001
%RSD	60.09	64.49	8981.	1030.	136.6	97.52	25.43	258.3	42.90
#1	.0002	-.0001	.0001	.0000	.0002	.0003	-.0000	.0002	-.0003
#2	.0004	-.0001	-.0000	-.0001	-.0001	.0002	-.0000	-.0000	-.0001
#3	.0001	-.0000	-.0001	.0001	.0004	.0000	-.0000	-.0000	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0002**	**.0000**	**.0004**	**-.0008**	**-.0005**	**.0023**	**.0052**	**.0041**
Stddev	.0001	.0000	.0001	.0004	.0001	.0013	.0006	.0060	.0005
%RSD	128.1	15.06	607.1	109.5	10.30	244.9	25.31	115.7	12.40
#1	-.0000	-.0002	-.0001	.0008	-.0009	-.0020	.0026	.0116	.0047
#2	-.0002	-.0002	.0002	-.0000	-.0007	.0000	.0016	.0041	.0037
#3	-.0000	-.0002	.0000	.0004	-.0007	.0004	.0027	-.0002	.0041

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0061**	**.0033**	**.1254**	**.9439**	**.0019**	**.0021**	**10.02**	**-.0014**	**-.0003**
Stddev	.0009	.0088	.0095	.0271	.0001	.0003	.01	.0003	.0001
%RSD	14.69	265.1	7.583	2.867	7.049	14.84	.0790	23.88	26.16
#1	-.0052	.0034	.1218	.9689	.0020	.0024	10.02	-.0017	-.0003
#2	-.0060	-.0055	.1362	.9476	.0018	.0021	10.01	-.0013	-.0002
#3	-.0070	.0121	.1182	.9151	.0018	.0018	10.02	-.0011	-.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0023**	**-.0001**	**.1393**	**-.0011**	**.0009**	**.0168**	**.0027**
Stddev	.0001	.0001	.0001	.0016	.0008	.0011	.0003	.0012
%RSD	24.67	5.595	129.6	1.165	73.76	133.1	1.828	43.55
#1	-.0003	-.0024	.0000	.1388	-.0002	.0001	.0169	.0034
#2	-.0002	-.0022	-.0002	.1411	-.0017	.0022	.0164	.0013
#3	-.0003	-.0025	-.0001	.1380	-.0013	.0003	.0170	.0032

Zoom In
Zoom Out

Sample Name: siconf Acquired: 9/26/2019 19:06:08 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188330.**	**34872.**	**8004.1**	**10850.**
Stddev	2175.	355.	9.6	12.
%RSD	1.1548	1.0166	.11983	.11097
#1	187660.	34493.	7993.1	10836.
#2	186570.	34927.	8010.5	10853.
#3	190760.	35196.	8008.7	10860.

Zoom In
Zoom Out

Sample Name: sconf Acquired: 9/26/2019 19:11:12 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0000**	**-.0000**	**.0001**	**.0000**	**.0000**	**.0000**	**-.0002**	**-.0004**
Stddev	.0003	.0000	.0000	.0002	.0002	.0001	.0000	.0002	.0002
%RSD	3162.	211.6	178.6	408.9	563.5	1288.	178.5	151.7	47.82
#1	.0002	-.0000	-.0001	.0001	.0001	.0002	-.0000	-.0003	-.0004
#2	-.0003	-.0000	.0000	-.0002	-.0002	-.0001	.0000	-.0003	-.0005
#3	.0001	.0000	-.0000	.0003	.0002	-.0001	.0000	.0001	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0006**	**.0009**	**-.0009**	**-.0017**	**.0004**	**-.0006**	**.0032**	**.0137**
Stddev	.0004	.0001	.0008	.0002	.0005	.0011	.0006	.0028	.0022
%RSD	149.0	8.710	96.48	17.97	29.08	316.3	102.7	87.08	16.29
#1	-.0005	.0006	.0010	-.0010	-.0020	.0007	-.0001	.0064	.0141
#2	.0001	.0007	-.0000	-.0009	-.0011	-.0009	-.0013	.0023	.0113
#3	-.0003	.0007	.0016	-.0007	-.0020	.0013	-.0005	.0010	.0156

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0085**	**.0948**	**.8875**	**-.0024**	**.0003**	**.0104**	**-.0003**	**.0001**
Stddev	.0008	.0088	.0572	.0124	.0002	.0002	.0003	.0003	.0000
%RSD	102.0	104.1	60.34	1.403	7.124	61.96	2.878	103.3	45.39
#1	.0010	-.0089	.1380	.8856	-.0022	.0005	.0102	-.0006	.0001
#2	-.0001	-.0171	.1164	.9008	-.0026	.0002	.0107	-.0003	.0000
#3	.0014	.0006	.0299	.8761	-.0025	.0002	.0103	.0000	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0007**	**.0000**	**94.74**	**.0012**	**-.0009**	**.0183**	**-.0003**
Stddev	.0002	.0004	.0001	.08	.0010	.0013	.0005	.0020
%RSD	65.15	57.23	652.1	.0838	80.52	138.7	2.887	715.1
#1	.0001	-.0006	.0000	94.73	.0019	.0001	.0188	.0001
#2	.0005	-.0004	-.0001	94.67	.0016	-.0005	.0177	.0015
#3	.0003	-.0012	.0001	94.82	.0001	-.0024	.0184	-.0024

Zoom In Zoom Out

Sample Name: sconf Acquired: 9/26/2019 19:11:12 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189880.**	**35024.**	**8026.9**	**10923.**
Stddev	449.	79.	17.8	21.
%RSD	.23631	.22582	.22188	.18773
#1	189370.	35098.	8026.2	10920.
#2	190090.	34940.	8009.5	10905.
#3	190190.	35033.	8045.1	10945.

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 19:16:07 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.004**	**2.029**	**1.990**	**2.041**	**2.015**	**1.985**	**2.059**	**2.050**	**.2459**
Stddev	.000	.019	.002	.002	.003	.001	.016	.001	.0002
%RSD	.0203	.9557	.0753	.0930	.1231	.0552	.7877	.0299	.0993
#1	2.004	2.007	1.991	2.039	2.014	1.984	2.040	2.049	.2457
#2	2.005	2.033	1.988	2.043	2.013	1.986	2.066	2.050	.2462
#3	2.004	2.046	1.989	2.041	2.018	1.986	2.069	2.050	.2458
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.012**	**2.034**	**1.976**	**2.071**	**2.055**	**1.996**	**1.975**	**38.96**	**39.84**
Stddev	.004	.002	.002	.002	.001	.001	.004	.03	.03
%RSD	.1813	.1175	.1087	.0909	.0392	.0357	.2223	.0782	.0631
#1	2.009	2.035	1.974	2.069	2.054	1.995	1.979	38.99	39.87
#2	2.012	2.032	1.978	2.072	2.056	1.996	1.974	38.97	39.82
#3	2.017	2.036	1.977	2.073	2.055	1.996	1.971	38.93	39.83
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.92**	**39.92**	**38.87**	**40.23**	**2.011**	**2.003**	**4.957**	**2.033**	**2.020**
Stddev	.05	.09	.03	.06	.004	.000	.005	.004	.033
%RSD	.1200	.2138	.0646	.1410	.2085	.0095	.0966	.1795	1.630
#1	39.97	40.02	38.89	40.29	2.012	2.003	4.959	2.036	2.034
#2	39.92	39.87	38.84	40.19	2.006	2.003	4.952	2.033	1.982
#3	39.87	39.87	38.87	40.20	2.015	2.003	4.961	2.029	2.044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/26/2019 19:16:07 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.014**	**1.963**	**2.007**	**2.106**	**1.978**	**1.943**	**1.996**	**1.974**
Stddev	.002	.003	.001	.003	.002	.004	.002	.002
%RSD	.0815	.1661	.0547	.1610	.0829	.2024	.0914	.1202
#1	2.012	1.966	2.006	2.108	1.980	1.948	1.997	1.975
#2	2.013	1.962	2.008	2.102	1.977	1.941	1.994	1.972
#3	2.016	1.960	2.008	2.109	1.978	1.941	1.996	1.976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**178520.**	**34257.**	**7653.1**	**10002.**
Stddev	815.	81.	8.6	1.
%RSD	.45644	.23596	.11230	.00981
#1	178800.	34250.	7644.1	10002.
#2	179170.	34341.	7661.2	10001.
#3	177610.	34179.	7654.0	10003.

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 19:21:10 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0001**	**.0003**	**.0005**	**.0006**	**.0006**	**.0007**	**.0003**	**-.0001**
Stddev	.0001	.0000	.0003	.0002	.0002	.0004	.0002	.0002	.0001
%RSD	18.22	10.67	82.86	36.95	39.57	67.91	32.93	53.95	103.4
#1	.0002	.0002	.0007	.0007	.0004	.0001	.0005	.0005	-.0000
#2	.0003	.0001	.0002	.0005	.0005	.0007	.0007	.0003	-.0001
#3	.0003	.0001	.0001	.0004	.0009	.0009	.0009	.0002	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0001**	**.0002**	**.0007**	**.0005**	**-.0001**	**.0003**	**.0390**	**-.0007**
Stddev	.0005	.0001	.0003	.0002	.0012	.0007	.0008	.0020	.0011
%RSD	126.4	277.9	218.7	31.61	228.6	487.6	257.2	5.036	145.7
#1	.0002	.0002	.0006	.0006	.0013	.0002	.0013	.0410	-.0017
#2	.0000	-.0000	.0000	.0005	.0011	.0003	-.0001	.0371	-.0010
#3	.0009	-.0000	-.0001	.0009	-.0009	-.0009	-.0002	.0390	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033**	**.0047**	**.0817**	**.8239**	**-.0007**	**.0008**	**.0016**	**.0004**	**.0002**
Stddev	.0006	.0006	.0090	.0134	.0005	.0003	.0007	.0002	.0001
%RSD	17.43	13.59	10.97	1.622	79.35	36.05	43.41	53.12	20.28
#1	.0027	.0054	.0716	.8089	-.0001	.0011	.0023	.0005	.0003
#2	.0032	.0042	.0888	.8283	-.0008	.0006	.0016	.0005	.0002
#3	.0038	.0044	.0847	.8345	-.0012	.0006	.0009	.0001	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 19:21:10 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**-.0005**	**.0003**	F **.1158**	**.0013**	**.0013**	**-.0004**	**.0009**
Stddev	.0000	.0002	.0003	.0016	.0010	.0013	.0005	.0009
%RSD	6.375	48.58	75.11	1.344	81.74	98.04	118.5	98.85
#1	.0007	-.0008	.0001	.1170	.0007	-.0001	.0001	.0020
#2	.0007	-.0004	.0004	.1164	.0024	.0015	-.0004	.0003
#3	.0008	-.0003	.0006	.1141	.0006	.0024	-.0009	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.0500				
Low Limit				-.0500				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186690.**	**34571.**	**7936.1**	**10811.**
Stddev	889.	354.	3.9	12.
%RSD	.47609	1.0251	.04901	.10874
#1	185660.	34401.	7931.9	10800.
#2	187190.	34978.	7939.6	10824.
#3	187210.	34333.	7936.8	10810.

Zoom In Zoom Out

Sample Name: icsa Acquired: 9/26/2019 19:27:43 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0003**	**.0003**	**-.0004**	**.0008**	**.0021**	**.0002**	**.0001**	**-.0013**
Stddev	.0000	.0000	.0001	.0001	.0004	.0005	.0001	.0002	.0005
%RSD	9.605	1.243	29.48	20.13	45.33	25.27	51.08	151.3	35.08
#1	.0002	-.0003	.0002	-.0005	.0009	.0016	.0003	.0002	-.0017
#2	.0002	-.0003	.0004	-.0003	.0004	.0020	.0001	-.0001	-.0014
#3	.0003	-.0003	.0003	-.0004	.0011	.0027	.0001	.0004	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0037**	**.0006**	**.0030**	**-.0022**	**-.0006**	**.0002**	**484.4**	**379.8**
Stddev	.0000	.0000	.0002	.0007	.0016	.0017	.0005	2.3	1.3
%RSD	3.375	.8053	39.60	22.96	71.39	296.8	204.2	.4829	.3310
#1	.0010	.0038	.0004	.0026	-.0031	-.0008	-.0002	481.9	378.3
#2	.0010	.0037	.0008	.0038	-.0032	-.0022	.0001	486.6	380.3
#3	.0010	.0037	.0006	.0027	-.0004	.0013	.0008	484.7	380.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**192.5**	**497.4**	**.3142**	**1.586**	**-.0053**	**.0023**	**.0090**	**-.0012**	**-.0020**
Stddev	1.5	.7	.0073	.025	.0004	.0003	.0006	.0006	.0000
%RSD	.7765	.1420	2.319	1.552	7.902	11.29	6.445	48.67	2.295
#1	191.3	497.9	.3183	1.558	-.0056	.0023	.0096	-.0012	-.0019
#2	192.2	497.7	.3185	1.600	-.0048	.0025	.0088	-.0006	-.0020
#3	194.2	496.6	.3058	1.601	-.0054	.0020	.0085	-.0018	-.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icsa Acquired: 9/26/2019 19:27:43 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0010**	**-.0005**	**.0017**	F **.1775**	**-.0056**	**-.0075**	**-.0115**	**.0242**
Stddev	.0002	.0012	.0001	.0003	.0007	.0011	.0006	.0003
%RSD	16.90	245.1	4.322	.1473	12.91	14.44	5.243	1.057
#1	-.0012	-.0014	.0016	.1778	-.0063	-.0085	-.0114	.0241
#2	-.0008	-.0009	.0017	.1775	-.0055	-.0064	-.0121	.0240
#3	-.0011	.0008	.0018	.1773	-.0048	-.0077	-.0109	.0244
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None
High Limit				.0500				
Low Limit				-.0500				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**163760.**	**33562.**	**7103.7**	**9155.2**
Stddev	341.	111.	5.8	6.2
%RSD	.20823	.33004	.08122	.06736
#1	163480.	33502.	7105.3	9161.7
#2	163650.	33495.	7097.3	9149.4
#3	164140.	33690.	7108.5	9154.6

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 9/26/2019 19:32:50 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4995**	**.4942**	**.9969**	**.4801**	**.4803**	**.5014**	**.5047**	**.9562**	**1.016**
Stddev	.0008	.0010	.0003	.0004	.0015	.0014	.0004	.0008	.001
%RSD	.1634	.1938	.0274	.0859	.3097	.2721	.0802	.0884	.1060
#1	.5002	.4952	.9967	.4804	.4799	.5030	.5043	.9572	1.015
#2	.4986	.4932	.9967	.4796	.4820	.5005	.5051	.9558	1.017
#3	.4998	.4943	.9972	.4802	.4791	.5008	.5045	.9556	1.015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4902**	**.9425**	**1.043**	**.9631**	**.8985**	**.9811**	**.9986**	**495.5**	**376.0**
Stddev	.0012	.0008	.002	.0008	.0020	.0025	.0021	5.2	5.3
%RSD	.2376	.0841	.1892	.0792	.2252	.2552	.2153	1.049	1.418
#1	.4895	.9433	1.041	.9632	.9008	.9813	.9985	490.4	376.5
#2	.4916	.9425	1.043	.9623	.8975	.9834	.9965	500.8	381.1
#3	.4896	.9417	1.045	.9639	.8972	.9784	1.001	495.3	370.5
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**185.2**	**495.5**	**.3035**	**1.523**	**.4814**	**.4808**	**.5007**	**.4616**	**.5060**
Stddev	1.2	.6	.0280	.015	.0011	.0002	.0020	.0007	.0006
%RSD	.6348	.1130	9.236	.9536	.2322	.0510	.3894	.1555	.1090
#1	183.9	495.4	.2933	1.507	.4802	.4806	.5006	.4609	.5060
#2	185.6	496.1	.3353	1.528	.4817	.4810	.5028	.4616	.5054
#3	186.2	494.9	.2821	1.535	.4824	.4810	.4989	.4623	.5065
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 9/26/2019 19:32:50 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5041**	**.4626**	**.5066**	F **.6239**	**.5002**	**.5073**	**.4631**	**.0060**
Stddev	.0007	.0003	.0010	.0027	.0009	.0006	.0007	.0025
%RSD	.1358	.0756	.2011	.4405	.1797	.1193	.1597	41.23
#1	.5034	.4630	.5054	.6221	.5009	.5080	.4628	.0084
#2	.5044	.4625	.5073	.6270	.4992	.5069	.4626	.0034
#3	.5047	.4624	.5070	.6226	.5005	.5071	.4640	.0063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None
Value				.5000				
Range				20.00%				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**163960.**	**33503.**	**7126.7**	**9183.5**
Stddev	512.	232.	2.1	3.4
%RSD	.31254	.69362	.02944	.03752
#1	164330.	33573.	7125.4	9179.5
#2	163380.	33243.	7125.6	9185.4
#3	164180.	33692.	7129.1	9185.6

Zoom In Zoom Out

Sample Name: niconf Acquired: 9/26/2019 19:37:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0000**	**.0003**	**.0001**	**.0002**	**.0002**	**-.0002**	F **10.89**	**-.0004**
Stddev	.0002	.0000	.0000	.0001	.0001	.0003	.0000	.00	.0002
%RSD	309.1	125.5	11.74	87.16	57.78	165.0	14.48	.0353	65.14
#1	-.0000	.0000	.0003	.0002	.0001	.0005	-.0002	10.90	-.0004
#2	.0002	-.0000	.0003	.0001	.0003	.0001	-.0002	10.89	-.0006
#3	-.0001	.0000	.0004	.0000	.0001	-.0001	-.0002	10.89	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0052**	**.0003**	**.0016**	**-.0001**	**-.0004**	**-.0030**	**.0155**	**.0229**
Stddev	.0001	.0000	.0004	.0003	.0009	.0010	.0008	.0052	.0023
%RSD	124.9	.2847	132.5	20.06	732.1	237.0	28.15	33.75	9.972
#1	.0000	.0052	-.0001	.0013	-.0012	.0003	-.0025	.0112	.0204
#2	-.0001	.0051	.0008	.0019	.0002	-.0000	-.0025	.0139	.0248
#3	-.0001	.0052	.0003	.0016	.0006	-.0016	-.0039	.0213	.0235

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**.0090**	**.1328**	**.6598**	**-.0020**	**-.0000**	**-.0227**	**-.0004**	**.0001**
Stddev	.0011	.0018	.0130	.0113	.0002	.0001	.0001	.0002	.0000
%RSD	27.89	20.14	9.792	1.715	12.09	2871.	.3391	48.51	35.29
#1	.0035	.0072	.1466	.6727	-.0018	.0001	-.0227	-.0002	.0002
#2	.0034	.0091	.1208	.6550	-.0022	.0000	-.0227	-.0004	.0002
#3	.0054	.0108	.1309	.6516	-.0018	-.0001	-.0226	-.0005	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0322**	**.0020**	**.0788**	**-.0006**	**-.0012**	**.0100**	**.0008**
Stddev	.0003	.0002	.0002	.0019	.0008	.0004	.0009	.0016
%RSD	413.3	.5961	9.153	2.401	121.4	35.61	9.284	215.7
#1	.0004	.0324	.0021	.0809	-.0001	-.0008	.0091	-.0000
#2	-.0000	.0321	.0020	.0782	-.0015	-.0013	.0109	.0026
#3	-.0002	.0322	.0018	.0773	-.0003	-.0016	.0099	-.0004

Zoom In Zoom Out

Sample Name: niconf Acquired: 9/26/2019 19:37:56 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188810.**	**34930.**	**7982.6**	**10952.**
Stddev	360.	177.	11.9	22.
%RSD	.19084	.50547	.14956	.19656
#1	188490.	34845.	7974.1	10934.
#2	189200.	35133.	7977.4	10947.
#3	188730.	34813.	7996.2	10976.

Zoom In Zoom Out

Sample Name: caconf Acquired: 9/26/2019 19:43:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0003**	**.0036**	**.0038**	**.0034**	**.0034**	**.0042**	**.0042**	**.0000**
Stddev	.0002	.0000	.0001	.0001	.0003	.0003	.0000	.0000	.0002
%RSD	19.98	10.37	3.202	2.016	7.531	8.598	.5292	.7456	519.6
#1	.0008	.0003	.0036	.0038	.0032	.0038	.0042	.0042	-.0001
#2	.0009	.0003	.0037	.0038	.0037	.0033	.0042	.0042	-.0001
#3	.0012	.0003	.0034	.0039	.0033	.0033	.0041	.0042	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0288**	**.0022**	**.0043**	**-.0015**	**-.0017**	**-.0012**	**.0160**	F **410.7**
Stddev	.0000	.0001	.0008	.0006	.0011	.0012	.0004	.0060	1.0
%RSD	1.306	.4867	33.98	14.69	73.53	72.24	35.38	37.92	.2525
#1	.0014	.0289	.0031	.0047	-.0026	-.0027	-.0015	.0102	411.9
#2	.0014	.0286	.0018	.0036	-.0005	-.0003	-.0012	.0154	410.1
#3	.0014	.0288	.0018	.0046	-.0013	-.0020	-.0007	.0222	410.1

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0009**	**-.0032**	**.1132**	**.7100**	**.0005**	**.0003**	**.0666**	**-.0009**	**.0036**
Stddev	.0004	.0049	.0102	.0139	.0004	.0001	.0006	.0000	.0001
%RSD	47.61	154.8	9.031	1.964	77.31	35.66	.9654	2.976	1.942
#1	-.0004	-.0089	.1243	.7169	.0005	.0004	.0659	-.0009	.0035
#2	-.0013	-.0000	.1043	.6939	.0001	.0003	.0671	-.0009	.0036
#3	-.0009	-.0007	.1109	.7192	.0008	.0002	.0668	-.0009	.0036

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0013**	**-.0006**	**.0010**	**.1880**	**.0043**	**.0087**	**.0045**	**.0061**
Stddev	.0003	.0004	.0001	.0010	.0007	.0011	.0010	.0003
%RSD	25.01	68.93	7.181	.5321	17.09	12.93	21.52	5.240
#1	-.0009	-.0001	.0010	.1878	.0035	.0080	.0041	.0062
#2	-.0015	-.0008	.0011	.1891	.0049	.0081	.0055	.0058
#3	-.0016	-.0010	.0010	.1871	.0044	.0100	.0037	.0064

Zoom In Zoom Out

Sample Name: caconf Acquired: 9/26/2019 19:43:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**171320.**	**34037.**	**7309.1**	**9527.9**
Stddev	1595.	40.	1.6	8.5
%RSD	.93125	.11791	.02228	.08948
#1	169510.	33994.	7310.8	9518.2
#2	171940.	34073.	7307.6	9531.3
#3	172520.	34045.	7308.8	9534.2

Zoom In Zoom Out

Sample Name: mp17476-ps1 Acquired: 9/26/2019 19:48:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.262**	**2.040**	**2.023**	**2.033**	**2.040**	**2.062**	**2.111**	**2.062**	**.1731**
Stddev	.005	.018	.002	.002	.001	.002	.010	.002	.0004
%RSD	.2091	.8682	.1020	.0814	.0489	.0828	.4543	.0832	.2312
#1	2.260	2.058	2.025	2.034	2.039	2.064	2.104	2.064	.1730
#2	2.260	2.022	2.024	2.032	2.041	2.062	2.106	2.061	.1727
#3	2.268	2.039	2.021	2.031	2.040	2.061	2.122	2.062	.1735

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.056**	**2.101**	**2.377**	**2.094**	**2.187**	**2.056**	**2.120**	**35.77**	**35.27**
Stddev	.003	.005	.002	.001	.001	.002	.001	.07	.05
%RSD	.1230	.2382	.0784	.0458	.0584	.1041	.0683	.2060	.1418
#1	2.053	2.102	2.377	2.095	2.187	2.057	2.120	35.73	35.23
#2	2.058	2.105	2.379	2.094	2.186	2.057	2.120	35.73	35.25
#3	2.057	2.096	2.375	2.093	2.189	2.053	2.118	35.86	35.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**91.45**	**26.16**	**26.92**	**27.56**	**2.100**	**2.075**	**3.421**	**2.169**	**2.241**
Stddev	.24	.02	.06	.04	.003	.001	.010	.003	.022
%RSD	.2607	.0839	.2384	.1387	.1294	.0258	.2876	.1229	.9788
#1	91.52	26.14	26.91	27.56	2.103	2.074	3.431	2.171	2.232
#2	91.18	26.15	26.86	27.59	2.100	2.075	3.421	2.170	2.225
#3	91.64	26.18	26.99	27.52	2.097	2.075	3.411	2.166	2.266

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.084**	**1.626**	**2.153**	**32.85**	**.1213**	**-.0002**	**3.513**	**.0110**
Stddev	.002	.021	.002	.04	.0009	.0008	.007	.0014
%RSD	.0749	1.317	.1087	.1100	.7360	406.9	.1999	12.92
#1	3.085	1.604	2.155	32.89	.1220	-.0006	3.518	.0111
#2	3.086	1.629	2.155	32.85	.1203	.0008	3.517	.0096
#3	3.082	1.647	2.151	32.82	.1215	-.0008	3.505	.0124

Zoom In Zoom Out

Sample Name: mp17476-ps1 Acquired: 9/26/2019 19:48:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182780.**	**35586.**	**7737.1**	**10301.**
Stddev	639.	102.	24.4	21.
%RSD	.34956	.28633	.31524	.20546
#1	183440.	35703.	7732.6	10297.
#2	182720.	35519.	7715.3	10282.
#3	182170.	35534.	7763.4	10324.

Zoom In Zoom Out

Sample Name: MP17510-B1 Acquired: 9/26/2019 19:53:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.889**	**1.896**	**1.891**	**1.929**	**1.906**	**1.892**	**1.972**	**1.949**
Stddev	.006	.043	.002	.002	.002	.002	.002	.000
%RSD	.3407	2.272	.1095	.0798	.1063	.1026	.0877	.0203
#1	1.896	1.849	1.893	1.930	1.904	1.893	1.974	1.949
#2	1.888	1.934	1.891	1.928	1.908	1.892	1.970	1.949
#3	1.884	1.905	1.888	1.930	1.907	1.890	1.973	1.950

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2392**	**1.914**	**1.959**	**1.918**	**2.001**	**1.945**	**1.881**	**1.932**
Stddev	.0001	.000	.002	.002	.002	.001	.002	.001
%RSD	.0508	.0224	.0816	.0792	.0780	.0580	.0997	.0518
#1	.2392	1.913	1.959	1.920	2.001	1.946	1.883	1.933
#2	.2393	1.914	1.960	1.917	2.003	1.944	1.879	1.931
#3	.2391	1.914	1.957	1.919	1.999	1.946	1.880	1.931

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.77**	**24.38**	**24.53**	**24.45**	**23.65**	**24.90**	**1.846**	**1.951**
Stddev	.04	.03	.02	.04	.04	.02	.003	.001
%RSD	.1819	.1393	.0720	.1823	.1803	.0969	.1576	.0739
#1	23.82	24.42	24.55	24.40	23.70	24.88	1.844	1.952
#2	23.76	24.36	24.52	24.48	23.63	24.92	1.845	1.951
#3	23.73	24.37	24.52	24.47	23.62	24.91	1.849	1.950

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0138**	**2.014**	**1.932**	**1.975**	**1.302**	**1.961**	**.0793**	**.0705**
Stddev	.0005	.002	.043	.000	.001	.001	.0011	.0006
%RSD	3.837	.1154	2.232	.0174	.0521	.0374	1.337	.8356
#1	.0142	2.015	1.894	1.974	1.301	1.961	.0786	.0712
#2	.0132	2.016	1.922	1.975	1.303	1.962	.0788	.0701
#3	.0141	2.012	1.979	1.975	1.302	1.961	.0805	.0703

Zoom In
Zoom Out

Sample Name: MP17510-B1 Acquired: 9/26/2019 19:53:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0013**	**1.879**	W **-.0613**
Stddev	.0005	.001	.0014
%RSD	42.06	.0446	2.250
#1	-.0019	1.878	-.0600
#2	-.0011	1.880	-.0613
#3	-.0008	1.879	-.0627

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182990.**	**35041.**	**7761.6**	**10255.**
Stddev	427.	173.	16.3	16.
%RSD	.23322	.49377	.21002	.15257
#1	183300.	35222.	7748.7	10240.
#2	183160.	35023.	7756.0	10252.
#3	182500.	34877.	7779.9	10271.

Zoom In
Zoom Out

Sample Name: MP17510-MB1 Acquired: 9/26/2019 19:58:19 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0000**	**.0001**	**.0001**	**.0010**	**.0010**	**.0004**	**.0004**	**-.0002**
Stddev	.0001	.0000	.0000	.0001	.0002	.0001	.0000	.0001	.0003
%RSD	81.45	103.5	27.84	88.96	21.80	14.15	8.640	36.87	165.8
#1	.0002	.0000	.0001	.0000	.0008	.0009	.0004	.0005	.0000
#2	.0000	.0001	.0001	.0003	.0013	.0011	.0004	.0002	-.0004
#3	.0001	.0000	.0001	.0001	.0010	.0011	.0004	.0004	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0138**	**.0006**	**.0001**	**-.0001**	**-.0002**	**.0005**	**.0022**	**.0558**
Stddev	.0001	.0002	.0009	.0007	.0002	.0007	.0012	.0035	.0009
%RSD	22.22	1.188	135.2	498.7	116.0	373.4	233.9	155.1	1.700
#1	.0005	.0138	-.0000	-.0003	-.0002	-.0003	.0001	.0034	.0551
#2	.0007	.0139	.0016	.0009	-.0002	-.0009	.0018	-.0017	.0553
#3	.0005	.0136	.0003	-.0002	.0000	.0006	-.0004	.0050	.0569

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0230**	**.0024**	**.0356**	**.5379**	**.0005**	**.0028**	**.0071**	**.0164**	**.0003**
Stddev	.0007	.0108	.0174	.0094	.0004	.0002	.0006	.0000	.0000
%RSD	3.161	447.4	48.79	1.754	95.64	7.306	7.914	.2733	6.842
#1	.0222	.0054	.0553	.5482	.0002	.0030	.0067	.0164	.0003
#2	.0235	.0114	.0227	.5297	.0002	.0029	.0069	.0165	.0003
#3	.0233	-.0096	.0287	.5357	.0010	.0026	.0078	.0164	.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0274**	**.0021**	**.0696**	**.0006**	**-.0012**	**.0177**	**.0015**
Stddev	.0004	.0018	.0001	.0010	.0012	.0006	.0006	.0019
%RSD	49.54	6.560	4.642	1.492	201.3	45.21	3.539	124.0
#1	.0011	.0292	.0022	.0707	-.0005	-.0017	.0177	.0032
#2	.0009	.0272	.0021	.0696	.0018	-.0014	.0183	.0019
#3	.0004	.0256	.0020	.0686	.0004	-.0006	.0171	-.0005

Zoom In
Zoom Out

Sample Name: MP17510-MB1 Acquired: 9/26/2019 19:58:19 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190060.**	**35629.**	**8040.9**	**10950.**
Stddev	1813.	414.	10.7	9.
%RSD	.95378	1.1609	.13351	.08643
#1	190820.	35226.	8052.1	10954.
#2	188000.	36053.	8030.7	10939.
#3	191380.	35607.	8039.9	10957.

Zoom In
Zoom Out

Sample Name: jc95337-1pconf Acquired: 9/26/2019 20:03:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.071**	**.1034**	**.8067**	**.8931**	**.1284**	**.2003**	**.6925**	**1.042**	**.1277**
Stddev	.002	.0001	.0007	.0007	.0003	.0003	.0014	.001	.0004
%RSD	.1171	.1289	.0830	.0739	.2035	.1307	.2051	.0788	.2924
#1	2.073	.1036	.8074	.8924	.1287	.2005	.6934	1.043	.1280
#2	2.071	.1033	.8060	.8937	.1283	.2000	.6908	1.042	.1278
#3	2.069	.1033	.8068	.8931	.1283	.2005	.6931	1.043	.1273

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6769**	**1.151**	**.5464**	**.3629**	**1.230**	**.7864**	**.1056**	**3.269**	**.0233**
Stddev	.0022	.001	.0008	.0011	.001	.0019	.0006	.003	.0012
%RSD	.3183	.0946	.1426	.3123	.0942	.2388	.5681	.0989	5.218
#1	.6789	1.152	.5456	.3627	1.231	.7849	.1051	3.273	.0228
#2	.6746	1.150	.5465	.3642	1.229	.7885	.1055	3.266	.0247
#3	.6770	1.151	.5472	.3619	1.230	.7859	.1063	3.269	.0224

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.056**	**-.0009**	**-.0121**	**.2979**	**2.004**	**.1257**	**.1955**	**-.0009**	**.4018**
Stddev	.003	.0067	.0126	.0048	.002	.0001	.0011	.0002	.0004
%RSD	.2664	710.6	104.0	1.609	.0986	.0754	.5606	22.52	.1034
#1	1.058	-.0059	-.0090	.3034	2.005	.1257	.1951	-.0007	.4022
#2	1.053	-.0036	-.0013	.2960	2.006	.1256	.1946	-.0010	.4013
#3	1.057	.0067	-.0259	.2943	2.002	.1257	.1967	-.0010	.4019

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0139**	**.0005**	**.0837**	**-.0000**	**-.0019**	**.0103**	**.0025**
Stddev	.0002	.0005	.0001	.0014	.0002	.0005	.0004	.0007
%RSD	561.8	3.909	21.40	1.622	1299.	27.15	4.261	27.19
#1	-.0001	.0145	.0004	.0852	.0002	-.0024	.0104	.0018
#2	-.0001	.0134	.0006	.0832	-.0002	-.0014	.0098	.0032
#3	.0002	.0138	.0006	.0826	-.0001	-.0019	.0107	.0024

Zoom In Zoom Out

Sample Name: jc95337-1pconf Acquired: 9/26/2019 20:03:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**192490.**	**36134.**	**8134.5**	**11102.**
Stddev	549.	283.	15.3	21.
%RSD	.28521	.78318	.18838	.18736
#1	192800.	36200.	8127.9	11099.
#2	192820.	36379.	8152.0	11124.
#3	191860.	35824.	8123.6	11082.

Zoom In Zoom Out

Sample Name: CCV Acquired: 9/26/2019 20:08:06 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**1.980**	**1.975**	**2.010**	**1.984**	**1.957**	**2.022**	**2.029**	**.2424**
Stddev	.002	.036	.003	.003	.001	.003	.012	.002	.0005
%RSD	.0872	1.831	.1349	.1462	.0404	.1288	.5886	.0895	.2183
#1	1.965	1.973	1.974	2.006	1.983	1.956	2.019	2.027	.2418
#2	1.967	1.947	1.978	2.010	1.984	1.955	2.012	2.031	.2426
#3	1.963	2.019	1.973	2.012	1.984	1.960	2.035	2.031	.2428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.994**	**2.014**	**1.921**	**2.059**	**2.056**	**1.974**	**1.927**	**38.31**	**39.09**
Stddev	.001	.002	.003	.005	.001	.003	.000	.03	.01
%RSD	.0516	.1199	.1645	.2306	.0685	.1260	.0122	.0740	.0276
#1	1.993	2.014	1.918	2.054	2.054	1.972	1.926	38.31	39.10
#2	1.995	2.016	1.922	2.062	2.056	1.975	1.927	38.34	39.10
#3	1.993	2.011	1.924	2.063	2.057	1.976	1.927	38.28	39.08
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.35**	**39.24**	**38.07**	**39.54**	**1.977**	**1.945**	**4.735**	**1.974**	**2.006**
Stddev	.03	.04	.03	.00	.002	.003	.006	.003	.022
%RSD	.0670	.1052	.0897	.0093	.0889	.1527	.1173	.1407	1.109
#1	39.38	39.23	38.11	39.54	1.976	1.942	4.730	1.973	2.027
#2	39.35	39.21	38.04	39.55	1.979	1.948	4.741	1.977	1.982
#3	39.33	39.29	38.08	39.54	1.977	1.944	4.732	1.972	2.009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 9/26/2019 20:08:06 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.959**	**1.919**	**1.957**	**2.029**	**1.961**	**1.912**	**1.967**	**1.946**
Stddev	.001	.003	.001	.002	.002	.004	.002	.001
%RSD	.0582	.1657	.0283	.0990	.1236	.1806	.1170	.0730
#1	1.959	1.920	1.956	2.027	1.958	1.914	1.965	1.945
#2	1.959	1.922	1.956	2.029	1.962	1.914	1.970	1.947
#3	1.957	1.916	1.957	2.031	1.962	1.908	1.967	1.945
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179420.**	**34639.**	**7675.8**	**10045.**
Stddev	166.	187.	12.0	5.
%RSD	.09244	.53917	.15621	.05147
#1	179470.	34715.	7672.3	10049.
#2	179560.	34775.	7666.0	10039.
#3	179240.	34426.	7689.2	10047.

Zoom In Zoom Out

Sample Name: CCB Acquired: 9/26/2019 20:13:13 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0004**	**.0004**	**.0005**	**.0004**	**.0007**	**.0004**	**.0003**	**-.0001**
Stddev	.0002	.0000	.0001	.0001	.0001	.0000	.0001	.0003	.0006
%RSD	41.89	9.218	15.22	20.52	31.17	2.199	13.04	73.76	799.2
#1	.0003	.0004	.0005	.0006	.0003	.0007	.0005	.0006	-.0006
#2	.0006	.0004	.0004	.0006	.0005	.0007	.0004	.0004	.0005
#3	.0004	.0004	.0004	.0004	.0005	.0007	.0004	.0001	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0000**	**.0003**	**.0007**	**.0003**	**-.0007**	**-.0001**	**.0418**	**.0034**
Stddev	.0004	.0001	.0008	.0002	.0005	.0016	.0003	.0005	.0025
%RSD	62.16	369.9	311.1	28.25	173.9	221.0	282.3	1.247	72.66
#1	.0009	.0000	.0003	.0005	-.0003	-.0019	-.0005	.0419	.0013
#2	.0006	.0000	-.0006	.0009	.0004	-.0014	.0002	.0412	.0029
#3	.0002	-.0001	.0010	.0006	.0007	.0011	-.0000	.0423	.0061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0088**	**.0045**	**.0242**	**.4549**	**.0015**	**.0017**	**.0022**	**.0001**	**.0005**
Stddev	.0011	.0036	.0119	.0052	.0002	.0002	.0003	.0001	.0000
%RSD	13.11	79.67	49.24	1.139	14.72	10.67	12.08	65.11	6.543
#1	.0079	.0023	.0373	.4605	.0017	.0019	.0021	.0001	.0004
#2	.0083	.0025	.0141	.4502	.0015	.0016	.0021	.0001	.0005
#3	.0101	.0086	.0211	.4539	.0012	.0015	.0026	.0002	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 9/26/2019 20:13:13 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	F **.0088**	**.0002**	F **.0521**	**-.0001**	**.0005**	**-.0003**	**.0020**
Stddev	.0001	.0011	.0001	.0012	.0005	.0005	.0006	.0009
%RSD	31.09	12.42	27.98	2.395	368.3	95.86	207.6	47.76
#1	.0005	.0100	.0003	.0519	.0005	.0000	.0003	.0009
#2	.0006	.0086	.0002	.0534	-.0005	.0005	-.0002	.0025
#3	.0003	.0078	.0002	.0510	-.0004	.0010	-.0010	.0026
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0050		.0500				
Low Limit		-.0050		-.0500				

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188140.**	**35037.**	**7969.7**	**10860.**
Stddev	1426.	217.	10.0	8.
%RSD	.75795	.61919	.12499	.07336
#1	189460.	34822.	7980.3	10869.
#2	188320.	35033.	7960.5	10853.
#3	186630.	35255.	7968.4	10859.

Zoom In Zoom Out

Sample Name: MP17510-S1 Acquired: 9/26/2019 20:18:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.167**	**1.924**	**1.881**	**1.927**	**1.978**	**1.972**	**2.504**	**1.984**	**.2407**
Stddev	.003	.042	.001	.003	.006	.005	.017	.001	.0003
%RSD	.1539	2.201	.0721	.1358	.2978	.2630	.6705	.0612	.1395
#1	2.164	1.875	1.882	1.930	1.971	1.966	2.486	1.986	.2403
#2	2.170	1.952	1.880	1.925	1.982	1.975	2.506	1.984	.2409
#3	2.168	1.946	1.880	1.925	1.981	1.976	2.520	1.984	.2409

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**2.182**	**1.919**	**1.975**	**2.048**	**1.853**	**1.475**	**89.45**	**27.34**
Stddev	.003	.001	.003	.001	.002	.001	.003	.12	.03
%RSD	.1596	.0252	.1653	.0444	.0732	.0364	.2272	.1342	.1164
#1	2.005	2.182	1.923	1.976	2.048	1.853	1.479	89.32	27.30
#2	2.011	2.182	1.918	1.974	2.050	1.852	1.472	89.52	27.35
#3	2.010	2.183	1.917	1.975	2.047	1.852	1.474	89.52	27.37

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**91.40**	**31.05**	**29.86**	**24.75**	**1.825**	**1.892**	**2.851**	**1.928**	**1.929**
Stddev	.50	.03	.07	.03	.001	.001	.012	.000	.026
%RSD	.5498	.0865	.2356	.1011	.0556	.0432	.4233	.0195	1.344
#1	91.61	31.06	29.78	24.77	1.826	1.893	2.865	1.928	1.903
#2	90.82	31.02	29.88	24.74	1.824	1.892	2.842	1.927	1.955
#3	91.75	31.07	29.92	24.72	1.826	1.892	2.846	1.928	1.929

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.039**	**.9560**	**1.936**	**.9467**	**.1328**	**.0458**	**3.429**	**.1201**
Stddev	.003	.0013	.003	.0009	.0007	.0002	.004	.0013
%RSD	.1040	.1379	.1417	.0939	.5536	.4266	.1081	1.045
#1	3.036	.9552	1.932	.9463	.1333	.0455	3.433	.1192
#2	3.043	.9575	1.938	.9461	.1320	.0458	3.429	.1195
#3	3.038	.9552	1.937	.9477	.1331	.0459	3.426	.1215

Zoom In Zoom Out

Sample Name: MP17510-S1 Acquired: 9/26/2019 20:18:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184500.**	**36145.**	**7883.9**	**10280.**
Stddev	439.	265.	8.0	5.
%RSD	.23789	.73375	.10117	.04550
#1	185000.	36388.	7893.1	10283.
#2	184190.	36186.	7879.5	10275.
#3	184300.	35862.	7879.0	10284.

Zoom In Zoom Out

Sample Name: MP17510-S2 Acquired: 9/26/2019 20:23:30 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.161**	**1.900**	**1.881**	**1.928**	**2.002**	**1.992**	**2.548**	**1.992**	**.2425**
Stddev	.007	.035	.002	.002	.022	.023	.031	.000	.0021
%RSD	.3200	1.836	.1021	.1094	1.121	1.172	1.207	.0189	.8575
#1	2.169	1.934	1.883	1.930	2.028	2.019	2.583	1.992	.2450
#2	2.155	1.864	1.880	1.926	1.990	1.979	2.525	1.993	.2413
#3	2.160	1.902	1.880	1.927	1.988	1.979	2.536	1.992	.2413

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.034**	**2.180**	**1.911**	**1.979**	**2.056**	**1.848**	**1.481**	**90.85**	**27.56**
Stddev	.023	.001	.003	.002	.001	.002	.003	.22	.08
%RSD	1.146	.0456	.1398	.0921	.0485	.1204	.1965	.2422	.2741
#1	2.061	2.181	1.914	1.981	2.057	1.850	1.478	91.09	27.65
#2	2.019	2.180	1.908	1.977	2.055	1.846	1.483	90.66	27.50
#3	2.022	2.179	1.912	1.978	2.055	1.847	1.482	90.80	27.55

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**92.00**	**31.47**	**29.76**	**24.83**	**1.828**	**1.891**	**2.788**	**1.929**	**1.937**
Stddev	.59	.04	.10	.05	.001	.002	.020	.002	.018
%RSD	.6467	.1374	.3517	.1832	.0461	.0952	.7176	.1180	.9042
#1	92.10	31.52	29.87	24.88	1.829	1.892	2.810	1.931	1.946
#2	92.54	31.47	29.67	24.84	1.828	1.891	2.772	1.929	1.917
#3	91.36	31.43	29.74	24.79	1.827	1.889	2.781	1.926	1.948

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.059**	**1.025**	**1.945**	**.9562**	**.1317**	**.0475**	**3.450**	**.1311**
Stddev	.033	.001	.022	.0009	.0023	.0007	.007	.0018
%RSD	1.068	.0938	1.129	.0934	1.713	1.383	.1920	1.384
#1	3.096	1.025	1.970	.9555	.1343	.0469	3.457	.1324
#2	3.039	1.025	1.931	.9572	.1305	.0476	3.444	.1290
#3	3.041	1.026	1.934	.9559	.1302	.0482	3.448	.1319

Zoom In
Zoom Out

Sample Name: MP17510-S2 Acquired: 9/26/2019 20:23:30 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183210.**	**35851.**	**7861.7**	**10243.**
Stddev	1416.	117.	8.4	11.
%RSD	.77303	.32525	.10683	.10947
#1	181570.	35822.	7852.1	10230.
#2	183970.	35980.	7865.4	10250.
#3	184070.	35752.	7867.6	10249.

Zoom In
Zoom Out

Sample Name: JC95557-1 Acquired: 9/26/2019 20:28:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2112**	**.0020**	**.0008**	**.0184**	**.0844**	**.0739**	**.6137**	**.0504**	**.0012**
Stddev	.0009	.0000	.0000	.0002	.0003	.0003	.0027	.0003	.0001
%RSD	.4406	2.367	2.084	.8953	.3074	.4529	.4377	.5686	7.344
#1	.2107	.0020	.0008	.0185	.0844	.0736	.6113	.0501	.0012
#2	.2105	.0021	.0008	.0182	.0841	.0739	.6132	.0506	.0011
#3	.2122	.0021	.0008	.0183	.0846	.0742	.6166	.0505	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1086**	**.2811**	**.0269**	**.0022**	**.1439**	**.0005**	**-.0006**	**47.92**	**2.996**
Stddev	.0007	.0003	.0006	.0005	.0007	.0015	.0015	.12	.009
%RSD	.6032	.1123	2.350	25.43	.4553	314.2	254.1	.2492	.2983
#1	.1082	.2807	.0276	.0027	.1436	-.0000	.0012	47.88	2.993
#2	.1083	.2814	.0263	.0022	.1434	.0021	-.0016	47.82	2.989
#3	.1094	.2811	.0269	.0016	.1446	-.0007	-.0014	48.05	3.006

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**67.41**	**6.059**	**3.390**	**.5106**	**.0145**	**.0055**	**1.429**	**.0188**	**.0250**
Stddev	.15	.022	.007	.0015	.0003	.0002	.007	.0004	.0001
%RSD	.2237	.3610	.2032	.3022	2.336	3.581	.5021	1.916	.2577
#1	67.34	6.034	3.390	.5102	.0145	.0057	1.433	.0186	.0250
#2	67.32	6.075	3.397	.5123	.0148	.0054	1.433	.0192	.0249
#3	67.59	6.068	3.383	.5093	.0141	.0054	1.421	.0185	.0250

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.030**	**.0131**	**.0297**	**.9631**	**.0505**	**.0380**	**1.626**	**.1816**
Stddev	.005	.0011	.0002	.0015	.0005	.0016	.005	.0029
%RSD	.4759	8.042	.6468	.1589	.9138	4.300	.3279	1.589
#1	1.026	.0141	.0299	.9637	.0508	.0374	1.622	.1809
#2	1.029	.0132	.0297	.9614	.0507	.0398	1.632	.1792
#3	1.035	.0120	.0296	.9643	.0499	.0367	1.624	.1848

Zoom In
Zoom Out

Sample Name: JC95557-1 Acquired: 9/26/2019 20:28:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190670.**	**36726.**	**8158.6**	**10727.**
Stddev	728.	84.	4.8	2.
%RSD	.38171	.22886	.05870	.02168
#1	191360.	36821.	8153.2	10730.
#2	190730.	36697.	8162.2	10726.
#3	189910.	36660.	8160.4	10726.

Zoom In
Zoom Out

Sample Name: MP17510-SD1 Acquired: 9/26/2019 20:33:39 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2183**	**.0020**	**.0002**	**.0194**	**.0870**	**.0772**	**.6395**	**.0512**	**.0004**
Stddev	.0011	.0001	.0006	.0002	.0017	.0020	.0107	.0011	.0011
%RSD	.4904	5.045	291.8	.8099	1.971	2.586	1.667	2.192	240.6
#1	.2195	.0019	.0009	.0193	.0864	.0767	.6357	.0511	.0016
#2	.2180	.0019	-.0004	.0196	.0856	.0755	.6313	.0501	-.0005
#3	.2175	.0021	.0002	.0194	.0889	.0794	.6516	.0523	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1131**	**.4578**	**.0280**	**.0024**	**.1454**	**-.0067**	**.0039**	**49.50**	**3.321**
Stddev	.0011	.0005	.0033	.0027	.0033	.0017	.0015	.11	.009
%RSD	.9944	.1177	11.74	112.0	2.238	25.19	37.50	.2284	.2698
#1	.1128	.4580	.0307	-.0004	.1474	-.0050	.0054	49.58	3.332
#2	.1121	.4582	.0243	.0049	.1471	-.0069	.0025	49.54	3.317
#3	.1143	.4572	.0291	.0025	.1416	-.0083	.0038	49.37	3.315

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**70.57**	**6.322**	**3.444**	**1.688**	**.0214**	**.0072**	**2.604**	**.0191**	**.0263**
Stddev	.12	.040	.065	.009	.0011	.0012	.008	.0010	.0000
%RSD	.1714	.6278	1.874	.5338	5.111	16.39	.3185	5.482	.1880
#1	70.70	6.356	3.472	1.694	.0211	.0079	2.614	.0203	.0264
#2	70.47	6.278	3.490	1.693	.0206	.0078	2.599	.0183	.0263
#3	70.54	6.331	3.370	1.678	.0227	.0058	2.600	.0187	.0263

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.063**	**.0376**	**.0302**	**1.190**	**.0547**	**.0325**	**1.665**	**.1883**
Stddev	.018	.0036	.0006	.007	.0040	.0027	.004	.0077
%RSD	1.728	9.641	2.014	.6282	7.302	8.401	.2318	4.081
#1	1.055	.0357	.0299	1.195	.0531	.0294	1.666	.1827
#2	1.049	.0418	.0299	1.181	.0518	.0344	1.660	.1853
#3	1.084	.0353	.0309	1.193	.0593	.0338	1.668	.1971

Zoom In Zoom Out

Sample Name: MP17510-SD1 Acquired: 9/26/2019 20:33:39 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188070.**	**35885.**	**8038.8**	**10811.**
Stddev	2788.	144.	12.2	18.
%RSD	1.4821	.40173	.15199	.16879
#1	188750.	35783.	8025.0	10791.
#2	190460.	36050.	8048.2	10828.
#3	185010.	35821.	8043.2	10813.

Zoom In Zoom Out

Sample Name: JC95322-1 Acquired: 9/26/2019 20:38:35 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.302**	**.0049**	**.0036**	**.0720**	**.2492**	**.6186**	**2.462**	**.2221**	**.0070**
Stddev	.004	.0000	.0001	.0002	.0004	.0007	.003	.0004	.0001
%RSD	.1704	.7838	3.998	.2987	.1642	.1073	.1215	.1856	2.141
#1	2.302	.0049	.0036	.0720	.2493	.6193	2.464	.2223	.0069
#2	2.298	.0049	.0038	.0718	.2496	.6184	2.464	.2224	.0071
#3	2.306	.0050	.0035	.0722	.2488	.6180	2.459	.2216	.0069

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7113**	**1.413**	**.1165**	**.0080**	F **8.554**	**.0227**	**.0044**	**104.1**	**17.59**
Stddev	.0012	.003	.0002	.0004	.009	.0012	.0003	.0	.00
%RSD	.1752	.2067	.1683	4.621	.1011	5.409	7.631	.0385	.0174
#1	.7111	1.412	.1165	.0080	8.561	.0227	.0046	104.1	17.59
#2	.7102	1.416	.1163	.0084	8.558	.0215	.0045	104.1	17.60
#3	.7126	1.411	.1167	.0076	8.544	.0240	.0040	104.1	17.59

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.9**	**31.63**	**17.99**	**1.368**	**.0236**	**.0161**	**1.816**	**.1516**	**.1064**
Stddev	.7	.07	.04	.007	.0001	.0003	.003	.0005	.0002
%RSD	.3864	.2353	.2308	.4833	.3210	1.720	.1816	.3608	.1504
#1	187.6	31.60	17.97	1.369	.0237	.0163	1.817	.1515	.1065
#2	187.0	31.72	17.96	1.374	.0236	.0158	1.818	.1521	.1062
#3	186.2	31.58	18.04	1.361	.0235	.0162	1.812	.1511	.1064

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.653**	**.0052**	**.0093**	**2.863**	**.1939**	**.1471**	F **13.51**	**.4352**
Stddev	.007	.0010	.0001	.002	.0014	.0005	.01	.0018
%RSD	.1965	18.40	.9267	.0692	.7436	.3310	.0990	.4042
#1	3.658	.0055	.0092	2.865	.1952	.1467	13.51	.4363
#2	3.645	.0041	.0093	2.861	.1940	.1469	13.52	.4362
#3	3.657	.0060	.0093	2.862	.1924	.1476	13.50	.4332

Zoom In Zoom Out

Sample Name: JC95322-1 Acquired: 9/26/2019 20:38:35 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187750.**	**37376.**	**8165.3**	**10570.**
Stddev	158.	231.	19.1	17.
%RSD	.08397	.61823	.23387	.16291
#1	187640.	37393.	8177.8	10574.
#2	187670.	37137.	8143.3	10551.
#3	187930.	37599.	8174.8	10585.

Zoom In Zoom Out

Sample Name: JC95322-3 Acquired: 9/26/2019 20:43:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.374**	**.0045**	**.0047**	**.0723**	**.2629**	**.8607**	**2.398**	**.2476**	**.0087**
Stddev	.043	.0000	.0002	.0003	.0009	.0050	.012	.0004	.0011
%RSD	.9874	.9855	3.536	.3624	.3502	.5808	.5177	.1568	12.82
#1	4.327	.0046	.0048	.0726	.2623	.8563	2.401	.2477	.0076
#2	4.412	.0045	.0048	.0721	.2640	.8662	2.408	.2480	.0098
#3	4.383	.0045	.0045	.0723	.2625	.8597	2.384	.2472	.0086

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9167**	**1.698**	**.1457**	**.0080**	F **12.82**	**.0254**	**.0076**	**95.94**	**16.08**
Stddev	.0040	.004	.0003	.0007	.01	.0012	.0007	.34	.07
%RSD	.4324	.2397	.1932	8.930	.1120	4.790	9.064	.3494	.4168
#1	.9141	1.702	.1457	.0074	12.84	.0240	.0068	95.56	16.00
#2	.9213	1.695	.1454	.0088	12.81	.0264	.0081	96.14	16.12
#3	.9147	1.695	.1460	.0077	12.82	.0258	.0079	96.13	16.12

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **203.9**	**27.85**	**14.74**	**1.184**	**.0206**	**.0198**	**1.661**	**.3000**	**.1399**
Stddev	3.5	.16	.05	.005	.0010	.0000	.005	.0006	.0003
%RSD	1.719	.5836	.3715	.4208	4.655	.2031	.2910	.2081	.2071
#1	200.5	27.67	14.68	1.187	.0213	.0198	1.667	.3006	.1396
#2	207.5	27.88	14.79	1.186	.0195	.0198	1.660	.3002	.1400
#3	203.7	28.00	14.73	1.178	.0211	.0198	1.658	.2993	.1401

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.307**	**.0028**	**.0069**	**3.841**	**.1792**	**.1295**	F **13.51**	**.3890**
Stddev	.018	.0004	.0002	.004	.0007	.0014	.02	.0010
%RSD	.5277	15.07	3.379	.0959	.4024	1.078	.1579	.2479
#1	3.296	.0024	.0068	3.844	.1786	.1288	13.53	.3887
#2	3.327	.0028	.0071	3.842	.1800	.1311	13.51	.3901
#3	3.298	.0032	.0067	3.837	.1792	.1285	13.49	.3883

Zoom In Zoom Out

Sample Name: JC95322-3 Acquired: 9/26/2019 20:43:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189070.**	**37247.**	**8126.8**	**10653.**
Stddev	592.	340.	19.9	20.
%RSD	.31291	.91330	.24522	.18522
#1	189420.	37605.	8103.8	10633.
#2	188390.	37210.	8139.8	10673.
#3	189410.	36927.	8136.6	10652.

Zoom In Zoom Out

Sample Name: JC95348-12 Acquired: 9/26/2019 20:48:52 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.164**	**.0060**	**.0016**	**.0906**	**.1823**	**.2582**	**3.893**	**.2124**	**.0018**
Stddev	.001	.0000	.0002	.0003	.0004	.0008	.025	.0002	.0004
%RSD	.0639	.4095	11.22	.3774	.2053	.3232	.6553	.0920	21.85
#1	1.164	.0060	.0016	.0905	.1826	.2591	3.922	.2123	.0018
#2	1.164	.0060	.0014	.0903	.1819	.2575	3.883	.2123	.0013
#3	1.163	.0060	.0018	.0909	.1824	.2579	3.873	.2126	.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3767**	**.6619**	**.0496**	**.0057**	**.3035**	**.0006**	**-.0002**	**123.4**	**48.63**
Stddev	.0010	.0012	.0013	.0006	.0011	.0007	.0011	.5	.38
%RSD	.2572	.1879	2.595	9.884	.3735	127.7	600.5	.3647	.7726
#1	.3778	.6606	.0509	.0059	.3027	.0007	-.0012	123.5	48.55
#2	.3762	.6621	.0494	.0051	.3031	.0013	-.0003	123.8	49.04
#3	.3760	.6631	.0484	.0062	.3048	-.0002	.0010	122.9	48.30

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**198.3**	**52.19**	**17.55**	**2.719**	**.1207**	**.0072**	**1.871**	**.0369**	**.2137**
Stddev	.9	.05	.05	.008	.0003	.0001	.002	.0004	.0002
%RSD	.4629	.0994	.2772	.3013	.2320	.9175	.1230	1.105	.0904
#1	199.2	52.17	17.51	2.713	.1206	.0072	1.868	.0364	.2137
#2	197.4	52.24	17.61	2.728	.1210	.0073	1.871	.0370	.2139
#3	198.1	52.14	17.54	2.716	.1205	.0072	1.873	.0372	.2135

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.920**	**.0034**	**.1027**	**3.746**	**.1990**	**.1942**	**3.543**	**.4630**
Stddev	.015	.0006	.0004	.003	.0011	.0007	.005	.0020
%RSD	.3915	16.32	.3679	.0795	.5555	.3635	.1518	.4290
#1	3.937	.0036	.1031	3.746	.1997	.1942	3.537	.4647
#2	3.908	.0028	.1023	3.750	.1995	.1935	3.545	.4636
#3	3.914	.0038	.1027	3.744	.1977	.1949	3.547	.4608

Zoom In Zoom Out

Sample Name: JC95348-12 Acquired: 9/26/2019 20:48:52 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189530.**	**37830.**	**8225.4**	**10385.**
Stddev	554.	133.	11.9	13.
%RSD	.29217	.35189	.14412	.12503
#1	189000.	37939.	8239.1	10399.
#2	189470.	37682.	8218.4	10379.
#3	190110.	37869.	8218.8	10375.

Zoom In Zoom Out

Sample Name: JC95358-1 Acquired: 9/26/2019 20:54:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5684**	**.0059**	**.0005**	**.0745**	**.1895**	**.1969**	**2.751**	**.1301**	**.0032**
Stddev	.0022	.0000	.0000	.0001	.0009	.0013	.007	.0001	.0006
%RSD	.3932	.5135	7.082	.1172	.4912	.6506	.2631	.0511	18.02
#1	.5708	.0059	.0005	.0745	.1904	.1983	2.759	.1302	.0033
#2	.5679	.0059	.0005	.0744	.1895	.1961	2.746	.1301	.0026
#3	.5664	.0059	.0005	.0745	.1886	.1961	2.748	.1300	.0037

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2531**	**.4237**	**.0437**	**.0048**	**.4054**	**.0008**	**.0006**	**110.7**	**30.01**
Stddev	.0009	.0003	.0007	.0003	.0008	.0013	.0008	.4	.10
%RSD	.3599	.0817	1.687	6.757	.1945	153.7	125.4	.3318	.3442
#1	.2541	.4234	.0442	.0048	.4050	.0003	.0000	111.0	30.08
#2	.2527	.4241	.0428	.0051	.4049	-.0001	.0015	110.8	30.05
#3	.2524	.4235	.0440	.0044	.4063	.0023	.0003	110.3	29.89

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**157.6**	**24.69**	**10.59**	**1.576**	**.0305**	**.0067**	**1.670**	**.0388**	**.1217**
Stddev	2.7	.07	.03	.006	.0002	.0001	.001	.0003	.0004
%RSD	1.726	.2735	.2937	.3819	.7720	1.510	.0597	.8767	.3035
#1	160.2	24.73	10.60	1.573	.0307	.0066	1.670	.0391	.1221
#2	154.8	24.74	10.61	1.583	.0303	.0068	1.672	.0385	.1216
#3	157.9	24.61	10.55	1.573	.0307	.0067	1.670	.0389	.1214

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.085**	**.0124**	**.0812**	**2.056**	**.1519**	**.1118**	**3.126**	**.5504**
Stddev	.015	.0011	.0003	.003	.0003	.0012	.002	.0037
%RSD	.4953	8.907	.3468	.1235	.2275	1.084	.0547	.6637
#1	3.102	.0135	.0815	2.059	.1521	.1131	3.124	.5544
#2	3.080	.0113	.0812	2.055	.1521	.1116	3.127	.5495
#3	3.072	.0125	.0810	2.054	.1515	.1106	3.128	.5473

Zoom In
Zoom Out

Sample Name: JC95358-1 Acquired: 9/26/2019 20:54:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**193210.**	**38314.**	**8302.3**	**10502.**
Stddev	792.	317.	10.5	2.
%RSD	.41009	.82698	.12637	.01978
#1	192370.	38529.	8312.7	10504.
#2	193940.	37950.	8302.6	10502.
#3	193330.	38462.	8291.7	10500.

Zoom In
Zoom Out

Sample Name: JC95358-2 Acquired: 9/26/2019 20:59:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5657**	**.0062**	**.0006**	**.0649**	**.1914**	**.1026**	**2.178**	**.1199**	**.0020**
Stddev	.0005	.0000	.0001	.0002	.0004	.0008	.009	.0004	.0007
%RSD	.0959	.1048	15.45	.3264	.2140	.7500	.4200	.3395	35.76
#1	.5663	.0062	.0007	.0650	.1917	.1034	2.171	.1204	.0026
#2	.5653	.0062	.0005	.0651	.1909	.1021	2.188	.1198	.0022
#3	.5654	.0062	.0007	.0647	.1915	.1021	2.174	.1196	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2456**	**.3292**	**.0401**	**.0052**	**.1862**	**.0003**	**-.0008**	**109.0**	**14.54**
Stddev	.0009	.0005	.0004	.0013	.0006	.0012	.0008	.1	.02
%RSD	.3739	.1511	1.096	25.60	.3073	379.1	101.5	.1032	.1656
#1	.2458	.3288	.0406	.0067	.1857	-.0001	-.0013	109.1	14.56
#2	.2445	.3291	.0399	.0050	.1868	.0017	.0001	108.9	14.52
#3	.2463	.3298	.0398	.0040	.1862	-.0007	-.0014	109.0	14.52

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**142.9**	**22.43**	**10.13**	**1.160**	**.0293**	**.0050**	**1.578**	**.0337**	**.0907**
Stddev	2.3	.02	.03	.004	.0001	.0000	.003	.0003	.0002
%RSD	1.610	.0958	.3205	.3273	.4123	.6506	.2108	.7672	.1961
#1	145.2	22.45	10.10	1.165	.0294	.0050	1.581	.0340	.0909
#2	143.1	22.41	10.12	1.158	.0292	.0051	1.579	.0335	.0905
#3	140.6	22.42	10.16	1.159	.0292	.0050	1.574	.0336	.0908

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.370**	**.0024**	**.0840**	**3.245**	**.1689**	**.1046**	**3.094**	**.5509**
Stddev	.009	.0004	.0006	.002	.0012	.0010	.003	.0058
%RSD	.2809	18.73	.6867	.0604	.6995	.9512	.0893	1.057
#1	3.374	.0027	.0846	3.246	.1682	.1042	3.097	.5548
#2	3.360	.0026	.0834	3.243	.1681	.1039	3.092	.5442
#3	3.378	.0019	.0840	3.247	.1702	.1057	3.095	.5536

Zoom In
Zoom Out

Sample Name: JC95358-2 Acquired: 9/26/2019 20:59:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**192470.**	**38038.**	**8390.2**	**10537.**
Stddev	652.	56.	8.9	14.
%RSD	.33855	.14786	.10596	.13042
#1	193220.	37994.	8400.3	10553.
#2	192110.	38101.	8386.4	10526.
#3	192080.	38017.	8383.7	10534.

Zoom In
Zoom Out

Sample Name: JC95358-3 Acquired: 9/26/2019 21:04:28 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5571**	**.0075**	**.0009**	**.0644**	**.1954**	**.1102**	**2.534**	**.1199**	**.0039**
Stddev	.0018	.0000	.0001	.0001	.0008	.0006	.014	.0003	.0008
%RSD	.3287	.1724	9.574	.2277	.4216	.5168	.5401	.2156	20.85
#1	.5592	.0076	.0010	.0642	.1958	.1107	2.521	.1199	.0046
#2	.5564	.0075	.0008	.0645	.1944	.1096	2.531	.1201	.0041
#3	.5558	.0075	.0009	.0644	.1958	.1103	2.548	.1196	.0030

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2488**	**.3745**	**.0398**	**.0053**	**.1892**	**.0004**	**-.0017**	**108.3**	**14.97**
Stddev	.0012	.0005	.0003	.0010	.0018	.0014	.0004	.2	.03
%RSD	.4698	.1228	.7338	19.69	.9729	356.0	24.85	.2084	.1849
#1	.2494	.3746	.0397	.0061	.1879	.0019	-.0018	108.5	15.00
#2	.2475	.3748	.0401	.0055	.1884	.0000	-.0012	108.2	14.95
#3	.2496	.3739	.0396	.0041	.1913	-.0008	-.0020	108.1	14.95

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**154.8**	**22.17**	**9.813**	**1.094**	**.0287**	**.0052**	**1.786**	**.0330**	**.0902**
Stddev	2.8	.01	.060	.004	.0002	.0001	.005	.0003	.0002
%RSD	1.820	.0582	.6162	.3919	.6706	2.689	.2906	.8721	.1776
#1	157.8	22.17	9.855	1.089	.0287	.0051	1.792	.0328	.0904
#2	154.2	22.19	9.841	1.097	.0289	.0053	1.784	.0329	.0901
#3	152.2	22.16	9.744	1.096	.0286	.0053	1.783	.0334	.0903

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.218**	**.0022**	**.0809**	**3.133**	**.1577**	**.1027**	**2.966**	**.5432**
Stddev	.016	.0006	.0005	.003	.0023	.0004	.002	.0025
%RSD	.4844	25.23	.6363	.0902	1.459	.3972	.0686	.4592
#1	3.229	.0018	.0814	3.136	.1567	.1027	2.966	.5455
#2	3.200	.0020	.0804	3.132	.1560	.1031	2.968	.5406
#3	3.224	.0029	.0811	3.130	.1603	.1023	2.964	.5436

Zoom In
Zoom Out

Sample Name: JC95358-3 Acquired: 9/26/2019 21:04:28 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**195310.**	**38185.**	**8387.8**	**10563.**
Stddev	788.	135.	16.0	13.
%RSD	.40359	.35453	.19104	.12150
#1	194960.	38313.	8384.3	10564.
#2	196210.	38043.	8373.8	10549.
#3	194750.	38200.	8405.3	10575.

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 21:09:38 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.943**	**1.988**	**1.997**	**1.986**	**1.983**	**1.953**	**2.046**	**2.030**	**.2431**
Stddev	.005	.005	.002	.001	.003	.002	.007	.001	.0005
%RSD	.2779	.2405	.1177	.0704	.1490	.1216	.3412	.0513	.2106
#1	1.940	1.991	1.996	1.986	1.987	1.956	2.038	2.029	.2437
#2	1.940	1.983	1.995	1.985	1.981	1.951	2.051	2.029	.2430
#3	1.949	1.991	1.999	1.988	1.982	1.953	2.050	2.031	.2426
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.017**	**2.032**	**1.924**	**2.071**	**2.058**	**1.973**	**1.941**	**38.07**	**38.58**
Stddev	.001	.003	.002	.002	.001	.004	.005	.08	.06
%RSD	.0533	.1602	.1251	.0822	.0542	.2196	.2600	.1990	.1521
#1	2.018	2.035	1.925	2.070	2.058	1.972	1.937	38.02	38.52
#2	2.016	2.029	1.922	2.072	2.056	1.969	1.939	38.04	38.59
#3	2.017	2.030	1.926	2.073	2.058	1.978	1.946	38.16	38.63
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.08**	**38.77**	**37.66**	**39.00**	**1.983**	**1.938**	**4.769**	**1.968**	**1.965**
Stddev	.05	.05	.10	.02	.004	.002	.005	.003	.042
%RSD	.1339	.1168	.2651	.0531	.1754	.0856	.0978	.1258	2.126
#1	39.03	38.75	37.58	38.97	1.981	1.938	4.767	1.970	1.925
#2	39.08	38.82	37.62	39.01	1.981	1.936	4.765	1.965	2.008
#3	39.14	38.74	37.77	39.01	1.987	1.940	4.774	1.968	1.961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 21:09:38 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.961**	**1.907**	**1.969**	**2.030**	**1.960**	**1.908**	**1.963**	**1.952**
Stddev	.001	.001	.000	.006	.003	.004	.001	.001
%RSD	.0593	.0515	.0065	.2915	.1600	.2188	.0427	.0424
#1	1.959	1.908	1.969	2.024	1.957	1.906	1.962	1.953
#2	1.960	1.907	1.969	2.030	1.959	1.906	1.963	1.952
#3	1.962	1.906	1.969	2.036	1.963	1.913	1.963	1.952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179850.**	**34915.**	**7666.8**	**10107.**
Stddev	566.	114.	18.3	21.
%RSD	.31481	.32674	.23813	.20353
#1	179220.	35023.	7645.8	10084.
#2	180320.	34927.	7679.1	10121.
#3	180000.	34796.	7675.5	10118.

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/26/2019 21:14:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**.0002**	**.0001**	**.0002**	**.0007**	**.0002**	**.0002**	**.0002**
Stddev	.0001	.0001	.0001	.0001	.0002	.0001	.0000	.0002	.0002
%RSD	208.4	45.25	52.08	100.6	130.9	21.19	18.57	104.9	73.75
#1	-.0002	.0001	.0002	.0002	-.0001	.0005	.0002	-.0000	.0002
#2	.0000	.0003	.0002	-.0000	.0003	.0006	.0003	.0003	.0004
#3	-.0000	.0002	.0001	.0001	.0003	.0008	.0002	.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**-.0001**	**.0011**	**-.0002**	**.0002**	**-.0011**	**.0417**	**.0007**
Stddev	.0002	.0001	.0003	.0003	.0007	.0006	.0011	.0036	.0023
%RSD	130.7	94.65	458.5	25.80	262.4	262.4	99.99	8.602	347.5
#1	-.0001	-.0002	.0001	.0014	-.0006	-.0004	-.0000	.0405	-.0017
#2	.0003	-.0000	-.0004	.0011	-.0006	.0007	-.0022	.0457	.0008
#3	.0003	-.0000	.0001	.0009	.0005	.0004	-.0011	.0388	.0030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044**	**.0014**	**-.0194**	**.1878**	**-.0003**	**.0005**	**.0013**	**-.0004**	**.0003**
Stddev	.0014	.0046	.0049	.0047	.0005	.0001	.0004	.0001	.0002
%RSD	32.52	334.9	25.29	2.510	158.2	19.70	29.92	26.28	59.50
#1	.0029	-.0019	-.0139	.1834	-.0001	.0006	.0016	-.0004	.0001
#2	.0058	-.0006	-.0206	.1928	-.0009	.0006	.0008	-.0003	.0004
#3	.0046	.0066	-.0235	.1871	.0001	.0004	.0014	-.0004	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/26/2019 21:14:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0018**	**.0003**	**.0313**	**-.0000**	**-.0002**	**-.0025**	**.0005**
Stddev	.0001	.0002	.0001	.0007	.0005	.0015	.0006	.0024
%RSD	51.44	11.87	33.32	2.200	5834.	723.9	22.07	515.2
#1	.0003	.0019	.0004	.0305	.0002	-.0016	-.0021	-.0012
#2	.0001	.0020	.0004	.0318	-.0006	-.0004	-.0024	-.0006
#3	.0002	.0016	.0002	.0316	.0004	.0014	-.0032	.0032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187600.**	**35802.**	**7989.3**	**10962.**
Stddev	1053.	97.	17.2	28.
%RSD	.56124	.26962	.21556	.25373
#1	187430.	35869.	7977.9	10953.
#2	188730.	35847.	7981.0	10940.
#3	186650.	35692.	8009.1	10994.

Zoom In Zoom Out

Sample Name: JC95358-4 Acquired: 9/26/2019 21:19:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4617**	**.0048**	**.0010**	**.0561**	**.1884**	**.1437**	**1.799**	**.1046**	**.0055**
Stddev	.0013	.0000	.0001	.0001	.0004	.0001	.007	.0001	.0005
%RSD	.2751	.7537	5.022	.1754	.2037	.0966	.4047	.1346	9.373
#1	.4627	.0048	.0011	.0561	.1886	.1436	1.801	.1046	.0056
#2	.4622	.0048	.0010	.0561	.1887	.1437	1.791	.1045	.0049
#3	.4603	.0048	.0010	.0560	.1880	.1439	1.805	.1048	.0059

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2520**	**.4772**	**.0491**	**.0050**	**.4489**	**.0012**	**-.0006**	**98.09**	**79.30**
Stddev	.0004	.0012	.0008	.0005	.0006	.0014	.0006	.15	.81
%RSD	.1475	.2458	1.647	10.14	.1258	122.4	92.11	.1560	1.028
#1	.2516	.4784	.0490	.0045	.4483	.0024	.0000	98.25	80.18
#2	.2524	.4760	.0500	.0051	.4494	.0015	-.0010	98.06	78.56
#3	.2519	.4771	.0484	.0055	.4490	-.0004	-.0009	97.95	79.17

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**148.8**	**19.40**	**9.280**	**1.616**	**.0341**	**.0063**	**1.977**	**.0400**	**.1432**
Stddev	2.2	.05	.028	.012	.0003	.0002	.002	.0001	.0002
%RSD	1.476	.2720	.3012	.7529	.9206	3.738	.1083	.2195	.1482
#1	148.4	19.42	9.288	1.625	.0340	.0065	1.979	.0400	.1432
#2	146.9	19.35	9.303	1.620	.0339	.0061	1.977	.0399	.1434
#3	151.2	19.45	9.249	1.602	.0345	.0064	1.974	.0399	.1429

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.198**	**.0015**	**.0701**	**.8406**	**.1571**	**.0944**	**3.182**	**.5706**
Stddev	.001	.0009	.0004	.0011	.0011	.0005	.004	.0032
%RSD	.0417	56.51	.5495	.1336	.7018	.5736	.1089	.5695
#1	3.197	.0025	.0700	.8417	.1584	.0949	3.182	.5702
#2	3.199	.0013	.0698	.8395	.1566	.0938	3.178	.5740
#3	3.198	.0008	.0706	.8405	.1564	.0944	3.185	.5676

Zoom In Zoom Out

Sample Name: JC95358-4 Acquired: 9/26/2019 21:19:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190730.**	**37750.**	**8197.4**	**10415.**
Stddev	317.	248.	13.8	11.
%RSD	.16640	.65763	.16788	.10670
#1	191040.	37769.	8186.5	10406.
#2	190410.	37988.	8212.8	10427.
#3	190730.	37493.	8192.7	10411.

Zoom In Zoom Out

Sample Name: JC95358-5 Acquired: 9/26/2019 21:25:07 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4834**	**.0062**	**.0004**	**.0729**	**.2041**	**.1329**	**2.027**	**.1223**	**.0028**
Stddev	.0008	.0000	.0000	.0001	.0007	.0014	.008	.0002	.0009
%RSD	.1734	.4072	4.629	.0996	.3379	1.048	.4162	.1920	33.32
#1	.4842	.0062	.0004	.0730	.2035	.1320	2.018	.1221	.0032
#2	.4834	.0062	.0005	.0729	.2049	.1345	2.033	.1225	.0034
#3	.4825	.0062	.0004	.0729	.2040	.1322	2.030	.1222	.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2971**	**.3884**	**.0557**	**.0046**	**.3145**	**.0014**	**-.0004**	**116.5**	**24.34**
Stddev	.0012	.0003	.0010	.0008	.0008	.0015	.0019	.2	.06
%RSD	.4008	.0831	1.784	16.51	.2699	106.5	495.3	.2098	.2648
#1	.2961	.3882	.0560	.0043	.3155	.0004	.0017	116.8	24.39
#2	.2984	.3882	.0564	.0041	.3139	.0007	-.0008	116.5	24.36
#3	.2969	.3888	.0545	.0055	.3142	.0031	-.0020	116.3	24.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**187.9**	**24.57**	**10.53**	**1.771**	**.0382**	**.0079**	**1.750**	**.0334**	**.1590**
Stddev	3.5	.10	.02	.004	.0002	.0001	.002	.0002	.0001
%RSD	1.838	.4006	.1993	.2223	.5651	1.352	.1081	.5408	.0940
#1	187.0	24.66	10.56	1.776	.0385	.0079	1.748	.0336	.1592
#2	191.8	24.58	10.52	1.769	.0380	.0078	1.752	.0333	.1590
#3	185.0	24.46	10.52	1.769	.0382	.0080	1.749	.0333	.1589

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.538**	**.0023**	**.0929**	**1.412**	**.1744**	**.0983**	**3.004**	**.6113**
Stddev	.015	.0008	.0007	.004	.0016	.0009	.002	.0021
%RSD	.4349	33.77	.8021	.2721	.9175	.8814	.0728	.3356
#1	3.525	.0015	.0923	1.416	.1726	.0975	3.006	.6090
#2	3.555	.0022	.0937	1.411	.1756	.0980	3.003	.6129
#3	3.533	.0031	.0926	1.409	.1750	.0992	3.002	.6120

Zoom In
Zoom Out

Sample Name: JC95358-5 Acquired: 9/26/2019 21:25:07 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**192530.**	**37870.**	**8295.7**	**10567.**
Stddev	728.	309.	15.2	21.
%RSD	.37826	.81610	.18262	.19669
#1	193360.	37627.	8309.2	10586.
#2	192040.	37767.	8298.7	10570.
#3	192180.	38218.	8279.3	10545.

Zoom In
Zoom Out

Sample Name: JC95358-6 Acquired: 9/26/2019 21:30:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4743**	**.0048**	**.0007**	**.0620**	**.1558**	**.1936**	**2.547**	**.1036**	**.0026**
Stddev	.0007	.0000	.0001	.0001	.0019	.0023	.033	.0004	.0006
%RSD	.1478	.9863	18.26	.1238	1.189	1.185	1.296	.3621	22.27
#1	.4741	.0048	.0007	.0619	.1536	.1910	2.519	.1038	.0032
#2	.4751	.0047	.0009	.0619	.1569	.1949	2.583	.1031	.0026
#3	.4737	.0047	.0006	.0621	.1568	.1951	2.539	.1038	.0020

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2213**	**.5403**	**.0481**	**.0050**	**.5659**	**.0017**	**.0017**	**88.81**	**45.14**
Stddev	.0032	.0012	.0009	.0002	.0014	.0023	.0015	.12	.05
%RSD	1.465	.2131	1.915	3.891	.2525	136.3	85.93	.1370	.1171
#1	.2176	.5396	.0478	.0052	.5674	.0002	.0030	88.89	45.18
#2	.2232	.5397	.0492	.0050	.5645	.0006	.0022	88.87	45.16
#3	.2232	.5416	.0475	.0048	.5659	.0043	.0001	88.67	45.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**150.5**	**18.92**	**9.619**	**1.749**	**.0279**	**.0190**	**1.929**	**.0758**	**.2653**
Stddev	.8	.01	.038	.001	.0005	.0001	.002	.0003	.0002
%RSD	.5248	.0305	.3995	.0602	1.694	.4107	.0858	.4168	.0815
#1	150.6	18.93	9.643	1.748	.0278	.0191	1.931	.0762	.2650
#2	151.2	18.92	9.640	1.748	.0275	.0190	1.928	.0757	.2654
#3	149.6	18.92	9.575	1.750	.0285	.0189	1.929	.0756	.2654

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.578**	**.0019**	**.0654**	**7.851**	**.1284**	**.0845**	**5.697**	**.3994**
Stddev	.033	.0006	.0005	.008	.0027	.0009	.007	.0046
%RSD	1.293	31.65	.8367	.1042	2.108	1.122	.1198	1.155
#1	2.540	.0012	.0648	7.845	.1254	.0844	5.694	.3941
#2	2.600	.0024	.0657	7.848	.1290	.0855	5.691	.4028
#3	2.595	.0021	.0657	7.860	.1307	.0837	5.704	.4012

Zoom In
Zoom Out

Sample Name: JC95358-6 Acquired: 9/26/2019 21:30:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188470.**	**37654.**	**8182.4**	**10516.**
Stddev	1872.	85.	17.1	16.
%RSD	.99310	.22486	.20892	.15140
#1	190570.	37658.	8194.6	10521.
#2	186980.	37568.	8189.8	10529.
#3	187850.	37737.	8162.9	10498.

Zoom In
Zoom Out

Sample Name: JC95358-7 Acquired: 9/26/2019 21:35:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 16

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5981**	**.0067**	**.0015**	**.1268**	**.1811**	**.2079**	**3.214**	**.1890**	**.0029**
Stddev	.0007	.0000	.0002	.0005	.0008	.0020	.026	.0006	.0005
%RSD	.1178	.5704	11.58	.3868	.4374	.9808	.8192	.3332	18.80
#1	.5973	.0067	.0013	.1266	.1818	.2089	3.242	.1890	.0030
#2	.5982	.0068	.0017	.1264	.1802	.2055	3.189	.1884	.0023
#3	.5986	.0067	.0015	.1274	.1814	.2092	3.212	.1897	.0034

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2055**	**.6681**	**.0342**	**.0044**	**.5874**	**.0005**	**-.0009**	**91.07**	**27.14**
Stddev	.0014	.0014	.0005	.0003	.0021	.0016	.0011	.07	.03
%RSD	.6942	.2152	1.514	5.887	.3532	295.3	129.9	.0719	.0943
#1	.2068	.6687	.0343	.0043	.5858	-.0007	-.0003	91.05	27.14
#2	.2039	.6665	.0346	.0046	.5867	.0000	-.0002	91.02	27.11
#3	.2056	.6691	.0336	.0041	.5898	.0023	-.0021	91.14	27.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**128.2**	**20.87**	**8.443**	**1.620**	**.0227**	**.0055**	**1.793**	**.0485**	**.1169**
Stddev	1.6	.03	.015	.002	.0004	.0002	.003	.0006	.0002
%RSD	1.258	.1543	.1808	.1482	1.918	4.187	.1607	1.289	.1318
#1	128.6	20.90	8.456	1.621	.0230	.0052	1.797	.0489	.1168
#2	126.5	20.83	8.426	1.621	.0228	.0057	1.792	.0478	.1171
#3	129.6	20.87	8.446	1.617	.0222	.0055	1.792	.0488	.1169

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.277**	**.0023**	**.0540**	**5.662**	**.1119**	**.1017**	**3.520**	**.4176**
Stddev	.020	.0003	.0005	.019	.0016	.0013	.010	.0045
%RSD	.8823	12.40	.8945	.3339	1.410	1.302	.2797	1.072
#1	2.293	.0026	.0542	5.649	.1135	.1029	3.517	.4228
#2	2.254	.0022	.0534	5.653	.1103	.1019	3.512	.4144
#3	2.282	.0020	.0543	5.684	.1118	.1003	3.531	.4157

Zoom In
Zoom Out

Sample Name: JC95358-7 Acquired: 9/26/2019 21:35:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 16

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**193280.**	**38221.**	**8367.2**	**10556.**
Stddev	920.	250.	14.7	21.
%RSD	.47592	.65414	.17514	.19695
#1	192300.	38026.	8361.3	10555.
#2	194120.	38503.	8383.9	10577.
#3	193430.	38133.	8356.5	10535.

Zoom In
Zoom Out

Sample Name: JC95392-6 Acquired: 9/26/2019 21:40:34 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 17

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6266**	**.0060**	**.0014**	**.1105**	**.1920**	**.1737**	**5.199**	**.1752**	**.0035**
Stddev	.0016	.0000	.0001	.0001	.0015	.0015	.048	.0001	.0005
%RSD	.2518	.4731	8.210	.0903	.7581	.8899	.9180	.0358	15.64
#1	.6270	.0060	.0013	.1106	.1910	.1722	5.205	.1753	.0030
#2	.6248	.0059	.0015	.1104	.1936	.1753	5.244	.1752	.0035
#3	.6279	.0060	.0016	.1104	.1913	.1735	5.149	.1753	.0040

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3655**	**.4181**	**.0379**	**.0053**	**.1464**	**-.0012**	**-.0004**	**122.4**	**15.18**
Stddev	.0018	.0011	.0009	.0010	.0016	.0012	.0011	1.6	.06
%RSD	.4979	.2597	2.475	19.59	1.085	103.8	302.8	1.269	.4206
#1	.3646	.4182	.0368	.0056	.1468	-.0015	-.0002	122.7	15.16
#2	.3676	.4192	.0380	.0062	.1446	.0002	.0006	120.7	15.14
#3	.3643	.4170	.0387	.0042	.1477	-.0022	-.0016	123.7	15.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**174.1**	**30.40**	**8.051**	**1.400**	**.0302**	**.0035**	**1.811**	**.0264**	**.0880**
Stddev	2.5	.12	.012	.003	.0007	.0002	.011	.0001	.0001
%RSD	1.440	.3903	.1500	.2035	2.212	5.640	.5811	.5623	.1663
#1	171.2	30.34	8.038	1.402	.0300	.0037	1.823	.0262	.0881
#2	175.5	30.33	8.060	1.402	.0309	.0034	1.803	.0264	.0878
#3	175.6	30.54	8.056	1.397	.0296	.0033	1.807	.0265	.0880

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.601**	**.0008**	**.0219**	**.8817**	**.1781**	**.1373**	**2.957**	**.5727**
Stddev	.021	.0003	.0004	.0015	.0026	.0006	.003	.0019
%RSD	.5685	33.53	1.648	.1758	1.439	.4393	.0894	.3296
#1	3.588	.0006	.0215	.8813	.1772	.1366	2.959	.5712
#2	3.625	.0007	.0222	.8834	.1810	.1376	2.959	.5748
#3	3.591	.0011	.0219	.8804	.1762	.1377	2.954	.5722

Zoom In
Zoom Out

Sample Name: JC95392-6 Acquired: 9/26/2019 21:40:34 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 17

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**198030.**	**39154.**	**8521.8**	**10576.**
Stddev	1466.	315.	19.4	16.
%RSD	.74049	.80566	.22753	.15528
#1	198690.	39372.	8526.4	10589.
#2	196350.	39299.	8500.5	10558.
#3	199050.	38793.	8538.4	10583.

Zoom In
Zoom Out

Sample Name: JC95392-11 Acquired: 9/26/2019 21:45:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 18

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6553**	**.0055**	**.0009**	**.0910**	**.2154**	**.1876**	**4.904**	**.1789**	**.0021**
Stddev	.0011	.0000	.0001	.0004	.0001	.0003	.024	.0002	.0004
%RSD	.1687	.3911	6.764	.4791	.0644	.1808	.4897	.0858	20.90
#1	.6559	.0055	.0009	.0913	.2152	.1877	4.932	.1788	.0025
#2	.6559	.0055	.0009	.0911	.2155	.1872	4.892	.1791	.0022
#3	.6540	.0055	.0008	.0905	.2155	.1878	4.890	.1788	.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3191**	**.4315**	**.0314**	**.0064**	**.0790**	**-.0021**	**-.0012**	**112.9**	**20.83**
Stddev	.0001	.0009	.0008	.0016	.0012	.0010	.0005	.2	.03
%RSD	.0332	.2164	2.560	24.71	1.485	45.58	39.39	.1873	.1275
#1	.3191	.4325	.0317	.0054	.0797	-.0011	-.0017	113.1	20.86
#2	.3192	.4315	.0305	.0082	.0796	-.0023	-.0009	112.9	20.82
#3	.3190	.4306	.0319	.0055	.0776	-.0030	-.0010	112.6	20.81

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**181.9**	**40.58**	**11.66**	**1.866**	**.0398**	**.0029**	**1.469**	**.0297**	**.1101**
Stddev	1.0	.12	.02	.006	.0009	.0004	.004	.0003	.0001
%RSD	.5337	.2888	.1878	.3488	2.253	12.56	.3034	1.152	.1080
#1	182.5	40.70	11.64	1.861	.0396	.0028	1.474	.0294	.1102
#2	182.4	40.47	11.68	1.863	.0407	.0034	1.467	.0297	.1101
#3	180.8	40.56	11.65	1.873	.0389	.0027	1.466	.0301	.1100

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.872**	**-.0002**	**.1101**	**.2992**	**.2418**	**.1379**	**3.357**	**.5925**
Stddev	.024	.0006	.0004	.0016	.0012	.0016	.003	.0013
%RSD	.4870	235.8	.3413	.5361	.4987	1.194	.0772	.2131
#1	4.900	-.0001	.1097	.2987	.2430	.1365	3.358	.5931
#2	4.860	-.0009	.1103	.3011	.2405	.1397	3.360	.5933
#3	4.857	.0002	.1103	.2980	.2418	.1374	3.355	.5910

Zoom In Zoom Out

Sample Name: JC95392-11 Acquired: 9/26/2019 21:45:51 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 18

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**195890.**	**38807.**	**8462.6**	**10538.**
Stddev	123.	153.	16.7	19.
%RSD	.06280	.39523	.19759	.18465
#1	195750.	38635.	8446.3	10518.
#2	195980.	38929.	8461.6	10538.
#3	195940.	38856.	8479.7	10557.

Zoom In Zoom Out

Sample Name: JC95392-15 Acquired: 9/26/2019 21:51:07 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 19

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5313**	**.0080**	**.0007**	**.1296**	**.2726**	**.0517**	**6.755**	**.3010**	**.0025**
Stddev	.0002	.0000	.0000	.0002	.0021	.0006	.047	.0009	.0006
%RSD	.0300	.1932	7.188	.1580	.7819	1.179	.6902	.2933	24.82
#1	.5312	.0080	.0007	.1295	.2750	.0524	6.806	.3005	.0031
#2	.5313	.0080	.0007	.1298	.2709	.0514	6.742	.3020	.0023
#3	.5315	.0080	.0006	.1294	.2720	.0514	6.716	.3004	.0019

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2754**	**.6792**	**.0157**	**.0067**	**.1504**	**-.0031**	**.0004**	**167.0**	**2.439**
Stddev	.0020	.0005	.0004	.0006	.0008	.0007	.0007	.6	.005
%RSD	.7096	.0806	2.489	8.564	.5015	21.27	164.7	.3368	.2235
#1	.2777	.6798	.0160	.0060	.1511	-.0037	.0012	166.5	2.433
#2	.2741	.6788	.0153	.0071	.1505	-.0024	-.0002	167.6	2.440
#3	.2745	.6791	.0159	.0069	.1496	-.0032	.0002	167.1	2.444

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **286.6**	**69.89**	**19.63**	**1.455**	**.1602**	**.0068**	**1.922**	**.0251**	**.0501**
Stddev	2.9	.12	.02	.008	.0007	.0001	.004	.0004	.0001
%RSD	1.017	.1757	.1096	.5807	.4160	1.419	.1892	1.557	.1183
#1	289.9	69.75	19.61	1.445	.1609	.0068	1.926	.0247	.0501
#2	285.4	69.98	19.65	1.459	.1597	.0069	1.919	.0255	.0501
#3	284.4	69.93	19.62	1.460	.1599	.0067	1.921	.0251	.0502

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.037**	**-.0002**	**.1049**	**.2316**	**.1483**	**.4252**	**1.112**	**.2555**
Stddev	.024	.0011	.0007	.0002	.0021	.0008	.001	.0013
%RSD	.7799	555.3	.6593	.0980	1.394	.1916	.1042	.4925
#1	3.064	.0004	.1057	.2318	.1503	.4262	1.113	.2563
#2	3.021	-.0015	.1044	.2313	.1462	.4249	1.112	.2540
#3	3.026	.0005	.1045	.2316	.1482	.4246	1.111	.2560

Zoom In Zoom Out

Sample Name: JC95392-15 Acquired: 9/26/2019 21:51:07 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 19

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186940.**	**37126.**	**8056.0**	**10618.**
Stddev	1398.	222.	6.9	6.
%RSD	.74775	.59887	.08553	.05854
#1	185330.	37381.	8051.9	10612.
#2	187770.	37018.	8064.0	10618.
#3	187730.	36978.	8052.2	10625.

Zoom In Zoom Out

Sample Name: JC95392-21 Acquired: 9/26/2019 21:56:20 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.742**	**.0089**	**.0006**	**.0903**	**.2204**	**.0636**	**2.404**	**.1791**	**.0021**
Stddev	.002	.0000	.0000	.0003	.0027	.0013	.025	.0004	.0006
%RSD	.1192	.5185	6.004	.3187	1.239	2.042	1.056	.2064	30.87
#1	1.741	.0089	.0006	.0901	.2234	.0650	2.431	.1788	.0022
#2	1.741	.0088	.0005	.0902	.2196	.0635	2.400	.1790	.0027
#3	1.744	.0089	.0005	.0906	.2181	.0624	2.380	.1795	.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2949**	**.4385**	**.0339**	**.0035**	**.0871**	**.0017**	**-.0009**	**123.4**	**15.26**
Stddev	.0037	.0003	.0006	.0007	.0005	.0014	.0004	1.1	.01
%RSD	1.261	.0729	1.703	18.63	.6022	79.28	44.22	.8568	.0851
#1	.2992	.4389	.0332	.0043	.0868	.0006	-.0009	124.5	15.25
#2	.2932	.4384	.0342	.0030	.0867	.0032	-.0014	123.3	15.27
#3	.2924	.4383	.0342	.0034	.0877	.0013	-.0005	122.4	15.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **236.0**	**27.61**	**7.570**	**1.034**	**.0319**	**.0055**	**1.663**	**.0234**	**.1179**
Stddev	4.0	.04	.024	.004	.0004	.0000	.002	.0003	.0001
%RSD	1.701	.1399	.3171	.3647	1.123	.8840	.1438	1.495	.0890
#1	239.7	27.60	7.578	1.037	.0318	.0055	1.665	.0238	.1178
#2	236.7	27.65	7.543	1.030	.0323	.0056	1.663	.0233	.1179
#3	231.8	27.57	7.588	1.033	.0317	.0055	1.661	.0231	.1180

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.165**	**-.0003**	**.0696**	**.3584**	**.0990**	**.1967**	**3.136**	**.6904**
Stddev	.027	.0005	.0010	.0010	.0014	.0009	.002	.0058
%RSD	1.262	204.7	1.390	.2739	1.458	.4741	.0711	.8412
#1	2.196	.0003	.0707	.3589	.1003	.1970	3.138	.6968
#2	2.152	-.0008	.0691	.3591	.0974	.1975	3.137	.6886
#3	2.146	-.0003	.0689	.3573	.0992	.1957	3.134	.6856

Zoom In
Zoom Out

Sample Name: JC95392-21 Acquired: 9/26/2019 21:56:20 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**202310.**	**40562.**	**8770.1**	**10730.**
Stddev	2510.	201.	19.0	16.
%RSD	1.2405	.49457	.21689	.14546
#1	199450.	40497.	8750.5	10714.
#2	203360.	40402.	8771.4	10731.
#3	204130.	40787.	8788.5	10745.

Zoom In
Zoom Out

Sample Name: mp17486-mb1conf Acquired: 9/26/2019 22:01:36 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0000**	**.0003**	**-.0001**	**.0006**	**.0000**	**-.0003**	**.0000**
Stddev	.0001	.0000	.0001	.0002	.0001	.0002	.0000	.0001	.0003
%RSD	46.66	448.6	809.3	75.05	115.1	34.17	110.6	23.19	1165.
#1	-.0003	.0000	.0001	.0003	-.0002	.0005	-.0000	-.0002	-.0002
#2	-.0001	.0000	-.0000	.0004	.0000	.0005	.0000	-.0004	-.0000
#3	-.0004	-.0001	-.0001	.0000	-.0003	.0009	.0001	-.0003	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0036**	**.0004**	**-.0007**	**-.0005**	**-.0007**	**.0007**	**.0043**	**.0069**
Stddev	.0003	.0001	.0004	.0003	.0003	.0016	.0013	.0040	.0013
%RSD	129.0	2.154	102.7	44.26	58.72	232.0	177.4	94.01	19.46
#1	-.0004	.0037	.0001	-.0006	-.0003	-.0026	-.0007	.0062	.0054
#2	.0001	.0035	.0008	-.0010	-.0009	.0000	.0010	-.0003	.0073
#3	-.0004	.0036	.0003	-.0004	-.0005	.0004	.0019	.0071	.0080

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0054**	**-.0072**	**-.0325**	**.1168**	**-.0019**	**.0000**	**.0064**	**.0002**	**.0000**
Stddev	.0010	.0051	.0103	.0052	.0003	.0001	.0004	.0000	.0001
%RSD	18.07	71.64	31.66	4.466	15.11	846.9	6.075	8.131	192.9
#1	.0056	-.0082	-.0419	.1117	-.0017	.0001	.0067	.0002	.0002
#2	.0043	-.0117	-.0340	.1164	-.0023	.0001	.0066	.0002	.0000
#3	.0062	-.0016	-.0215	.1222	-.0019	-.0001	.0060	.0002	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0004**	**.0010**	**.0244**	**-.0003**	**-.0005**	**-.0023**	**.0009**
Stddev	.0003	.0006	.0000	.0013	.0008	.0003	.0002	.0015
%RSD	224.2	151.2	4.942	5.367	235.0	57.13	8.920	169.8
#1	-.0002	.0003	.0011	.0250	-.0011	-.0003	-.0023	.0002
#2	.0003	.0010	.0010	.0252	.0005	-.0009	-.0024	.0026
#3	.0003	-.0001	.0010	.0228	-.0004	-.0004	-.0020	-.0001

Zoom In
Zoom Out

Sample Name: mp17486-mb1conf Acquired: 9/26/2019 22:01:36 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189560.**	**35879.**	**8014.6**	**10984.**
Stddev	2276.	126.	23.1	28.
%RSD	1.2006	.35076	.28821	.25555
#1	190420.	35871.	7989.5	10956.
#2	191290.	36008.	8019.2	10985.
#3	186980.	35757.	8035.0	11012.

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 22:06:39 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.937**	**2.003**	**1.998**	**1.976**	**1.985**	**1.955**	**2.044**	**2.027**	**.2434**
Stddev	.004	.024	.001	.001	.001	.002	.013	.001	.0009
%RSD	.2211	1.203	.0653	.0511	.0580	.0764	.6356	.0592	.3676
#1	1.932	2.011	2.000	1.977	1.984	1.957	2.033	2.028	.2437
#2	1.939	2.023	1.997	1.975	1.986	1.955	2.058	2.025	.2424
#3	1.940	1.976	1.999	1.976	1.984	1.954	2.041	2.027	.2442
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.019**	**2.034**	**1.920**	**2.069**	**2.056**	**1.974**	**1.935**	**37.97**	**38.36**
Stddev	.001	.001	.001	.003	.001	.002	.001	.01	.01
%RSD	.0287	.0709	.0635	.1350	.0235	.0737	.0539	.0292	.0361
#1	2.018	2.033	1.921	2.066	2.055	1.973	1.934	37.96	38.35
#2	2.019	2.035	1.919	2.072	2.056	1.973	1.936	37.99	38.35
#3	2.020	2.036	1.920	2.070	2.056	1.976	1.936	37.97	38.37
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.98**	**38.54**	**37.45**	**38.75**	**1.979**	**1.928**	**4.766**	**1.956**	**1.981**
Stddev	.03	.02	.04	.07	.002	.002	.005	.003	.056
%RSD	.0646	.0528	.1027	.1745	.0890	.1125	.1120	.1525	2.802
#1	38.95	38.56	37.43	38.78	1.980	1.928	4.767	1.956	2.036
#2	38.99	38.52	37.44	38.67	1.977	1.926	4.761	1.953	1.925
#3	39.00	38.55	37.50	38.80	1.981	1.930	4.772	1.959	1.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 22:06:39 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.956**	**1.898**	**1.972**	**2.023**	**1.954**	**1.904**	**1.956**	**1.961**
Stddev	.001	.001	.001	.003	.001	.003	.003	.002
%RSD	.0273	.0476	.0682	.1410	.0573	.1659	.1666	.1051
#1	1.956	1.897	1.972	2.025	1.954	1.901	1.958	1.960
#2	1.956	1.899	1.973	2.020	1.952	1.905	1.952	1.963
#3	1.955	1.899	1.970	2.024	1.955	1.907	1.958	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181040.**	**35426.**	**7707.2**	**10170.**
Stddev	435.	126.	6.0	9.
%RSD	.24031	.35660	.07810	.08707
#1	181190.	35284.	7700.5	10160.
#2	181380.	35466.	7712.1	10174.
#3	180550.	35527.	7708.9	10176.

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/26/2019 22:11:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0004**	**.0001**	**.0003**	**.0002**	**.0008**	**.0003**	**.0002**	**.0002**
Stddev	.0001	.0001	.0001	.0001	.0000	.0000	.0000	.0002	.0002
%RSD	222.0	16.07	59.51	25.58	13.20	5.364	8.804	94.06	140.4
#1	.0001	.0004	.0001	.0003	.0001	.0008	.0003	-.0000	.0004
#2	-.0002	.0004	.0001	.0002	.0002	.0008	.0003	.0003	.0002
#3	-.0000	.0003	.0000	.0003	.0002	.0009	.0002	.0004	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0001**	**-.0004**	**.0006**	**-.0001**	**.0002**	**-.0004**	**.0358**	**.0039**
Stddev	.0001	.0001	.0002	.0002	.0005	.0004	.0006	.0078	.0025
%RSD	337.4	88.20	63.40	35.87	746.3	195.0	147.1	21.67	64.15
#1	-.0001	.0001	-.0002	.0008	.0005	.0004	-.0008	.0433	.0038
#2	.0001	.0000	-.0006	.0004	-.0004	-.0003	.0003	.0278	.0065
#3	.0001	.0000	-.0002	.0006	-.0004	.0005	-.0008	.0363	.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0062**	**.0027**	**.0000**	**.1345**	**-.0006**	**.0004**	**.0008**	**.0000**	**.0004**
Stddev	.0011	.0041	.0122	.0029	.0004	.0000	.0006	.0002	.0001
%RSD	17.01	155.4	78800.	2.165	73.08	10.35	70.77	38880.	16.12
#1	.0056	.0037	-.0078	.1319	-.0001	.0005	.0014	-.0001	.0004
#2	.0074	.0061	-.0063	.1377	-.0006	.0004	.0003	.0002	.0004
#3	.0056	-.0019	.0141	.1340	-.0009	.0004	.0006	-.0000	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/26/2019 22:11:46 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0005**	**.0003**	**.0193**	**.0005**	**-.0010**	**-.0022**	**.0008**
Stddev	.0001	.0004	.0000	.0011	.0006	.0007	.0001	.0013
%RSD	70.56	92.02	6.175	5.863	124.5	69.34	6.610	158.9
#1	.0003	.0006	.0003	.0206	.0010	-.0016	-.0020	.0013
#2	.0000	.0009	.0003	.0187	-.0002	-.0003	-.0023	.0018
#3	.0002	.0000	.0003	.0186	.0007	-.0010	-.0022	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188750.**	**35729.**	**8012.3**	**11017.**
Stddev	1309.	250.	11.1	14.
%RSD	.69354	.69980	.13857	.12659
#1	188740.	35466.	8014.3	11016.
#2	190060.	35964.	8022.2	11031.
#3	187440.	35757.	8000.3	11003.

Zoom In
Zoom Out

Sample Name: jc94634-105 Acquired: 9/26/2019 22:16:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0175**	**-.0018**	**.0013**	**.0186**	**.0023**	**.0131**	**29.28**	**.0301**	**.0051**
Stddev	.0006	.0005	.0016	.0016	.0010	.0023	.35	.0014	.0035
%RSD	3.533	25.00	119.7	8.370	44.33	17.36	1.190	4.708	70.14
#1	.0170	-.0023	-.0001	.0170	.0021	.0153	29.31	.0289	.0013
#2	.0182	-.0017	.0030	.0188	.0013	.0133	28.92	.0317	.0083
#3	.0173	-.0014	.0010	.0200	.0033	.0107	29.62	.0298	.0056

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0732**	**.0666**	**.0131**	**.0003**	**-.0171**	**-.0108**	**-.0059**	**.8323**	**381.7**
Stddev	.0015	.0006	.0058	.0029	.0041	.0070	.0084	.0179	.5
%RSD	2.065	.9534	44.00	1117.	23.94	65.25	142.0	2.153	.1344
#1	.0730	.0674	.0185	.0003	-.0130	-.0040	-.0100	.8286	381.2
#2	.0749	.0663	.0138	.0032	-.0211	-.0180	.0038	.8165	382.2
#3	.0719	.0662	.0070	-.0027	-.0171	-.0102	-.0116	.8518	381.8

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2422**	**213.9**	**16.32**	**684.9**	**.1377**	**.0006**	**24.94**	**-.0063**	**1.511**
Stddev	.0082	.2	.25	4.9	.0026	.0008	.05	.0017	.001
%RSD	3.371	.0909	1.551	.7139	1.902	150.3	.1823	27.31	.0869
#1	.2509	214.0	16.17	679.3	.1347	.0002	24.96	-.0080	1.511
#2	.2347	214.1	16.17	687.9	.1385	.0015	24.89	-.0046	1.513
#3	.2410	213.7	16.61	687.6	.1397	-.0001	24.98	-.0063	1.510

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0013**	**.0073**	**.0007**	F **1054.**	**.0055**	**.1088**	**.2666**	**.0340**
Stddev	.0012	.0088	.0012	2.	.0039	.0074	.0079	.0151
%RSD	93.60	120.3	188.3	.1767	70.41	6.777	2.968	44.23
#1	-.0003	-.0025	.0016	1053.	.0037	.1117	.2622	.0313
#2	-.0009	.0100	-.0007	1054.	.0099	.1142	.2618	.0206
#3	-.0026	.0143	.0011	1056.	.0029	.1004	.2757	.0503

Zoom In
Zoom Out

Sample Name: jc94634-105 Acquired: 9/26/2019 22:16:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182070.**	**35151.**	**7745.7**	**10280.**
Stddev	836.	21.	2.6	8.
%RSD	.45923	.05937	.03361	.07611
#1	181170.	35167.	7747.0	10279.
#2	182820.	35160.	7747.5	10272.
#3	182220.	35128.	7742.8	10288.

Zoom In
Zoom Out

Sample Name: jc94634-112 Acquired: 9/26/2019 22:21:52 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1556**	**-.0000**	**.0029**	**.0043**	**.1361**	**.0368**	**.9403**	**.2986**	**.0023**
Stddev	.0003	.0001	.0002	.0002	.0004	.0006	.0046	.0001	.0004
%RSD	.2039	155.6	7.778	4.173	.2629	1.596	.4869	.0248	16.44
#1	.1557	-.0001	.0032	.0045	.1358	.0364	.9376	.2986	.0027
#2	.1557	-.0001	.0027	.0043	.1360	.0366	.9378	.2986	.0021
#3	.1552	.0000	.0029	.0041	.1365	.0375	.9456	.2987	.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0072**	**.2382**	**.0021**	**.0014**	**.0065**	**-.0027**	**.0008**	**.8453**	**43.30**
Stddev	.0002	.0004	.0005	.0006	.0003	.0019	.0018	.0094	.12
%RSD	2.487	.1655	23.44	45.97	5.224	70.28	207.8	1.112	.2707
#1	.0074	.2387	.0026	.0012	.0061	-.0044	.0028	.8430	43.30
#2	.0070	.2379	.0016	.0021	.0068	-.0007	-.0006	.8373	43.42
#3	.0072	.2381	.0022	.0008	.0066	-.0029	.0004	.8557	43.19

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.34**	**8.233**	**2.629**	**204.8**	**.0657**	**.0164**	**9.305**	**-.0008**	**.1607**
Stddev	.02	.046	.028	.6	.0008	.0001	.013	.0007	.0003
%RSD	.2010	.5602	1.060	.2925	1.231	.4800	.1374	86.09	.1911
#1	11.36	8.226	2.622	204.1	.0662	.0163	9.294	-.0010	.1611
#2	11.34	8.283	2.659	205.2	.0648	.0164	9.302	-.0014	.1606
#3	11.31	8.191	2.605	205.1	.0661	.0163	9.319	-.0000	.1606

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0374**	**.0027**	**.0006**	**9.080**	**.0020**	**.0016**	**.0838**	**.0104**
Stddev	.0005	.0004	.0001	.010	.0003	.0042	.0007	.0024
%RSD	1.369	13.44	23.79	.1122	13.65	266.8	.8895	23.40
#1	.0368	.0028	.0005	9.091	.0021	-.0006	.0831	.0131
#2	.0376	.0023	.0008	9.070	.0023	.0064	.0846	.0084
#3	.0378	.0029	.0005	9.078	.0017	-.0011	.0837	.0097

Zoom In
Zoom Out

Sample Name: jc94634-112 Acquired: 9/26/2019 22:21:52 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181650.**	**35688.**	**7749.2**	**10223.**
Stddev	1389.	313.	16.3	17.
%RSD	.76482	.87581	.20995	.16200
#1	182930.	35837.	7738.0	10208.
#2	181850.	35329.	7767.8	10241.
#3	180170.	35899.	7741.7	10221.

Zoom In
Zoom Out

Sample Name: mp17502-mb1conf Acquired: 9/26/2019 22:26:53 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0001**	**.0002**	**.0006**	**.0012**	**.0003**	**.0003**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0000	.0002	.0003
%RSD	116.5	74.65	88.82	45.99	20.57	24.17	4.901	78.81	186.2
#1	-.0000	.0000	.0001	.0001	.0005	.0009	.0003	.0001	-.0001
#2	-.0000	.0000	.0001	.0001	.0007	.0012	.0003	.0002	.0001
#3	-.0002	.0001	.0000	.0002	.0005	.0014	.0003	.0005	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0185**	**-.0000**	**.0001**	**-.0004**	**-.0004**	**-.0003**	**.0228**	**.0559**
Stddev	.0001	.0001	.0003	.0004	.0001	.0014	.0005	.0038	.0010
%RSD	36.46	.5706	661.6	429.3	34.30	386.6	146.0	16.76	1.798
#1	-.0004	.0185	-.0001	-.0002	-.0004	-.0018	-.0009	.0272	.0559
#2	-.0002	.0183	-.0003	.0006	-.0002	-.0003	.0001	.0201	.0569
#3	-.0002	.0185	.0003	-.0001	-.0005	.0010	-.0003	.0211	.0549

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0190**	**.0077**	**-.0005**	**.1742**	**-.0016**	**.0003**	**.0088**	**.0200**	**.0004**
Stddev	.0013	.0056	.0175	.0052	.0002	.0002	.0001	.0001	.0000
%RSD	6.591	73.15	3380.	2.989	10.73	56.10	1.071	.5527	5.265
#1	.0204	.0018	-.0193	.1795	-.0016	.0001	.0087	.0201	.0004
#2	.0184	.0083	.0153	.1740	-.0017	.0003	.0088	.0200	.0004
#3	.0182	.0130	.0024	.1691	-.0014	.0005	.0089	.0199	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**-.0002**	**.0003**	**.0283**	**.0007**	**-.0019**	**.0183**	**.0001**
Stddev	.0001	.0004	.0001	.0005	.0005	.0007	.0005	.0022
%RSD	22.65	192.3	20.49	1.778	79.15	36.99	2.548	2702.
#1	.0007	-.0001	.0002	.0286	.0001	-.0011	.0184	-.0024
#2	.0005	.0002	.0003	.0286	.0007	-.0024	.0187	.0019
#3	.0008	-.0006	.0003	.0277	.0012	-.0021	.0178	.0008

Zoom In Zoom Out

Sample Name: mp17502-mb1conf Acquired: 9/26/2019 22:26:53 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190650.**	**36115.**	**8092.0**	**11111.**
Stddev	1019.	127.	8.9	9.
%RSD	.53432	.35221	.10971	.07685
#1	191460.	36021.	8082.6	11103.
#2	191000.	36065.	8092.9	11109.
#3	189510.	36260.	8100.3	11120.

Zoom In Zoom Out

Sample Name: jc95506-1 Acquired: 9/26/2019 22:31:55 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5609**	**-.0015**	**.0003**	**.0778**	**.1598**	**.1677**	**4.144**	**.1868**	**.0032**
Stddev	.0013	.0002	.0003	.0012	.0017	.0013	.008	.0003	.0009
%RSD	.2240	10.44	87.22	1.572	1.067	.7895	.1948	.1555	26.47
#1	.5623	-.0015	.0003	.0790	.1603	.1668	4.150	.1868	.0042
#2	.5602	-.0013	.0001	.0765	.1613	.1671	4.135	.1871	.0029
#3	.5601	-.0016	.0007	.0778	.1580	.1693	4.146	.1865	.0026

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1721**	**.3168**	**.0458**	**.0055**	**.0460**	**-.0059**	**-.0039**	**89.15**	F **1141.**
Stddev	.0002	.0003	.0032	.0024	.0012	.0088	.0049	.13	13.
%RSD	.0938	.1019	6.981	43.60	2.543	148.5	125.3	.1496	1.150
#1	.1723	.3171	.0433	.0028	.0447	.0041	.0010	89.31	1141.
#2	.1720	.3167	.0446	.0074	.0462	-.0123	-.0040	89.10	1129.
#3	.1720	.3165	.0494	.0062	.0470	-.0097	-.0088	89.05	1155.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**152.0**	**509.6**	**28.79**	**3.442**	**.1864**	**.0083**	**2.881**	**.0147**	**.9200**
Stddev	.2	.9	.09	.018	.0020	.0006	.022	.0008	.0005
%RSD	.1348	.1732	.3120	.5368	1.051	7.197	.7700	5.393	.0539
#1	152.2	510.5	28.83	3.442	.1882	.0084	2.883	.0153	.9205
#2	151.8	509.7	28.85	3.460	.1843	.0089	2.903	.0149	.9197
#3	151.9	508.7	28.68	3.423	.1866	.0077	2.858	.0138	.9196

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9053**	**.0035**	**.0828**	**4.491**	**.0490**	**.3477**	**3.011**	**.4448**
Stddev	.0038	.0048	.0005	.008	.0052	.0015	.003	.0065
%RSD	.4244	136.4	.6439	.1865	10.64	.4380	.0997	1.470
#1	.9054	.0081	.0827	4.494	.0458	.3459	3.011	.4372
#2	.9091	-.0014	.0823	4.482	.0462	.3487	3.008	.4490
#3	.9014	.0038	.0833	4.498	.0551	.3483	3.014	.4480

Zoom In Zoom Out

Sample Name: jc95506-1 Acquired: 9/26/2019 22:31:55 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179160.**	**35512.**	**7597.6**	**9767.4**
Stddev	671.	139.	6.2	7.6
%RSD	.37439	.39260	.08167	.07812
#1	178880.	35363.	7602.8	9774.5
#2	179920.	35639.	7590.7	9759.3
#3	178670.	35533.	7599.2	9768.2

Zoom In Zoom Out

Sample Name: jc95506-1 Acquired: 9/26/2019 22:36:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5321**	**-.0009**	**.0008**	**.0737**	**.1554**	**.1612**	**3.991**	**.1754**	**.0050**
Stddev	.0007	.0002	.0005	.0008	.0017	.0005	.011	.0022	.0038
%RSD	.1223	21.19	57.30	1.029	1.098	.3007	.2786	1.231	75.09
#1	.5321	-.0007	.0007	.0731	.1550	.1608	4.003	.1744	.0050
#2	.5315	-.0009	.0004	.0746	.1539	.1610	3.988	.1779	.0013
#3	.5328	-.0011	.0013	.0735	.1572	.1617	3.982	.1740	.0088

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1659**	**.3049**	**.0498**	**.0121**	**.0412**	**-.0100**	**.0022**	**84.66**	**1103.**
Stddev	.0019	.0012	.0104	.0072	.0086	.0122	.0198	.19	4.
%RSD	1.140	.4030	20.97	59.22	20.79	121.6	922.7	.2295	.3289
#1	.1642	.3046	.0546	.0139	.0357	-.0020	-.0168	84.88	1099.
#2	.1655	.3063	.0378	.0183	.0368	-.0241	.0004	84.57	1106.
#3	.1679	.3039	.0569	.0043	.0511	-.0040	.0228	84.52	1105.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**145.3**	**488.7**	**26.90**	**3.988**	**.1653**	**.0096**	**2.576**	**.0113**	**.8716**
Stddev	.2	.1	.09	.049	.0017	.0009	.011	.0020	.0014
%RSD	.1056	.0163	.3378	1.220	1.055	9.674	.4189	17.86	.1626
#1	145.5	488.7	26.89	3.934	.1644	.0106	2.580	.0113	.8731
#2	145.2	488.7	26.99	4.000	.1673	.0088	2.585	.0134	.8714
#3	145.2	488.8	26.81	4.029	.1642	.0094	2.564	.0093	.8703

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8620**	**-.0033**	**.0815**	**4.291**	**.0465**	**.3318**	**2.815**	**.4568**
Stddev	.0028	.0026	.0006	.017	.0024	.0137	.005	.0226
%RSD	.3192	78.48	.7937	.3978	5.203	4.136	.1723	4.954
#1	.8638	-.0007	.0816	4.297	.0444	.3415	2.811	.4378
#2	.8634	-.0058	.0821	4.272	.0459	.3378	2.821	.4507
#3	.8589	-.0033	.0808	4.305	.0492	.3161	2.815	.4818

Zoom In Zoom Out

Sample Name: jc95506-1 Acquired: 9/26/2019 22:36:50 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181450.**	**35271.**	**7711.4**	**10139.**
Stddev	796.	21.	14.2	15.
%RSD	.43876	.05870	.18390	.14708
#1	180530.	35295.	7696.2	10123.
#2	181990.	35256.	7713.7	10144.
#3	181810.	35262.	7724.2	10152.

Zoom In Zoom Out

Sample Name: jc95506-2 Acquired: 9/26/2019 22:41:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2946**	**-.0030**	**.0002**	**.0755**	**.1468**	**.2440**	**5.284**	**.1734**	**.0031**
Stddev	.0006	.0001	.0002	.0009	.0002	.0005	.008	.0009	.0016
%RSD	.1972	3.631	103.4	1.135	.1037	.1961	.1586	.5009	51.03
#1	.2942	-.0032	.0000	.0749	.1470	.2440	5.291	.1729	.0040
#2	.2943	-.0030	.0001	.0752	.1467	.2435	5.274	.1729	.0013
#3	.2952	-.0030	.0004	.0765	.1468	.2445	5.286	.1744	.0041

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1784**	**.3187**	**.0597**	**.0074**	**.1009**	**-.0121**	**-.0018**	**77.18**	F **1230.**
Stddev	.0005	.0002	.0040	.0019	.0023	.0057	.0047	.19	12.
%RSD	.2699	.0508	6.685	25.11	2.326	46.83	264.2	.2459	.9797
#1	.1790	.3185	.0560	.0070	.1019	-.0182	-.0071	77.38	1242.
#2	.1781	.3188	.0593	.0095	.1026	-.0109	.0001	77.16	1218.
#3	.1782	.3188	.0639	.0058	.0982	-.0071	.0017	77.00	1229.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**147.6**	**391.4**	**23.98**	**3.389**	**.1488**	**.0098**	**2.439**	**.0213**	**1.180**
Stddev	.3	.8	.17	.061	.0022	.0004	.009	.0019	.002
%RSD	.1999	.1927	.7263	1.797	1.476	4.176	.3643	9.080	.1753
#1	148.0	392.2	24.18	3.328	.1489	.0099	2.447	.0221	1.183
#2	147.6	391.3	23.90	3.450	.1509	.0094	2.429	.0191	1.179
#3	147.4	390.7	23.86	3.388	.1465	.0102	2.440	.0228	1.179

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.268**	**.0018**	**.0825**	**3.725**	**.0652**	**.2775**	**5.036**	**.6461**
Stddev	.003	.0033	.0001	.012	.0081	.0030	.004	.0030
%RSD	.2601	179.5	.1322	.3270	12.48	1.070	.0812	.4590
#1	1.272	-.0007	.0824	3.737	.0708	.2742	5.036	.6461
#2	1.265	.0056	.0825	3.725	.0559	.2799	5.040	.6490
#3	1.267	.0006	.0826	3.713	.0690	.2785	5.031	.6431

Zoom In Zoom Out

Sample Name: jc95506-2 Acquired: 9/26/2019 22:41:47 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179910.**	**35647.**	**7649.0**	**9813.8**
Stddev	742.	44.	3.7	4.4
%RSD	.41262	.12263	.04842	.04511
#1	179570.	35672.	7650.4	9818.5
#2	180760.	35672.	7644.8	9813.1
#3	179400.	35597.	7651.9	9809.8

Zoom In Zoom Out

Sample Name: jc95506-2 Acquired: 9/26/2019 22:46:44 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2990**	**-.0032**	**.0001**	**.0759**	**.1518**	**.2503**	**5.453**	**.1752**	**.0028**
Stddev	.0042	.0003	.0001	.0012	.0033	.0008	.006	.0006	.0023
%RSD	1.420	8.546	155.1	1.603	2.196	.3292	.1163	.3541	82.51
#1	.2982	-.0029	.0002	.0745	.1555	.2501	5.458	.1754	.0002
#2	.3035	-.0034	.0000	.0768	.1490	.2512	5.455	.1745	.0044
#3	.2952	-.0032	-.0000	.0763	.1509	.2495	5.446	.1757	.0038

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1844**	**.3229**	**.0586**	**.0092**	**.1003**	**-.0141**	**.0017**	**78.96**	**1284.**
Stddev	.0007	.0010	.0029	.0068	.0064	.0061	.0100	.25	15.
%RSD	.3718	.3067	4.915	74.23	6.365	43.58	601.9	.3111	1.144
#1	.1851	.3237	.0559	.0021	.1037	-.0212	.0027	79.01	1269.
#2	.1842	.3232	.0616	.0098	.0930	-.0105	.0111	79.18	1283.
#3	.1838	.3218	.0584	.0157	.1044	-.0106	-.0088	78.70	1299.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**152.1**	**405.5**	**24.38**	**4.004**	**.1439**	**.0086**	**2.538**	**.0173**	**1.203**
Stddev	.5	1.3	.11	.036	.0055	.0006	.029	.0037	.004
%RSD	.3041	.3212	.4383	.8892	3.790	6.852	1.160	21.32	.2999
#1	152.2	405.9	24.29	4.044	.1494	.0086	2.552	.0179	1.205
#2	152.4	406.6	24.50	3.994	.1385	.0091	2.557	.0133	1.205
#3	151.5	404.0	24.35	3.975	.1437	.0080	2.504	.0206	1.199

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.300**	**-.0022**	**.0832**	**3.821**	**.0717**	**.2795**	**5.059**	**.6689**
Stddev	.006	.0034	.0009	.018	.0034	.0067	.005	.0029
%RSD	.4533	153.1	1.114	.4591	4.811	2.397	.0949	.4345
#1	1.303	-.0019	.0842	3.801	.0677	.2725	5.062	.6665
#2	1.293	-.0059	.0823	3.835	.0731	.2801	5.062	.6681
#3	1.303	.0010	.0831	3.826	.0742	.2859	5.054	.6722

Zoom In
Zoom Out

Sample Name: jc95506-2 Acquired: 9/26/2019 22:46:44 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182780.**	**35277.**	**7745.4**	**10153.**
Stddev	237.	109.	24.3	23.
%RSD	.12967	.30906	.31349	.22778
#1	182720.	35391.	7726.3	10131.
#2	182570.	35173.	7737.1	10150.
#3	183040.	35268.	7772.7	10177.

Zoom In
Zoom Out

Sample Name: jc95506-3 Acquired: 9/26/2019 22:51:42 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3462**	**.0035**	**.0004**	**.1024**	**.2162**	**.2360**	**5.929**	**.2590**	**.0063**
Stddev	.0004	.0003	.0004	.0007	.0005	.0018	.006	.0005	.0008
%RSD	.1239	7.138	93.58	.6532	.2519	.7583	.1064	.1955	12.08
#1	.3459	.0038	.0009	.1029	.2159	.2380	5.936	.2586	.0069
#2	.3461	.0034	.0003	.1027	.2168	.2350	5.927	.2589	.0065
#3	.3467	.0034	.0001	.1017	.2159	.2348	5.924	.2596	.0055

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2386**	**.4190**	**.0764**	**.0067**	**.0960**	**-.0097**	**-.0054**	**123.4**	**713.0**
Stddev	.0013	.0015	.0042	.0006	.0035	.0041	.0071	.1	5.3
%RSD	.5527	.3652	5.503	9.536	3.661	41.95	130.6	.0947	.7450
#1	.2384	.4207	.0813	.0060	.0996	-.0077	-.0102	123.4	711.6
#2	.2400	.4180	.0740	.0070	.0959	-.0071	.0027	123.3	708.6
#3	.2374	.4181	.0740	.0072	.0926	-.0144	-.0088	123.5	718.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**213.0**	**458.7**	**34.94**	**4.269**	**.2087**	**.0090**	**2.623**	**.0192**	**.6543**
Stddev	.3	.5	.15	.039	.0020	.0006	.015	.0009	.0007
%RSD	.1224	.1048	.4260	.9075	.9449	6.264	.5729	4.870	.1076
#1	212.7	458.2	34.78	4.225	.2089	.0084	2.635	.0192	.6537
#2	213.1	458.7	35.08	4.281	.2106	.0093	2.629	.0201	.6542
#3	213.2	459.2	34.96	4.300	.2067	.0094	2.606	.0182	.6551

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.386**	**-.0024**	**.1122**	**1.640**	**.0697**	**.4800**	**4.880**	**.5474**
Stddev	.002	.0006	.0006	.005	.0051	.0027	.009	.0075
%RSD	.1331	27.31	.5483	.3116	7.263	.5534	.1833	1.372
#1	1.388	-.0016	.1123	1.645	.0644	.4822	4.890	.5518
#2	1.387	-.0029	.1128	1.635	.0745	.4807	4.874	.5387
#3	1.384	-.0026	.1116	1.638	.0701	.4770	4.876	.5516

Zoom In
Zoom Out

Sample Name: jc95506-3 Acquired: 9/26/2019 22:51:42 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**182740.**	**35981.**	**7748.5**	**10001.**
Stddev	223.	159.	11.2	15.
%RSD	.12224	.44224	.14484	.14589
#1	182490.	36164.	7754.8	10012.
#2	182900.	35903.	7755.2	10006.
#3	182850.	35876.	7735.6	9984.0

Zoom In
Zoom Out

Sample Name: jc95506-4 Acquired: 9/26/2019 22:56:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6307**	F **-.0105**	**.0014**	**.0423**	**.1077**	**.1928**	**2.777**	**.1350**
Stddev	.0010	.0002	.0009	.0008	.0012	.0011	.004	.0017
%RSD	.1596	1.604	62.67	1.795	1.098	.5630	.1350	1.253
#1	.6304	-.0103	.0005	.0419	.1075	.1936	2.782	.1364
#2	.6318	-.0106	.0022	.0432	.1090	.1933	2.775	.1331
#3	.6298	-.0107	.0015	.0419	.1067	.1916	2.776	.1355

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**.1942**	**.3452**	**.0479**	**.0078**	**.3339**	**-.0143**	**-.0080**
Stddev	.0007	.0018	.0010	.0073	.0061	.0041	.0115	.0118
%RSD	51.98	.9169	.2831	15.20	77.97	1.224	80.85	148.4
#1	.0021	.1958	.3442	.0564	.0018	.3313	-.0276	-.0189
#2	.0009	.1945	.3462	.0442	.0140	.3318	-.0072	.0046
#3	.0009	.1923	.3453	.0433	.0076	.3386	-.0080	-.0096

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**47.19**	F **2048.**	**96.46**	**316.6**	**12.67**	**4.374**	**.0953**	**.0122**
Stddev	.03	18.	.10	.5	.19	.028	.0020	.0009
%RSD	.0543	.8784	.1062	.1593	1.471	.6278	2.116	7.441
#1	47.22	2069.	96.56	317.2	12.77	4.400	.0972	.0112
#2	47.17	2037.	96.45	316.3	12.45	4.377	.0955	.0127
#3	47.18	2039.	96.36	316.3	12.78	4.345	.0932	.0128

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.309**	**.0432**	**3.686**	**.8944**	**.0099**	**.0726**	**11.55**	**.0501**
Stddev	.012	.0036	.004	.0022	.0092	.0011	.04	.0154
%RSD	.5248	8.390	.1110	.2512	92.97	1.500	.3221	30.72
#1	2.296	.0466	3.691	.8937	.0038	.0739	11.51	.0616
#2	2.311	.0394	3.684	.8926	.0054	.0718	11.58	.0326
#3	2.320	.0437	3.684	.8969	.0204	.0722	11.56	.0560

Zoom In
Zoom Out

Sample Name: jc95506-4 Acquired: 9/26/2019 22:56:40 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.1754**	**2.221**	**.2302**
Stddev	.0145	.006	.0198
%RSD	8.251	.2677	8.596
#1	.1724	2.227	.2449
#2	.1626	2.215	.2077
#3	.1911	2.221	.2379

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180150.**	**35125.**	**7643.3**	**9999.7**
Stddev	538.	96.	17.8	18.3
%RSD	.29868	.27348	.23272	.18280
#1	179690.	35078.	7623.0	9978.7
#2	180740.	35236.	7650.7	10012.
#3	180030.	35062.	7656.2	10008.

Zoom In
Zoom Out

Sample Name: jc95506-5 Acquired: 9/26/2019 23:01:38 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3096**	**.0062**	**.0009**	**.0853**	**.1717**	**.1937**	**6.542**	**.2240**	**.0063**
Stddev	.0017	.0001	.0001	.0003	.0012	.0018	.015	.0006	.0003
%RSD	.5539	1.125	15.22	.3699	.6885	.9209	.2352	.2818	4.926
#1	.3115	.0062	.0009	.0850	.1704	.1923	6.526	.2233	.0060
#2	.3083	.0063	.0008	.0854	.1727	.1957	6.557	.2246	.0066
#3	.3088	.0063	.0010	.0856	.1721	.1931	6.544	.2240	.0061

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2255**	**.4333**	**.0783**	**.0046**	**.1352**	**-.0001**	**-.0009**	**104.9**	**17.70**
Stddev	.0021	.0011	.0016	.0023	.0006	.0013	.0007	.3	.06
%RSD	.9399	.2428	2.064	48.89	.4782	1803.	70.89	.2804	.3303
#1	.2240	.4339	.0786	.0041	.1352	.0010	-.0006	105.2	17.76
#2	.2280	.4321	.0798	.0071	.1345	.0004	-.0017	104.7	17.69
#3	.2247	.4339	.0766	.0027	.1358	-.0016	-.0006	104.7	17.64

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**212.1**	**51.92**	**18.96**	**2.139**	**.0762**	**.0186**	**1.868**	**.0178**	**.0834**
Stddev	2.1	.16	.01	.014	.0009	.0003	.012	.0003	.0003
%RSD	.9957	.3097	.0294	.6447	1.235	1.804	.6399	1.571	.3870
#1	210.0	52.07	18.96	2.136	.0767	.0188	1.873	.0178	.0838
#2	214.2	51.94	18.95	2.127	.0751	.0182	1.877	.0180	.0833
#3	212.1	51.75	18.96	2.154	.0767	.0187	1.855	.0175	.0832

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7038**	**-.0015**	**.0897**	**.4564**	**.0294**	**.3039**	**2.982**	**.5688**
Stddev	.0080	.0010	.0010	.0036	.0018	.0022	.006	.0063
%RSD	1.142	67.53	1.082	.7971	6.139	.7182	.2168	1.105
#1	.6972	-.0006	.0886	.4585	.0287	.3058	2.982	.5615
#2	.7128	-.0012	.0905	.4522	.0280	.3015	2.975	.5726
#3	.7015	-.0026	.0899	.4585	.0314	.3043	2.988	.5722

Zoom In
Zoom Out

Sample Name: jc95506-5 Acquired: 9/26/2019 23:01:38 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**193720.**	**37665.**	**8229.2**	**10645.**
Stddev	927.	174.	11.4	12.
%RSD	.47860	.46158	.13864	.11192
#1	194090.	37593.	8233.0	10653.
#2	192660.	37540.	8238.2	10651.
#3	194400.	37864.	8216.4	10631.

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 23:06:53 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.940**	**1.972**	**2.001**	**1.962**	**1.989**	**1.955**	**2.042**	**2.021**	**.2433**
Stddev	.002	.011	.001	.001	.005	.001	.029	.000	.0005
%RSD	.1017	.5531	.0576	.0662	.2764	.0292	1.406	.0210	.1865
#1	1.938	1.973	2.000	1.962	1.995	1.955	2.067	2.021	.2437
#2	1.942	1.960	2.001	1.963	1.987	1.954	2.047	2.021	.2428
#3	1.941	1.982	2.002	1.961	1.984	1.955	2.011	2.021	.2433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.026**	**2.038**	**1.915**	**2.072**	**2.052**	**1.960**	**1.932**	**38.09**	**38.35**
Stddev	.002	.000	.001	.001	.003	.001	.003	.03	.07
%RSD	.1042	.0080	.0534	.0357	.1335	.0661	.1511	.0705	.1846
#1	2.029	2.038	1.916	2.073	2.048	1.961	1.930	38.06	38.29
#2	2.026	2.038	1.914	2.072	2.053	1.959	1.931	38.11	38.43
#3	2.025	2.039	1.915	2.073	2.054	1.959	1.935	38.09	38.34
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.97**	**38.44**	**37.47**	**38.45**	**1.976**	**1.918**	**4.759**	**1.946**	**1.962**
Stddev	.04	.04	.08	.02	.001	.000	.002	.002	.037
%RSD	.0995	.1128	.2065	.0487	.0726	.0120	.0342	.0754	1.889
#1	38.93	38.40	37.41	38.45	1.977	1.918	4.759	1.947	1.923
#2	39.01	38.49	37.55	38.43	1.974	1.918	4.757	1.945	1.965
#3	38.97	38.44	37.43	38.47	1.975	1.919	4.761	1.947	1.997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/26/2019 23:06:53 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.951**	**1.891**	**1.972**	**2.018**	**1.946**	**1.917**	**1.942**	**1.966**
Stddev	.001	.001	.001	.003	.001	.003	.002	.004
%RSD	.0312	.0495	.0243	.1469	.0420	.1683	.0831	.2110
#1	1.951	1.891	1.973	2.015	1.946	1.914	1.941	1.970
#2	1.951	1.891	1.972	2.020	1.946	1.920	1.943	1.966
#3	1.950	1.890	1.972	2.020	1.945	1.916	1.944	1.962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179800.**	**34941.**	**7691.4**	**10178.**
Stddev	933.	139.	6.2	8.
%RSD	.51901	.39879	.08063	.07412
#1	178740.	35031.	7698.1	10187.
#2	180170.	34781.	7690.2	10175.
#3	180500.	35012.	7685.8	10173.

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/26/2019 23:12:00 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0003**	**.0002**	**.0003**	**.0002**	**.0007**	**.0002**	**-.0000**	**.0003**
Stddev	.0002	.0001	.0002	.0002	.0001	.0003	.0000	.0003	.0001
%RSD	914.2	28.62	77.90	61.23	30.09	38.49	16.16	804.8	48.51
#1	.0002	.0003	.0001	.0001	.0001	.0006	.0002	-.0002	.0004
#2	-.0002	.0003	.0002	.0004	.0002	.0010	.0001	-.0002	.0002
#3	-.0001	.0002	.0004	.0004	.0003	.0005	.0002	.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0004**	**.0002**	**-.0003**	**-.0015**	**.0016**	**.0371**	**.0010**
Stddev	.0003	.0001	.0008	.0007	.0004	.0004	.0006	.0057	.0012
%RSD	161.7	54.43	235.7	304.0	133.1	28.73	35.93	15.30	114.6
#1	.0001	.0000	.0013	-.0004	-.0003	-.0019	.0021	.0309	.0016
#2	-.0005	.0002	-.0000	.0001	.0001	-.0015	.0010	.0385	.0018
#3	-.0002	.0001	-.0002	.0009	-.0007	-.0010	.0016	.0420	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**-.0010**	**-.0230**	**.0892**	**-.0009**	**.0004**	**.0008**	**-.0001**	**.0002**
Stddev	.0016	.0062	.0057	.0082	.0001	.0002	.0005	.0002	.0000
%RSD	38.12	624.7	24.80	9.189	6.418	47.13	55.64	229.5	13.96
#1	.0049	.0062	-.0265	.0878	-.0009	.0006	.0004	.0000	.0002
#2	.0051	-.0046	-.0164	.0980	-.0009	.0003	.0007	.0000	.0002
#3	.0023	-.0046	-.0262	.0818	-.0008	.0003	.0014	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/26/2019 23:12:00 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0001**	**.0001**	**.0151**	**.0002**	**-.0006**	**-.0035**	**.0012**
Stddev	.0001	.0007	.0001	.0012	.0003	.0007	.0005	.0018
%RSD	40.10	567.3	81.10	7.839	138.4	113.6	13.23	157.7
#1	.0002	.0002	.0001	.0146	.0001	-.0004	-.0031	.0008
#2	.0001	-.0007	.0002	.0142	.0006	-.0014	-.0040	-.0004
#3	.0001	.0008	.0000	.0164	-.0000	-.0000	-.0036	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188940.**	**35653.**	**7998.0**	**11038.**
Stddev	2042.	11.	35.0	33.
%RSD	1.0805	.03067	.43800	.29530
#1	190050.	35653.	7988.4	11032.
#2	190200.	35643.	8036.9	11073.
#3	186590.	35665.	7968.8	11009.

Zoom In
Zoom Out

Sample Name: mp17531-mb1conf Acquired: 9/26/2019 23:17:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0003**	**.0001**	**.0007**	**.0004**	**.0090**	**.0017**	**.0054**	**.0021**
Stddev	.0008	.0002	.0005	.0004	.0010	.0020	.0002	.0007	.0018
%RSD	106.4	59.48	514.4	57.67	218.3	21.65	10.89	12.09	86.68
#1	-.0000	.0001	-.0003	.0011	.0013	.0068	.0018	.0061	.0006
#2	-.0015	.0003	.0006	.0008	-.0006	.0105	.0018	.0049	.0017
#3	-.0006	.0004	-.0001	.0003	.0007	.0097	.0015	.0053	.0041

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0011**	**.0122**	**.0054**	**-.0025**	**.0002**	**-.0003**	**-.0014**	**.1914**	**.1651**
Stddev	.0007	.0006	.0021	.0008	.0025	.0071	.0061	.0162	.0096
%RSD	69.21	5.126	39.34	29.97	1019.	2188.	444.3	8.466	5.794
#1	-.0017	.0129	.0065	-.0019	.0030	.0079	-.0074	.1820	.1542
#2	-.0012	.0116	.0030	-.0024	-.0018	-.0045	-.0014	.1821	.1723
#3	-.0003	.0122	.0067	-.0034	-.0005	-.0043	.0047	.2101	.1687

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0183**	**-.0050**	**2.896**	**F 1345.**	**.1472**	**.0002**	**.1853**	**.0002**	**.0109**
Stddev	.0050	.0183	.160	36.	.0013	.0009	.0033	.0003	.0003
%RSD	27.39	362.4	5.537	2.711	.9089	532.4	1.805	200.8	2.787
#1	.0137	-.0243	2.818	1354.	.1457	-.0006	.1892	.0003	.0107
#2	.0176	-.0028	3.081	1304.	.1481	.0000	.1834	-.0002	.0108
#3	.0236	.0120	2.790	1375.	.1479	.0011	.1833	.0004	.0113

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**-.0048**	**.0004**	**.3097**	**.0062**	**.0222**	**-.0097**	**.0009**
Stddev	.0005	.0028	.0002	.0073	.0027	.0029	.0033	.0069
%RSD	25.17	58.47	62.99	2.349	43.39	13.01	33.68	782.9
#1	.0019	-.0018	.0004	.3142	.0073	.0198	-.0085	.0060
#2	.0015	-.0053	.0006	.3137	.0031	.0214	-.0133	.0036
#3	.0024	-.0074	.0002	.3013	.0082	.0254	-.0071	-.0069

Zoom In Zoom Out

Sample Name: mp17531-mb1conf Acquired: 9/26/2019 23:17:03 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**174890.**	**34940.**	**7541.3**	**9854.3**
Stddev	642.	188.	21.6	21.4
%RSD	.36694	.53821	.28619	.21694
#1	175220.	34856.	7552.5	9862.7
#2	174150.	35156.	7516.4	9830.0
#3	175300.	34809.	7555.0	9870.2

Zoom In Zoom Out

Sample Name: mp17531-sd1 Acquired: 9/26/2019 23:22:05 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1820**	**-.0001**	**-.0002**	**.0114**	**.0029**	**.0227**	**.6148**	**.0185**	**.0100**
Stddev	.0003	.0006	.0019	.0032	.0063	.0046	.0035	.0005	.0044
%RSD	.1659	499.9	787.8	27.80	216.9	20.26	.5757	2.682	44.11
#1	.1820	-.0000	-.0010	.0079	.0052	.0280	.6189	.0189	.0151
#2	.1817	.0004	-.0017	.0141	-.0042	.0201	.6129	.0185	.0077
#3	.1823	-.0007	.0019	.0122	.0078	.0200	.6127	.0180	.0072

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.1391**	**.0091**	**.0043**	**.0062**	**.0149**	**.0041**	**1.493**	**88.01**
Stddev	.0016	.0026	.0093	.0086	.0151	.0257	.0301	.087	.22
%RSD	66.22	1.848	102.1	200.6	244.5	172.6	733.1	5.843	.2445
#1	.0038	.1421	.0134	.0135	.0173	.0445	.0357	1.549	88.22
#2	.0006	.1380	.0154	.0030	-.0110	.0020	-.0242	1.537	88.02
#3	.0030	.1373	-.0016	-.0036	.0123	-.0018	.0008	1.392	87.79

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2479**	**27.95**	**6.245**	**1417.**	**.2293**	**-.0028**	**3.963**	**-.0139**	**.2338**
Stddev	.0271	.11	.258	3.	.0151	.0024	.011	.0082	.0013
%RSD	10.92	.3783	4.129	.2063	6.603	85.42	.2865	59.08	.5532
#1	.2532	28.06	5.950	1420.	.2340	-.0028	3.962	-.0232	.2351
#2	.2719	27.91	6.424	1416.	.2124	-.0052	3.953	-.0108	.2326
#3	.2185	27.86	6.362	1414.	.2416	-.0004	3.975	-.0077	.2336

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0133**	**-.0060**	**.0017**	**50.85**	**.0412**	**-.0016**	**-.0456**	**.0194**
Stddev	.0063	.0054	.0018	.03	.0256	.0077	.0117	.0265
%RSD	47.09	89.51	105.6	.0527	62.08	496.8	25.70	136.3
#1	.0063	-.0116	.0026	50.85	.0600	-.0065	-.0515	-.0086
#2	.0182	-.0008	-.0004	50.82	.0517	.0074	-.0532	.0228
#3	.0154	-.0057	.0029	50.87	.0121	-.0055	-.0321	.0440

Zoom In Zoom Out

Sample Name: mp17531-sd1 Acquired: 9/26/2019 23:22:05 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181880.**	**35278.**	**7788.1**	**10477.**
Stddev	764.	211.	12.1	11.
%RSD	.42015	.59936	.15529	.10443
#1	181140.	35048.	7774.3	10467.
#2	181830.	35464.	7793.4	10477.
#3	182660.	35321.	7796.7	10488.

Zoom In Zoom Out

Sample Name: MP17533-MB1 1 Acquired: 9/26/2019 23:27:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: EPA

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**-.0002**	**.0003**	**-.0004**	**.0011**	**-.0000**	**.0001**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0001	.0000	.0000	.0002	.0002
%RSD	57.67	90.95	33.15	18.34	37.38	2.861	144.5	272.9	85.42
#1	-.0003	.0000	-.0001	.0003	-.0002	.0010	-.0000	-.0001	.0001
#2	-.0001	.0000	-.0002	.0002	-.0004	.0010	-.0000	.0001	.0001
#3	-.0002	-.0000	-.0002	.0003	-.0005	.0011	.0000	.0003	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**.0012**	**.0010**	**-.0003**	**-.0003**	**-.0004**	**.0052**	**.0012**
Stddev	.0002	.0001	.0005	.0005	.0009	.0010	.0010	.0041	.0007
%RSD	97.20	21.82	38.89	51.56	322.4	384.0	225.1	80.35	59.69
#1	-.0003	.0002	.0011	.0013	-.0013	-.0014	.0007	.0091	.0019
#2	-.0004	.0003	.0018	.0013	.0003	.0007	-.0008	.0008	.0005
#3	.0000	.0002	.0008	.0004	.0002	-.0002	-.0012	.0056	.0013

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0021**	**-.0589**	**.0037**	**-.0026**	**-.0003**	**.0046**	**-.0003**	**-.0000**
Stddev	.0005	.0055	.0126	.0078	.0000	.0001	.0002	.0004	.0000
%RSD	423.5	269.2	21.44	214.0	.8299	28.51	4.285	147.6	6099.
#1	-.0004	.0041	-.0560	-.0013	-.0025	-.0003	.0049	-.0007	.0000
#2	.0004	-.0066	-.0727	.0127	-.0026	-.0002	.0045	-.0004	-.0000
#3	-.0004	-.0036	-.0480	-.0004	-.0025	-.0003	.0046	.0002	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0014**	**-.0002**	**.0309**	**.0016**	**-.0020**	**-.0047**	**.0004**
Stddev	.0002	.0005	.0000	.0015	.0015	.0011	.0006	.0014
%RSD	465.3	36.71	24.07	4.713	94.66	55.24	12.17	328.3
#1	-.0002	-.0012	-.0002	.0292	.0019	-.0022	-.0052	.0008
#2	.0001	-.0021	-.0002	.0314	-.0000	-.0008	-.0049	.0016
#3	.0001	-.0011	-.0001	.0319	.0030	-.0029	-.0041	-.0011

Zoom In
Zoom Out

Sample Name: MP17533-MB1 1 Acquired: 9/26/2019 23:27:00 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: EPA

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190350.**	**36248.**	**8136.8**	**11337.**
Stddev	1065.	281.	17.1	22.
%RSD	.55938	.77476	.21021	.19028
#1	189130.	36572.	8153.1	11356.
#2	191090.	36104.	8138.4	11342.
#3	190840.	36069.	8119.0	11313.

Zoom In
Zoom Out

Sample Name: MP17533-B1 Acquired: 9/26/2019 23:32:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.907**	**1.967**	**2.048**	**1.949**	**1.988**	**1.962**	**2.069**	**2.024**
Stddev	.005	.036	.003	.001	.022	.022	.022	.000
%RSD	.2596	1.846	.1387	.0239	1.088	1.113	1.051	.0122
#1	1.904	2.008	2.045	1.949	2.013	1.987	2.095	2.023
#2	1.905	1.948	2.050	1.950	1.975	1.950	2.056	2.023
#3	1.913	1.943	2.049	1.949	1.975	1.949	2.058	2.024

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0817**	**2.036**	**2.079**	**2.018**	**2.118**	**2.042**	**2.036**	**2.064**
Stddev	.0007	.022	.001	.005	.003	.001	.002	.008
%RSD	.8005	1.106	.0558	.2346	.1285	.0475	.1043	.3784
#1	.0824	2.061	2.078	2.013	2.120	2.041	2.034	2.055
#2	.0816	2.023	2.079	2.019	2.115	2.043	2.038	2.068
#3	.0811	2.022	2.080	2.022	2.120	2.042	2.036	2.069

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.37**	**24.48**	**24.95**	**24.70**	**23.96**	**24.84**	**2.022**	**1.994**
Stddev	.05	.05	.05	.04	.06	.00	.002	.002
%RSD	.2089	.2025	.1850	.1432	.2307	.0198	.0810	.0889
#1	24.36	24.45	24.94	24.69	23.90	24.84	2.020	1.992
#2	24.33	24.46	24.91	24.66	23.98	24.84	2.023	1.995
#3	24.43	24.54	25.00	24.73	24.01	24.85	2.022	1.996

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0342**	**2.058**	**1.948**	**2.041**	**1.879**	**2.054**	**.0204**	**.0542**
Stddev	.0009	.004	.019	.022	.005	.023	.0021	.0011
%RSD	2.701	.1821	.9772	1.099	.2698	1.140	10.33	2.114
#1	.0332	2.054	1.962	2.067	1.874	2.081	.0189	.0552
#2	.0350	2.060	1.955	2.029	1.881	2.041	.0194	.0544
#3	.0345	2.061	1.926	2.028	1.883	2.040	.0228	.0529

Zoom In
Zoom Out

Sample Name: MP17533-B1 Acquired: 9/26/2019 23:32:01 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0027**	**1.965**	W **-.0693**
Stddev	.0013	.001	.0022
%RSD	48.72	.0351	3.177
#1	-.0017	1.965	-.0709
#2	-.0023	1.966	-.0703
#3	-.0042	1.964	-.0668

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183970.**	**36010.**	**7861.8**	**10556.**
Stddev	1894.	140.	6.5	3.
%RSD	1.0296	.38766	.08269	.02849
#1	181790.	35910.	7868.3	10555.
#2	184880.	36170.	7855.3	10554.
#3	185230.	35951.	7861.9	10560.

Zoom In
Zoom Out

Sample Name: MP17533-S1 Acquired: 9/26/2019 23:37:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.909**	**1.936**	**2.017**	**1.923**	**1.941**	**1.924**	**2.046**	**1.993**
Stddev	.004	.035	.000	.002	.005	.005	.033	.002
%RSD	.2271	1.791	.0015	.0897	.2814	.2646	1.589	.0889
#1	1.907	1.914	2.017	1.921	1.947	1.929	2.083	1.991
#2	1.906	1.976	2.017	1.922	1.939	1.920	2.020	1.993
#3	1.914	1.919	2.017	1.925	1.936	1.922	2.036	1.995

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0806**	**2.000**	**2.037**	**2.013**	**2.075**	**2.008**	**2.000**	**2.037**
Stddev	.0003	.003	.002	.003	.001	.002	.001	.000
%RSD	.3765	.1588	.0739	.1499	.0650	.0869	.0720	.0032
#1	.0802	2.001	2.037	2.014	2.074	2.006	2.002	2.037
#2	.0807	2.003	2.038	2.010	2.076	2.010	1.999	2.037
#3	.0808	1.996	2.035	2.016	2.077	2.009	2.000	2.037

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.08**	**40.56**	**29.88**	**27.76**	**25.78**	**47.45**	**2.027**	**1.967**
Stddev	.04	.03	.01	.02	.05	.02	.000	.001
%RSD	.1752	.0841	.0382	.0713	.1886	.0447	.0123	.0697
#1	24.07	40.52	29.87	27.75	25.72	47.45	2.027	1.966
#2	24.05	40.57	29.88	27.79	25.79	47.43	2.027	1.969
#3	24.13	40.59	29.89	27.75	25.82	47.47	2.027	1.966

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.453**	**2.014**	**2.031**	**2.002**	**1.926**	**2.023**	**7.578**	**.0510**
Stddev	.003	.003	.010	.001	.003	.003	.010	.0017
%RSD	.1337	.1451	.4912	.0485	.1439	.1252	.1265	3.312
#1	2.454	2.014	2.030	2.003	1.928	2.025	7.578	.0529
#2	2.449	2.017	2.041	2.002	1.927	2.025	7.568	.0497
#3	2.455	2.011	2.021	2.001	1.923	2.020	7.587	.0504

Zoom In Zoom Out

Sample Name: MP17533-S1 Acquired: 9/26/2019 23:37:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0021**	**2.038**	W **-.0678**
Stddev	.0007	.002	.0017
%RSD	30.63	.0723	2.504
#1	-.0019	2.037	-.0690
#2	-.0029	2.040	-.0684
#3	-.0016	2.038	-.0658

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184070.**	**36262.**	**7802.5**	**10395.**
Stddev	411.	180.	5.1	7.
%RSD	.22333	.49728	.06513	.06322
#1	183690.	36447.	7803.1	10402.
#2	184010.	36087.	7797.1	10389.
#3	184510.	36253.	7807.2	10393.

Zoom In Zoom Out

Sample Name: MP17533-S2 Acquired: 9/26/2019 23:42:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**1.955**	**2.033**	**1.937**	**1.950**	**1.929**	**2.060**	**2.010**
Stddev	.001	.016	.004	.004	.002	.002	.008	.004
%RSD	.0671	.7987	.1847	.2118	.0950	.0902	.3989	.1954
#1	1.919	1.948	2.037	1.942	1.952	1.929	2.060	2.015
#2	1.919	1.945	2.030	1.935	1.949	1.927	2.052	2.008
#3	1.921	1.973	2.031	1.935	1.948	1.930	2.068	2.008

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0814**	**2.009**	**2.047**	**2.024**	**2.091**	**2.023**	**2.017**	**2.052**
Stddev	.0004	.001	.004	.004	.005	.004	.001	.004
%RSD	.5063	.0300	.1759	.2245	.2272	.2053	.0510	.1729
#1	.0812	2.009	2.051	2.029	2.095	2.027	2.018	2.056
#2	.0811	2.008	2.044	2.020	2.094	2.021	2.016	2.049
#3	.0818	2.009	2.045	2.023	2.086	2.019	2.017	2.052

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.14**	**40.64**	**29.86**	**27.69**	**25.77**	**47.53**	**2.041**	**1.975**
Stddev	.01	.07	.03	.03	.01	.06	.005	.003
%RSD	.0547	.1826	.1104	.1067	.0238	.1194	.2622	.1515
#1	24.15	40.63	29.85	27.67	25.77	47.56	2.044	1.978
#2	24.13	40.58	29.83	27.67	25.77	47.47	2.035	1.972
#3	24.15	40.73	29.89	27.72	25.76	47.57	2.043	1.974

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.481**	**2.023**	**2.041**	**2.004**	**1.927**	**2.025**	**7.691**	**.0505**
Stddev	.005	.004	.008	.001	.003	.000	.015	.0010
%RSD	.2155	.2026	.4011	.0665	.1760	.0152	.1925	1.896
#1	2.486	2.027	2.048	2.005	1.928	2.025	7.703	.0499
#2	2.475	2.020	2.043	2.003	1.923	2.025	7.675	.0516
#3	2.483	2.021	2.032	2.004	1.930	2.025	7.696	.0500

Zoom In Zoom Out

Sample Name: MP17533-S2 Acquired: 9/26/2019 23:42:15 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0011**	**2.053**	W **-.0676**
Stddev	.0005	.005	.0024
%RSD	48.68	.2295	3.489
#1	-.0017	2.058	-.0655
#2	-.0007	2.049	-.0701
#3	-.0009	2.052	-.0671

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183950.**	**36532.**	**7802.6**	**10389.**
Stddev	167.	65.	14.1	29.
%RSD	.09051	.17715	.18081	.27673
#1	184120.	36515.	7789.0	10364.
#2	183790.	36604.	7801.7	10383.
#3	183950.	36478.	7817.1	10420.

Zoom In Zoom Out

Sample Name: JC95316-1 Acquired: 9/26/2019 23:47:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0197**	**.0000**	**-.0001**	**.0004**	**.0002**	**.0013**	**.0278**	**.0007**	**.0007**
Stddev	.0002	.0000	.0001	.0001	.0003	.0001	.0003	.0001	.0004
%RSD	.8369	301.8	112.9	23.31	180.5	10.73	1.151	9.832	57.69
#1	.0195	.0000	.0000	.0004	-.0001	.0014	.0276	.0006	.0011
#2	.0199	-.0000	-.0001	.0004	.0001	.0013	.0276	.0008	.0007
#3	.0198	.0000	-.0002	.0003	.0005	.0012	.0281	.0007	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0026**	**.0161**	**.0012**	**-.0006**	**-.0008**	**-.0009**	**.0145**	**16.88**
Stddev	.0001	.0000	.0003	.0001	.0004	.0003	.0004	.0044	.02
%RSD	22.24	1.492	1.812	5.559	68.81	33.49	43.13	30.06	.1060
#1	.0003	.0027	.0158	.0012	-.0010	-.0009	-.0005	.0181	16.86
#2	.0003	.0026	.0164	.0012	-.0002	-.0005	-.0013	.0157	16.89
#3	.0002	.0027	.0160	.0011	-.0006	-.0010	-.0009	.0097	16.90

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.451**	**3.705**	**2.055**	**23.78**	**.0393**	**.0011**	**2.474**	**-.0008**	**.1392**
Stddev	.007	.008	.019	.01	.0006	.0003	.001	.0001	.0001
%RSD	.1355	.2042	.9218	.0565	1.523	22.77	.0552	11.52	.0933
#1	5.443	3.713	2.058	23.77	.0399	.0012	2.473	-.0008	.1391
#2	5.457	3.704	2.073	23.78	.0388	.0013	2.474	-.0007	.1392
#3	5.453	3.698	2.035	23.79	.0391	.0008	2.475	-.0009	.1394

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0026**	**.0001**	**7.758**	**.0011**	**-.0011**	**.0892**	**.0020**
Stddev	.0004	.0003	.0001	.014	.0010	.0010	.0007	.0030
%RSD	97.47	10.98	150.2	.1792	88.08	94.82	.7399	148.2
#1	.0001	.0030	.0002	7.742	.0000	.0001	.0885	.0045
#2	.0009	.0024	-.0000	7.765	.0020	-.0014	.0898	-.0013
#3	.0003	.0025	.0000	7.767	.0015	-.0019	.0892	.0028

Zoom In
Zoom Out

Sample Name: JC95316-1 Acquired: 9/26/2019 23:47:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186720.**	**36314.**	**7941.4**	**10807.**
Stddev	1937.	87.	3.1	5.
%RSD	1.0371	.23848	.03903	.04685
#1	187970.	36334.	7944.1	10810.
#2	187710.	36220.	7938.0	10809.
#3	184490.	36389.	7942.0	10801.

Zoom In
Zoom Out

Sample Name: MP17533-SD1 Acquired: 9/26/2019 23:52:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0181**	**.0002**	**.0003**	**.0006**	**.0002**	**.0045**	**.0283**	**.0001**	**.0022**
Stddev	.0010	.0000	.0008	.0004	.0009	.0007	.0003	.0007	.0007
%RSD	5.264	10.42	267.3	67.93	411.4	16.52	1.054	613.5	30.11
#1	.0181	.0002	-.0000	.0011	.0008	.0049	.0285	-.0002	.0030
#2	.0190	.0002	-.0003	.0005	.0007	.0037	.0279	-.0003	.0017
#3	.0171	.0002	.0012	.0003	-.0008	.0050	.0283	.0009	.0020

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0009**	**.0074**	**.0122**	**.0018**	**-.0018**	**-.0006**	**.0015**	**.0962**	**17.10**
Stddev	.0009	.0001	.0048	.0008	.0031	.0062	.0040	.0219	.01
%RSD	100.8	1.851	39.18	45.88	170.6	1062.	261.9	22.78	.0606
#1	-.0016	.0073	.0124	.0012	-.0051	.0034	.0053	.1034	17.11
#2	.0001	.0075	.0170	.0028	-.0017	.0025	.0020	.1136	17.10
#3	-.0011	.0074	.0074	.0015	.0012	-.0077	-.0027	.0716	17.09

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.548**	**3.753**	**2.027**	**24.56**	**.0392**	**.0036**	**2.454**	**.0003**	**.1417**
Stddev	.019	.019	.061	.01	.0014	.0006	.002	.0023	.0003
%RSD	.3382	.5036	3.025	.0398	3.557	17.80	.0967	744.0	.1894
#1	5.568	3.741	1.970	24.57	.0402	.0034	2.457	-.0022	.1414
#2	5.544	3.775	2.018	24.55	.0376	.0043	2.452	.0008	.1419
#3	5.531	3.743	2.092	24.55	.0398	.0031	2.454	.0023	.1418

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0326**	**.0044**	**7.494**	**-.0009**	**-.0070**	**.0703**	**.0015**
Stddev	.0004	.0029	.0004	.012	.0047	.0030	.0028	.0065
%RSD	20.16	8.845	8.686	.1620	547.4	42.49	4.033	430.8
#1	.0017	.0336	.0040	7.496	.0027	-.0039	.0687	.0038
#2	.0022	.0349	.0048	7.481	-.0062	-.0099	.0686	-.0059
#3	.0015	.0294	.0044	7.505	.0009	-.0073	.0736	.0066

Zoom In
Zoom Out

Sample Name: MP17533-SD1 Acquired: 9/26/2019 23:52:18 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186990.**	**36054.**	**7921.6**	**10906.**
Stddev	1489.	132.	10.7	19.
%RSD	.79604	.36584	.13555	.17582
#1	185980.	36181.	7926.3	10922.
#2	188700.	35918.	7929.3	10911.
#3	186280.	36062.	7909.3	10885.

Zoom In
Zoom Out

Sample Name: JC95316-2 Acquired: 9/26/2019 23:57:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0088**	**-.0000**	**-.0001**	**.0025**	**.0001**	**.0013**	**.2960**	**.0016**	**.0011**
Stddev	.0000	.0000	.0002	.0001	.0000	.0002	.0016	.0001	.0003
%RSD	.1443	96.30	151.9	4.145	65.77	16.53	.5525	4.462	29.89
#1	.0088	-.0000	.0001	.0025	.0001	.0012	.2977	.0015	.0008
#2	.0088	-.0001	-.0002	.0024	.0001	.0016	.2944	.0016	.0010
#3	.0088	.0000	-.0003	.0025	.0000	.0012	.2959	.0017	.0015

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0013**	**.0252**	**.0008**	**-.0017**	**-.0017**	**.0003**	**.0402**	**17.07**
Stddev	.0001	.0001	.0010	.0004	.0008	.0006	.0006	.0035	.02
%RSD	6.658	5.894	3.811	52.41	45.61	34.64	166.5	8.635	.1255
#1	.0012	.0013	.0241	.0008	-.0026	-.0019	.0008	.0426	17.07
#2	.0011	.0014	.0260	.0013	-.0010	-.0022	-.0003	.0362	17.05
#3	.0012	.0012	.0253	.0005	-.0015	-.0011	.0005	.0417	17.09

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.31**	**7.020**	**2.590**	**29.76**	**.0444**	**.0007**	**3.071**	**-.0013**	**.1209**
Stddev	.03	.020	.024	.07	.0004	.0001	.005	.0003	.0001
%RSD	.1498	.2818	.9228	.2302	.8778	13.59	.1483	25.54	.0769
#1	18.31	7.006	2.613	29.70	.0442	.0008	3.076	-.0010	.1210
#2	18.28	7.011	2.591	29.76	.0448	.0008	3.071	-.0012	.1208
#3	18.33	7.043	2.565	29.83	.0441	.0006	3.067	-.0016	.1210

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0016**	**.0001**	**8.610**	**.0013**	**-.0010**	**.1342**	**.0028**
Stddev	.0002	.0012	.0000	.013	.0010	.0010	.0006	.0008
%RSD	214.9	73.74	27.73	.1560	78.42	99.37	.4462	29.29
#1	.0002	.0025	.0001	8.623	.0024	-.0022	.1343	.0029
#2	.0001	.0019	.0002	8.610	.0006	-.0006	.1336	.0020
#3	-.0001	.0003	.0001	8.597	.0008	-.0003	.1348	.0036

Zoom In
Zoom Out

Sample Name: JC95316-2 Acquired: 9/26/2019 23:57:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**186950.**	**36909.**	**7943.7**	**10780.**
Stddev	1382.	255.	8.9	12.
%RSD	.73902	.69114	.11213	.11370
#1	185810.	37130.	7941.5	10771.
#2	188490.	36968.	7936.1	10774.
#3	186560.	36630.	7953.5	10794.

Zoom In
Zoom Out

Sample Name: JC95316-3 Acquired: 9/27/2019 0:02:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0311**	**-.0000**	**.0000**	**.0008**	**.0012**	**.0041**	**.1146**	**.0011**	**.0003**
Stddev	.0001	.0000	.0001	.0000	.0001	.0003	.0015	.0000	.0004
%RSD	.2302	84.42	1551.	5.816	12.79	7.905	1.336	3.572	141.1
#1	.0311	-.0000	.0002	.0008	.0012	.0040	.1137	.0011	.0006
#2	.0311	-.0001	-.0000	.0008	.0013	.0045	.1163	.0011	-.0002
#3	.0312	-.0000	-.0001	.0009	.0010	.0038	.1137	.0011	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0032**	**.0134**	**.0031**	**.0008**	**-.0003**	**-.0017**	**.0012**	**.2937**	**22.30**
Stddev	.0003	.0001	.0004	.0003	.0002	.0002	.0007	.0034	.07
%RSD	8.892	.4927	13.78	42.04	62.48	13.00	55.59	1.170	.3032
#1	.0032	.0134	.0028	.0004	-.0005	-.0017	.0008	.2932	22.23
#2	.0035	.0134	.0036	.0009	-.0002	-.0019	.0020	.2973	22.32
#3	.0029	.0135	.0029	.0011	-.0002	-.0014	.0009	.2905	22.37

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.115**	**5.445**	**3.630**	**24.44**	**.0316**	**.0006**	**1.967**	**-.0006**	**.1098**
Stddev	.001	.018	.006	.06	.0008	.0001	.005	.0005	.0002
%RSD	.0957	.3382	.1747	.2380	2.557	8.830	.2329	82.84	.2052
#1	1.114	5.435	3.631	24.37	.0317	.0006	1.968	-.0000	.1097
#2	1.116	5.434	3.636	24.45	.0308	.0005	1.962	-.0010	.1097
#3	1.116	5.466	3.624	24.49	.0324	.0006	1.971	-.0009	.1101

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0002**	**.0002**	**8.013**	**.0008**	**-.0010**	**.0998**	**.0033**
Stddev	.0001	.0007	.0001	.007	.0011	.0006	.0006	.0013
%RSD	2.394	450.4	36.93	.0908	133.3	56.26	.6168	38.26
#1	.0048	.0001	.0002	8.005	.0021	-.0015	.0993	.0019
#2	.0046	.0009	.0001	8.015	-.0001	-.0004	.0996	.0036
#3	.0045	-.0005	.0002	8.019	.0005	-.0011	.1005	.0044

Zoom In
Zoom Out

Sample Name: JC95316-3 Acquired: 9/27/2019 0:02:13 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**185640.**	**36448.**	**7933.1**	**10773.**
Stddev	2113.	293.	11.1	17.
%RSD	1.1383	.80359	.14019	.16066
#1	186830.	36778.	7920.3	10754.
#2	183200.	36217.	7940.5	10777.
#3	186890.	36350.	7938.6	10788.

Zoom In
Zoom Out

Sample Name: ccv 7 Acquired: 9/27/2019 0:07:12 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.928**	**1.986**	**2.007**	**1.949**	**1.979**	**1.945**	**2.045**	**2.018**	**.2426**
Stddev	.006	.018	.001	.003	.004	.005	.011	.002	.0002
%RSD	.2903	.9024	.0567	.1545	.1848	.2699	.5481	.1105	.0824
#1	1.926	1.992	2.008	1.950	1.983	1.950	2.056	2.018	.2425
#2	1.923	2.000	2.006	1.946	1.978	1.945	2.045	2.016	.2428
#3	1.934	1.966	2.006	1.952	1.975	1.940	2.034	2.021	.2425
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**2.037**	**1.912**	**2.070**	**2.048**	**1.960**	**1.939**	**37.90**	**37.99**
Stddev	.001	.003	.003	.004	.003	.002	.001	.06	.05
%RSD	.0526	.1394	.1613	.1670	.1346	.0786	.0233	.1496	.1427
#1	2.031	2.040	1.915	2.072	2.048	1.961	1.939	37.93	38.03
#2	2.028	2.036	1.909	2.066	2.045	1.958	1.939	37.83	37.93
#3	2.030	2.034	1.911	2.071	2.050	1.961	1.939	37.93	38.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.81**	**38.08**	**37.22**	**38.30**	**1.979**	**1.916**	**4.773**	**1.940**	**1.949**
Stddev	.06	.07	.05	.06	.002	.002	.001	.002	.014
%RSD	.1596	.1813	.1402	.1440	.0743	.0832	.0142	.1065	.7389
#1	38.85	38.16	37.20	38.36	1.979	1.918	4.773	1.942	1.957
#2	38.74	38.04	37.17	38.25	1.978	1.915	4.774	1.939	1.958
#3	38.83	38.04	37.28	38.27	1.981	1.915	4.773	1.938	1.932
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 9/27/2019 0:07:12 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**1.892**	**1.977**	**2.016**	**1.946**	**1.912**	**1.941**	**1.961**
Stddev	.002	.001	.001	.000	.002	.006	.002	.007
%RSD	.1162	.0526	.0254	.0030	.0880	.2927	.0958	.3529
#1	1.948	1.893	1.976	2.016	1.946	1.911	1.939	1.967
#2	1.947	1.892	1.977	2.016	1.948	1.907	1.941	1.963
#3	1.952	1.891	1.976	2.016	1.944	1.918	1.943	1.953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**179530.**	**35302.**	**7660.0**	**10166.**
Stddev	572.	309.	26.2	26.
%RSD	.31852	.87457	.34244	.25748
#1	178890.	35023.	7631.5	10136.
#2	179710.	35251.	7665.5	10179.
#3	180000.	35634.	7683.0	10184.

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/27/2019 0:12:19 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0003**	**.0001**	**.0002**	**.0001**	**.0008**	**.0002**	**.0002**	**.0005**
Stddev	.0001	.0001	.0001	.0002	.0003	.0003	.0000	.0001	.0002
%RSD	70.45	28.01	90.97	84.04	365.4	31.12	13.53	46.45	46.93
#1	-.0000	.0004	.0001	.0004	.0002	.0007	.0002	.0002	.0006
#2	-.0002	.0003	.0000	.0002	.0003	.0011	.0001	.0001	.0002
#3	-.0002	.0002	.0002	.0000	-.0003	.0006	.0002	.0003	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**-.0002**	**.0005**	**-.0001**	**-.0004**	**-.0007**	**.0338**	**-.0001**
Stddev	.0003	.0000	.0003	.0007	.0003	.0004	.0001	.0021	.0012
%RSD	270.3	40.87	201.2	147.5	267.5	95.25	15.33	6.320	1763.
#1	.0002	.0001	-.0002	.0012	-.0003	-.0007	-.0009	.0354	.0003
#2	-.0002	.0001	.0002	.0001	.0002	.0000	-.0007	.0345	.0009
#3	-.0003	.0002	-.0004	.0000	-.0003	-.0005	-.0007	.0314	-.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.0004**	**-.0089**	**.0872**	**.0005**	**.0004**	**.0006**	**.0002**	**.0002**
Stddev	.0009	.0041	.0084	.0032	.0001	.0002	.0006	.0003	.0001
%RSD	23.39	978.4	94.35	3.702	24.07	43.49	113.8	143.7	34.20
#1	.0040	-.0037	-.0062	.0905	.0006	.0004	-.0002	-.0001	.0003
#2	.0048	.0045	-.0022	.0871	.0005	.0003	.0008	.0004	.0003
#3	.0029	.0004	-.0182	.0840	.0004	.0006	.0010	.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 9/27/2019 0:12:19 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0020**	**.0002**	**.0113**	**.0005**	**-.0004**	**-.0042**	**.0001**
Stddev	.0002	.0010	.0001	.0010	.0002	.0003	.0003	.0011
%RSD	38.37	51.15	38.65	9.185	40.52	60.92	7.051	823.2
#1	.0003	.0032	.0001	.0103	.0008	-.0003	-.0038	.0004
#2	.0006	.0013	.0003	.0112	.0004	-.0003	-.0042	.0010
#3	.0006	.0015	.0002	.0124	.0004	-.0007	-.0044	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**189130.**	**36037.**	**7948.3**	**10987.**
Stddev	482.	58.	15.1	8.
%RSD	.25508	.16026	.19051	.07721
#1	188680.	36005.	7930.8	10978.
#2	189080.	36104.	7956.7	10993.
#3	189640.	36002.	7957.4	10991.

Zoom In Zoom Out

Sample Name: JC95316-4 1 Acquired: 9/27/2019 0:17:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0502**	**-.0004**	**.0001**	**.0016**	**.0077**	**.0082**	**.0411**	**.0055**	**.0007**
Stddev	.0003	.0000	.0001	.0003	.0001	.0001	.0000	.0000	.0003
%RSD	.5223	7.321	159.0	16.87	1.907	1.422	.1173	.6340	38.89
#1	.0505	-.0004	.0000	.0018	.0076	.0081	.0411	.0055	.0009
#2	.0500	-.0004	-.0000	.0015	.0078	.0083	.0410	.0055	.0008
#3	.0502	-.0004	.0002	.0013	.0075	.0081	.0411	.0055	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0121**	**.0439**	**.0104**	**.0015**	**.0057**	**.0006**	**.0022**	**4.207**	**114.9**
Stddev	.0001	.0003	.0009	.0011	.0005	.0012	.0012	.009	1.2
%RSD	.6250	.7689	8.197	77.60	8.405	183.2	53.52	.2168	1.011
#1	.0120	.0440	.0097	.0022	.0057	.0017	.0028	4.199	113.7
#2	.0122	.0442	.0113	.0021	.0062	-.0006	.0029	4.217	116.0
#3	.0121	.0435	.0101	.0002	.0052	.0008	.0008	4.207	114.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.780**	**16.32**	**29.45**	**22.91**	**.5793**	**.0021**	**5.962**	**-.0012**	**.5361**
Stddev	.006	.02	.07	.03	.0002	.0002	.031	.0005	.0005
%RSD	.0709	.1431	.2402	.1235	.0297	10.20	.5184	43.09	.0840
#1	8.775	16.30	29.44	22.88	.5794	.0023	5.933	-.0013	.5362
#2	8.779	16.35	29.39	22.92	.5792	.0021	5.959	-.0017	.5356
#3	8.787	16.31	29.53	22.93	.5791	.0019	5.995	-.0007	.5365

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0753**	**-.0007**	**.0014**	**30.86**	**.0032**	**.0026**	**.2020**	**.0252**
Stddev	.0013	.0003	.0001	.02	.0011	.0016	.0002	.0022
%RSD	1.773	36.26	3.592	.0776	34.74	60.74	.1185	8.562
#1	.0769	-.0010	.0014	30.88	.0022	.0039	.2019	.0276
#2	.0745	-.0006	.0014	30.85	.0030	.0008	.2023	.0235
#3	.0747	-.0005	.0013	30.84	.0044	.0031	.2019	.0245

Zoom In
Zoom Out

Sample Name: JC95316-4 1 Acquired: 9/27/2019 0:17:22 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184110.**	**36762.**	**7773.7**	**10294.**
Stddev	644.	263.	18.9	14.
%RSD	.34971	.71619	.24264	.13539
#1	183380.	37046.	7794.9	10310.
#2	184600.	36526.	7758.7	10283.
#3	184360.	36714.	7767.5	10290.

Zoom In
Zoom Out

Sample Name: JC95316-6 Acquired: 9/27/2019 0:22:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0255**	**.0000**	**.0000**	**.0001**	**.0002**	**.0017**	**.1862**	**.0000**	**.0003**
Stddev	.0003	.0000	.0001	.0001	.0002	.0003	.0003	.0000	.0004
%RSD	1.136	88.47	570.5	148.6	89.43	16.76	.1771	6277.	166.6
#1	.0258	.0000	-.0001	.0001	.0004	.0018	.1866	.0000	.0006
#2	.0252	.0001	.0001	-.0001	.0003	.0013	.1861	-.0000	-.0002
#3	.0255	.0000	.0000	.0001	-.0000	.0018	.1859	-.0000	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0083**	**.0051**	**.0013**	**.0015**	**-.0012**	**.0011**	**.0284**	**22.15**
Stddev	.0003	.0000	.0004	.0005	.0005	.0007	.0008	.0060	.03
%RSD	43.97	.3987	8.592	40.57	35.98	55.99	71.92	21.05	.1557
#1	.0009	.0083	.0047	.0019	.0013	-.0005	.0004	.0216	22.18
#2	.0004	.0083	.0052	.0010	.0021	-.0017	.0009	.0330	22.11
#3	.0005	.0083	.0055	.0010	.0011	-.0013	.0020	.0305	22.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.670**	**8.104**	**1.992**	**26.07**	**.0495**	**.0002**	**6.129**	**-.0016**	**.4222**
Stddev	.009	.023	.022	.06	.0004	.0000	.009	.0004	.0009
%RSD	.3178	.2826	1.121	.2331	.8034	23.73	.1528	21.78	.2107
#1	2.675	8.111	1.982	26.09	.0499	.0001	6.119	-.0020	.4232
#2	2.660	8.078	1.977	26.00	.0491	.0002	6.132	-.0015	.4216
#3	2.673	8.122	2.018	26.11	.0495	.0002	6.137	-.0014	.4218

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0009**	**-.0003**	**.1598**	**.0010**	**.0064**	**.1088**	**.0014**
Stddev	.0002	.0007	.0001	.0007	.0019	.0006	.0004	.0010
%RSD	593.3	80.37	17.53	.4341	178.9	10.02	.3957	67.12
#1	.0003	-.0005	-.0003	.1590	-.0006	.0062	.1090	.0006
#2	-.0000	-.0016	-.0003	.1602	.0007	.0071	.1084	.0025
#3	-.0002	-.0004	-.0002	.1603	.0030	.0059	.1092	.0012

Zoom In
Zoom Out

Sample Name: JC95316-6 Acquired: 9/27/2019 0:22:16 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**187300.**	**36673.**	**7952.5**	**10748.**
Stddev	769.	179.	10.2	13.
%RSD	.41054	.48917	.12849	.12471
#1	186940.	36751.	7956.6	10752.
#2	188180.	36800.	7960.0	10759.
#3	186770.	36468.	7940.9	10733.

Zoom In
Zoom Out

Sample Name: JC95470-1 Acquired: 9/27/2019 0:27:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0091**	**.0001**	**-.0001**	**.0001**	**.0004**	**.0085**	**.0162**	**.0063**	**.0003**
Stddev	.0001	.0000	.0002	.0001	.0001	.0001	.0001	.0002	.0002
%RSD	1.472	67.85	162.3	72.32	21.75	1.555	.8974	3.509	45.80
#1	.0091	.0001	.0001	.0002	.0003	.0085	.0164	.0063	.0002
#2	.0091	.0001	-.0002	.0002	.0004	.0086	.0161	.0066	.0005
#3	.0089	.0000	-.0002	.0000	.0005	.0083	.0162	.0061	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0193**	**.0022**	**.0013**	**-.0001**	**-.0010**	**-.0004**	**.7871**	**4.244**
Stddev	.0002	.0001	.0009	.0006	.0007	.0001	.0012	.0072	.013
%RSD	131.7	.4377	38.56	44.77	543.7	8.125	326.9	.9115	.3039
#1	.0003	.0193	.0027	.0020	.0007	-.0009	-.0002	.7953	4.258
#2	.0004	.0192	.0027	.0009	-.0003	-.0010	-.0016	.7822	4.232
#3	-.0001	.0192	.0012	.0011	-.0007	-.0011	.0007	.7838	4.242

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0674**	**1.397**	**14.00**	**88.88**	**.2130**	**-.0001**	**4.081**	**-.0012**	**.0205**
Stddev	.0012	.006	.03	1.11	.0003	.0001	.004	.0003	.0001
%RSD	1.714	.4254	.1906	1.252	.1190	114.9	.1003	24.88	.7046
#1	.0679	1.402	14.03	88.57	.2128	.0000	4.078	-.0015	.0206
#2	.0683	1.398	13.98	87.97	.2132	-.0001	4.086	-.0009	.0206
#3	.0661	1.390	13.99	90.12	.2128	-.0002	4.080	-.0013	.0204

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0015**	**.0004**	**3.864**	**.0009**	**.0006**	**.1612**	**.0008**
Stddev	.0002	.0002	.0001	.002	.0005	.0016	.0004	.0009
%RSD	109.9	15.19	24.02	.0520	56.08	262.7	.2684	117.7
#1	.0003	-.0017	.0004	3.863	.0006	-.0009	.1613	.0015
#2	-.0000	-.0014	.0005	3.867	.0014	.0022	.1607	-.0002
#3	.0002	-.0013	.0003	3.863	.0005	.0005	.1616	.0010

Zoom In
Zoom Out

Sample Name: JC95470-1 Acquired: 9/27/2019 0:27:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**183850.**	**36414.**	**7852.7**	**10439.**
Stddev	1260.	395.	18.6	27.
%RSD	.68514	1.0834	.23676	.25472
#1	182460.	36075.	7860.3	10445.
#2	184170.	36847.	7866.4	10463.
#3	184920.	36321.	7831.6	10410.

Zoom In
Zoom Out

Sample Name: JC95470-2 Acquired: 9/27/2019 0:32:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0088**	**.0001**	**.0000**	**.0000**	**.0001**	**.0068**	**.0160**	**.0059**	**.0005**
Stddev	.0000	.0000	.0001	.0000	.0001	.0001	.0000	.0002	.0002
%RSD	.4042	33.99	276.3	167.2	69.09	1.671	.1639	3.179	28.39
#1	.0089	.0001	-.0000	-.0000	.0002	.0067	.0160	.0058	.0007
#2	.0088	.0000	.0001	.0000	.0000	.0068	.0160	.0058	.0004
#3	.0088	.0001	-.0000	.0000	.0001	.0069	.0160	.0062	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0190**	**.0014**	**.0009**	**-.0005**	**-.0014**	**-.0008**	**.6347**	**4.224**
Stddev	.0002	.0000	.0004	.0003	.0002	.0014	.0008	.0056	.011
%RSD	69.86	.2539	28.92	28.70	34.15	95.38	107.1	.8871	.2690
#1	.0001	.0190	.0009	.0009	-.0006	-.0030	-.0017	.6283	4.214
#2	.0004	.0190	.0015	.0007	-.0003	-.0006	-.0006	.6370	4.224
#3	.0004	.0189	.0016	.0012	-.0005	-.0007	-.0000	.6388	4.236

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0563**	**1.383**	**14.00**	**86.97**	**.2071**	**-.0003**	**3.974**	**-.0011**	**.0206**
Stddev	.0012	.003	.02	.24	.0007	.0000	.006	.0002	.0001
%RSD	2.202	.2096	.1514	.2767	.3490	10.40	.1411	14.92	.4419
#1	.0562	1.386	13.98	87.22	.2064	-.0003	3.969	-.0013	.0206
#2	.0551	1.383	14.02	86.74	.2070	-.0003	3.974	-.0010	.0205
#3	.0576	1.380	13.99	86.95	.2078	-.0002	3.980	-.0011	.0207

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0012**	**.0008**	**3.990**	**.0026**	**.0017**	**.1131**	**.0007**
Stddev	.0002	.0005	.0001	.007	.0005	.0012	.0010	.0008
%RSD	244.1	41.35	9.311	.1721	19.60	71.02	.9038	121.4
#1	.0002	-.0007	.0008	3.990	.0028	.0006	.1122	.0010
#2	.0002	-.0013	.0008	3.983	.0029	.0030	.1128	.0013
#3	-.0002	-.0017	.0007	3.997	.0020	.0015	.1142	-.0002

Zoom In
Zoom Out

Sample Name: JC95470-2 Acquired: 9/27/2019 0:32:11 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184230.**	**36728.**	**7853.8**	**10452.**
Stddev	198.	79.	7.3	11.
%RSD	.10734	.21540	.09267	.10427
#1	184140.	36805.	7849.6	10447.
#2	184100.	36732.	7862.2	10465.
#3	184460.	36647.	7849.6	10445.

Zoom In
Zoom Out

Sample Name: JC95524-1 Acquired: 9/27/2019 0:37:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0917**	**-.0004**	**-.0002**	**.0005**	**-.0002**	**.0015**	**3.894**	**.0020**	**.0009**
Stddev	.0003	.0001	.0001	.0000	.0001	.0001	.021	.0002	.0002
%RSD	.3178	12.53	58.22	8.140	52.03	6.129	.5528	8.052	24.45
#1	.0920	-.0004	-.0001	.0004	-.0003	.0016	3.894	.0021	.0012
#2	.0918	-.0004	-.0003	.0004	-.0001	.0014	3.915	.0018	.0010
#3	.0914	-.0005	-.0001	.0005	-.0001	.0015	3.872	.0021	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0095**	**.0039**	**.0041**	**.0011**	**-.0020**	**-.0009**	**-.0009**	**.0260**	**67.69**
Stddev	.0002	.0001	.0011	.0010	.0003	.0009	.0007	.0051	.85
%RSD	2.303	1.437	27.51	91.48	13.78	99.40	77.39	19.69	1.261
#1	.0093	.0038	.0052	.0001	-.0023	-.0018	-.0009	.0203	66.74
#2	.0097	.0040	.0030	.0022	-.0017	-.0010	-.0015	.0302	67.97
#3	.0095	.0039	.0041	.0012	-.0020	.0000	-.0002	.0275	68.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.140**	**14.03**	**6.677**	**72.93**	**.1401**	**.0008**	**7.513**	**-.0024**	**.2499**
Stddev	.002	.02	.014	1.16	.0003	.0001	.004	.0003	.0005
%RSD	.1079	.1611	.2154	1.592	.2157	10.60	.0479	13.12	.2012
#1	2.141	14.04	6.668	72.78	.1404	.0009	7.515	-.0026	.2495
#2	2.138	14.05	6.694	71.86	.1398	.0009	7.509	-.0025	.2504
#3	2.142	14.01	6.670	74.16	.1401	.0007	7.516	-.0020	.2498

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0023**	**-.0006**	**37.44**	**.0013**	**.0024**	**.0516**	**.0004**
Stddev	.0002	.0006	.0001	.04	.0004	.0008	.0004	.0026
%RSD	32.66	25.31	10.82	.1003	29.23	33.47	.7717	622.9
#1	-.0005	-.0021	-.0006	37.47	.0009	.0017	.0514	.0000
#2	-.0004	-.0029	-.0006	37.40	.0015	.0022	.0521	.0032
#3	-.0007	-.0018	-.0005	37.46	.0015	.0033	.0513	-.0019

Zoom In
Zoom Out

Sample Name: JC95524-1 Acquired: 9/27/2019 0:37:10 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180940.**	**36072.**	**7685.1**	**10295.**
Stddev	275.	131.	12.6	21.
%RSD	.15205	.36333	.16394	.20695
#1	180920.	35943.	7698.9	10316.
#2	180680.	36205.	7674.2	10274.
#3	181230.	36067.	7682.1	10293.

Zoom In
Zoom Out

Sample Name: JC95524-2 Acquired: 9/27/2019 0:42:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0812**	**-.0004**	**-.0003**	**.0007**	**-.0002**	**.0011**	**3.551**	**.0019**	**.0008**
Stddev	.0001	.0000	.0000	.0002	.0001	.0003	.018	.0002	.0001
%RSD	.1300	3.925	2.088	26.14	46.99	27.24	.5088	9.575	12.50
#1	.0812	-.0004	-.0003	.0007	-.0002	.0011	3.571	.0018	.0008
#2	.0812	-.0004	-.0003	.0006	-.0001	.0008	3.548	.0021	.0008
#3	.0810	-.0004	-.0003	.0009	-.0003	.0014	3.535	.0018	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0091**	**.0049**	**.0032**	**.0020**	**-.0021**	**-.0015**	**.0005**	**.0348**	**65.08**
Stddev	.0003	.0001	.0005	.0010	.0003	.0009	.0009	.0058	.85
%RSD	3.747	2.173	15.73	48.99	15.74	63.98	165.6	16.56	1.309
#1	.0093	.0050	.0036	.0014	-.0018	-.0005	.0006	.0368	64.19
#2	.0087	.0048	.0026	.0015	-.0022	-.0016	-.0004	.0283	65.88
#3	.0093	.0048	.0035	.0032	-.0025	-.0023	.0014	.0393	65.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**13.69**	**6.949**	**78.01**	**.1452**	**.0011**	**7.525**	**-.0022**	**.2339**
Stddev	.0006	.01	.009	.83	.0004	.0001	.003	.0002	.0001
%RSD	26.26	.0933	.1329	1.062	.2661	12.30	.0453	8.111	.0613
#1	.0022	13.68	6.959	78.23	.1449	.0012	7.521	-.0021	.2338
#2	.0029	13.71	6.940	78.70	.1456	.0011	7.527	-.0021	.2338
#3	.0017	13.69	6.949	77.09	.1449	.0009	7.526	-.0024	.2341

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0022**	**-.0006**	**37.19**	**.0017**	**.0015**	**.0227**	**.0021**
Stddev	.0001	.0006	.0001	.02	.0005	.0009	.0006	.0027
%RSD	26.63	28.44	8.876	.0523	29.09	62.03	2.816	125.2
#1	-.0006	-.0018	-.0006	37.17	.0019	.0025	.0228	.0051
#2	-.0006	-.0018	-.0007	37.20	.0020	.0006	.0221	.0014
#3	-.0004	-.0029	-.0007	37.20	.0011	.0015	.0234	-.0001

Zoom In
Zoom Out

Sample Name: JC95524-2 Acquired: 9/27/2019 0:42:25 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181040.**	**35863.**	**7697.1**	**10297.**
Stddev	1042.	190.	16.1	9.
%RSD	.57548	.52936	.20949	.08258
#1	179960.	35751.	7681.1	10288.
#2	181110.	35756.	7696.7	10303.
#3	182040.	36083.	7713.4	10301.

Zoom In
Zoom Out

Sample Name: JC95600-1A Acquired: 9/27/2019 0:47:41 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4264**	F **-.0018**	**-.0000**	**.0001**	**.0006**	**.0017**	**.0238**	**.0016**
Stddev	.0011	.0035	.0001	.0001	.0003	.0005	.0000	.0003
%RSD	.2510	193.0	232.6	109.1	48.86	27.04	.1654	18.73
#1	.4251	.0002	.0000	.0002	.0006	.0016	.0239	.0019
#2	.4269	-.0058	-.0001	-.0000	.0010	.0013	.0238	.0013
#3	.4271	.0002	-.0000	.0002	.0004	.0022	.0238	.0017

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0097**	**.0029**	**.0033**	**.0004**	F **-.0035**	**-.0000**	**-.0015**
Stddev	.0007	.0008	.0000	.0042	.0007	.0048	.0011	.0009
%RSD	181.9	7.793	.9936	129.9	190.5	135.3	7242.	60.30
#1	-.0002	.0094	.0029	.0005	.0012	-.0006	-.0010	-.0005
#2	-.0012	.0106	.0028	.0081	-.0002	-.0090	-.0001	-.0022
#3	.0002	.0092	.0029	.0012	.0002	-.0009	.0011	-.0019

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.269**	*****	**.0248**	**2.796**	**48.43**	F **1137.**	**.0985**	**.0432**
Stddev	.005	-----	.0111	.013	.13	5.	.0013	.0002
%RSD	.3881	-----	44.67	.4641	.2753	.4137	1.279	.5087
#1	1.274	-----	.0309	2.793	48.28	1141.	.0996	.0433
#2	1.264	981.8	.0120	2.785	48.55	1132.	.0971	.0434
#3	1.270	-----	.0315	2.810	48.44	1137.	.0987	.0429

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7864**	**-.0011**	F **9.120**	**-.0045**	**.0245**	**-.0003**	F **130.9**	**.0036**
Stddev	.0044	.0007	.079	.0003	.0052	.0001	.2	.0006
%RSD	.5593	64.74	.8626	6.208	21.35	23.63	.1727	17.69
#1	.7871	-.0015	9.120	-.0046	.0208	-.0003	130.6	.0037
#2	.7816	-.0015	9.041	-.0046	.0305	-.0003	131.1	.0029
#3	.7903	-.0003	9.199	-.0041	.0223	-.0002	130.9	.0041

Zoom In
Zoom Out

Sample Name: JC95600-1A Acquired: 9/27/2019 0:47:41 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.2519**	**.0126**	**.0094**
Stddev	.0128	.0152	.0037
%RSD	5.070	120.9	39.59
#1	.2584	.0041	.0110
#2	.2372	.0301	.0120
#3	.2601	.0035	.0051

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**153640.**	**33854.**	**6562.3**	**8361.2**
Stddev	398.	56.	13.4	12.9
%RSD	.25905	.16652	.20372	.15472
#1	153710.	33919.	6547.4	8347.1
#2	154000.	33831.	6573.2	8372.5
#3	153210.	33814.	6566.4	8363.9

Zoom In
Zoom Out

Sample Name: MP17501-MB1 7 Acquired: 9/27/2019 0:52:53 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0001**	**-.0000**	**.0001**	**.0001**	**.0007**	**.0001**	**-.0002**	**.0004**
Stddev	.0001	.0000	.0002	.0001	.0002	.0001	.0000	.0001	.0002
%RSD	29.99	14.11	4221.	46.34	161.9	19.83	35.95	66.04	49.32
#1	-.0003	.0001	.0002	.0001	.0002	.0005	.0001	-.0003	.0002
#2	-.0004	.0001	-.0001	.0002	-.0001	.0007	.0001	-.0003	.0005
#3	-.0005	.0001	-.0000	.0002	.0002	.0008	.0001	-.0000	.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0048**	**-.0001**	**-.0008**	**-.0003**	**.0001**	**-.0005**	**.0721**	**.0224**
Stddev	.0000	.0001	.0005	.0013	.0005	.0005	.0002	.0015	.0023
%RSD	7.302	1.621	717.2	157.1	142.6	621.4	44.72	2.062	10.14
#1	-.0005	.0049	-.0007	-.0021	-.0008	-.0003	-.0008	.0706	.0221
#2	-.0005	.0047	.0002	-.0006	.0002	-.0001	-.0003	.0735	.0202
#3	-.0005	.0047	.0003	.0003	-.0004	.0007	-.0005	.0722	.0247

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0047**	**-.0069**	**.1362**	**.6550**	**-.0018**	**-.0002**	**.0064**	**-.0002**	**.0002**
Stddev	.0001	.0052	.0252	.0203	.0002	.0001	.0003	.0001	.0001
%RSD	2.324	75.51	18.50	3.101	10.14	63.93	4.415	59.32	26.57
#1	.0048	-.0027	.1642	.6766	-.0019	-.0001	.0061	-.0001	.0002
#2	.0046	-.0053	.1293	.6523	-.0018	-.0003	.0066	-.0003	.0003
#3	.0047	-.0127	.1152	.6362	-.0016	-.0002	.0066	-.0003	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0005**	**.0002**	**.0349**	**.0015**	**.0007**	**-.0036**	**.0001**
Stddev	.0001	.0006	.0001	.0032	.0012	.0005	.0002	.0022
%RSD	47.93	105.8	66.09	9.217	81.19	69.98	6.775	4084.
#1	.0001	-.0008	.0001	.0374	.0029	.0012	-.0034	.0022
#2	.0003	.0001	.0001	.0361	.0005	.0006	-.0038	-.0000
#3	.0004	-.0009	.0003	.0313	.0012	.0002	-.0035	-.0021

Zoom In
Zoom Out

Sample Name: MP17501-MB1 7 Acquired: 9/27/2019 0:52:53 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**188610.**	**36345.**	**7954.0**	**11008.**
Stddev	1840.	225.	14.8	25.
%RSD	.97563	.61787	.18579	.22737
#1	189180.	36388.	7954.2	10999.
#2	190090.	36545.	7939.2	10989.
#3	186550.	36102.	7968.7	11036.

Zoom In
Zoom Out

Sample Name: MP17501-B1 Acquired: 9/27/2019 0:57:57 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.899**	**1.969**	**1.971**	**1.908**	**1.938**	**1.921**	**2.022**	**1.986**
Stddev	.007	.035	.003	.003	.004	.006	.002	.001
%RSD	.3501	1.753	.1431	.1320	.2064	.3380	.1135	.0275
#1	1.906	1.973	1.973	1.910	1.943	1.926	2.020	1.985
#2	1.897	2.002	1.968	1.905	1.938	1.924	2.024	1.987
#3	1.894	1.933	1.973	1.910	1.935	1.914	2.023	1.986

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2446**	**2.009**	**2.012**	**1.951**	**2.055**	**1.989**	**1.917**	**1.996**
Stddev	.0007	.004	.001	.004	.003	.001	.002	.004
%RSD	.2873	.1961	.0628	.2015	.1294	.0638	.1172	.2135
#1	.2448	2.011	2.011	1.948	2.056	1.988	1.919	2.000
#2	.2452	2.011	2.013	1.949	2.052	1.989	1.915	1.991
#3	.2439	2.004	2.013	1.955	2.057	1.991	1.915	1.996

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.02**	**24.11**	**24.69**	**24.13**	**23.59**	**24.59**	**1.931**	**1.980**
Stddev	.10	.09	.08	.09	.10	.09	.004	.003
%RSD	.4068	.3912	.3436	.3876	.4444	.3484	.1839	.1392
#1	24.13	24.21	24.78	24.23	23.71	24.67	1.932	1.979
#2	23.98	24.08	24.68	24.12	23.53	24.60	1.927	1.978
#3	23.94	24.03	24.61	24.04	23.53	24.50	1.934	1.983

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0734**	**2.004**	**1.917**	**2.009**	**1.897**	**2.031**	**.0076**	**.0507**
Stddev	.0008	.001	.021	.004	.002	.006	.0008	.0005
%RSD	1.140	.0316	1.067	.1834	.1198	.3073	10.89	.9039
#1	.0725	2.005	1.941	2.011	1.898	2.035	.0066	.0512
#2	.0738	2.004	1.907	2.012	1.894	2.035	.0078	.0505
#3	.0740	2.003	1.904	2.005	1.897	2.024	.0082	.0503

Zoom In Zoom Out

Sample Name: MP17501-B1 Acquired: 9/27/2019 0:57:57 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0015**	**1.888**	W **-.0714**
Stddev	.0008	.001	.0012
%RSD	51.77	.0702	1.670
#1	-.0024	1.887	-.0705
#2	-.0011	1.890	-.0711
#3	-.0010	1.889	-.0728

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**184620.**	**36129.**	**7776.2**	**10422.**
Stddev	89.	236.	11.8	13.
%RSD	.04798	.65303	.15128	.12062
#1	184520.	35857.	7789.8	10437.
#2	184690.	36245.	7768.9	10414.
#3	184640.	36284.	7770.0	10417.

Zoom In Zoom Out

Sample Name: MP17501-S1 Acquired: 9/27/2019 1:03:08 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.928**	**1.892**	**1.935**	**1.884**	**1.907**	**1.882**	**2.013**	**1.959**
Stddev	.003	.016	.004	.004	.002	.002	.007	.002
%RSD	.1712	.8603	.2067	.2139	.1253	.1088	.3705	.1179
#1	1.924	1.893	1.939	1.889	1.907	1.880	2.005	1.961
#2	1.930	1.874	1.931	1.881	1.905	1.881	2.016	1.957
#3	1.930	1.907	1.934	1.882	1.910	1.884	2.019	1.959

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2429**	**1.974**	**1.978**	**1.940**	**1.985**	**1.947**	**1.895**	**1.966**
Stddev	.0001	.002	.004	.004	.002	.004	.002	.003
%RSD	.0294	.1061	.2287	.2159	.0989	.2228	.0980	.1264
#1	.2429	1.975	1.984	1.944	1.988	1.951	1.897	1.969
#2	.2430	1.972	1.976	1.936	1.984	1.943	1.893	1.965
#3	.2430	1.976	1.976	1.940	1.984	1.946	1.895	1.964

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.25**	**33.43**	**25.90**	**30.90**	**37.81**	**114.4**	**1.975**	**1.935**
Stddev	.01	.03	.02	.09	.01	1.2	.004	.004
%RSD	.0244	.0826	.0800	.2862	.0349	1.008	.1901	.1884
#1	25.25	33.46	25.90	30.99	37.81	115.6	1.979	1.938
#2	25.24	33.43	25.92	30.91	37.82	114.2	1.974	1.931
#3	25.25	33.40	25.88	30.81	37.79	113.3	1.972	1.934

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.17**	**1.944**	**1.977**	**2.003**	**1.903**	**2.005**	**11.42**	**.0500**
Stddev	.02	.004	.028	.002	.004	.001	.02	.0020
%RSD	.1956	.2117	1.415	.0822	.1893	.0586	.2166	3.953
#1	12.20	1.948	1.974	2.005	1.907	2.003	11.44	.0523
#2	12.16	1.941	1.951	2.001	1.901	2.005	11.40	.0487
#3	12.16	1.942	2.007	2.003	1.901	2.006	11.42	.0490

Zoom In Zoom Out

Sample Name: MP17501-S1 Acquired: 9/27/2019 1:03:08 Type: Unk
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0012**	**1.914**	W **-.0657**
Stddev	.0004	.003	.0008
%RSD	38.11	.1638	1.239
#1	-.0012	1.918	-.0649
#2	-.0007	1.912	-.0657
#3	-.0016	1.913	-.0666

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**180290.**	**36027.**	**7650.8**	**10071.**
Stddev	432.	300.	7.6	8.
%RSD	.23969	.83362	.09932	.07486
#1	180250.	35706.	7643.7	10064.
#2	180740.	36073.	7650.0	10069.
#3	179880.	36301.	7658.8	10079.

Zoom In Zoom Out

Sample Name: ccv Acquired: 9/27/2019 1:08:23 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.921**	**1.963**	**2.014**	**1.940**	**1.977**	**1.944**	**2.056**	**2.019**	**.2427**
Stddev	.002	.014	.005	.003	.004	.002	.013	.004	.0004
%RSD	.0963	.7073	.2733	.1423	.1874	.1050	.6143	.1882	.1825
#1	1.922	1.963	2.009	1.939	1.979	1.946	2.064	2.016	.2429
#2	1.922	1.949	2.012	1.938	1.979	1.945	2.062	2.016	.2431
#3	1.919	1.977	2.020	1.943	1.973	1.942	2.041	2.023	.2422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.035**	**2.048**	**1.918**	**2.069**	**2.051**	**1.964**	**1.943**	**37.80**	**37.88**
Stddev	.002	.004	.008	.004	.003	.004	.004	.04	.02
%RSD	.0730	.1880	.4185	.1949	.1498	.1784	.2140	.0934	.0539
#1	2.036	2.045	1.912	2.064	2.050	1.960	1.942	37.79	37.89
#2	2.034	2.046	1.916	2.069	2.048	1.964	1.939	37.84	37.90
#3	2.033	2.052	1.927	2.072	2.054	1.967	1.947	37.77	37.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.73**	**37.96**	**37.10**	**38.22**	**1.982**	**1.918**	**4.789**	**1.936**	**1.921**
Stddev	.03	.01	.06	.07	.006	.006	.015	.004	.009
%RSD	.0721	.0350	.1551	.1710	.2943	.3193	.3180	.2208	.4452
#1	38.73	37.95	37.07	38.21	1.978	1.913	4.778	1.932	1.920
#2	38.76	37.97	37.17	38.29	1.979	1.916	4.782	1.936	1.913
#3	38.71	37.96	37.07	38.16	1.988	1.925	4.806	1.941	1.930
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ccv Acquired: 9/27/2019 1:08:23 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.948**	**1.893**	**1.978**	**2.023**	**1.948**	**1.912**	**1.944**	**1.960**
Stddev	.004	.005	.001	.005	.004	.004	.003	.005
%RSD	.1927	.2665	.0701	.2302	.2248	.2219	.1698	.2346
#1	1.952	1.888	1.979	2.018	1.946	1.916	1.942	1.961
#2	1.947	1.892	1.977	2.023	1.945	1.909	1.943	1.965
#3	1.944	1.898	1.977	2.027	1.953	1.909	1.948	1.956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**181090.**	**35392.**	**7691.5**	**10246.**
Stddev	616.	72.	18.9	16.
%RSD	.34033	.20340	.24579	.15729
#1	180670.	35459.	7708.2	10257.
#2	180810.	35316.	7695.4	10252.
#3	181800.	35402.	7671.0	10227.

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/27/2019 1:13:30 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0003**	**.0001**	**.0003**	**.0001**	**.0007**	**.0002**	**.0000**	**.0008**
Stddev	.0001	.0001	.0001	.0001	.0002	.0000	.0000	.0000	.0001
%RSD	144.3	17.93	63.86	29.76	252.0	1.029	13.79	129.6	12.14
#1	.0000	.0003	.0002	.0004	.0002	.0007	.0003	.0000	.0008
#2	-.0001	.0003	.0001	.0004	.0002	.0007	.0002	.0001	.0009
#3	-.0001	.0002	.0000	.0002	-.0001	.0007	.0002	-.0000	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0002**	**-.0001**	**.0011**	**-.0011**	**-.0003**	**-.0002**	**.0377**	**.0012**
Stddev	.0002	.0000	.0006	.0007	.0003	.0006	.0010	.0090	.0018
%RSD	398.5	13.73	709.6	62.45	22.51	211.1	572.2	23.89	153.3
#1	.0003	.0002	-.0005	.0014	-.0014	.0004	-.0007	.0478	.0028
#2	-.0001	.0002	-.0003	.0015	-.0011	-.0006	.0009	.0303	.0014
#3	-.0000	.0002	.0006	.0003	-.0009	-.0007	-.0007	.0351	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042**	**-.0004**	**-.0064**	**.1861**	**.0010**	**.0003**	**.0007**	**-.0002**	**.0002**
Stddev	.0004	.0052	.0169	.0036	.0002	.0001	.0012	.0007	.0001
%RSD	9.859	1483.	265.2	1.918	24.52	33.34	178.3	304.7	25.64
#1	.0038	.0019	-.0229	.1851	.0012	.0002	.0017	.0004	.0003
#2	.0046	-.0063	.0108	.1831	.0010	.0002	.0010	-.0009	.0002
#3	.0043	.0033	-.0070	.1900	.0007	.0004	-.0007	-.0002	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ccb Acquired: 9/27/2019 1:13:30 Type: QC
Method: SGS 3 NO Valve(v244) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0004**	**.0003**	**.0105**	**.0008**	**-.0008**	**-.0047**	**.0005**
Stddev	.0002	.0003	.0001	.0015	.0005	.0011	.0001	.0009
%RSD	78.85	69.23	32.15	13.95	66.01	127.5	2.514	171.1
#1	.0003	.0007	.0003	.0106	.0014	-.0020	-.0048	.0008
#2	.0003	.0001	.0004	.0119	.0004	-.0006	-.0046	.0013
#3	.0000	.0003	.0002	.0089	.0006	.0001	-.0047	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**190650.**	**35763.**	**7992.4**	**11083.**
Stddev	639.	46.	6.2	11.
%RSD	.33531	.12879	.07767	.09601
#1	189920.	35718.	7987.6	11071.
#2	190950.	35761.	7990.2	11087.
#3	191090.	35810.	7999.4	11092.

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	1	Zr	0.001245	0.000000	No
Be 313.042 {108}	☒	11	V	0.001500	0.000000	No
			Mo	-0.000047	0.000000	No
			Ti	-0.000271	0.000000	No
			Mn	0.000010	0.000000	No
			Cu	0.000014	0.000000	No
			Bi	0.000060	0.000000	No
			Fe	-0.000001	0.000000	No
			Al	-0.000001	0.000000	No
			Mg	-0.000004	0.000000	No
			Ca	0.000008	0.000000	No
			Sr	-0.000200	0.000000	No
Cd 228.802 {448}	☒	11	As	0.006480	0.000000	No
			Ni	-0.000778	0.000000	No
			Fe	-0.000003	0.000000	No
			V	0.000091	0.000000	No
			Ba	0.000064	0.000000	No
			Co	-0.000650	0.000000	No
			Sr	-0.000020	0.000000	No
			Mn	0.000050	0.000000	No
			Cu	-0.000026	0.000000	No
			Zn	-0.000018	0.000000	No
			W	-0.000482	0.000000	No
Co 228.616 {448}	☒	7	Fe	0.000004	0.000000	No
			Mo	-0.001710	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.001890	0.000000	No
			Ba	0.000140	0.000000	No
			W	0.000327	0.000000	No
			Cd	-0.000510	0.000000	No
Cr 267.716 {126}	☒	9	Mn	0.000458	0.000000	No
			V	-0.000010	0.000000	No
			Mo	-0.000082	0.000000	No
			Fe	-0.000010	0.000000	No
			Ti	0.000060	0.000000	No
			Ba	0.000045	0.000000	No
			Cu	0.000100	0.000000	No
			Sr	-0.000100	0.000000	No
			W	0.000404	0.000000	No
Cu 324.754 {104}2	☒	14	Cr	-0.000099	0.000000	No
			V	-0.000306	0.000000	No
			Mo	0.000544	0.000000	No
			Ti	-0.000208	0.000000	No
			Fe	-0.000214	0.000000	No
			Zn	-0.000041	0.000000	No
			Co	-0.000860	0.000000	No
			Si	0.000016	0.000000	No
			Mn	0.000003	0.000000	No
			Se	0.000050	0.000000	No
			Sb	0.000069	0.000000	No
			W	0.000000	0.000000	No
			Al	0.000002	0.000000	No
			Zr	-0.002300	0.000000	No
Mn 257.610 {131}	☒	5	Fe	0.000005	0.000000	No
			Si	0.000010	0.000000	No
			Ba	0.000004	0.000000	No
			Ni	0.000028	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Al	0.000006	0.000000	No
Ni 231.604 {446}	☒	8	Fe	0.000033	0.000000	No
			Zn	-0.000013	0.000000	No
			Be	0.000213	0.000000	No
			Co	-0.000220	0.000000	No
			Tl	0.000209	0.000000	No
			Mo	0.000026	0.000000	No
			Cu	0.000050	0.000000	No
			Se	0.000100	0.000000	No
Ag 328.068 {103}	☒	15	Mn	0.000052	0.000000	No
			Mo	0.000012	-0.000003	No
			Ti	-0.000190	0.000000	No
			Fe	-0.000295	0.000000	No
			Zn	-0.000120	0.000000	No
			Ca	0.000001	0.000000	No
			Zr	0.006915	0.000000	No
			Sr	-0.000020	0.000000	No
			Mg	0.000000	0.000000	No
			Ba	0.000071	0.000000	No
			Cr	0.000022	0.000000	No
			V	-0.002100	0.000000	No
			Al	-0.000002	0.000000	No
			W	0.000000	0.000000	No
			Ce	-0.001100	0.000000	No
V 292.402 {115}	☒	7	Ti	0.000689	0.000000	No
			Mo	-0.000100	0.000000	No
			Fe	0.000019	0.000000	No
			Sr	-0.000100	0.000000	No
			Cr	-0.006300	0.000000	No
			Mn	-0.005250	0.000000	No
			Al	0.000004	0.000000	No
Zn 206.200 {464}	☒	9	Cr	-0.004225	0.000000	No
			Fe	0.000011	0.000000	No
			Si	0.000015	0.000000	No
			Mn	-0.000045	0.000000	No
			Ba	-0.000060	0.000000	No
			Sn	-0.000023	0.000000	No
			Cu	0.000148	0.000000	No
			As	0.000055	0.000000	No
			Be	0.000058	0.000000	No
As 189.042 {478}	☒	20	Al	-0.000004	0.000000	No
			Fe	-0.000041	0.000000	No
			Ca	-0.000005	0.000000	No
			Mo	0.001740	0.000000	No
			Cr	-0.000700	0.000000	No
			Ba	-0.000114	0.000000	No
			Sn	-0.000130	0.000000	No
			Cd	-0.000328	0.000000	No
			Si	0.000024	0.000000	No
			Zn	-0.000082	0.000000	No
			Sr	-0.000045	0.000000	No
			W	0.001546	0.000000	No
			Cu	-0.000058	0.000000	No
			Co	-0.000045	0.000000	No
			Zr	0.000036	0.000000	No
			Mn	-0.000158	0.000000	No
			S	-0.000008	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Ti	0.000100	0.000000	No
			Mg	0.000006	0.000000	No
			Ce	-0.000600	0.000000	No
Tl 190.856 {477}	☒	25	Cr	0.000182	0.000000	No
			Mo	-0.010000	0.000000	No
			Al	-0.000001	0.000000	No
			Fe	-0.000055	0.000000	No
			V	-0.024600	0.000000	No
			Mn	0.001741	0.000000	No
			Si	-0.000018	0.000000	No
			Ca	0.000000	0.000000	No
			Ti	-0.003190	0.000000	No
			Mg	0.000000	0.000000	No
			Co	0.005080	0.000000	No
			Sr	0.000010	0.000000	No
			B	-0.000003	0.000000	No
			Ba	0.000034	0.000000	No
			Zn	-0.000053	0.000000	No
			As	0.000068	0.000000	No
			W	-0.025182	0.000000	No
			Cu	0.000142	0.000000	No
			Pb	-0.000020	0.000000	No
			S	0.000010	0.000000	No
			Sn	-0.000086	0.000000	No
			Li	0.000000	0.000000	No
			K	0.000000	0.000000	No
			Zr	0.000000	0.000000	No
			Ce	-0.000600	0.000000	No
Pb 220.353 {453}	☒	21	Al	-0.000149	0.000000	No
			Fe	0.000048	0.000000	No
			Ca	0.000008	0.000000	No
			Mn	0.000024	0.000000	No
			Mo	-0.000590	0.000000	No
			Cu	0.000145	0.000000	No
			Co	0.000064	0.000000	No
			Ti	-0.000200	0.000000	No
			Si	0.000133	0.000000	No
			Ba	-0.000022	0.000000	No
			Sb	-0.000084	0.000000	No
			Sr	-0.000033	0.000000	No
			W	-0.010000	0.000000	No
			Mg	0.000003	0.000000	No
			Cd	0.000012	0.000000	No
			Cr	-0.000031	0.000000	No
			Zr	-0.000281	0.000000	No
			Ni	0.000371	0.000000	No
			S	0.000010	0.000000	No
			Zn	-0.000106	0.000000	No
			Ce	0.000300	0.000000	No
Se 196.090 {472}	☒	24	Al	-0.000008	0.000000	No
			Ca	0.000003	0.000000	No
			Mn	0.000924	0.000000	No
			Mo	0.000100	0.000000	No
			Fe	-0.000154	0.000000	No
			Co	-0.000473	0.000000	No
			Sr	-0.000011	0.000000	No
			Cu	-0.000087	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			W	0.000000	0.000000	No
			Si	0.000054	0.000000	No
			Be	-0.000347	0.000000	No
			Zn	0.000050	0.000000	No
			B	0.000028	0.000000	No
			Ti	-0.000020	0.000000	No
			Cd	0.000090	0.000000	No
			Zr	-0.000297	0.000000	No
			Ba	-0.000046	0.000000	No
			Mg	-0.000000	0.000000	No
			Pb	-0.000078	0.000000	No
			Ni	-0.000100	0.000000	No
			Cr	-0.000024	0.000000	No
			S	-0.000014	0.000000	No
			V	-0.000212	0.000000	No
			Ce	-0.001400	0.000000	No
Sb 206.833 {463}	☒	18	Fe	-0.000004	0.000000	No
			Al	-0.000001	0.000000	No
			Ca	0.000001	0.000000	No
			Ni	-0.000116	0.000000	No
			Cr	0.017400	0.000000	No
			V	-0.003058	0.000000	No
			Zn	-0.000115	0.000000	No
			Mo	0.000396	0.000000	No
			Ti	0.000630	0.000000	No
			Sn	-0.009500	0.000000	No
			Mg	0.000001	0.000000	No
			Zr	-0.000463	0.000000	No
			Sr	0.000031	0.000000	No
			B	-0.000100	0.000000	No
			Co	-0.000142	0.000000	No
			W	0.000000	0.000000	No
			Si	-0.000170	0.000000	No
			Ce	-0.001300	0.000000	No
Al 396.152 { 85}	☒	5	Si	0.000652	0.000000	No
			Ca	0.000018	0.000000	No
			Mo	0.043916	0.000000	No
			Zr	0.005268	0.000000	No
			Ti	-0.000583	0.000000	No
Ca 317.933 {106}	☒	14	Fe	0.000012	0.000000	No
			W	0.003960	0.000000	No
			Tl	-0.000152	0.000000	No
			Be	0.001840	0.000000	No
			Ba	-0.001224	0.000000	No
			Cu	-0.000822	0.000000	No
			Cd	-0.007593	0.000000	No
			Ni	0.000667	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.000923	0.000000	No
			Co	-0.000408	0.000000	No
			Cr	0.000640	0.000000	No
			Al	-0.000000	0.000000	No
			As	0.010000	0.000000	No
Fe 259.940 {130}	☒	10	Si	0.000819	0.000000	No
			Tl	-0.000051	0.000000	No
			Cr	0.000310	0.000000	No
			Mn	-0.000196	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			V	-0.000064	0.000000	No
			Cu	-0.000015	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	0.000020	0.000000	No
			Ba	0.001000	0.000000	No
Mg 279.079 {121}	☒	3	Mo	-0.013702	0.000000	No
			W	-0.006578	0.000000	No
			Mn	-0.002445	0.000000	No
K 766.490 { 44}	☒	11	Fe	-0.000440	0.000000	No
			Al	0.000077	0.000000	No
			Ca	-0.000121	0.000000	No
			Mn	-0.007074	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Ba	-0.010574	0.000000	No
			Mo	-0.000850	0.000000	No
			Cu	-0.011483	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	4	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000180	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.045137	0.000000	No
Mo 202.030 {467}	☒	2	Al	-0.000004	0.000000	No
			Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	12	Sr	0.000366	0.000000	No
			Ni	0.002092	0.000000	No
			Mo	0.034932	0.000000	No
			V	0.002950	0.000000	No
			Ti	0.004593	0.000000	No
			Al	-0.000010	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.001987	0.000000	No
			Sn	0.007500	0.000000	No
			Zn	0.000385	0.000000	No
			Be	-0.000048	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	4	Ti	-0.002964	0.000000	No
			Fe	0.000004	0.000000	No
			Si	0.000131	0.000000	No
			Zr	0.000908	0.000000	No
Sr 407.771 { 83}	☒	2	Ca	0.000018	0.000000	No
			Si	0.000033	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000189	0.000000	No
			Mo	0.001351	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				
W 207.911 {462}	☒	20	Si	0.000105	0.000000	No
			As	0.000100	0.000000	No
			Mn	0.000066	0.000000	No
			Mo	-0.000300	0.000000	No
			Ti	0.000080	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sr	-0.000850	0.000000	No
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.013026	0.000000	No
			Sn	0.001300	0.000000	No
			Zr	0.000061	0.000000	No
			B	0.000009	0.000000	No
			Sb	-0.000300	0.000000	No
			Co	-0.001000	0.000000	No
			Ni	-0.003000	0.000000	No
			Be	-0.000185	0.000000	No
			Se	-0.000105	0.000000	No
			Cu	-0.000138	0.000000	No
			Tl	-0.000220	0.000000	No
Zr 339.198 { 99}	☒	6	Mo	0.001069	0.000000	No
			Ti	0.000203	0.000000	No
			Fe	-0.000035	0.000000	No
			Si	0.000074	0.000000	No
			S	-0.000002	0.000000	No
			Cr	-0.000700	0.000000	No
S 182.034 {485}	☒	7	Mo	0.001779	0.000000	No
			Al	-0.000033	0.000000	No
			Fe	0.000117	0.000000	No
			Mn	0.004620	0.000000	No
			W	-0.032564	0.000000	No
			Ca	-0.000218	0.000000	No
			Mg	0.000005	0.000000	No
Bi 223.061 {451}	☒	10	Ti	-0.072020	0.000000	No
			V	-0.000704	0.000000	No
			Co	-0.002380	0.000000	No
			Ca	-0.000002	0.000000	No
			Mg	-0.000000	0.000000	No
			Fe	0.000187	0.000000	No
			Cr	0.001595	0.000000	No
			Cu	-0.001148	0.000000	No
			W	0.020000	0.000000	No
			Ce	-0.007100	0.000000	No
Li 670.784 { 50}	☒	2	Ca	0.000023	0.000000	No
			Fe	0.000081	0.000000	No
P 177.495 {490}	☒	9	Mn	-0.006184	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.001953	0.000000	No
			Si	-0.001622	0.000000	No
			Ti	0.000000	-0.001185	No
			Mo	-0.001880	0.000000	No
			S	-0.000189	0.000000	No
			Co	-0.002198	0.000000	No
			Cu	-0.023500	0.000000	No
Ce 404.076 { 83}	☒	2	Mn	-0.005600	0.000000	No
			Fe	0.000250	0.000000	No

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ba 455.403 { 74}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.009056	2.044505	0.000000	1.000000
	Be 313.042 {108}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.001332	3.522655	0.000000	1.000000
	Cd 228.802 {448}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000325	1.222413	0.000000	1.000000
	Co 228.616 {448}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000014	0.817186	0.000000	1.000000
	Cr 267.716 {126}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000030	0.171923	0.000000	1.000000
	Cu 324.754 {104}2	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.002914	0.294439	0.000000	1.000000
	Mn 257.610 {131}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000016	0.908993	0.000000	1.000000
	Ni 231.604 {446}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000016	0.678518	0.000000	1.000000
	Ag 328.068 {103}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000435	0.172320	0.000000	1.000000
	V 292.402 {115}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000330	0.234231	0.000000	1.000000
	Zn 206.200 {464}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000462	1.751714	0.000000	1.000000
	As 189.042 {478}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000415	0.141077	0.000000	1.000000
	Tl 190.856 {477}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000082	0.114142	0.000000	1.000000
	Pb 220.353 {453}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000294	0.314333	0.000000	1.000000
	Se 196.090 {472}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000058	0.111894	0.000000	1.000000
	Sb 206.833 {463}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000280	0.177120	0.000000	1.000000
	Al 396.152 { 85}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000439	0.046339	0.000000	1.000000
	Ca 317.933 {106}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.008708	0.126555	0.000000	1.000000
	Fe 259.940 {130}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000259	0.078586	0.000000	1.000000
	Mg 279.079 {121}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000054	0.013893	0.000000	1.000000
	K 766.490 { 44}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000785	0.023309	0.000000	1.000000
	Na 589.592 { 57}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.005548	0.083949	0.000000	1.000000
	B 208.959 {462}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000882	0.266318	0.000000	1.000000
	Mo 202.030 {467}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000263	0.932093	0.000000	1.000000
	Si 212.412 {459}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.001201	0.236847	0.000000	1.000000
	Sn 189.989 {478}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000273	0.287060	0.000000	1.000000
	Sr 407.771 { 83}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.001337	3.708064	0.000000	1.000000
	Ti 334.904 {101}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.000064	0.189943	0.000000	1.000000
	Y 360.073 { 94}*	9/27/2019 10:03:44	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	9/27/2019 10:03:44	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 224.306 {451}*	9/27/2019 10:03:44	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	In 230.606 {446}*	9/27/2019 10:03:44	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	W 207.911 {462}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.001144	0.440008	0.000000	1.000000
	Zr 339.198 { 99}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000323	0.562009	0.000000	1.000000
	S 182.034 {485}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.002017	0.075176	0.000000	1.000000
	Bi 223.061 {451}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	-0.000007	0.206631	0.000000	1.000000
	Li 670.784 { 50}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	None	0.001387	0.519266	0.000000	1.000000
	P 177.495 {490}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	1/Conc	-0.011699	0.179547	0.000000	1.000000
	Ce 404.076 { 83}	9/27/2019 10:03:44	9/26/2019 11:43:51	Linear	1/Conc	0.000586	0.039754	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000188	0.000627	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000044	0.000146	OK.	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000146	0.000487	OK.	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000185	0.000618	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000222	0.000738	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000293	0.000977	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000047	0.000156	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000260	0.000866	OK.	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000330	0.001099	OK.	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000270	0.000899	OK.	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000086	0.000287	OK.	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.000810	0.002701	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.000892	0.002972	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.000789	0.002632	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.001411	0.004705	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001106	0.003686	OK.	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.007012	0.023372	OK.	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.001494	0.004979	OK.	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.001236	0.004121	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.008748	0.029161	OK.	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.025238	0.084127	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.007303	0.024344	OK.	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000511	0.001705	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000185	0.000618	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.000818	0.002726	OK.	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000404	0.001346	OK.	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000071	0.000238	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000260	0.000868	OK.	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
W 207.911 {462}	1.000000	0.000000	0.000760	0.002533	OK.	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000126	0.000421	OK.	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.001655	0.005517	OK.	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001251	0.004171	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.001208	0.004027	OK.	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.000768	0.002559	OK.	1.000000	0.000000	1	0
Ce 404.076 { 83}	1.000000	0.000000	0.002324	0.007745	OK.	1.000000	0.000000	1	0

SGS North America Inc.

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP17533	9/26/2019	7:25	9/26/2019	13:30	JC95316-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	2	3124598	94	-1	93
1	End	2	3124598	94	-1	93
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	EPA 200.7	Digestion Block		M-74	1904119	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP17533-MB1	N/A	N	50	50	AB		
MP17533-B1	N/A	N	50	50	AB	ABCD	
MP17533-S1	1	Y	50	50	AB	ABCD	
MP17533-S2	1	Y	50	50	AB	ABCD	
MP17533-SD1	1	Y	50	50	AB		
JC95316-1	1	Y	50	50	AB		
JC95316-2	1	Y	50	50	AB		
JC95316-3	1	Y	50	50	AB		
JC95316-4	1	Y	50	50	AB		
JC95316-6	1	Y	50	50	AB		
JC95470-1	1	Y	50	50	AB		
JC95470-2	1	Y	50	50	AB		
JC95524-1	3	Y	50	50	AB		
JC95524-2	3	Y	50	50	AB		
JC95600-1A	3	Y	50	50	AB		

Reagents Groups

Group	Description	MLs Used
A	1:1 HNO3	1
B	1:1 HCL	0.5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.2
E		
F		
G		
H		

Comments: _____

Analyst TAYLORG **Approved by** Wendyz **Approved on** 9/26/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

Document Control #: NJ-MET-PREP-AQ-01 (2456468.4378704432) Validated by: Validated on:

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 17533 **Date:** 9/26/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	3/18/2020	MP-015-1222
Spiking Solution - (ACCUTEST-14A REV1)	3/18/2020	MP-015-1221
Spiking Solution - 5000 mg/l Minerals	8/21/2020	P2-MEB681527 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	5/30/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	3/18/2020	MP-015-1226
Spiking Solution - Li 1000ppm	8/23/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	3/18/2020	MP-015-1223
Spiking Solution - (ACCUTEST-13B REV1)	1/23/2020	MP-015-1203
Spiking Solution - (ACCUTEST-14B REV1)	1/23/2020	MP-015-1204
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	9/25/2021	LOT: 243822 MFG: J.T. BAKER
Nitric Acid (1:1)	3/24/2020	MP-018-42-310 1:1 HNO3
Hydrochloric Acid	5/17/2022	LOT:4119040 MFG: FISHER
Hydrochloric Acid (1:1)	3/24/2020	MP-018-42-311 1:1 HCL
Hydrogen Peroxide	9/25/2021	LOT: 191365 MFG: FISHER
Soil Lab Control/Soil LC	10/31/2021	LOT: D101-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1904119 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9BA55973E MFG: FISHER

Spike witnessed By: SN

Validated By:

Validated On:

Metals Prep Reagent
1/17/18

7.2.1

7

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN589			mg/l	250	264	105.6	90-110%
Alkalinity, Total as CaCO3	GN589	5.0	0.0	mg/l	50	53.0	106.0	90-110%
Alkalinity, Total as CaCO3	GN607	5.0	0.0	mg/l	50	53.5	107.0	90-110%
Alkalinity, Total as CaCO3	GN607			mg/l	250	262	104.8	90-110%
Bromide	GP23788/GN258	0.50	0.0	mg/l	2	1.81	90.5	90-110%
Chloride	GP23788/GN258	2.0	0.0	mg/l	80	80.7	100.9	90-110%
Fluoride	GP23788/GN258	0.20	0.0	mg/l	2	2.03	101.5	90-110%
Sulfate	GP23788/GN258	2.0	0.0	mg/l	80	82.3	102.9	90-110%

Associated Samples:
Batch GN589: JC95316-1
Batch GN607: JC95316-2, JC95316-3, JC95316-4, JC95316-6
Batch GP23788: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN589	JC95263-2	mg/l	1090	1090	0.0	0-10%
Alkalinity, Total as CaCO3	GN607	JC95308-4	mg/l	119	119	0.0	0-10%
Bromide	GP23788/GN258	JC95246-1	mg/l	0.11 U	0.0	0.0	0-20%
Chloride	GP23788/GN258	JC95246-1	mg/l	65.2	65.2	0.0	0-20%
Fluoride	GP23788/GN258	JC95246-1	mg/l	0.065 B	0.072	10.2	0-20%
Sulfate	GP23788/GN258	JC95246-1	mg/l	16.8	16.9	0.6	0-20%

Associated Samples:
Batch GN589: JC95316-1
Batch GN607: JC95316-2, JC95316-3, JC95316-4, JC95316-6
Batch GP23788: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP23788/GN258	JC95269-1	mg/l	0.0	2	1.9	95.0	80-120%
Chloride	GP23788/GN258	JC95269-1	mg/l	52.7	80	131	97.9	80-120%
Fluoride	GP23788/GN258	JC95269-1	mg/l	0.13	2	2.2	103.5	80-120%
Sulfate	GP23788/GN258	JC95269-1	mg/l	18.7	80	98.2	99.4	80-120%

Associated Samples:
Batch GP23788: JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: 219092001.TXT Date Analyzed: 09/20/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN258
Parameters: Bromide,Chloride,Fluoride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:58	GN258-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
12:17	GN258-STD2	1		RT: F=3.057 min Chl=4.500 min So4=6.391 min Bro=8.091 min
12:40	GN258-STD3	1		STDC
13:04	GN258-STD4	1		STDD
13:28	GN258-STD5	1		STDE
13:52	GN258-STD6	1		STDF
14:16	GN258-STD7	1		STDG
10:20	GN258-ICV1	1		
10:44	GN258-CCV1	1		
11:08	GN258-CCB1	1		
11:32	GP23788-MB1	1		
11:55	GP23788-B1	1		
12:19	ZZZZZZ	1		
12:43	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:31	ZZZZZZ	1		
13:55	ZZZZZZ	1		
14:19	GP23788-S1	1		
14:44	GP23788-D1	1		
15:08	JC95246-1	1		(sample used for QC only; not part of login JC95316)
15:32	GN258-CCV2	1		
15:56	GN258-CCB2	1		
16:22	GP23788-S2	1		
16:45	JC95269-1	1		(sample used for QC only; not part of login JC95316)
17:09	ZZZZZZ	1		
17:33	ZZZZZZ	1		
17:57	JC95316-1	1		
18:21	JC95316-2	1		
18:45	JC95316-3	1		
19:09	JC95316-4	1		
19:33	JC95316-6	1		
19:57	ZZZZZZ	1		
20:21	GN258-CCV3	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: 219092001.TXT Date Analyzed: 09/20/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN258
Parameters: Bromide,Chloride,Fluoride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:45	GN258-CCB3	1		
21:08	ZZZZZZ	1		
21:32	ZZZZZZ	1		
21:56	GP23789-MB1	1		
21:56	GP23752-MB2	1		
22:20	GP23789-B1	1		
22:20	GP23752-B2	1		
22:44	ZZZZZZ	1		
23:08	GP23789-S2	10		Over calibration curve. See rerun at dilution for chl. reporting for bro and so4
23:32	JC95177-1	10		(sample used for QC only; not part of login JC95316)
23:56	GP23789-S1	10		
00:20	GP23789-D1	10		
00:44	JC95177-2	10		(sample used for QC only; not part of login JC95316)
01:08	GN258-CCV4	1		
01:32	GN258-CCB4	1		
01:56	ZZZZZZ	10		
02:20	ZZZZZZ	10		
02:43	ZZZZZZ	10		
03:07	ZZZZZZ	10		
03:31	ZZZZZZ	10		
03:55	ZZZZZZ	10		
04:19	ZZZZZZ	10		
04:43	ZZZZZZ	10		
05:07	ZZZZZZ	10		
05:31	ZZZZZZ	10		
05:55	GN258-CCV5	1		
06:19	GN258-CCB5	1		
06:43	ZZZZZZ	10		
07:07	ZZZZZZ	10		
07:31	ZZZZZZ	10		
07:54	ZZZZZZ	10		
08:18	ZZZZZZ	10		
08:42	ZZZZZZ	10		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: 219092001.TXT Date Analyzed: 09/20/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN258
Parameters: Bromide,Chloride,Fluoride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:06	ZZZZZZ	10		
09:30	GN258-CCV6	1		
09:54	GN258-CCB6	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC95316
Account: INTCWAO - Integral Consulting Inc.
Project: CF1165, Thorofare,NJ

File ID: 219092001.TXT Date Analyzed: 09/20/19 Methods: EPA 300/SW846 9056A
Run ID: GN258 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN258-ICV1	Fluoride	2.97	0.20	0.055	3	99.0	90-110
GN258-ICV1	Chloride	104	2.0	0.83	100	104.0	90-110
GN258-ICV1	Bromide	2.77	0.50	0.11	3	92.3	90-110
GN258-ICV1	Sulfate	105	2.0	0.89	100	105.0	90-110
GN258-CCV1	Fluoride	2.94	0.20	0.055	3	98.0	90-110
GN258-CCV1	Chloride	199	2.0	0.83	200	99.5	90-110
GN258-CCV1	Bromide	2.79	0.50	0.11	3	93.0	90-110
GN258-CCV1	Sulfate	200	2.0	0.89	200	100.0	90-110
GN258-CCB1	Fluoride	0.055 U	0.20	0.055			
GN258-CCB1	Chloride	0.83 U	2.0	0.83			
GN258-CCB1	Bromide	0.11 U	0.50	0.11			
GN258-CCB1	Sulfate	0.89 U	2.0	0.89			
GN258-CCV2	Fluoride	2.94	0.20	0.055	3	98.0	90-110
GN258-CCV2	Chloride	200	2.0	0.83	200	100.0	90-110
GN258-CCV2	Bromide	2.75	0.50	0.11	3	91.7	90-110
GN258-CCV2	Sulfate	202	2.0	0.89	200	101.0	90-110
GN258-CCB2	Fluoride	0.055 U	0.20	0.055			
GN258-CCB2	Chloride	0.83 U	2.0	0.83			
GN258-CCB2	Bromide	0.11 U	0.50	0.11			
GN258-CCB2	Sulfate	0.89 U	2.0	0.89			
GN258-CCV3	Fluoride	3.00	0.20	0.055	3	100.0	90-110
GN258-CCV3	Chloride	199	2.0	0.83	200	99.5	90-110
GN258-CCV3	Bromide	2.81	0.50	0.11	3	93.7	90-110
GN258-CCV3	Sulfate	200	2.0	0.89	200	100.0	90-110
GN258-CCB3	Fluoride	0.055 U	0.20	0.055			
GN258-CCB3	Chloride	0.83 U	2.0	0.83			
GN258-CCB3	Bromide	0.11 U	0.50	0.11			
GN258-CCB3	Sulfate	0.89 U	2.0	0.89			
GN258-CCV4	Fluoride	2.98	0.20	0.055	3	99.3	90-110
GN258-CCV4	Chloride	199	2.0	0.83	200	99.5	90-110
GN258-CCV4	Bromide	2.84	0.50	0.11	3	94.7	90-110
GN258-CCV4	Sulfate	200	2.0	0.89	200	100.0	90-110
GN258-CCB4	Fluoride	0.055 U	0.20	0.055			
GN258-CCB4	Chloride	0.83 U	2.0	0.83			
GN258-CCB4	Bromide	0.11 U	0.50	0.11			
GN258-CCB4	Sulfate	0.89 U	2.0	0.89			
GN258-CCV5	Fluoride	3.04	0.20	0.055	3	101.3	90-110
GN258-CCV5	Chloride	201	2.0	0.83	200	100.5	90-110
GN258-CCV5	Bromide	2.89	0.50	0.11	3	96.3	90-110
GN258-CCV5	Sulfate	205	2.0	0.89	200	102.5	90-110
GN258-CCB5	Fluoride	0.055 U	0.20	0.055			
GN258-CCB5	Chloride	0.83 U	2.0	0.83			
GN258-CCB5	Bromide	0.11 U	0.50	0.11			
GN258-CCB5	Sulfate	0.89 U	2.0	0.89			
GN258-CCV6	Fluoride	3.04	0.20	0.055	3	101.3	90-110
GN258-CCV6	Chloride	201	2.0	0.83	200	100.5	90-110
GN258-CCV6	Bromide	2.89	0.50	0.11	3	96.3	90-110
GN258-CCV6	Sulfate	204	2.0	0.89	200	102.0	90-110
GN258-CCB6	Fluoride	0.055 U	0.20	0.055			
GN258-CCB6	Chloride	0.83 U	2.0	0.83			
GN258-CCB6	Bromide	0.11 U	0.50	0.11			
GN258-CCB6	Sulfate	0.89 U	2.0	0.89			

(!) Outside of QC limits

General Chemistry

Raw Data

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: 219092001.TXT
Analyst: NV

Date Analyzed: 09/20/19
Run ID: GN258

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 9/04/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 9/26/19

Sequence: 219092001
Operator: chemistry

Printed: 9/24/2019 9:43:14 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\SEPTEMBER
Timebase: ACCUTEST_SYS#2
#Samples: 69

GN258

Created: 9/20/2019 9:47:39 AM by chemistry
(Modified, not saved)

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	9/20/2019 9:56:48 AM
2	STDA	2		Standard	20.0	1.0000	Finished	8/30/2019 10:58:49 AM
3	STDB	3		Standard	20.0	1.0000	Finished	8/30/2019 12:17:17 PM
4	STDC	4		Standard	20.0	1.0000	Finished	8/30/2019 12:40:47 PM
5	STDD	5		Standard	20.0	1.0000	Finished	8/30/2019 1:04:43 PM
6	STDE	6		Standard	20.0	1.0000	Finished	8/30/2019 1:28:39 PM
7	STDF	7		Standard	20.0	1.0000	Finished	8/30/2019 1:52:34 PM
8	STDG	8		Standard	20.0	1.0000	Finished	8/30/2019 2:16:30 PM
9	ICV	2		Unknown	20.0	1.0000	Finished	9/20/2019 10:20:15 AM
10	CCV	3		Unknown	20.0	1.0000	Finished	9/20/2019 10:44:11 AM
11	CCB	4		Unknown	20.0	1.0000	Finished	9/20/2019 11:08:07 AM
12	MB	5		Unknown	20.0	1.0000	Finished	9/20/2019 11:32:03 AM
13	BSP	6		Unknown	20.0	1.0000	Finished	9/20/2019 11:55:58 AM
14	JC95105-1	7		Unknown	20.0	1.0000	Finished	9/20/2019 12:19:53 PM
15	JC95193-1	8		Unknown	20.0	1.0000	Finished	9/20/2019 12:43:49 PM
16	JC95193-3	9		Unknown	20.0	1.0000	Finished	9/20/2019 1:07:45 PM
17	JC95193-6	10		Unknown	20.0	1.0000	Finished	9/20/2019 1:31:41 PM
18	JC95193-7	11		Unknown	20.0	1.0000	Finished	9/20/2019 1:55:37 PM
19	GP23788-S1	12	JC95246-1	Unknown	20.0	1.0000	Finished	9/20/2019 2:19:32 PM
20	GP23788-D1	13	JC95246-1	Unknown	20.0	1.0000	Finished	9/20/2019 2:44:37 PM
21	JC95246-1	14		Unknown	20.0	1.0000	Finished	9/20/2019 3:08:14 PM
22	CCV	15		Unknown	20.0	1.0000	Finished	9/20/2019 3:32:10 PM
23	CCB	16		Unknown	20.0	1.0000	Finished	9/20/2019 3:56:06 PM
24	GP23788-S2	17		Unknown	20.0	1.0000	Finished	9/20/2019 4:22:03 PM
25	JC95269-1	18		Unknown	20.0	1.0000	Finished	9/20/2019 4:45:44 PM
26	JC95269-2	19		Unknown	20.0	1.0000	Finished	9/20/2019 5:09:39 PM
27	JC95269-3	20	JC95269-1	Unknown	20.0	1.0000	Finished	9/20/2019 5:33:35 PM
28	JC95316-1	21		Unknown	20.0	1.0000	Finished	9/20/2019 5:57:31 PM
29	JC95316-2	22		Unknown	20.0	1.0000	Finished	9/20/2019 6:21:26 PM
30	JC95316-3	23		Unknown	20.0	1.0000	Finished	9/20/2019 6:45:22 PM
31	JC95316-4	24		Unknown	20.0	1.0000	Finished	9/20/2019 7:09:18 PM
32	JC95316-6	25		Unknown	20.0	1.0000	Finished	9/20/2019 7:33:13 PM
33	JC95248-1	26		Unknown	20.0	1.0000	Finished	9/20/2019 7:57:09 PM
34	CCV	27		Unknown	20.0	1.0000	Finished	9/20/2019 8:21:04 PM
35	CCB	28		Unknown	20.0	1.0000	Finished	9/20/2019 8:45:00 PM
36	JC95248-2	29		Unknown	20.0	1.0000	Finished	9/20/2019 9:08:55 PM
37	JC95248-3	30		Unknown	20.0	1.0000	Finished	9/20/2019 9:32:51 PM
38	MB	31		Unknown	20.0	1.0000	Finished	9/20/2019 9:56:47 PM
39	BSP	32		Unknown	20.0	1.0000	Finished	9/20/2019 10:20:42 PM
40	JC95129-4	33		Unknown	20.0	1.0000	Finished	9/20/2019 10:44:38 PM
41	GP23789-S2	34	JC95177-1	Unknown	20.0	10.0000	Finished	9/20/2019 11:08:34 PM
42	JC95177-1	35		Unknown	20.0	10.0000	Finished	9/20/2019 11:32:30 PM

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Sequence: 219092001
Operator: chemistry

Printed: 9/24/2019 9:43:19 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\SEPTEMBER
Timebase: ACCUTEST_SYS#2 Created: 9/20/2019 9:47:39 AM by chemistry
#Samples: 69 (Modified, not saved)

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	GP23789-S1	36	JC95177-2	Unknown	20.0	10.0000	Finished	9/20/2019 11:56:26 PM
44	GP23789-D1	37	JC95177-2	Unknown	20.0	10.0000	Finished	9/21/2019 12:20:21 AM
45	JC95177-2	38		Unknown	20.0	10.0000	Finished	9/21/2019 12:44:18 AM
46	CCV	39		Unknown	20.0	1.0000	Finished	9/21/2019 1:08:14 AM
47	CCB	40		Unknown	20.0	1.0000	Finished	9/21/2019 1:32:10 AM
48	JC95177-3	41		Unknown	20.0	10.0000	Finished	9/21/2019 1:56:05 AM
49	JC95177-4	42		Unknown	20.0	10.0000	Finished	9/21/2019 2:20:01 AM
50	JC95177-5	43		Unknown	20.0	10.0000	Finished	9/21/2019 2:43:57 AM
51	JC95177-6	44		Unknown	20.0	10.0000	Finished	9/21/2019 3:07:53 AM
52	JC95177-7	45		Unknown	20.0	10.0000	Finished	9/21/2019 3:31:50 AM
53	JC95177-8	46		Unknown	20.0	10.0000	Finished	9/21/2019 3:55:45 AM
54	JC95177-9	47		Unknown	20.0	10.0000	Finished	9/21/2019 4:19:41 AM
55	JC95177-10	48		Unknown	20.0	10.0000	Finished	9/21/2019 4:43:36 AM
56	JC95180-1	49		Unknown	20.0	10.0000	Finished	9/21/2019 5:07:32 AM
57	JC95180-2	50		Unknown	20.0	10.0000	Finished	9/21/2019 5:31:27 AM
58	CCV	1		Unknown	20.0	1.0000	Finished	9/21/2019 5:55:22 AM
59	CCB	2		Unknown	20.0	1.0000	Finished	9/21/2019 6:19:17 AM
60	JC95180-3	3		Unknown	20.0	10.0000	Finished	9/21/2019 6:43:12 AM
61	JC95180-4	4		Unknown	20.0	10.0000	Finished	9/21/2019 7:07:08 AM
62	JC95180-5	5		Unknown	20.0	10.0000	Finished	9/21/2019 7:31:03 AM
63	JC95180-6	6		Unknown	20.0	10.0000	Finished	9/21/2019 7:54:59 AM
64	JC95180-7	7		Unknown	20.0	10.0000	Finished	9/21/2019 8:18:54 AM
65	JC95180-8	8		Unknown	20.0	10.0000	Finished	9/21/2019 8:42:49 AM
66	JC95180-9	9		Unknown	20.0	10.0000	Finished	9/21/2019 9:06:44 AM
67	CCV	10		Unknown	20.0	1.0000	Finished	9/21/2019 9:30:40 AM
68	CCB	11		Unknown	20.0	1.0000	Finished	9/21/2019 9:54:35 AM
69	STANDBY	12		Unknown	20.0	1.0000	Finished	9/21/2019 10:18:30 AM

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Sequence: 219092001
Operator: chemistry

Printed: 9/20/2019 3:10:19 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\SEPTEMBER
Timebase: ACCUTEST_SYS#2
#Samples: 68

GN258

Created: 9/20/2019 9:47:39 AM by chemistry
Last Update: 9/20/2019 3:08:30 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	9/20/2019 9:56:48 AM
2	STDA	2		Standard	20.0	1.0000	Finished	8/30/2019 10:58:49 AM
3	STDB	3		Standard	20.0	1.0000	Finished	8/30/2019 12:17:17 PM
4	STDC	4		Standard	20.0	1.0000	Finished	8/30/2019 12:40:47 PM
5	STDD	5		Standard	20.0	1.0000	Finished	8/30/2019 1:04:43 PM
6	STDE	6		Standard	20.0	1.0000	Finished	8/30/2019 1:28:39 PM
7	STDF	7		Standard	20.0	1.0000	Finished	8/30/2019 1:52:34 PM
8	STDG	8		Standard	20.0	1.0000	Finished	8/30/2019 2:16:30 PM
9	ICV	2		Unknown	20.0	1.0000	Finished	9/20/2019 10:20:15 AM
10	CCV	3		Unknown	20.0	1.0000	Finished	9/20/2019 10:44:11 AM
11	CCB	4		Unknown	20.0	1.0000	Finished	9/20/2019 11:08:07 AM
12	MB	5		Unknown	20.0	1.0000	Finished	9/20/2019 11:32:03 AM
13	BSP	6		Unknown	20.0	1.0000	Finished	9/20/2019 11:55:58 AM
14	JC95105-1 2	7		Unknown	20.0	1.0000	Finished	9/20/2019 12:19:53 PM
15	JC95193-1 2	8		Unknown	20.0	1.0000	Finished	9/20/2019 12:43:49 PM
16	JC95193-3 2	9		Unknown	20.0	1.0000	Finished	9/20/2019 1:07:45 PM
17	JC95193-6 2	10		Unknown	20.0	1.0000	Finished	9/20/2019 1:31:41 PM
18	JC95193-7 2	11		Unknown	20.0	1.0000	Finished	9/20/2019 1:55:37 PM
19	GP23788-S1 28	12	JC95246-1	Unknown	20.0	1.0000	Finished	9/20/2019 2:19:32 PM
20	GP23788-D1 28	13	JC95246-1	Unknown	20.0	1.0000	Finished	9/20/2019 2:44:37 PM
▶	JC95246-1 28	14		Unknown	20.0	1.0000	Running	9/20/2019 3:08:14 PM
22	CCV	15		Unknown	20.0	1.0000	Single	
23	CCB	16		Unknown	20.0	1.0000	Single	
24	GP23788-S2 3	17		Unknown	20.0	1.0000	Single	
25	JC95269-1 3	18		Unknown	20.0	1.0000	Single	
26	JC95269-2 4	19		Unknown	20.0	1.0000	Single	
27	JC95269-3 4	20	JC95269-1	Unknown	20.0	1.0000	Single	
28	JC95316-1 2	21		Unknown	20.0	1.0000	Single	
29	JC95316-2 2	22		Unknown	20.0	1.0000	Single	
30	JC95316-3 2	23		Unknown	20.0	1.0000	Single	
31	JC95316-4 2	24		Unknown	20.0	1.0000	Single	
32	JC95316-6 2	25		Unknown	20.0	1.0000	Single	
33	JC95248-1 7	26		Unknown	20.0	1.0000	Single	
34	CCV	27		Unknown	20.0	1.0000	Single	
35	CCB	28		Unknown	20.0	1.0000	Single	
36	JC95248-2 9	29		Unknown	20.0	1.0000	Single	
37	JC95248-3 10	30		Unknown	20.0	1.0000	Single	
38	MB	31		Unknown	20.0	1.0000	Single	
39	BSP	32		Unknown	20.0	1.0000	Single	
40	JC95129-4 6	33		Unknown	20.0	1.0000	Single	
41	GP23789-S2 7	34	JC95177-1	Unknown	20.0	10.0000	Single	
42	JC95177-1 7	35		Unknown	20.0	10.0000	Single	

GP23788 (1)

GP23752 (2)

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Sequence: 219092001
Operator: chemistry

Printed: 9/20/2019 3:11:54 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\SEPTEMBER
Timebase: ACCUTEST_SYS#2
#Samples: 69

Created: 9/20/2019 9:47:39 AM by chemistry
Last Update: 9/20/2019 3:11:46 PM by chemistry

GP23789 ①

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	GP23789-S1 21	36	JC95177-2	Unknown	20.0	10.0000	Single	
44	GP23789-D1 21	37	JC95177-2	Unknown	20.0	10.0000	Single	
45	JC95177-2 21	38		Unknown	20.0	10.0000	Single	
46	CCV	39		Unknown	20.0	1.0000	Single	
47	CCB	40		Unknown	20.0	1.0000	Single	
48	JC95177-3 7	41		Unknown	20.0	10.0000	Single	
49	JC95177-4 9	42		Unknown	20.0	10.0000	Single	
50	JC95177-5 9	43		Unknown	20.0	10.0000	Single	
51	JC95177-6 7	44		Unknown	20.0	10.0000	Single	
52	JC95177-7 7	45		Unknown	20.0	10.0000	Single	
53	JC95177-8 7	46		Unknown	20.0	10.0000	Single	
54	JC95177-9 8	47		Unknown	20.0	10.0000	Single	
55	JC95177-10 9	48		Unknown	20.0	10.0000	Single	
56	JC95180-1 8	49		Unknown	20.0	10.0000	Single	
57	JC95180-2 8	50		Unknown	20.0	10.0000	Single	
58	CCV	1		Unknown	20.0	1.0000	Single	
59	CCB	2		Unknown	20.0	1.0000	Single	
60	JC95180-3 8	3		Unknown	20.0	10.0000	Single	
61	JC95180-4 9	4		Unknown	20.0	10.0000	Single	
62	JC95180-5 8	5		Unknown	20.0	10.0000	Single	
63	JC95180-6 7	6		Unknown	20.0	10.0000	Single	
64	JC95180-7 7	7		Unknown	20.0	10.0000	Single	
65	JC95180-8 7	8		Unknown	20.0	10.0000	Single	
66	JC95180-9 8	9		Unknown	20.0	10.0000	Single	
67	CCV	10		Unknown	20.0	10.0000	Single	
68	CCB	11		Unknown	20.0	1.0000	Single	
69	STANDBY	12		Unknown	20.0	1.0000	Single	

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SGS

Analyst NV

Product F, Cl, SO4, Br0

Pipette ID 42

Prep Date 9/20/19

Balance ID NA

Batch ID GN258

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume (mL)
BSP	0.5mL spiking solution	50
GP23788-S1	0.5mL spiking solution	50 JC95246-1
GP23788-S2	0.5mL spiking solution	50 JC95269-1

9/26/19

Form: GN166-02
Rev. Date: 8/5/05

QC Review

Analyst NV Product Cl1, SO4, Br0 Autopipette # 42

Date 9/20/19 Batch ID GN258 Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
GP23789-S2	1:10	5	50	difficult matrix JC95177-1 +0.5mL spike
JC95177-1	1:10	5	50	difficult matrix
GP23789-S1	1:10	5	50	difficult matrix
GP23789-D1	1:10	5	50	difficult matrix JC95177-2 + 0.5 mL spike
JC95177-2	1:10	5	50	difficult matrix JC95177-2
JC95177-3	1:10	5	50	difficult matrix
JC95177-4	1:10	5	50	difficult matrix
JC95177-5	1:10	5	50	difficult matrix
JC95177-6	1:10	5	50	difficult matrix
JC95177-7	1:10	5	50	difficult matrix
JC95177-8	1:10	5	50	difficult matrix
JC95177-9	1:10	5	50	difficult matrix
JC95177-10	1:10	5	50	difficult matrix
JC95180-1	1:10	5	50	difficult matrix
JC95180-2	1:10	5	50	difficult matrix
JC95180-3	1:10	5	50	difficult matrix
JC95180-4	1:10	5	50	difficult matrix
JC95180-5	1:10	5	50	difficult matrix
JC95180-6	1:10	5	50	difficult matrix
JC95180-7	1:10	5	50	difficult matrix
JC95180-8	1:10	5	50	difficult matrix
JC95180-9	1:10	5	50	difficult matrix

Form: GN165-01
Rev. Date: 2/25/03

SGS

Reagent Information Log - IONC IC2 - Water /Soil

GN Batch ID#: GN258

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Standard Intermediate (for Calibration Curve)		
Standard Intermediate (for Calibration Curve)		
ICV	GN18-479-70	9/27/2019
Eluent	190332638010	3/26/2021
Standard Intermediate (for Working std/Spikes)		
Standard Intermediate (for Working std/Spikes)		
CCV		
Spiking Solution Intermediate (CHL/SO4)		
Spiking Solution Intermediate (F/BRO)		
Spiking Solution (SOUP)		
Filter lot numbers	GREENWOOD #180111044	NA

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

See attached reagent log

Form : GN087A-76
Rev. Date: 4/7/09

9.1

9

GN258

REAGENT LOG

100 ppm Chl/So4 Intermediate:

	Volume Added (ml)	Conc. (mg/L)	Stock Reagent Reference Number	Stock Expiration Date	Diluent	Final Volume (ml)	Expiration Date	Date
Chloride	2.5	100	GN18-476-200	9/30/2019	DI Water	100	9/27/2019	9/20/2019
Sulfate			GN18-476-201					

Std Intermediate #1

	Volume Added (ml)	Conc. (mg/L)	Stock Reagent Reference Number	Stock Expiration Date	Diluent	Final Volume (ml)	Expiration Date	Date
Fluoride	10	100	GN18-476-202	9/30/2019	DI Water	100	9/27/2019	9/20/2019
Nitrite	10	100	GN18-476-204	9/30/2019			9/27/2019	9/20/2019
Nitrate	10	100	GN18-476-203	9/30/2019			9/27/2019	9/20/2019
Potassium Phosphate	10	100	GN18-476-205	9/30/2019			9/27/2019	9/20/2019

Std Intermediate Bromide

	Volume Added (ml)	Conc. (mg/L)	Stock Reagent Reference Number	Stock Expiration Date	Diluent	Final Volume (ml)	Expiration Date	Date
Bromide	10	100	GN18-476-201	9/30/2019	DI Water	100	9/27/2019	9/20/2019

Std Intermediate #2

	Volume Added (ml)	Conc. (mg/L)	Stock Reagent Reference Number	Stock Expiration Date	Diluent	Final Volume (ml)	Expiration Date	Date
Std Intermediate #2	20	20	Std Intermediate #1	9/27/2019	DI Water	100	9/27/2019	9/20/2019

GN258

REAGENT LOG

CCV

	Stock used	Stock Expiration Date	Volume added (ml)	Diluent	Final Volume (ml)	Concentation (mg/L)	Expiration Date	Date
CCV	4000 ppm Chl/SO4	9/30/2019	10	DI Water	200	200	9/27/2019	9/20/2019
	20 ppm std intermediate #2	9/27/2019	30			3	9/27/2019	9/20/2019
	100 ppm Bro	9/27/2019	6			3	9/27/2019	9/20/2019

Spiking Solution Intermediate

	weight (g)	Lot #	Manufacturer	Concentation (mg/L)	Expiration Date	Diluent	Final volume (ml)	Expiration Date	Date
Sodium Chloride	6.594	158655	Fisher		11/14/2022	DI Water	250	9/30/2019	8/30/2019
Potassium Sulfate	7.256	171510	Fisher	16000	1/22/2023			9/30/2019	8/30/2019

Spiking Solution Intermediate

	weight (g)	lot #	Manufacturer	Concentation (mg/L)	Expiration Date	Diluent	Final volume (ml)	Expiration Date (std)	Date
Sodium Bromide	0.1287	148758	Fisher	400	9/18/2020	DI Water	250	9/30/2019	8/30/2019
Sodium Fluoride	0.221	164105	Fisher		10/7/2021			9/30/2019	8/30/2019
Sodium Nitrite	0.4926	154757	Fisher		10/16/2020			9/30/2019	8/30/2019
Sodium Nitrate	0.6068	149397	Fisher		9/18/2020			9/30/2019	8/30/2019
Potassium Phosphate	0.4344	161265	Fisher		1/19/2022			9/30/2019	8/30/2019

GN258

REAGENT LOG

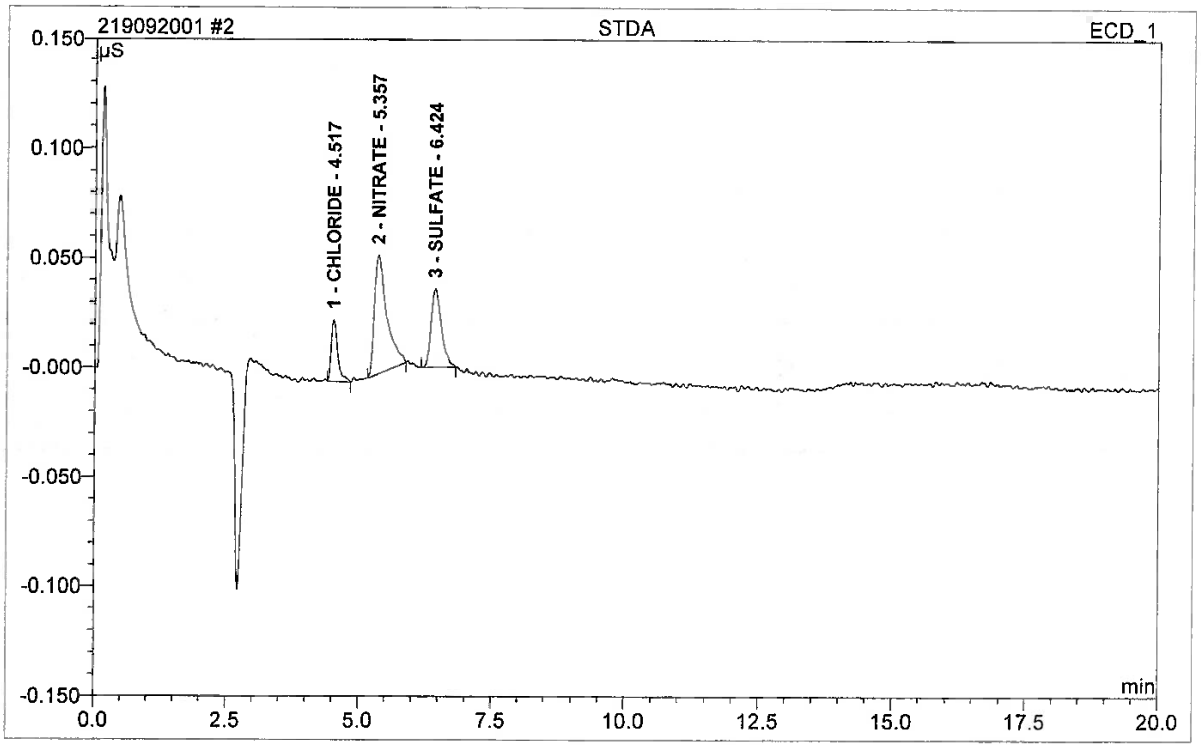
Spiking Solution

	Stock Concentation (mg/L)	Stock Expiration Date	Volume Added (ml)	Diluent	Final Volume (ml)	STD Concentration (mg/L)	Expiration Date (std)	Date
Chloride/Sulfate Intermediate	16000	9/30/2019	50	DI Water	100	8000	9/27/2019	9/20/2019
F/No2/No3/OPO 4/Bro Intermedaite	400	9/30/2019	50			200	9/27/2019	9/20/2019

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

2 STDA

Sample Name:	**STDA**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 10:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.52	CHLORIDE	0.028	0.004	15.33	0.014	BMB
2	5.36	NITRATE	0.054	0.015	54.61	0.023	BMB
3	6.42	SULFATE	0.036	0.008	30.06	0.038	BMB
Total:			0.118	0.027	100.00	0.075	

anions/Integration

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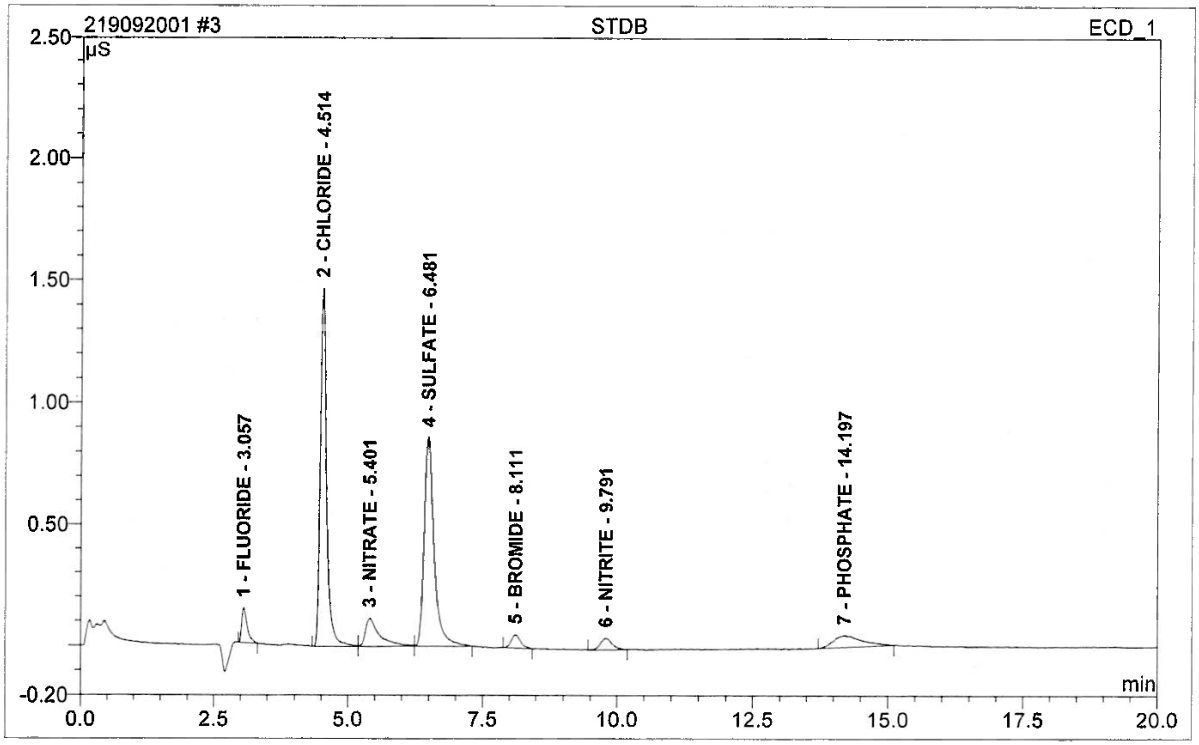
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 12:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.141	0.017	3.43	0.036	BMB
2	4.51	CHLORIDE	1.468	0.199	40.94	0.693	BM
3	5.40	NITRATE	0.113	0.035	7.11	0.055	M
4	6.48	SULFATE	0.861	0.184	37.72	0.863	MB
5	8.11	BROMIDE	0.053	0.011	2.24	0.100	BMB
6	9.79	NITRITE	0.047	0.012	2.43	0.017	BMB
7	14.20	PHOSPHATE	0.049	0.030	6.14	0.098	BMB
Total:			2.732	0.487	100.00	1.862	

anions/Integration

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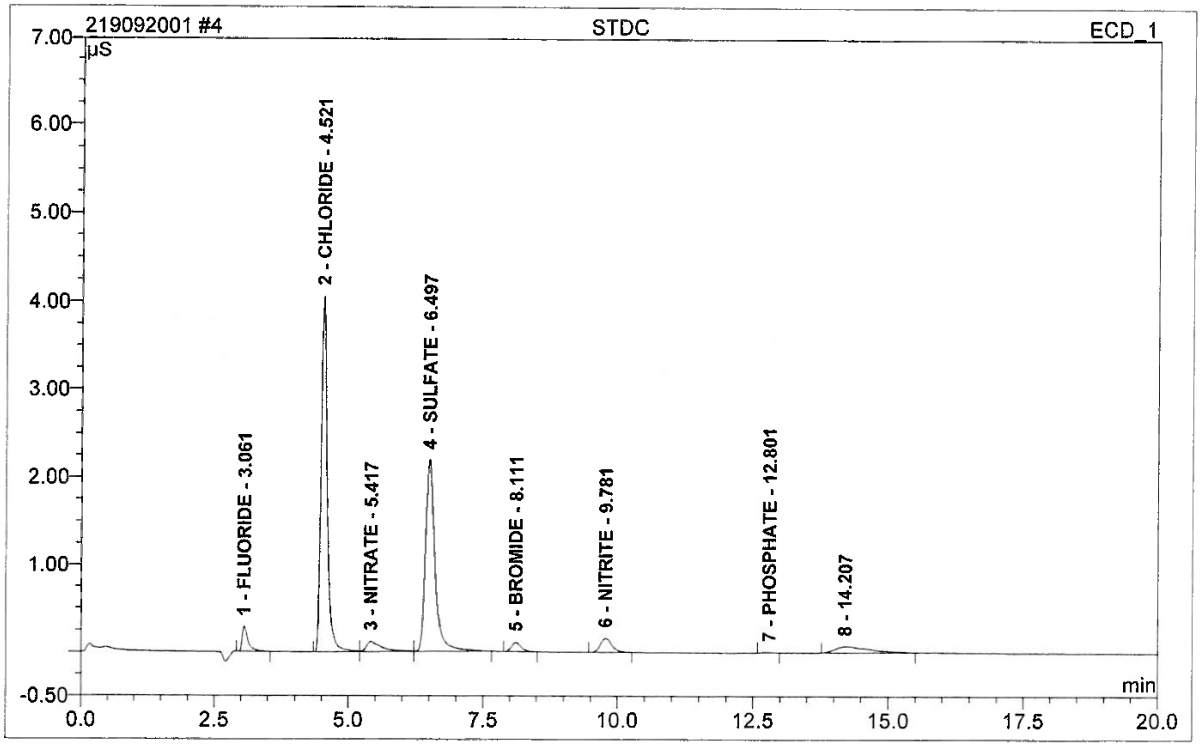
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

4 STDC

Sample Name:	**STDC**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 12:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.278	0.035	2.95	0.075	BMB
2	4.52	CHLORIDE	4.055	0.541	45.93	1.879	BM
3	5.42	NITRATE	0.115	0.038	3.21	0.060	M
4	6.50	SULFATE	2.191	0.450	38.25	2.116	MB
5	8.11	BROMIDE	0.102	0.021	1.78	0.192	BMB
6	9.78	NITRITE	0.158	0.039	3.33	0.057	BMB
7	12.80	PHOSPHATE	0.006	0.001	0.12	0.005	BMB
8	14.21	n.a.	0.071	0.052	4.44	n.a.	BMB
Total:			6.977	1.178	100.00	4.383	

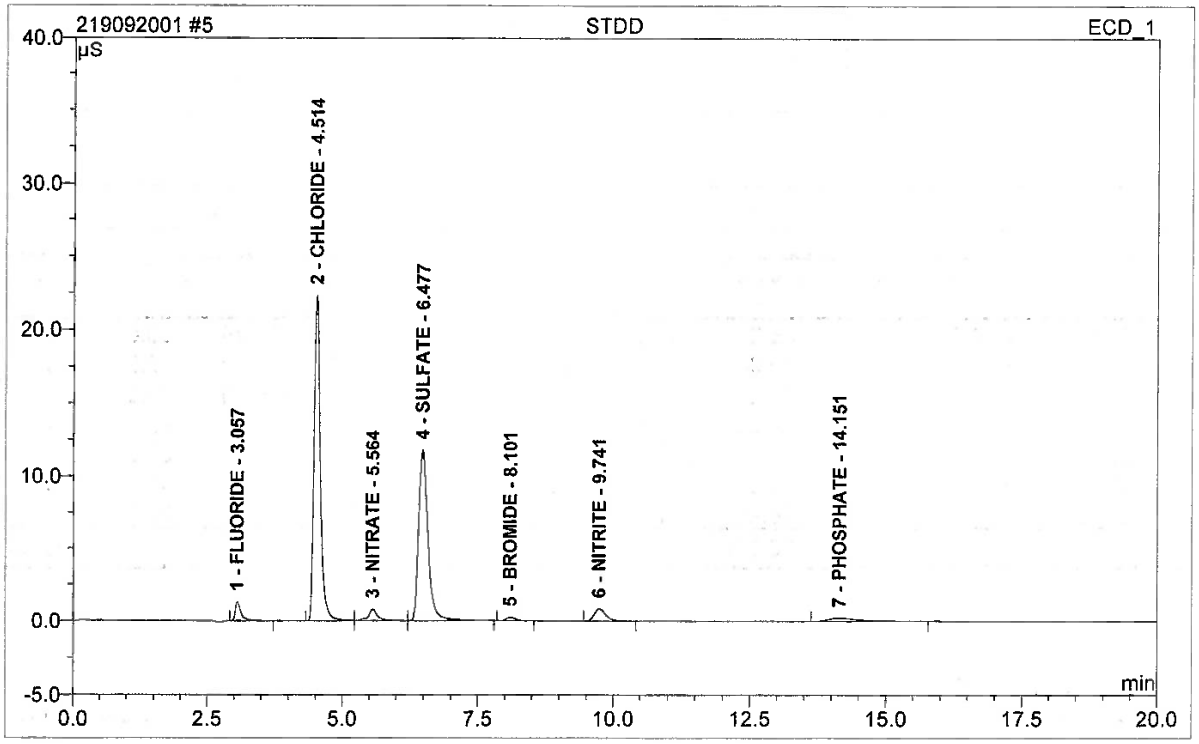
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

5 STDD

Sample Name:	**STDD**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 13:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	1.296	0.159	2.59	0.343	BMB
2	4.51	CHLORIDE	22.290	3.032	49.61	10.530	BM
3	5.56	NITRATE	0.788	0.165	2.70	0.264	M
4	6.48	SULFATE	11.769	2.352	38.48	11.048	MB
5	8.10	BROMIDE	0.215	0.044	0.72	0.402	BMB
6	9.74	NITRITE	0.839	0.207	3.38	0.298	BMB
7	14.15	PHOSPHATE	0.231	0.154	2.51	0.502	BMB
Total:			37.428	6.112	100.00	23.386	

anions/Integration

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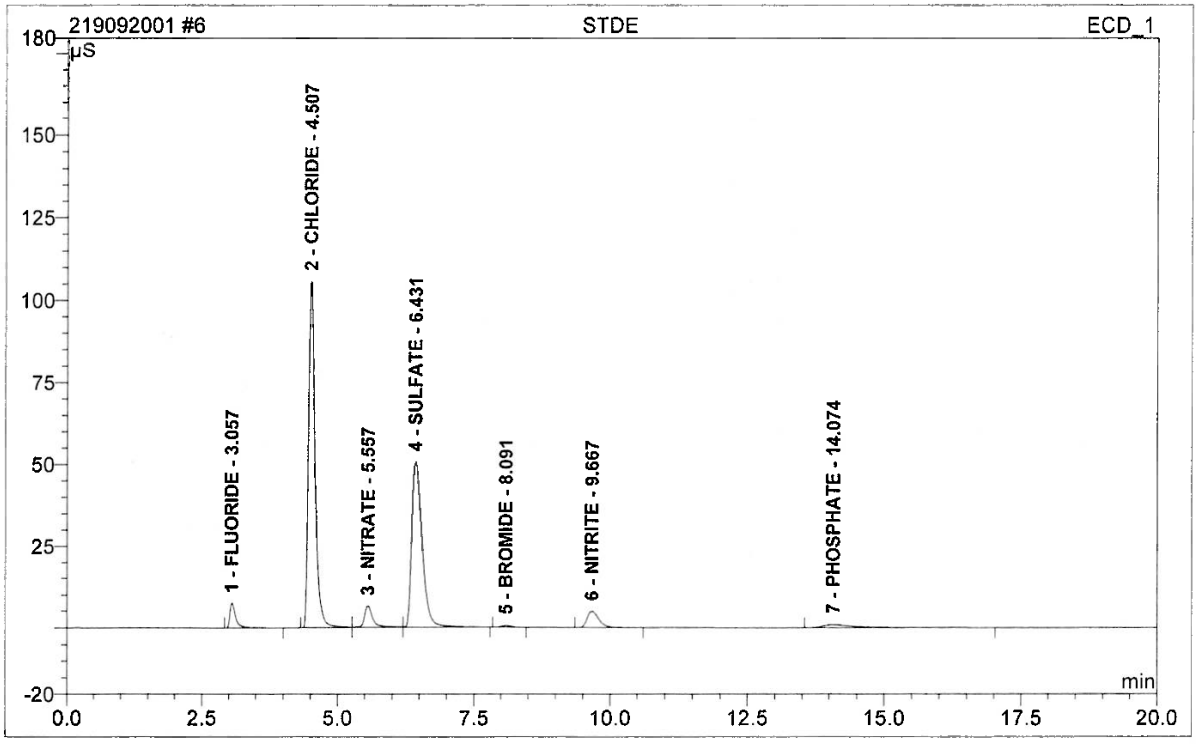
Version 6.80 SR9a Build 2680 (163077)

6 STDE

Sample Name:	**STDE**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 13:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	7.435	0.919	3.03	1.987	BMB
2	4.51	CHLORIDE	105.663	14.923	49.27	51.827	BM
3	5.56	NITRATE	6.446	1.214	4.01	1.943	M
4	6.43	SULFATE	50.614	11.255	37.16	52.863	MB
5	8.09	BROMIDE	0.473	0.095	0.31	0.868	BMB
6	9.67	NITRITE	4.873	1.244	4.11	1.793	BMB
7	14.07	PHOSPHATE	0.966	0.637	2.10	2.079	BMB
Total:			176.471	30.286	100.00	113.361	

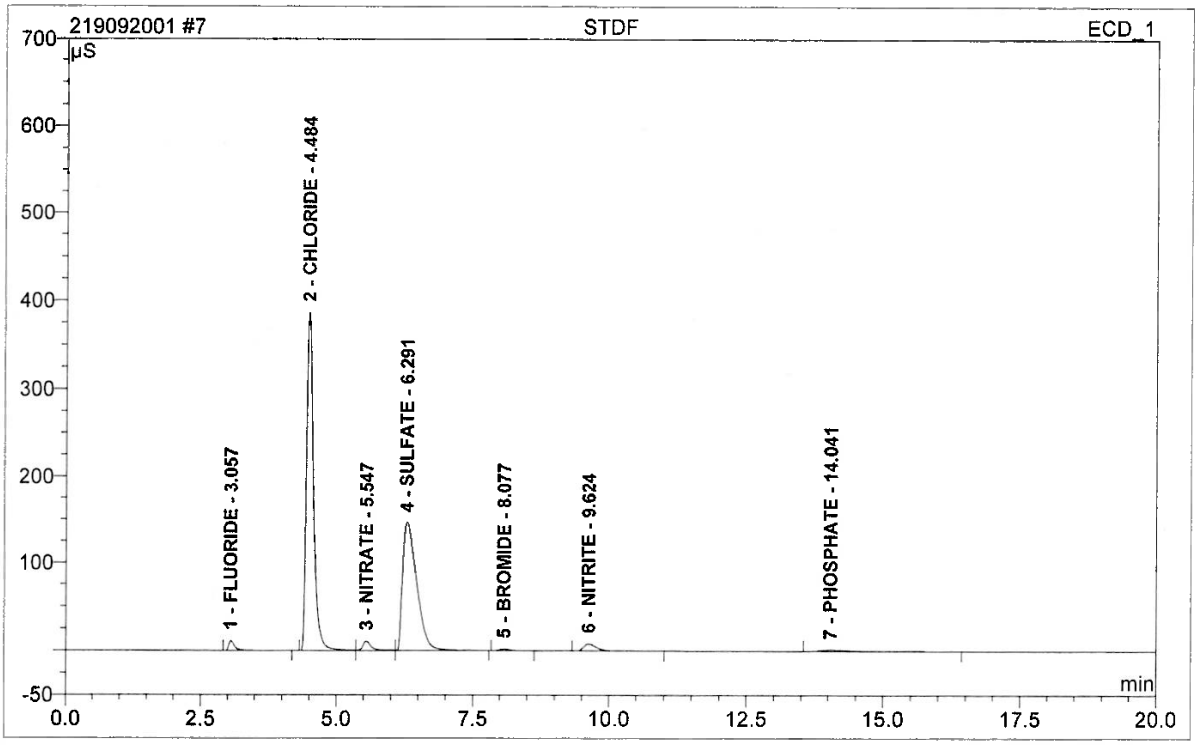
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

7 STDF

Sample Name:	**STDF**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 13:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	10.842	1.383	1.28	2.991	BMB
2	4.48	CHLORIDE	386.135	58.228	53.82	202.229	BM
3	5.55	NITRATE	10.374	1.890	1.75	3.024	M
4	6.29	SULFATE	146.356	43.392	40.11	203.811	MB
5	8.08	BROMIDE	1.562	0.311	0.29	2.850	BMB
6	9.62	NITRITE	7.737	2.070	1.91	2.984	BMB
7	14.04	PHOSPHATE	1.441	0.913	0.84	2.982	BMB
Total:			564.448	108.186	100.00	420.870	

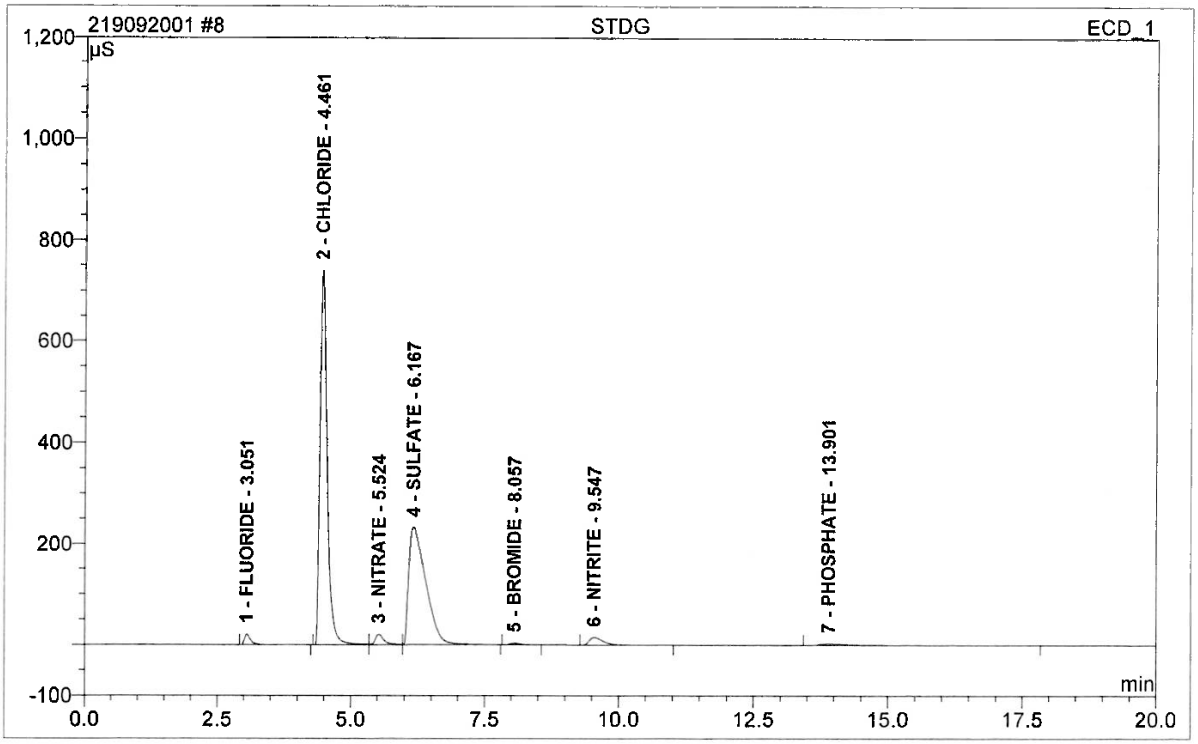
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

8 STDG

Sample Name:	**STDG**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/30/2019 14:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

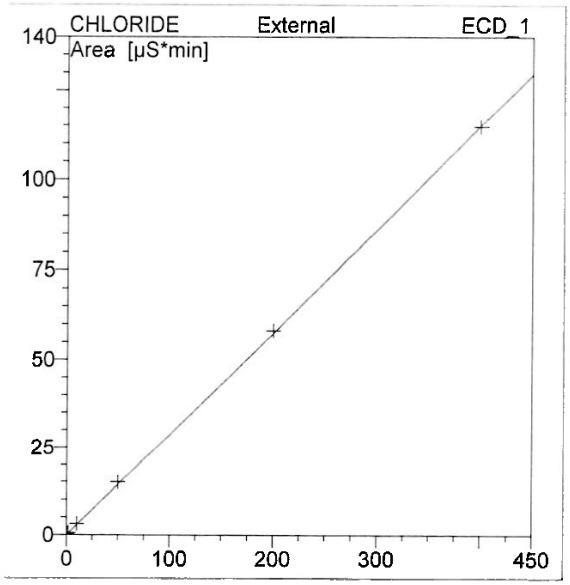


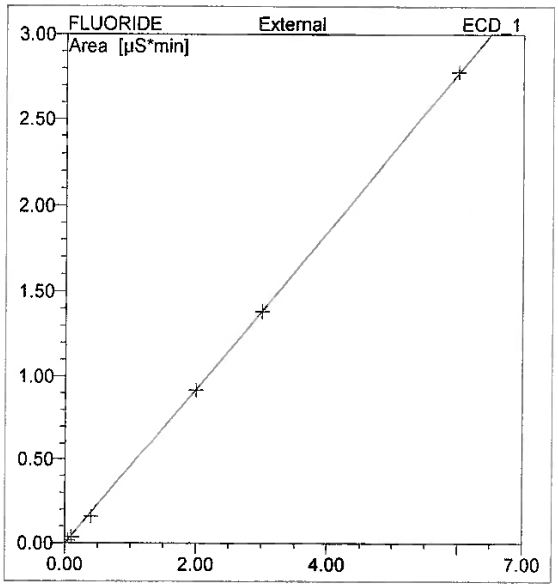
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	20.624	2.780	1.31	6.013	BMB
2	4.46	CHLORIDE	739.345	114.781	53.99	398.644	BM
3	5.52	NITRATE	19.886	3.761	1.77	6.017	M
4	6.17	SULFATE	232.171	84.673	39.83	397.709	MB
5	8.06	BROMIDE	2.792	0.559	0.26	5.130	BMB
6	9.55	NITRITE	14.349	4.221	1.99	6.085	BMB
7	13.90	PHOSPHATE	2.676	1.831	0.86	5.977	BMB
Total:			1031.842	212.606	100.00	825.575	

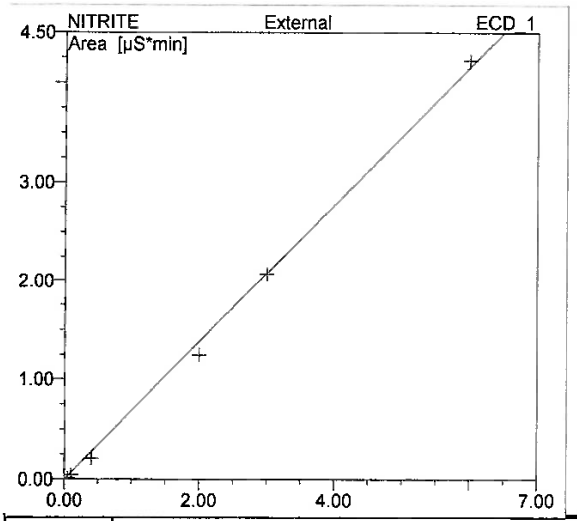
anions/Integration

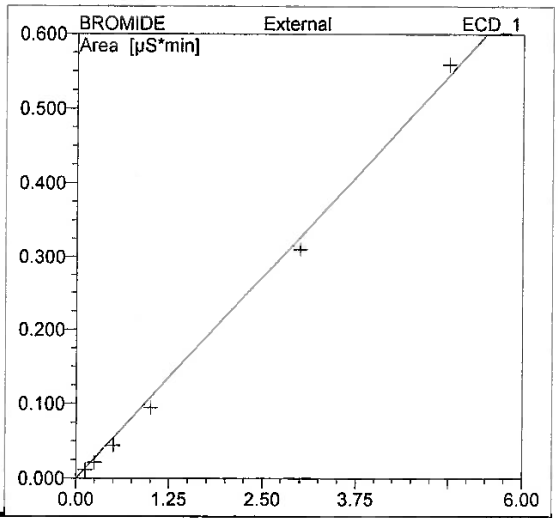
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001







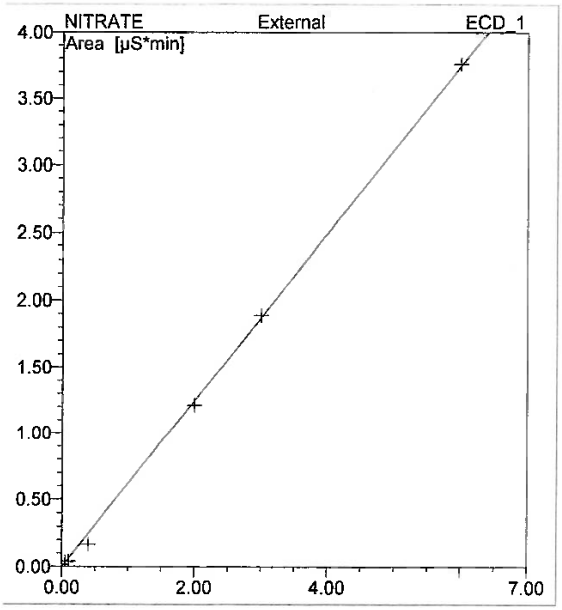


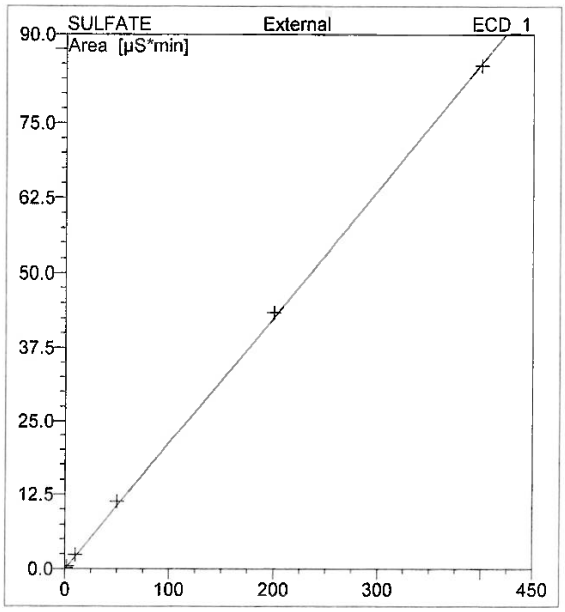
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.05	FLUORIDE	Lin	6	99.9979	0.0000	0.4623	0.0000
2	4.46	CHLORIDE	Lin	7	99.9971	0.0000	0.2879	0.0000
3	5.52	NITRATE	Lin	7	99.9698	0.0000	0.6250	0.0000
4	6.17	SULFATE	Lin	7	99.9921	0.0000	0.2129	0.0000
5	8.06	BROMIDE	Lin	6	99.9105	0.0000	0.1090	0.0000
6	9.55	NITRITE	Lin	6	99.9414	0.0000	0.6937	0.0000
7	13.90	PHOSPHATE	Lin	6	99.9505	0.0000	0.3063	0.0000
Average:					99.9656	0.0000	0.3853	0.0000

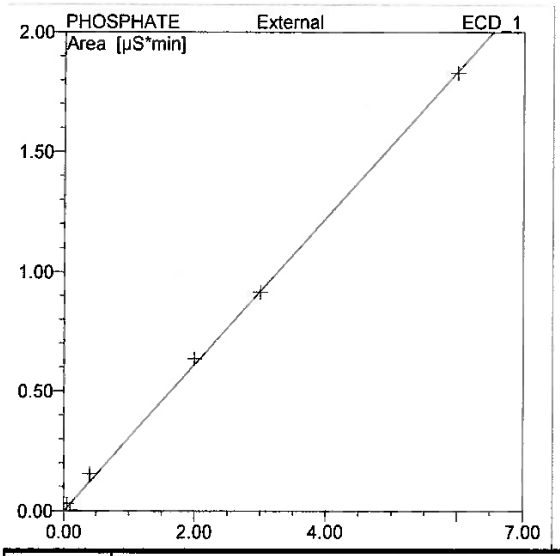
anions/Calibration(Curr.Peak)

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001







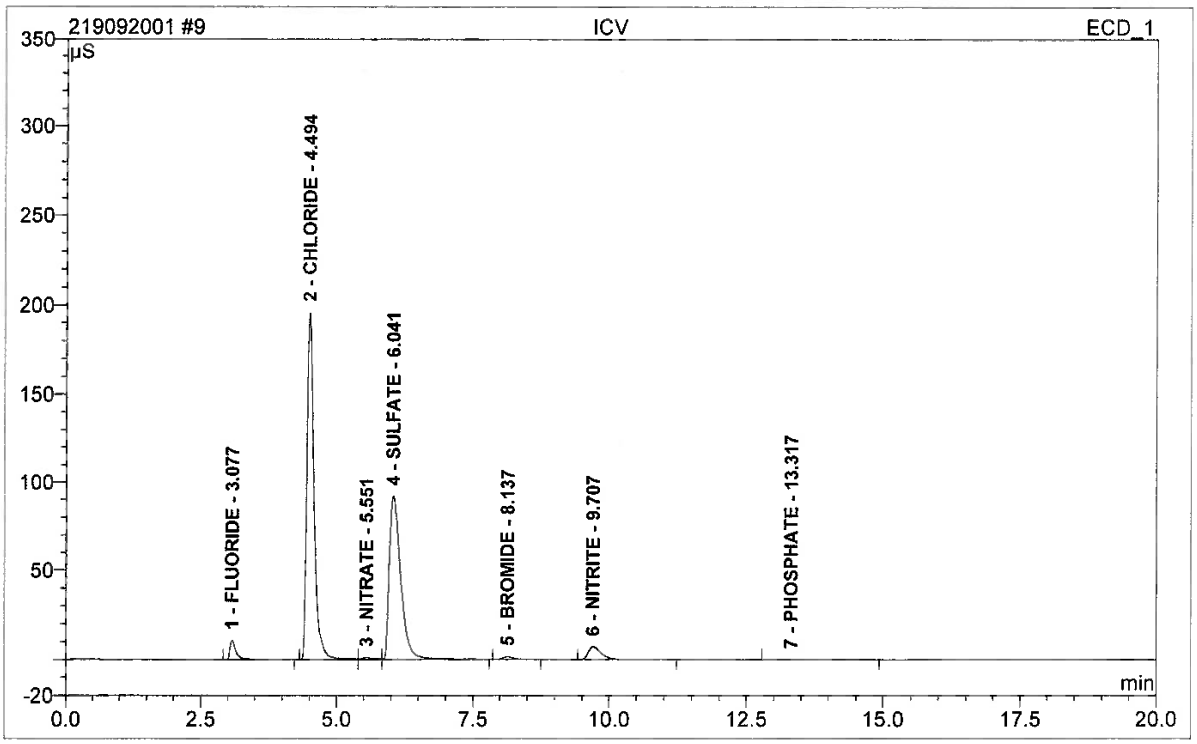
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.05	FLUORIDE	Lin	6	99.9979	0.0000	0.4623	0.0000
2	4.46	CHLORIDE	Lin	7	99.9971	0.0000	0.2879	0.0000
3	5.52	NITRATE	Lin	7	99.9698	0.0000	0.6250	0.0000
4	6.17	SULFATE	Lin	7	99.9921	0.0000	0.2129	0.0000
5	8.06	BROMIDE	Lin	6	99.9105	0.0000	0.1090	0.0000
6	9.55	NITRITE	Lin	6	99.9414	0.0000	0.6937	0.0000
7	13.90	PHOSPHATE	Lin	6	99.9505	0.0000	0.3063	0.0000
Average:					99.9656	0.0000	0.3853	0.0000

anions/Calibration(Curr.Peak)

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

9 ICV

Sample Name:	**ICV**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 10:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

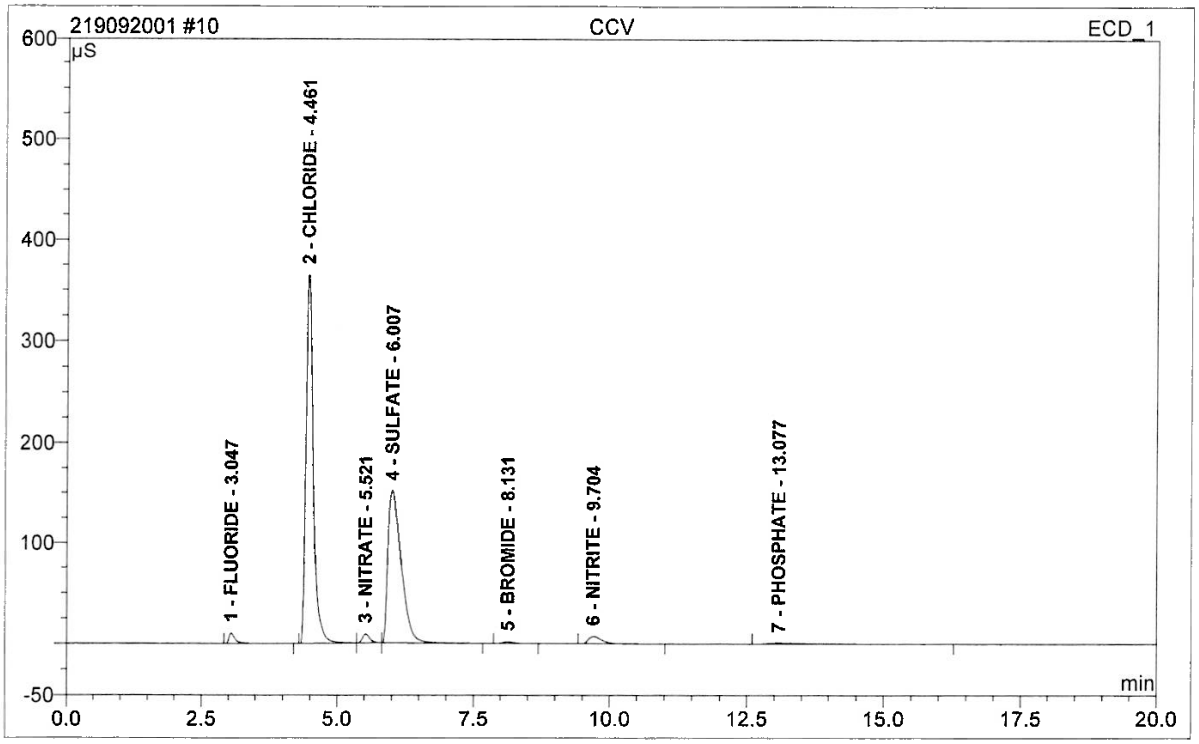


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.08	FLUORIDE	10.622	1.371	2.44	2.966	BMB
2	4.49	CHLORIDE	195.671	29.853	53.24	103.682	BM
3	5.55	NITRATE	1.021	0.207	0.37	0.331	M
4	6.04	SULFATE	92.068	22.298	39.76	104.731	MB
5	8.14	BROMIDE	1.465	0.302	0.54	2.773	BMB
6	9.71	NITRITE	7.038	1.963	3.50	2.830	BMB
7	13.32	PHOSPHATE	0.092	0.083	0.15	0.270	BMB
Total:			307.978	56.077	100.00	217.583	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

10 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 10:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.380	1.358	1.28	2.938	BMB
2	4.46	CHLORIDE	364.718	57.381	54.24	199.288	BMB
3	5.52	NITRATE	8.912	1.405	1.33	2.248	bMB
4	6.01	SULFATE	151.301	42.546	40.22	199.838	BMB
5	8.13	BROMIDE	1.470	0.304	0.29	2.791	BMB
6	9.70	NITRITE	7.271	2.025	1.91	2.919	BMB
7	13.08	PHOSPHATE	0.981	0.767	0.72	2.503	BMB
Total:			545.034	105.786	100.00	412.526	

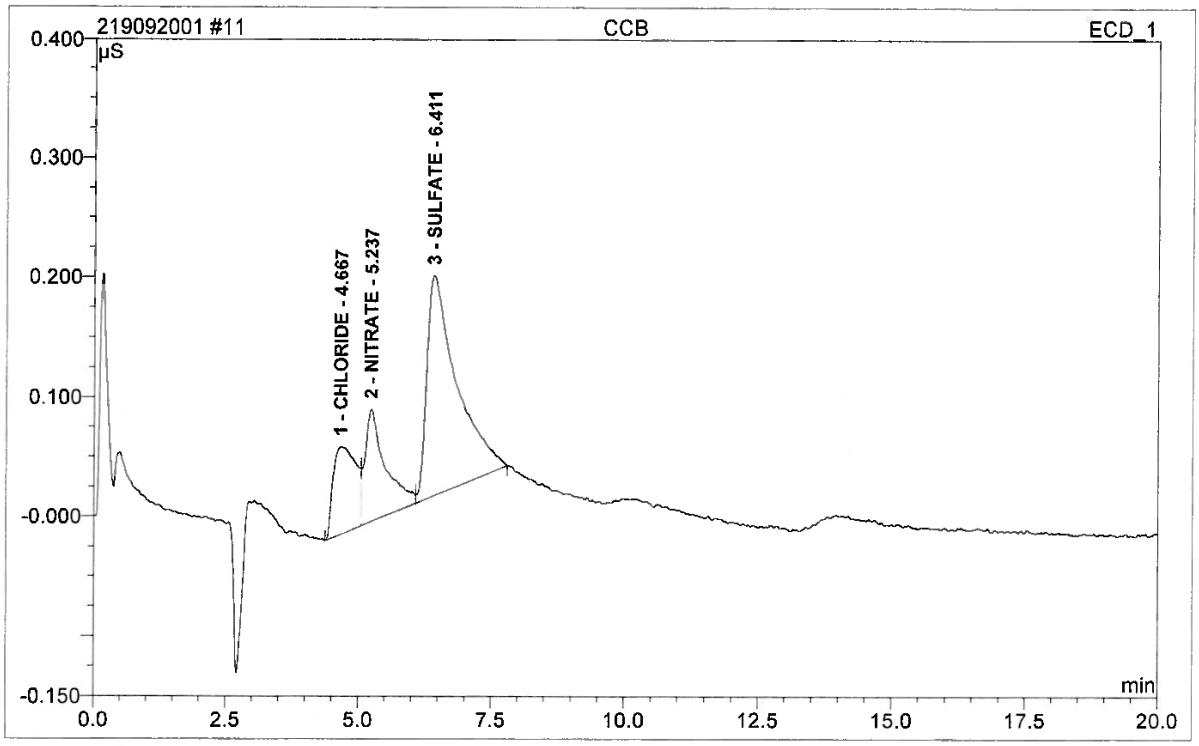
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

11 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 11:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.67	CHLORIDE	0.073	0.036	18.26	0.125	BM
2	5.24	NITRATE	0.094	0.042	21.28	0.067	M
3	6.41	SULFATE	0.184	0.119	60.46	0.561	MB
Total:			0.351	0.198	100.00	0.753	

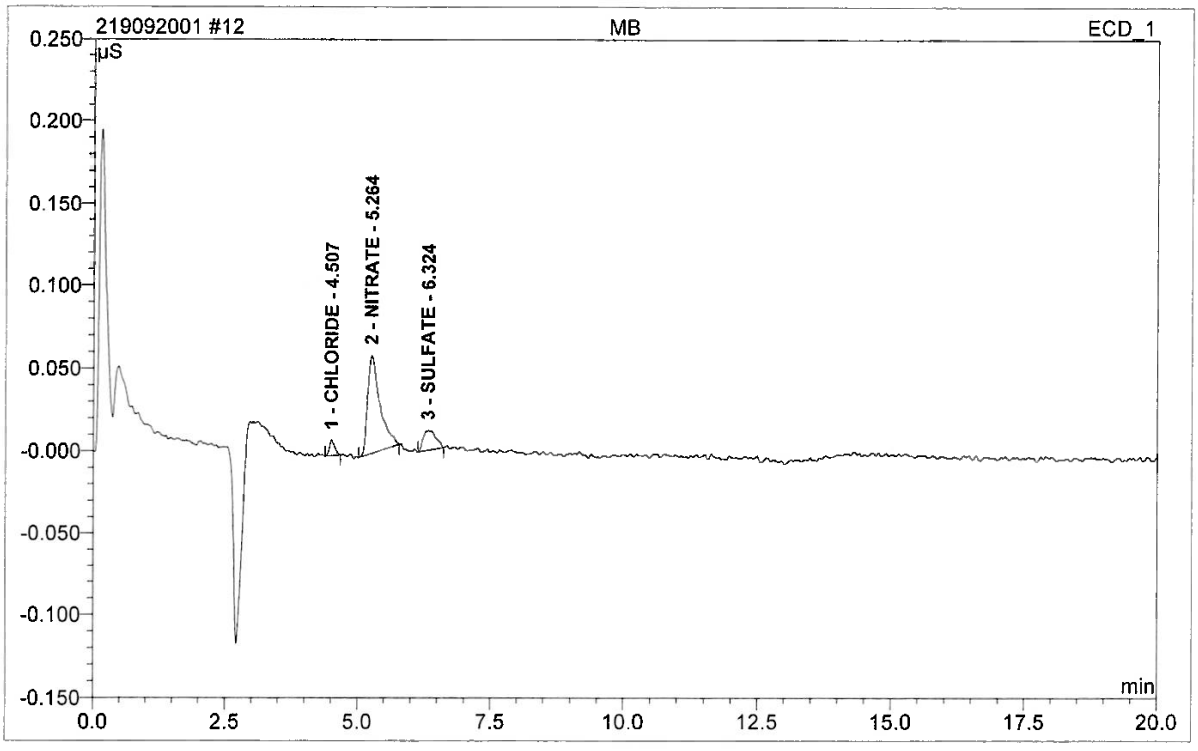
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

12 MB

Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 11:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.51	CHLORIDE	0.009	0.001	5.36	0.004	BMB
2	5.26	NITRATE	0.059	0.016	78.65	0.026	BMB
3	6.32	SULFATE	0.012	0.003	16.00	0.015	BMB
Total:			0.080	0.020	100.00	0.045	

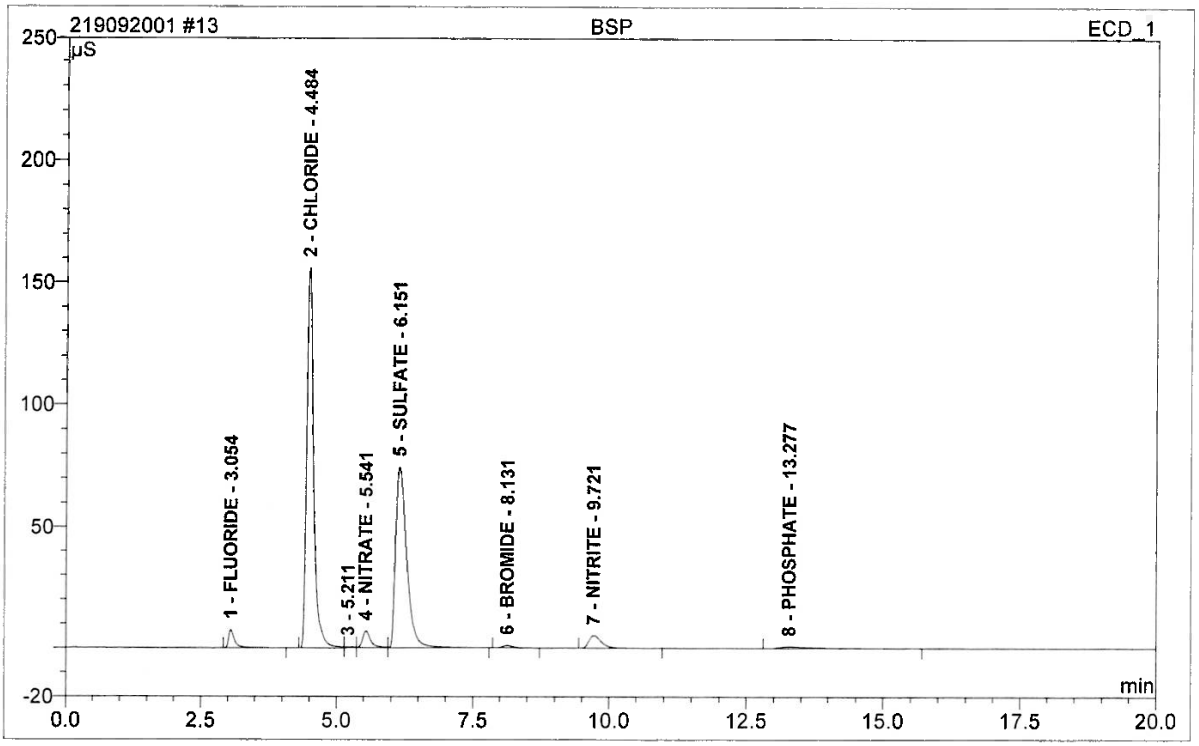
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

13 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 11:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



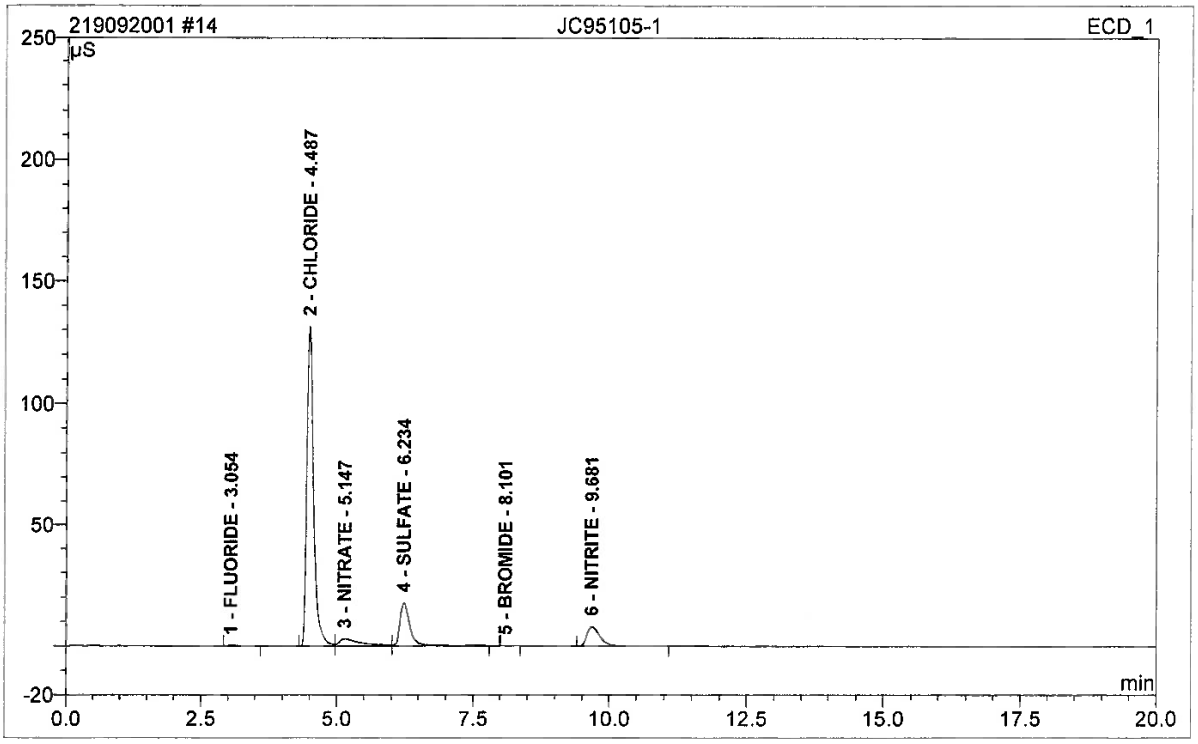
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.380	0.937	2.08	2.026	BMB
2	4.48	CHLORIDE	155.993	23.248	51.52	80.743	BM
3	5.21	n.a.	0.392	0.080	0.18	n.a.	M
4	5.54	NITRATE	6.831	1.211	2.68	1.938	M
5	6.15	SULFATE	74.444	17.526	38.84	82.318	MB
6	8.13	BROMIDE	0.952	0.197	0.44	1.809	BMB
7	9.72	NITRITE	5.153	1.386	3.07	1.997	BMB
8	13.28	PHOSPHATE	0.715	0.537	1.19	1.754	BMB
Total:			251.861	45.121	100.00	172.584	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

14 JC95105-1

Sample Name:	**JC95105-1**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

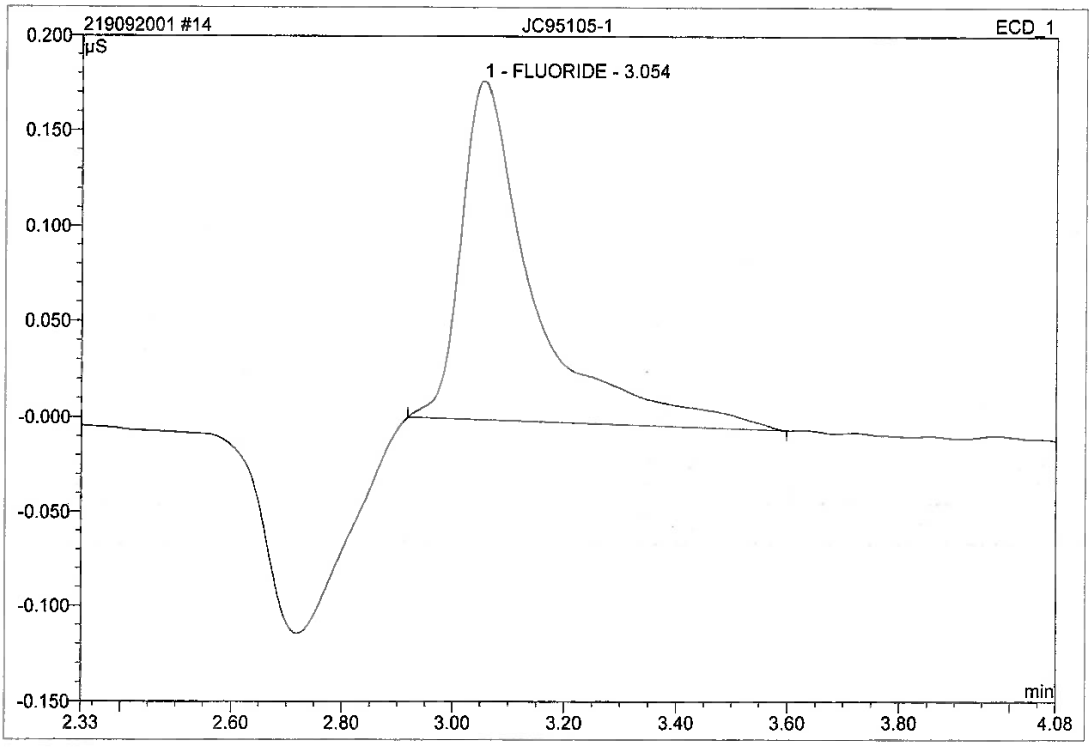


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.027	0.10	0.058	BMB
2	4.49	CHLORIDE	131.241	19.081	72.55	66.269	BM
3	5.15	NITRATE	2.839	1.299	4.94	2.079	M
4	6.23	SULFATE	17.681	3.708	14.10	17.419	MB
5	8.10	BROMIDE	0.009	0.002	0.01	0.018	BMB
6	9.68	NITRITE	7.923	2.183	8.30	3.147	BMB
Total:			159.871	26.300	100.00	88.989	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

14 JC95105-1

Sample Name:	**JC95105-1**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.027	0.10	0.058	BMB
2	4.49	CHLORIDE	131.241	19.081	72.55	66.269	BM
3	5.15	NITRATE	2.839	1.299	4.94	2.079	M
4	6.23	SULFATE	17.681	3.708	14.10	17.419	MB
5	8.10	BROMIDE	0.009	0.002	0.01	0.018	BMB
6	9.68	NITRITE	7.923	2.183	8.30	3.147	BMB
Total:			159.871	26.300	100.00	88.989	

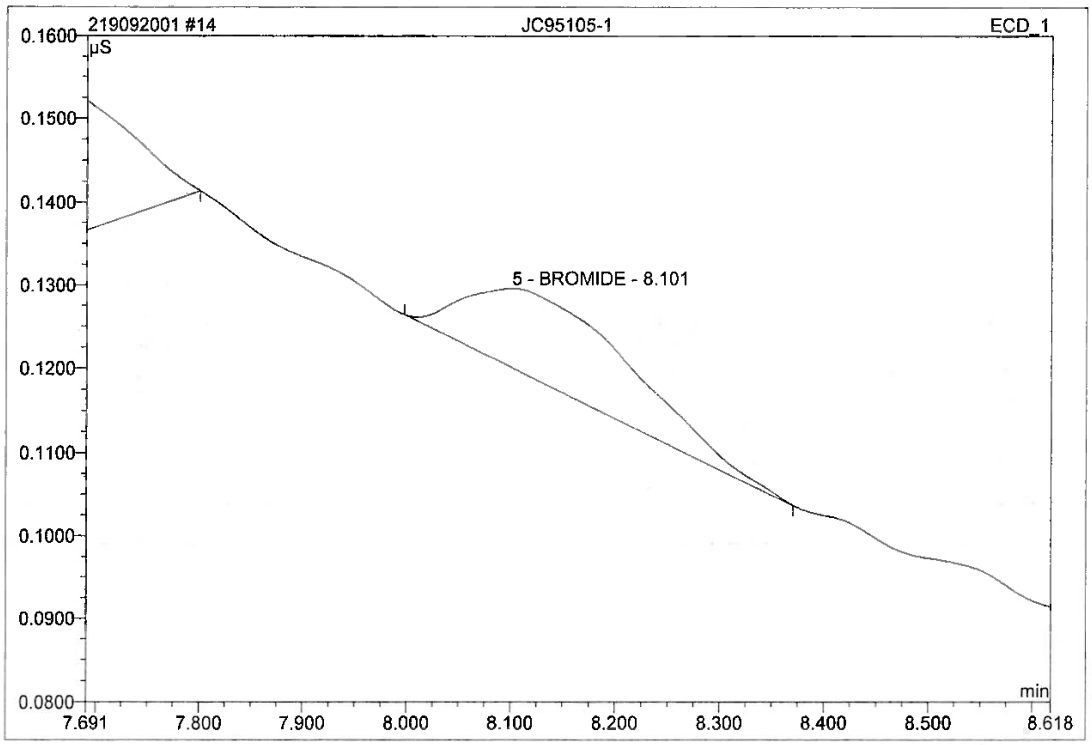
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

14 JC95105-1

Sample Name:	**JC95105-1**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.027	0.10	0.058	BMB
2	4.49	CHLORIDE	131.241	19.081	72.55	66.269	BM
3	5.15	NITRATE	2.839	1.299	4.94	2.079	M
4	6.23	SULFATE	17.681	3.708	14.10	17.419	MB
5	8.10	BROMIDE	0.009	0.002	0.01	0.018	BMB
6	9.68	NITRITE	7.923	2.183	8.30	3.147	BMB
Total:			159.871	26.300	100.00	88.989	

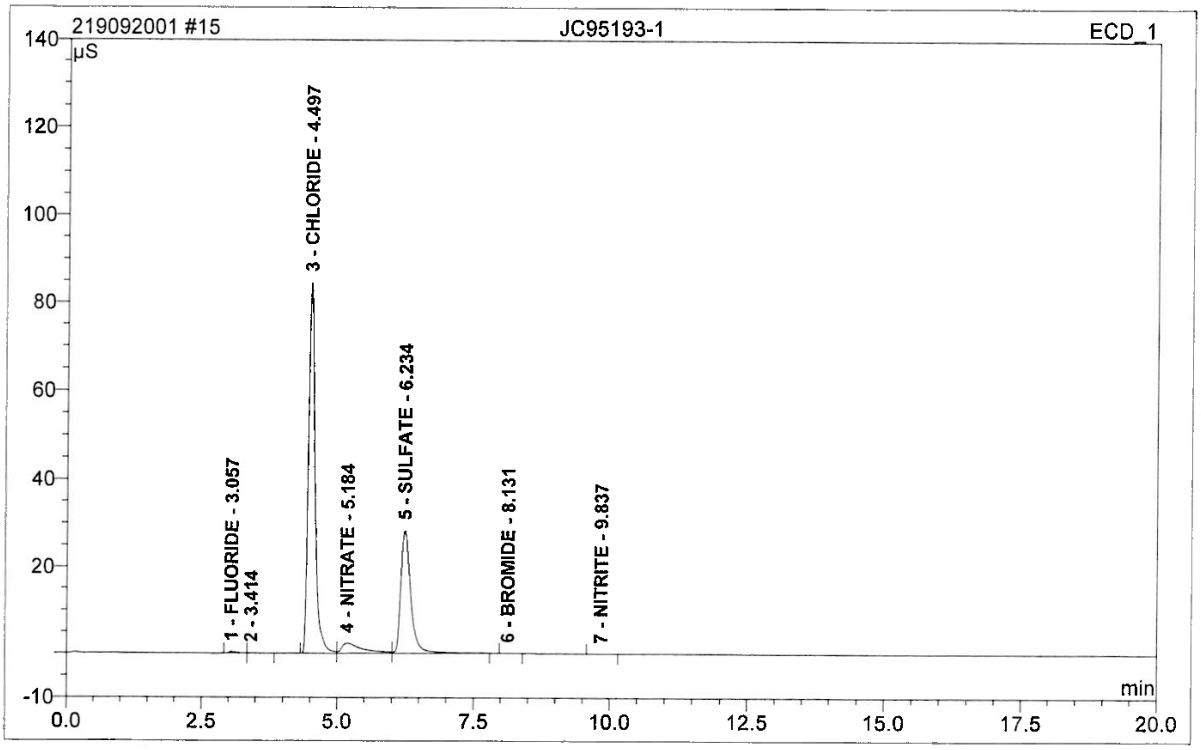
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

15 JC95193-1

Sample Name:	**JC95193-1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.326	0.047	0.25	0.102	BM
2	3.41	n.a.	0.036	0.006	0.03	n.a.	MB
3	4.50	CHLORIDE	84.540	12.104	63.20	42.039	BM
4	5.18	NITRATE	2.343	1.019	5.32	1.630	M
5	6.23	SULFATE	28.251	5.964	31.14	28.011	MB
6	8.13	BROMIDE	0.024	0.005	0.02	0.043	BMB
7	9.84	NITRITE	0.028	0.007	0.04	0.010	BMB
Total:			115.549	19.152	100.00	71.835	

anions/Integration

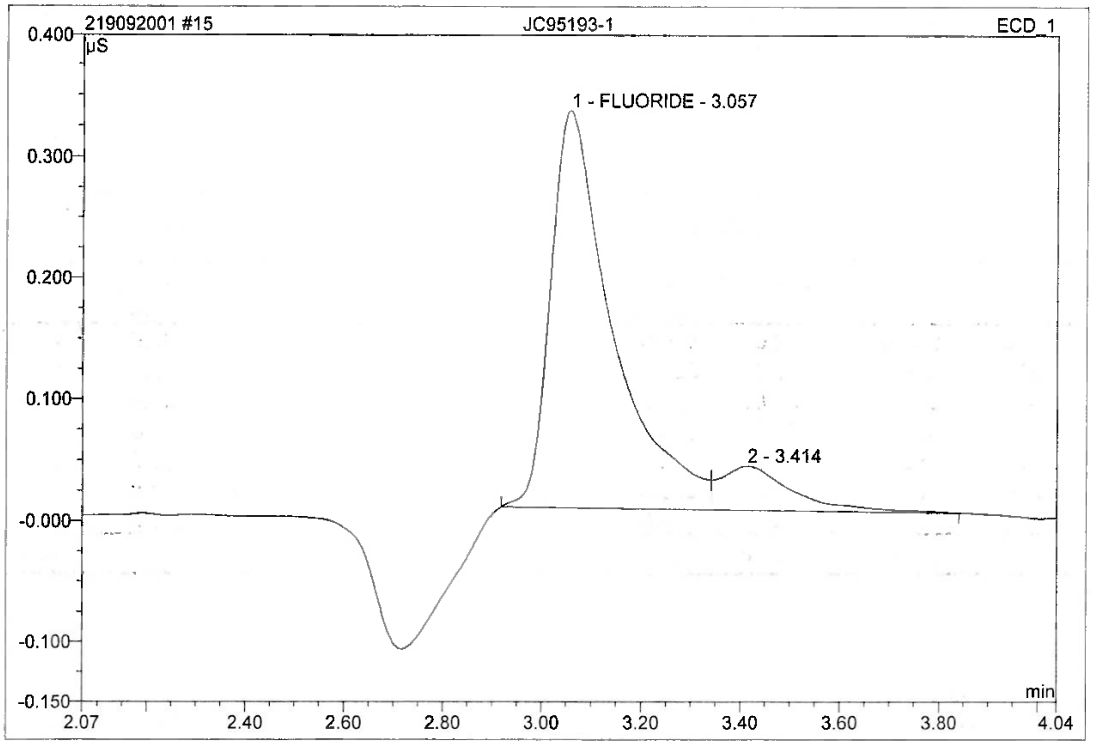
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:29 AM

15 JC95193-1

Sample Name:	**JC95193-1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.326	0.047	0.25	0.102	BM
2	3.41	n.a.	0.036	0.006	0.03	n.a.	MB
3	4.50	CHLORIDE	84.540	12.104	63.20	42.039	BM
4	5.18	NITRATE	2.343	1.019	5.32	1.630	M
5	6.23	SULFATE	28.251	5.964	31.14	28.011	MB
6	8.13	BROMIDE	0.024	0.005	0.02	0.043	BMB
7	9.84	NITRITE	0.028	0.007	0.04	0.010	BMB
Total:			115.549	19.152	100.00	71.835	

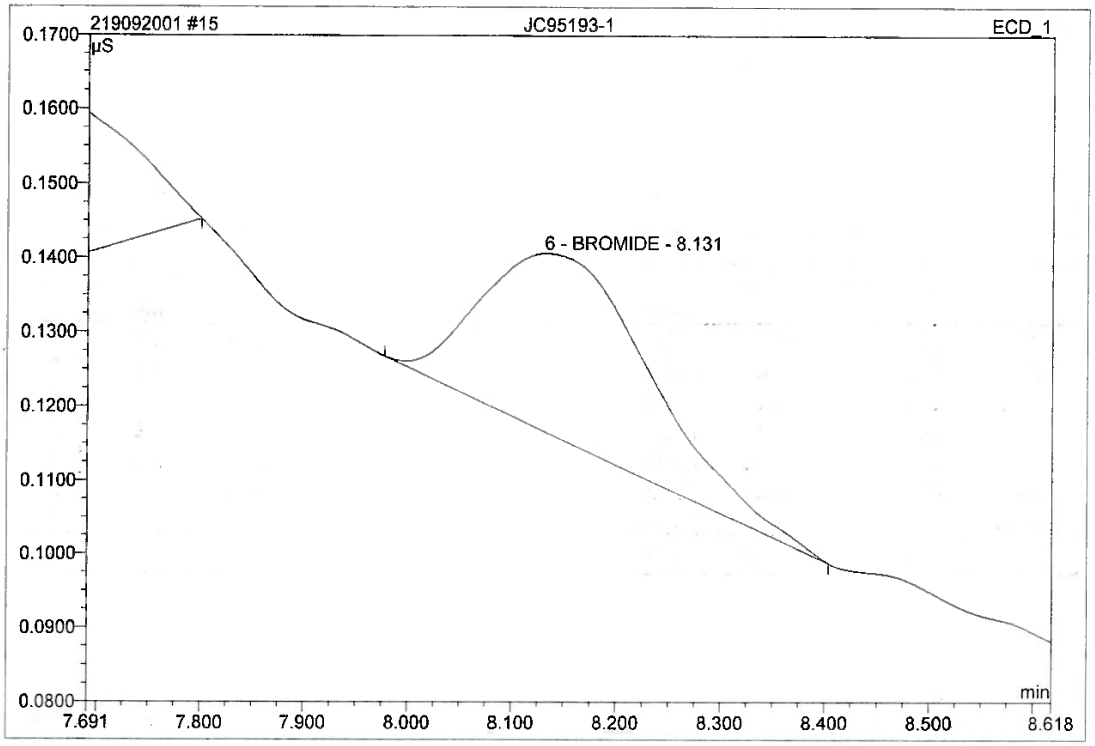
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

15 JC95193-1

Sample Name:	**JC95193-1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 12:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.326	0.047	0.25	0.102	BM
2	3.41	n.a.	0.036	0.006	0.03	n.a.	MB
3	4.50	CHLORIDE	84.540	12.104	63.20	42.039	BM
4	5.18	NITRATE	2.343	1.019	5.32	1.630	M
5	6.23	SULFATE	28.251	5.964	31.14	28.011	MB
6	8.13	BROMIDE	0.024	0.005	0.02	0.043	BMB
7	9.84	NITRITE	0.028	0.007	0.04	0.010	BMB
Total:			115.549	19.152	100.00	71.835	

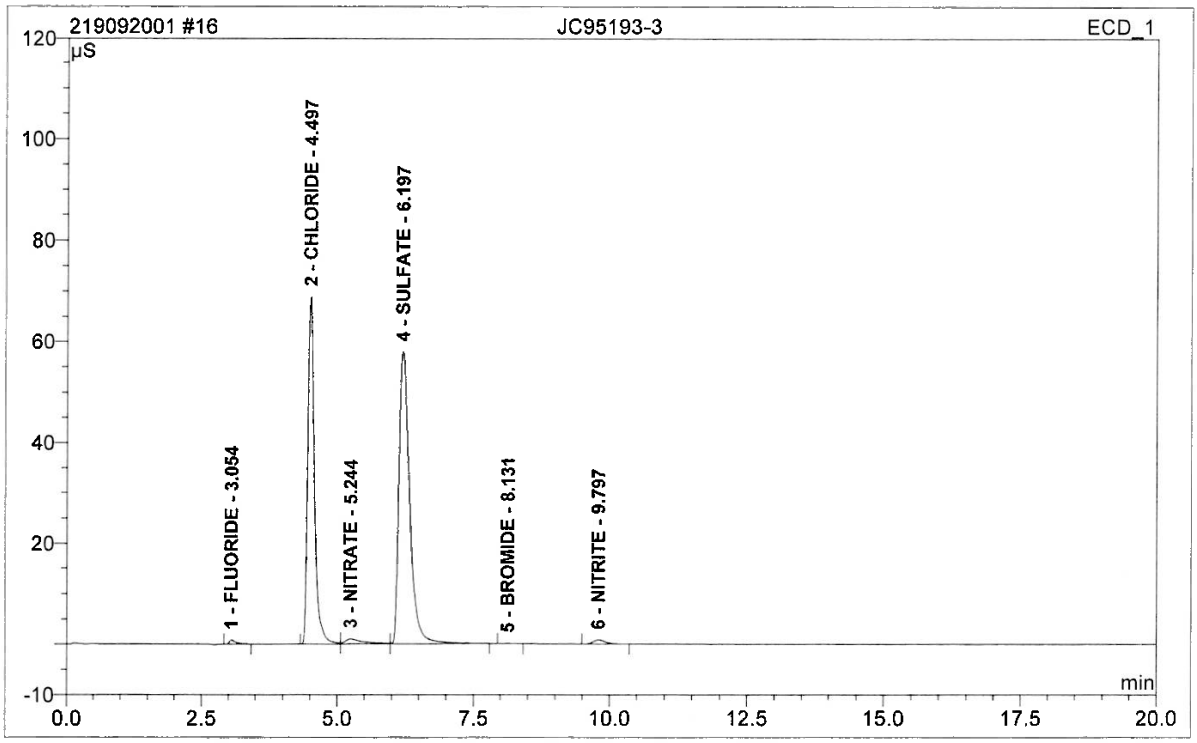
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

16 JC95193-3

Sample Name:	**JC95193-3**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.764	0.101	0.43	0.220	BMB
2	4.50	CHLORIDE	68.801	9.870	41.60	34.280	BM
3	5.24	NITRATE	0.979	0.371	1.56	0.593	M
4	6.20	SULFATE	57.928	13.178	55.55	61.898	MB
5	8.13	BROMIDE	0.029	0.006	0.02	0.054	BMB
6	9.80	NITRITE	0.788	0.198	0.83	0.285	BMB
Total:			129.290	23.725	100.00	97.330	

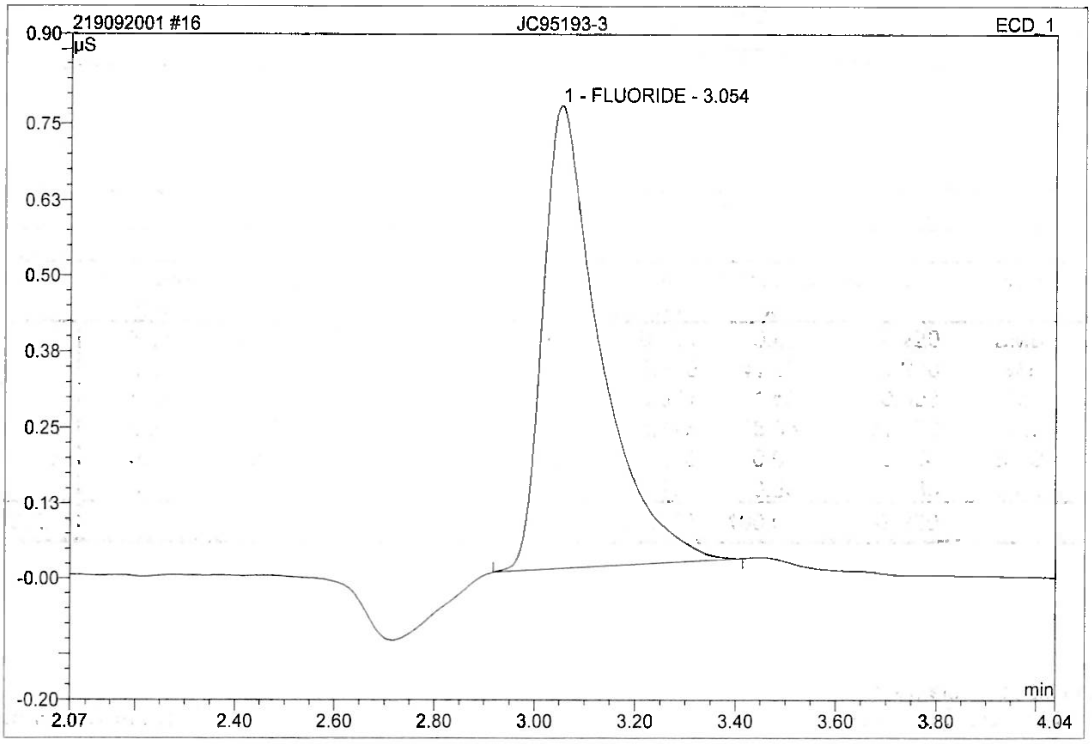
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

16 JC95193-3

Sample Name:	**JC95193-3**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.764	0.101	0.43	0.220	BMB
2	4.50	CHLORIDE	68.801	9.870	41.60	34.280	BM
3	5.24	NITRATE	0.979	0.371	1.56	0.593	M
4	6.20	SULFATE	57.928	13.178	55.55	61.898	MB
5	8.13	BROMIDE	0.029	0.006	0.02	0.054	BMB
6	9.80	NITRITE	0.788	0.198	0.83	0.285	BMB
Total:			129.290	23.725	100.00	97.330	

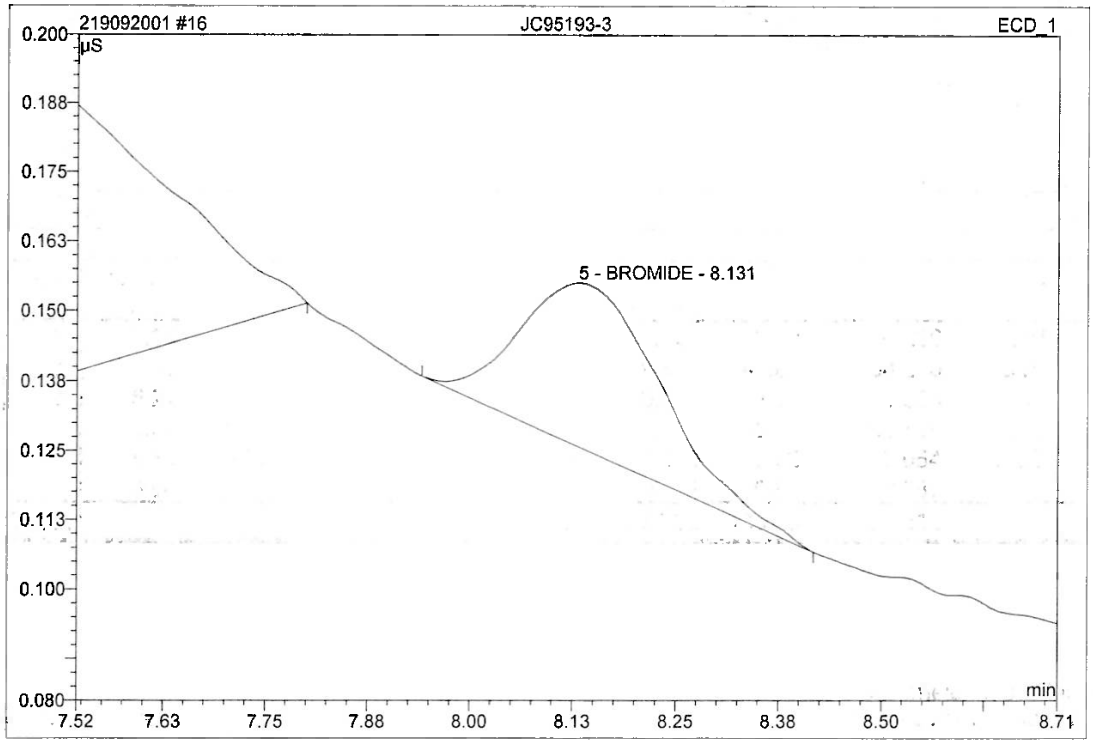
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

16 JC95193-3

Sample Name:	**JC95193-3**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.764	0.101	0.43	0.220	BMB
2	4.50	CHLORIDE	68.801	9.870	41.60	34.280	BM
3	5.24	NITRATE	0.979	0.371	1.56	0.593	M
4	6.20	SULFATE	57.928	13.178	55.55	61.898	MB
5	8.13	BROMIDE	0.029	0.006	0.02	0.054	BMB
6	9.80	NITRITE	0.788	0.198	0.83	0.285	BMB
Total:			129.290	23.725	100.00	97.330	

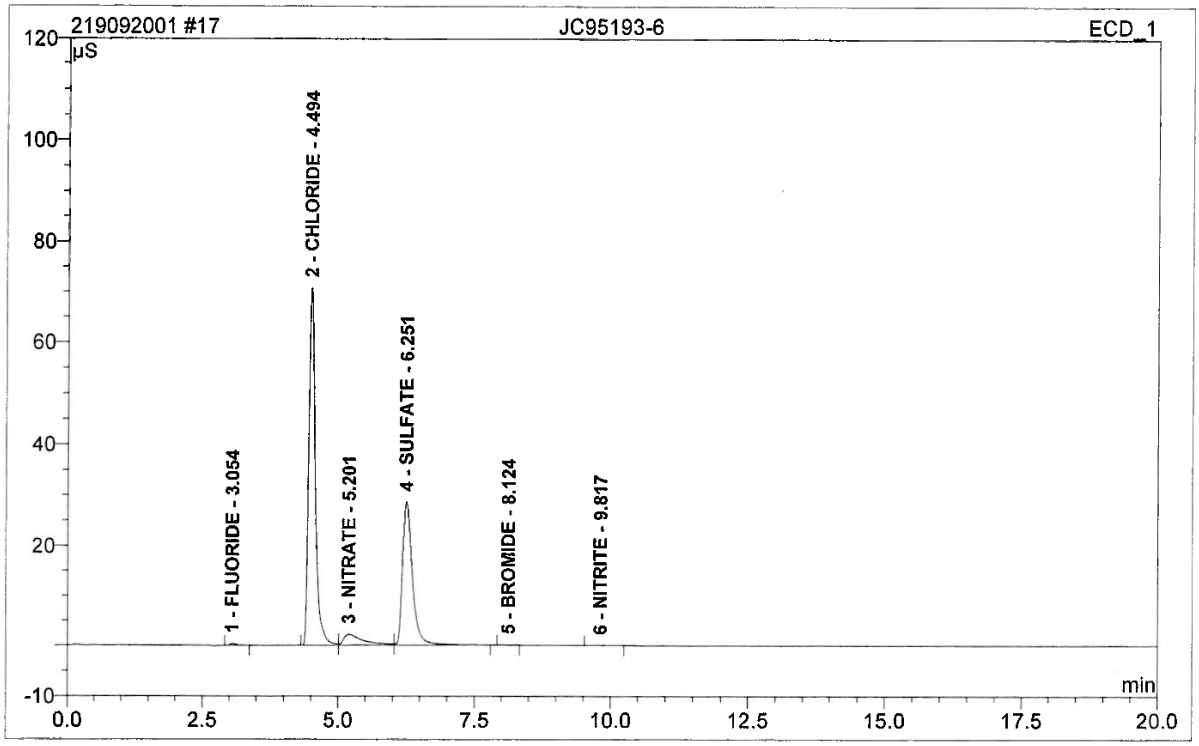
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

17 JC95193-6

Sample Name:	**JC95193-6**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.309	0.040	0.24	0.087	BMB
2	4.49	CHLORIDE	70.710	10.074	58.92	34.986	BM
3	5.20	NITRATE	2.162	0.914	5.34	1.462	M
4	6.25	SULFATE	28.605	6.048	35.37	28.408	MB
5	8.12	BROMIDE	0.018	0.004	0.02	0.033	BMB
6	9.82	NITRITE	0.071	0.018	0.11	0.026	BMB
Total:			101.874	17.097	100.00	65.002	

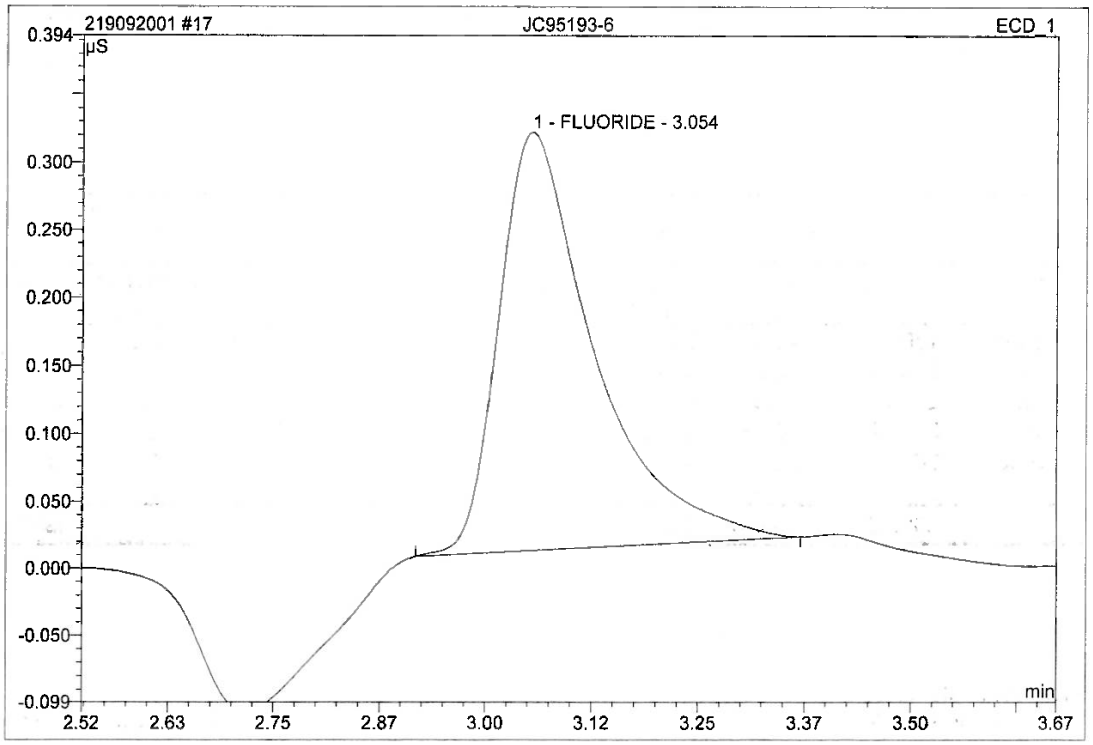
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

17 JC95193-6

Sample Name:	**JC95193-6**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.309	0.040	0.24	0.087	BMB
2	4.49	CHLORIDE	70.710	10.074	58.92	34.986	BM
3	5.20	NITRATE	2.162	0.914	5.34	1.462	M
4	6.25	SULFATE	28.605	6.048	35.37	28.408	MB
5	8.12	BROMIDE	0.018	0.004	0.02	0.033	BMB
6	9.82	NITRITE	0.071	0.018	0.11	0.026	BMB
Total:			101.874	17.097	100.00	65.002	

DEFAULT/Integration

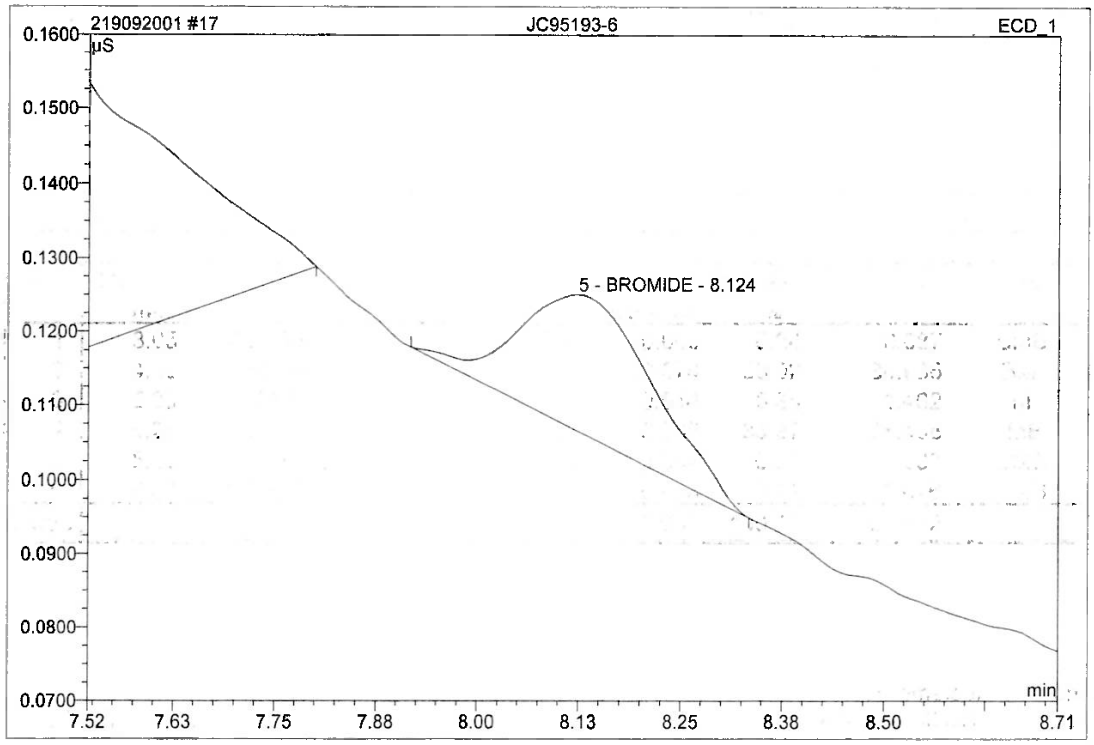
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:29 AM

17 JC95193-6

Sample Name:	**JC95193-6**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.309	0.040	0.24	0.087	BMB
2	4.49	CHLORIDE	70.710	10.074	58.92	34.986	BM
3	5.20	NITRATE	2.162	0.914	5.34	1.462	M
4	6.25	SULFATE	28.605	6.048	35.37	28.408	MB
5	8.12	BROMIDE	0.018	0.004	0.02	0.033	BMB
6	9.82	NITRITE	0.071	0.018	0.11	0.026	BMB
Total:			101.874	17.097	100.00	65.002	

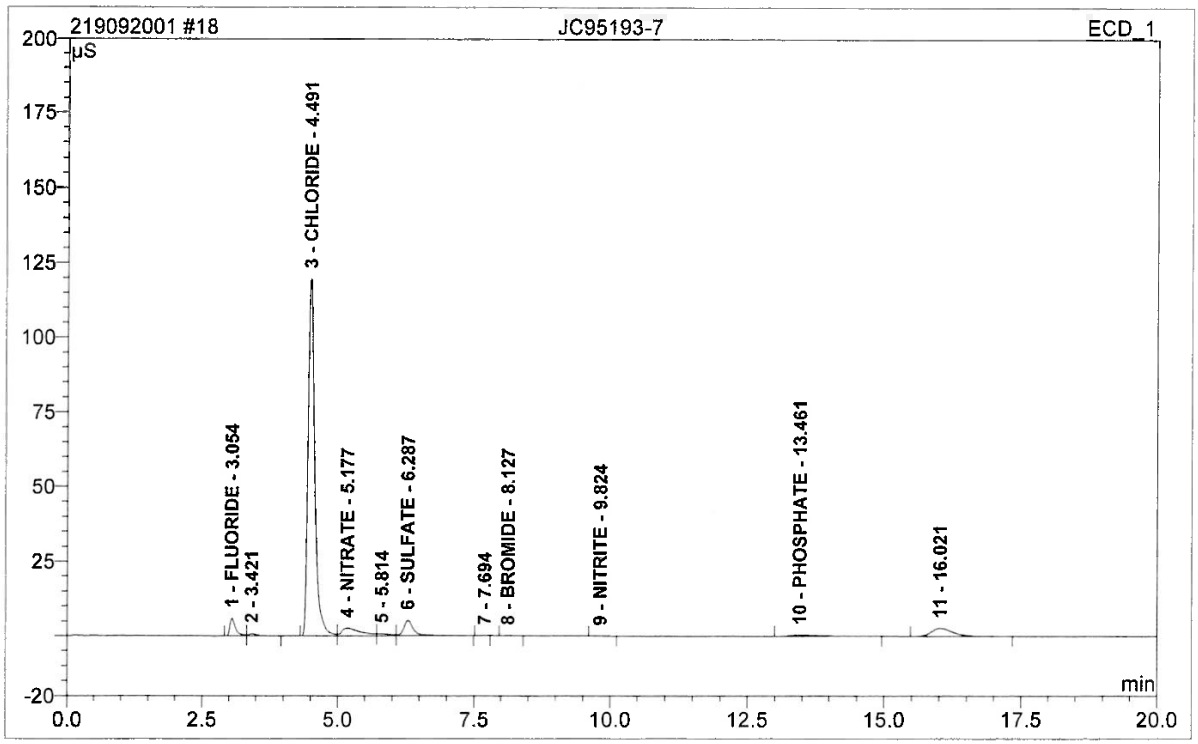
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

18 JC95193-7

Sample Name:	**JC95193-7**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	5.867	0.705	3.24	1.526	BM
2	3.42	n.a.	0.668	0.106	0.48	n.a.	MB
3	4.49	CHLORIDE	119.529	17.272	79.22	59.987	BM
4	5.18	NITRATE	2.592	1.024	4.70	1.639	M
5	5.81	n.a.	0.613	0.164	0.75	n.a.	M
6	6.29	SULFATE	5.144	1.072	4.92	5.037	MB
7	7.69	n.a.	0.058	0.009	0.04	n.a.	BMB
8	8.13	BROMIDE	0.052	0.010	0.04	0.089	BMB
9	9.82	NITRITE	0.021	0.005	0.02	0.008	BMB
10	13.46	PHOSPHATE	0.372	0.247	1.13	0.806	BMB
11	16.02	n.a.	2.705	1.188	5.45	n.a.	BMB

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

Total:		137.623	21.802	100.00	69.090

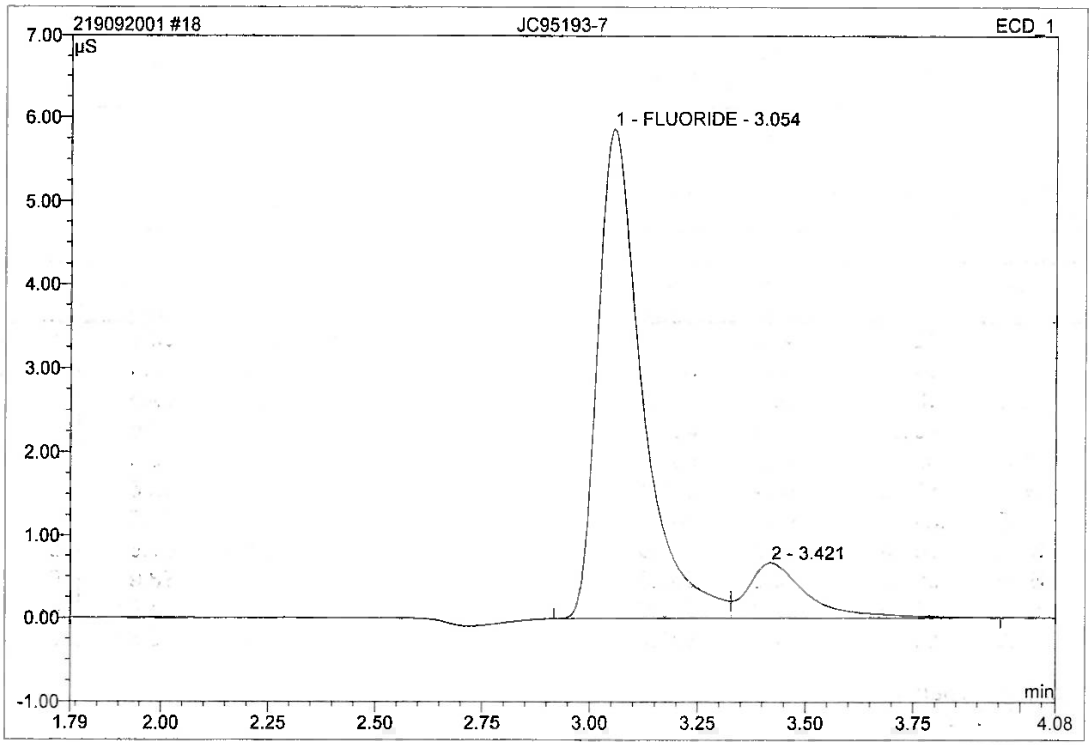
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

18 JC95193-7

Sample Name:	**JC95193-7**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	5.867	0.705	3.24	1.526	BM
2	3.42	n.a.	0.668	0.106	0.48	n.a.	MB
3	4.49	CHLORIDE	119.529	17.272	79.22	59.987	BM
4	5.18	NITRATE	2.592	1.024	4.70	1.639	M
5	5.81	n.a.	0.613	0.164	0.75	n.a.	M
6	6.29	SULFATE	5.144	1.072	4.92	5.037	MB
7	7.69	n.a.	0.058	0.009	0.04	n.a.	BMB
8	8.13	BROMIDE	0.052	0.010	0.04	0.089	BMB
9	9.82	NITRITE	0.021	0.005	0.02	0.008	BMB
10	13.46	PHOSPHATE	0.372	0.247	1.13	0.806	BMB
11	16.02	n.a.	2.705	1.188	5.45	n.a.	BMB

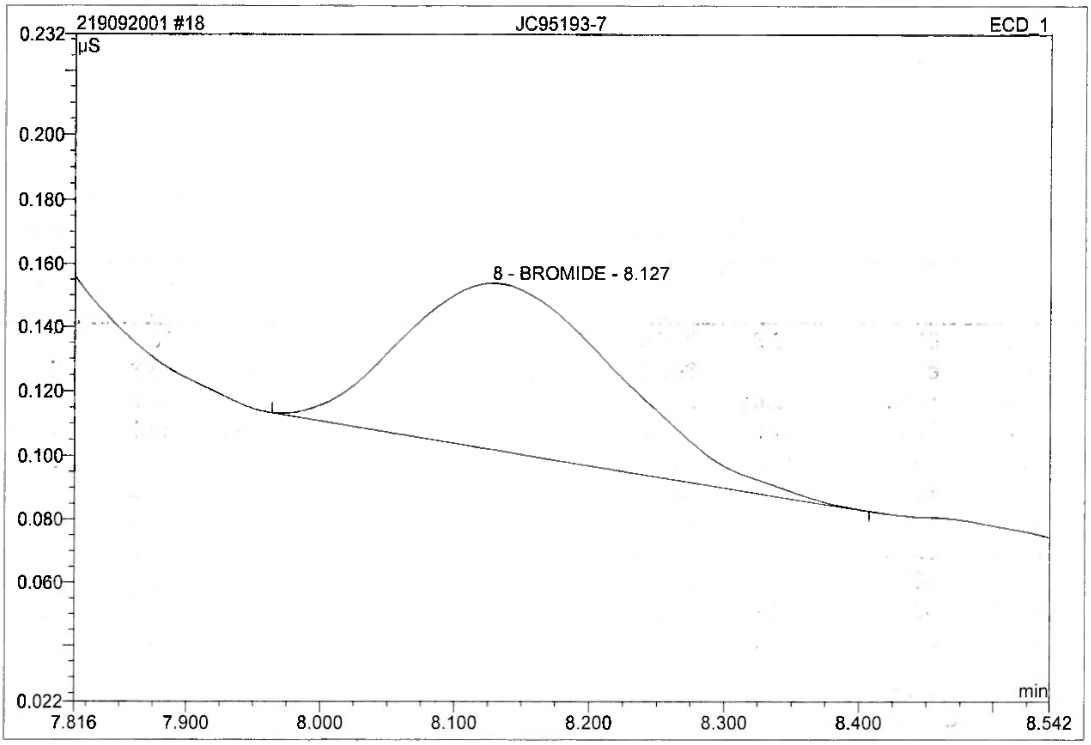
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

18 JC95193-7

Sample Name:	**JC95193-7**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 13:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	5.867	0.705	3.24	1.526	BM
2	3.42	n.a.	0.668	0.106	0.48	n.a.	MB
3	4.49	CHLORIDE	119.529	17.272	79.22	59.987	BM
4	5.18	NITRATE	2.592	1.024	4.70	1.639	M
5	5.81	n.a.	0.613	0.164	0.75	n.a.	M
6	6.29	SULFATE	5.144	1.072	4.92	5.037	MB
7	7.69	n.a.	0.058	0.009	0.04	n.a.	BMB
8	8.13	BROMIDE	0.052	0.010	0.04	0.089	BMB
9	9.82	NITRITE	0.021	0.005	0.02	0.008	BMB
10	13.46	PHOSPHATE	0.372	0.247	1.13	0.806	BMB
11	16.02	n.a.	2.705	1.188	5.45	n.a.	BMB

DEFAULT/Integration

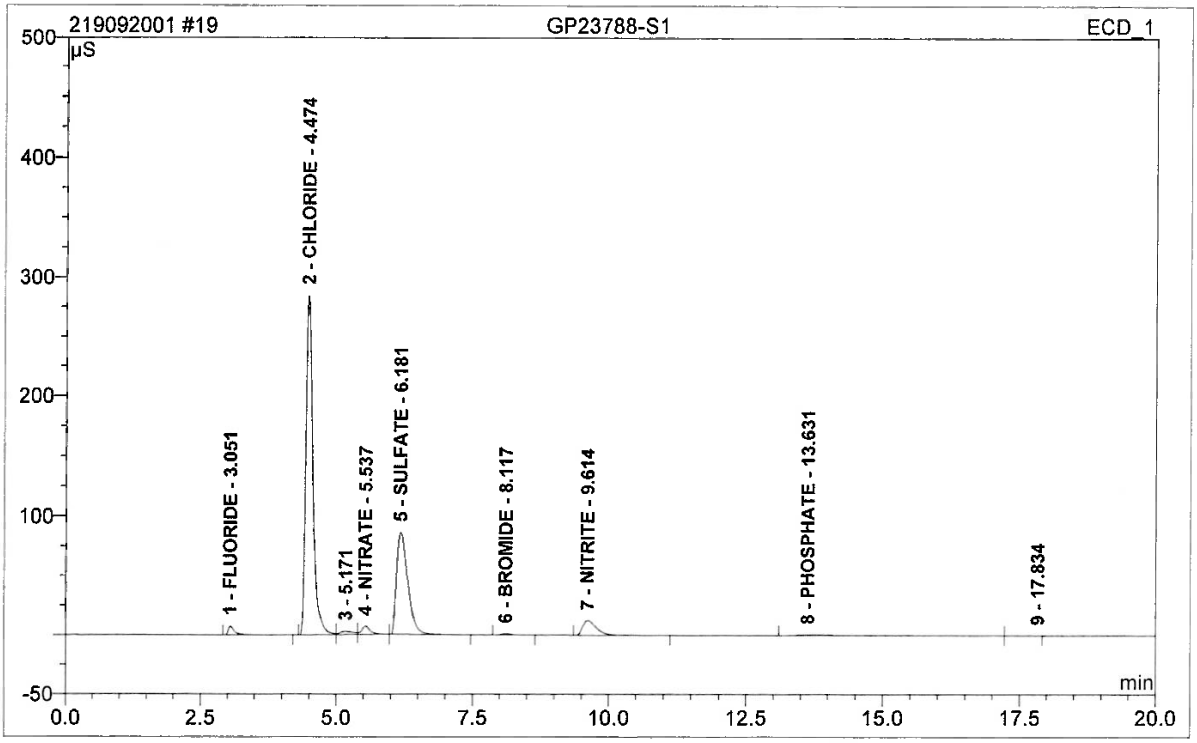
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

19 GP23788-S1

JC95246-1

Sample Name:	**GP23788-S1**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 14:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.441	0.979	1.37	2.117	BMB
2	4.47	CHLORIDE	284.361	43.206	60.66	150.059	BM
3	5.17	n.a.	2.681	0.777	1.09	n.a.	M
4	5.54	NITRATE	7.151	1.314	1.84	2.102	Mb
5	6.18	SULFATE	85.977	20.548	28.85	96.512	bMB
6	8.12	BROMIDE	0.970	0.198	0.28	1.816	BMB
7	9.61	NITRITE	12.321	3.607	5.06	5.199	BMB
8	13.63	PHOSPHATE	0.542	0.601	0.84	1.961	BM
9	17.83	n.a.	0.001	0.003	0.00	n.a.	MB
Total:			401.447	71.232	100.00	259.767	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

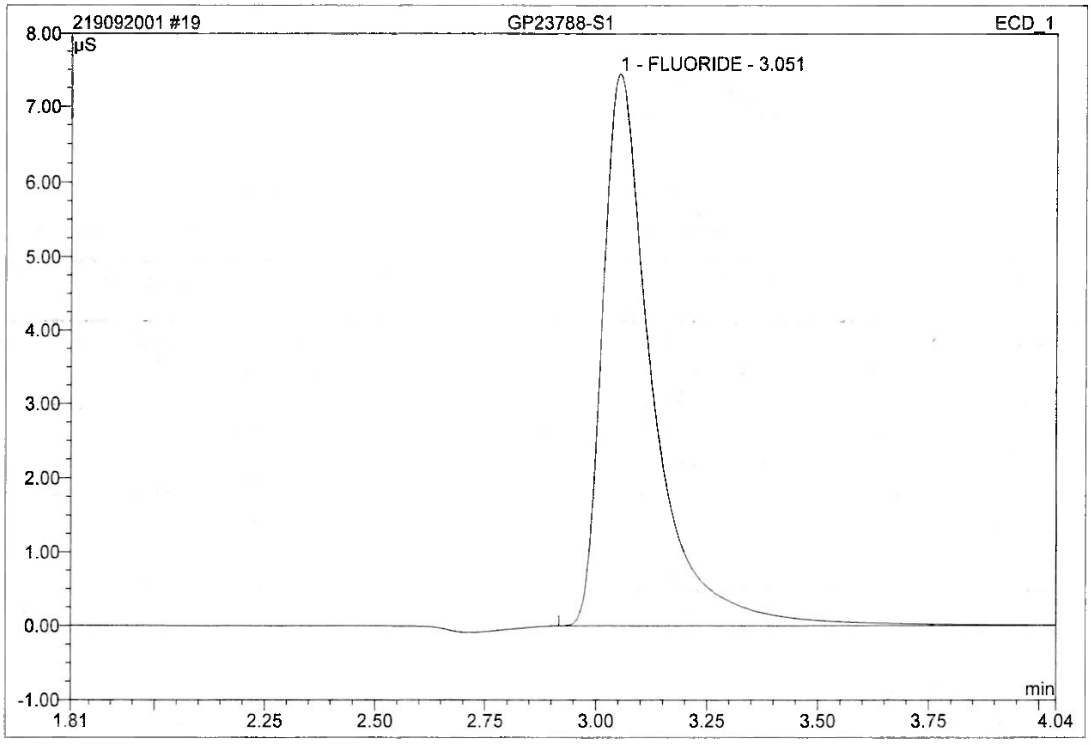
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:09 AM

19 GP23788-S1

JC95246-1

Sample Name:	**GP23788-S1**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 14:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.441	0.979	1.37	2.117	BMB
2	4.47	CHLORIDE	284.361	43.206	60.66	150.059	BM
3	5.17	n.a.	2.681	0.777	1.09	n.a.	M
4	5.54	NITRATE	7.151	1.314	1.84	2.102	Mb
5	6.18	SULFATE	85.977	20.548	28.85	96.512	bMB
6	8.12	BROMIDE	0.970	0.198	0.28	1.816	BMB
7	9.61	NITRITE	12.321	3.607	5.06	5.199	BMB
8	13.63	PHOSPHATE	0.542	0.601	0.84	1.961	BM
9	17.83	n.a.	0.001	0.003	0.00	n.a.	MB
Total:			401.447	71.232	100.00	259.767	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

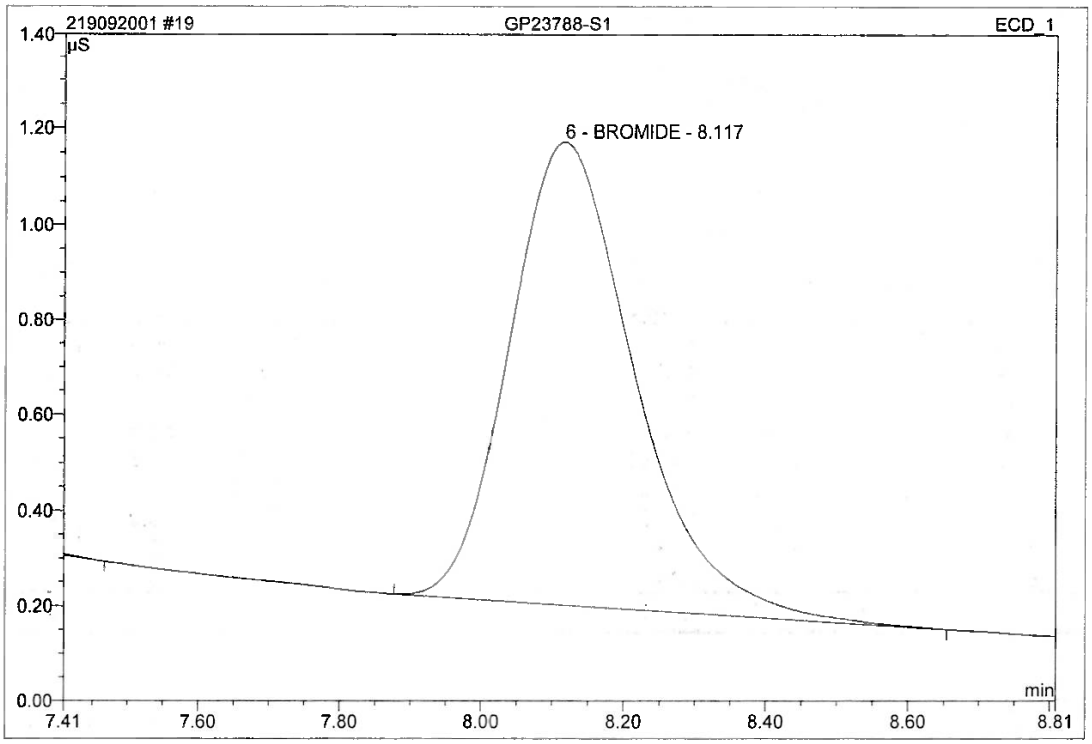
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:09 AM

19 GP23788-S1

JC95246-1

Sample Name:	**GP23788-S1**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 14:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.441	0.979	1.37	2.117	BMB
2	4.47	CHLORIDE	284.361	43.206	60.66	150.059	BM
3	5.17	n.a.	2.681	0.777	1.09	n.a.	M
4	5.54	NITRATE	7.151	1.314	1.84	2.102	Mb
5	6.18	SULFATE	85.977	20.548	28.85	96.512	bMB
6	8.12	BROMIDE	0.970	0.198	0.28	1.816	BMB
7	9.61	NITRITE	12.321	3.607	5.06	5.199	BMB
8	13.63	PHOSPHATE	0.542	0.601	0.84	1.961	BM
9	17.83	n.a.	0.001	0.003	0.00	n.a.	MB
Total:			401.447	71.232	100.00	259.767	

DEFAULT/Integration

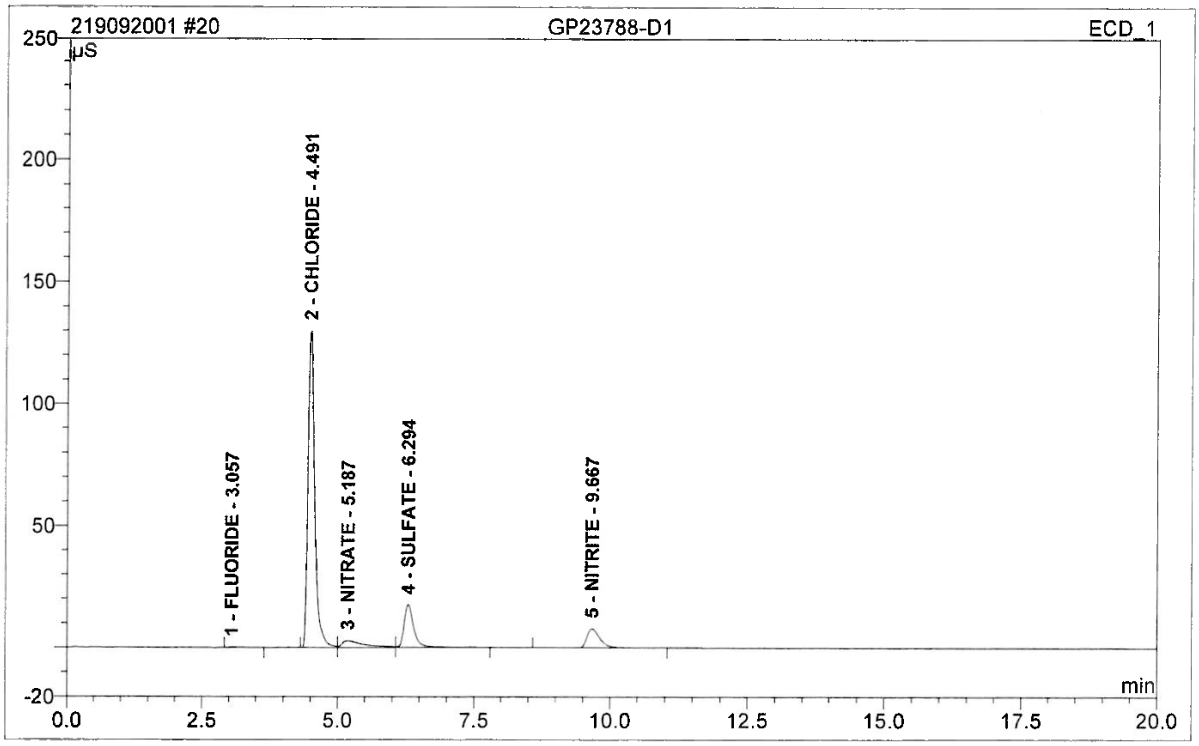
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

20 GP23788-D1

JC95246-1

Sample Name:	**GP23788-D1**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 14:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.183	0.033	0.13	0.072	BMB
2	4.49	CHLORIDE	129.892	18.780	72.60	65.223	BM
3	5.19	NITRATE	2.778	1.284	4.97	2.055	M
4	6.29	SULFATE	17.337	3.602	13.92	16.918	MB
5	9.67	NITRITE	7.791	2.167	8.38	3.124	BMB
Total:			157.981	25.866	100.00	87.391	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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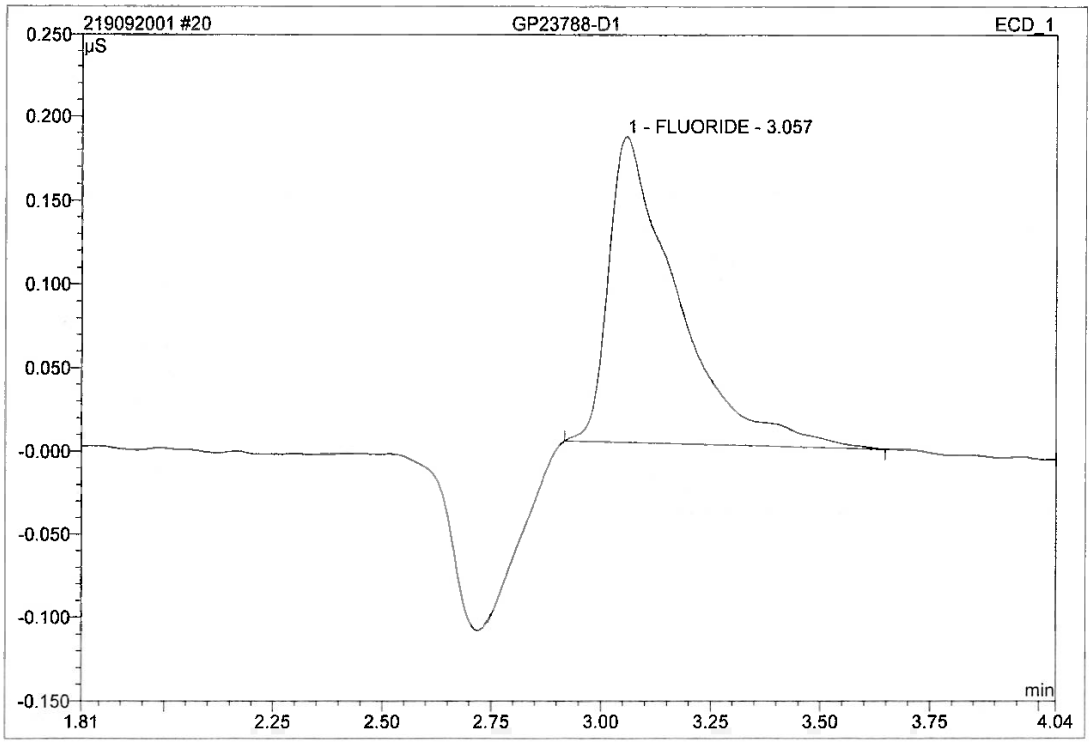
9/24/2019 10:09 AM

20 GP23788-D1

JC95246-1

Sample Name:	**GP23788-D1**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 14:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.183	0.033	0.13	0.072	BMB
2	4.49	CHLORIDE	129.892	18.780	72.60	65.223	BM
3	5.19	NITRATE	2.778	1.284	4.97	2.055	M
4	6.29	SULFATE	17.337	3.602	13.92	16.918	MB
5	9.67	NITRITE	7.791	2.167	8.38	3.124	BMB
Total:			157.981	25.866	100.00	87.391	

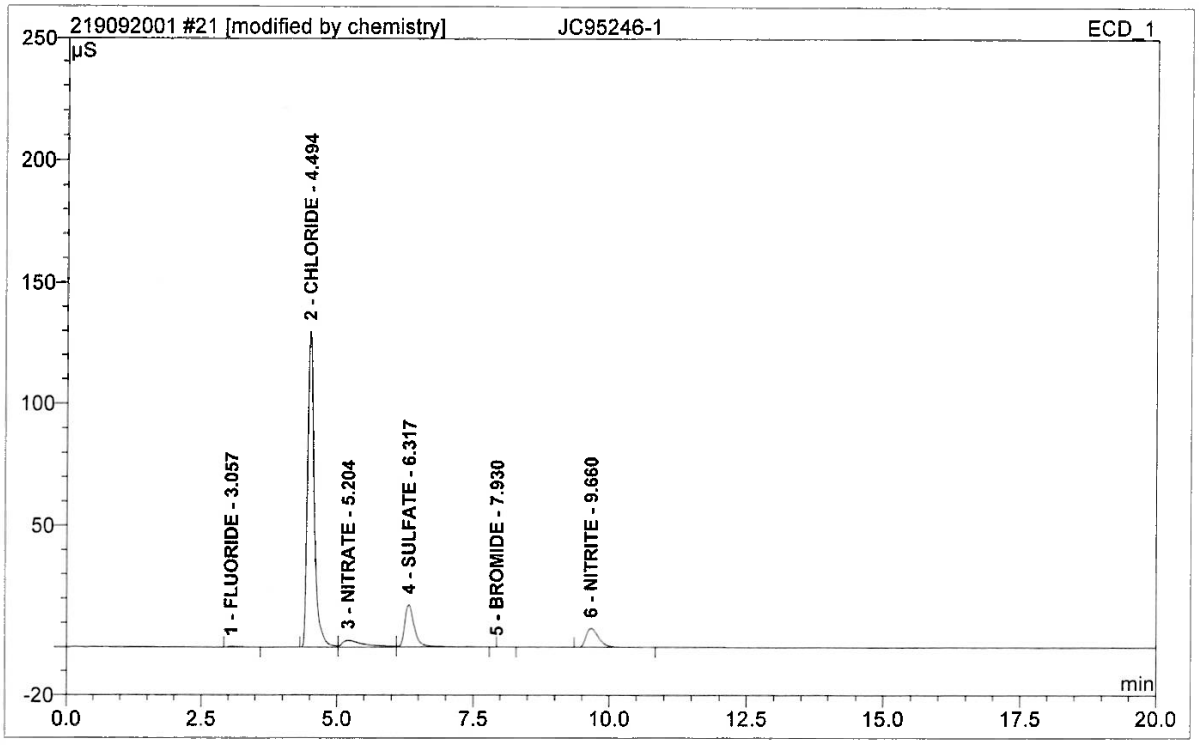
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

21 JC95246-1

Sample Name:	**JC95246-1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.177	0.030	0.12	0.065	BMB
2	4.49	CHLORIDE	129.799	18.781	72.89	65.227	BM
3	5.20	NITRATE	2.766	1.284	4.98	2.054	M
4	6.32	SULFATE	17.275	3.580	13.90	16.817	MB
5	7.93	BROMIDE	0.000	0.001	0.01	0.013	BMB*
6	9.66	NITRITE	7.712	2.091	8.11	3.014	BMB
Total:			157.728	25.767	100.00	87.190	

missed peak
N 9/24/19

anions/Integration

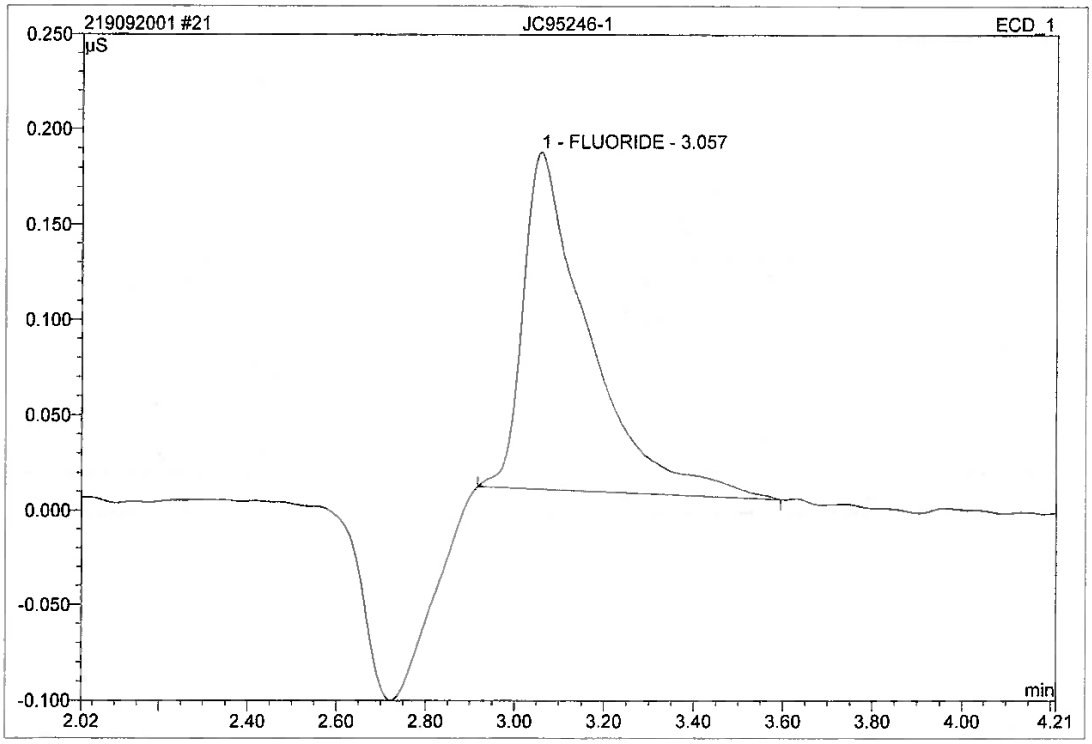
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:31 AM

21 JC95246-1

Sample Name:	**JC95246-1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.177	0.030	0.12	0.065	BMB
2	4.49	CHLORIDE	129.799	18.781	72.89	65.227	BM
3	5.20	NITRATE	2.766	1.284	4.98	2.054	M
4	6.32	SULFATE	17.275	3.580	13.90	16.817	MB
5	9.66	NITRITE	7.712	2.091	8.11	3.014	BMB
Total:			157.728	25.766	100.00	87.177	

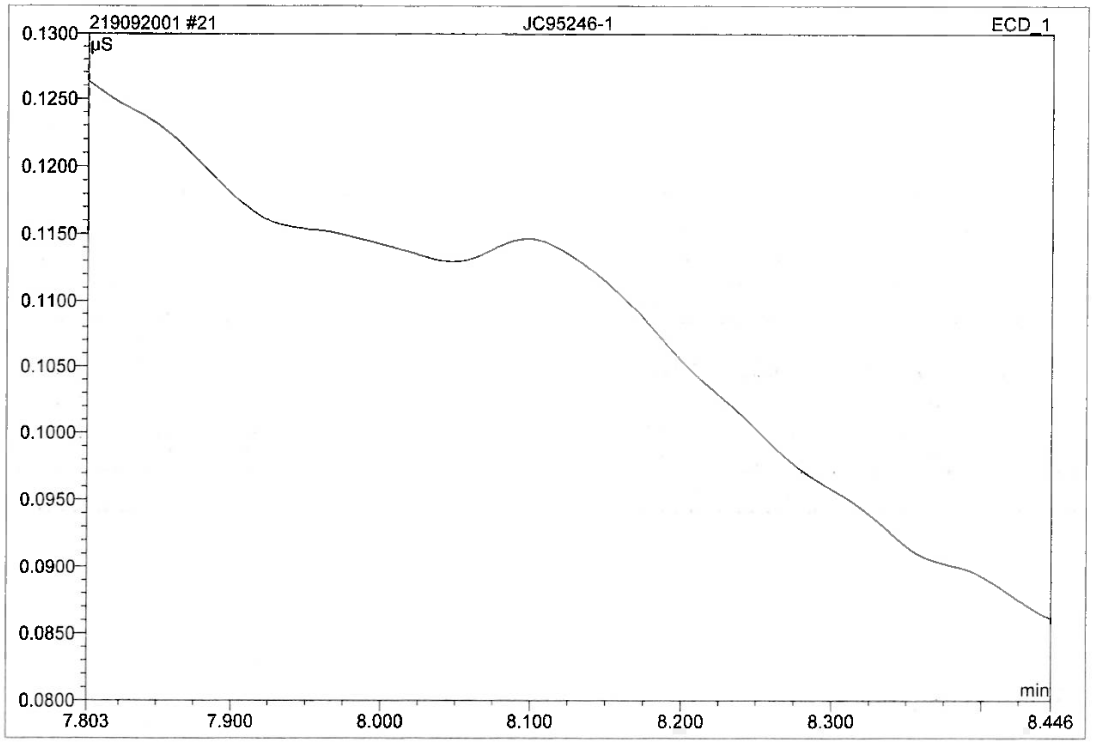
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

21 JC95246-1

Sample Name:	**JC95246-1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.177	0.030	0.12	0.065	BMB
2	4.49	CHLORIDE	129.799	18.781	72.89	65.227	BM
3	5.20	NITRATE	2.766	1.284	4.98	2.054	M
4	6.32	SULFATE	17.275	3.580	13.90	16.817	MB
5	9.66	NITRITE	7.712	2.091	8.11	3.014	BMB
Total:			157.728	25.766	100.00	87.177	

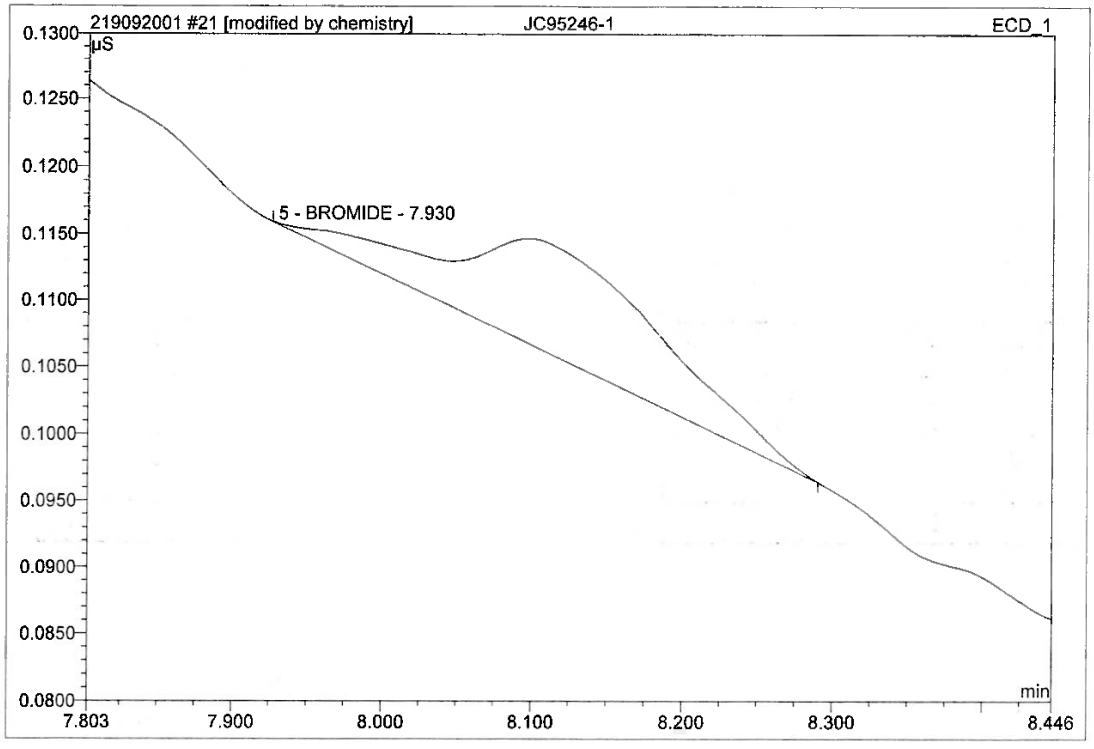
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

21 JC95246-1

Sample Name:	**JC95246-1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.177	0.030	0.12	0.065	BMB
2	4.49	CHLORIDE	129.799	18.781	72.89	65.227	BM
3	5.20	NITRATE	2.766	1.284	4.98	2.054	M
4	6.32	SULFATE	17.275	3.580	13.90	16.817	MB
5	7.93	BROMIDE	0.000	0.001	0.01	0.013	BMB*
6	9.66	NITRITE	7.712	2.091	8.11	3.014	BMB
Total:			157.728	25.767	100.00	87.190	

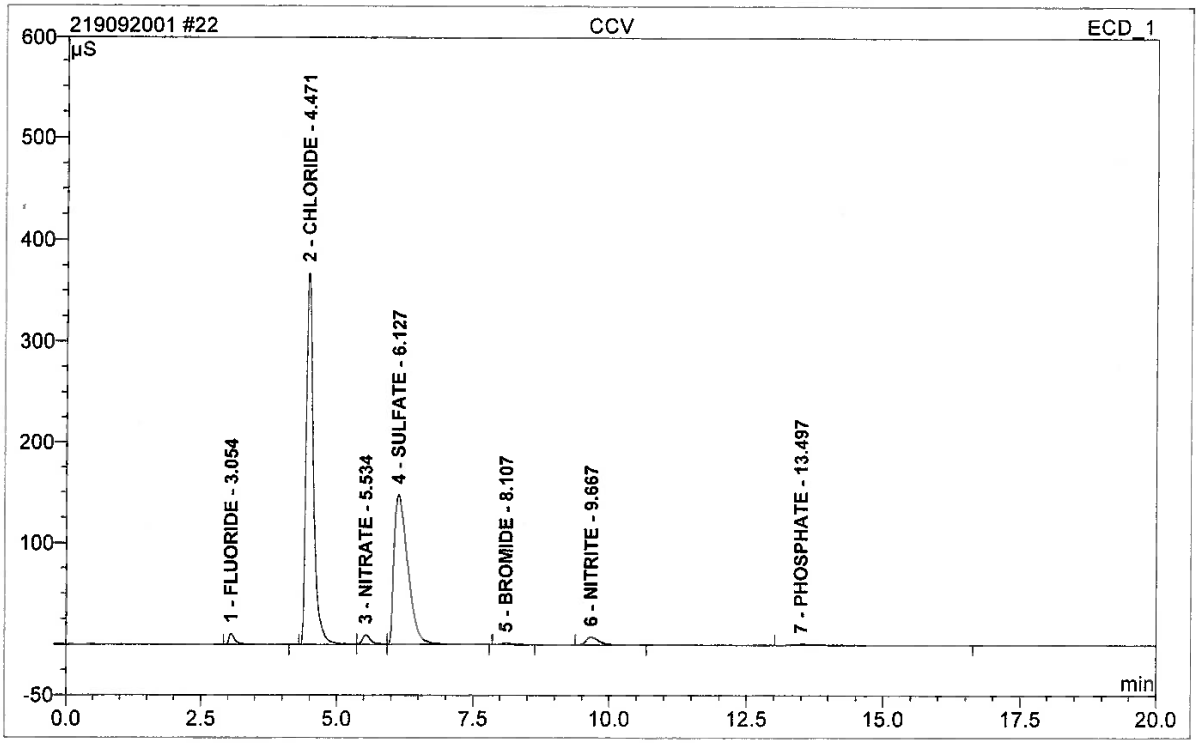
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

22 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.495	1.357	1.27	2.936	BMB
2	4.47	CHLORIDE	367.458	57.514	53.94	199.750	BM
3	5.53	NITRATE	9.248	1.671	1.57	2.673	M
4	6.13	SULFATE	148.083	42.977	40.31	201.862	MB
5	8.11	BROMIDE	1.467	0.300	0.28	2.754	BMB
6	9.67	NITRITE	7.393	2.015	1.89	2.905	BMB
7	13.50	PHOSPHATE	1.049	0.784	0.74	2.560	BMB
Total:			545.192	106.618	100.00	415.440	

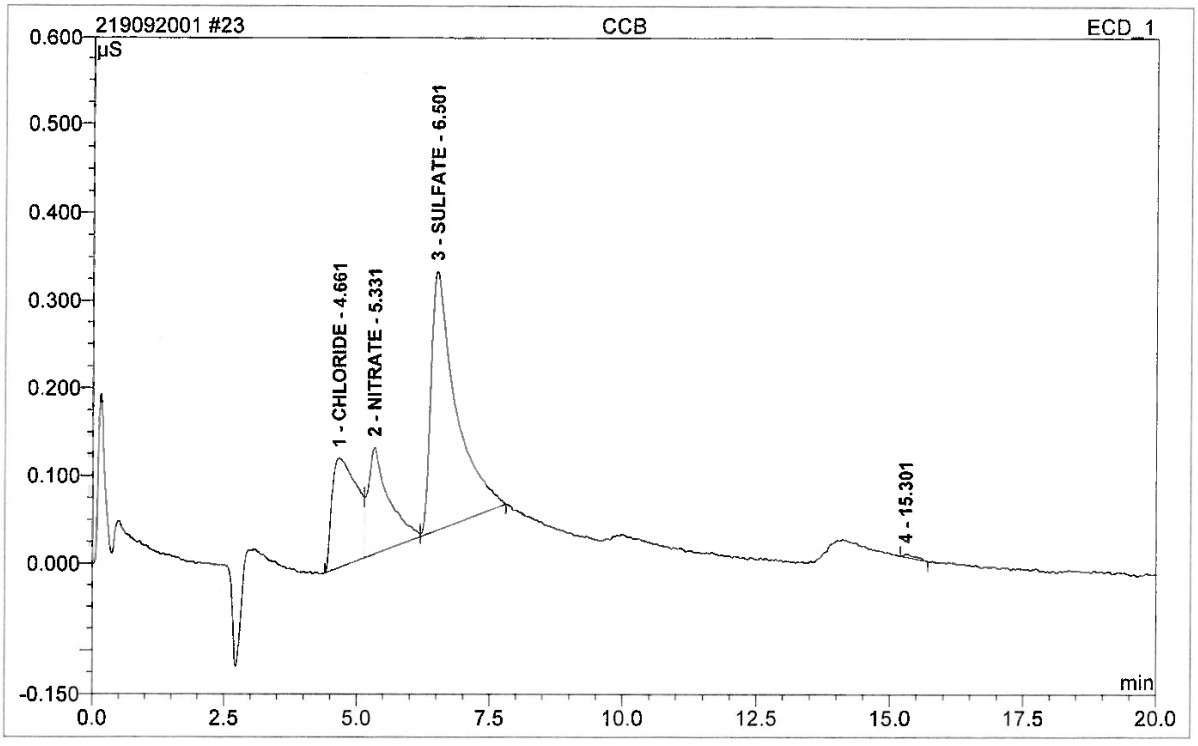
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

23 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 15:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.66	CHLORIDE	0.125	0.067	23.49	0.231	BM
2	5.33	NITRATE	0.122	0.056	19.69	0.089	M
3	6.50	SULFATE	0.296	0.160	56.45	0.752	MB
4	15.30	n.a.	0.004	0.001	0.37	n.a.	BMB
Total:			0.547	0.284	100.00	1.073	

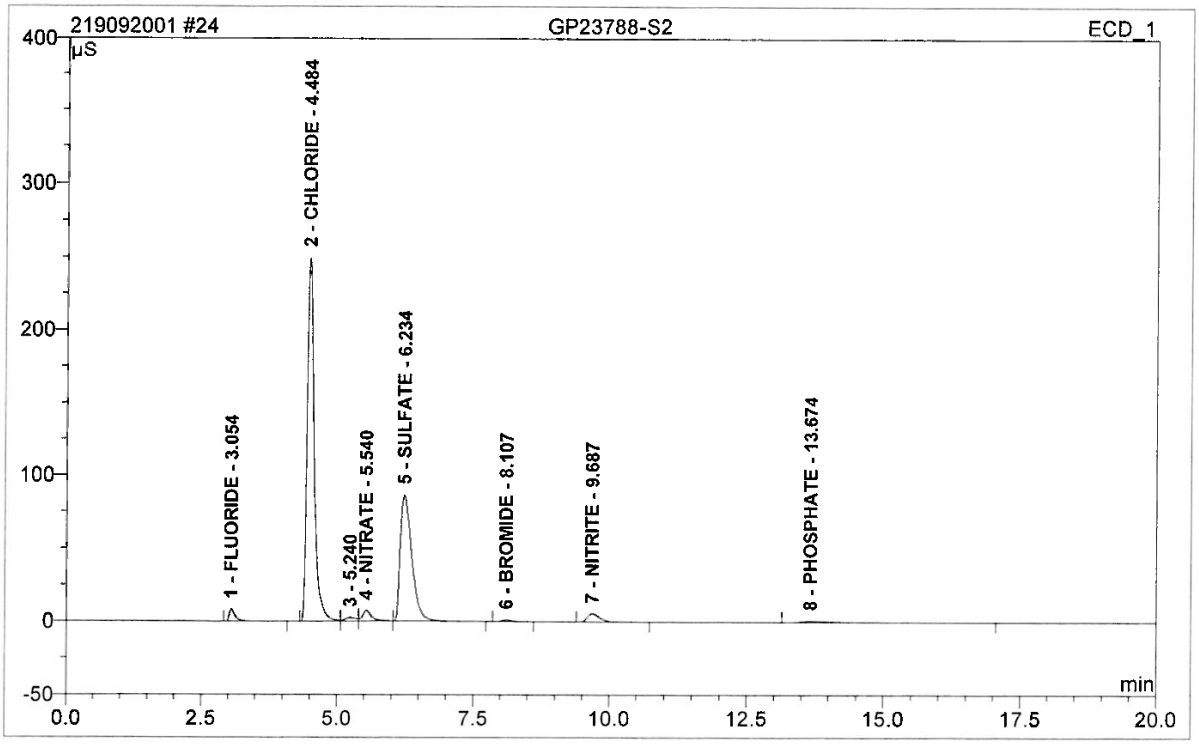
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

24 GP23788-S2

Sample Name:	**GP23788-S2**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.888	1.024	1.61	2.215	BMB
2	4.48	CHLORIDE	249.250	37.700	59.14	130.935	BM
3	5.24	n.a.	2.073	0.504	0.79	n.a.	M
4	5.54	NITRATE	7.109	1.319	2.07	2.110	MB
5	6.23	SULFATE	85.901	20.902	32.79	98.175	BMB
6	8.11	BROMIDE	1.005	0.205	0.32	1.882	BMB
7	9.69	NITRITE	5.326	1.393	2.19	2.008	BMB
8	13.67	PHOSPHATE	0.788	0.705	1.11	2.303	BMB
Total:			359.339	63.752	100.00	239.628	

anions/Integration

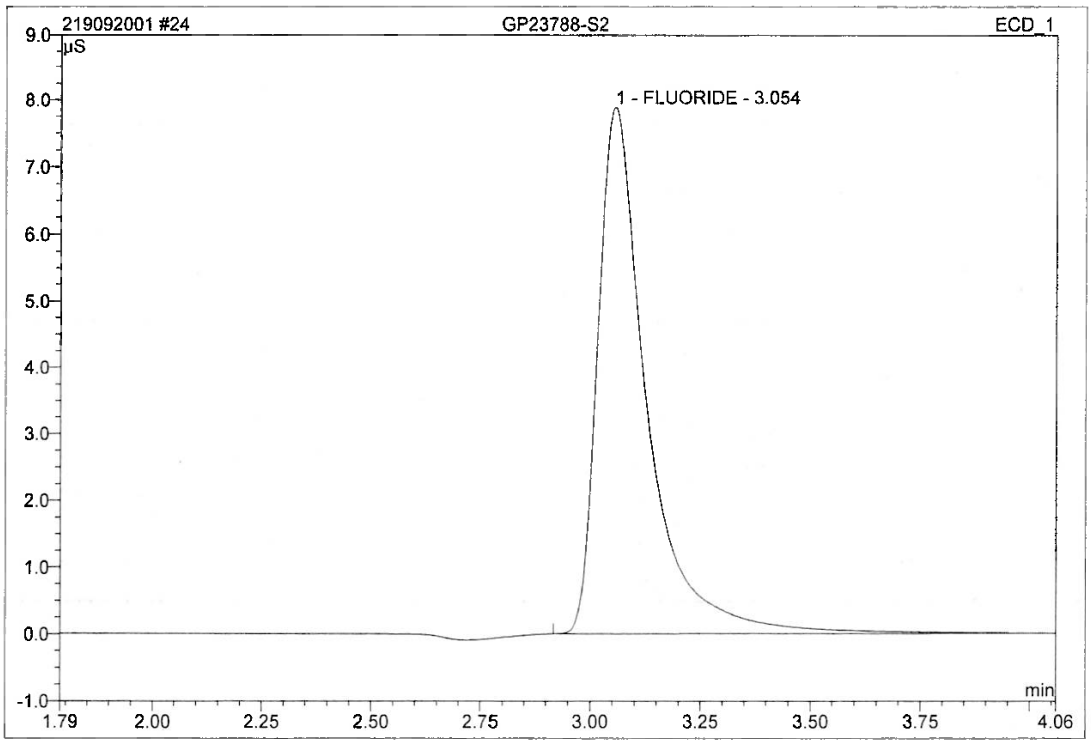
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:11 AM

24 GP23788-S2

Sample Name:	**GP23788-S2**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.888	1.024	1.61	2.215	BMB
2	4.48	CHLORIDE	249.250	37.700	59.14	130.935	BM
3	5.24	n.a.	2.073	0.504	0.79	n.a.	M
4	5.54	NITRATE	7.109	1.319	2.07	2.110	MB
5	6.23	SULFATE	85.901	20.902	32.79	98.175	BMB
6	8.11	BROMIDE	1.005	0.205	0.32	1.882	BMB
7	9.69	NITRITE	5.326	1.393	2.19	2.008	BMB
8	13.67	PHOSPHATE	0.788	0.705	1.11	2.303	BMB
Total:			359.339	63.752	100.00	239.628	

DEFAULT/Integration

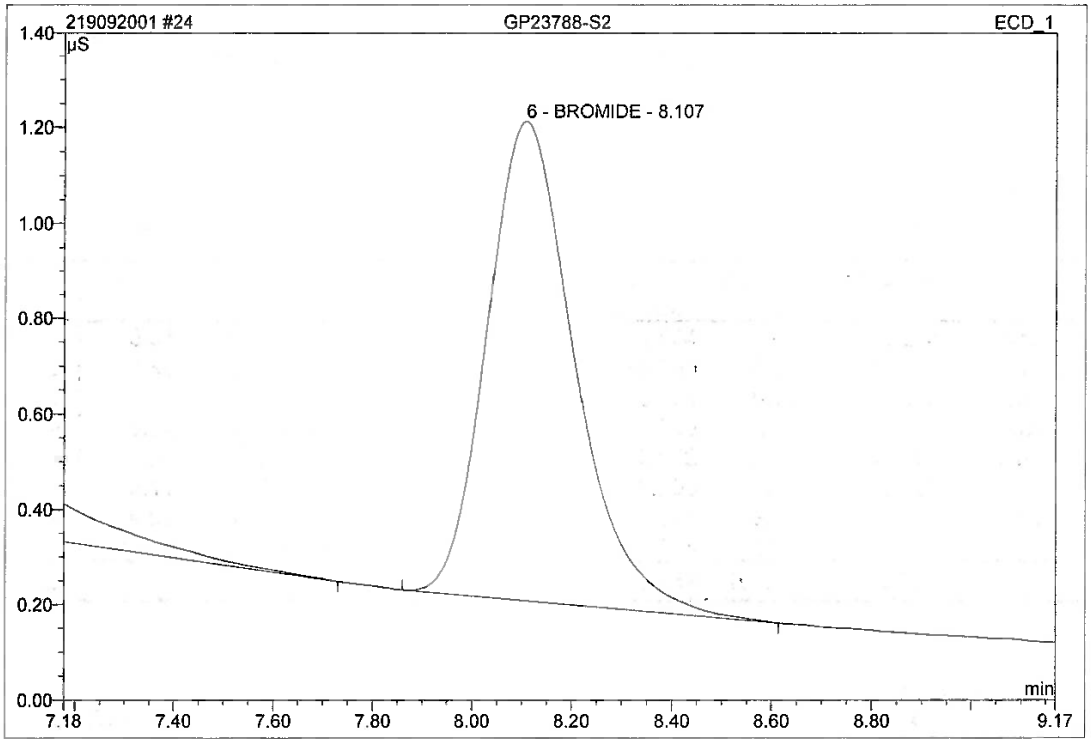
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:11 AM

24 GP23788-S2

Sample Name:	**GP23788-S2**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.888	1.024	1.61	2.215	BMB
2	4.48	CHLORIDE	249.250	37.700	59.14	130.935	BM
3	5.24	n.a.	2.073	0.504	0.79	n.a.	M
4	5.54	NITRATE	7.109	1.319	2.07	2.110	MB
5	6.23	SULFATE	85.901	20.902	32.79	98.175	BMB
6	8.11	BROMIDE	1.005	0.205	0.32	1.882	BMB
7	9.69	NITRITE	5.326	1.393	2.19	2.008	BMB
8	13.67	PHOSPHATE	0.788	0.705	1.11	2.303	BMB
Total:			359.339	63.752	100.00	239.628	

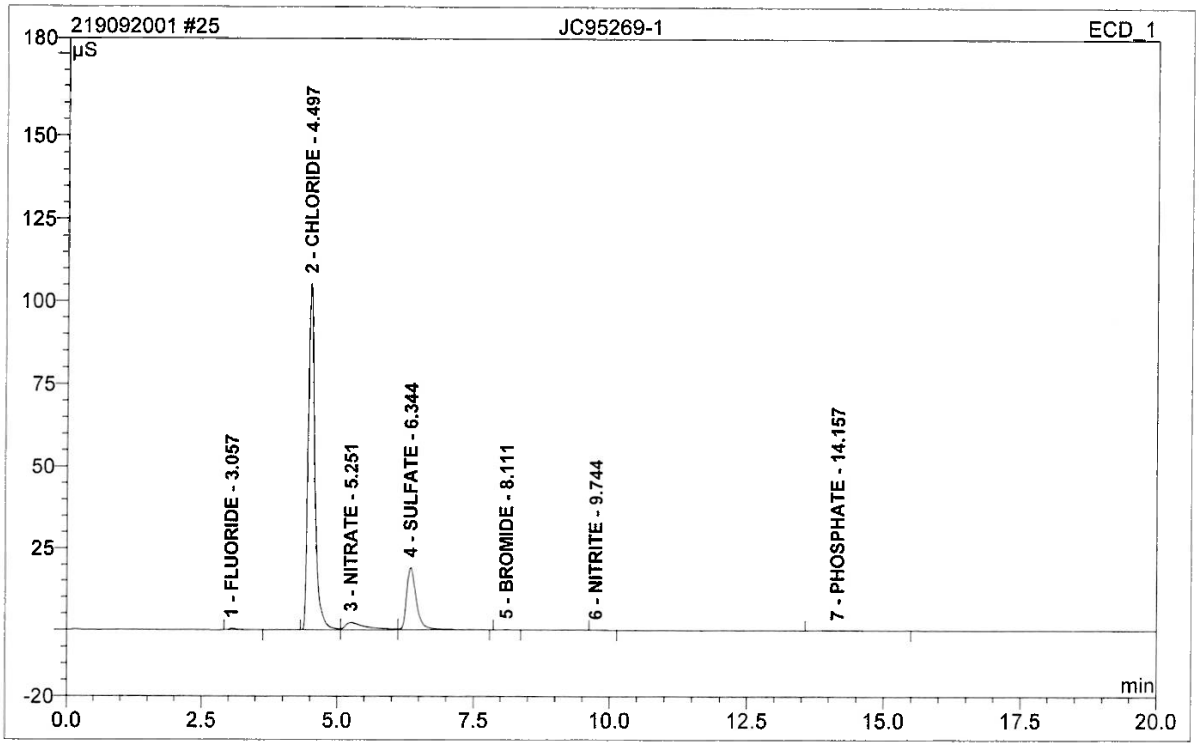
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

25 JC95269-1

Sample Name:	**JC95269-1**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.422	0.059	0.29	0.127	BMB
2	4.50	CHLORIDE	105.252	15.160	74.83	52.651	BM
3	5.25	NITRATE	2.254	0.995	4.91	1.591	M
4	6.34	SULFATE	19.029	3.982	19.66	18.705	MB
5	8.11	BROMIDE	0.038	0.008	0.04	0.069	BMB
6	9.74	NITRITE	0.007	0.002	0.01	0.003	BMB
7	14.16	PHOSPHATE	0.059	0.054	0.27	0.176	BMB
Total:			127.061	20.258	100.00	73.321	

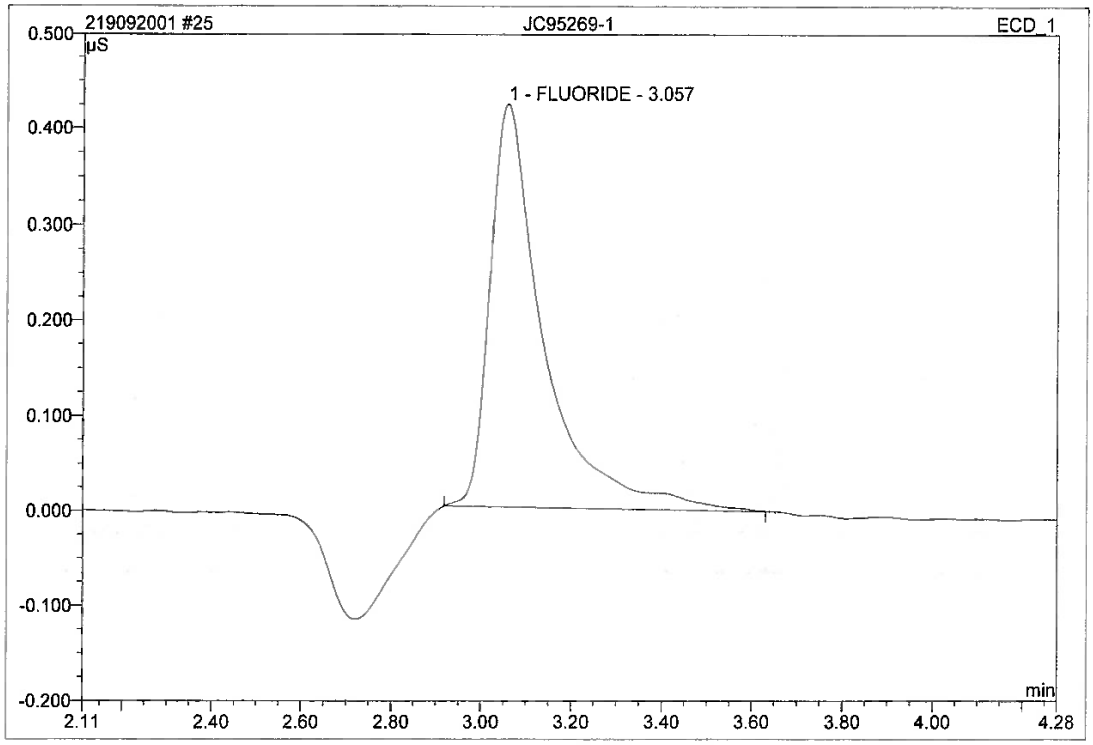
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

25 JC95269-1

Sample Name:	**JC95269-1**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.422	0.059	0.29	0.127	BMB
2	4.50	CHLORIDE	105.252	15.160	74.83	52.651	BM
3	5.25	NITRATE	2.254	0.995	4.91	1.591	M
4	6.34	SULFATE	19.029	3.982	19.66	18.705	MB
5	8.11	BROMIDE	0.038	0.008	0.04	0.069	BMB
6	9.74	NITRITE	0.007	0.002	0.01	0.003	BMB
7	14.16	PHOSPHATE	0.059	0.054	0.27	0.176	BMB
Total:			127.061	20.258	100.00	73.321	

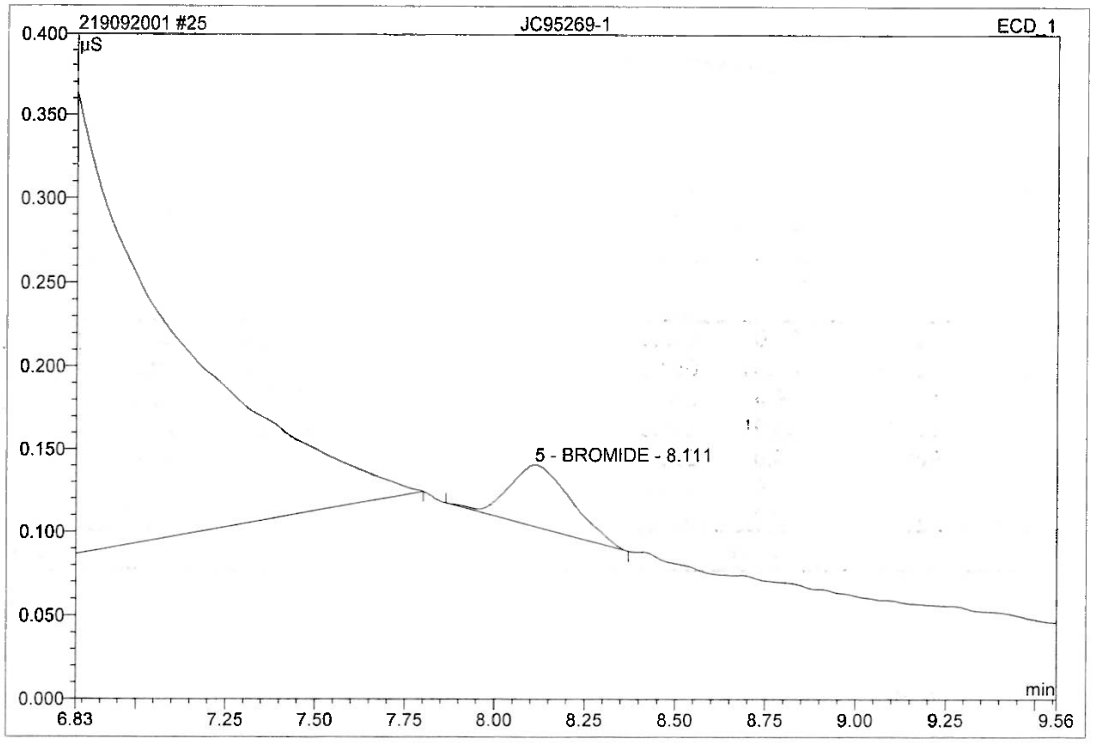
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

25 JC95269-1

Sample Name:	**JC95269-1**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 16:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.422	0.059	0.29	0.127	BMB
2	4.50	CHLORIDE	105.252	15.160	74.83	52.651	BM
3	5.25	NITRATE	2.254	0.995	4.91	1.591	M
4	6.34	SULFATE	19.029	3.982	19.66	18.705	MB
5	8.11	BROMIDE	0.038	0.008	0.04	0.069	BMB
6	9.74	NITRITE	0.007	0.002	0.01	0.003	BMB
7	14.16	PHOSPHATE	0.059	0.054	0.27	0.176	BMB
Total:			127.061	20.258	100.00	73.321	

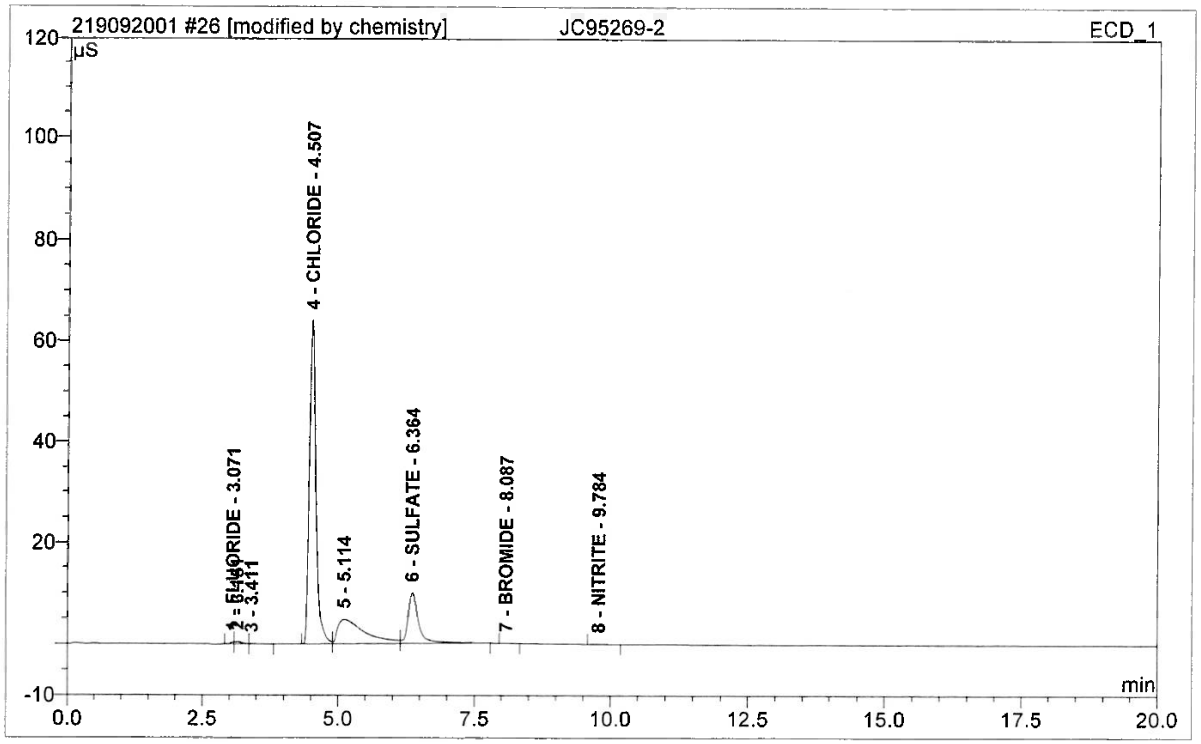
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

26 JC95269-2

Sample Name:	**JC95269-2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.07	FLUORIDE	0.329	0.024	0.17	0.053	BM *
2	3.15	n.a.	0.423	0.063	0.45	n.a.	M *
3	3.41	n.a.	0.062	0.010	0.07	n.a.	MB
4	4.51	CHLORIDE	64.155	8.960	63.61	31.119	BM
5	5.11	n.a.	4.713	2.753	19.55	n.a.	M
6	6.36	SULFATE	9.911	2.256	16.02	10.596	MB
7	8.09	BROMIDE	0.023	0.005	0.03	0.042	BMB
8	9.78	NITRITE	0.056	0.014	0.10	0.020	BMB
Total:			79.673	14.085	100.00	41.829	

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anions/Integration

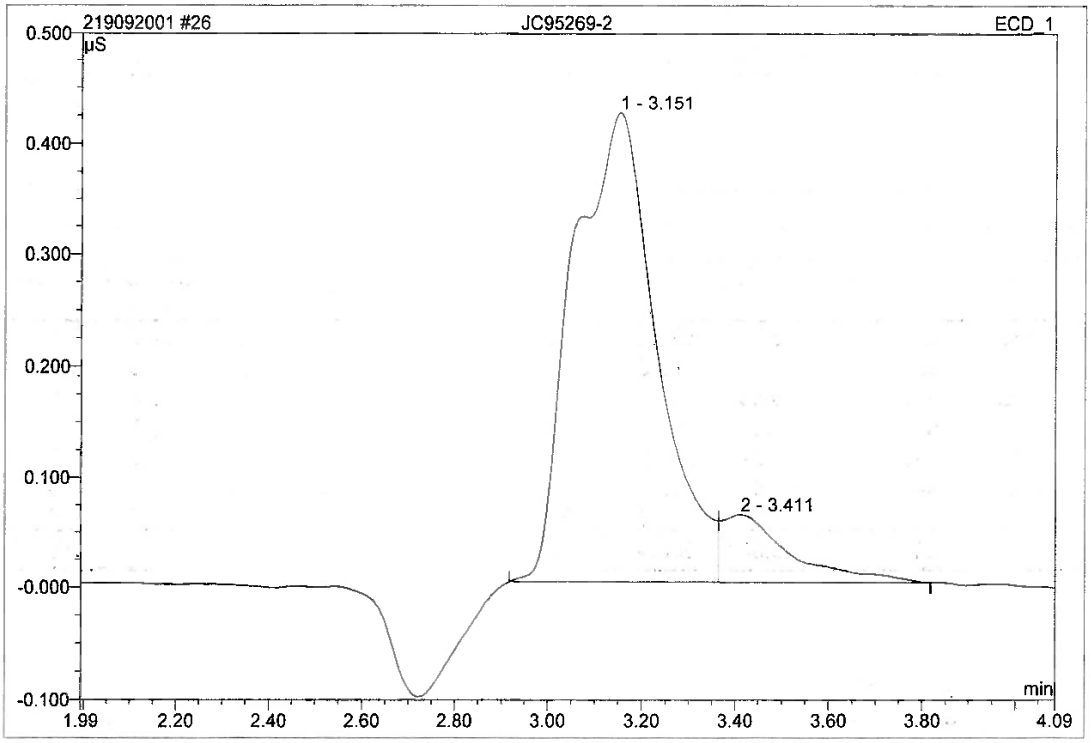
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:33 AM

26 JC95269-2

Sample Name:	**JC95269-2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.423	0.087	0.62	n.a.	BM
2	3.41	n.a.	0.062	0.010	0.07	n.a.	MB
3	4.51	CHLORIDE	64.155	8.960	63.61	31.119	BM
4	5.11	n.a.	4.713	2.753	19.55	n.a.	M
5	6.36	SULFATE	9.911	2.256	16.02	10.596	MB
6	8.09	BROMIDE	0.023	0.005	0.03	0.042	BMB
7	9.78	NITRITE	0.056	0.014	0.10	0.020	BMB
Total:			79.344	14.085	100.00	41.776	

DEFAULT/Integration

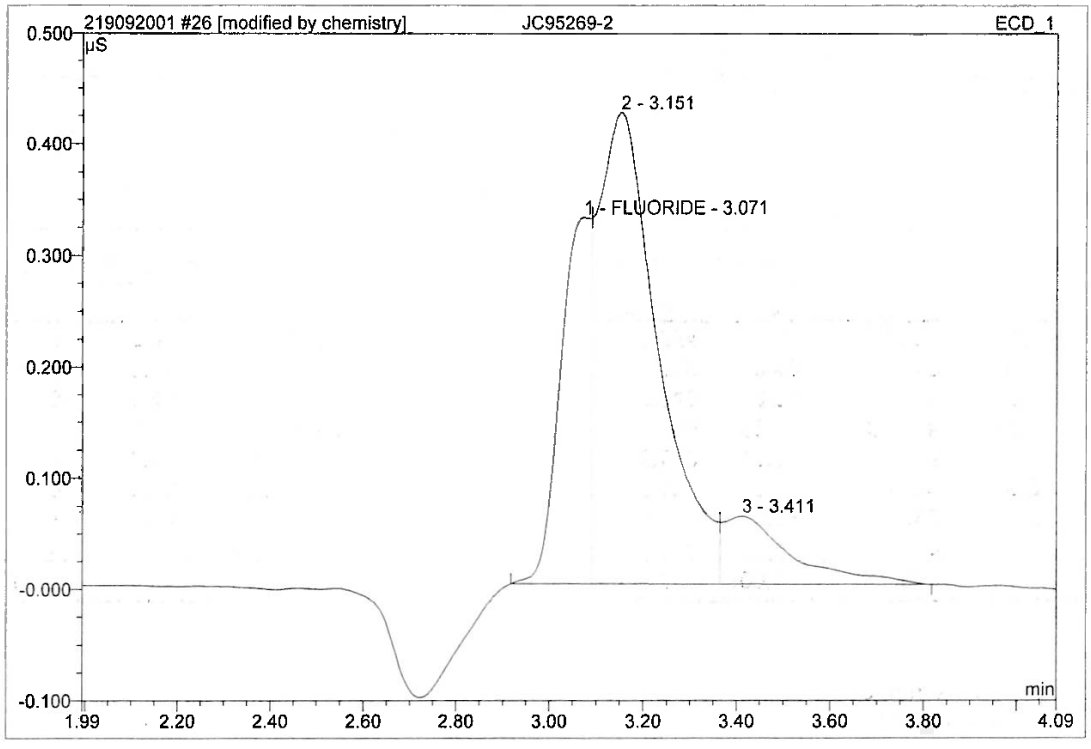
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:33 AM

26 JC95269-2

Sample Name:	**JC95269-2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.07	FLUORIDE	0.329	0.024	0.17	0.053	BM *
2	3.15	n.a.	0.423	0.063	0.45	n.a.	M *
3	3.41	n.a.	0.062	0.010	0.07	n.a.	MB
4	4.51	CHLORIDE	64.155	8.960	63.61	31.119	BM
5	5.11	n.a.	4.713	2.753	19.55	n.a.	M
6	6.36	SULFATE	9.911	2.256	16.02	10.596	MB
7	8.09	BROMIDE	0.023	0.005	0.03	0.042	BMB
8	9.78	NITRITE	0.056	0.014	0.10	0.020	BMB
Total:			79.673	14.085	100.00	41.829	

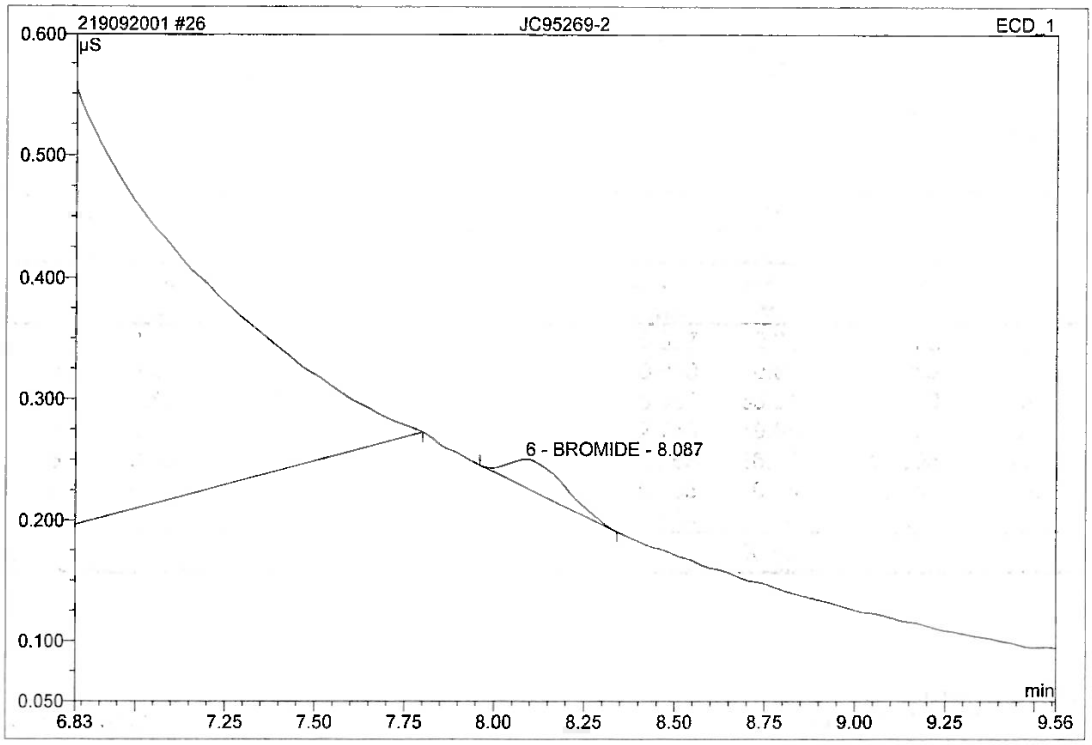
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

26 JC95269-2

Sample Name:	**JC95269-2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.423	0.087	0.62	n.a.	BM
2	3.41	n.a.	0.062	0.010	0.07	n.a.	MB
3	4.51	CHLORIDE	64.155	8.960	63.61	31.119	BM
4	5.11	n.a.	4.713	2.753	19.55	n.a.	M
5	6.36	SULFATE	9.911	2.256	16.02	10.596	MB
6	8.09	BROMIDE	0.023	0.005	0.03	0.042	BMB
7	9.78	NITRITE	0.056	0.014	0.10	0.020	BMB
Total:			79.344	14.085	100.00	41.776	

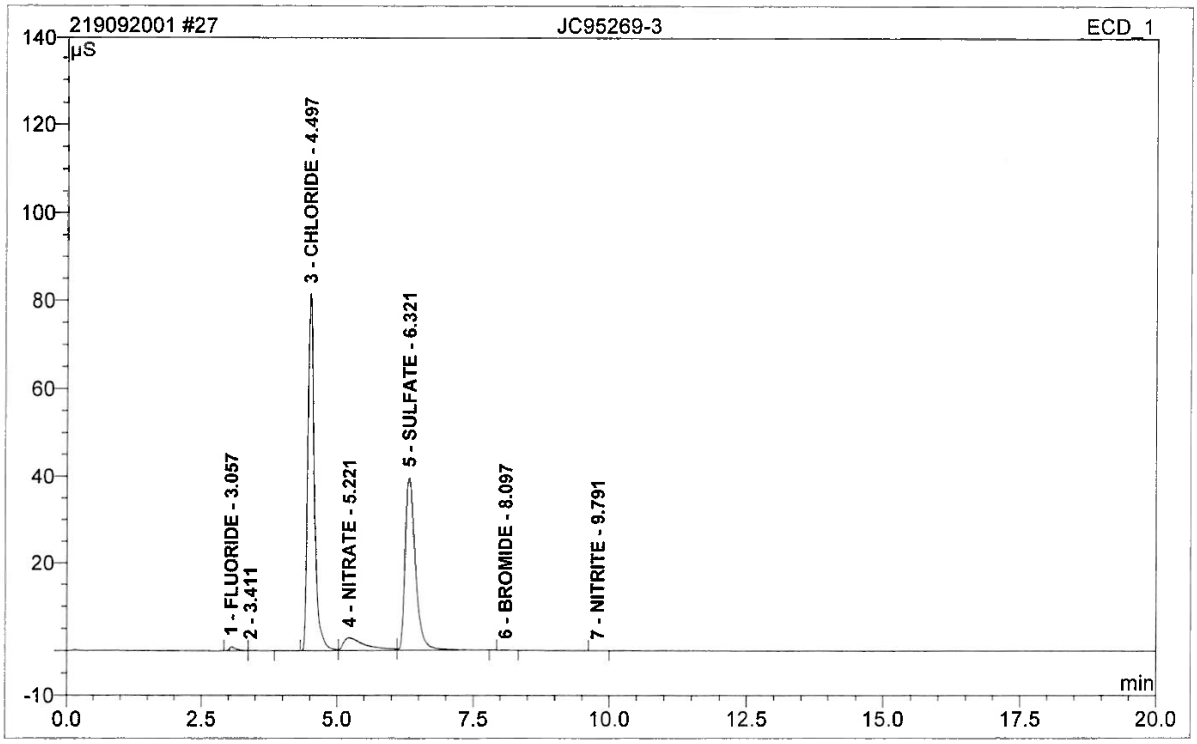
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

27 JC95269-3

JC95269-1

Sample Name:	**JC95269-3**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.830	0.115	0.53	0.248	BM
2	3.41	n.a.	0.044	0.007	0.03	n.a.	MB
3	4.50	CHLORIDE	81.381	11.479	53.35	39.867	BM
4	5.22	NITRATE	2.812	1.318	6.12	2.109	M
5	6.32	SULFATE	39.593	8.592	39.93	40.356	MB
6	8.10	BROMIDE	0.026	0.005	0.02	0.045	BMB
7	9.79	NITRITE	0.006	0.001	0.00	0.002	BMB
Total:			124.692	21.516	100.00	82.626	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

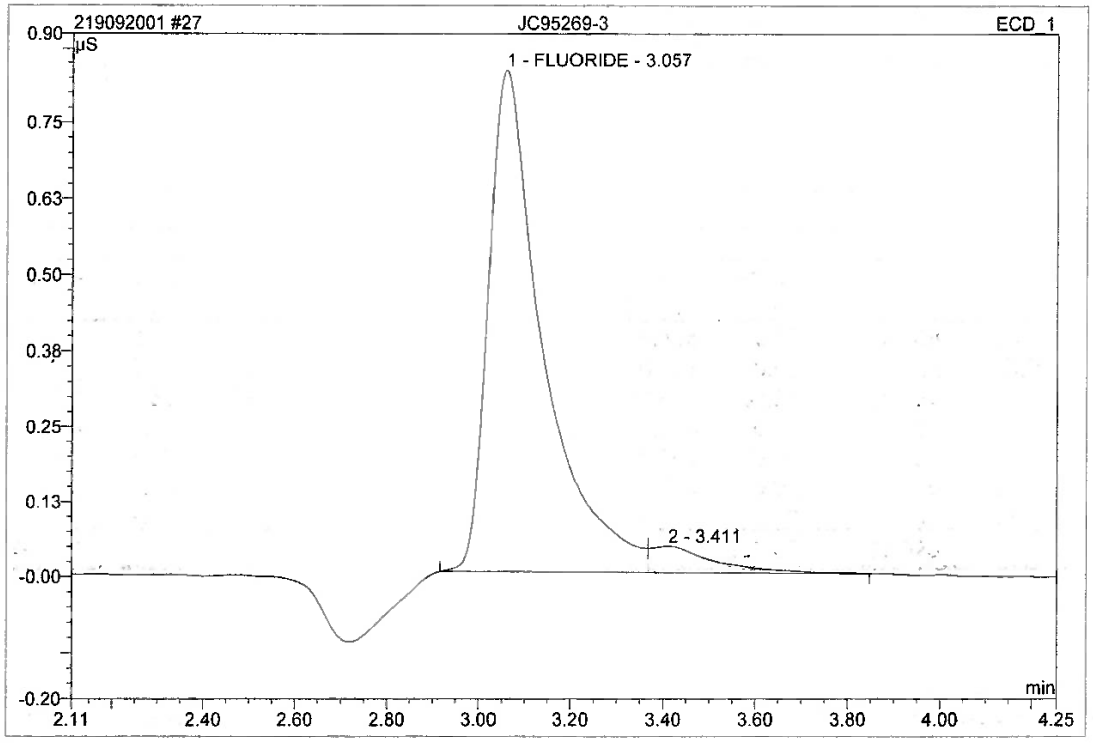
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:33 AM

27 JC95269-3

JC95269-1

Sample Name:	**JC95269-3**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.830	0.115	0.53	0.248	BM
2	3.41	n.a.	0.044	0.007	0.03	n.a.	MB
3	4.50	CHLORIDE	81.381	11.479	53.35	39.867	BM
4	5.22	NITRATE	2.812	1.318	6.12	2.109	M
5	6.32	SULFATE	39.593	8.592	39.93	40.356	MB
6	8.10	BROMIDE	0.026	0.005	0.02	0.045	BMB
7	9.79	NITRITE	0.006	0.001	0.00	0.002	BMB
Total:			124.692	21.516	100.00	82.626	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

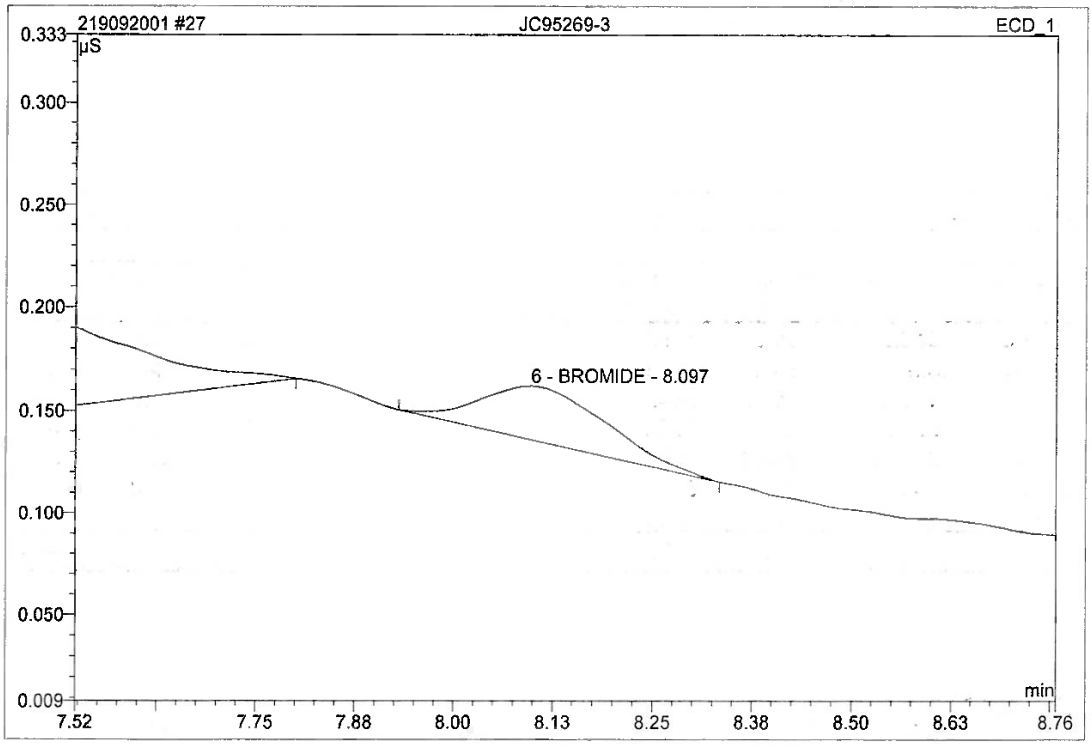
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:33 AM

27 JC95269-3

JC95269-1

Sample Name:	**JC95269-3**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



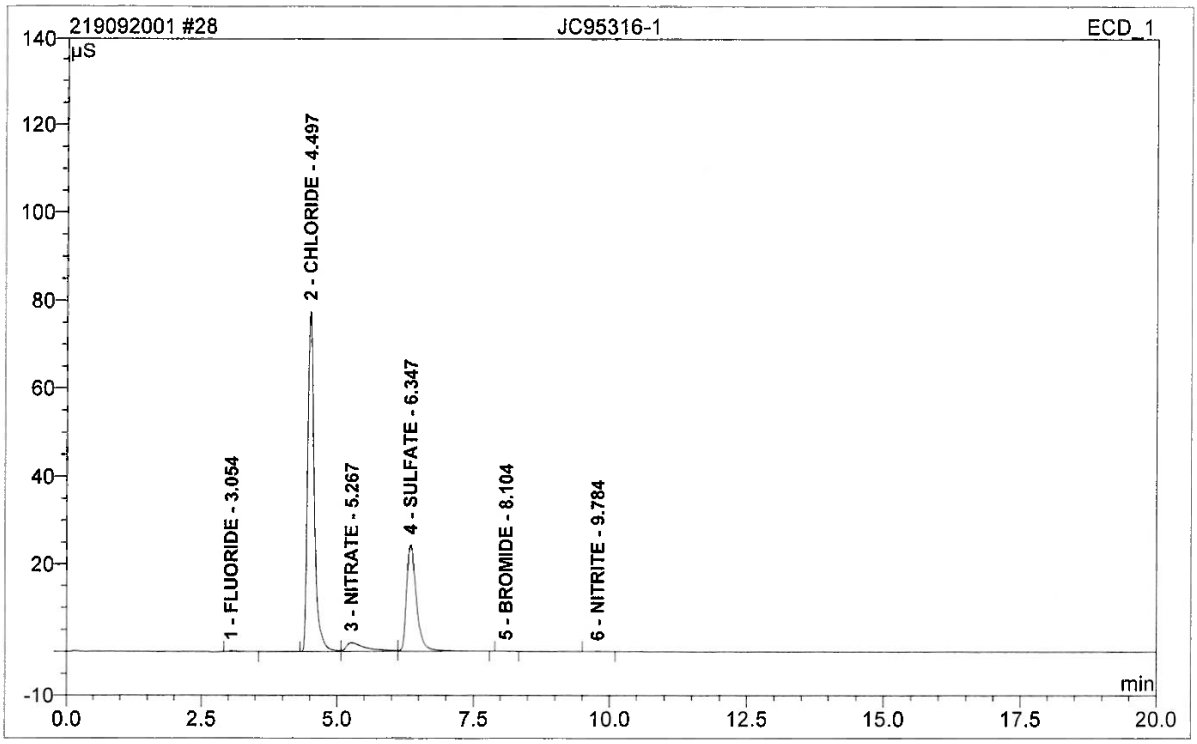
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.830	0.115	0.53	0.248	BM
2	3.41	n.a.	0.044	0.007	0.03	n.a.	MB
3	4.50	CHLORIDE	81.381	11.479	53.35	39.867	BM
4	5.22	NITRATE	2.812	1.318	6.12	2.109	M
5	6.32	SULFATE	39.593	8.592	39.93	40.356	MB
6	8.10	BROMIDE	0.026	0.005	0.02	0.045	BMB
7	9.79	NITRITE	0.006	0.001	0.00	0.002	BMB
Total:			124.692	21.516	100.00	82.626	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

28 JC95316-1

Sample Name:	**JC95316-1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.154	0.028	0.16	0.060	BMB
2	4.50	CHLORIDE	77.512	11.014	64.68	38.253	BM
3	5.27	NITRATE	2.023	0.865	5.08	1.384	M
4	6.35	SULFATE	24.345	5.102	29.96	23.962	MB
5	8.10	BROMIDE	0.024	0.005	0.03	0.041	BMB
6	9.78	NITRITE	0.062	0.015	0.09	0.022	BMB
Total:			104.120	17.028	100.00	63.722	

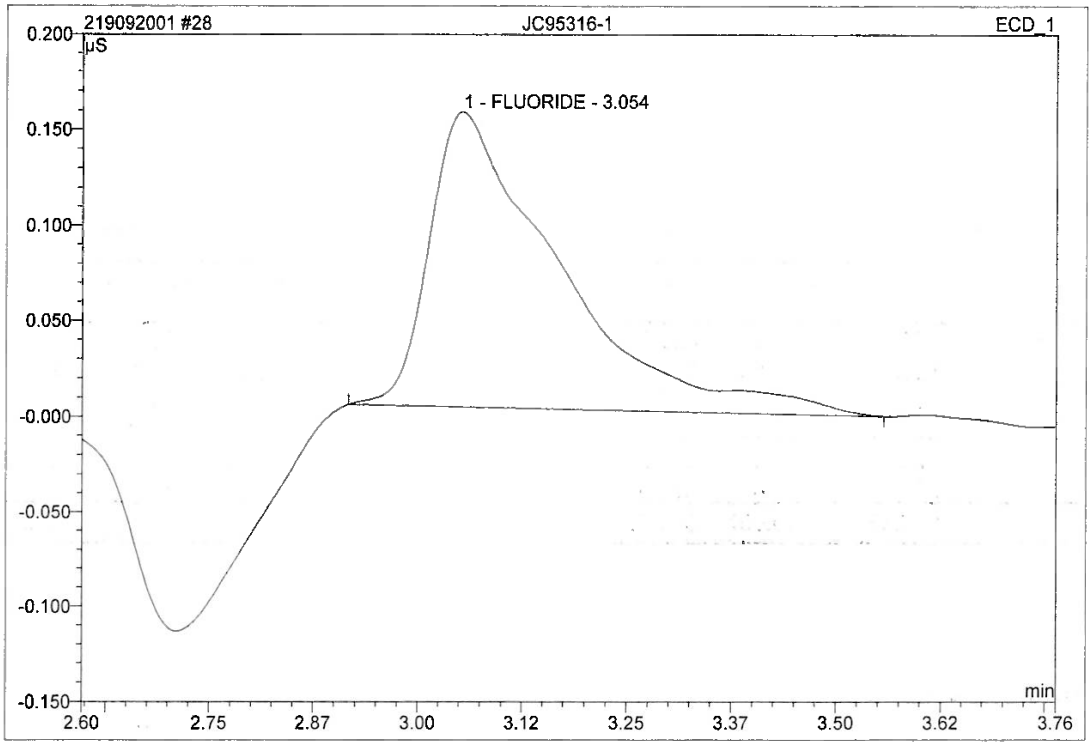
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

28 JC95316-1

Sample Name:	**JC95316-1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.154	0.028	0.16	0.060	BMB
2	4.50	CHLORIDE	77.512	11.014	64.68	38.253	BM
3	5.27	NITRATE	2.023	0.865	5.08	1.384	M
4	6.35	SULFATE	24.345	5.102	29.96	23.962	MB
5	8.10	BROMIDE	0.024	0.005	0.03	0.041	BMB
6	9.78	NITRITE	0.062	0.015	0.09	0.022	BMB
Total:			104.120	17.028	100.00	63.722	

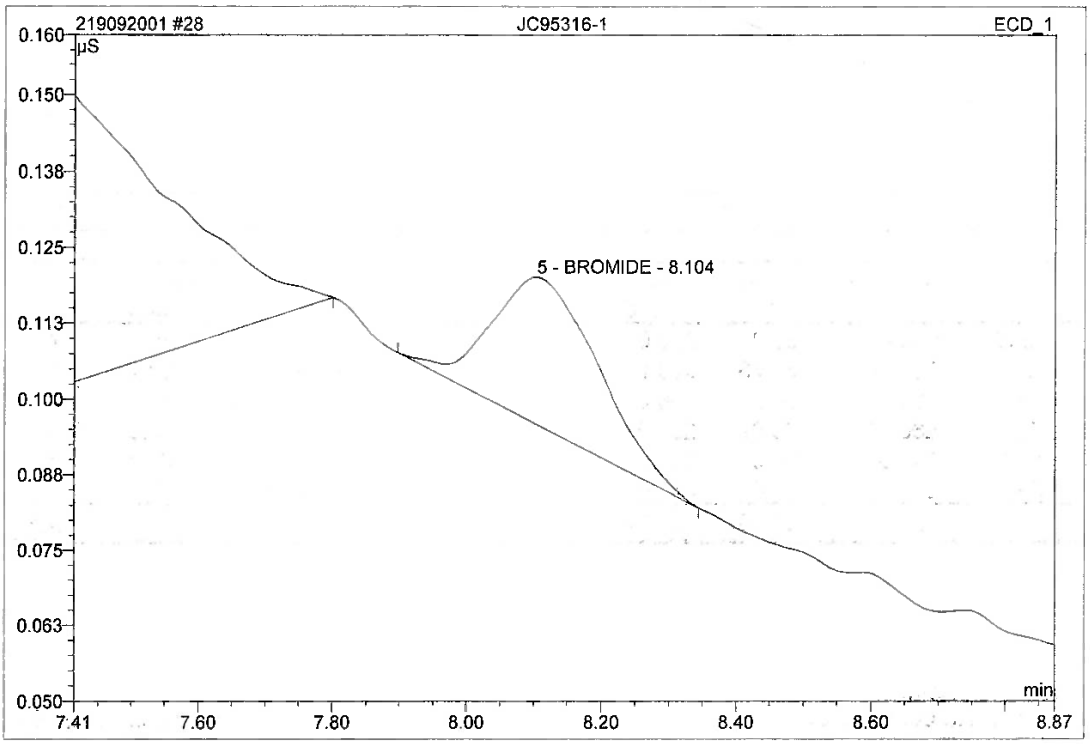
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

28 JC95316-1

Sample Name:	**JC95316-1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 17:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



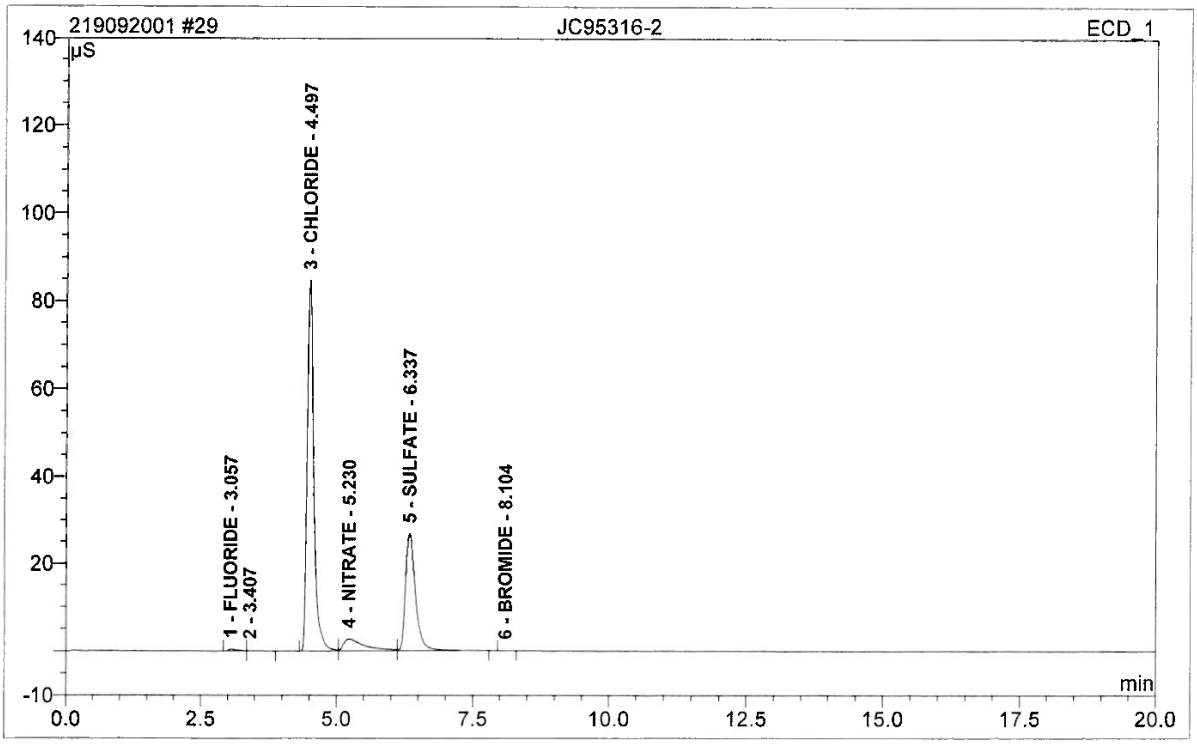
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.154	0.028	0.16	0.060	BMB
2	4.50	CHLORIDE	77.512	11.014	64.68	38.253	BM
3	5.27	NITRATE	2.023	0.865	5.08	1.384	M
4	6.35	SULFATE	24.345	5.102	29.96	23.962	MB
5	8.10	BROMIDE	0.024	0.005	0.03	0.041	BMB
6	9.78	NITRITE	0.062	0.015	0.09	0.022	BMB
Total:			104.120	17.028	100.00	63.722	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

29 JC95316-2

Sample Name:	**JC95316-2**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.400	0.068	0.36	0.146	BM
2	3.41	n.a.	0.054	0.010	0.05	n.a.	MB
3	4.50	CHLORIDE	84.631	11.992	63.33	41.649	BM
4	5.23	NITRATE	2.617	1.201	6.34	1.921	M
5	6.34	SULFATE	26.824	5.660	29.89	26.586	MB
6	8.10	BROMIDE	0.021	0.004	0.02	0.034	BMB
Total:			114.546	18.934	100.00	70.336	

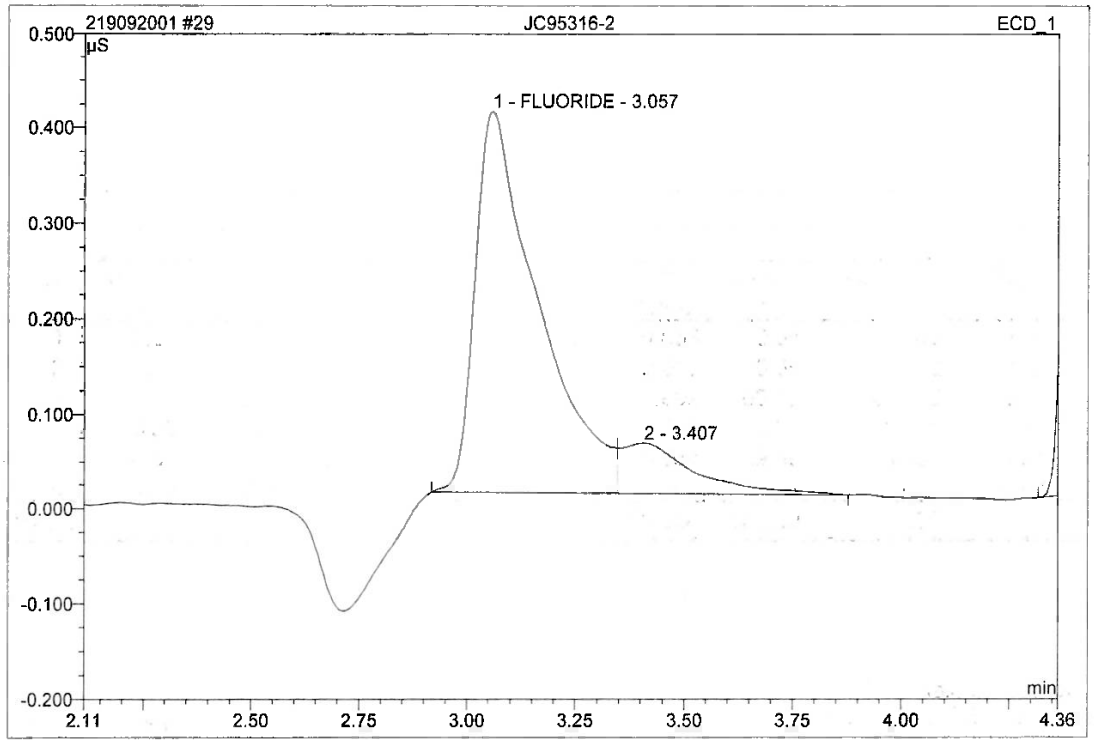
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

29 JC95316-2

Sample Name:	**JC95316-2**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.400	0.068	0.36	0.146	BM
2	3.41	n.a.	0.054	0.010	0.05	n.a.	MB
3	4.50	CHLORIDE	84.631	11.992	63.33	41.649	BM
4	5.23	NITRATE	2.617	1.201	6.34	1.921	M
5	6.34	SULFATE	26.824	5.660	29.89	26.586	MB
6	8.10	BROMIDE	0.021	0.004	0.02	0.034	BMB
Total:			114.546	18.934	100.00	70.336	

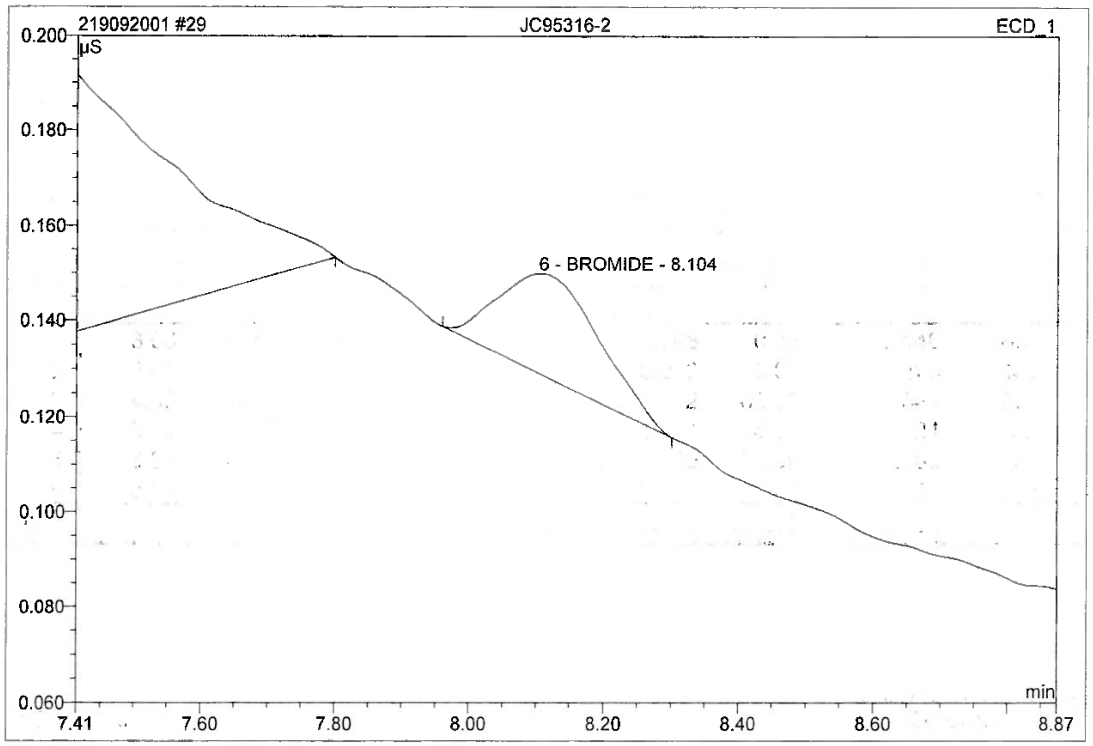
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

29 JC95316-2

Sample Name:	**JC95316-2**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.400	0.068	0.36	0.146	BM
2	3.41	n.a.	0.054	0.010	0.05	n.a.	MB
3	4.50	CHLORIDE	84.631	11.992	63.33	41.649	BM
4	5.23	NITRATE	2.617	1.201	6.34	1.921	M
5	6.34	SULFATE	26.824	5.660	29.89	26.586	MB
6	8.10	BROMIDE	0.021	0.004	0.02	0.034	BMB
Total:			114.546	18.934	100.00	70.336	

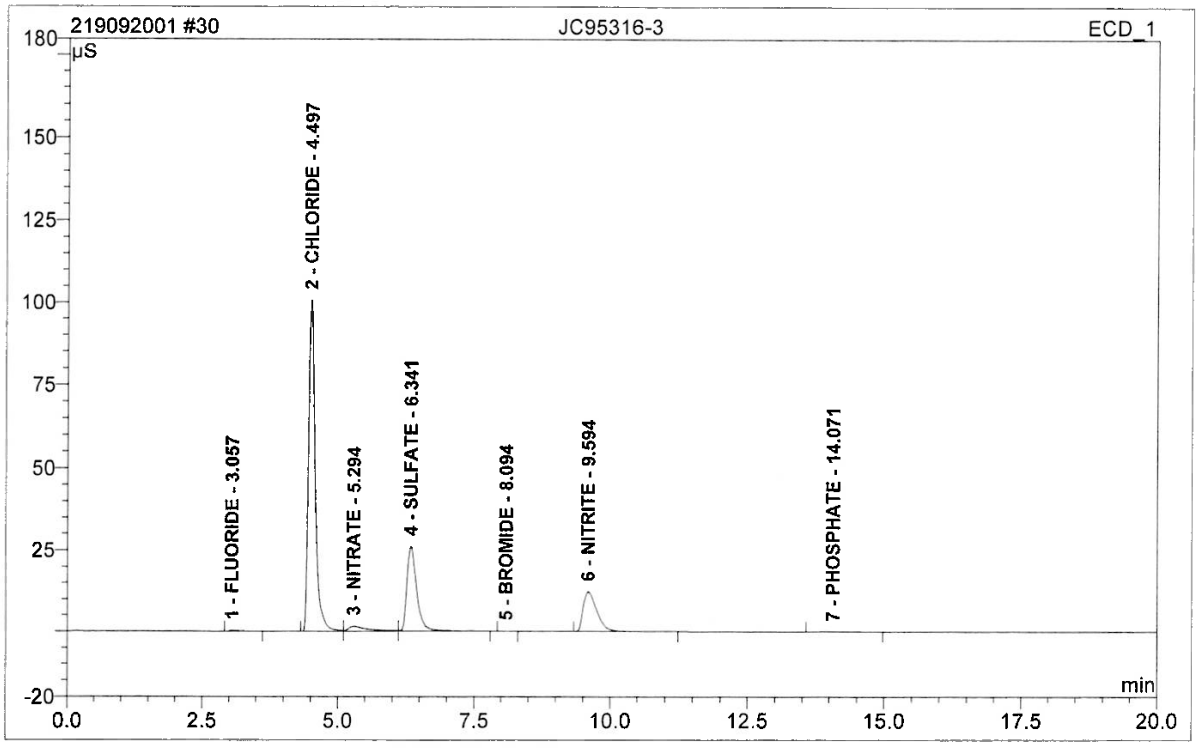
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

30 JC95316-3

Sample Name:	**JC95316-3**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.263	0.043	0.18	0.094	BMB
2	4.50	CHLORIDE	100.538	14.503	59.86	50.369	BM
3	5.29	NITRATE	1.511	0.619	2.56	0.991	M
4	6.34	SULFATE	26.083	5.452	22.50	25.606	MB
5	8.09	BROMIDE	0.019	0.004	0.01	0.032	BMB
6	9.59	NITRITE	12.271	3.581	14.78	5.162	BMB
7	14.07	PHOSPHATE	0.041	0.028	0.11	0.091	BMB
Total:			140.725	24.229	100.00	82.344	

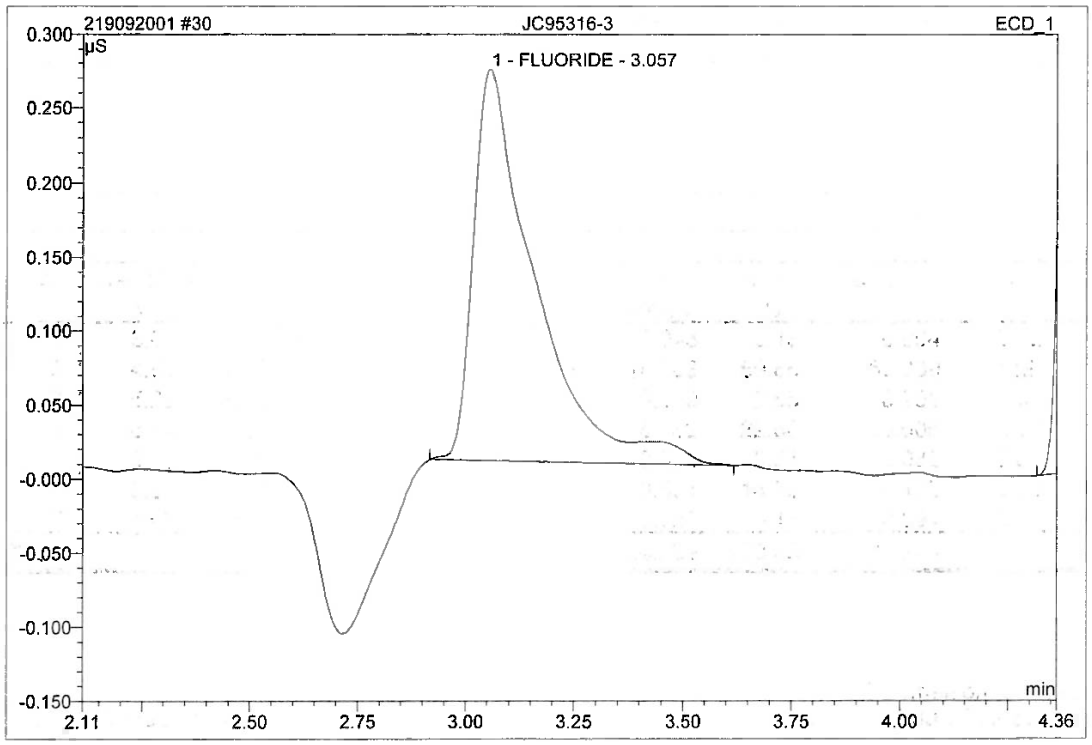
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

30 JC95316-3

Sample Name:	**JC95316-3**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.263	0.043	0.18	0.094	BMB
2	4.50	CHLORIDE	100.538	14.503	59.86	50.369	BM
3	5.29	NITRATE	1.511	0.619	2.56	0.991	M
4	6.34	SULFATE	26.083	5.452	22.50	25.606	MB
5	8.09	BROMIDE	0.019	0.004	0.01	0.032	BMB
6	9.59	NITRITE	12.271	3.581	14.78	5.162	BMB
7	14.07	PHOSPHATE	0.041	0.028	0.11	0.091	BMB
Total:			140.725	24.229	100.00	82.344	

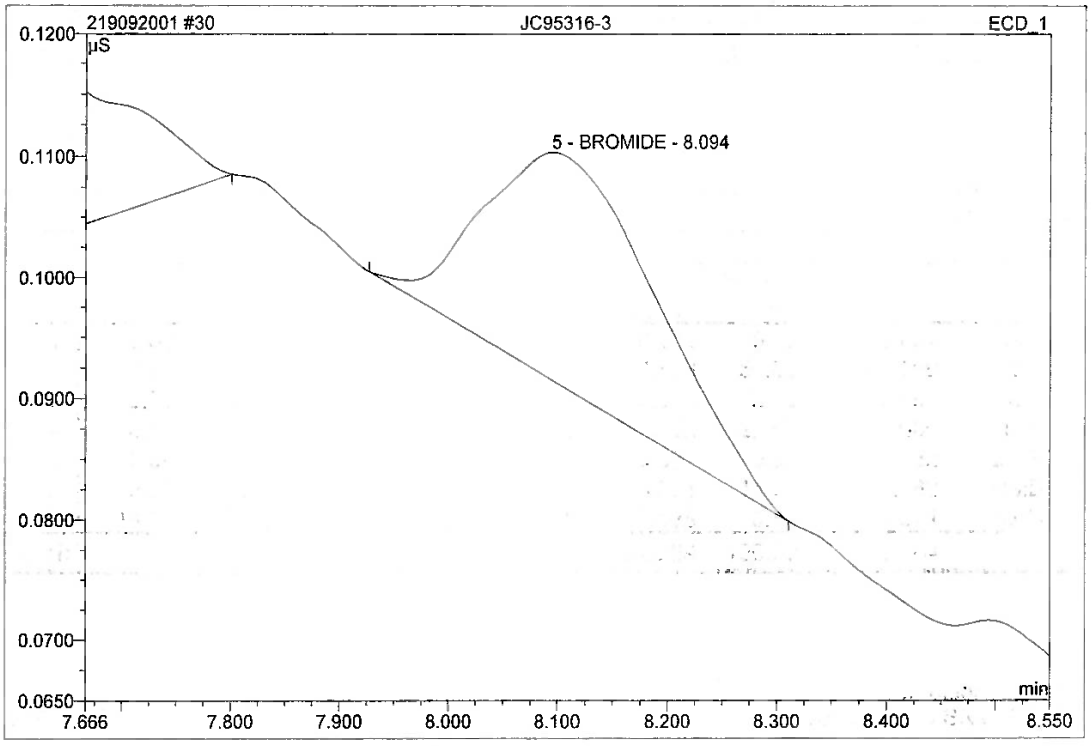
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

30 JC95316-3

Sample Name:	**JC95316-3**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 18:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



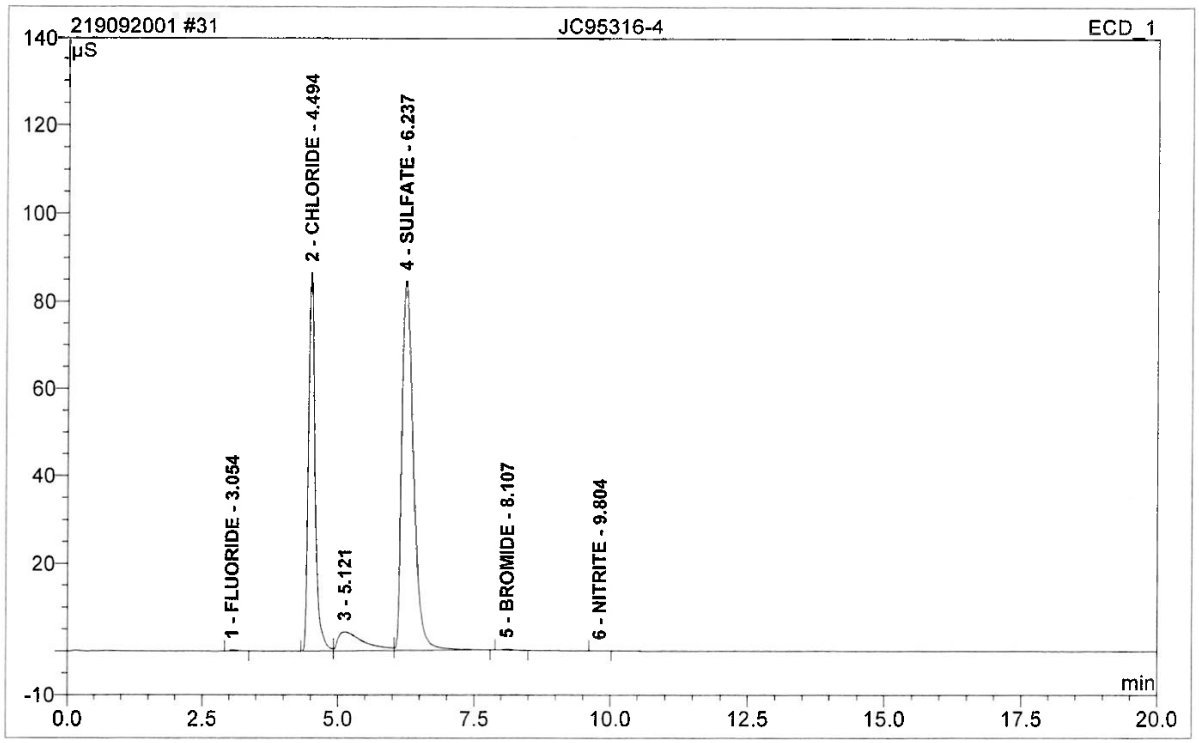
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.263	0.043	0.18	0.094	BMB
2	4.50	CHLORIDE	100.538	14.503	59.86	50.369	BM
3	5.29	NITRATE	1.511	0.619	2.56	0.991	M
4	6.34	SULFATE	26.083	5.452	22.50	25.606	MB
5	8.09	BROMIDE	0.019	0.004	0.01	0.032	BMB
6	9.59	NITRITE	12.271	3.581	14.78	5.162	BMB
7	14.07	PHOSPHATE	0.041	0.028	0.11	0.091	BMB
Total:			140.725	24.229	100.00	82.344	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

31 JC95316-4

Sample Name:	**JC95316-4**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.264	0.039	0.11	0.084	BMB
2	4.49	CHLORIDE	86.623	12.207	34.44	42.395	BM
3	5.12	n.a.	4.293	2.315	6.53	n.a.	M
4	6.24	SULFATE	84.605	20.833	58.78	97.851	MB
5	8.11	BROMIDE	0.226	0.045	0.13	0.416	BMB
6	9.80	NITRITE	0.009	0.002	0.01	0.003	BMB
Total:			176.019	35.441	100.00	140.750	

anions/Integration

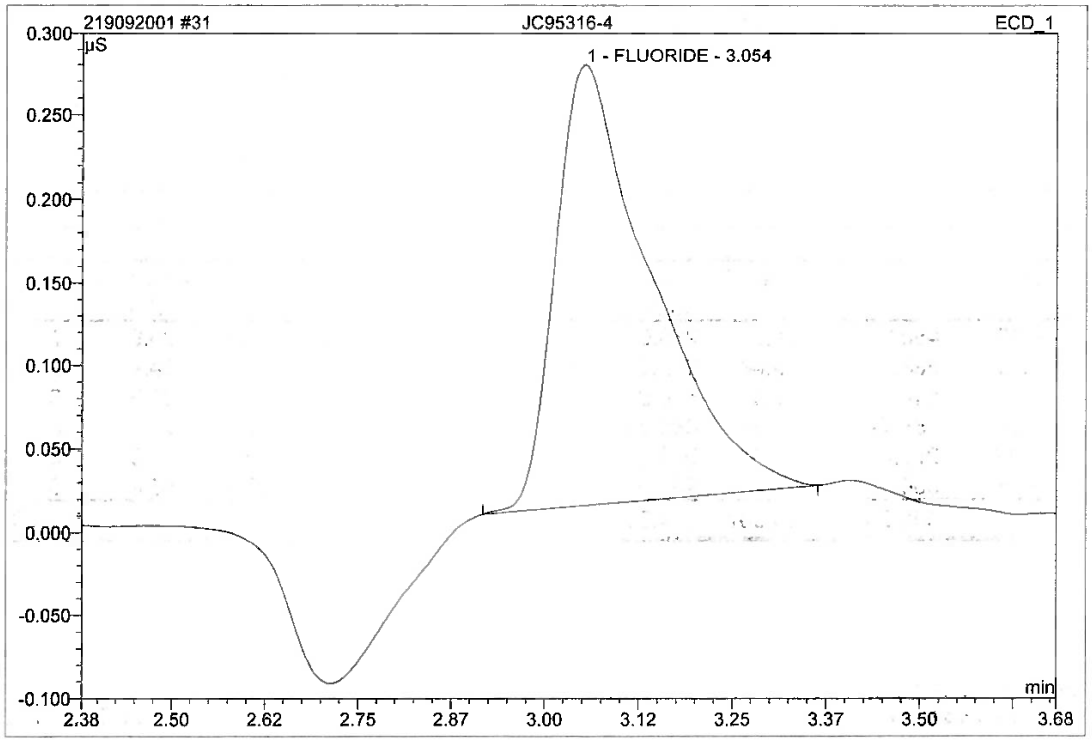
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:34 AM

31 JC95316-4

Sample Name:	**JC95316-4**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.264	0.039	0.11	0.084	BMB
2	4.49	CHLORIDE	86.623	12.207	34.44	42.395	BM
3	5.12	n.a.	4.293	2.315	6.53	n.a.	M
4	6.24	SULFATE	84.605	20.833	58.78	97.851	MB
5	8.11	BROMIDE	0.226	0.045	0.13	0.416	BMB
6	9.80	NITRITE	0.009	0.002	0.01	0.003	BMB
Total:			176.019	35.441	100.00	140.750	

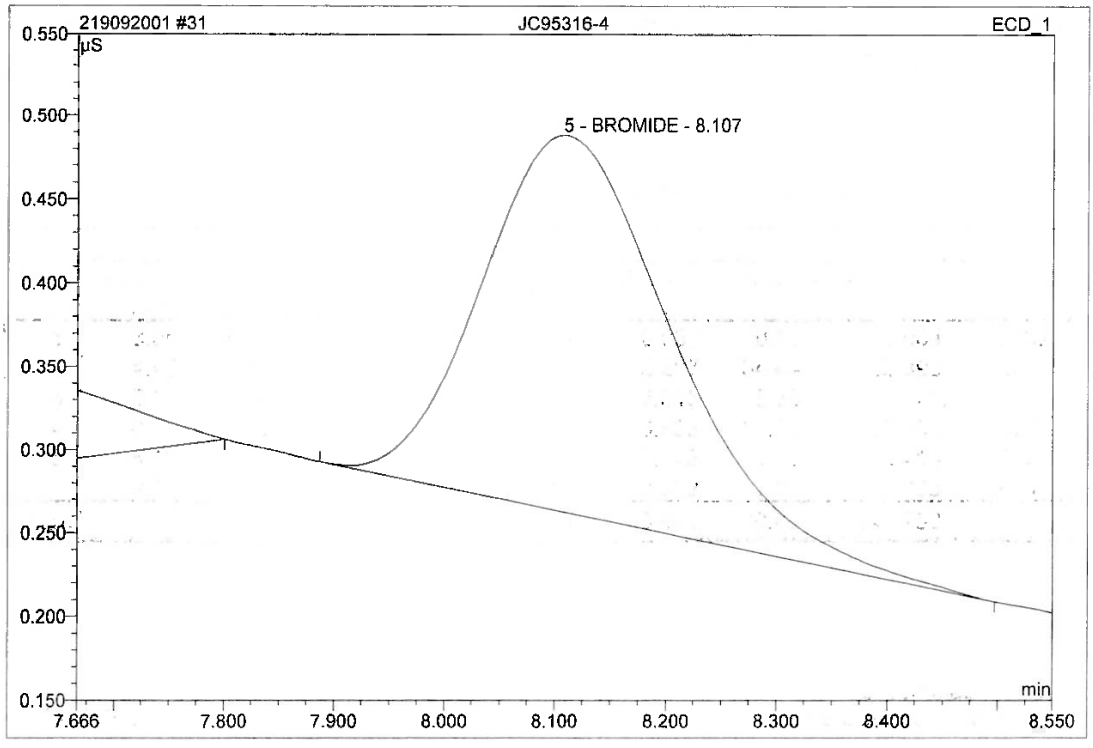
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

31 JC95316-4

Sample Name:	**JC95316-4**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.264	0.039	0.11	0.084	BMB
2	4.49	CHLORIDE	86.623	12.207	34.44	42.395	BM
3	5.12	n.a.	4.293	2.315	6.53	n.a.	M
4	6.24	SULFATE	84.605	20.833	58.78	97.851	MB
5	8.11	BROMIDE	0.226	0.045	0.13	0.416	BMB
6	9.80	NITRITE	0.009	0.002	0.01	0.003	BMB
Total:			176.019	35.441	100.00	140.750	

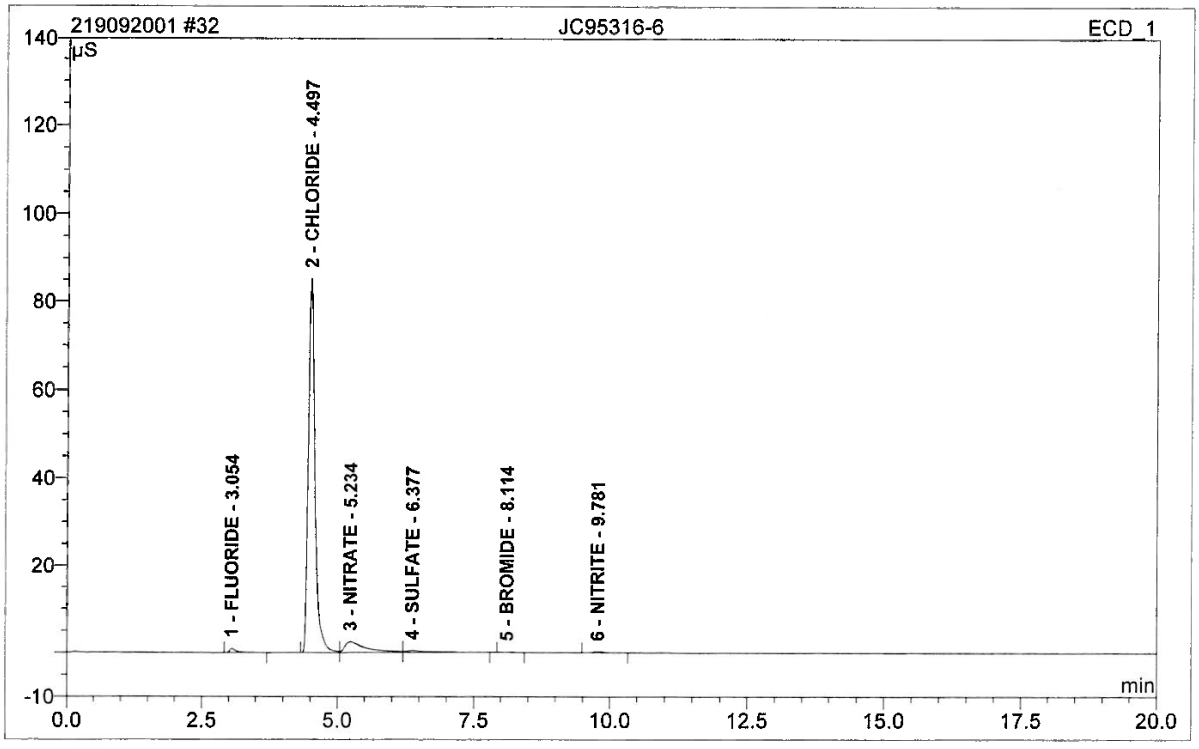
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

32 JC95316-6

Sample Name:	**JC95316-6**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.897	0.120	0.88	0.259	BMB
2	4.50	CHLORIDE	85.282	12.140	89.01	42.164	BM
3	5.23	NITRATE	2.424	1.106	8.11	1.770	M
4	6.38	SULFATE	0.428	0.207	1.52	0.972	MB
5	8.11	BROMIDE	0.039	0.008	0.06	0.071	BMB
6	9.78	NITRITE	0.230	0.058	0.42	0.083	BMB
Total:			89.299	13.639	100.00	45.321	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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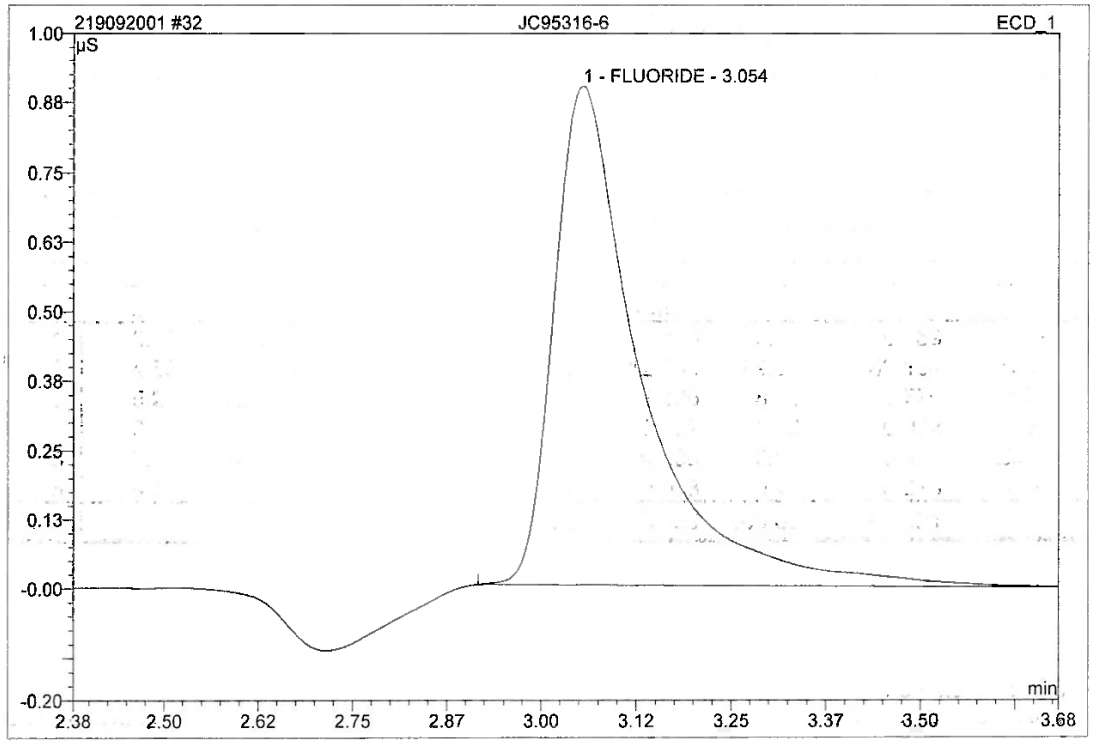
32 JC95316-6

Sample Name:	**JC95316-6**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.897	0.120	0.88	0.259	BMB
2	4.50	CHLORIDE	85.282	12.140	89.01	42.164	BM
3	5.23	NITRATE	2.424	1.106	8.11	1.770	M
4	6.38	SULFATE	0.428	0.207	1.52	0.972	MB
5	8.11	BROMIDE	0.039	0.008	0.06	0.071	BMB
6	9.78	NITRITE	0.230	0.058	0.42	0.083	BMB
Total:			89.299	13.639	100.00	45.321	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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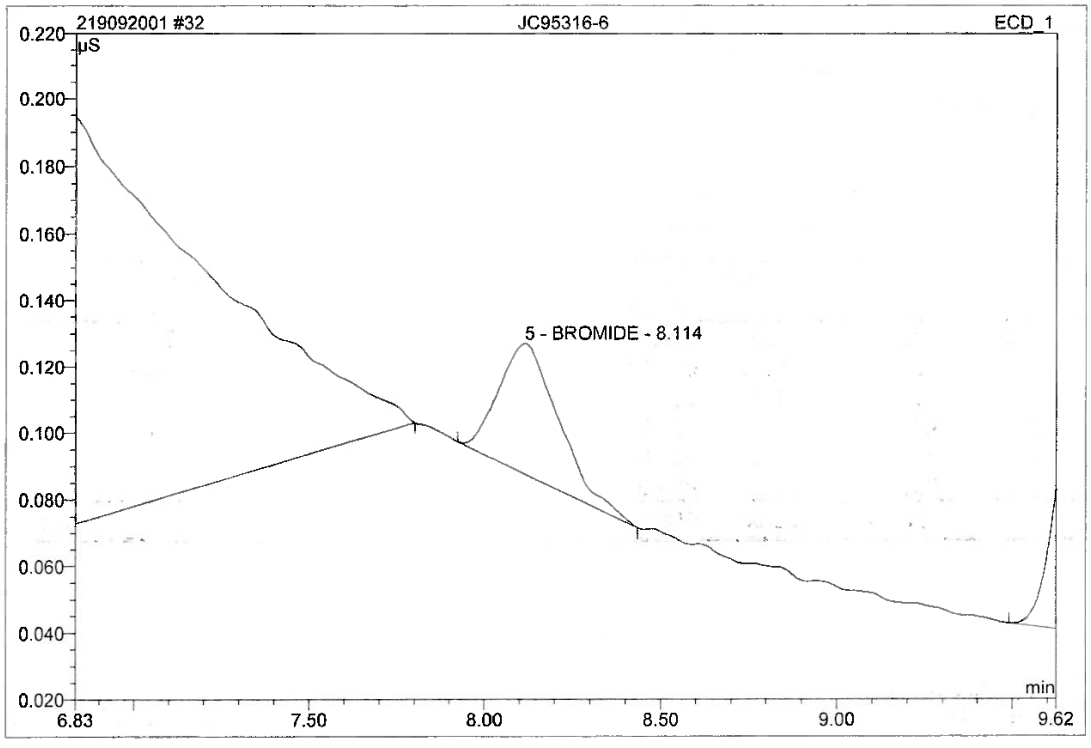
9/24/2019 9:35 AM

32 JC95316-6

Sample Name:	**JC95316-6**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.897	0.120	0.88	0.259	BMB
2	4.50	CHLORIDE	85.282	12.140	89.01	42.164	BM
3	5.23	NITRATE	2.424	1.106	8.11	1.770	M
4	6.38	SULFATE	0.428	0.207	1.52	0.972	MB
5	8.11	BROMIDE	0.039	0.008	0.06	0.071	BMB
6	9.78	NITRITE	0.230	0.058	0.42	0.083	BMB
Total:			89.299	13.639	100.00	45.321	

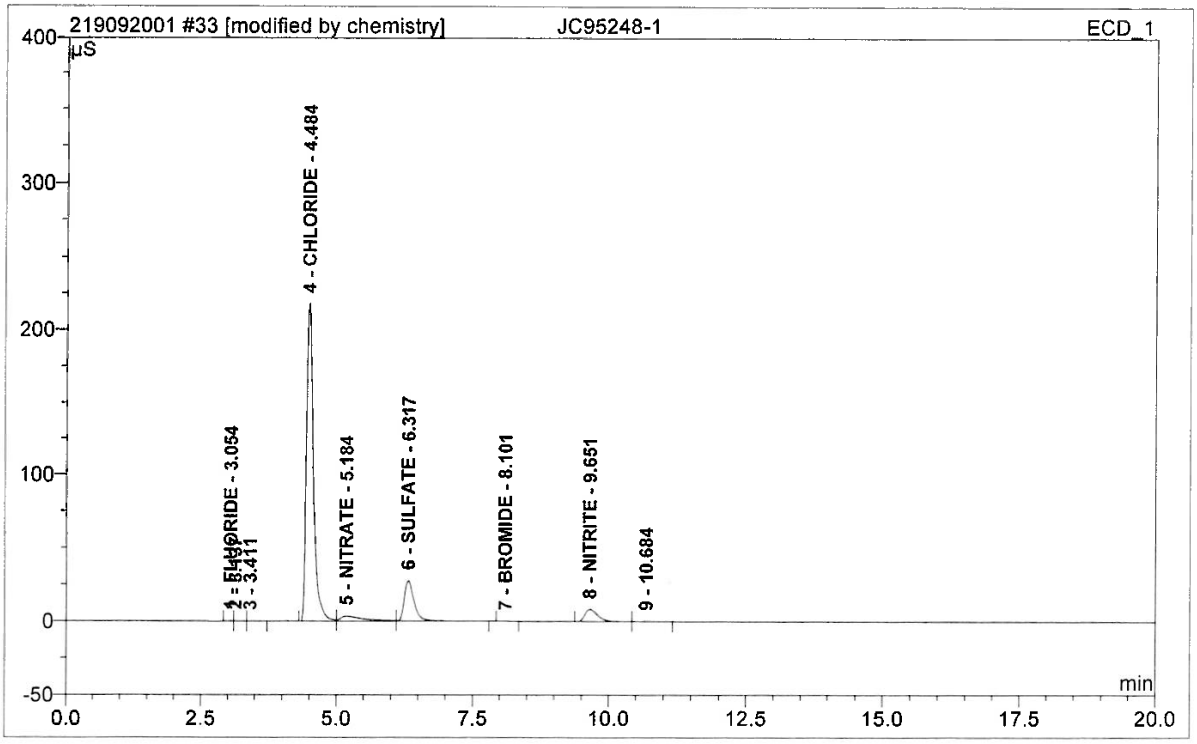
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

33 JC95248-1

Sample Name:	**JC95248-1**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.016	0.04	0.035	BM *
2	3.14	n.a.	0.159	0.021	0.05	n.a.	M *
3	3.41	n.a.	0.033	0.005	0.01	n.a.	MB*
4	4.48	CHLORIDE	217.846	32.561	77.02	113.086	BM
5	5.18	NITRATE	3.306	1.645	3.89	2.632	M
6	6.32	SULFATE	27.312	5.770	13.65	27.099	MB
7	8.10	BROMIDE	0.031	0.006	0.01	0.055	BMB
8	9.65	NITRITE	8.151	2.215	5.24	3.193	BM
9	10.68	n.a.	0.130	0.040	0.09	n.a.	MB
Total:			257.144	42.279	100.00	146.101	

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NN 9/24/19

anions/Integration

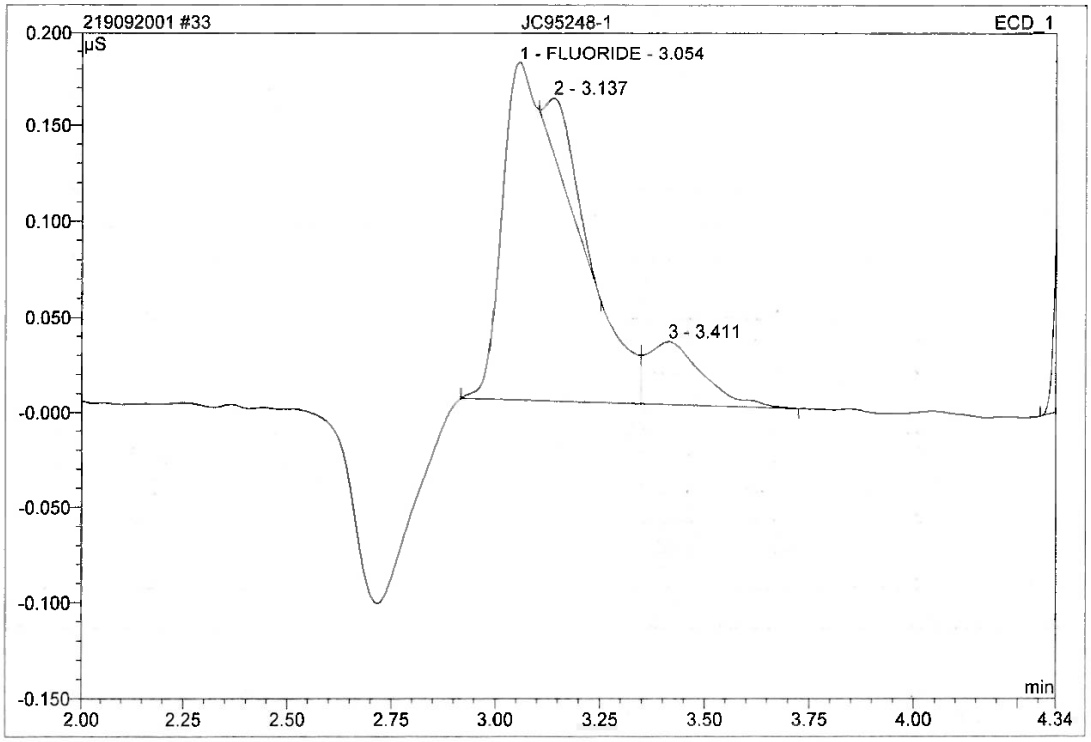
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

9.1
9

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

33 JC95248-1

Sample Name:	**JC95248-1**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.035	0.08	0.075	BM
2	3.14	n.a.	0.029	0.003	0.01	n.a.	Rd
3	3.41	n.a.	0.033	0.005	0.01	n.a.	MB
4	4.48	CHLORIDE	217.846	32.561	77.02	113.086	BM
5	5.18	NITRATE	3.306	1.645	3.89	2.632	M
6	6.32	SULFATE	27.312	5.770	13.65	27.099	MB
7	8.10	BROMIDE	0.031	0.006	0.01	0.055	BMB
8	9.65	NITRITE	8.151	2.215	5.24	3.193	BM
9	10.68	n.a.	0.130	0.040	0.09	n.a.	MB
Total:			257.015	42.279	100.00	146.141	

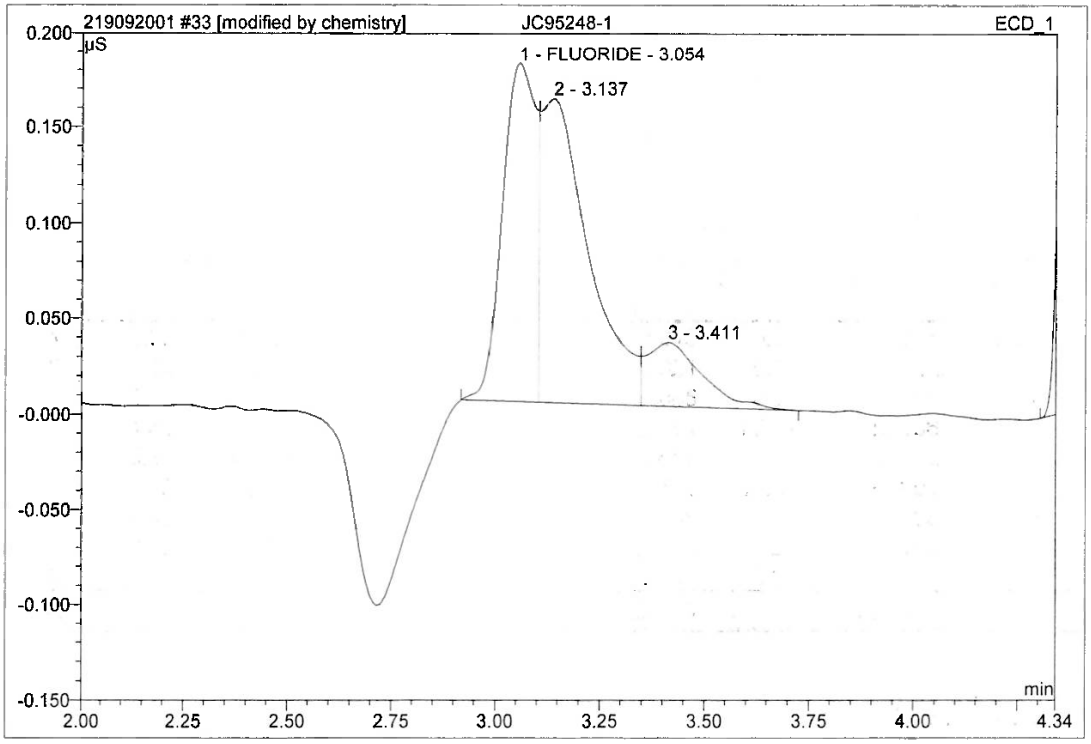
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

33 JC95248-1

Sample Name:	**JC95248-1**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 19:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.177	0.016	0.04	0.035	BM *
2	3.14	n.a.	0.159	0.021	0.05	n.a.	M *
3	3.41	n.a.	0.033	0.005	0.01	n.a.	MB*
4	4.48	CHLORIDE	217.846	32.561	77.02	113.086	BM
5	5.18	NITRATE	3.306	1.645	3.89	2.632	M
6	6.32	SULFATE	27.312	5.770	13.65	27.099	MB
7	8.10	BROMIDE	0.031	0.006	0.01	0.055	BMB
8	9.65	NITRITE	8.151	2.215	5.24	3.193	BM
9	10.68	n.a.	0.130	0.040	0.09	n.a.	MB
Total:			257.144	42.279	100.00	146.101	

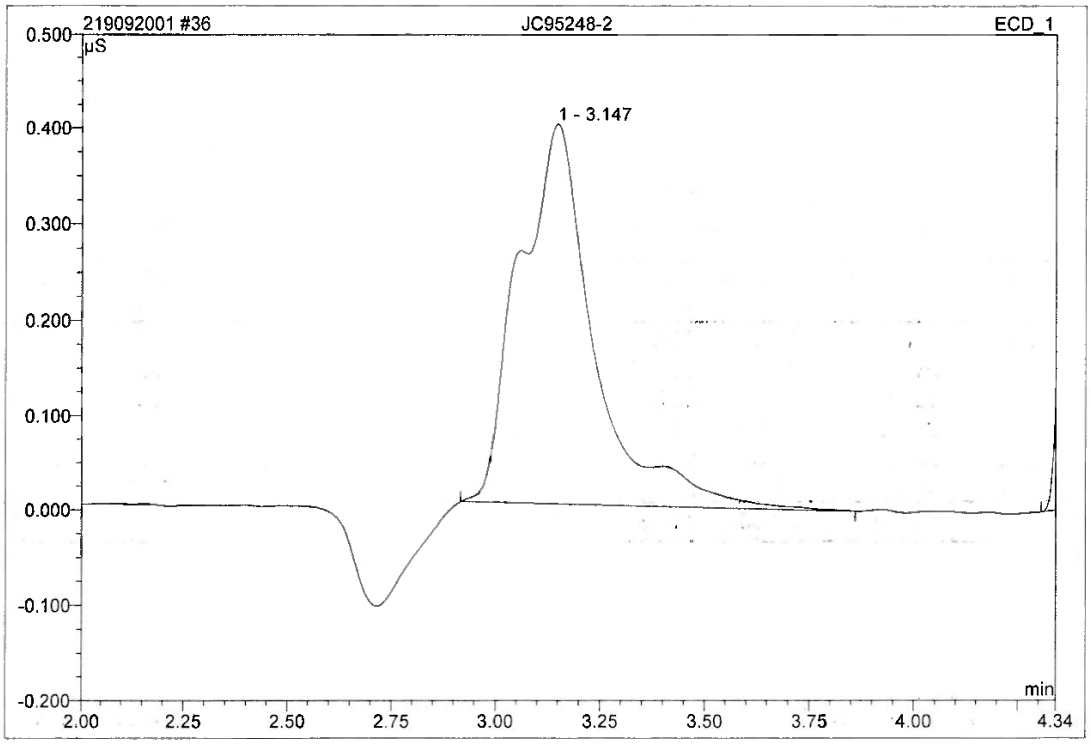
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

36 JC95248-2

Sample Name:	**JC95248-2**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.398	0.083	0.17	n.a.	BMB
2	4.48	CHLORIDE	251.683	37.827	78.20	131.376	BM
3	5.16	NITRATE	3.514	1.756	3.63	2.809	M
4	6.29	SULFATE	32.243	6.850	14.16	32.172	MB
5	8.12	BROMIDE	0.038	0.007	0.01	0.066	BMB
6	9.67	NITRITE	6.901	1.848	3.82	2.664	BMB
Total:			294.776	48.371	100.00	169.087	

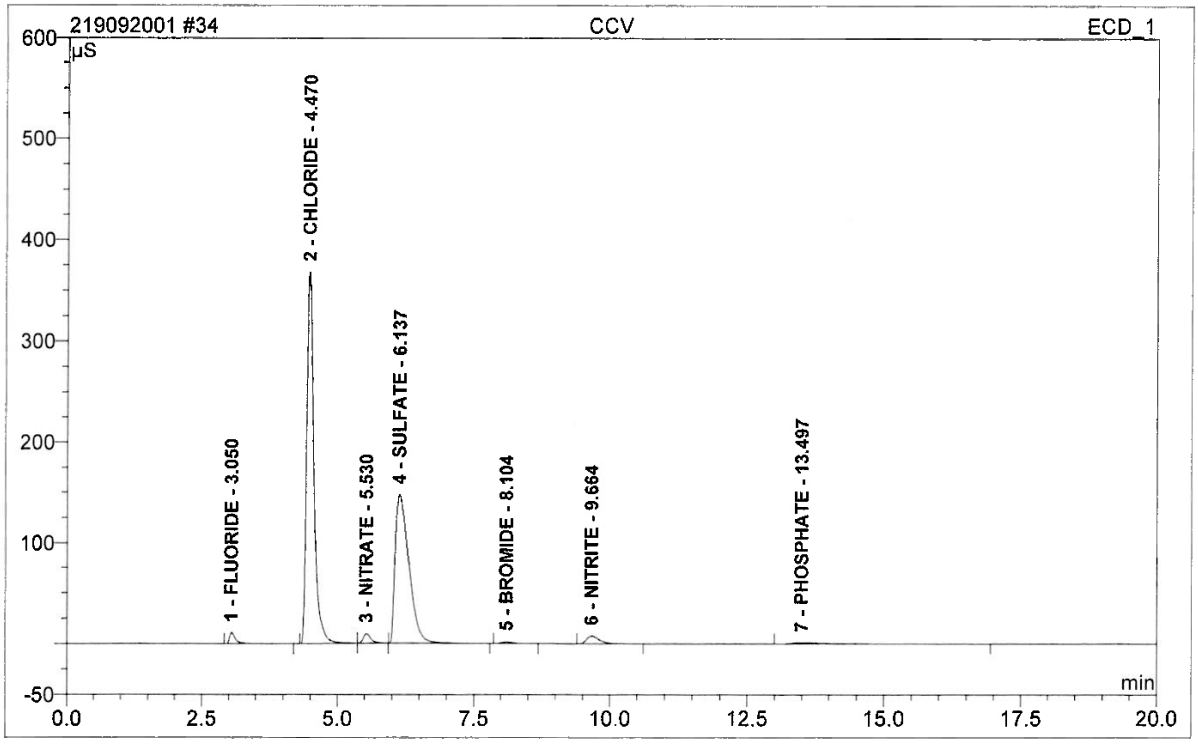
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

34 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 20:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



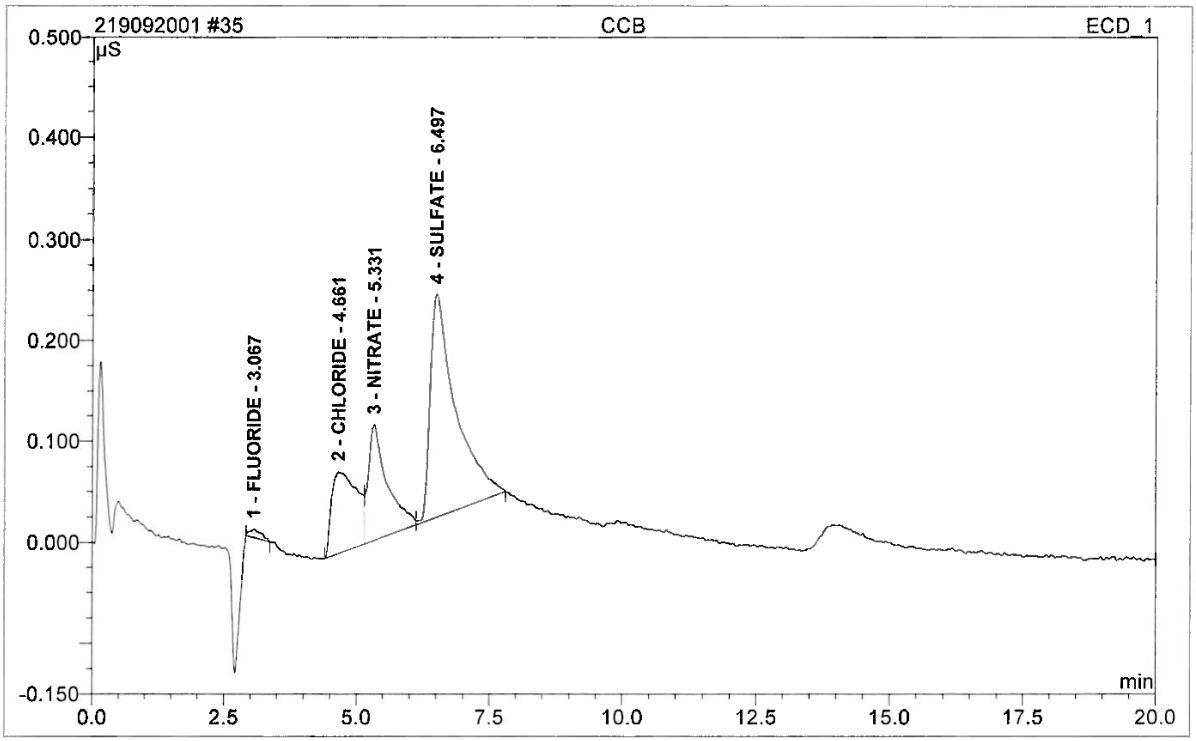
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.666	1.387	1.31	3.000	BMB
2	4.47	CHLORIDE	367.879	57.406	54.04	199.374	BM
3	5.53	NITRATE	9.254	1.564	1.47	2.502	MB
4	6.14	SULFATE	147.418	42.668	40.16	200.410	BMB
5	8.10	BROMIDE	1.497	0.306	0.29	2.808	BMB
6	9.66	NITRITE	7.425	2.026	1.91	2.920	BMB
7	13.50	PHOSPHATE	1.197	0.880	0.83	2.874	BMB
Total:			545.336	106.236	100.00	413.888	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 20:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.07	FLUORIDE	0.008	0.002	1.01	0.005	BMB
2	4.66	CHLORIDE	0.081	0.044	20.24	0.152	BM
3	5.33	NITRATE	0.114	0.048	22.05	0.076	M
4	6.50	SULFATE	0.221	0.123	56.70	0.576	MB
Total:			0.424	0.216	100.00	0.810	

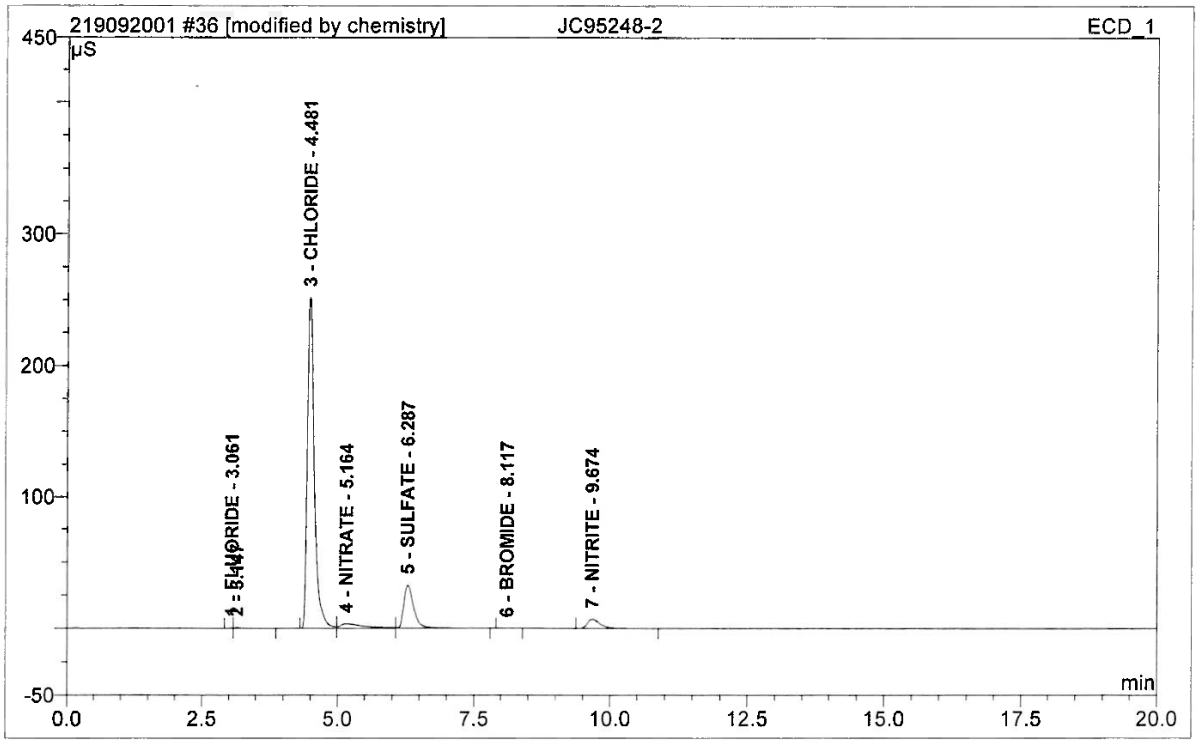
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

36 JC95248-2

Sample Name:	**JC95248-2**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.265	0.020	0.04	0.043	BM *
2	3.15	n.a.	0.398	0.063	0.13	n.a.	MB*
3	4.48	CHLORIDE	251.683	37.827	78.20	131.376	BM
4	5.16	NITRATE	3.514	1.756	3.63	2.809	M
5	6.29	SULFATE	32.243	6.850	14.16	32.172	MB
6	8.12	BROMIDE	0.038	0.007	0.01	0.066	BMB
7	9.67	NITRITE	6.901	1.848	3.82	2.664	BMB
Total:			295.042	48.371	100.00	169.131	

PII
MW 9/24/19

anions/Integration

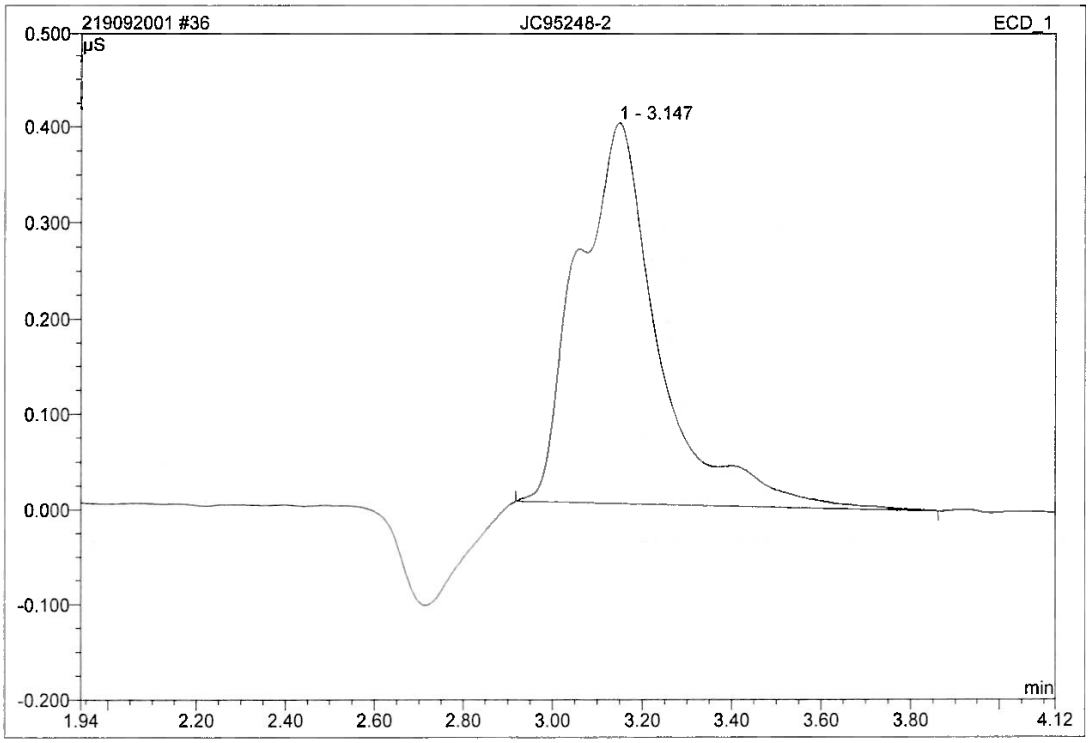
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:13 AM

36 JC95248-2

Sample Name:	**JC95248-2**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.398	0.083	0.17	n.a.	BMB
2	4.48	CHLORIDE	251.683	37.827	78.20	131.376	BM
3	5.16	NITRATE	3.514	1.756	3.63	2.809	M
4	6.29	SULFATE	32.243	6.850	14.16	32.172	MB
5	8.12	BROMIDE	0.038	0.007	0.01	0.066	BMB
6	9.67	NITRITE	6.901	1.848	3.82	2.664	BMB
Total:			294.776	48.371	100.00	169.087	

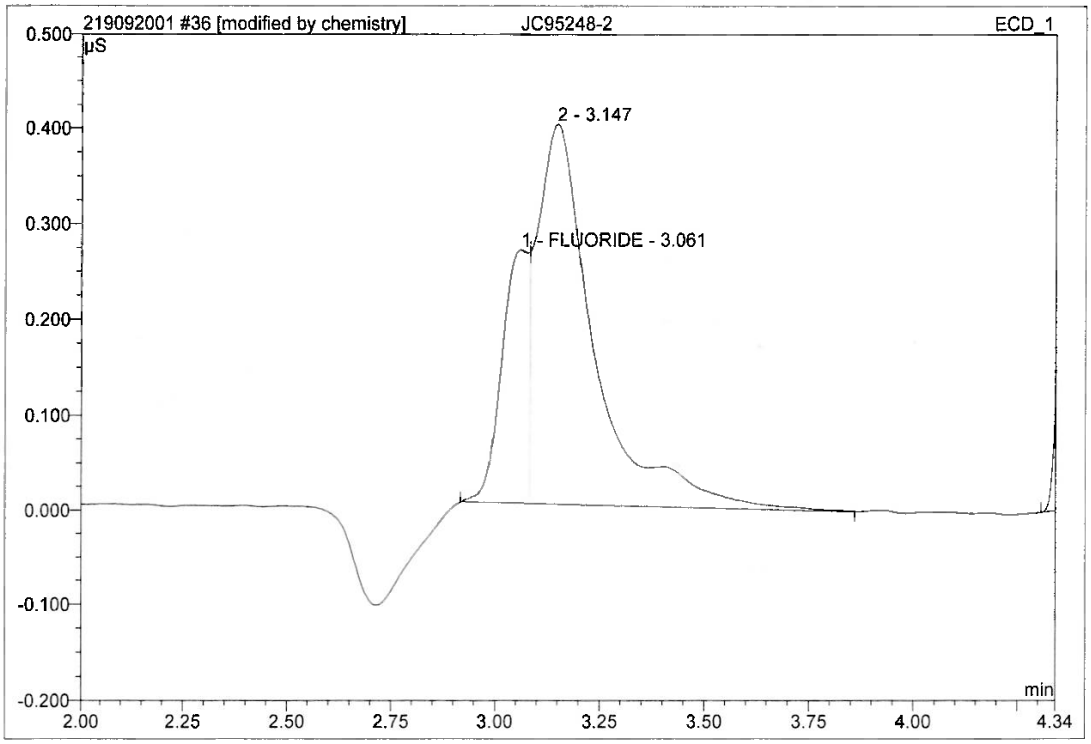
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

36 JC95248-2

Sample Name:	**JC95248-2**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.265	0.020	0.04	0.043	BM *
2	3.15	n.a.	0.398	0.063	0.13	n.a.	MB*
3	4.48	CHLORIDE	251.683	37.827	78.20	131.376	BM
4	5.16	NITRATE	3.514	1.756	3.63	2.809	M
5	6.29	SULFATE	32.243	6.850	14.16	32.172	MB
6	8.12	BROMIDE	0.038	0.007	0.01	0.066	BMB
7	9.67	NITRITE	6.901	1.848	3.82	2.664	BMB
Total:			295.042	48.371	100.00	169.131	

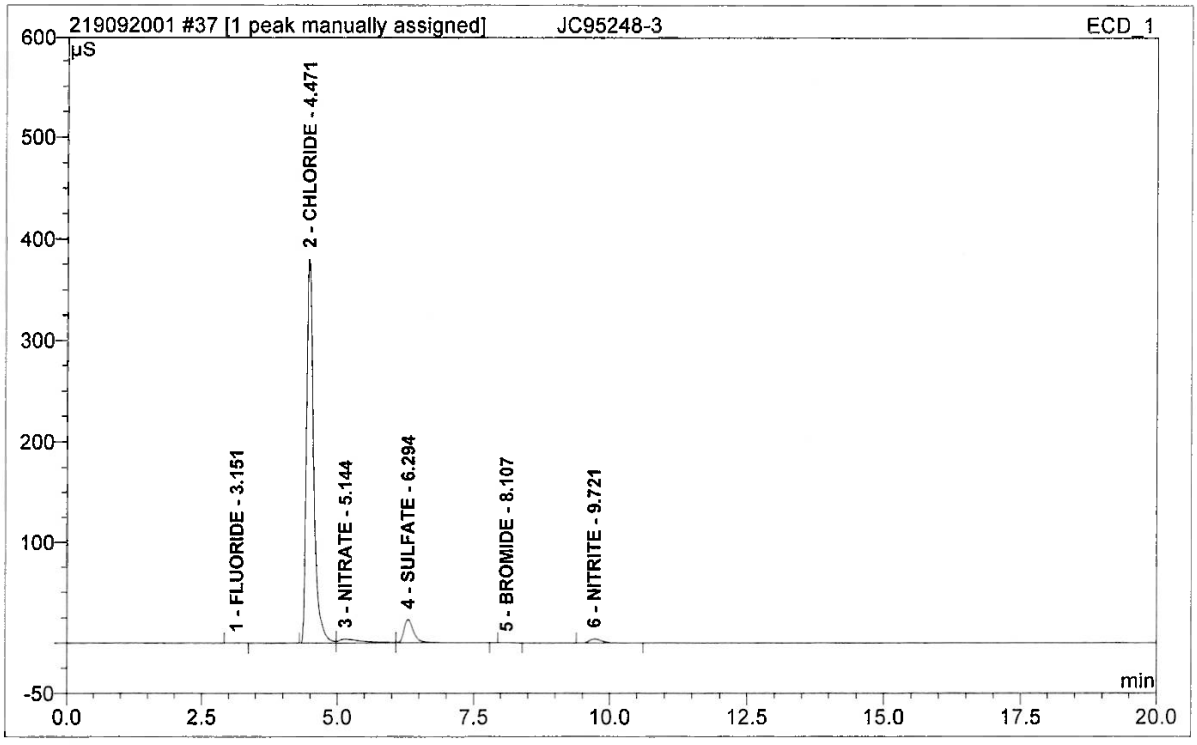
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

37 JC95248-3

Sample Name:	**JC95248-3**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	FLUORIDE	0.241	0.034	0.05	0.074	BMB^
2	4.47	CHLORIDE	380.302	58.582	87.96	203.459	BM
3	5.14	NITRATE	3.927	2.059	3.09	3.295	M
4	6.29	SULFATE	22.908	4.882	7.33	22.931	MB
5	8.11	BROMIDE	0.030	0.006	0.01	0.055	BMB
6	9.72	NITRITE	4.064	1.041	1.56	1.500	BMB
Total:			411.472	66.604	100.00	231.313	

missed peak
NV 9/24/19

anions/Integration

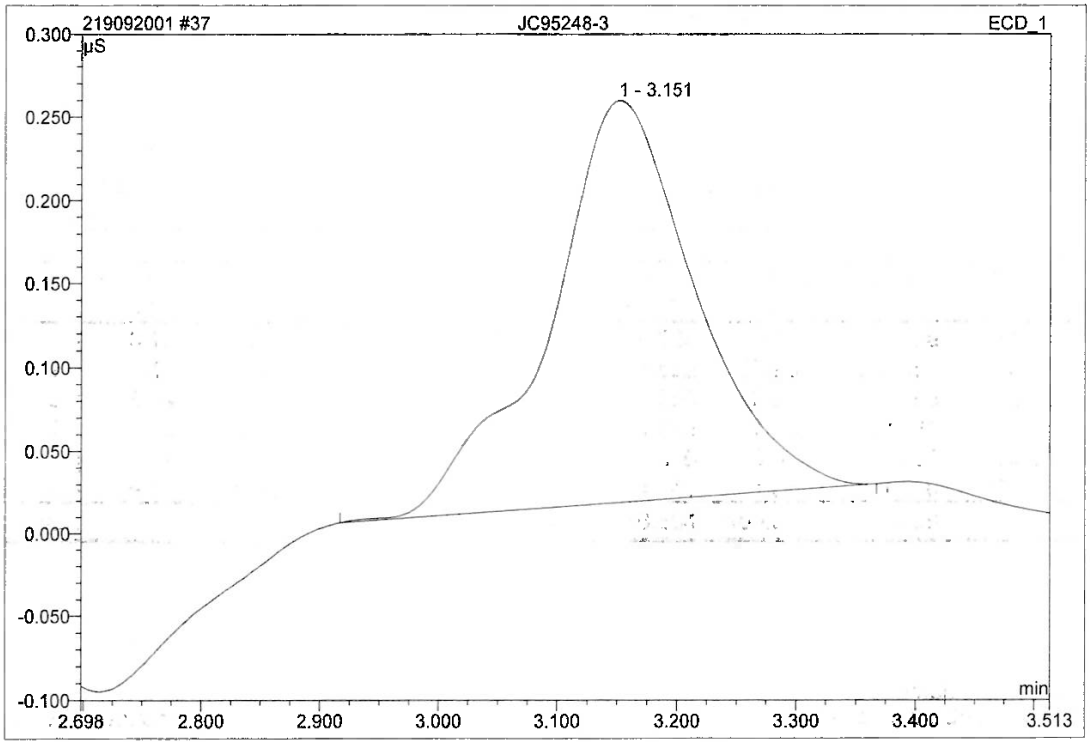
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:36 AM

37 JC95248-3

Sample Name:	**JC95248-3**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.241	0.034	0.05	n.a.	BMB
2	4.47	CHLORIDE	380.302	58.582	87.96	203.459	BM
3	5.14	NITRATE	3.927	2.059	3.09	3.295	M
4	6.29	SULFATE	22.908	4.882	7.33	22.931	MB
5	8.11	BROMIDE	0.030	0.006	0.01	0.055	BMB
6	9.72	NITRITE	4.064	1.041	1.56	1.500	BMB
Total:			411.472	66.604	100.00	231.239	

DEFAULT/Integration

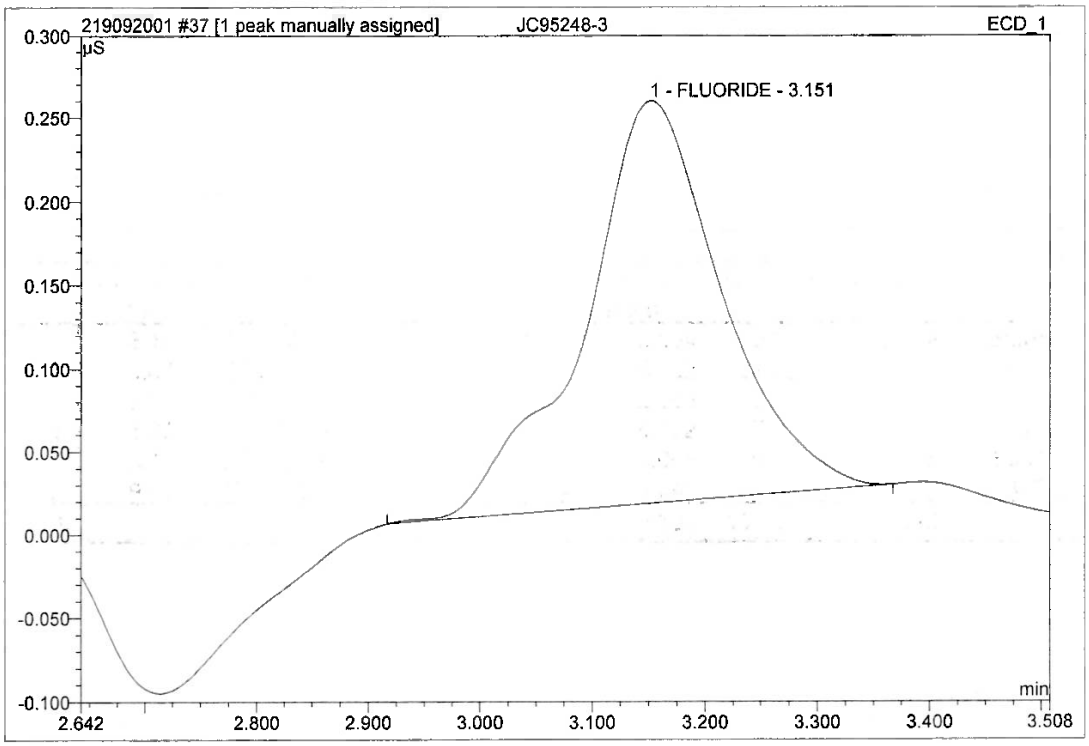
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 10:14 AM

37 JC95248-3

Sample Name:	**JC95248-3**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	FLUORIDE	0.241	0.034	0.05	0.074	BMB^
2	4.47	CHLORIDE	380.302	58.582	87.96	203.459	BM
3	5.14	NITRATE	3.927	2.059	3.09	3.295	M
4	6.29	SULFATE	22.908	4.882	7.33	22.931	MB
5	8.11	BROMIDE	0.030	0.006	0.01	0.055	BMB
6	9.72	NITRITE	4.064	1.041	1.56	1.500	BMB
Total:			411.472	66.604	100.00	231.313	

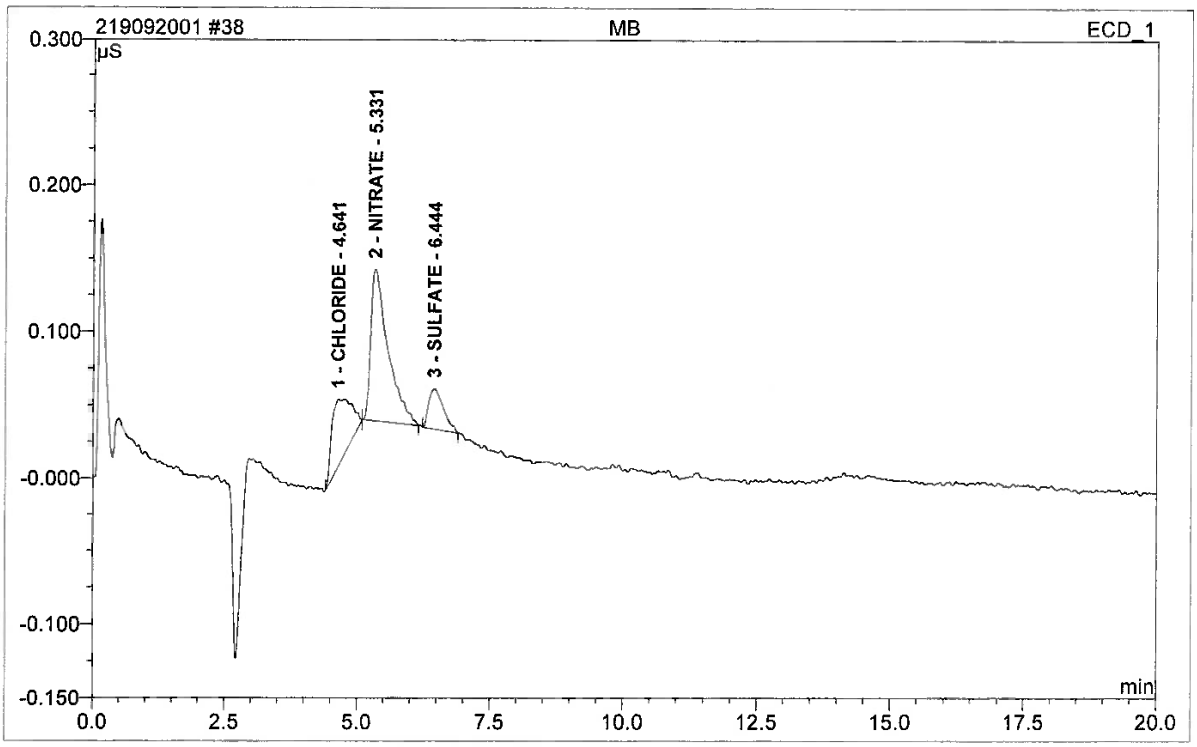
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

38 MB

Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 21:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.64	CHLORIDE	0.045	0.018	27.34	0.062	BMb
2	5.33	NITRATE	0.103	0.039	59.12	0.062	bMB
3	6.44	SULFATE	0.028	0.009	13.55	0.042	BMB
Total:			0.176	0.066	100.00	0.166	

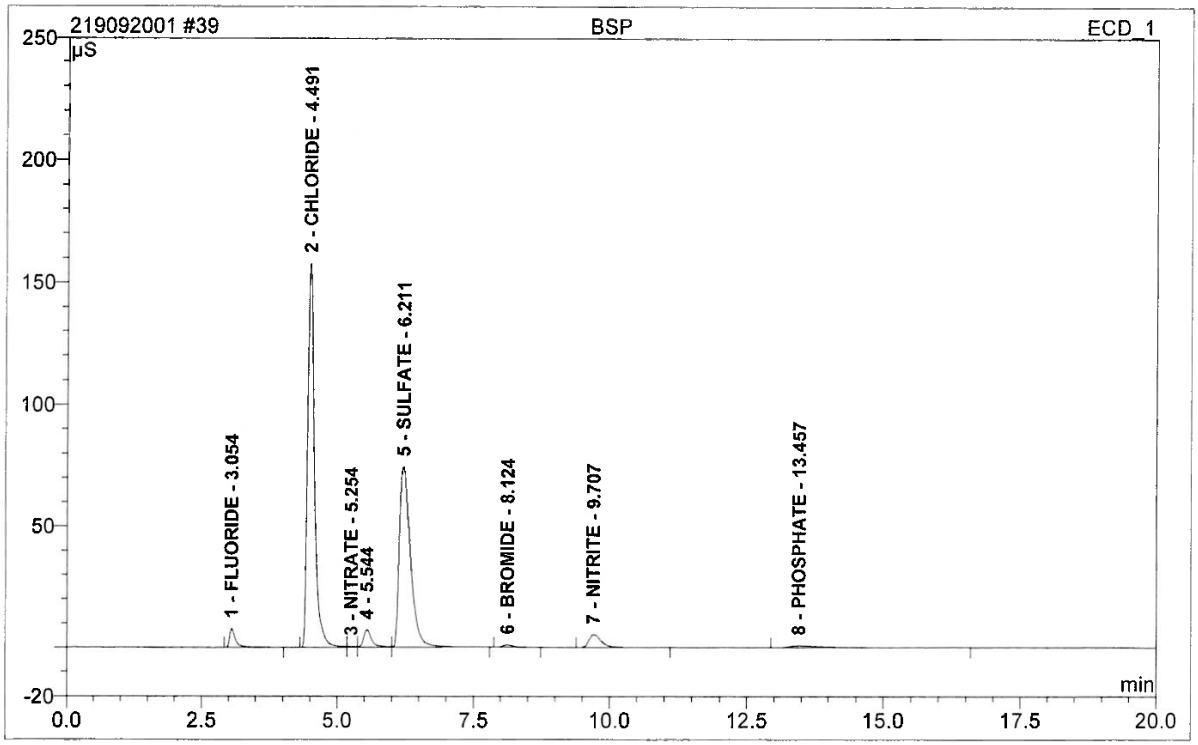
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

39 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 22:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



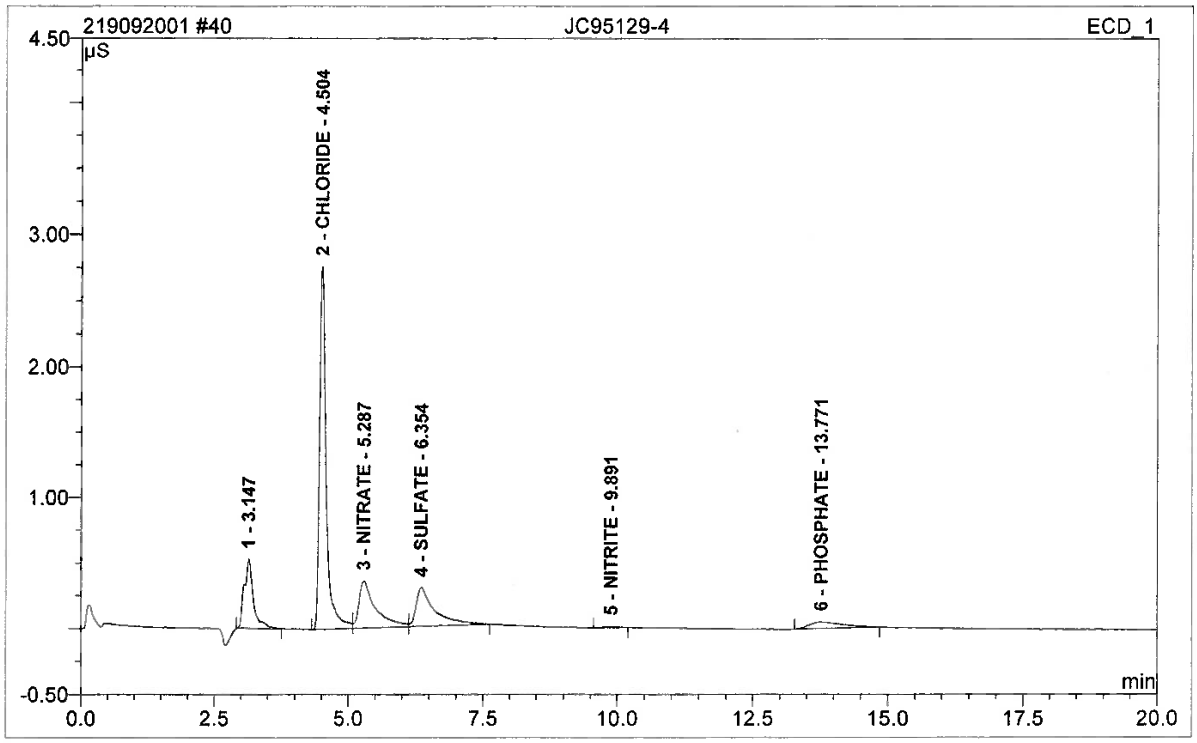
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	7.607	0.960	2.11	2.076	BMB
2	4.49	CHLORIDE	157.533	23.328	51.28	81.021	BM
3	5.25	NITRATE	0.339	0.060	0.13	0.097	M
4	5.54	n.a.	7.170	1.273	2.80	n.a.	M
5	6.21	SULFATE	74.438	17.629	38.75	82.802	MB
6	8.12	BROMIDE	0.968	0.199	0.44	1.825	BMB
7	9.71	NITRITE	5.322	1.422	3.12	2.049	BMB
8	13.46	PHOSPHATE	0.814	0.622	1.37	2.031	BMB
Total:			254.191	45.492	100.00	171.901	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

40 JC95129-4

Sample Name:	**JC95129-4**	*Injection Volume:*	**20.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/20/2019 22:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.527	0.105	13.38	n.a.	BMB
2	4.50	CHLORIDE	2.762	0.393	50.33	1.366	BM
3	5.29	NITRATE	0.356	0.128	16.33	0.204	M
4	6.35	SULFATE	0.293	0.118	15.04	0.552	MB
5	9.89	NITRITE	0.009	0.003	0.36	0.004	BMB
6	13.77	PHOSPHATE	0.049	0.036	4.55	0.116	BMB
Total:			3.997	0.781	100.00	2.242	

anions/Integration

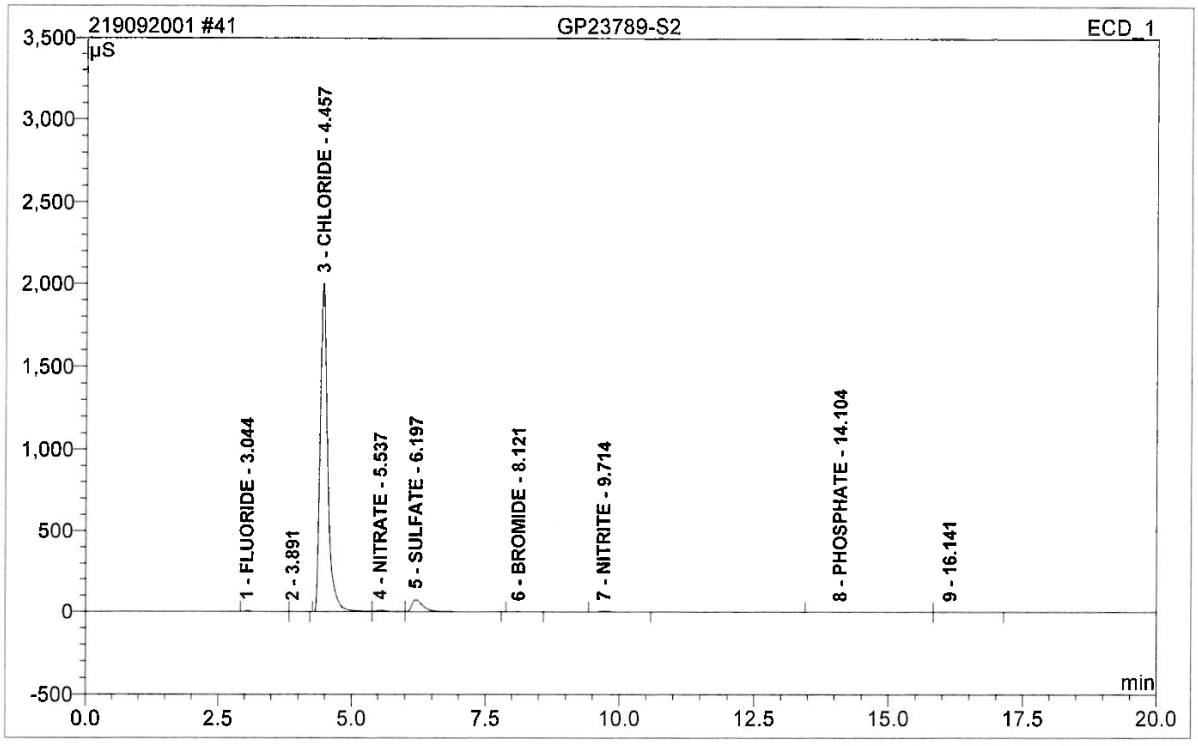
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

41 GP23789-S2

JC95177-1

Sample Name:	**GP23789-S2**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.04	FLUORIDE	6.015	0.890	0.25	19.264	BM
2	3.89	n.a.	0.022	0.004	0.00	n.a.	MB
3	4.46	CHLORIDE	2000.736	327.097	93.18	11360.307	BM
4	5.54	NITRATE	9.259	2.488	0.71	39.808	M
5	6.20	SULFATE	73.672	18.505	5.27	869.170	MB
6	8.12	BROMIDE	1.224	0.252	0.07	23.083	BMB
7	9.71	NITRITE	5.141	1.367	0.39	19.708	BMB
8	14.10	PHOSPHATE	0.307	0.384	0.11	12.532	BM
9	16.14	n.a.	0.102	0.062	0.02	n.a.	MB
Total:			2096.479	351.049	100.00	12343.872	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

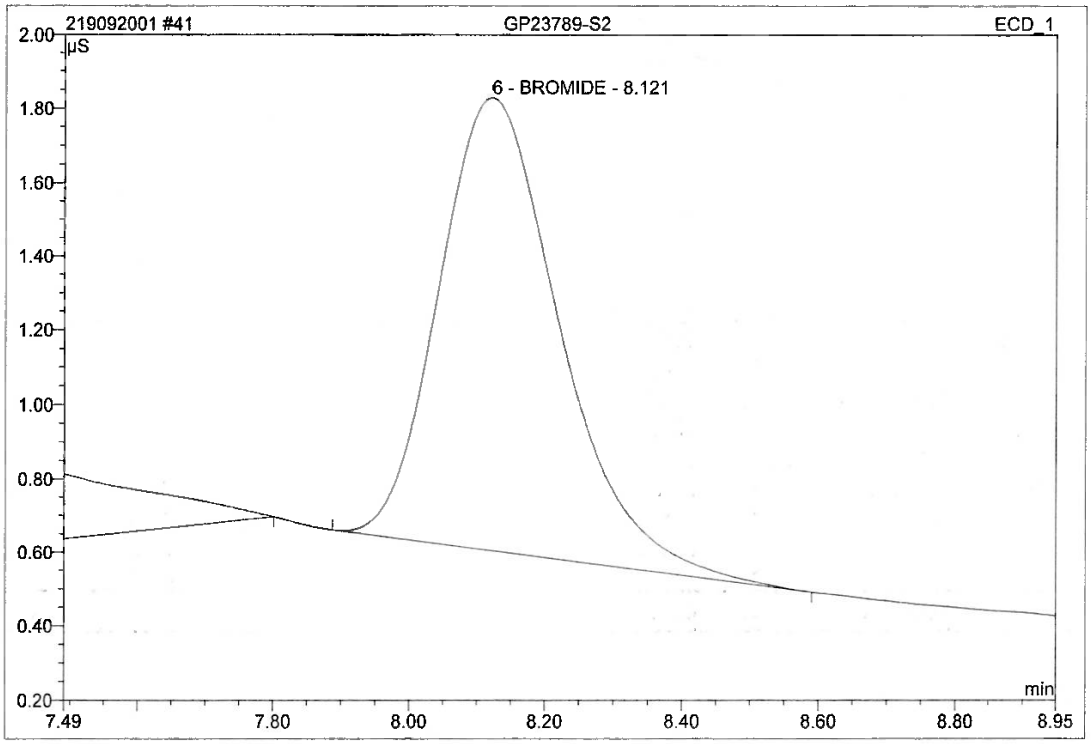
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:37 AM

41 GP23789-S2

JC95177-1

Sample Name:	**GP23789-S2**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



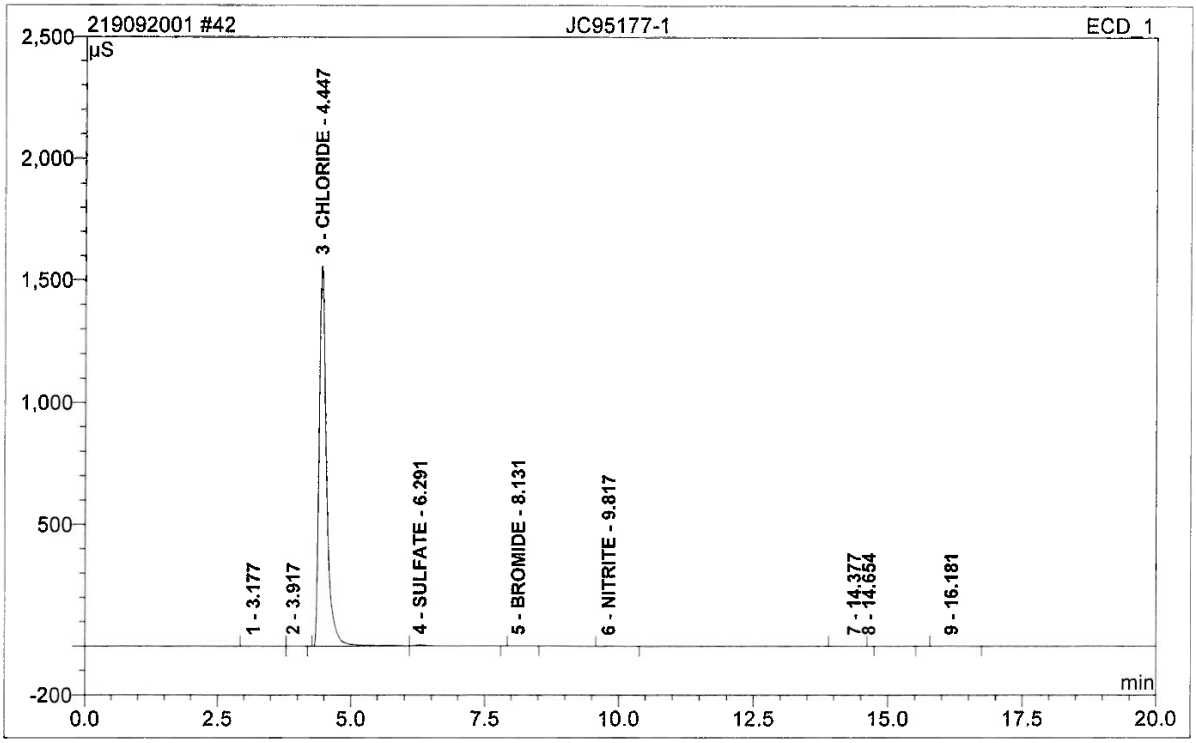
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.04	FLUORIDE	6.015	0.890	0.25	19.264	BM
2	3.89	n.a.	0.022	0.004	0.00	n.a.	MB
3	4.46	CHLORIDE	2000.736	327.097	93.18	#########	BM
4	5.54	NITRATE	9.259	2.488	0.71	39.808	M
5	6.20	SULFATE	73.672	18.505	5.27	869.170	MB
6	8.12	BROMIDE	1.224	0.252	0.07	23.083	BMB
7	9.71	NITRITE	5.141	1.367	0.39	19.708	BMB
8	14.10	PHOSPHATE	0.307	0.384	0.11	12.532	BM
9	16.14	n.a.	0.102	0.062	0.02	n.a.	MB
Total:			2096.479	351.049	100.00	#########	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

42 JC95177-1

Sample Name:	**JC95177-1**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.220	0.060	0.02	n.a.	BM
2	3.92	n.a.	0.011	0.003	0.00	n.a.	MB
3	4.45	CHLORIDE	1560.430	251.667	99.31	8740.563	BM
4	6.29	SULFATE	4.737	1.583	0.62	74.357	MB
5	8.13	BROMIDE	0.180	0.036	0.01	3.293	BMB
6	9.82	NITRITE	0.091	0.023	0.01	0.335	BMB
7	14.38	n.a.	0.021	0.019	0.01	n.a.	BMB
8	14.65	n.a.	0.002	0.000	0.00	n.a.	Rd
9	16.18	n.a.	0.044	0.019	0.01	n.a.	BMB
Total:			1565.735	253.409	100.00	8818.547	

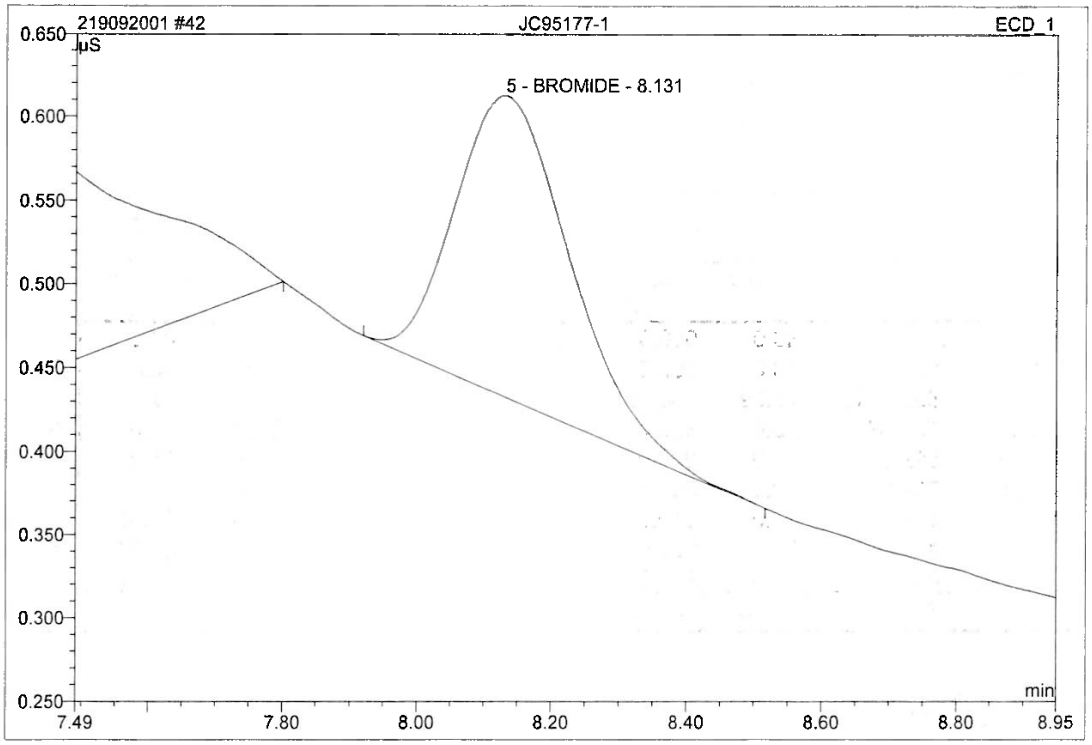
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

42 JC95177-1

Sample Name:	**JC95177-1**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.220	0.060	0.02	n.a.	BM
2	3.92	n.a.	0.011	0.003	0.00	n.a.	MB
3	4.45	CHLORIDE	1560.430	251.667	99.31	8740.563	BM
4	6.29	SULFATE	4.737	1.583	0.62	74.357	MB
5	8.13	BROMIDE	0.180	0.036	0.01	3.293	BMB
6	9.82	NITRITE	0.091	0.023	0.01	0.335	BMB
7	14.38	n.a.	0.021	0.019	0.01	n.a.	BMB
8	14.65	n.a.	0.002	0.000	0.00	n.a.	Rd
9	16.18	n.a.	0.044	0.019	0.01	n.a.	BMB
Total:			1565.735	253.409	100.00	8818.547	

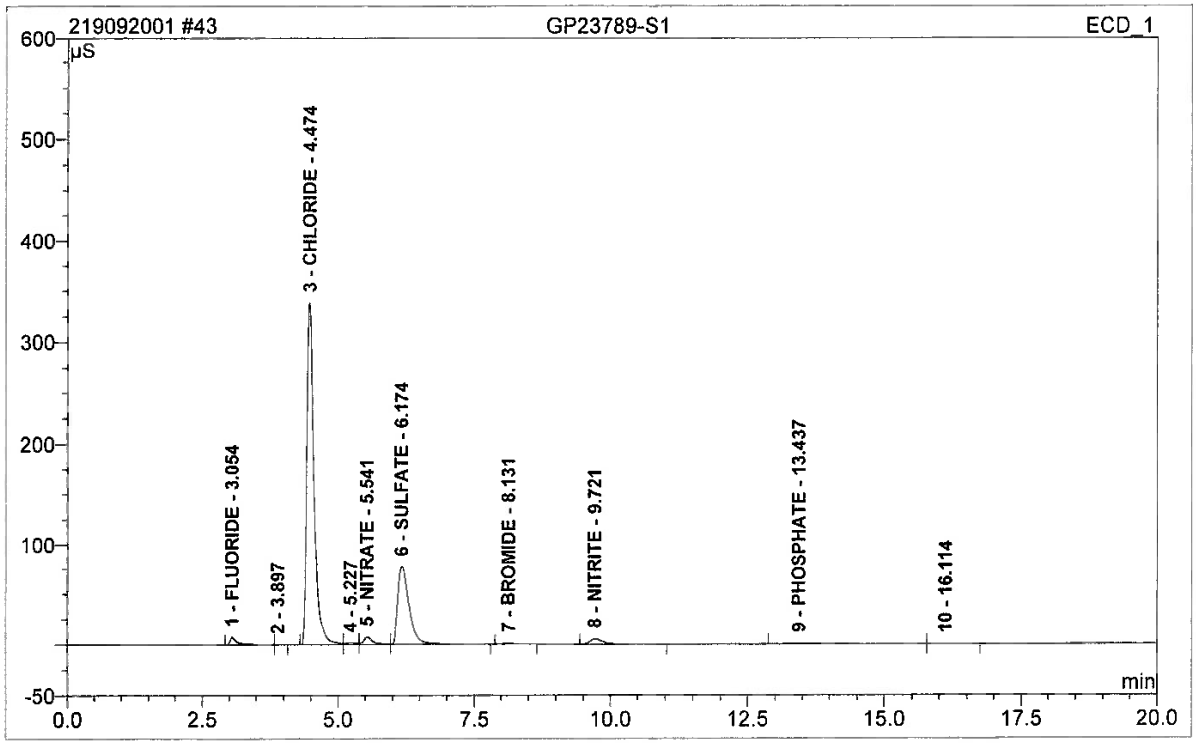
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

43 GP23789-S1

JC95177-2

Sample Name:	**GP23789-S1**	*Injection Volume:*	**20.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	6.999	1.041	1.36	22.518	BMb
2	3.90	n.a.	0.014	0.002	0.00	n.a.	bMB
3	4.47	CHLORIDE	338.323	52.768	69.06	1832.672	BM
4	5.23	n.a.	1.558	0.385	0.50	n.a.	M
5	5.54	NITRATE	7.185	1.443	1.89	23.089	M
6	6.17	SULFATE	77.541	18.635	24.39	875.288	MB
7	8.13	BROMIDE	0.952	0.195	0.26	17.900	BMB
8	9.72	NITRITE	5.000	1.327	1.74	19.134	BMB
9	13.44	PHOSPHATE	0.651	0.585	0.77	19.087	BM
10	16.11	n.a.	0.049	0.027	0.04	n.a.	MB
Total:			438.271	76.408	100.00	2809.688	

anions/Integration

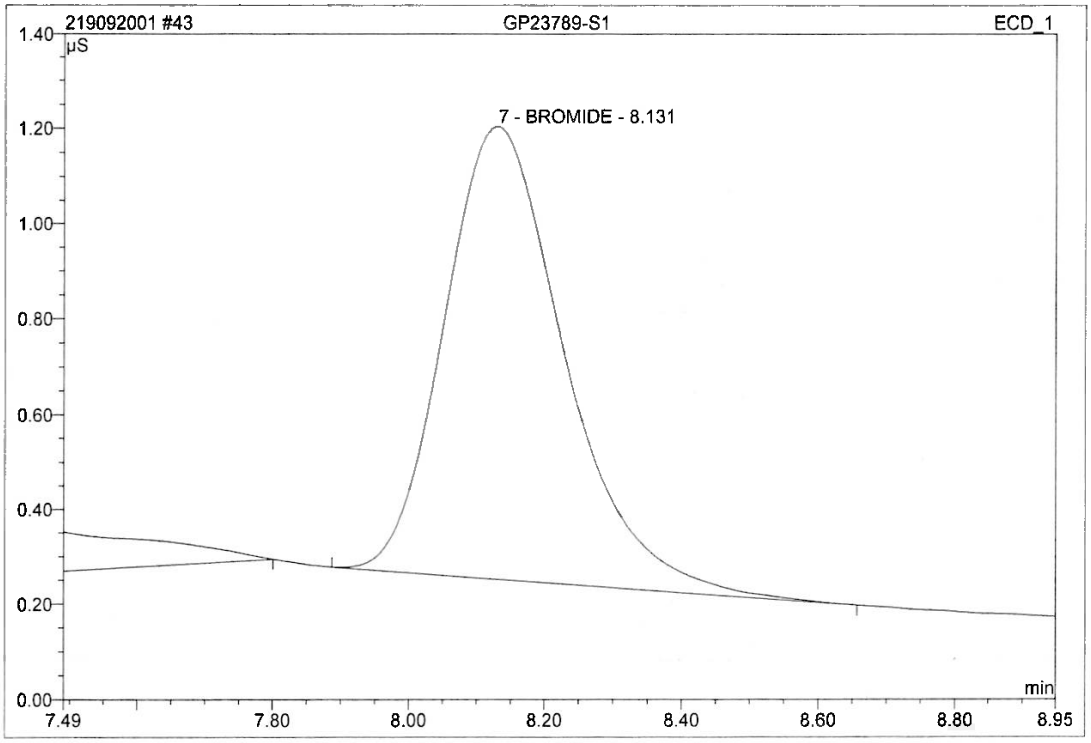
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

43 GP23789-S1

JC95177-2

Sample Name:	**GP23789-S1**	*Injection Volume:*	**20.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/20/2019 23:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	6.999	1.041	1.36	22.518	BMb
2	3.90	n.a.	0.014	0.002	0.00	n.a.	bMB
3	4.47	CHLORIDE	338.323	52.768	69.06	1832.672	BM
4	5.23	n.a.	1.558	0.385	0.50	n.a.	M
5	5.54	NITRATE	7.185	1.443	1.89	23.089	M
6	6.17	SULFATE	77.541	18.635	24.39	875.288	MB
7	8.13	BROMIDE	0.952	0.195	0.26	17.900	BMB
8	9.72	NITRITE	5.000	1.327	1.74	19.134	BMB
9	13.44	PHOSPHATE	0.651	0.585	0.77	19.087	BM
10	16.11	n.a.	0.049	0.027	0.04	n.a.	MB
Total:			438.271	76.408	100.00	2809.688	

DEFAULT/Integration

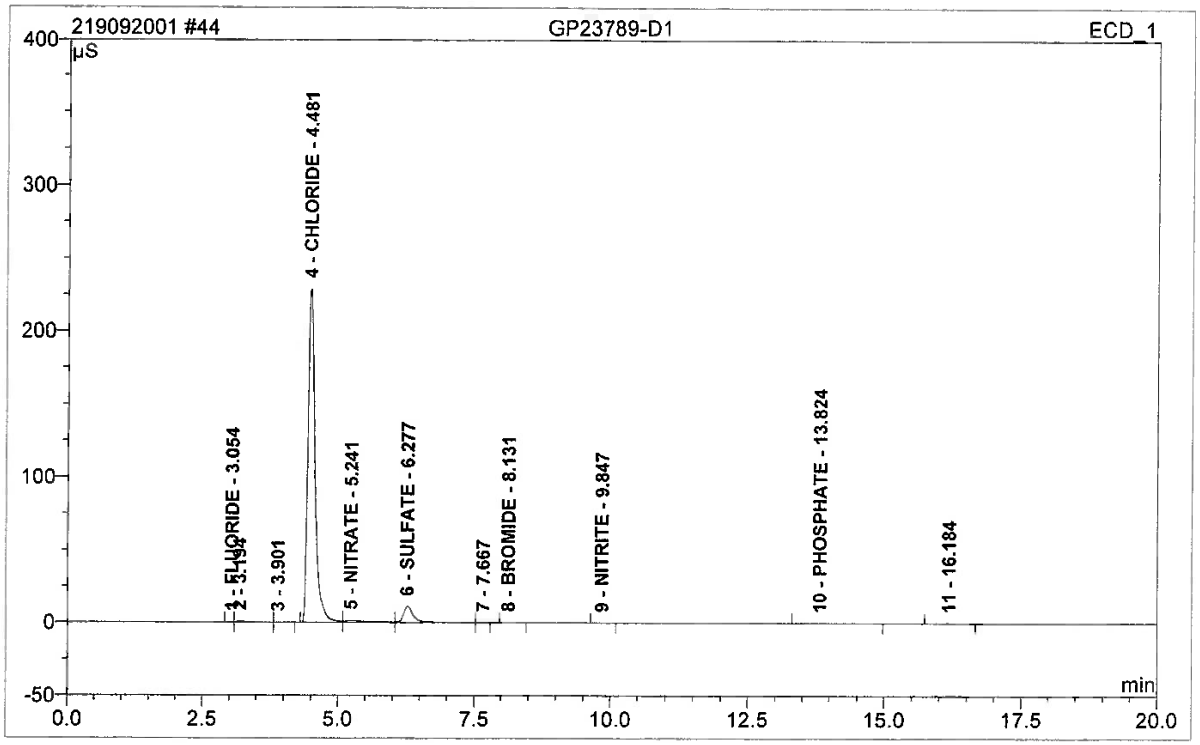
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

44 GP23789-D1

JC95177-2

Sample Name:	**GP23789-D1**	*Injection Volume:*	**20.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 0:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.134	0.011	0.03	0.235	BM
2	3.19	n.a.	0.795	0.188	0.49	n.a.	M
3	3.90	n.a.	0.045	0.009	0.02	n.a.	MB
4	4.48	CHLORIDE	228.772	35.012	91.49	1216.006	BM
5	5.24	NITRATE	1.379	0.637	1.66	10.191	M
6	6.28	SULFATE	10.893	2.340	6.11	109.920	M
7	7.67	n.a.	0.021	0.005	0.01	n.a.	MB
8	8.13	BROMIDE	0.032	0.006	0.02	0.575	BMB
9	9.85	NITRITE	0.019	0.004	0.01	0.062	BMB
10	13.82	PHOSPHATE	0.053	0.043	0.11	1.403	BMB
11	16.18	n.a.	0.036	0.015	0.04	n.a.	BMB

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Total:		242.179	38.271	100.00	1338.392

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

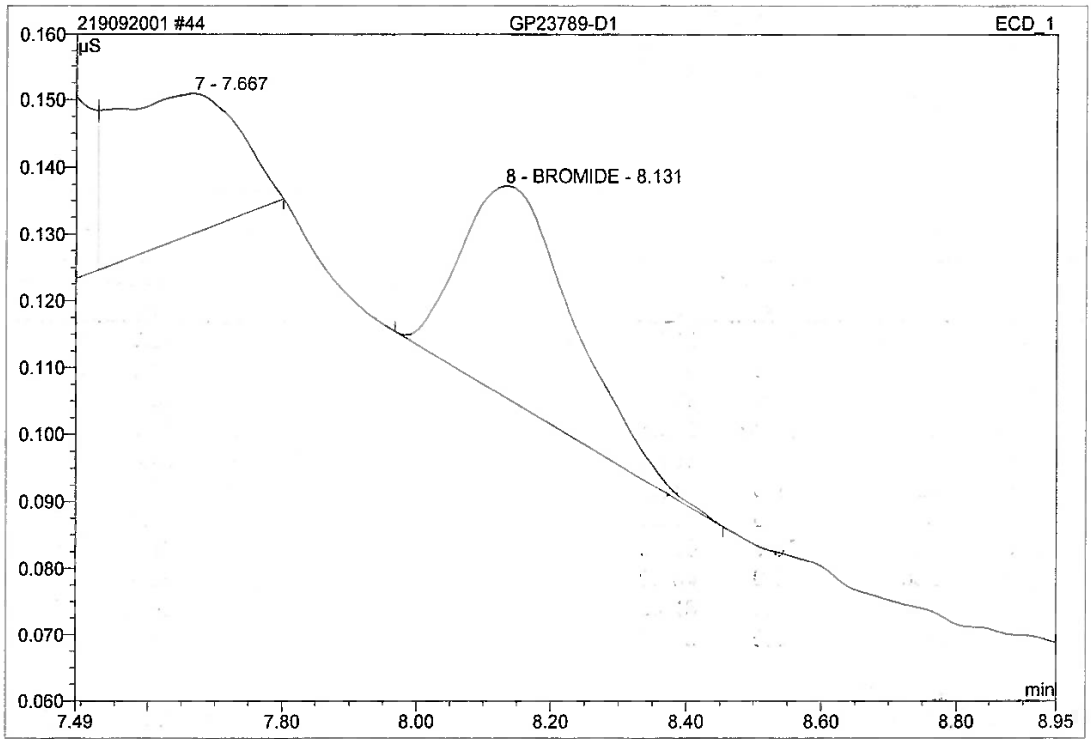
Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:37 AM

44 GP23789-D1

JC95177-2

Sample Name:	**GP23789-D1**	*Injection Volume:*	**20.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 0:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	0.134	0.011	0.03	0.235	BM
2	3.19	n.a.	0.795	0.188	0.49	n.a.	M
3	3.90	n.a.	0.045	0.009	0.02	n.a.	MB
4	4.48	CHLORIDE	228.772	35.012	91.49	1216.006	BM
5	5.24	NITRATE	1.379	0.637	1.66	10.191	M
6	6.28	SULFATE	10.893	2.340	6.11	109.920	M
7	7.67	n.a.	0.021	0.005	0.01	n.a.	MB
8	8.13	BROMIDE	0.032	0.006	0.02	0.575	BMB
9	9.85	NITRITE	0.019	0.004	0.01	0.062	BMB
10	13.82	PHOSPHATE	0.053	0.043	0.11	1.403	BMB
11	16.18	n.a.	0.036	0.015	0.04	n.a.	BMB

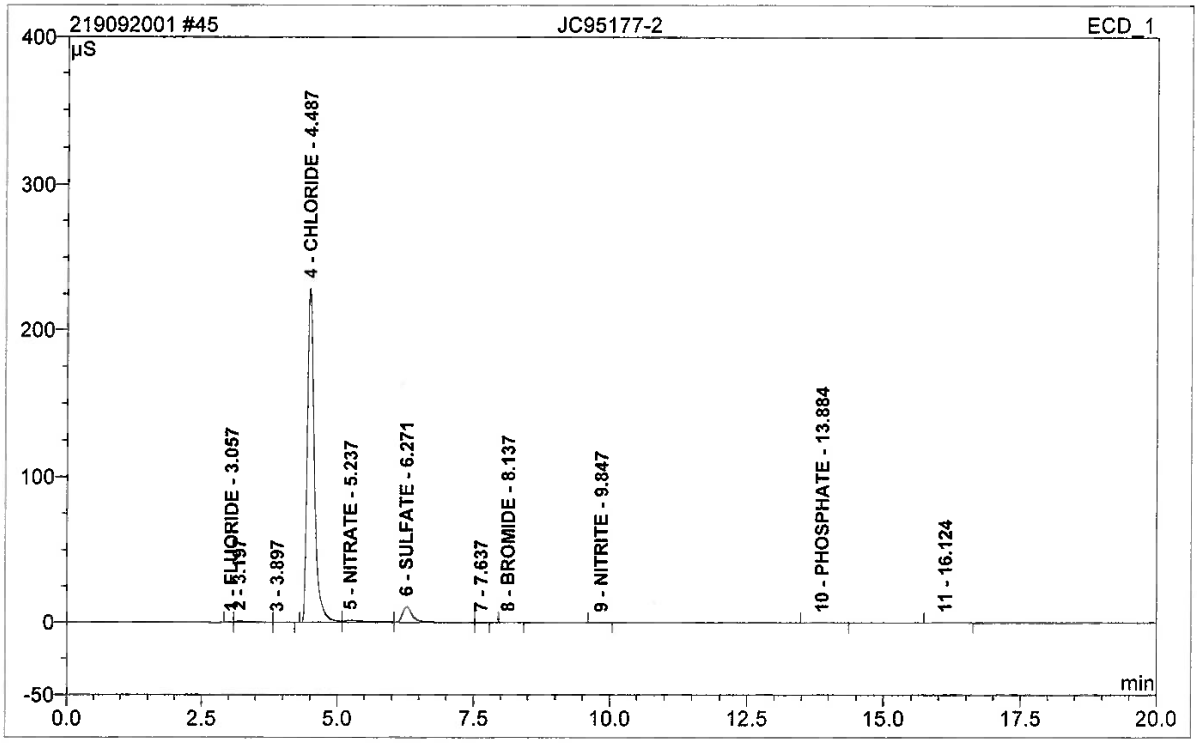
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

45 JC95177-2

Sample Name:	**JC95177-2**	*Injection Volume:*	**20.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 0:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.131	0.011	0.03	0.236	BM
2	3.20	n.a.	0.776	0.184	0.48	n.a.	M
3	3.90	n.a.	0.045	0.009	0.02	n.a.	MB
4	4.49	CHLORIDE	228.293	34.989	91.61	1215.207	BM
5	5.24	NITRATE	1.393	0.651	1.71	10.420	M
6	6.27	SULFATE	10.844	2.312	6.05	108.580	M
7	7.64	n.a.	0.024	0.005	0.01	n.a.	MB
8	8.14	BROMIDE	0.032	0.006	0.02	0.578	BMB
9	9.85	NITRITE	0.012	0.003	0.01	0.040	BMB
10	13.88	PHOSPHATE	0.014	0.007	0.02	0.224	BMB
11	16.12	n.a.	0.038	0.015	0.04	n.a.	BMB

anions/Integration

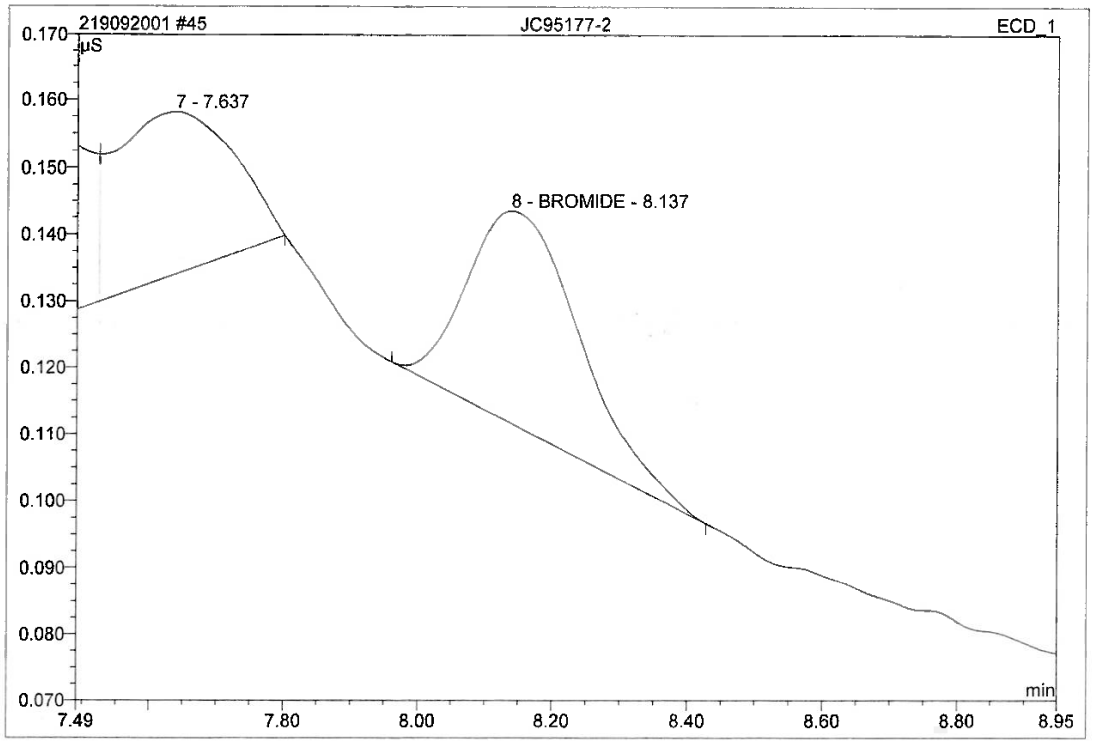
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Total:		241.603	38.192	100.00	1335.286

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

45 JC95177-2

Sample Name:	**JC95177-2**	*Injection Volume:*	**20.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 0:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.06	FLUORIDE	0.131	0.011	0.03	0.236	BM
2	3.20	n.a.	0.776	0.184	0.48	n.a.	M
3	3.90	n.a.	0.045	0.009	0.02	n.a.	MB
4	4.49	CHLORIDE	228.293	34.989	91.61	1215.207	BM
5	5.24	NITRATE	1.393	0.651	1.71	10.420	M
6	6.27	SULFATE	10.844	2.312	6.05	108.580	M
7	7.64	n.a.	0.024	0.005	0.01	n.a.	MB
8	8.14	BROMIDE	0.032	0.006	0.02	0.578	BMB
9	9.85	NITRITE	0.012	0.003	0.01	0.040	BMB
10	13.88	PHOSPHATE	0.014	0.007	0.02	0.224	BMB
11	16.12	n.a.	0.038	0.015	0.04	n.a.	BMB

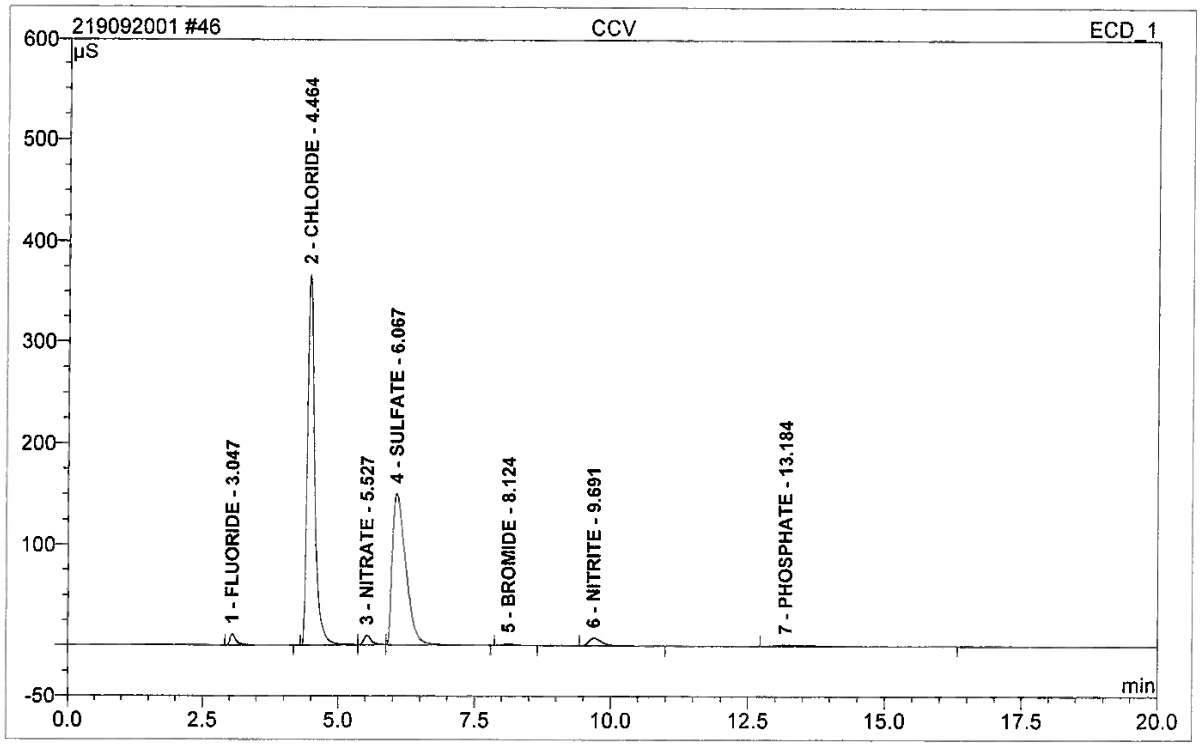
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

46 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 1:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.653	1.380	1.30	2.985	BMB
2	4.46	CHLORIDE	366.363	57.404	54.04	199.370	BM
3	5.53	NITRATE	9.160	1.505	1.42	2.408	MB
4	6.07	SULFATE	150.142	42.661	40.16	200.379	BMB
5	8.12	BROMIDE	1.504	0.310	0.29	2.844	BMB
6	9.69	NITRITE	7.392	2.043	1.92	2.945	BMB
7	13.18	PHOSPHATE	1.342	0.922	0.87	3.012	BMB
Total:			546.556	106.226	100.00	413.943	

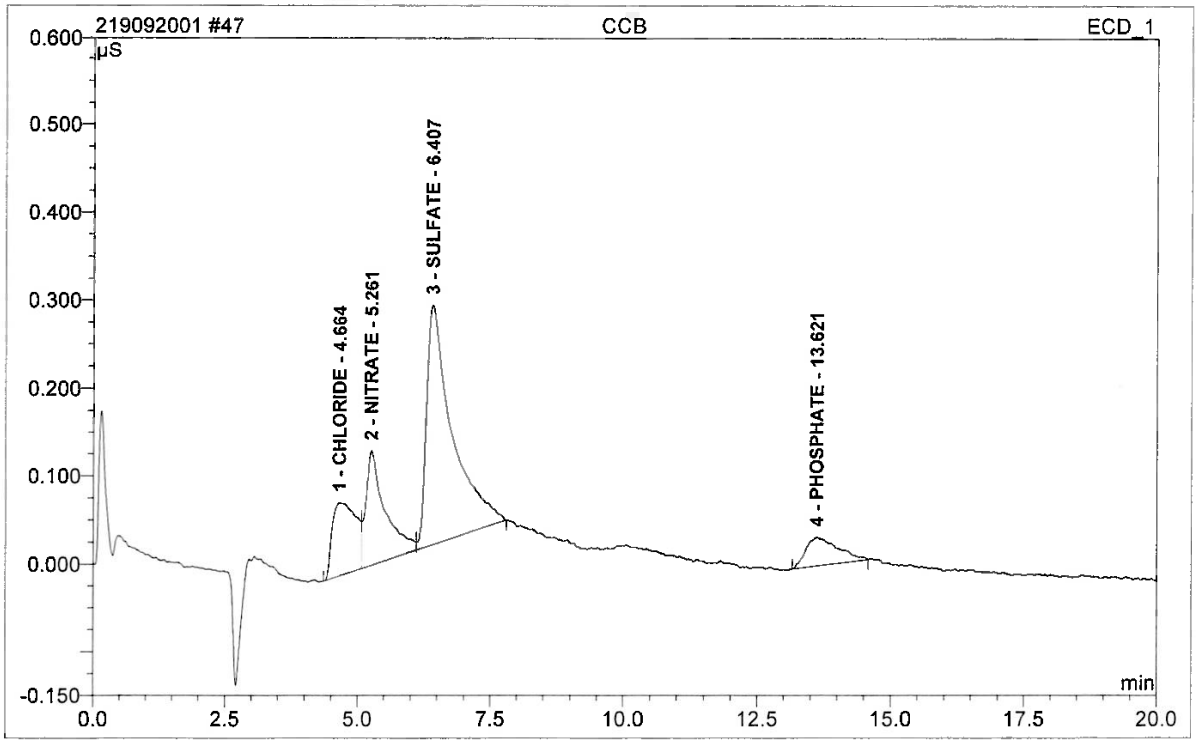
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

47 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 1:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.66	CHLORIDE	0.083	0.043	15.66	0.148	BM
2	5.26	NITRATE	0.130	0.055	20.18	0.088	M
3	6.41	SULFATE	0.272	0.152	55.80	0.713	MB
4	13.62	PHOSPHATE	0.033	0.023	8.36	0.074	BMB
Total:			0.518	0.272	100.00	1.022	

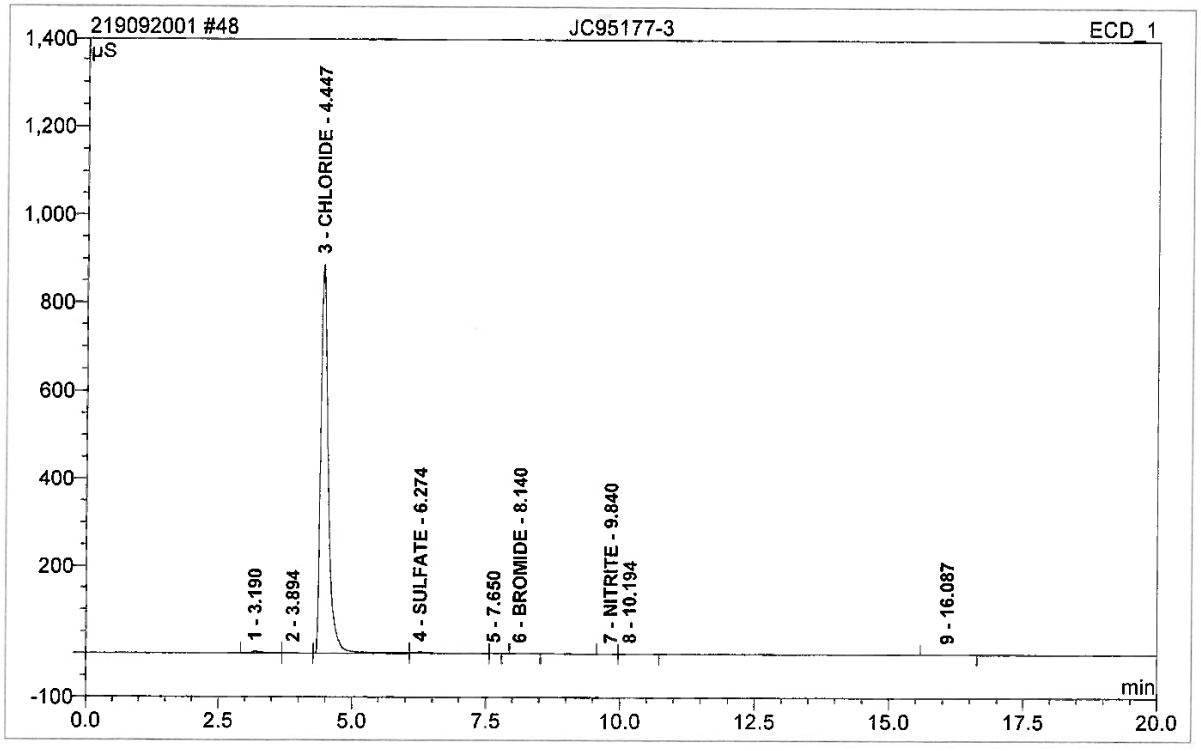
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

48 JC95177-3

Sample Name:	**JC95177-3**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 1:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	3.767	0.788	0.53	n.a.	BM
2	3.89	n.a.	0.303	0.085	0.06	n.a.	MB
3	4.45	CHLORIDE	887.207	145.757	98.71	5062.262	BM
4	6.27	SULFATE	3.003	0.947	0.64	44.471	M
5	7.65	n.a.	0.037	0.007	0.00	n.a.	MB
6	8.14	BROMIDE	0.125	0.025	0.02	2.289	BMB
7	9.84	NITRITE	0.030	0.007	0.00	0.095	BM
8	10.19	n.a.	0.053	0.019	0.01	n.a.	MB
9	16.09	n.a.	0.076	0.034	0.02	n.a.	BMB
Total:			894.601	147.669	100.00	5109.117	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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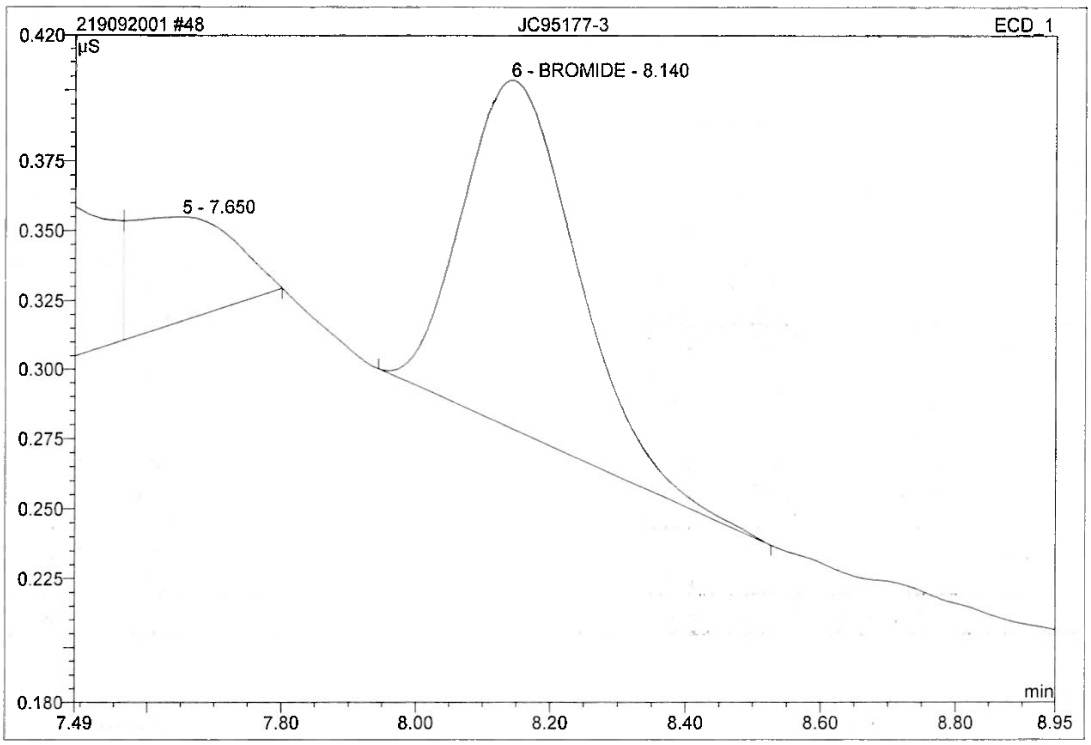
9/24/2019 9:38 AM

48 JC95177-3

Sample Name:	**JC95177-3**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 1:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	3.767	0.788	0.53	n.a.	BM
2	3.89	n.a.	0.303	0.085	0.06	n.a.	MB
3	4.45	CHLORIDE	887.207	145.757	98.71	5062.262	BM
4	6.27	SULFATE	3.003	0.947	0.64	44.471	M
5	7.65	n.a.	0.037	0.007	0.00	n.a.	MB
6	8.14	BROMIDE	0.125	0.025	0.02	2.289	BMB
7	9.84	NITRITE	0.030	0.007	0.00	0.095	BM
8	10.19	n.a.	0.053	0.019	0.01	n.a.	MB
9	16.09	n.a.	0.076	0.034	0.02	n.a.	BMB
Total:			894.601	147.669	100.00	5109.117	

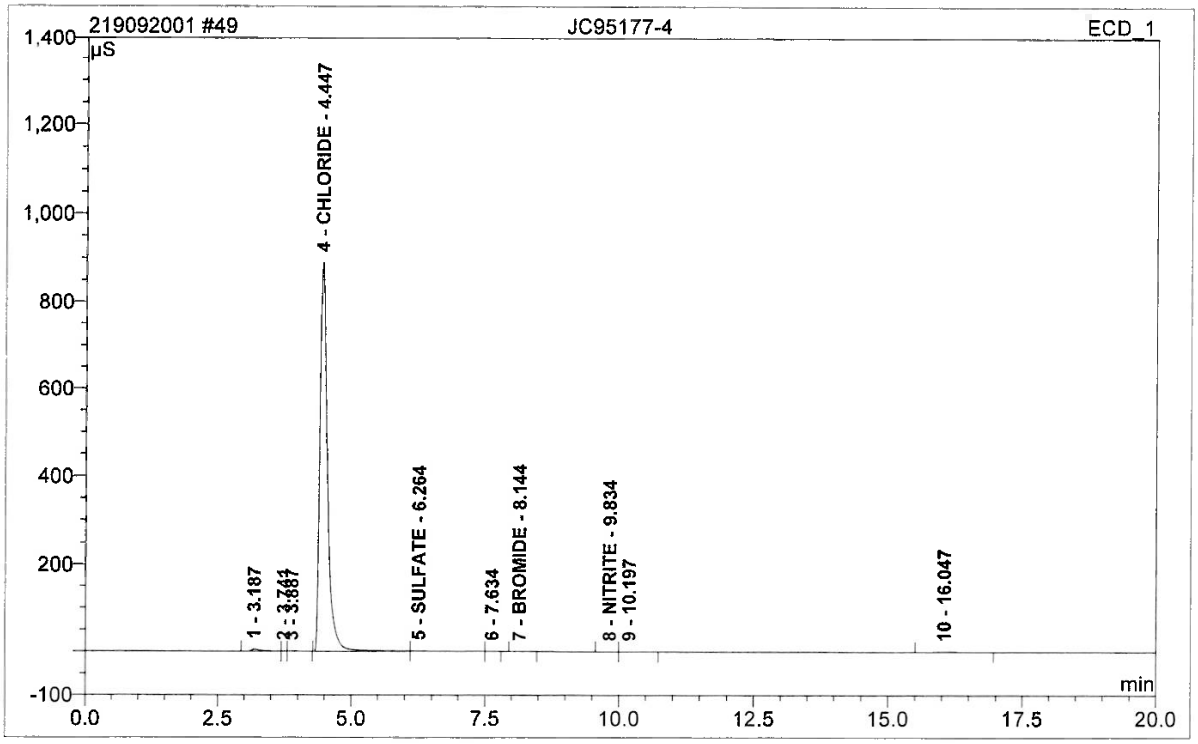
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

49 JC95177-4

Sample Name:	**JC95177-4**	*Injection Volume:*	**20.0**
Vial Number:	**42**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 2:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	4.379	0.973	0.66	n.a.	BM
2	3.74	n.a.	0.284	0.031	0.02	n.a.	M
3	3.89	n.a.	0.339	0.071	0.05	n.a.	MB
4	4.45	CHLORIDE	889.896	146.208	98.75	5077.925	BM
5	6.26	SULFATE	1.179	0.534	0.36	25.090	M
6	7.63	n.a.	0.048	0.011	0.01	n.a.	MB
7	8.14	BROMIDE	0.123	0.024	0.02	2.230	BMB
8	9.83	NITRITE	0.050	0.012	0.01	0.168	BM
9	10.20	n.a.	0.060	0.021	0.01	n.a.	MB
10	16.05	n.a.	0.371	0.171	0.12	n.a.	BMB
Total:			896.729	148.056	100.00	5105.412	

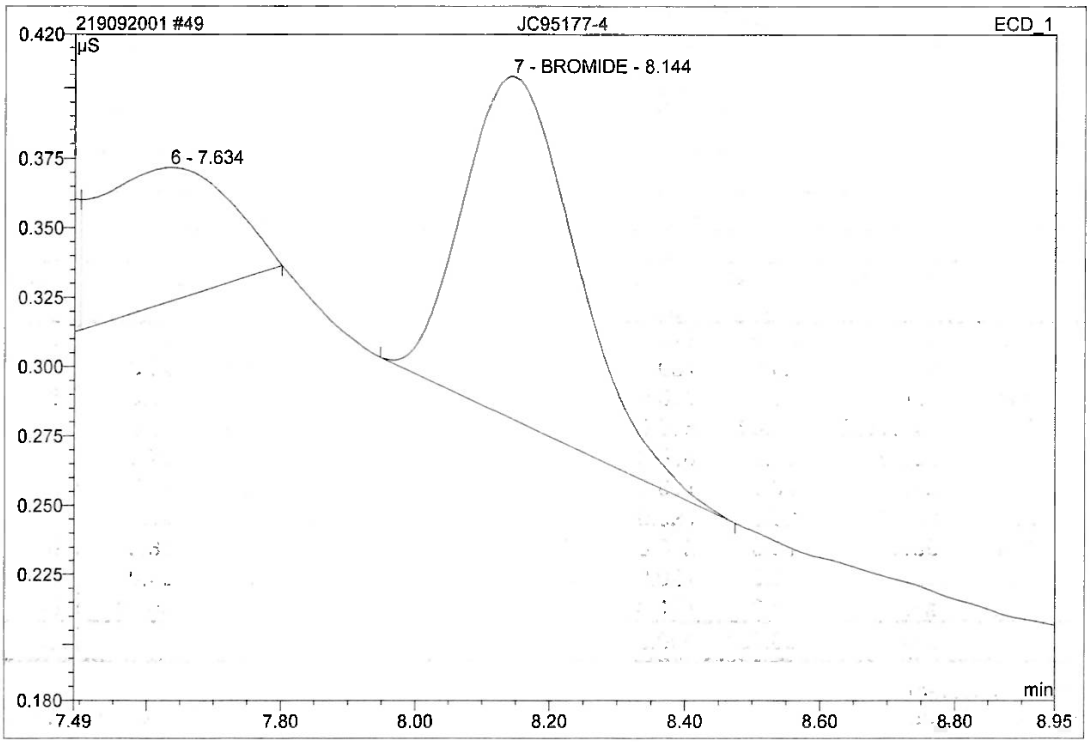
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

49 JC95177-4

Sample Name:	**JC95177-4**	*Injection Volume:*	**20.0**
Vial Number:	**42**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 2:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



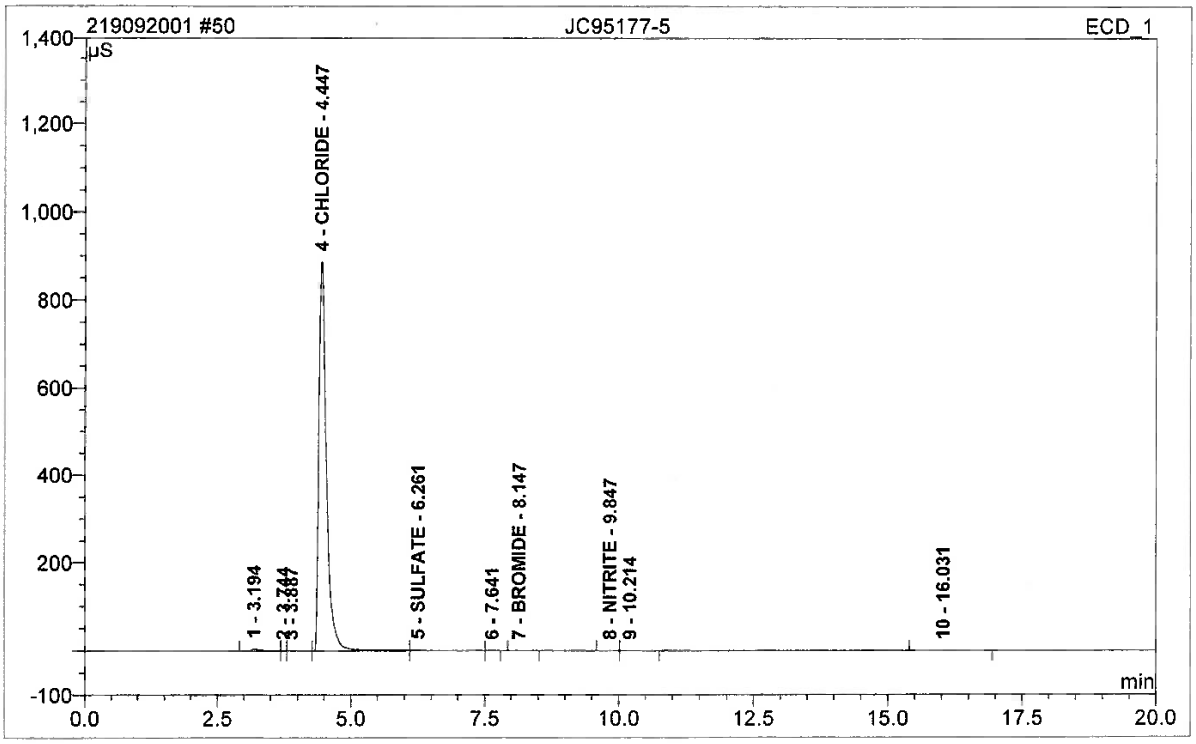
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	4.379	0.973	0.66	n.a.	BM
2	3.74	n.a.	0.284	0.031	0.02	n.a.	M
3	3.89	n.a.	0.339	0.071	0.05	n.a.	MB
4	4.45	CHLORIDE	889.896	146.208	98.75	5077.925	BM
5	6.26	SULFATE	1.179	0.534	0.36	25.090	M
6	7.63	n.a.	0.048	0.011	0.01	n.a.	MB
7	8.14	BROMIDE	0.123	0.024	0.02	2.230	BMB
8	9.83	NITRITE	0.050	0.012	0.01	0.168	BM
9	10.20	n.a.	0.060	0.021	0.01	n.a.	MB
10	16.05	n.a.	0.371	0.171	0.12	n.a.	BMB
Total:			896.729	148.056	100.00	5105.412	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

50 JC95177-5

Sample Name:	**JC95177-5**	*Injection Volume:*	**20.0**
Vial Number:	**43**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 2:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	3.936	0.878	0.60	n.a.	BM
2	3.74	n.a.	0.278	0.030	0.02	n.a.	M
3	3.89	n.a.	0.337	0.070	0.05	n.a.	MB
4	4.45	CHLORIDE	886.561	145.785	98.81	5063.209	BM
5	6.26	SULFATE	1.164	0.535	0.36	25.107	M
6	7.64	n.a.	0.046	0.011	0.01	n.a.	MB
7	8.15	BROMIDE	0.126	0.025	0.02	2.307	BMB
8	9.85	NITRITE	0.048	0.011	0.01	0.165	BM
9	10.21	n.a.	0.057	0.020	0.01	n.a.	MB
10	16.03	n.a.	0.379	0.174	0.12	n.a.	BMB
Total:			892.932	147.539	100.00	5090.788	

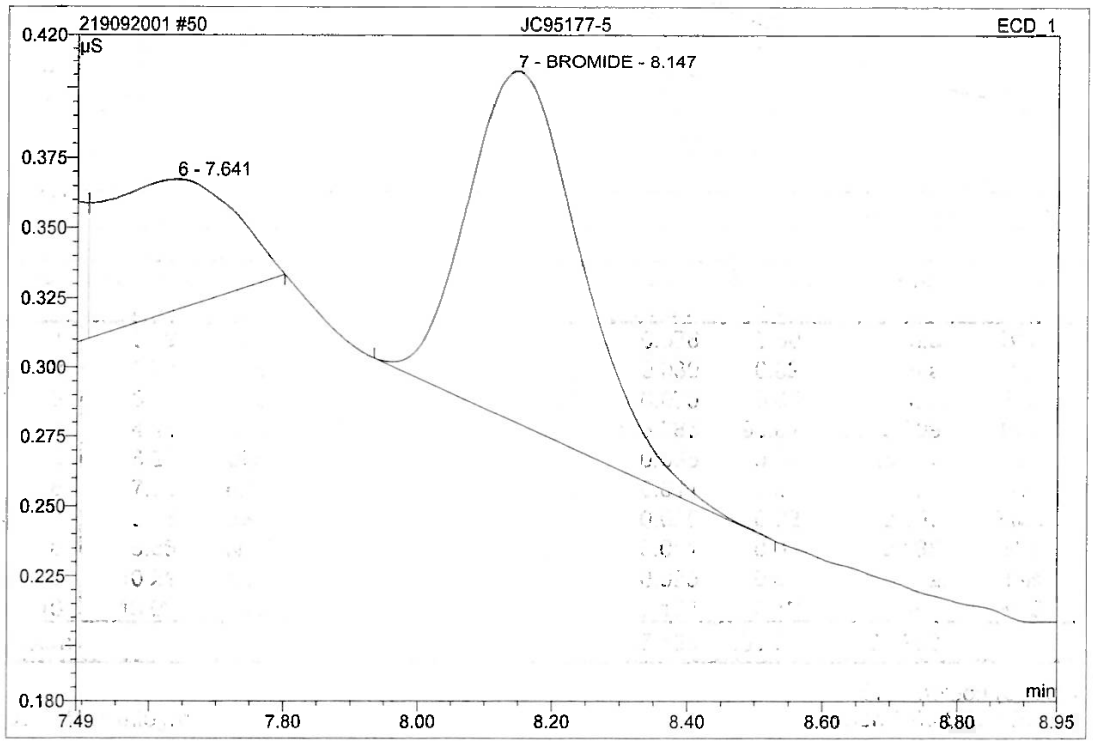
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

50 JC95177-5

Sample Name:	**JC95177-5**	*Injection Volume:*	**20.0**
Vial Number:	**43**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 2:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	3.936	0.878	0.60	n.a.	BM
2	3.74	n.a.	0.278	0.030	0.02	n.a.	M
3	3.89	n.a.	0.337	0.070	0.05	n.a.	MB
4	4.45	CHLORIDE	886.561	145.785	98.81	5063.209	BM
5	6.26	SULFATE	1.164	0.535	0.36	25.107	M
6	7.64	n.a.	0.046	0.011	0.01	n.a.	MB
7	8.15	BROMIDE	0.126	0.025	0.02	2.307	BMB
8	9.85	NITRITE	0.048	0.011	0.01	0.165	BM
9	10.21	n.a.	0.057	0.020	0.01	n.a.	MB
10	16.03	n.a.	0.379	0.174	0.12	n.a.	BMB
Total:			892.932	147.539	100.00	5090.788	

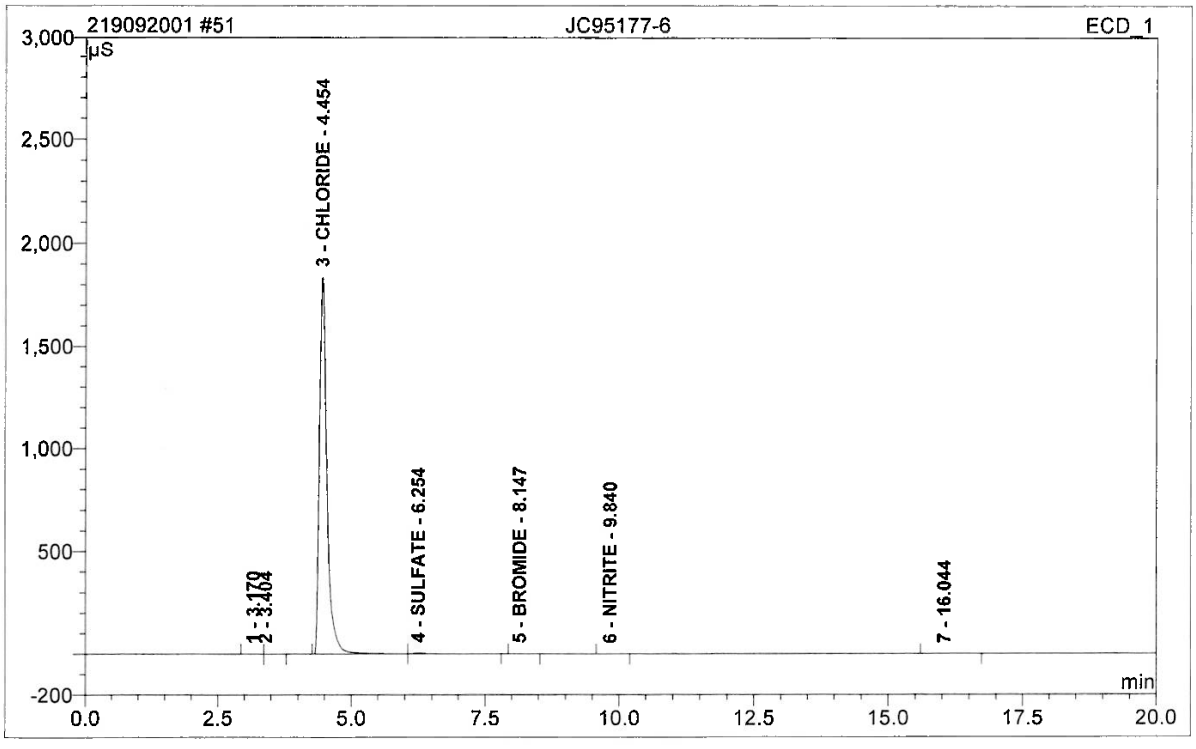
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

51 JC95177-6

Sample Name:	**JC95177-6**	*Injection Volume:*	**20.0**
Vial Number:	**44**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.185	0.038	0.01	n.a.	BM
2	3.40	n.a.	0.054	0.009	0.00	n.a.	MB
3	4.45	CHLORIDE	1832.977	299.102	99.39	10388.040	BM
4	6.25	SULFATE	4.693	1.698	0.56	79.738	MB
5	8.15	BROMIDE	0.219	0.044	0.01	4.051	BMB
6	9.84	NITRITE	0.100	0.024	0.01	0.352	BMB
7	16.04	n.a.	0.050	0.023	0.01	n.a.	BMB
Total:			1838.278	300.940	100.00	10472.181	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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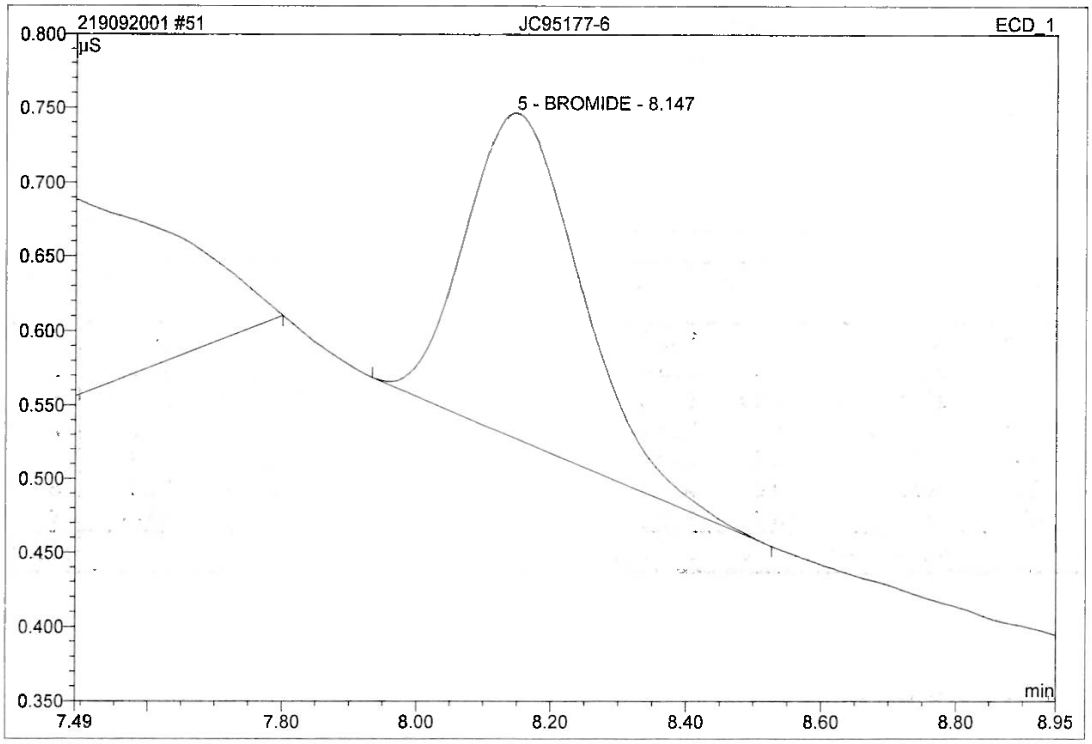
51 JC95177-6

Sample Name:	**JC95177-6**	*Injection Volume:*	**20.0**
Vial Number:	**44**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



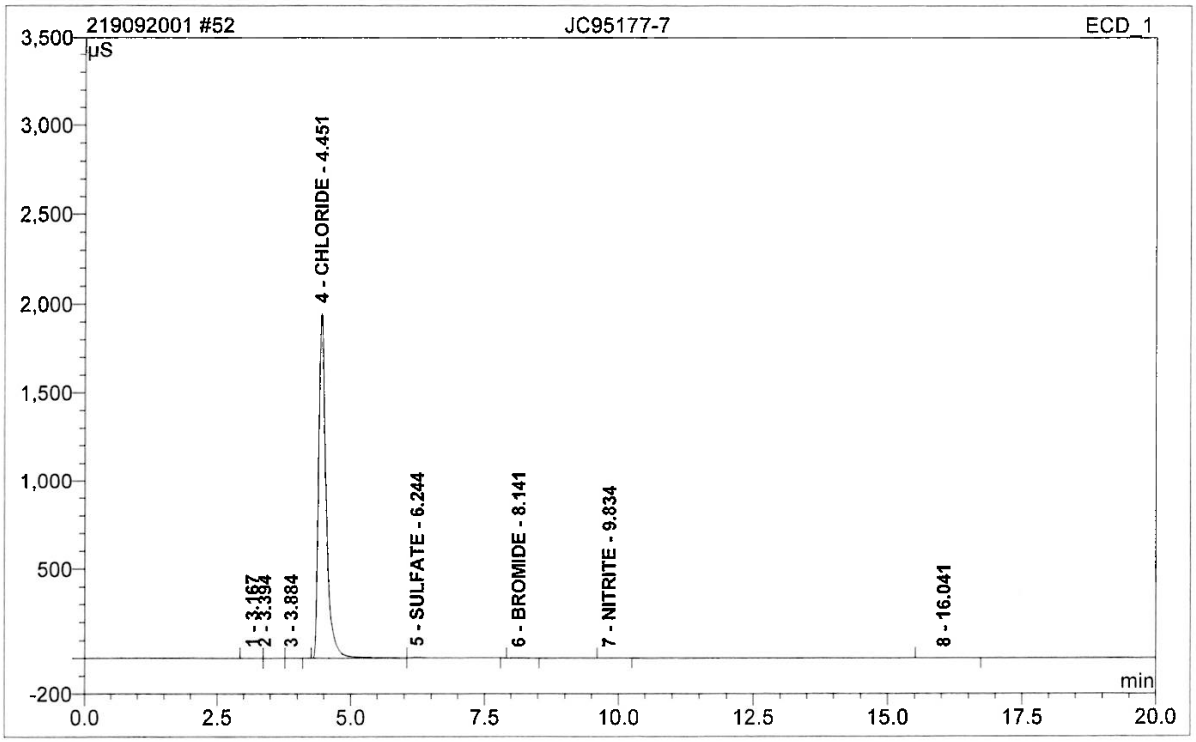
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.185	0.038	0.01	n.a.	BM
2	3.40	n.a.	0.054	0.009	0.00	n.a.	MB
3	4.45	CHLORIDE	1832.977	299.102	99.39	#########	BM
4	6.25	SULFATE	4.693	1.698	0.56	79.738	MB
5	8.15	BROMIDE	0.219	0.044	0.01	4.051	BMB
6	9.84	NITRITE	0.100	0.024	0.01	0.352	BMB
7	16.04	n.a.	0.050	0.023	0.01	n.a.	BMB
Total:			1838.278	300.940	100.00	#########	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

52 JC95177-7

Sample Name:	**JC95177-7**	*Injection Volume:*	**20.0**
Vial Number:	**45**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.226	0.047	0.01	n.a.	BM
2	3.39	n.a.	0.067	0.013	0.00	n.a.	M
3	3.88	n.a.	0.012	0.002	0.00	n.a.	MB
4	4.45	CHLORIDE	1946.957	320.444	99.39	11129.238	BM
5	6.24	SULFATE	4.795	1.799	0.56	84.514	MB
6	8.14	BROMIDE	0.240	0.049	0.02	4.457	BMB
7	9.83	NITRITE	0.060	0.015	0.00	0.212	BMB
8	16.04	n.a.	0.056	0.027	0.01	n.a.	BMB
Total:			1952.412	322.395	100.00	11218.422	

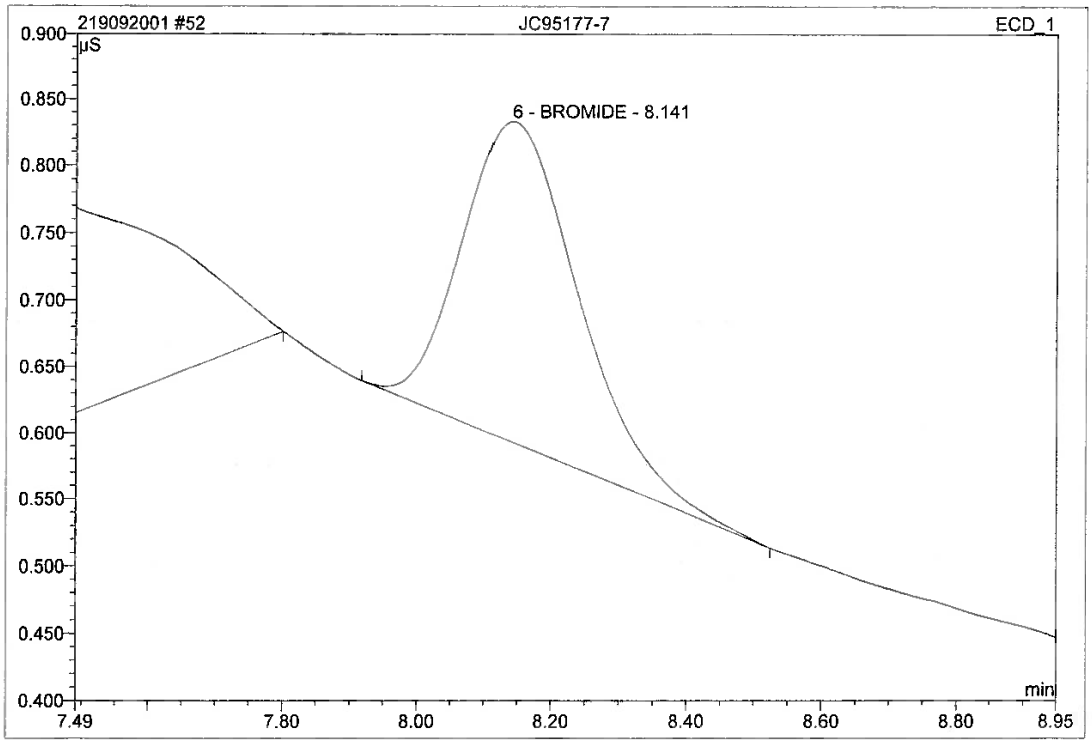
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

52 JC95177-7

Sample Name:	**JC95177-7**	*Injection Volume:*	**20.0**
Vial Number:	**45**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



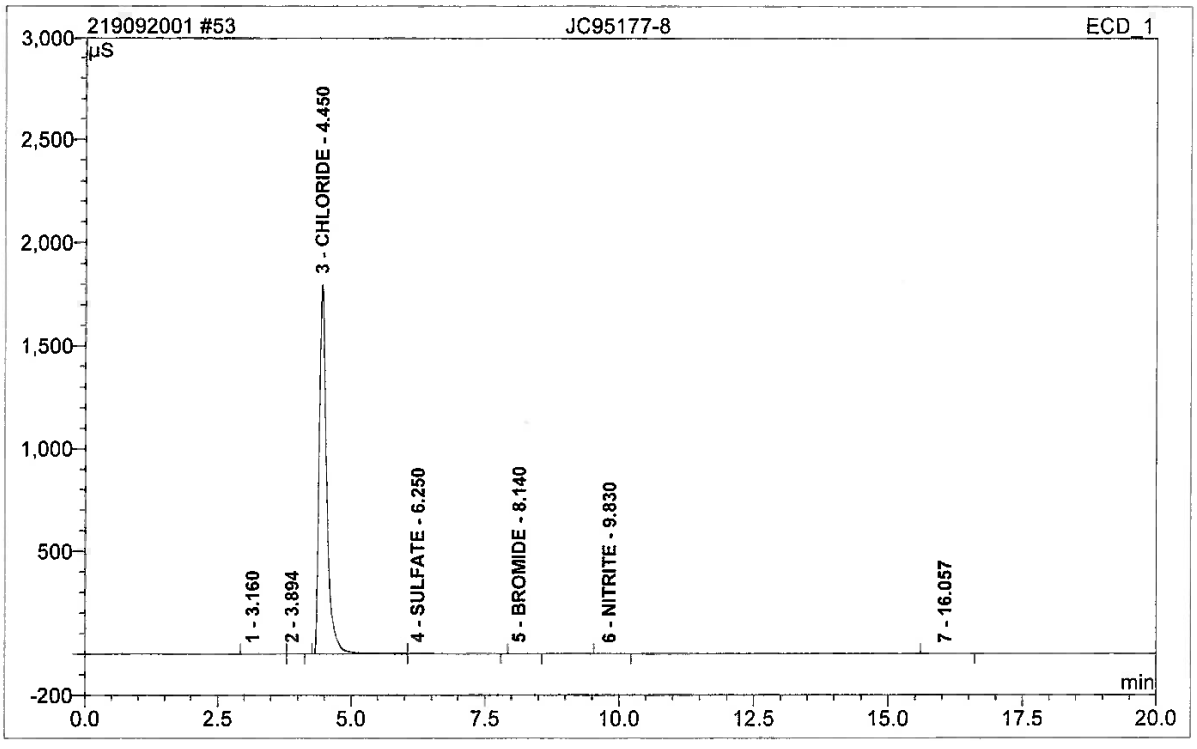
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.226	0.047	0.01	n.a.	BM
2	3.39	n.a.	0.067	0.013	0.00	n.a.	M
3	3.88	n.a.	0.012	0.002	0.00	n.a.	MB
4	4.45	CHLORIDE	1946.957	320.444	99.39	#########	BM
5	6.24	SULFATE	4.795	1.799	0.56	84.514	MB
6	8.14	BROMIDE	0.240	0.049	0.02	4.457	BMB
7	9.83	NITRITE	0.060	0.015	0.00	0.212	BMB
8	16.04	n.a.	0.056	0.027	0.01	n.a.	BMB
Total:			1952.412	322.395	100.00	#########	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

53 JC95177-8

Sample Name:	**JC95177-8**	*Injection Volume:*	**20.0**
Vial Number:	**46**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.16	n.a.	0.312	0.073	0.02	n.a.	BM
2	3.89	n.a.	0.012	0.002	0.00	n.a.	MB
3	4.45	CHLORIDE	1797.118	293.648	99.41	10198.618	BM
4	6.25	SULFATE	4.436	1.604	0.54	75.328	MB
5	8.14	BROMIDE	0.215	0.044	0.01	4.036	BMB
6	9.83	NITRITE	0.052	0.012	0.00	0.180	BMB
7	16.06	n.a.	0.049	0.022	0.01	n.a.	BMB
Total:			1802.193	295.405	100.00	10278.161	

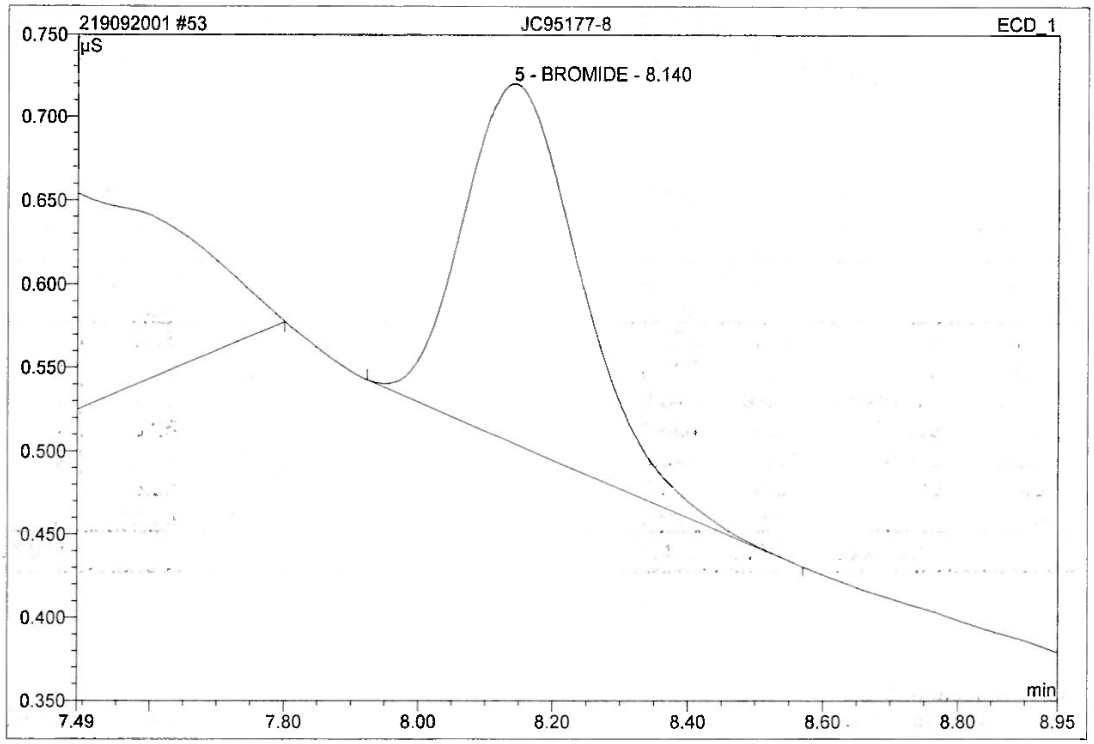
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

53 JC95177-8

Sample Name:	**JC95177-8**	*Injection Volume:*	**20.0**
Vial Number:	**46**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 3:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



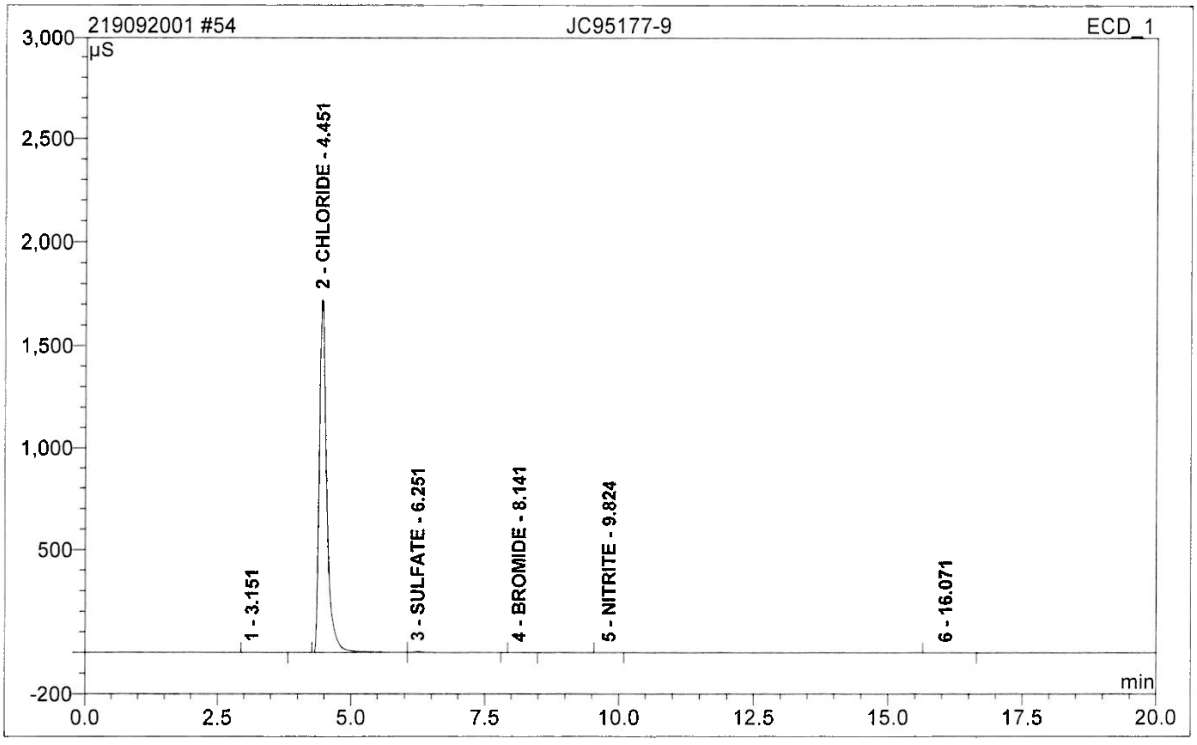
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.16	n.a.	0.312	0.073	0.02	n.a.	BM
2	3.89	n.a.	0.012	0.002	0.00	n.a.	MB
3	4.45	CHLORIDE	1797.118	293.648	99.41	#########	BM
4	6.25	SULFATE	4.436	1.604	0.54	75.328	MB
5	8.14	BROMIDE	0.215	0.044	0.01	4.036	BMB
6	9.83	NITRITE	0.052	0.012	0.00	0.180	BMB
7	16.06	n.a.	0.049	0.022	0.01	n.a.	BMB
Total:			1802.193	295.405	100.00	#########	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

54 JC95177-9

Sample Name:	**JC95177-9**	*Injection Volume:*	**20.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 4:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

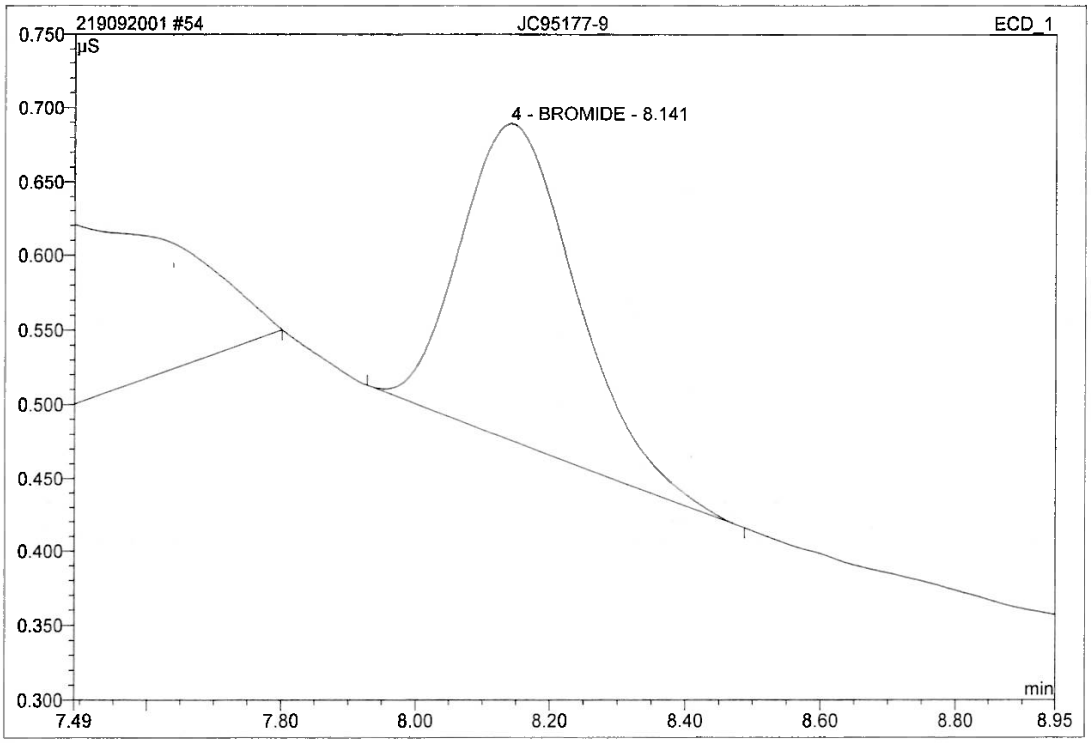


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.666	0.124	0.04	n.a.	BMB
2	4.45	CHLORIDE	1721.957	280.168	99.38	9730.454	BM
3	6.25	SULFATE	4.288	1.537	0.55	72.187	MB
4	8.14	BROMIDE	0.213	0.043	0.02	3.944	BMB
5	9.82	NITRITE	0.030	0.007	0.00	0.100	BMB
6	16.07	n.a.	0.064	0.028	0.01	n.a.	BMB
Total:			1727.217	281.907	100.00	9806.686	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

54 JC95177-9

Sample Name:	**JC95177-9**	*Injection Volume:*	**20.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 4:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.15	n.a.	0.666	0.124	0.04	n.a.	BMB
2	4.45	CHLORIDE	1721.957	280.168	99.38	9730.454	BM
3	6.25	SULFATE	4.288	1.537	0.55	72.187	MB
4	8.14	BROMIDE	0.213	0.043	0.02	3.944	BMB
5	9.82	NITRITE	0.030	0.007	0.00	0.100	BMB
6	16.07	n.a.	0.064	0.028	0.01	n.a.	BMB
Total:			1727.217	281.907	100.00	9806.686	

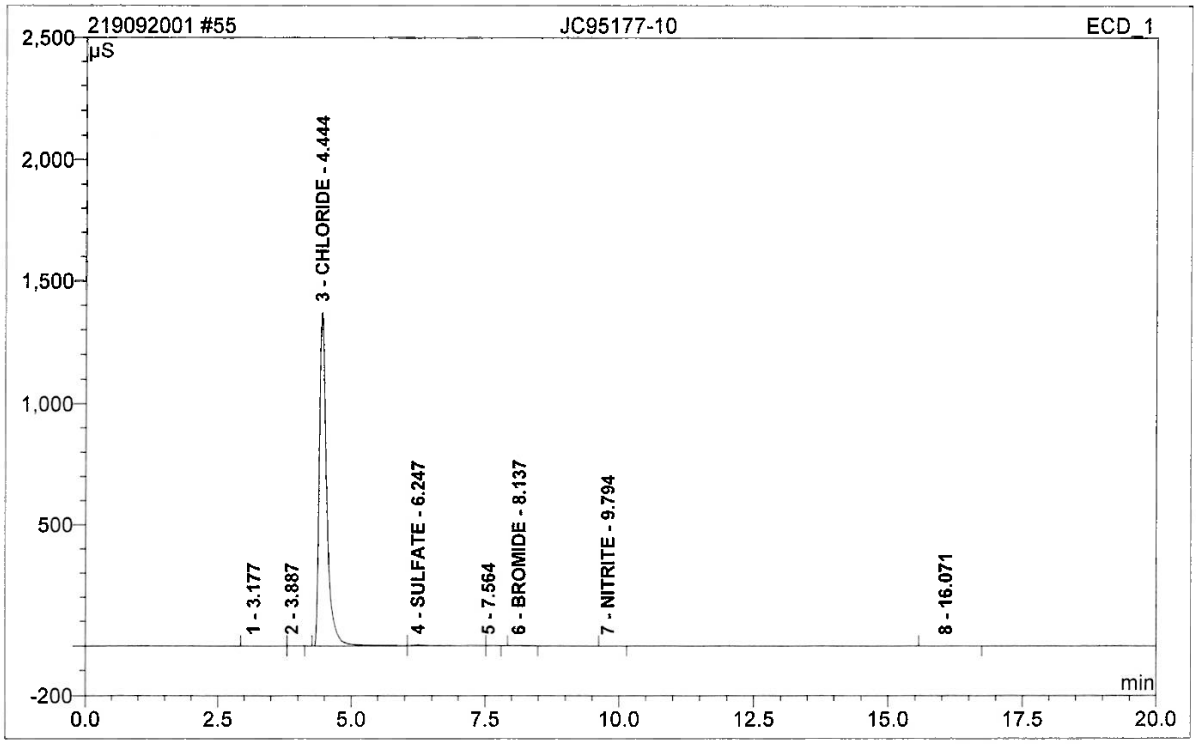
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

55 JC95177-10

Sample Name:	**JC95177-10**	*Injection Volume:*	**20.0**
Vial Number:	**48**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 4:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.223	0.062	0.03	n.a.	BM
2	3.89	n.a.	0.017	0.003	0.00	n.a.	MB
3	4.44	CHLORIDE	1369.079	222.075	99.38	7712.834	BM
4	6.25	SULFATE	3.712	1.246	0.56	58.525	M
5	7.56	n.a.	0.083	0.015	0.01	n.a.	MB
6	8.14	BROMIDE	0.167	0.034	0.02	3.082	BMB
7	9.79	NITRITE	0.010	0.003	0.00	0.042	BMB
8	16.07	n.a.	0.063	0.030	0.01	n.a.	BMB
Total:			1373.355	223.468	100.00	7774.483	

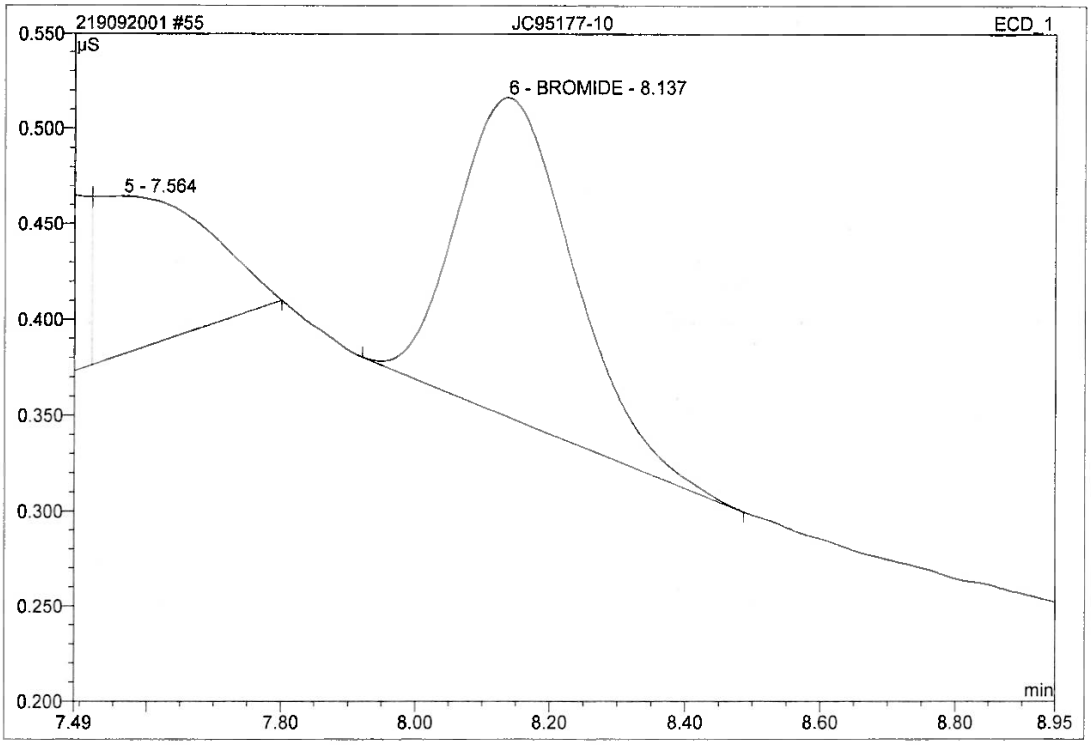
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

55 JC95177-10

Sample Name:	**JC95177-10**	*Injection Volume:*	**20.0**
Vial Number:	**48**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 4:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.223	0.062	0.03	n.a.	BM
2	3.89	n.a.	0.017	0.003	0.00	n.a.	MB
3	4.44	CHLORIDE	1369.079	222.075	99.38	7712.834	BM
4	6.25	SULFATE	3.712	1.246	0.56	58.525	M
5	7.56	n.a.	0.083	0.015	0.01	n.a.	MB
6	8.14	BROMIDE	0.167	0.034	0.02	3.082	BMB
7	9.79	NITRITE	0.010	0.003	0.00	0.042	BMB
8	16.07	n.a.	0.063	0.030	0.01	n.a.	BMB
Total:			1373.355	223.468	100.00	7774.483	

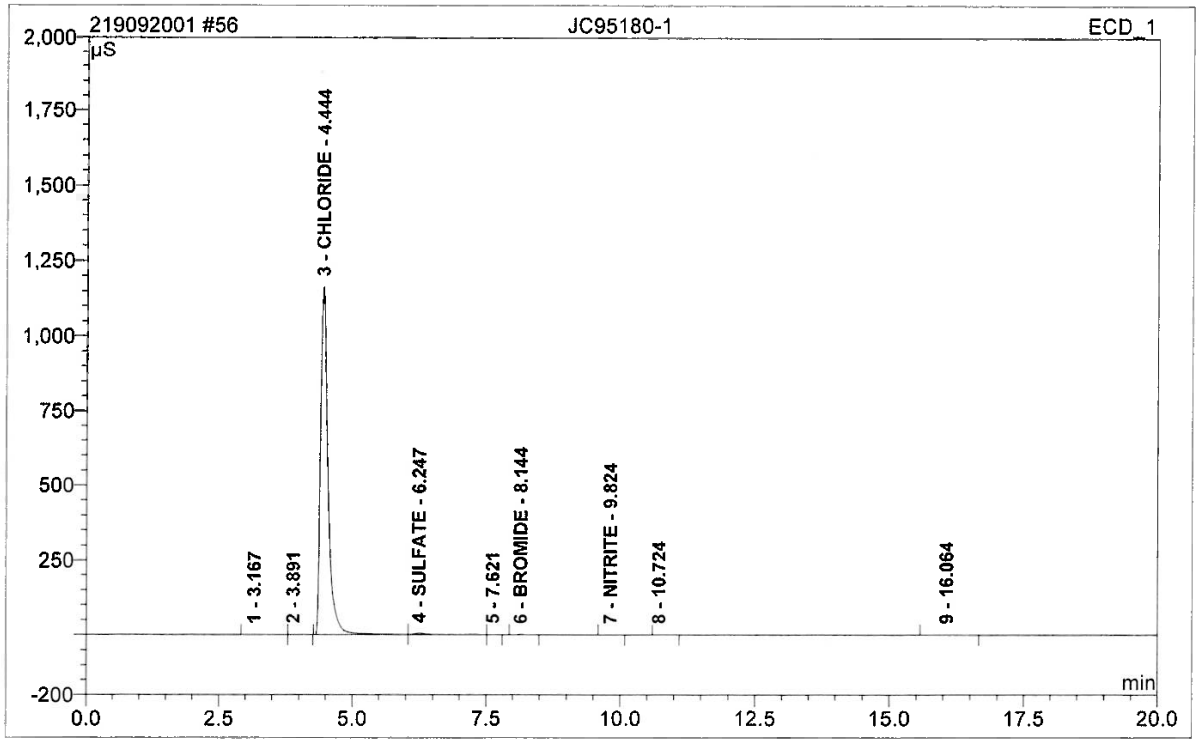
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

56 JC95180-1

Sample Name:	**JC95180-1**	*Injection Volume:*	**20.0**
Vial Number:	**49**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 5:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.427	0.098	0.05	n.a.	BM
2	3.89	n.a.	0.025	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1162.274	189.442	99.21	6579.470	BM
4	6.25	SULFATE	4.377	1.320	0.69	62.013	M
5	7.62	n.a.	0.064	0.014	0.01	n.a.	MB
6	8.14	BROMIDE	0.146	0.029	0.02	2.691	BMB
7	9.82	NITRITE	0.016	0.003	0.00	0.048	BMB
8	10.72	n.a.	0.007	0.002	0.00	n.a.	BMB
9	16.06	n.a.	0.077	0.034	0.02	n.a.	BMB
Total:			1167.412	190.948	100.00	6644.222	

anions/Integration

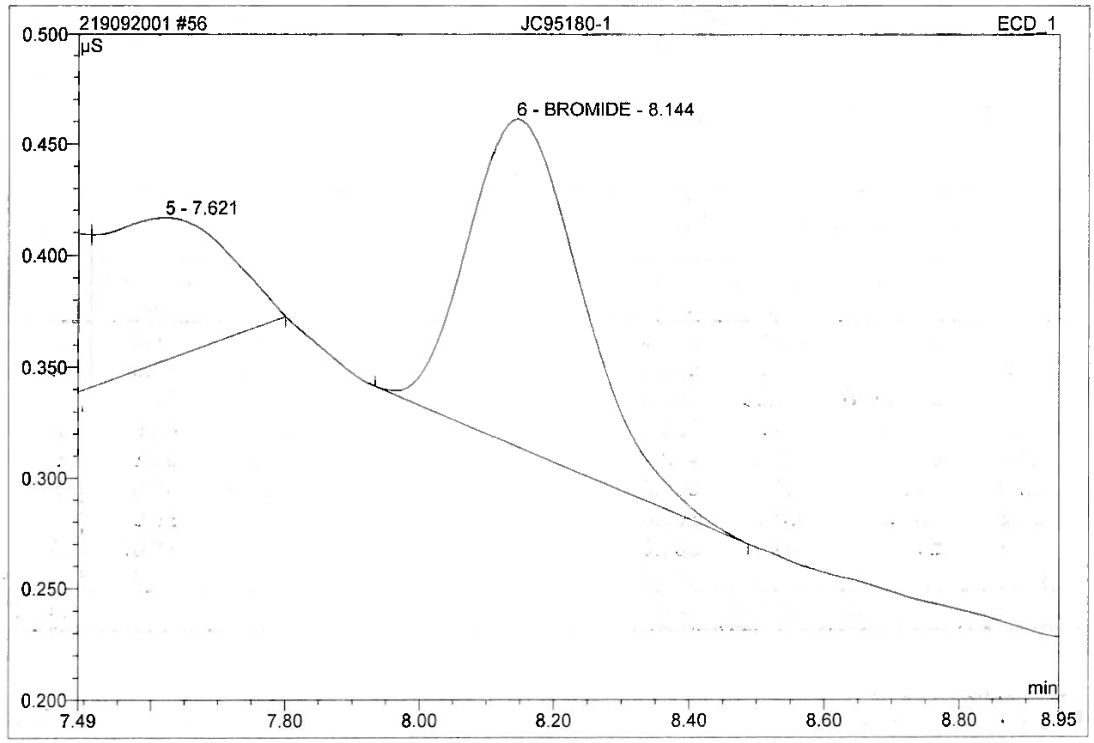
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:39 AM

56 JC95180-1

Sample Name:	**JC95180-1**	*Injection Volume:*	**20.0**
Vial Number:	**49**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 5:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.427	0.098	0.05	n.a.	BM
2	3.89	n.a.	0.025	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1162.274	189.442	99.21	6579.470	BM
4	6.25	SULFATE	4.377	1.320	0.69	62.013	M
5	7.62	n.a.	0.064	0.014	0.01	n.a.	MB
6	8.14	BROMIDE	0.146	0.029	0.02	2.691	BMB
7	9.82	NITRITE	0.016	0.003	0.00	0.048	BMB
8	10.72	n.a.	0.007	0.002	0.00	n.a.	BMB
9	16.06	n.a.	0.077	0.034	0.02	n.a.	BMB
Total:			1167.412	190.948	100.00	6644.222	

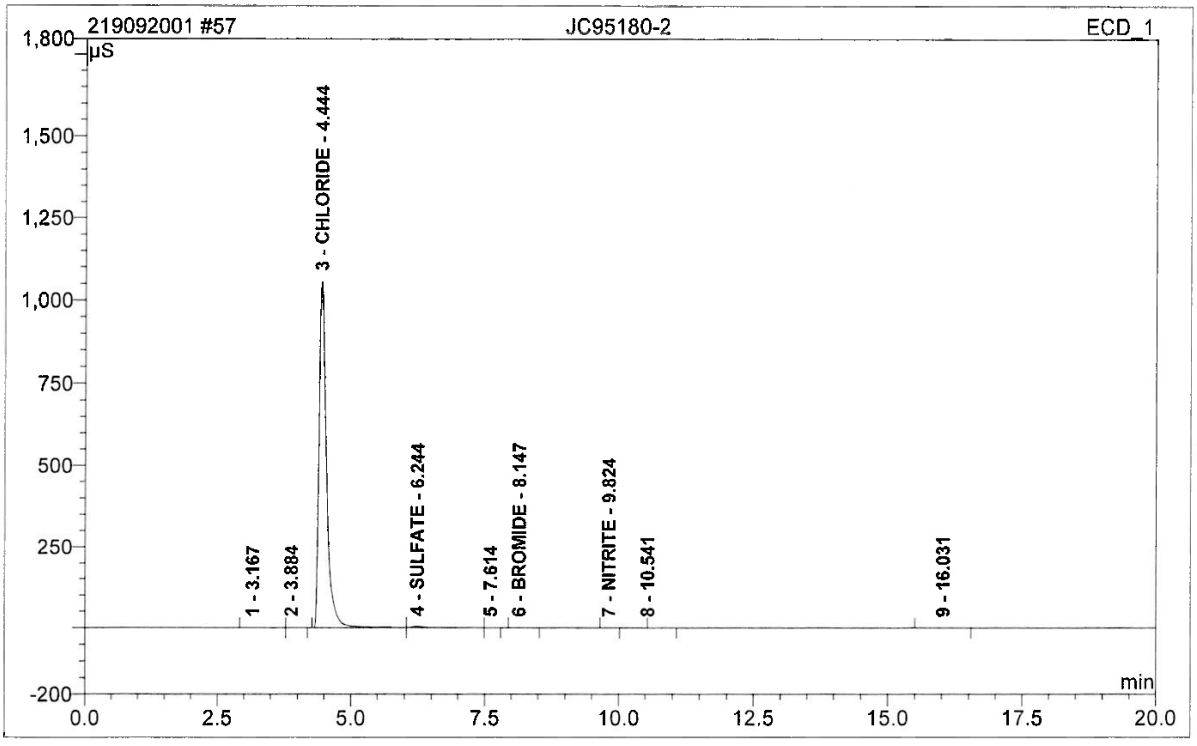
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

57 JC95180-2

Sample Name:	**JC95180-2**	*Injection Volume:*	**20.0**
Vial Number:	**50**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 5:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.409	0.095	0.05	n.a.	BM
2	3.88	n.a.	0.023	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1055.704	172.889	99.20	6004.558	BM
4	6.24	SULFATE	3.991	1.214	0.70	57.033	M
5	7.61	n.a.	0.063	0.015	0.01	n.a.	MB
6	8.15	BROMIDE	0.133	0.027	0.02	2.461	BMB
7	9.82	NITRITE	0.010	0.002	0.00	0.029	BMB
8	10.54	n.a.	0.000	0.002	0.00	n.a.	BMB
9	16.03	n.a.	0.083	0.036	0.02	n.a.	BMB
Total:			1060.416	174.285	100.00	6064.080	

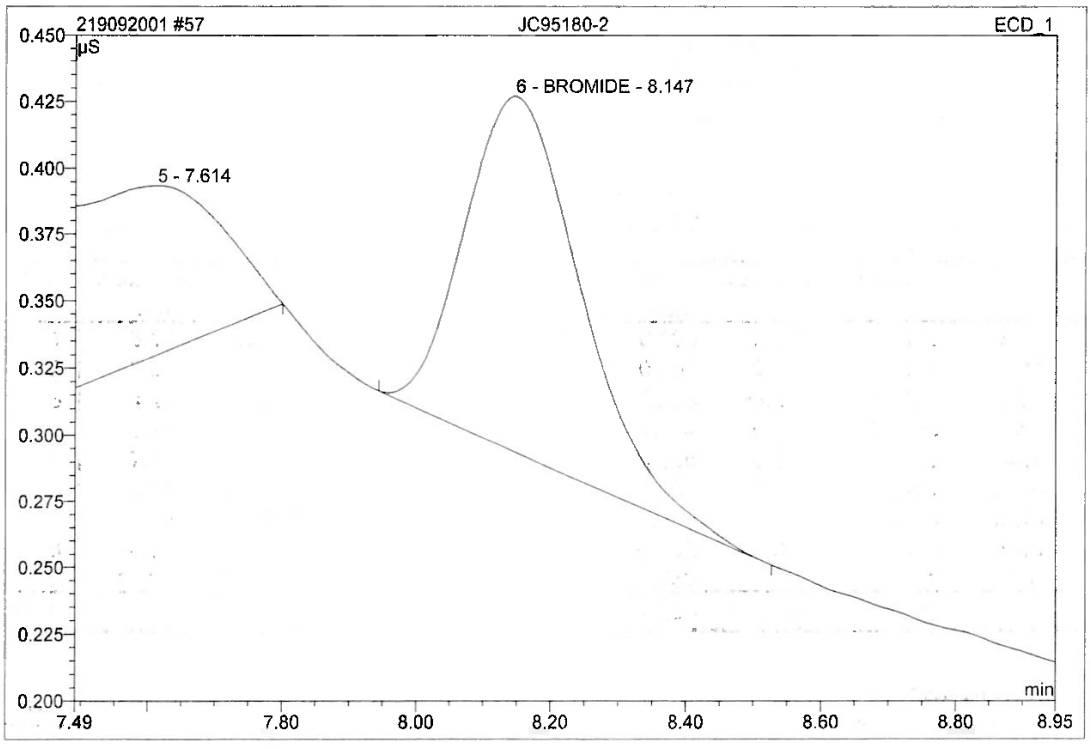
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

57 JC95180-2

Sample Name:	**JC95180-2**	*Injection Volume:*	**20.0**
Vial Number:	**50**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 5:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



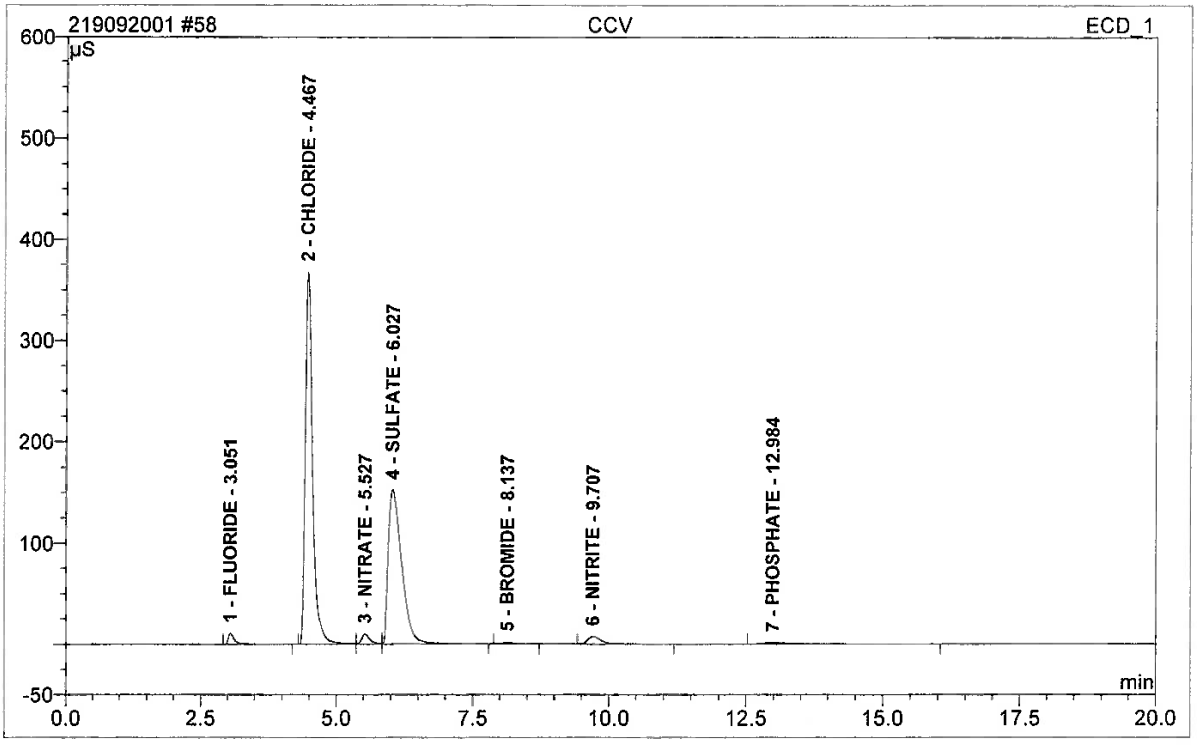
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.409	0.095	0.05	n.a.	BM
2	3.88	n.a.	0.023	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1055.704	172.889	99.20	6004.558	BM
4	6.24	SULFATE	3.991	1.214	0.70	57.033	M
5	7.61	n.a.	0.063	0.015	0.01	n.a.	MB
6	8.15	BROMIDE	0.133	0.027	0.02	2.461	BMB
7	9.82	NITRITE	0.010	0.002	0.00	0.029	BMB
8	10.54	n.a.	0.000	0.002	0.00	n.a.	BMB
9	16.03	n.a.	0.083	0.036	0.02	n.a.	BMB
Total:			1060.416	174.285	100.00	6064.080	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

58 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 5:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



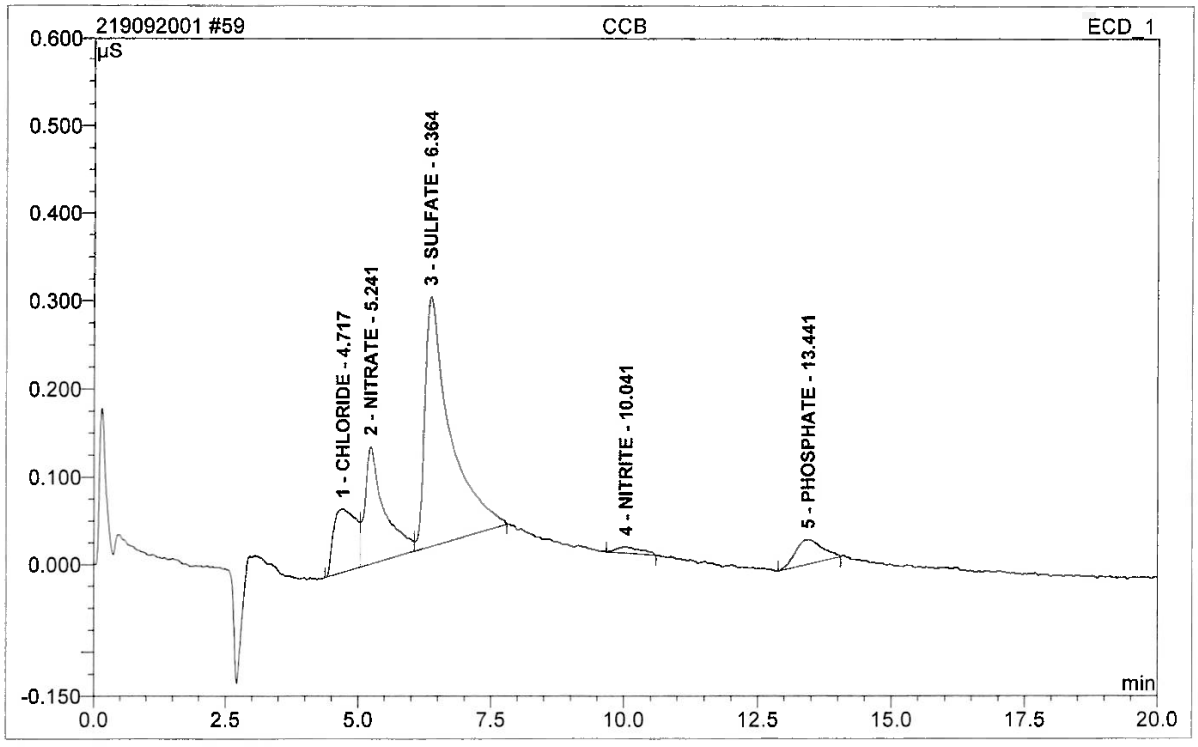
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.744	1.404	1.30	3.036	BMB
2	4.47	CHLORIDE	367.275	58.013	53.69	201.483	BM
3	5.53	NITRATE	9.656	1.741	1.61	2.785	M
4	6.03	SULFATE	152.537	43.571	40.32	204.651	MB
5	8.14	BROMIDE	1.516	0.315	0.29	2.890	BMB
6	9.71	NITRITE	7.408	2.074	1.92	2.990	BMB
7	12.98	PHOSPHATE	1.403	0.939	0.87	3.066	BMB
Total:			550.539	108.057	100.00	420.901	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

59 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 6:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.72	CHLORIDE	0.073	0.035	13.01	0.123	BM
2	5.24	NITRATE	0.134	0.057	21.13	0.092	M
3	6.36	SULFATE	0.285	0.158	58.18	0.742	MB
4	10.04	NITRITE	0.008	0.004	1.50	0.006	BMB
5	13.44	PHOSPHATE	0.028	0.017	6.18	0.055	BMB
Total:			0.528	0.271	100.00	1.017	

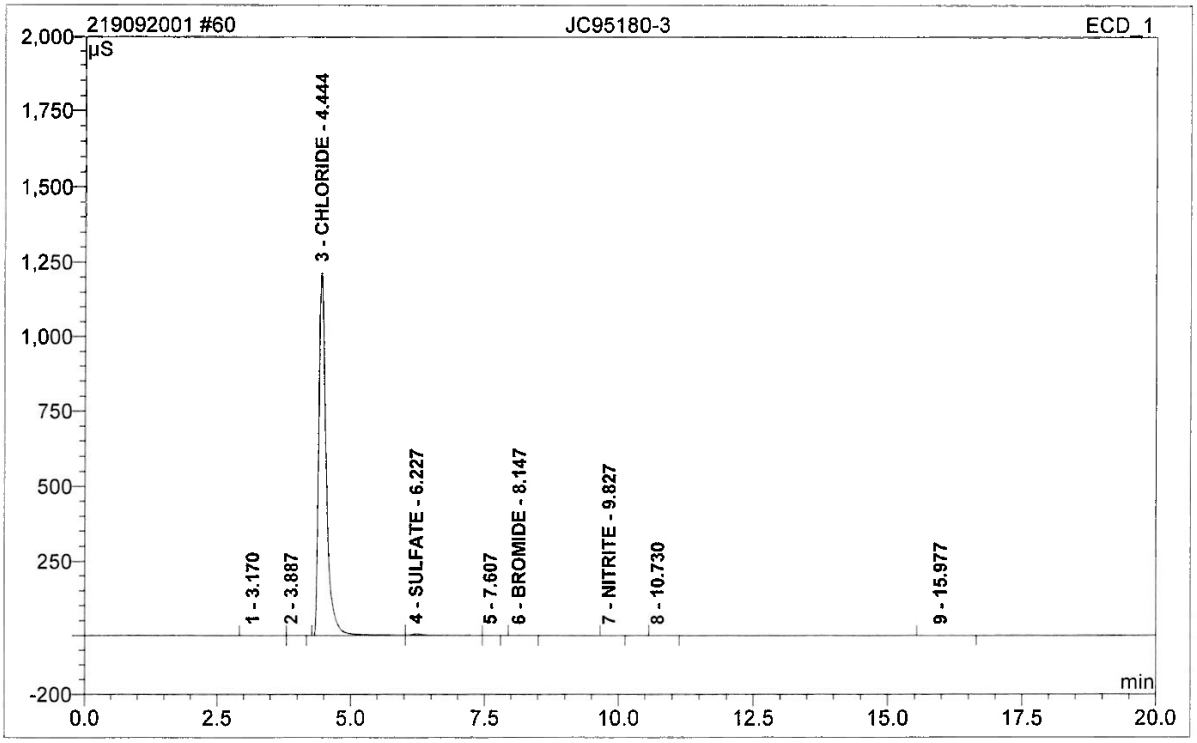
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

60 JC95180-3

Sample Name:	**JC95180-3**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 6:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.435	0.105	0.05	n.a.	BM
2	3.89	n.a.	0.026	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1214.834	197.918	99.23	6873.842	BM
4	6.23	SULFATE	4.521	1.337	0.67	62.783	M
5	7.61	n.a.	0.076	0.019	0.01	n.a.	MB
6	8.15	BROMIDE	0.152	0.031	0.02	2.802	BMB
7	9.83	NITRITE	0.012	0.003	0.00	0.039	BMB
8	10.73	n.a.	0.008	0.003	0.00	n.a.	BMB
9	15.98	n.a.	0.097	0.043	0.02	n.a.	BMB
Total:			1220.161	199.463	100.00	6939.468	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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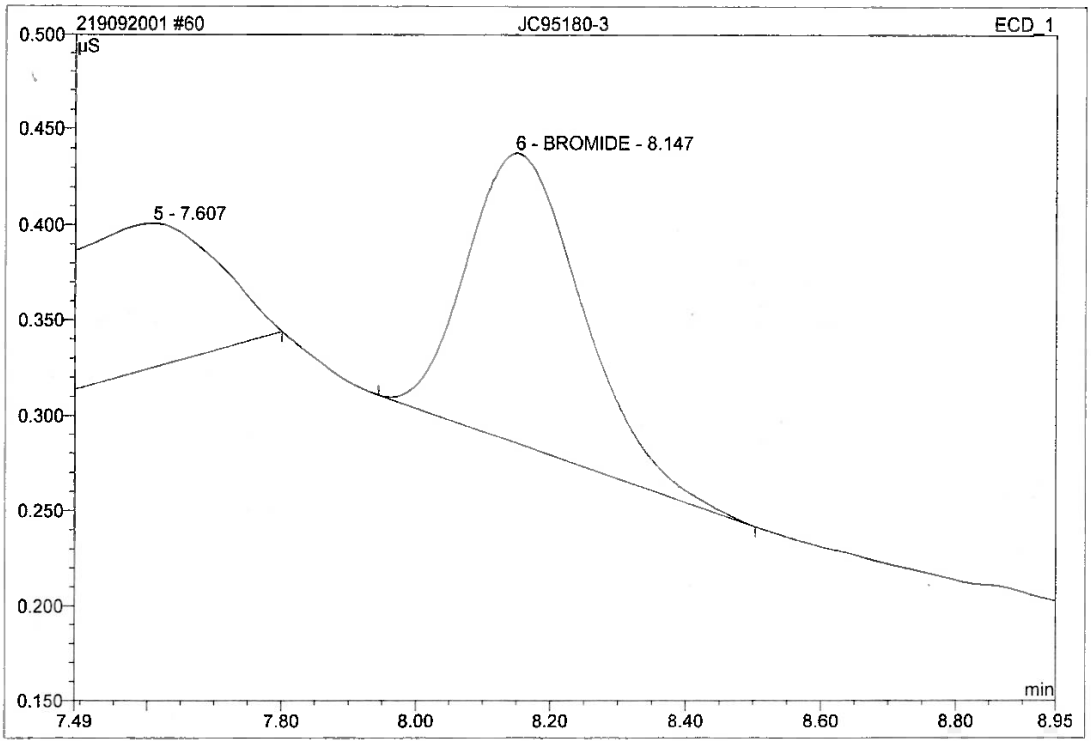
60 JC95180-3

Sample Name:	**JC95180-3**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 6:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.17	n.a.	0.435	0.105	0.05	n.a.	BM
2	3.89	n.a.	0.026	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1214.834	197.918	99.23	6873.842	BM
4	6.23	SULFATE	4.521	1.337	0.67	62.783	M
5	7.61	n.a.	0.076	0.019	0.01	n.a.	MB
6	8.15	BROMIDE	0.152	0.031	0.02	2.802	BMB
7	9.83	NITRITE	0.012	0.003	0.00	0.039	BMB
8	10.73	n.a.	0.008	0.003	0.00	n.a.	BMB
9	15.98	n.a.	0.097	0.043	0.02	n.a.	BMB
Total:			1220.161	199.463	100.00	6939.468	

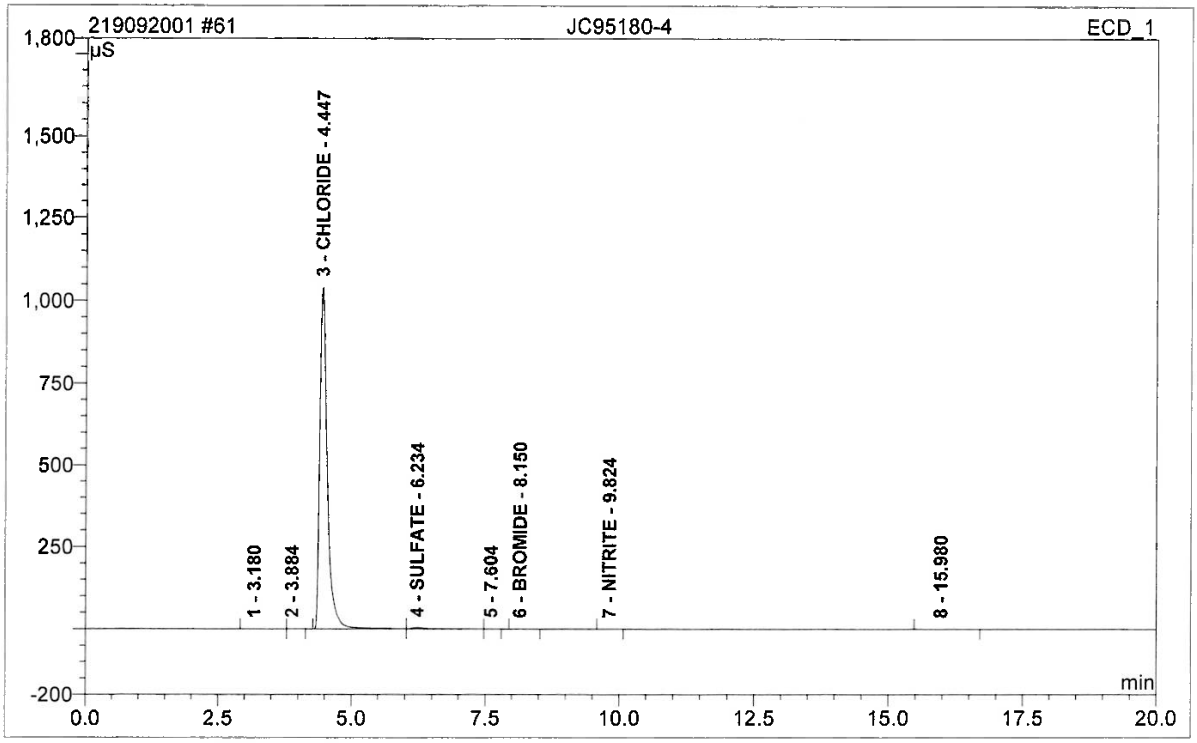
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

61 JC95180-4

Sample Name:	**JC95180-4**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.281	0.074	0.04	n.a.	BM
2	3.88	n.a.	0.021	0.004	0.00	n.a.	MB
3	4.45	CHLORIDE	1039.045	170.565	99.21	5923.858	BM
4	6.23	SULFATE	3.907	1.200	0.70	56.353	M
5	7.60	n.a.	0.068	0.016	0.01	n.a.	MB
6	8.15	BROMIDE	0.130	0.026	0.02	2.405	BMB
7	9.82	NITRITE	0.012	0.003	0.00	0.036	BMB
8	15.98	n.a.	0.086	0.040	0.02	n.a.	BMB
Total:			1043.550	171.928	100.00	5982.652	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

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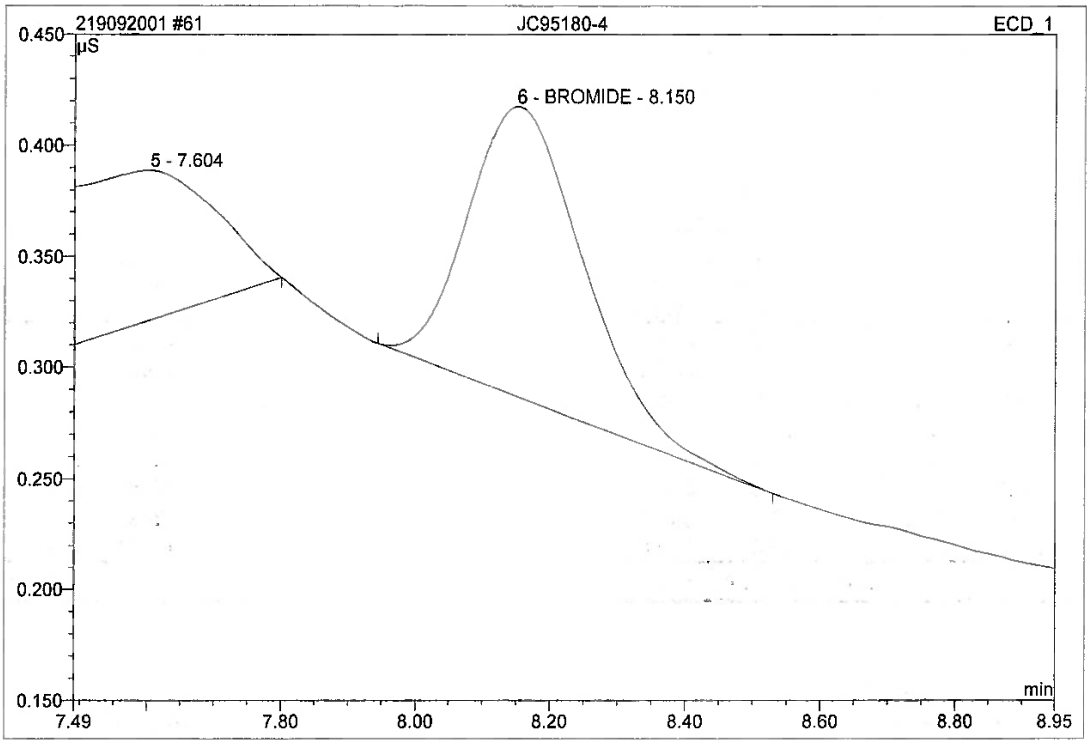
9/24/2019 9:39 AM

61 JC95180-4

Sample Name:	**JC95180-4**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



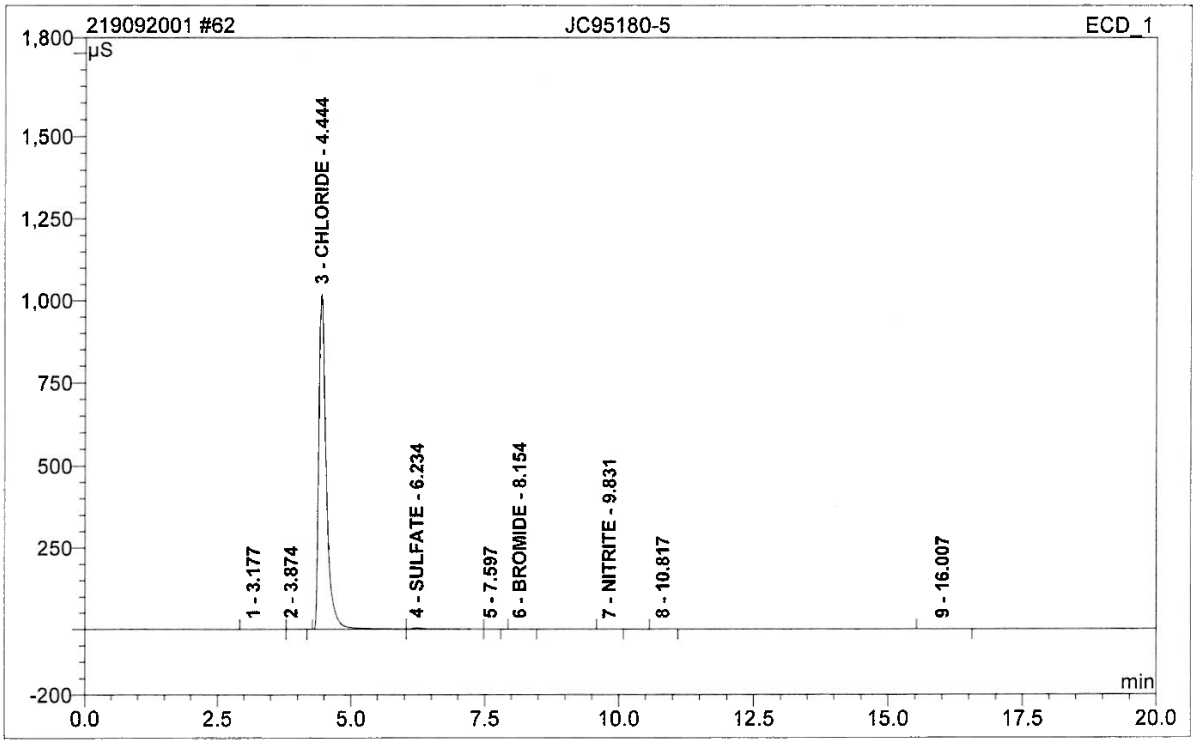
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.281	0.074	0.04	n.a.	BM
2	3.88	n.a.	0.021	0.004	0.00	n.a.	MB
3	4.45	CHLORIDE	1039.045	170.565	99.21	5923.858	BM
4	6.23	SULFATE	3.907	1.200	0.70	56.353	M
5	7.60	n.a.	0.068	0.016	0.01	n.a.	MB
6	8.15	BROMIDE	0.130	0.026	0.02	2.405	BMB
7	9.82	NITRITE	0.012	0.003	0.00	0.036	BMB
8	15.98	n.a.	0.086	0.040	0.02	n.a.	BMB
Total:			1043.550	171.928	100.00	5982.652	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

62 JC95180-5

Sample Name:	**JC95180-5**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.285	0.076	0.05	n.a.	BM
2	3.87	n.a.	0.024	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1018.092	167.349	99.21	5812.141	BM
4	6.23	SULFATE	3.818	1.176	0.70	55.244	M
5	7.60	n.a.	0.071	0.016	0.01	n.a.	MB
6	8.15	BROMIDE	0.129	0.026	0.02	2.346	BMB
7	9.83	NITRITE	0.011	0.003	0.00	0.039	BMB
8	10.82	n.a.	0.009	0.002	0.00	n.a.	BMB
9	16.01	n.a.	0.073	0.033	0.02	n.a.	BMB
Total:			1022.513	168.685	100.00	5869.769	

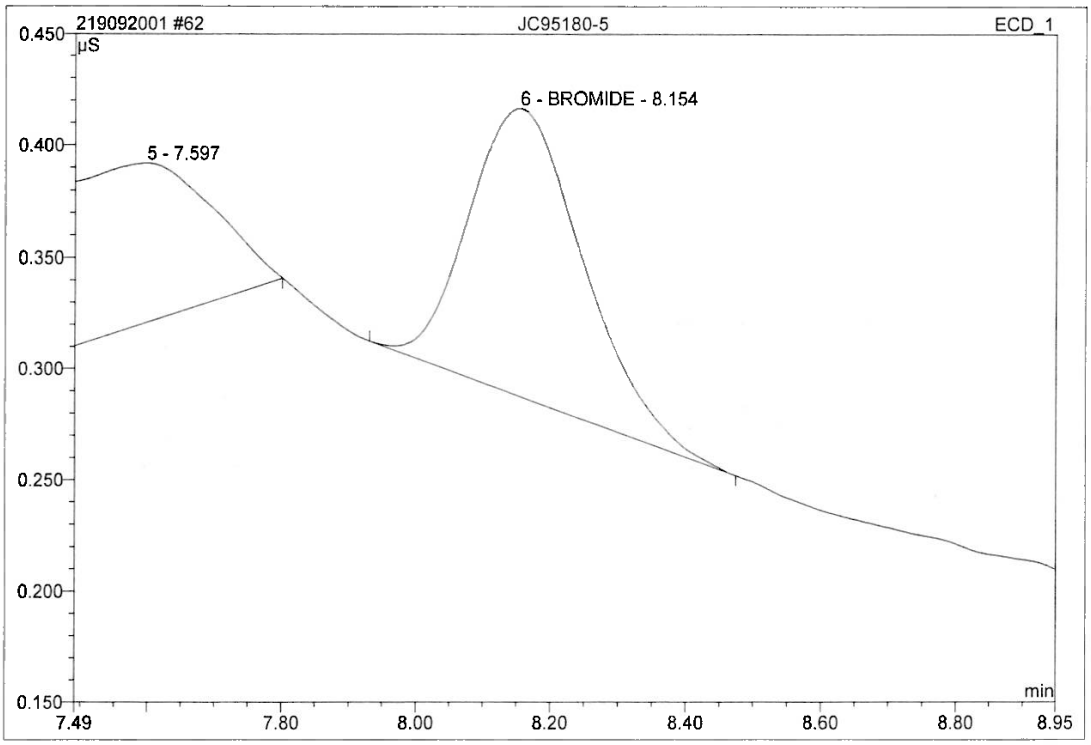
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

62 JC95180-5

Sample Name:	**JC95180-5**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.285	0.076	0.05	n.a.	BM
2	3.87	n.a.	0.024	0.005	0.00	n.a.	MB
3	4.44	CHLORIDE	1018.092	167.349	99.21	5812.141	BM
4	6.23	SULFATE	3.818	1.176	0.70	55.244	M
5	7.60	n.a.	0.071	0.016	0.01	n.a.	MB
6	8.15	BROMIDE	0.129	0.026	0.02	2.346	BMB
7	9.83	NITRITE	0.011	0.003	0.00	0.039	BMB
8	10.82	n.a.	0.009	0.002	0.00	n.a.	BMB
9	16.01	n.a.	0.073	0.033	0.02	n.a.	BMB
Total:			1022.513	168.685	100.00	5869.769	

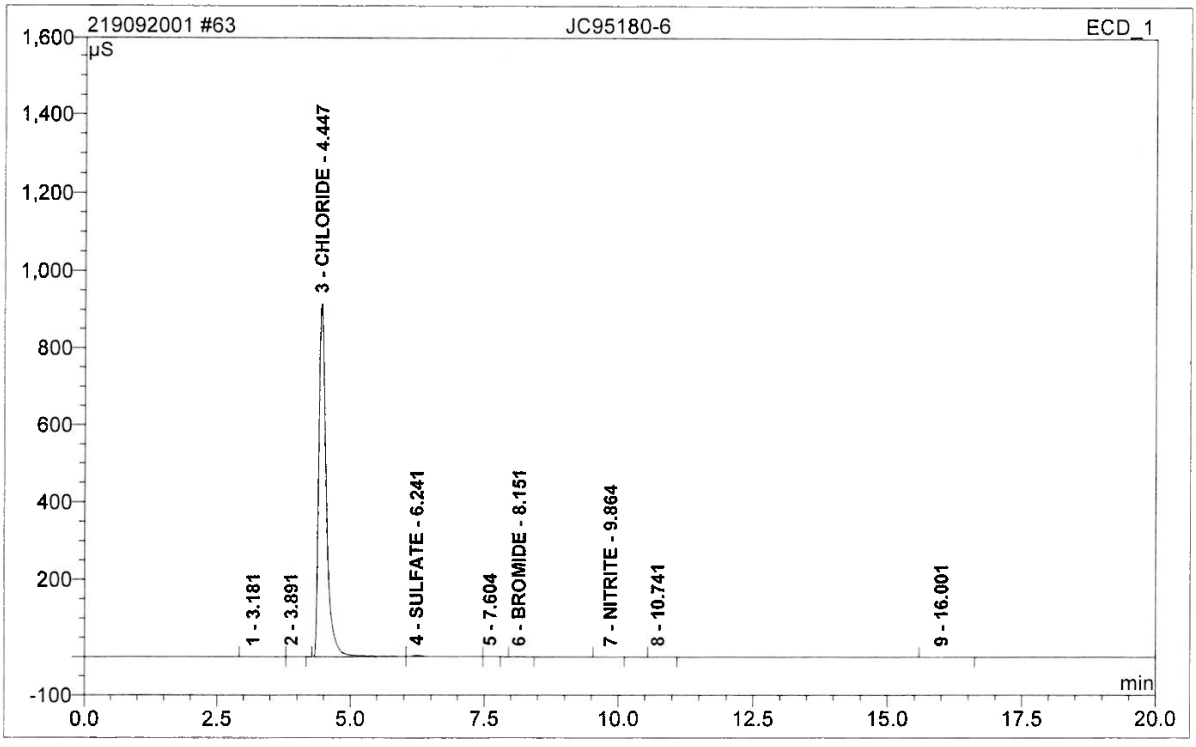
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

63 JC95180-6

Sample Name:	**JC95180-6**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.267	0.070	0.05	n.a.	BM
2	3.89	n.a.	0.022	0.004	0.00	n.a.	MB
3	4.45	CHLORIDE	914.698	150.734	99.27	5235.106	BM
4	6.24	SULFATE	3.362	0.977	0.64	45.879	Mb
5	7.60	n.a.	0.022	0.004	0.00	n.a.	bMB
6	8.15	BROMIDE	0.114	0.023	0.01	2.082	BMB
7	9.86	NITRITE	0.013	0.003	0.00	0.044	BMB
8	10.74	n.a.	0.006	0.002	0.00	n.a.	BMB
9	16.00	n.a.	0.064	0.028	0.02	n.a.	BMB
Total:			918.568	151.845	100.00	5283.110	

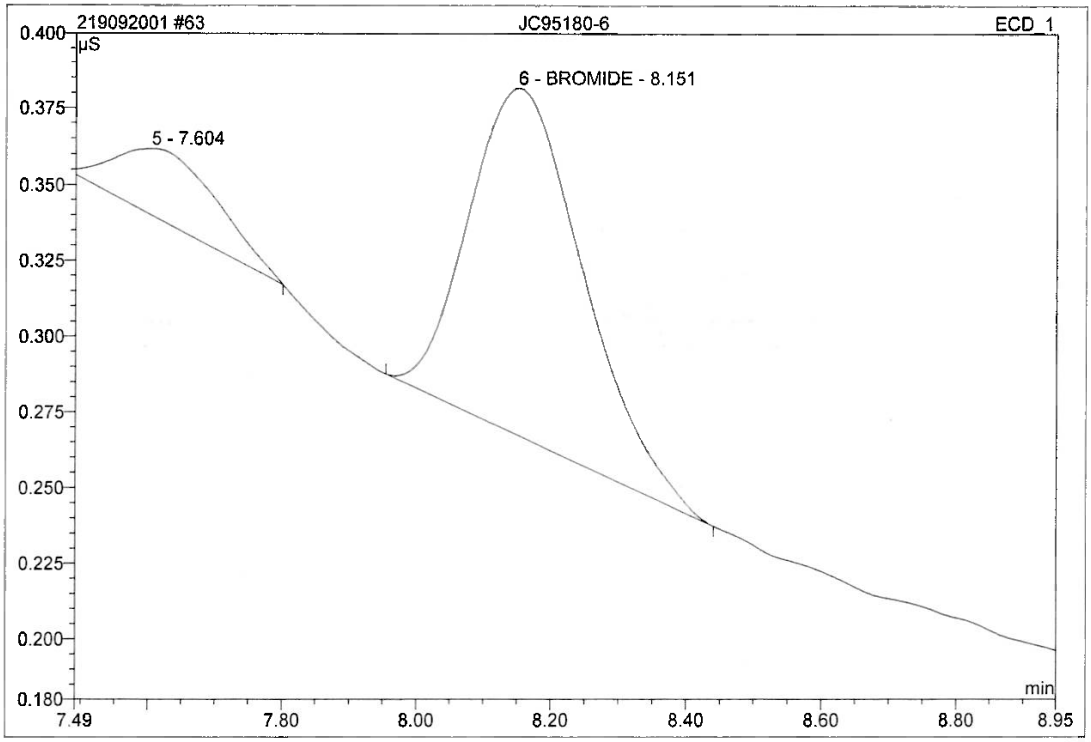
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

63 JC95180-6

Sample Name:	**JC95180-6**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 7:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.267	0.070	0.05	n.a.	BM
2	3.89	n.a.	0.022	0.004	0.00	n.a.	MB
3	4.45	CHLORIDE	914.698	150.734	99.27	5235.106	BM
4	6.24	SULFATE	3.362	0.977	0.64	45.879	Mb
5	7.60	n.a.	0.022	0.004	0.00	n.a.	bMB
6	8.15	BROMIDE	0.114	0.023	0.01	2.082	BMB
7	9.86	NITRITE	0.013	0.003	0.00	0.044	BMB
8	10.74	n.a.	0.006	0.002	0.00	n.a.	BMB
9	16.00	n.a.	0.064	0.028	0.02	n.a.	BMB
Total:			918.568	151.845	100.00	5283.110	

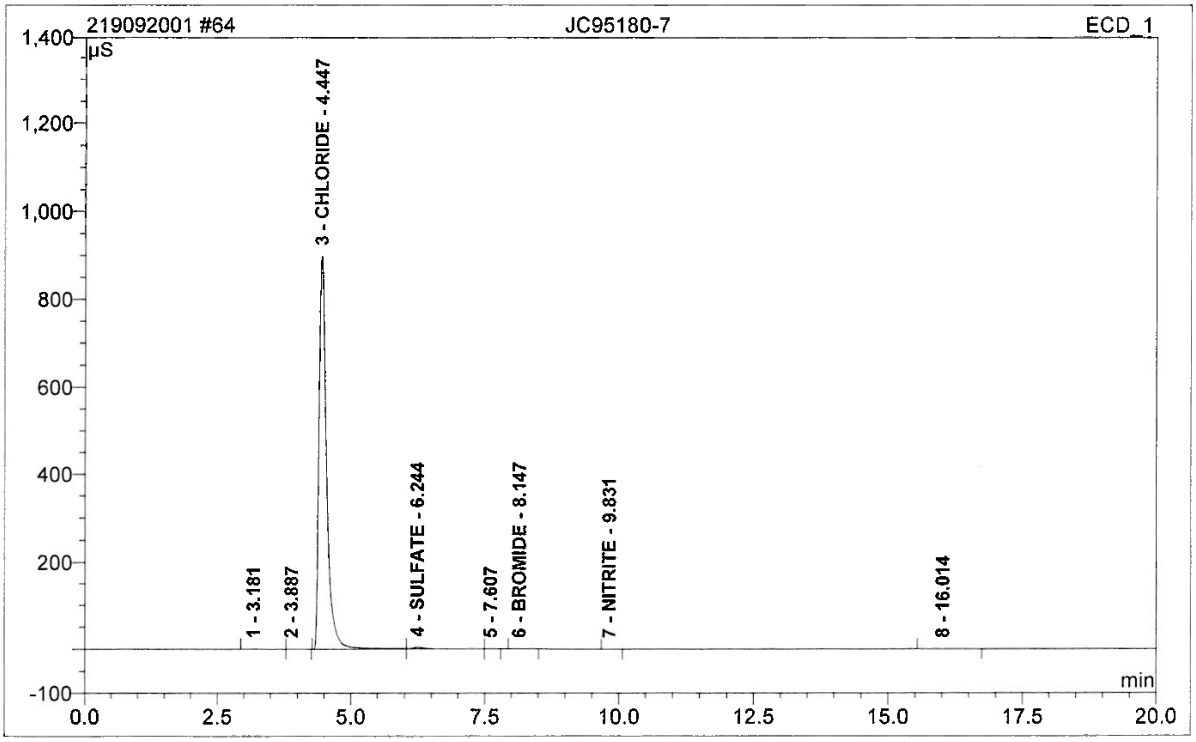
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

64 JC95180-7

Sample Name:	**JC95180-7**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 8:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.383	0.095	0.06	n.a.	BM
2	3.89	n.a.	0.030	0.006	0.00	n.a.	MB
3	4.45	CHLORIDE	897.357	148.331	99.12	5151.651	BM
4	6.24	SULFATE	3.837	1.141	0.76	53.576	M
5	7.61	n.a.	0.062	0.014	0.01	n.a.	MB
6	8.15	BROMIDE	0.111	0.022	0.01	2.049	BMB
7	9.83	NITRITE	0.012	0.003	0.00	0.036	BMB
8	16.01	n.a.	0.073	0.033	0.02	n.a.	BMB
Total:			901.864	149.644	100.00	5207.312	

anions/Integration

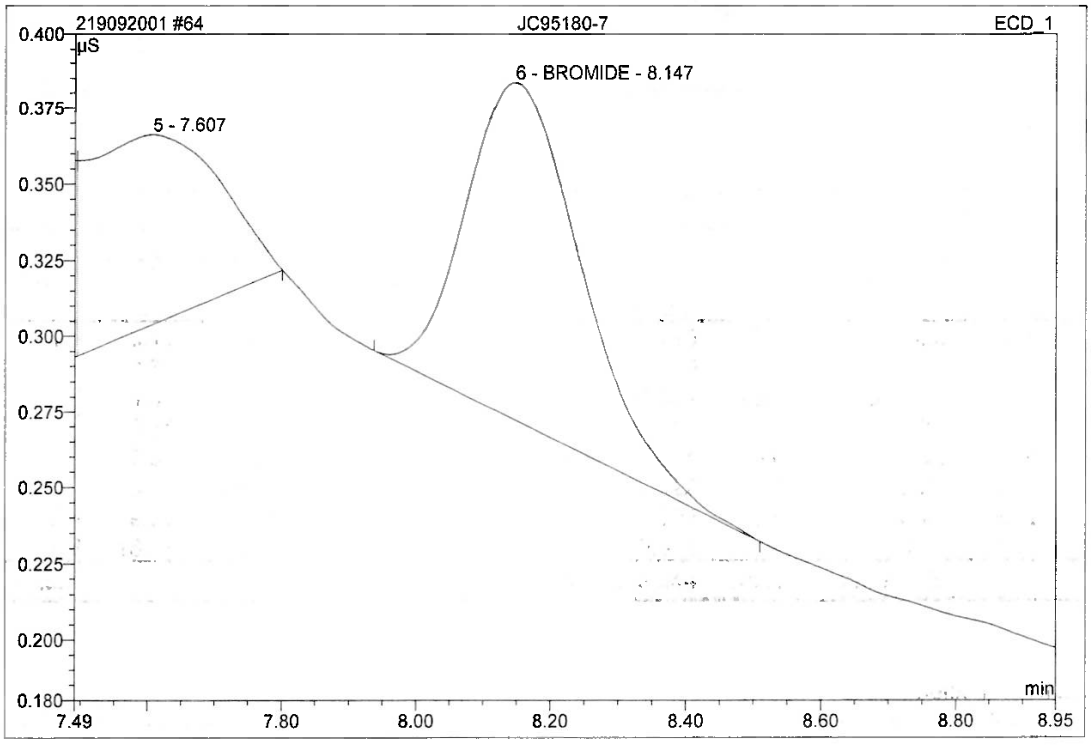
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:39 AM

64 JC95180-7

Sample Name:	**JC95180-7**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 8:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



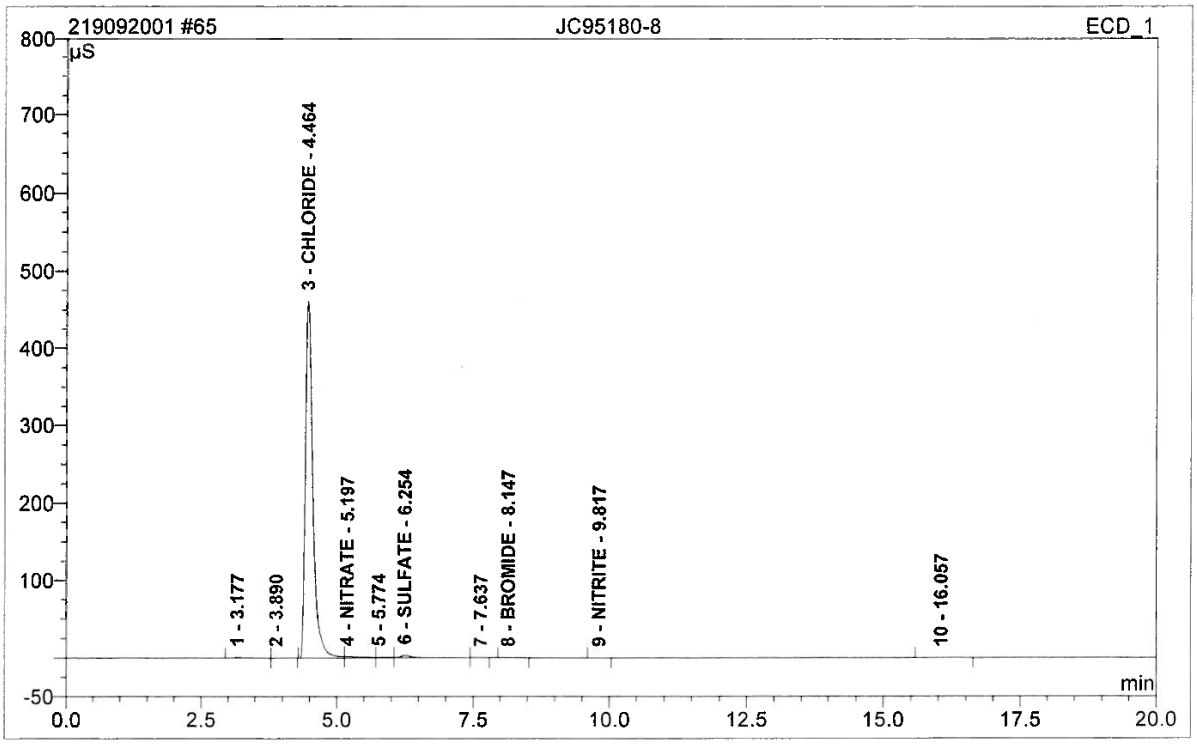
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.383	0.095	0.06	n.a.	BM
2	3.89	n.a.	0.030	0.006	0.00	n.a.	MB
3	4.45	CHLORIDE	897.357	148.331	99.12	5151.651	BM
4	6.24	SULFATE	3.837	1.141	0.76	53.576	M
5	7.61	n.a.	0.062	0.014	0.01	n.a.	MB
6	8.15	BROMIDE	0.111	0.022	0.01	2.049	BMB
7	9.83	NITRITE	0.012	0.003	0.00	0.036	BMB
8	16.01	n.a.	0.073	0.033	0.02	n.a.	BMB
Total:			901.864	149.644	100.00	5207.312	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

65 JC95180-8

Sample Name:	**JC95180-8**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 8:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.854	0.188	0.25	n.a.	BM
2	3.89	n.a.	0.051	0.011	0.01	n.a.	MB
3	4.46	CHLORIDE	461.153	74.224	97.39	2577.857	BM
4	5.20	NITRATE	1.737	0.686	0.90	10.972	M
5	5.77	n.a.	0.694	0.193	0.25	n.a.	M
6	6.25	SULFATE	3.208	0.850	1.12	39.937	M
7	7.64	n.a.	0.056	0.013	0.02	n.a.	MB
8	8.15	BROMIDE	0.055	0.011	0.01	1.018	BMB
9	9.82	NITRITE	0.012	0.003	0.00	0.037	BMB
10	16.06	n.a.	0.079	0.035	0.05	n.a.	BMB
Total:			467.899	76.214	100.00	2629.820	

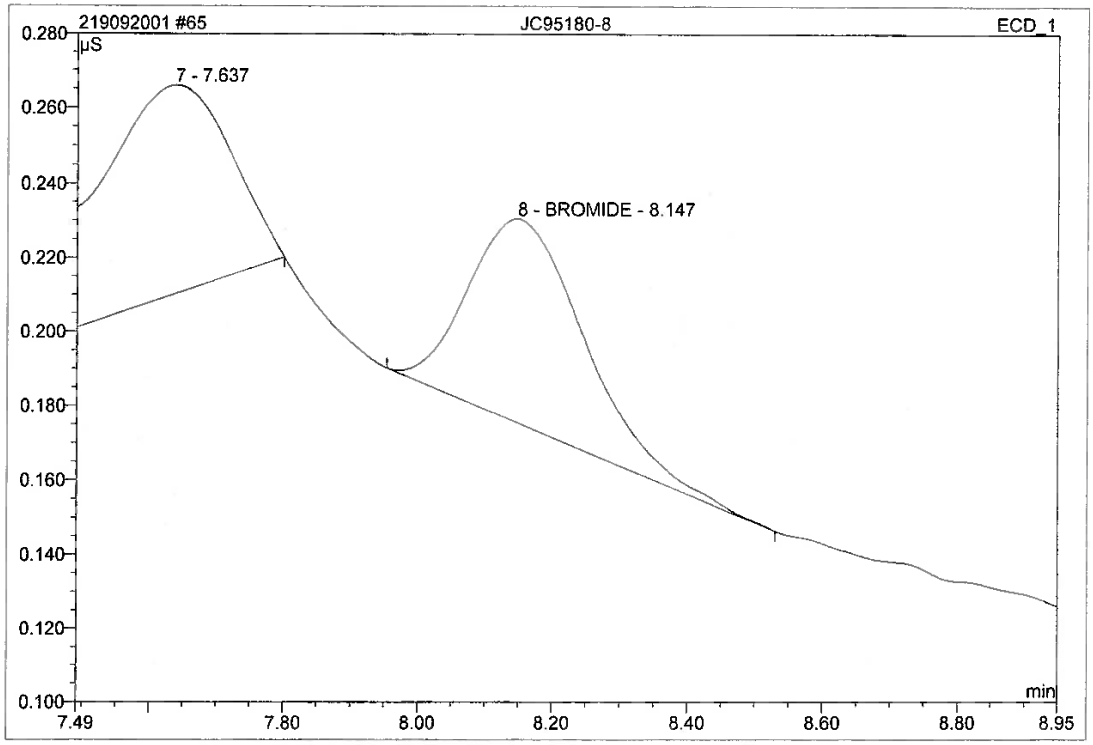
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

65 JC95180-8

Sample Name:	**JC95180-8**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 8:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	n.a.	0.854	0.188	0.25	n.a.	BM
2	3.89	n.a.	0.051	0.011	0.01	n.a.	MB
3	4.46	CHLORIDE	461.153	74.224	97.39	2577.857	BM
4	5.20	NITRATE	1.737	0.686	0.90	10.972	M
5	5.77	n.a.	0.694	0.193	0.25	n.a.	M
6	6.25	SULFATE	3.208	0.850	1.12	39.937	M
7	7.64	n.a.	0.056	0.013	0.02	n.a.	MB
8	8.15	BROMIDE	0.055	0.011	0.01	1.018	BMB
9	9.82	NITRITE	0.012	0.003	0.00	0.037	BMB
10	16.06	n.a.	0.079	0.035	0.05	n.a.	BMB
Total:			467.899	76.214	100.00	2629.820	

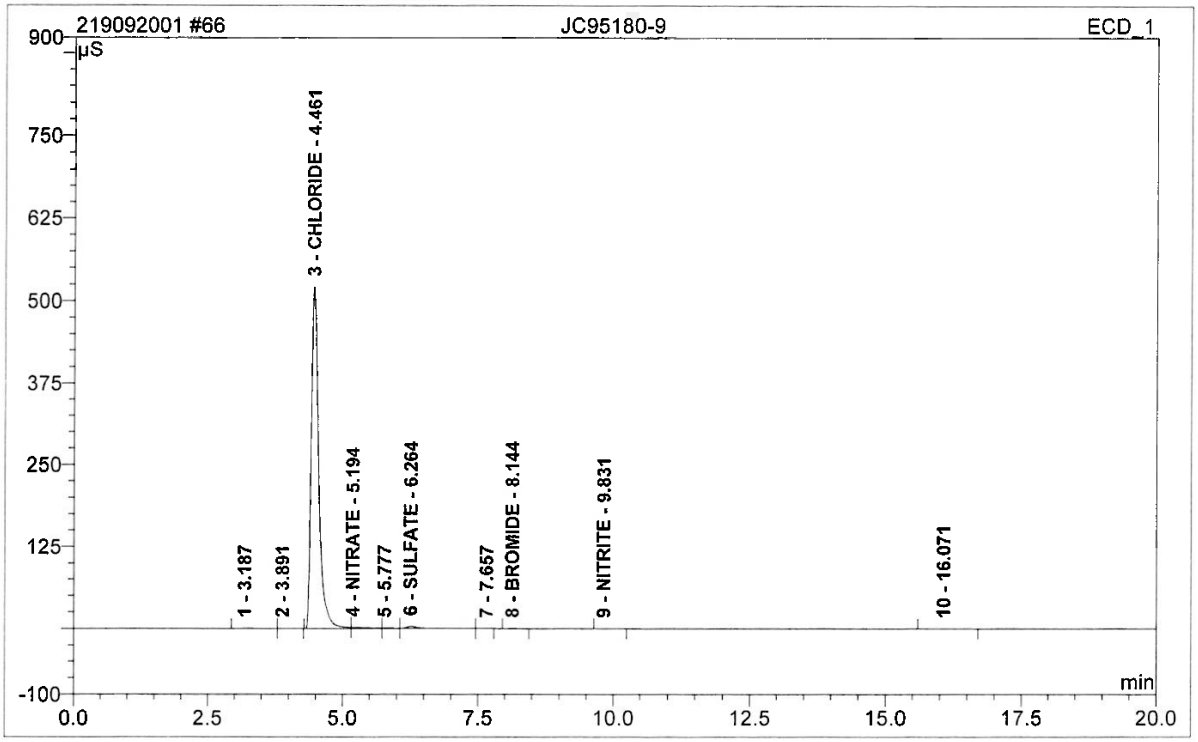
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

66 JC95180-9

Sample Name:	**JC95180-9**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 9:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	0.594	0.143	0.17	n.a.	BM
2	3.89	n.a.	0.050	0.011	0.01	n.a.	MB
3	4.46	CHLORIDE	520.288	84.278	97.73	2927.031	BM
4	5.19	NITRATE	1.785	0.680	0.79	10.881	M
5	5.78	n.a.	0.712	0.195	0.23	n.a.	M
6	6.26	SULFATE	3.323	0.874	1.01	41.054	M
7	7.66	n.a.	0.048	0.011	0.01	n.a.	MB
8	8.14	BROMIDE	0.063	0.012	0.01	1.109	BMB
9	9.83	NITRITE	0.016	0.004	0.00	0.054	BMB
10	16.07	n.a.	0.070	0.031	0.04	n.a.	BMB
Total:			526.950	86.238	100.00	2980.130	

anions/Integration

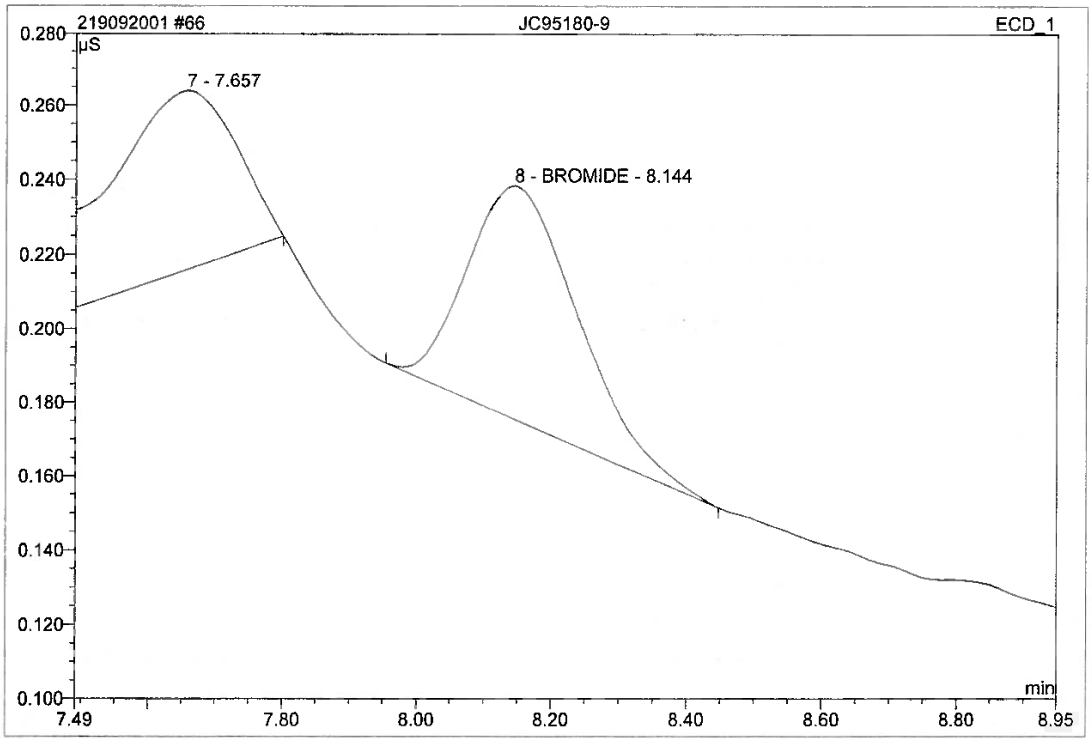
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:40 AM

66 JC95180-9

Sample Name:	**JC95180-9**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/21/2019 9:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	n.a.	0.594	0.143	0.17	n.a.	BM
2	3.89	n.a.	0.050	0.011	0.01	n.a.	MB
3	4.46	CHLORIDE	520.288	84.278	97.73	2927.031	BM
4	5.19	NITRATE	1.785	0.680	0.79	10.881	M
5	5.78	n.a.	0.712	0.195	0.23	n.a.	M
6	6.26	SULFATE	3.323	0.874	1.01	41.054	M
7	7.66	n.a.	0.048	0.011	0.01	n.a.	MB
8	8.14	BROMIDE	0.063	0.012	0.01	1.109	BMB
9	9.83	NITRITE	0.016	0.004	0.00	0.054	BMB
10	16.07	n.a.	0.070	0.031	0.04	n.a.	BMB
Total:			526.950	86.238	100.00	2980.130	

DEFAULT/Integration

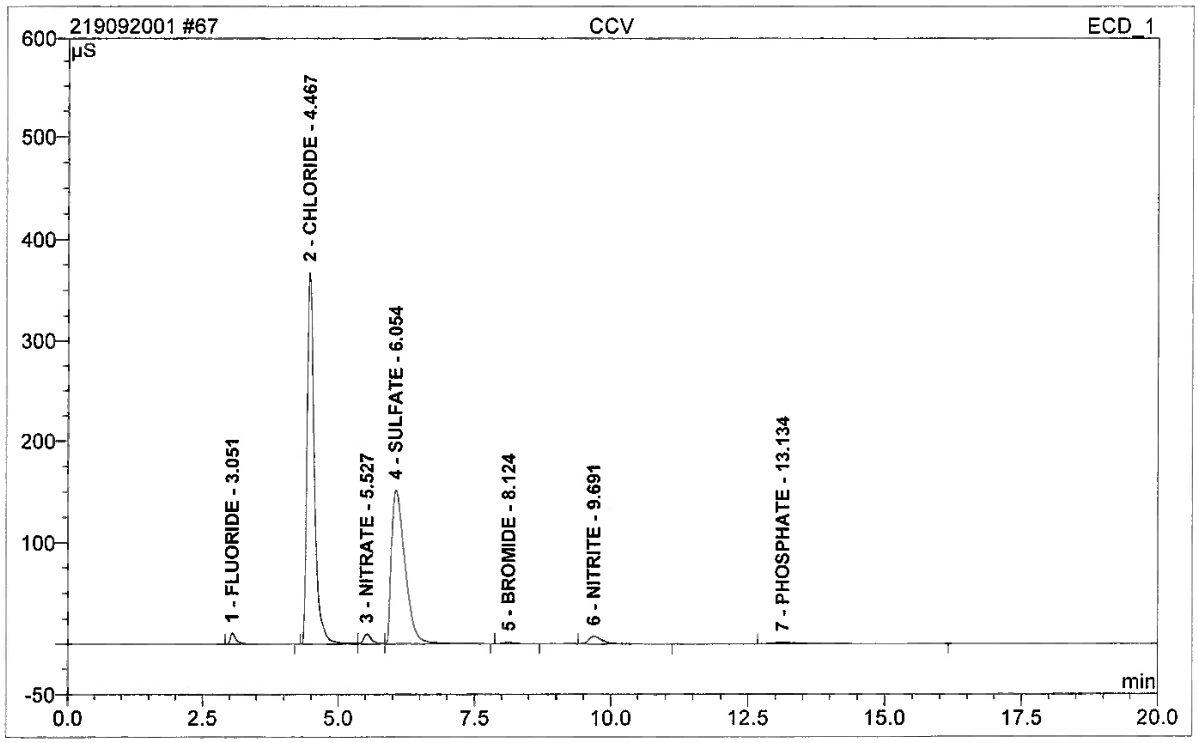
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219092001

9/24/2019 9:41 AM

67 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 9:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



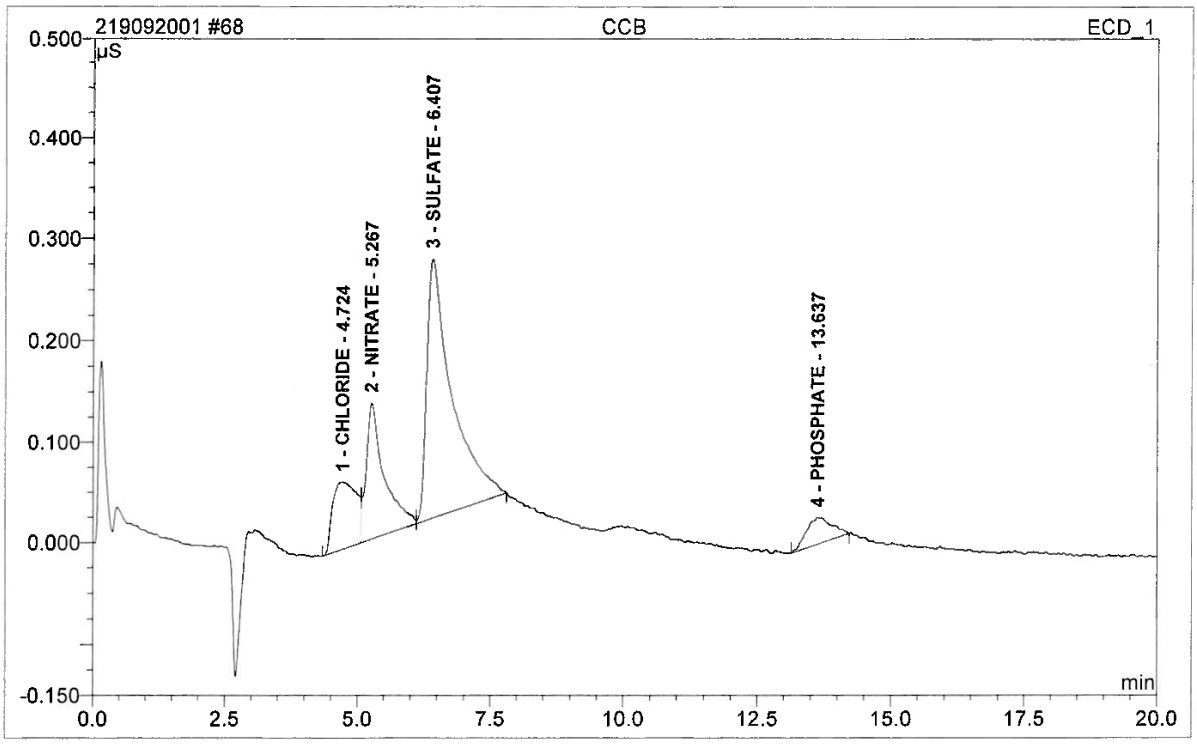
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.05	FLUORIDE	10.757	1.406	1.30	3.041	BMB
2	4.47	CHLORIDE	367.297	57.968	53.68	201.327	BM
3	5.53	NITRATE	9.659	1.754	1.62	2.806	M
4	6.05	SULFATE	151.539	43.529	40.31	204.456	MB
5	8.12	BROMIDE	1.521	0.315	0.29	2.887	BMB
6	9.69	NITRITE	7.431	2.074	1.92	2.990	BMB
7	13.13	PHOSPHATE	1.400	0.937	0.87	3.059	BMB
Total:			549.603	107.982	100.00	420.565	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

68 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/21/2019 9:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.72	CHLORIDE	0.067	0.035	14.15	0.120	BM
2	5.27	NITRATE	0.135	0.054	22.03	0.086	M
3	6.41	SULFATE	0.255	0.141	57.89	0.664	MB
4	13.64	PHOSPHATE	0.026	0.014	5.93	0.047	BMB
Total:			0.484	0.244	100.00	0.917	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Alkalinity

GN Batch ID:	GN589	**Average Sulfuric Normality:**	0.02	**Product:**	ALK
Analyst:	UP	**pH Meter ID:**	66	**Method:**	SM21 2320 B-11
Analysis Date:	9/30/2019	**Reporting Limit:**	5.0	**Units:**	mg/L

Calculation for samples > 20 mg/l

$$ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$$

Calculation for samples < 20 mg/l

$$ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

Start Time: 10:57 **End Time:** 12:29

Spike Prep: 1ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 50ppm

Spike Prep: 5ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 250ppm

QC Summary:

DUP Sample ID:	JC95263-2	**Original:**	1085.00	**Duplicate:**	1085.00	**% RPD:**	0
MB Date:	GN589-MB1	**Result:**	<5	**RL:**	5	**< MDL?**	YES
Spike Blank:	53.00	**Spike Amt:**	50.00	**% Rec:**	106.00		
Spike Blank (2):	264.00	**Spike Amt:**	250.00	**% Rec:**	105.60		
External QC (ICV):		**Cont. Limit:**		**Known:**		**Res:**	**% Rec:**

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
NA	pH 4.0 check (+/- 0.05)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	10:57
NA	pH 7.0 check (+/- 0.05)	NA	7.000	NA	NA	NA	NA	NA	NA	NA	NA	
NA	pH 10.0 check (+/- 0.05)	NA	10.010	NA	NA	NA	NA	NA	NA	NA	NA	
	GN589-MB1	100	5.700	0.00	0.20	0.20	0.05	0.25	1.50	<5	5	11:34
	GN589-B1	100	7.600	0.00	5.30	5.30			53.00	53.00	5	11:34
	GN589-B2	100	7.900	0.00	26.40	26.40			264.00	264.00	5	11:34
23	GN589-D1	20	6.700	0.00	21.70	21.70			1085.00	1085.00	25	11:34
23	JC95263-2	20	6.700	0.00	21.70	21.70			1085.00	1085.00	25	11:34
3	JC95221-5	50	7.100	0.00	13.95	13.95			279.00	279.00	10	11:34
3	JC95221-6	50	6.900	0.00	11.85	11.85			237.00	237.00	10	11:34

Alkalinity

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
3	JC95221-7	50	7.000	0.00	13.50	13.50			270.00	270.00	10	11:34
26	JC95246-1	50	7.600	0.00	7.20	7.20			144.00	144.00	10	11:34
11	JC95248-1	50	7.500	0.00	9.20	9.20			184.00	184.00	10	11:34
	pH 4.0 check (+/- 0.2)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	11:34
12	JC95248-2	50	7.700	0.00	9.90	9.90			198.00	198.00	10	12:16
13	JC95248-3	50	7.800	0.00	11.95	11.95			239.00	239.00	10	12:16
8	JC95263-1	20	7.300	0.00	23.50	23.50			1175.00	1175.00	25	12:16
8	JC95263-3	20	7.500	0.00	24.10	24.10			1205.00	1205.00	25	12:16
8	JC95263-4	100	5.800	0.00	0.40	0.40	0.05	0.45	3.50	<5	5	12:16
4	JC95269-1	100	6.500	0.00	5.90	5.90			59.00	59.00	5	12:16
3	JC95269-2	50	6.600	0.00	16.45	16.45			329.00	329.00	10	12:16
3	JC95269-3	100	6.300	0.00	9.85	9.85			98.50	98.50	5	12:16
4	JC95316-1	100	6.200	0.00	3.90	3.90			39.00	39.00	5	12:16
5	JC95408-2	100	7.600	0.00	11.00	11.00			110.00	110.00	5	12:16
	pH 4.0 check (+/- 0.2)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	12:16
5	JC95408-4	50	8.000	0.00	8.25	8.25			165.00	165.00	10	12:29
6	JC95408-6	50	7.900	0.00	8.15	8.15			163.00	163.00	10	12:29
6	JC95408-8	100	6.600	0.00	9.30	9.30			93.00	93.00	5	12:29
6	JC95408-10	50	8.600	0.00	9.40	9.40			188.00	188.00	10	12:29
	pH 4.0 check (+/- 0.2)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	12:29

Alkalinity

Reagent Lot #	Reagent Lot #
pH Buffer 4	FISHER # 177759 EX 10/2019
pH Buffer 7	FISHER # 183273 EX 05/2020
pH Buffer 10	FISHER # 181282 EX 05/2020
H2SO4 Titrant	GNE7-58587-ALK EX 01/18/20
Sodium Phosphate Diabasic	GNE9-59040-ALK EX 03/12/20

Reagent Lot #	Reagent Lot #

Comments:

Approved By: HEMEXP Approval Date: 9/30/2019

Alkalinity

GN Batch ID:	GN607	**Average Sulfuric Normality:**	0.02	**Product:**	ALK
Analyst:	UP	**pH Meter ID:**	66	**Method:**	SM21 2320 B-11
Analysis Date:	9/30/2019	**Reporting Limit:**	5.0	**Units:**	mg/L

Calculation for samples > 20 mg/l

$$ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$$

Calculation for samples < 20 mg/l

$$ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

Start Time: 15:20 **End Time:** 16:37

Spike Prep: 1ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 50ppm

Spike Prep: 5ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 250ppm

QC Summary:

DUP Sample ID:	JC95308-4	**Original:**	119.00	**Duplicate:**	119.00	**% RPD:**	0
MB Date:	GN607-MB1	**Result:**	<5	**RL:**	5	**< MDL?**	YES
Spike Blank:	53.50	**Spike Amt:**	50.00	**% Rec:**	107.00		
Spike Blank (2):	262.00	**Spike Amt:**	250.00	**% Rec:**	104.80		
External QC (ICV):		**Cont. Limit:**		**Known:**		**Res:**	**% Rec:**

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
NA	pH 4.0 check (+/- 0.05)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	15:20
NA	pH 7.0 check (+/- 0.05)	NA	7.000	NA	NA	NA	NA	NA	NA	NA	NA	
NA	pH 10.0 check (+/- 0.05)	NA	10.010	NA	NA	NA	NA	NA	NA	NA	NA	
	GN607-MB1	100	5.700	0.00	0.20	0.20	0.05	0.25	1.50	<5	5	15:53
	GN607-B1	100	7.800	0.00	5.35	5.35			53.50	53.50	5	15:53
	GN607-B2	100	8.000	0.00	26.20	26.20			262.00	262.00	5	15:53
20	GN607-D1	100	7.900	0.00	11.90	11.90			119.00	119.00	5	15:53
20	JC95308-4	100	7.900	0.00	11.90	11.90			119.00	119.00	5	15:53
7	JC95308-1	50	8.100	0.00	16.45	16.45			329.00	329.00	10	15:53
7	JC95308-2	50	7.900	0.00	16.50	16.50			330.00	330.00	10	15:53

Alkalinity

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
7	JC95308-3	50	7.800	0.00	7.05	7.05			141.00	141.00	10	15:53
7	JC95308-5	50	7.700	0.00	6.95	6.95			139.00	139.00	10	15:53
7	JC95308-6	100	7.000	0.00	0.40	0.40	0.05	0.45	3.50	<5	5	15:53
	pH 4.0 check (+/- 0.2)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	15:53
7	JC95308-11	100	4.800	0.00	0.05	0.05	0.05	0.10	0.001	<5	5	16:37
3	JC95316-2	100	6.300	0.00	6.70	6.70			67.00	67.00	5	16:37
4	JC95316-3	100	6.500	0.00	3.10	3.10			31.00	31.00	5	16:37
4	JC95316-4	50	6.900	0.00	14.25	14.25			285.00	285.00	10	16:37
4	JC95316-6	100	6.700	0.00	9.40	9.40			94.00	94.00	5	16:37
4	JC95801-1	100	7.100	0.00	9.20	9.20			92.00	92.00	5	16:37
2	JC95801-3	100	6.900	0.00	9.90	9.90			99.00	99.00	5	16:37
4	JC95801-5	100	6.700	0.00	9.40	9.40			94.00	94.00	5	16:37
1	JC95801-7	100	7.200	0.00	9.25	9.25			92.50	92.50	5	16:37
	pH 4.0 check (+/- 0.2)	NA	4.010	NA	NA	NA	NA	NA	NA	NA	NA	16:37
	pH 4.0 check (+/- 0.2)											

Alkalinity

Reagent Lot #	Reagent Lot #
pH Buffer 4	FISHER # 177759 EX 10/2019
pH Buffer 7	FISHER # 183273 EX 05/20
pH Buffer 10	FISHER # 181282 EX 05/20
H2SO4 Titrant	GNE7-58587-ALK EX 01/18/20
Sodium Phosphate Diabasic	GNE9-59040-ALK EX 03/12/20

Reagent Lot #	Reagent Lot #

Comments:

Approved By: HEMEXP Approval Date: 10/1/2019

Misc. Forms

Custody Documents and Other Forms

(SGS Orlando, FL)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle

CHAIN OF CUSTODY

SGS

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC95316

Client / Reporting Information

Company Name:
Street Address:
City State Zip
Project Contact: E-mail: Ayesha.Kapadia@sgs.com
Phone #:
Sampler(s) Name(s): JP Phone:

Project Information

Project Name: CF1165, Thorofare,NJ
Street:
City State
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City State Zip
Attention:

Requested Analysis

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	H2SO4	HNO3	DI Water	MEOH	ENCORE	LCID537SL	LAB USE ONLY
1	MW15D-MATT-091819		9/18/19	2:48:00 PM	JP	AQ									X	
2	MW10D-MATT-091919		9/19/19	9:52:00 AM	JP	AQ									X	
3	MW105-MATT-091919		9/19/19	11:28:00 AM	JP	AQ									X	
4	MW13S-MATT-091919		9/19/19	2:15:00 PM	JP	AQ									X	
5	EB4-MATT-091919		9/19/19	9:00:00 AM	JP	AQ									X	
6	MW13D-MATT-091919		9/19/19	1:45:00 PM	JP	AQ									X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Standard 10 Business Days
- [ ] 5 Business Days RUSH
- [ ] 3 Business Days RUSH
- [ ] 2 Business Days RUSH
- [ ] 1 Business Day EMERGENCY
- [X] Other 14

Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 - (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other FULT1

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1	9/20/19 17:00	FY	2 FY		2 Pennell 9/24/19
Relinquished by: 3	Date / Time:	Received By: 3	Relinquished By: 4	Date / Time:	Received By: 4
Relinquished by: 5	Date / Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] Absent [ ] Therm. ID: [ ] On Ice Cooler Temp. °C 1.3

JC95316.xls
Rev. Date: 4/10/18

10.1 10

JC95316: Chain of Custody
Page 1 of 2
SGS Orlando, FL

SGS Sample Receipt Summary

Job Number: JC95316 **Client:** SGS NJ **Project:** CF1165

Date / Time Received: 9/21/2019 9:14:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.3);

Cooler Temps (Corrected) °C: Cooler 1: (1.3);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑
	W	**or**	**S**	**N/A**
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 9/21/2019 9:14:00 AM Reviewer: _____ Date: _____

10.1

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JC95316: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

SGS Dayton, NJ

Job No: JC95316

INTCWAO: CF1165, Thorofare,NJ
Project No: WO# CF1165.02 (CF1165)

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC95316-1 Collected: 18-SEP-19 17:48 By: JP Received: 19-SEP-19 By: PH MW15D-MATT-091819						
JC95316-1	EPA 537M BY ID	26-SEP-19 01:40	NAF	24-SEP-19	MF	LCID537SL
JC95316-1	EPA 537M BY ID	26-SEP-19 20:51	NAF	24-SEP-19	MF	LCID537SL
JC95316-2 Collected: 19-SEP-19 09:52 By: JP Received: 19-SEP-19 By: PH MW10D-MATT-091919						
JC95316-2	EPA 537M BY ID	26-SEP-19 01:56	NAF	24-SEP-19	MF	LCID537SL
JC95316-2	EPA 537M BY ID	26-SEP-19 21:07	NAF	24-SEP-19	MF	LCID537SL
JC95316-3 Collected: 19-SEP-19 11:26 By: JP Received: 19-SEP-19 By: PH MW10S-MATT-091919						
JC95316-3	EPA 537M BY ID	26-SEP-19 02:11	NAF	24-SEP-19	MF	LCID537SL
JC95316-4 Collected: 19-SEP-19 14:15 By: JP Received: 19-SEP-19 By: PH MW13S-MATT-091919						
JC95316-4	EPA 537M BY ID	26-SEP-19 02:27	NAF	24-SEP-19	MF	LCID537SL
JC95316-4	EPA 537M BY ID	26-SEP-19 21:23	NAF	24-SEP-19	MF	LCID537SL
JC95316-5 Collected: 19-SEP-19 09:00 By: JP Received: 19-SEP-19 By: PH EB4-MATT-091919						
JC95316-5	EPA 537M BY ID	26-SEP-19 02:43	NAF	24-SEP-19	MF	LCID537SL
JC95316-6 Collected: 19-SEP-19 13:45 By: JP Received: 19-SEP-19 By: PH MW13D-MATT-091919						
JC95316-6	EPA 537M BY ID	26-SEP-19 03:15	NAF	24-SEP-19	MF	LCID537SL
JC95316-6	EPA 537M BY ID	26-SEP-19 21:39	NAF	24-SEP-19	MF	LCID537SL

MS Semi-volatiles

QC Data Summaries

(SGS Orlando, FL)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76964-MB	2Q36651.D	1	09/25/19	NAF	09/24/19	OP76964	S2Q570

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-5, JC95316-6

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	97%	30-140%
	13C5-PFPeA	95%	40-140%
	13C5-PFHxA	94%	50-150%
	13C4-PFHpA	94%	50-150%
	13C8-PFOA	98%	50-150%
	13C9-PFNA	99%	50-150%
	13C6-PFDA	96%	50-150%
	13C7-PFUnDA	88%	50-150%
	13C2-PFDoDA	82%	50-150%
	13C2-PFTeDA	84%	40-150%
	13C3-PFBS	91%	50-150%
	13C3-PFHxS	92%	50-150%
	13C8-PFOS	93%	50-150%
	13C8-FOSA	96%	30-140%
	d3-MeFOSAA	88%	50-150%
	13C2-4:2FTS	91%	50-150%
	13C2-6:2FTS	95%	50-150%
	13C2-8:2FTS	92%	50-150%
	13C3-HFPO-DA	88%	50-150%

Instrument Blank

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q570-IBLK	2Q36598.D	1	09/25/19	NAF	n/a	n/a	S2Q570

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.1 B-15

JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-5, JC95316-6

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0083	0.0021	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0083	0.0021	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0083	0.0021	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0083	0.0021	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0083	0.0021	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0083	0.0021	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0083	0.0031	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0083	0.0021	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0083	0.0021	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0083	0.0021	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0083	0.0021	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0083	0.0031	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	94%	50-150%
	13C5-PFPeA	94%	50-150%
	13C5-PFHxA	94%	50-150%
	13C4-PFHpA	94%	50-150%
	13C8-PFOA	98%	50-150%
	13C9-PFNA	100%	50-150%
	13C6-PFDA	102%	50-150%
	13C7-PFUnDA	96%	50-150%
	13C2-PFDoDA	95%	50-150%
	13C2-PFTeDA	94%	50-150%
	13C3-PFBS	98%	50-150%
	13C3-PFHxS	100%	50-150%
	13C8-PFOS	103%	50-150%
	13C8-FOSA	108%	50-150%
	d3-MeFOSAA	94%	50-150%
	13C2-4:2FTS	90%	50-150%
	13C2-6:2FTS	97%	50-150%
	13C2-8:2FTS	101%	50-150%

Instrument Blank

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q571-IBLK	2Q36700.D	1	09/26/19	NAF	n/a	n/a	S2Q571

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.1 B-15

JC95316-1, JC95316-2, JC95316-4, JC95316-6

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0083	0.0021	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0083	0.0021	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0083	0.0021	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0083	0.0031	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0083	0.0021	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0083	0.0021	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0083	0.0031	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	96%	50-150%
	13C5-PFPeA	96%	50-150%
	13C5-PFHxA	94%	50-150%
	13C4-PFHpA	93%	50-150%
	13C8-PFOA	98%	50-150%
	13C9-PFNA	99%	50-150%
	13C6-PFDA	98%	50-150%
	13C7-PFUnDA	97%	50-150%
	13C2-PFDoDA	95%	50-150%
	13C2-PFTeDA	98%	50-150%
	13C3-PFBS	92%	50-150%
	13C3-PFHxS	91%	50-150%
	13C8-PFOS	94%	50-150%
	13C8-FOSA	101%	50-150%
	d3-MeFOSAA	93%	50-150%
	13C2-4:2FTS	90%	50-150%
	13C2-6:2FTS	94%	50-150%
	13C2-8:2FTS	92%	50-150%

Blank Spike Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76964-BS	2Q36650.D	1	09/25/19	NAF	09/24/19	OP76964	S2Q570

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-5, JC95316-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0753	94	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0770	96	71-130
335-67-1	Perfluorooctanoic acid	0.08	0.0762	95	74-130
375-95-1	Perfluorononanoic acid	0.08	0.0762	95	76-130
335-76-2	Perfluorodecanoic acid	0.08	0.0773	97	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0787	98	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0796	100	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0796	100	70-139
376-06-7	Perfluorotetradecanoic acid	0.08	0.0790	99	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0767	96	73-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0765	96	74-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0760	95	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	90%	30-140%
	13C5-PFPeA	88%	40-140%
	13C5-PFHxA	88%	50-150%
	13C4-PFHpA	87%	50-150%
	13C8-PFOA	89%	50-150%
	13C9-PFNA	90%	50-150%
	13C6-PFDA	86%	50-150%
	13C7-PFUnDA	78%	50-150%
	13C2-PFDoDA	74%	50-150%
	13C2-PFTeDA	75%	40-150%
	13C3-PFBS	86%	50-150%
	13C3-PFHxS	85%	50-150%
	13C8-PFOS	85%	50-150%
	13C8-FOSA	84%	30-140%
	d3-MeFOSAA	79%	50-150%
	13C2-4:2FTS	90%	50-150%
	13C2-6:2FTS	91%	50-150%
	13C2-8:2FTS	89%	50-150%
	13C3-HFPO-DA	81%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76964-MS	2Q36663.D	1	09/26/19	NAF	09/24/19	OP76964	S2Q570
JC95269-4	2Q36662.D	1	09/26/19	NAF	09/24/19	OP76964	S2Q570

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-5, JC95316-6

CAS No.	Compound	JC95269-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
307-24-4	Perfluorohexanoic acid	ND		0.0741	0.0735	99	70-130
375-85-9	Perfluoroheptanoic acid	ND		0.0741	0.0748	101	71-130
335-67-1	Perfluorooctanoic acid	ND		0.0741	0.0738	100	74-130
375-95-1	Perfluorononanoic acid	ND		0.0741	0.0733	99	76-130
335-76-2	Perfluorodecanoic acid	ND		0.0741	0.0744	100	70-130
2058-94-8	Perfluoroundecanoic acid	ND		0.0741	0.0746	101	70-130
307-55-1	Perfluorododecanoic acid	ND		0.0741	0.0752	102	70-130
72629-94-8	Perfluorotridecanoic acid	ND		0.0741	0.0736	99	70-139
376-06-7	Perfluorotetradecanoic acid	ND		0.0741	0.0750	101	70-130
375-73-5	Perfluorobutanesulfonic acid	ND		0.0741	0.0744	100	73-130
355-46-4	Perfluorohexanesulfonic acid	ND		0.0741	0.0749	101	74-130
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0741	0.0724	98	70-130

CAS No.	ID Standard Recoveries	MS	JC95269-4	Limits
	13C4-PFBA	91%		30-140%
	13C5-PFPeA	89%		40-140%
	13C5-PFHxA	88%	93%	50-150%
	13C4-PFHpA	88%	93%	50-150%
	13C8-PFOA	91%	97%	50-150%
	13C9-PFNA	92%	101%	50-150%
	13C6-PFDA	88%	97%	50-150%
	13C7-PFUnDA	81%	89%	50-150%
	13C2-PFDoDA	78%	84%	50-150%
	13C2-PFTeDA	84%	82%	40-150%
	13C3-PFBS	87%	91%	50-150%
	13C3-PFHxS	86%	91%	50-150%
	13C8-PFOS	87%	93%	50-150%
	13C8-FOSA	82%		30-140%
	d3-MeFOSAA	78%		50-150%
	13C2-4:2FTS	91%		50-150%
	13C2-6:2FTS	93%		50-150%
	13C2-8:2FTS	92%		50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76964-DUP	2Q36670.D	1	09/26/19	NAF	09/24/19	OP76964	S2Q570
JC95269-5	2Q36664.D	1	09/26/19	NAF	09/24/19	OP76964	S2Q570

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

JC95316-1, JC95316-2, JC95316-3, JC95316-4, JC95316-5, JC95316-6

CAS No.	Compound	JC95269-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
307-24-4	Perfluorohexanoic acid	ND		ND		nc	30
375-85-9	Perfluoroheptanoic acid	ND		ND		nc	30
335-67-1	Perfluorooctanoic acid	ND		ND		nc	30
375-95-1	Perfluorononanoic acid	ND		ND		nc	30
335-76-2	Perfluorodecanoic acid	ND		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	ND		ND		nc	30
307-55-1	Perfluorododecanoic acid	ND		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	ND		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	ND		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	ND		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	ND		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	ND		ND		nc	30

CAS No.	ID Standard Recoveries	DUP	JC95269-5	Limits
	13C4-PFBA	92%		30-140%
	13C5-PFPeA	91%		40-140%
	13C5-PFHxA	89%	103%	50-150%
	13C4-PFHpA	89%	103%	50-150%
	13C8-PFOA	94%	108%	50-150%
	13C9-PFNA	95%	108%	50-150%
	13C6-PFDA	91%	105%	50-150%
	13C7-PFUnDA	83%	97%	50-150%
	13C2-PFDoDA	76%	91%	50-150%
	13C2-PFTeDA	79%	92%	40-150%
	13C3-PFBS	88%	101%	50-150%
	13C3-PFHxS	88%	101%	50-150%
	13C8-PFOS	90%	101%	50-150%
	13C8-FOSA	79%		30-140%
	d3-MeFOSAA	74%		50-150%
	13C2-4:2FTS	86%		50-150%
	13C2-6:2FTS	90%		50-150%
	13C2-8:2FTS	92%		50-150%

* = Outside of Control Limits.

Isotope Dilution Standard Recovery Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Method: EPA 537M BY ID **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
JC95316-1	2Q36737.D	101	99	105	99	75	54	44* [a]	35* [a]
JC95316-1	2Q36665.D	87	88	95	89	70	53	40* [b]	28* [b]
JC95316-2	2Q36738.D	99	97	106	104	81	57	45* [a]	44
JC95316-2	2Q36666.D	79	80	93	89	78	56	43* [b]	38* [b]
JC95316-3	2Q36667.D	96	97	104	103	91	74	62	54
JC95316-4	2Q36739.D	90	93	97	96	76	53	40* [a]	41
JC95316-4	2Q36668.D	65	69	72	78	72	58	37*	34*
JC95316-5	2Q36669.D	88	88	93	94	92	84	81	86
JC95316-6	2Q36740.D	96	92	99	97	90	68	53	53
JC95316-6	2Q36671.D	89	87	94	88	90	70	52	46
OP76964-BS	2Q36650.D	88	87	89	90	86	78	74	75
OP76964-DUP	2Q36670.D	89	89	94	95	91	83	76	79
OP76964-MB	2Q36651.D	94	94	98	99	96	88	82	84
OP76964-MS	2Q36663.D	88	88	91	92	88	81	78	84

Isotope Dilution Standards	Recovery Limits
S1 = 13C5-PFHxA	50-150%
S2 = 13C4-PFHpA	50-150%
S3 = 13C8-PFOA	50-150%
S4 = 13C9-PFNA	50-150%
S5 = 13C6-PFDA	50-150%
S6 = 13C7-PFUnDA	50-150%
S7 = 13C2-PFDoDA	50-150%
S8 = 13C2-PFTeDA	40-150%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.
(b) Outside control limits.

Isotope Dilution Standard Recovery Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Method: EPA 537M BY ID **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11
JC95316-1	2Q36737.D	98	99	75
JC95316-1	2Q36665.D	84	88	67
JC95316-2	2Q36738.D	99	97	81
JC95316-2	2Q36666.D	81	82	71
JC95316-3	2Q36667.D	92	96	88
JC95316-4	2Q36739.D	90	91	72
JC95316-4	2Q36668.D	70	71	61
JC95316-5	2Q36669.D	88	88	89
JC95316-6	2Q36740.D	94	89	87
JC95316-6	2Q36671.D	86	87	82
OP76964-BS	2Q36650.D	86	85	85
OP76964-DUP	2Q36670.D	88	88	90
OP76964-MB	2Q36651.D	91	92	93
OP76964-MS	2Q36663.D	87	86	87

Isotope Dilution Standards	Recovery Limits
S9 = 13C3-PFBS	50-150%
S10 = 13C3-PFHxS	50-150%
S11 = 13C8-PFOS	50-150%

Initial Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICC568
Lab FileID: 2Q36454.D

Initial Calibration Report

Method Path	D:\MassHunter\damethods
Method File	ID_092319_S2Q568.quantmethod.xml
Batch Name	D:\MassHunter\Data\ID_092319_S2Q568\QuantResults\S2Q568.batch.bin
Last Calib Update	9/24/2019 6:48:25 AM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d	9/23/2019 1:57:49 PM	9/24/2019 6:48:25 AM
2	D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d	9/23/2019 2:13:58 PM	9/24/2019 6:48:25 AM
3	D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d	9/23/2019 2:29:48 PM	9/24/2019 6:48:25 AM
4	D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d	9/23/2019 2:45:37 PM	9/24/2019 6:48:25 AM
5	D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d	9/23/2019 3:01:25 PM	9/24/2019 6:48:25 AM
6	D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d	9/23/2019 3:17:14 PM	9/24/2019 6:48:25 AM
7	D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d	9/23/2019 3:33:03 PM	9/24/2019 6:48:25 AM
8	D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d	9/23/2019 3:48:52 PM	9/24/2019 6:48:25 AM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
S 13C4-PFBA	Linear	9775	9802	9847	9837	9900	9803	9584	9779	9791	0.951
S 13C5-PFPeA	Linear	8231	8230	8294	8271	8343	8245	8045	8191	8231	1.073
S 13C3-PFBS	Linear	1377	1371	1386	1375	1382	1359	1331	1355	1367	1.330
S 13C2-4:2FTS	Linear	5479	5483	5514	5550	5663	5741	6082	7069	5823	9.306
S 13C5-PFHxA	Linear	11669	11697	11813	11725	11830	11689	11438	11528	11674	1.140
S 13C3-HFPO-DA	Linear	2918	2951	2927	2984	2885	2817	2650	2611	2843	4.933
S 13C4-PFHpA	Linear	15372	15358	15476	15329	15494	15239	14790	14773	15229	1.889
S 13C3-PFHxS	Linear	1482	1492	1501	1499	1486	1469	1430	1430	1474	1.953
S 13C2-6:2FTS	Linear	7638	7690	7684	7742	7854	7894	8040	8884	7928	5.154
S 13C8-PFOA	Linear	18646	18699	18719	18737	18752	18418	17399	17024	18299	3.754
S 13C8-FOSA	Linear	5966	5984	6020	5920	5927	5720	5202	4787	5691	7.960
S 13C8-PFOS	Linear	1991	1961	1978	1960	1994	1974	1863	1854	1947	2.882
S 13C9-PFNA	Linear	19176	19152	19255	19342	19147	18983	18104	18078	18904	2.710
S d3-MeFOSAA	Linear	3249	3246	3296	3353	3277	3246	3220	3257	3268	1.259
S 13C6-PFDA	Linear	21693	21794	21665	21664	21525	21151	20019	19776	21161	3.809
S 13C2-8:2FTS	Linear	5082	5105	5083	5114	5218	5346	5611	6504	5383	9.068
S 13C7-PFUnDA	Linear	28253	28608	28320	28220	28213	27746	26346	26010	27715	3.541
S 13C2-PFDoDA	Linear	35359	35485	35324	35310	35473	34921	33792	33644	34913	2.174
S 13C2-PFTeDA	Linear	26605	26599	26574	26564	27197	27079	26163	26384	26646	1.276
I 13C2-PFOA				---------- ISTD ----------							
S M2-PFOA	Linear	1.0006	1.0024	1.0016	1.0011	1.0020	1.0006	1.0007	1.0001	1.0011	0.079
I 13C4-PFOS				---------- ISTD ----------							
S M4-PFOS	Linear	1.0007	0.9990	0.9980	1.0000	1.0013	0.9973	1.0002	1.0003	0.9996	0.139
I M4-PFBA				---------- ISTD ----------							
T PFBA	Linear	0.1864	0.1901	0.1839	0.1814	0.1857	0.1840	0.1837	0.1870	0.1853	1.424
I M5-PFPeA				---------- ISTD ----------							
T PFPeA	Linear	1.0065	1.0710	0.9875	0.9713	0.9949	0.9872	0.9972	1.0139	1.0037	2.999

Generated at 6:48 AM on 9/24/2019

Initial Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICC568
Lab FileID: 2Q36454.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-PFHxA				---------- ISTD ----------							
T PFHxA	Linear	0.3319	0.3153	0.3067	0.3059	0.3068	0.3001	0.3021	0.3088	0.3097	3.249
I M4-PFHpA				---------- ISTD ----------							
T PFHpA	Linear	0.9037	0.9223	0.8895	0.8891	0.8978	0.8962	0.8999	0.9157	0.9018	1.311
I M8-PFOA				---------- ISTD ----------							
T ADONA	Linear	0.8543	0.8867	0.8727	0.8643	0.8904	0.8901	0.9224	0.9697	0.8938	4.129
T PFOA	Linear	0.5449	0.5559	0.5366	0.5111	0.5283	0.5290	0.5301	0.5406	0.5346	2.494
I M9-PFNA				---------- ISTD ----------							
T PFNA	Linear	0.6079	0.6423	0.6097	0.5892	0.6181	0.6152	0.6213	0.6273	0.6164	2.513
I M6-PFDA				---------- ISTD ----------							
T 9Cl-PF3ONS	Linear	0.0616	0.0680	0.0681	0.0655	0.0679	0.0673	0.0692	0.0714	0.0674	4.277
T PFDA	Linear	0.5069	0.5108	0.4862	0.4751	0.4913	0.4859	0.4924	0.4971	0.4932	2.358
I M7-PFUnDA				---------- ISTD ----------							
T PFUnDA	Linear	0.4549	0.4685	0.4550	0.4475	0.4597	0.4610	0.4650	0.4730	0.4606	1.786
I M2-PFDoDA				---------- ISTD ----------							
T 11Cl-PF3OUdS	Linear	0.2410	0.2460	0.2387	0.2371	0.2435	0.2463	0.2523	0.2583	0.2454	2.897
T PFDoDA	Linear	0.4413	0.4580	0.4468	0.4359	0.4499	0.4528	0.4549	0.4621	0.4502	1.926
I M2-PFTeDA				---------- ISTD ----------							
T PFTrDA	Linear	0.5753	0.5968	0.5868	0.5833	0.5846	0.5975	0.5872	0.5943	0.5882	1.292
T PFTeDA	Linear	0.6295	0.6204	0.6058	0.6011	0.6079	0.6162	0.6097	0.6158	0.6133	1.476
I M8-FOSA				---------- ISTD ----------							
T FOSA	Linear	0.5283	0.5217	0.5187	0.5012	0.5106	0.5053	0.5149	0.5195	0.5150	1.736
I M3-PFBS				---------- ISTD ----------							
T PFBS	Linear	1.5349	1.6235	1.5470	1.5289	1.5541	1.5627	1.5683	1.5835	1.5629	1.935
T PFPeS	Linear	0.8917	0.9498	0.8629	0.8534	0.8704	0.8786	0.8628	0.8748	0.8806	3.441
I M3-PFHxS				---------- ISTD ----------							
T PFHxS	Linear	1.3253	1.2114	1.2042	1.1417	1.2036	1.1797	1.1830	1.1967	1.2057	4.401
T PFHpS	Linear	1.1562	1.0764	1.1200	1.0616	1.1060	1.0854	1.0671	1.0679	1.0926	2.997
I M8-PFOS				---------- ISTD ----------							
T PFOS	Linear	1.1082	0.9530	0.9183	0.9158	0.9335	0.9032	0.9258	0.9571	0.9519	6.910
T PFNS	Linear	0.6829	0.7535	0.6596	0.6376	0.6532	0.6385	0.6539	0.6513	0.6663	5.692
T PFDS	Linear	0.4145	0.4388	0.4298	0.4285	0.4205	0.4207	0.4249	0.4269	0.4256	1.721
I M2-4:2FTS				---------- ISTD ----------							
T 4:2FTS	Avg RF	0.5795	0.6019	0.5993	0.5811	0.5924	0.5758	0.5363	0.4777	0.5680	7.364
I M2-6:2FTS				---------- ISTD ----------							

Generated at 6:48 AM on 9/24/2019

Initial Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICC568
Lab FileID: 2Q36454.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T 6:2FTS	Avg RF	0.5154	0.5421	0.5180	0.5005	0.5115	0.5025	0.4683	0.4192	0.4972	7.580
I M2-8:2FTS				---------- ISTD ----------							
T 8:2FTS	Avg RF	0.5420	0.6143	0.5517	0.5508	0.5571	0.5304	0.4957	0.4394	0.5352	9.491
I M3-MeFOSAA				---------- ISTD ----------							
T MeFOSAA	Linear	0.5077	0.5492	0.5191	0.4967	0.5181	0.5239	0.5256	0.5353	0.5219	3.072
T EtFOSAA	Linear	0.5169	0.4397	0.4716	0.4175	0.4442	0.4385	0.4269	0.4167	0.4465	7.481
I M3-HFPO-DA				---------- ISTD ----------							
T HFPO-DA	Linear	1.0480	1.0639	1.0424	0.9917	1.0503	1.0438	1.0467	1.0252	1.0390	2.107

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Generated at 6:48 AM on 9/24/2019

Initial Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICC568
Lab FileID: 2Q36454.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T PFBA	Linear	y = 0.186288 * x	0.999917
S 13C4-PFBA	Linear	y = 9790.716052 * x	0.000000
S 13C5-PFPeA	Linear	y = 8231.090031 * x	0.000000
T PFPeA	Linear	y = 1.009654 * x	0.999905
S 13C3-PFBS	Linear	y = 1366.905810 * x	0.000000
T PFBS	Linear	y = 1.579608 * x	0.999966
S 13C2-4:2FTS	Linear	y = 5822.739562 * x	0.000000
S 13C5-PFHxA	Linear	y = 11673.712285 * x	0.000000
T PFHxA	Linear	y = 0.307209 * x	0.999864
T PFPeS	Linear	y = 0.872506 * x	0.999951
S 13C3-HFPO-DA	Linear	y = 2842.896547 * x	0.000000
T HFPO-DA	Linear	y = 1.030023 * x	0.999880
S 13C4-PFHpA	Linear	y = 15228.903066 * x	0.000000
T PFHpA	Linear	y = 0.911837 * x	0.999911
S 13C3-PFHxS	Linear	y = 1473.766433 * x	0.000000
T PFHxS	Linear	y = 1.193543 * x	0.999956
T ADONA	Linear	y = 0.957363 * x	0.999116
T PFHpS	Linear	y = 1.068579 * x	0.999972
S 13C2-6:2FTS	Linear	y = 7928.187894 * x	0.000000
S 13C8-PFOA	Linear	y = 18299.219852 * x	0.000000
S M2-PFOA	Linear	y = 1.001116 * x	0.000000
T PFOA	Linear	y = 0.538064 * x	0.999886
S 13C8-FOSA	Linear	y = 5690.649443 * x	0.000000
T FOSA	Linear	y = 0.518108 * x	0.999946
S 13C8-PFOS	Linear	y = 1946.774840 * x	0.000000
S M4-PFOS	Linear	y = 0.999578 * x	0.000000
T PFOS	Linear	y = 0.949191 * x	0.999627
S 13C9-PFNA	Linear	y = 18904.337612 * x	0.000000
T PFNA	Linear	y = 0.625643 * x	0.999953
S d3-MeFOSAA	Linear	y = 3268.239085 * x	0.000000
T MeFOSAA	Linear	y = 0.532838 * x	0.999886
T 9Cl-PF3ONS	Linear	y = 0.070821 * x	0.999611
T EtFOSAA	Linear	y = 0.419584 * x	0.999710
T PFNS	Linear	y = 0.651414 * x	0.999973
S 13C6-PFDA	Linear	y = 21160.768047 * x	0.000000
T PFDA	Linear	y = 0.495761 * x	0.999953
S 13C2-8:2FTS	Linear	y = 5382.909936 * x	0.000000
T PFDS	Linear	y = 0.426256 * x	0.999984
S 13C7-PFUnDA	Linear	y = 27714.501375 * x	0.000000
T PFUnDA	Linear	y = 0.470925 * x	0.999897
T 11Cl-PF3OUdS	Linear	y = 0.256650 * x	0.999742
S 13C2-PFDoDA	Linear	y = 34913.281886 * x	0.000000
T PFDoDA	Linear	y = 0.460261 * x	0.999917

Generated at 6:48 AM on 9/24/2019

Initial Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICC568
Lab FileID: 2Q36454.D

Initial Calibration Report

T PFTrDA	Linear	y = 0.592969 * x	0.999961
T PFTeDA	Linear	y = 0.614575 * x	0.999974
S 13C2-PFTeDA	Linear	y = 26645.505100 * x	0.000000

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Generated at 6:48 AM on 9/24/2019

Initial Calibration Verification

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICV568
Lab FileID: 2Q36459.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092319_S2Q568\S2Q568.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36459
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.736	-1.3	98.7
13C2-6:2FTS	20.000	19.783	-1.1	98.9
13C2-8:2FTS	20.000	19.578	-2.1	97.9
13C2-PFDoDA	20.000	19.900	-0.5	99.5
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.834	-0.8	99.2
13C3-PFBS	20.000	19.726	-1.4	98.6
13C3-PFHxS	20.000	19.727	-1.4	98.6
13C4-PFBA	20.000	19.823	-0.9	99.1
13C4-PFHpA	20.000	19.854	-0.7	99.3
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.848	-0.8	99.2
13C5-PFPeA	20.000	19.699	-1.5	98.5
13C6-PFDA	20.000	19.967	-0.2	99.8
13C7-PFUnDA	20.000	19.865	-0.7	99.3
13C8-FOSA	20.000	19.948	-0.3	99.7
13C8-PFOA	20.000	19.919	-0.4	99.6
13C8-PFOS	20.000	19.838	-0.8	99.2
13C9-PFNA	20.000	19.833	-0.8	99.2
4:2FTS	20.000	18.136	-9.3	90.7
6:2FTS	20.000	18.950	-5.3	94.7
8:2FTS	20.000	18.957	-5.2	94.8
d3-MeFOSAA	20.000	20.124	0.6	100.6
M2-PFOA	20.000	20.014	0.1	100.1
EtFOSAA	20.000	20.437	2.2	102.2
FOSA	20.000	19.238	-3.8	96.2
MeFOSAA	20.000	19.510	-2.4	97.6
PFBA	20.000	18.939	-5.3	94.7
PFBS	20.000	16.557	-17.2	82.8
PFDA	20.000	17.990	-10.0	90.0
PFDoDA	20.000	19.867	-0.7	99.3
PFDS	20.000	19.000	-5.0	95.0
PFHpA	20.000	19.954	-0.2	99.8
PFHpS	20.000	18.809	-6.0	94.0
PFHxA	20.000	17.790	-11.0	89.0
PFHxS	20.000	16.813	-15.9	84.1
PFNA	20.000	17.877	-10.6	89.4

Initial Calibration Verification

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICV568
Lab FileID: 2Q36459.D

PFNS	20.000	18.957	-5.2	94.8
PFOA	20.000	18.959	-5.2	94.8
PFOS	20.000	19.262	-3.7	96.3
PFPeA	20.000	18.797	-6.0	94.0
PFPeS	20.000	18.043	-9.8	90.2
PFTeDA	20.000	18.011	-9.9	90.1
PFTrDA	20.000	22.037	10.2	110.2
PFUnDA	20.000	20.419	2.1	102.1
M4-PFOS	20.000	20.068	0.3	100.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	0.000	# -100.0	0.0
13C3-HFPO-DA	100.000	95.691	-4.3	95.7
9Cl-PF3ONS	20.000	0.000	# -100.0	0.0
ADONA	20.000	0.000	# -100.0	0.0
HFPO-DA	100.000	0.000	# -100.0	0.0
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICV568
Lab FileID: 2Q36460.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092319_S2Q568\S2Q568.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36460
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.321	-3.4	96.6
13C2-6:2FTS	20.000	19.665	-1.7	98.3
13C2-8:2FTS	20.000	19.334	-3.3	96.7
13C2-PFDoDA	20.000	20.594	3.0	103.0
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	20.569	2.8	102.8
13C3-PFBS	20.000	20.540	2.7	102.7
13C3-PFHxS	20.000	20.474	2.4	102.4
13C4-PFBA	20.000	20.664	3.3	103.3
13C4-PFHpA	20.000	20.609	3.0	103.0
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.515	2.6	102.6
13C5-PFPeA	20.000	20.687	3.4	103.4
13C6-PFDA	20.000	21.044	5.2	105.2
13C7-PFUnDA	20.000	20.686	3.4	103.4
13C8-FOSA	20.000	21.765	8.8	108.8
13C8-PFOA	20.000	20.879	4.4	104.4
13C8-PFOS	20.000	20.408	2.0	102.0
13C9-PFNA	20.000	20.431	2.2	102.2
4:2FTS	20.000	0.000	# -100.0	0.0
6:2FTS	20.000	0.000	# -100.0	0.0
8:2FTS	20.000	0.000	# -100.0	0.0
d3-MeFOSAA	20.000	20.941	4.7	104.7
M2-PFOA	20.000	19.995	0.0	100.0
EtFOSAA	20.000	17.233	-13.8	86.2
FOSA	20.000	0.000	# -100.0	0.0
MeFOSAA	20.000	16.525	-17.4	82.6
PFBA	20.000	0.000	# -100.0	0.0
PFBS	20.000	18.378	-8.1	91.9
PFDA	20.000	18.179	-9.1	90.9
PFDoDA	20.000	18.127	-9.4	90.6
PFDS	20.000	0.000	# -100.0	0.0
PFHpA	20.000	18.127	-9.4	90.6
PFHpS	20.000	0.000	# -100.0	0.0
PFHxA	20.000	18.208	-9.0	91.0
PFHxS	20.000	18.442	-7.8	92.2
PFNA	20.000	19.151	-4.2	95.8

Initial Calibration Verification

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q568-ICV568
Lab FileID: 2Q36460.D

PFNS	20.000	0.000	# -100.0	0.0
PFOA	20.000	18.152	-9.2	90.8
PFOS	20.000	18.476	-7.6	92.4
PFPeA	20.000	0.000	# -100.0	0.0
PFPeS	20.000	0.000	# -100.0	0.0
PFTeDA	20.000	18.117	-9.4	90.6
PFTrDA	20.000	19.441	-2.8	97.2
PFUnDA	20.000	18.817	-5.9	94.1
M4-PFOS	20.000	20.020	0.1	100.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	18.894	-5.5	94.5
13C3-HFPO-DA	100.000	98.695	-1.3	98.7
9Cl-PF3ONS	20.000	18.260	-8.7	91.3
ADONA	20.000	18.036	-9.8	90.2
HFPO-DA	20.000	20.216	1.0	101.0
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q570-CC568
Lab FileID: 2Q36648.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092519_S2Q570\s2q570.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36648
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.068	0.3	100.3
13C2-6:2FTS	20.000	20.078	0.4	100.4
13C2-8:2FTS	20.000	20.126	0.6	100.6
13C2-PFDoDA	20.000	18.964	-5.2	94.8
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.857	-0.7	99.3
13C3-PFBS	20.000	19.230	-3.9	96.1
13C3-PFHxS	20.000	18.983	-5.1	94.9
13C4-PFBA	20.000	20.045	0.2	100.2
13C4-PFHpA	20.000	19.448	-2.8	97.2
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.641	-1.8	98.2
13C5-PFPeA	20.000	19.878	-0.6	99.4
13C6-PFDA	20.000	19.534	-2.3	97.7
13C7-PFUnDA	20.000	18.304	-8.5	91.5
13C8-FOSA	20.000	19.750	-1.2	98.8
13C8-PFOA	20.000	19.773	-1.1	98.9
13C8-PFOS	20.000	19.338	-3.3	96.7
13C9-PFNA	20.000	20.046	0.2	100.2
4:2FTS	20.000	20.235	1.2	101.2
6:2FTS	20.000	20.130	0.6	100.6
8:2FTS	20.000	20.112	0.6	100.6
d3-MeFOSAA	20.000	19.112	-4.4	95.6
M2-PFOA	20.000	20.001	0.0	100.0
EtFOSAA	20.000	21.006	5.0	105.0
FOSA	20.000	19.238	-3.8	96.2
MeFOSAA	20.000	19.807	-1.0	99.0
PFBA	20.000	19.190	-4.1	95.9
PFBS	20.000	19.499	-2.5	97.5
PFDA	20.000	20.095	0.5	100.5
PFDoDA	20.000	19.741	-1.3	98.7
PFDS	20.000	19.058	-4.7	95.3
PFHpA	20.000	19.675	-1.6	98.4
PFHpS	20.000	20.277	1.4	101.4
PFHxA	20.000	19.345	-3.3	96.7
PFHxS	20.000	19.946	-0.3	99.7
PFNA	20.000	19.074	-4.6	95.4

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q570-CC568
Lab FileID: 2Q36648.D

PFNS	20.000	19.869	-0.7	99.3
PFOA	20.000	19.673	-1.6	98.4
PFOS	20.000	19.147	-4.3	95.7
PFPeA	20.000	19.364	-3.2	96.8
PFPeS	20.000	19.737	-1.3	98.7
PFTeDA	20.000	19.317	-3.4	96.6
PFTrDA	20.000	18.976	-5.1	94.9
PFUnDA	20.000	19.895	-0.5	99.5
M4-PFOS	20.000	20.000	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	19.269	-3.7	96.3
13C3-HFPO-DA	100.000	83.677	-16.3	83.7
9Cl-PF3ONS	20.000	18.588	-7.1	92.9
ADONA	20.000	18.359	-8.2	91.8
HFPO-DA	100.000	101.048	1.0	101.0
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q570-CC568
Lab FileID: 2Q36660.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092519_S2Q570\s2q570.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36660
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.975	-0.1	99.9
13C2-6:2FTS	20.000	20.177	0.9	100.9
13C2-8:2FTS	20.000	20.088	0.4	100.4
13C2-PFDoDA	20.000	19.088	-4.6	95.4
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.743	-1.3	98.7
13C3-PFBS	20.000	19.477	-2.6	97.4
13C3-PFHxS	20.000	19.194	-4.0	96.0
13C4-PFBA	20.000	20.205	1.0	101.0
13C4-PFHpA	20.000	19.329	-3.4	96.6
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.639	-1.8	98.2
13C5-PFPeA	20.000	19.907	-0.5	99.5
13C6-PFDA	20.000	19.572	-2.1	97.9
13C7-PFUnDA	20.000	18.445	-7.8	92.2
13C8-FOSA	20.000	19.642	-1.8	98.2
13C8-PFOA	20.000	19.786	-1.1	98.9
13C8-PFOS	20.000	19.464	-2.7	97.3
13C9-PFNA	20.000	19.979	-0.1	99.9
4:2FTS	20.000	20.461	2.3	102.3
6:2FTS	20.000	20.045	0.2	100.2
8:2FTS	20.000	20.171	0.9	100.9
d3-MeFOSAA	20.000	18.933	-5.3	94.7
M2-PFOA	20.000	20.000	0.0	100.0
EtFOSAA	20.000	21.934	9.7	109.7
FOSA	20.000	19.933	-0.3	99.7
MeFOSAA	20.000	20.234	1.2	101.2
PFBA	20.000	19.125	-4.4	95.6
PFBS	20.000	19.353	-3.2	96.8
PFDA	20.000	19.743	-1.3	98.7
PFDoDA	20.000	19.730	-1.4	98.6
PFDS	20.000	18.901	-5.5	94.5
PFHpA	20.000	20.037	0.2	100.2
PFHpS	20.000	20.122	0.6	100.6
PFHxA	20.000	19.340	-3.3	96.7
PFHxS	20.000	19.780	-1.1	98.9
PFNA	20.000	19.591	-2.0	98.0

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q570-CC568
Lab FileID: 2Q36660.D

PFNS	20.000	19.089	-4.6	95.4
PFOA	20.000	19.551	-2.2	97.8
PFOS	20.000	18.857	-5.7	94.3
PFPeA	20.000	19.493	-2.5	97.5
PFPeS	20.000	19.773	-1.1	98.9
PFTeDA	20.000	19.078	-4.6	95.4
PFTrDA	20.000	18.937	-5.3	94.7
PFUnDA	20.000	19.712	-1.4	98.6
M4-PFOS	20.000	19.983	-0.1	99.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	19.410	-2.9	97.1
13C3-HFPO-DA	100.000	82.961	-17.0	83.0
9Cl-PF3ONS	20.000	18.987	-5.1	94.9
ADONA	20.000	18.453	-7.7	92.3
HFPO-DA	100.000	102.226	2.2	102.2
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q570-CC568
Lab FileID: 2Q36672.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092519_S2Q570\s2q570.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36672
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.006	0.0	100.0
13C2-6:2FTS	20.000	20.106	0.5	100.5
13C2-8:2FTS	20.000	19.721	-1.4	98.6
13C2-PFDoDA	20.000	19.295	-3.5	96.5
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.435	-2.8	97.2
13C3-PFBS	20.000	19.106	-4.5	95.5
13C3-PFHxS	20.000	19.127	-4.4	95.6
13C4-PFBA	20.000	20.155	0.8	100.8
13C4-PFHpA	20.000	19.232	-3.8	96.2
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.392	-3.0	97.0
13C5-PFPeA	20.000	19.868	-0.7	99.3
13C6-PFDA	20.000	19.682	-1.6	98.4
13C7-PFUnDA	20.000	18.607	-7.0	93.0
13C8-FOSA	20.000	19.724	-1.4	98.6
13C8-PFOA	20.000	19.707	-1.5	98.5
13C8-PFOS	20.000	19.169	-4.2	95.8
13C9-PFNA	20.000	19.918	-0.4	99.6
4:2FTS	20.000	20.456	2.3	102.3
6:2FTS	20.000	20.105	0.5	100.5
8:2FTS	20.000	20.624	3.1	103.1
d3-MeFOSAA	20.000	18.703	-6.5	93.5
M2-PFOA	20.000	20.003	0.0	100.0
EtFOSAA	20.000	21.404	7.0	107.0
FOSA	20.000	19.928	-0.4	99.6
MeFOSAA	20.000	19.930	-0.4	99.6
PFBA	20.000	19.026	-4.9	95.1
PFBS	20.000	19.820	-0.9	99.1
PFDA	20.000	19.584	-2.1	97.9
PFDoDA	20.000	19.633	-1.8	98.2
PFDS	20.000	19.356	-3.2	96.8
PFHpA	20.000	20.125	0.6	100.6
PFHpS	20.000	20.397	2.0	102.0
PFHxA	20.000	19.333	-3.3	96.7
PFHxS	20.000	19.789	-1.1	98.9
PFNA	20.000	19.479	-2.6	97.4

Continuing Calibration Summary

Job Number: JC95316 **Sample:** S2Q570-CC568
Account: ALNJ SGS Dayton, NJ **Lab FileID:** 2Q36672.D
Project: INTCWAO: CF1165, Thorofare,NJ

PFNS	20.000	19.544	-2.3	97.7
PFOA	20.000	19.386	-3.1	96.9
PFOS	20.000	19.112	-4.4	95.6
PFPeA	20.000	19.517	-2.4	97.6
PFPeS	20.000	20.065	0.3	100.3
PFTeDA	20.000	19.393	-3.0	97.0
PFTrDA	20.000	19.512	-2.4	97.6
PFUnDA	20.000	19.742	-1.3	98.7
M4-PFOS	20.000	19.957	-0.2	99.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	18.948	-5.3	94.7
13C3-HFPO-DA	100.000	85.847	-14.2	85.8
9Cl-PF3ONS	20.000	19.169	-4.2	95.8
ADONA	20.000	18.467	-7.7	92.3
HFPO-DA	100.000	100.426	0.4	100.4
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36733.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092619_S2Q571\s2q571.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36733
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.684	3.4	103.4
13C2-6:2FTS	20.000	20.719	3.6	103.6
13C2-8:2FTS	20.000	20.648	3.2	103.2
13C2-PFDoDA	20.000	20.070	0.3	100.3
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	21.992	10.0	110.0
13C3-PFBS	20.000	19.853	-0.7	99.3
13C3-PFHxS	20.000	19.797	-1.0	99.0
13C4-PFBA	20.000	20.969	4.8	104.8
13C4-PFHpA	20.000	20.054	0.3	100.3
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.418	2.1	102.1
13C5-PFPeA	20.000	20.764	3.8	103.8
13C6-PFDA	20.000	20.063	0.3	100.3
13C7-PFUnDA	20.000	19.589	-2.1	97.9
13C8-FOSA	20.000	20.305	1.5	101.5
13C8-PFOA	20.000	20.483	2.4	102.4
13C8-PFOS	20.000	19.531	-2.3	97.7
13C9-PFNA	20.000	20.977	4.9	104.9
4:2FTS	20.000	20.572	2.9	102.9
6:2FTS	20.000	20.330	1.6	101.6
8:2FTS	20.000	20.355	1.8	101.8
d3-MeFOSAA	20.000	19.936	-0.3	99.7
M2-PFOA	20.000	20.017	0.1	100.1
EtFOSAA	20.000	21.743	8.7	108.7
FOSA	20.000	19.739	-1.3	98.7
MeFOSAA	20.000	19.862	-0.7	99.3
PFBA	20.000	18.781	-6.1	93.9
PFBS	20.000	19.561	-2.2	97.8
PFDA	20.000	19.915	-0.4	99.6
PFDoDA	20.000	19.751	-1.2	98.8
PFDS	20.000	18.905	-5.5	94.5
PFHpA	20.000	19.770	-1.2	98.8
PFHpS	20.000	20.180	0.9	100.9
PFHxA	20.000	19.255	-3.7	96.3
PFHxS	20.000	19.903	-0.5	99.5
PFNA	20.000	19.103	-4.5	95.5

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36733.D

PFNS	20.000	19.777	-1.1	98.9
PFOA	20.000	19.526	-2.4	97.6
PFOS	20.000	19.091	-4.5	95.5
PFPeA	20.000	19.228	-3.9	96.1
PFPeS	20.000	20.048	0.2	100.2
PFTeDA	20.000	18.898	-5.5	94.5
PFTrDA	20.000	18.299	-8.5	91.5
PFUnDA	20.000	19.930	-0.4	99.6
M4-PFOS	20.000	19.964	-0.2	99.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	18.620	-6.9	93.1
13C3-HFPO-DA	100.000	87.690	-12.3	87.7
9Cl-PF3ONS	20.000	19.330	-3.4	96.6
ADONA	20.000	18.458	-7.7	92.3
HFPO-DA	100.000	101.510	1.5	101.5
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

11.6.7

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Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36741.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092619_S2Q571\s2q571.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36741
Type : QC
Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.809	4.0	104.0
13C2-6:2FTS	20.000	20.832	4.2	104.2
13C2-8:2FTS	20.000	20.632	3.2	103.2
13C2-PFDoDA	20.000	20.180	0.9	100.9
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	21.990	9.9	109.9
13C3-PFBS	20.000	19.769	-1.2	98.8
13C3-PFHxS	20.000	19.772	-1.1	98.9
13C4-PFBA	20.000	21.011	5.1	105.1
13C4-PFHpA	20.000	20.174	0.9	100.9
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.477	2.4	102.4
13C5-PFPeA	20.000	20.789	3.9	103.9
13C6-PFDA	20.000	20.065	0.3	100.3
13C7-PFUnDA	20.000	19.731	-1.3	98.7
13C8-FOSA	20.000	20.568	2.8	102.8
13C8-PFOA	20.000	20.641	3.2	103.2
13C8-PFOS	20.000	19.525	-2.4	97.6
13C9-PFNA	20.000	20.855	4.3	104.3
4:2FTS	20.000	20.457	2.3	102.3
6:2FTS	20.000	20.212	1.1	101.1
8:2FTS	20.000	20.429	2.1	102.1
d3-MeFOSAA	20.000	19.968	-0.2	99.8
M2-PFOA	20.000	19.981	-0.1	99.9
EtFOSAA	20.000	21.617	8.1	108.1
FOSA	20.000	19.401	-3.0	97.0
MeFOSAA	20.000	19.857	-0.7	99.3
PFBA	20.000	18.837	-5.8	94.2
PFBS	20.000	19.540	-2.3	97.7
PFDA	20.000	19.503	-2.5	97.5
PFDoDA	20.000	19.678	-1.6	98.4
PFDS	20.000	18.742	-6.3	93.7
PFHpA	20.000	19.777	-1.1	98.9
PFHpS	20.000	20.019	0.1	100.1
PFHxA	20.000	19.122	-4.4	95.6
PFHxS	20.000	19.914	-0.4	99.6
PFNA	20.000	19.222	-3.9	96.1

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36741.D

PFNS	20.000	19.963	-0.2	99.8
PFOA	20.000	19.377	-3.1	96.9
PFOS	20.000	19.200	-4.0	96.0
PFPeA	20.000	19.209	-4.0	96.0
PFPeS	20.000	20.033	0.2	100.2
PFTeDA	20.000	18.931	-5.3	94.7
PFTrDA	20.000	18.266	-8.7	91.3
PFUnDA	20.000	19.648	-1.8	98.2
M4-PFOS	20.000	19.921	-0.4	99.6
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	18.531	-7.3	92.7
13C3-HFPO-DA	100.000	87.083	-12.9	87.1
9Cl-PF3ONS	20.000	19.224	-3.9	96.1
ADONA	20.000	18.337	-8.3	91.7
HFPO-DA	100.000	101.061	1.1	101.1
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36743.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\ID_092619_S2Q571\s2q571.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\ID_092319_S2Q568\2Q36449.d
2:D:\MassHunter\Data\ID_092319_S2Q568\2Q36450.d
3:D:\MassHunter\Data\ID_092319_S2Q568\2Q36451.d
4:D:\MassHunter\Data\ID_092319_S2Q568\2Q36452.d
5:D:\MassHunter\Data\ID_092319_S2Q568\2Q36453.d
6:D:\MassHunter\Data\ID_092319_S2Q568\2Q36454.d
7:D:\MassHunter\Data\ID_092319_S2Q568\2Q36455.d
8:D:\MassHunter\Data\ID_092319_S2Q568\2Q36456.d

Data File: 2Q36743
Type : QC
Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.291	-3.5	96.5
13C2-6:2FTS	20.000	20.154	0.8	100.8
13C2-8:2FTS	20.000	19.759	-1.2	98.8
13C2-PFDoDA	20.000	20.154	0.8	100.8
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	21.772	8.9	108.9
13C3-PFBS	20.000	19.487	-2.6	97.4
13C3-PFHxS	20.000	19.400	-3.0	97.0
13C4-PFBA	20.000	20.632	3.2	103.2
13C4-PFHpA	20.000	20.182	0.9	100.9
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.060	0.3	100.3
13C5-PFPeA	20.000	20.356	1.8	101.8
13C6-PFDA	20.000	20.330	1.7	101.7
13C7-PFUnDA	20.000	19.953	-0.2	99.8
13C8-FOSA	20.000	21.297	6.5	106.5
13C8-PFOA	20.000	20.754	3.8	103.8
13C8-PFOS	20.000	19.641	-1.8	98.2
13C9-PFNA	20.000	20.955	4.8	104.8
4:2FTS	1.000	1.087	8.7	108.7
6:2FTS	1.000	1.103	10.3	110.3
8:2FTS	1.000	1.103	10.3	110.3
d3-MeFOSAA	20.000	19.691	-1.5	98.5
M2-PFOA	20.000	19.997	0.0	100.0
EtFOSAA	1.000	1.219	21.9	121.9
FOSA	1.000	0.964	-3.6	96.4
MeFOSAA	1.000	1.085	8.5	108.5
PFBA	1.000	0.981	-1.9	98.1
PFBS	1.000	0.998	-0.2	99.8
PFDA	1.000	1.026	2.6	102.6
PFDoDA	1.000	1.002	0.2	100.2
PFDS	1.000	0.986	-1.4	98.6
PFHpA	1.000	1.017	1.7	101.7
PFHpS	1.000	1.061	6.1	106.1
PFHxA	1.000	1.015	1.5	101.5
PFHxS	1.000	1.040	4.0	104.0
PFNA	1.000	0.989	-1.1	98.9

Continuing Calibration Summary

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Sample: S2Q571-CC568
Lab FileID: 2Q36743.D

PFNS	1.000	0.998	-0.2	99.8
PFOA	1.000	1.030	3.0	103.0
PFOS	1.000	1.109	10.9	110.9
PFPeA	1.000	1.007	0.7	100.7
PFPeS	1.000	1.030	3.0	103.0
PFTeDA	1.000	0.973	-2.7	97.3
PFTrDA	1.000	0.938	-6.2	93.8
PFUnDA	1.000	0.983	-1.7	98.3
M4-PFOS	20.000	19.883	-0.6	99.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	1.000	0.935	-6.5	93.5
13C3-HFPO-DA	100.000	88.231	-11.8	88.2
9Cl-PF3ONS	1.000	1.032	3.2	103.2
ADONA	1.000	0.911	-8.9	91.1
HFPO-DA	5.000	5.076	1.5	101.5
M3-HFPO-DA	---	--ISTD--		

CC Criteria: +/- 30%

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q568 **Method:** EPA 537M BY ID **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S2Q568-IBLK	2Q36438.D	09/23/19 10:09	n/a	Method Blank
S2Q568-CC565	2Q36440.D	09/23/19 10:41	n/a	Continuing cal 20
OP76915-DUP	2Q36442.D	09/23/19 11:34	OP76915	Duplicate
FA68140-10	2Q36443.D	09/23/19 11:50	OP76915	(used for QC only; not part of job JC95316)
S2Q568-CC565	2Q36444.D	09/23/19 12:14	n/a	Continuing cal 20
S2Q568-IC568	2Q36448.D	09/23/19 13:42	n/a	Mass Calibration Verification
S2Q568-IC568	2Q36449.D	09/23/19 13:57	n/a	Initial cal 0.5
S2Q568-IC568	2Q36450.D	09/23/19 14:13	n/a	Initial cal 1.0
S2Q568-IC568	2Q36451.D	09/23/19 14:29	n/a	Initial cal 2.0
S2Q568-IC568	2Q36452.D	09/23/19 14:45	n/a	Initial cal 5.0
S2Q568-IC568	2Q36453.D	09/23/19 15:01	n/a	Initial cal 10
S2Q568-ICC568	2Q36454.D	09/23/19 15:17	n/a	Initial cal 20
S2Q568-IC568	2Q36455.D	09/23/19 15:33	n/a	Initial cal 50
S2Q568-IC568	2Q36456.D	09/23/19 15:48	n/a	Initial cal 100
S2Q568-IBLK	2Q36457.D	09/23/19 16:04	n/a	Method Blank
S2Q568-IBLK	2Q36457.D	09/23/19 16:04	n/a	Method Blank
S2Q568-ICV568	2Q36459.D	09/23/19 16:36	n/a	Initial cal verification 20
S2Q568-ICV568	2Q36460.D	09/23/19 16:52	n/a	Initial cal verification 20
OP76910-BS	2Q36463.D	09/23/19 17:39	OP76910	Blank Spike
OP76910-MB	2Q36464.D	09/23/19 17:55	OP76910	Method Blank
FA68039-1	2Q36465.D	09/23/19 18:11	OP76910	(used for QC only; not part of job JC95316)
OP76910-MS	2Q36466.D	09/23/19 18:26	OP76910	Matrix Spike
ZZZZZZ	2Q36467.D	09/23/19 18:42	OP76910	(unrelated sample)
ZZZZZZ	2Q36468.D	09/23/19 18:58	OP76910	(unrelated sample)
ZZZZZZ	2Q36469.D	09/23/19 19:14	OP76910	(unrelated sample)
S2Q568-CC568	2Q36470.D	09/23/19 19:30	n/a	Continuing cal 20
ZZZZZZ	2Q36472.D	09/23/19 20:01	OP76910	(unrelated sample)
ZZZZZZ	2Q36473.D	09/23/19 20:17	OP76910	(unrelated sample)
ZZZZZZ	2Q36474.D	09/23/19 20:33	OP76910	(unrelated sample)
ZZZZZZ	2Q36475.D	09/23/19 20:49	OP76910	(unrelated sample)
FA68076-2	2Q36476.D	09/23/19 21:05	OP76910	(used for QC only; not part of job JC95316)
OP76910-DUP	2Q36477.D	09/23/19 21:20	OP76910	Duplicate
ZZZZZZ	2Q36478.D	09/23/19 21:36	OP76910	(unrelated sample)
ZZZZZZ	2Q36479.D	09/23/19 21:52	OP76910	(unrelated sample)
S2Q568-CC568	2Q36481.D	09/23/19 22:24	n/a	Continuing cal 20
ZZZZZZ	2Q36485.D	09/23/19 23:27	OP76910	(unrelated sample)
ZZZZZZ	2Q36486.D	09/23/19 23:43	OP76910	(unrelated sample)
ZZZZZZ	2Q36487.D	09/23/19 23:59	OP76910	(unrelated sample)
ZZZZZZ	2Q36488.D	09/24/19 00:14	OP76910	(unrelated sample)
S2Q568-CC568	2Q36489.D	09/24/19 00:30	n/a	Continuing cal 20
OP76932-BS	2Q36491.D	09/24/19 01:02	OP76932	Blank Spike
OP76932-MB	2Q36492.D	09/24/19 01:18	OP76932	Method Blank
ZZZZZZ	2Q36493.D	09/24/19 01:33	OP76932	(unrelated sample)
ZZZZZZ	2Q36494.D	09/24/19 01:49	OP76932	(unrelated sample)
ZZZZZZ	2Q36495.D	09/24/19 02:05	OP76932	(unrelated sample)
ZZZZZZ	2Q36496.D	09/24/19 02:21	OP76932	(unrelated sample)

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q568 **Method:** EPA 537M BY ID **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	2Q36497.D	09/24/19 02:37	OP76932	(unrelated sample)
ZZZZZZ	2Q36498.D	09/24/19 02:53	OP76932	(unrelated sample)
JC95193-3	2Q36499.D	09/24/19 03:08	OP76932	(used for QC only; not part of job JC95316)
S2Q568-CC568	2Q36501.D	09/24/19 03:40	n/a	Continuing cal 20
ZZZZZZ	2Q36503.D	09/24/19 04:12	OP76932	(unrelated sample)
ZZZZZZ	2Q36504.D	09/24/19 04:28	OP76932	(unrelated sample)
ZZZZZZ	2Q36505.D	09/24/19 04:43	OP76932	(unrelated sample)
ZZZZZZ	2Q36506.D	09/24/19 04:59	OP76932	(unrelated sample)
ZZZZZZ	2Q36507.D	09/24/19 05:15	OP76932	(unrelated sample)
ZZZZZZ	2Q36508.D	09/24/19 05:31	OP76932	(unrelated sample)
ZZZZZZ	2Q36509.D	09/24/19 05:47	OP76932	(unrelated sample)
ZZZZZZ	2Q36510.D	09/24/19 06:02	OP76932	(unrelated sample)
FA68185-25	2Q36511.D	09/24/19 06:18	OP76932	(used for QC only; not part of job JC95316)
S2Q568-CC568	2Q36513.D	09/24/19 06:50	n/a	Continuing cal 20
ZZZZZZ	2Q36515.D	09/24/19 07:21	OP76932	(unrelated sample)
ZZZZZZ	2Q36516.D	09/24/19 07:38	OP76932	(unrelated sample)
ZZZZZZ	2Q36518.D	09/24/19 08:09	OP76932	(unrelated sample)
ZZZZZZ	2Q36519.D	09/24/19 08:27	OP76910	(unrelated sample)
S2Q568-ECC568	2Q36520.D	09/24/19 08:46	n/a	Ending cal 20

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q570 **Method:** EPA 537M QSM5.1 B-1 **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S2Q570-IBLK	2Q36598.D	09/25/19 07:56	n/a	Method Blank
S2Q570-IBLK	2Q36598.D	09/25/19 07:56	n/a	Method Blank
S2Q570-CC568	2Q36599.D	09/25/19 08:12	n/a	Continuing cal 1
S2Q570-CC568	2Q36600.D	09/25/19 08:28	n/a	Continuing cal 20
FA68270-2	2Q36601.D	09/25/19 08:44	OP76945	(used for QC only; not part of job JC95316)
OP76945-MS	2Q36602.D	09/25/19 09:00	OP76945	Matrix Spike
OP76945-MSD	2Q36603.D	09/25/19 09:16	OP76945	Matrix Spike Duplicate
ZZZZZZ	2Q36604.D	09/25/19 09:32	OP76945	(unrelated sample)
ZZZZZZ	2Q36605.D	09/25/19 09:47	OP76945	(unrelated sample)
ZZZZZZ	2Q36606.D	09/25/19 10:03	OP76945	(unrelated sample)
ZZZZZZ	2Q36607.D	09/25/19 10:19	OP76945	(unrelated sample)
ZZZZZZ	2Q36608.D	09/25/19 10:35	OP76945	(unrelated sample)
ZZZZZZ	2Q36609.D	09/25/19 10:51	OP76945	(unrelated sample)
ZZZZZZ	2Q36610.D	09/25/19 11:06	OP76945	(unrelated sample)
S2Q570-CC568	2Q36611.D	09/25/19 11:22	n/a	Continuing cal 20
ZZZZZZ	2Q36613.D	09/25/19 11:54	OP76945	(unrelated sample)
ZZZZZZ	2Q36614.D	09/25/19 12:10	OP76945	(unrelated sample)
FA68185-25	2Q36615.D	09/25/19 12:26	OP76932	(used for QC only; not part of job JC95316)
OP76932-DUP	2Q36616.D	09/25/19 12:42	OP76932	Duplicate
ZZZZZZ	2Q36617.D	09/25/19 12:59	OP76932	(unrelated sample)
S2Q570-CC568	2Q36618.D	09/25/19 13:15	n/a	Continuing cal 20
S2Q570-CC568	2Q36620.D	09/25/19 13:47	n/a	Continuing cal 1
OP76984-BS	2Q36621.D	09/25/19 14:04	OP76984	Blank Spike
OP76984-MB	2Q36622.D	09/25/19 14:20	OP76984	Method Blank
ZZZZZZ	2Q36623.D	09/25/19 14:36	OP76984	(unrelated sample)
FA68299-2	2Q36624.D	09/25/19 14:51	OP76984	(used for QC only; not part of job JC95316)
OP76984-MS	2Q36625.D	09/25/19 15:07	OP76984	Matrix Spike
ZZZZZZ	2Q36626.D	09/25/19 15:23	OP76984	(unrelated sample)
ZZZZZZ	2Q36627.D	09/25/19 15:39	OP76984	(unrelated sample)
S2Q570-CC568	2Q36629.D	09/25/19 16:26	n/a	Continuing cal 20
ZZZZZZ	2Q36631.D	09/25/19 16:42	OP76984	(unrelated sample)
ZZZZZZ	2Q36632.D	09/25/19 16:58	OP76984	(unrelated sample)
FA68300-3	2Q36633.D	09/25/19 17:14	OP76984	(used for QC only; not part of job JC95316)
OP76984-DUP	2Q36634.D	09/25/19 17:30	OP76984	Duplicate
ZZZZZZ	2Q36635.D	09/25/19 17:45	OP76984	(unrelated sample)
S2Q570-CC568	2Q36637.D	09/25/19 18:17	n/a	Continuing cal 20
OP76966-BS	2Q36639.D	09/25/19 18:49	OP76966	Blank Spike
OP76966-MB	2Q36640.D	09/25/19 19:04	OP76966	Method Blank
FA68249-1	2Q36641.D	09/25/19 19:20	OP76966	(used for QC only; not part of job JC95316)
OP76966-MS	2Q36642.D	09/25/19 19:36	OP76966	Matrix Spike
FA68249-2	2Q36643.D	09/25/19 19:52	OP76966	(used for QC only; not part of job JC95316)
OP76966-DUP	2Q36644.D	09/25/19 20:08	OP76966	Duplicate
ZZZZZZ	2Q36645.D	09/25/19 20:23	OP76966	(unrelated sample)
ZZZZZZ	2Q36646.D	09/25/19 20:39	OP76966	(unrelated sample)
S2Q570-CC568	2Q36648.D	09/25/19 21:11	n/a	Continuing cal 20
OP76964-BS	2Q36650.D	09/25/19 21:43	OP76964	Blank Spike

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q570 **Method:** EPA 537M QSM5.1 B-1 **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
OP76964-MB	2Q36651.D	09/25/19 21:58	OP76964	Method Blank
ZZZZZZ	2Q36652.D	09/25/19 22:14	OP76964	(unrelated sample)
ZZZZZZ	2Q36653.D	09/25/19 22:30	OP76964	(unrelated sample)
ZZZZZZ	2Q36654.D	09/25/19 22:46	OP76964	(unrelated sample)
ZZZZZZ	2Q36655.D	09/25/19 23:02	OP76964	(unrelated sample)
ZZZZZZ	2Q36656.D	09/25/19 23:17	OP76964	(unrelated sample)
ZZZZZZ	2Q36657.D	09/25/19 23:33	OP76964	(unrelated sample)
ZZZZZZ	2Q36658.D	09/25/19 23:49	OP76964	(unrelated sample)
ZZZZZZ	2Q36659.D	09/26/19 00:05	OP76964	(unrelated sample)
S2Q570-CC568	2Q36660.D	09/26/19 00:21	n/a	Continuing cal 20
JC95269-4	2Q36662.D	09/26/19 00:52	OP76964	(used for QC only; not part of job JC95316)
OP76964-MS	2Q36663.D	09/26/19 01:08	OP76964	Matrix Spike
JC95269-5	2Q36664.D	09/26/19 01:24	OP76964	(used for QC only; not part of job JC95316)
JC95316-1	2Q36665.D	09/26/19 01:40	OP76964	MW15D-MATT-091819
JC95316-2	2Q36666.D	09/26/19 01:56	OP76964	MW10D-MATT-091919
JC95316-3	2Q36667.D	09/26/19 02:11	OP76964	MW10S-MATT-091919
JC95316-4	2Q36668.D	09/26/19 02:27	OP76964	MW13S-MATT-091919
JC95316-5	2Q36669.D	09/26/19 02:43	OP76964	EB4-MATT-091919
OP76964-DUP	2Q36670.D	09/26/19 02:59	OP76964	Duplicate
JC95316-6	2Q36671.D	09/26/19 03:15	OP76964	MW13D-MATT-091919
S2Q570-CC568	2Q36672.D	09/26/19 03:30	n/a	Continuing cal 20
ZZZZZZ	2Q36674.D	09/26/19 04:02	OP76913	(unrelated sample)
ZZZZZZ	2Q36675.D	09/26/19 04:18	OP76913	(unrelated sample)
S2Q570-CC568	2Q36677.D	09/26/19 04:50	n/a	Continuing cal 20
S2Q570-CC568	2Q36679.D	09/26/19 05:21	n/a	Continuing cal 1
ZZZZZZ	2Q36681.D	09/26/19 05:53	OP76966	(unrelated sample)
ZZZZZZ	2Q36682.D	09/26/19 06:09	OP76966	(unrelated sample)
ZZZZZZ	2Q36683.D	09/26/19 06:24	OP76966	(unrelated sample)
ZZZZZZ	2Q36684.D	09/26/19 06:40	OP76966	(unrelated sample)
ZZZZZZ	2Q36685.D	09/26/19 06:56	OP76966	(unrelated sample)
ZZZZZZ	2Q36686.D	09/26/19 07:12	OP76966	(unrelated sample)
ZZZZZZ	2Q36687.D	09/26/19 07:28	OP76966	(unrelated sample)
ZZZZZZ	2Q36688.D	09/26/19 07:44	OP76966	(unrelated sample)
ZZZZZZ	2Q36689.D	09/26/19 08:00	OP76966	(unrelated sample)
S2Q570-CC568	2Q36690.D	09/26/19 08:16	n/a	Continuing cal 20
ZZZZZZ	2Q36692.D	09/26/19 08:47	OP76966	(unrelated sample)
ZZZZZZ	2Q36693.D	09/26/19 09:03	OP76966	(unrelated sample)
ZZZZZZ	2Q36694.D	09/26/19 09:19	OP76966	(unrelated sample)
ZZZZZZ	2Q36696.D	09/26/19 09:50	OP76966	(unrelated sample)
S2Q570-ECC568	2Q36697.D	09/26/19 10:05	n/a	Ending cal 20

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q571 **Method:** EPA 537M BY ID **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S2Q571-IBLK	2Q36700.D	09/26/19 10:57	n/a	Method Blank
S2Q571-IBLK	2Q36700.D	09/26/19 10:57	n/a	Method Blank
S2Q571-CC568	2Q36701.D	09/26/19 11:12	n/a	Continuing cal 1
S2Q571-CC568	2Q36702.D	09/26/19 11:28	n/a	Continuing cal 20
FA68185-1	2Q36703.D	09/26/19 11:52	OP76936	(used for QC only; not part of job JC95316)
OP76936-MS	2Q36704.D	09/26/19 12:08	OP76936	Matrix Spike
FA68185-2	2Q36705.D	09/26/19 12:23	OP76936	(used for QC only; not part of job JC95316)
FA68185-2	2Q36706.D	09/26/19 12:40	OP76936	(used for QC only; not part of job JC95316)
OP76936-DUP	2Q36707.D	09/26/19 12:56	OP76936	Duplicate
ZZZZZZ	2Q36708.D	09/26/19 13:13	OP76936	(unrelated sample)
ZZZZZZ	2Q36709.D	09/26/19 13:29	OP76936	(unrelated sample)
ZZZZZZ	2Q36710.D	09/26/19 13:44	OP76936	(unrelated sample)
ZZZZZZ	2Q36711.D	09/26/19 14:00	OP76936	(unrelated sample)
S2Q571-CC568	2Q36712.D	09/26/19 14:16	n/a	Continuing cal 20
ZZZZZZ	2Q36714.D	09/26/19 14:48	OP76936	(unrelated sample)
ZZZZZZ	2Q36715.D	09/26/19 15:04	OP76936	(unrelated sample)
ZZZZZZ	2Q36717.D	09/26/19 15:35	OP76936	(unrelated sample)
ZZZZZZ	2Q36719.D	09/26/19 16:07	OP76936	(unrelated sample)
ZZZZZZ	2Q36720.D	09/26/19 16:23	OP76936	(unrelated sample)
ZZZZZZ	2Q36721.D	09/26/19 16:38	OP76936	(unrelated sample)
ZZZZZZ	2Q36722.D	09/26/19 16:54	OP76936	(unrelated sample)
ZZZZZZ	2Q36723.D	09/26/19 17:10	OP76936	(unrelated sample)
S2Q571-CC568	2Q36724.D	09/26/19 17:26	n/a	Continuing cal 20
ZZZZZZ	2Q36726.D	09/26/19 17:57	OP76936	(unrelated sample)
ZZZZZZ	2Q36727.D	09/26/19 18:13	OP76936	(unrelated sample)
ZZZZZZ	2Q36728.D	09/26/19 18:29	OP76936	(unrelated sample)
ZZZZZZ	2Q36729.D	09/26/19 18:45	OP76936	(unrelated sample)
ZZZZZZ	2Q36730.D	09/26/19 19:01	OP76936	(unrelated sample)
ZZZZZZ	2Q36731.D	09/26/19 19:17	OP76936	(unrelated sample)
ZZZZZZ	2Q36732.D	09/26/19 19:32	OP76936	(unrelated sample)
S2Q571-CC568	2Q36733.D	09/26/19 19:48	n/a	Continuing cal 20
ZZZZZZ	2Q36735.D	09/26/19 20:20	OP76964	(unrelated sample)
ZZZZZZ	2Q36736.D	09/26/19 20:36	OP76964	(unrelated sample)
JC95316-1	2Q36737.D	09/26/19 20:51	OP76964	MW15D-MATT-091819
JC95316-2	2Q36738.D	09/26/19 21:07	OP76964	MW10D-MATT-091919
JC95316-4	2Q36739.D	09/26/19 21:23	OP76964	MW13S-MATT-091919
JC95316-6	2Q36740.D	09/26/19 21:39	OP76964	MW13D-MATT-091919
S2Q571-CC568	2Q36741.D	09/26/19 21:55	n/a	Continuing cal 20
S2Q571-CC568	2Q36743.D	09/26/19 22:26	n/a	Continuing cal 1
ZZZZZZ	2Q36745.D	09/26/19 22:58	OP76966	(unrelated sample)
ZZZZZZ	2Q36746.D	09/26/19 23:14	OP76966	(unrelated sample)
ZZZZZZ	2Q36747.D	09/26/19 23:30	OP76966	(unrelated sample)
ZZZZZZ	2Q36748.D	09/26/19 23:45	OP76966	(unrelated sample)
ZZZZZZ	2Q36749.D	09/27/19 00:01	OP76966	(unrelated sample)
ZZZZZZ	2Q36750.D	09/27/19 00:17	OP76966	(unrelated sample)
ZZZZZZ	2Q36751.D	09/27/19 00:33	OP76966	(unrelated sample)

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q571 **Method:** EPA 537M BY ID **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S2Q571-CC568	2Q36752.D	09/27/19 00:49	n/a	Continuing cal 20
OP76988-BS	2Q36754.D	09/27/19 01:20	OP76988	Blank Spike
OP76988-MB	2Q36755.D	09/27/19 01:36	OP76988	Method Blank
ZZZZZZ	2Q36756.D	09/27/19 01:52	OP76988	(unrelated sample)
ZZZZZZ	2Q36758.D	09/27/19 02:24	OP76988	(unrelated sample)
ZZZZZZ	2Q36760.D	09/27/19 02:55	OP76988	(unrelated sample)
ZZZZZZ	2Q36762.D	09/27/19 03:27	OP76988	(unrelated sample)
S2Q571-CC568	2Q36764.D	09/27/19 03:58	n/a	Continuing cal 20
FA68304-3	2Q36766.D	09/27/19 04:30	OP76988	(used for QC only; not part of job JC95316)
ZZZZZZ	2Q36769.D	09/27/19 05:17	OP76988	(unrelated sample)
S2Q571-CC568	2Q36770.D	09/27/19 05:33	n/a	Continuing cal 20
OP76944-BS	2Q36772.D	09/27/19 06:05	OP76944	Blank Spike
OP76944-MB	2Q36773.D	09/27/19 06:21	OP76944	Method Blank
ZZZZZZ	2Q36774.D	09/27/19 06:37	OP76944	(unrelated sample)
ZZZZZZ	2Q36775.D	09/27/19 06:52	OP76944	(unrelated sample)
ZZZZZZ	2Q36776.D	09/27/19 07:08	OP76944	(unrelated sample)
ZZZZZZ	2Q36777.D	09/27/19 07:24	OP76944	(unrelated sample)
ZZZZZZ	2Q36778.D	09/27/19 07:40	OP76944	(unrelated sample)
OP76944-MS	2Q36780.D	09/27/19 08:13	OP76944	Matrix Spike
OP76944-MSD	2Q36781.D	09/27/19 08:28	OP76944	Matrix Spike Duplicate
S2Q571-CC568	2Q36782.D	09/27/19 08:44	n/a	Continuing cal 20
ZZZZZZ	2Q36785.D	09/27/19 09:32	OP76944	(unrelated sample)
ZZZZZZ	2Q36786.D	09/27/19 09:47	OP76944	(unrelated sample)
OP76988-MS	2Q36788.D	09/27/19 10:03	OP76988	Matrix Spike
OP76988-MSD	2Q36789.D	09/27/19 10:19	OP76988	Matrix Spike Duplicate
FA68304-3	2Q36790.D	09/27/19 10:36	OP76988	(used for QC only; not part of job JC95316)
ZZZZZZ	2Q36791.D	09/27/19 10:51	OP76988	(unrelated sample)
ZZZZZZ	2Q36792.D	09/27/19 11:07	OP76944	(unrelated sample)
FA68180-6	2Q36793.D	09/27/19 11:23	OP76944	(used for QC only; not part of job JC95316)
S2Q571-CC568	2Q36794.D	09/27/19 11:39	n/a	Continuing cal 20
ZZZZZZ	2Q36796.D	09/27/19 12:11	OP76944	(unrelated sample)
ZZZZZZ	2Q36798.D	09/27/19 12:42	OP76944	(unrelated sample)
ZZZZZZ	2Q36799.D	09/27/19 12:58	OP76944	(unrelated sample)
ZZZZZZ	2Q36800.D	09/27/19 13:14	OP76944	(unrelated sample)
ZZZZZZ	2Q36801.D	09/27/19 13:30	OP76944	(unrelated sample)
ZZZZZZ	2Q36802.D	09/27/19 13:45	OP76944	(unrelated sample)
ZZZZZZ	2Q36803.D	09/27/19 14:01	OP76944	(unrelated sample)
ZZZZZZ	2Q36804.D	09/27/19 14:16	OP76944	(unrelated sample)
S2Q571-CC568	2Q36805.D	09/27/19 14:32	n/a	Continuing cal 20
OP77020-BS	2Q36807.D	09/27/19 15:04	OP77020	Blank Spike
OP77020-MB	2Q36808.D	09/27/19 15:19	OP77020	Method Blank
FA68375-1	2Q36809.D	09/27/19 15:35	OP77020	(used for QC only; not part of job JC95316)
OP77020-MS	2Q36810.D	09/27/19 15:51	OP77020	Matrix Spike
OP77020-MSD	2Q36811.D	09/27/19 16:07	OP77020	Matrix Spike Duplicate
ZZZZZZ	2Q36812.D	09/27/19 16:23	OP77020	(unrelated sample)
S2Q571-CC568	2Q36813.D	09/27/19 16:39	n/a	Continuing cal 20

Run Sequence Report

Job Number: JC95316
Account: ALNJ SGS Dayton, NJ
Project: INTCWAO: CF1165, Thorofare,NJ

Run ID: S2Q571 **Method:** EPA 537M BY ID **Instrument ID:** GCMS2Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	2Q36815.D	09/27/19 17:10	OP76936	(unrelated sample)
ZZZZZZ	2Q36816.D	09/27/19 17:26	OP76936	(unrelated sample)
ZZZZZZ	2Q36817.D	09/27/19 17:42	OP76936	(unrelated sample)
ZZZZZZ	2Q36818.D	09/27/19 17:58	OP76944	(unrelated sample)
ZZZZZZ	2Q36819.D	09/27/19 18:13	OP76988	(unrelated sample)
S2Q571-CC568	2Q36821.D	09/27/19 18:45	n/a	Continuing cal 20
S2Q571-CC568	2Q36823.D	09/27/19 19:17	n/a	Continuing cal 1
OP76989-MB	2Q36824.D	09/27/19 19:32	OP76989	Method Blank
OP76989-BS	2Q36825.D	09/27/19 19:48	OP76989	Blank Spike
FA68298-1	2Q36826.D	09/27/19 20:04	OP76989	(used for QC only; not part of job JC95316)
OP76989-MS	2Q36827.D	09/27/19 20:20	OP76989	Matrix Spike
OP76989-MSD	2Q36828.D	09/27/19 20:36	OP76989	Matrix Spike Duplicate
ZZZZZZ	2Q36829.D	09/27/19 20:52	OP76989	(unrelated sample)
ZZZZZZ	2Q36830.D	09/27/19 21:07	OP76989	(unrelated sample)
ZZZZZZ	2Q36831.D	09/27/19 21:23	OP76989	(unrelated sample)
ZZZZZZ	2Q36832.D	09/27/19 21:39	OP76989	(unrelated sample)
ZZZZZZ	2Q36833.D	09/27/19 21:55	OP76989	(unrelated sample)
S2Q571-CC568	2Q36834.D	09/27/19 22:11	n/a	Continuing cal 20
ZZZZZZ	2Q36836.D	09/27/19 22:42	OP76989	(unrelated sample)
ZZZZZZ	2Q36837.D	09/27/19 22:58	OP76989	(unrelated sample)
ZZZZZZ	2Q36839.D	09/27/19 23:30	OP76989	(unrelated sample)
ZZZZZZ	2Q36840.D	09/27/19 23:45	OP76989	(unrelated sample)
ZZZZZZ	2Q36841.D	09/28/19 00:01	OP76989	(unrelated sample)
ZZZZZZ	2Q36842.D	09/28/19 00:17	OP76989	(unrelated sample)
ZZZZZZ	2Q36843.D	09/28/19 00:33	OP76989	(unrelated sample)
S2Q571-ECC568	2Q36844.D	09/28/19 00:49	n/a	Ending cal 20

MS Semi-volatiles

Raw Data

(SGS Orlando, FL)

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:30

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36665.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 1:40:17 AM
Sample Name	:	JC95316-1
Vial	:	Vial 55
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

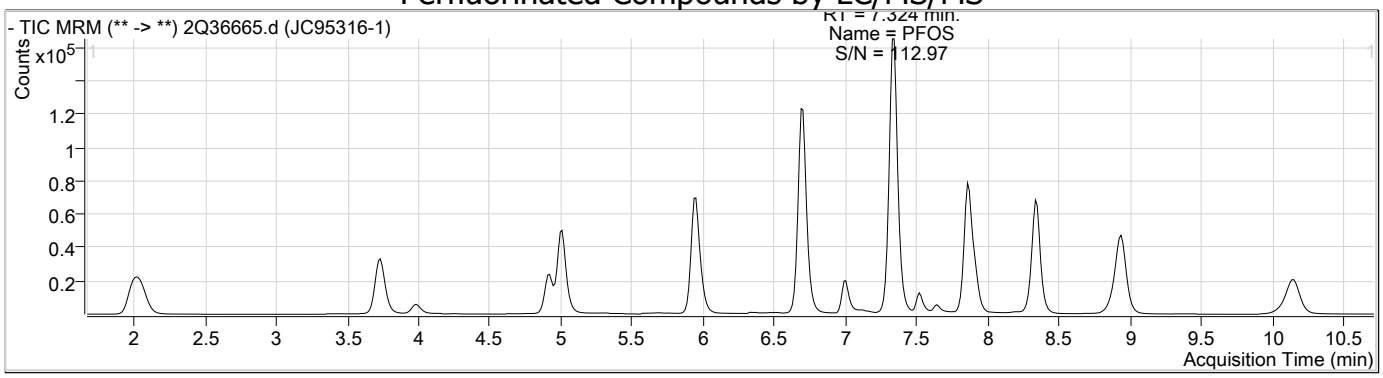
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.015	217.0 -> 172.0	170459	20.00	µg/L	-0.025
M5-PFPeA	3.736	268.0 -> 223.0	141017	20.00	µg/L	0.013
M5-PFHxA	5.013	318.0 -> 273.0	202742	20.00	µg/L	0.025
M4-PFHpA	5.942	367.0 -> 322.0	268264	20.00	µg/L	0.025
M8-PFOA	6.695	421.0 -> 376.0	346181	20.00	µg/L	0.025
M9-PFNA	7.351	472.0 -> 427.0	336845	20.00	µg/L	0.038
M6-PFDA	7.865	519.0 -> 474.0	294406	20.00	µg/L	0.025
M7-PFUnDA	8.338	570.0 -> 525.0	295826	20.00	µg/L	0.026
M2-PFDoDA	8.939	615.0 -> 570.0	279544	20.00	µg/L	0.038
M2-PFTeDA	10.137	715.0 -> 670.0	154679	20.00	µg/L	0.050
M8-FOSA	7.002	506.0 -> 78.0	68229	20.00	µg/L	0.038
M3-PFBS	3.980	302.0 -> 99.0	23058	20.00	µg/L	0.013
M3-PFHxS	5.985	402.0 -> 99.0	25802	20.00	µg/L	0.038
M8-PFOS	7.321	507.0 -> 99.0	26019	20.00	µg/L	0.038
M2-4:2FTS	4.921	329.0 -> 309.0	99459	20.00	µg/L	0.024
M2-6:2FTS	6.692	429.0 -> 409.0	146329	20.00	µg/L	0.025
M2-8:2FTS	7.913	529.0 -> 509.0	72261	20.00	µg/L	0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	37155	20.00	µg/L	0.025
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	99456	17.08	µg/L	0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.4%		
13C2-6:2FTS	6.692	429.0 -> 409.0	146278	18.45	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.3%		
13C2-8:2FTS	7.913	529.0 -> 509.0	72433	13.46	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 67.3%		
13C2-PFDoDA	8.939	615.0 -> 570.0	278131	7.97	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 39.8%		
13C2-PFTeDA	10.137	715.0 -> 670.0	151438	5.68	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 28.4%		
13C3-PFBS	3.980	302.0 -> 99.0	23055	16.87	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.3%		
13C3-PFHxS	5.985	402.0 -> 99.0	25810	17.51	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.6%		
13C4-PFBA	2.015	217.0 -> 172.0	170093	17.37	µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.9%		
13C4-PFHpA	5.942	367.0 -> 322.0	268101	17.60	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.0%		
13C5-PFHxA	5.013	318.0 -> 273.0	202626	17.36	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.8%		
13C5-PFPeA	3.736	268.0 -> 223.0	140982	17.13	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.6%		
13C6-PFDA	7.865	519.0 -> 474.0	294222	13.90	µg/L	0.025

Perfluorinated Compounds by LC/MS/MS

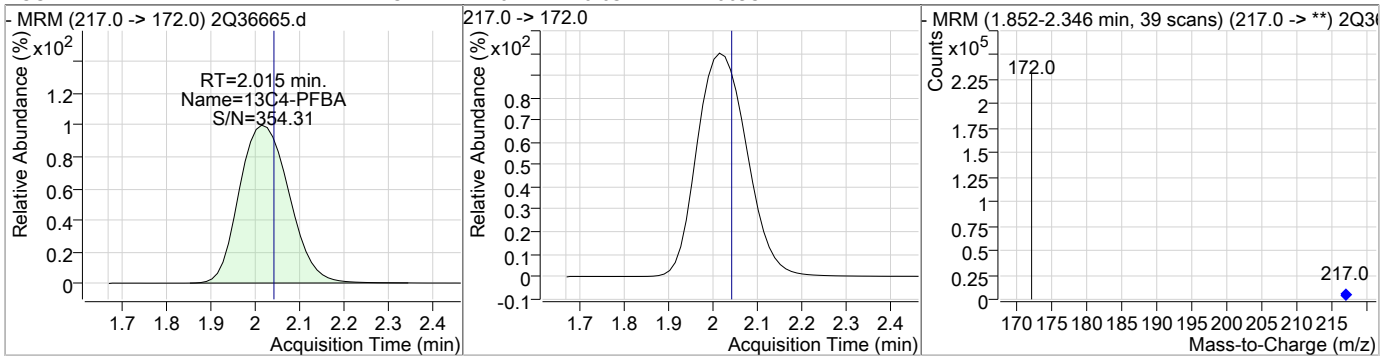
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 69.5%			
13C7-PFUnDA	8.338	570.0 -> 525.0	296131	10.69	µg/L		0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 53.4%			
13C8-FOSA	7.002	506.0 -> 78.0	68189	11.98	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 59.9%			
13C8-PFOA	6.695	421.0 -> 376.0	346051	18.91	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.6%			
13C8-PFOS	7.321	507.0 -> 99.0	26009	13.36	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 66.8%			
13C9-PFNA	7.351	472.0 -> 427.0	336736	17.81	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.1%			
d3-MeFOSAA	7.518	573.0 -> 419.0	37228	11.39	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.0%			
M2-PFOA	-	415.0 -> 370.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
M4-PFOS	-	503.0 -> 80.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.			
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%			
Target Compounds							**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.			
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
FOSA	-	498.0 -> 78.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	2.023	213.0 -> 169.0	4811	3.03	µg/L		100
PFBS	3.983	299.0 -> 80.0	1456	0.80	µg/L		98
PFDA	7.866	513.0 -> 469.0	5156	0.71	µg/L		98
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFDS	-	599.0 -> 80.0	-	N.D.			
PFHpA	5.945	363.0 -> 319.0	17949	1.47	µg/L	m	98
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.015	313.0 -> 269.0	7477	2.40	µg/L		100
PFHxS	5.987	399.0 -> 80.0	1208	0.78	µg/L	m	99
PFNA	7.352	463.0 -> 419.0	268439	25.48	µg/L		100
PFNS	-	549.0 -> 80.0	-	N.D.			
PFOA	6.698	413.0 -> 369.0	25068	2.69	µg/L	m	97
PFOS	7.324	499.0 -> 80.0	18627	15.08	µg/L	m	99
PFPeA	3.740	263.0 -> 219.0	23248	3.27	µg/L		100
PFPeS	-	349.0 -> 80.0	-	N.D.			
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	8.340	563.0 -> 519.0	8218	1.18	µg/L		99
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
HFPO-DA	-	329.0 -> 169.0	-	N.D.			

 # = Qualifier out of range, m = manually integrated, + = Area summed

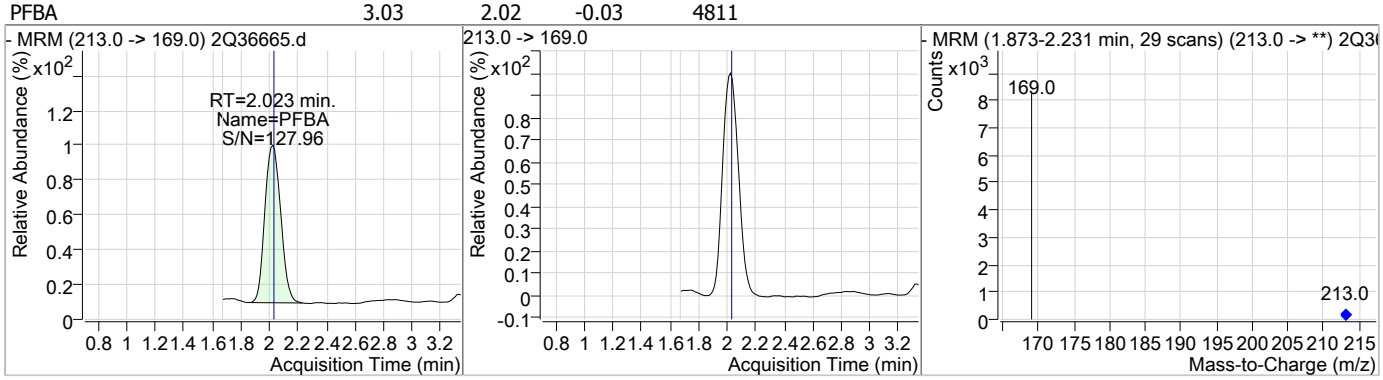
Perfluorinated Compounds by LC/MS/MS



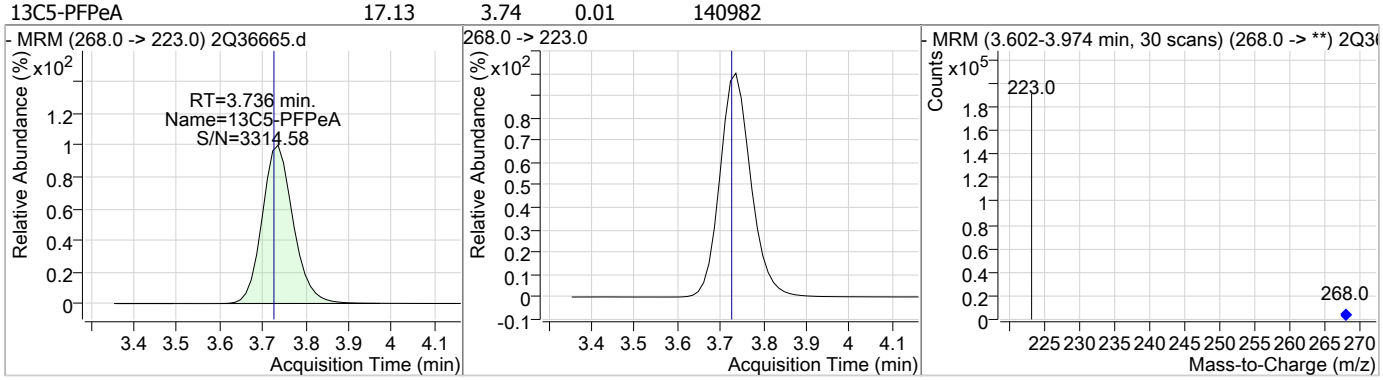
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	17.37	2.01	-0.03	170093				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	3.03	2.02	-0.03	4811				

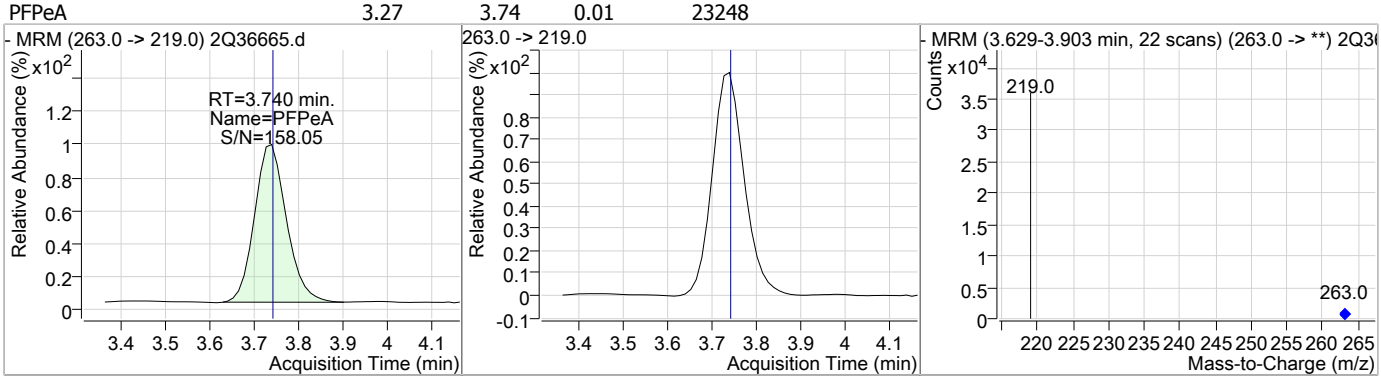


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	17.13	3.74	0.01	140982				

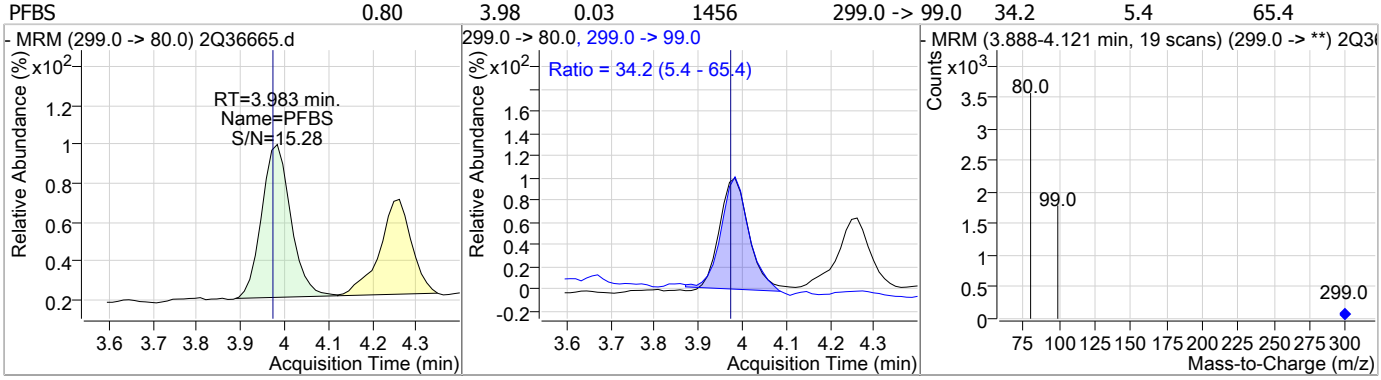


Perfluorinated Compounds by LC/MS/MS

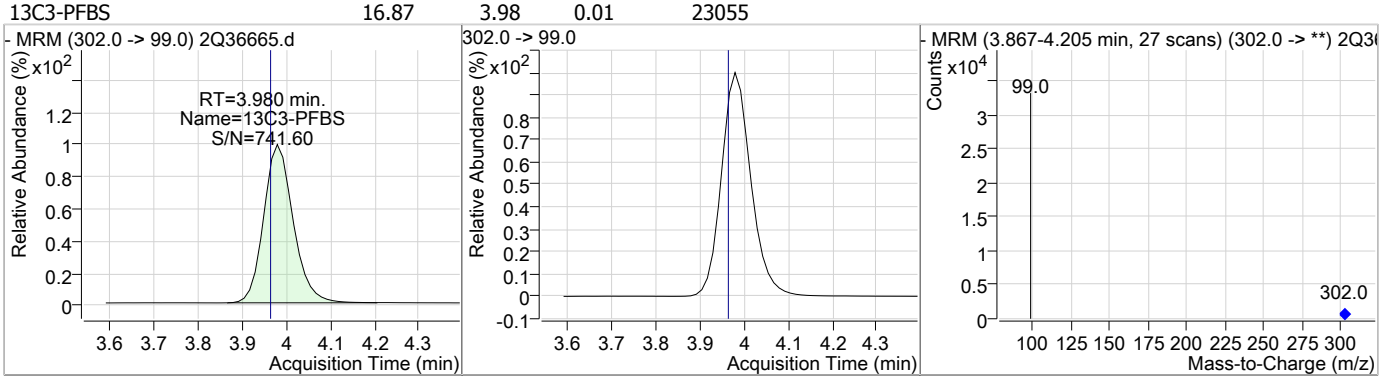
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.27	3.74	0.01	23248				



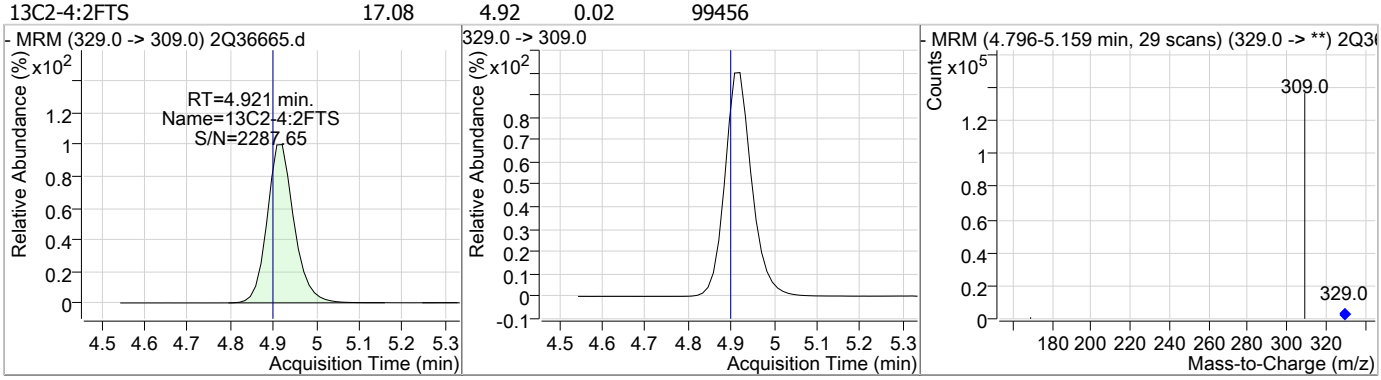
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.80	3.98	0.03	1456	299.0 -> 99.0	34.2	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	16.87	3.98	0.01	23055				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.08	4.92	0.02	99456				



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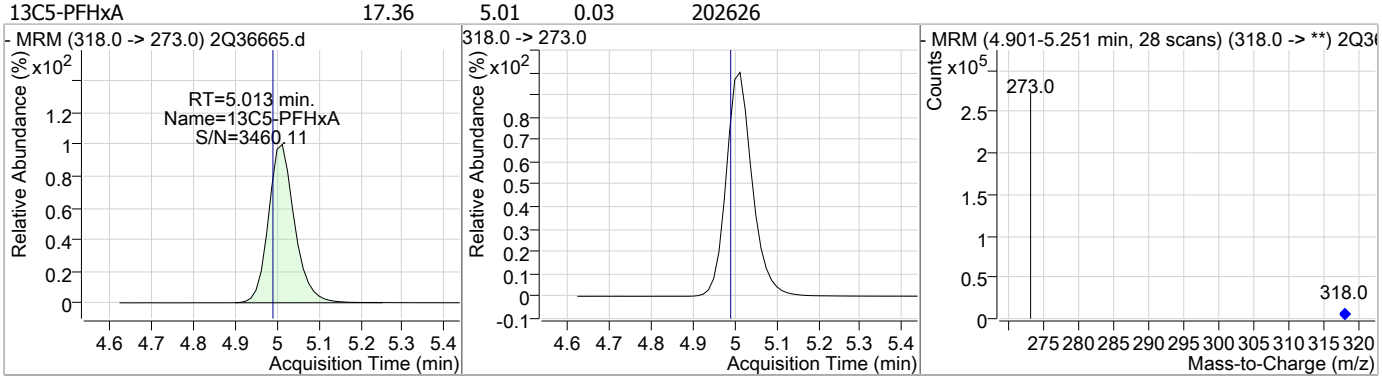
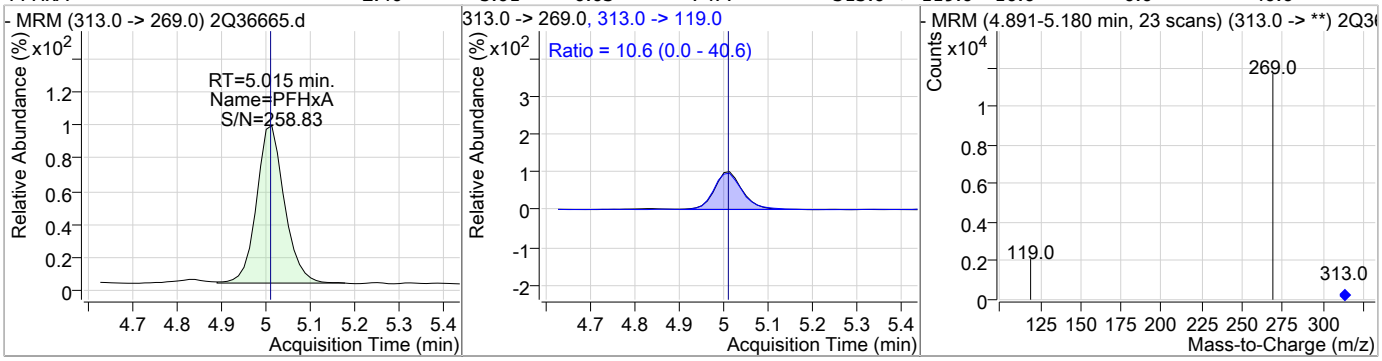
Perfluorinated Compounds by LC/MS/MS

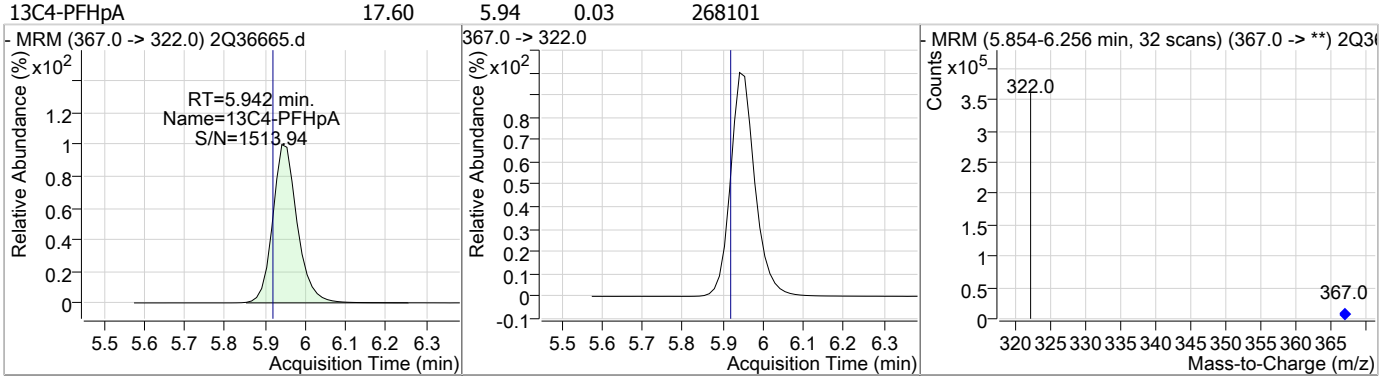
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.36	5.01	0.03	202626				



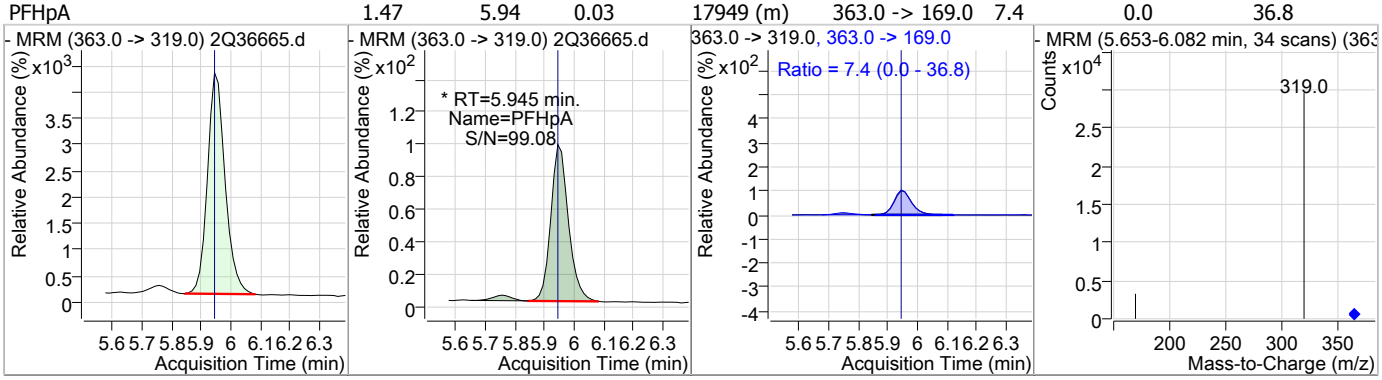
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.40	5.01	0.03	7477	313.0 -> 119.0	10.6	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.60	5.94	0.03	268101				

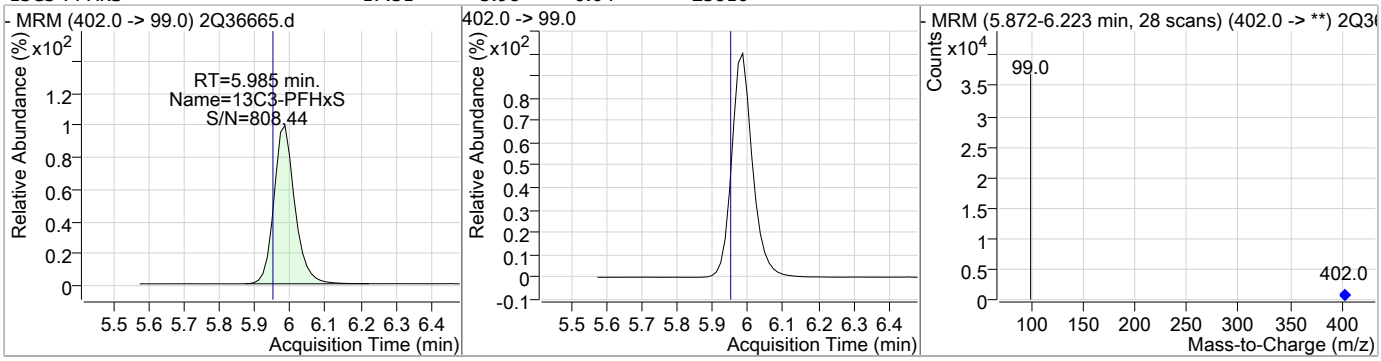


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.47	5.94	0.03	17949 (m)	363.0 -> 169.0	7.4	0.0	36.8

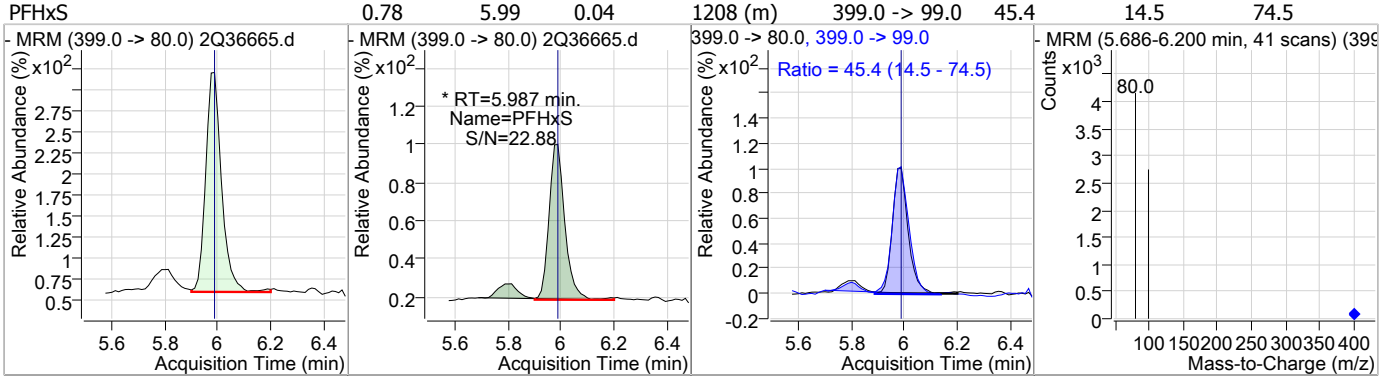


Perfluorinated Compounds by LC/MS/MS

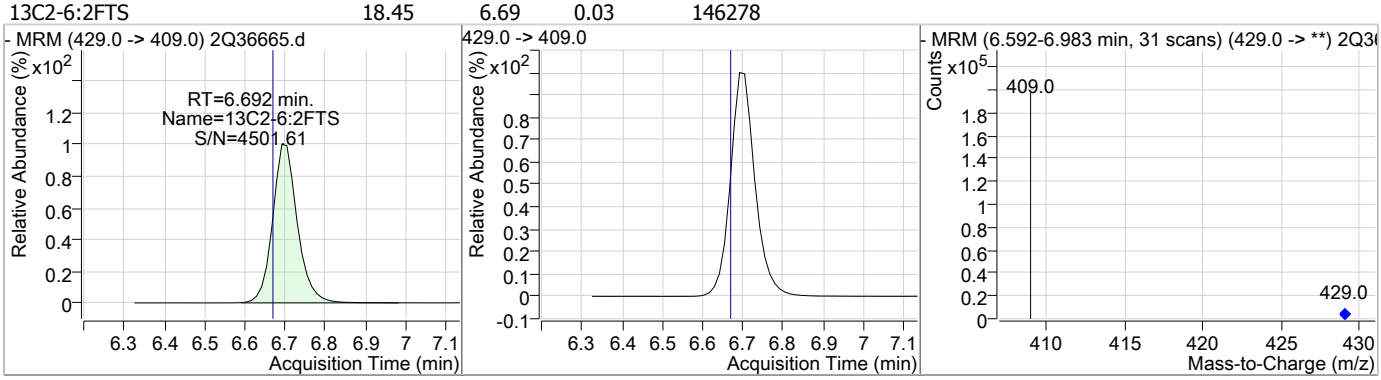
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.51	5.98	0.04	25810				



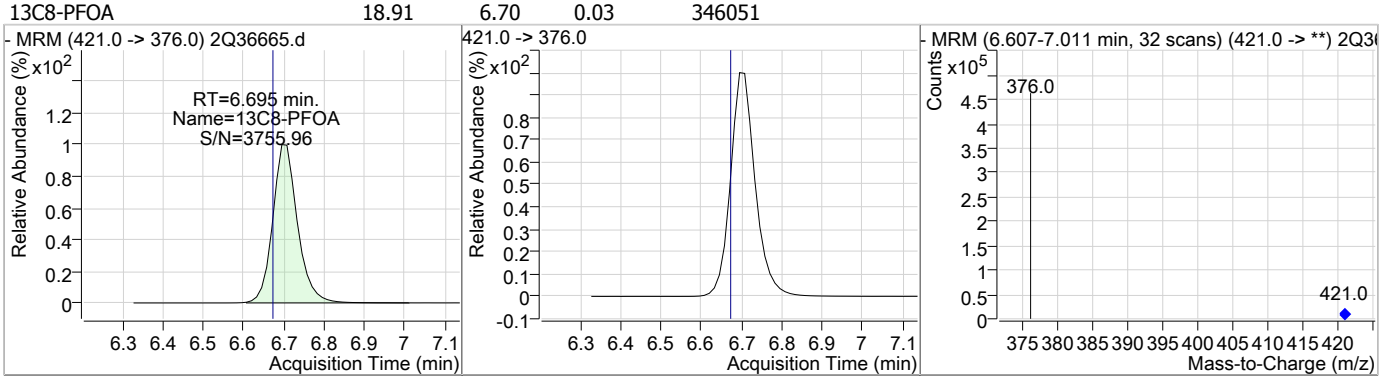
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.78	5.99	0.04	1208 (m)	399.0 -> 99.0	45.4	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.45	6.69	0.03	146278				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.91	6.70	0.03	346051				



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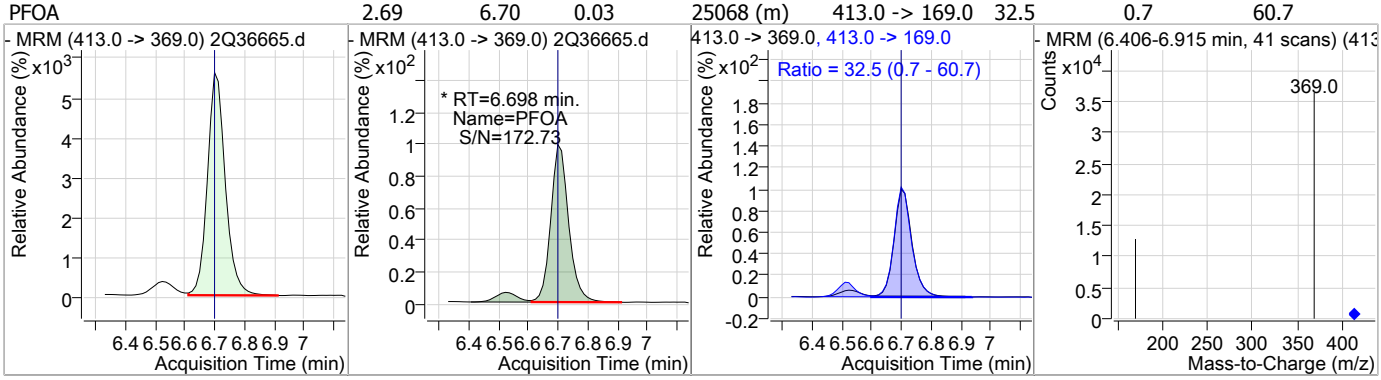
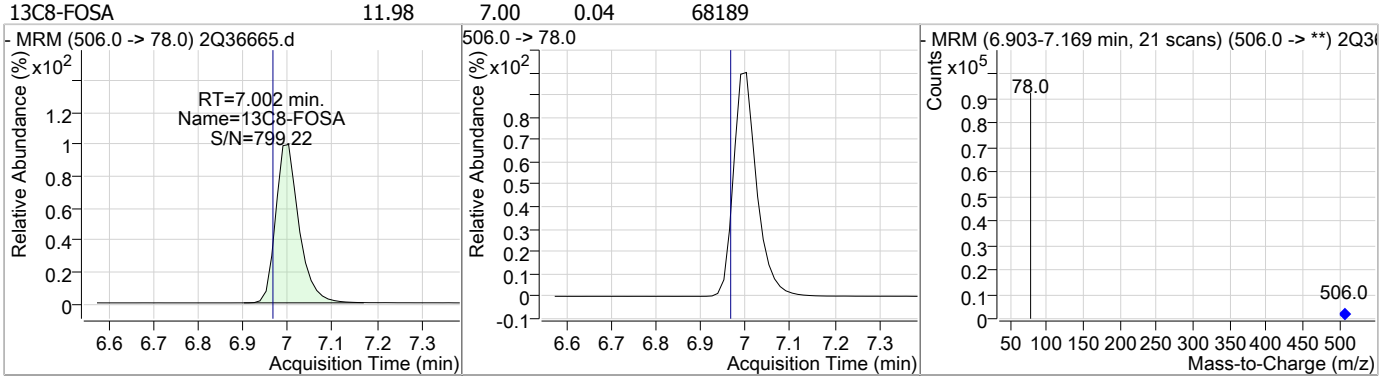
Perfluorinated Compounds by LC/MS/MS

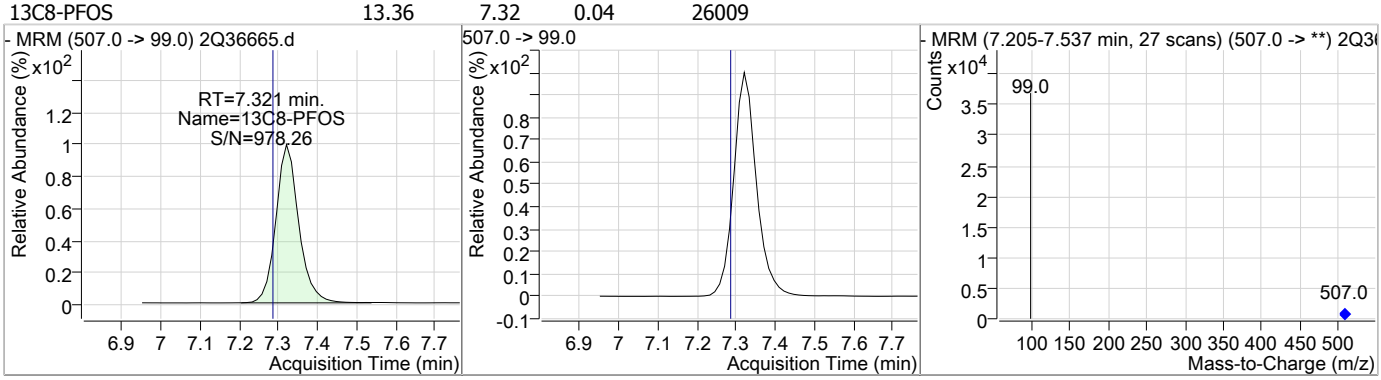
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.69	6.70	0.03	25068 (m)	413.0 -> 169.0	32.5	0.7	60.7



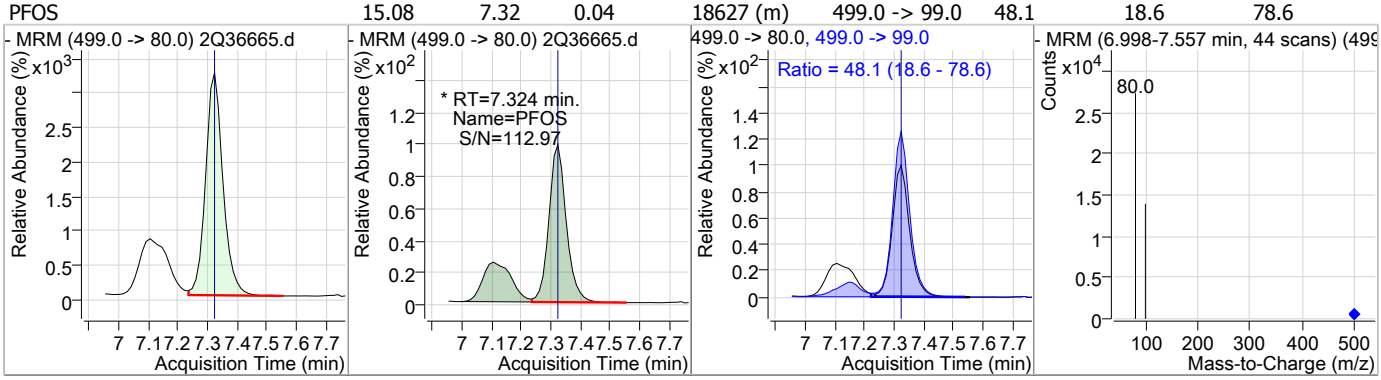
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	11.98	7.00	0.04	68189				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	13.36	7.32	0.04	26009				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	15.08	7.32	0.04	18627 (m)	499.0 -> 99.0	48.1	18.6	78.6



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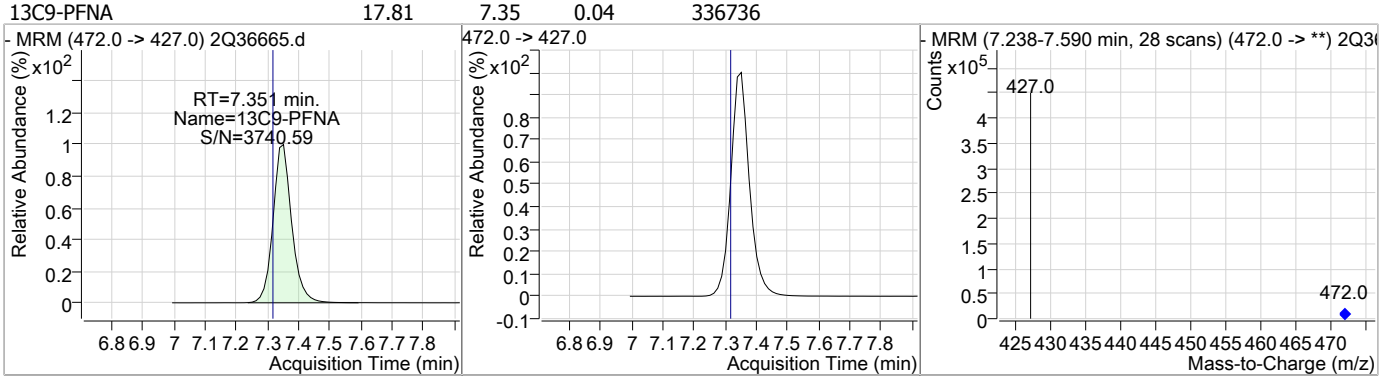
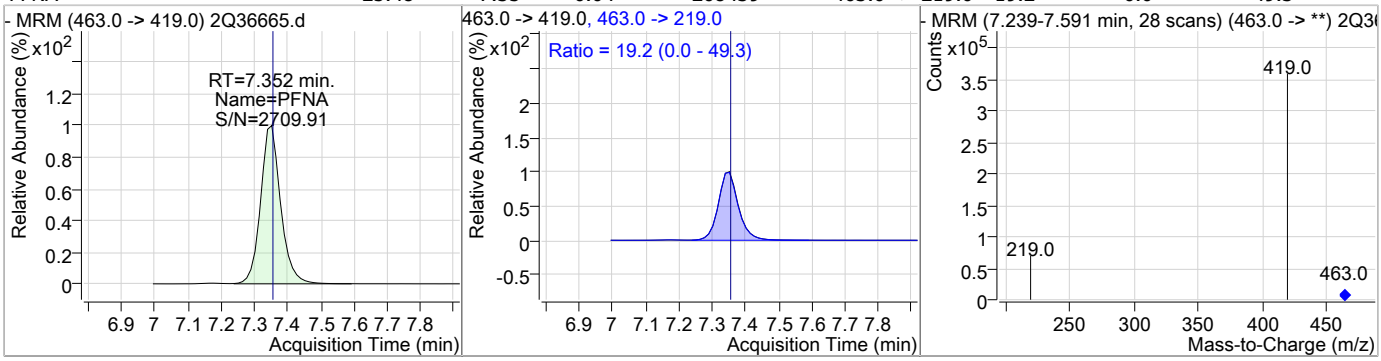
Perfluorinated Compounds by LC/MS/MS

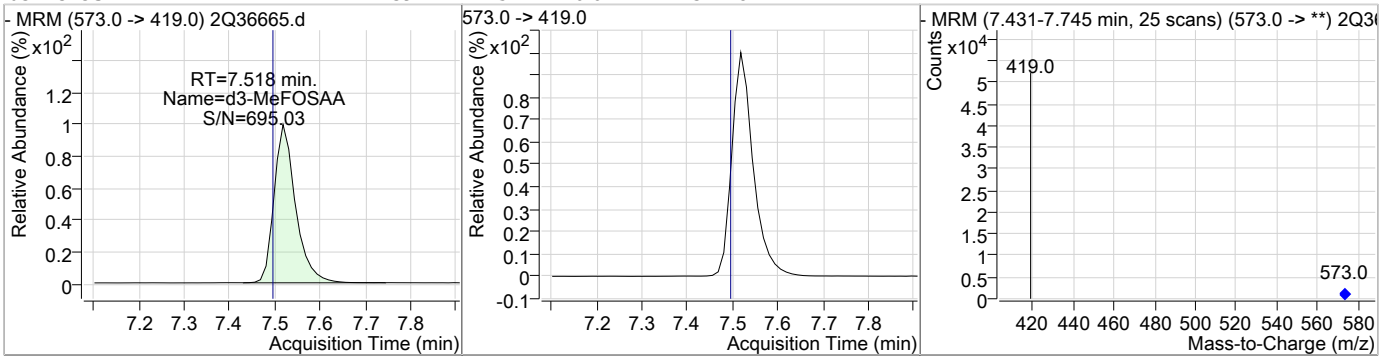
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	17.81	7.35	0.04	336736				



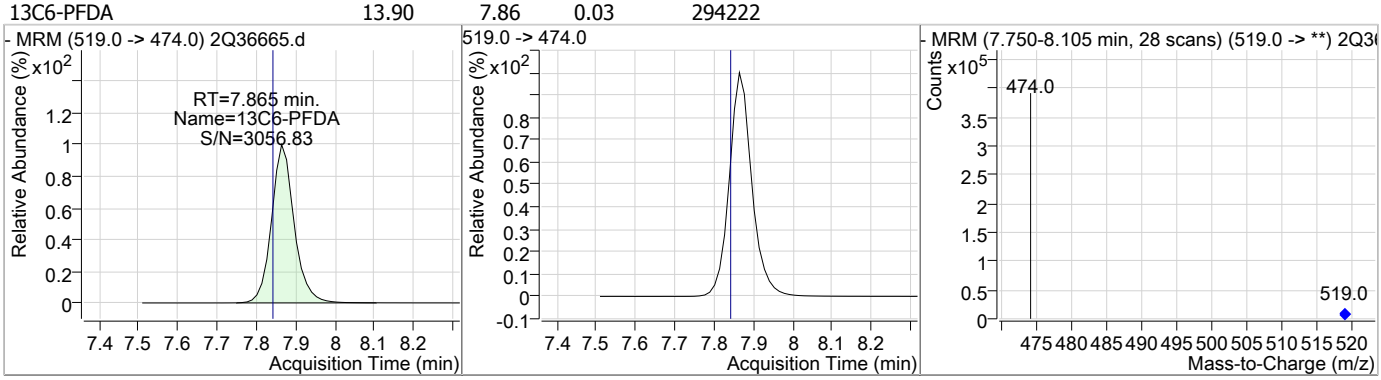
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	25.48	7.35	0.04	268439	463.0 -> 219.0	19.2	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	11.39	7.52	0.02	37228				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	13.90	7.86	0.03	294222				



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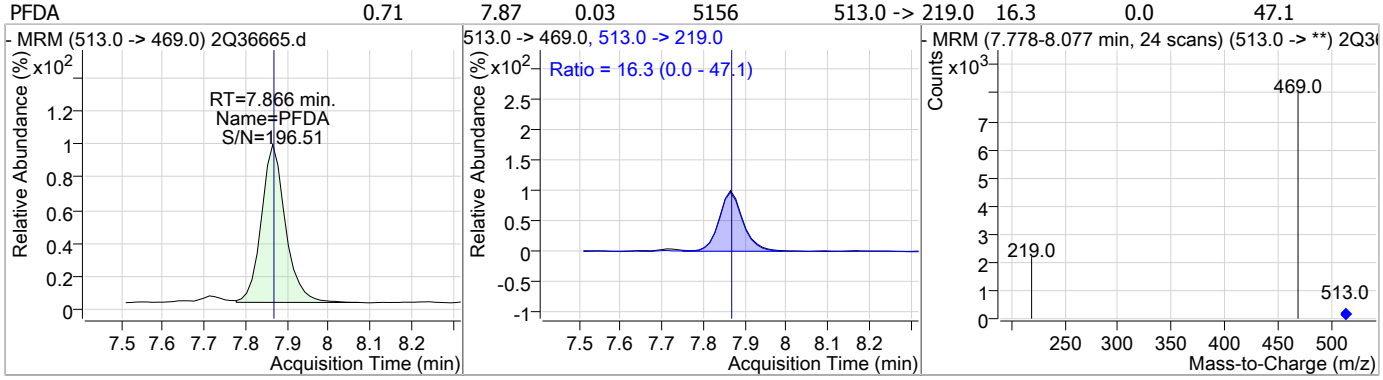
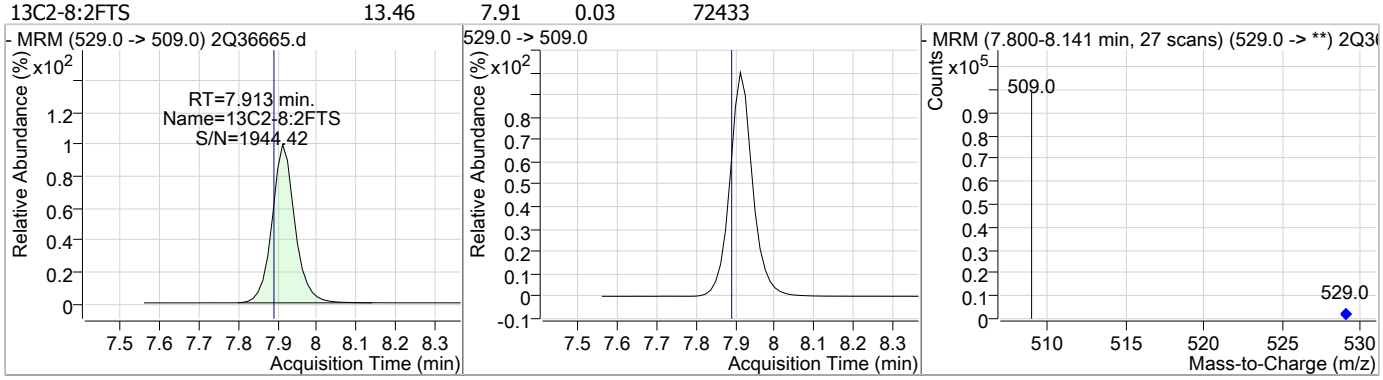
Perfluorinated Compounds by LC/MS/MS

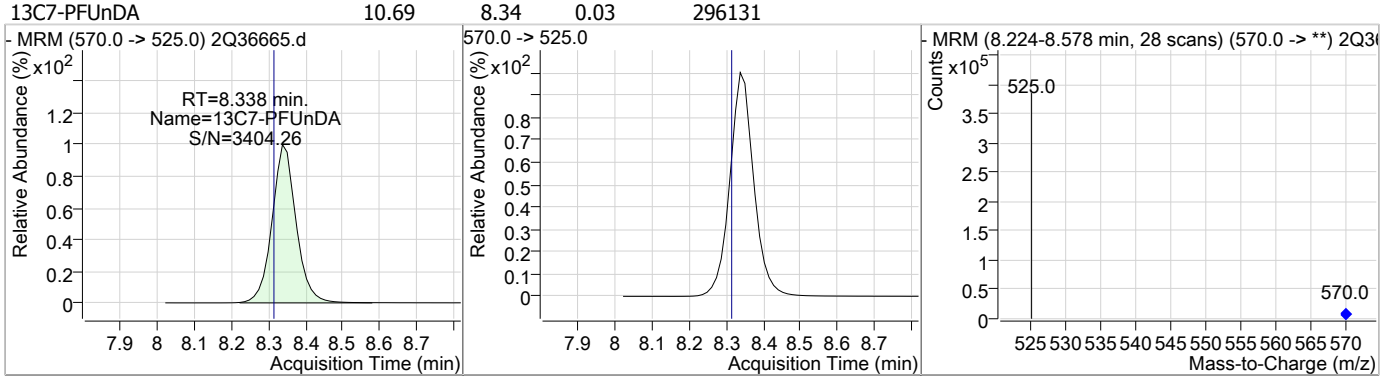
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.71	7.87	0.03	5156	513.0 -> 219.0	16.3	0.0	47.1



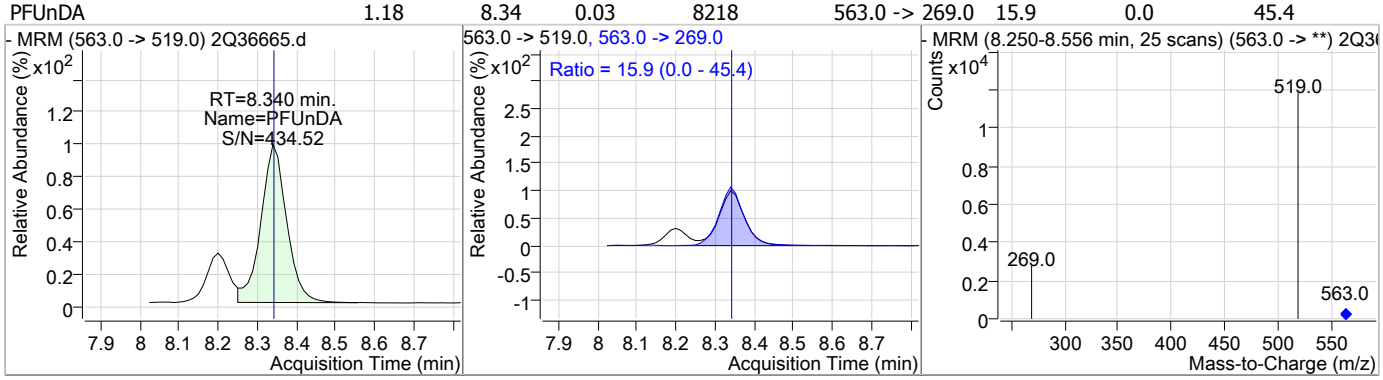
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	13.46	7.91	0.03	72433				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	10.69	8.34	0.03	296131				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.18	8.34	0.03	8218	563.0 -> 269.0	15.9	0.0	45.4



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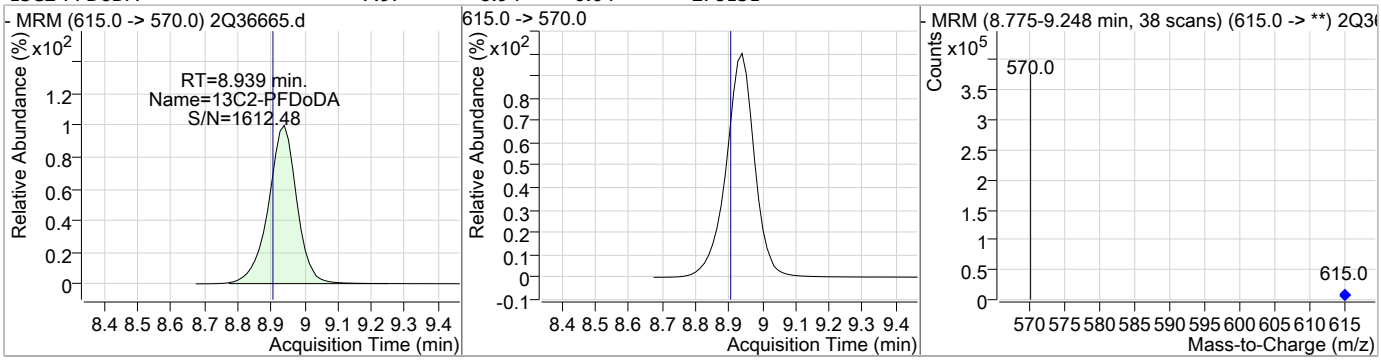
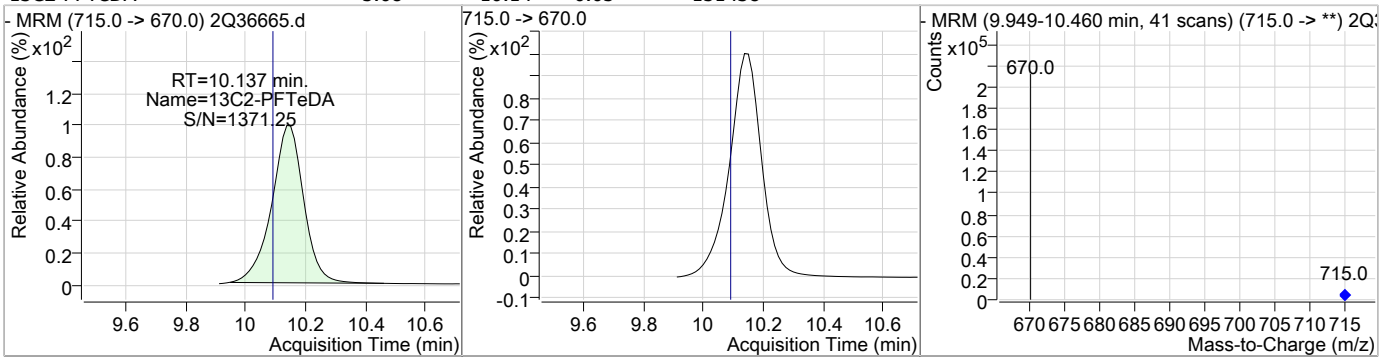
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	7.97	8.94	0.04	278131				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	5.68	10.14	0.05	151438				



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Manual Integration Approval Summary

Sample Number:	JC95316-1	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36665.D	**Analyst approved:**	09/27/19 13:00 Natasha Gumtie
Injection Time:	09/26/19 01:40	**Supervisor approved:**	09/27/19 15:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoroheptanoic acid	375-85-9		5.95	Split peak
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanoic acid	335-67-1		6.70	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:29

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36737.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 8:51:58 PM
Sample Name	:	JC95316-1
Vial	:	Vial 41
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76964,S2Q571,270,,,1.0,5,water

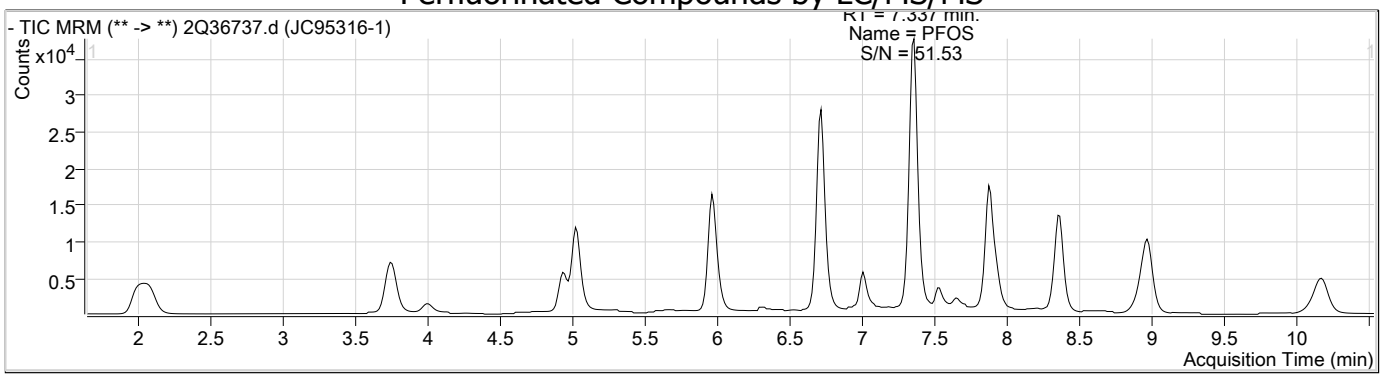
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.040	217.0 -> 172.0	40653	20.00	µg/L	-0.013
M5-PFPeA	3.749	268.0 -> 223.0	32900	20.00	µg/L	0.000
M5-PFHxA	5.026	318.0 -> 273.0	47023	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	60546	20.00	µg/L	0.025
M8-PFOA	6.721	421.0 -> 376.0	76510	20.00	µg/L	0.025
M9-PFNA	7.364	472.0 -> 427.0	74923	20.00	µg/L	0.025
M6-PFDA	7.878	519.0 -> 474.0	63545	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	60374	20.00	µg/L	0.013
M2-PFDoDA	8.961	615.0 -> 570.0	61505	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	37671	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	15878	20.00	µg/L	0.013
M3-PFBS	3.992	302.0 -> 99.0	5328	20.00	µg/L	0.000
M3-PFHxS	5.998	402.0 -> 99.0	5809	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	5827	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	22508	20.00	µg/L	0.013
M2-6:2FTS	6.718	429.0 -> 409.0	31934	20.00	µg/L	0.025
M2-8:2FTS	7.928	529.0 -> 509.0	15953	20.00	µg/L	0.013
M3-MeFOSAA	7.519	573.0 -> 419.0	7922	20.00	µg/L	0.000
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	22497	3.86	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C2-6:2FTS	6.718	429.0 -> 409.0	31912	4.03	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.1%		
13C2-8:2FTS	7.928	529.0 -> 509.0	15952	2.96	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 14.8%		
13C2-PFDoDA	8.961	615.0 -> 570.0	61343	1.76	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 8.8%		
13C2-PFTeDA	10.163	715.0 -> 670.0	37103	1.39	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 7.0%		
13C3-PFBS	3.992	302.0 -> 99.0	5331	3.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.5%		
13C3-PFHxS	5.998	402.0 -> 99.0	5821	3.95	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.7%		
13C4-PFBA	2.040	217.0 -> 172.0	40457	4.13	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.7%		
13C4-PFHpA	5.966	367.0 -> 322.0	60523	3.97	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.9%		
13C5-PFHxA	5.026	318.0 -> 273.0	46946	4.02	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.1%		
13C5-PFPeA	3.749	268.0 -> 223.0	32809	3.99	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.9%		
13C6-PFDA	7.878	519.0 -> 474.0	63547	3.00	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

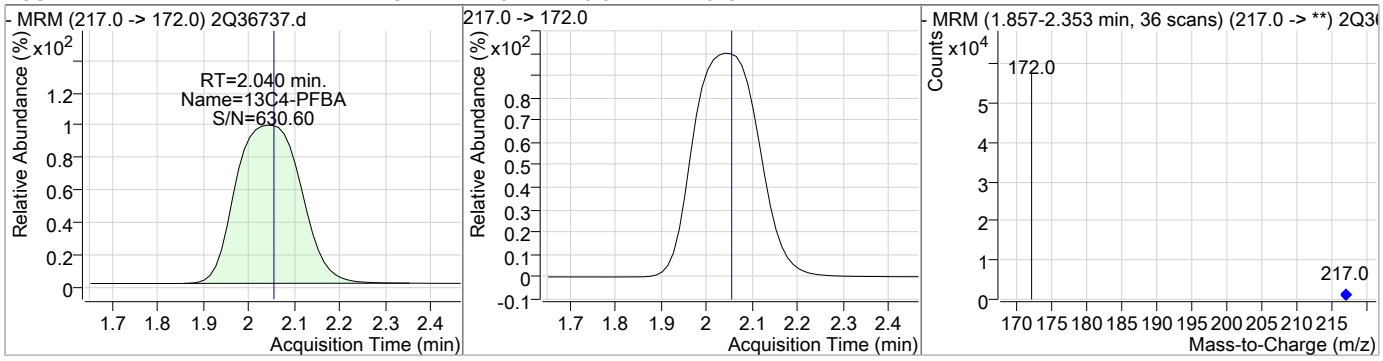
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.0%		
13C7-PFUnDA	8.353	570.0 -> 525.0	60367	2.18 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 10.9%		
13C8-FOSA	7.003	506.0 -> 78.0	15880	2.79 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 14.0%		
13C8-PFOA	6.721	421.0 -> 376.0	76492	4.18 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.9%		
13C8-PFOS	7.334	507.0 -> 99.0	5834	3.00 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.0%		
13C9-PFNA	7.364	472.0 -> 427.0	74947	3.96 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.8%		
d3-MeFOSAA	7.519	573.0 -> 419.0	7904	2.42 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 12.1%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.061	213.0 -> 169.0	1139	0.60 µg/L		100
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.969	363.0 -> 319.0	3933	0.28 µg/L		99
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.028	313.0 -> 269.0	1749	0.48 µg/L		100
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.365	463.0 -> 419.0	59978	5.12 µg/L		99
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.724	413.0 -> 369.0	5453	0.53 µg/L	m	91
PFOS	7.337	499.0 -> 80.0	3896	2.82 µg/L	m	100
PFPeA	3.753	263.0 -> 219.0	5354	0.64 µg/L		100
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

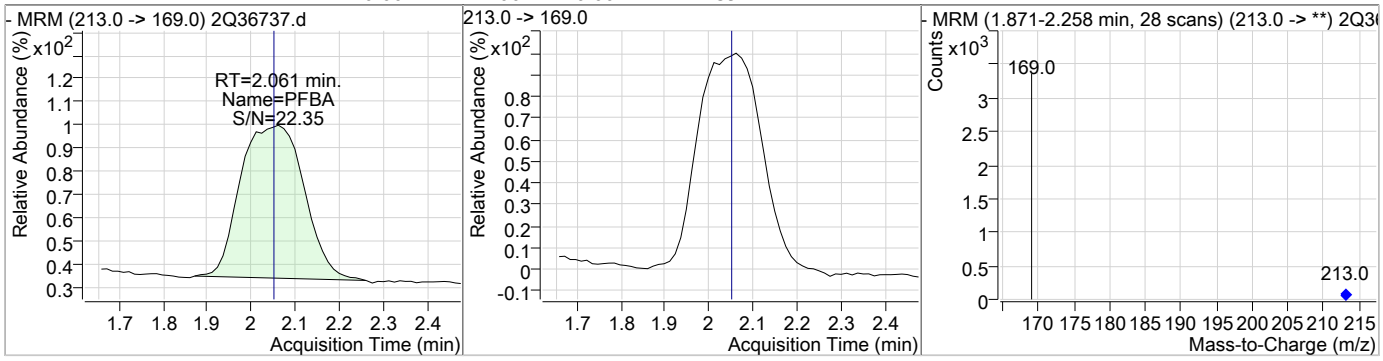
Perfluorinated Compounds by LC/MS/MS



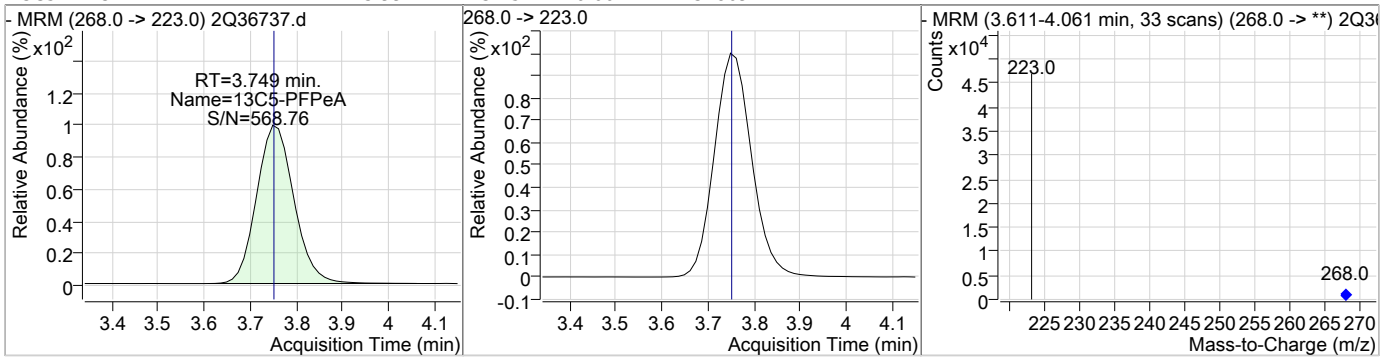
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	4.13	2.04	-0.01	40457				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.60	2.06	0.00	1139				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	3.99	3.75	0.00	32809				



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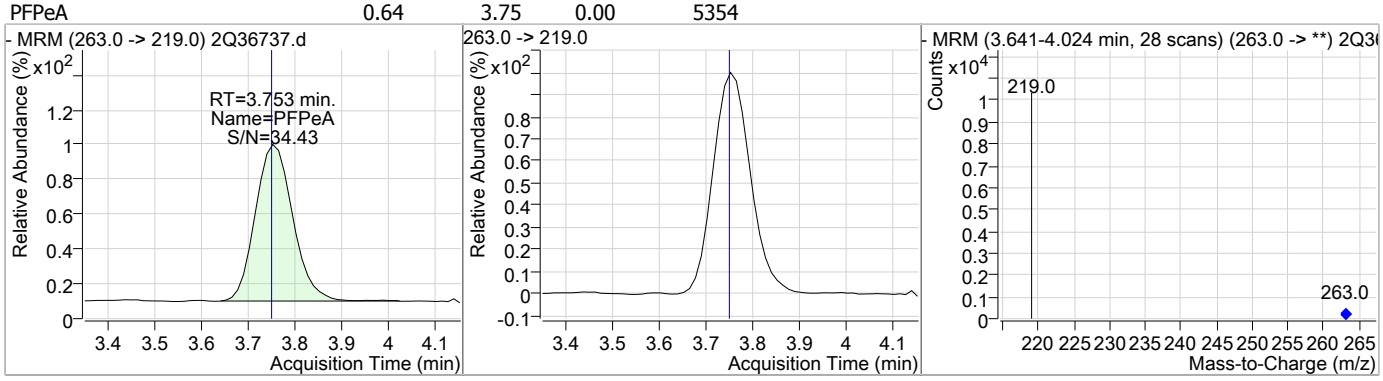
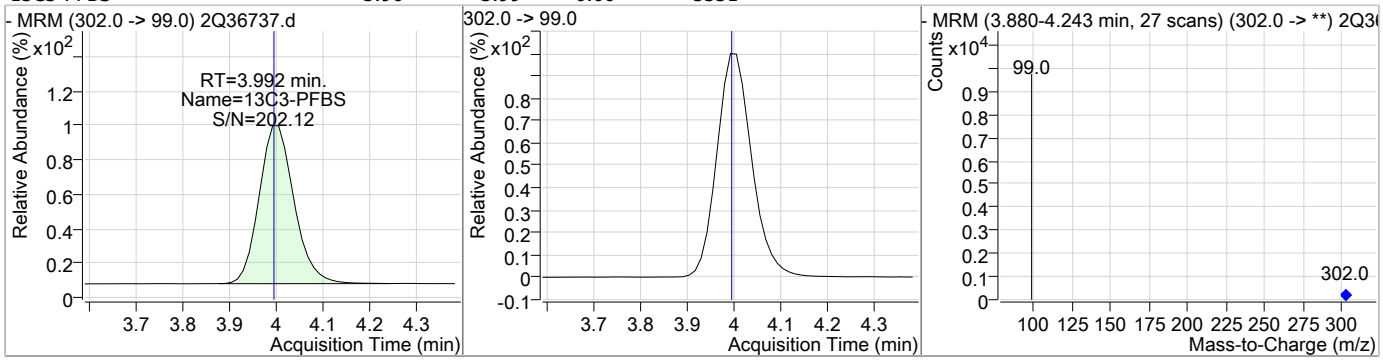
Perfluorinated Compounds by LC/MS/MS

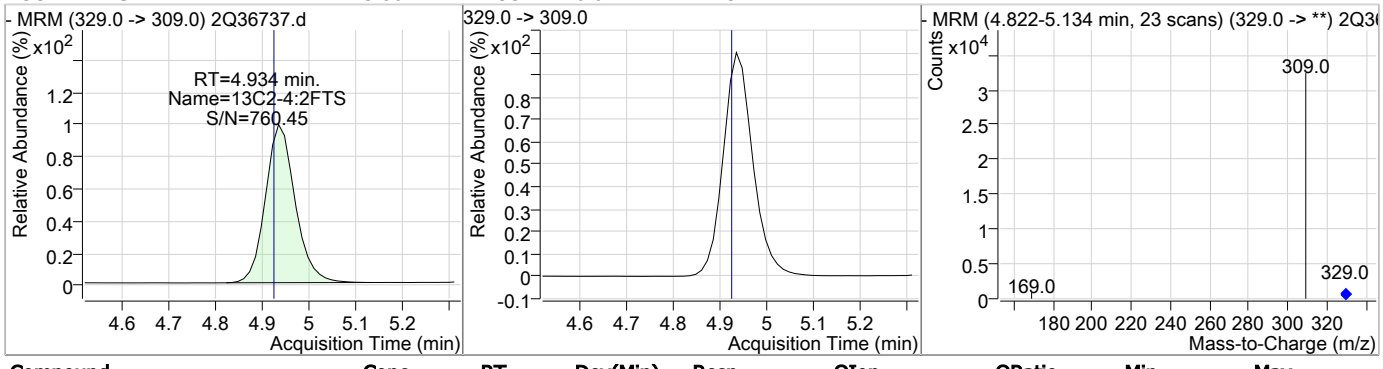
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.64	3.75	0.00	5354				



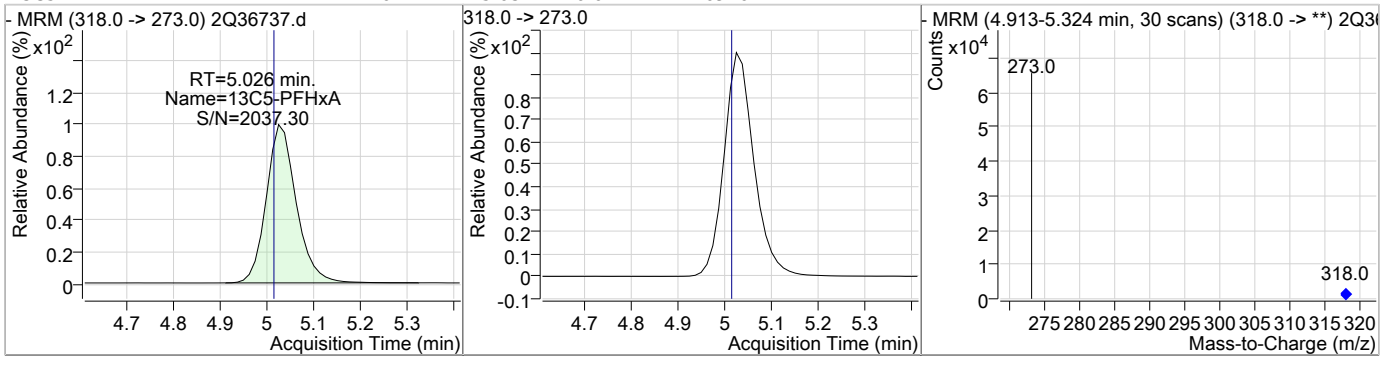
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.90	3.99	0.00	5331				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.86	4.93	0.01	22497				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	4.02	5.03	0.01	46946				



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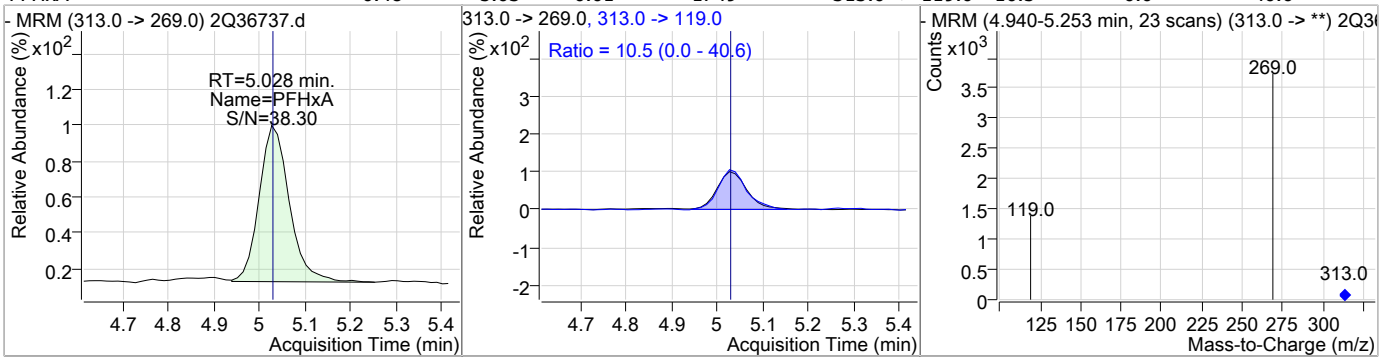
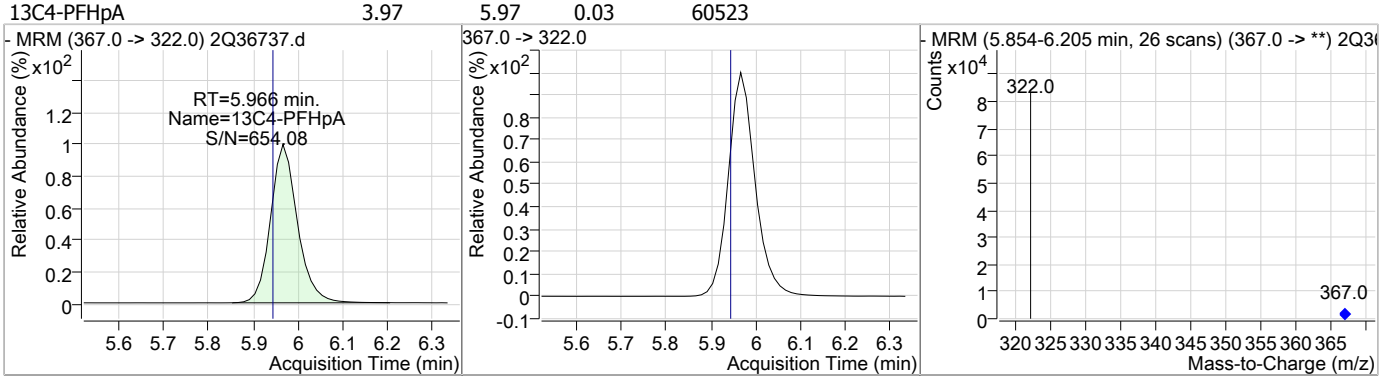
Perfluorinated Compounds by LC/MS/MS

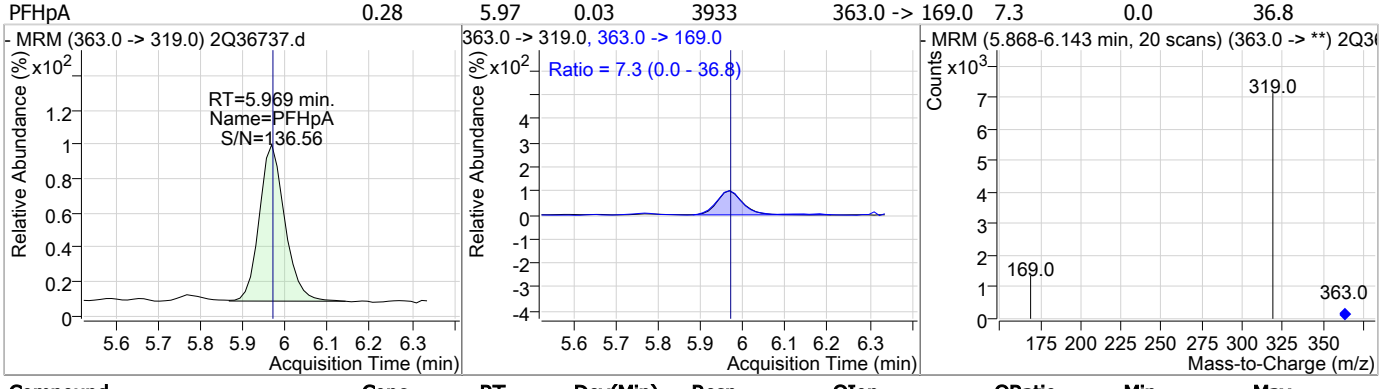
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.48	5.03	0.01	1749	313.0 -> 119.0	10.5	0.0	40.6



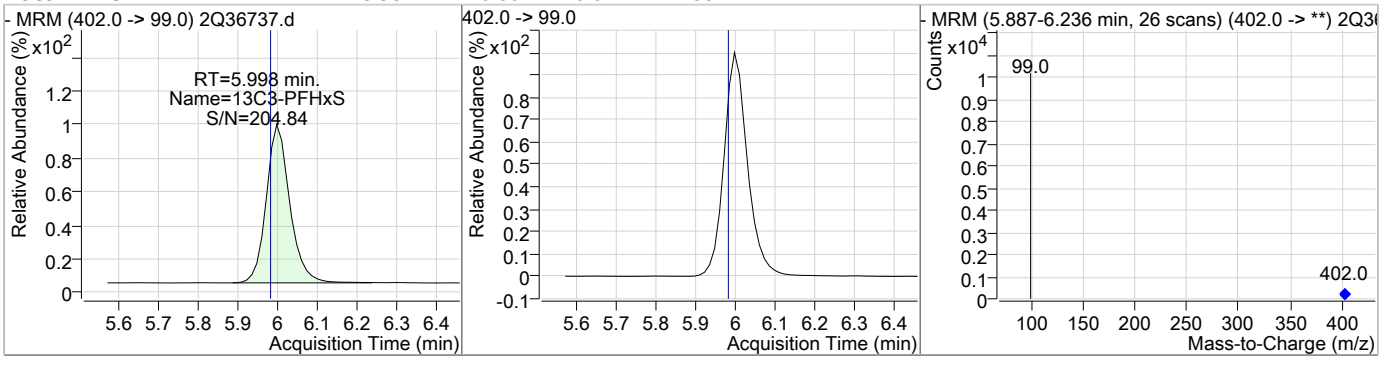
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.97	5.97	0.03	60523				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.28	5.97	0.03	3933	363.0 -> 169.0	7.3	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.95	6.00	0.01	5821				



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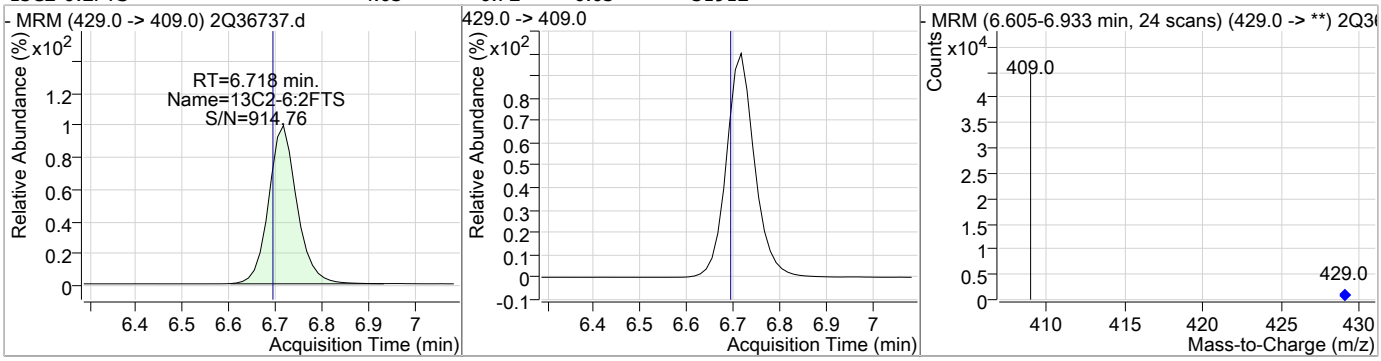
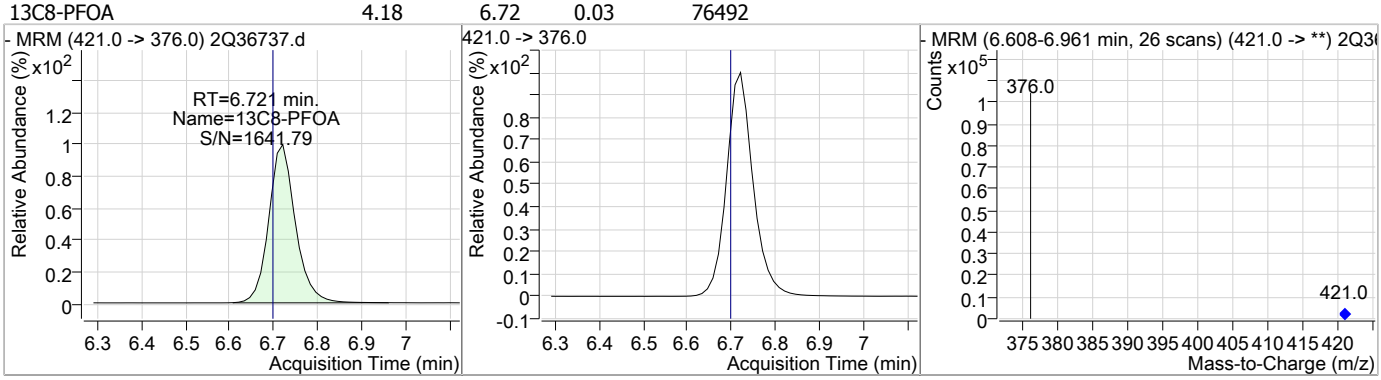
Perfluorinated Compounds by LC/MS/MS

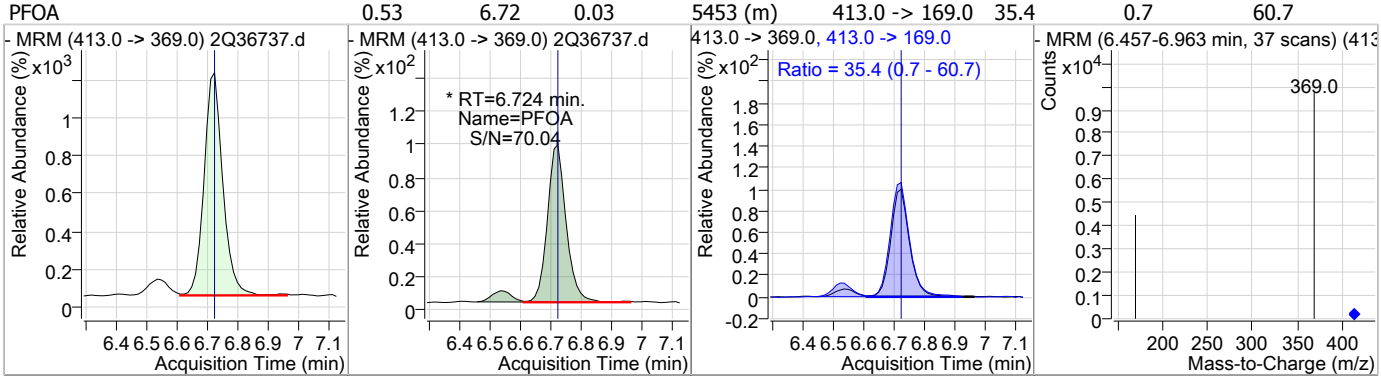
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.03	6.72	0.03	31912				



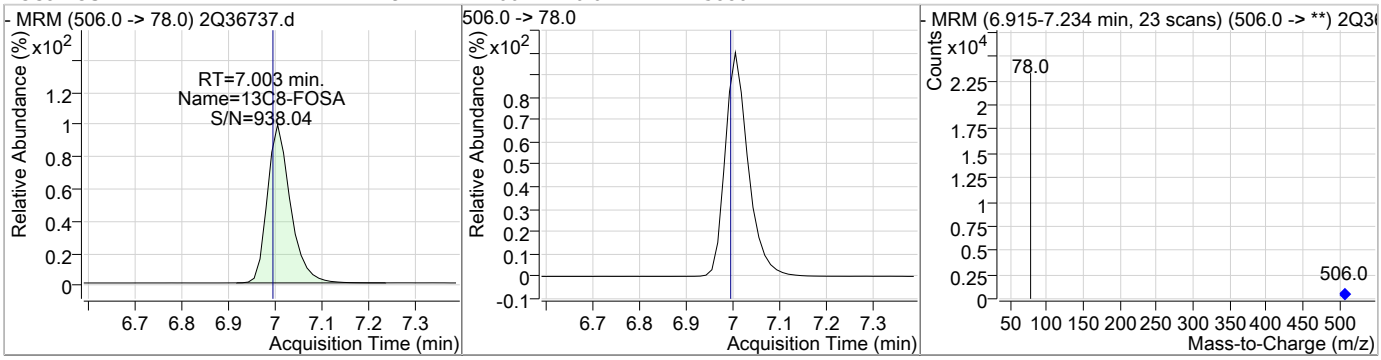
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	4.18	6.72	0.03	76492				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.53	6.72	0.03	5453 (m)	413.0 -> 169.0	35.4	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.79	7.00	0.01	15880				



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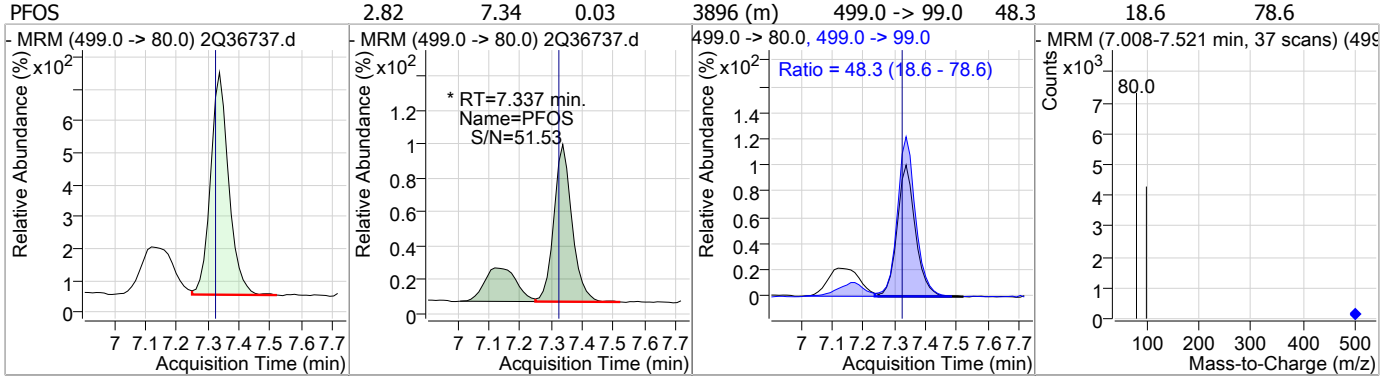
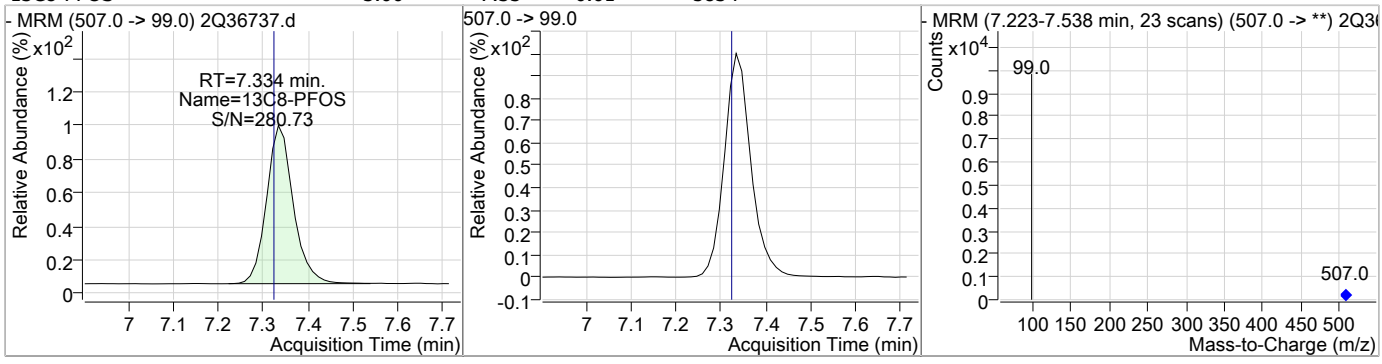
Perfluorinated Compounds by LC/MS/MS

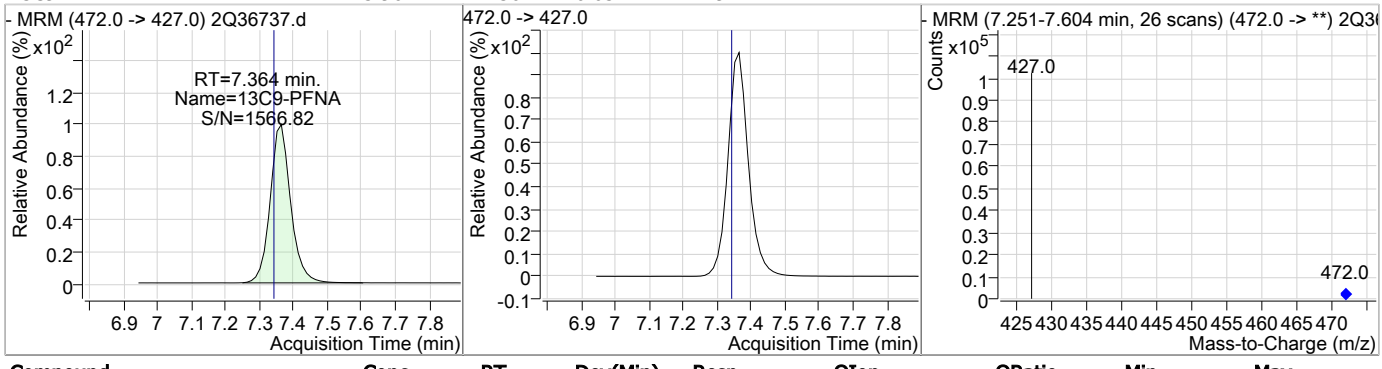
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.82	7.34	0.03	3896 (m)	499.0 -> 99.0	48.3	18.6	78.6



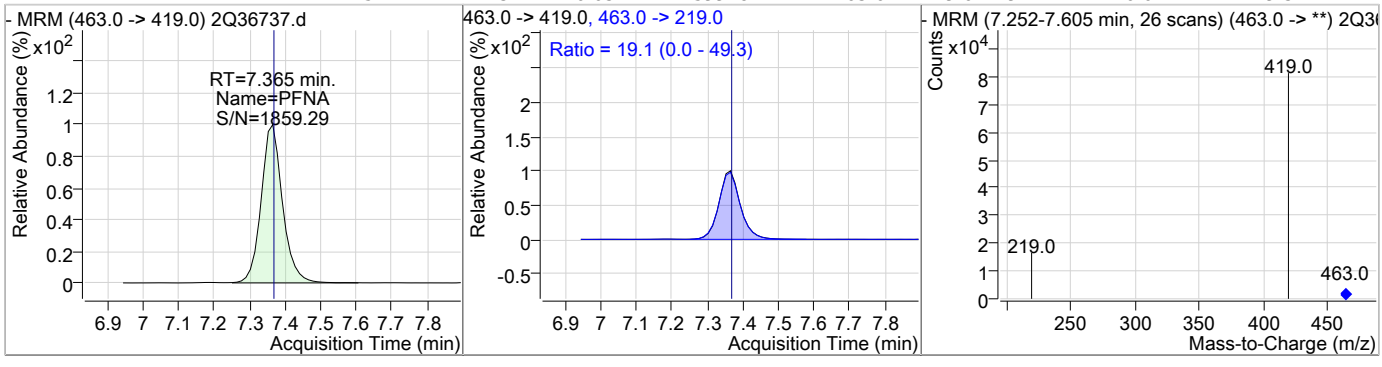
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.00	7.33	0.01	5834				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	3.96	7.36	0.03	74947				

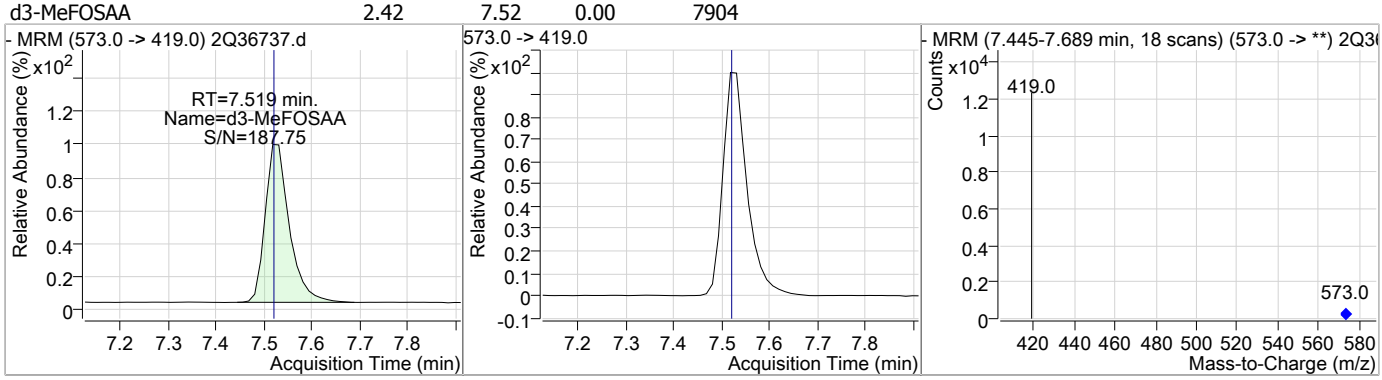


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	5.12	7.37	0.03	59978	463.0 -> 219.0	19.1	0.0	49.3

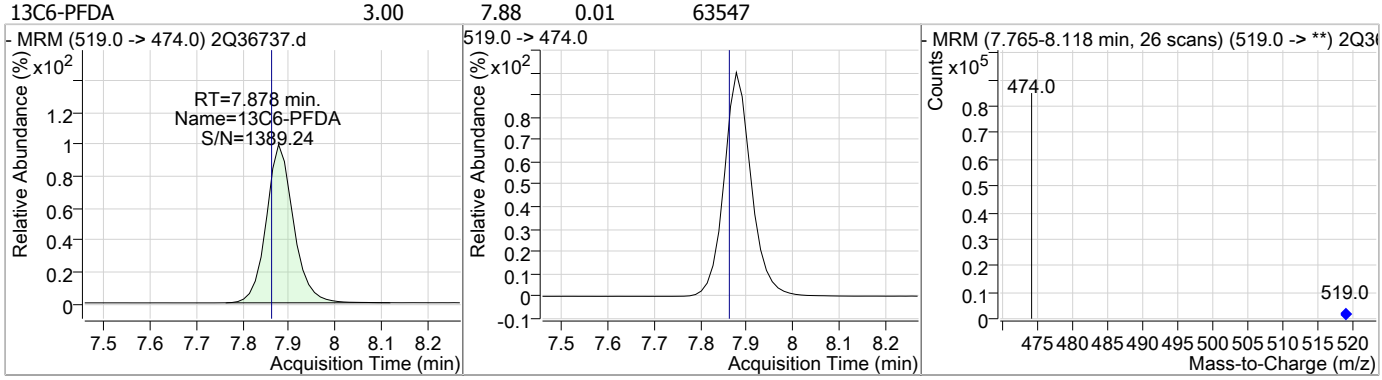


Perfluorinated Compounds by LC/MS/MS

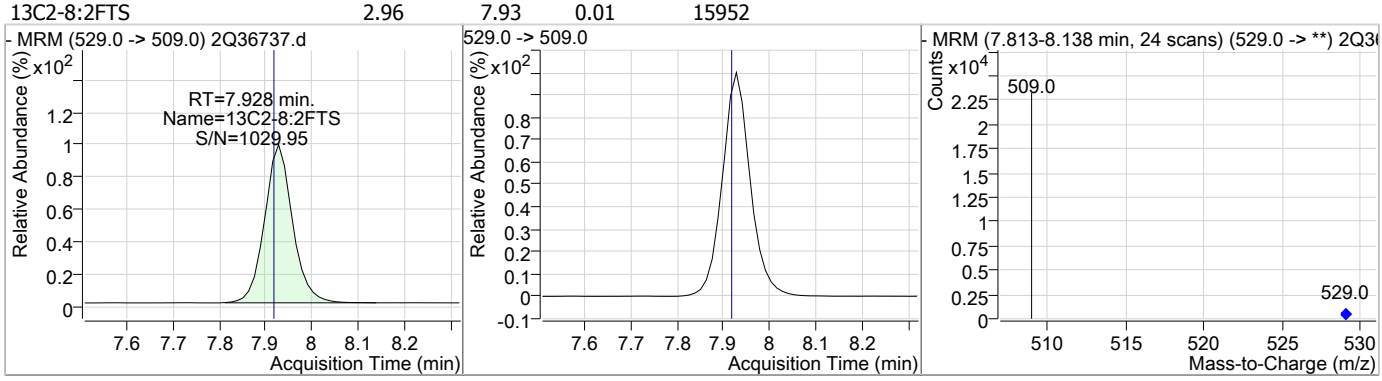
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	2.42	7.52	0.00	7904				



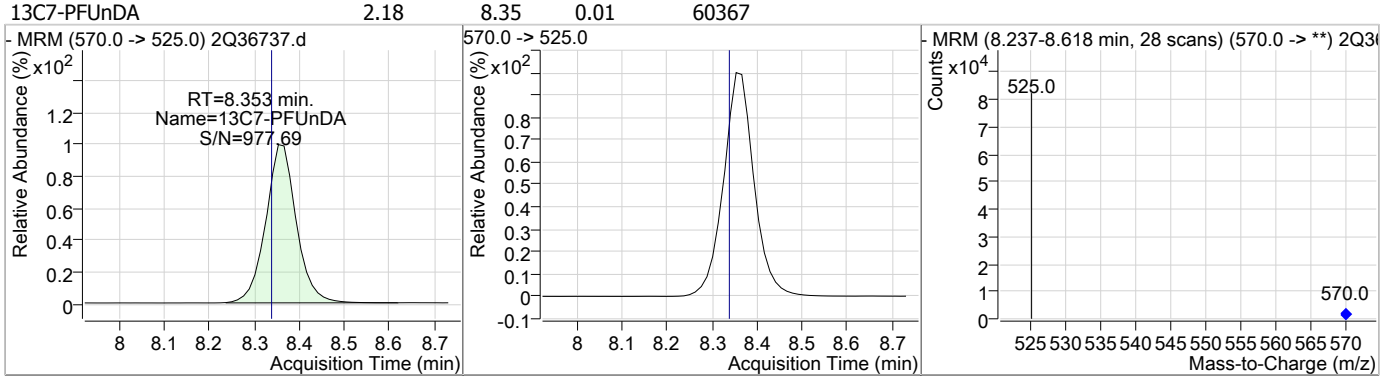
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	3.00	7.88	0.01	63547				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	2.96	7.93	0.01	15952				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	2.18	8.35	0.01	60367				



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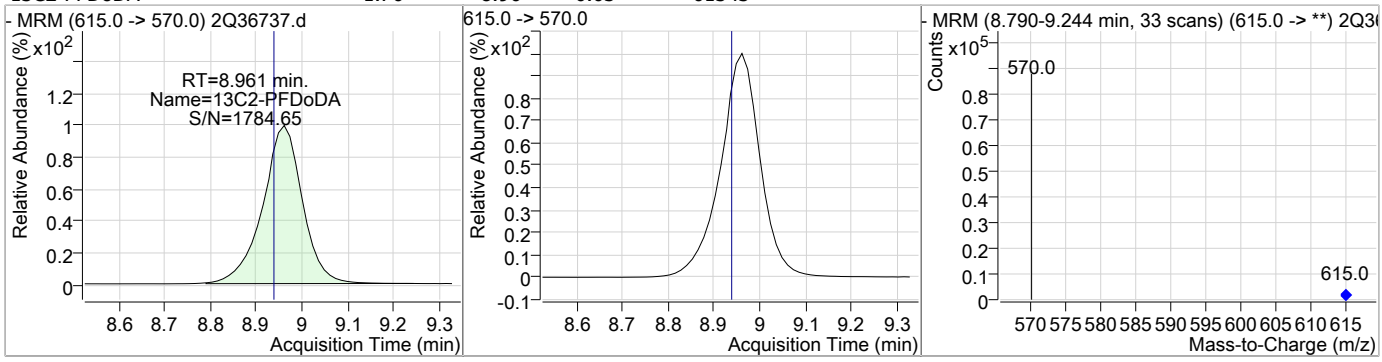
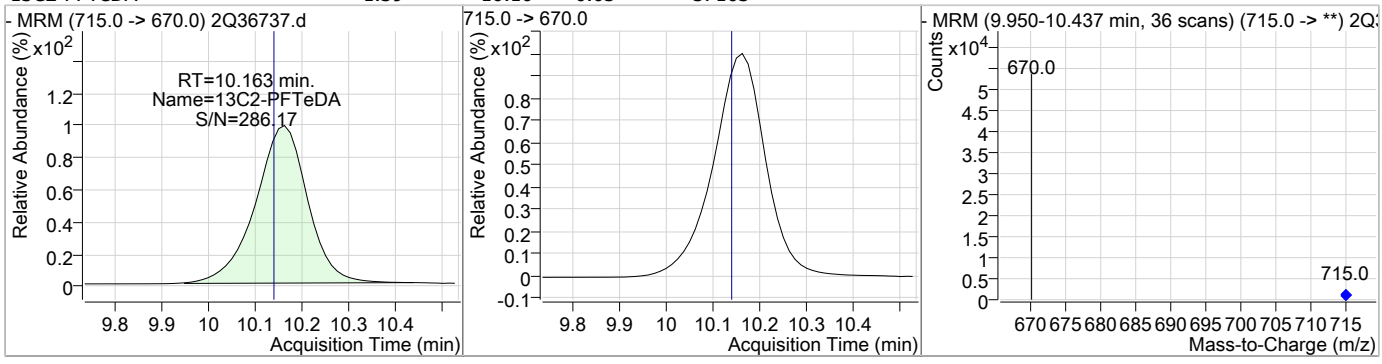
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.76	8.96	0.03	61343				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.39	10.16	0.03	37103				



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Manual Integration Approval Summary

Sample Number:	JC95316-1	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36737.D	**Analyst approved:**	09/27/19 13:00 Natasha Gumtie
Injection Time:	09/26/19 20:51	**Supervisor approved:**	09/27/19 15:29 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		6.72	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:30

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36666.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 1:56:06 AM
Sample Name	:	JC95316-2
Vial	:	Vial 56
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

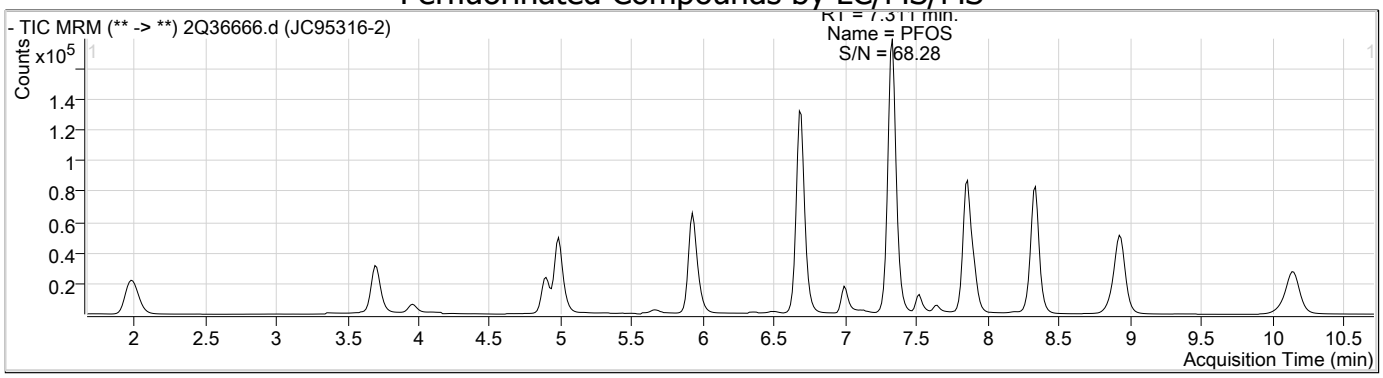
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-PFOA	-	415.0 -> 370.0	-	N.D.			
13C4-PFOS	-	503.0 -> 80.0	-	N.D.			
M4-PFBA	1.977	217.0 -> 172.0	142675	20.00	µg/L		-0.063
M5-PFPeA	3.699	268.0 -> 223.0	124009	20.00	µg/L		-0.025
M5-PFHxA	4.988	318.0 -> 273.0	185166	20.00	µg/L		0.000
M4-PFHpA	5.930	367.0 -> 322.0	243953	20.00	µg/L		0.013
M8-PFOA	6.683	421.0 -> 376.0	340645	20.00	µg/L		0.013
M9-PFNA	7.339	472.0 -> 427.0	337230	20.00	µg/L		0.025
M6-PFDA	7.865	519.0 -> 474.0	328130	20.00	µg/L		0.025
M7-PFUnDA	8.338	570.0 -> 525.0	309361	20.00	µg/L		0.026
M2-PFDoDA	8.927	615.0 -> 570.0	303788	20.00	µg/L		0.025
M2-PFTeDA	10.137	715.0 -> 670.0	202668	20.00	µg/L		0.050
M8-FOSA	6.990	506.0 -> 78.0	58169	20.00	µg/L		0.025
M3-PFBS	3.955	302.0 -> 99.0	22103	20.00	µg/L		-0.013
M3-PFHxS	5.960	402.0 -> 99.0	24052	20.00	µg/L		0.013
M8-PFOS	7.308	507.0 -> 99.0	27801	20.00	µg/L		0.025
M2-4:2FTS	4.896	329.0 -> 309.0	98060	20.00	µg/L		0.000
M2-6:2FTS	6.680	429.0 -> 409.0	152430	20.00	µg/L		0.013
M2-8:2FTS	7.900	529.0 -> 509.0	82152	20.00	µg/L		0.013
M3-MeFOSAA	7.518	573.0 -> 419.0	37789	20.00	µg/L		0.025
M3-HFPO-DA	5.465	287.0 -> 169.0	0	100.00	µg/L	m	0.197
System Monitoring Compounds							
13C2-4:2FTS	4.896	329.0 -> 309.0	98019	16.83	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.2%			
13C2-6:2FTS	6.680	429.0 -> 409.0	152360	19.22	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.1%			
13C2-8:2FTS	7.900	529.0 -> 509.0	82196	15.27	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.3%			
13C2-PFDoDA	8.927	615.0 -> 570.0	302299	8.66	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 43.3%			
13C2-PFTeDA	10.137	715.0 -> 670.0	201803	7.57	µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 37.9%			
13C3-PFBS	3.955	302.0 -> 99.0	22079	16.15	µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.8%			
13C3-PFHxS	5.960	402.0 -> 99.0	24043	16.31	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.6%			
13C4-PFBA	1.977	217.0 -> 172.0	142398	14.54	µg/L		-0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 72.7%			
13C4-PFHpA	5.930	367.0 -> 322.0	243798	16.01	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.0%			
13C5-PFHxA	4.988	318.0 -> 273.0	185591	15.90	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.5%			
13C5-PFPeA	3.699	268.0 -> 223.0	123809	15.04	µg/L		-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.2%			
13C6-PFDA	7.865	519.0 -> 474.0	328021	15.50	µg/L		0.025

Perfluorinated Compounds by LC/MS/MS

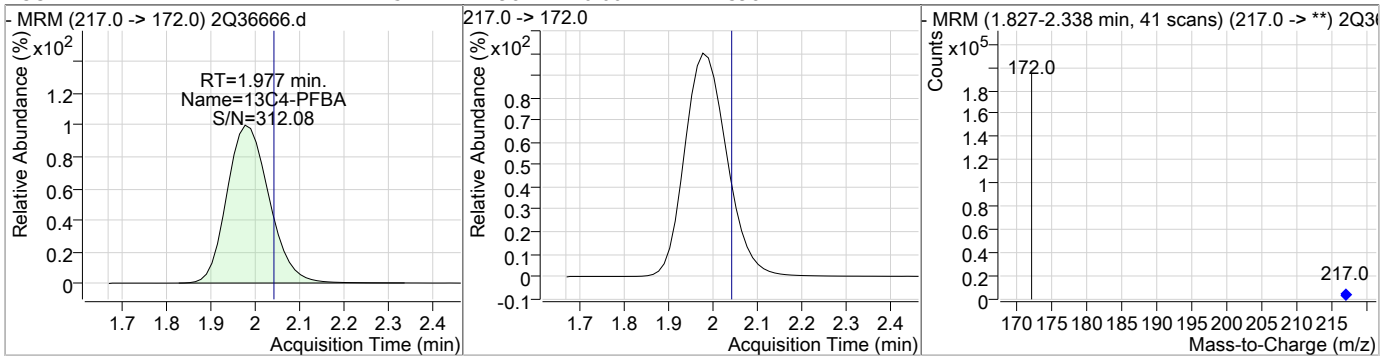
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 77.5%			
13C7-PFUnDA	8.338	570.0 -> 525.0	309178	11.16	µg/L		0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 55.8%			
13C8-FOSA	6.990	506.0 -> 78.0	58170	10.22	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 51.1%			
13C8-PFOA	6.683	421.0 -> 376.0	340624	18.61	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.1%			
13C8-PFOS	7.308	507.0 -> 99.0	27813	14.29	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.4%			
13C9-PFNA	7.339	472.0 -> 427.0	338160	17.89	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.4%			
d3-MeFOSAA	7.518	573.0 -> 419.0	37786	11.56	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 57.8%			
M2-PFOA	-	415.0 -> 370.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
M4-PFOS	-	503.0 -> 80.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
13C3-HFPO-DA	5.465	287.0 -> 169.0	0	0.00	µg/L	m	0.197
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%			
Target Compounds							**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.			
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	7.643	584.0 -> 419.0	538	0.68	µg/L	m	69
FOSA	-	498.0 -> 78.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.986	213.0 -> 169.0	3348	2.52	µg/L		100
PFBS	3.958	299.0 -> 80.0	1726	0.99	µg/L		92
PFDA	7.853	513.0 -> 469.0	6208	0.76	µg/L		88
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFDS	-	599.0 -> 80.0	-	N.D.			
PFHpA	5.932	363.0 -> 319.0	20750	1.87	µg/L		100
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	4.990	313.0 -> 269.0	7834	2.75	µg/L		99
PFHxS	5.962	399.0 -> 80.0	1407	0.98	µg/L	#m	35
PFNA	7.340	463.0 -> 419.0	307229	29.12	µg/L		100
PFNS	-	549.0 -> 80.0	-	N.D.			
PFOA	6.686	413.0 -> 369.0	53516	5.84	µg/L	m	98
PFOS	7.311	499.0 -> 80.0	12658	9.59	µg/L	m	92
PFPeA	3.702	263.0 -> 219.0	20069	3.21	µg/L		100
PFPeS	5.007	349.0 -> 80.0	1140	1.18	µg/L		99
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	8.340	563.0 -> 519.0	53691	7.37	µg/L		100
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
HFPO-DA	-	329.0 -> 169.0	-	N.D.			

 # = Qualifier out of range, m = manually integrated, + = Area summed

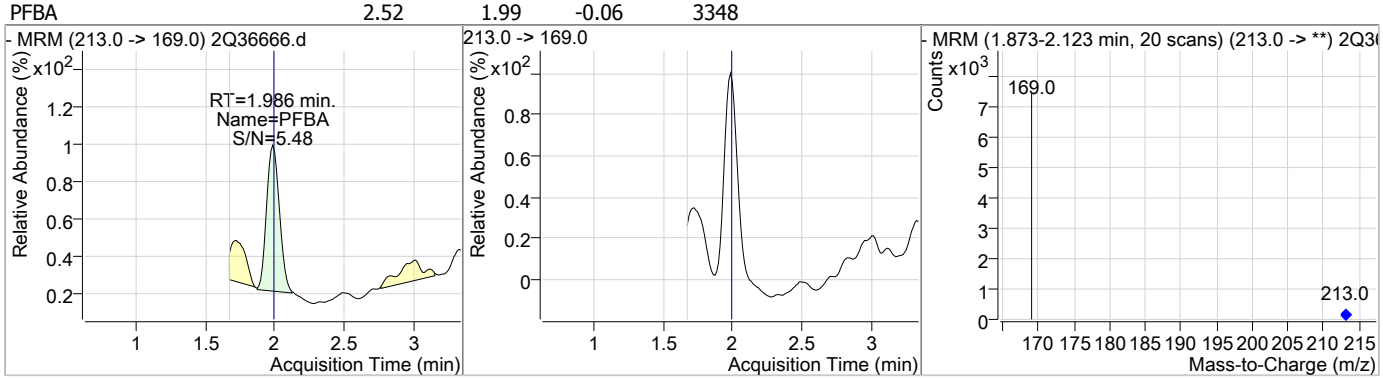
Perfluorinated Compounds by LC/MS/MS



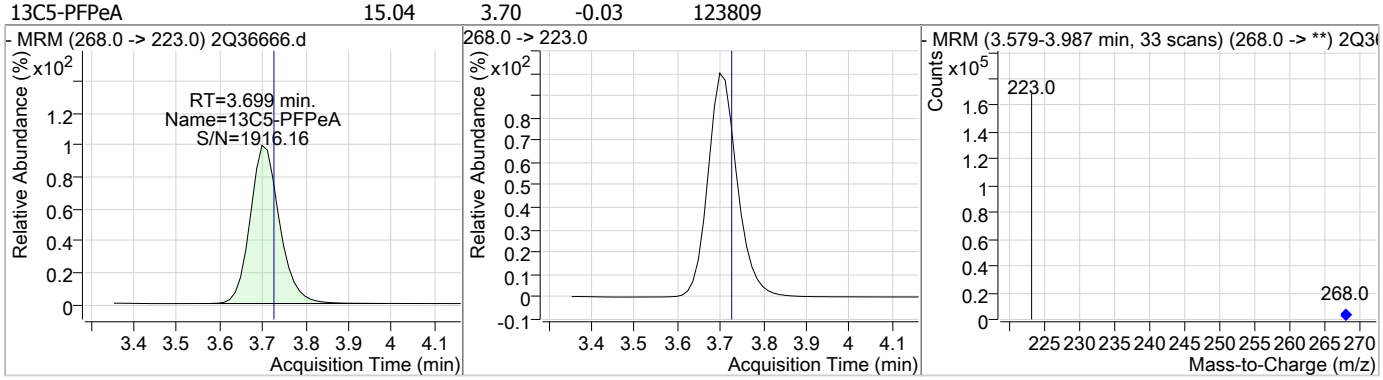
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	14.54	1.98	-0.06	142398				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	2.52	1.99	-0.06	3348				

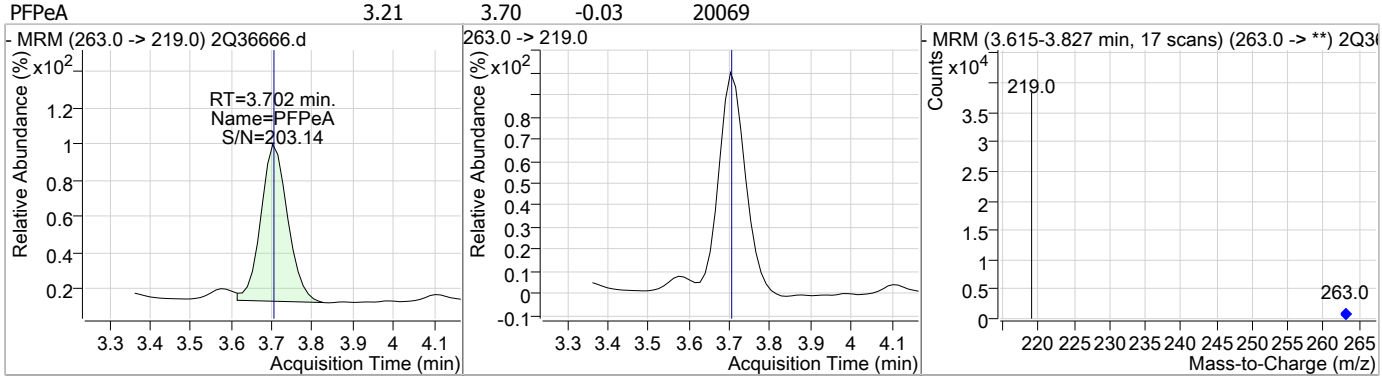


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	15.04	3.70	-0.03	123809				

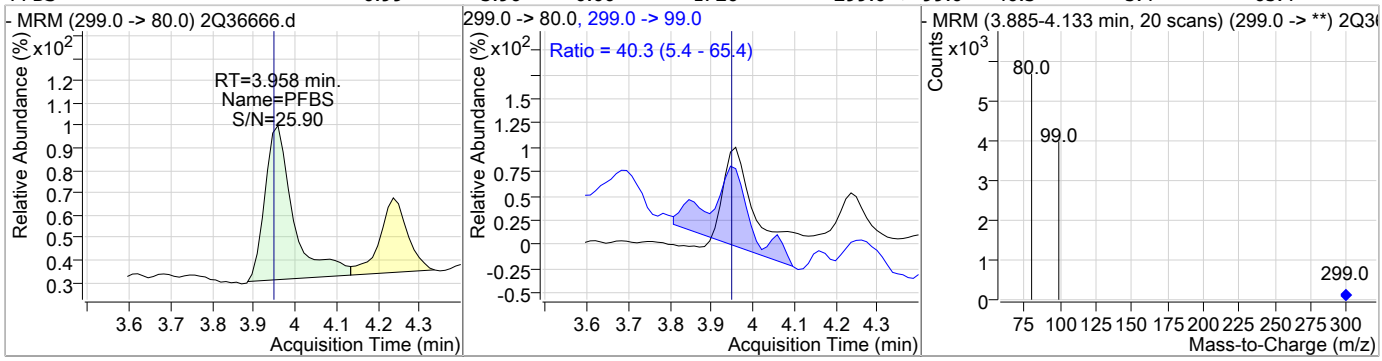


Perfluorinated Compounds by LC/MS/MS

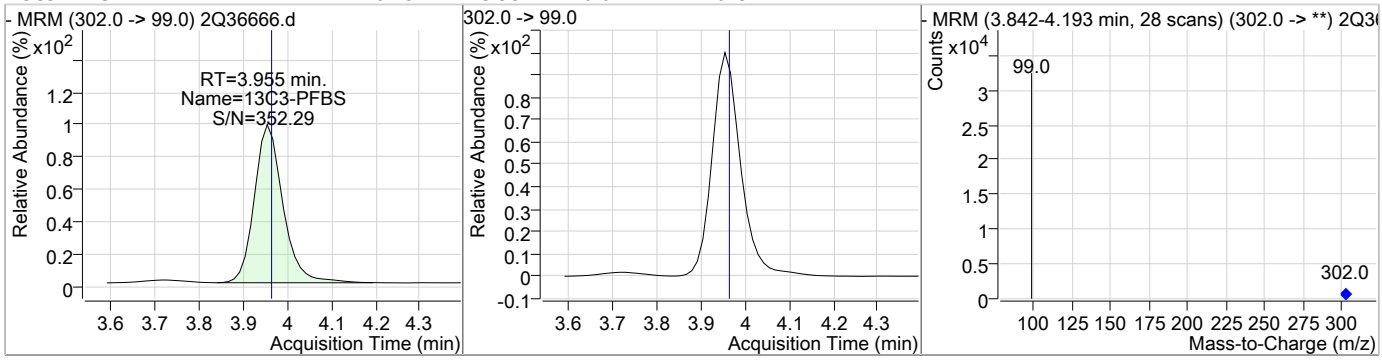
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.21	3.70	-0.03	20069				



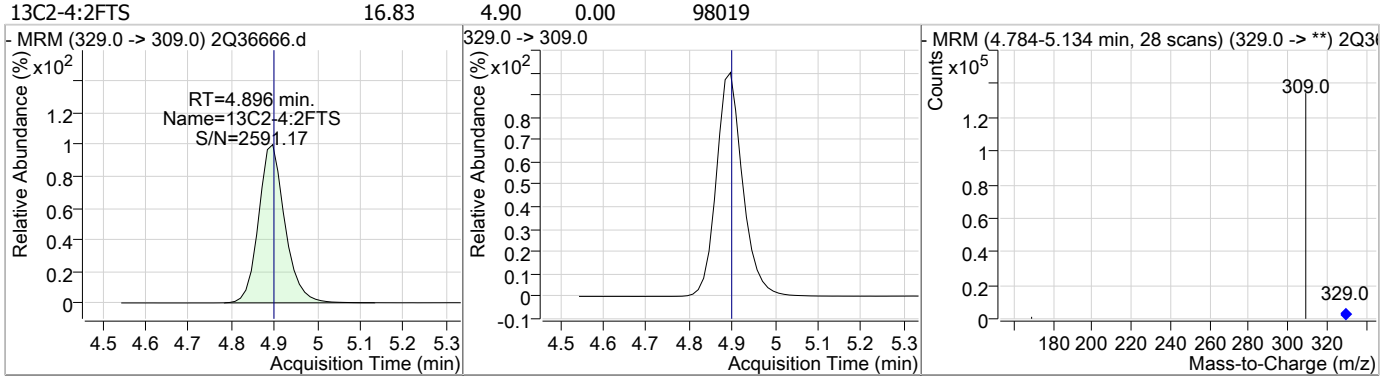
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.99	3.96	0.00	1726	299.0 -> 99.0	40.3	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	16.15	3.95	-0.01	22079				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	16.83	4.90	0.00	98019				



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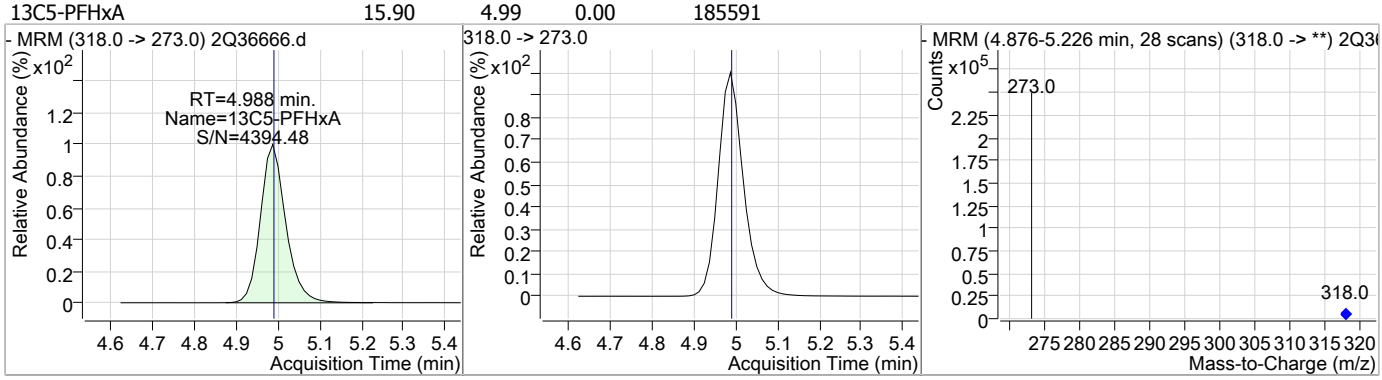
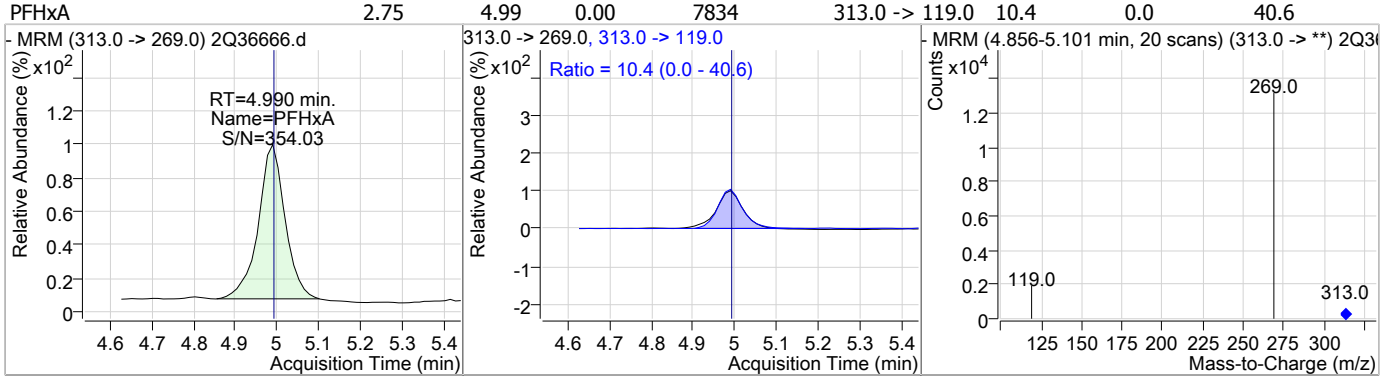
Perfluorinated Compounds by LC/MS/MS

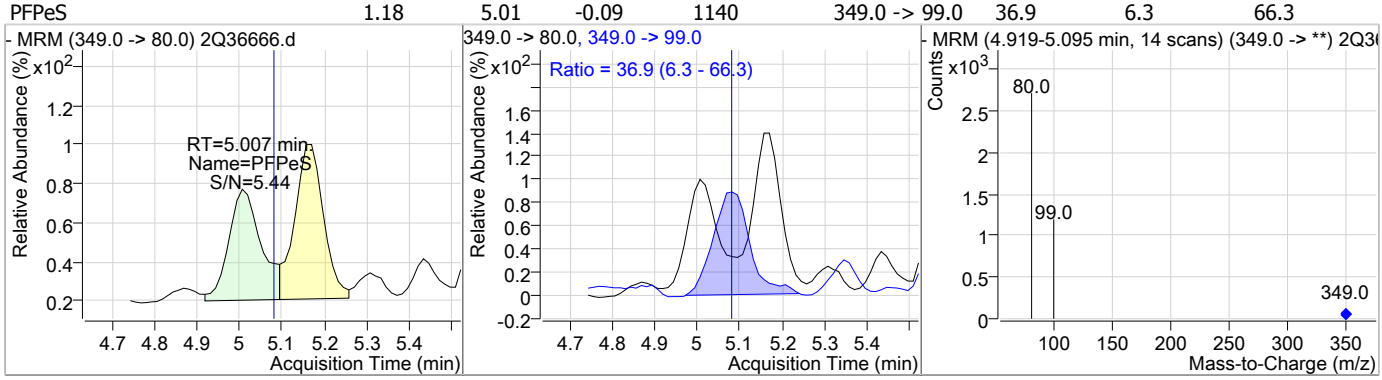
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	15.90	4.99	0.00	185591				



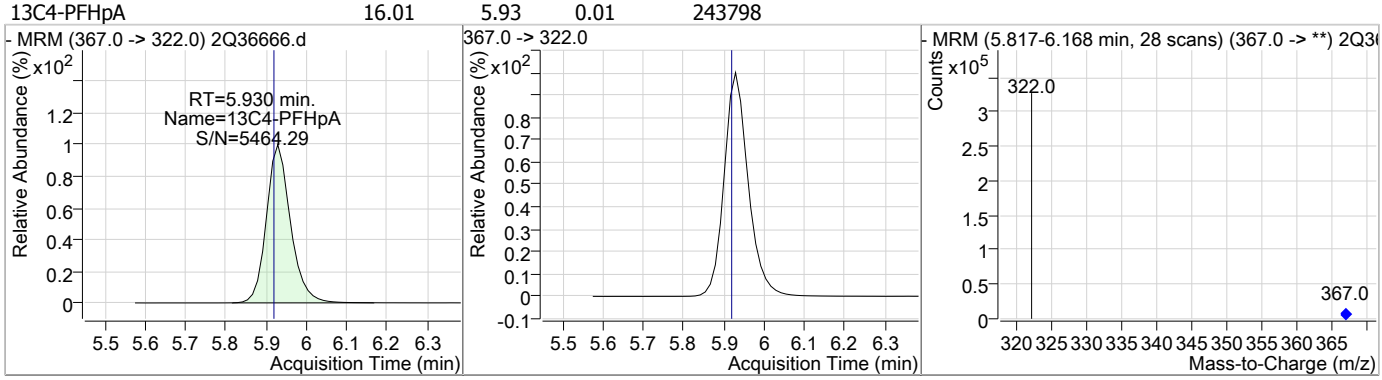
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.75	4.99	0.00	7834	313.0 -> 119.0	10.4	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.18	5.01	-0.09	1140	349.0 -> 99.0	36.9	6.3	66.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	16.01	5.93	0.01	243798				



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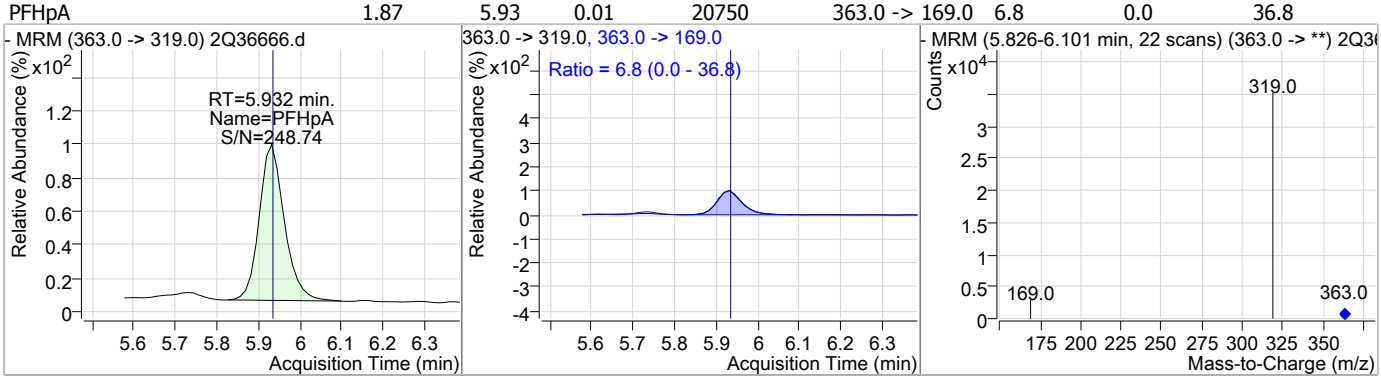
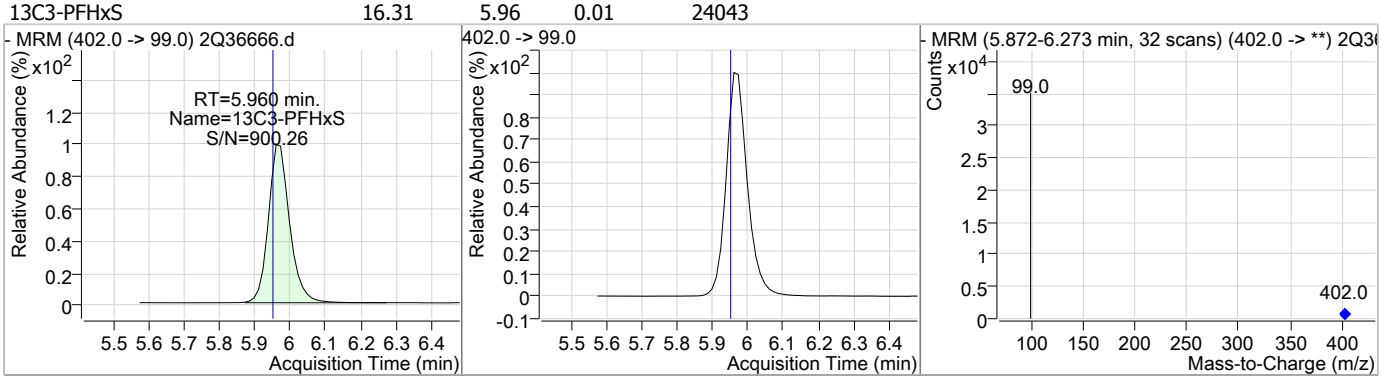
Perfluorinated Compounds by LC/MS/MS

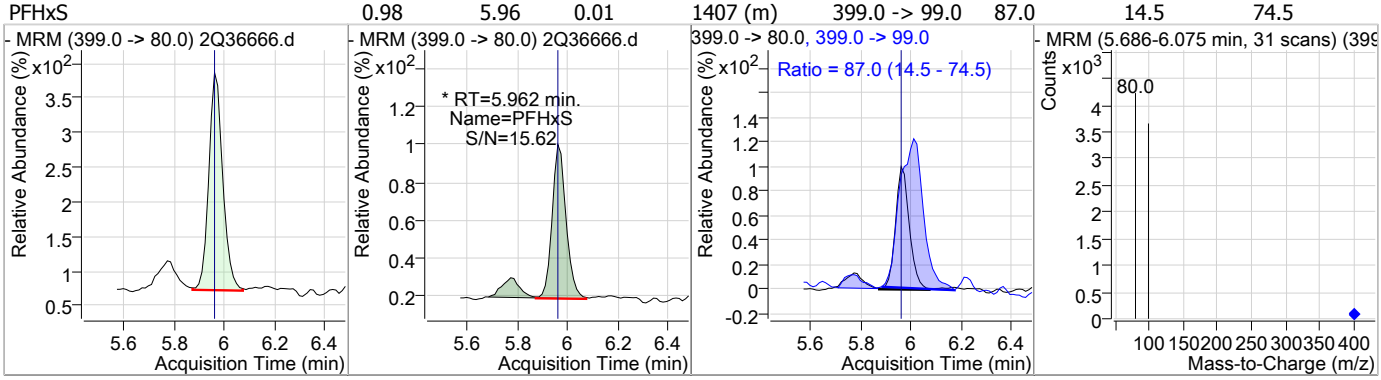
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.87	5.93	0.01	20750	363.0 -> 169.0	6.8	0.0	36.8



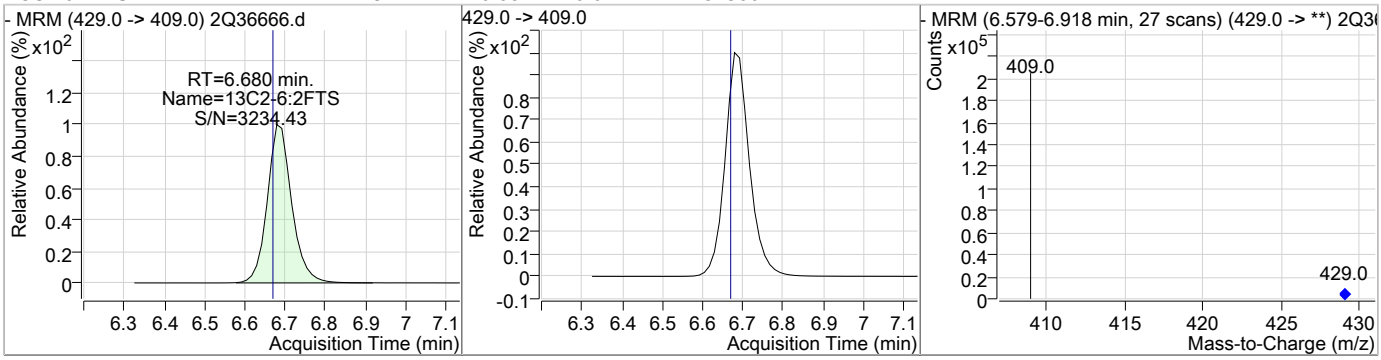
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	16.31	5.96	0.01	24043				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.98	5.96	0.01	1407 (m)	399.0 -> 99.0	87.0	14.5	74.5

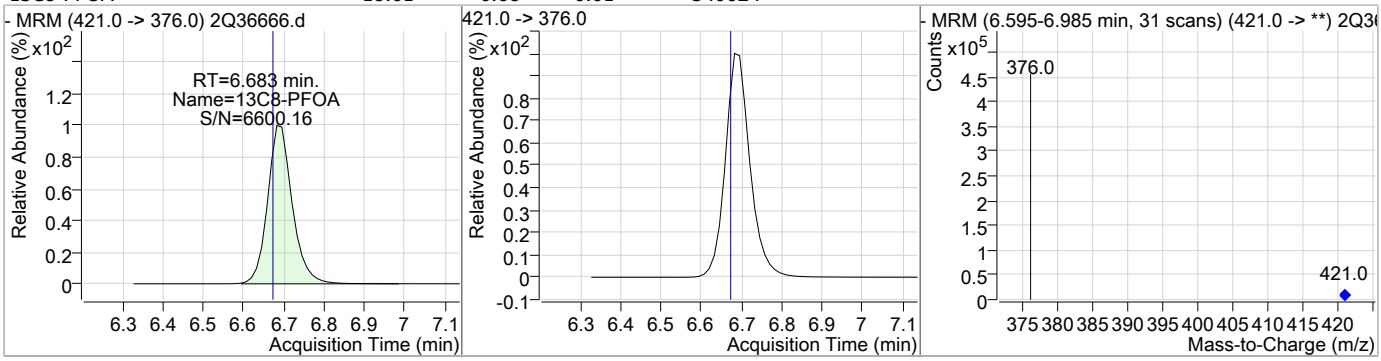


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.22	6.68	0.01	152360				

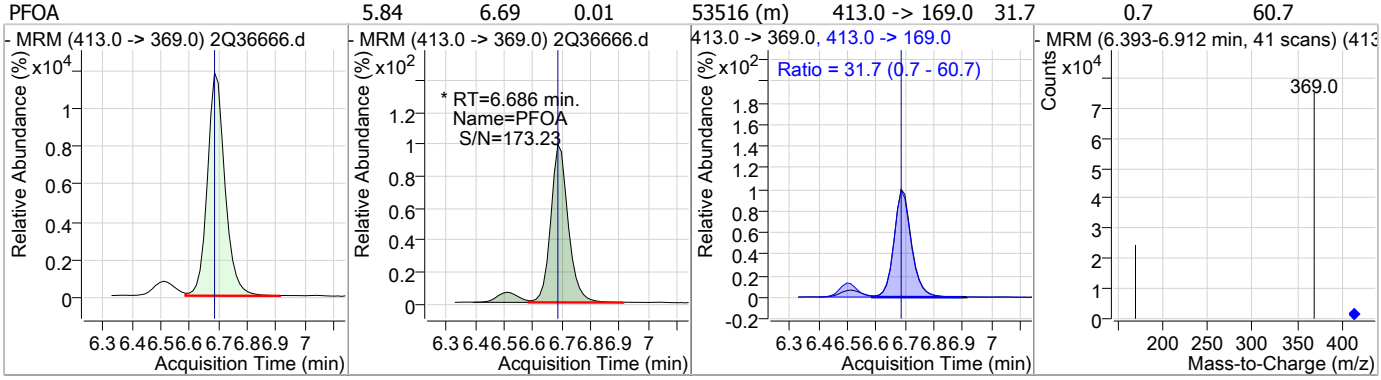


Perfluorinated Compounds by LC/MS/MS

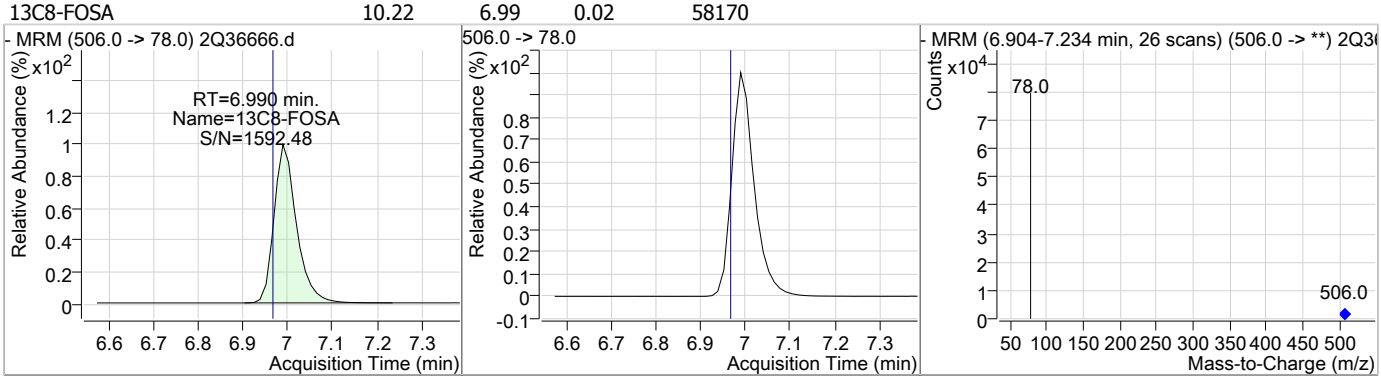
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.61	6.68	0.01	340624				



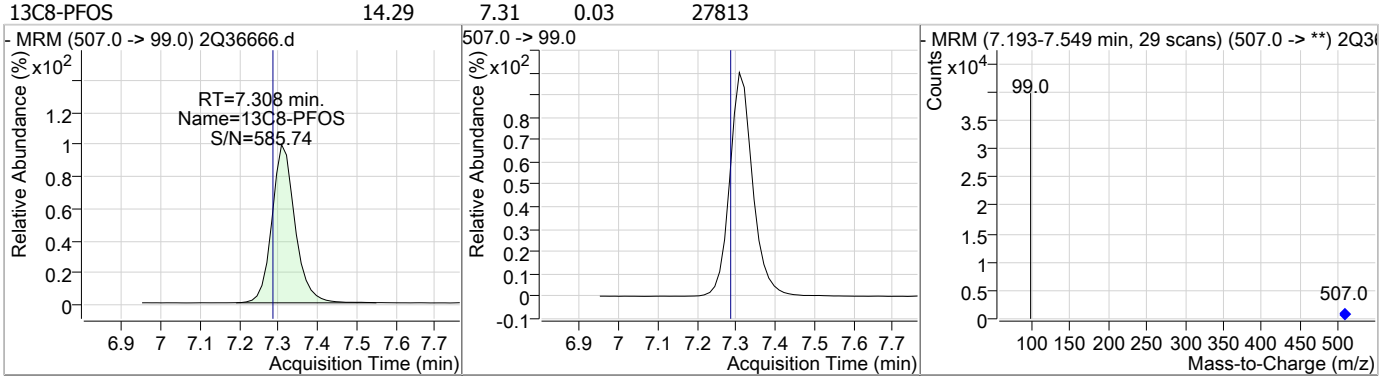
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	5.84	6.69	0.01	53516 (m)	413.0 -> 169.0	31.7	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	10.22	6.99	0.02	58170				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	14.29	7.31	0.03	27813				



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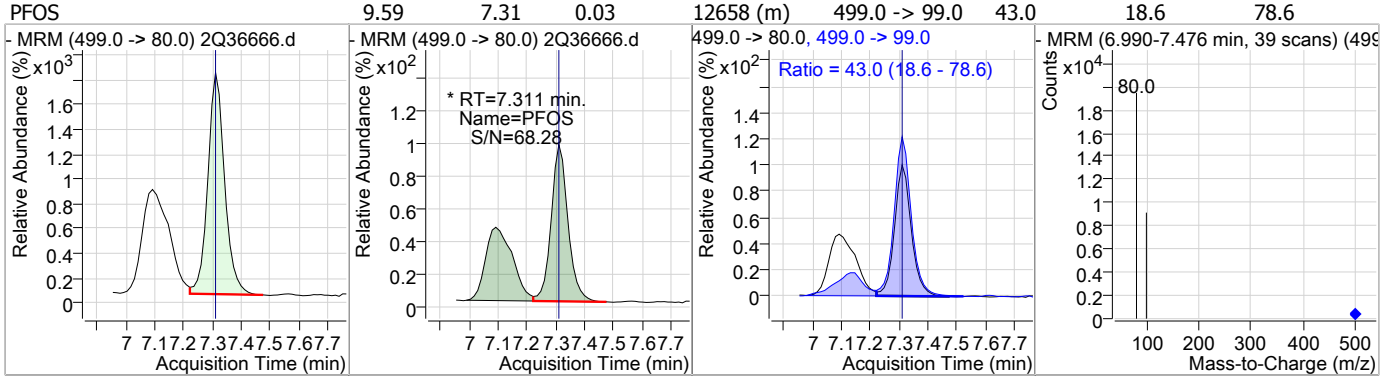
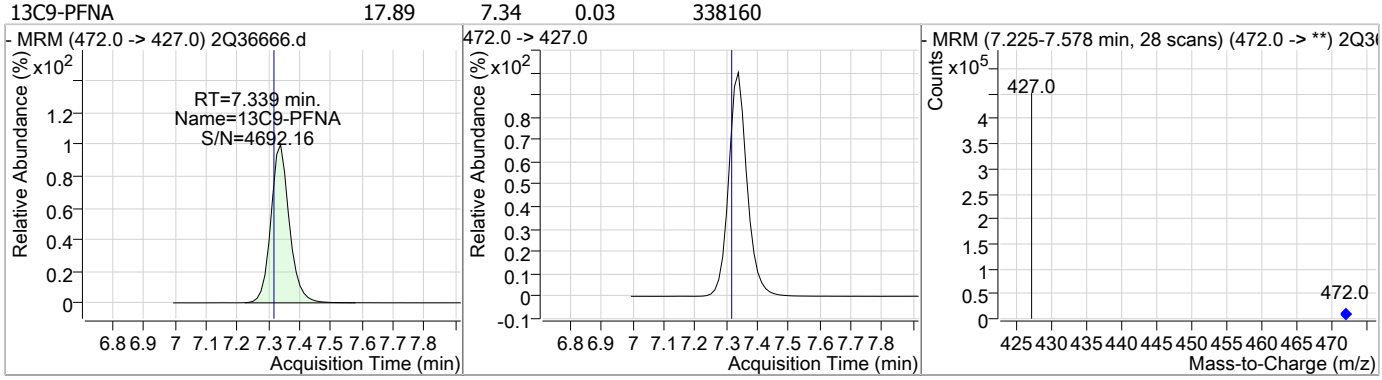
Perfluorinated Compounds by LC/MS/MS

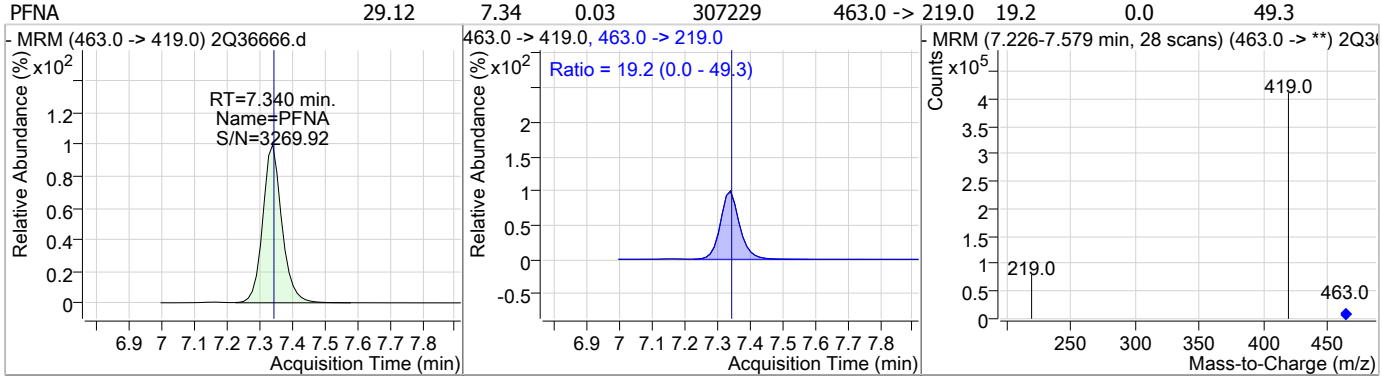
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	9.59	7.31	0.03	12658 (m)	499.0 -> 99.0	43.0	18.6	78.6



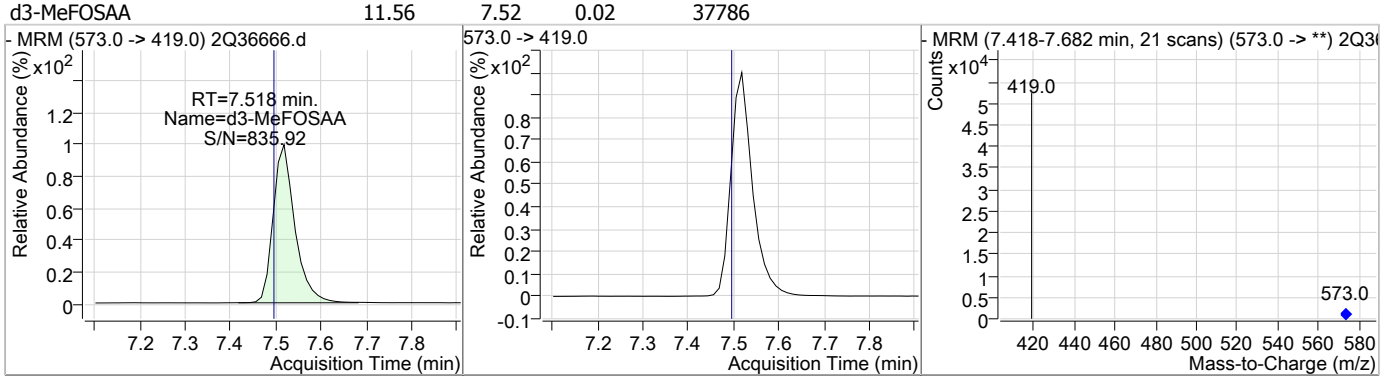
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	17.89	7.34	0.03	338160				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	29.12	7.34	0.03	307229	463.0 -> 219.0	19.2	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	11.56	7.52	0.02	37786				



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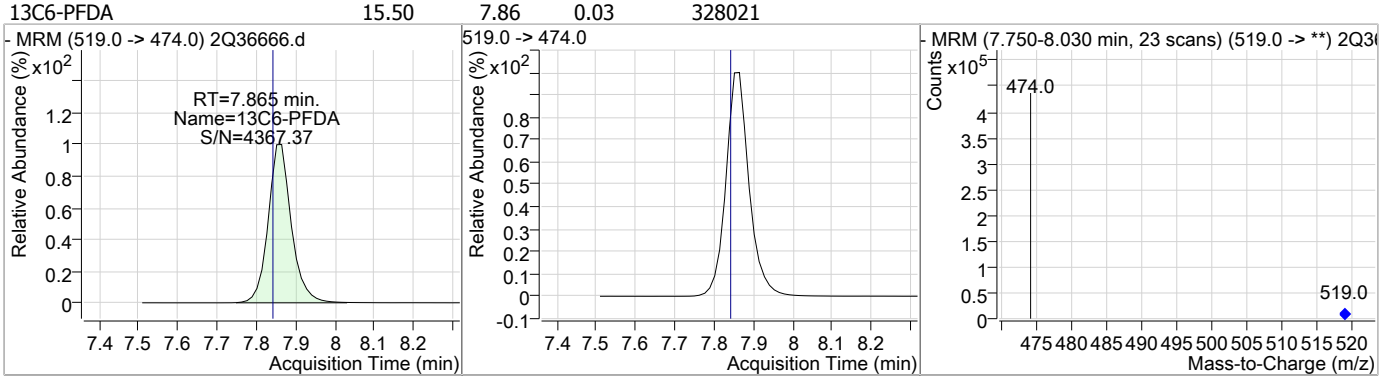
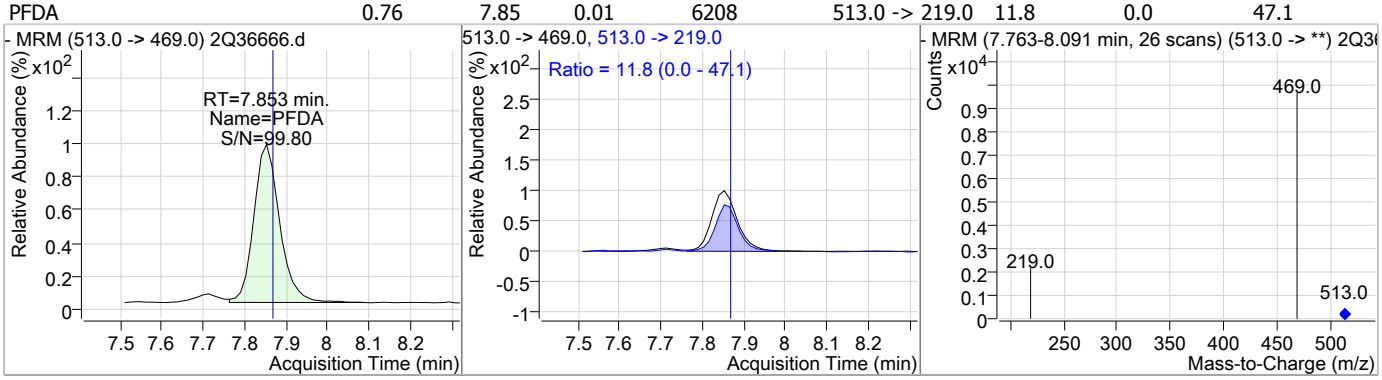
Perfluorinated Compounds by LC/MS/MS

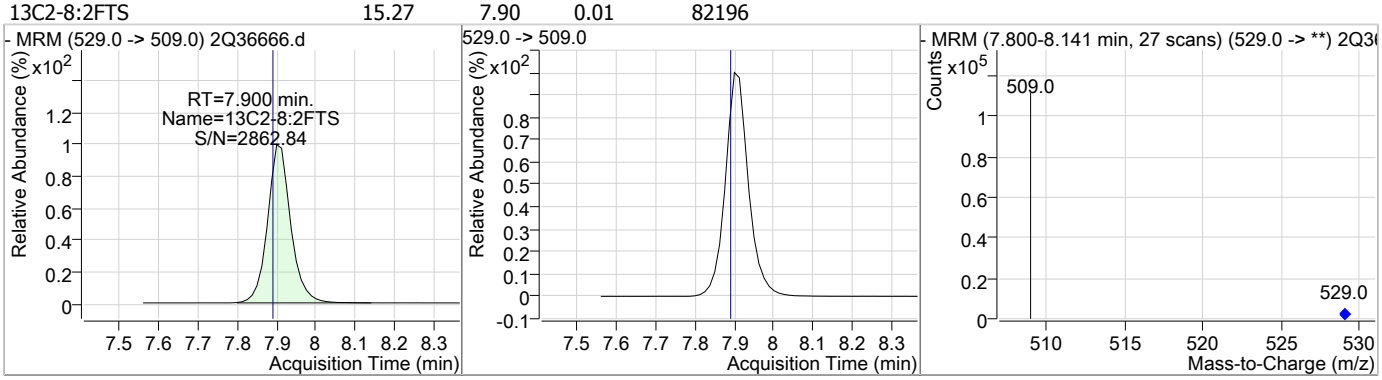
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	15.50	7.86	0.03	328021				



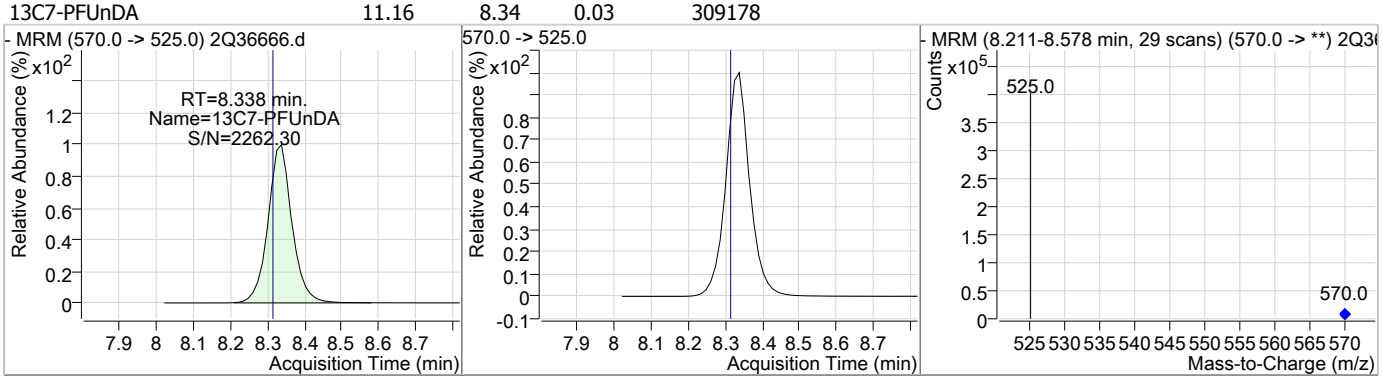
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.76	7.85	0.01	6208	513.0 -> 219.0	11.8	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	15.27	7.90	0.01	82196				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	11.16	8.34	0.03	309178				



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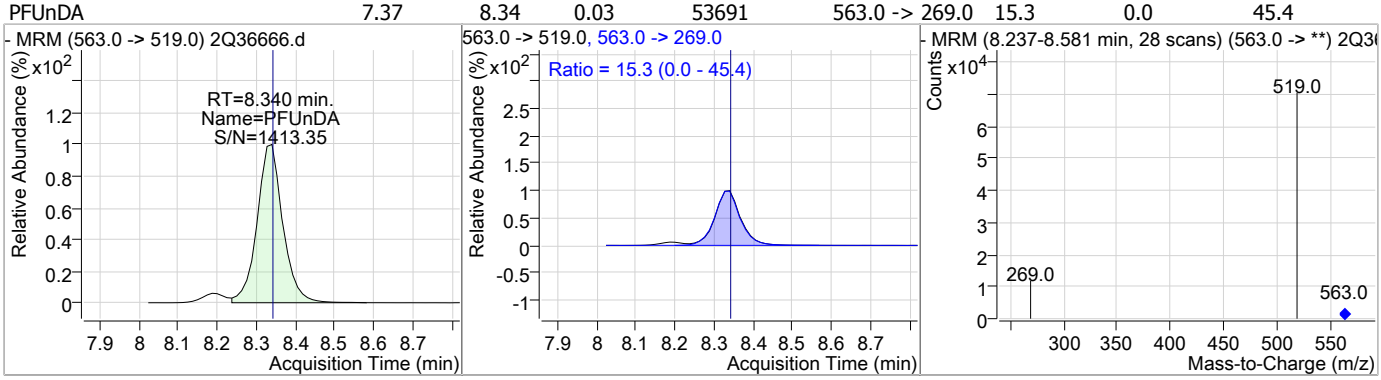
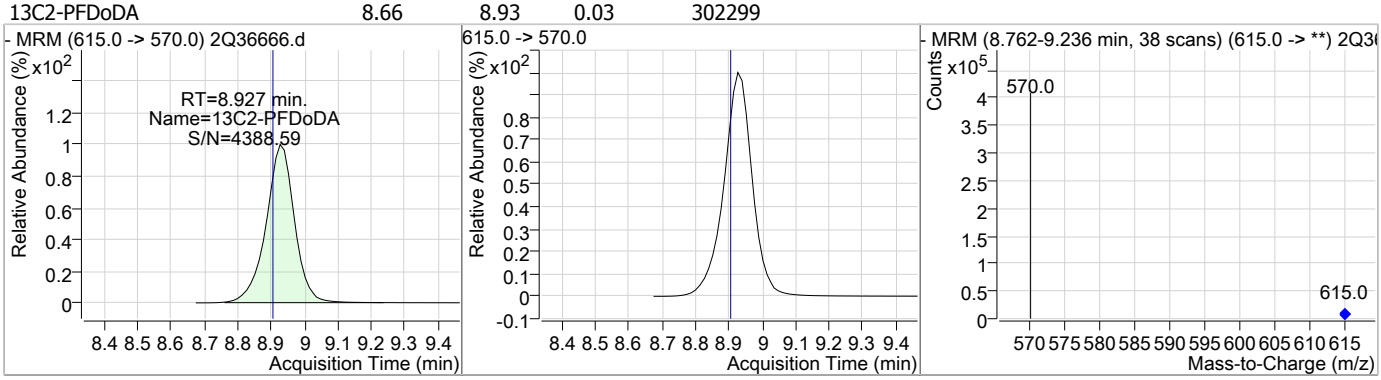
Perfluorinated Compounds by LC/MS/MS

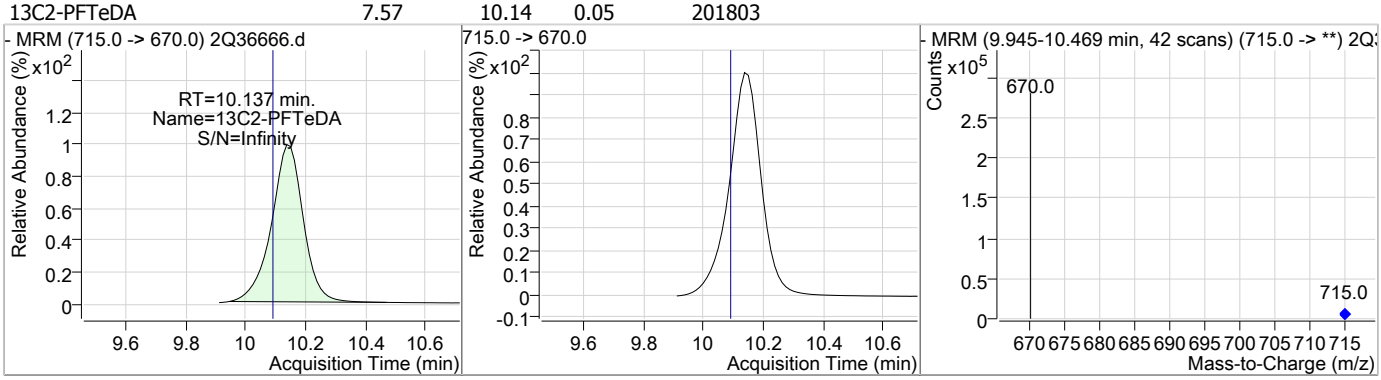
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	7.37	8.34	0.03	53691	563.0 -> 269.0	15.3	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	8.66	8.93	0.03	302299				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	7.57	10.14	0.05	201803				



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Manual Integration Approval Summary

Sample Number:	JC95316-2	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36666.D	**Analyst approved:**	09/27/19 13:04 Natasha Gumtie
Injection Time:	09/26/19 01:56	**Supervisor approved:**	09/27/19 15:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.96	Split peak
Perfluorooctanoic acid	335-67-1		6.69	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.31	Split peak
EtFOSAA	2991-50-6		7.64	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:29

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36738.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 9:07:47 PM
Sample Name	:	JC95316-2
Vial	:	Vial 42
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76964,S2Q571,270,,,1.0,5,water

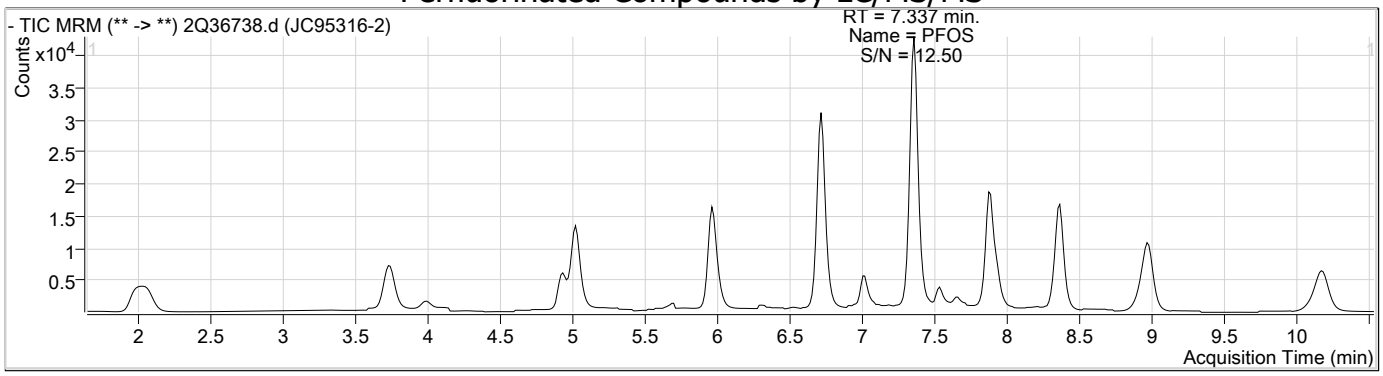
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.027	217.0 -> 172.0	37791	20.00	µg/L	-0.025
M5-PFPeA	3.737	268.0 -> 223.0	31524	20.00	µg/L	-0.013
M5-PFHxA	5.026	318.0 -> 273.0	46137	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	58922	20.00	µg/L	0.025
M8-PFOA	6.721	421.0 -> 376.0	77548	20.00	µg/L	0.025
M9-PFNA	7.364	472.0 -> 427.0	78743	20.00	µg/L	0.025
M6-PFDA	7.878	519.0 -> 474.0	68404	20.00	µg/L	0.013
M7-PFUnDA	8.366	570.0 -> 525.0	63398	20.00	µg/L	0.025
M2-PFDoDA	8.961	615.0 -> 570.0	63946	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	48553	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	15923	20.00	µg/L	0.013
M3-PFBS	3.992	302.0 -> 99.0	5410	20.00	µg/L	0.000
M3-PFHxS	5.998	402.0 -> 99.0	5671	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	6289	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	22478	20.00	µg/L	0.013
M2-6:2FTS	6.718	429.0 -> 409.0	32564	20.00	µg/L	0.025
M2-8:2FTS	7.928	529.0 -> 509.0	16963	20.00	µg/L	0.013
M3-MeFOSAA	7.531	573.0 -> 419.0	8223	20.00	µg/L	0.013
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	22435	3.85	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C2-6:2FTS	6.718	429.0 -> 409.0	33343	4.21	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 21.0%		
13C2-8:2FTS	7.928	529.0 -> 509.0	16952	3.15	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 15.7%		
13C2-PFDoDA	8.961	615.0 -> 570.0	63469	1.82	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.1%		
13C2-PFTeDA	10.163	715.0 -> 670.0	47413	1.78	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 8.9%		
13C3-PFBS	3.992	302.0 -> 99.0	5397	3.95	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.7%		
13C3-PFHxS	5.998	402.0 -> 99.0	5689	3.86	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C4-PFBA	2.027	217.0 -> 172.0	37719	3.85	µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C4-PFHpA	5.966	367.0 -> 322.0	58845	3.86	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C5-PFHxA	5.026	318.0 -> 273.0	46116	3.95	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.8%		
13C5-PFPeA	3.737	268.0 -> 223.0	31465	3.82	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.1%		
13C6-PFDA	7.878	519.0 -> 474.0	68249	3.23	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

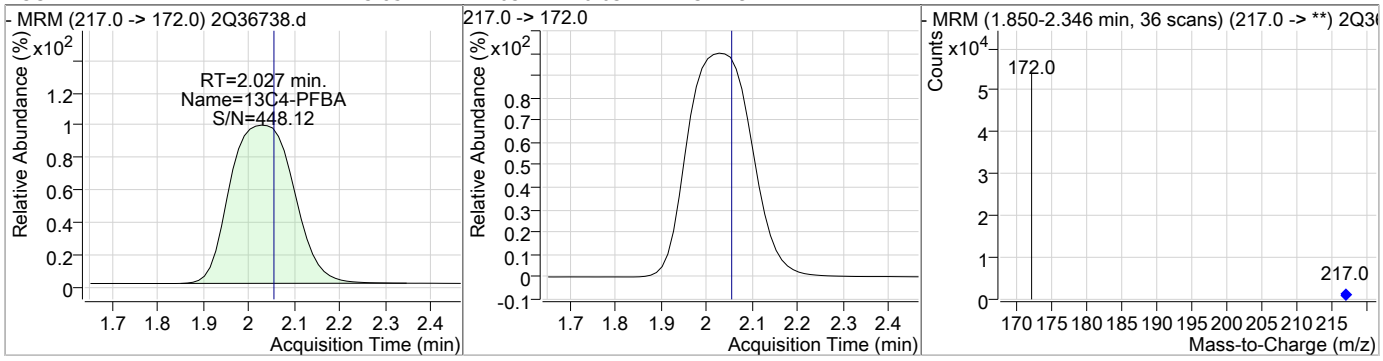
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 16.1%		
13C7-PFUnDA	8.366	570.0 -> 525.0	63306	2.28 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 11.4%		
13C8-FOSA	7.003	506.0 -> 78.0	15935	2.80 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 14.0%		
13C8-PFOA	6.721	421.0 -> 376.0	77499	4.24 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 21.2%		
13C8-PFOS	7.334	507.0 -> 99.0	6313	3.24 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 16.2%		
13C9-PFNA	7.364	472.0 -> 427.0	78688	4.16 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.8%		
d3-MeFOSAA	7.531	573.0 -> 419.0	8252	2.52 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 12.6%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.048	213.0 -> 169.0	862	0.49 µg/L		100
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.969	363.0 -> 319.0	5125	0.38 µg/L		99
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.028	313.0 -> 269.0	2170	0.61 µg/L		93
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.365	463.0 -> 419.0	71133	5.78 µg/L		99
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.724	413.0 -> 369.0	12518	1.20 µg/L	m	99
PFOS	7.337	499.0 -> 80.0	2931	1.96 µg/L	m	96
PFPeA	3.740	263.0 -> 219.0	4829	0.61 µg/L		100
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	8.369	563.0 -> 519.0	10851	1.45 µg/L		99
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

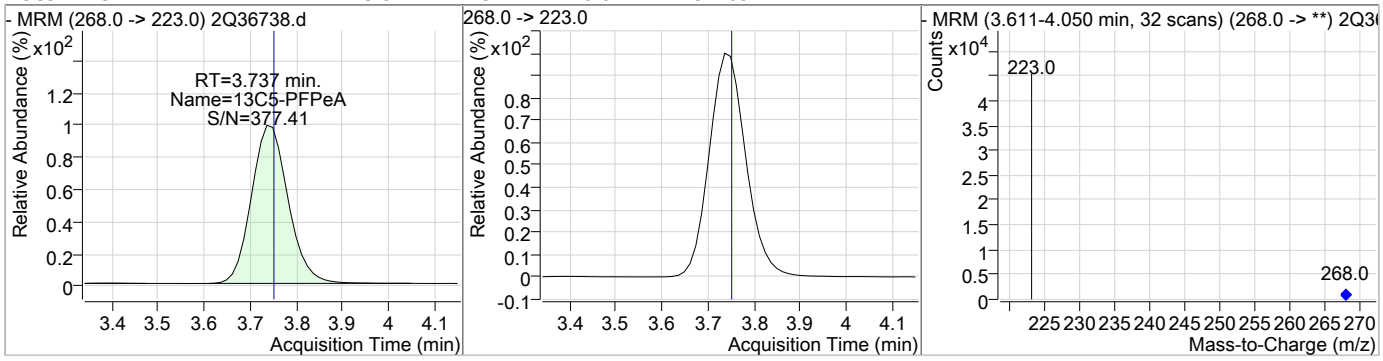
Perfluorinated Compounds by LC/MS/MS



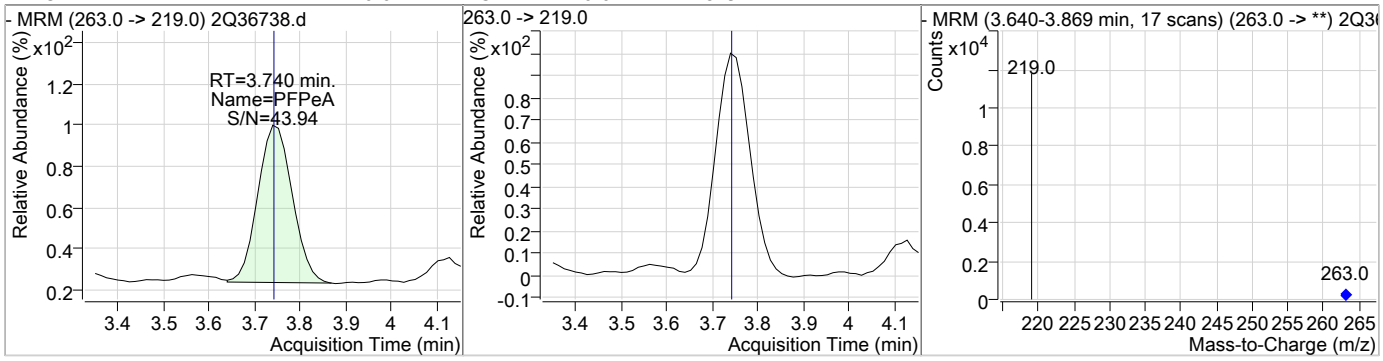
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	3.85	2.03	-0.03	37719				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	3.82	3.74	-0.01	31465				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.61	3.74	-0.01	4829				



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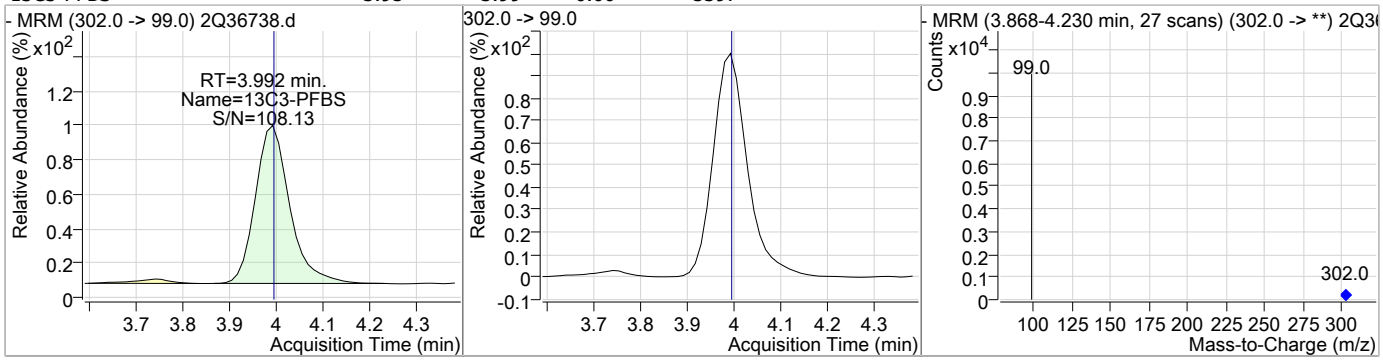
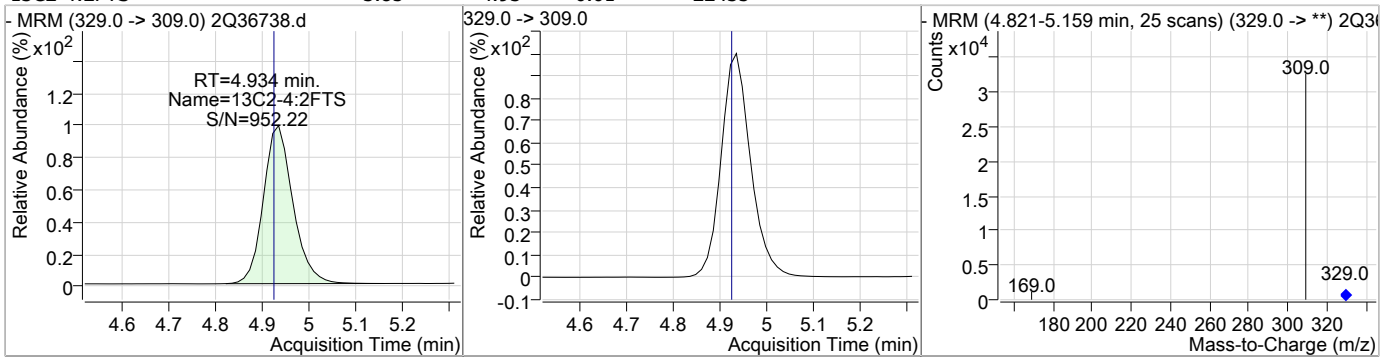
Perfluorinated Compounds by LC/MS/MS

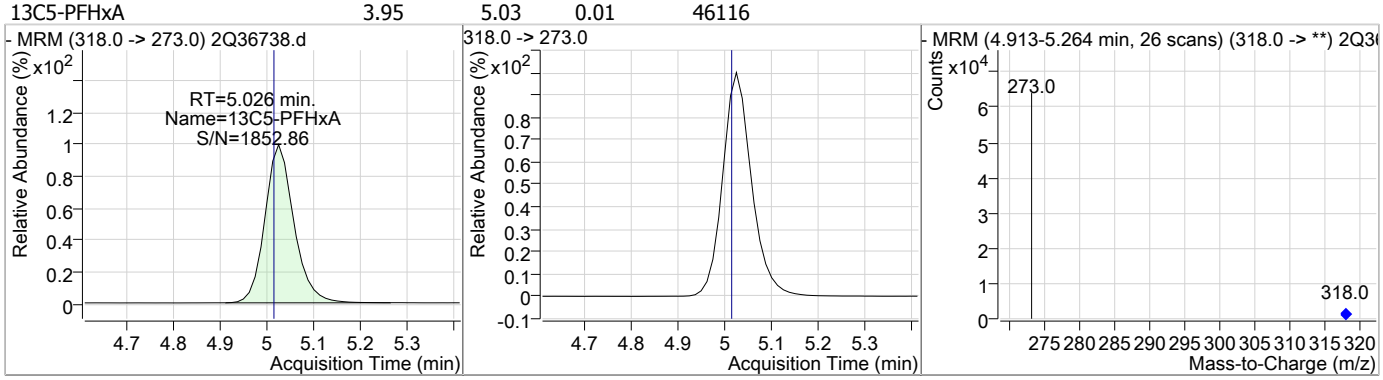
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.95	3.99	0.00	5397				



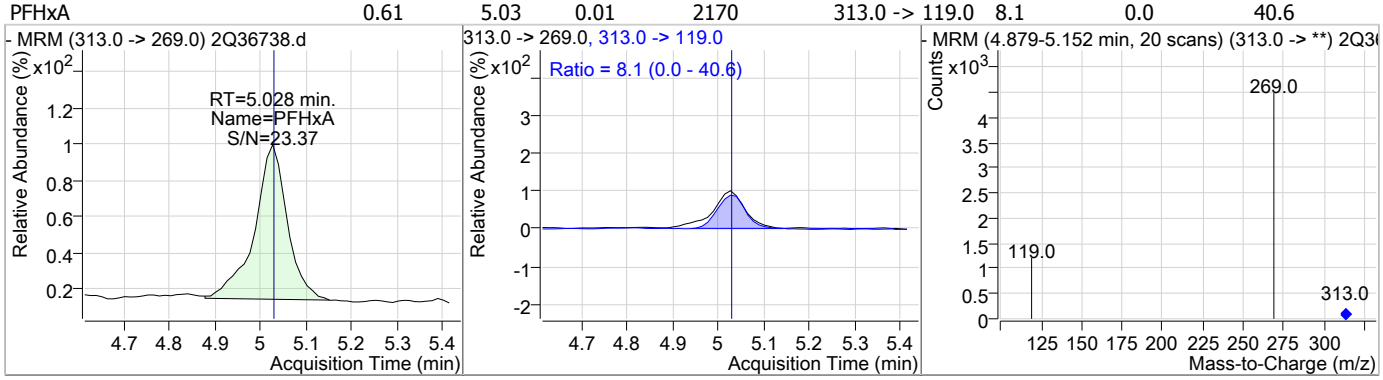
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.85	4.93	0.01	22435				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.95	5.03	0.01	46116				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.61	5.03	0.01	2170	313.0 -> 119.0	8.1	0.0	40.6



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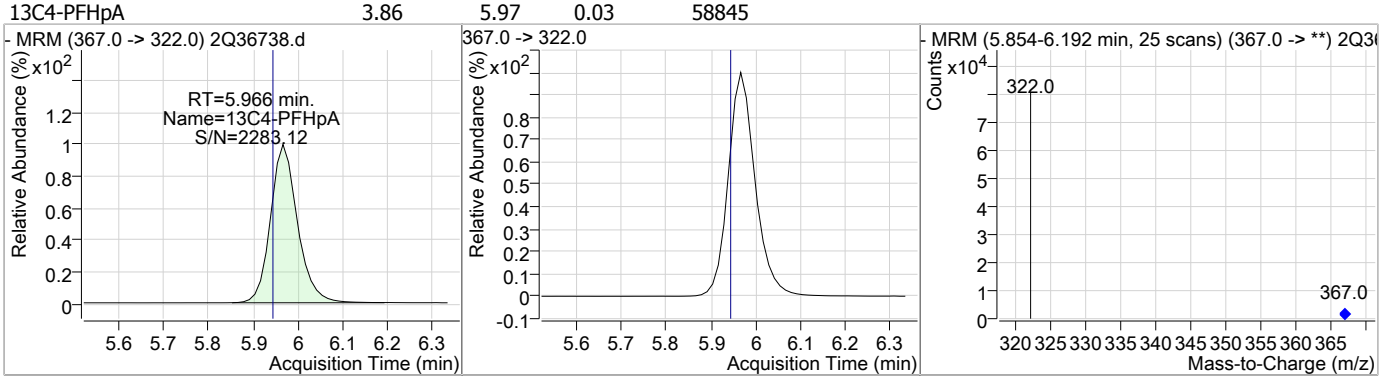
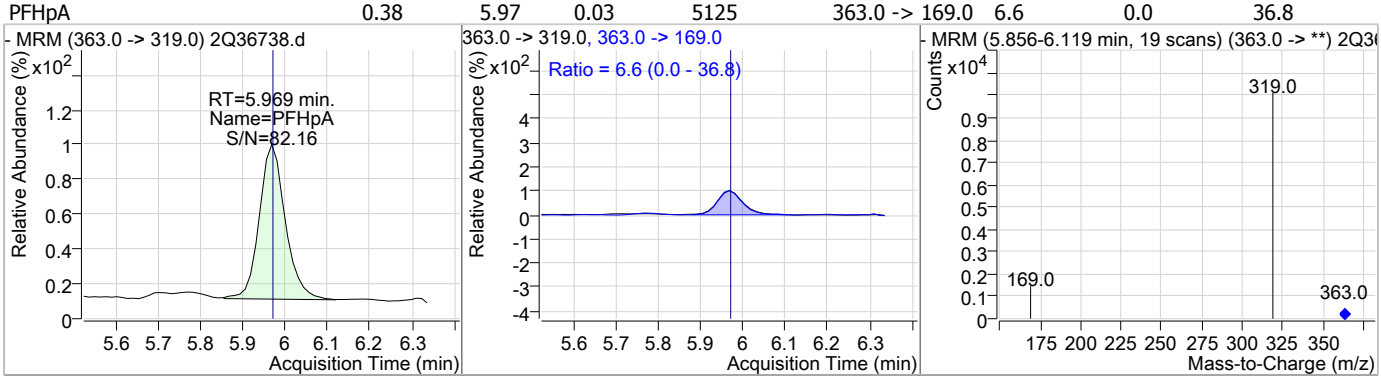
Perfluorinated Compounds by LC/MS/MS

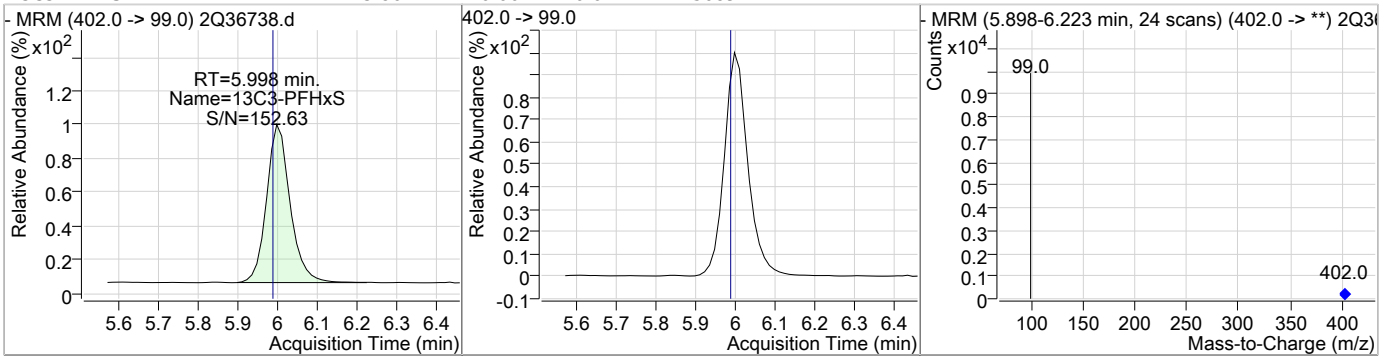
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.86	5.97	0.03	58845				



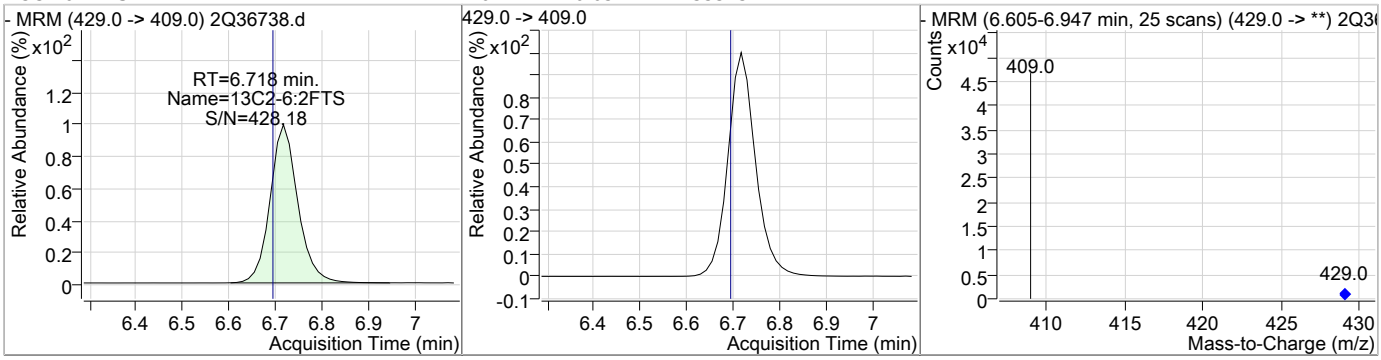
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.38	5.97	0.03	5125	363.0 -> 169.0	6.6	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.86	6.00	0.01	5689				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.21	6.72	0.03	33343				



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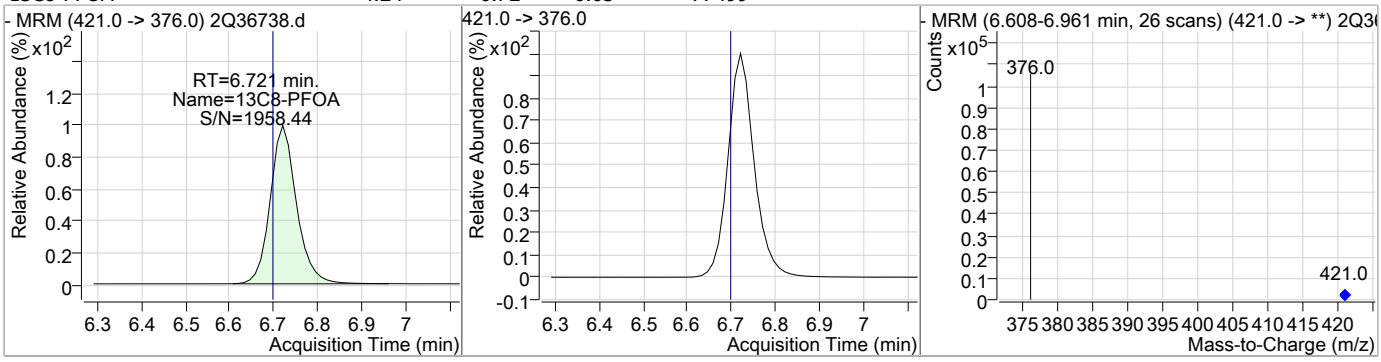
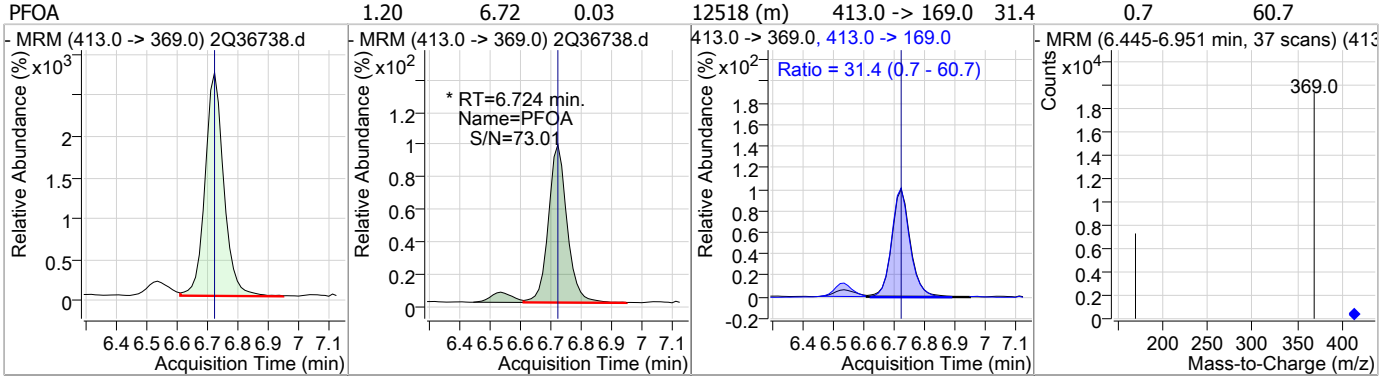
Perfluorinated Compounds by LC/MS/MS

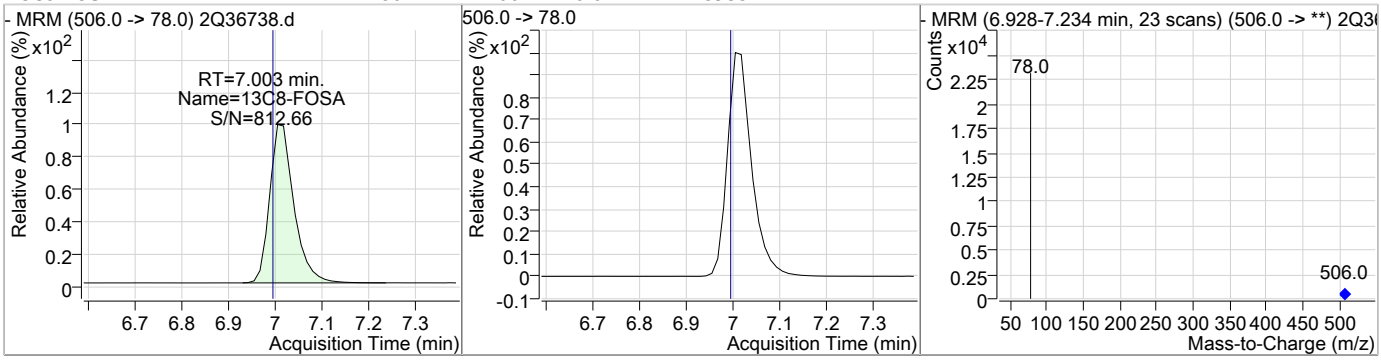
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	4.24	6.72	0.03	77499				



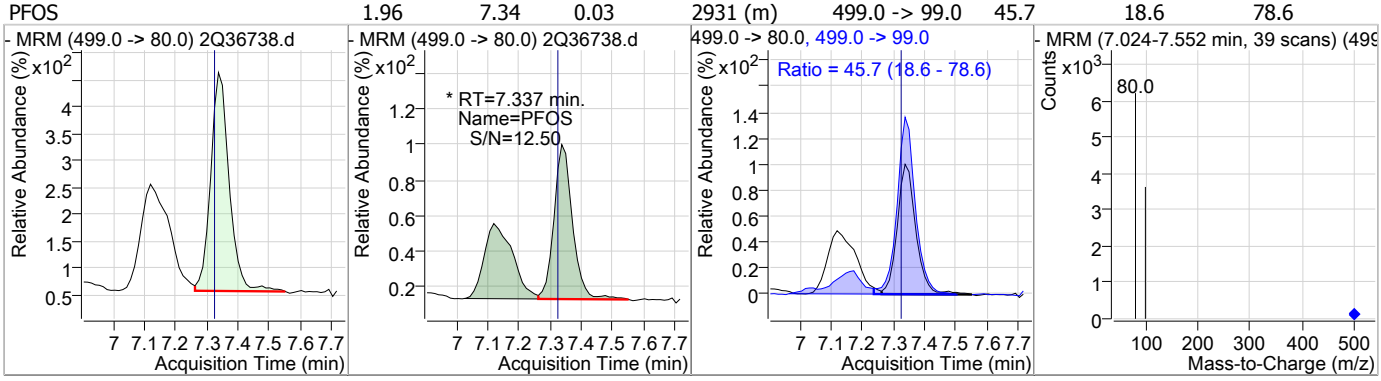
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.20	6.72	0.03	12518 (m)	413.0 -> 169.0	31.4	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.80	7.00	0.01	15935				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.96	7.34	0.03	2931 (m)	499.0 -> 99.0	45.7	18.6	78.6



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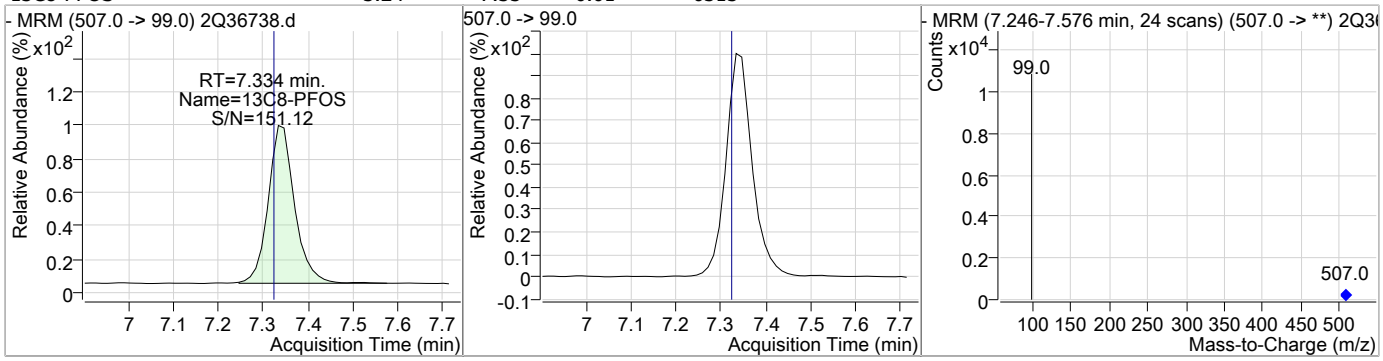
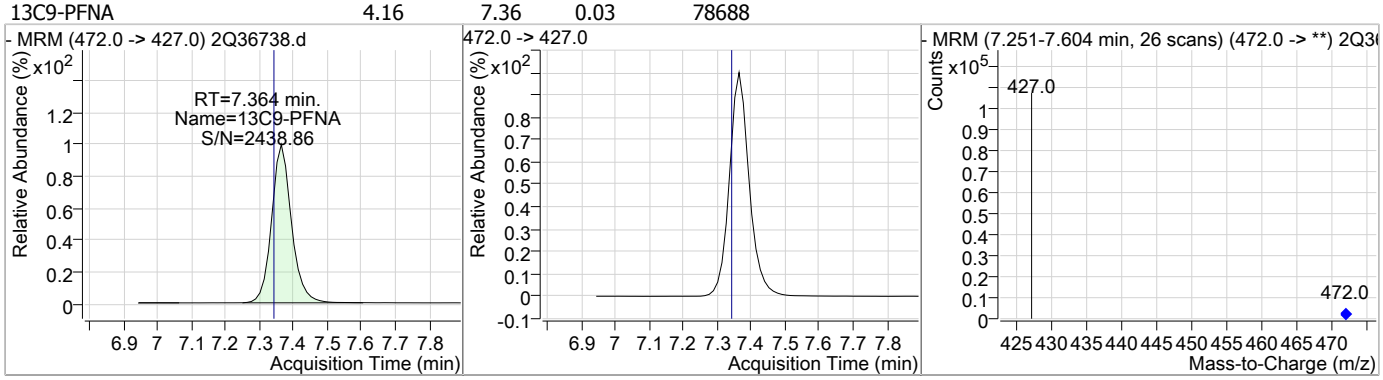
Perfluorinated Compounds by LC/MS/MS

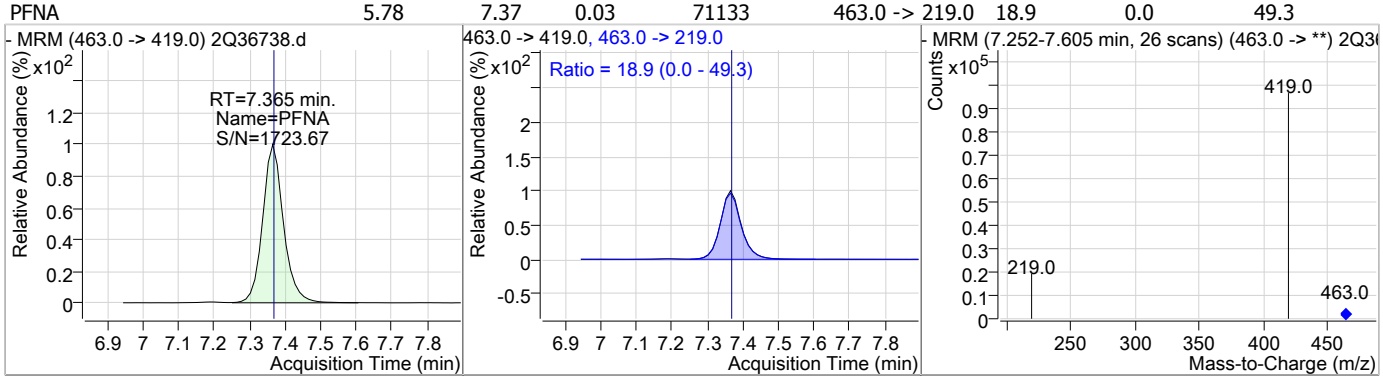
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.24	7.33	0.01	6313				



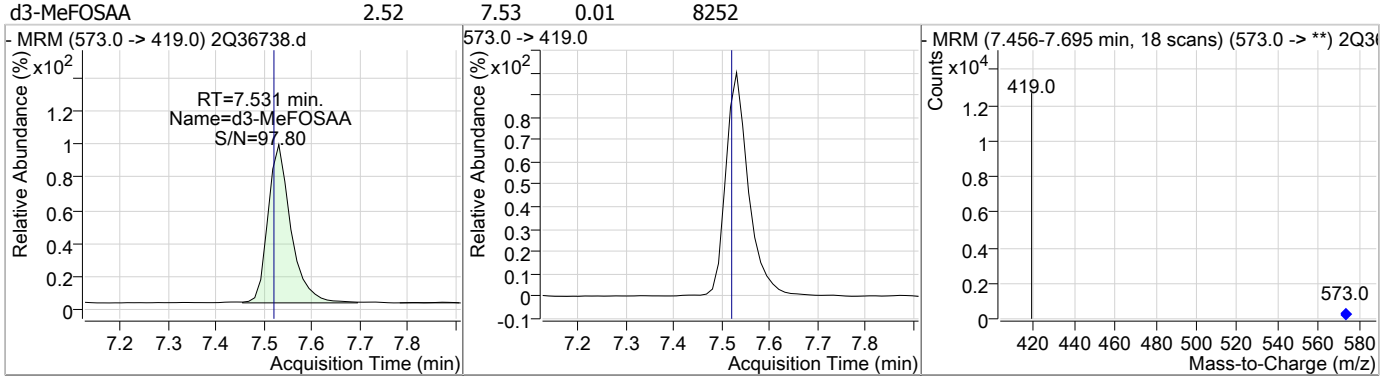
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	4.16	7.36	0.03	78688				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	5.78	7.37	0.03	71133	463.0 -> 219.0	18.9	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	2.52	7.53	0.01	8252				



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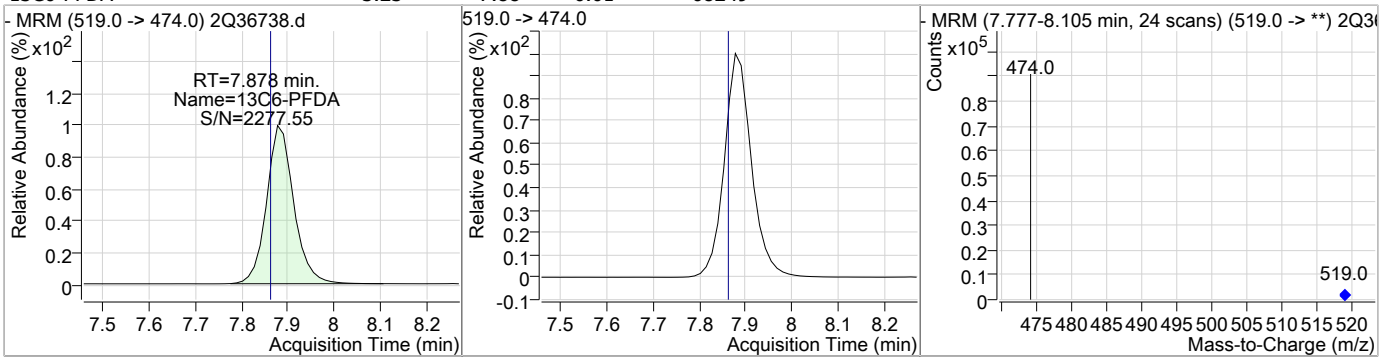
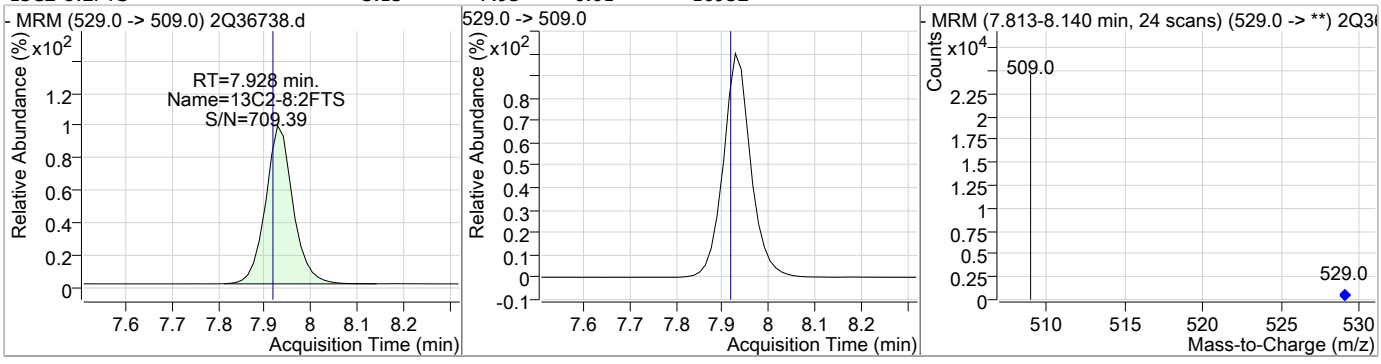
Perfluorinated Compounds by LC/MS/MS

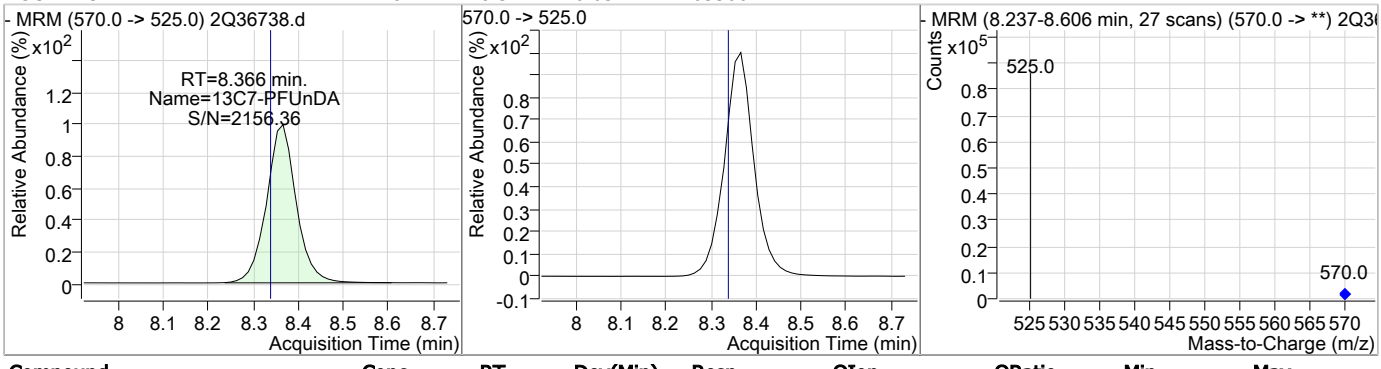
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	3.23	7.88	0.01	68249				



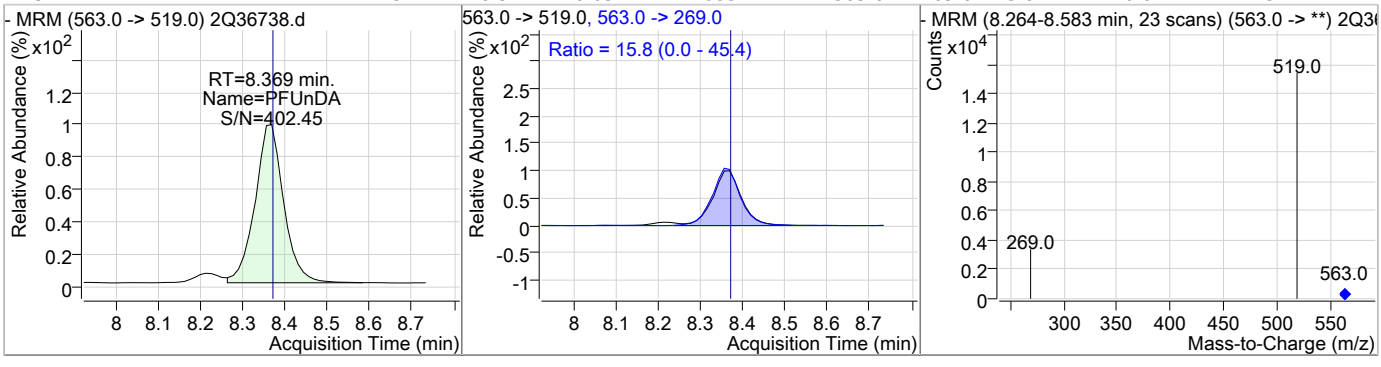
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	3.15	7.93	0.01	16952				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	2.28	8.37	0.03	63306				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.45	8.37	0.03	10851	563.0 -> 269.0	15.8	0.0	45.4



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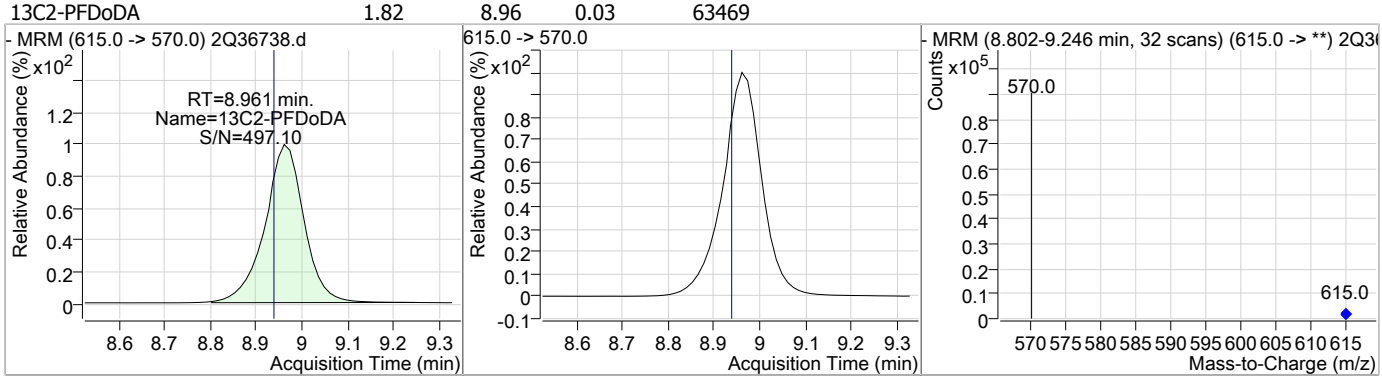
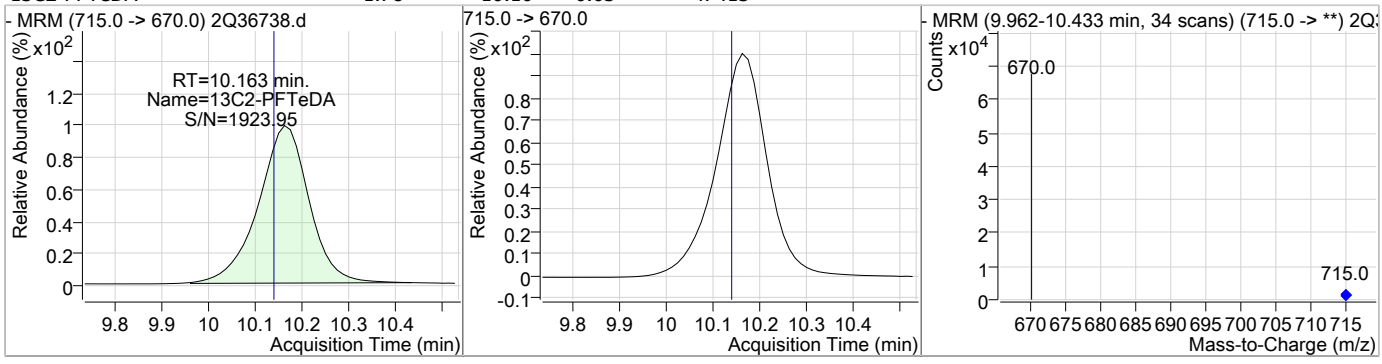
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.82	8.96	0.03	63469				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.78	10.16	0.03	47413				



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Manual Integration Approval Summary

Sample Number:	JC95316-2	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36738.D	**Analyst approved:**	09/27/19 13:04 Natasha Gumtie
Injection Time:	09/26/19 21:07	**Supervisor approved:**	09/27/19 15:29 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		6.72	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:15

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36667.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 2:11:55 AM
Sample Name	:	JC95316-3
Vial	:	Vial 57
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

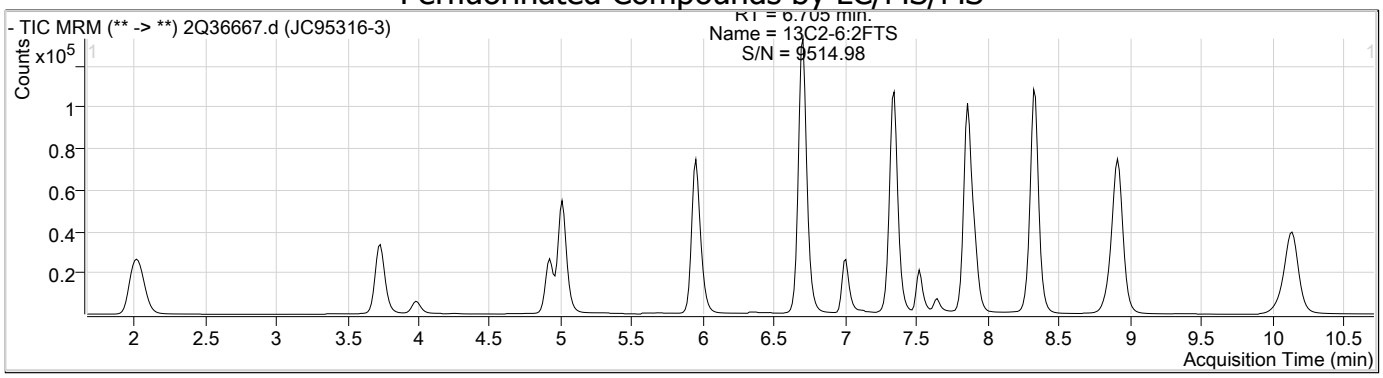
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.015	217.0 -> 172.0	192628	20.00	µg/L	-0.025
M5-PFPeA	3.736	268.0 -> 223.0	156726	20.00	µg/L	0.013
M5-PFHxA	5.013	318.0 -> 273.0	224558	20.00	µg/L	0.025
M4-PFHpA	5.955	367.0 -> 322.0	296239	20.00	µg/L	0.038
M8-PFOA	6.708	421.0 -> 376.0	382057	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	388720	20.00	µg/L	0.038
M6-PFDA	7.865	519.0 -> 474.0	384458	20.00	µg/L	0.025
M7-PFUnDA	8.325	570.0 -> 525.0	410287	20.00	µg/L	0.014
M2-PFDoDA	8.914	615.0 -> 570.0	432957	20.00	µg/L	0.013
M2-PFTeDA	10.137	715.0 -> 670.0	287758	20.00	µg/L	0.050
M8-FOSA	7.002	506.0 -> 78.0	90513	20.00	µg/L	0.038
M3-PFBS	3.980	302.0 -> 99.0	25259	20.00	µg/L	0.013
M3-PFHxS	5.985	402.0 -> 99.0	28459	20.00	µg/L	0.038
M8-PFOS	7.321	507.0 -> 99.0	34429	20.00	µg/L	0.038
M2-4:2FTS	4.921	329.0 -> 309.0	109454	20.00	µg/L	0.024
M2-6:2FTS	6.705	429.0 -> 409.0	163045	20.00	µg/L	0.038
M2-8:2FTS	7.913	529.0 -> 509.0	95569	20.00	µg/L	0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	65182	20.00	µg/L	0.025
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	109540	18.81	µg/L	0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C2-6:2FTS	6.705	429.0 -> 409.0	163002	20.56	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C2-8:2FTS	7.913	529.0 -> 509.0	95561	17.75	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.8%		
13C2-PFDoDA	8.914	615.0 -> 570.0	430427	12.33	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 61.6%		
13C2-PFTeDA	10.137	715.0 -> 670.0	286380	10.75	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 53.7%		
13C3-PFBS	3.980	302.0 -> 99.0	25273	18.49	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.4%		
13C3-PFHxS	5.985	402.0 -> 99.0	28436	19.29	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C4-PFBA	2.015	217.0 -> 172.0	191847	19.59	µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C4-PFHpA	5.955	367.0 -> 322.0	296099	19.44	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C5-PFHxA	5.013	318.0 -> 273.0	224373	19.22	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C5-PFPeA	3.736	268.0 -> 223.0	156706	19.04	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.2%		
13C6-PFDA	7.865	519.0 -> 474.0	384206	18.16	µg/L	0.025

Perfluorinated Compounds by LC/MS/MS

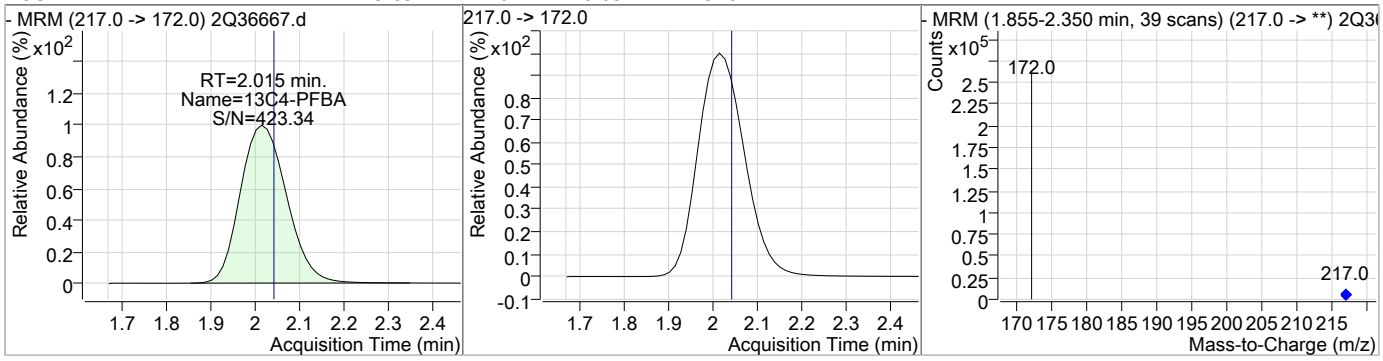
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.8%		
13C7-PFUnDA	8.325	570.0 -> 525.0	409952	14.79 µg/L		0.014
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 74.0%		
13C8-FOSA	7.002	506.0 -> 78.0	90450	15.89 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.5%		
13C8-PFOA	6.708	421.0 -> 376.0	381914	20.87 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.4%		
13C8-PFOS	7.321	507.0 -> 99.0	34416	17.68 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.4%		
13C9-PFNA	7.351	472.0 -> 427.0	388620	20.56 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
d3-MeFOSAA	7.518	573.0 -> 419.0	65583	20.07 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.706	427.0 -> 407.0	4805	1.19 µg/L		96
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.011	213.0 -> 169.0	766	0.43 µg/L		100
PFBS	3.983	299.0 -> 80.0	810	0.41 µg/L		91
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.015	313.0 -> 269.0	1898	0.55 µg/L		99
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.352	463.0 -> 419.0	19137	1.57 µg/L		98
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.711	413.0 -> 369.0	5504	0.54 µg/L	m	98
PFOS	7.324	499.0 -> 80.0	3702	2.27 µg/L	m	89
PFPeA	3.740	263.0 -> 219.0	7374	0.93 µg/L		100
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	8.328	563.0 -> 519.0	59118	6.12 µg/L		100
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

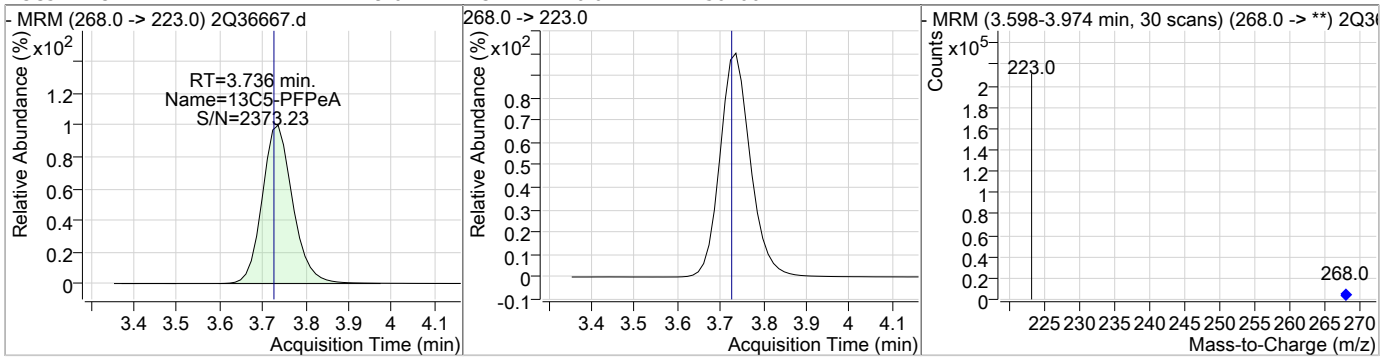
Perfluorinated Compounds by LC/MS/MS



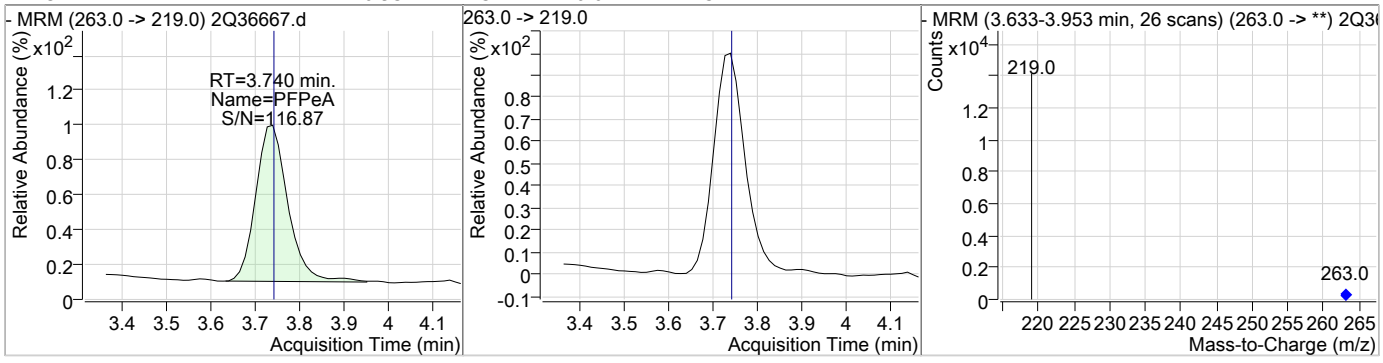
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.59	2.01	-0.03	191847				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.04	3.74	0.01	156706				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.93	3.74	0.01	7374				



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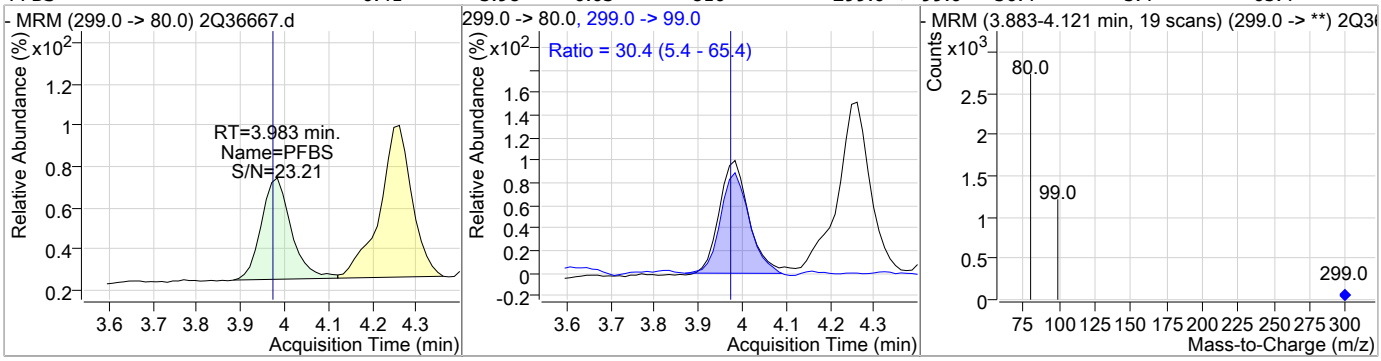
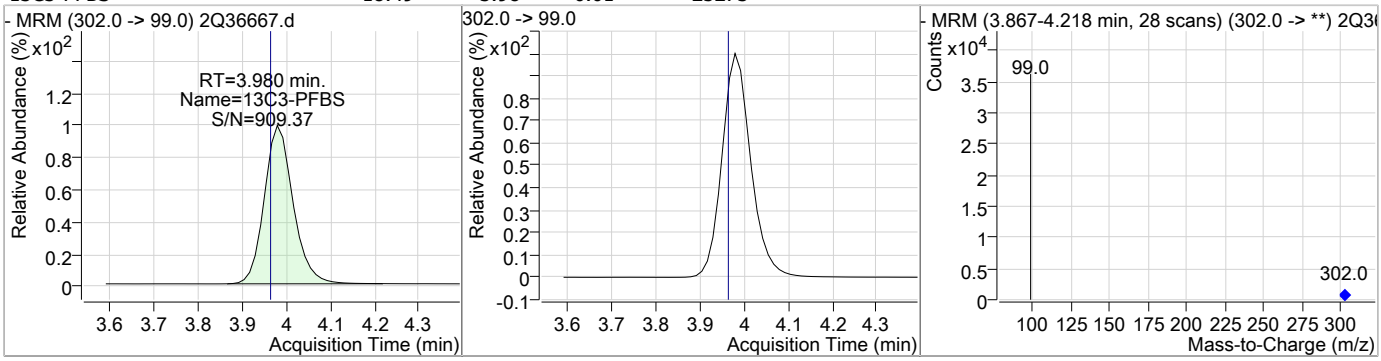
Perfluorinated Compounds by LC/MS/MS

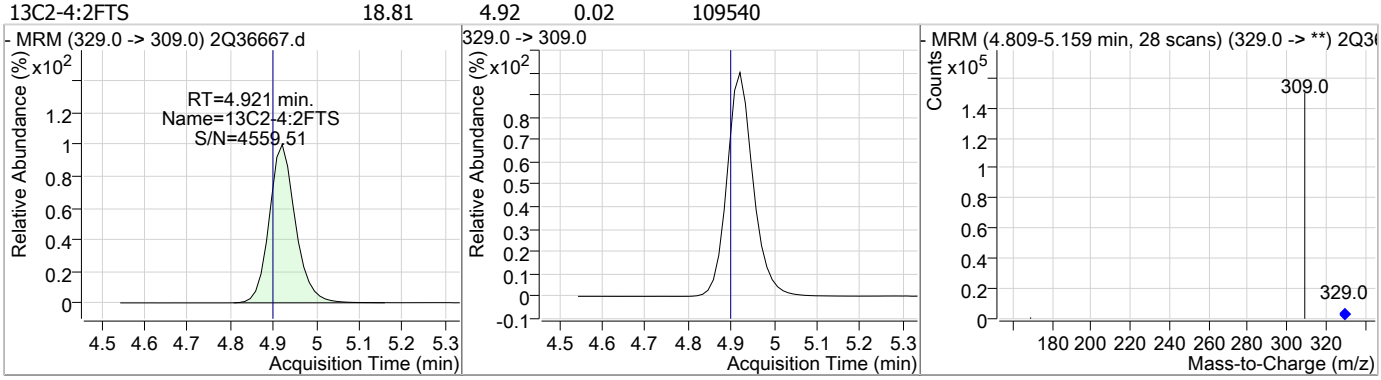
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.41	3.98	0.03	810	299.0 -> 99.0	30.4	5.4	65.4



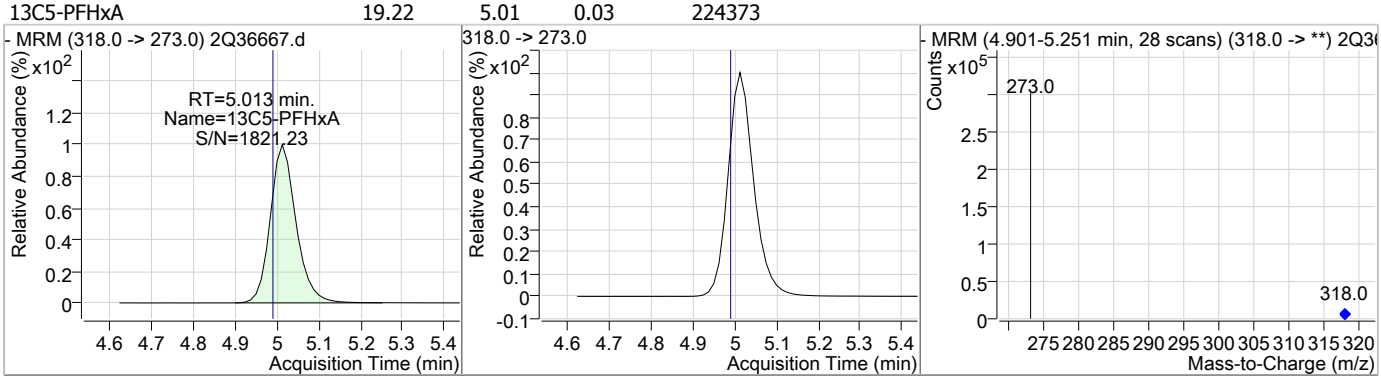
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	18.49	3.98	0.01	25273				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.81	4.92	0.02	109540				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.22	5.01	0.03	224373				



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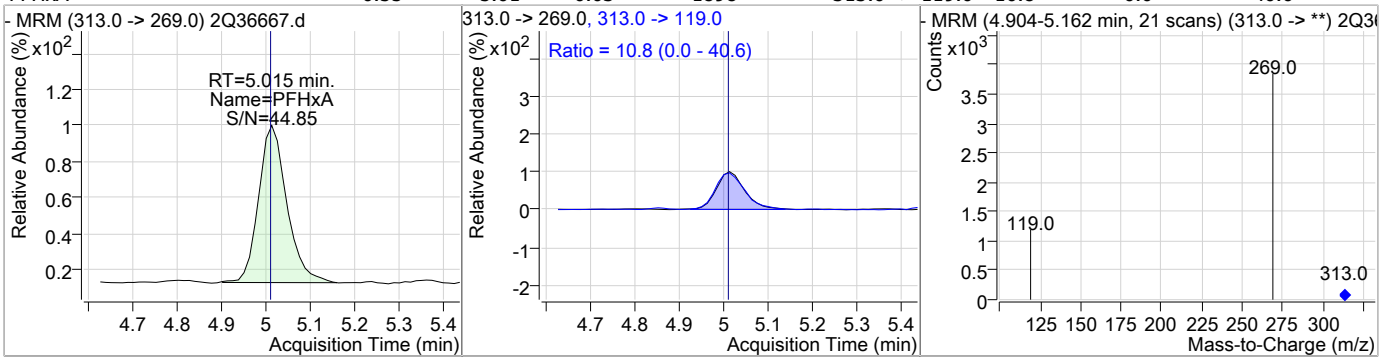
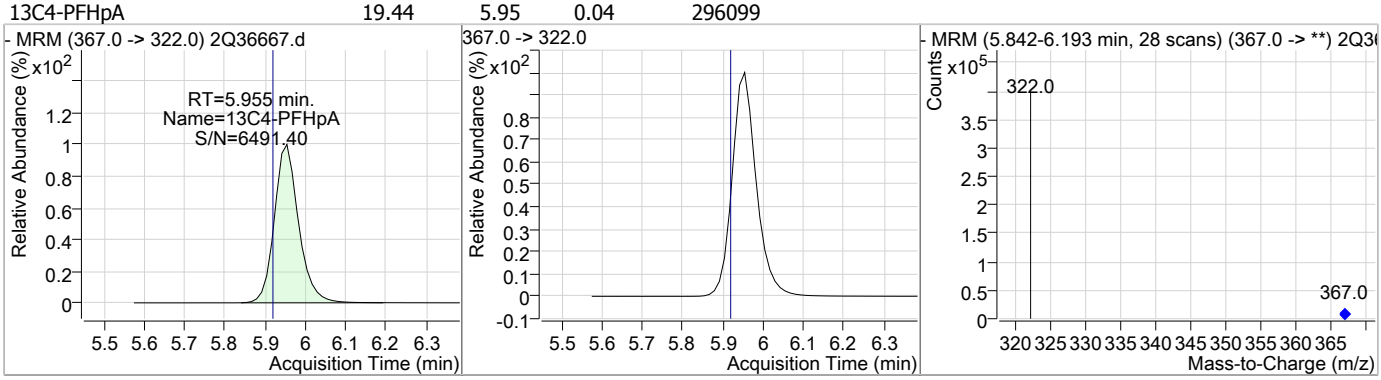
Perfluorinated Compounds by LC/MS/MS

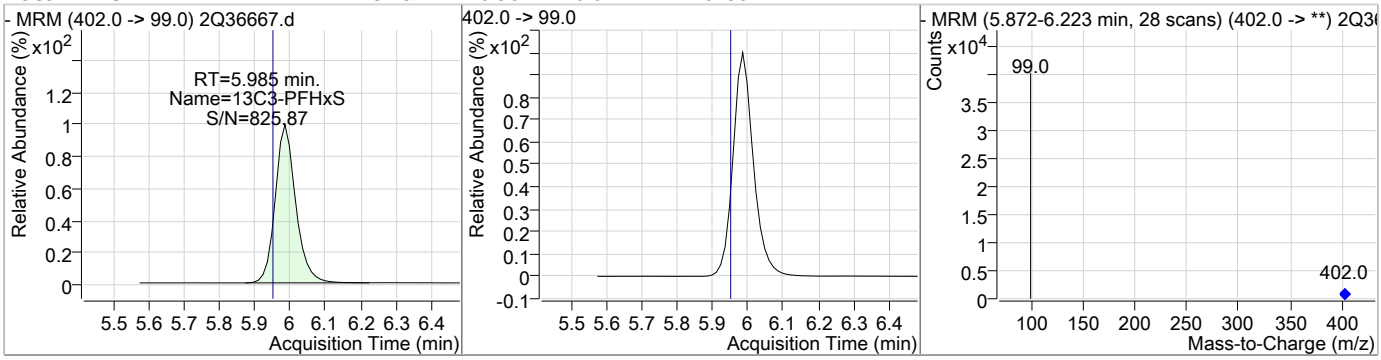
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.55	5.01	0.03	1898	313.0 -> 119.0	10.8	0.0	40.6



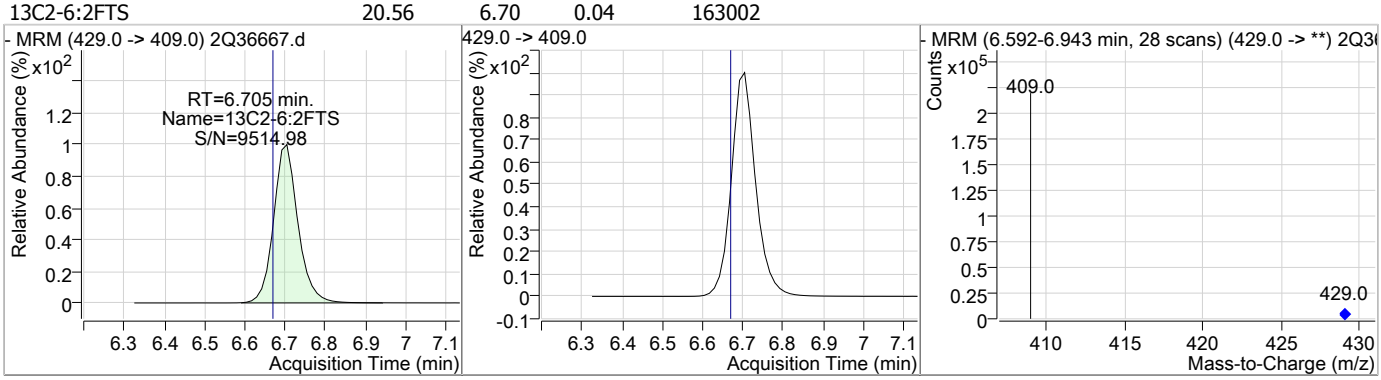
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.44	5.95	0.04	296099				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.29	5.98	0.04	28436				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.56	6.70	0.04	163002				



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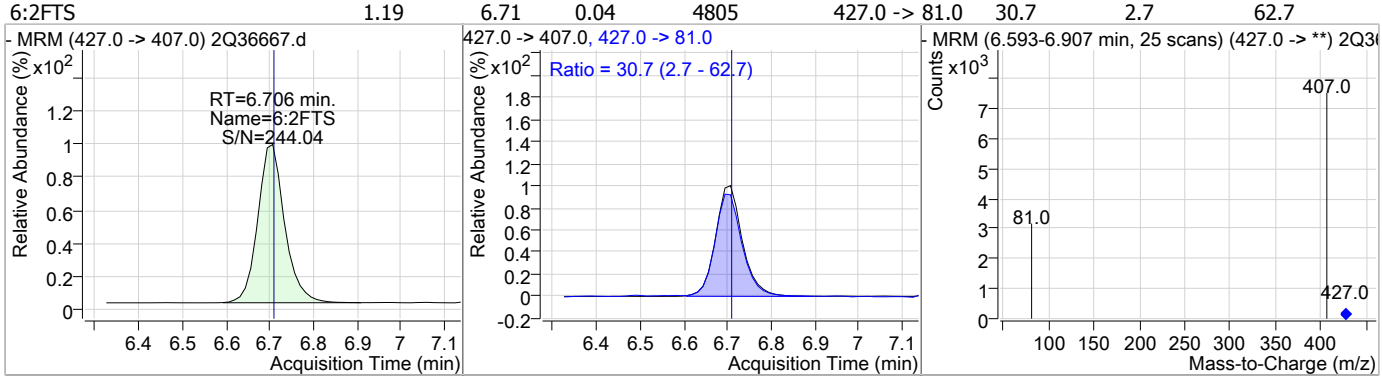
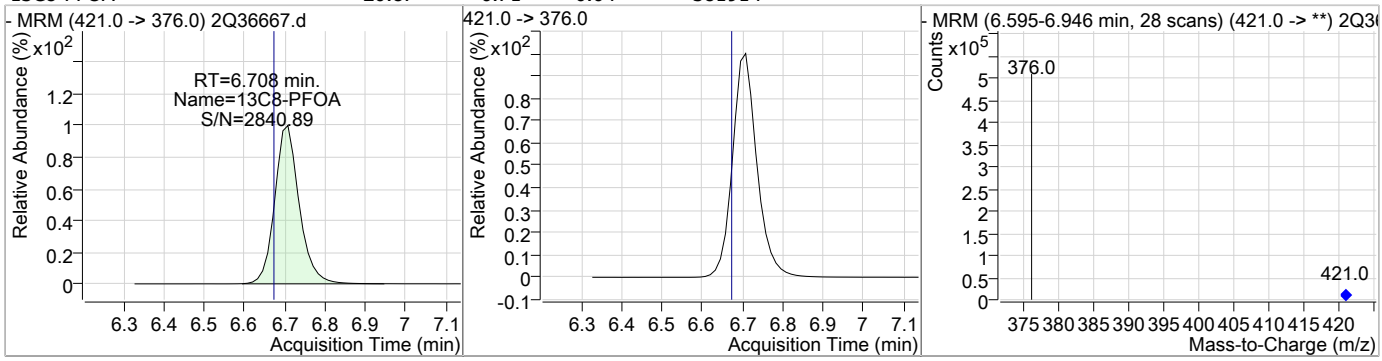
Perfluorinated Compounds by LC/MS/MS

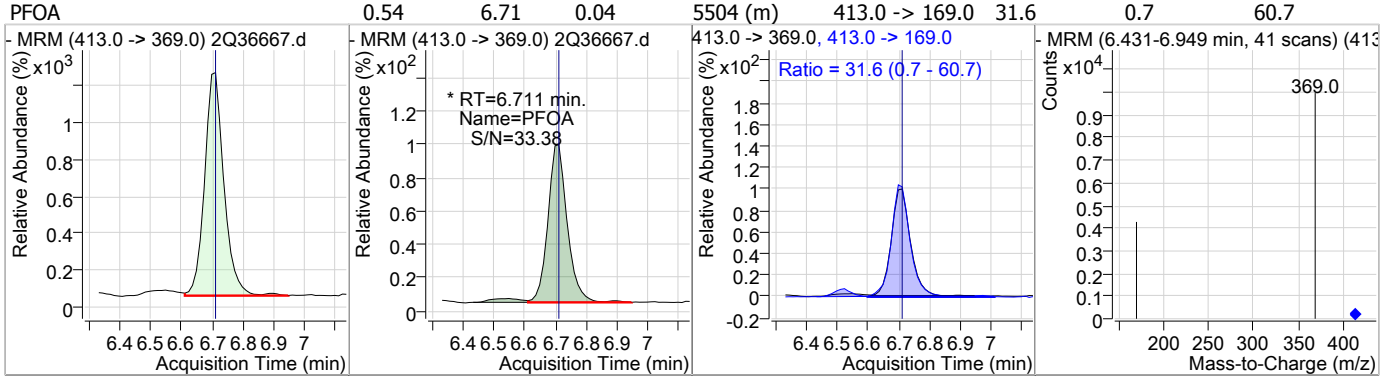
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.19	6.71	0.04	4805	427.0 -> 81.0	30.7	2.7	62.7



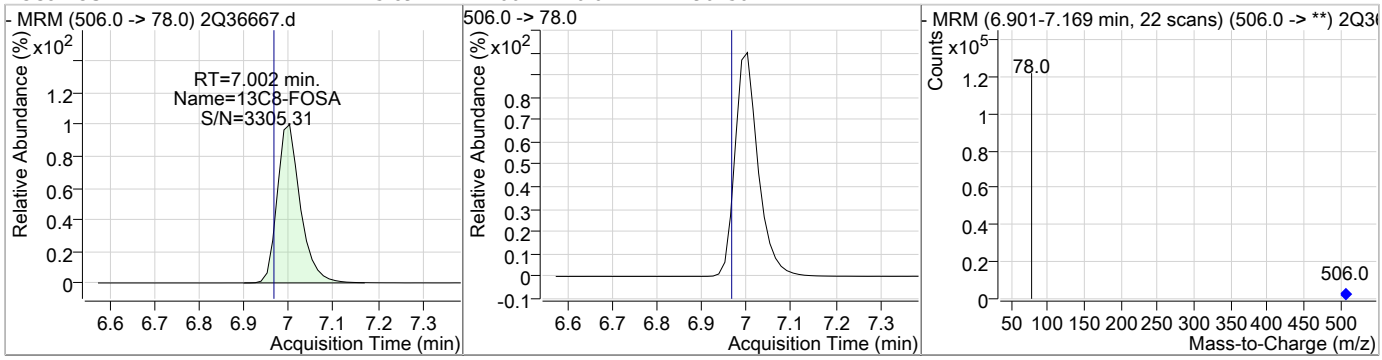
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.87	6.71	0.04	381914				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.54	6.71	0.04	5504 (m)	413.0 -> 169.0	31.6	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	15.89	7.00	0.04	90450				



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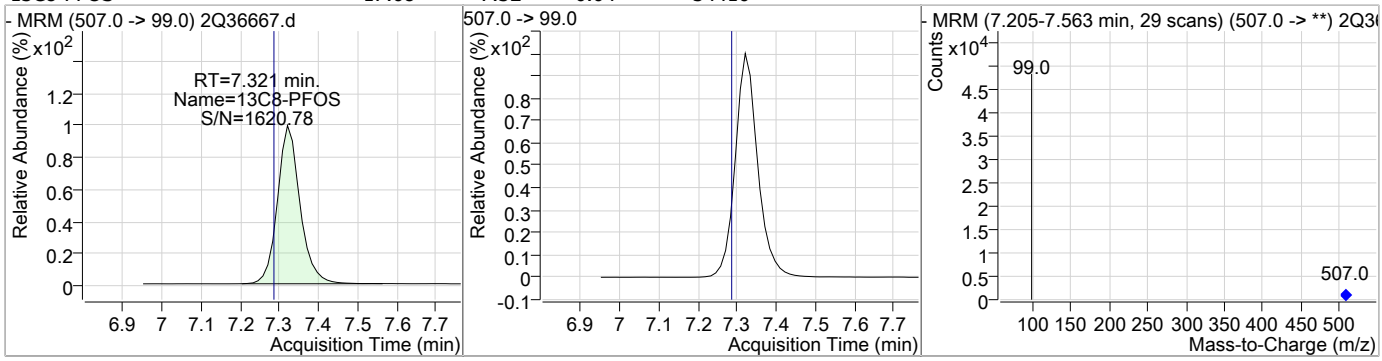
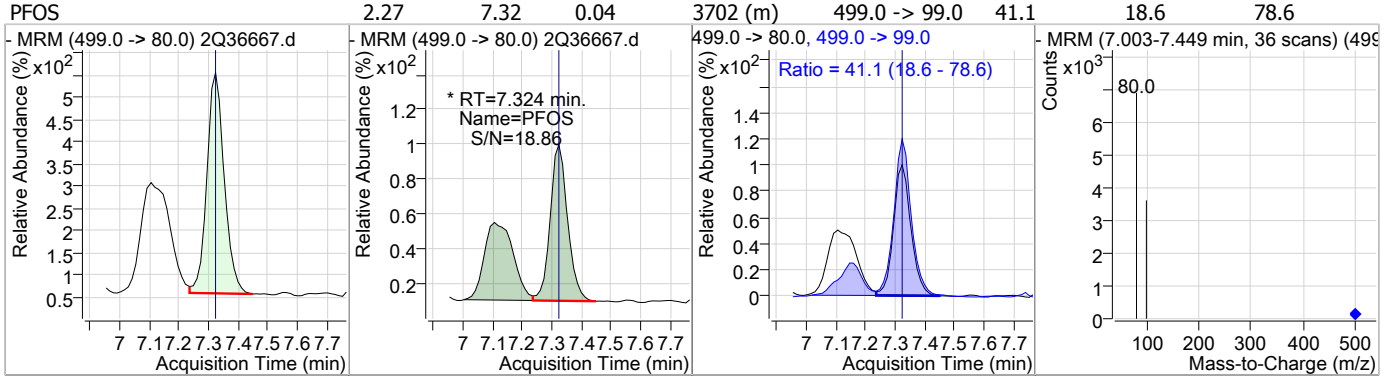
Perfluorinated Compounds by LC/MS/MS

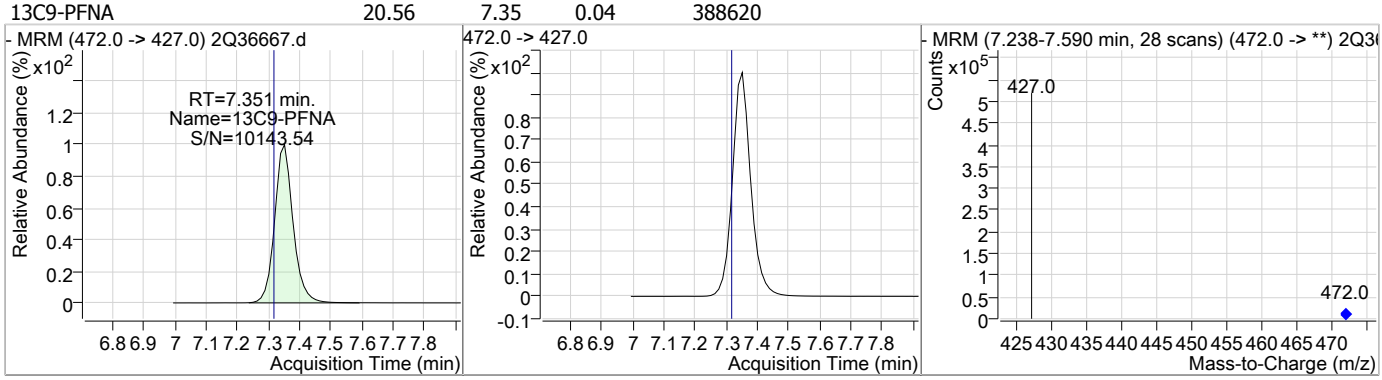
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	17.68	7.32	0.04	34416				



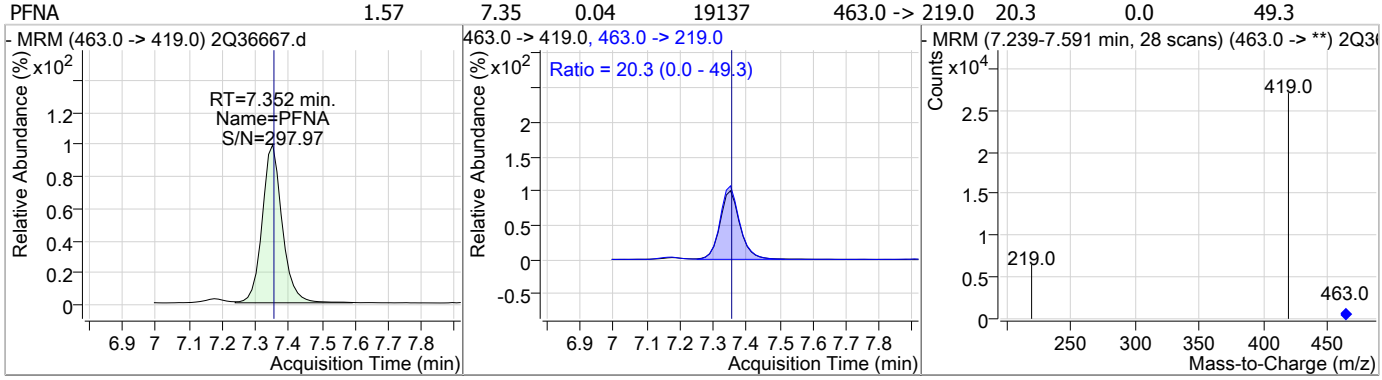
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.27	7.32	0.04	3702 (m)	499.0 -> 99.0	41.1	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.56	7.35	0.04	388620				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.57	7.35	0.04	19137	463.0 -> 219.0	20.3	0.0	49.3



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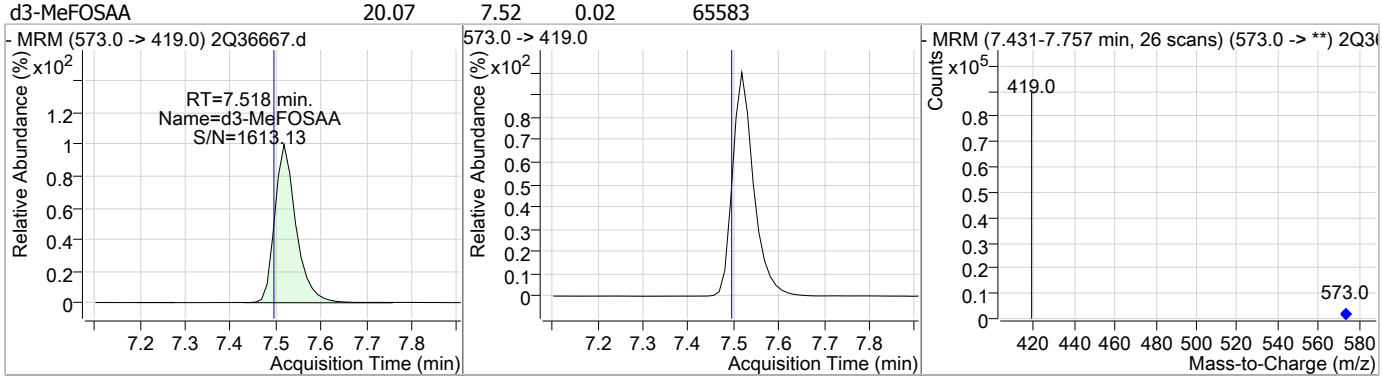
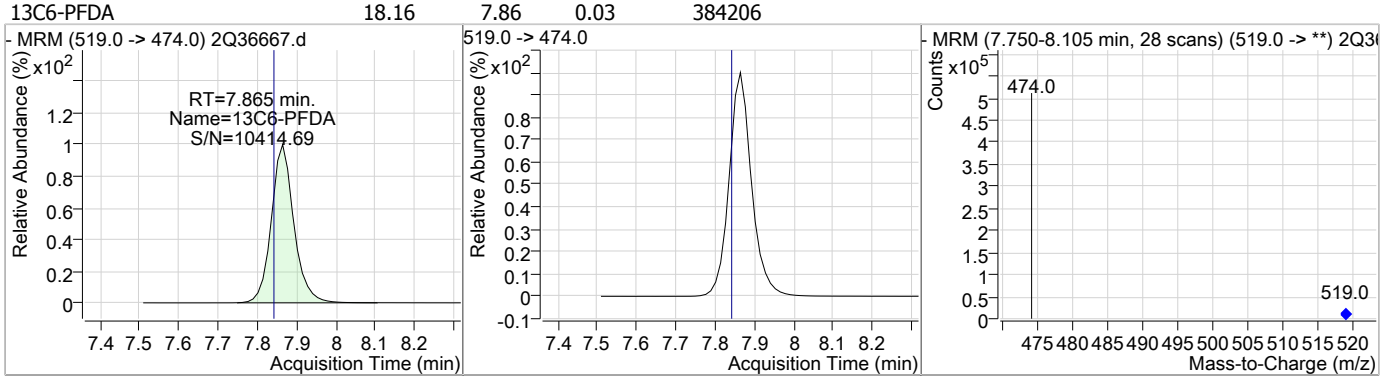
Perfluorinated Compounds by LC/MS/MS

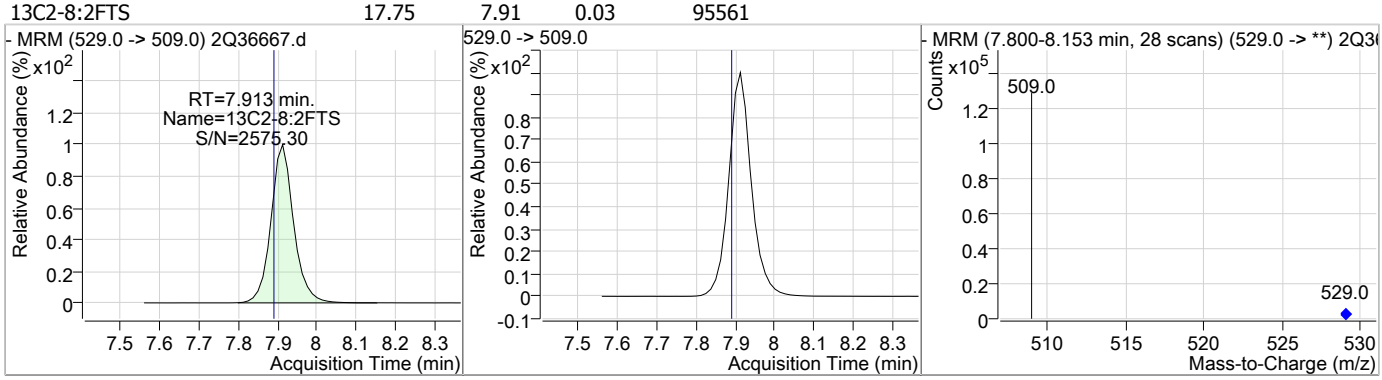
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.07	7.52	0.02	65583				



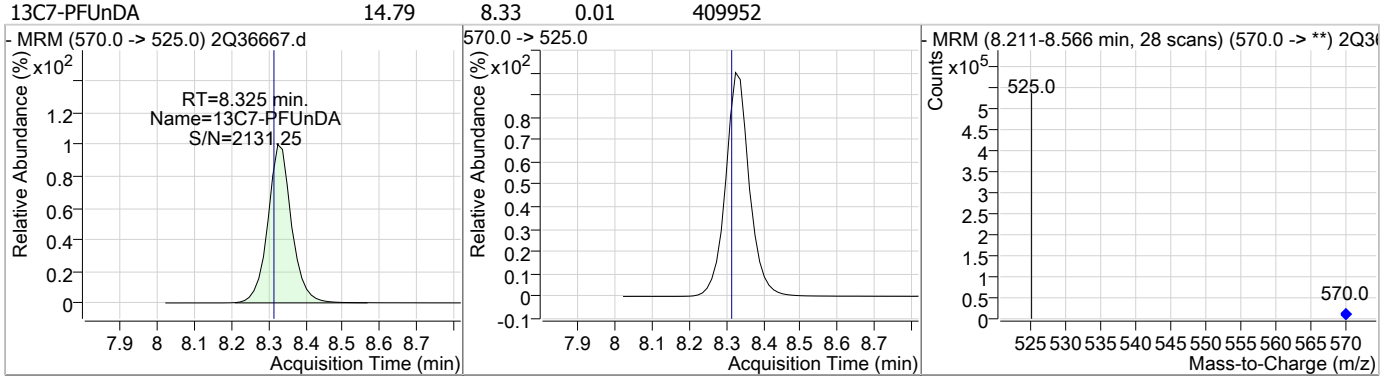
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.16	7.86	0.03	384206				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	17.75	7.91	0.03	95561				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	14.79	8.33	0.01	409952				



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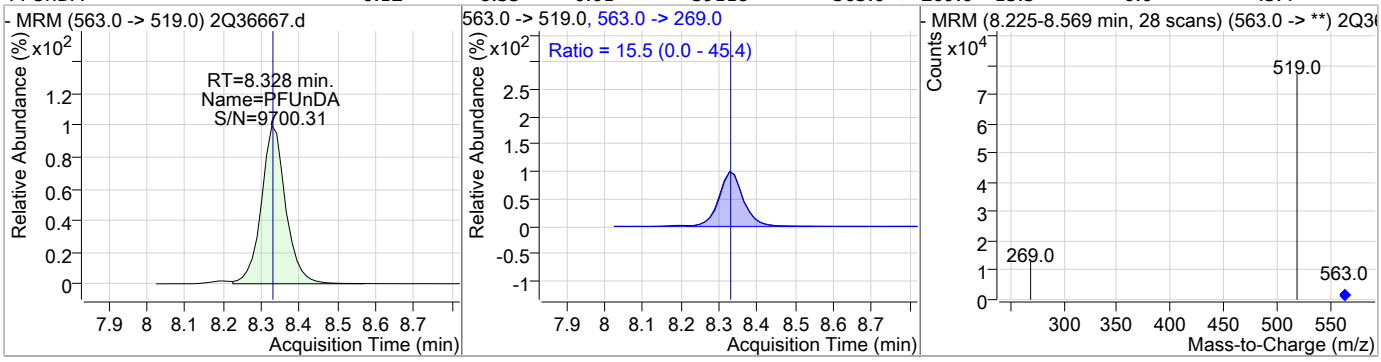
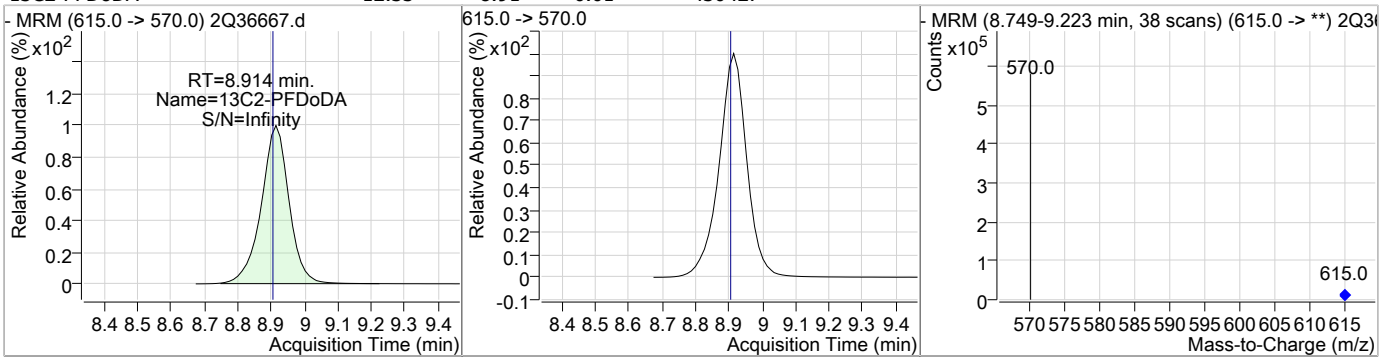
Perfluorinated Compounds by LC/MS/MS

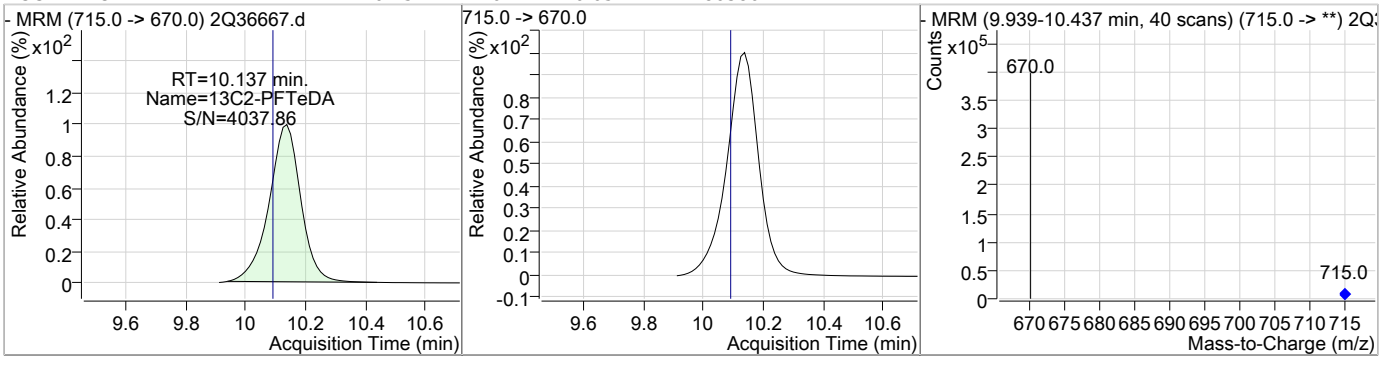
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	6.12	8.33	0.01	59118	563.0 -> 269.0	15.5	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	12.33	8.91	0.01	430427				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	10.75	10.14	0.05	286380				



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Manual Integration Approval Summary

Sample Number:	JC95316-3	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36667.D	**Analyst approved:**	09/26/19 10:42 Nancy Saunders
Injection Time:	09/26/19 02:11	**Supervisor approved:**	09/26/19 14:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		6.71	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:30

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36668.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 2:27:44 AM
Sample Name	:	JC95316-4
Vial	:	Vial 58
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

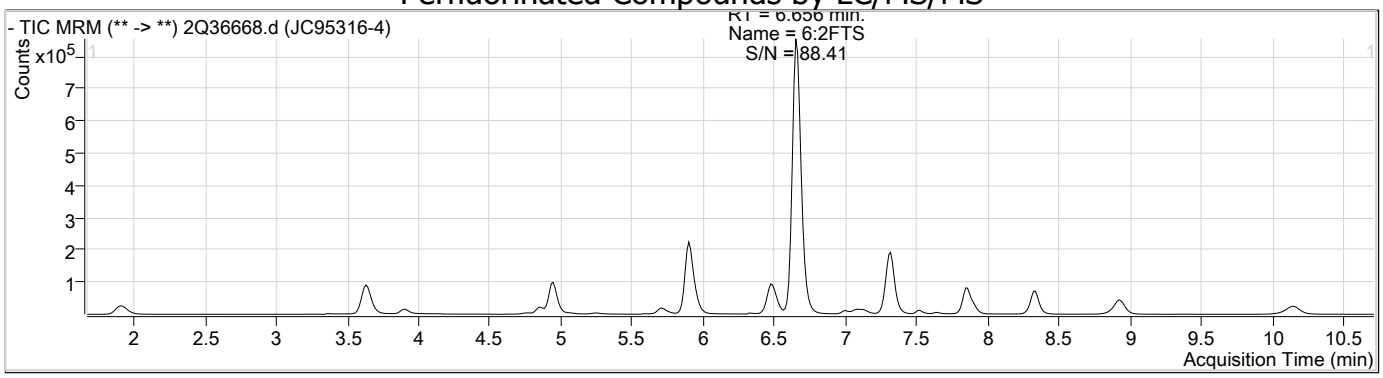
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.659	415.0 -> 370.0	5399	20.00	µg/L	-0.013
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	1.902	217.0 -> 172.0	127331	20.00	µg/L	-0.138
M5-PFPeA	3.636	268.0 -> 223.0	107518	20.00	µg/L	-0.088
M5-PFHxA	4.950	318.0 -> 273.0	151854	20.00	µg/L	-0.038
M4-PFHpA	5.905	367.0 -> 322.0	210345	20.00	µg/L	-0.013
M8-PFOA	6.658	421.0 -> 376.0	261926	20.00	µg/L	-0.013
M9-PFNA	7.326	472.0 -> 427.0	296485	20.00	µg/L	0.013
M6-PFDA	7.852	519.0 -> 474.0	304029	20.00	µg/L	0.013
M7-PFUnDA	8.338	570.0 -> 525.0	322666	20.00	µg/L	0.026
M2-PFDoDA	8.927	615.0 -> 570.0	262359	20.00	µg/L	0.025
M2-PFTeDA	10.137	715.0 -> 670.0	184007	20.00	µg/L	0.050
M8-FOSA	7.002	506.0 -> 78.0	31348	20.00	µg/L	0.038
M3-PFBS	3.904	302.0 -> 99.0	18723	20.00	µg/L	-0.063
M3-PFHxS	5.947	402.0 -> 99.0	21063	20.00	µg/L	0.000
M8-PFOS	7.308	507.0 -> 99.0	23912	20.00	µg/L	0.025
M2-4:2FTS	4.846	329.0 -> 309.0	84932	20.00	µg/L	-0.050
M2-6:2FTS	6.667	429.0 -> 409.0	120218	20.00	µg/L	0.000
M2-8:2FTS	7.900	529.0 -> 509.0	76694	20.00	µg/L	0.013
M3-MeFOSAA	7.518	573.0 -> 419.0	36578	20.00	µg/L	0.025
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.846	329.0 -> 309.0	84975	14.59	µg/L	-0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.0%		
13C2-6:2FTS	6.667	429.0 -> 409.0	120216	15.16	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.8%		
13C2-8:2FTS	7.900	529.0 -> 509.0	76666	14.24	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.2%		
13C2-PFDoDA	8.927	615.0 -> 570.0	261009	7.48	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 37.4%		
13C2-PFTeDA	10.137	715.0 -> 670.0	180748	6.78	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 33.9%		
13C3-PFBS	3.904	302.0 -> 99.0	19009	13.91	µg/L	-0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 69.5%		
13C3-PFHxS	5.947	402.0 -> 99.0	21047	14.28	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.4%		
13C4-PFBA	1.902	217.0 -> 172.0	127076	12.98	µg/L	-0.138
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 64.9%		
13C4-PFHpA	5.905	367.0 -> 322.0	210201	13.80	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 69.0%		
13C5-PFHxA	4.950	318.0 -> 273.0	151986	13.02	µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 65.1%		
13C5-PFPeA	3.636	268.0 -> 223.0	107397	13.05	µg/L	-0.088
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 65.2%		
13C6-PFDA	7.852	519.0 -> 474.0	304023	14.37	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

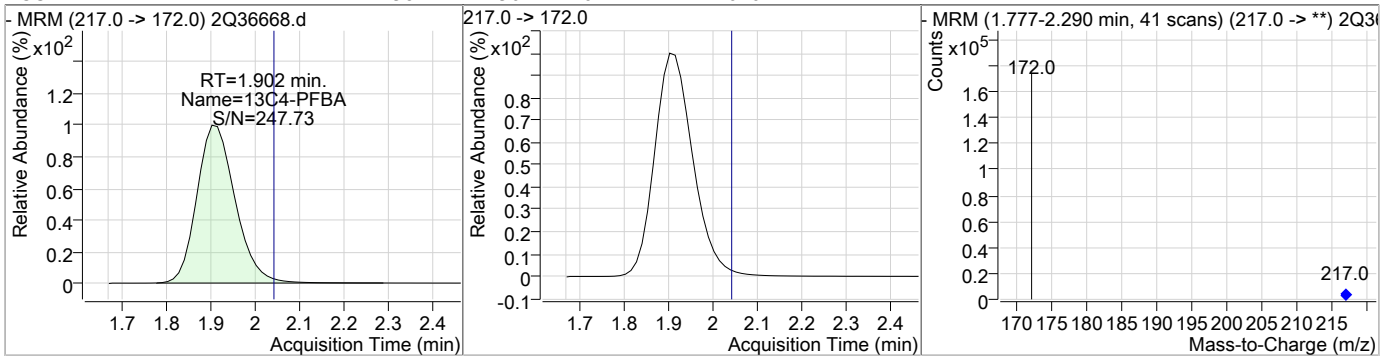
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.8%			
13C7-PFUnDA	8.338	570.0 -> 525.0	323150	11.66	µg/L		0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 58.3%			
13C8-FOSA	7.002	506.0 -> 78.0	31348	5.51	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 27.5%			
13C8-PFOA	6.658	421.0 -> 376.0	261956	14.32	µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 71.6%			
13C8-PFOS	7.308	507.0 -> 99.0	23938	12.30	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 61.5%			
13C9-PFNA	7.326	472.0 -> 427.0	296513	15.68	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.4%			
d3-MeFOSAA	7.518	573.0 -> 419.0	36531	11.18	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 55.9%			
M2-PFOA	6.659	415.0 -> 370.0	5271	19.50	µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.5%			
M4-PFOS	-	503.0 -> 80.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.			
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%			
Target Compounds							**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.			
6:2FTS	6.656	427.0 -> 407.0	2716	0.91	µg/L		97
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
FOSA	-	498.0 -> 78.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.911	213.0 -> 169.0	29196	24.62	µg/L		100
PFBS	3.895	299.0 -> 80.0	33130	22.40	µg/L		98
PFDA	7.853	513.0 -> 469.0	10587	1.40	µg/L		99
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFDS	-	599.0 -> 80.0	-	N.D.			
PFHpA	5.907	363.0 -> 319.0	713005	74.35	µg/L	m	99
PFHpS	6.678	449.0 -> 80.0	17387	15.45	µg/L	m	96
PFHxA	4.952	313.0 -> 269.0	240038	102.91	µg/L		99
PFHxS	5.937	399.0 -> 80.0	66807	53.15	µg/L	m	98
PFNA	7.327	463.0 -> 419.0	240994	25.98	µg/L	m	100
PFNS	-	549.0 -> 80.0	-	N.D.			
PFOA	6.661	413.0 -> 369.0	2870191	407.31	µg/L	m	97
PFOS	7.299	499.0 -> 80.0	236507	208.40	µg/L	m	98
PFPeA	3.640	263.0 -> 219.0	336816	62.05	µg/L		100
PFPeS	5.069	349.0 -> 80.0	8465	10.36	µg/L	m	98
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
HFPO-DA	5.247	329.0 -> 169.0	10040		µg/L		89

 # = Qualifier out of range, m = manually integrated, + = Area summed

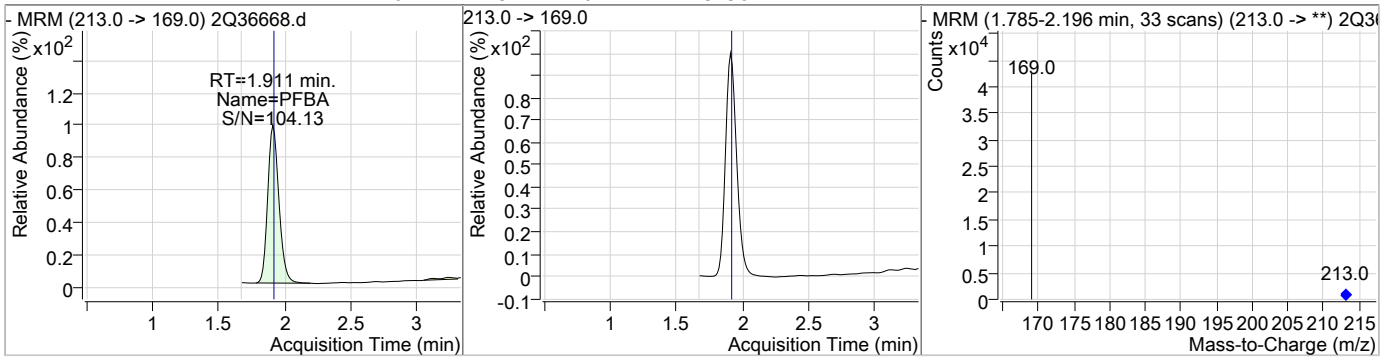
Perfluorinated Compounds by LC/MS/MS



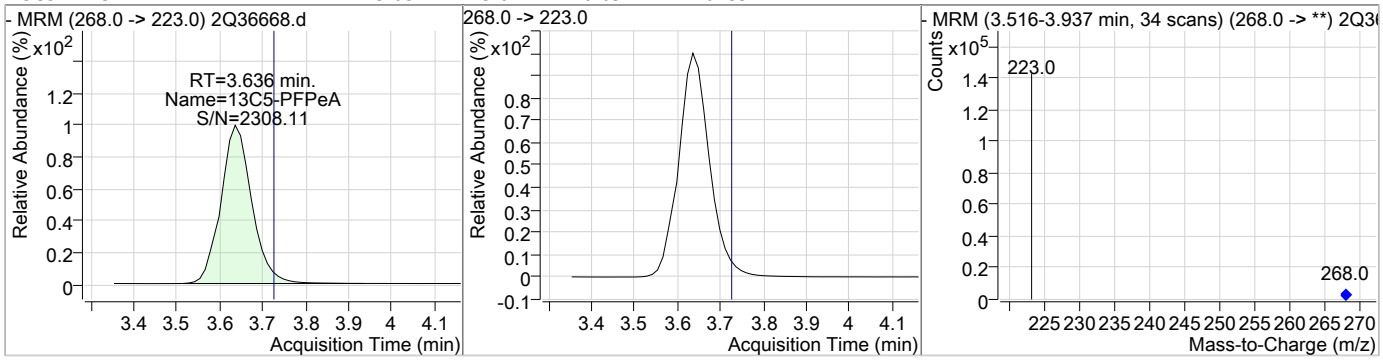
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	12.98	1.90	-0.14	127076				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	24.62	1.91	-0.14	29196				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	13.05	3.64	-0.09	107397				



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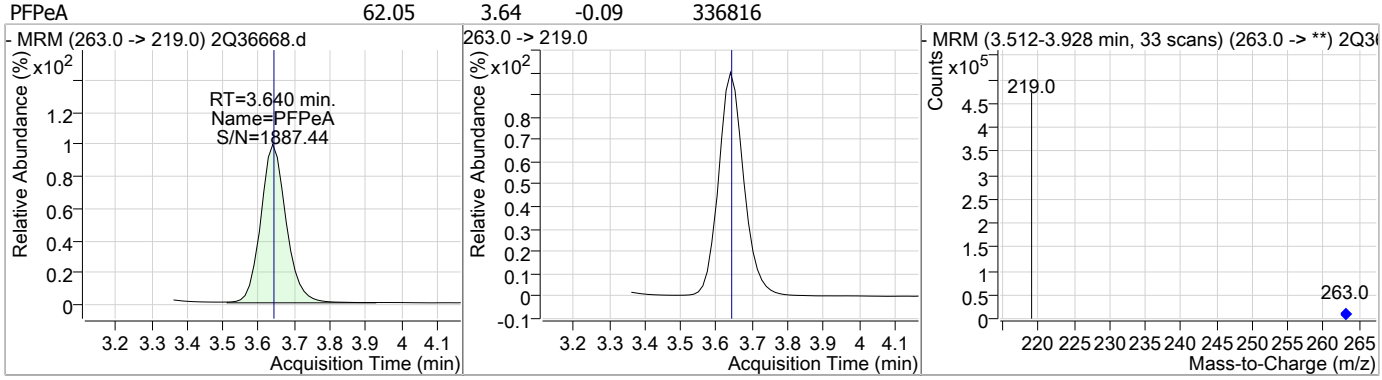
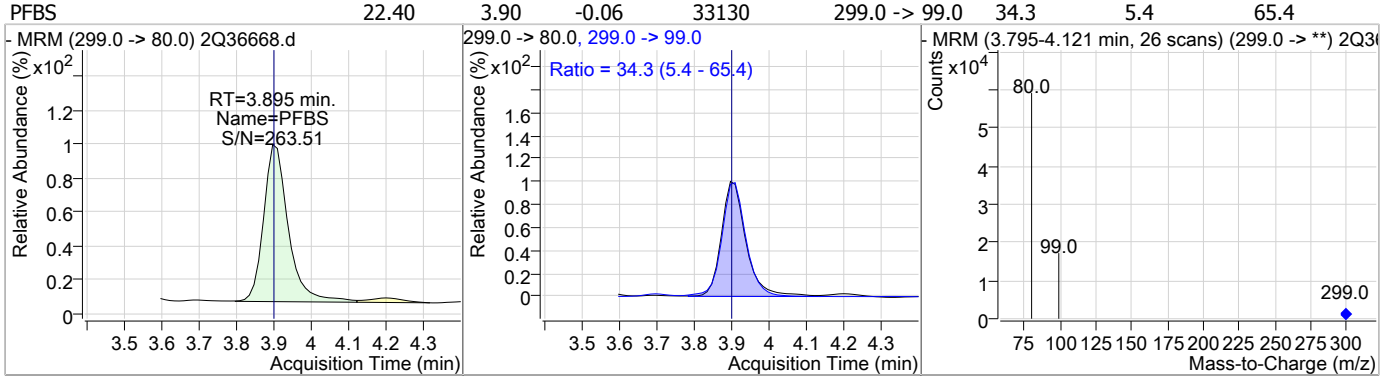
Perfluorinated Compounds by LC/MS/MS

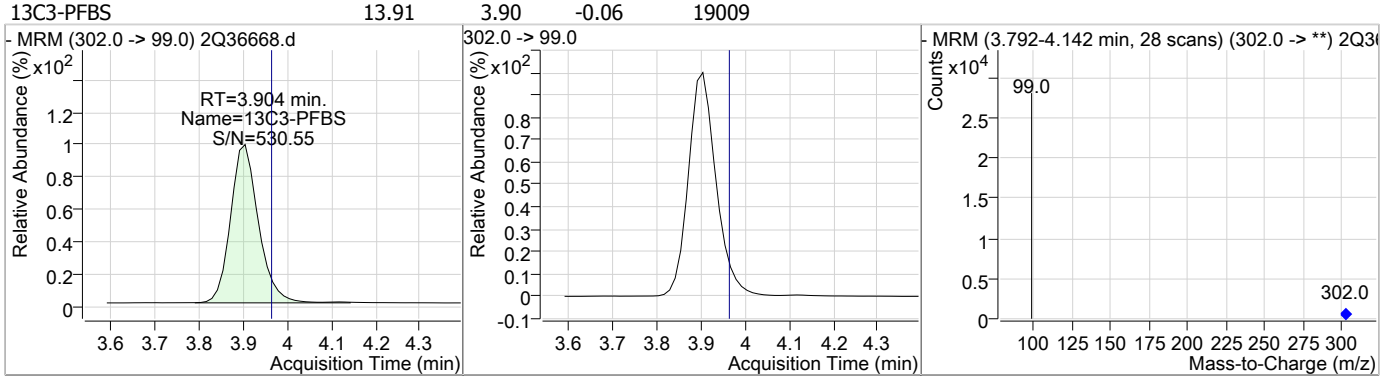
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	62.05	3.64	-0.09	336816				



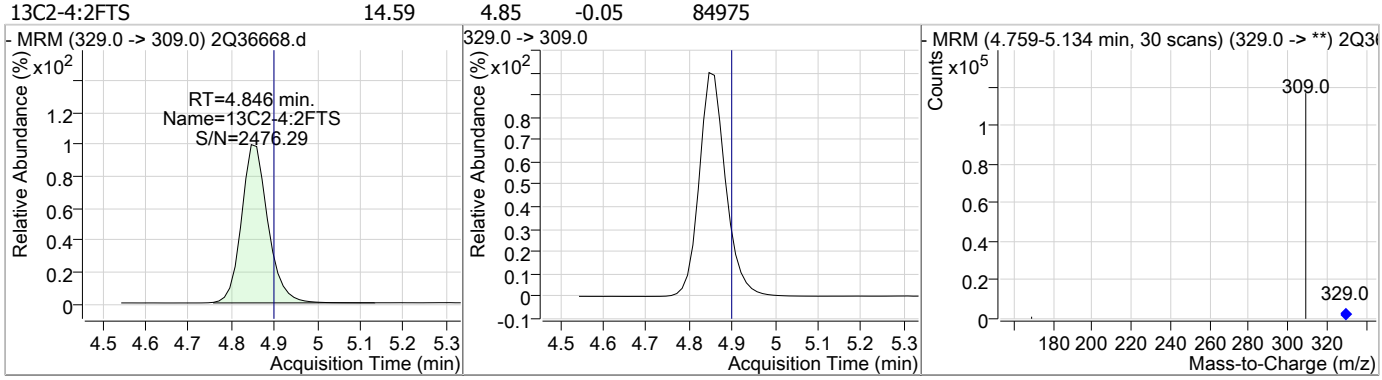
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	22.40	3.90	-0.06	33130	299.0 -> 99.0	34.3	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	13.91	3.90	-0.06	19009				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	14.59	4.85	-0.05	84975				



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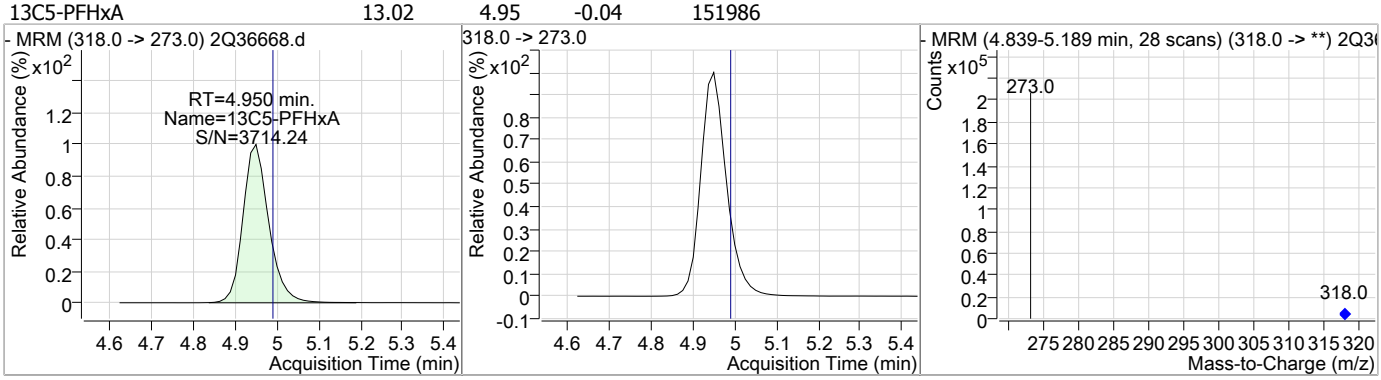
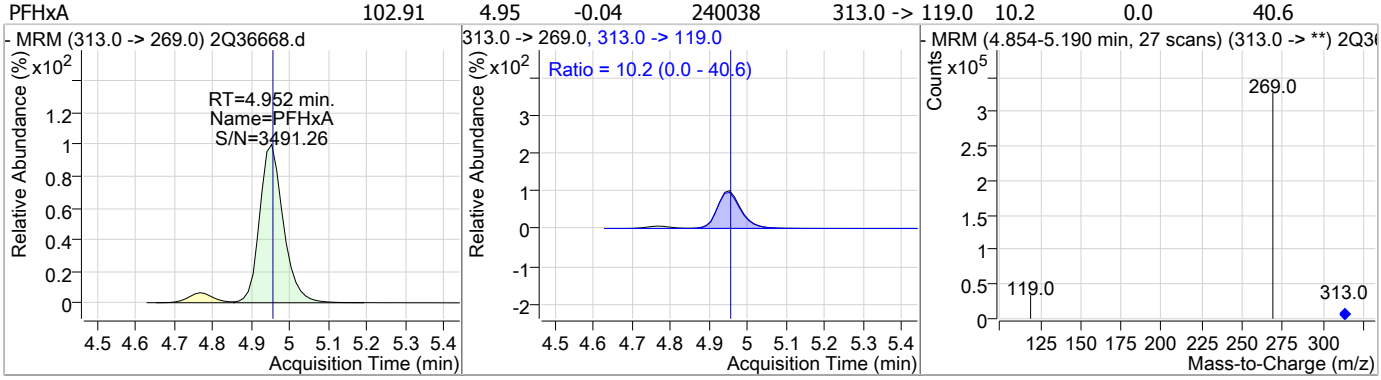
Perfluorinated Compounds by LC/MS/MS

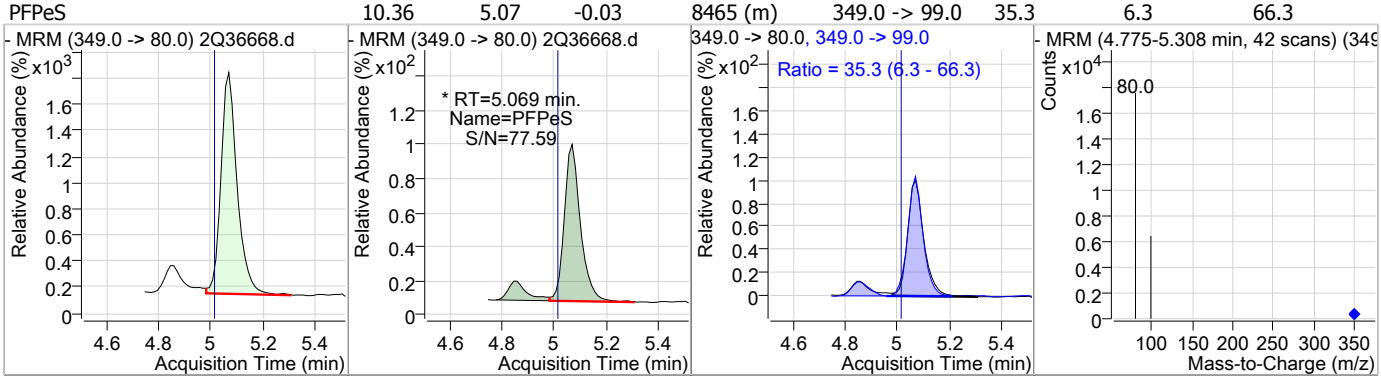
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	13.02	4.95	-0.04	151986				



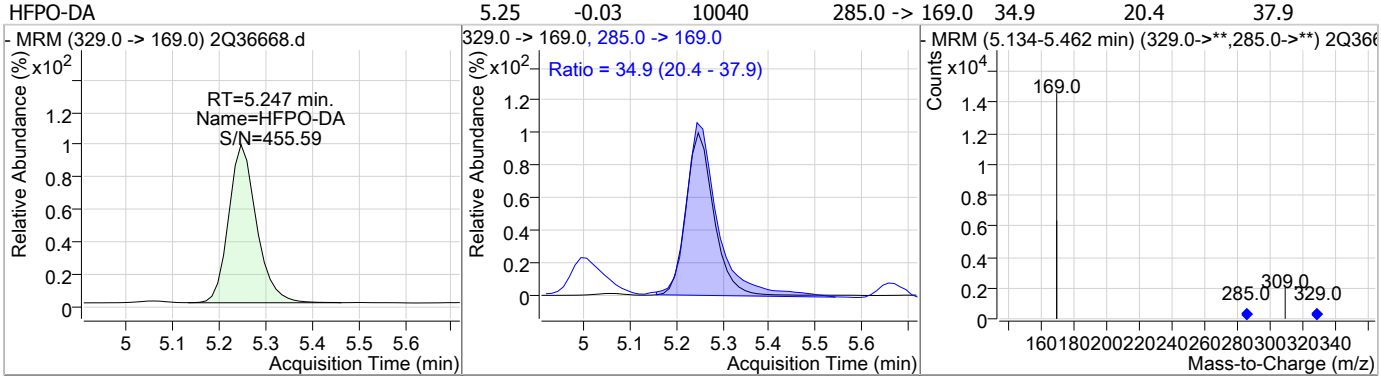
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	102.91	4.95	-0.04	240038	313.0 -> 119.0	10.2	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	10.36	5.07	-0.03	8465 (m)	349.0 -> 99.0	35.3	6.3	66.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA		5.25	-0.03	10040	285.0 -> 169.0	34.9	20.4	37.9



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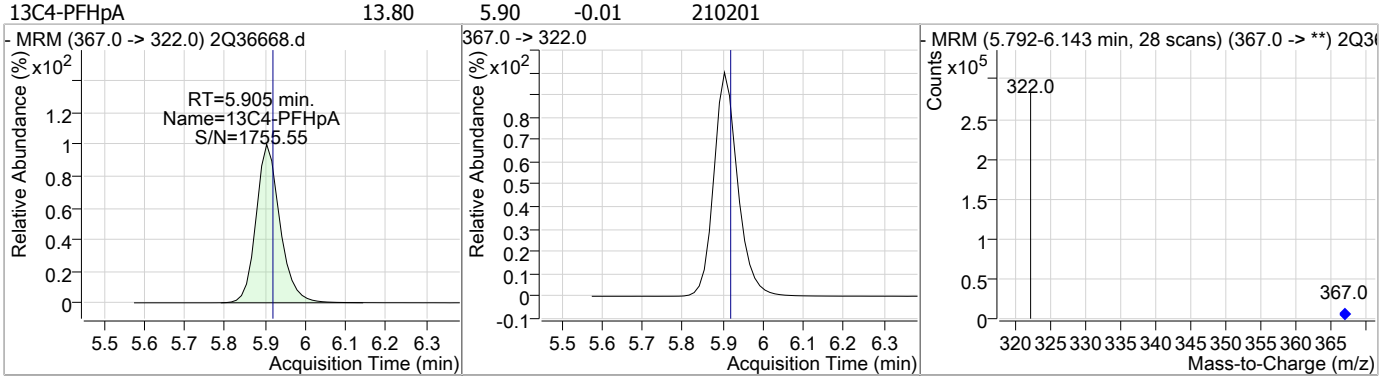
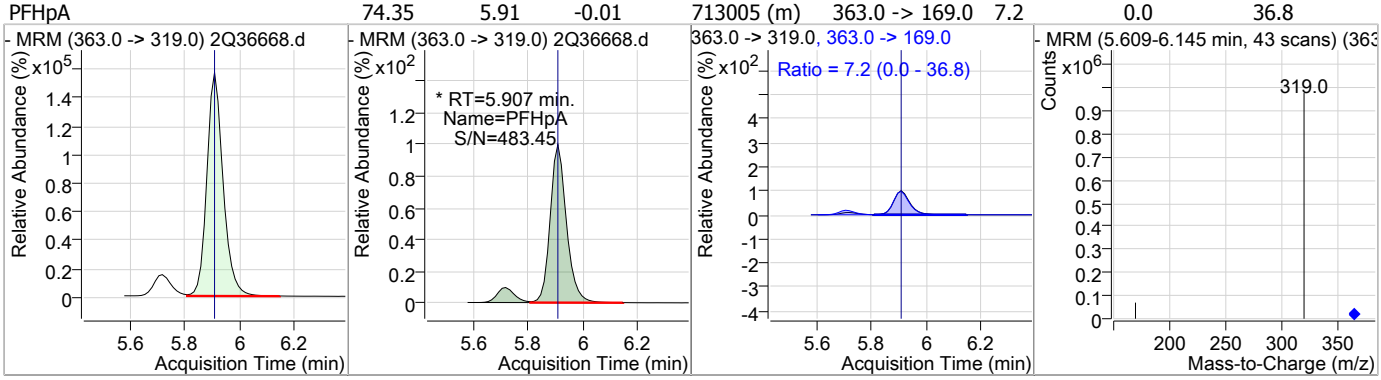
Perfluorinated Compounds by LC/MS/MS

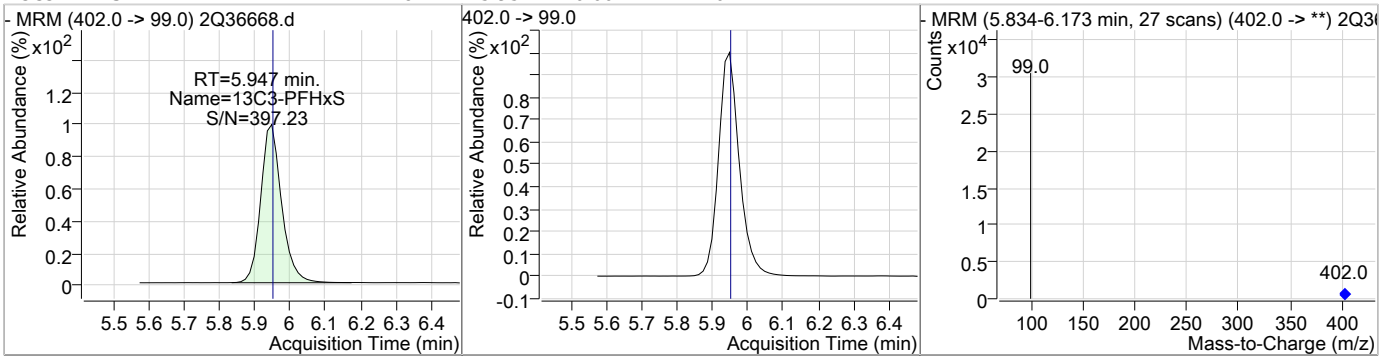
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	13.80	5.90	-0.01	210201				



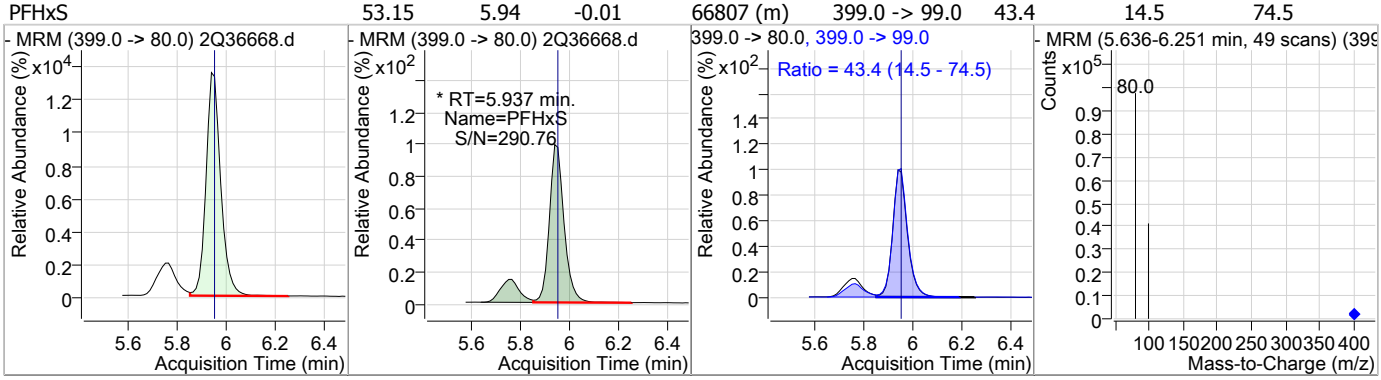
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	74.35	5.91	-0.01	713005 (m)	363.0 -> 169.0	7.2	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	14.28	5.95	0.00	21047				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	53.15	5.94	-0.01	66807 (m)	399.0 -> 99.0	43.4	14.5	74.5



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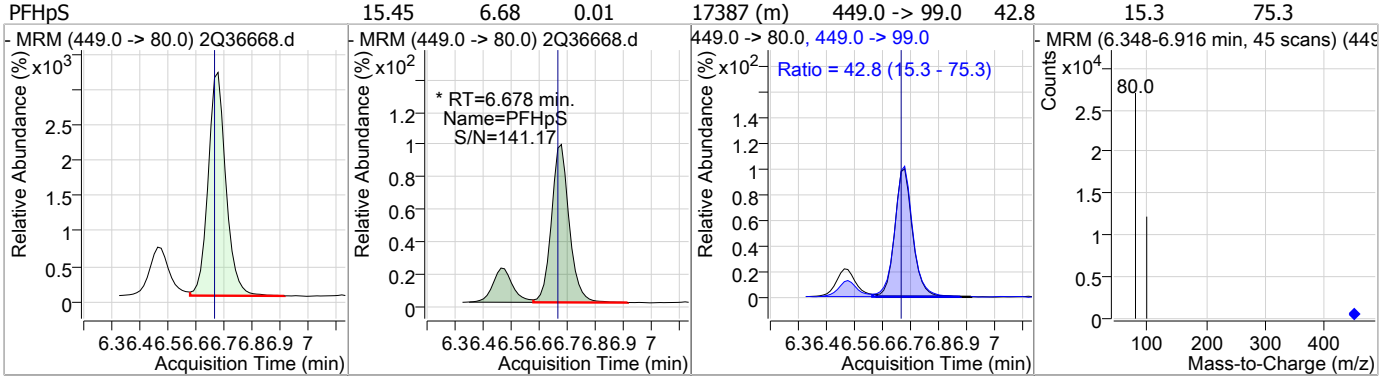
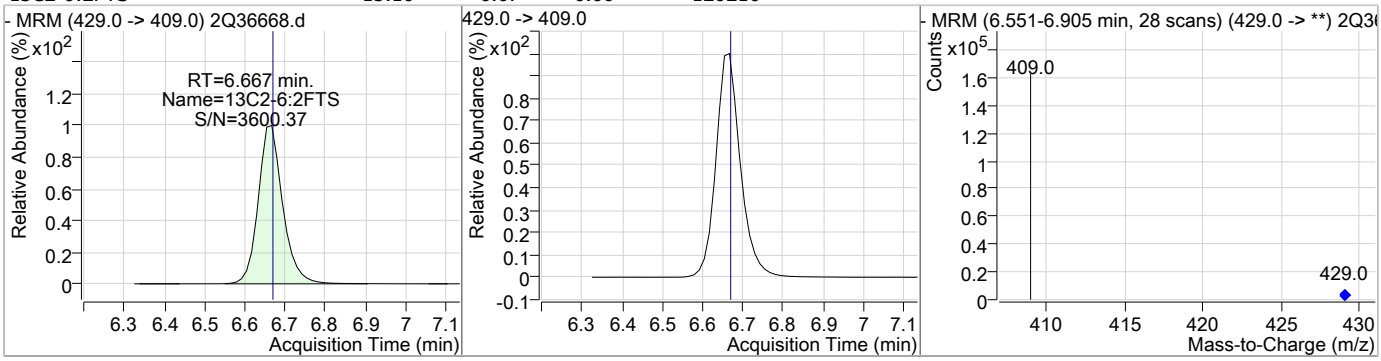
Perfluorinated Compounds by LC/MS/MS

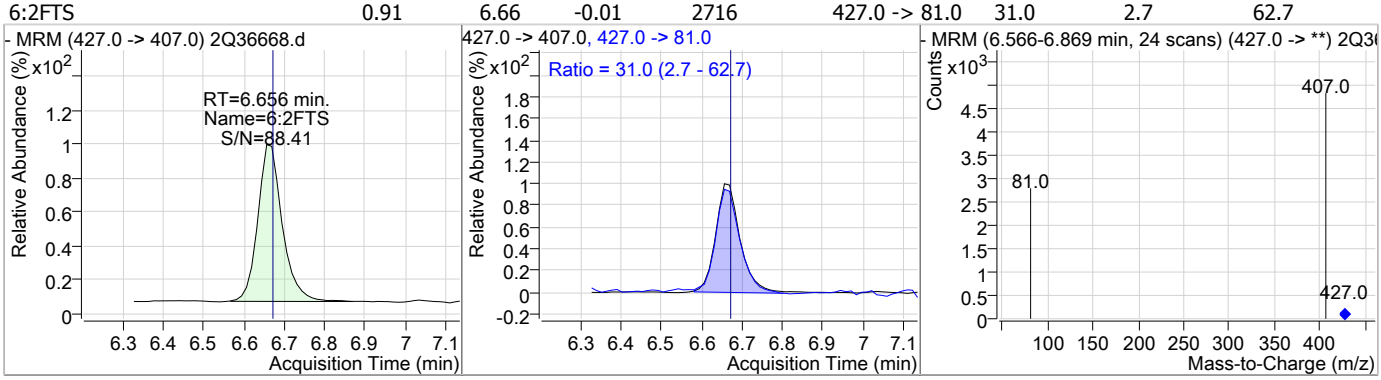
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	15.45	6.68	0.01	17387 (m)	449.0 -> 99.0	42.8	15.3	75.3



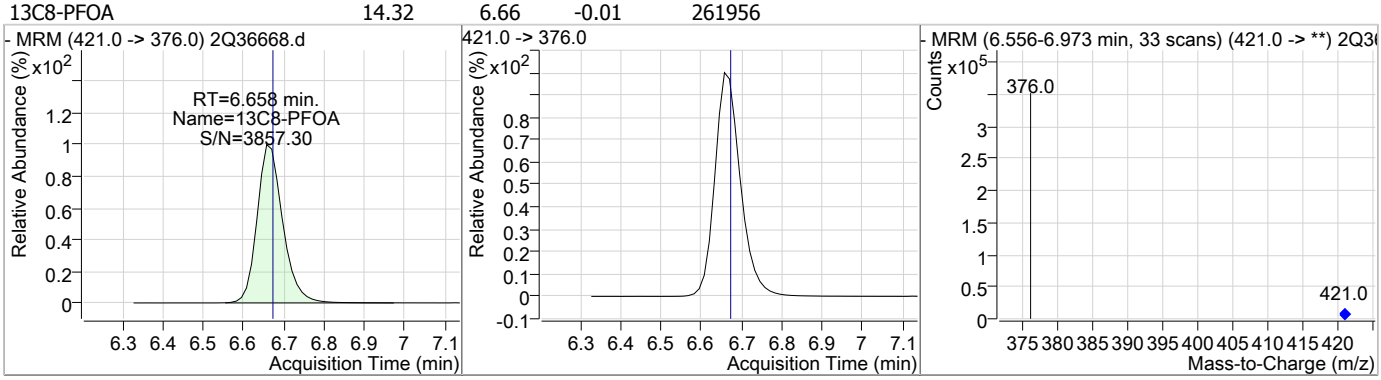
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	15.16	6.67	0.00	120216				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.91	6.66	-0.01	2716	427.0 -> 81.0	31.0	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	14.32	6.66	-0.01	261956				



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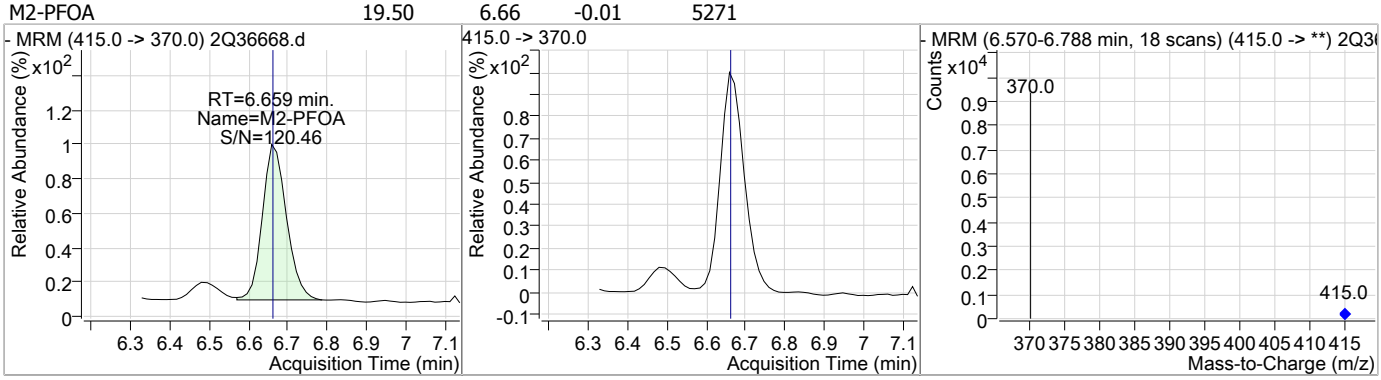
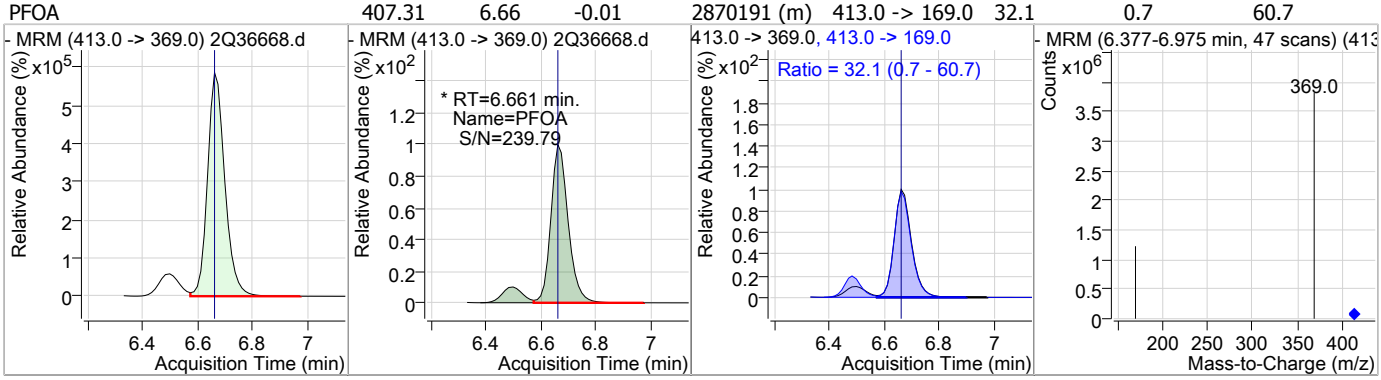
Perfluorinated Compounds by LC/MS/MS

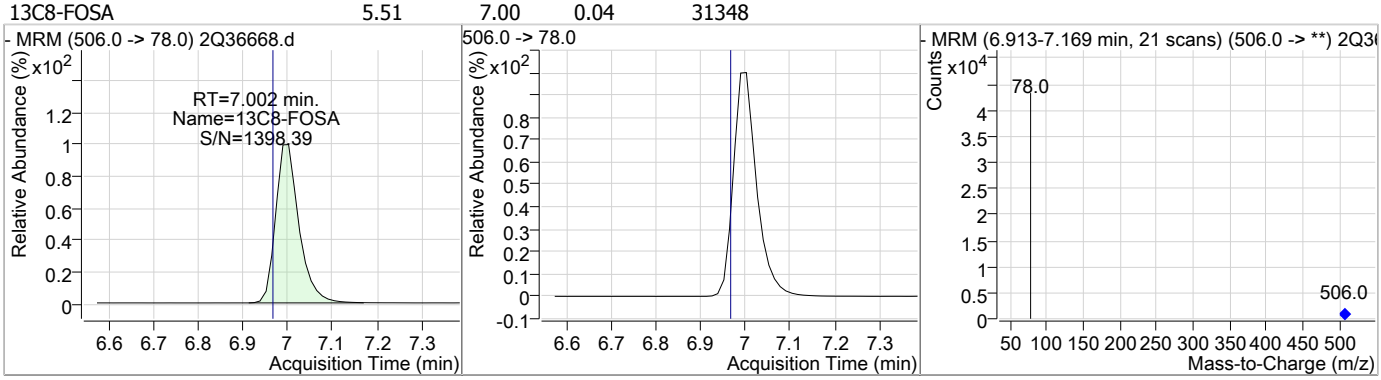
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.50	6.66	-0.01	5271				



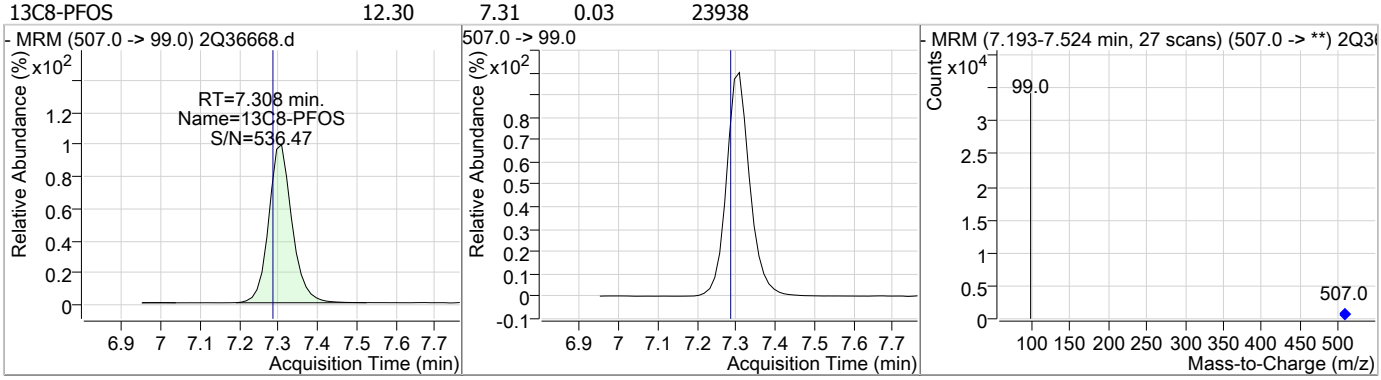
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	407.31	6.66	-0.01	2870191 (m)	413.0 -> 169.0	32.1	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	5.51	7.00	0.04	31348				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	12.30	7.31	0.03	23938				



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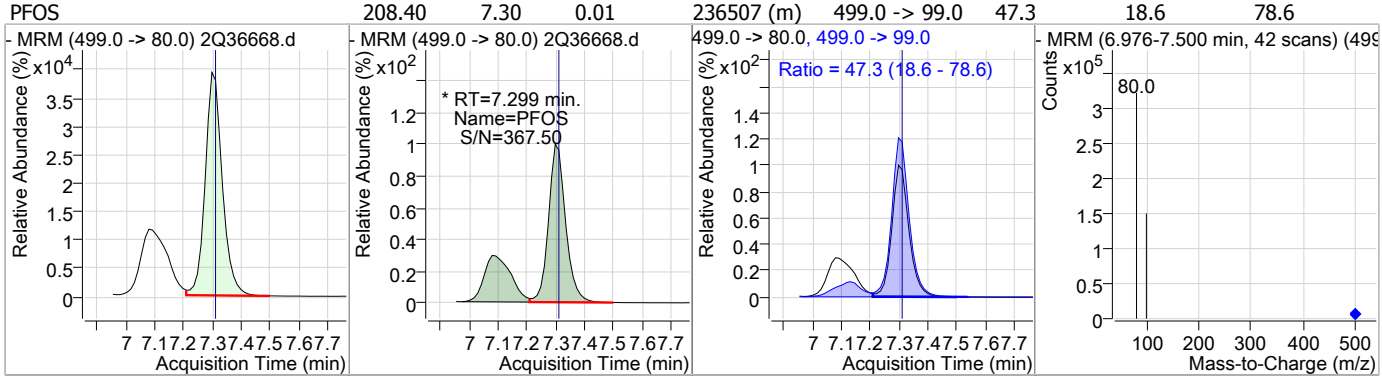
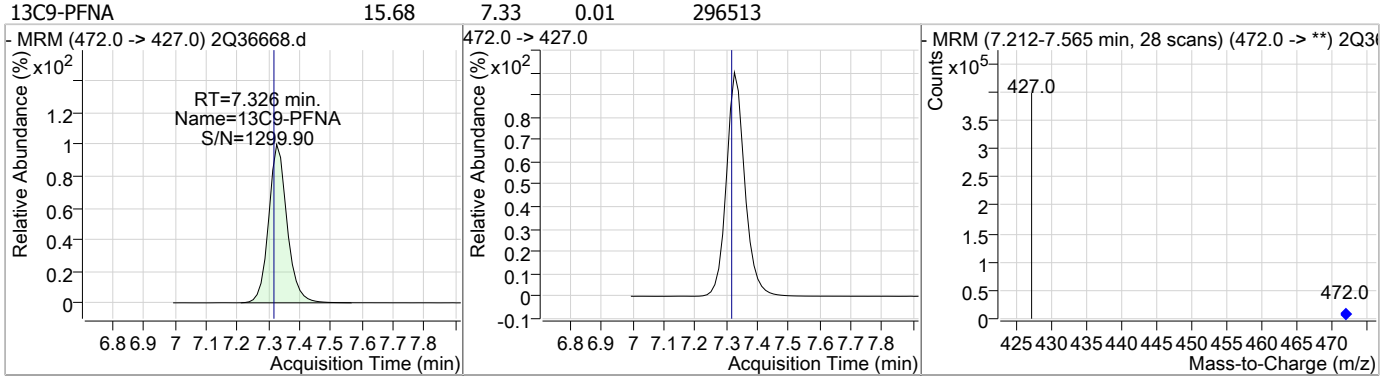
Perfluorinated Compounds by LC/MS/MS

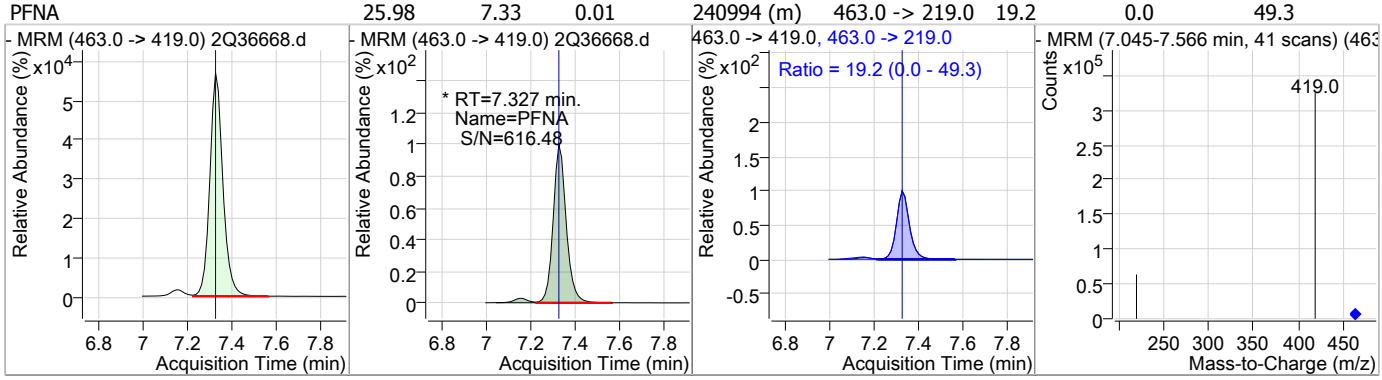
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	208.40	7.30	0.01	236507 (m)	499.0 -> 99.0	47.3	18.6	78.6



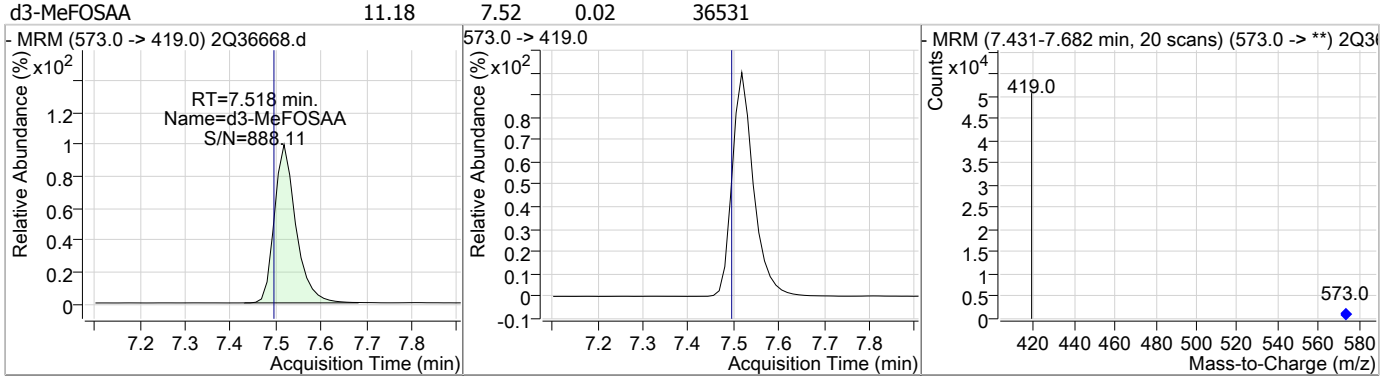
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	15.68	7.33	0.01	296513				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	25.98	7.33	0.01	240994 (m)	463.0 -> 219.0	19.2	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	11.18	7.52	0.02	36531				



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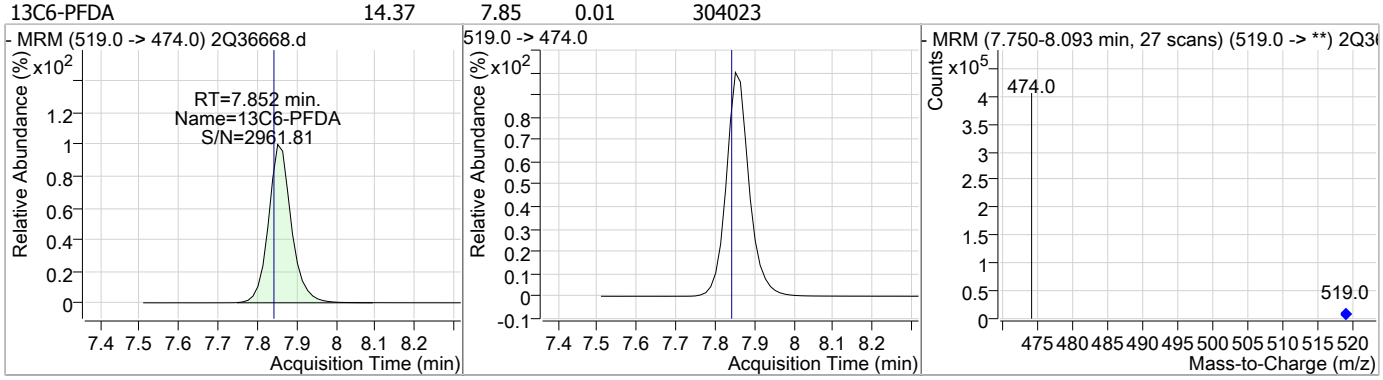
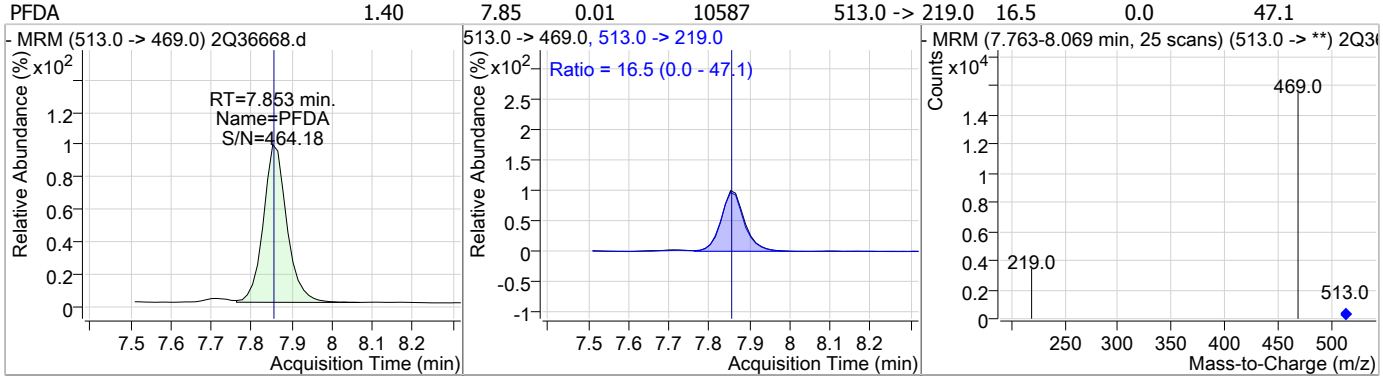
Perfluorinated Compounds by LC/MS/MS

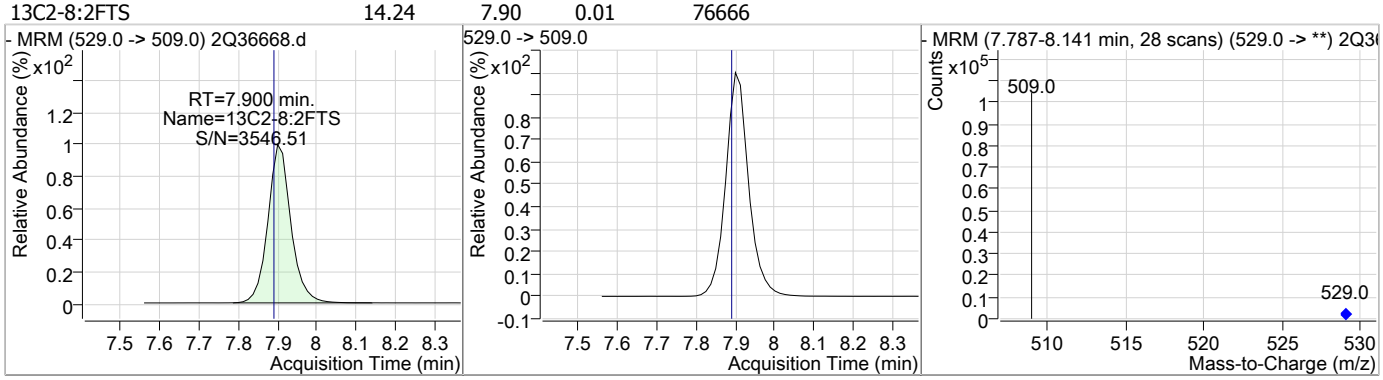
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	14.37	7.85	0.01	304023				



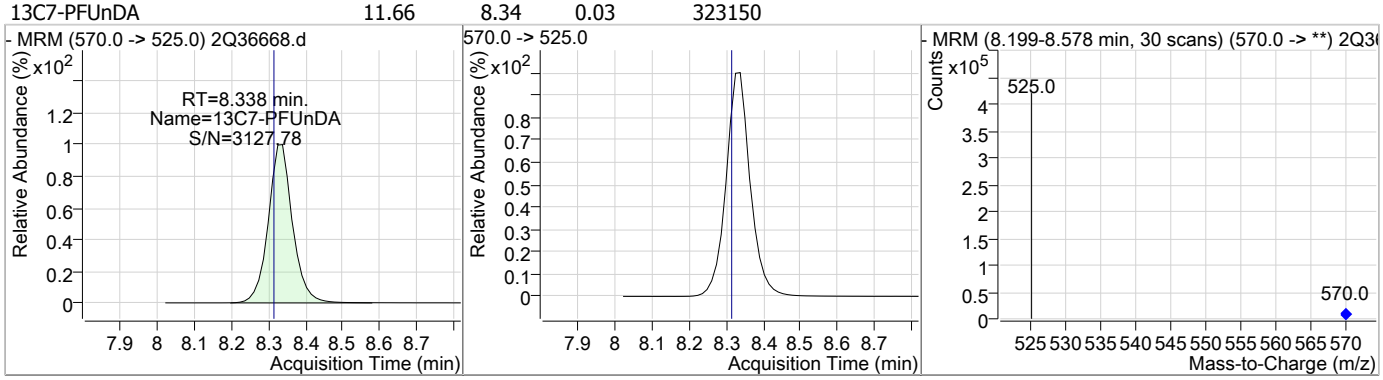
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.40	7.85	0.01	10587	513.0 -> 219.0	16.5	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	14.24	7.90	0.01	76666				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	11.66	8.34	0.03	323150				



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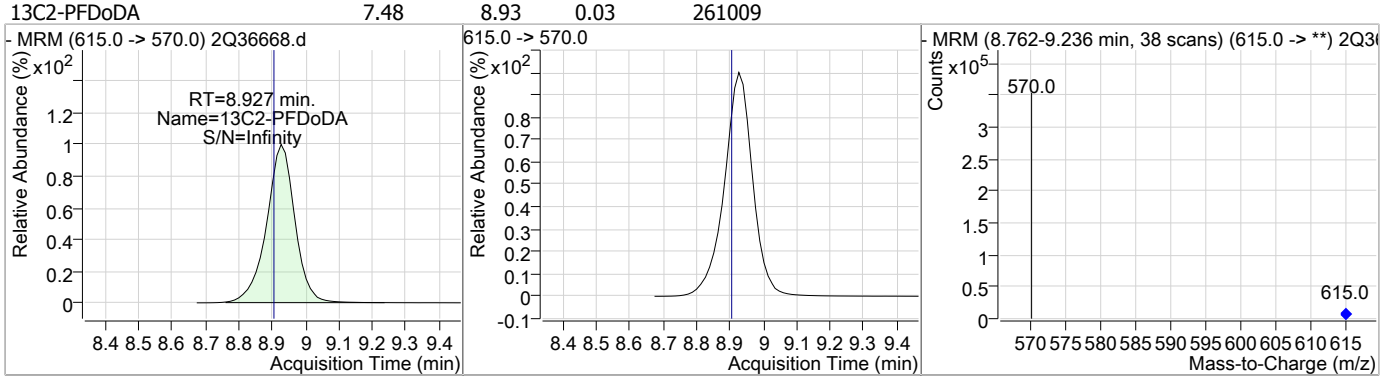
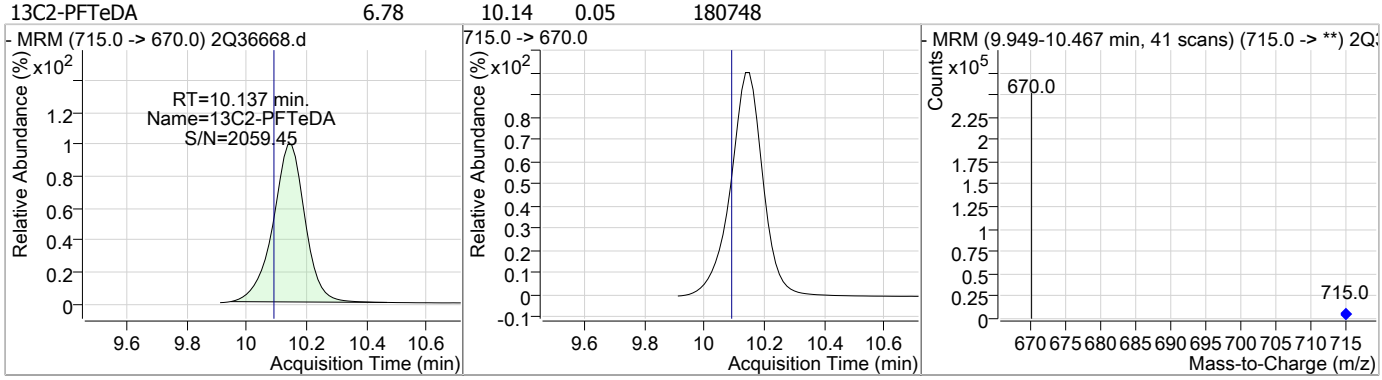
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	7.48	8.93	0.03	261009				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	6.78	10.14	0.05	180748				



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Manual Integration Approval Summary

Sample Number:	JC95316-4	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36668.D	**Analyst approved:**	09/27/19 13:08 Natasha Gumtie
Injection Time:	09/26/19 02:27	**Supervisor approved:**	09/27/19 15:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanesulfonic acid	2706-91-4		5.07	Split peak
Perfluoroheptanoic acid	375-85-9		5.91	Split peak
Perfluorohexanesulfonic acid	355-46-4		5.94	Split peak
Perfluorooctanoic acid	335-67-1		6.66	Split peak
Perfluoroheptanesulfonic acid	375-92-8		6.68	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.30	Split peak
Perfluorononanoic acid	375-95-1		7.33	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:29

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36739.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 9:23:35 PM
Sample Name	:	JC95316-4
Vial	:	Vial 43
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76964,S2Q571,270,,,1.0,10,water

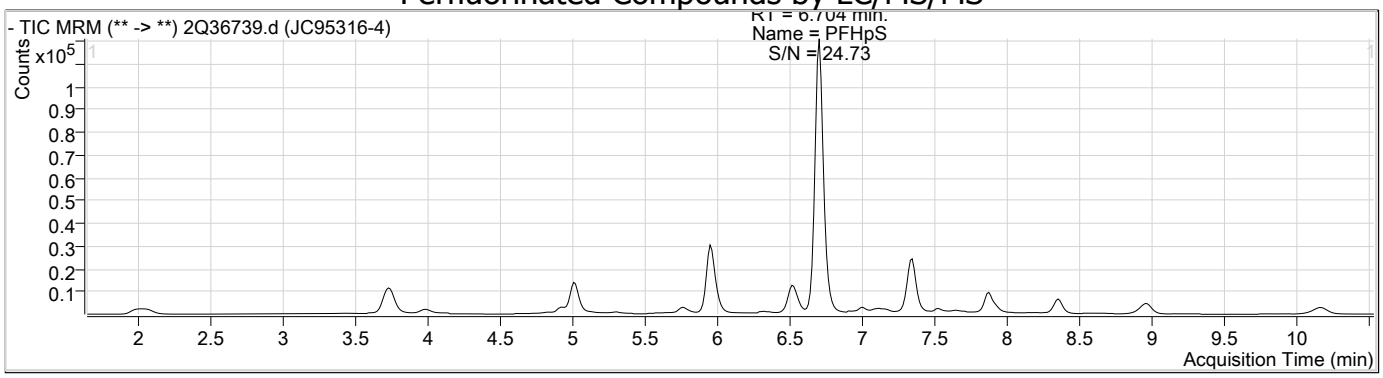
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.027	217.0 -> 172.0	18494	20.00	µg/L	-0.025
M5-PFPeA	3.737	268.0 -> 223.0	15017	20.00	µg/L	-0.013
M5-PFHxA	5.013	318.0 -> 273.0	21022	20.00	µg/L	0.000
M4-PFHpA	5.954	367.0 -> 322.0	28369	20.00	µg/L	0.013
M8-PFOA	6.708	421.0 -> 376.0	35454	20.00	µg/L	0.013
M9-PFNA	7.352	472.0 -> 427.0	36257	20.00	µg/L	0.013
M6-PFDA	7.878	519.0 -> 474.0	32289	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	29402	20.00	µg/L	0.013
M2-PFDoDA	8.948	615.0 -> 570.0	27902	20.00	µg/L	0.013
M2-PFTeDA	10.150	715.0 -> 670.0	22366	20.00	µg/L	0.013
M8-FOSA	7.003	506.0 -> 78.0	6187	20.00	µg/L	0.013
M3-PFBS	3.992	302.0 -> 99.0	2459	20.00	µg/L	0.000
M3-PFHxS	5.985	402.0 -> 99.0	2674	20.00	µg/L	0.000
M8-PFOS	7.334	507.0 -> 99.0	2787	20.00	µg/L	0.013
M2-4:2FTS	4.921	329.0 -> 309.0	10399	20.00	µg/L	0.000
M2-6:2FTS	6.705	429.0 -> 409.0	14945	20.00	µg/L	0.013
M2-8:2FTS	7.928	529.0 -> 509.0	8095	20.00	µg/L	0.013
M3-MeFOSAA	7.519	573.0 -> 419.0	4065	20.00	µg/L	0.000
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	10390	1.78	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 8.9%		
13C2-6:2FTS	6.705	429.0 -> 409.0	14968	1.89	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.4%		
13C2-8:2FTS	7.928	529.0 -> 509.0	8086	1.50	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 7.5%		
13C2-PFDoDA	8.948	615.0 -> 570.0	27623	0.79	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 4.0%		
13C2-PFTeDA	10.150	715.0 -> 670.0	21815	0.82	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 4.1%		
13C3-PFBS	3.992	302.0 -> 99.0	2465	1.80	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.0%		
13C3-PFHxS	5.985	402.0 -> 99.0	2673	1.81	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.1%		
13C4-PFBA	2.027	217.0 -> 172.0	18431	1.88	µg/L	-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.4%		
13C4-PFHpA	5.954	367.0 -> 322.0	28291	1.86	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.3%		
13C5-PFHxA	5.013	318.0 -> 273.0	21008	1.80	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.0%		
13C5-PFPeA	3.737	268.0 -> 223.0	15011	1.82	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.1%		
13C6-PFDA	7.878	519.0 -> 474.0	32248	1.52	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

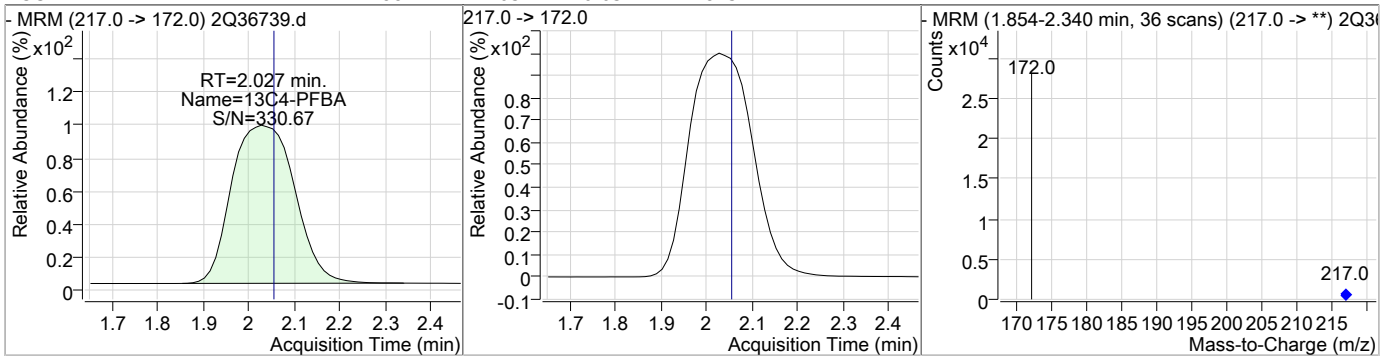
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 7.6%		
13C7-PFUnDA	8.353	570.0 -> 525.0	29337	1.06 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 5.3%		
13C8-FOSA	7.003	506.0 -> 78.0	6196	1.09 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 5.4%		
13C8-PFOA	6.708	421.0 -> 376.0	35477	1.94 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.7%		
13C8-PFOS	7.334	507.0 -> 99.0	2789	1.43 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 7.2%		
13C9-PFNA	7.352	472.0 -> 427.0	36217	1.92 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 9.6%		
d3-MeFOSAA	7.519	573.0 -> 419.0	4062	1.24 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 6.2%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.048	213.0 -> 169.0	4081	2.37 µg/L		100
PFBS	3.983	299.0 -> 80.0	4426	2.28 µg/L		98
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.956	363.0 -> 319.0	94459	7.30 µg/L	m	98
PFHpS	6.704	449.0 -> 80.0	2153	1.51 µg/L	m	99
PFHxA	5.015	313.0 -> 269.0	33693	10.43 µg/L		100
PFHxS	5.987	399.0 -> 80.0	8198	5.14 µg/L	m	99
PFNA	7.353	463.0 -> 419.0	27975	2.47 µg/L		98
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.711	413.0 -> 369.0	383292	40.19 µg/L	m	97
PFOS	7.324	499.0 -> 80.0	29066	21.97 µg/L	m	100
PFPeA	3.740	263.0 -> 219.0	46360	6.12 µg/L		100
PFPeS	5.133	349.0 -> 80.0	1057	0.99 µg/L	m	99
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

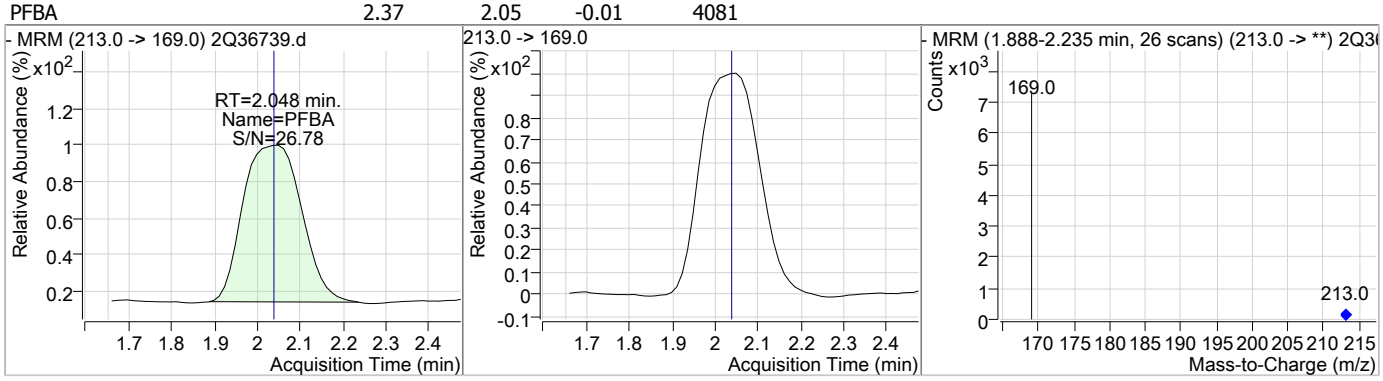
Perfluorinated Compounds by LC/MS/MS



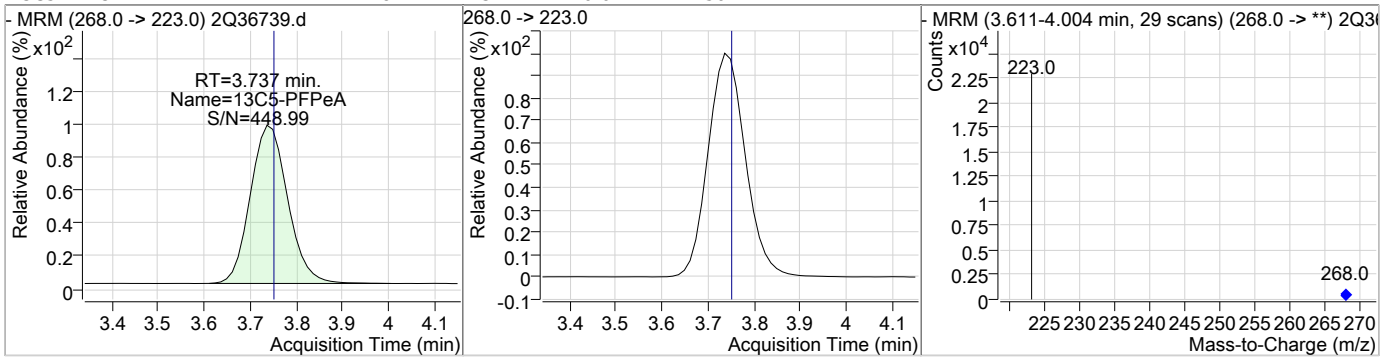
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	1.88	2.03	-0.03	18431				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	2.37	2.05	-0.01	4081				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	1.82	3.74	-0.01	15011				



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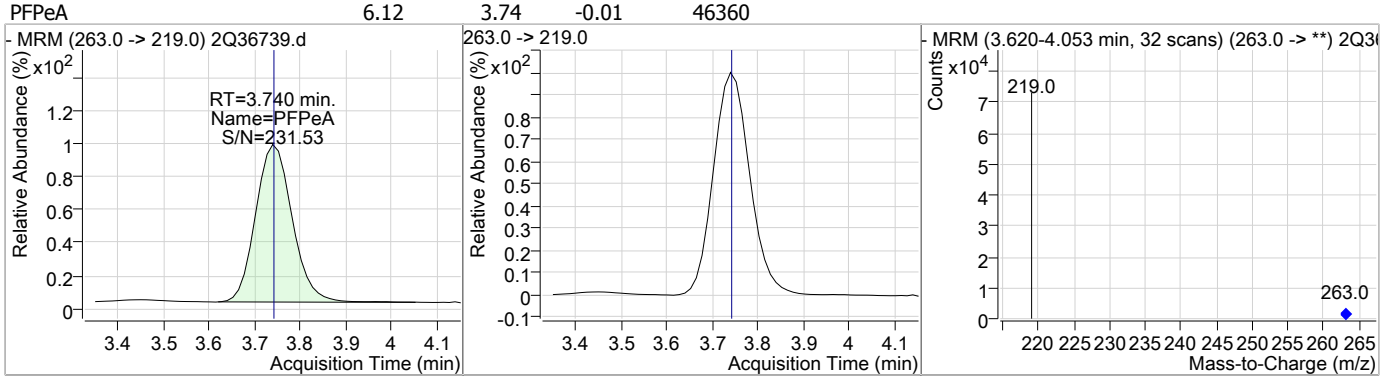
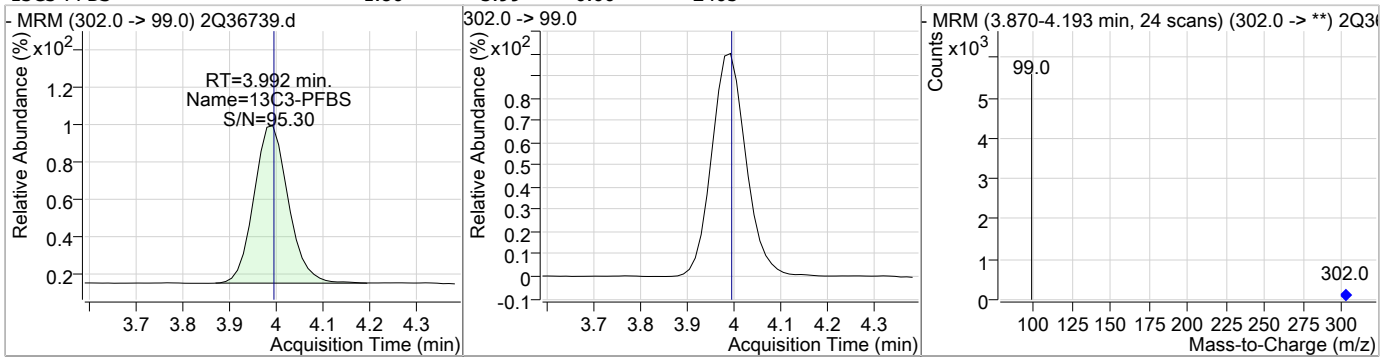
Perfluorinated Compounds by LC/MS/MS

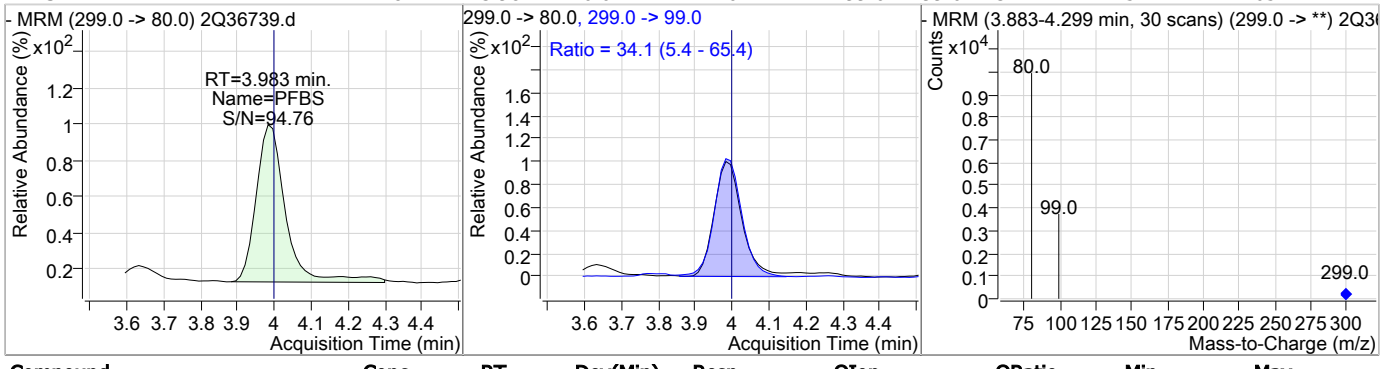
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	6.12	3.74	-0.01	46360				



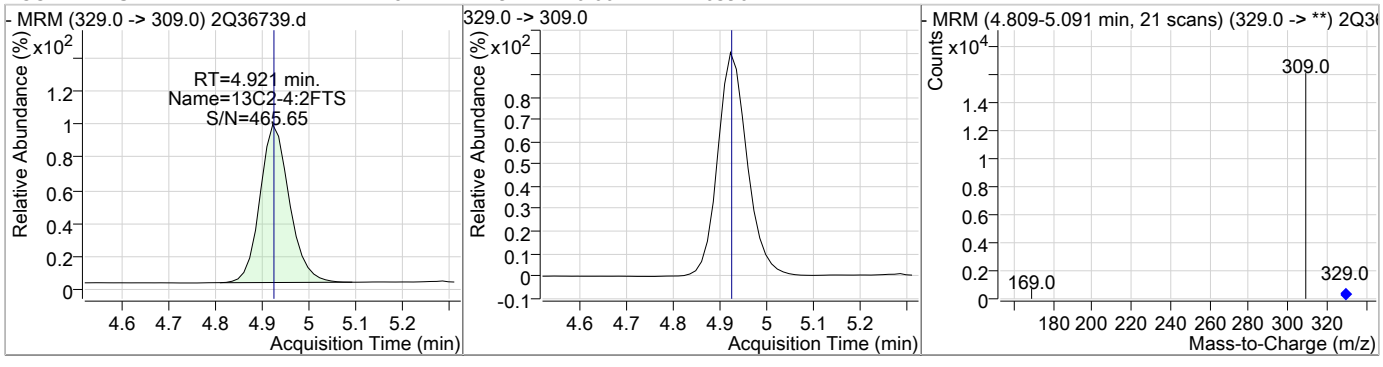
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	1.80	3.99	0.00	2465				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.28	3.98	-0.01	4426	299.0 -> 99.0	34.1	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	1.78	4.92	0.00	10390				



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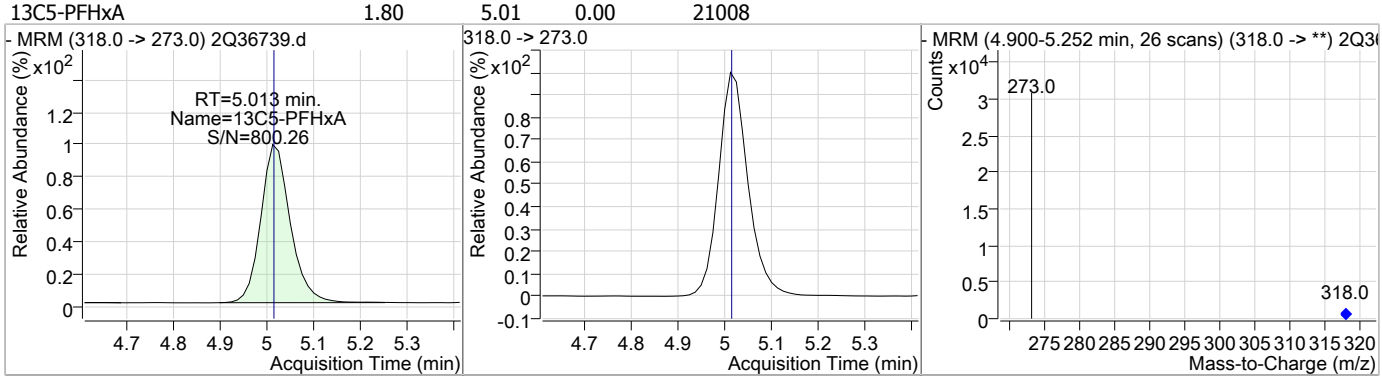
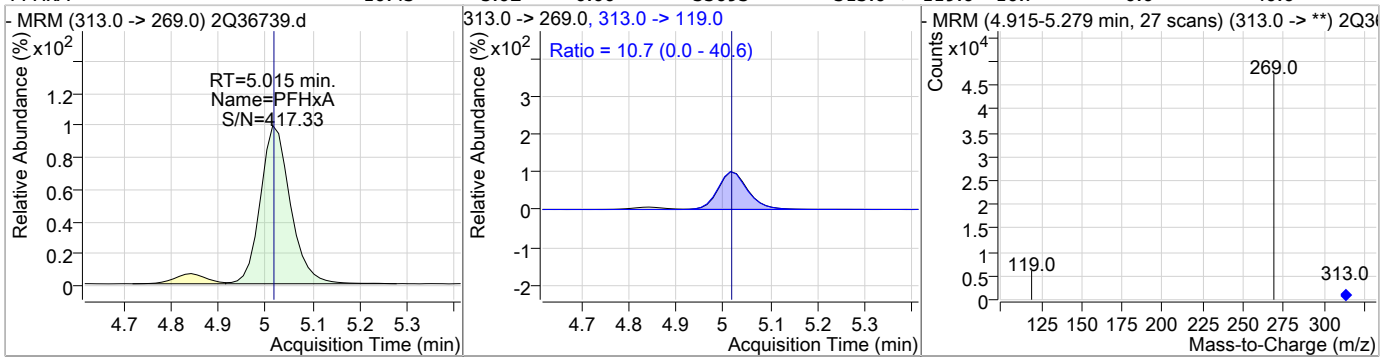
Perfluorinated Compounds by LC/MS/MS

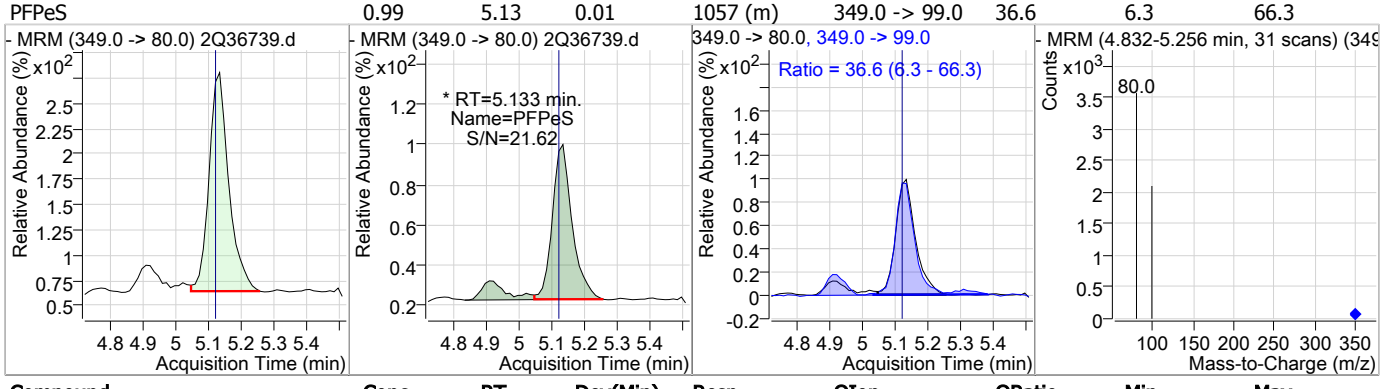
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	1.80	5.01	0.00	21008				



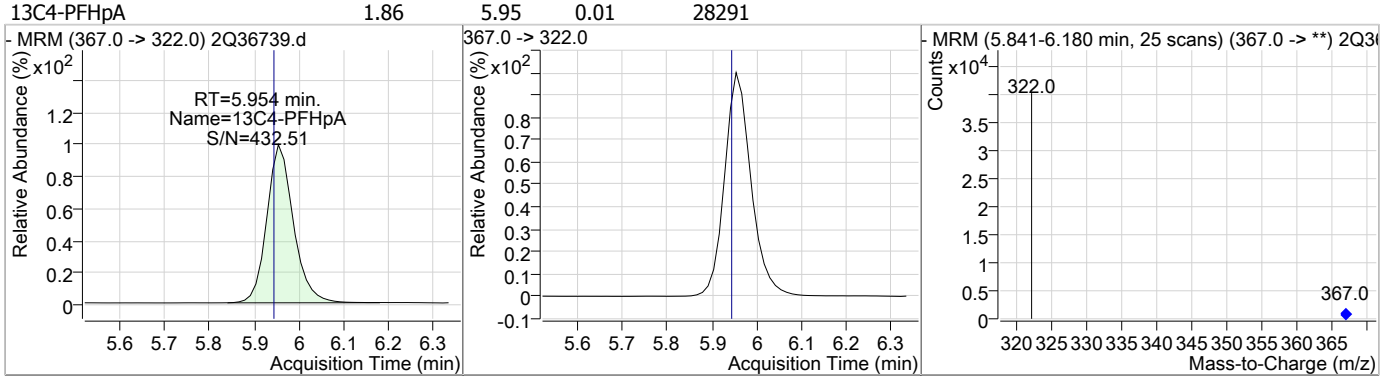
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	10.43	5.02	0.00	33693	313.0 -> 119.0	10.7	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.99	5.13	0.01	1057 (m)	349.0 -> 99.0	36.6	6.3	66.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	1.86	5.95	0.01	28291				



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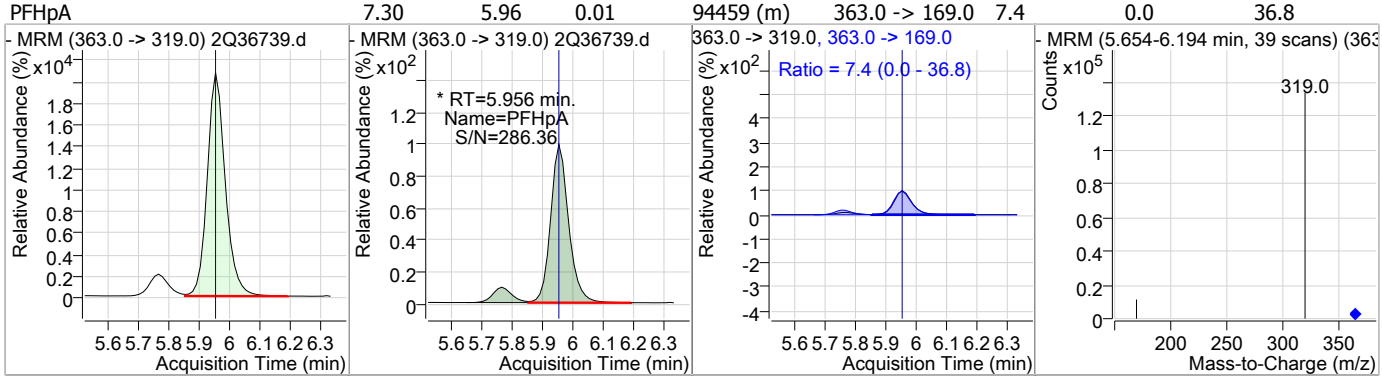
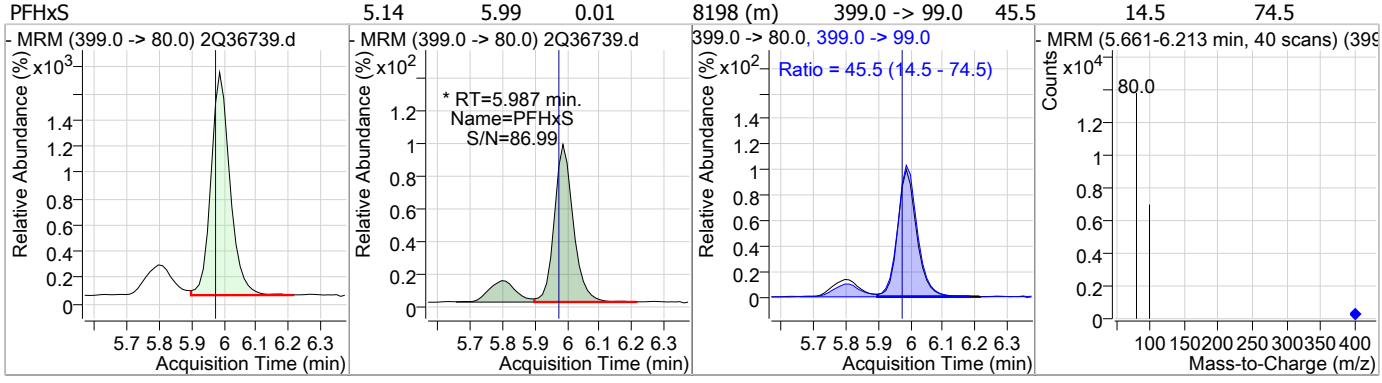
Perfluorinated Compounds by LC/MS/MS

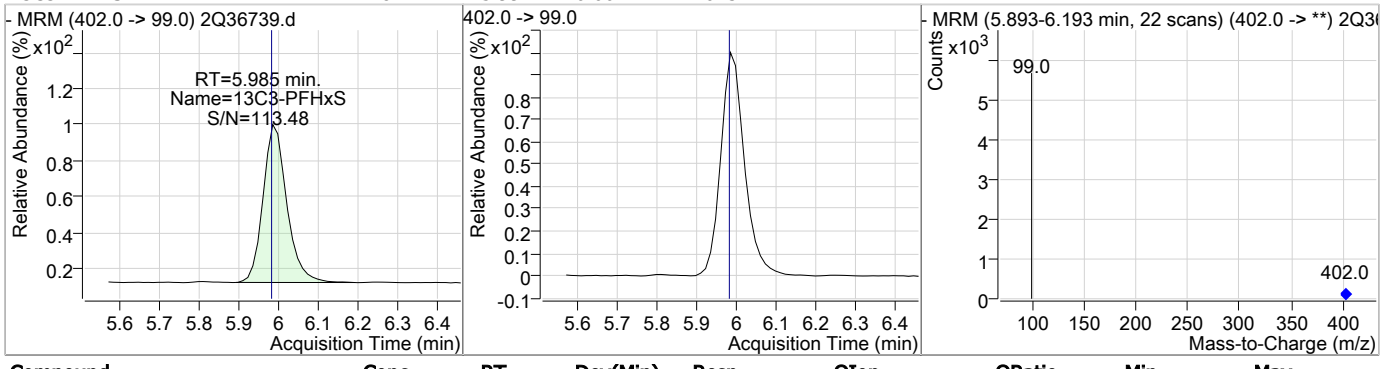
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	7.30	5.96	0.01	94459 (m)	363.0 -> 169.0	7.4	0.0	36.8



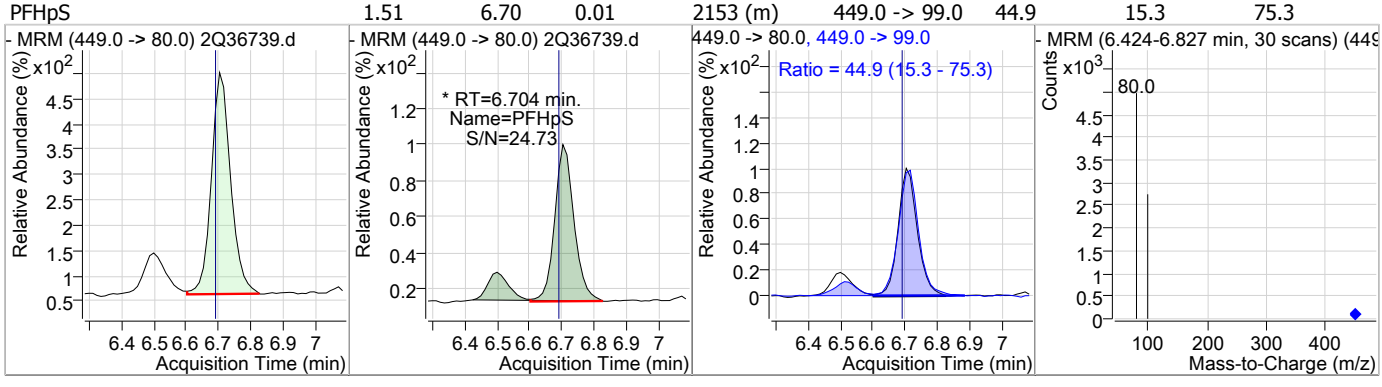
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	5.14	5.99	0.01	8198 (m)	399.0 -> 99.0	45.5	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	1.81	5.99	0.00	2673				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.51	6.70	0.01	2153 (m)	449.0 -> 99.0	44.9	15.3	75.3



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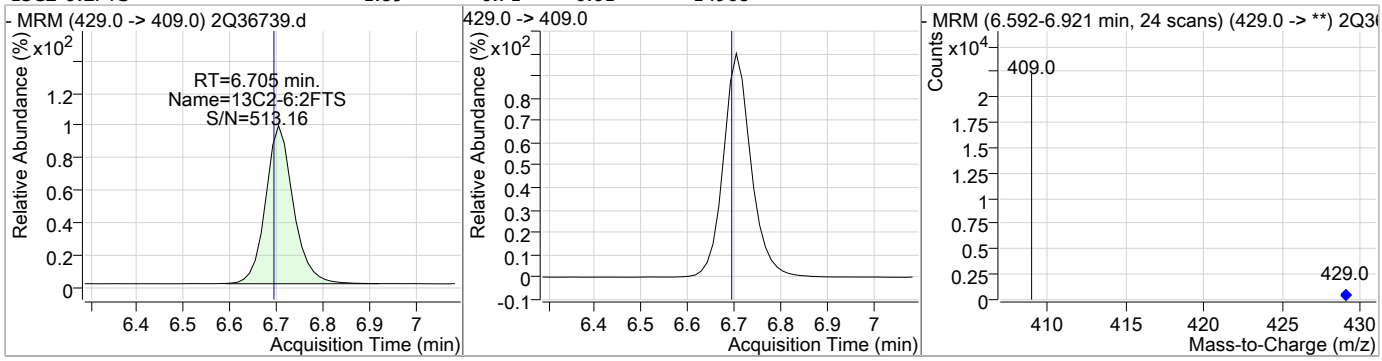
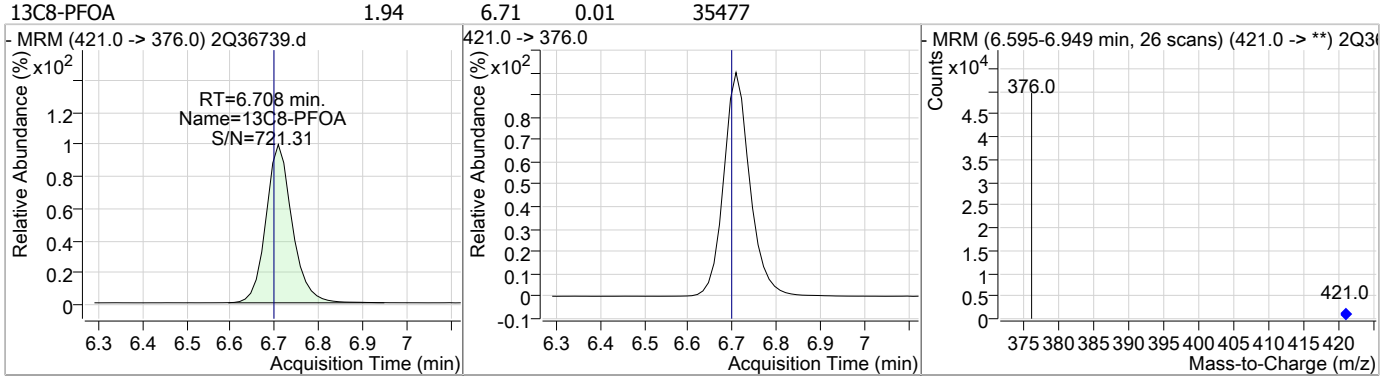
Perfluorinated Compounds by LC/MS/MS

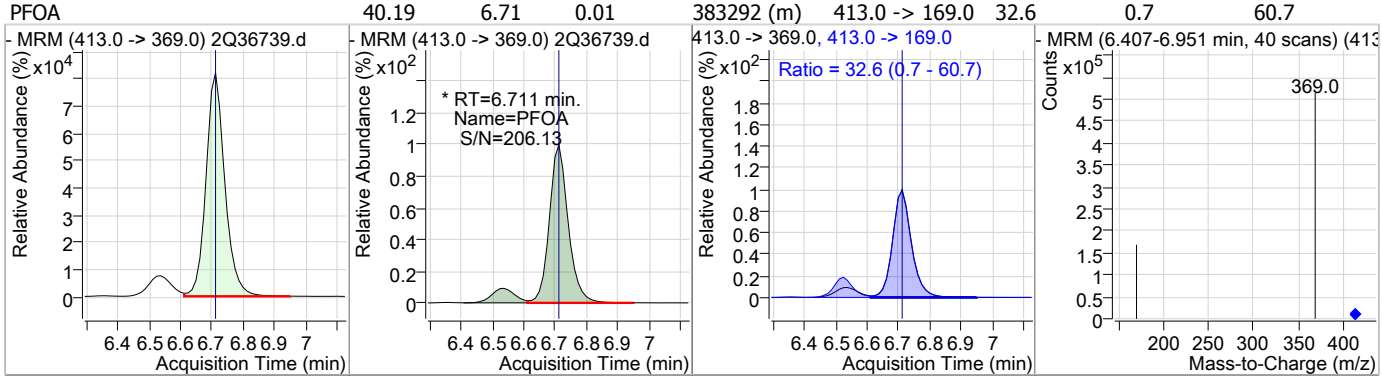
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	1.89	6.71	0.01	14968				



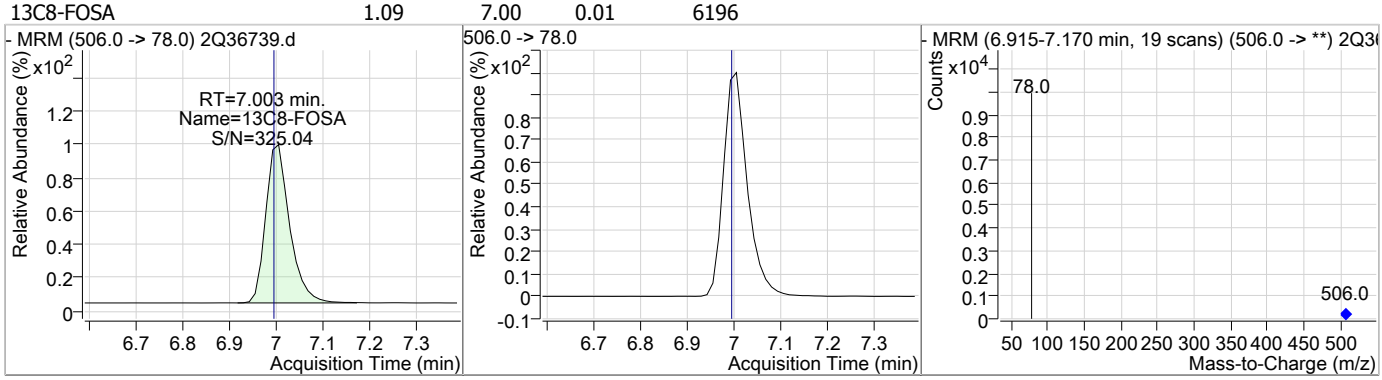
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	1.94	6.71	0.01	35477				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	40.19	6.71	0.01	383292 (m)	413.0 -> 169.0	32.6	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.09	7.00	0.01	6196				



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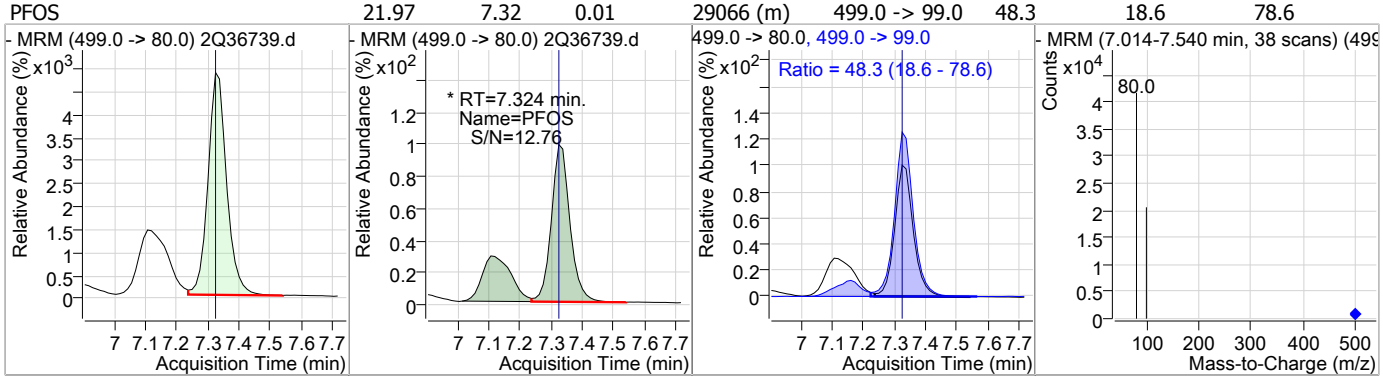
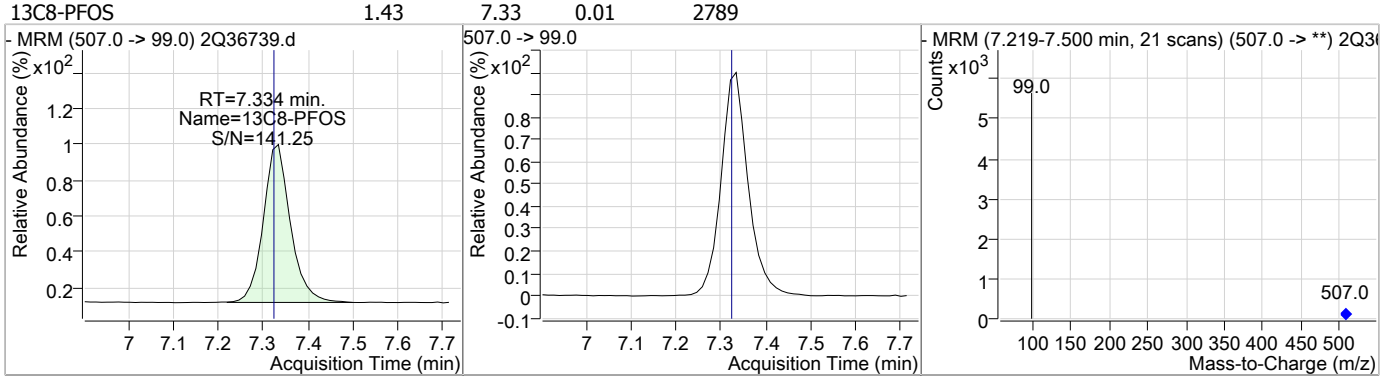
Perfluorinated Compounds by LC/MS/MS

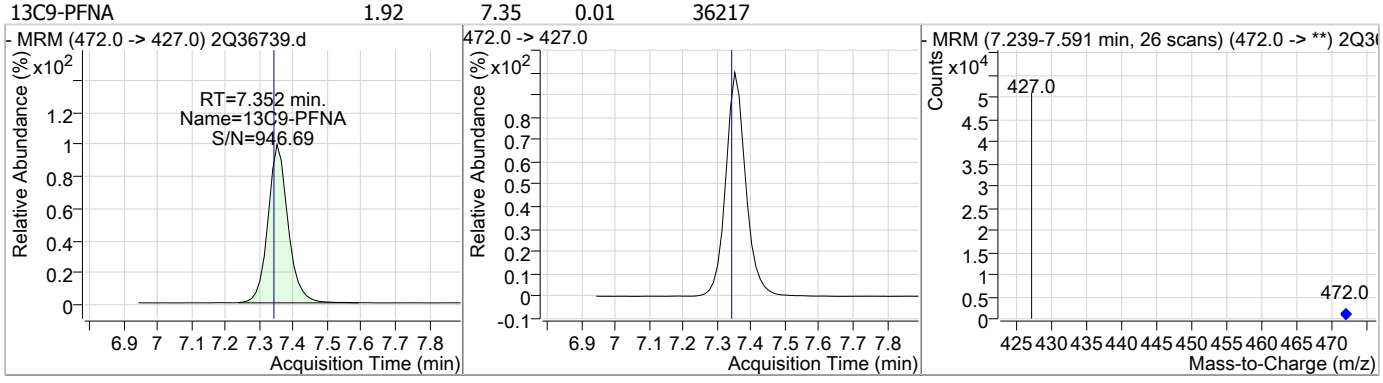
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	21.97	7.32	0.01	29066 (m)	499.0 -> 99.0	48.3	18.6	78.6



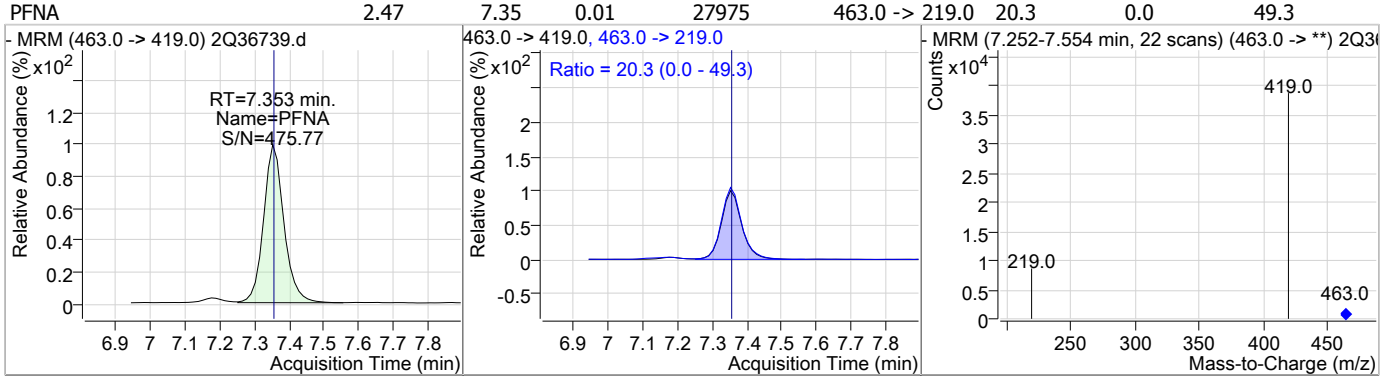
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.43	7.33	0.01	2789				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.92	7.35	0.01	36217				

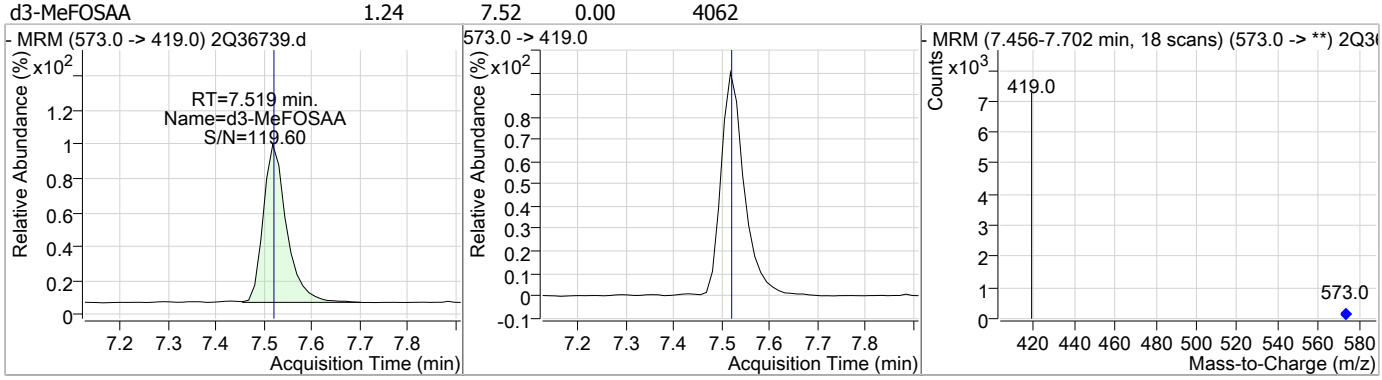


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.47	7.35	0.01	27975	463.0 -> 219.0	20.3	0.0	49.3

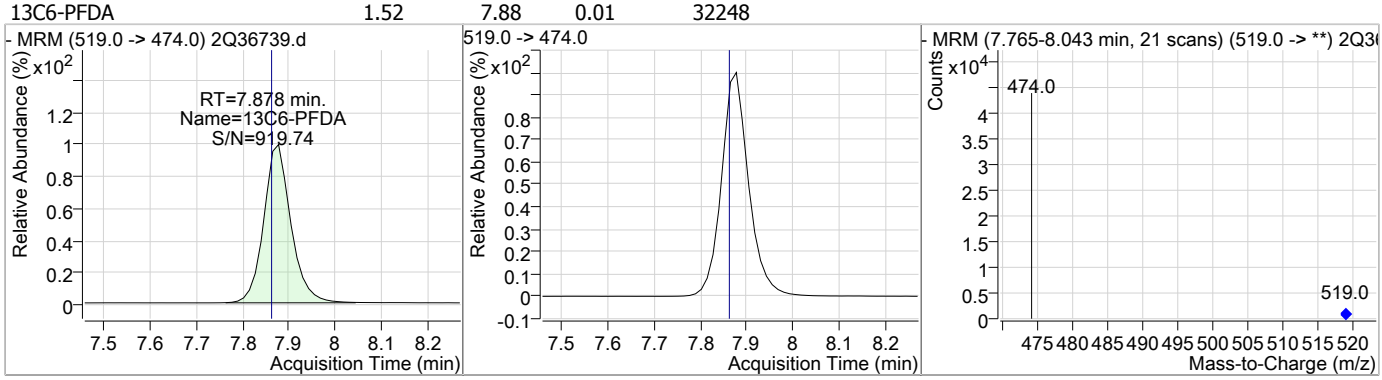


Perfluorinated Compounds by LC/MS/MS

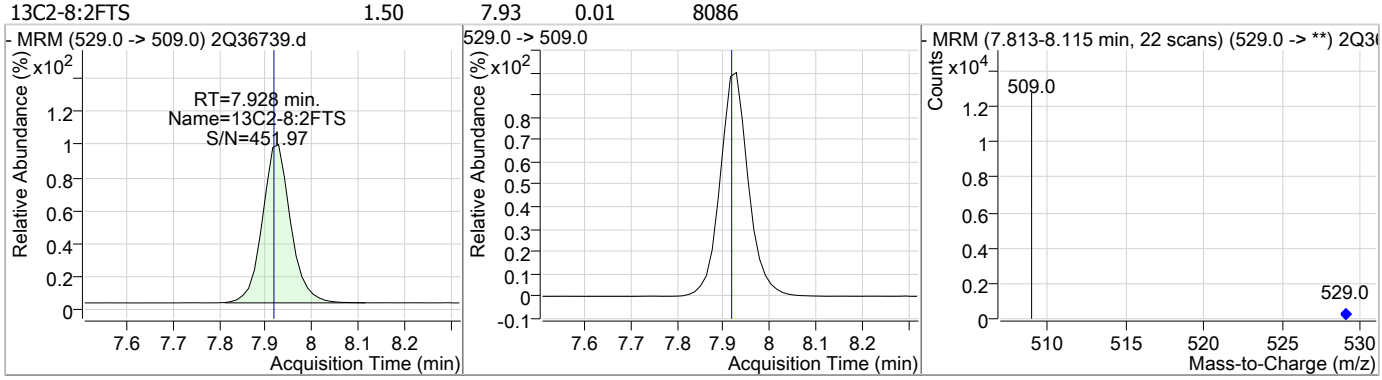
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	1.24	7.52	0.00	4062				



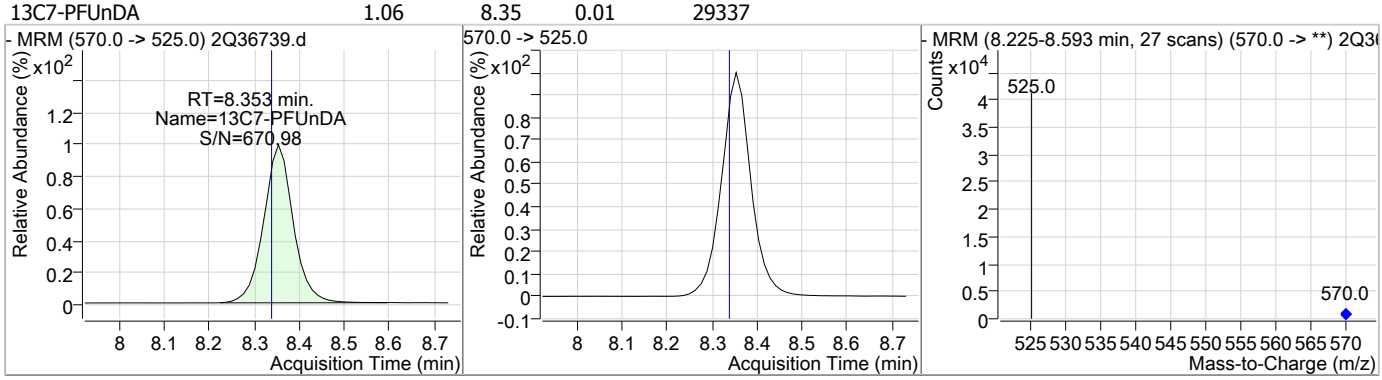
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.52	7.88	0.01	32248				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	1.50	7.93	0.01	8086				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.06	8.35	0.01	29337				



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Manual Integration Approval Summary

Sample Number:	JC95316-4	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36739.D	**Analyst approved:**	09/27/19 13:08 Natasha Gumtie
Injection Time:	09/26/19 21:23	**Supervisor approved:**	09/27/19 15:29 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanesulfonic acid	2706-91-4		5.13	Split peak
Perfluoroheptanoic acid	375-85-9		5.96	Split peak
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluoroheptanesulfonic acid	375-92-8		6.70	Split peak
Perfluorooctanoic acid	335-67-1		6.71	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36669.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 2:43:34 AM
Sample Name	:	JC95316-5
Vial	:	Vial 59
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

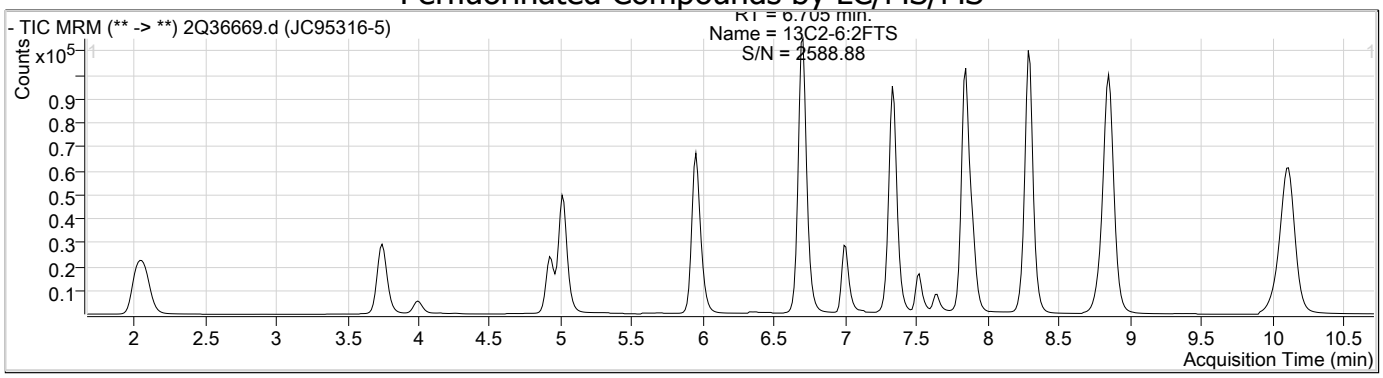
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.040	217.0 -> 172.0	177157	20.00	µg/L	0.000
M5-PFPeA	3.749	268.0 -> 223.0	145581	20.00	µg/L	0.025
M5-PFHxA	5.013	318.0 -> 273.0	206266	20.00	µg/L	0.025
M4-PFHpA	5.955	367.0 -> 322.0	269404	20.00	µg/L	0.038
M8-PFOA	6.708	421.0 -> 376.0	342326	20.00	µg/L	0.038
M9-PFNA	7.339	472.0 -> 427.0	357264	20.00	µg/L	0.025
M6-PFDA	7.852	519.0 -> 474.0	388516	20.00	µg/L	0.013
M7-PFUnDA	8.287	570.0 -> 525.0	467627	20.00	µg/L	-0.025
M2-PFDoDA	8.852	615.0 -> 570.0	568907	20.00	µg/L	-0.050
M2-PFTeDA	10.112	715.0 -> 670.0	455094	20.00	µg/L	0.025
M8-FOSA	6.990	506.0 -> 78.0	99569	20.00	µg/L	0.025
M3-PFBS	3.992	302.0 -> 99.0	24068	20.00	µg/L	0.025
M3-PFHxS	5.985	402.0 -> 99.0	26012	20.00	µg/L	0.038
M8-PFOS	7.321	507.0 -> 99.0	34712	20.00	µg/L	0.038
M2-4:2FTS	4.921	329.0 -> 309.0	99974	20.00	µg/L	0.024
M2-6:2FTS	6.705	429.0 -> 409.0	144390	20.00	µg/L	0.038
M2-8:2FTS	7.900	529.0 -> 509.0	94698	20.00	µg/L	0.013
M3-MeFOSAA	7.518	573.0 -> 419.0	52843	20.00	µg/L	0.025
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	99951	17.17	µg/L	0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.8%		
13C2-6:2FTS	6.705	429.0 -> 409.0	144333	18.21	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.0%		
13C2-8:2FTS	7.900	529.0 -> 509.0	94653	17.58	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.9%		
13C2-PFDoDA	8.852	615.0 -> 570.0	562539	16.11	µg/L	-0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.6%		
13C2-PFTeDA	10.112	715.0 -> 670.0	456220	17.12	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.6%		
13C3-PFBS	3.992	302.0 -> 99.0	24068	17.61	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.0%		
13C3-PFHxS	5.985	402.0 -> 99.0	25998	17.64	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.2%		
13C4-PFBA	2.040	217.0 -> 172.0	176157	17.99	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
13C4-PFHpA	5.955	367.0 -> 322.0	269215	17.68	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.4%		
13C5-PFHxA	5.013	318.0 -> 273.0	205985	17.65	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.2%		
13C5-PFPeA	3.749	268.0 -> 223.0	145880	17.72	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.6%		
13C6-PFDA	7.852	519.0 -> 474.0	388748	18.37	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

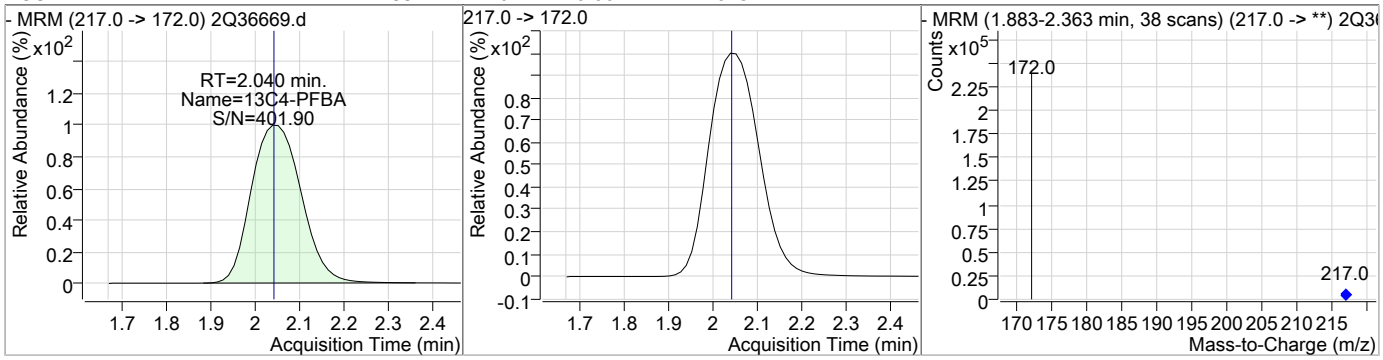
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C7-PFUnDA	8.287	570.0 -> 525.0	467152	16.86 µg/L		-0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.3%		
13C8-FOSA	6.990	506.0 -> 78.0	99563	17.50 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.5%		
13C8-PFOA	6.708	421.0 -> 376.0	341971	18.69 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.4%		
13C8-PFOS	7.321	507.0 -> 99.0	34708	17.83 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.1%		
13C9-PFNA	7.339	472.0 -> 427.0	357128	18.89 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
d3-MeFOSAA	7.518	573.0 -> 419.0	53090	16.24 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.2%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	4.174	299.0 -> 80.0	0	0.00 µg/L	m	1
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

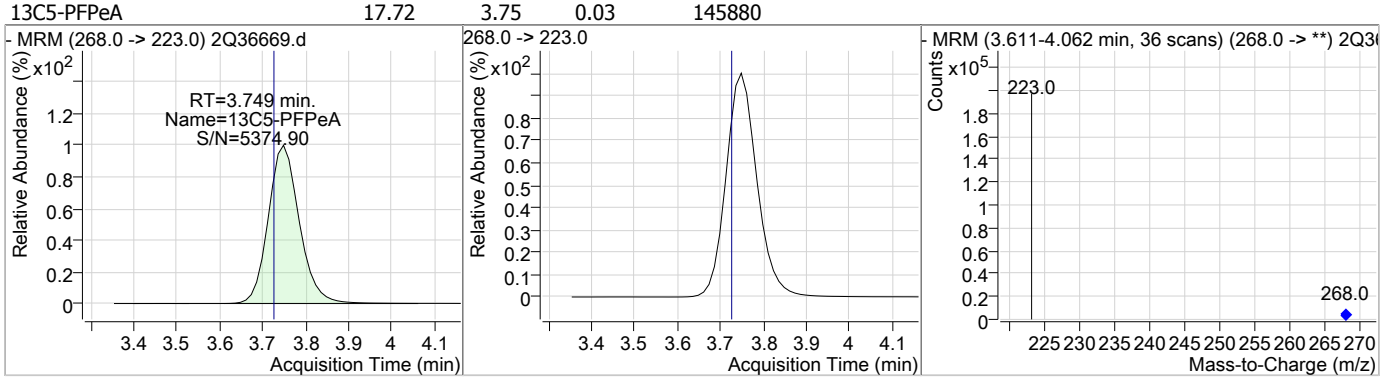
Perfluorinated Compounds by LC/MS/MS



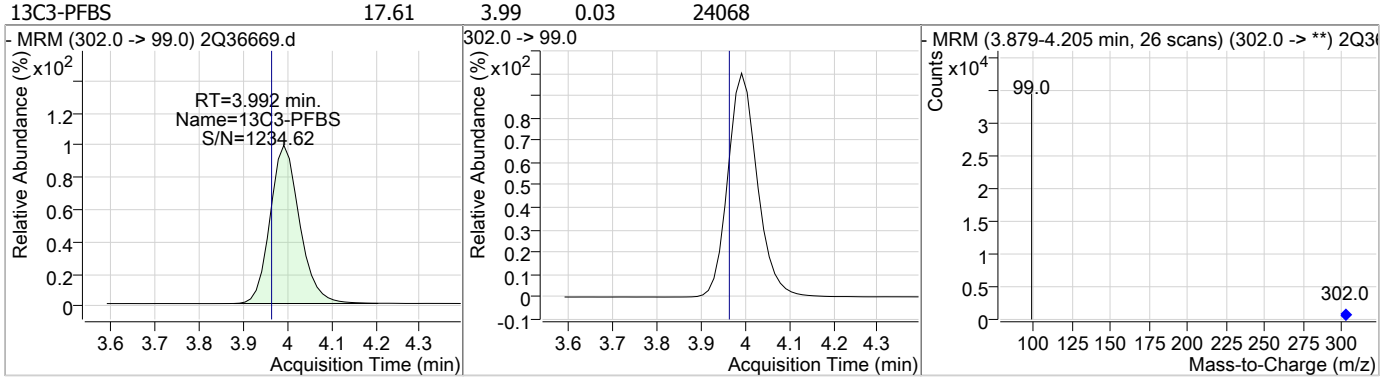
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	17.99	2.04	0.00	176157				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	17.72	3.75	0.03	145880				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	17.61	3.99	0.03	24068				



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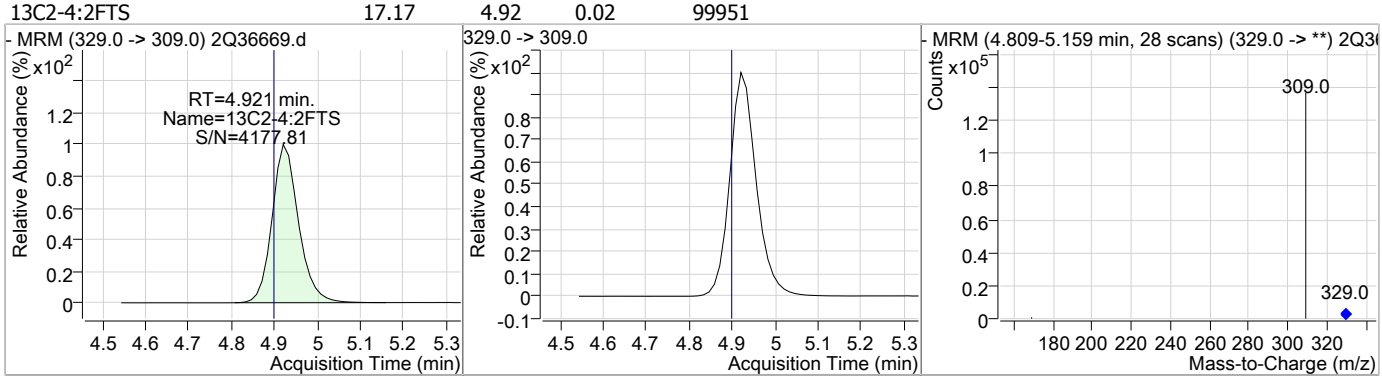
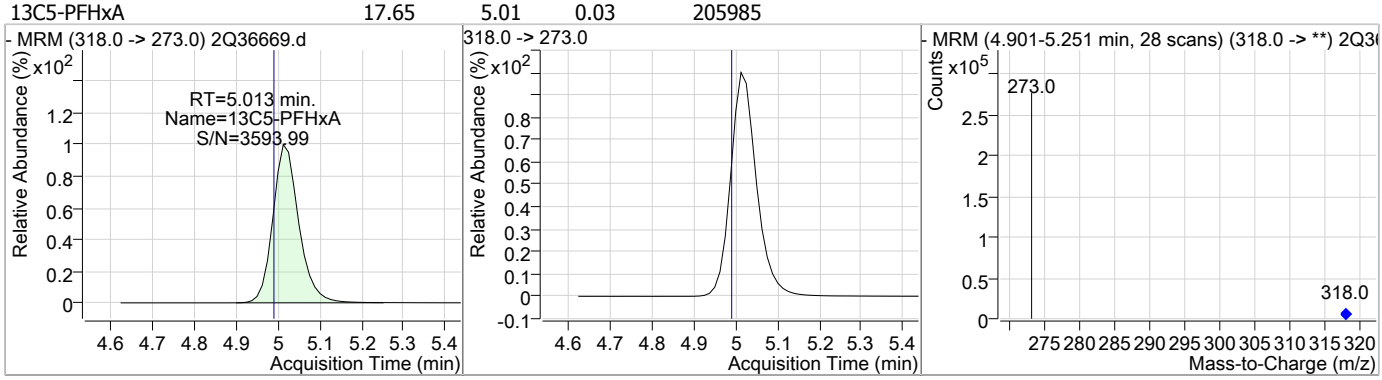
Perfluorinated Compounds by LC/MS/MS

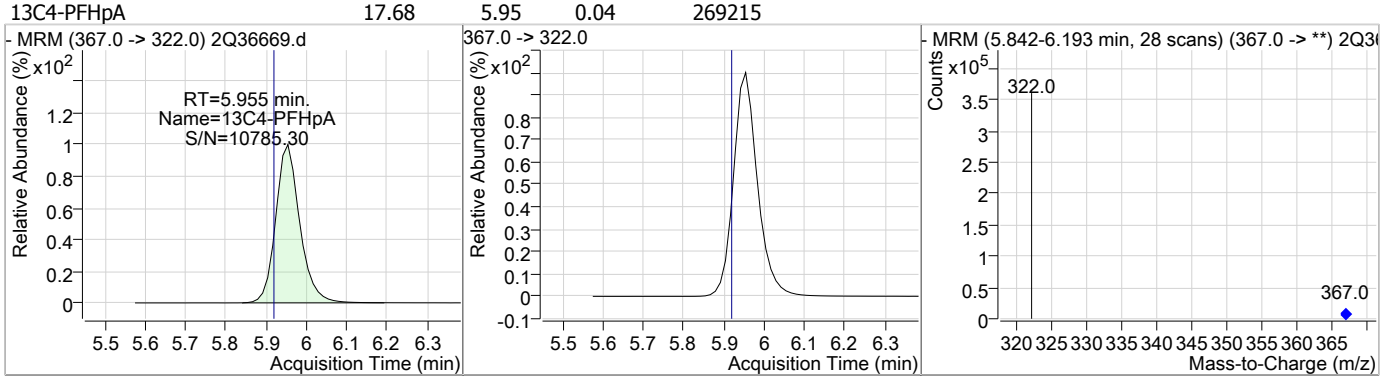
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.17	4.92	0.02	99951				



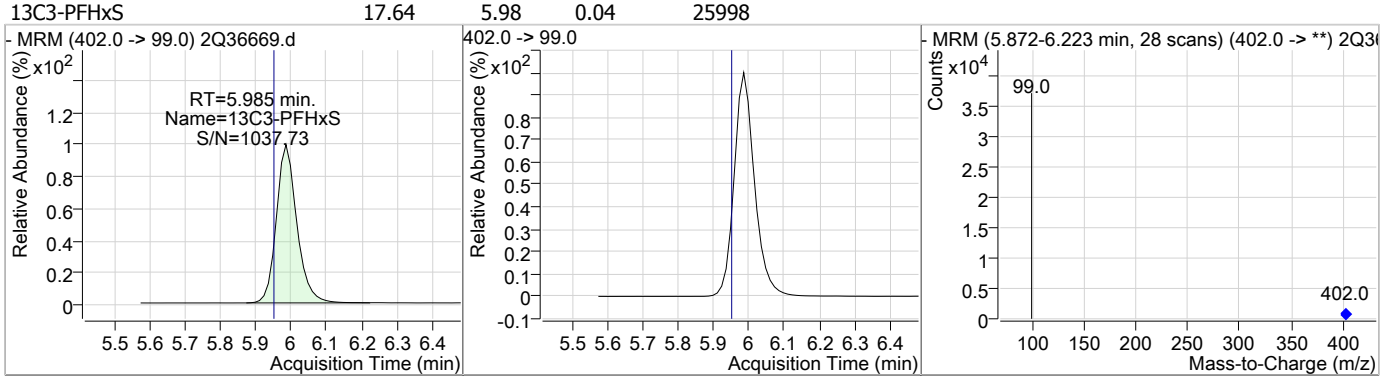
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.65	5.01	0.03	205985				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.68	5.95	0.04	269215				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.64	5.98	0.04	25998				



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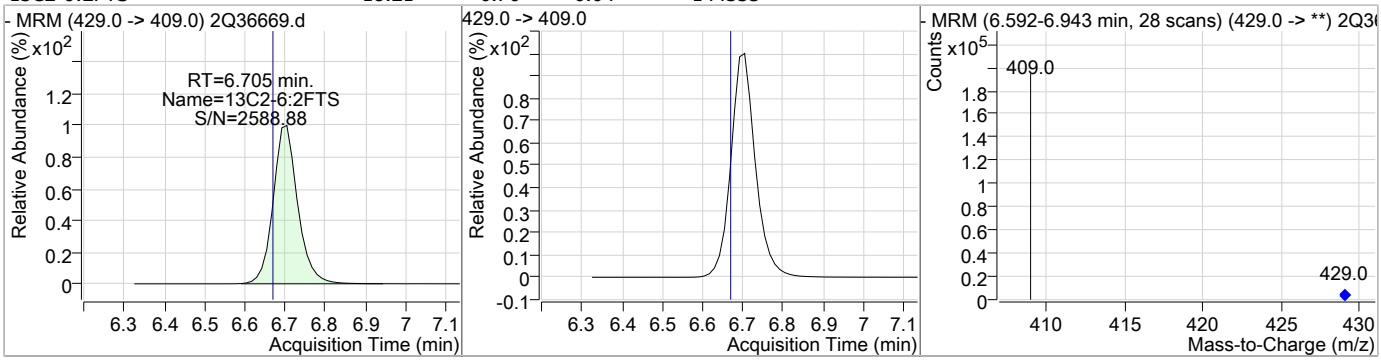
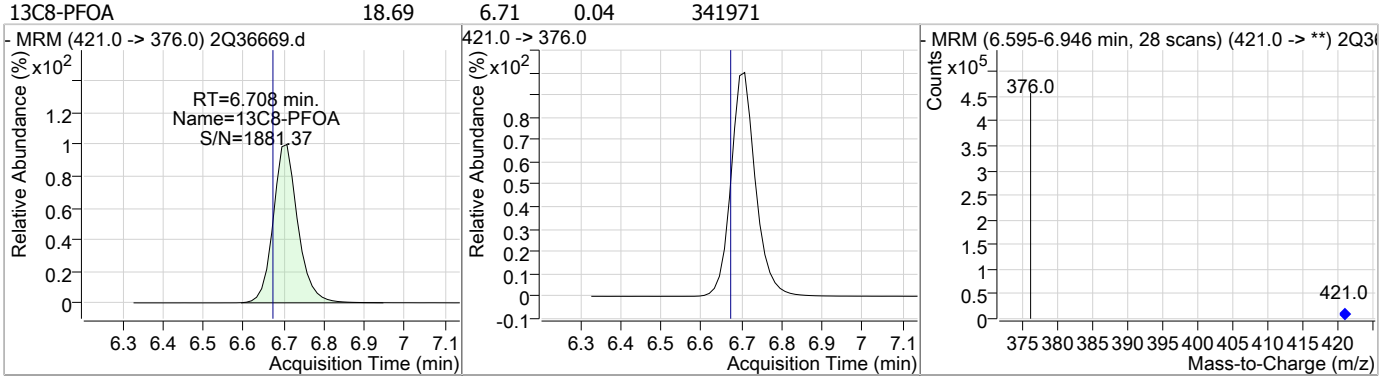
Perfluorinated Compounds by LC/MS/MS

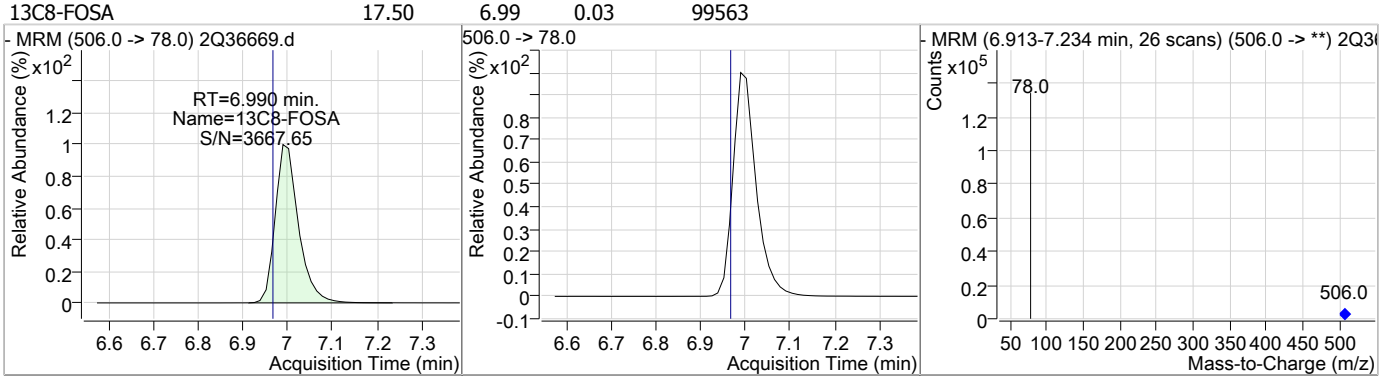
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.21	6.70	0.04	144333				



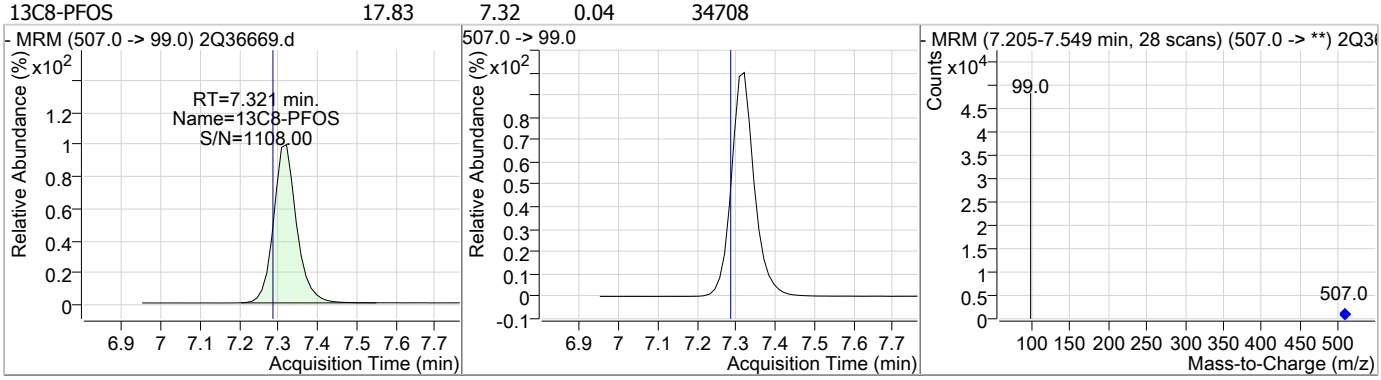
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.69	6.71	0.04	341971				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	17.50	6.99	0.03	99563				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	17.83	7.32	0.04	34708				



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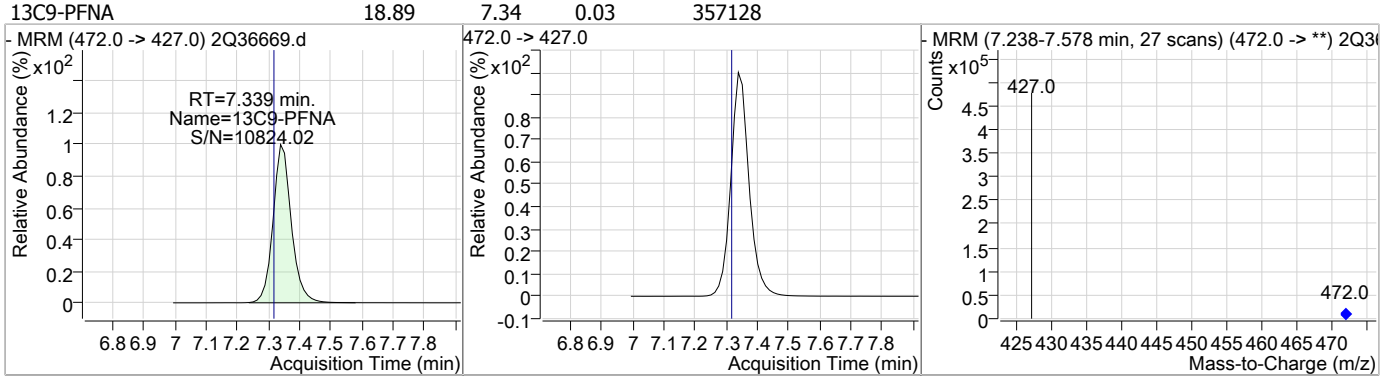
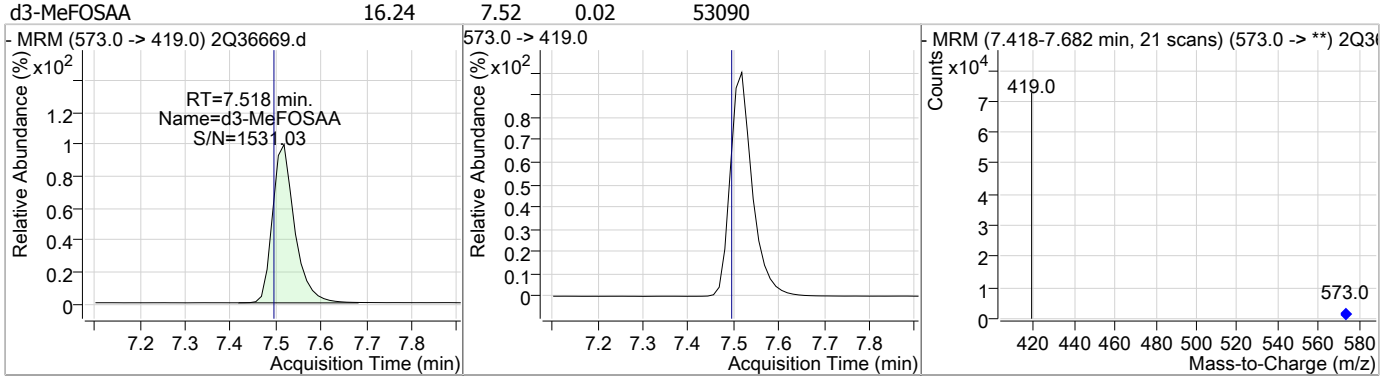
Perfluorinated Compounds by LC/MS/MS

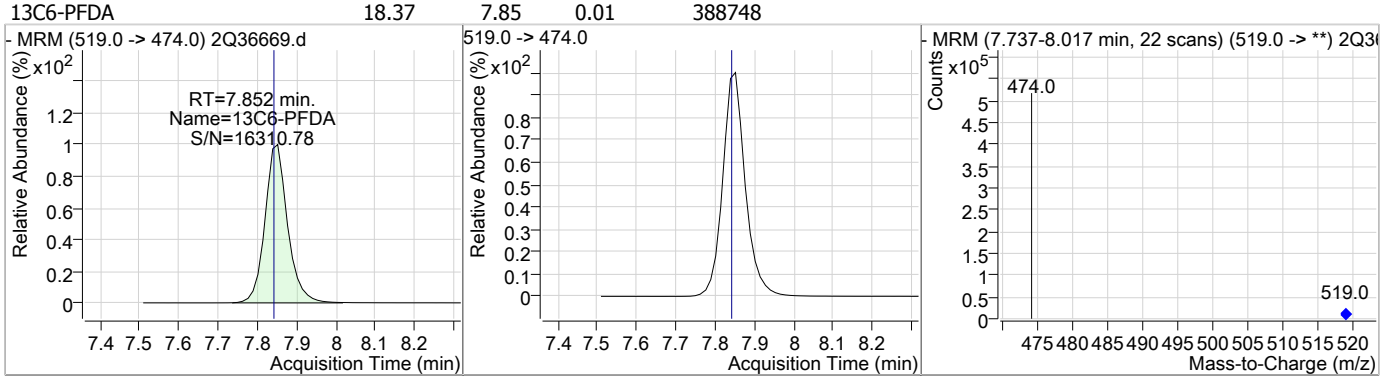
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	18.89	7.34	0.03	357128				



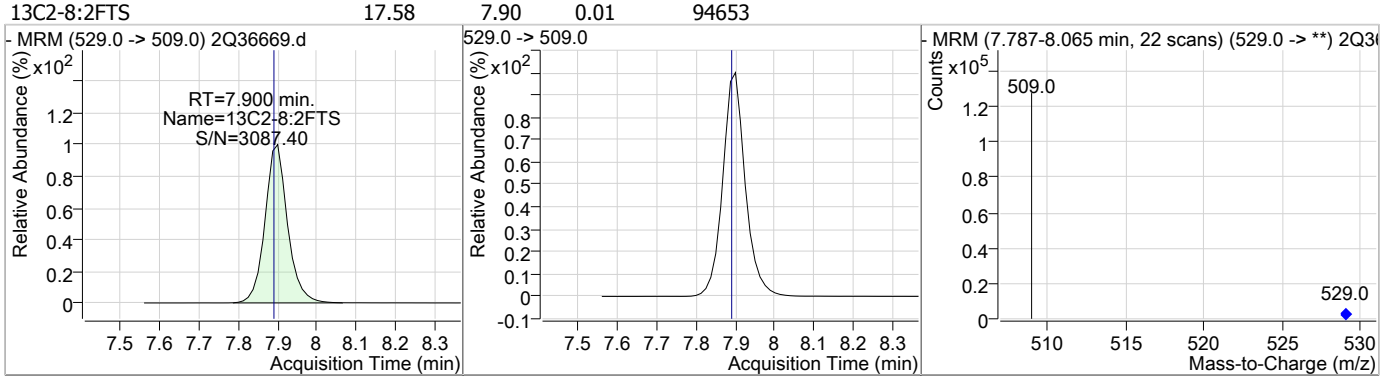
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	16.24	7.52	0.02	53090				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.37	7.85	0.01	388748				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	17.58	7.90	0.01	94653				



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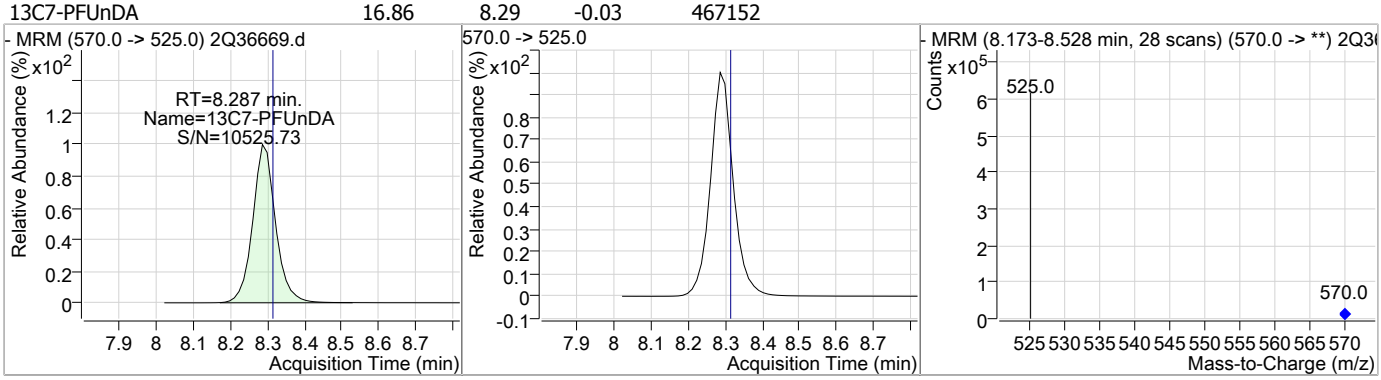
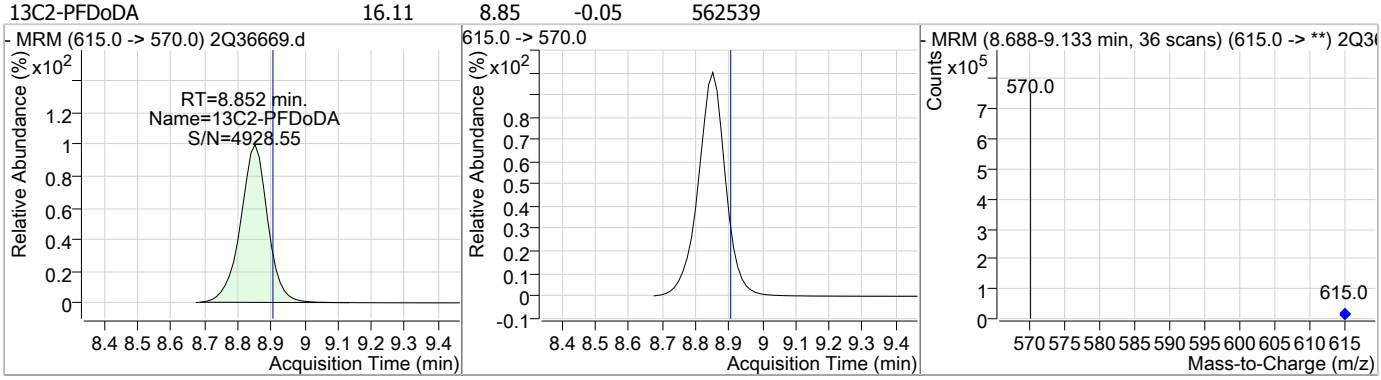
Perfluorinated Compounds by LC/MS/MS

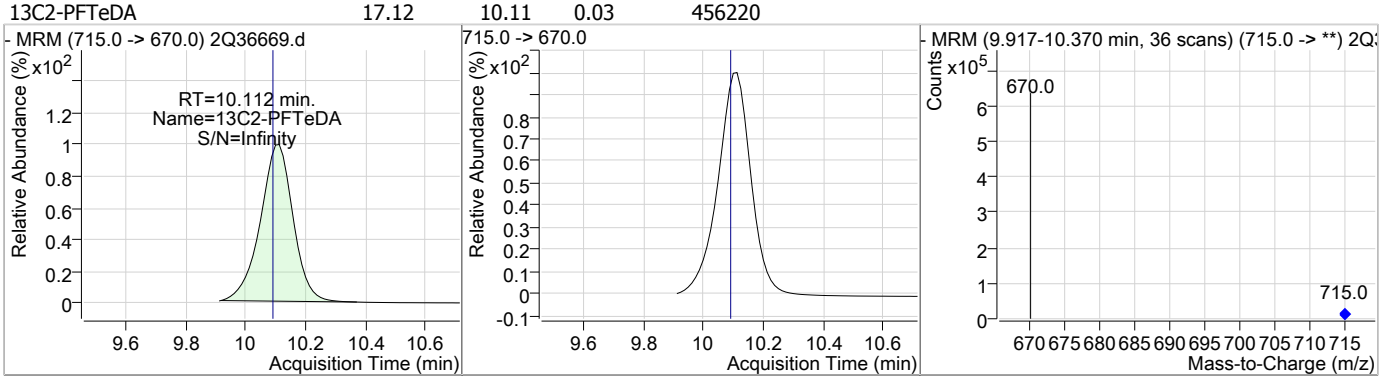
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	16.86	8.29	-0.03	467152				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	16.11	8.85	-0.05	562539				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	17.12	10.11	0.03	456220				



12.1.8

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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:33

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36671.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 3:15:09 AM
Sample Name	:	JC95316-6
Vial	:	Vial 61
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

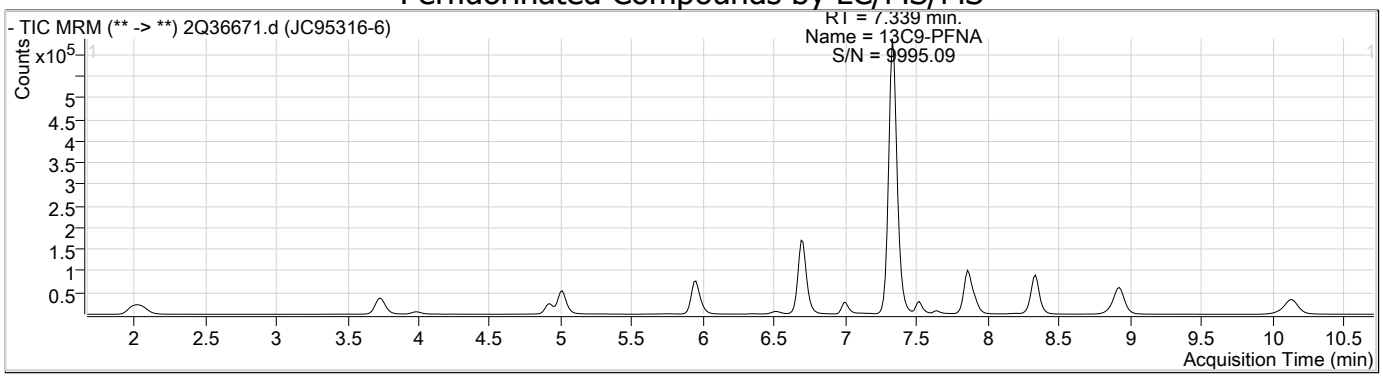
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-PFOA	-	415.0 -> 370.0	-	N.D.			
13C4-PFOS	-	503.0 -> 80.0	-	N.D.			
M4-PFBA	2.027	217.0 -> 172.0	176751	20.00	µg/L		-0.013
M5-PFPeA	3.736	268.0 -> 223.0	147382	20.00	µg/L		0.013
M5-PFHxA	5.013	318.0 -> 273.0	207792	20.00	µg/L		0.025
M4-PFHpA	5.955	367.0 -> 322.0	264109	20.00	µg/L		0.038
M8-PFOA	6.695	421.0 -> 376.0	345568	20.00	µg/L		0.025
M9-PFNA	7.339	472.0 -> 427.0	332474	20.00	µg/L		0.025
M6-PFDA	7.865	519.0 -> 474.0	380997	20.00	µg/L		0.025
M7-PFUnDA	8.338	570.0 -> 525.0	388251	20.00	µg/L		0.026
M2-PFDoDA	8.927	615.0 -> 570.0	363531	20.00	µg/L		0.025
M2-PFTeDA	10.137	715.0 -> 670.0	250564	20.00	µg/L		0.050
M8-FOSA	6.990	506.0 -> 78.0	94515	20.00	µg/L		0.025
M3-PFBS	3.980	302.0 -> 99.0	23481	20.00	µg/L		0.013
M3-PFHxS	5.985	402.0 -> 99.0	25486	20.00	µg/L		0.038
M8-PFOS	7.321	507.0 -> 99.0	31922	20.00	µg/L		0.038
M2-4:2FTS	4.921	329.0 -> 309.0	101878	20.00	µg/L		0.024
M2-6:2FTS	6.692	429.0 -> 409.0	147519	20.00	µg/L		0.025
M2-8:2FTS	7.913	529.0 -> 509.0	94962	20.00	µg/L		0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	89134	20.00	µg/L		0.025
M3-HFPO-DA	5.305	287.0 -> 169.0	0	100.00	µg/L	m	0.038
System Monitoring Compounds							
13C2-4:2FTS	4.921	329.0 -> 309.0	101838	17.49	µg/L		0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.4%			
13C2-6:2FTS	6.692	429.0 -> 409.0	147361	18.59	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.9%			
13C2-8:2FTS	7.913	529.0 -> 509.0	94977	17.64	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.2%			
13C2-PFDoDA	8.927	615.0 -> 570.0	361624	10.36	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 51.8%			
13C2-PFTeDA	10.137	715.0 -> 670.0	246384	9.25	µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 46.2%			
13C3-PFBS	3.980	302.0 -> 99.0	23471	17.17	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.9%			
13C3-PFHxS	5.985	402.0 -> 99.0	25507	17.31	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.5%			
13C4-PFBA	2.027	217.0 -> 172.0	175740	17.95	µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.7%			
13C4-PFHpA	5.955	367.0 -> 322.0	263950	17.33	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.7%			
13C5-PFHxA	5.013	318.0 -> 273.0	207442	17.77	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.9%			
13C5-PFPeA	3.736	268.0 -> 223.0	147312	17.90	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.5%			
13C6-PFDA	7.865	519.0 -> 474.0	380794	18.00	µg/L		0.025

Perfluorinated Compounds by LC/MS/MS

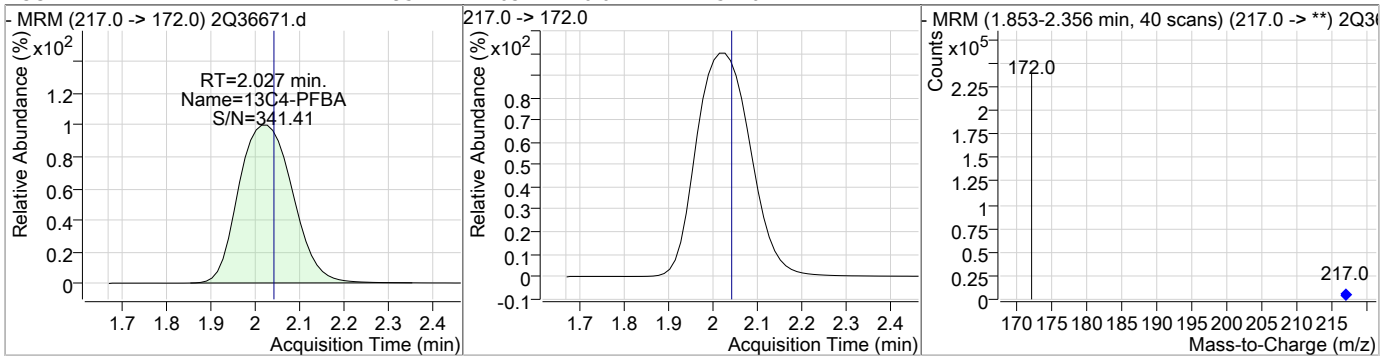
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
13C7-PFUnDA	8.338	570.0 -> 525.0	387570	13.98 µg/L		0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 69.9%		
13C8-FOSA	6.990	506.0 -> 78.0	94434	16.59 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.0%		
13C8-PFOA	6.695	421.0 -> 376.0	345224	18.87 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
13C8-PFOS	7.321	507.0 -> 99.0	31911	16.39 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.0%		
13C9-PFNA	7.339	472.0 -> 427.0	332309	17.58 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.9%		
d3-MeFOSAA	7.518	573.0 -> 419.0	89188	27.29 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 136.4%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.694	427.0 -> 407.0	1969	0.54 µg/L		92
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.023	213.0 -> 169.0	9862	5.99 µg/L		100
PFBS	3.983	299.0 -> 80.0	1389	0.75 µg/L		90
PFDA	7.866	513.0 -> 469.0	5726	0.61 µg/L		97
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.945	363.0 -> 319.0	52196	4.33 µg/L	m	99
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.015	313.0 -> 269.0	17801	5.58 µg/L		99
PFHxS	5.975	399.0 -> 80.0	2961	1.95 µg/L	m	97
PFNA	7.340	463.0 -> 419.0	1937920	186.33 µg/L		100
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.698	413.0 -> 369.0	196842	21.17 µg/L	m	96
PFOS	7.311	499.0 -> 80.0	10268	6.78 µg/L	m	85
PFPeA	3.740	263.0 -> 219.0	44236	5.95 µg/L		100
PFPeS	5.120	349.0 -> 80.0	477	0.47 µg/L		74
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	8.340	563.0 -> 519.0	11357	1.24 µg/L		99
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

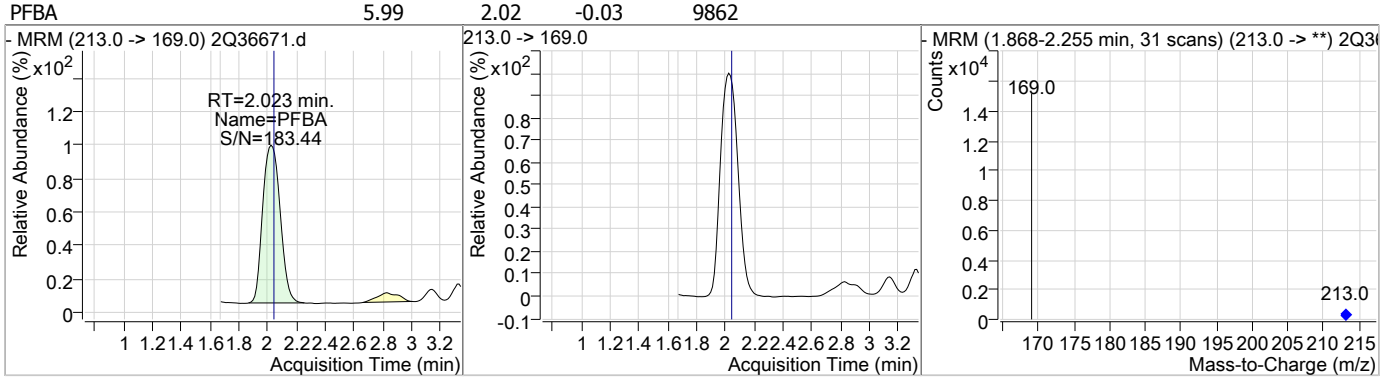
Perfluorinated Compounds by LC/MS/MS



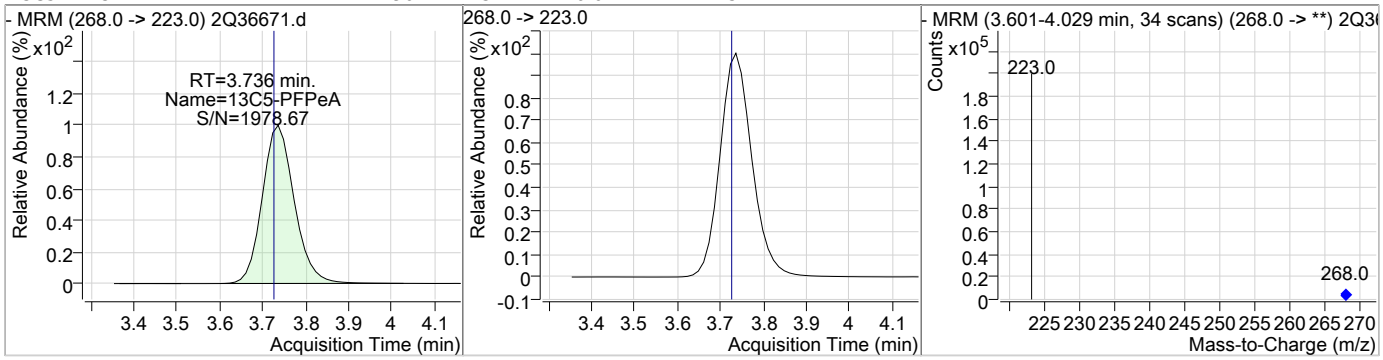
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	17.95	2.03	-0.01	175740				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	5.99	2.02	-0.03	9862				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	17.90	3.74	0.01	147312				



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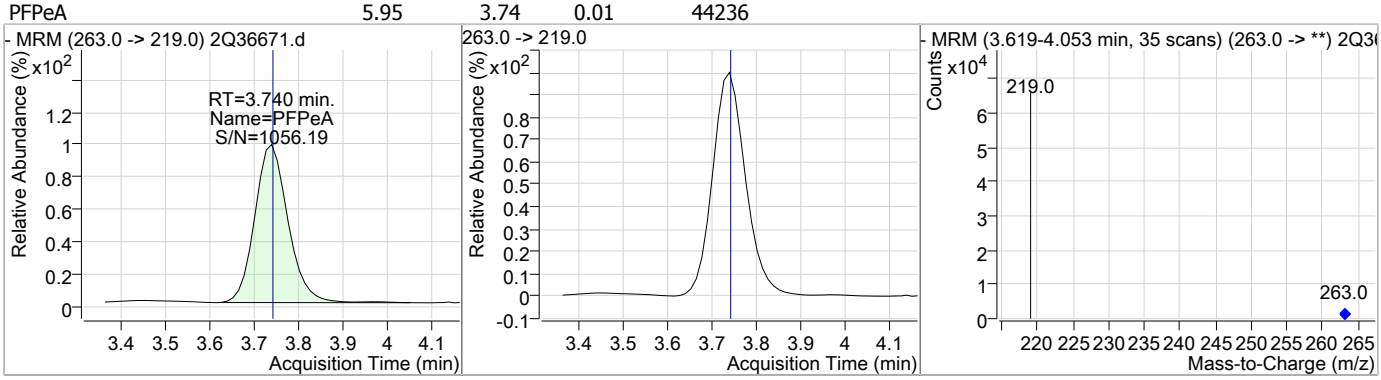
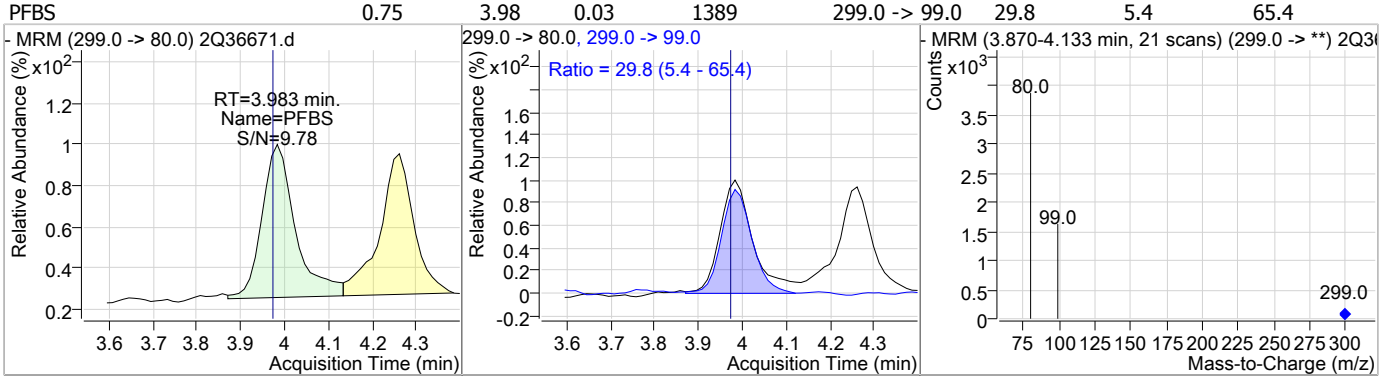
Perfluorinated Compounds by LC/MS/MS

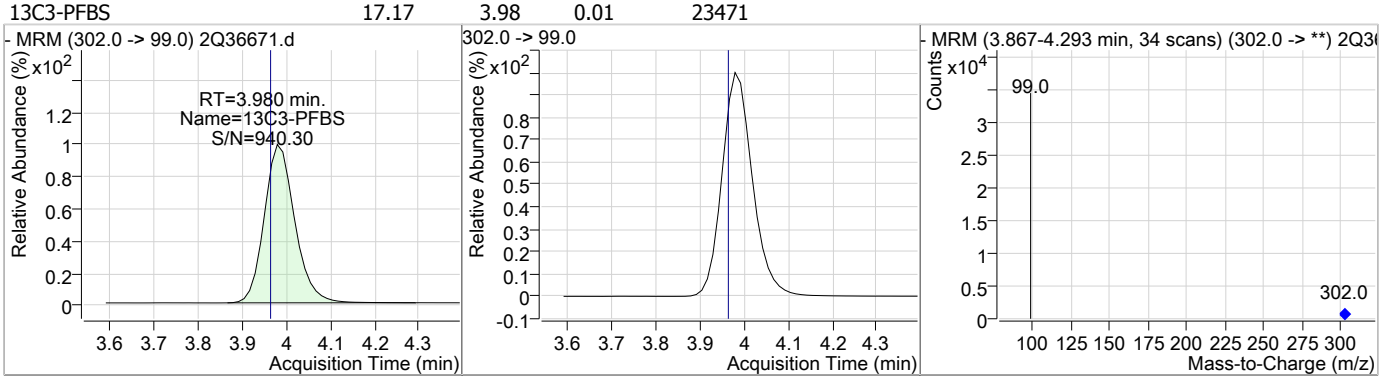
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.95	3.74	0.01	44236				



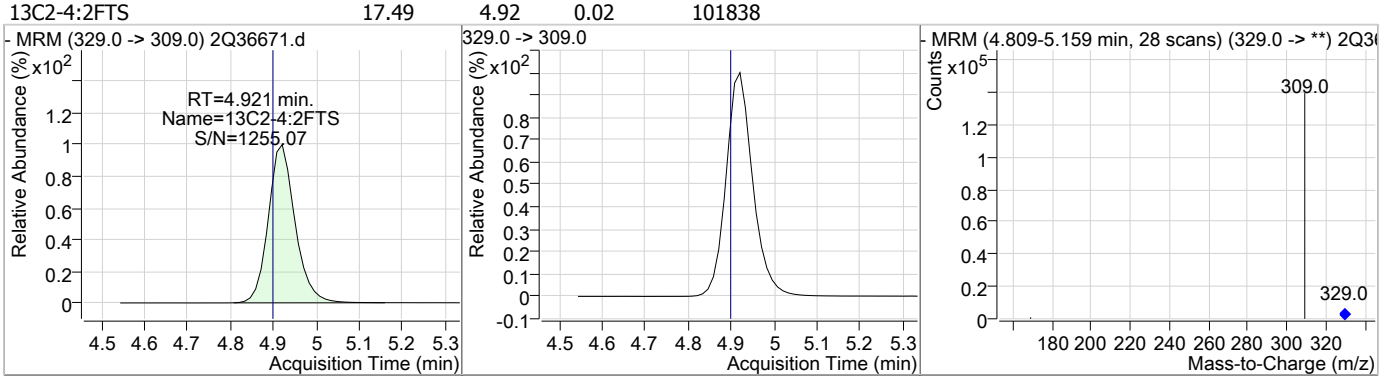
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.75	3.98	0.03	1389	299.0 -> 99.0	29.8	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	17.17	3.98	0.01	23471				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.49	4.92	0.02	101838				



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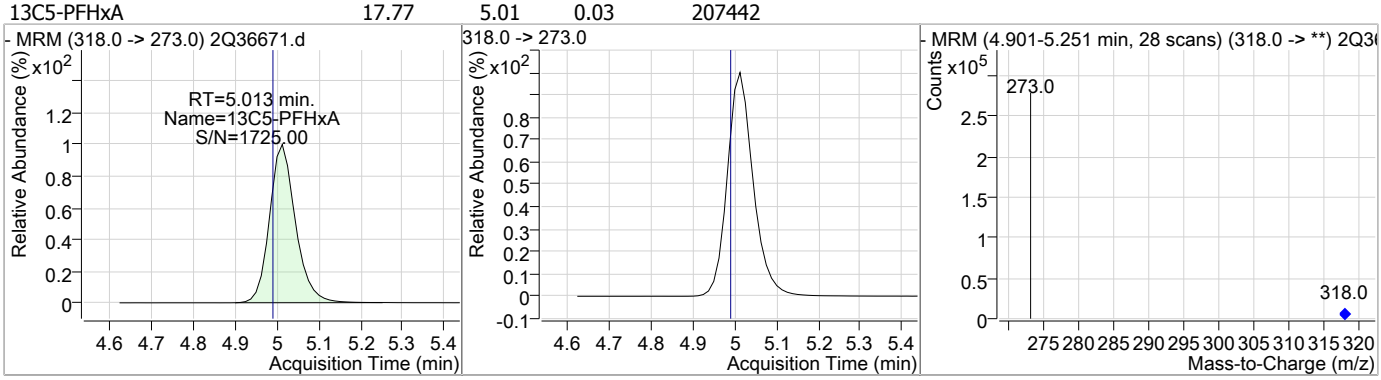
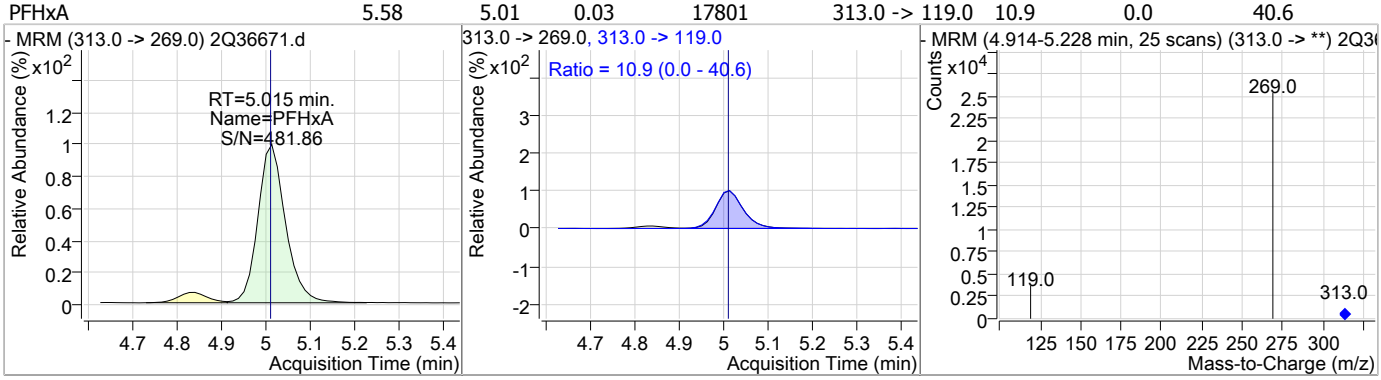
Perfluorinated Compounds by LC/MS/MS

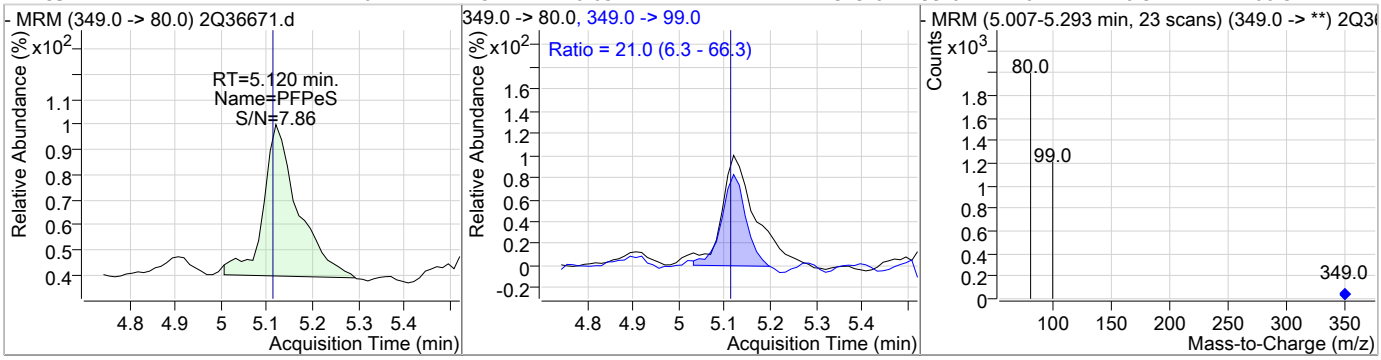
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.77	5.01	0.03	207442				



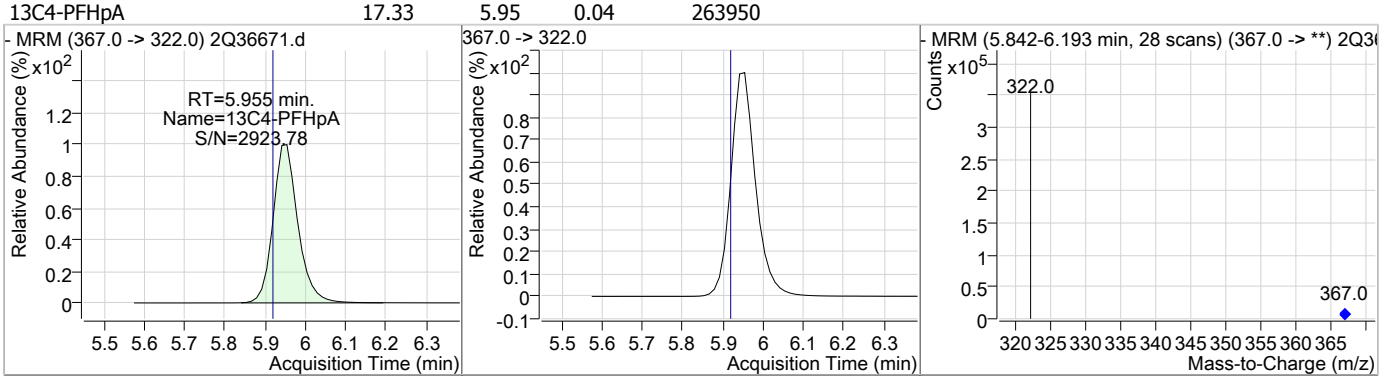
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	5.58	5.01	0.03	17801	313.0 -> 119.0	10.9	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.47	5.12	0.03	477	349.0 -> 99.0	21.0	6.3	66.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.33	5.95	0.04	263950				



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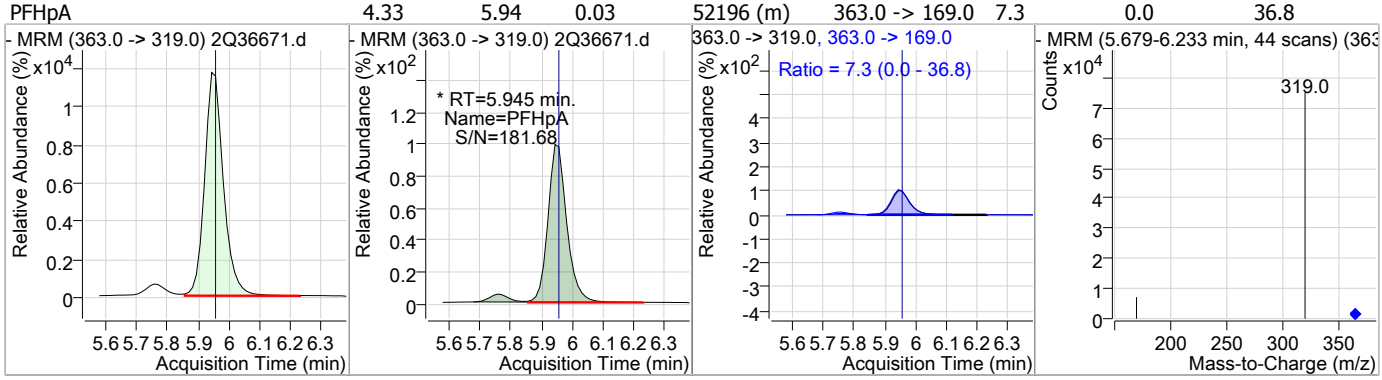
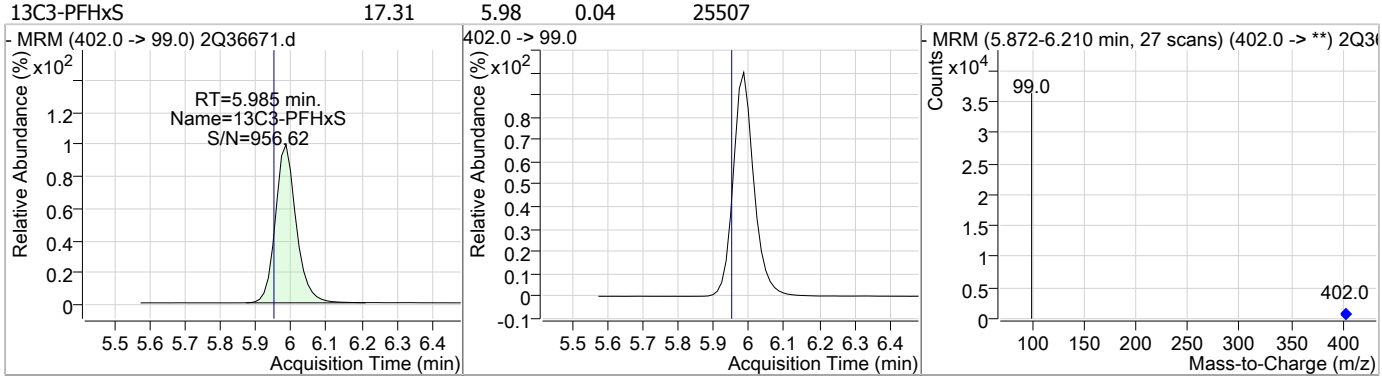
Perfluorinated Compounds by LC/MS/MS

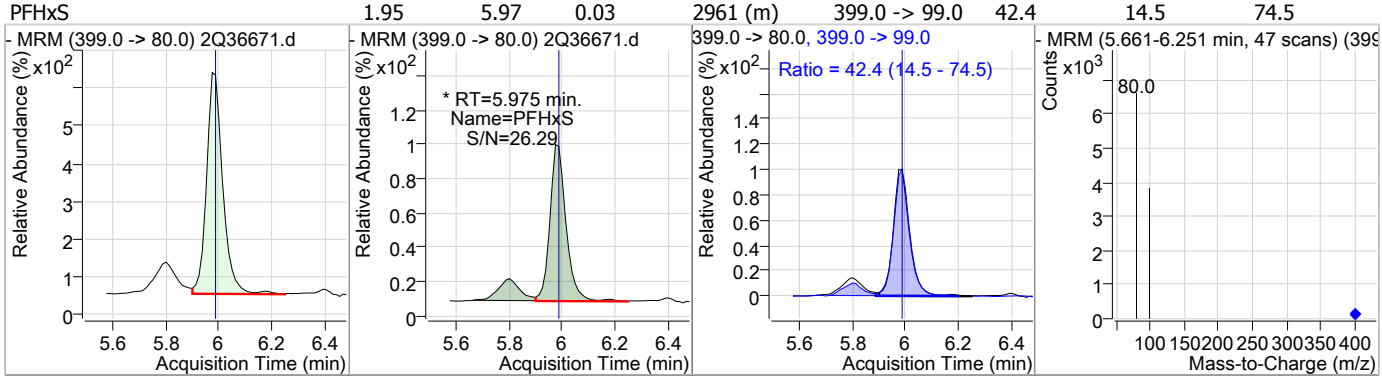
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	4.33	5.94	0.03	52196 (m)	363.0 -> 169.0	7.3	0.0	36.8



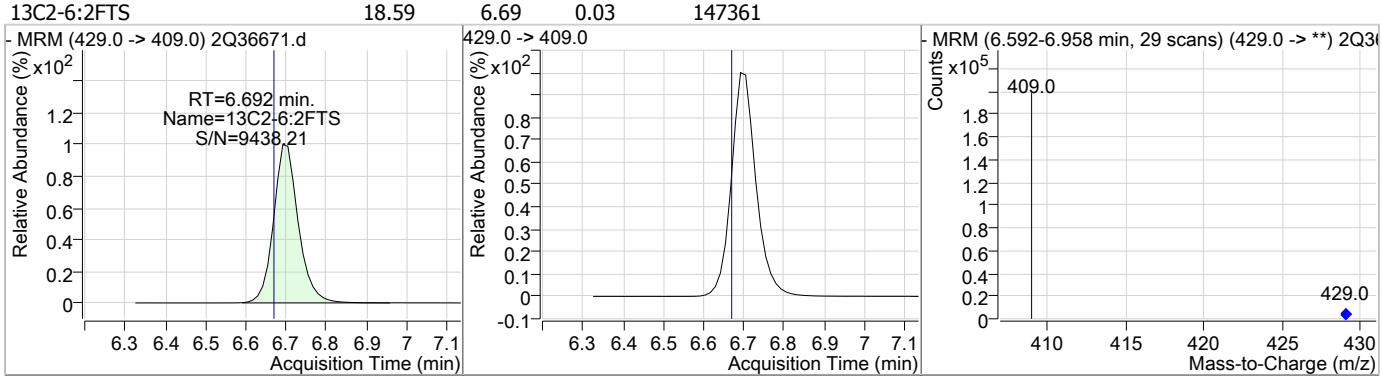
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.31	5.98	0.04	25507				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.95	5.97	0.03	2961 (m)	399.0 -> 99.0	42.4	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.59	6.69	0.03	147361				



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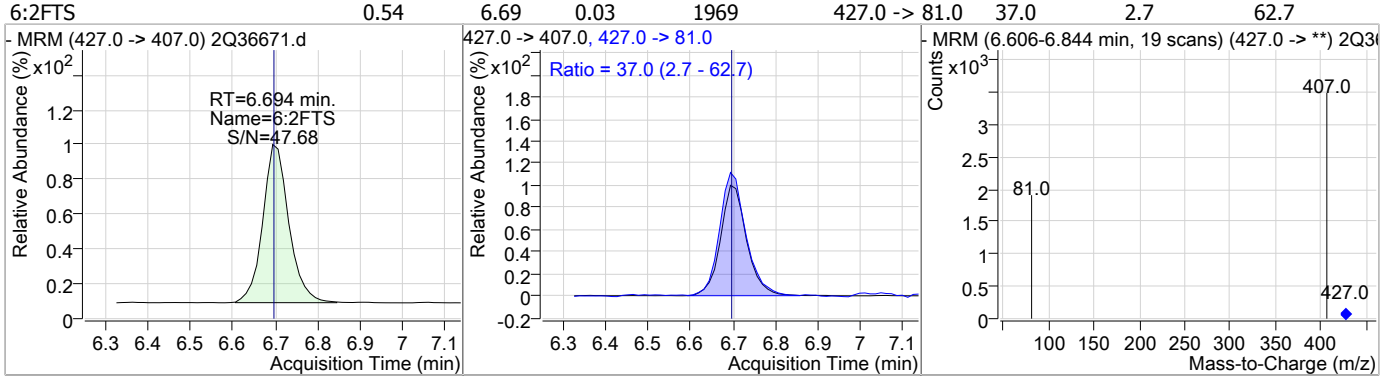
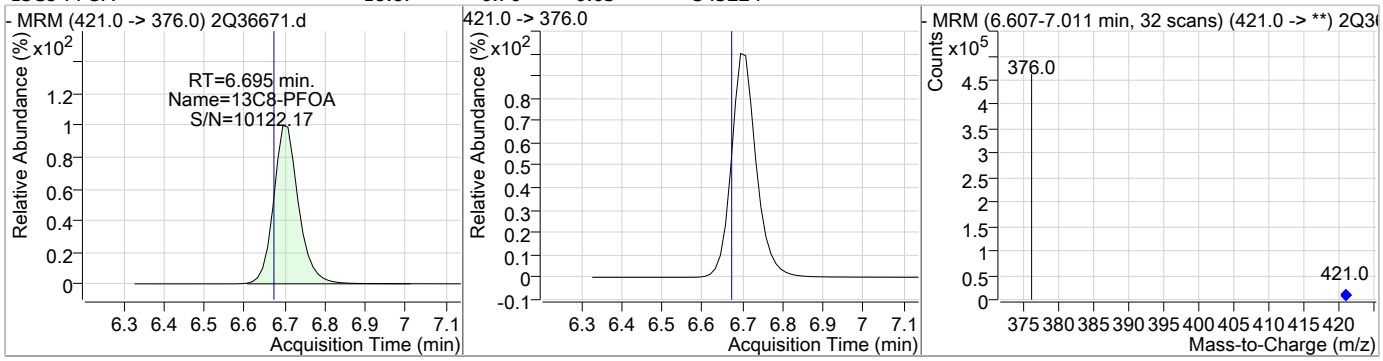
Perfluorinated Compounds by LC/MS/MS

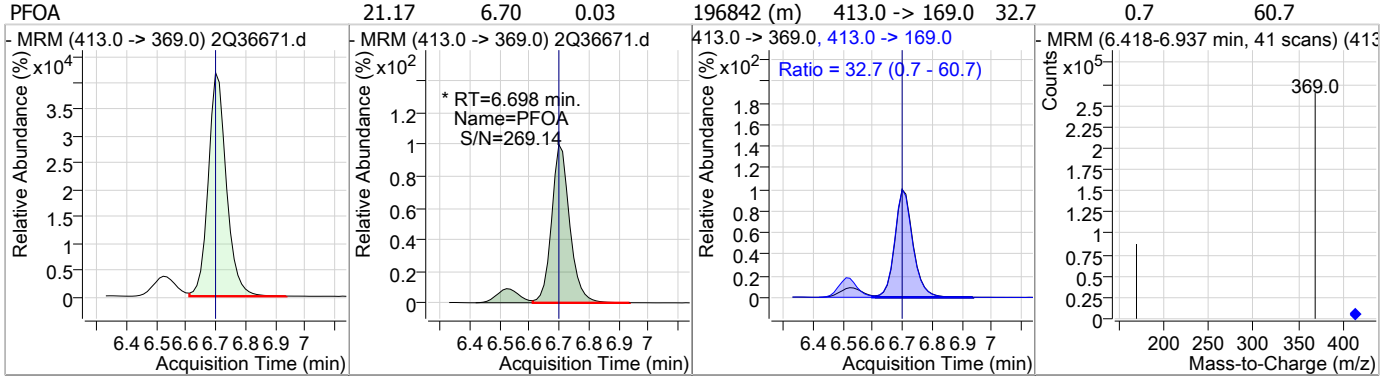
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.54	6.69	0.03	1969	427.0 -> 81.0	37.0	2.7	62.7



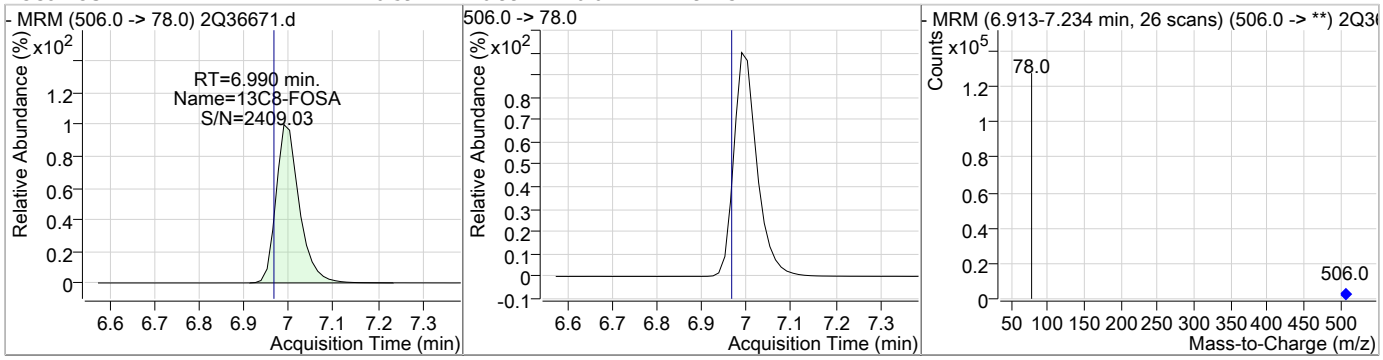
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.87	6.70	0.03	345224				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	21.17	6.70	0.03	196842 (m)	413.0 -> 169.0	32.7	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	16.59	6.99	0.02	94434				



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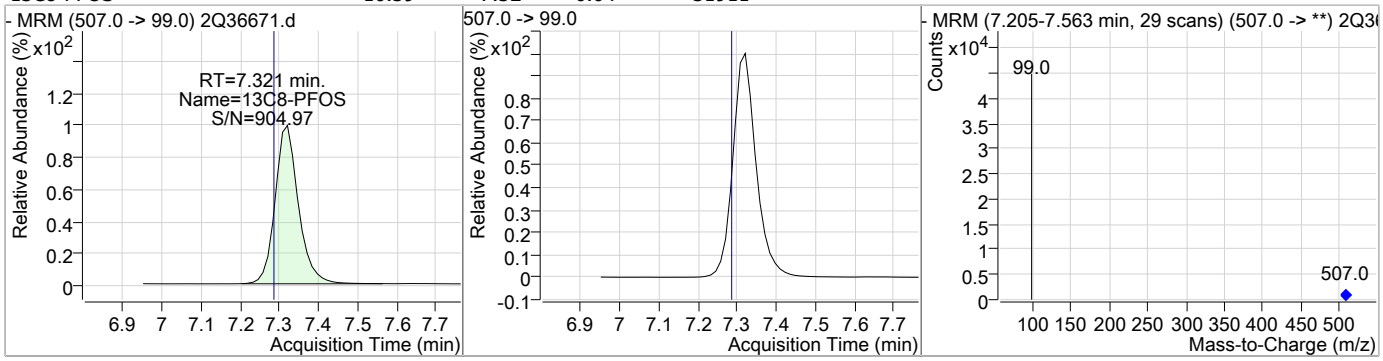
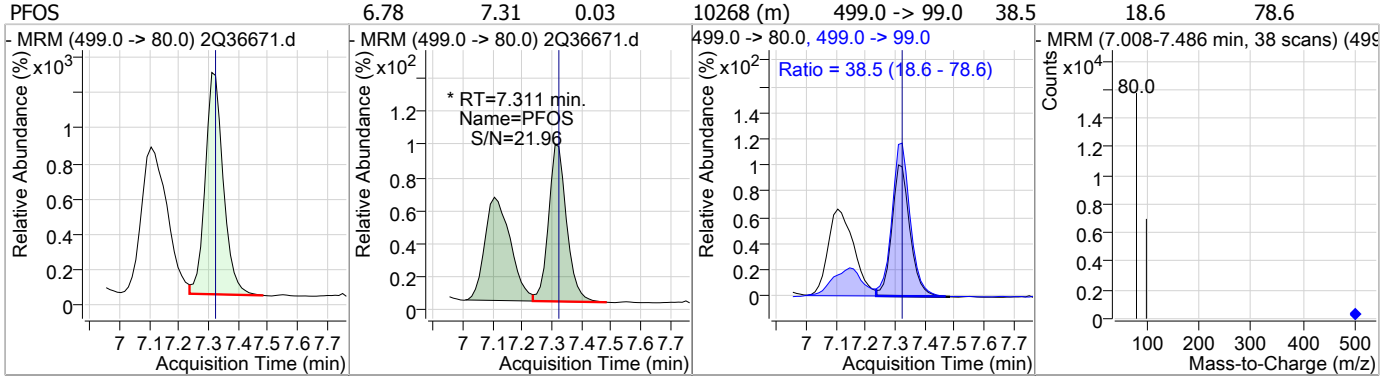
Perfluorinated Compounds by LC/MS/MS

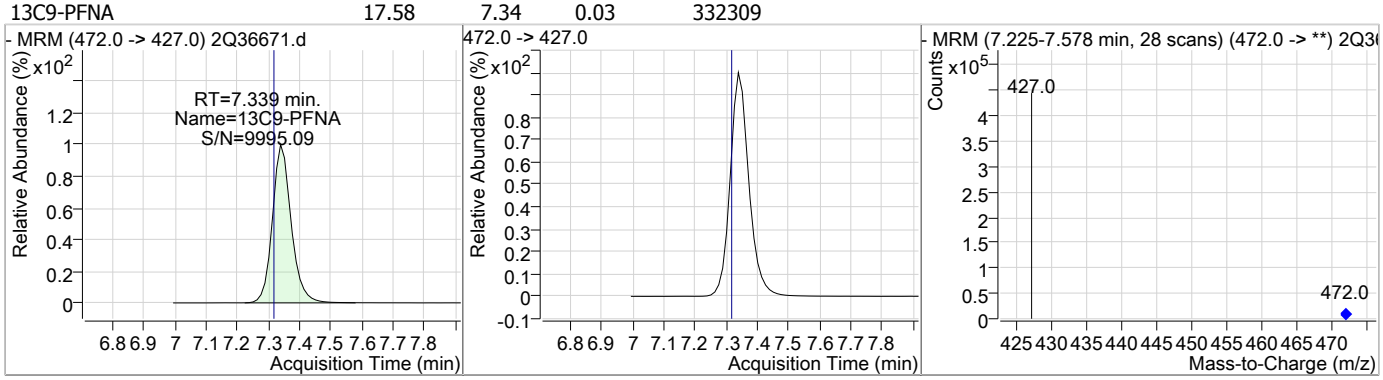
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	16.39	7.32	0.04	31911				



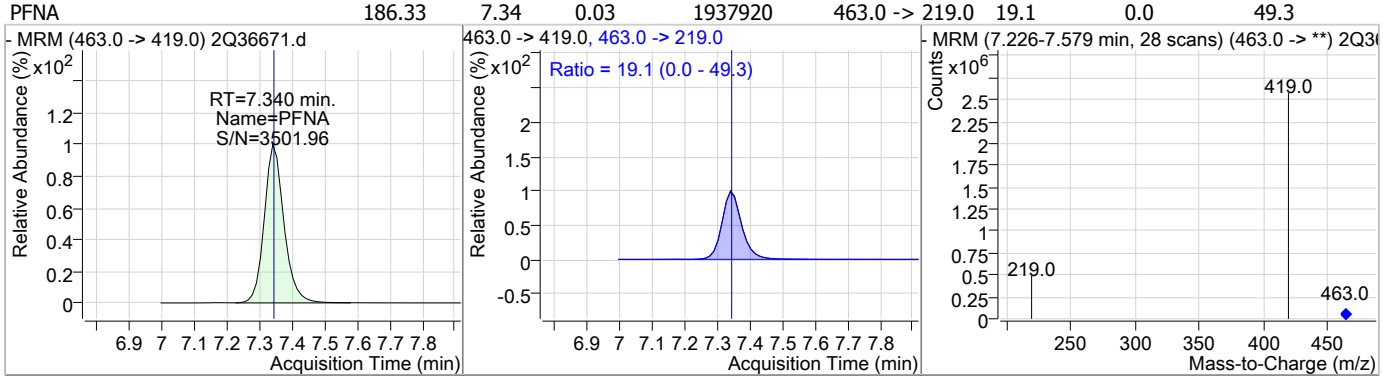
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	6.78	7.31	0.03	10268 (m)	499.0 -> 99.0	38.5	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	17.58	7.34	0.03	332309				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	186.33	7.34	0.03	1937920	463.0 -> 219.0	19.1	0.0	49.3



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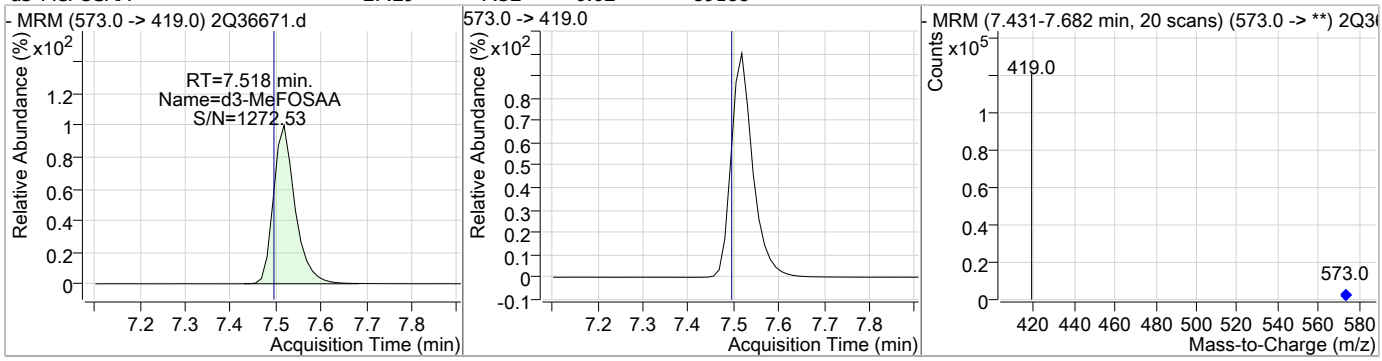
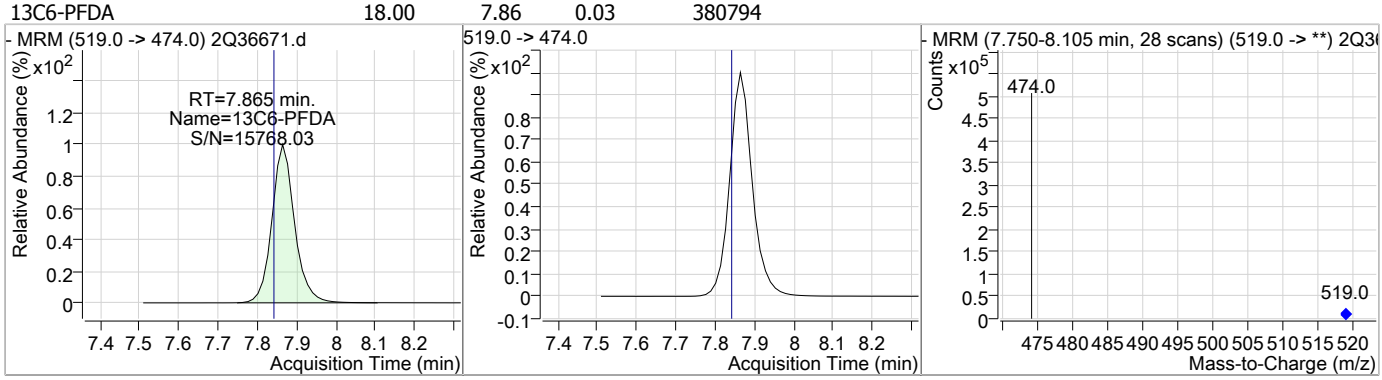
Perfluorinated Compounds by LC/MS/MS

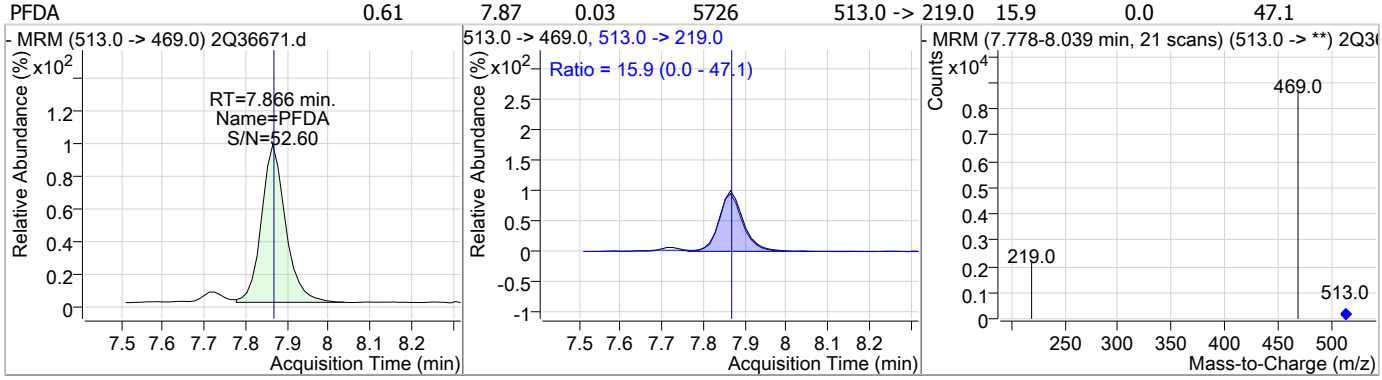
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	27.29	7.52	0.02	89188				



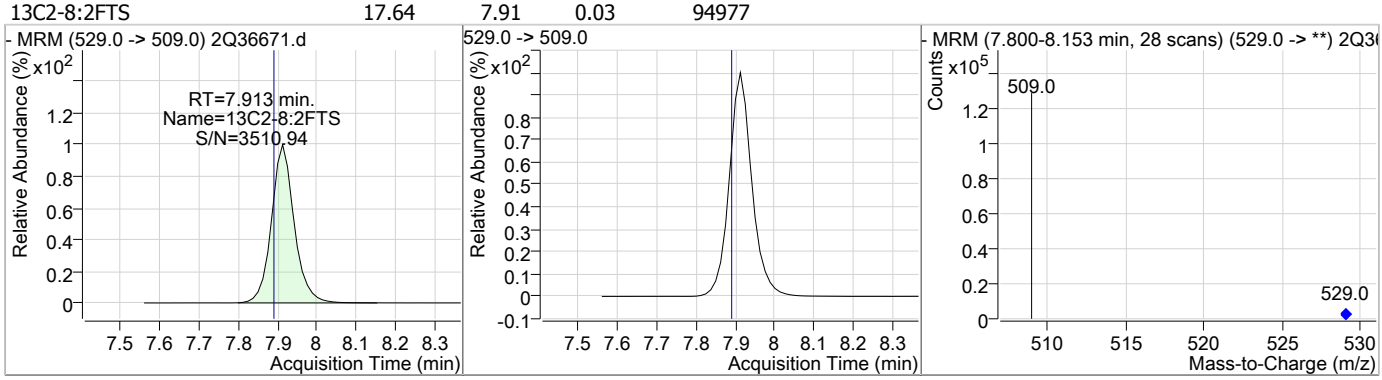
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.00	7.86	0.03	380794				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.61	7.87	0.03	5726	513.0 -> 219.0	15.9	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	17.64	7.91	0.03	94977				



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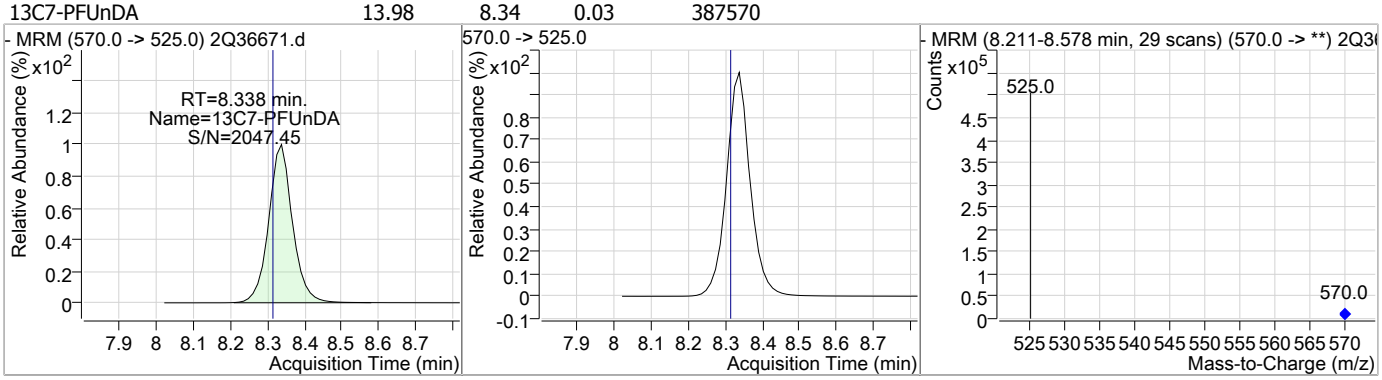
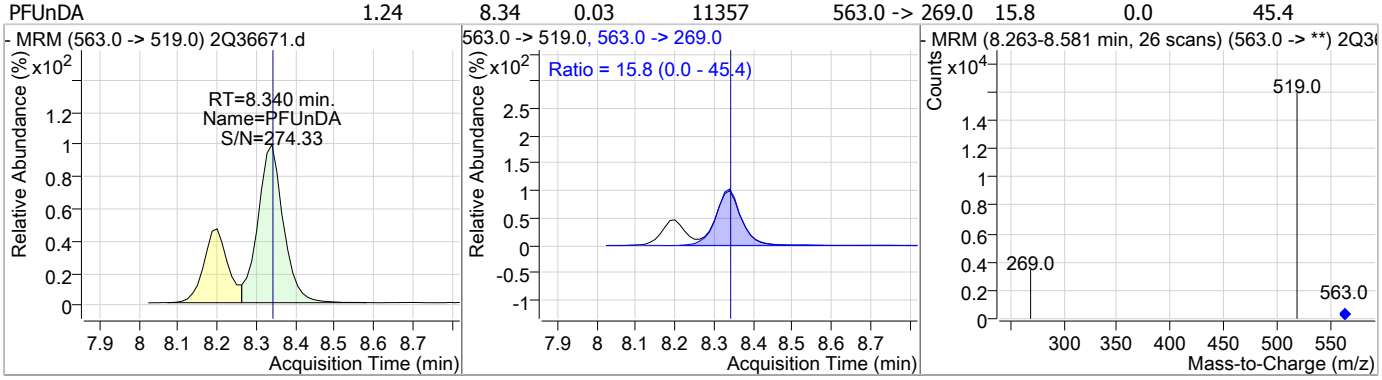
Perfluorinated Compounds by LC/MS/MS

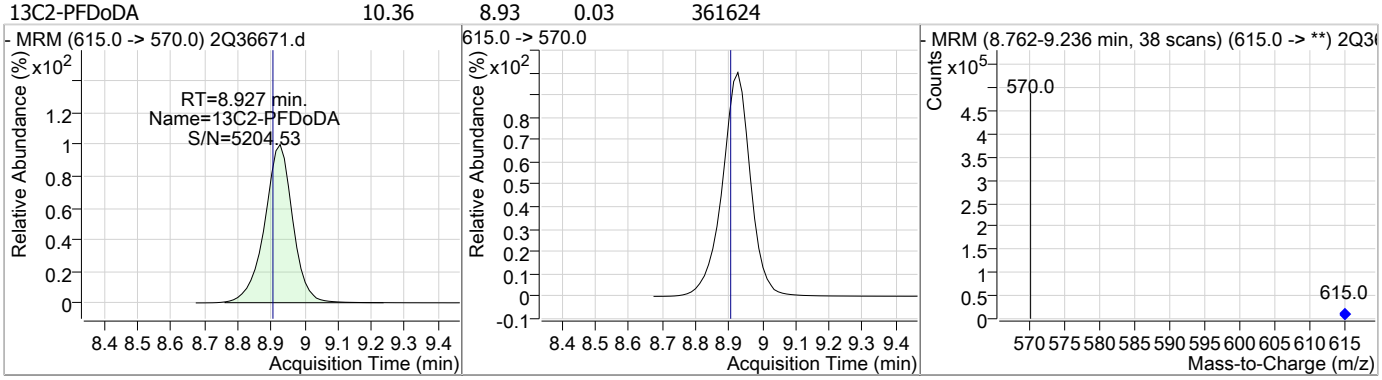
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	13.98	8.34	0.03	387570				



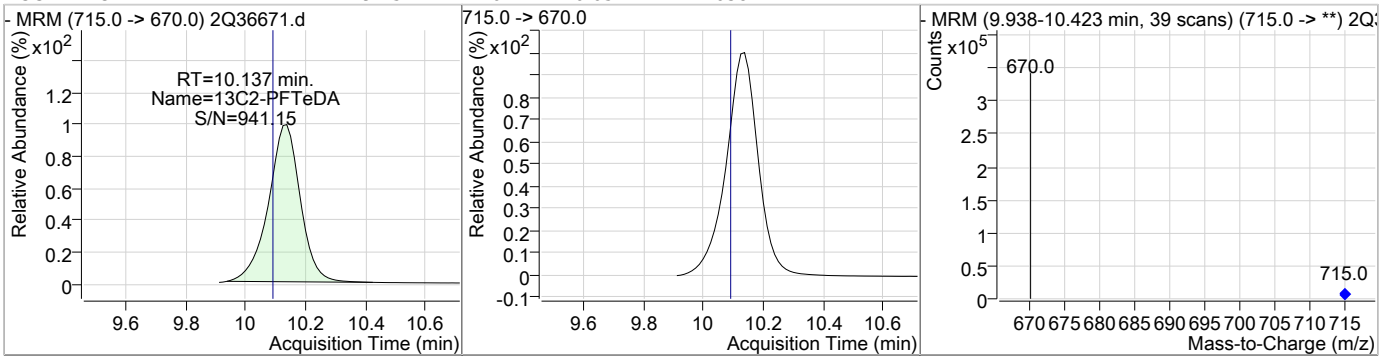
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.24	8.34	0.03	11357	563.0 -> 269.0	15.8	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	10.36	8.93	0.03	361624				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	9.25	10.14	0.05	246384				



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Manual Integration Approval Summary

Sample Number:	JC95316-6	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36671.D	**Analyst approved:**	09/27/19 13:18 Natasha Gumtie
Injection Time:	09/26/19 03:15	**Supervisor approved:**	09/27/19 15:33 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoroheptanoic acid	375-85-9		5.95	Split peak
Perfluorohexanesulfonic acid	355-46-4		5.97	Split peak
Perfluorooctanoic acid	335-67-1		6.70	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.31	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:33

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36740.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 9:39:24 PM
Sample Name	:	JC95316-5
Vial	:	Vial 44
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76964,S2Q571,270,,,1.0,5,water

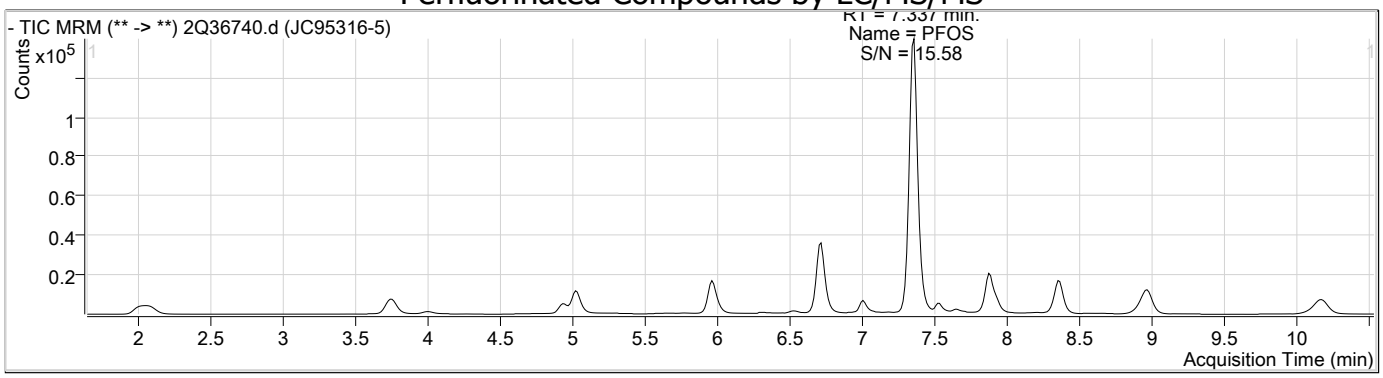
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.052	217.0 -> 172.0	39099	20.00	µg/L	0.000
M5-PFPeA	3.749	268.0 -> 223.0	31757	20.00	µg/L	0.000
M5-PFHxA	5.026	318.0 -> 273.0	44890	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	56189	20.00	µg/L	0.025
M8-PFOA	6.721	421.0 -> 376.0	72462	20.00	µg/L	0.025
M9-PFNA	7.364	472.0 -> 427.0	73406	20.00	µg/L	0.025
M6-PFDA	7.878	519.0 -> 474.0	75958	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	75800	20.00	µg/L	0.013
M2-PFDoDA	8.961	615.0 -> 570.0	74686	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	56464	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	20306	20.00	µg/L	0.013
M3-PFBS	4.005	302.0 -> 99.0	5112	20.00	µg/L	0.013
M3-PFHxS	5.998	402.0 -> 99.0	5278	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	6759	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	21221	20.00	µg/L	0.013
M2-6:2FTS	6.718	429.0 -> 409.0	30262	20.00	µg/L	0.025
M2-8:2FTS	7.928	529.0 -> 509.0	19234	20.00	µg/L	0.013
M3-MeFOSAA	7.531	573.0 -> 419.0	13408	20.00	µg/L	0.013
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	21057	3.62	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 18.1%		
13C2-6:2FTS	6.718	429.0 -> 409.0	30198	3.81	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.0%		
13C2-8:2FTS	7.928	529.0 -> 509.0	19229	3.57	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.9%		
13C2-PFDoDA	8.961	615.0 -> 570.0	74460	2.13	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 10.7%		
13C2-PFTeDA	10.163	715.0 -> 670.0	56042	2.10	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 10.5%		
13C3-PFBS	4.005	302.0 -> 99.0	5114	3.74	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 18.7%		
13C3-PFHxS	5.998	402.0 -> 99.0	5273	3.58	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.9%		
13C4-PFBA	2.052	217.0 -> 172.0	38953	3.98	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.9%		
13C4-PFHpA	5.966	367.0 -> 322.0	56110	3.68	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 18.4%		
13C5-PFHxA	5.026	318.0 -> 273.0	44802	3.84	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.2%		
13C5-PFPeA	3.749	268.0 -> 223.0	31701	3.85	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.3%		
13C6-PFDA	7.878	519.0 -> 474.0	75915	3.59	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

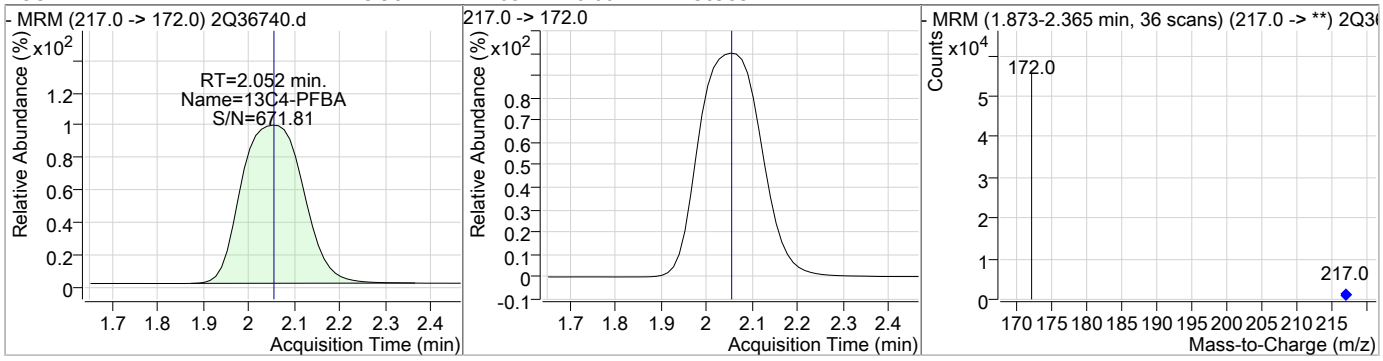
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.9%		
13C7-PFUnDA	8.353	570.0 -> 525.0	75600	2.73 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 13.6%		
13C8-FOSA	7.003	506.0 -> 78.0	20327	3.57 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.9%		
13C8-PFOA	6.721	421.0 -> 376.0	72457	3.96 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.8%		
13C8-PFOS	7.334	507.0 -> 99.0	6785	3.49 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 17.4%		
13C9-PFNA	7.364	472.0 -> 427.0	73388	3.88 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 19.4%		
d3-MeFOSAA	7.531	573.0 -> 419.0	13420	4.11 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 20.5%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	2.061	213.0 -> 169.0	2159	1.19 µg/L		100
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.969	363.0 -> 319.0	11345	0.89 µg/L	m	100
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.028	313.0 -> 269.0	3784	1.10 µg/L		98
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.365	463.0 -> 419.0	425429	37.05 µg/L		99
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.724	413.0 -> 369.0	41641	4.27 µg/L	m	97
PFOS	7.337	499.0 -> 80.0	2119	1.32 µg/L	m	86
PFPeA	3.753	263.0 -> 219.0	9549	1.19 µg/L		100
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

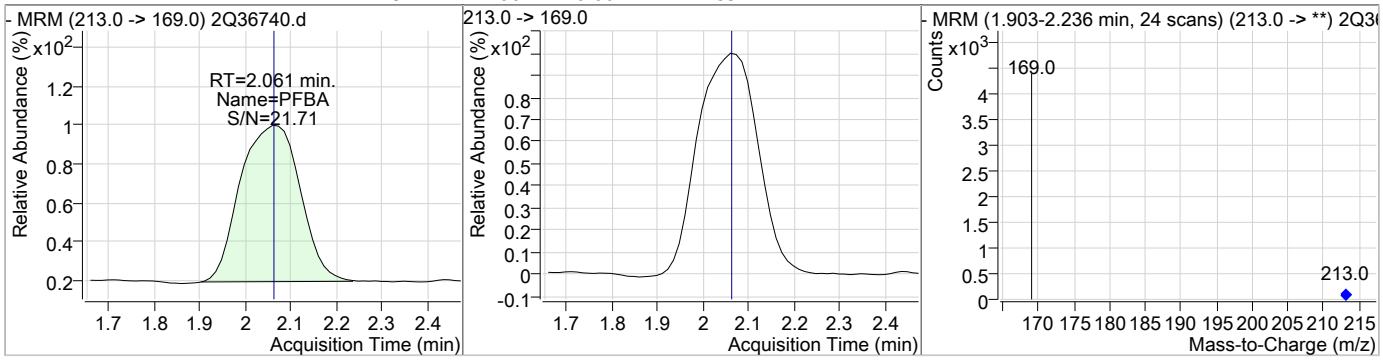
Perfluorinated Compounds by LC/MS/MS



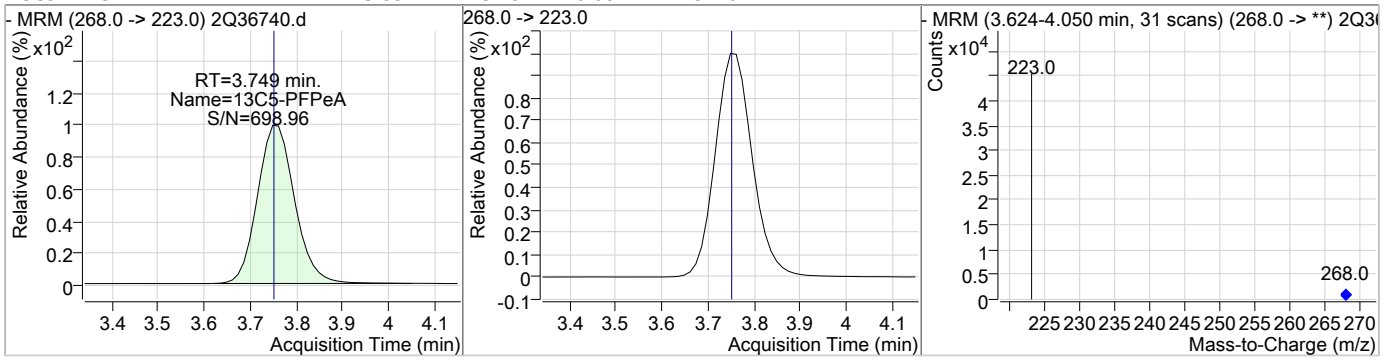
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	3.98	2.05	0.00	38953				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.19	2.06	0.00	2159				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	3.85	3.75	0.00	31701				



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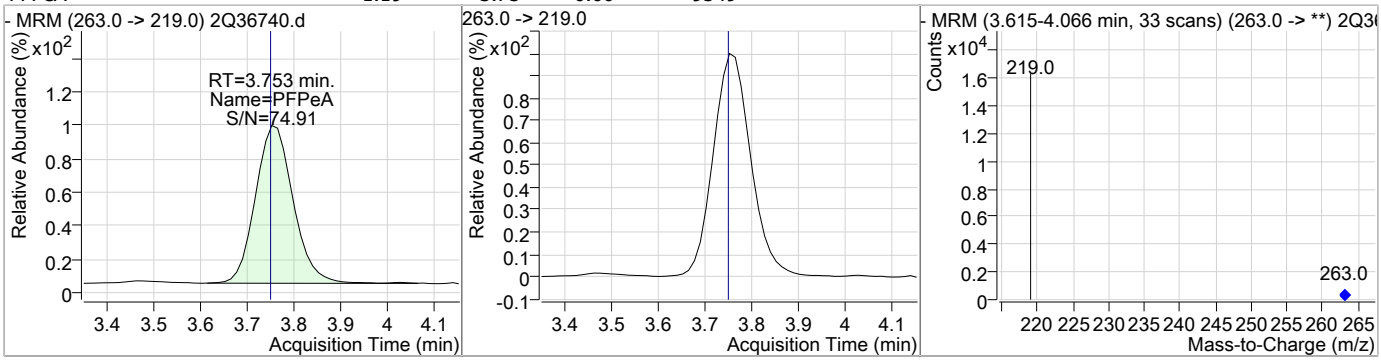
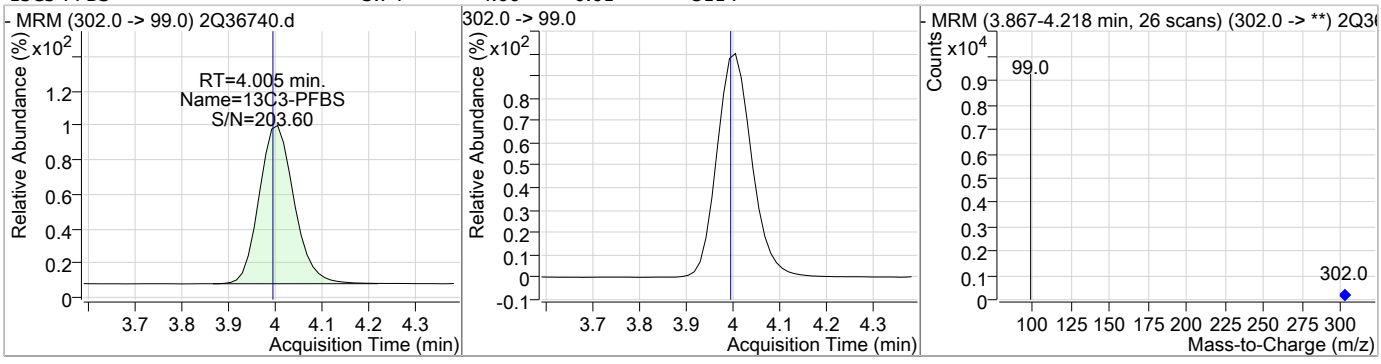
Perfluorinated Compounds by LC/MS/MS

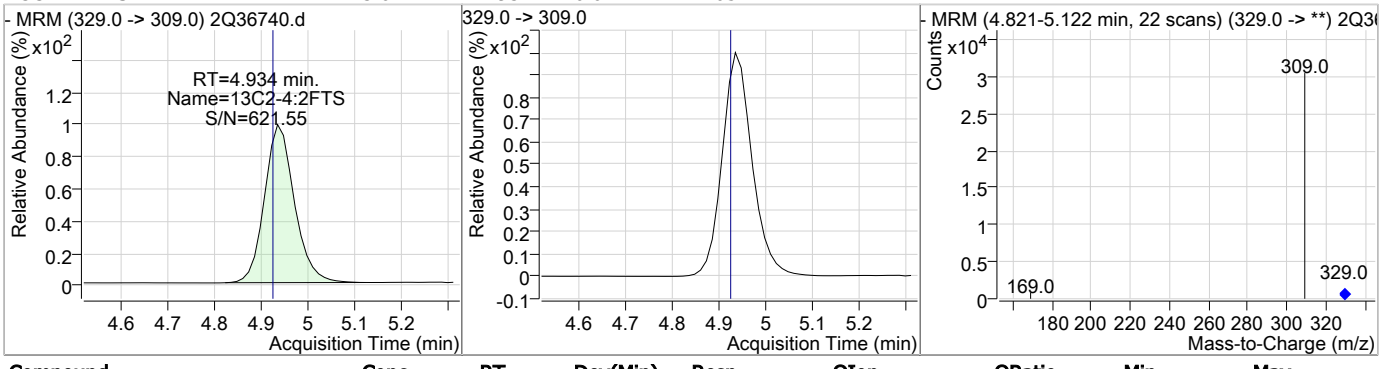
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.19	3.75	0.00	9549				



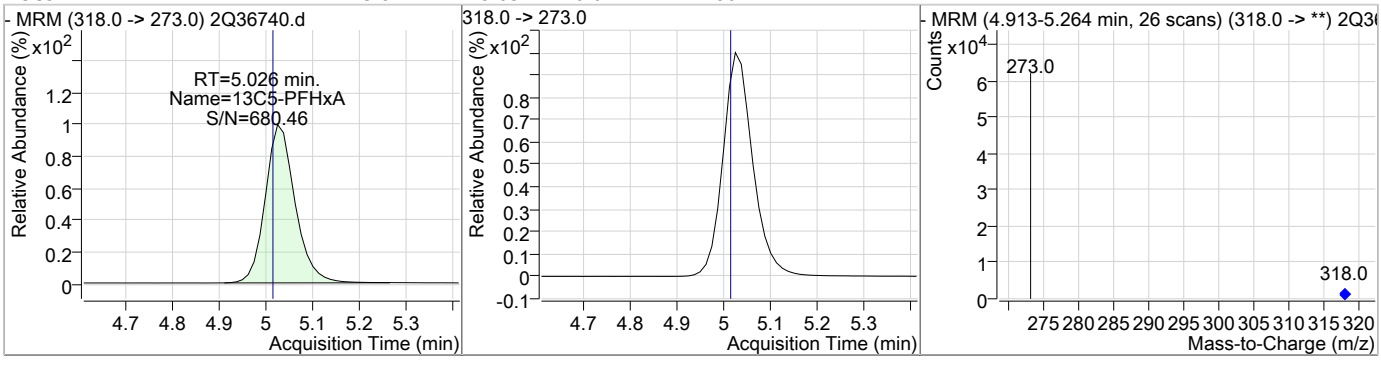
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.74	4.00	0.01	5114				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.62	4.93	0.01	21057				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.84	5.03	0.01	44802				



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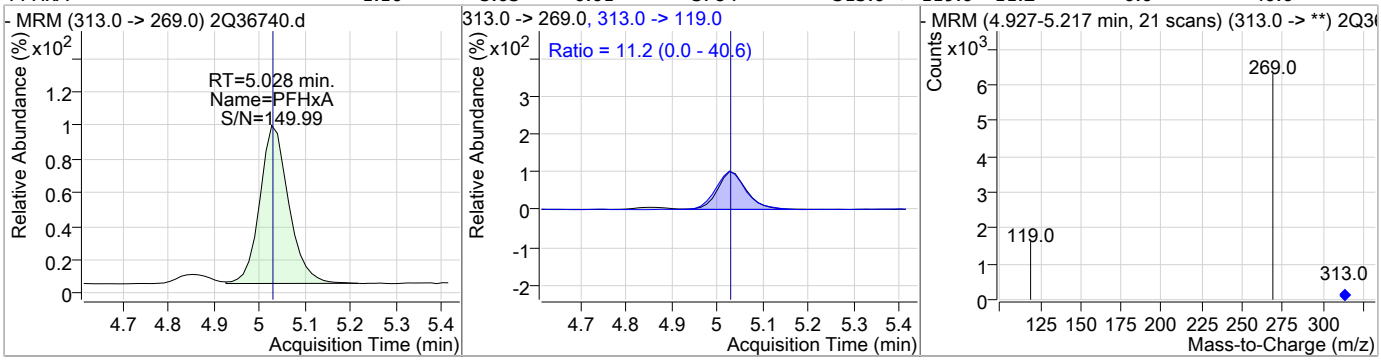
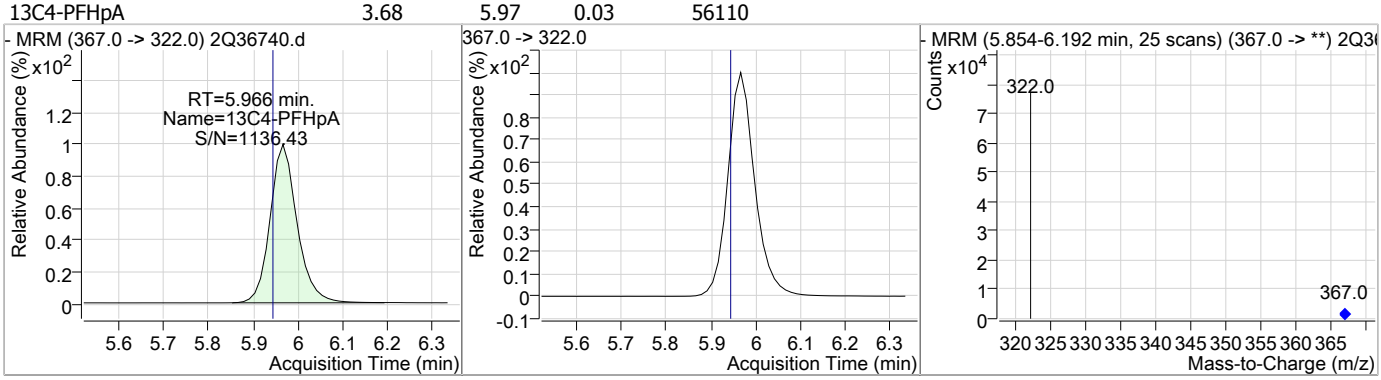
Perfluorinated Compounds by LC/MS/MS

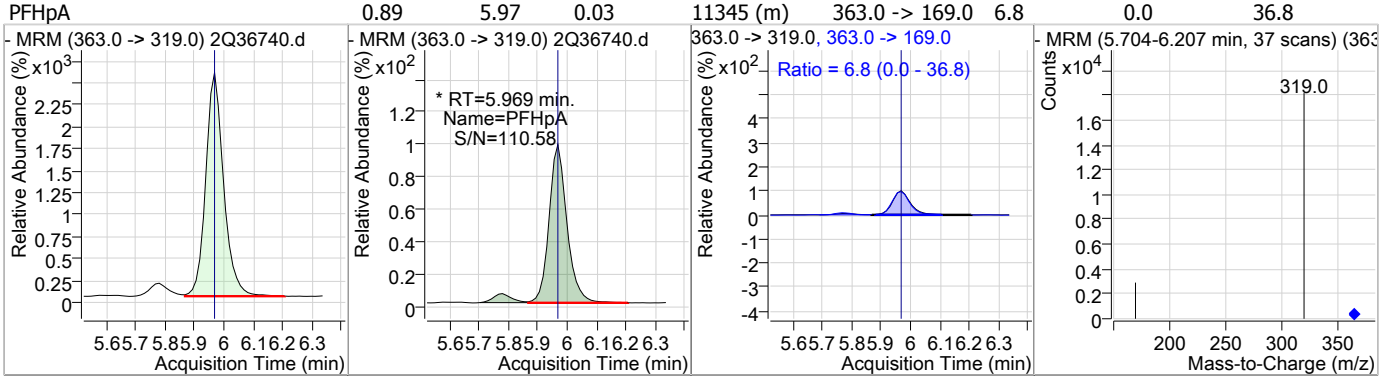
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.10	5.03	0.01	3784	313.0 -> 119.0	11.2	0.0	40.6



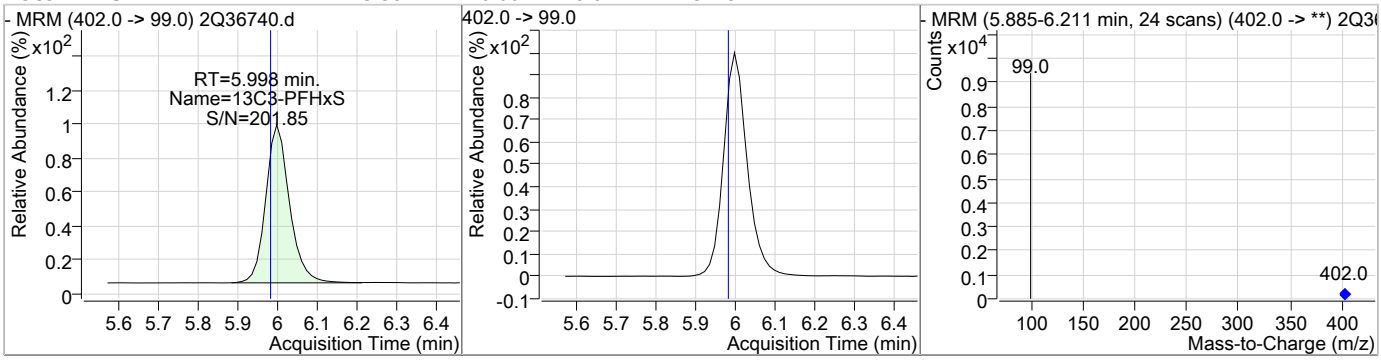
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.68	5.97	0.03	56110				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.89	5.97	0.03	11345 (m)	363.0 -> 169.0	6.8	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.58	6.00	0.01	5273				



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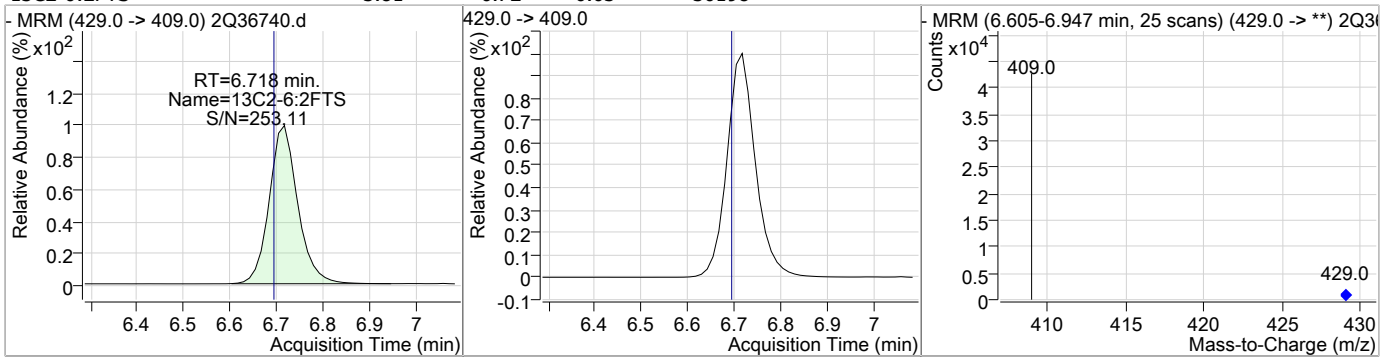
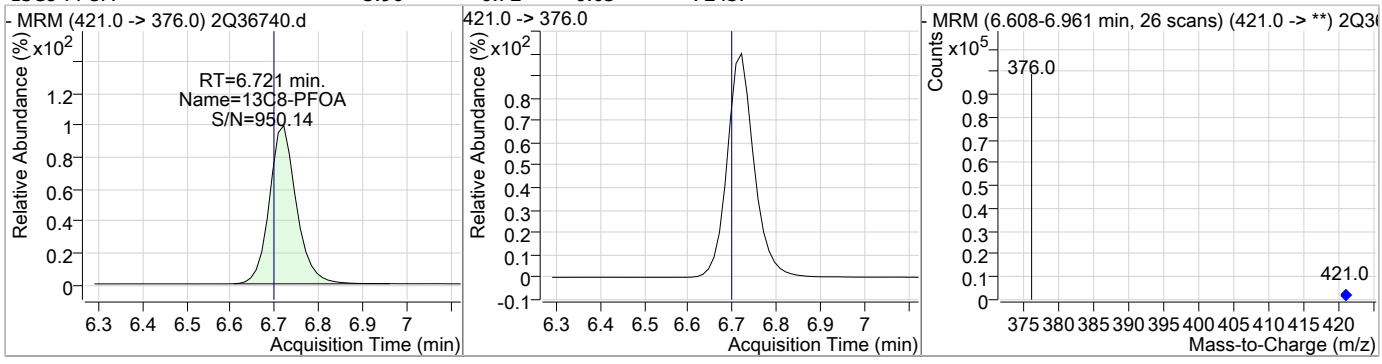
Perfluorinated Compounds by LC/MS/MS

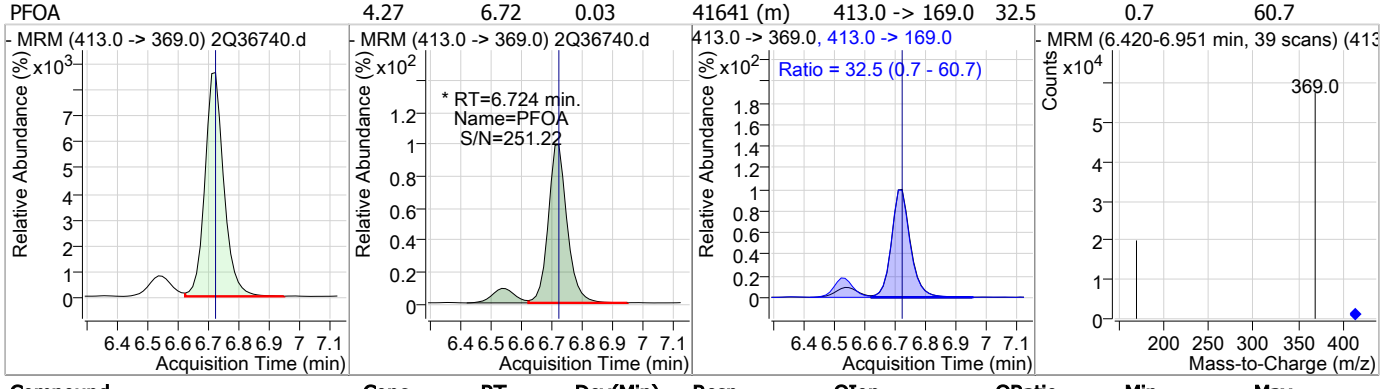
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	3.81	6.72	0.03	30198				



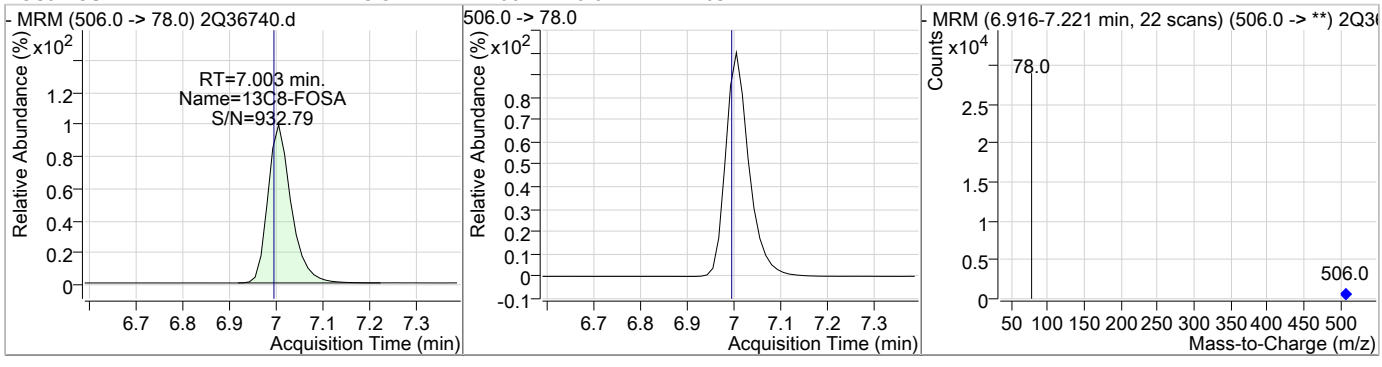
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.96	6.72	0.03	72457				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	4.27	6.72	0.03	41641 (m)	413.0 -> 169.0	32.5	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	3.57	7.00	0.01	20327				



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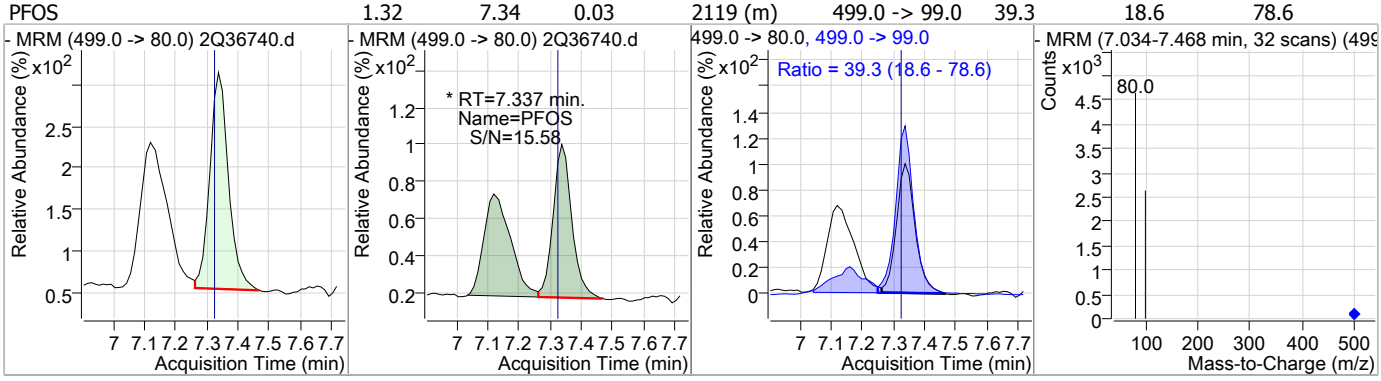
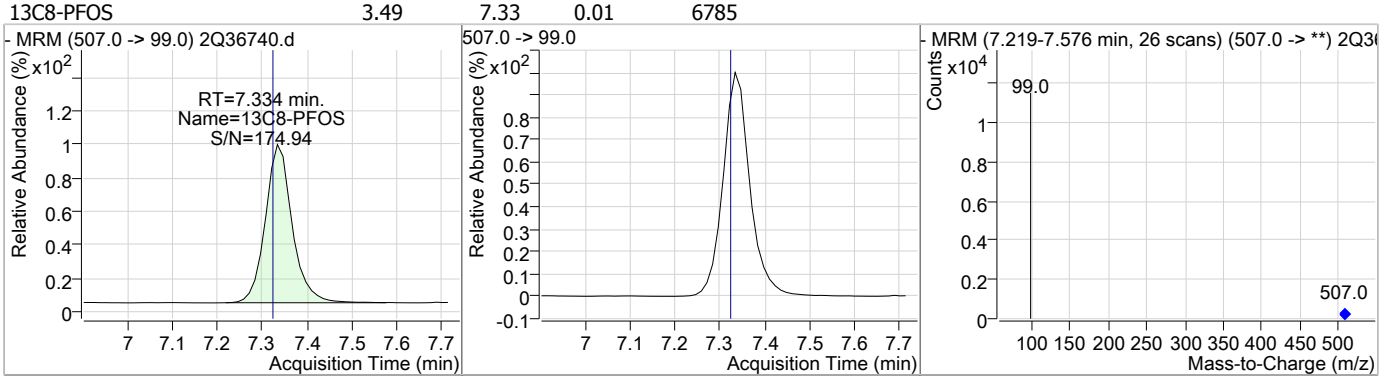
Perfluorinated Compounds by LC/MS/MS

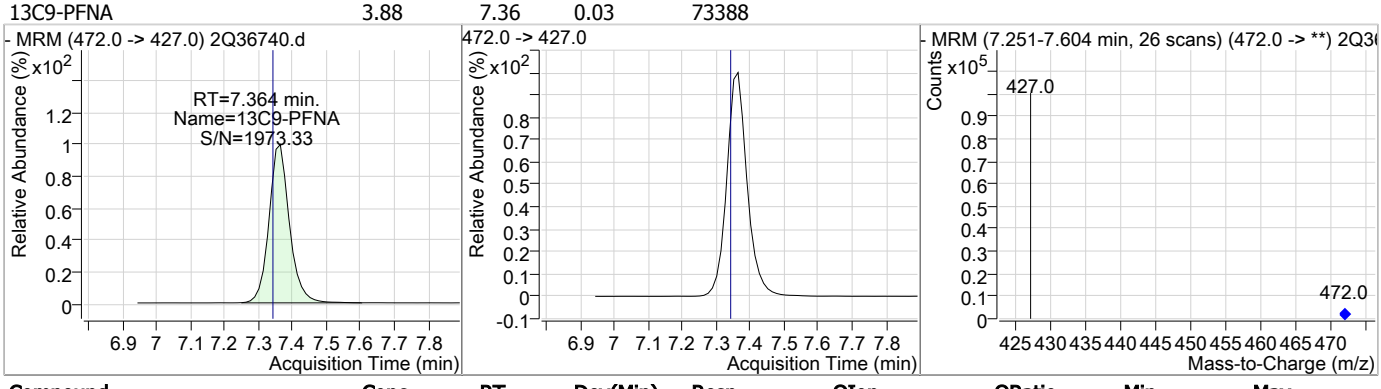
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.32	7.34	0.03	2119 (m)	499.0 -> 99.0	39.3	18.6	78.6



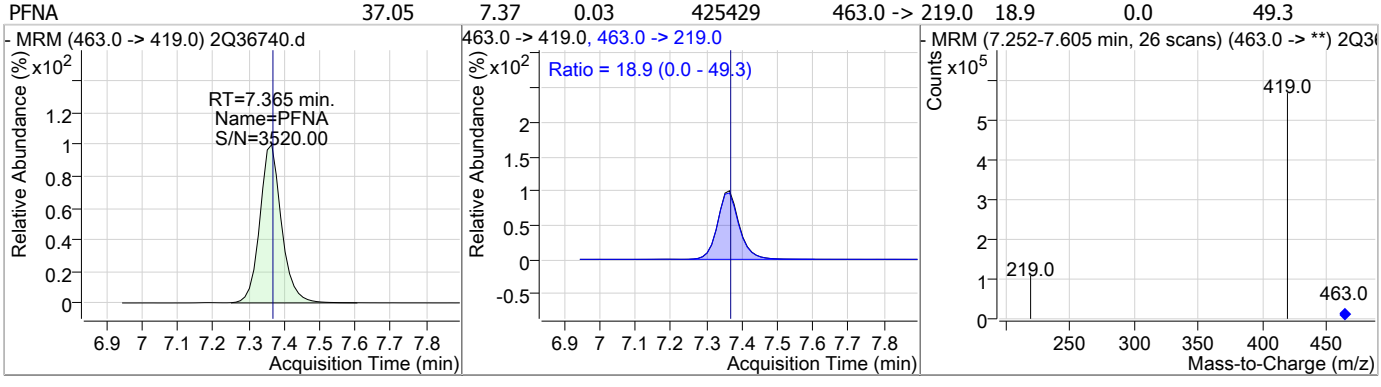
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.49	7.33	0.01	6785				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	3.88	7.36	0.03	73388				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	37.05	7.37	0.03	425429	463.0 -> 219.0	18.9	0.0	49.3



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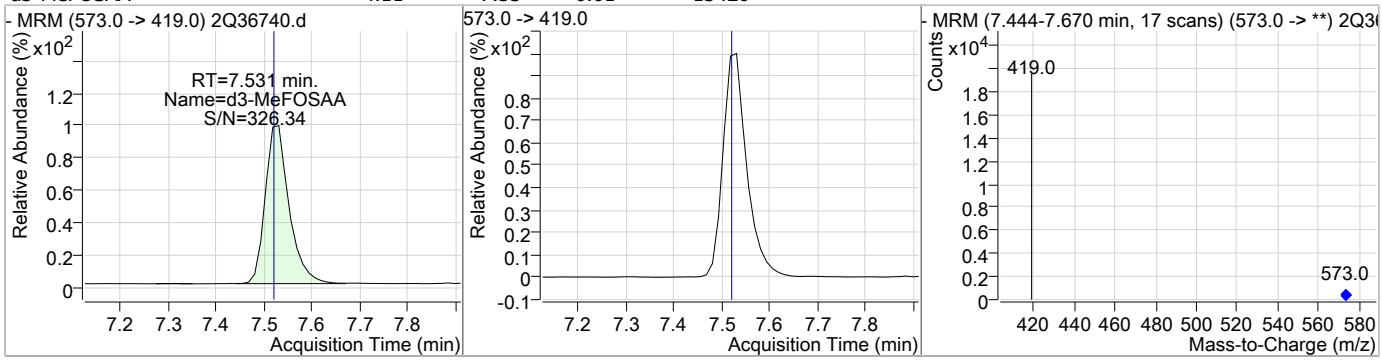
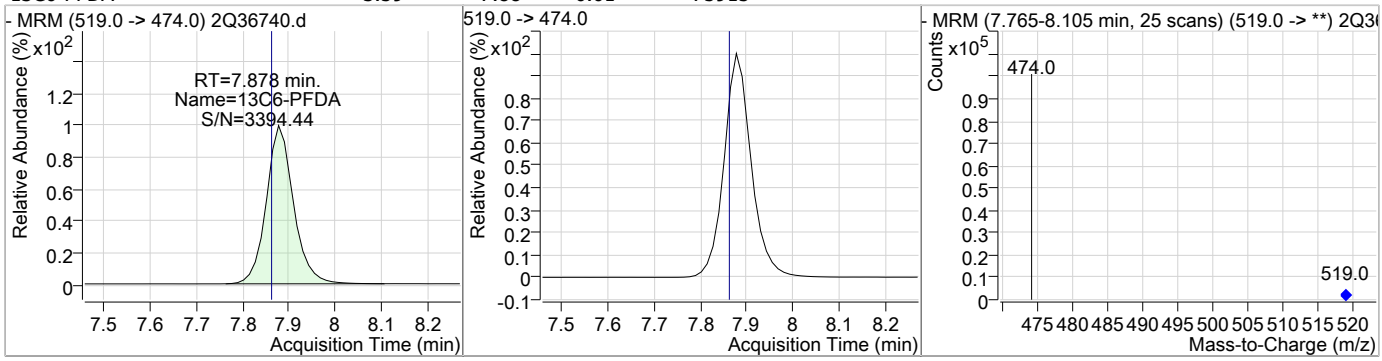
Perfluorinated Compounds by LC/MS/MS

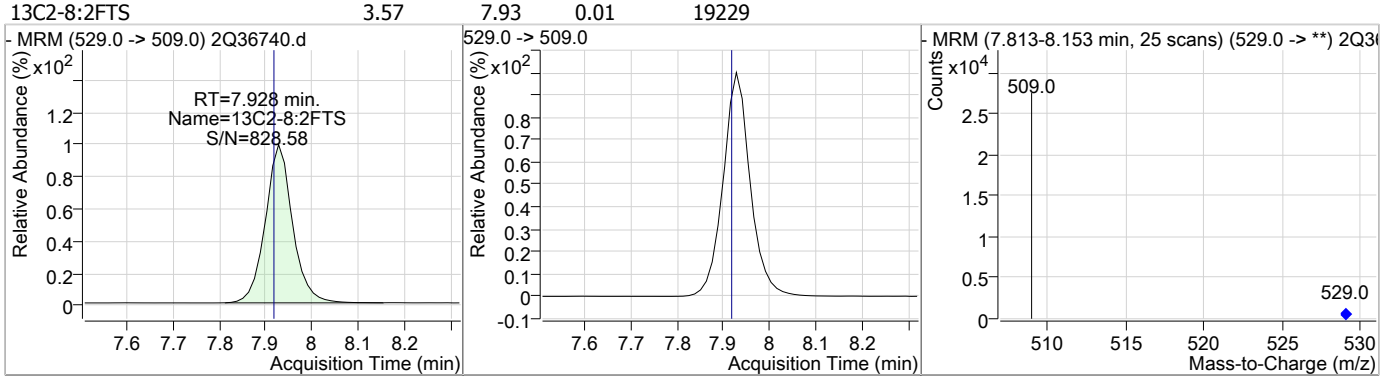
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.11	7.53	0.01	13420				



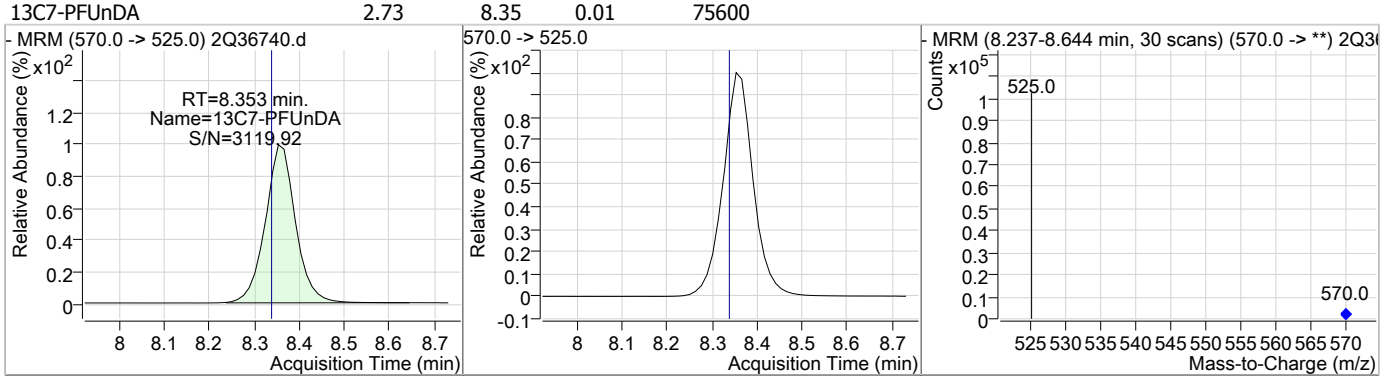
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	3.59	7.88	0.01	75915				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	3.57	7.93	0.01	19229				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	2.73	8.35	0.01	75600				



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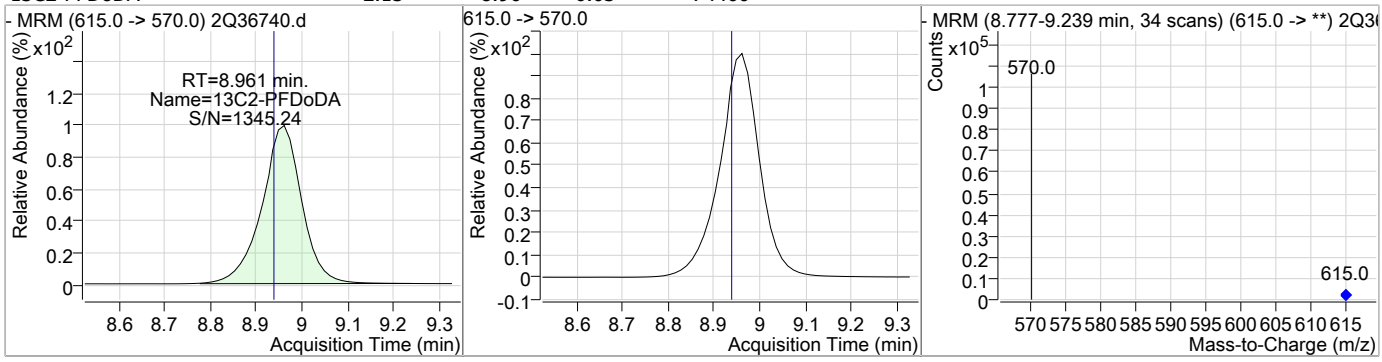
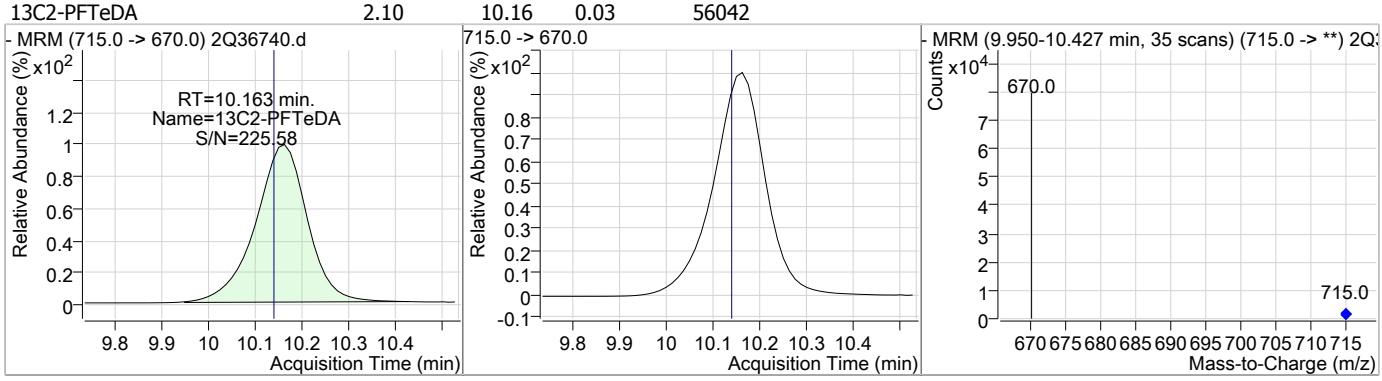
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	2.13	8.96	0.03	74460				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	2.10	10.16	0.03	56042				



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Manual Integration Approval Summary

Sample Number:	JC95316-6	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36740.D	**Analyst approved:**	09/27/19 13:18 Natasha Gumtie
Injection Time:	09/26/19 21:39	**Supervisor approved:**	09/27/19 15:33 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoroheptanoic acid	375-85-9		5.97	Split peak
Perfluorooctanoic acid	335-67-1		6.72	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36651.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/25/2019 9:58:50 PM
Sample Name	:	OP76964-MB
Vial	:	Vial 43
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,250,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.052	217.0 -> 172.0	189782	20.00	µg/L	0.013
M5-PFPeA	3.749	268.0 -> 223.0	156436	20.00	µg/L	0.025
M5-PFHxA	5.026	318.0 -> 273.0	219852	20.00	µg/L	0.038
M4-PFHpA	5.967	367.0 -> 322.0	287130	20.00	µg/L	0.050
M8-PFOA	6.708	421.0 -> 376.0	361026	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	373941	20.00	µg/L	0.038
M6-PFDA	7.877	519.0 -> 474.0	404985	20.00	µg/L	0.038
M7-PFUnDA	8.351	570.0 -> 525.0	486479	20.00	µg/L	0.039
M2-PFDoDA	8.952	615.0 -> 570.0	572404	20.00	µg/L	0.050
M2-PFTeDA	10.150	715.0 -> 670.0	448592	20.00	µg/L	0.063
M8-FOSA	7.002	506.0 -> 78.0	109438	20.00	µg/L	0.038
M3-PFBS	3.992	302.0 -> 99.0	25063	20.00	µg/L	0.025
M3-PFHxS	5.997	402.0 -> 99.0	27151	20.00	µg/L	0.050
M8-PFOS	7.333	507.0 -> 99.0	36287	20.00	µg/L	0.050
M2-4:2FTS	4.933	329.0 -> 309.0	106167	20.00	µg/L	0.037
M2-6:2FTS	6.705	429.0 -> 409.0	150008	20.00	µg/L	0.038
M2-8:2FTS	7.925	529.0 -> 509.0	99006	20.00	µg/L	0.038
M3-MeFOSAA	7.518	573.0 -> 419.0	57720	20.00	µg/L	0.025
M3-HFPO-DA	5.318	287.0 -> 169.0	251241	100.00	µg/L	0.050
System Monitoring Compounds						
13C2-4:2FTS	4.933	329.0 -> 309.0	106448	18.28	µg/L	0.037
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C2-6:2FTS	6.705	429.0 -> 409.0	149862	18.90	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
13C2-8:2FTS	7.925	529.0 -> 509.0	98974	18.39	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C2-PFDoDA	8.952	615.0 -> 570.0	572030	16.38	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 81.9%		
13C2-PFTeDA	10.150	715.0 -> 670.0	446963	16.77	µg/L	0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.9%		
13C3-PFBS	3.992	302.0 -> 99.0	24978	18.27	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C3-PFHxS	5.997	402.0 -> 99.0	27164	18.43	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.2%		
13C4-PFBA	2.052	217.0 -> 172.0	189458	19.35	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.8%		
13C4-PFHpA	5.967	367.0 -> 322.0	286950	18.84	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C5-PFHxA	5.026	318.0 -> 273.0	219463	18.80	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.0%		
13C5-PFPeA	3.749	268.0 -> 223.0	156639	19.03	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.2%		
13C6-PFDA	7.877	519.0 -> 474.0	405107	19.14	µg/L	0.038

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.7%		
13C7-PFUnDA	8.351	570.0 -> 525.0	485466	17.52 µg/L		0.039
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.6%		
13C8-FOSA	7.002	506.0 -> 78.0	109434	19.23 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C8-PFOA	6.708	421.0 -> 376.0	360195	19.68 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.4%		
13C8-PFOS	7.333	507.0 -> 99.0	36270	18.63 µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.2%		
13C9-PFNA	7.351	472.0 -> 427.0	373654	19.77 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
d3-MeFOSAA	7.518	573.0 -> 419.0	57716	17.66 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.3%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	251241	88.37 µg/L		0.050
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 88.4%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	4.274	299.0 -> 80.0	0	0.00 µg/L	m	1
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

12.2.1

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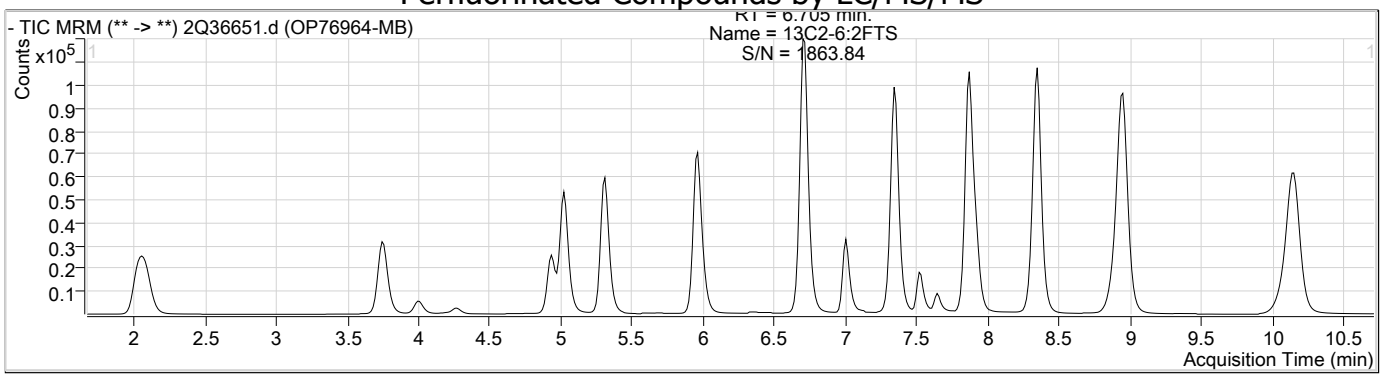
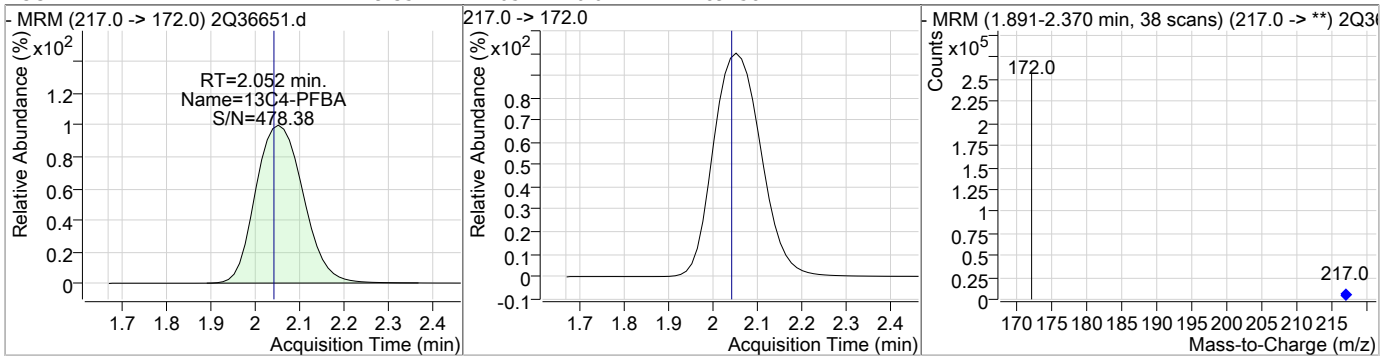
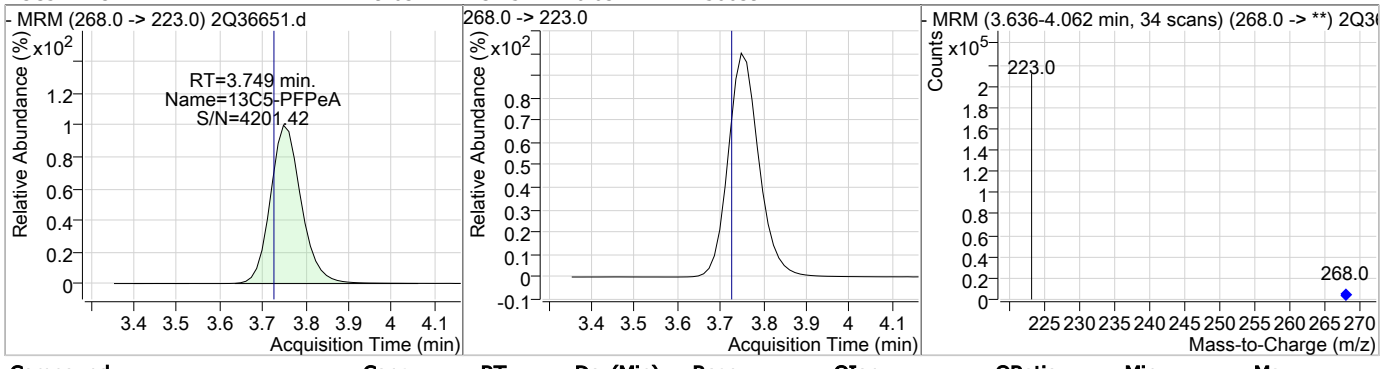
Perfluorinated Compounds by LC/MS/MS



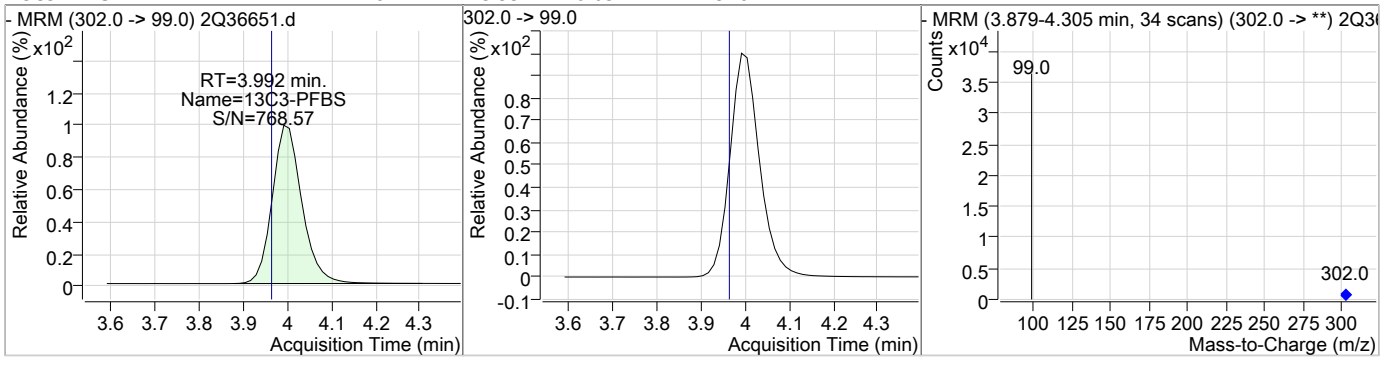
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.35	2.05	0.01	189458				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.03	3.75	0.03	156639				

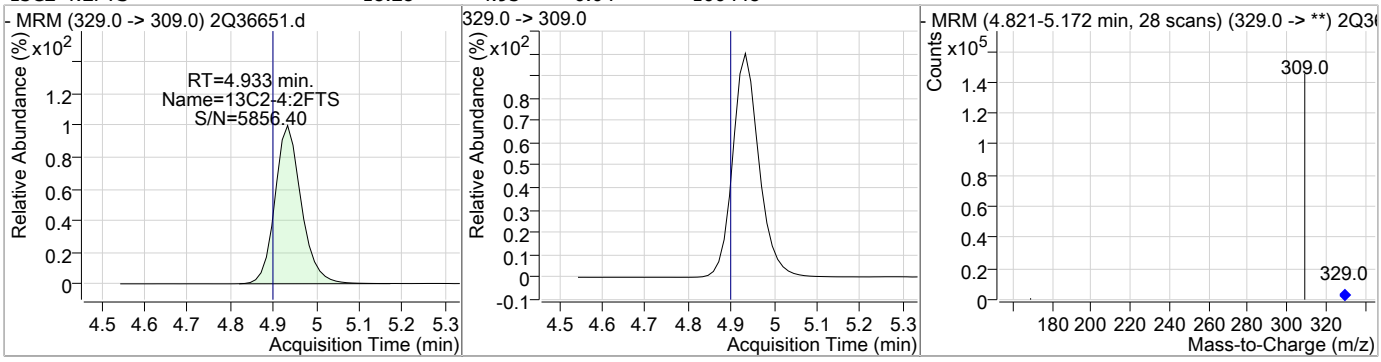


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	18.27	3.99	0.03	24978				

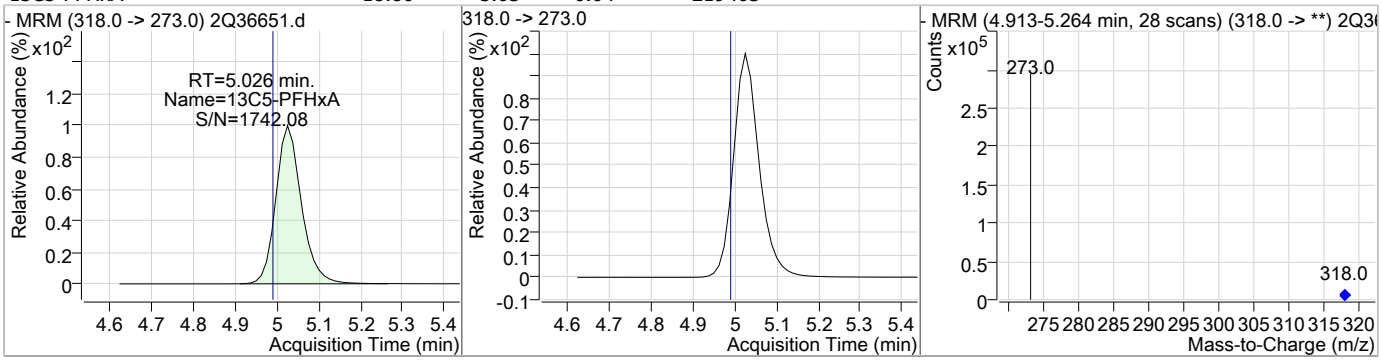


Perfluorinated Compounds by LC/MS/MS

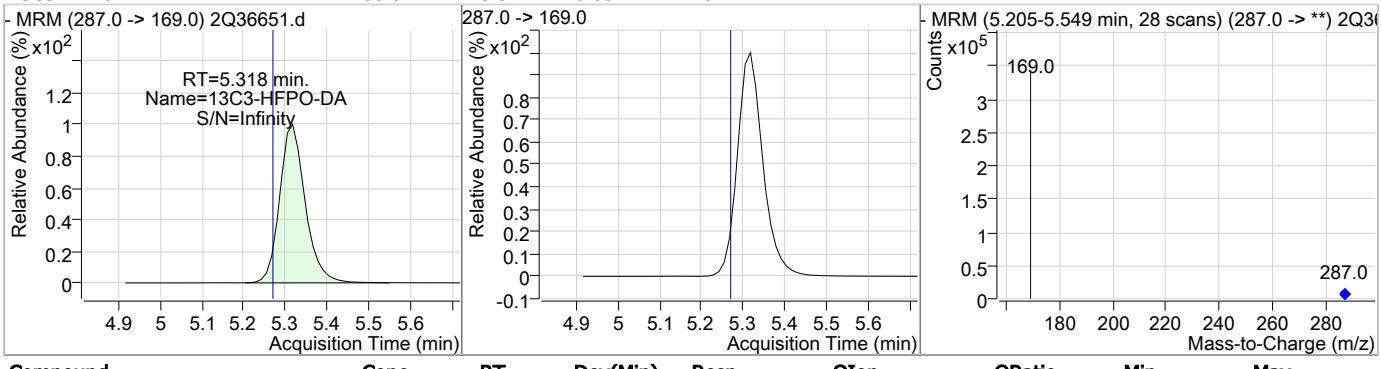
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.28	4.93	0.04	106448				



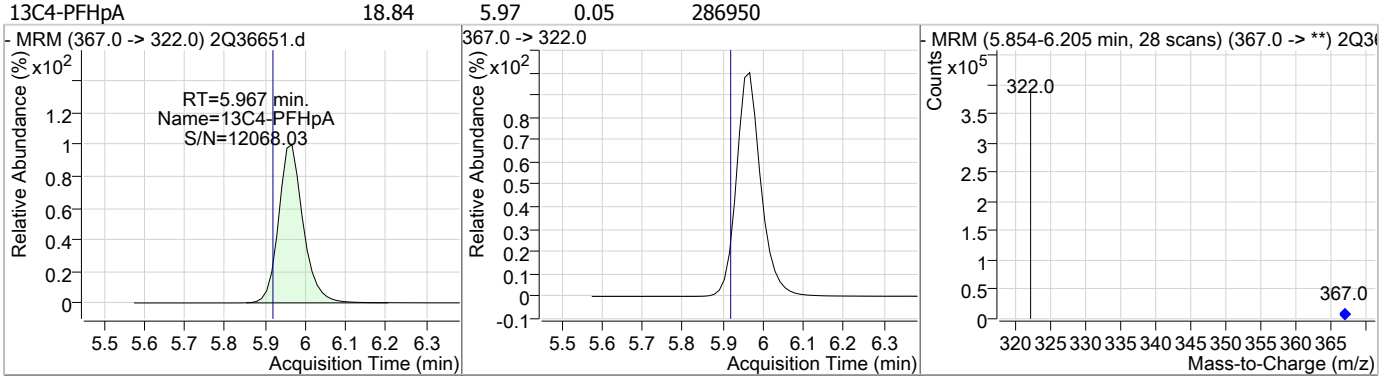
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	18.80	5.03	0.04	219463				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	88.37	5.32	0.05	251241				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	18.84	5.97	0.05	286950				



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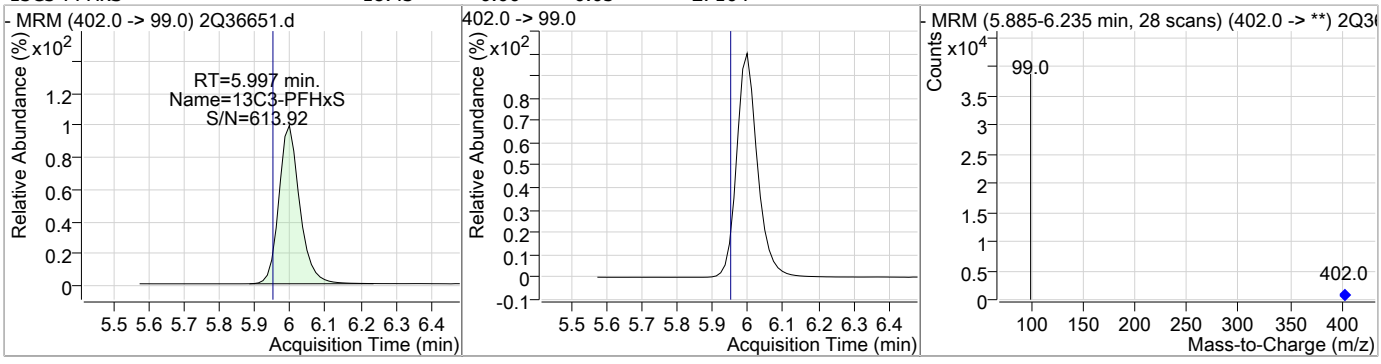
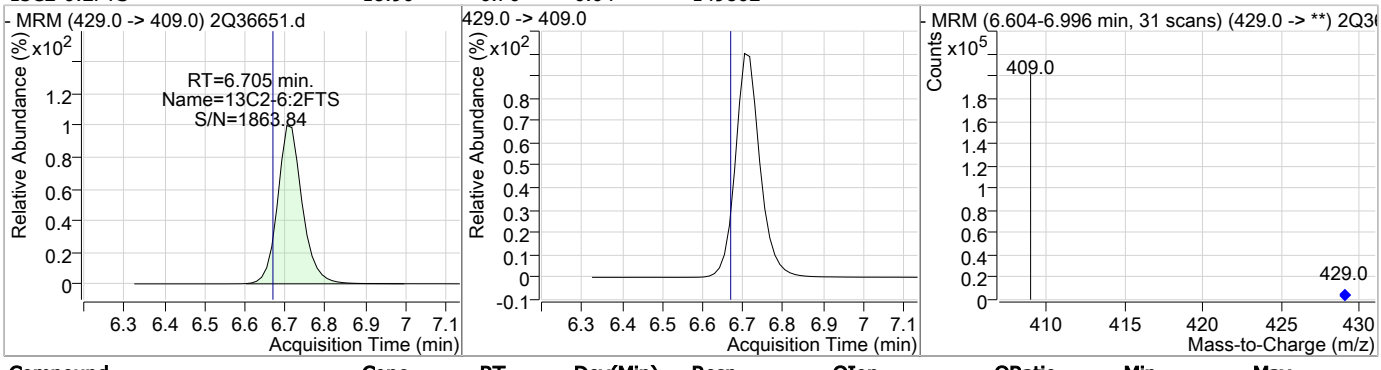
Perfluorinated Compounds by LC/MS/MS

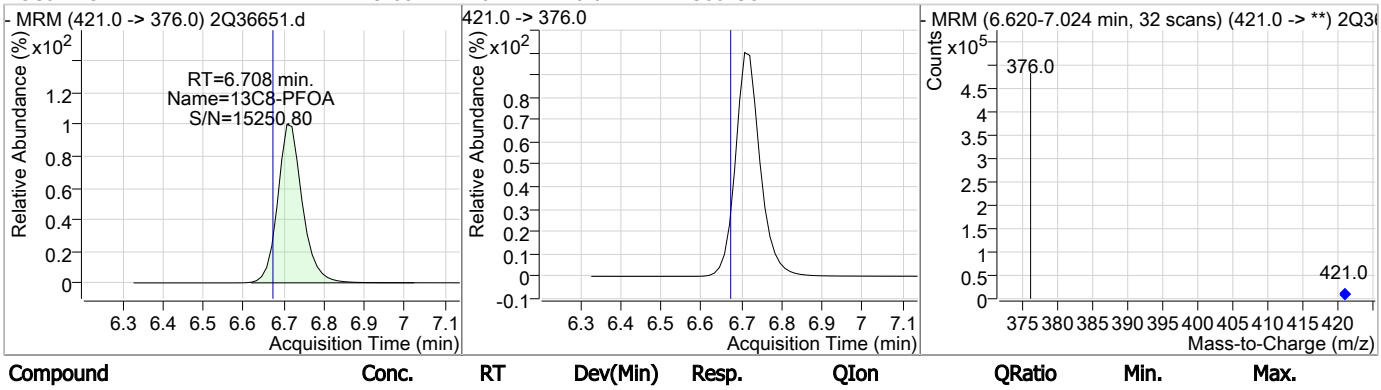
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	18.43	6.00	0.05	27164				



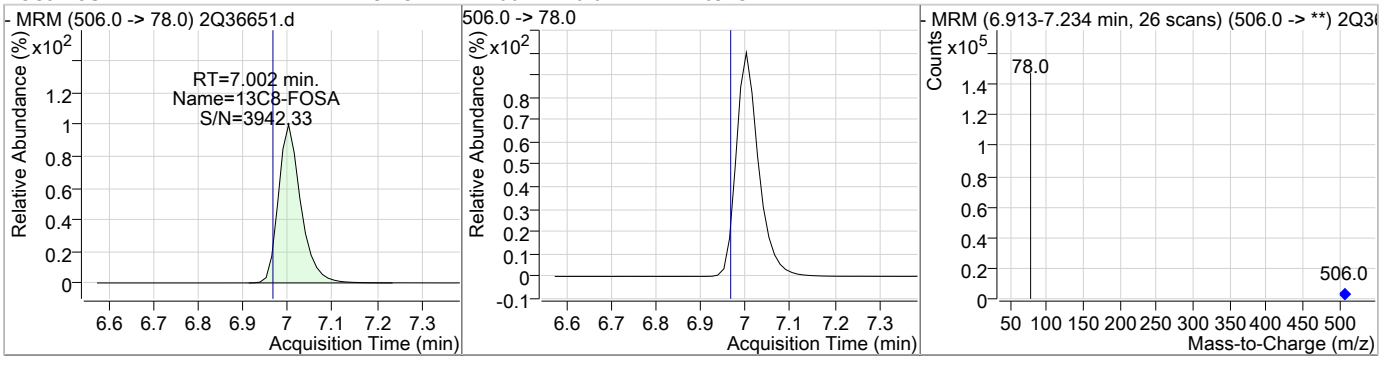
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.90	6.70	0.04	149862				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.68	6.71	0.04	360195				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	19.23	7.00	0.04	109434				



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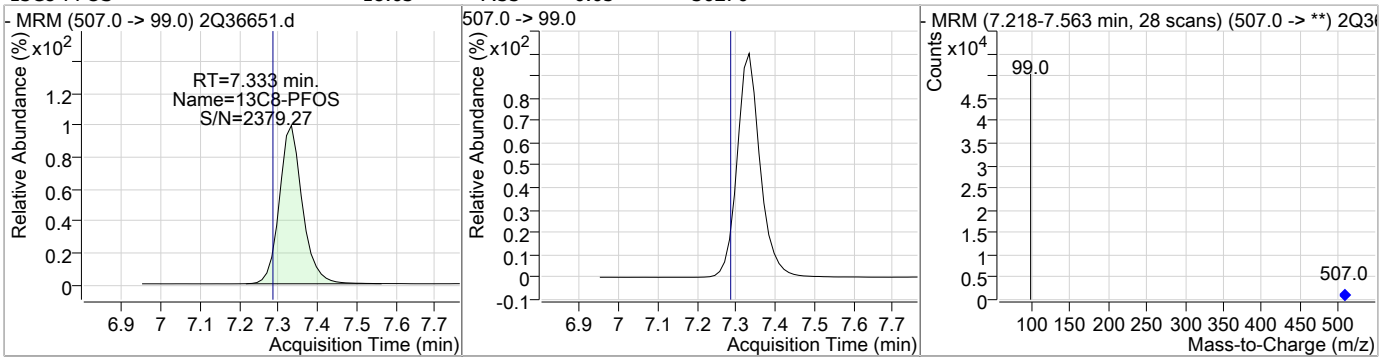
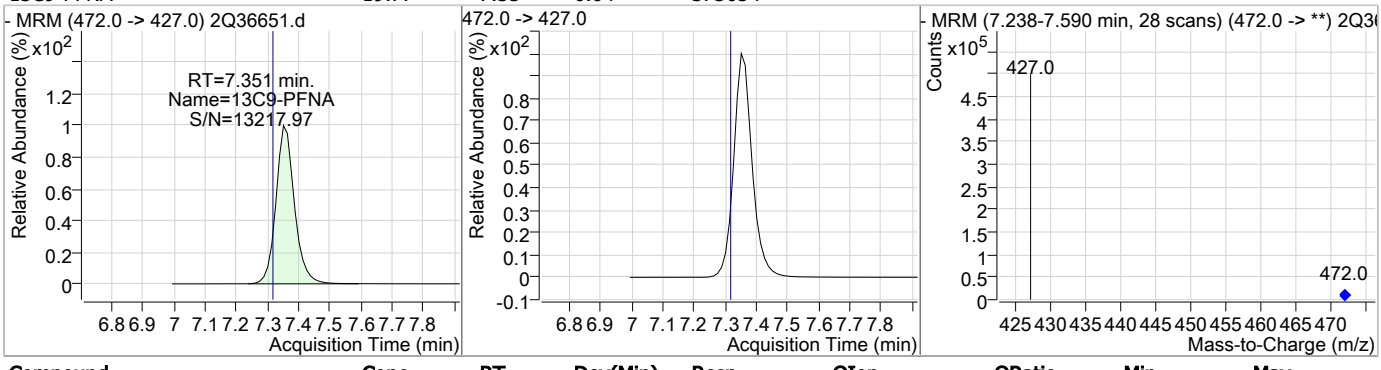
Perfluorinated Compounds by LC/MS/MS

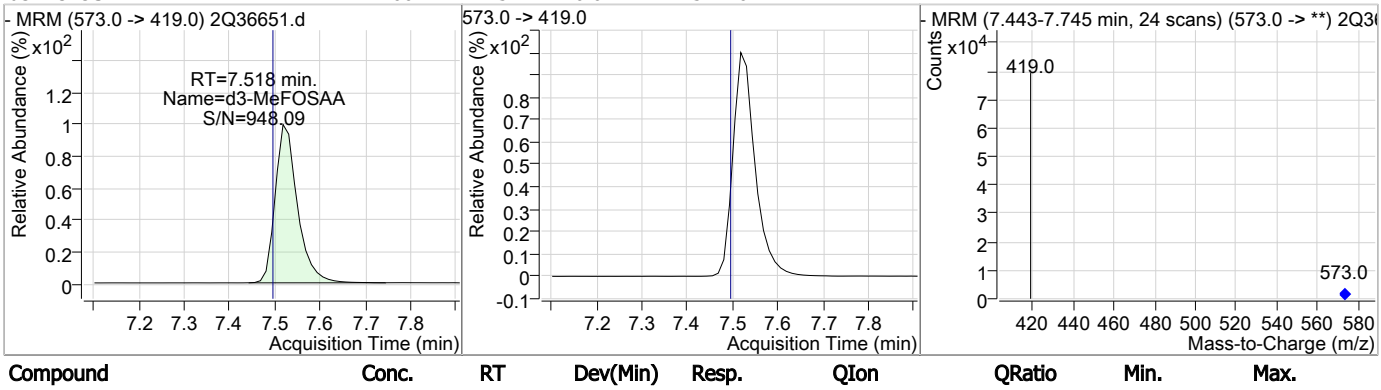
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	18.63	7.33	0.05	36270				



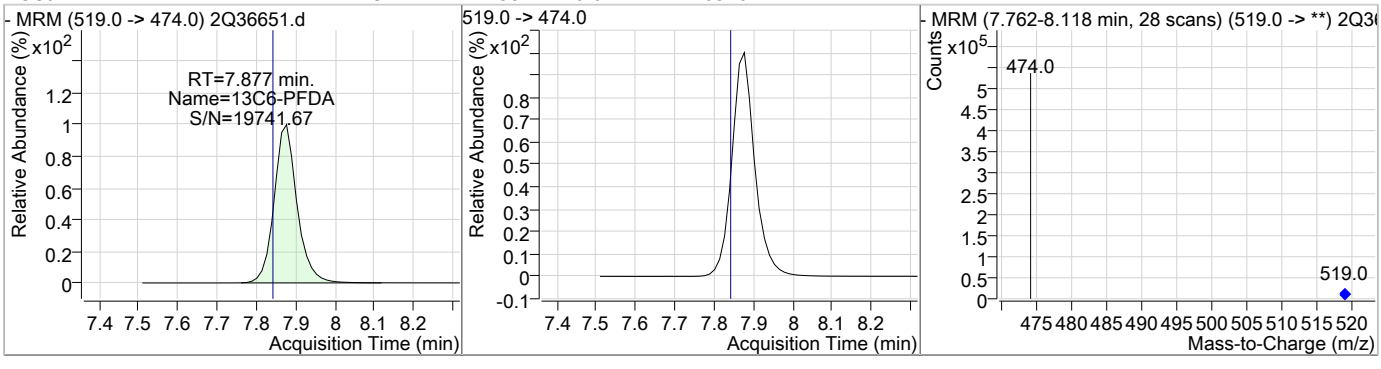
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.77	7.35	0.04	373654				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	17.66	7.52	0.02	57716				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.14	7.88	0.04	405107				



12.2.1

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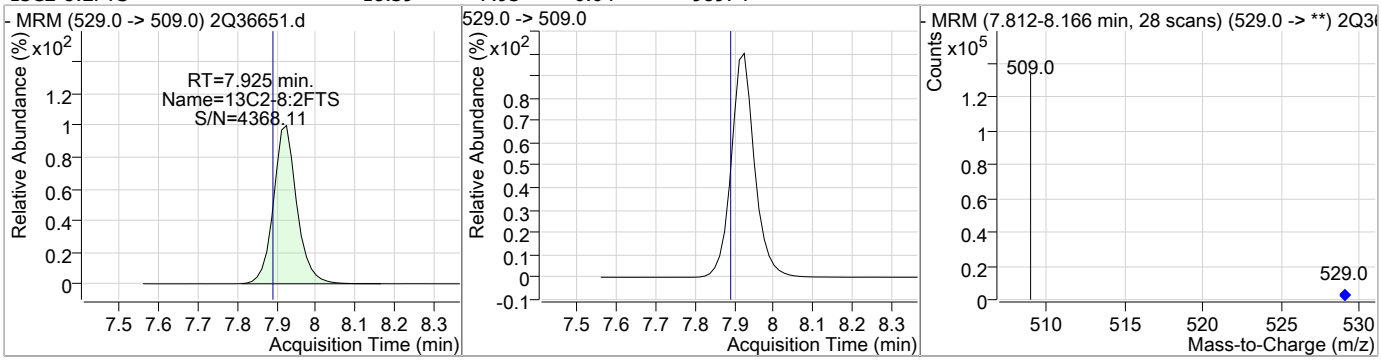
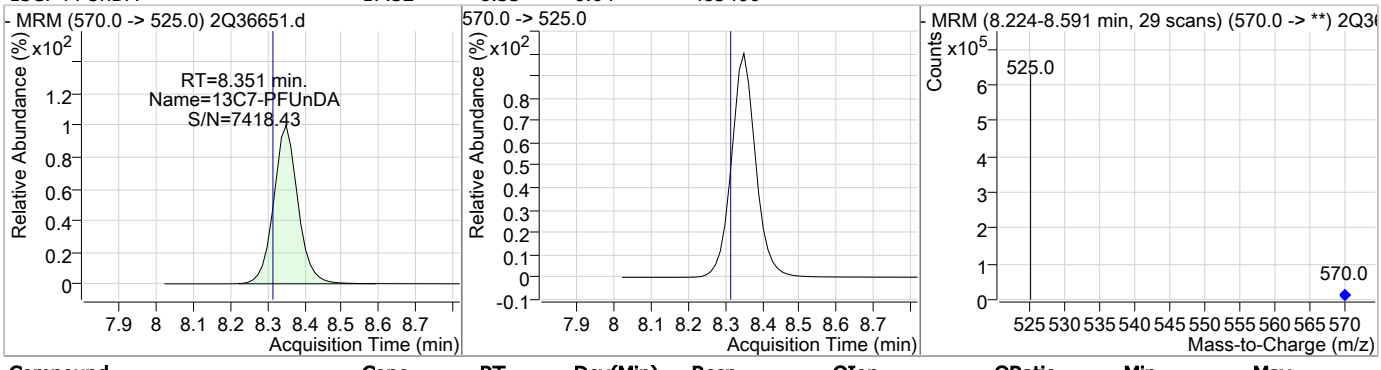
Perfluorinated Compounds by LC/MS/MS

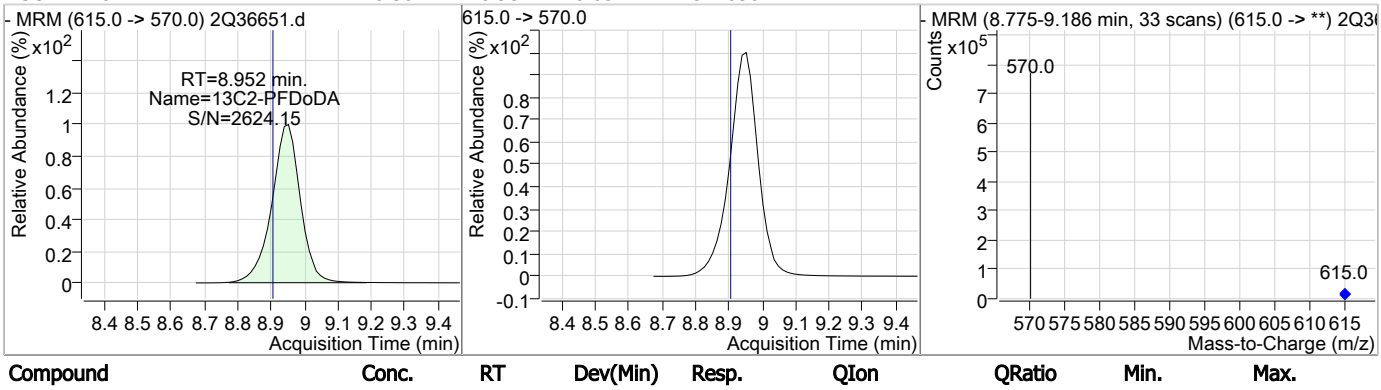
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.39	7.93	0.04	98974				



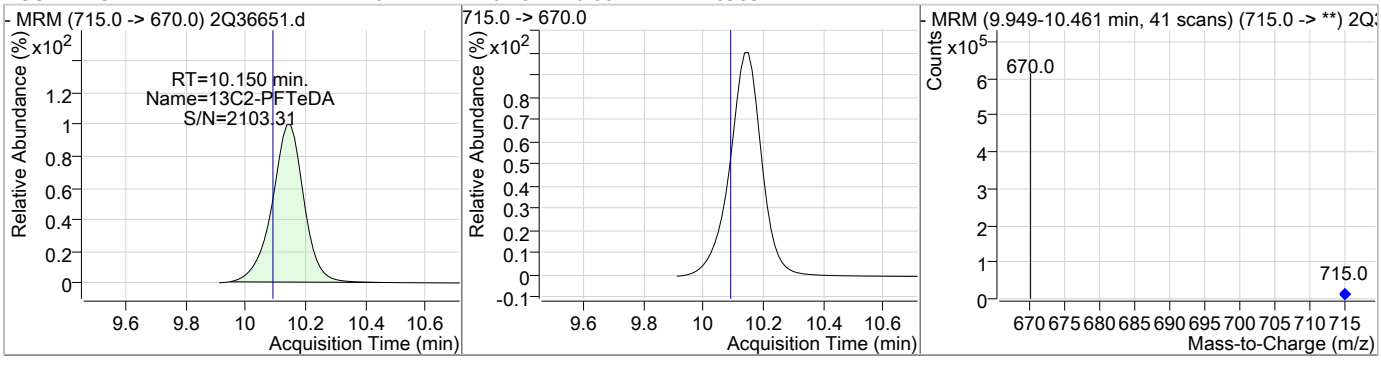
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	17.52	8.35	0.04	485466				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	16.38	8.95	0.05	572030				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	16.77	10.15	0.06	446963				



Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36598.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/25/2019 7:56:25 AM
Sample Name	:	iblk
Vial	:	Vial 1
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76878,S2Q570,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.659	415.0 -> 370.0	443636	20.00	µg/L	-0.013
13C4-PFOS	7.272	503.0 -> 80.0	66523	20.00	µg/L	-0.013
M4-PFBA	2.040	217.0 -> 172.0	186082	20.00	µg/L	0.000
M5-PFPeA	3.711	268.0 -> 223.0	155172	20.00	µg/L	-0.013
M5-PFHxA	4.975	318.0 -> 273.0	218668	20.00	µg/L	-0.013
M4-PFHpA	5.905	367.0 -> 322.0	287405	20.00	µg/L	-0.013
M8-PFOA	6.658	421.0 -> 376.0	358858	20.00	µg/L	-0.013
M9-PFNA	7.301	472.0 -> 427.0	377819	20.00	µg/L	-0.013
M6-PFDA	7.827	519.0 -> 474.0	430892	20.00	µg/L	-0.013
M7-PFUnDA	8.299	570.0 -> 525.0	530558	20.00	µg/L	-0.013
M2-PFDoDA	8.889	615.0 -> 570.0	667069	20.00	µg/L	-0.013
M2-PFTeDA	10.074	715.0 -> 670.0	462404	20.00	µg/L	-0.013
M8-FOSA	6.965	506.0 -> 78.0	122720	20.00	µg/L	0.000
M3-PFBS	3.955	302.0 -> 99.0	26878	20.00	µg/L	-0.013
M3-PFHxS	5.935	402.0 -> 99.0	29626	20.00	µg/L	-0.013
M8-PFOS	7.283	507.0 -> 99.0	39958	20.00	µg/L	0.000
M2-4:2FTS	4.884	329.0 -> 309.0	105244	20.00	µg/L	-0.013
M2-6:2FTS	6.654	429.0 -> 409.0	154260	20.00	µg/L	-0.013
M2-8:2FTS	7.875	529.0 -> 509.0	108314	20.00	µg/L	-0.013
M3-MeFOSAA	7.493	573.0 -> 419.0	61108	20.00	µg/L	0.000
M3-HFPO-DA	5.255	287.0 -> 169.0	287217	100.00	µg/L	-0.013
System Monitoring Compounds						
13C2-4:2FTS	4.884	329.0 -> 309.0	104888	18.01	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.1%		
13C2-6:2FTS	6.654	429.0 -> 409.0	154216	19.45	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C2-8:2FTS	7.875	529.0 -> 509.0	108298	20.12	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C2-PFDoDA	8.889	615.0 -> 570.0	666116	19.08	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C2-PFTeDA	10.074	715.0 -> 670.0	502693	18.87	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
13C3-PFBS	3.955	302.0 -> 99.0	26853	19.65	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C3-PFHxS	5.935	402.0 -> 99.0	29608	20.09	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C4-PFBA	2.040	217.0 -> 172.0	185028	18.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
13C4-PFHpA	5.905	367.0 -> 322.0	287212	18.86	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
13C5-PFHxA	4.975	318.0 -> 273.0	218383	18.71	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.5%		
13C5-PFPeA	3.711	268.0 -> 223.0	155385	18.88	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.4%		
13C6-PFDA	7.827	519.0 -> 474.0	430696	20.35	µg/L	-0.013

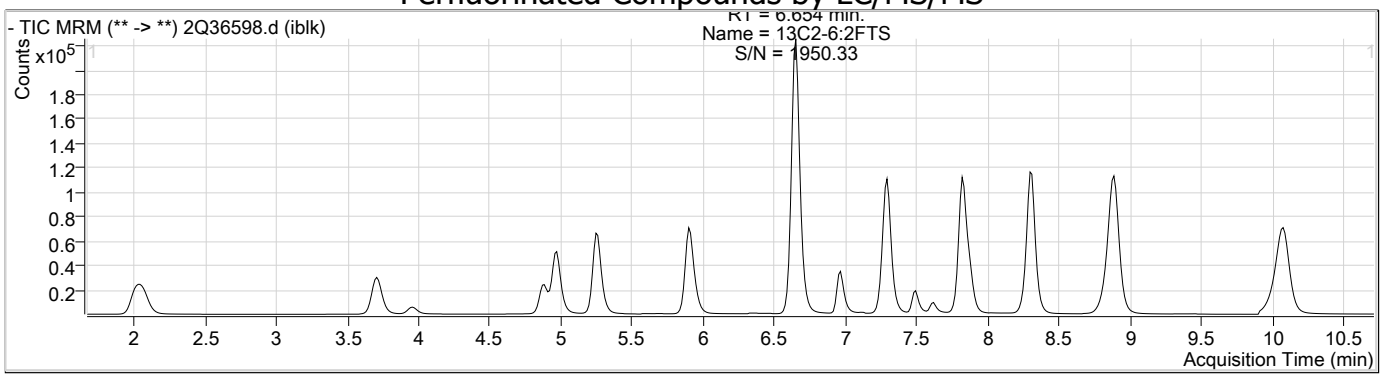
Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C7-PFUnDA	8.299	570.0 -> 525.0	529753	19.11 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C8-FOSA	6.965	506.0 -> 78.0	122721	21.57 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C8-PFOA	6.658	421.0 -> 376.0	358576	19.60 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C8-PFOS	7.283	507.0 -> 99.0	39932	20.51 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C9-PFNA	7.301	472.0 -> 427.0	377869	19.99 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSAA	7.493	573.0 -> 419.0	61223	18.73 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.7%	
M2-PFOA	6.659	415.0 -> 370.0	444015	19.99 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
M4-PFOS	7.272	503.0 -> 80.0	66559	20.02 µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C3-HFPO-DA	5.255	287.0 -> 169.0	287217	101.03 µg/L	-0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 101.0%	

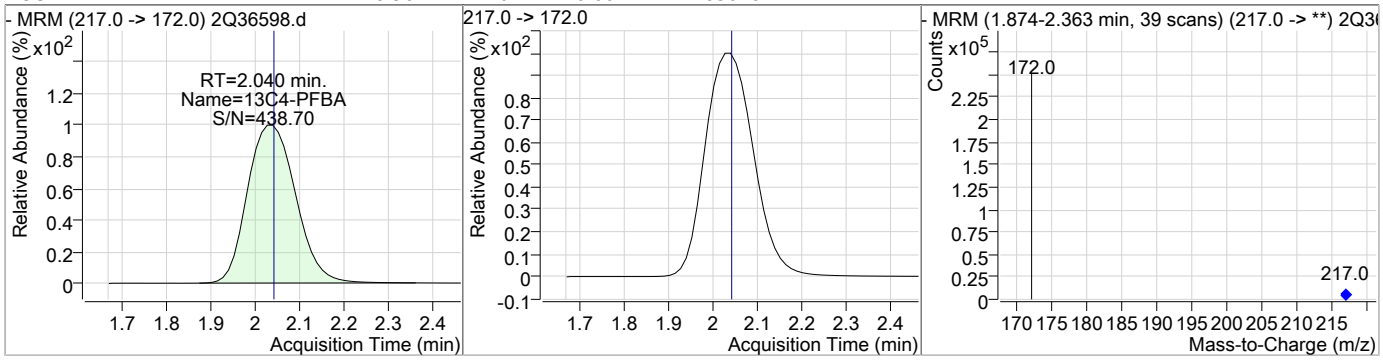
Target Compounds					QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.	
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
FOSA	-	498.0 -> 78.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFDS	-	599.0 -> 80.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	-	313.0 -> 269.0	-	N.D.	
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFNS	-	549.0 -> 80.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFPeS	-	349.0 -> 80.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
HFPO-DA	-	329.0 -> 169.0	-	N.D.	

 # = Qualifier out of range, m = manually integrated, + = Area summed

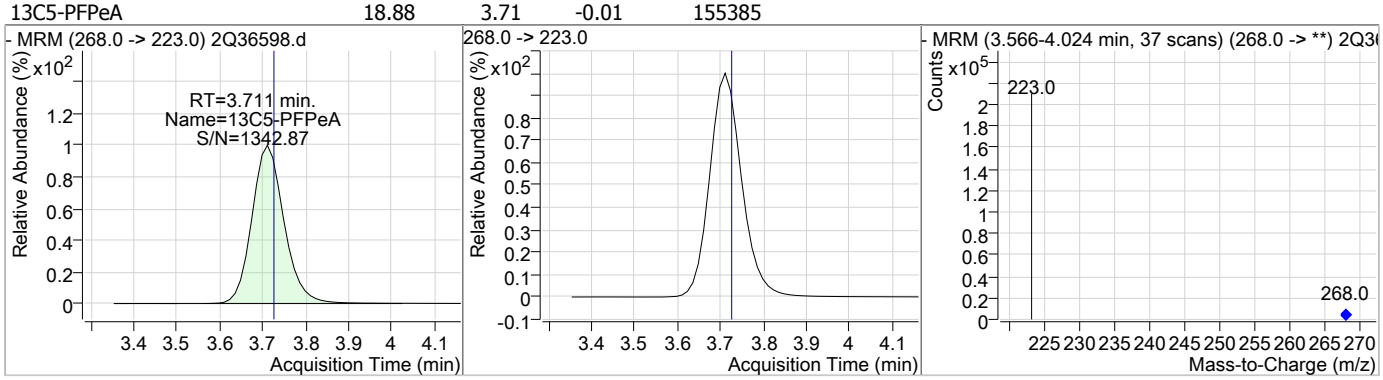
Perfluorinated Compounds by LC/MS/MS



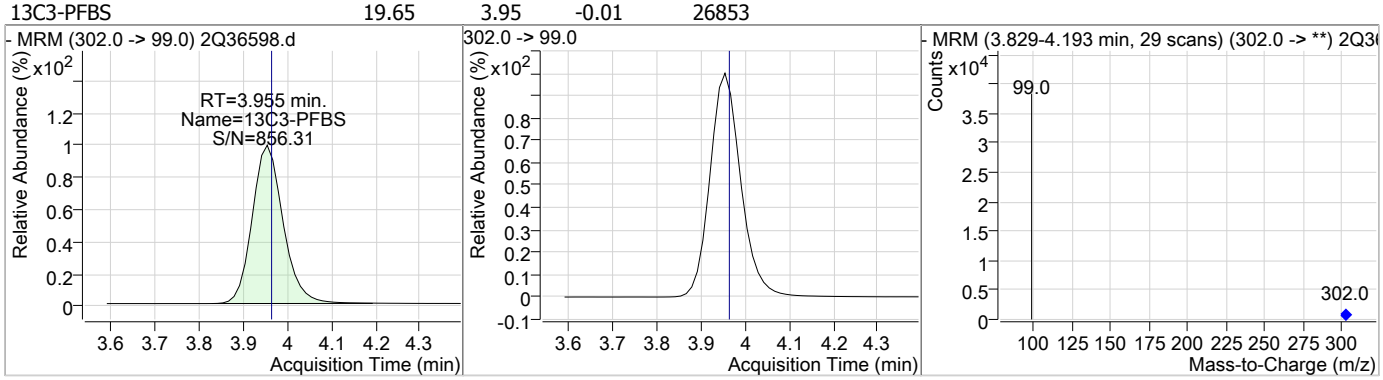
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	18.90	2.04	0.00	185028				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	18.88	3.71	-0.01	155385				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.65	3.95	-0.01	26853				



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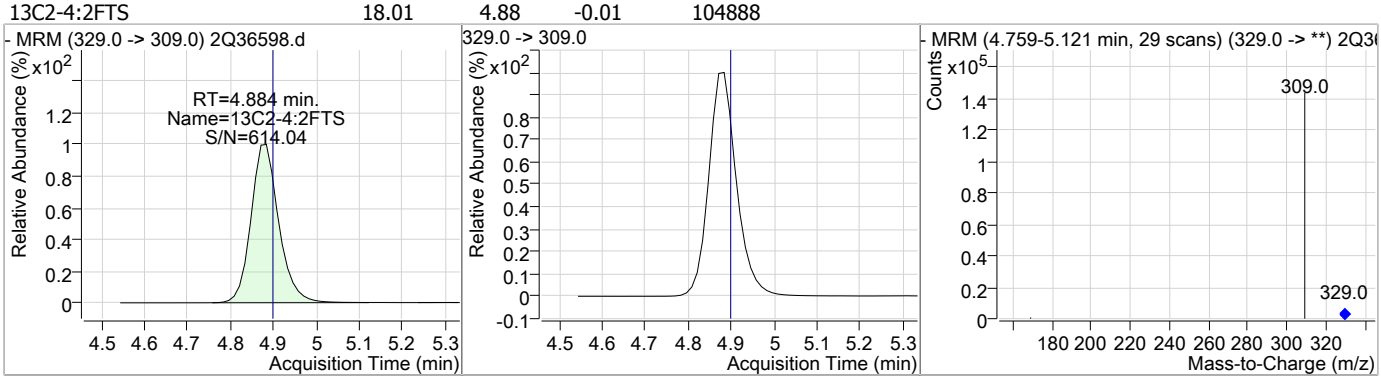
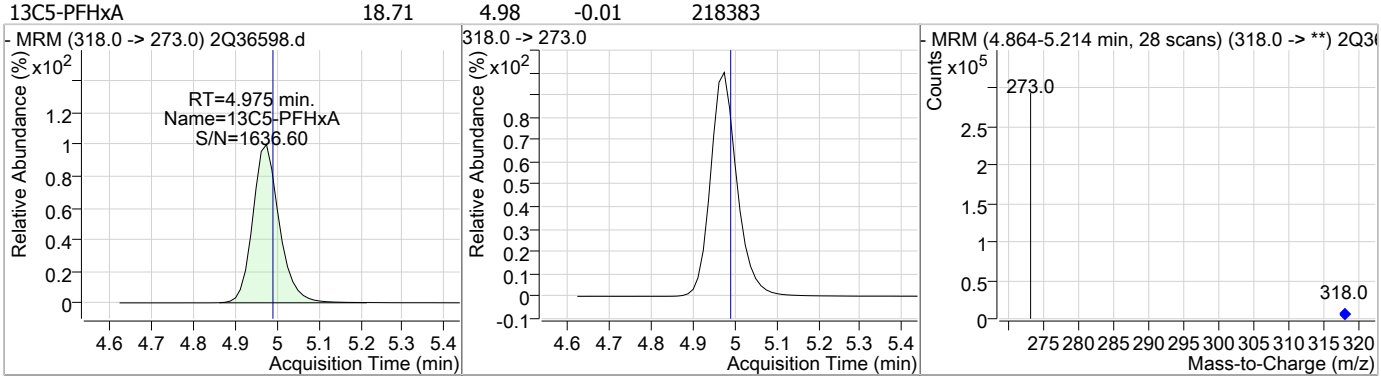
Perfluorinated Compounds by LC/MS/MS

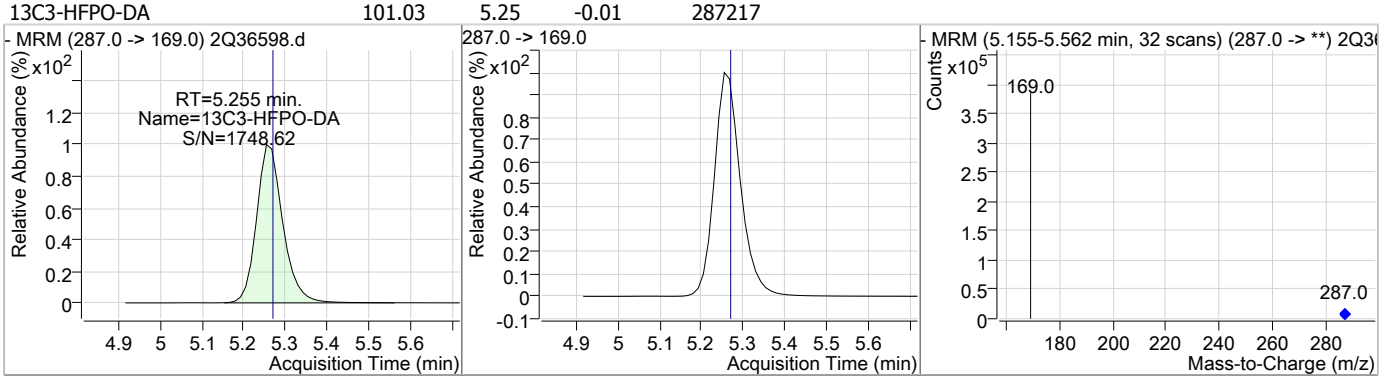
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.01	4.88	-0.01	104888				



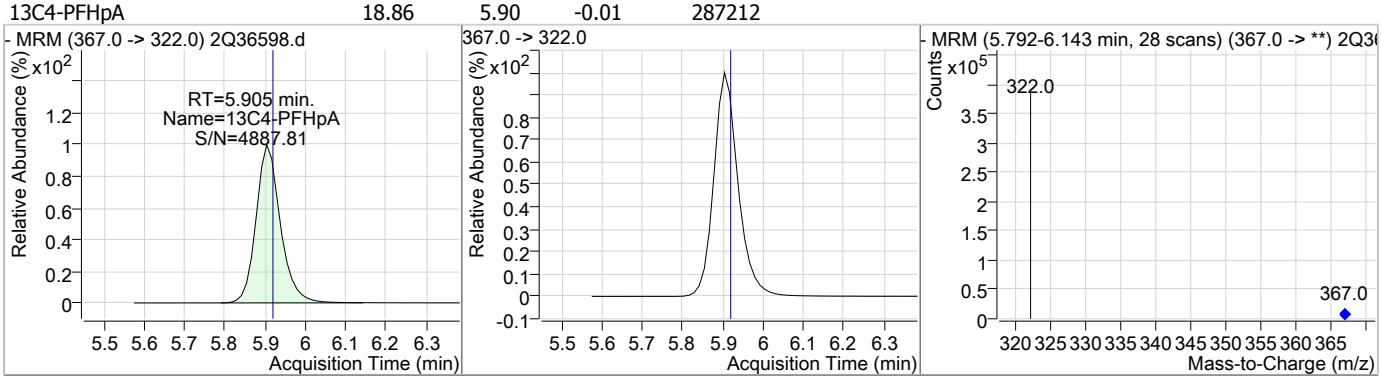
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	18.71	4.98	-0.01	218383				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	101.03	5.25	-0.01	287217				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	18.86	5.90	-0.01	287212				



12.2.2

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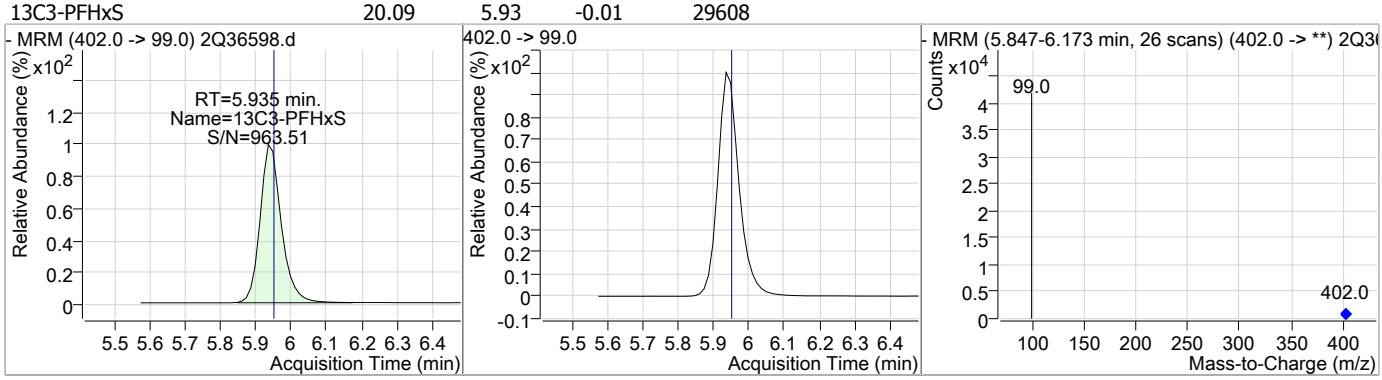
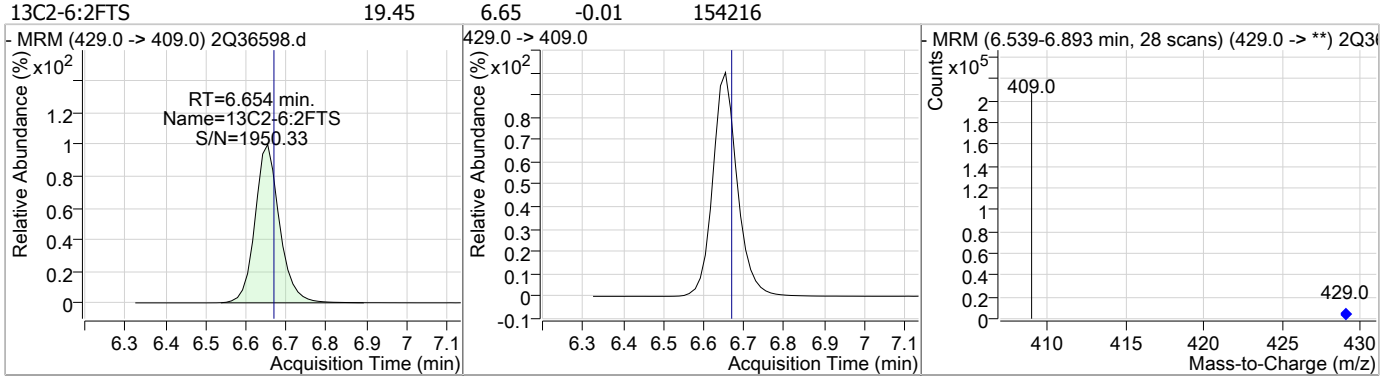
Perfluorinated Compounds by LC/MS/MS

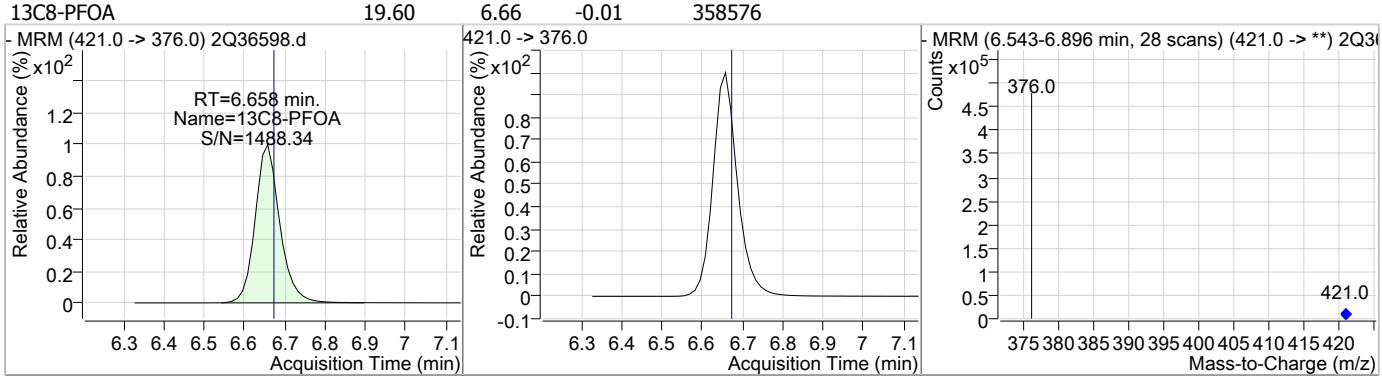
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.09	5.93	-0.01	29608				



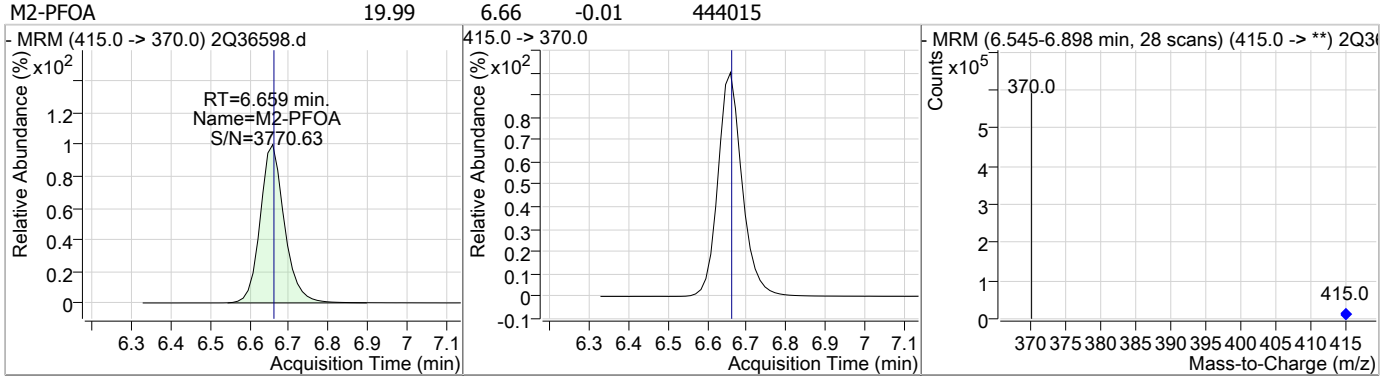
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.45	6.65	-0.01	154216				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.60	6.66	-0.01	358576				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.99	6.66	-0.01	444015				



12.2.2

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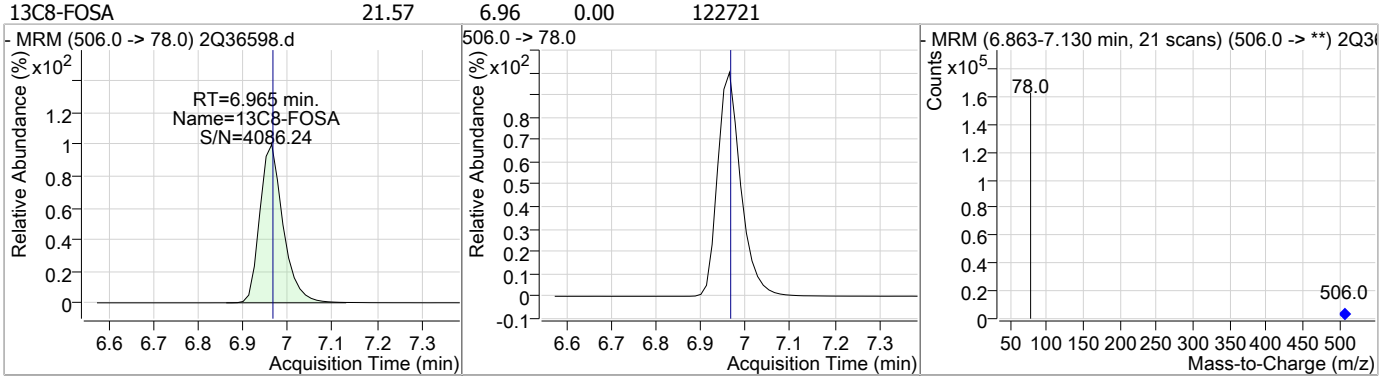
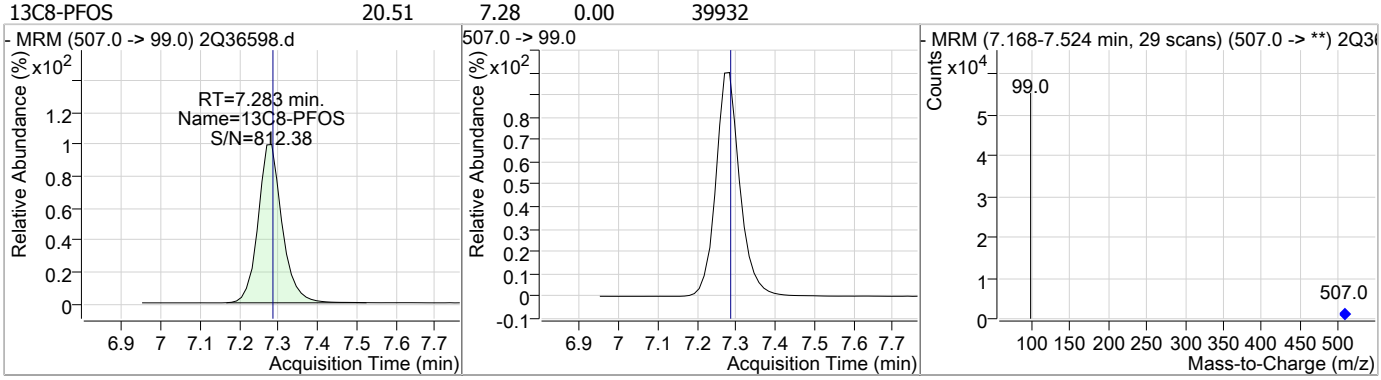
Perfluorinated Compounds by LC/MS/MS

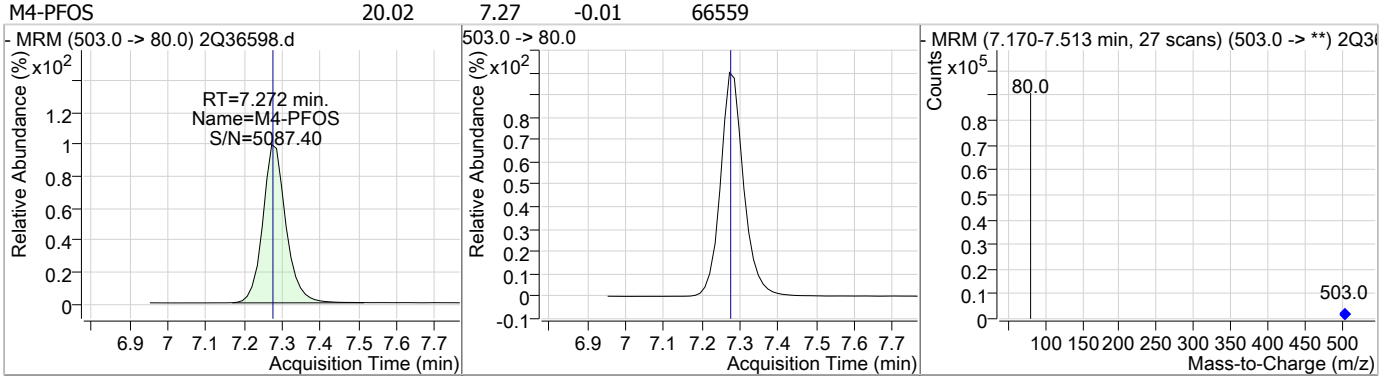
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	21.57	6.96	0.00	122721				



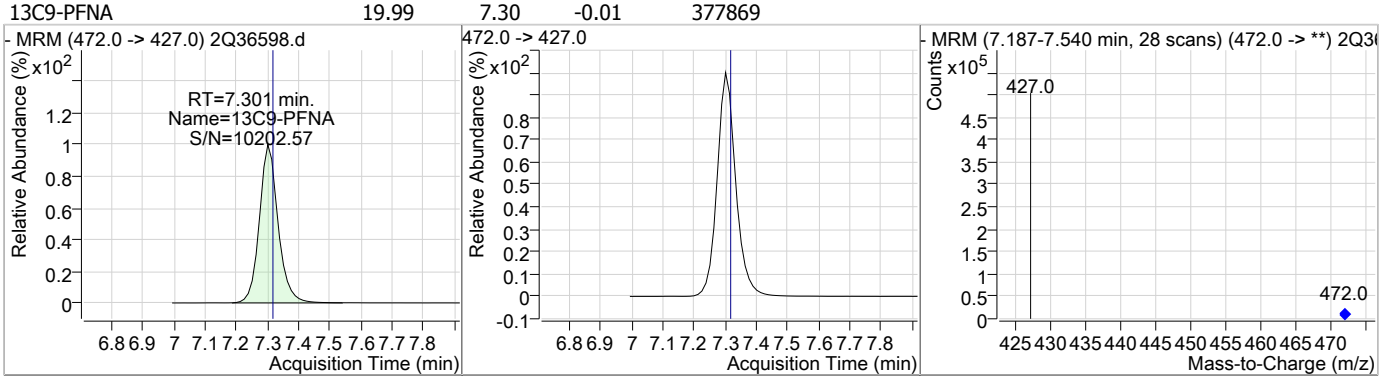
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.51	7.28	0.00	39932				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.02	7.27	-0.01	66559				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.99	7.30	-0.01	377869				



12.2.2

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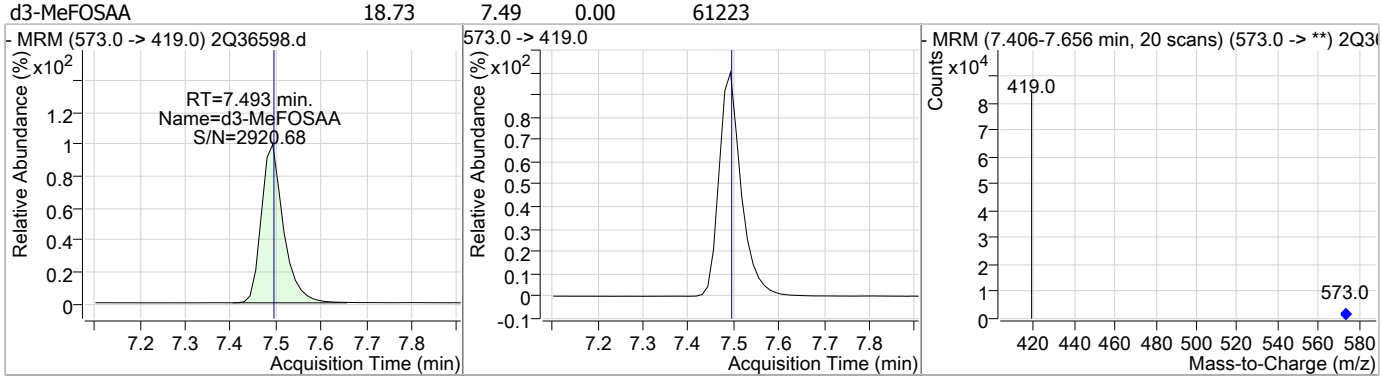
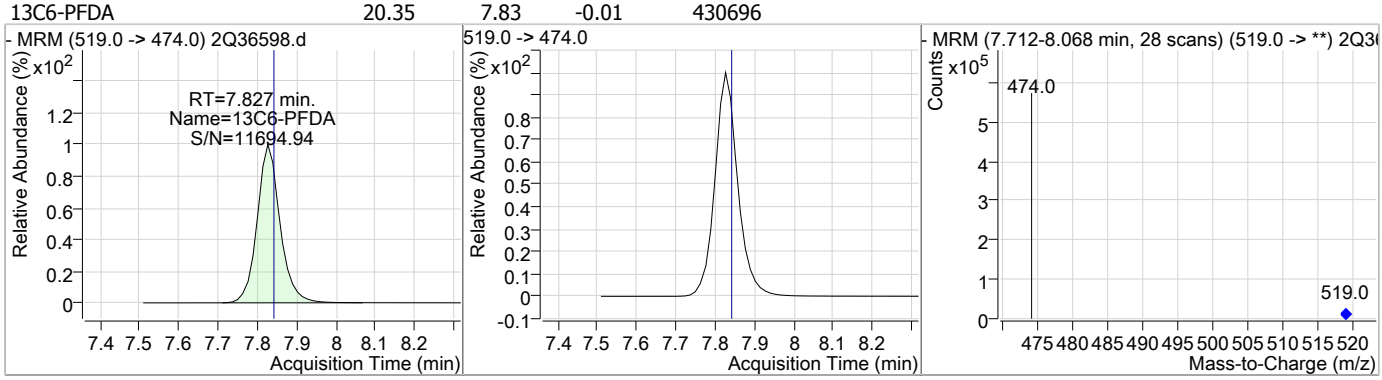
Perfluorinated Compounds by LC/MS/MS

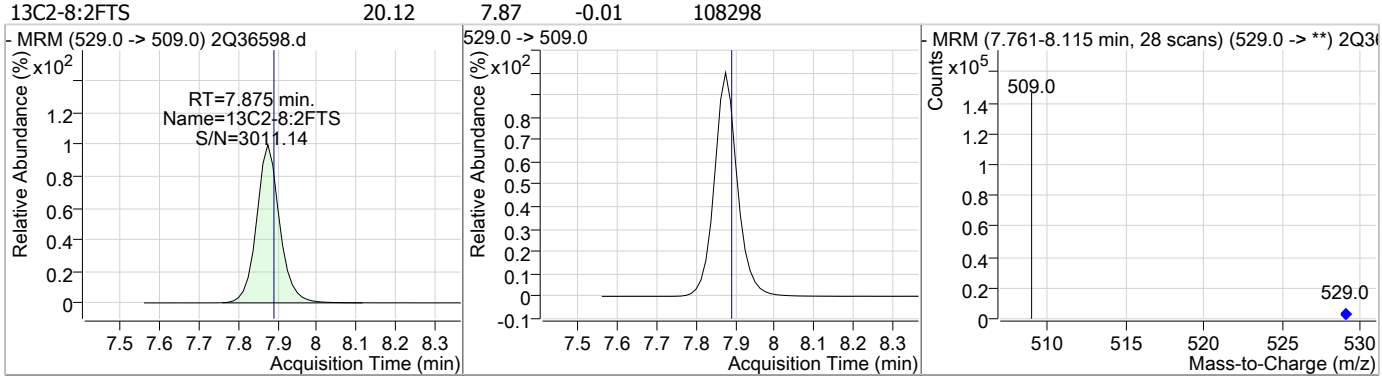
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	18.73	7.49	0.00	61223				



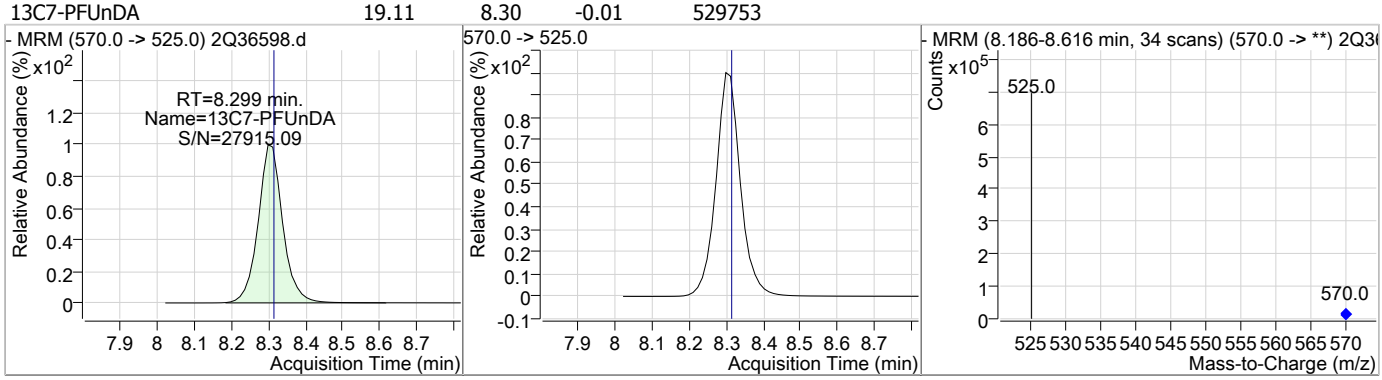
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.35	7.83	-0.01	430696				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.12	7.87	-0.01	108298				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.11	8.30	-0.01	529753				



12.2.2

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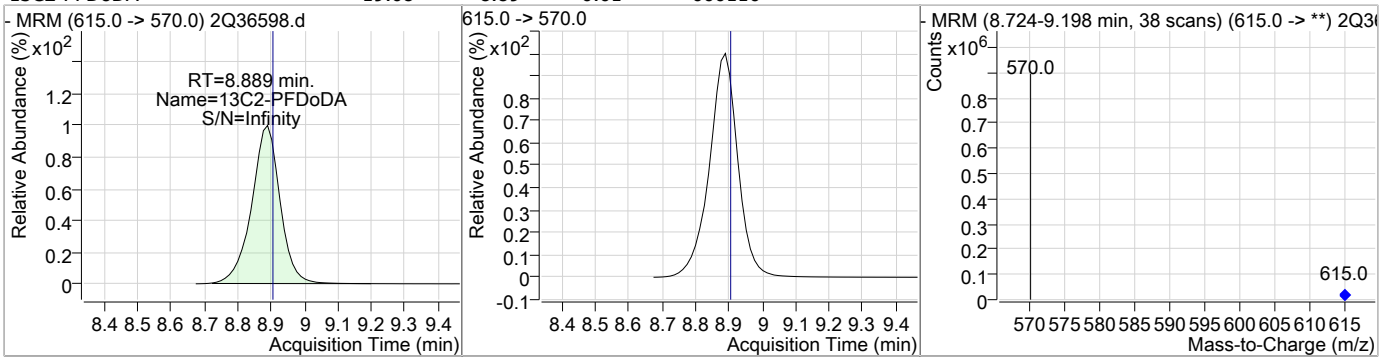
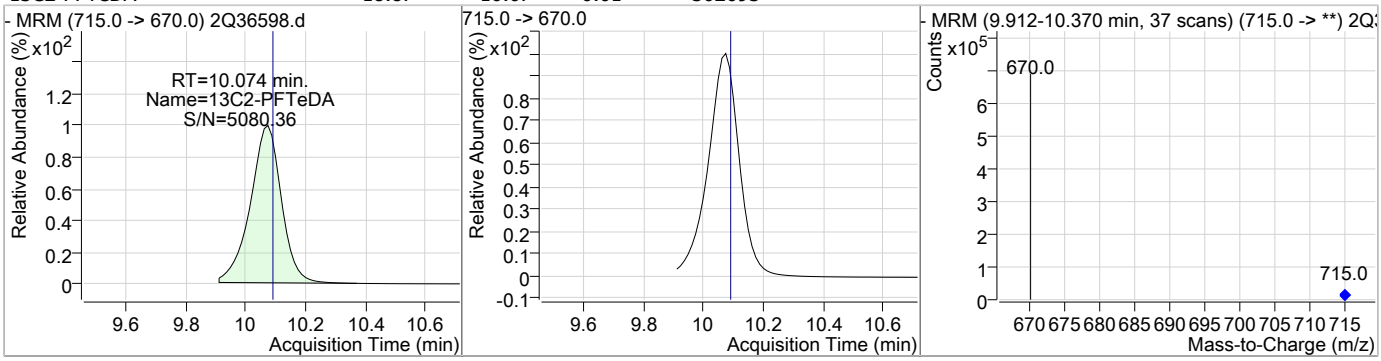
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.08	8.89	-0.01	666116				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	18.87	10.07	-0.01	502693				



12.2.2

12

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36700.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 10:57:02 AM
Sample Name	:	iblk
Vial	:	Vial 1
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76878,S2Q571,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.697	415.0 -> 370.0	480399	20.00	µg/L	0.000
13C4-PFOS	7.311	503.0 -> 80.0	67178	20.00	µg/L	0.000
M4-PFBA	2.052	217.0 -> 172.0	189499	20.00	µg/L	0.000
M5-PFPeA	3.749	268.0 -> 223.0	157476	20.00	µg/L	0.000
M5-PFHxA	5.013	318.0 -> 273.0	221079	20.00	µg/L	0.000
M4-PFHpA	5.941	367.0 -> 322.0	284892	20.00	µg/L	0.000
M8-PFOA	6.696	421.0 -> 376.0	358848	20.00	µg/L	0.000
M9-PFNA	7.339	472.0 -> 427.0	373482	20.00	µg/L	0.000
M6-PFDA	7.865	519.0 -> 474.0	414599	20.00	µg/L	0.000
M7-PFUnDA	8.341	570.0 -> 525.0	540772	20.00	µg/L	0.000
M2-PFDoDA	8.936	615.0 -> 570.0	671137	20.00	µg/L	0.000
M2-PFTeDA	10.138	715.0 -> 670.0	524320	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	114947	20.00	µg/L	0.000
M3-PFBS	3.992	302.0 -> 99.0	25367	20.00	µg/L	0.000
M3-PFHxS	5.973	402.0 -> 99.0	26954	20.00	µg/L	-0.013
M8-PFOS	7.321	507.0 -> 99.0	36607	20.00	µg/L	0.000
M2-4:2FTS	4.921	329.0 -> 309.0	104687	20.00	µg/L	0.000
M2-6:2FTS	6.693	429.0 -> 409.0	149224	20.00	µg/L	0.000
M2-8:2FTS	7.915	529.0 -> 509.0	99408	20.00	µg/L	0.000
M3-MeFOSAA	7.519	573.0 -> 419.0	61086	20.00	µg/L	0.000
M3-HFPO-DA	5.293	287.0 -> 169.0	294825	100.00	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	104649	17.97	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.9%		
13C2-6:2FTS	6.693	429.0 -> 409.0	148959	18.79	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.9%		
13C2-8:2FTS	7.915	529.0 -> 509.0	99403	18.47	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.3%		
13C2-PFDoDA	8.936	615.0 -> 570.0	665753	19.07	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.3%		
13C2-PFTeDA	10.138	715.0 -> 670.0	523391	19.64	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C3-PFBS	3.992	302.0 -> 99.0	25247	18.47	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.4%		
13C3-PFHxS	5.973	402.0 -> 99.0	26935	18.28	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C4-PFBA	2.052	217.0 -> 172.0	188057	19.21	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C4-PFHpA	5.941	367.0 -> 322.0	284006	18.65	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.2%		
13C5-PFHxA	5.013	318.0 -> 273.0	220409	18.88	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.4%		
13C5-PFPeA	3.749	268.0 -> 223.0	157476	19.13	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.7%		
13C6-PFDA	7.865	519.0 -> 474.0	413724	19.55	µg/L	0.000

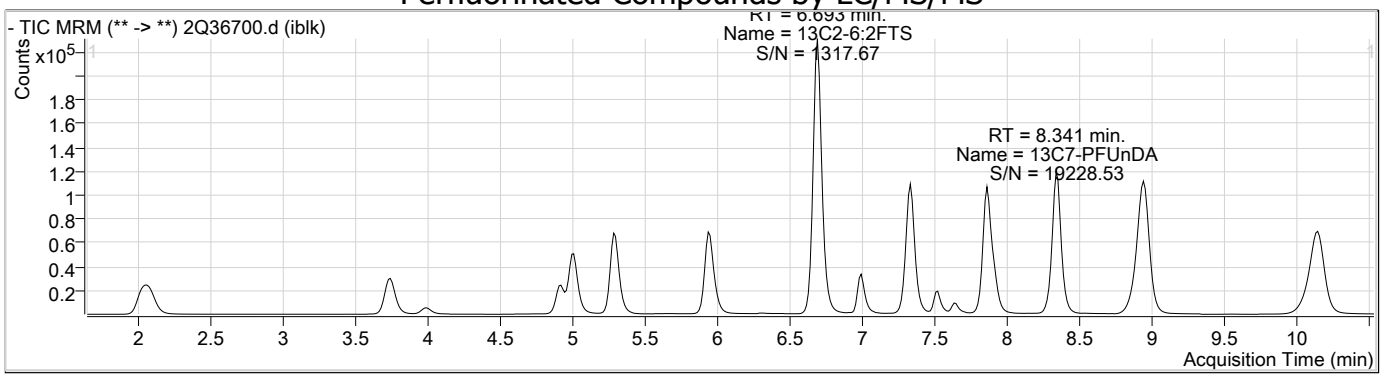
Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C7-PFUnDA	8.341	570.0 -> 525.0	540202	19.49 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C8-FOSA	6.990	506.0 -> 78.0	114890	20.19 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-PFOA	6.696	421.0 -> 376.0	358155	19.57 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C8-PFOS	7.321	507.0 -> 99.0	36584	18.79 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C9-PFNA	7.339	472.0 -> 427.0	373216	19.74 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.7%	
d3-MeFOSAA	7.519	573.0 -> 419.0	61111	18.70 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.5%	
M2-PFOA	6.697	415.0 -> 370.0	479930	19.96 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
M4-PFOS	7.311	503.0 -> 80.0	67219	20.02 µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C3-HFPO-DA	5.293	287.0 -> 169.0	294825	103.71 µg/L	0.000
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 103.7%	

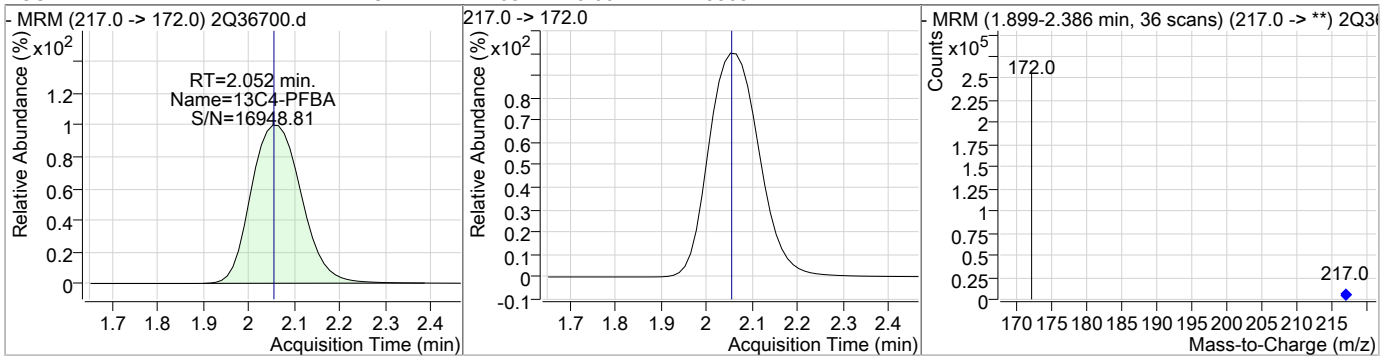
Target Compounds					QValue
4:2FTS	-	327.0 -> 307.0	-	N.D.	
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
FOSA	-	498.0 -> 78.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFDS	-	599.0 -> 80.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	-	313.0 -> 269.0	-	N.D.	
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFNS	-	549.0 -> 80.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFPeS	-	349.0 -> 80.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
HFPO-DA	-	329.0 -> 169.0	-	N.D.	

 # = Qualifier out of range, m = manually integrated, + = Area summed

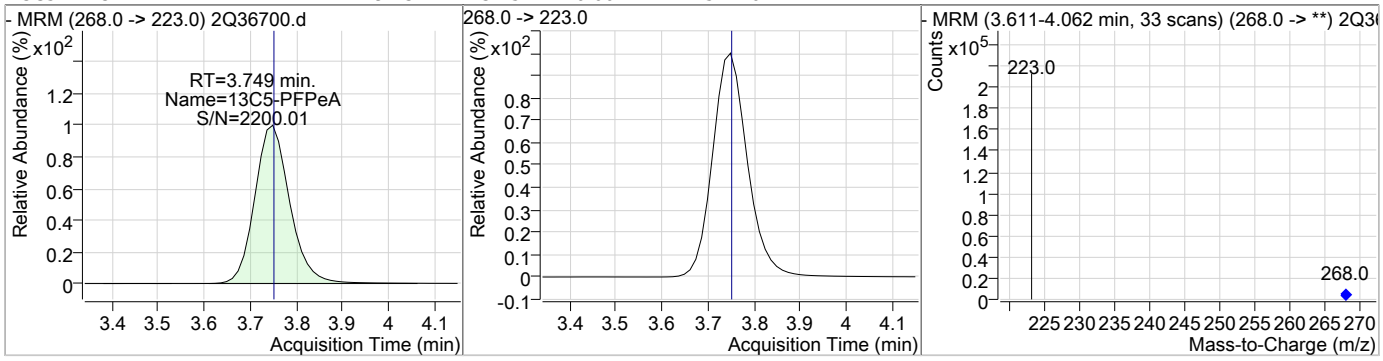
Perfluorinated Compounds by LC/MS/MS



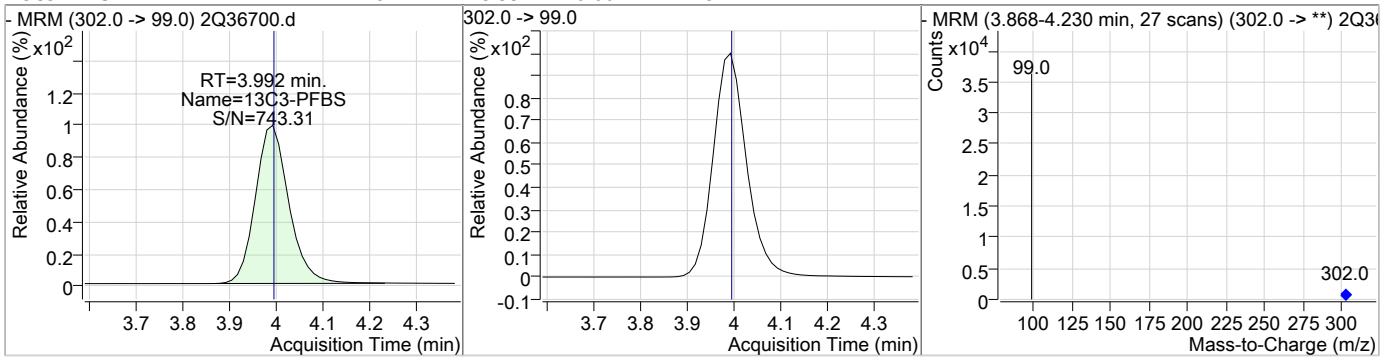
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.21	2.05	0.00	188057				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.13	3.75	0.00	157476				

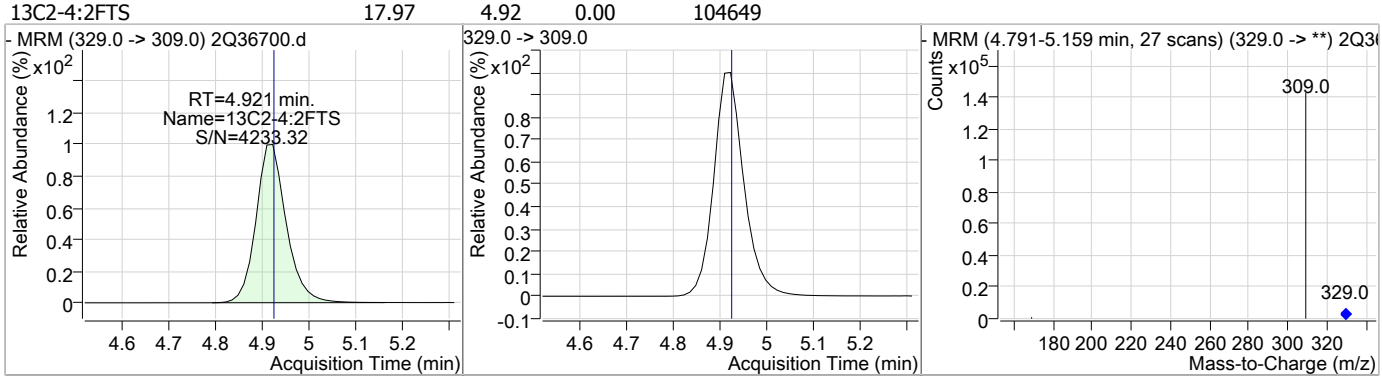


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	18.47	3.99	0.00	25247				

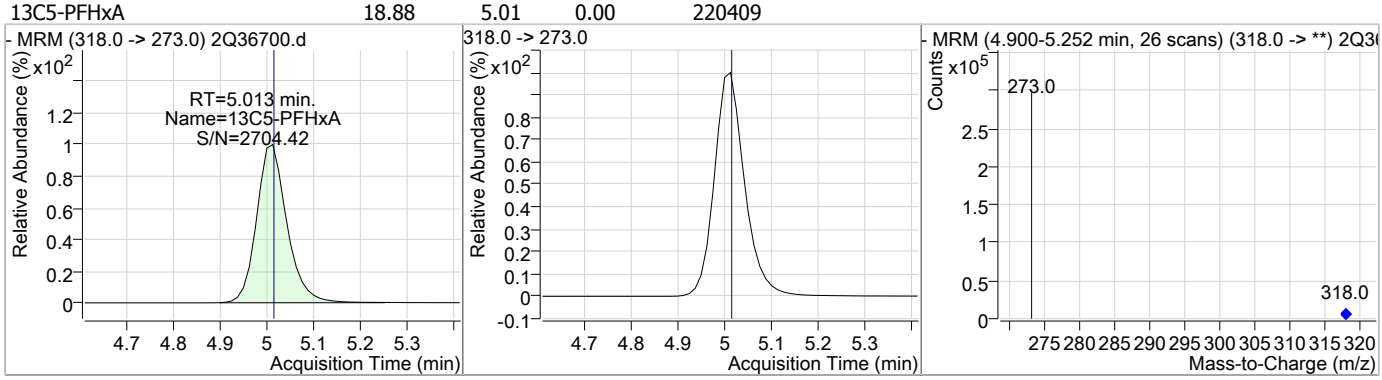


Perfluorinated Compounds by LC/MS/MS

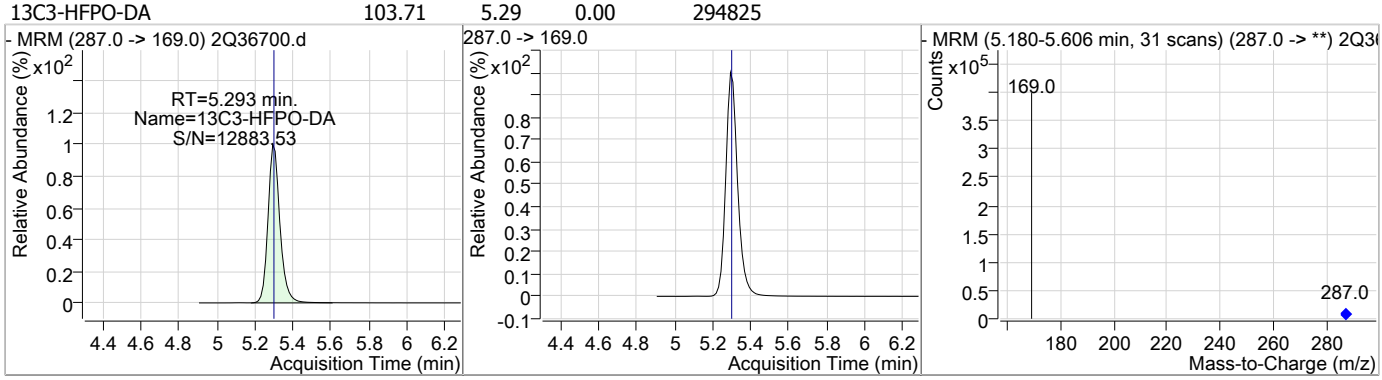
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.97	4.92	0.00	104649				



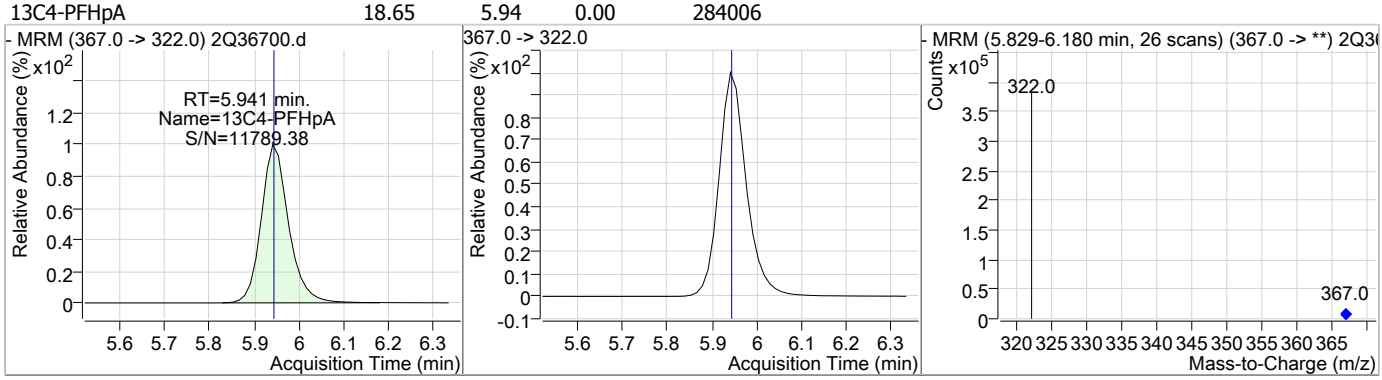
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	18.88	5.01	0.00	220409				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	103.71	5.29	0.00	294825				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	18.65	5.94	0.00	284006				



12.2.3

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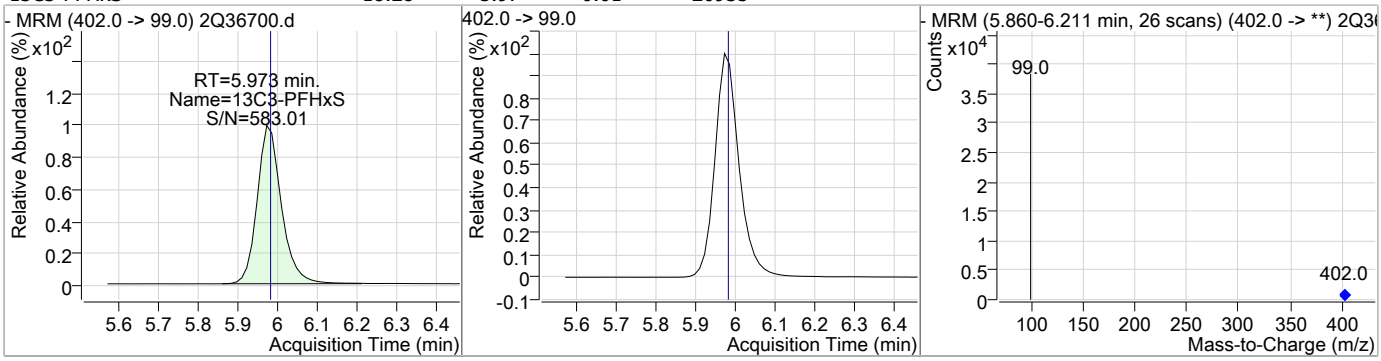
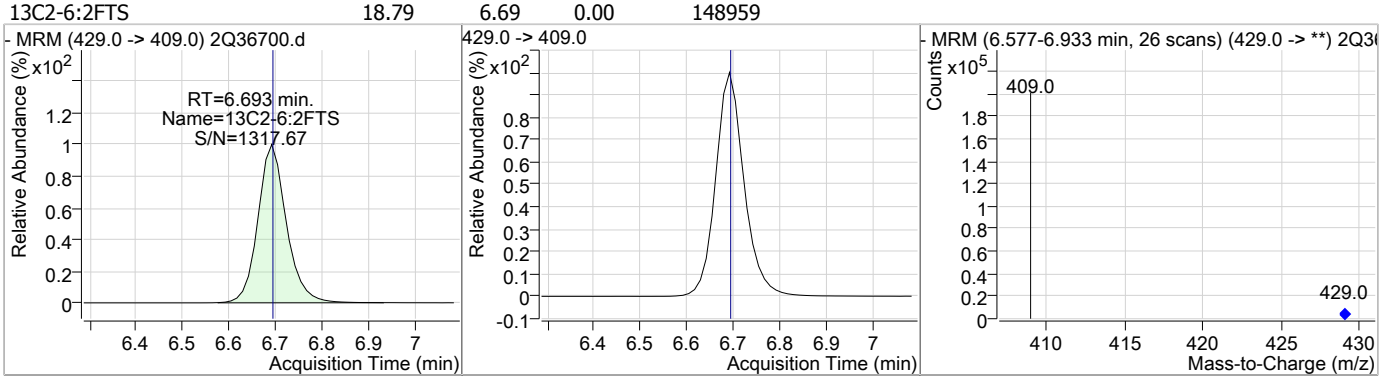
Perfluorinated Compounds by LC/MS/MS

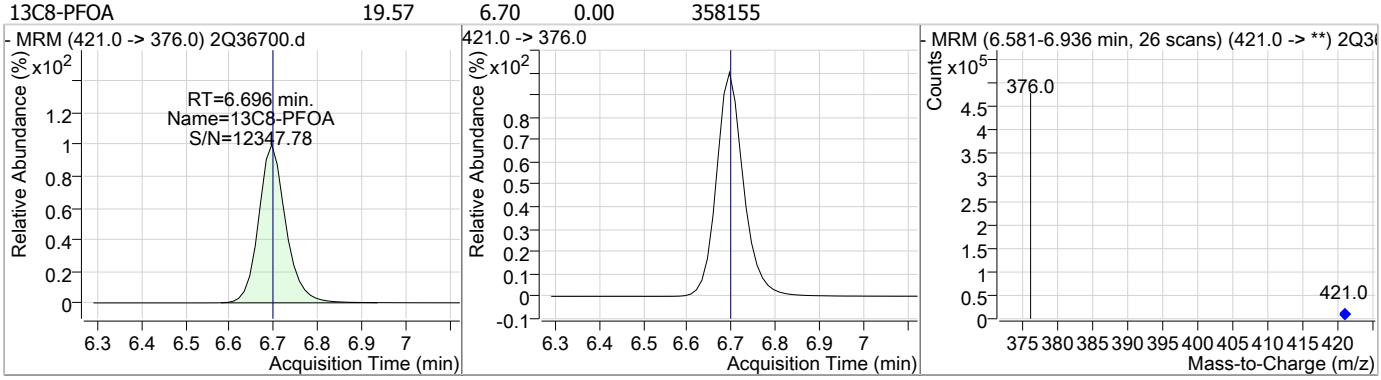
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	18.28	5.97	-0.01	26935				



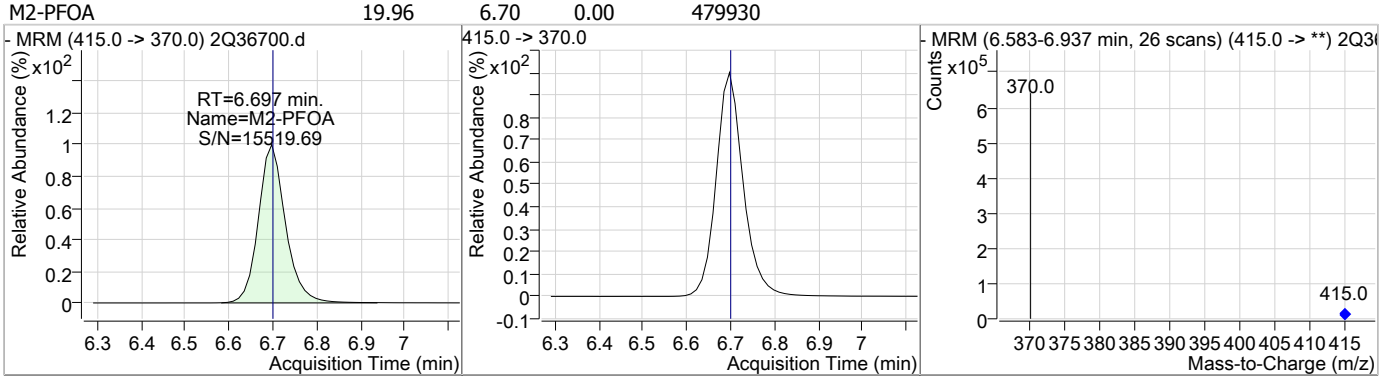
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.79	6.69	0.00	148959				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.57	6.70	0.00	358155				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.96	6.70	0.00	479930				



12.2.3

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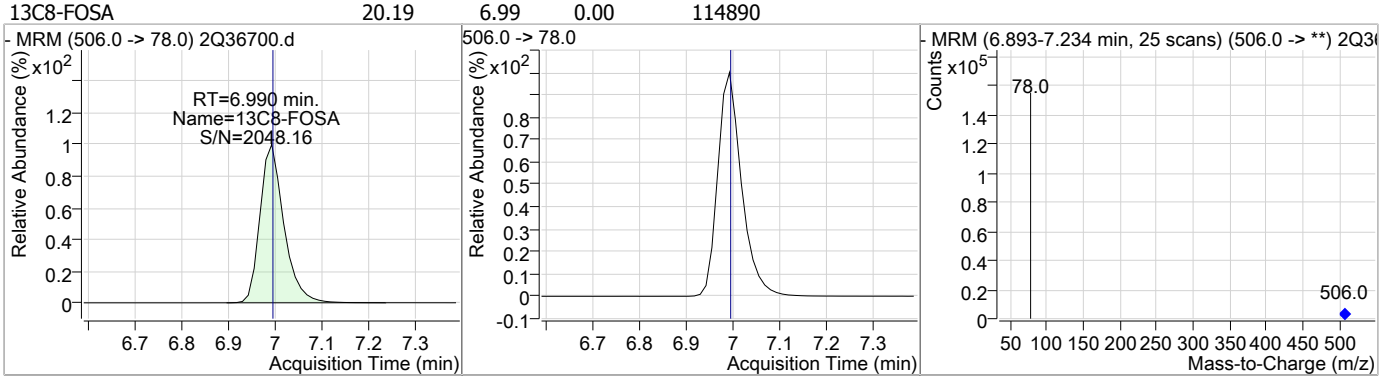
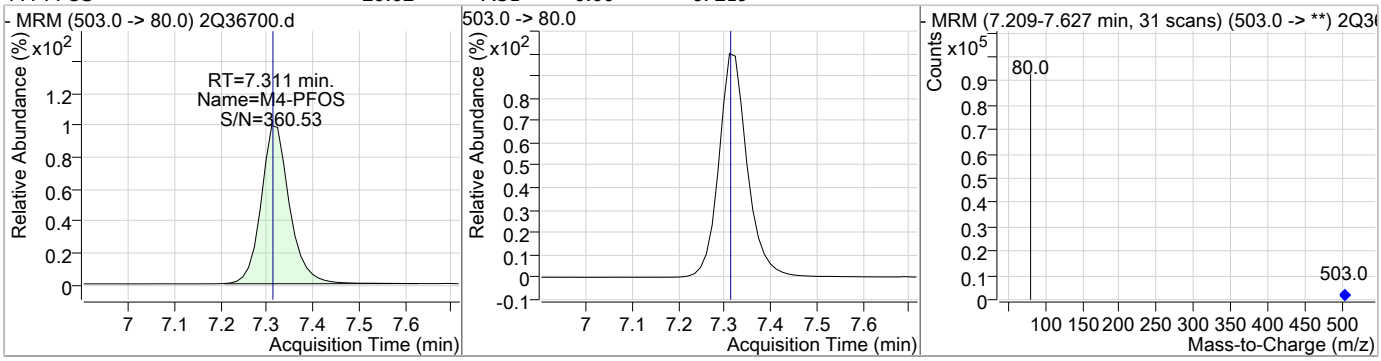
Perfluorinated Compounds by LC/MS/MS

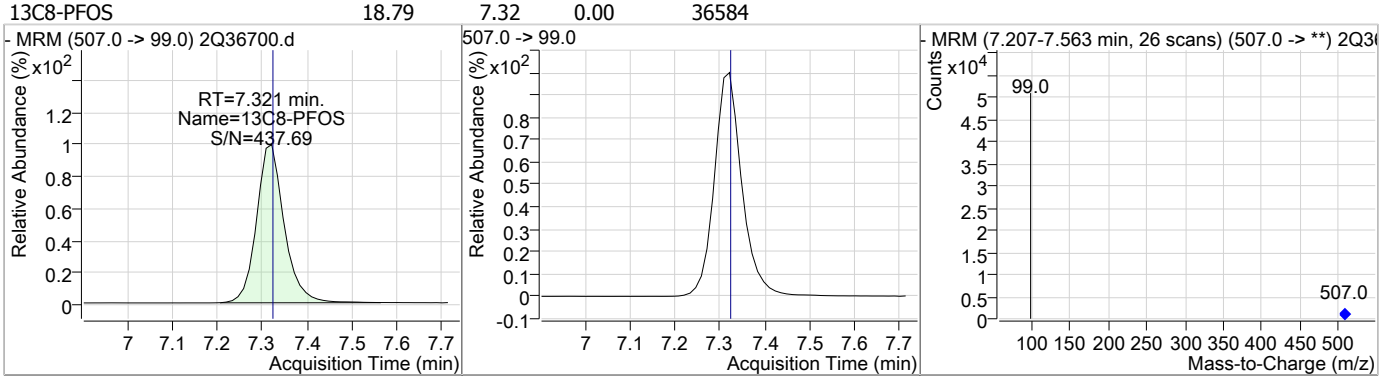
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.19	6.99	0.00	114890				



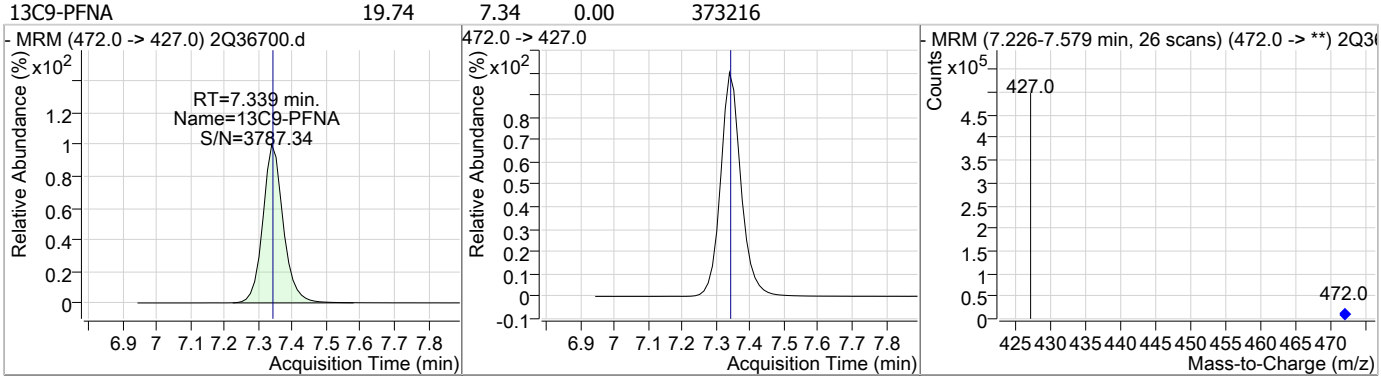
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.02	7.31	0.00	67219				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	18.79	7.32	0.00	36584				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.74	7.34	0.00	373216				



12.2.3

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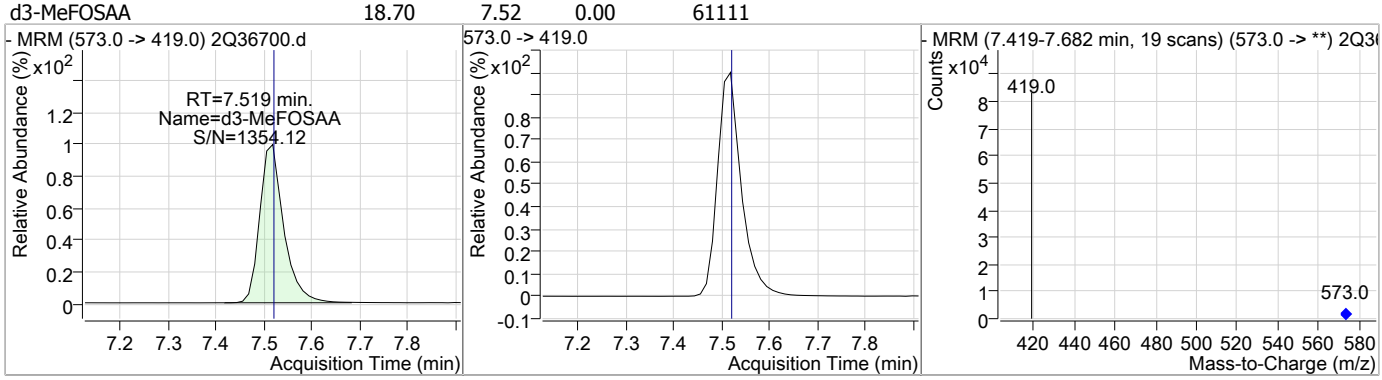
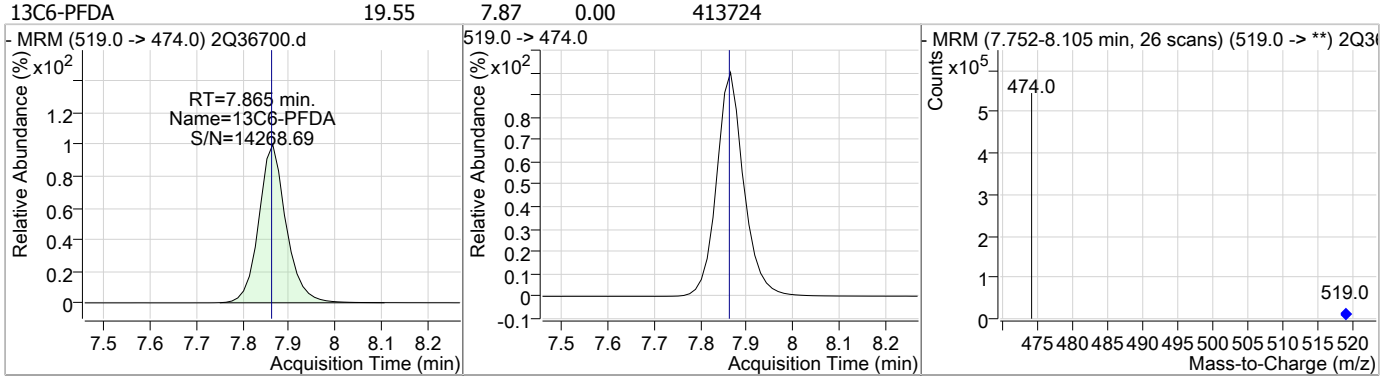
Perfluorinated Compounds by LC/MS/MS

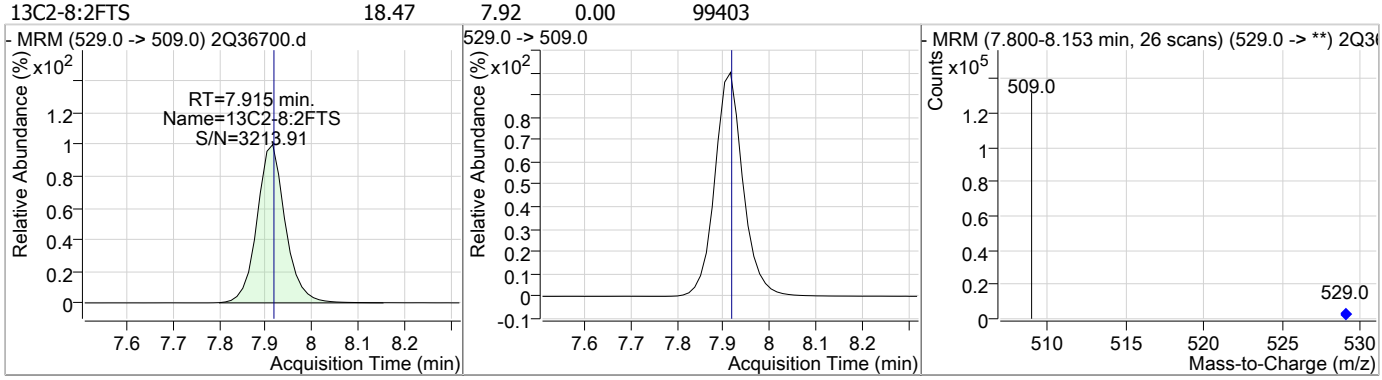
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	18.70	7.52	0.00	61111				



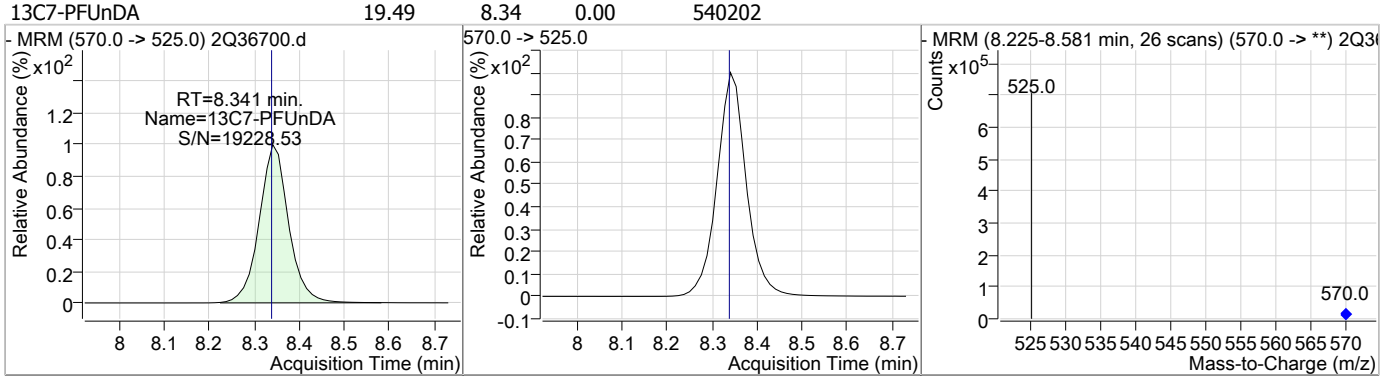
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.55	7.87	0.00	413724				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.47	7.92	0.00	99403				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.49	8.34	0.00	540202				



12.2.3

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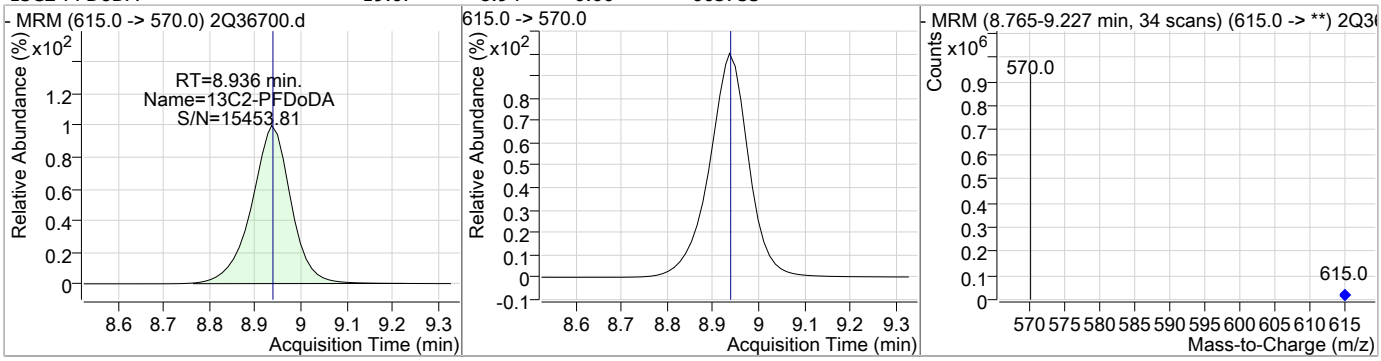
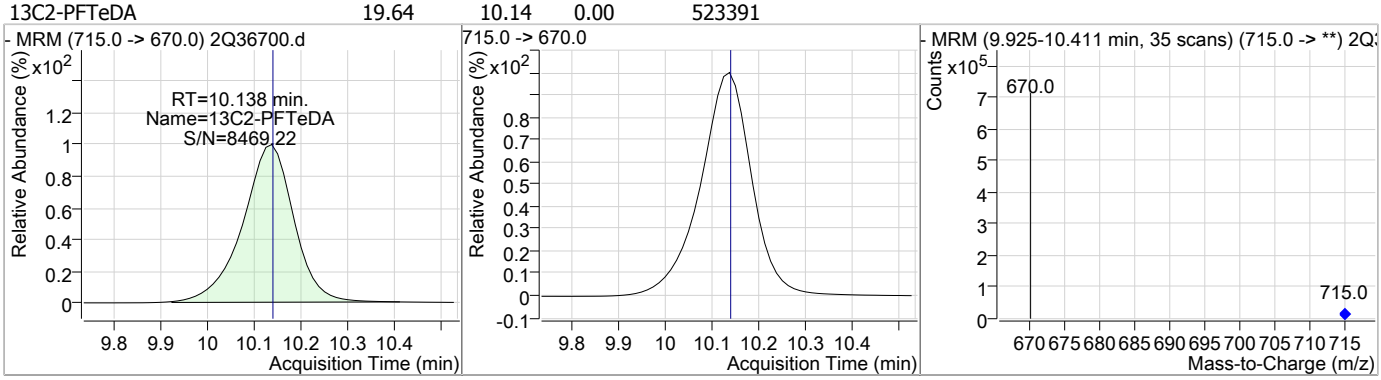
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.07	8.94	0.00	665753				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.64	10.14	0.00	523391				



12.2.3

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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:13

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36650.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/25/2019 9:43:01 PM
Sample Name	:	OP76964-BS
Vial	:	Vial 42
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,250,,,1.0,1,water

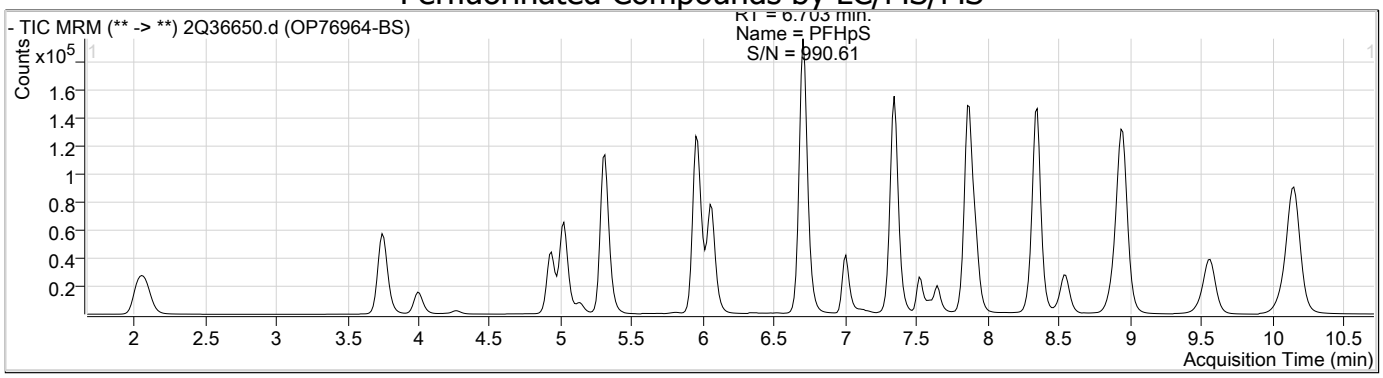
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.052	217.0 -> 172.0	177398	20.00	µg/L	0.013
M5-PFPeA	3.749	268.0 -> 223.0	145961	20.00	µg/L	0.025
M5-PFHxA	5.026	318.0 -> 273.0	205491	20.00	µg/L	0.038
M4-PFHpA	5.955	367.0 -> 322.0	265079	20.00	µg/L	0.038
M8-PFOA	6.708	421.0 -> 376.0	326536	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	341408	20.00	µg/L	0.038
M6-PFDA	7.865	519.0 -> 474.0	364599	20.00	µg/L	0.025
M7-PFUnDA	8.351	570.0 -> 525.0	435402	20.00	µg/L	0.039
M2-PFDoDA	8.940	615.0 -> 570.0	517017	20.00	µg/L	0.038
M2-PFTeDA	10.150	715.0 -> 670.0	402011	20.00	µg/L	0.063
M8-FOSA	7.002	506.0 -> 78.0	95355	20.00	µg/L	0.038
M3-PFBS	3.992	302.0 -> 99.0	23428	20.00	µg/L	0.025
M3-PFHxS	5.997	402.0 -> 99.0	25128	20.00	µg/L	0.050
M8-PFOS	7.321	507.0 -> 99.0	33111	20.00	µg/L	0.038
M2-4:2FTS	4.933	329.0 -> 309.0	104808	20.00	µg/L	0.037
M2-6:2FTS	6.705	429.0 -> 409.0	144664	20.00	µg/L	0.038
M2-8:2FTS	7.913	529.0 -> 509.0	95342	20.00	µg/L	0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	51371	20.00	µg/L	0.025
M3-HFPO-DA	5.305	287.0 -> 169.0	229928	100.00	µg/L	0.038
System Monitoring Compounds						
13C2-4:2FTS	4.933	329.0 -> 309.0	104493	17.95	µg/L	0.037
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.7%		
13C2-6:2FTS	6.705	429.0 -> 409.0	144524	18.23	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.1%		
13C2-8:2FTS	7.913	529.0 -> 509.0	95282	17.70	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.5%		
13C2-PFDoDA	8.940	615.0 -> 570.0	516656	14.80	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 74.0%		
13C2-PFTeDA	10.150	715.0 -> 670.0	400589	15.03	µg/L	0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 75.2%		
13C3-PFBS	3.992	302.0 -> 99.0	23397	17.12	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.6%		
13C3-PFHxS	5.997	402.0 -> 99.0	25182	17.09	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.4%		
13C4-PFBA	2.052	217.0 -> 172.0	176511	18.03	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.1%		
13C4-PFHpA	5.955	367.0 -> 322.0	265144	17.41	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.1%		
13C5-PFHxA	5.026	318.0 -> 273.0	205390	17.59	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.0%		
13C5-PFPeA	3.749	268.0 -> 223.0	145624	17.69	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.5%		
13C6-PFDA	7.865	519.0 -> 474.0	364428	17.22	µg/L	0.025

Perfluorinated Compounds by LC/MS/MS

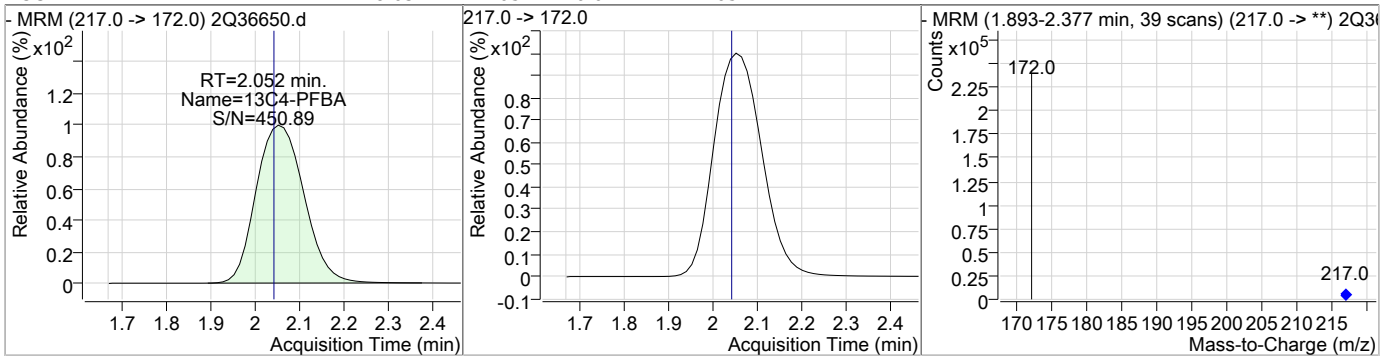
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.1%			
13C7-PFUnDA	8.351	570.0 -> 525.0	434932	15.69	µg/L		0.039
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.5%			
13C8-FOSA	7.002	506.0 -> 78.0	95331	16.75	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.8%			
13C8-PFOA	6.708	421.0 -> 376.0	326097	17.82	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.1%			
13C8-PFOS	7.321	507.0 -> 99.0	33113	17.01	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.0%			
13C9-PFNA	7.351	472.0 -> 427.0	341431	18.06	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.3%			
d3-MeFOSAA	7.518	573.0 -> 419.0	51352	15.71	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.6%			
M2-PFOA	-	415.0 -> 370.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
M4-PFOS	-	503.0 -> 80.0	-	N.D.			
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%			
13C3-HFPO-DA	5.305	287.0 -> 169.0	229928	80.88	µg/L		0.038
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 80.9%			
Target Compounds							**QValue**
4:2FTS	4.936	327.0 -> 307.0	58699	19.72	µg/L		97
6:2FTS	6.706	427.0 -> 407.0	70680	19.65	µg/L		97
8:2FTS	7.914	527.0 -> 507.0	50330	19.73	µg/L		99
EtFOSAA	7.643	584.0 -> 419.0	23062	21.40	µg/L		99
FOSA	7.005	498.0 -> 78.0	47491	19.23	µg/L		99
MeFOSAA	7.519	570.0 -> 419.0	26721	19.52	µg/L		99
PFBA	2.061	213.0 -> 169.0	31205	18.89	µg/L		100
PFBS	3.996	299.0 -> 80.0	35490	19.18	µg/L		100
PFDA	7.866	513.0 -> 469.0	174700	19.33	µg/L		99
PFDoDA	8.944	613.0 -> 569.0	236735	19.90	µg/L		100
PFDS	8.298	599.0 -> 80.0	11910	16.88	µg/L		99
PFHpA	5.957	363.0 -> 319.0	232537	19.24	µg/L		100
PFHpS	6.703	449.0 -> 80.0	26321	19.60	µg/L		100
PFHxA	5.027	313.0 -> 269.0	59415	18.82	µg/L		99
PFHxS	5.987	399.0 -> 80.0	28663	19.11	µg/L	m	99
PFNA	7.352	463.0 -> 419.0	203370	19.04	µg/L		99
PFNS	7.835	549.0 -> 80.0	20289	18.81	µg/L		99
PFOA	6.711	413.0 -> 369.0	167418	19.06	µg/L		99
PFOS	7.324	499.0 -> 80.0	29866	19.01	µg/L	m	99
PFPeA	3.752	263.0 -> 219.0	137817	18.70	µg/L		100
PFPeS	5.132	349.0 -> 80.0	19678	19.25	µg/L		99
PFTeDA	10.143	713.0 -> 669.0	243856	19.74	µg/L		100
PFTrDA	9.561	663.0 -> 619.0	237323	19.91	µg/L		100
PFUnDA	8.353	563.0 -> 519.0	201776	19.68	µg/L		99
11Cl-PF3OUdS	8.536	631.0 -> 451.0	107116	16.14	µg/L		100
9Cl-PF3ONS	7.597	531.0 -> 351.0	20771	16.09	µg/L		100
ADONA	6.065	377.0 -> 251.0	239498	15.32	µg/L		99
HFPO-DA	5.310	329.0 -> 169.0	208358	87.98	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

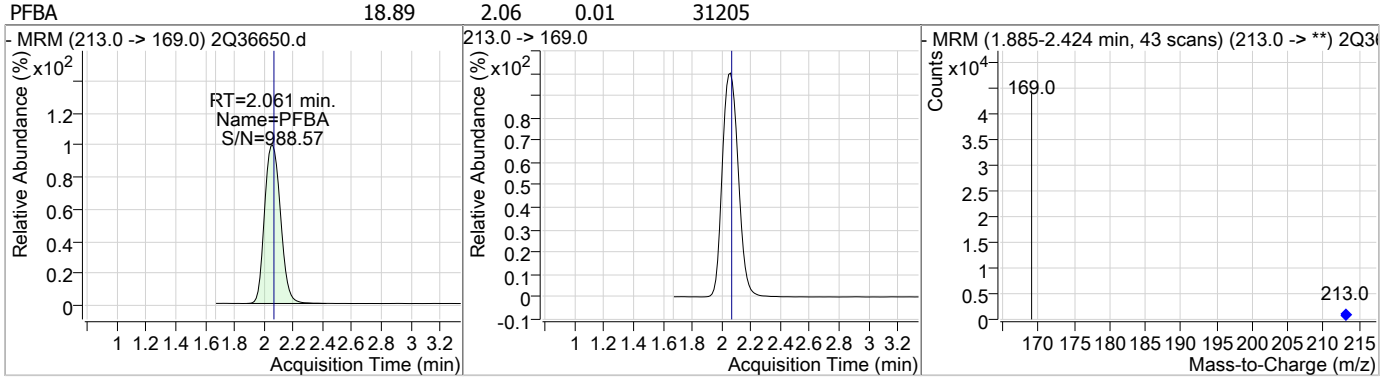
Perfluorinated Compounds by LC/MS/MS



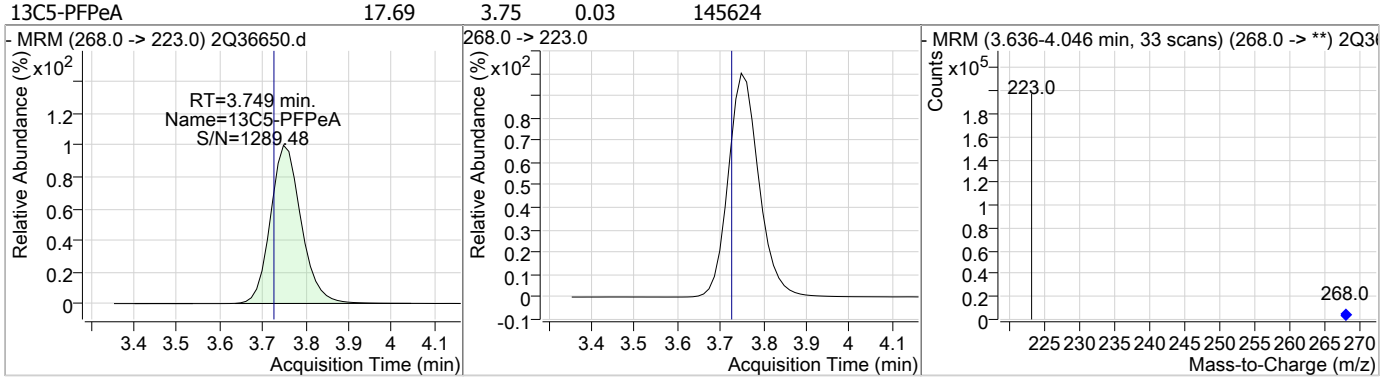
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	18.03	2.05	0.01	176511				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.89	2.06	0.01	31205				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	17.69	3.75	0.03	145624				



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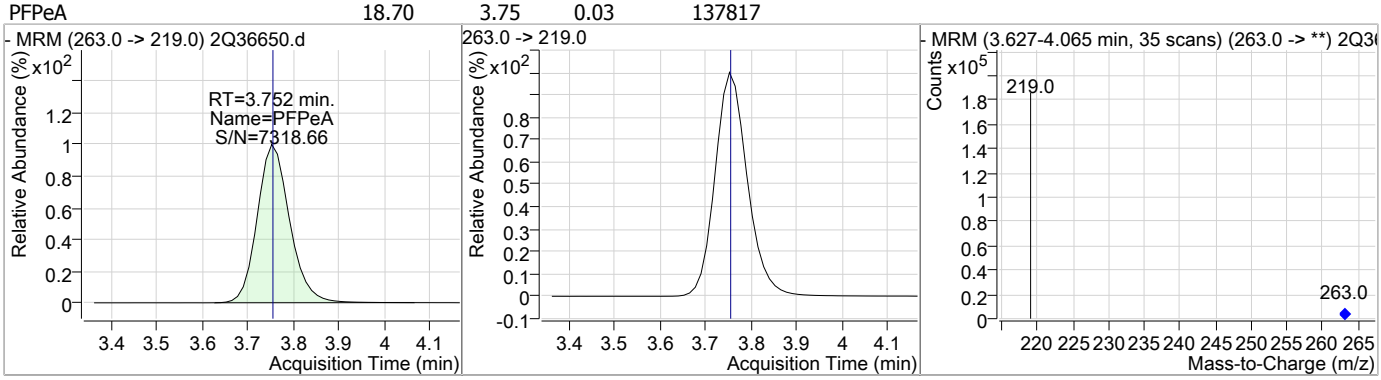
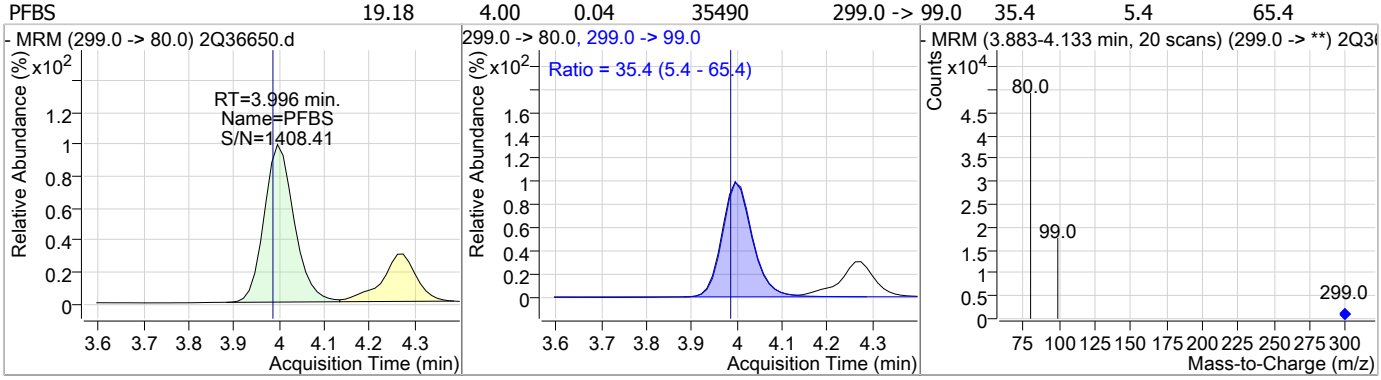
Perfluorinated Compounds by LC/MS/MS

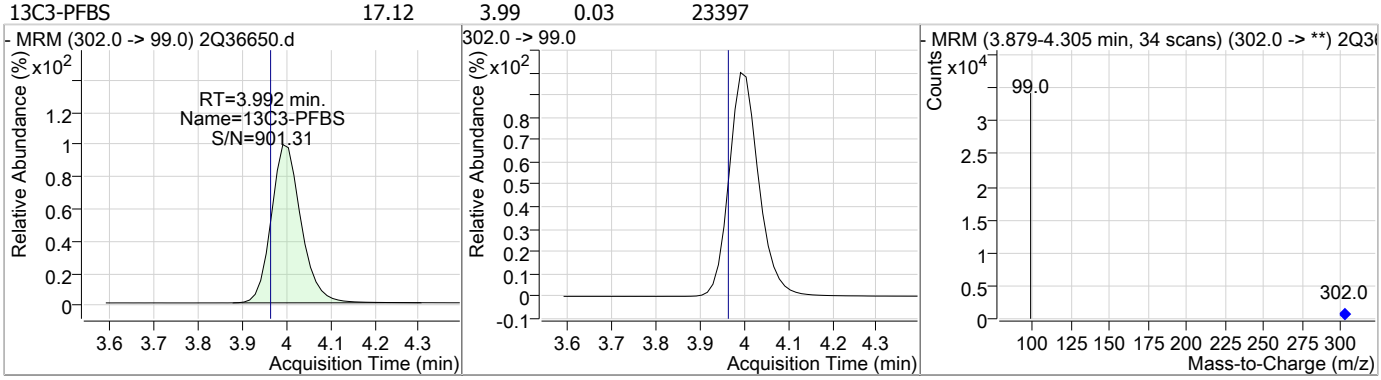
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.70	3.75	0.03	137817				



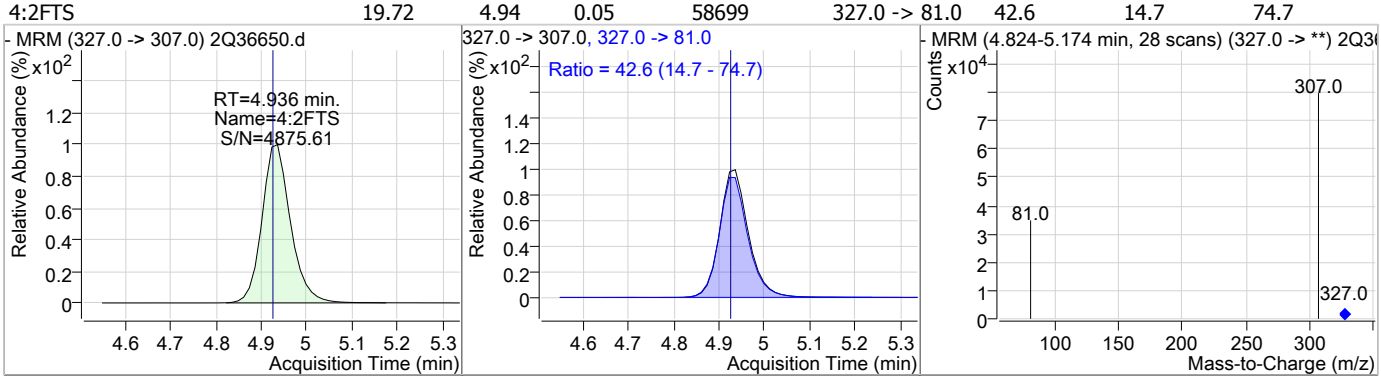
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.18	4.00	0.04	35490	299.0 -> 99.0	35.4	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	17.12	3.99	0.03	23397				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	19.72	4.94	0.05	58699	327.0 -> 81.0	42.6	14.7	74.7



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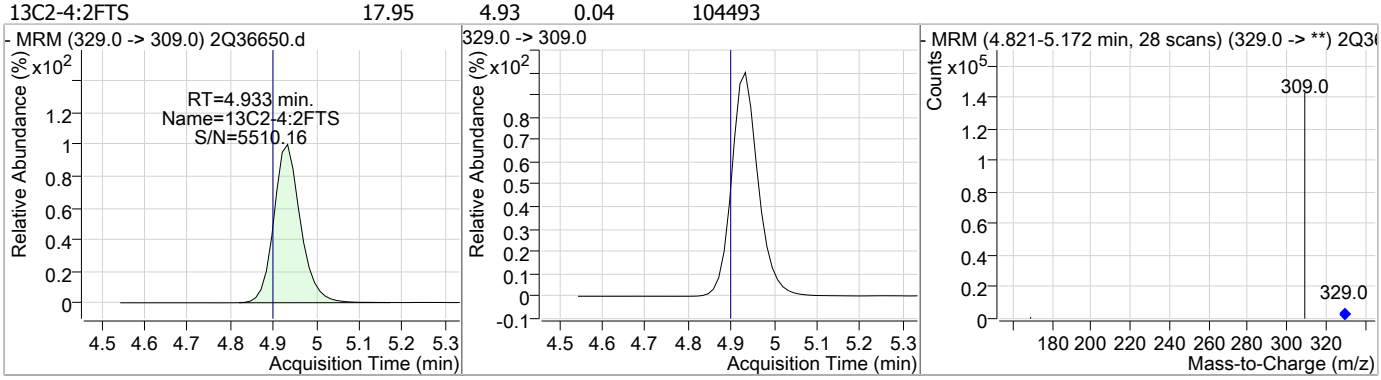
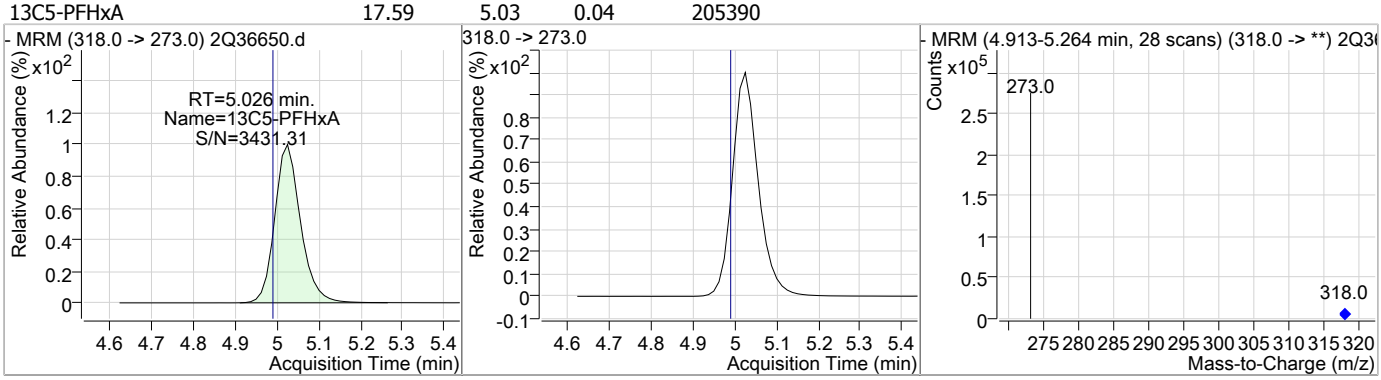
Perfluorinated Compounds by LC/MS/MS

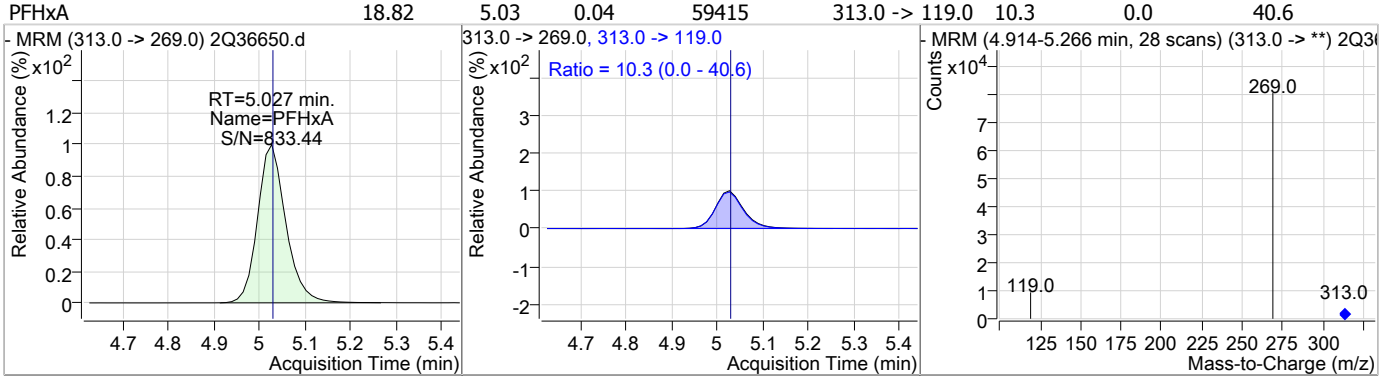
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.95	4.93	0.04	104493				



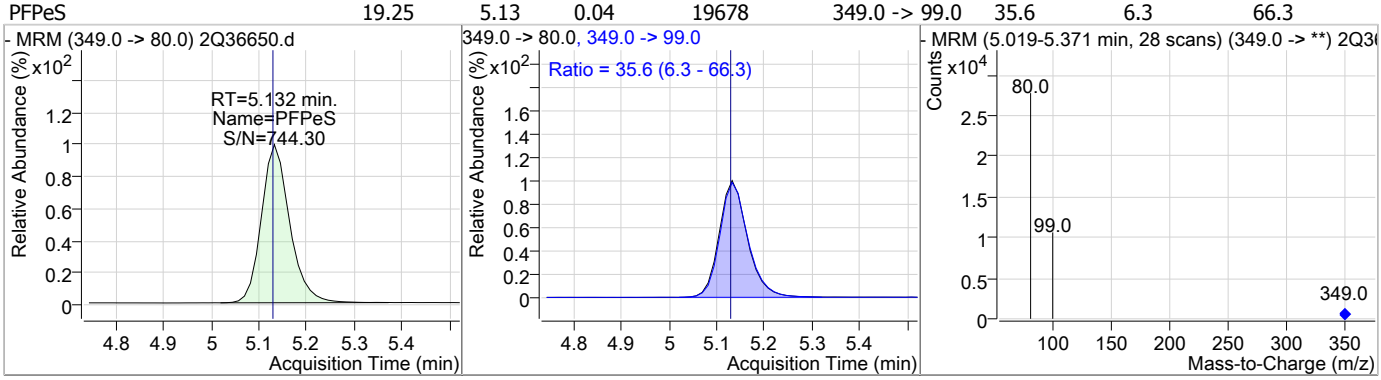
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.59	5.03	0.04	205390				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	18.82	5.03	0.04	59415	313.0 -> 119.0	10.3	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	19.25	5.13	0.04	19678	349.0 -> 99.0	35.6	6.3	66.3



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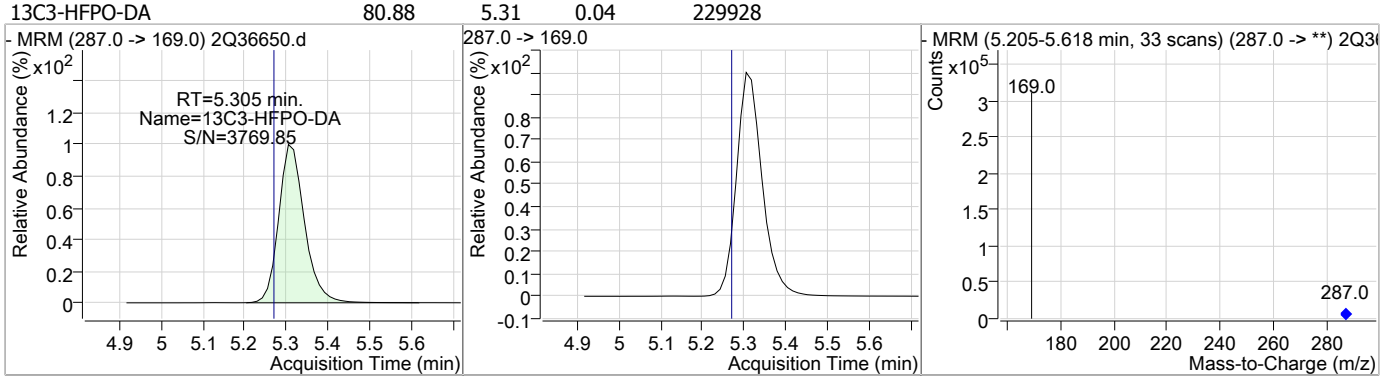
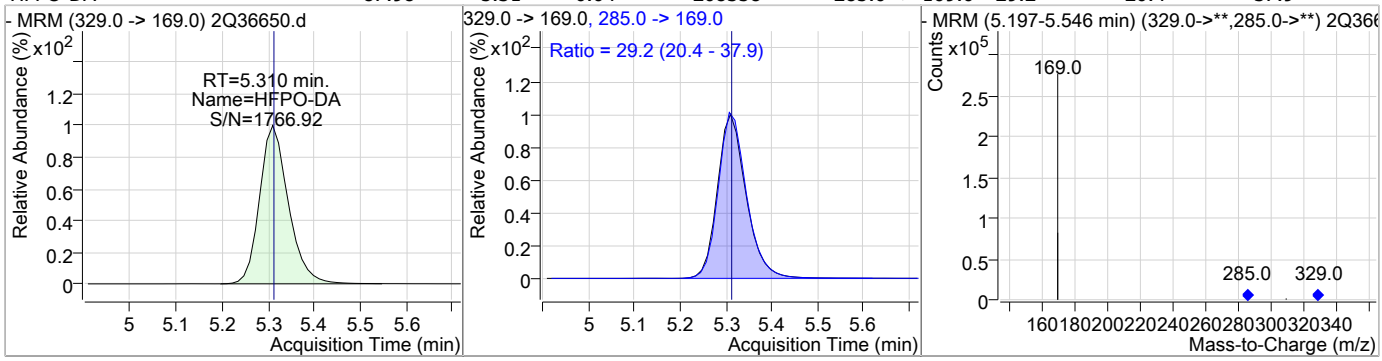
Perfluorinated Compounds by LC/MS/MS

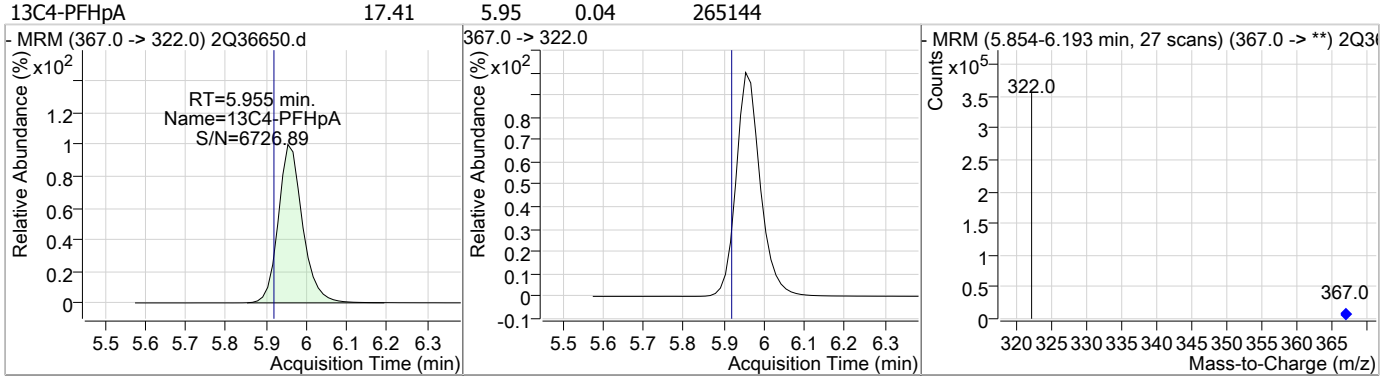
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	80.88	5.31	0.04	229928				



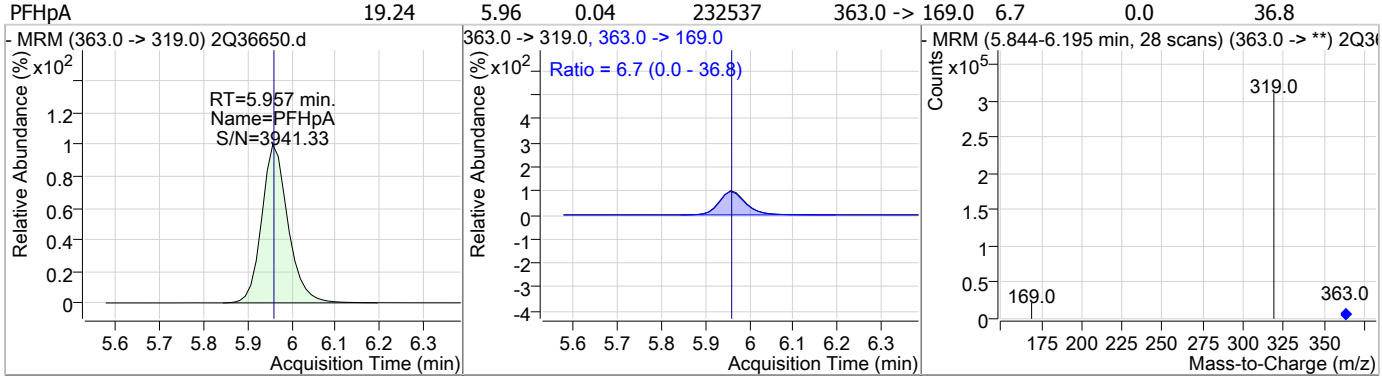
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	87.98	5.31	0.04	208358	285.0 -> 169.0	29.2	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.41	5.95	0.04	265144				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.24	5.96	0.04	232537	363.0 -> 169.0	6.7	0.0	36.8



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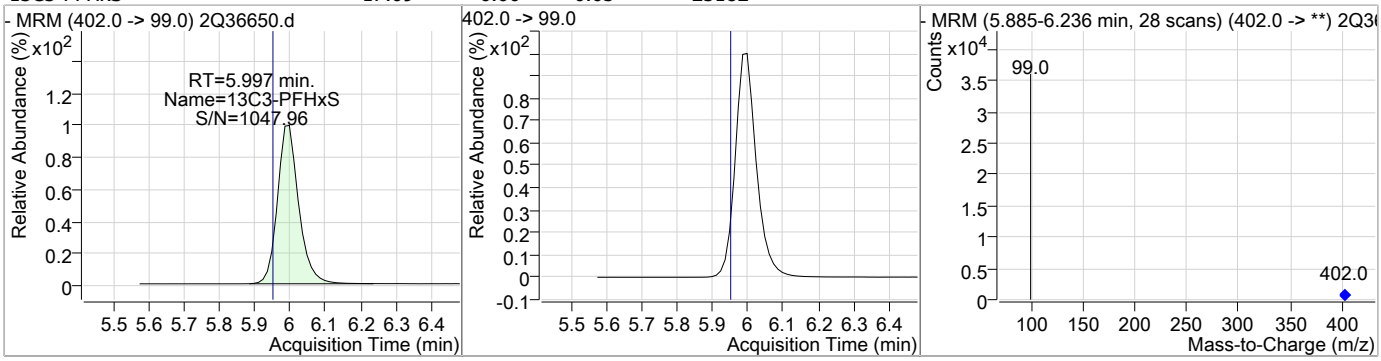
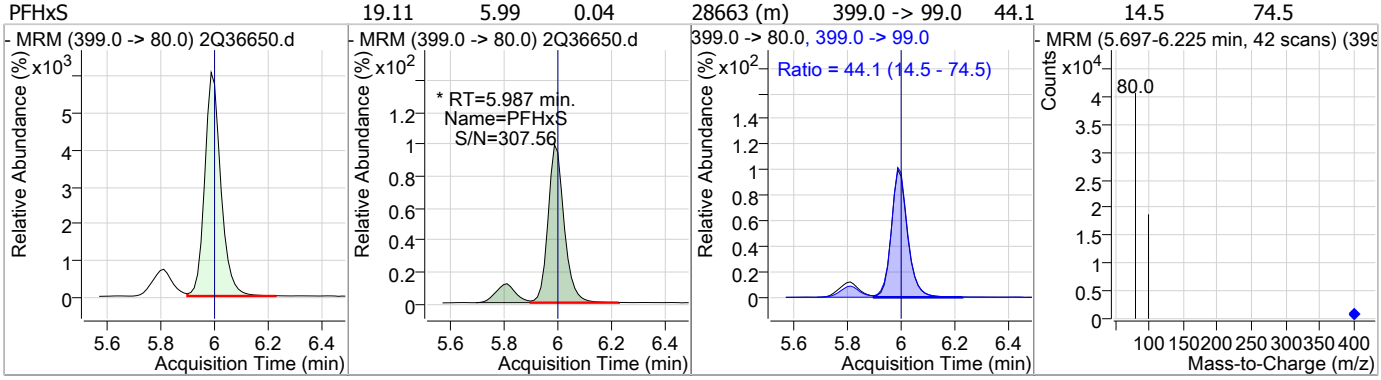
Perfluorinated Compounds by LC/MS/MS

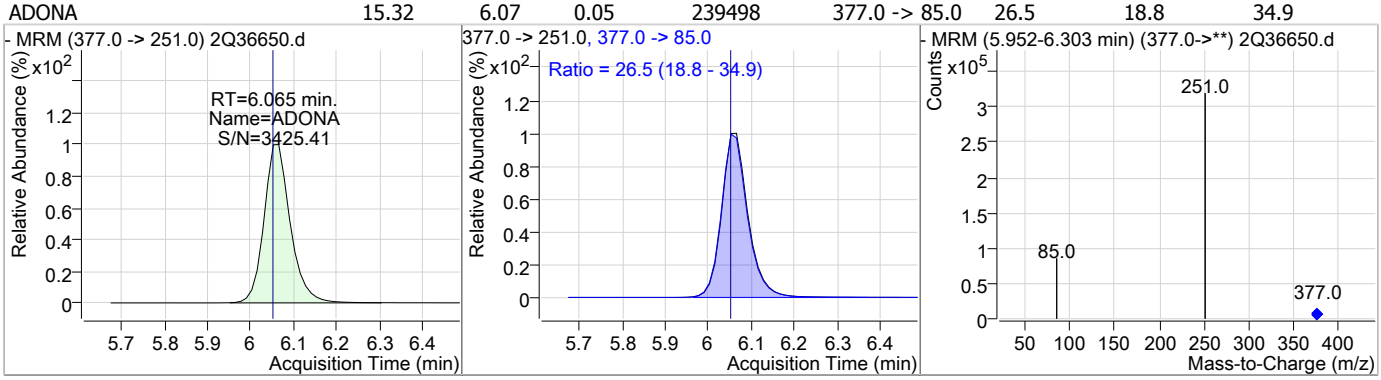
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.09	6.00	0.05	25182				



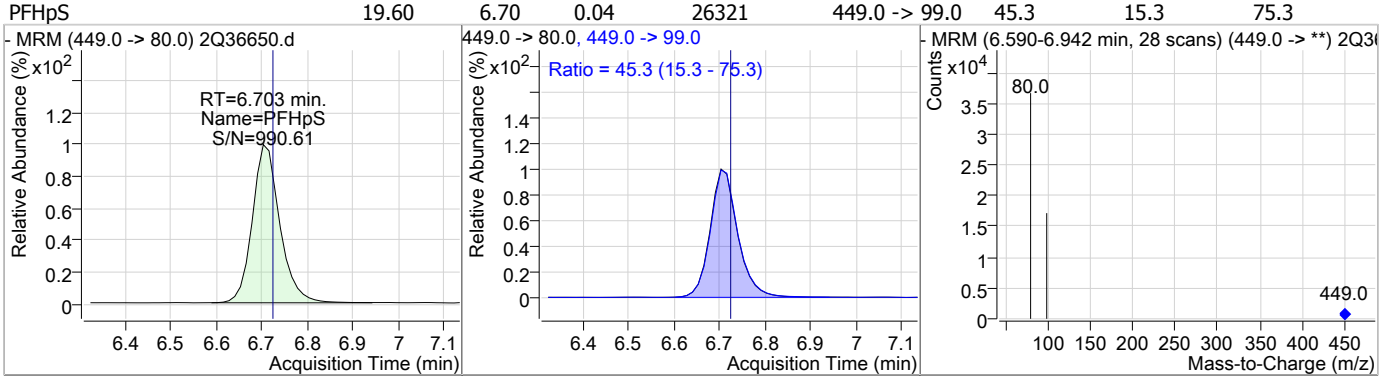
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.11	5.99	0.04	28663 (m)	399.0 -> 99.0	44.1	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	15.32	6.07	0.05	239498	377.0 -> 85.0	26.5	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	19.60	6.70	0.04	26321	449.0 -> 99.0	45.3	15.3	75.3



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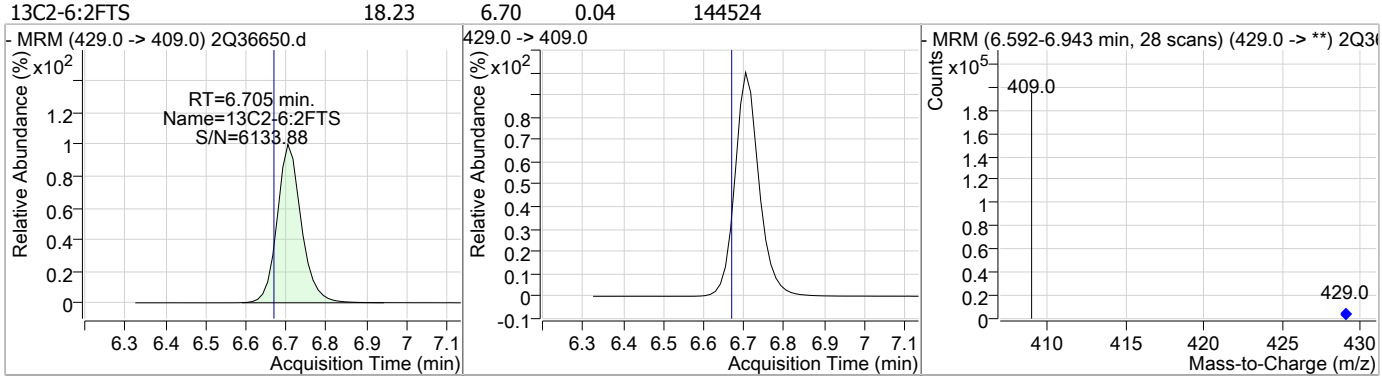
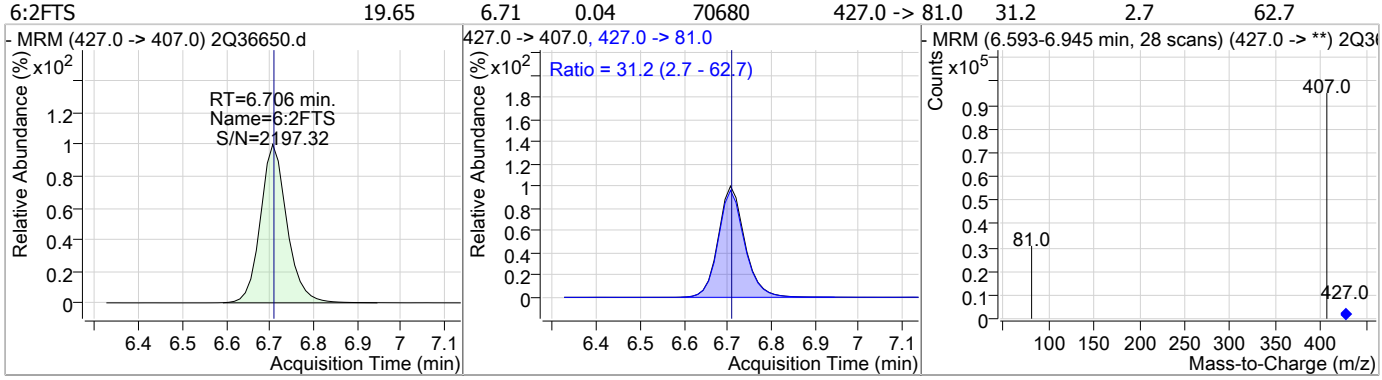
Perfluorinated Compounds by LC/MS/MS

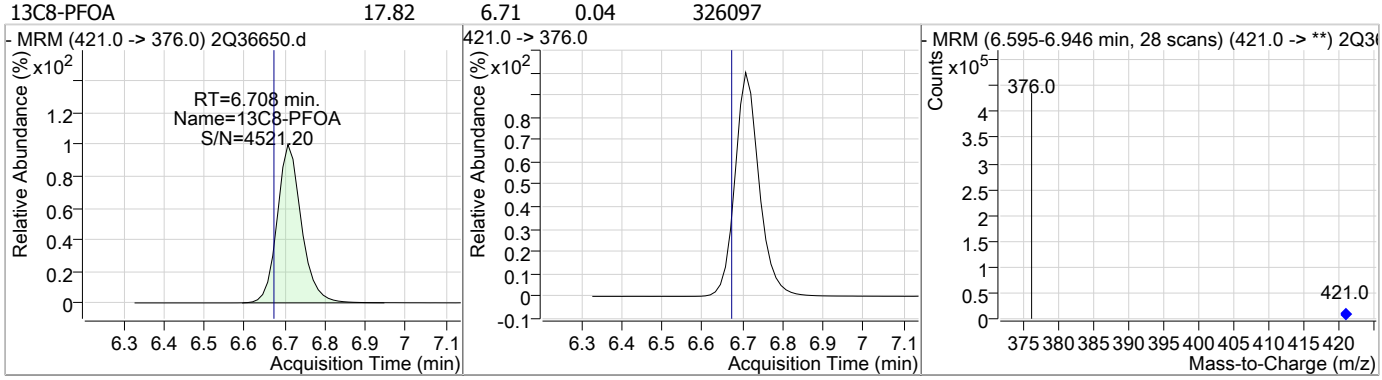
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.23	6.70	0.04	144524				



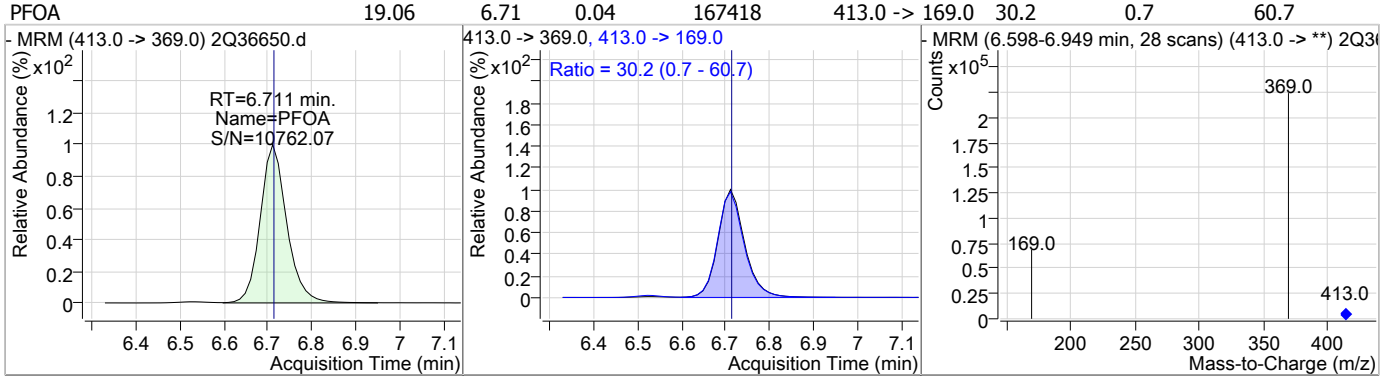
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.65	6.71	0.04	70680	427.0 -> 81.0	31.2	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	17.82	6.71	0.04	326097				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.06	6.71	0.04	167418	413.0 -> 169.0	30.2	0.7	60.7



12.3.1

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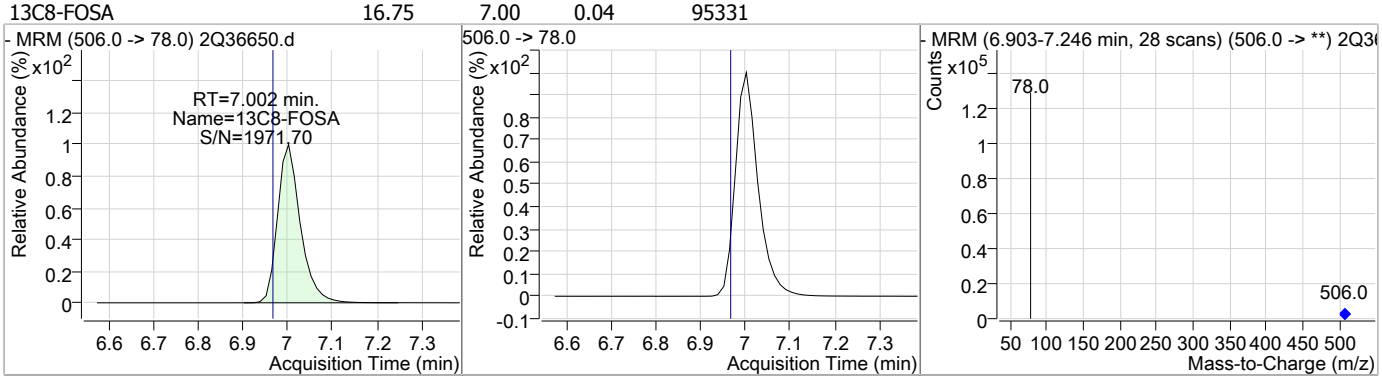
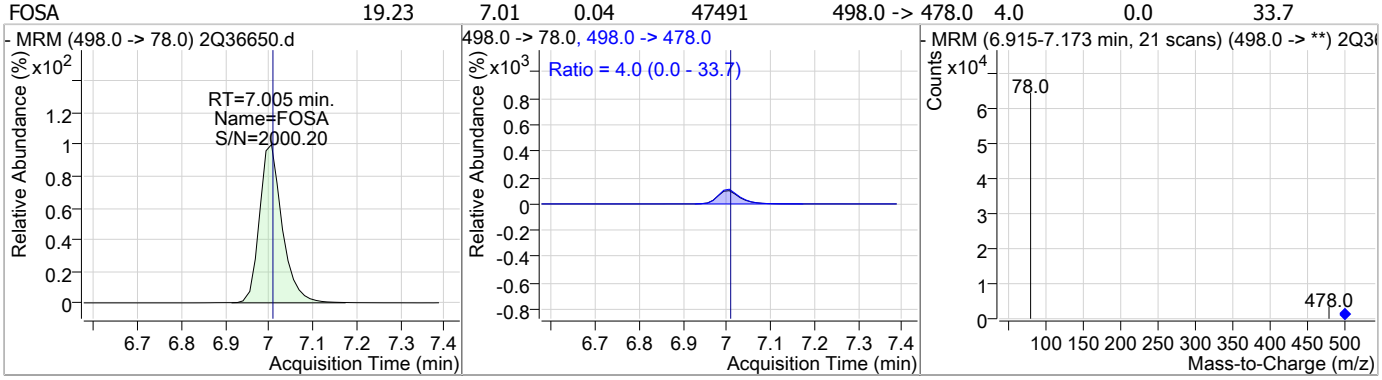
Perfluorinated Compounds by LC/MS/MS

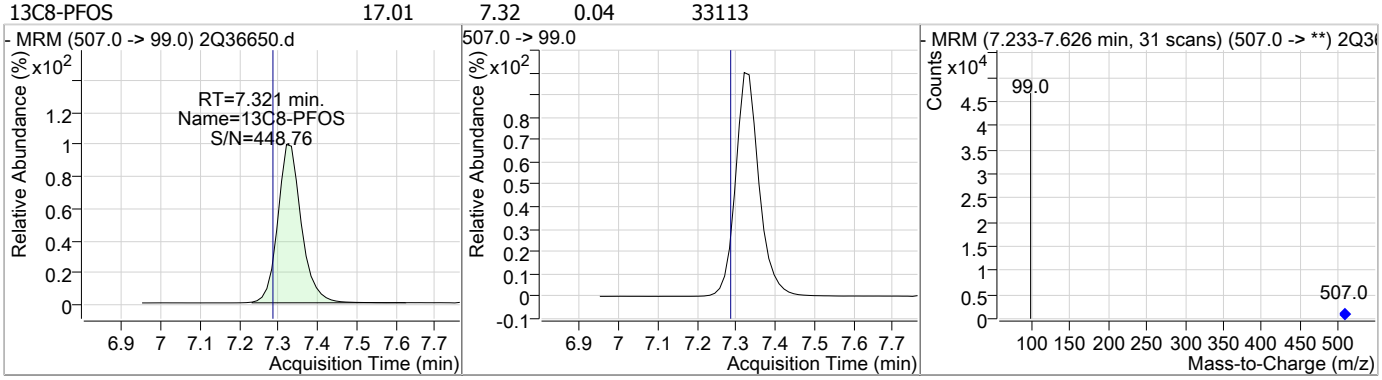
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	16.75	7.00	0.04	95331				



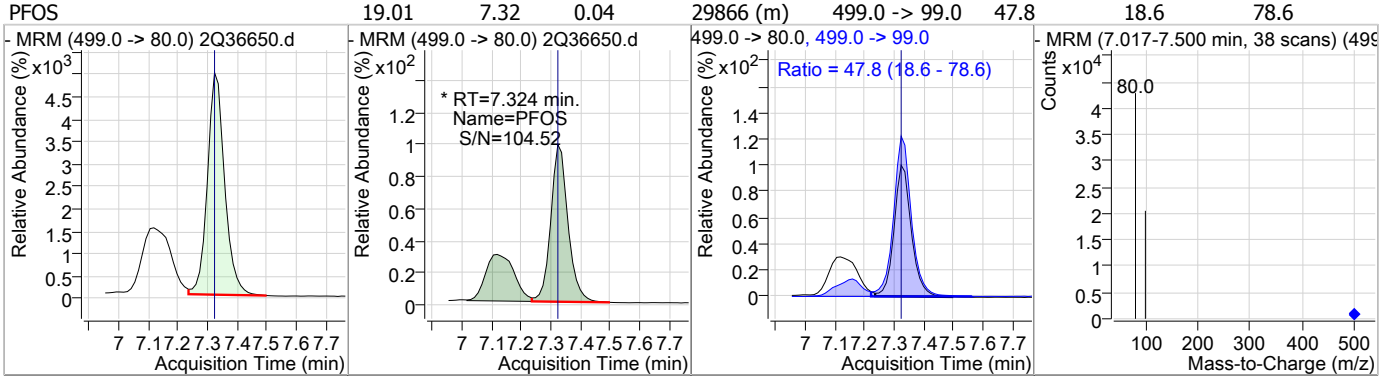
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.23	7.01	0.04	47491	498.0 -> 478.0	4.0	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	17.01	7.32	0.04	33113				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.01	7.32	0.04	29866 (m)	499.0 -> 99.0	47.8	18.6	78.6



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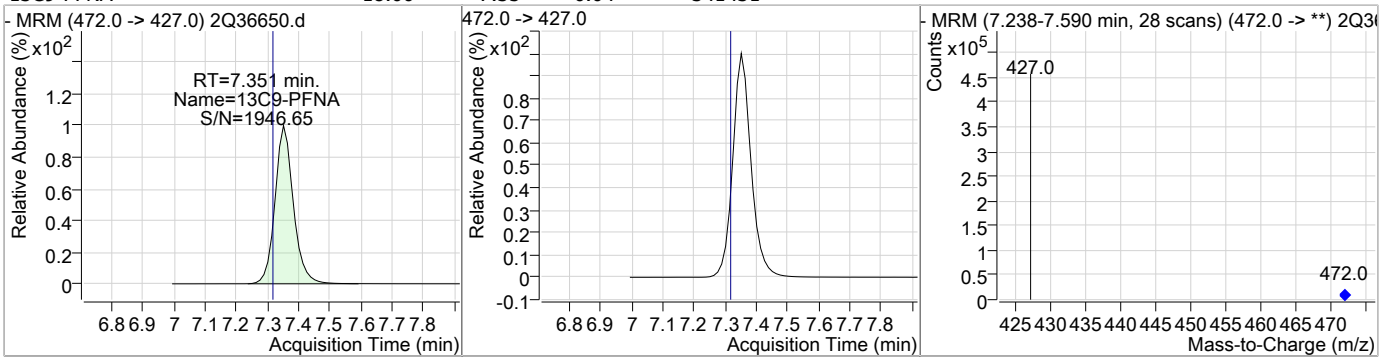
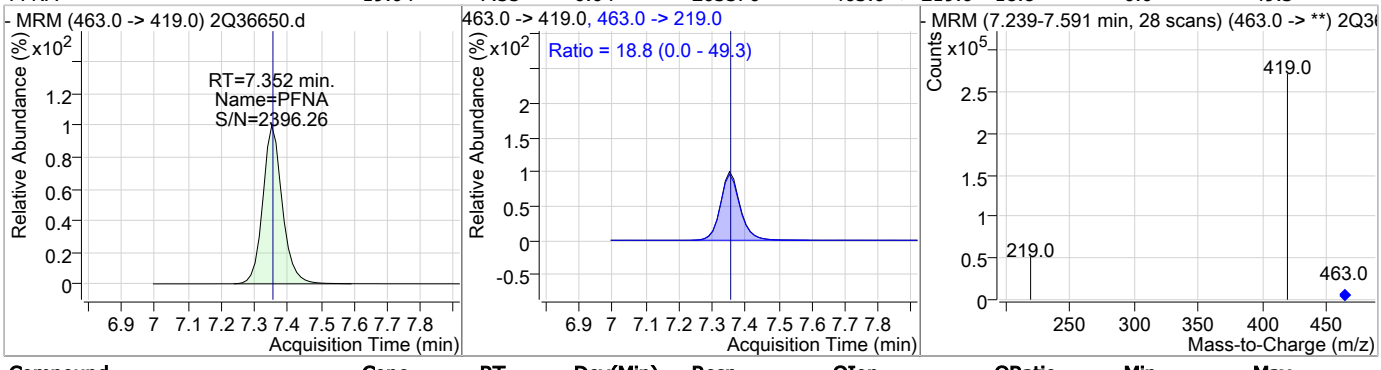
Perfluorinated Compounds by LC/MS/MS

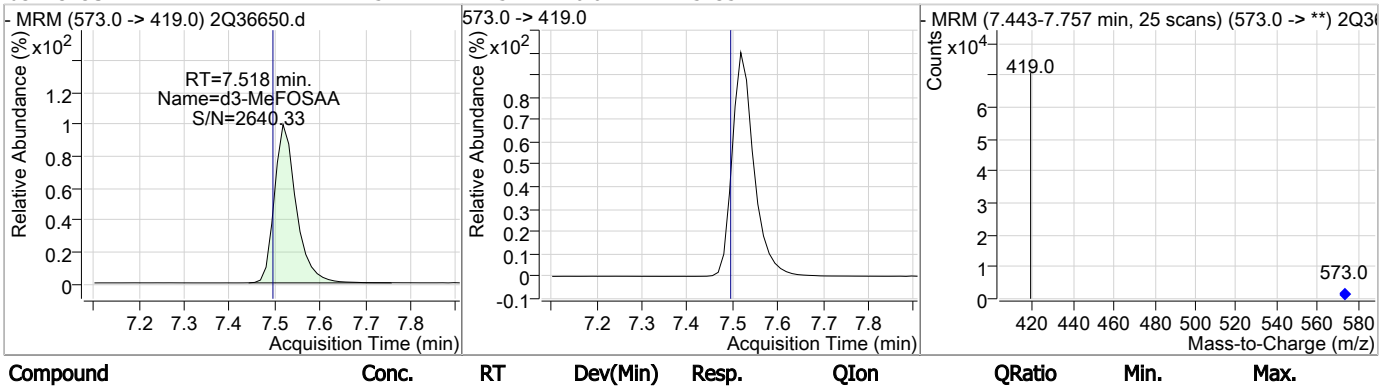
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	18.06	7.35	0.04	341431				



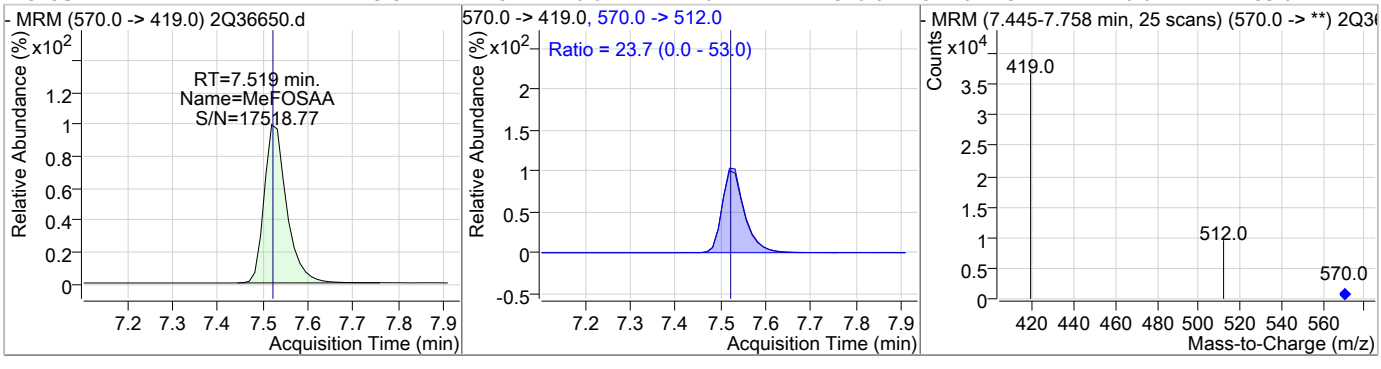
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.04	7.35	0.04	203370	463.0 -> 219.0	18.8	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	15.71	7.52	0.02	51352				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.52	7.52	0.02	26721	570.0 -> 512.0	23.7	0.0	53.0



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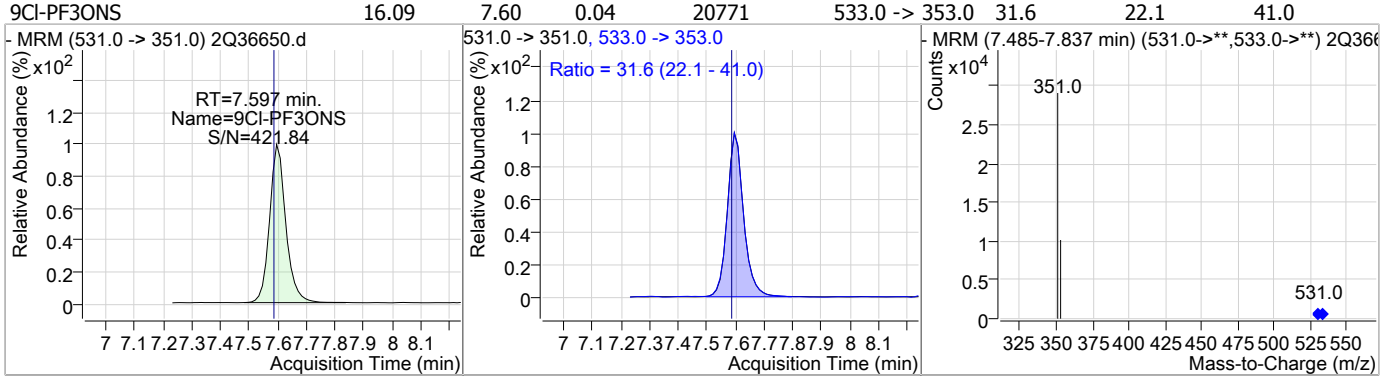
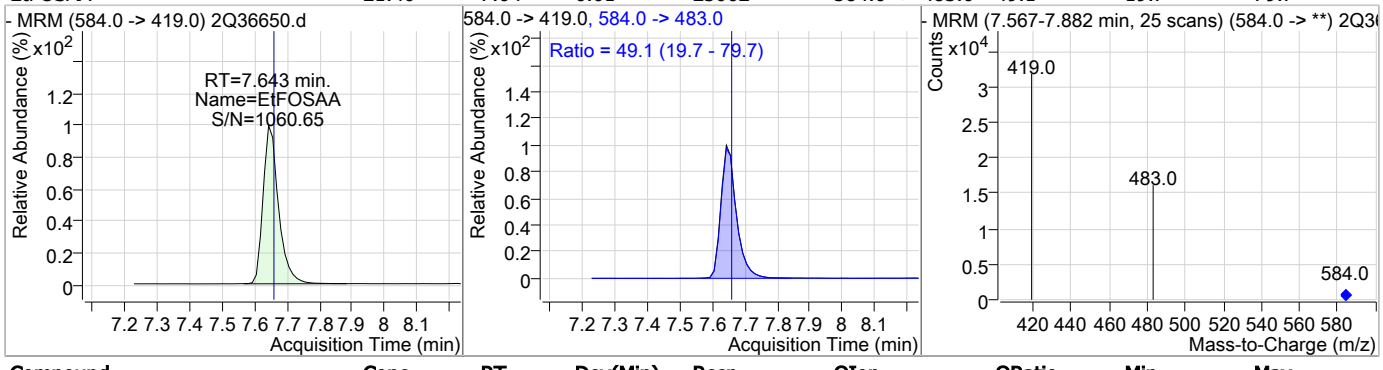
Perfluorinated Compounds by LC/MS/MS

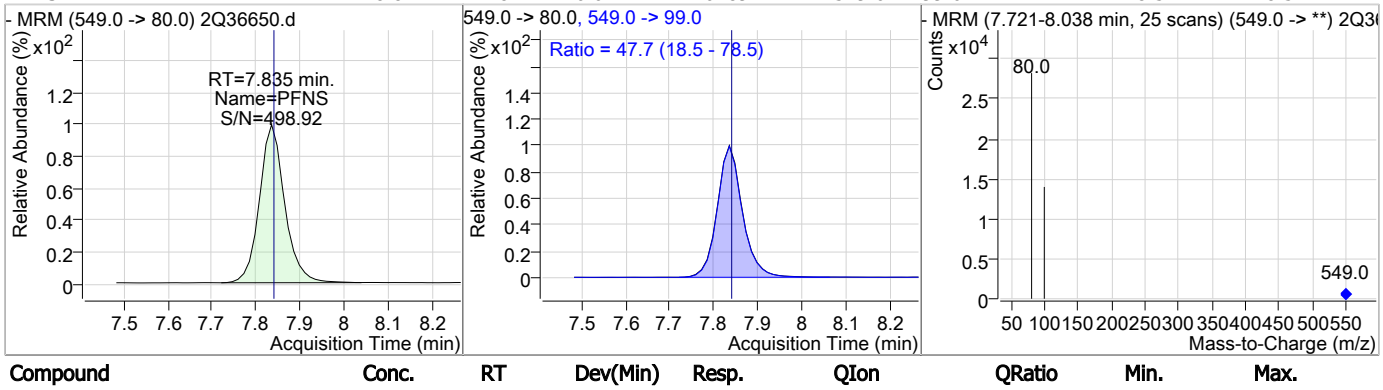
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	16.09	7.60	0.04	20771	533.0 -> 353.0	31.6	22.1	41.0



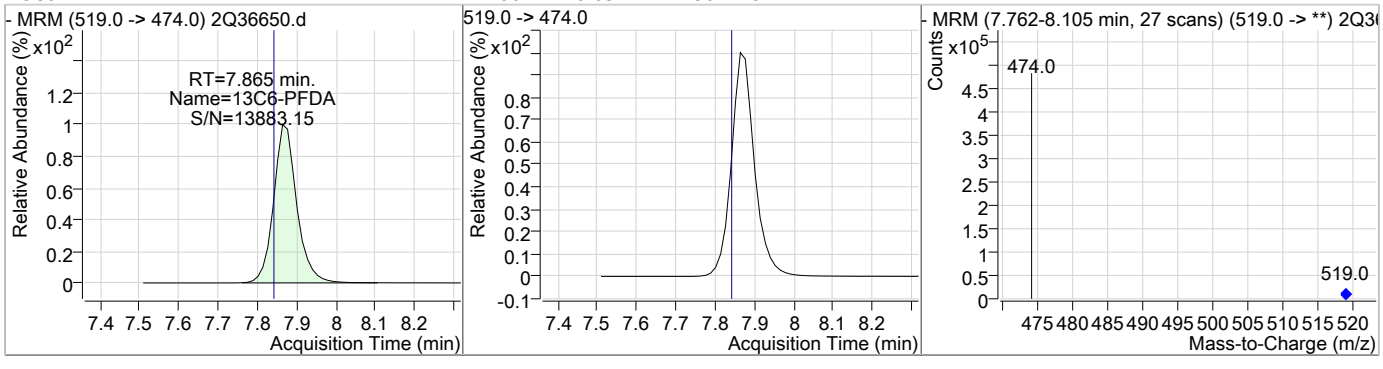
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.40	7.64	0.01	23062	584.0 -> 483.0	49.1	19.7	79.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.81	7.84	0.04	20289	549.0 -> 99.0	47.7	18.5	78.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	17.22	7.86	0.03	364428				



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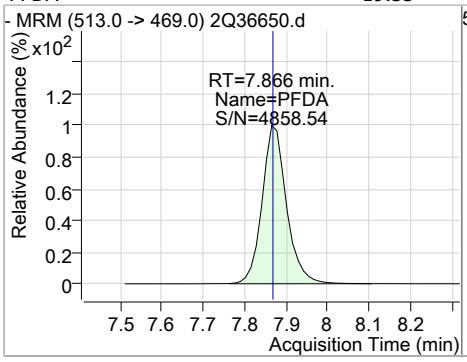
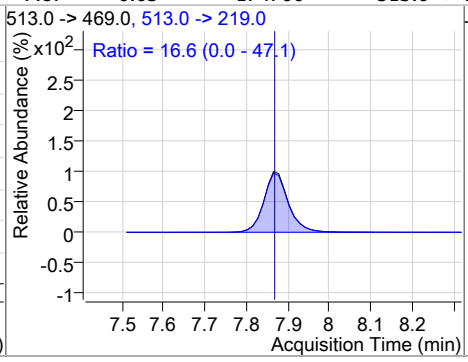
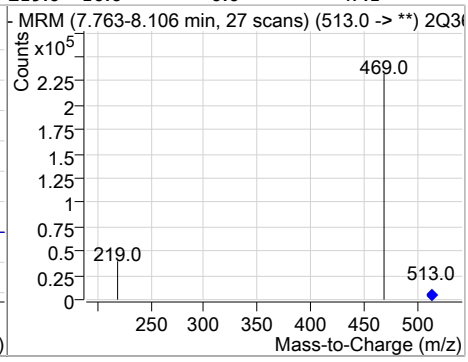
Perfluorinated Compounds by LC/MS/MS

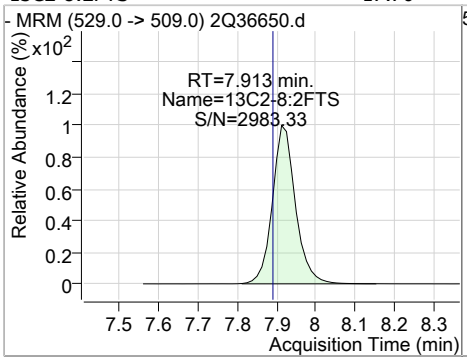
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.33	7.87	0.03	174700	513.0 -> 219.0	16.6	0.0	47.1

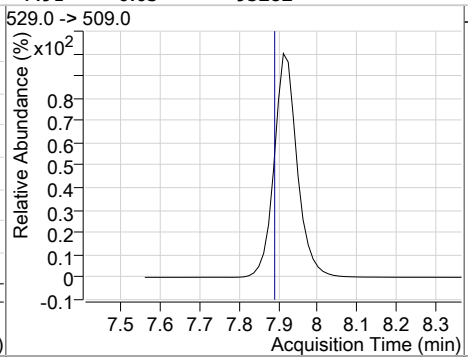


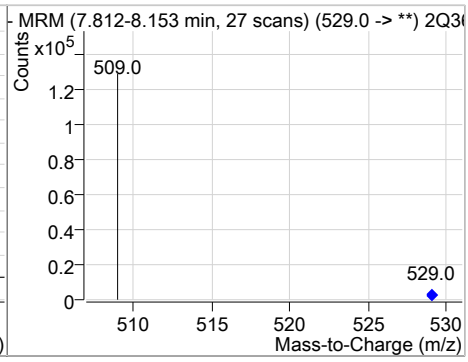




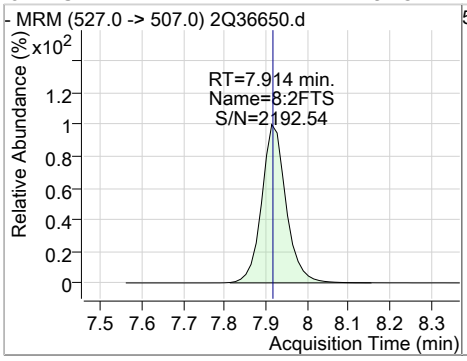
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	17.70	7.91	0.03	95282				

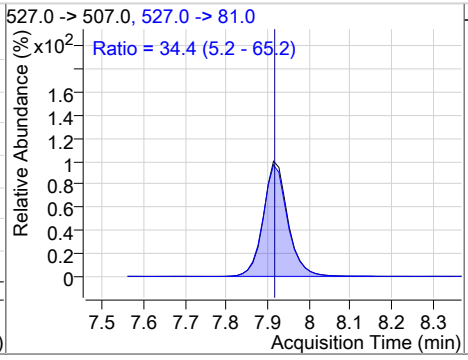


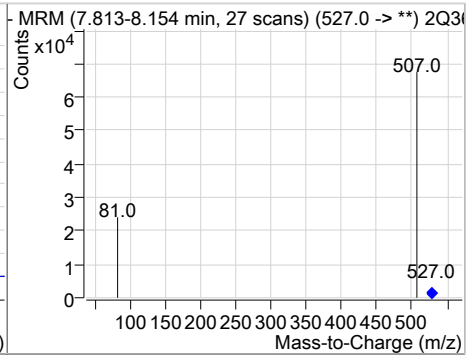




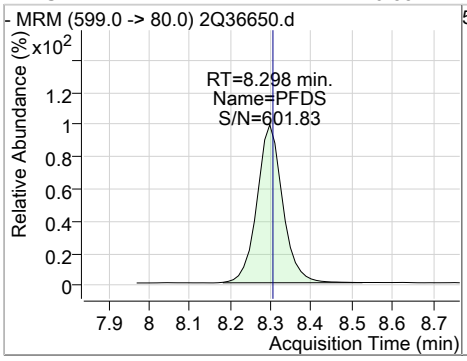
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.73	7.91	0.03	50330	527.0 -> 81.0	34.4	5.2	65.2

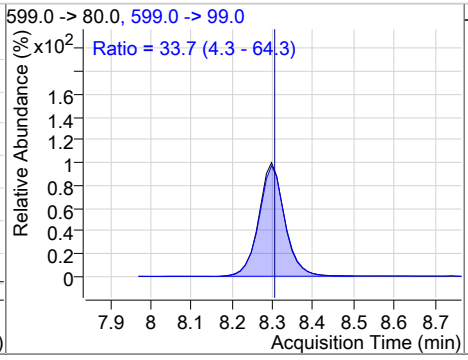


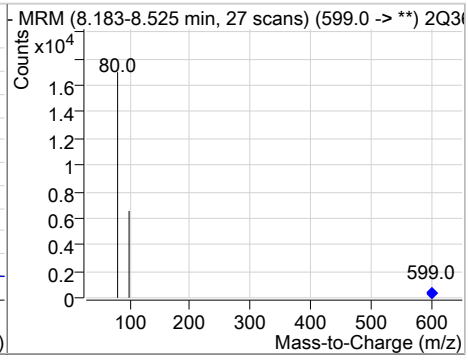




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	16.88	8.30	0.04	11910	599.0 -> 99.0	33.7	4.3	64.3







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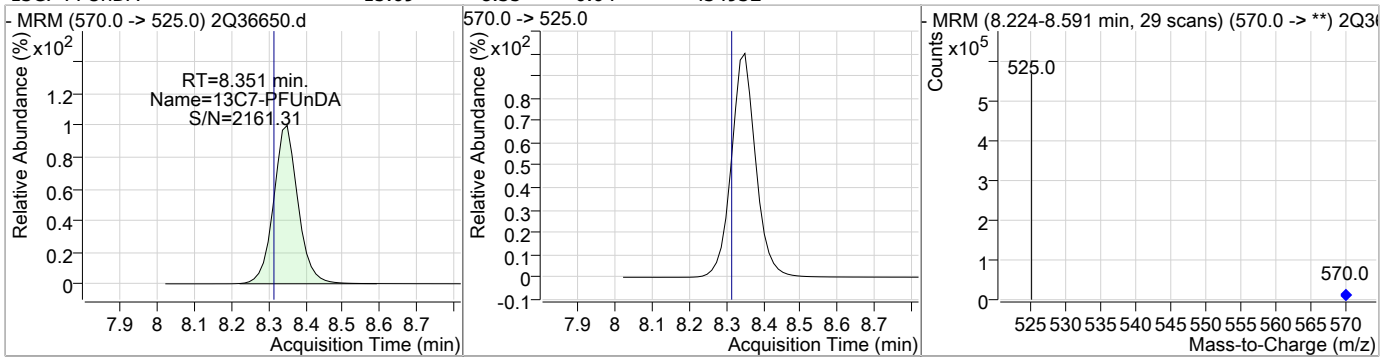
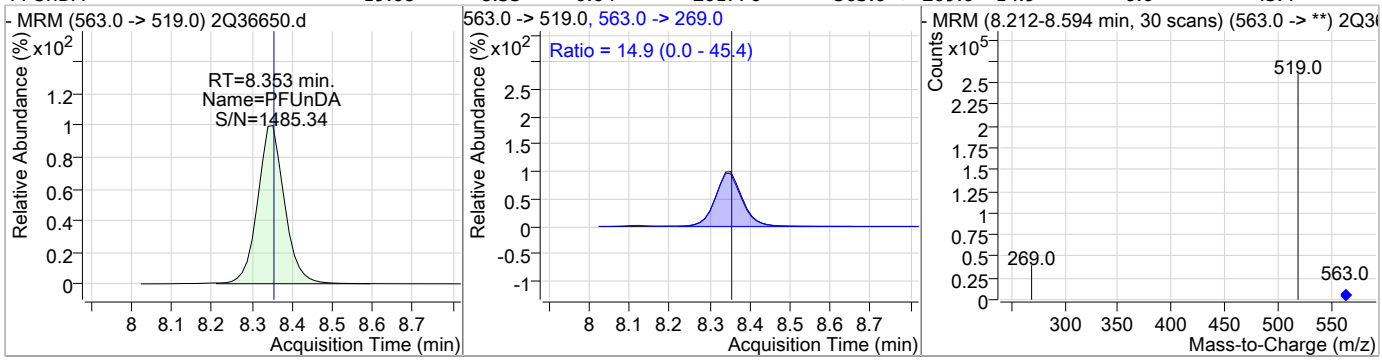
Perfluorinated Compounds by LC/MS/MS

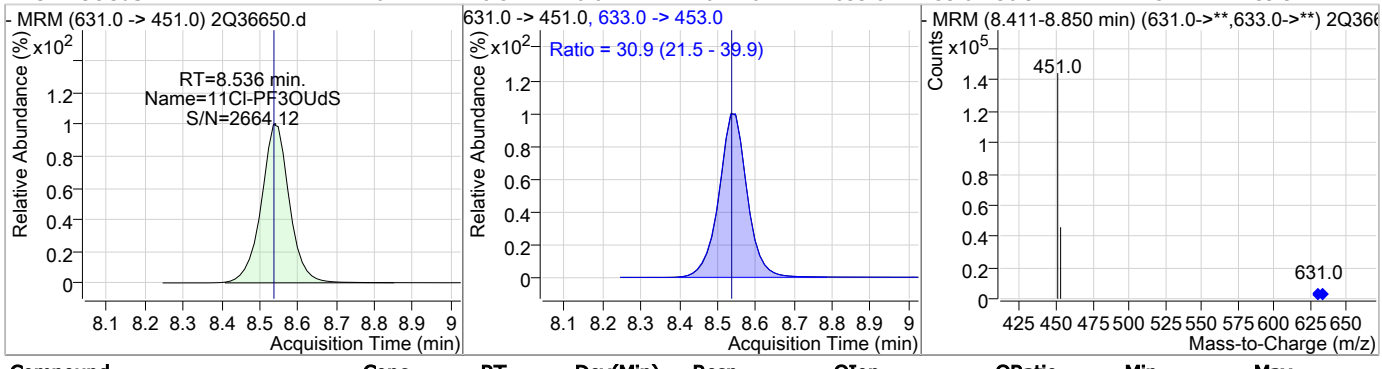
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	15.69	8.35	0.04	434932				



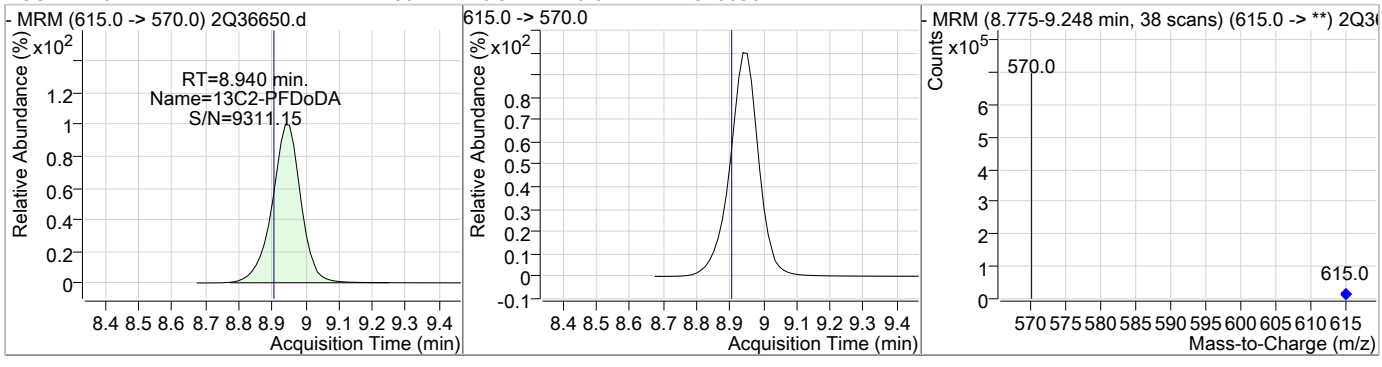
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.68	8.35	0.04	201776	563.0 -> 269.0	14.9	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	16.14	8.54	0.04	107116	633.0 -> 453.0	30.9	21.5	39.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	14.80	8.94	0.04	516656				



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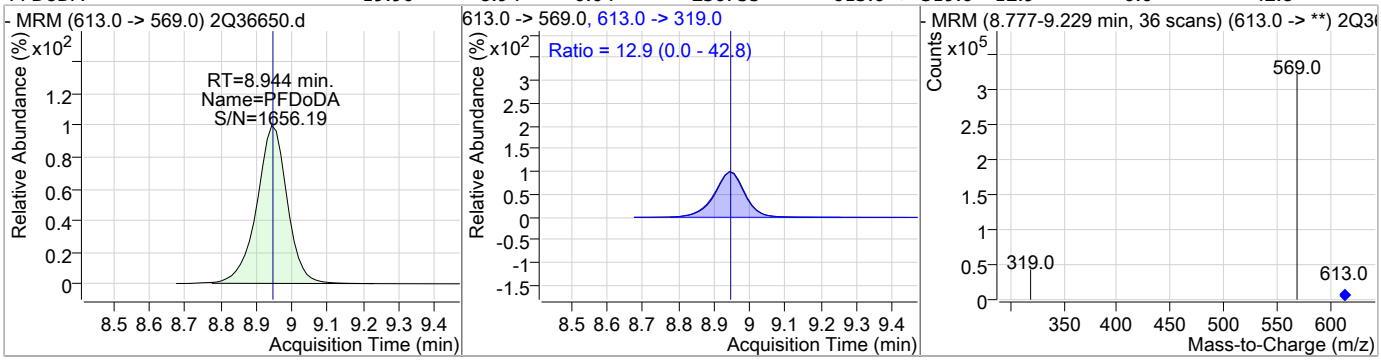
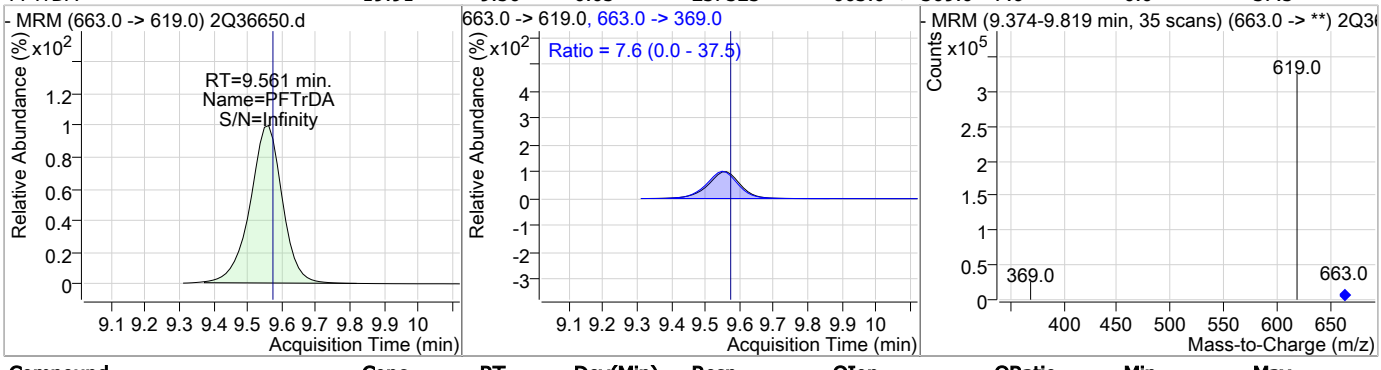
Perfluorinated Compounds by LC/MS/MS

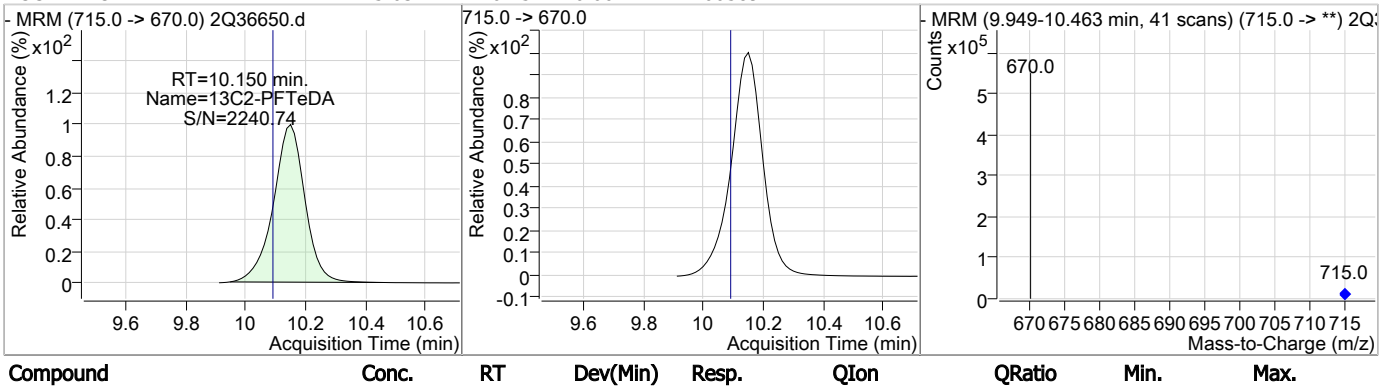
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.90	8.94	0.04	236735	613.0 -> 319.0	12.9	0.0	42.8



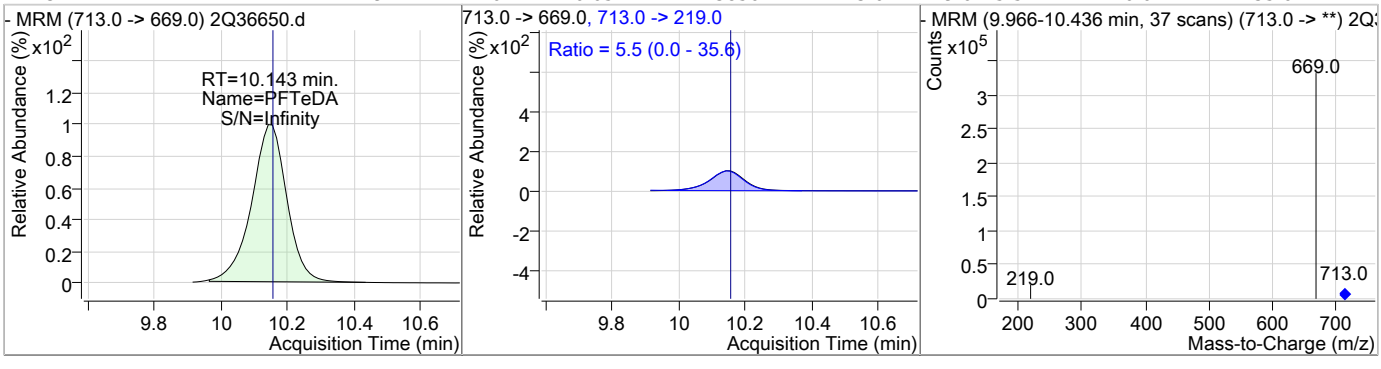
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.91	9.56	0.05	237323	663.0 -> 369.0	7.6	0.0	37.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	15.03	10.15	0.06	400589				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.74	10.14	0.05	243856	713.0 -> 219.0	5.5	0.0	35.6



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Manual Integration Approval Summary

Sample Number:	OP76964-BS	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36650.D	**Analyst approved:**	09/26/19 10:33 Nancy Saunders
Injection Time:	09/25/19 21:43	**Supervisor approved:**	09/26/19 14:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:15

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36663.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 1:08:39 AM
Sample Name	:	OP76964-MS
Vial	:	Vial 53
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-PFOA	-	415.0 -> 370.0	-	N.D.			
13C4-PFOS	-	503.0 -> 80.0	-	N.D.			
M4-PFBA	2.052	217.0 -> 172.0	178604	20.00	µg/L		0.013
M5-PFPeA	3.749	268.0 -> 223.0	147209	20.00	µg/L		0.025
M5-PFHxA	5.026	318.0 -> 273.0	206168	20.00	µg/L		0.038
M4-PFHpA	5.955	367.0 -> 322.0	267489	20.00	µg/L		0.038
M8-PFOA	6.708	421.0 -> 376.0	332205	20.00	µg/L		0.038
M9-PFNA	7.339	472.0 -> 427.0	347372	20.00	µg/L		0.025
M6-PFDA	7.852	519.0 -> 474.0	373729	20.00	µg/L		0.013
M7-PFUnDA	8.299	570.0 -> 525.0	448815	20.00	µg/L		-0.013
M2-PFDoDA	8.852	615.0 -> 570.0	549154	20.00	µg/L		-0.050
M2-PFTeDA	10.112	715.0 -> 670.0	448324	20.00	µg/L		0.025
M8-FOSA	7.002	506.0 -> 78.0	93326	20.00	µg/L		0.038
M3-PFBS	3.992	302.0 -> 99.0	23747	20.00	µg/L		0.025
M3-PFHxS	5.985	402.0 -> 99.0	25257	20.00	µg/L		0.038
M8-PFOS	7.321	507.0 -> 99.0	33936	20.00	µg/L		0.038
M2-4:2FTS	4.933	329.0 -> 309.0	105662	20.00	µg/L		0.037
M2-6:2FTS	6.705	429.0 -> 409.0	147478	20.00	µg/L		0.038
M2-8:2FTS	7.900	529.0 -> 509.0	99467	20.00	µg/L		0.013
M3-MeFOSAA	7.518	573.0 -> 419.0	51130	20.00	µg/L		0.025
M3-HFPO-DA	5.318	287.0 -> 169.0	0	100.00	µg/L	m	0.050
System Monitoring Compounds							
13C2-4:2FTS	4.933	329.0 -> 309.0	105406	18.10	µg/L		0.037
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.5%			
13C2-6:2FTS	6.705	429.0 -> 409.0	147410	18.59	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.0%			
13C2-8:2FTS	7.900	529.0 -> 509.0	99446	18.47	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.4%			
13C2-PFDoDA	8.852	615.0 -> 570.0	544167	15.59	µg/L		-0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 77.9%			
13C2-PFTeDA	10.112	715.0 -> 670.0	448019	16.81	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.1%			
13C3-PFBS	3.992	302.0 -> 99.0	23733	17.36	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.8%			
13C3-PFHxS	5.985	402.0 -> 99.0	25247	17.13	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 85.7%			
13C4-PFBA	2.052	217.0 -> 172.0	177708	18.15	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.8%			
13C4-PFHpA	5.955	367.0 -> 322.0	267359	17.56	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.8%			
13C5-PFHxA	5.026	318.0 -> 273.0	206038	17.65	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.2%			
13C5-PFPeA	3.749	268.0 -> 223.0	147209	17.88	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.4%			
13C6-PFDA	7.852	519.0 -> 474.0	373594	17.66	µg/L		0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 88.3%		
13C7-PFUnDA	8.299	570.0 -> 525.0	448317	16.18 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 80.9%		
13C8-FOSA	7.002	506.0 -> 78.0	93337	16.40 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 82.0%		
13C8-PFOA	6.708	421.0 -> 376.0	331900	18.14 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.7%		
13C8-PFOS	7.321	507.0 -> 99.0	33916	17.42 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.1%		
13C9-PFNA	7.339	472.0 -> 427.0	347458	18.38 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
d3-MeFOSAA	7.518	573.0 -> 419.0	51106	15.64 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.2%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	0	0.00 µg/L	m	0.050
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	61794	20.59 µg/L		98
6:2FTS	6.706	427.0 -> 407.0	75121	20.49 µg/L		99
8:2FTS	7.901	527.0 -> 507.0	54669	20.54 µg/L		98
EtFOSAA	7.643	584.0 -> 419.0	23176	21.61 µg/L		100
FOSA	6.993	498.0 -> 78.0	47876	19.80 µg/L		99
MeFOSAA	7.519	570.0 -> 419.0	27941	20.51 µg/L		98
PFBA	2.048	213.0 -> 169.0	32562	19.57 µg/L		100
PFBS	3.996	299.0 -> 80.0	37699	20.10 µg/L		99
PFDA	7.853	513.0 -> 469.0	185999	20.08 µg/L		99
PFDoDA	8.856	613.0 -> 569.0	256750	20.32 µg/L		100
PFDS	8.247	599.0 -> 80.0	12398	17.14 µg/L		100
PFHpA	5.957	363.0 -> 319.0	246417	20.21 µg/L		99
PFHpS	6.703	449.0 -> 80.0	27932	20.70 µg/L		99
PFHxA	5.027	313.0 -> 269.0	62832	19.84 µg/L		99
PFHxS	5.987	399.0 -> 80.0	30492	20.23 µg/L	m	99
PFNA	7.340	463.0 -> 419.0	215061	19.79 µg/L		100
PFNS	7.810	549.0 -> 80.0	20960	18.96 µg/L		99
PFOA	6.711	413.0 -> 369.0	178151	19.93 µg/L		99
PFOS	7.324	499.0 -> 80.0	31490	19.55 µg/L	m	99
PFPeA	3.752	263.0 -> 219.0	146143	19.67 µg/L		100
PFPeS	5.132	349.0 -> 80.0	21135	20.40 µg/L		98
PFTeDA	10.104	713.0 -> 669.0	278835	20.24 µg/L		100
PFTrDA	9.499	663.0 -> 619.0	264242	19.88 µg/L		100
PFUnDA	8.288	563.0 -> 519.0	212889	20.14 µg/L		99
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

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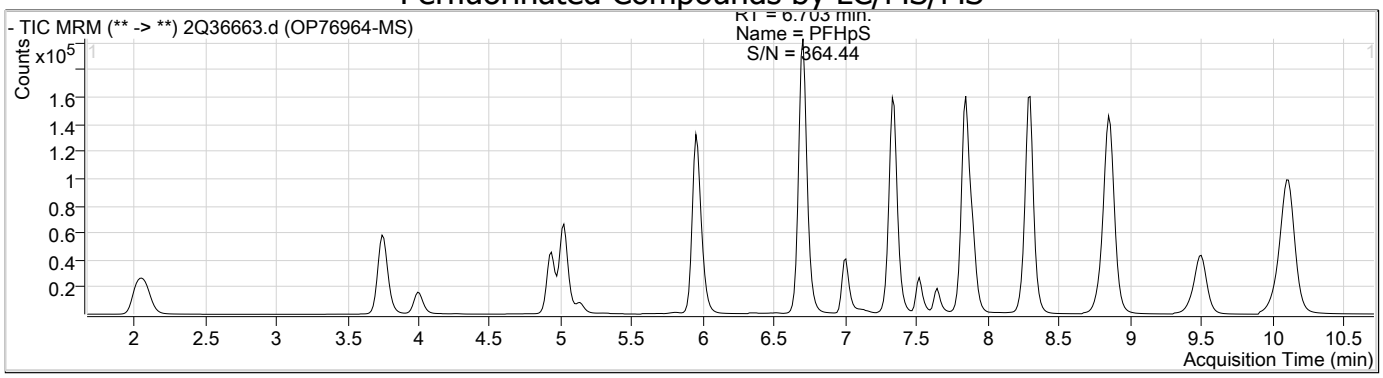
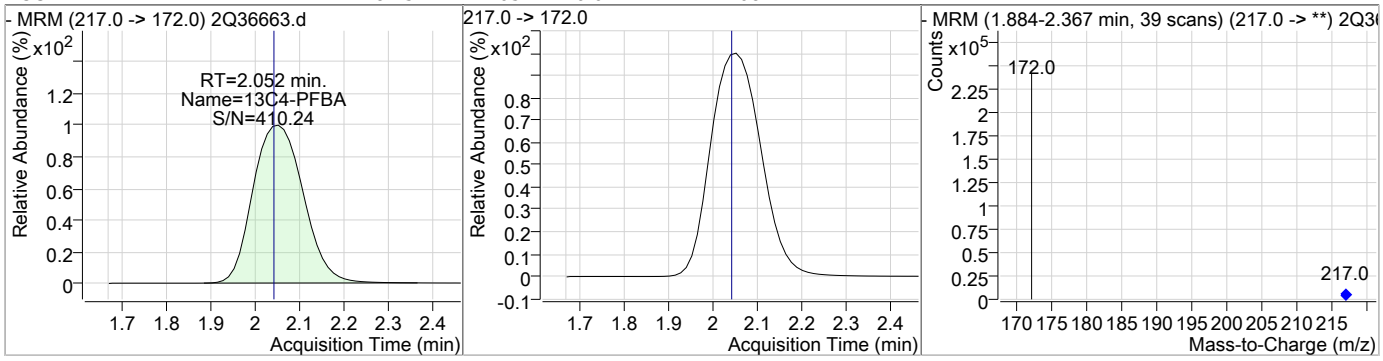
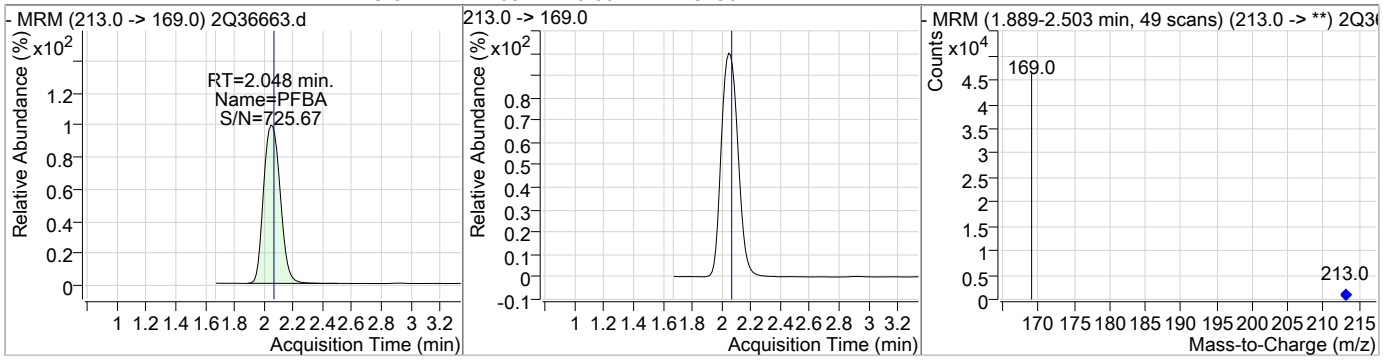
Perfluorinated Compounds by LC/MS/MS



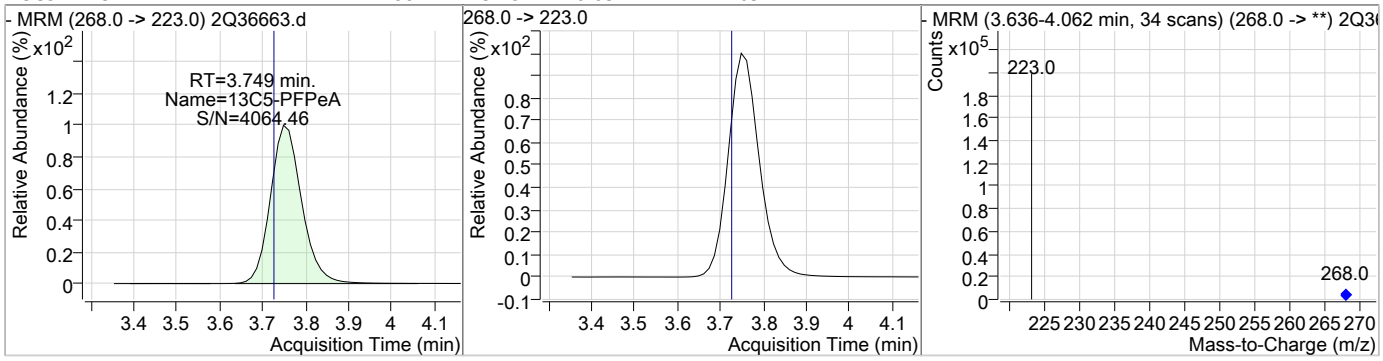
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	18.15	2.05	0.01	177708				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.57	2.05	0.00	32562				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	17.88	3.75	0.03	147209				



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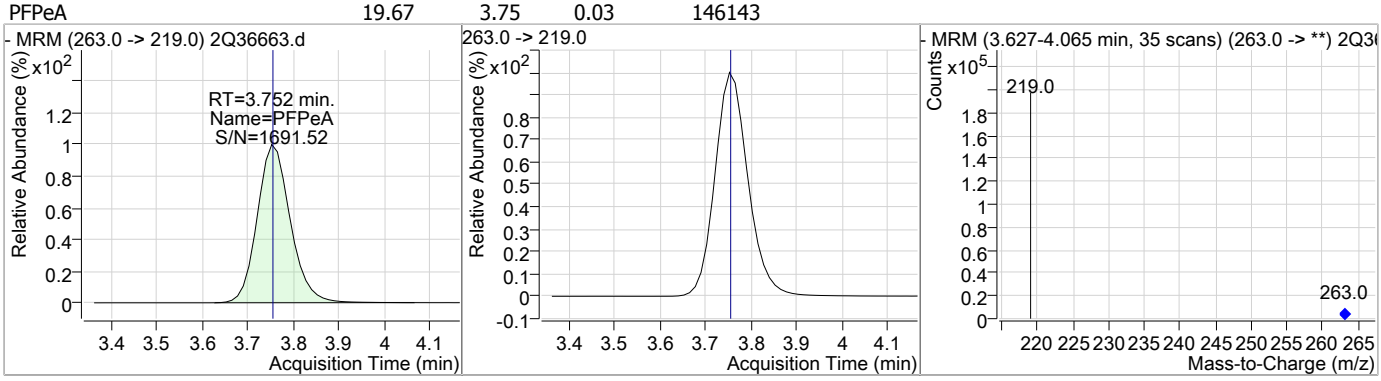
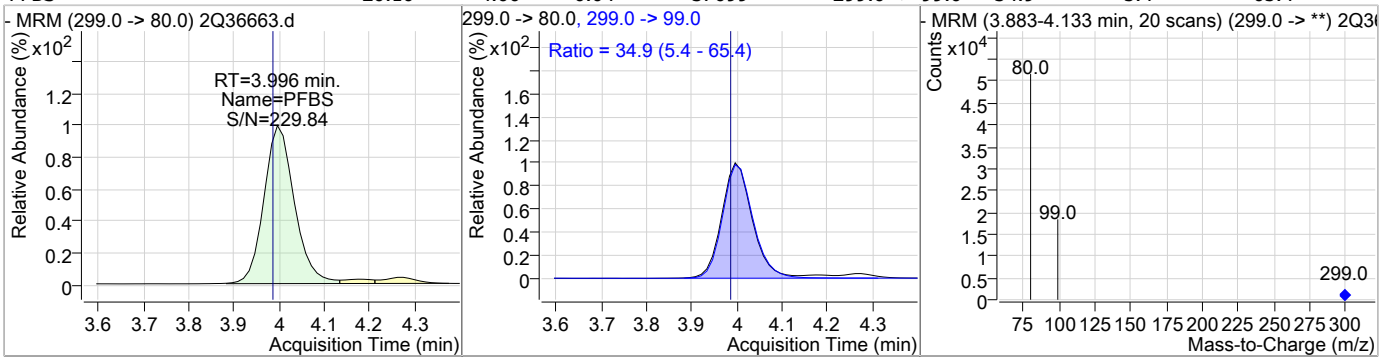
Perfluorinated Compounds by LC/MS/MS

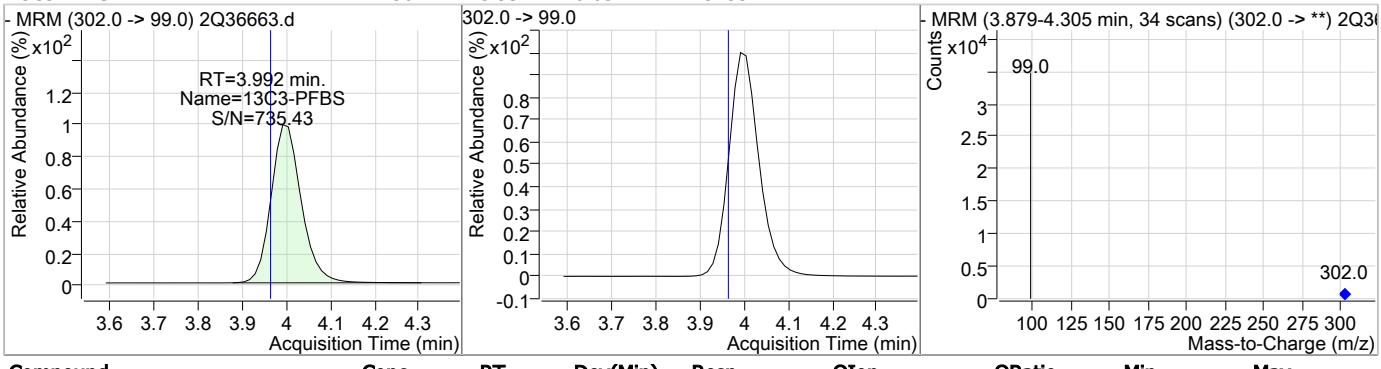
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.67	3.75	0.03	146143				



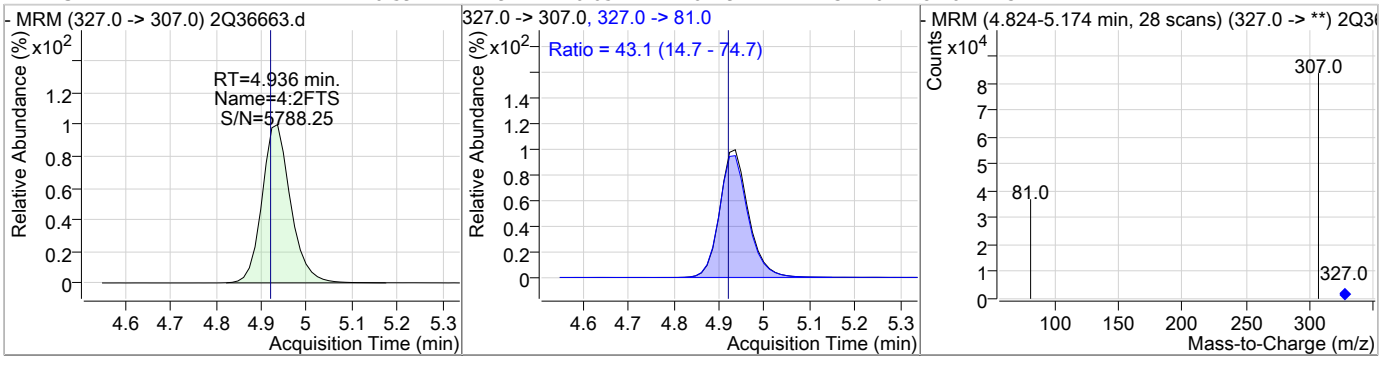
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	20.10	4.00	0.04	37699	299.0 -> 99.0	34.9	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	17.36	3.99	0.03	23733				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.59	4.94	0.05	61794	327.0 -> 81.0	43.1	14.7	74.7



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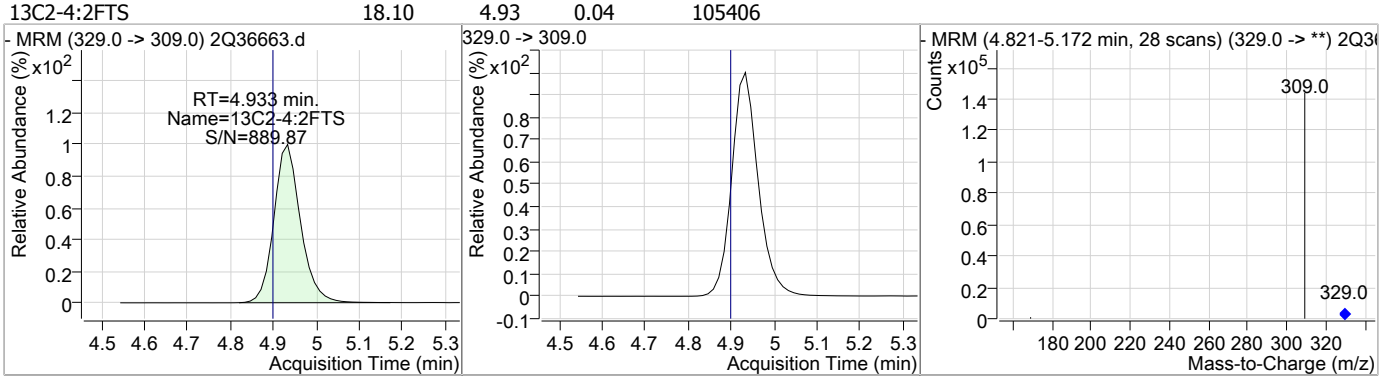
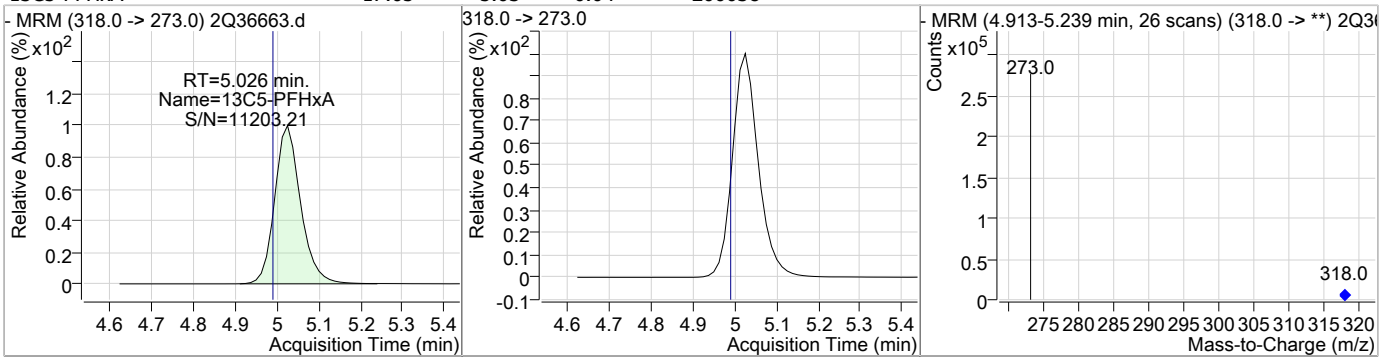
Perfluorinated Compounds by LC/MS/MS

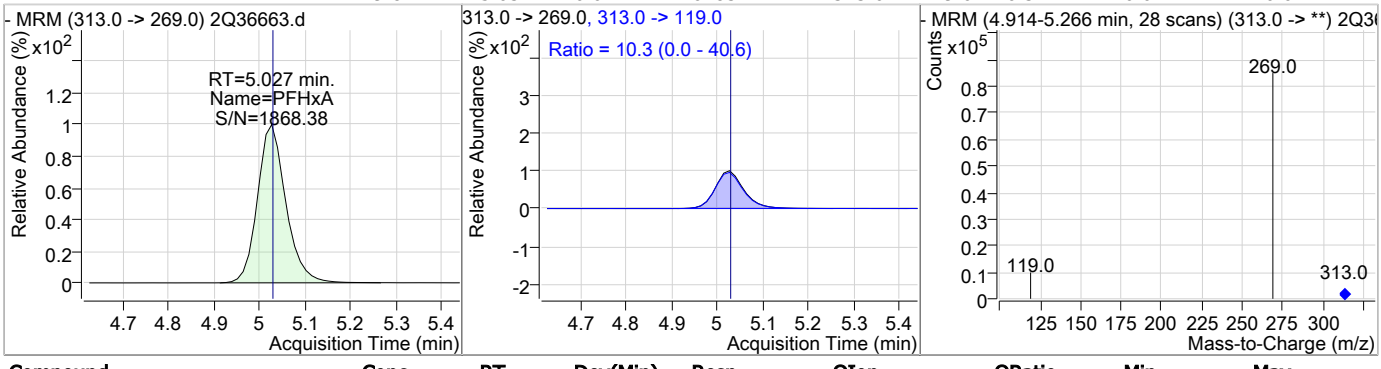
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.10	4.93	0.04	105406				



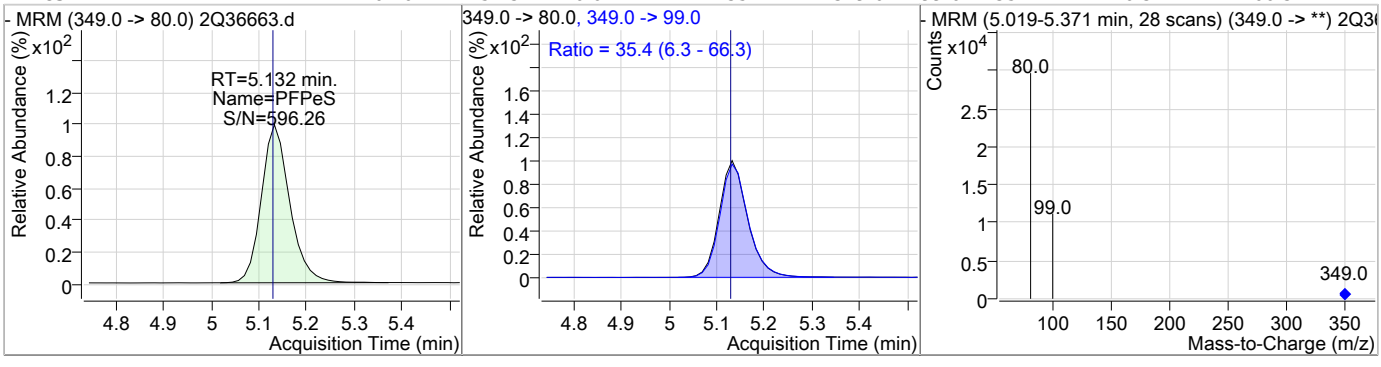
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.65	5.03	0.04	206038				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.84	5.03	0.04	62832	313.0 -> 119.0	10.3	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	20.40	5.13	0.04	21135	349.0 -> 99.0	35.4	6.3	66.3



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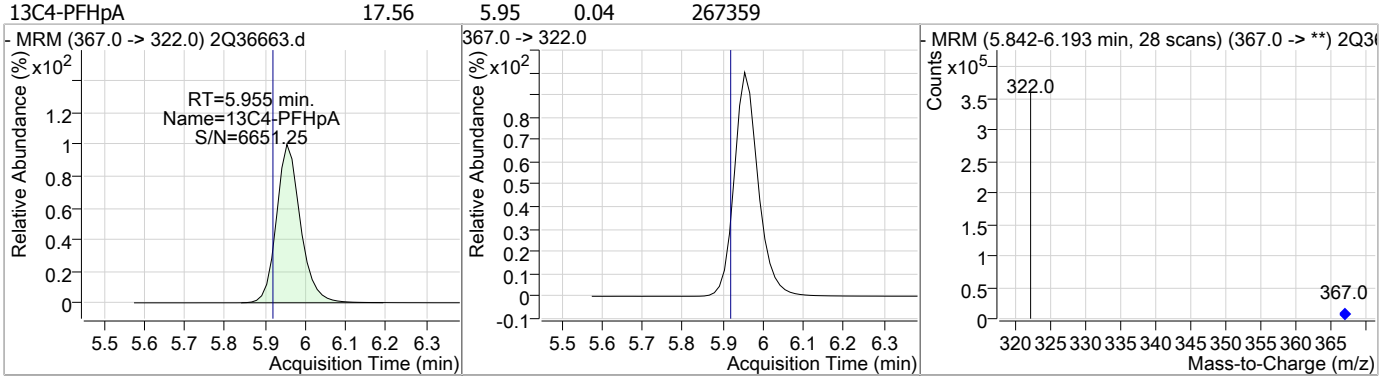
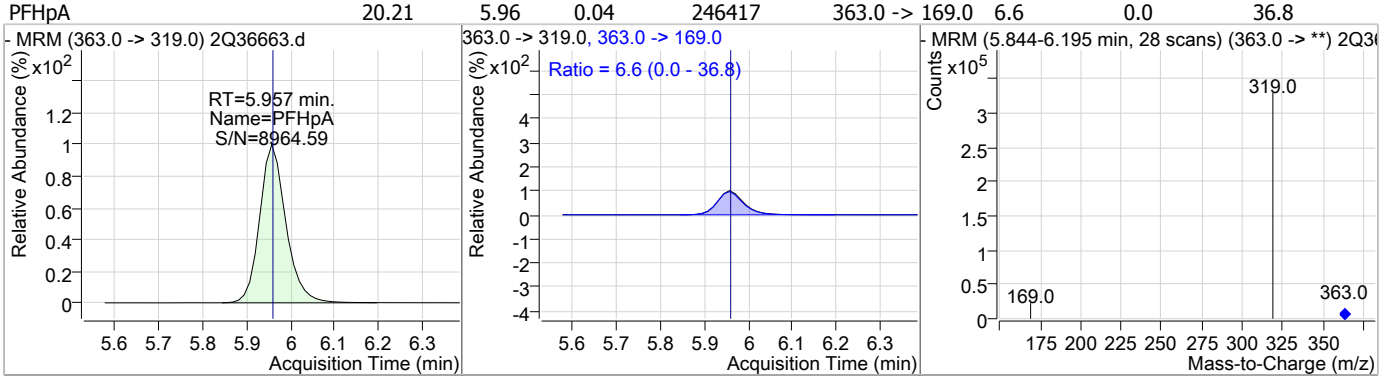
Perfluorinated Compounds by LC/MS/MS

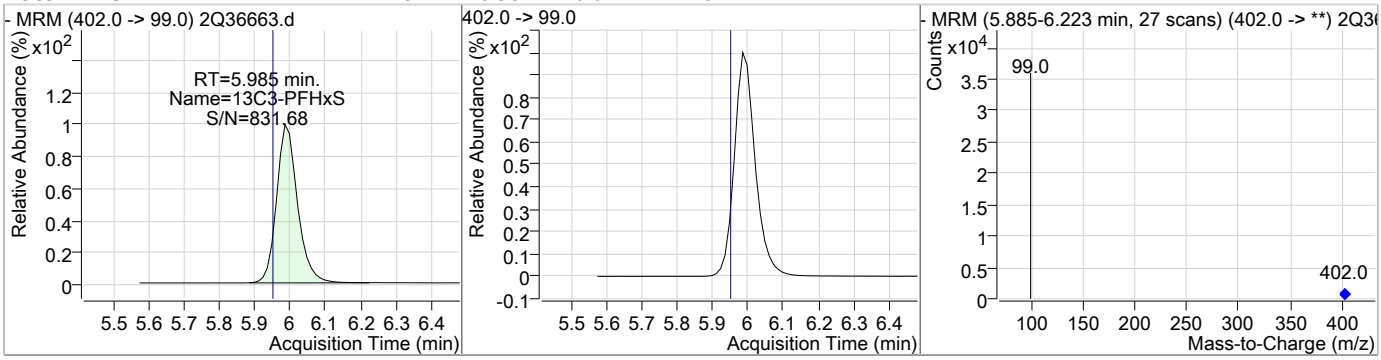
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.56	5.95	0.04	267359				



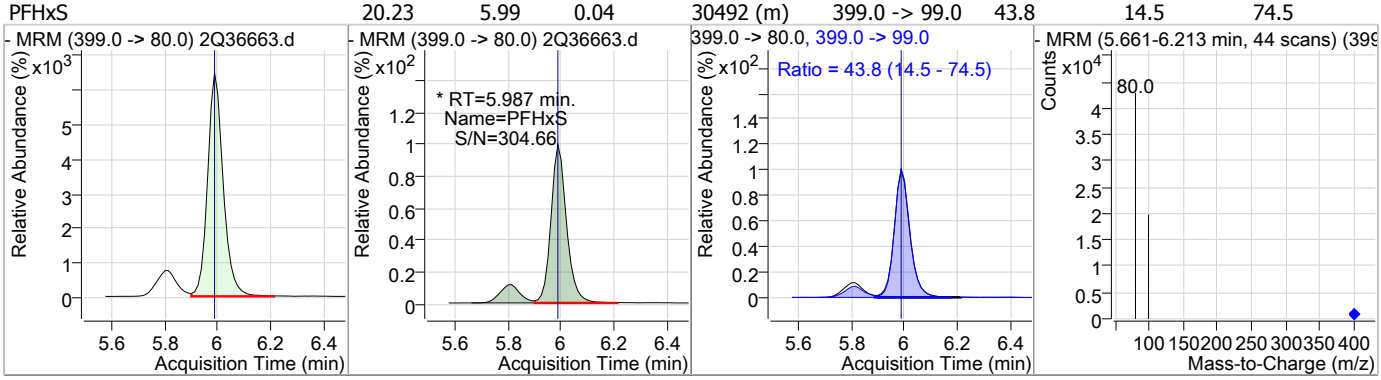
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	20.21	5.96	0.04	246417	363.0 -> 169.0	6.6	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.13	5.98	0.04	25247				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	20.23	5.99	0.04	30492 (m)	399.0 -> 99.0	43.8	14.5	74.5



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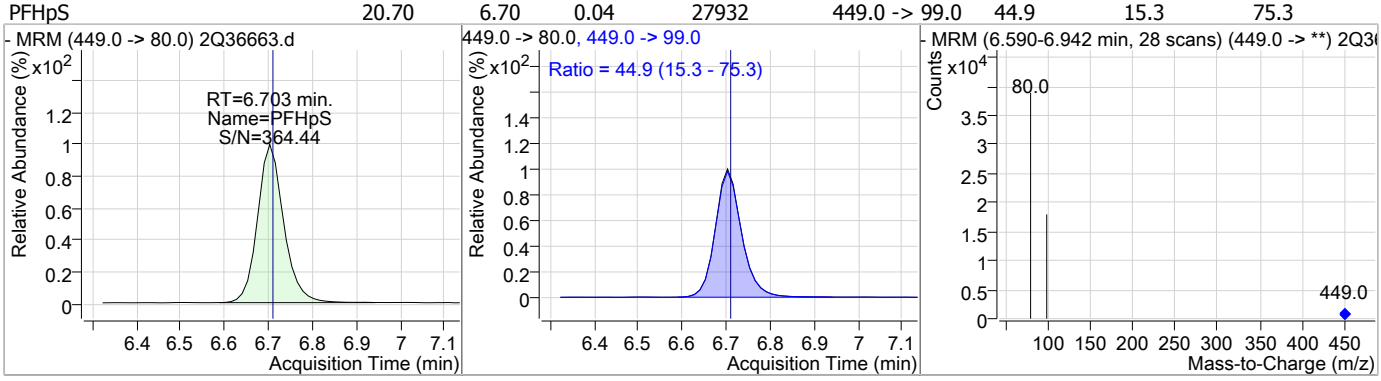
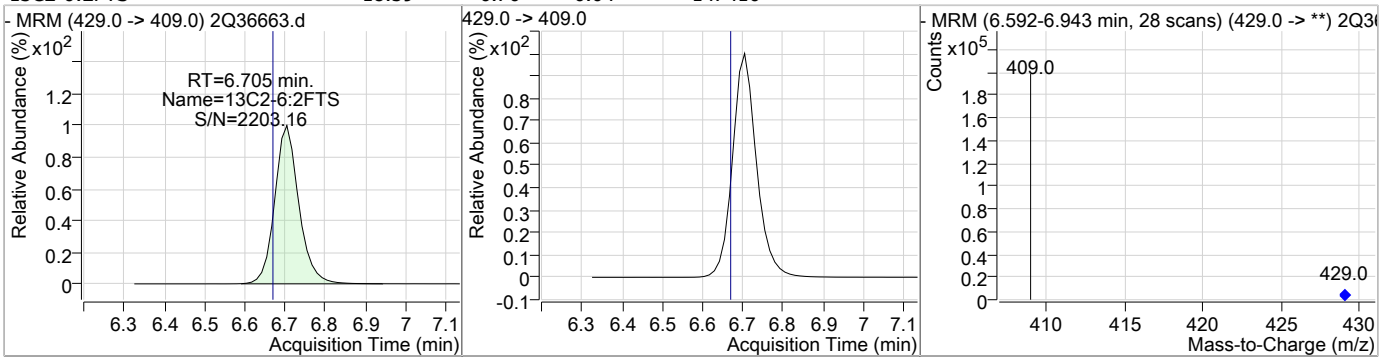
Perfluorinated Compounds by LC/MS/MS

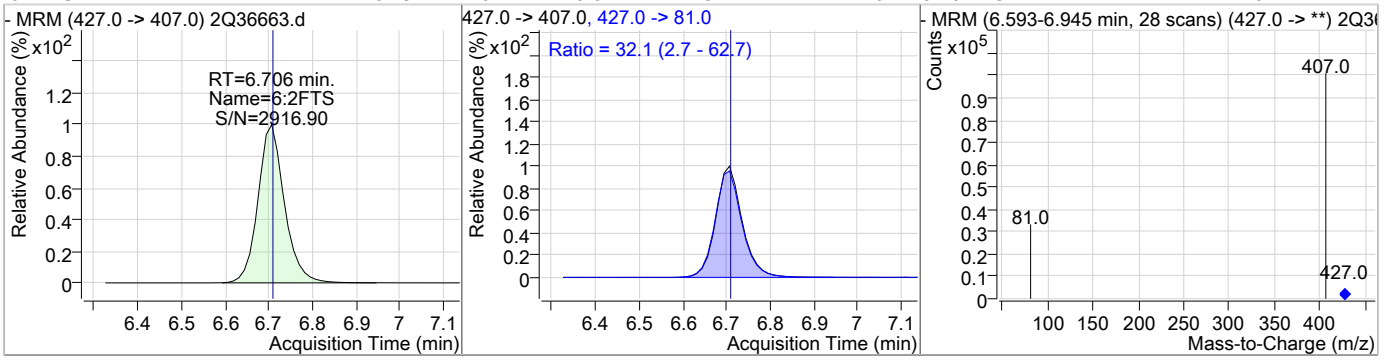
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.70	6.70	0.04	27932	449.0 -> 99.0	44.9	15.3	75.3



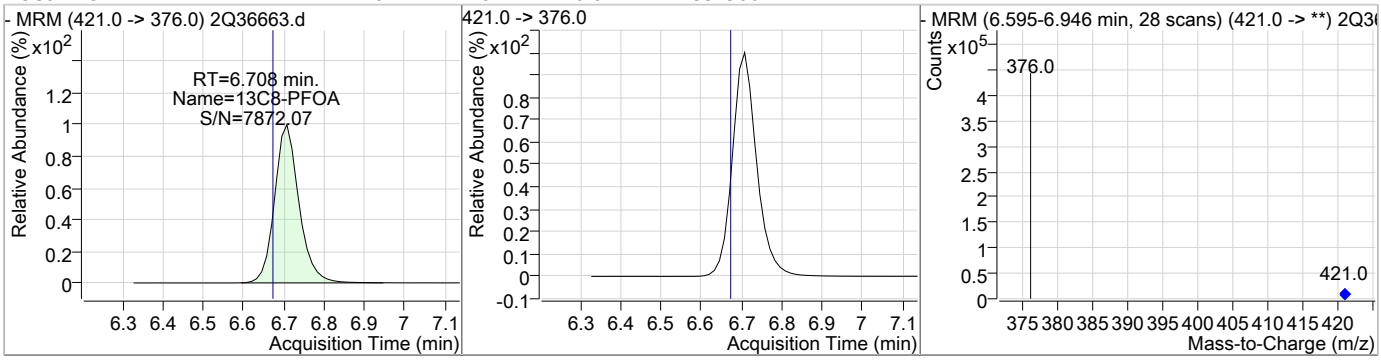
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.59	6.70	0.04	147410				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.49	6.71	0.04	75121	427.0 -> 81.0	32.1	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.14	6.71	0.04	331900				



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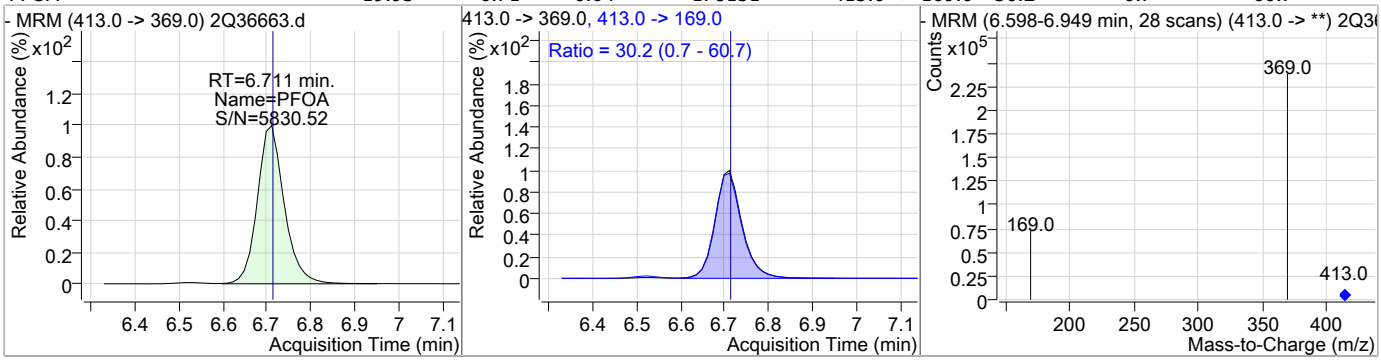
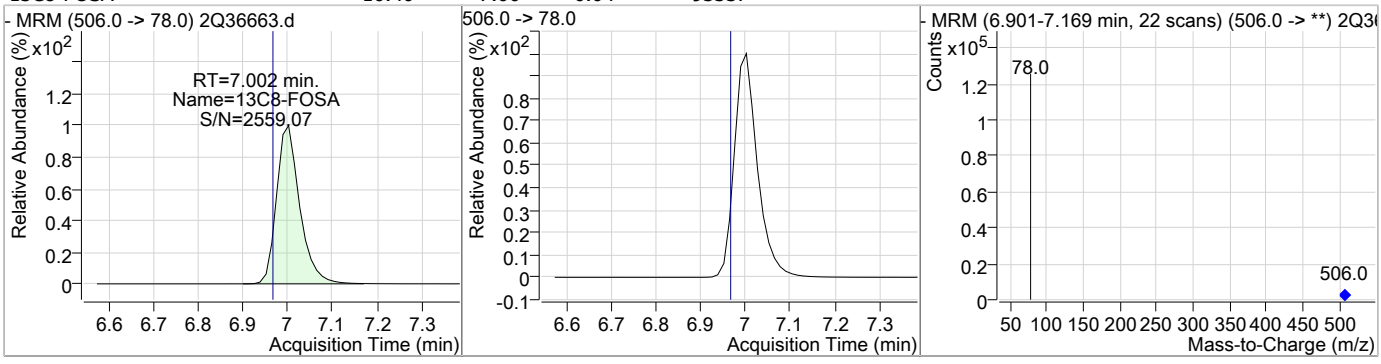
Perfluorinated Compounds by LC/MS/MS

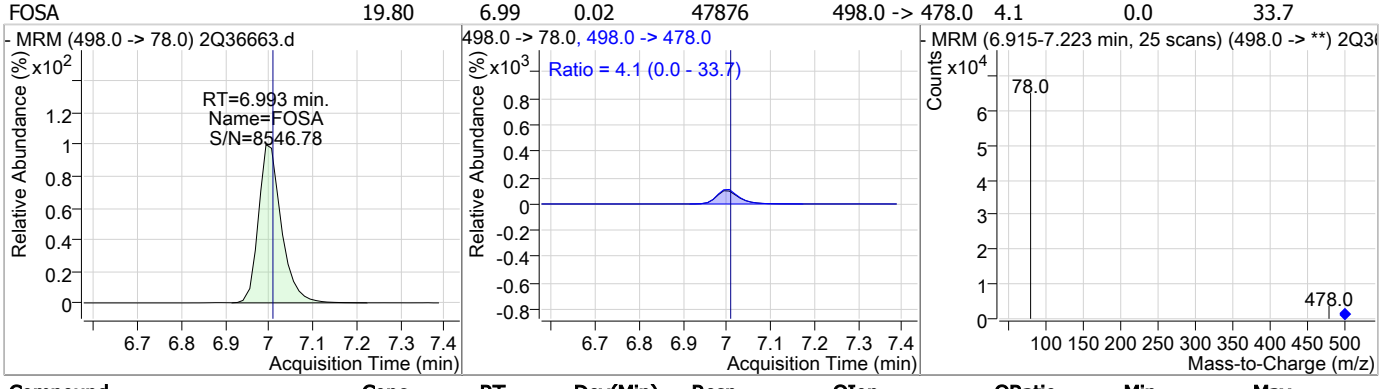
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.93	6.71	0.04	178151	413.0 -> 169.0	30.2	0.7	60.7



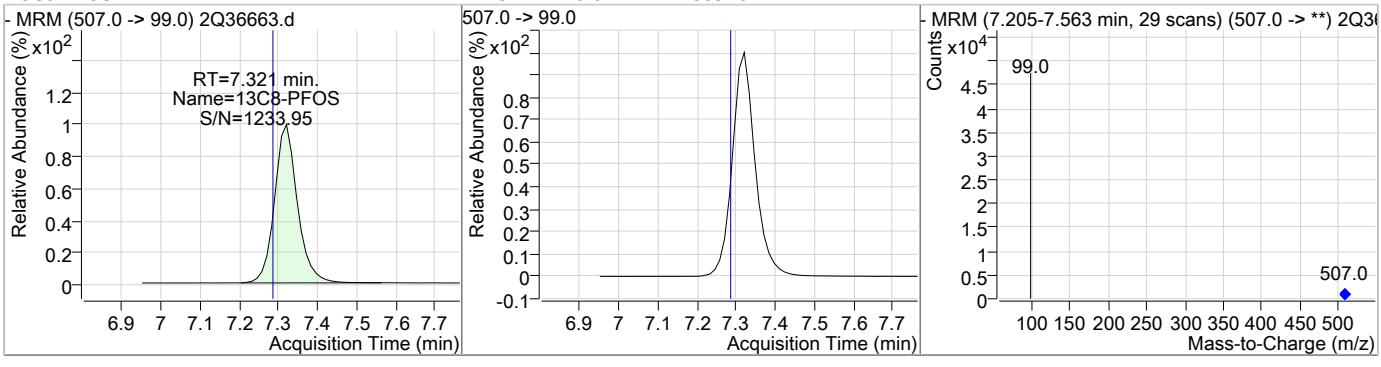
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	16.40	7.00	0.04	93337				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.80	6.99	0.02	47876	498.0 -> 478.0	4.1	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	17.42	7.32	0.04	33916				



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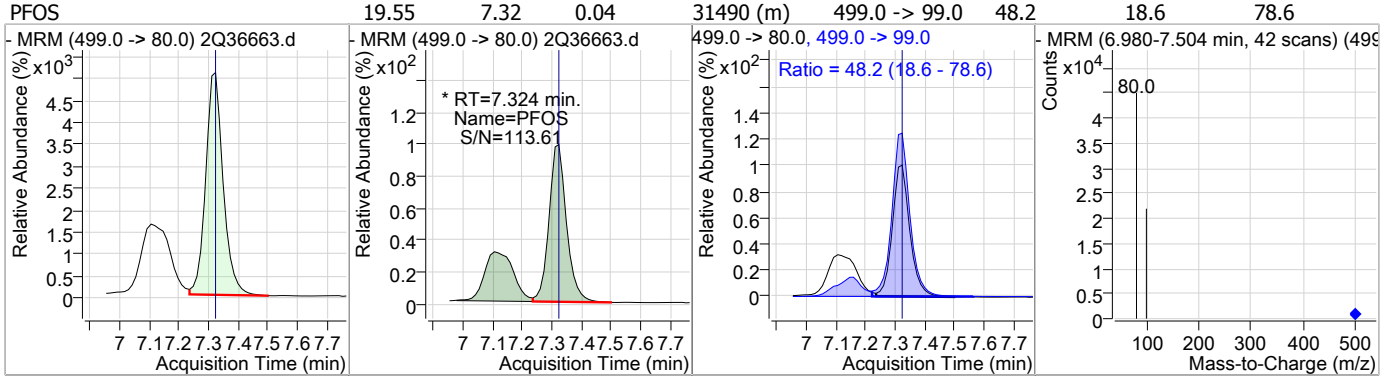
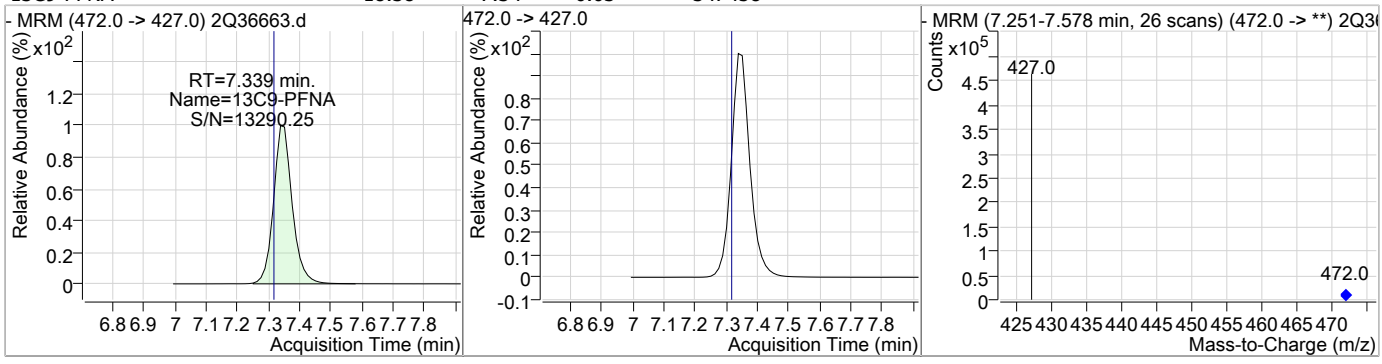
Perfluorinated Compounds by LC/MS/MS

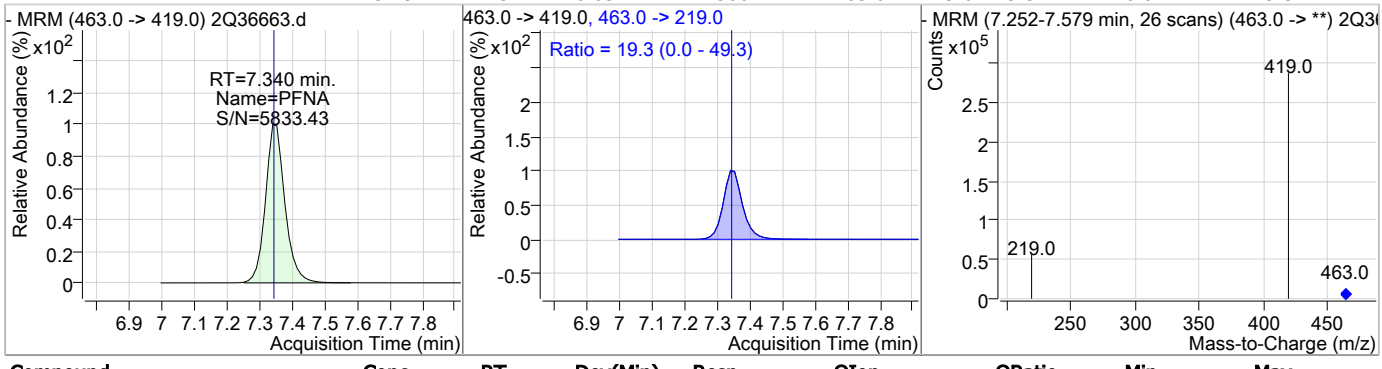
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.55	7.32	0.04	31490 (m)	499.0 -> 99.0	48.2	18.6	78.6



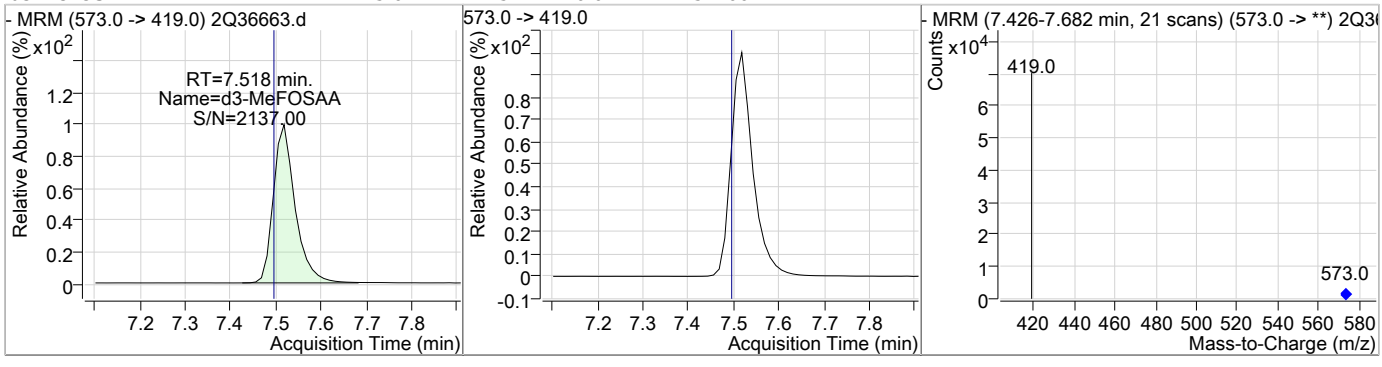
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	18.38	7.34	0.03	347458				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.79	7.34	0.03	215061	463.0 -> 219.0	19.3	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	15.64	7.52	0.02	51106				



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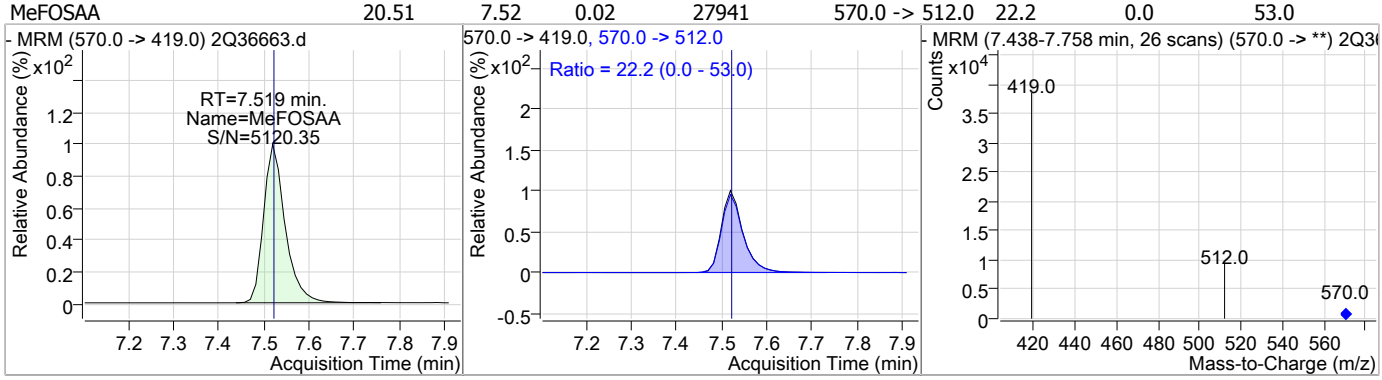
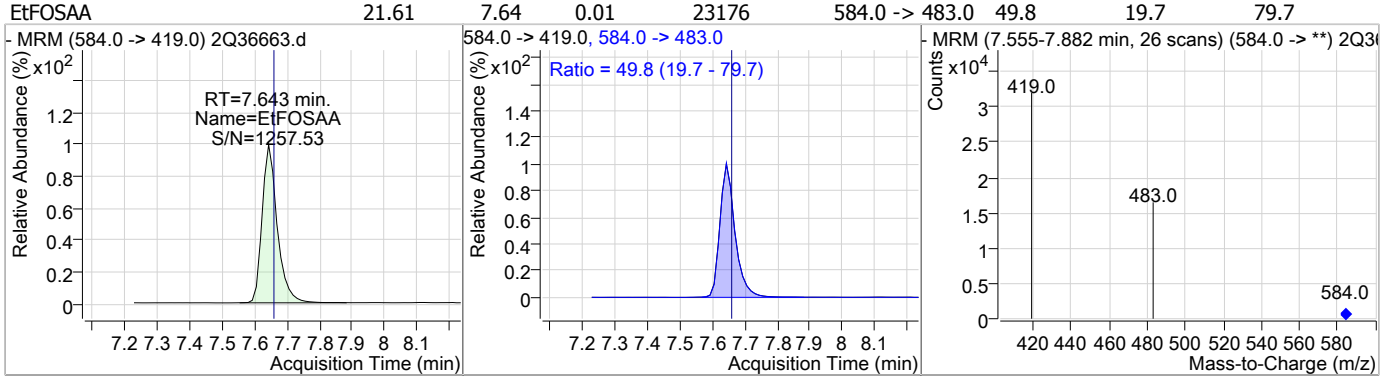
Perfluorinated Compounds by LC/MS/MS

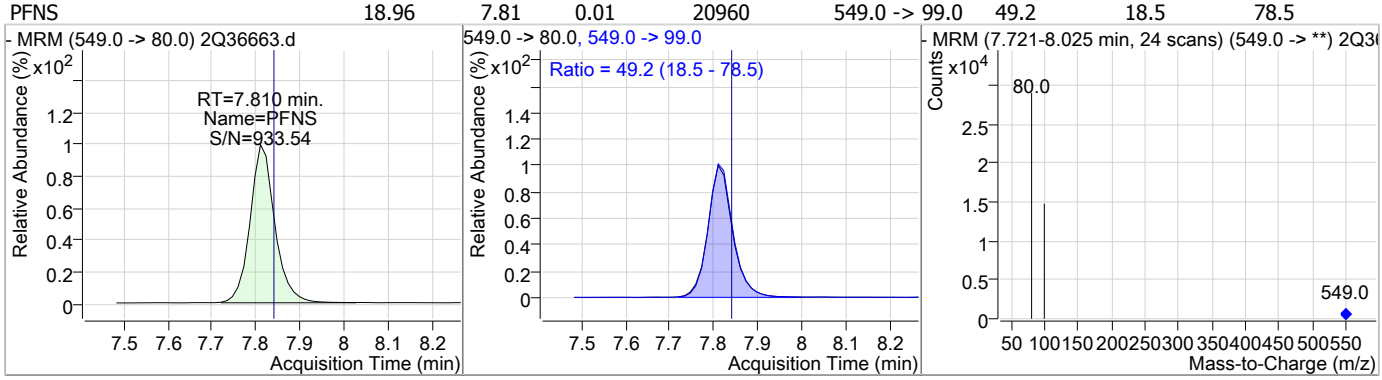
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.51	7.52	0.02	27941	570.0 -> 512.0	22.2	0.0	53.0



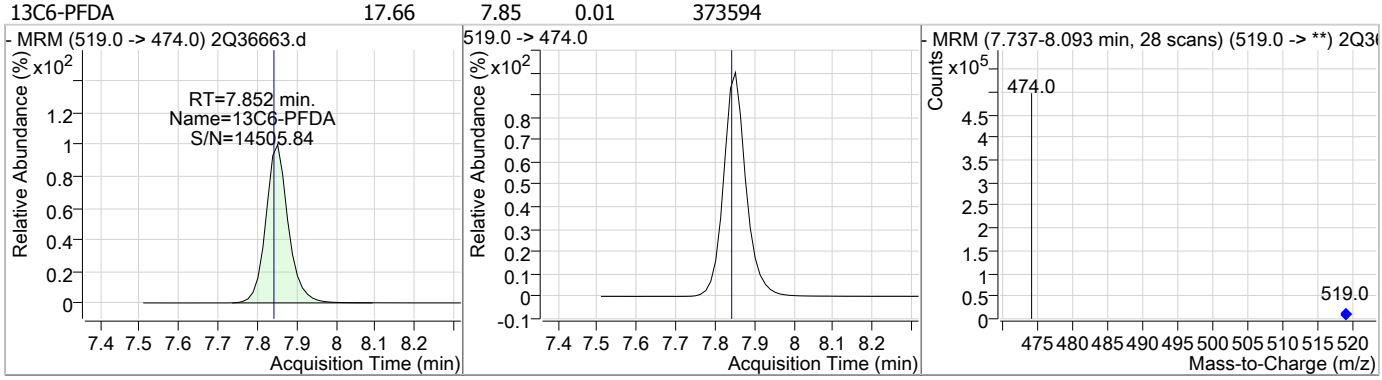
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.61	7.64	0.01	23176	584.0 -> 483.0	49.8	19.7	79.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.96	7.81	0.01	20960	549.0 -> 99.0	49.2	18.5	78.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	17.66	7.85	0.01	373594				



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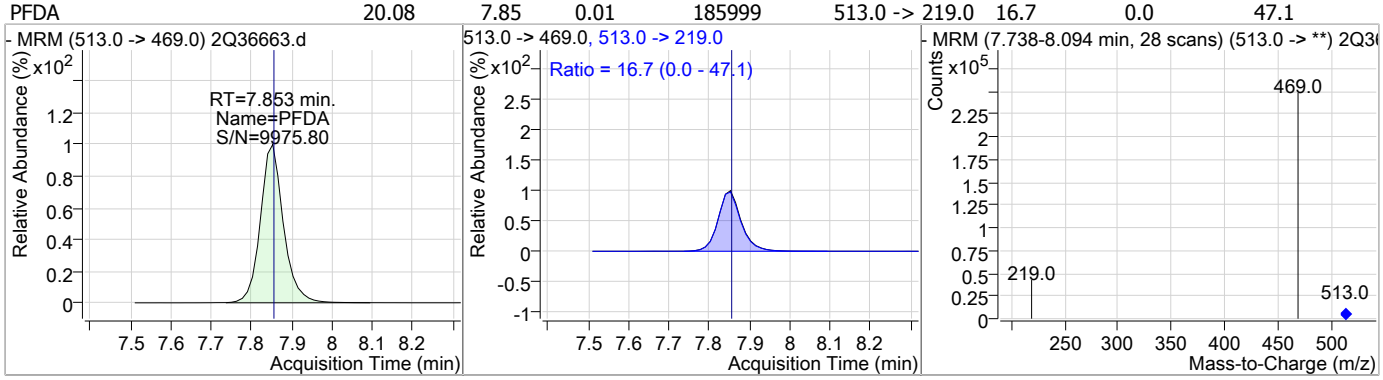
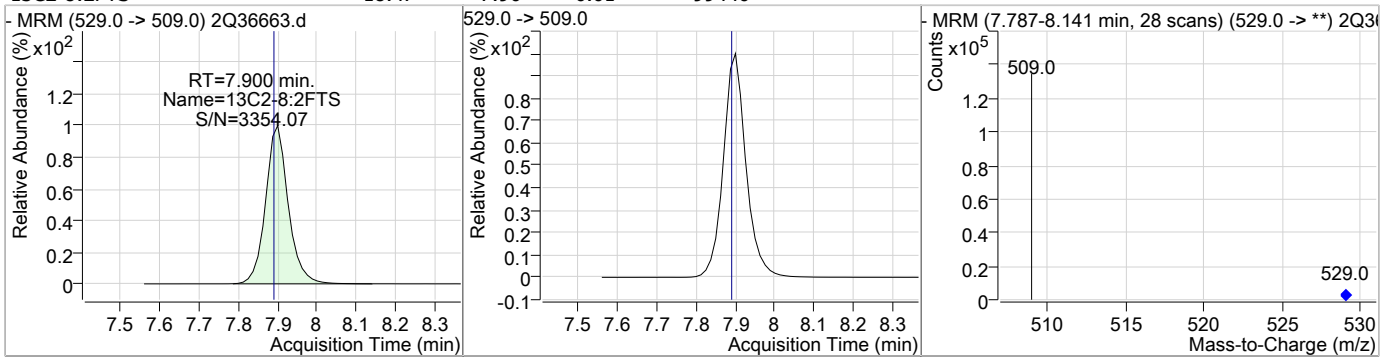
Perfluorinated Compounds by LC/MS/MS

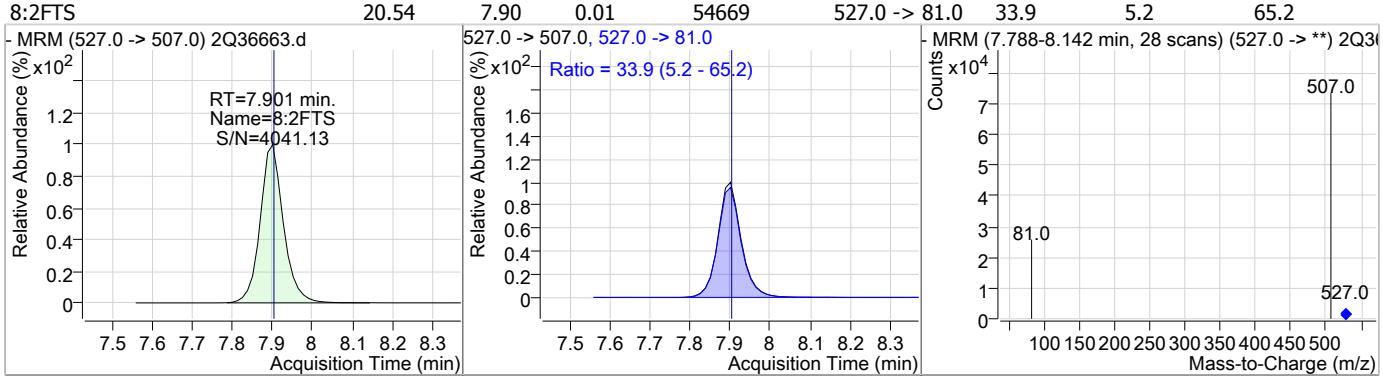
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	20.08	7.85	0.01	185999	513.0 -> 219.0	16.7	0.0	47.1



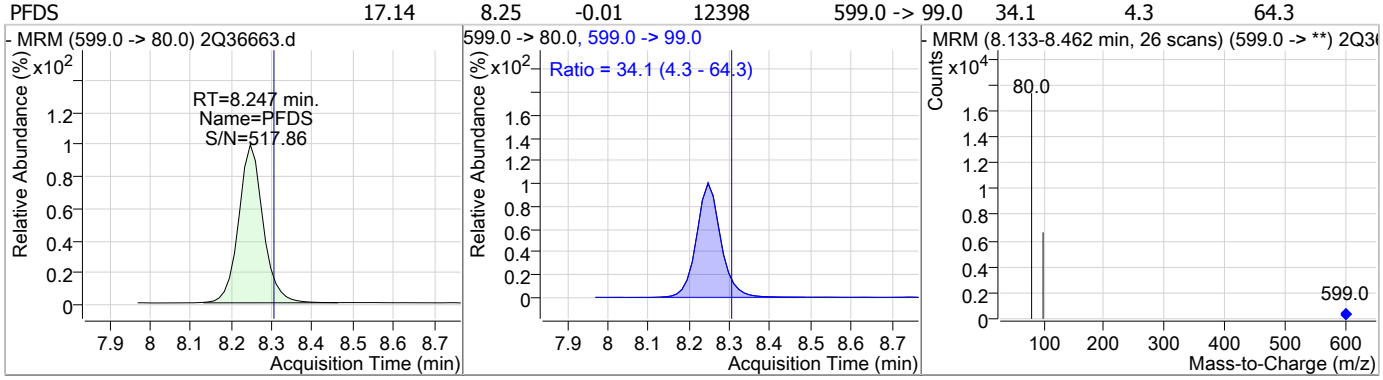
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.47	7.90	0.01	99446				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.54	7.90	0.01	54669	527.0 -> 81.0	33.9	5.2	65.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	17.14	8.25	-0.01	12398	599.0 -> 99.0	34.1	4.3	64.3



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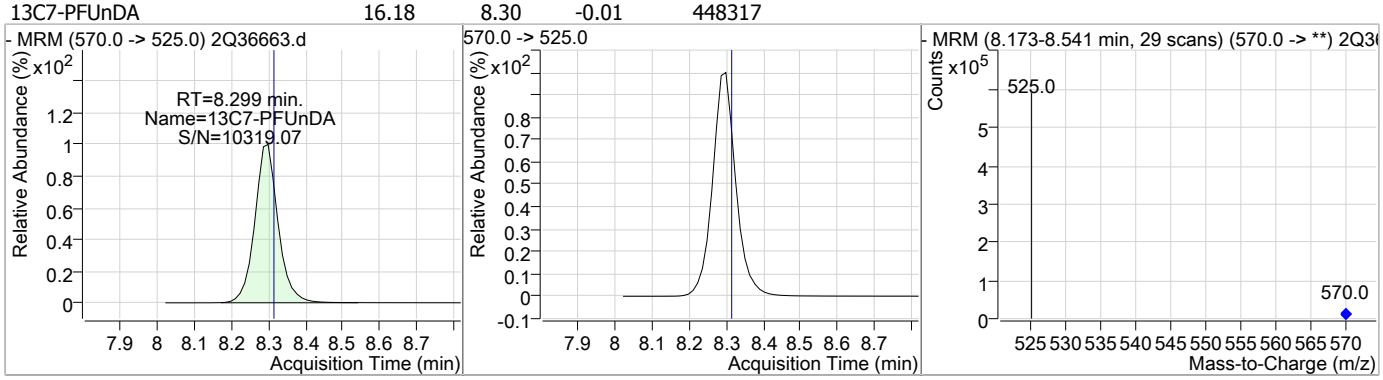
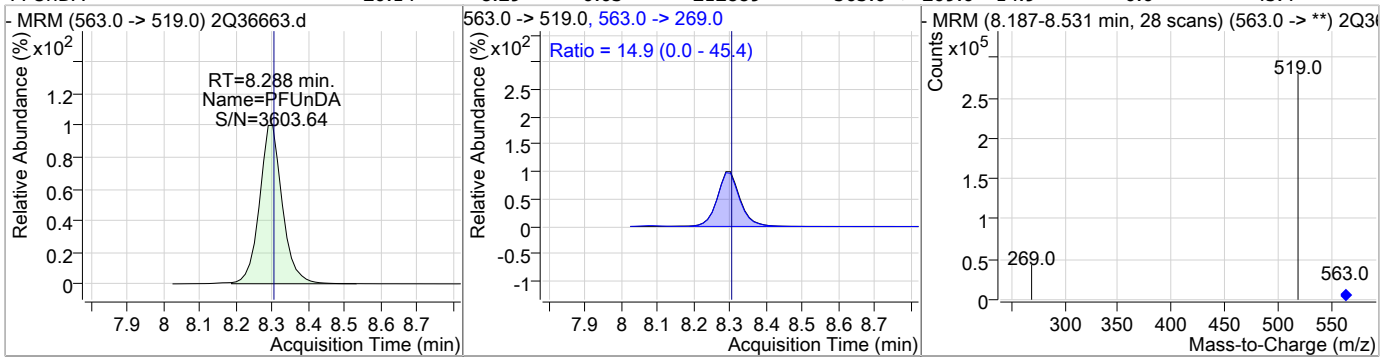
Perfluorinated Compounds by LC/MS/MS

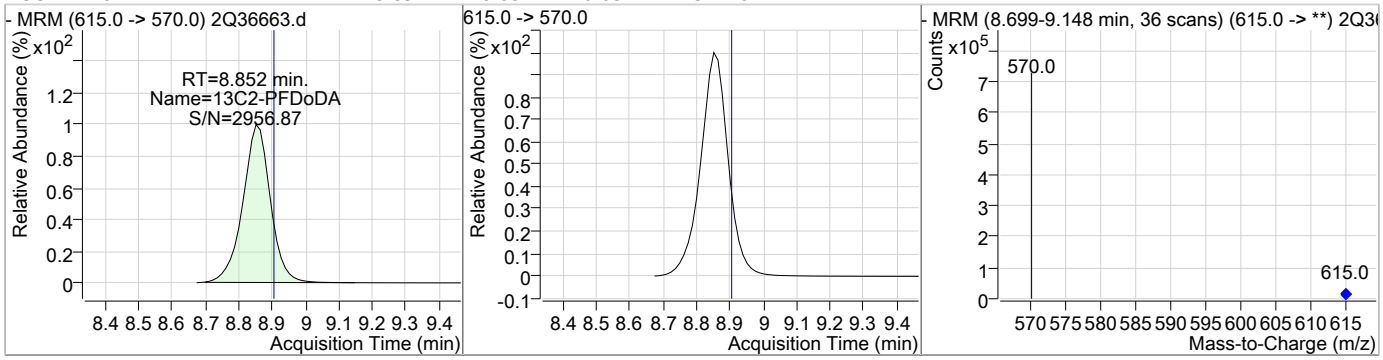
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	16.18	8.30	-0.01	448317				



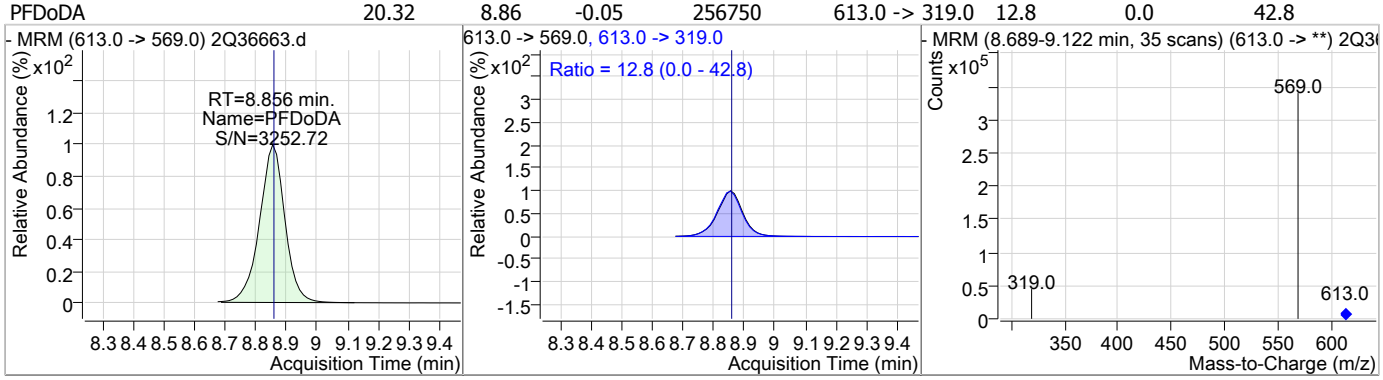
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	20.14	8.29	-0.03	212889	563.0 -> 269.0	14.9	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	15.59	8.85	-0.05	544167				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	20.32	8.86	-0.05	256750	613.0 -> 319.0	12.8	0.0	42.8



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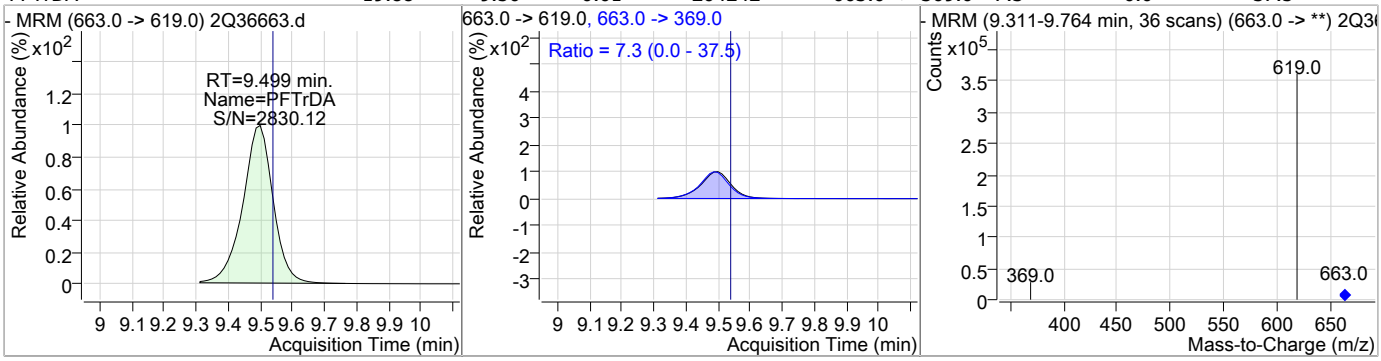
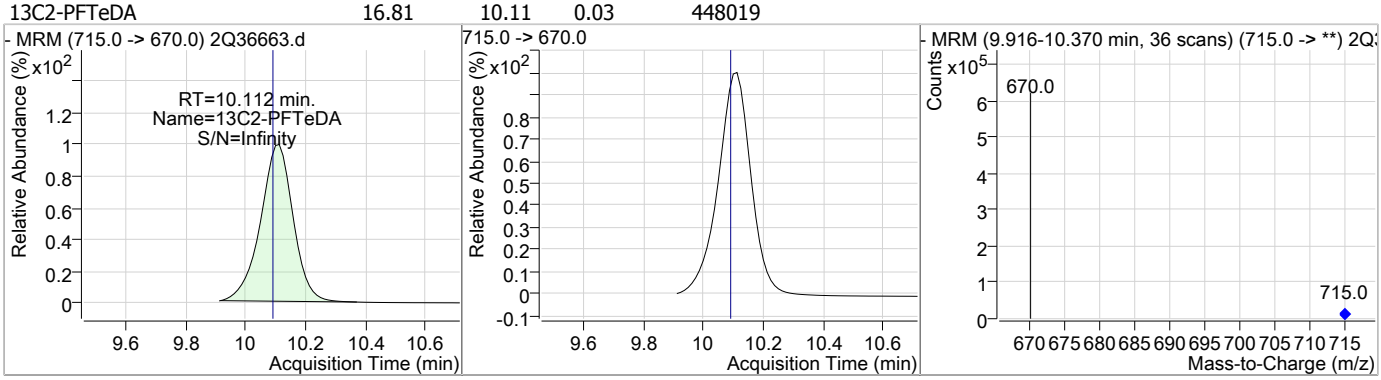
Perfluorinated Compounds by LC/MS/MS

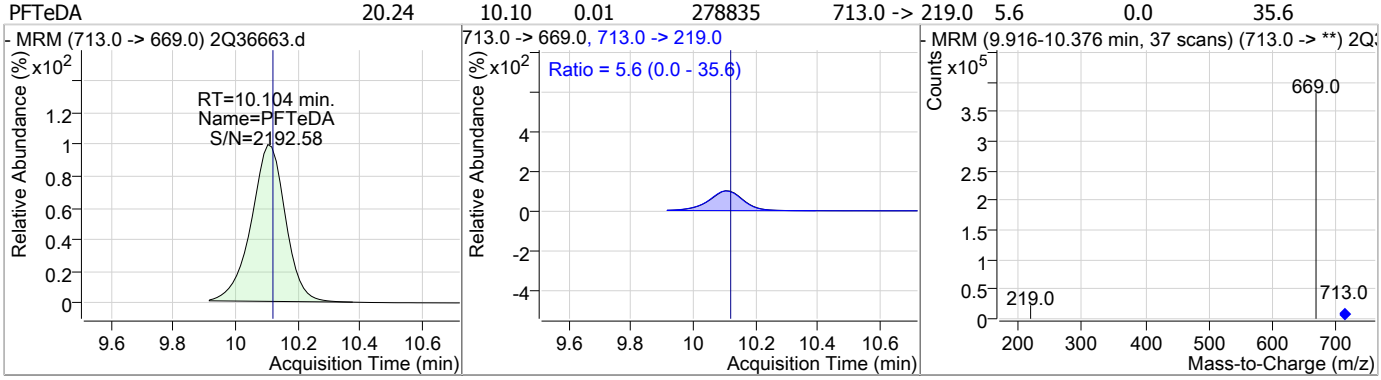
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.88	9.50	-0.01	264242	663.0 -> 369.0	7.3	0.0	37.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	16.81	10.11	0.03	448019				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	20.24	10.10	0.01	278835	713.0 -> 219.0	5.6	0.0	35.6



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Manual Integration Approval Summary

Sample Number:	OP76964-MS	**Method:**	EPA 537M BY ID
Lab FileID:	2Q36663.D	**Analyst approved:**	09/26/19 10:42 Nancy Saunders
Injection Time:	09/26/19 01:08	**Supervisor approved:**	09/26/19 14:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36670.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 2:59:22 AM
Sample Name	:	OP76964-DUP
Vial	:	Vial 60
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76964,S2Q570,270,,,1.0,1,water

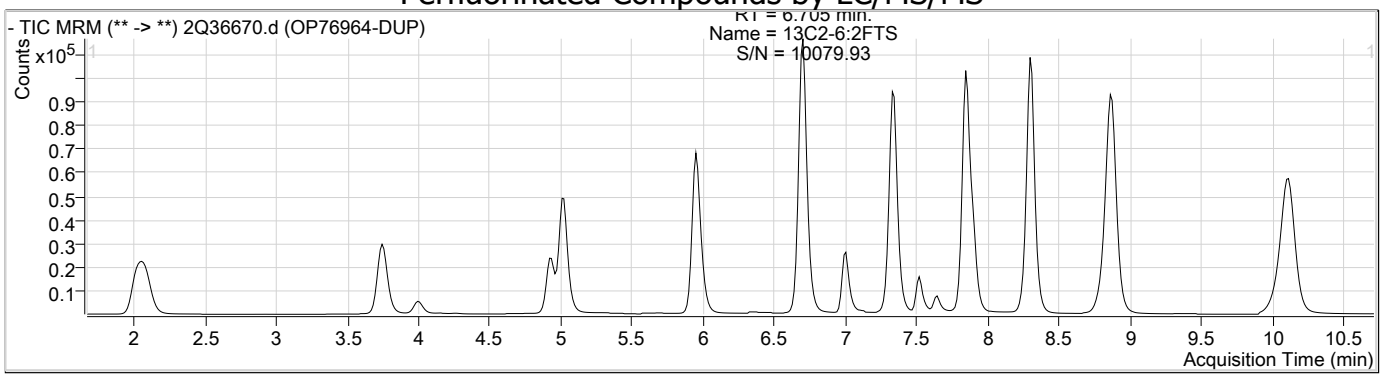
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	-	415.0 -> 370.0	-	N.D.		
13C4-PFOS	-	503.0 -> 80.0	-	N.D.		
M4-PFBA	2.052	217.0 -> 172.0	181469	20.00	µg/L	0.013
M5-PFPeA	3.749	268.0 -> 223.0	149356	20.00	µg/L	0.025
M5-PFHxA	5.026	318.0 -> 273.0	208334	20.00	µg/L	0.038
M4-PFHpA	5.955	367.0 -> 322.0	272788	20.00	µg/L	0.038
M8-PFOA	6.708	421.0 -> 376.0	344563	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	359035	20.00	µg/L	0.038
M6-PFDA	7.852	519.0 -> 474.0	386936	20.00	µg/L	0.013
M7-PFUnDA	8.299	570.0 -> 525.0	461261	20.00	µg/L	-0.013
M2-PFDoDA	8.864	615.0 -> 570.0	534325	20.00	µg/L	-0.038
M2-PFTeDA	10.112	715.0 -> 670.0	423675	20.00	µg/L	0.025
M8-FOSA	7.002	506.0 -> 78.0	89511	20.00	µg/L	0.038
M3-PFBS	3.992	302.0 -> 99.0	24001	20.00	µg/L	0.025
M3-PFHxS	5.985	402.0 -> 99.0	25862	20.00	µg/L	0.038
M8-PFOS	7.321	507.0 -> 99.0	35029	20.00	µg/L	0.038
M2-4:2FTS	4.921	329.0 -> 309.0	101099	20.00	µg/L	0.024
M2-6:2FTS	6.705	429.0 -> 409.0	142901	20.00	µg/L	0.038
M2-8:2FTS	7.900	529.0 -> 509.0	98836	20.00	µg/L	0.013
M3-MeFOSAA	7.518	573.0 -> 419.0	48213	20.00	µg/L	0.025
M3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	100663	17.29	µg/L	0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 86.4%		
13C2-6:2FTS	6.705	429.0 -> 409.0	142773	18.01	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
13C2-8:2FTS	7.900	529.0 -> 509.0	98839	18.36	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.8%		
13C2-PFDoDA	8.864	615.0 -> 570.0	531214	15.22	µg/L	-0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 76.1%		
13C2-PFTeDA	10.112	715.0 -> 670.0	422710	15.86	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 79.3%		
13C3-PFBS	3.992	302.0 -> 99.0	23979	17.54	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.7%		
13C3-PFHxS	5.985	402.0 -> 99.0	25909	17.58	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 87.9%		
13C4-PFBA	2.052	217.0 -> 172.0	180509	18.44	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.2%		
13C4-PFHpA	5.955	367.0 -> 322.0	272583	17.90	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.5%		
13C5-PFHxA	5.026	318.0 -> 273.0	208112	17.83	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 89.1%		
13C5-PFPeA	3.749	268.0 -> 223.0	149482	18.16	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.8%		
13C6-PFDA	7.852	519.0 -> 474.0	386802	18.28	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

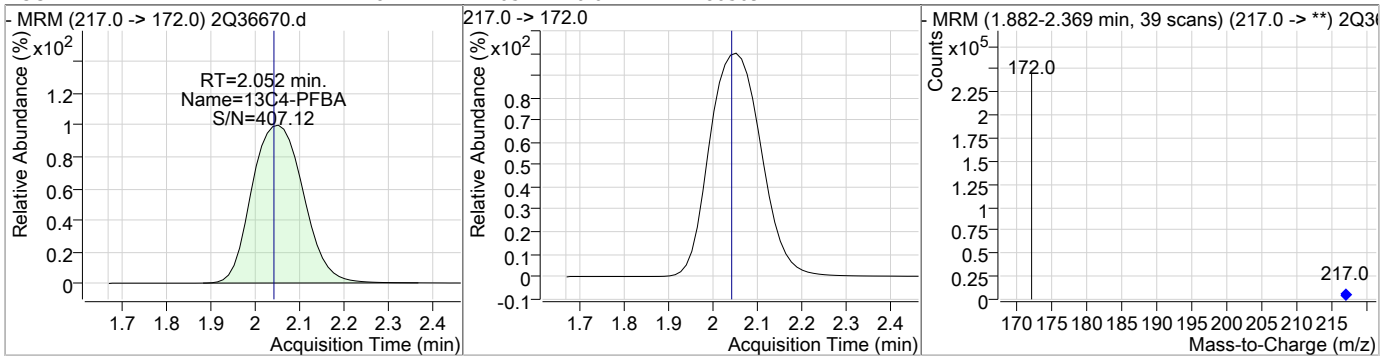
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C7-PFUnDA	8.299	570.0 -> 525.0	460817	16.63 µg/L		-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 83.1%		
13C8-FOSA	7.002	506.0 -> 78.0	89440	15.72 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 78.6%		
13C8-PFOA	6.708	421.0 -> 376.0	344328	18.82 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C8-PFOS	7.321	507.0 -> 99.0	35024	17.99 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
13C9-PFNA	7.351	472.0 -> 427.0	359103	19.00 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.0%		
d3-MeFOSAA	7.518	573.0 -> 419.0	48218	14.75 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 73.8%		
M2-PFOA	-	415.0 -> 370.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
M4-PFOS	-	503.0 -> 80.0	-	N.D.		
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = NA%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	4.174	299.0 -> 80.0	0	0.00 µg/L	m	1
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

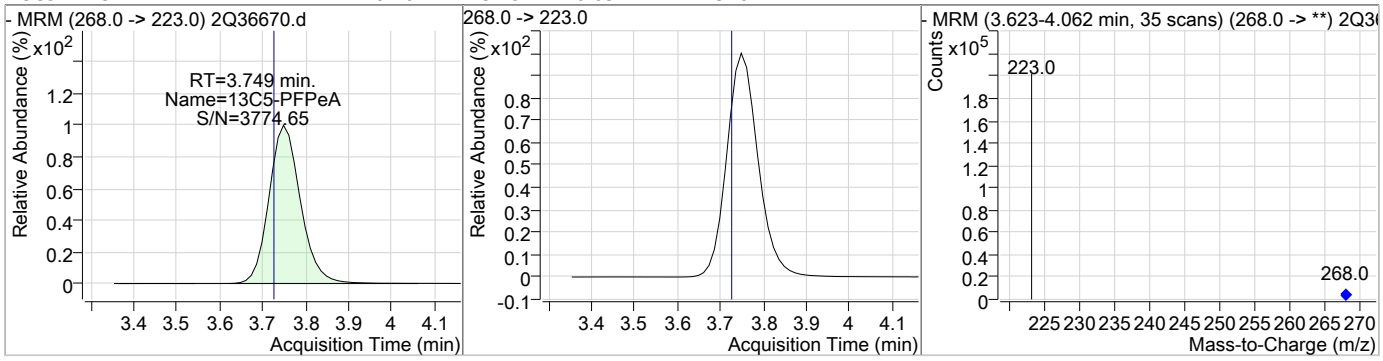
Perfluorinated Compounds by LC/MS/MS



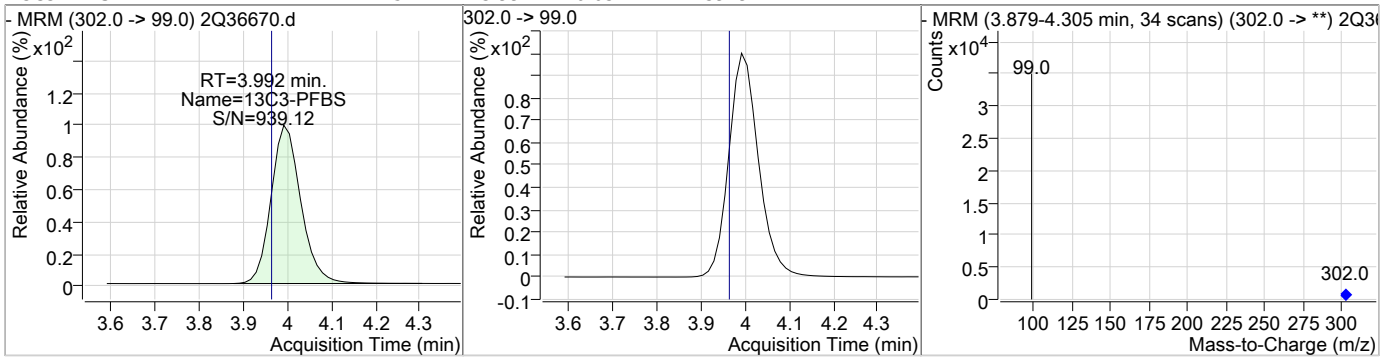
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	18.44	2.05	0.01	180509				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	18.16	3.75	0.03	149482				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	17.54	3.99	0.03	23979				



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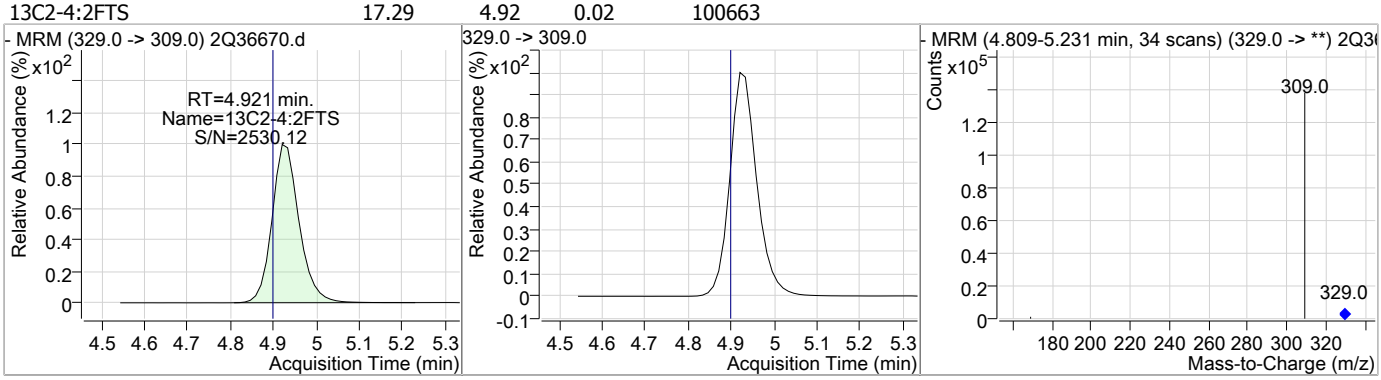
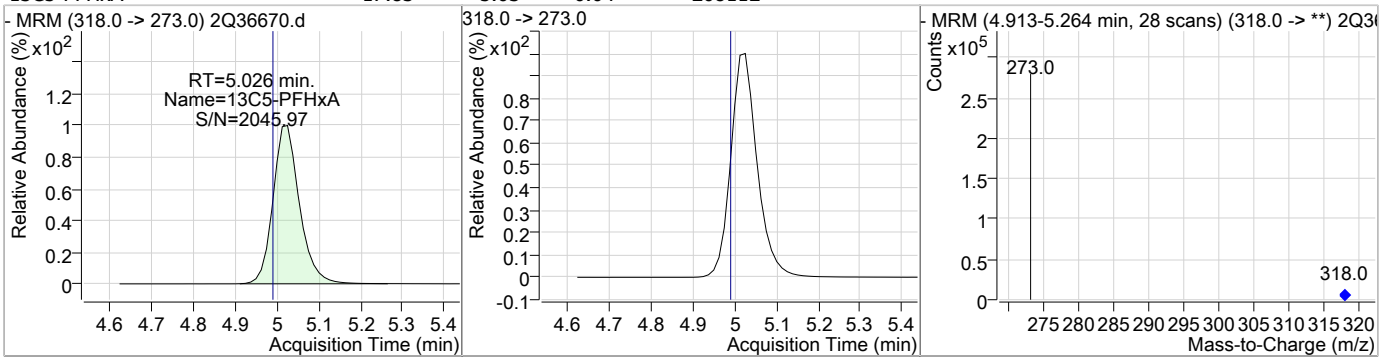
Perfluorinated Compounds by LC/MS/MS

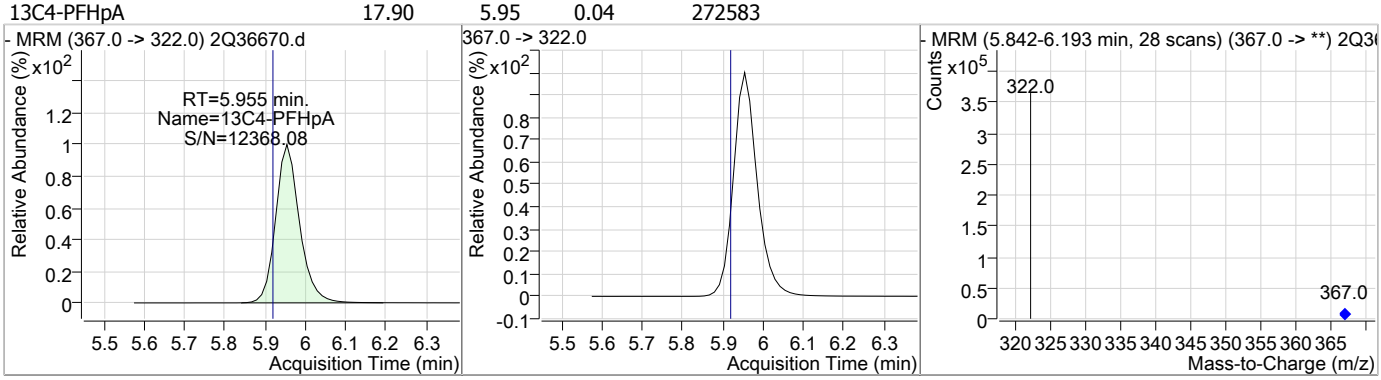
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	17.29	4.92	0.02	100663				



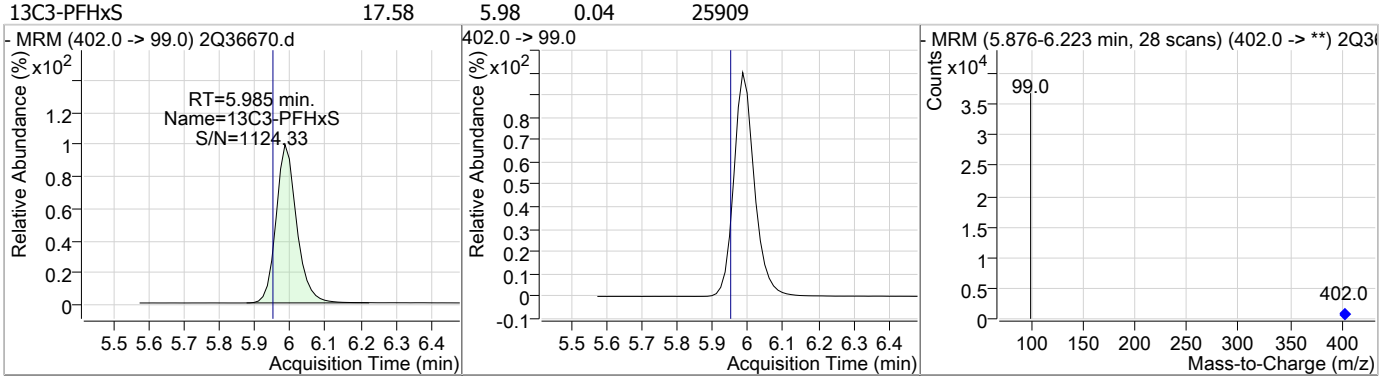
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	17.83	5.03	0.04	208112				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	17.90	5.95	0.04	272583				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	17.58	5.98	0.04	25909				



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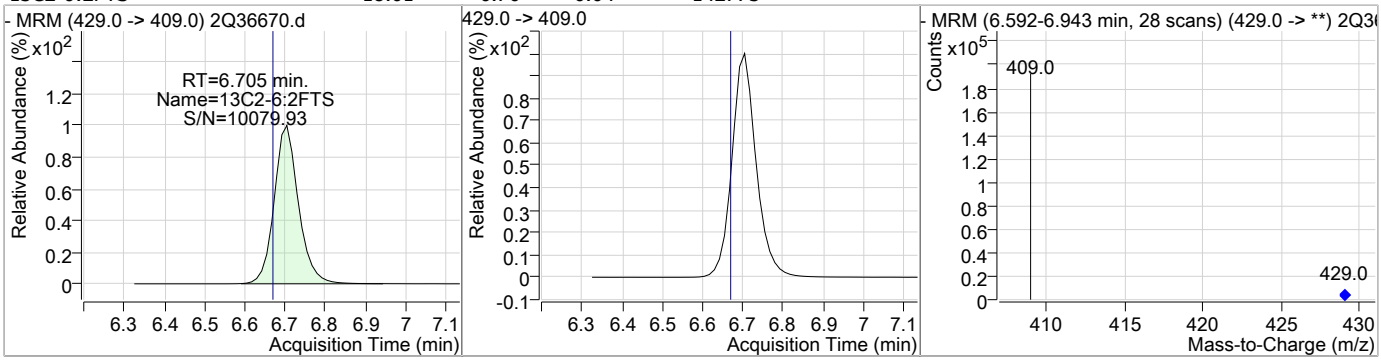
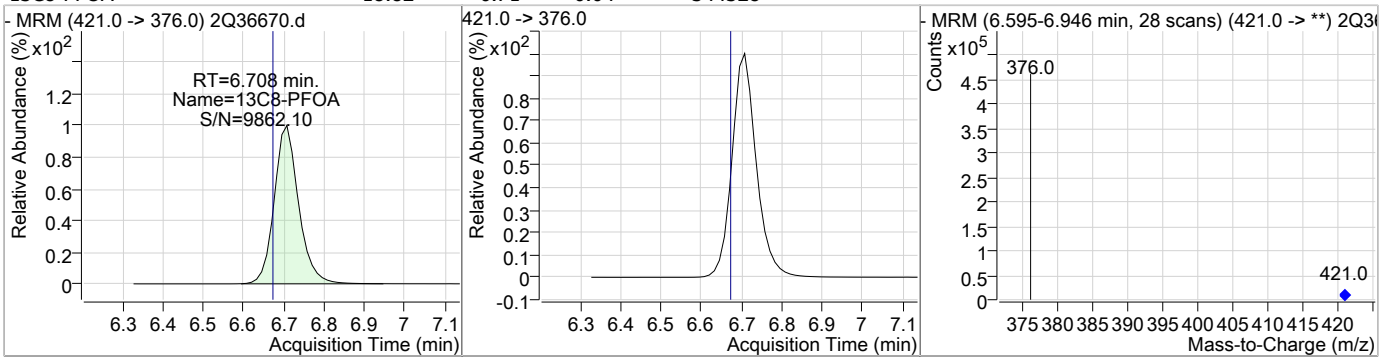
Perfluorinated Compounds by LC/MS/MS

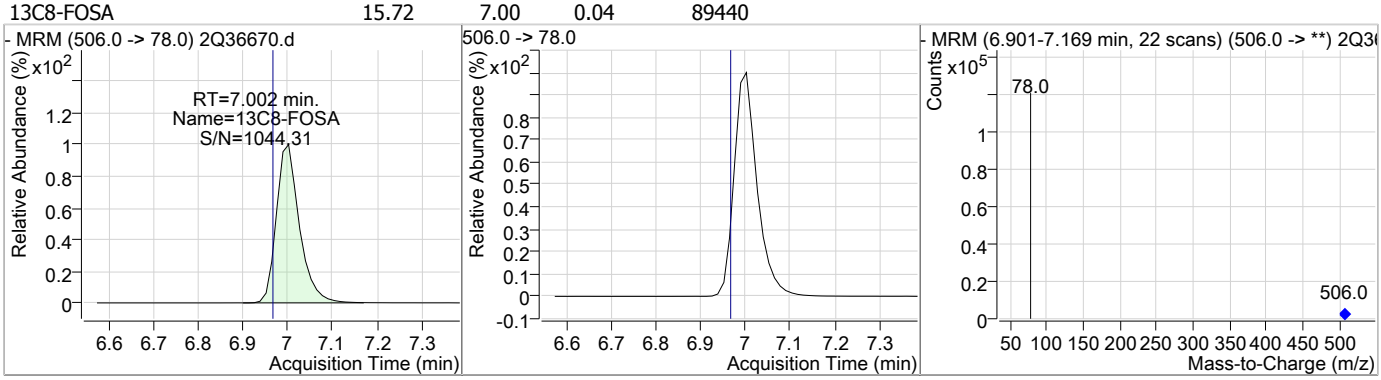
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	18.01	6.70	0.04	142773				



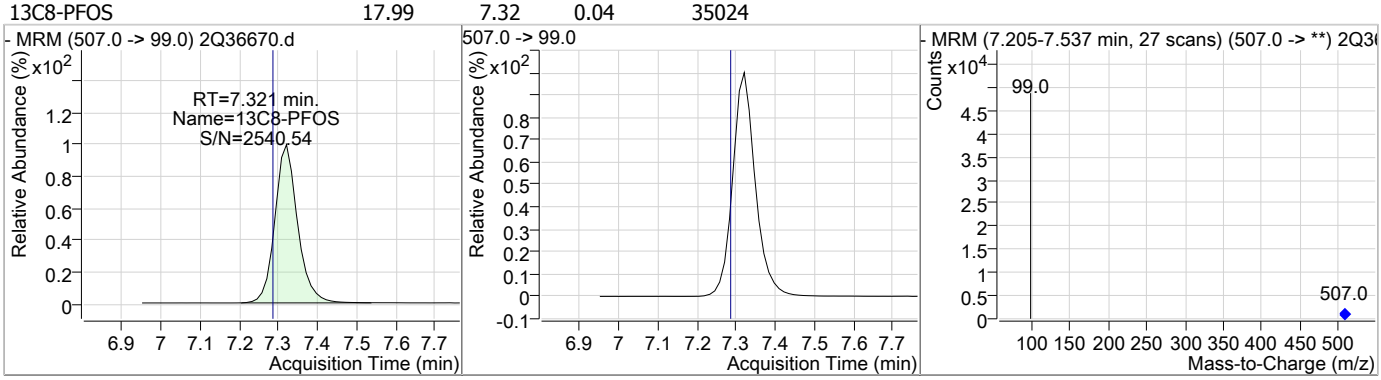
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.82	6.71	0.04	344328				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	15.72	7.00	0.04	89440				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	17.99	7.32	0.04	35024				



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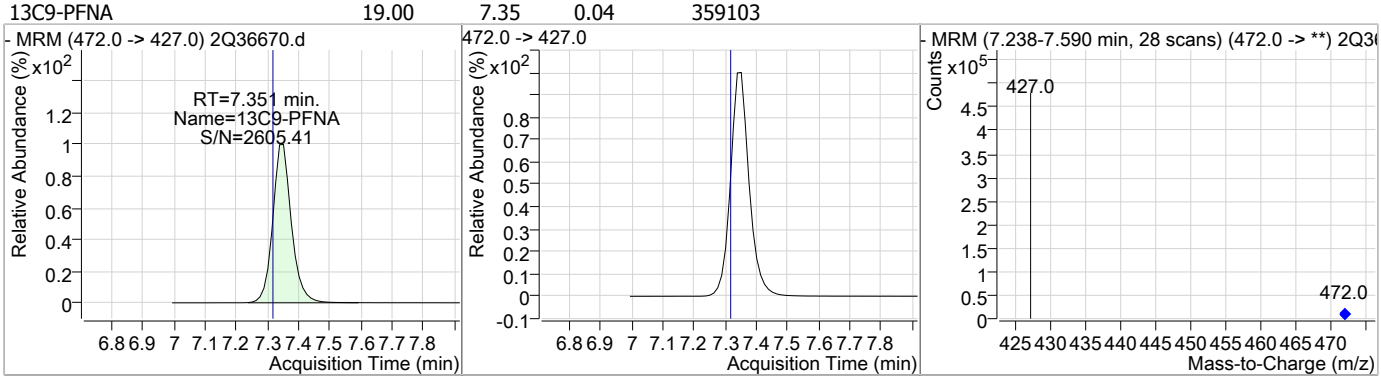
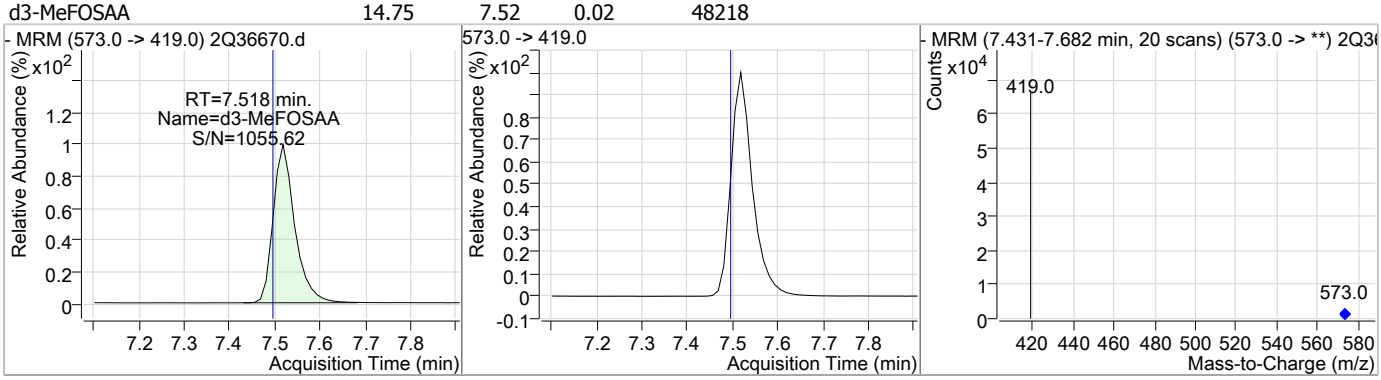
Perfluorinated Compounds by LC/MS/MS

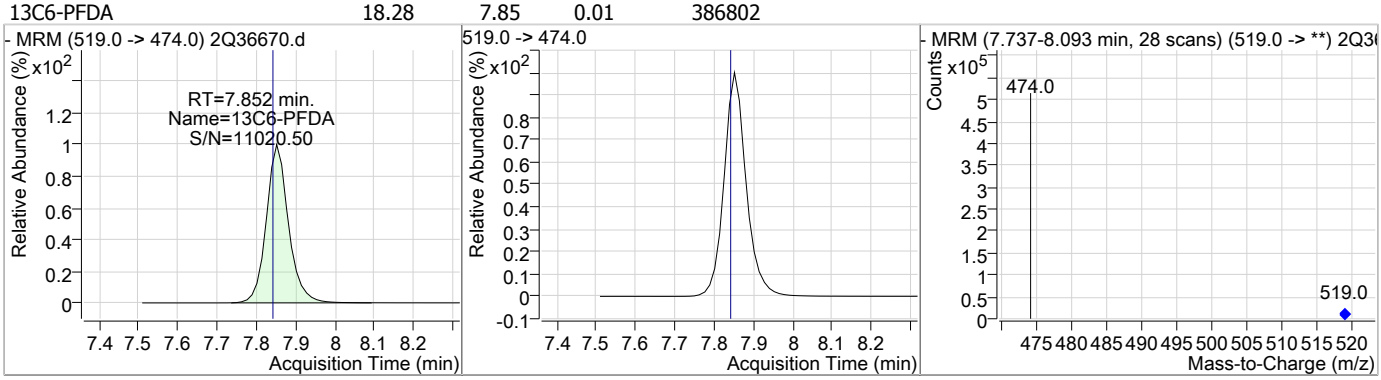
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.00	7.35	0.04	359103				



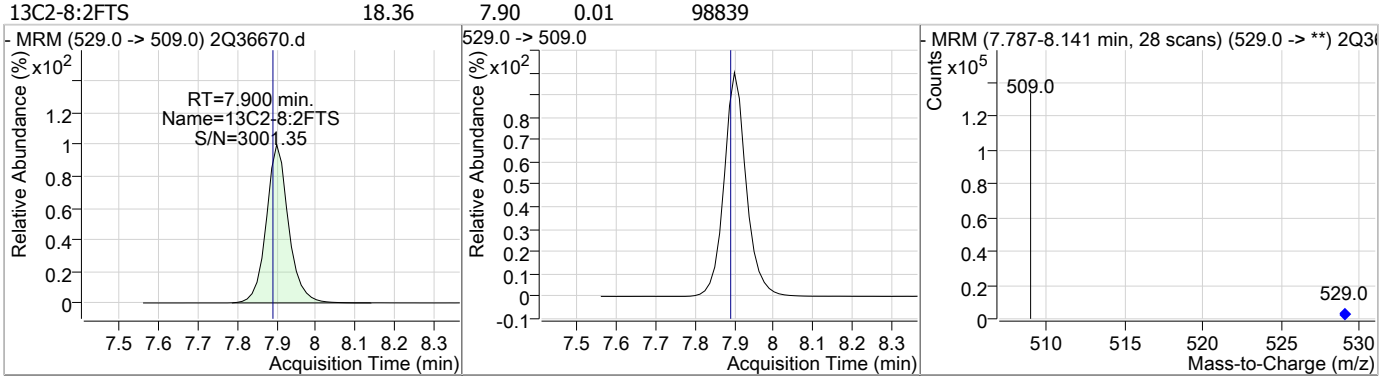
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	14.75	7.52	0.02	48218				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.28	7.85	0.01	386802				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.36	7.90	0.01	98839				



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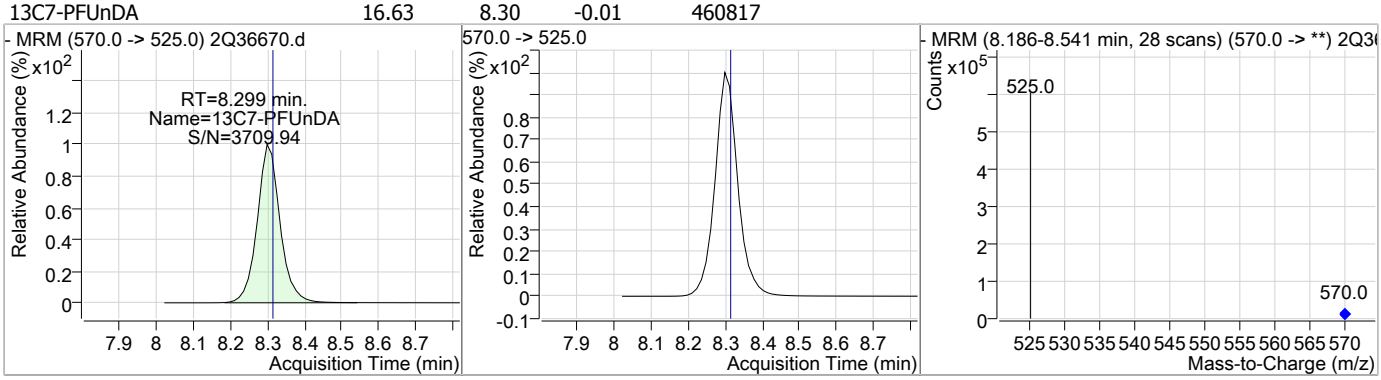
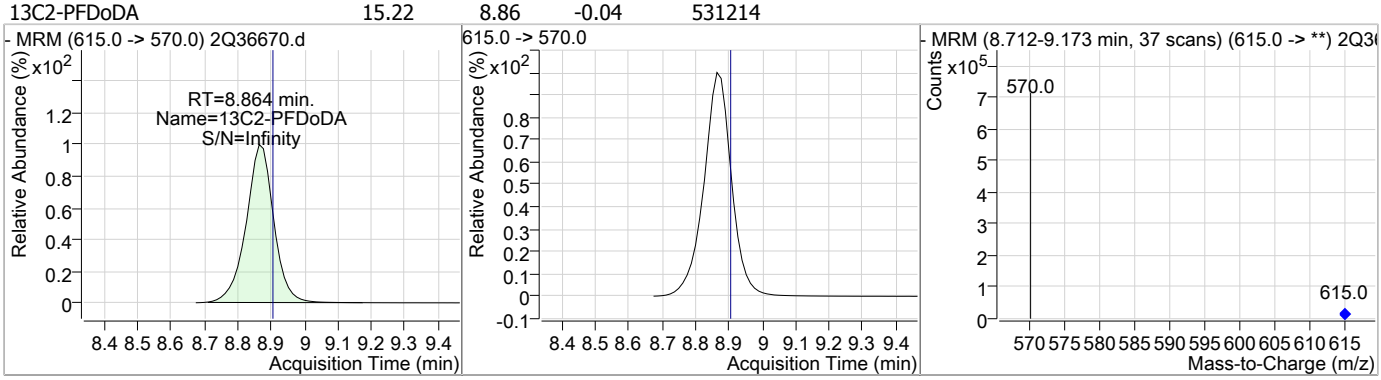
Perfluorinated Compounds by LC/MS/MS

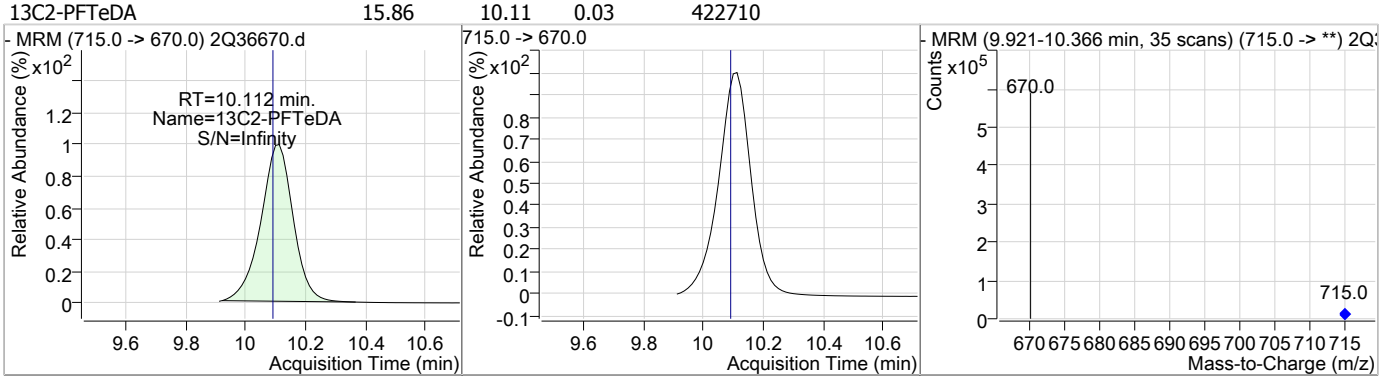
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	16.63	8.30	-0.01	460817				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	15.22	8.86	-0.04	531214				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	15.86	10.11	0.03	422710				



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QQQ Check Tune Report

Agilent Technologies

Instrument Name	Instrument 1
MS Model	G6470A
MS Instrument Serial	SG1636G008
Software_Firmware Version	B.08.00.B8023.0, FW: A.00.08.21
Tune Date & Time	09:23:19 09:08:22
Data Path	D:\MassHunter\Tune\QQQ\G6470A\atunes.TUNE.XML
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.70E+0[R]; 3.29E-5[H]

Source Parameters

Parameter	Value
Gas Temp	300
Gas Flow	8
Nebulizer	15
Capillary	4000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

QQQ Check Tune Report

Agilent Technologies

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.00	0.01	Pass	0.70	0.71	0.01	Pass	332880
302.00	302.01	0.01	Pass	0.70	0.73	0.03	Pass	151890
601.98	602.01	0.03	Pass	0.70	0.74	0.04	Pass	171048
1033.99	1034.06	0.07	Pass	0.70	0.67	-0.03	Pass	323840
1633.95	1634.01	0.06	Pass	0.70	0.67	-0.03	Pass	458513
2233.91	2233.92	0.01	Pass	0.70	0.73	0.03	Pass	170183

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.98	-0.01	Pass	0.70	0.68	-0.02	Pass	209588
302.00	302.00	0.00	Pass	0.70	0.69	-0.01	Pass	134356
601.98	602.01	0.03	Pass	0.70	0.69	-0.01	Pass	217046
1033.99	1033.99	0.00	Pass	0.70	0.68	-0.02	Pass	373922
1633.95	1633.92	-0.03	Pass	0.70	0.67	-0.03	Pass	1280900
2233.91	2233.83	-0.08	Pass	0.70	0.71	0.01	Pass	686101

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.00	0.01	Pass	1.20	1.28	0.08	Pass	380267
302.00	301.99	-0.01	Pass	1.20	1.39	0.19	Pass	192433
601.98	602.00	0.02	Pass	1.20	1.44	0.24	Pass	287194
1033.99	1034.03	0.04	Pass	1.20	1.31	0.11	Pass	600044
1633.95	1633.98	0.03	Pass	1.20	1.34	0.14	Pass	613534
2233.91	2233.72	-0.19	Pass	1.20	1.35	0.15	Pass	222343

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.99	0.00	Pass	1.20	1.16	-0.04	Pass	318234
302.00	301.99	-0.01	Pass	1.20	0.97	-0.23	Pass	177070
601.98	601.96	-0.02	Pass	1.20	1.00	-0.20	Pass	277391
1033.99	1033.95	-0.04	Pass	1.20	0.98	-0.22	Pass	540702
1633.95	1633.89	-0.06	Pass	1.20	1.13	-0.07	Pass	2049342
2233.91	2233.91	0.00	Pass	1.20	1.26	0.06	Pass	1596707

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.99	0.00	Pass	2.50	2.46	-0.04	Pass	459144
302.00	302.00	0.00	Pass	2.50	2.62	0.12	Pass	253952
601.98	602.08	0.10	Pass	2.50	2.50	0.00	Pass	458044
1033.99	1034.17	0.18	Pass	2.50	2.46	-0.04	Pass	1288498
1633.95	1633.98	0.03	Pass	2.50	2.27	-0.23	Pass	2297294
2233.91	2233.96	0.05	Pass	2.50	2.41	-0.09	Pass	1089344

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.97	-0.02	Pass	2.50	2.53	0.03	Pass	442649
302.00	302.01	0.01	Pass	2.50	2.30	-0.20	Pass	264872
601.98	601.97	-0.01	Pass	2.50	2.24	-0.26	Pass	480212
1033.99	1033.98	-0.01	Pass	2.50	2.16	-0.34	Pass	1292811
1633.95	1633.93	-0.02	Pass	2.50	2.29	-0.21	Pass	5588512
2233.91	2233.83	-0.08	Pass	2.50	2.32	-0.18	Pass	5037163

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36449.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 1:57:49 PM
Sample Name	:	ic568-0.5
Vial	:	Vial 2
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

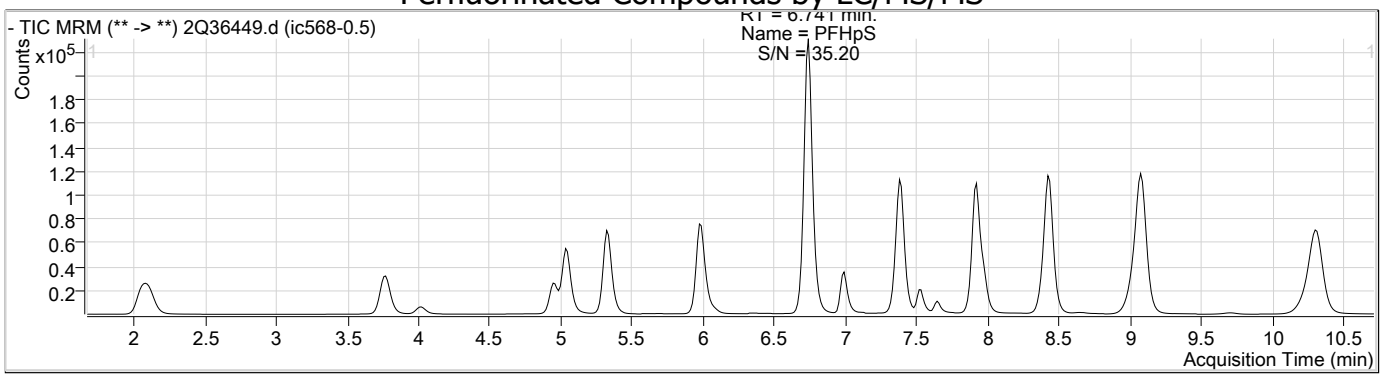
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	448000	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	64037	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	196650	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	164368	20.00	µg/L	0.000
M5-PFHxA	5.038	318.0 -> 273.0	233717	20.00	µg/L	-0.013
M4-PFHpA	5.980	367.0 -> 322.0	308017	20.00	µg/L	-0.013
M8-PFOA	6.745	421.0 -> 376.0	373295	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	383373	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	433467	20.00	µg/L	0.000
M7-PFUnDA	8.428	570.0 -> 525.0	567296	20.00	µg/L	0.000
M2-PFDoDA	9.073	615.0 -> 570.0	712392	20.00	µg/L	0.000
M2-PFTeDA	10.300	715.0 -> 670.0	532991	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	119424	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27623	20.00	µg/L	0.000
M3-PFHxS	6.010	402.0 -> 99.0	29605	20.00	µg/L	-0.013
M8-PFOS	7.371	507.0 -> 99.0	39836	20.00	µg/L	0.000
M2-4:2FTS	4.946	329.0 -> 309.0	109878	20.00	µg/L	-0.013
M2-6:2FTS	6.742	429.0 -> 409.0	152824	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	101669	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	64991	20.00	µg/L	0.000
M3-HFPO-DA	5.330	287.0 -> 169.0	291801	100.00	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	4.946	329.0 -> 309.0	109583	18.82	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C2-6:2FTS	6.742	429.0 -> 409.0	152766	19.27	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.3%		
13C2-8:2FTS	7.976	529.0 -> 509.0	101648	18.88	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.4%		
13C2-PFDoDA	9.073	615.0 -> 570.0	707174	20.26	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C2-PFTeDA	10.300	715.0 -> 670.0	532105	19.97	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C3-PFBS	4.017	302.0 -> 99.0	27538	20.15	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C3-PFHxS	6.010	402.0 -> 99.0	29636	20.11	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C4-PFBA	2.077	217.0 -> 172.0	195491	19.97	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C4-PFHpA	5.980	367.0 -> 322.0	307444	20.19	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C5-PFHxA	5.038	318.0 -> 273.0	233386	19.99	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C5-PFPeA	3.774	268.0 -> 223.0	164614	20.00	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C6-PFDA	7.928	519.0 -> 474.0	433863	20.50	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

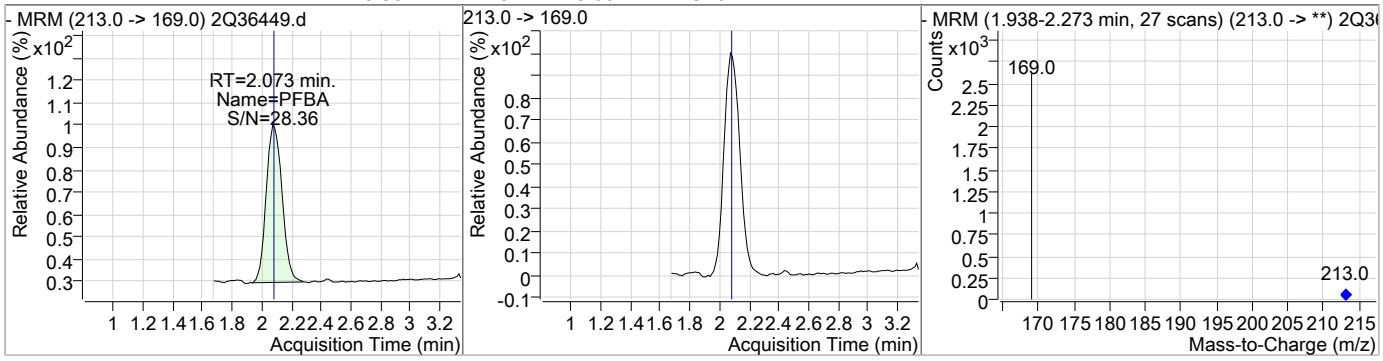
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C7-PFUnDA	8.428	570.0 -> 525.0	565056	20.39 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C8-FOSA	6.990	506.0 -> 78.0	119321	20.97 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%		
13C8-PFOA	6.745	421.0 -> 376.0	372916	20.38 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C8-PFOS	7.371	507.0 -> 99.0	39817	20.45 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C9-PFNA	7.401	472.0 -> 427.0	383517	20.29 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
d3-MeFOSAA	7.531	573.0 -> 419.0	64980	19.88 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
M2-PFOA	6.747	415.0 -> 370.0	448255	19.99 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
M4-PFOS	7.373	503.0 -> 80.0	64083	20.02 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C3-HFPO-DA	5.330	287.0 -> 169.0	291801	102.64 µg/L		0.000
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
Target Compounds						**QValue**
4:2FTS	4.949	327.0 -> 307.0	1592	0.51 µg/L		89
6:2FTS	6.744	427.0 -> 407.0	1969	0.52 µg/L		96
8:2FTS	7.978	527.0 -> 507.0	1378	0.51 µg/L		92
EtFOSAA	7.656	584.0 -> 419.0	840	0.62 µg/L		94
FOSA	6.981	498.0 -> 78.0	1577	0.51 µg/L		97
MeFOSAA	7.532	570.0 -> 419.0	825	0.48 µg/L		97
PFBA	2.073	213.0 -> 169.0	916	0.50 µg/L		100
PFBS	4.008	299.0 -> 80.0	1060	0.49 µg/L		97
PFDA	7.930	513.0 -> 469.0	5493	0.51 µg/L		99
PFDoDA	9.079	613.0 -> 569.0	7859	0.48 µg/L		100
PFDS	8.375	599.0 -> 80.0	413	0.49 µg/L		96
PFHpA	5.982	363.0 -> 319.0	6958	0.50 µg/L		100
PFHpS	6.741	449.0 -> 80.0	856	0.54 µg/L		93
PFHxA	5.040	313.0 -> 269.0	1940	0.54 µg/L		96
PFHxS	6.012	399.0 -> 80.0	981	0.56 µg/L	m	88
PFNA	7.402	463.0 -> 419.0	5826	0.49 µg/L		97
PFNS	7.885	549.0 -> 80.0	680	0.52 µg/L		96
PFOA	6.749	413.0 -> 369.0	5086	0.51 µg/L		98
PFOS	7.362	499.0 -> 80.0	1104	0.58 µg/L	m	93
PFPeA	3.777	263.0 -> 219.0	4136	0.50 µg/L		100
PFPeS	5.157	349.0 -> 80.0	616	0.51 µg/L		94
PFTeDA	10.306	713.0 -> 669.0	8388	0.51 µg/L		98
PFTrDA	9.699	663.0 -> 619.0	7666	0.49 µg/L		99
PFUnDA	8.431	563.0 -> 519.0	6452	0.48 µg/L		99
11Cl-PF3OUdS	8.649	631.0 -> 451.0	4292	0.47 µg/L		99
9Cl-PF3ONS	7.647	531.0 -> 351.0	667	0.43 µg/L		96
ADONA	6.078	377.0 -> 251.0	7973	0.45 µg/L		98
HFPO-DA	5.335	329.0 -> 169.0	7645	2.54 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

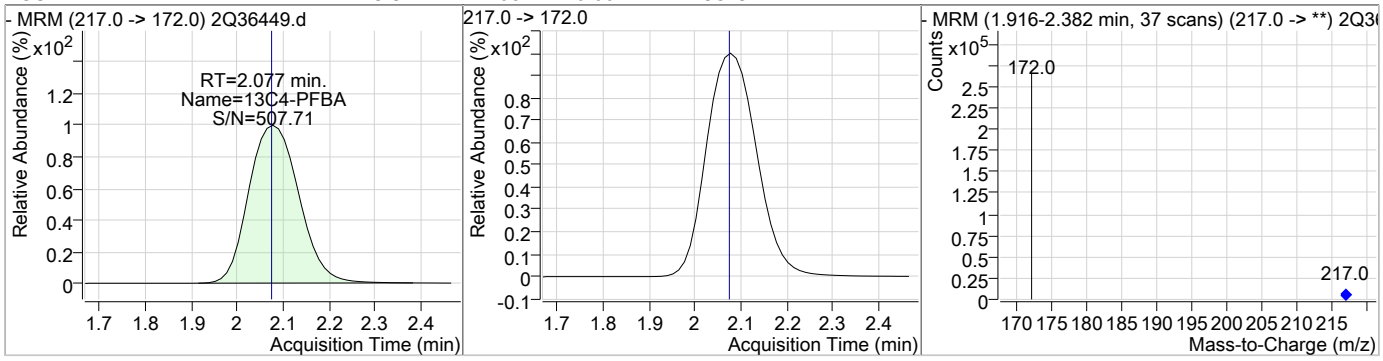
Perfluorinated Compounds by LC/MS/MS



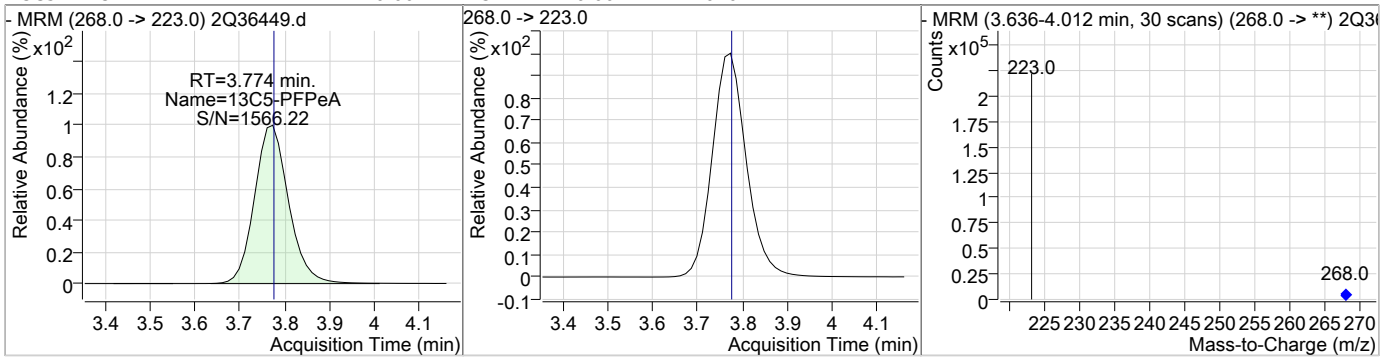
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.50	2.07	0.00	916				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.97	2.08	0.00	195491				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.00	3.77	0.00	164614				



12.6.2

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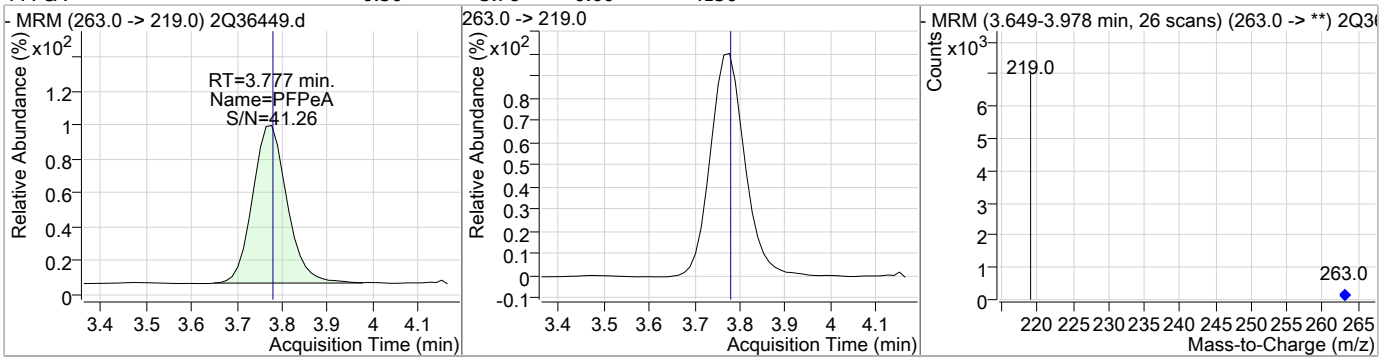
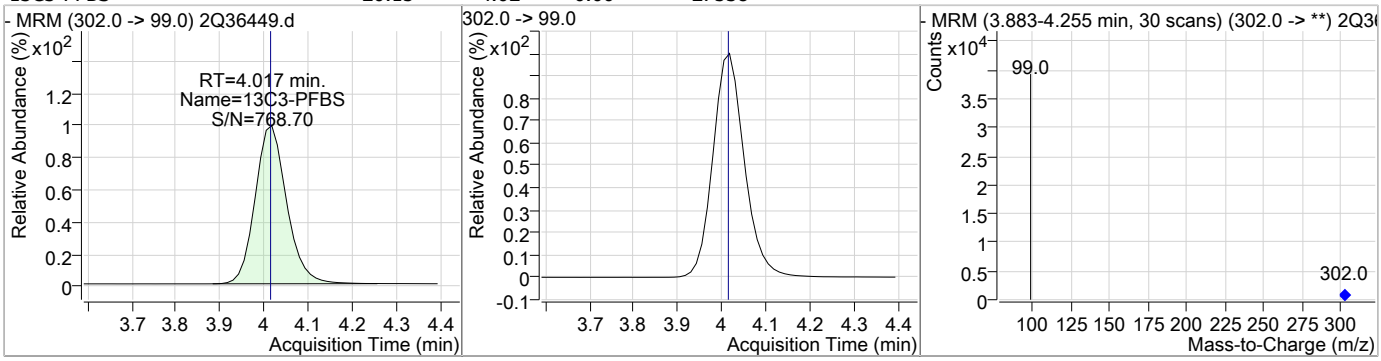
Perfluorinated Compounds by LC/MS/MS

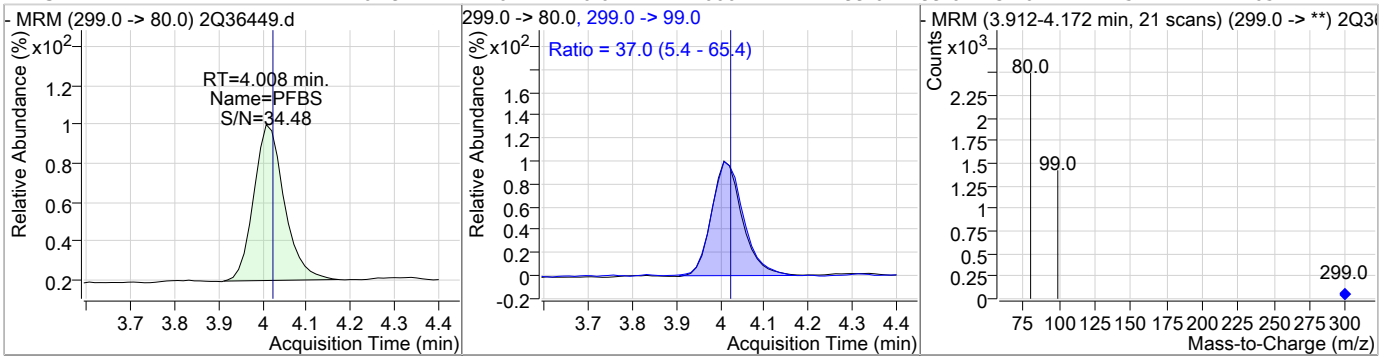
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.50	3.78	0.00	4136				



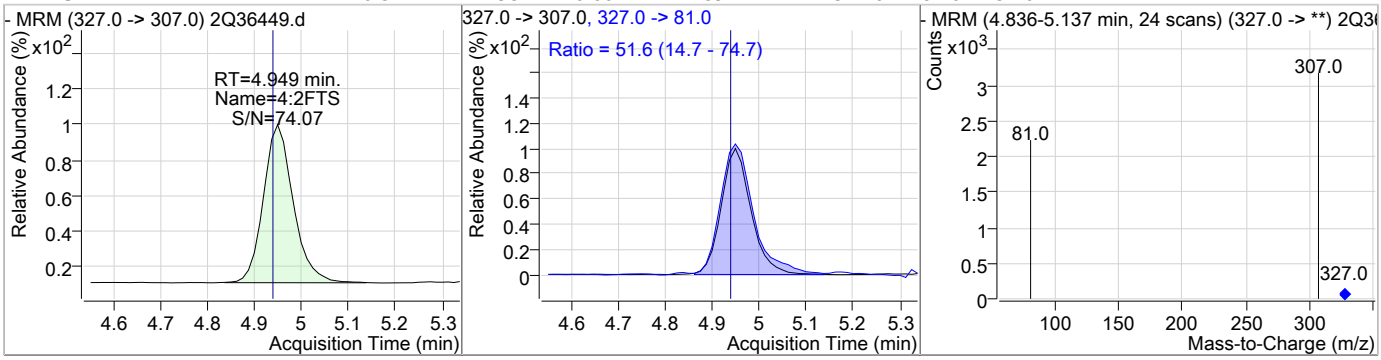
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.15	4.02	0.00	27538				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.49	4.01	-0.01	1060	299.0 -> 99.0	37.0	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.51	4.95	0.00	1592	327.0 -> 81.0	51.6	14.7	74.7



12.6.2

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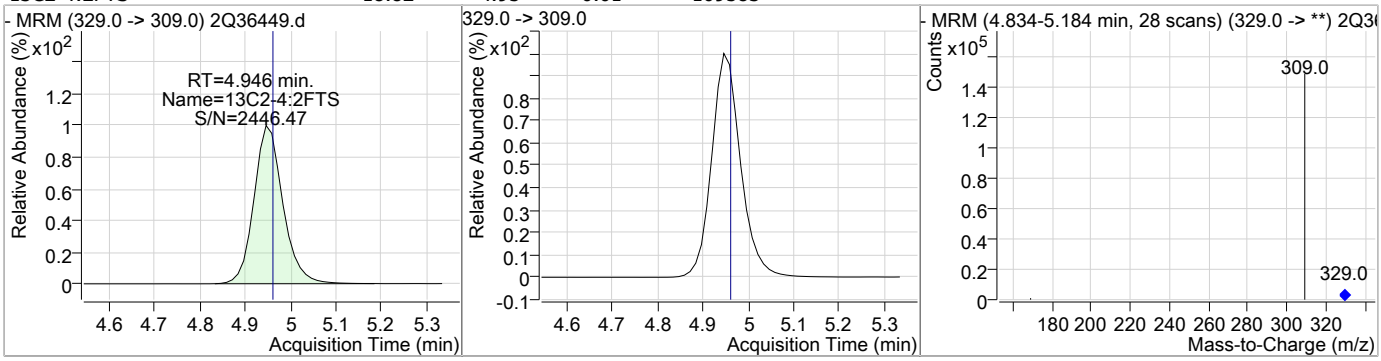
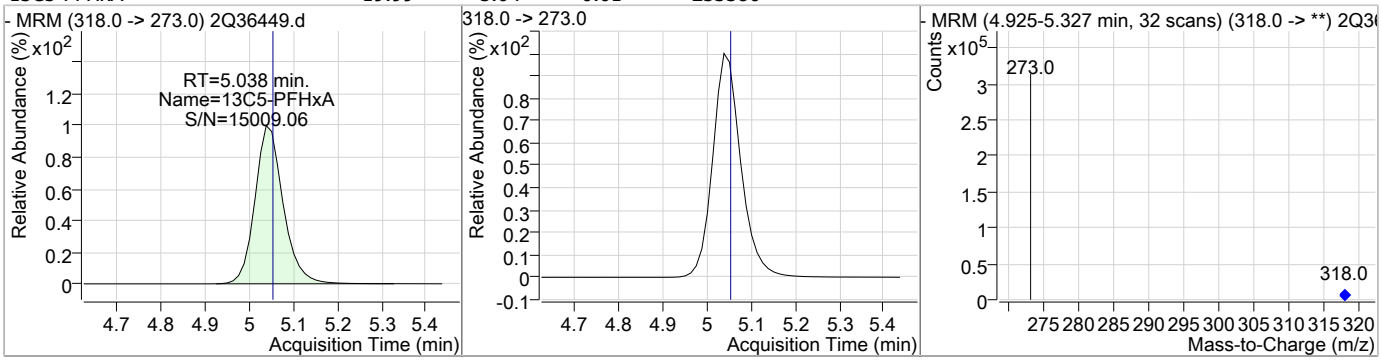
Perfluorinated Compounds by LC/MS/MS

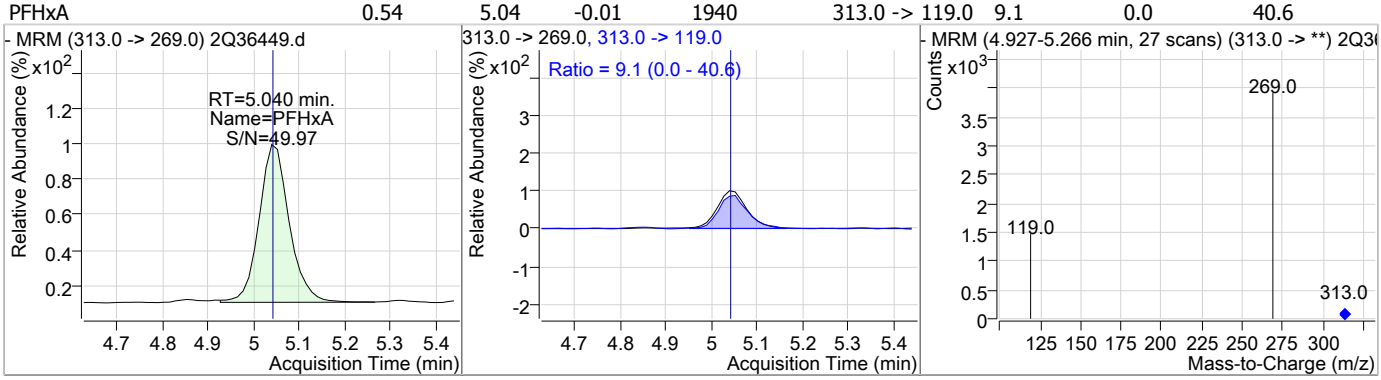
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.82	4.95	-0.01	109583				



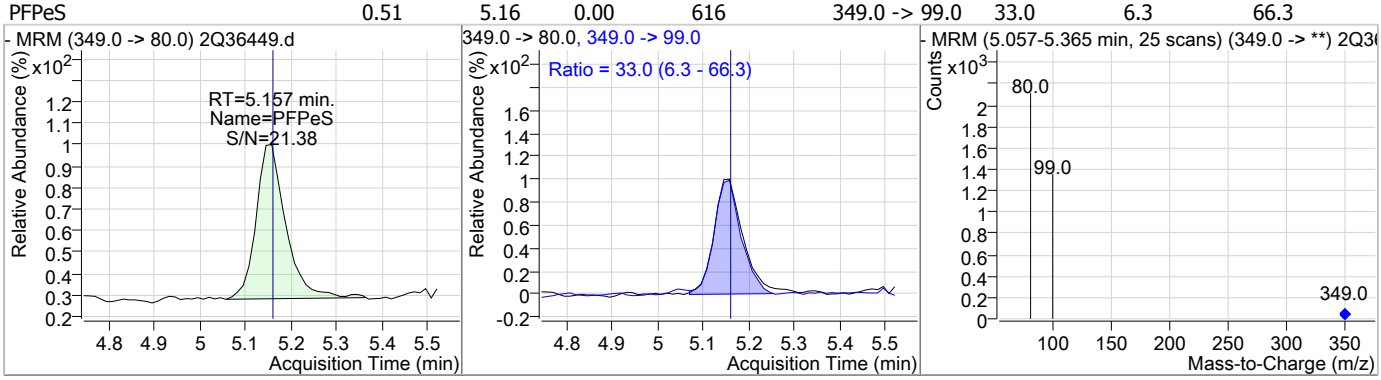
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.99	5.04	-0.01	233386				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.54	5.04	-0.01	1940	313.0 -> 119.0	9.1	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.51	5.16	0.00	616	349.0 -> 99.0	33.0	6.3	66.3



12.6.2

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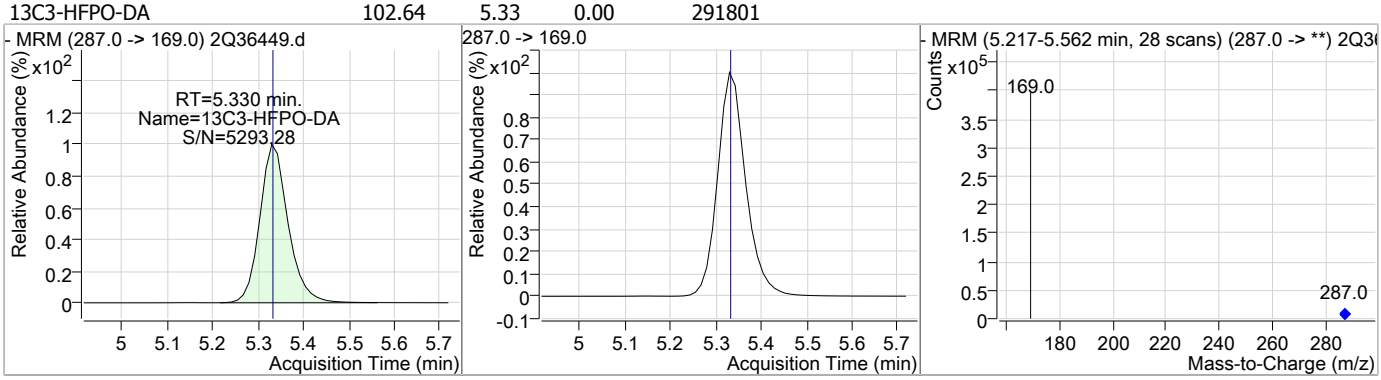
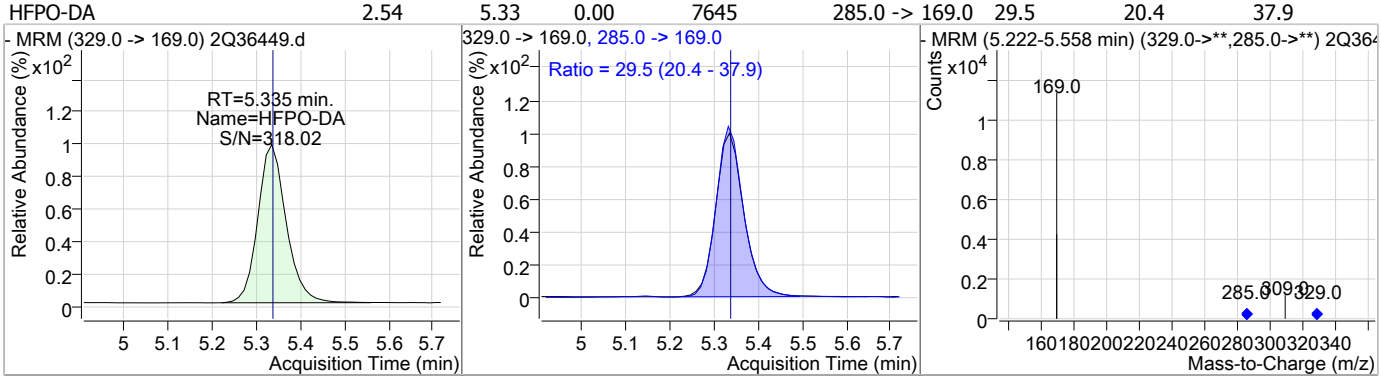
Perfluorinated Compounds by LC/MS/MS

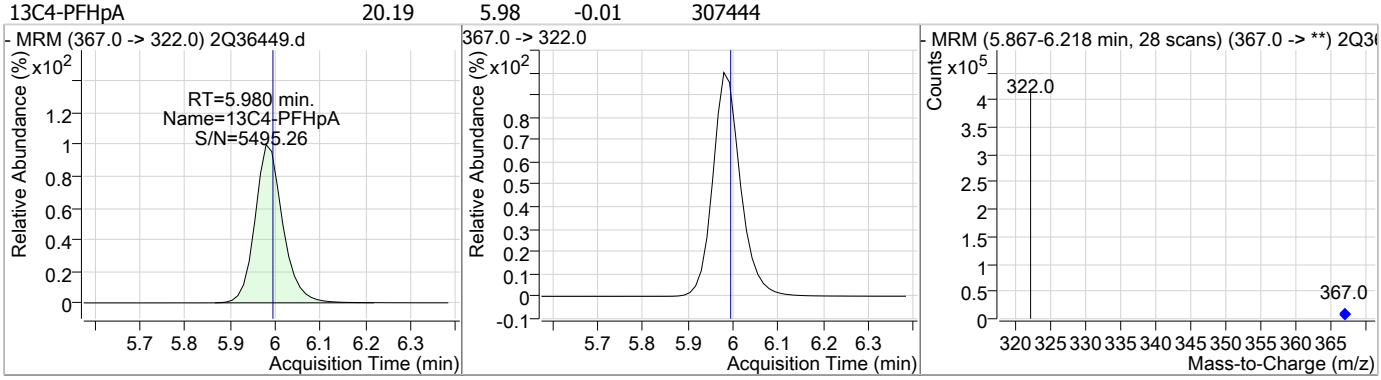
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	102.64	5.33	0.00	291801				



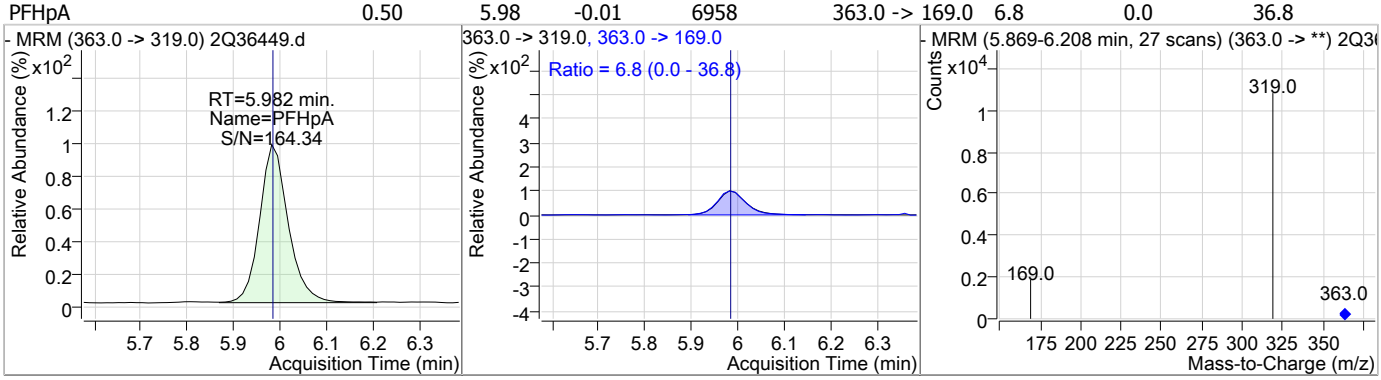
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.54	5.33	0.00	7645	285.0 -> 169.0	29.5	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.19	5.98	-0.01	307444				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.50	5.98	-0.01	6958	363.0 -> 169.0	6.8	0.0	36.8



12.6.2

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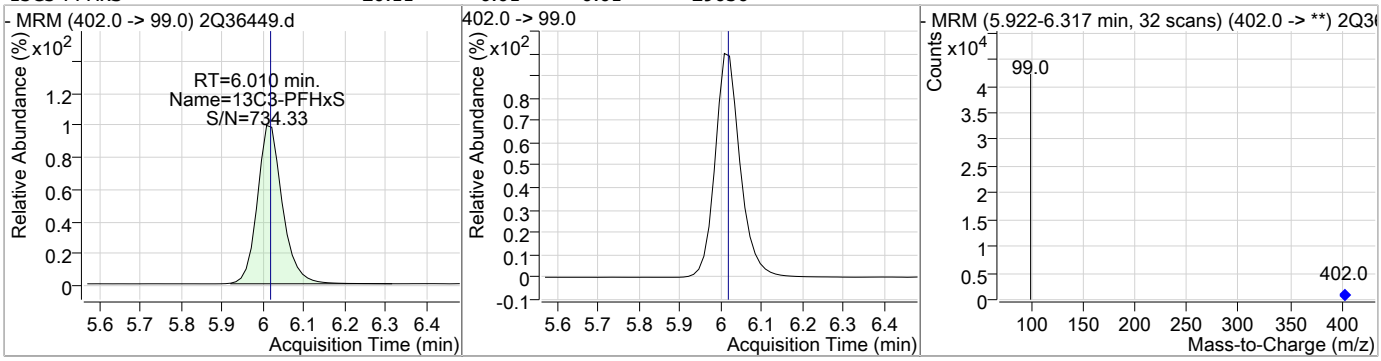
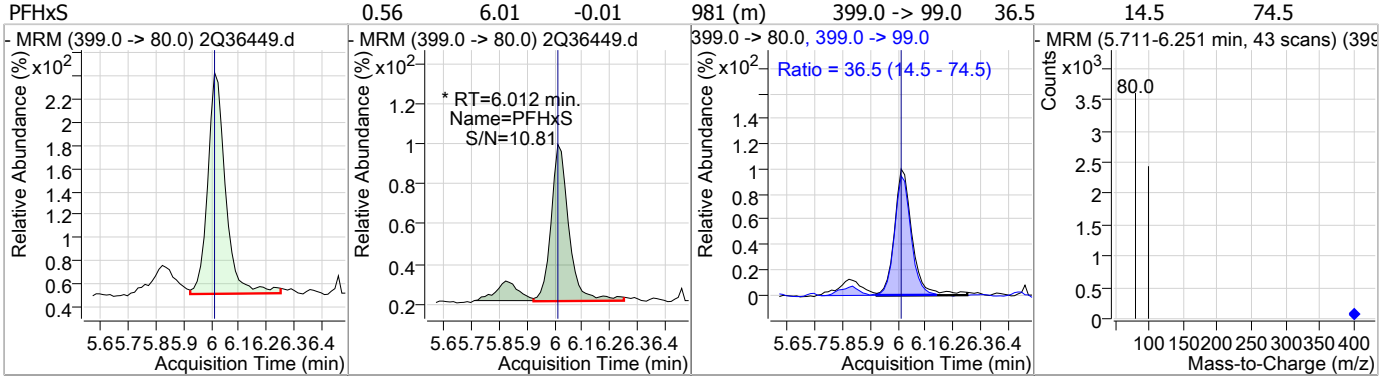
Perfluorinated Compounds by LC/MS/MS

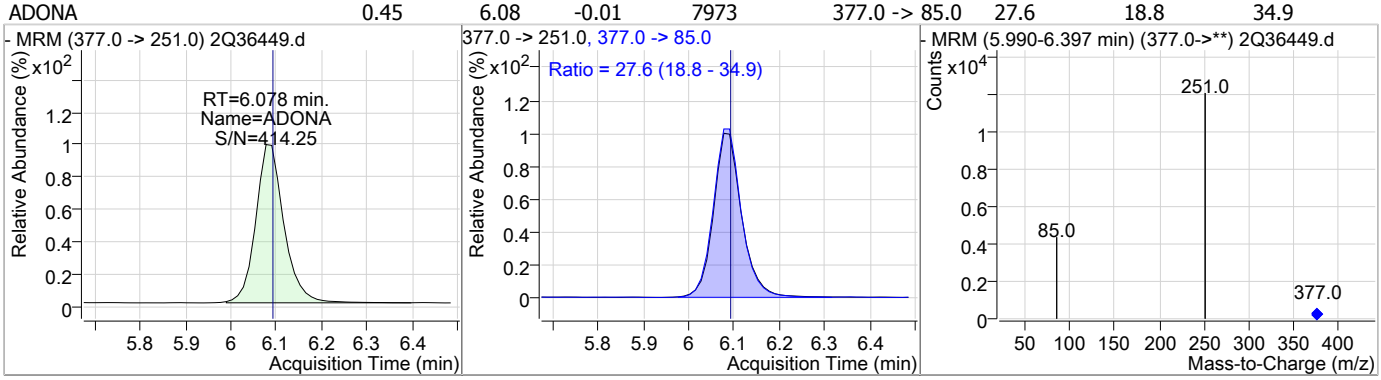
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.11	6.01	-0.01	29636				



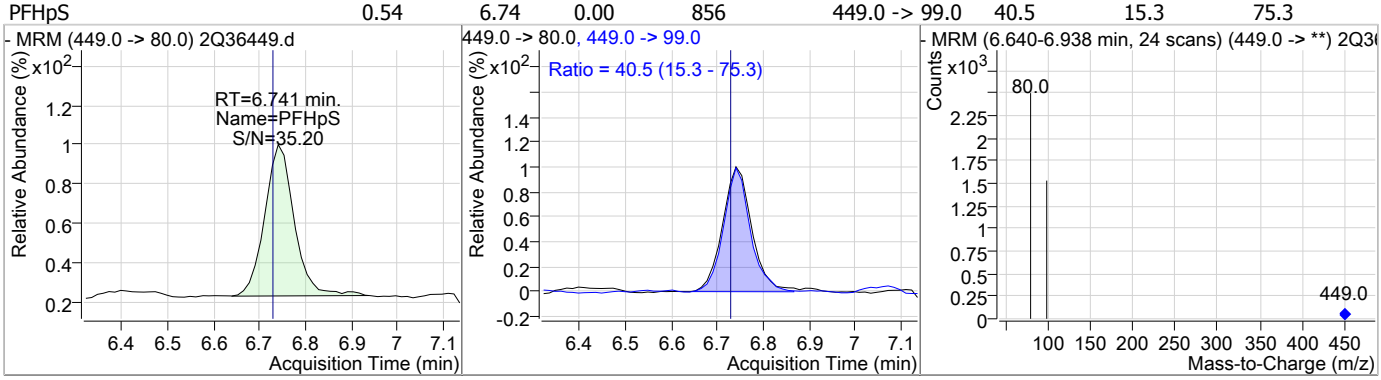
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.56	6.01	-0.01	981 (m)	399.0 -> 99.0	36.5	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.45	6.08	-0.01	7973	377.0 -> 85.0	27.6	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.54	6.74	0.00	856	449.0 -> 99.0	40.5	15.3	75.3



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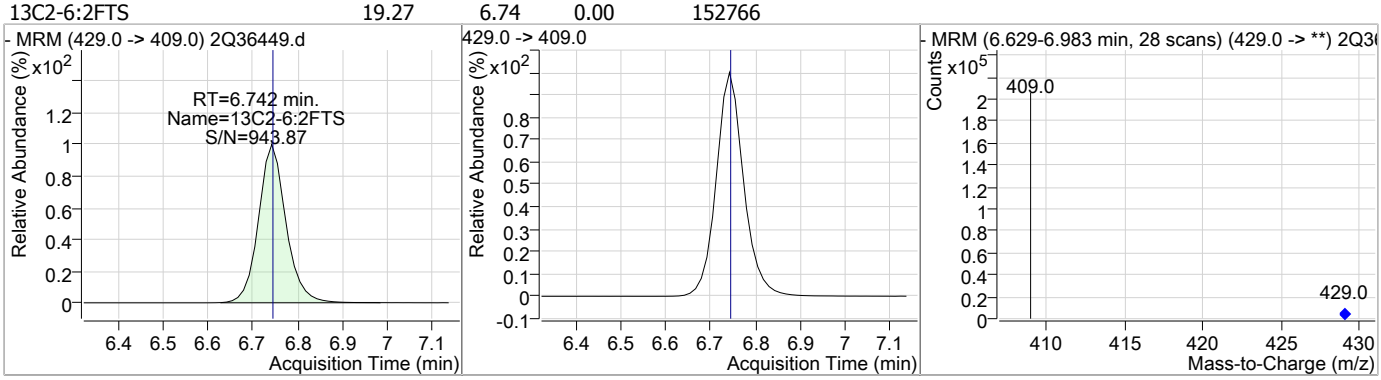
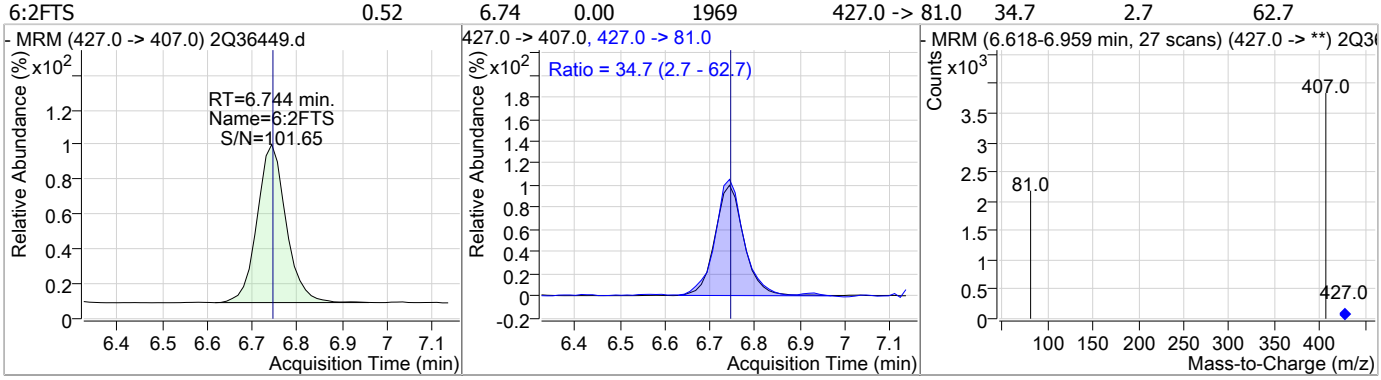
Perfluorinated Compounds by LC/MS/MS

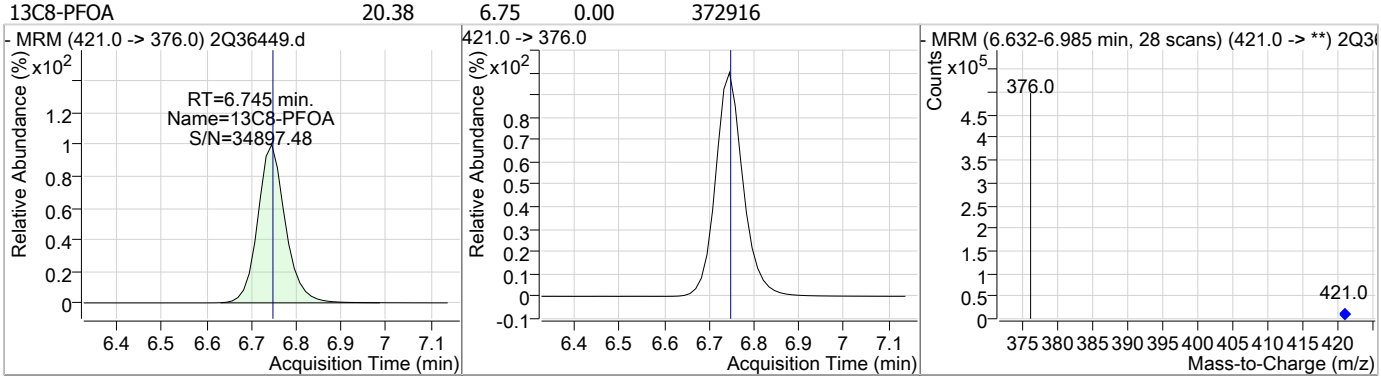
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.27	6.74	0.00	152766				



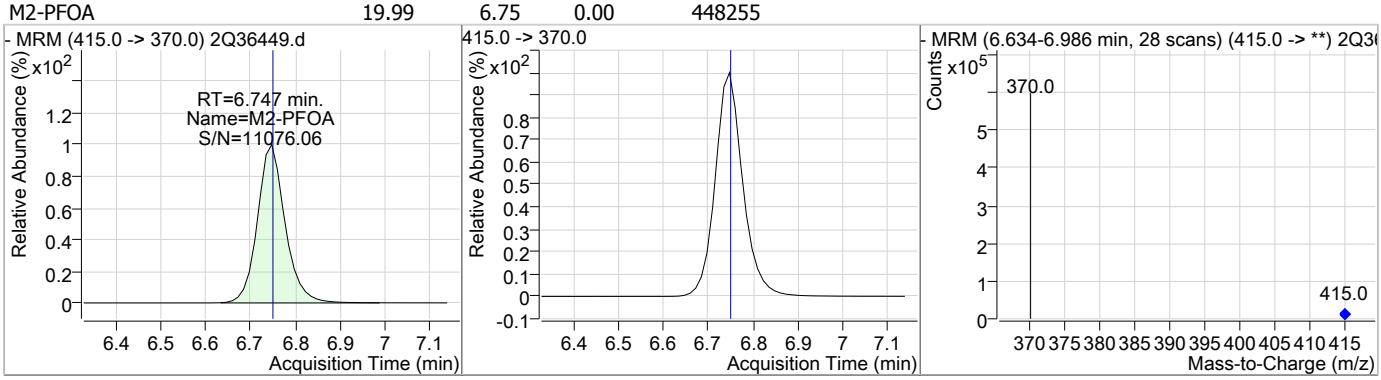
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.52	6.74	0.00	1969	427.0 -> 81.0	34.7	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.38	6.75	0.00	372916				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.99	6.75	0.00	448255				



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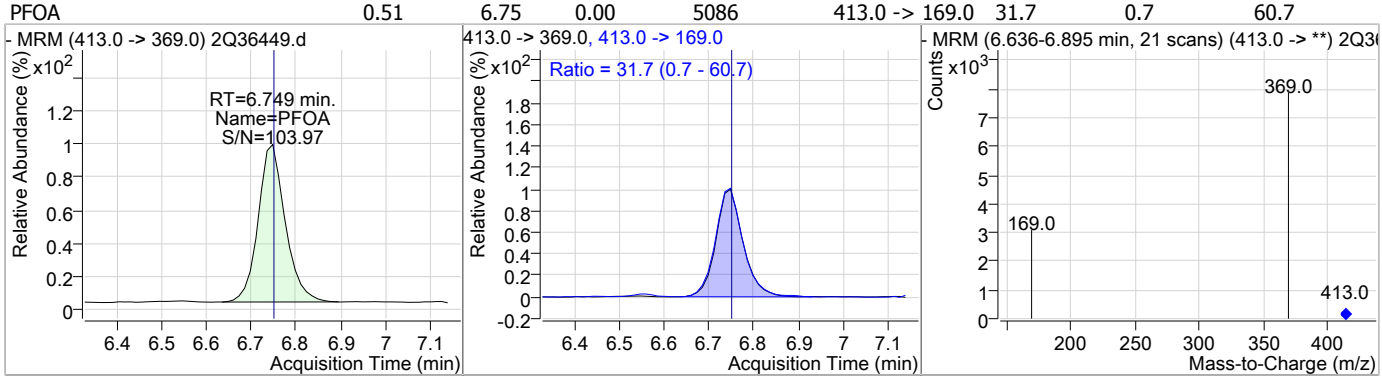
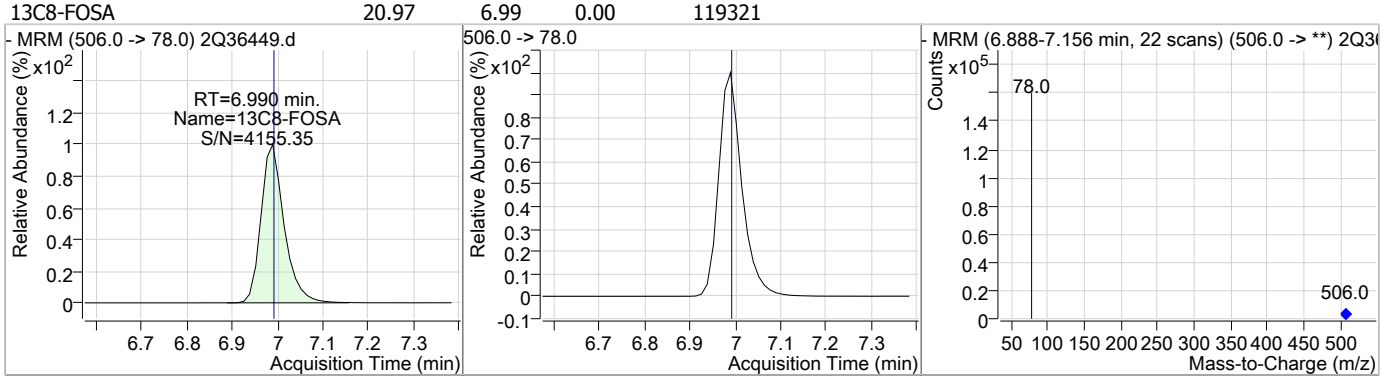
Perfluorinated Compounds by LC/MS/MS

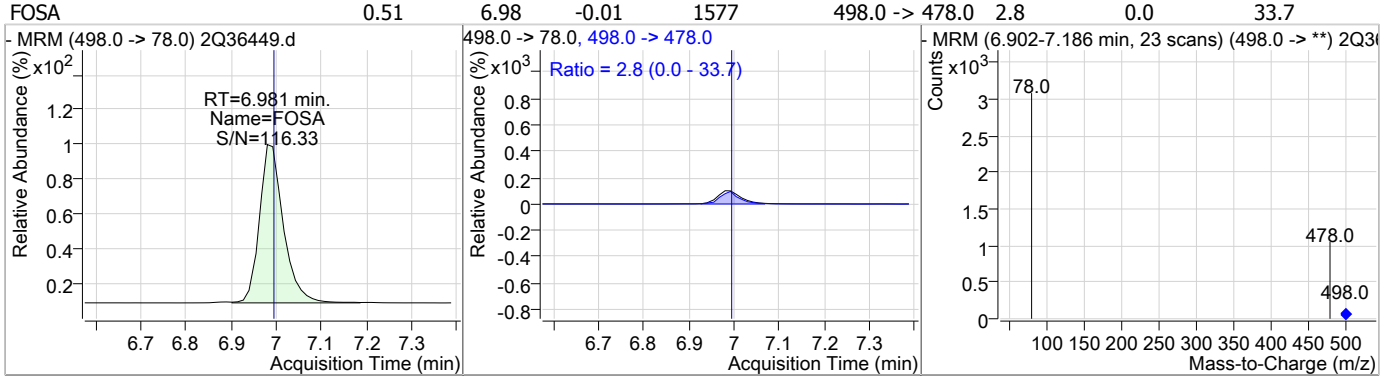
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.51	6.75	0.00	5086	413.0 -> 169.0	31.7	0.7	60.7



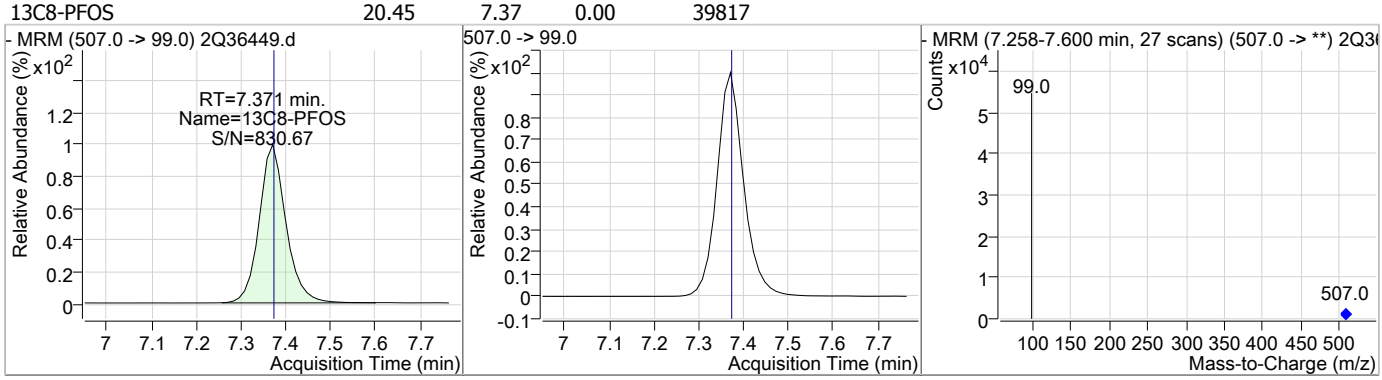
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.97	6.99	0.00	119321				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.51	6.98	-0.01	1577	498.0 -> 478.0	2.8	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.45	7.37	0.00	39817				



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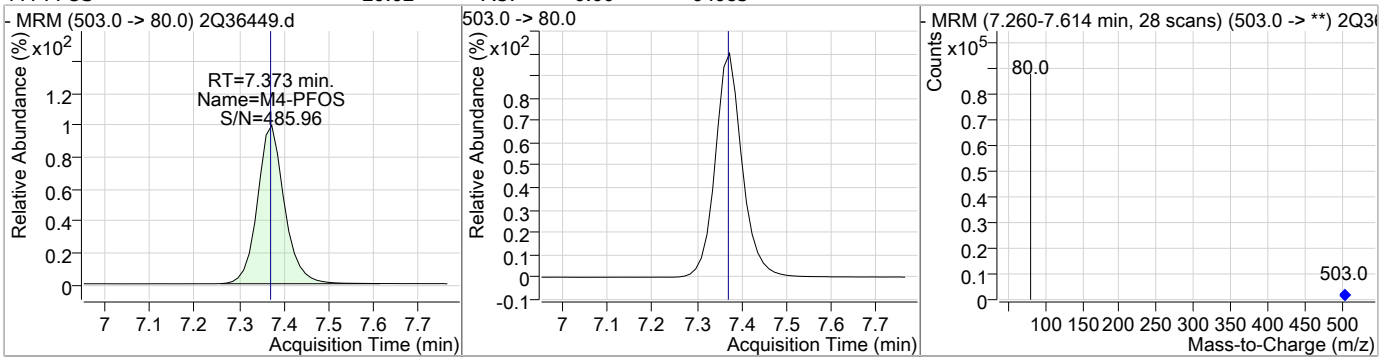
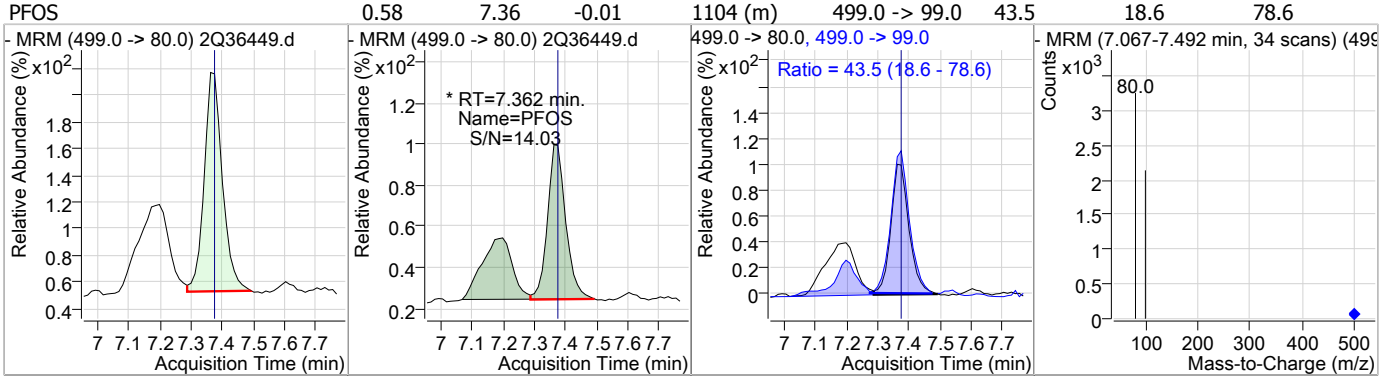
Perfluorinated Compounds by LC/MS/MS

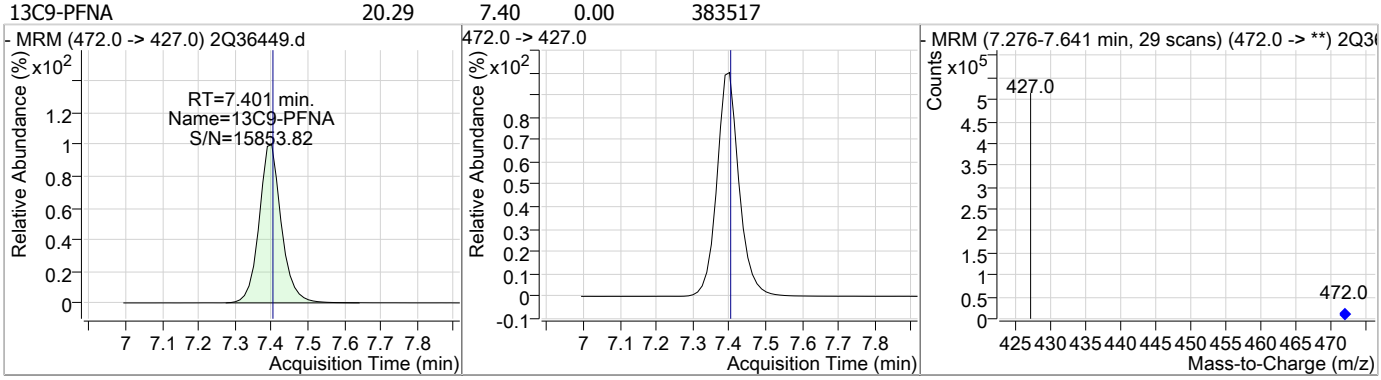
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.02	7.37	0.00	64083				



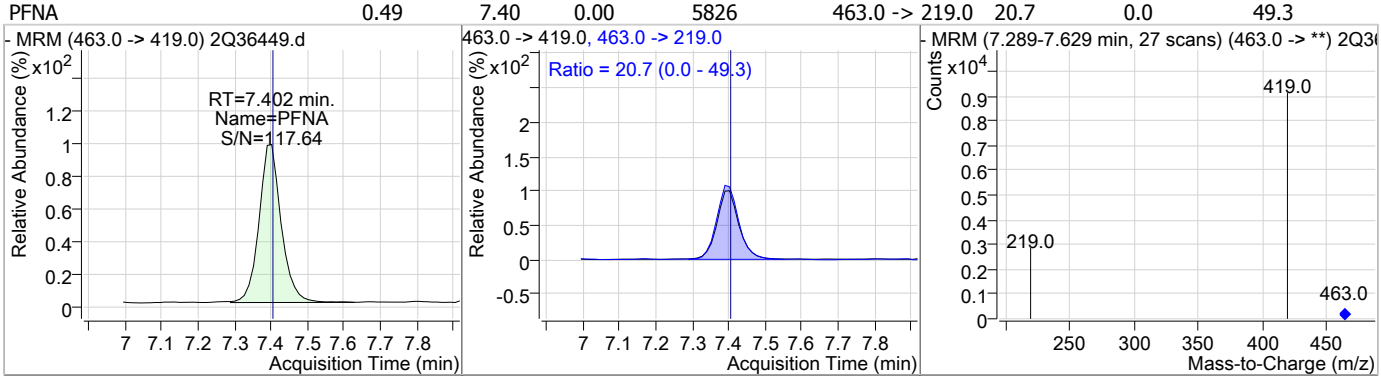
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.58	7.36	-0.01	1104 (m)	499.0 -> 99.0	43.5	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.29	7.40	0.00	383517				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.49	7.40	0.00	5826	463.0 -> 219.0	20.7	0.0	49.3



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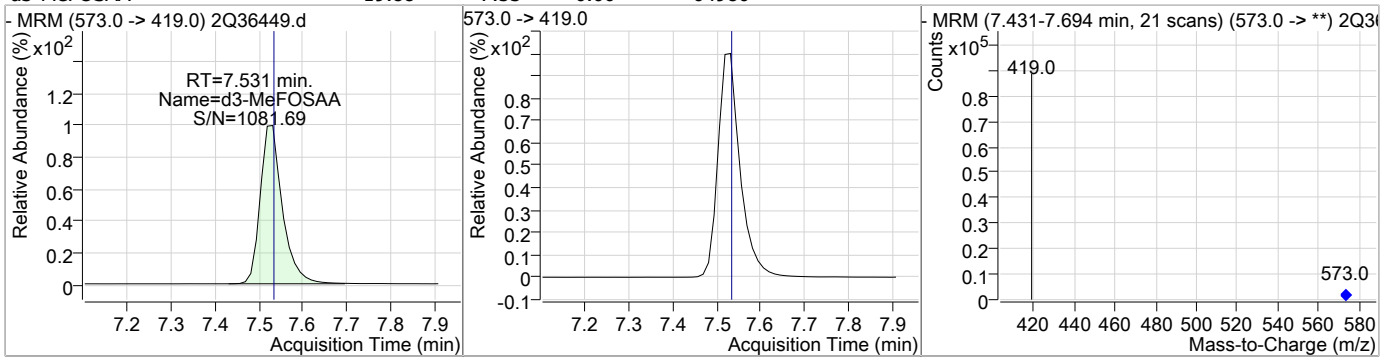
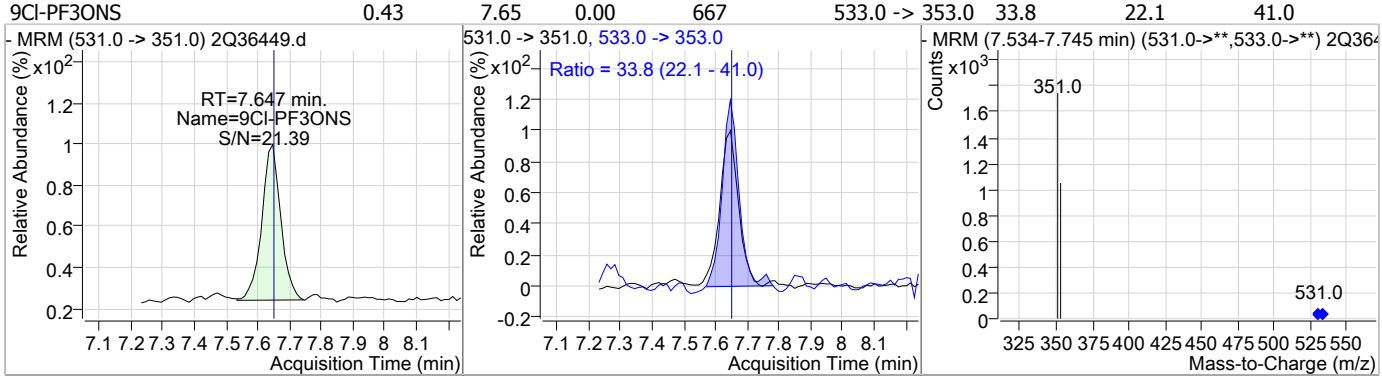
Perfluorinated Compounds by LC/MS/MS

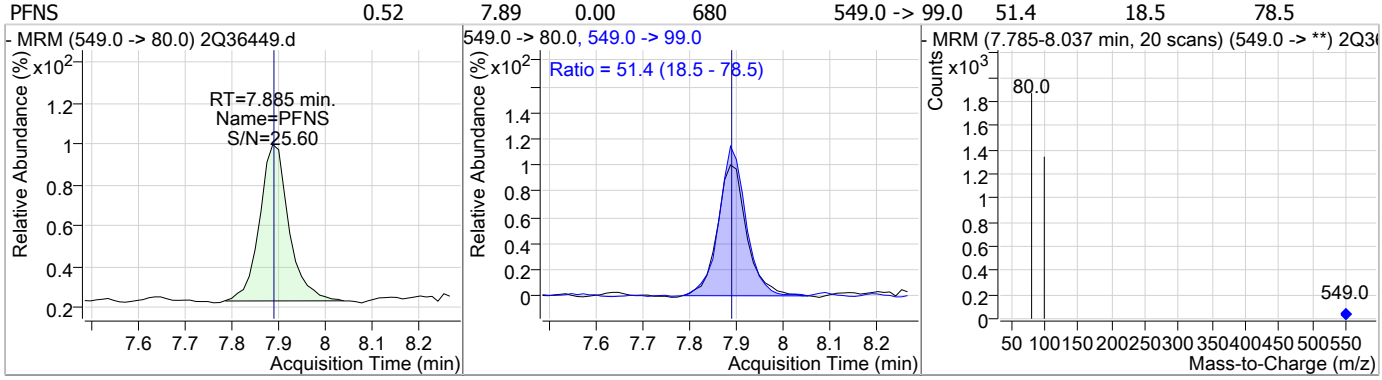
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.88	7.53	0.00	64980				



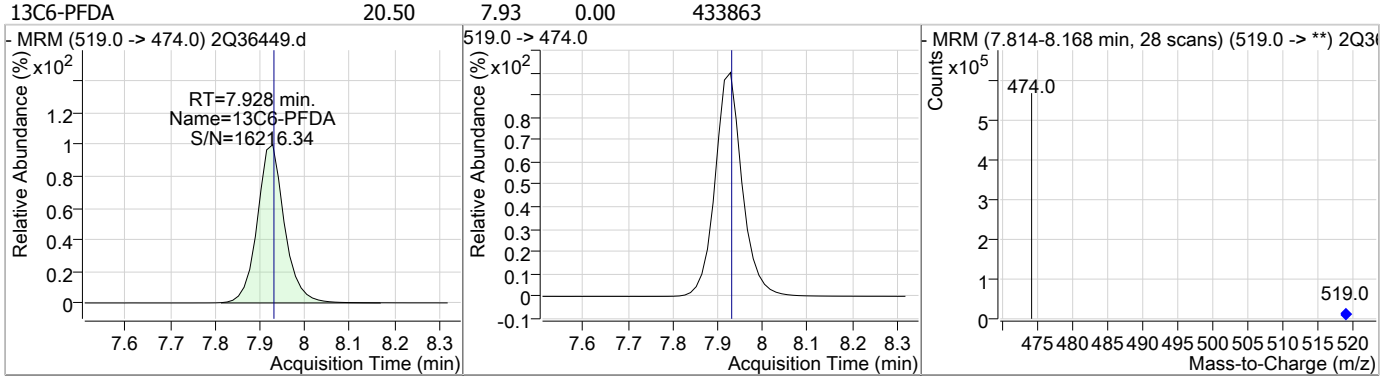
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.43	7.65	0.00	667	533.0 -> 353.0	33.8	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.52	7.89	0.00	680	549.0 -> 99.0	51.4	18.5	78.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.50	7.93	0.00	433863				



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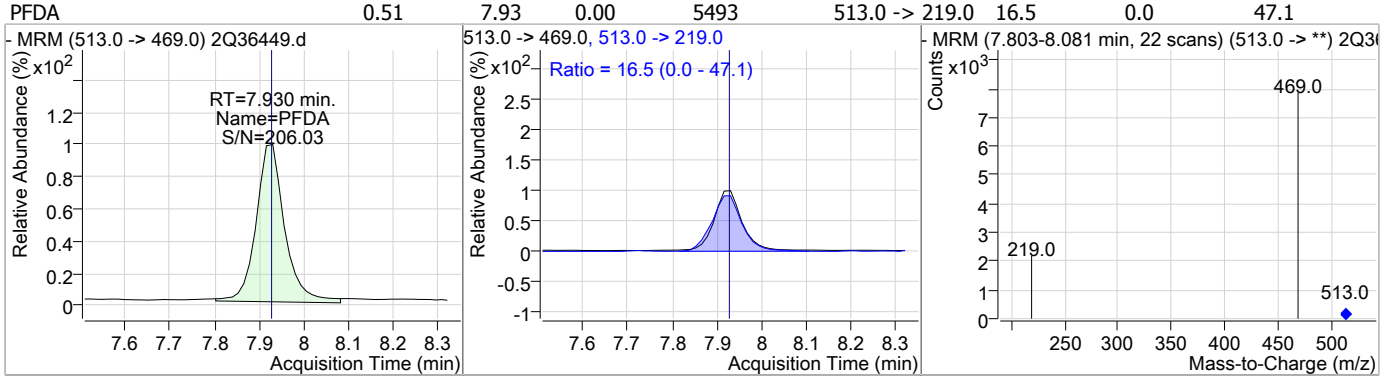
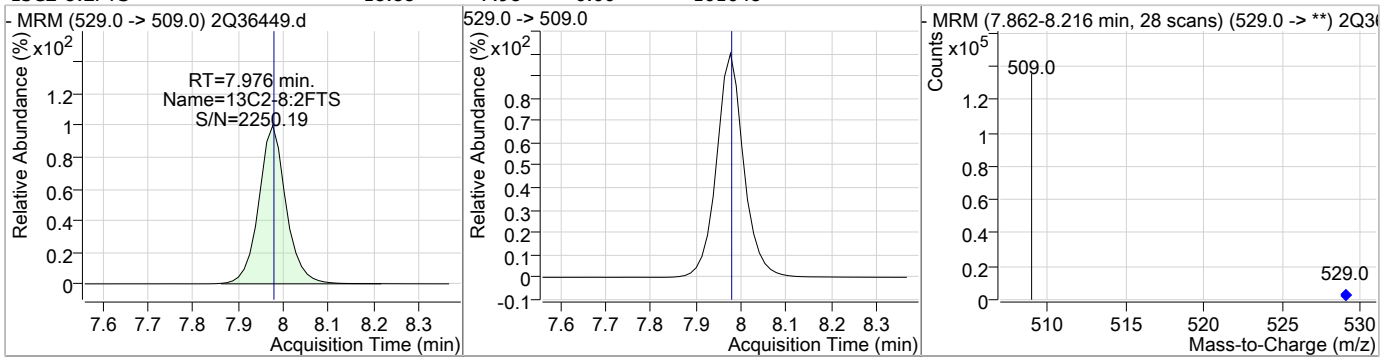
Perfluorinated Compounds by LC/MS/MS

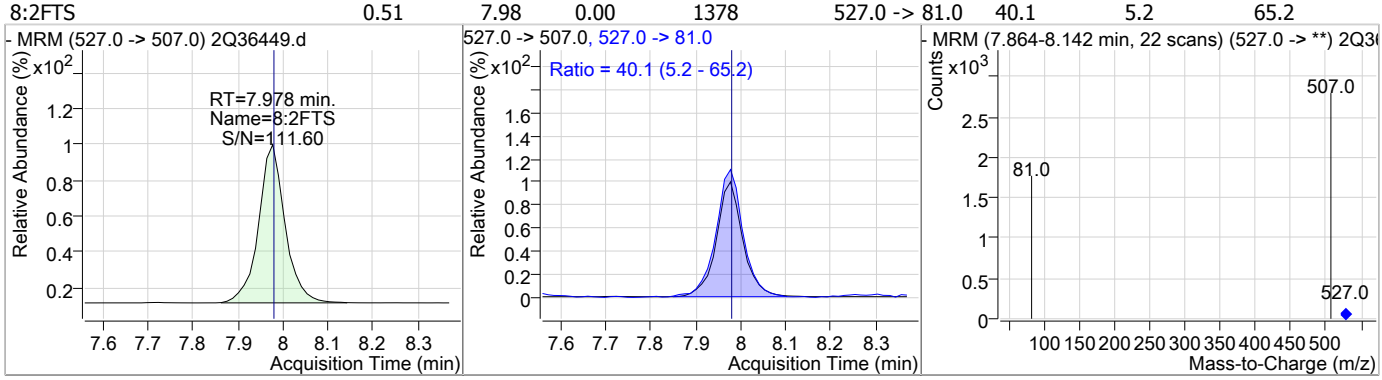
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.51	7.93	0.00	5493	513.0 -> 219.0	16.5	0.0	47.1



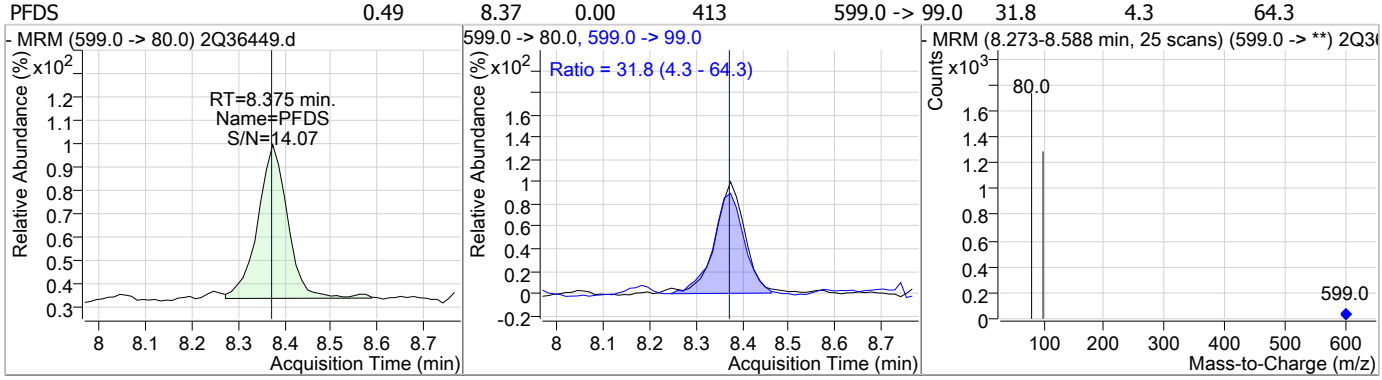
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.88	7.98	0.00	101648				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.51	7.98	0.00	1378	527.0 -> 81.0	40.1	5.2	65.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.49	8.37	0.00	413	599.0 -> 99.0	31.8	4.3	64.3



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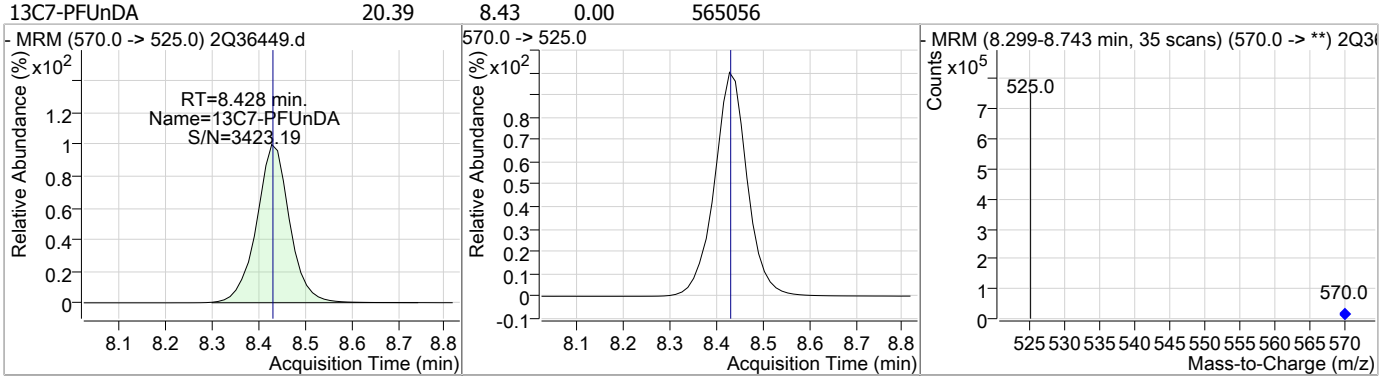
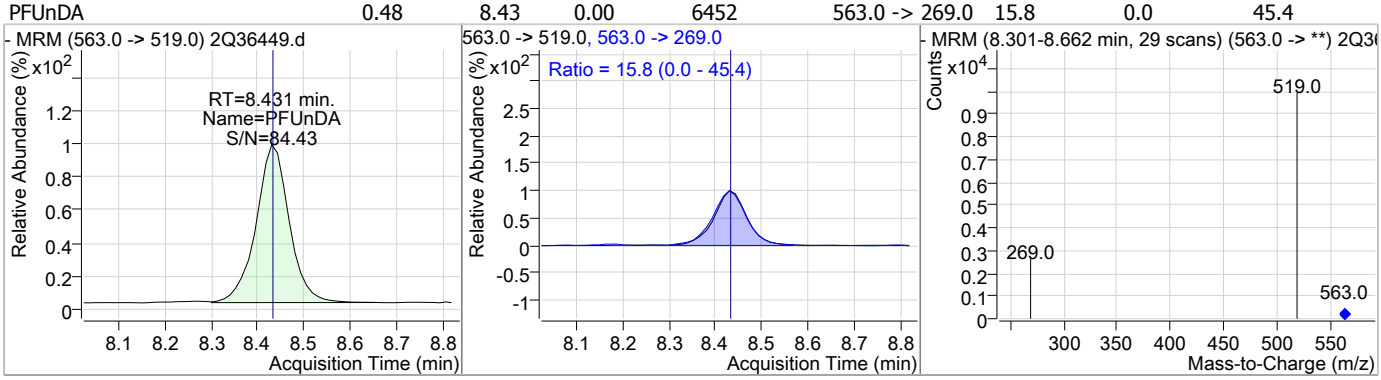
Perfluorinated Compounds by LC/MS/MS

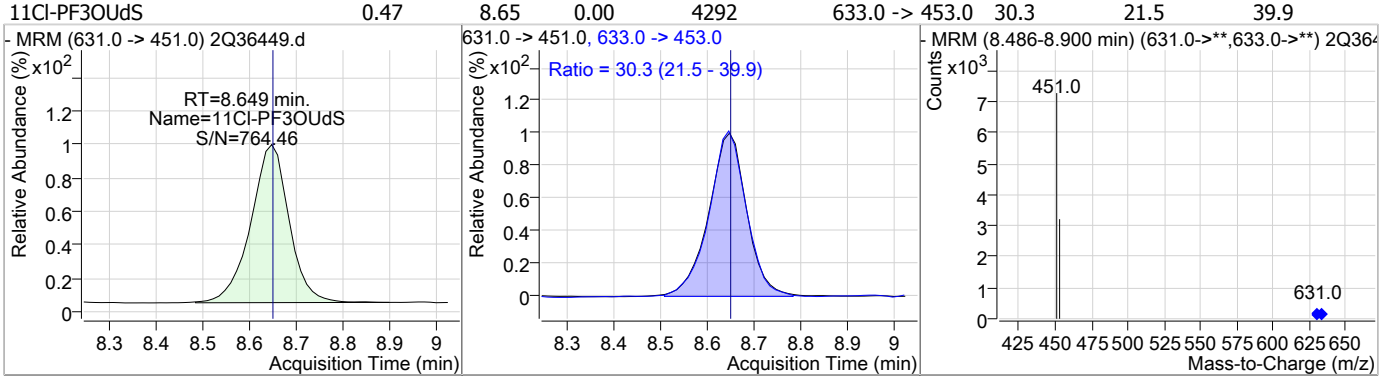
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.39	8.43	0.00	565056				



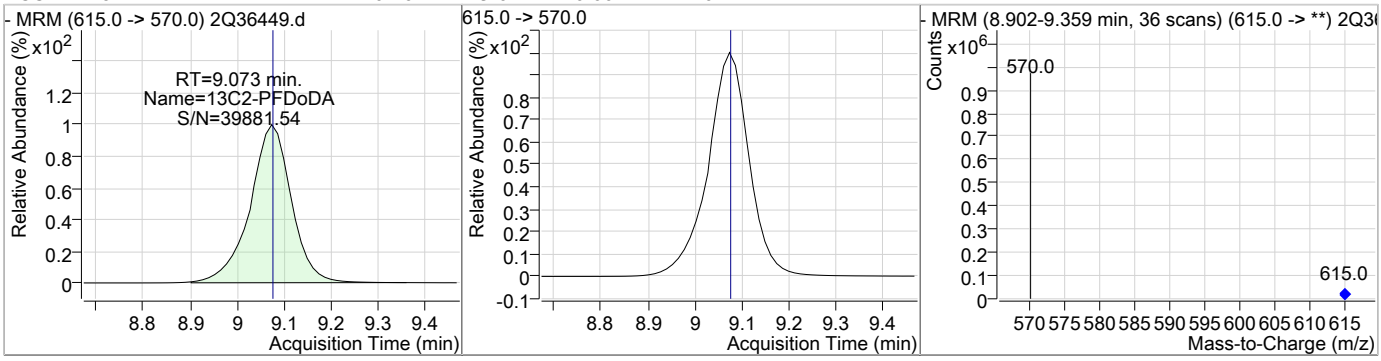
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.48	8.43	0.00	6452	563.0 -> 269.0	15.8	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.47	8.65	0.00	4292	633.0 -> 453.0	30.3	21.5	39.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.26	9.07	0.00	707174				



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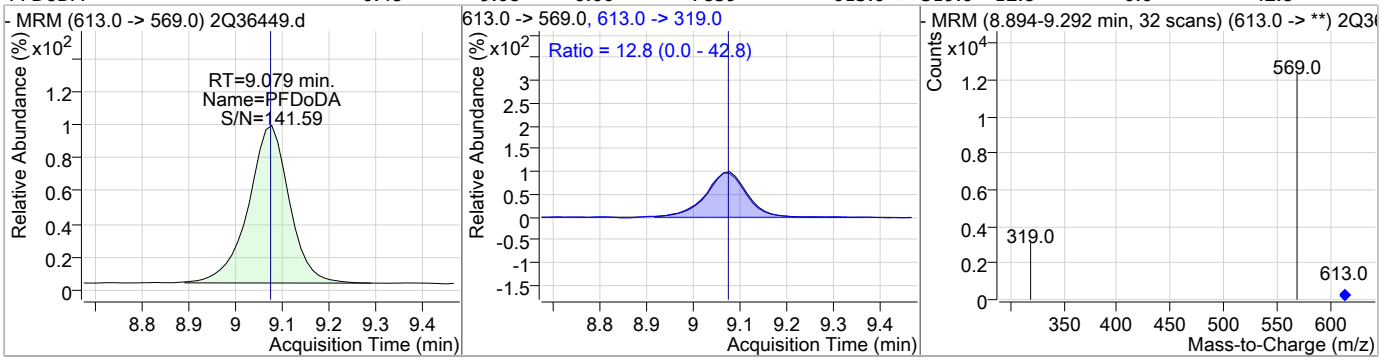
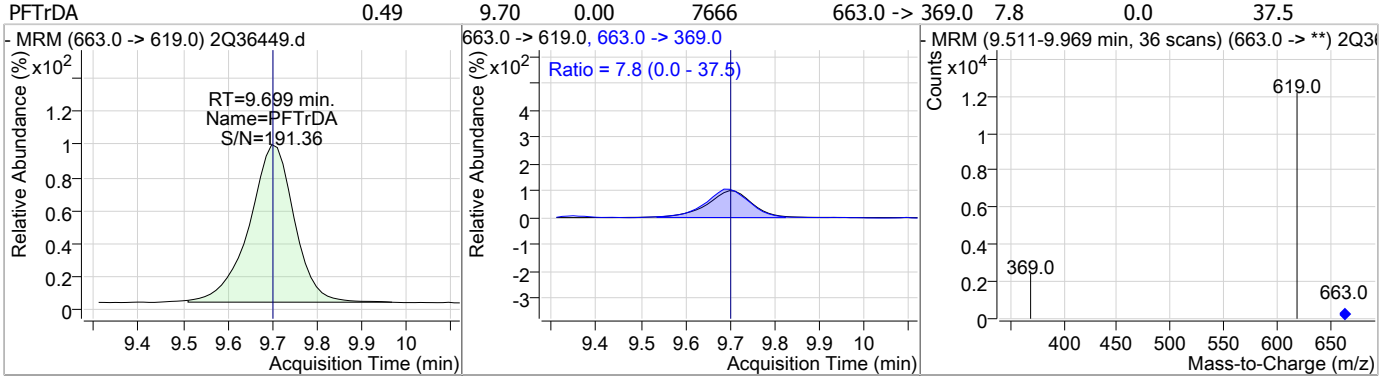
Perfluorinated Compounds by LC/MS/MS

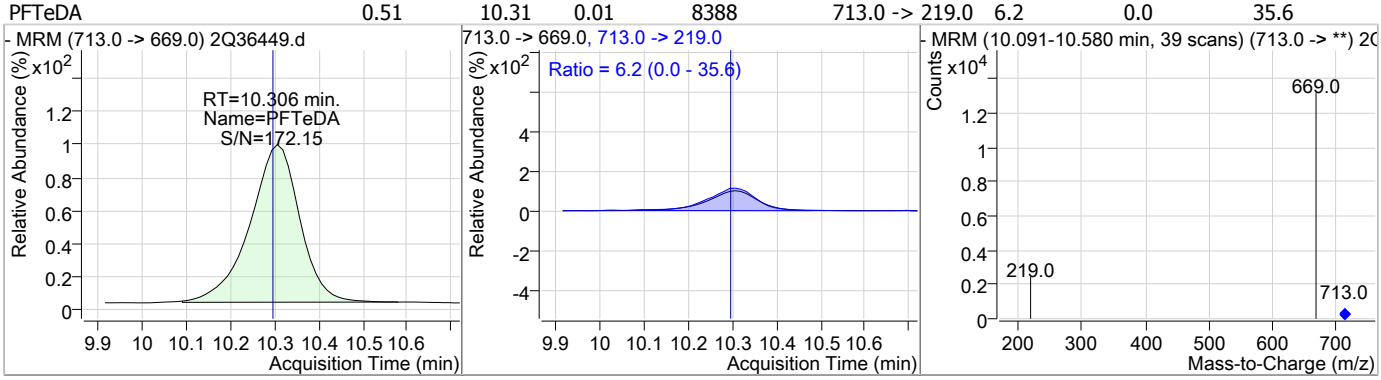
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.48	9.08	0.00	7859	613.0 -> 319.0	12.8	0.0	42.8



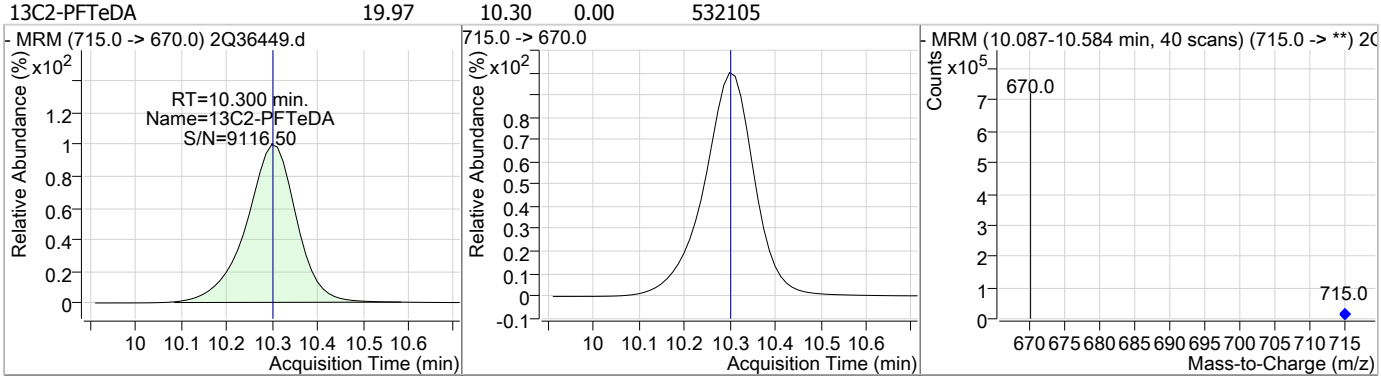
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.49	9.70	0.00	7666	663.0 -> 369.0	7.8	0.0	37.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.51	10.31	0.01	8388	713.0 -> 219.0	6.2	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.97	10.30	0.00	532105				



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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36449.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 13:57	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.36	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36450.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 2:13:58 PM
Sample Name	:	ic568-1.0
Vial	:	Vial 3
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

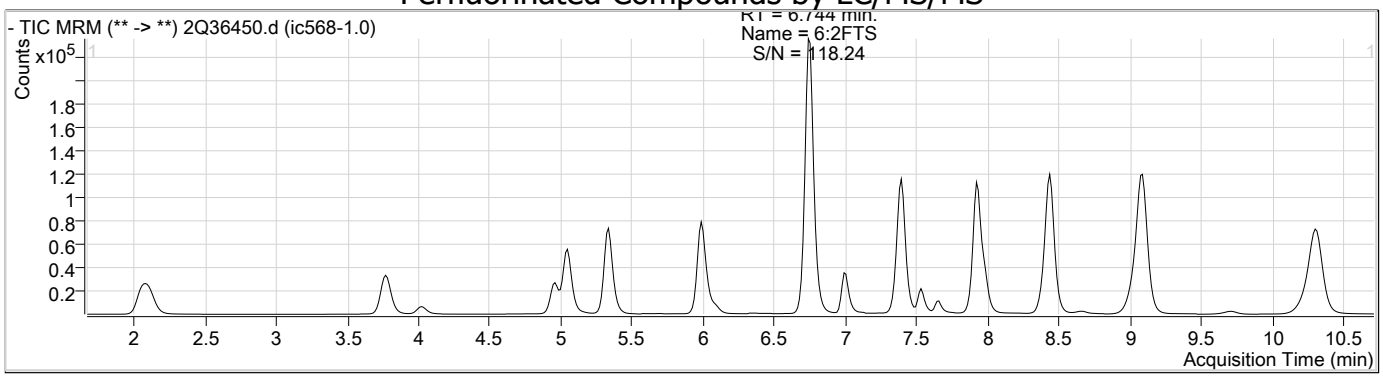
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	477582	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	67999	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	197228	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	164634	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	234365	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	307472	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	374795	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	383206	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	435870	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	573841	20.00	µg/L	0.013
M2-PFDoDA	9.086	615.0 -> 570.0	715069	20.00	µg/L	0.013
M2-PFTeDA	10.300	715.0 -> 670.0	541631	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	119798	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27413	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	29892	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	39249	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	110103	20.00	µg/L	0.000
M2-6:2FTS	6.755	429.0 -> 409.0	154018	20.00	µg/L	0.013
M2-8:2FTS	7.976	529.0 -> 509.0	102153	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	64900	20.00	µg/L	0.000
M3-HFPO-DA	5.343	287.0 -> 169.0	295088	100.00	µg/L	0.013
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	109667	18.83	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C2-6:2FTS	6.755	429.0 -> 409.0	153791	19.40	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C2-8:2FTS	7.976	529.0 -> 509.0	102093	18.97	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.8%		
13C2-PFDoDA	9.086	615.0 -> 570.0	709701	20.33	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C2-PFTeDA	10.300	715.0 -> 670.0	531977	19.96	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C3-PFBS	4.017	302.0 -> 99.0	27423	20.06	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C3-PFHxS	6.022	402.0 -> 99.0	29849	20.25	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C4-PFBA	2.077	217.0 -> 172.0	196039	20.02	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C4-PFHpA	5.992	367.0 -> 322.0	307165	20.17	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C5-PFHxA	5.051	318.0 -> 273.0	233942	20.04	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C5-PFPeA	3.774	268.0 -> 223.0	164597	20.00	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C6-PFDA	7.928	519.0 -> 474.0	435875	20.60	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

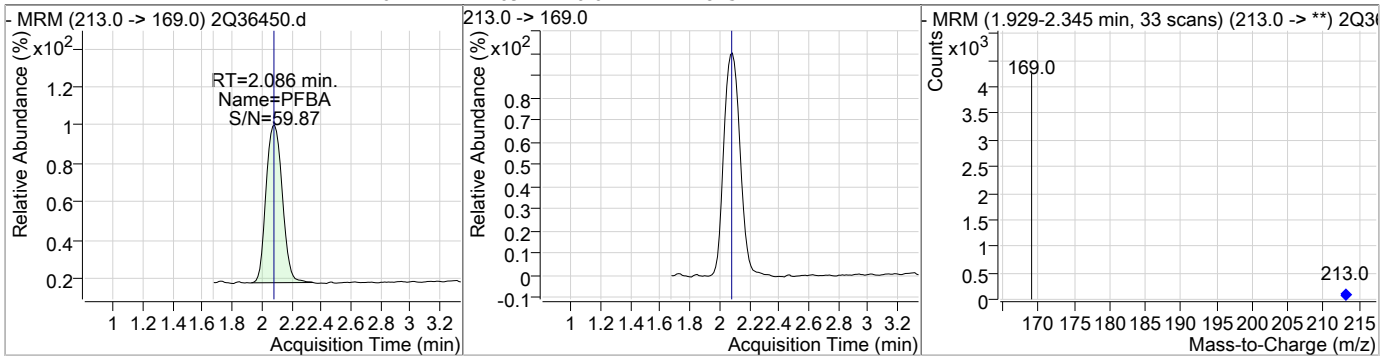
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C7-PFUnDA	8.440	570.0 -> 525.0	572154	20.64 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C8-FOSA	6.990	506.0 -> 78.0	119685	21.03 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C8-PFOA	6.745	421.0 -> 376.0	373975	20.44 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C8-PFOS	7.371	507.0 -> 99.0	39217	20.14 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C9-PFNA	7.401	472.0 -> 427.0	383031	20.26 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
d3-MeFOSAA	7.531	573.0 -> 419.0	64921	19.86 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
M2-PFOA	6.747	415.0 -> 370.0	478731	20.03 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
M4-PFOS	7.373	503.0 -> 80.0	67927	19.99 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C3-HFPO-DA	5.343	287.0 -> 169.0	295088	103.80 µg/L		0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 103.8%		
Target Compounds						**QValue**
4:2FTS	4.961	327.0 -> 307.0	3314	1.06 µg/L		95
6:2FTS	6.744	427.0 -> 407.0	4175	1.09 µg/L		94
8:2FTS	7.990	527.0 -> 507.0	3137	1.15 µg/L		98
EtFOSAA	7.656	584.0 -> 419.0	1427	1.05 µg/L		96
FOSA	6.993	498.0 -> 78.0	3125	1.01 µg/L		89
MeFOSAA	7.532	570.0 -> 419.0	1782	1.03 µg/L		98
PFBA	2.086	213.0 -> 169.0	1875	1.02 µg/L		100
PFBS	4.021	299.0 -> 80.0	2225	1.03 µg/L		99
PFDA	7.930	513.0 -> 469.0	11133	1.03 µg/L		100
PFDoDA	9.079	613.0 -> 569.0	16374	1.00 µg/L		98
PFDS	8.387	599.0 -> 80.0	861	1.03 µg/L		98
PFHpA	5.995	363.0 -> 319.0	14179	1.01 µg/L		99
PFHpS	6.753	449.0 -> 80.0	1609	1.01 µg/L		94
PFHxA	5.052	313.0 -> 269.0	3694	1.03 µg/L		100
PFHxS	6.025	399.0 -> 80.0	1811	1.02 µg/L	m	96
PFNA	7.402	463.0 -> 419.0	12307	1.03 µg/L		99
PFNS	7.898	549.0 -> 80.0	1479	1.16 µg/L		89
PFOA	6.749	413.0 -> 369.0	10418	1.03 µg/L		96
PFOS	7.374	499.0 -> 80.0	1870	1.00 µg/L	m	97
PFPeA	3.777	263.0 -> 219.0	8816	1.06 µg/L		100
PFPeS	5.157	349.0 -> 80.0	1302	1.09 µg/L		96
PFTeDA	10.306	713.0 -> 669.0	16800	1.01 µg/L		99
PFTrDA	9.711	663.0 -> 619.0	16162	1.01 µg/L		99
PFUnDA	8.443	563.0 -> 519.0	13444	0.99 µg/L		100
11Cl-PF3OUdS	8.661	631.0 -> 451.0	8795	0.96 µg/L		99
9Cl-PF3ONS	7.647	531.0 -> 351.0	1481	0.96 µg/L		93
ADONA	6.090	377.0 -> 251.0	16616	0.93 µg/L		99
HFPO-DA	5.335	329.0 -> 169.0	15697	5.16 µg/L		99

= Qualifier out of range, m = manually integrated, + = Area summed

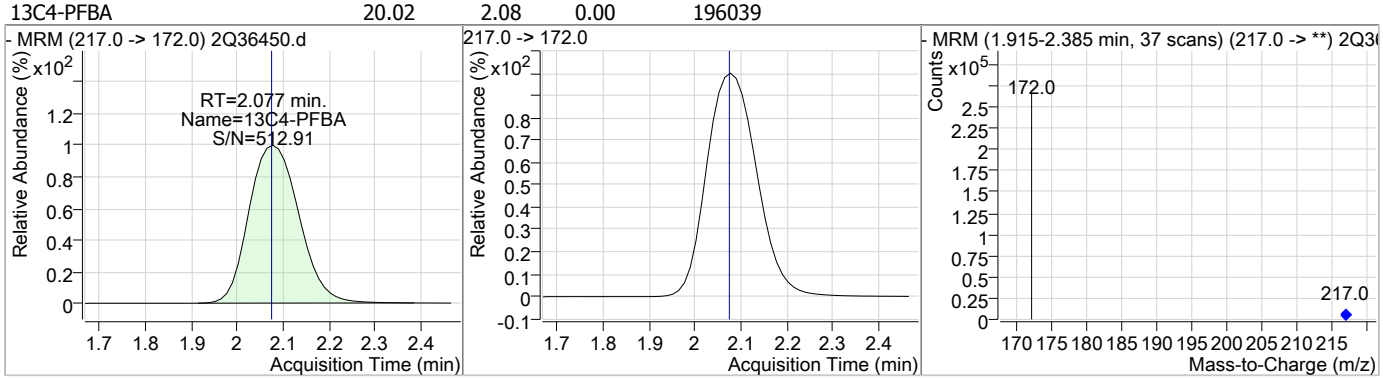
Perfluorinated Compounds by LC/MS/MS



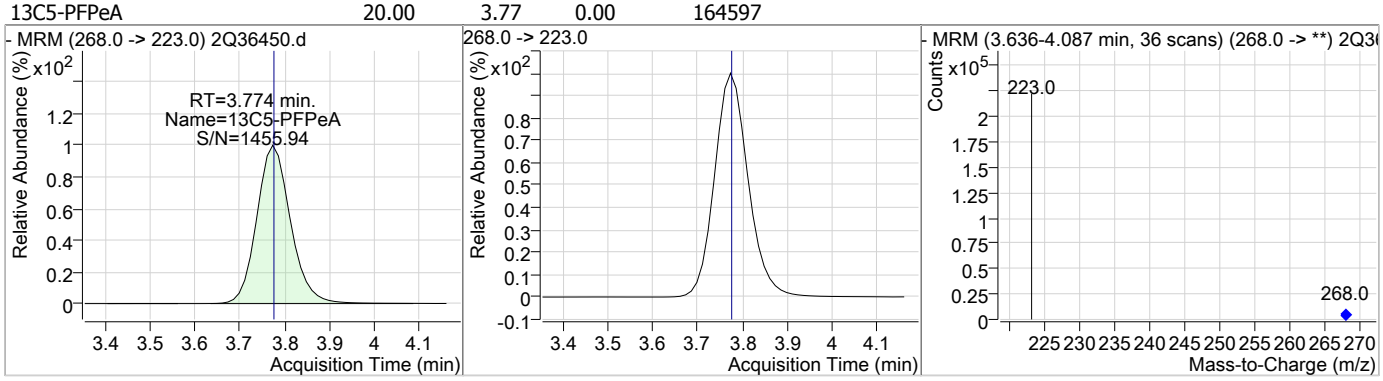
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.02	2.09	0.01	1875				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.02	2.08	0.00	196039				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.00	3.77	0.00	164597				



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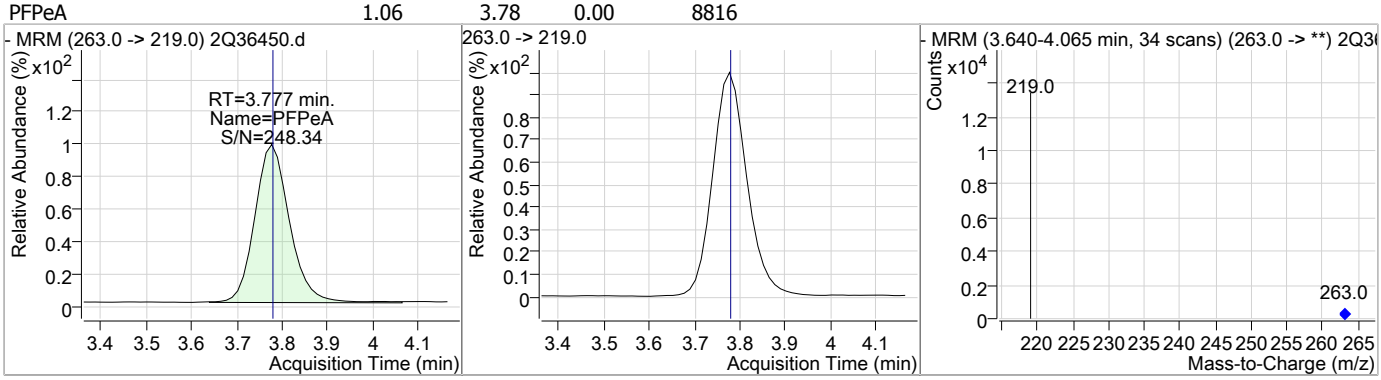
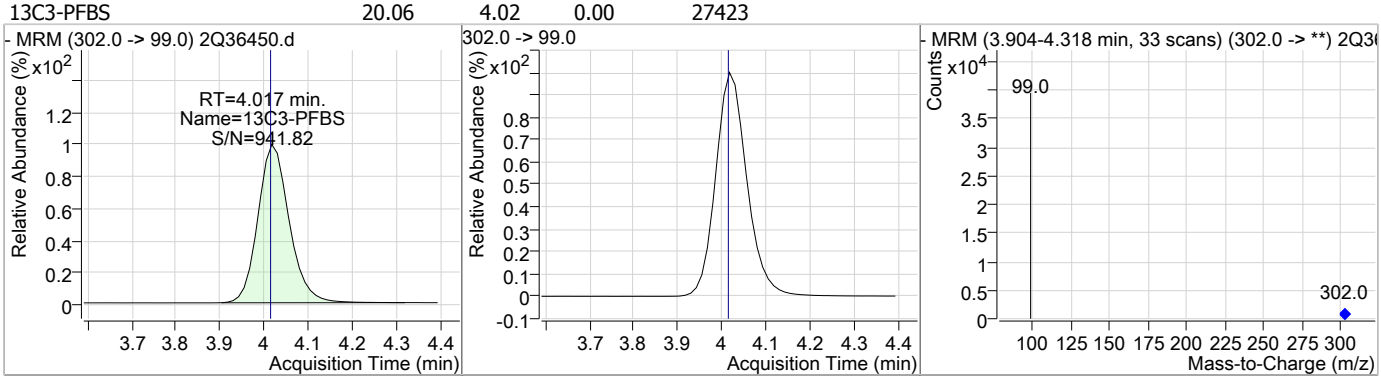
Perfluorinated Compounds by LC/MS/MS

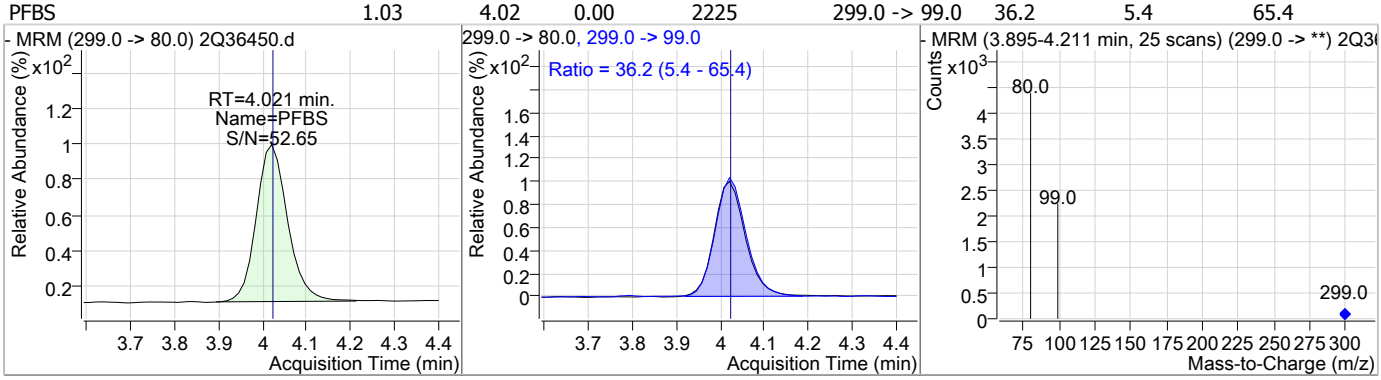
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.06	3.78	0.00	8816				



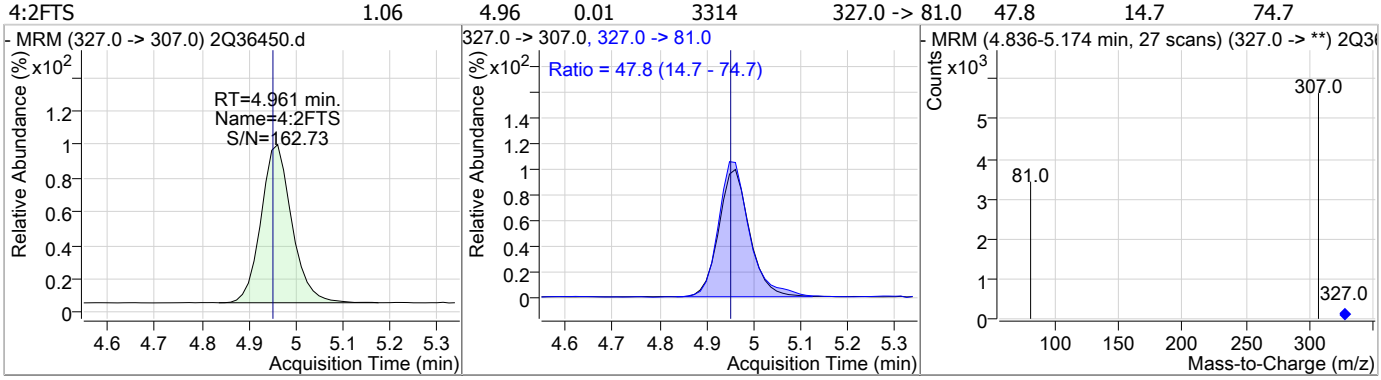
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.06	4.02	0.00	27423				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.03	4.02	0.00	2225	299.0 -> 99.0	36.2	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	1.06	4.96	0.01	3314	327.0 -> 81.0	47.8	14.7	74.7



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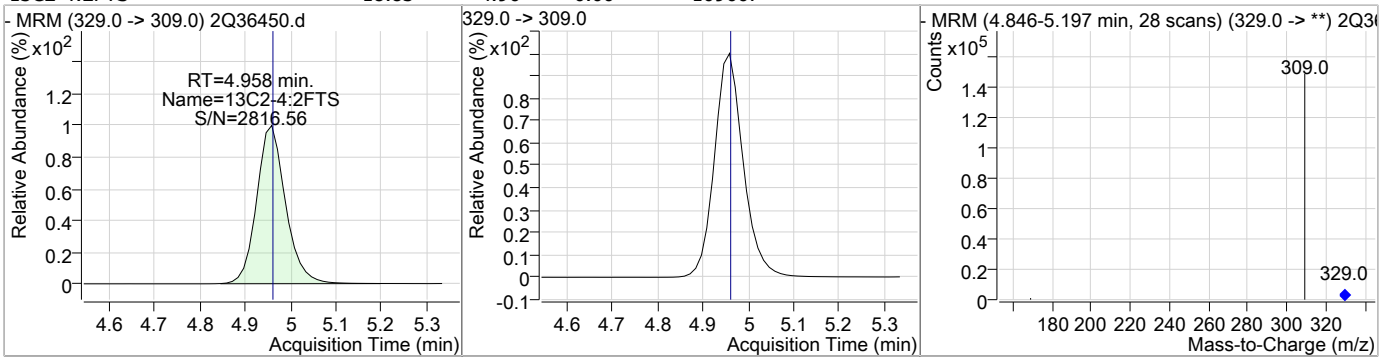
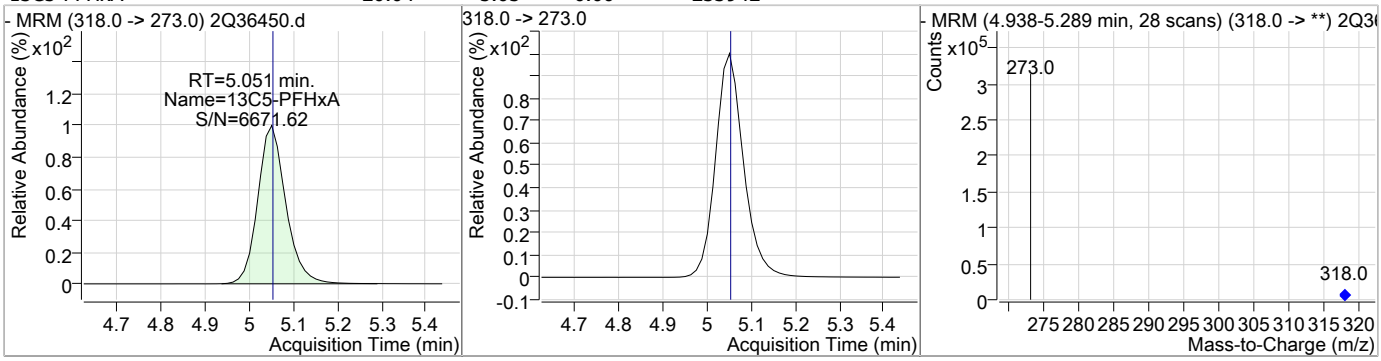
Perfluorinated Compounds by LC/MS/MS

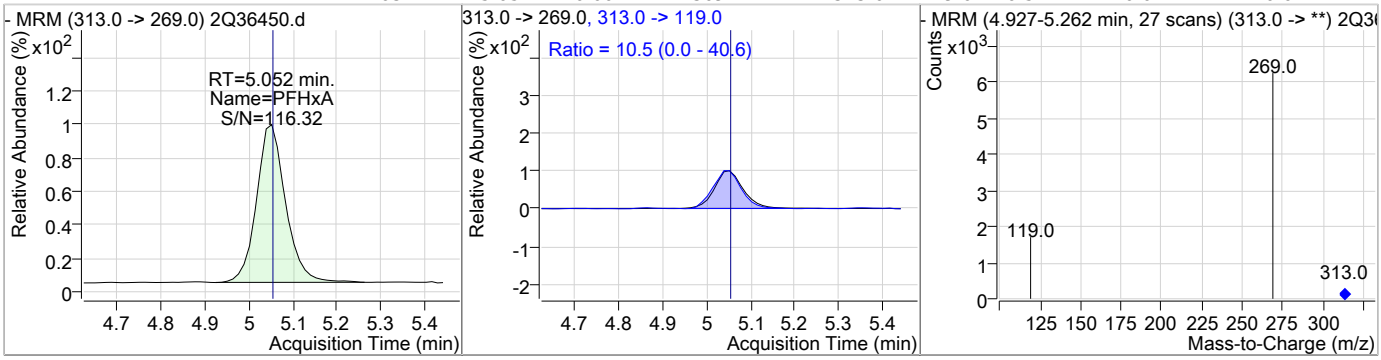
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.83	4.96	0.00	109667				



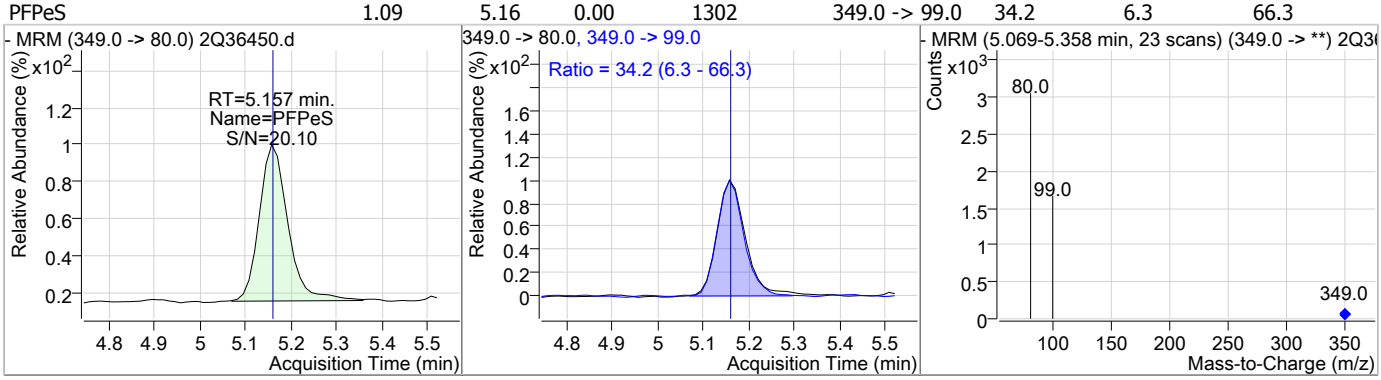
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.04	5.05	0.00	233942				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.03	5.05	0.00	3694	313.0 -> 119.0	10.5	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.09	5.16	0.00	1302	349.0 -> 99.0	34.2	6.3	66.3



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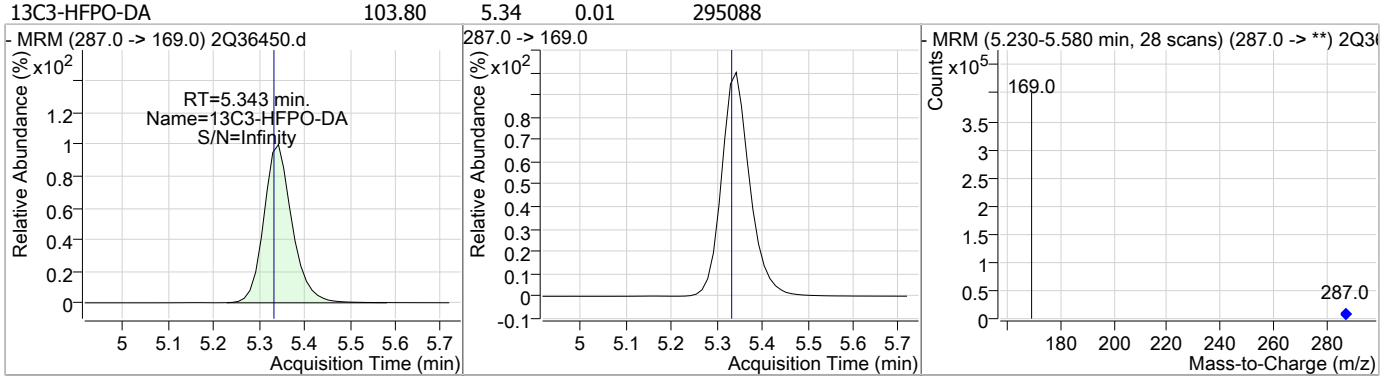
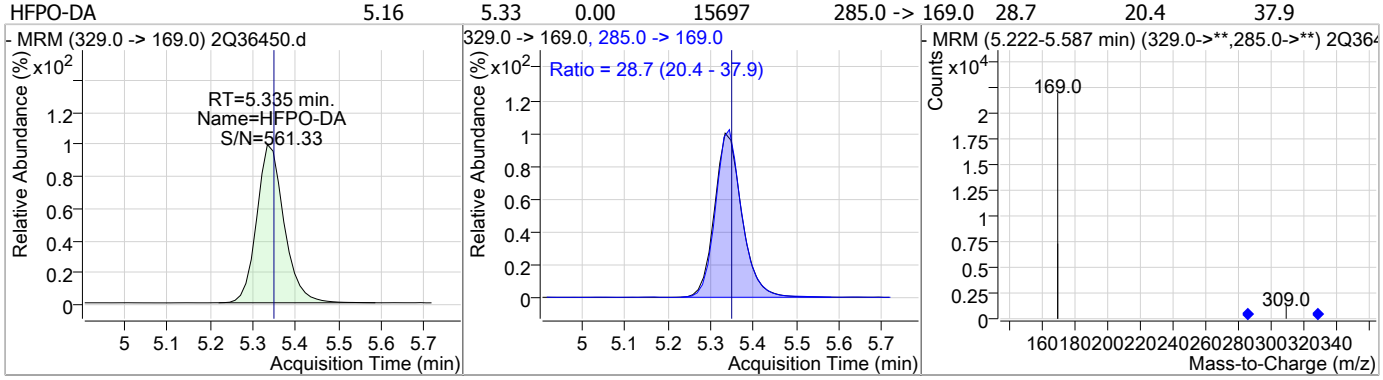
Perfluorinated Compounds by LC/MS/MS

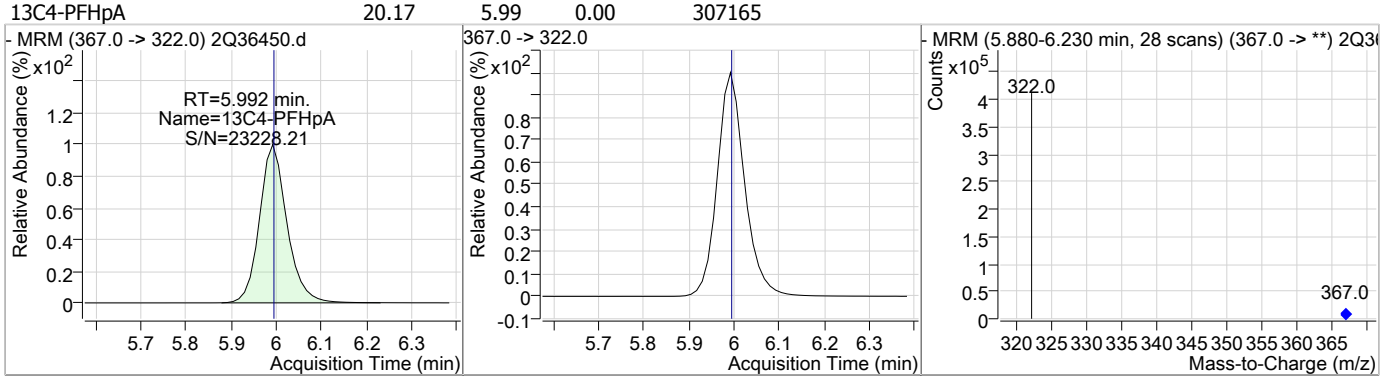
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	103.80	5.34	0.01	295088				



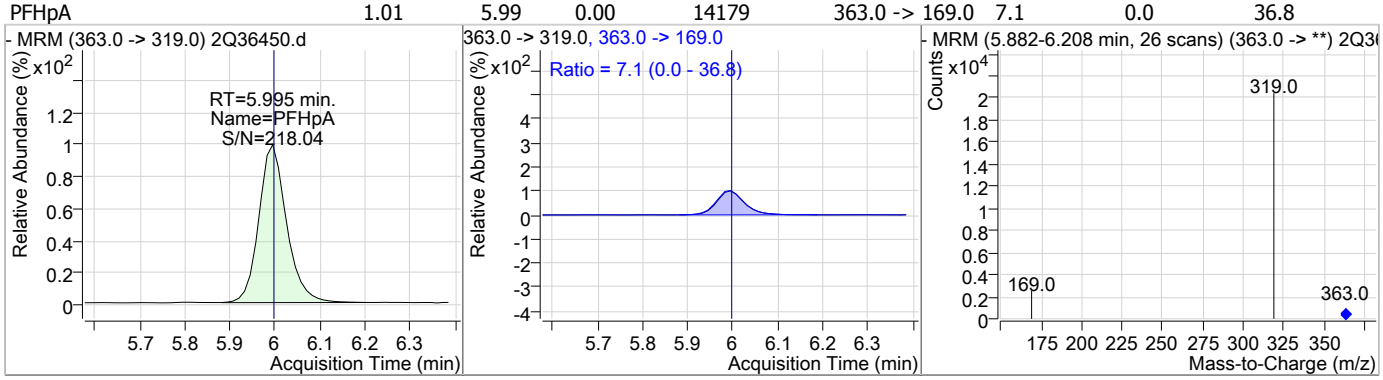
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.16	5.33	0.00	15697	285.0 -> 169.0	28.7	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.17	5.99	0.00	307165				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.01	5.99	0.00	14179	363.0 -> 169.0	7.1	0.0	36.8



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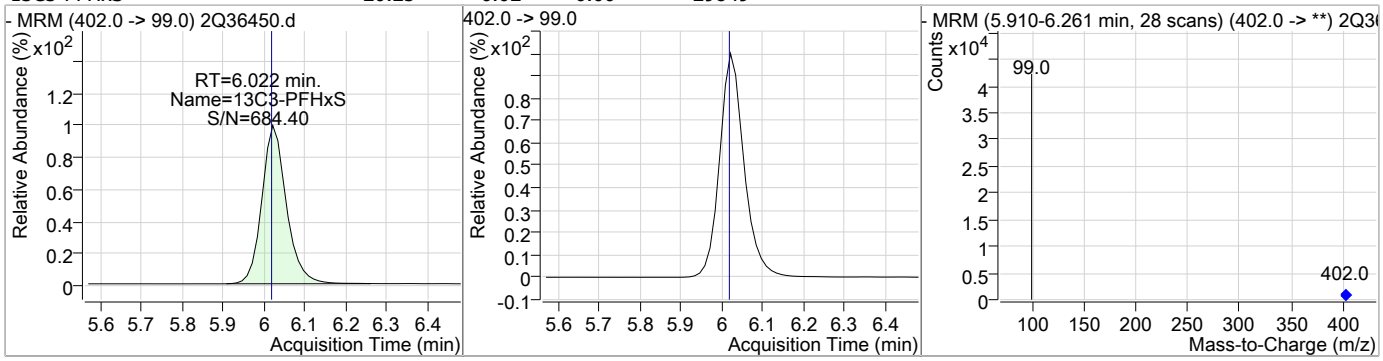
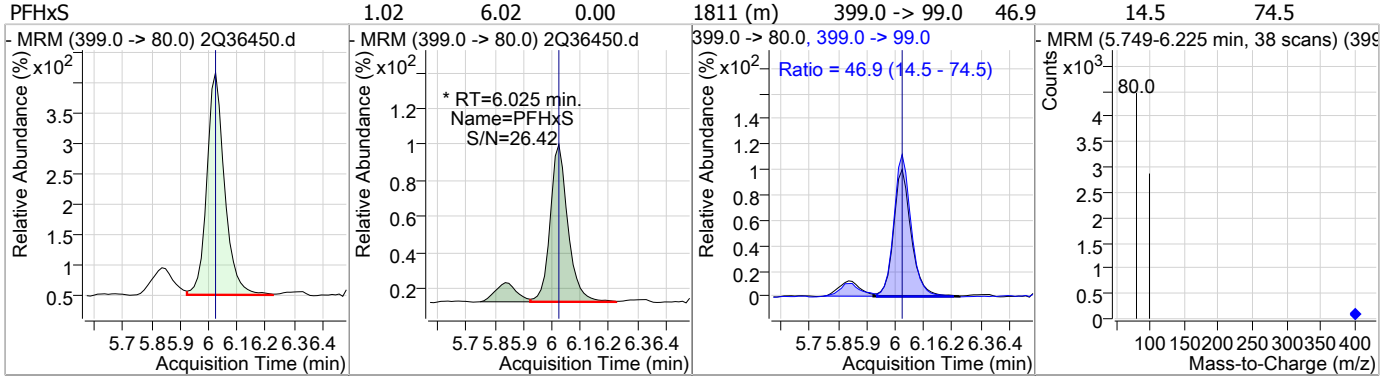
Perfluorinated Compounds by LC/MS/MS

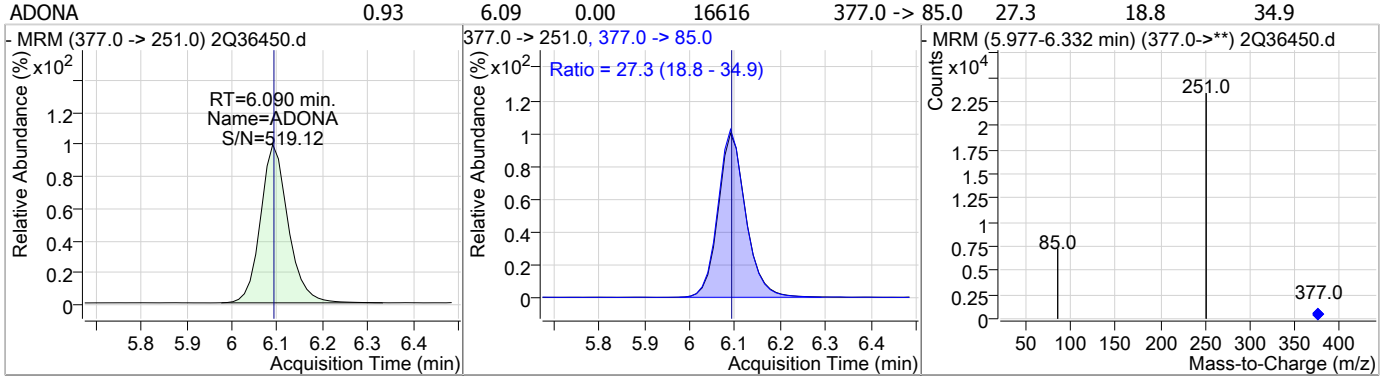
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.25	6.02	0.00	29849				



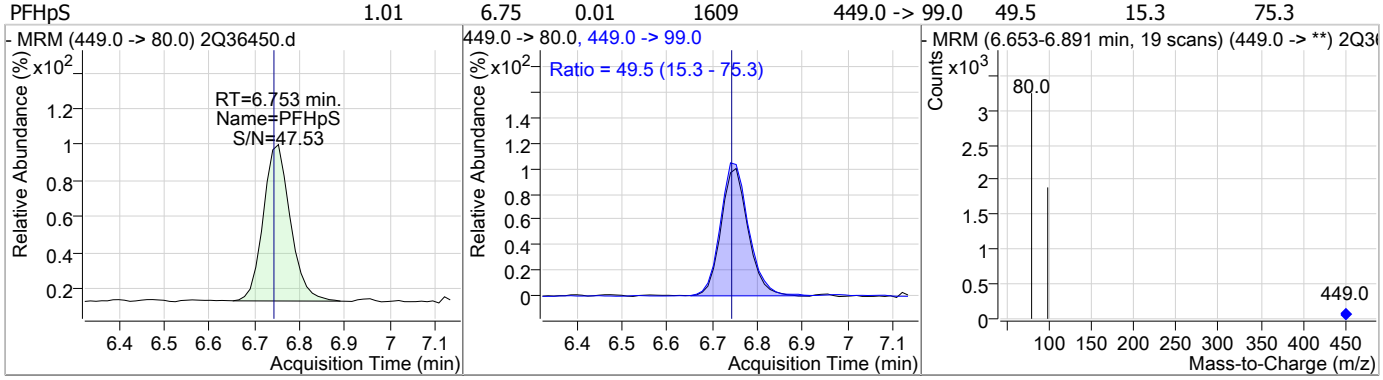
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.02	6.02	0.00	1811 (m)	399.0 -> 99.0	46.9	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.93	6.09	0.00	16616	377.0 -> 85.0	27.3	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.01	6.75	0.01	1609	449.0 -> 99.0	49.5	15.3	75.3



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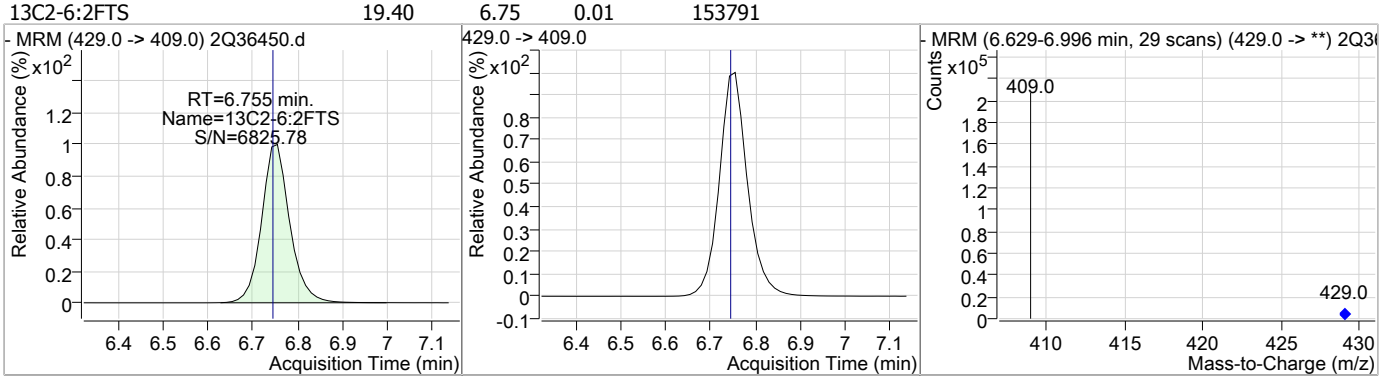
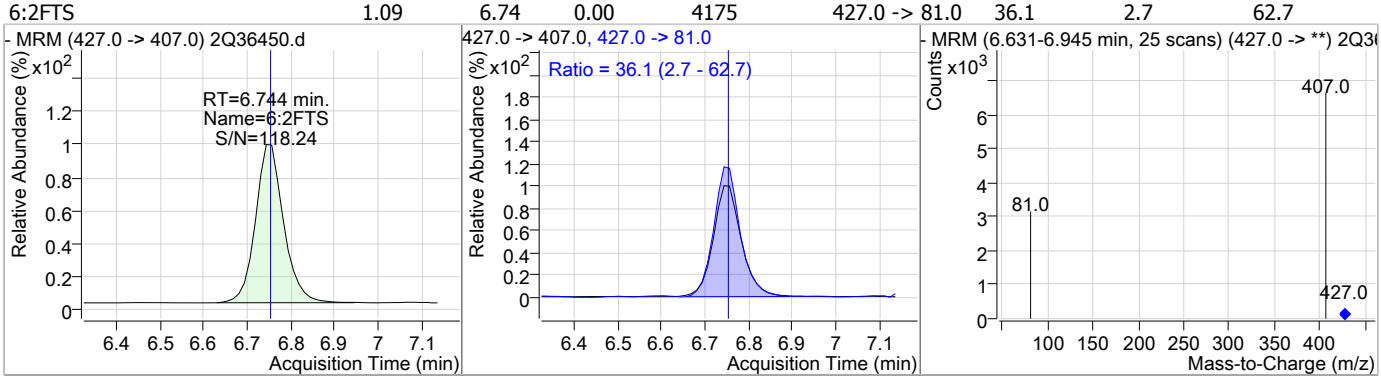
Perfluorinated Compounds by LC/MS/MS

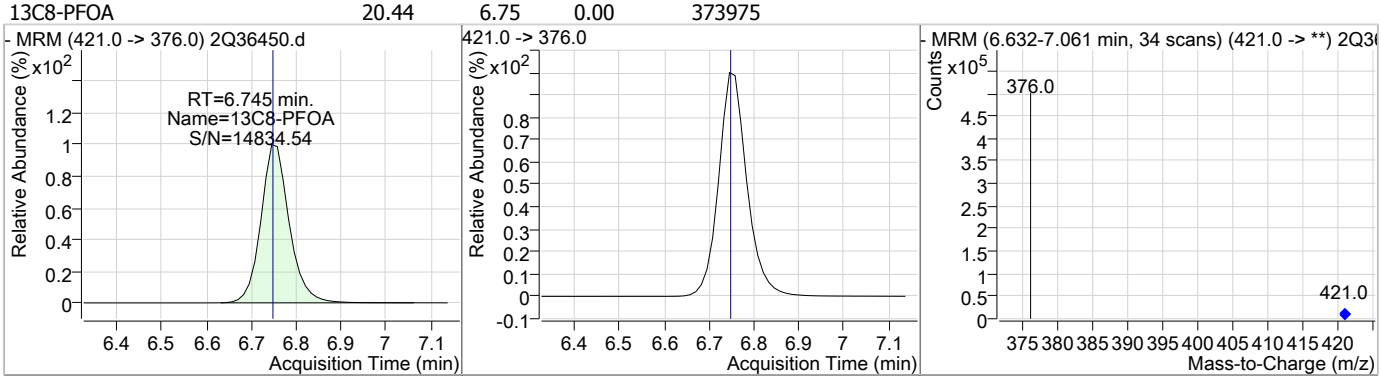
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.40	6.75	0.01	153791				



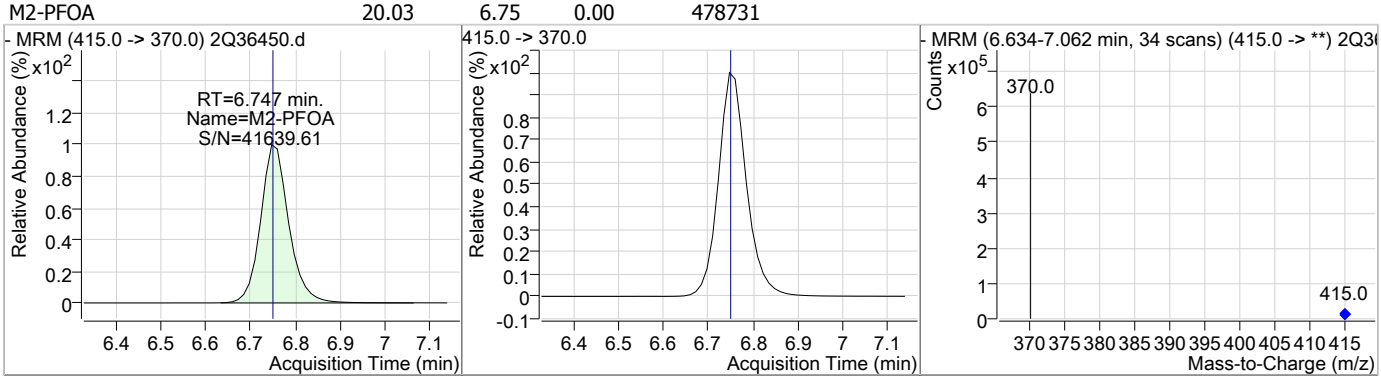
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.09	6.74	0.00	4175	427.0 -> 81.0	36.1	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.44	6.75	0.00	373975				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.03	6.75	0.00	478731				



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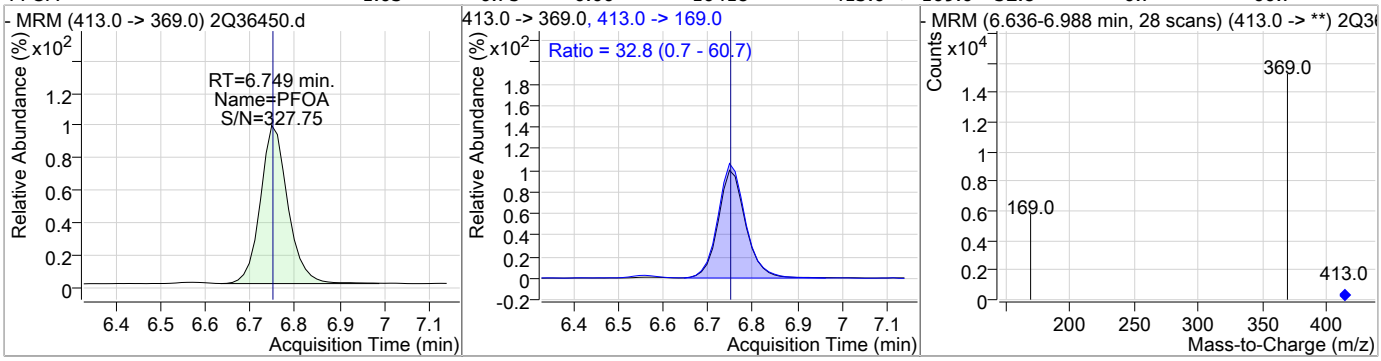
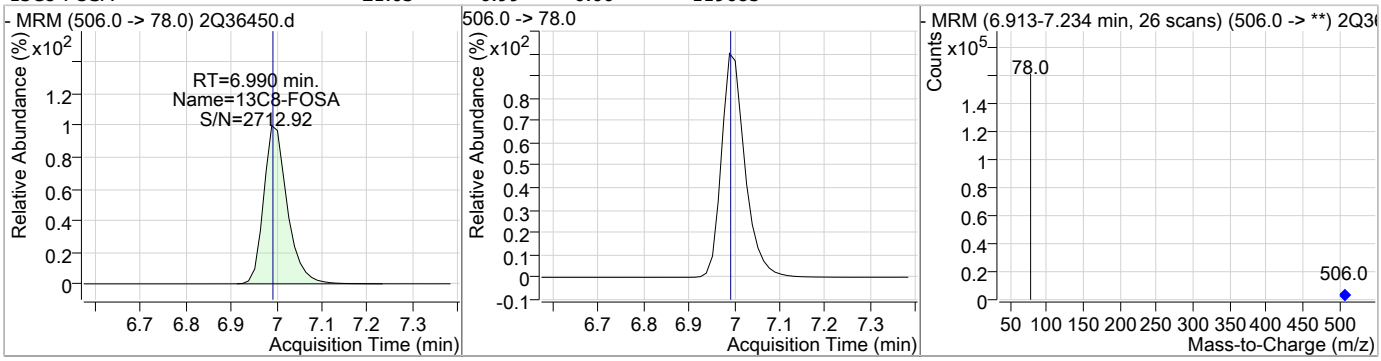
Perfluorinated Compounds by LC/MS/MS

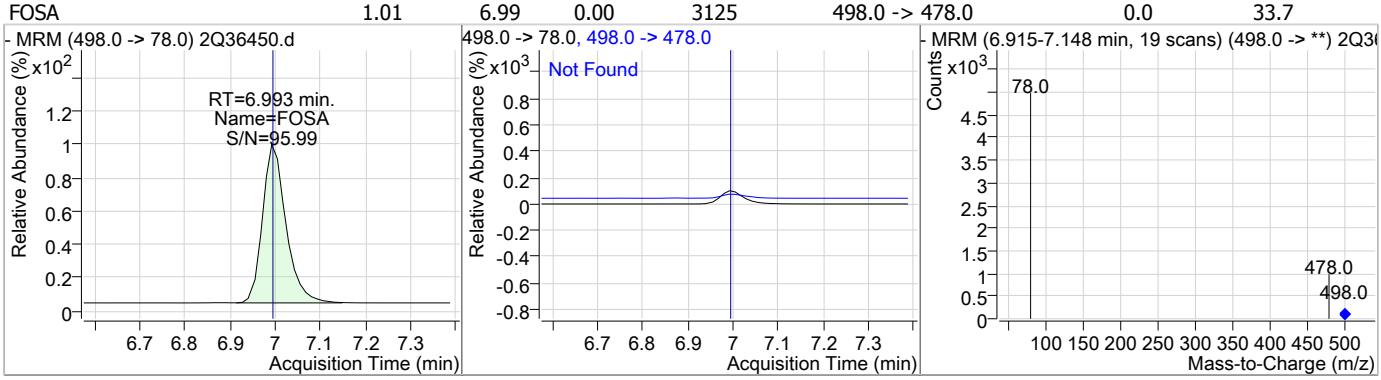
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.03	6.75	0.00	10418	413.0 -> 169.0	32.8	0.7	60.7



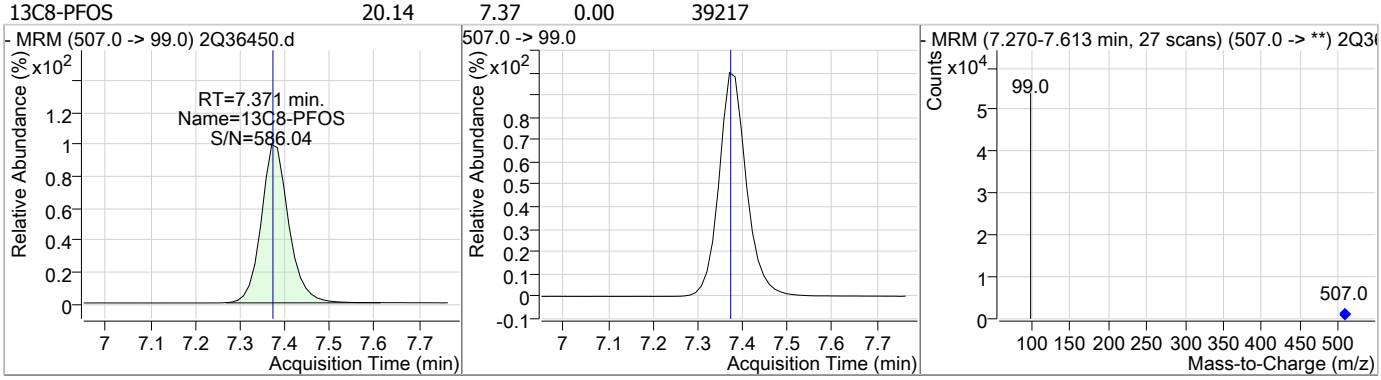
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	21.03	6.99	0.00	119685				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	1.01	6.99	0.00	3125	498.0 -> 478.0		0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.14	7.37	0.00	39217				



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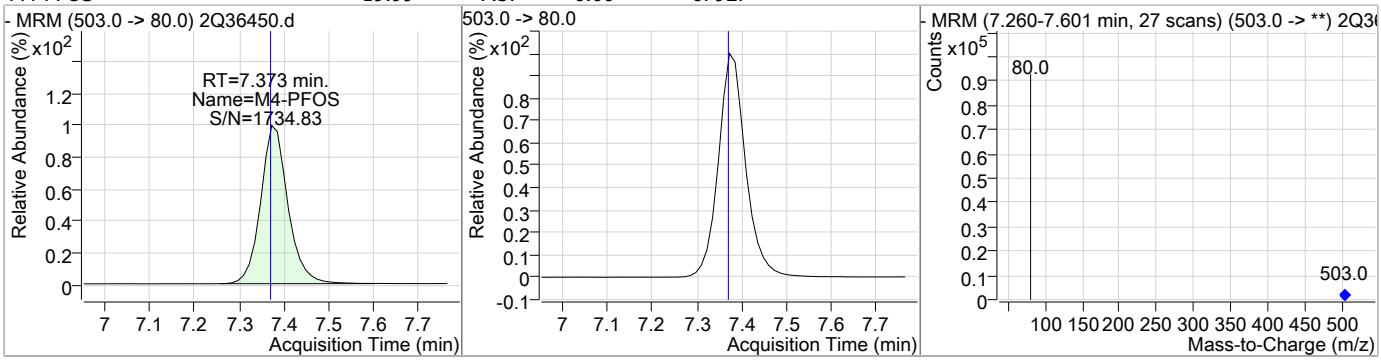
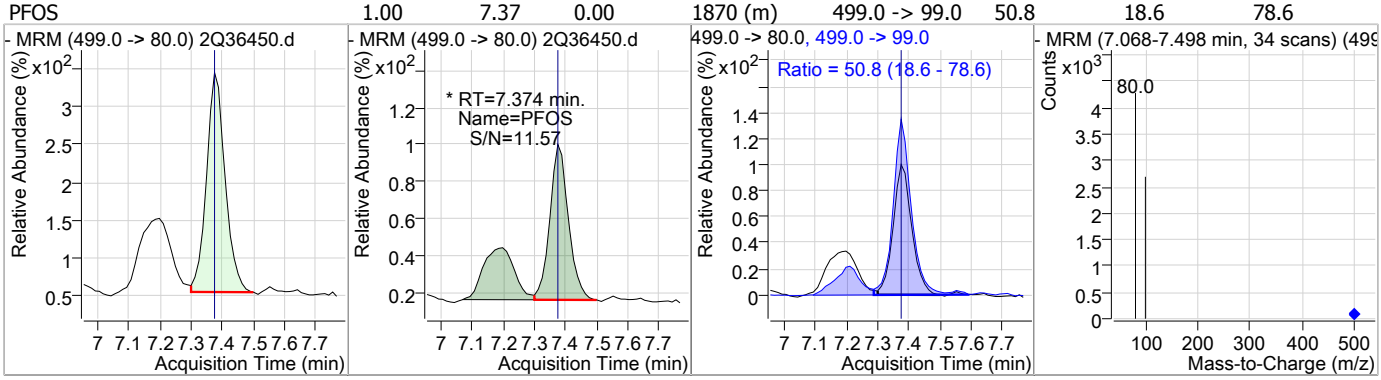
Perfluorinated Compounds by LC/MS/MS

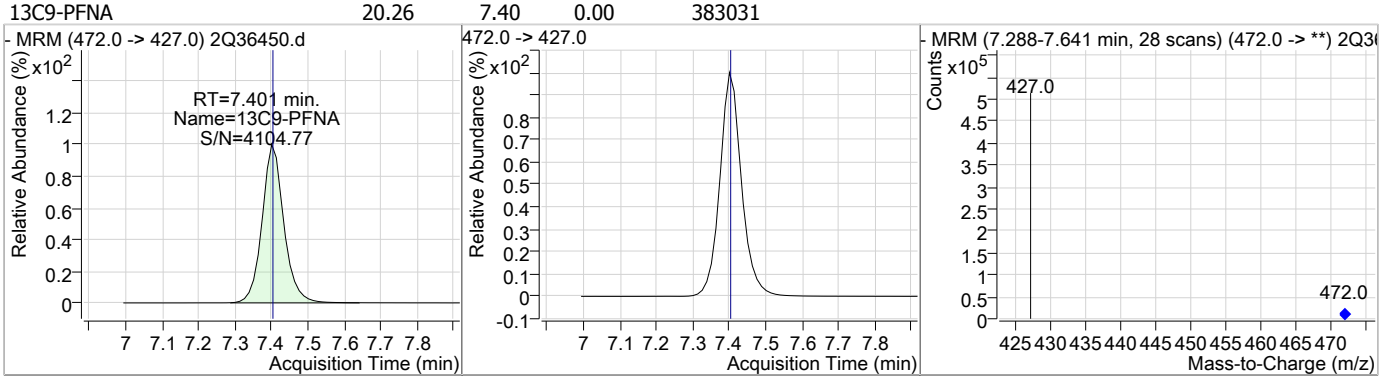
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.99	7.37	0.00	67927				



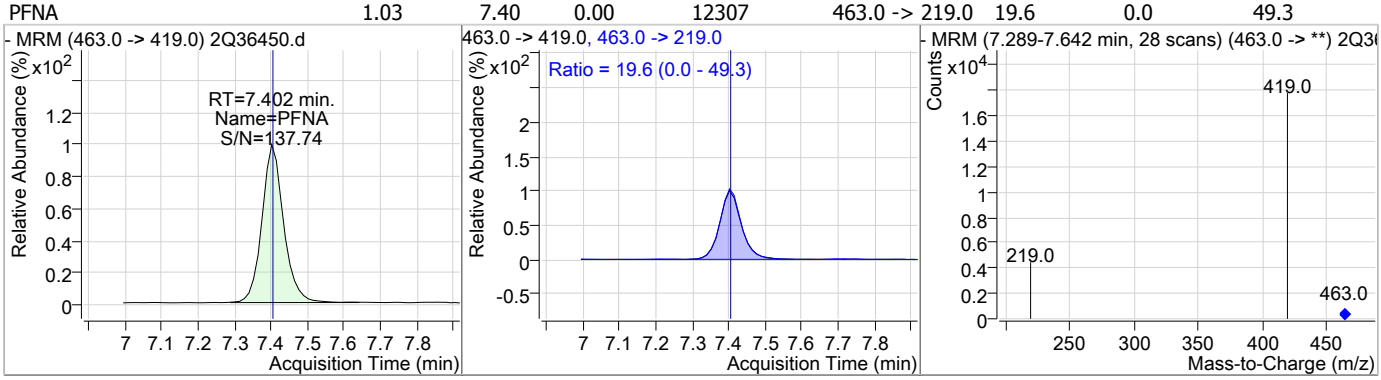
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.00	7.37	0.00	1870 (m)	499.0 -> 99.0	50.8	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.26	7.40	0.00	383031				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.03	7.40	0.00	12307	463.0 -> 219.0	19.6	0.0	49.3



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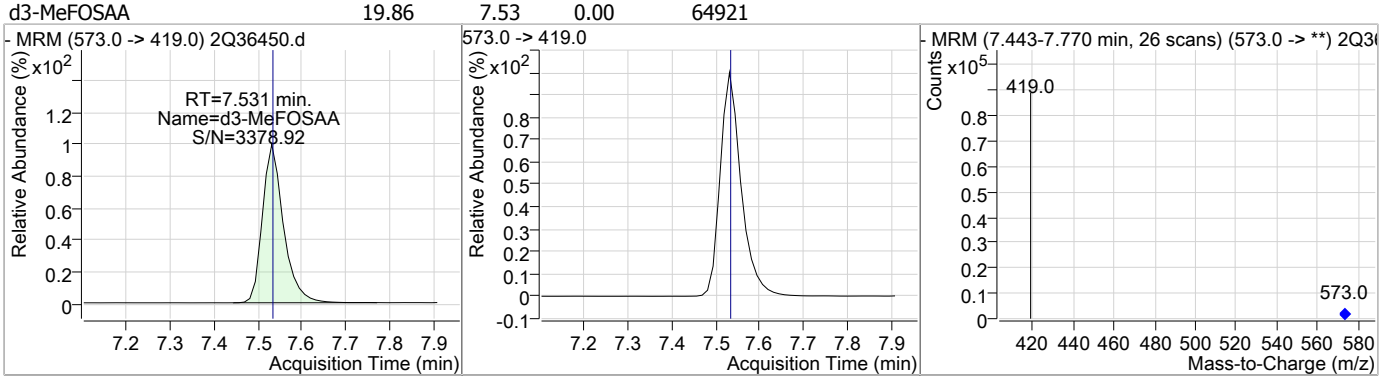
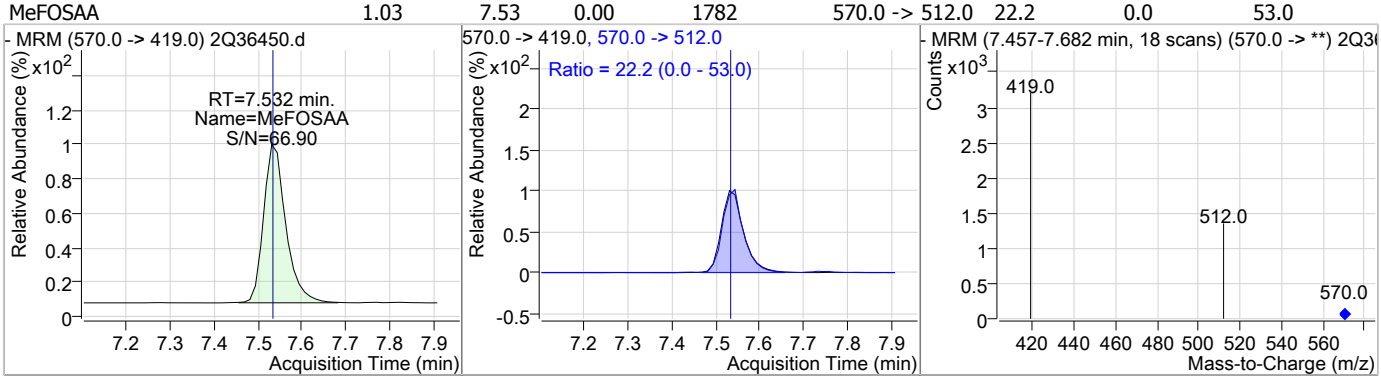
Perfluorinated Compounds by LC/MS/MS

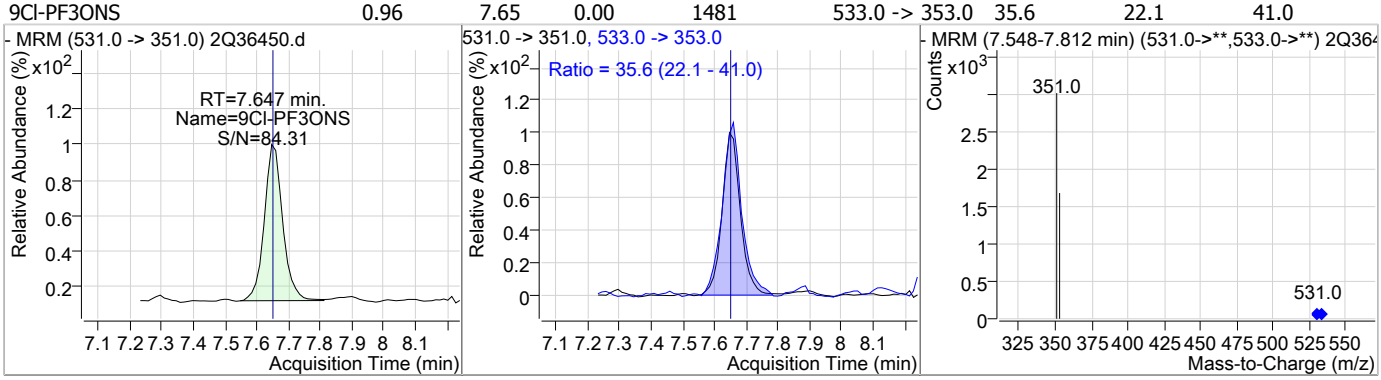
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.86	7.53	0.00	64921				



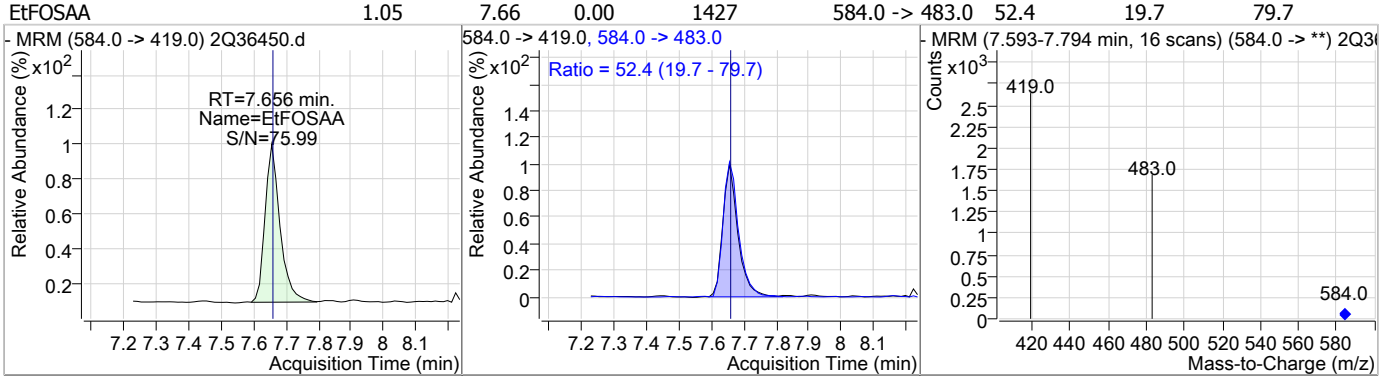
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.03	7.53	0.00	1782	570.0 -> 512.0	22.2	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.96	7.65	0.00	1481	533.0 -> 353.0	35.6	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.05	7.66	0.00	1427	584.0 -> 483.0	52.4	19.7	79.7



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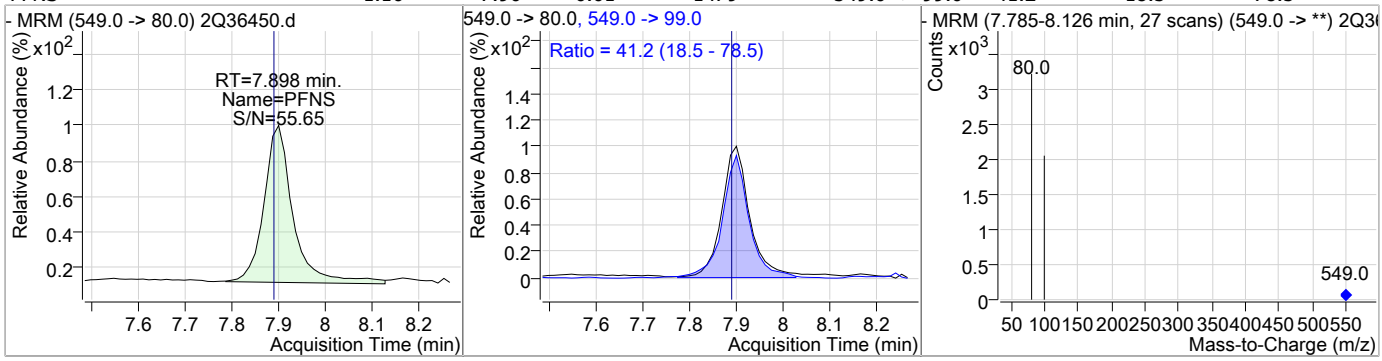
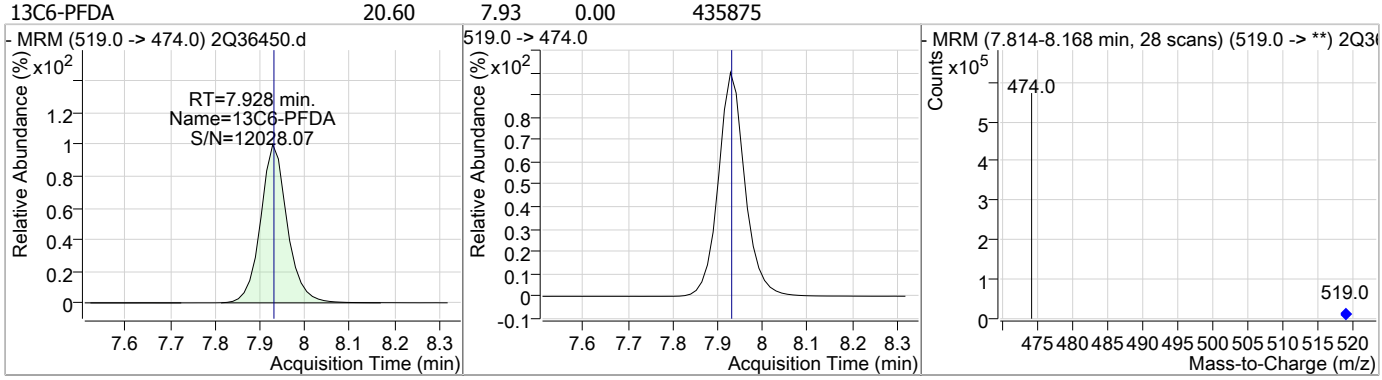
Perfluorinated Compounds by LC/MS/MS

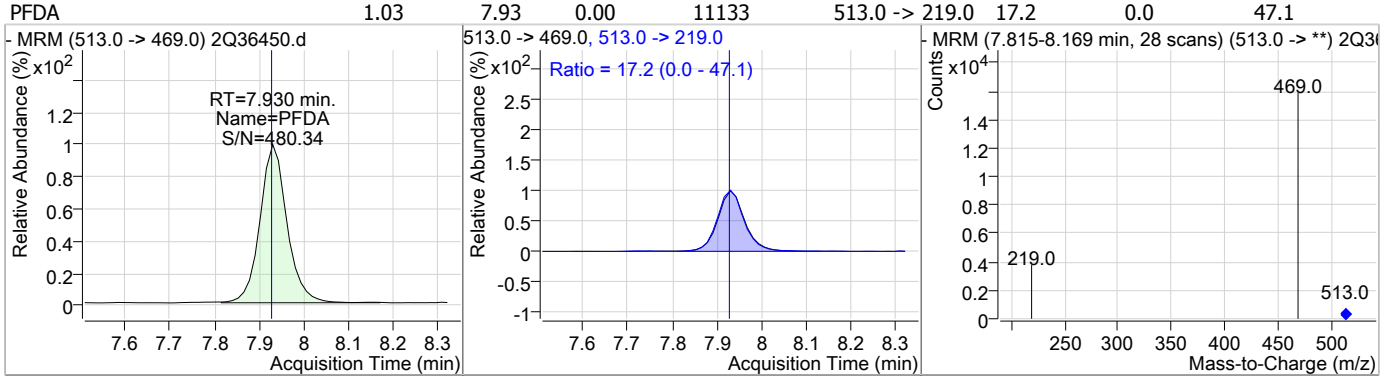
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.16	7.90	0.01	1479	549.0 -> 99.0	41.2	18.5	78.5



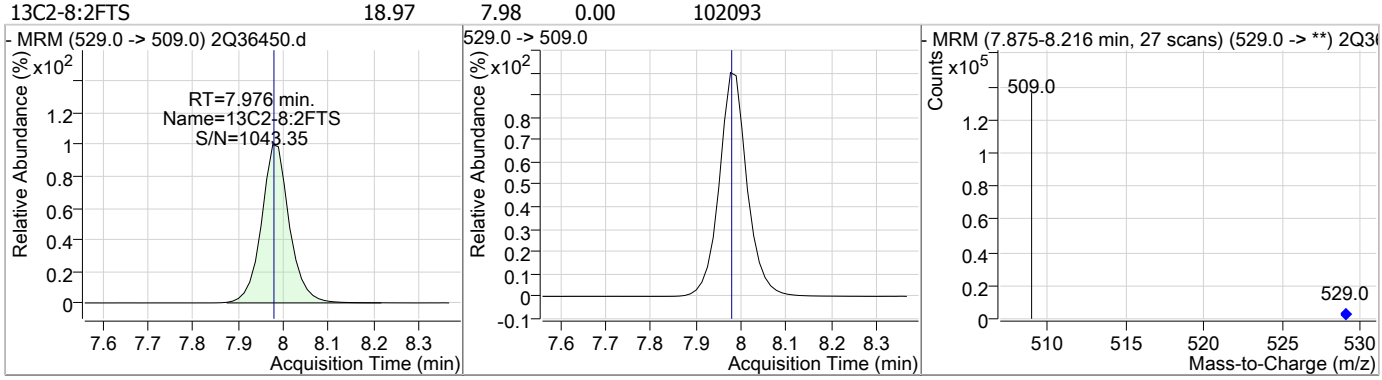
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.60	7.93	0.00	435875				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.03	7.93	0.00	11133	513.0 -> 219.0	17.2	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.97	7.98	0.00	102093				



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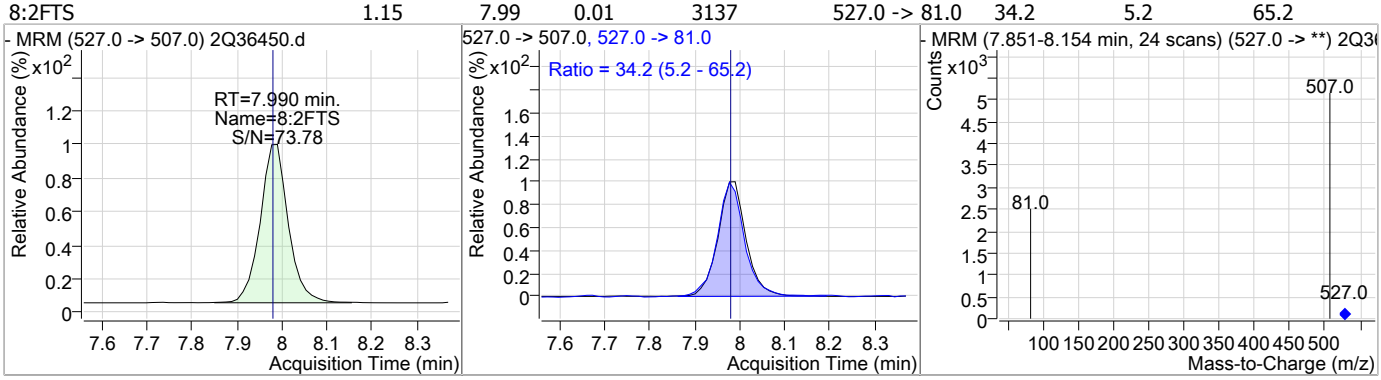
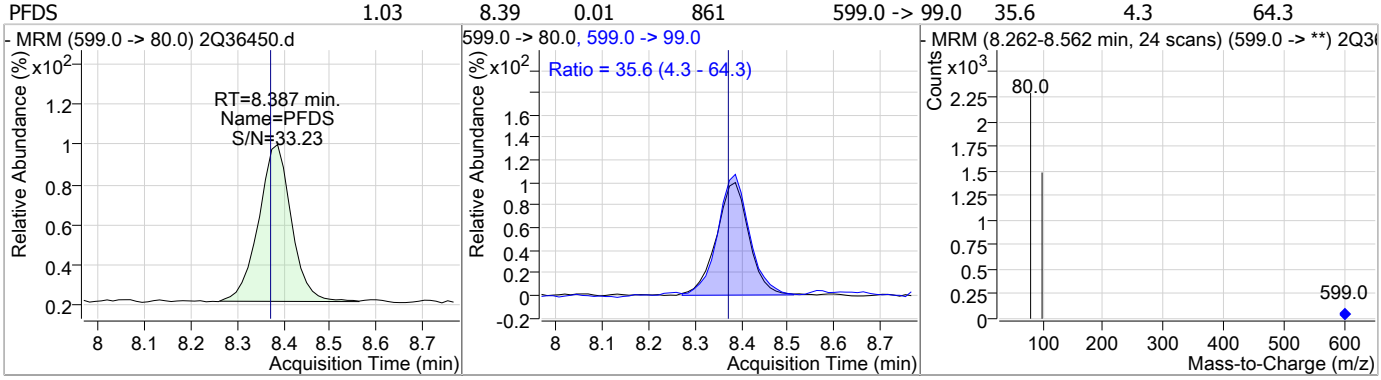
Perfluorinated Compounds by LC/MS/MS

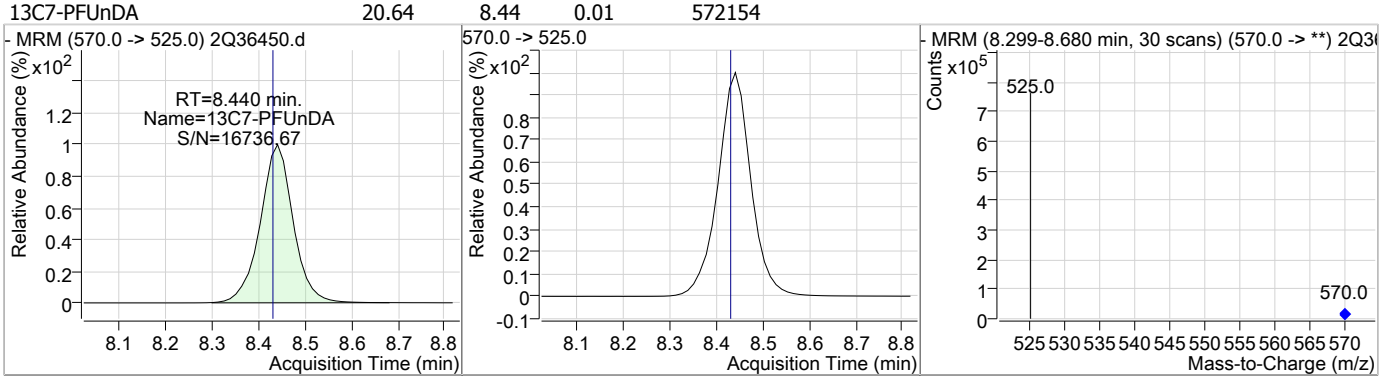
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	1.15	7.99	0.01	3137	527.0 -> 81.0	34.2	5.2	65.2



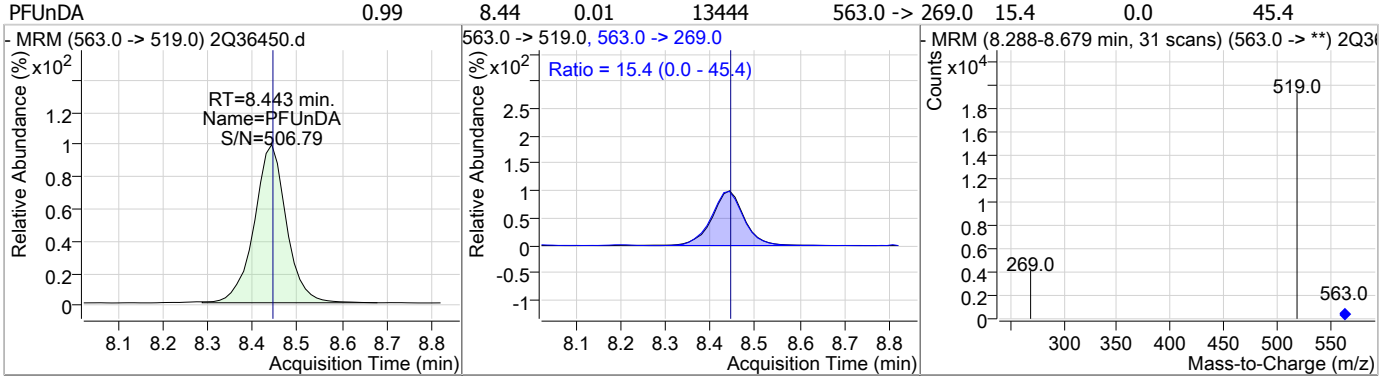
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.03	8.39	0.01	861	599.0 -> 99.0	35.6	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.64	8.44	0.01	572154				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.99	8.44	0.01	13444	563.0 -> 269.0	15.4	0.0	45.4



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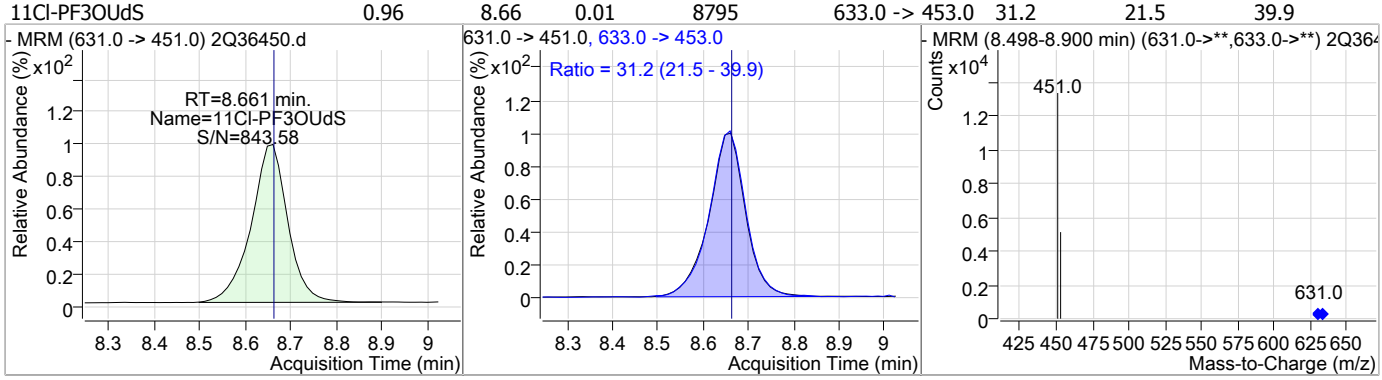
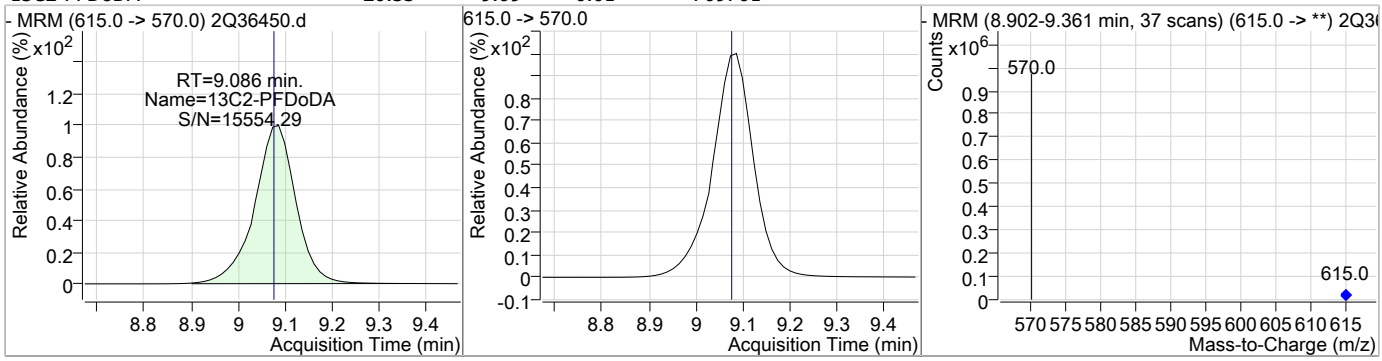
Perfluorinated Compounds by LC/MS/MS

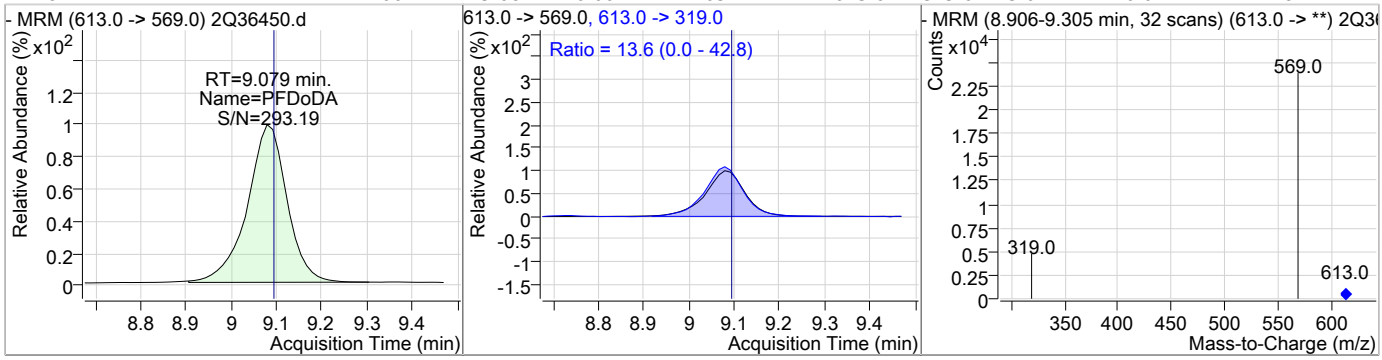
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.96	8.66	0.01	8795	633.0 -> 453.0	31.2	21.5	39.9



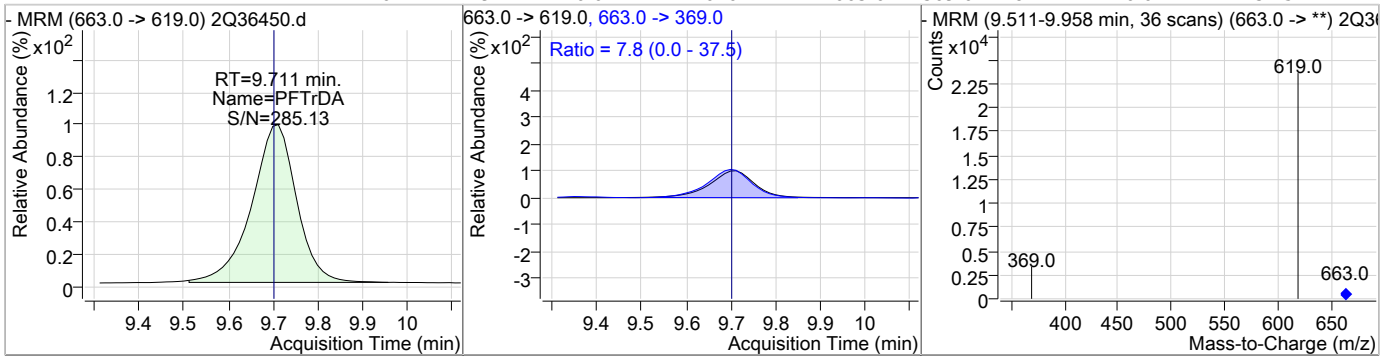
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.33	9.09	0.01	709701				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.00	9.08	0.00	16374	613.0 -> 319.0	13.6	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.01	9.71	0.01	16162	663.0 -> 369.0	7.8	0.0	37.5



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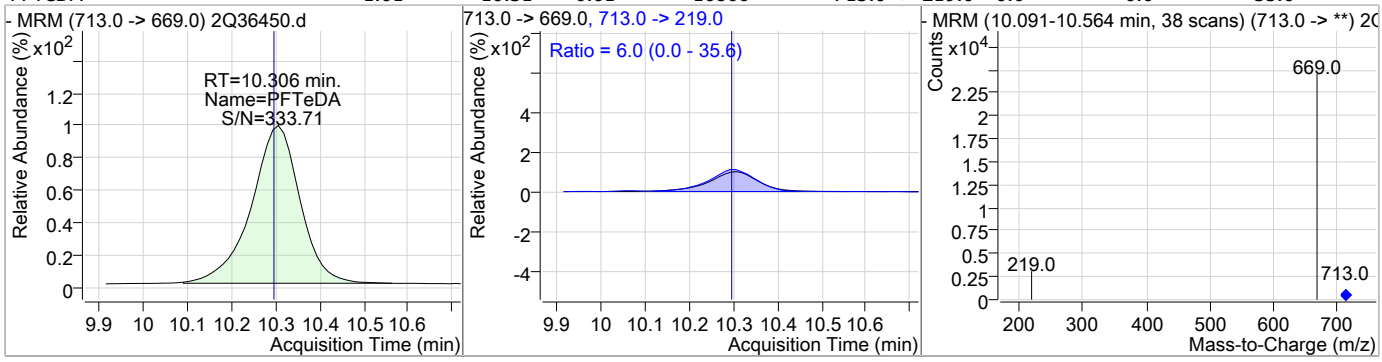
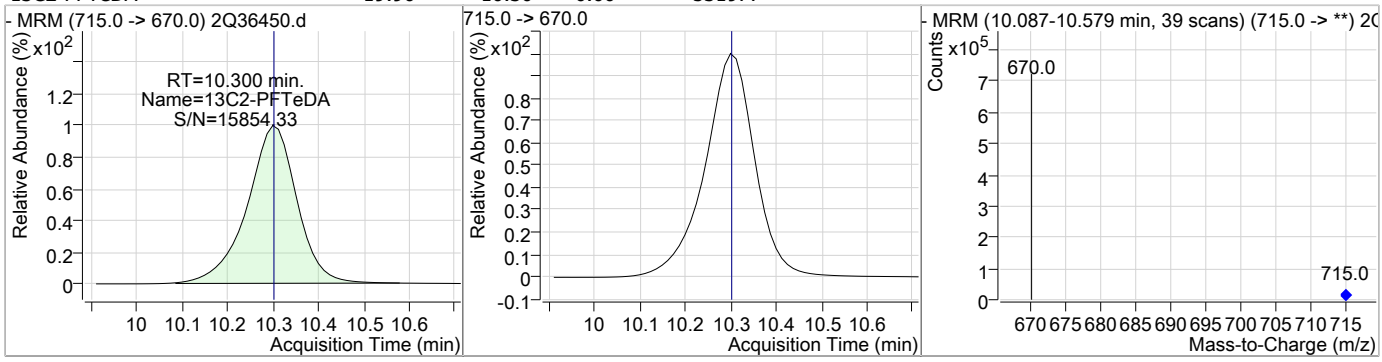
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.01	10.31	0.01	16800	713.0 -> 219.0	6.0	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.96	10.30	0.00	531977				



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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36450.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 14:13	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36451.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 2:29:48 PM
Sample Name	:	ic568-2.0
Vial	:	Vial 4
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	484822	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	68974	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	198058	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	165871	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	236717	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	310029	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	374918	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	385405	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	433458	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	568359	20.00	µg/L	0.013
M2-PFDoDA	9.086	615.0 -> 570.0	711877	20.00	µg/L	0.013
M2-PFTeDA	10.312	715.0 -> 670.0	532250	20.00	µg/L	0.013
M8-FOSA	6.990	506.0 -> 78.0	120454	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27808	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	30042	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	39614	20.00	µg/L	0.000
M2-4:2FTS	4.946	329.0 -> 309.0	110794	20.00	µg/L	-0.013
M2-6:2FTS	6.742	429.0 -> 409.0	153862	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	101712	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	65924	20.00	µg/L	0.000
M3-HFPO-DA	5.330	287.0 -> 169.0	292712	100.00	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	4.946	329.0 -> 309.0	110279	18.94	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.7%		
13C2-6:2FTS	6.742	429.0 -> 409.0	153679	19.38	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C2-8:2FTS	7.976	529.0 -> 509.0	101650	18.88	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.4%		
13C2-PFDoDA	9.086	615.0 -> 570.0	706473	20.24	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C2-PFTeDA	10.312	715.0 -> 670.0	531482	19.95	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C3-PFBS	4.017	302.0 -> 99.0	27716	20.28	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C3-PFHxS	6.022	402.0 -> 99.0	30024	20.37	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C4-PFBA	2.077	217.0 -> 172.0	196937	20.11	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C4-PFHpA	5.992	367.0 -> 322.0	309515	20.32	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C5-PFHxA	5.051	318.0 -> 273.0	236254	20.24	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C5-PFPeA	3.774	268.0 -> 223.0	165871	20.15	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C6-PFDA	7.928	519.0 -> 474.0	433307	20.48	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C7-PFUnDA	8.440	570.0 -> 525.0	566408	20.44 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C8-FOSA	6.990	506.0 -> 78.0	120407	21.16 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.8%		
13C8-PFOA	6.745	421.0 -> 376.0	374374	20.46 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C8-PFOS	7.371	507.0 -> 99.0	39555	20.32 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C9-PFNA	7.401	472.0 -> 427.0	385090	20.37 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
d3-MeFOSAA	7.531	573.0 -> 419.0	65924	20.17 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
M2-PFOA	6.747	415.0 -> 370.0	485584	20.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.373	503.0 -> 80.0	68836	19.97 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C3-HFPO-DA	5.330	287.0 -> 169.0	292712	102.96 µg/L		0.000
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
Target Compounds						**QValue**
4:2FTS	4.949	327.0 -> 307.0	6639	2.11 µg/L		100
6:2FTS	6.744	427.0 -> 407.0	7970	2.08 µg/L		97
8:2FTS	7.978	527.0 -> 507.0	5612	2.06 µg/L		96
EtFOSAA	7.656	584.0 -> 419.0	3109	2.25 µg/L		95
FOSA	6.993	498.0 -> 78.0	6247	2.00 µg/L		100
MeFOSAA	7.532	570.0 -> 419.0	3422	1.95 µg/L		96
PFBA	2.073	213.0 -> 169.0	3642	1.97 µg/L		100
PFBS	4.021	299.0 -> 80.0	4302	1.96 µg/L		98
PFDA	7.930	513.0 -> 469.0	21073	1.96 µg/L		99
PFDoDA	9.079	613.0 -> 569.0	31804	1.94 µg/L		99
PFDS	8.387	599.0 -> 80.0	1703	2.02 µg/L		97
PFHpA	5.995	363.0 -> 319.0	27577	1.95 µg/L		99
PFHpS	6.741	449.0 -> 80.0	3365	2.10 µg/L		99
PFHxA	5.040	313.0 -> 269.0	7260	2.00 µg/L		99
PFHxS	6.025	399.0 -> 80.0	3618	2.02 µg/L	m	95
PFNA	7.402	463.0 -> 419.0	23499	1.95 µg/L		99
PFNS	7.885	549.0 -> 80.0	2613	2.03 µg/L		96
PFOA	6.749	413.0 -> 369.0	20118	1.99 µg/L		99
PFOS	7.374	499.0 -> 80.0	3638	1.93 µg/L	m	99
PFPeA	3.777	263.0 -> 219.0	16379	1.96 µg/L		100
PFPeS	5.157	349.0 -> 80.0	2400	1.98 µg/L		96
PFTeDA	10.306	713.0 -> 669.0	32245	1.97 µg/L		100
PFTrDA	9.711	663.0 -> 619.0	31235	1.98 µg/L		100
PFUnDA	8.443	563.0 -> 519.0	25858	1.93 µg/L		99
11Cl-PF3OUdS	8.661	631.0 -> 451.0	16992	1.86 µg/L		99
9Cl-PF3ONS	7.647	531.0 -> 351.0	2950	1.92 µg/L		99
ADONA	6.090	377.0 -> 251.0	32719	1.82 µg/L		100
HFPO-DA	5.335	329.0 -> 169.0	30511	10.12 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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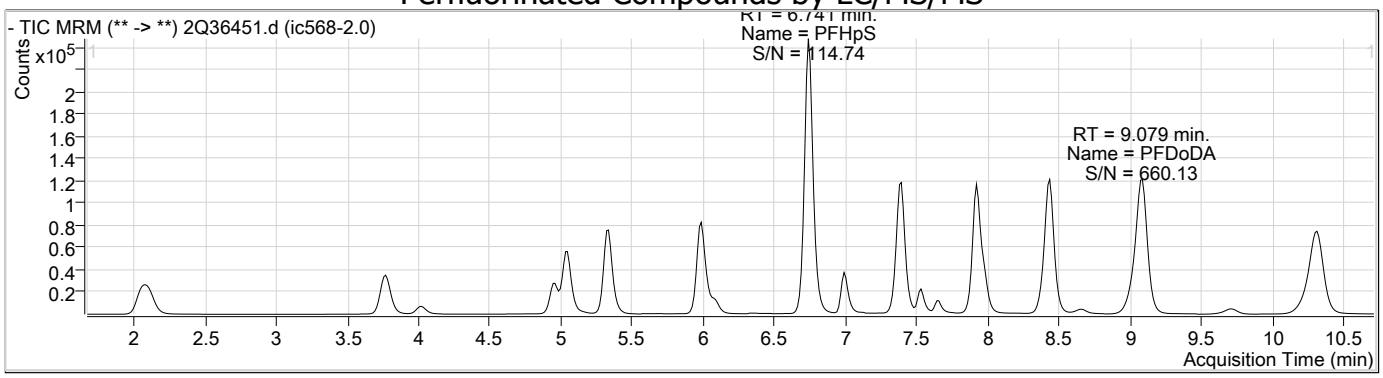
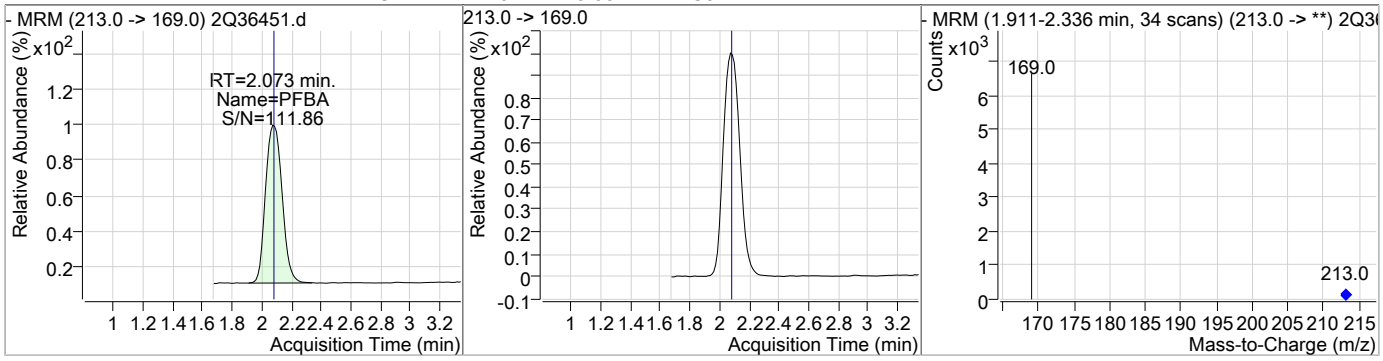
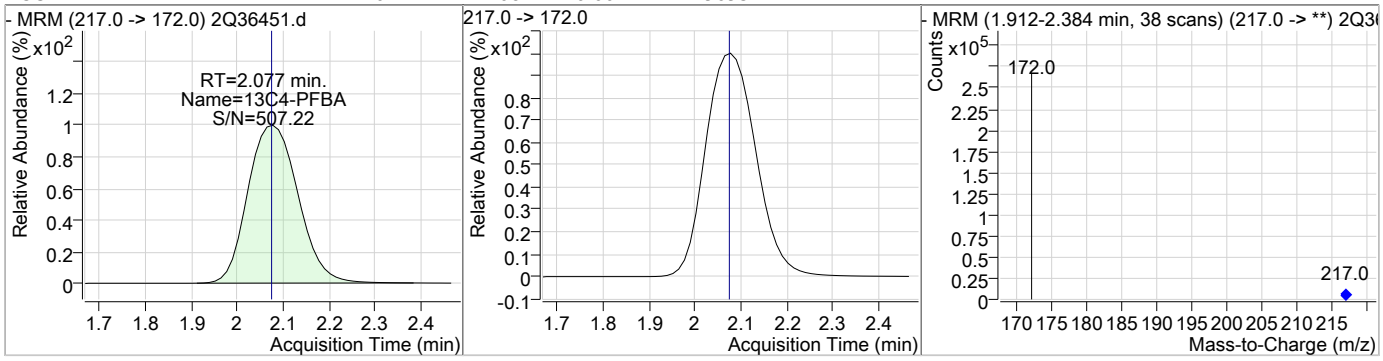
Perfluorinated Compounds by LC/MS/MS



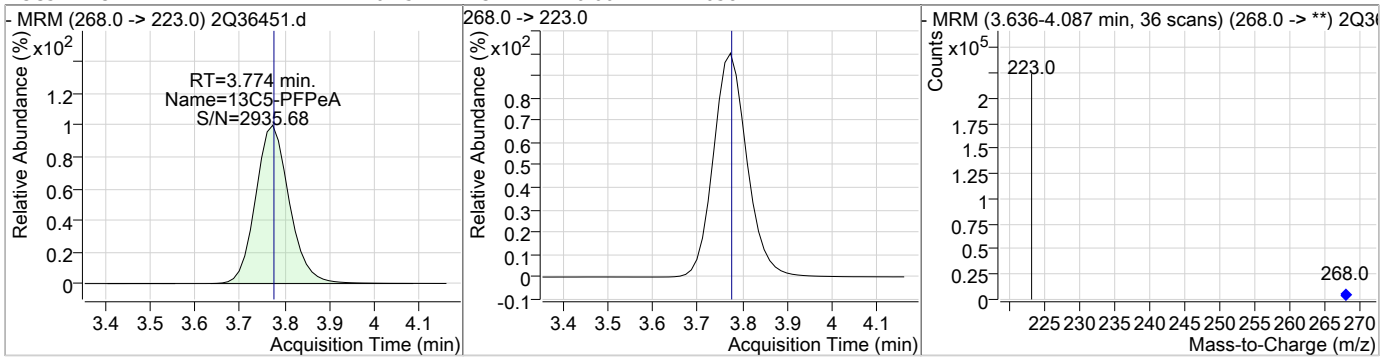
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.97	2.07	0.00	3642				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.11	2.08	0.00	196937				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.15	3.77	0.00	165871				



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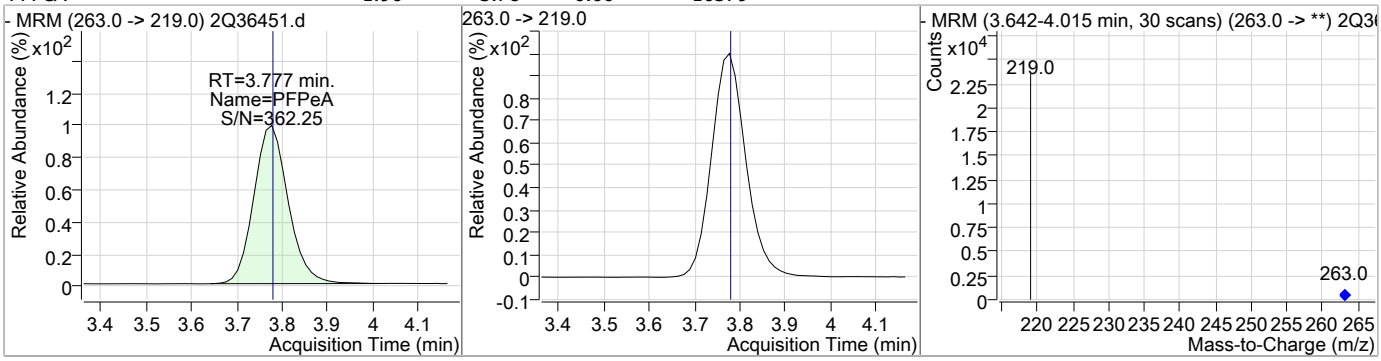
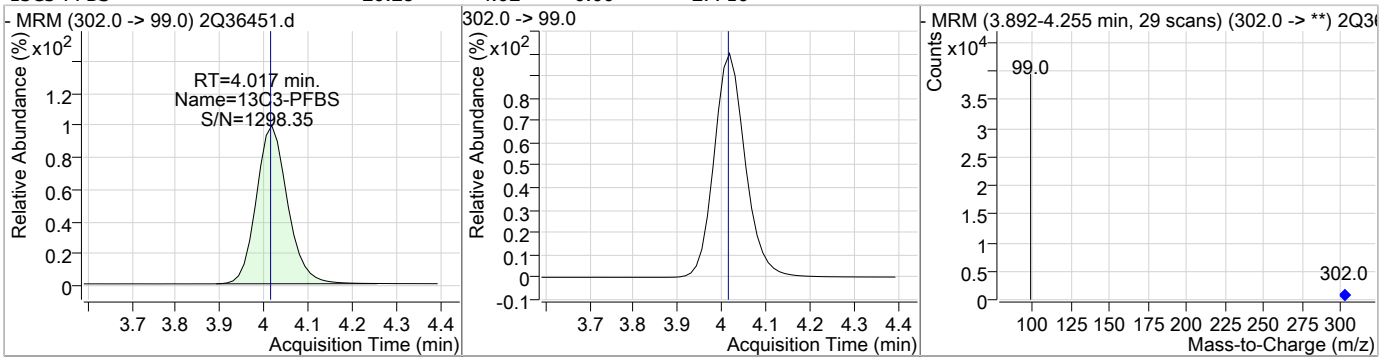
Perfluorinated Compounds by LC/MS/MS

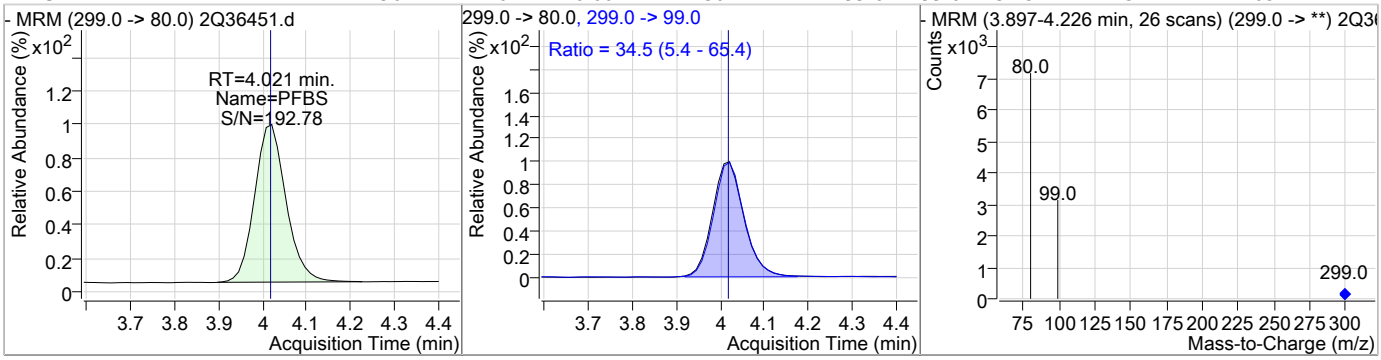
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.96	3.78	0.00	16379				



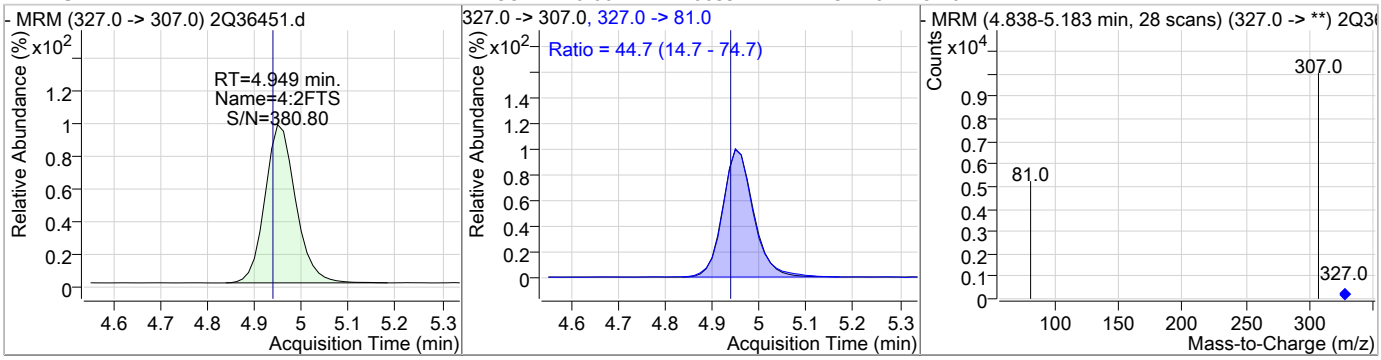
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.28	4.02	0.00	27716				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.96	4.02	0.00	4302	299.0 -> 99.0	34.5	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	2.11	4.95	0.00	6639	327.0 -> 81.0	44.7	14.7	74.7



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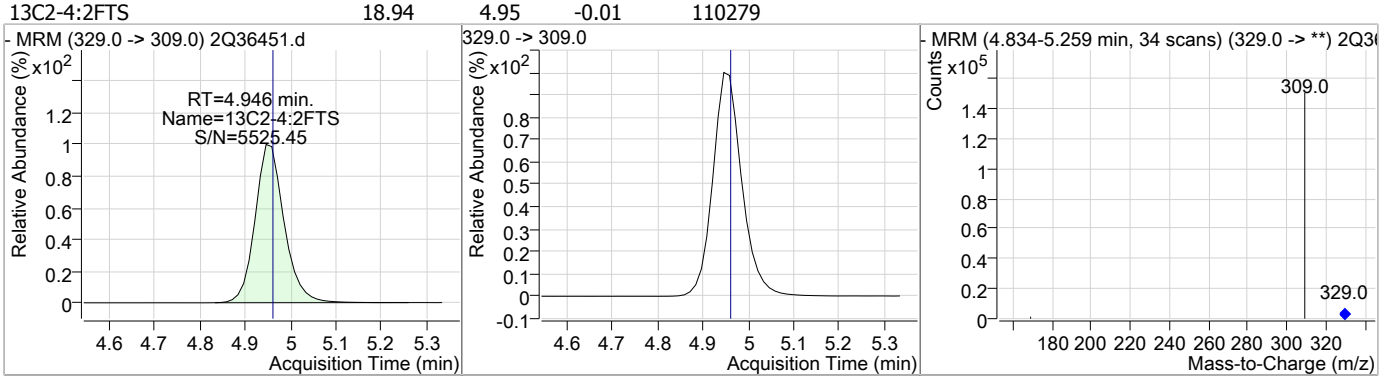
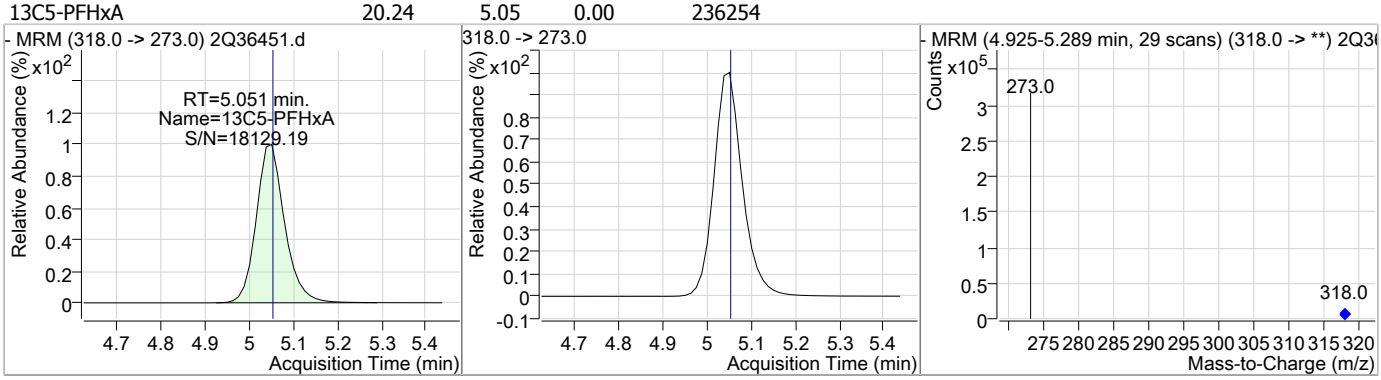
Perfluorinated Compounds by LC/MS/MS

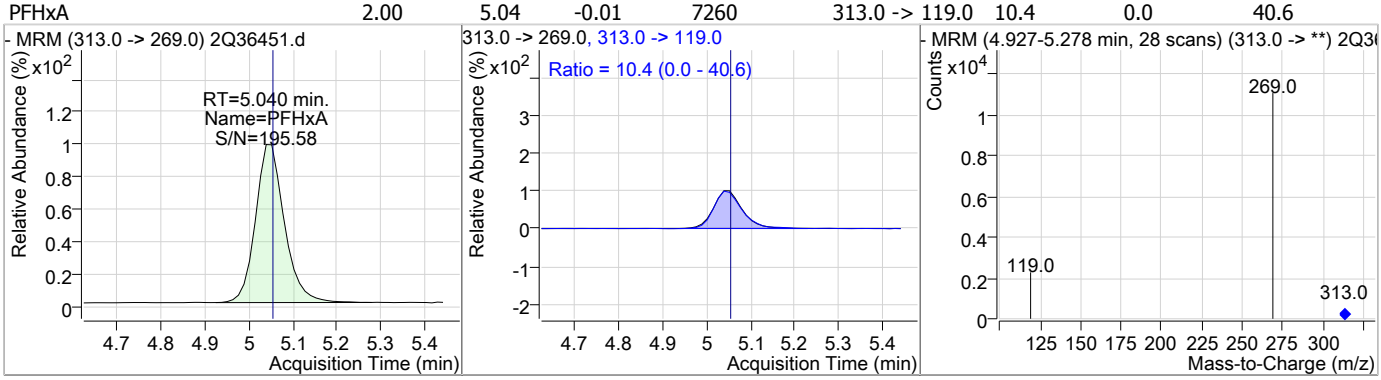
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	18.94	4.95	-0.01	110279				



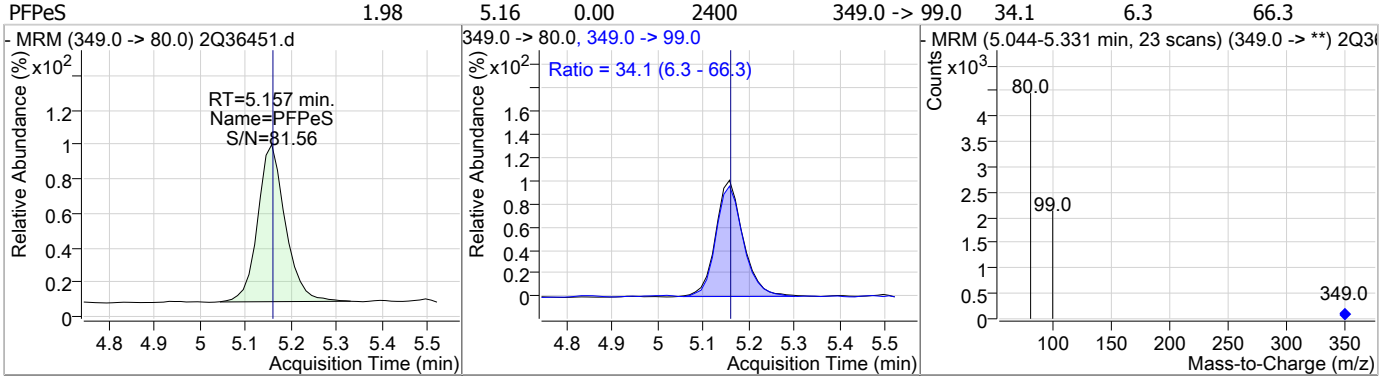
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.24	5.05	0.00	236254				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.00	5.04	-0.01	7260	313.0 -> 119.0	10.4	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.98	5.16	0.00	2400	349.0 -> 99.0	34.1	6.3	66.3



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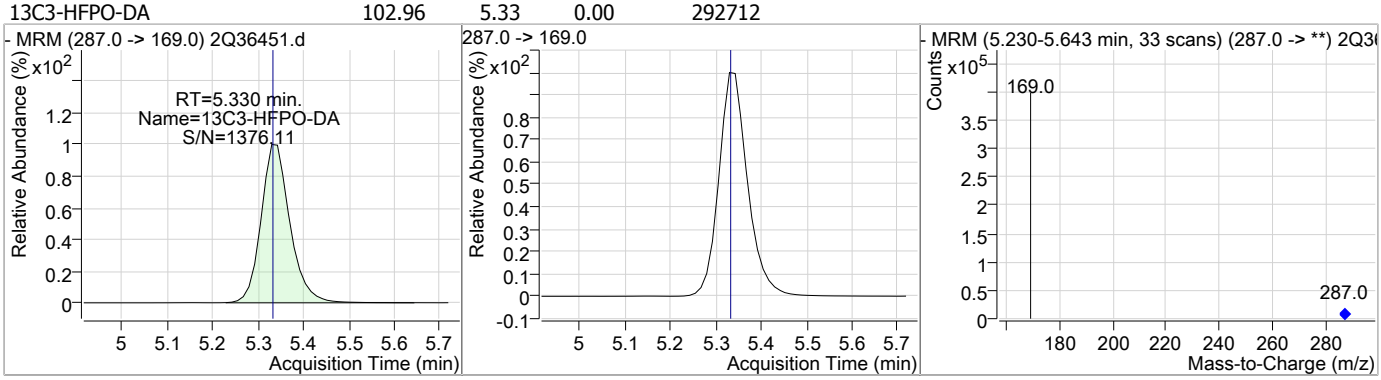
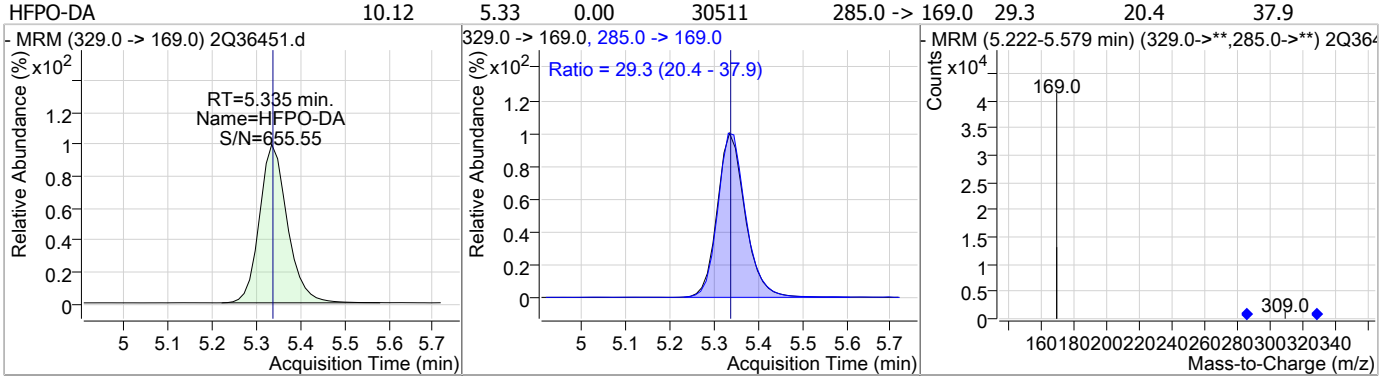
Perfluorinated Compounds by LC/MS/MS

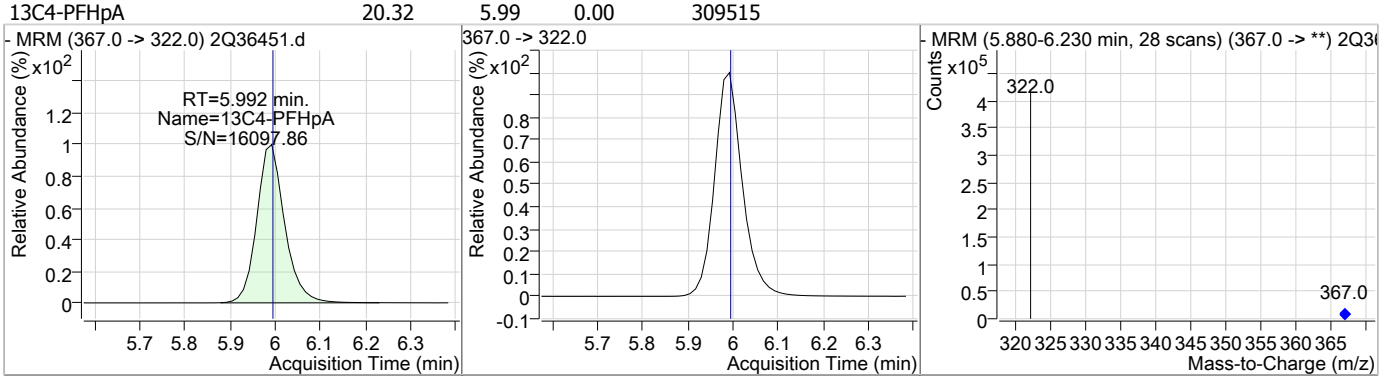
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	102.96	5.33	0.00	292712				



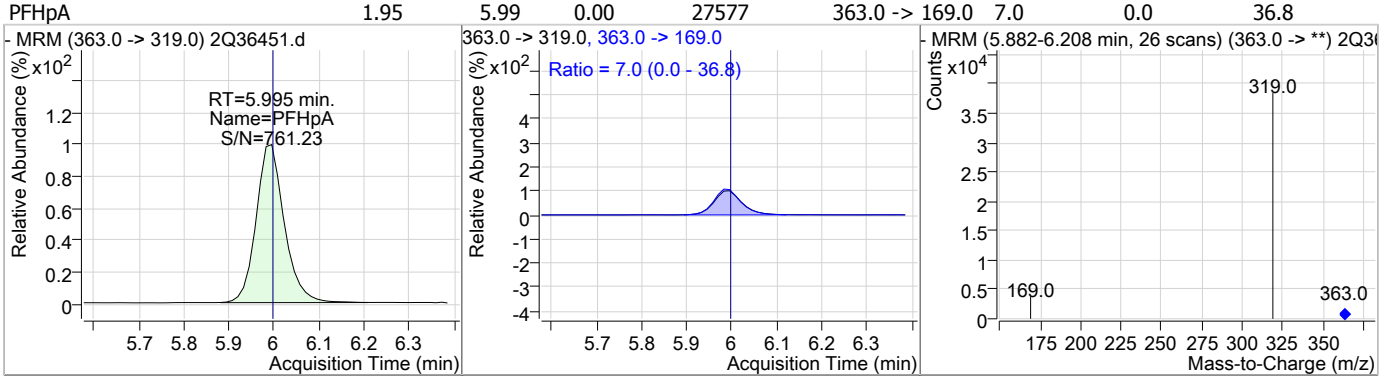
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	10.12	5.33	0.00	30511	285.0 -> 169.0	29.3	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.32	5.99	0.00	309515				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.95	5.99	0.00	27577	363.0 -> 169.0	7.0	0.0	36.8



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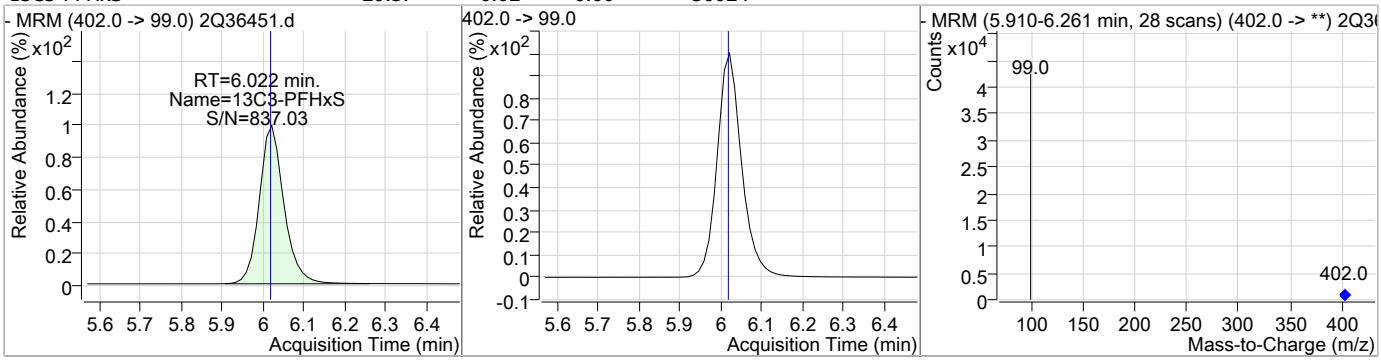
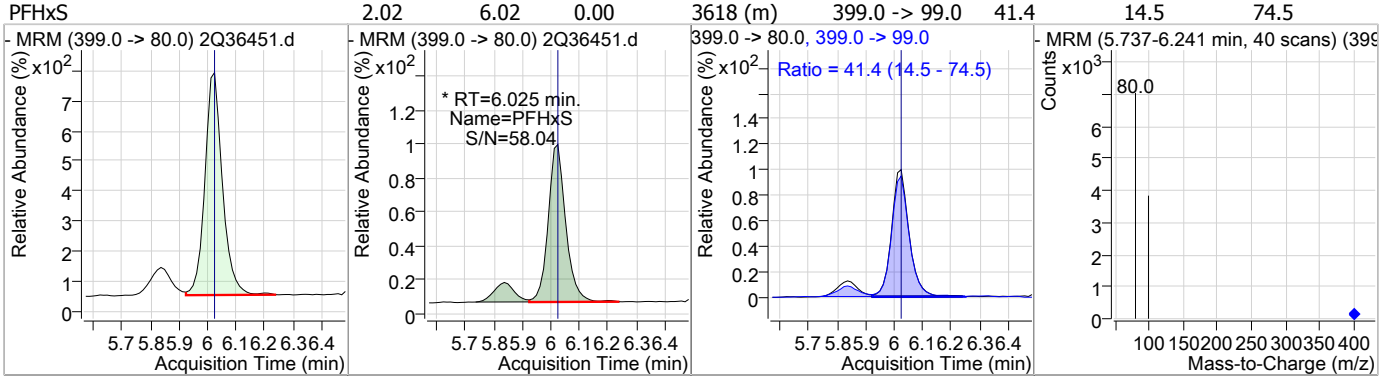
Perfluorinated Compounds by LC/MS/MS

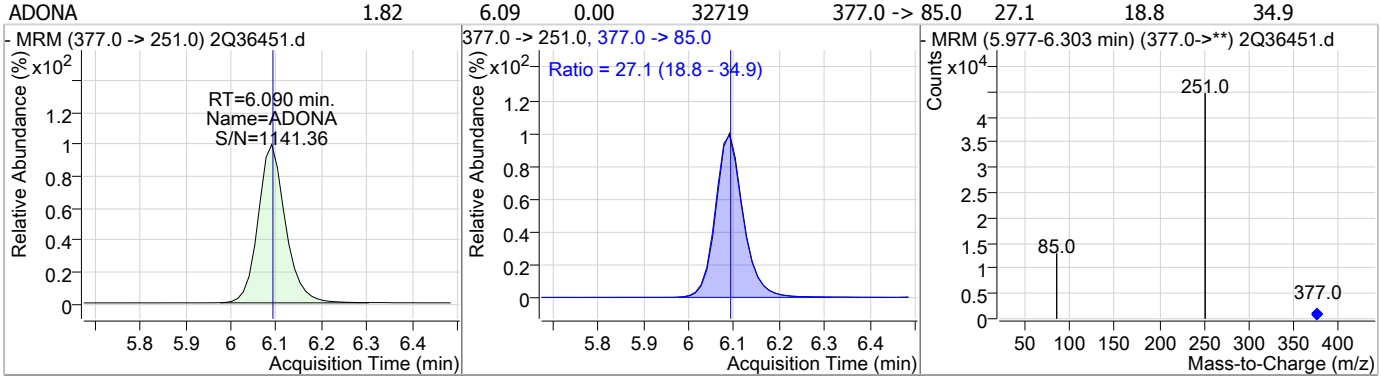
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.37	6.02	0.00	30024				



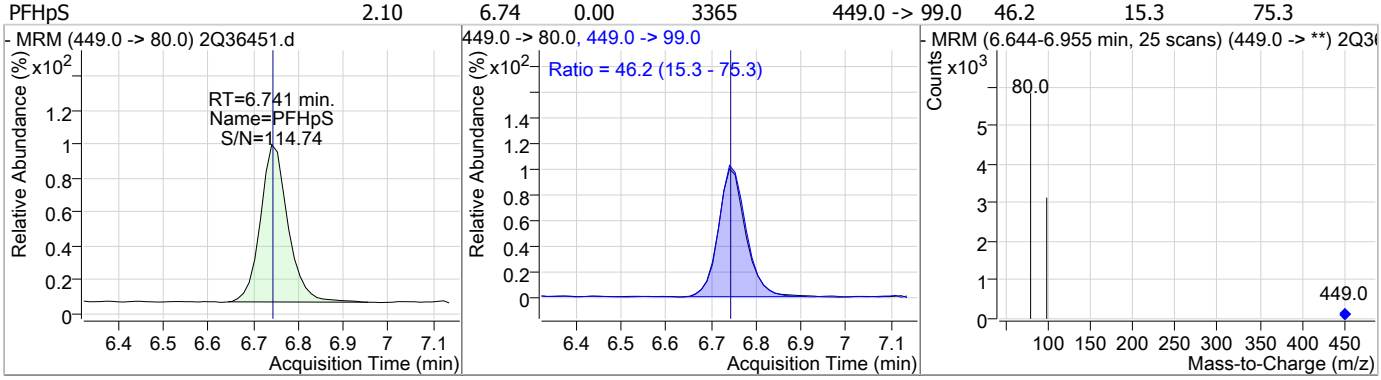
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.02	6.02	0.00	3618 (m)	399.0 -> 99.0	41.4	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	1.82	6.09	0.00	32719	377.0 -> 85.0	27.1	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.10	6.74	0.00	3365	449.0 -> 99.0	46.2	15.3	75.3



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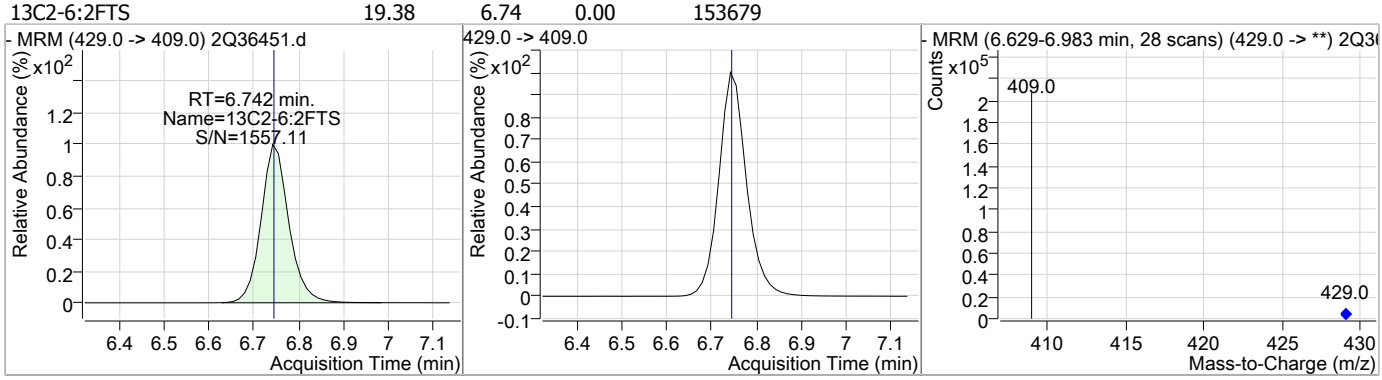
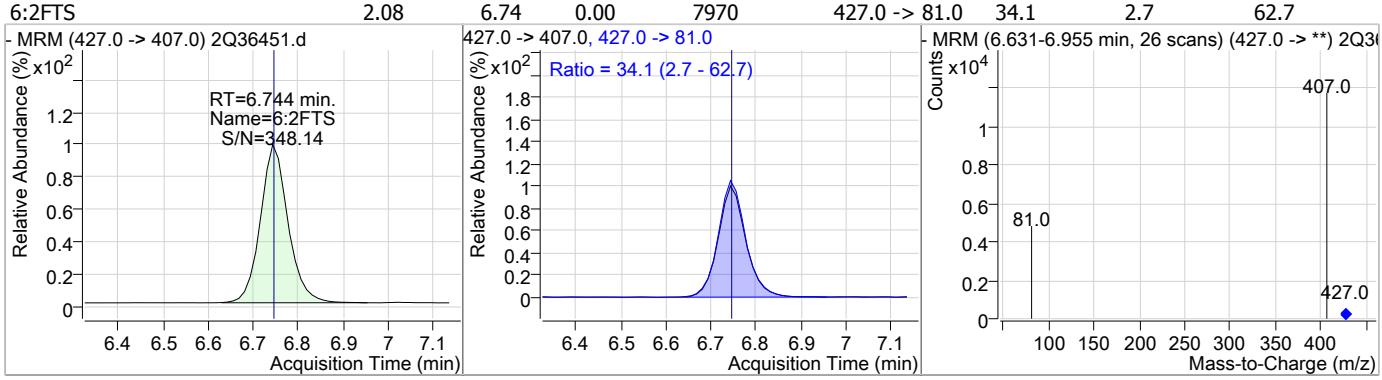
Perfluorinated Compounds by LC/MS/MS

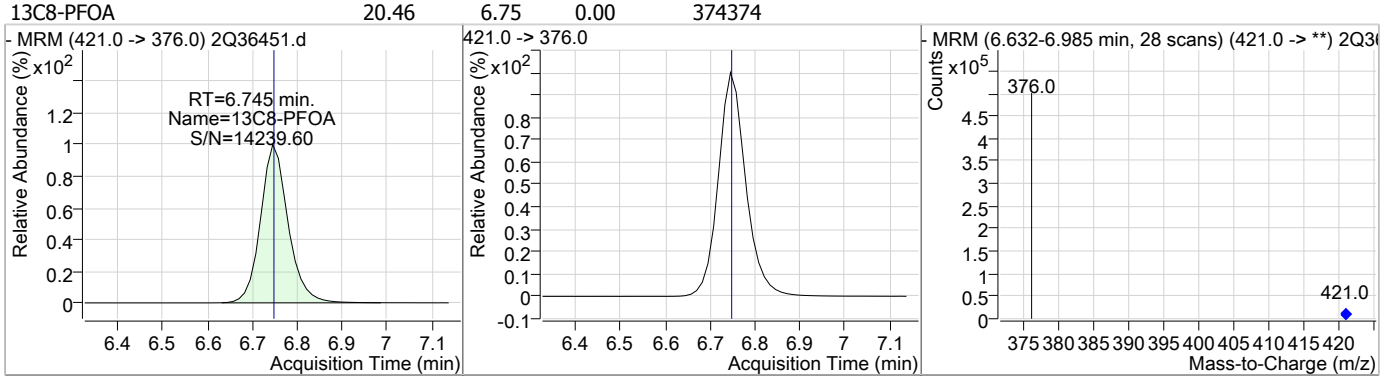
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.38	6.74	0.00	153679				



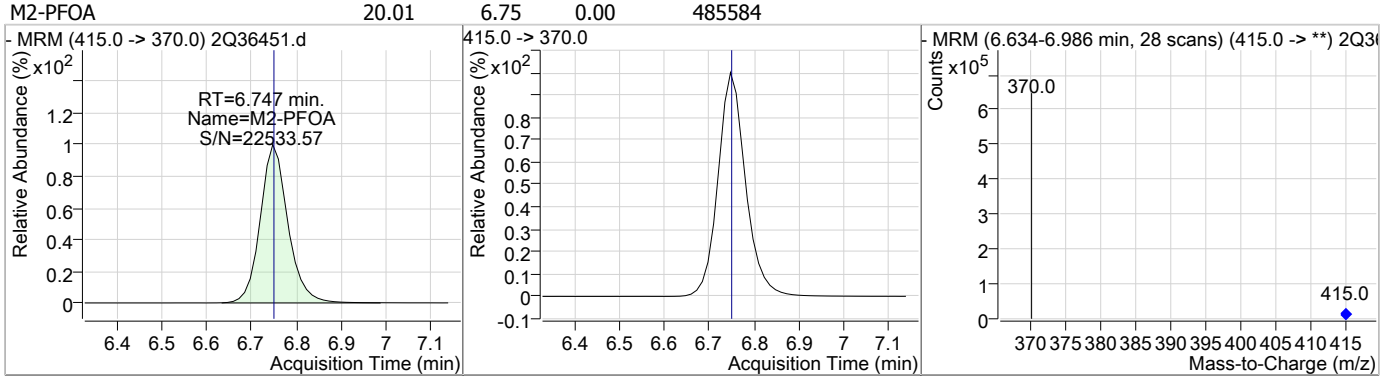
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	2.08	6.74	0.00	7970	427.0 -> 81.0	34.1	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.46	6.75	0.00	374374				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.01	6.75	0.00	485584				



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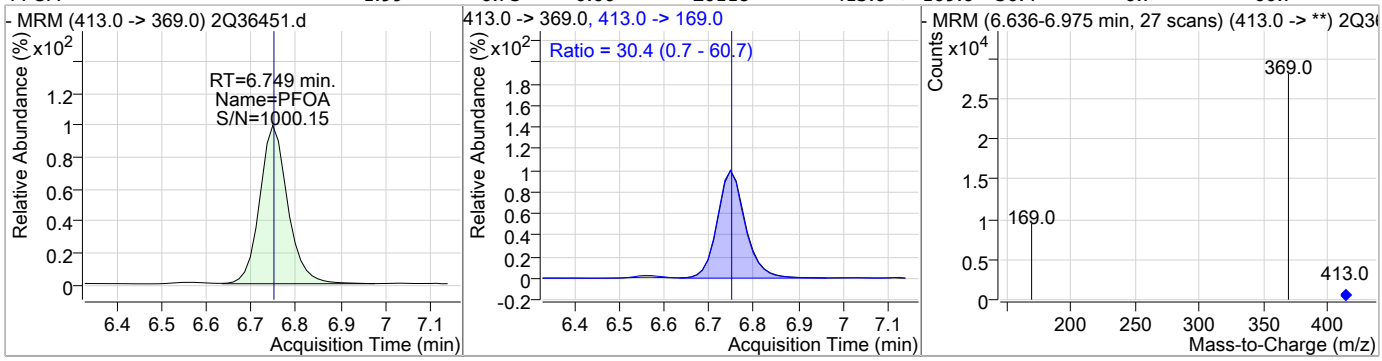
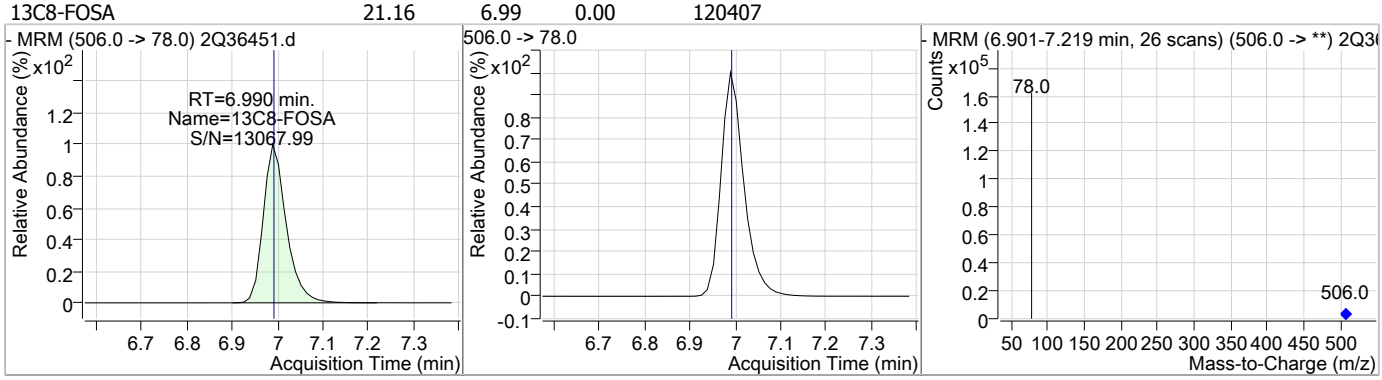
Perfluorinated Compounds by LC/MS/MS

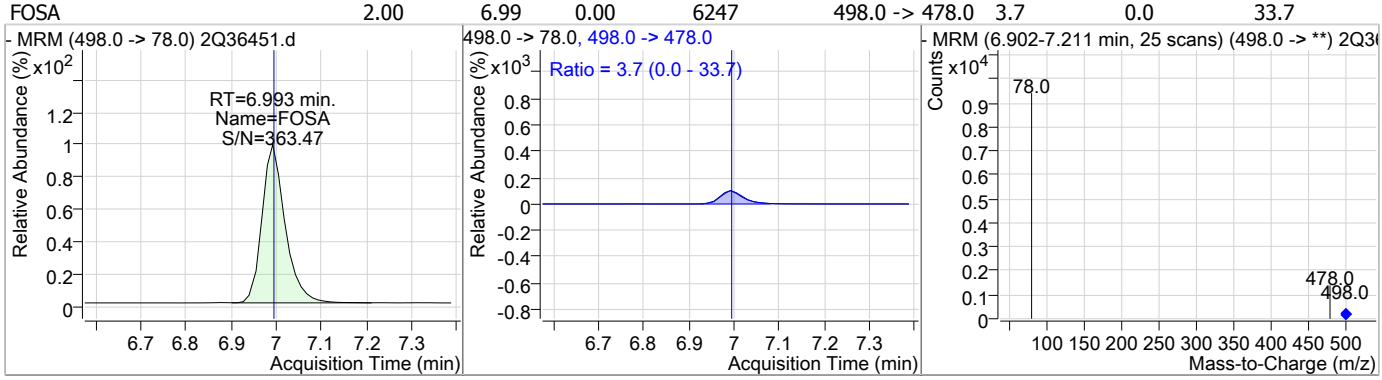
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.99	6.75	0.00	20118	413.0 -> 169.0	30.4	0.7	60.7



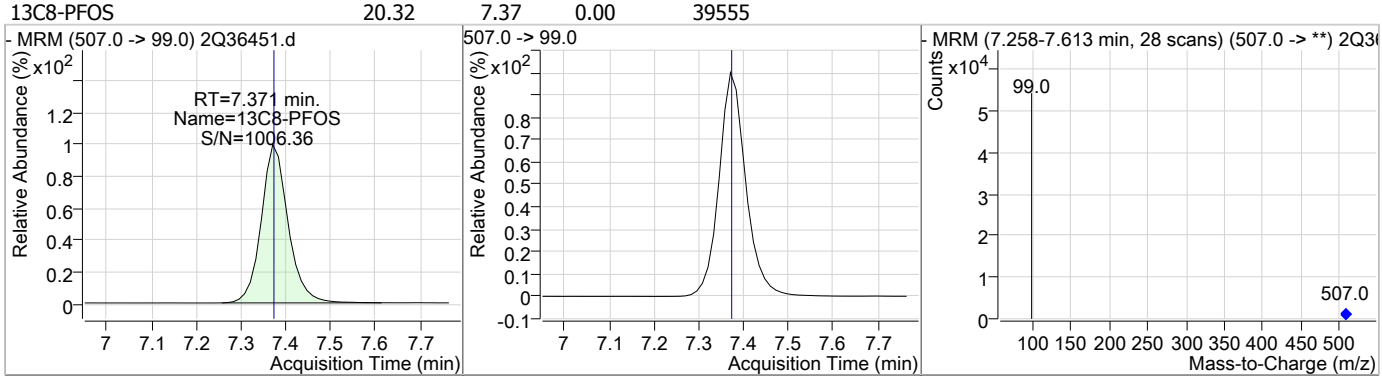
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	21.16	6.99	0.00	120407				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.00	6.99	0.00	6247	498.0 -> 478.0	3.7	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.32	7.37	0.00	39555				



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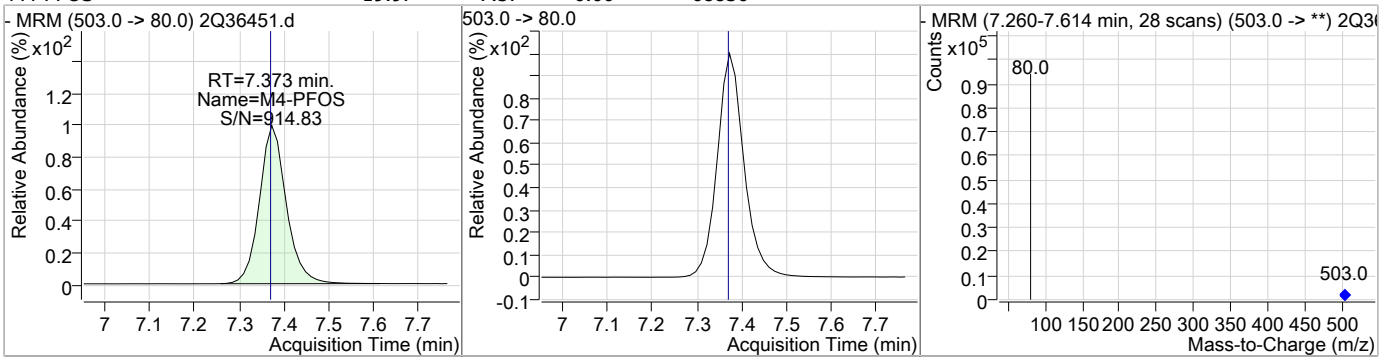
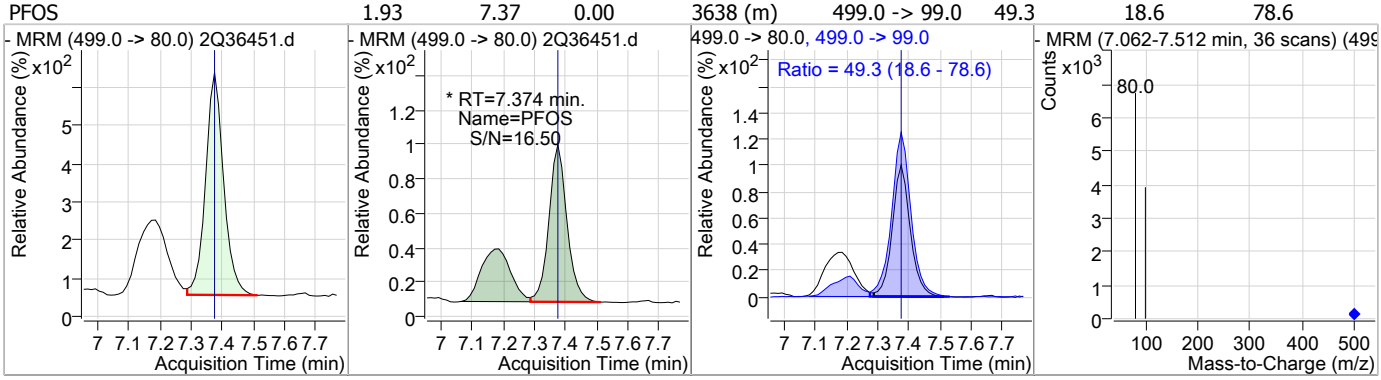
Perfluorinated Compounds by LC/MS/MS

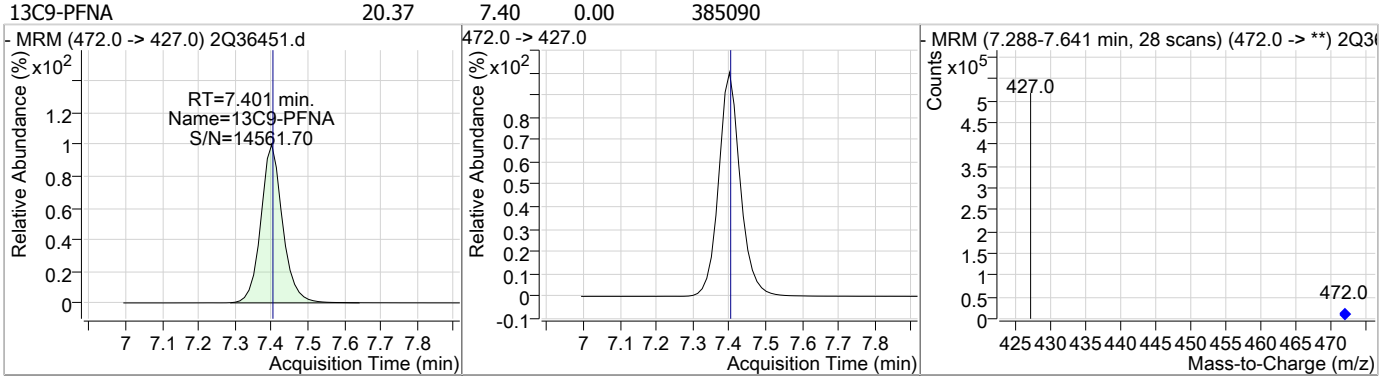
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.97	7.37	0.00	68836				



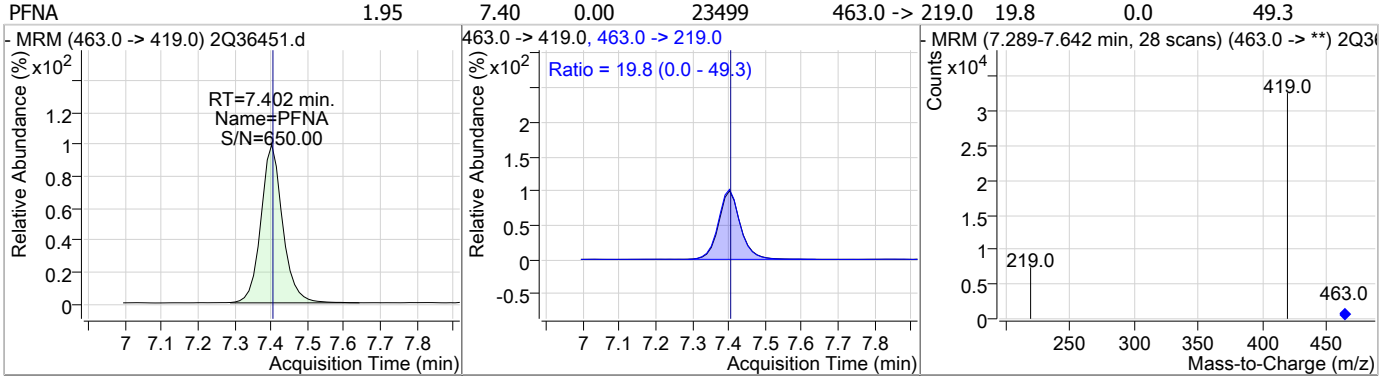
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.93	7.37	0.00	3638 (m)	499.0 -> 99.0	49.3	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.37	7.40	0.00	385090				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.95	7.40	0.00	23499	463.0 -> 219.0	19.8	0.0	49.3



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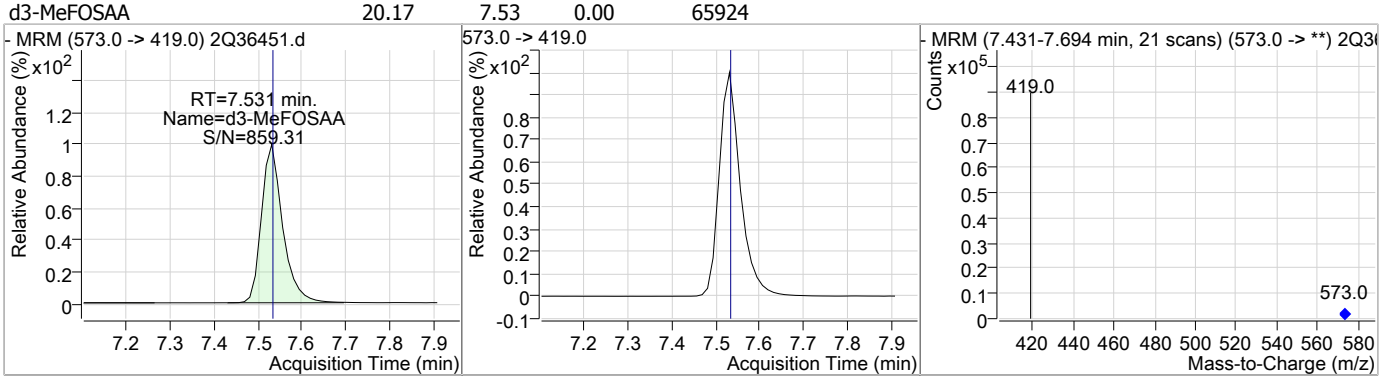
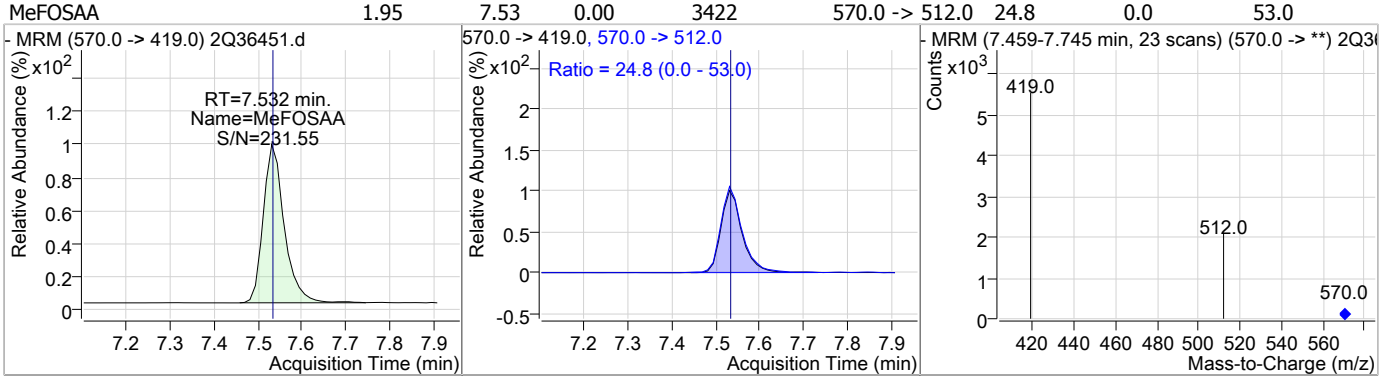
Perfluorinated Compounds by LC/MS/MS

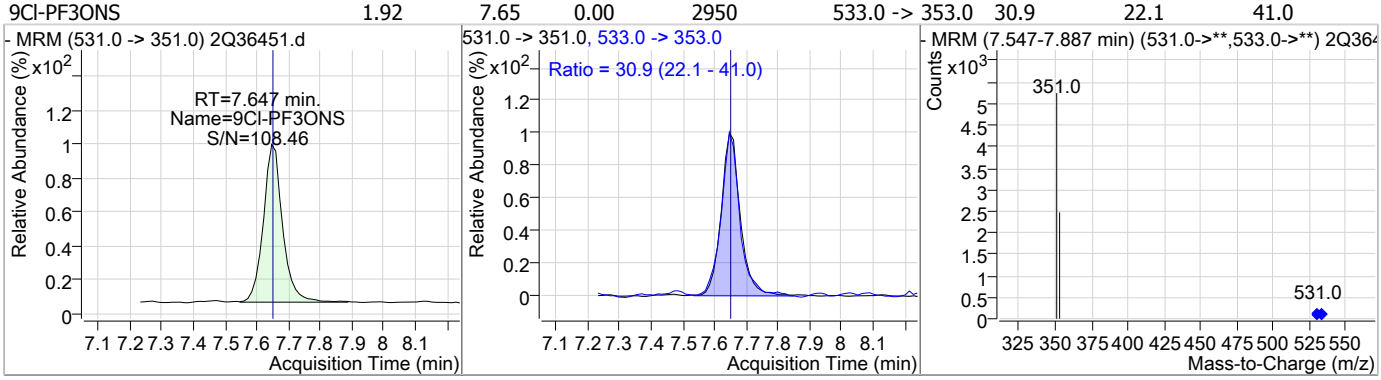
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.17	7.53	0.00	65924				



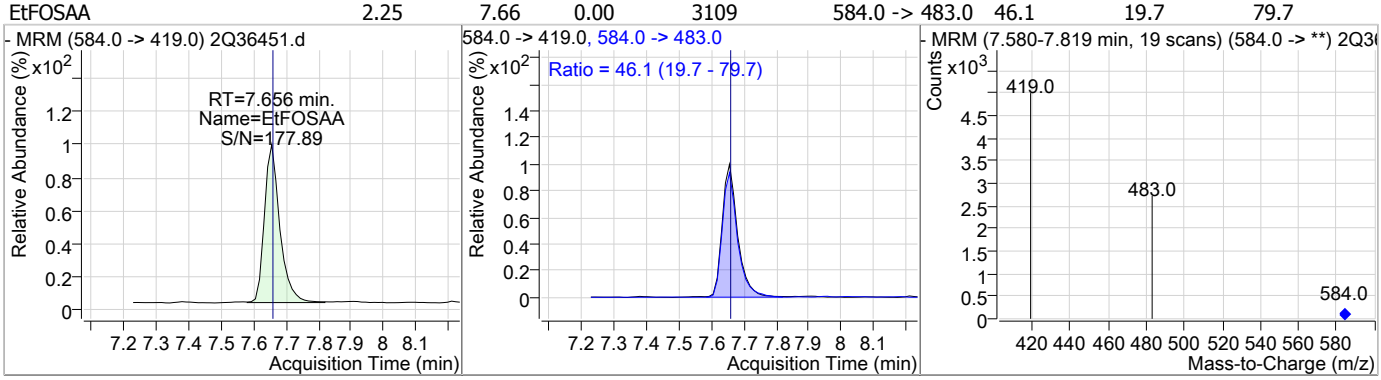
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.95	7.53	0.00	3422	570.0 -> 512.0	24.8	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	1.92	7.65	0.00	2950	533.0 -> 353.0	30.9	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.25	7.66	0.00	3109	584.0 -> 483.0	46.1	19.7	79.7



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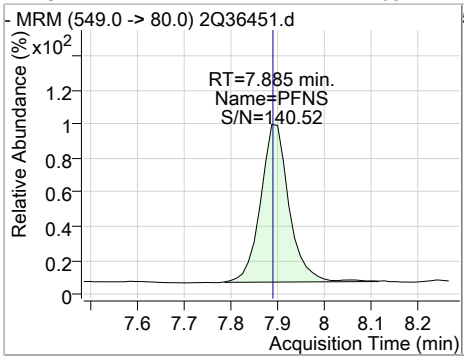
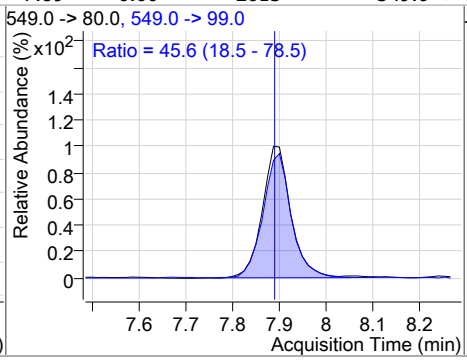
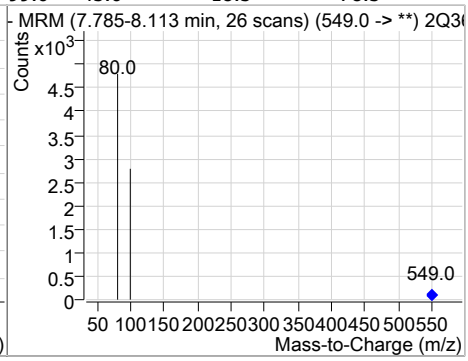
Perfluorinated Compounds by LC/MS/MS

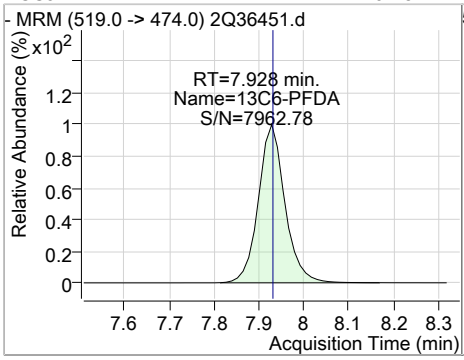
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.03	7.89	0.00	2613	549.0 -> 99.0	45.6	18.5	78.5

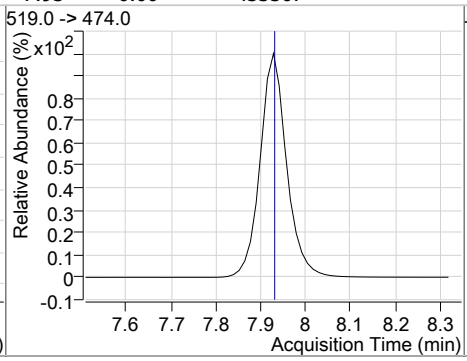


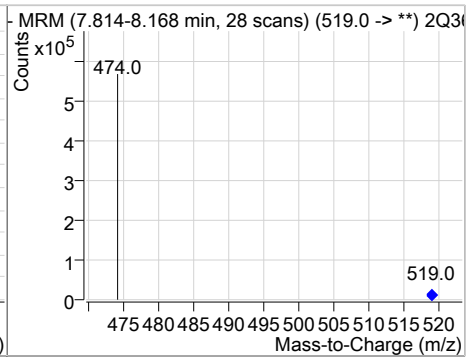




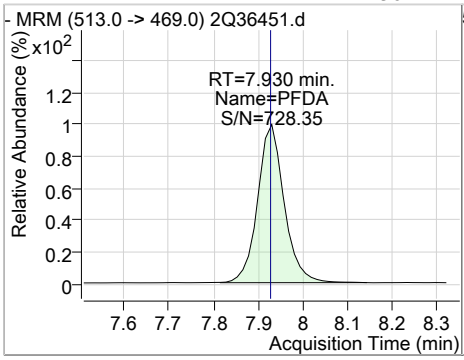
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.48	7.93	0.00	433307				

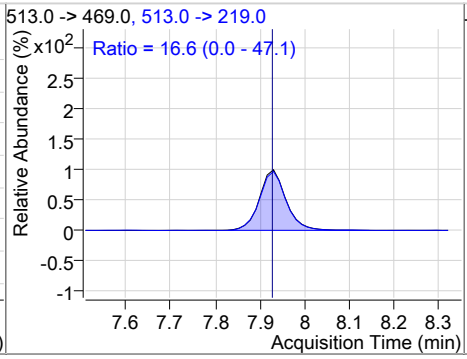


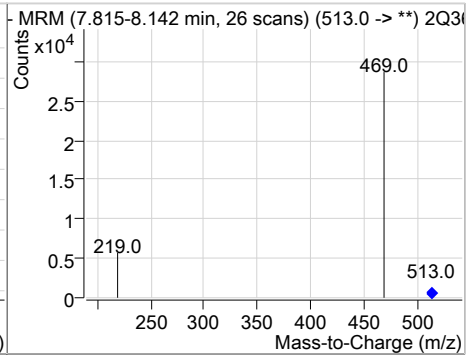




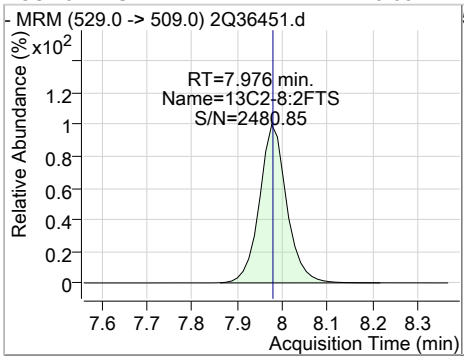
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.96	7.93	0.00	21073	513.0 -> 219.0	16.6	0.0	47.1

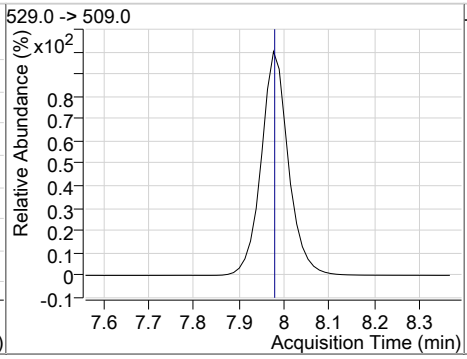


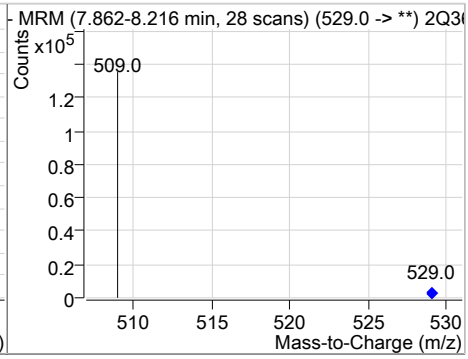




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	18.88	7.98	0.00	101650				







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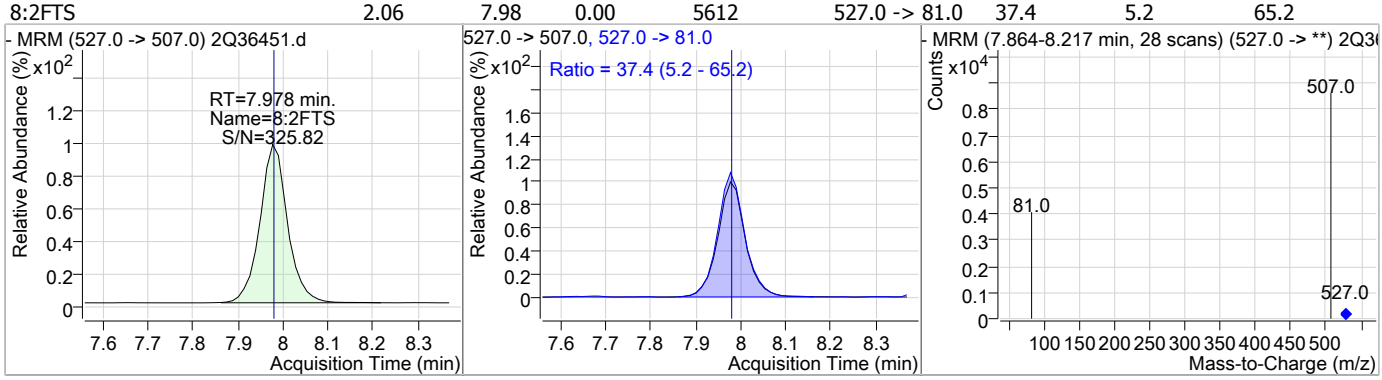
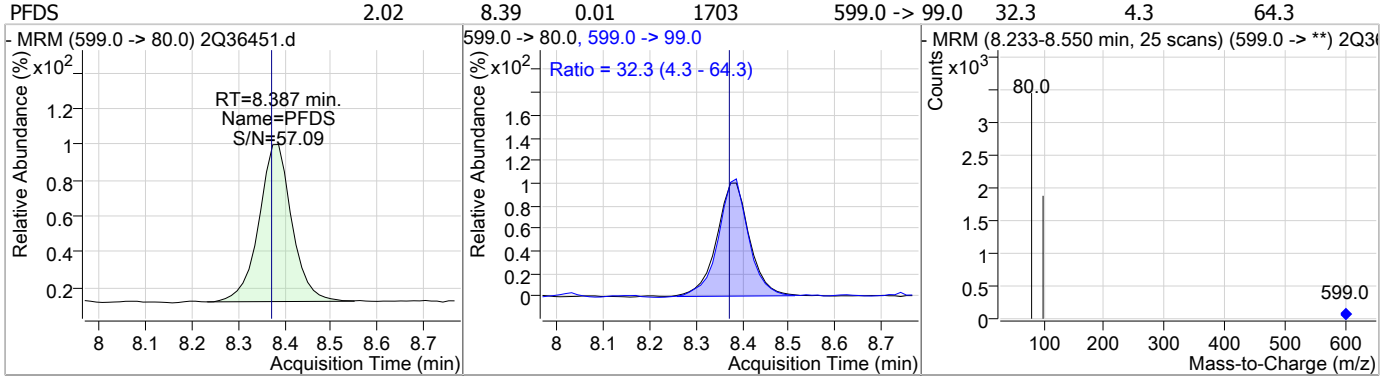
Perfluorinated Compounds by LC/MS/MS

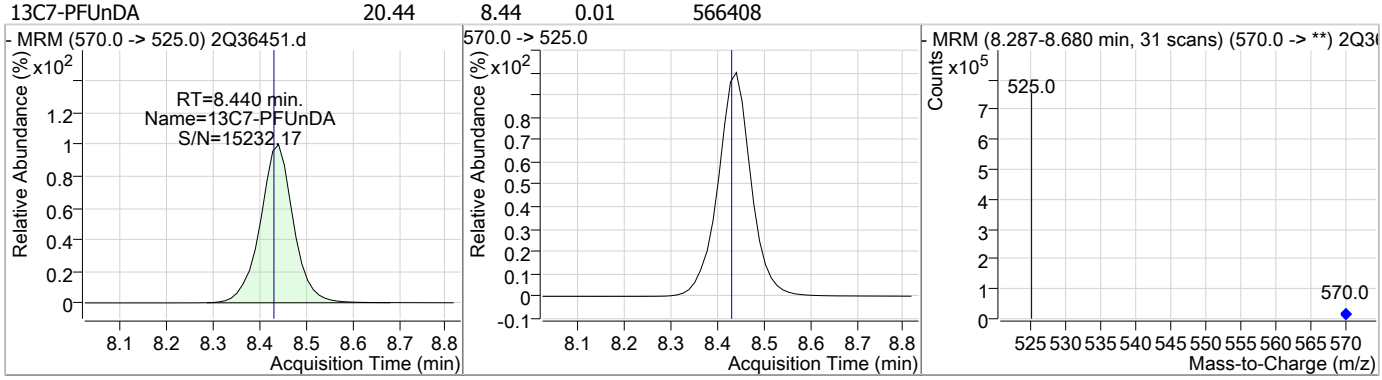
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	2.06	7.98	0.00	5612	527.0 -> 81.0	37.4	5.2	65.2



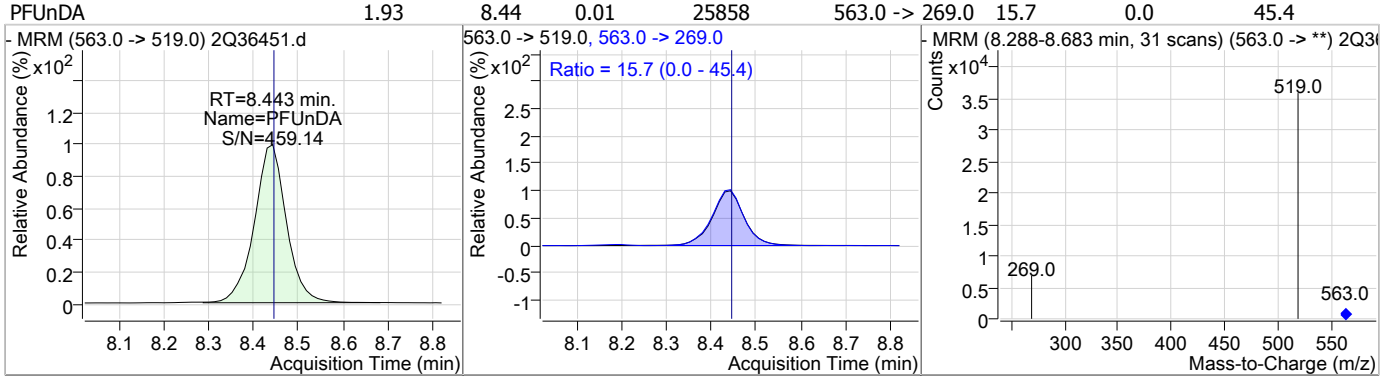
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.02	8.39	0.01	1703	599.0 -> 99.0	32.3	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.44	8.44	0.01	566408				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.93	8.44	0.01	25858	563.0 -> 269.0	15.7	0.0	45.4



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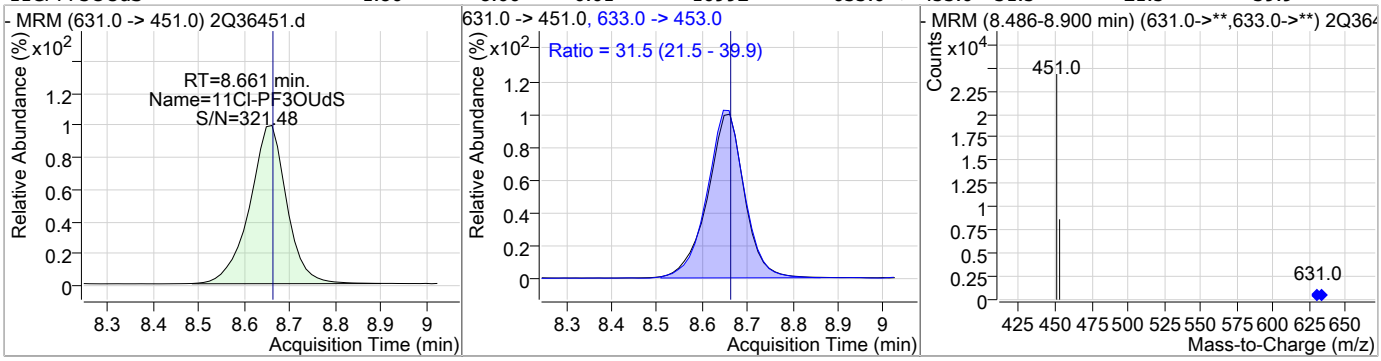
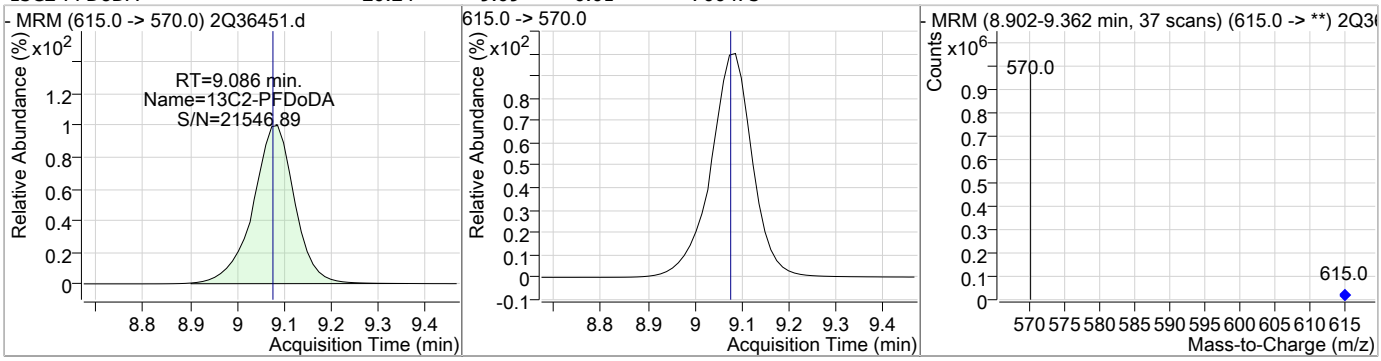
Perfluorinated Compounds by LC/MS/MS

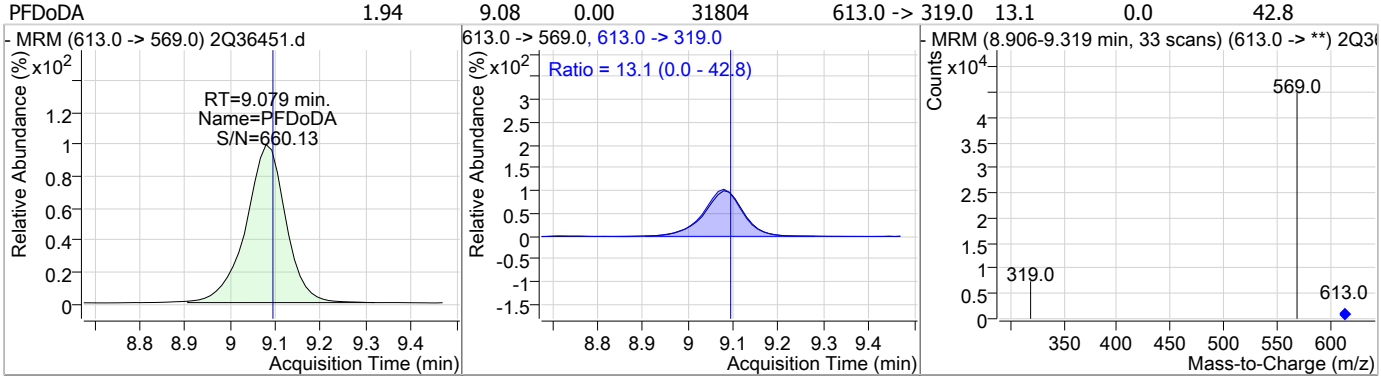
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	1.86	8.66	0.01	16992	633.0 -> 453.0	31.5	21.5	39.9



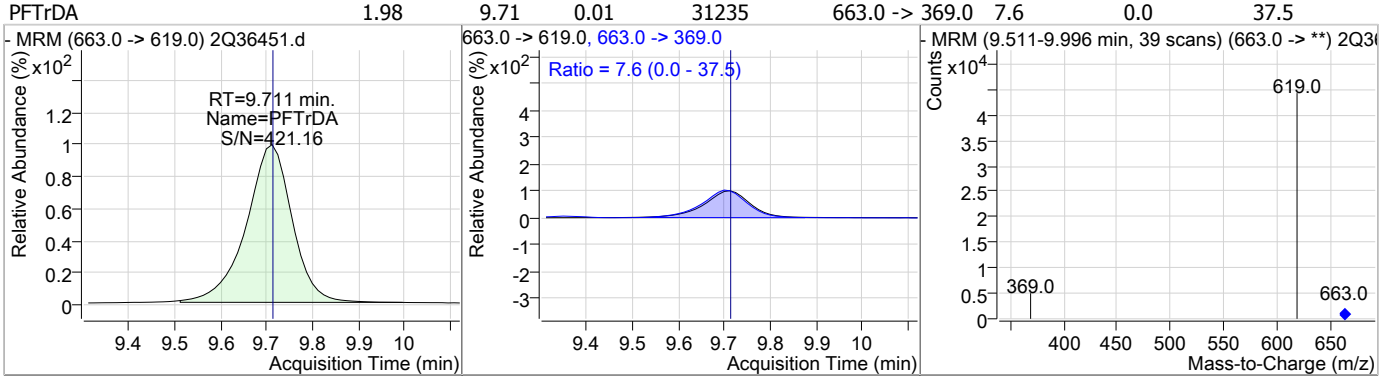
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.24	9.09	0.01	706473				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.94	9.08	0.00	31804	613.0 -> 319.0	13.1	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.98	9.71	0.01	31235	663.0 -> 369.0	7.6	0.0	37.5



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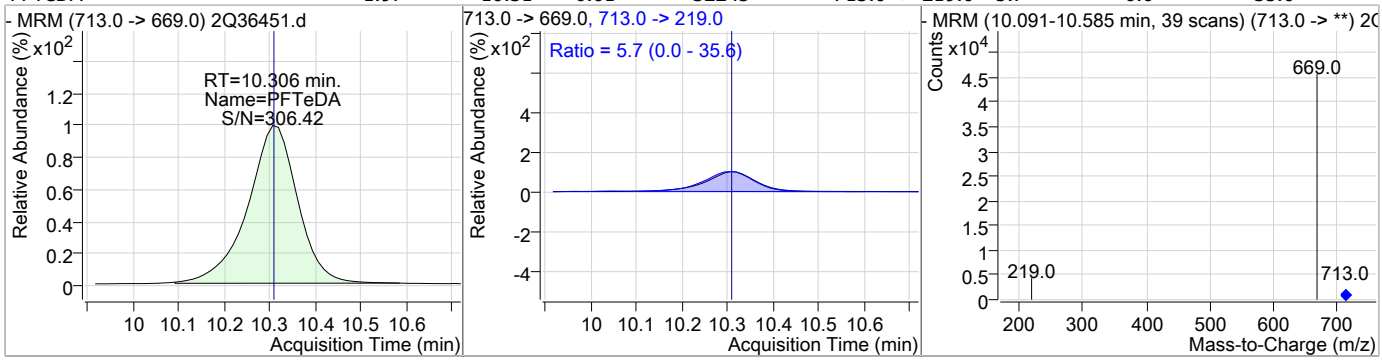
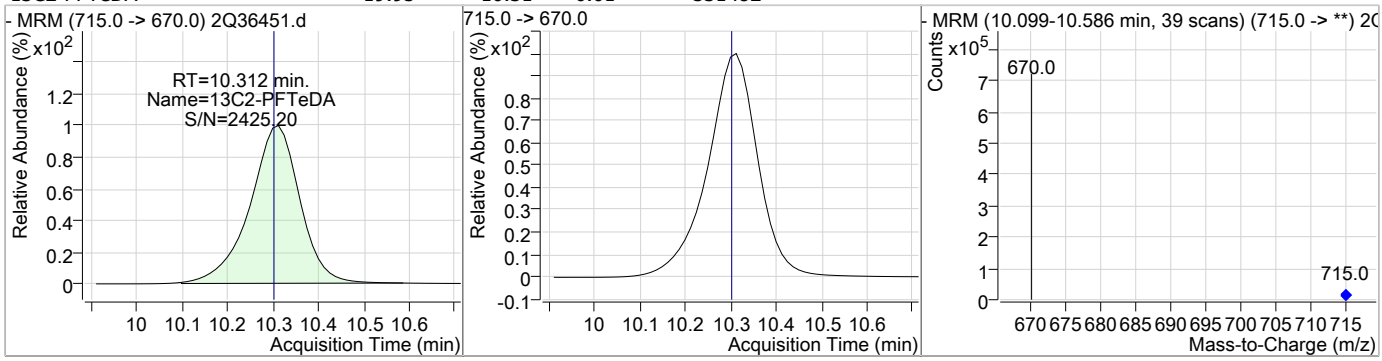
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.97	10.31	0.01	32245	713.0 -> 219.0	5.7	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.95	10.31	0.01	531482				



12.6.4

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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36451.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 14:29	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36452.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 2:45:37 PM
Sample Name	:	ic568-5.0
Vial	:	Vial 5
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	487595	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	69145	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	197744	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	165184	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	234955	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	307092	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	375126	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	387010	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	432730	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	564076	20.00	µg/L	0.013
M2-PFDoDA	9.086	615.0 -> 570.0	710809	20.00	µg/L	0.013
M2-PFTeDA	10.312	715.0 -> 670.0	532028	20.00	µg/L	0.013
M8-FOSA	6.990	506.0 -> 78.0	118475	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27635	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	30015	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	39195	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	111414	20.00	µg/L	0.000
M2-6:2FTS	6.755	429.0 -> 409.0	155037	20.00	µg/L	0.013
M2-8:2FTS	7.976	529.0 -> 509.0	102343	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	67120	20.00	µg/L	0.000
M3-HFPO-DA	5.343	287.0 -> 169.0	298397	100.00	µg/L	0.013
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	111005	19.06	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.3%		
13C2-6:2FTS	6.755	429.0 -> 409.0	154835	19.53	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C2-8:2FTS	7.976	529.0 -> 509.0	102283	19.00	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.0%		
13C2-PFDoDA	9.086	615.0 -> 570.0	706197	20.23	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C2-PFTeDA	10.312	715.0 -> 670.0	531280	19.94	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C3-PFBS	4.017	302.0 -> 99.0	27502	20.12	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C3-PFHxS	6.022	402.0 -> 99.0	29982	20.34	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C4-PFBA	2.077	217.0 -> 172.0	196739	20.09	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C4-PFHpA	5.992	367.0 -> 322.0	306572	20.13	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C5-PFHxA	5.051	318.0 -> 273.0	234508	20.09	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C5-PFPeA	3.774	268.0 -> 223.0	165415	20.10	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C6-PFDA	7.928	519.0 -> 474.0	433280	20.48	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C7-PFUnDA	8.440	570.0 -> 525.0	564407	20.37 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C8-FOSA	6.990	506.0 -> 78.0	118400	20.81 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.0%		
13C8-PFOA	6.745	421.0 -> 376.0	374736	20.48 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C8-PFOS	7.371	507.0 -> 99.0	39203	20.14 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C9-PFNA	7.401	472.0 -> 427.0	386831	20.46 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
d3-MeFOSAA	7.531	573.0 -> 419.0	67068	20.52 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
M2-PFOA	6.747	415.0 -> 370.0	488107	20.00 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.373	503.0 -> 80.0	69142	20.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C3-HFPO-DA	5.343	287.0 -> 169.0	298397	104.96 µg/L		0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 105.0%		
Target Compounds						**QValue**
4:2FTS	4.961	327.0 -> 307.0	16185	5.12 µg/L		100
6:2FTS	6.744	427.0 -> 407.0	19400	5.03 µg/L		97
8:2FTS	7.978	527.0 -> 507.0	14092	5.15 µg/L		98
EtFOSAA	7.656	584.0 -> 419.0	7006	4.98 µg/L		100
FOSA	6.993	498.0 -> 78.0	14844	4.84 µg/L		99
MeFOSAA	7.532	570.0 -> 419.0	8335	4.66 µg/L		99
PFBA	2.073	213.0 -> 169.0	8970	4.87 µg/L		100
PFBS	4.021	299.0 -> 80.0	10563	4.84 µg/L		100
PFDA	7.930	513.0 -> 469.0	51401	4.79 µg/L		100
PFDoDA	9.079	613.0 -> 569.0	77461	4.74 µg/L		99
PFDS	8.375	599.0 -> 80.0	4198	5.03 µg/L		99
PFHpA	5.995	363.0 -> 319.0	68262	4.88 µg/L		99
PFHpS	6.753	449.0 -> 80.0	7966	4.97 µg/L		100
PFHxA	5.052	313.0 -> 269.0	17969	4.98 µg/L		100
PFHxS	6.025	399.0 -> 80.0	8567	4.78 µg/L	m	99
PFNA	7.402	463.0 -> 419.0	57003	4.71 µg/L		99
PFNS	7.898	549.0 -> 80.0	6248	4.89 µg/L		99
PFOA	6.749	413.0 -> 369.0	47935	4.75 µg/L		97
PFOS	7.374	499.0 -> 80.0	8974	4.82 µg/L	m	98
PFPeA	3.777	263.0 -> 219.0	40112	4.81 µg/L		100
PFPeS	5.157	349.0 -> 80.0	5896	4.89 µg/L		98
PFTeDA	10.306	713.0 -> 669.0	79946	4.89 µg/L		100
PFTrDA	9.711	663.0 -> 619.0	77577	4.92 µg/L		99
PFUnDA	8.443	563.0 -> 519.0	63100	4.75 µg/L		100
11Cl-PF3OUdS	8.649	631.0 -> 451.0	42125	4.62 µg/L		98
9Cl-PF3ONS	7.647	531.0 -> 351.0	7086	4.62 µg/L		95
ADONA	6.090	377.0 -> 251.0	81053	4.51 µg/L		100
HFPO-DA	5.335	329.0 -> 169.0	73977	24.07 µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

12.6.5

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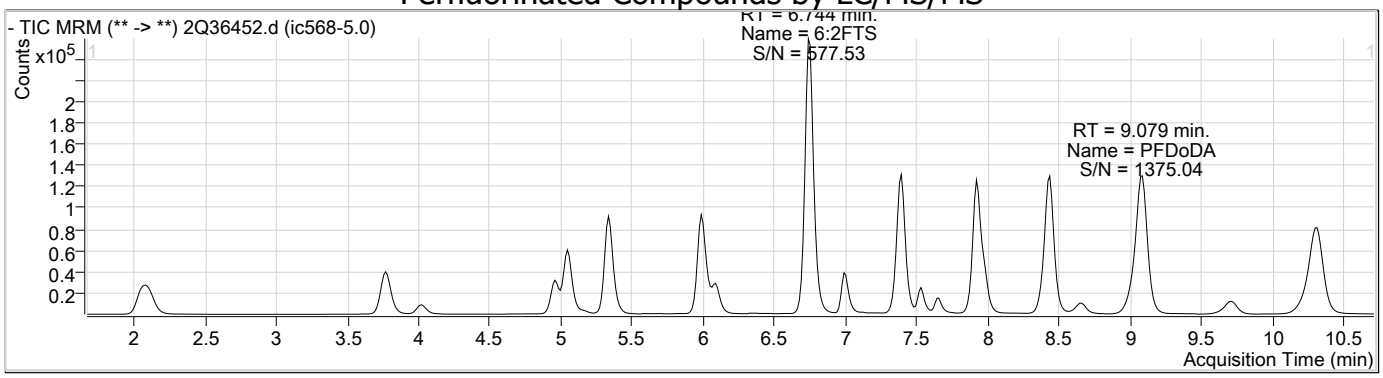
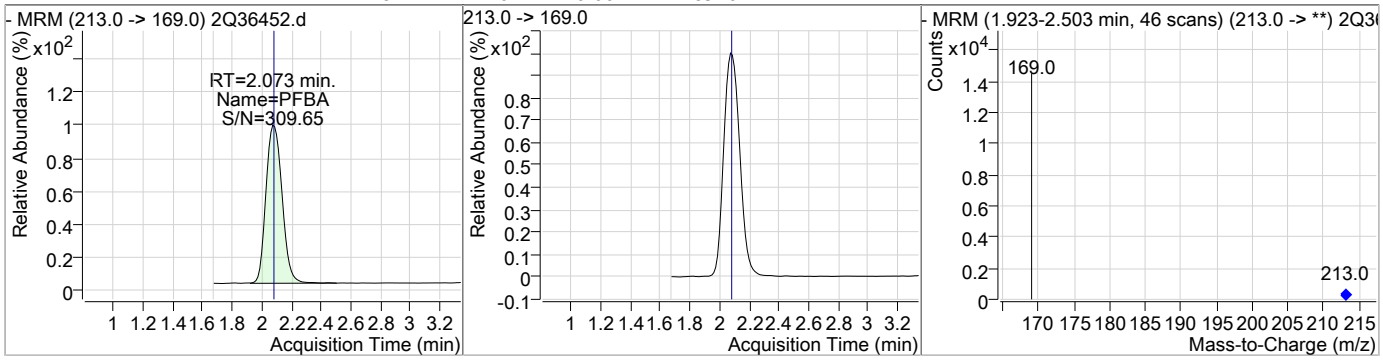
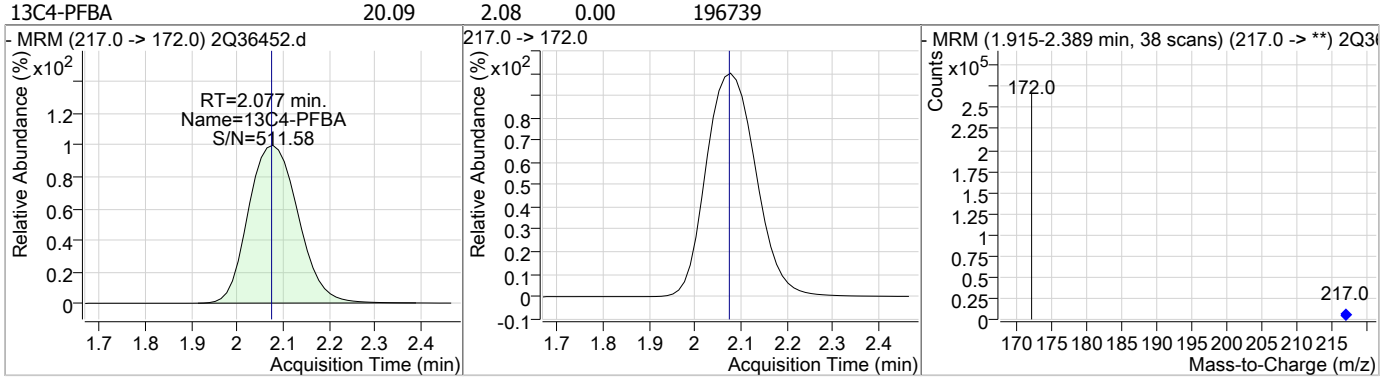
Perfluorinated Compounds by LC/MS/MS



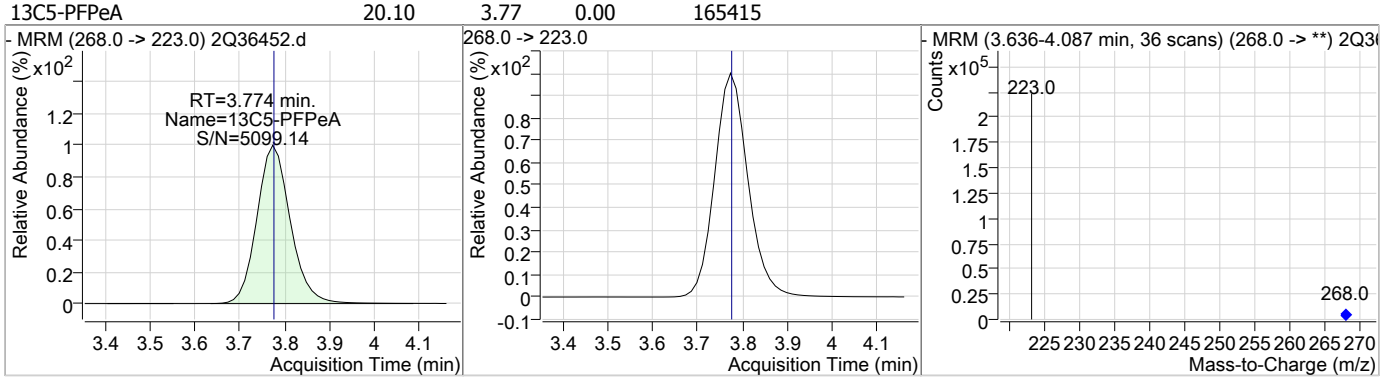
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	4.87	2.07	0.00	8970				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.09	2.08	0.00	196739				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.10	3.77	0.00	165415				



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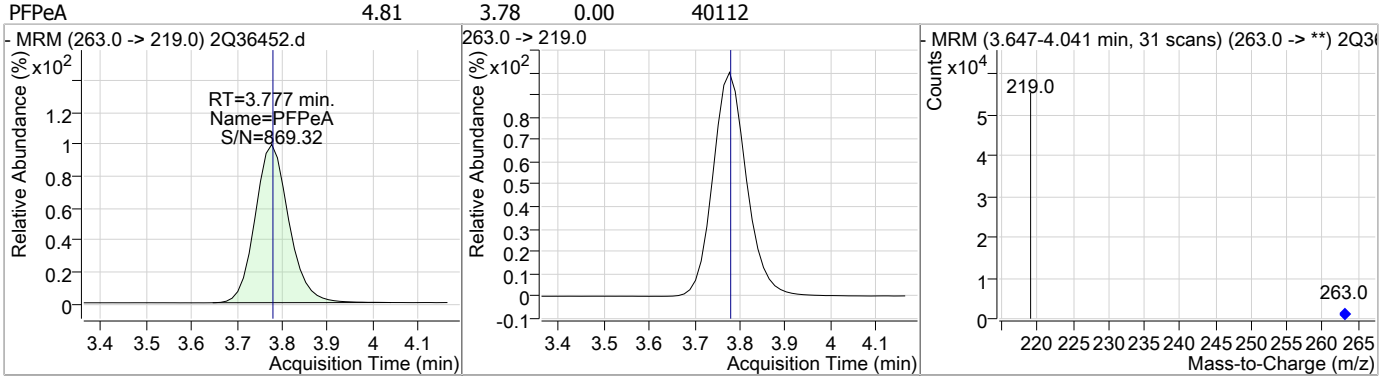
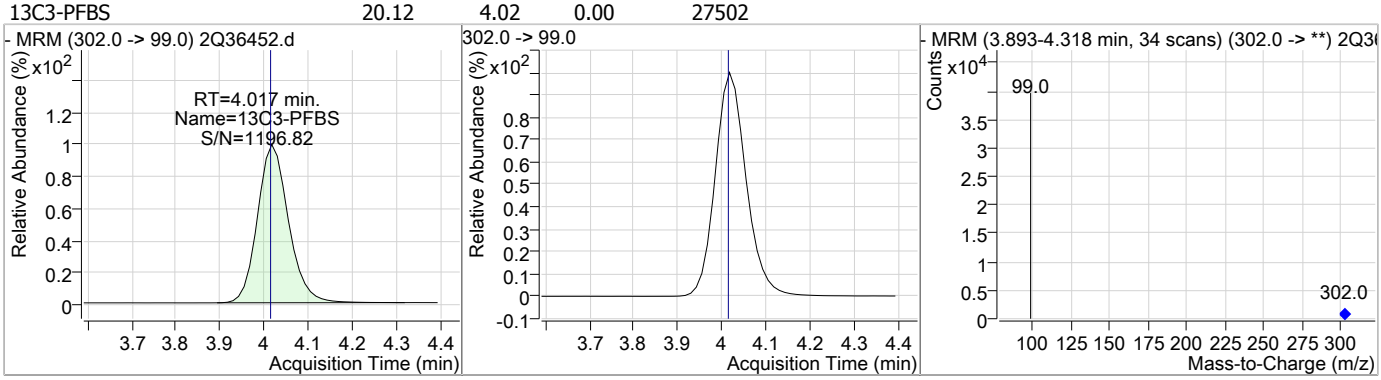
Perfluorinated Compounds by LC/MS/MS

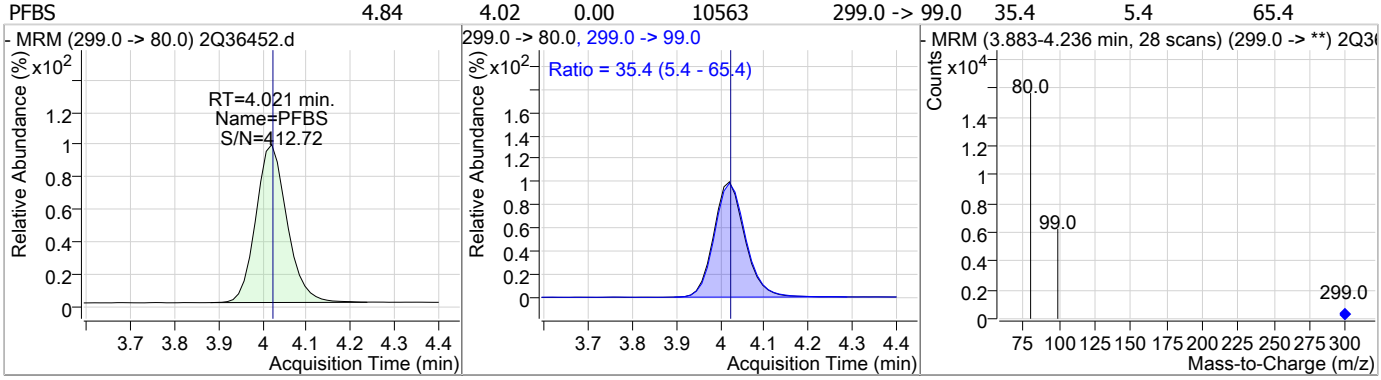
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.81	3.78	0.00	40112				



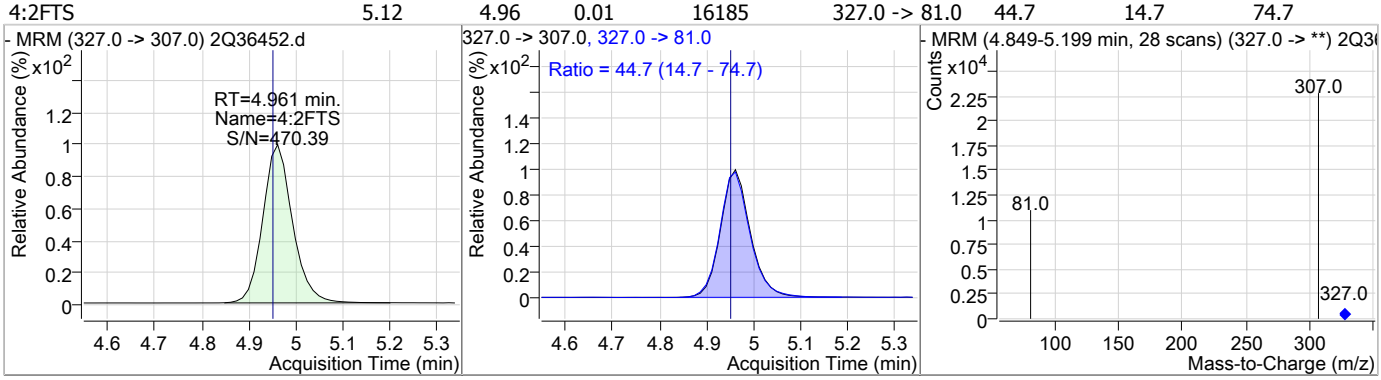
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.12	4.02	0.00	27502				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.84	4.02	0.00	10563	299.0 -> 99.0	35.4	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	5.12	4.96	0.01	16185	327.0 -> 81.0	44.7	14.7	74.7



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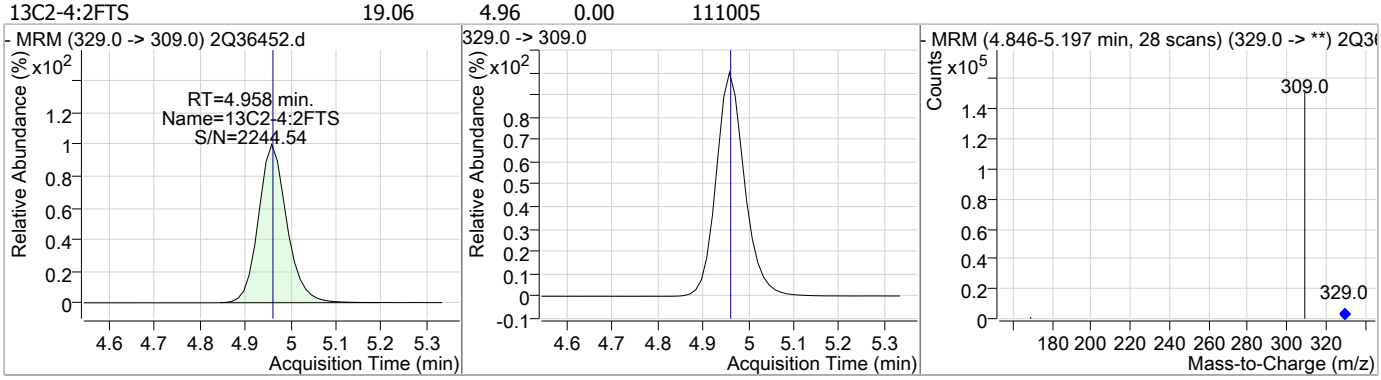
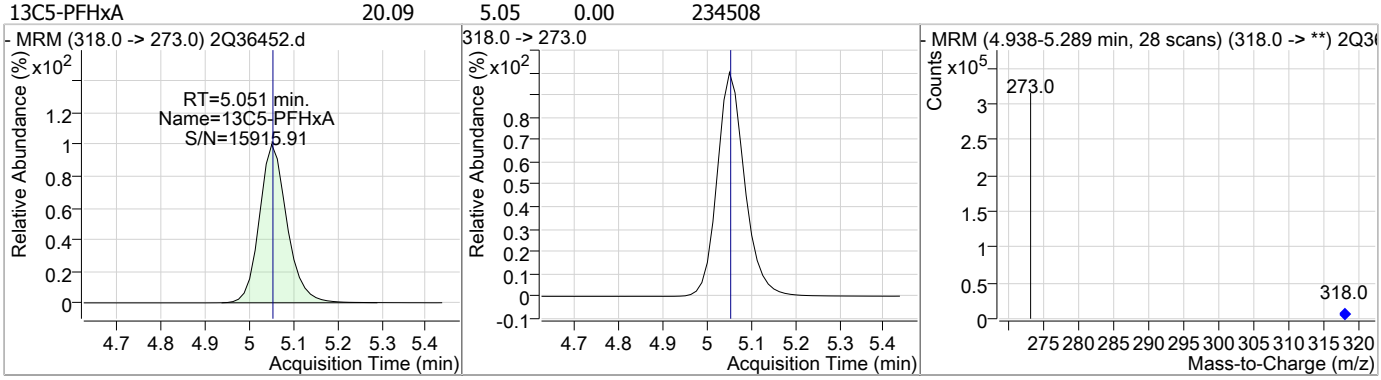
Perfluorinated Compounds by LC/MS/MS

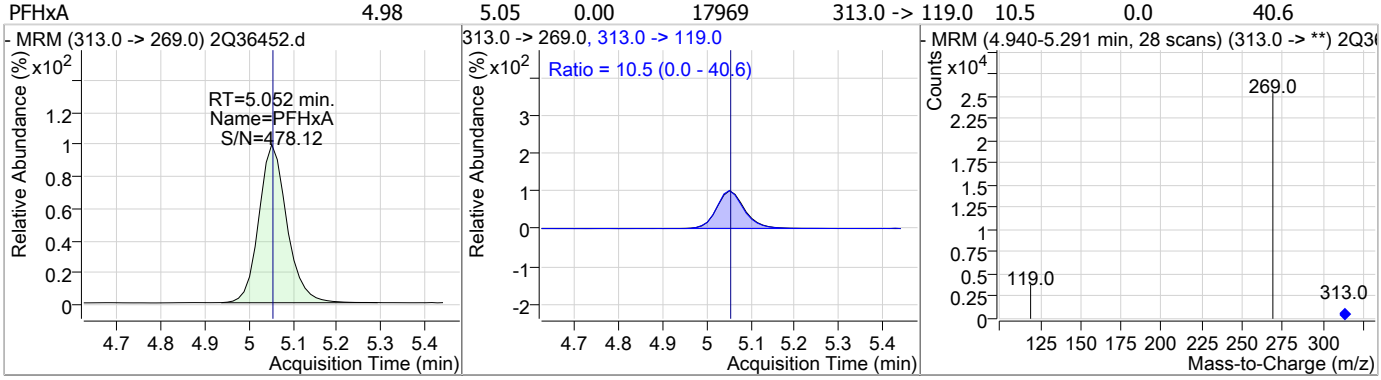
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.06	4.96	0.00	111005				



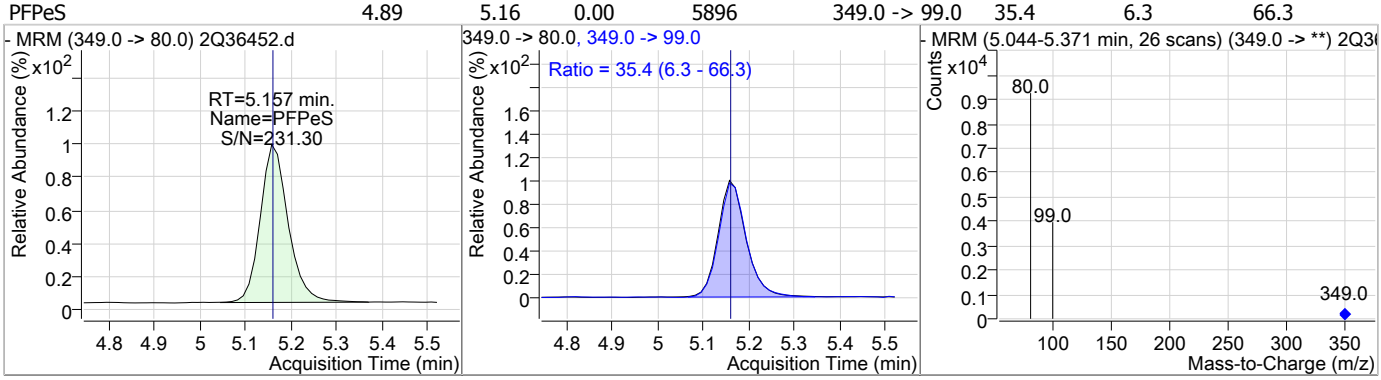
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.09	5.05	0.00	234508				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.98	5.05	0.00	17969	313.0 -> 119.0	10.5	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	4.89	5.16	0.00	5896	349.0 -> 99.0	35.4	6.3	66.3



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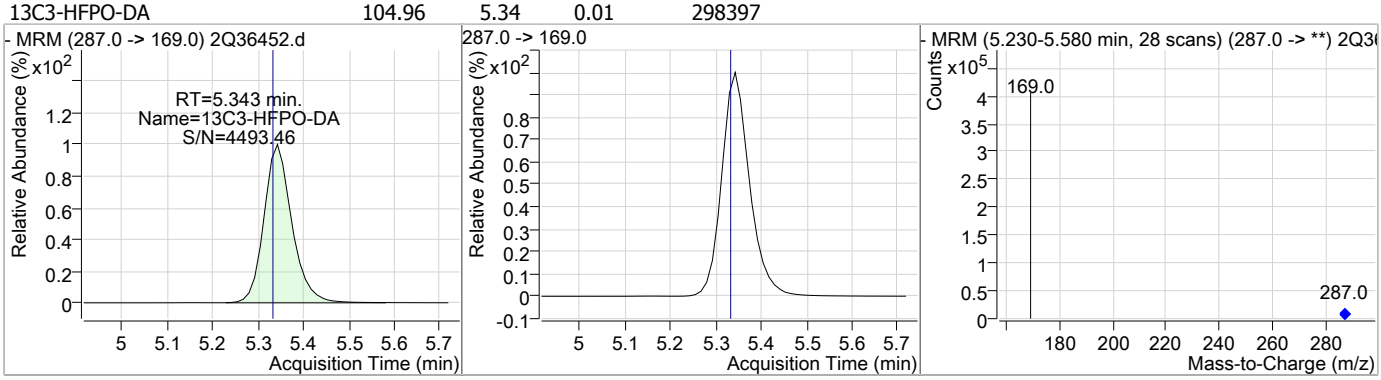
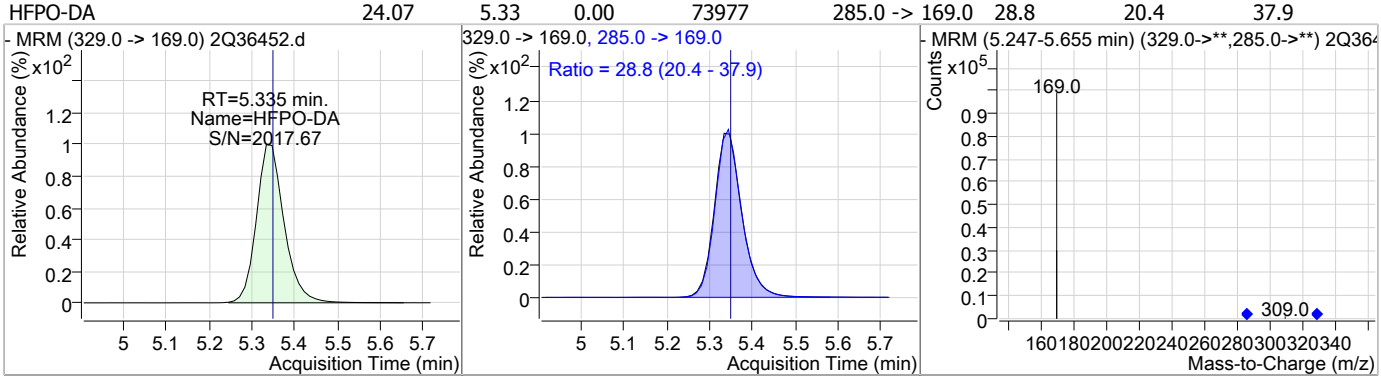
Perfluorinated Compounds by LC/MS/MS

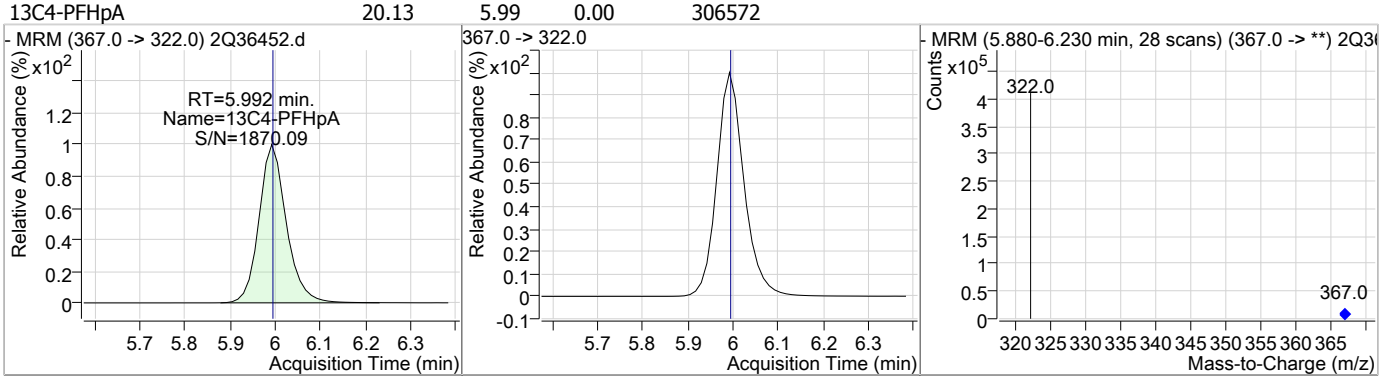
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	104.96	5.34	0.01	298397				



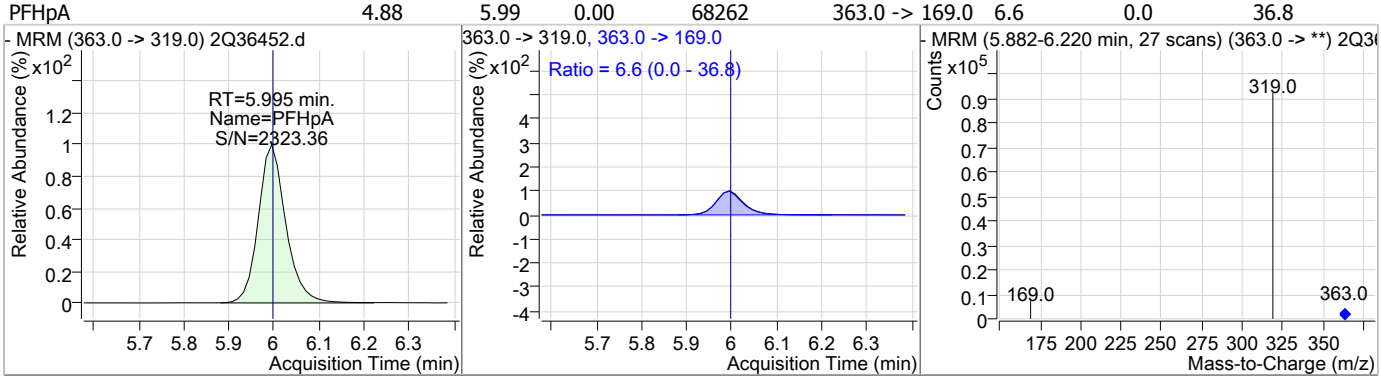
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	24.07	5.33	0.00	73977	285.0 -> 169.0	28.8	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.13	5.99	0.00	306572				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	4.88	5.99	0.00	68262	363.0 -> 169.0	6.6	0.0	36.8



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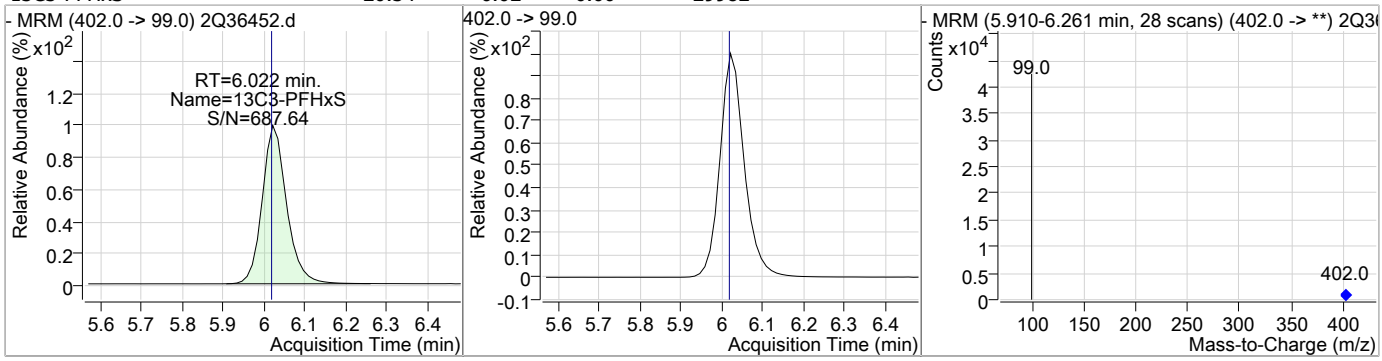
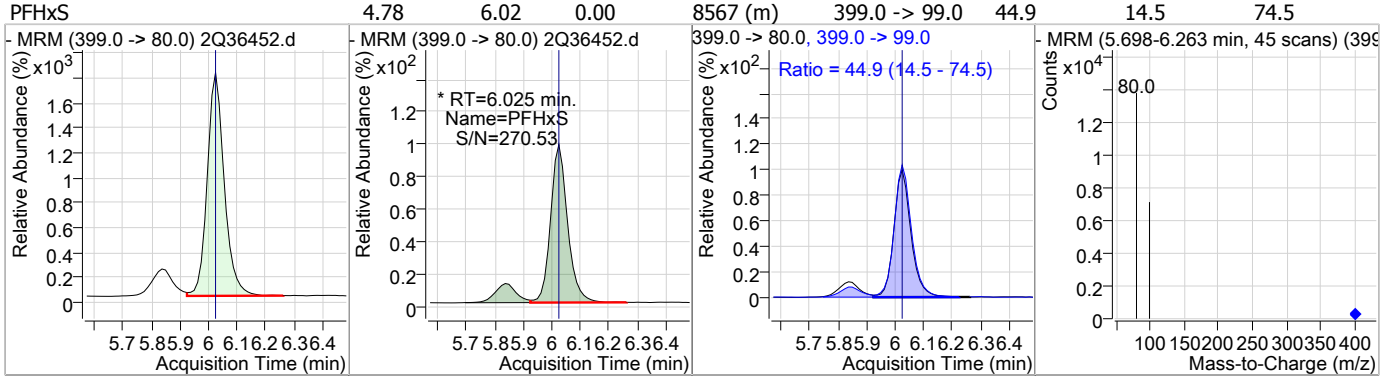
Perfluorinated Compounds by LC/MS/MS

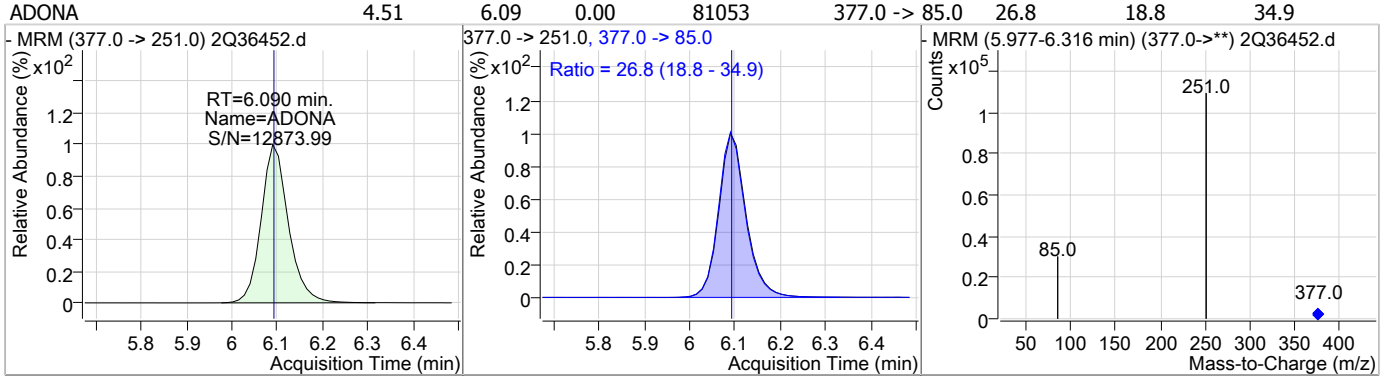
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.34	6.02	0.00	29982				



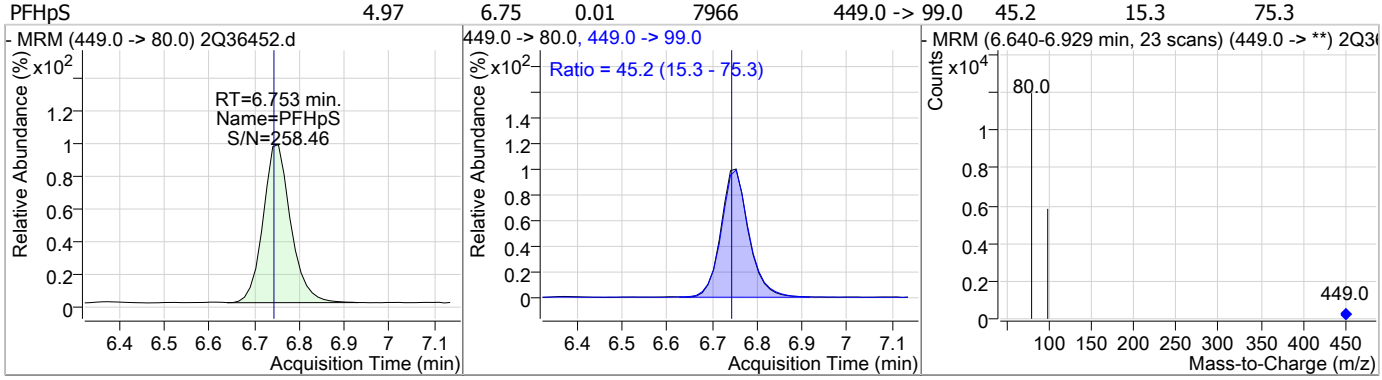
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	4.78	6.02	0.00	8567 (m)	399.0 -> 99.0	44.9	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.51	6.09	0.00	81053	377.0 -> 85.0	26.8	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	4.97	6.75	0.01	7966	449.0 -> 99.0	45.2	15.3	75.3



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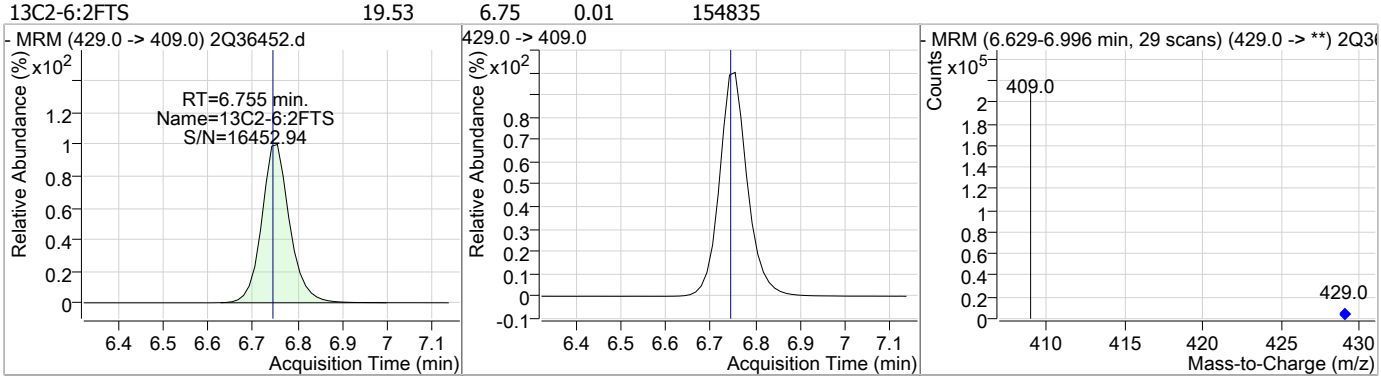
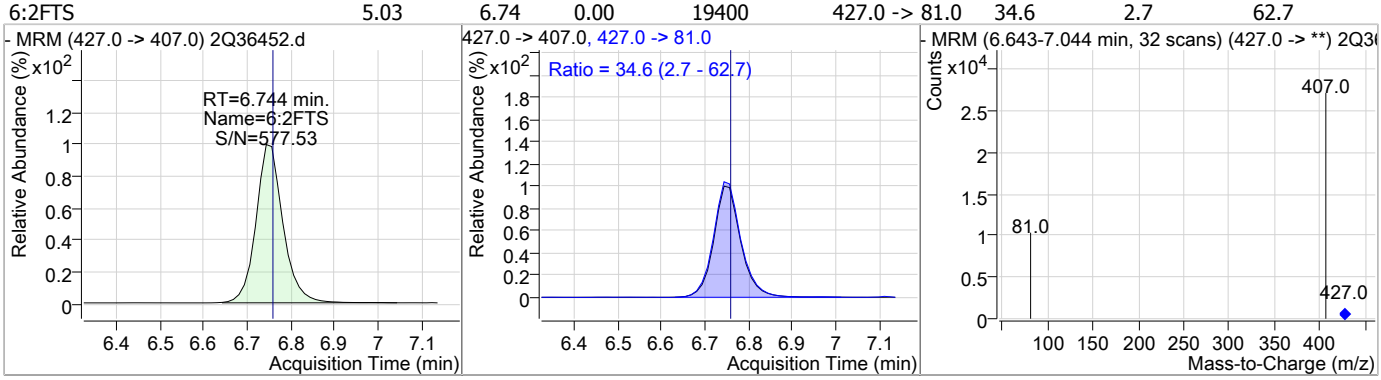
Perfluorinated Compounds by LC/MS/MS

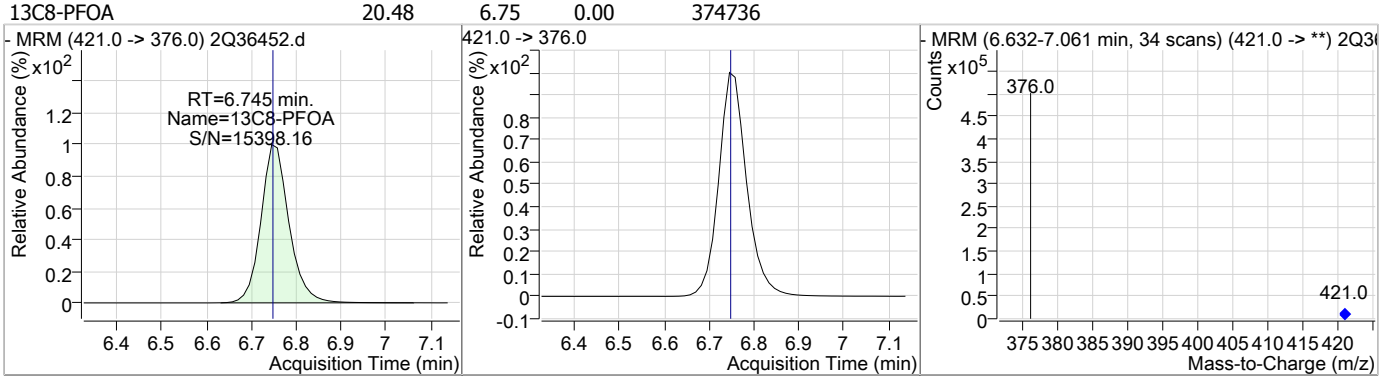
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.53	6.75	0.01	154835				



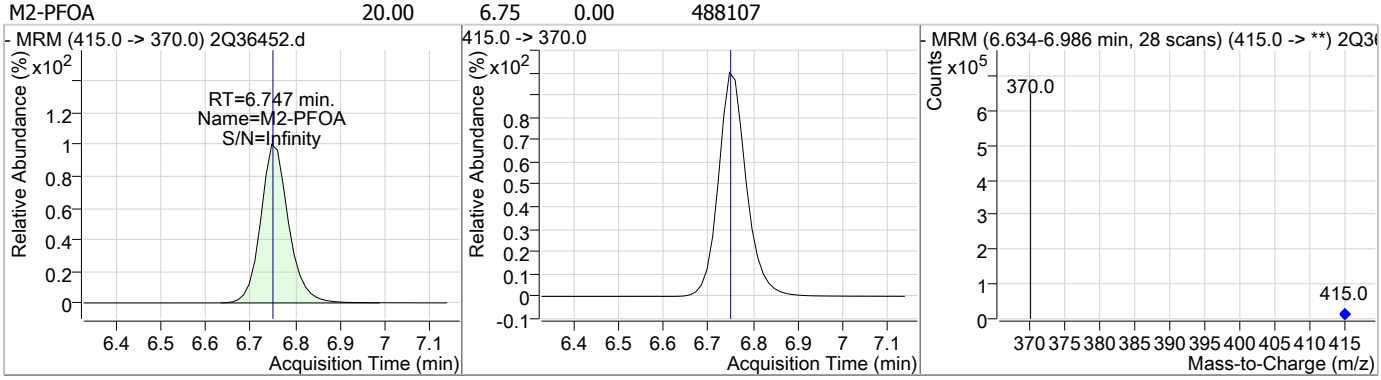
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	5.03	6.74	0.00	19400	427.0 -> 81.0	34.6	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.48	6.75	0.00	374736				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.00	6.75	0.00	488107				



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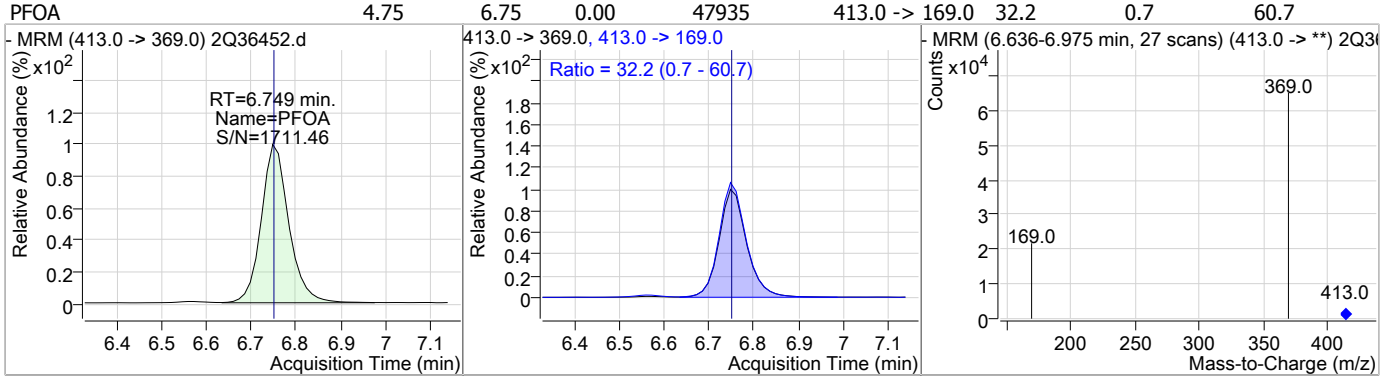
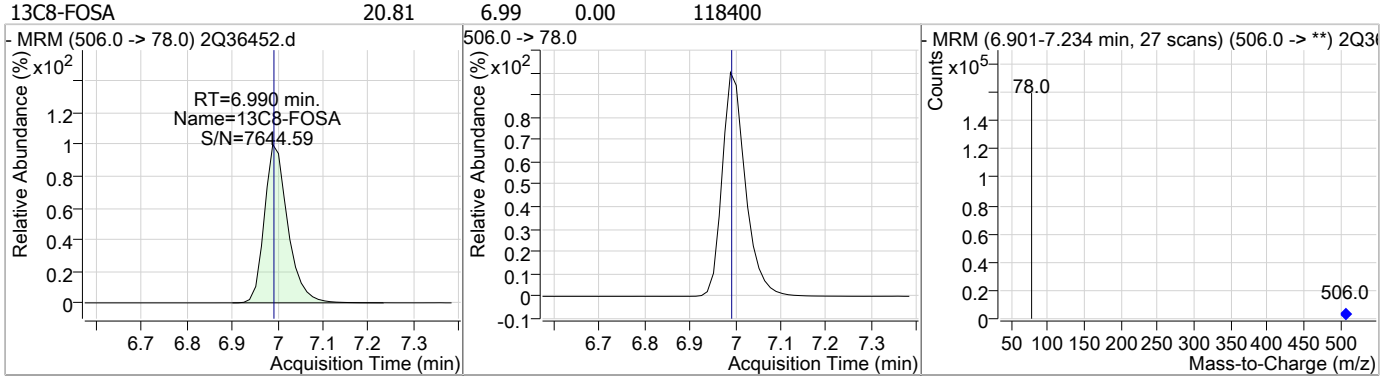
Perfluorinated Compounds by LC/MS/MS

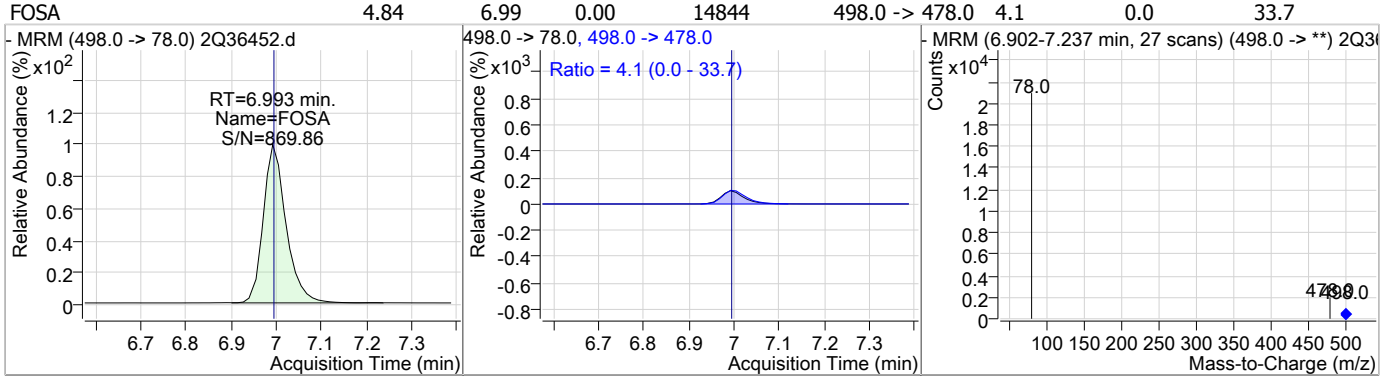
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	4.75	6.75	0.00	47935	413.0 -> 169.0	32.2	0.7	60.7



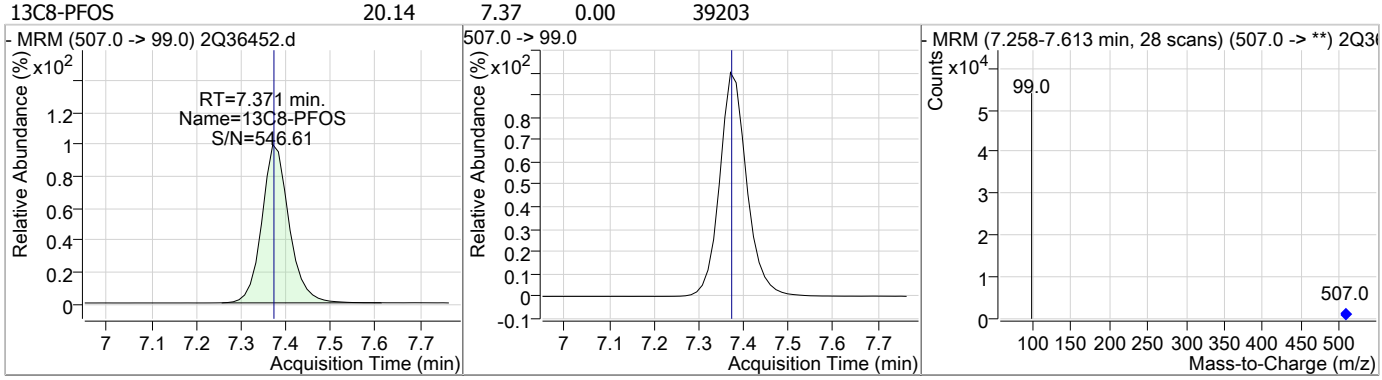
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.81	6.99	0.00	118400				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	4.84	6.99	0.00	14844	498.0 -> 478.0	4.1	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.14	7.37	0.00	39203				



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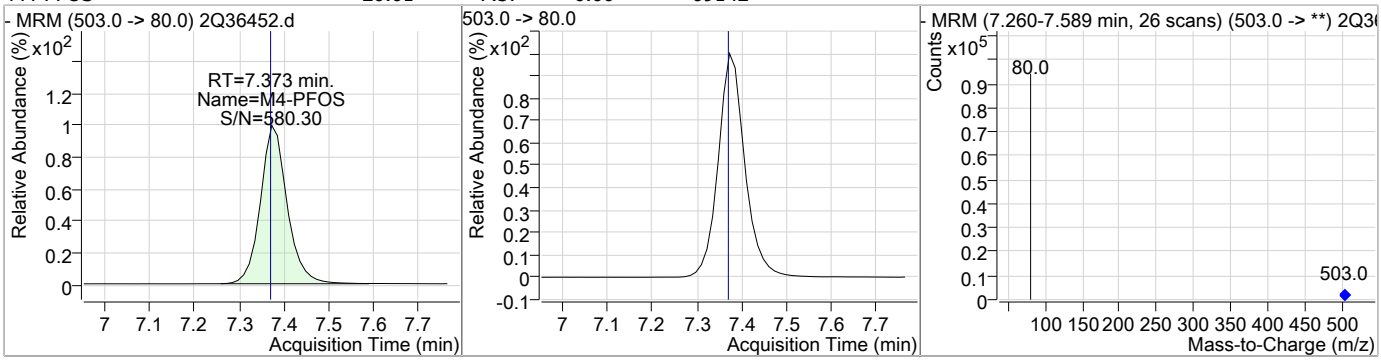
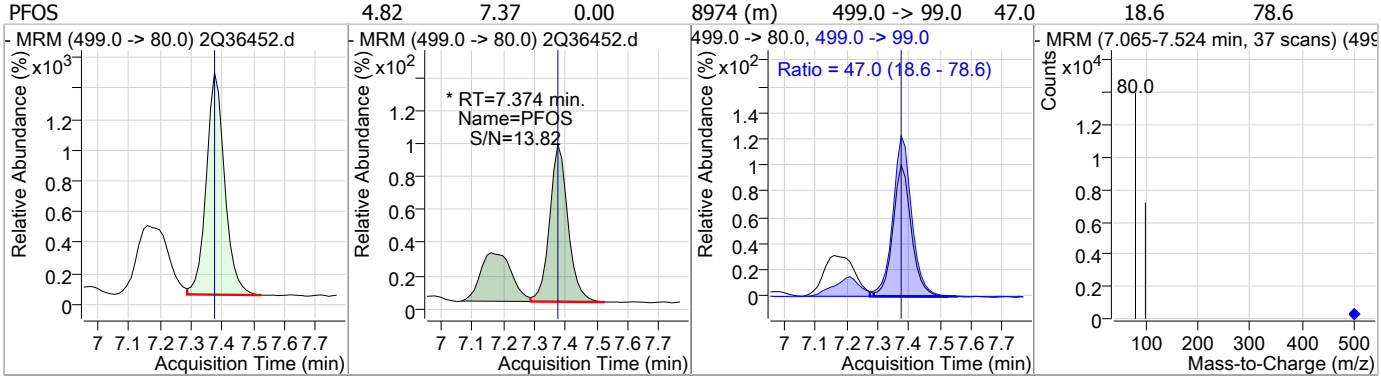
Perfluorinated Compounds by LC/MS/MS

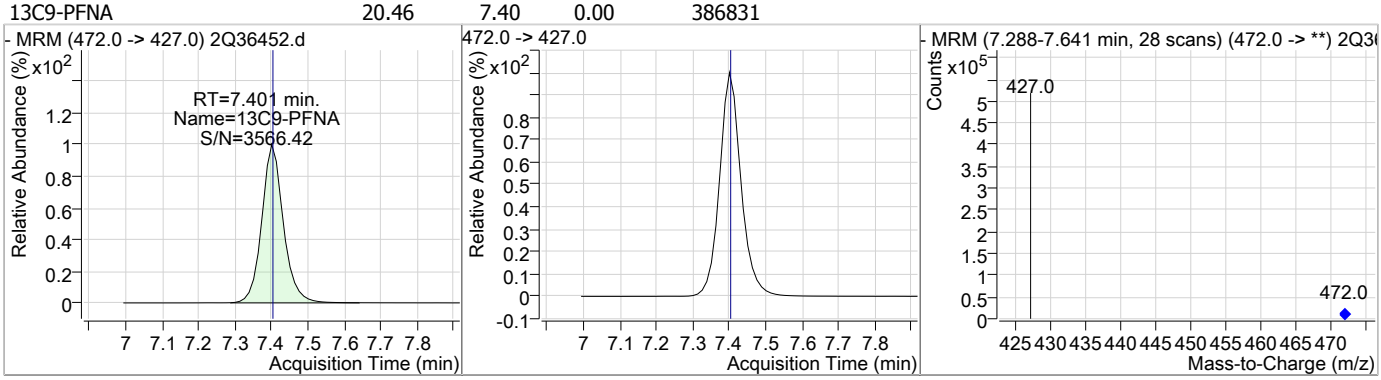
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.01	7.37	0.00	69142				



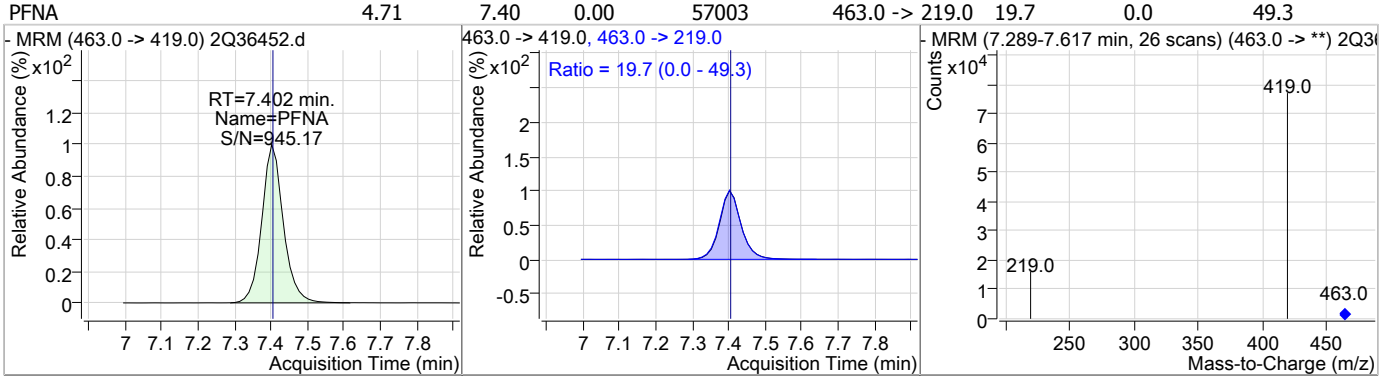
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.82	7.37	0.00	8974 (m)	499.0 -> 99.0	47.0	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.46	7.40	0.00	386831				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	4.71	7.40	0.00	57003	463.0 -> 219.0	19.7	0.0	49.3



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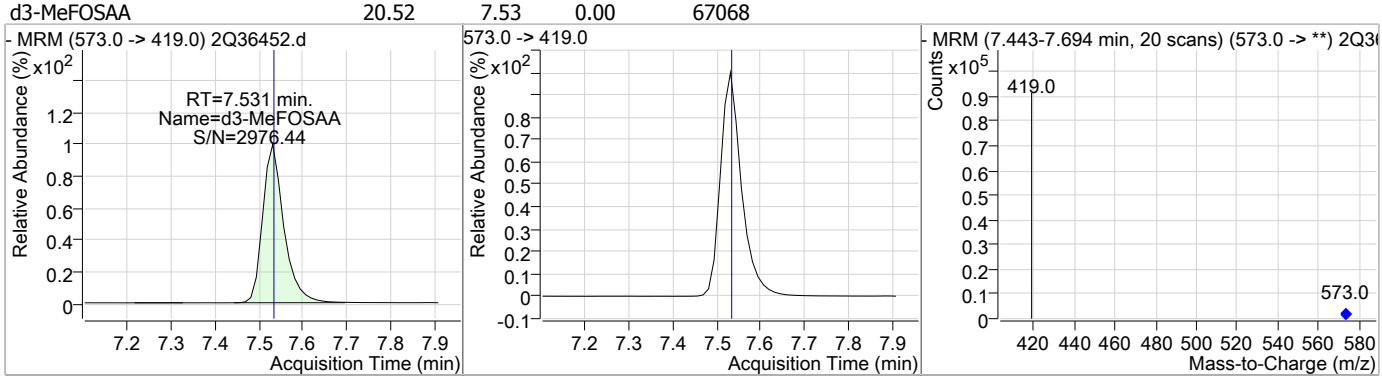
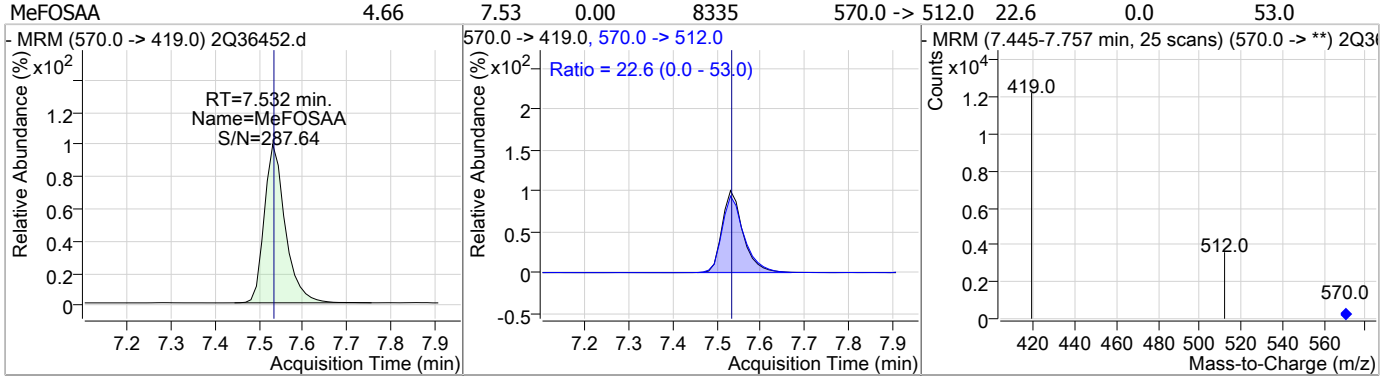
Perfluorinated Compounds by LC/MS/MS

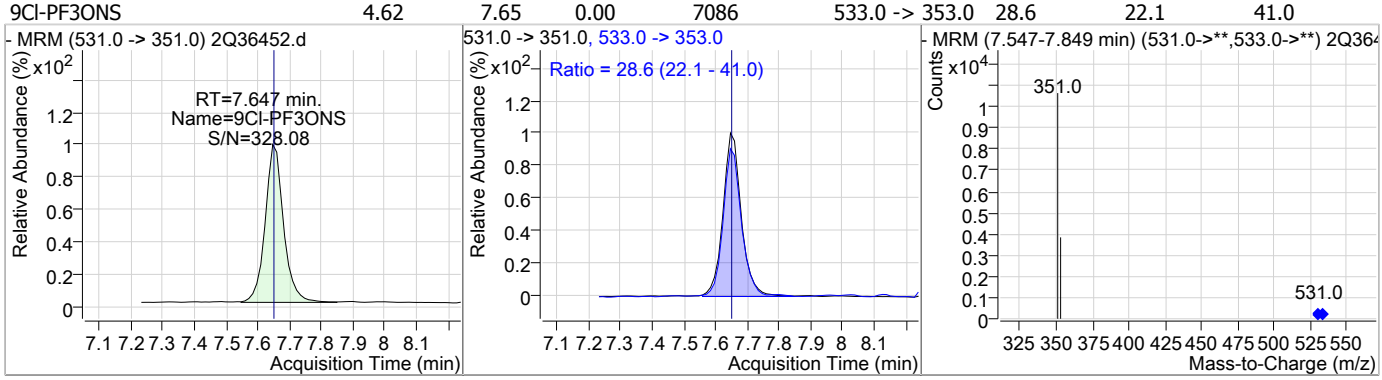
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.52	7.53	0.00	67068				



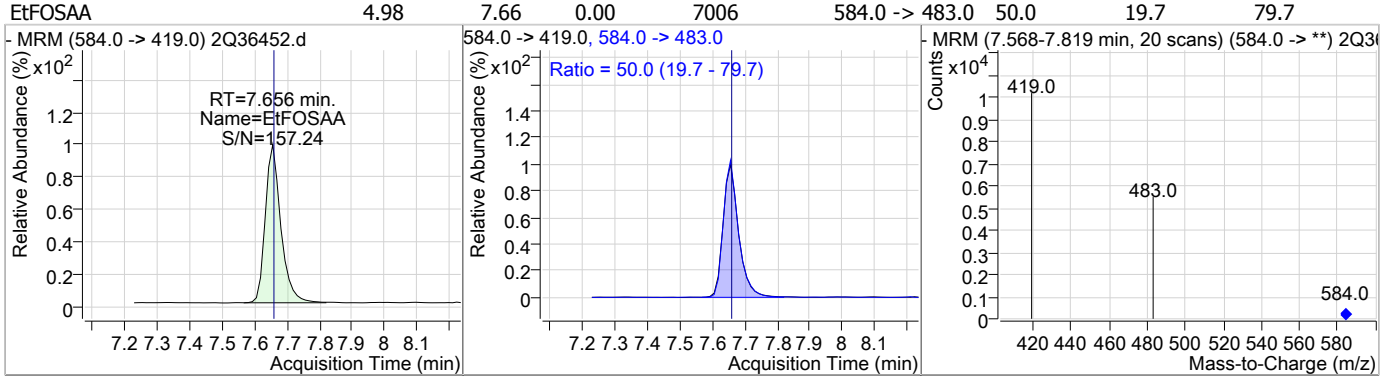
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.66	7.53	0.00	8335	570.0 -> 512.0	22.6	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.62	7.65	0.00	7086	533.0 -> 353.0	28.6	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.98	7.66	0.00	7006	584.0 -> 483.0	50.0	19.7	79.7



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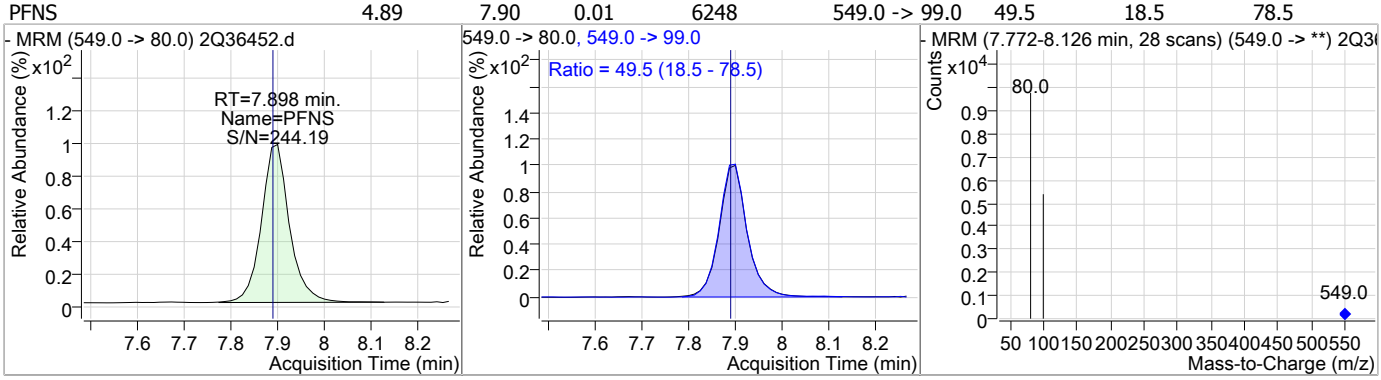
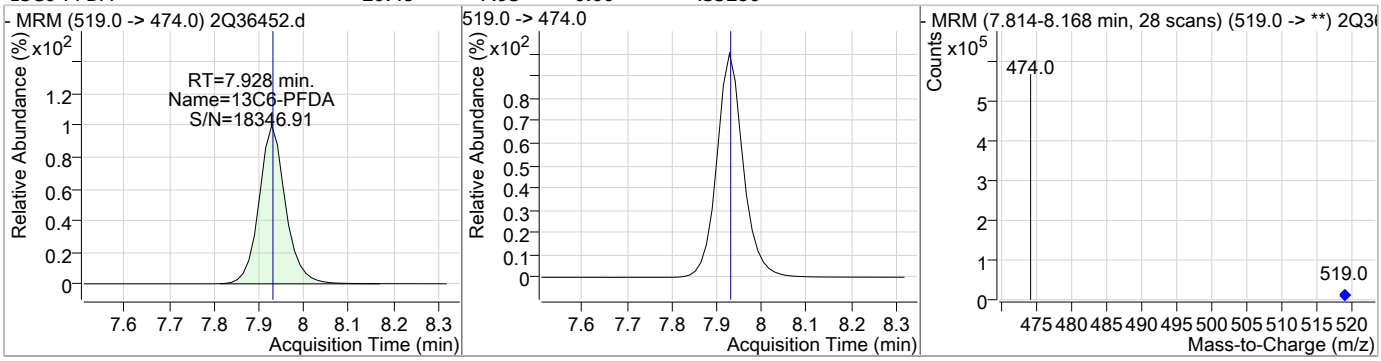
Perfluorinated Compounds by LC/MS/MS

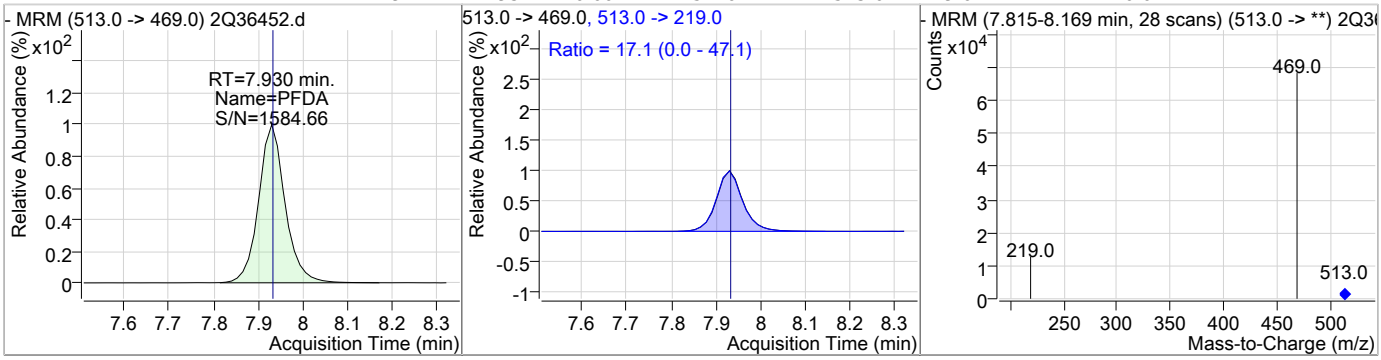
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	4.89	7.90	0.01	6248	549.0 -> 99.0	49.5	18.5	78.5



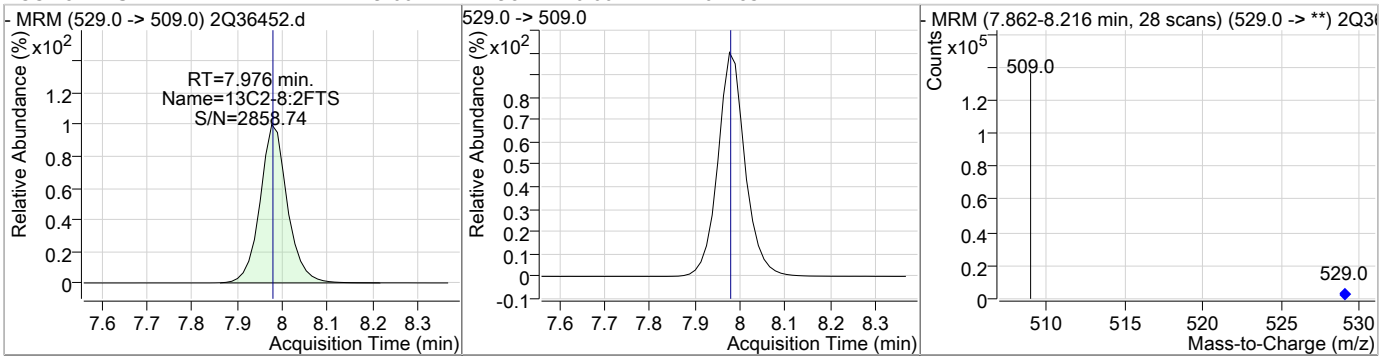
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.48	7.93	0.00	433280				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	4.79	7.93	0.00	51401	513.0 -> 219.0	17.1	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.00	7.98	0.00	102283				



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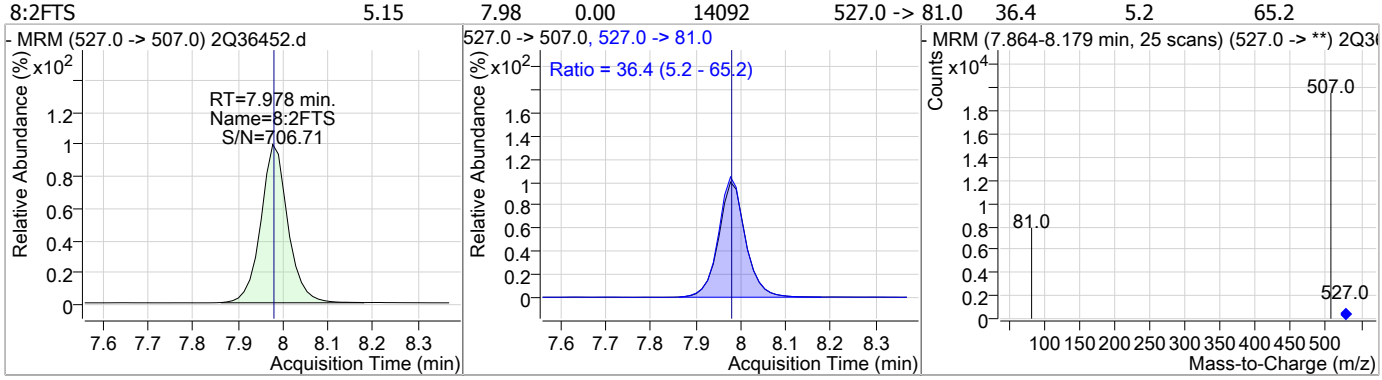
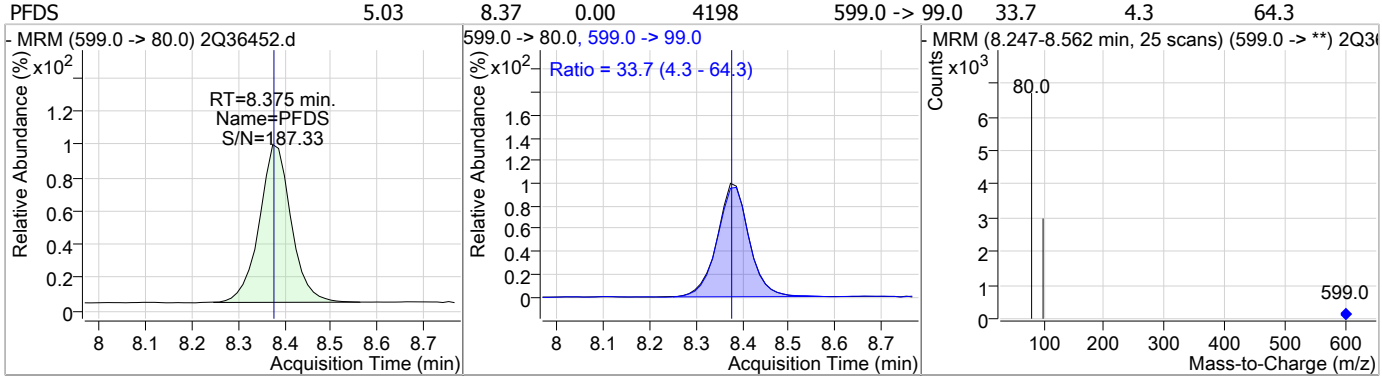
Perfluorinated Compounds by LC/MS/MS

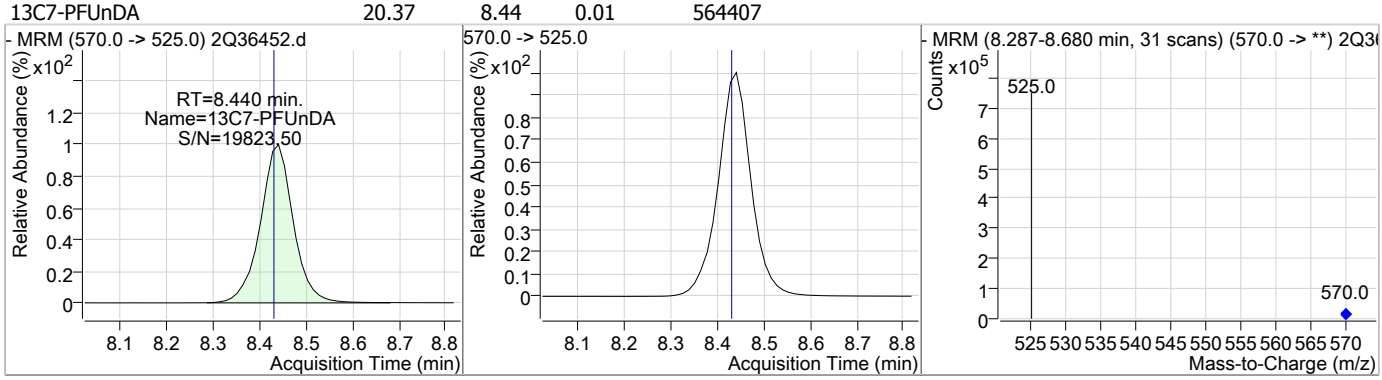
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	5.15	7.98	0.00	14092	527.0 -> 81.0	36.4	5.2	65.2



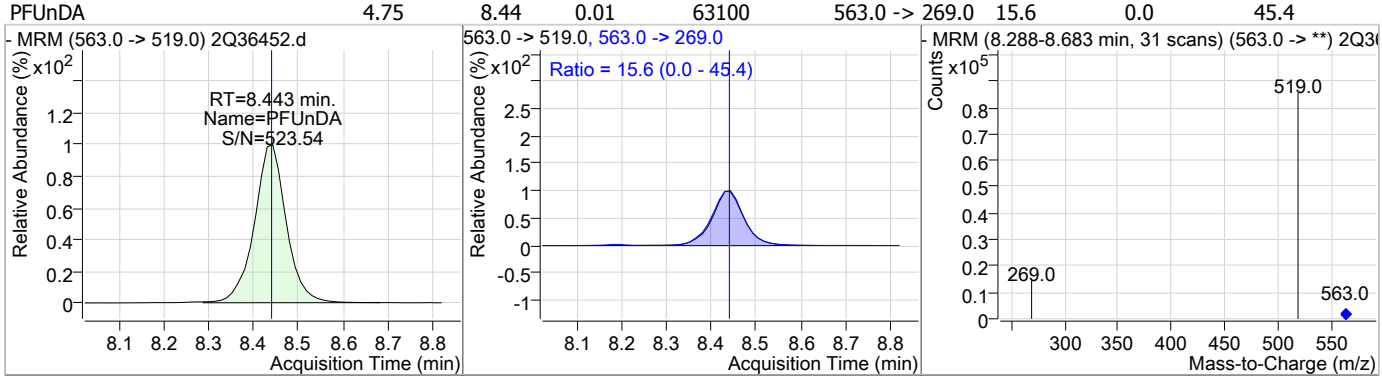
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	5.03	8.37	0.00	4198	599.0 -> 99.0	33.7	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.37	8.44	0.01	564407				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	4.75	8.44	0.01	63100	563.0 -> 269.0	15.6	0.0	45.4



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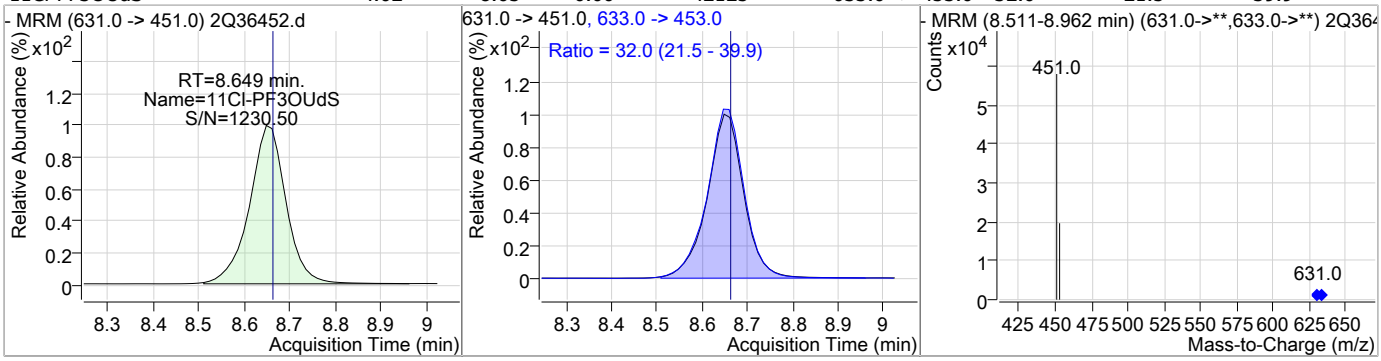
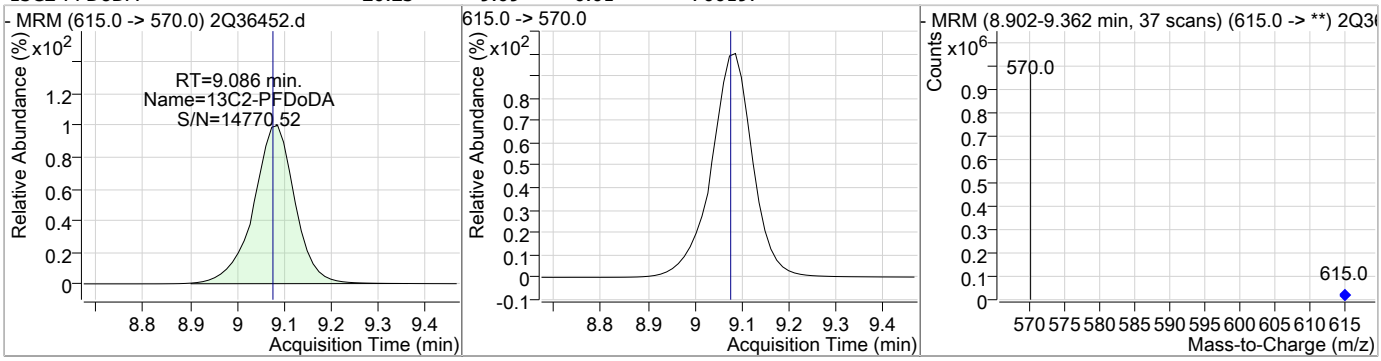
Perfluorinated Compounds by LC/MS/MS

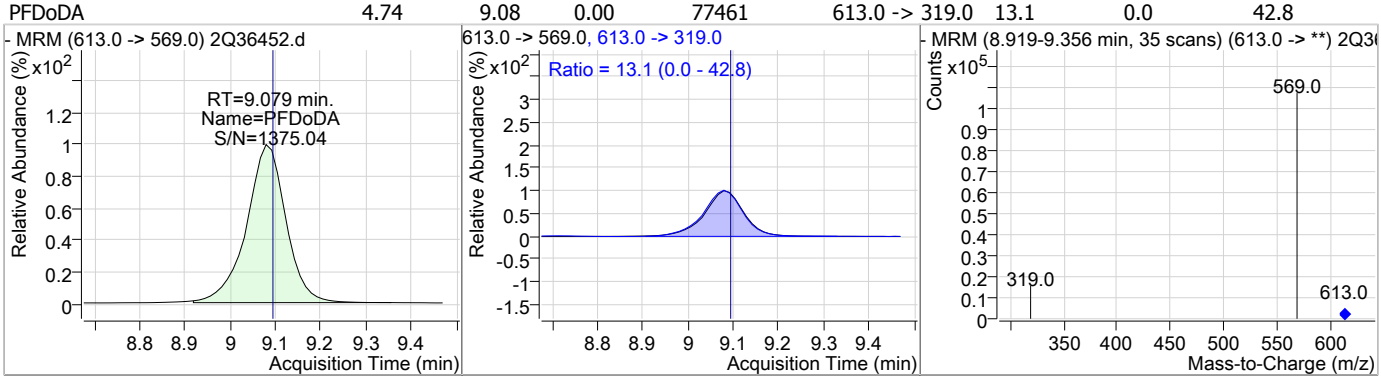
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.62	8.65	0.00	42125	633.0 -> 453.0	32.0	21.5	39.9



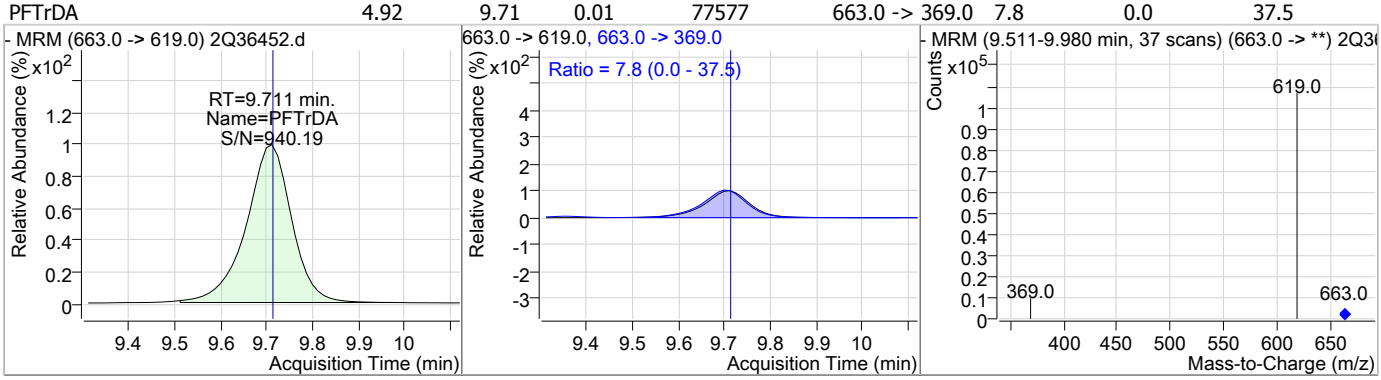
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.23	9.09	0.01	706197				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	4.74	9.08	0.00	77461	613.0 -> 319.0	13.1	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	4.92	9.71	0.01	77577	663.0 -> 369.0	7.8	0.0	37.5



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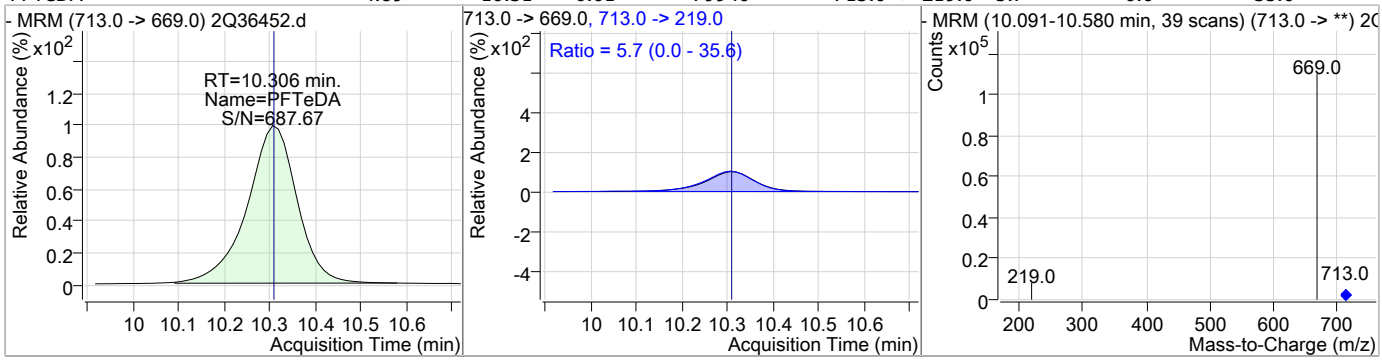
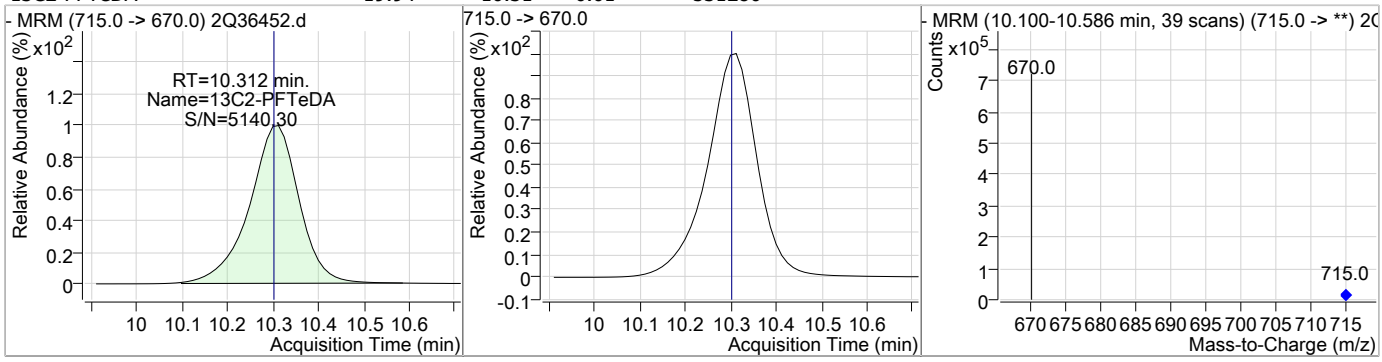
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	4.89	10.31	0.01	79946	713.0 -> 219.0	5.7	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.94	10.31	0.01	531280				



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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36452.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 14:45	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36453.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 3:01:25 PM
Sample Name	:	ic568-10
Vial	:	Vial 6
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

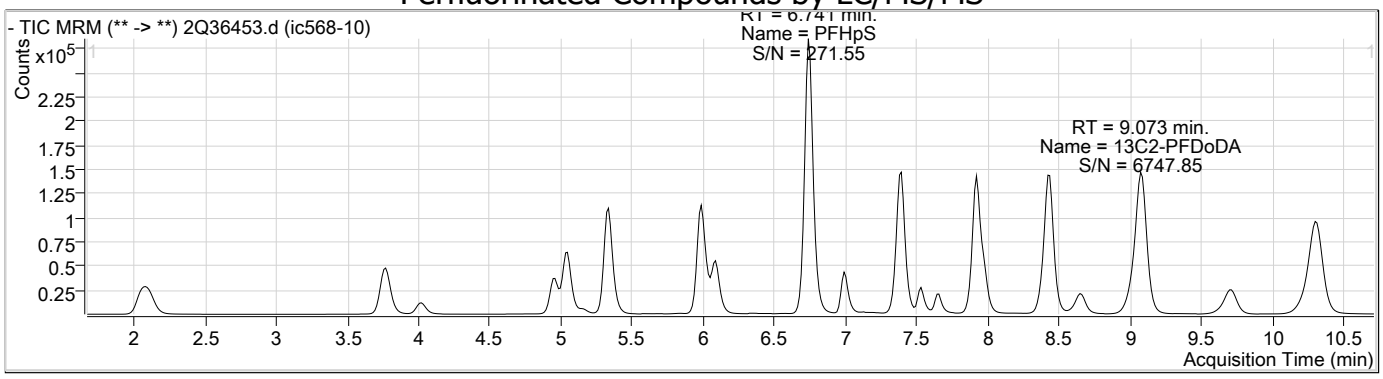
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	481800	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	68331	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	198618	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	166865	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	237000	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	310242	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	375539	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	383120	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	430718	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	566019	20.00	µg/L	0.013
M2-PFDoDA	9.073	615.0 -> 570.0	714375	20.00	µg/L	0.000
M2-PFTeDA	10.300	715.0 -> 670.0	553201	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	118641	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27741	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	29740	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	39873	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	113428	20.00	µg/L	0.000
M2-6:2FTS	6.742	429.0 -> 409.0	157238	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	104390	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	65647	20.00	µg/L	0.000
M3-HFPO-DA	5.343	287.0 -> 169.0	288517	100.00	µg/L	0.013
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	113261	19.45	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C2-6:2FTS	6.742	429.0 -> 409.0	157074	19.81	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C2-8:2FTS	7.976	529.0 -> 509.0	104367	19.39	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C2-PFDoDA	9.073	615.0 -> 570.0	709458	20.32	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C2-PFTeDA	10.300	715.0 -> 670.0	543941	20.41	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.1%		
13C3-PFBS	4.017	302.0 -> 99.0	27646	20.23	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C3-PFHxS	6.022	402.0 -> 99.0	29721	20.17	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFBA	2.077	217.0 -> 172.0	197993	20.22	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C4-PFHpA	5.992	367.0 -> 322.0	309885	20.35	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C5-PFHxA	5.051	318.0 -> 273.0	236598	20.27	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C5-PFPeA	3.774	268.0 -> 223.0	166865	20.27	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C6-PFDA	7.928	519.0 -> 474.0	430496	20.34	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

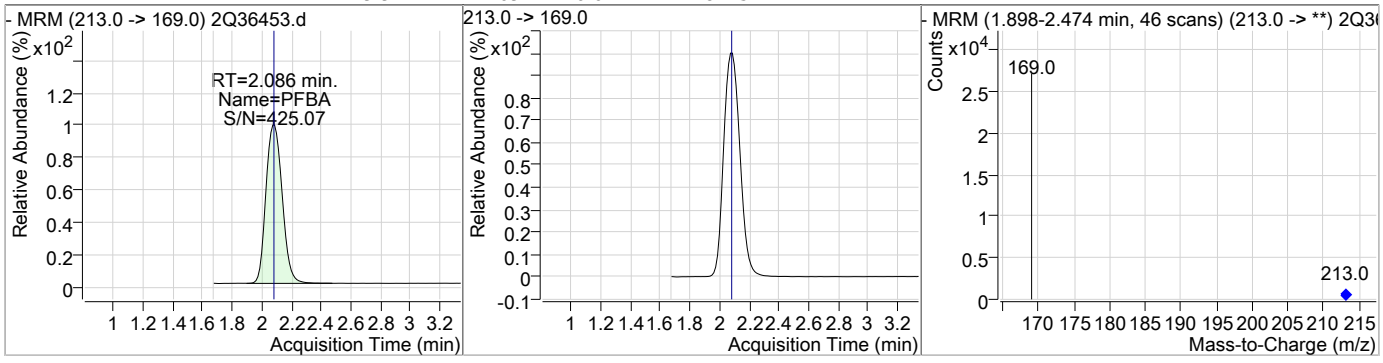
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%			
13C7-PFUnDA	8.440	570.0 -> 525.0	564265	20.36	µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.8%			
13C8-FOSA	6.990	506.0 -> 78.0	118534	20.83	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.1%			
13C8-PFOA	6.745	421.0 -> 376.0	375043	20.50	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.5%			
13C8-PFOS	7.371	507.0 -> 99.0	39881	20.49	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%			
13C9-PFNA	7.401	472.0 -> 427.0	382934	20.26	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.3%			
d3-MeFOSAA	7.531	573.0 -> 419.0	65543	20.05	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%			
M2-PFOA	6.747	415.0 -> 370.0	482744	20.02	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%			
M4-PFOS	7.373	503.0 -> 80.0	68417	20.03	µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%			
13C3-HFPO-DA	5.343	287.0 -> 169.0	288517	101.49	µg/L		0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 101.5%			
Target Compounds							**QValue**
4:2FTS	4.949	327.0 -> 307.0	33599	10.43	µg/L		100
6:2FTS	6.744	427.0 -> 407.0	40212	10.29	µg/L		99
8:2FTS	7.978	527.0 -> 507.0	29077	10.41	µg/L		99
EtFOSAA	7.656	584.0 -> 419.0	14581	10.59	µg/L		100
FOSA	6.993	498.0 -> 78.0	30289	9.86	µg/L		99
MeFOSAA	7.532	570.0 -> 419.0	17007	9.72	µg/L		97
PFBA	2.086	213.0 -> 169.0	18445	9.97	µg/L		100
PFBS	4.021	299.0 -> 80.0	21556	9.84	µg/L		100
PFDA	7.930	513.0 -> 469.0	105816	9.91	µg/L		100
PFDoDA	9.079	613.0 -> 569.0	160703	9.78	µg/L		100
PFDS	8.375	599.0 -> 80.0	8383	9.87	µg/L		98
PFHpA	5.995	363.0 -> 319.0	139270	9.85	µg/L		99
PFHpS	6.741	449.0 -> 80.0	16446	10.35	µg/L		99
PFHxA	5.052	313.0 -> 269.0	36359	9.99	µg/L		99
PFHxS	6.025	399.0 -> 80.0	17897	10.08	µg/L	m	98
PFNA	7.402	463.0 -> 419.0	118410	9.88	µg/L		100
PFNS	7.885	549.0 -> 80.0	13023	10.03	µg/L		99
PFOA	6.749	413.0 -> 369.0	99206	9.82	µg/L		98
PFOS	7.374	499.0 -> 80.0	18610	9.83	µg/L	m	100
PFPeA	3.777	263.0 -> 219.0	83009	9.85	µg/L		100
PFPeS	5.157	349.0 -> 80.0	12073	9.98	µg/L		98
PFTeDA	10.306	713.0 -> 669.0	168143	9.89	µg/L		100
PFTrDA	9.711	663.0 -> 619.0	161711	9.86	µg/L		100
PFUnDA	8.431	563.0 -> 519.0	130097	9.76	µg/L		100
11Cl-PF3OUdS	8.649	631.0 -> 451.0	86993	9.49	µg/L		99
9Cl-PF3ONS	7.647	531.0 -> 351.0	14629	9.59	µg/L		97
ADONA	6.090	377.0 -> 251.0	167184	9.30	µg/L		100
HFPO-DA	5.335	329.0 -> 169.0	151521	50.99	µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

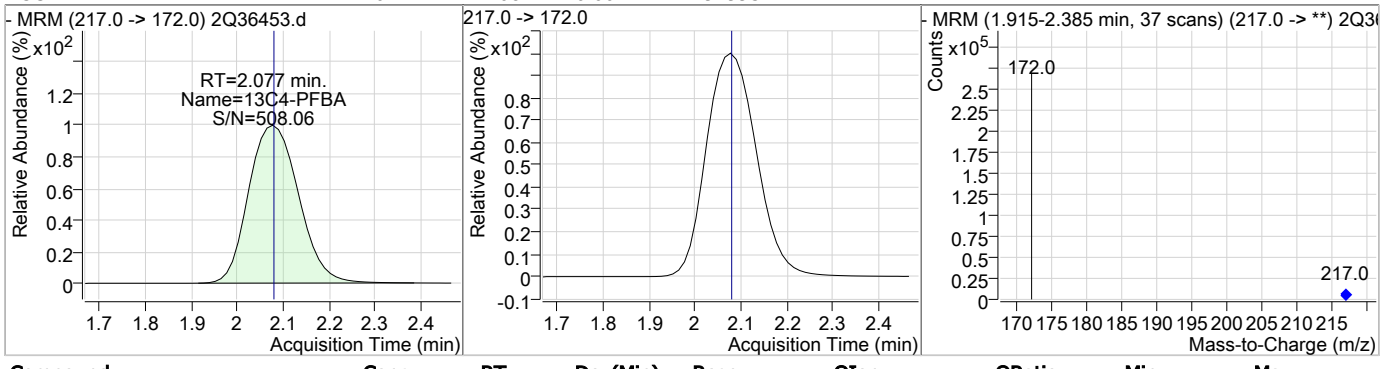
Perfluorinated Compounds by LC/MS/MS



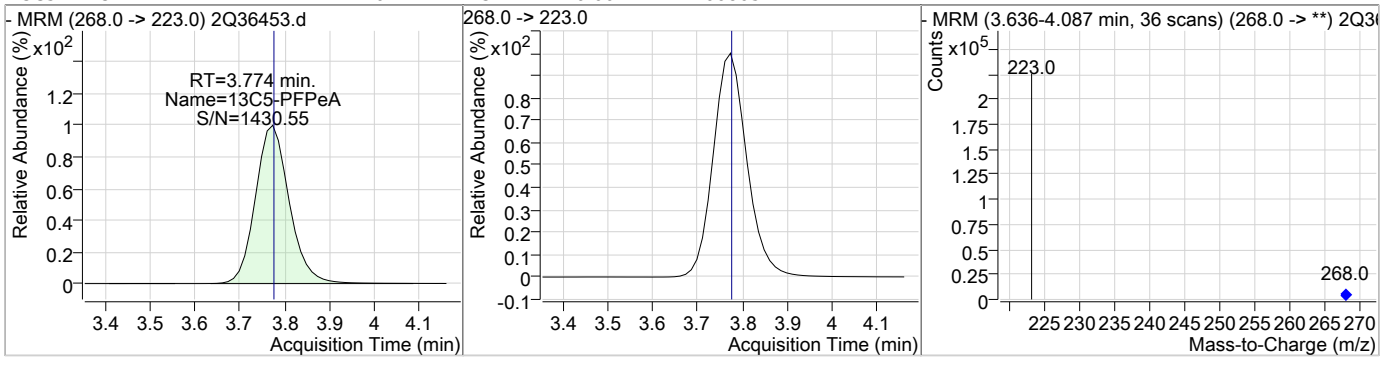
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.97	2.09	0.01	18445				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.22	2.08	0.00	197993				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.27	3.77	0.00	166865				



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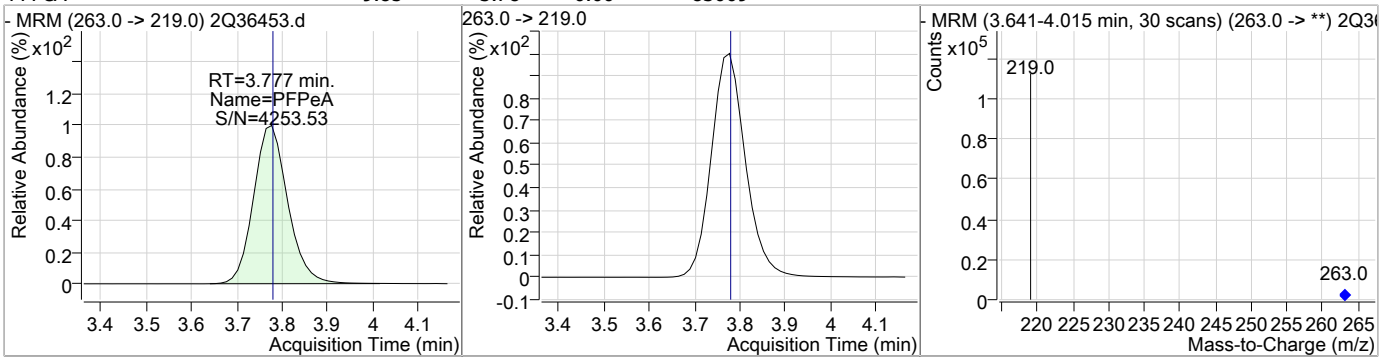
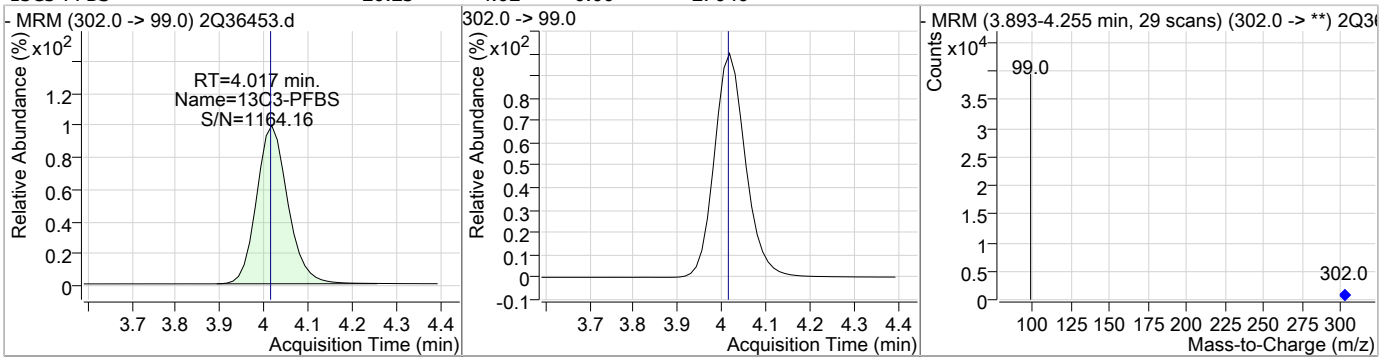
Perfluorinated Compounds by LC/MS/MS

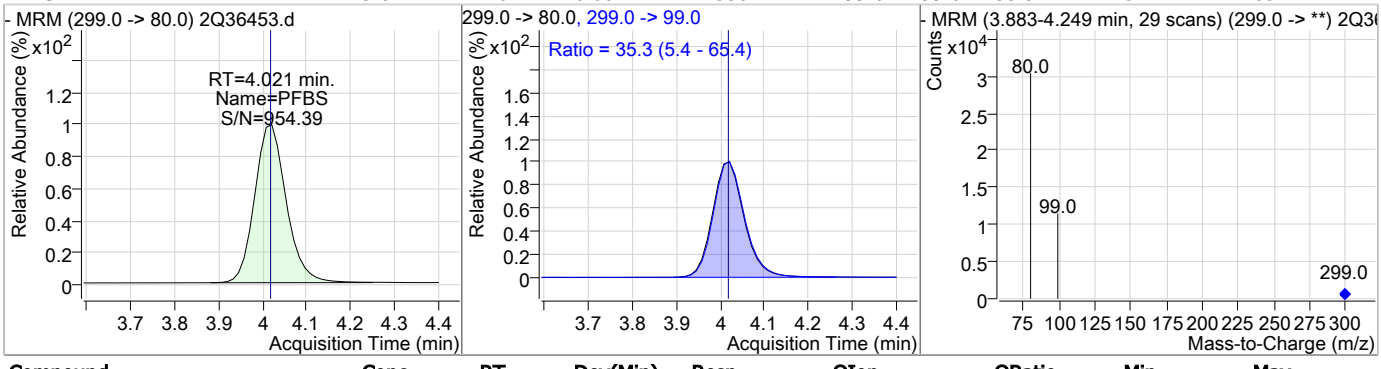
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	9.85	3.78	0.00	83009				



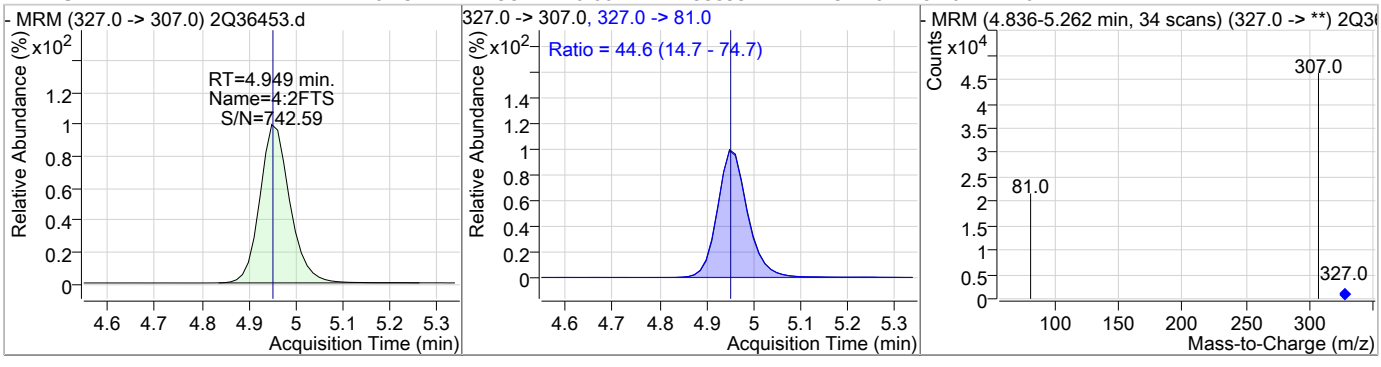
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.23	4.02	0.00	27646				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	9.84	4.02	0.00	21556	299.0 -> 99.0	35.3	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	10.43	4.95	0.00	33599	327.0 -> 81.0	44.6	14.7	74.7



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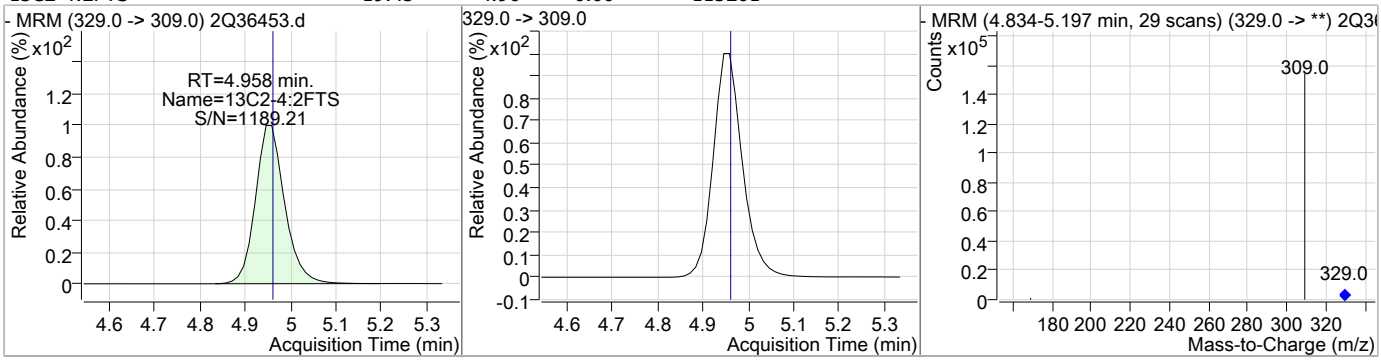
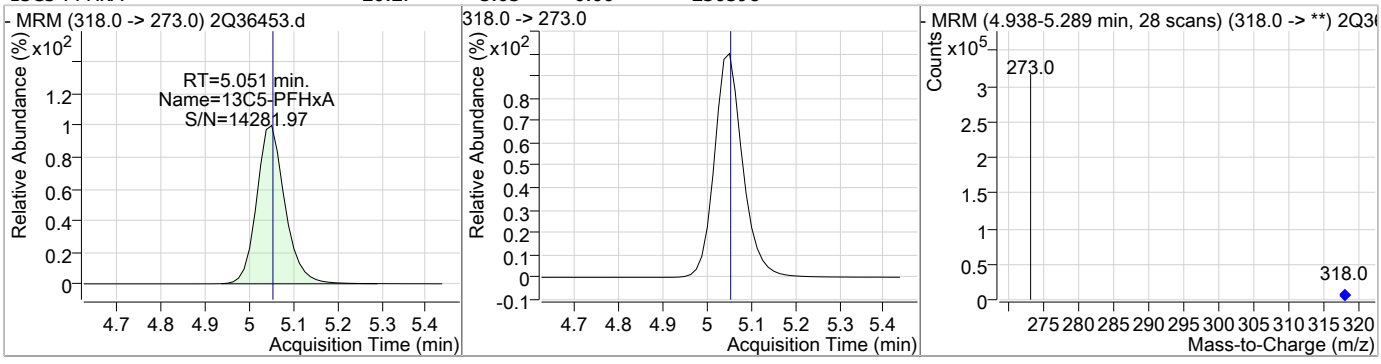
Perfluorinated Compounds by LC/MS/MS

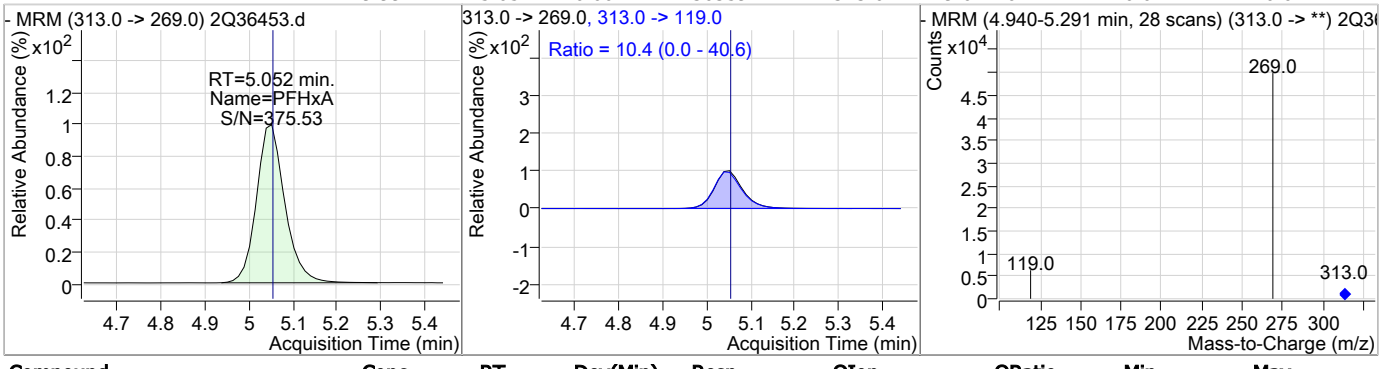
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.45	4.96	0.00	113261				



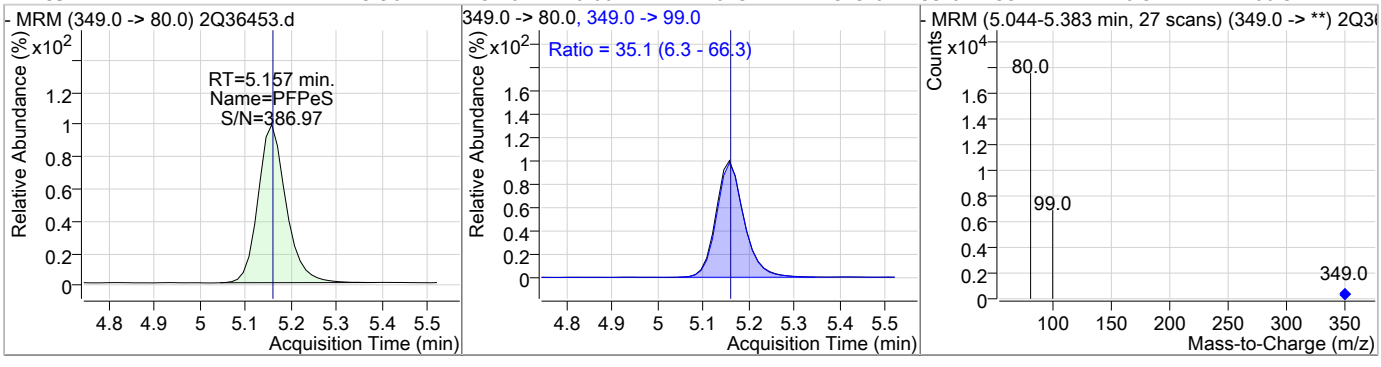
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.27	5.05	0.00	236598				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	9.99	5.05	0.00	36359	313.0 -> 119.0	10.4	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	9.98	5.16	0.00	12073	349.0 -> 99.0	35.1	6.3	66.3



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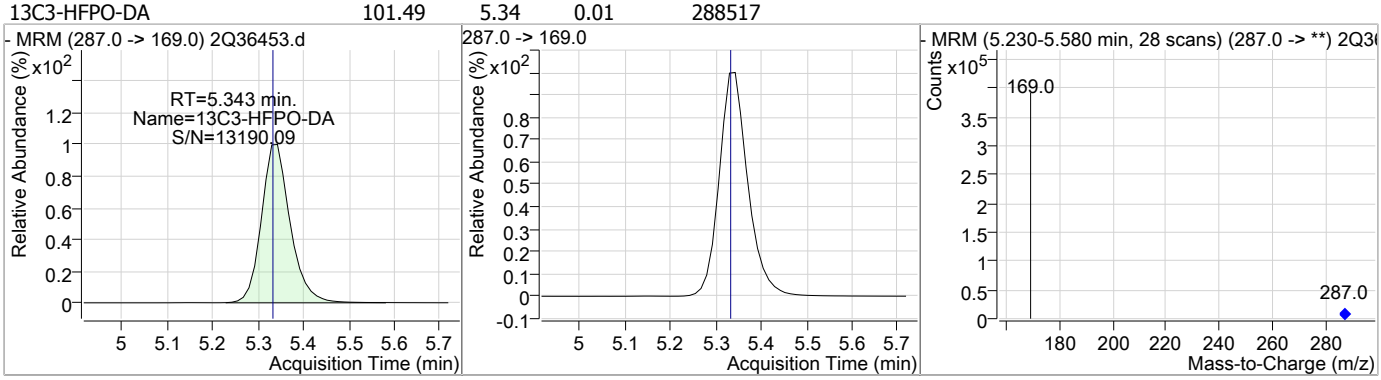
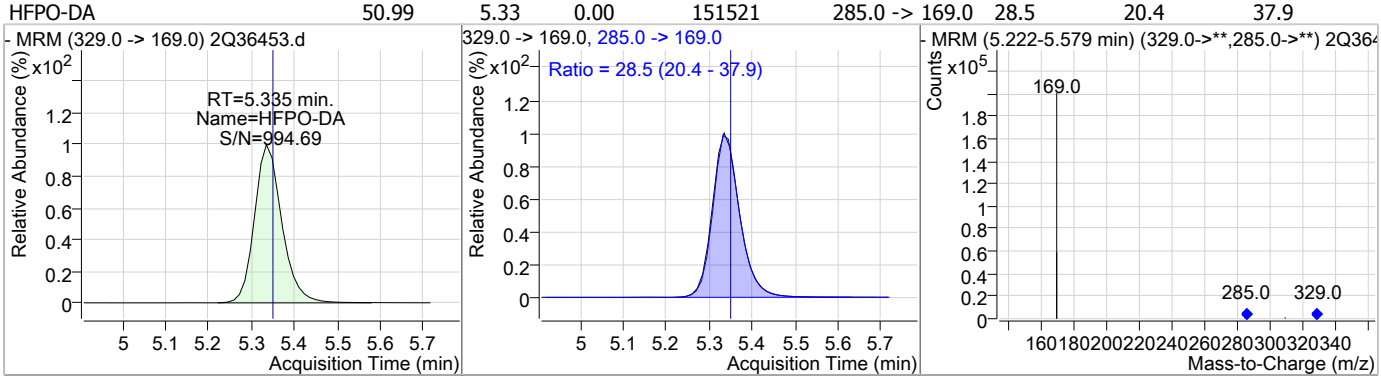
Perfluorinated Compounds by LC/MS/MS

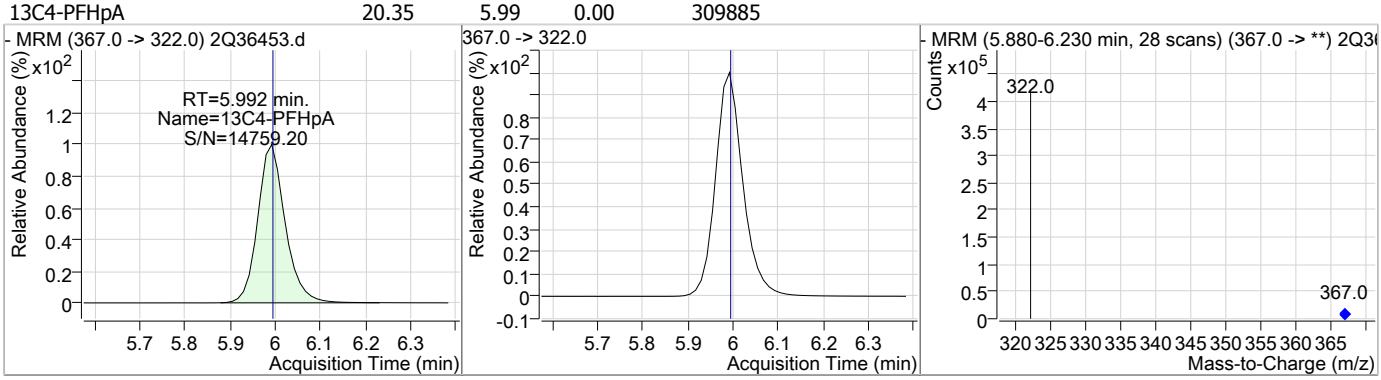
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	101.49	5.34	0.01	288517				



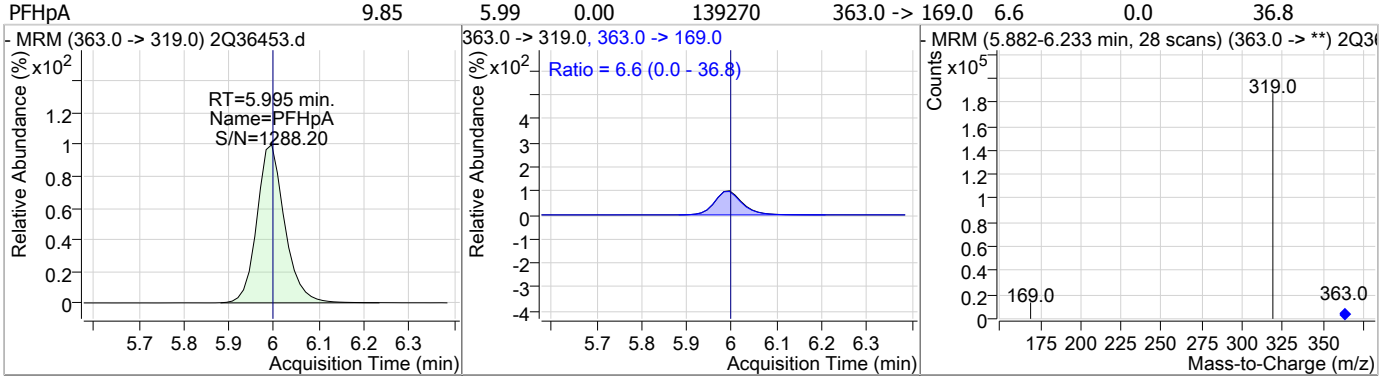
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	50.99	5.33	0.00	151521	285.0 -> 169.0	28.5	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.35	5.99	0.00	309885				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	9.85	5.99	0.00	139270	363.0 -> 169.0	6.6	0.0	36.8



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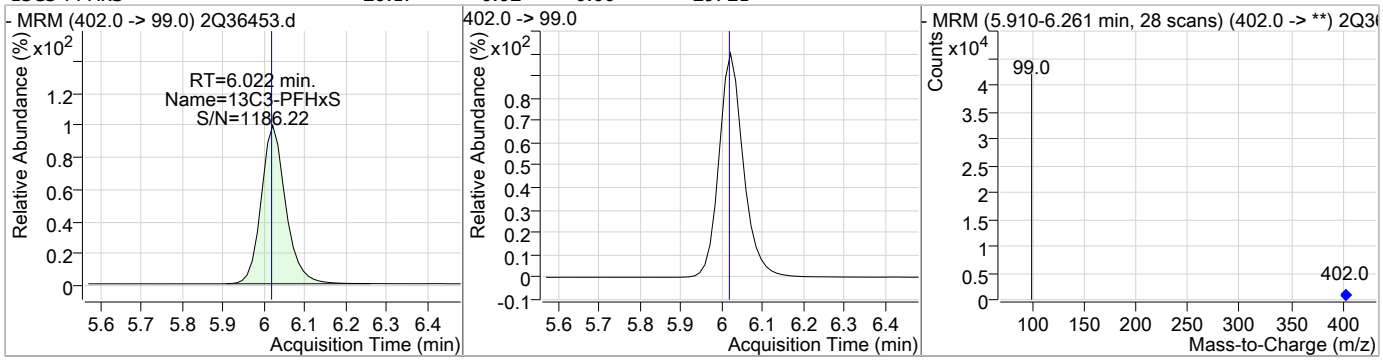
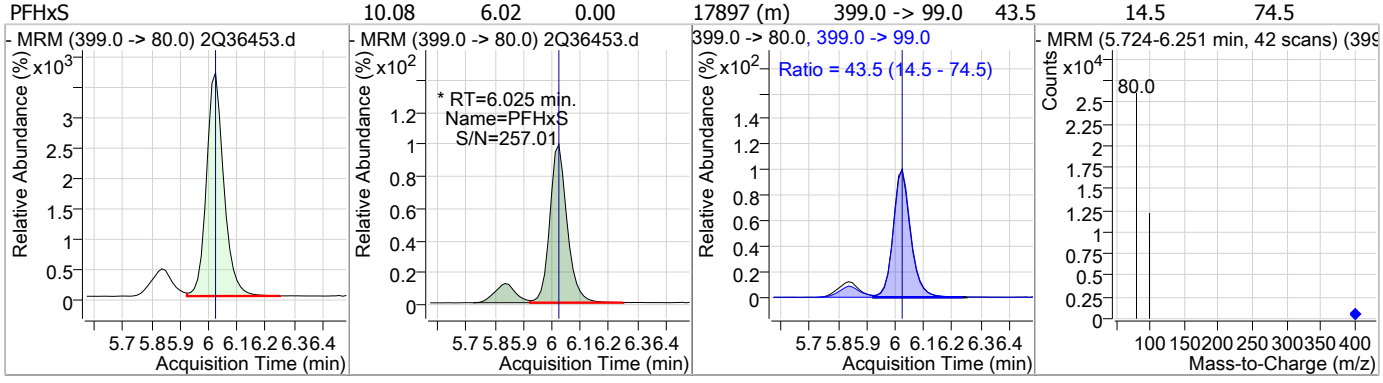
Perfluorinated Compounds by LC/MS/MS

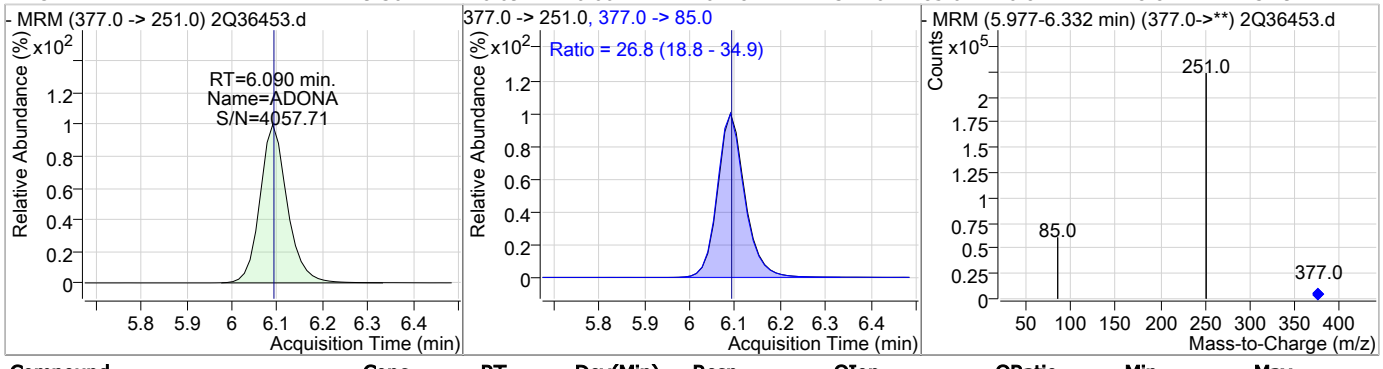
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.17	6.02	0.00	29721				



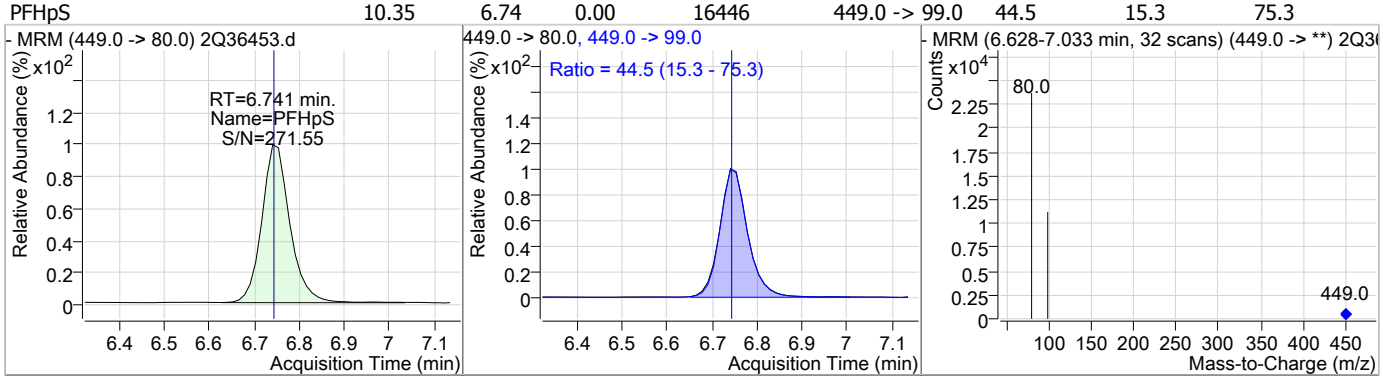
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	10.08	6.02	0.00	17897 (m)	399.0 -> 99.0	43.5	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	9.30	6.09	0.00	167184	377.0 -> 85.0	26.8	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	10.35	6.74	0.00	16446	449.0 -> 99.0	44.5	15.3	75.3



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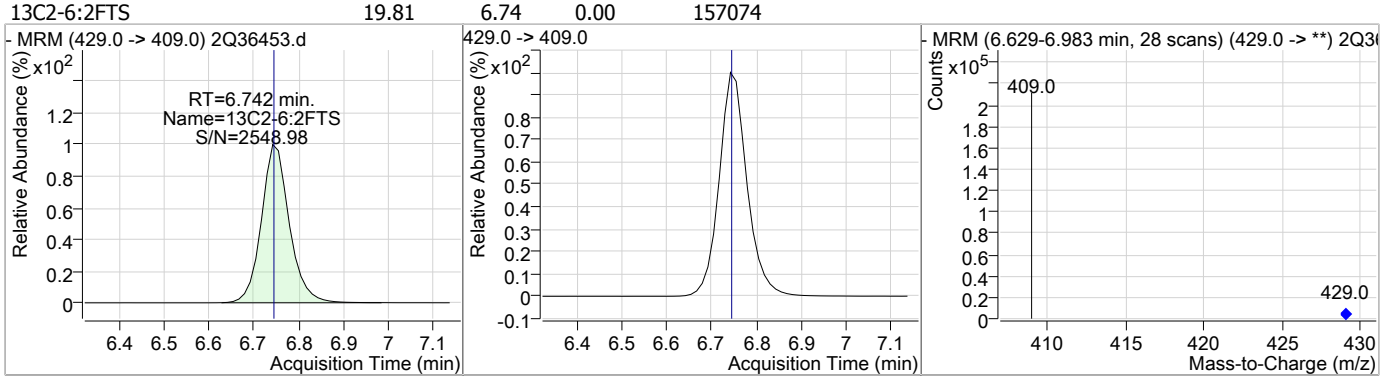
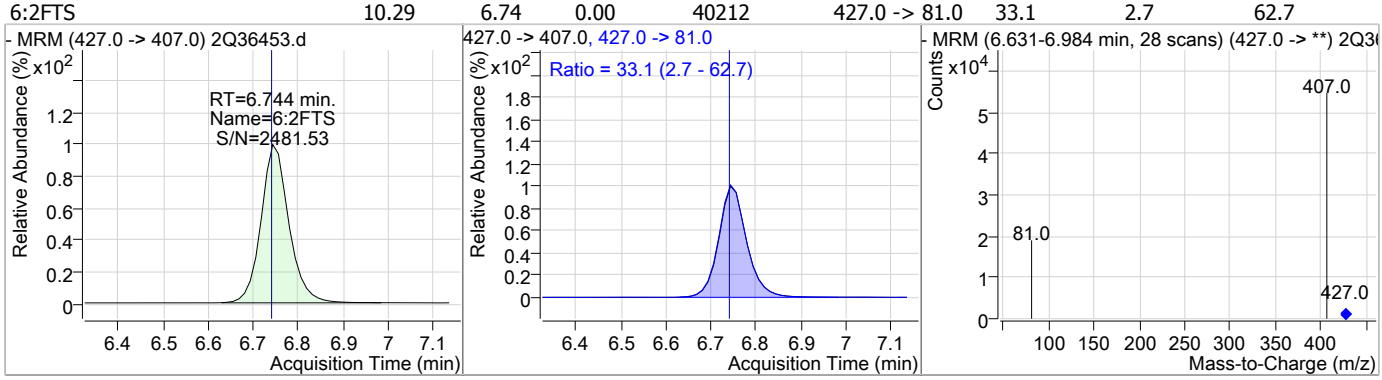
Perfluorinated Compounds by LC/MS/MS

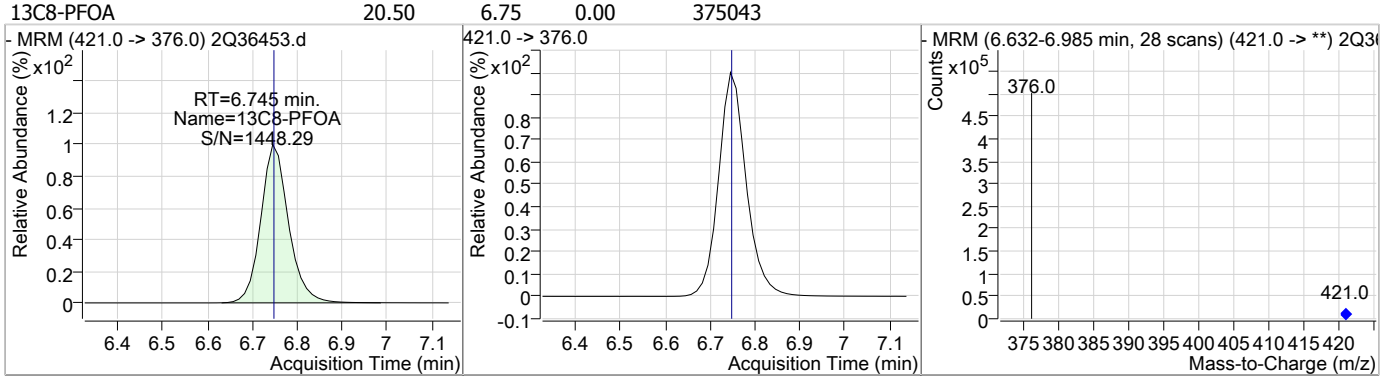
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.81	6.74	0.00	157074				



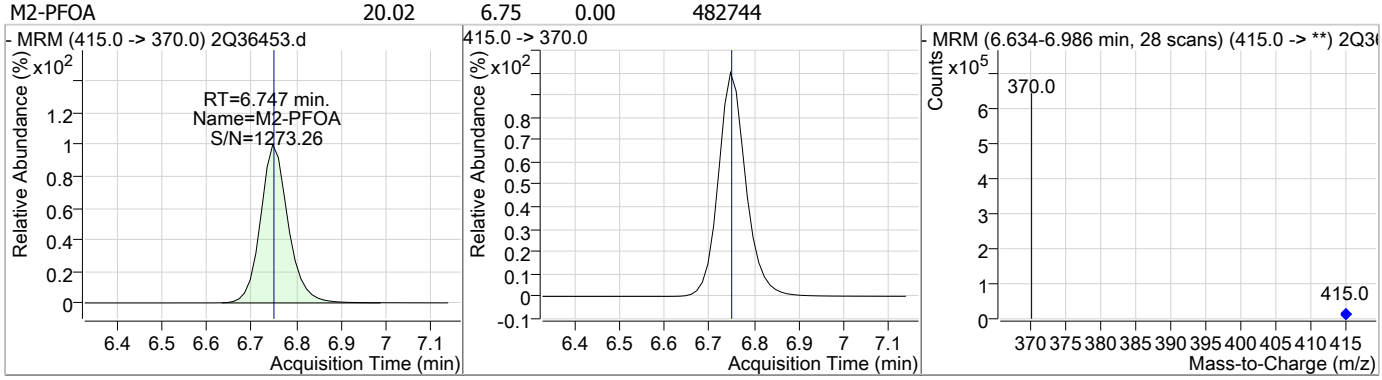
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	10.29	6.74	0.00	40212	427.0 -> 81.0	33.1	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.50	6.75	0.00	375043				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.02	6.75	0.00	482744				



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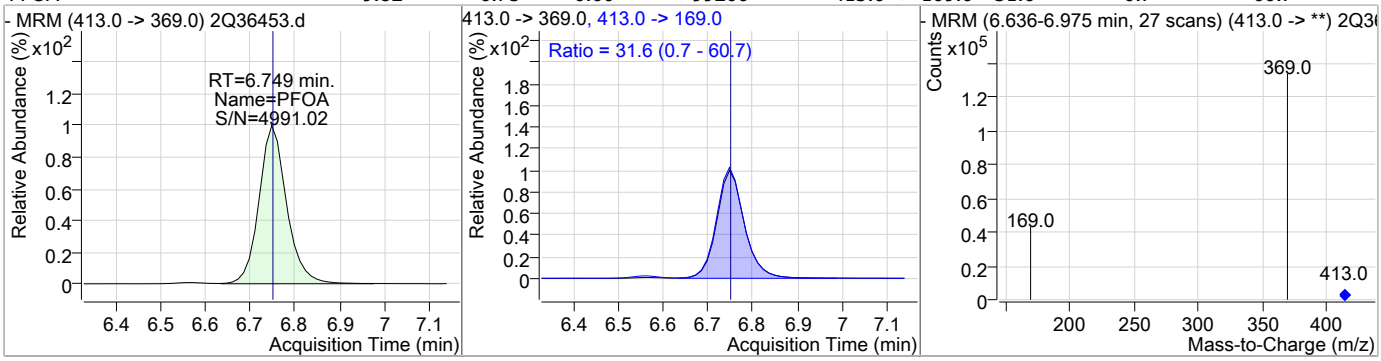
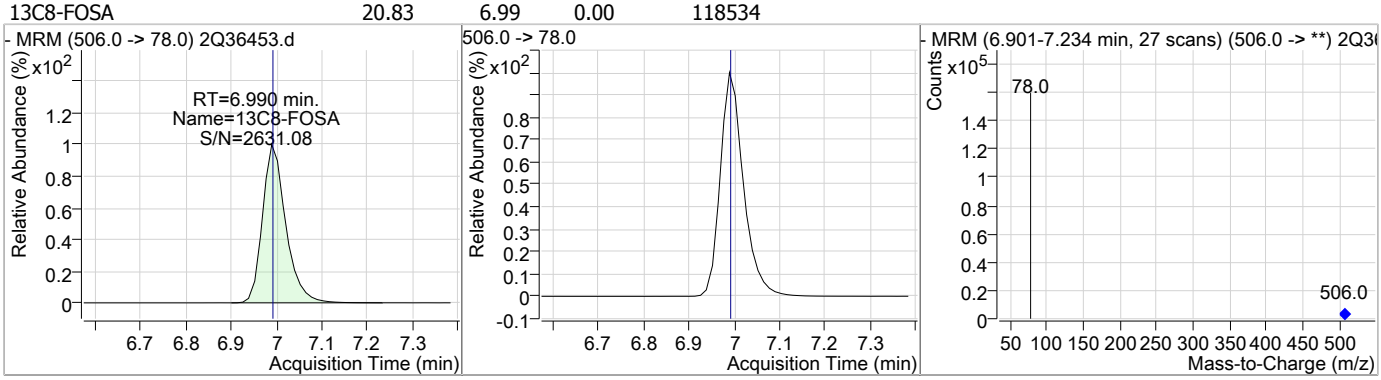
Perfluorinated Compounds by LC/MS/MS

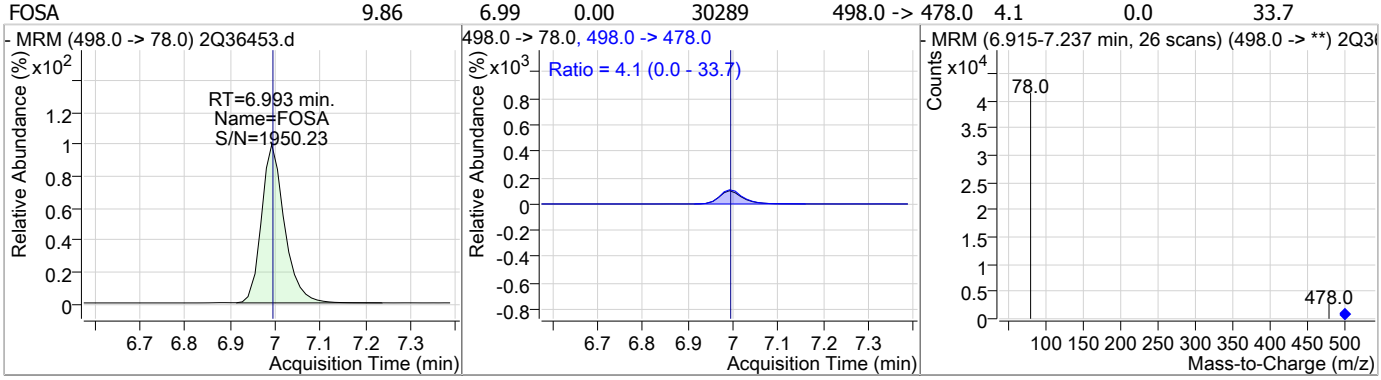
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	9.82	6.75	0.00	99206	413.0 -> 169.0	31.6	0.7	60.7



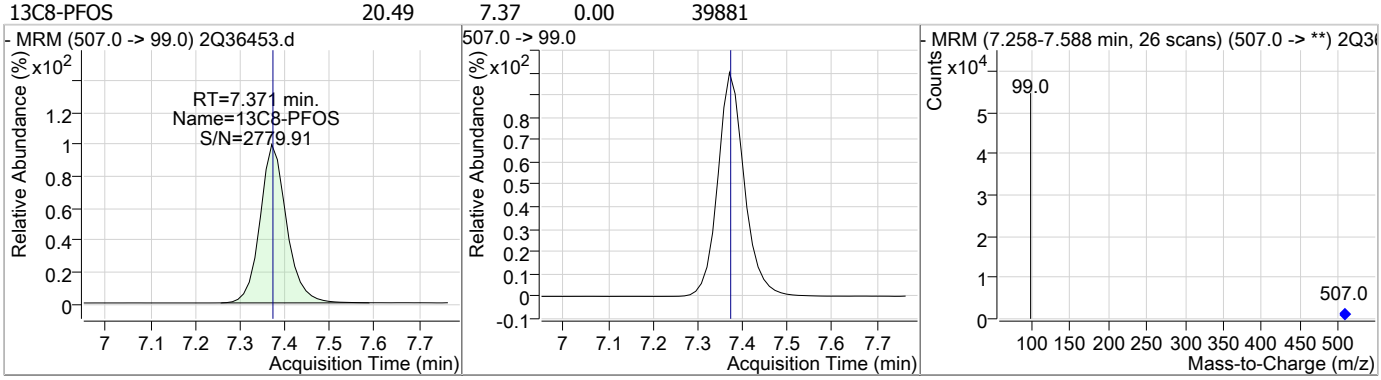
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.83	6.99	0.00	118534				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	9.86	6.99	0.00	30289	498.0 -> 478.0	4.1	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.49	7.37	0.00	39881				



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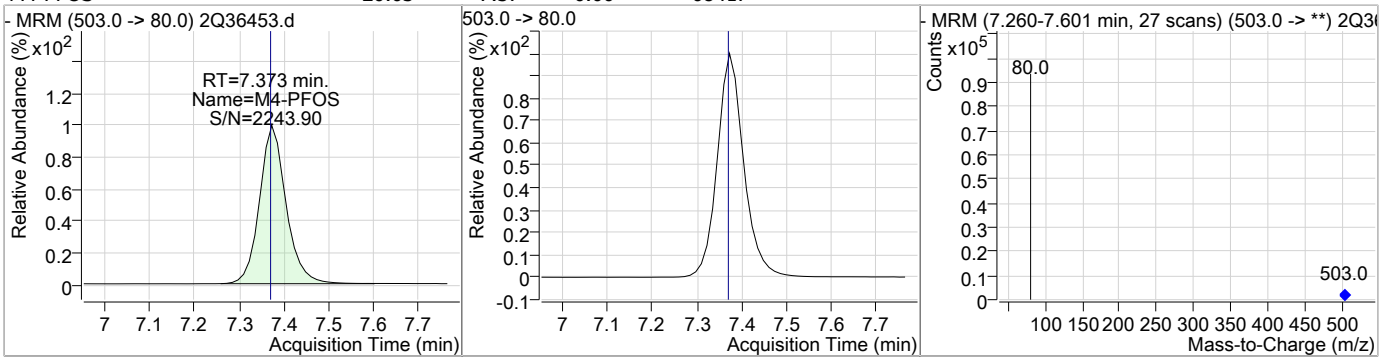
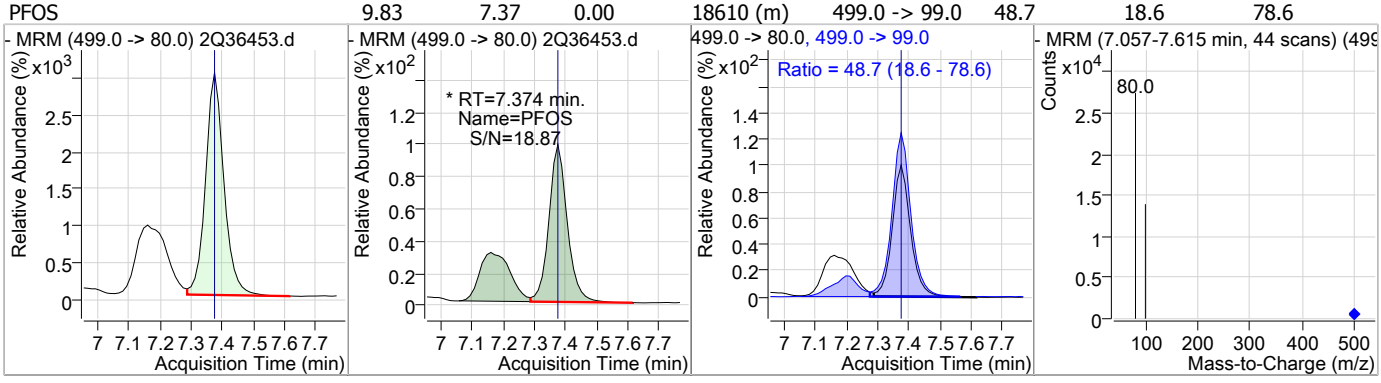
Perfluorinated Compounds by LC/MS/MS

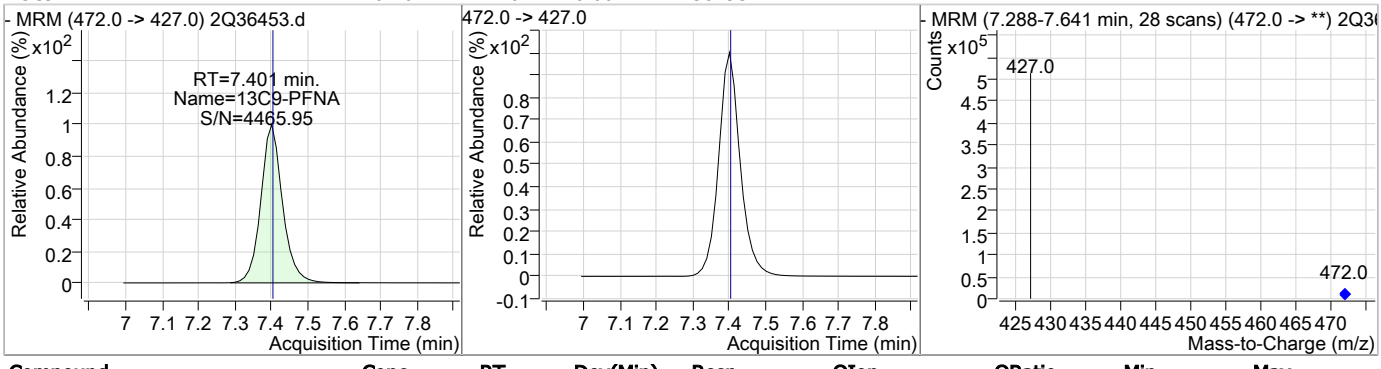
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.03	7.37	0.00	68417				



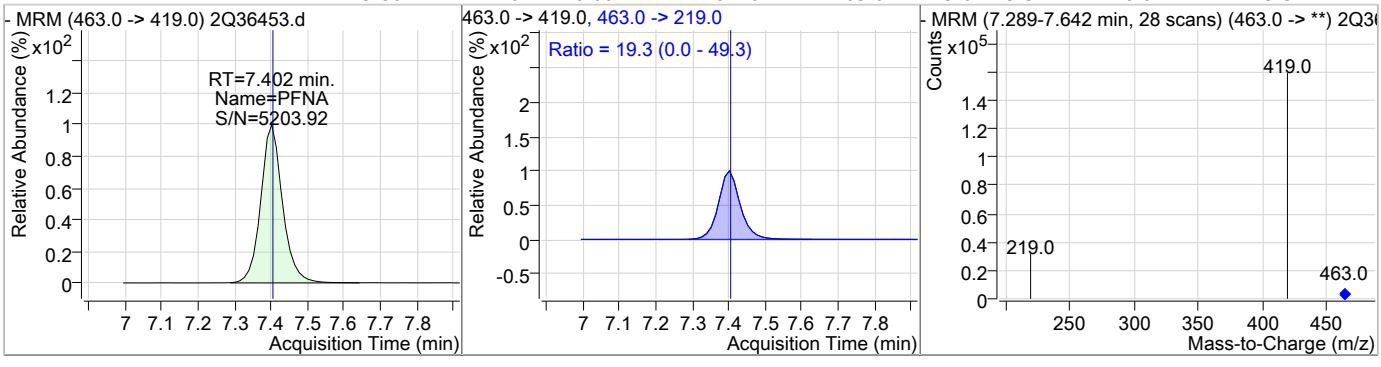
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	9.83	7.37	0.00	18610 (m)	499.0 -> 99.0	48.7	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.26	7.40	0.00	382934				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	9.88	7.40	0.00	118410	463.0 -> 219.0	19.3	0.0	49.3



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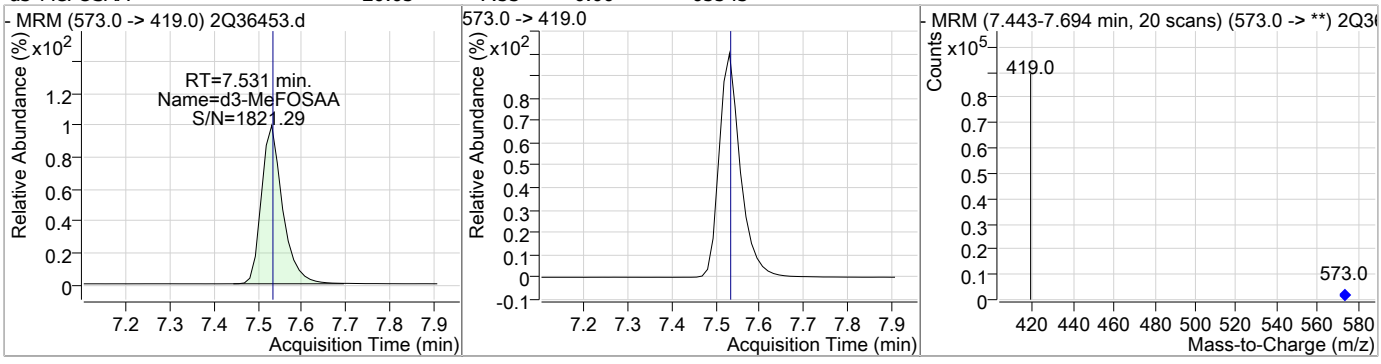
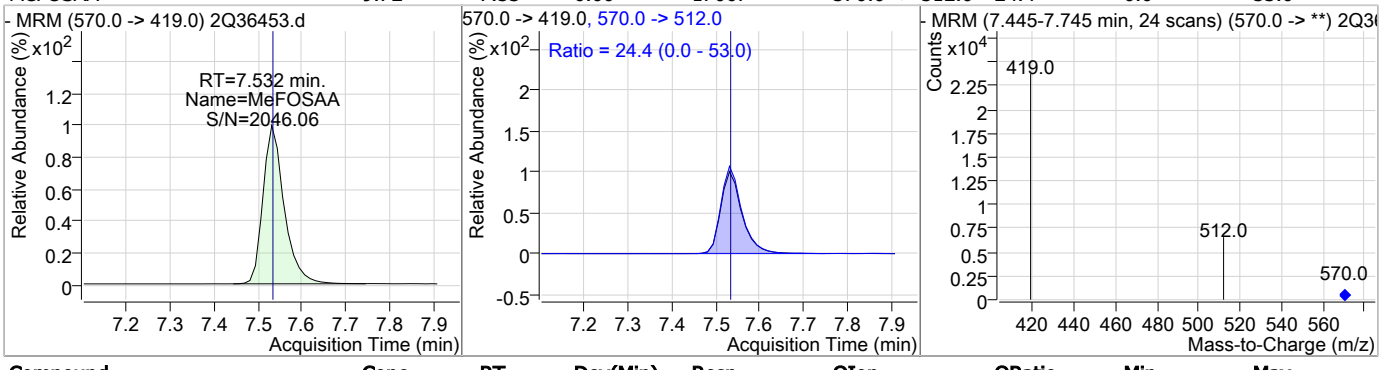
Perfluorinated Compounds by LC/MS/MS

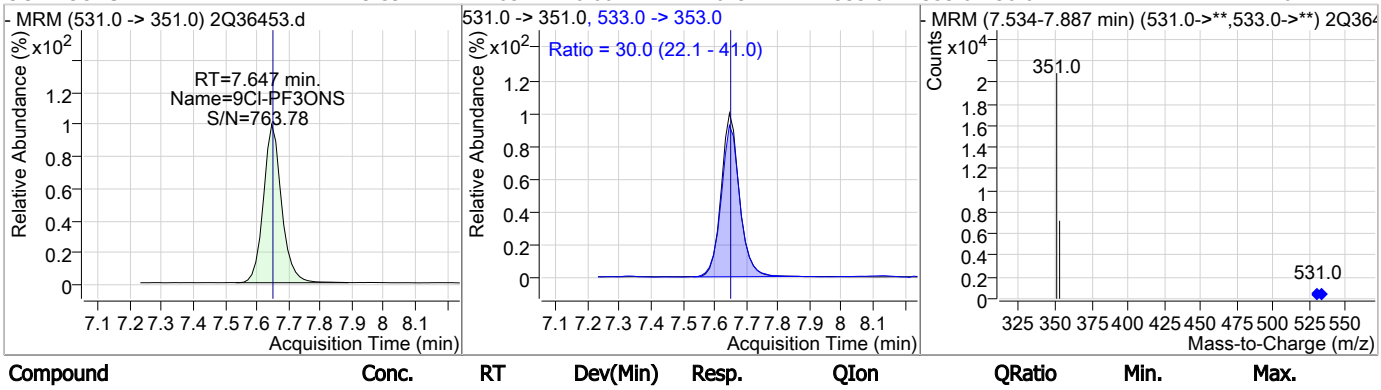
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.05	7.53	0.00	65543				



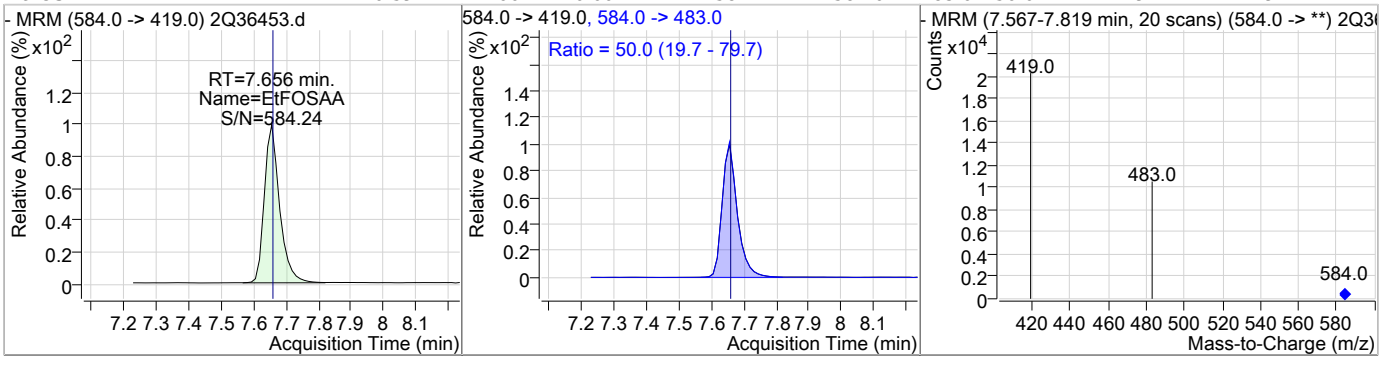
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	9.72	7.53	0.00	17007	570.0 -> 512.0	24.4	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	9.59	7.65	0.00	14629	533.0 -> 353.0	30.0	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	10.59	7.66	0.00	14581	584.0 -> 483.0	50.0	19.7	79.7



12.6.6

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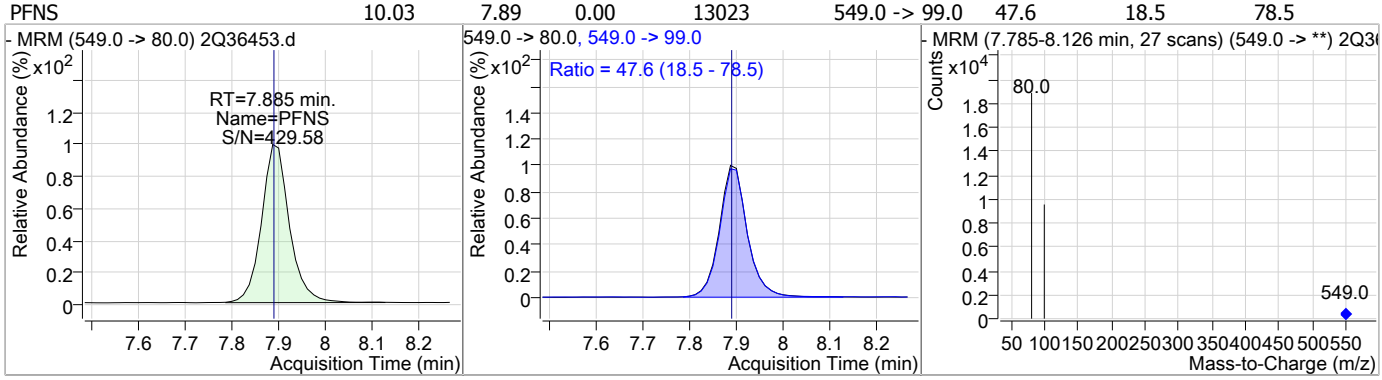
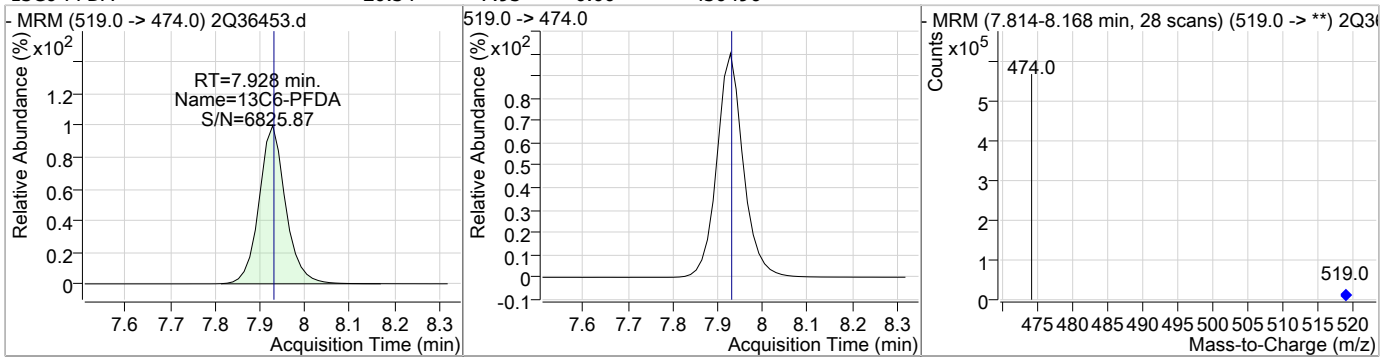
Perfluorinated Compounds by LC/MS/MS

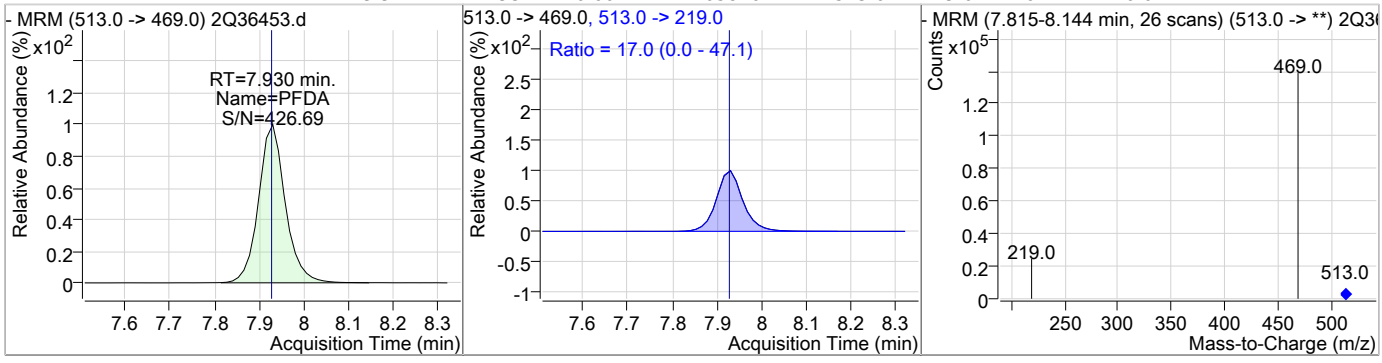
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	10.03	7.89	0.00	13023	549.0 -> 99.0	47.6	18.5	78.5



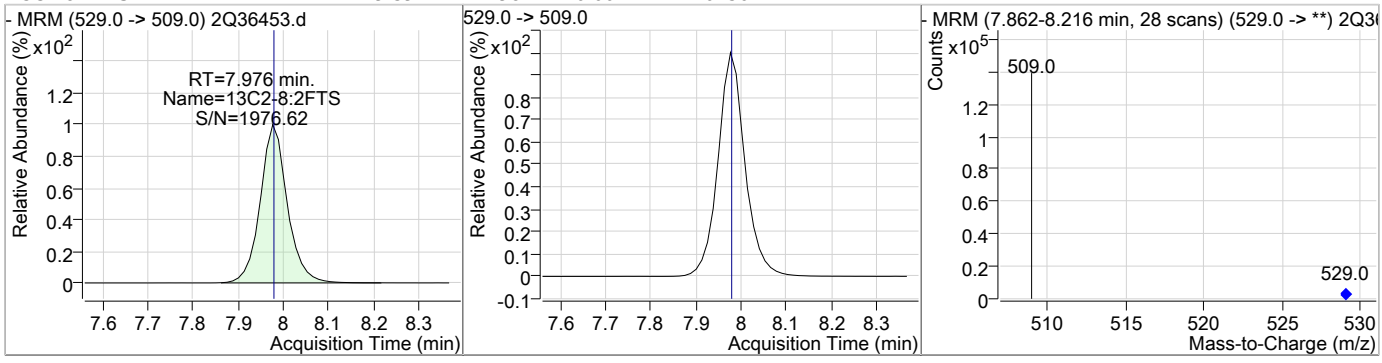
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.34	7.93	0.00	430496				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	9.91	7.93	0.00	105816	513.0 -> 219.0	17.0	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.39	7.98	0.00	104367				



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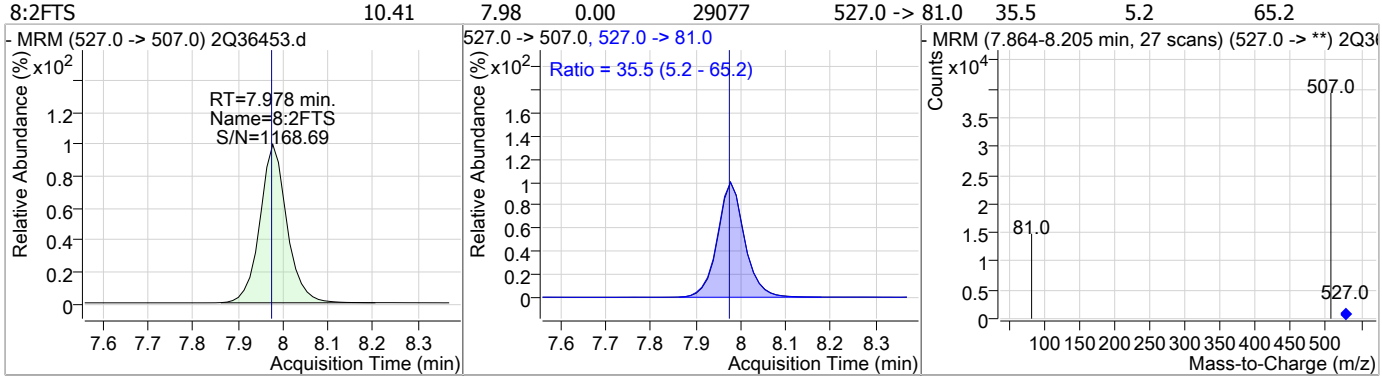
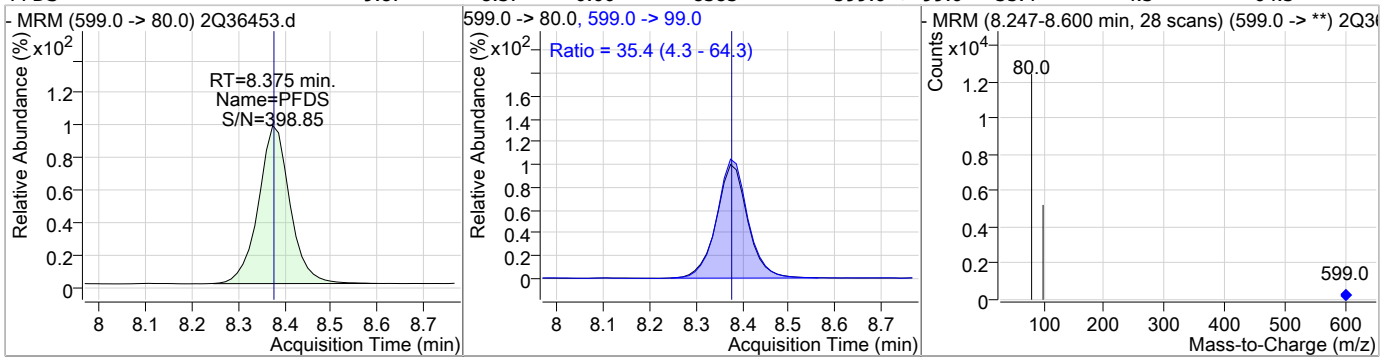
Perfluorinated Compounds by LC/MS/MS

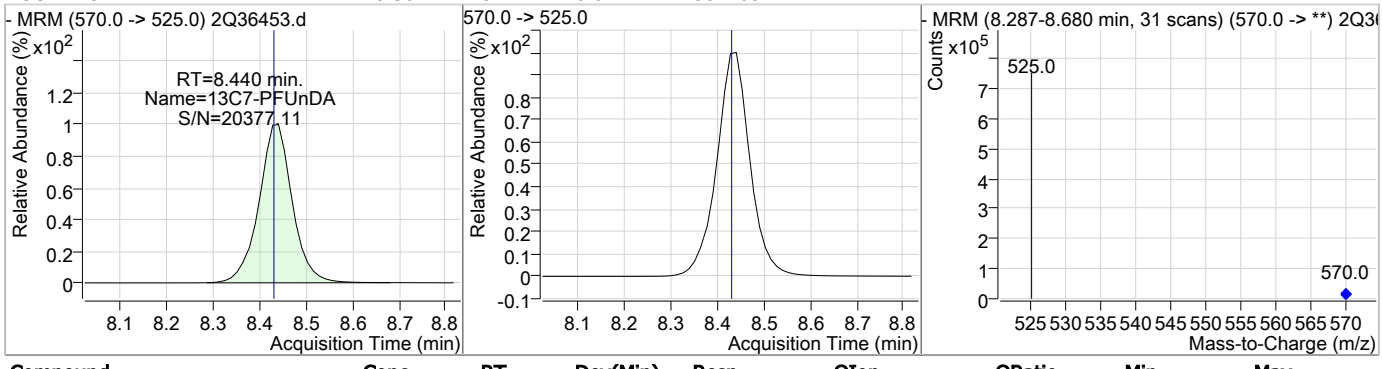
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.41	7.98	0.00	29077	527.0 -> 81.0	35.5	5.2	65.2



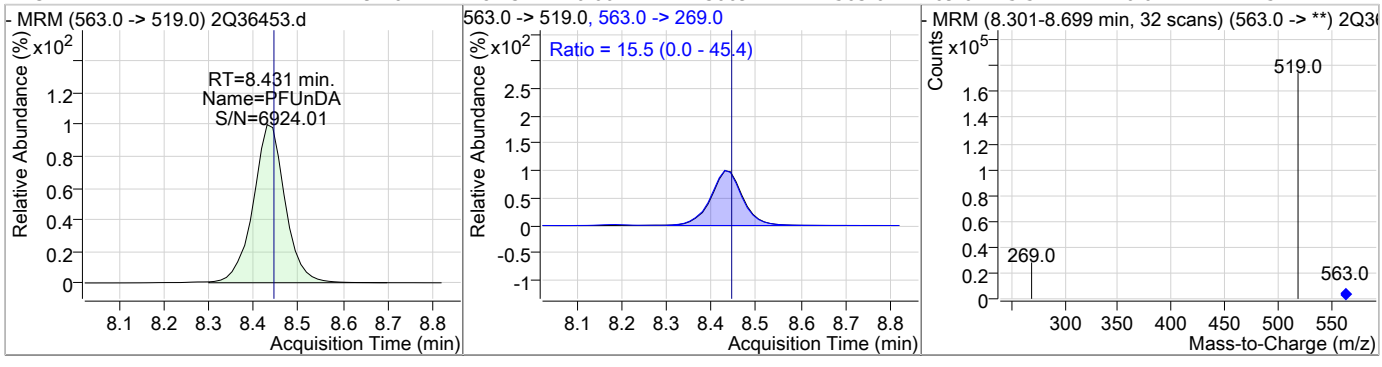
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	9.87	8.37	0.00	8383	599.0 -> 99.0	35.4	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.36	8.44	0.01	564265				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	9.76	8.43	0.00	130097	563.0 -> 269.0	15.5	0.0	45.4



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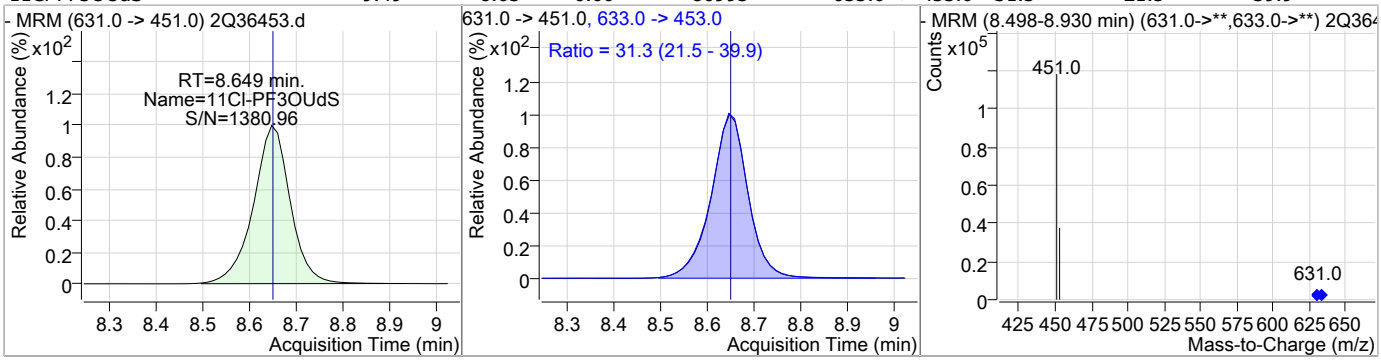
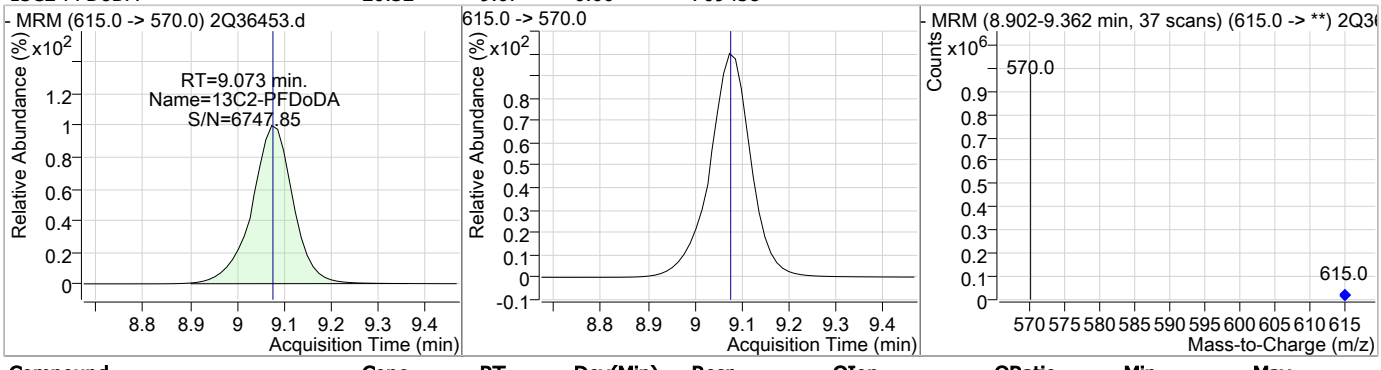
Perfluorinated Compounds by LC/MS/MS

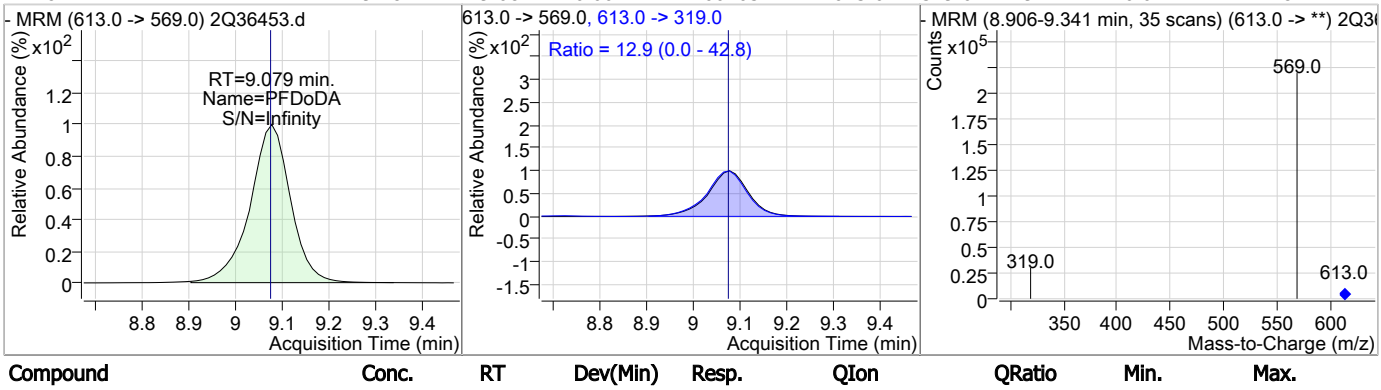
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	9.49	8.65	0.00	86993	633.0 -> 453.0	31.3	21.5	39.9



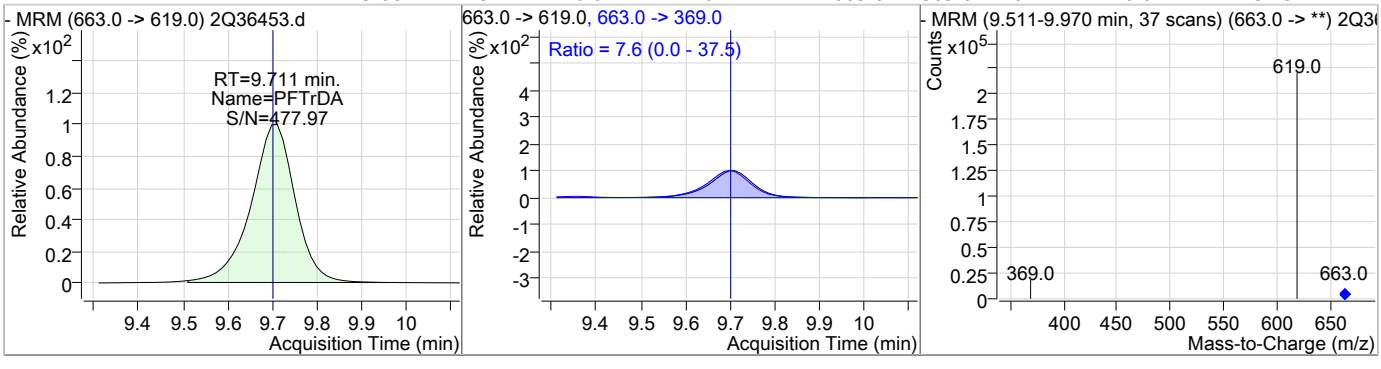
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.32	9.07	0.00	709458				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	9.78	9.08	0.00	160703	613.0 -> 319.0	12.9	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	9.86	9.71	0.01	161711	663.0 -> 369.0	7.6	0.0	37.5



12.6.6

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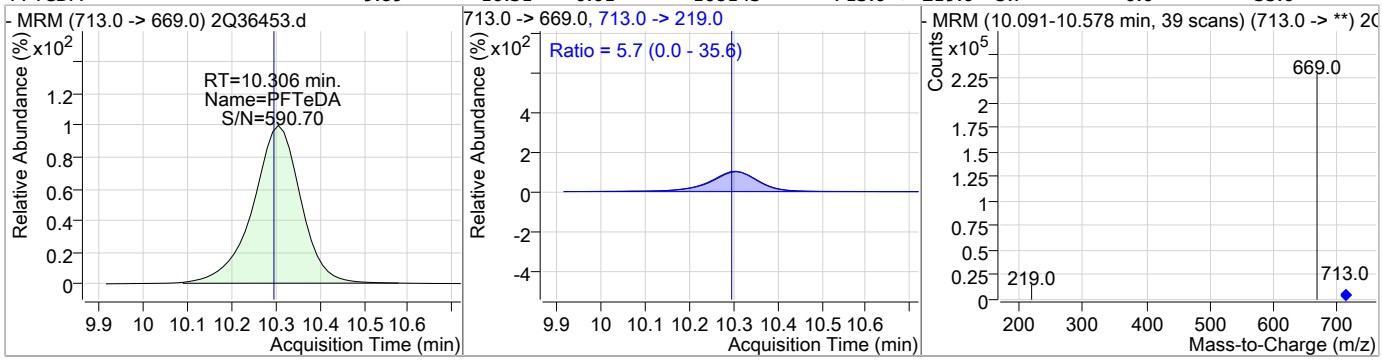
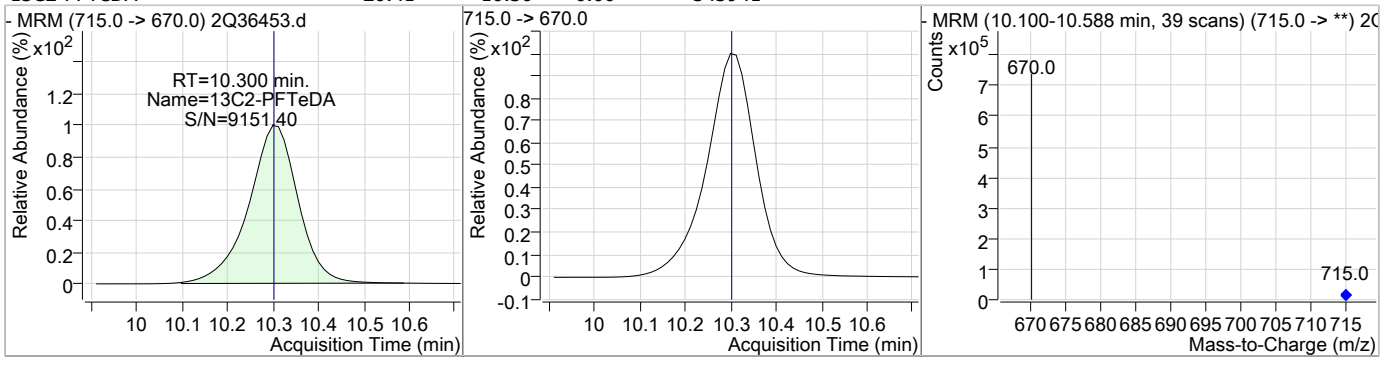
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	9.89	10.31	0.01	168143	713.0 -> 219.0	5.7	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	20.41	10.30	0.00	543941				



12.6.6

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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36453.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 15:01	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

2Q36454.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36454.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 3:17:14 PM
Sample Name	:	icc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

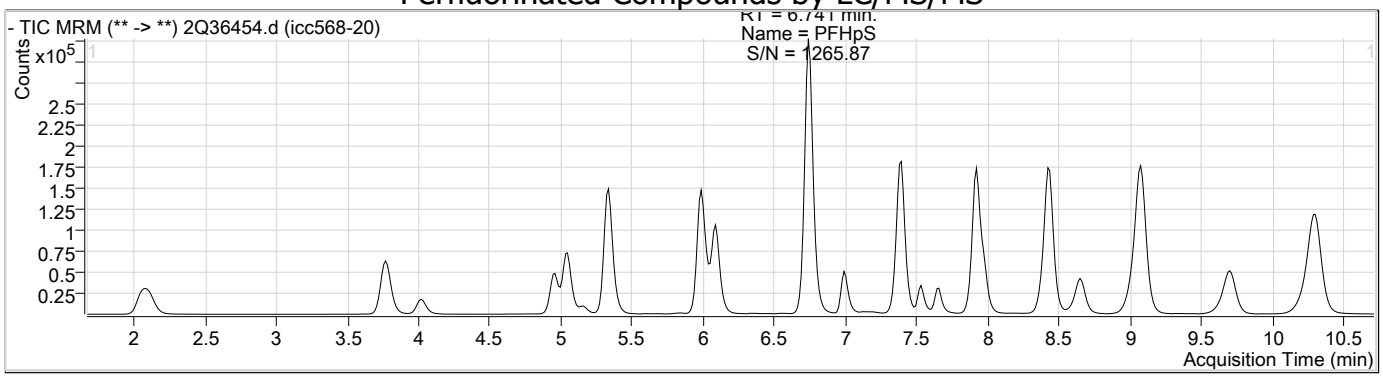
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	463805	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	66300	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	197196	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	164901	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	234118	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	304938	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	369008	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	379614	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	423627	20.00	µg/L	0.000
M7-PFUnDA	8.428	570.0 -> 525.0	556802	20.00	µg/L	0.000
M2-PFDoDA	9.073	615.0 -> 570.0	703141	20.00	µg/L	0.000
M2-PFTeDA	10.300	715.0 -> 670.0	542322	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	114383	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27192	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	29423	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	39509	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	114899	20.00	µg/L	0.000
M2-6:2FTS	6.742	429.0 -> 409.0	158008	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	106976	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	64950	20.00	µg/L	0.000
M3-HFPO-DA	5.330	287.0 -> 169.0	281674	100.00	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	114819	19.72	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C2-6:2FTS	6.742	429.0 -> 409.0	157887	19.91	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C2-8:2FTS	7.976	529.0 -> 509.0	106925	19.86	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C2-PFDoDA	9.073	615.0 -> 570.0	698415	20.00	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C2-PFTeDA	10.300	715.0 -> 670.0	541575	20.33	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C3-PFBS	4.017	302.0 -> 99.0	27179	19.88	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C3-PFHxS	6.022	402.0 -> 99.0	29388	19.94	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFBA	2.077	217.0 -> 172.0	196059	20.02	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C4-PFHpA	5.992	367.0 -> 322.0	304788	20.01	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C5-PFHxA	5.051	318.0 -> 273.0	233786	20.03	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C5-PFPeA	3.774	268.0 -> 223.0	164901	20.03	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C6-PFDA	7.928	519.0 -> 474.0	423018	19.99	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

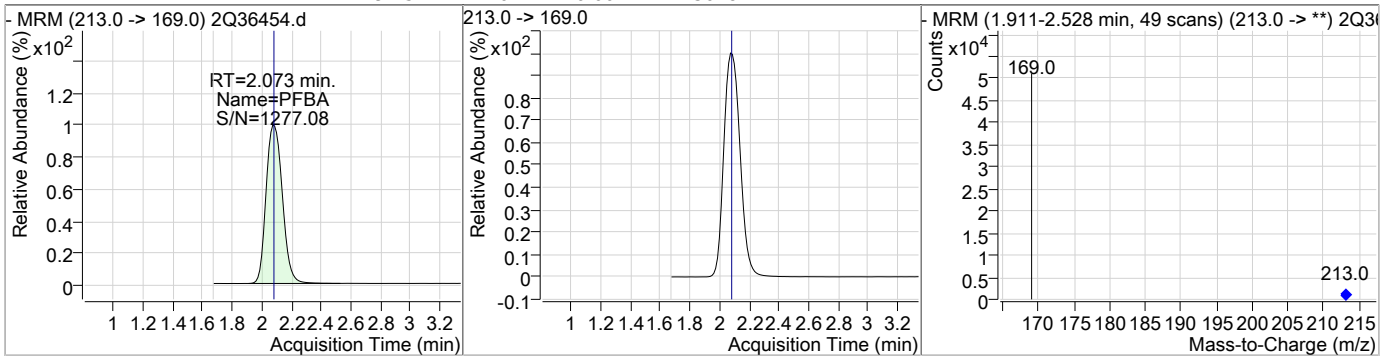
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C7-PFUnDA	8.428	570.0 -> 525.0	554917	20.02 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C8-FOSA	6.990	506.0 -> 78.0	114395	20.10 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C8-PFOA	6.745	421.0 -> 376.0	368370	20.13 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C8-PFOS	7.371	507.0 -> 99.0	39487	20.28 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C9-PFNA	7.401	472.0 -> 427.0	379658	20.08 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
d3-MeFOSAA	7.531	573.0 -> 419.0	64929	19.87 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
M2-PFOA	6.747	415.0 -> 370.0	464075	19.99 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
M4-PFOS	7.373	503.0 -> 80.0	66118	19.95 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C3-HFPO-DA	5.330	287.0 -> 169.0	281674	99.08 µg/L		0.000
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 99.1%		
Target Compounds						**QValue**
4:2FTS	4.949	327.0 -> 307.0	66157	20.27 µg/L		100
6:2FTS	6.744	427.0 -> 407.0	79394	20.21 µg/L		100
8:2FTS	7.978	527.0 -> 507.0	56745	19.82 µg/L		100
EtFOSAA	7.656	584.0 -> 419.0	28478	20.90 µg/L		100
FOSA	6.993	498.0 -> 78.0	57801	19.51 µg/L		100
MeFOSAA	7.532	570.0 -> 419.0	34025	19.66 µg/L		100
PFBA	2.073	213.0 -> 169.0	36281	19.75 µg/L		100
PFBS	4.021	299.0 -> 80.0	42493	19.79 µg/L		100
PFDA	7.930	513.0 -> 469.0	205821	19.60 µg/L		100
PFDoDA	9.079	613.0 -> 569.0	318357	19.67 µg/L		100
PFDS	8.375	599.0 -> 80.0	16621	19.74 µg/L		100
PFHpA	5.995	363.0 -> 319.0	273283	19.66 µg/L		100
PFHpS	6.741	449.0 -> 80.0	31937	20.32 µg/L		100
PFHxA	5.052	313.0 -> 269.0	70253	19.54 µg/L		100
PFHxS	6.025	399.0 -> 80.0	34712	19.77 µg/L	m	100
PFNA	7.402	463.0 -> 419.0	233524	19.66 µg/L		100
PFNS	7.885	549.0 -> 80.0	25227	19.60 µg/L		100
PFOA	6.749	413.0 -> 369.0	195195	19.66 µg/L		100
PFOS	7.374	499.0 -> 80.0	35686	19.03 µg/L	m	100
PFPeA	3.777	263.0 -> 219.0	162798	19.56 µg/L		100
PFPeS	5.157	349.0 -> 80.0	23892	20.14 µg/L		100
PFTeDA	10.294	713.0 -> 669.0	334163	20.05 µg/L		100
PFTrDA	9.699	663.0 -> 619.0	324029	20.15 µg/L		100
PFUnDA	8.431	563.0 -> 519.0	256705	19.58 µg/L		100
11Cl-PF3OUdS	8.649	631.0 -> 451.0	173205	19.20 µg/L		100
9Cl-PF3ONS	7.647	531.0 -> 351.0	28506	19.00 µg/L		100
ADONA	6.090	377.0 -> 251.0	328456	18.59 µg/L		100
HFPO-DA	5.335	329.0 -> 169.0	294014	101.34 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

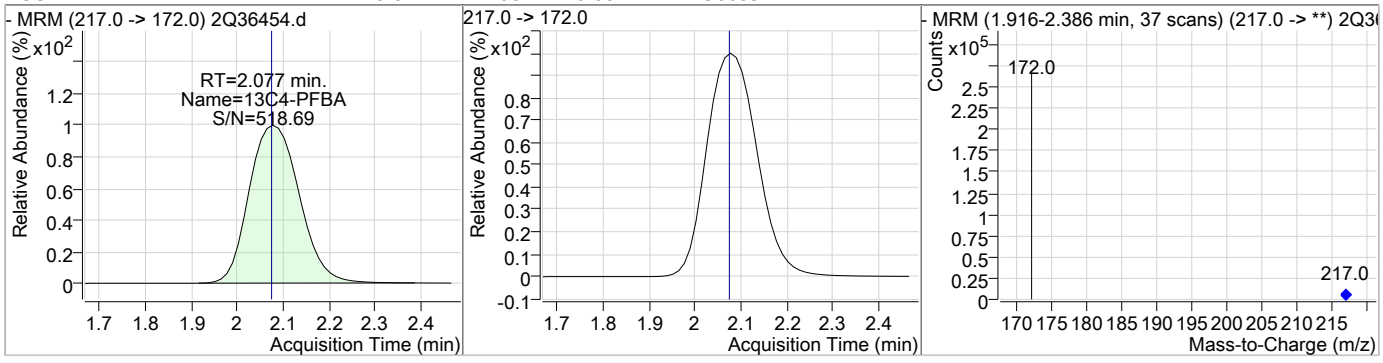
Perfluorinated Compounds by LC/MS/MS



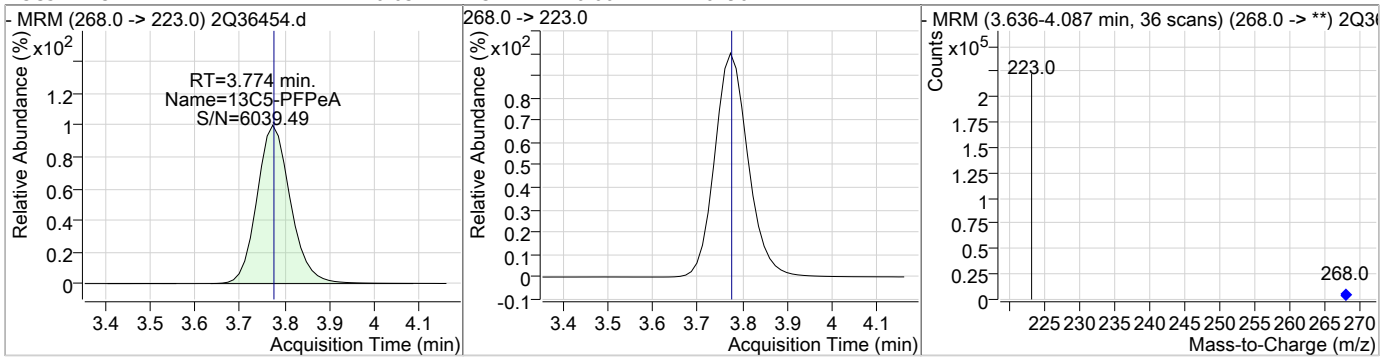
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.75	2.07	0.00	36281				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.02	2.08	0.00	196059				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.03	3.77	0.00	164901				



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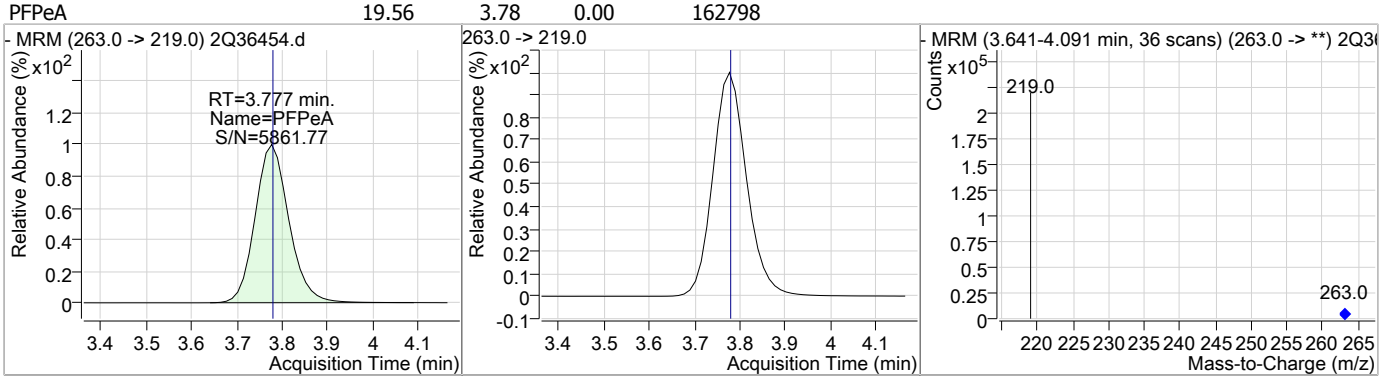
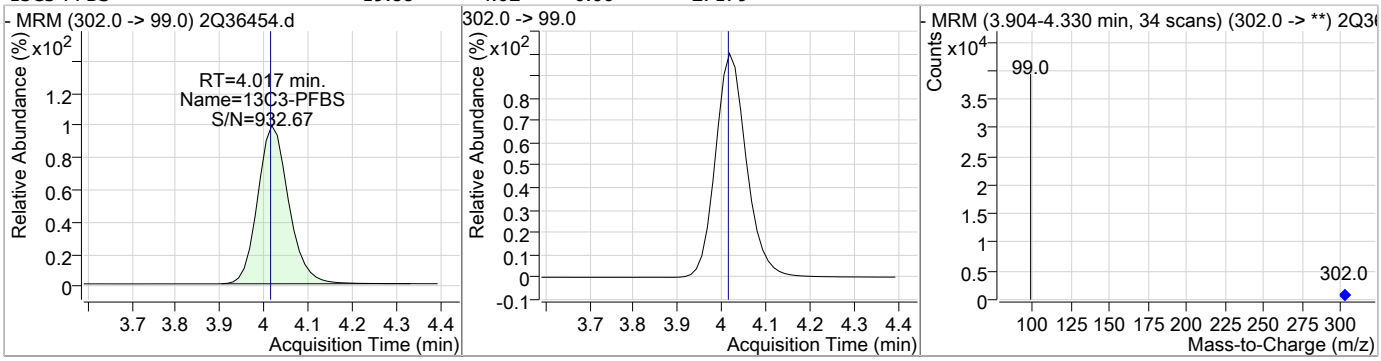
Perfluorinated Compounds by LC/MS/MS

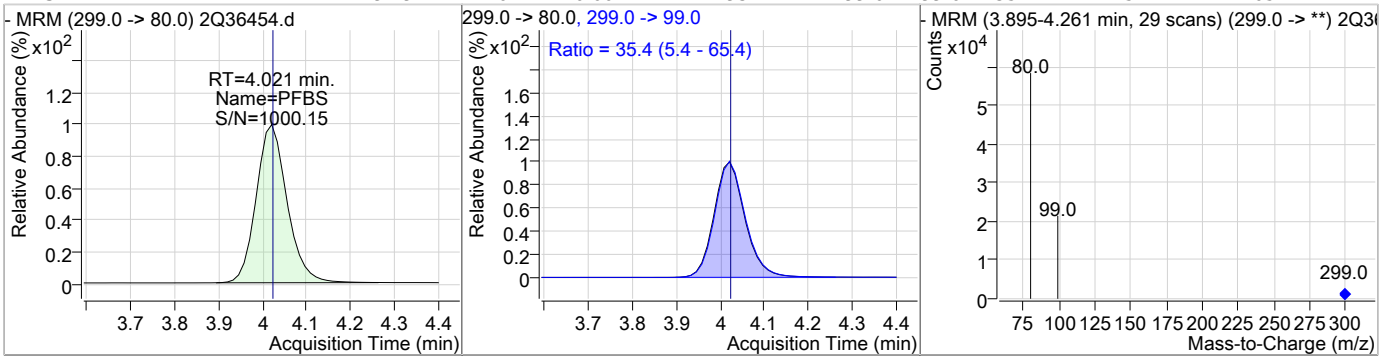
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.56	3.78	0.00	162798				



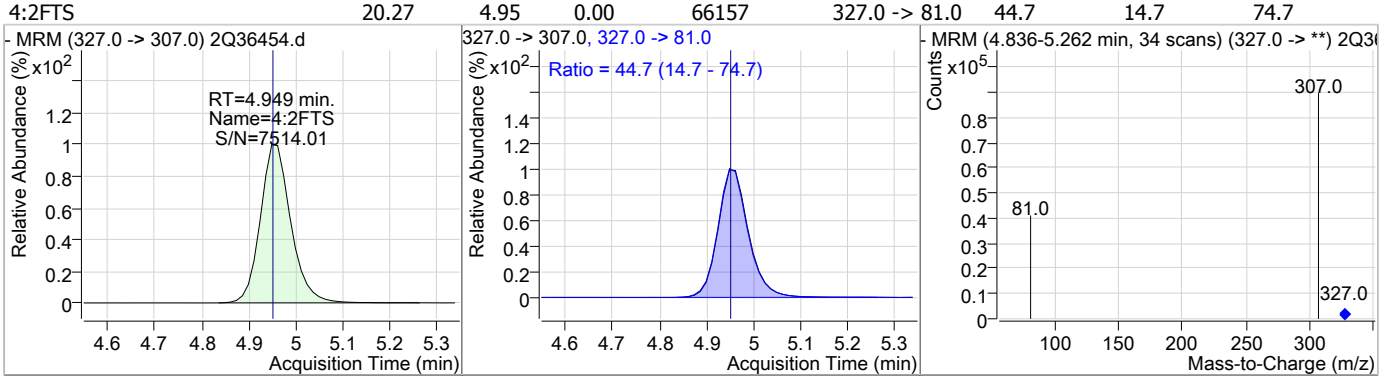
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.88	4.02	0.00	27179				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.79	4.02	0.00	42493	299.0 -> 99.0	35.4	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.27	4.95	0.00	66157	327.0 -> 81.0	44.7	14.7	74.7



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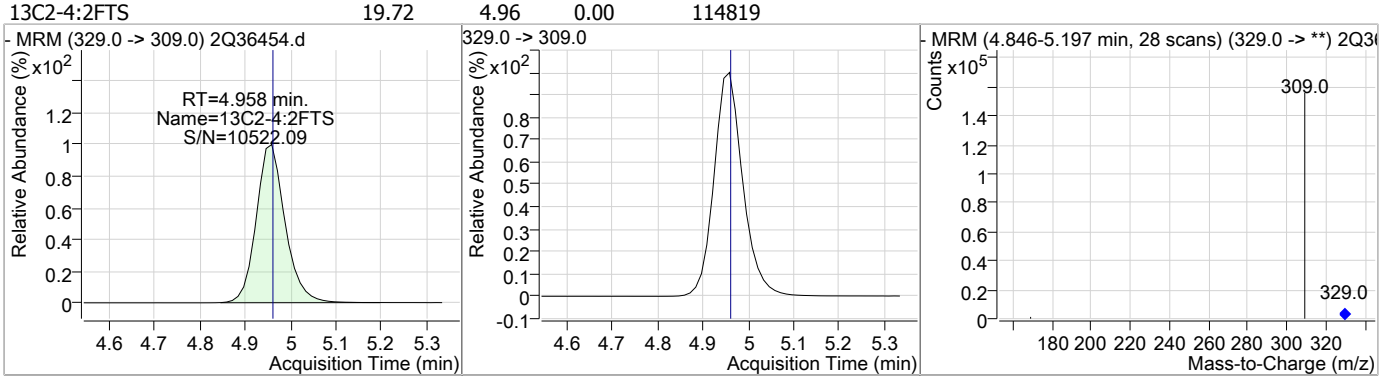
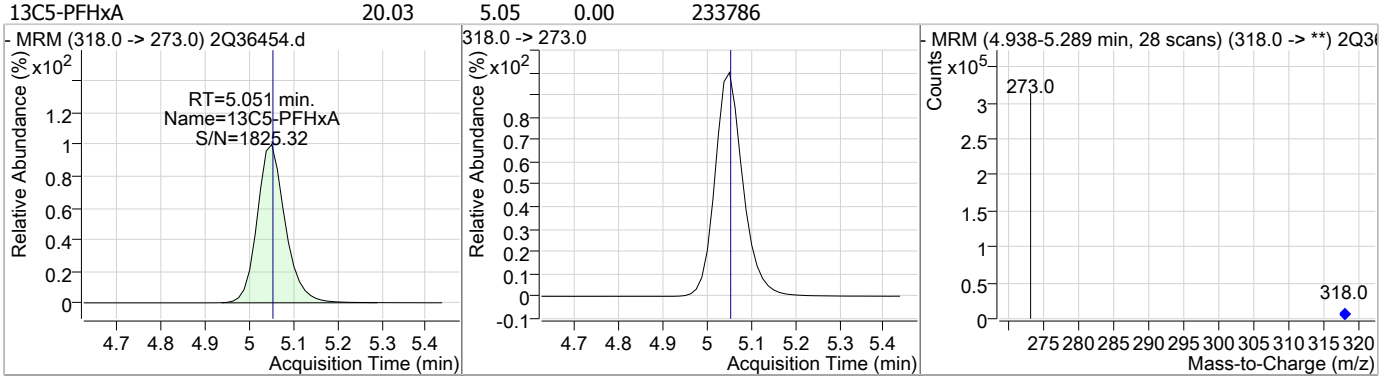
Perfluorinated Compounds by LC/MS/MS

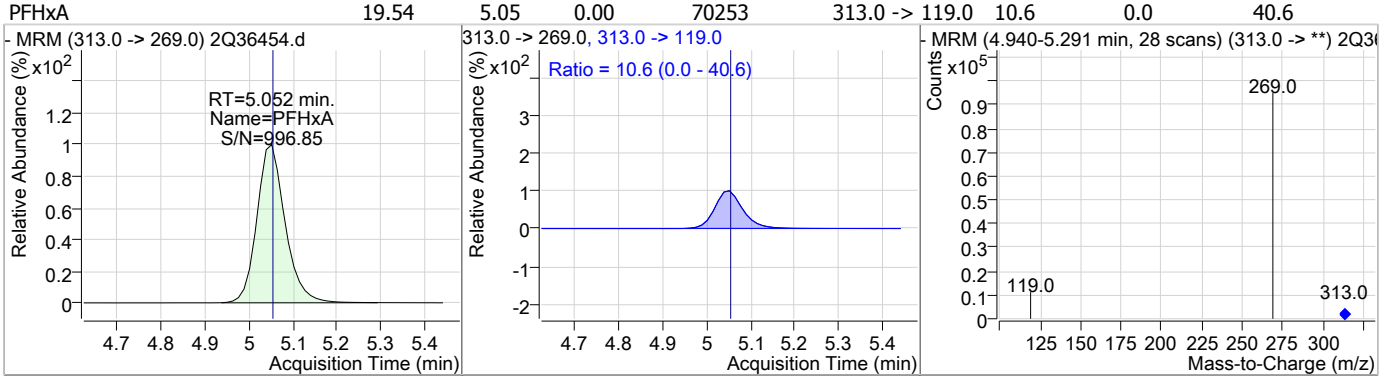
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.72	4.96	0.00	114819				



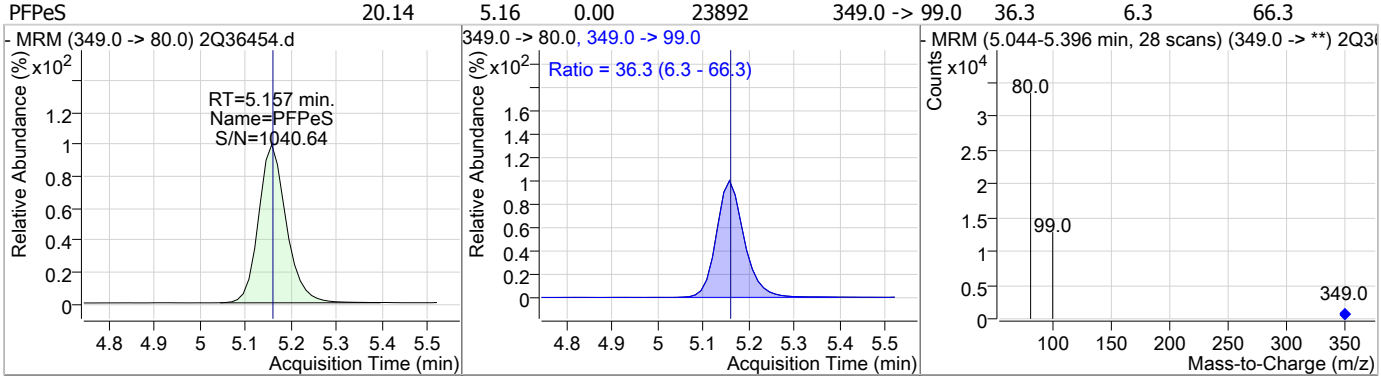
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.03	5.05	0.00	233786				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.54	5.05	0.00	70253	313.0 -> 119.0	10.6	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	20.14	5.16	0.00	23892	349.0 -> 99.0	36.3	6.3	66.3



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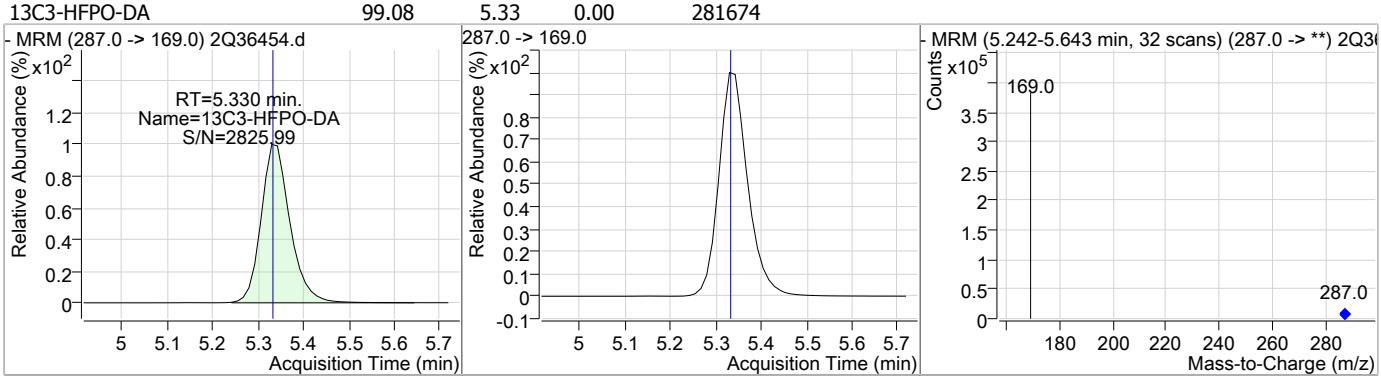
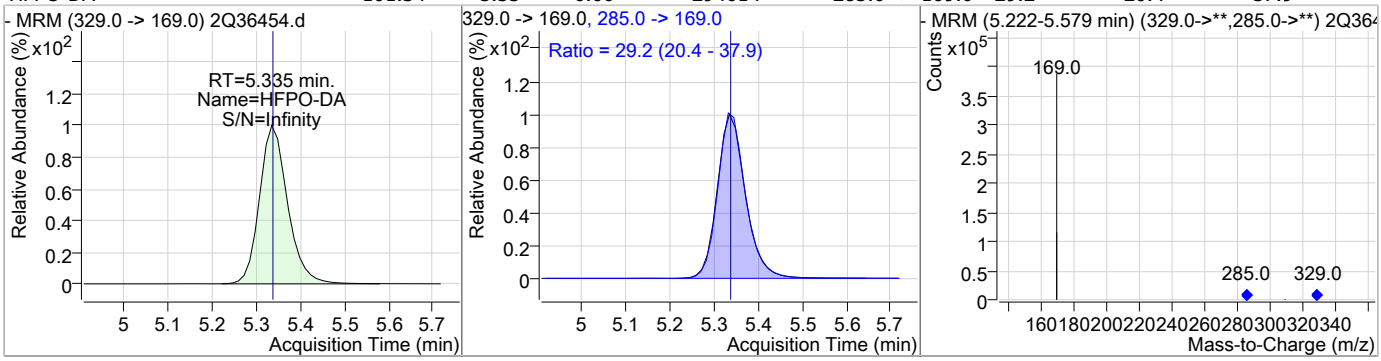
Perfluorinated Compounds by LC/MS/MS

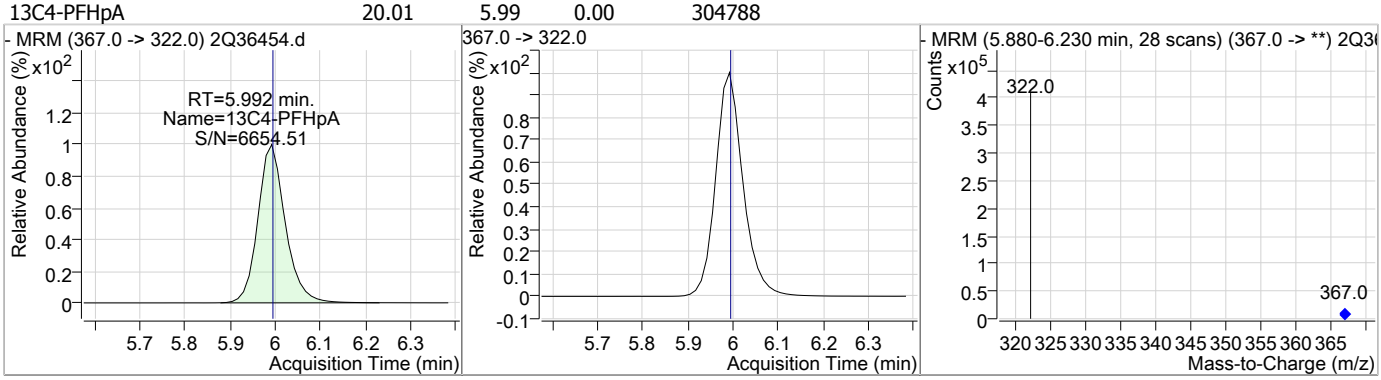
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	99.08	5.33	0.00	281674				



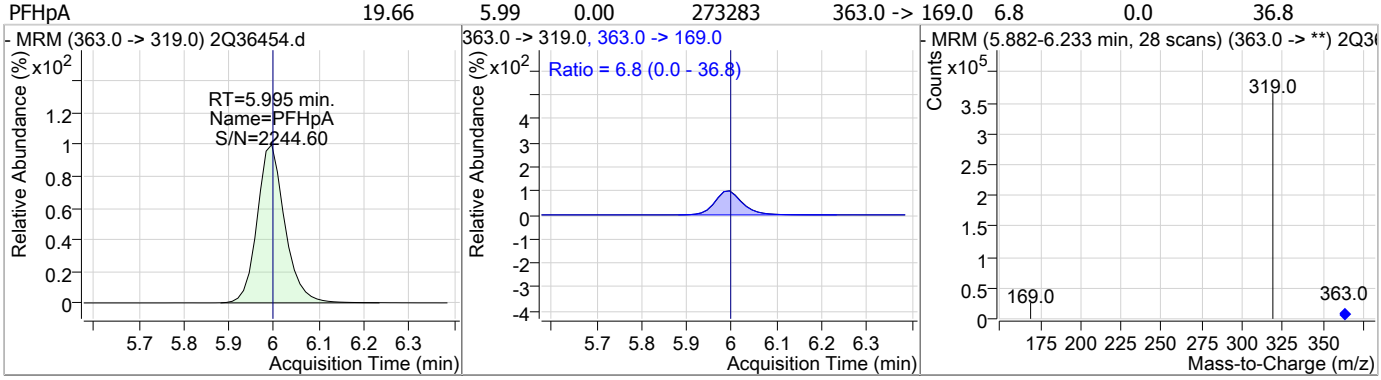
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	101.34	5.33	0.00	294014	285.0 -> 169.0	29.2	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.01	5.99	0.00	304788				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.66	5.99	0.00	273283	363.0 -> 169.0	6.8	0.0	36.8



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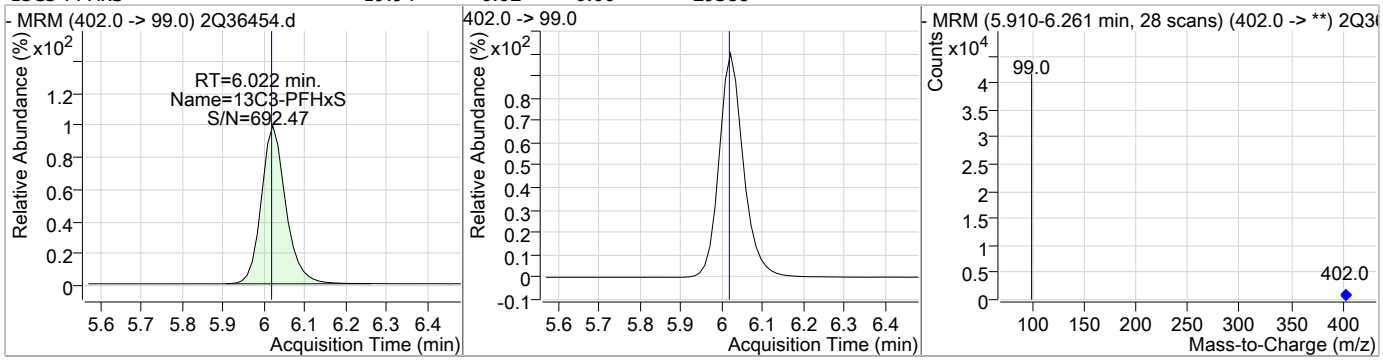
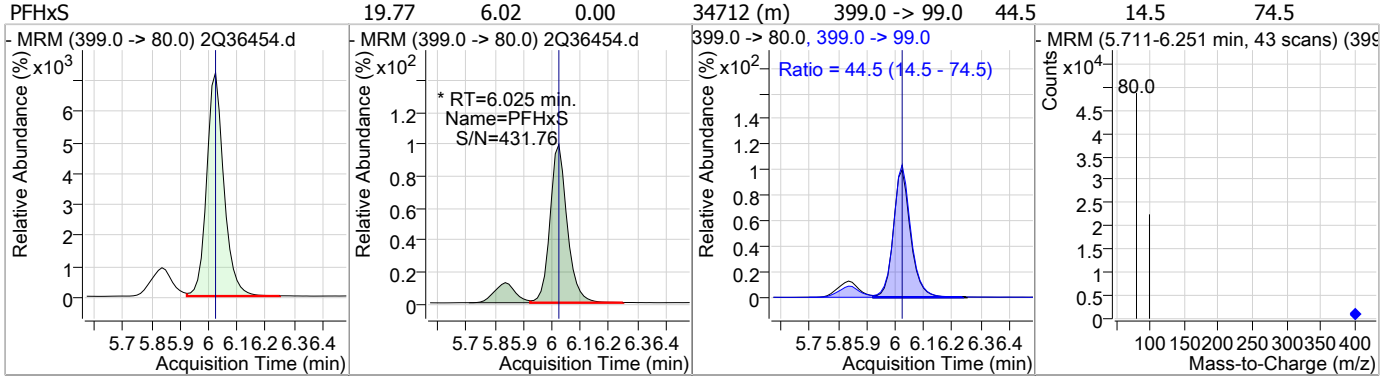
Perfluorinated Compounds by LC/MS/MS

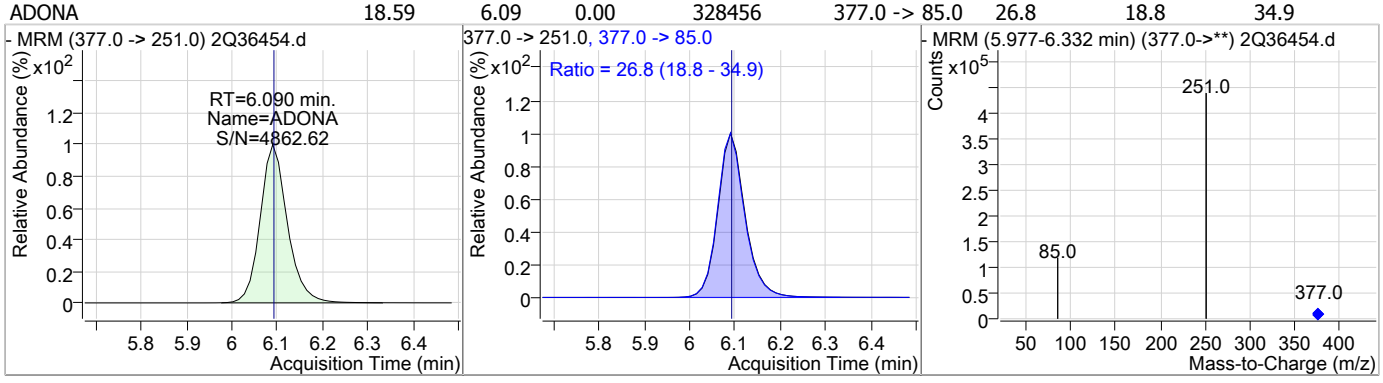
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.94	6.02	0.00	29388				



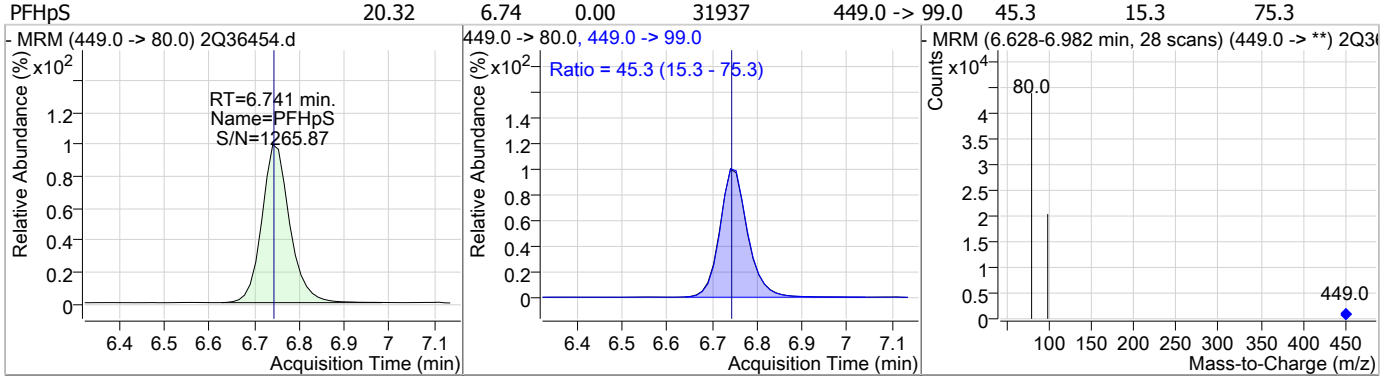
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.77	6.02	0.00	34712 (m)	399.0 -> 99.0	44.5	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.59	6.09	0.00	328456	377.0 -> 85.0	26.8	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.32	6.74	0.00	31937	449.0 -> 99.0	45.3	15.3	75.3



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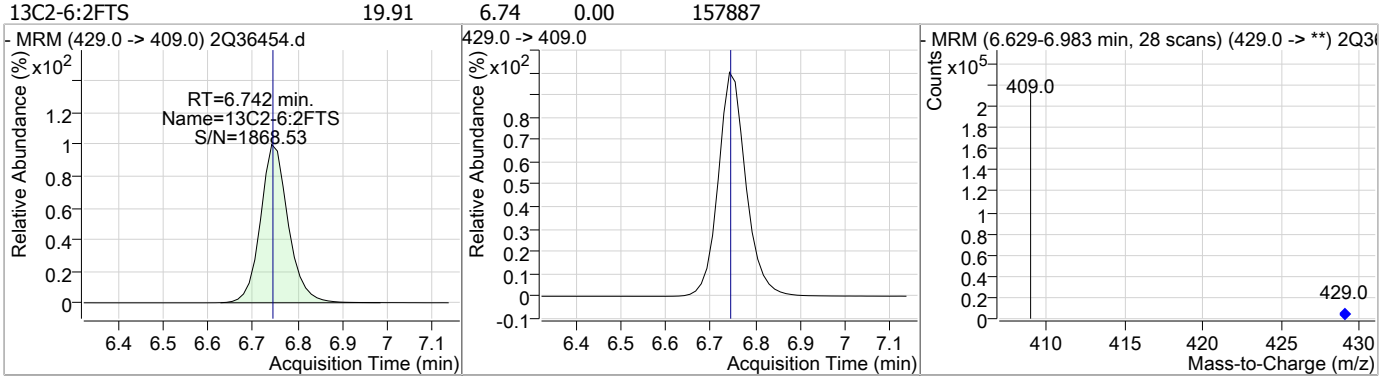
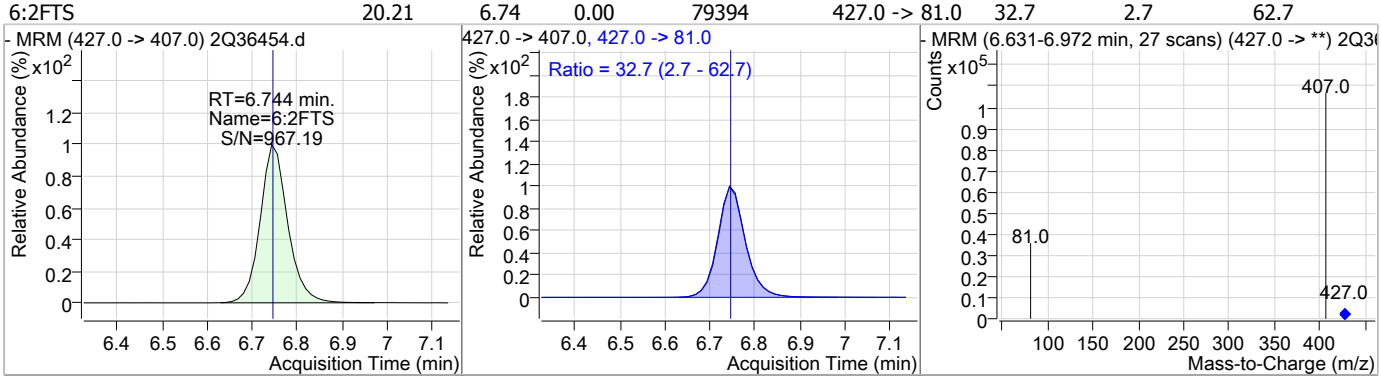
Perfluorinated Compounds by LC/MS/MS

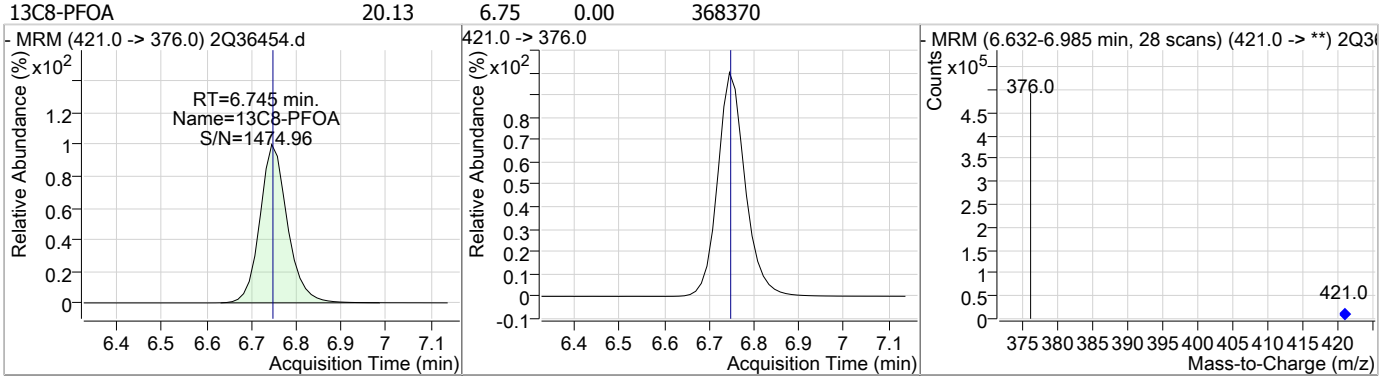
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.91	6.74	0.00	157887				



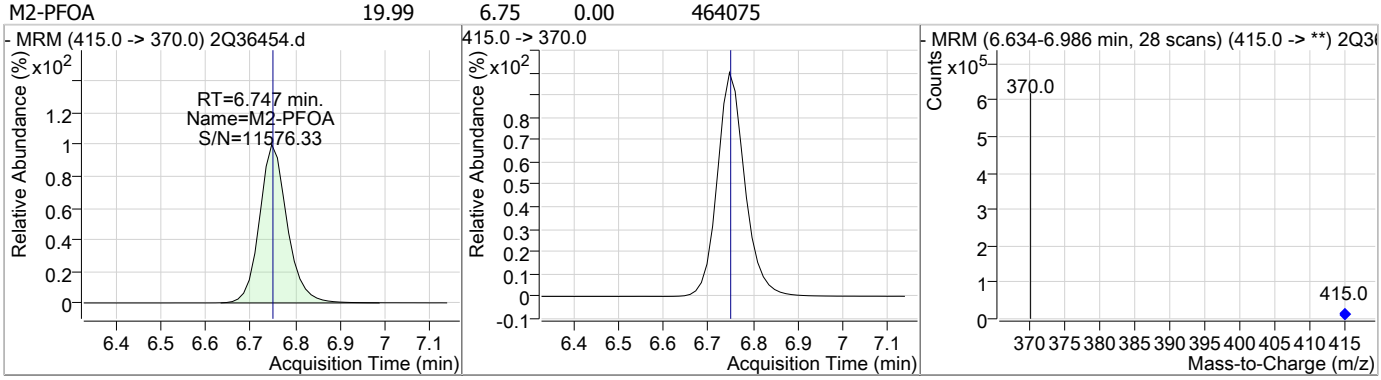
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.21	6.74	0.00	79394	427.0 -> 81.0	32.7	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.13	6.75	0.00	368370				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.99	6.75	0.00	464075				



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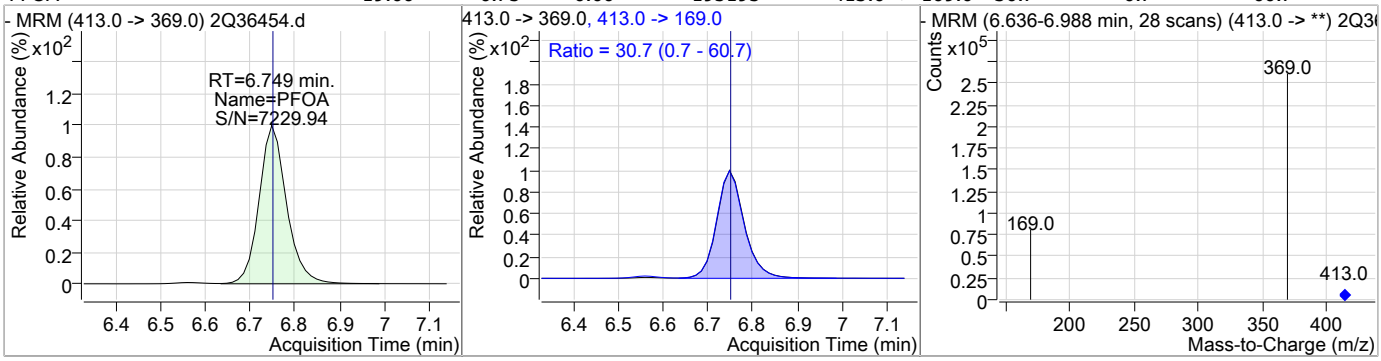
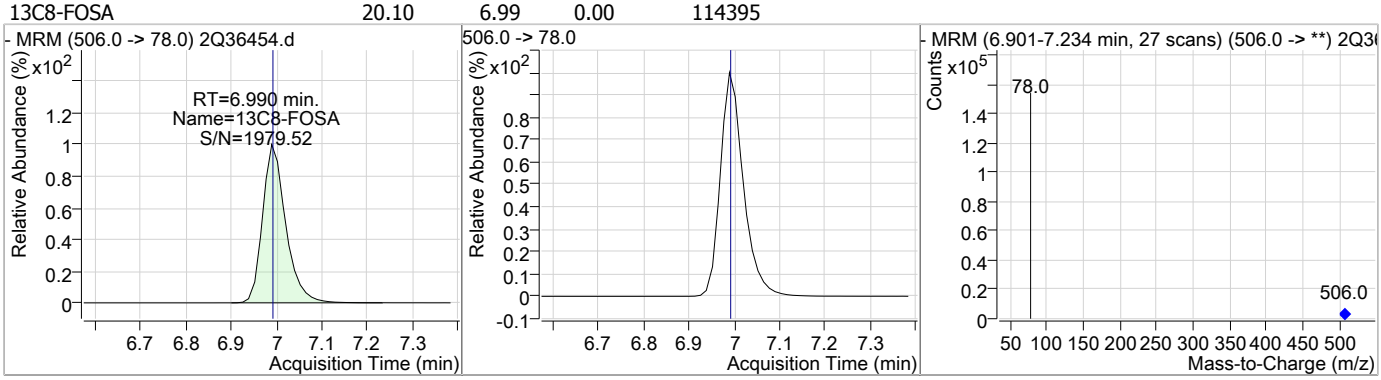
Perfluorinated Compounds by LC/MS/MS

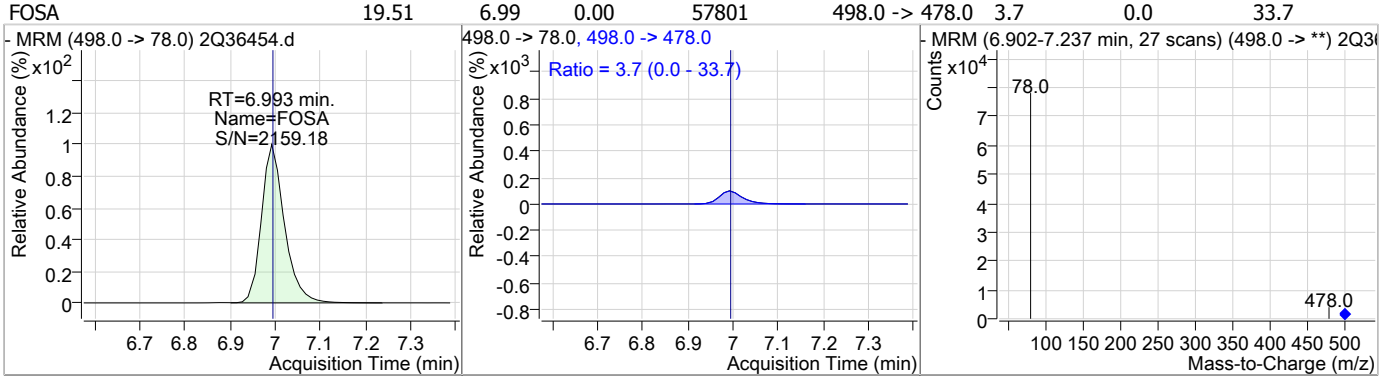
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.66	6.75	0.00	195195	413.0 -> 169.0	30.7	0.7	60.7



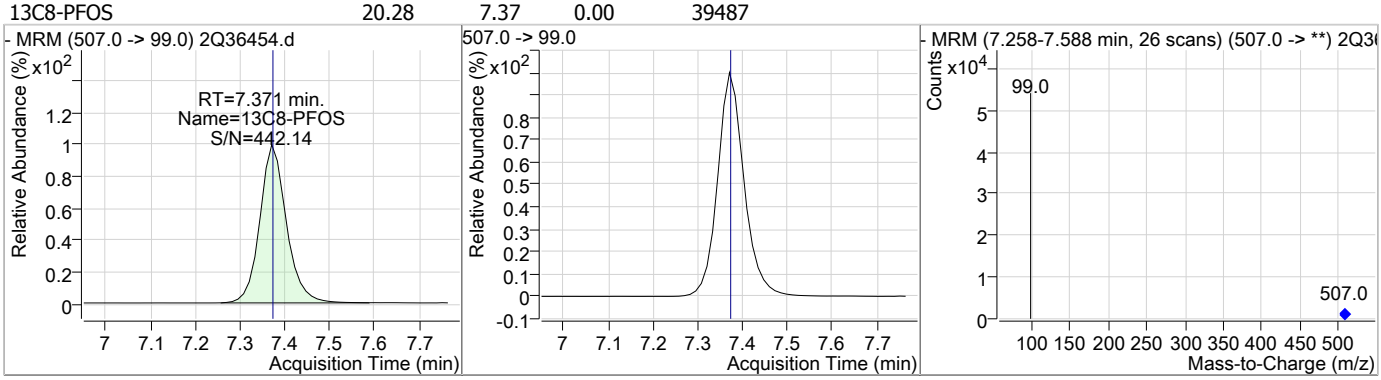
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.10	6.99	0.00	114395				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.51	6.99	0.00	57801	498.0 -> 478.0	3.7	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.28	7.37	0.00	39487				



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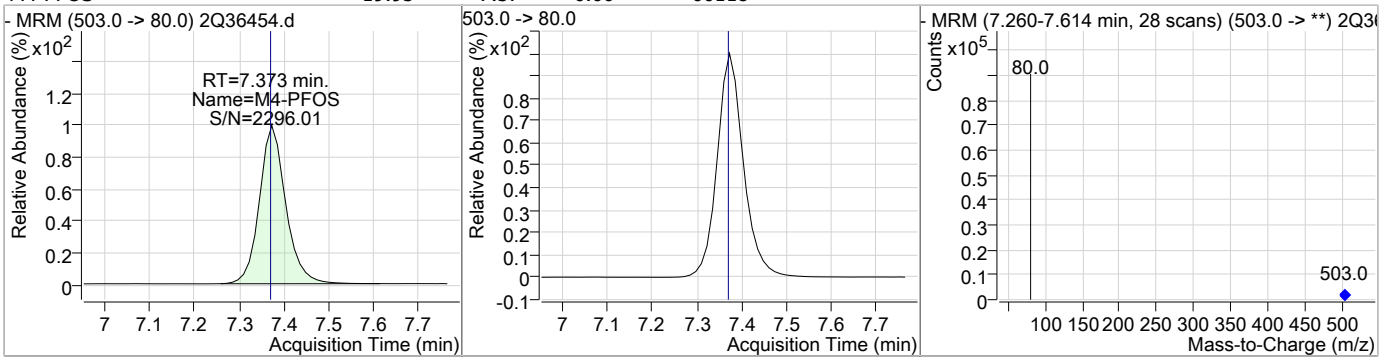
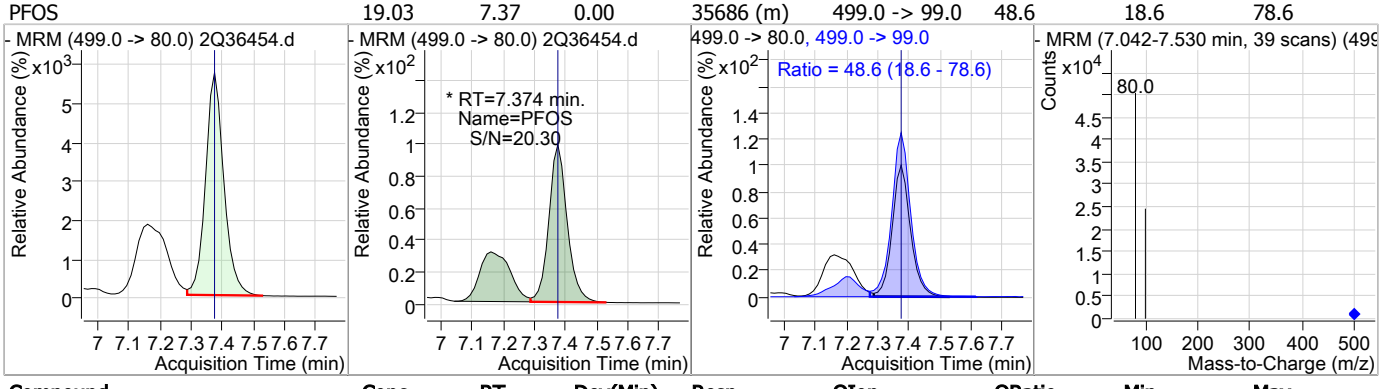
Perfluorinated Compounds by LC/MS/MS

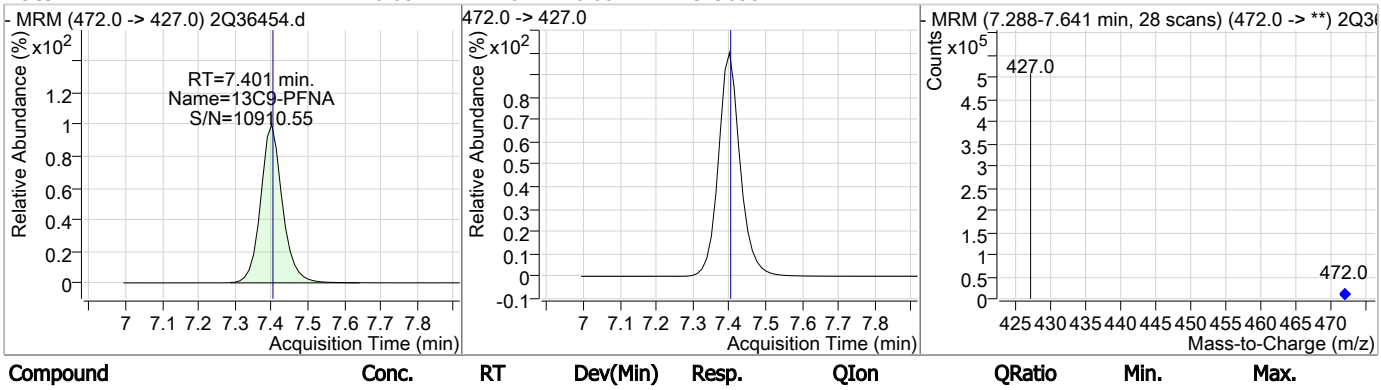
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.95	7.37	0.00	66118				



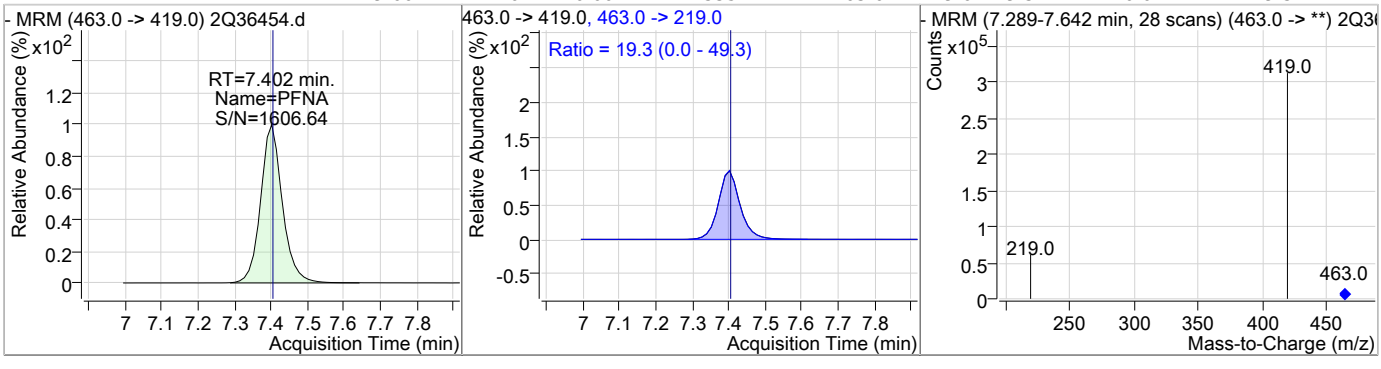
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.03	7.37	0.00	35686 (m)	499.0 -> 99.0	48.6	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.08	7.40	0.00	379658				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.66	7.40	0.00	233524	463.0 -> 219.0	19.3	0.0	49.3



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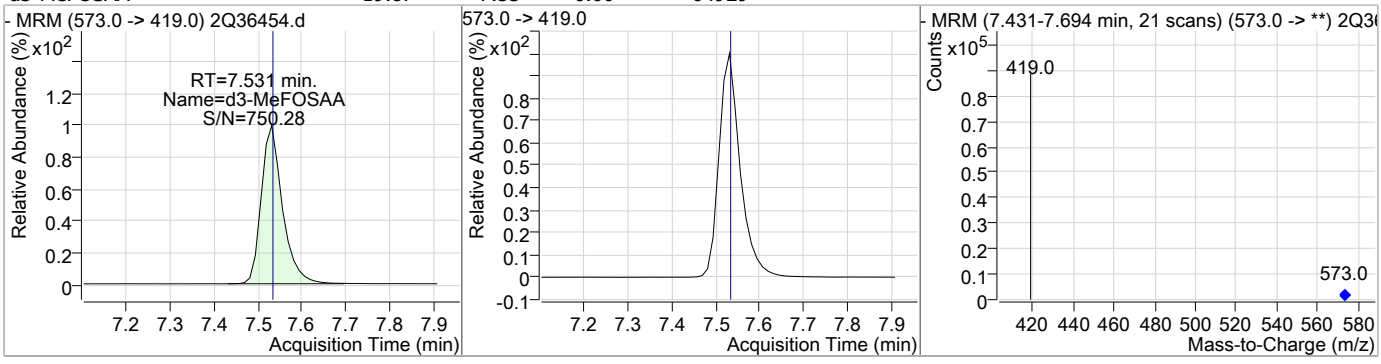
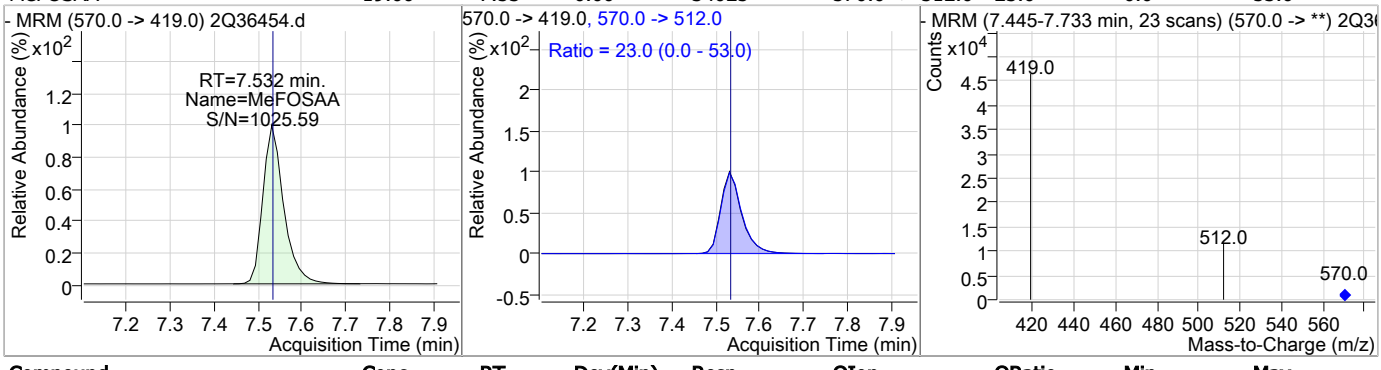
Perfluorinated Compounds by LC/MS/MS

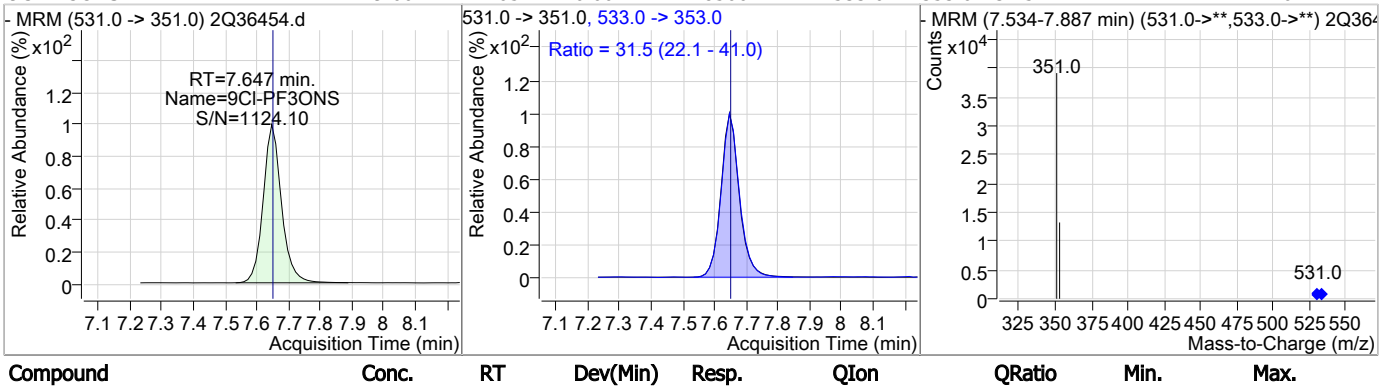
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.87	7.53	0.00	64929				



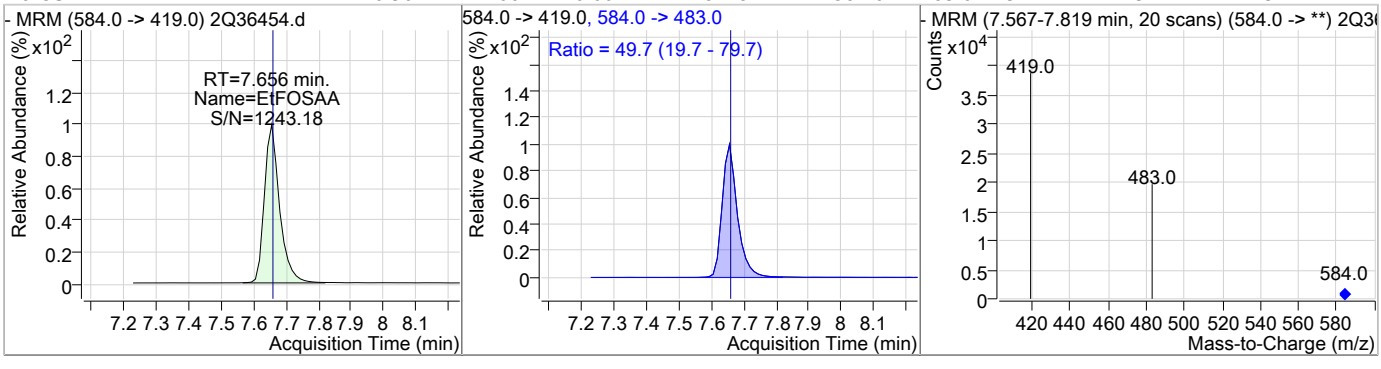
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.66	7.53	0.00	34025	570.0 -> 512.0	23.0	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	19.00	7.65	0.00	28506	533.0 -> 353.0	31.5	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	20.90	7.66	0.00	28478	584.0 -> 483.0	49.7	19.7	79.7



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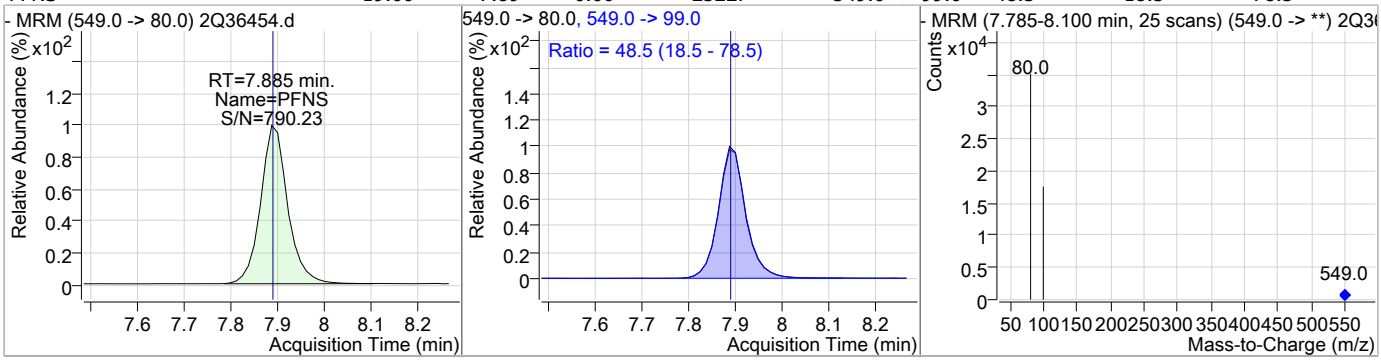
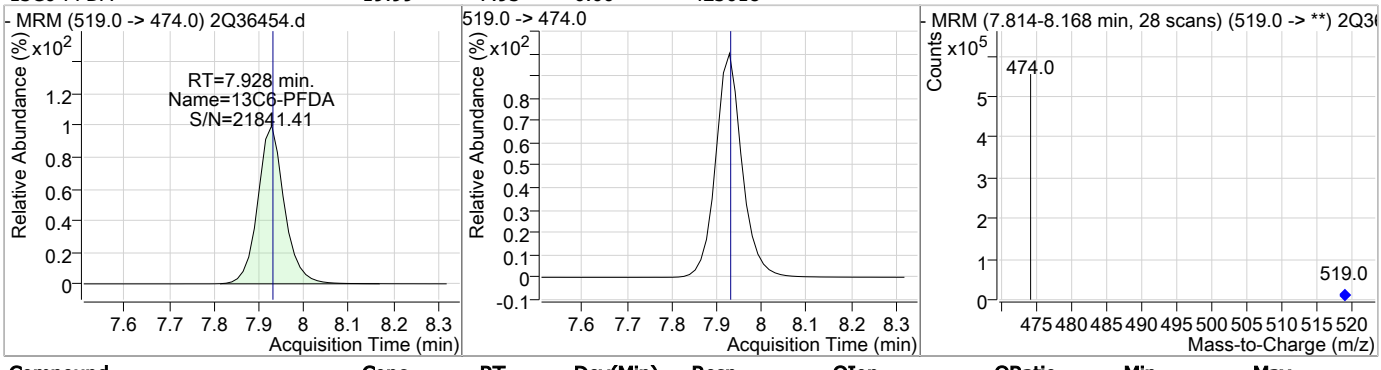
Perfluorinated Compounds by LC/MS/MS

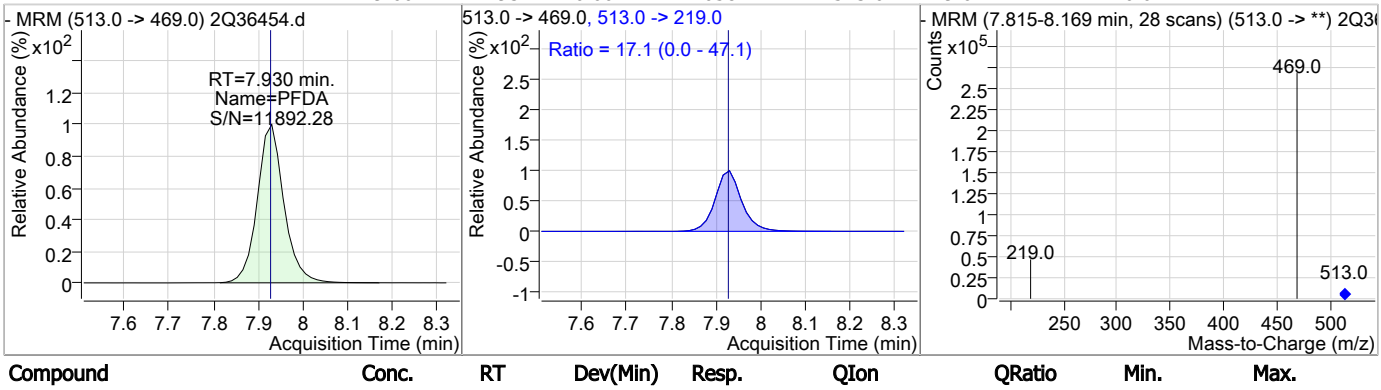
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.60	7.89	0.00	25227	549.0 -> 99.0	48.5	18.5	78.5



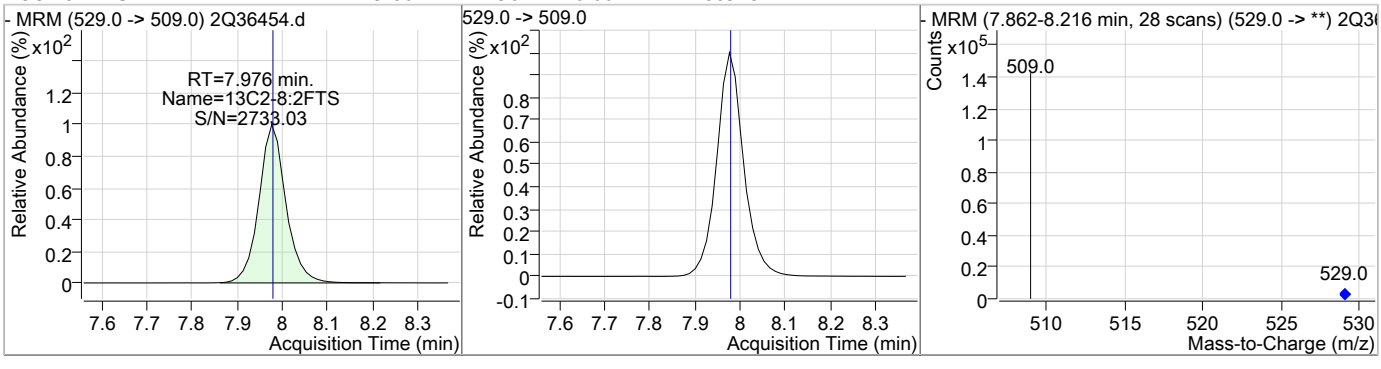
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.99	7.93	0.00	423018				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.60	7.93	0.00	205821	513.0 -> 219.0	17.1	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.86	7.98	0.00	106925				



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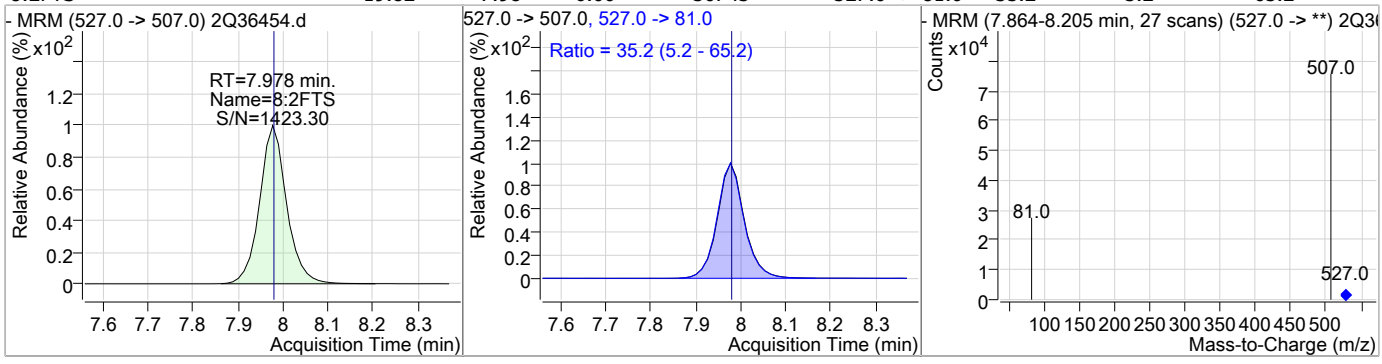
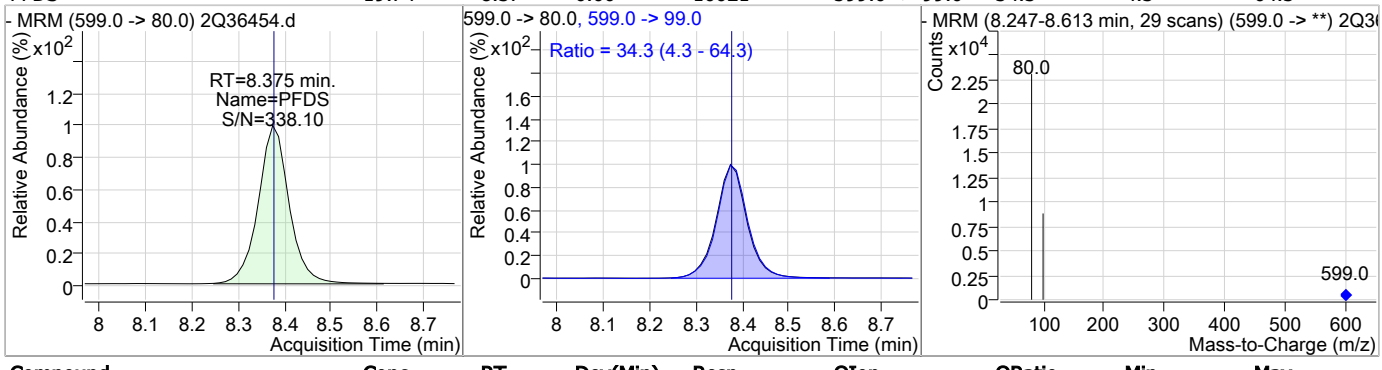
Perfluorinated Compounds by LC/MS/MS

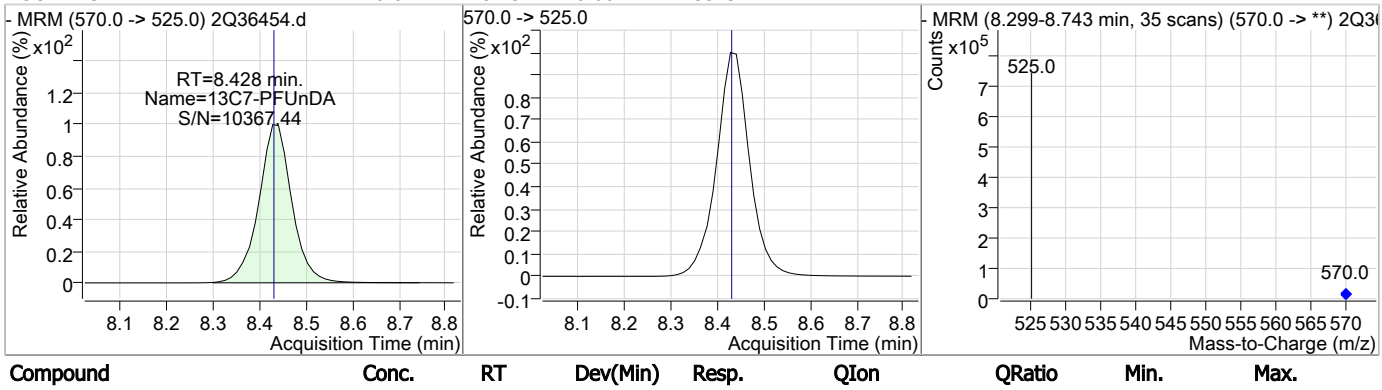
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.82	7.98	0.00	56745	527.0 -> 81.0	35.2	5.2	65.2



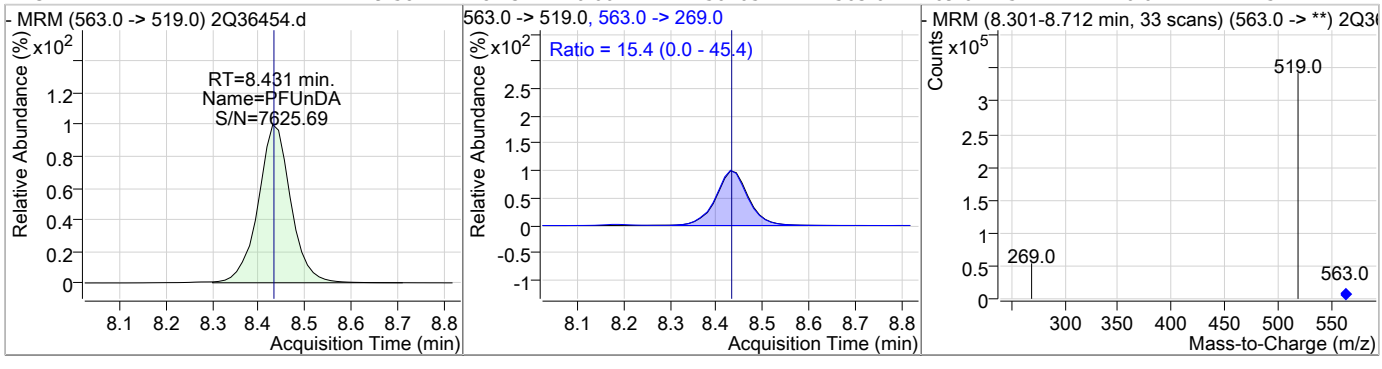
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.74	8.37	0.00	16621	599.0 -> 99.0	34.3	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.02	8.43	0.00	554917				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.58	8.43	0.00	256705	563.0 -> 269.0	15.4	0.0	45.4



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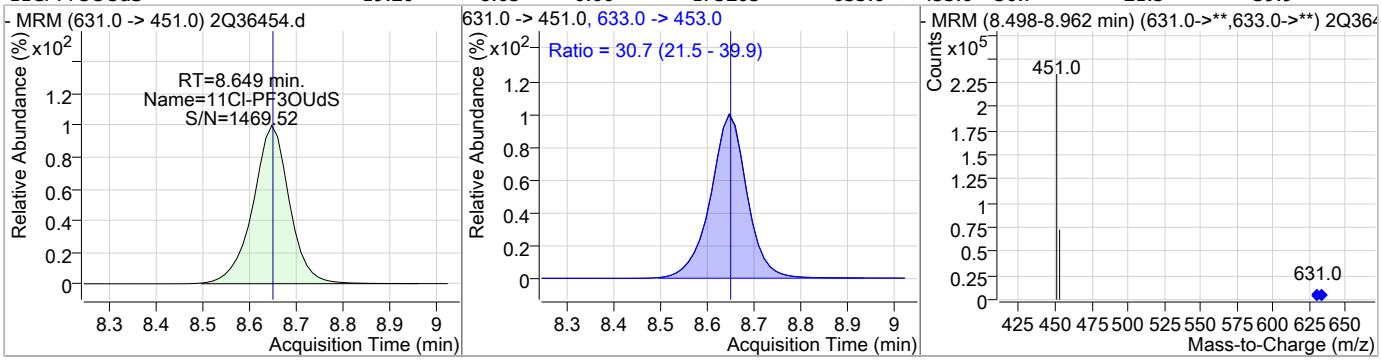
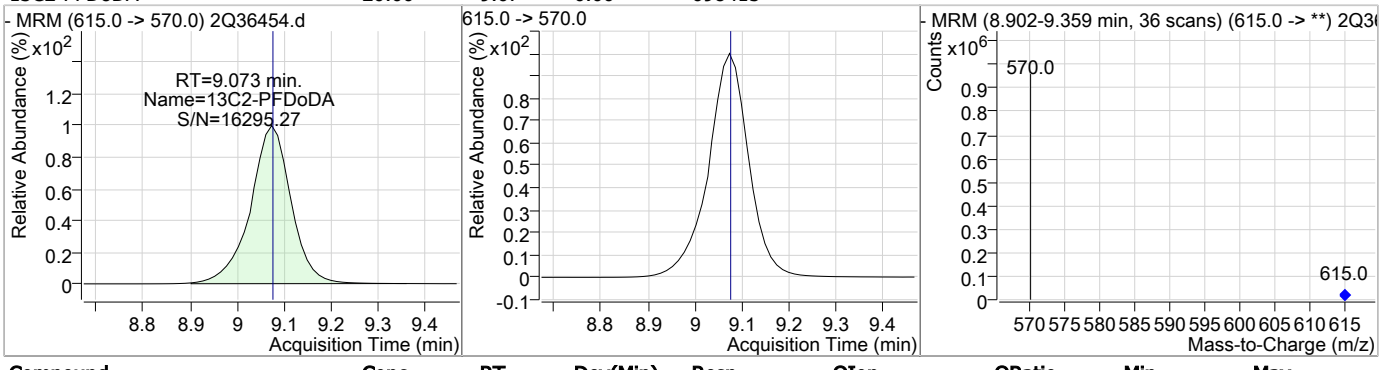
Perfluorinated Compounds by LC/MS/MS

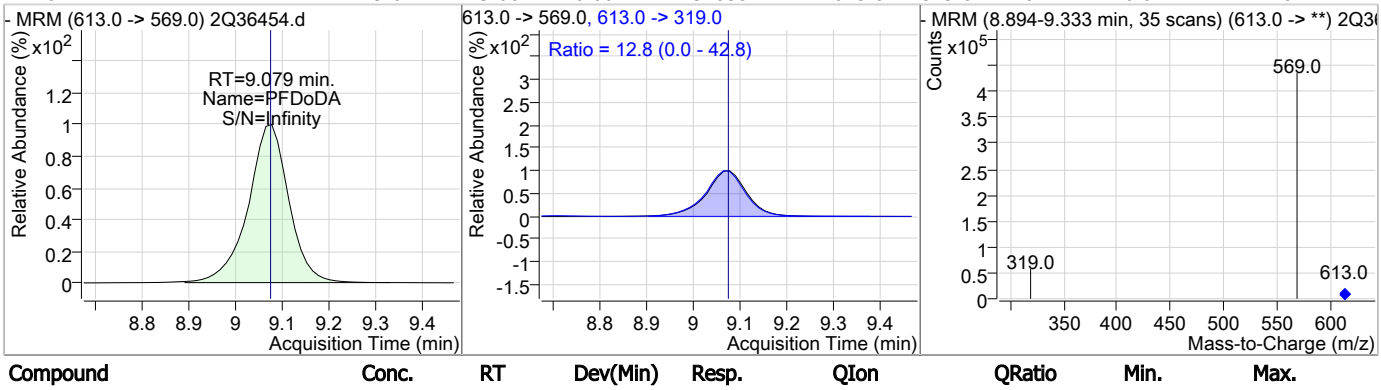
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	19.20	8.65	0.00	173205	633.0 -> 453.0	30.7	21.5	39.9



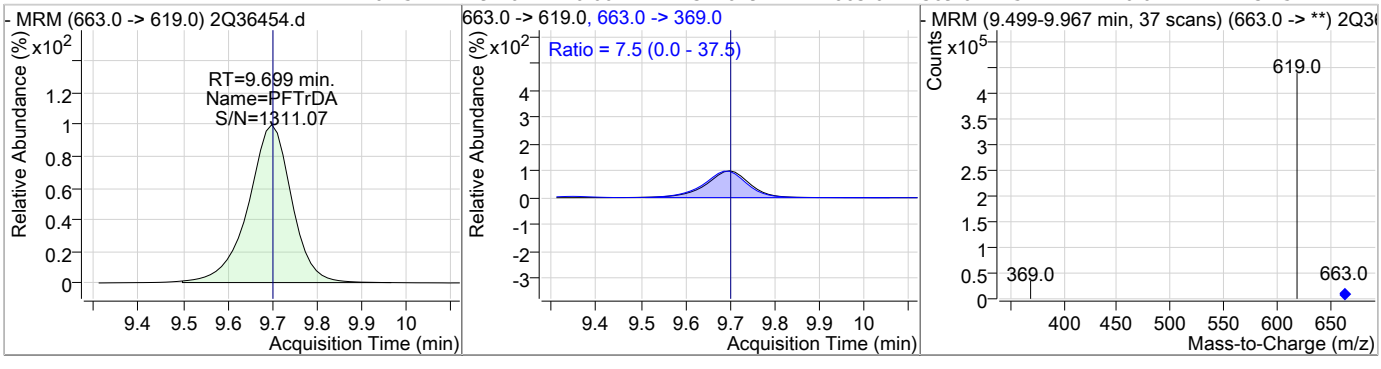
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.00	9.07	0.00	698415				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.67	9.08	0.00	318357	613.0 -> 319.0	12.8	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	20.15	9.70	0.00	324029	663.0 -> 369.0	7.5	0.0	37.5



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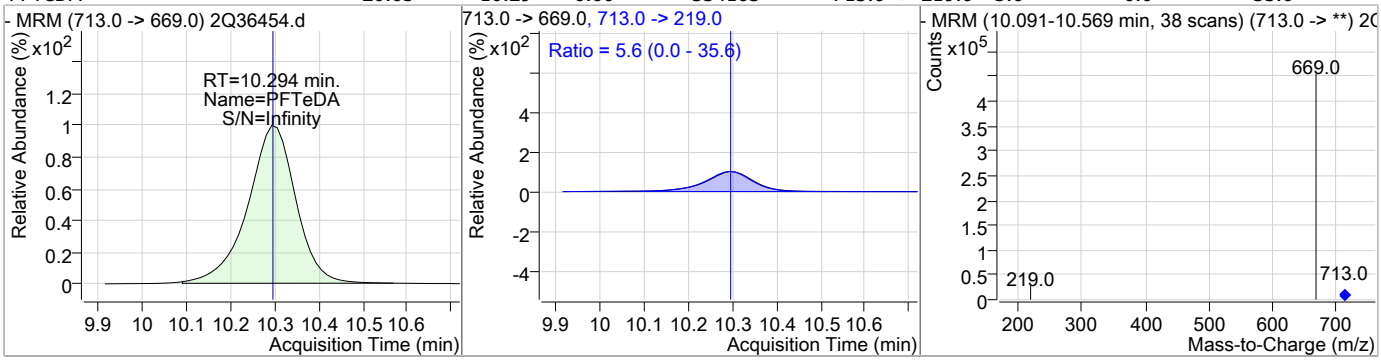
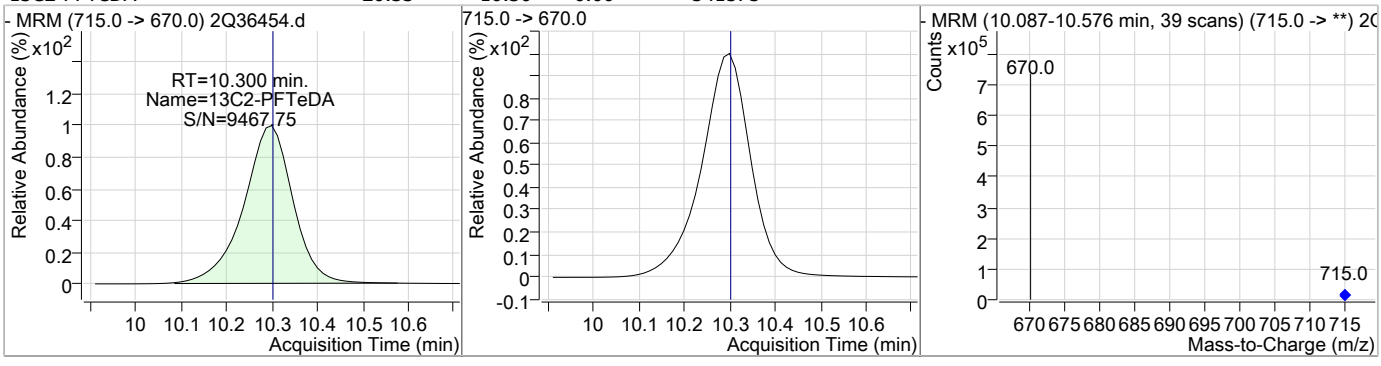
12

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	20.05	10.29	0.00	334163	713.0 -> 219.0	5.6	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	20.33	10.30	0.00	541575				



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Manual Integration Approval Summary

Sample Number:	S2Q568-ICC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36454.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 15:17	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36455.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 3:33:03 PM
Sample Name	:	ic568-50
Vial	:	Vial 8
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	450095	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	64922	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	192788	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	160894	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	229160	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	296249	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	348286	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	361915	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	400394	20.00	µg/L	0.000
M7-PFUnDA	8.428	570.0 -> 525.0	527643	20.00	µg/L	0.000
M2-PFDoDA	9.073	615.0 -> 570.0	676239	20.00	µg/L	0.000
M2-PFTeDA	10.300	715.0 -> 670.0	532282	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	104148	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	26674	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	28613	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	37317	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	121981	20.00	µg/L	0.000
M2-6:2FTS	6.742	429.0 -> 409.0	160986	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	112230	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	64391	20.00	µg/L	0.000
M3-HFPO-DA	5.330	287.0 -> 169.0	265047	100.00	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	121648	20.89	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C2-6:2FTS	6.742	429.0 -> 409.0	160791	20.28	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C2-8:2FTS	7.976	529.0 -> 509.0	112214	20.85	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.2%		
13C2-PFDoDA	9.073	615.0 -> 570.0	675836	19.36	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.8%		
13C2-PFTeDA	10.300	715.0 -> 670.0	523251	19.64	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C3-PFBS	4.017	302.0 -> 99.0	26612	19.47	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C3-PFHxS	6.022	402.0 -> 99.0	28596	19.40	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C4-PFBA	2.077	217.0 -> 172.0	191674	19.58	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%		
13C4-PFHpA	5.992	367.0 -> 322.0	295800	19.42	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C5-PFHxA	5.051	318.0 -> 273.0	228755	19.60	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C5-PFPeA	3.774	268.0 -> 223.0	160894	19.55	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C6-PFDA	7.928	519.0 -> 474.0	400374	18.92	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.6%		
13C7-PFUnDA	8.428	570.0 -> 525.0	526921	19.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.1%		
13C8-FOSA	6.990	506.0 -> 78.0	104032	18.28 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C8-PFOA	6.745	421.0 -> 376.0	347981	19.02 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.1%		
13C8-PFOS	7.371	507.0 -> 99.0	37251	19.13 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.7%		
13C9-PFNA	7.401	472.0 -> 427.0	362079	19.15 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
d3-MeFOSAA	7.531	573.0 -> 419.0	64409	19.71 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.5%		
M2-PFOA	6.747	415.0 -> 370.0	450391	19.99 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.373	503.0 -> 80.0	64937	20.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C3-HFPO-DA	5.330	287.0 -> 169.0	265047	93.23 µg/L		0.000
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 93.2%		
Target Compounds						**QValue**
4:2FTS	4.949	327.0 -> 307.0	163539	47.21 µg/L		99
6:2FTS	6.744	427.0 -> 407.0	188469	47.10 µg/L		100
8:2FTS	7.978	527.0 -> 507.0	139077	46.31 µg/L		99
EtFOSAA	7.656	584.0 -> 419.0	68723	50.87 µg/L		100
FOSA	6.993	498.0 -> 78.0	134054	49.69 µg/L		100
MeFOSAA	7.532	570.0 -> 419.0	84602	49.32 µg/L		98
PFBA	2.086	213.0 -> 169.0	88550	49.31 µg/L		100
PFBS	4.021	299.0 -> 80.0	104581	49.64 µg/L		99
PFDA	7.930	513.0 -> 469.0	492846	49.66 µg/L		99
PFDoDA	9.079	613.0 -> 569.0	769113	49.42 µg/L		99
PFDS	8.375	599.0 -> 80.0	39637	49.84 µg/L		100
PFHpA	5.995	363.0 -> 319.0	666465	49.34 µg/L		100
PFHpS	6.741	449.0 -> 80.0	76337	49.93 µg/L		99
PFHxA	5.052	313.0 -> 269.0	173076	49.17 µg/L		99
PFHxS	6.025	399.0 -> 80.0	84627	49.56 µg/L	m	100
PFNA	7.402	463.0 -> 419.0	562180	49.66 µg/L		100
PFNS	7.885	549.0 -> 80.0	61000	50.19 µg/L		99
PFOA	6.749	413.0 -> 369.0	461551	49.26 µg/L		98
PFOS	7.374	499.0 -> 80.0	86366	48.77 µg/L	m	99
PFPeA	3.777	263.0 -> 219.0	401100	49.38 µg/L		100
PFPeS	5.157	349.0 -> 80.0	57532	49.44 µg/L		100
PFTeDA	10.306	713.0 -> 669.0	811366	49.61 µg/L		100
PFTrDA	9.699	663.0 -> 619.0	781431	49.52 µg/L		100
PFUnDA	8.431	563.0 -> 519.0	613359	49.37 µg/L		100
11Cl-PF3OUdS	8.649	631.0 -> 451.0	426495	49.15 µg/L		100
9Cl-PF3ONS	7.647	531.0 -> 351.0	69240	48.84 µg/L		99
ADONA	6.090	377.0 -> 251.0	803149	48.17 µg/L		100
HFPO-DA	5.335	329.0 -> 169.0	693578	254.05 µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

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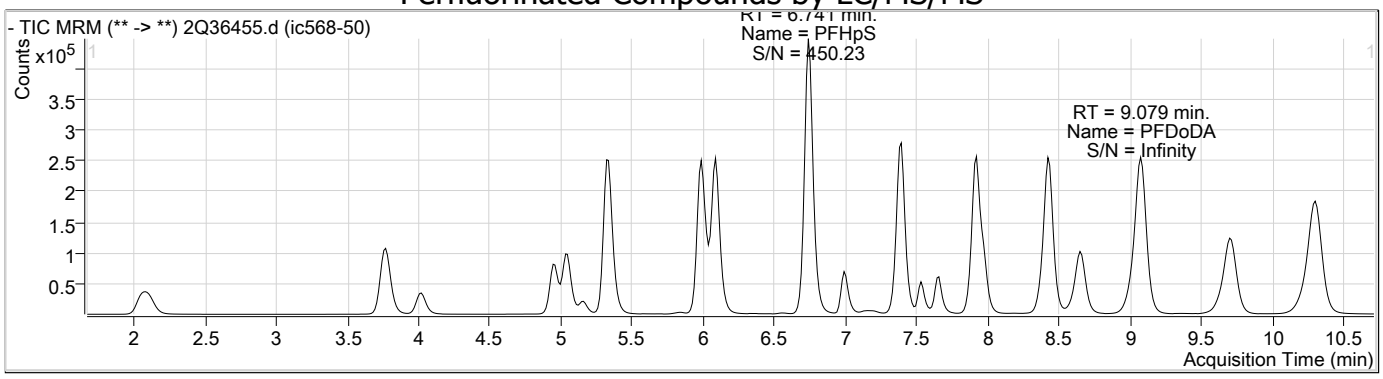
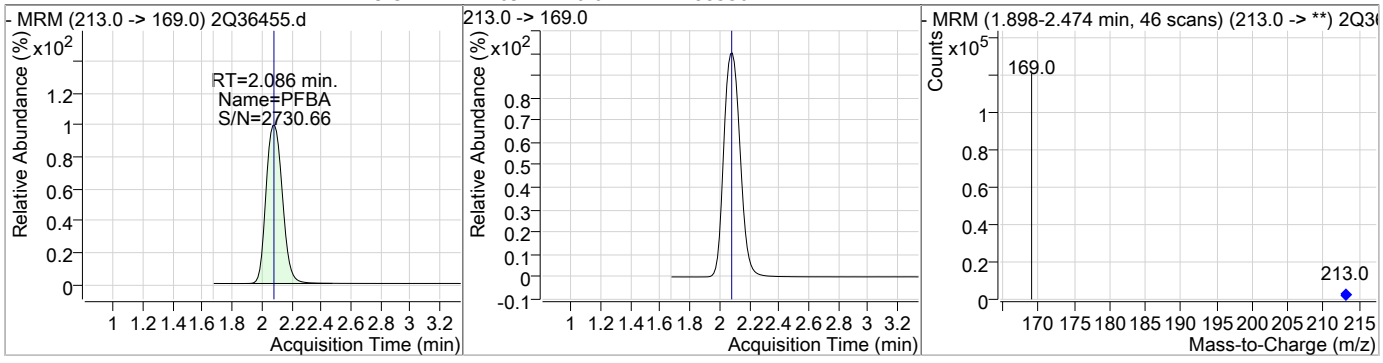
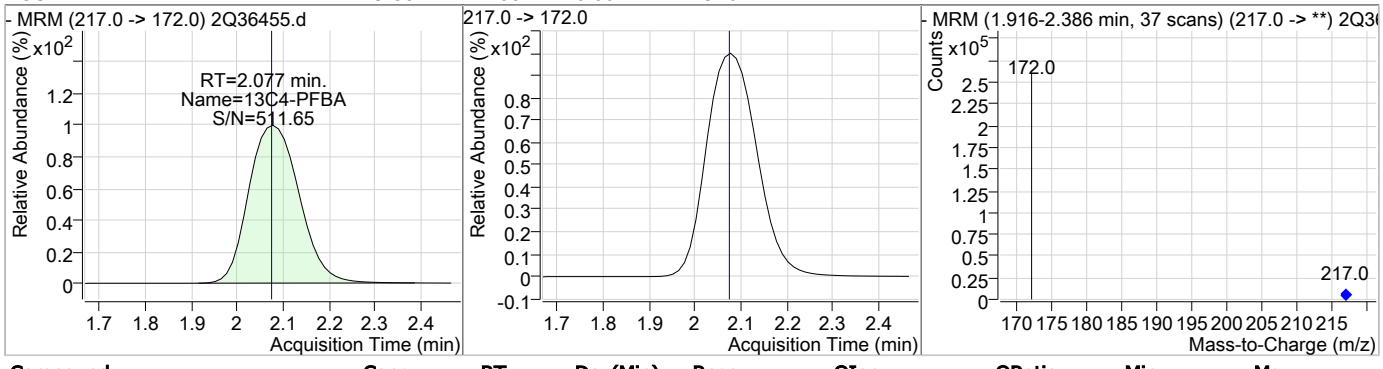
Perfluorinated Compounds by LC/MS/MS



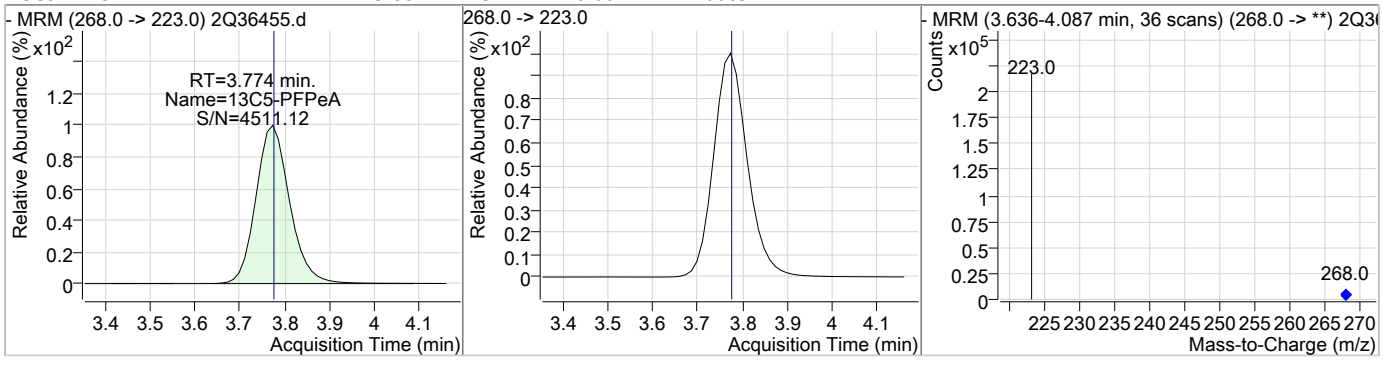
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	49.31	2.09	0.01	88550				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.58	2.08	0.00	191674				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.55	3.77	0.00	160894				



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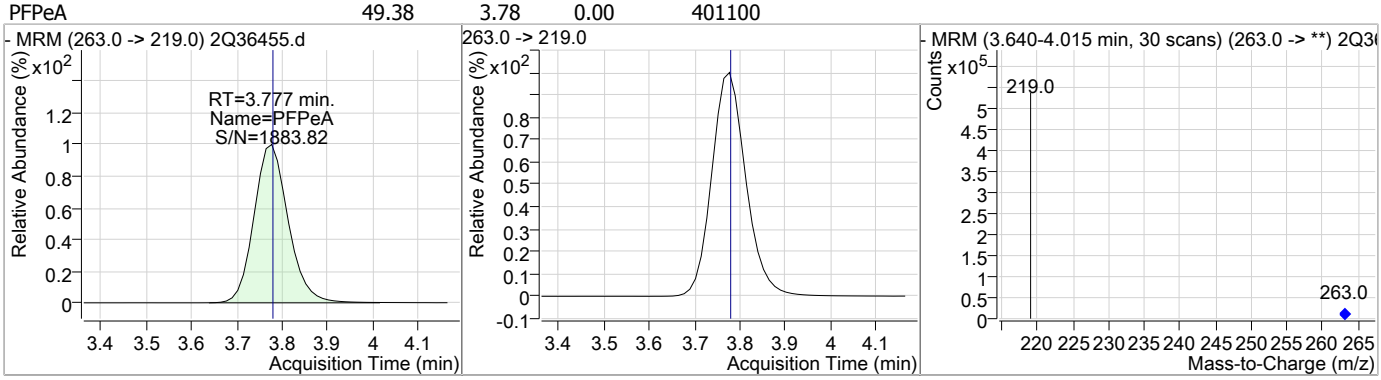
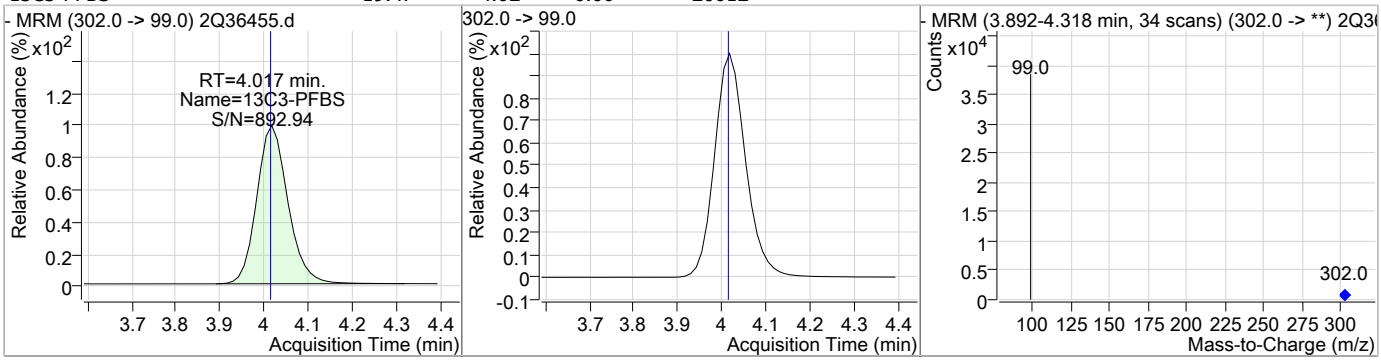
Perfluorinated Compounds by LC/MS/MS

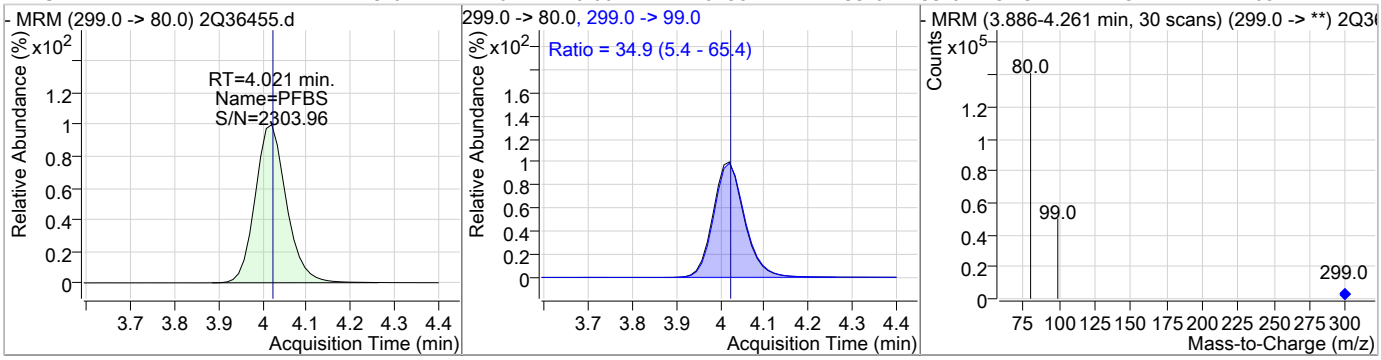
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	49.38	3.78	0.00	401100				



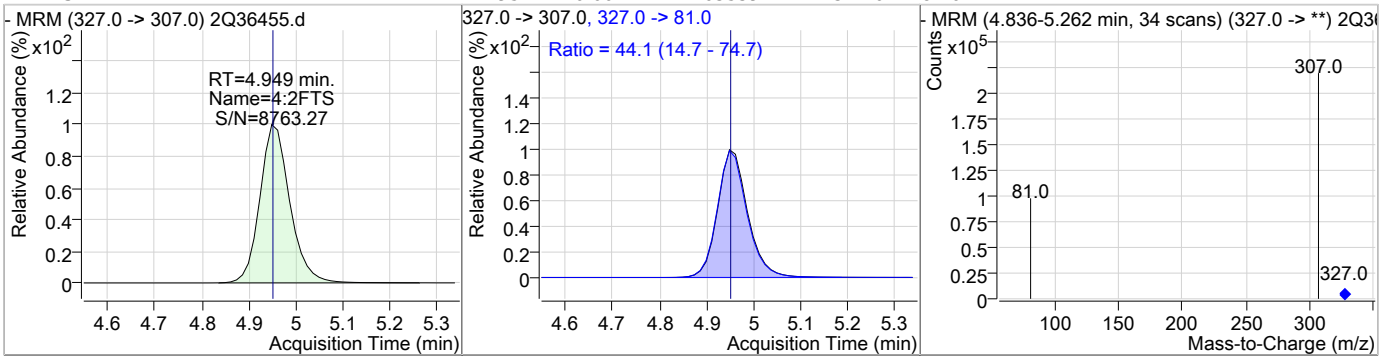
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.47	4.02	0.00	26612				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	49.64	4.02	0.00	104581	299.0 -> 99.0	34.9	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	47.21	4.95	0.00	163539	327.0 -> 81.0	44.1	14.7	74.7



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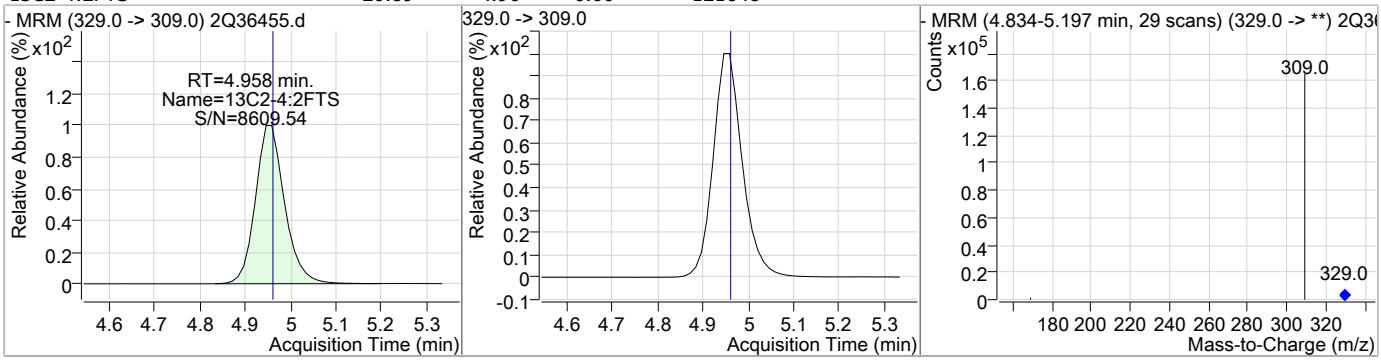
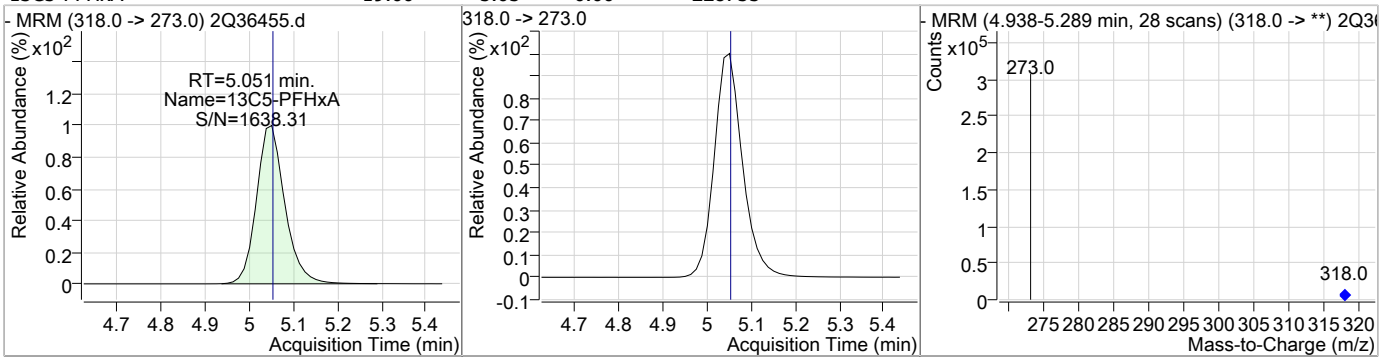
Perfluorinated Compounds by LC/MS/MS

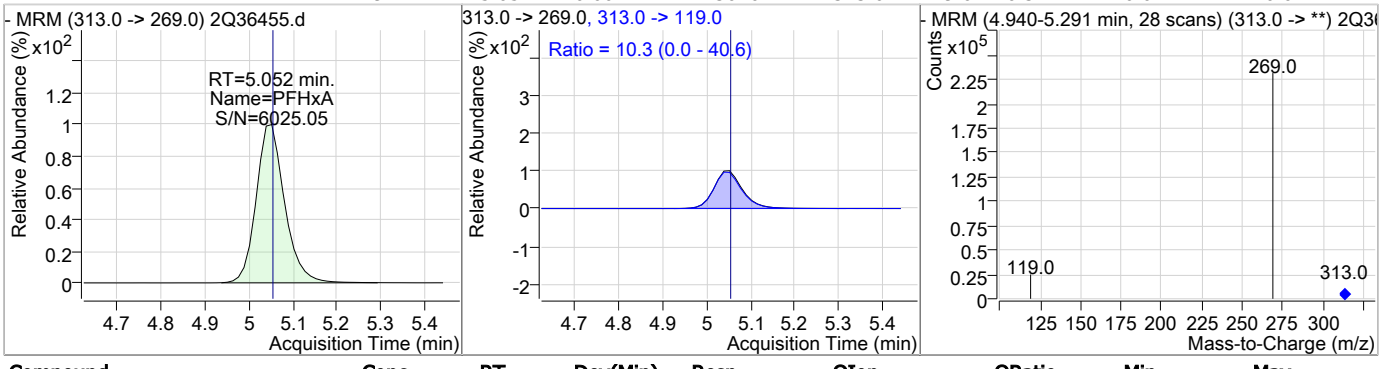
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	20.89	4.96	0.00	121648				



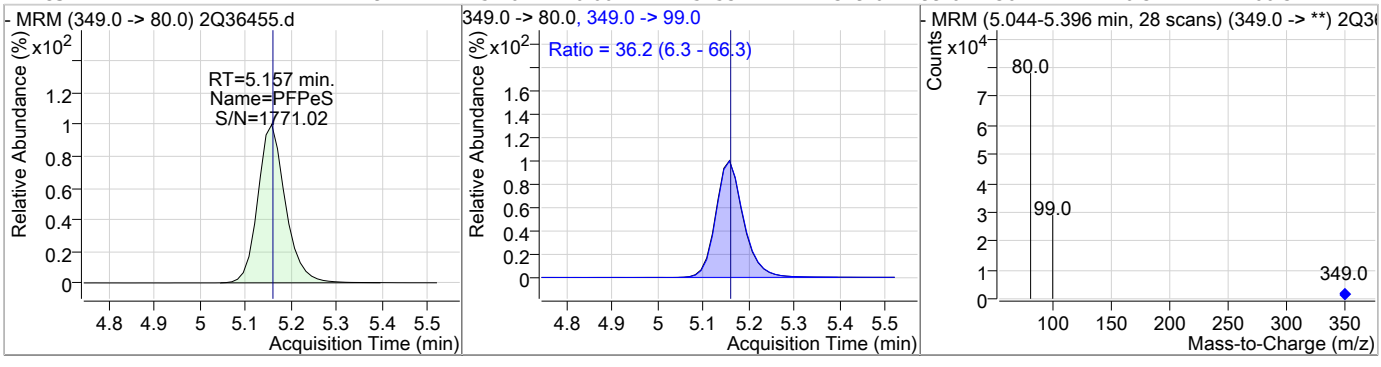
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.60	5.05	0.00	228755				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	49.17	5.05	0.00	173076	313.0 -> 119.0	10.3	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	49.44	5.16	0.00	57532	349.0 -> 99.0	36.2	6.3	66.3



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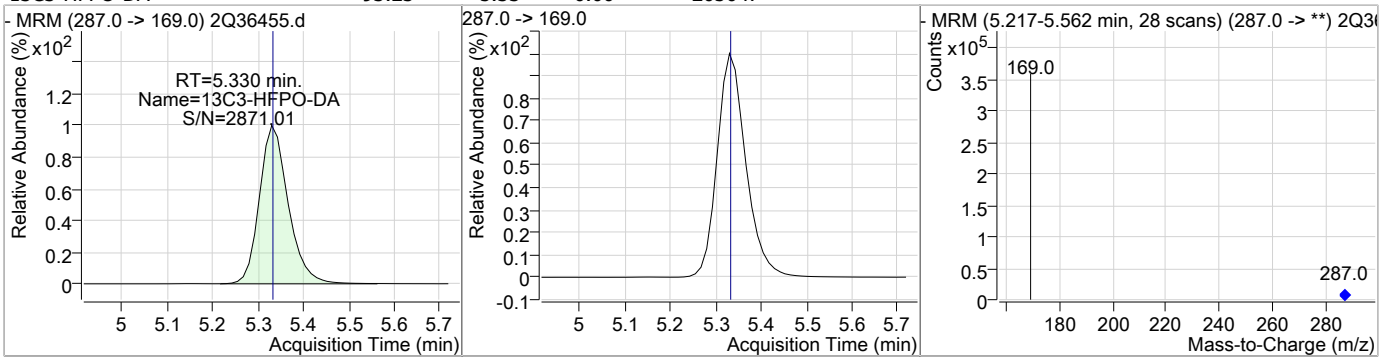
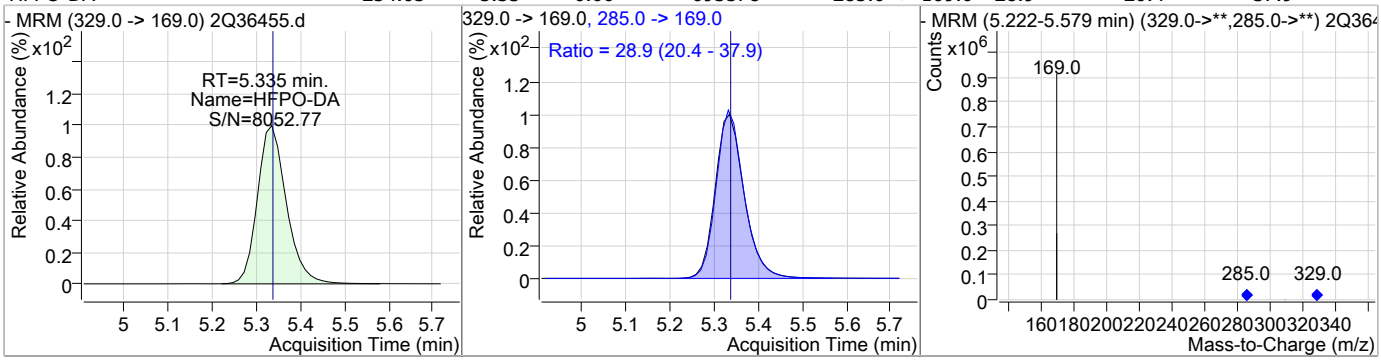
Perfluorinated Compounds by LC/MS/MS

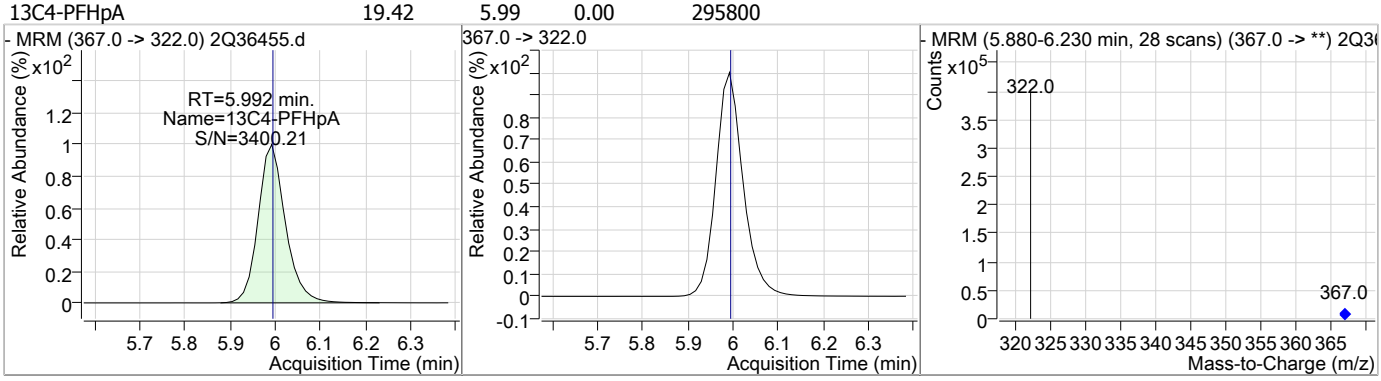
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	93.23	5.33	0.00	265047				



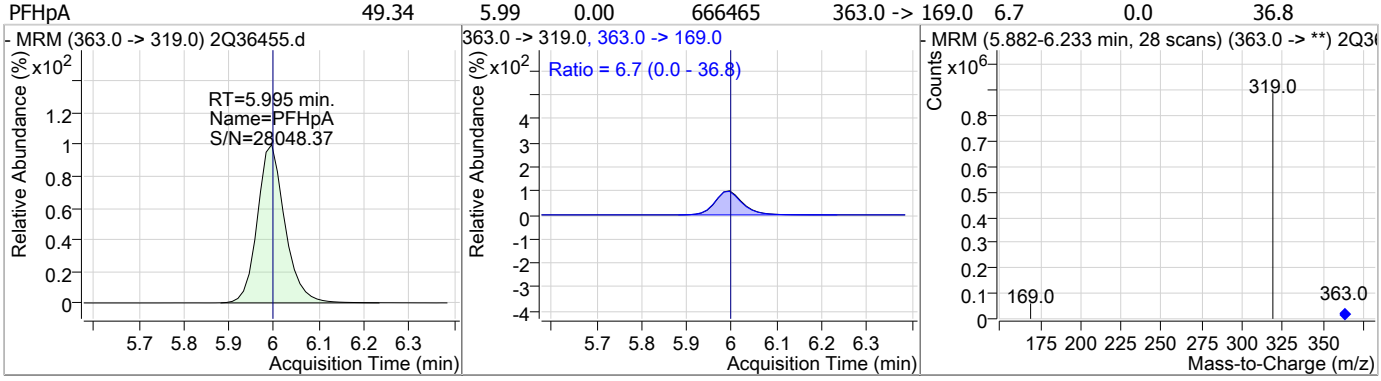
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	254.05	5.33	0.00	693578	285.0 -> 169.0	28.9	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.42	5.99	0.00	295800				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	49.34	5.99	0.00	666465	363.0 -> 169.0	6.7	0.0	36.8



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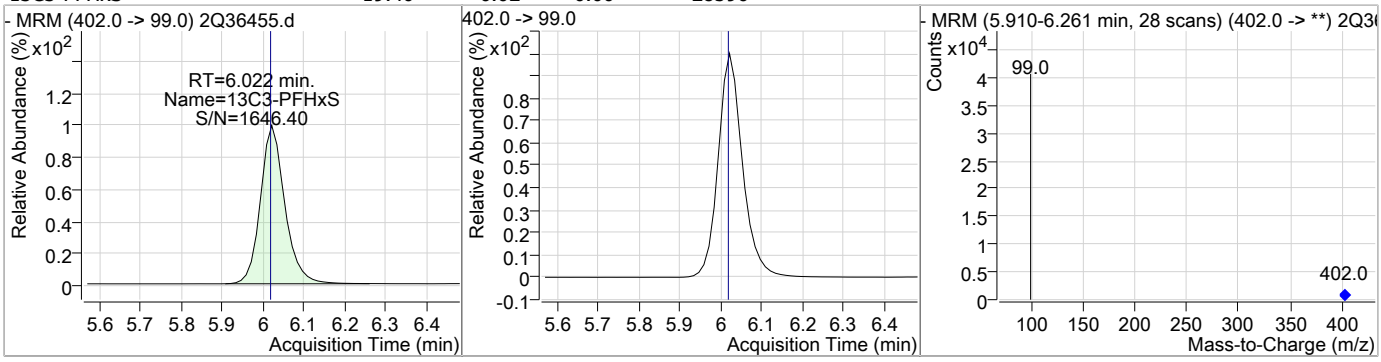
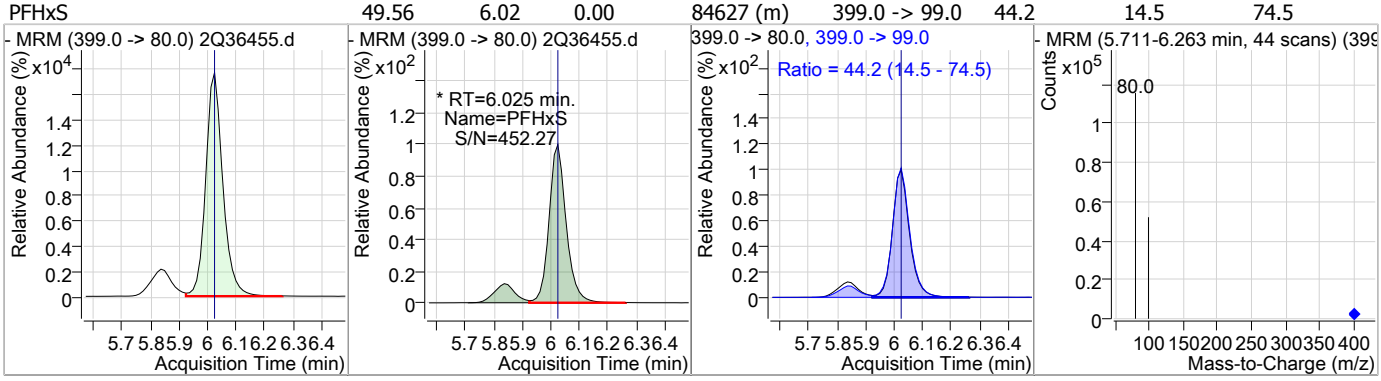
Perfluorinated Compounds by LC/MS/MS

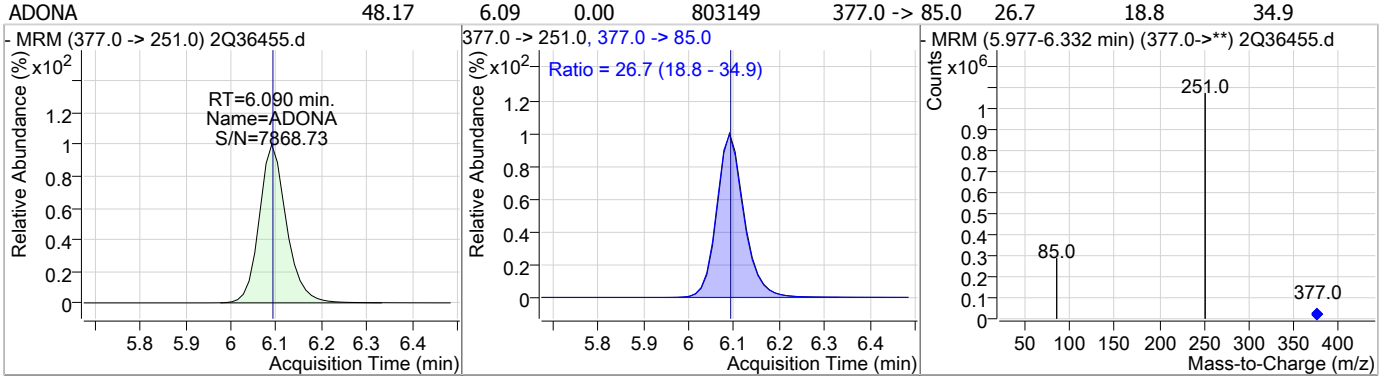
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.40	6.02	0.00	28596				



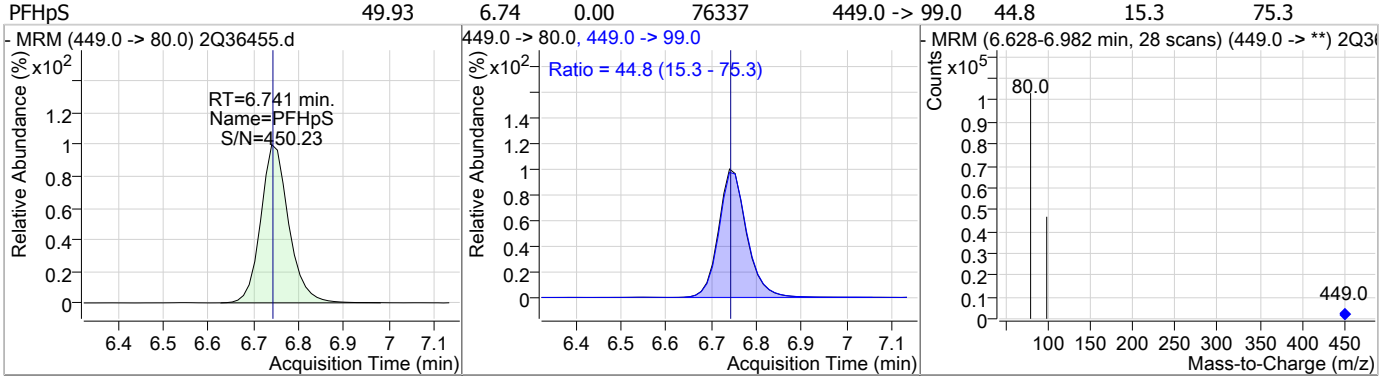
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	49.56	6.02	0.00	84627 (m)	399.0 -> 99.0	44.2	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	48.17	6.09	0.00	803149	377.0 -> 85.0	26.7	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	49.93	6.74	0.00	76337	449.0 -> 99.0	44.8	15.3	75.3



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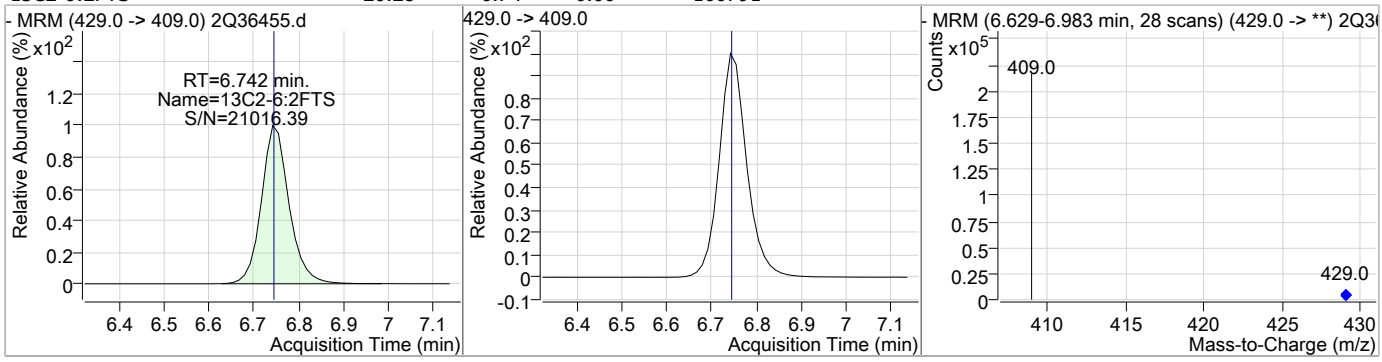
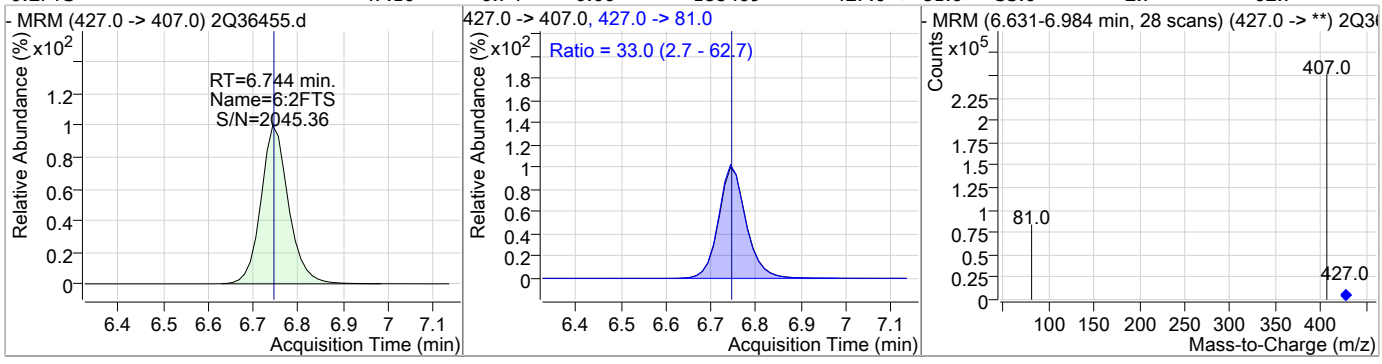
Perfluorinated Compounds by LC/MS/MS

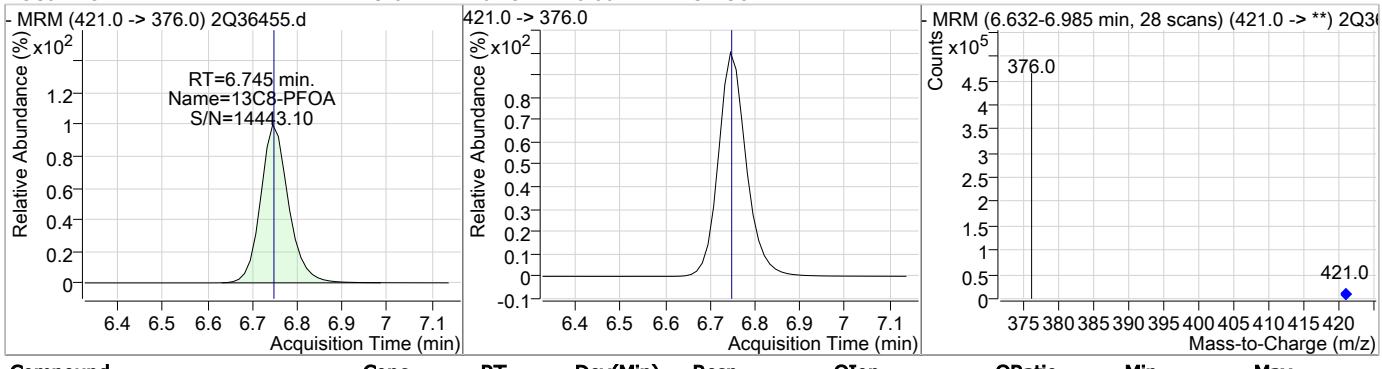
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.28	6.74	0.00	160791				



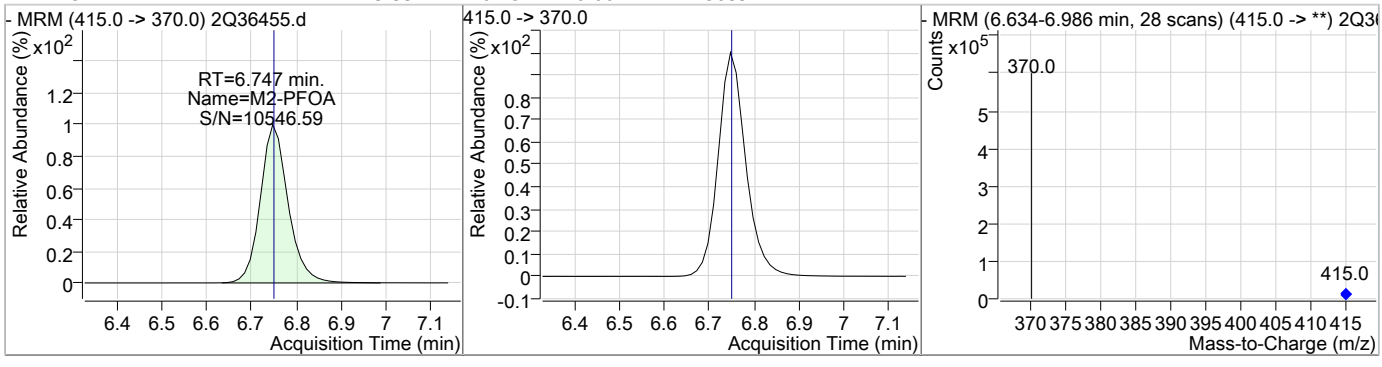
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	47.10	6.74	0.00	188469	427.0 -> 81.0	33.0	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.02	6.75	0.00	347981				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.99	6.75	0.00	450391				



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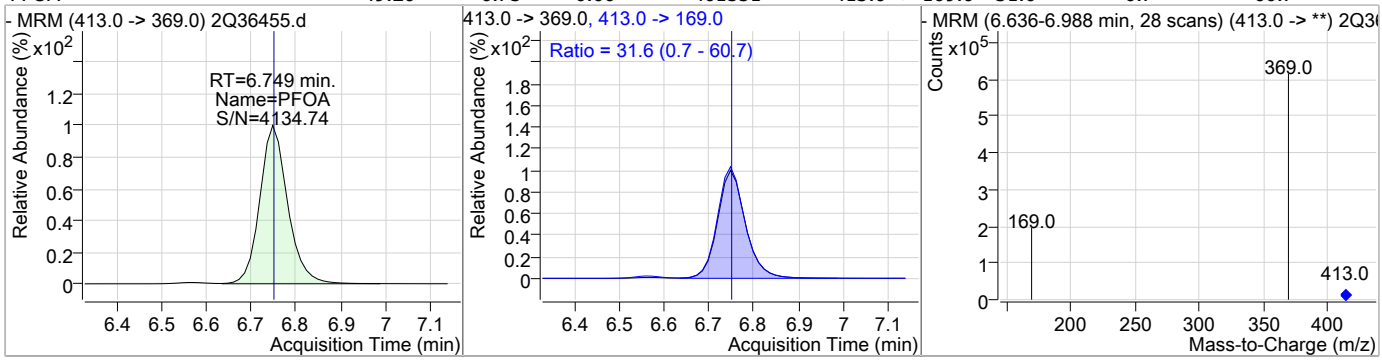
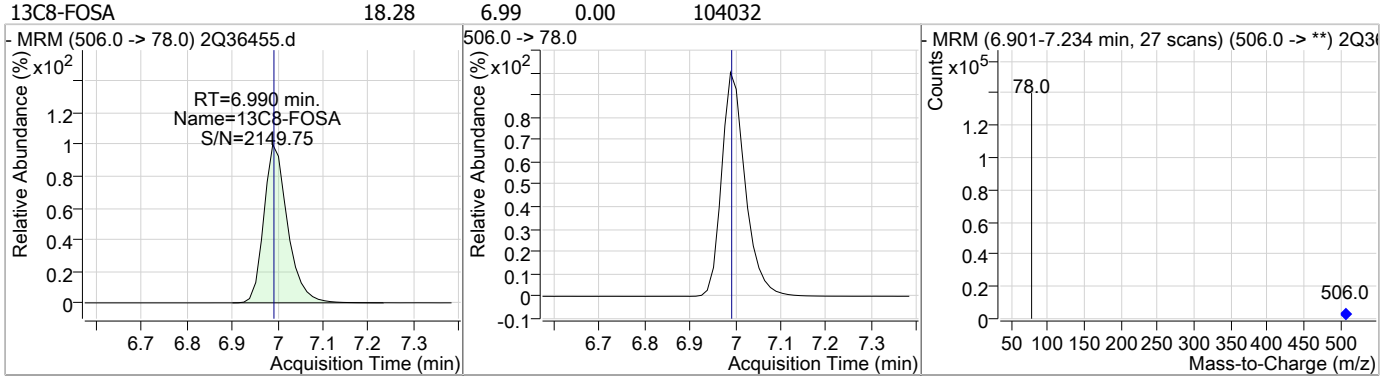
Perfluorinated Compounds by LC/MS/MS

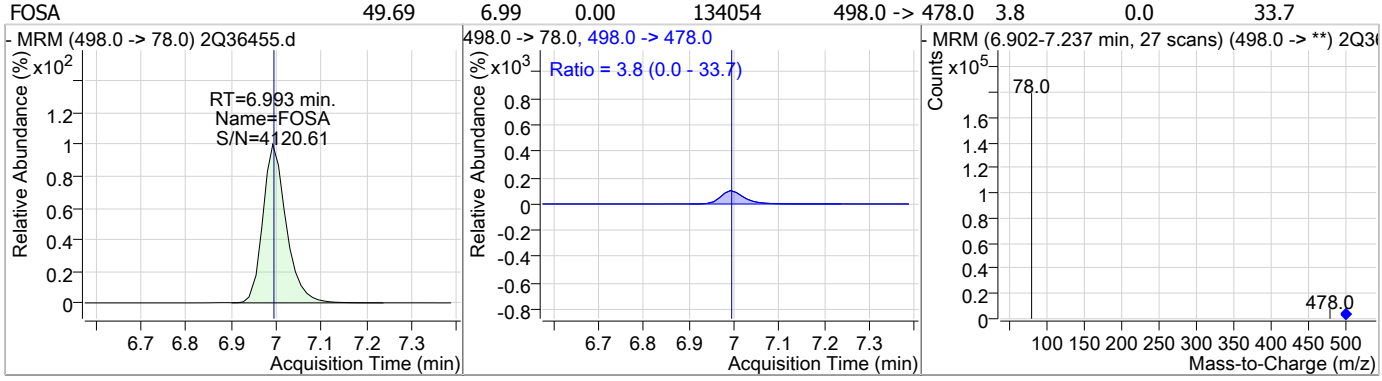
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	49.26	6.75	0.00	461551	413.0 -> 169.0	31.6	0.7	60.7



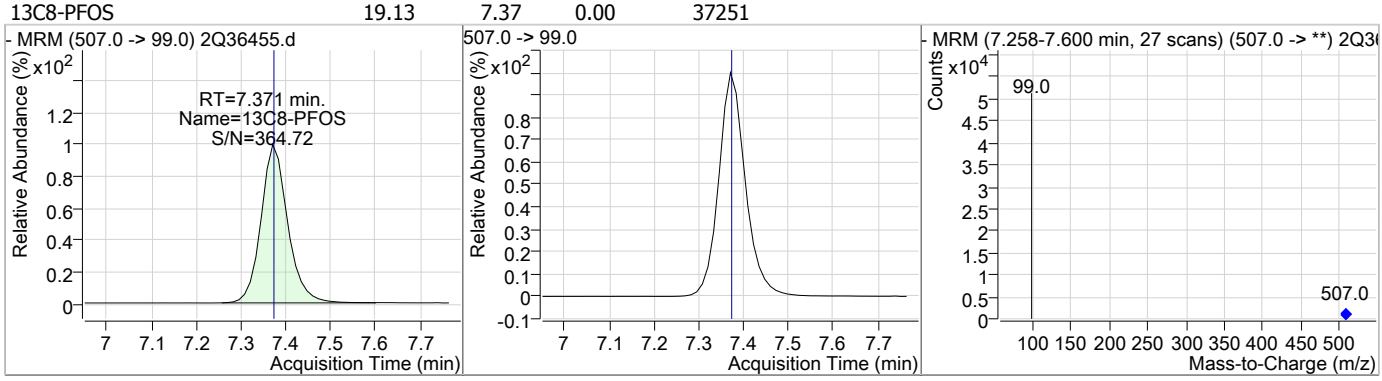
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	18.28	6.99	0.00	104032				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	49.69	6.99	0.00	134054	498.0 -> 478.0	3.8	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.13	7.37	0.00	37251				



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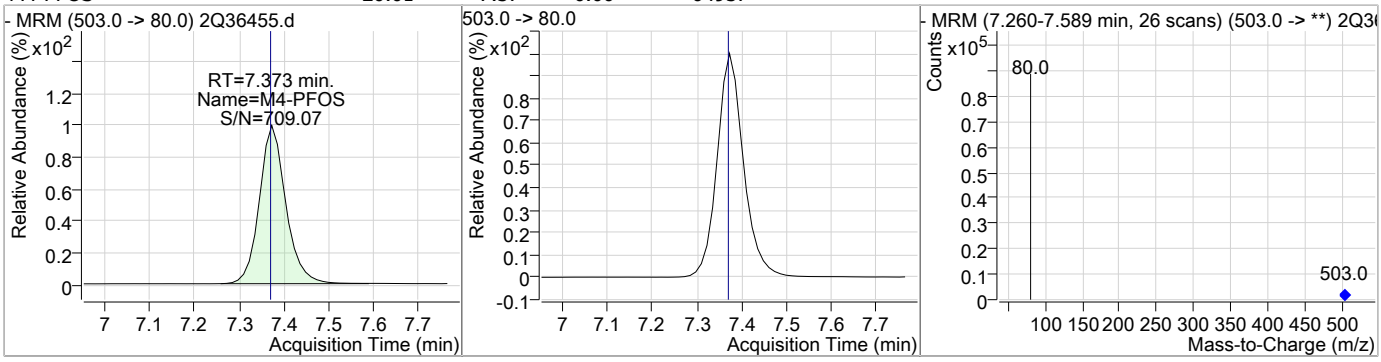
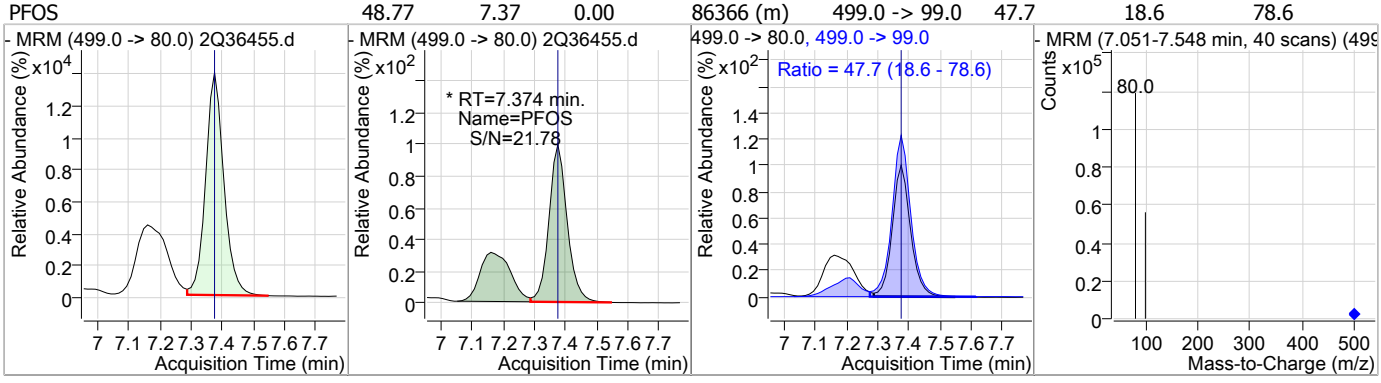
Perfluorinated Compounds by LC/MS/MS

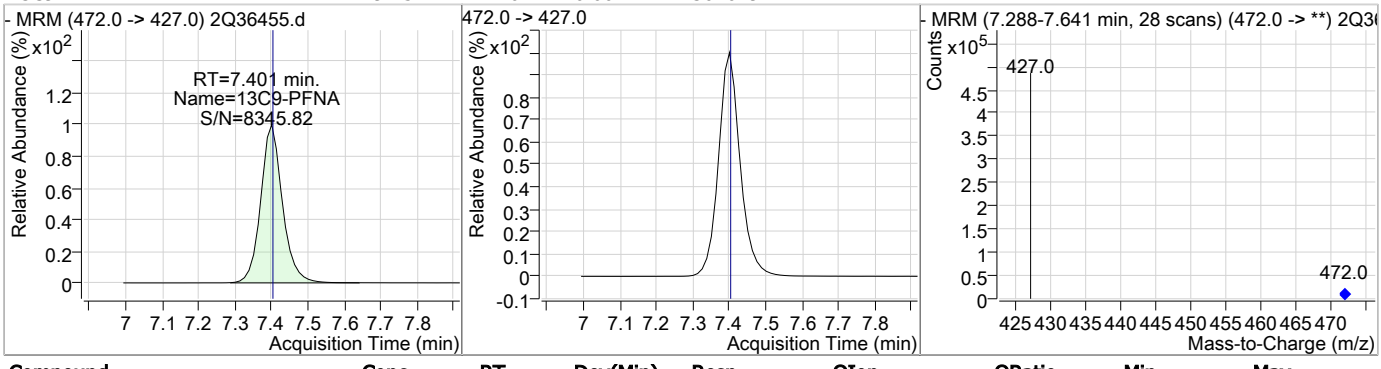
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.01	7.37	0.00	64937				



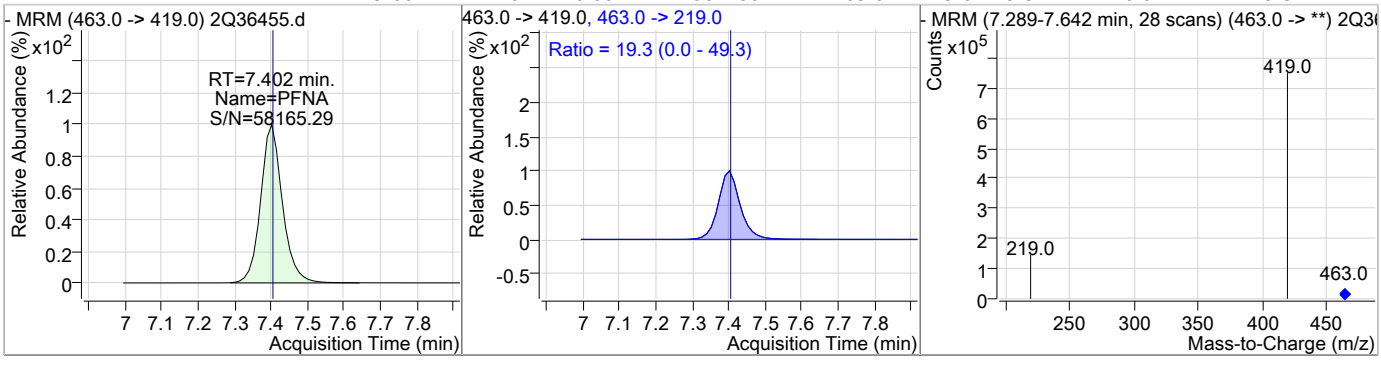
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	48.77	7.37	0.00	86366 (m)	499.0 -> 99.0	47.7	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.15	7.40	0.00	362079				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	49.66	7.40	0.00	562180	463.0 -> 219.0	19.3	0.0	49.3



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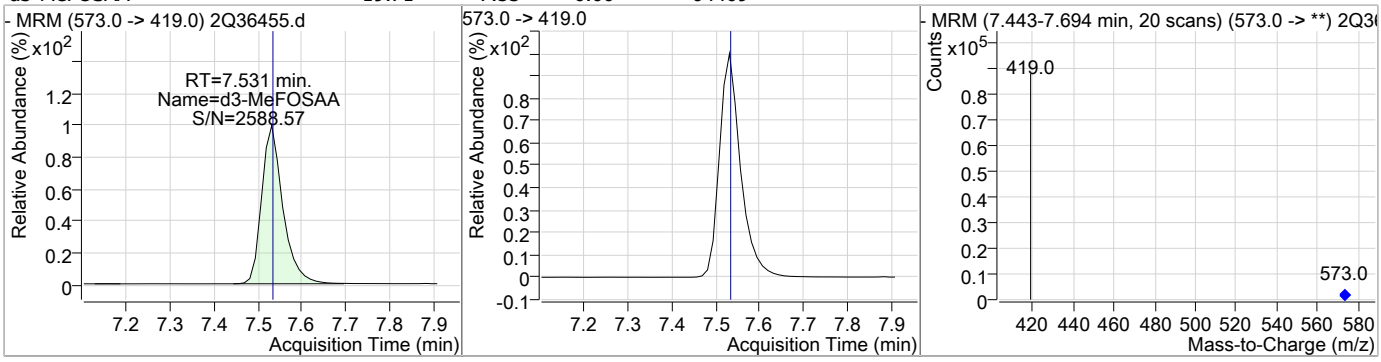
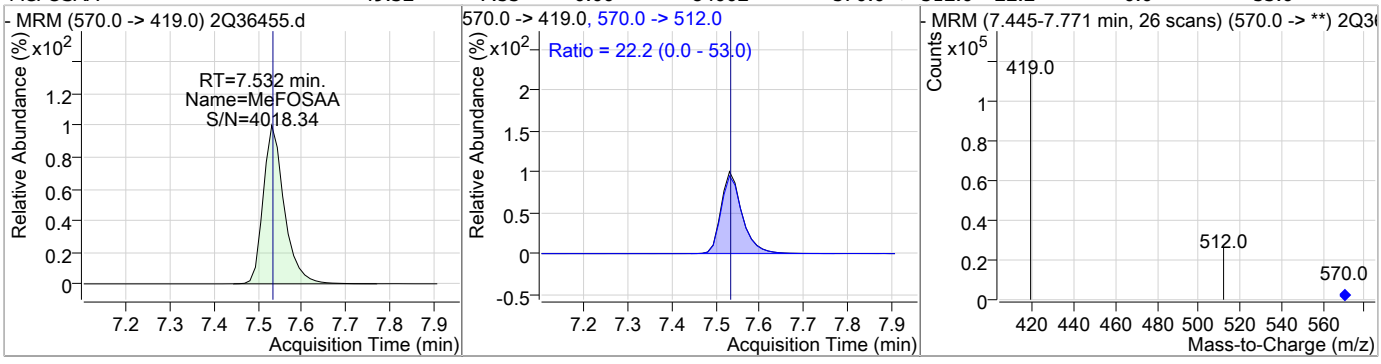
Perfluorinated Compounds by LC/MS/MS

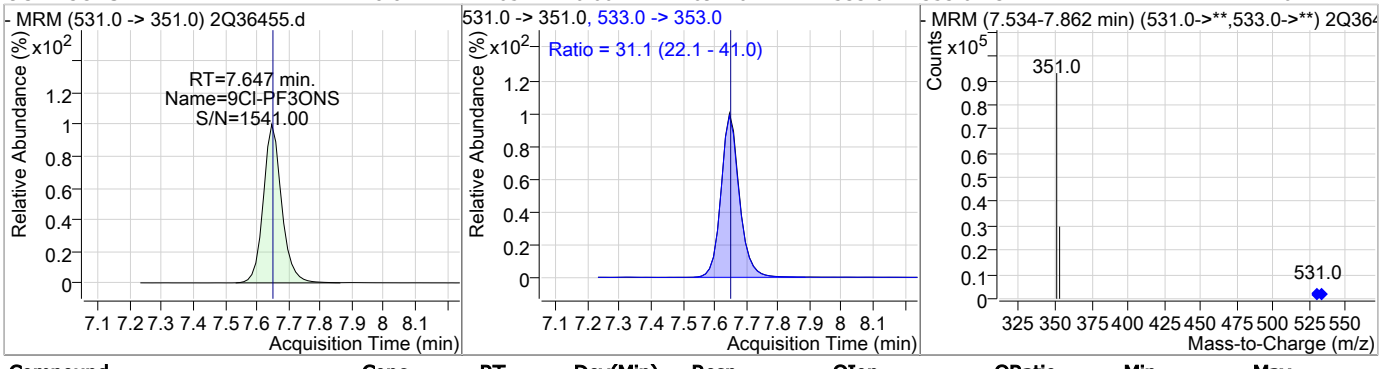
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.71	7.53	0.00	64409				



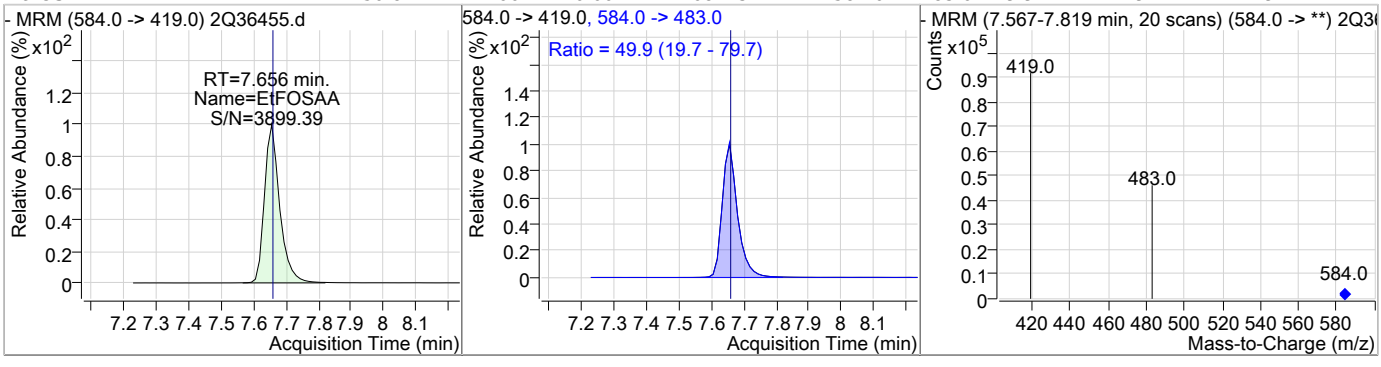
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	49.32	7.53	0.00	84602	570.0 -> 512.0	22.2	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	48.84	7.65	0.00	69240	533.0 -> 353.0	31.1	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	50.87	7.66	0.00	68723	584.0 -> 483.0	49.9	19.7	79.7



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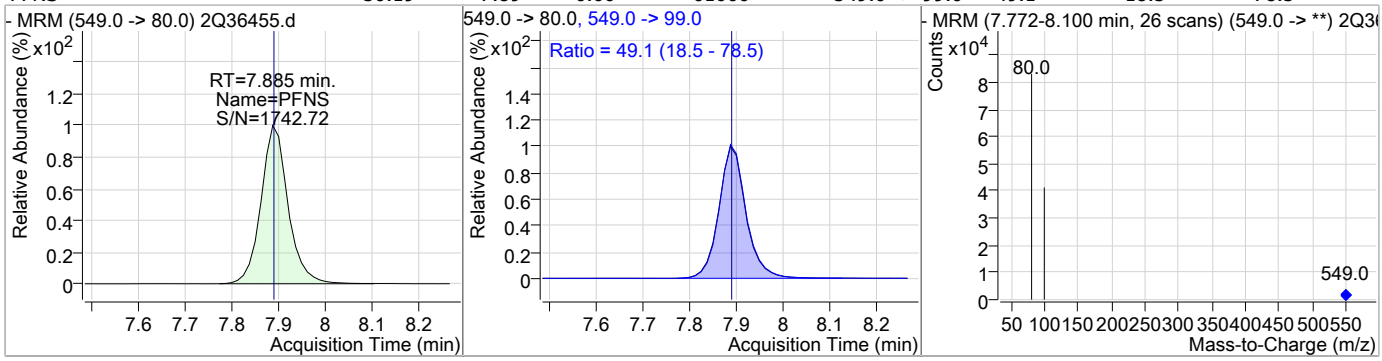
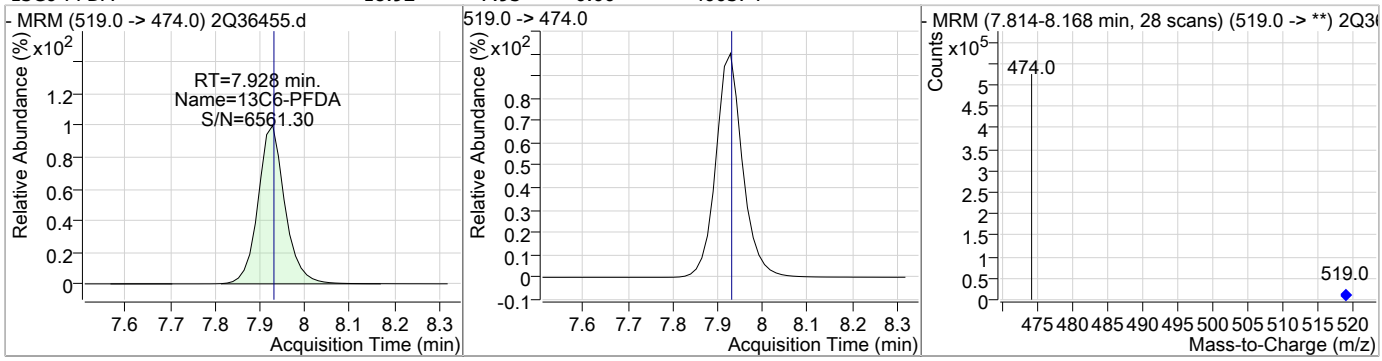
Perfluorinated Compounds by LC/MS/MS

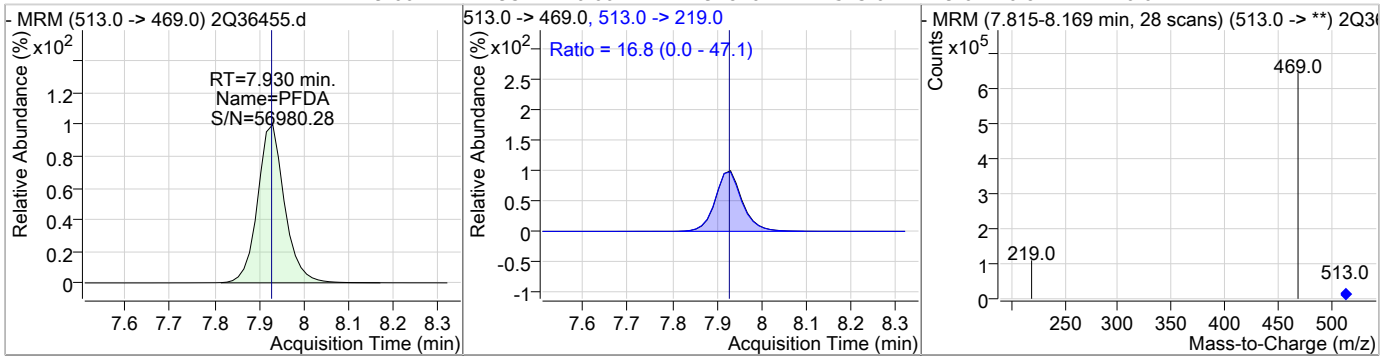
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	50.19	7.89	0.00	61000	549.0 -> 99.0	49.1	18.5	78.5



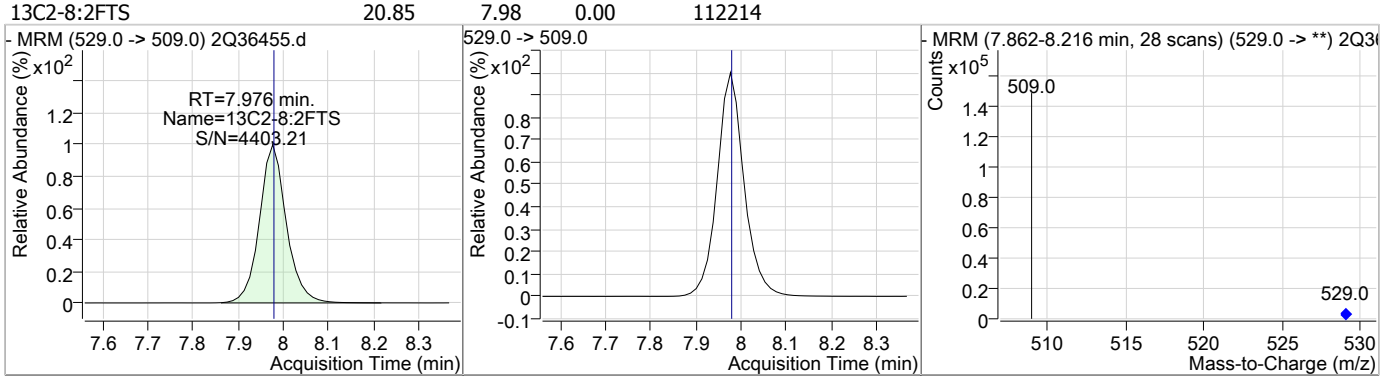
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.92	7.93	0.00	400374				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	49.66	7.93	0.00	492846	513.0 -> 219.0	16.8	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.85	7.98	0.00	112214				



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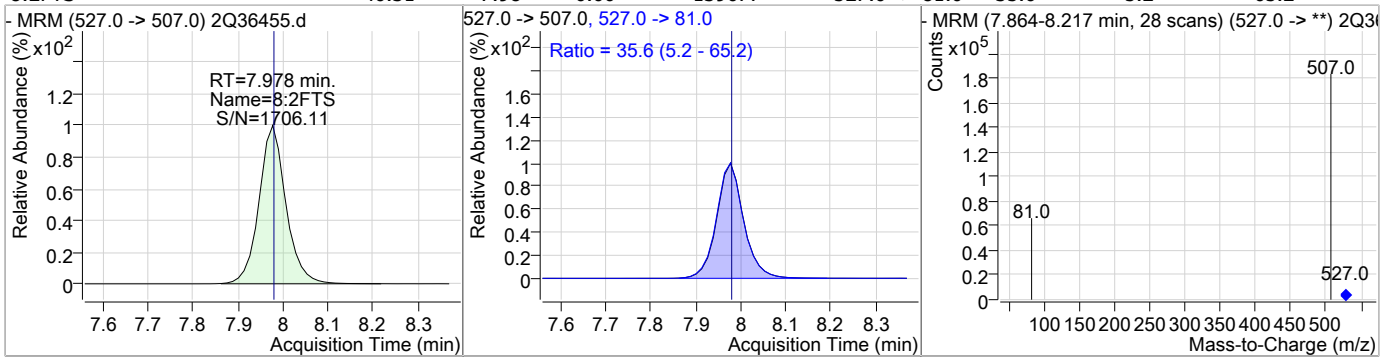
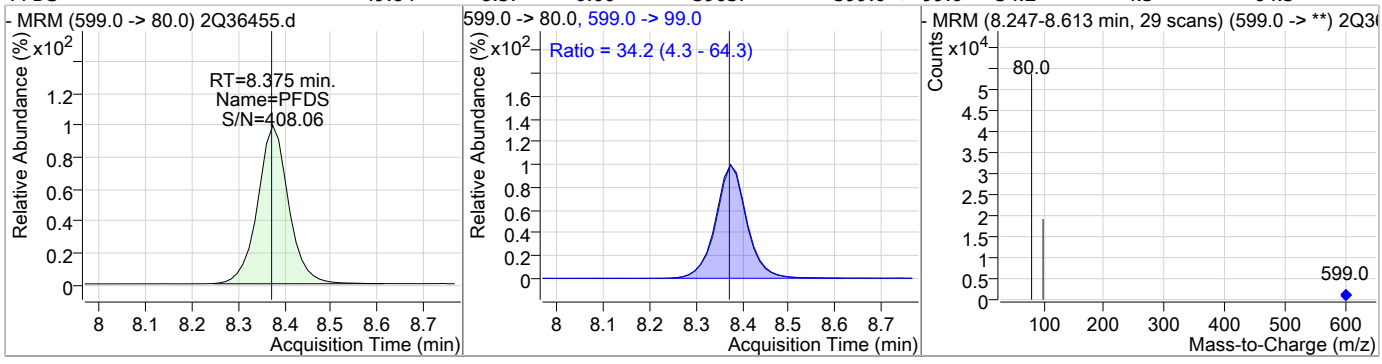
Perfluorinated Compounds by LC/MS/MS

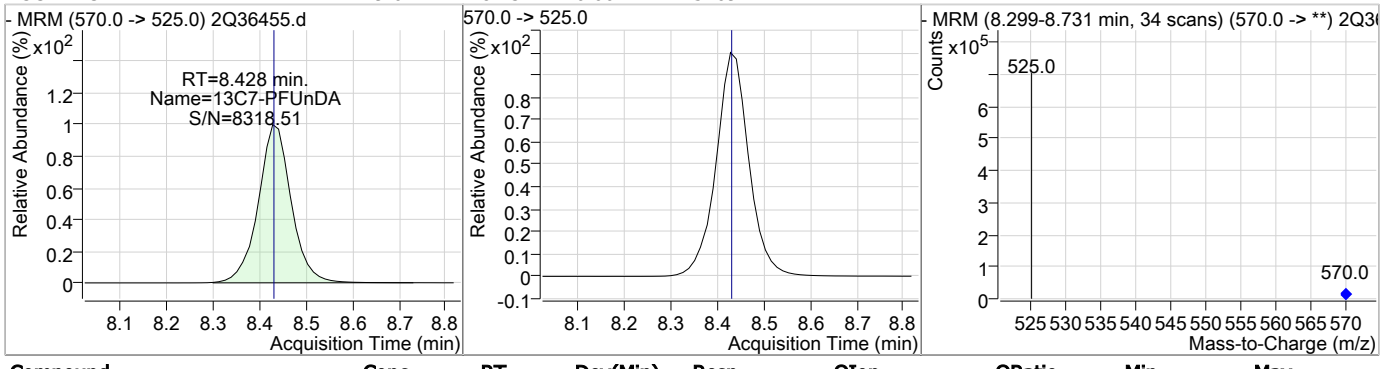
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	46.31	7.98	0.00	139077	527.0 -> 81.0	35.6	5.2	65.2



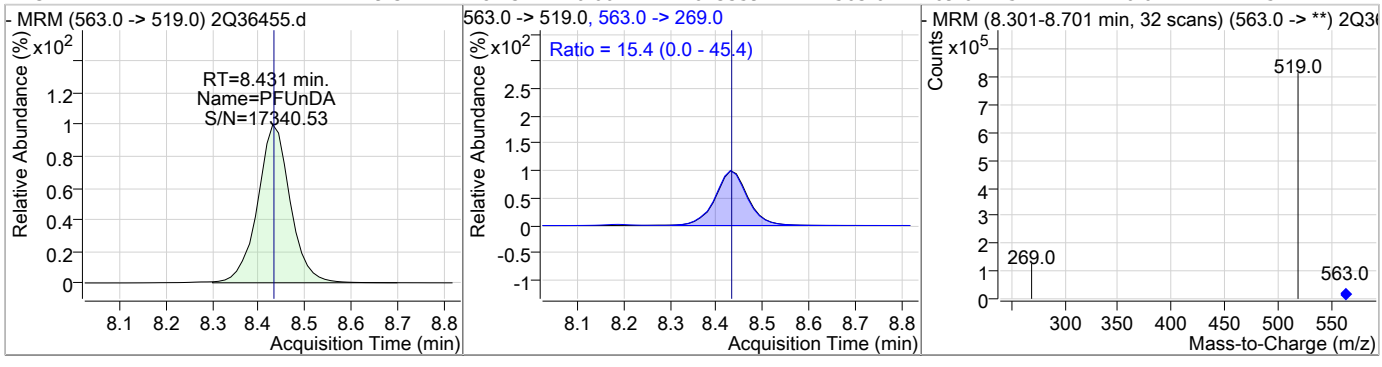
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	49.84	8.37	0.00	39637	599.0 -> 99.0	34.2	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.01	8.43	0.00	526921				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	49.37	8.43	0.00	613359	563.0 -> 269.0	15.4	0.0	45.4



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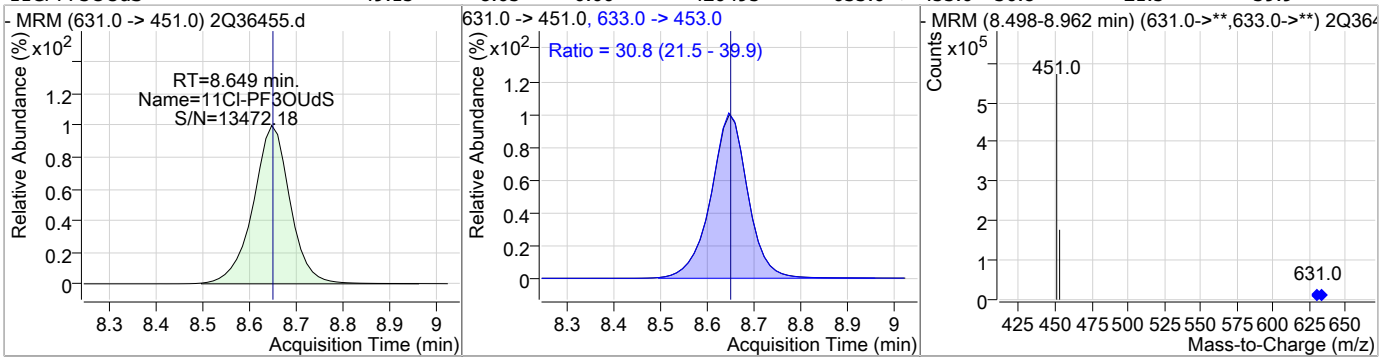
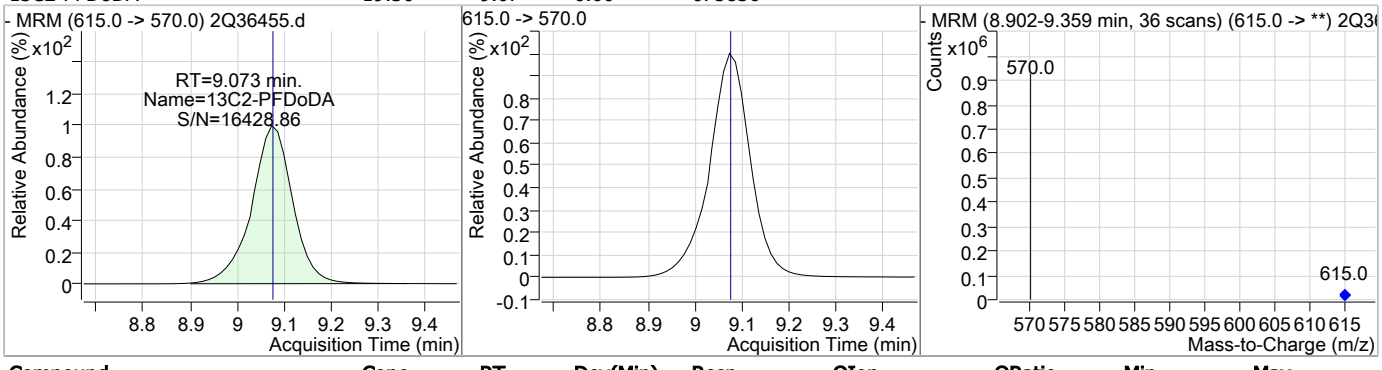
Perfluorinated Compounds by LC/MS/MS

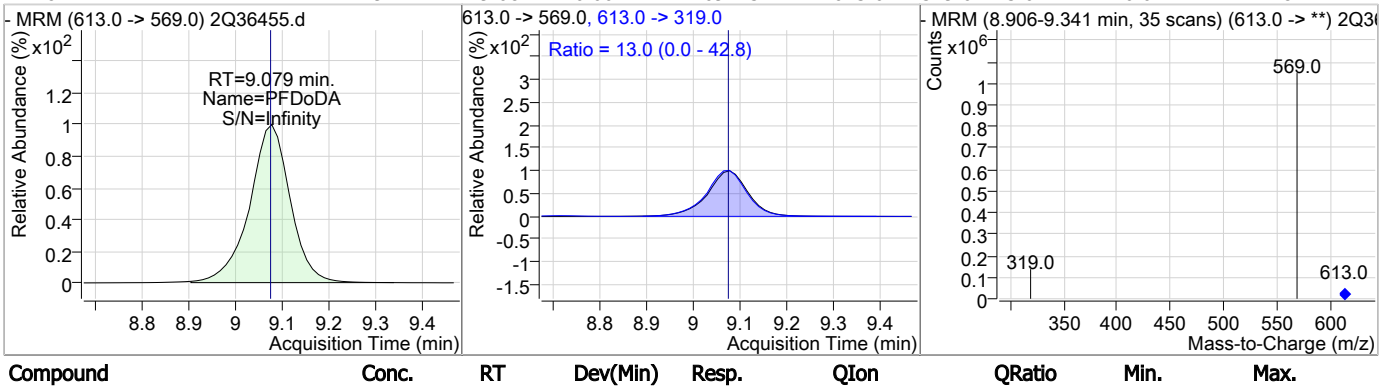
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	49.15	8.65	0.00	426495	633.0 -> 453.0	30.8	21.5	39.9



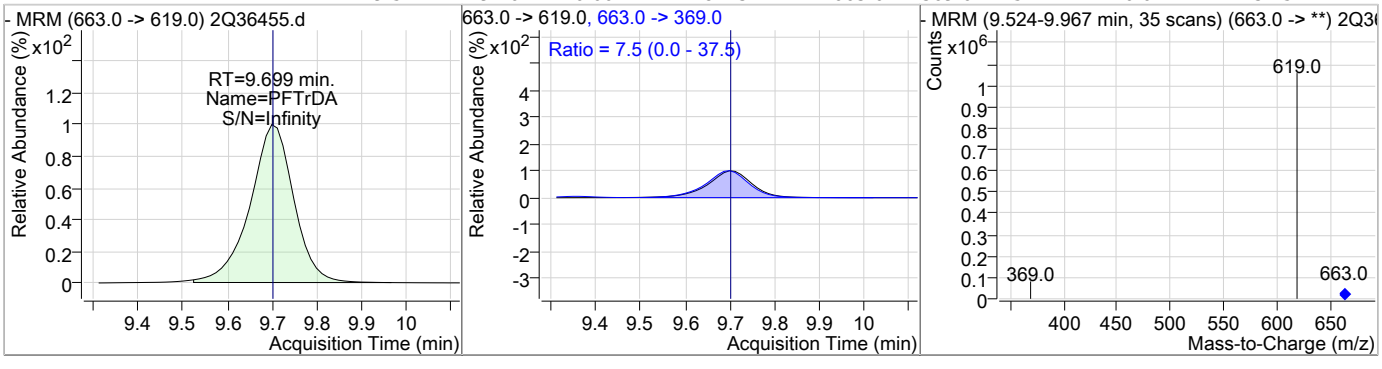
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.36	9.07	0.00	675836				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	49.42	9.08	0.00	769113	613.0 -> 319.0	13.0	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	49.52	9.70	0.00	781431	663.0 -> 369.0	7.5	0.0	37.5



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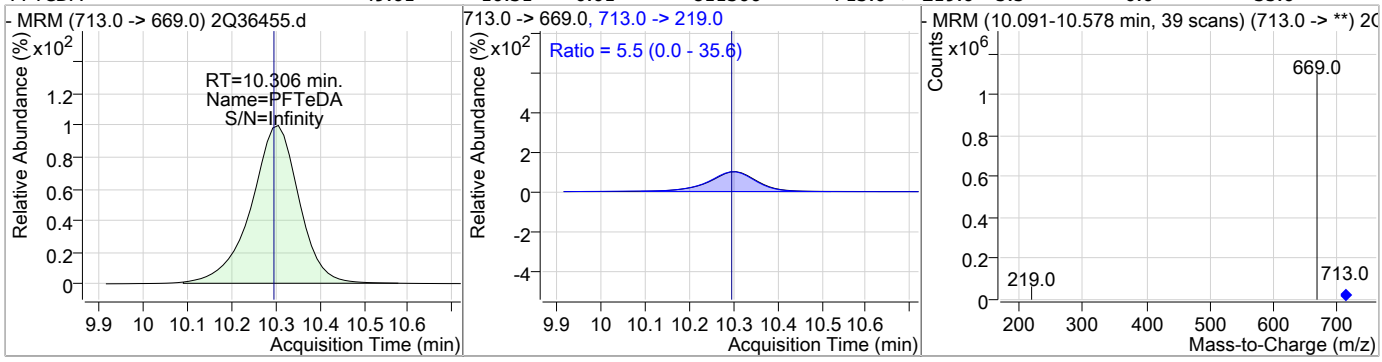
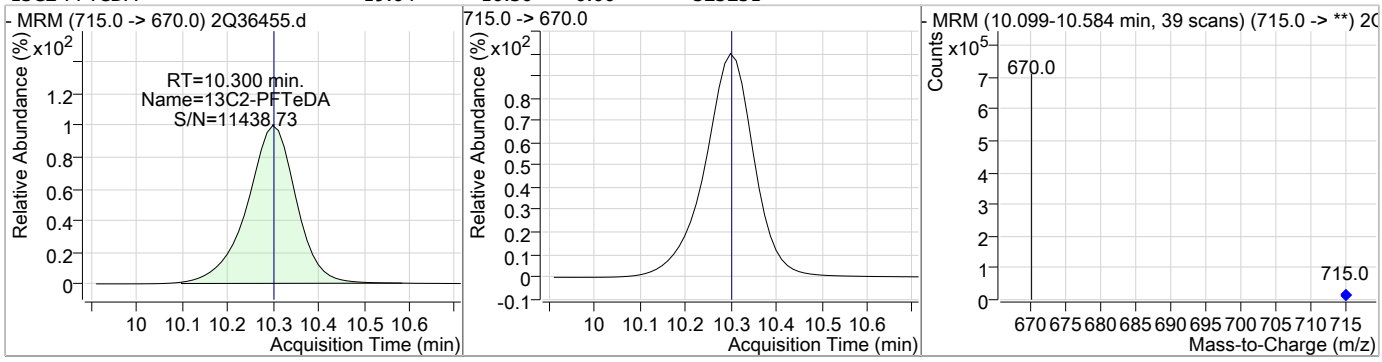
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	49.61	10.31	0.01	811366	713.0 -> 219.0	5.5	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.64	10.30	0.00	523251				



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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36455.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 15:33	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36456.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 3:48:52 PM
Sample Name	:	ic568-100
Vial	:	Vial 9
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

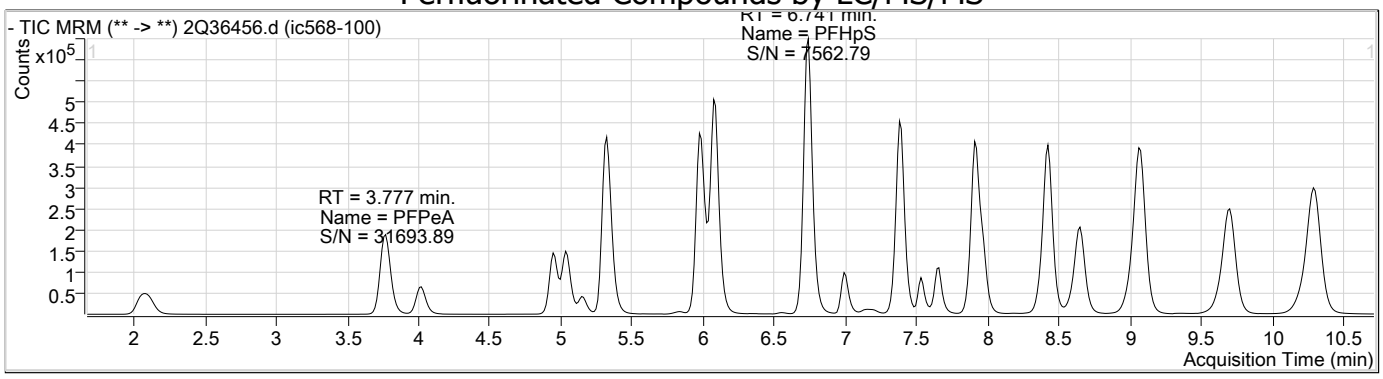
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	440956	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	63777	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	196744	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	163819	20.00	µg/L	0.000
M5-PFHxA	5.038	318.0 -> 273.0	230962	20.00	µg/L	-0.013
M4-PFHpA	5.980	367.0 -> 322.0	295967	20.00	µg/L	-0.013
M8-PFOA	6.745	421.0 -> 376.0	340648	20.00	µg/L	0.000
M9-PFNA	7.389	472.0 -> 427.0	361801	20.00	µg/L	-0.012
M6-PFDA	7.915	519.0 -> 474.0	395754	20.00	µg/L	-0.014
M7-PFUnDA	8.428	570.0 -> 525.0	520099	20.00	µg/L	0.000
M2-PFDoDA	9.073	615.0 -> 570.0	675678	20.00	µg/L	0.000
M2-PFTeDA	10.287	715.0 -> 670.0	535888	20.00	µg/L	-0.013
M8-FOSA	6.990	506.0 -> 78.0	95752	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27177	20.00	µg/L	0.000
M3-PFHxS	6.010	402.0 -> 99.0	28606	20.00	µg/L	-0.013
M8-PFOS	7.371	507.0 -> 99.0	37073	20.00	µg/L	0.000
M2-4:2FTS	4.946	329.0 -> 309.0	141537	20.00	µg/L	-0.013
M2-6:2FTS	6.742	429.0 -> 409.0	177855	20.00	µg/L	0.000
M2-8:2FTS	7.976	529.0 -> 509.0	130096	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	64852	20.00	µg/L	0.000
M3-HFPO-DA	5.318	287.0 -> 169.0	261081	100.00	µg/L	-0.013
System Monitoring Compounds						
13C2-4:2FTS	4.946	329.0 -> 309.0	141377	24.28	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 121.4%		
13C2-6:2FTS	6.742	429.0 -> 409.0	177689	22.41	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 112.1%		
13C2-8:2FTS	7.976	529.0 -> 509.0	130084	24.17	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 120.8%		
13C2-PFDoDA	9.073	615.0 -> 570.0	672872	19.27	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.4%		
13C2-PFTeDA	10.287	715.0 -> 670.0	527670	19.80	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C3-PFBS	4.017	302.0 -> 99.0	27090	19.82	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C3-PFHxS	6.010	402.0 -> 99.0	28606	19.41	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C4-PFBA	2.077	217.0 -> 172.0	195583	19.98	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C4-PFHpA	5.980	367.0 -> 322.0	295456	19.40	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C5-PFHxA	5.038	318.0 -> 273.0	230566	19.75	µg/L	-0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C5-PFPeA	3.774	268.0 -> 223.0	163819	19.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C6-PFDA	7.915	519.0 -> 474.0	395511	18.69	µg/L	-0.014

Perfluorinated Compounds by LC/MS/MS

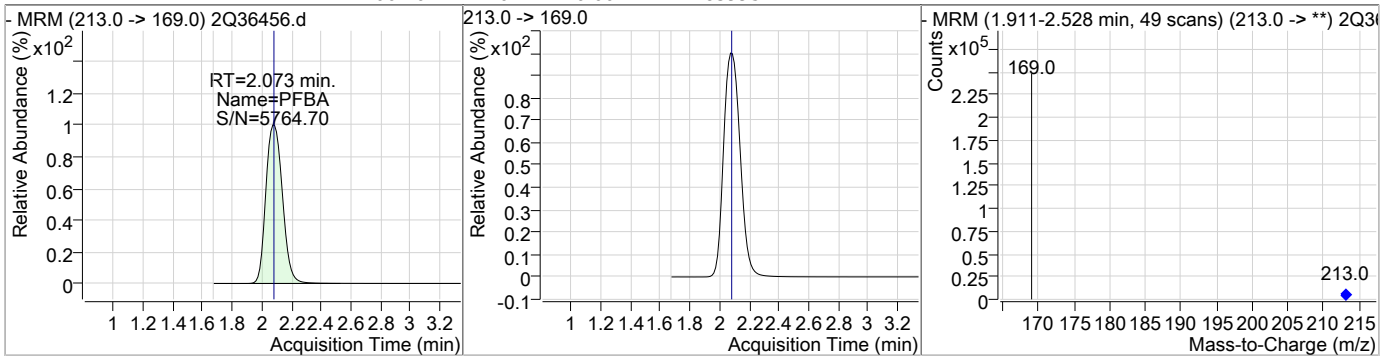
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.5%		
13C7-PFUnDA	8.428	570.0 -> 525.0	520192	18.77 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.8%		
13C8-FOSA	6.990	506.0 -> 78.0	95731	16.82 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 84.1%		
13C8-PFOA	6.745	421.0 -> 376.0	340480	18.61 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.0%		
13C8-PFOS	7.371	507.0 -> 99.0	37073	19.04 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.2%		
13C9-PFNA	7.389	472.0 -> 427.0	361554	19.13 µg/L		-0.012
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
d3-MeFOSAA	7.531	573.0 -> 419.0	65144	19.93 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
M2-PFOA	6.747	415.0 -> 370.0	441015	19.98 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
M4-PFOS	7.373	503.0 -> 80.0	63793	20.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	261081	91.84 µg/L		-0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 91.8%		
Target Compounds						**QValue**
4:2FTS	4.949	327.0 -> 307.0	338074	84.11 µg/L		99
6:2FTS	6.744	427.0 -> 407.0	372761	84.31 µg/L		100
8:2FTS	7.978	527.0 -> 507.0	285799	82.10 µg/L		99
EtFOSAA	7.656	584.0 -> 419.0	135129	99.32 µg/L		100
FOSA	6.993	498.0 -> 78.0	248738	100.28 µg/L		100
MeFOSAA	7.532	570.0 -> 419.0	173564	100.45 µg/L		99
PFBA	2.073	213.0 -> 169.0	183995	100.40 µg/L		100
PFBS	4.021	299.0 -> 80.0	215172	100.25 µg/L		100
PFDA	7.916	513.0 -> 469.0	983656	100.27 µg/L		99
PFDoDA	9.067	613.0 -> 569.0	1561031	100.39 µg/L		100
PFDS	8.375	599.0 -> 80.0	79127	100.14 µg/L		100
PFHpA	5.982	363.0 -> 319.0	1355024	100.42 µg/L		100
PFHpS	6.741	449.0 -> 80.0	152741	99.93 µg/L		100
PFHxA	5.040	313.0 -> 269.0	356577	100.51 µg/L		99
PFHxS	6.012	399.0 -> 80.0	171172	100.27 µg/L	m	100
PFNA	7.402	463.0 -> 419.0	1134806	100.27 µg/L		99
PFNS	7.885	549.0 -> 80.0	120731	99.99 µg/L		98
PFOA	6.749	413.0 -> 369.0	920747	100.47 µg/L		99
PFOS	7.374	499.0 -> 80.0	177418	100.84 µg/L	m	98
PFPeA	3.777	263.0 -> 219.0	830490	100.42 µg/L		100
PFPeS	5.145	349.0 -> 80.0	118866	100.26 µg/L		100
PFTeDA	10.294	713.0 -> 669.0	1650070	100.20 µg/L		100
PFTrDA	9.699	663.0 -> 619.0	1592480	100.23 µg/L		100
PFUnDA	8.431	563.0 -> 519.0	1229997	100.44 µg/L		100
11Cl-PF3OUdS	8.649	631.0 -> 451.0	872793	100.66 µg/L		100
9Cl-PF3ONS	7.647	531.0 -> 351.0	141321	100.84 µg/L		99
ADONA	6.078	377.0 -> 251.0	1651697	101.29 µg/L		100
HFPO-DA	5.322	329.0 -> 169.0	1338276	497.65 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

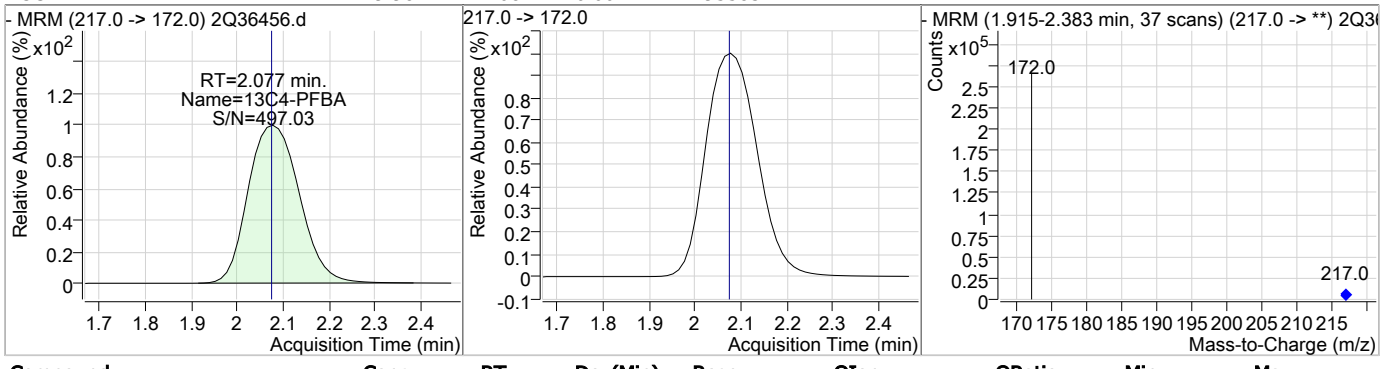
Perfluorinated Compounds by LC/MS/MS



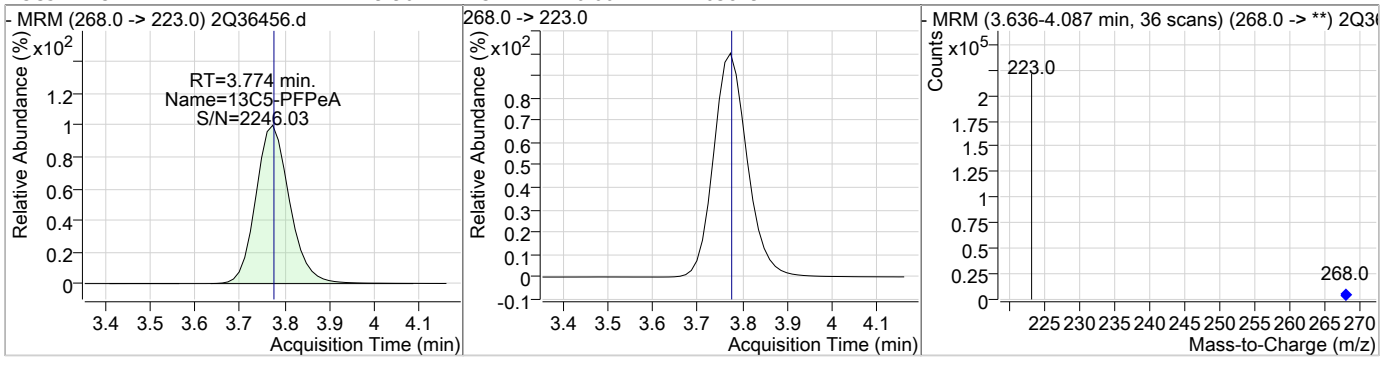
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	100.40	2.07	0.00	183995				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.98	2.08	0.00	195583				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.90	3.77	0.00	163819				



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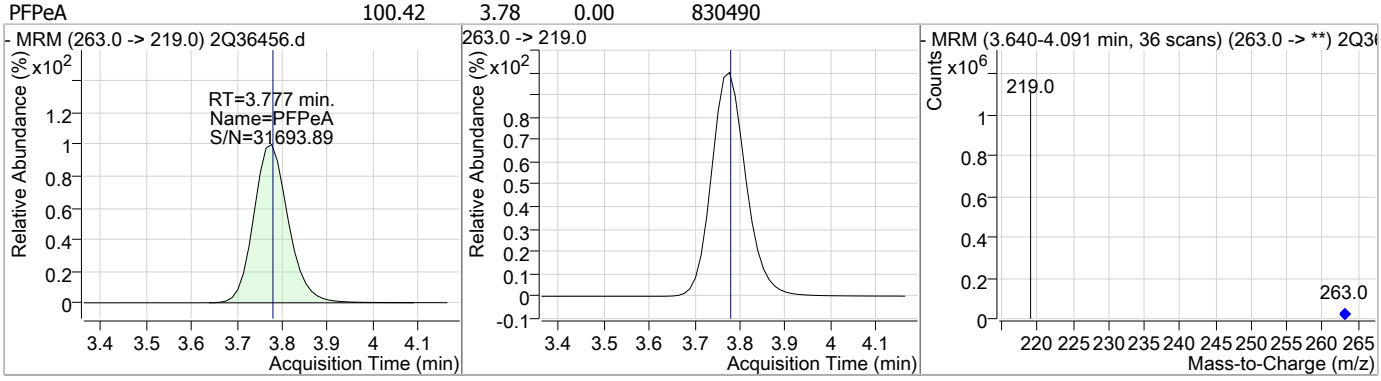
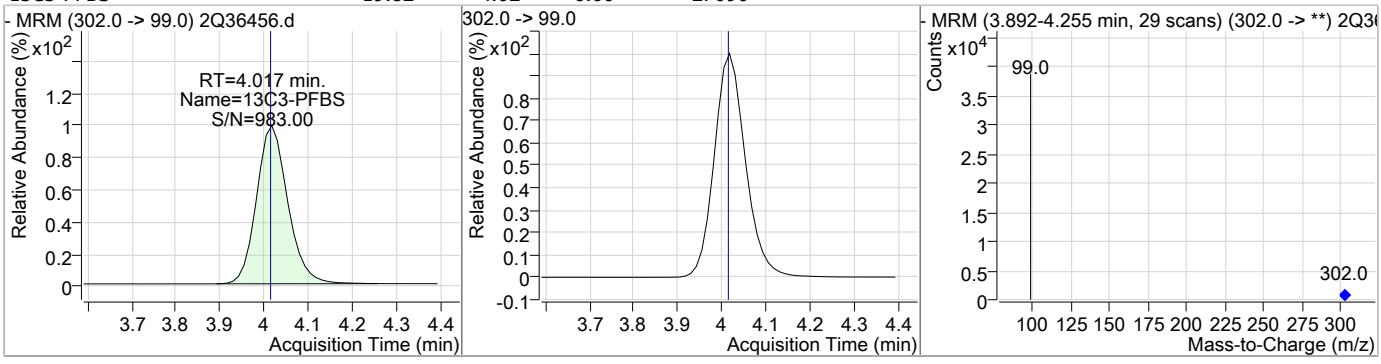
Perfluorinated Compounds by LC/MS/MS

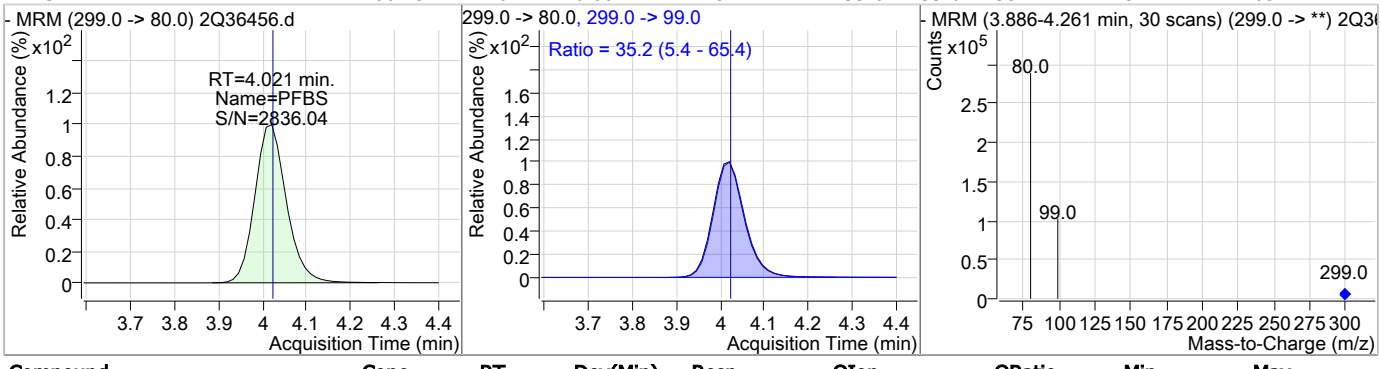
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	100.42	3.78	0.00	830490				



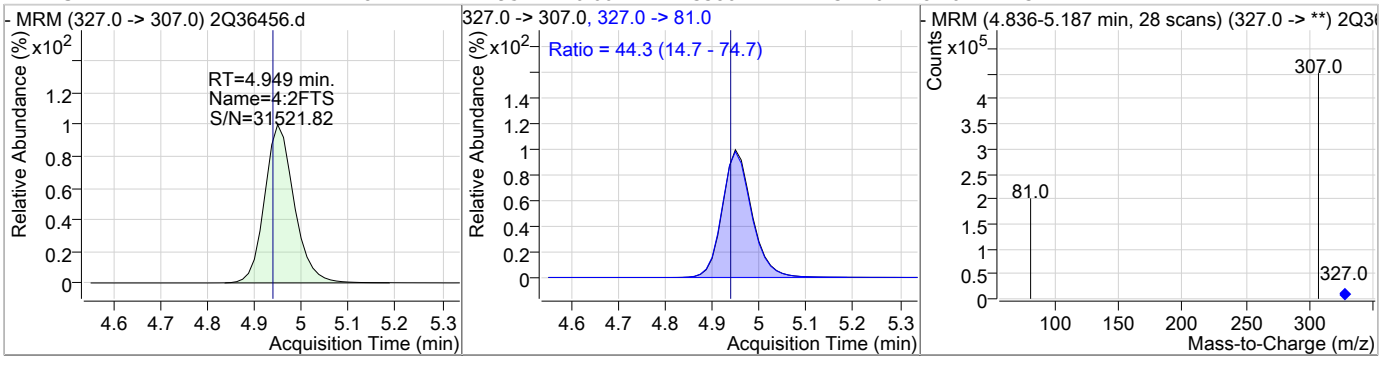
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.82	4.02	0.00	27090				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	100.25	4.02	0.00	215172	299.0 -> 99.0	35.2	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	84.11	4.95	0.00	338074	327.0 -> 81.0	44.3	14.7	74.7



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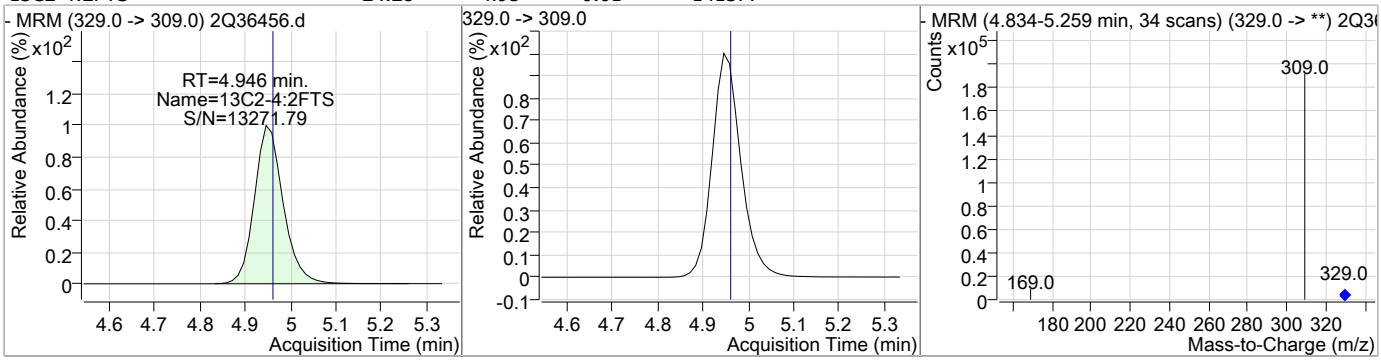
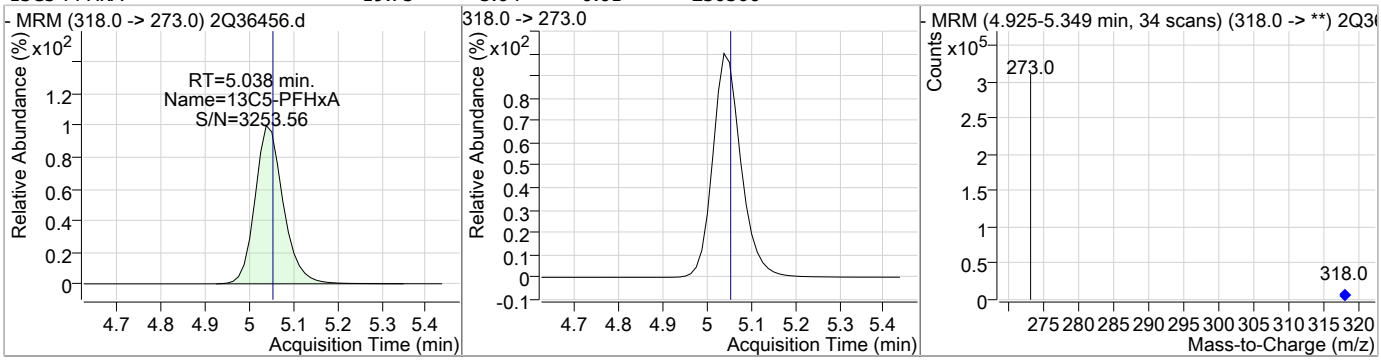
Perfluorinated Compounds by LC/MS/MS

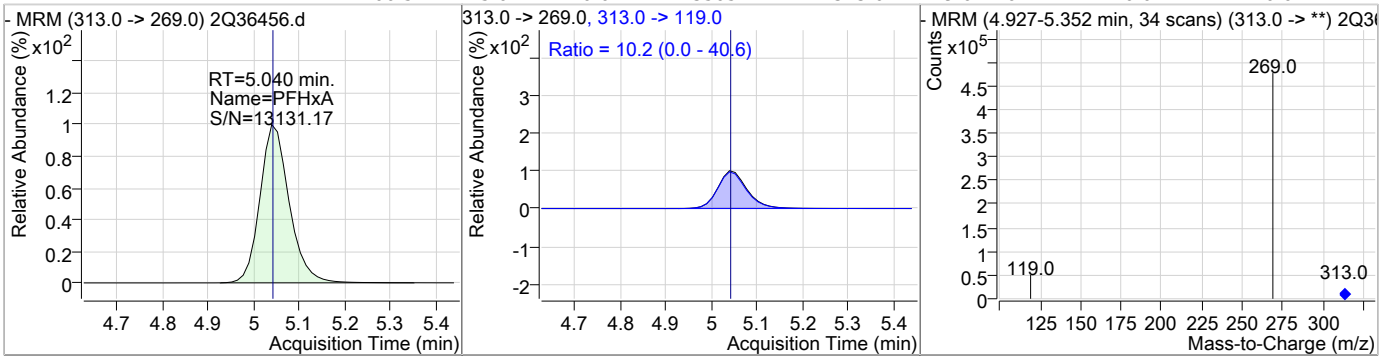
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	24.28	4.95	-0.01	141377				



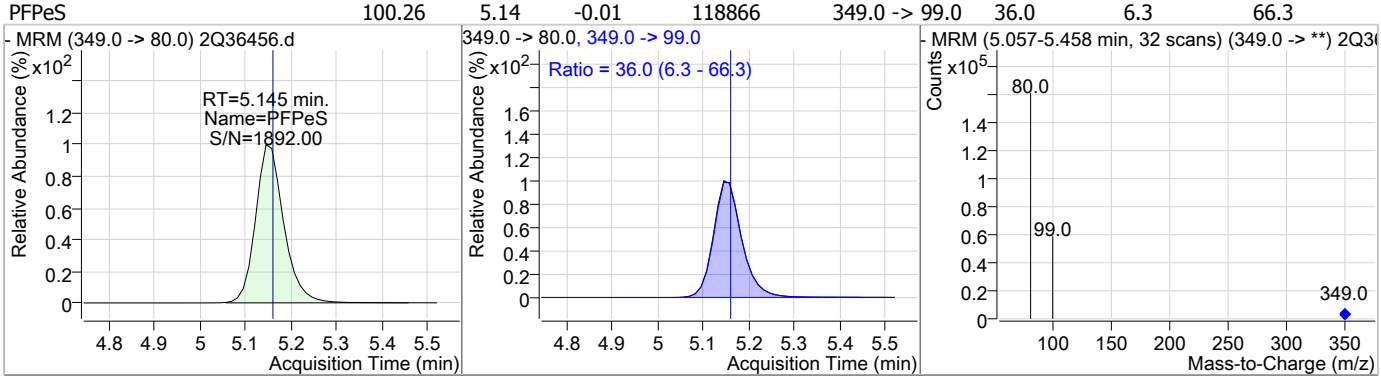
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.75	5.04	-0.01	230566				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	100.51	5.04	-0.01	356577	313.0 -> 119.0	10.2	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	100.26	5.14	-0.01	118866	349.0 -> 99.0	36.0	6.3	66.3



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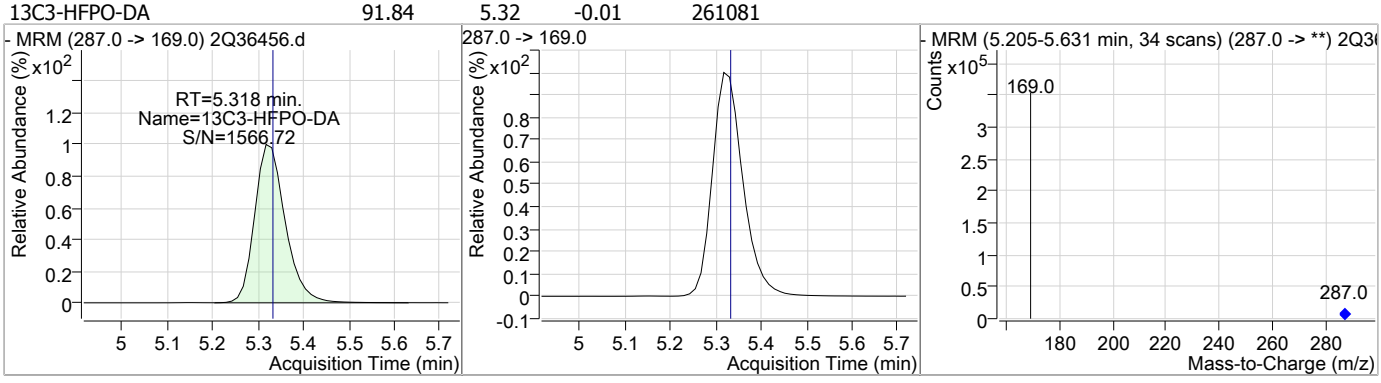
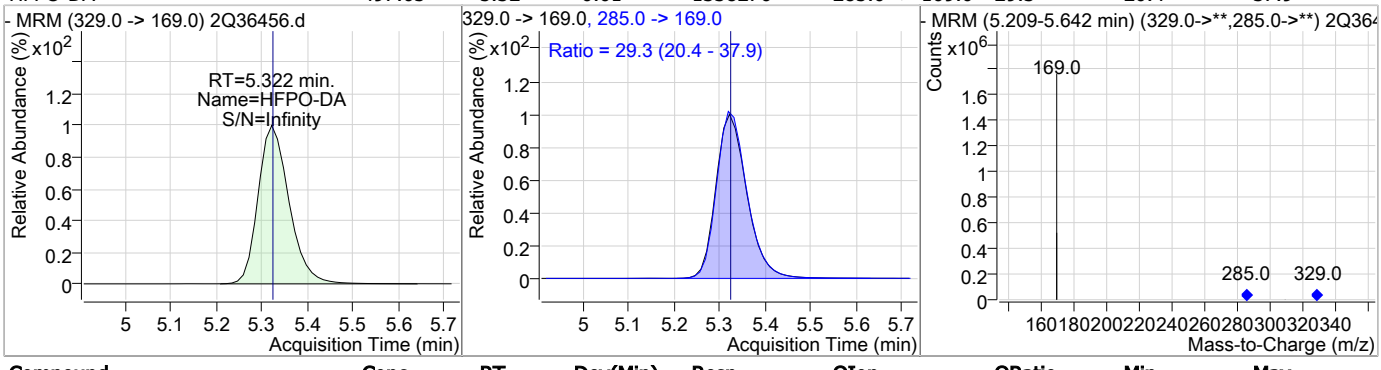
Perfluorinated Compounds by LC/MS/MS

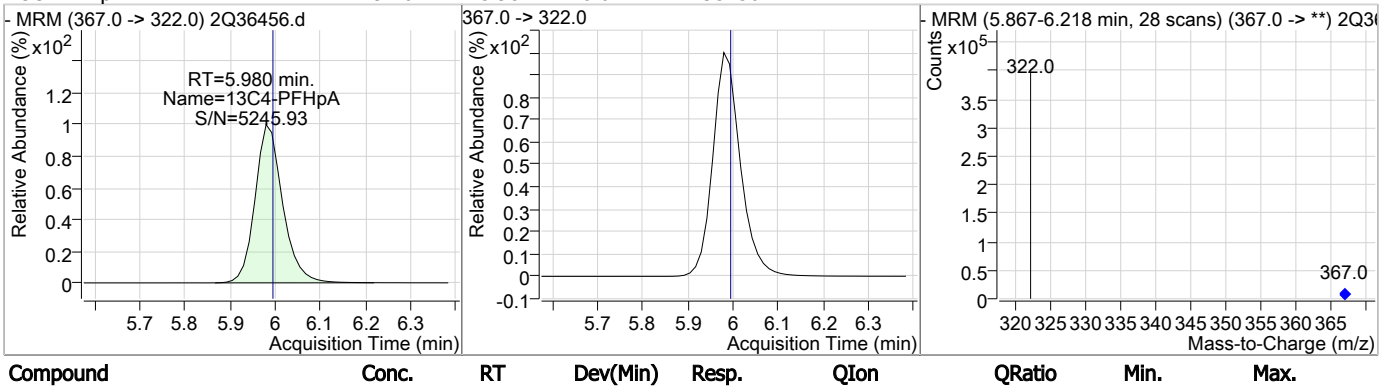
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	91.84	5.32	-0.01	261081				



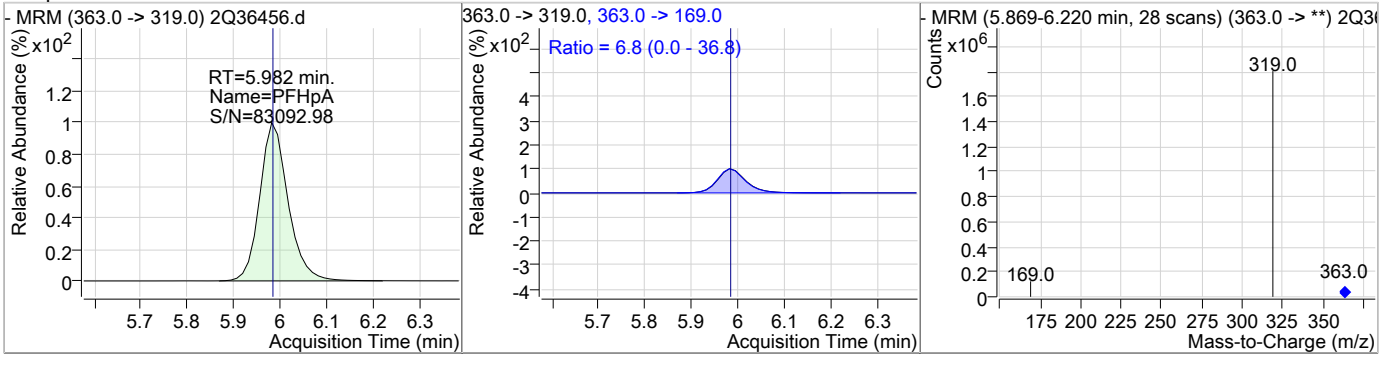
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	497.65	5.32	-0.01	1338276	285.0 -> 169.0	29.3	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.40	5.98	-0.01	295456				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	100.42	5.98	-0.01	1355024	363.0 -> 169.0	6.8	0.0	36.8



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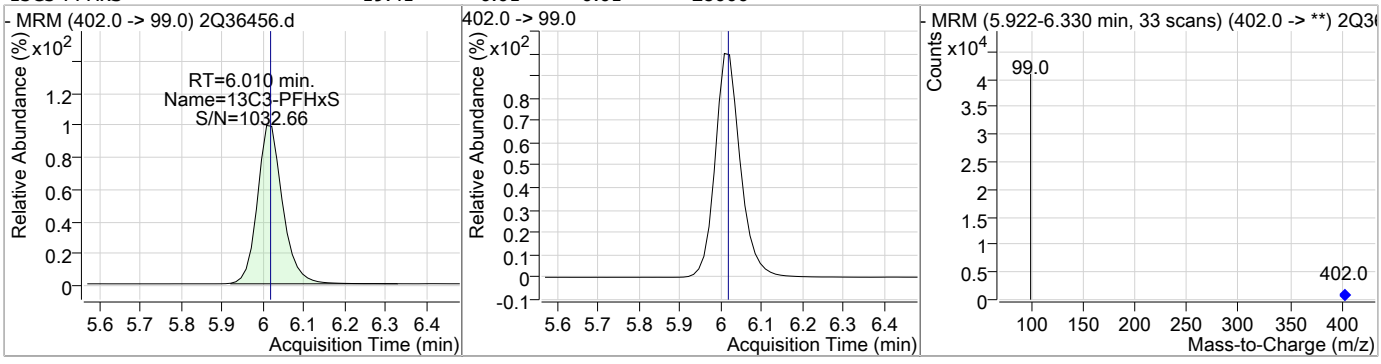
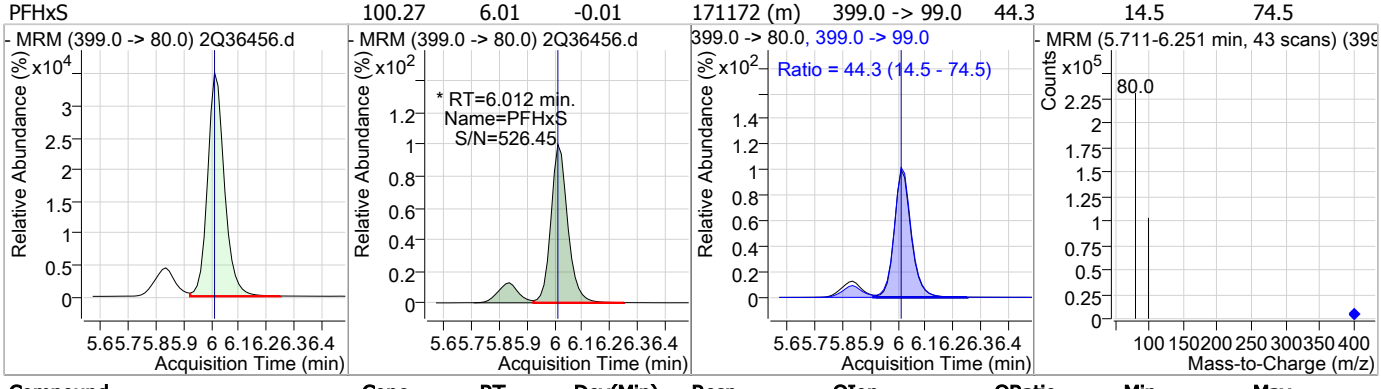
Perfluorinated Compounds by LC/MS/MS

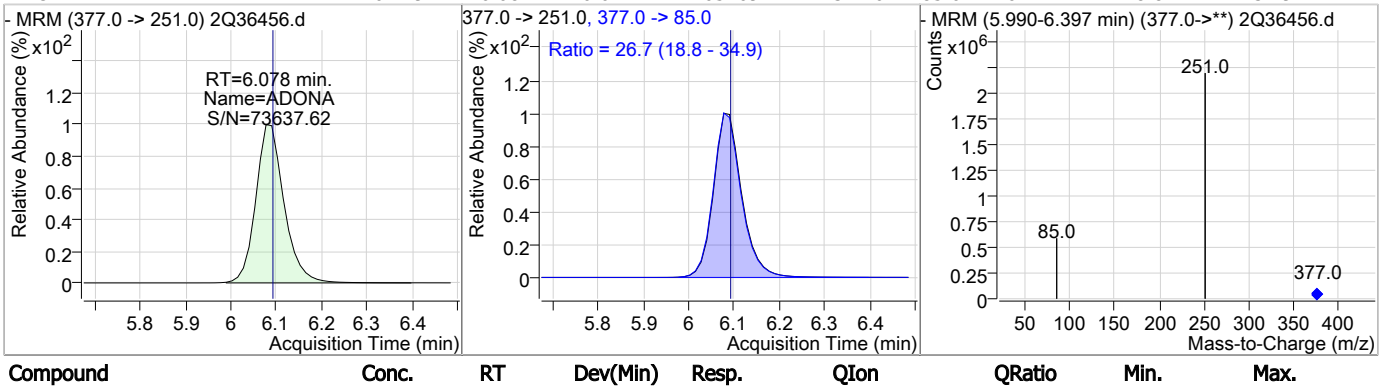
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.41	6.01	-0.01	28606				



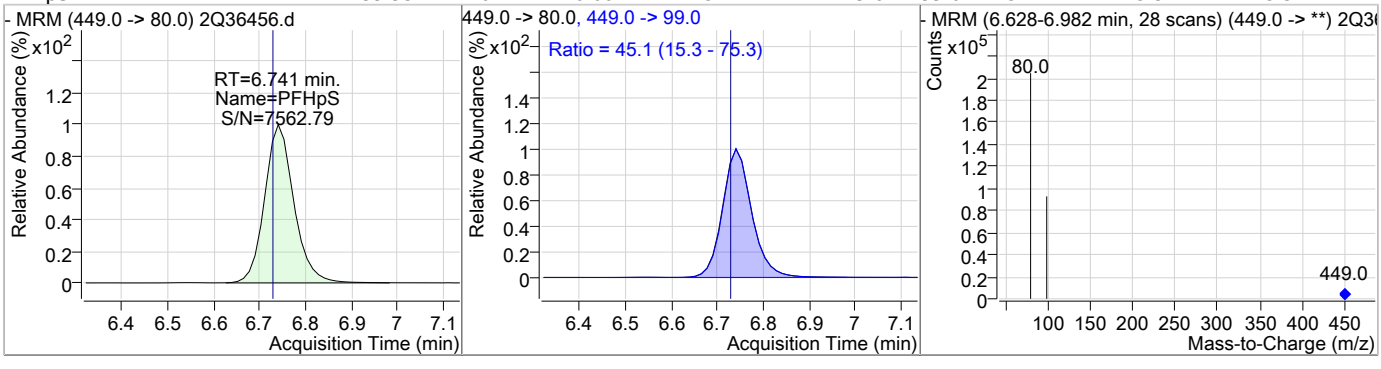
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	100.27	6.01	-0.01	171172 (m)	399.0 -> 99.0	44.3	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	101.29	6.08	-0.01	1651697	377.0 -> 85.0	26.7	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	99.93	6.74	0.00	152741	449.0 -> 99.0	45.1	15.3	75.3



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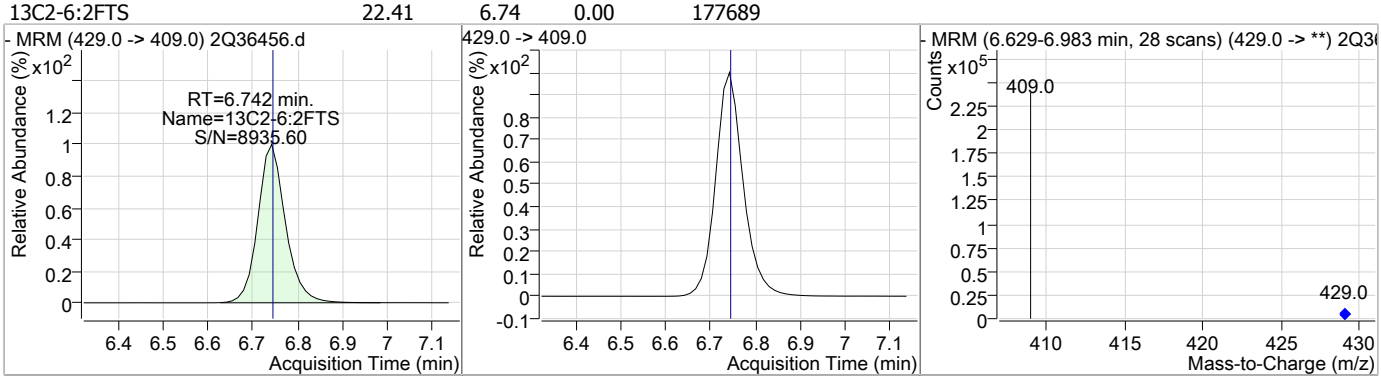
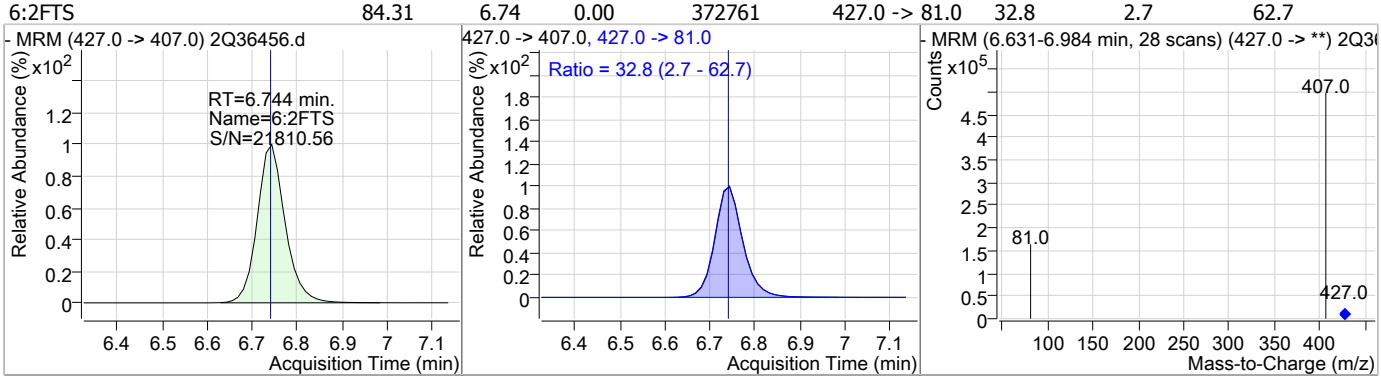
Perfluorinated Compounds by LC/MS/MS

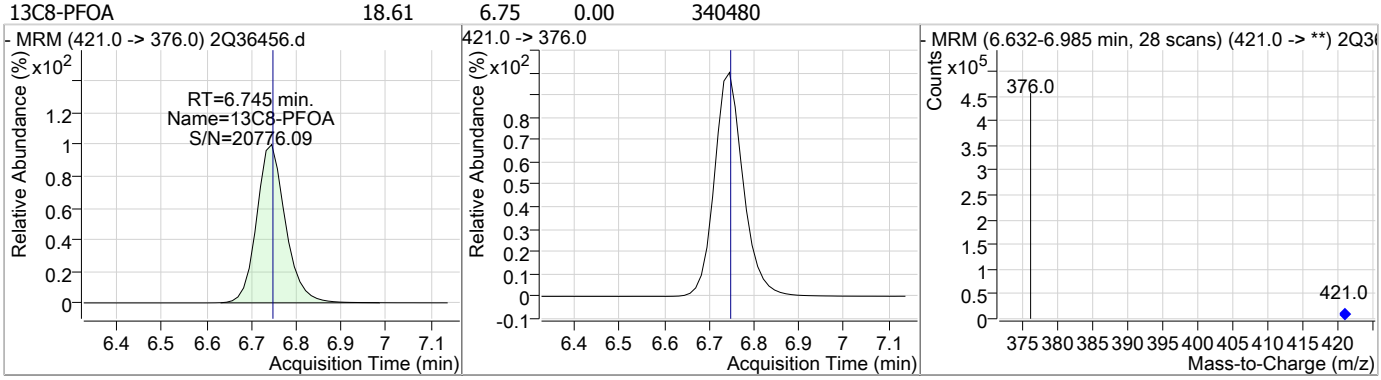
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	22.41	6.74	0.00	177689				



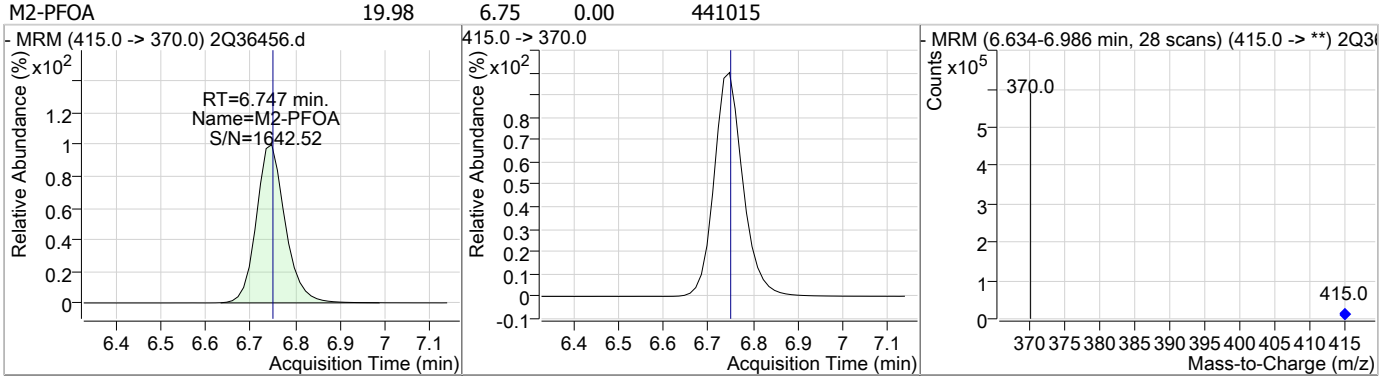
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	84.31	6.74	0.00	372761	427.0 -> 81.0	32.8	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	18.61	6.75	0.00	340480				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.98	6.75	0.00	441015				



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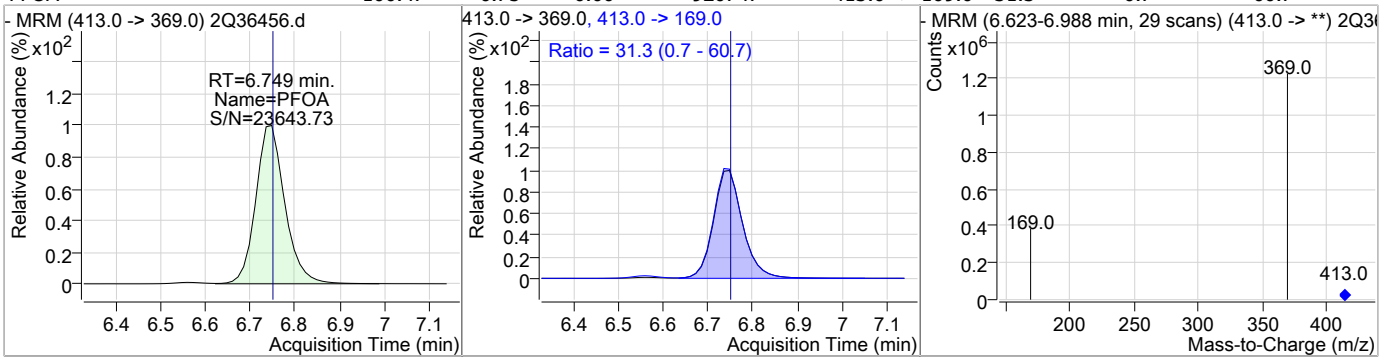
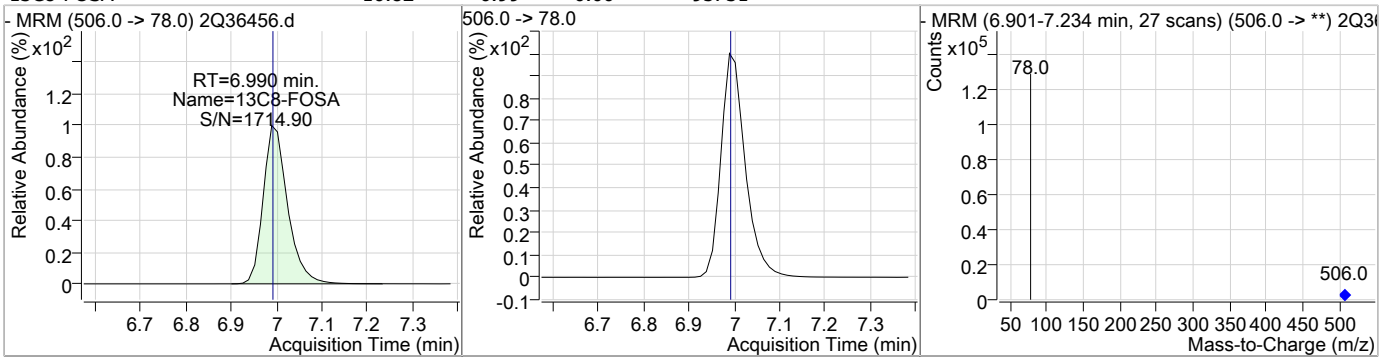
Perfluorinated Compounds by LC/MS/MS

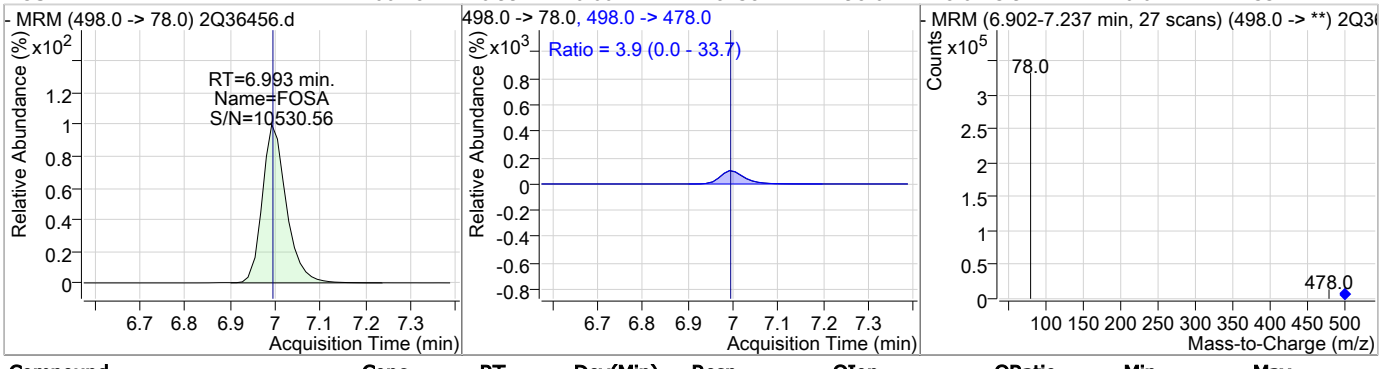
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	100.47	6.75	0.00	920747	413.0 -> 169.0	31.3	0.7	60.7



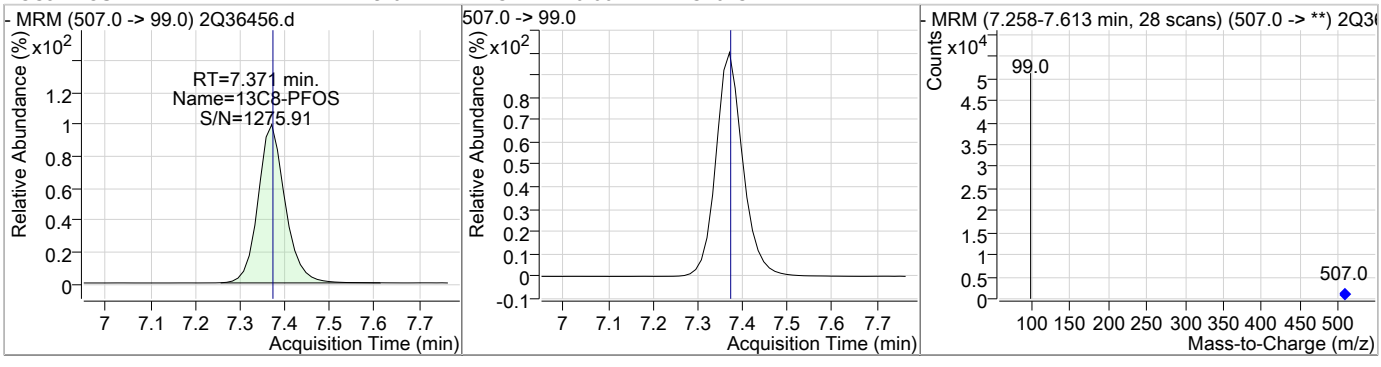
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	16.82	6.99	0.00	95731				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	100.28	6.99	0.00	248738	498.0 -> 478.0	3.9	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.04	7.37	0.00	37073				



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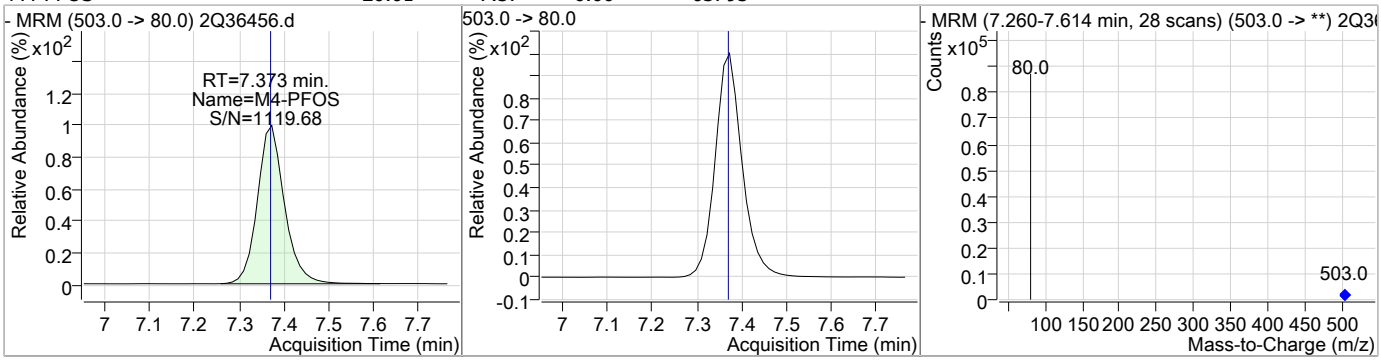
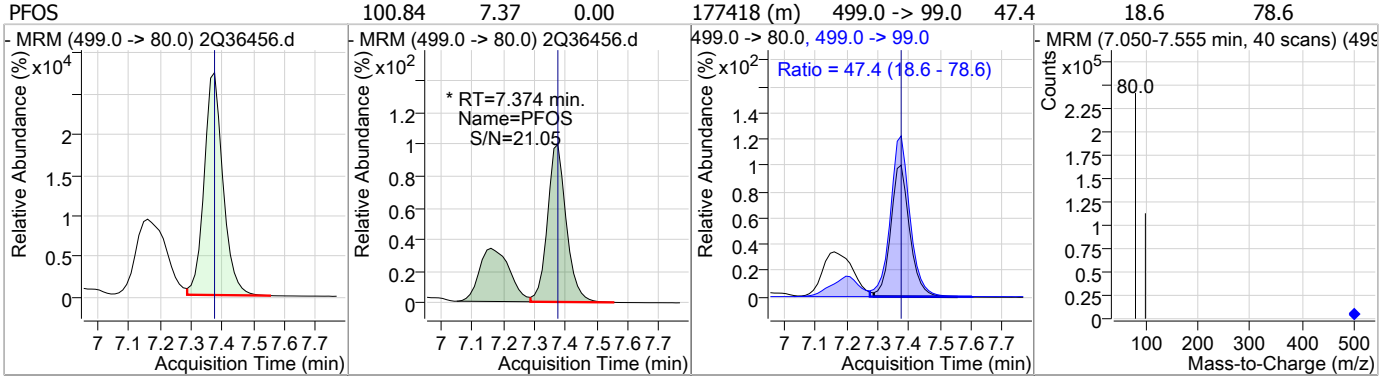
Perfluorinated Compounds by LC/MS/MS

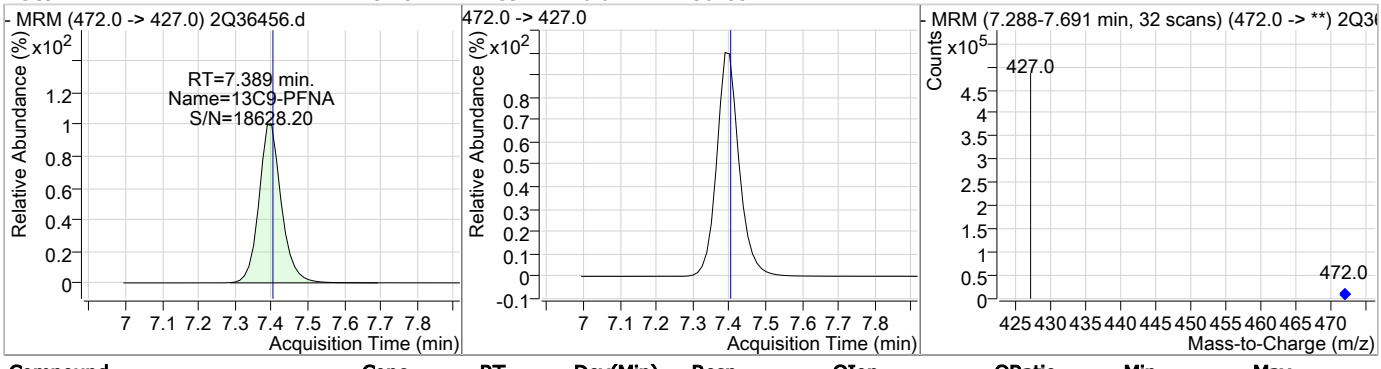
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.01	7.37	0.00	63793				



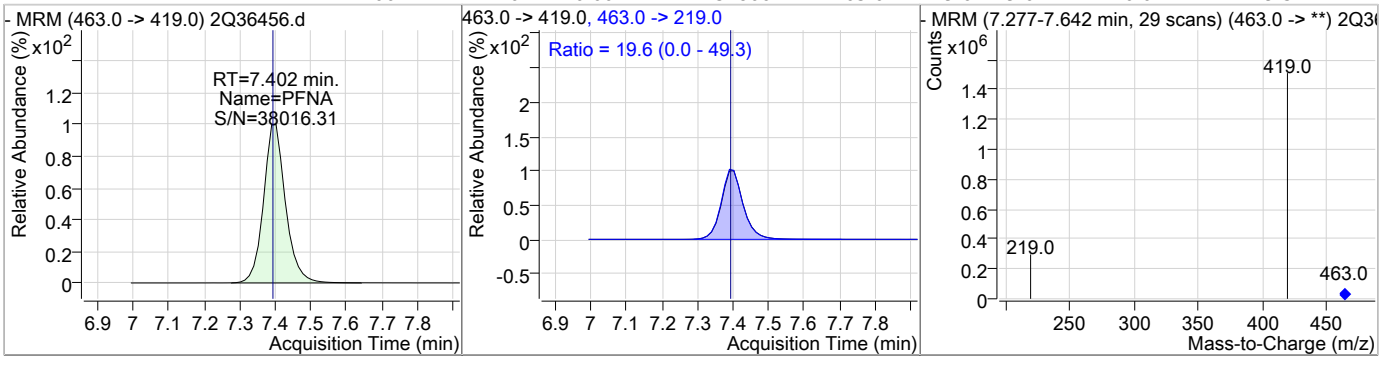
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	100.84	7.37	0.00	177418 (m)	499.0 -> 99.0	47.4	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.13	7.39	-0.01	361554				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	100.27	7.40	0.00	1134806	463.0 -> 219.0	19.6	0.0	49.3



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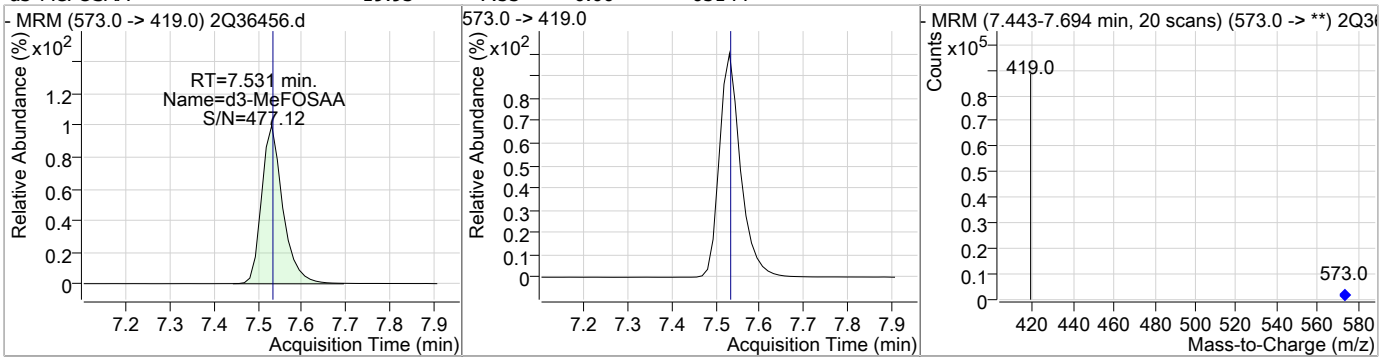
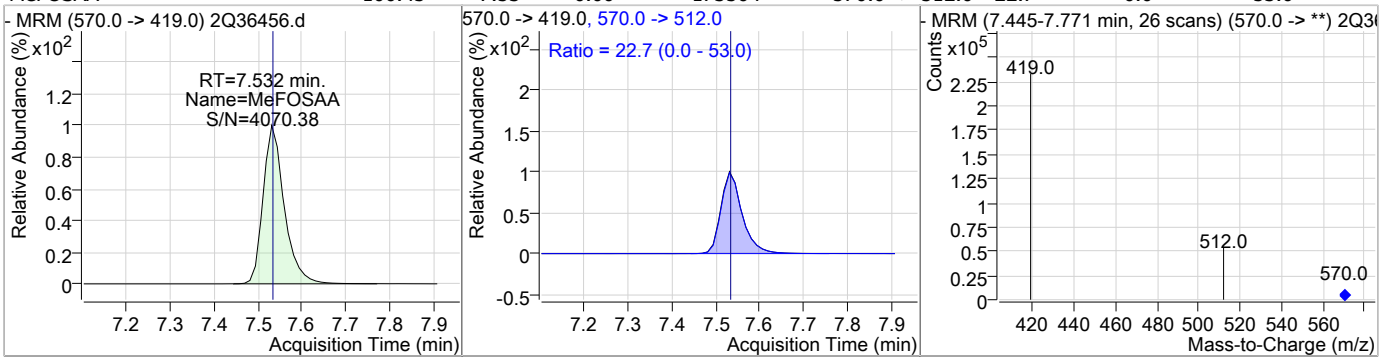
Perfluorinated Compounds by LC/MS/MS

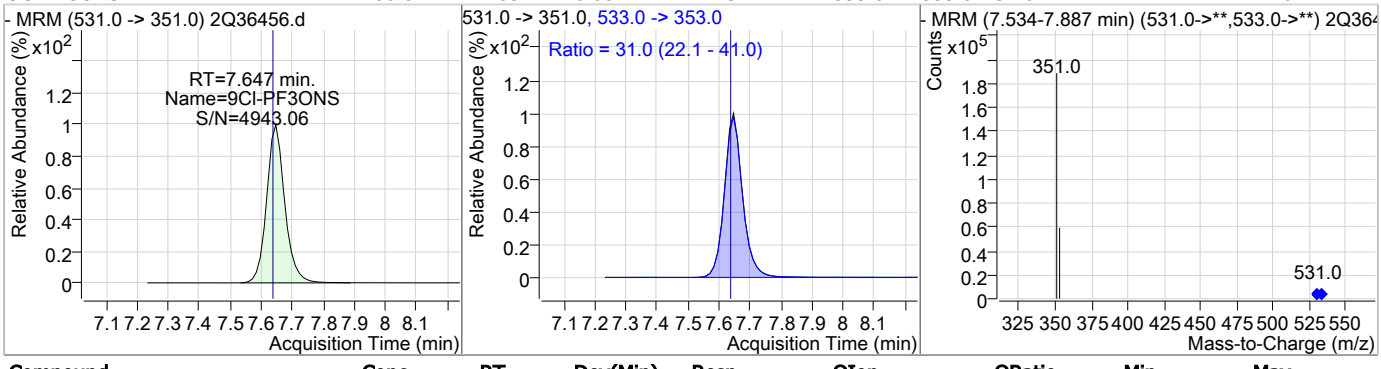
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.93	7.53	0.00	65144				



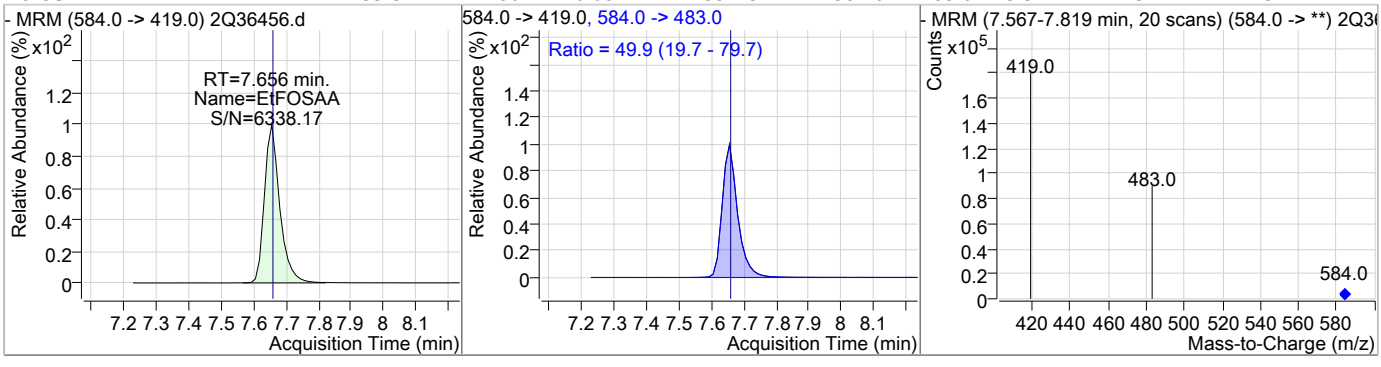
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	100.45	7.53	0.00	173564	570.0 -> 512.0	22.7	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	100.84	7.65	0.00	141321	533.0 -> 353.0	31.0	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	99.32	7.66	0.00	135129	584.0 -> 483.0	49.9	19.7	79.7



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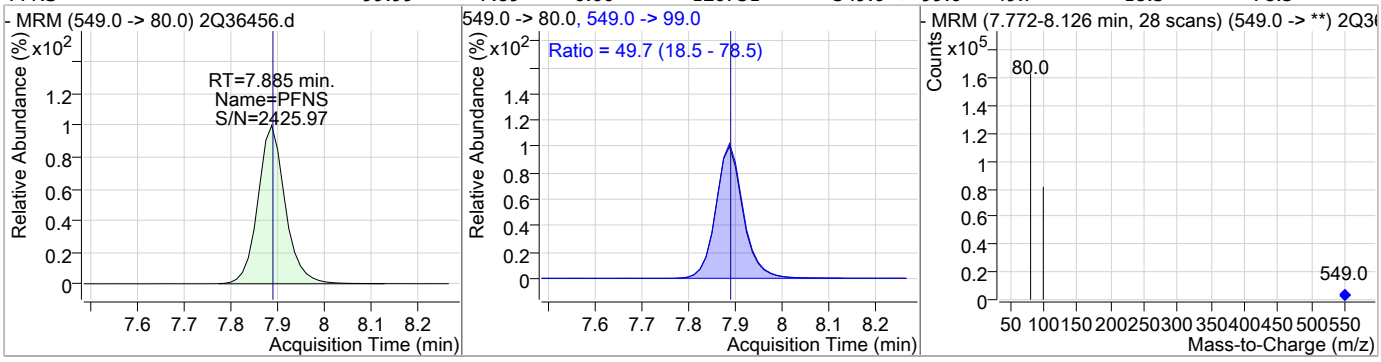
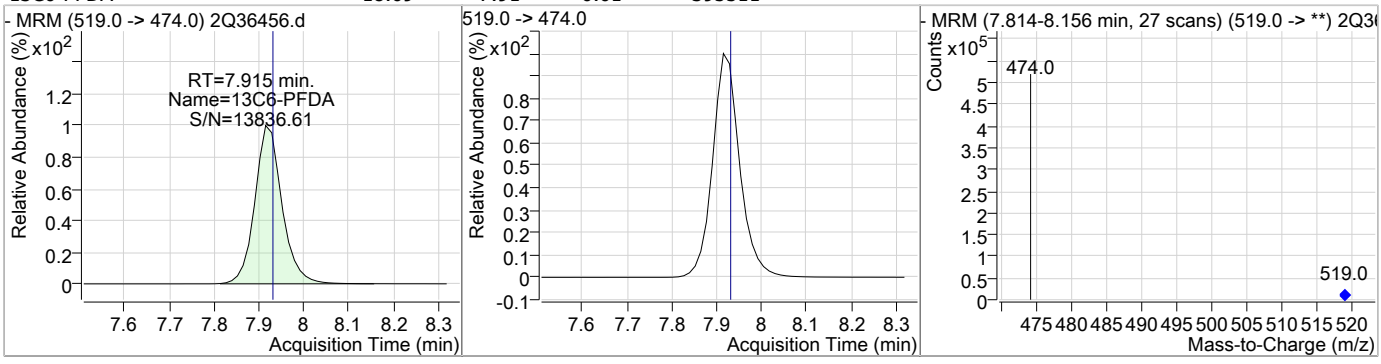
Perfluorinated Compounds by LC/MS/MS

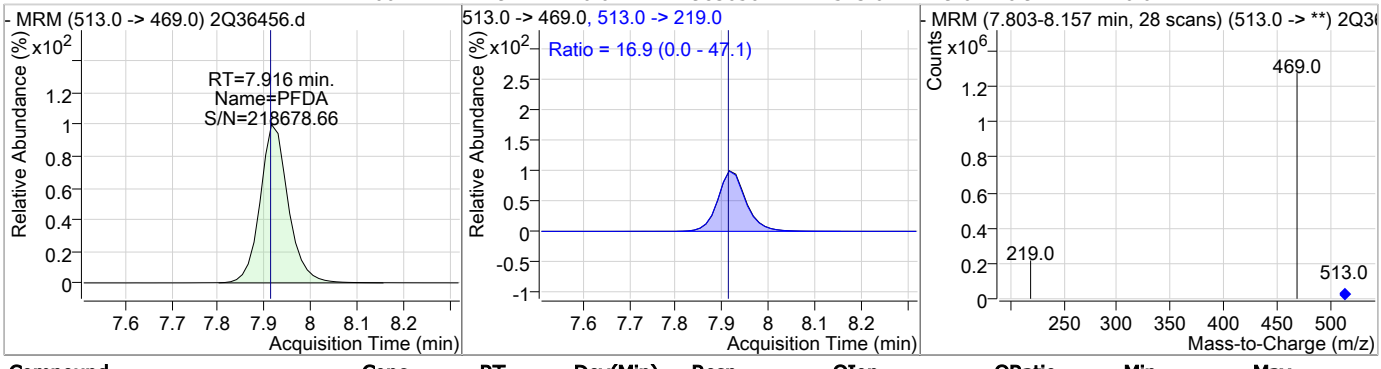
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	99.99	7.89	0.00	120731	549.0 -> 99.0	49.7	18.5	78.5



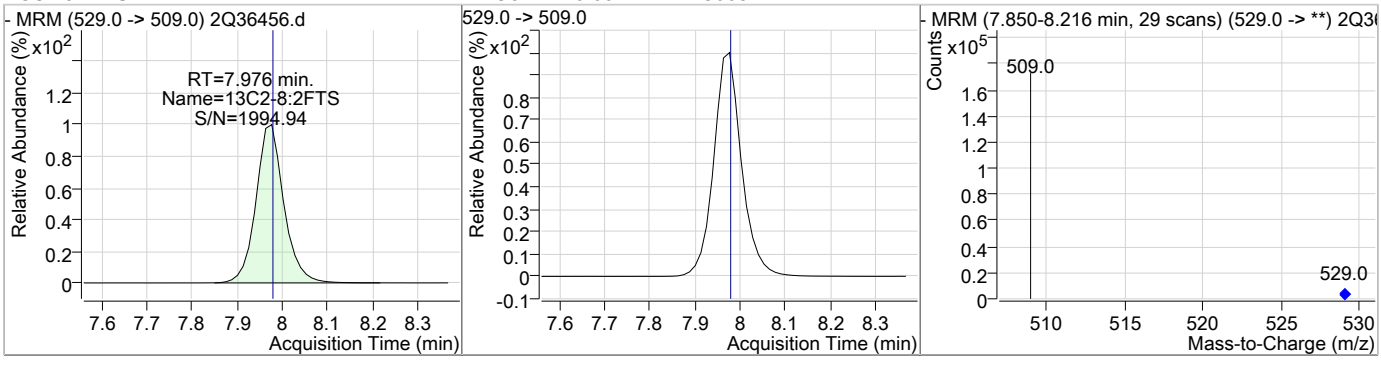
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	18.69	7.91	-0.01	395511				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	100.27	7.92	-0.01	983656	513.0 -> 219.0	16.9	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	24.17	7.98	0.00	130084				



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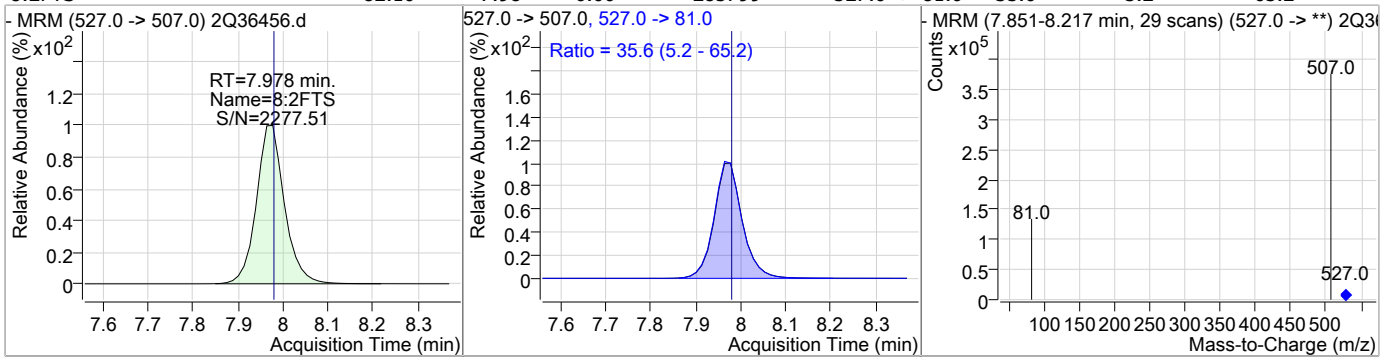
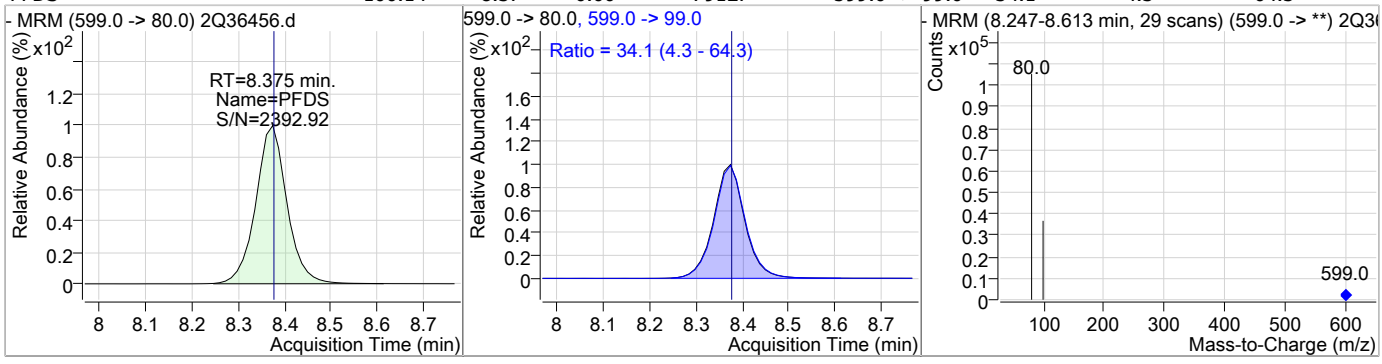
Perfluorinated Compounds by LC/MS/MS

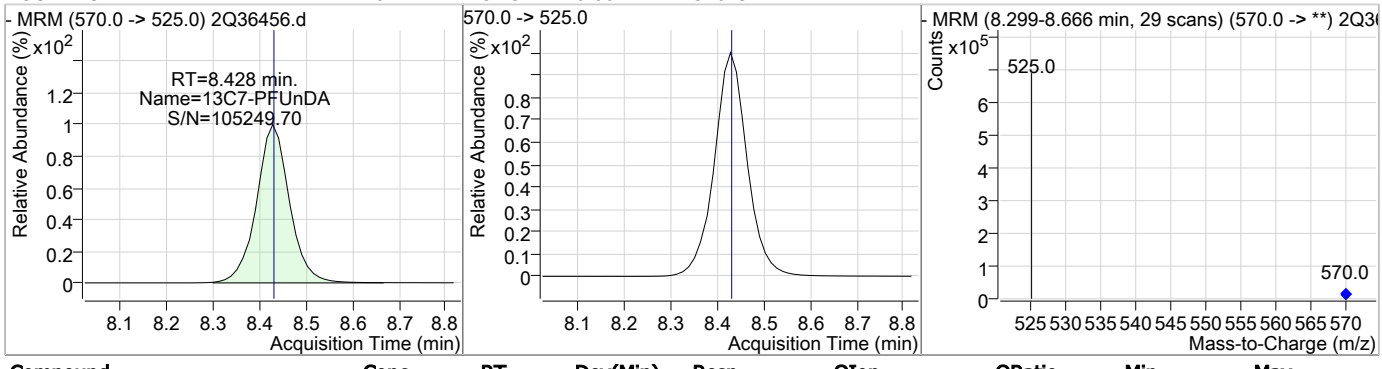
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	82.10	7.98	0.00	285799	527.0 -> 81.0	35.6	5.2	65.2



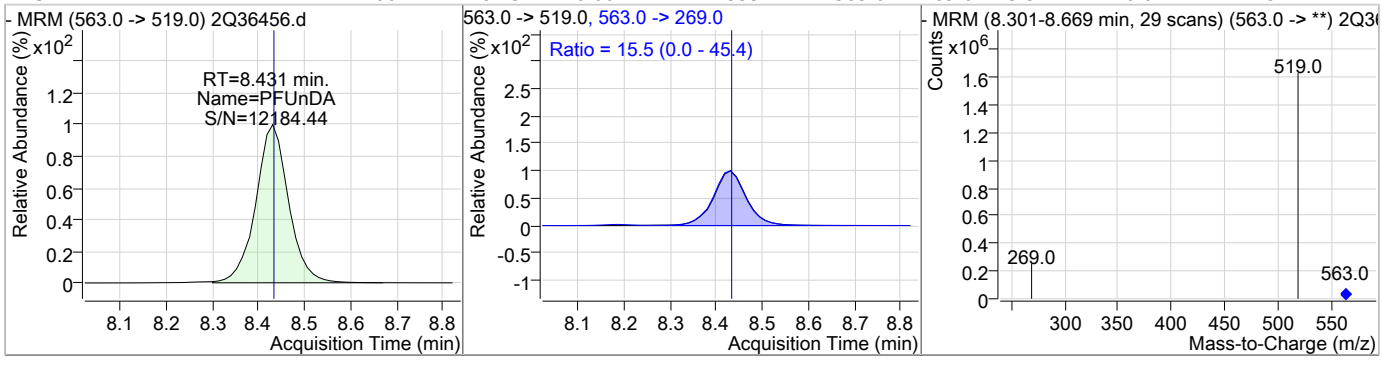
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	100.14	8.37	0.00	79127	599.0 -> 99.0	34.1	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	18.77	8.43	0.00	520192				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	100.44	8.43	0.00	1229997	563.0 -> 269.0	15.5	0.0	45.4



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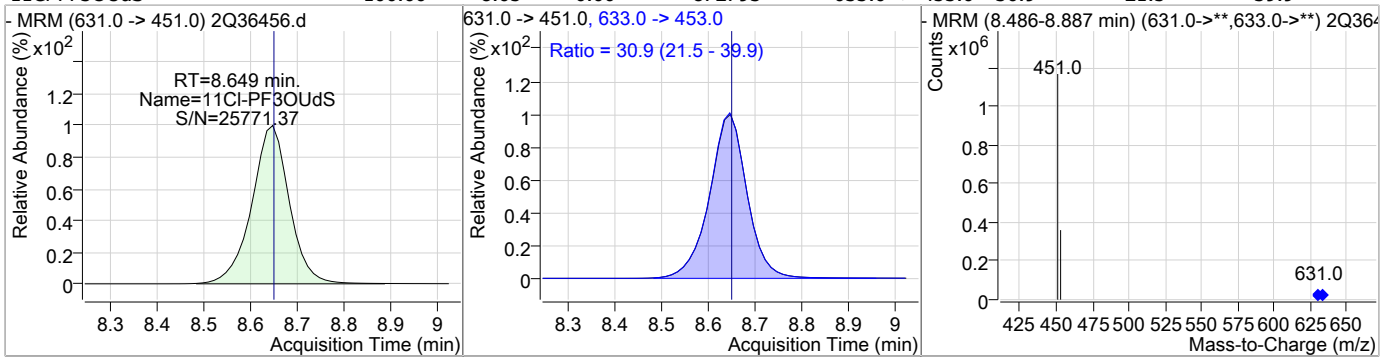
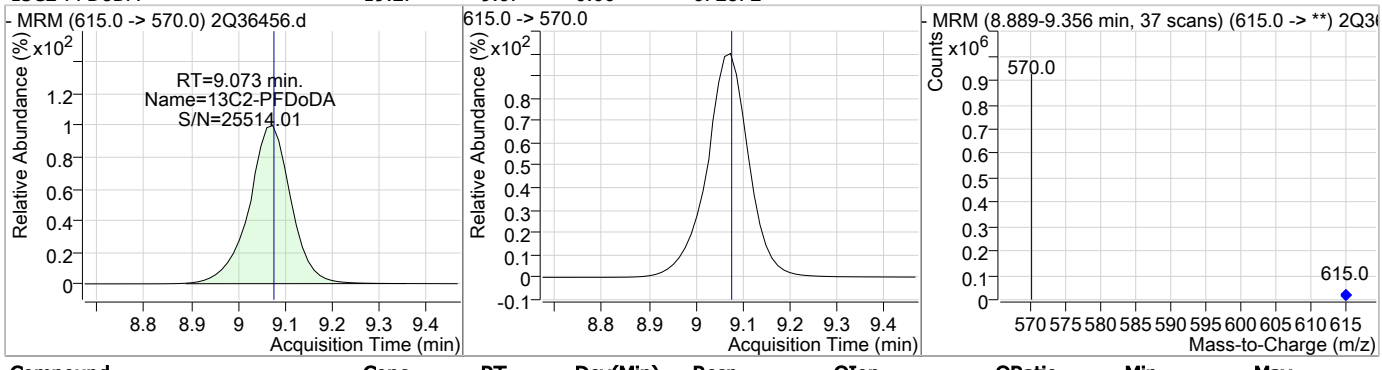
Perfluorinated Compounds by LC/MS/MS

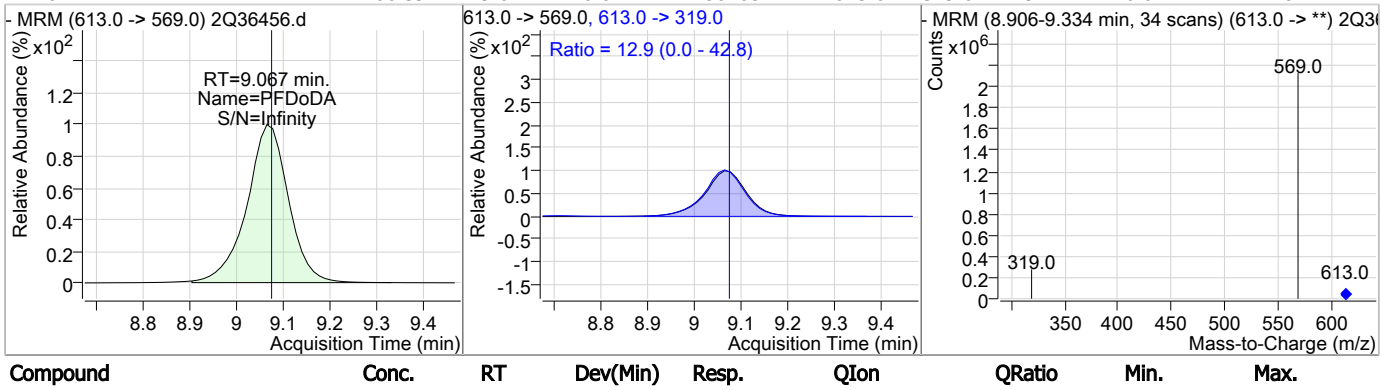
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	100.66	8.65	0.00	872793	633.0 -> 453.0	30.9	21.5	39.9



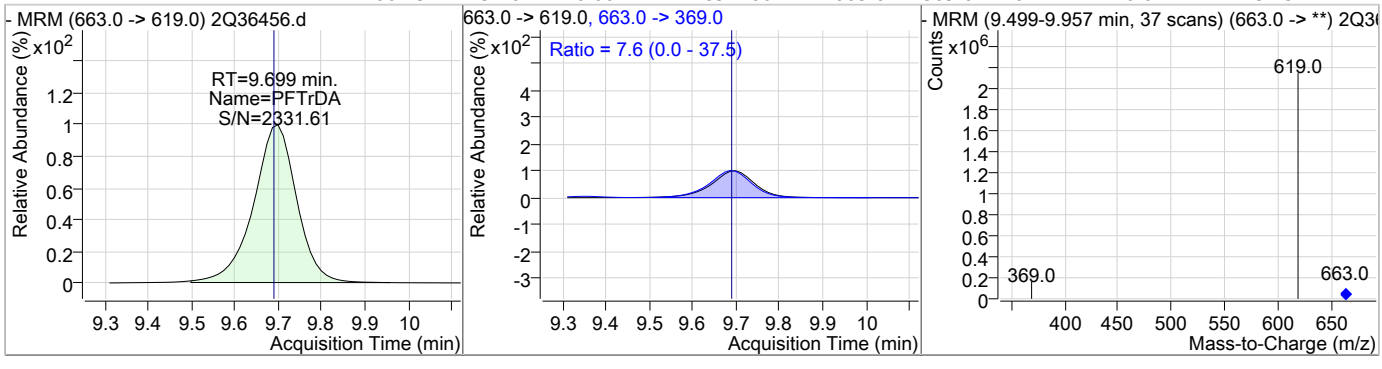
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.27	9.07	0.00	672872				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	100.39	9.07	-0.01	1561031	613.0 -> 319.0	12.9	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	100.23	9.70	0.00	1592480	663.0 -> 369.0	7.6	0.0	37.5



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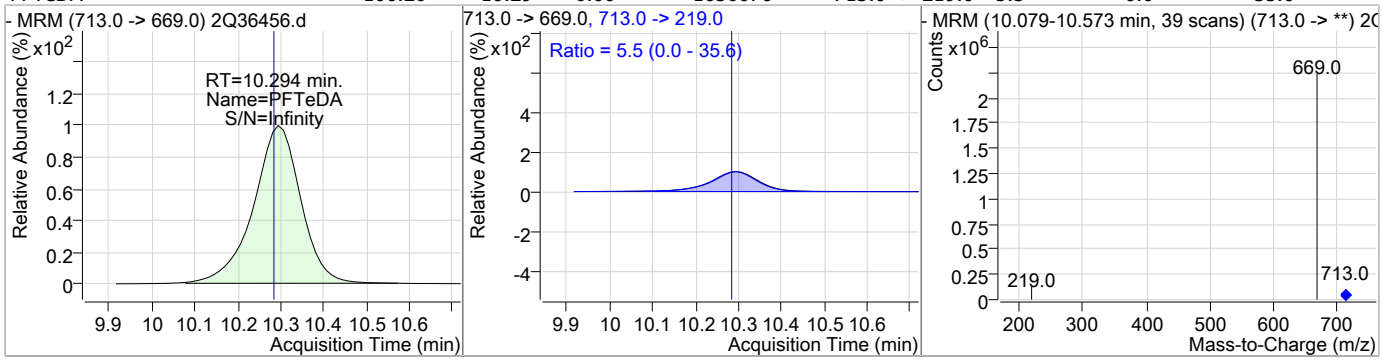
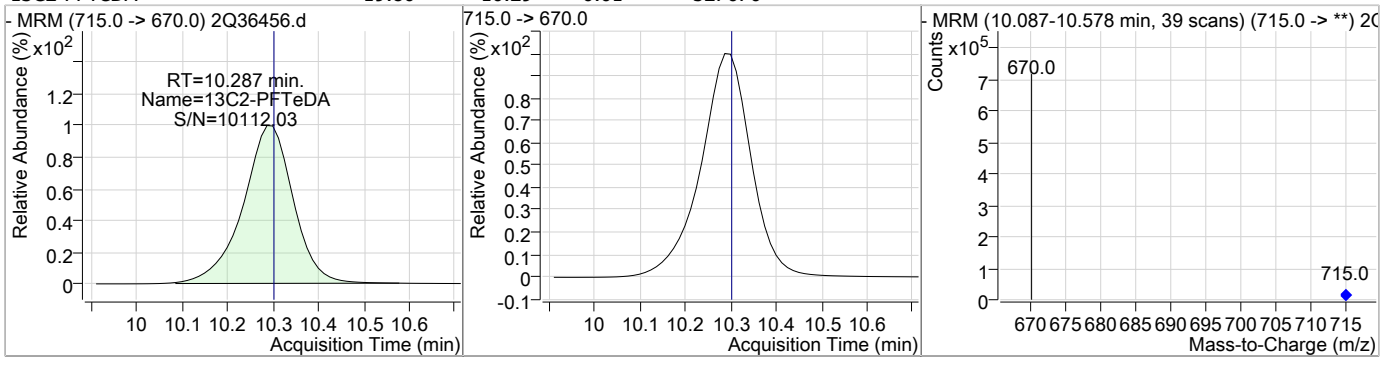
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	100.20	10.29	0.00	1650070	713.0 -> 219.0	5.5	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.80	10.29	-0.01	527670				



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Manual Integration Approval Summary

Sample Number:	S2Q568-IC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36456.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 15:48	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36459.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 4:36:17 PM
Sample Name	:	icv568-20
Vial	:	Vial 11
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.747	415.0 -> 370.0	450220	20.00	µg/L	0.000
13C4-PFOS	7.373	503.0 -> 80.0	63943	20.00	µg/L	0.000
M4-PFBA	2.077	217.0 -> 172.0	195148	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	162173	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	232045	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	302870	20.00	µg/L	0.000
M8-PFOA	6.745	421.0 -> 376.0	364863	20.00	µg/L	0.000
M9-PFNA	7.401	472.0 -> 427.0	374665	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	422832	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	552278	20.00	µg/L	0.013
M2-PFDoDA	9.073	615.0 -> 570.0	699548	20.00	µg/L	0.000
M2-PFTeDA	10.300	715.0 -> 670.0	537607	20.00	µg/L	0.000
M8-FOSA	6.990	506.0 -> 78.0	113554	20.00	µg/L	0.000
M3-PFBS	4.017	302.0 -> 99.0	27090	20.00	µg/L	0.000
M3-PFHxS	6.022	402.0 -> 99.0	29090	20.00	µg/L	0.000
M8-PFOS	7.371	507.0 -> 99.0	38669	20.00	µg/L	0.000
M2-4:2FTS	4.958	329.0 -> 309.0	115035	20.00	µg/L	0.000
M2-6:2FTS	6.755	429.0 -> 409.0	156936	20.00	µg/L	0.013
M2-8:2FTS	7.976	529.0 -> 509.0	105404	20.00	µg/L	0.000
M3-MeFOSAA	7.531	573.0 -> 419.0	65601	20.00	µg/L	0.000
M3-HFPO-DA	5.343	287.0 -> 169.0	272040	100.00	µg/L	0.013
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	114916	19.74	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C2-6:2FTS	6.755	429.0 -> 409.0	156841	19.78	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C2-8:2FTS	7.976	529.0 -> 509.0	105386	19.58	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%		
13C2-PFDoDA	9.073	615.0 -> 570.0	694772	19.90	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C2-PFTeDA	10.300	715.0 -> 670.0	528486	19.83	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C3-PFBS	4.017	302.0 -> 99.0	26964	19.73	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C3-PFHxS	6.022	402.0 -> 99.0	29073	19.73	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C4-PFBA	2.077	217.0 -> 172.0	194077	19.82	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C4-PFHpA	5.992	367.0 -> 322.0	302359	19.85	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C5-PFHxA	5.051	318.0 -> 273.0	231694	19.85	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C5-PFPeA	3.774	268.0 -> 223.0	162146	19.70	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.5%		
13C6-PFDA	7.928	519.0 -> 474.0	422511	19.97	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C7-PFUnDA	8.440	570.0 -> 525.0	550542	19.86 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C8-FOSA	6.990	506.0 -> 78.0	113519	19.95 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C8-PFOA	6.745	421.0 -> 376.0	364496	19.92 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C8-PFOS	7.371	507.0 -> 99.0	38620	19.84 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C9-PFNA	7.401	472.0 -> 427.0	374922	19.83 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.2%		
d3-MeFOSAA	7.531	573.0 -> 419.0	65769	20.12 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
M2-PFOA	6.747	415.0 -> 370.0	451032	20.01 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
M4-PFOS	7.373	503.0 -> 80.0	64132	20.07 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C3-HFPO-DA	5.343	287.0 -> 169.0	272040	95.69 µg/L		0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 95.7%		
Target Compounds						**QValue**
4:2FTS	4.961	327.0 -> 307.0	59250	18.14 µg/L		99
6:2FTS	6.744	427.0 -> 407.0	73928	18.95 µg/L		100
8:2FTS	7.978	527.0 -> 507.0	53468	18.96 µg/L		100
EtFOSAA	7.656	584.0 -> 419.0	28126	20.44 µg/L		97
FOSA	6.993	498.0 -> 78.0	56592	19.24 µg/L		98
MeFOSAA	7.532	570.0 -> 419.0	34099	19.51 µg/L		100
PFBA	2.086	213.0 -> 169.0	34425	18.94 µg/L		100
PFBS	4.021	299.0 -> 80.0	35424	16.56 µg/L		100
PFDA	7.930	513.0 -> 469.0	188560	17.99 µg/L		99
PFDoDA	9.079	613.0 -> 569.0	319829	19.87 µg/L		99
PFDS	8.375	599.0 -> 80.0	15659	19.00 µg/L		100
PFHpA	5.995	363.0 -> 319.0	275534	19.95 µg/L		100
PFHpS	6.753	449.0 -> 80.0	29234	18.81 µg/L		99
PFHxA	5.052	313.0 -> 269.0	63411	17.79 µg/L		99
PFHxS	6.025	399.0 -> 80.0	29188	16.81 µg/L	m	98
PFNA	7.402	463.0 -> 419.0	209521	17.88 µg/L		99
PFNS	7.898	549.0 -> 80.0	23875	18.96 µg/L		98
PFOA	6.749	413.0 -> 369.0	186105	18.96 µg/L		99
PFOS	7.374	499.0 -> 80.0	35350	19.26 µg/L	m	98
PFPeA	3.777	263.0 -> 219.0	153893	18.80 µg/L		100
PFPeS	5.157	349.0 -> 80.0	21323	18.04 µg/L		99
PFTeDA	10.306	713.0 -> 669.0	297539	18.01 µg/L		100
PFTrDA	9.699	663.0 -> 619.0	351259	22.04 µg/L		100
PFUnDA	8.443	563.0 -> 519.0	265529	20.42 µg/L		100
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
HFPO-DA	-	329.0 -> 169.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

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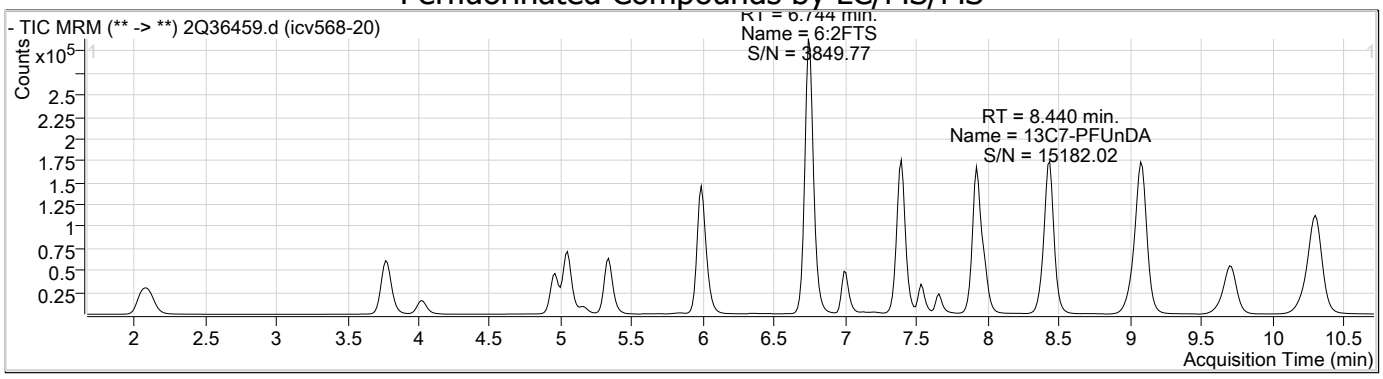
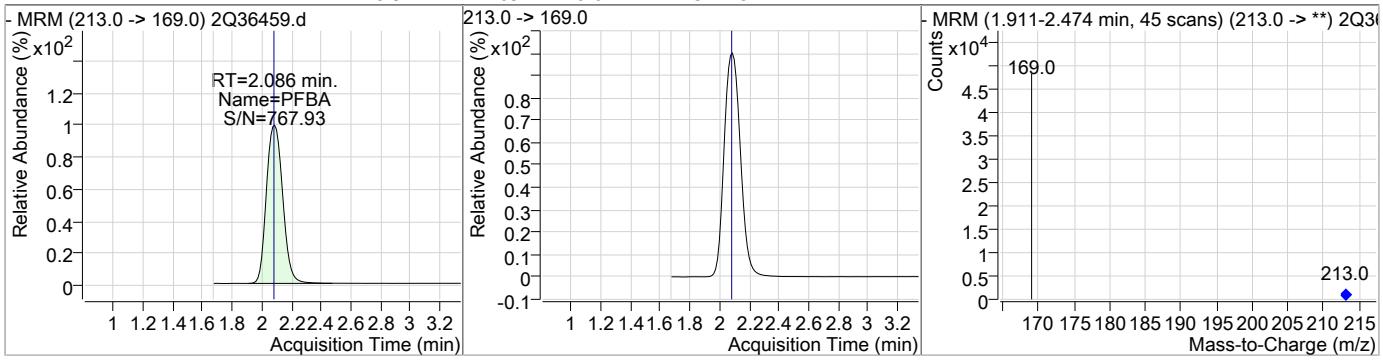
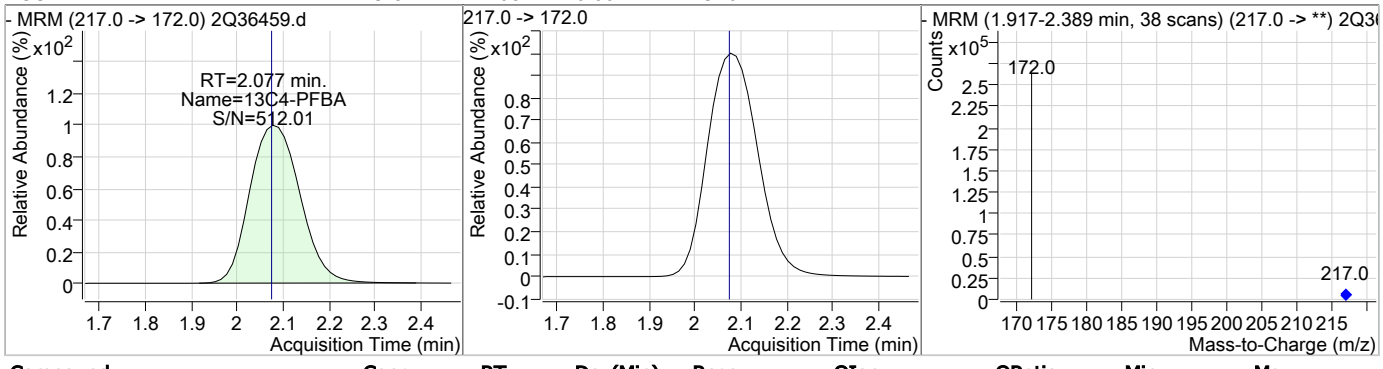
Perfluorinated Compounds by LC/MS/MS



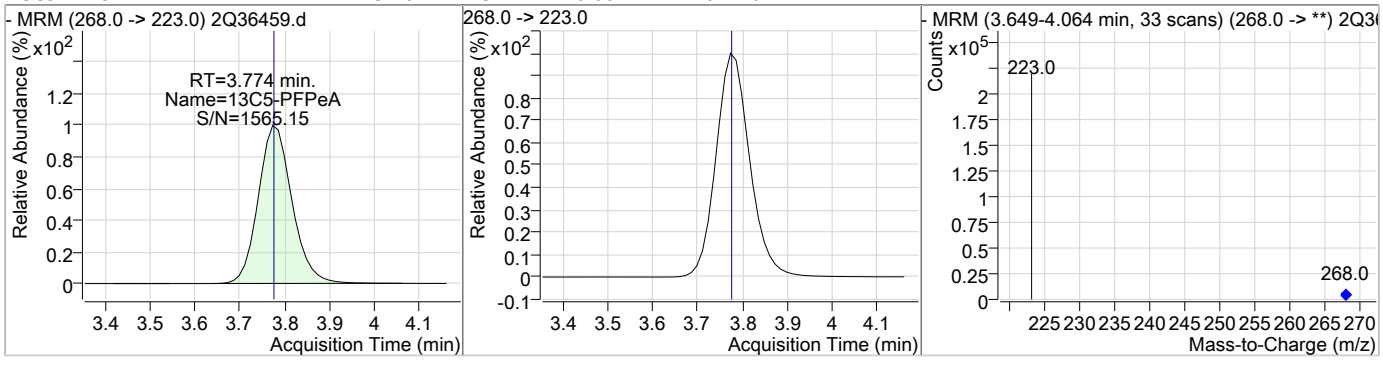
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.94	2.09	0.01	34425				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	19.82	2.08	0.00	194077				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.70	3.77	0.00	162146				



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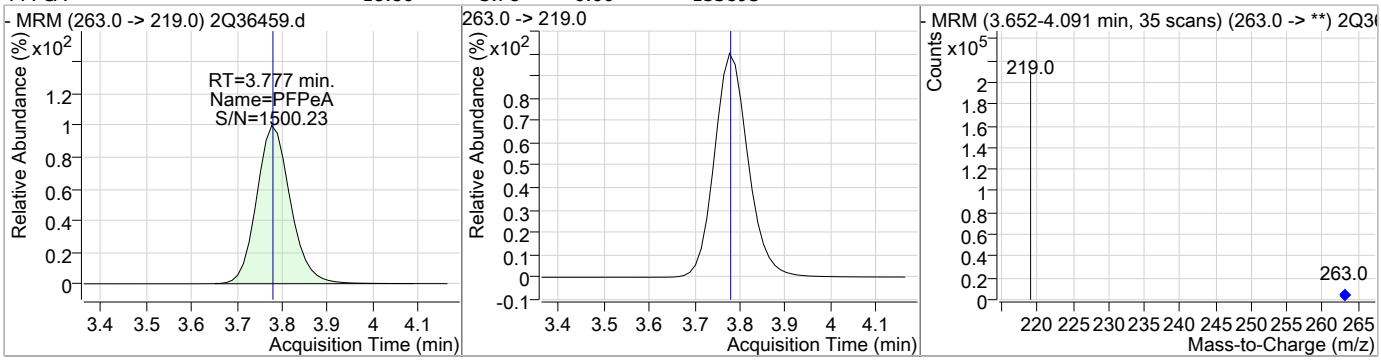
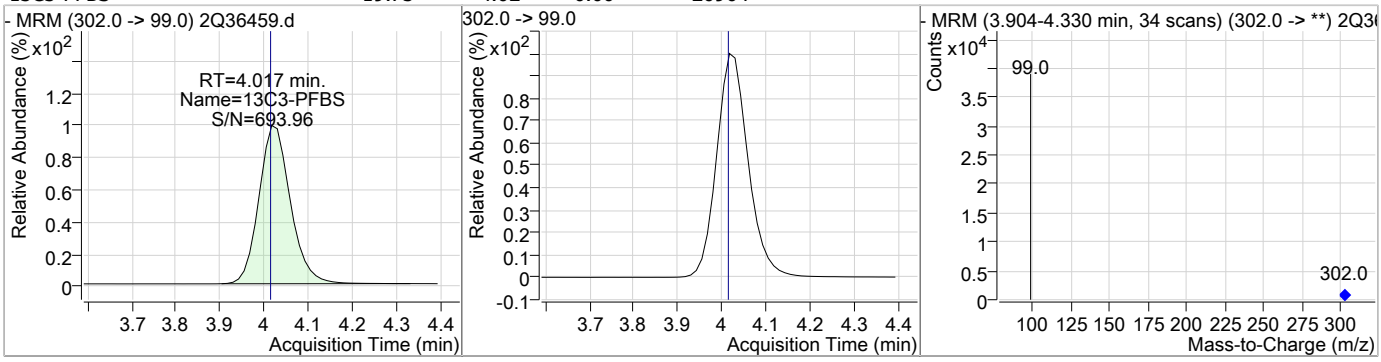
Perfluorinated Compounds by LC/MS/MS

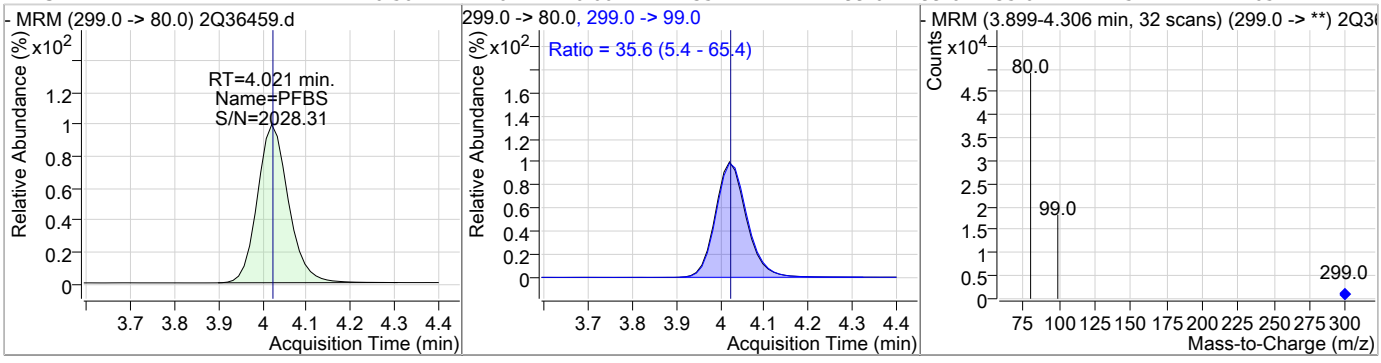
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.80	3.78	0.00	153893				



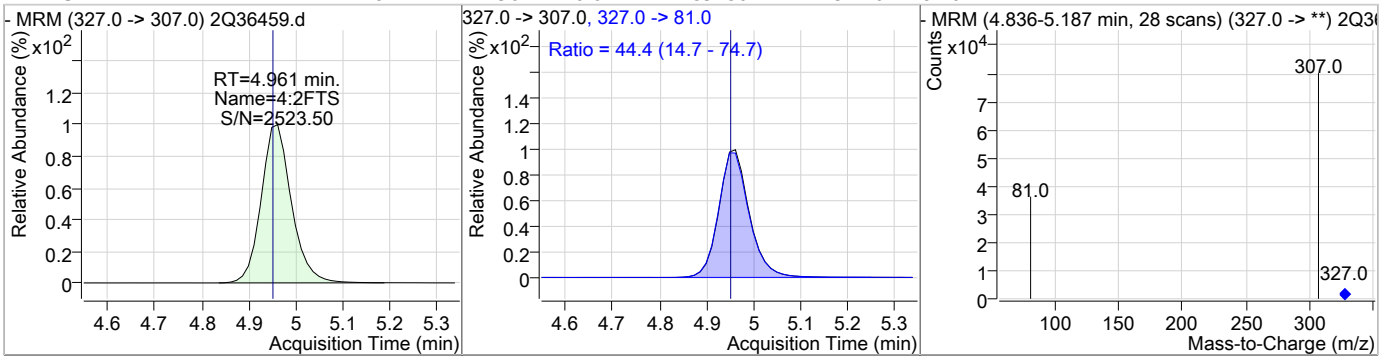
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.73	4.02	0.00	26964				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	16.56	4.02	0.00	35424	299.0 -> 99.0	35.6	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.14	4.96	0.01	59250	327.0 -> 81.0	44.4	14.7	74.7



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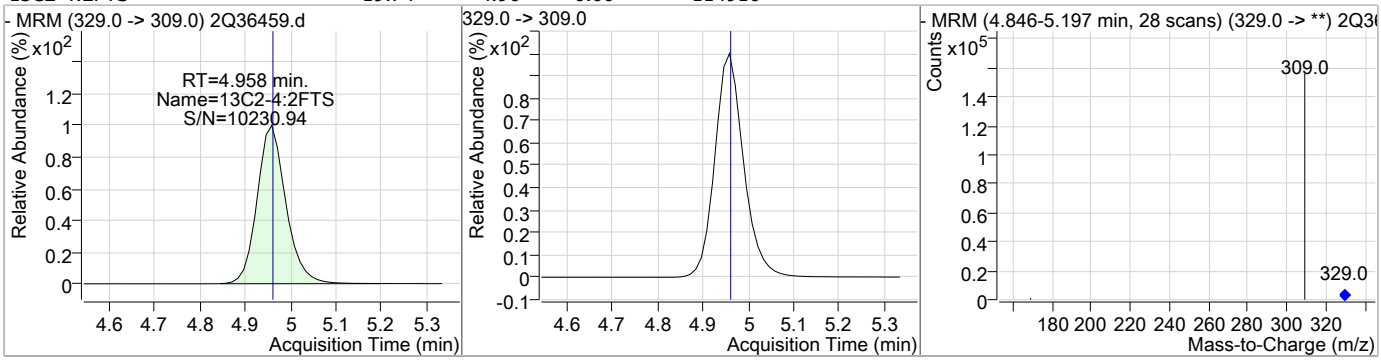
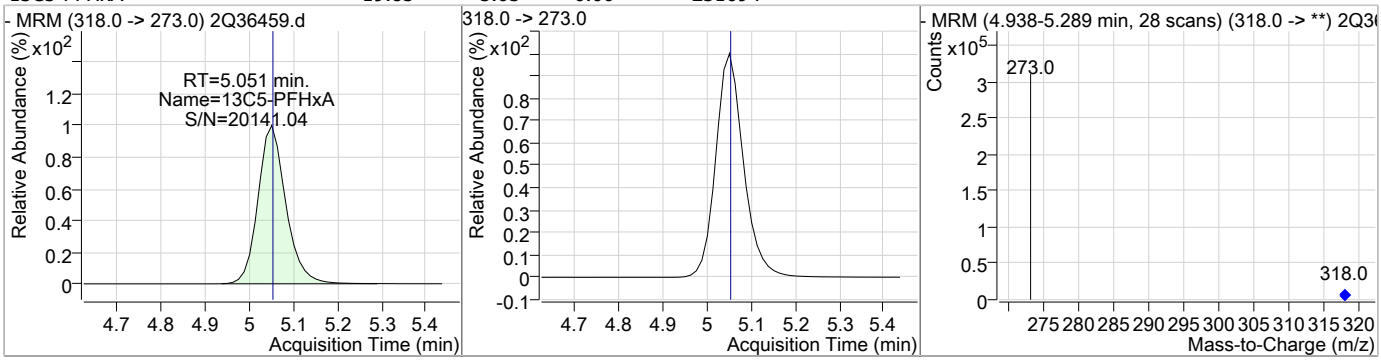
Perfluorinated Compounds by LC/MS/MS

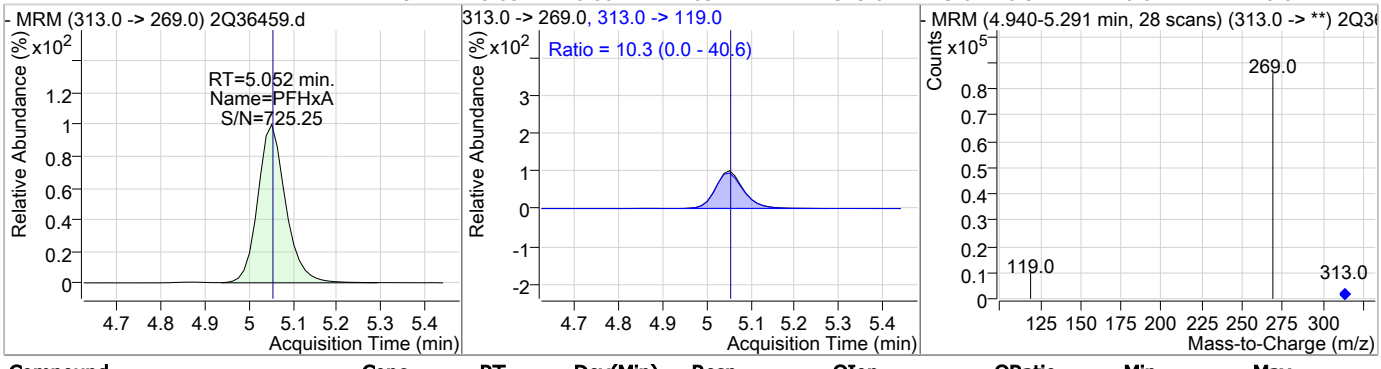
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.74	4.96	0.00	114916				



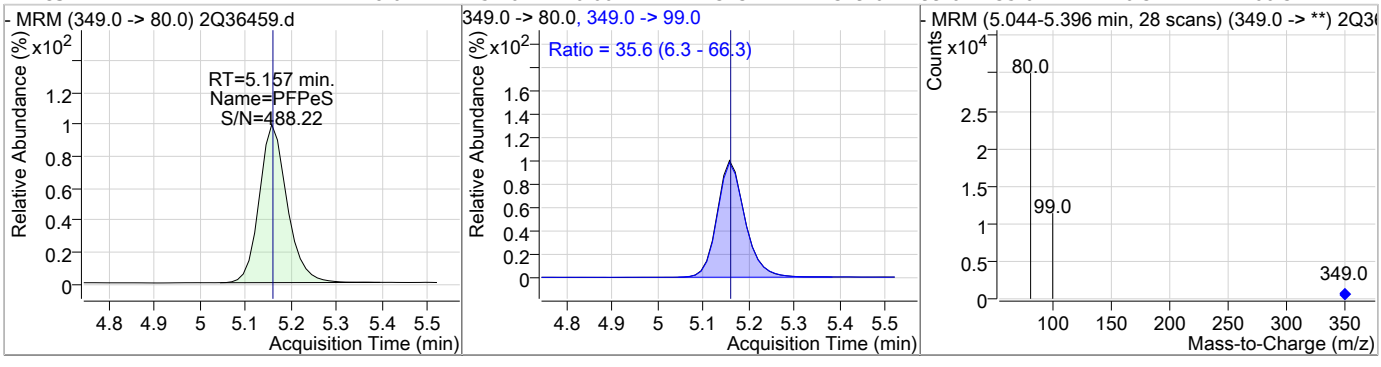
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.85	5.05	0.00	231694				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	17.79	5.05	0.00	63411	313.0 -> 119.0	10.3	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.04	5.16	0.00	21323	349.0 -> 99.0	35.6	6.3	66.3



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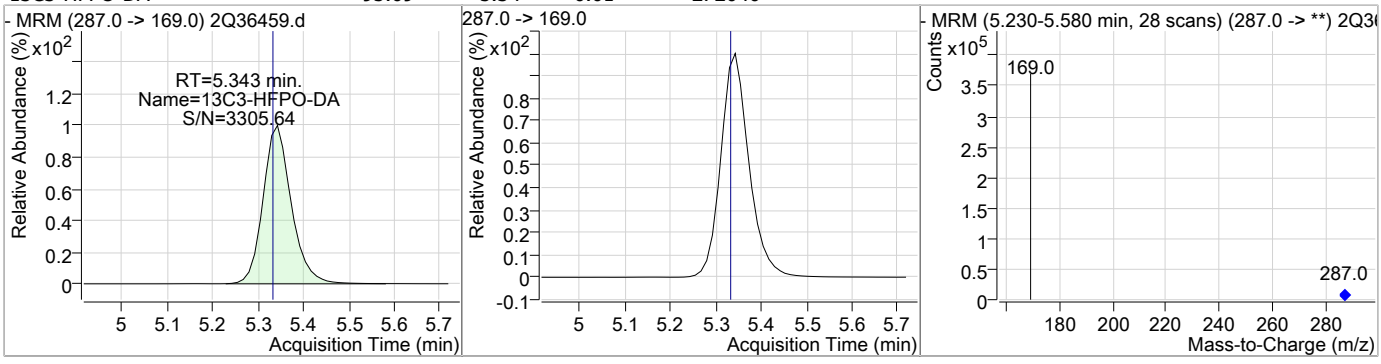
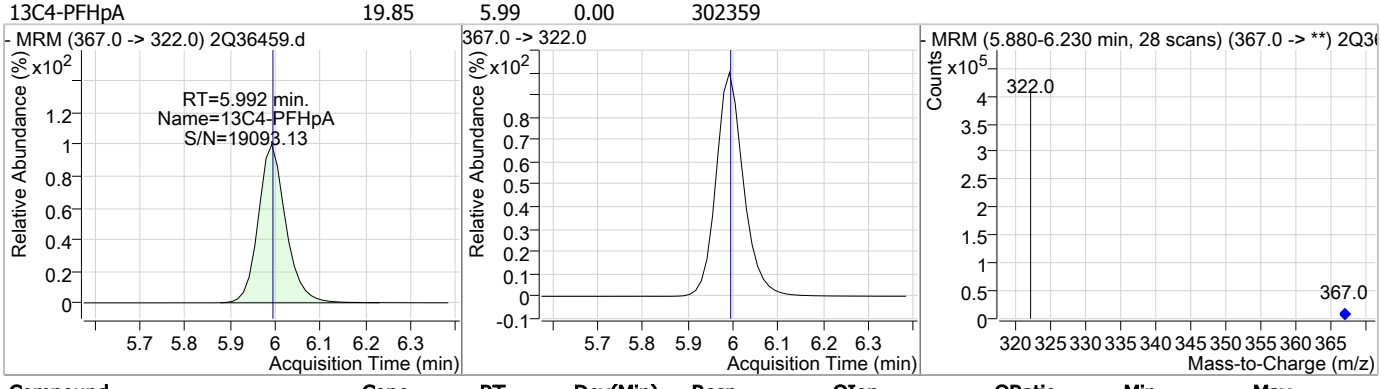
Perfluorinated Compounds by LC/MS/MS

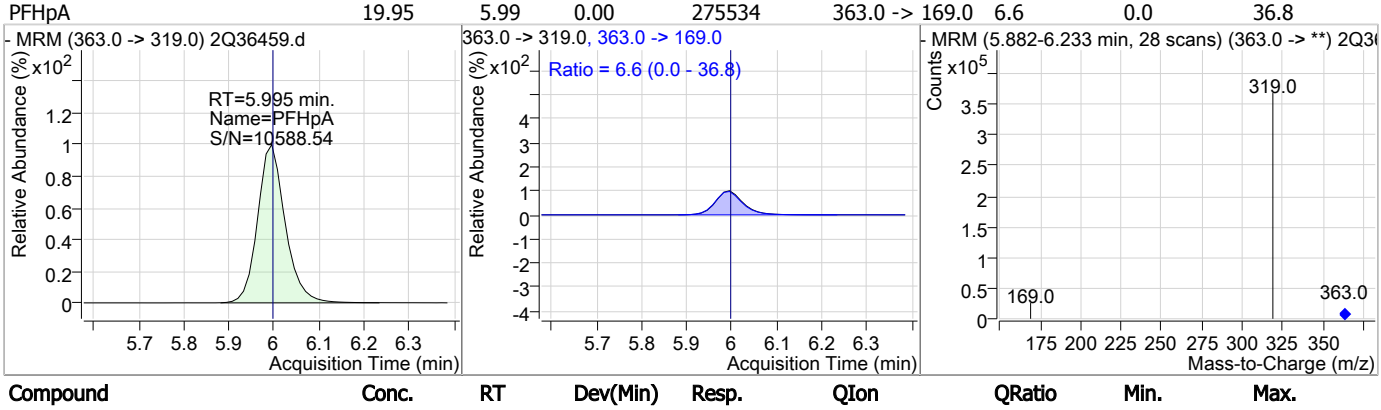
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	95.69	5.34	0.01	272040				



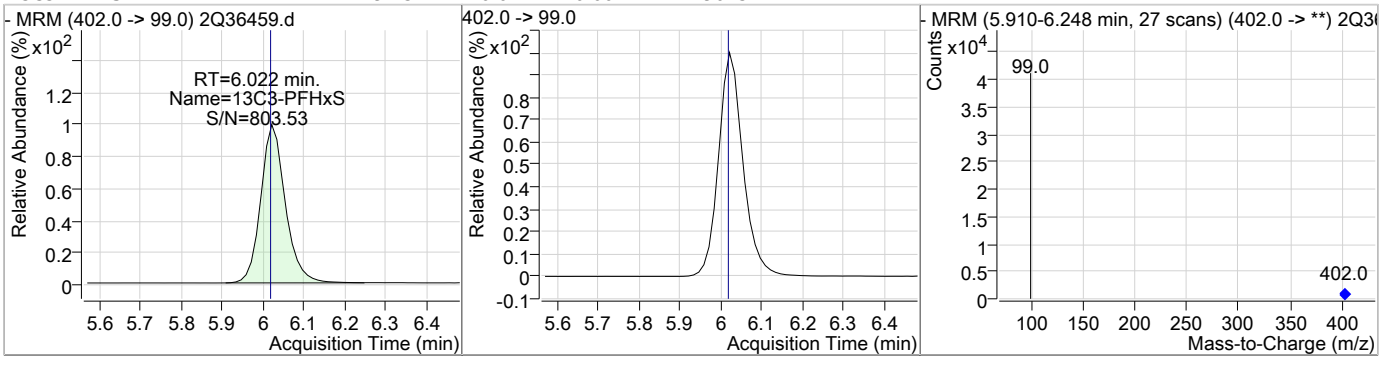
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.85	5.99	0.00	302359				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.95	5.99	0.00	275534	363.0 -> 169.0	6.6	0.0	36.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.73	6.02	0.00	29073				



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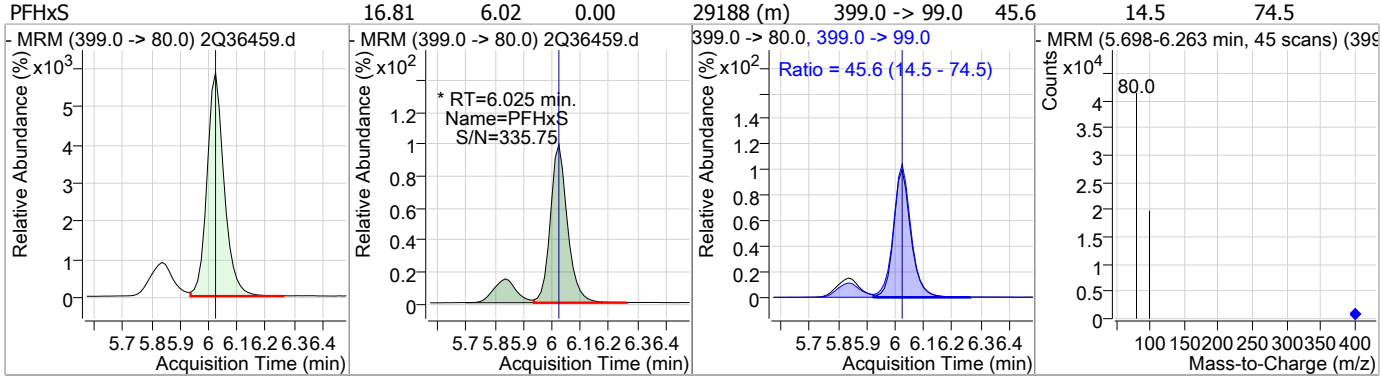
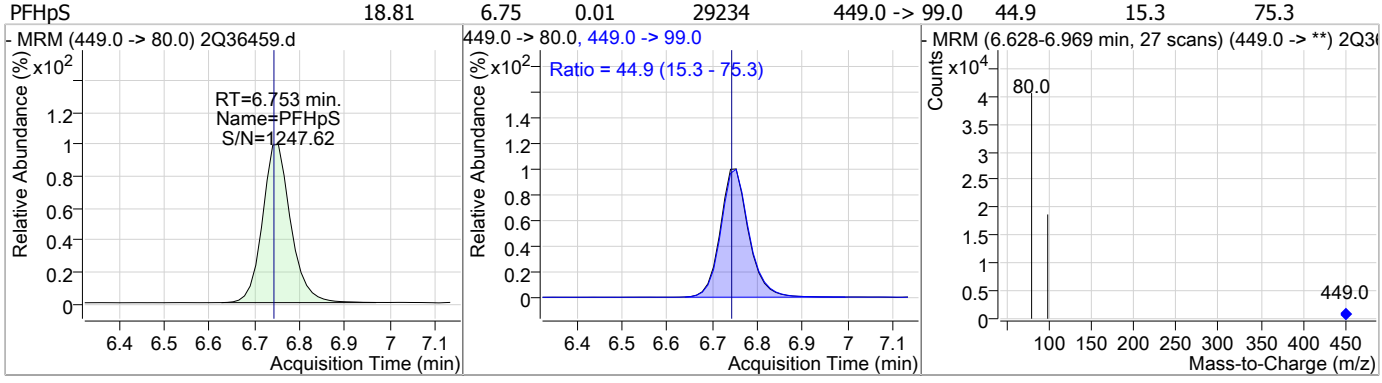
Perfluorinated Compounds by LC/MS/MS

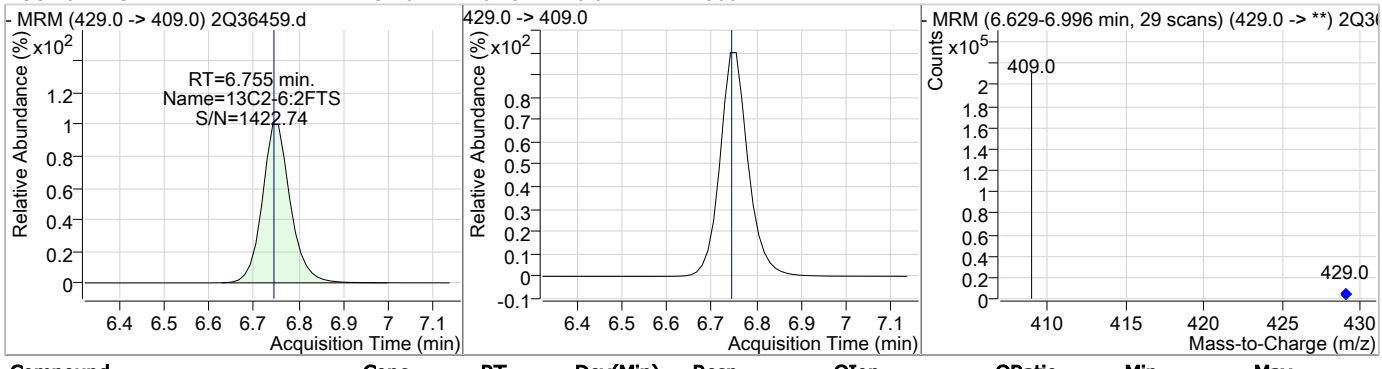
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	16.81	6.02	0.00	29188 (m)	399.0 -> 99.0	45.6	14.5	74.5



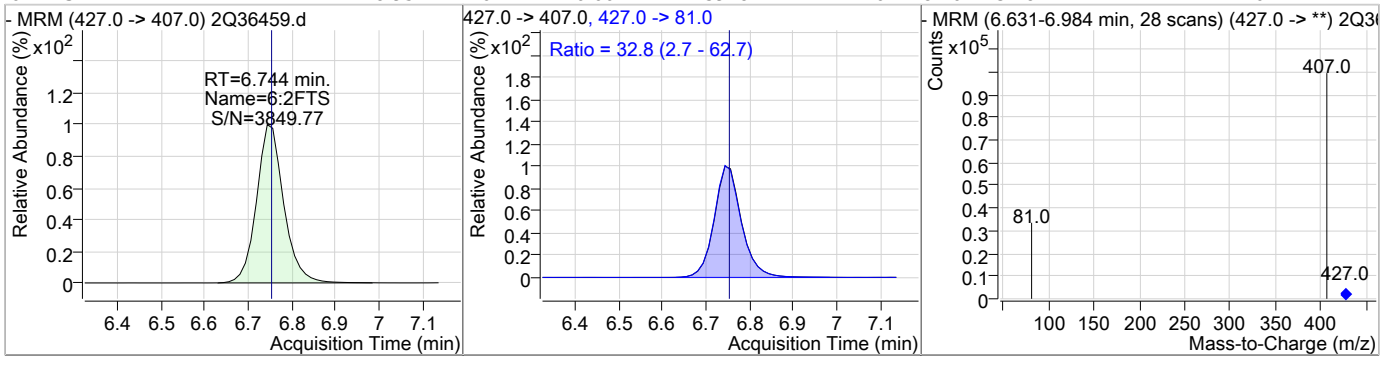
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.81	6.75	0.01	29234	449.0 -> 99.0	44.9	15.3	75.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.78	6.75	0.01	156841				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	18.95	6.74	0.00	73928	427.0 -> 81.0	32.8	2.7	62.7



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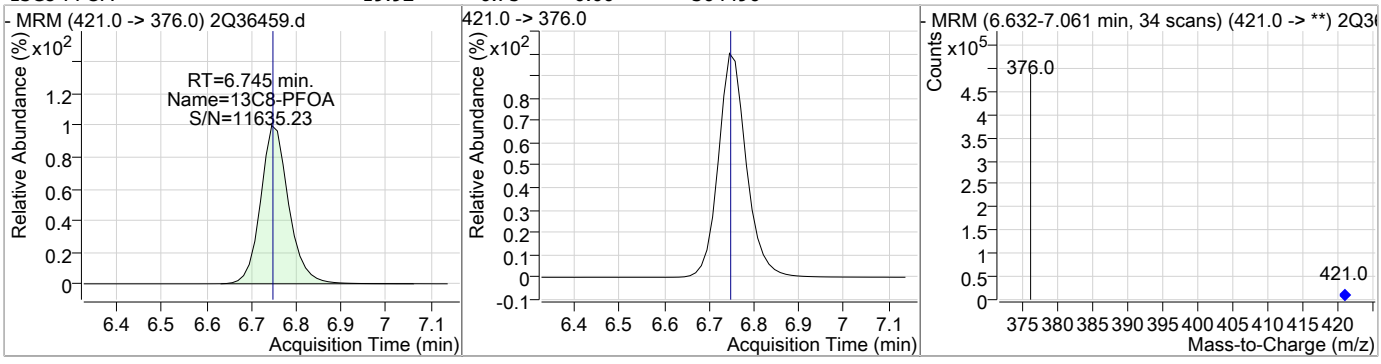
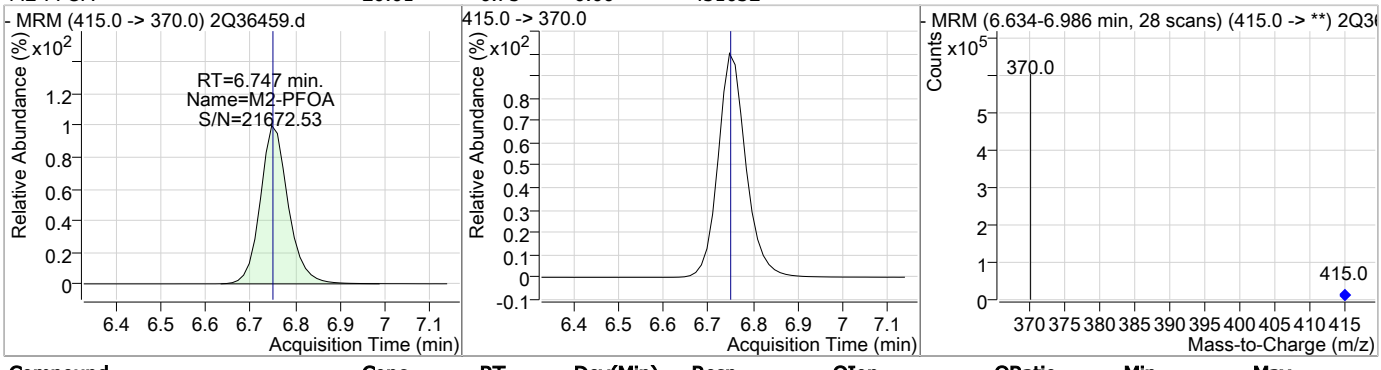
Perfluorinated Compounds by LC/MS/MS

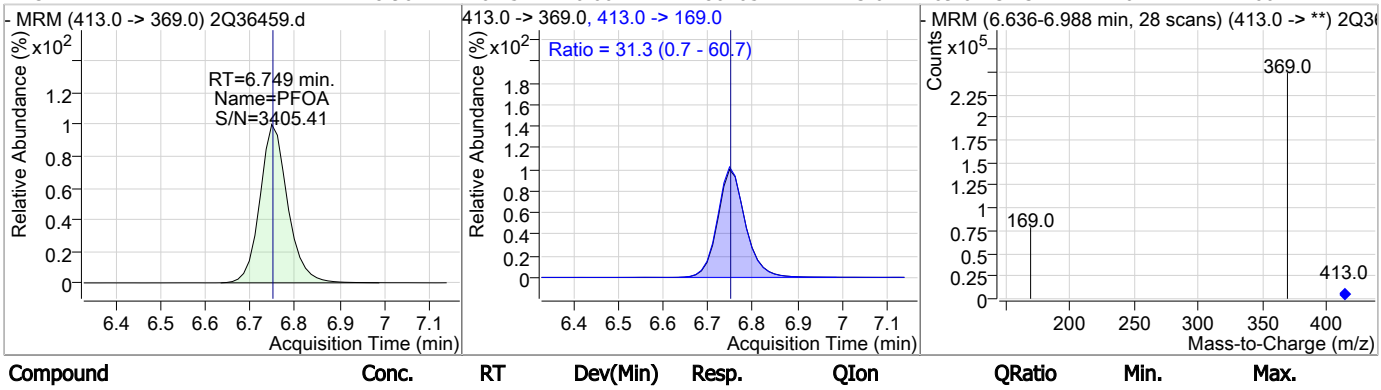
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.92	6.75	0.00	364496				



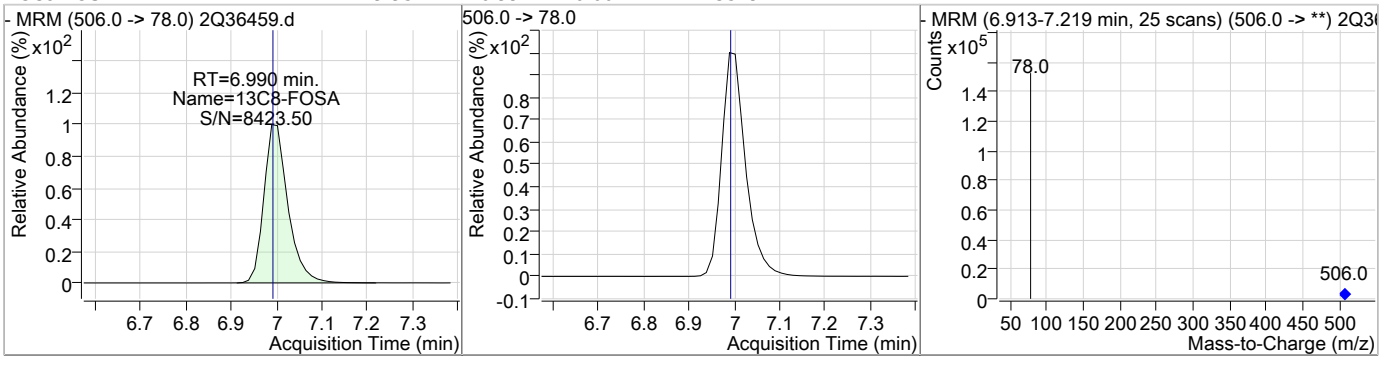
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.01	6.75	0.00	451032				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.96	6.75	0.00	186105	413.0 -> 169.0	31.3	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	19.95	6.99	0.00	113519				



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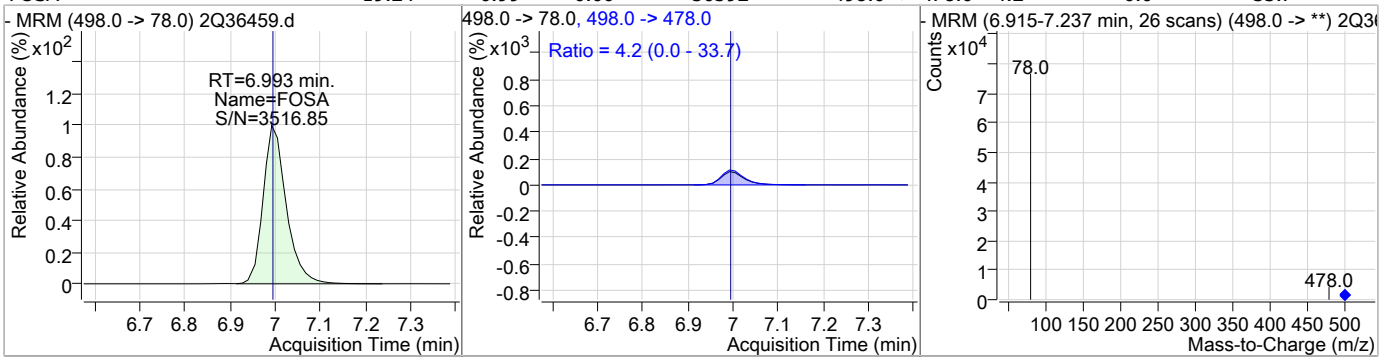
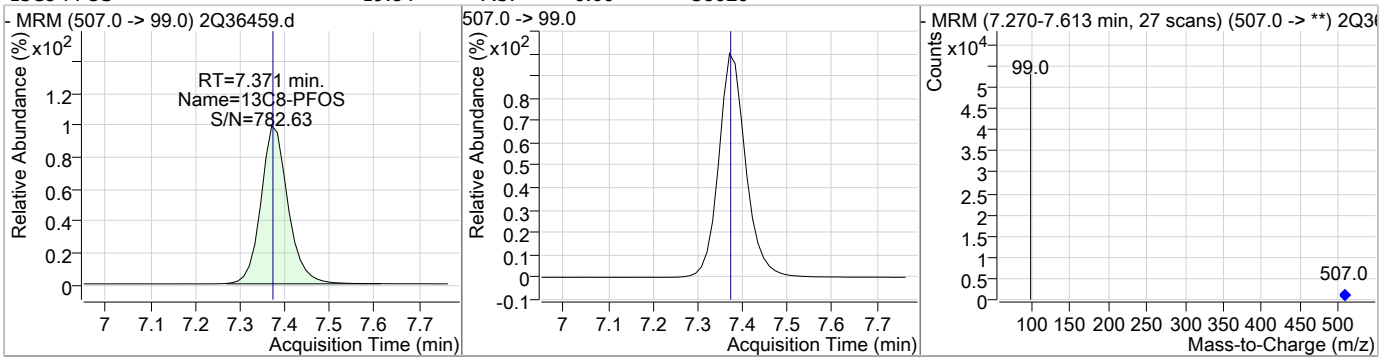
Perfluorinated Compounds by LC/MS/MS

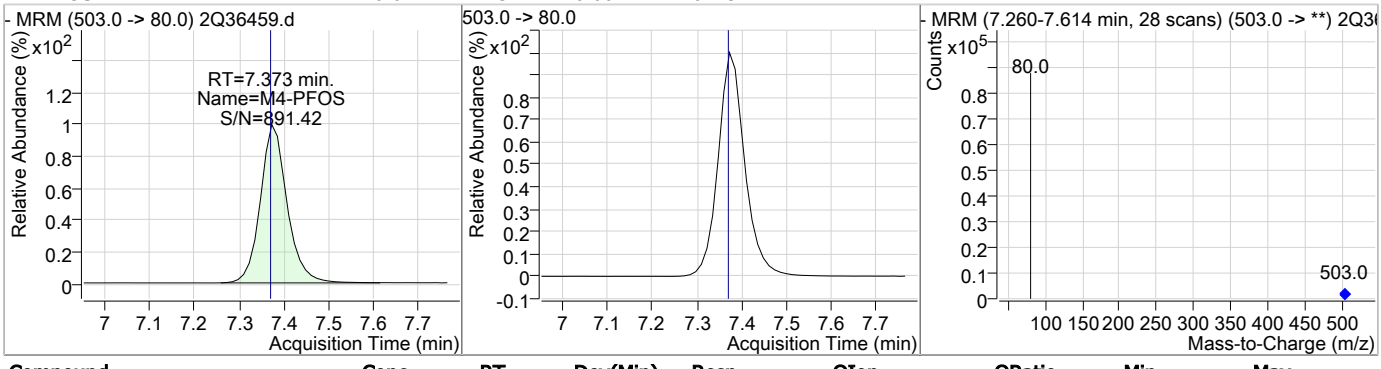
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.24	6.99	0.00	56592	498.0 -> 478.0	4.2	0.0	33.7



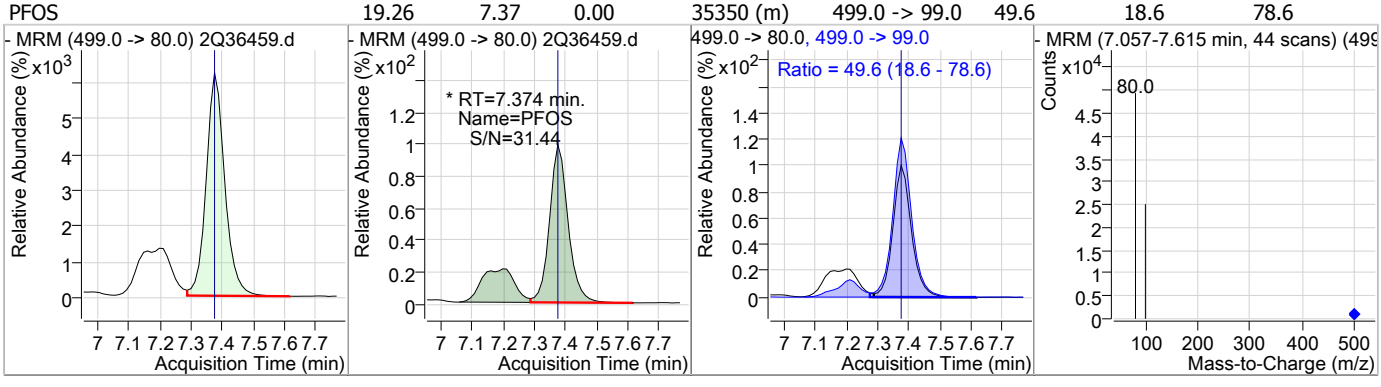
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.84	7.37	0.00	38620				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.07	7.37	0.00	64132				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.26	7.37	0.00	35350 (m)	499.0 -> 99.0	49.6	18.6	78.6



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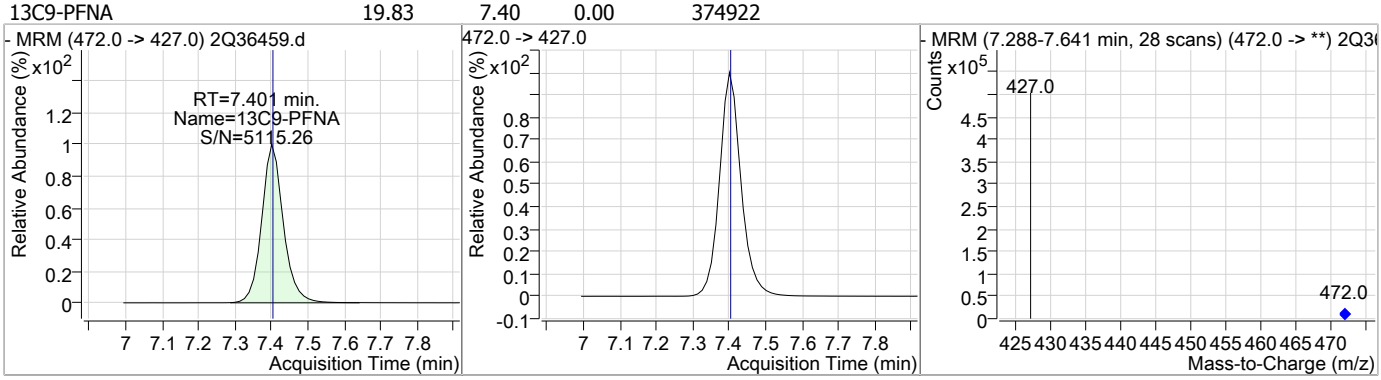
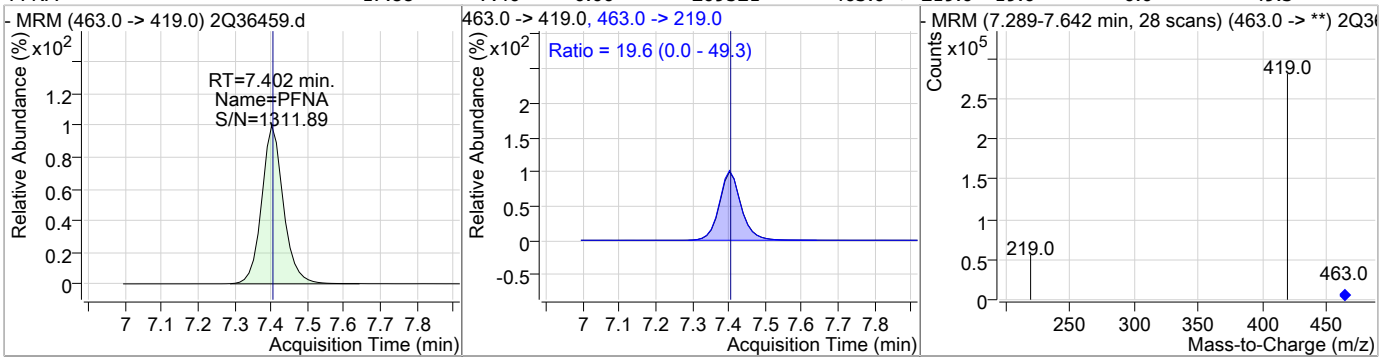
Perfluorinated Compounds by LC/MS/MS

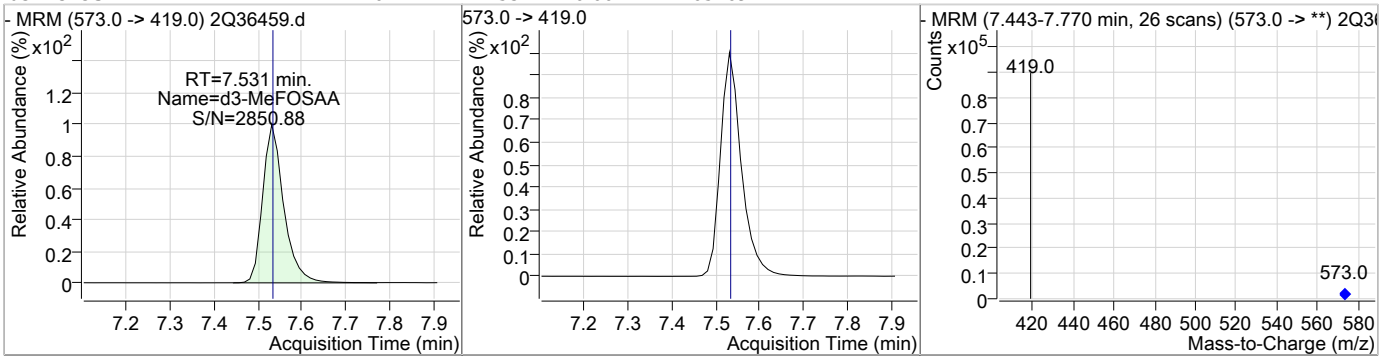
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.83	7.40	0.00	374922				



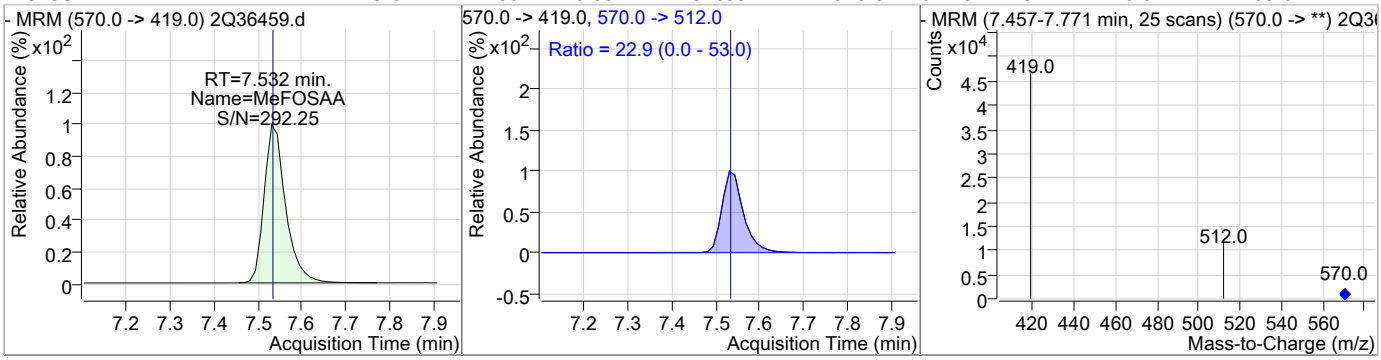
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	17.88	7.40	0.00	209521	463.0 -> 219.0	19.6	0.0	49.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.12	7.53	0.00	65769				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.51	7.53	0.00	34099	570.0 -> 512.0	22.9	0.0	53.0



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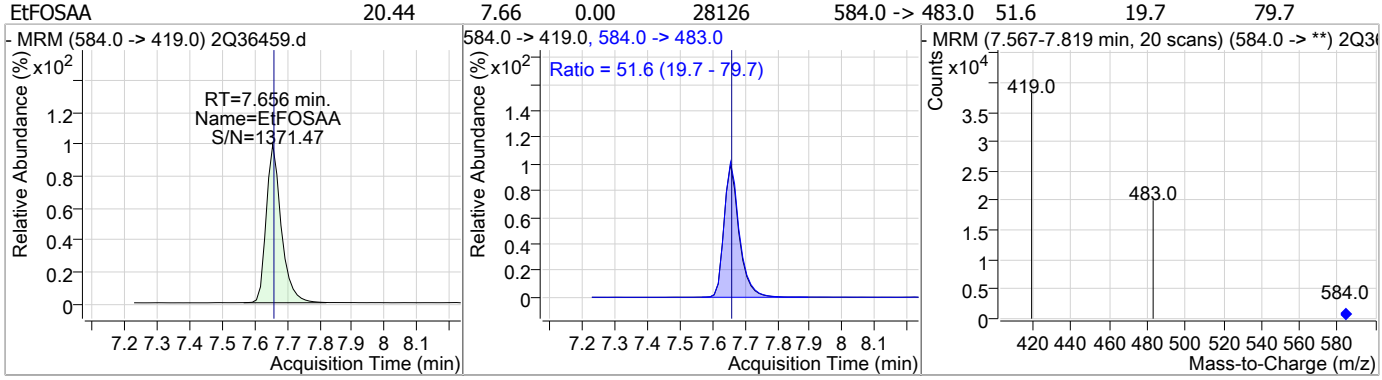
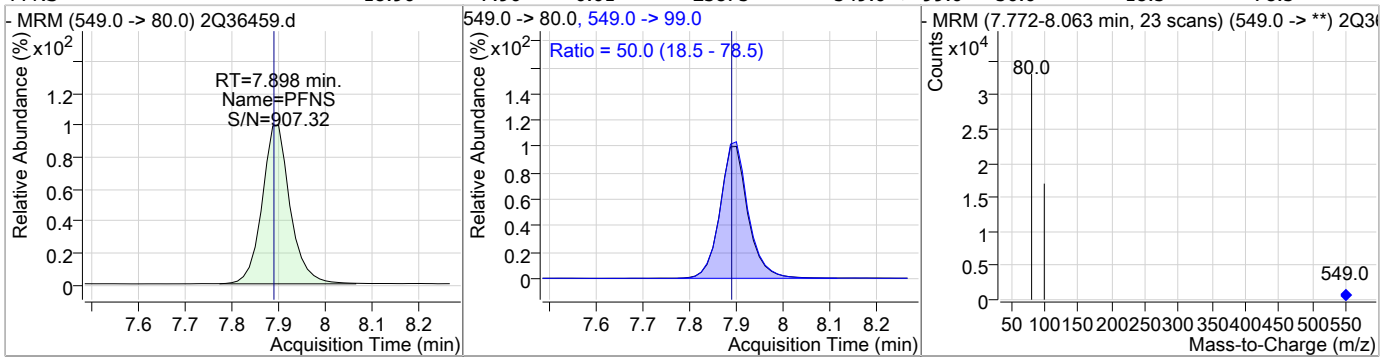
Perfluorinated Compounds by LC/MS/MS

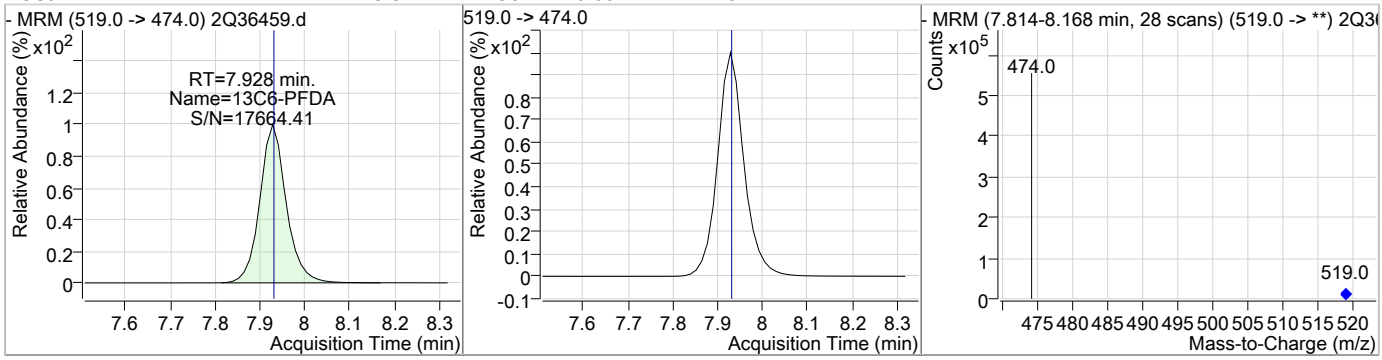
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	20.44	7.66	0.00	28126	584.0 -> 483.0	51.6	19.7	79.7



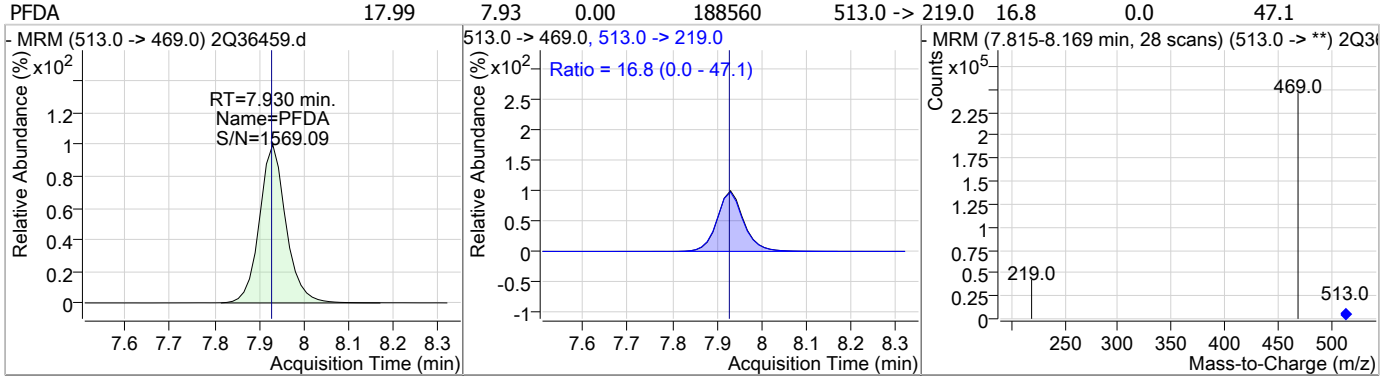
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.96	7.90	0.01	23875	549.0 -> 99.0	50.0	18.5	78.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.97	7.93	0.00	422511				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	17.99	7.93	0.00	188560	513.0 -> 219.0	16.8	0.0	47.1



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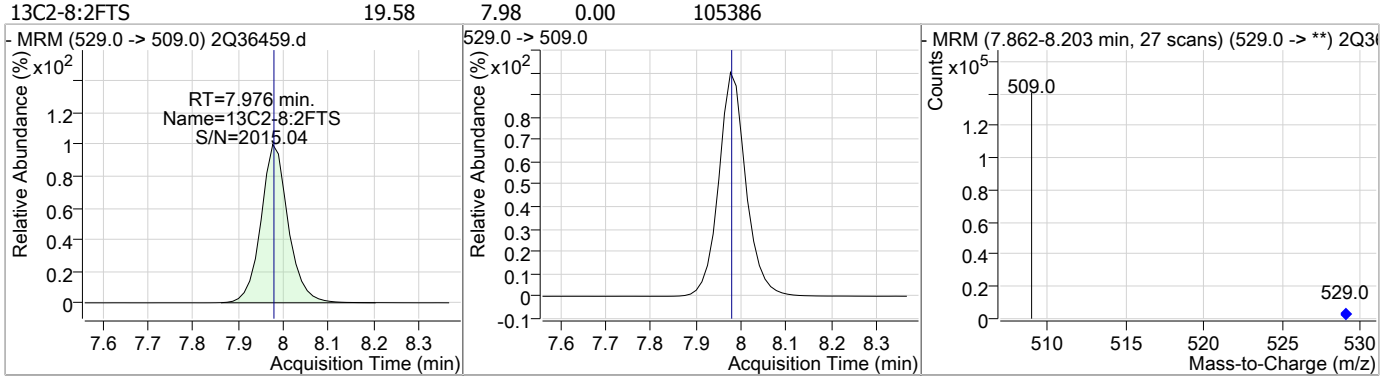
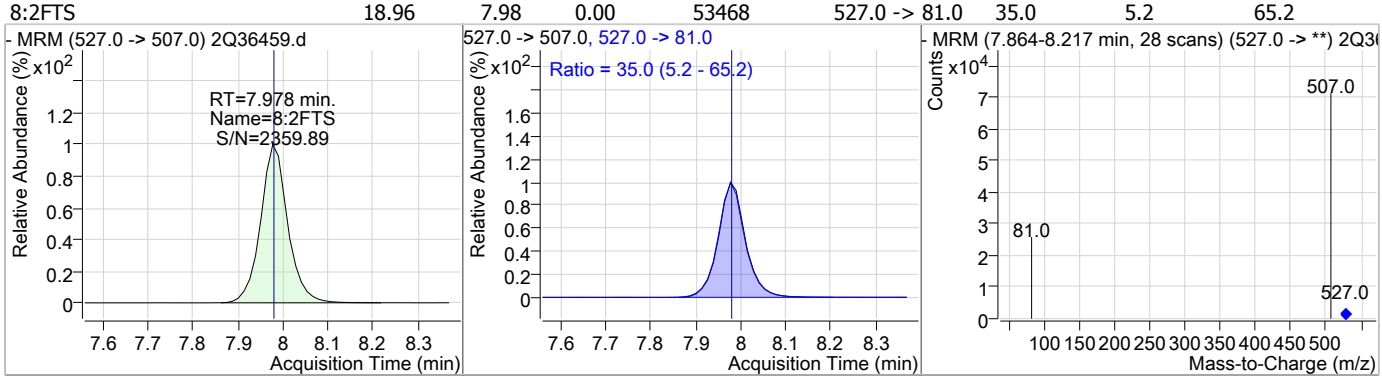
Perfluorinated Compounds by LC/MS/MS

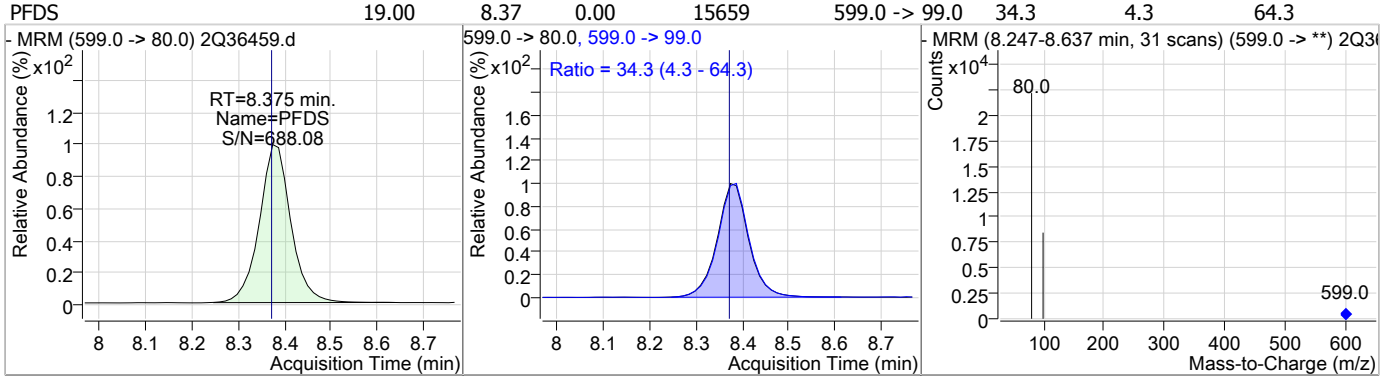
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.58	7.98	0.00	105386				



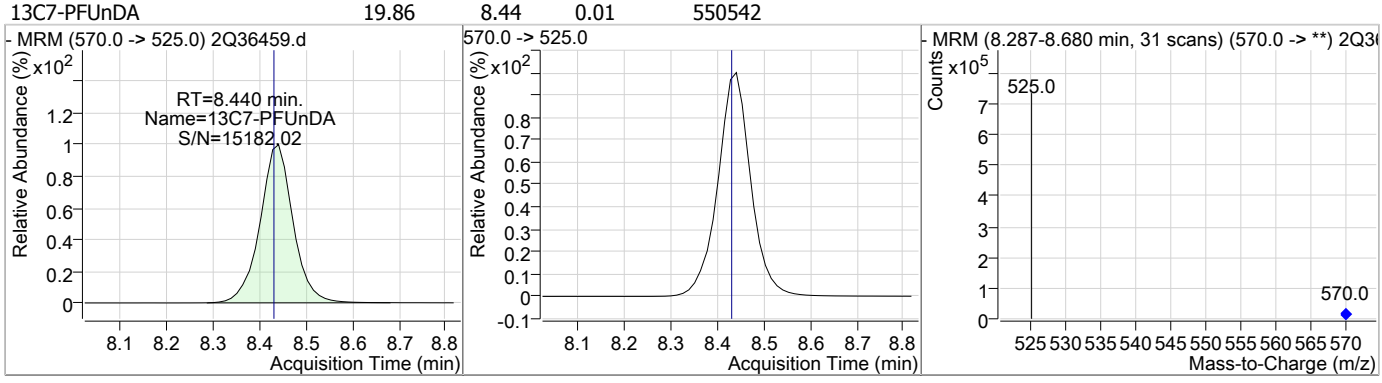
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	18.96	7.98	0.00	53468	527.0 -> 81.0	35.0	5.2	65.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.00	8.37	0.00	15659	599.0 -> 99.0	34.3	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.86	8.44	0.01	550542				



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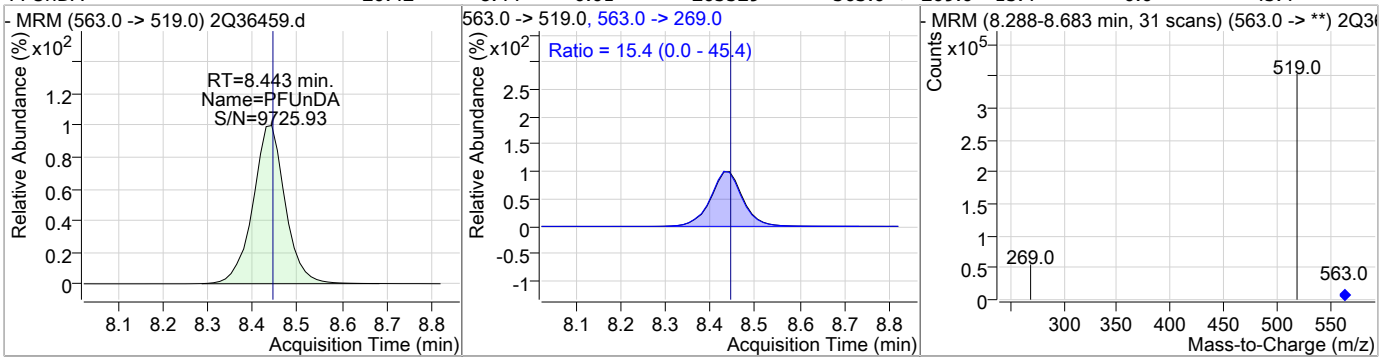
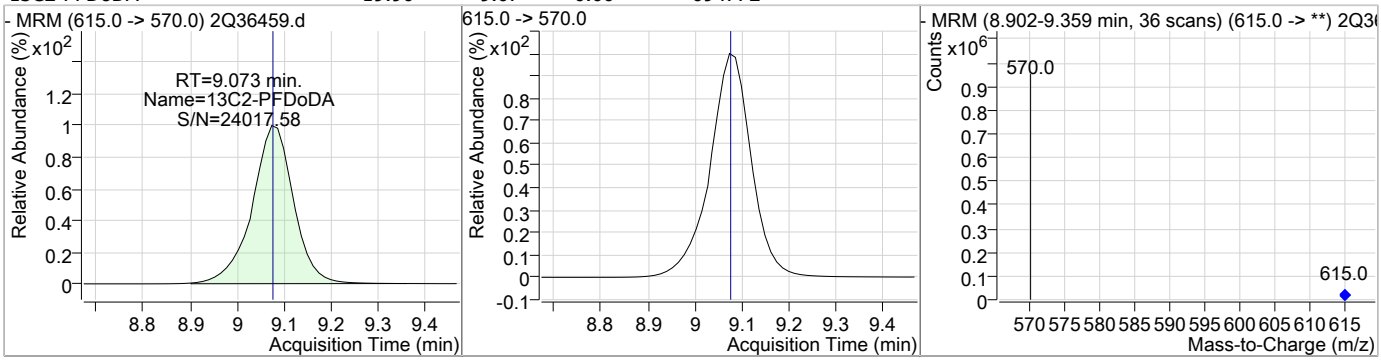
Perfluorinated Compounds by LC/MS/MS

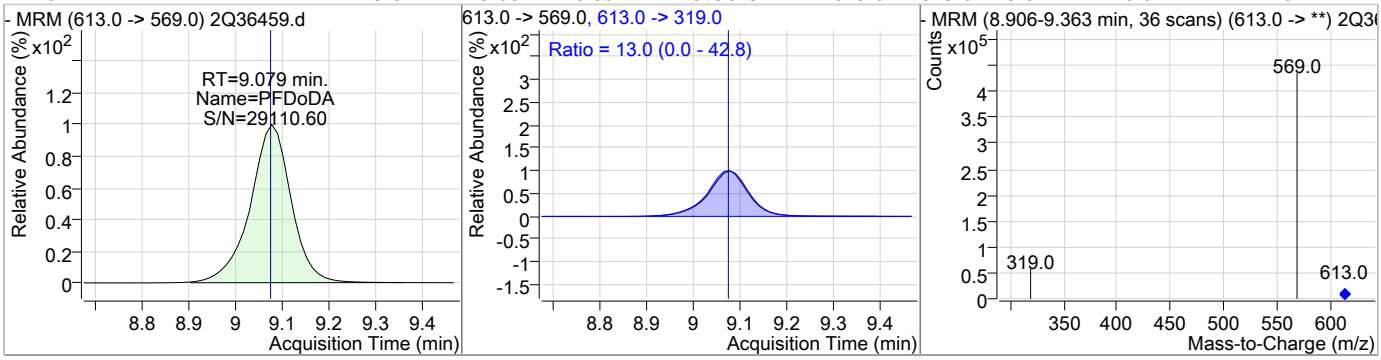
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	20.42	8.44	0.01	265529	563.0 -> 269.0	15.4	0.0	45.4



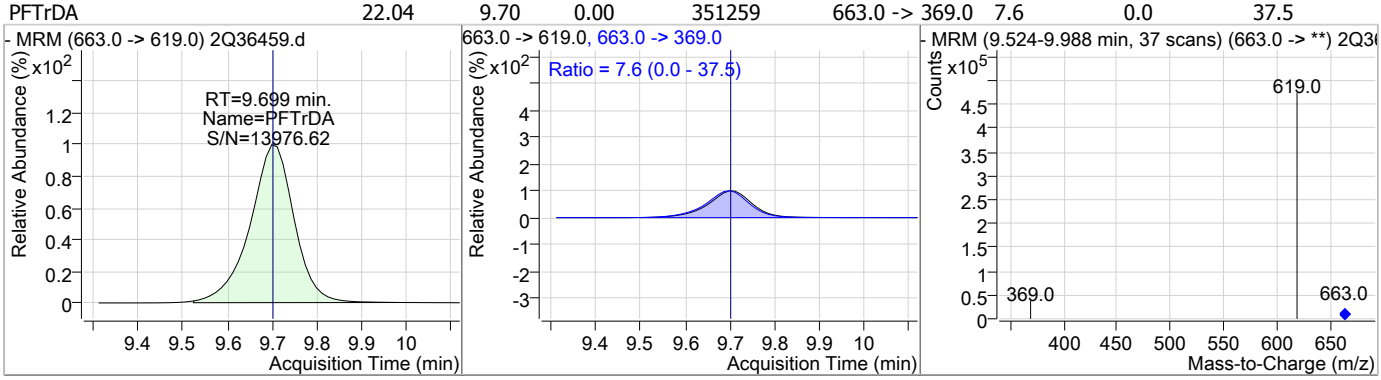
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.90	9.07	0.00	694772				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.87	9.08	0.00	319829	613.0 -> 319.0	13.0	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	22.04	9.70	0.00	351259	663.0 -> 369.0	7.6	0.0	37.5



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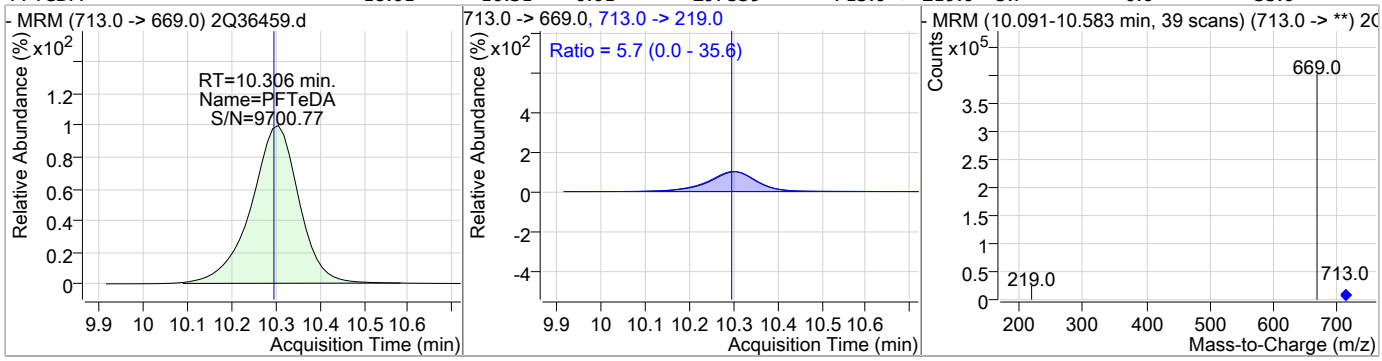
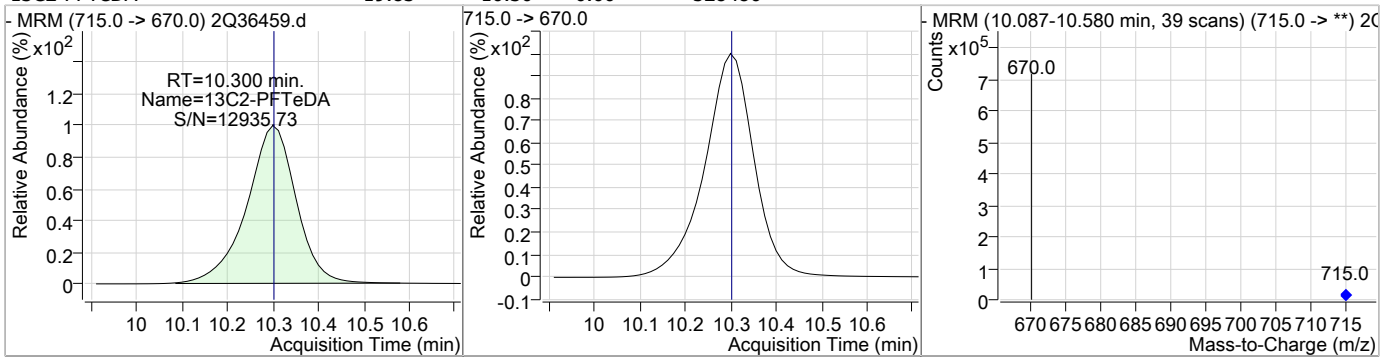
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.01	10.31	0.01	297539	713.0 -> 219.0	5.7	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.83	10.30	0.00	528486				



12.6.10

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Manual Integration Approval Summary

Sample Number:	S2Q568-ICV568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36459.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 16:36	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.37	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/24/19 14:53

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36460.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/23/2019 4:52:05 PM
Sample Name	:	icv568-20
Vial	:	Vial 12
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	S2Q568.batch.bin
Sample Information	:	op76878,S2Q568,120,,,1.0,1,water

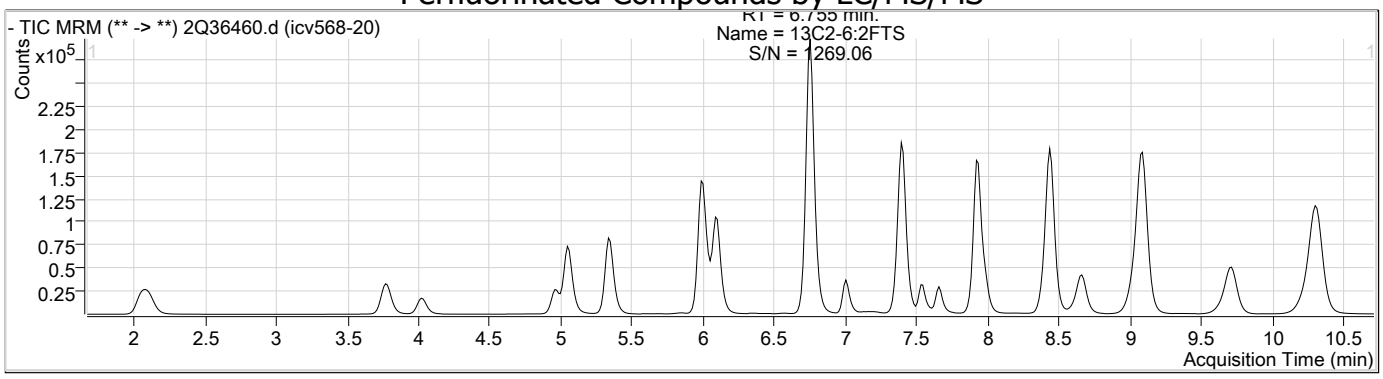
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.760	415.0 -> 370.0	479025	20.00	µg/L	0.013
13C4-PFOS	7.386	503.0 -> 80.0	66909	20.00	µg/L	0.013
M4-PFBA	2.077	217.0 -> 172.0	203479	20.00	µg/L	0.000
M5-PFPeA	3.774	268.0 -> 223.0	170273	20.00	µg/L	0.000
M5-PFHxA	5.051	318.0 -> 273.0	239893	20.00	µg/L	0.000
M4-PFHpA	5.992	367.0 -> 322.0	314052	20.00	µg/L	0.000
M8-PFOA	6.758	421.0 -> 376.0	382473	20.00	µg/L	0.013
M9-PFNA	7.401	472.0 -> 427.0	386369	20.00	µg/L	0.000
M6-PFDA	7.928	519.0 -> 474.0	445732	20.00	µg/L	0.000
M7-PFUnDA	8.440	570.0 -> 525.0	575054	20.00	µg/L	0.013
M2-PFDoDA	9.086	615.0 -> 570.0	724143	20.00	µg/L	0.013
M2-PFTeDA	10.300	715.0 -> 670.0	557120	20.00	µg/L	0.000
M8-FOSA	7.002	506.0 -> 78.0	123565	20.00	µg/L	0.013
M3-PFBS	4.017	302.0 -> 99.0	28088	20.00	µg/L	0.000
M3-PFHxS	6.035	402.0 -> 99.0	30148	20.00	µg/L	0.013
M8-PFOS	7.383	507.0 -> 99.0	39800	20.00	µg/L	0.013
M2-4:2FTS	4.958	329.0 -> 309.0	112862	20.00	µg/L	0.000
M2-6:2FTS	6.755	429.0 -> 409.0	155964	20.00	µg/L	0.013
M2-8:2FTS	7.989	529.0 -> 509.0	104113	20.00	µg/L	0.013
M3-MeFOSAA	7.531	573.0 -> 419.0	68371	20.00	µg/L	0.000
M3-HFPO-DA	5.343	287.0 -> 169.0	280580	100.00	µg/L	0.013
System Monitoring Compounds						
13C2-4:2FTS	4.958	329.0 -> 309.0	112503	19.32	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.6%		
13C2-6:2FTS	6.755	429.0 -> 409.0	155907	19.66	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.3%		
13C2-8:2FTS	7.989	529.0 -> 509.0	104074	19.33	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C2-PFDoDA	9.086	615.0 -> 570.0	718988	20.59	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C2-PFTeDA	10.300	715.0 -> 670.0	548067	20.57	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C3-PFBS	4.017	302.0 -> 99.0	28076	20.54	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.7%		
13C3-PFHxS	6.035	402.0 -> 99.0	30173	20.47	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C4-PFBA	2.077	217.0 -> 172.0	202312	20.66	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.3%		
13C4-PFHpA	5.992	367.0 -> 322.0	313846	20.61	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C5-PFHxA	5.051	318.0 -> 273.0	239487	20.52	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
13C5-PFPeA	3.774	268.0 -> 223.0	170273	20.69	µg/L	0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C6-PFDA	7.928	519.0 -> 474.0	445310	21.04	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

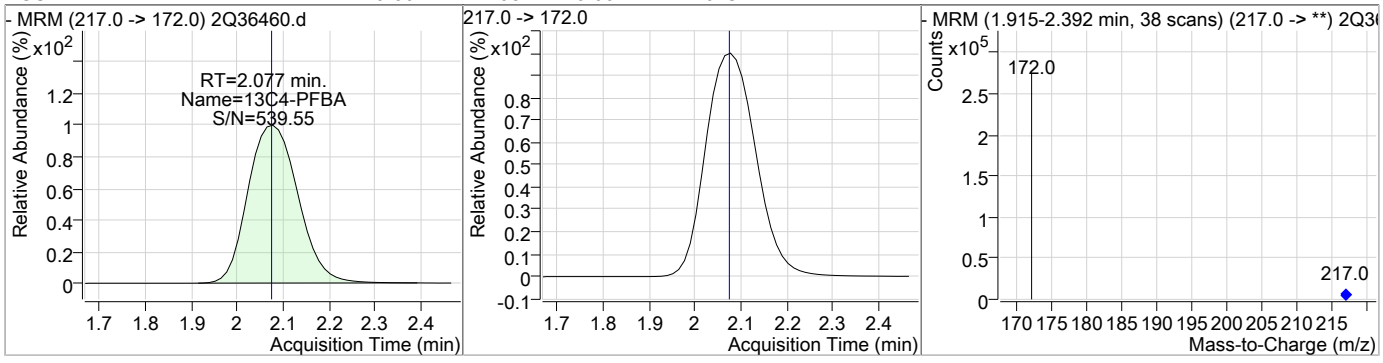
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C7-PFUnDA	8.440	570.0 -> 525.0	573303	20.69 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C8-FOSA	7.002	506.0 -> 78.0	123857	21.76 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.8%		
13C8-PFOA	6.758	421.0 -> 376.0	382072	20.88 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.4%		
13C8-PFOS	7.383	507.0 -> 99.0	39730	20.41 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.0%		
13C9-PFNA	7.401	472.0 -> 427.0	386240	20.43 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
d3-MeFOSAA	7.531	573.0 -> 419.0	68440	20.94 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.7%		
M2-PFOA	6.760	415.0 -> 370.0	479435	19.99 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.386	503.0 -> 80.0	66949	20.02 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C3-HFPO-DA	5.343	287.0 -> 169.0	280580	98.70 µg/L		0.013
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 98.7%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.656	584.0 -> 419.0	24719	17.23 µg/L	m	95
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	7.544	570.0 -> 419.0	30102	16.53 µg/L	m	95
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	4.021	299.0 -> 80.0	40770	18.38 µg/L		100
PFDA	7.930	513.0 -> 469.0	200854	18.18 µg/L		99
PFDoDA	9.079	613.0 -> 569.0	302079	18.13 µg/L		100
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.995	363.0 -> 319.0	259546	18.13 µg/L		100
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.052	313.0 -> 269.0	67094	18.21 µg/L		99
PFHxS	6.025	399.0 -> 80.0	33179	18.44 µg/L	m	100
PFNA	7.402	463.0 -> 419.0	231464	19.15 µg/L		100
PFNS	-	549.0 -> 80.0	-	N.D.		
PFOA	6.761	413.0 -> 369.0	186778	18.15 µg/L		99
PFOS	7.387	499.0 -> 80.0	34899	18.48 µg/L	m	98
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 80.0	-	N.D.		
PFTeDA	10.306	713.0 -> 669.0	310149	18.12 µg/L		100
PFTrDA	9.711	663.0 -> 619.0	321113	19.44 µg/L		100
PFUnDA	8.443	563.0 -> 519.0	254795	18.82 µg/L		100
11Cl-PF3OUdS	8.661	631.0 -> 451.0	175576	18.89 µg/L		100
9Cl-PF3ONS	7.659	531.0 -> 351.0	28821	18.26 µg/L		98
ADONA	6.103	377.0 -> 251.0	330203	18.04 µg/L		100
HFPO-DA	5.348	329.0 -> 169.0	58426	20.22 µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

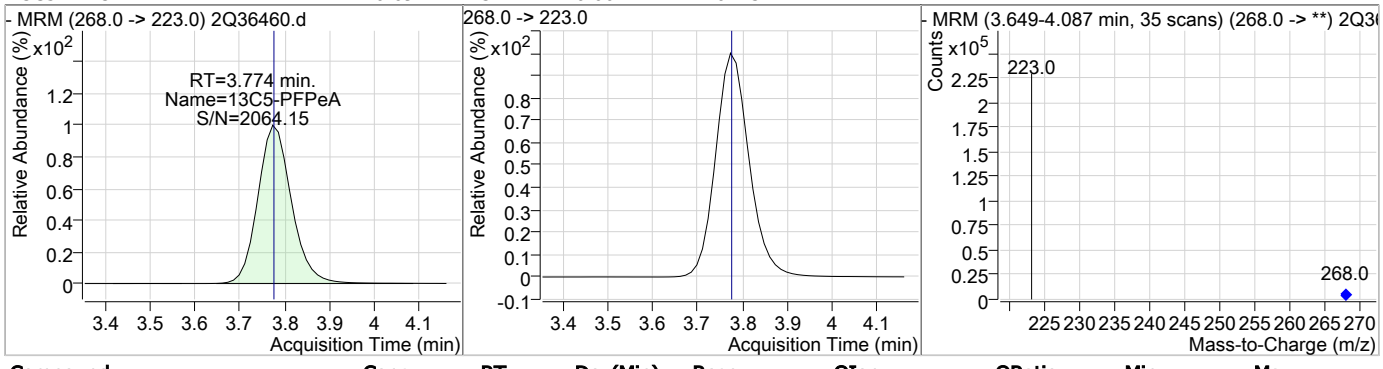
Perfluorinated Compounds by LC/MS/MS



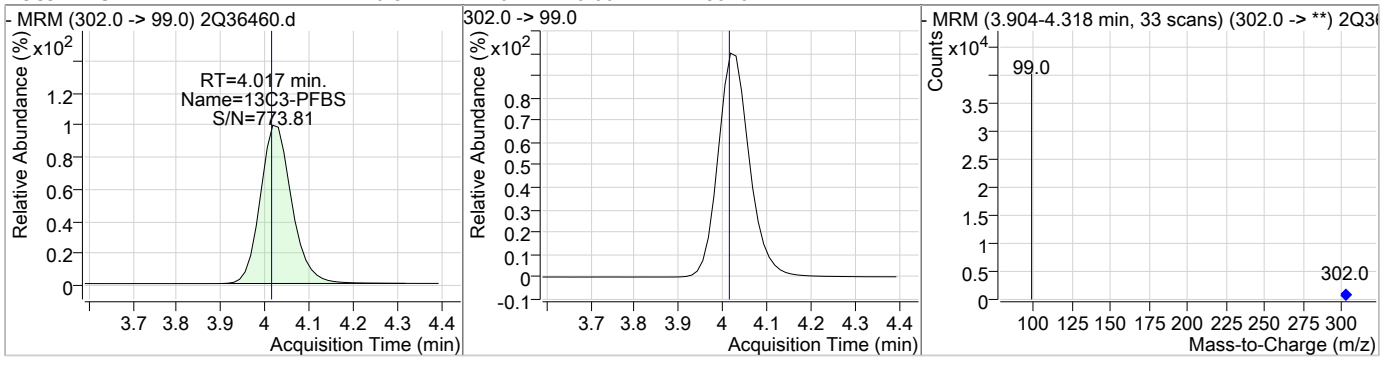
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.66	2.08	0.00	202312				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.69	3.77	0.00	170273				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	20.54	4.02	0.00	28076				



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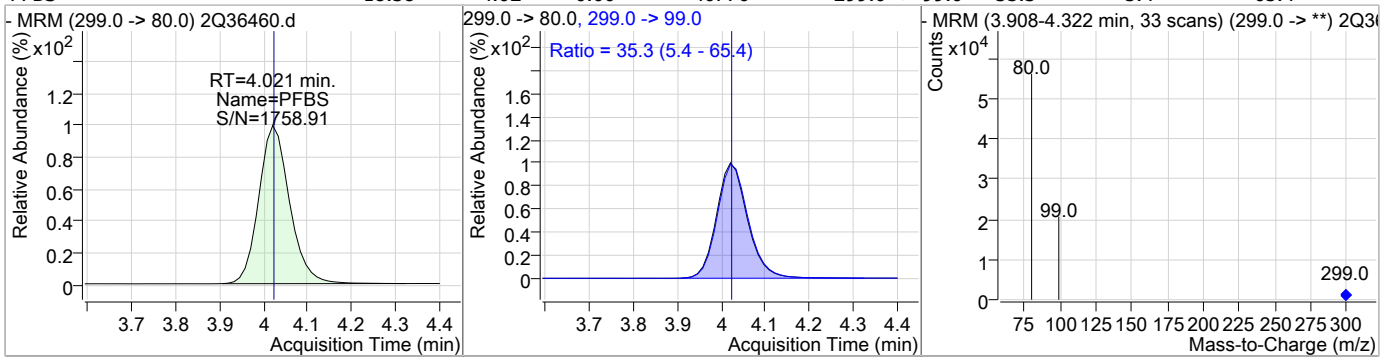
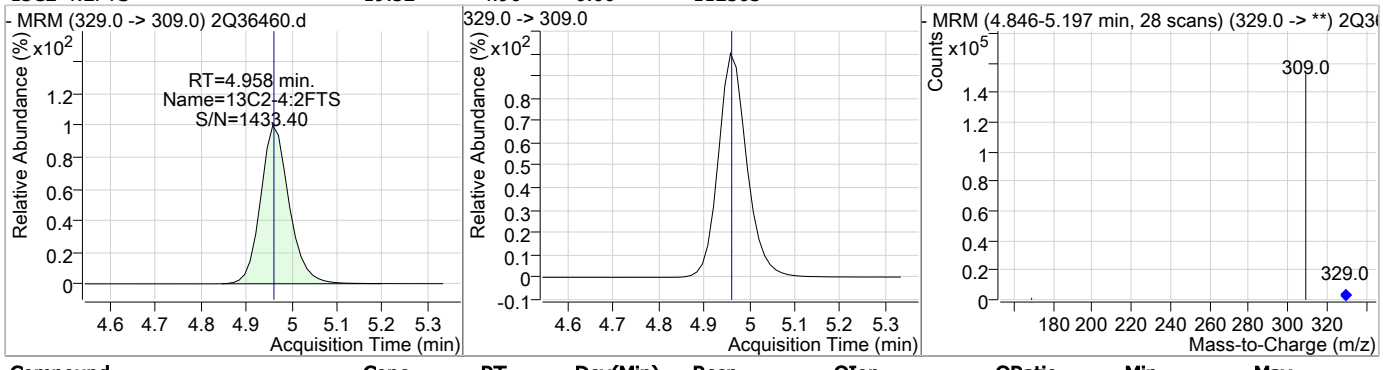
Perfluorinated Compounds by LC/MS/MS

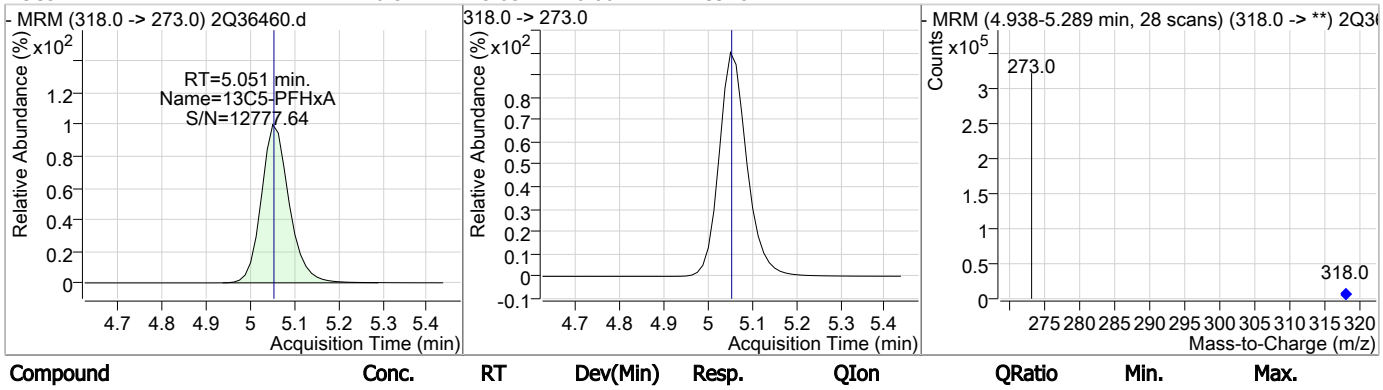
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.38	4.02	0.00	40770	299.0 -> 99.0	35.3	5.4	65.4



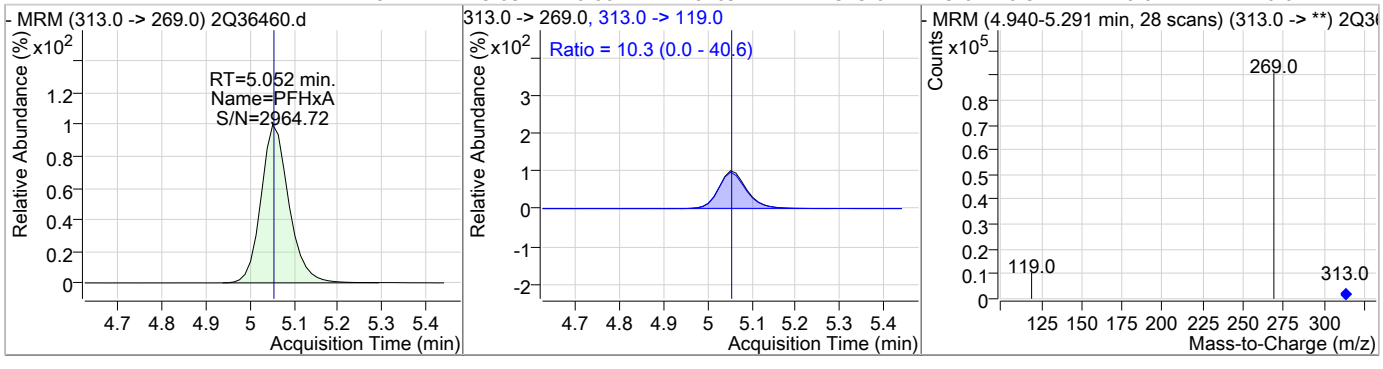
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.32	4.96	0.00	112503				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.52	5.05	0.00	239487				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	18.21	5.05	0.00	67094	313.0 -> 119.0	10.3	0.0	40.6



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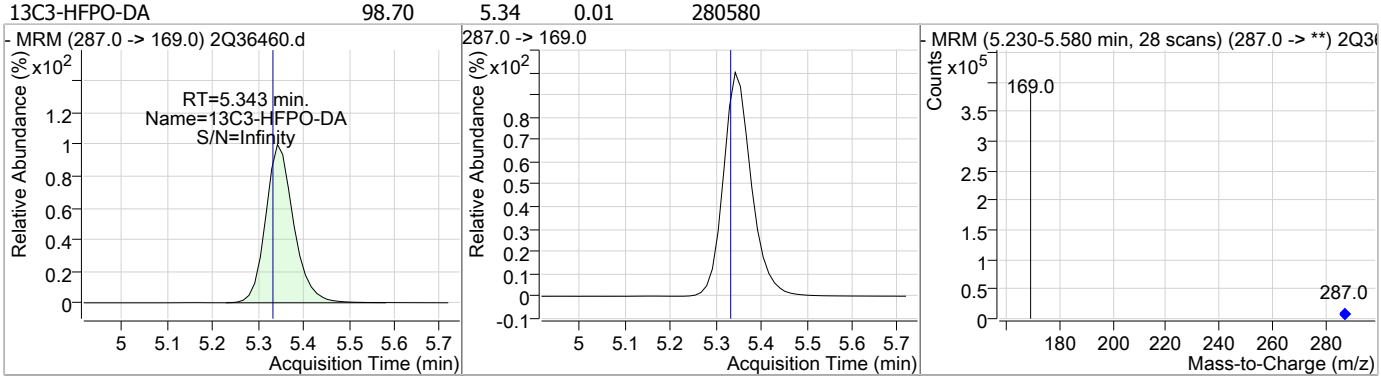
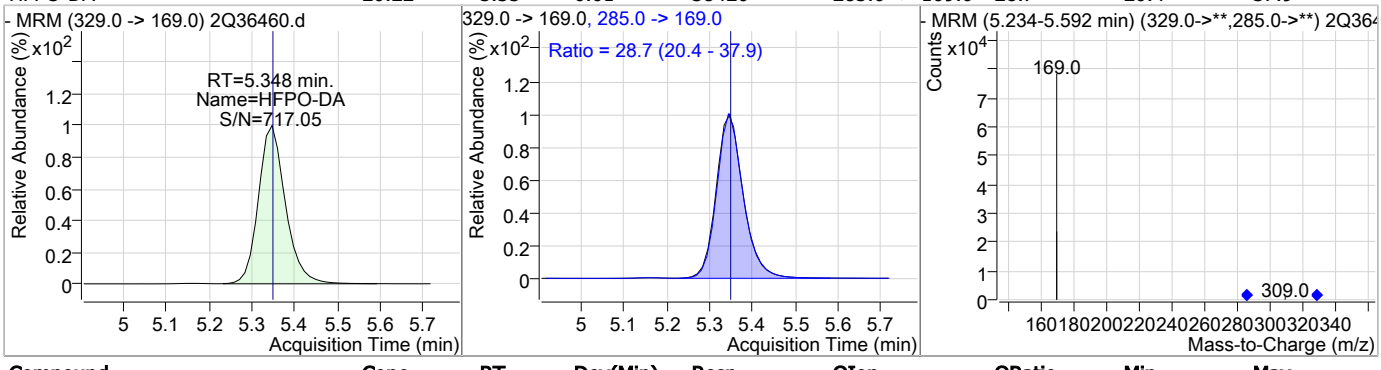
Perfluorinated Compounds by LC/MS/MS

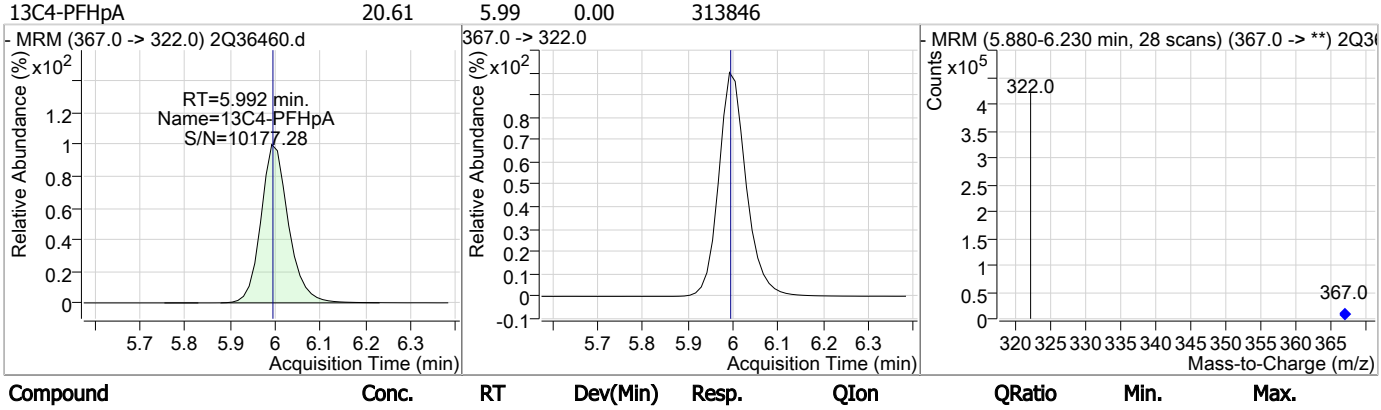
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	98.70	5.34	0.01	280580				



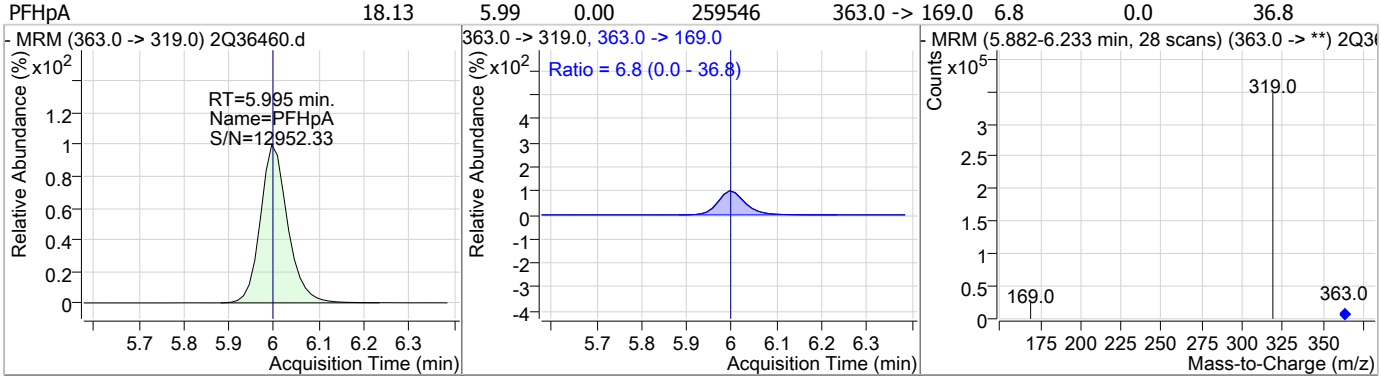
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.22	5.35	0.01	58426	285.0 -> 169.0	28.7	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.61	5.99	0.00	313846				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.13	5.99	0.00	259546	363.0 -> 169.0	6.8	0.0	36.8



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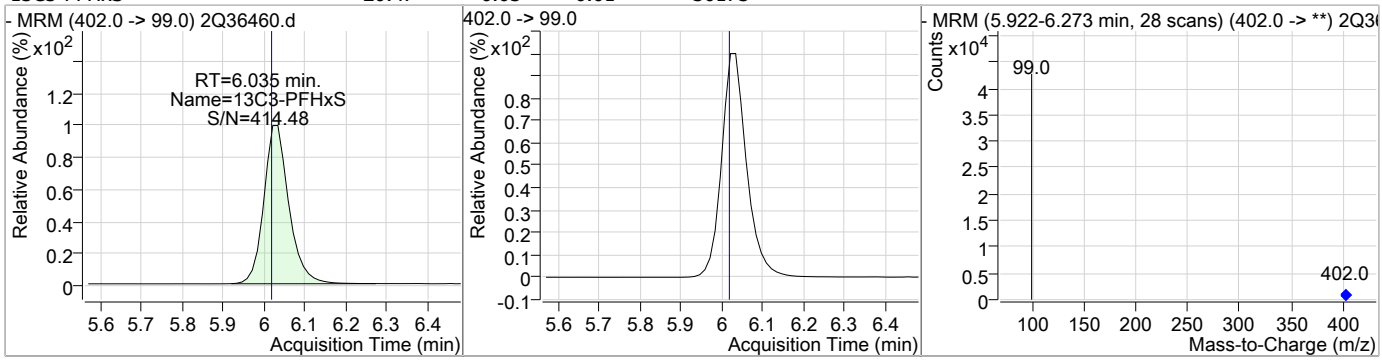
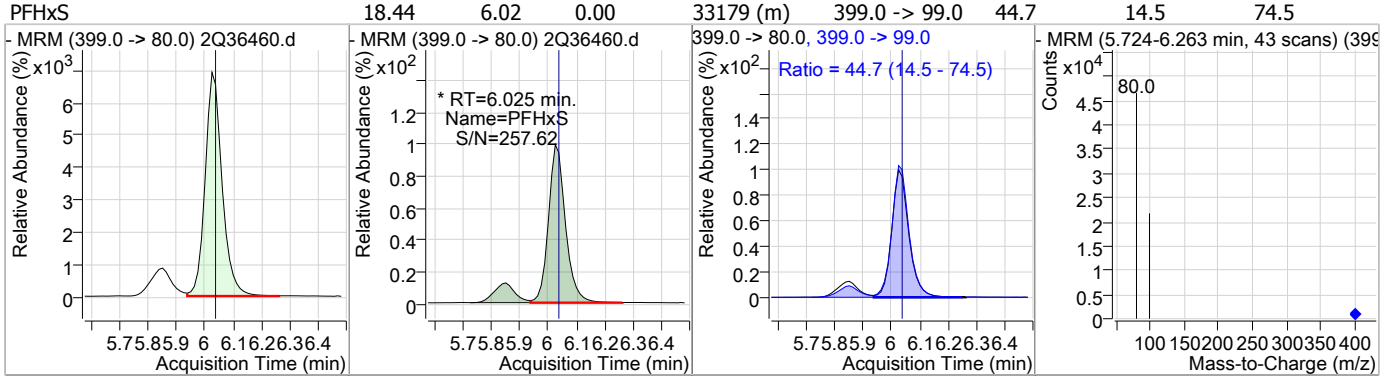
Perfluorinated Compounds by LC/MS/MS

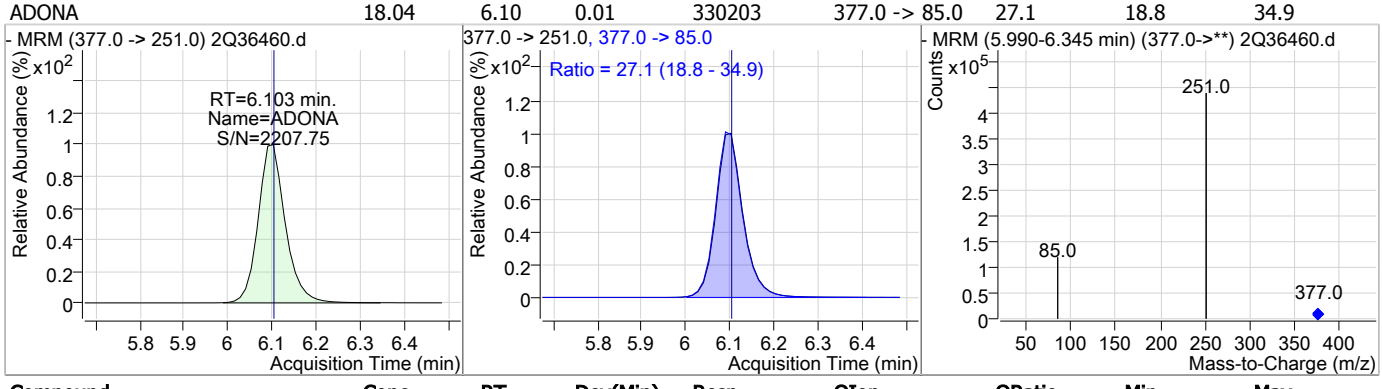
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	20.47	6.03	0.01	30173				



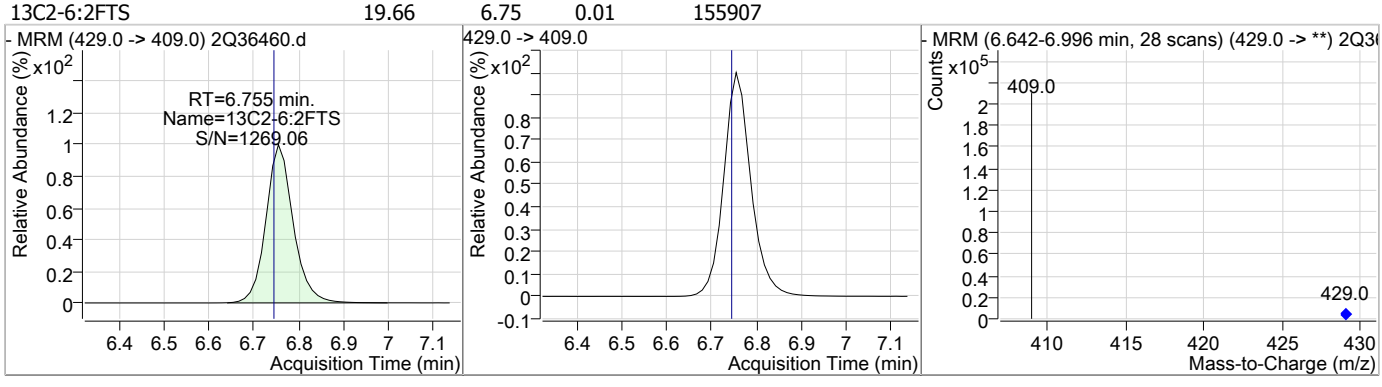
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	18.44	6.02	0.00	33179 (m)	399.0 -> 99.0	44.7	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.04	6.10	0.01	330203	377.0 -> 85.0	27.1	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	19.66	6.75	0.01	155907				



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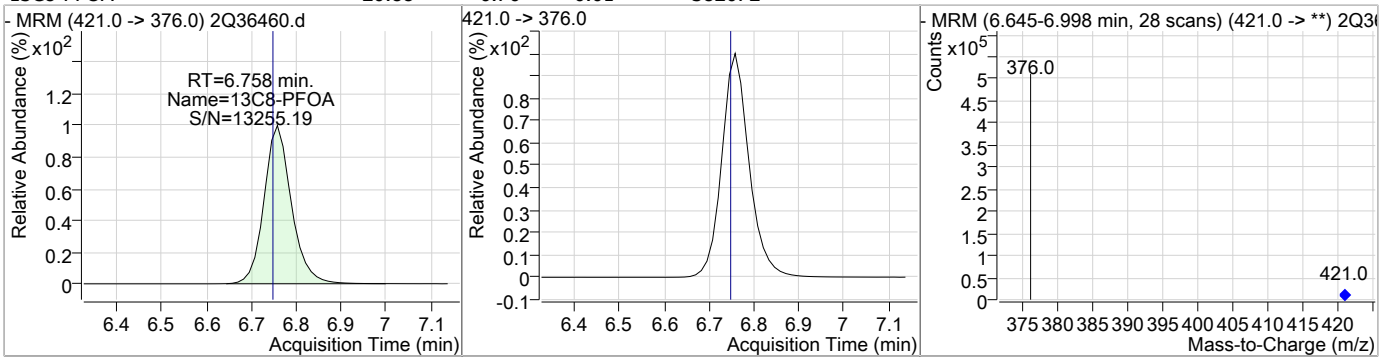
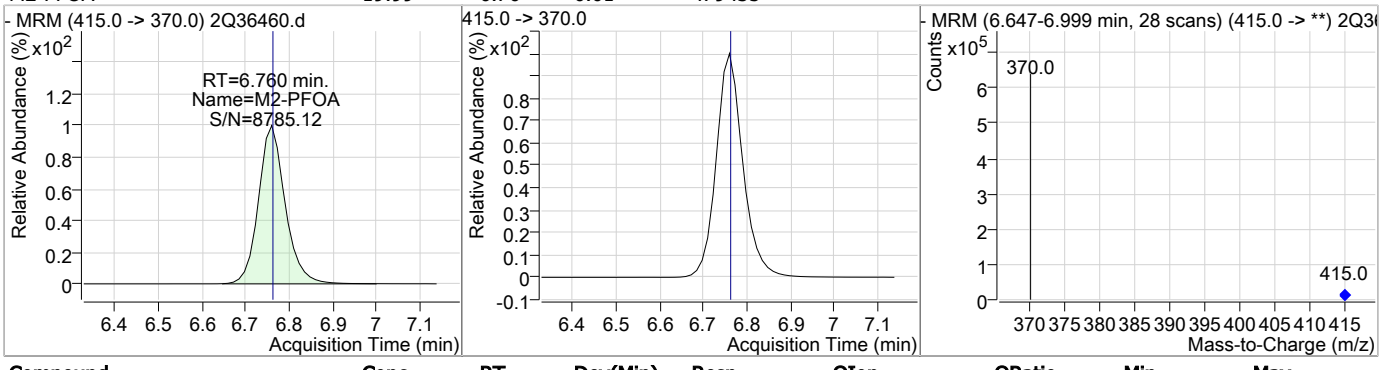
Perfluorinated Compounds by LC/MS/MS

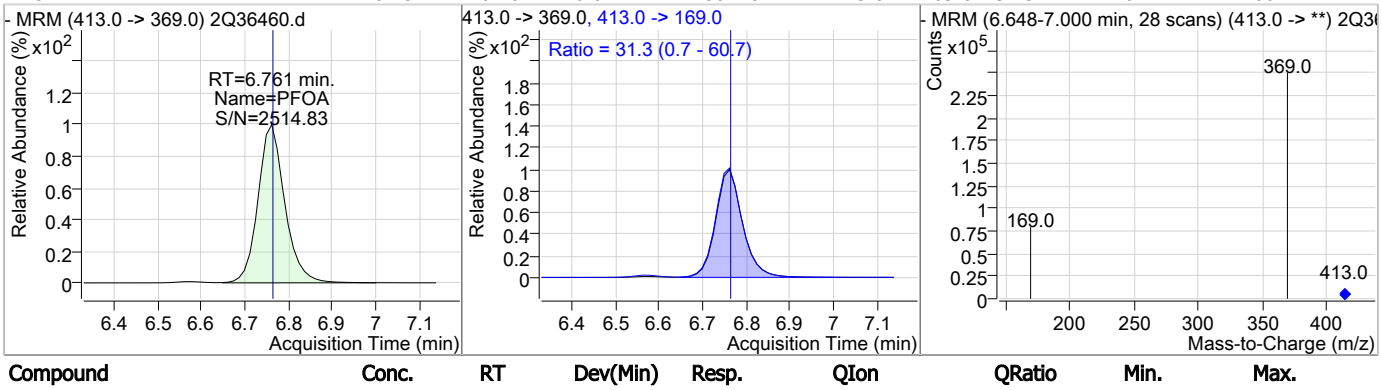
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.88	6.76	0.01	382072				



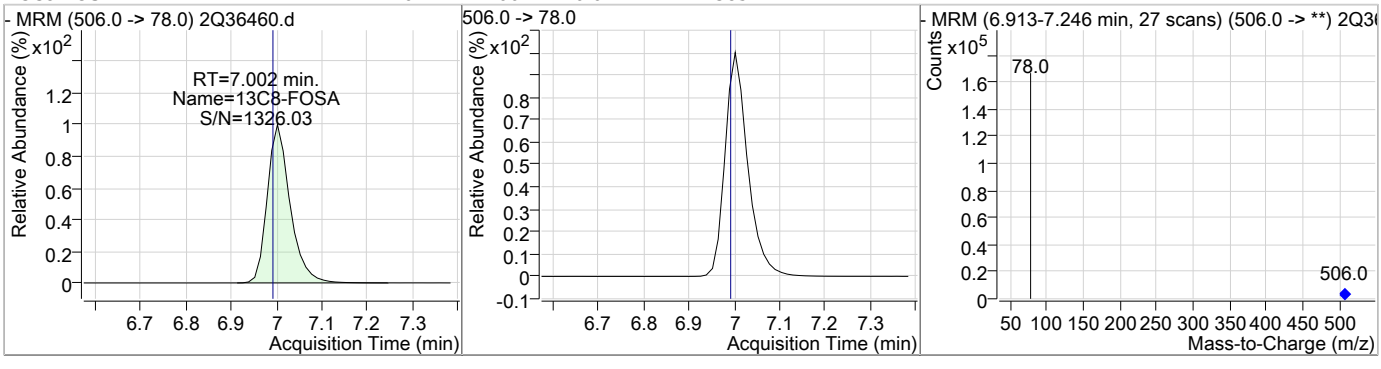
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.99	6.76	0.01	479435				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.15	6.76	0.01	186778	413.0 -> 169.0	31.3	0.7	60.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	21.76	7.00	0.01	123857				



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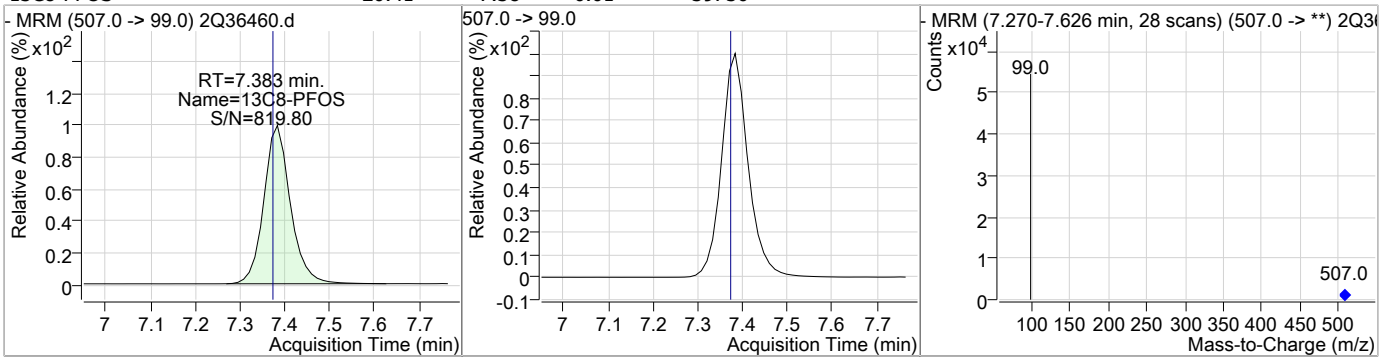
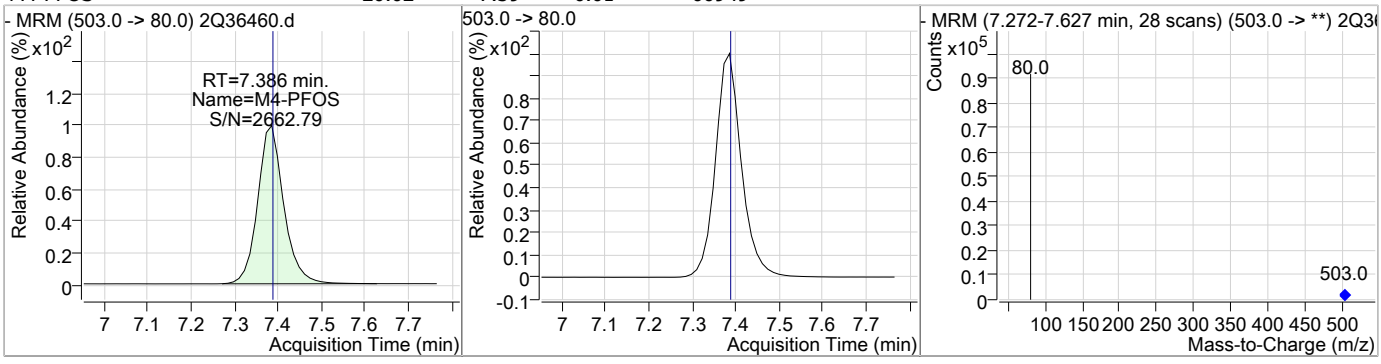
Perfluorinated Compounds by LC/MS/MS

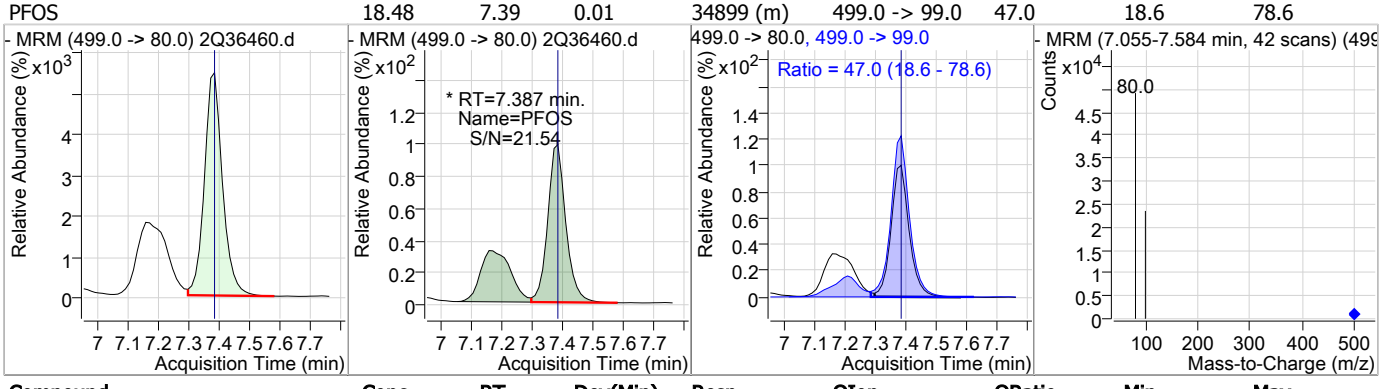
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	20.41	7.38	0.01	39730				



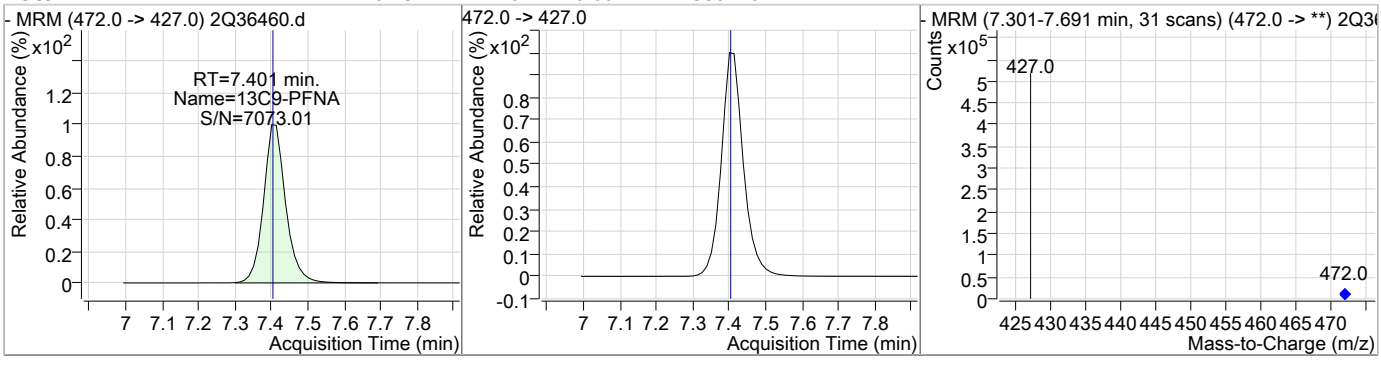
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.02	7.39	0.01	66949				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	18.48	7.39	0.01	34899 (m)	499.0 -> 99.0	47.0	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.43	7.40	0.00	386240				



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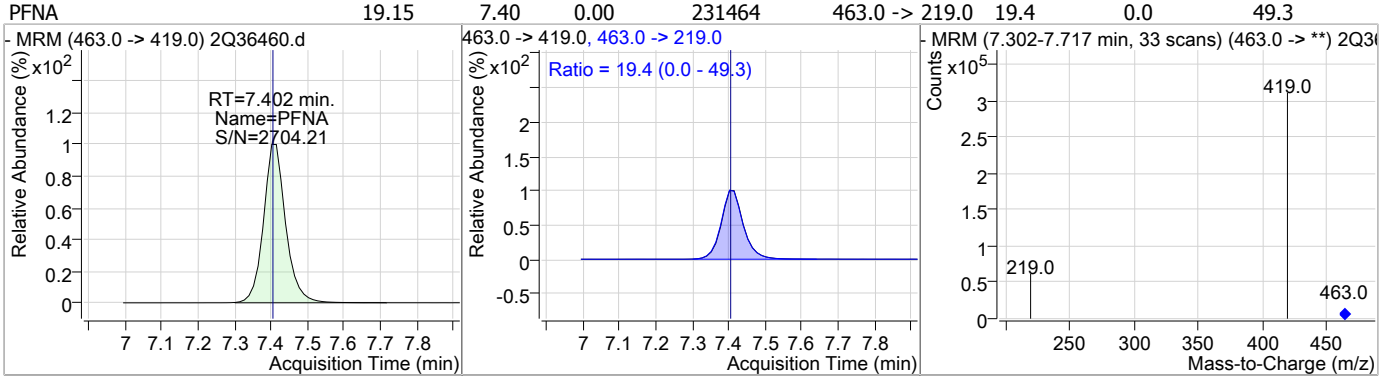
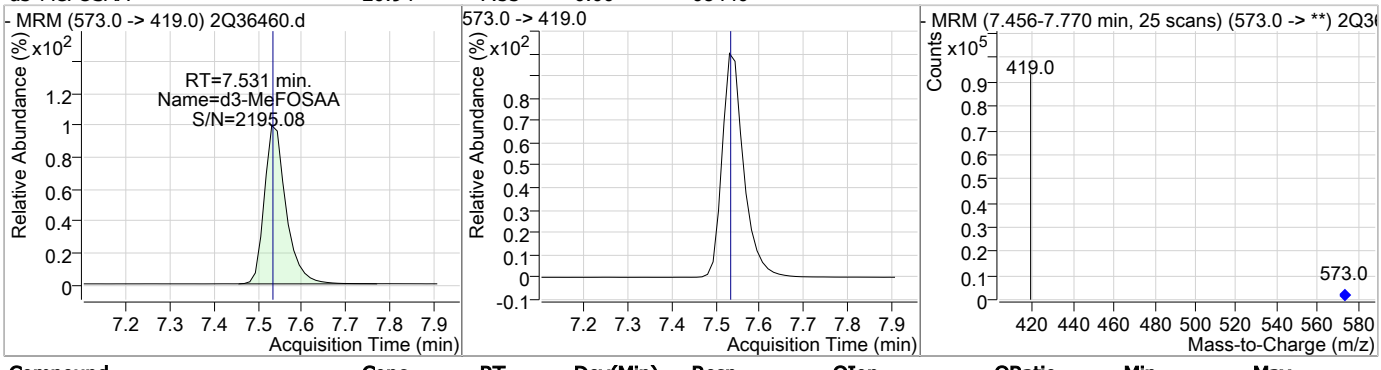
Perfluorinated Compounds by LC/MS/MS

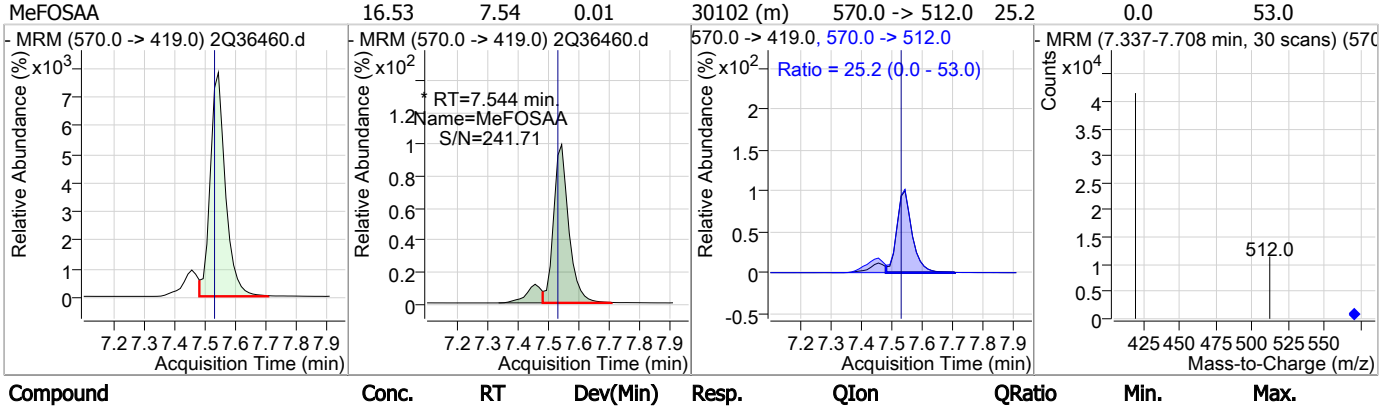
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.15	7.40	0.00	231464	463.0 -> 219.0	19.4	0.0	49.3



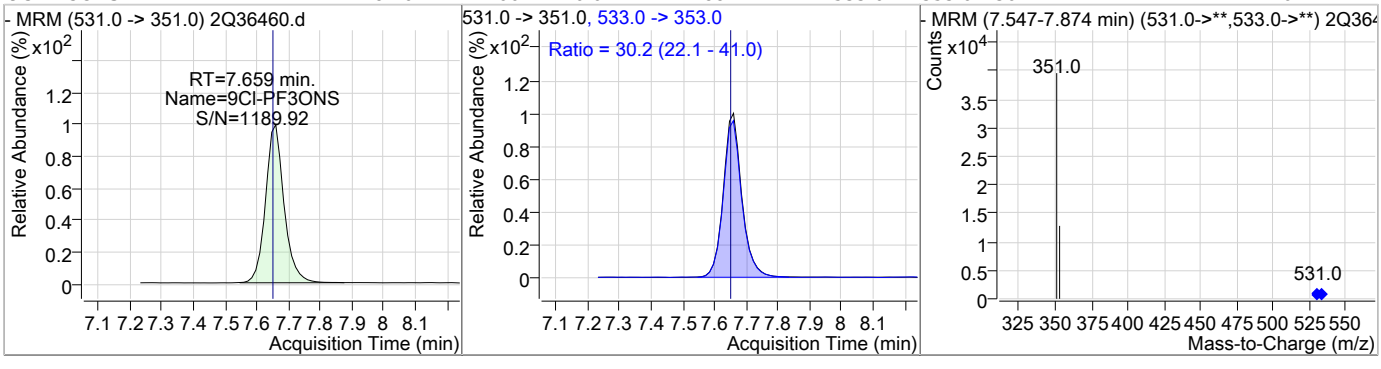
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	20.94	7.53	0.00	68440				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	16.53	7.54	0.01	30102 (m)	570.0 -> 512.0	25.2	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	18.26	7.66	0.01	28821	533.0 -> 353.0	30.2	22.1	41.0



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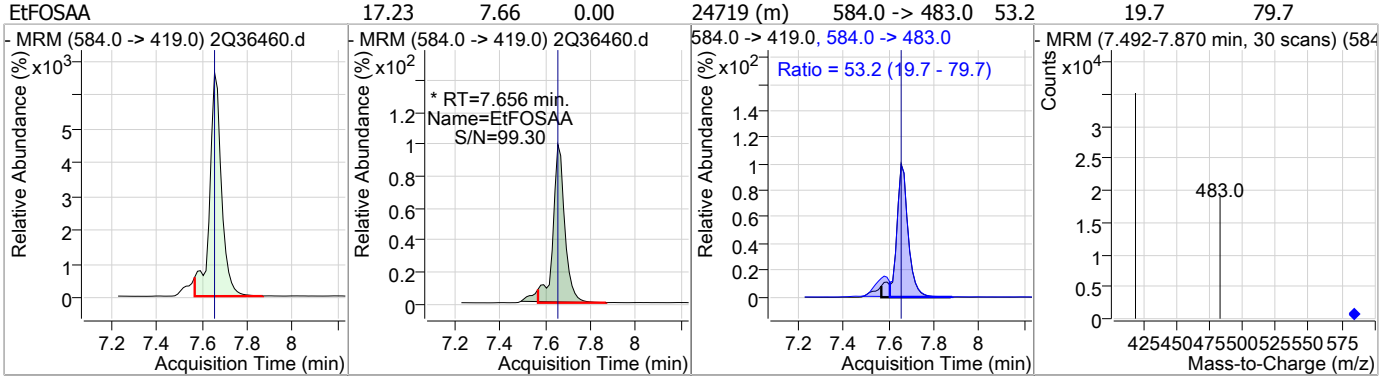
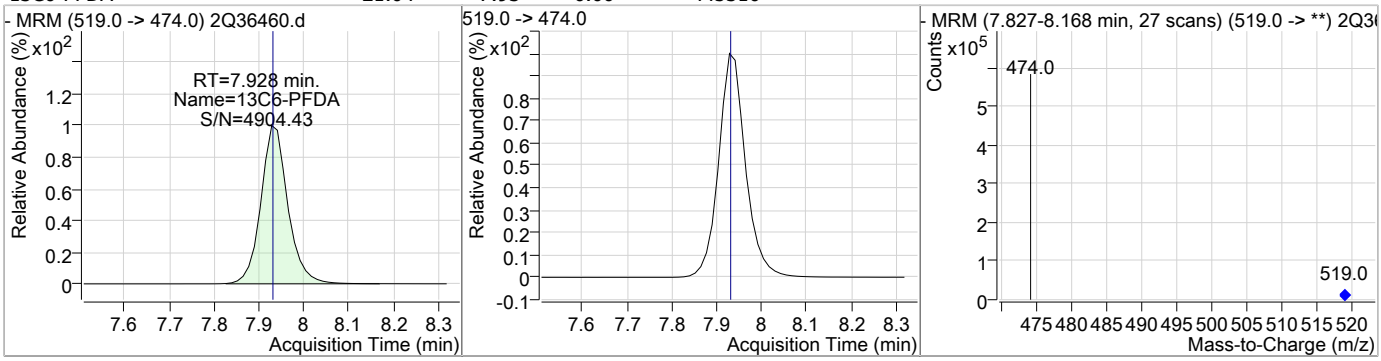
Perfluorinated Compounds by LC/MS/MS

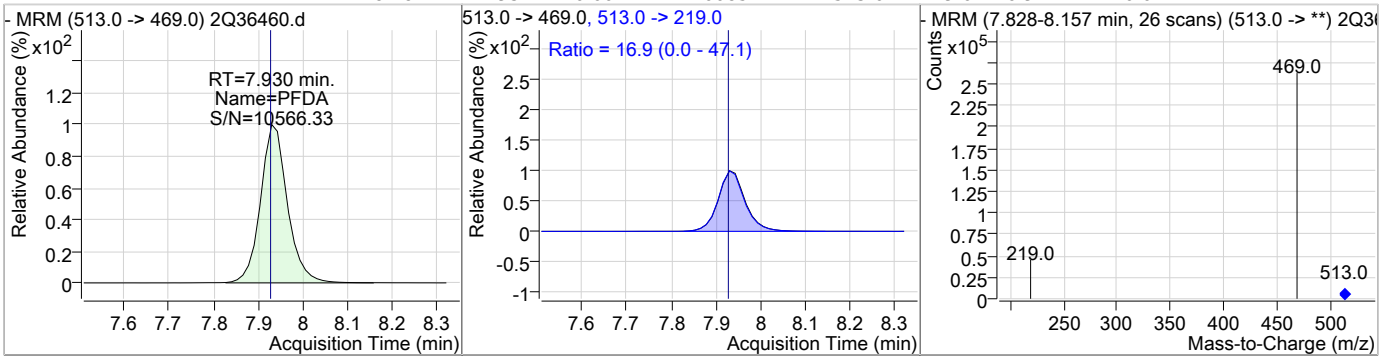
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	17.23	7.66	0.00	24719 (m)	584.0 -> 483.0	53.2	19.7	79.7



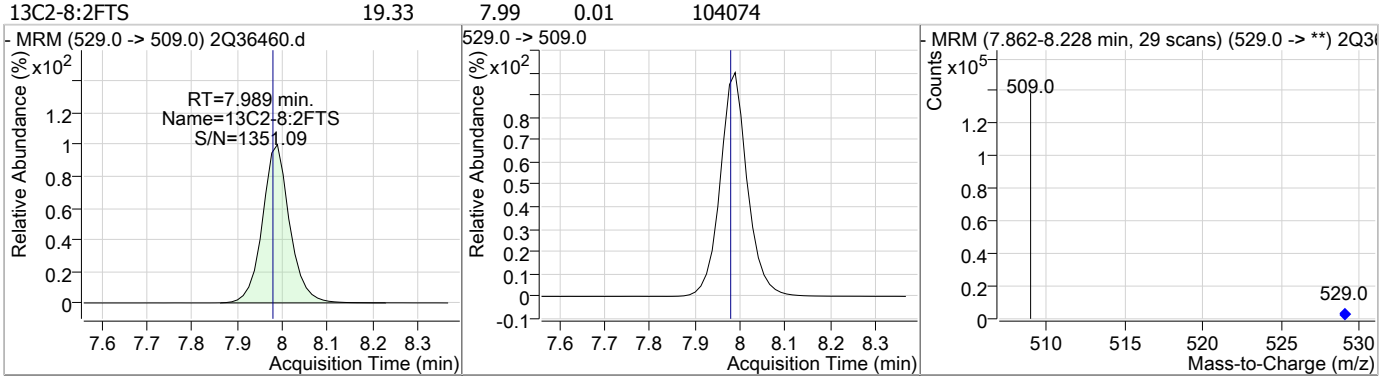
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	21.04	7.93	0.00	445310				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.18	7.93	0.00	200854	513.0 -> 219.0	16.9	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.33	7.99	0.01	104074				



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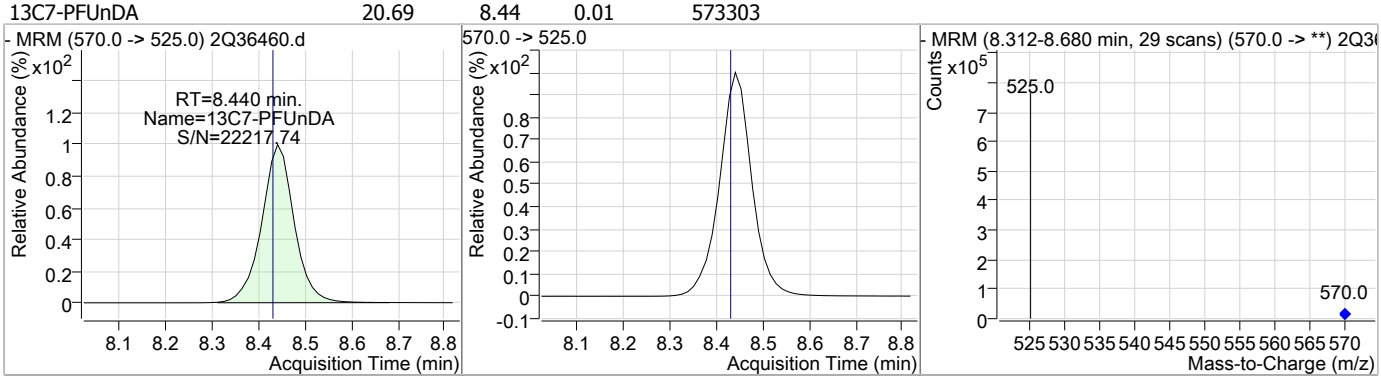
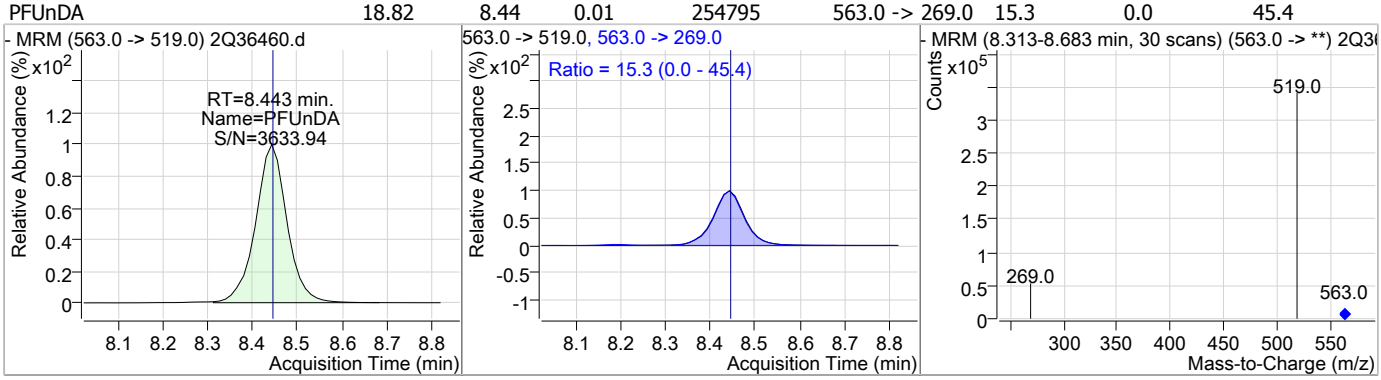
Perfluorinated Compounds by LC/MS/MS

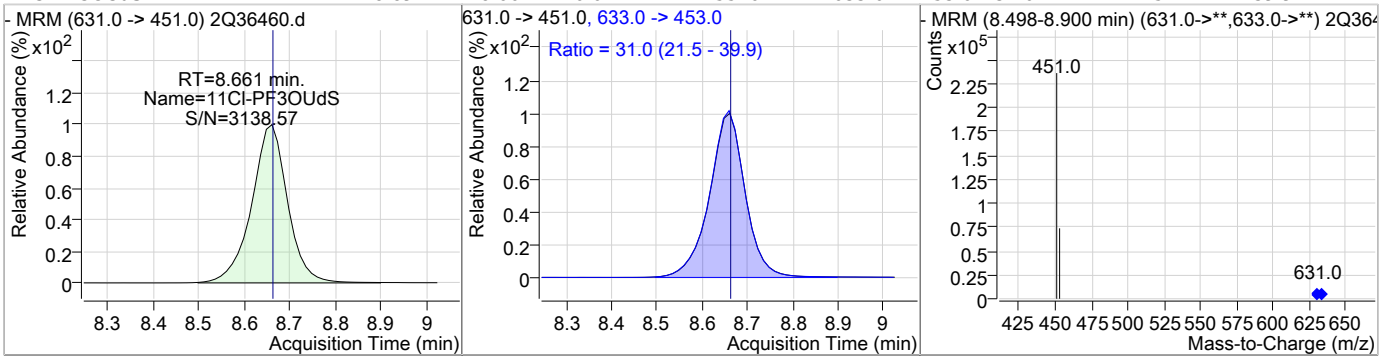
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	20.69	8.44	0.01	573303				



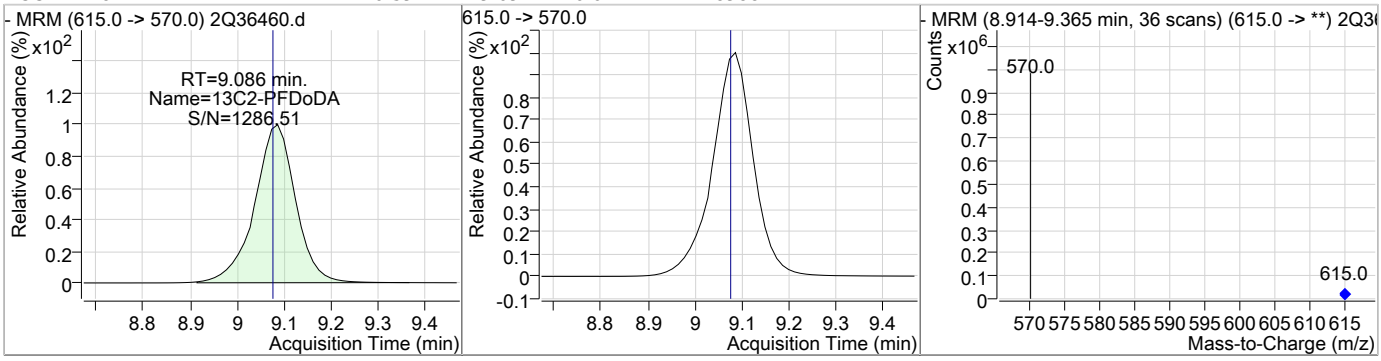
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.82	8.44	0.01	254795	563.0 -> 269.0	15.3	0.0	45.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.89	8.66	0.01	175576	633.0 -> 453.0	31.0	21.5	39.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.59	9.09	0.01	718988				



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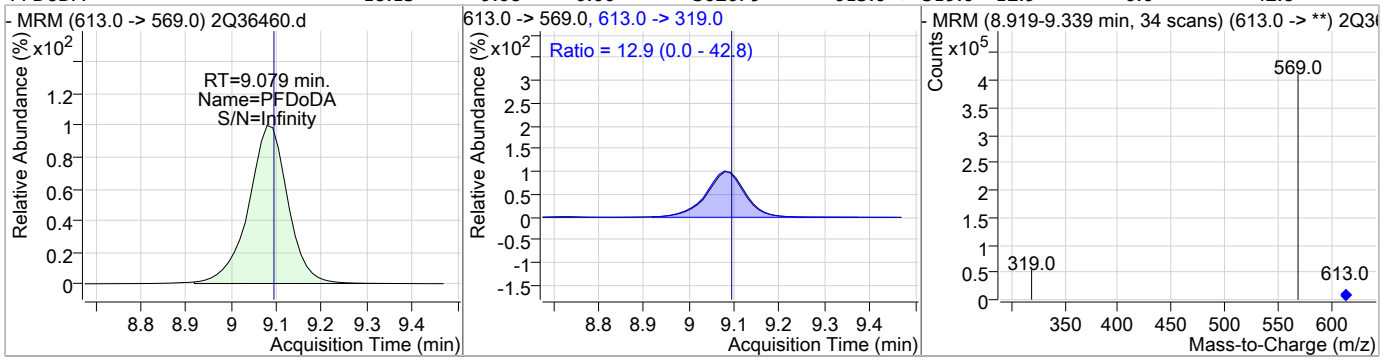
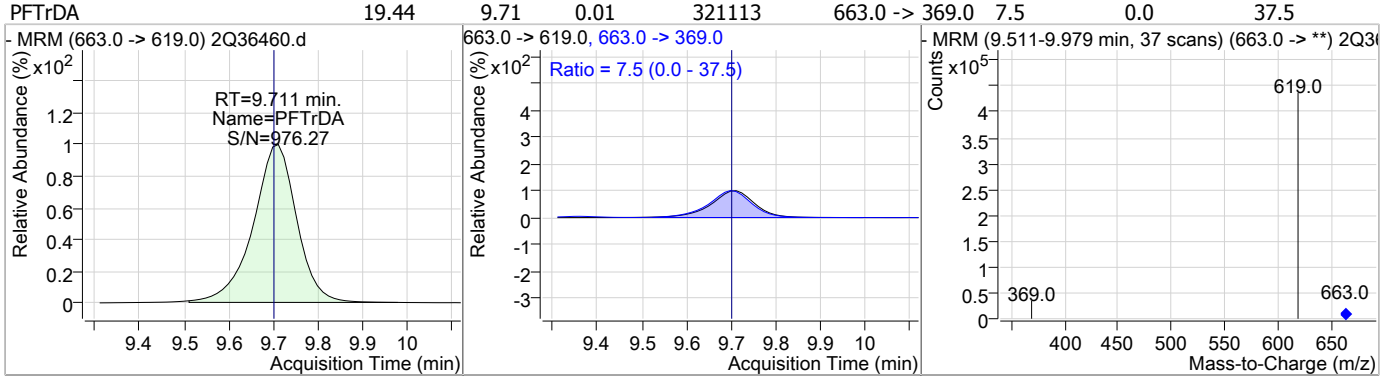
Perfluorinated Compounds by LC/MS/MS

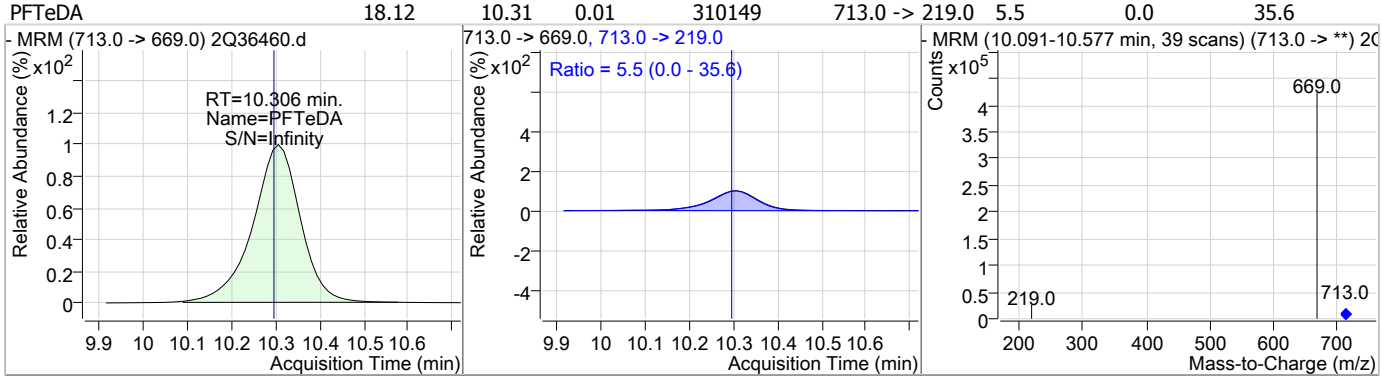
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	18.13	9.08	0.00	302079	613.0 -> 319.0	12.9	0.0	42.8



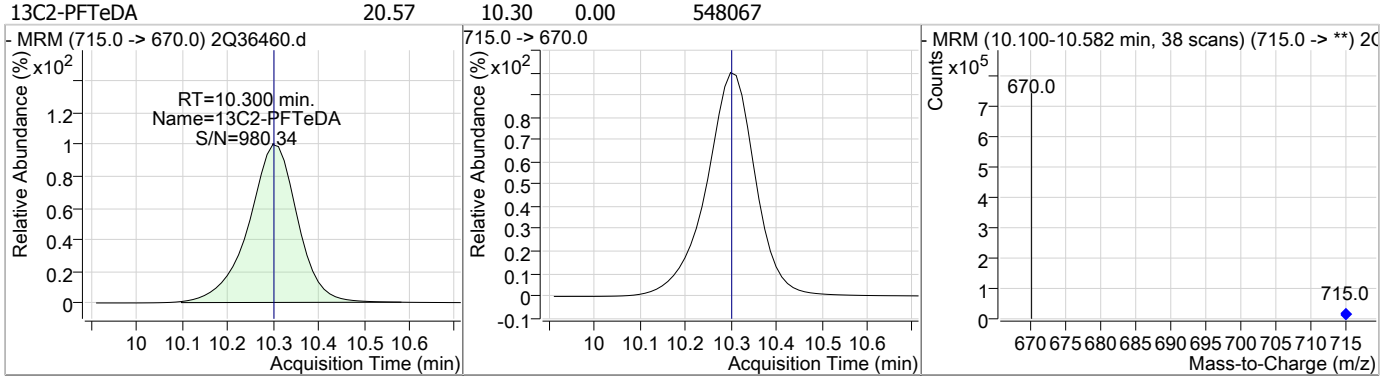
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.44	9.71	0.01	321113	663.0 -> 369.0	7.5	0.0	37.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.12	10.31	0.01	310149	713.0 -> 219.0	5.5	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	20.57	10.30	0.00	548067				



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Manual Integration Approval Summary

Sample Number:	S2Q568-ICV568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36460.D	**Analyst approved:**	09/24/19 10:23 Nancy Saunders
Injection Time:	09/23/19 16:52	**Supervisor approved:**	09/24/19 14:53 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.39	Split peak
MeFOSAA	2355-31-9		7.54	Split peak
EtFOSAA	2991-50-6		7.66	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:11

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36648.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/25/2019 9:11:24 PM
Sample Name	:	cc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76878,S2Q570,120,,,1.0,1,water

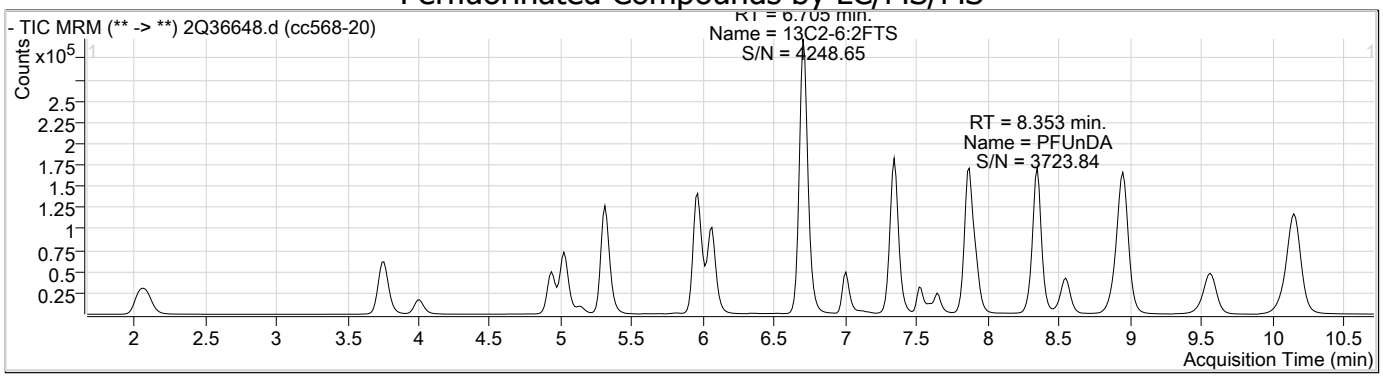
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.709	415.0 -> 370.0	457080	20.00	µg/L	0.038
13C4-PFOS	7.323	503.0 -> 80.0	62597	20.00	µg/L	0.038
M4-PFBA	2.065	217.0 -> 172.0	197505	20.00	µg/L	0.025
M5-PFPeA	3.761	268.0 -> 223.0	162922	20.00	µg/L	0.038
M5-PFHxA	5.026	318.0 -> 273.0	229824	20.00	µg/L	0.038
M4-PFHpA	5.967	367.0 -> 322.0	296881	20.00	µg/L	0.050
M8-PFOA	6.708	421.0 -> 376.0	362491	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	379227	20.00	µg/L	0.038
M6-PFDA	7.877	519.0 -> 474.0	413547	20.00	µg/L	0.038
M7-PFUnDA	8.351	570.0 -> 525.0	508442	20.00	µg/L	0.039
M2-PFDoDA	8.952	615.0 -> 570.0	662828	20.00	µg/L	0.050
M2-PFTeDA	10.150	715.0 -> 670.0	531205	20.00	µg/L	0.063
M8-FOSA	7.002	506.0 -> 78.0	112562	20.00	µg/L	0.038
M3-PFBS	4.005	302.0 -> 99.0	26314	20.00	µg/L	0.038
M3-PFHxS	5.997	402.0 -> 99.0	28012	20.00	µg/L	0.050
M8-PFOS	7.333	507.0 -> 99.0	37689	20.00	µg/L	0.050
M2-4:2FTS	4.933	329.0 -> 309.0	116916	20.00	µg/L	0.037
M2-6:2FTS	6.705	429.0 -> 409.0	159284	20.00	µg/L	0.038
M2-8:2FTS	7.913	529.0 -> 509.0	108493	20.00	µg/L	0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	62417	20.00	µg/L	0.025
M3-HFPO-DA	5.318	287.0 -> 169.0	237885	100.00	µg/L	0.050
System Monitoring Compounds						
13C2-4:2FTS	4.933	329.0 -> 309.0	116853	20.07	µg/L	0.037
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C2-6:2FTS	6.705	429.0 -> 409.0	159180	20.08	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C2-8:2FTS	7.913	529.0 -> 509.0	108339	20.13	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C2-PFDoDA	8.952	615.0 -> 570.0	662094	18.96	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.8%		
13C2-PFTeDA	10.150	715.0 -> 670.0	529090	19.86	µg/L	0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C3-PFBS	4.005	302.0 -> 99.0	26285	19.23	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C3-PFHxS	5.997	402.0 -> 99.0	27976	18.98	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.9%		
13C4-PFBA	2.065	217.0 -> 172.0	196252	20.04	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C4-PFHpA	5.967	367.0 -> 322.0	296174	19.45	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C5-PFHxA	5.026	318.0 -> 273.0	229282	19.64	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C5-PFPeA	3.761	268.0 -> 223.0	163620	19.88	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C6-PFDA	7.877	519.0 -> 474.0	413351	19.53	µg/L	0.038

Perfluorinated Compounds by LC/MS/MS

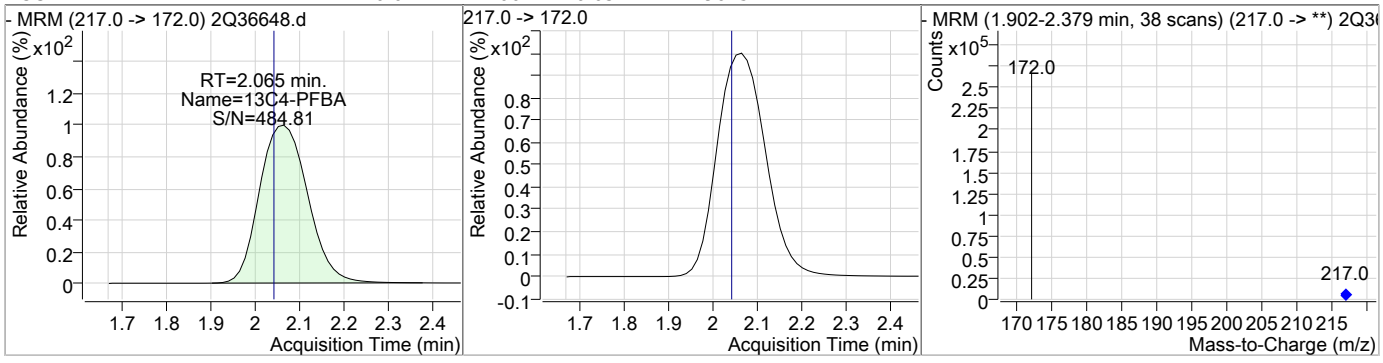
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C7-PFUnDA	8.351	570.0 -> 525.0	507279	18.30 µg/L		0.039
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 91.5%		
13C8-FOSA	7.002	506.0 -> 78.0	112392	19.75 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C8-PFOA	6.708	421.0 -> 376.0	361833	19.77 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C8-PFOS	7.333	507.0 -> 99.0	37647	19.34 µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C9-PFNA	7.351	472.0 -> 427.0	378948	20.05 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
d3-MeFOSAA	7.518	573.0 -> 419.0	62463	19.11 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
M2-PFOA	6.709	415.0 -> 370.0	457617	20.00 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.323	503.0 -> 80.0	62572	20.00 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	237885	83.68 µg/L		0.050
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 83.7%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	67188	20.23 µg/L		98
6:2FTS	6.706	427.0 -> 407.0	79705	20.13 µg/L		99
8:2FTS	7.914	527.0 -> 507.0	58389	20.11 µg/L		98
EtFOSAA	7.643	584.0 -> 419.0	27506	21.01 µg/L		98
FOSA	7.005	498.0 -> 78.0	56097	19.24 µg/L		100
MeFOSAA	7.532	570.0 -> 419.0	32938	19.81 µg/L		99
PFBA	2.061	213.0 -> 169.0	35302	19.19 µg/L		100
PFBS	3.996	299.0 -> 80.0	40525	19.50 µg/L		100
PFDA	7.866	513.0 -> 469.0	205994	20.09 µg/L		98
PFDoDA	8.956	613.0 -> 569.0	301118	19.74 µg/L		100
PFDS	8.298	599.0 -> 80.0	15308	19.06 µg/L		100
PFHpA	5.957	363.0 -> 319.0	266313	19.68 µg/L		100
PFHpS	6.716	449.0 -> 80.0	30347	20.28 µg/L		99
PFHxA	5.027	313.0 -> 269.0	68291	19.34 µg/L		99
PFHxS	6.000	399.0 -> 80.0	33342	19.95 µg/L	m	99
PFNA	7.352	463.0 -> 419.0	226270	19.07 µg/L		100
PFNS	7.835	549.0 -> 80.0	24390	19.87 µg/L		99
PFOA	6.711	413.0 -> 369.0	191852	19.67 µg/L		99
PFOS	7.324	499.0 -> 80.0	34249	19.15 µg/L	m	99
PFPeA	3.752	263.0 -> 219.0	159261	19.36 µg/L		100
PFPeS	5.132	349.0 -> 80.0	22657	19.74 µg/L		99
PFTeDA	10.156	713.0 -> 669.0	315323	19.32 µg/L		99
PFTrDA	9.561	663.0 -> 619.0	298858	18.98 µg/L		100
PFUnDA	8.353	563.0 -> 519.0	238183	19.90 µg/L		99
11Cl-PF3OUdS	8.548	631.0 -> 451.0	163898	19.27 µg/L		99
9Cl-PF3ONS	7.597	531.0 -> 351.0	27220	18.59 µg/L		98
ADONA	6.065	377.0 -> 251.0	318565	18.36 µg/L		100
HFPO-DA	5.310	329.0 -> 169.0	247596	101.05 µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

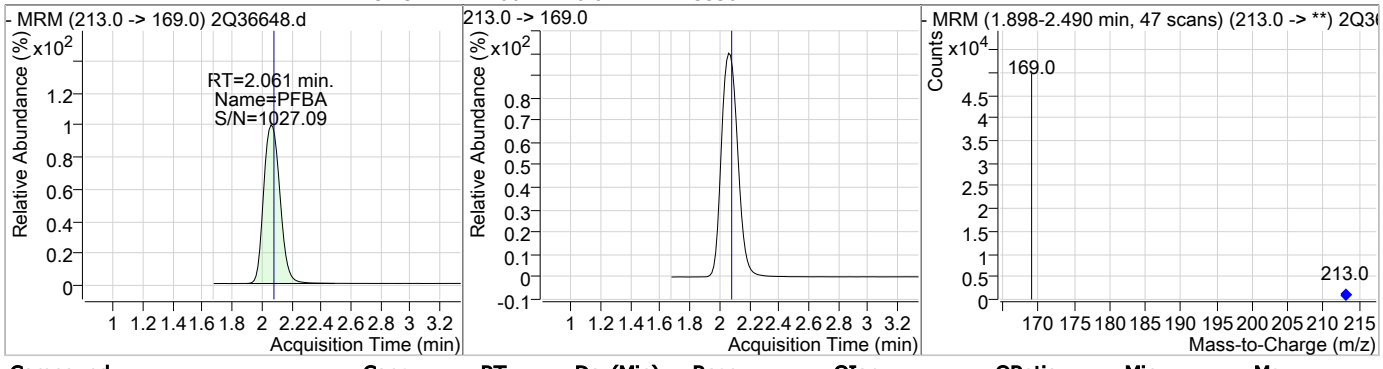
Perfluorinated Compounds by LC/MS/MS



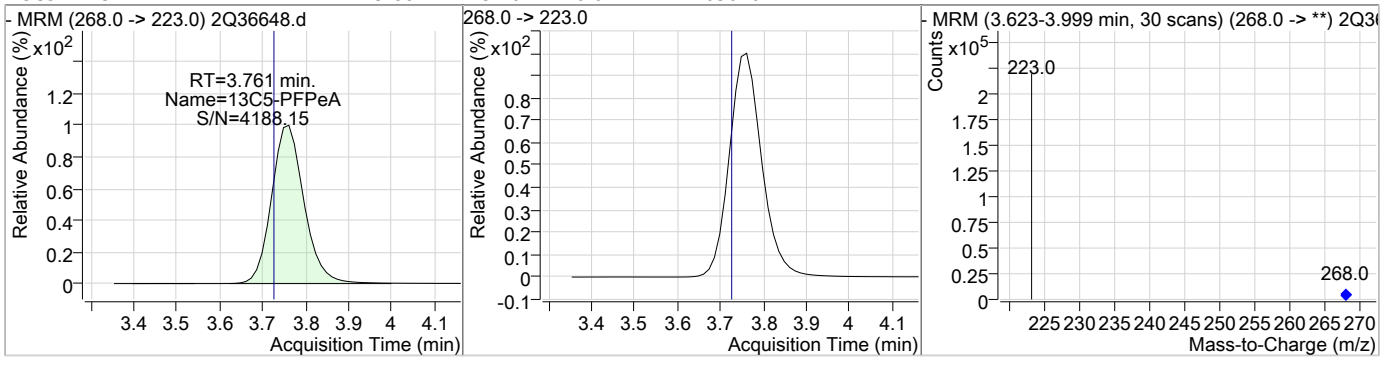
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.04	2.06	0.03	196252				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.19	2.06	0.01	35302				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.88	3.76	0.04	163620				



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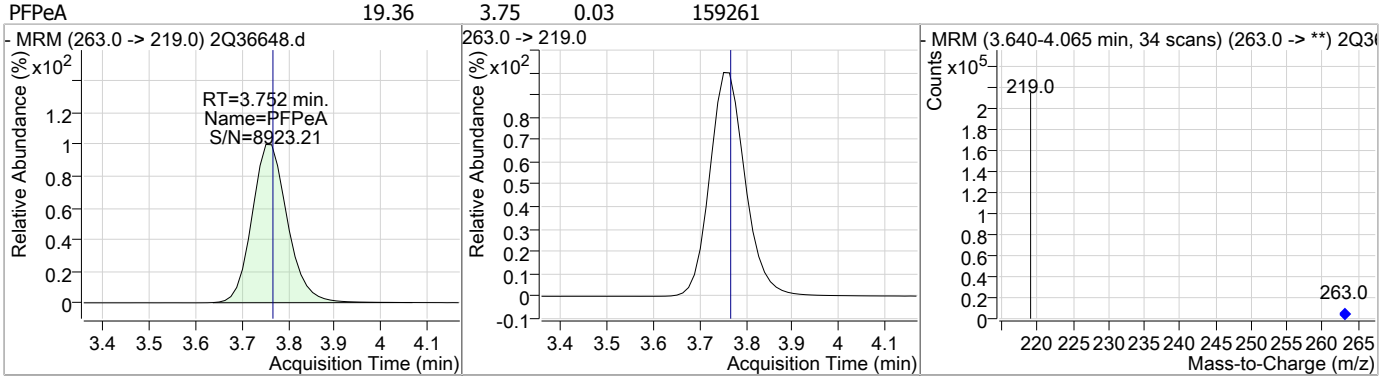
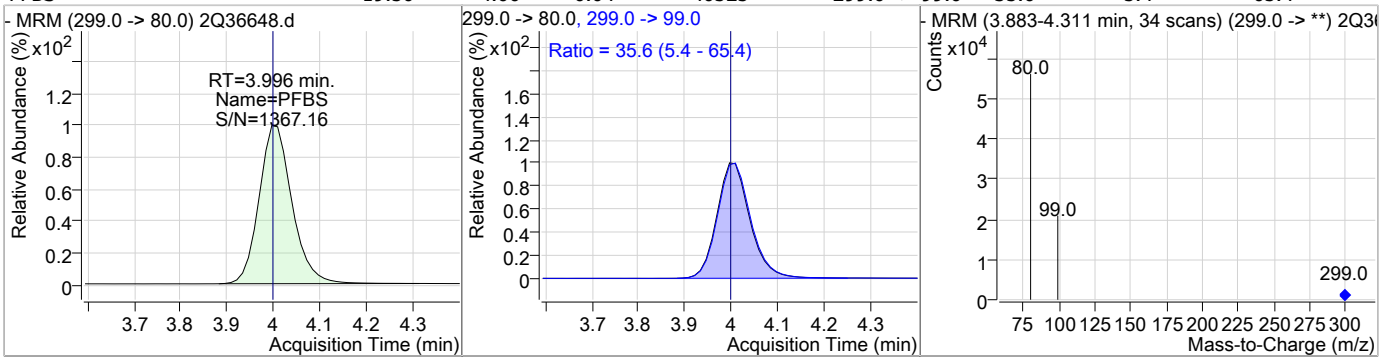
Perfluorinated Compounds by LC/MS/MS

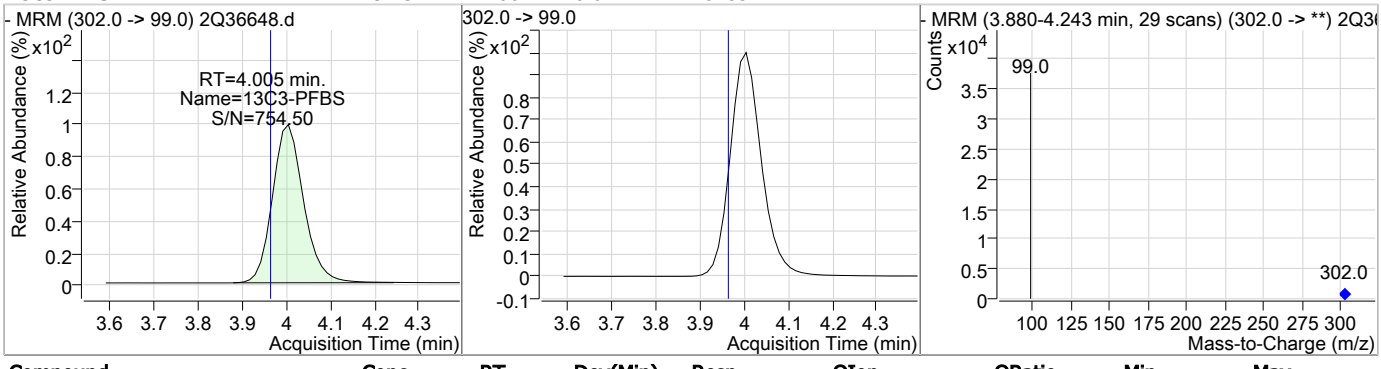
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.36	3.75	0.03	159261				



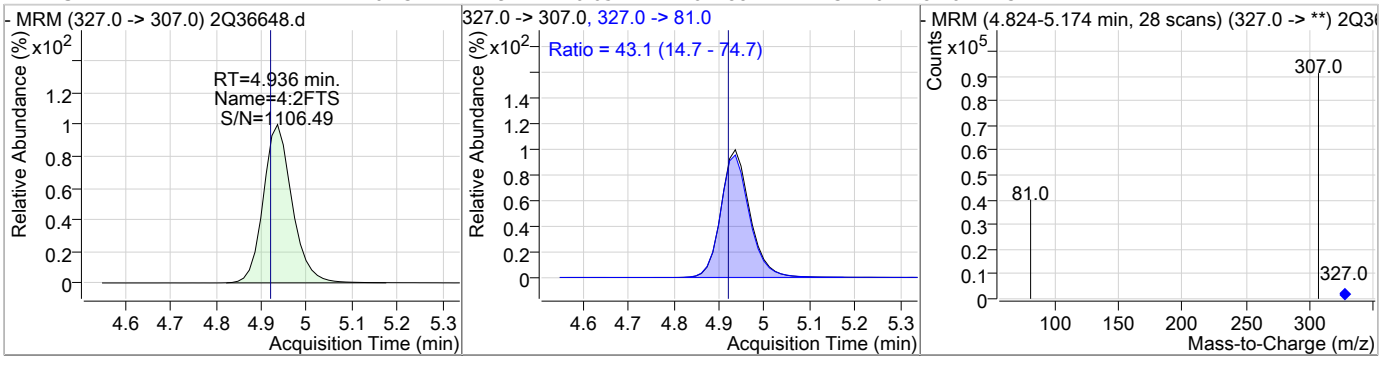
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.50	4.00	0.04	40525	299.0 -> 99.0	35.6	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.23	4.00	0.04	26285				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.23	4.94	0.05	67188	327.0 -> 81.0	43.1	14.7	74.7



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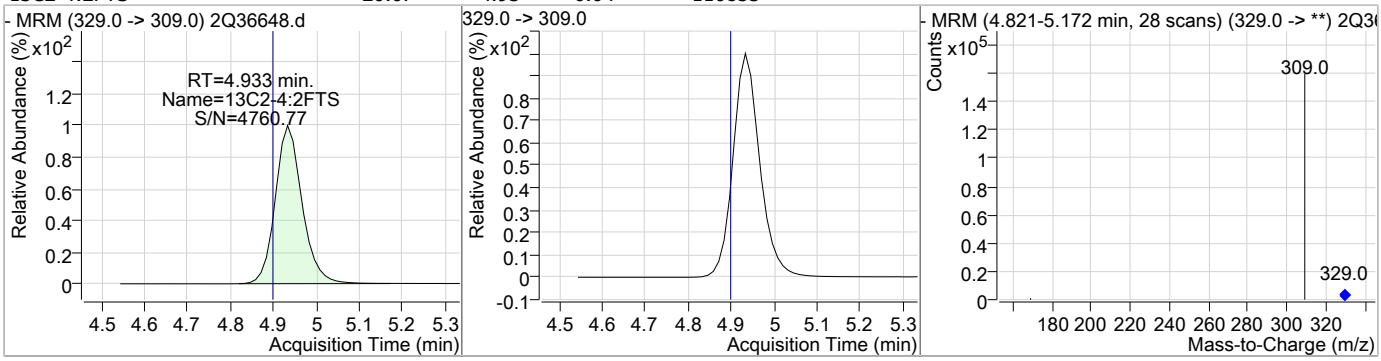
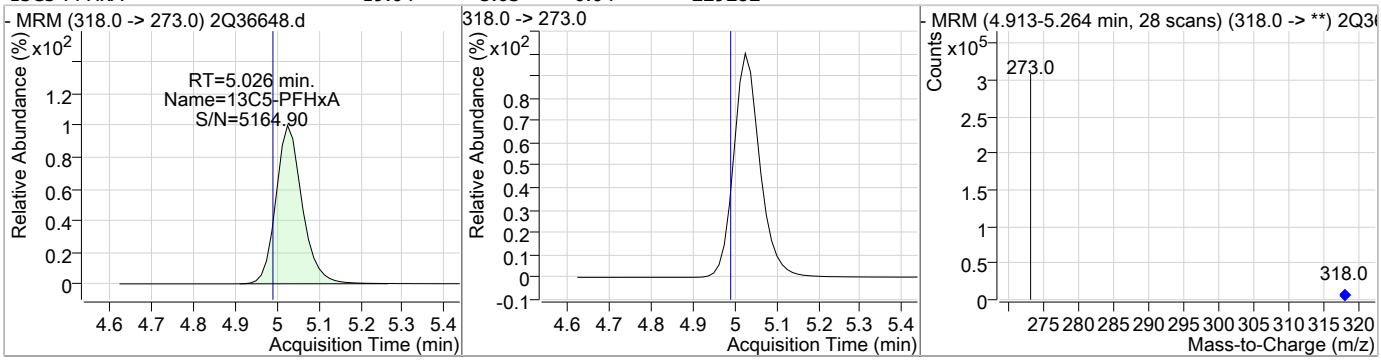
Perfluorinated Compounds by LC/MS/MS

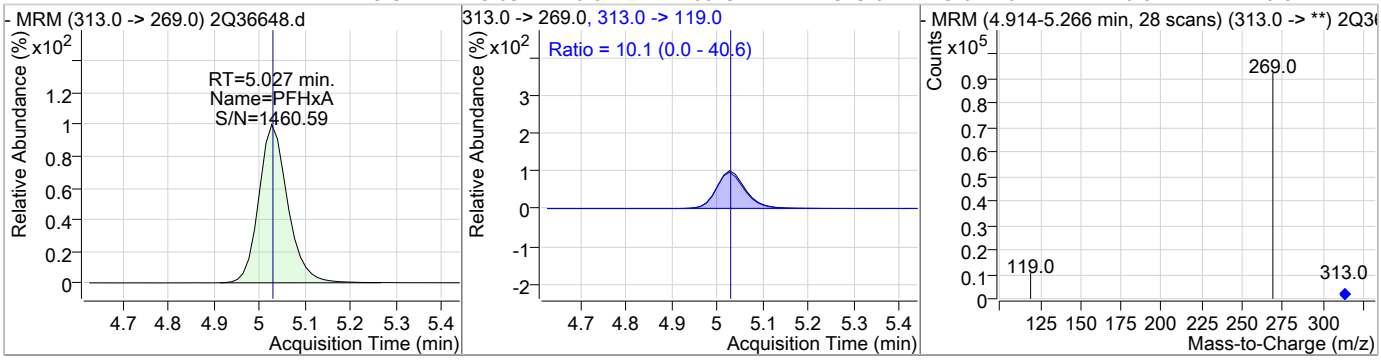
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	20.07	4.93	0.04	116853				



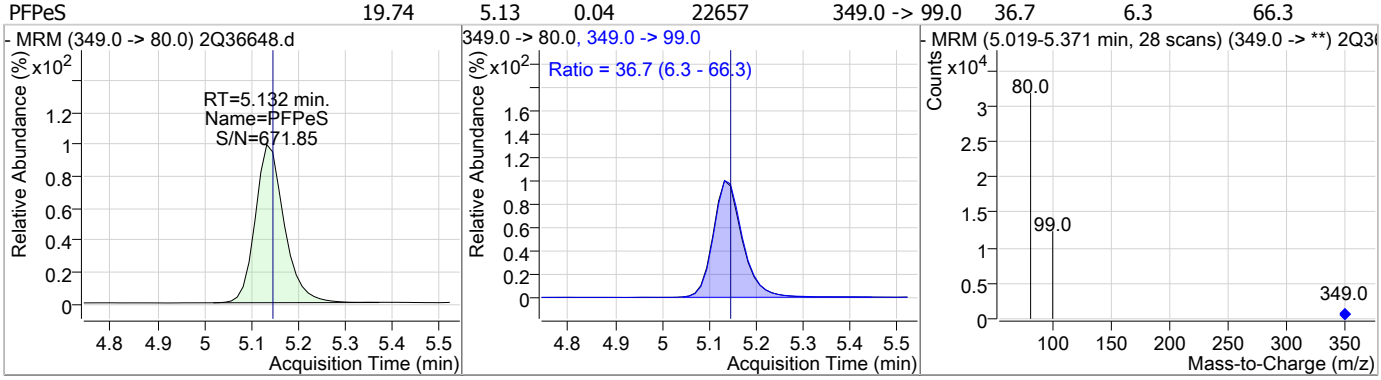
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.64	5.03	0.04	229282				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.34	5.03	0.04	68291	313.0 -> 119.0	10.1	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	19.74	5.13	0.04	22657	349.0 -> 99.0	36.7	6.3	66.3



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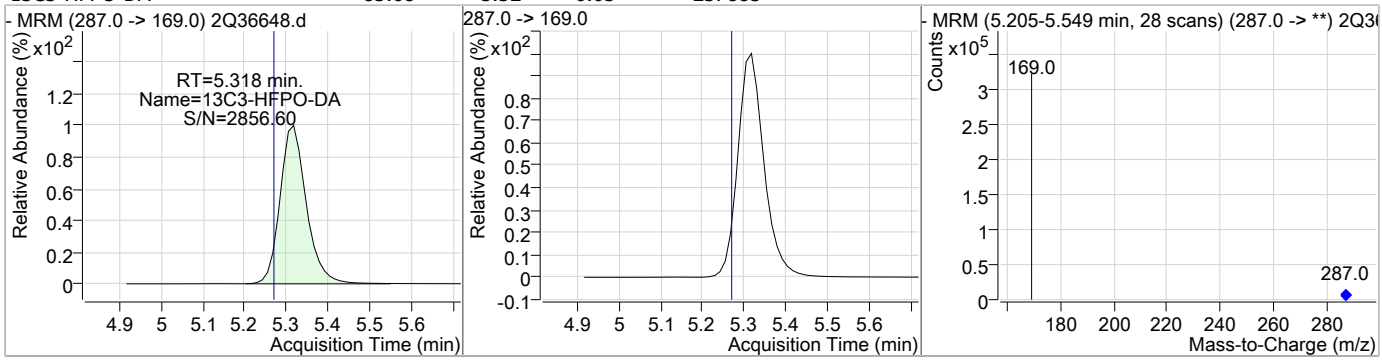
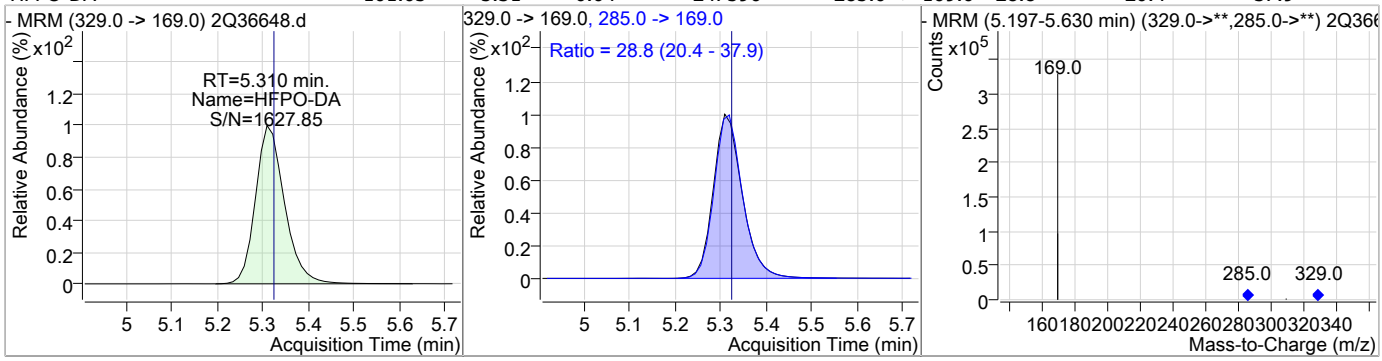
Perfluorinated Compounds by LC/MS/MS

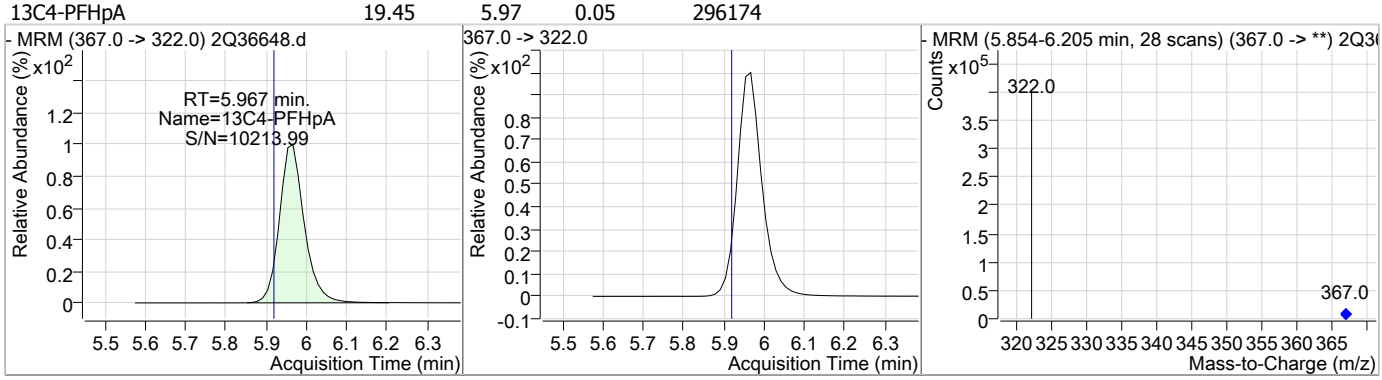
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	83.68	5.32	0.05	237885				



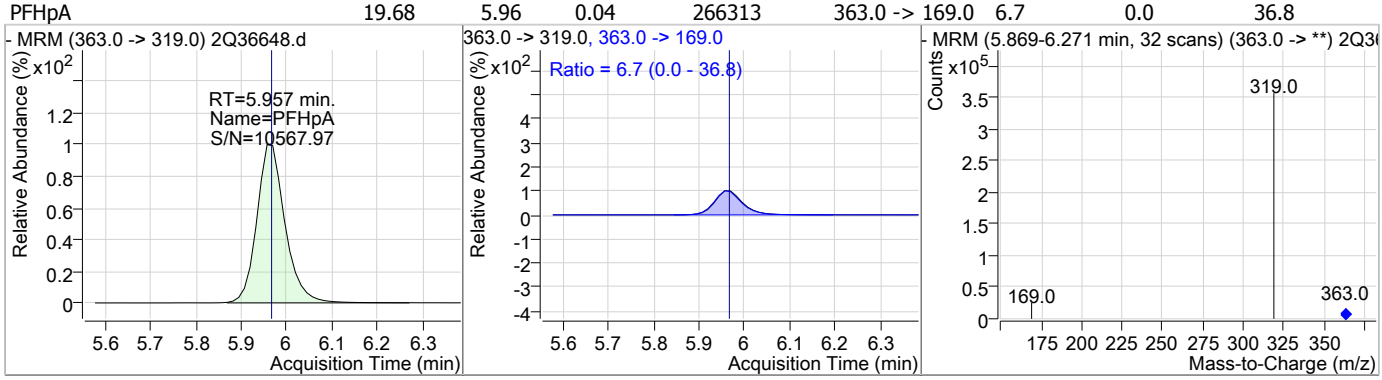
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	101.05	5.31	0.04	247596	285.0 -> 169.0	28.8	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.45	5.97	0.05	296174				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.68	5.96	0.04	266313	363.0 -> 169.0	6.7	0.0	36.8



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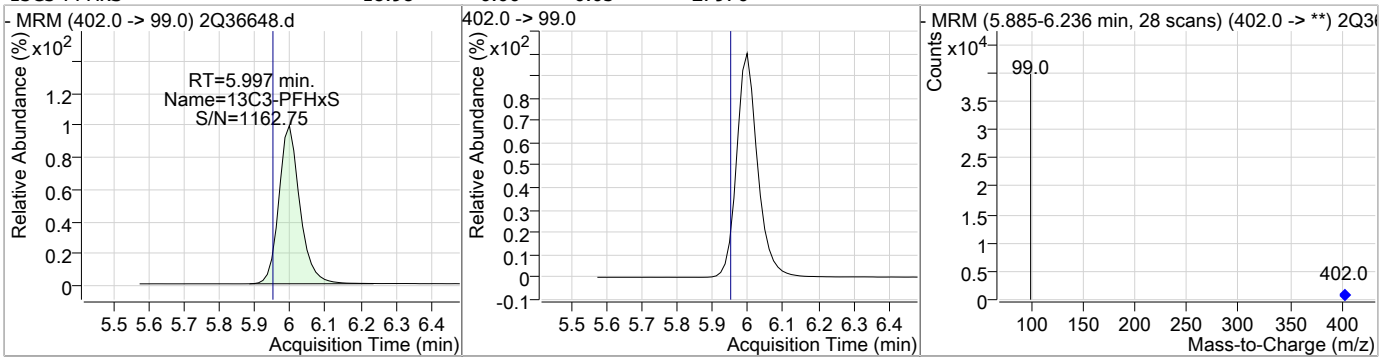
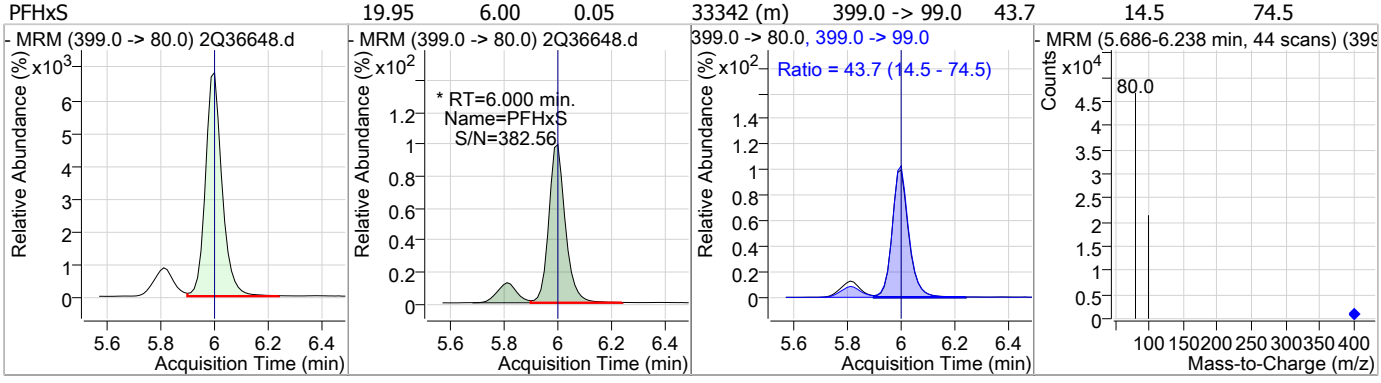
Perfluorinated Compounds by LC/MS/MS

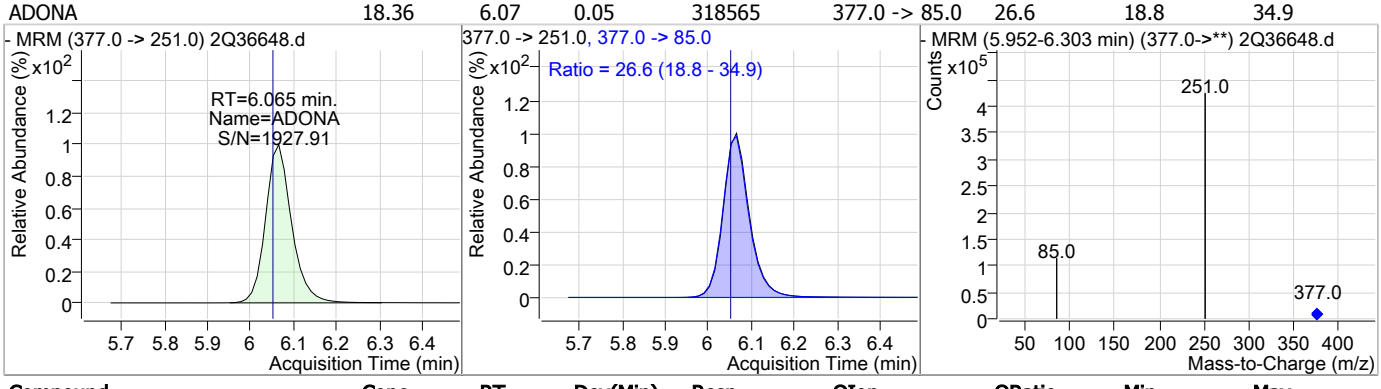
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	18.98	6.00	0.05	27976				



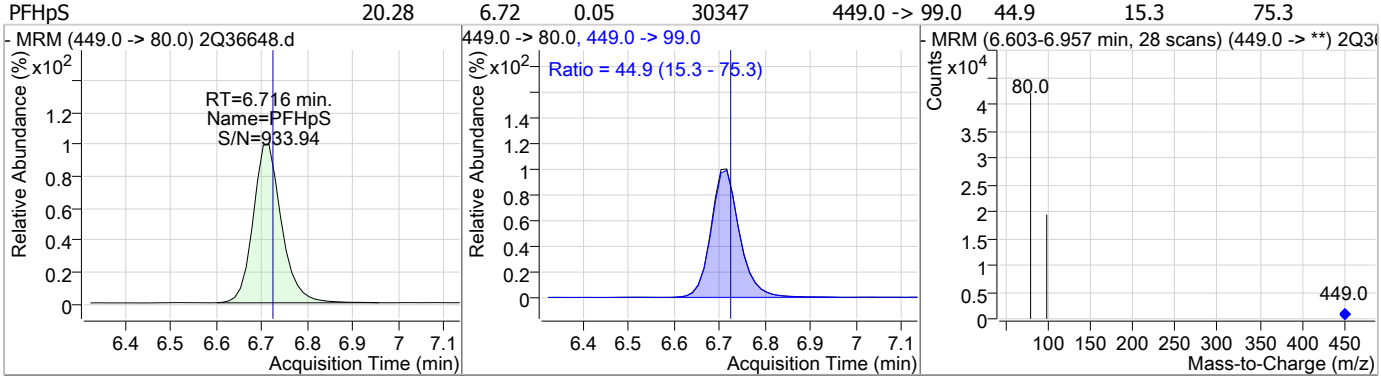
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.95	6.00	0.05	33342 (m)	399.0 -> 99.0	43.7	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.36	6.07	0.05	318565	377.0 -> 85.0	26.6	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.28	6.72	0.05	30347	449.0 -> 99.0	44.9	15.3	75.3



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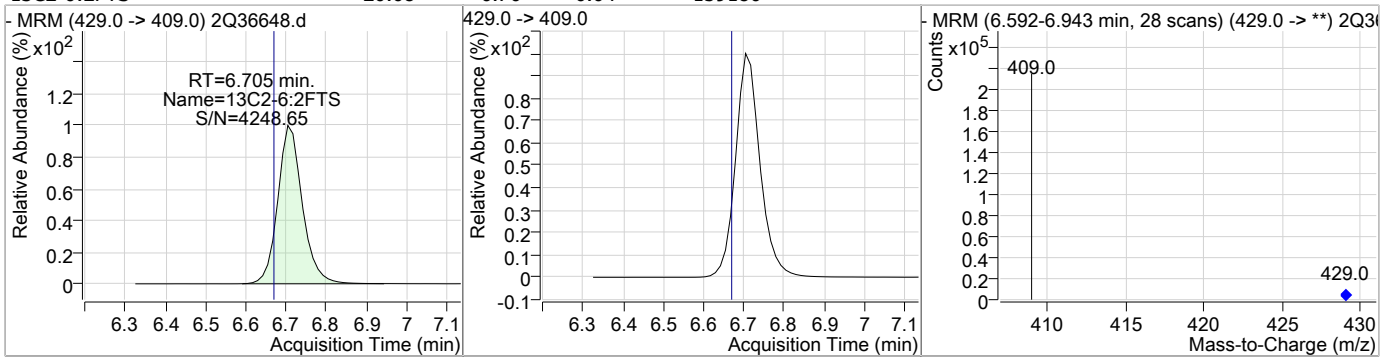
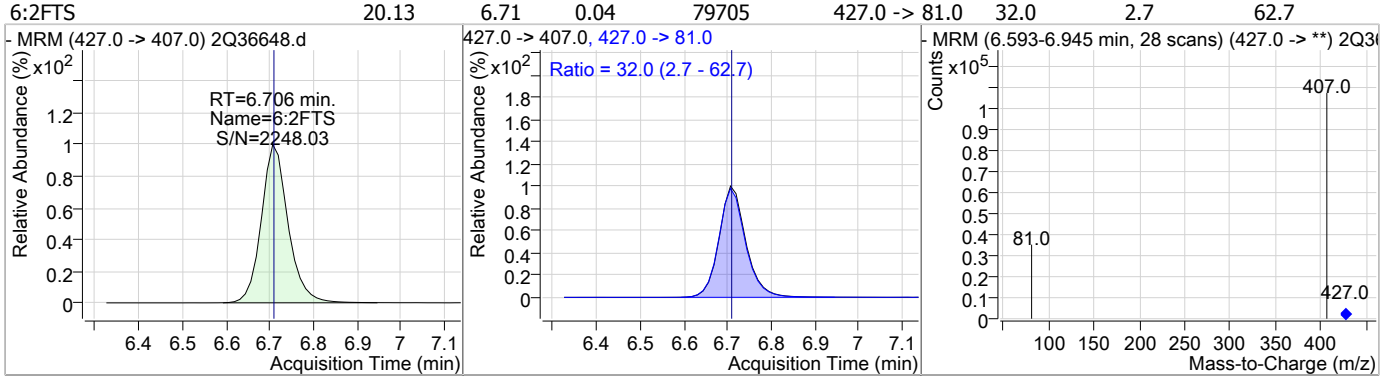
Perfluorinated Compounds by LC/MS/MS

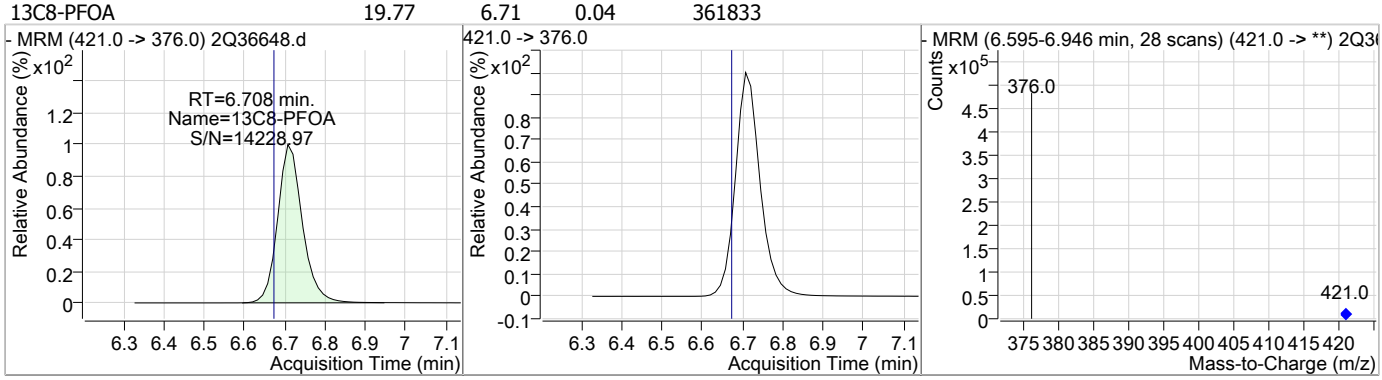
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.08	6.70	0.04	159180				



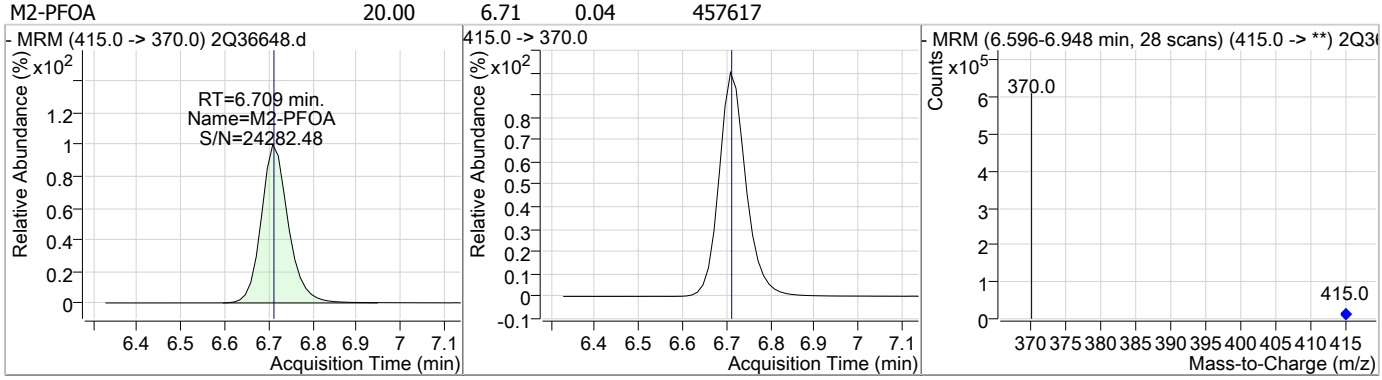
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.13	6.71	0.04	79705	427.0 -> 81.0	32.0	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.77	6.71	0.04	361833				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.00	6.71	0.04	457617				



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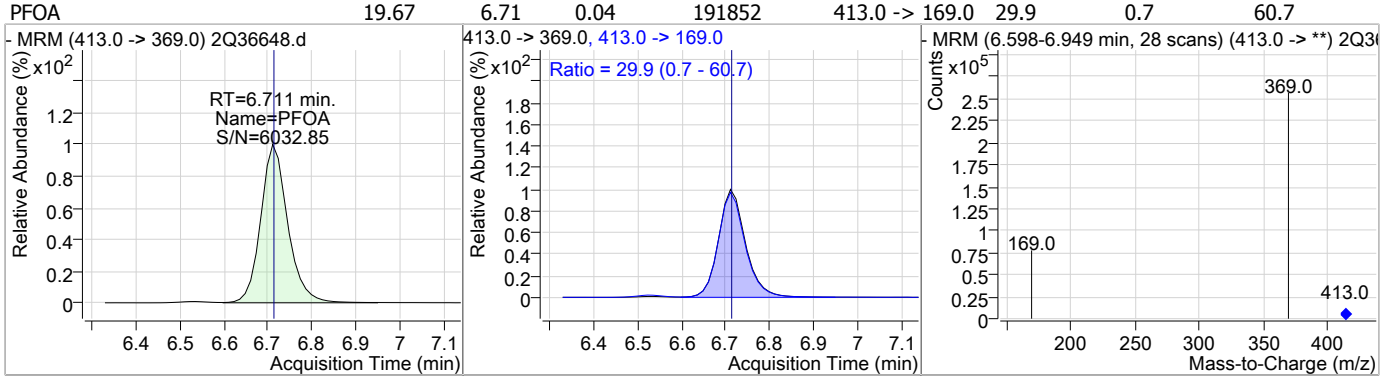
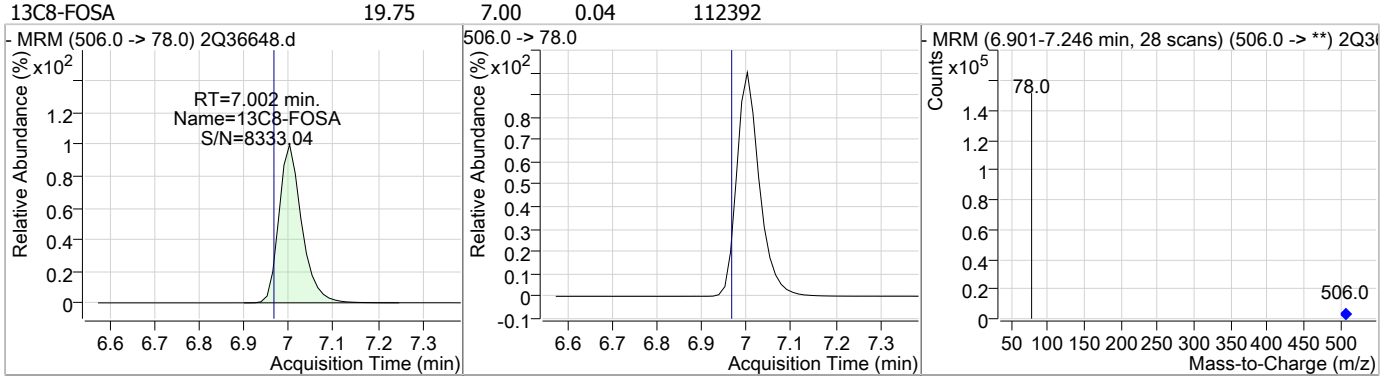
Perfluorinated Compounds by LC/MS/MS

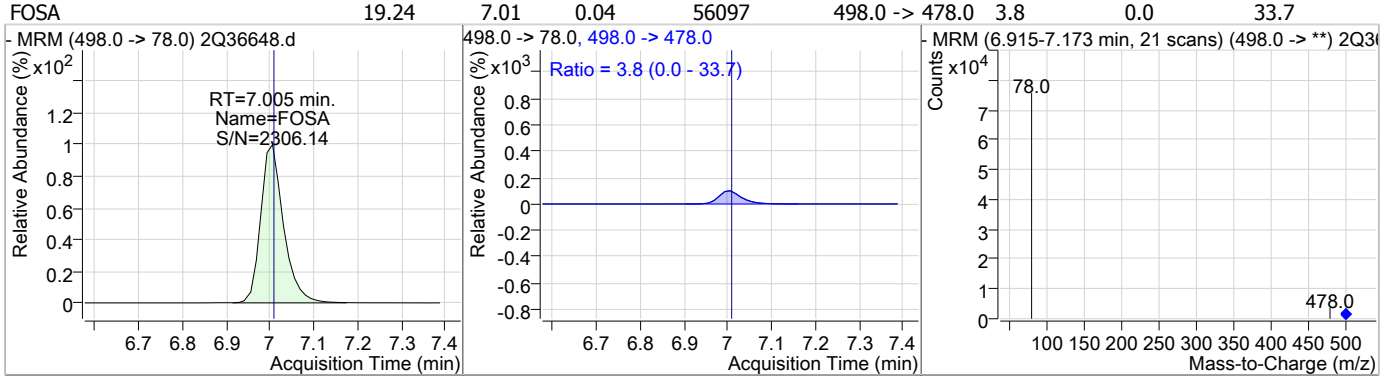
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.67	6.71	0.04	191852	413.0 -> 169.0	29.9	0.7	60.7



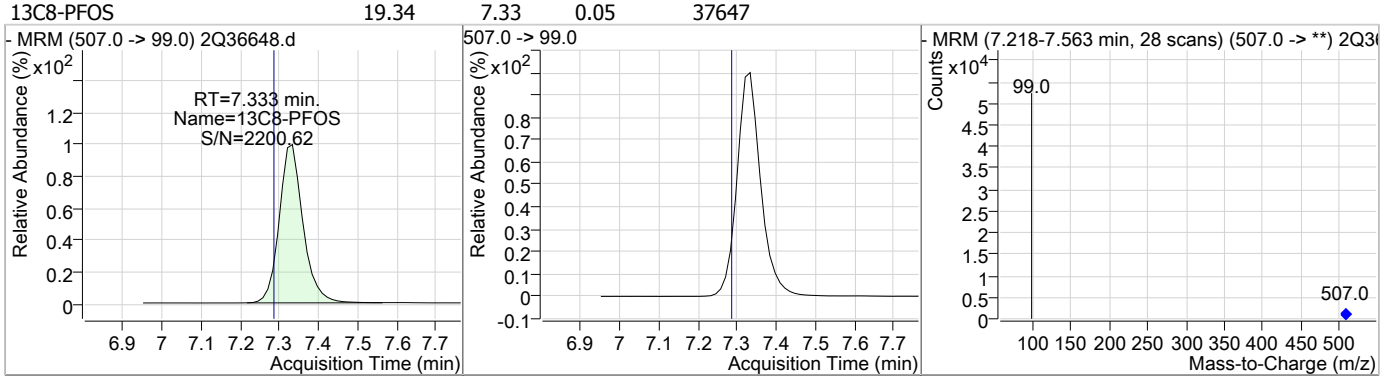
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	19.75	7.00	0.04	112392				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.24	7.01	0.04	56097	498.0 -> 478.0	3.8	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.34	7.33	0.05	37647				



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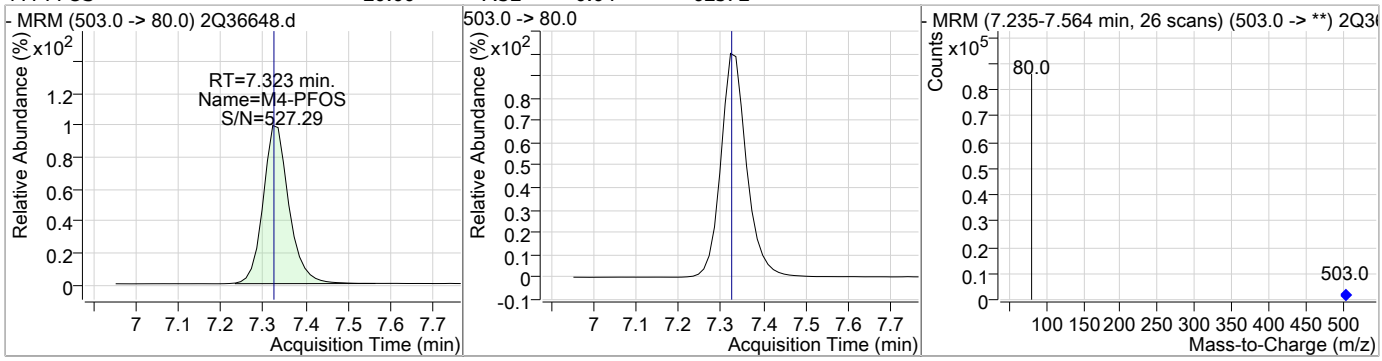
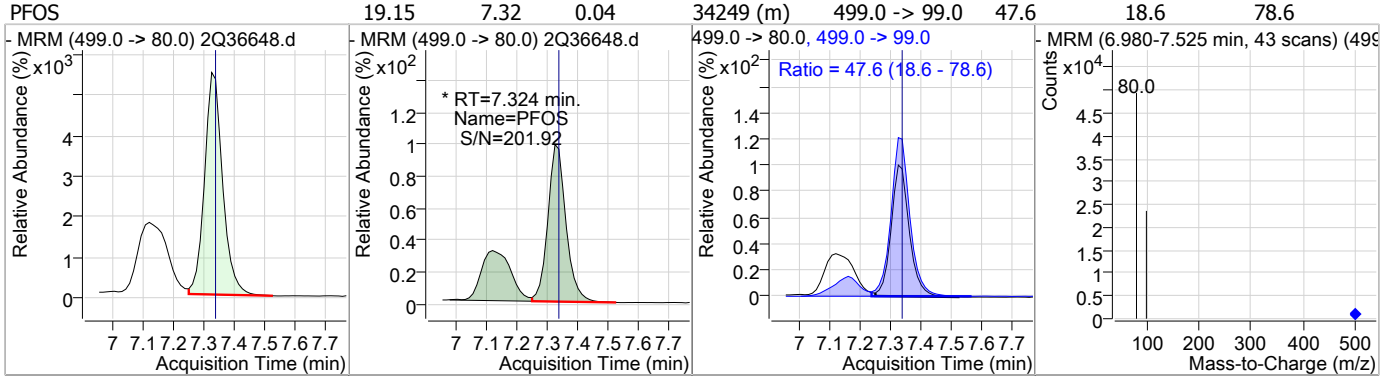
Perfluorinated Compounds by LC/MS/MS

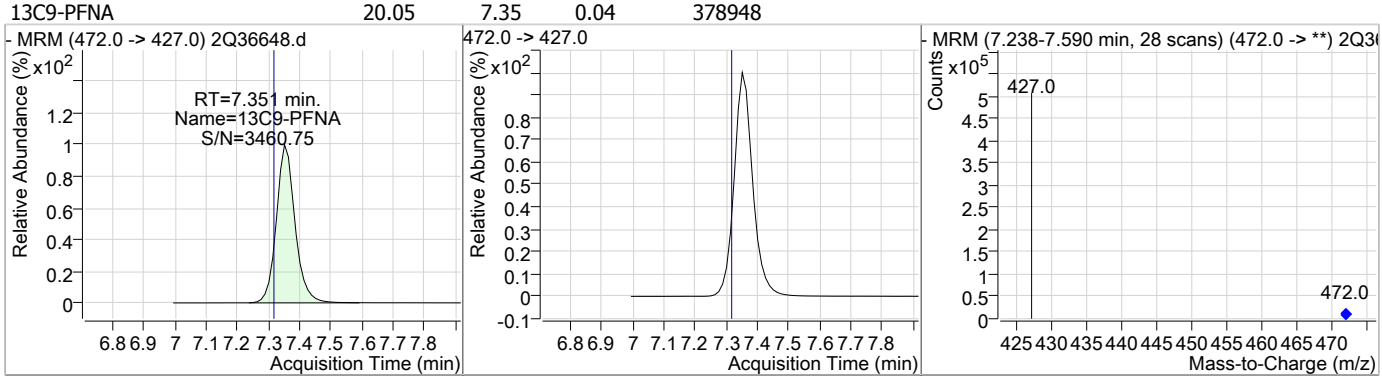
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	20.00	7.32	0.04	62572				



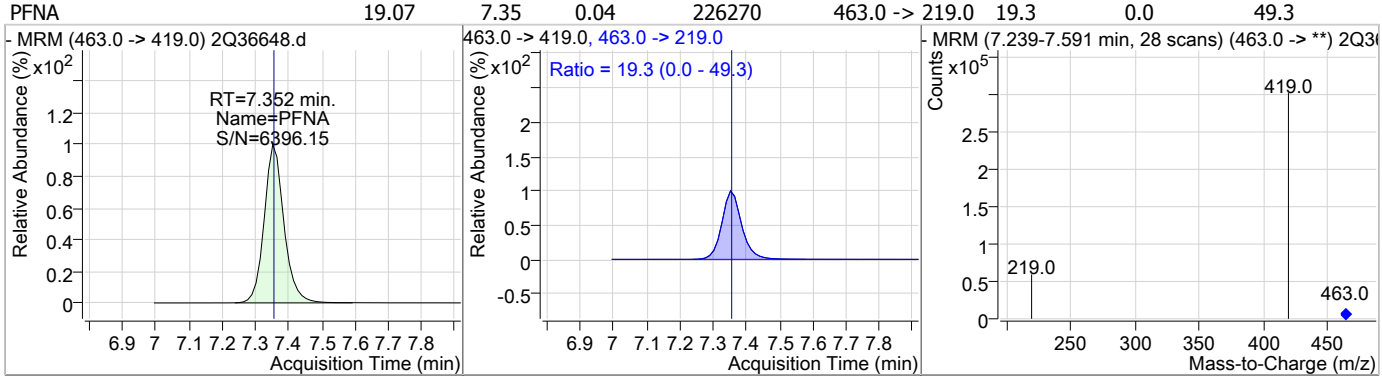
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.15	7.32	0.04	34249 (m)	499.0 -> 99.0	47.6	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.05	7.35	0.04	378948				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.07	7.35	0.04	226270	463.0 -> 219.0	19.3	0.0	49.3



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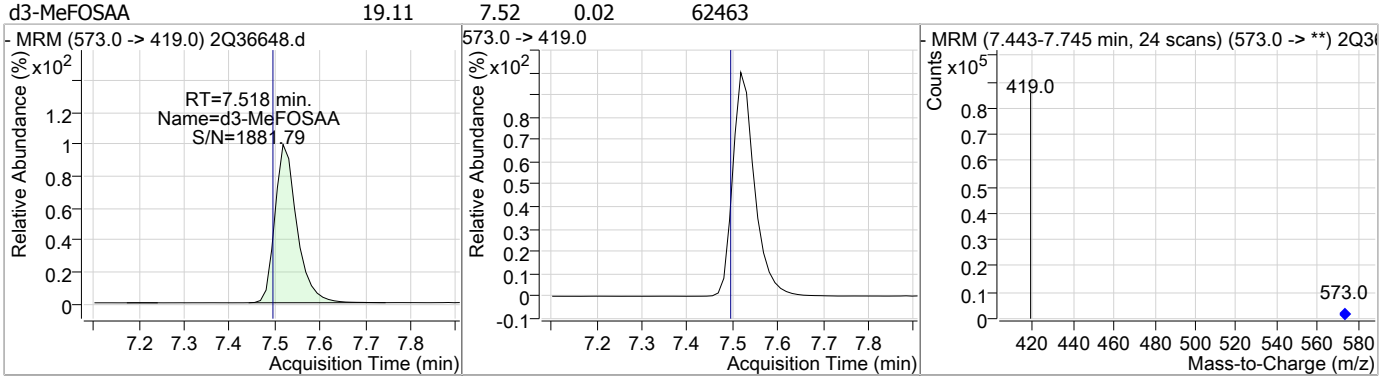
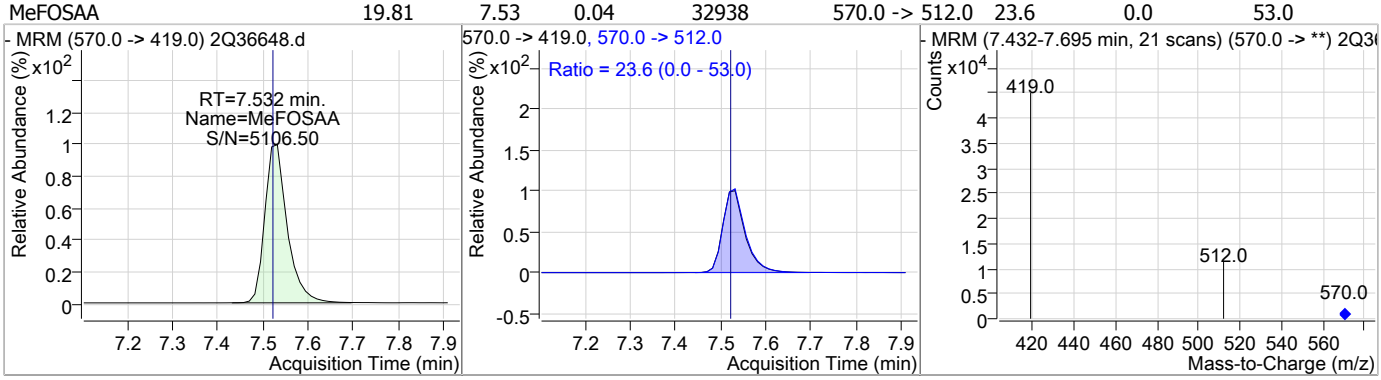
Perfluorinated Compounds by LC/MS/MS

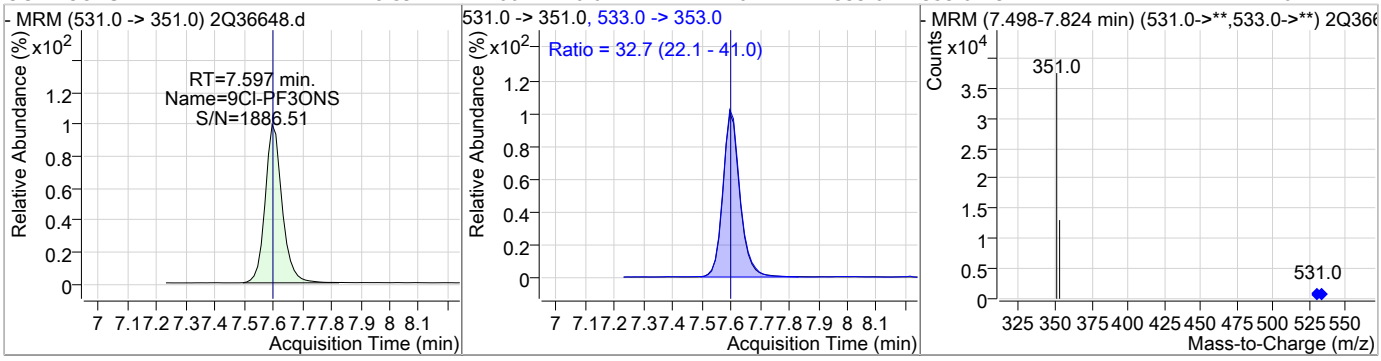
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.11	7.52	0.02	62463				



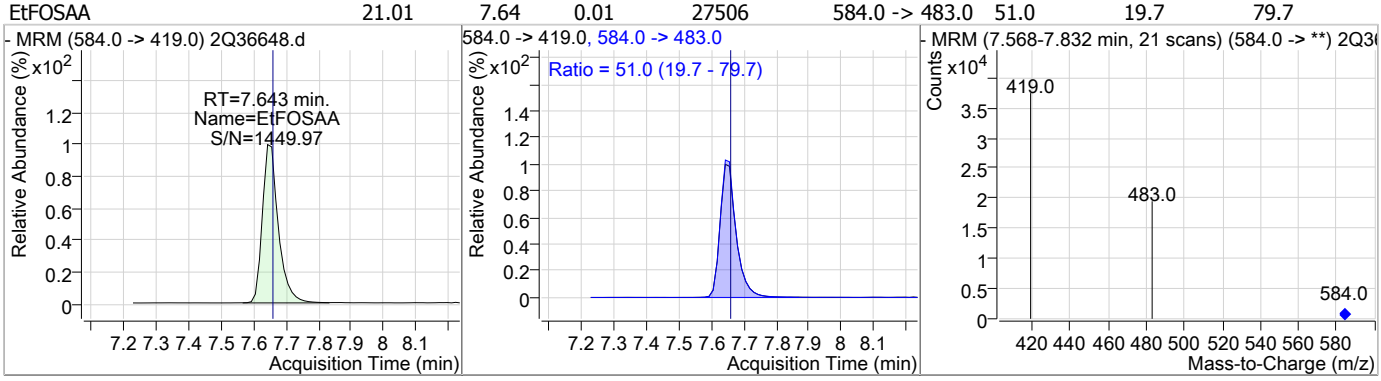
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.81	7.53	0.04	32938	570.0 -> 512.0	23.6	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	18.59	7.60	0.04	27220	533.0 -> 353.0	32.7	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.01	7.64	0.01	27506	584.0 -> 483.0	51.0	19.7	79.7



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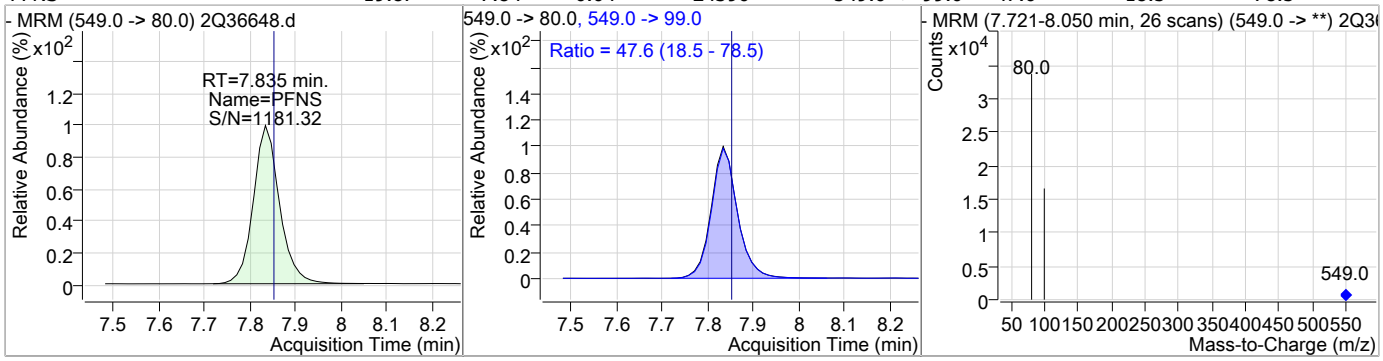
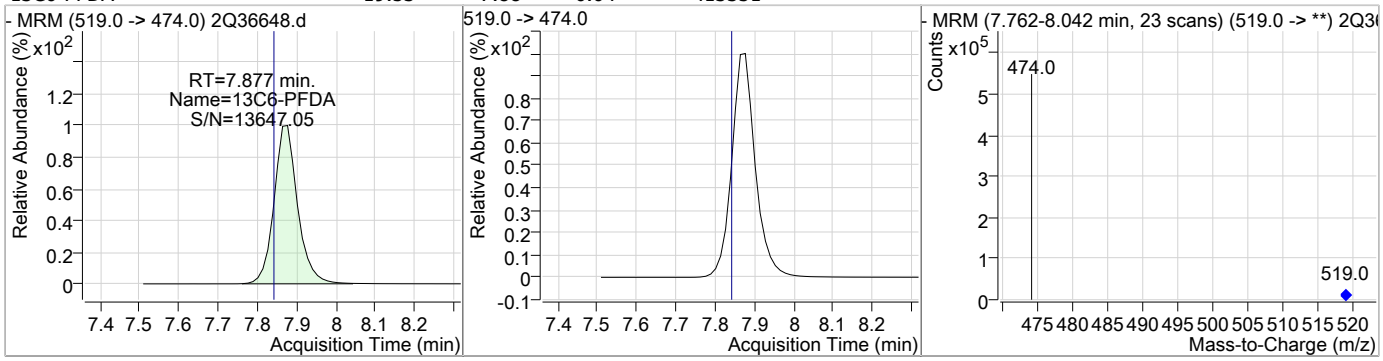
Perfluorinated Compounds by LC/MS/MS

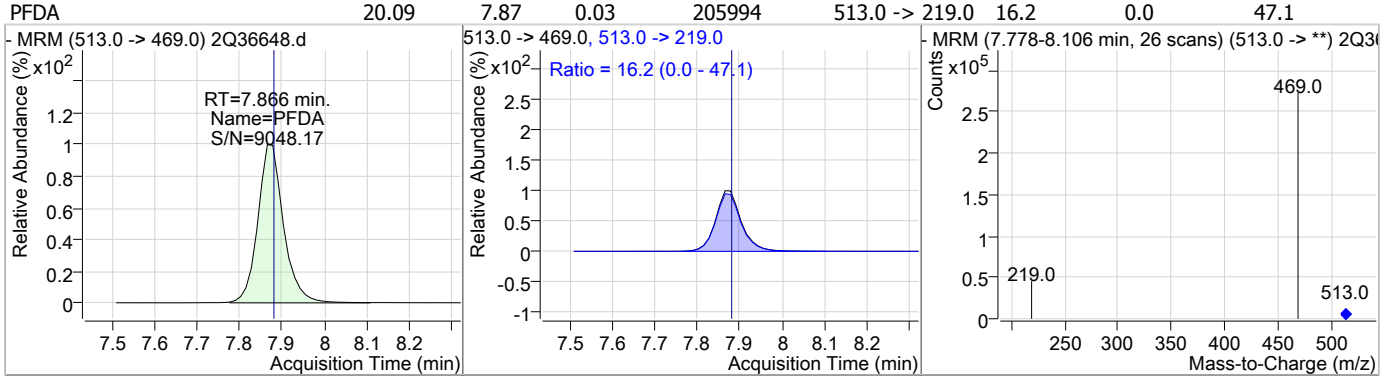
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.87	7.84	0.04	24390	549.0 -> 99.0	47.6	18.5	78.5



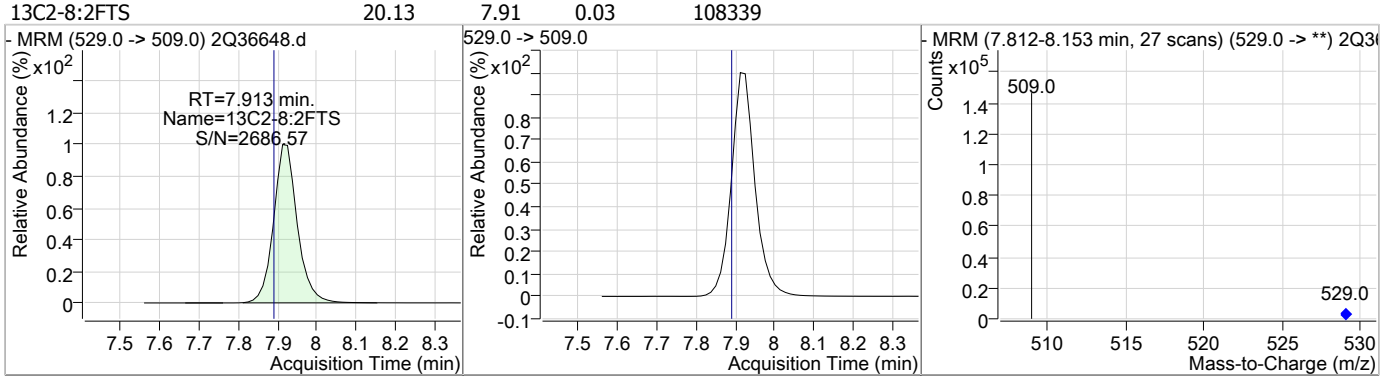
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.53	7.88	0.04	413351				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	20.09	7.87	0.03	205994	513.0 -> 219.0	16.2	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.13	7.91	0.03	108339				



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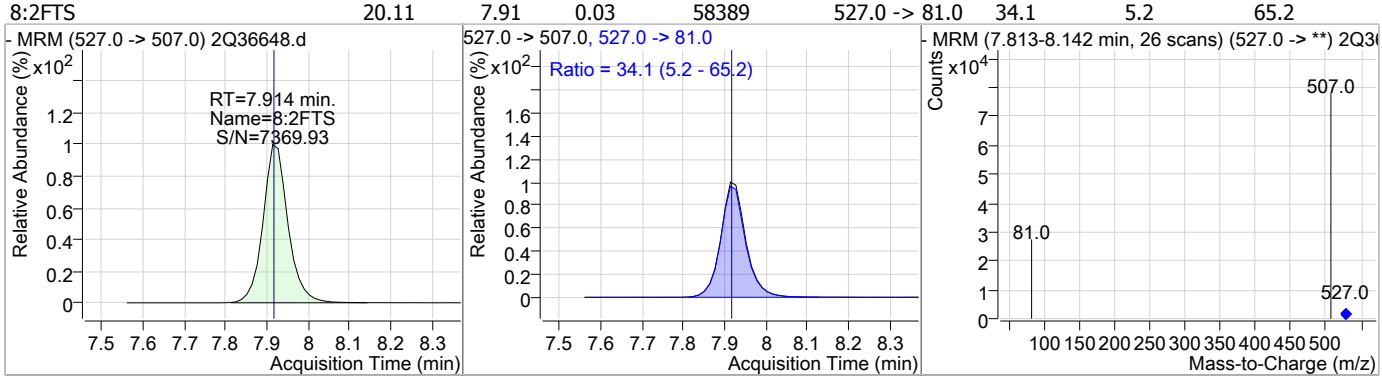
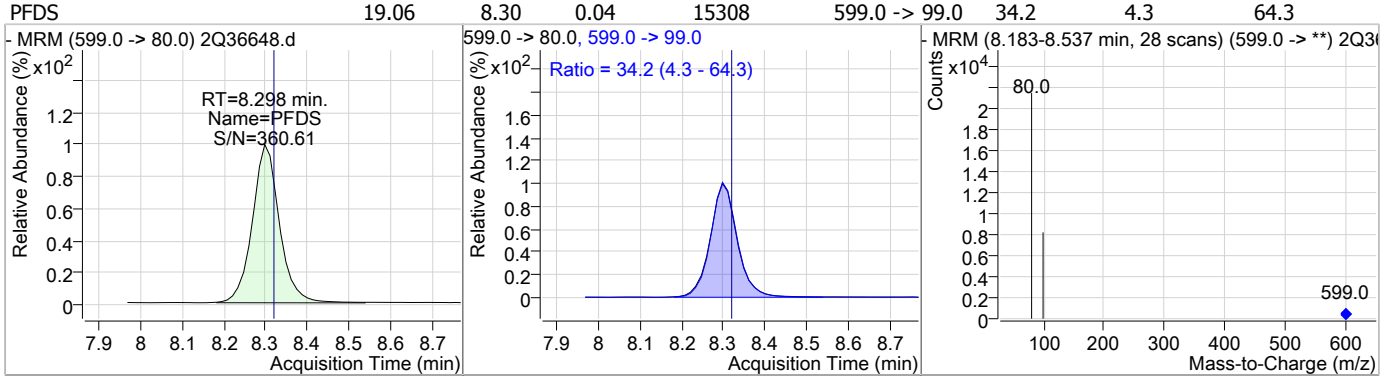
Perfluorinated Compounds by LC/MS/MS

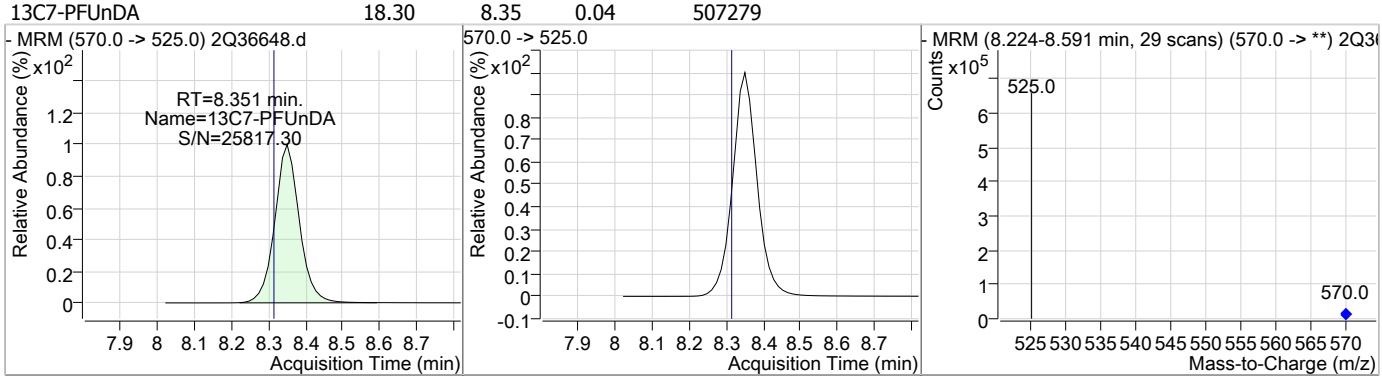
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.11	7.91	0.03	58389	527.0 -> 81.0	34.1	5.2	65.2



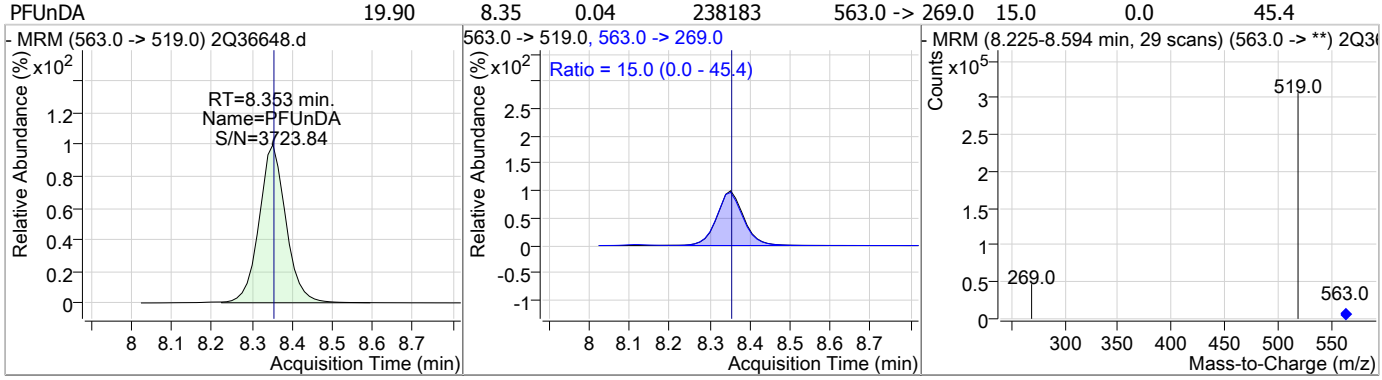
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.06	8.30	0.04	15308	599.0 -> 99.0	34.2	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	18.30	8.35	0.04	507279				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.90	8.35	0.04	238183	563.0 -> 269.0	15.0	0.0	45.4



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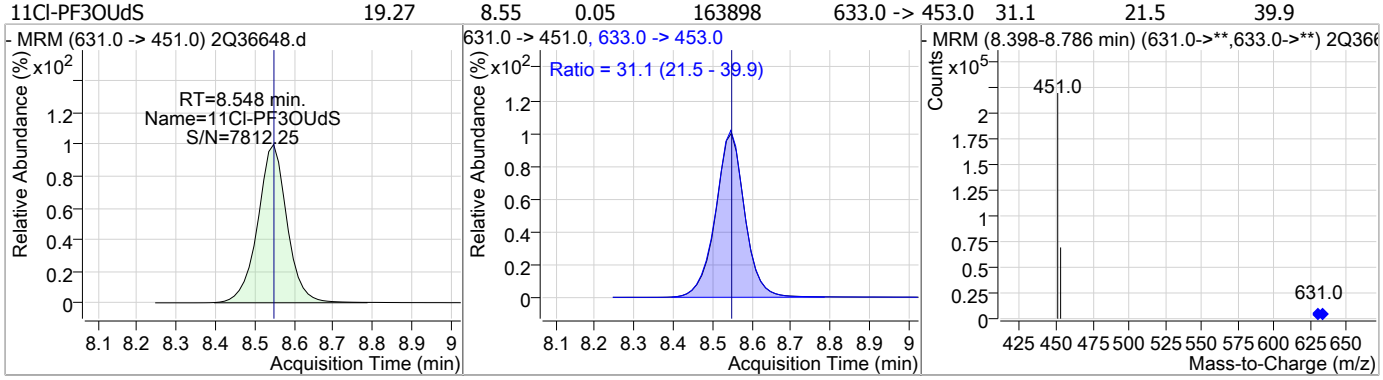
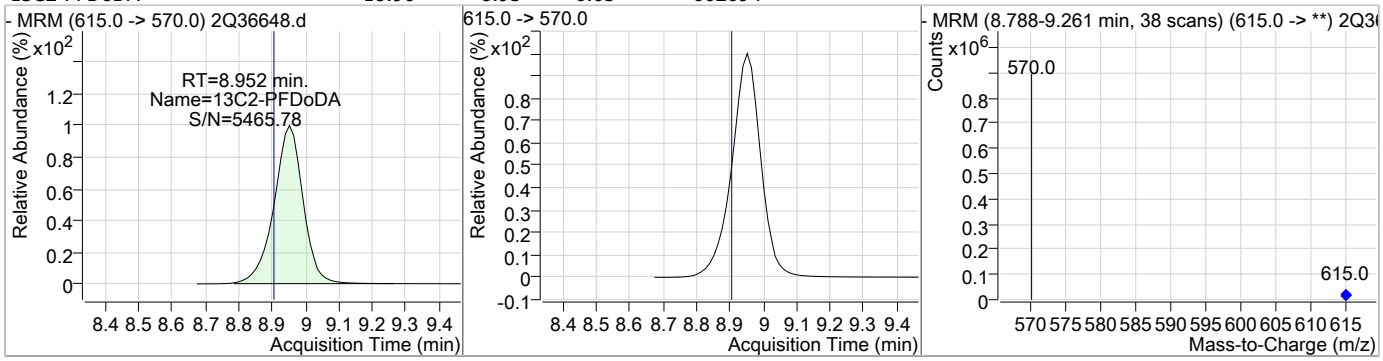
Perfluorinated Compounds by LC/MS/MS

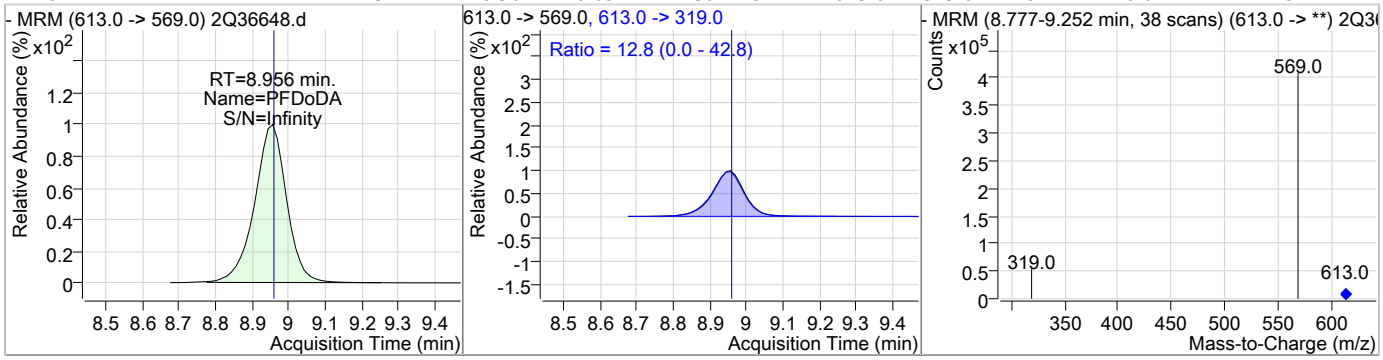
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	19.27	8.55	0.05	163898	633.0 -> 453.0	31.1	21.5	39.9



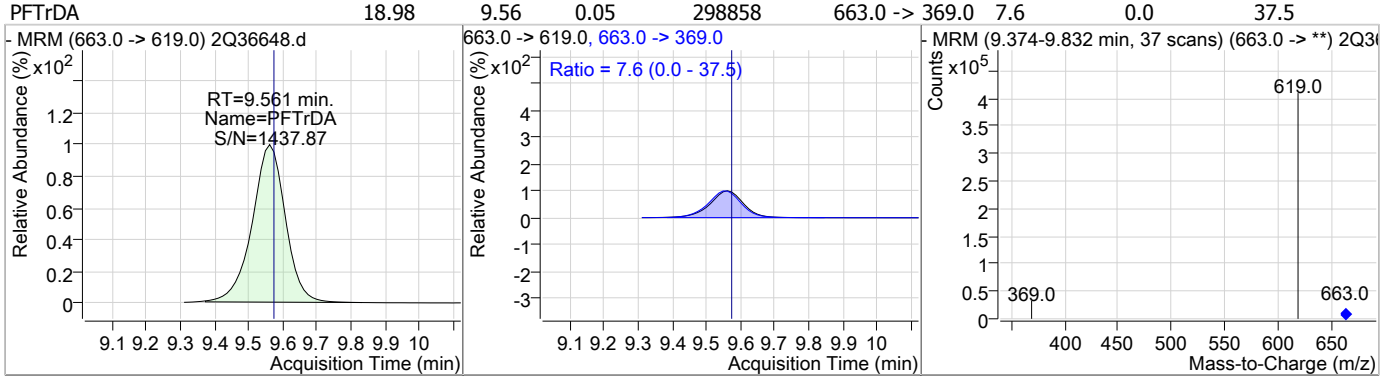
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	18.96	8.95	0.05	662094				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.74	8.96	0.05	301118	613.0 -> 319.0	12.8	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	18.98	9.56	0.05	298858	663.0 -> 369.0	7.6	0.0	37.5



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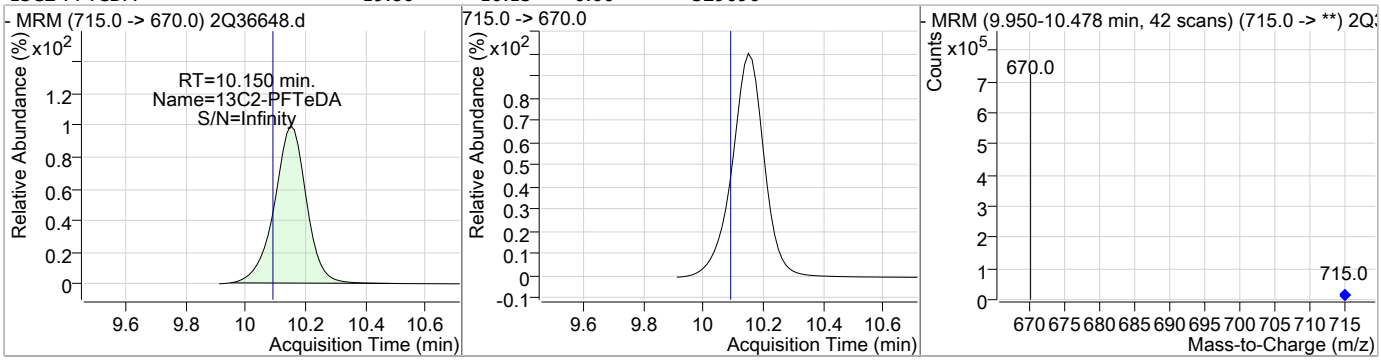
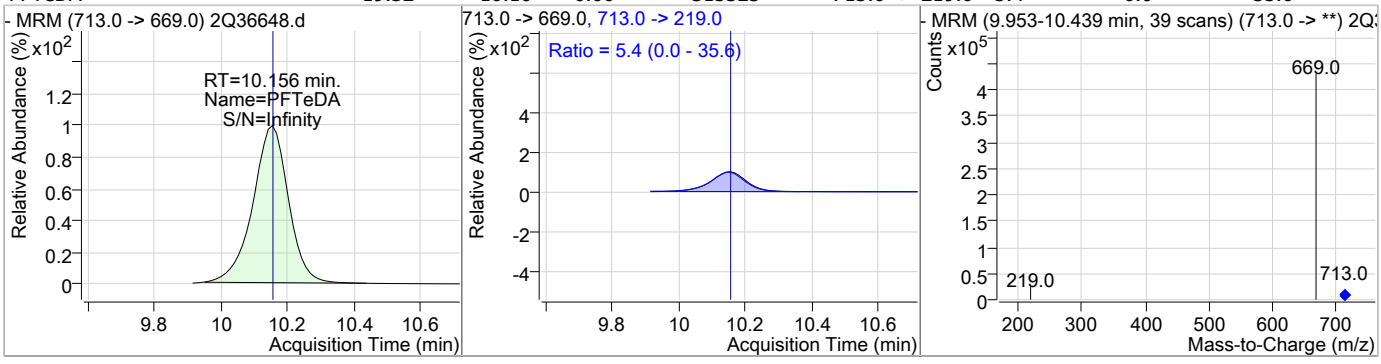
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.86	10.15	0.06	529090				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.32	10.16	0.06	315323	713.0 -> 219.0	5.4	0.0	35.6



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Manual Integration Approval Summary

Sample Number:	S2Q570-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36648.D	**Analyst approved:**	09/26/19 08:21 Nancy Saunders
Injection Time:	09/25/19 21:11	**Supervisor approved:**	09/26/19 14:11 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.00	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:11

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36660.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 12:21:11 AM
Sample Name	:	cc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76878,S2Q570,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.709	415.0 -> 370.0	454888	20.00	µg/L	0.038
13C4-PFOS	7.335	503.0 -> 80.0	63820	20.00	µg/L	0.050
M4-PFBA	2.065	217.0 -> 172.0	199291	20.00	µg/L	0.025
M5-PFPeA	3.761	268.0 -> 223.0	163858	20.00	µg/L	0.038
M5-PFHxA	5.026	318.0 -> 273.0	229843	20.00	µg/L	0.038
M4-PFHpA	5.967	367.0 -> 322.0	295491	20.00	µg/L	0.050
M8-PFOA	6.708	421.0 -> 376.0	362676	20.00	µg/L	0.038
M9-PFNA	7.351	472.0 -> 427.0	377753	20.00	µg/L	0.038
M6-PFDA	7.877	519.0 -> 474.0	414824	20.00	µg/L	0.038
M7-PFUnDA	8.351	570.0 -> 525.0	511838	20.00	µg/L	0.039
M2-PFDoDA	8.952	615.0 -> 570.0	667165	20.00	µg/L	0.050
M2-PFTeDA	10.150	715.0 -> 670.0	534658	20.00	µg/L	0.063
M8-FOSA	7.002	506.0 -> 78.0	111820	20.00	µg/L	0.038
M3-PFBS	4.005	302.0 -> 99.0	26722	20.00	µg/L	0.038
M3-PFHxS	5.997	402.0 -> 99.0	28309	20.00	µg/L	0.050
M8-PFOS	7.333	507.0 -> 99.0	37816	20.00	µg/L	0.050
M2-4:2FTS	4.933	329.0 -> 309.0	116498	20.00	µg/L	0.037
M2-6:2FTS	6.705	429.0 -> 409.0	160057	20.00	µg/L	0.038
M2-8:2FTS	7.925	529.0 -> 509.0	108230	20.00	µg/L	0.038
M3-MeFOSAA	7.518	573.0 -> 419.0	61896	20.00	µg/L	0.025
M3-HFPO-DA	5.318	287.0 -> 169.0	235849	100.00	µg/L	0.050
System Monitoring Compounds						
13C2-4:2FTS	4.933	329.0 -> 309.0	116310	19.98	µg/L	0.037
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C2-6:2FTS	6.705	429.0 -> 409.0	159971	20.18	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C2-8:2FTS	7.925	529.0 -> 509.0	108134	20.09	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C2-PFDoDA	8.952	615.0 -> 570.0	666412	19.09	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C2-PFTeDA	10.150	715.0 -> 670.0	526051	19.74	µg/L	0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFBS	4.005	302.0 -> 99.0	26623	19.48	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.4%		
13C3-PFHxS	5.997	402.0 -> 99.0	28288	19.19	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C4-PFBA	2.065	217.0 -> 172.0	197825	20.21	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C4-PFHpA	5.967	367.0 -> 322.0	294364	19.33	µg/L	0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.6%		
13C5-PFHxA	5.026	318.0 -> 273.0	229259	19.64	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C5-PFPeA	3.761	268.0 -> 223.0	163858	19.91	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C6-PFDA	7.877	519.0 -> 474.0	414165	19.57	µg/L	0.038

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%		
13C7-PFUnDA	8.351	570.0 -> 525.0	511194	18.45 µg/L		0.039
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 92.2%		
13C8-FOSA	7.002	506.0 -> 78.0	111776	19.64 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C8-PFOA	6.708	421.0 -> 376.0	362069	19.79 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C8-PFOS	7.333	507.0 -> 99.0	37892	19.46 µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C9-PFNA	7.351	472.0 -> 427.0	377694	19.98 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
d3-MeFOSAA	7.518	573.0 -> 419.0	61879	18.93 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 94.7%		
M2-PFOA	6.709	415.0 -> 370.0	455405	20.00 µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.335	503.0 -> 80.0	63739	19.98 µg/L		0.050
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	235849	82.96 µg/L		0.050
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 83.0%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	67695	20.46 µg/L		96
6:2FTS	6.706	427.0 -> 407.0	79755	20.05 µg/L		98
8:2FTS	7.927	527.0 -> 507.0	58416	20.17 µg/L		98
EtFOSAA	7.656	584.0 -> 419.0	28481	21.93 µg/L		100
FOSA	7.005	498.0 -> 78.0	57739	19.93 µg/L		99
MeFOSAA	7.532	570.0 -> 419.0	33367	20.23 µg/L		100
PFBA	2.073	213.0 -> 169.0	35501	19.13 µg/L		100
PFBS	4.008	299.0 -> 80.0	40845	19.35 µg/L		99
PFDA	7.878	513.0 -> 469.0	203011	19.74 µg/L		99
PFDoDA	8.956	613.0 -> 569.0	302923	19.73 µg/L		100
PFDS	8.298	599.0 -> 80.0	15234	18.90 µg/L		99
PFHpA	5.970	363.0 -> 319.0	269942	20.04 µg/L		100
PFHpS	6.716	449.0 -> 80.0	30436	20.12 µg/L		100
PFHxA	5.027	313.0 -> 269.0	68278	19.34 µg/L		99
PFHxS	6.000	399.0 -> 80.0	33417	19.78 µg/L	m	99
PFNA	7.352	463.0 -> 419.0	231510	19.59 µg/L		100
PFNS	7.835	549.0 -> 80.0	23513	19.09 µg/L		98
PFOA	6.711	413.0 -> 369.0	190757	19.55 µg/L		100
PFOS	7.336	499.0 -> 80.0	33843	18.86 µg/L	m	100
PFPeA	3.765	263.0 -> 219.0	161244	19.49 µg/L		100
PFPeS	5.132	349.0 -> 80.0	23051	19.77 µg/L		99
PFTeDA	10.143	713.0 -> 669.0	313432	19.08 µg/L		100
PFTrDA	9.561	663.0 -> 619.0	300178	18.94 µg/L		100
PFUnDA	8.353	563.0 -> 519.0	237565	19.71 µg/L		99
11Cl-PF3OUdS	8.548	631.0 -> 451.0	166179	19.41 µg/L		99
9Cl-PF3ONS	7.597	531.0 -> 351.0	27891	18.99 µg/L		100
ADONA	6.065	377.0 -> 251.0	320359	18.45 µg/L		99
HFPO-DA	5.310	329.0 -> 169.0	248338	102.23 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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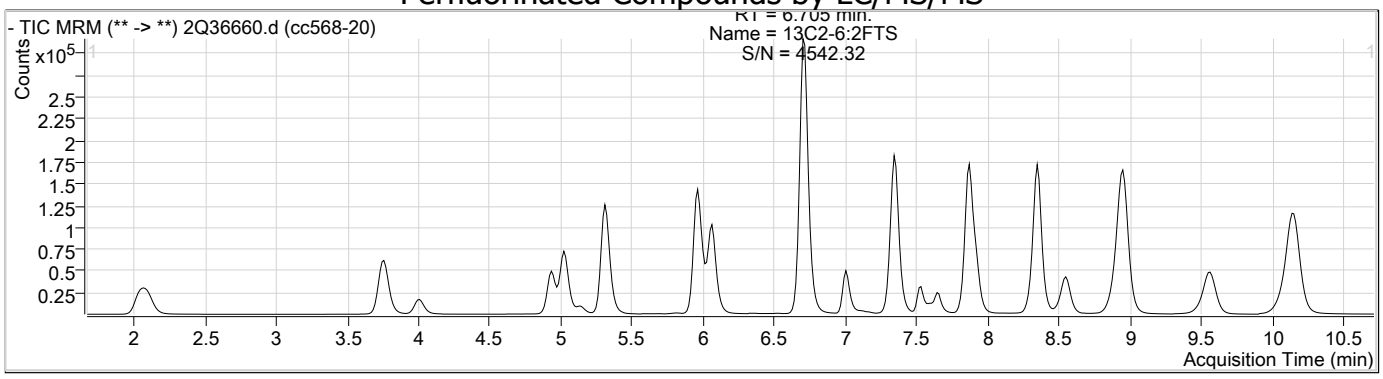
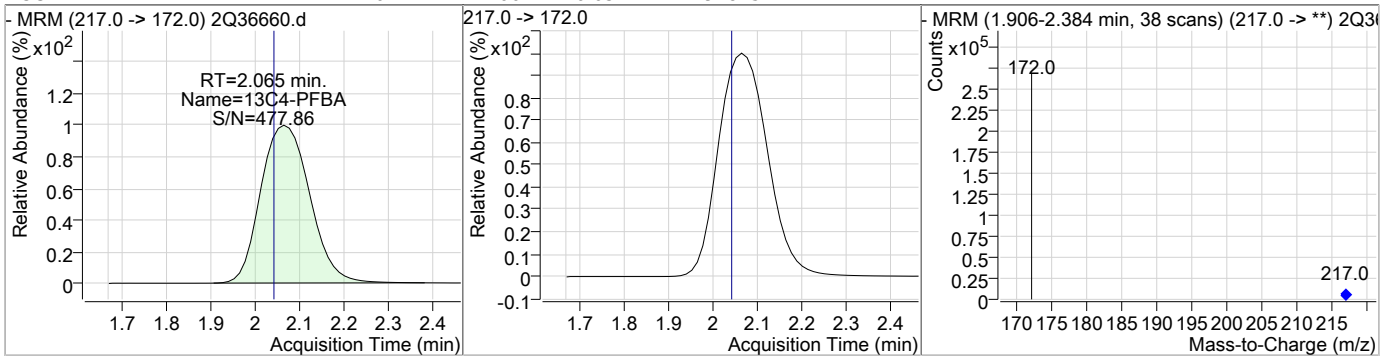
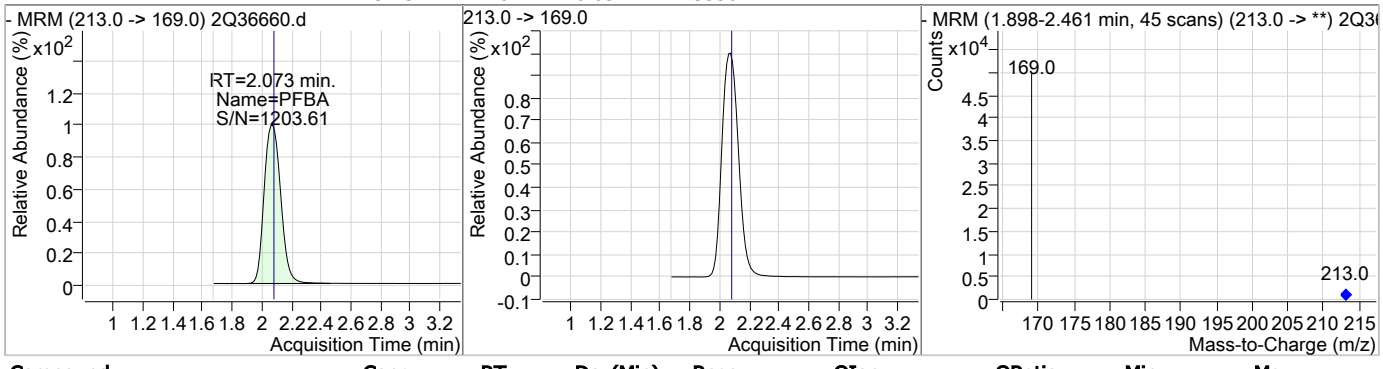
Perfluorinated Compounds by LC/MS/MS



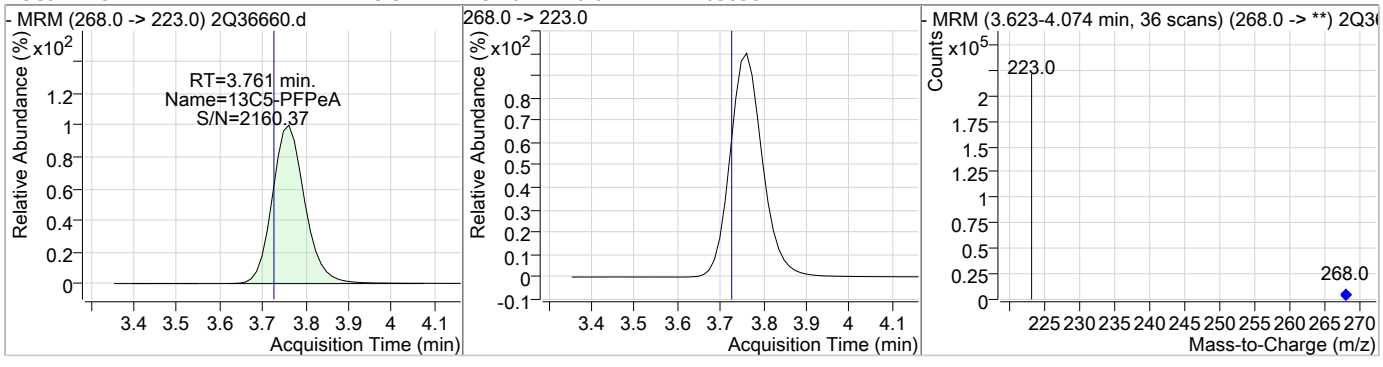
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.21	2.06	0.03	197825				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.13	2.07	0.03	35501				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.91	3.76	0.04	163858				



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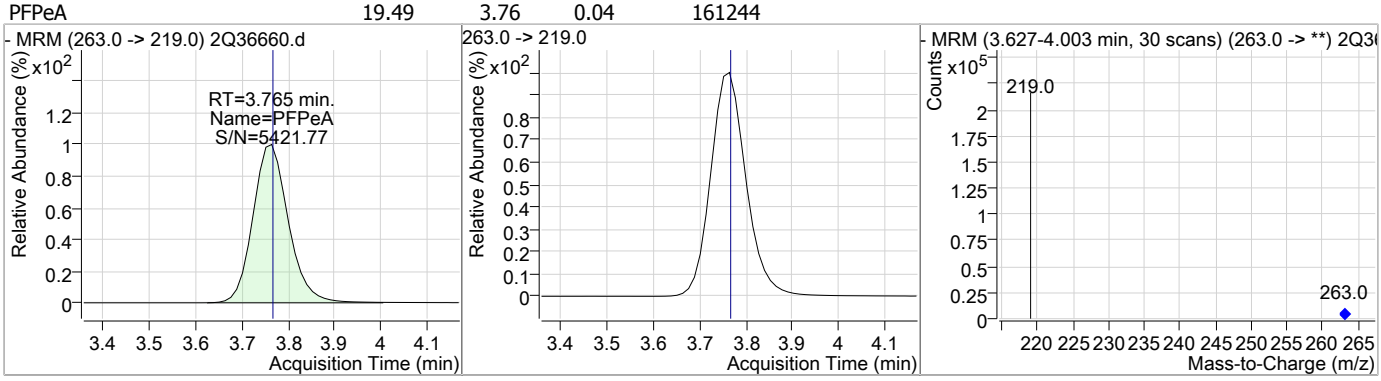
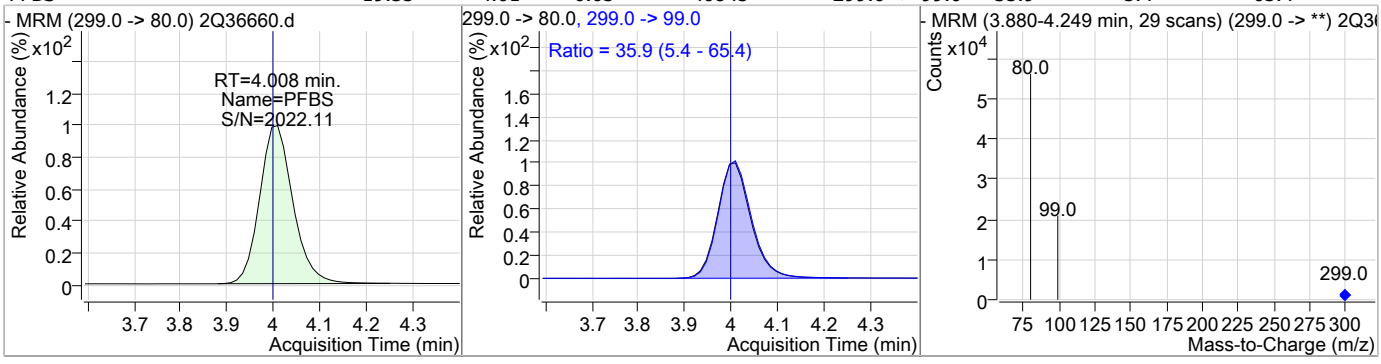
Perfluorinated Compounds by LC/MS/MS

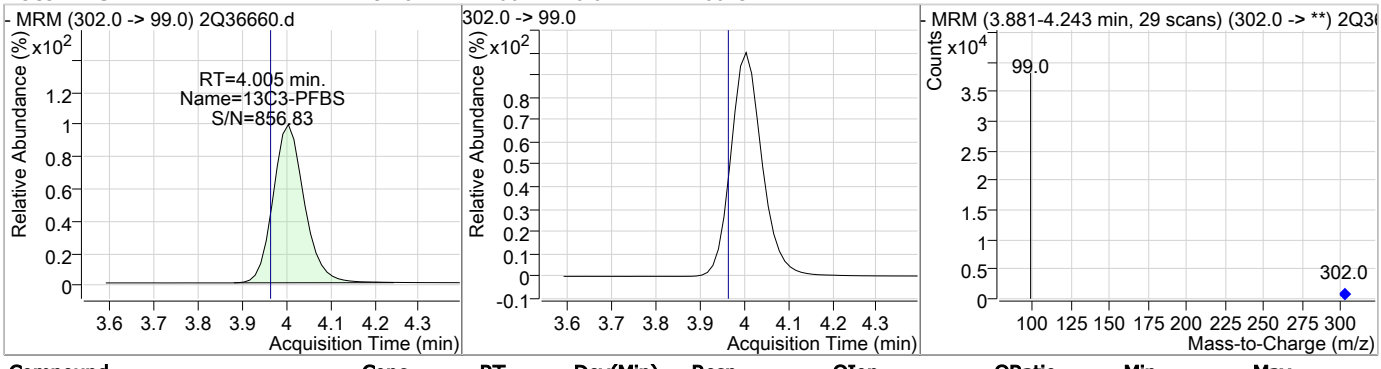
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.49	3.76	0.04	161244				



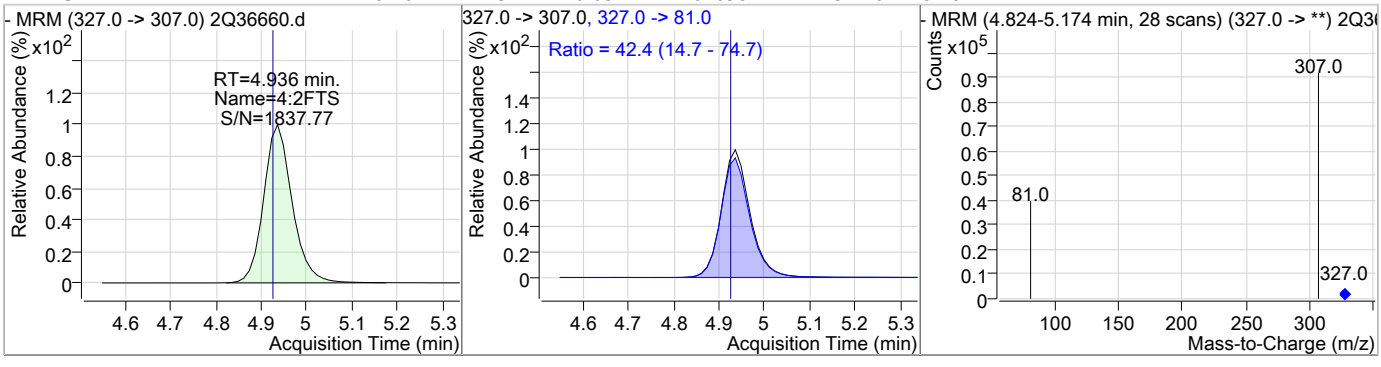
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.35	4.01	0.05	40845	299.0 -> 99.0	35.9	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.48	4.00	0.04	26623				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.46	4.94	0.05	67695	327.0 -> 81.0	42.4	14.7	74.7



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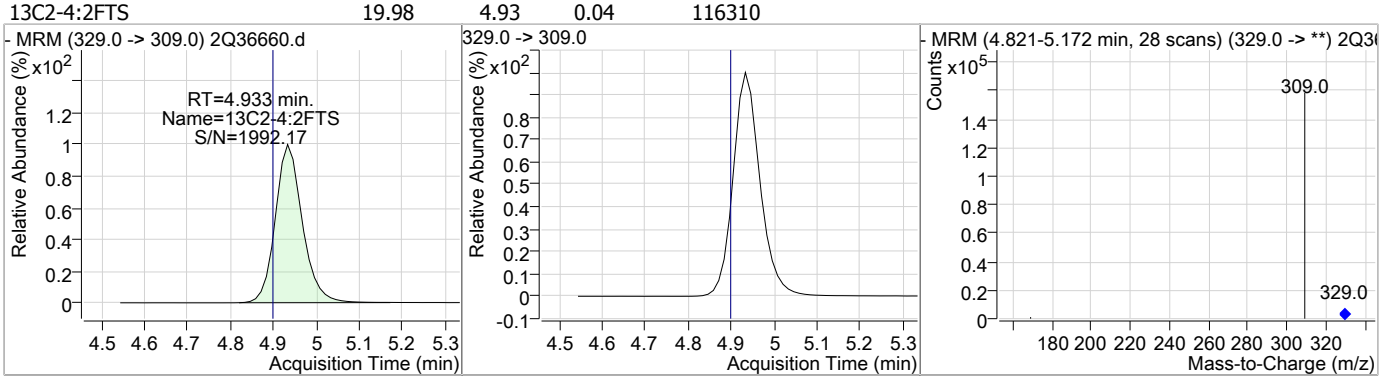
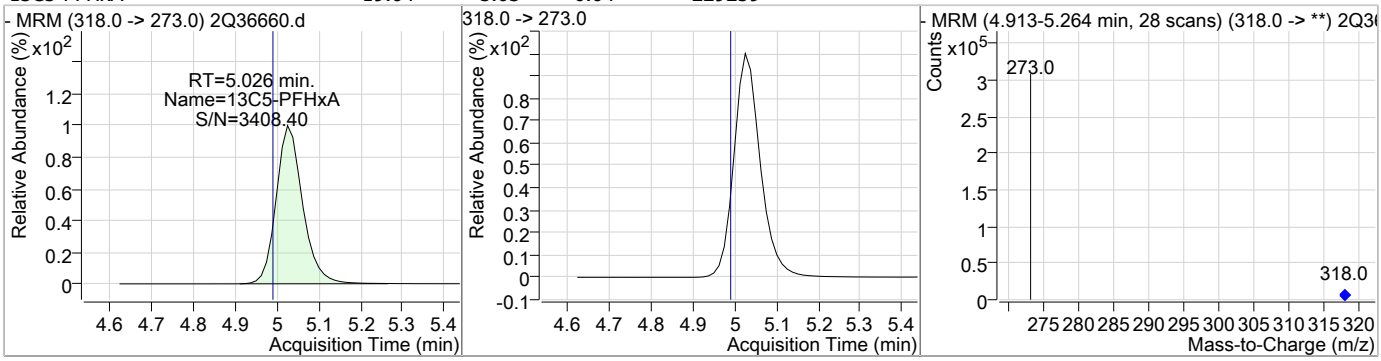
Perfluorinated Compounds by LC/MS/MS

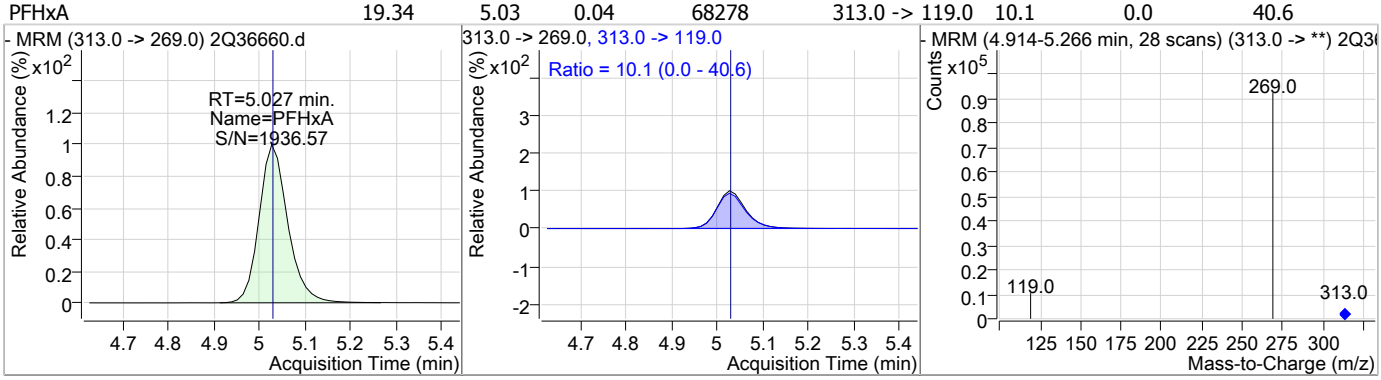
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.98	4.93	0.04	116310				



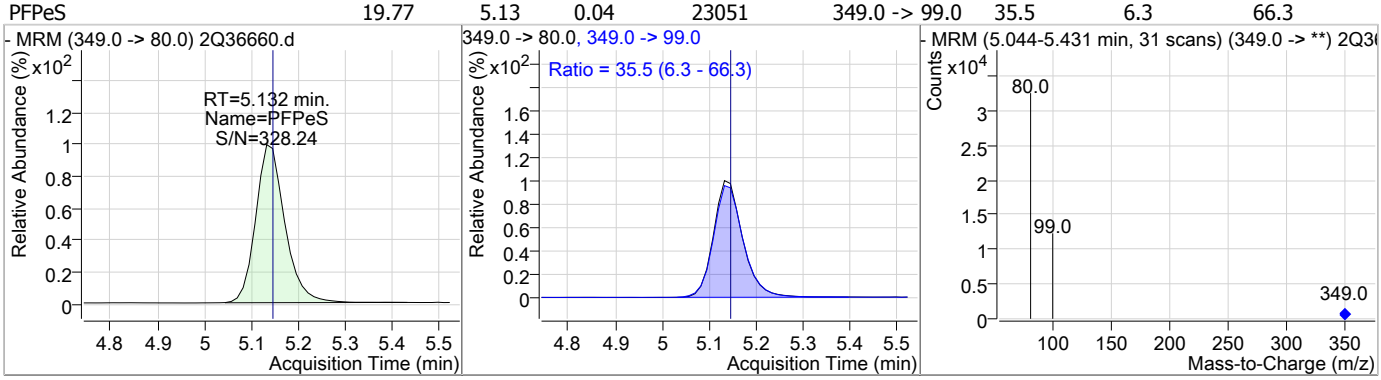
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.64	5.03	0.04	229259				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.34	5.03	0.04	68278	313.0 -> 119.0	10.1	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	19.77	5.13	0.04	23051	349.0 -> 99.0	35.5	6.3	66.3



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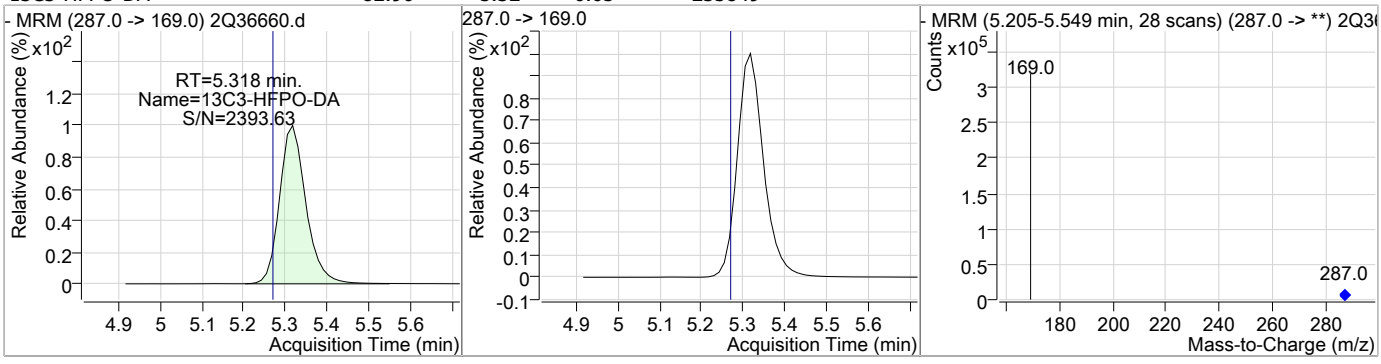
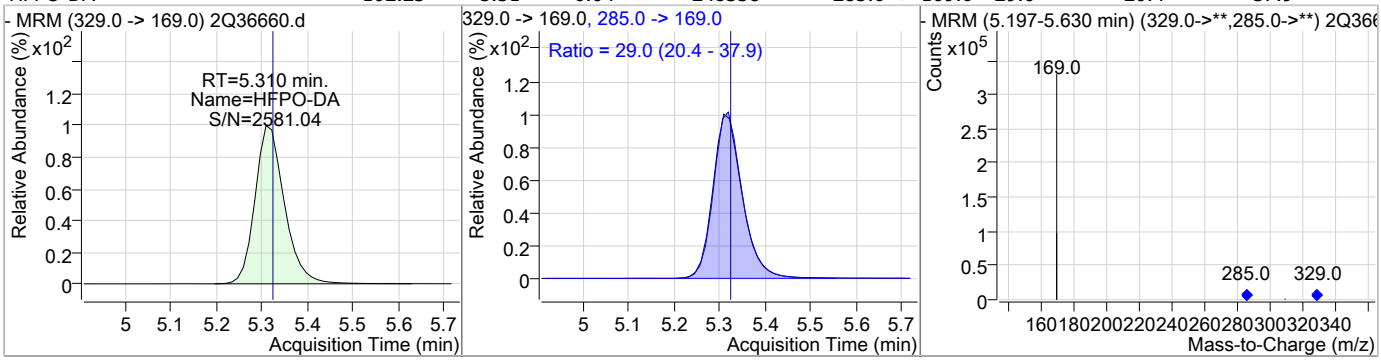
Perfluorinated Compounds by LC/MS/MS

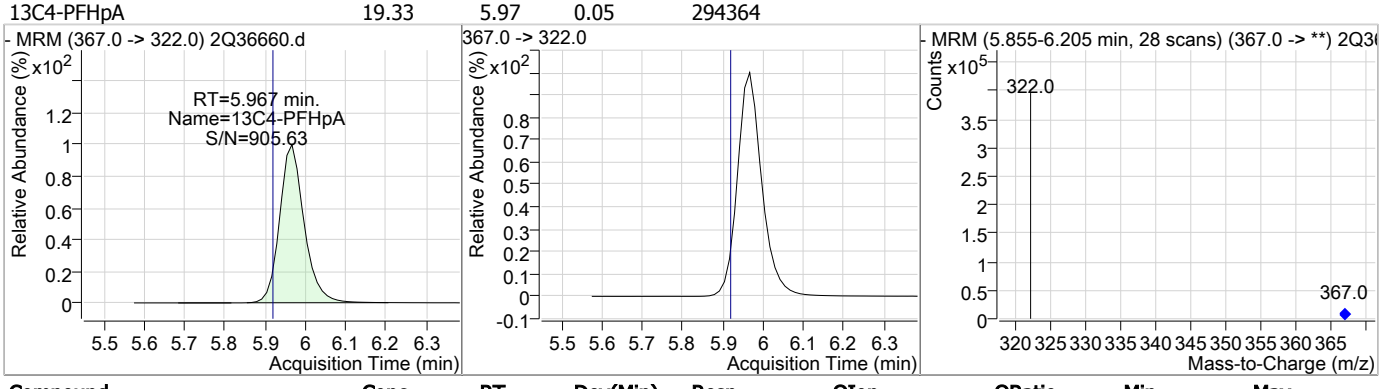
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	82.96	5.32	0.05	235849				



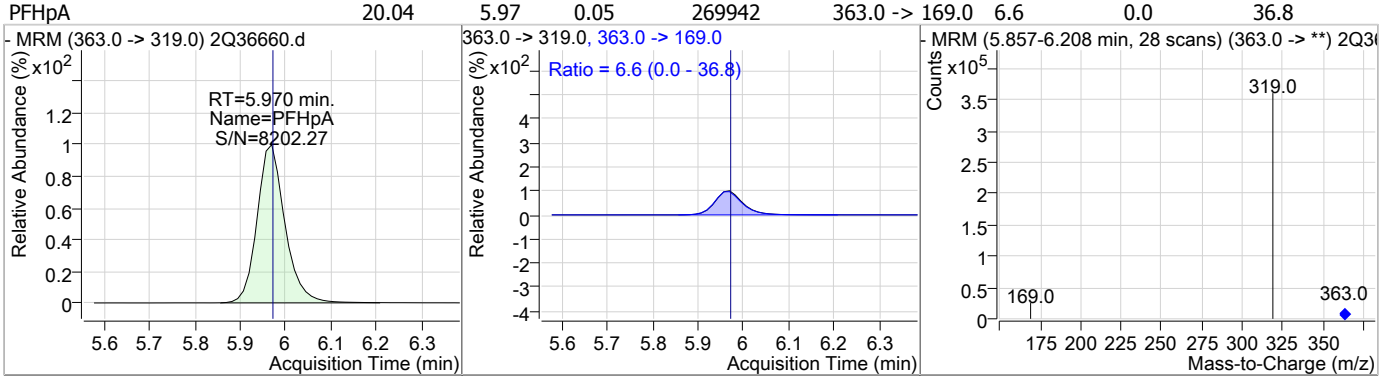
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	102.23	5.31	0.04	248338	285.0 -> 169.0	29.0	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.33	5.97	0.05	294364				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	20.04	5.97	0.05	269942	363.0 -> 169.0	6.6	0.0	36.8



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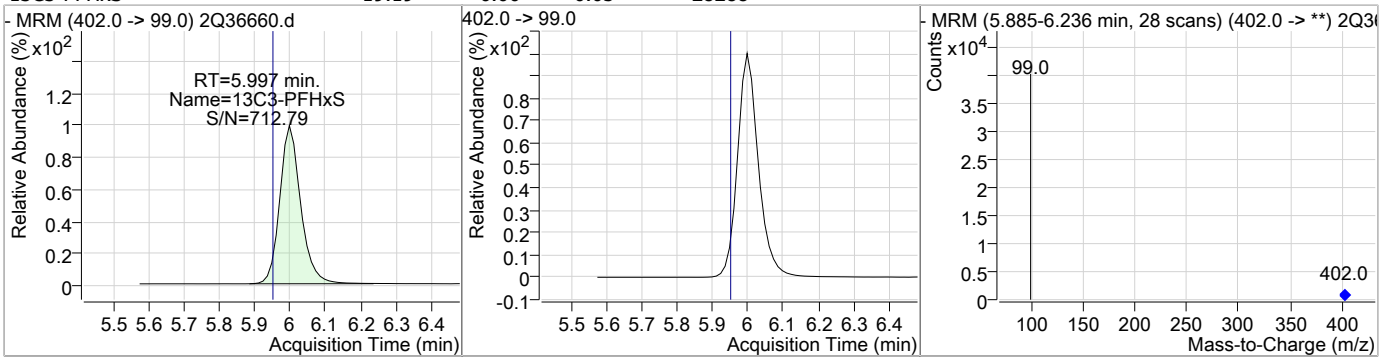
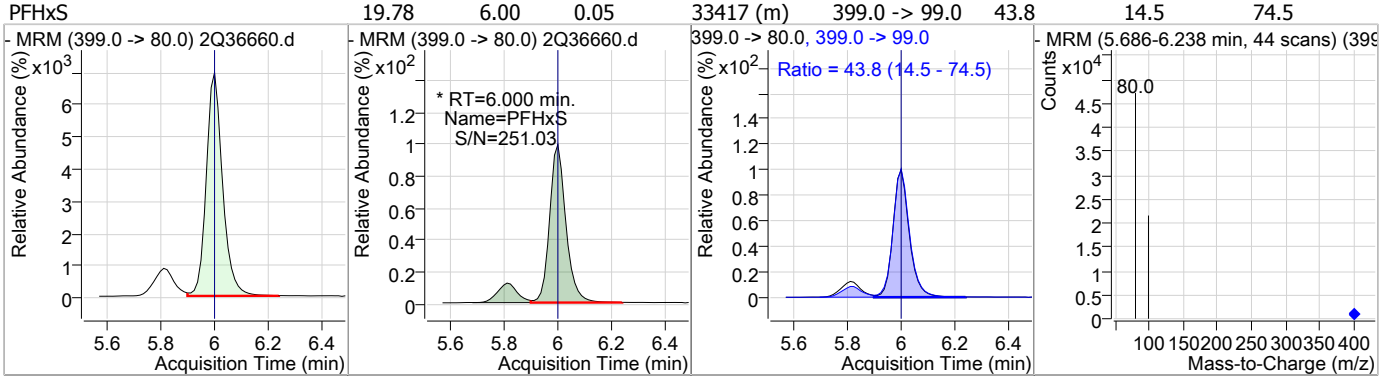
Perfluorinated Compounds by LC/MS/MS

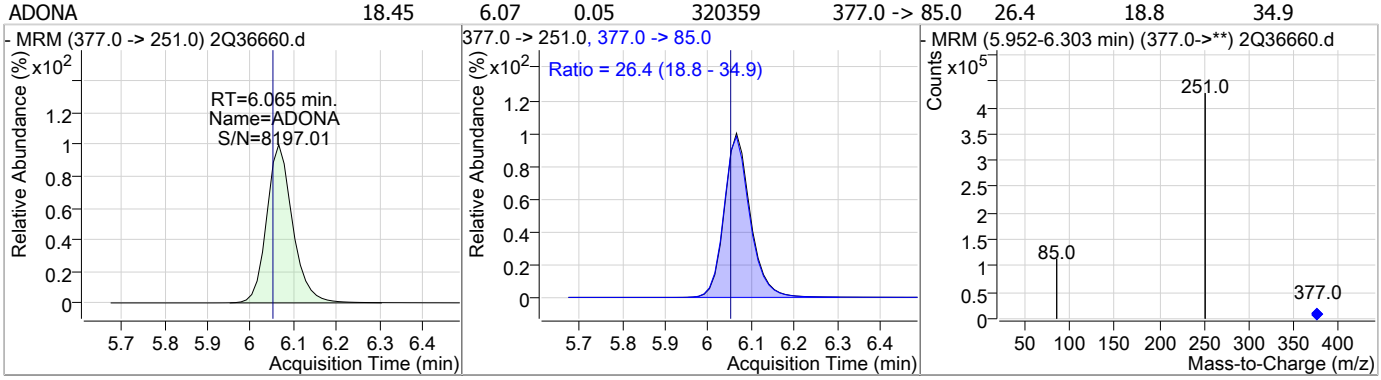
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.19	6.00	0.05	28288				



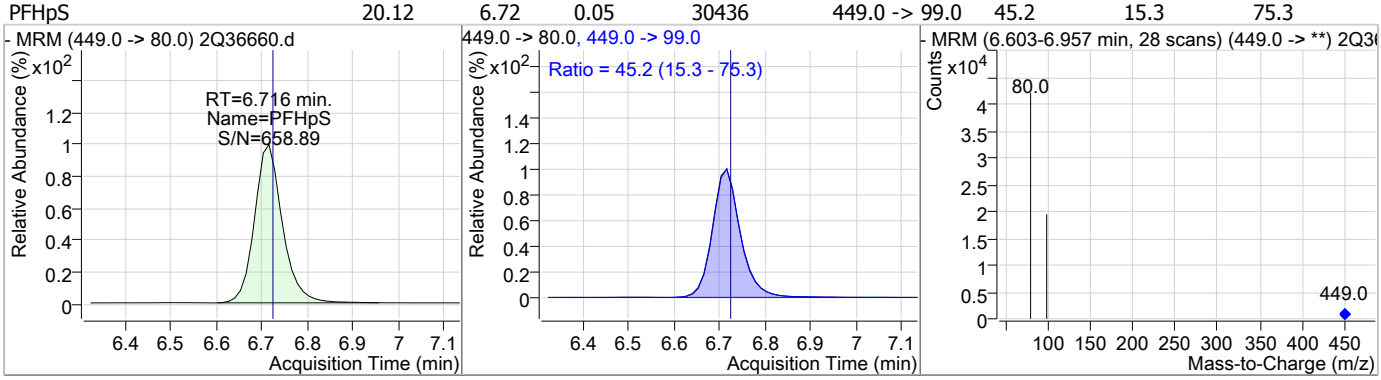
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.78	6.00	0.05	33417 (m)	399.0 -> 99.0	43.8	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.45	6.07	0.05	320359	377.0 -> 85.0	26.4	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.12	6.72	0.05	30436	449.0 -> 99.0	45.2	15.3	75.3



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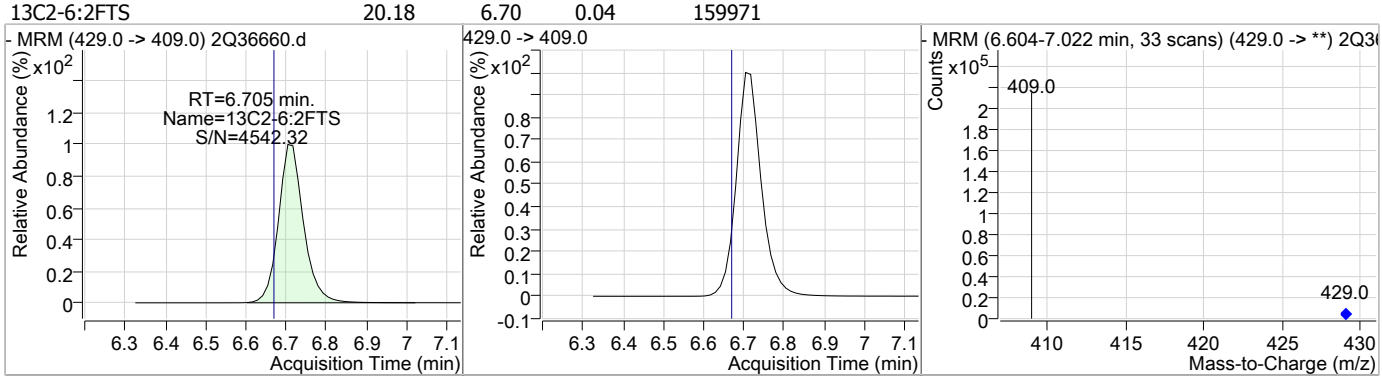
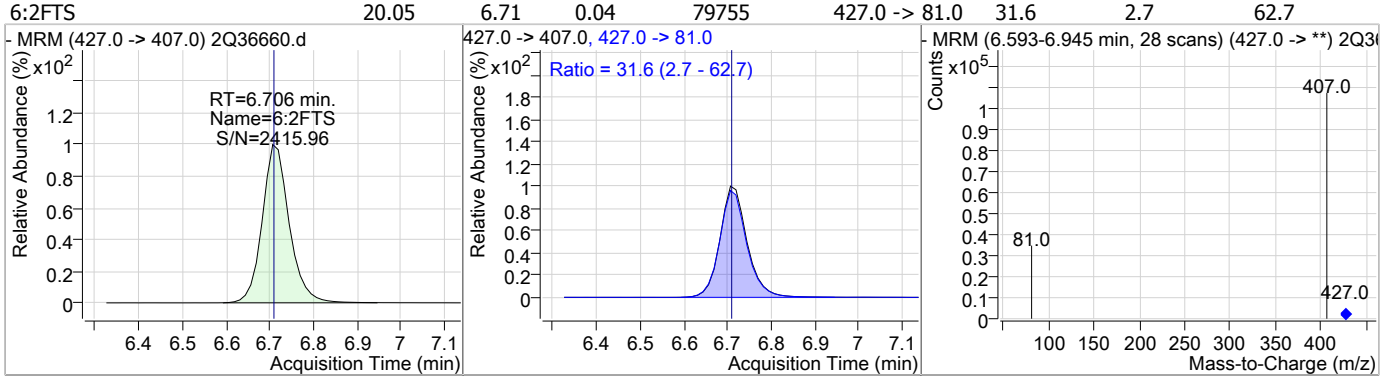
Perfluorinated Compounds by LC/MS/MS

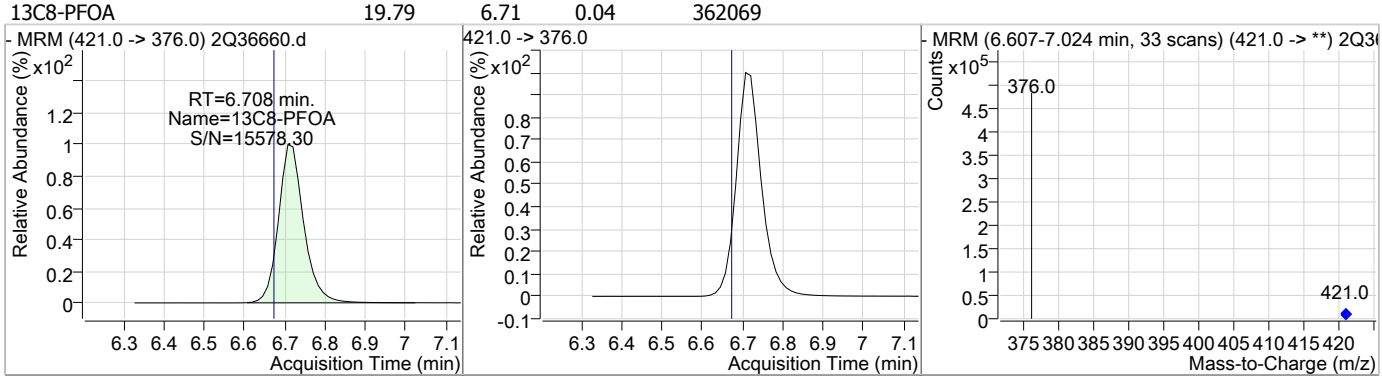
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.18	6.70	0.04	159971				



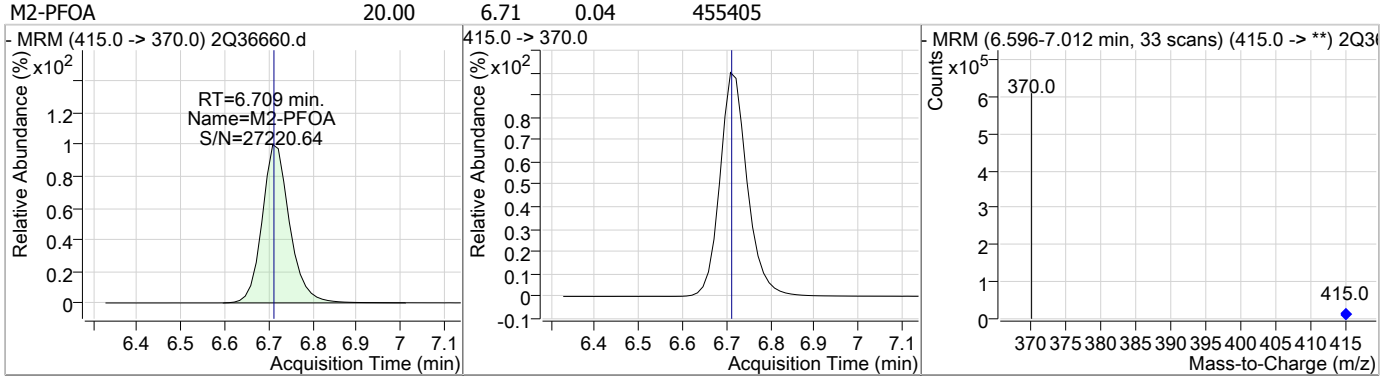
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.05	6.71	0.04	79755	427.0 -> 81.0	31.6	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.79	6.71	0.04	362069				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.00	6.71	0.04	455405				



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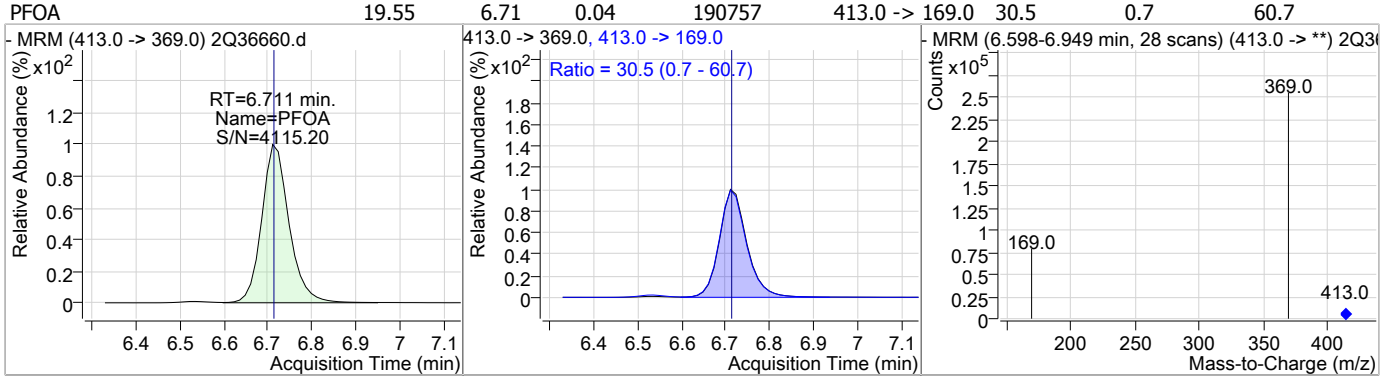
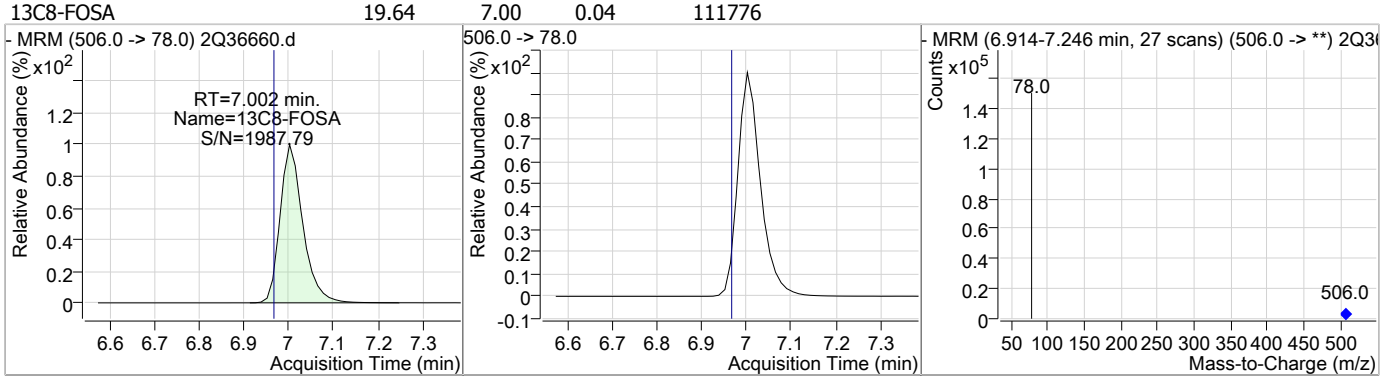
Perfluorinated Compounds by LC/MS/MS

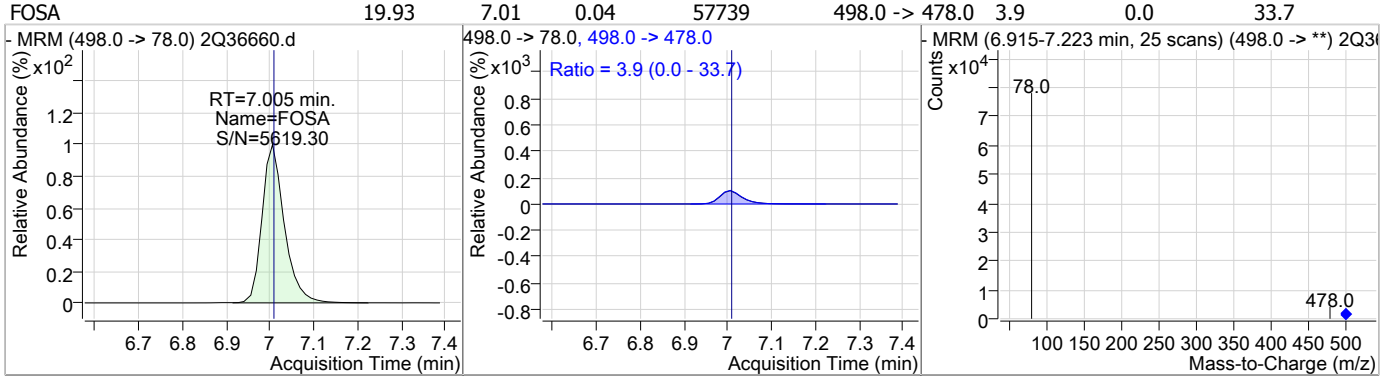
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.55	6.71	0.04	190757	413.0 -> 169.0	30.5	0.7	60.7



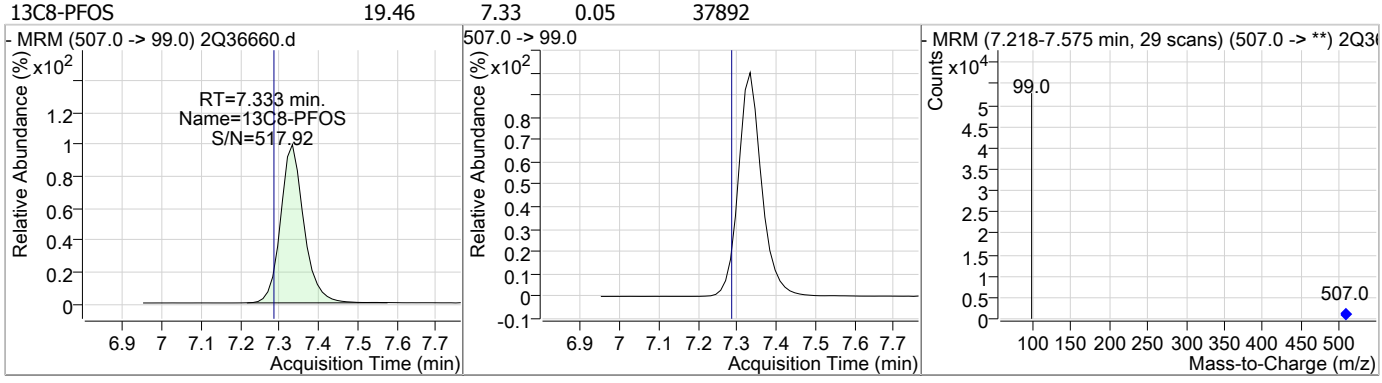
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	19.64	7.00	0.04	111776				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.93	7.01	0.04	57739	498.0 -> 478.0	3.9	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.46	7.33	0.05	37892				



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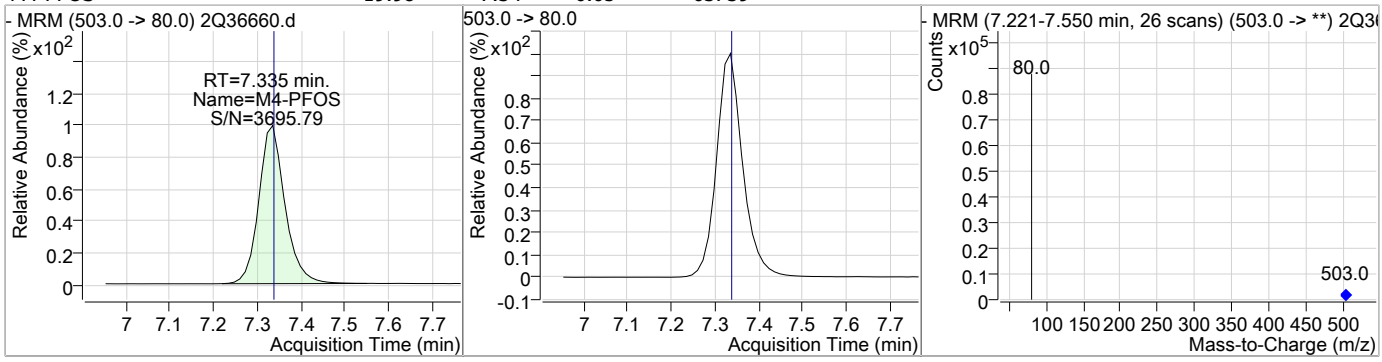
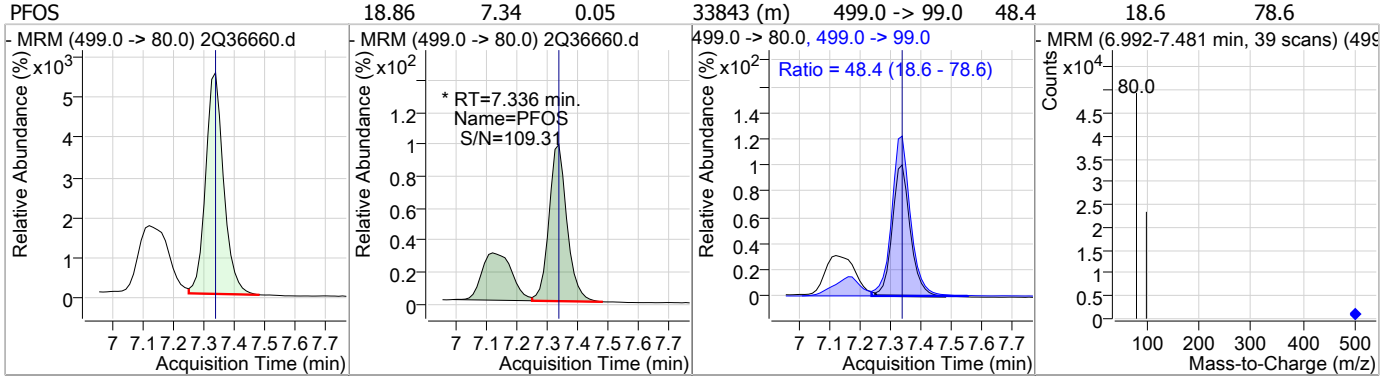
Perfluorinated Compounds by LC/MS/MS

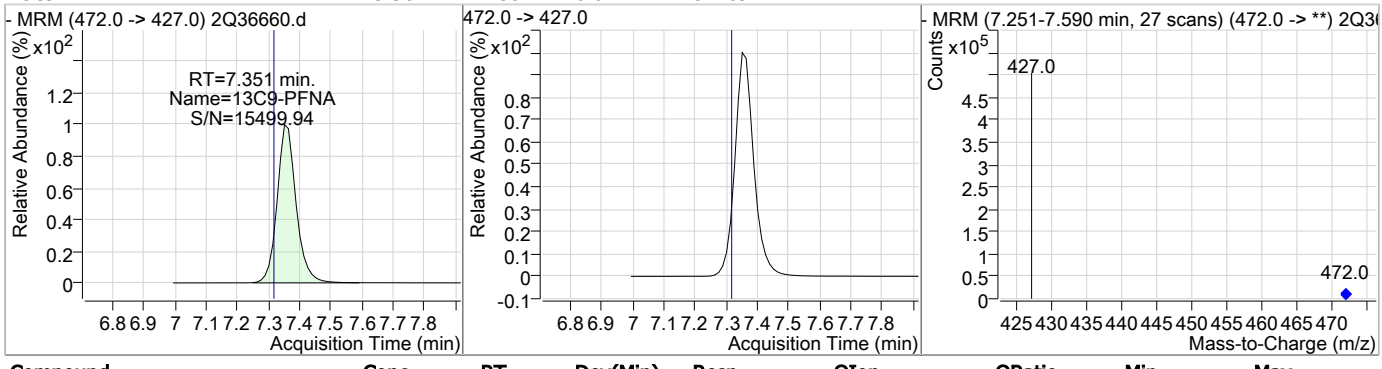
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.98	7.34	0.05	63739				



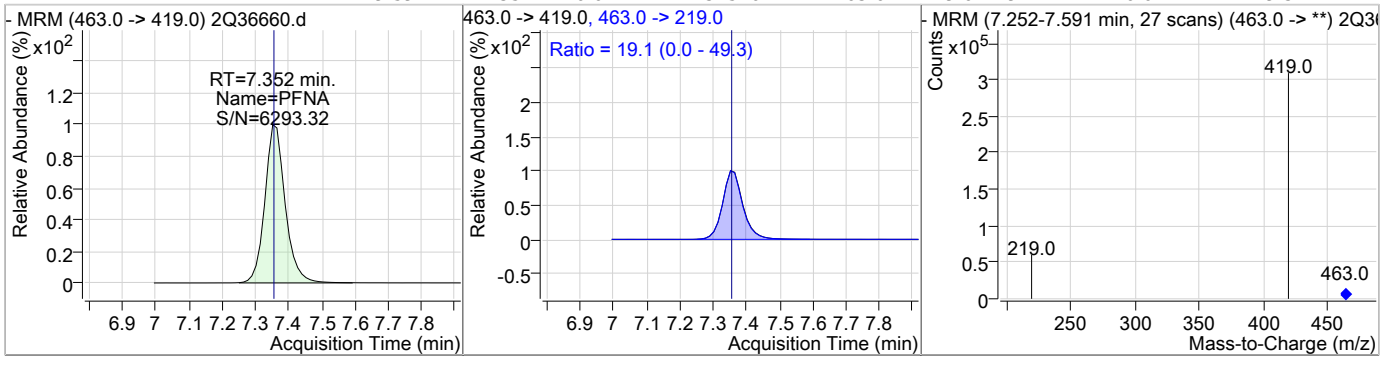
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	18.86	7.34	0.05	33843 (m)	499.0 -> 99.0	48.4	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.98	7.35	0.04	377694				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.59	7.35	0.04	231510	463.0 -> 219.0	19.1	0.0	49.3



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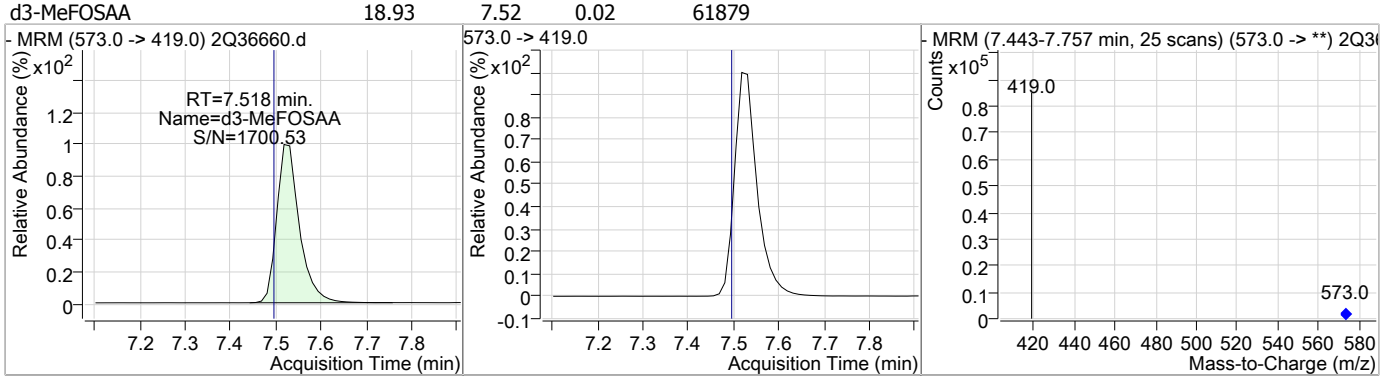
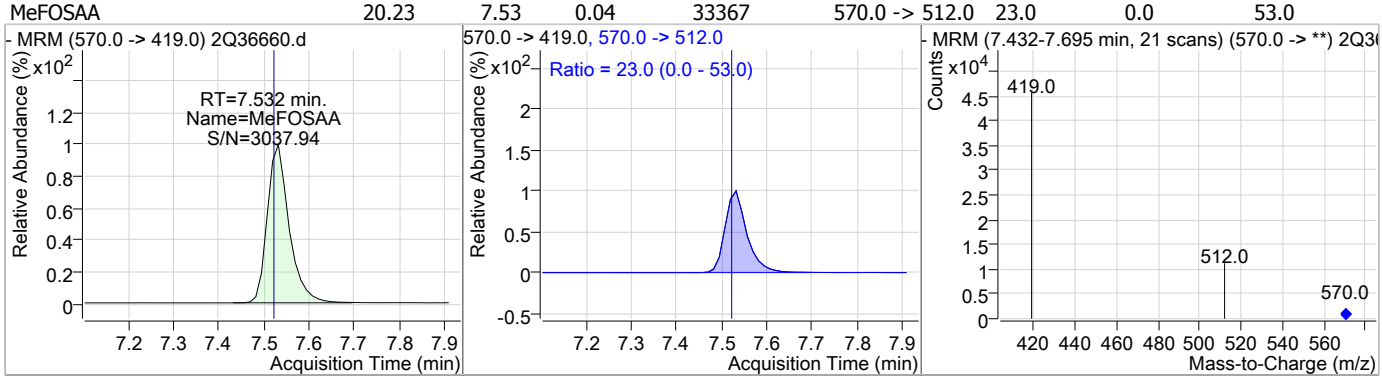
Perfluorinated Compounds by LC/MS/MS

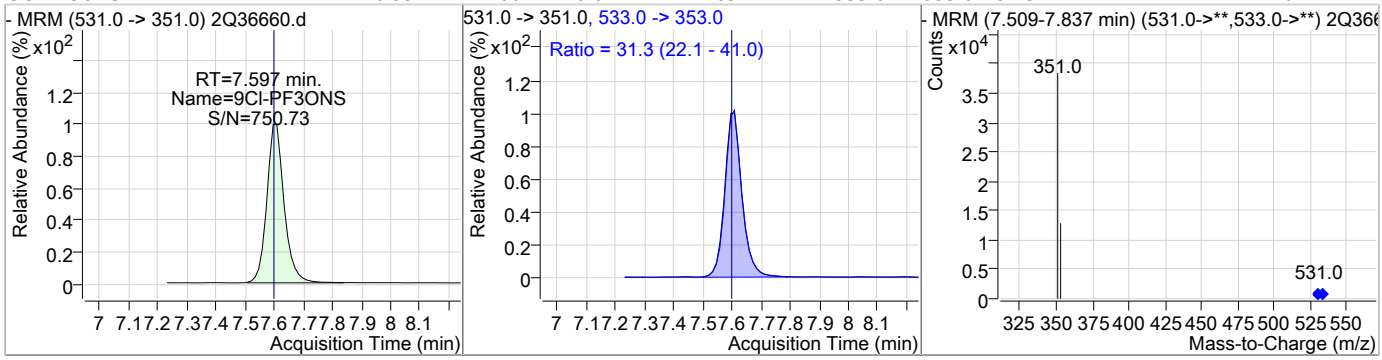
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	18.93	7.52	0.02	61879				



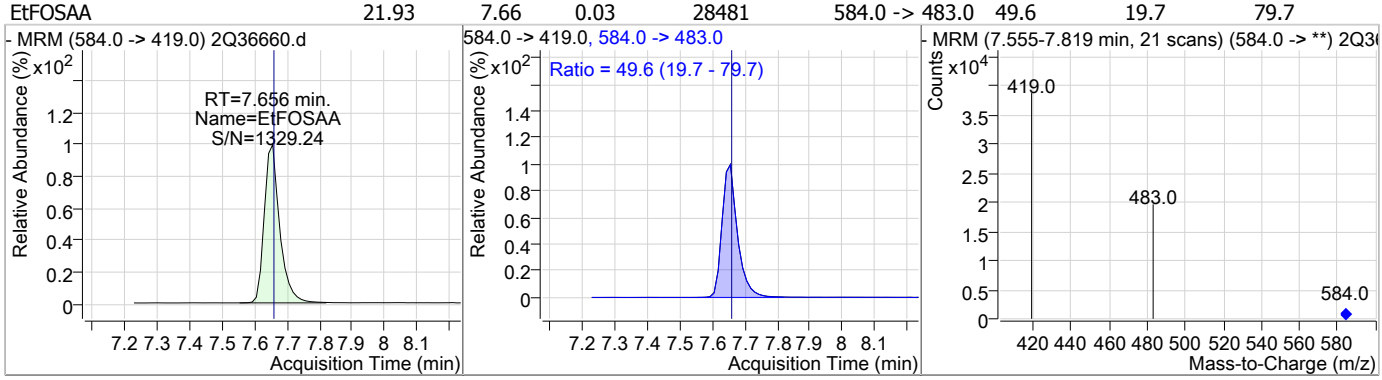
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.23	7.53	0.04	33367	570.0 -> 512.0	23.0	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	18.99	7.60	0.04	27891	533.0 -> 353.0	31.3	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.93	7.66	0.03	28481	584.0 -> 483.0	49.6	19.7	79.7



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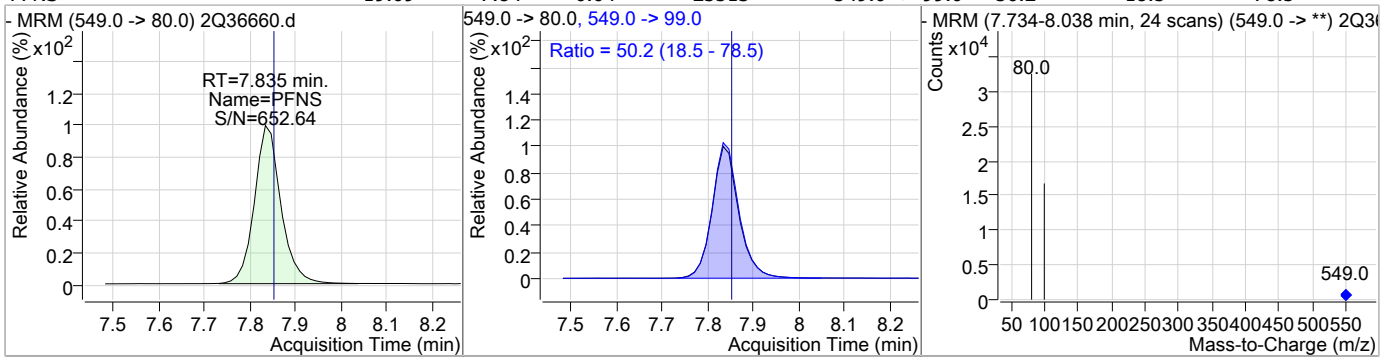
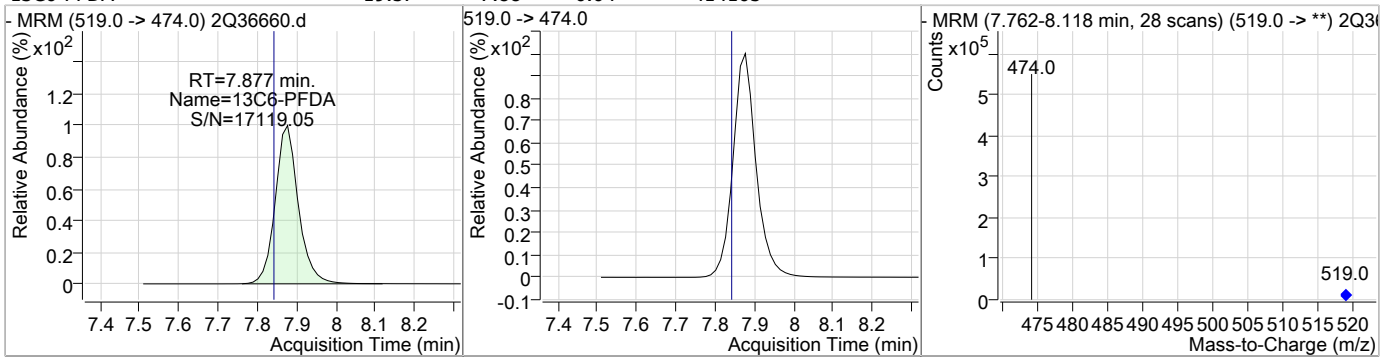
Perfluorinated Compounds by LC/MS/MS

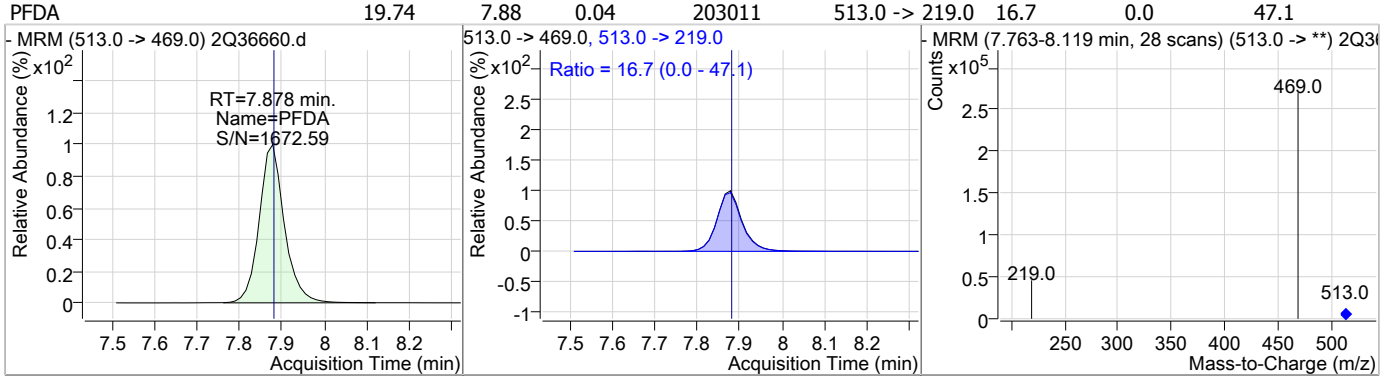
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.09	7.84	0.04	23513	549.0 -> 99.0	50.2	18.5	78.5



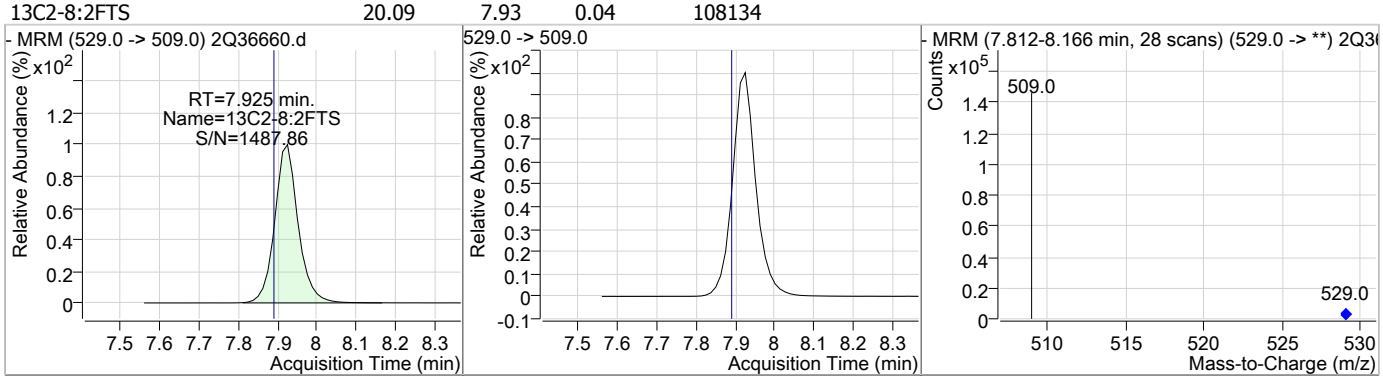
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.57	7.88	0.04	414165				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.74	7.88	0.04	203011	513.0 -> 219.0	16.7	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.09	7.93	0.04	108134				



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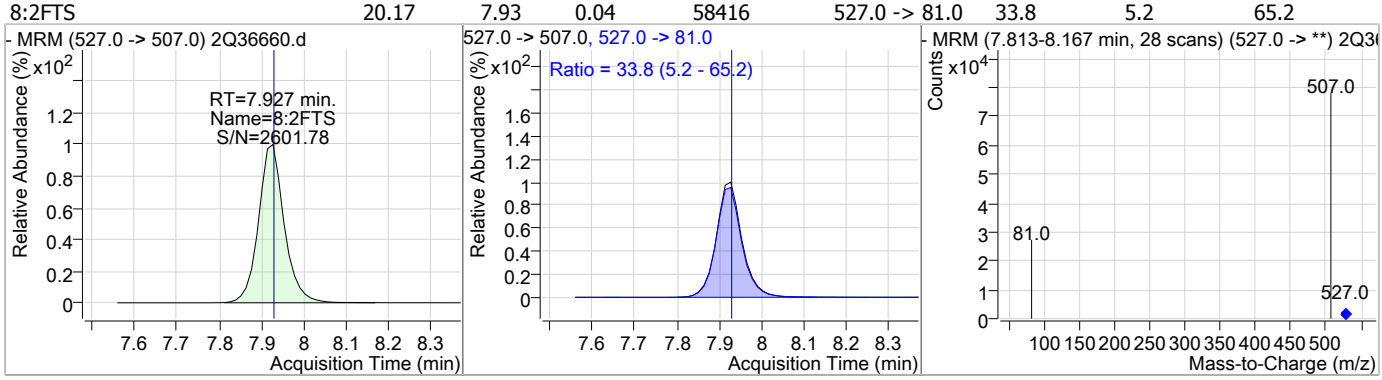
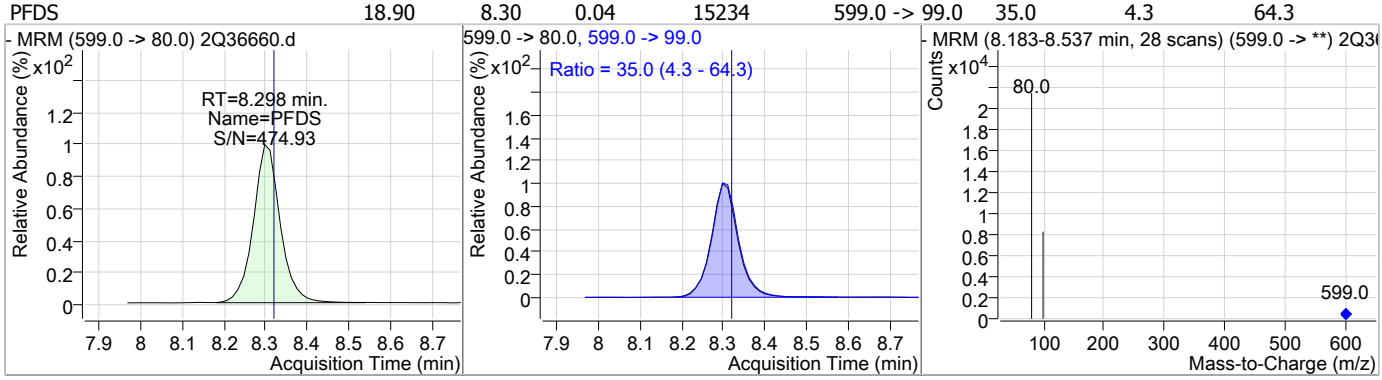
Perfluorinated Compounds by LC/MS/MS

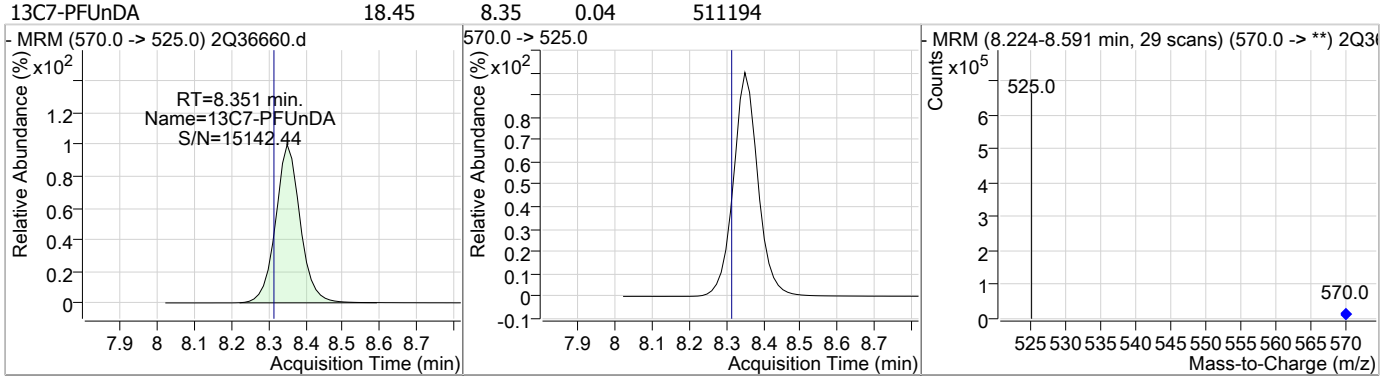
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.17	7.93	0.04	58416	527.0 -> 81.0	33.8	5.2	65.2



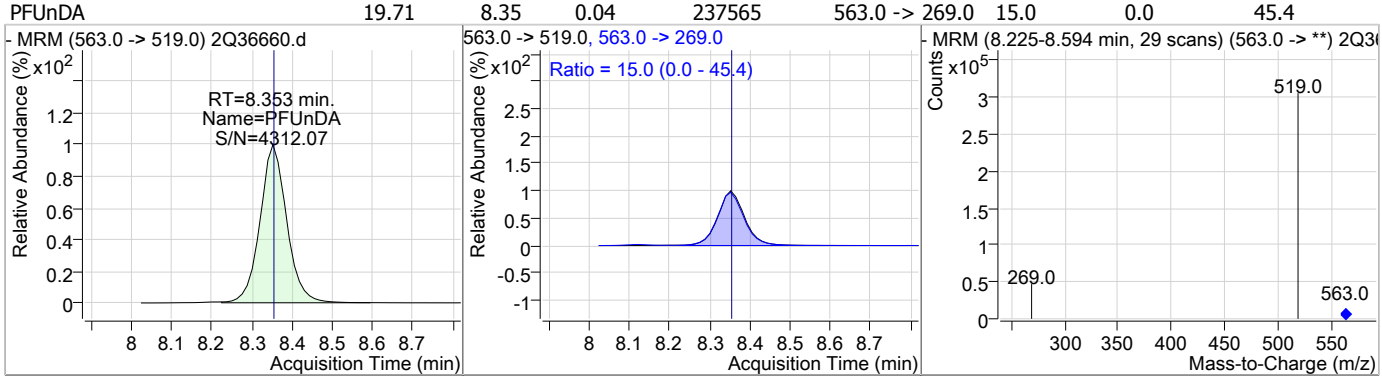
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.90	8.30	0.04	15234	599.0 -> 99.0	35.0	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	18.45	8.35	0.04	511194				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.71	8.35	0.04	237565	563.0 -> 269.0	15.0	0.0	45.4



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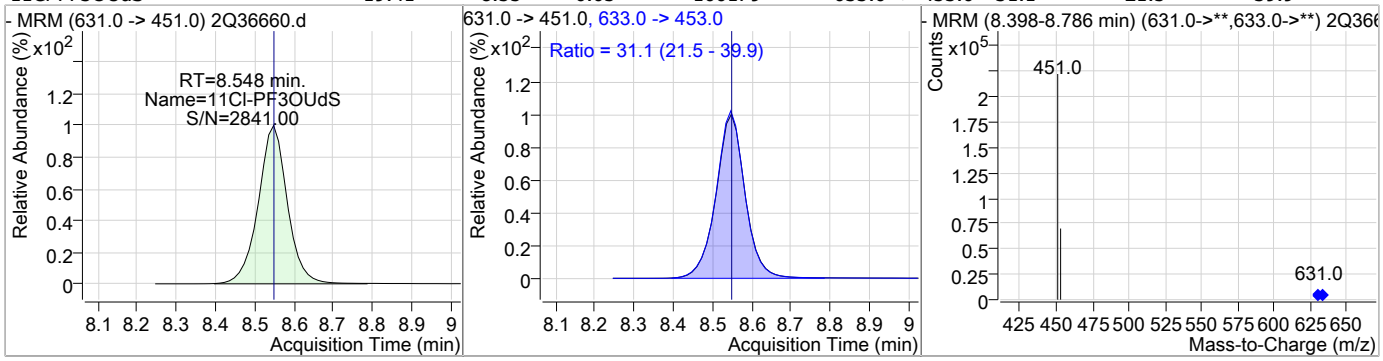
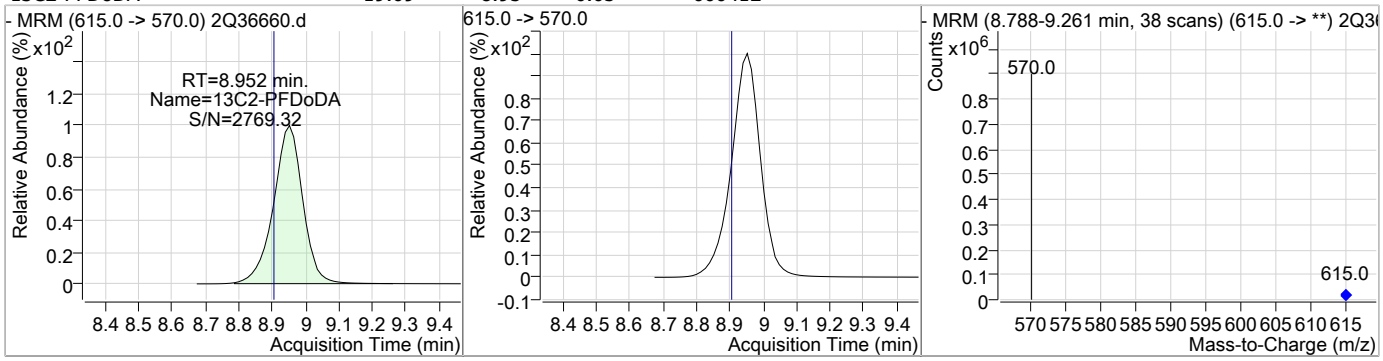
Perfluorinated Compounds by LC/MS/MS

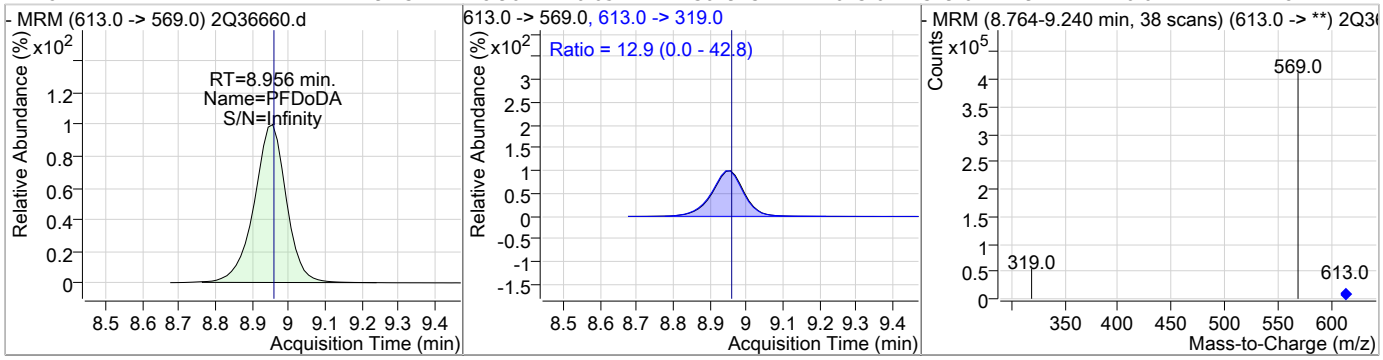
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	19.41	8.55	0.05	166179	633.0 -> 453.0	31.1	21.5	39.9



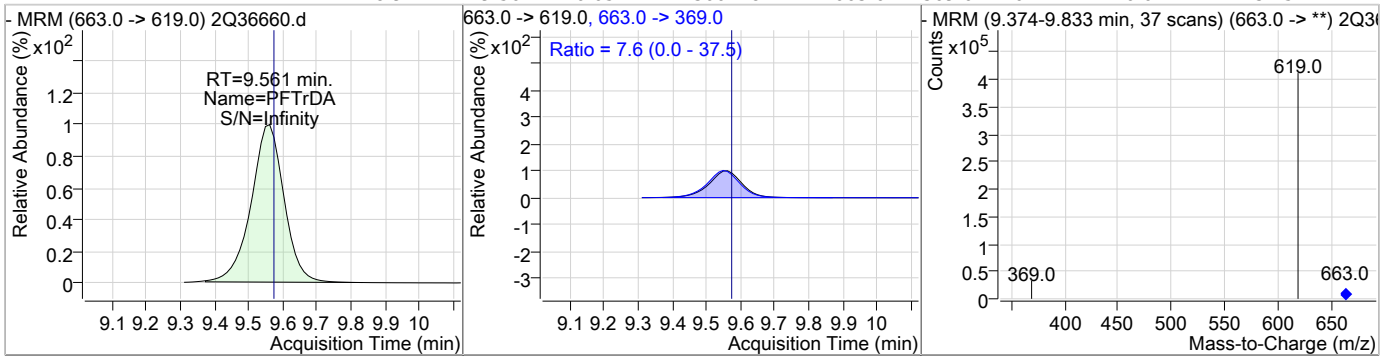
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.09	8.95	0.05	666412				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.73	8.96	0.05	302923	613.0 -> 319.0	12.9	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	18.94	9.56	0.05	300178	663.0 -> 369.0	7.6	0.0	37.5



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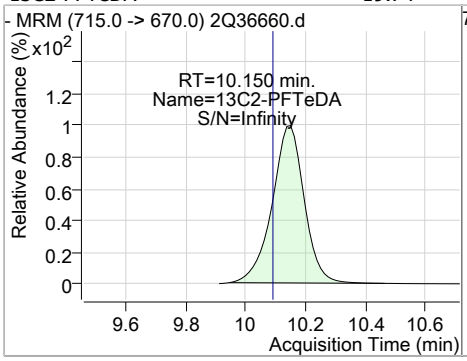
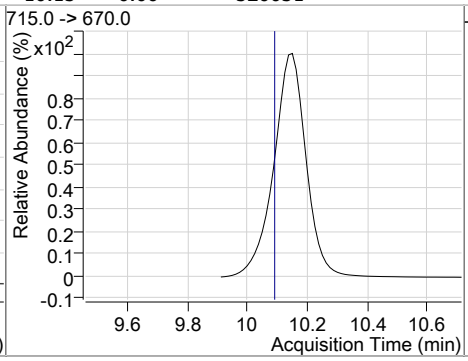
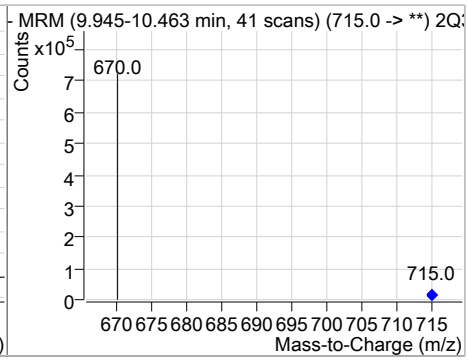
Perfluorinated Compounds by LC/MS/MS

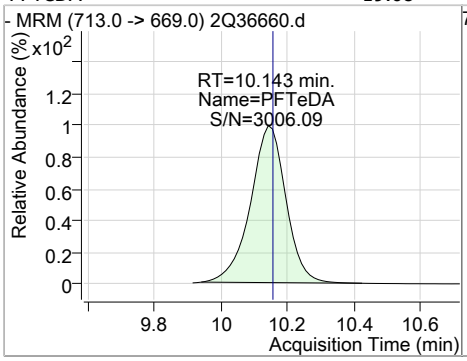
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.74	10.15	0.06	526051				

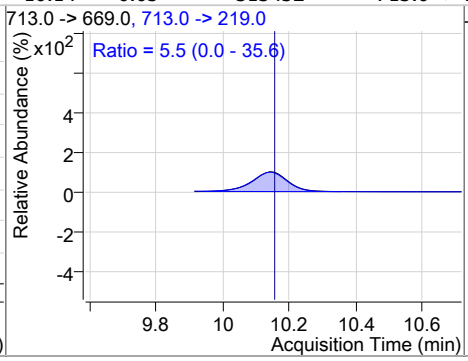


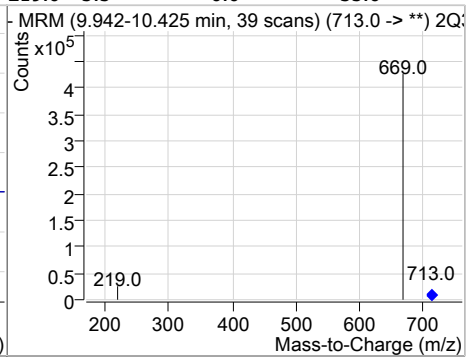




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.08	10.14	0.05	313432	713.0 -> 219.0	5.5	0.0	35.6







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Manual Integration Approval Summary

Sample Number:	S2Q570-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36660.D	**Analyst approved:**	09/26/19 08:21 Nancy Saunders
Injection Time:	09/26/19 00:21	**Supervisor approved:**	09/26/19 14:11 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.00	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/26/19 14:11

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36672.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 3:30:58 AM
Sample Name	:	cc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q570.batch.bin
Sample Information	:	op76878,S2Q570,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.697	415.0 -> 370.0	450969	20.00	µg/L	0.025
13C4-PFOS	7.323	503.0 -> 80.0	62754	20.00	µg/L	0.038
M4-PFBA	2.052	217.0 -> 172.0	198883	20.00	µg/L	0.013
M5-PFPeA	3.749	268.0 -> 223.0	163035	20.00	µg/L	0.025
M5-PFHxA	5.013	318.0 -> 273.0	226538	20.00	µg/L	0.025
M4-PFHpA	5.955	367.0 -> 322.0	293079	20.00	µg/L	0.038
M8-PFOA	6.695	421.0 -> 376.0	360501	20.00	µg/L	0.025
M9-PFNA	7.351	472.0 -> 427.0	376827	20.00	µg/L	0.038
M6-PFDA	7.865	519.0 -> 474.0	416650	20.00	µg/L	0.025
M7-PFUnDA	8.338	570.0 -> 525.0	516604	20.00	µg/L	0.026
M2-PFDoDA	8.940	615.0 -> 570.0	674148	20.00	µg/L	0.038
M2-PFTeDA	10.150	715.0 -> 670.0	519672	20.00	µg/L	0.063
M8-FOSA	6.990	506.0 -> 78.0	112263	20.00	µg/L	0.025
M3-PFBS	3.992	302.0 -> 99.0	26104	20.00	µg/L	0.025
M3-PFHxS	5.985	402.0 -> 99.0	28228	20.00	µg/L	0.038
M8-PFOS	7.321	507.0 -> 99.0	37334	20.00	µg/L	0.038
M2-4:2FTS	4.921	329.0 -> 309.0	116766	20.00	µg/L	0.024
M2-6:2FTS	6.692	429.0 -> 409.0	159595	20.00	µg/L	0.025
M2-8:2FTS	7.913	529.0 -> 509.0	106322	20.00	µg/L	0.025
M3-MeFOSAA	7.518	573.0 -> 419.0	61139	20.00	µg/L	0.025
M3-HFPO-DA	5.305	287.0 -> 169.0	244054	100.00	µg/L	0.038
System Monitoring Compounds						
13C2-4:2FTS	4.921	329.0 -> 309.0	116491	20.01	µg/L	0.024
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C2-6:2FTS	6.692	429.0 -> 409.0	159408	20.11	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C2-8:2FTS	7.913	529.0 -> 509.0	106156	19.72	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C2-PFDoDA	8.940	615.0 -> 570.0	673643	19.29	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C2-PFTeDA	10.150	715.0 -> 670.0	517846	19.43	µg/L	0.063
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C3-PFBS	3.992	302.0 -> 99.0	26116	19.11	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C3-PFHxS	5.985	402.0 -> 99.0	28189	19.13	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C4-PFBA	2.052	217.0 -> 172.0	197334	20.16	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFHpA	5.955	367.0 -> 322.0	292889	19.23	µg/L	0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C5-PFHxA	5.013	318.0 -> 273.0	226375	19.39	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C5-PFPeA	3.749	268.0 -> 223.0	163533	19.87	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C6-PFDA	7.865	519.0 -> 474.0	416495	19.68	µg/L	0.025

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.4%			
13C7-PFUnDA	8.338	570.0 -> 525.0	515673	18.61	µg/L		0.026
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.0%			
13C8-FOSA	6.990	506.0 -> 78.0	112244	19.72	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.6%			
13C8-PFOA	6.695	421.0 -> 376.0	360622	19.71	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.5%			
13C8-PFOS	7.321	507.0 -> 99.0	37317	19.17	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 95.8%			
13C9-PFNA	7.351	472.0 -> 427.0	376535	19.92	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.6%			
d3-MeFOSAA	7.518	573.0 -> 419.0	61127	18.70	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 93.5%			
M2-PFOA	6.697	415.0 -> 370.0	451532	20.00	µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%			
M4-PFOS	7.323	503.0 -> 80.0	62594	19.96	µg/L		0.038
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%			
13C3-HFPO-DA	5.305	287.0 -> 169.0	244054	85.85	µg/L		0.038
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 85.8%			
Target Compounds							**QValue**
4:2FTS	4.923	327.0 -> 307.0	67834	20.46	µg/L		98
6:2FTS	6.694	427.0 -> 407.0	79761	20.10	µg/L		99
8:2FTS	7.914	527.0 -> 507.0	58677	20.62	µg/L		96
EtFOSAA	7.643	584.0 -> 419.0	27453	21.40	µg/L		98
FOSA	6.993	498.0 -> 78.0	57955	19.93	µg/L		98
MeFOSAA	7.519	570.0 -> 419.0	32462	19.93	µg/L		99
PFBA	2.061	213.0 -> 169.0	35246	19.03	µg/L		100
PFBS	3.996	299.0 -> 80.0	40864	19.82	µg/L		100
PFDA	7.866	513.0 -> 469.0	202265	19.58	µg/L		99
PFDoDA	8.944	613.0 -> 569.0	304584	19.63	µg/L		100
PFDS	8.298	599.0 -> 80.0	15402	19.36	µg/L		98
PFHpA	5.945	363.0 -> 319.0	268915	20.13	µg/L		99
PFHpS	6.703	449.0 -> 80.0	30763	20.40	µg/L		99
PFHxA	5.015	313.0 -> 269.0	67275	19.33	µg/L		99
PFHxS	5.987	399.0 -> 80.0	33337	19.79	µg/L	m	99
PFNA	7.352	463.0 -> 419.0	229618	19.48	µg/L		100
PFNS	7.835	549.0 -> 80.0	23765	19.54	µg/L		100
PFOA	6.698	413.0 -> 369.0	188018	19.39	µg/L		99
PFOS	7.324	499.0 -> 80.0	33864	19.11	µg/L	m	100
PFPeA	3.752	263.0 -> 219.0	160635	19.52	µg/L		100
PFPeS	5.120	349.0 -> 80.0	22850	20.06	µg/L		100
PFTeDA	10.143	713.0 -> 669.0	309677	19.39	µg/L		100
PFTrDA	9.549	663.0 -> 619.0	300627	19.51	µg/L		100
PFUnDA	8.340	563.0 -> 519.0	240139	19.74	µg/L		100
11Cl-PF3OUdS	8.536	631.0 -> 451.0	163919	18.95	µg/L		99
9Cl-PF3ONS	7.597	531.0 -> 351.0	28281	19.17	µg/L		99
ADONA	6.052	377.0 -> 251.0	318683	18.47	µg/L		100
HFPO-DA	5.297	329.0 -> 169.0	252452	100.43	µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

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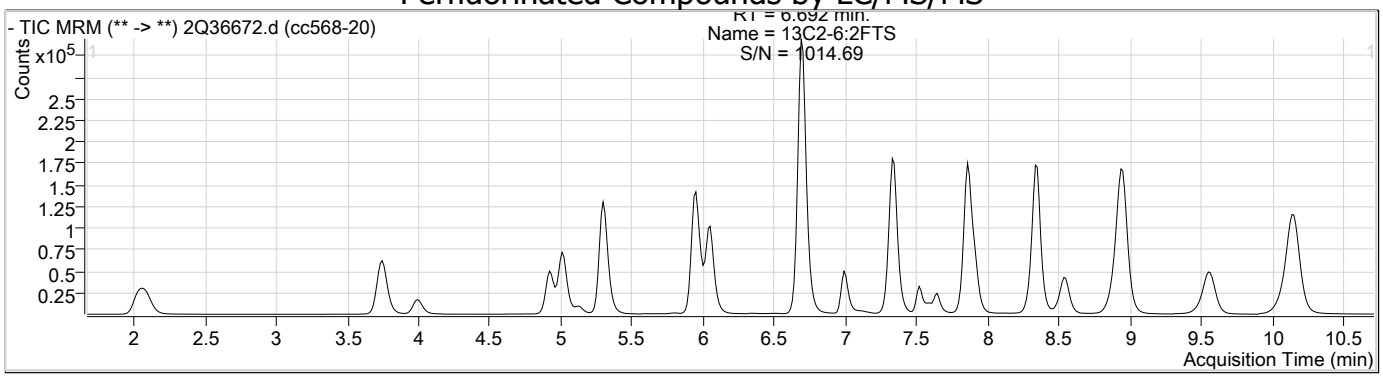
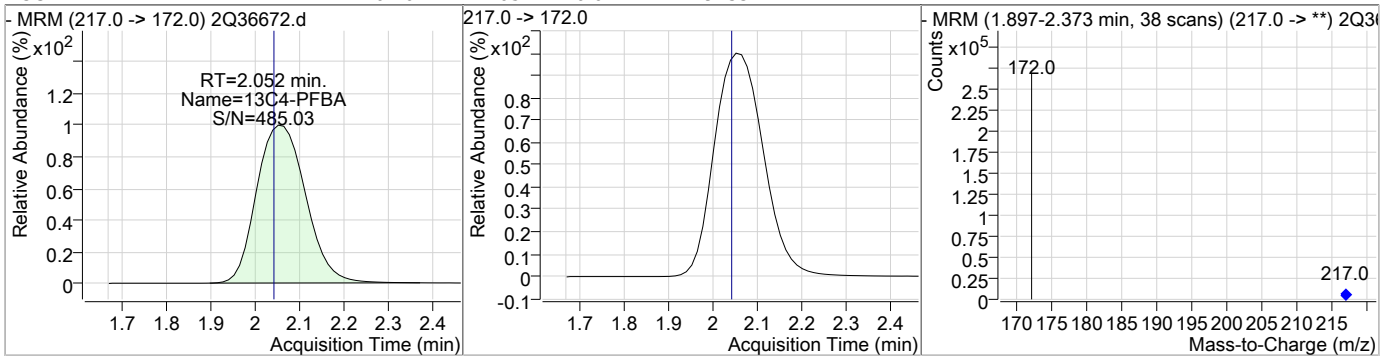
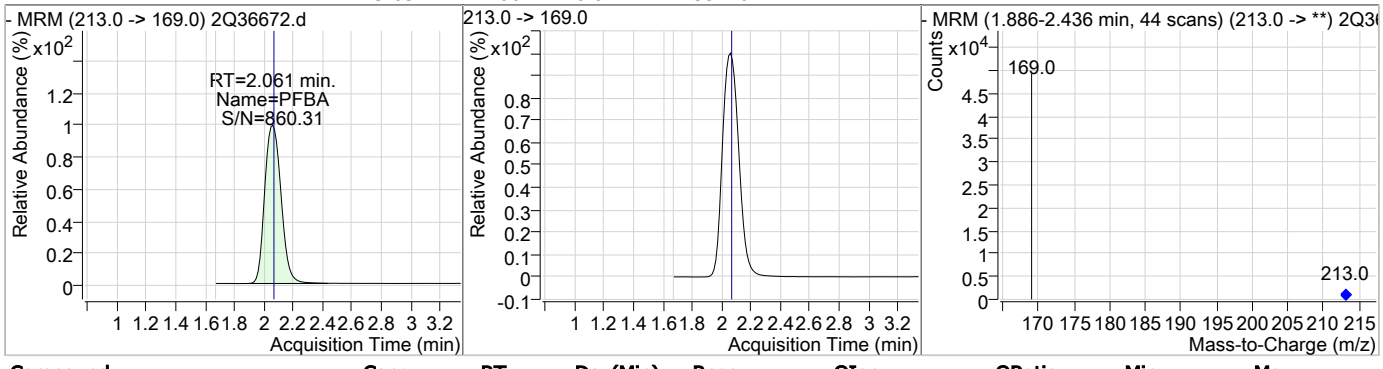
Perfluorinated Compounds by LC/MS/MS



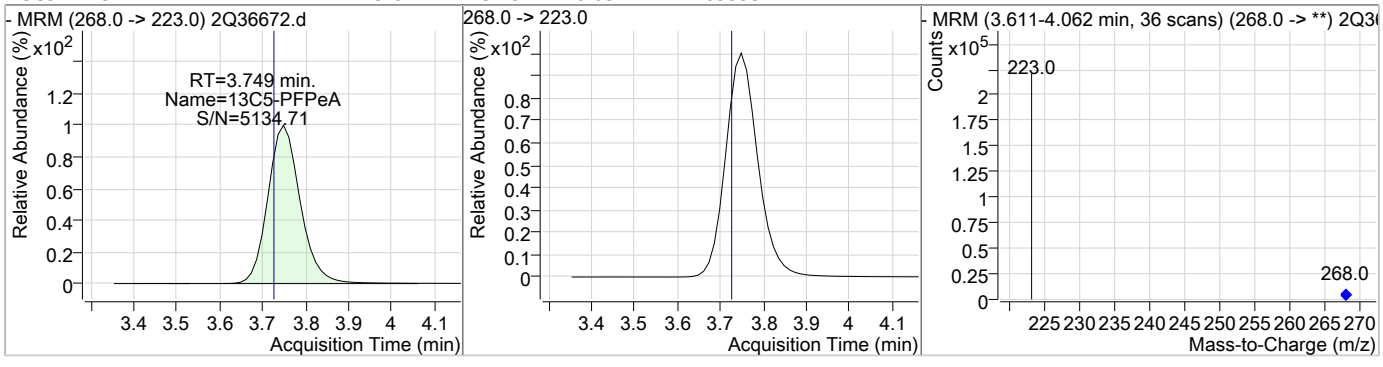
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.16	2.05	0.01	197334				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.03	2.06	0.01	35246				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	19.87	3.75	0.03	163533				



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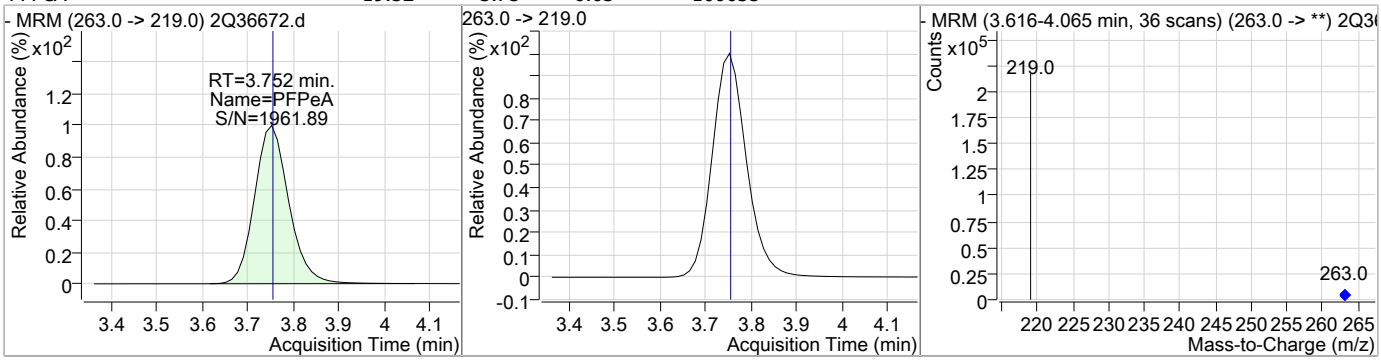
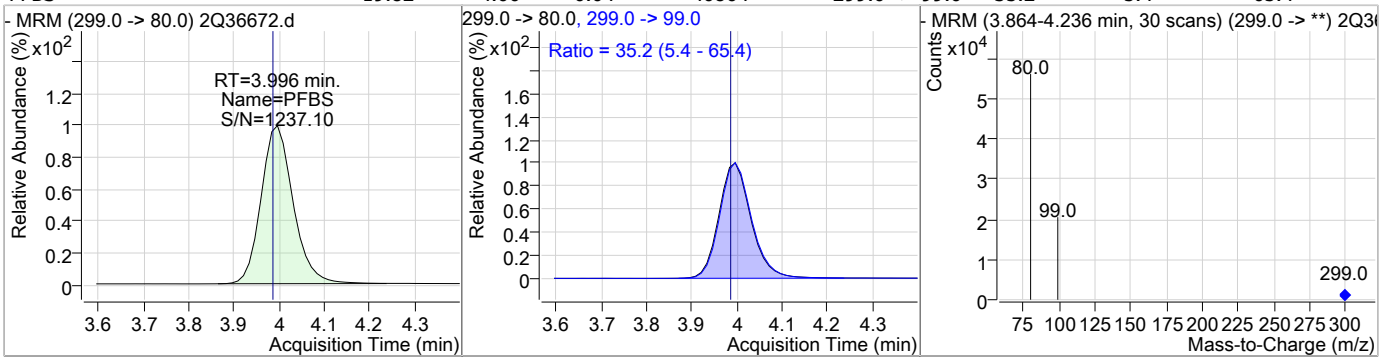
Perfluorinated Compounds by LC/MS/MS

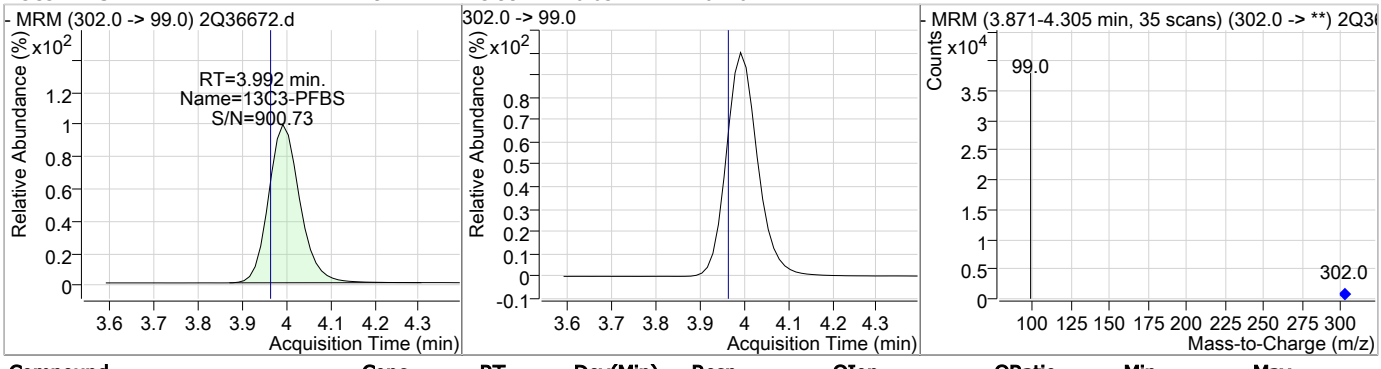
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.52	3.75	0.03	160635				



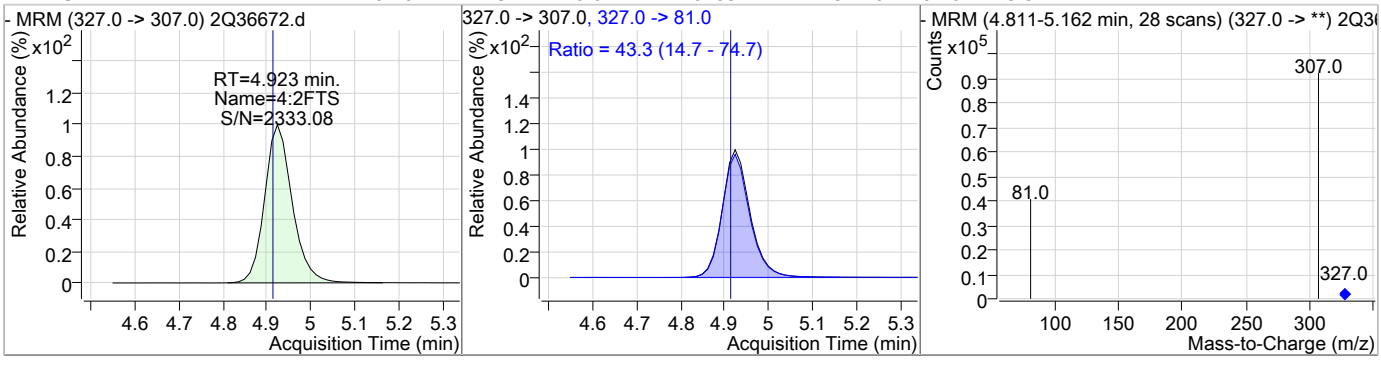
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.82	4.00	0.04	40864	299.0 -> 99.0	35.2	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.11	3.99	0.03	26116				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.46	4.92	0.04	67834	327.0 -> 81.0	43.3	14.7	74.7



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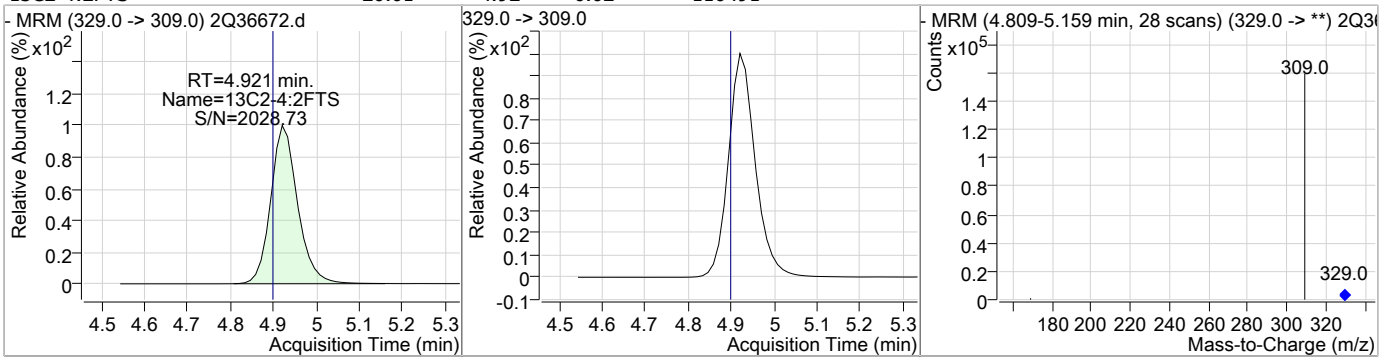
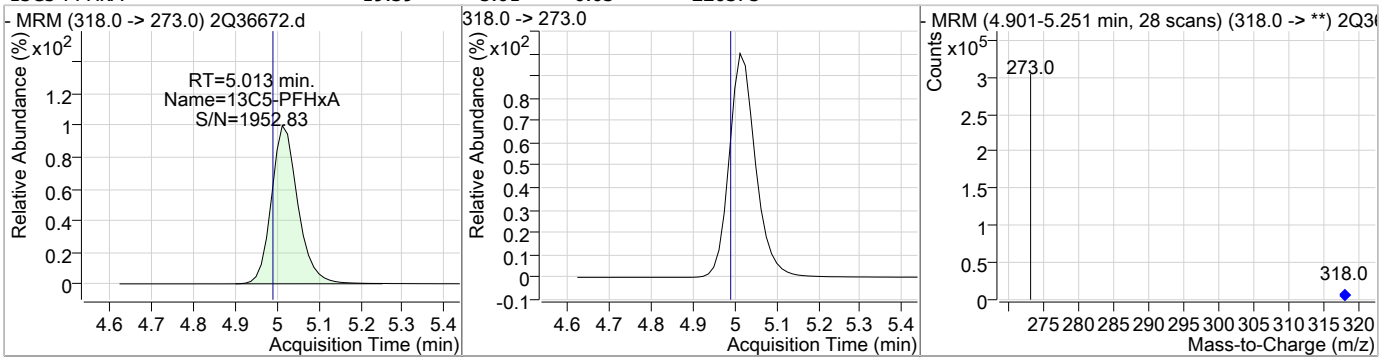
Perfluorinated Compounds by LC/MS/MS

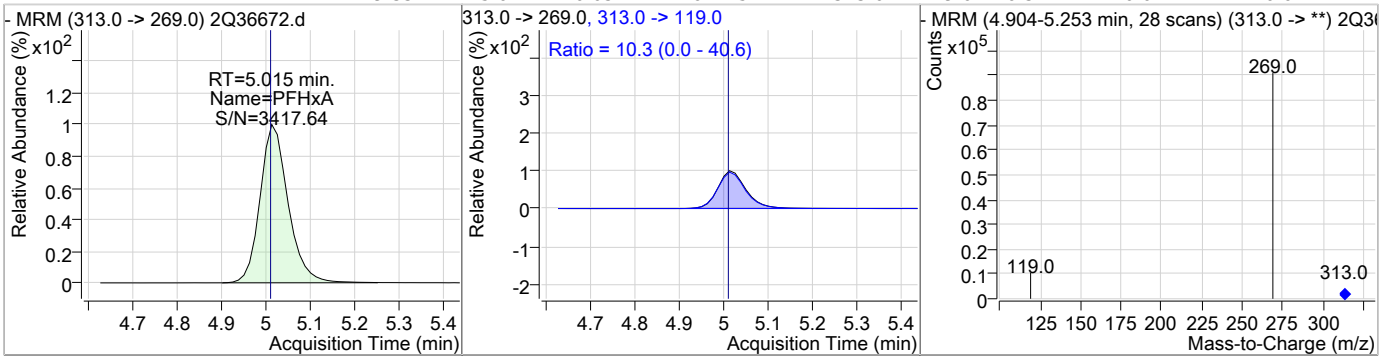
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	20.01	4.92	0.02	116491				



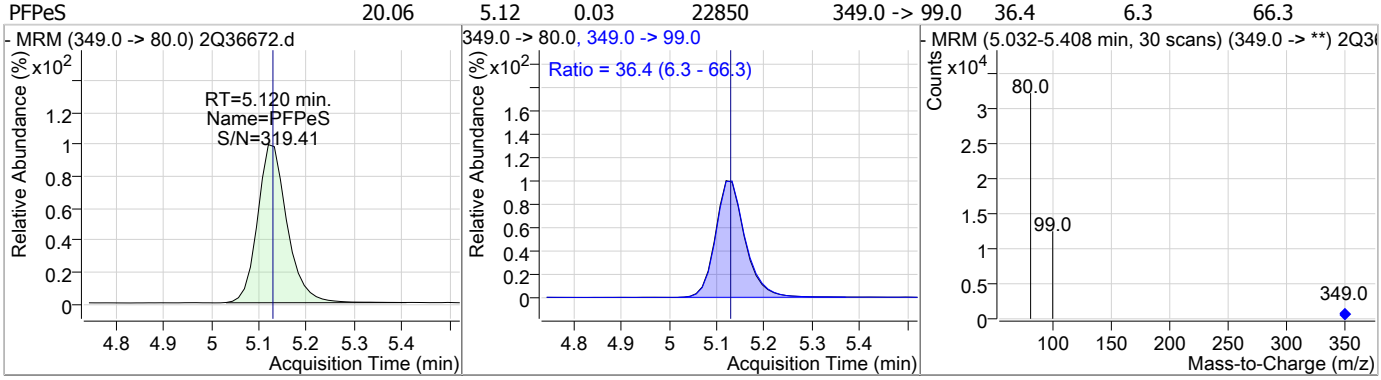
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	19.39	5.01	0.03	226375				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.33	5.01	0.03	67275	313.0 -> 119.0	10.3	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	20.06	5.12	0.03	22850	349.0 -> 99.0	36.4	6.3	66.3



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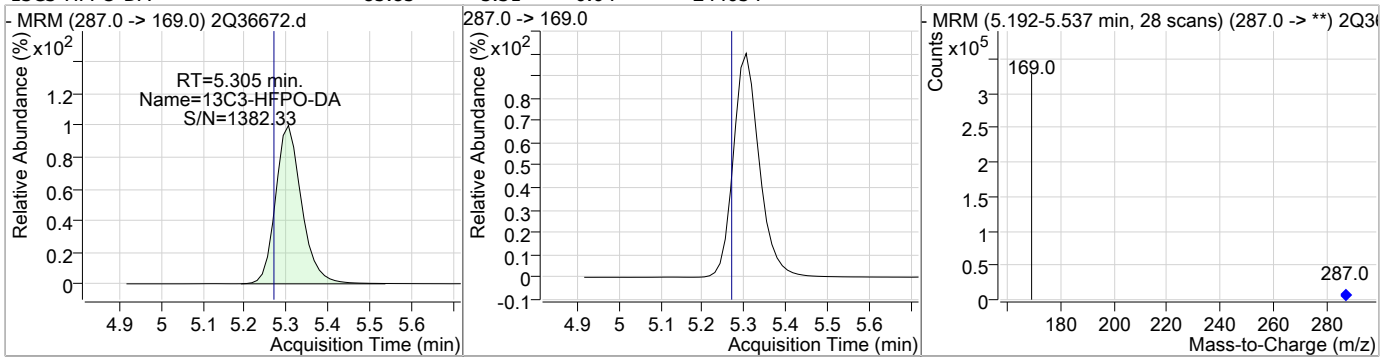
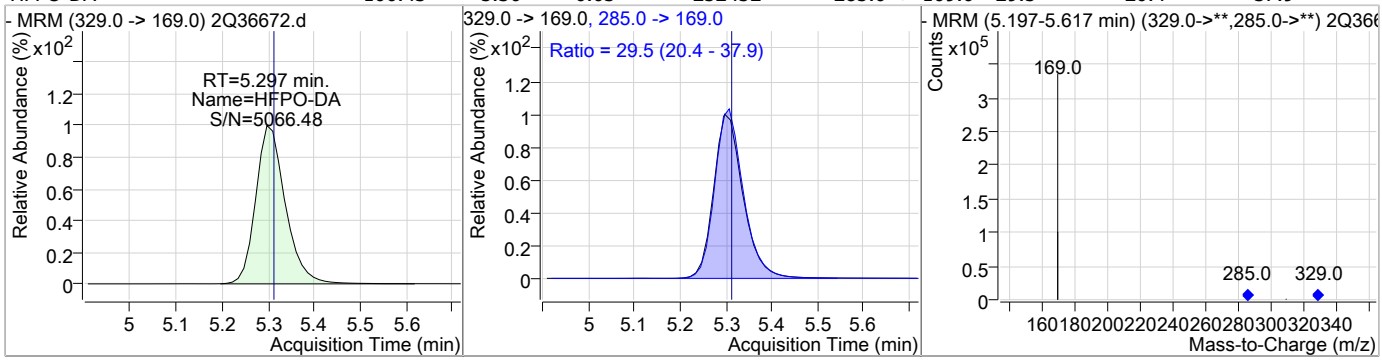
Perfluorinated Compounds by LC/MS/MS

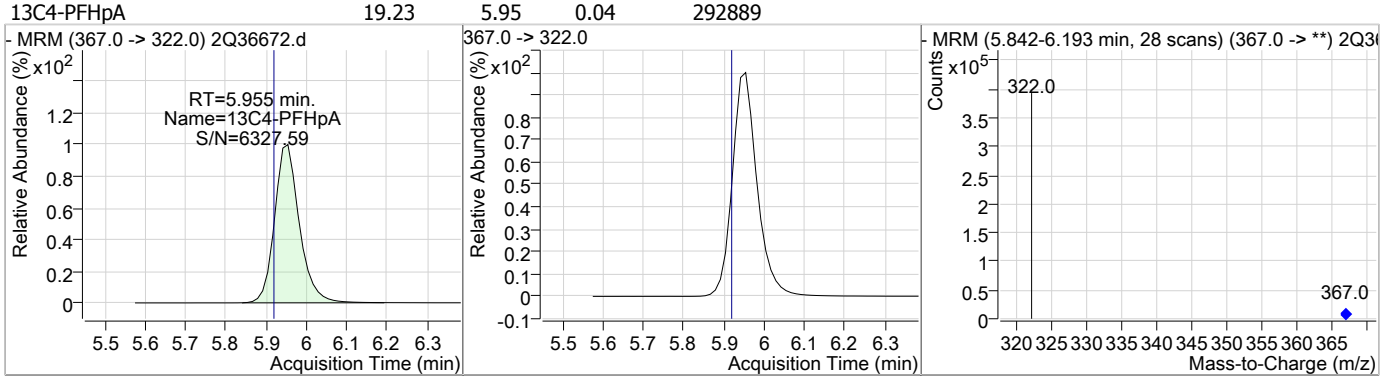
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	85.85	5.31	0.04	244054				



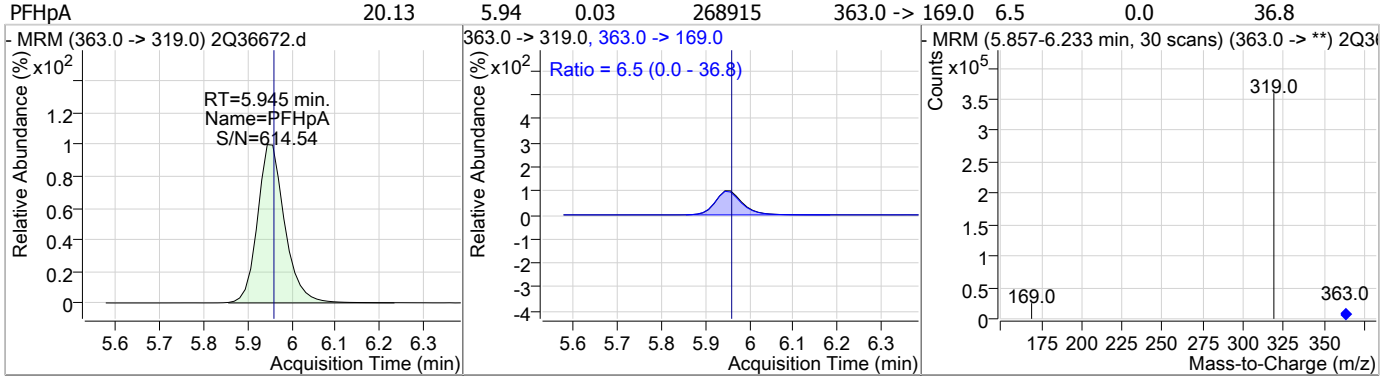
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	100.43	5.30	0.03	252452	285.0 -> 169.0	29.5	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	19.23	5.95	0.04	292889				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	20.13	5.94	0.03	268915	363.0 -> 169.0	6.5	0.0	36.8



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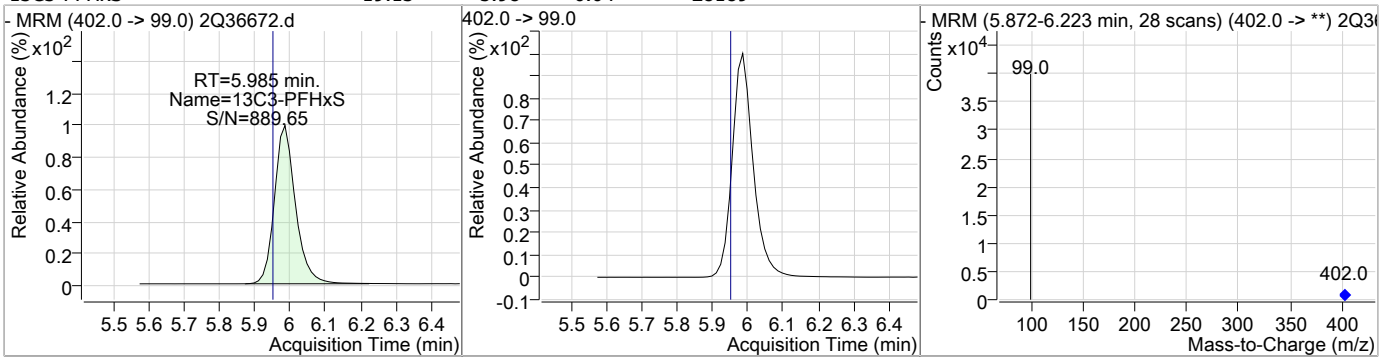
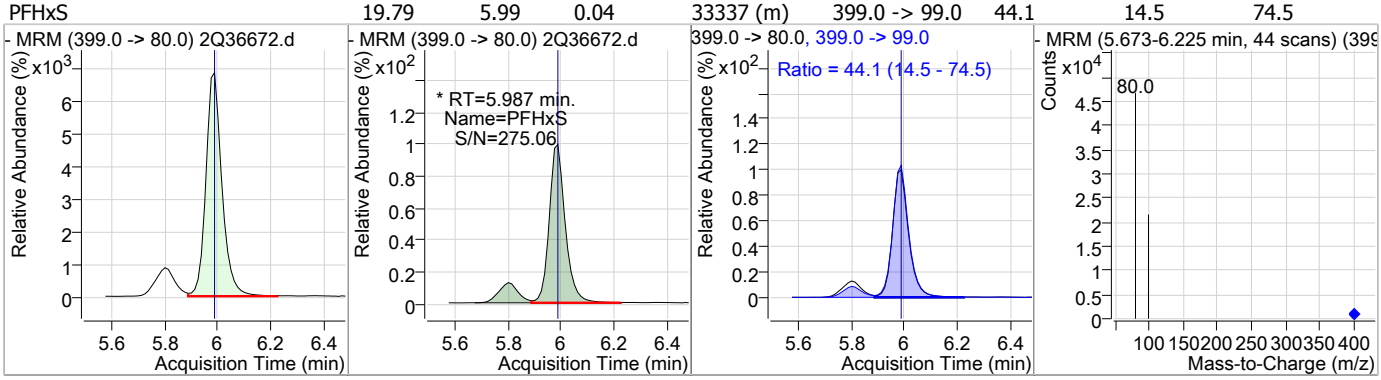
Perfluorinated Compounds by LC/MS/MS

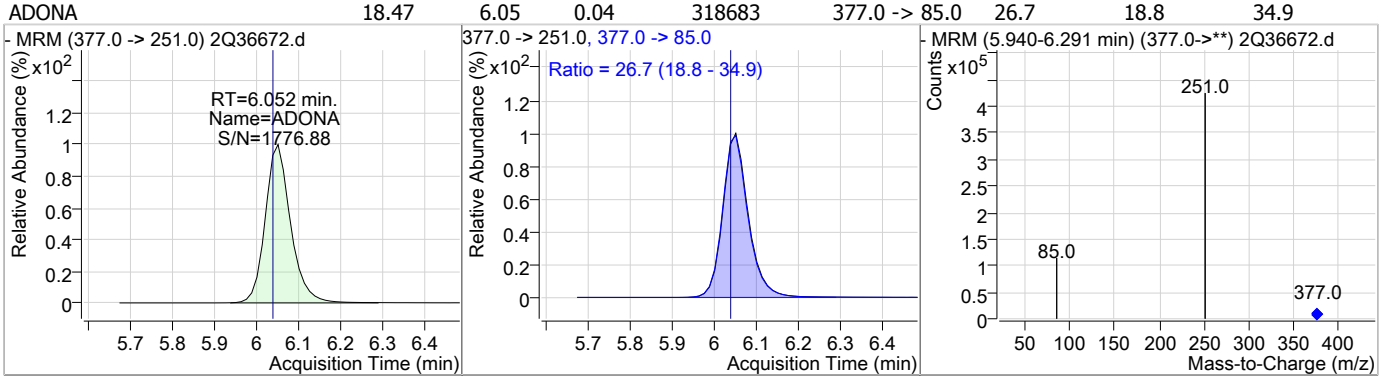
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.13	5.98	0.04	28189				



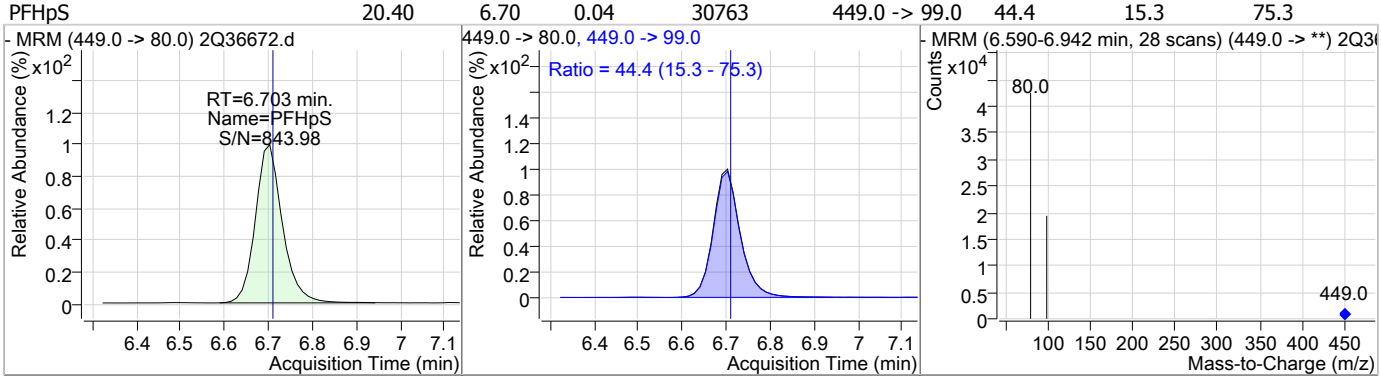
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.79	5.99	0.04	33337 (m)	399.0 -> 99.0	44.1	14.5	74.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.47	6.05	0.04	318683	377.0 -> 85.0	26.7	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.40	6.70	0.04	30763	449.0 -> 99.0	44.4	15.3	75.3



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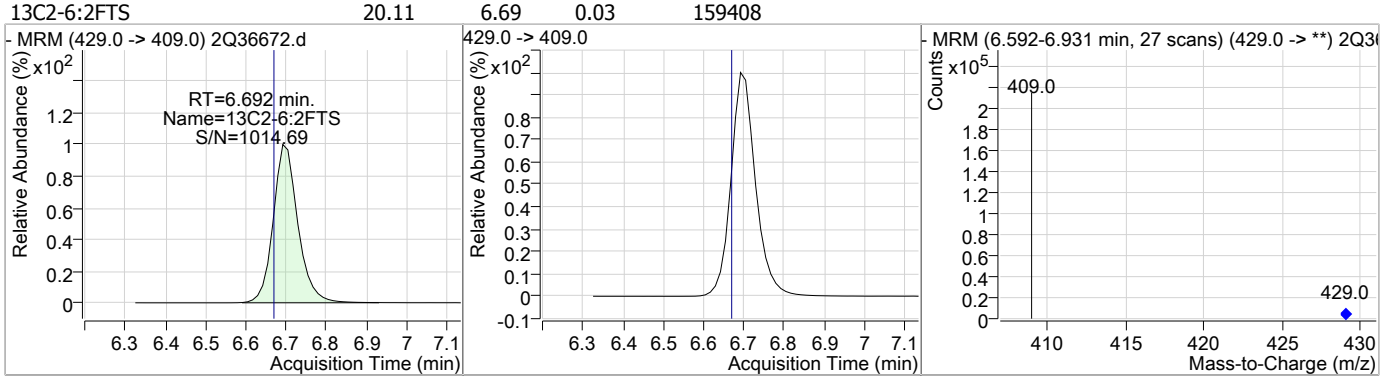
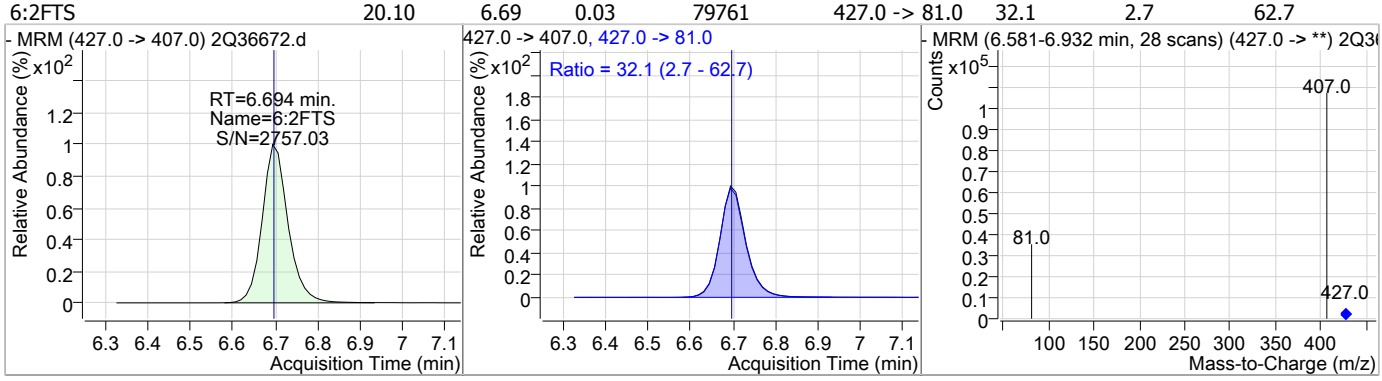
Perfluorinated Compounds by LC/MS/MS

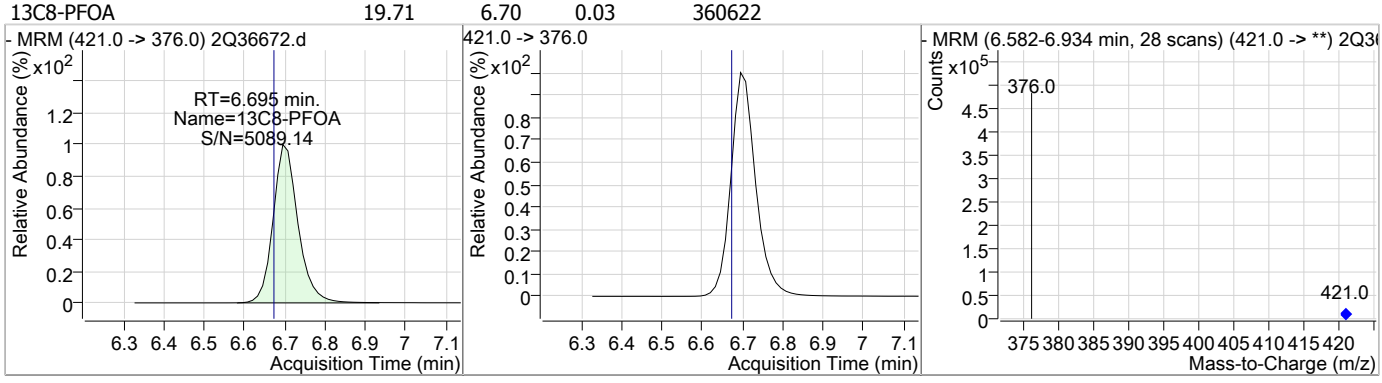
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.11	6.69	0.03	159408				



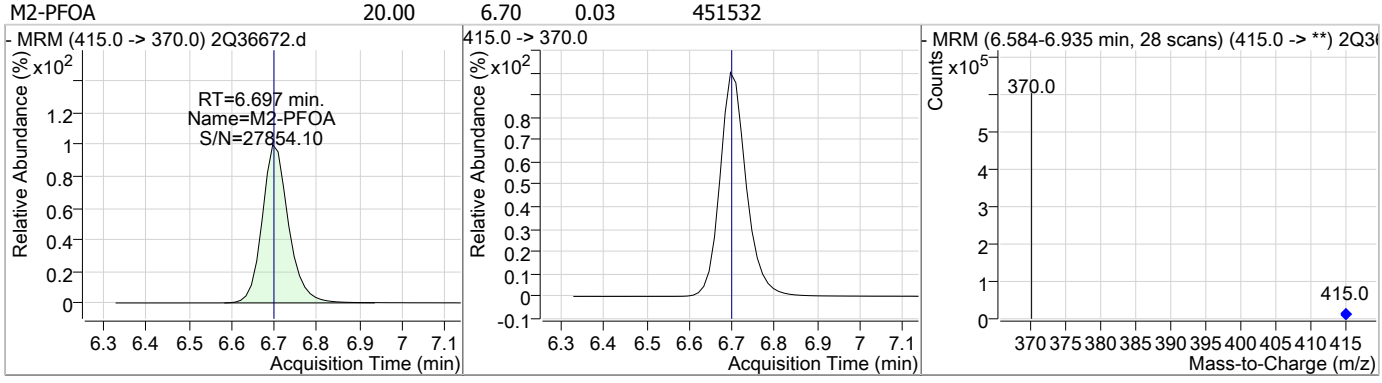
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.10	6.69	0.03	79761	427.0 -> 81.0	32.1	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	19.71	6.70	0.03	360622				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.00	6.70	0.03	451532				



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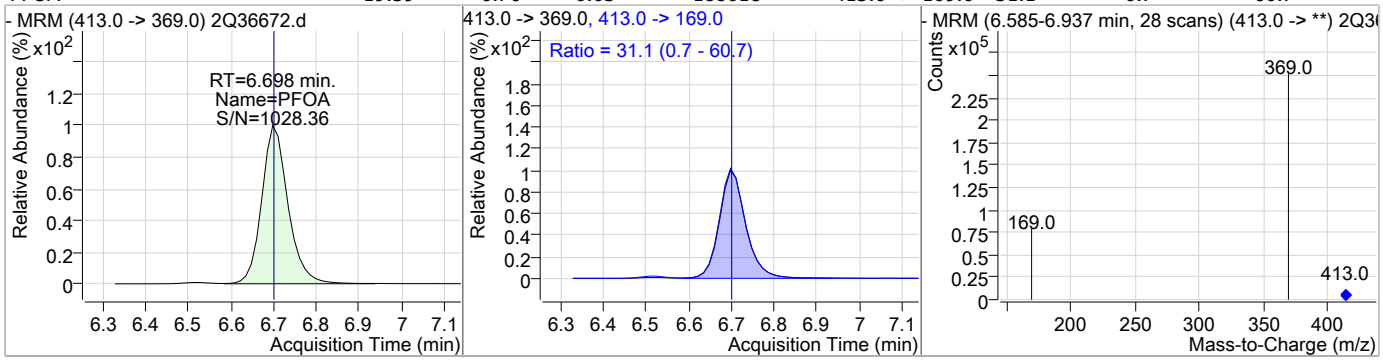
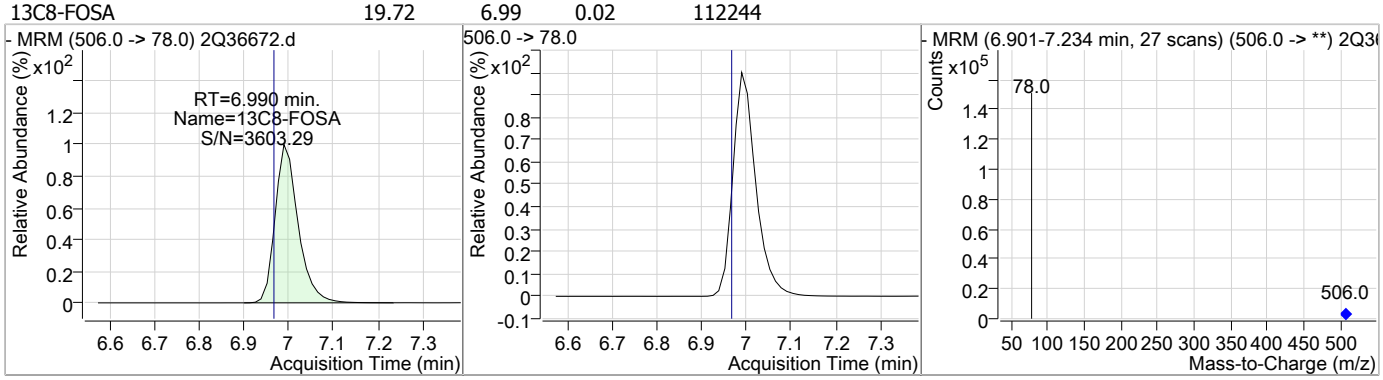
Perfluorinated Compounds by LC/MS/MS

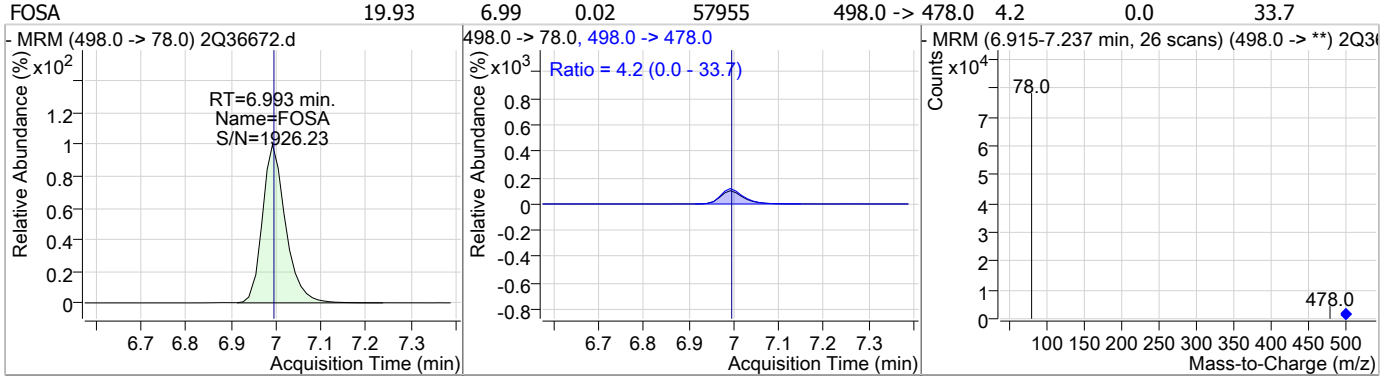
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.39	6.70	0.03	188018	413.0 -> 169.0	31.1	0.7	60.7



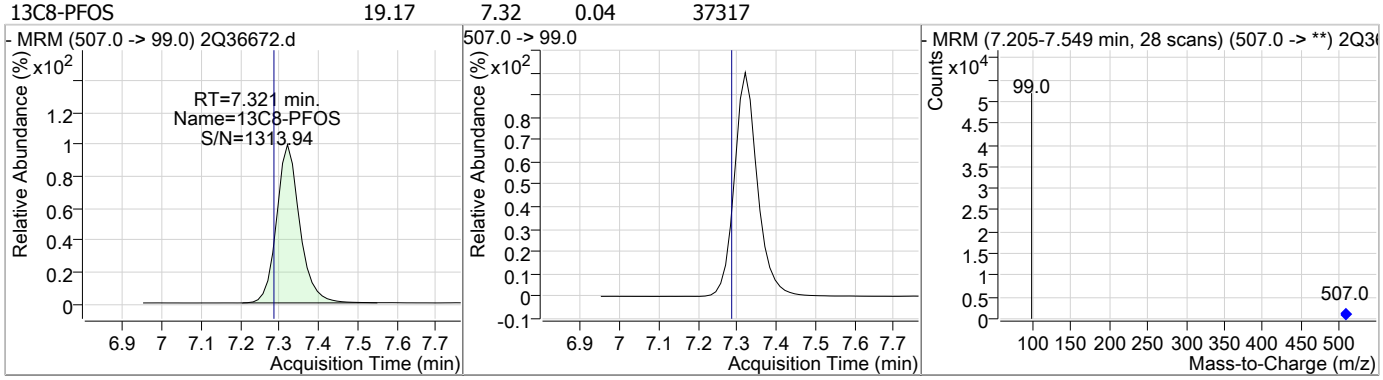
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	19.72	6.99	0.02	112244				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.93	6.99	0.02	57955	498.0 -> 478.0	4.2	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.17	7.32	0.04	37317				



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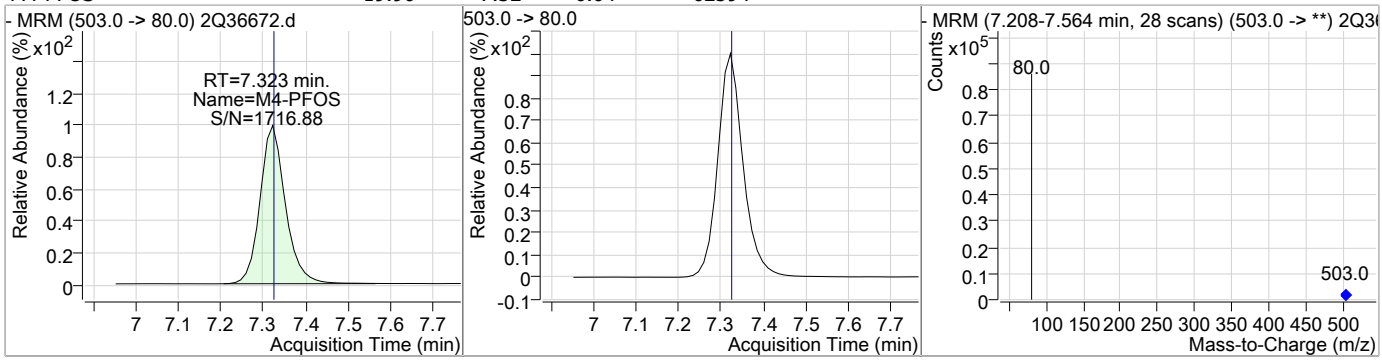
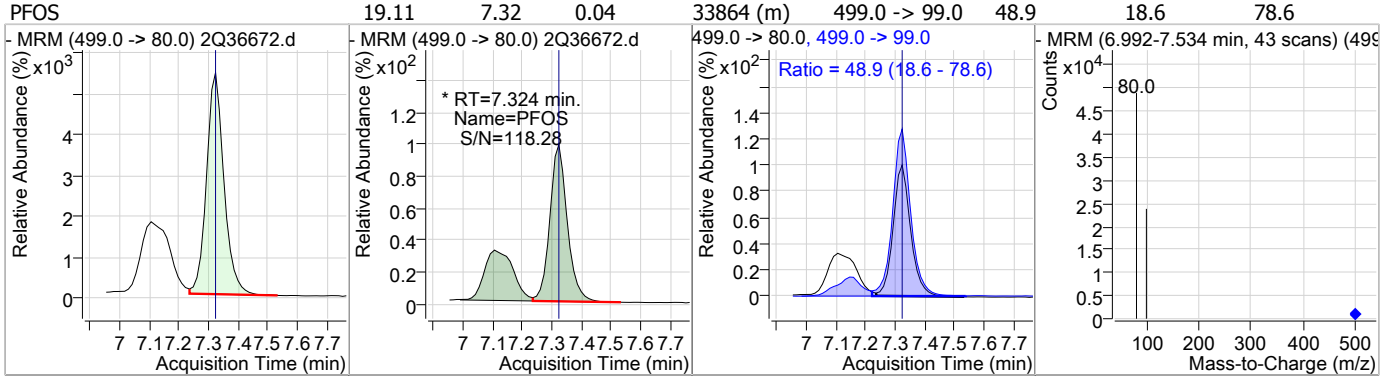
Perfluorinated Compounds by LC/MS/MS

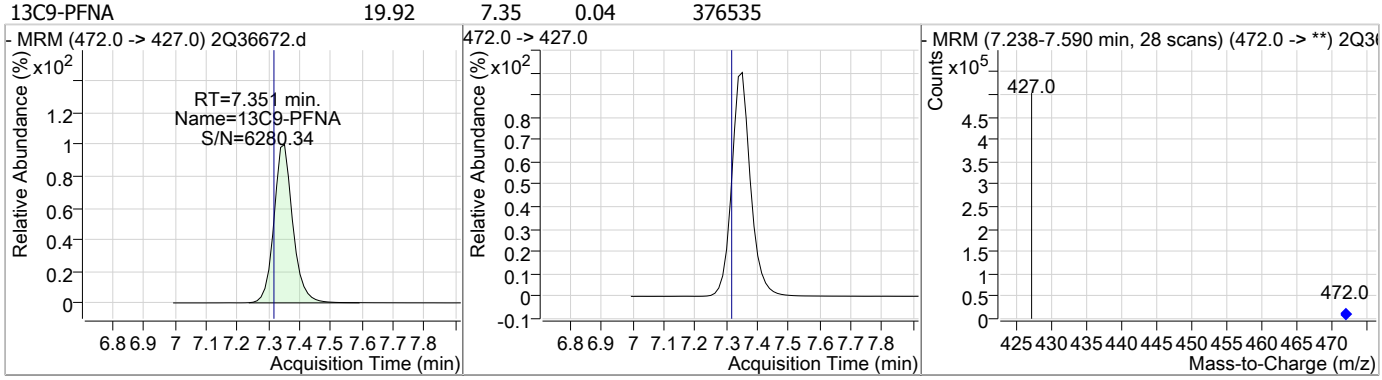
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.96	7.32	0.04	62594				



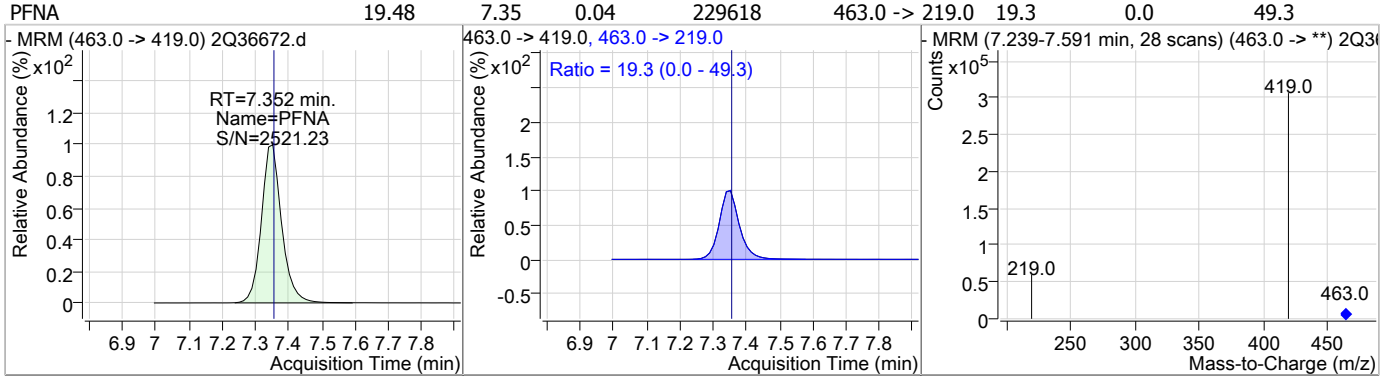
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.11	7.32	0.04	33864 (m)	499.0 -> 99.0	48.9	18.6	78.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	19.92	7.35	0.04	376535				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.48	7.35	0.04	229618	463.0 -> 219.0	19.3	0.0	49.3



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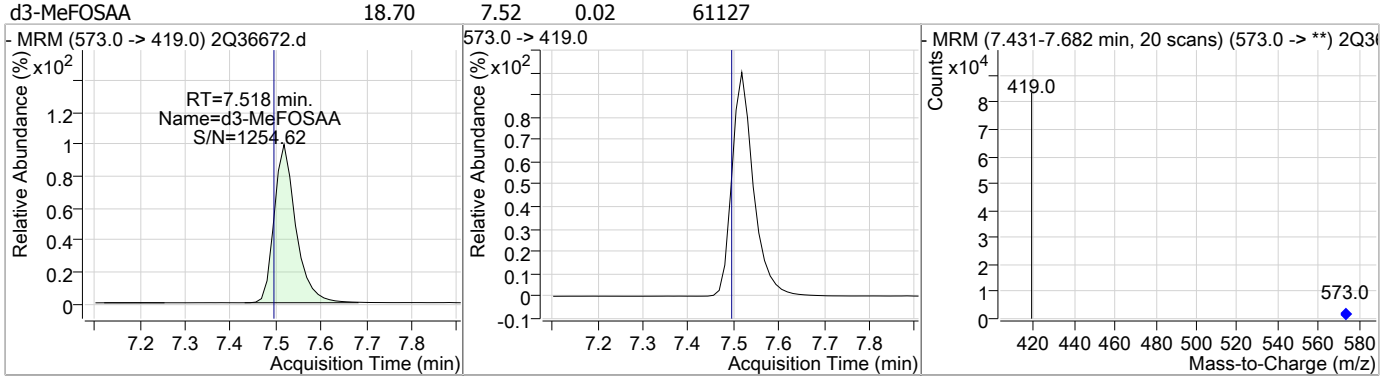
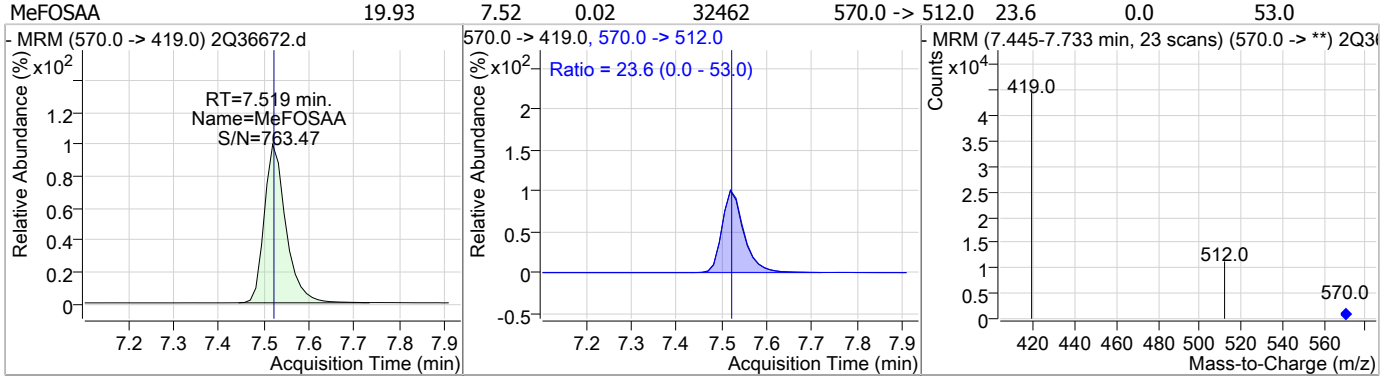
Perfluorinated Compounds by LC/MS/MS

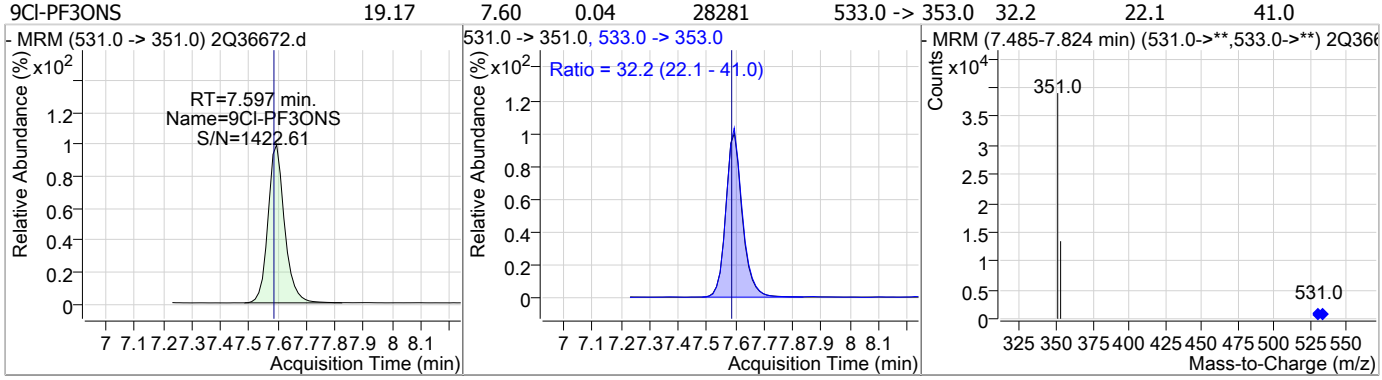
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	18.70	7.52	0.02	61127				



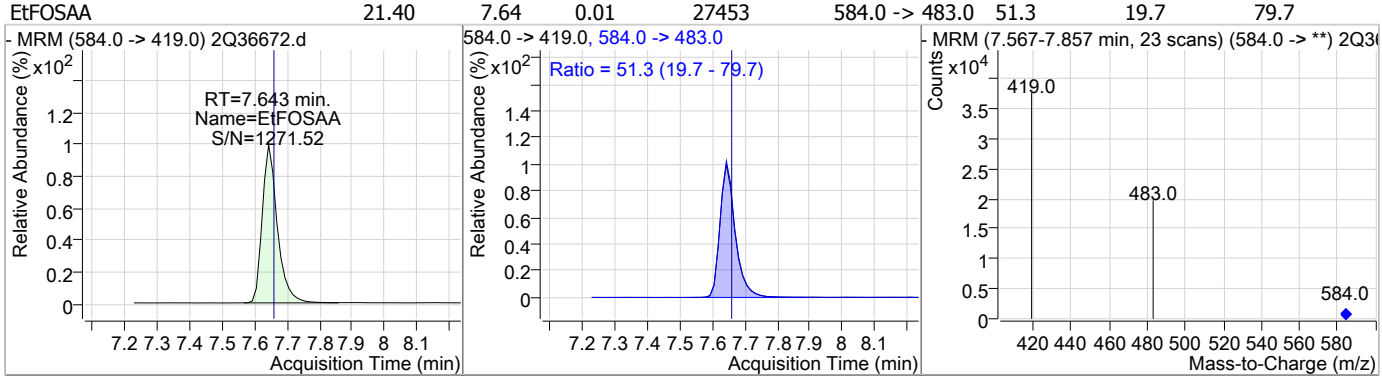
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.93	7.52	0.02	32462	570.0 -> 512.0	23.6	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	19.17	7.60	0.04	28281	533.0 -> 353.0	32.2	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.40	7.64	0.01	27453	584.0 -> 483.0	51.3	19.7	79.7



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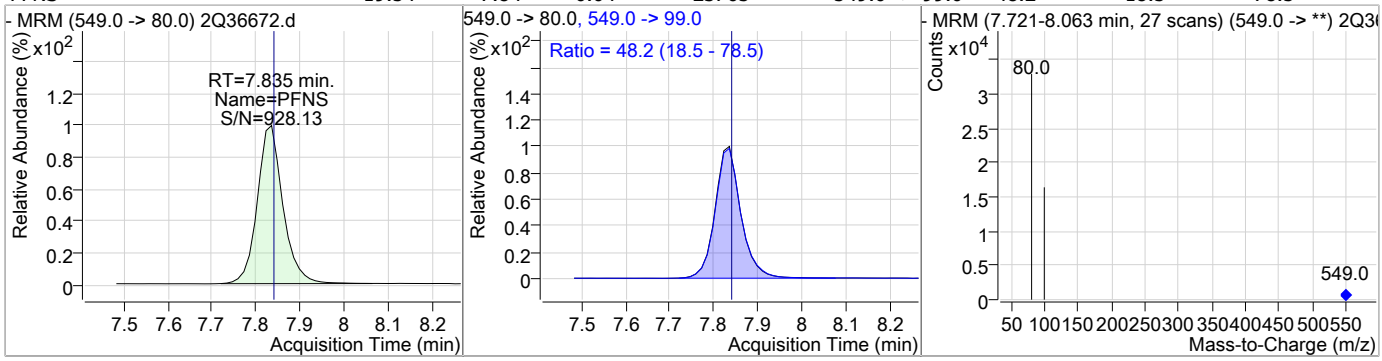
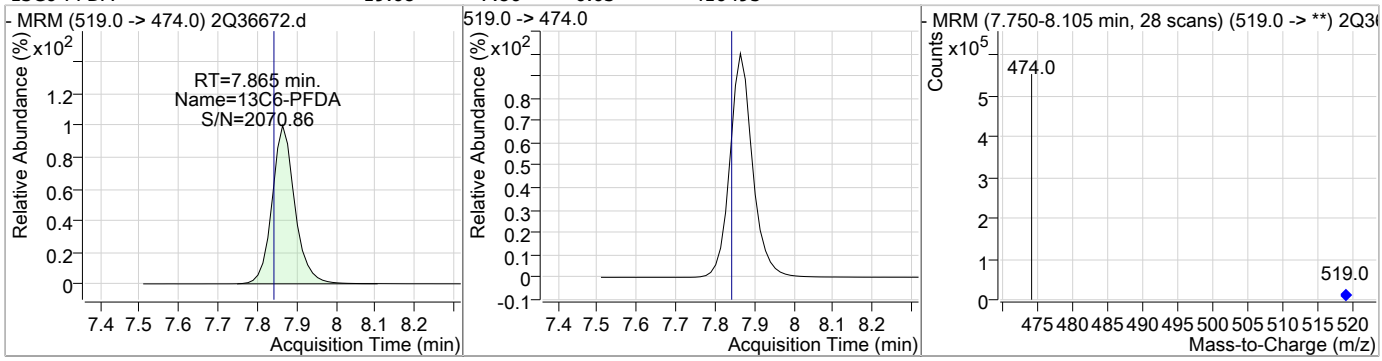
Perfluorinated Compounds by LC/MS/MS

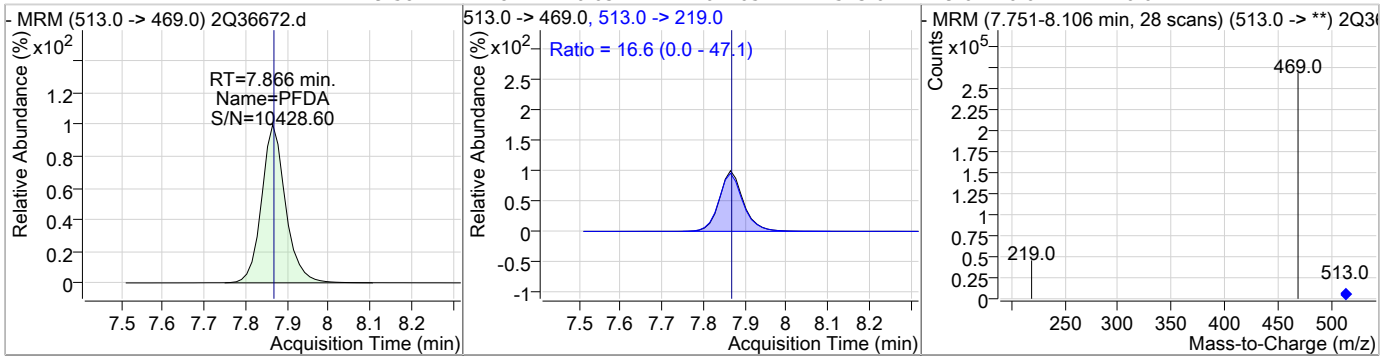
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.54	7.84	0.04	23765	549.0 -> 99.0	48.2	18.5	78.5



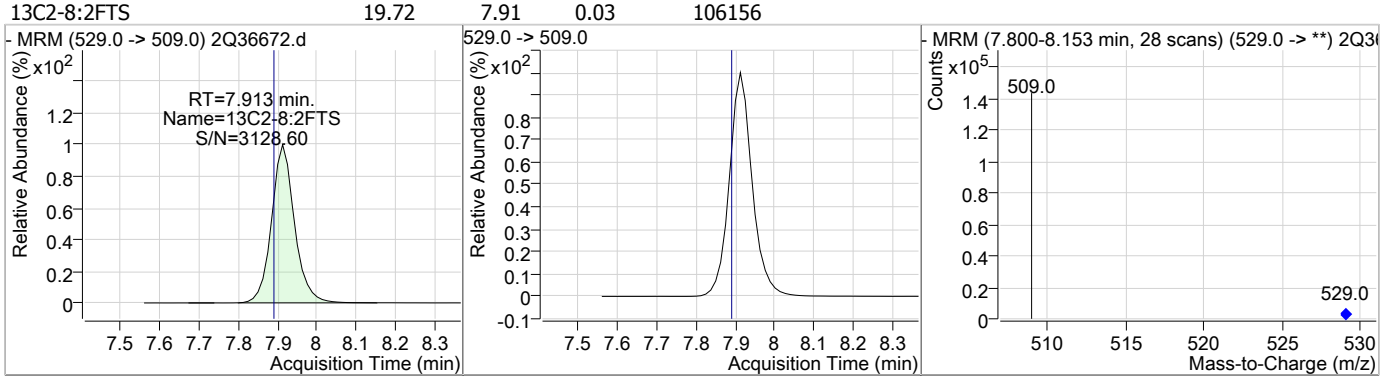
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	19.68	7.86	0.03	416495				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.58	7.87	0.03	202265	513.0 -> 219.0	16.6	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.72	7.91	0.03	106156				



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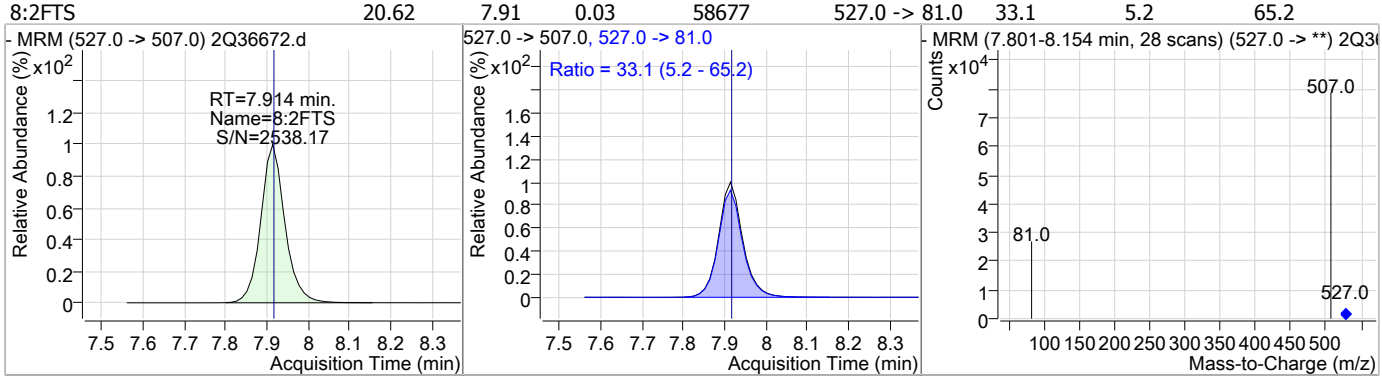
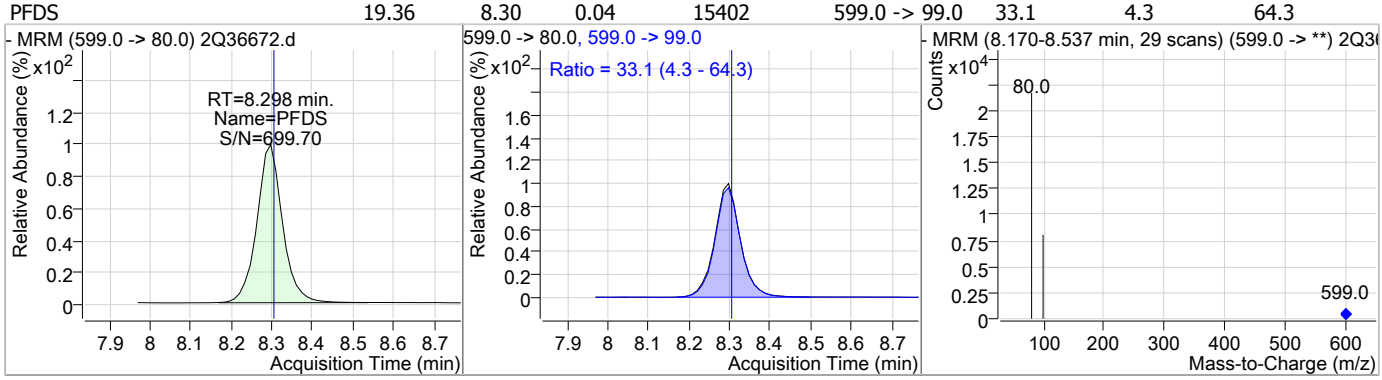
Perfluorinated Compounds by LC/MS/MS

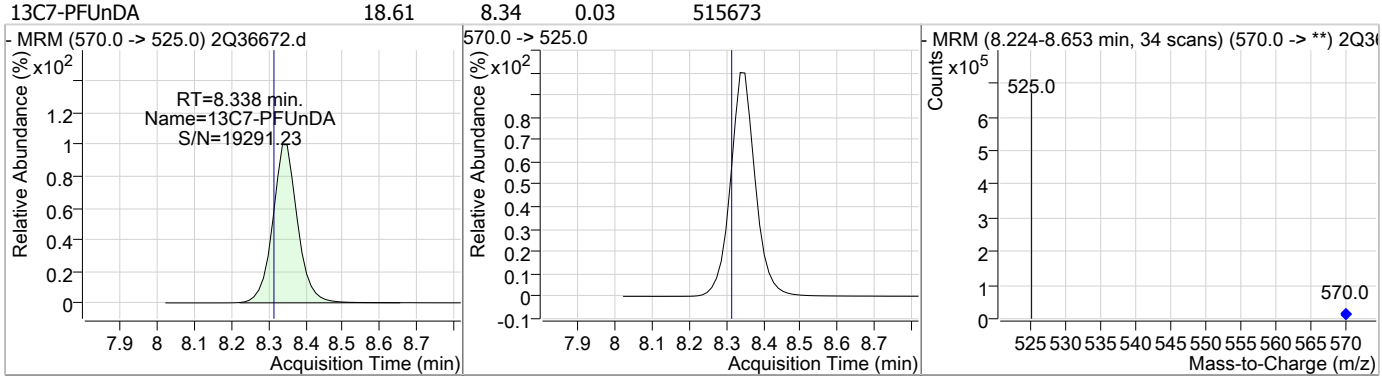
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.62	7.91	0.03	58677	527.0 -> 81.0	33.1	5.2	65.2



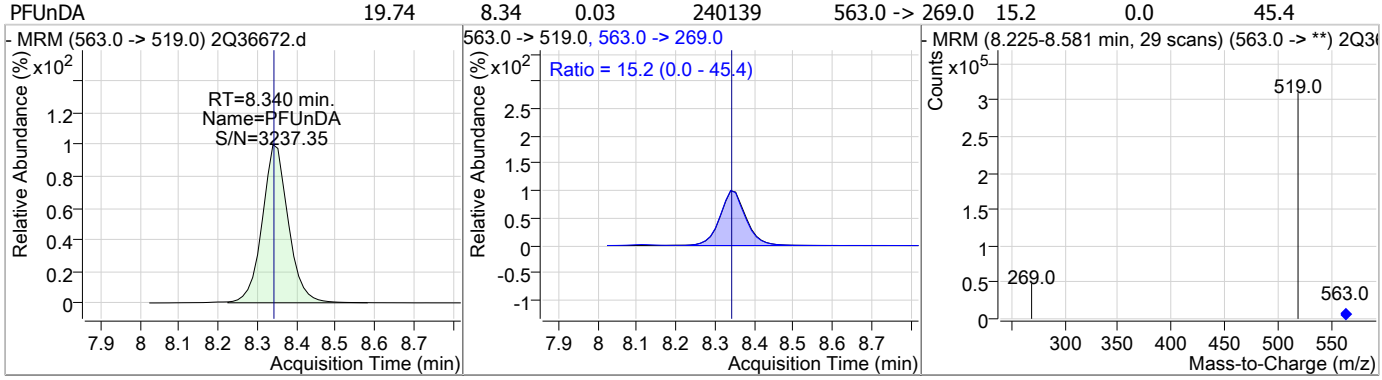
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.36	8.30	0.04	15402	599.0 -> 99.0	33.1	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	18.61	8.34	0.03	515673				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.74	8.34	0.03	240139	563.0 -> 269.0	15.2	0.0	45.4



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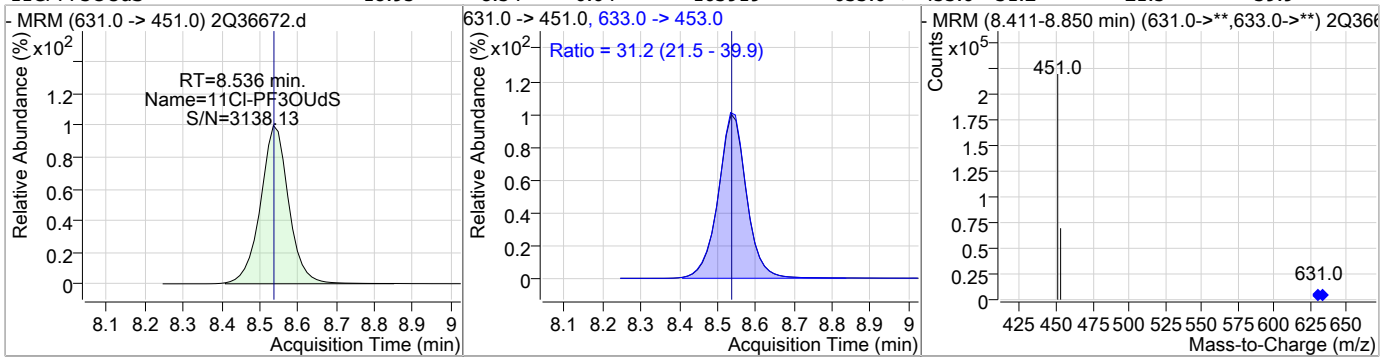
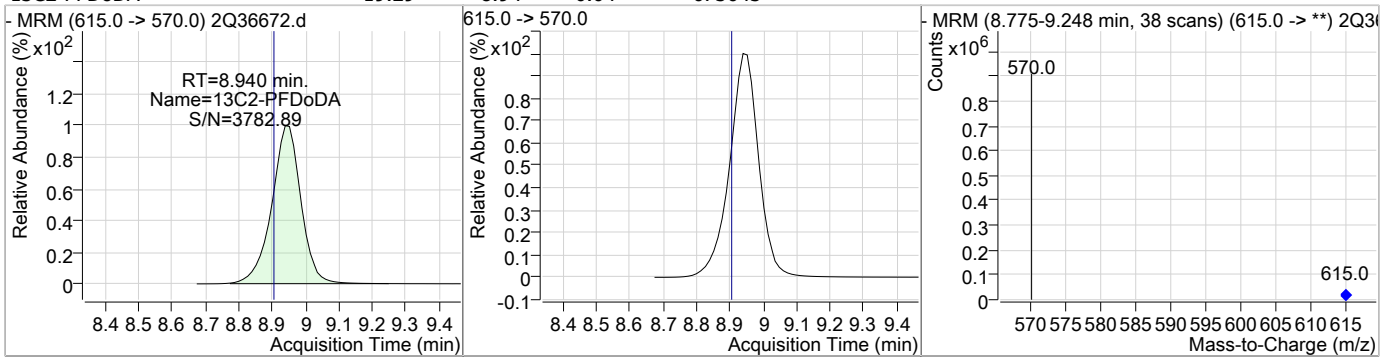
Perfluorinated Compounds by LC/MS/MS

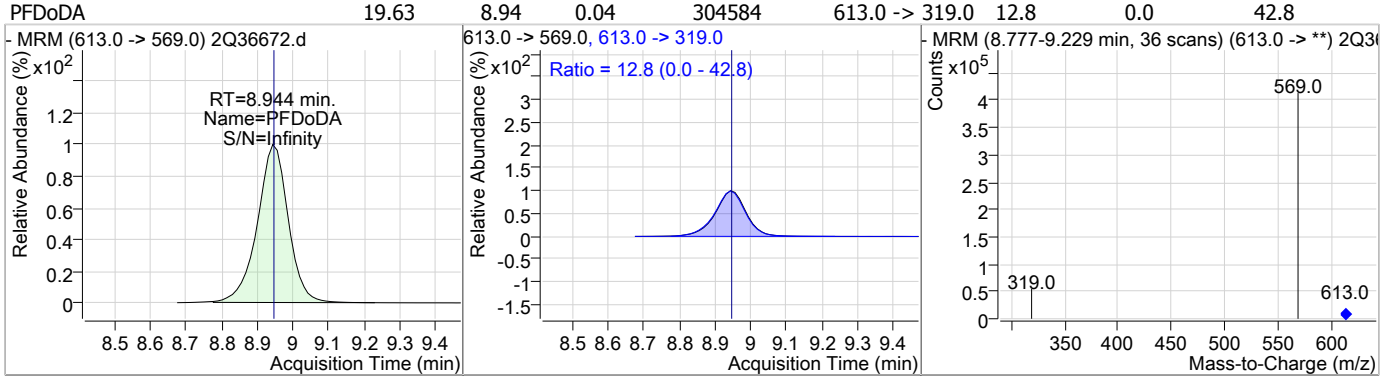
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.95	8.54	0.04	163919	633.0 -> 453.0	31.2	21.5	39.9



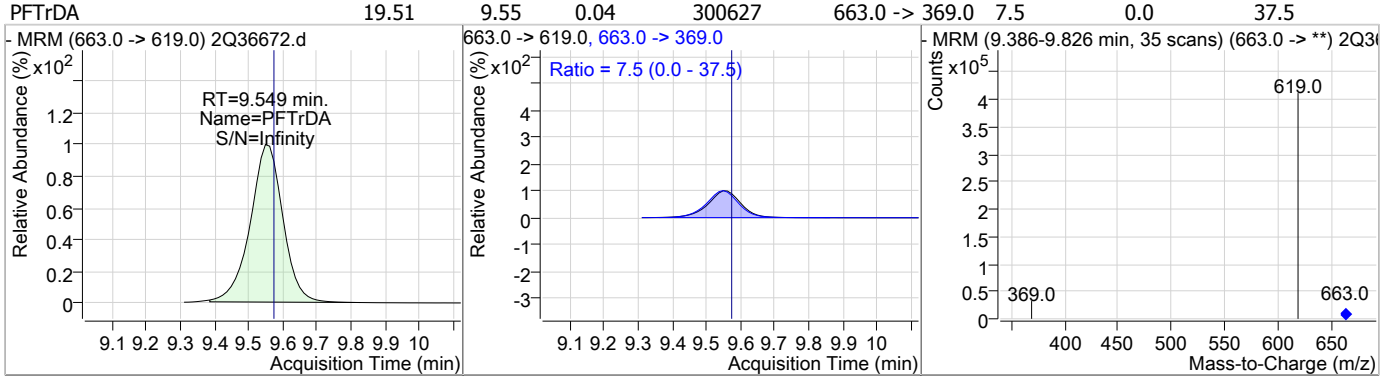
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	19.29	8.94	0.04	673643				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.63	8.94	0.04	304584	613.0 -> 319.0	12.8	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.51	9.55	0.04	300627	663.0 -> 369.0	7.5	0.0	37.5



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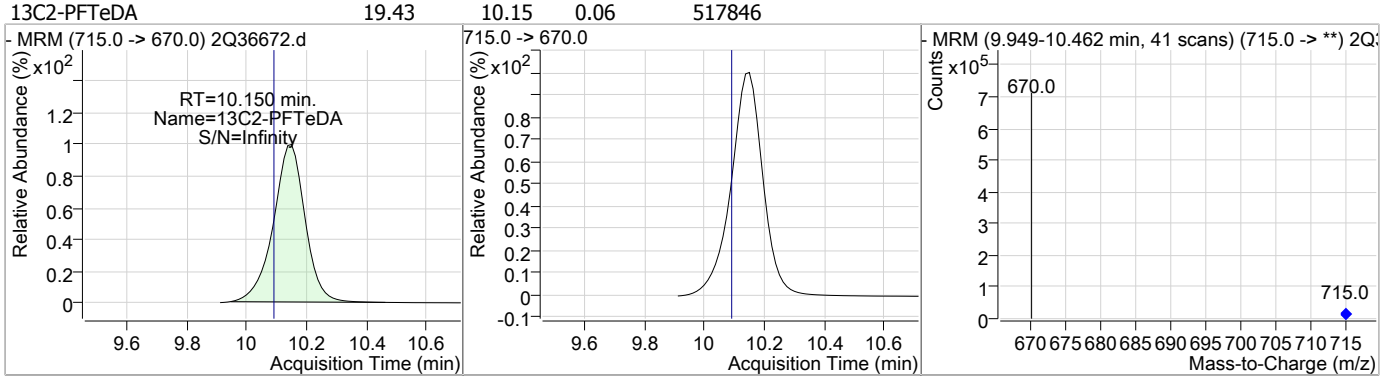
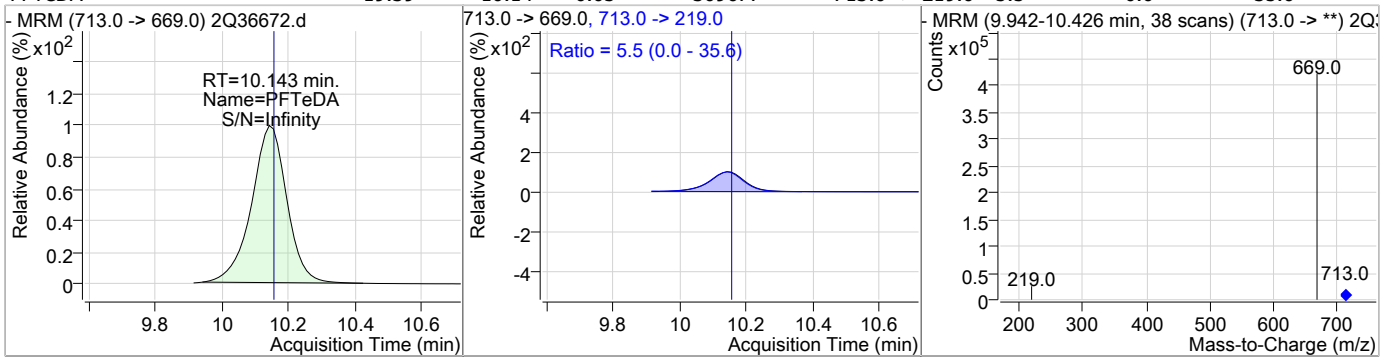
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	19.43	10.15	0.06	517846				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.39	10.14	0.05	309677	713.0 -> 219.0	5.5	0.0	35.6



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Manual Integration Approval Summary

Sample Number:	S2Q570-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36672.D	**Analyst approved:**	09/26/19 08:21 Nancy Saunders
Injection Time:	09/26/19 03:30	**Supervisor approved:**	09/26/19 14:11 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.32	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:24

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36733.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 7:48:42 PM
Sample Name	:	cc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76878,S2Q571,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.710	415.0 -> 370.0	471835	20.00	µg/L	0.013
13C4-PFOS	7.336	503.0 -> 80.0	64877	20.00	µg/L	0.025
M4-PFBA	2.065	217.0 -> 172.0	206441	20.00	µg/L	0.013
M5-PFPeA	3.762	268.0 -> 223.0	170556	20.00	µg/L	0.013
M5-PFHxA	5.026	318.0 -> 273.0	238779	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	305958	20.00	µg/L	0.025
M8-PFOA	6.708	421.0 -> 376.0	375355	20.00	µg/L	0.013
M9-PFNA	7.352	472.0 -> 427.0	395573	20.00	µg/L	0.013
M6-PFDA	7.878	519.0 -> 474.0	425228	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	544482	20.00	µg/L	0.013
M2-PFDoDA	8.961	615.0 -> 570.0	705621	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	595243	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	115556	20.00	µg/L	0.013
M3-PFBS	4.005	302.0 -> 99.0	27175	20.00	µg/L	0.013
M3-PFHxS	5.998	402.0 -> 99.0	29189	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	38024	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	120552	20.00	µg/L	0.013
M2-6:2FTS	6.705	429.0 -> 409.0	164598	20.00	µg/L	0.013
M2-8:2FTS	7.928	529.0 -> 509.0	111161	20.00	µg/L	0.013
M3-MeFOSAA	7.519	573.0 -> 419.0	65254	20.00	µg/L	0.000
M3-HFPO-DA	5.318	287.0 -> 169.0	249295	100.00	µg/L	0.025
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	120437	20.68	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C2-6:2FTS	6.705	429.0 -> 409.0	164260	20.72	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.6%		
13C2-8:2FTS	7.928	529.0 -> 509.0	111144	20.65	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C2-PFDoDA	8.961	615.0 -> 570.0	700702	20.07	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C2-PFTeDA	10.163	715.0 -> 670.0	585984	21.99	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 110.0%		
13C3-PFBS	4.005	302.0 -> 99.0	27137	19.85	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C3-PFHxS	5.998	402.0 -> 99.0	29176	19.80	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C4-PFBA	2.065	217.0 -> 172.0	205298	20.97	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%		
13C4-PFHpA	5.966	367.0 -> 322.0	305406	20.05	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C5-PFHxA	5.026	318.0 -> 273.0	238350	20.42	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.1%		
13C5-PFPeA	3.762	268.0 -> 223.0	170910	20.76	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.8%		
13C6-PFDA	7.878	519.0 -> 474.0	424547	20.06	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C7-PFUnDA	8.353	570.0 -> 525.0	542903	19.59 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.9%		
13C8-FOSA	7.003	506.0 -> 78.0	115549	20.31 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.5%		
13C8-PFOA	6.708	421.0 -> 376.0	374820	20.48 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C8-PFOS	7.334	507.0 -> 99.0	38023	19.53 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C9-PFNA	7.352	472.0 -> 427.0	396552	20.98 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.9%		
d3-MeFOSAA	7.519	573.0 -> 419.0	65157	19.94 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
M2-PFOA	6.710	415.0 -> 370.0	472772	20.02 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
M4-PFOS	7.336	503.0 -> 80.0	64732	19.96 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	249295	87.69 µg/L		0.025
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 87.7%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	70433	20.57 µg/L		96
6:2FTS	6.707	427.0 -> 407.0	83181	20.33 µg/L		99
8:2FTS	7.929	527.0 -> 507.0	60546	20.35 µg/L		98
EtFOSAA	7.644	584.0 -> 419.0	29766	21.74 µg/L		100
FOSA	7.006	498.0 -> 78.0	59090	19.74 µg/L		99
MeFOSAA	7.532	570.0 -> 419.0	34530	19.86 µg/L		100
PFBA	2.073	213.0 -> 169.0	36113	18.78 µg/L		100
PFBS	4.009	299.0 -> 80.0	41985	19.56 µg/L		100
PFDA	7.879	513.0 -> 469.0	209917	19.92 µg/L		98
PFDoDA	8.955	613.0 -> 569.0	320725	19.75 µg/L		100
PFDS	8.299	599.0 -> 80.0	15320	18.90 µg/L		99
PFHpA	5.969	363.0 -> 319.0	275773	19.77 µg/L		100
PFHpS	6.716	449.0 -> 80.0	31471	20.18 µg/L		99
PFHxA	5.028	313.0 -> 269.0	70621	19.25 µg/L		99
PFHxS	6.000	399.0 -> 80.0	34669	19.90 µg/L	m	99
PFNA	7.353	463.0 -> 419.0	236393	19.10 µg/L		100
PFNS	7.836	549.0 -> 80.0	24493	19.78 µg/L		98
PFOA	6.711	413.0 -> 369.0	197183	19.53 µg/L		100
PFOS	7.337	499.0 -> 80.0	34451	19.09 µg/L	m	99
PFPeA	3.765	263.0 -> 219.0	165559	19.23 µg/L		100
PFPeS	5.133	349.0 -> 80.0	23768	20.05 µg/L		99
PFTeDA	10.156	713.0 -> 669.0	345665	18.90 µg/L		100
PFTrDA	9.574	663.0 -> 619.0	322934	18.30 µg/L		100
PFUnDA	8.356	563.0 -> 519.0	255512	19.93 µg/L		99
11Cl-PF3OUdS	8.548	631.0 -> 451.0	168602	18.62 µg/L		99
9Cl-PF3ONS	7.597	531.0 -> 351.0	29106	19.33 µg/L		99
ADONA	6.065	377.0 -> 251.0	331653	18.46 µg/L		100
HFPO-DA	5.310	329.0 -> 169.0	260656	101.51 µg/L		99

 # = Qualifier out of range, m = manually integrated, + = Area summed

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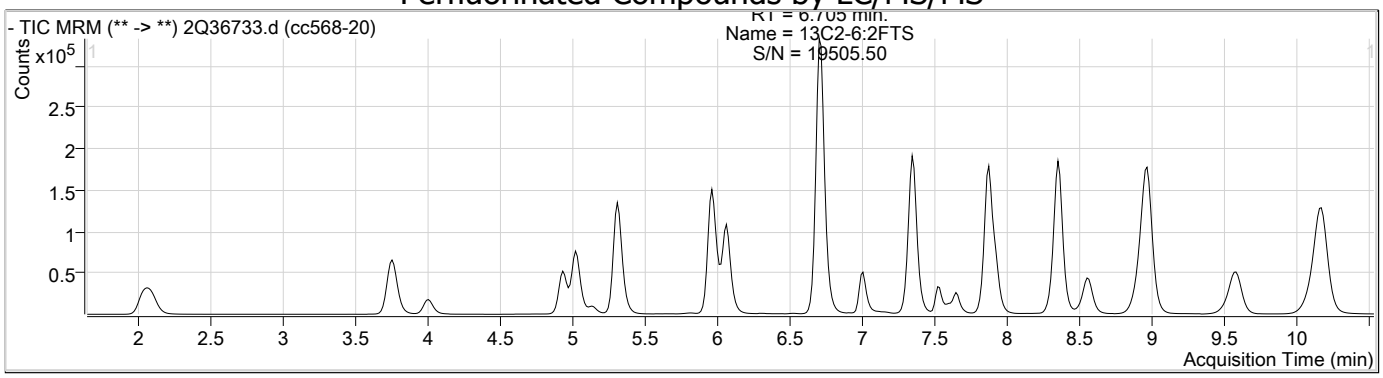
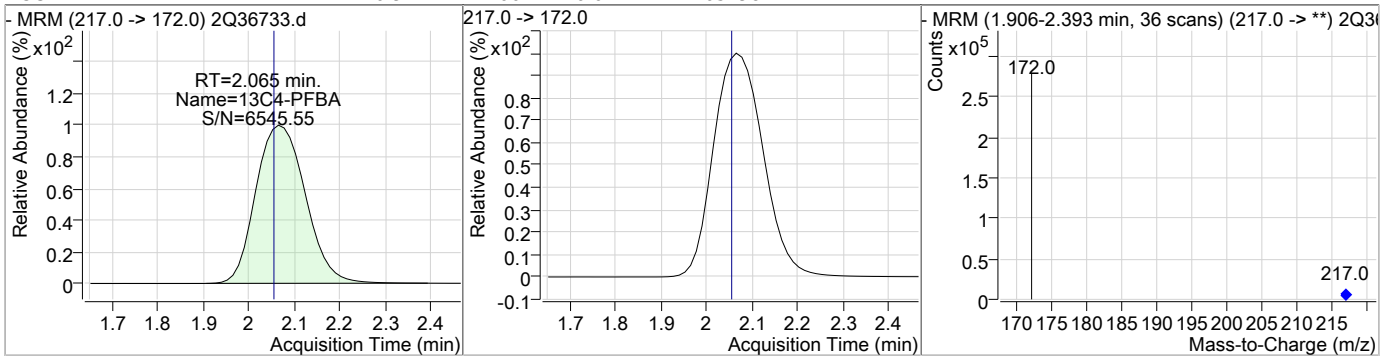
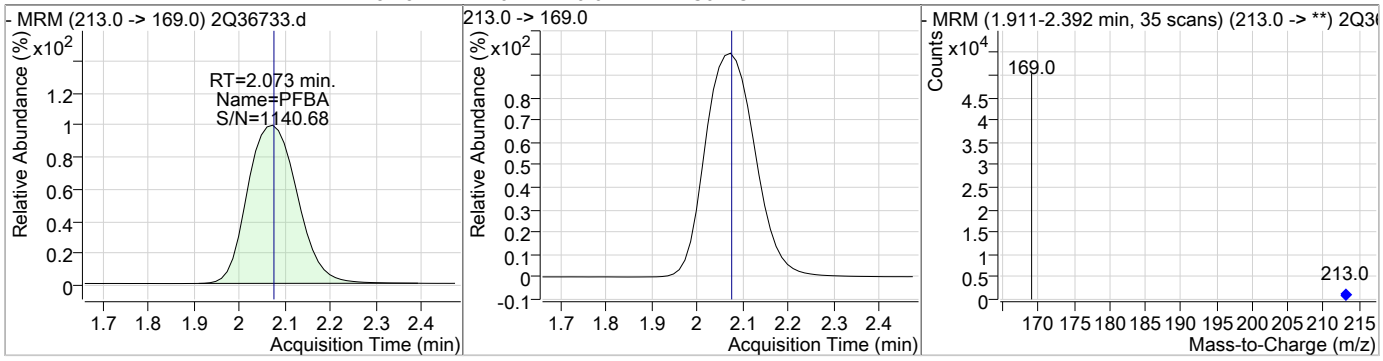
Perfluorinated Compounds by LC/MS/MS



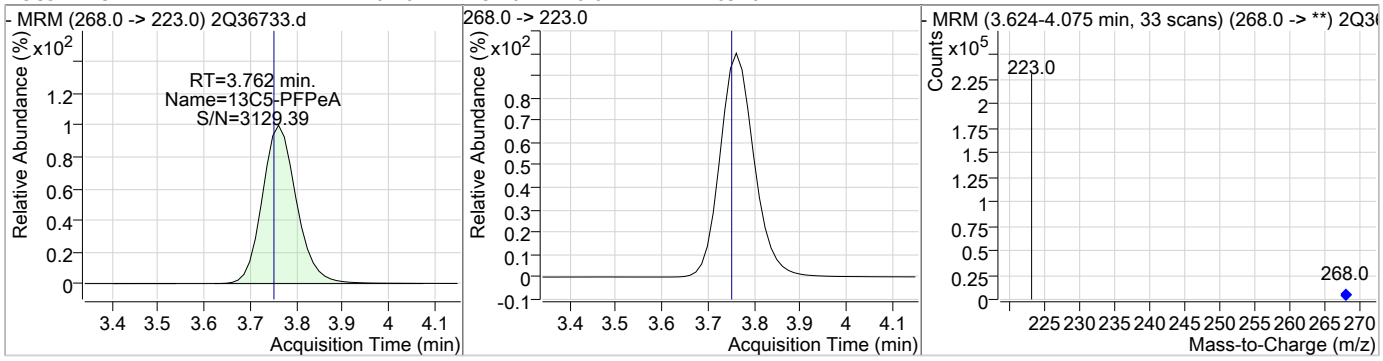
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.97	2.06	0.01	205298				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.78	2.07	0.01	36113				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.76	3.76	0.01	170910				



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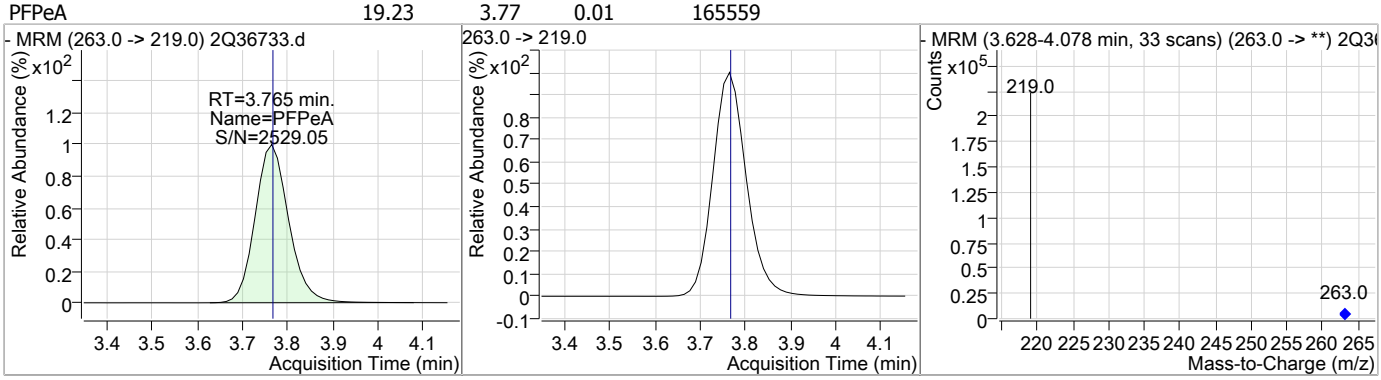
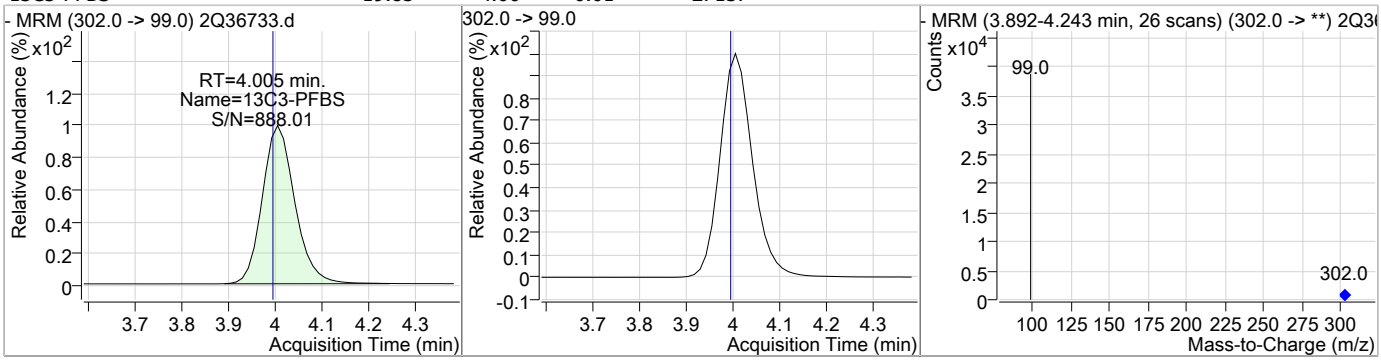
Perfluorinated Compounds by LC/MS/MS

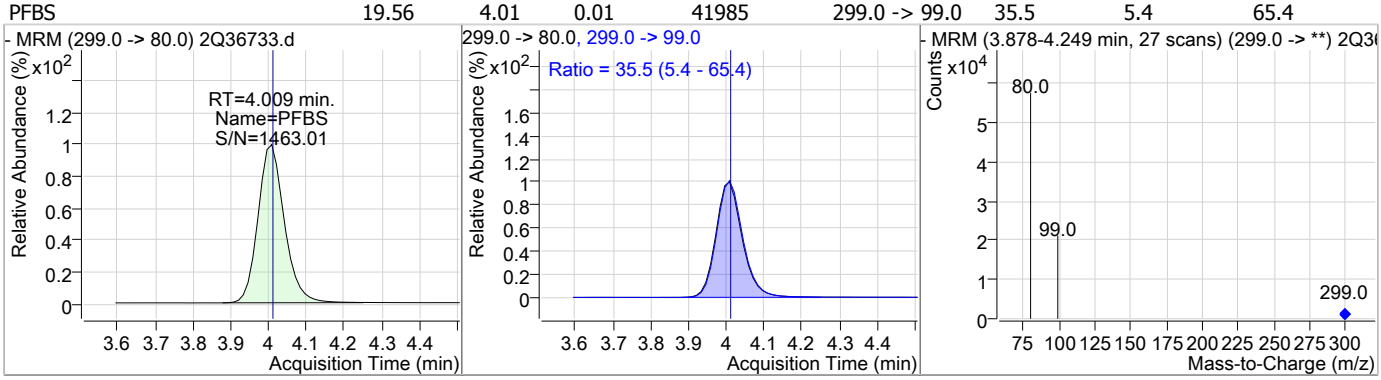
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.23	3.77	0.01	165559				



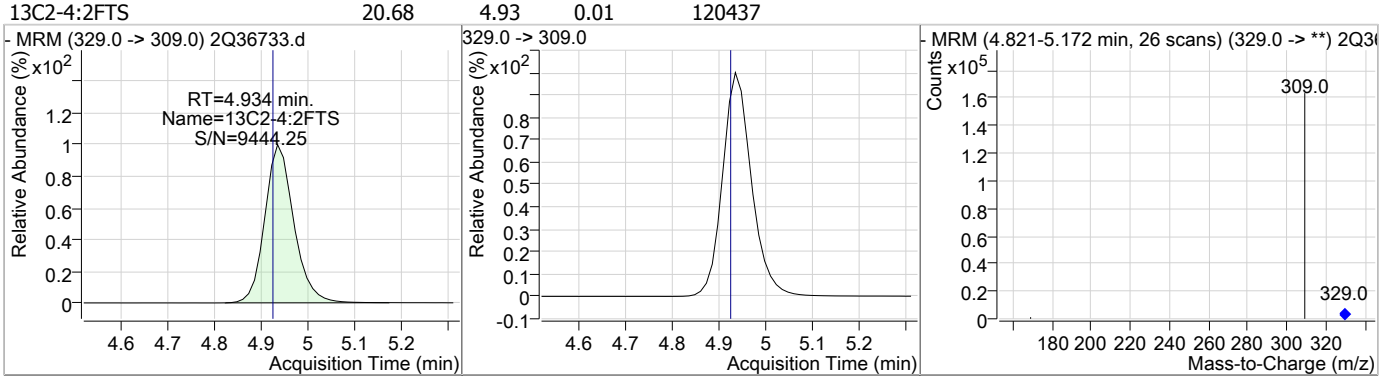
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.85	4.00	0.01	27137				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.56	4.01	0.01	41985	299.0 -> 99.0	35.5	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	20.68	4.93	0.01	120437				



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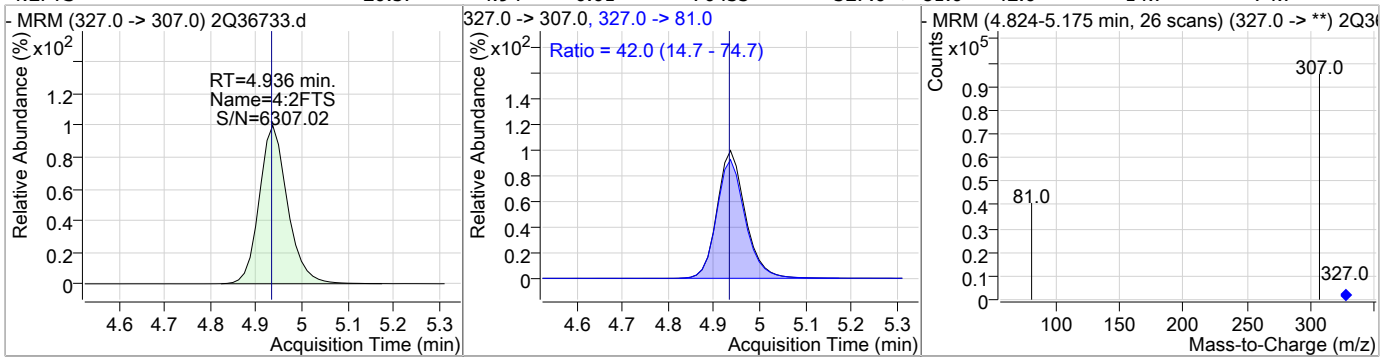
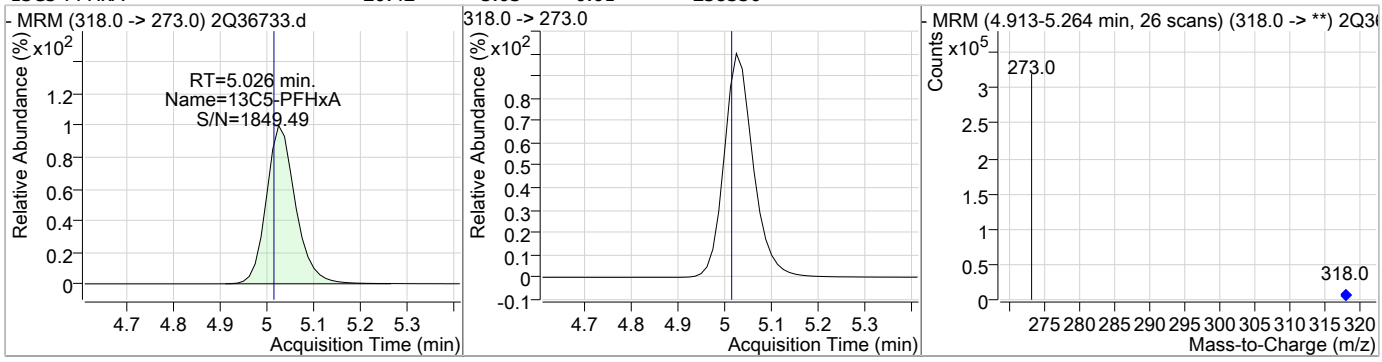
Perfluorinated Compounds by LC/MS/MS

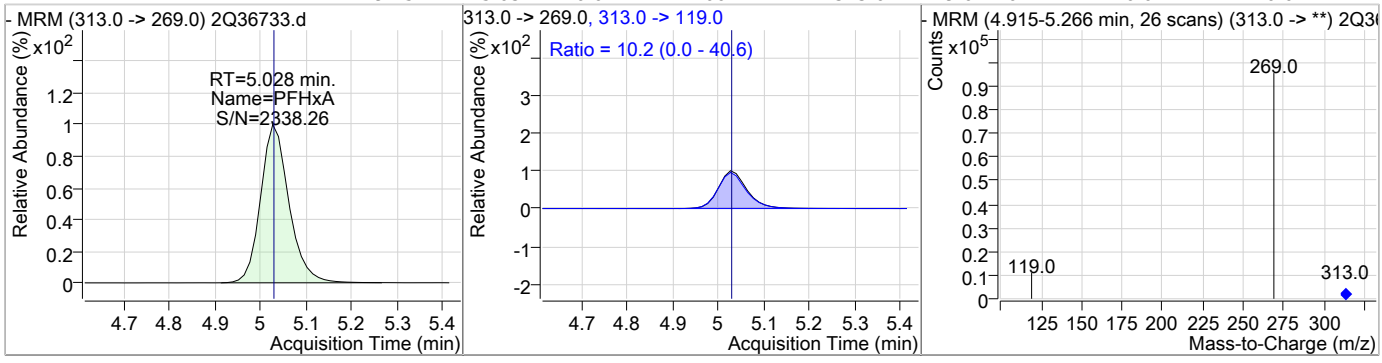
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.57	4.94	0.01	70433	327.0 -> 81.0	42.0	14.7	74.7



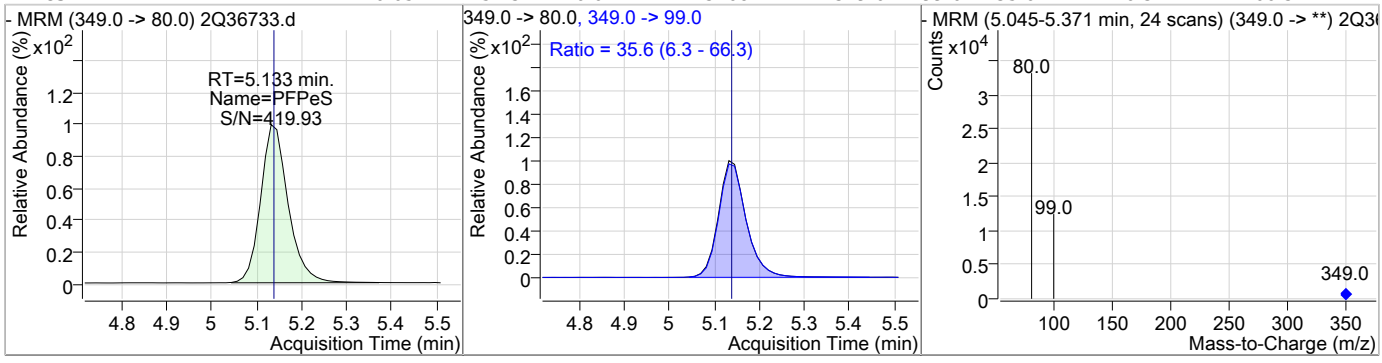
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.42	5.03	0.01	238350				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.25	5.03	0.01	70621	313.0 -> 119.0	10.2	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	20.05	5.13	0.01	23768	349.0 -> 99.0	35.6	6.3	66.3



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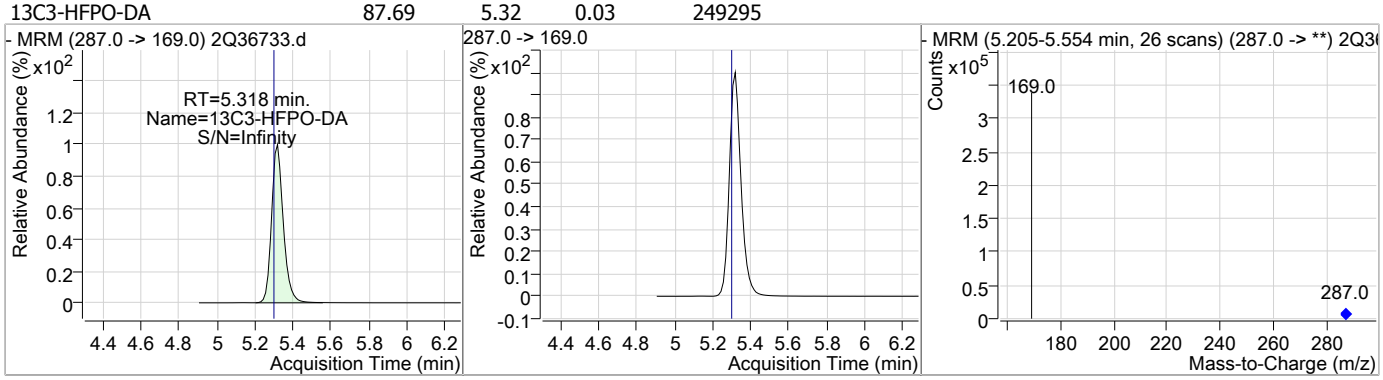
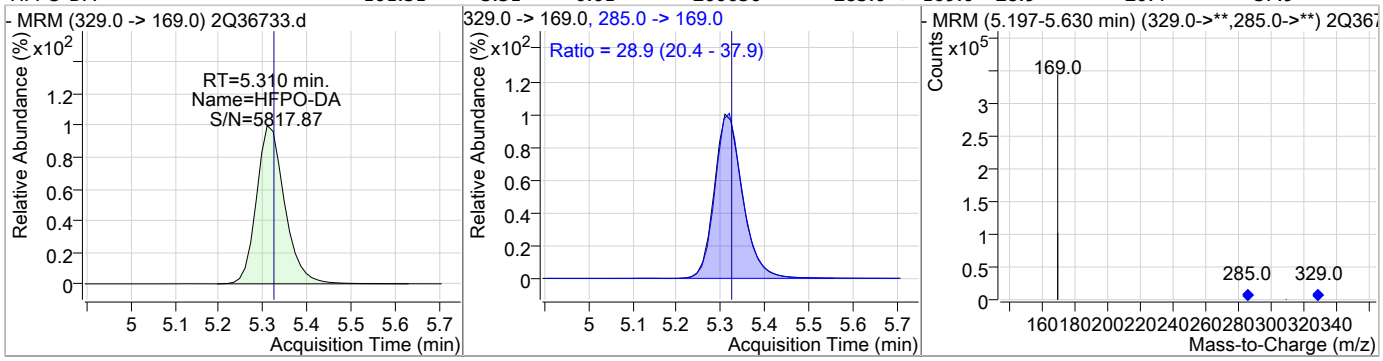
Perfluorinated Compounds by LC/MS/MS

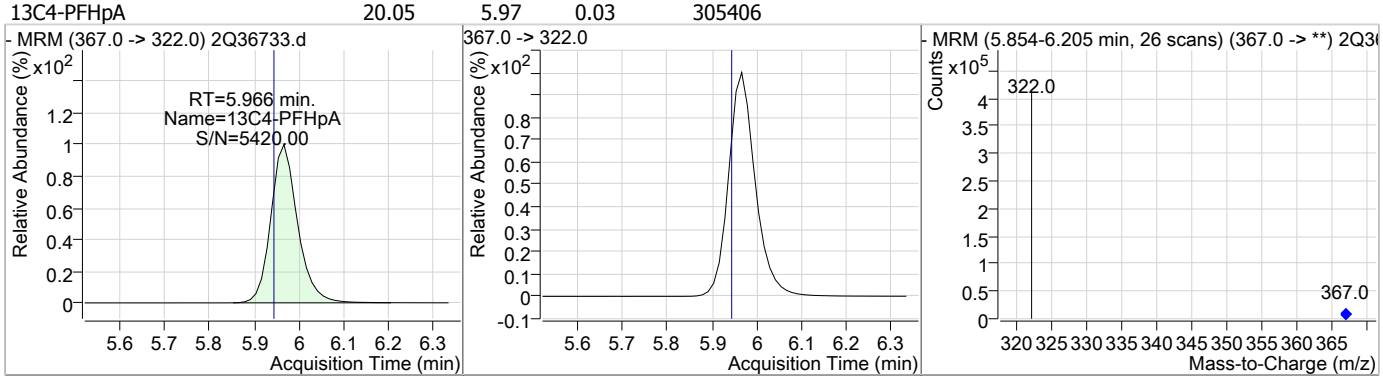
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	87.69	5.32	0.03	249295				



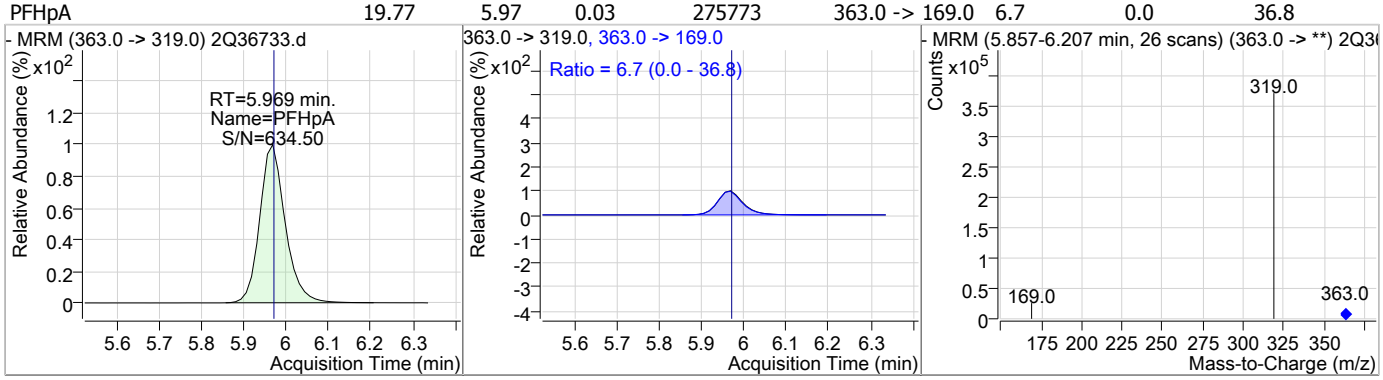
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	101.51	5.31	0.01	260656	285.0 -> 169.0	28.9	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.05	5.97	0.03	305406				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.77	5.97	0.03	275773	363.0 -> 169.0	6.7	0.0	36.8



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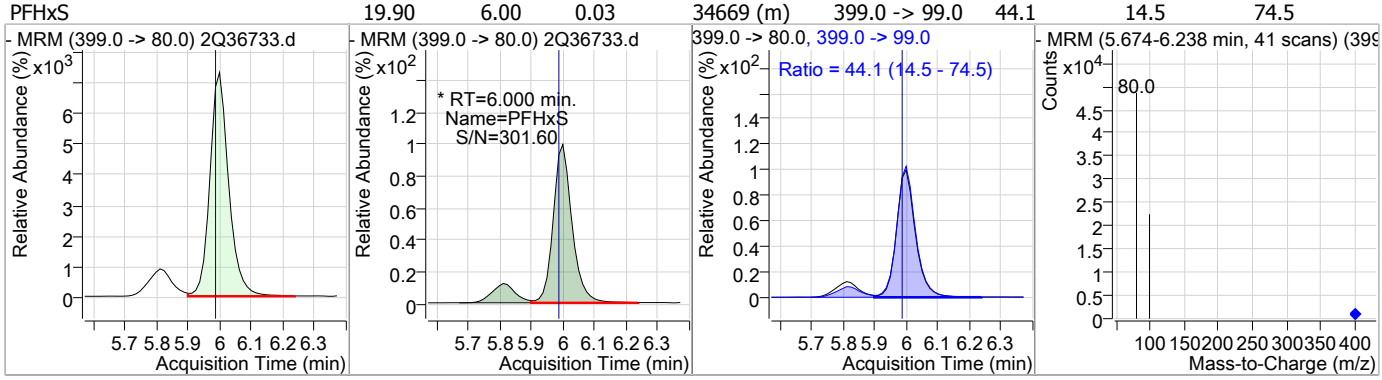
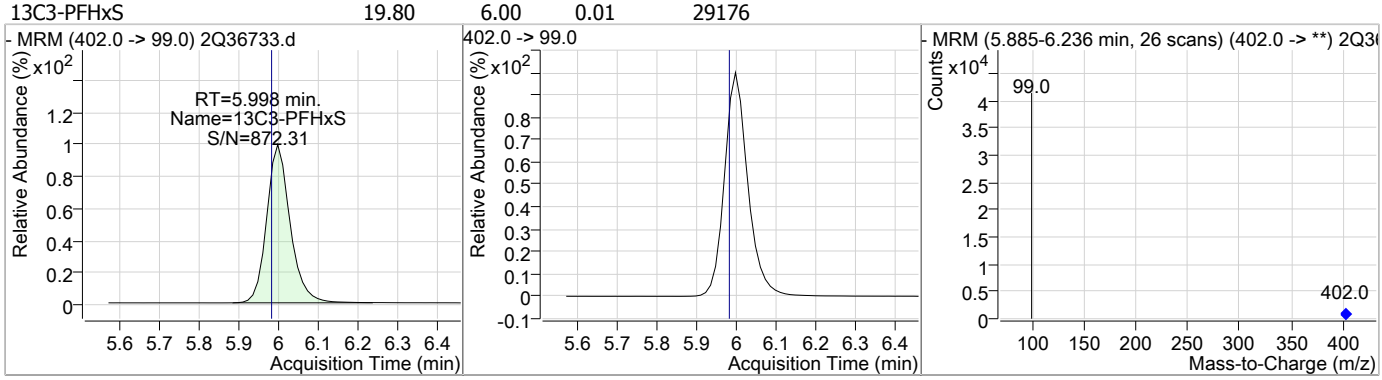
Perfluorinated Compounds by LC/MS/MS

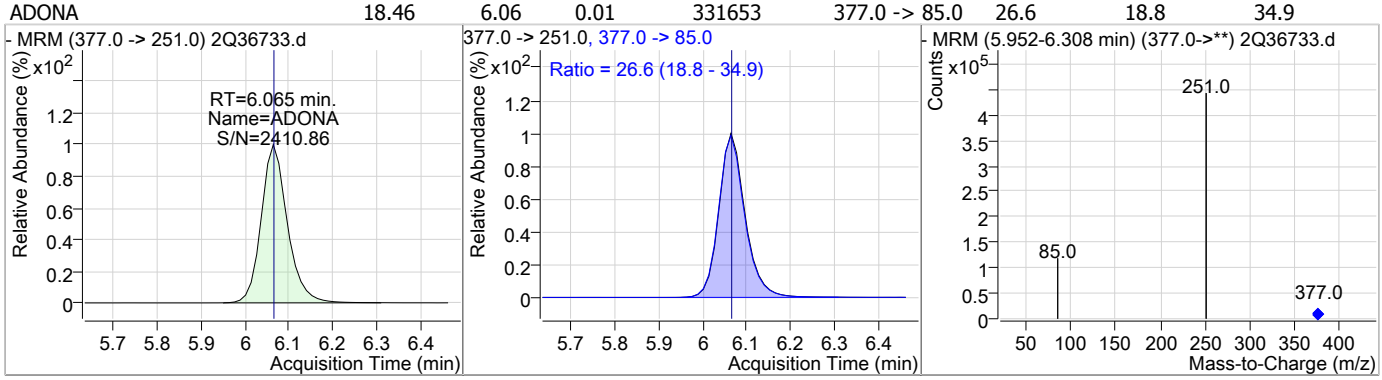
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.90	6.00	0.03	34669 (m)	399.0 -> 99.0	44.1	14.5	74.5



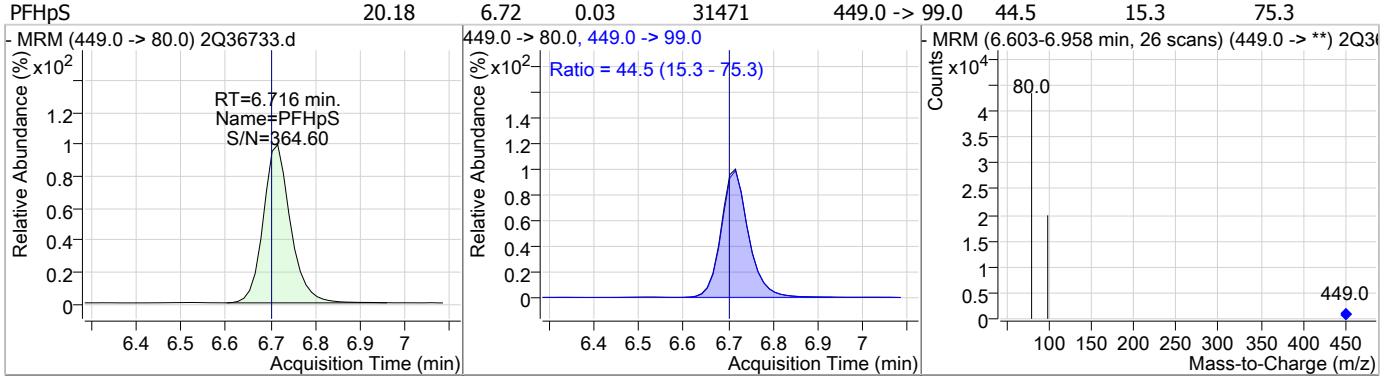
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.80	6.00	0.01	29176				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.46	6.06	0.01	331653	377.0 -> 85.0	26.6	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.18	6.72	0.03	31471	449.0 -> 99.0	44.5	15.3	75.3



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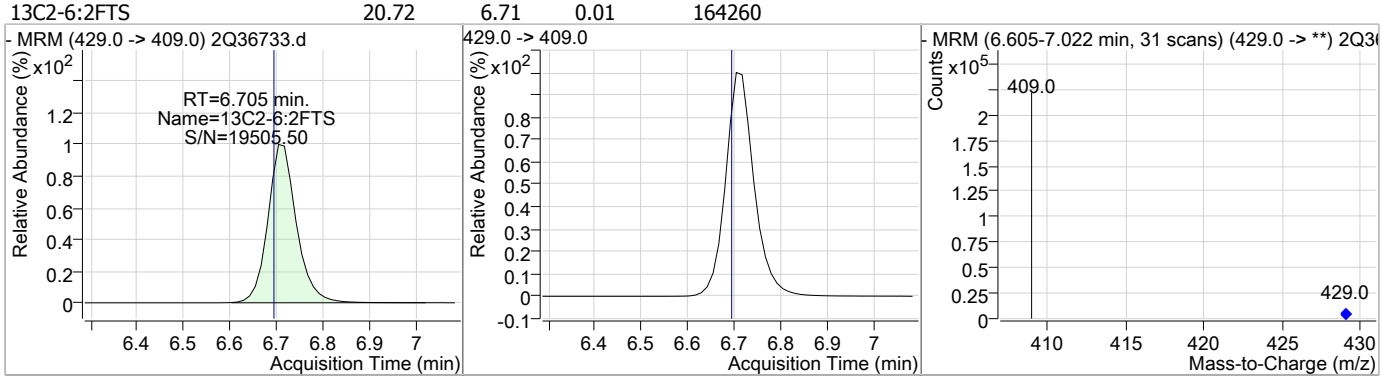
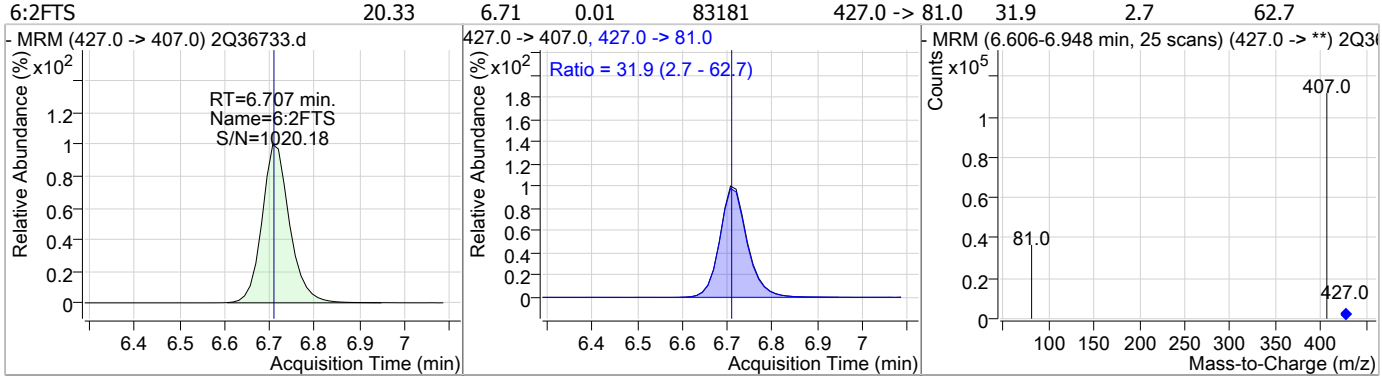
Perfluorinated Compounds by LC/MS/MS

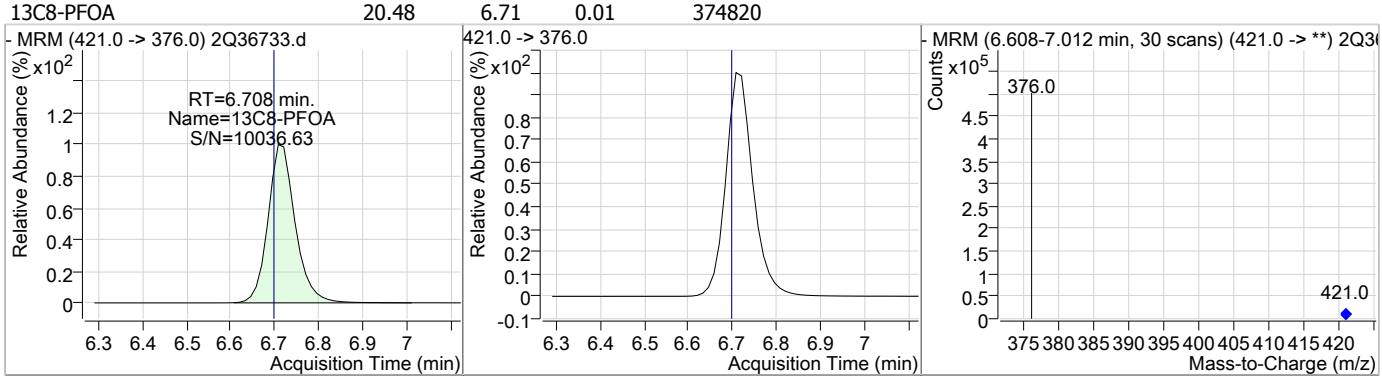
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.72	6.71	0.01	164260				



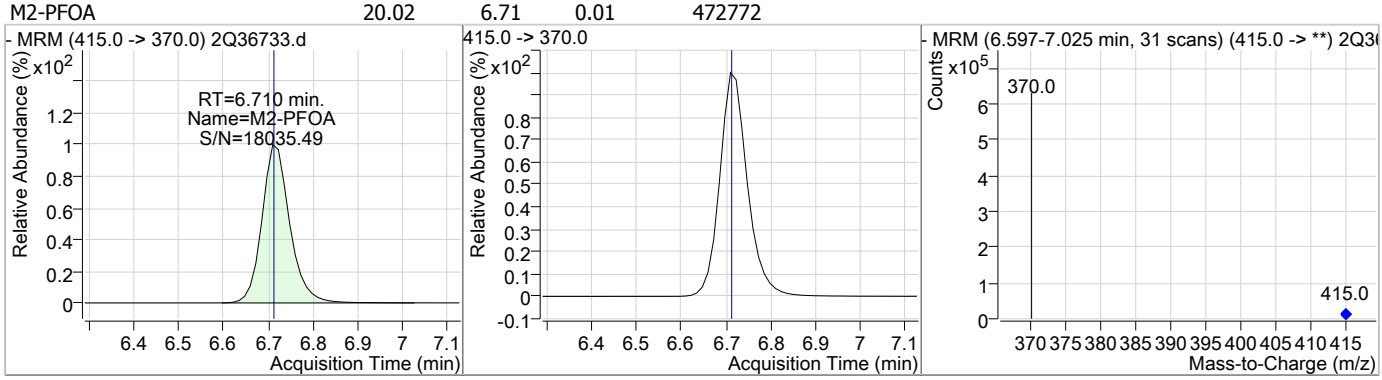
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.33	6.71	0.01	83181	427.0 -> 81.0	31.9	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.48	6.71	0.01	374820				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.02	6.71	0.01	472772				



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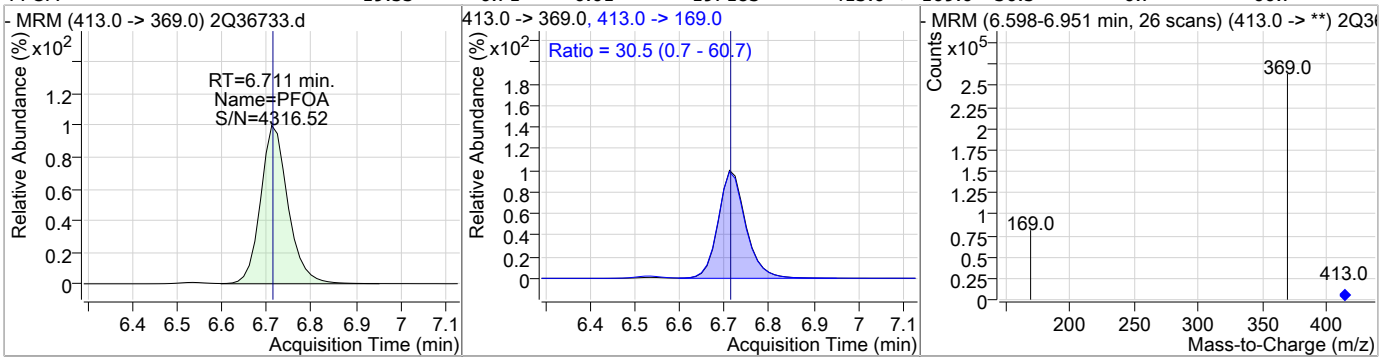
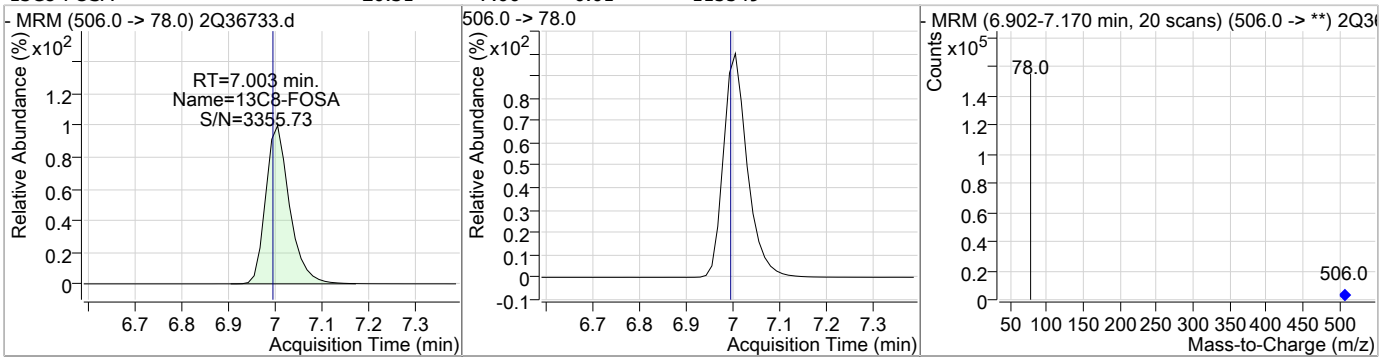
Perfluorinated Compounds by LC/MS/MS

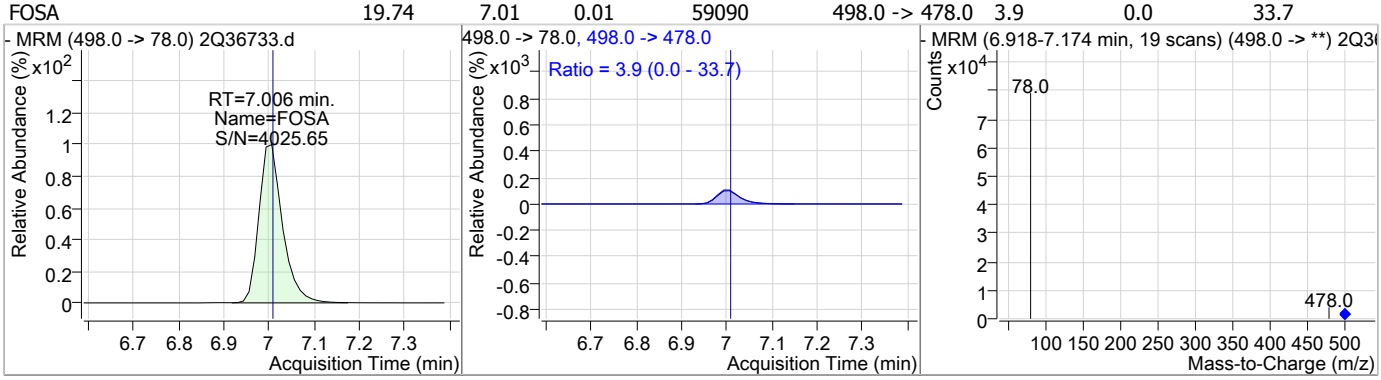
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.53	6.71	0.01	197183	413.0 -> 169.0	30.5	0.7	60.7



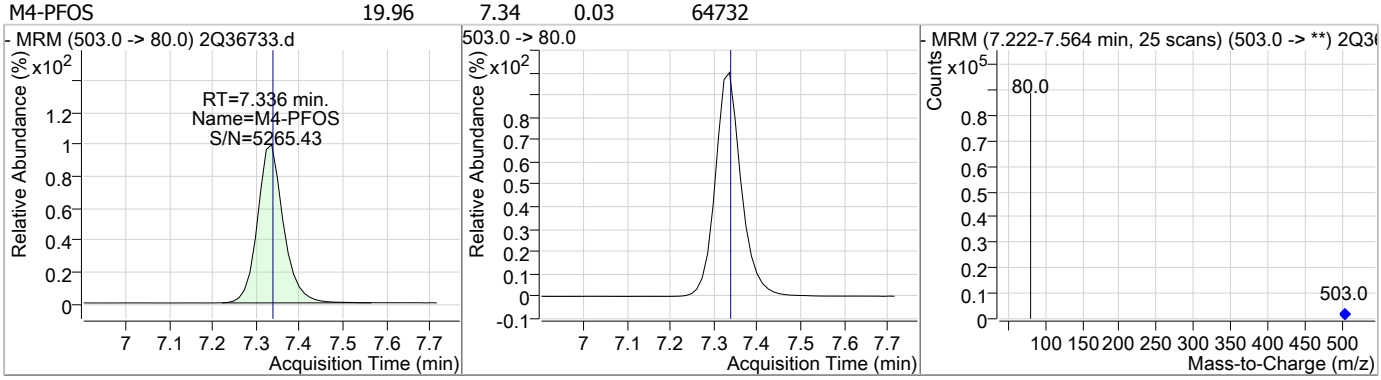
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.31	7.00	0.01	115549				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.74	7.01	0.01	59090	498.0 -> 478.0	3.9	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.96	7.34	0.03	64732				



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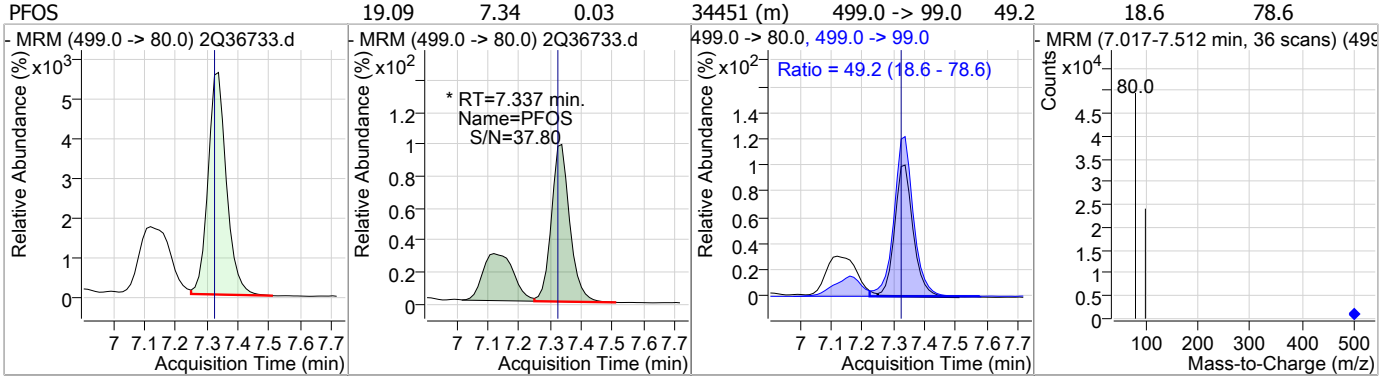
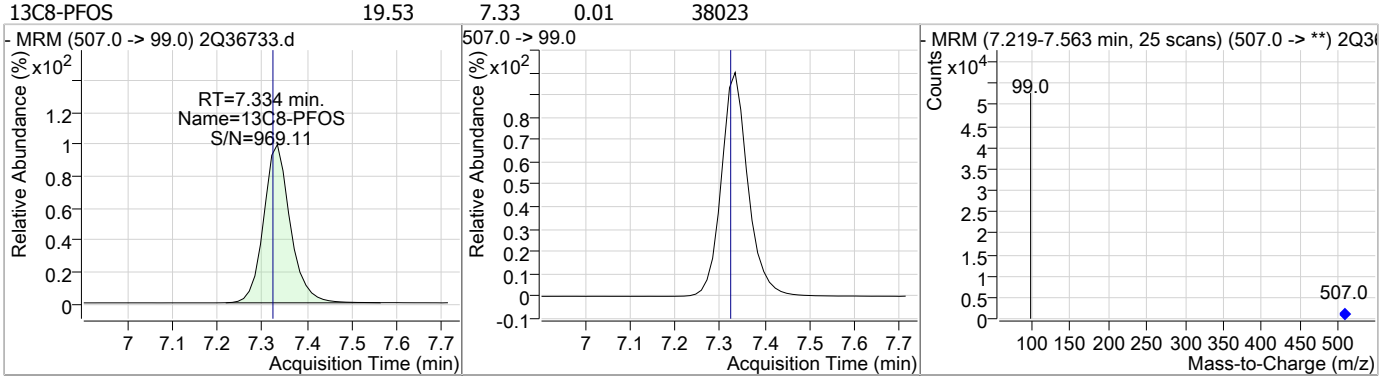
Perfluorinated Compounds by LC/MS/MS

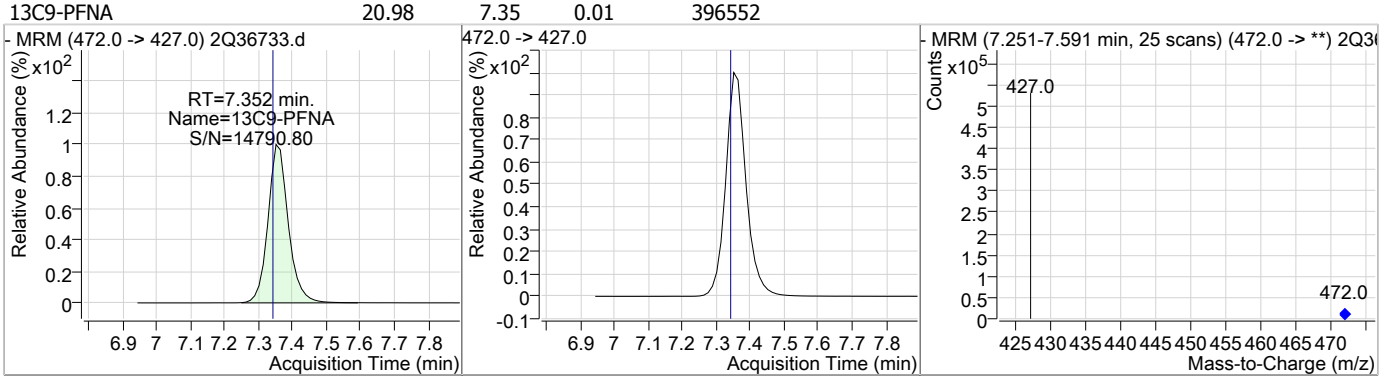
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.09	7.34	0.03	34451 (m)	499.0 -> 99.0	49.2	18.6	78.6



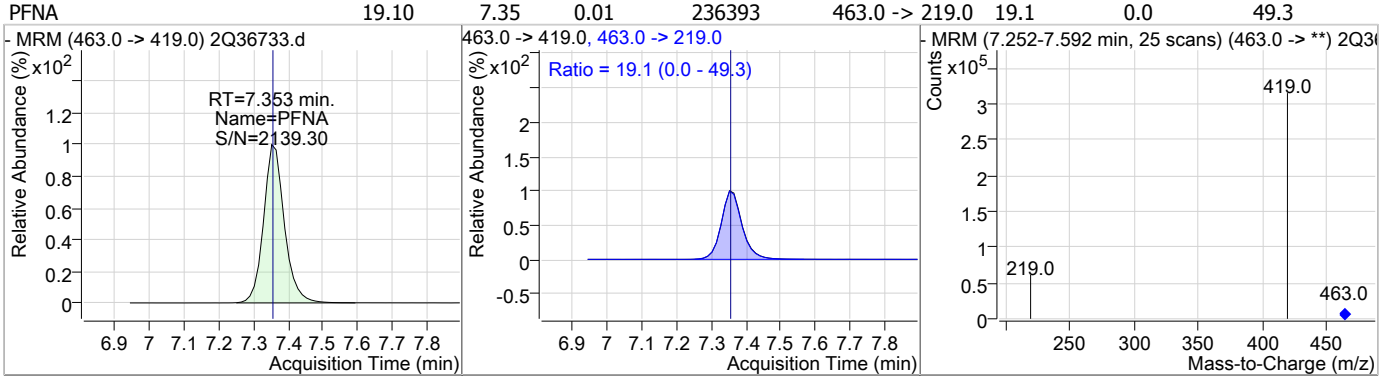
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.53	7.33	0.01	38023				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.98	7.35	0.01	396552				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.10	7.35	0.01	236393	463.0 -> 219.0	19.1	0.0	49.3



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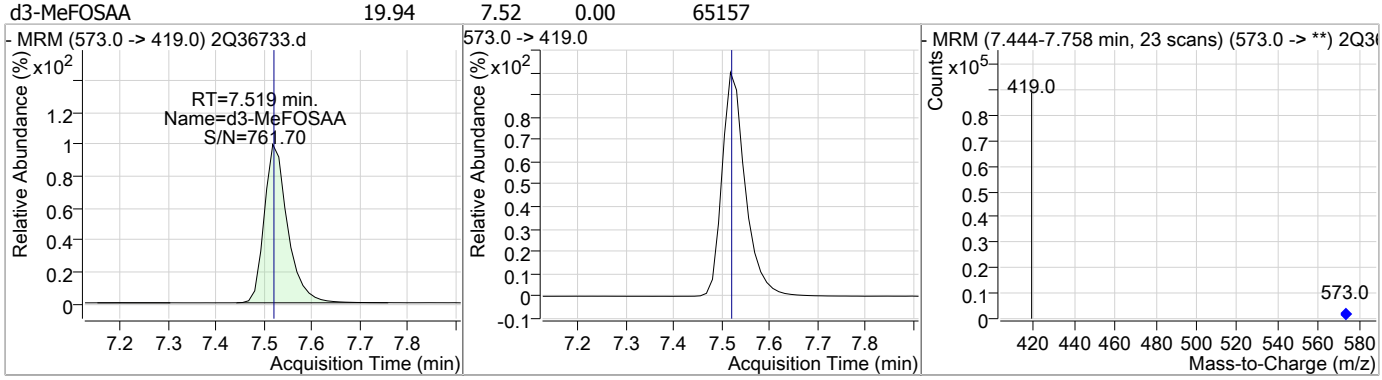
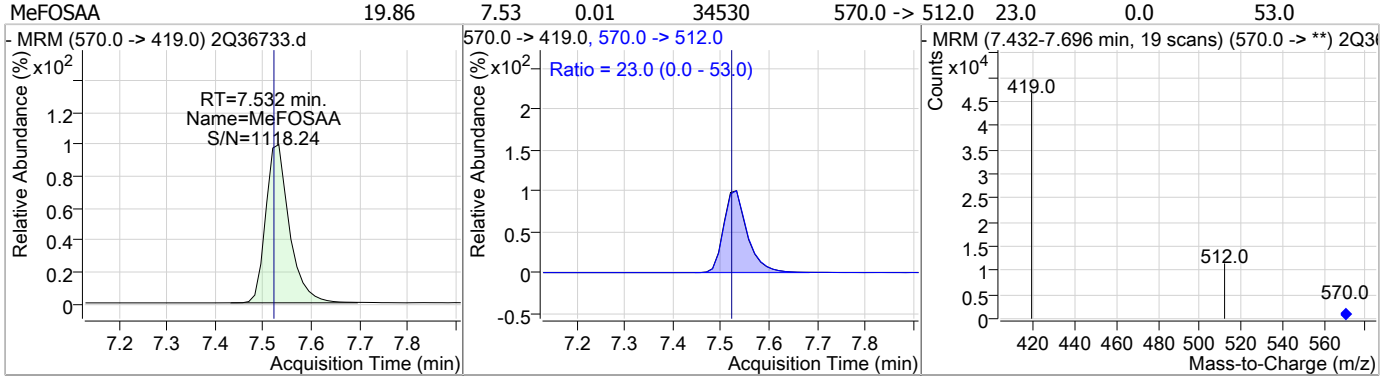
Perfluorinated Compounds by LC/MS/MS

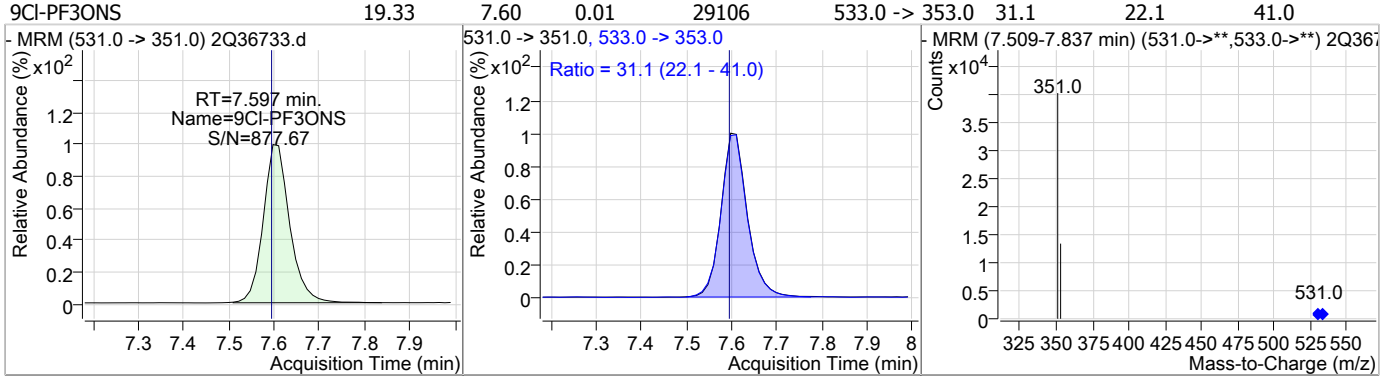
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.94	7.52	0.00	65157				



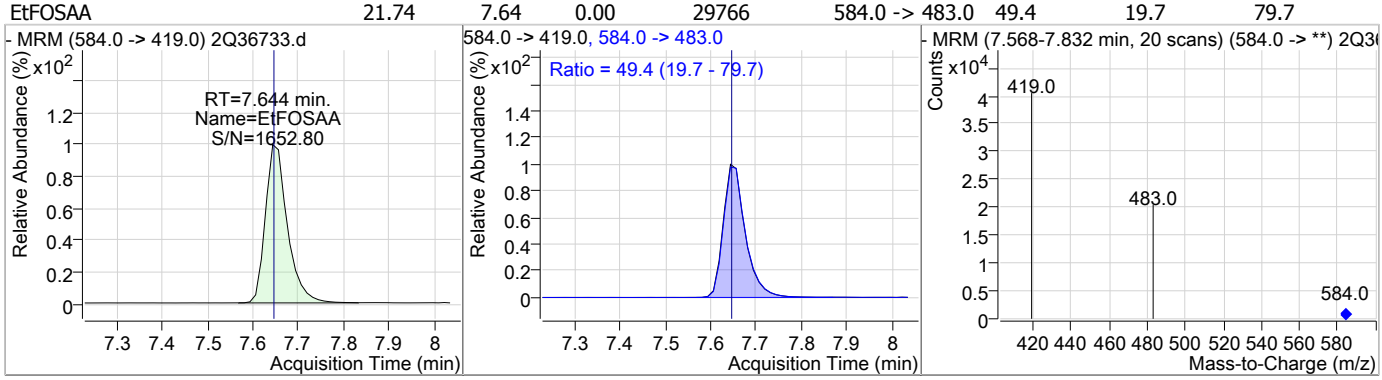
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.86	7.53	0.01	34530	570.0 -> 512.0	23.0	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	19.33	7.60	0.01	29106	533.0 -> 353.0	31.1	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.74	7.64	0.00	29766	584.0 -> 483.0	49.4	19.7	79.7



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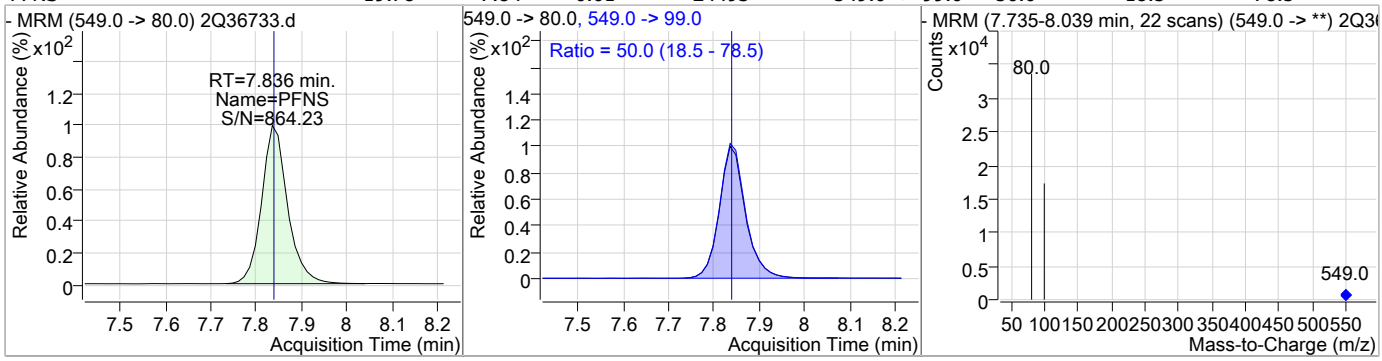
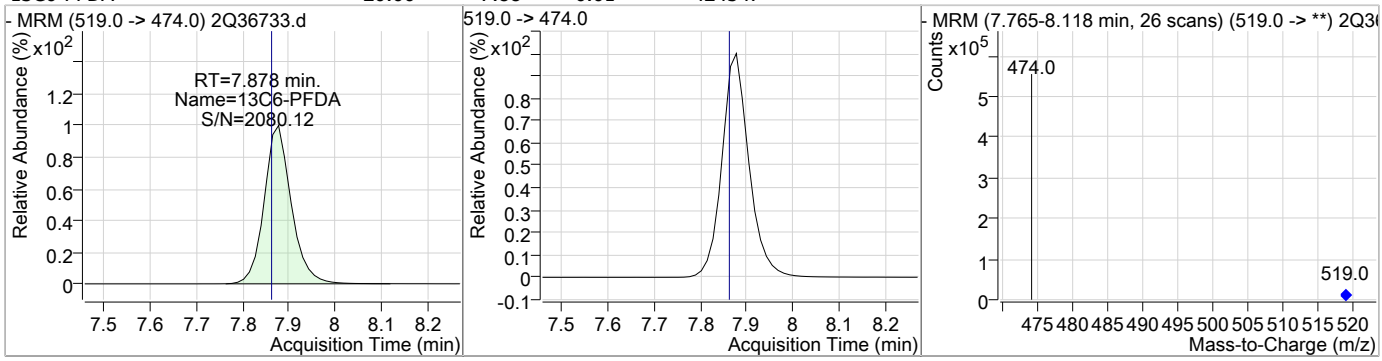
Perfluorinated Compounds by LC/MS/MS

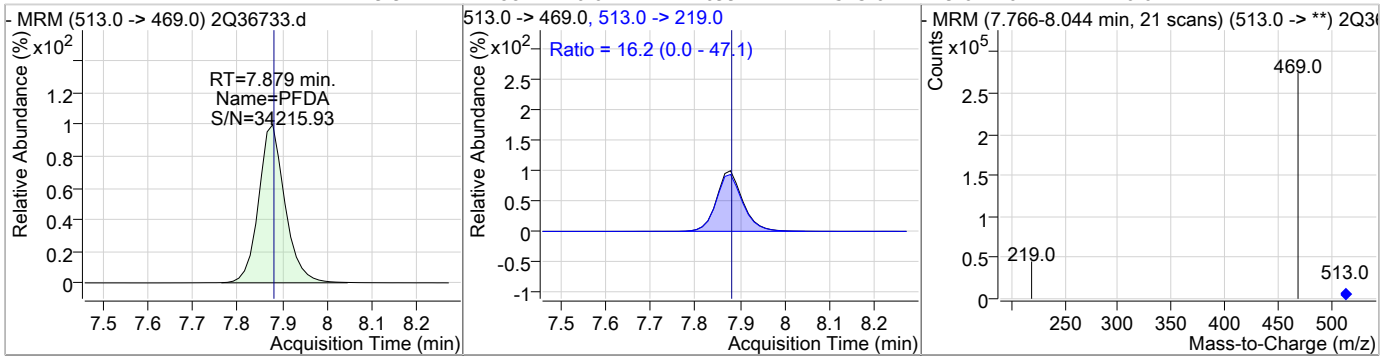
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.78	7.84	0.01	24493	549.0 -> 99.0	50.0	18.5	78.5



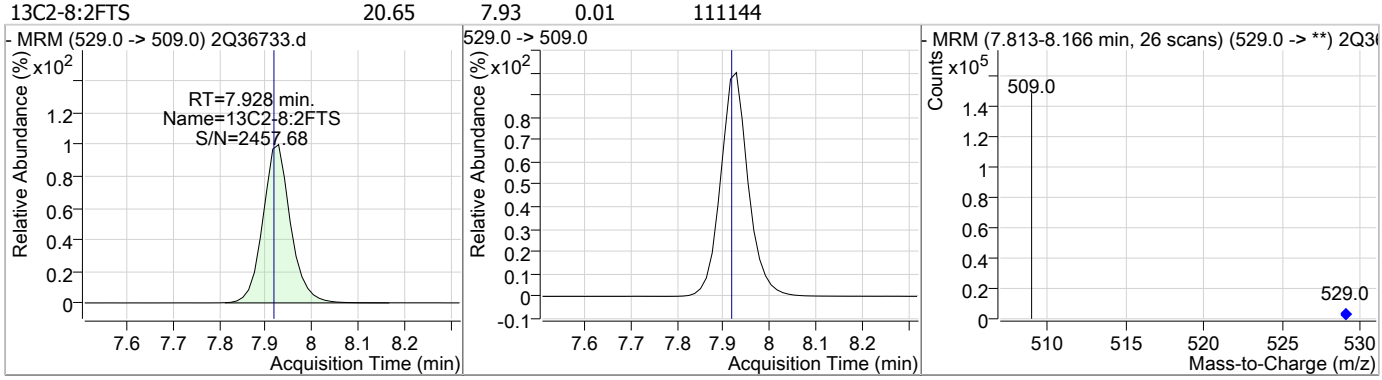
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.06	7.88	0.01	424547				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.92	7.88	0.01	209917	513.0 -> 219.0	16.2	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.65	7.93	0.01	111144				



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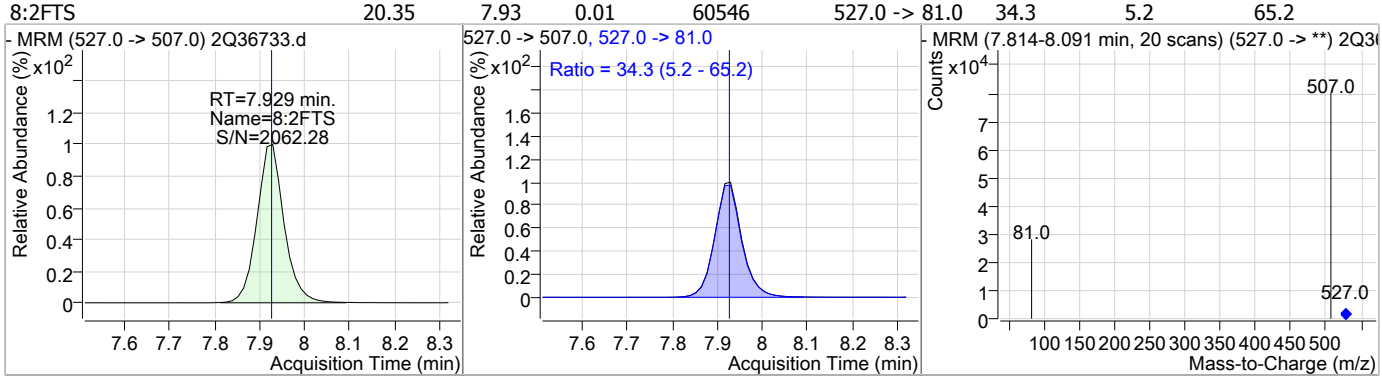
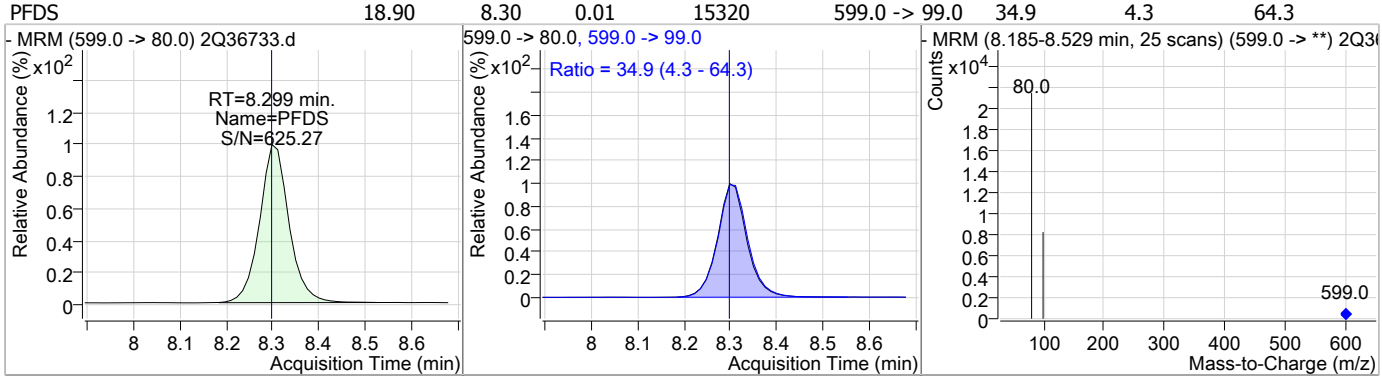
Perfluorinated Compounds by LC/MS/MS

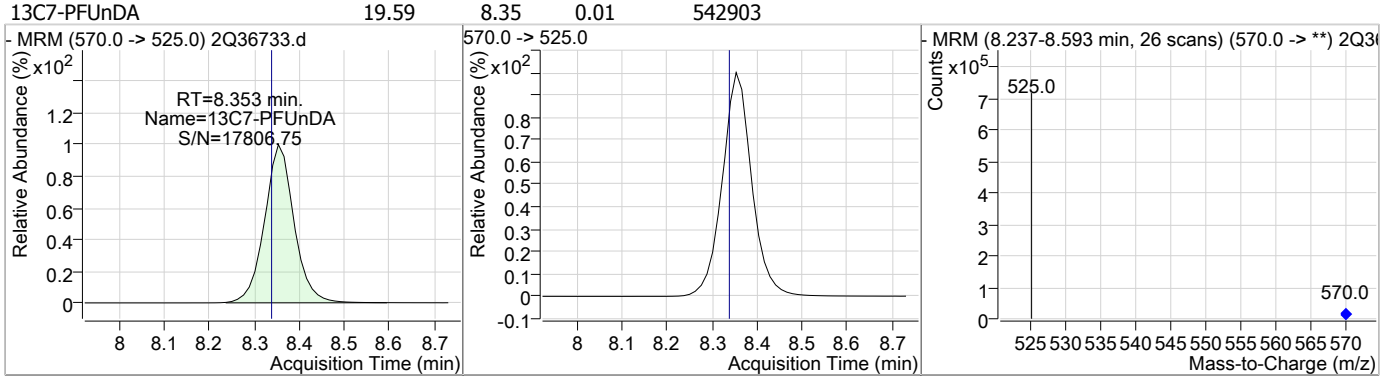
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.35	7.93	0.01	60546	527.0 -> 81.0	34.3	5.2	65.2



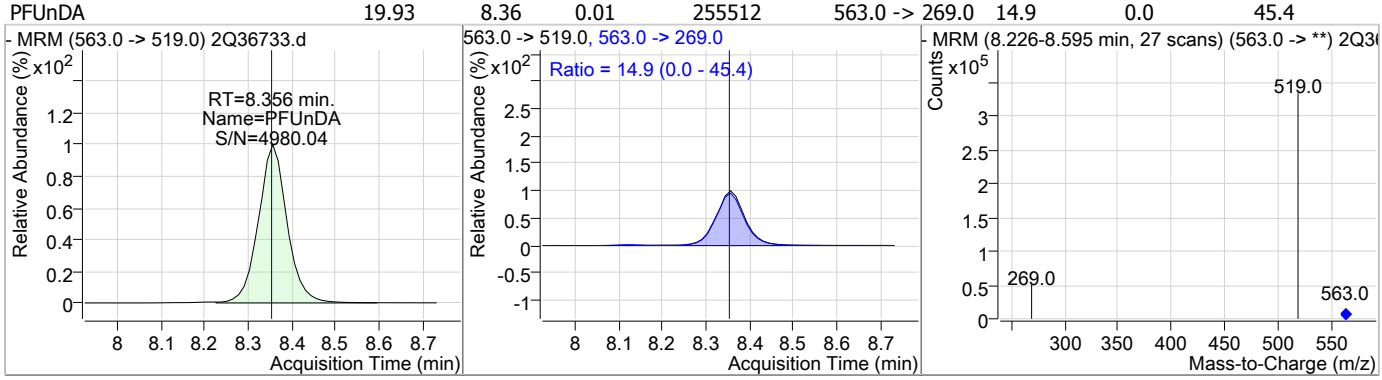
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.90	8.30	0.01	15320	599.0 -> 99.0	34.9	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.59	8.35	0.01	542903				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.93	8.36	0.01	255512	563.0 -> 269.0	14.9	0.0	45.4



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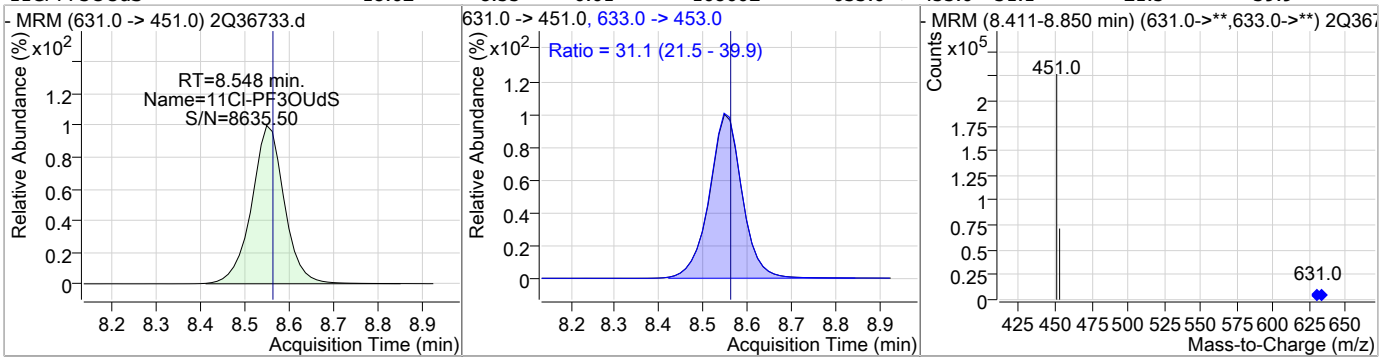
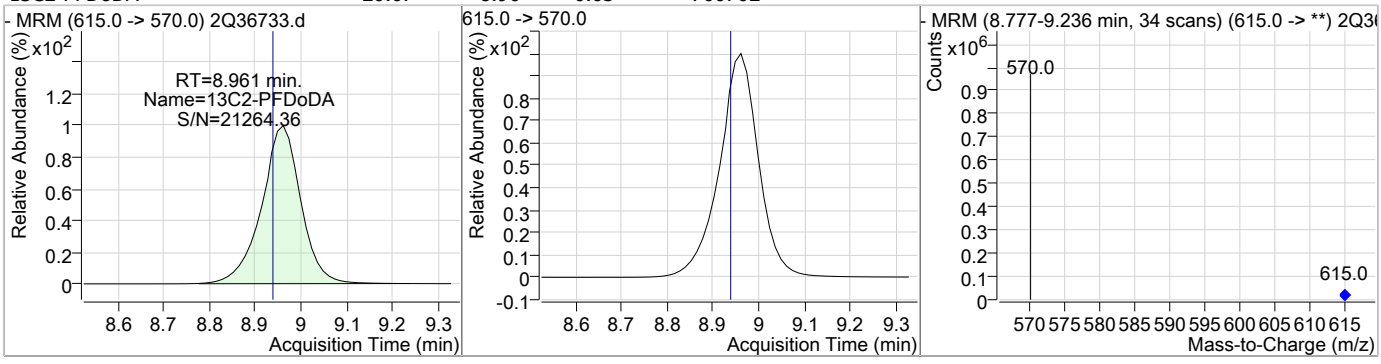
Perfluorinated Compounds by LC/MS/MS

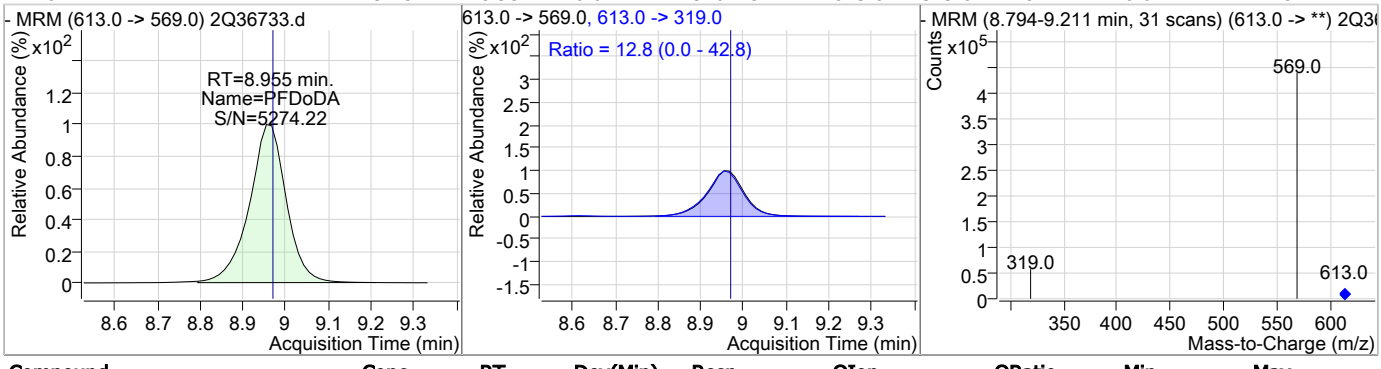
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.62	8.55	0.01	168602	633.0 -> 453.0	31.1	21.5	39.9



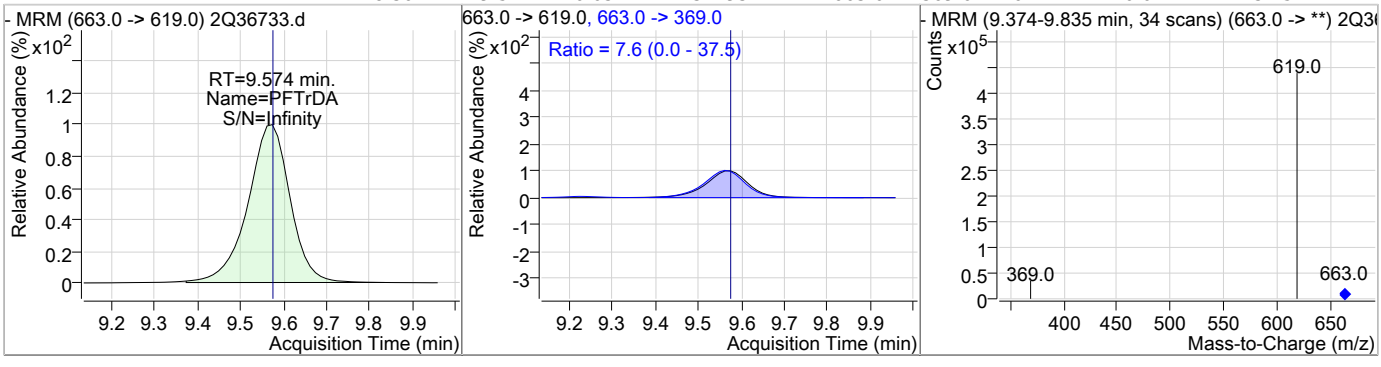
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.07	8.96	0.03	700702				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.75	8.95	0.01	320725	613.0 -> 319.0	12.8	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	18.30	9.57	0.03	322934	663.0 -> 369.0	7.6	0.0	37.5



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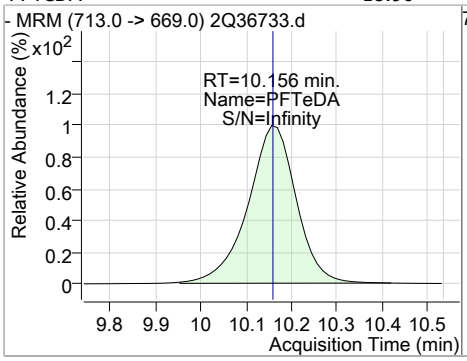
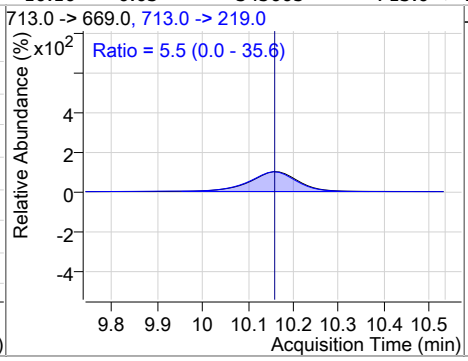
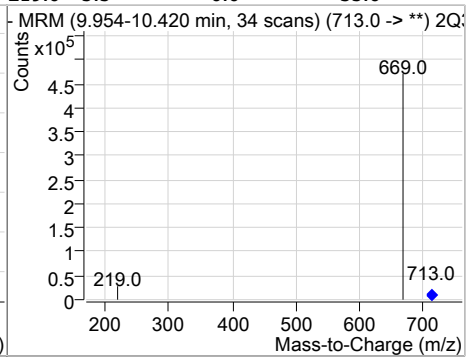
Perfluorinated Compounds by LC/MS/MS

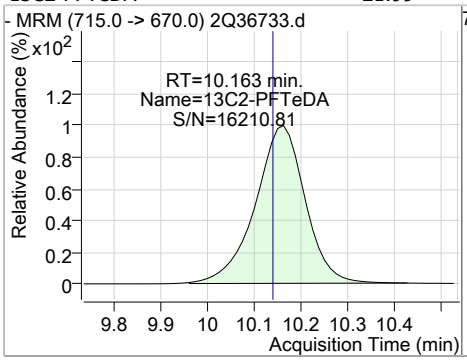
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.90	10.16	0.03	345665	713.0 -> 219.0	5.5	0.0	35.6

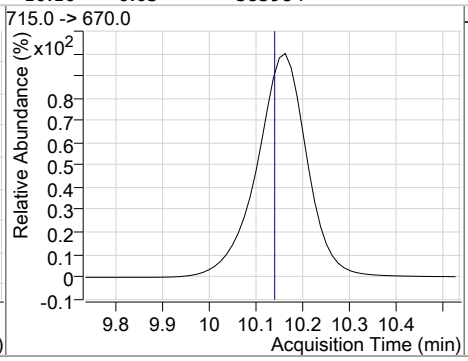


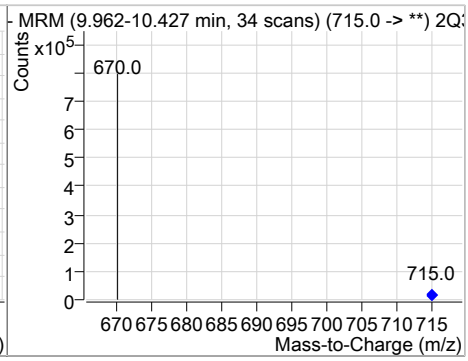




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	21.99	10.16	0.03	585984				







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Manual Integration Approval Summary

Sample Number:	S2Q571-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36733.D	**Analyst approved:**	09/27/19 10:10 Natasha Gumtie
Injection Time:	09/26/19 19:48	**Supervisor approved:**	09/27/19 15:24 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.00	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:24

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36741.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 9:55:12 PM
Sample Name	:	cc568-20
Vial	:	Vial 7
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76878,S2Q571,120,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.710	415.0 -> 370.0	475383	20.00	µg/L	0.013
13C4-PFOS	7.336	503.0 -> 80.0	65140	20.00	µg/L	0.025
M4-PFBA	2.065	217.0 -> 172.0	206898	20.00	µg/L	0.013
M5-PFPeA	3.762	268.0 -> 223.0	171115	20.00	µg/L	0.013
M5-PFHxA	5.026	318.0 -> 273.0	239789	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	307850	20.00	µg/L	0.025
M8-PFOA	6.708	421.0 -> 376.0	378402	20.00	µg/L	0.013
M9-PFNA	7.364	472.0 -> 427.0	394615	20.00	µg/L	0.025
M6-PFDA	7.878	519.0 -> 474.0	424768	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	549043	20.00	µg/L	0.013
M2-PFDoDA	8.961	615.0 -> 570.0	709568	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	595353	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	117045	20.00	µg/L	0.013
M3-PFBS	4.005	302.0 -> 99.0	27135	20.00	µg/L	0.013
M3-PFHxS	5.998	402.0 -> 99.0	29148	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	38125	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	121213	20.00	µg/L	0.013
M2-6:2FTS	6.718	429.0 -> 409.0	165180	20.00	µg/L	0.025
M2-8:2FTS	7.928	529.0 -> 509.0	111140	20.00	µg/L	0.013
M3-MeFOSAA	7.519	573.0 -> 419.0	65305	20.00	µg/L	0.000
M3-HFPO-DA	5.318	287.0 -> 169.0	247567	100.00	µg/L	0.025
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	121163	20.81	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.0%		
13C2-6:2FTS	6.718	429.0 -> 409.0	165163	20.83	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.2%		
13C2-8:2FTS	7.928	529.0 -> 509.0	111058	20.63	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C2-PFDoDA	8.961	615.0 -> 570.0	704540	20.18	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C2-PFTeDA	10.163	715.0 -> 670.0	585933	21.99	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 109.9%		
13C3-PFBS	4.005	302.0 -> 99.0	27022	19.77	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C3-PFHxS	5.998	402.0 -> 99.0	29139	19.77	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C4-PFBA	2.065	217.0 -> 172.0	205714	21.01	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C4-PFHpA	5.966	367.0 -> 322.0	307223	20.17	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C5-PFHxA	5.026	318.0 -> 273.0	239046	20.48	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C5-PFPeA	3.762	268.0 -> 223.0	171115	20.79	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
13C6-PFDA	7.878	519.0 -> 474.0	424599	20.07	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C7-PFUnDA	8.353	570.0 -> 525.0	546822	19.73 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C8-FOSA	7.003	506.0 -> 78.0	117048	20.57 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C8-PFOA	6.708	421.0 -> 376.0	377722	20.64 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C8-PFOS	7.334	507.0 -> 99.0	38011	19.53 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C9-PFNA	7.364	472.0 -> 427.0	394257	20.86 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.3%		
d3-MeFOSAA	7.519	573.0 -> 419.0	65260	19.97 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
M2-PFOA	6.710	415.0 -> 370.0	475459	19.98 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
M4-PFOS	7.336	503.0 -> 80.0	64854	19.92 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	247567	87.08 µg/L		0.025
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 87.1%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	70423	20.46 µg/L		96
6:2FTS	6.707	427.0 -> 407.0	82994	20.21 µg/L		99
8:2FTS	7.929	527.0 -> 507.0	60756	20.43 µg/L		97
EtFOSAA	7.656	584.0 -> 419.0	29616	21.62 µg/L		99
FOSA	7.006	498.0 -> 78.0	58827	19.40 µg/L		99
MeFOSAA	7.532	570.0 -> 419.0	34548	19.86 µg/L		99
PFBA	2.073	213.0 -> 169.0	36301	18.84 µg/L		100
PFBS	4.009	299.0 -> 80.0	41876	19.54 µg/L		99
PFDA	7.879	513.0 -> 469.0	205345	19.50 µg/L		99
PFDoDA	8.967	613.0 -> 569.0	321335	19.68 µg/L		100
PFDS	8.311	599.0 -> 80.0	15228	18.74 µg/L		99
PFHpA	5.969	363.0 -> 319.0	277576	19.78 µg/L		100
PFHpS	6.716	449.0 -> 80.0	31177	20.02 µg/L		100
PFHxA	5.028	313.0 -> 269.0	70432	19.12 µg/L		99
PFHxS	6.000	399.0 -> 80.0	34640	19.91 µg/L	m	99
PFNA	7.365	463.0 -> 419.0	237289	19.22 µg/L		99
PFNS	7.836	549.0 -> 80.0	24790	19.96 µg/L		98
PFOA	6.711	413.0 -> 369.0	197262	19.38 µg/L		100
PFOS	7.337	499.0 -> 80.0	34740	19.20 µg/L	m	100
PFPeA	3.765	263.0 -> 219.0	165935	19.21 µg/L		100
PFPeS	5.145	349.0 -> 80.0	23714	20.03 µg/L		100
PFTeDA	10.156	713.0 -> 669.0	346336	18.93 µg/L		100
PFTrDA	9.574	663.0 -> 619.0	322414	18.27 µg/L		100
PFUnDA	8.356	563.0 -> 519.0	254007	19.65 µg/L		99
11Cl-PF3OUdS	8.548	631.0 -> 451.0	168734	18.53 µg/L		99
9Cl-PF3ONS	7.610	531.0 -> 351.0	28916	19.22 µg/L		100
ADONA	6.065	377.0 -> 251.0	332153	18.34 µg/L		99
HFPO-DA	5.323	329.0 -> 169.0	257706	101.06 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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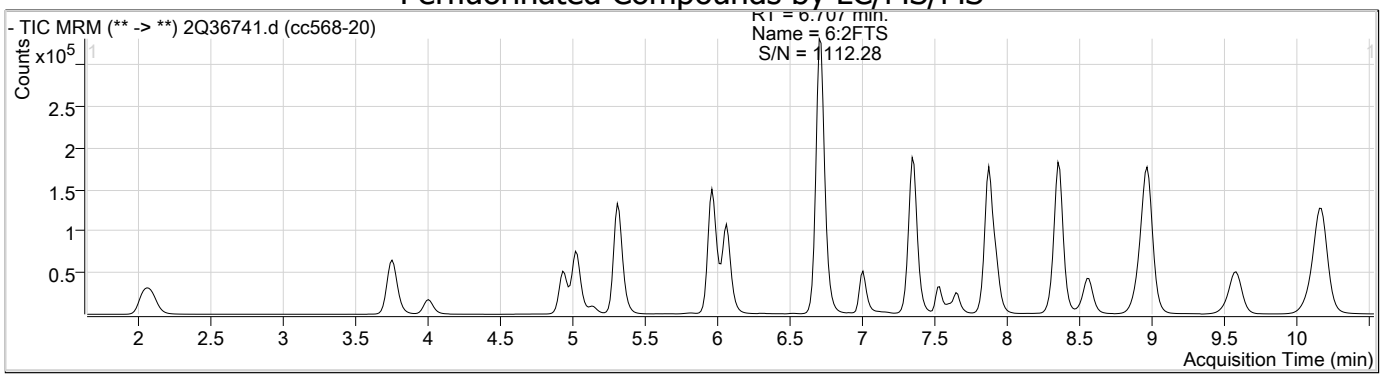
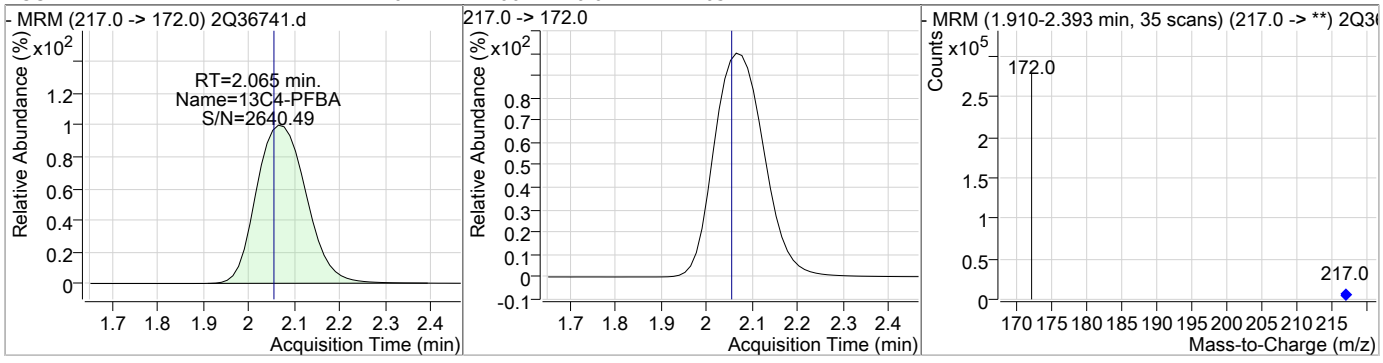
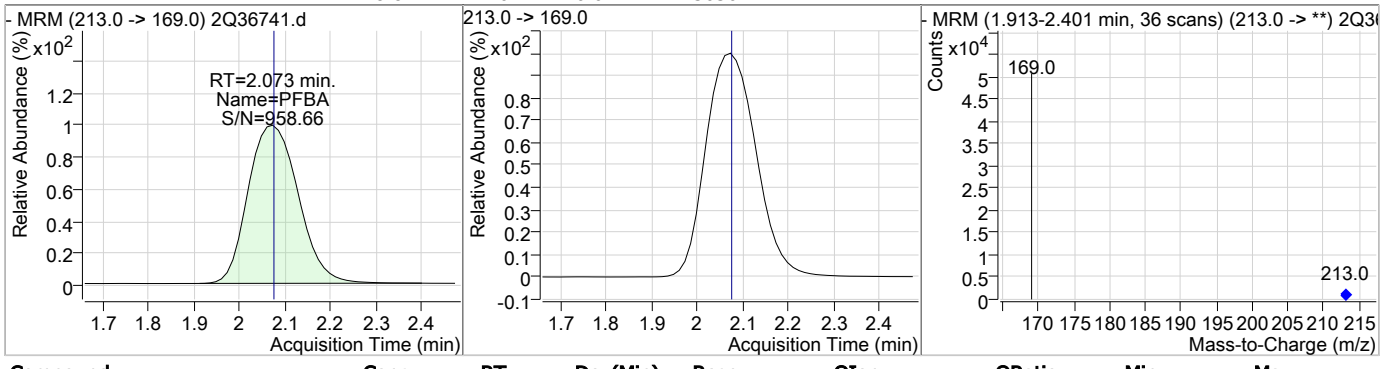
Perfluorinated Compounds by LC/MS/MS



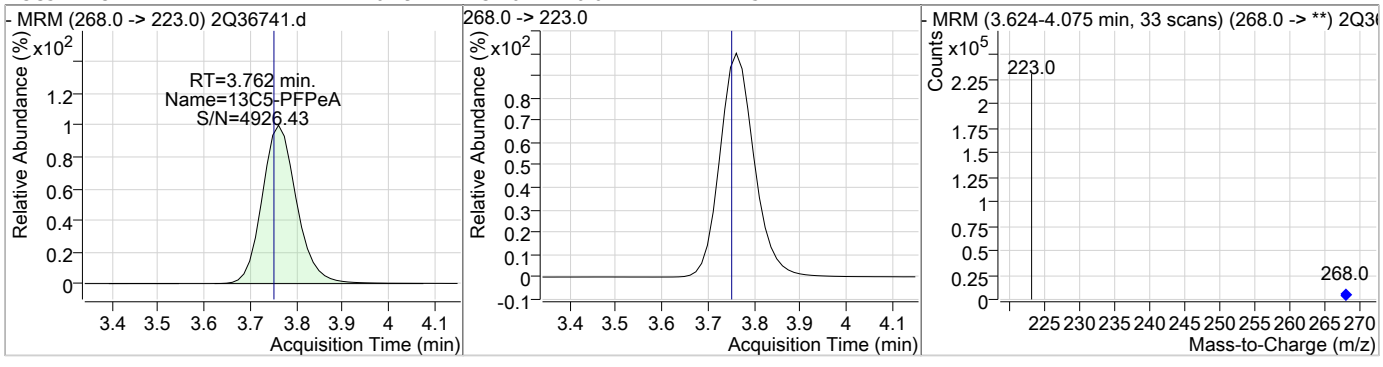
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	21.01	2.06	0.01	205714				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.84	2.07	0.01	36301				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.79	3.76	0.01	171115				



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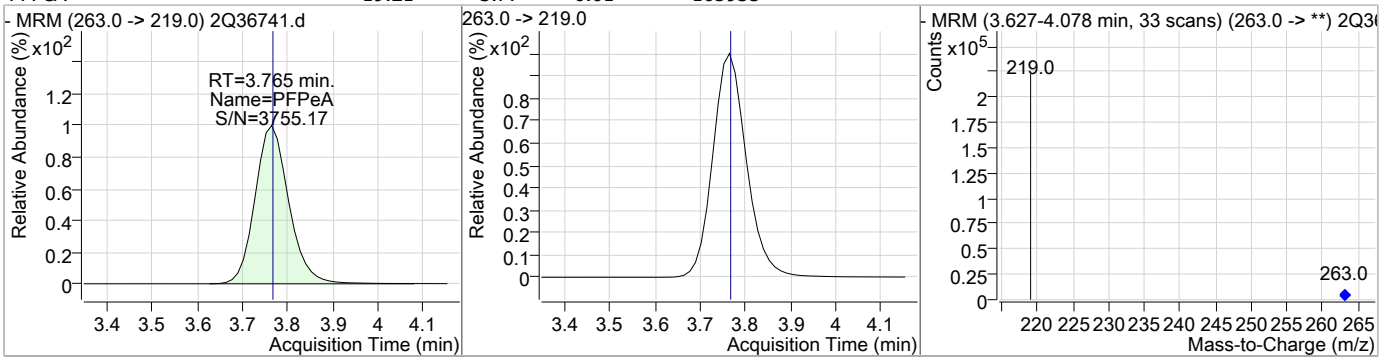
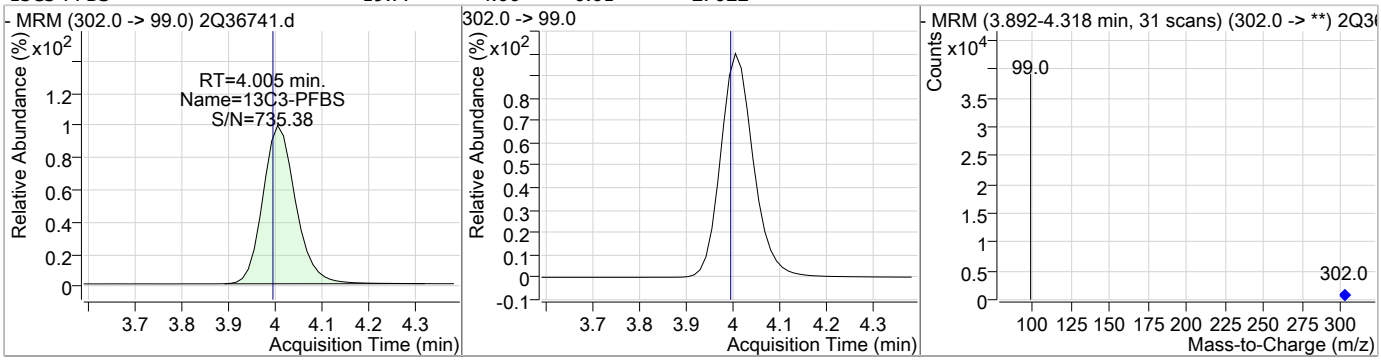
Perfluorinated Compounds by LC/MS/MS

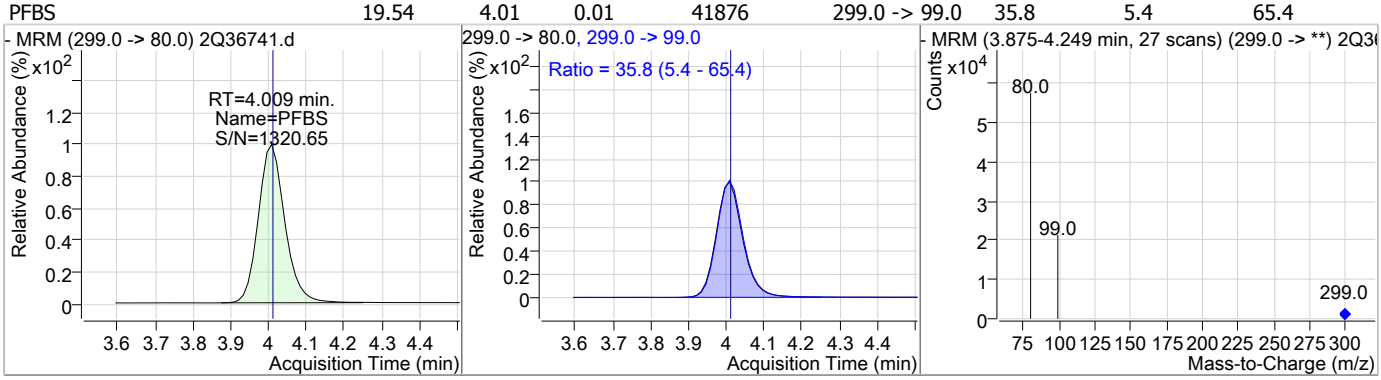
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.21	3.77	0.01	165935				



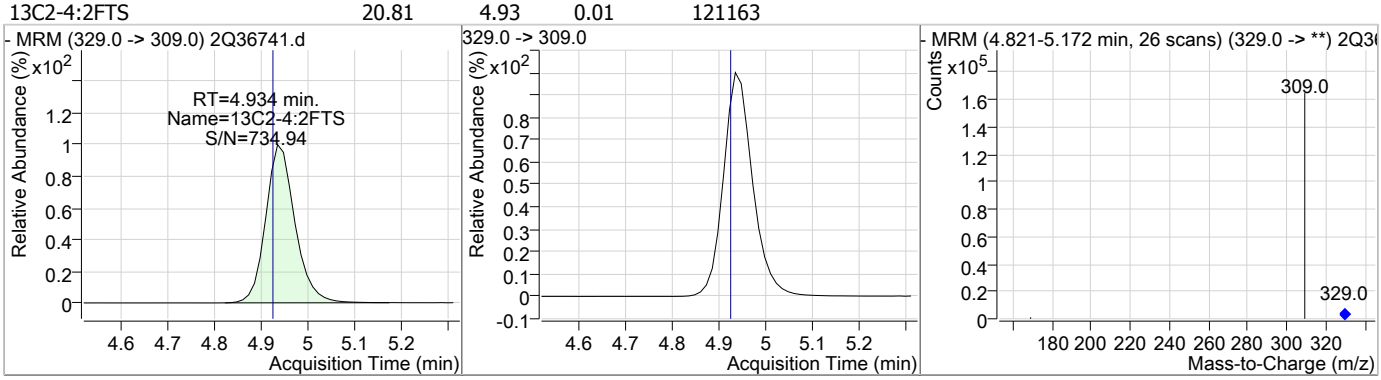
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.77	4.00	0.01	27022				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.54	4.01	0.01	41876	299.0 -> 99.0	35.8	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	20.81	4.93	0.01	121163				



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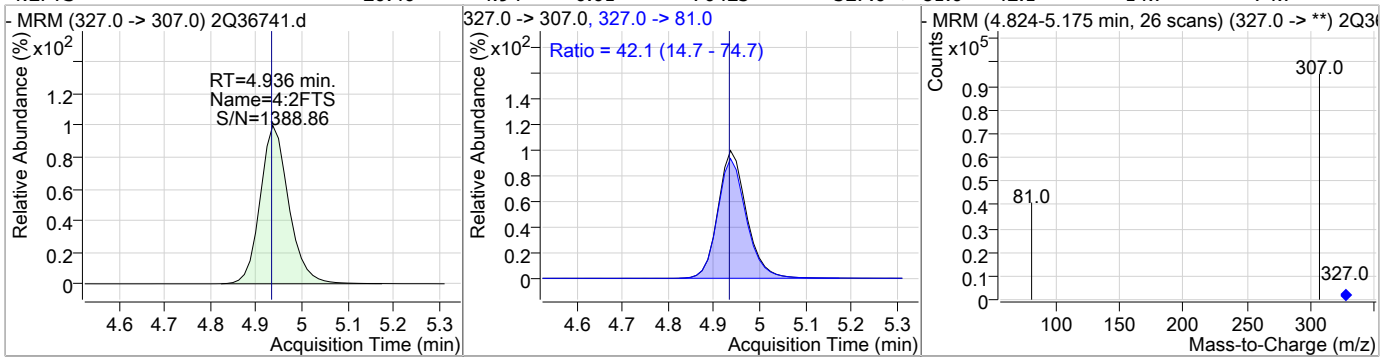
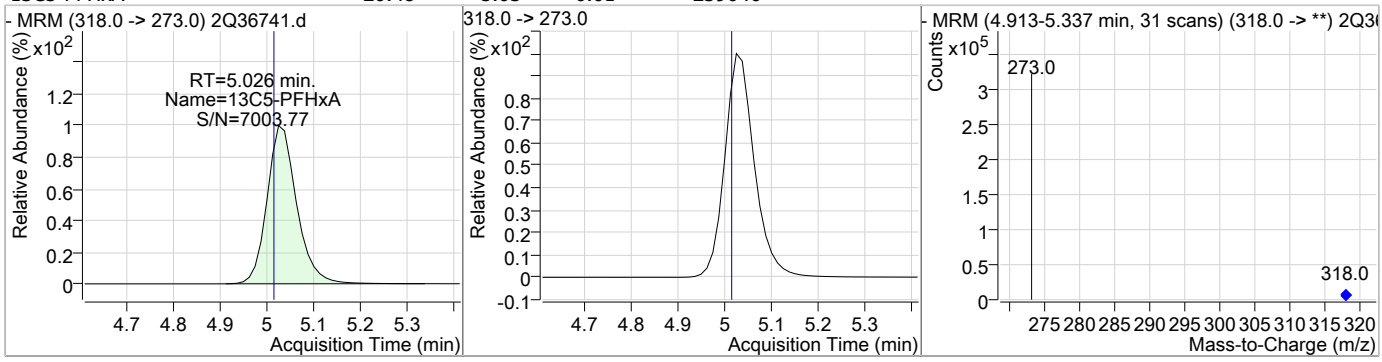
Perfluorinated Compounds by LC/MS/MS

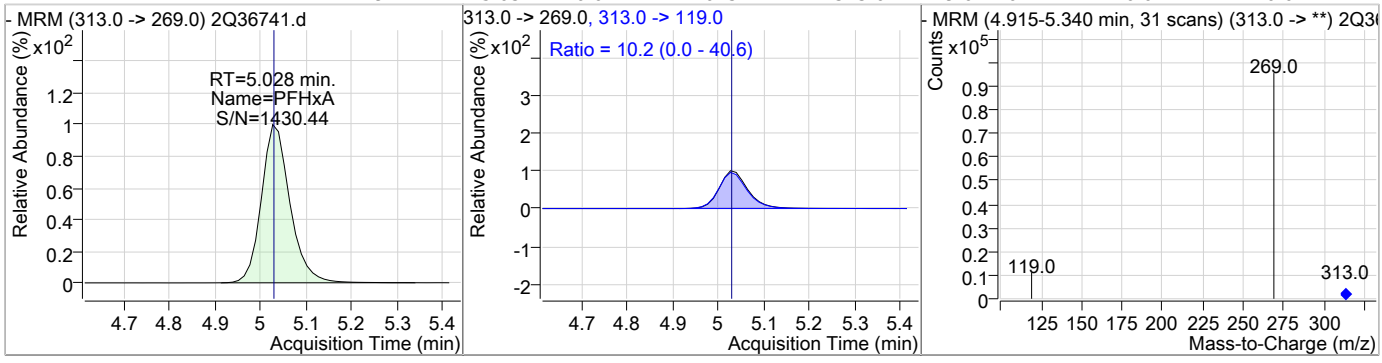
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.46	4.94	0.01	70423	327.0 -> 81.0	42.1	14.7	74.7



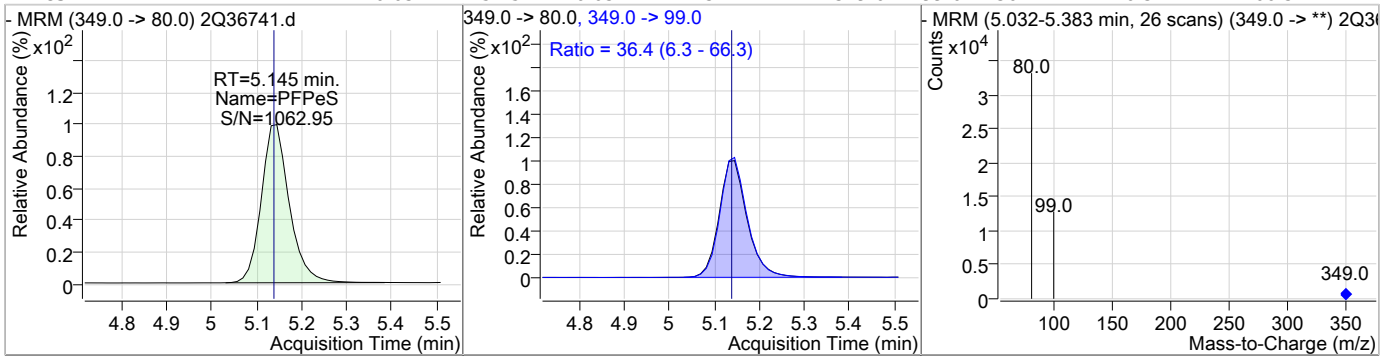
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.48	5.03	0.01	239046				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.12	5.03	0.01	70432	313.0 -> 119.0	10.2	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	20.03	5.15	0.03	23714	349.0 -> 99.0	36.4	6.3	66.3



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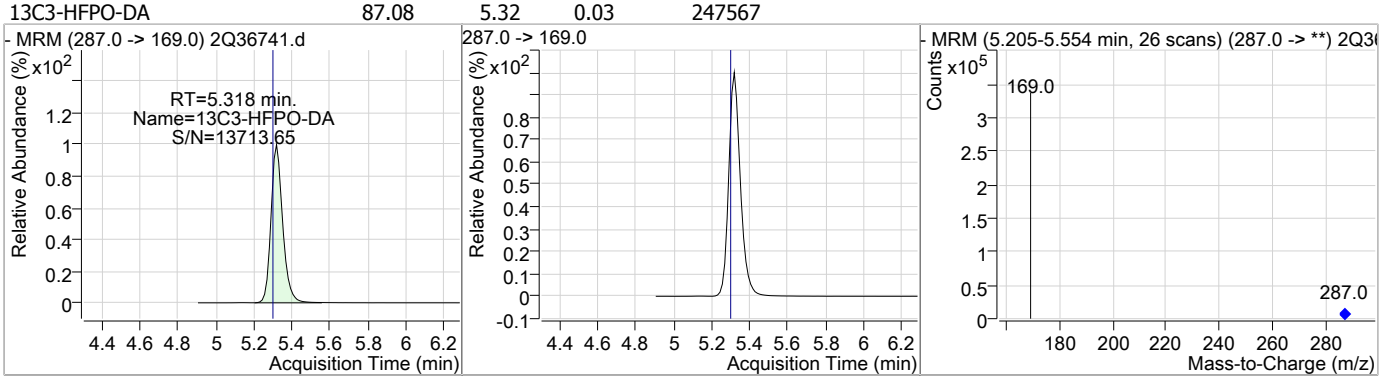
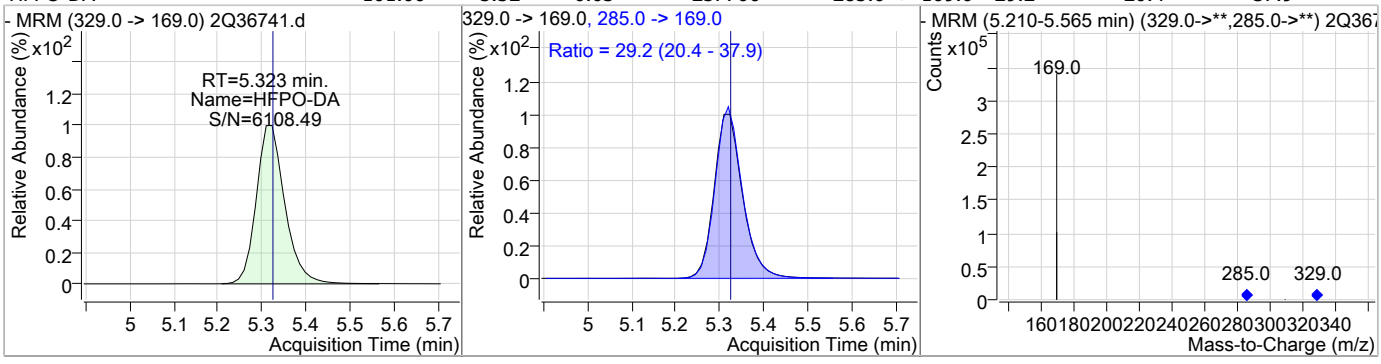
Perfluorinated Compounds by LC/MS/MS

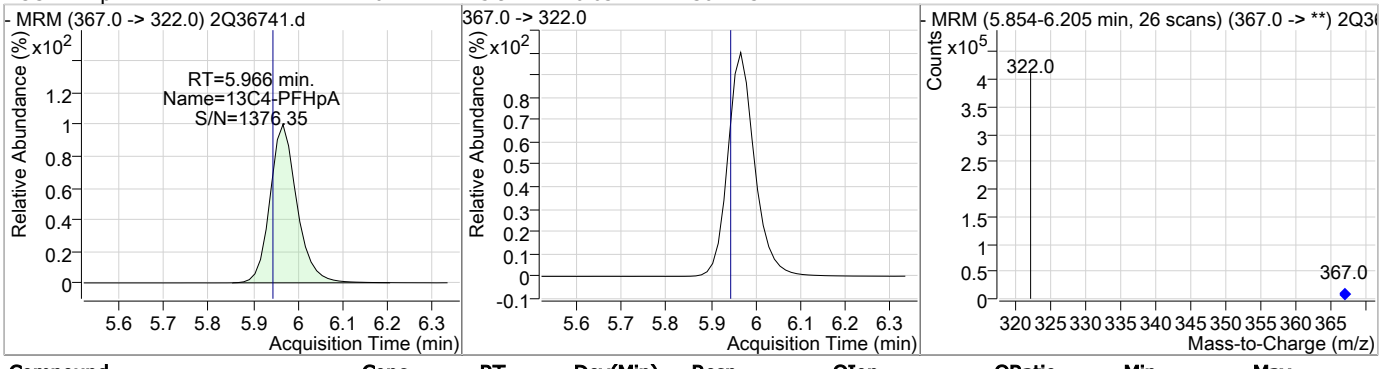
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	87.08	5.32	0.03	247567				



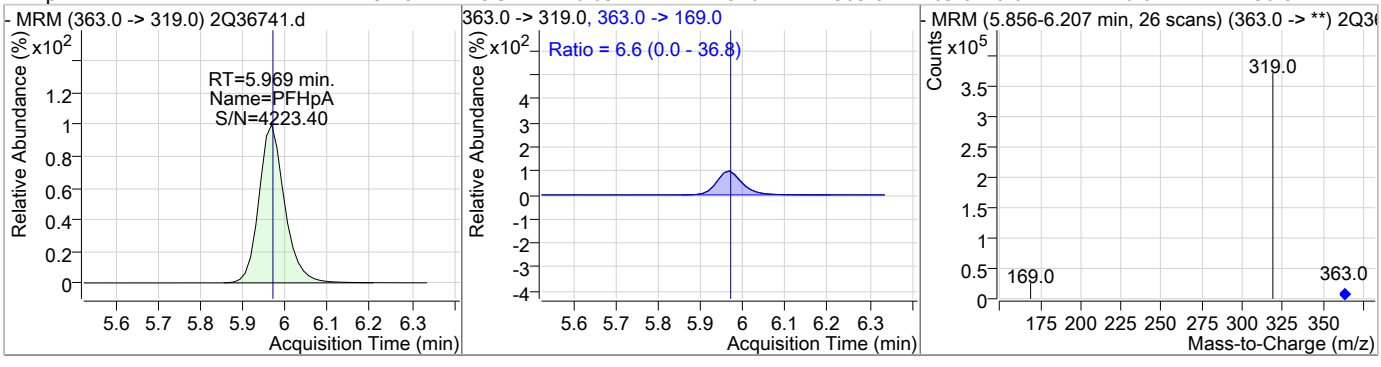
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	101.06	5.32	0.03	257706	285.0 -> 169.0	29.2	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.17	5.97	0.03	307223				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.78	5.97	0.03	277576	363.0 -> 169.0	6.6	0.0	36.8



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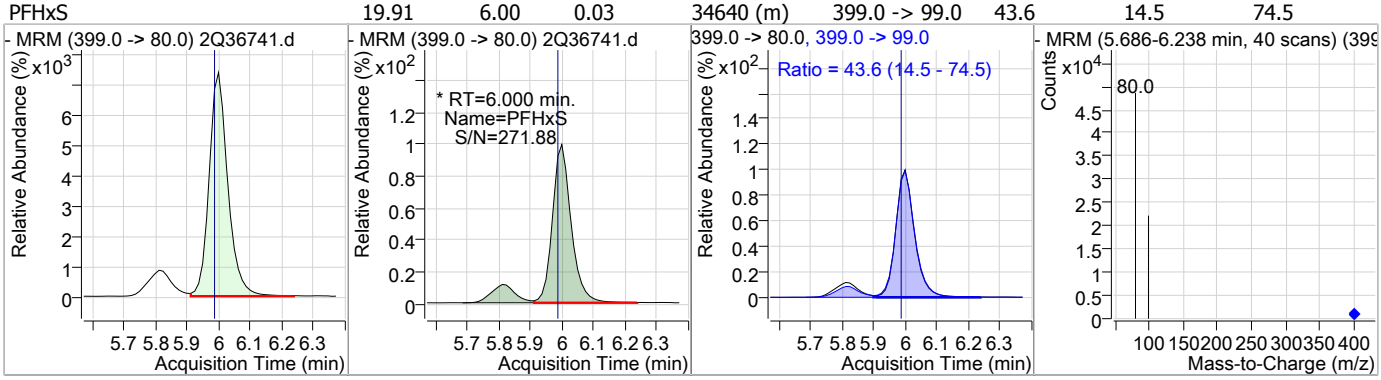
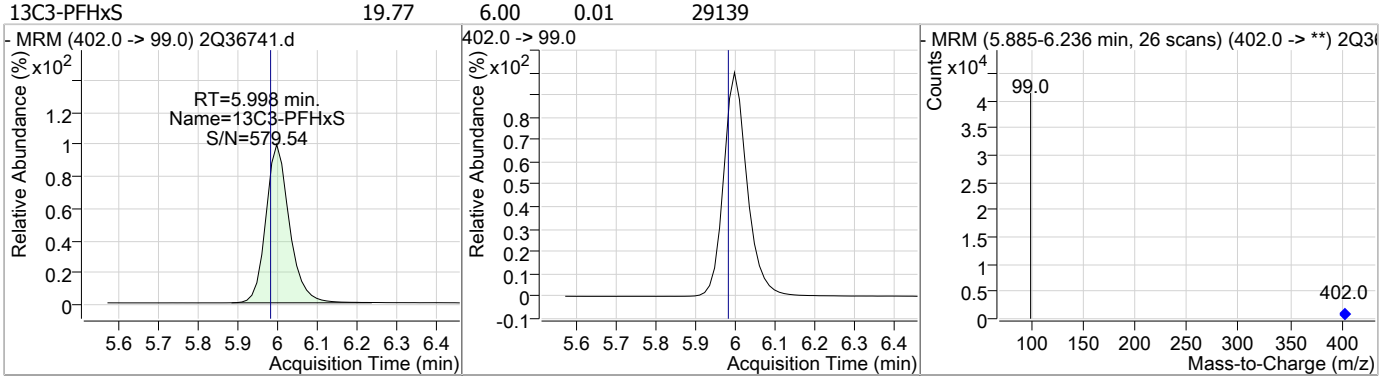
Perfluorinated Compounds by LC/MS/MS

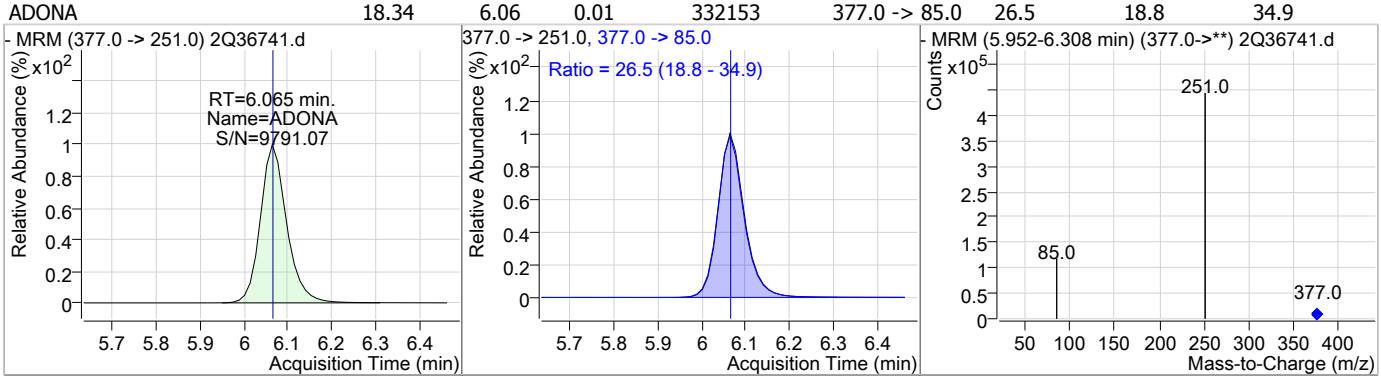
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.91	6.00	0.03	34640 (m)	399.0 -> 99.0	43.6	14.5	74.5



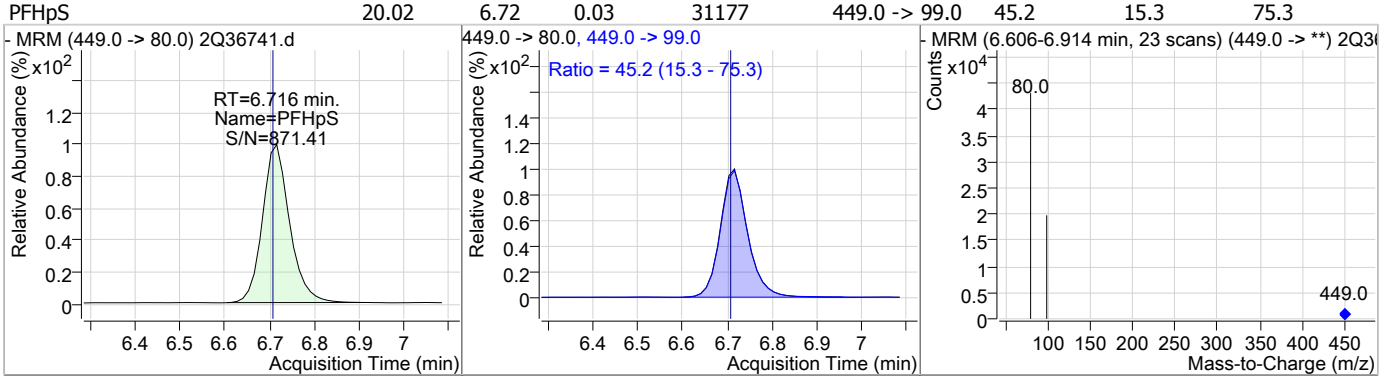
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.77	6.00	0.01	29139				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.34	6.06	0.01	332153	377.0 -> 85.0	26.5	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.02	6.72	0.03	31177	449.0 -> 99.0	45.2	15.3	75.3



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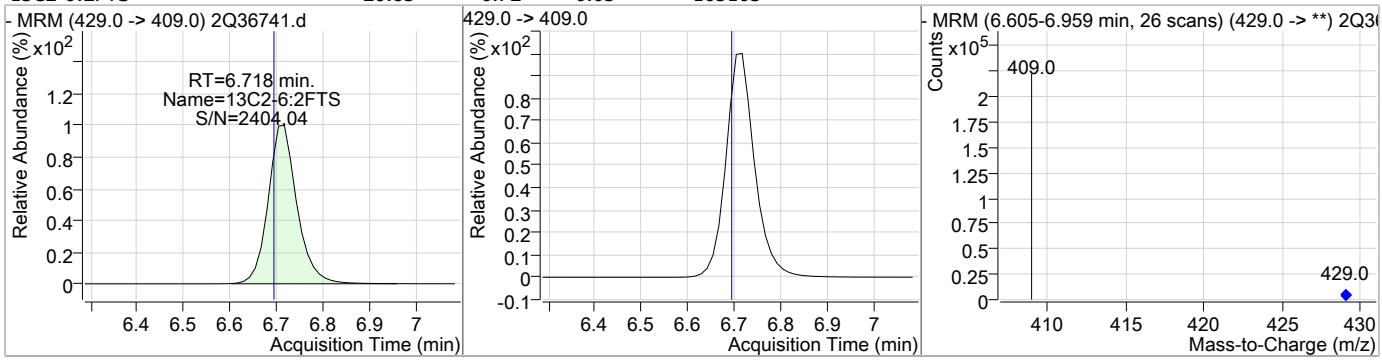
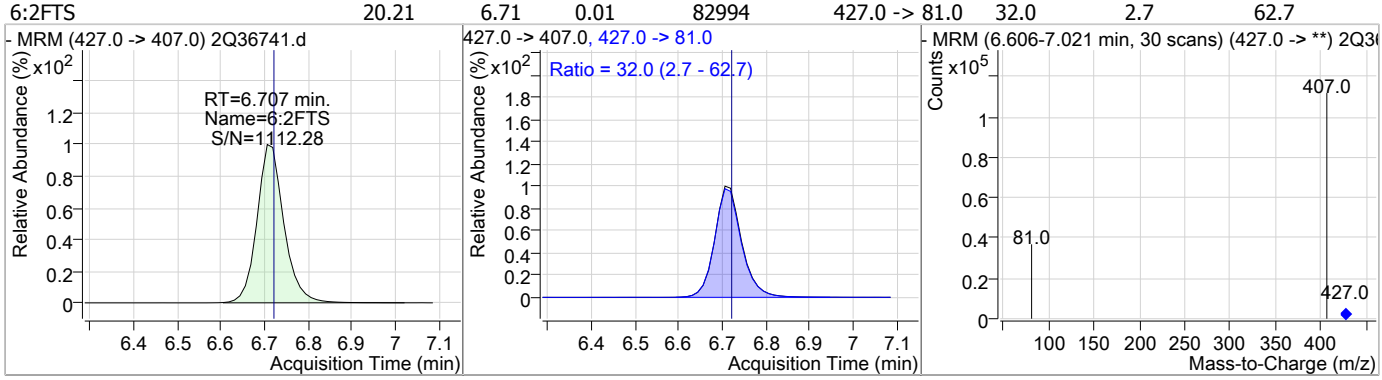
Perfluorinated Compounds by LC/MS/MS

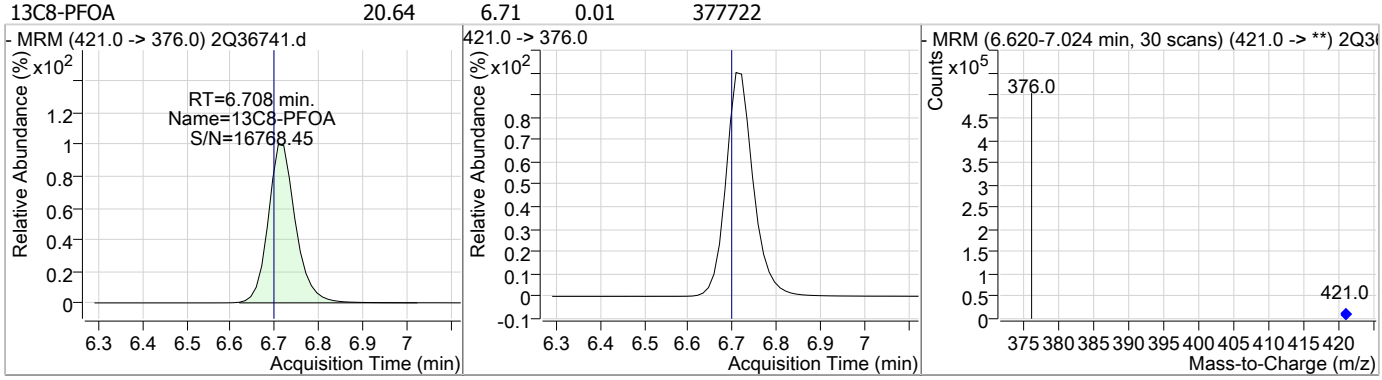
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.83	6.72	0.03	165163				



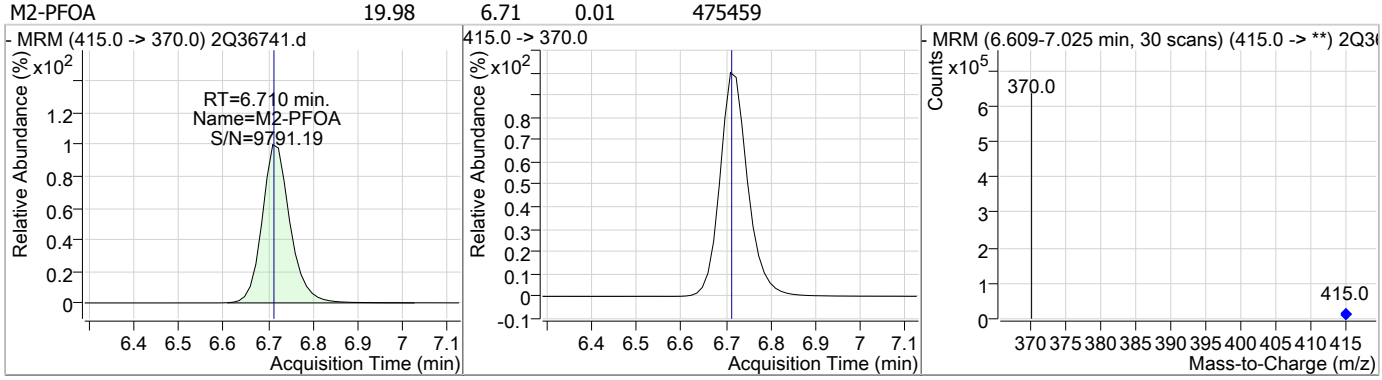
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.21	6.71	0.01	82994	427.0 -> 81.0	32.0	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.64	6.71	0.01	377722				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	19.98	6.71	0.01	475459				



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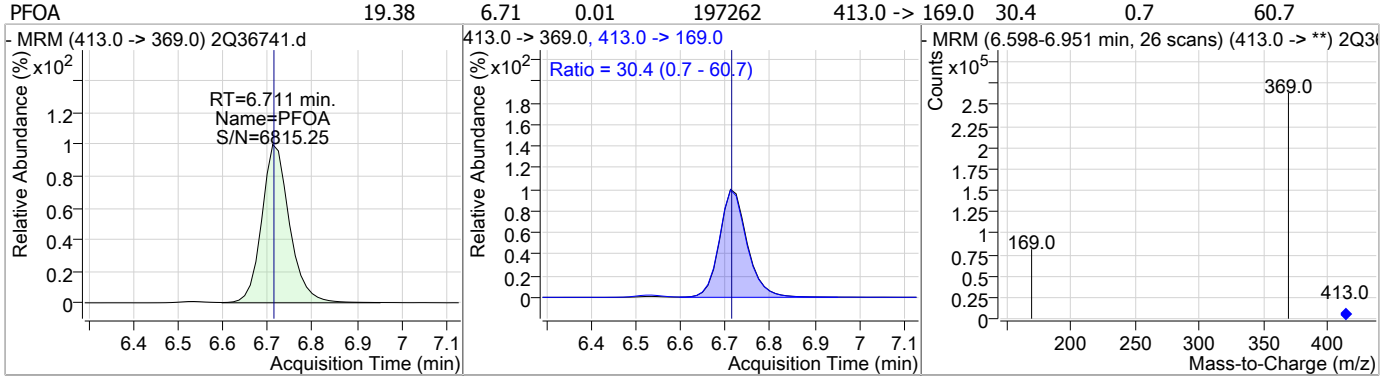
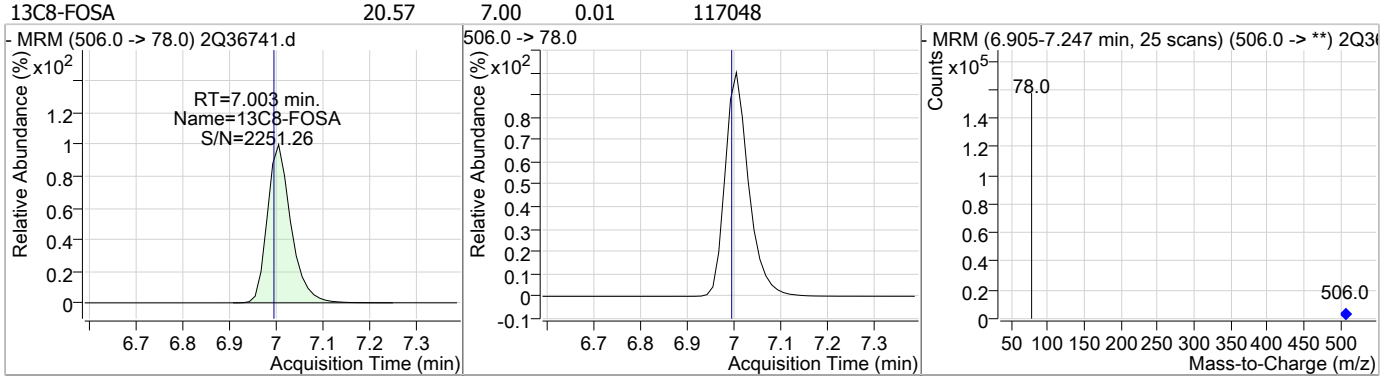
Perfluorinated Compounds by LC/MS/MS

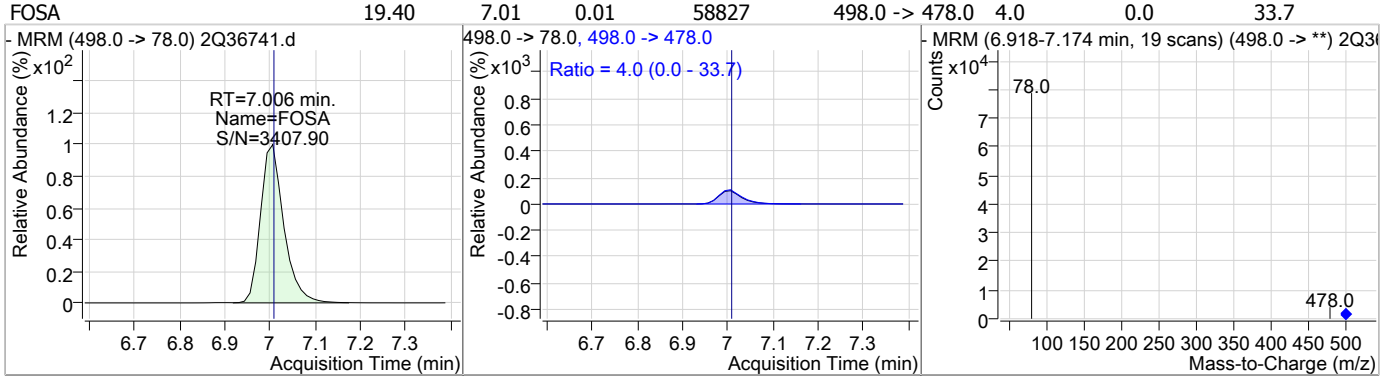
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.38	6.71	0.01	197262	413.0 -> 169.0	30.4	0.7	60.7



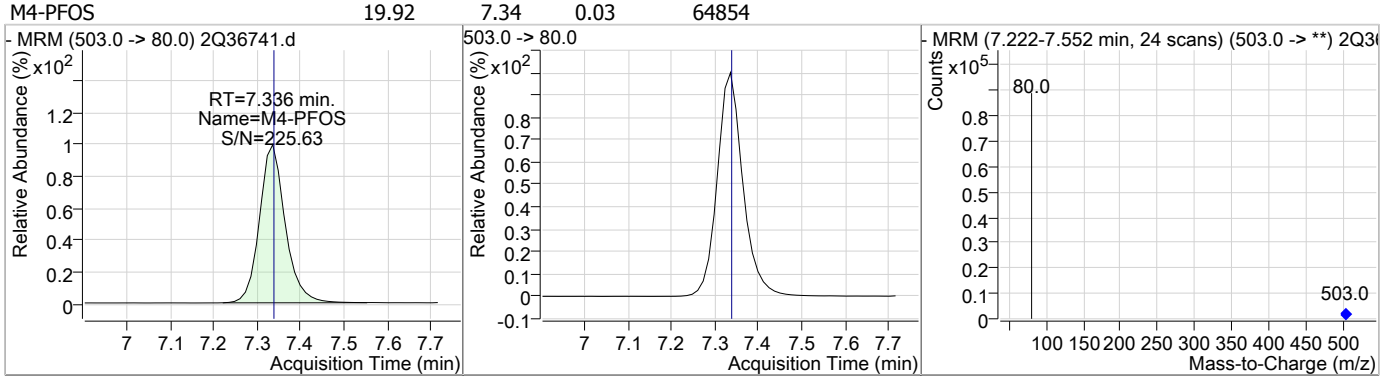
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	20.57	7.00	0.01	117048				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.40	7.01	0.01	58827	498.0 -> 478.0	4.0	0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.92	7.34	0.03	64854				



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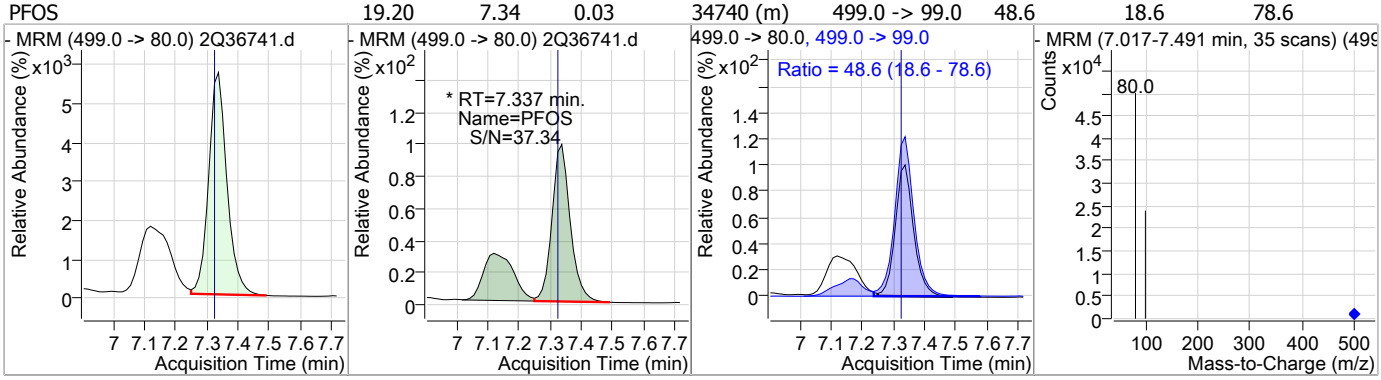
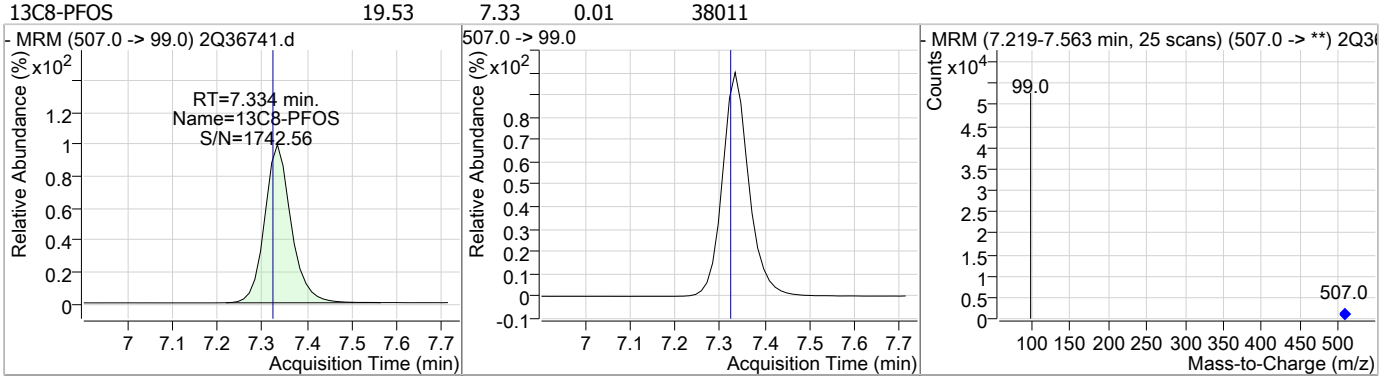
Perfluorinated Compounds by LC/MS/MS

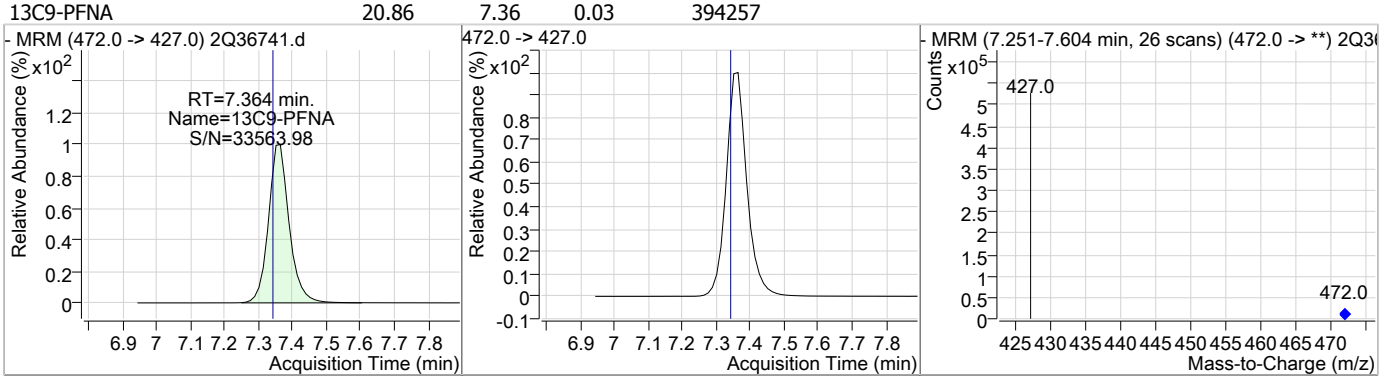
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.20	7.34	0.03	34740 (m)	499.0 -> 99.0	48.6	18.6	78.6



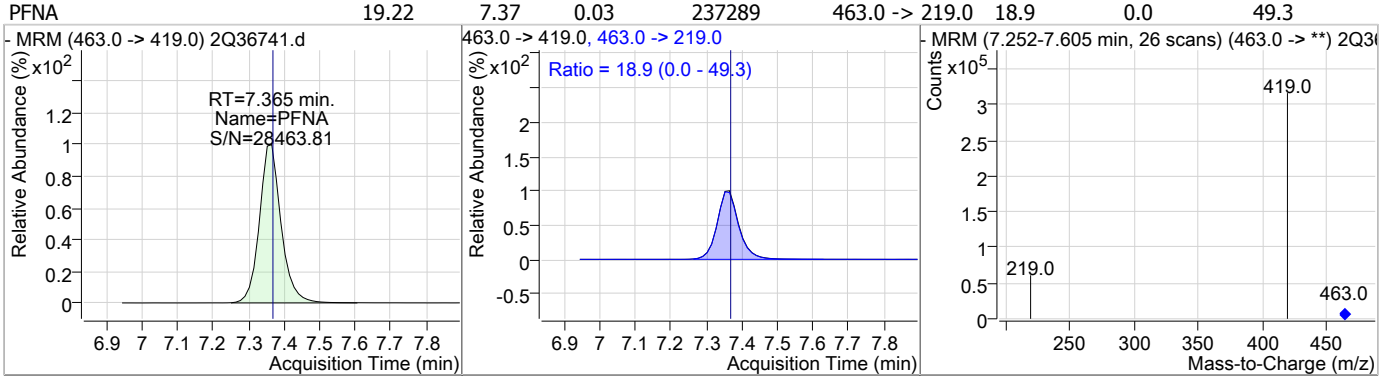
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.53	7.33	0.01	38011				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.86	7.36	0.03	394257				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.22	7.37	0.03	237289	463.0 -> 219.0	18.9	0.0	49.3



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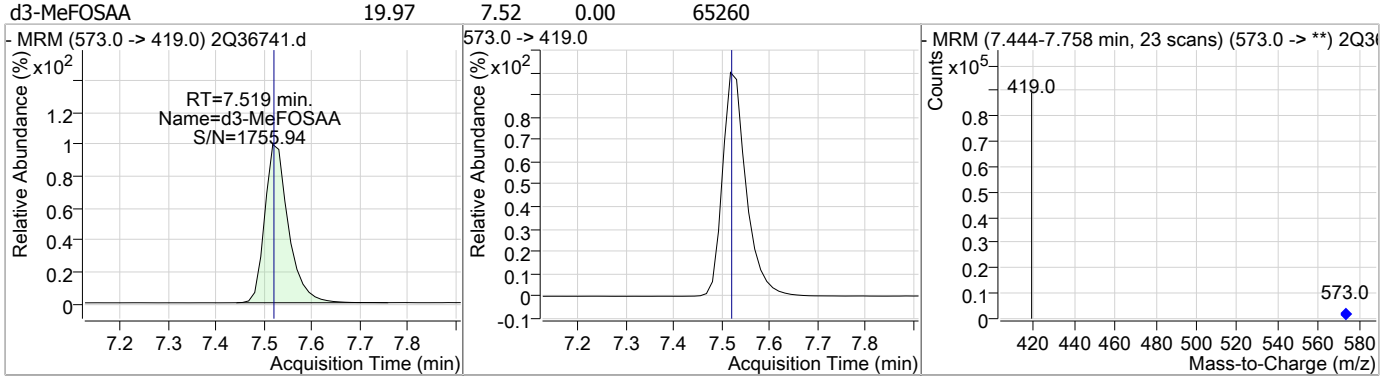
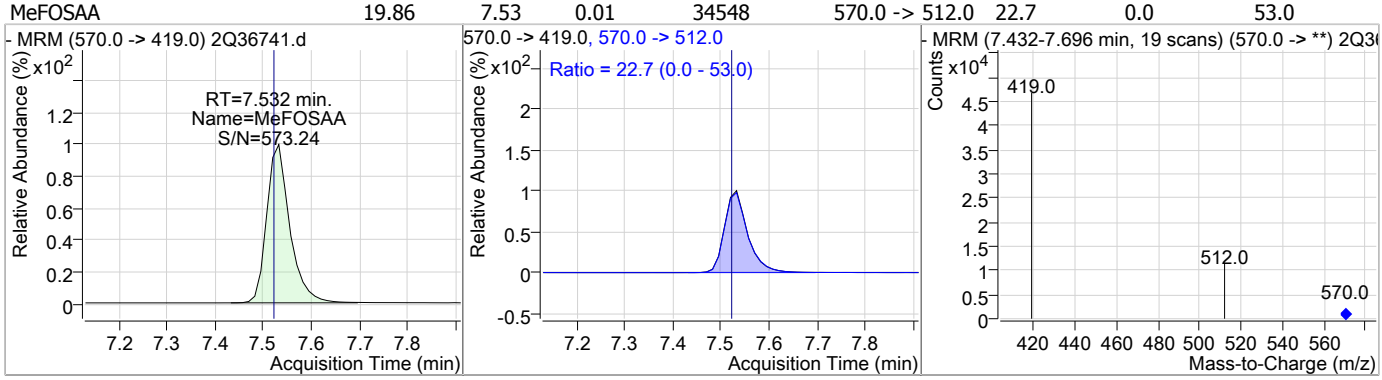
Perfluorinated Compounds by LC/MS/MS

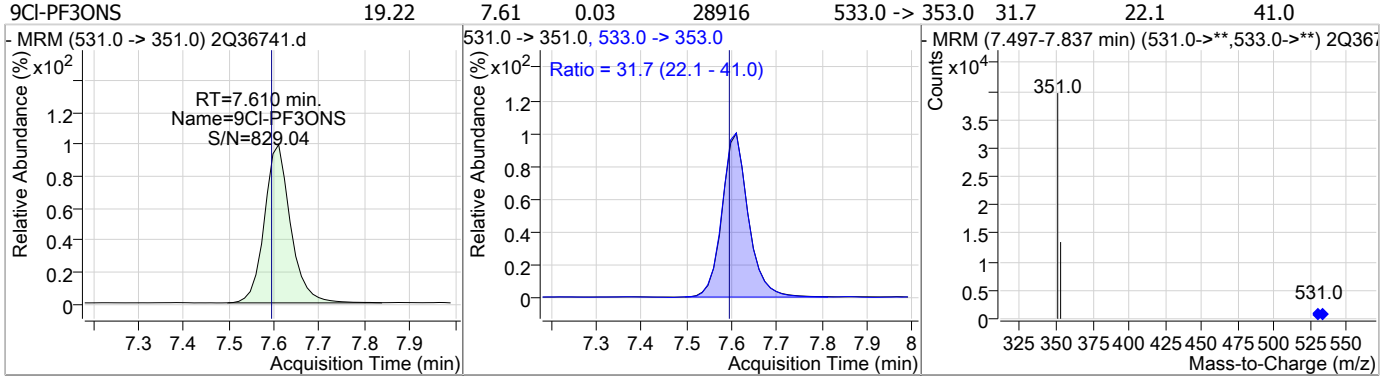
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.97	7.52	0.00	65260				



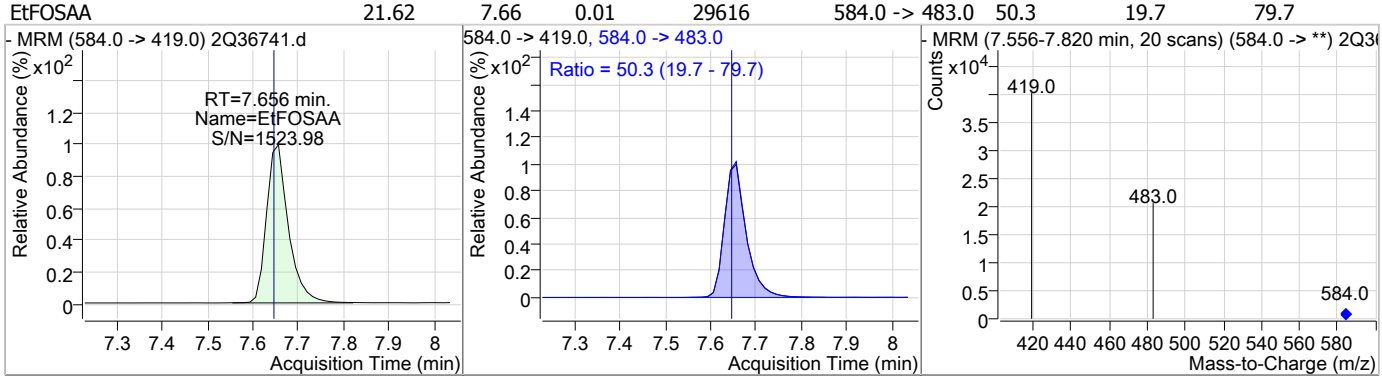
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.86	7.53	0.01	34548	570.0 -> 512.0	22.7	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	19.22	7.61	0.03	28916	533.0 -> 353.0	31.7	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.62	7.66	0.01	29616	584.0 -> 483.0	50.3	19.7	79.7



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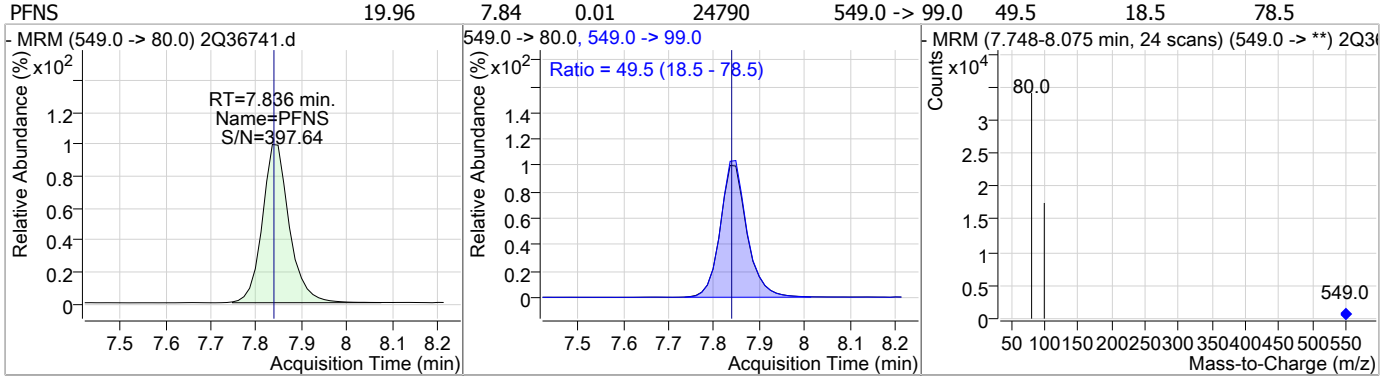
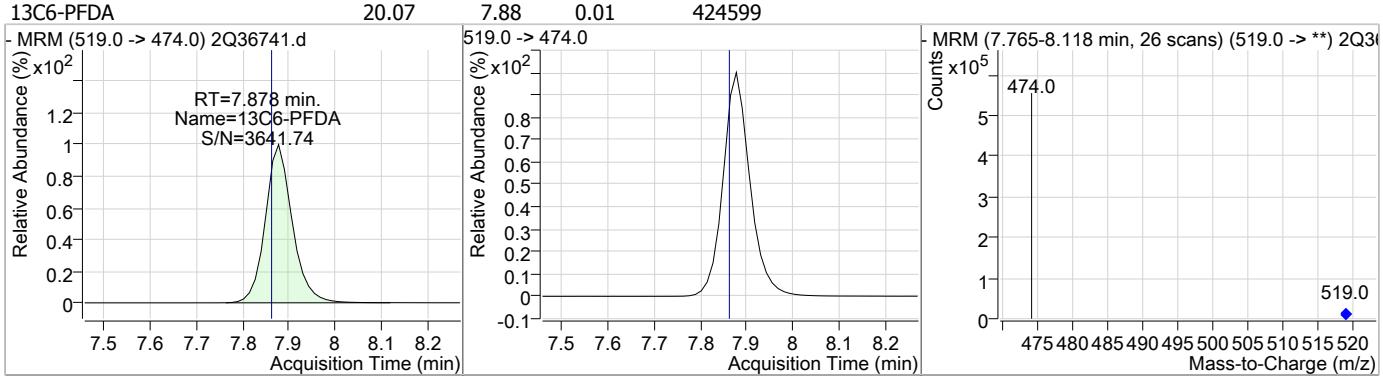
Perfluorinated Compounds by LC/MS/MS

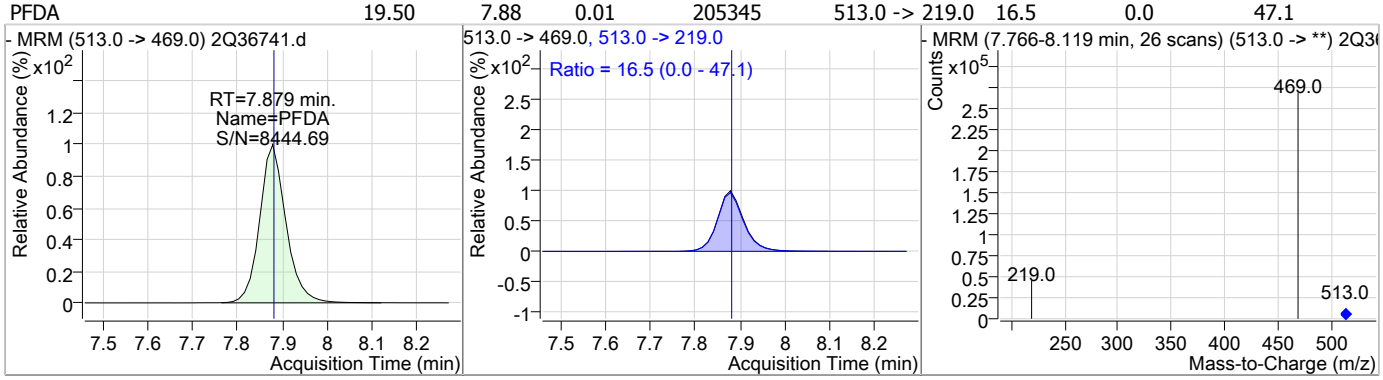
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.96	7.84	0.01	24790	549.0 -> 99.0	49.5	18.5	78.5



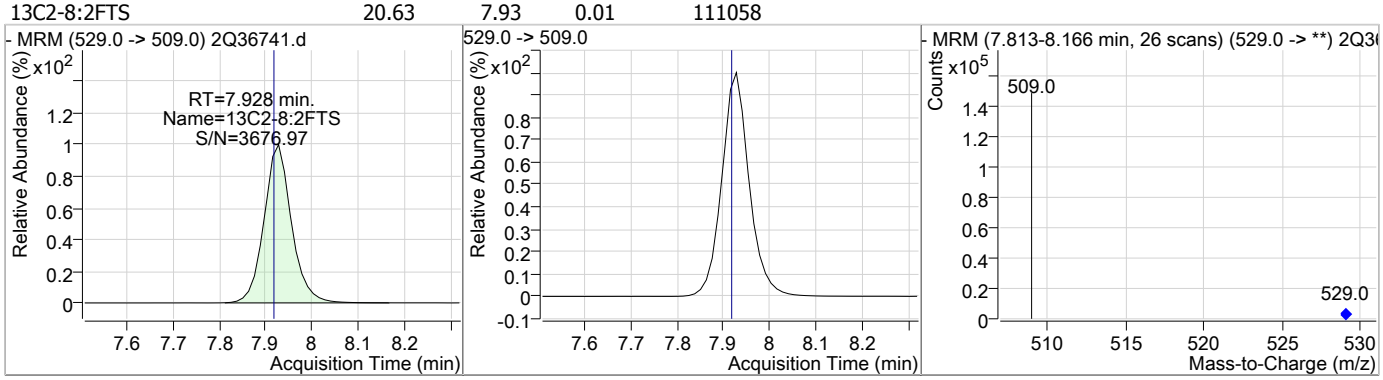
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.07	7.88	0.01	424599				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.50	7.88	0.01	205345	513.0 -> 219.0	16.5	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	20.63	7.93	0.01	111058				



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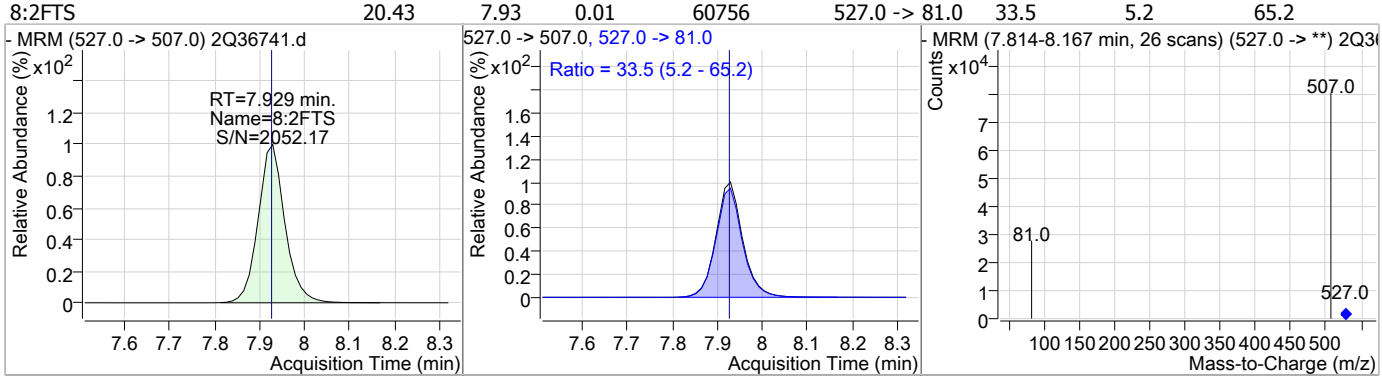
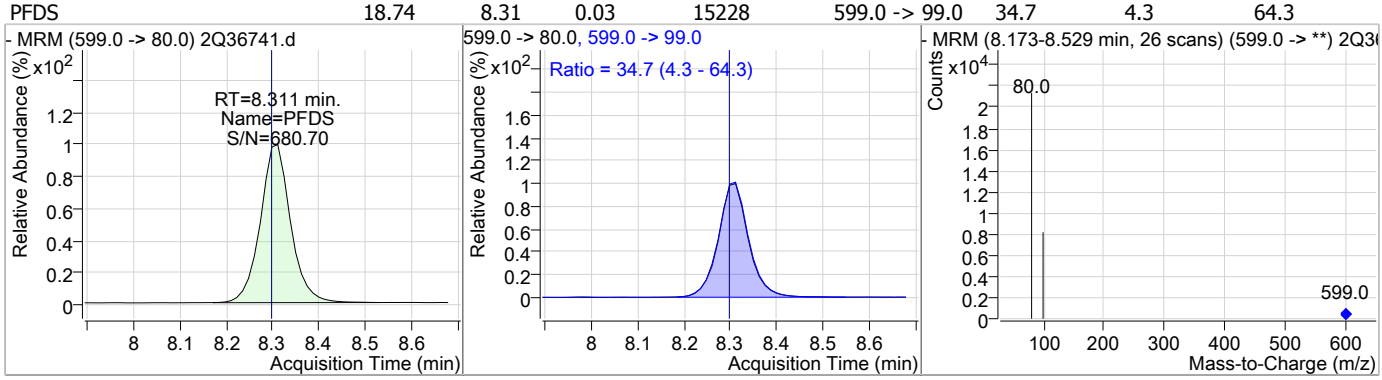
Perfluorinated Compounds by LC/MS/MS

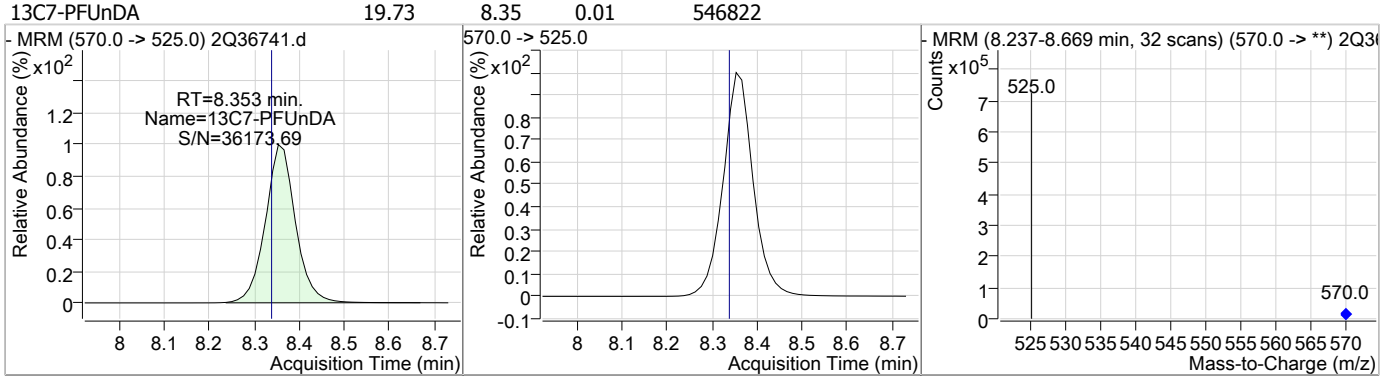
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.43	7.93	0.01	60756	527.0 -> 81.0	33.5	5.2	65.2



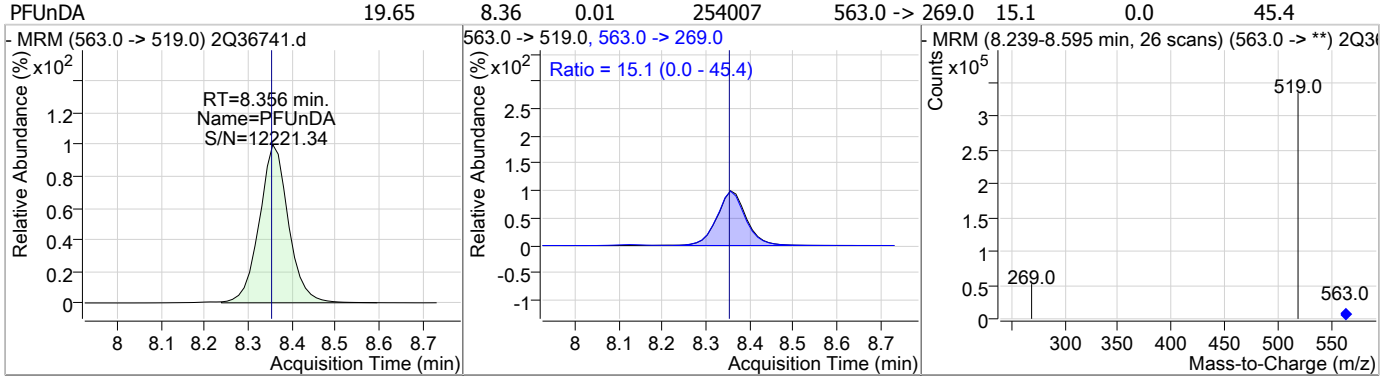
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.74	8.31	0.03	15228	599.0 -> 99.0	34.7	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.73	8.35	0.01	546822				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.65	8.36	0.01	254007	563.0 -> 269.0	15.1	0.0	45.4



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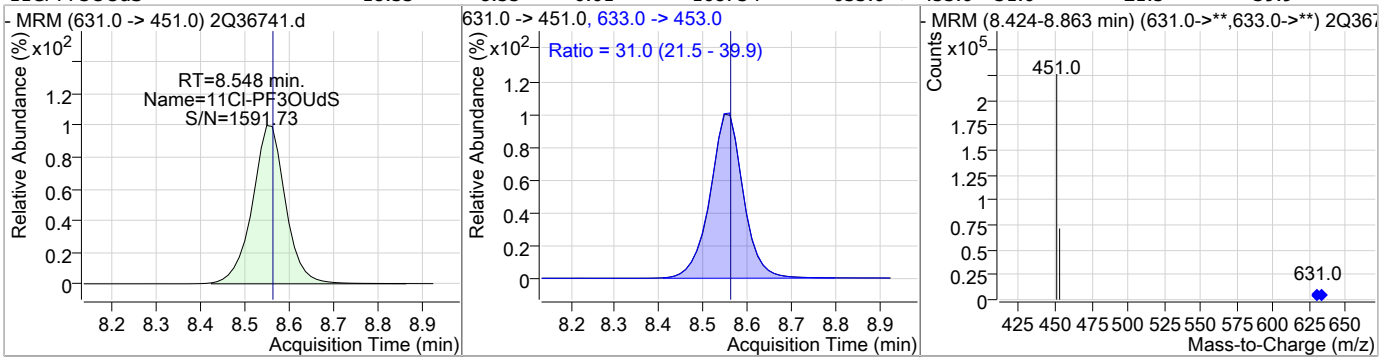
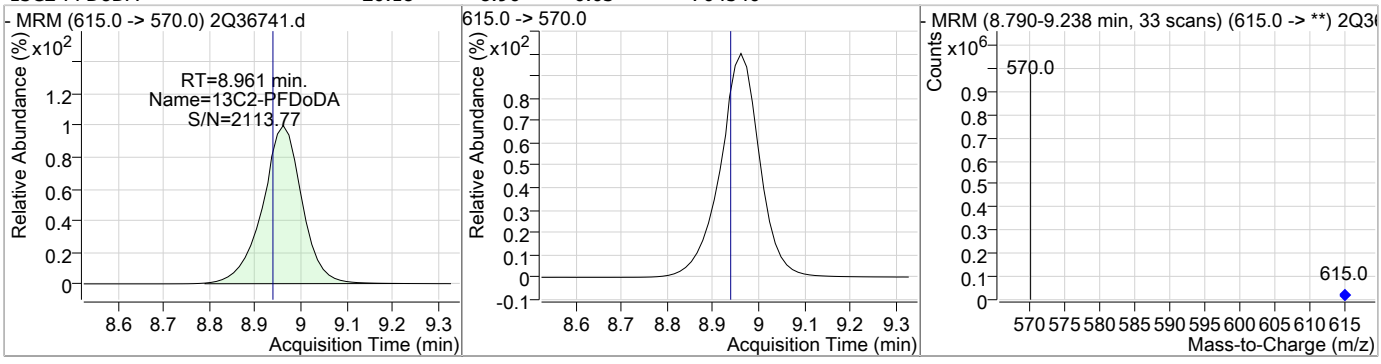
Perfluorinated Compounds by LC/MS/MS

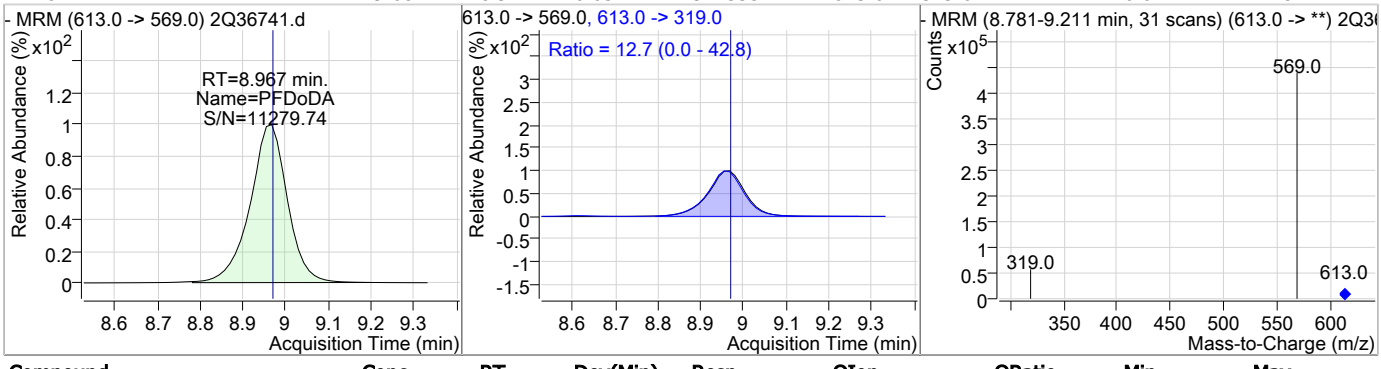
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.53	8.55	0.01	168734	633.0 -> 453.0	31.0	21.5	39.9



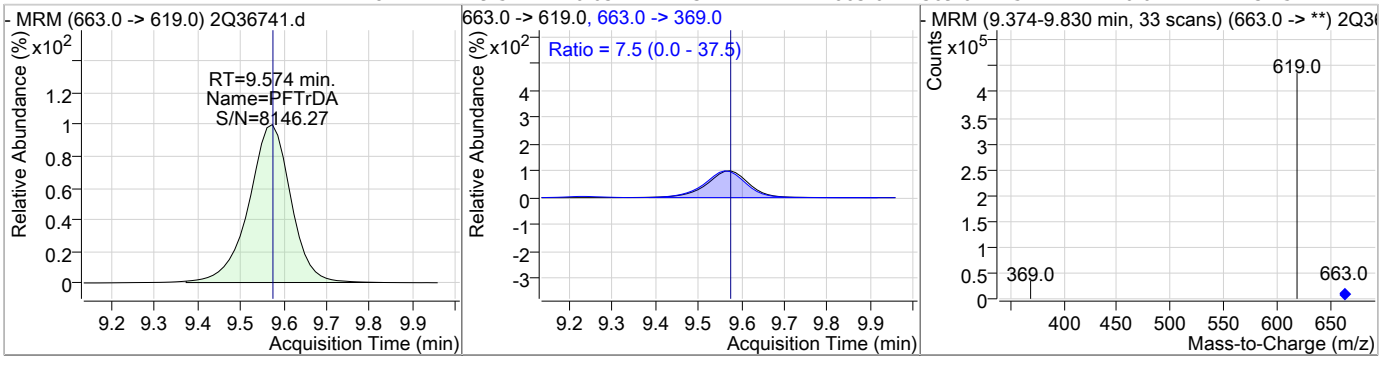
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.18	8.96	0.03	704540				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.68	8.97	0.03	321335	613.0 -> 319.0	12.7	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	18.27	9.57	0.03	322414	663.0 -> 369.0	7.5	0.0	37.5



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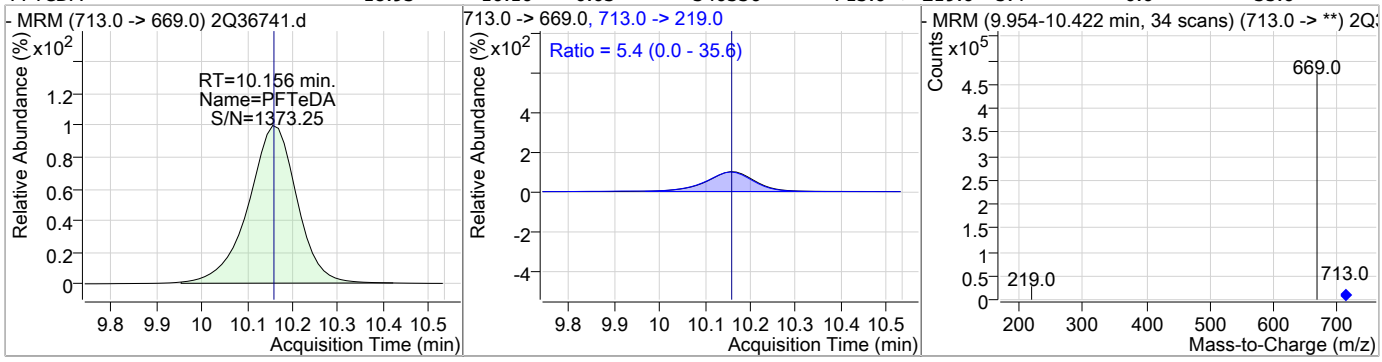
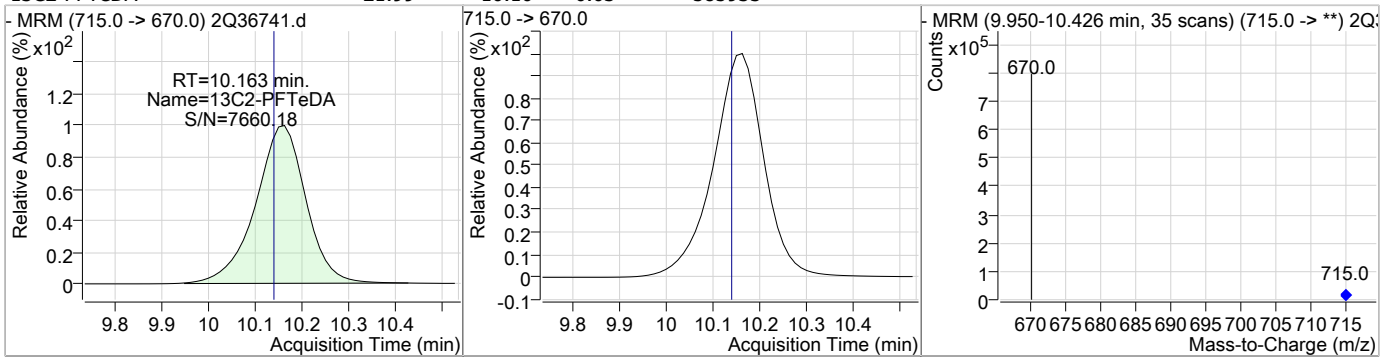
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.93	10.16	0.03	346336	713.0 -> 219.0	5.4	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	21.99	10.16	0.03	585933				



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Manual Integration Approval Summary

Sample Number:	S2Q571-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36741.D	**Analyst approved:**	09/27/19 10:10 Natasha Gumtie
Injection Time:	09/26/19 21:55	**Supervisor approved:**	09/27/19 15:24 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.00	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
09/27/19 15:24

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q36743.d
Operator	:	nancyf
Acq. Method	:	537_ID.m
Acq. Date-Time	:	9/26/2019 10:26:49 PM
Sample Name	:	cc568-1
Vial	:	Vial 3
DA Method File	:	ID_092319_S2Q568.quantmethod.xml
Batch Name	:	s2q571.batch.bin
Sample Information	:	op76878,S2Q571,120,,,1.0,1,water

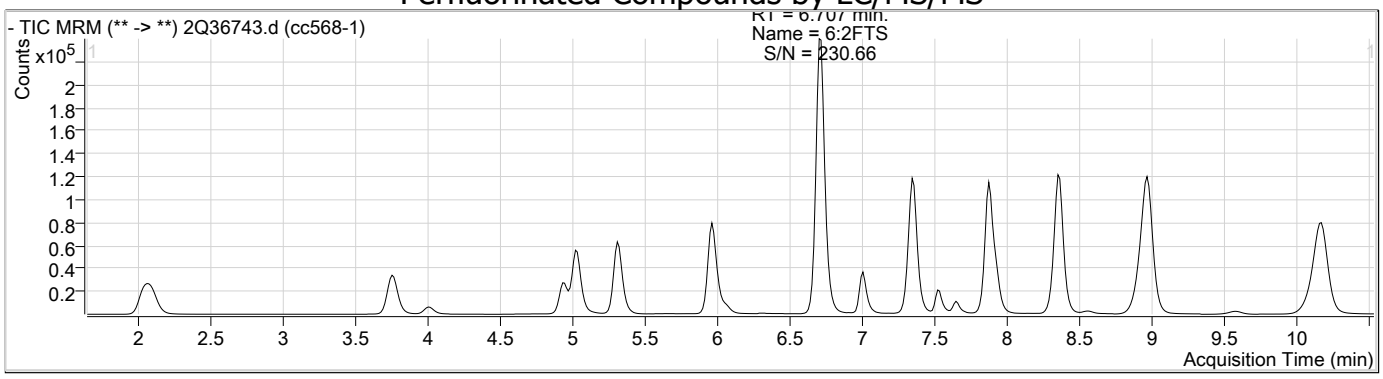
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-PFOA	6.710	415.0 -> 370.0	482850	20.00	µg/L	0.013
13C4-PFOS	7.336	503.0 -> 80.0	65140	20.00	µg/L	0.025
M4-PFBA	2.065	217.0 -> 172.0	203215	20.00	µg/L	0.013
M5-PFPeA	3.762	268.0 -> 223.0	167554	20.00	µg/L	0.013
M5-PFHxA	5.026	318.0 -> 273.0	234895	20.00	µg/L	0.013
M4-PFHpA	5.966	367.0 -> 322.0	307513	20.00	µg/L	0.025
M8-PFOA	6.708	421.0 -> 376.0	380622	20.00	µg/L	0.013
M9-PFNA	7.364	472.0 -> 427.0	396280	20.00	µg/L	0.025
M6-PFDA	7.878	519.0 -> 474.0	430401	20.00	µg/L	0.013
M7-PFUnDA	8.353	570.0 -> 525.0	554956	20.00	µg/L	0.013
M2-PFDoDA	8.961	615.0 -> 570.0	708605	20.00	µg/L	0.025
M2-PFTeDA	10.163	715.0 -> 670.0	590010	20.00	µg/L	0.025
M8-FOSA	7.003	506.0 -> 78.0	121203	20.00	µg/L	0.013
M3-PFBS	4.005	302.0 -> 99.0	26765	20.00	µg/L	0.013
M3-PFHxS	5.998	402.0 -> 99.0	28633	20.00	µg/L	0.013
M8-PFOS	7.334	507.0 -> 99.0	38228	20.00	µg/L	0.013
M2-4:2FTS	4.934	329.0 -> 309.0	112777	20.00	µg/L	0.013
M2-6:2FTS	6.718	429.0 -> 409.0	159913	20.00	µg/L	0.025
M2-8:2FTS	7.928	529.0 -> 509.0	106386	20.00	µg/L	0.013
M3-MeFOSAA	7.519	573.0 -> 419.0	64288	20.00	µg/L	0.000
M3-HFPO-DA	5.318	287.0 -> 169.0	250832	100.00	µg/L	0.025
System Monitoring Compounds						
13C2-4:2FTS	4.934	329.0 -> 309.0	112326	19.29	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C2-6:2FTS	6.718	429.0 -> 409.0	159784	20.15	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C2-8:2FTS	7.928	529.0 -> 509.0	106360	19.76	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C2-PFDoDA	8.961	615.0 -> 570.0	703649	20.15	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C2-PFTeDA	10.163	715.0 -> 670.0	580133	21.77	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 108.9%		
13C3-PFBS	4.005	302.0 -> 99.0	26637	19.49	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.4%		
13C3-PFHxS	5.998	402.0 -> 99.0	28590	19.40	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C4-PFBA	2.065	217.0 -> 172.0	201999	20.63	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C4-PFHpA	5.966	367.0 -> 322.0	307352	20.18	µg/L	0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C5-PFHxA	5.026	318.0 -> 273.0	234172	20.06	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C5-PFPeA	3.762	268.0 -> 223.0	167554	20.36	µg/L	0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C6-PFDA	7.878	519.0 -> 474.0	430209	20.33	µg/L	0.013

Perfluorinated Compounds by LC/MS/MS

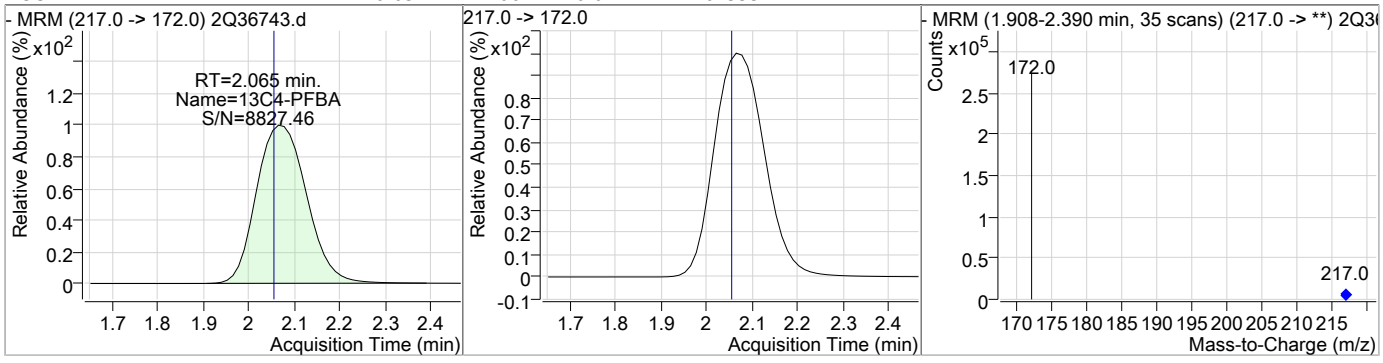
Compound	RT	QIon	Resp.	Conc. Units		Dev(Min)
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C7-PFUnDA	8.353	570.0 -> 525.0	552996	19.95 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C8-FOSA	7.003	506.0 -> 78.0	121193	21.30 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 106.5%		
13C8-PFOA	6.708	421.0 -> 376.0	379778	20.75 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 103.8%		
13C8-PFOS	7.334	507.0 -> 99.0	38237	19.64 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C9-PFNA	7.364	472.0 -> 427.0	396134	20.95 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 104.8%		
d3-MeFOSAA	7.519	573.0 -> 419.0	64356	19.69 µg/L		0.000
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 98.5%		
M2-PFOA	6.710	415.0 -> 370.0	483327	20.00 µg/L		0.013
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
M4-PFOS	7.336	503.0 -> 80.0	64733	19.88 µg/L		0.025
Spiked Amount: 20.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C3-HFPO-DA	5.318	287.0 -> 169.0	250832	88.23 µg/L		0.025
Spiked Amount: 100.00	Range: 50.0 - 150.0%			Recovery = 88.2%		
Target Compounds						**QValue**
4:2FTS	4.936	327.0 -> 307.0	3482	1.09 µg/L		99
6:2FTS	6.707	427.0 -> 407.0	4386	1.10 µg/L		99
8:2FTS	7.929	527.0 -> 507.0	3140	1.10 µg/L		98
EtFOSAA	7.644	584.0 -> 419.0	1644	1.22 µg/L		84
FOSA	7.006	498.0 -> 78.0	3028	0.96 µg/L		89
MeFOSAA	7.532	570.0 -> 419.0	1859	1.09 µg/L		96
PFBA	2.073	213.0 -> 169.0	1856	0.98 µg/L		100
PFBS	4.009	299.0 -> 80.0	2109	1.00 µg/L		99
PFDA	7.879	513.0 -> 469.0	10944	1.03 µg/L		97
PFDoDA	8.967	613.0 -> 569.0	16345	1.00 µg/L		100
PFDS	8.311	599.0 -> 80.0	803	0.99 µg/L		100
PFHpA	5.969	363.0 -> 319.0	14264	1.02 µg/L		100
PFHpS	6.716	449.0 -> 80.0	1623	1.06 µg/L		98
PFHxA	5.040	313.0 -> 269.0	3662	1.01 µg/L		98
PFHxS	6.000	399.0 -> 80.0	1777	1.04 µg/L	m	97
PFNA	7.365	463.0 -> 419.0	12264	0.99 µg/L		99
PFNS	7.848	549.0 -> 80.0	1242	1.00 µg/L		96
PFOA	6.711	413.0 -> 369.0	10550	1.03 µg/L		99
PFOS	7.337	499.0 -> 80.0	2012	1.11 µg/L	m	96
PFPeA	3.765	263.0 -> 219.0	8521	1.01 µg/L		100
PFPeS	5.145	349.0 -> 80.0	1203	1.03 µg/L		94
PFTeDA	10.156	713.0 -> 669.0	17633	0.97 µg/L		100
PFTrDA	9.574	663.0 -> 619.0	16402	0.94 µg/L		99
PFUnDA	8.356	563.0 -> 519.0	12848	0.98 µg/L		99
11Cl-PF3OUdS	8.548	631.0 -> 451.0	8504	0.94 µg/L		98
9Cl-PF3ONS	7.610	531.0 -> 351.0	1573	1.03 µg/L		86
ADONA	6.065	377.0 -> 251.0	16603	0.91 µg/L		99
HFPO-DA	5.323	329.0 -> 169.0	13115	5.08 µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

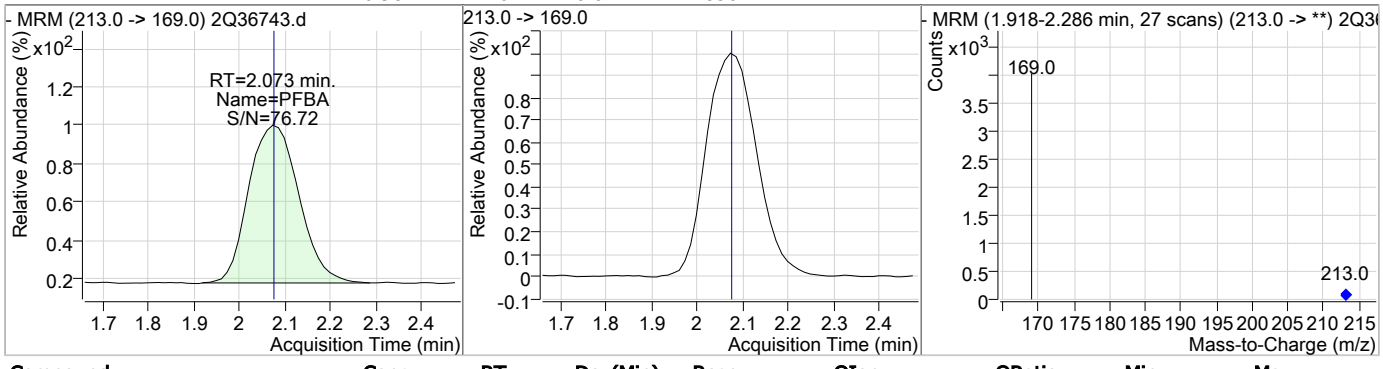
Perfluorinated Compounds by LC/MS/MS



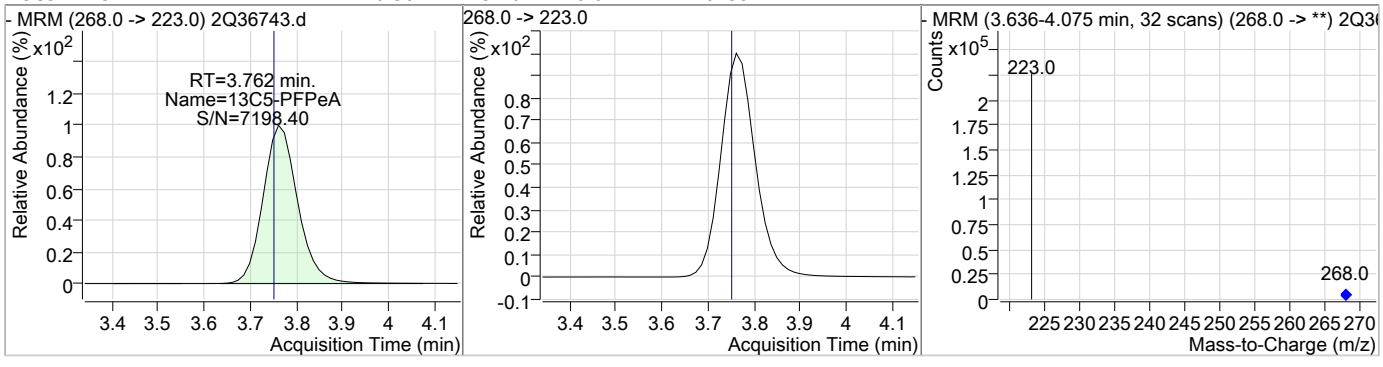
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	20.63	2.06	0.01	201999				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.98	2.07	0.01	1856				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	20.36	3.76	0.01	167554				



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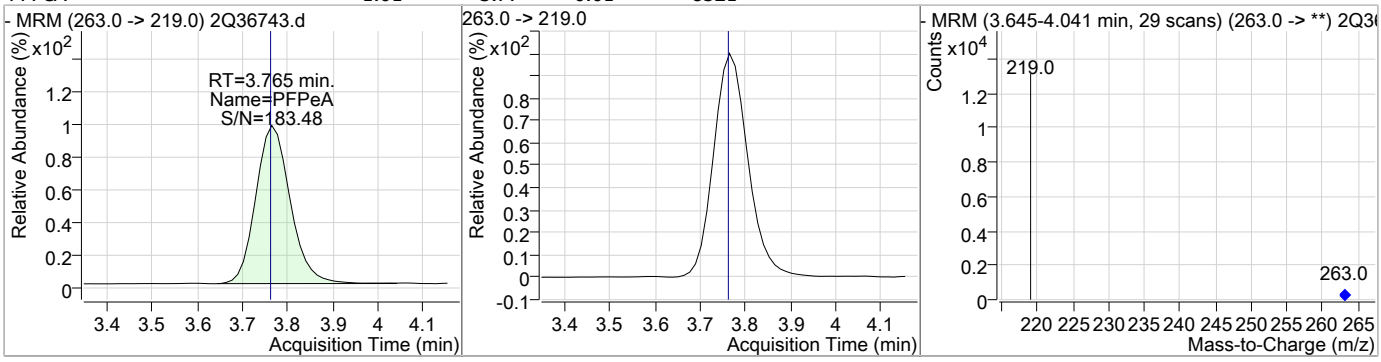
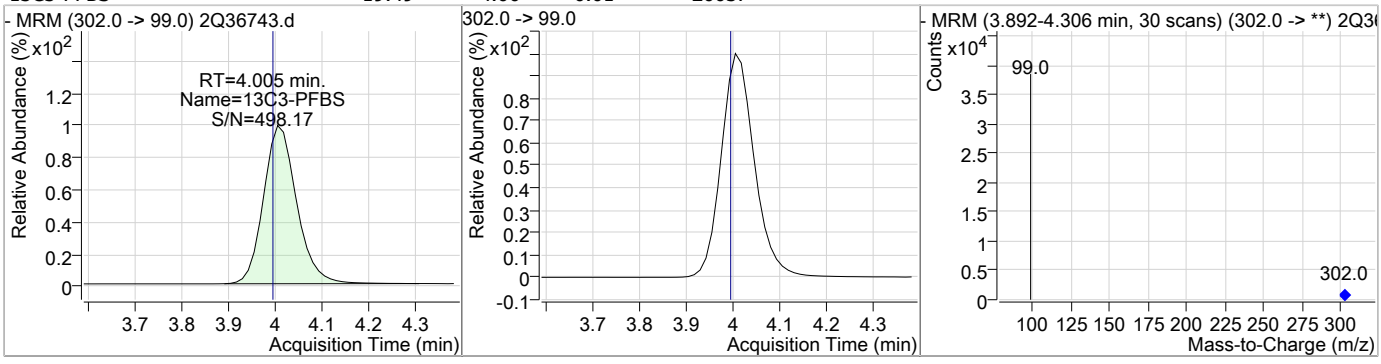
Perfluorinated Compounds by LC/MS/MS

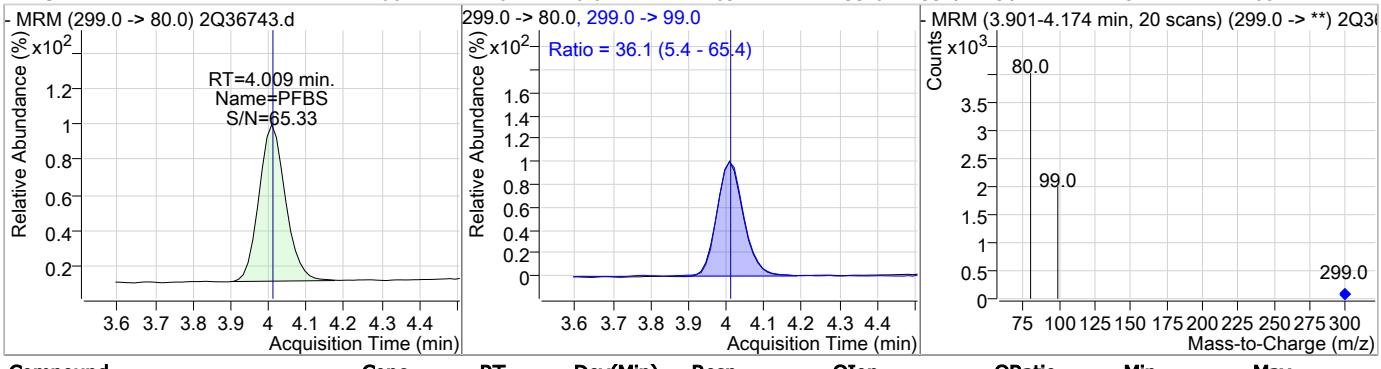
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.01	3.77	0.01	8521				



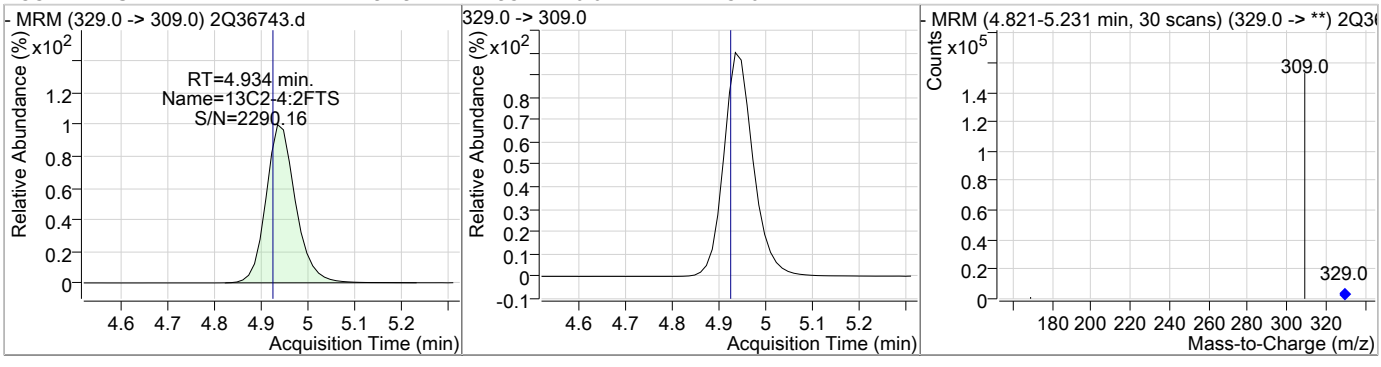
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	19.49	4.00	0.01	26637				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.00	4.01	0.01	2109	299.0 -> 99.0	36.1	5.4	65.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	19.29	4.93	0.01	112326				



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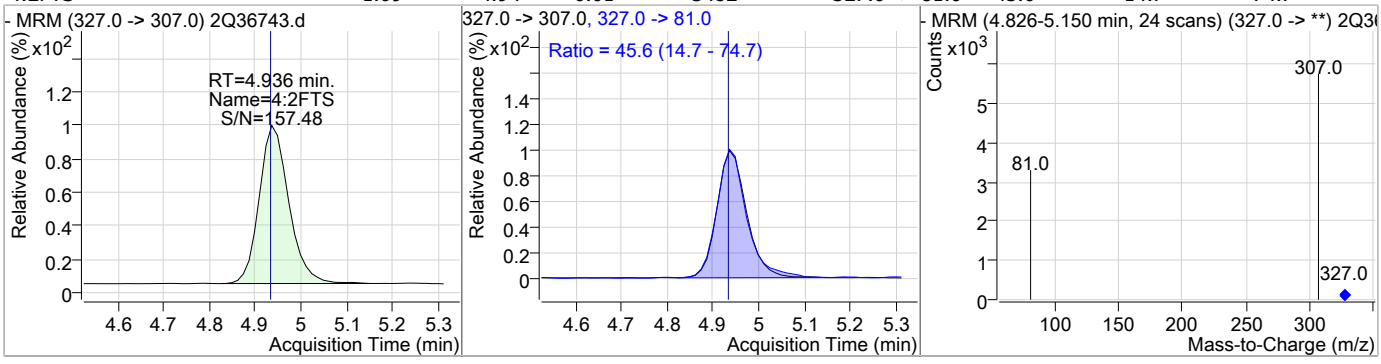
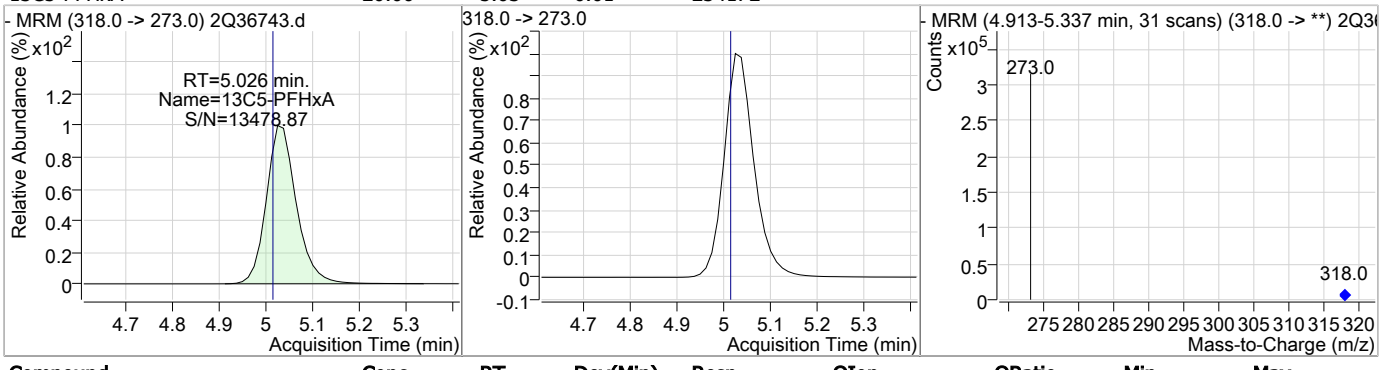
Perfluorinated Compounds by LC/MS/MS

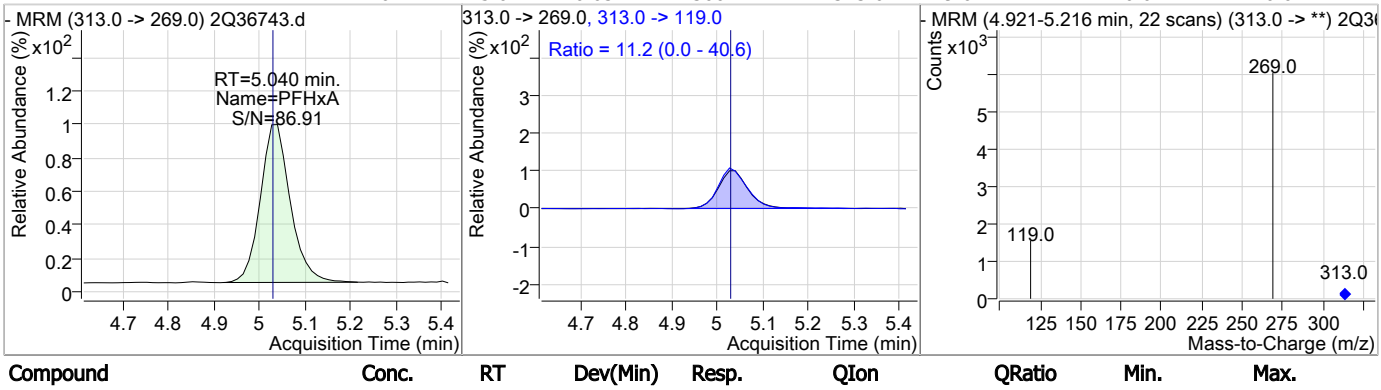
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	1.09	4.94	0.01	3482	327.0 -> 81.0	45.6	14.7	74.7



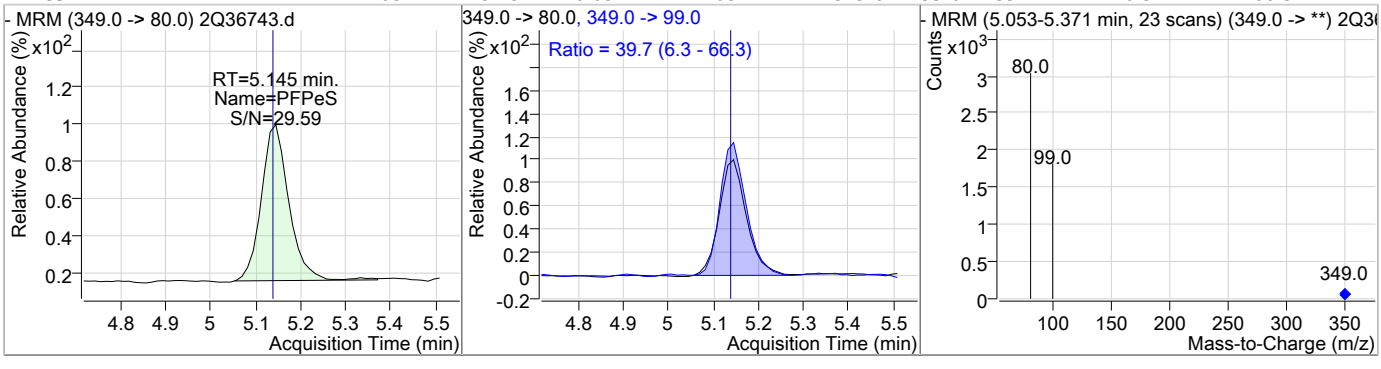
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	20.06	5.03	0.01	234172				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.01	5.04	0.03	3662	313.0 -> 119.0	11.2	0.0	40.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.03	5.15	0.03	1203	349.0 -> 99.0	39.7	6.3	66.3



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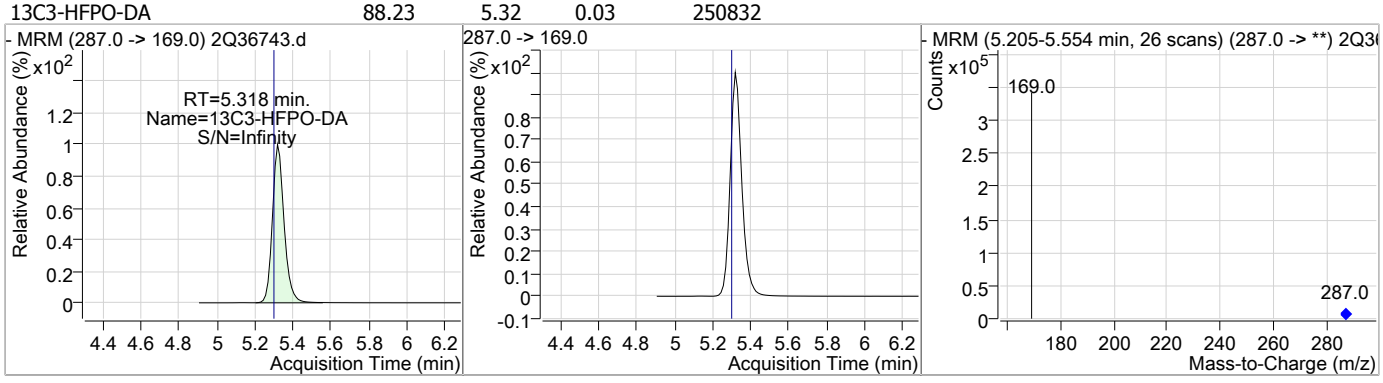
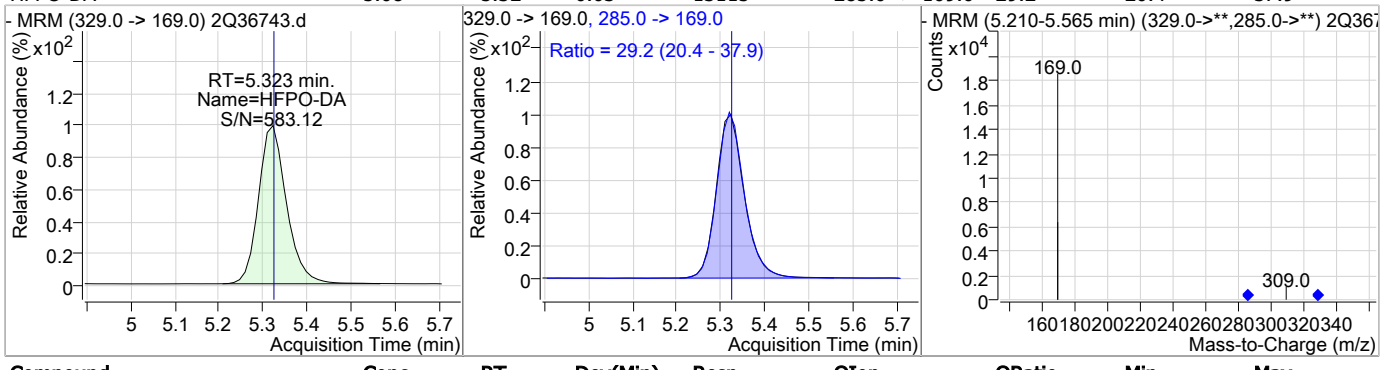
Perfluorinated Compounds by LC/MS/MS

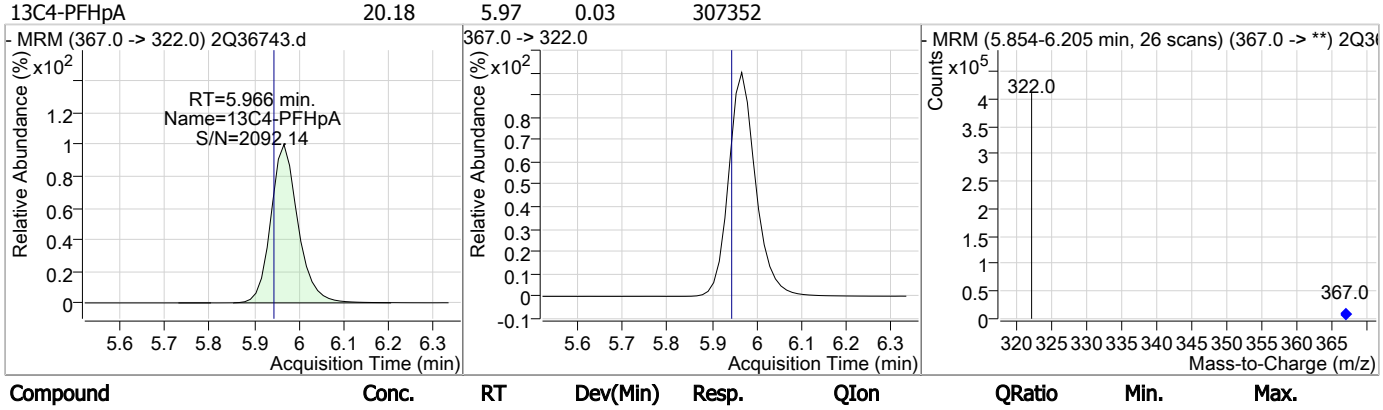
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	88.23	5.32	0.03	250832				



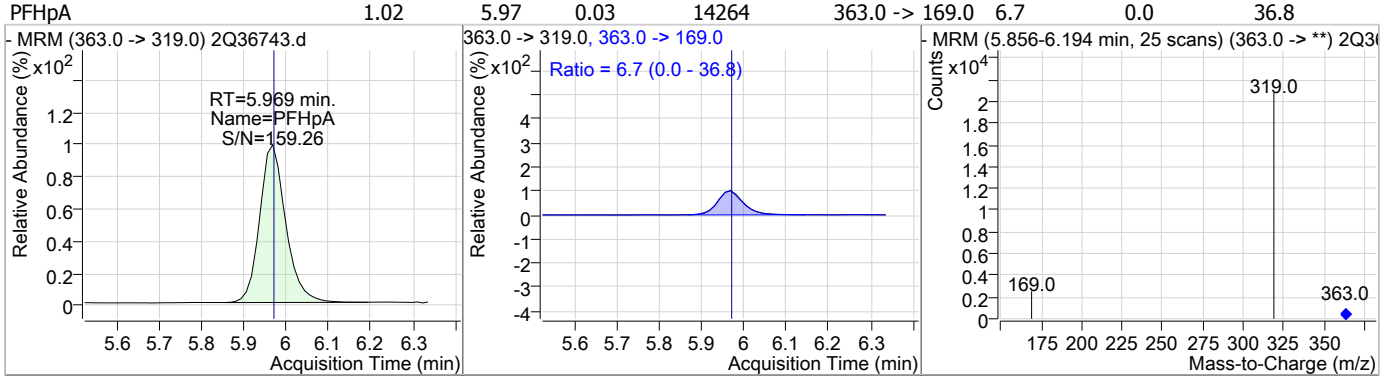
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.08	5.32	0.03	13115	285.0 -> 169.0	29.2	20.4	37.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	20.18	5.97	0.03	307352				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.02	5.97	0.03	14264	363.0 -> 169.0	6.7	0.0	36.8



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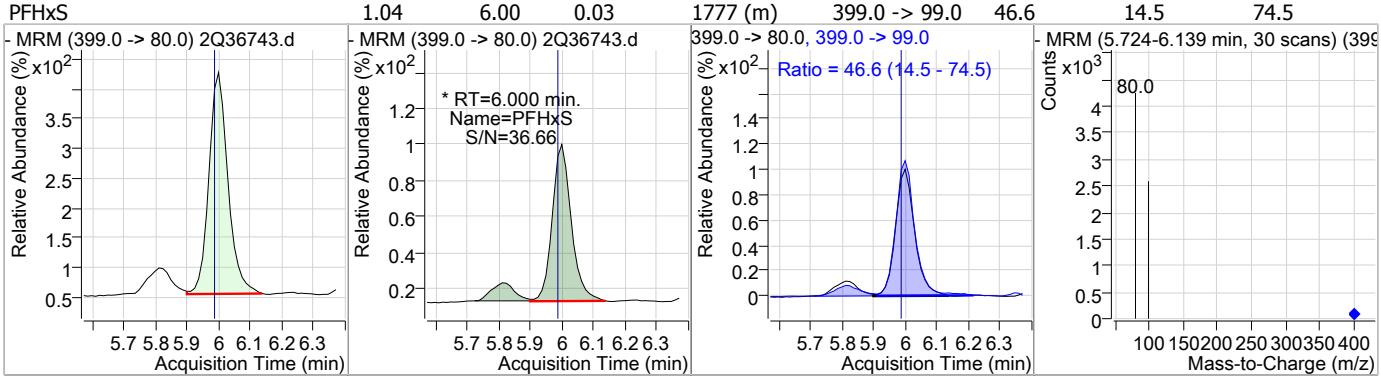
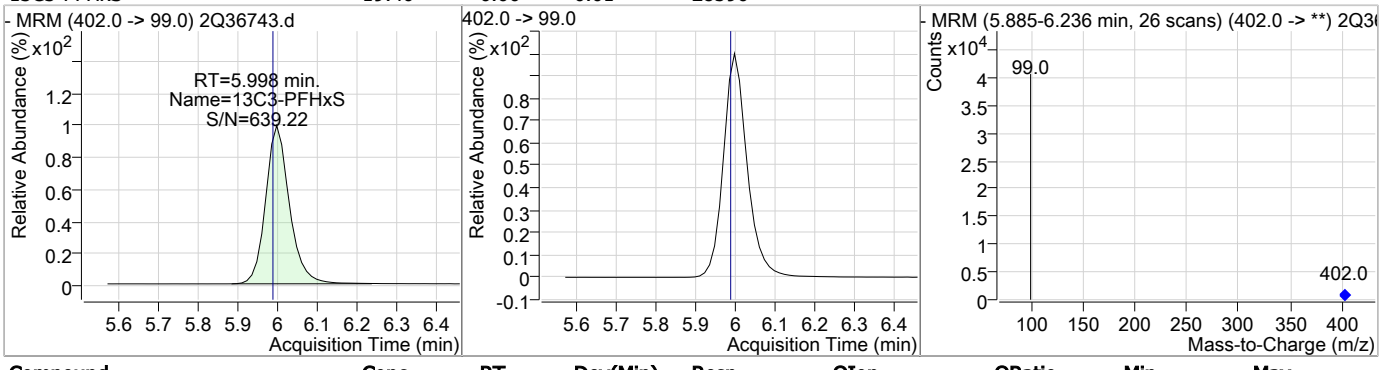
Perfluorinated Compounds by LC/MS/MS

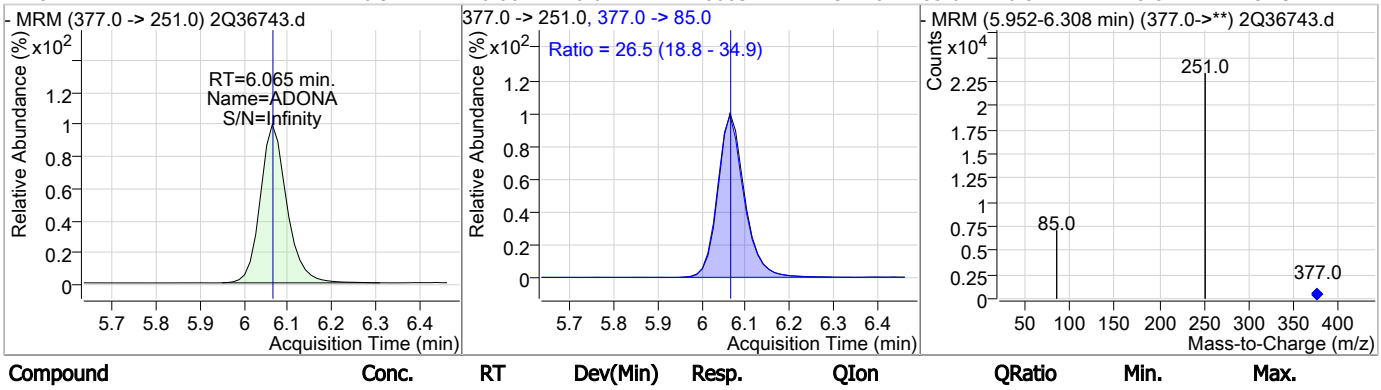
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.04	6.00	0.03	1777 (m)	399.0 -> 99.0	46.6	14.5	74.5



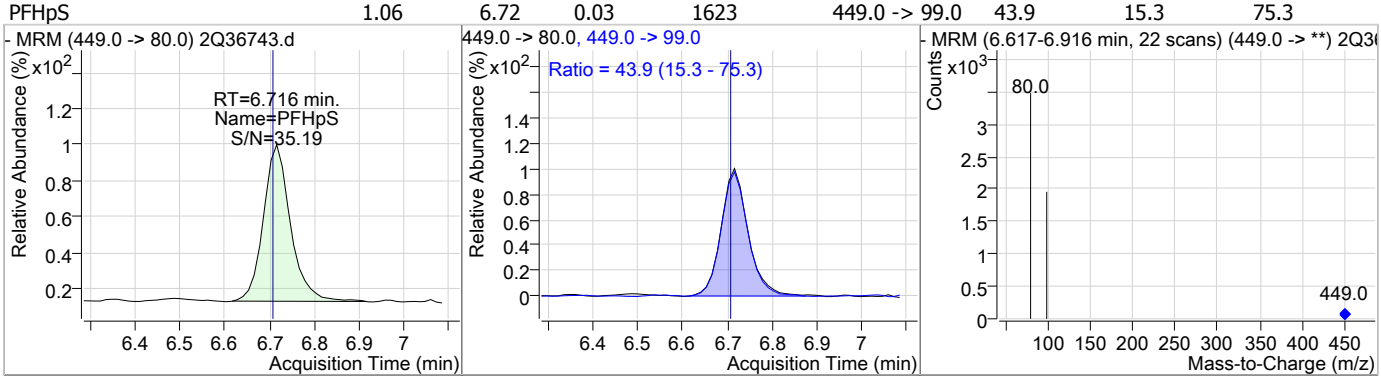
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	19.40	6.00	0.01	28590				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.91	6.06	0.01	16603	377.0 -> 85.0	26.5	18.8	34.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.06	6.72	0.03	1623	449.0 -> 99.0	43.9	15.3	75.3



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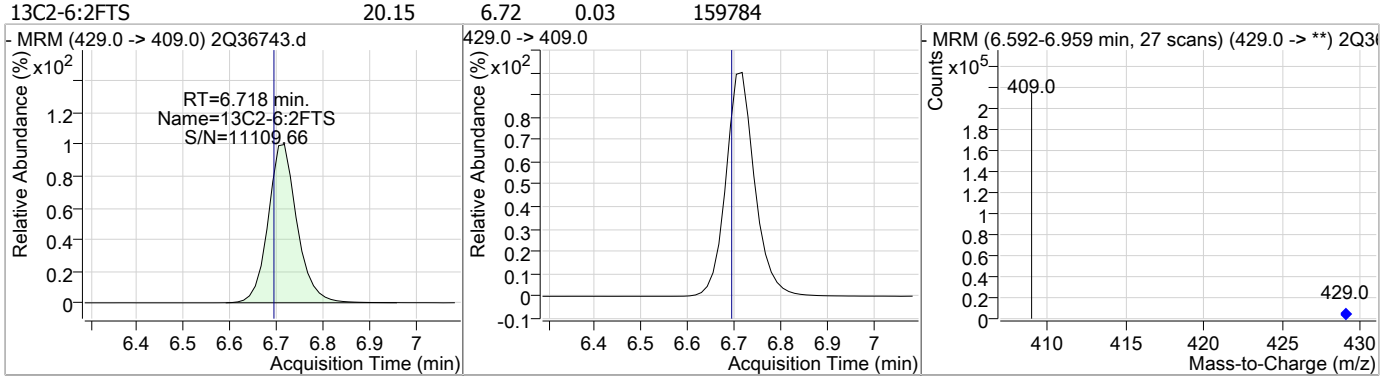
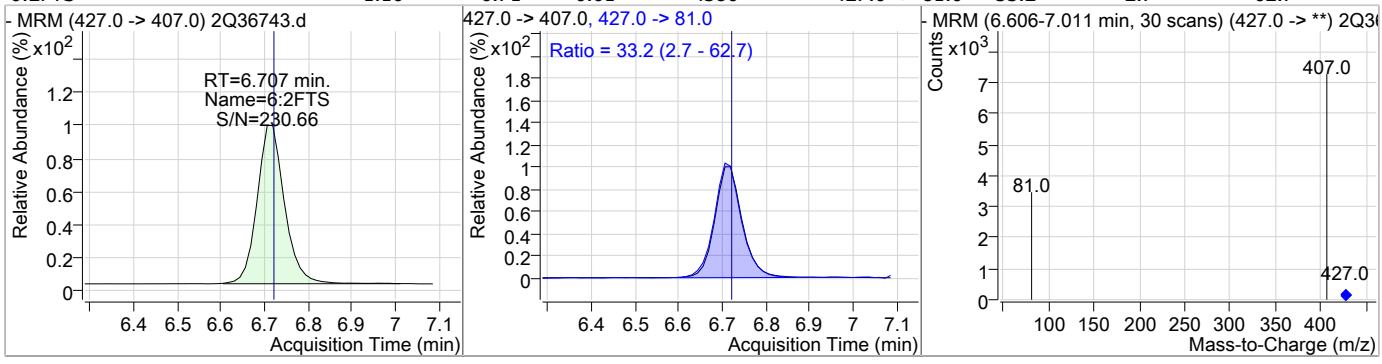
Perfluorinated Compounds by LC/MS/MS

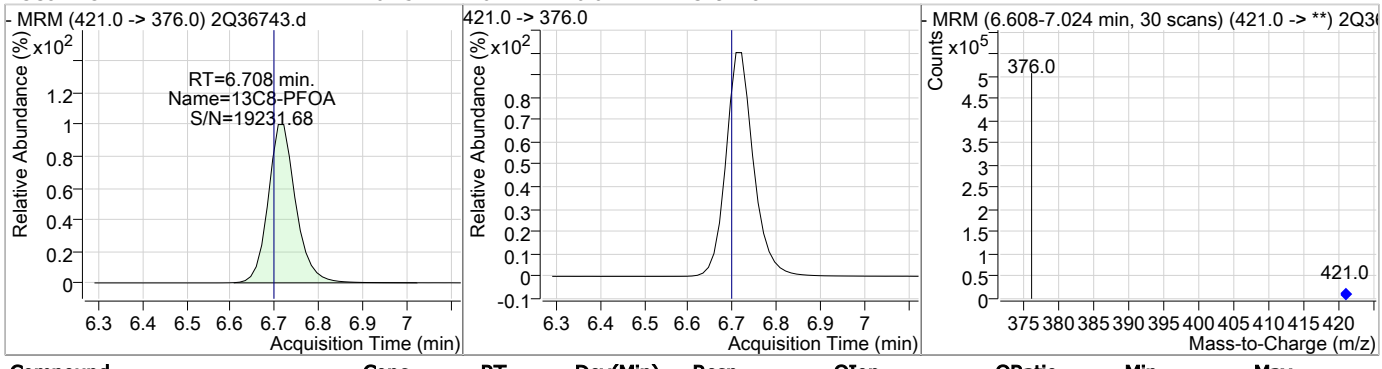
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	20.15	6.72	0.03	159784				



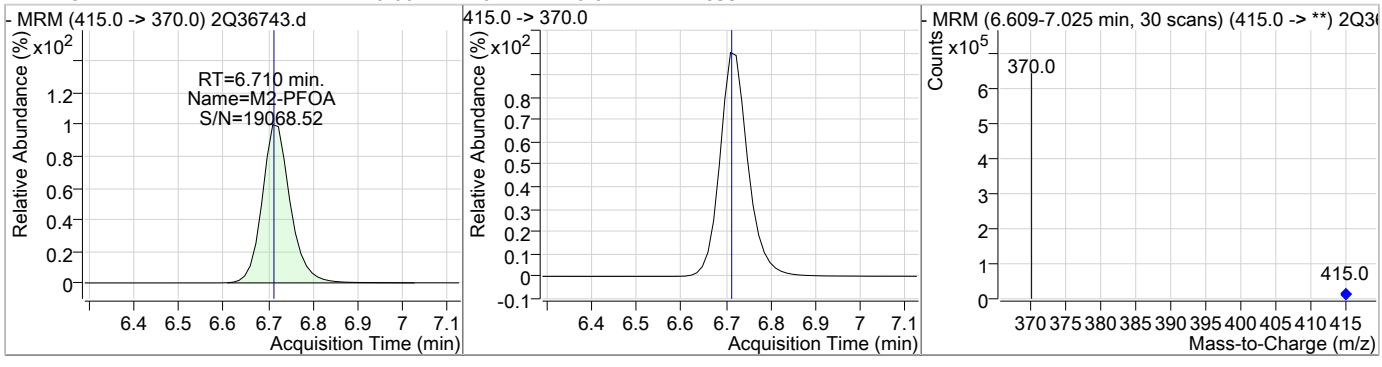
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.10	6.71	0.01	4386	427.0 -> 81.0	33.2	2.7	62.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	20.75	6.71	0.01	379778				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M2-PFOA	20.00	6.71	0.01	483327				



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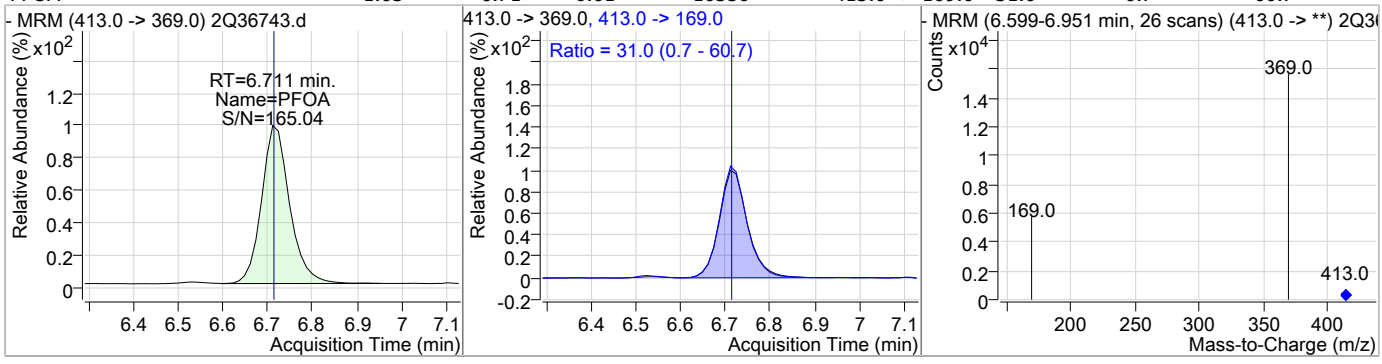
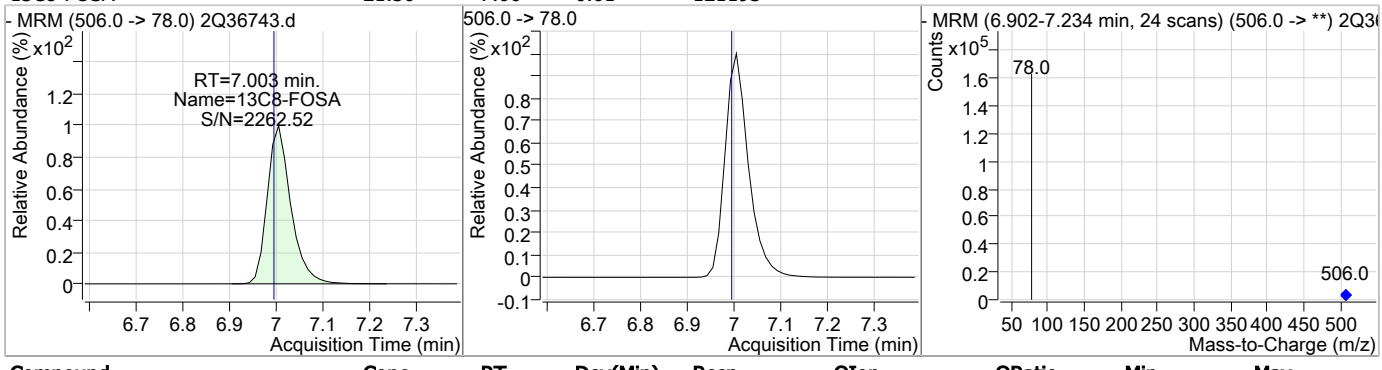
Perfluorinated Compounds by LC/MS/MS

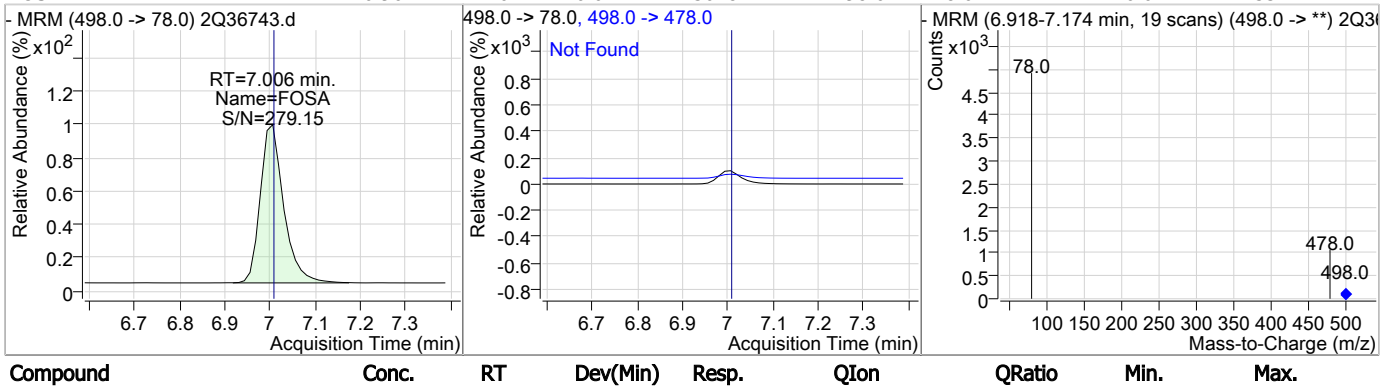
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.03	6.71	0.01	10550	413.0 -> 169.0	31.0	0.7	60.7



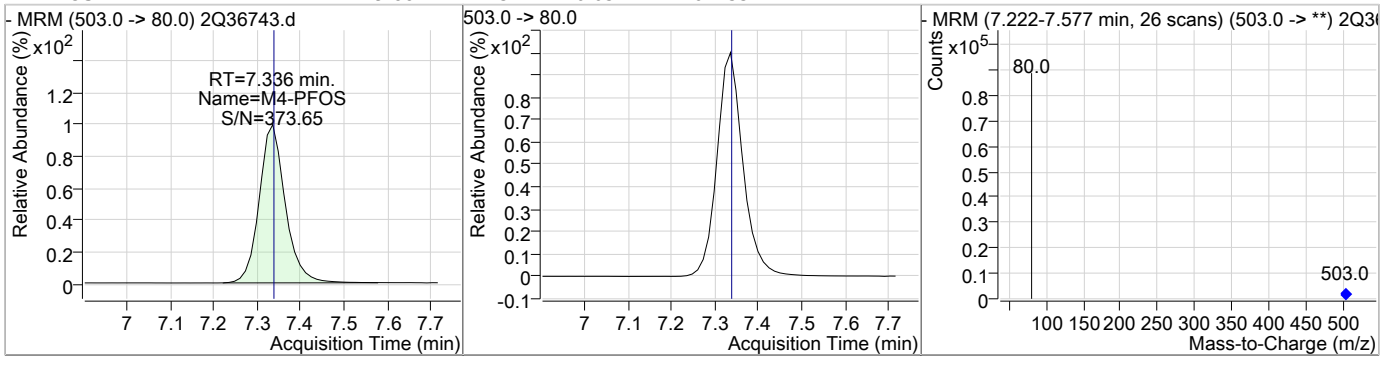
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	21.30	7.00	0.01	121193				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.96	7.01	0.01	3028	498.0 -> 478.0		0.0	33.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
M4-PFOS	19.88	7.34	0.03	64733				



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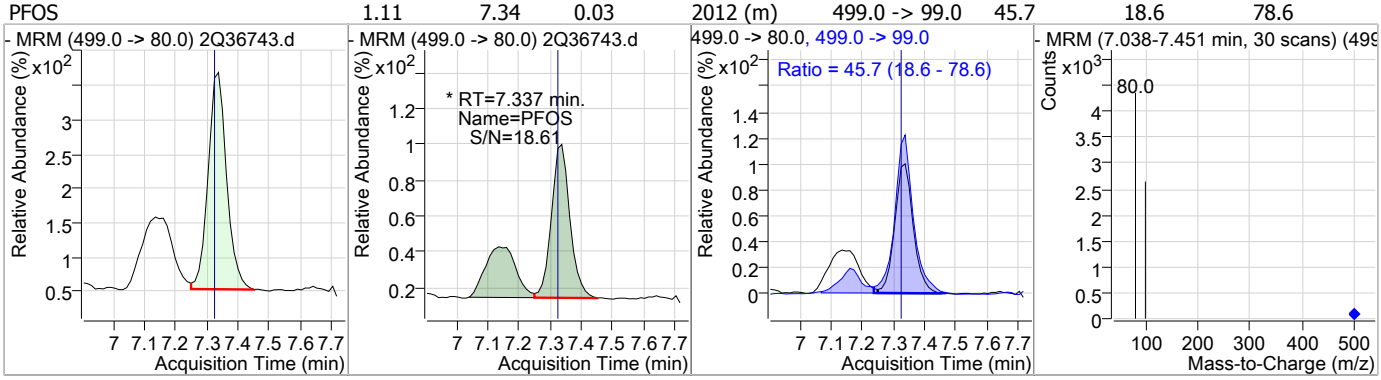
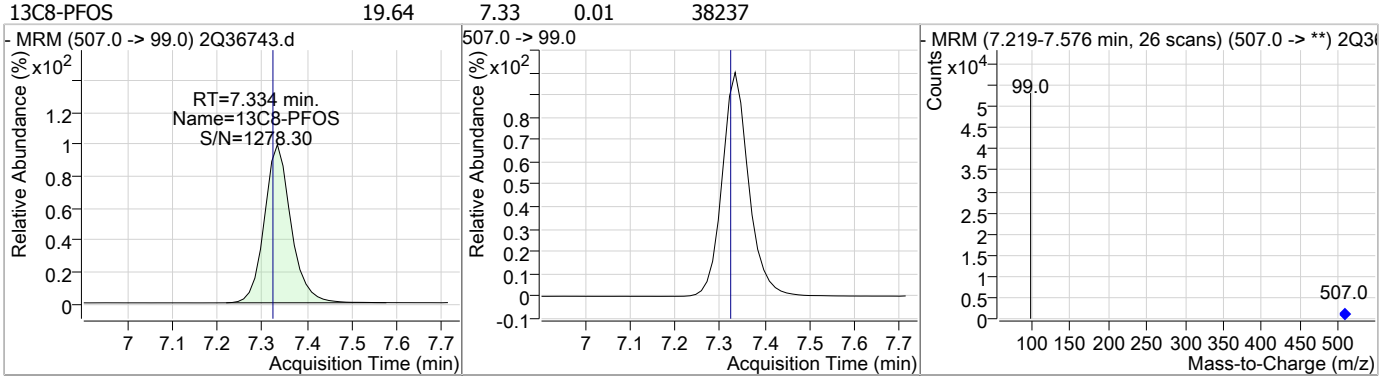
Perfluorinated Compounds by LC/MS/MS

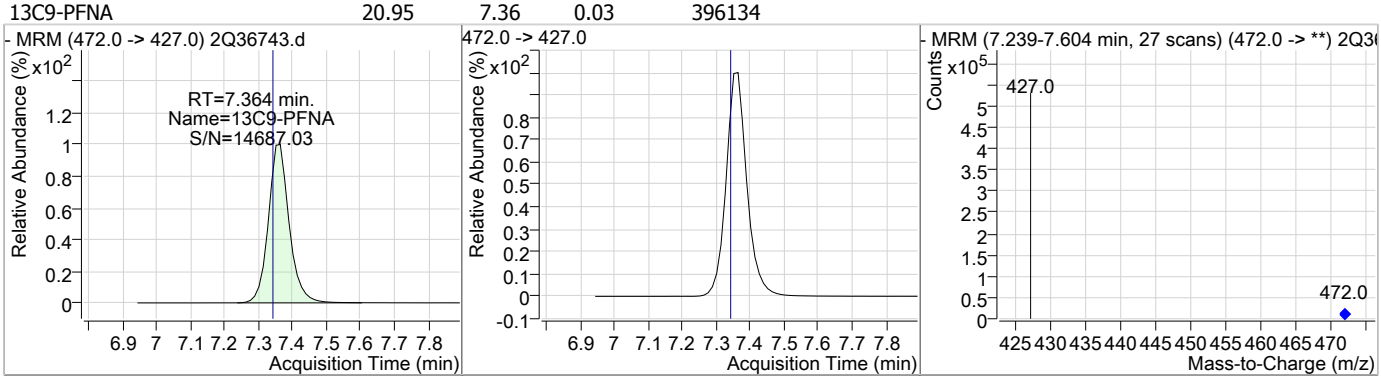
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.11	7.34	0.03	2012 (m)	499.0 -> 99.0	45.7	18.6	78.6



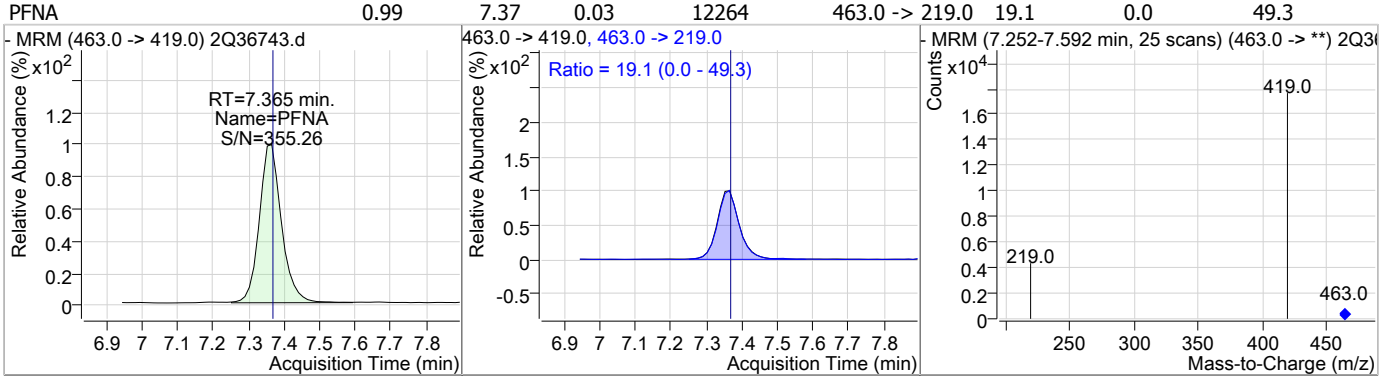
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	19.64	7.33	0.01	38237				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	20.95	7.36	0.03	396134				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.99	7.37	0.03	12264	463.0 -> 219.0	19.1	0.0	49.3



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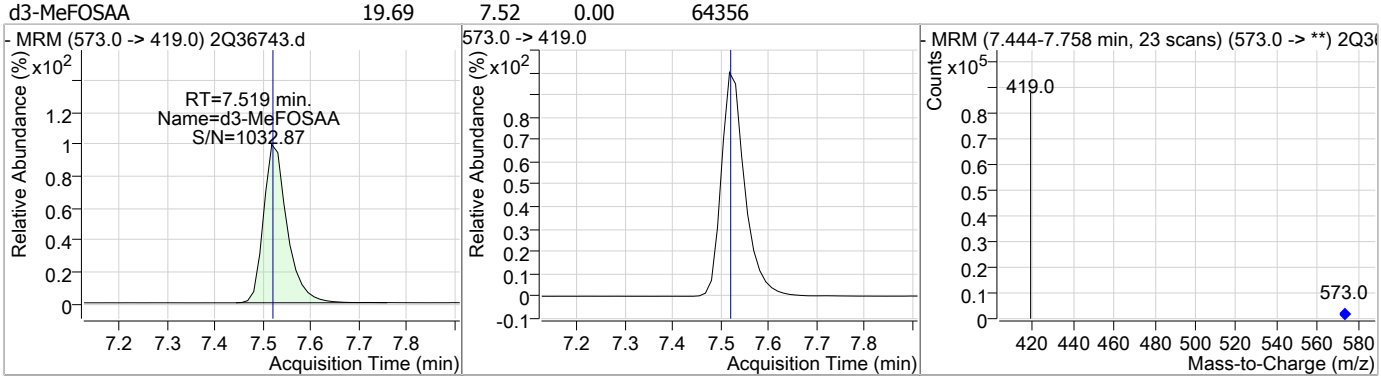
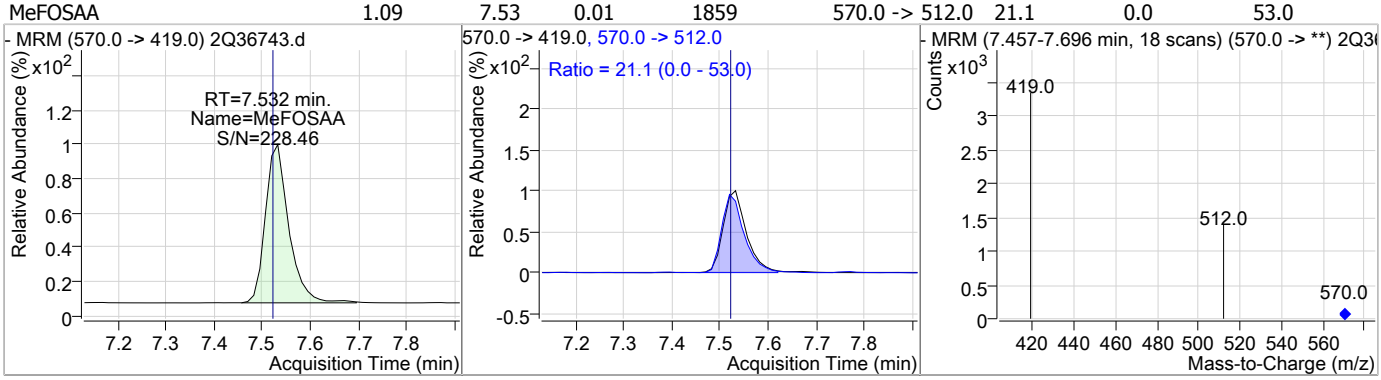
Perfluorinated Compounds by LC/MS/MS

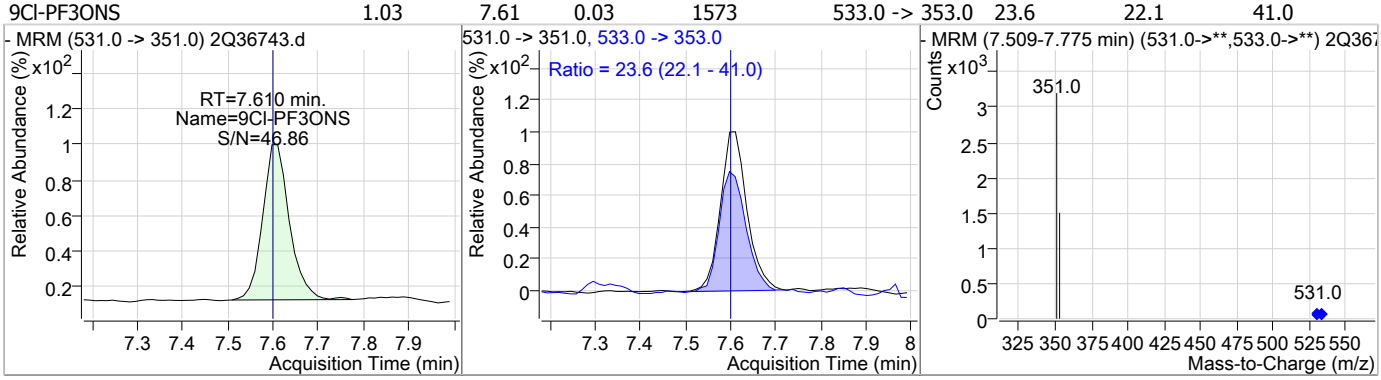
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	19.69	7.52	0.00	64356				



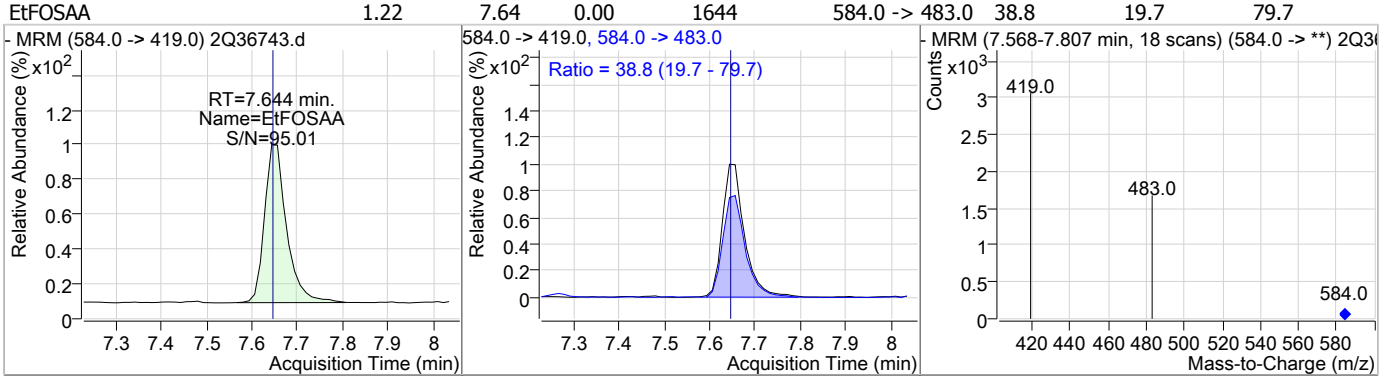
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.09	7.53	0.01	1859	570.0 -> 512.0	21.1	0.0	53.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	1.03	7.61	0.03	1573	533.0 -> 353.0	23.6	22.1	41.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.22	7.64	0.00	1644	584.0 -> 483.0	38.8	19.7	79.7



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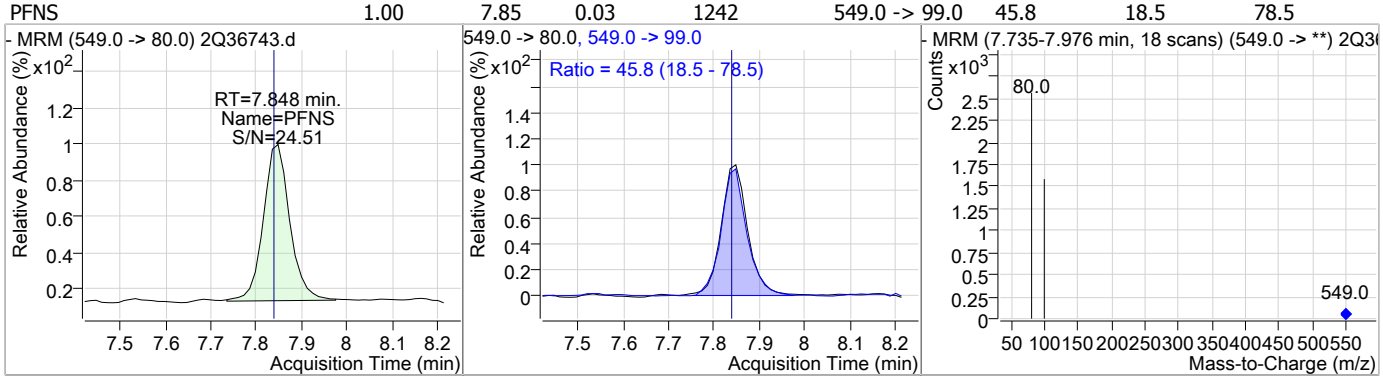
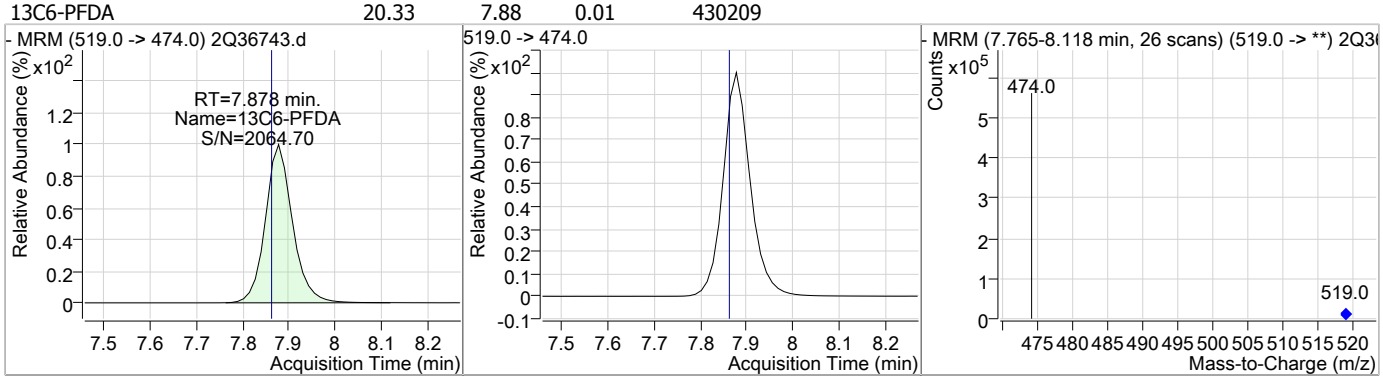
Perfluorinated Compounds by LC/MS/MS

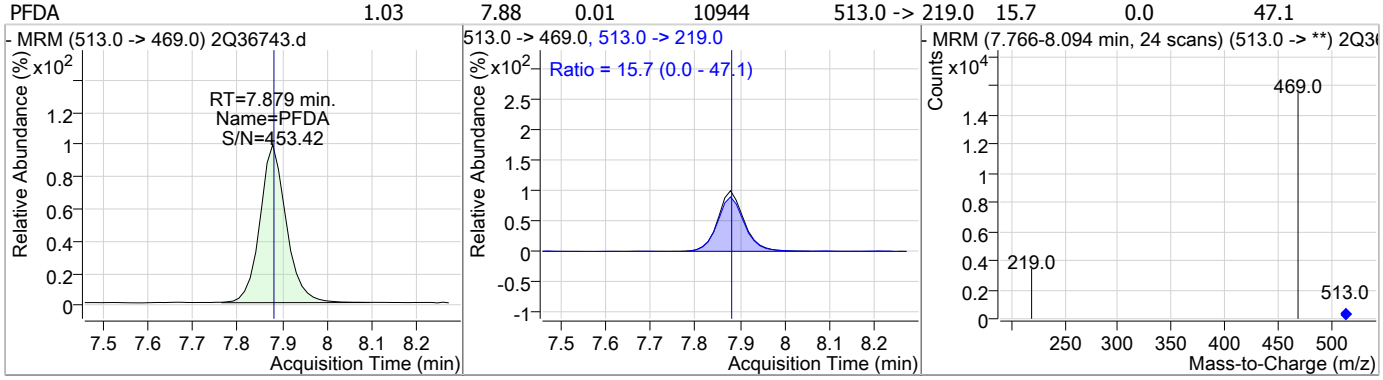
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.00	7.85	0.03	1242	549.0 -> 99.0	45.8	18.5	78.5



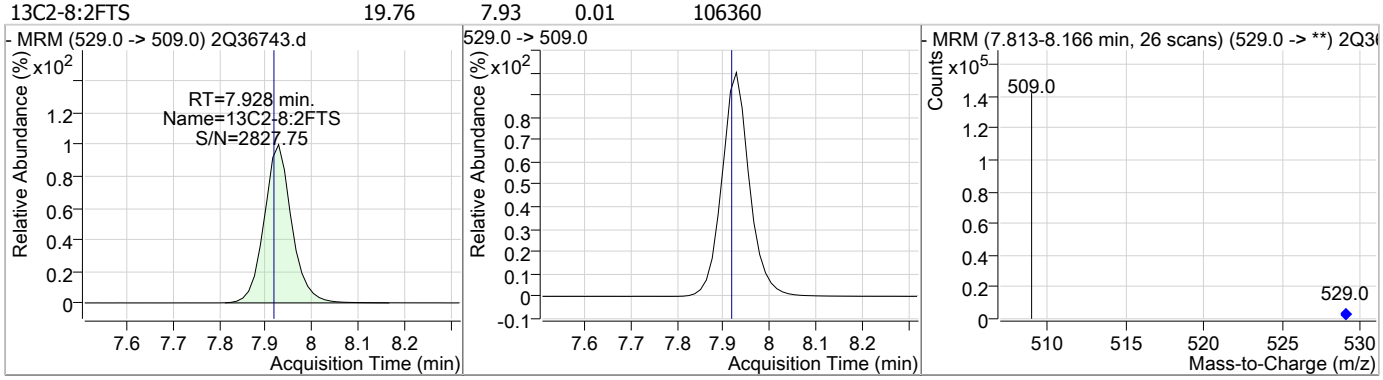
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	20.33	7.88	0.01	430209				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.03	7.88	0.01	10944	513.0 -> 219.0	15.7	0.0	47.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	19.76	7.93	0.01	106360				



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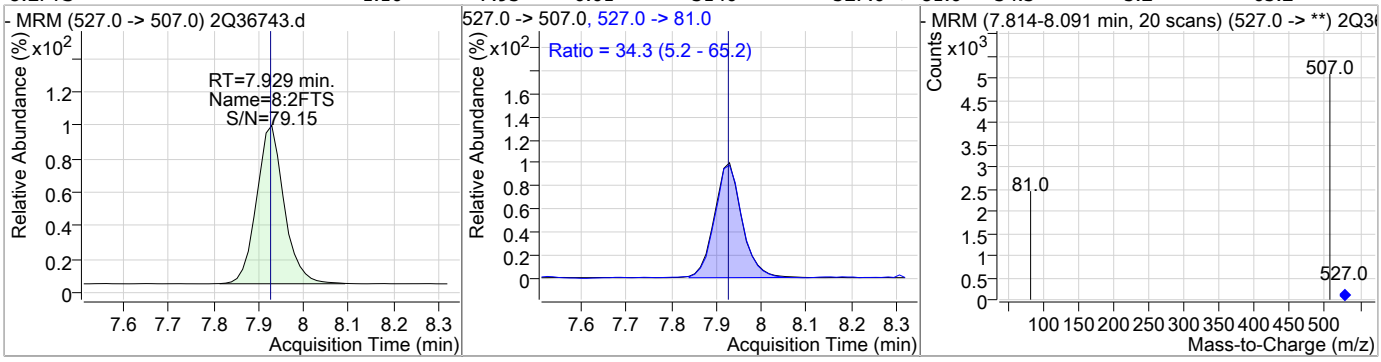
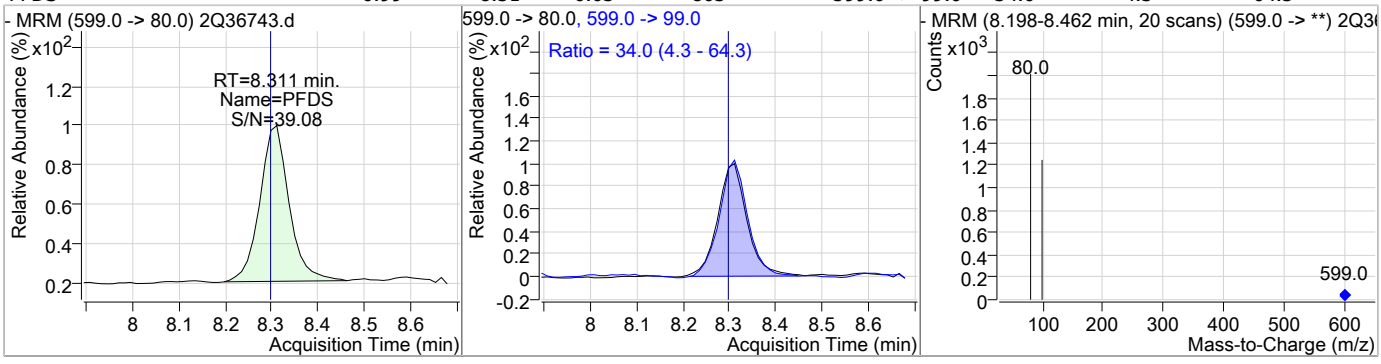
Perfluorinated Compounds by LC/MS/MS

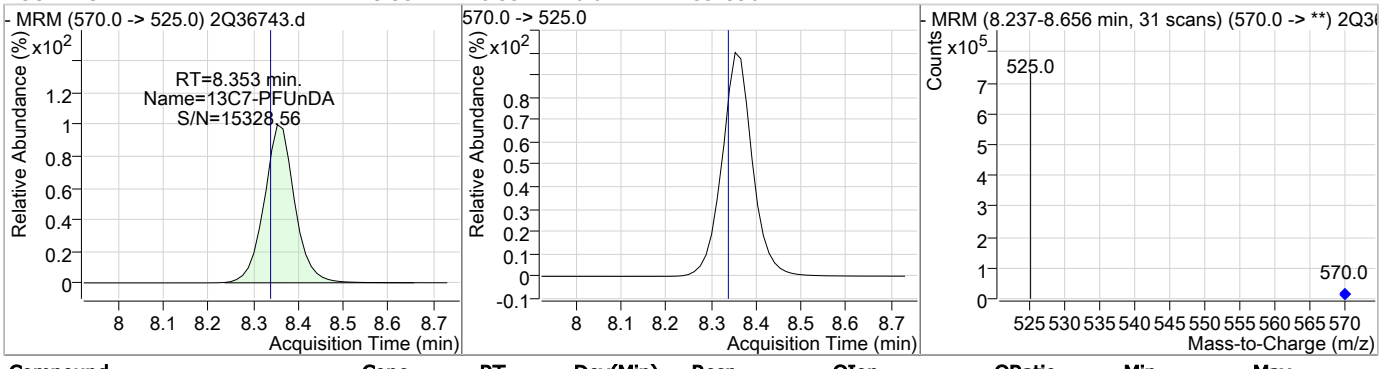
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	1.10	7.93	0.01	3140	527.0 -> 81.0	34.3	5.2	65.2



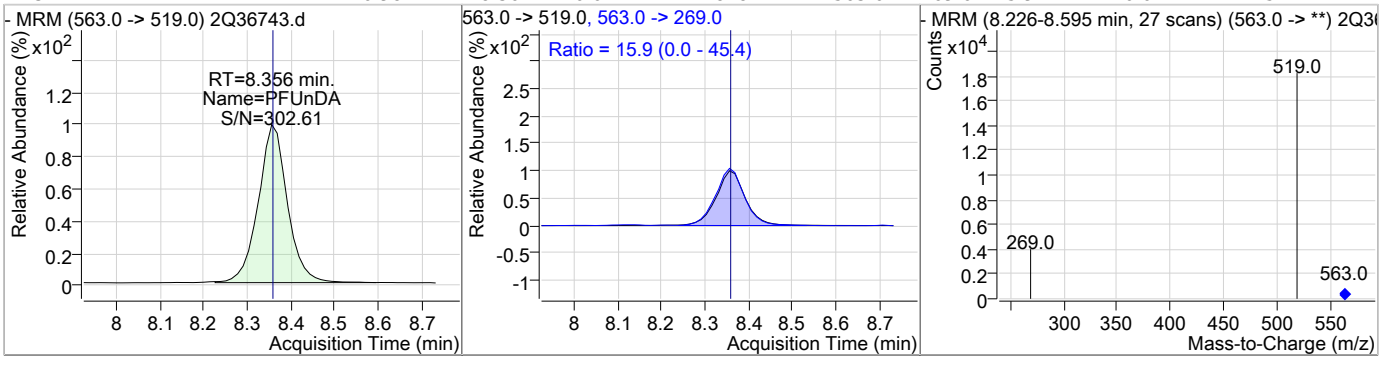
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.99	8.31	0.03	803	599.0 -> 99.0	34.0	4.3	64.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	19.95	8.35	0.01	552996				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.98	8.36	0.01	12848	563.0 -> 269.0	15.9	0.0	45.4



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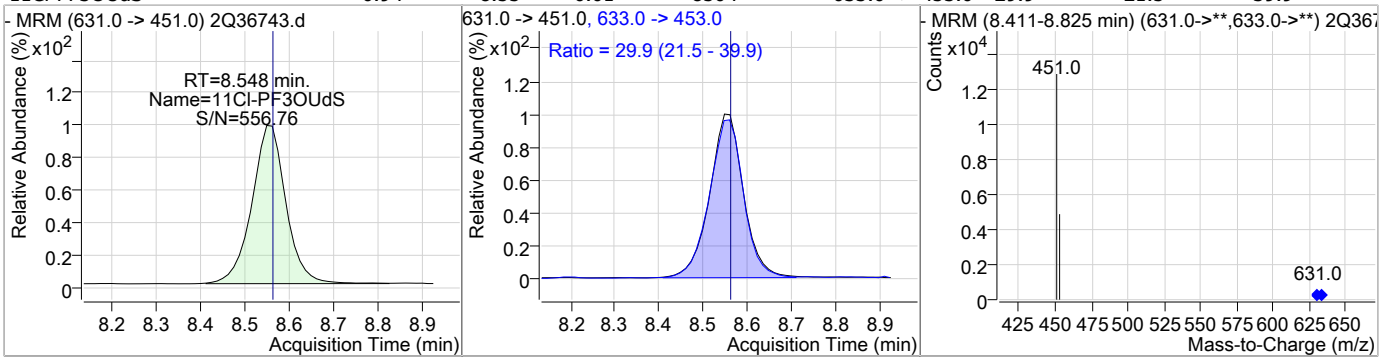
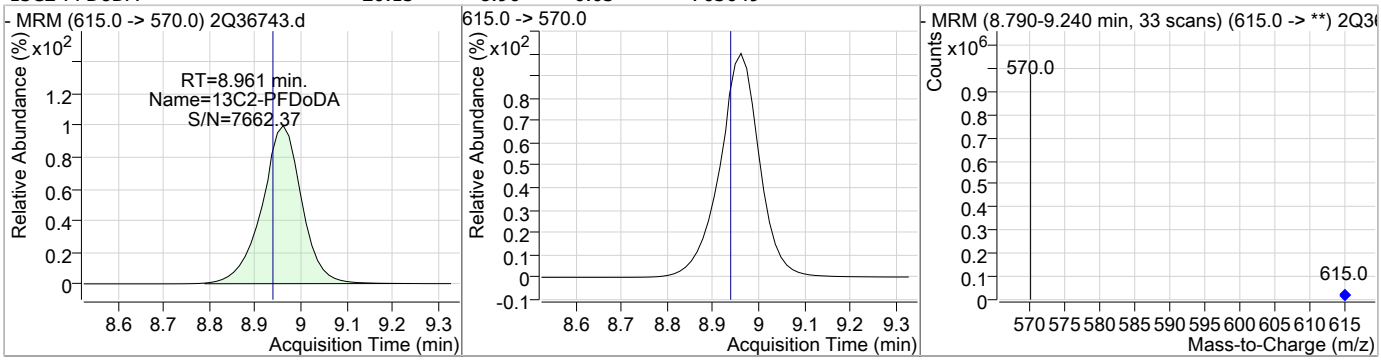
Perfluorinated Compounds by LC/MS/MS

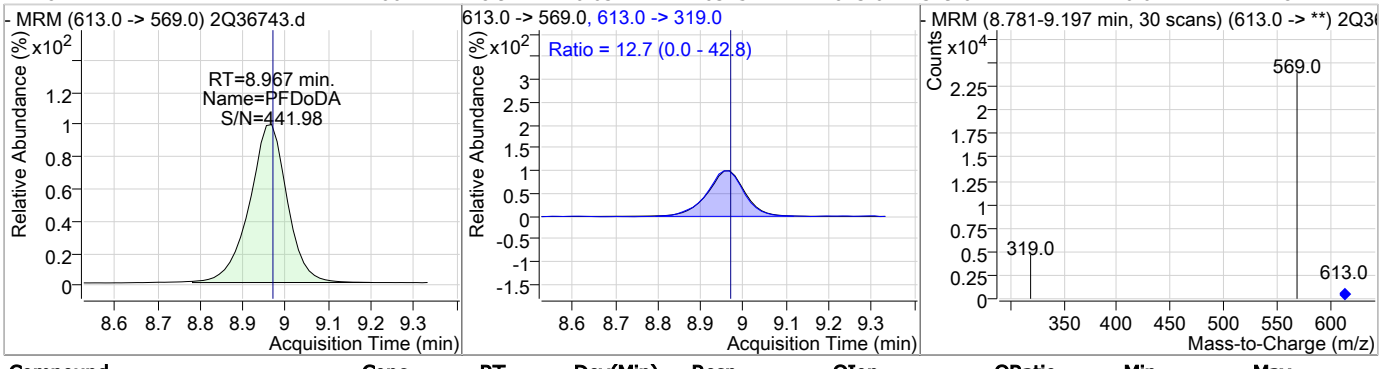
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.94	8.55	0.01	8504	633.0 -> 453.0	29.9	21.5	39.9



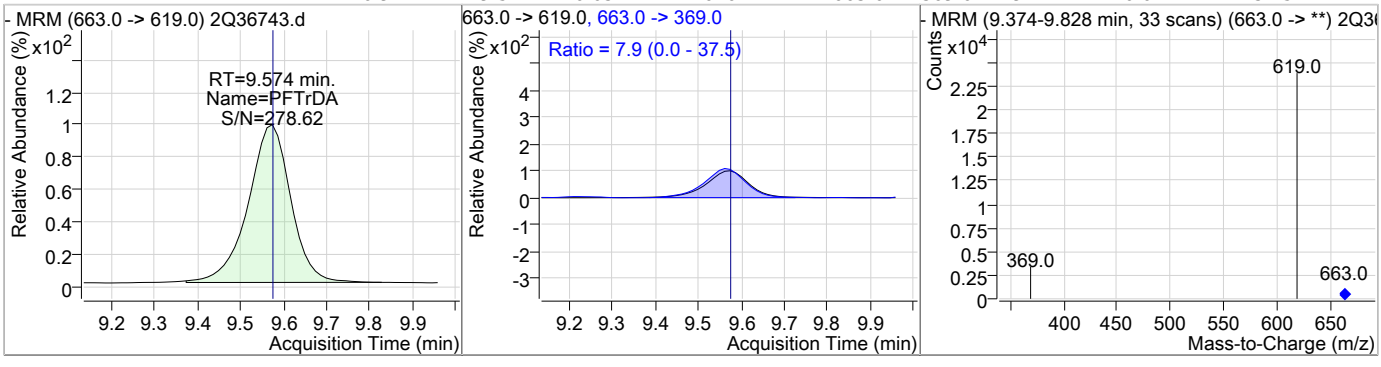
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	20.15	8.96	0.03	703649				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.00	8.97	0.03	16345	613.0 -> 319.0	12.7	0.0	42.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.94	9.57	0.03	16402	663.0 -> 369.0	7.9	0.0	37.5



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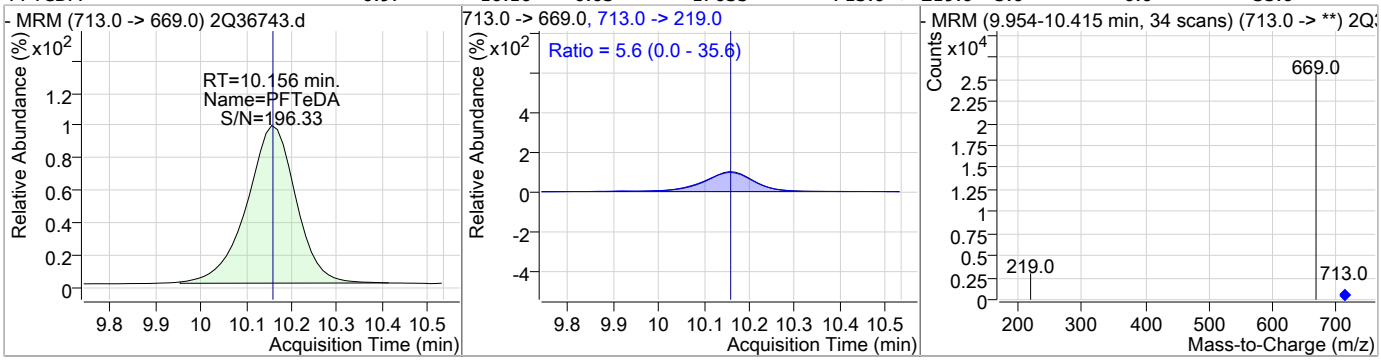
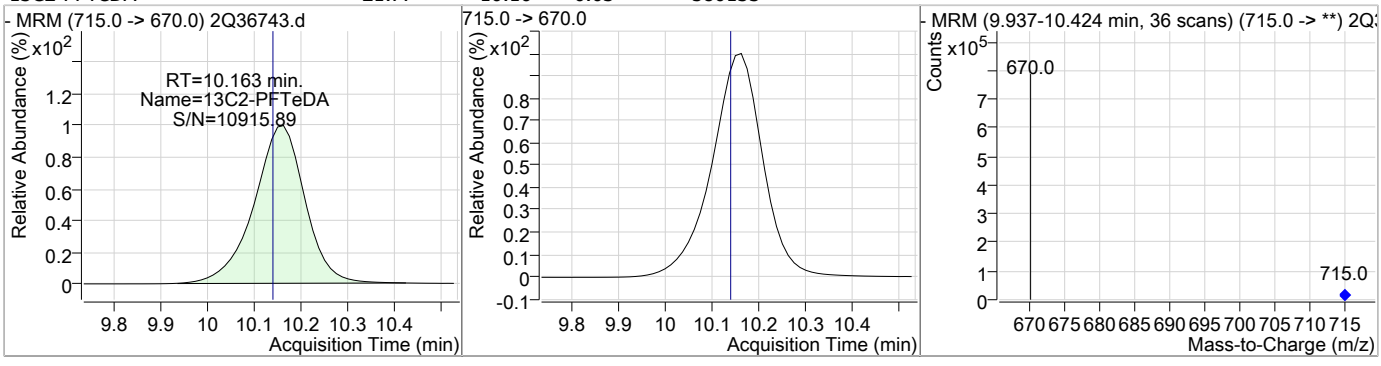
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.97	10.16	0.03	17633	713.0 -> 219.0	5.6	0.0	35.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	21.77	10.16	0.03	580133				



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Manual Integration Approval Summary

Sample Number:	S2Q571-CC568	**Method:**	EPA 537M QSM5.1 B-15
Lab FileID:	2Q36743.D	**Analyst approved:**	09/27/19 10:10 Natasha Gumtie
Injection Time:	09/26/19 22:26	**Supervisor approved:**	09/27/19 15:24 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.00	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.34	Split peak

SGS ORLANDO

LCMS2-2Q ANALYSIS LOG

DATE:	09/23/19
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS2-2Q

METHODS:	537 MOD MS014 MS019
PROC. METH:	ID_092319_s2q568
CAL DATE:	09/23/19
ANALYST:	NAS
RUN BATCH:	S2Q568

ELUENT A LOT #:	193242 W/0.1% AA
ELUENT B LOT #:	192690 W/0.1% AA
IC/CC STD LOT #:	LCMS1332
ICV STD LOT #:	9542A/9419B
ISTD/ID STD LOT #:	LCMS1330

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	2Q36436.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	✓
2	2Q36437.d	Vial 9	high std	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	✓
3	2Q36438.d	Vial 1	iblk	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	✓
4	2Q36439.d	Vial 3	cc565-1	537_ID.m	QC	2	op76878,S2Q568,120,,,1.0,1,water	✓
5	2Q36440.d	Vial 7	cc565-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	✓
6	2Q36441.d	Vial 50	OP76915-MB	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	hits
7	2Q36442.d	Vial 51	FA68140-10	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	hits
8	2Q36443.d	Vial 52	OP76915-DUP	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	te low
9	2Q36444.d	Vial 7	cc565-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
10	2Q36445.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
11	2Q36446.d	Vial 13	op76910-bs	537_ID.m	Sample		op76910,S2Q568,250,,,1.0,1,water	istd going low run curve
12	2Q36447.d	Vial 14	op76910-mb	537_ID.m	Sample		op76910,S2Q568,250,,,1.0,1,water	bdl
13	2Q36448.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
14	2Q36449.d	Vial 2	ic568-0.5	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
15	2Q36450.d	Vial 3	ic568-1.0	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
16	2Q36451.d	Vial 4	ic568-2.0	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
17	2Q36452.d	Vial 5	ic568-5.0	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
18	2Q36453.d	Vial 6	ic568-10	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
19	2Q36454.d	Vial 7	icc568-20	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
20	2Q36455.d	Vial 8	ic568-50	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
21	2Q36456.d	Vial 9	ic568-100	537_ID.m	Calibration		op76878,S2Q568,120,,,1.0,1,water	✓
22	2Q36457.d	Vial 1	iblk	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	✓
23	2Q36458.d	Vial 10	icv568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
24	2Q36459.d	Vial 11	icv568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
25	2Q36460.d	Vial 12	t-pfoa	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	✓
26	2Q36461.d	Vial 51	Sample	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	wrong pos
27	2Q36462.d	Vial 52	samlpe	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	wrong pos
28	2Q36463.d	Vial 13	op76910-bs	537_ID.m	Sample		op76910,S2Q568,250,,,1.0,1,water	✓
29	2Q36464.d	Vial 14	op76910-mb	537_ID.m	Sample		op76910,S2Q568,250,,,1.0,1,water	bdl
30	2Q36465.d	Vial 15	fa68039-1	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
31	2Q36466.d	Vial 16	op76910-ms	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
32	2Q36467.d	Vial 17	fa68039-2	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
33	2Q36468.d	Vial 18	fa68039-3	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓

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SGS ORLANDO LCMS2-2Q ANALYSIS LOG

34	2Q36469.d	Vial 19	fa68039-4	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
35	2Q36470.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
36	2Q36471.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
37	2Q36472.d	Vial 20	fa67479-11r	537_ID.m	Sample		op76910,S2Q568,210,,,1.0,1,water	✓
38	2Q36473.d	Vial 21	fa67479-12r	537_ID.m	Sample		op76910,S2Q568,280,,,1.0,1,water	✓
39	2Q36474.d	Vial 22	fa67479-13r	537_ID.m	Sample		op76910,S2Q568,280,,,1.0,1,water	✓
40	2Q36475.d	Vial 23	fa68076-1	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
41	2Q36476.d	Vial 24	fa68076-2	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
42	2Q36477.d	Vial 25	op76910-dup	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
43	2Q36478.d	Vial 26	fa68076-3	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓ 20x
44	2Q36479.d	Vial 27	fa68076-6	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
45	2Q36480.d	Vial 28	fa68076-6	537_ID.m	Sample		op76910,S2Q568,250,,,1.0,10,water	✓
46	2Q36481.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
47	2Q36482.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
48	2Q36483.d	Vial 29	fa68076-7	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,10,water	✓
49	2Q36484.d	Vial 30	fa68076-7	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,50,water	✓
50	2Q36485.d	Vial 31	fa68076-8	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,50,water	bdl 6:2 id high
51	2Q36486.d	Vial 32	fa68076-9	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,1,water	✓
52	2Q36487.d	Vial 33	fa68086-1	537_ID.m	Sample		op76910,S2Q568,120,,,1.0,1,water	✓ rt shift
53	2Q36488.d	Vial 34	fa68086-1	537_ID.m	Sample		op76910,S2Q568,120,,,1.0,20,water	✓ rt shift
54	2Q36489.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
55	2Q36490.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
56	2Q36491.d	Vial 35	OP76932-BS	537_ID.m	Sample		op76932,S2Q568,250,,,1.0,1,water	✓
57	2Q36492.d	Vial 36	OP76932-MB	537_ID.m	Sample		op76932,S2Q568,250,,,1.0,1,water	bdl
58	2Q36493.d	Vial 37	JC95127-3	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
59	2Q36494.d	Vial 38	JC95127-4	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
60	2Q36495.d	Vial 39	FA68164-1	537_ID.m	Sample		op76932,S2Q568,120,,,1.0,1,water	✓
61	2Q36496.d	Vial 40	FA68164-2	537_ID.m	Sample		op76932,S2Q568,120,,,1.0,1,water	✓ 10x
62	2Q36497.d	Vial 41	JC95193-1	537_ID.m	Sample		op76932,S2Q568,250,,,1.0,1,water	✓
63	2Q36498.d	Vial 42	JC95193-2	537_ID.m	Sample		op76932,S2Q568,240,,,1.0,1,water	✓
64	2Q36499.d	Vial 43	JC95193-3	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 2x
65	2Q36500.d	Vial 44	OP76932-MS	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 2x
66	2Q36501.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
67	2Q36502.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
68	2Q36503.d	Vial 45	JC95193-4	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
69	2Q36504.d	Vial 46	JC95193-5	537_ID.m	Sample		op76932,S2Q568,260,,,1.0,1,water	✓
70	2Q36505.d	Vial 47	JC95193-6	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
71	2Q36506.d	Vial 48	JC95193-7	537_ID.m	Sample		op76932,S2Q568,250,,,1.0,1,water	✓
72	2Q36507.d	Vial 49	fa68185-21	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
73	2Q36508.d	Vial 50	fa68185-22	537_ID.m	Sample		op76932,S2Q568,260,,,1.0,1,water	✓

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74	2Q36509.d	Vial 51	fa68185-23	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 10x 50x
75	2Q36510.d	Vial 52	fa68185-24	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
76	2Q36511.d	Vial 53	fa68185-25	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 10x
77	2Q36512.d	Vial 54	OP76932-DUP	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 10x
78	2Q36513.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
79	2Q36514.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl
80	2Q36515.d	Vial 55	fa68185-26	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,2,water	✓ 20x
81	2Q36516.d	Vial 56	fa68185-27	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ 5x
82	2Q36517.d	Vial 57	fa68185-28	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓ rr co
83	2Q36518.d	Vial 58	fa68185-29	537_ID.m	Sample		op76932,S2Q568,270,,,1.0,1,water	✓
84	2Q36519.d	Vial 83	fa68076-3	537_ID.m	Sample		op76910,S2Q568,270,,,1.0,20,water	✓
85	2Q36520.d	Vial 7	ecc568-20	537_ID.m	QC	6	op76878,S2Q568,120,,,1.0,1,water	pass
86	2Q36521.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q568,120,,,1.0,1,water	bdl

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LCMS2-2Q ANALYSIS LOG

DATE:	09/25/19
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS2-2Q

METHODS:	537 MOD MS014 MS019
PROC. METH:	ID_092319_s2q568
CAL DATE:	09/23/19
ANALYST:	NAS
RUN BATCH:	S2Q570

ELUENT A LOT #:	193242 W/0.1% AA
ELUENT B LOT #:	192690 W/0.1% AA
IC/CC STD LOT #:	LCMS1332
ICV STD LOT #:	9542A/9419B
ISTD/ID STD LOT #:	LCMS1330

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	2Q36596.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
2	2Q36597.d	Vial 9	high std	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
3	2Q36598.d	Vial 1	iblk	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
4	2Q36599.d	Vial 3	cc568-1	537_ID.m	QC	2	op76878,S2Q570,120,,,1.0,1,water	pass
5	2Q36600.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
6	2Q36601.d	Vial 13	fa68270-2	537_ID.m	Sample		op76945,S2Q570,2.02,,,1.0,1,soil	✓
7	2Q36602.d	Vial 14	op76945-ms	537_ID.m	Sample		op76945,S2Q570,2.05,,,1.0,1,soil	✓
8	2Q36603.d	Vial 15	op76945-msd	537_ID.m	Sample		op76945,S2Q570,1.99,,,1.0,1,soil	✓
9	2Q36604.d	Vial 16	fa68270-3	537_ID.m	Sample		op76945,S2Q570,2.01,,,1.0,1,soil	✓
10	2Q36605.d	Vial 17	fa68270-4	537_ID.m	Sample		op76945,S2Q570,2.05,,,1.0,1,soil	✓
11	2Q36606.d	Vial 18	fa68270-5	537_ID.m	Sample		op76945,S2Q570,2.00,,,1.0,1,soil	✓
12	2Q36607.d	Vial 19	fa68270-6	537_ID.m	Sample		op76945,S2Q570,1.97,,,1.0,1,soil	✓
13	2Q36608.d	Vial 20	fa68270-7	537_ID.m	Sample		op76945,S2Q570,2.04,,,1.0,1,soil	✓
14	2Q36609.d	Vial 21	fa68270-8	537_ID.m	Sample		op76945,S2Q570,2.01,,,1.0,1,soil	✓
15	2Q36610.d	Vial 22	fa68270-9	537_ID.m	Sample		op76945,S2Q570,2.02,,,1.0,1,soil	✓
16	2Q36611.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
17	2Q36612.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
18	2Q36613.d	Vial 23	fa68270-10	537_ID.m	Sample		op76945,S2Q570,2.01,,,1.0,1,soil	✓
19	2Q36614.d	Vial 24	fa68270-11	537_ID.m	Sample		op76945,S2Q570,1.95,,,1.0,1,soil	✓
20	2Q36615.d	Vial 25	fa68185-25	537_ID.m	Sample		op76932,S2Q570,270,,,1.0,20,soil	✓
21	2Q36616.d	Vial 26	op76932-dup	537_ID.m	Sample		op76932,S2Q570,270,,,1.0,20,soil	✓
22	2Q36617.d	Vial 27	jc95193-2	537_ID.m	Sample		op76932,S2Q570,240,,,1.0,10,soil	✓ te still low 20x?
23	2Q36618.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
24	2Q36619.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
25	2Q36620.d	Vial 3	cc568-1	537_ID.m	QC	2	op76878,S2Q570,120,,,1.0,1,water	✓
26	2Q36621.d	Vial 28	OP76984-BS	537_ID.m	Sample		op76984,S2Q570,125,,,1.0,1,water	✓
27	2Q36622.d	Vial 29	OP76984-MB	537_ID.m	Sample		op76984,S2Q570,125,,,1.0,1,water	bdl
28	2Q36623.d	Vial 30	fa68299-1	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
29	2Q36624.d	Vial 31	fa68299-2	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
30	2Q36625.d	Vial 32	OP76984-MS	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
31	2Q36626.d	Vial 33	fa68299-3	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
32	2Q36627.d	Vial 34	fa68299-4	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
33	2Q36628.d	Vial 35	fa68299-4	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,5,water	✓

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SGS ORLANDO LCMS2-2Q ANALYSIS LOG

34	2Q36630.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
35	2Q36629.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
36	2Q36631.d	Vial 36	fa68300-1	537_ID.m	Sample		op76984,S2Q570,110,,,1.0,1,water	✓
37	2Q36632.d	Vial 37	fa68300-2	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
38	2Q36633.d	Vial 38	fa68300-3	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
39	2Q36634.d	Vial 39	OP76984-DUP	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
40	2Q36635.d	Vial 40	fa68300-4	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,1,water	✓
41	2Q36636.d	Vial 41	fa68300-4	537_ID.m	Sample		op76984,S2Q570,120,,,1.0,5,water	use 1x
42	2Q36637.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
43	2Q36638.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
44	2Q36639.d	Vial 62	OP76966-BS	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
45	2Q36640.d	Vial 63	OP76966-MB	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	bdl te low
46	2Q36641.d	Vial 64	FA68249-1	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
47	2Q36642.d	Vial 65	OP76966-MS	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
48	2Q36643.d	Vial 66	FA68249-2	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
49	2Q36644.d	Vial 67	OP76966-DUP	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
50	2Q36645.d	Vial 68	FA68249-3	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
51	2Q36646.d	Vial 69	FA68249-4	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
52	2Q36647.d	Vial 70	FA68249-4	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,5,water	use 1x
53	2Q36648.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
54	2Q36649.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl
55	2Q36650.d	Vial 42	OP76964-BS	537_ID.m	Sample		op76964,S2Q570,250,,,1.0,1,water	✓
56	2Q36651.d	Vial 43	OP76964-MB	537_ID.m	Sample		op76964,S2Q570,250,,,1.0,1,water	bdl
57	2Q36652.d	Vial 44	FA68049-1	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
58	2Q36653.d	Vial 45	fa68141-1	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
59	2Q36654.d	Vial 46	fa68141-3	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
60	2Q36655.d	Vial 47	fa68141-4	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
61	2Q36656.d	Vial 48	fa68148-5	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
62	2Q36657.d	Vial 49	JC95269-1	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
63	2Q36658.d	Vial 50	JC95269-2	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓ 5x hits te fosa low
64	2Q36659.d	Vial 51	JC95269-3	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓ 2x
65	2Q36660.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	✓
66	2Q36661.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
67	2Q36662.d	Vial 52	JC95269-4	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
68	2Q36663.d	Vial 53	OP76964-MS	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
69	2Q36664.d	Vial 54	JC95269-5	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
70	2Q36665.d	Vial 55	JC95316-1	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	5x do te low
71	2Q36666.d	Vial 56	JC95316-2	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	5x do te low
72	2Q36667.d	Vial 57	JC95316-3	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
73	2Q36668.d	Vial 58	JC95316-4	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓ 10x hits, fosa, do, te low

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SGS ORLANDO LCMS2-2Q ANALYSIS LOG

74	2Q36669.d	Vial 59	JC95316-5	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
75	2Q36670.d	Vial 60	OP76964-DUP	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓
76	2Q36671.d	Vial 61	JC95316-6	537_ID.m	Sample		op76964,S2Q570,270,,,1.0,1,water	✓ 5x hits, te low
77	2Q36672.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	✓
78	2Q36673.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
79	2Q36674.d	Vial 85	FA68136-17	537_ID.m	Sample		op76878,S2Q570,1.95,,,1.0,20,soil	✓
80	2Q36675.d	Vial 86	FA68136-18	537_ID.m	Sample		op76878,S2Q570,2.03,,,1.0,1,soil	✓ te low
81	2Q36676.d	Vial 87	FA68136-20	537_ID.m	Sample		op76878,S2Q570,2.05,,,1.0,1,soil	✓ redo all id low
82	2Q36677.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	✓
83	2Q36678.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
84	2Q36679.d	Vial 3	cc568-1	537_ID.m	QC	2	op76878,S2Q570,120,,,1.0,1,water	✓
85	2Q36680.d	Vial 71	FA68193-1	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ 5x id low
86	2Q36681.d	Vial 72	FA68194-1	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ 5x hits, te fosa low
87	2Q36682.d	Vial 73	FA68230-1	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 1x co, 5x te, fosa low
88	2Q36683.d	Vial 74	FA68247-21	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
89	2Q36684.d	Vial 75	FA68247-22	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
90	2Q36685.d	Vial 76	FA68247-23	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr5x
91	2Q36686.d	Vial 77	FA68247-24	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 10x
92	2Q36687.d	Vial 78	FA68247-25	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 5x
93	2Q36688.d	Vial 79	FA68247-26	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 20x
94	2Q36689.d	Vial 80	FA68247-27	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 20x
95	2Q36690.d	Vial 7	cc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	✓
96	2Q36691.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
97	2Q36692.d	Vial 81	FA68247-28	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓ rr 5x
98	2Q36693.d	Vial 82	FA68247-29	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
99	2Q36694.d	Vial 83	FA68250-1	537_ID.m	Sample		op76966,S2Q570,125,,,1.0,1,water	✓
101	2Q36695.d	91	spike test	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
102	2Q36696.d	84	fa68251-1	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	✓
101	2Q36697.d	Vial 7	Ecc568-20	537_ID.m	QC	6	op76878,S2Q570,120,,,1.0,1,water	pass
102	2Q36698.d	Vial 1	ccb	537_ID.m	Sample		op76878,S2Q570,120,,,1.0,1,water	bdl

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LCMS2-2Q ANALYSIS LOG

DATE:	09/26/19
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS2-2Q

METHODS:	537 MOD MS014 MS019
PROC. METH:	ID_092319_S2Q568
CAL DATE:	09/23/19
ANALYST:	NAS/NG
RUN BATCH:	S2Q571

ELUENT A LOT #:	193242 W/0.1% AA
ELUENT B LOT #:	192690 W/0.1% AA
IC/CC STD LOT #:	LCMS1332
ICV STD LOT #:	9542A/9419B
ISTD/ID STD LOT #:	LCMS1330

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	2Q36699.d	Vial 9	high std	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	✓
2	2Q36700.d	Vial 1	iblk	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
3	2Q36701.d	Vial 3	cc568-1	537_ID.m	QC	5/500	op76878,S2Q571,120,,,1.0,1,water	PASS
4	2Q36702.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
5	2Q36703.d	Vial 13	FA68185-1	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
6	2Q36704.d	Vial 14	OP76936-MS	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
7	2Q36705.d	Vial 15	FA68185-2	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
8	2Q36706.d	Vial 16	FA68185-2	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,20,water	✓
9	2Q36707.d	Vial 17	OP76936-DUP	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,20,water	✓
10	2Q36708.d	Vial 18	FA68185-3	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
11	2Q36709.d	Vial 19	FA68185-3	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,20,water	✓
12	2Q36710.d	Vial 20	FA68185-4	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	double surr
13	2Q36711.d	Vial 21	FA68185-4	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,20,water	double surr
14	2Q36712.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
15	2Q36713.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
16	2Q36714.d	Vial 22	FA68185-5	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
17	2Q36715.d	Vial 23	FA68185-5	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,20,water	✓
18	2Q36716.d	Vial 24	FA68185-6	537_ID.m	Sample	20x	op76936,S2Q571,250,,,1.0,5,water	rr 20x, 6:2 fts needs higher dilution
19	2Q36717.d	Vial 25	FA68185-7	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
20	2Q36718.d	Vial 26	FA68185-8	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	230ml did not go through
21	2Q36719.d	Vial 27	FA68185-9	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
22	2Q36720.d	Vial 28	FA68185-10	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
23	2Q36721.d	Vial 29	FA68185-11	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
24	2Q36722.d	Vial 30	FA68185-12	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
25	2Q36723.d	Vial 31	FA68185-13	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
26	2Q36724.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
27	2Q36725.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
28	2Q36726.d	Vial 32	FA68185-14	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
29	2Q36727.d	Vial 33	FA68185-15	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
30	2Q36728.d	Vial 34	FA68185-16	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
31	2Q36729.d	Vial 35	FA68185-17	537_ID.m	Sample	20x	op76936,S2Q571,250,,,1.0,5,water	rr 20x, 6:2 fts needs higher dilution
32	2Q36730.d	Vial 36	FA68185-18	537_ID.m	Sample	20x	op76936,S2Q571,250,,,1.0,5,water	rr 20x, 6:2 fts needs higher dilution
33	2Q36731.d	Vial 37	FA68185-19	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓

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34	2Q36732.d	Vial 38	FA68185-20	537_ID.m	Sample		op76936,S2Q571,250,,,1.0,5,water	✓
35	2Q36733.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
36	2Q36734.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
37	2Q36735.d	Vial 39	JC95269-2	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,5,water	✓
38	2Q36736.d	Vial 40	JC95269-3	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,2,water	✓
39	2Q36737.d	Vial 41	JC95316-1	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,5,water	✓
40	2Q36738.d	Vial 42	JC95316-2	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,5,water	✓
41	2Q36739.d	Vial 43	JC95316-4	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,10,water	✓
42	2Q36740.d	Vial 44	JC95316-6	537_ID.m	Sample		op76964,S2Q571,270,,,1.0,5,water	✓
43	2Q36741.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
44	2Q36742.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
45	2Q36743.d	Vial 3	cc568-1	537_ID.m	QC	5/500	op76878,S2Q571,120,,,1.0,1,water	PASS
46	2Q36744.d	Vial 45	FA68193-1	537_ID.m	Sample	redo	op76966,S2Q571,125,,,1.0,5,water	low istds
47	2Q36745.d	Vial 46	FA68194-1	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,5,water	✓
48	2Q36746.d	Vial 47	FA68230-1	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,5,water	✓
49	2Q36747.d	Vial 48	FA68247-23	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,5,water	✓
50	2Q36748.d	Vial 49	FA68247-24	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,10,water	✓
51	2Q36749.d	Vial 50	FA68247-25	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,5,water	✓
52	2Q36750.d	Vial 51	FA68247-26	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,20,water	✓
53	2Q36751.d	Vial 52	FA68247-27	537_ID.m	Sample		op76966,S2Q571,125,,,1.0,20,water	✓
54	2Q36752.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
55	2Q36753.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
56	2Q36754.d	Vial 53	OP76988-BS	537_ID.m	Sample		op76988,S2Q571,2.00,,,1.0,1,soil	BS PASS
57	2Q36755.d	Vial 54	OP76988-MB	537_ID.m	Sample		op76988,S2Q571,2.00,,,1.0,1,soil	ND
58	2Q36756.d	Vial 55	FA68016-5	537_ID.m	Sample		op76988,S2Q571,2.25,,,1.0,1,soil	✓
59	2Q36757.d	Vial 56	FA68016-5	537_ID.m	Sample		op76988,S2Q571,2.25,,,1.0,5,soil	don't need
60	2Q36758.d	Vial 57	FA68016-7	537_ID.m	Sample		op76988,S2Q571,2.21,,,1.0,1,soil	✓
61	2Q36759.d	Vial 58	FA68016-7	537_ID.m	Sample		op76988,S2Q571,2.21,,,1.0,5,soil	don't need
62	2Q36760.d	Vial 59	FA68016-17	537_ID.m	Sample		op76988,S2Q571,2.18,,,1.0,1,soil	✓
63	2Q36761.d	Vial 60	FA68016-17	537_ID.m	Sample		op76988,S2Q571,2.18,,,1.0,5,soil	don't need
64	2Q36762.d	Vial 61	FA68136-20	537_ID.m	Sample		op76988,S2Q571,2.07,,,1.0,1,soil	✓
65	2Q36763.d	Vial 62	FA68136-20	537_ID.m	Sample		op76988,S2Q571,2.07,,,1.0,5,soil	don't need
66	2Q36764.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
67	2Q36765.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND
68	2Q36766.d	Vial 63	FA68304-3	537_ID.m	Sample	100x	op76988,S2Q571,2.01,,,1.0,10,soil	rr 100x ecomb
69	2Q36767.d	Vial 64	op76988-ms	537_ID.m	Sample	100x	op76988,S2Q571,2.05,,,1.0,10,soil	rr 100x
70	2Q36768.d	Vial 65	op76988-msd	537_ID.m	Sample	100x	op76988,S2Q571,2.08,,,1.0,10,soil	rr 100x
71	2Q36769.d	Vial 66	FA68302-1	537_ID.m	Sample	100x	op76988,S2Q571,2.11,,,1.0,10,soil	rr 100x ecomb
72	2Q36770.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS
73	2Q36771.d	Vial 1	CCB	537_ID.m	Sample		op76878,S2Q571,120,,,1.0,1,water	ND

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74	2Q36772.d	Vial 67	op76944-bs	537_ID.m	Sample		op76944,S2Q571,2.00,,,1.0,1,soil	BS PASS
75	2Q36773.d	Vial 68	op76944-mb	537_ID.m	Sample		op76944,S2Q571,2.00,,,1.0,1,soil	ND
76	2Q36774.d	Vial 69	FA68180-1	537_ID.m	Sample		op76944,S2Q571,2.03,,,1.0,1,soil	✓
77	2Q36775.d	Vial 70	FA68180-2	537_ID.m	Sample		op76944,S2Q571,1.96,,,1.0,1,soil	✓
78	2Q36776.d	Vial 71	FA68180-3	537_ID.m	Sample		op76944,S2Q571,1.98,,,1.0,1,soil	✓
79	2Q36777.d	Vial 72	FA68180-4	537_ID.m	Sample		op76944,S2Q571,2.02,,,1.0,1,soil	✓
80	2Q36778.d	Vial 73	FA68180-5	537_ID.m	Sample	10x	op76944,S2Q571,2.04,,,1.0,1,soil	rr 10x ecomb
81	2Q36779.d	Vial 74	FA68180-6	537_ID.m	Sample	1x	op76944,S2Q571,1.99,,,1.0,10,soil	lower dilution needed
82	2Q36780.d	Vial 75	op76944-ms	537_ID.m	Sample	1x	op76944,S2Q571,2.01,,,1.0,1,soil	lower dilution needed
83	2Q36781.d	Vial 76	op76944-msd	537_ID.m	Sample	1x	op76944,S2Q571,1.96,,,1.0,1,soil	lower dilution needed
84	2Q36782.d	Vial 7	cc568-20	537_ID.m	QC	100/500	op76878,S2Q571,120,,,1.0,1,water	PASS

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SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 09/24/19 14:00
Started {mm/dd/yy 24:00}

Date/Time: 09/25/19 1100
Finished {mm/dd/yy 24:00}

Prep Method: 3535A or 537 or 537MOD (circle)

Analytical Method: LC 537 (LD)

Batch#: OP76964 Ext. By: MF Conc. By: MB Vialed By: MF

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Manifold ID	Comments
OP 76964 MB		250	6	N/A	20+20 uL		1 ml	B	
OP 76964 BS		250				50+50 uL			
FA68049-1Re	2	270			20 uL				
FA68141-1Re	2	270			20+20 uL				
~~2Re~~									No sample
-3Re	2	270					1 ml		
-4Re	2	270							
~~FA68144-5Re~~									No sample
FA68148-5Re	2	270			20 uL		1 ml		
JC95269-1	1	270							
-2	1	270							USED GLASS WOOL
-3	1	270							
-4	1	270						D	
-5	1	270							
JC95316-1	1	270							USED GLASS WOOL
-2	1	270							
-3	1	270							
-4	1	270							DE
-5	1	270							
-6	1	270							USED GLASS WOOL
				MB 09/25/19					
JC95269-4 MS	2	270	6	N/A	20 uL	50 uL	1 ml	B	
MSD									
JC95316-5 DUP	2	270	6	N/A	20 uL		1 ml	B	

Comments: * DE = DIFFICULT ELUTION

Surr.1 ID: LCMS1333-1 Conc: 1.0 PPM Exp. Date: 9-17-20 Inj. By: MF Ver. By MF
~~Spk.~~ SURR.1 ID: LCMS1335 Conc: 5 PPM Exp. Date: 9-18-20 Inj. By: MF Ver. By MF
Spk.2 ID: LCMS1334-A Conc: 400 PPB Exp. Date: 3-17-20 Inj. By: MF Ver. By MF
Spk.3 ID: LCMS1329 Conc: 400 PPB Exp. Date: 1-28-20 Inj. By: MF Ver. By MF

TurboVap Temp (Therm ID): TV #12
Observed Temp °C: 45°C Corr. Temp °C: —

N-Evap Temp (Therm ID): —
Observed Temp °C: — Corr. Temp °C: —

Methanol Lot # 193941
Acetonitrile Lot # —
Water Lot# OP 76941
Solvent# —

SPE Lot # 6441956-05
Syringe filter Lot # —
Pre-filter Lot# —
Carbon Lot# —

pH Paper # 212218
Reagent # 2% MeOH: 193941 NH4OH: 7118040
Reagent # —
Other —

Relinquished By: [signature] Date: 09/25/19
Accepted By: [signature] Date: 9/25/19

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