Navy_CLEAN_PFAS_FOIA_request_covers.indd

Naval Facilities Engineering Command

Off-Base Drinking Water Sample Results, Combined Level 2 and Level 4 Laboratory Report, and the Sample Location Figure, SDG FA43289

Naval Air Station Cecil Field
Jacksonville, Florida

July 2019

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

N60200_009861
CECIL_FIELD_NAS
SSIC 5000-33c

LABORATORY DATA PACKAGE FA43289 NAS CECIL FIELD FL
04/20/2017
ACCUTEST LABORATORIES

Approved for public release: distribution unlimited.

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e-Hardcopy 2.0
Automated Report

Technical Report for

Resolution Consultants

NAS Cecil Field PFAS; Jacksonville, FL

0888817799

SGS Accutest Job Number: FA43289

Sampling Date: 04/20/17

Report to:

Resolution Consultants
5724 Summer Trees Dr
Memphis, TN 38134
tcantwell@ensafe.com; kwimble@ensafe.com

ATTN: Kara Wimble

Total number of pages in report: 228

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.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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SGS Accutest

Sample Summary

Resolution Consultants

Job No: FA43289

NAS Cecil Field PFAS; Jacksonville, FL
Project No: 0888817799

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA43289-1	04/20/17	15:12	RB	04/22/17	DW	Drinking Water	FDOH-19-0417-R
FA43289-2	04/20/17	15:14	RB	04/22/17	DW	Drinking Water	FB-FDOH-19-0417-R

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Resolution Consultants **Job No:** FA43289

Site: NAS Cecil Field PFAS; Jacksonville, FL **Report Date:** 5/4/2017 1:00:40 PM

2 Sample(s) were collected on 04/20/2017 and were received at SGS Accutest Southeast (SASE) on 04/22/2017 properly preserved, at 2.4 Deg. C and intact. These Samples received an SASE job number of FA43289. 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.

Extractables by GCMS By Method EPA 537

Matrix: DW **Batch ID:** OP64835

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA43132-1MS, FA43132-1MSD were used as the QC samples indicated.

Sample(s) FA43289-2, OP64835-MS, OP64835-MSD have surrogates outside control limits.

OP64835-MS for 13C2-PFDA: Outside control limits.

OP64835-MSD for 13C2-PFDA: Outside control limits.

FA43289-2: Confirmation run.

Matrix: DW **Batch ID:** OP64883

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) OP64883-MB, OP64883-BS have surrogates outside control limits.

OP64883: No Matrix QC available for this batch.

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

Narrative prepared by:

_____ Date May 4, 2017

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA43289
Account: Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL
Collected: 04/20/17

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA43289-1	**FDOH-19-0417-R**					

No hits reported in this sample.

FA43289-2	**FB-FDOH-19-0417-R**

No hits reported in this sample.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	FDOH-19-0417-R		
Lab Sample ID:	FA43289-1	**Date Sampled:**	04/20/17
Matrix:	DW - Drinking Water	**Date Received:**	04/22/17
Method:	EPA 537 EPA 537	**Percent Solids:**	n/a
Project:	NAS Cecil Field PFAS; Jacksonville, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q943.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS								
335-67-1	Perfluorooctanoic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
PERFLUOROALKYLSULFONATES								
375-73-5	Perfluorobutanesulfonic acid	0.0058 U		0.0077	0.0058	0.0038	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	85%		70-130%
	13C2-PFDA	72%		70-130%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 141) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	FB-FDOH-19-0417-R		
Lab Sample ID:	FA43289-2	**Date Sampled:**	04/20/17
Matrix:	DW - Drinking Water	**Date Received:**	04/22/17
Method:	EPA 537 EPA 537	**Percent Solids:**	n/a
Project:	NAS Cecil Field PFAS; Jacksonville, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q999.D	1	05/03/17	NAF	05/03/17	OP64883	S2Q28
Run #2 [a]	2Q944.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2	250 ml	1.0 ml

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS								
335-67-1	Perfluorooctanoic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
PERFLUOROALKYLSULFONATES								
375-73-5	Perfluorobutanesulfonic acid	0.0058 U		0.0077	0.0058	0.0038	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	89%	39%	70-130%
	13C2-PFDA	106%	38%	70-130%

(a) Confirmation run.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 141) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA43289

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. RRB042017-1 | Page 1 of 1

Project Name: Former NAS Cecil Field - Jacksonville, FL - Offsite PFAS Sampling | PO No. 22064 | Project: 0888817799 Phase: FI Task: WS

Site Location: Former NAS Cecil Field - Jacksonville, FL

CTO: JMA8 | RC Task Order Manager: Kara Wimble

Sampler: Robert Bailey | Phone: (904) 301-4504

Lab Name: SGS Accutest | Turnaround Time (specify): 14 Days

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	EPA Method 537 with no modifications*	Extra Volume for MS/MSD	HOLD
								(3)→	Trizma		
1	FDOH-19-0417-R	FDOH-19	04/20/17	1512	WP	N	N	2	X		
2	FB-FDOH-19-0417-R	FDOH-19	04/20/17	1514	WQ	FB	N	2	X		

***Field* Comments:**

*Analytes include: perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), and perfluorobutanesulfonic acid (PFBS)

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment: 1

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 Robert Bail	04/21/17	1405	1 James Llorca	4-21-17	1405
2 James Llorca	4-21-17	1650	2 [illegible]	04/22/17	8:00
3			3		

Samples Iced? Yes X No

Method of Shipment: Accutest Courier

Airbill No: N/A

Date Shipped: 04/20/17

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type: AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added: HA**=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate If **NO preservative** added leave blank

Rev 5/12

2.4

5.1

5

FA43289: Chain of Custody

Page 1 of 2

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA43289 CLIENT: Resolution Cons. PROJECT: Former NAS

DATE/TIME RECEIVED: 04/22/17 800 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS (ACCUTEST COURIER) DELIVERY OTHER:

AIRBILL NUMBERS:

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.0
- [ ] CORRECTED TEMPS: 2.4 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 04/22/17 REVIEWER SIGNATURE/DATE 04/22/17

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA43289: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: FA43289
Account: Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL
Collected: 04/20/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job FA43289

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64835-MB	2Q934.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26

The QC reported here applies to the following samples: **Method:** EPA 537

FA43289-1

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0080	0.0020	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0080	0.0040	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0080	0.0020	ug/l	

CAS No.	Surrogate Recoveries		Limits
	13C2-PFHxA	106%	70-130%
	13C2-PFDA	105%	70-130%

Method Blank Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64883-MB	2Q995.D	1	05/03/17	NAF	05/03/17	OP64883	S2Q28

The QC reported here applies to the following samples: **Method:** EPA 537

FA43289-2

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0080	0.0020	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0080	0.0040	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0080	0.0020	ug/l	

CAS No.	Surrogate Recoveries		Limits
	13C2-PFHxA	115%	70-130%
	13C2-PFDA	109%	70-130%
	d5-EtFOSAA	175%*	70-130%

Blank Spike Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64835-BS	2Q933.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26

The QC reported here applies to the following samples: **Method:** EPA 537

FA43289-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.08	0.0930	116	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0847	106	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0816	102	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	109%	70-130%
	13C2-PFDA	112%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64883-BS	2Q994.D	1	05/03/17	NAF	05/03/17	OP64883	S2Q28

The QC reported here applies to the following samples: **Method:** EPA 537

FA43289-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.08	0.0941	118	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0851	106	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0808	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	126%	70-130%
	13C2-PFDA	124%	70-130%
	d5-EtFOSAA	172%* [a]	70-130%

(a) Outside control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64835-MS	2Q936.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26
OP64835-MSD	2Q937.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26
FA43132-1	2Q935.D	1	05/01/17	NAF	04/28/17	OP64835	S2Q26

The QC reported here applies to the following samples: **Method:** EPA 537

FA43289-1

CAS No.	Compound	FA43132-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
335-67-1	Perfluorooctanoic acid	0.0077	U	0.154	0.131	85	0.154	0.115	75	13	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.0077	U	0.154	0.151	98	0.154	0.148	96	2	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0077	U	0.154	0.120	78	0.154	0.120	78	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	FA43132-1	Limits
	13C2-PFHxA	89%	82%	86%	70-130%
	13C2-PFDA	57%* b	48%* b	60%* a	70-130%

(a) Outside control limits due to matrix interference. Confirmed by MS/MSD.
(b) Outside control limits.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Check Std:	S2Q26-CC18	**Injection Date:**	05/01/17
Lab File ID:	2Q931.D	**Injection Time:**	17:47
Instrument ID:	GCMS2Q	**Method:**	EPA 537

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Initial Cal [a]	77062	4.23	159216	6.65	78218	6.64	57710	7.20	34998	7.47	94157	10.66
Check Std [b]	67613	4.25	143615	6.71	72752	6.70	52830	7.29	30990	7.46	81876	11.03
Upper Limit [c]	107887	5.25	222902	7.71	109505	7.70	80794	8.29	48997	8.46	131820	12.03
Lower Limit [d]	53943	3.25	111451	5.71	54753	5.70	40397	6.29	24499	6.46	65910	10.03

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP64835-BS	68513	4.25	142600	6.71	72889	6.70	52646	7.28	30328	7.46	81813	11.00
OP64835-MB	64801	4.25	127291	6.71	68804	6.70	49847	7.29	27801	7.46	76679	11.01
FA43132-1	52814[e]	4.25	111587	6.71	61505	6.70	43909	7.29	24158[e]	7.46	66412	10.96
OP64835-MS	61523	4.25	134087	6.71	68112	6.70	49270	7.28	28208	7.46	74341	10.95
OP64835-MSD	61709	4.25	134618	6.71	67912	6.70	49481	7.28	27475	7.46	75902	10.96
ZZZZZZ	63229	4.25	125851	6.71	67711	6.70	49045	7.29	28462	7.46	74890	11.01
ZZZZZZ	53936[e]	4.25	110881[e]	6.71	58861	6.70	43136	7.29	24907	7.46	65622[e]	10.96
ZZZZZZ	63246	4.25	125228	6.71	67862	6.70	48760	7.29	28020	7.46	75115	10.99

IS 1 = 13C3-PFPeA
IS 2 = 13C2-6:2FTS
IS 3 = 13C2-PFOA
IS 4 = 13C4-PFOS
IS 5 = d3-MeFOSAA
IS 6 = 13C2-PFDoDA

(a) Initial Cal is: S2Q18-ICC18 2Q655.D 04/20/17 13:13. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to +50% of initial cal area.
(c) Upper Limit = +40% of initial standard area; Retention time +1 minutes of check standard.
(d) Lower Limit = -30% of initial standard area; Retention time -1 minutes of check standard.
(e) Response outside of control limits; ISTD does not reference any reported target analytes.

Semivolatile Internal Standard Area Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Check Std:	S2Q26-CC18	**Injection Date:**	05/01/17
Lab File ID:	2Q941.D	**Injection Time:**	21:05
Instrument ID:	GCMS2Q	**Method:**	EPA 537

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Initial Cal [a]	77062	4.23	159216	6.65	78218	6.64	57710	7.20	34998	7.47	94157	10.66
Check Std [b]	68658	4.25	146839	6.71	74961	6.70	53971	7.29	30848	7.47	83705	10.99
Upper Limit [c]	107887	5.25	222902	7.71	109505	7.70	80794	8.29	48997	8.47	131820	11.99
Lower Limit [d]	53943	3.25	111451	5.71	54753	5.70	40397	6.29	24499	6.47	65910	9.99

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
FA43289-1	59415	4.25	126178	6.72	68612	6.71	48760	7.29	27476	7.47	74606	10.99
FA43289-2 [e]	64603	4.26	130893	6.72	68888	6.71	49480	7.30	28467	7.47	76853	11.00
ZZZZZZ	61666	4.26	127775	6.72	67102	6.71	49622	7.30	28771	7.47	71761	10.96
ZZZZZZ	63750	4.26	129930	6.72	69334	6.71	50523	7.30	28154	7.47	75521	11.00
ZZZZZZ	63831	4.27	127953	6.74	67835	6.71	50235	7.30	27144	7.47	75462	11.00
S2Q26-ECC18	70179	4.27	149308	6.74	75288	6.71	55312	7.30	30387	7.47	85133	11.05

IS 1 = 13C3-PFPeA
IS 2 = 13C2-6:2FTS
IS 3 = 13C2-PFOA
IS 4 = 13C4-PFOS
IS 5 = d3-MeFOSAA
IS 6 = 13C2-PFDoDA

(a) Initial Cal is: S2Q18-ICC18 2Q655.D 04/20/17 13:13. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to +50% of initial cal area.
(c) Upper Limit = +40% of initial standard area; Retention time +1 minutes of check standard.
(d) Lower Limit = -30% of initial standard area; Retention time -1 minutes of check standard.
(e) Confirmation run.

Semivolatile Internal Standard Area Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Check Std:	S2Q28-CC18	**Injection Date:**	05/03/17
Lab File ID:	2Q992.D	**Injection Time:**	15:52
Instrument ID:	GCMS2Q	**Method:**	EPA 537

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Initial Cal [a]	77062	4.23	159216	6.65	78218	6.64	57710	7.20	34998	7.47	94157	10.66
Check Std [b]	63332	4.25	144649	6.71	68578	6.70	52509	7.29	29507	7.46	82383	11.04
Upper Limit [c]	115593	5.25	238824	7.71	117327	7.70	86565	8.29	52497	8.46	141236	12.04
Lower Limit [d]	38531	3.25	79608	5.71	39109	5.70	28855	6.29	17499	6.46	47079	10.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP64883-BS	62564	4.25	143394	6.71	67035	6.70	51660	7.28	28869	7.46	80954	11.03
OP64883-MB	58842	4.25	128048	6.71	63388	6.70	48878	7.29	26783	7.46	75233	11.03
ZZZZZZ	57793	4.25	126076	6.71	61510	6.70	47765	7.28	26335	7.46	74377	10.96
ZZZZZZ	50298	4.23	110427	6.71	54122	6.70	42424	7.28	24291	7.46	65736	11.01
ZZZZZZ	58030	4.25	126413	6.71	62894	6.70	47438	7.28	26078	7.46	74719	11.01
FA43289-2	61973	4.25	133316	6.71	65729	6.70	50203	7.28	27616	7.46	78323	11.01
ZZZZZZ	57399	4.25	125880	6.71	63501	6.70	47628	7.28	26681	7.46	75423	11.00
ZZZZZZ	56134	4.25	123955	6.71	61366	6.70	46634	7.28	25709	7.46	72598	10.96
ZZZZZZ	60924	4.25	130910	6.71	65124	6.70	48698	7.28	28676	7.46	77672	10.96
ZZZZZZ	63688	4.25	137663	6.71	68709	6.70	51672	7.29	28793	7.46	82236	10.96
S2Q28-ECC18	72607	4.25	163134	6.71	77328	6.70	58178	7.28	33671	7.46	93260	10.96

IS 1 = 13C3-PFPeA
IS 2 = 13C2-6:2FTS
IS 3 = 13C2-PFOA
IS 4 = 13C4-PFOS
IS 5 = d3-MeFOSAA
IS 6 = 13C2-PFDoDA

(a) Initial Cal is: S2Q18-ICC18 2Q655.D 04/20/17 13:13. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to +50% of initial cal area.
(c) Upper Limit = +50% of initial standard area; Retention time +1 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -1 minutes of check standard.

Semivolatile Surrogate Recovery Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Method: EPA 537 **Matrix:** DW

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA43289-1	2Q943.D	85	72
FA43289-2	2Q944.D	39*	38*
FA43289-2	2Q999.D	89	106
OP64835-BS	2Q933.D	109	112
OP64835-MB	2Q934.D	106	105
OP64835-MS	2Q936.D	89	57* [a]
OP64835-MSD	2Q937.D	82	48* [a]
OP64883-BS	2Q994.D	126	124
OP64883-MB	2Q995.D	115	109

Surrogate Compounds	Recovery Limits
S1 = 13C2-PFHxA	70-130%
S2 = 13C2-PFDA	70-130%

(a) Outside control limits.

Initial Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q18-ICC18
Lab FileID: 2Q655.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0420_LIST_S2Q18\S2Q18.batch.bin

```
 Level ID : Calibration File
       1  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
       2  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
       3  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
       4  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
       5  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
       6  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
       7  : D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d
```

Compound	1	2	3	4	5	6	7	AvgRF	%RSD	r^2
1) 13C2-6:2FTS	----------ISTD----------									
8) 4:2FTS	0.5439	0.5459	0.5345	0.5374	0.4892	0.5027	0.5077	0.5230	4.338	0.9995
9) 6:2FTS	-----	1.1352	1.0675	1.0557	0.9739	0.9634	0.9636	1.0266	6.898	0.9993
10) 8:2FTS	1.6663	1.6728	1.6625	1.6921	1.5507	1.5905	1.6117	1.6352	3.163	0.9996
3) 13C2-PFDoDA	----------ISTD----------									
19) PFDoDA	0.9060	0.9297	0.9083	0.9190	0.8505	0.9094	0.9372	0.9086	3.099	0.9996
31) PFTeDA	0.4345	0.4371	0.4318	0.4343	0.3962	0.4245	0.4420	0.4286	3.559	0.9993
32) PFTrDA	0.7809	0.7694	0.7711	0.7818	0.7223	0.7750	0.8091	0.7728	3.354	0.9994
33) PFUnDA	0.9073	0.8879	0.8779	0.8873	0.8215	0.8600	0.8974	0.8770	3.268	0.9985
5) 13C2-PFOA	----------ISTD----------									
2) 13C2-PFDA	1.3869	1.4181	1.3535	1.3743	1.2810	1.3950	1.4227	1.3759	3.507	0.9984
4) 13C2-PFHxA	0.9750	1.0479	1.0267	1.0364	0.9711	1.0614	1.0680	1.0266	3.818	0.9987
16) PFBA	0.4748	0.5318	0.5137	0.5159	0.4818	0.5228	0.5359	0.5110	4.649	0.9984
18) PFDA	1.0186	1.0187	0.9665	0.9766	0.9006	0.9736	1.0136	0.9812	4.293	0.9978
21) PFHpA	1.6423	1.4730	1.4128	1.4109	1.3074	1.4206	1.4665	1.4476	7.013	0.9986
23) PFHxA	0.4742	0.5078	0.4891	0.4767	0.4527	0.4935	0.4989	0.4847	3.794	0.9996
25) PFNA	1.1263	0.9385	0.9201	0.8924	0.8036	0.8867	0.9120	0.9256	10.636	0.9977
27) PFOA	0.9605	0.8457	0.8362	0.8326	0.7694	0.8479	0.8388	0.8473	6.694	0.9985
6) 13C3-PFPeA	----------ISTD----------									
29) PFPeA	1.5154	1.5656	1.4956	1.5117	1.4189	1.5044	1.5422	1.5077	3.048	0.9989
30) PFPeS	0.1734	0.1915	0.1872	0.1883	0.1775	0.1881	0.1940	0.1857	4.029	0.9987
7) 13C4-PFOS	----------ISTD----------									
17) PFBS	0.7614	0.7709	0.7757	0.7798	0.7414	0.7884	0.8143	0.7760	2.917	0.9986
20) PFDS	0.5220	0.5547	0.5462	0.5487	0.5249	0.5573	0.5779	0.5474	3.528	0.9997
22) PFHpS	0.8012	0.8342	0.8168	0.8222	0.7913	0.8358	0.8645	0.8237	2.944	0.9986
24) PFHxS	0.8075	0.8214	0.8108	0.8095	0.7715	0.8190	0.8571	0.8138	3.098	0.9980
26) PFNS	0.4808	0.5040	0.5004	0.4985	0.4714	0.4980	0.5153	0.4955	2.973	0.9987
28) PFOS	1.1322	1.1479	1.1431	1.1299	1.0613	1.1354	1.1823	1.1331	3.205	0.9981
11) d3-MeFOSAA	----------ISTD----------									
12) d5-EtFOSAA	0.8411	0.6125	0.5388	0.5228	0.5075	0.5045	0.5765	0.5862	20.291	0.9954
13) EtFOSAA	-----	0.5259	0.4906	0.4539	0.4378	0.4479	0.5192	0.4792	7.939	0.9942
14) FOSA	1.0873	1.0855	1.1177	1.1044	1.0530	1.0209	1.1121	1.0830	3.218	0.9968
15) MeFOSAA	-----	0.6142	0.5865	0.6084	0.5819	0.5706	0.6565	0.6030	5.130	0.9942

*(value) - Average RF below (value)

Initial Calibration Verification

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q18-ICV18
Lab FileID: 2Q659.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0420_LIST_S2Q18\S2Q18.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
2:D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q659
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	0.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	0.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	24.064	20.3	120.3
6:2FTS	20.000	22.507	12.5	112.5
8:2FTS	20.000	22.545	12.7	112.7
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	0.0	0.0
EtFOSAA	20.000	23.571	17.9	117.9
FOSA	20.000	21.566	7.8	107.8
MeFOSAA	20.000	24.228	21.1	121.1
PFBA	20.000	21.001	5.0	105.0
PFBS	20.000	20.876	4.4	104.4
PFDA	20.000	21.111	5.6	105.6
PFDoDA	20.000	22.315	11.6	111.6
PFDS	20.000	22.350	11.7	111.7
PFHpA	20.000	21.559	7.8	107.8
PFHpS	20.000	21.058	5.3	105.3
PFHxA	20.000	21.933	9.7	109.7
PFHxS	20.000	22.038	10.2	110.2
PFNA	20.000	21.312	6.6	106.6
PFNS	20.000	22.659	13.3	113.3
PFOA	20.000	21.282	6.4	106.4
PFOS	20.000	19.618	-1.9	98.1
PFPeA	20.000	21.052	5.3	105.3
PFPeS	20.000	22.045	10.2	110.2
PFTeDA	20.000	22.537	12.7	112.7
PFTrDA	20.000	22.394	12.0	112.0
PFUnDA	20.000	21.206	6.0	106.0

CC Criteria: +/- 25%

Continuing Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q26-CC18
Lab FileID: 2Q931.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0501_LIST_S2Q26\S2Q26.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
2:D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q931
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	18.685	-6.6	93.4
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	17.817	-10.9	89.1
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.018	-9.9	90.1
6:2FTS	20.000	19.664	-1.7	98.3
8:2FTS	20.000	21.097	5.5	105.5
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	32.573	# 62.9	162.9
EtFOSAA	20.000	28.558	# 42.8	142.8
FOSA	20.000	19.129	-4.4	95.6
MeFOSAA	20.000	29.401	# 47.0	147.0
PFBA	20.000	16.363	-18.2	81.8
PFBS	20.000	17.045	-14.8	85.2
PFDA	20.000	18.362	-8.2	91.8
PFDoDA	20.000	19.614	-1.9	98.1
PFDS	20.000	17.881	-10.6	89.4
PFHpA	20.000	18.020	-9.9	90.1
PFHpS	20.000	18.356	-8.2	91.8
PFHxA	20.000	19.455	-2.7	97.3
PFHxS	20.000	17.810	-10.9	89.1
PFNA	20.000	19.352	-3.2	96.8
PFNS	20.000	19.174	-4.1	95.9
PFOA	20.000	18.454	-7.7	92.3
PFOS	20.000	17.585	-12.1	87.9
PFPeA	20.000	17.893	-10.5	89.5
PFPeS	20.000	18.526	-7.4	92.6
PFTeDA	20.000	18.609	-7.0	93.0
PFTrDA	20.000	19.557	-2.2	97.8
PFUnDA	20.000	18.066	-9.7	90.3

CC Criteria: +/- 25%

Continuing Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q26-CC18
Lab FileID: 2Q941.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0501_LIST_S2Q26\S2Q26.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
2:D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q941
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	18.987	-5.1	94.9
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	17.425	-12.9	87.1
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	17.937	-10.3	89.7
6:2FTS	20.000	19.574	-2.1	97.9
8:2FTS	20.000	20.993	5.0	105.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	31.387	# 56.9	156.9
EtFOSAA	20.000	28.580	# 42.9	142.9
FOSA	20.000	19.538	-2.3	97.7
MeFOSAA	20.000	29.724	# 48.6	148.6
PFBA	20.000	16.041	-19.8	80.2
PFBS	20.000	17.201	-14.0	86.0
PFDA	20.000	18.346	-8.3	91.7
PFDoDA	20.000	19.404	-3.0	97.0
PFDS	20.000	18.044	-9.8	90.2
PFHpA	20.000	18.326	-8.4	91.6
PFHpS	20.000	18.434	-7.8	92.2
PFHxA	20.000	18.689	-6.6	93.4
PFHxS	20.000	17.797	-11.0	89.0
PFNA	20.000	18.748	-6.3	93.7
PFNS	20.000	18.752	-6.2	93.8
PFOA	20.000	18.877	-5.6	94.4
PFOS	20.000	18.391	-8.0	92.0
PFPeA	20.000	18.285	-8.6	91.4
PFPeS	20.000	18.522	-7.4	92.6
PFTeDA	20.000	18.431	-7.8	92.2
PFTrDA	20.000	19.694	-1.5	98.5
PFUnDA	20.000	17.937	-10.3	89.7

CC Criteria: +/- 25%

Continuing Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q26-ECC18
Lab FileID: 2Q948.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0501_LIST_S2Q26\S2Q26.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
2:D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q948
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	19.058	-4.7	95.3
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	17.651	-11.7	88.3
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.202	-9.0	91.0
6:2FTS	20.000	19.727	-1.4	98.6
8:2FTS	20.000	21.315	6.6	106.6
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	30.053	# 50.3	150.3
EtFOSAA	20.000	29.810	# 49.0	149.0
FOSA	20.000	19.997	0.0	100.0
MeFOSAA	20.000	29.756	# 48.8	148.8
PFBA	20.000	16.082	-19.6	80.4
PFBS	20.000	17.142	-14.3	85.7
PFDA	20.000	18.102	-9.5	90.5
PFDoDA	20.000	19.559	-2.2	97.8
PFDS	20.000	17.868	-10.7	89.3
PFHpA	20.000	18.515	-7.4	92.6
PFHpS	20.000	18.332	-8.3	91.7
PFHxA	20.000	19.004	-5.0	95.0
PFHxS	20.000	17.739	-11.3	88.7
PFNA	20.000	18.516	-7.4	92.6
PFNS	20.000	18.622	-6.9	93.1
PFOA	20.000	18.733	-6.3	93.7
PFOS	20.000	17.895	-10.5	89.5
PFPeA	20.000	18.026	-9.9	90.1
PFPeS	20.000	18.683	-6.6	93.4
PFTeDA	20.000	18.143	-9.3	90.7
PFTrDA	20.000	19.340	-3.3	96.7
PFUnDA	20.000	18.075	-9.6	90.4

CC Criteria: +/- 25%

Continuing Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q28-CC18
Lab FileID: 2Q992.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0503_LIST_S2Q28\S2Q28.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0420_LIST_S2Q18\2Q651.d
2:D:\MassHunter\Data\0420_LIST_S2Q18\2Q652.d
3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q992
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	18.520	-7.4	92.6
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	17.483	-12.6	87.4
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.214	-8.9	91.1
6:2FTS	20.000	19.494	-2.5	97.5
8:2FTS	20.000	21.298	6.5	106.5
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	30.101	# 50.5	150.5
EtFOSAA	20.000	28.617	# 43.1	143.1
FOSA	20.000	19.214	-3.9	96.1
MeFOSAA	20.000	29.409	# 47.0	147.0
PFBA	20.000	15.730	-21.3	78.7
PFBS	20.000	16.477	-17.6	82.4
PFDA	20.000	18.203	-9.0	91.0
PFDoDA	20.000	19.492	-2.5	97.5
PFDS	20.000	18.225	-8.9	91.1
PFHpA	20.000	17.937	-10.3	89.7
PFHpS	20.000	18.502	-7.5	92.5
PFHxA	20.000	18.922	-5.4	94.6
PFHxS	20.000	17.789	-11.1	88.9
PFNA	20.000	18.397	-8.0	92.0
PFNS	20.000	18.620	-6.9	93.1
PFOA	20.000	18.605	-7.0	93.0
PFOS	20.000	17.698	-11.5	88.5
PFPeA	20.000	17.837	-10.8	89.2
PFPeS	20.000	19.667	-1.7	98.3
PFTeDA	20.000	17.781	-11.1	88.9
PFTrDA	20.000	19.017	-4.9	95.1
PFUnDA	20.000	18.628	-6.9	93.1

CC Criteria: +/- 25%

Continuing Calibration Summary

Job Number: FA43289
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: S2Q28-ECC18
Lab FileID: 2Q1004.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0503_LIST_S2Q28\S2Q28.batch.bin

Level ID:Calibration File
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3:D:\MassHunter\Data\0420_LIST_S2Q18\2Q653.d
4:D:\MassHunter\Data\0420_LIST_S2Q18\2Q654.d
5:D:\MassHunter\Data\0420_LIST_S2Q18\2Q655.d
6:D:\MassHunter\Data\0420_LIST_S2Q18\2Q656.d
7:D:\MassHunter\Data\0420_LIST_S2Q18\2Q657.d

Data File: 2Q1004
Type : QC
Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	18.741	-6.3	93.7
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	17.949	-10.3	89.7
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
4:2FTS	20.000	18.540	-7.3	92.7
6:2FTS	20.000	19.501	-2.5	97.5
8:2FTS	20.000	21.291	6.5	106.5
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	33.804	# 69.0	169.0
EtFOSAA	20.000	28.902	# 44.5	144.5
FOSA	20.000	18.478	-7.6	92.4
MeFOSAA	20.000	28.549	# 42.7	142.7
PFBA	20.000	15.703	-21.5	78.5
PFBS	20.000	16.873	-15.6	84.4
PFDA	20.000	17.967	-10.2	89.8
PFDoDA	20.000	19.545	-2.3	97.7
PFDS	20.000	18.586	-7.1	92.9
PFHpA	20.000	18.207	-9.0	91.0
PFHpS	20.000	18.820	-5.9	94.1
PFHxA	20.000	19.105	-4.5	95.5
PFHxS	20.000	18.030	-9.9	90.1
PFNA	20.000	18.002	-10.0	90.0
PFNS	20.000	18.663	-6.7	93.3
PFOA	20.000	18.280	-8.6	91.4
PFOS	20.000	18.034	-9.8	90.2
PFPeA	20.000	17.718	-11.4	88.6
PFPeS	20.000	18.767	-6.2	93.8
PFTeDA	20.000	17.297	-13.5	86.5
PFTrDA	20.000	18.678	-6.6	93.4
PFUnDA	20.000	18.579	-7.1	92.9

CC Criteria: +/- 25%

GC/MS Semi-volatiles

Raw Data

Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

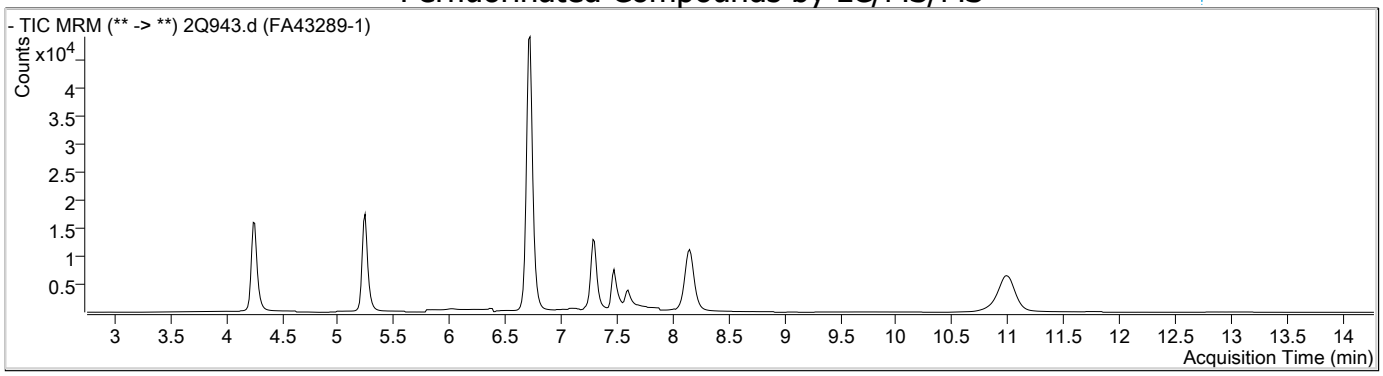
Data File	:	2Q943.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 9:44:43 PM
Sample Name	:	FA43289-1
Vial	:	Vial 29
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-6:2FTS	6.723	429.0 -> 409.0	126178	20.00	µg/L	-0.063
13C2-PFDoDA	10.989	615.0 -> 570.0	74606	20.00	µg/L	-0.275
13C2-PFOA	6.713	415.0 -> 370.0	68612	20.00	µg/L	-0.050
13C3-PFPeA	4.247	266.0 -> 222.0	59415	20.00	µg/L	-0.063
13C4-PFOS	7.289	503.0 -> 80.0	48760	20.00	µg/L	-0.075
d3-MeFOSAA	7.475	573.0 -> 419.0	27476	20.00	µg/L	-0.013
System Monitoring Compounds						
13C2-PFDA	8.155	515.0 -> 470.0	68685	14.31	µg/L	-0.138
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 71.5%		
13C2-PFHxA	5.247	315.0 -> 270.0	61832	17.06	µg/L	-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 85.3%		
d5-EtFOSAA	7.597	589.0 -> 419.0	11057	16.61	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 83.0%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.724	427.0 -> 407.0	646	0.11	µg/L	100
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.598	584.0 -> 419.0	1112	1.87	µg/L	100
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	7.476	570.0 -> 419.0	875	1.25	µg/L	100
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	8.183	513.0 -> 469.0	378	0.11	µg/L	100
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.023	363.0 -> 319.0	604	0.13	µg/L	85
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.237	313.0 -> 269.0	417	0.27	µg/L	85
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 99.0	-	N.D.		
PFOA	6.715	413.0 -> 369.0	462	0.16	µg/L	54
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	4.263	263.0 -> 219.0	442	0.10	µg/L	100
PFPeS	-	349.0 -> 99.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		

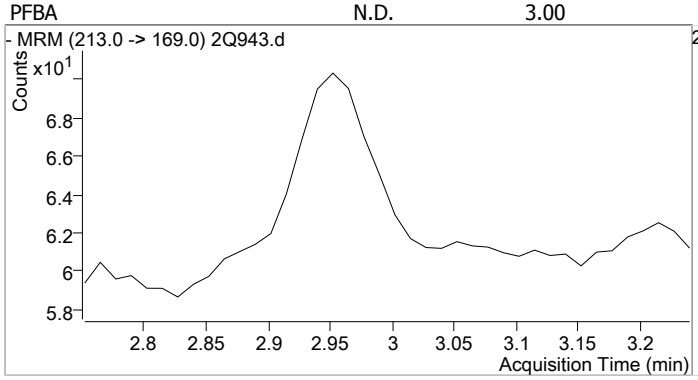
 # = Qualifier out of range, m = manually integrated, + = Area summed

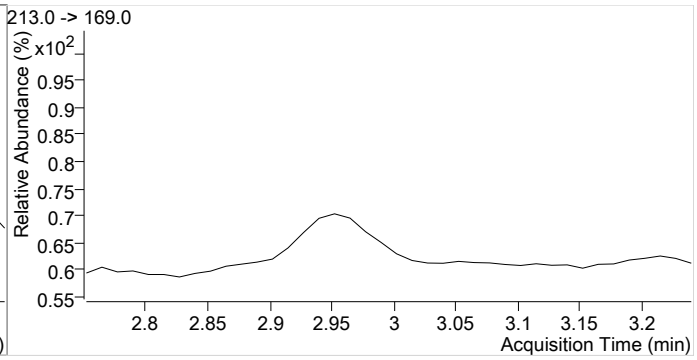
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

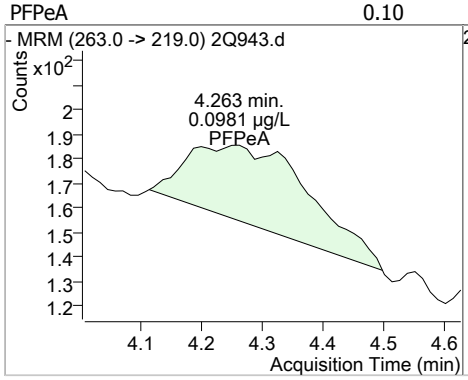


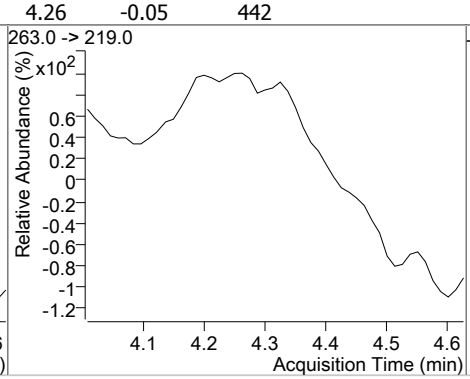
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBA	N.D.	3.00		

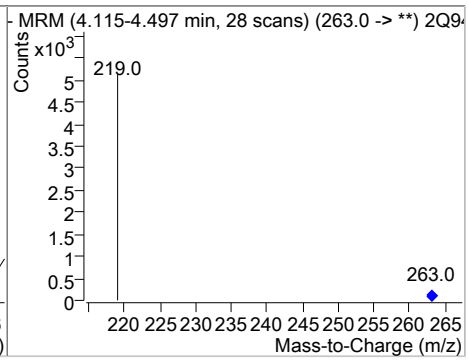




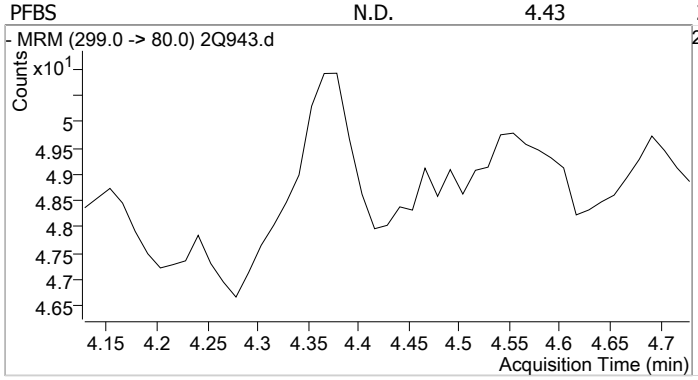
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.10	4.26	-0.05	442				

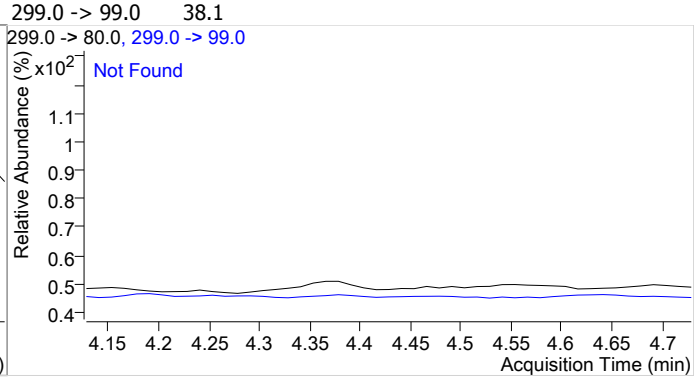






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBS	N.D.	4.43	299.0 -> 99.0	38.1





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Perfluorinated Compounds by LC/MS/MS

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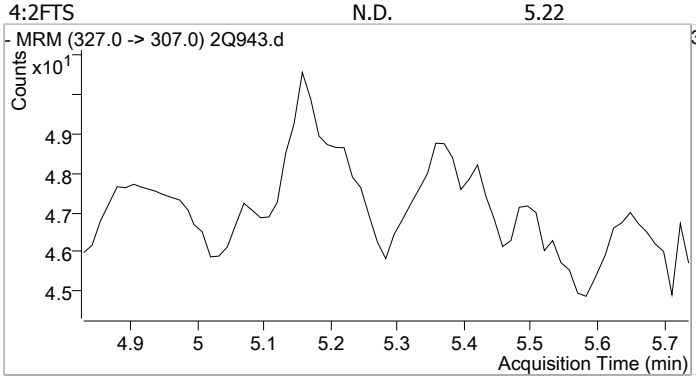
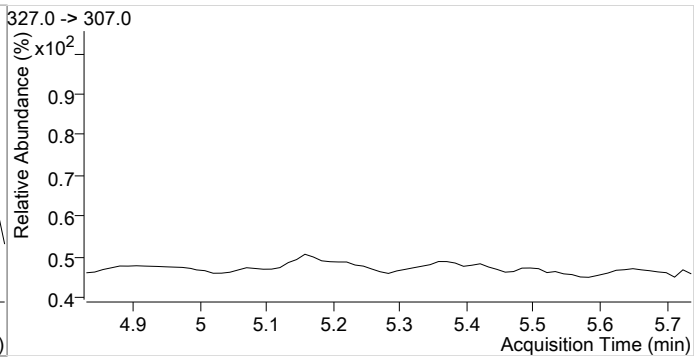
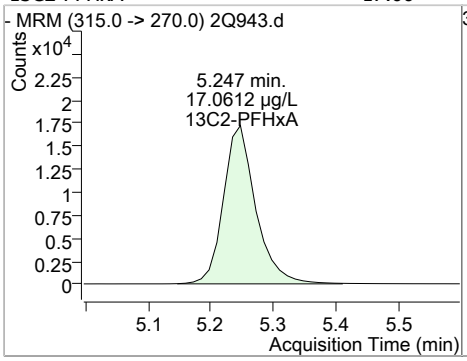
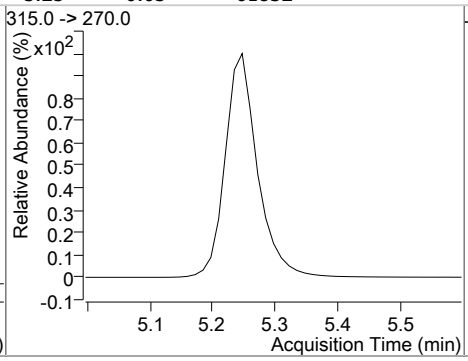
Compound	Conc.	Exp RT	QIon	Exp Ratio
4:2FTS	N.D.	5.22		

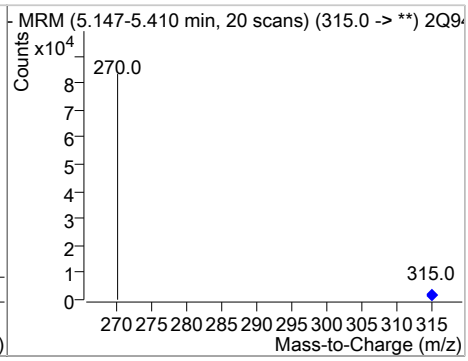




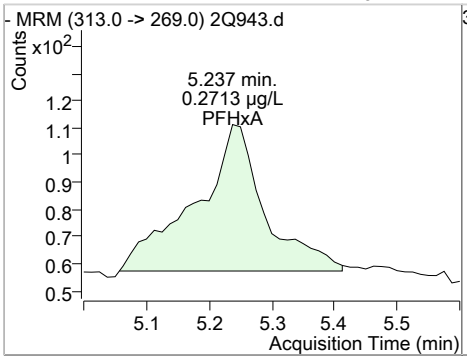
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.06	5.25	-0.05	61832				

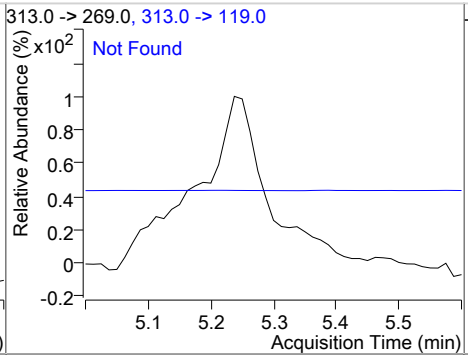


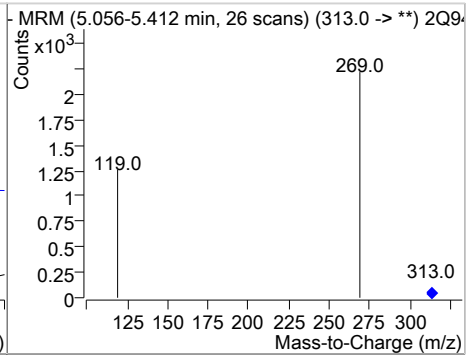




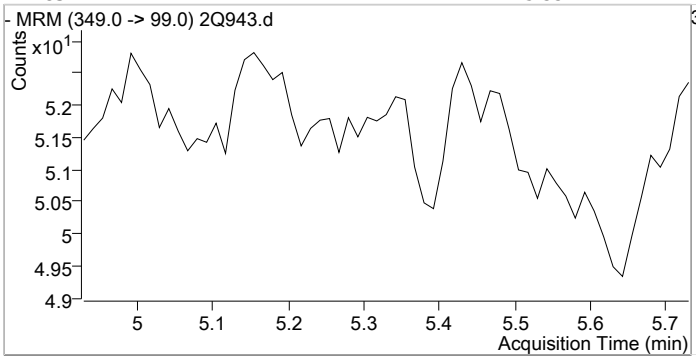
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.27	5.24	-0.06	417	313.0 -> 119.0		4.0	6.0

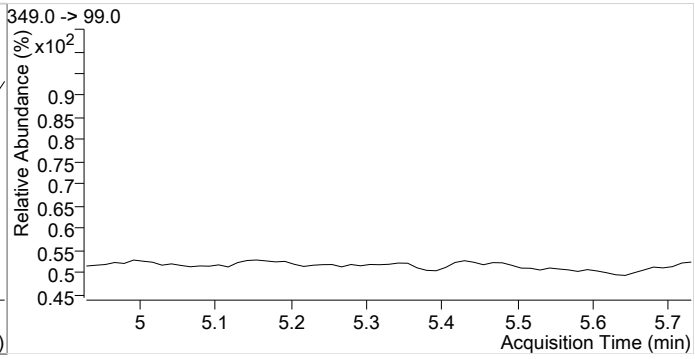






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeS	N.D.	5.33		





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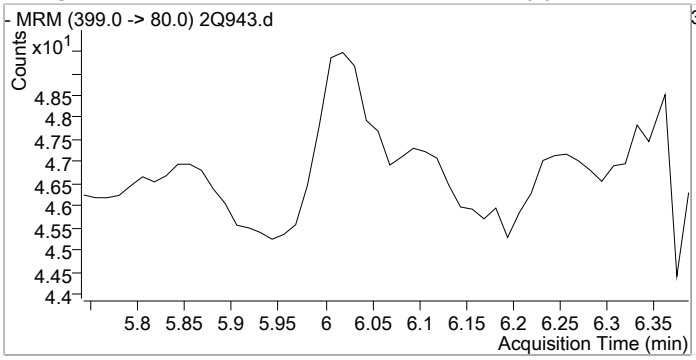
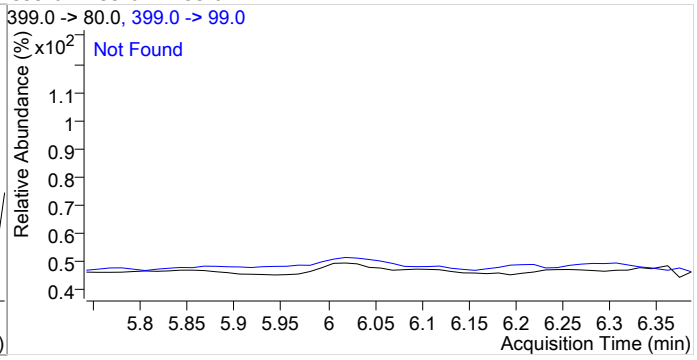
Perfluorinated Compounds by LC/MS/MS

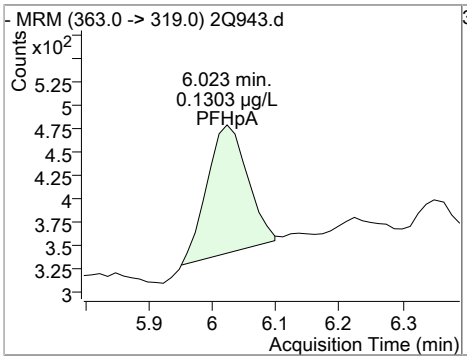
Agilent Technologies

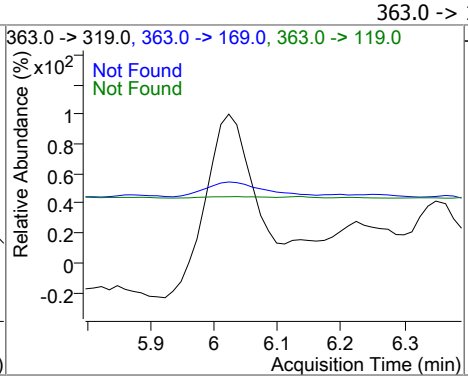
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxS	N.D.	6.07	399.0 -> 99.0	53.6

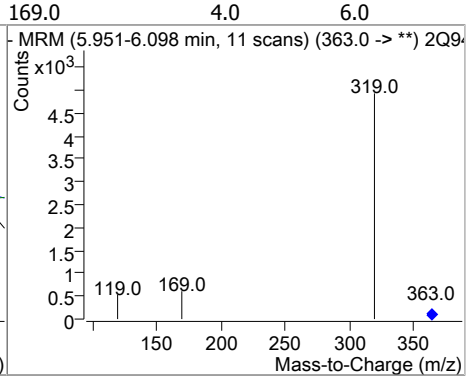




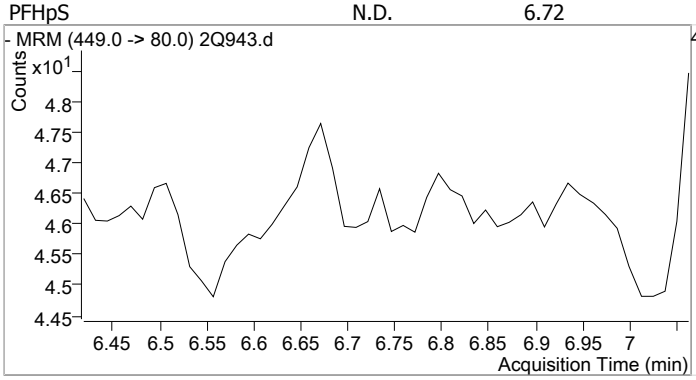
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.13	6.02	-0.06	604	363.0 -> 119.0		4.0	6.0
					363.0 -> 169.0		4.0	6.0

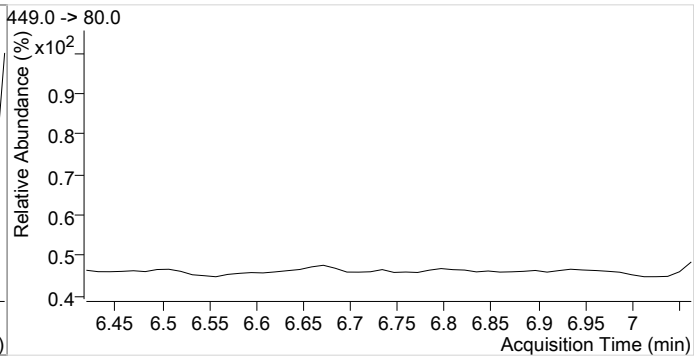




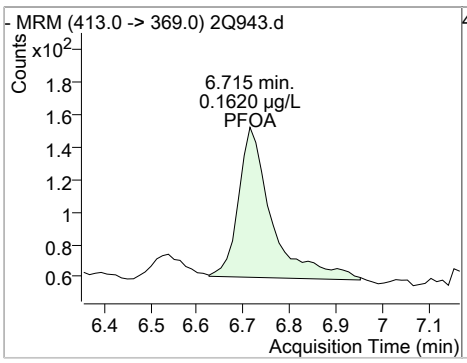


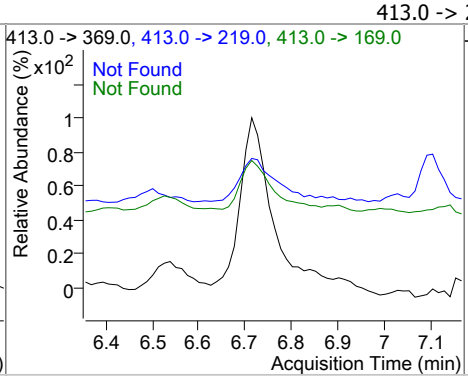
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHpS	N.D.	6.72		

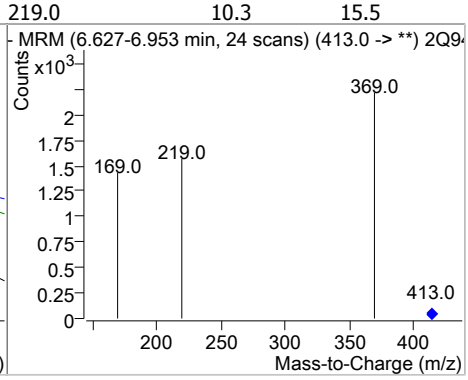




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.16	6.71	-0.05	462	413.0 -> 169.0		21.8	32.6
					413.0 -> 219.0		10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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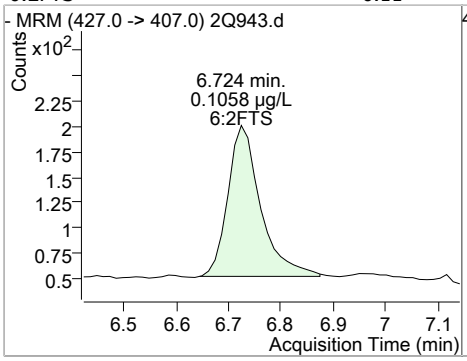
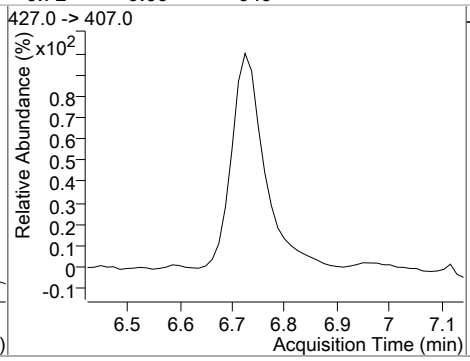
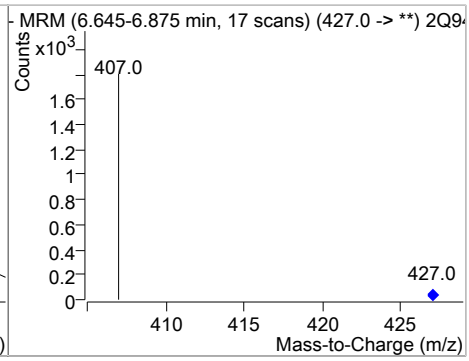
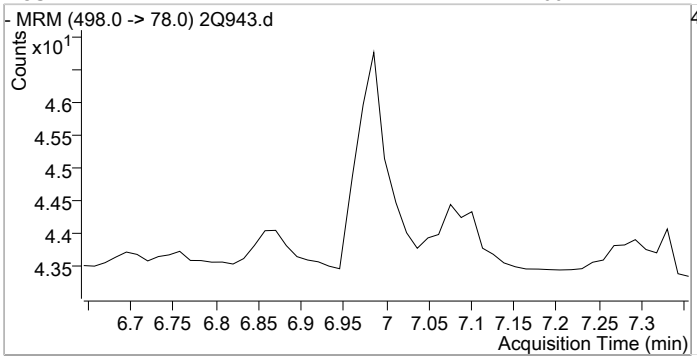
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.11	6.72	-0.06	646				

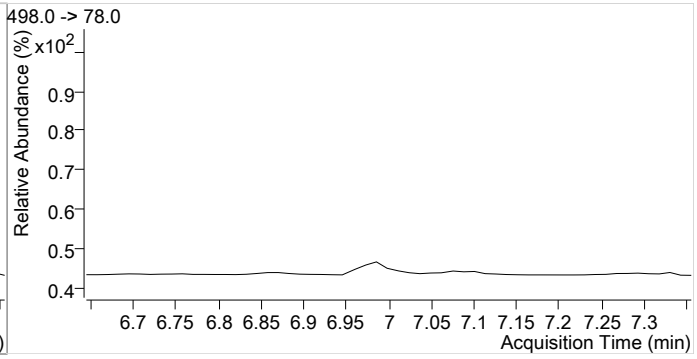




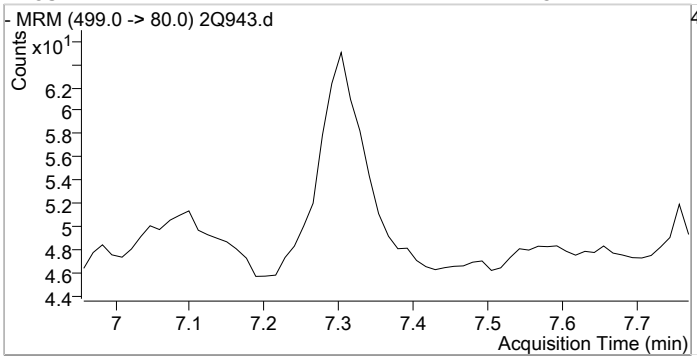


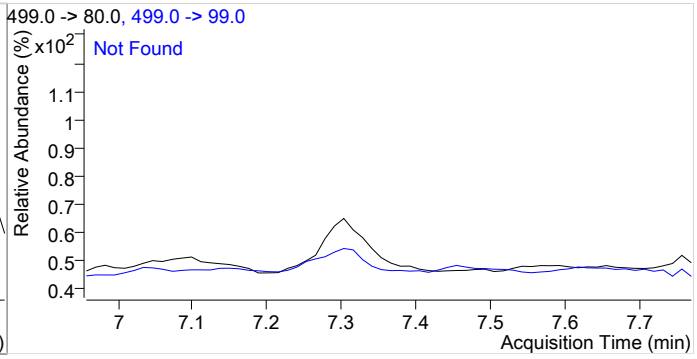
Compound	Conc.	Exp RT	QIon	Exp Ratio
FOSA	N.D.	7.00		



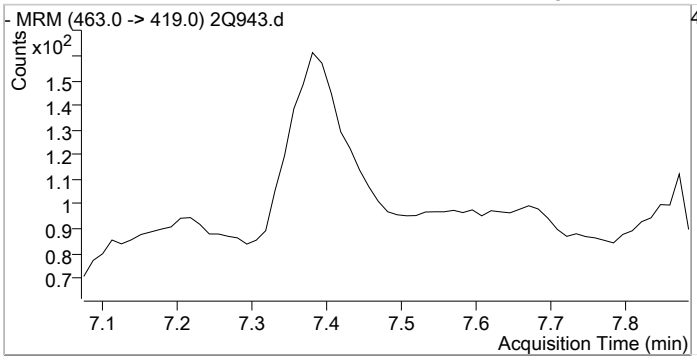


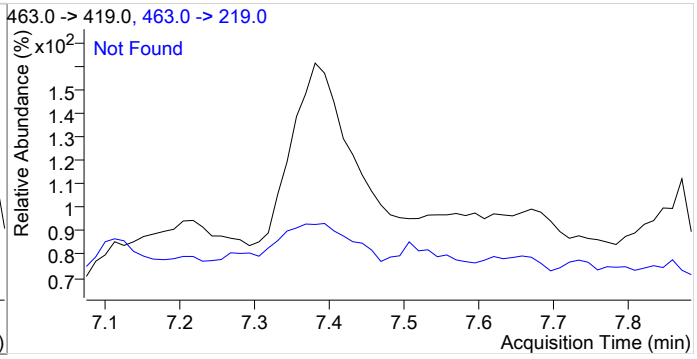
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFOS	N.D.	7.37	499.0 -> 99.0	61.3





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNA	N.D.	7.43	463.0 -> 219.0	20.9

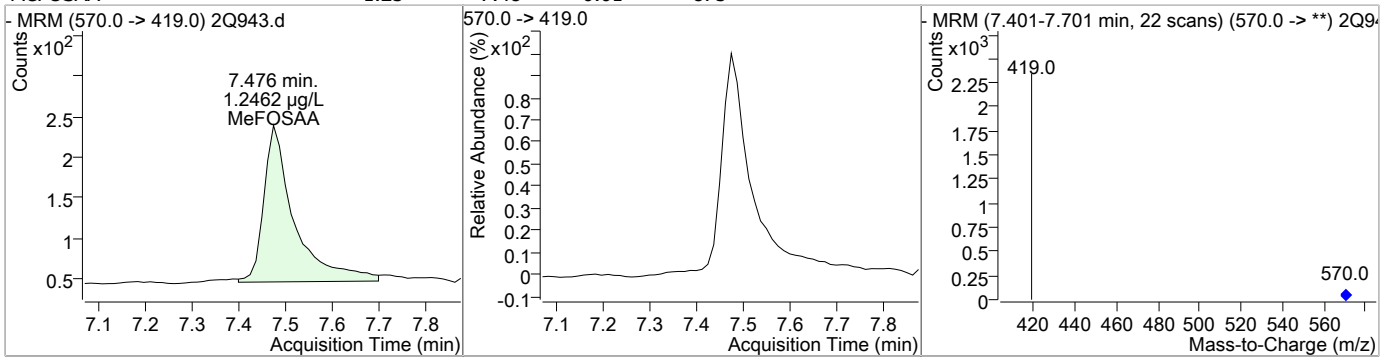




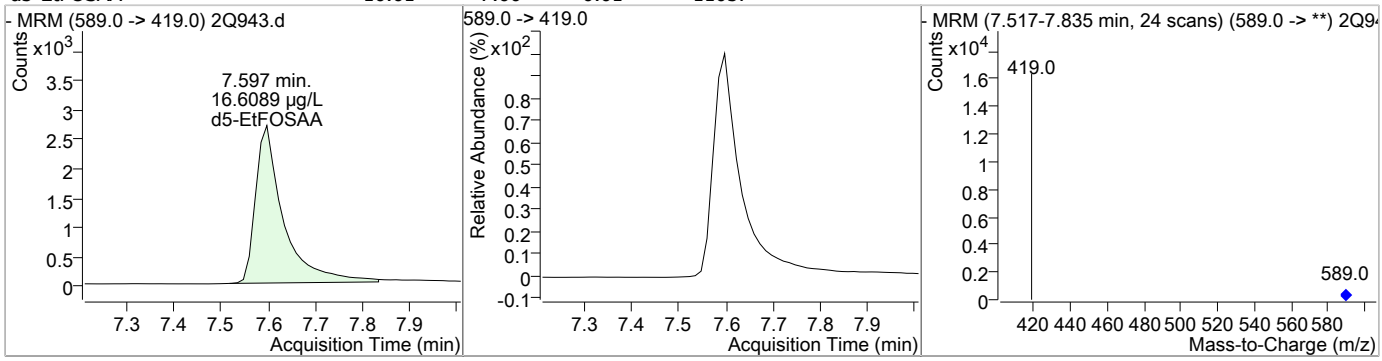
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

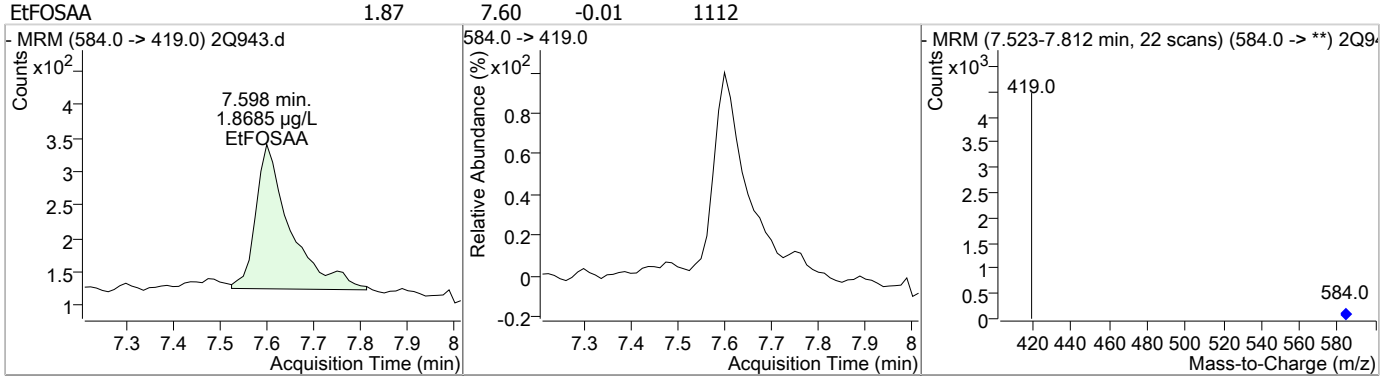
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.25	7.48	-0.01	875				



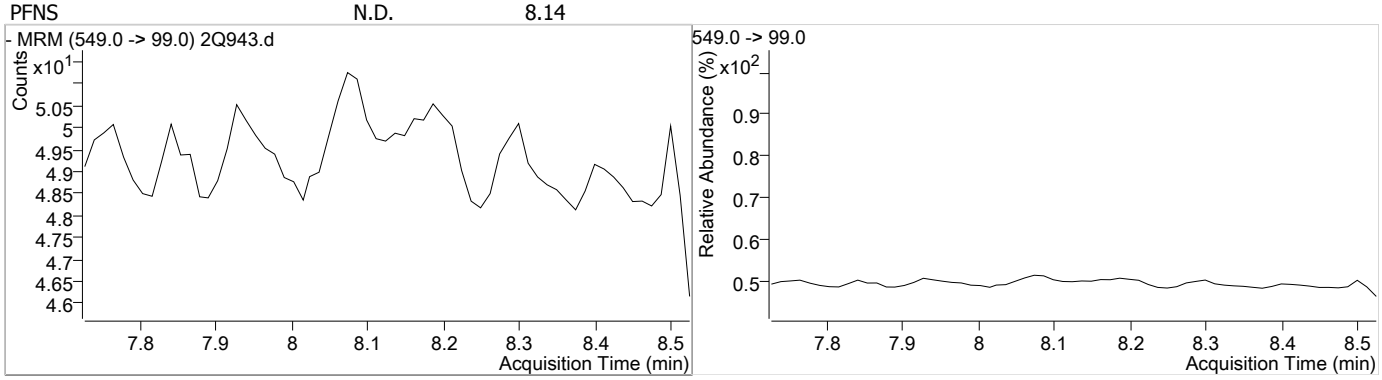
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	16.61	7.60	-0.01	11057				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.87	7.60	-0.01	1112				



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNS	N.D.	8.14		



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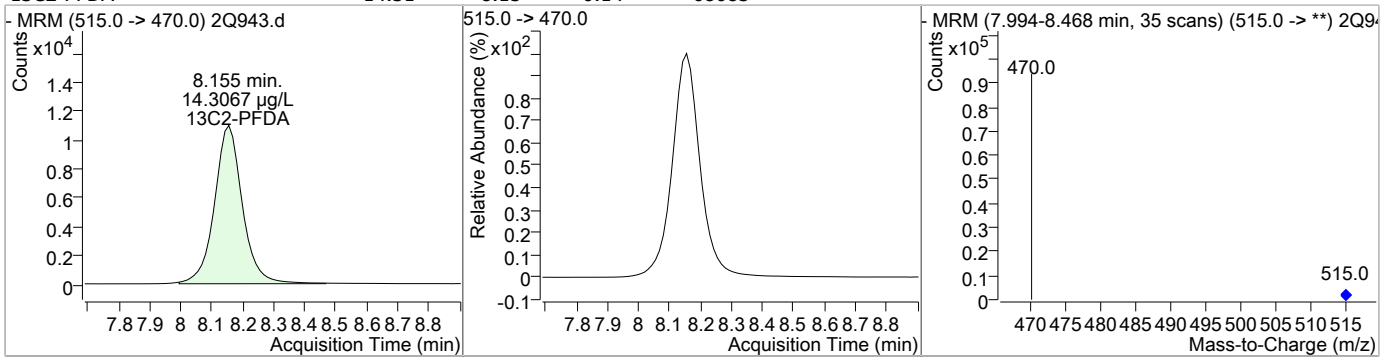
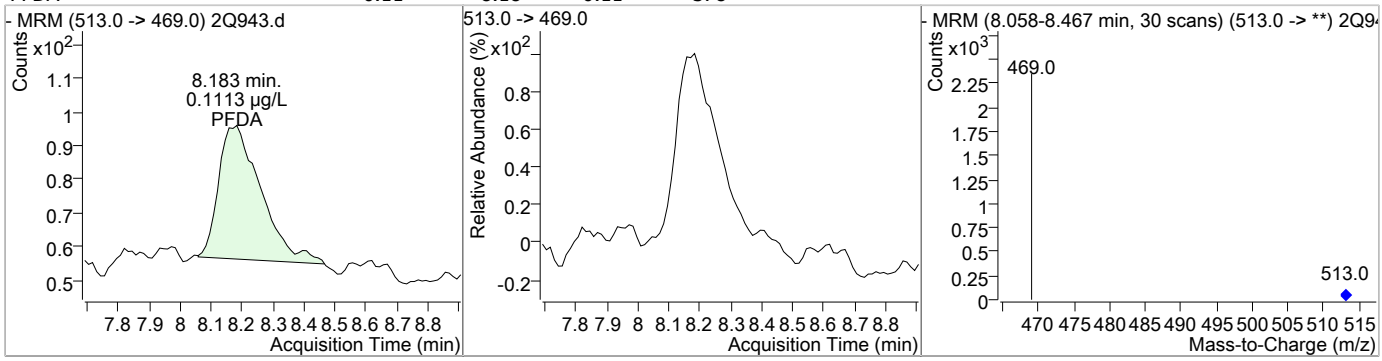
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

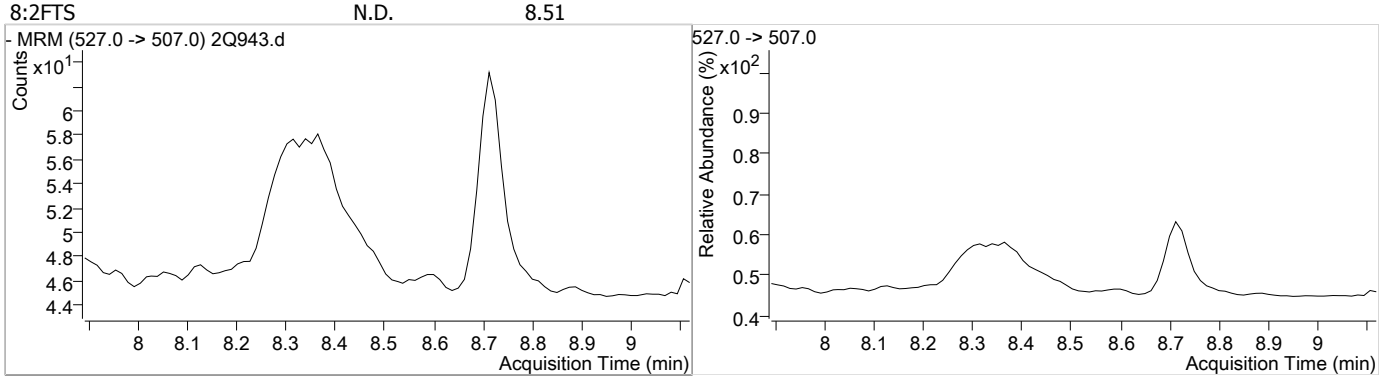
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	14.31	8.15	-0.14	68685				



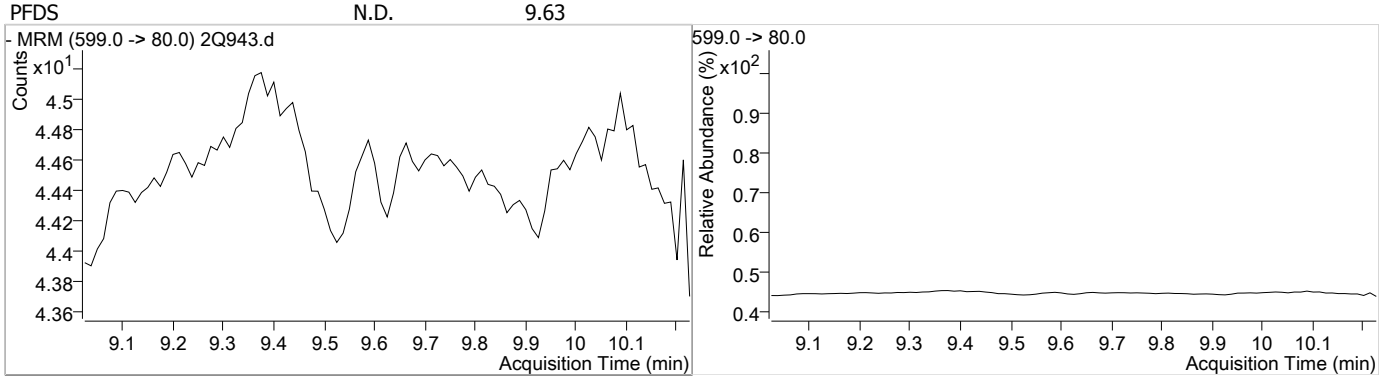
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.11	8.18	-0.11	378				



Compound	Conc.	Exp RT	QIon	Exp Ratio
8:2FTS	N.D.	8.51		



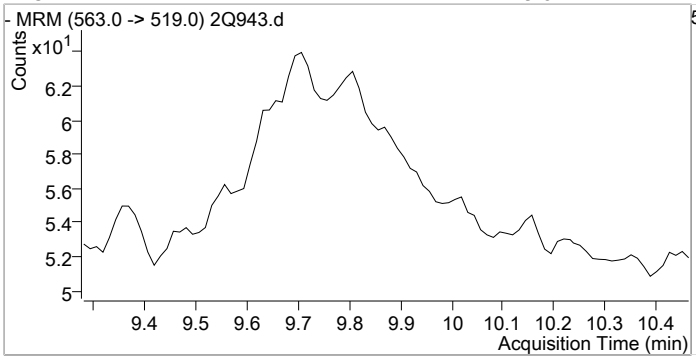
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDS	N.D.	9.63		

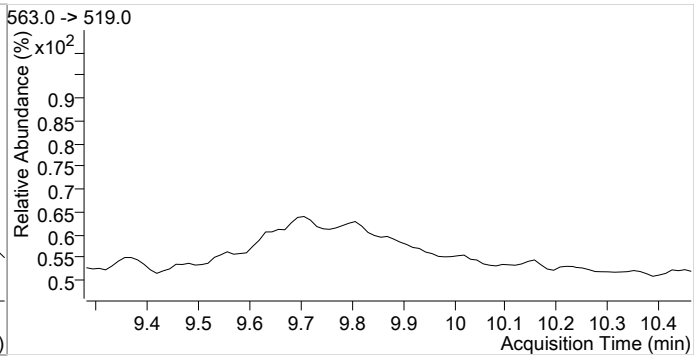


Perfluorinated Compounds by LC/MS/MS

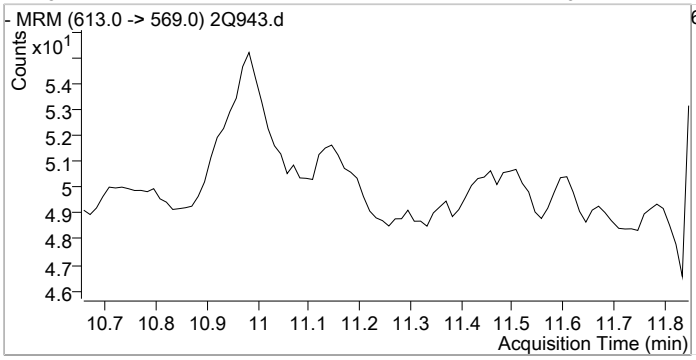
Agilent Technologies

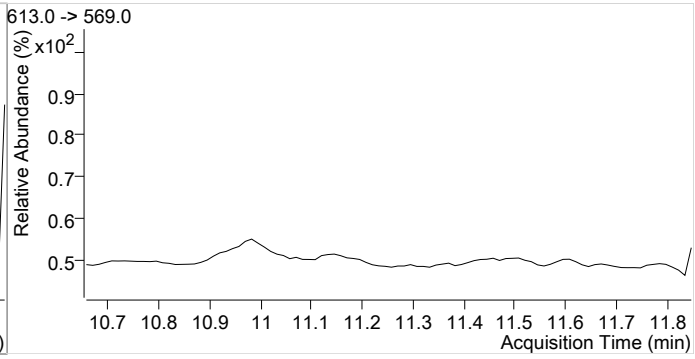
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFUnDA	N.D.	9.87		



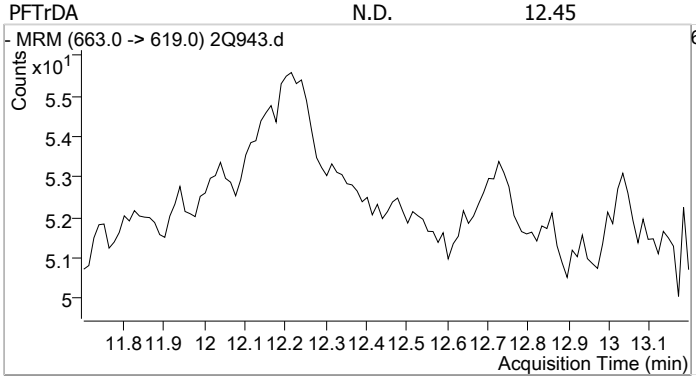


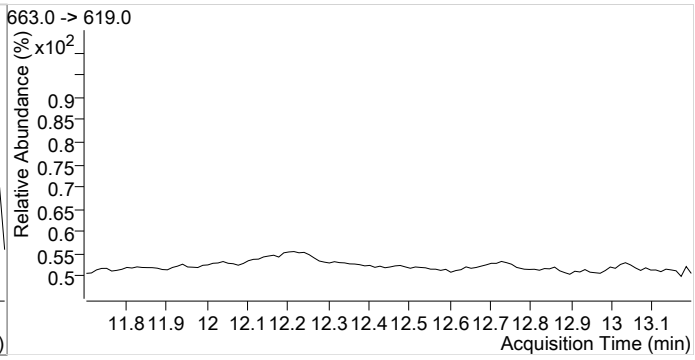
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDoDA	N.D.	11.26		



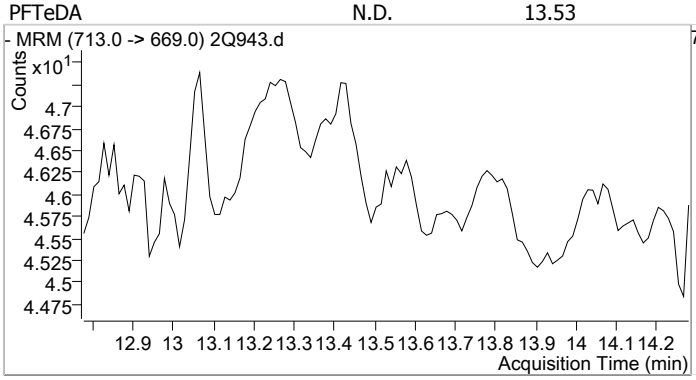


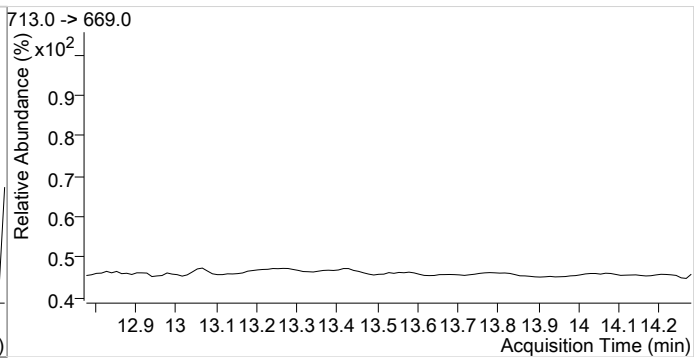
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTrDA	N.D.	12.45		





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTeDA	N.D.	13.53		





SGS ACCUTEST FA43289

Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

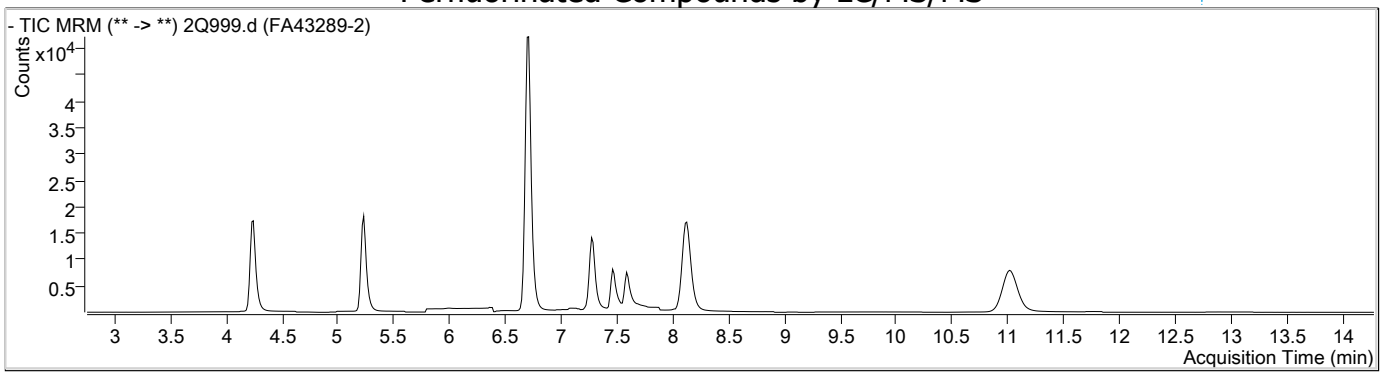
Data File	:	2Q999.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/3/2017 6:11:00 PM
Sample Name	:	FA43289-2
Vial	:	Vial 18
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q28.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-6:2FTS	6.710	429.0 -> 409.0	133316	20.00	µg/L	-0.025
13C2-PFDoDA	11.014	615.0 -> 570.0	78323	20.00	µg/L	-0.012
13C2-PFOA	6.701	415.0 -> 370.0	65729	20.00	µg/L	-0.025
13C3-PFPeA	4.247	266.0 -> 222.0	61973	20.00	µg/L	-0.025
13C4-PFOS	7.276	503.0 -> 80.0	50203	20.00	µg/L	-0.038
d3-MeFOSAA	7.462	573.0 -> 419.0	27616	20.00	µg/L	-0.013
System Monitoring Compounds						
13C2-PFDA	8.130	515.0 -> 470.0	97636	21.23	µg/L	-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 106.1%		
13C2-PFHxA	5.235	315.0 -> 270.0	61607	17.74	µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 88.7%		
d5-EtFOSAA	7.585	589.0 -> 419.0	24194	33.49	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 167.5%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.712	427.0 -> 407.0	380	0.06	µg/L	100
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.599	584.0 -> 419.0	408	0.68	µg/L	100
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	8.133	513.0 -> 469.0	425	0.13	µg/L	100
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	5.998	363.0 -> 319.0	551	0.12	µg/L	85
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.237	313.0 -> 269.0	372	0.25	µg/L	85
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 99.0	-	N.D.		
PFOA	6.702	413.0 -> 369.0	410	0.15	µg/L	54
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	4.288	263.0 -> 219.0	552	0.12	µg/L	100
PFPeS	-	349.0 -> 99.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		

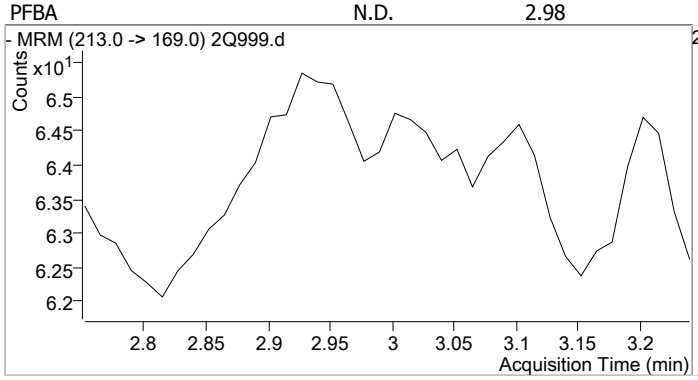
 # = Qualifier out of range, m = manually integrated, + = Area summed

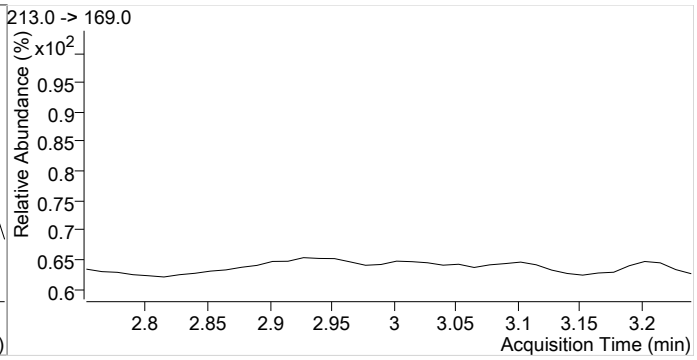
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

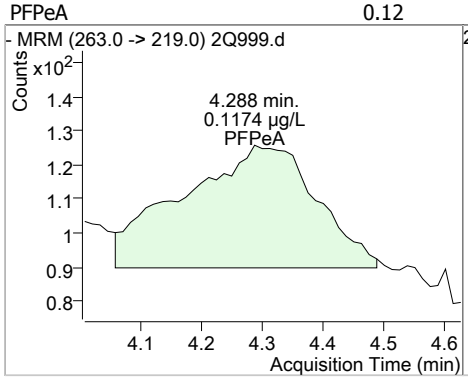


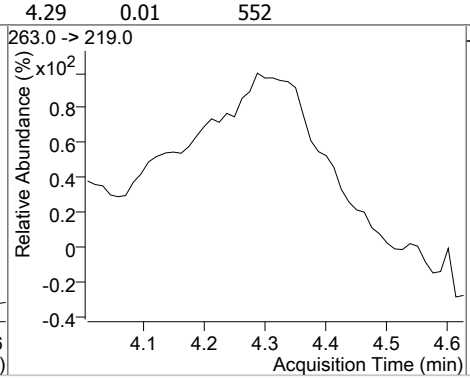
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBA	N.D.	2.98		

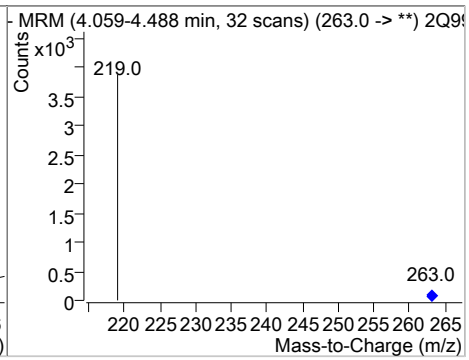




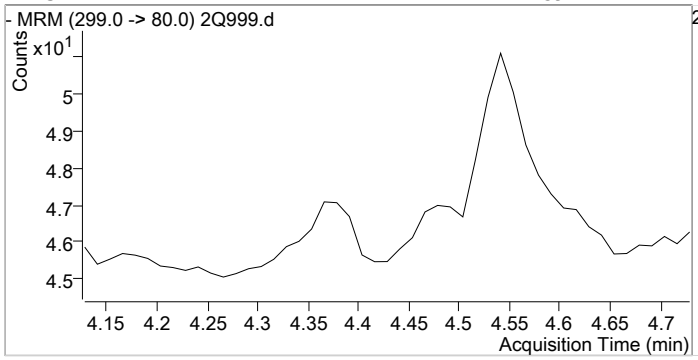
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.12	4.29	0.01	552				

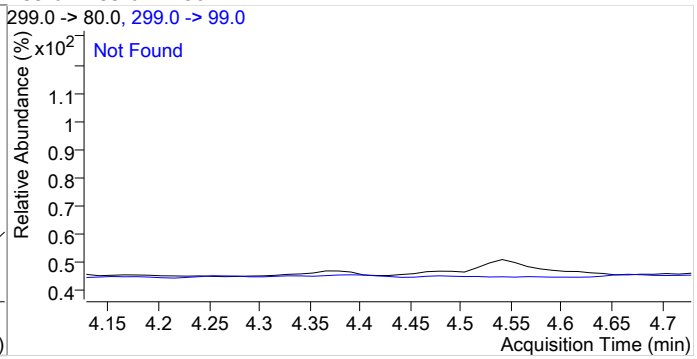






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBS	N.D.	4.39	299.0 -> 99.0	38.1





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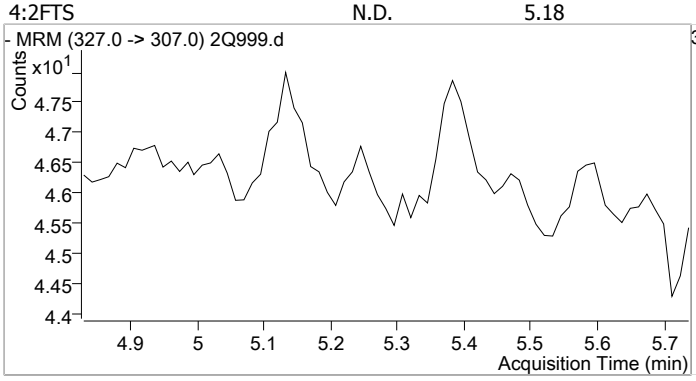
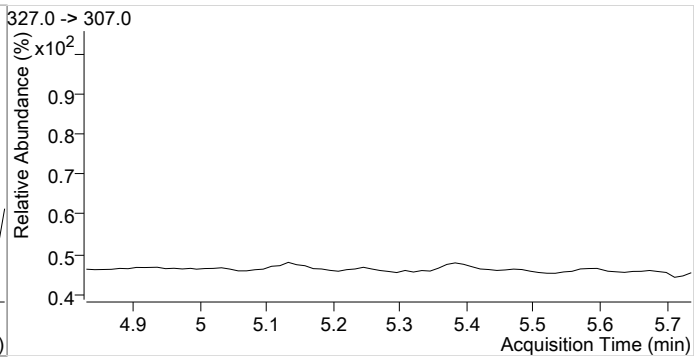
Perfluorinated Compounds by LC/MS/MS

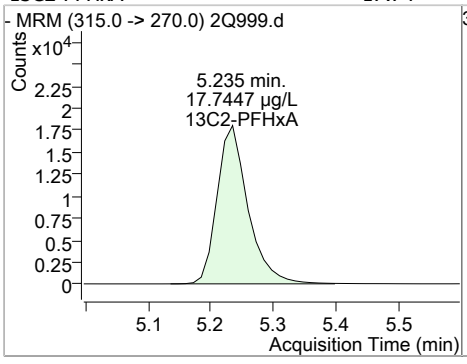
Agilent Technologies

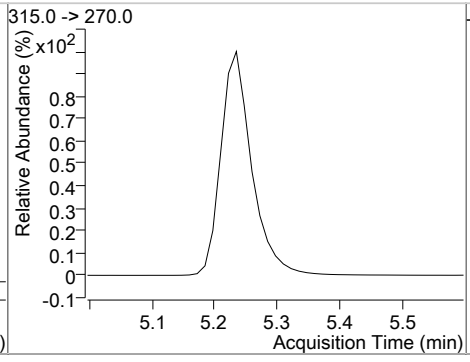
Compound	Conc.	Exp RT	QIon	Exp Ratio
4:2FTS	N.D.	5.18		

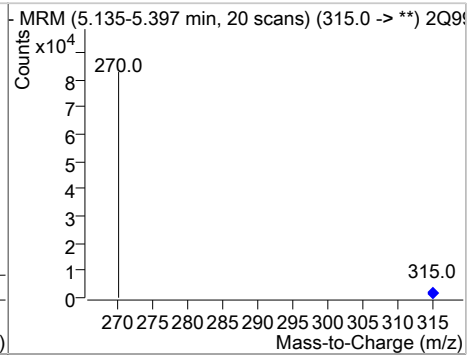




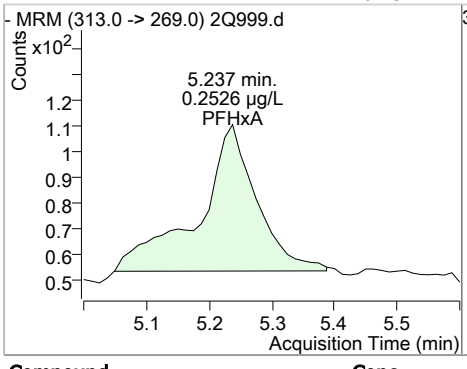
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.74	5.23	-0.03	61607				

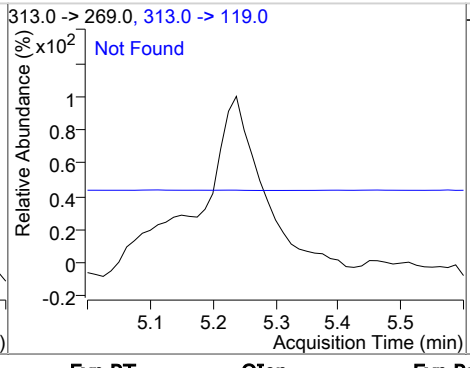


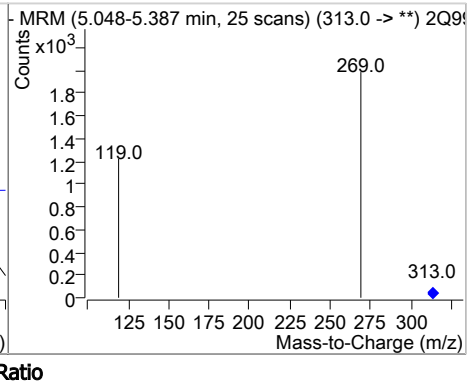




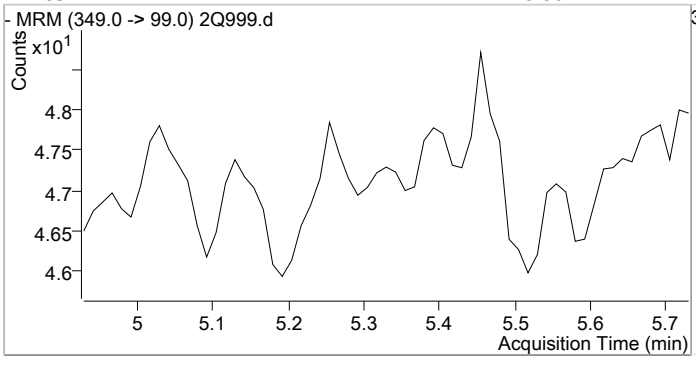
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.25	5.24	-0.03	372	313.0 -> 119.0		4.0	6.0

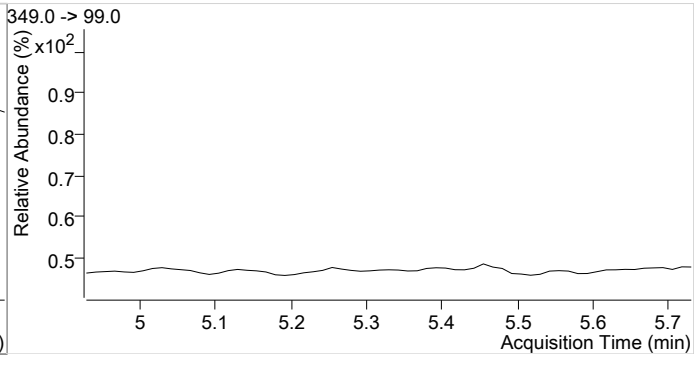






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeS	N.D.	5.30		





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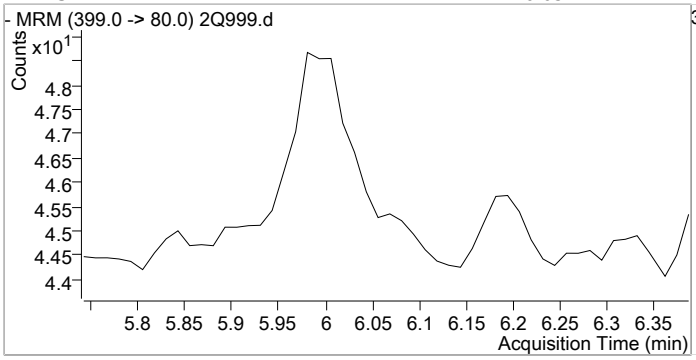
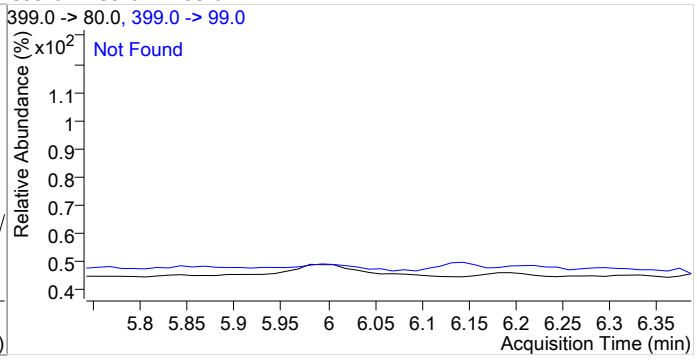
Perfluorinated Compounds by LC/MS/MS

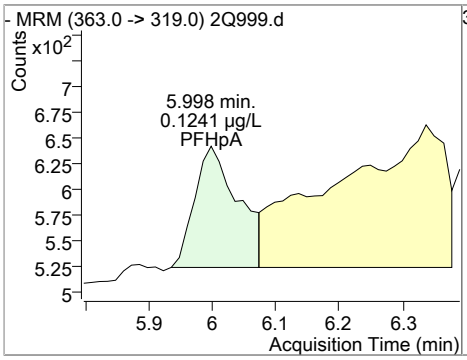
Agilent Technologies

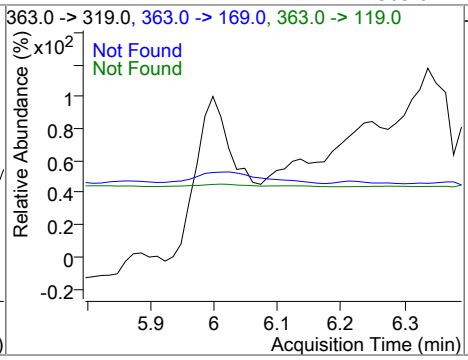
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxS	N.D.	6.03	399.0 -> 99.0	53.6

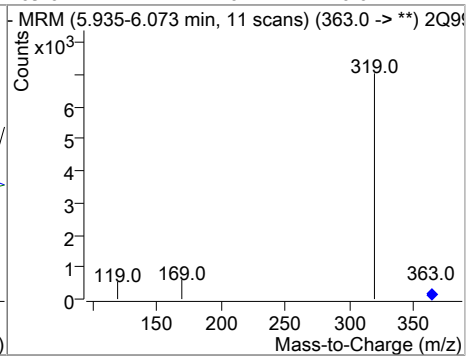




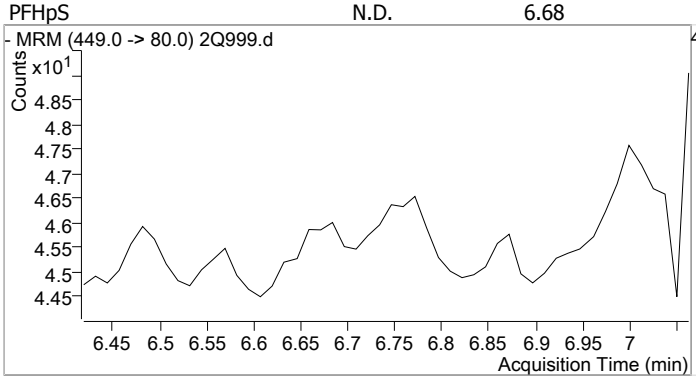
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.12	6.00	-0.05	551	363.0 -> 119.0		4.0	6.0
					363.0 -> 169.0		4.0	6.0

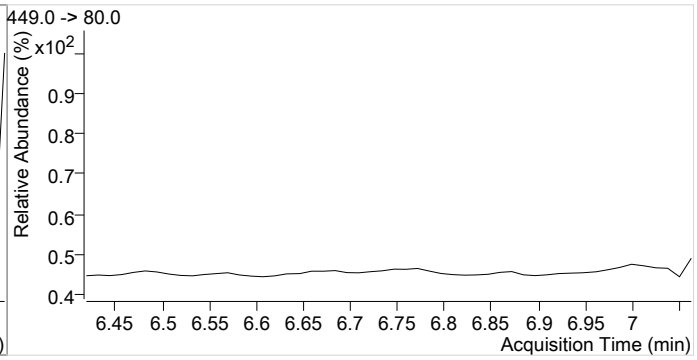




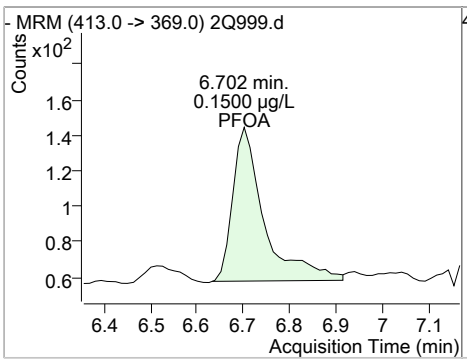


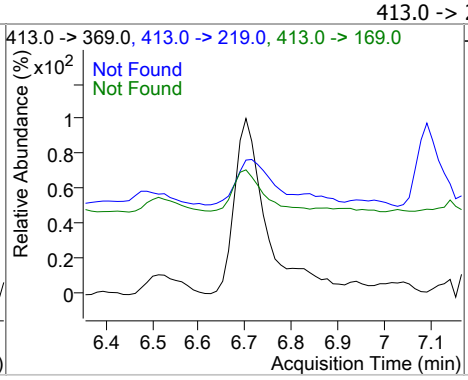
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHpS	N.D.	6.68		

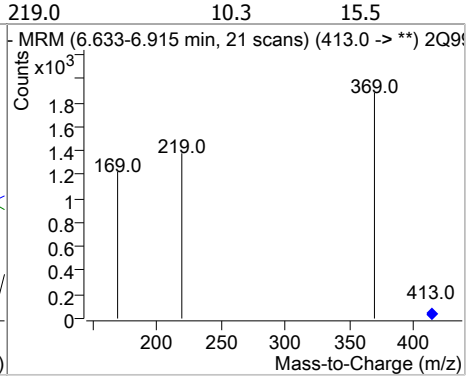




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.15	6.70	-0.03	410	413.0 -> 169.0		21.8	32.6
					413.0 -> 219.0		10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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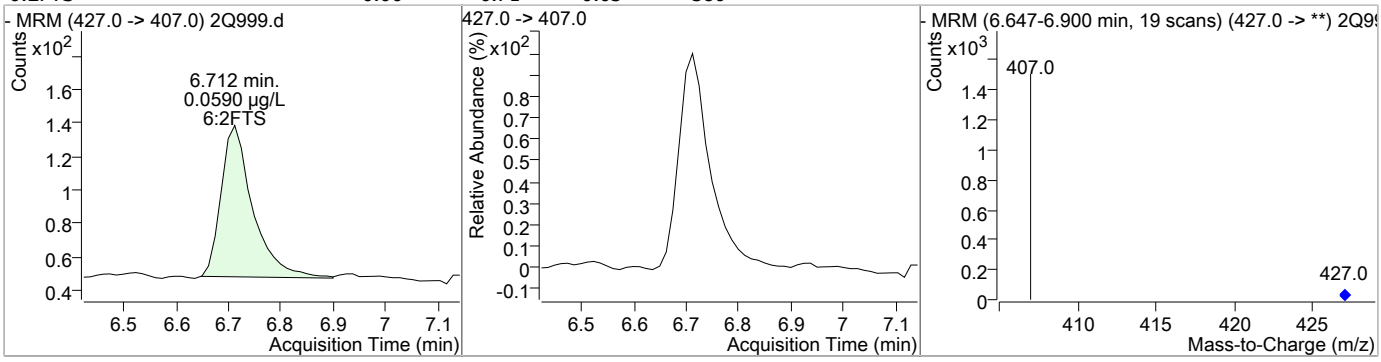
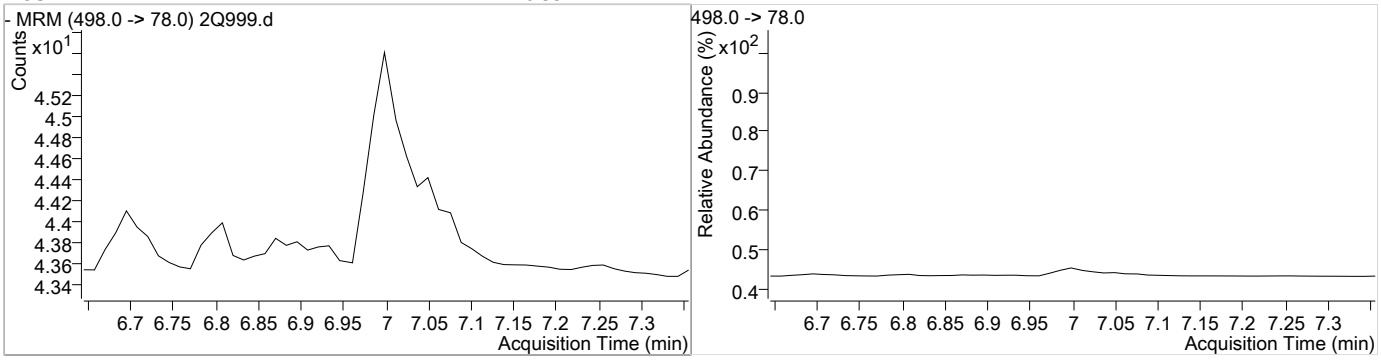
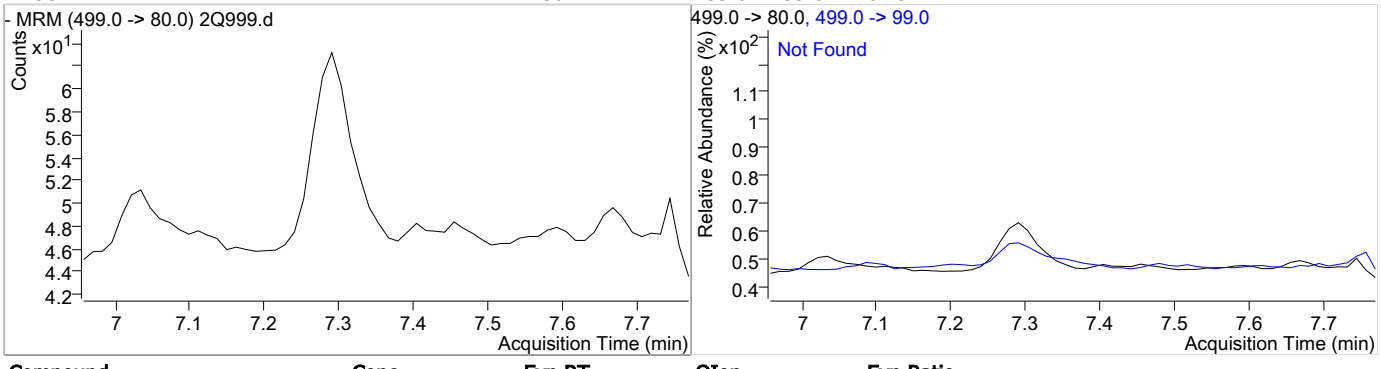
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.06	6.71	-0.03	380				



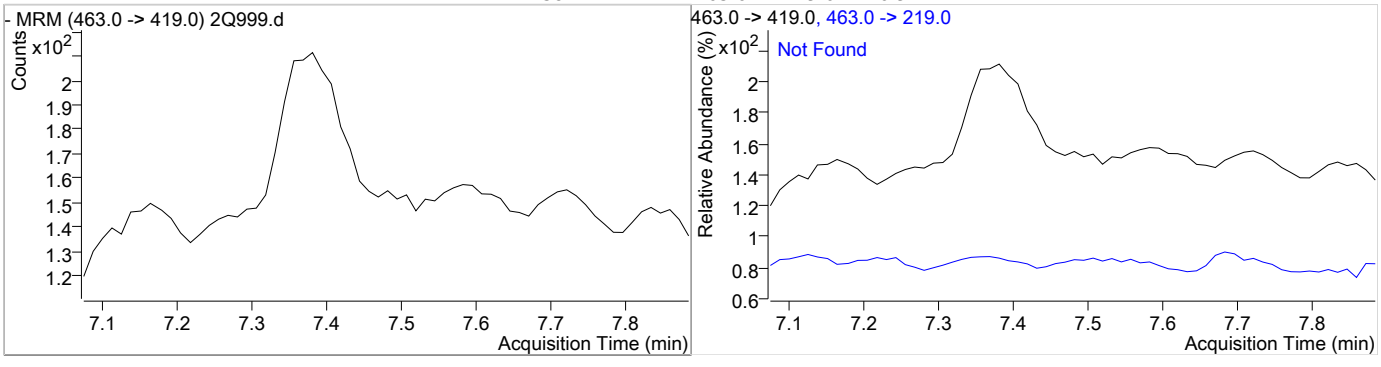
Compound	Conc.	Exp RT	QIon	Exp Ratio
FOSA	N.D.	6.99		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFOS	N.D.	7.30	499.0 -> 99.0	61.3



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNA	N.D.	7.38	463.0 -> 219.0	20.9



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Perfluorinated Compounds by LC/MS/MS

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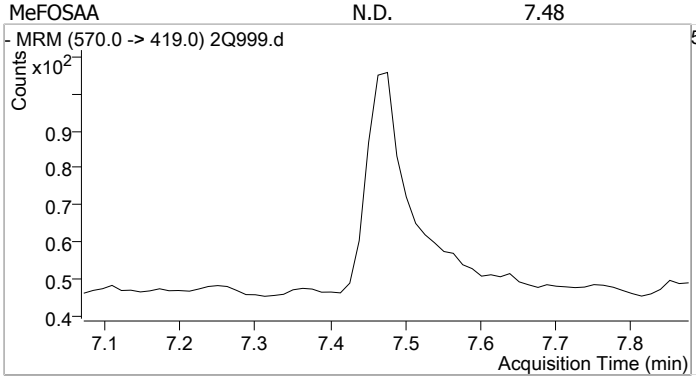
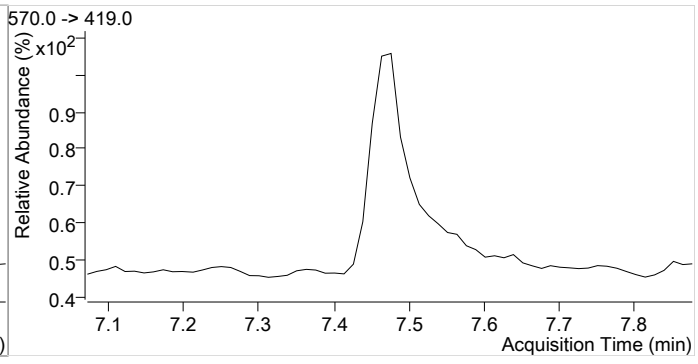
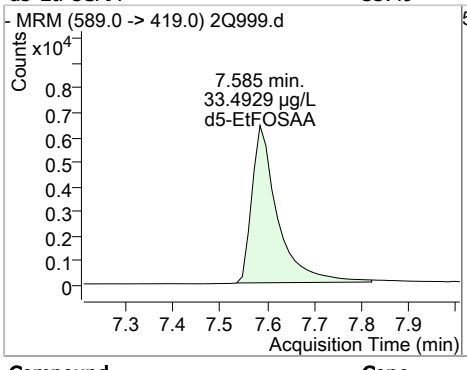
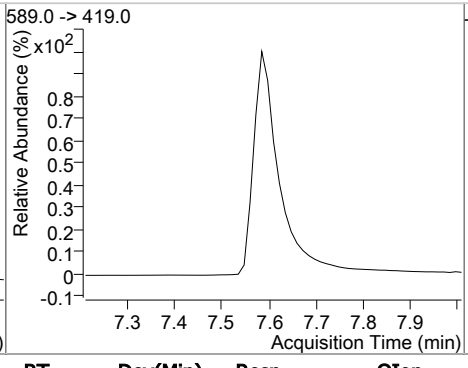
Compound	Conc.	Exp RT	QIon	Exp Ratio
MeFOSAA	N.D.	7.48		

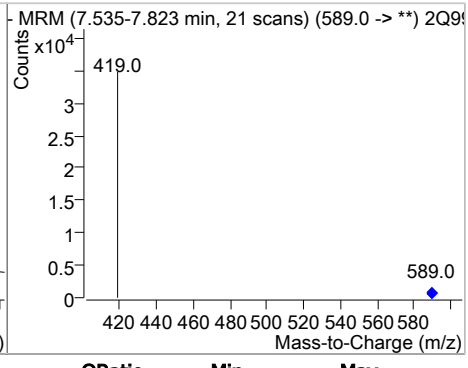




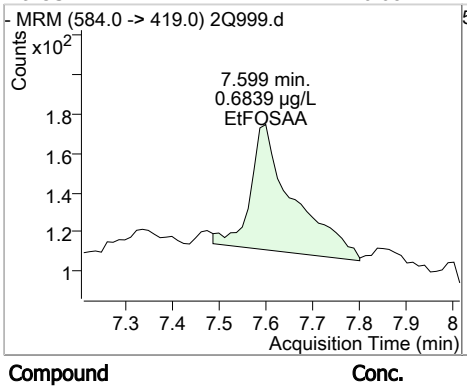
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	33.49	7.58	-0.01	24194				

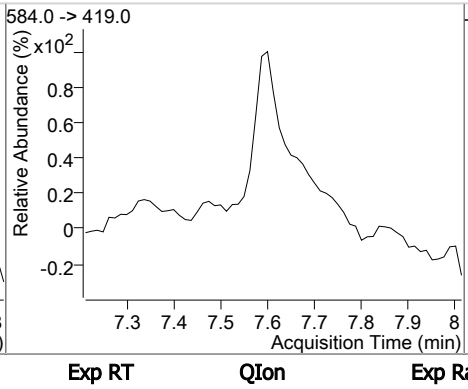


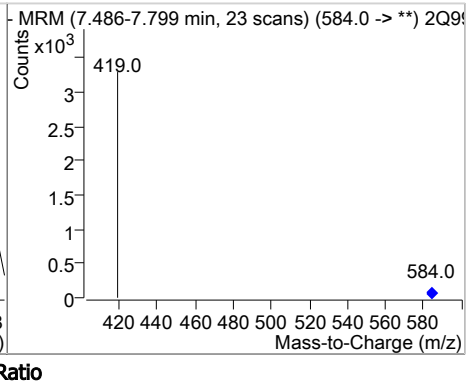




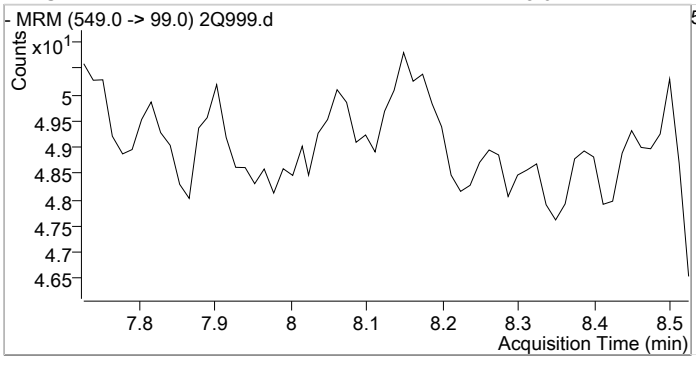
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.68	7.60	0.00	408				

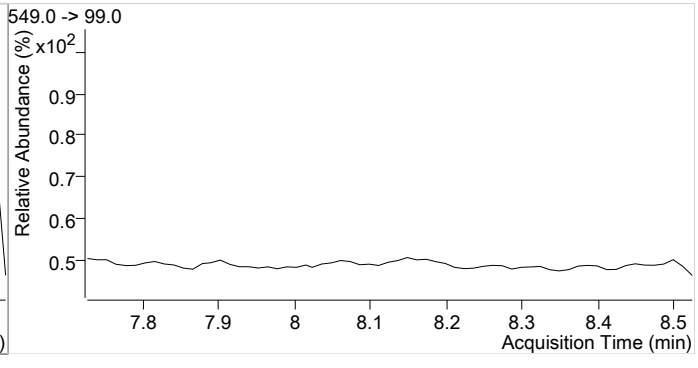






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNS	N.D.	8.04		





Perfluorinated Compounds by LC/MS/MS

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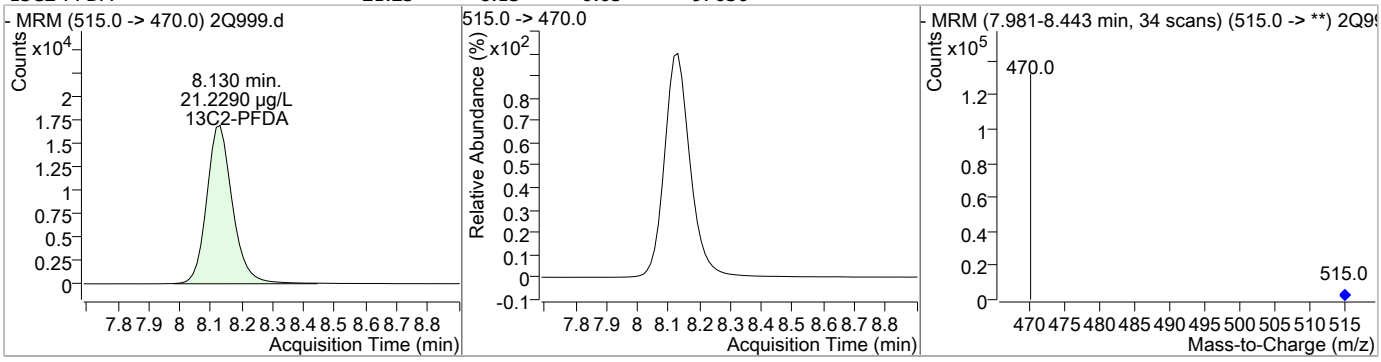
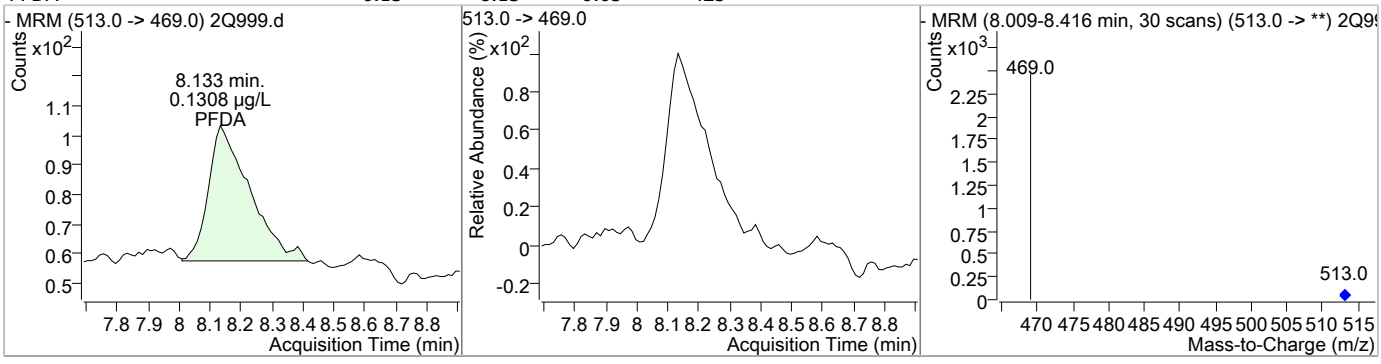
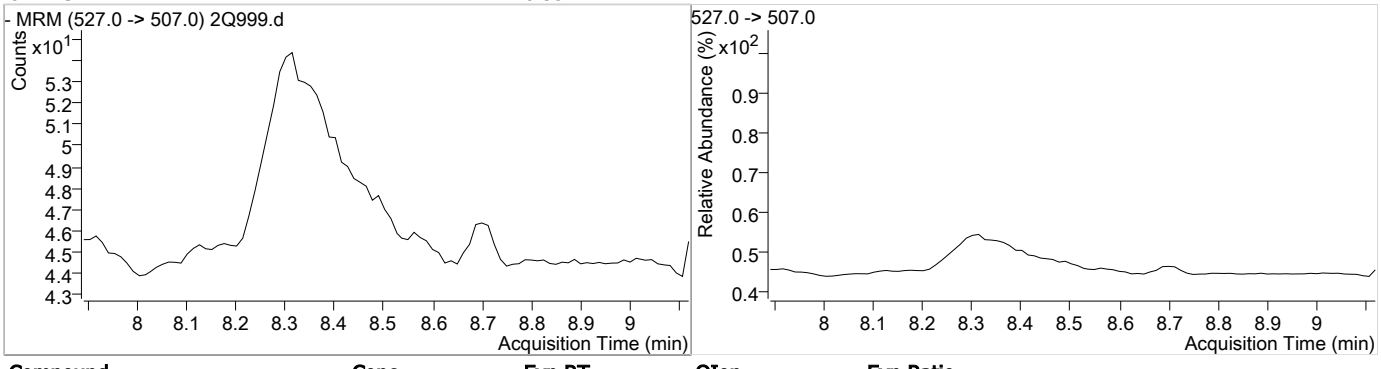
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.23	8.13	-0.05	97636				



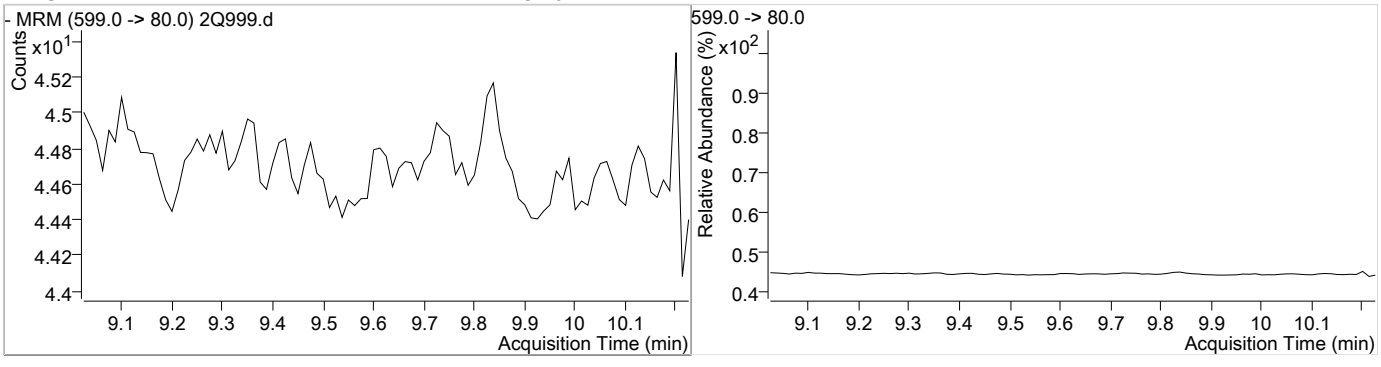
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.13	8.13	-0.05	425				



Compound	Conc.	Exp RT	QIon	Exp Ratio
8:2FTS	N.D.	8.35		



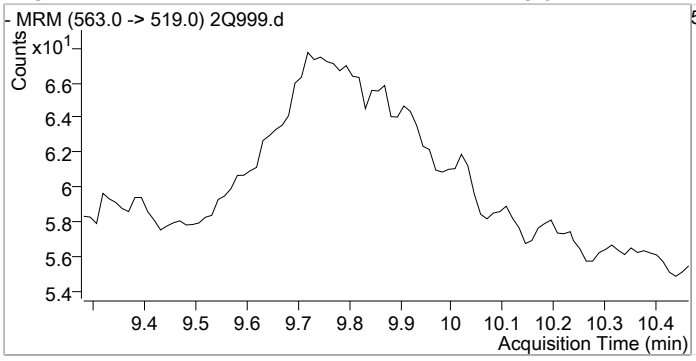
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDS	N.D.	9.40		

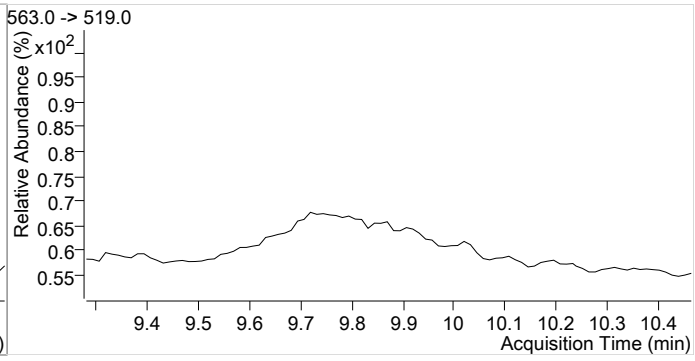


Perfluorinated Compounds by LC/MS/MS

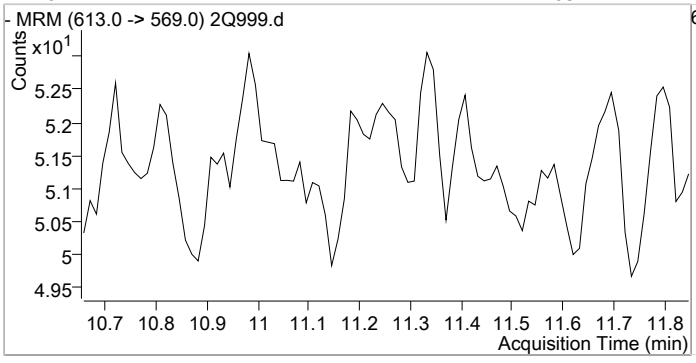
Agilent Technologies

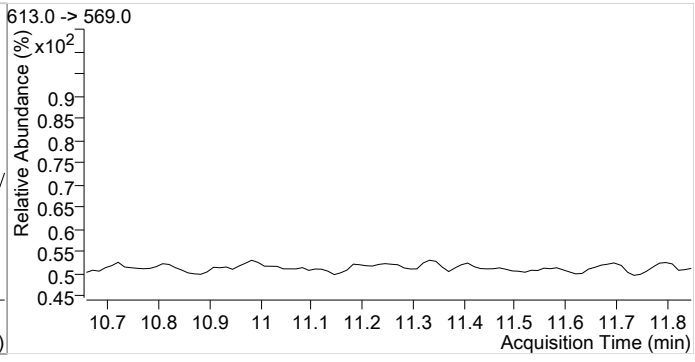
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFUnDA	N.D.	9.64		



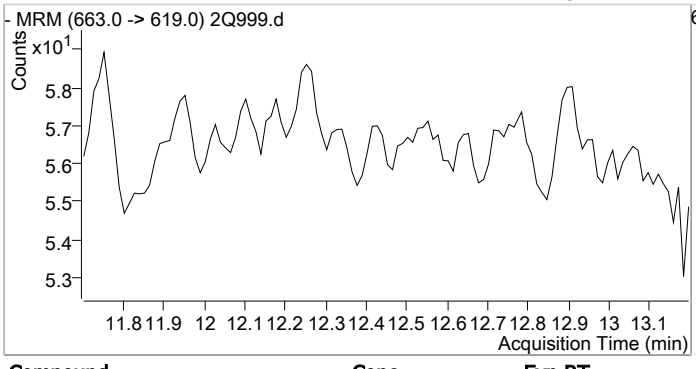


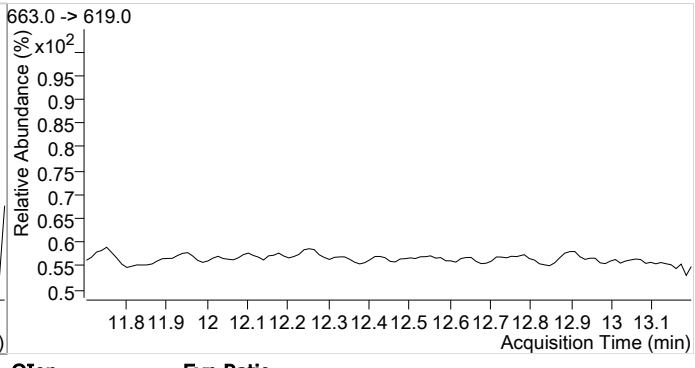
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDoDA	N.D.	11.03		



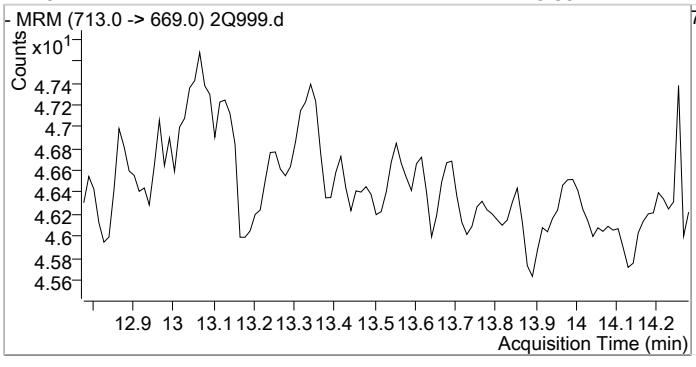


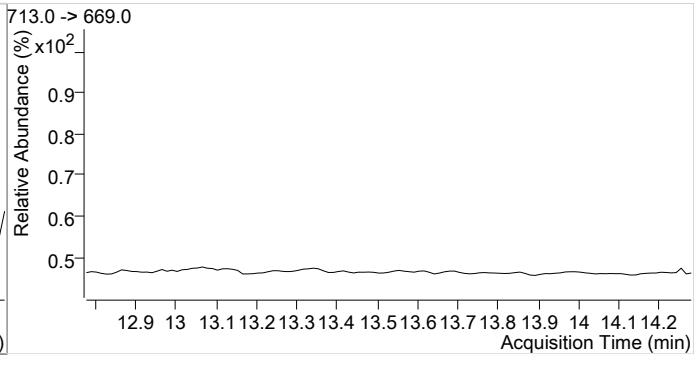
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTrDA	N.D.	12.23		





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTeDA	N.D.	13.33		





Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

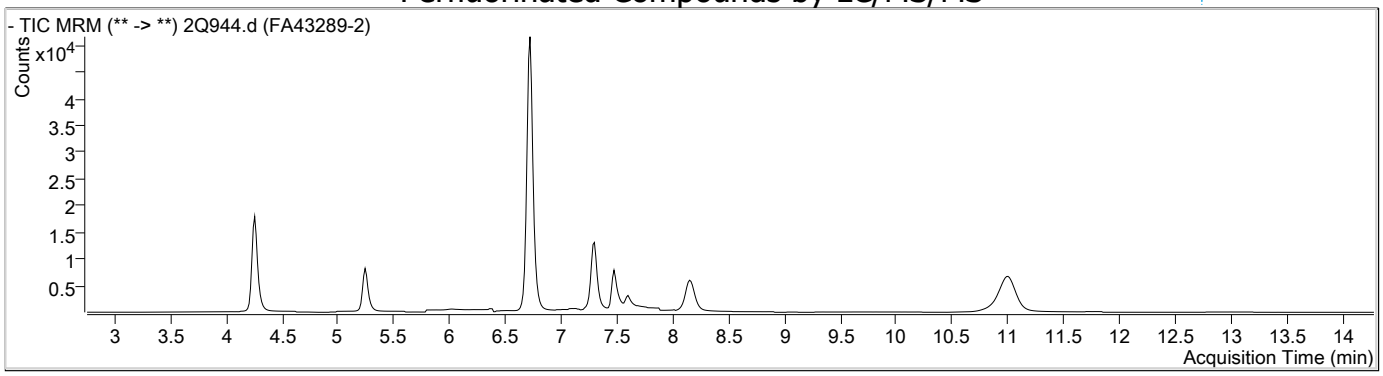
Data File	:	2Q944.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 10:04:27 PM
Sample Name	:	FA43289-2
Vial	:	Vial 30
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-6:2FTS	6.723	429.0 -> 409.0	130893	20.00	µg/L	-0.063
13C2-PFDoDA	11.001	615.0 -> 570.0	76853	20.00	µg/L	-0.263
13C2-PFOA	6.713	415.0 -> 370.0	68888	20.00	µg/L	-0.050
13C3-PFPeA	4.260	266.0 -> 222.0	64603	20.00	µg/L	-0.050
13C4-PFOS	7.301	503.0 -> 80.0	49480	20.00	µg/L	-0.063
d3-MeFOSAA	7.475	573.0 -> 419.0	28467	20.00	µg/L	-0.013
System Monitoring Compounds						
13C2-PFDA	8.155	515.0 -> 470.0	36918	7.66	µg/L	-0.138
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 38.3%		
13C2-PFHxA	5.247	315.0 -> 270.0	28316	7.78	µg/L	-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 38.9%		
d5-EtFOSAA	7.597	589.0 -> 419.0	8037	11.92	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 59.6%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.724	427.0 -> 407.0	1295	0.20	µg/L	100
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.598	584.0 -> 419.0	824	1.34	µg/L	100
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	7.476	570.0 -> 419.0	408	0.56	µg/L	100
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	8.208	513.0 -> 469.0	409	0.12	µg/L	100
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.023	363.0 -> 319.0	675	0.15	µg/L	85
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 -> 99.0	-	N.D.		
PFOA	6.728	413.0 -> 369.0	401	0.14	µg/L	54
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	4.300	263.0 -> 219.0	599	0.12	µg/L	100
PFPeS	-	349.0 -> 99.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		

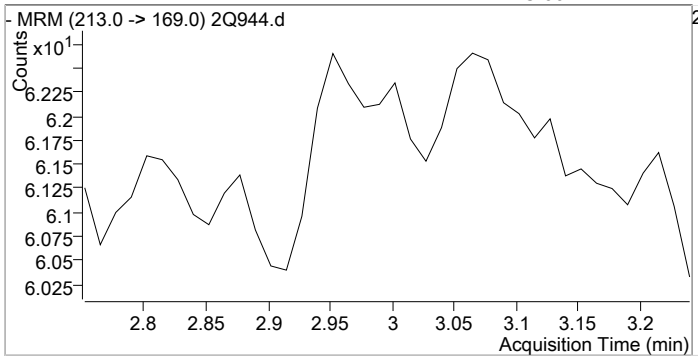
 # = Qualifier out of range, m = manually integrated, + = Area summed

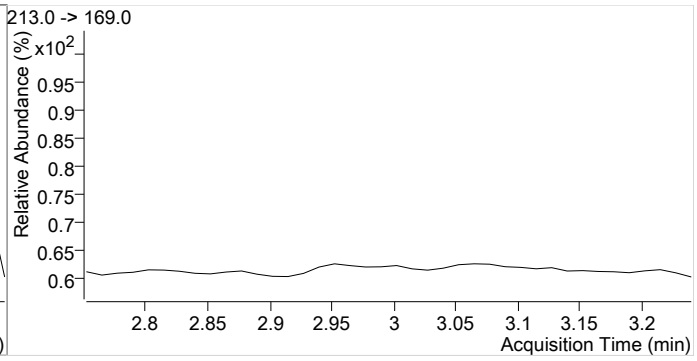
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

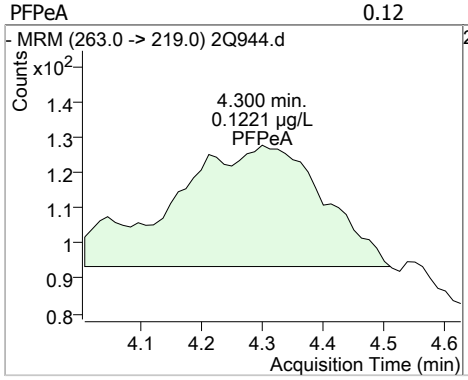


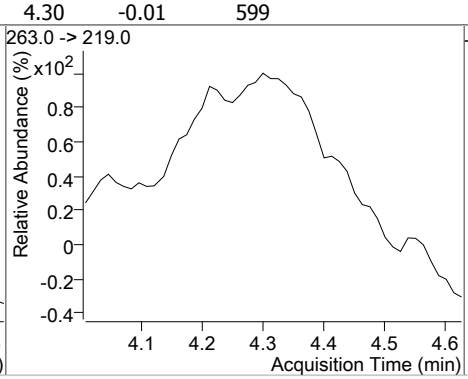
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBA	N.D.	3.00		

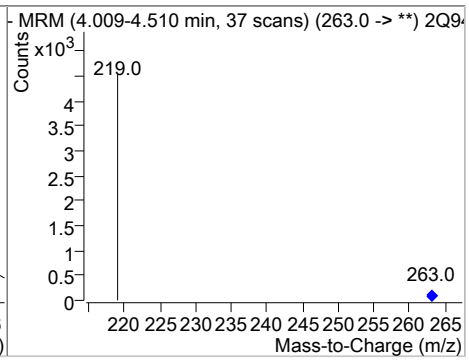




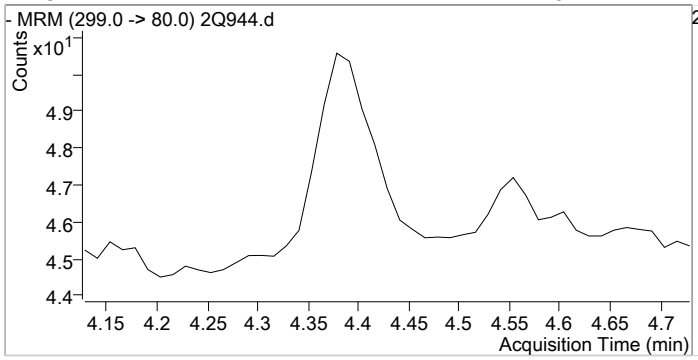
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.12	4.30	-0.01	599				

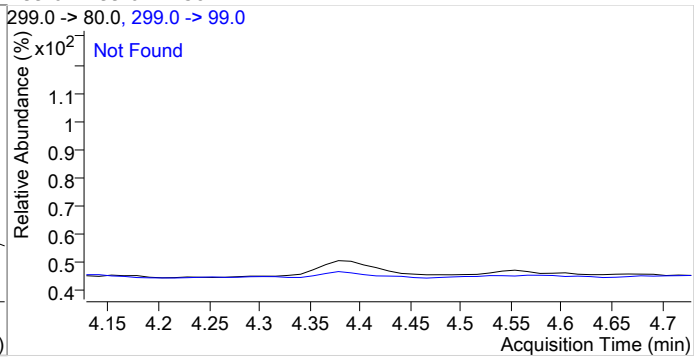






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBS	N.D.	4.43	299.0 -> 99.0	38.1

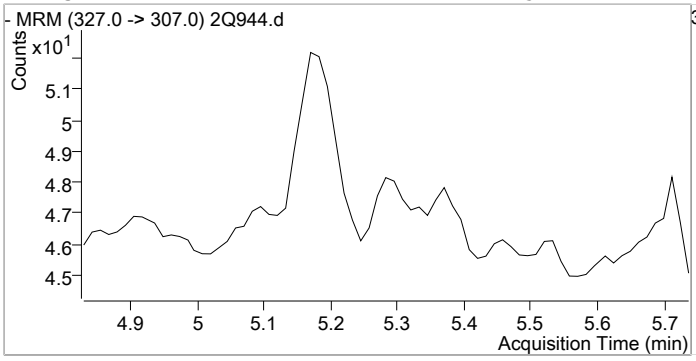


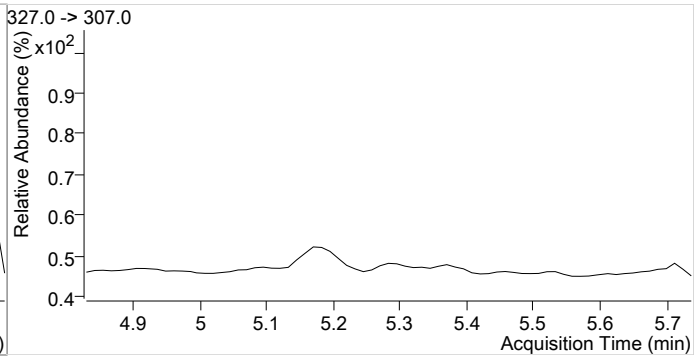


Perfluorinated Compounds by LC/MS/MS

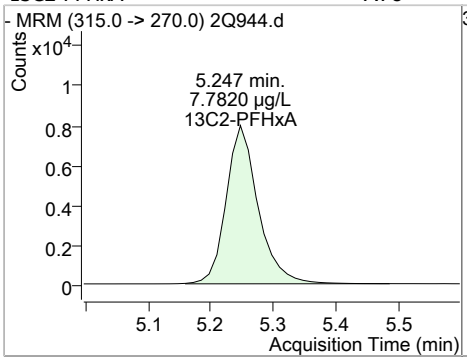
Agilent Technologies

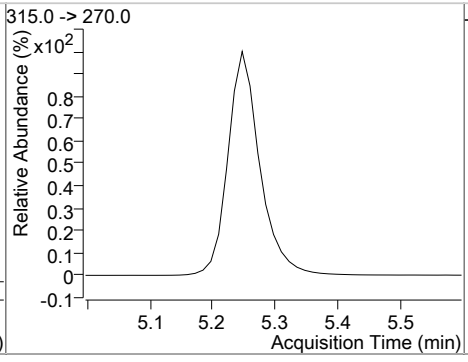
Compound	Conc.	Exp RT	QIon	Exp Ratio
4:2FTS	N.D.	5.22		

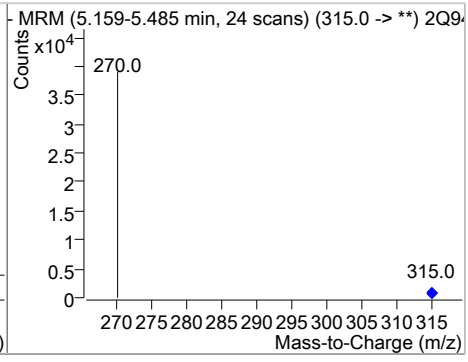




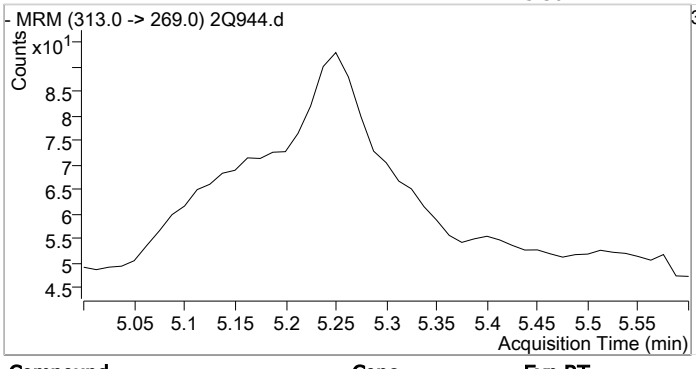
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	7.78	5.25	-0.05	28316				

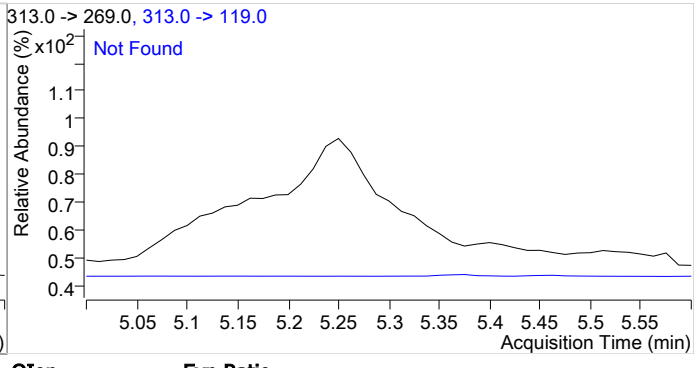




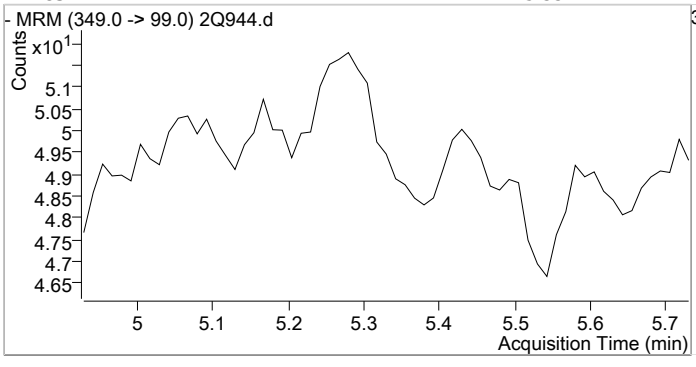


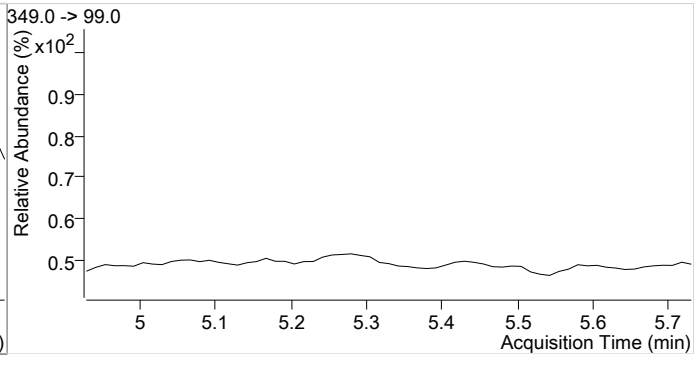
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxA	N.D.	5.30	313.0 -> 119.0	5.0





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeS	N.D.	5.33		

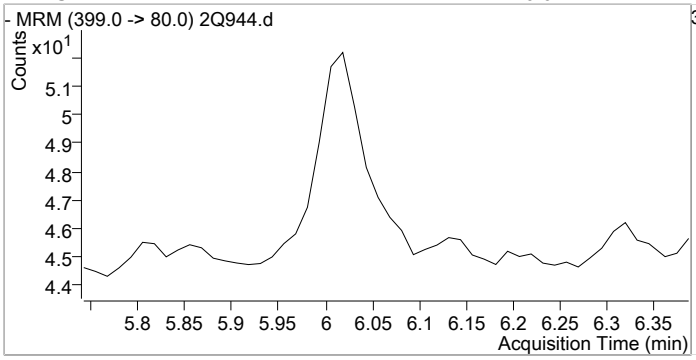


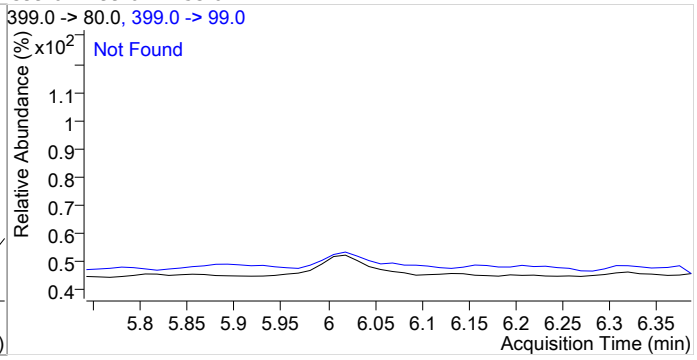


Perfluorinated Compounds by LC/MS/MS

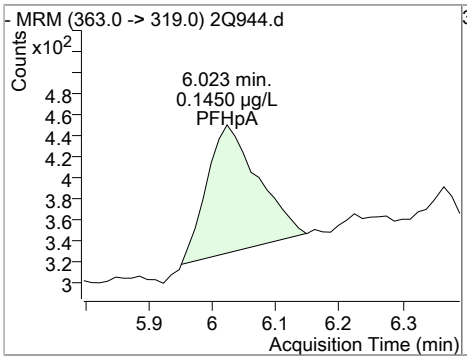
Agilent Technologies

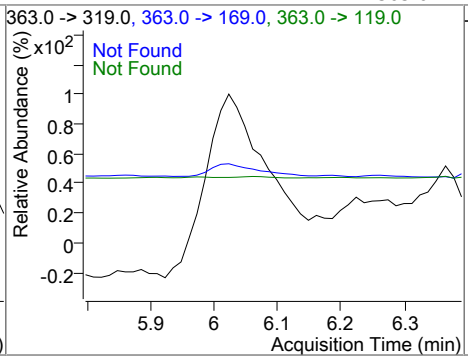
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxS	N.D.	6.07	399.0 -> 99.0	53.6

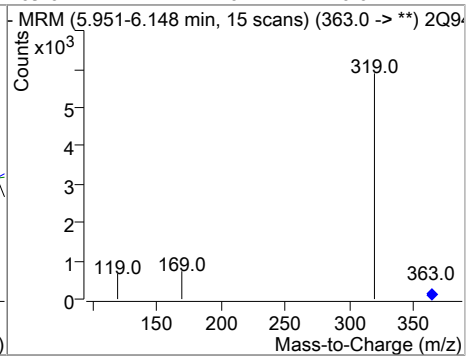




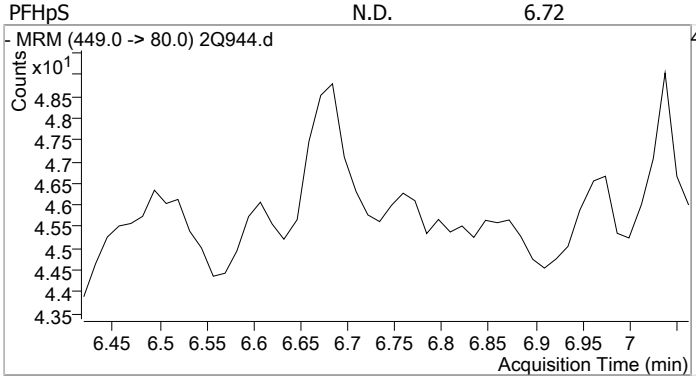
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.15	6.02	-0.06	675	363.0 -> 119.0		4.0	6.0
					363.0 -> 169.0		4.0	6.0

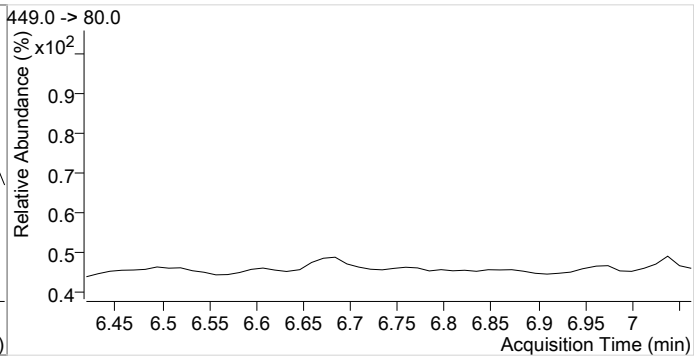




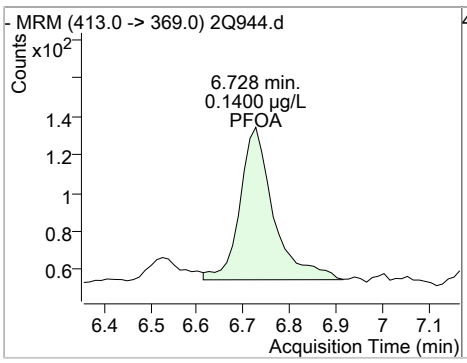


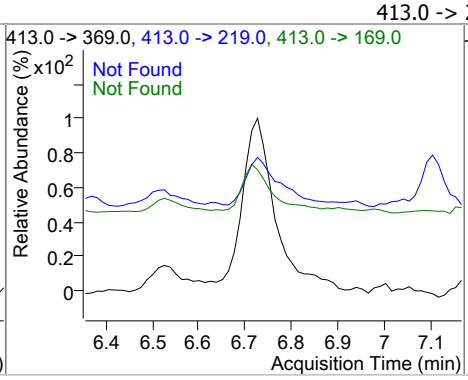
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHpS	N.D.	6.72		

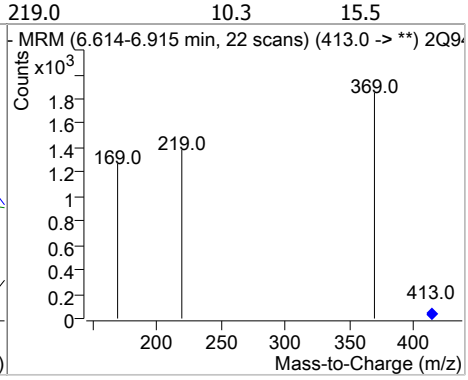




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.14	6.73	-0.04	401	413.0 -> 169.0		21.8	32.6
					413.0 -> 219.0		10.3	15.5







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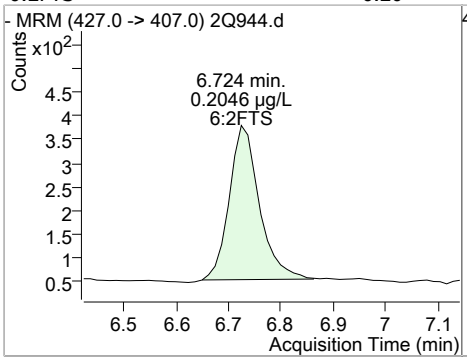
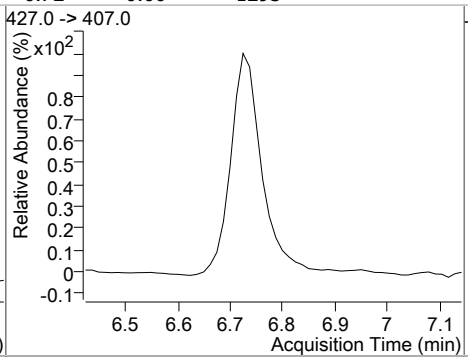
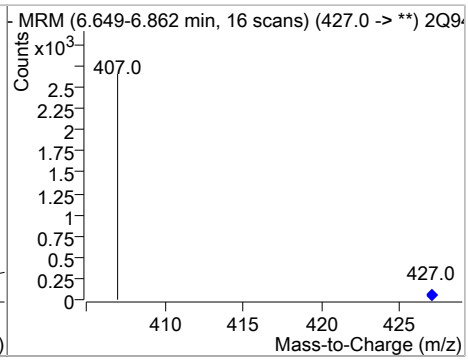
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

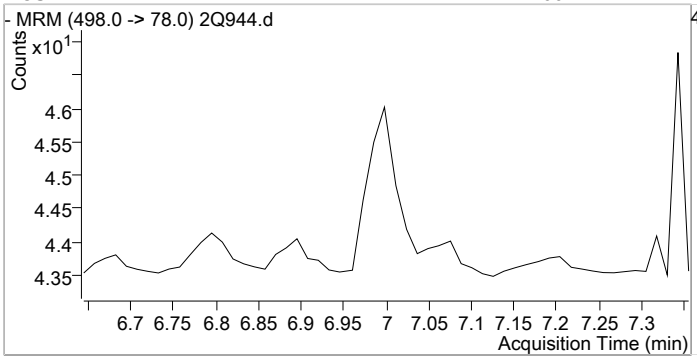
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.20	6.72	-0.06	1295				

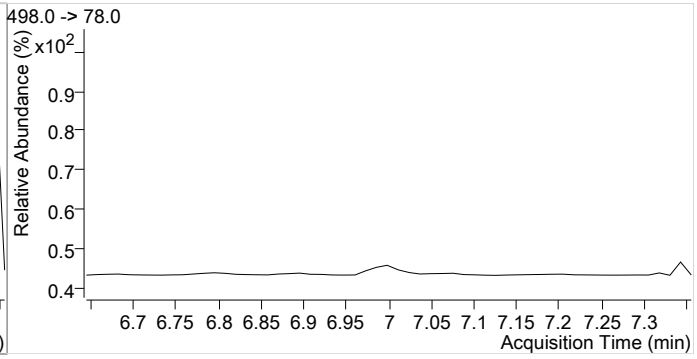




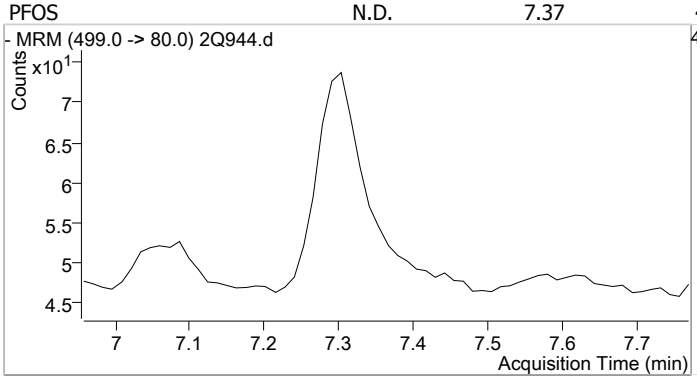


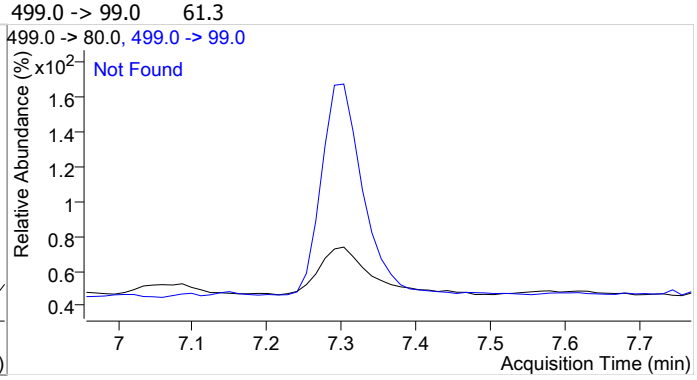
Compound	Conc.	Exp RT	QIon	Exp Ratio
FOSA	N.D.	7.00		



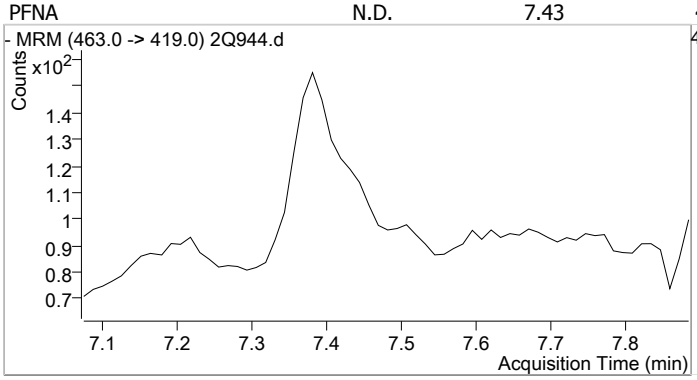


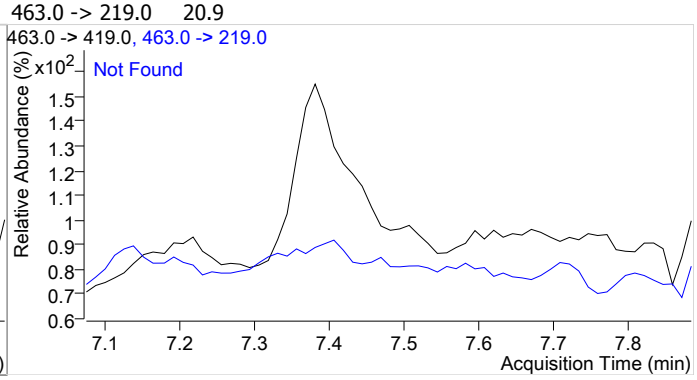
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFOS	N.D.	7.37	499.0 -> 99.0	61.3





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNA	N.D.	7.43	463.0 -> 219.0	20.9





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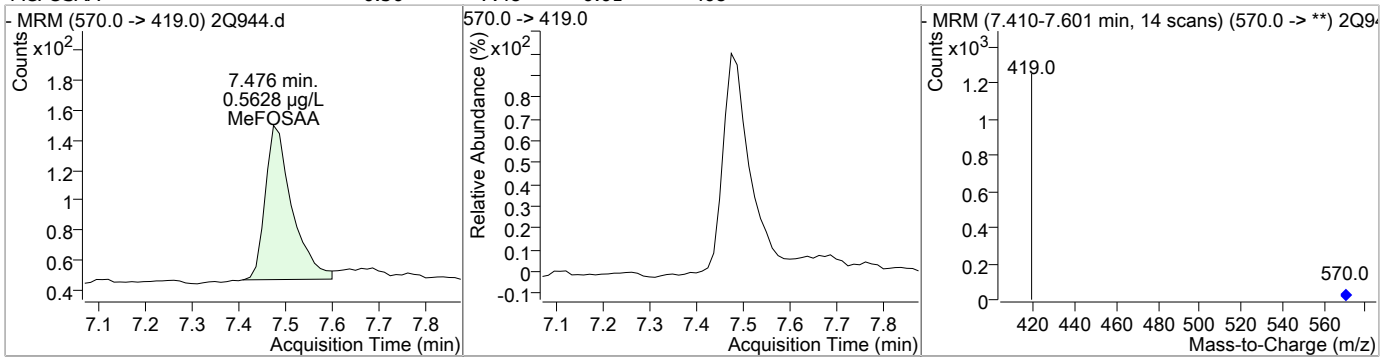
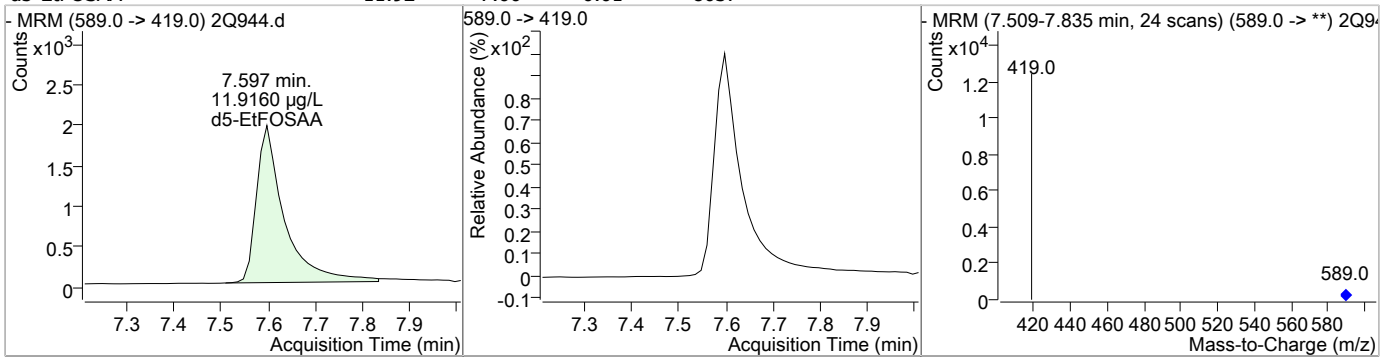
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

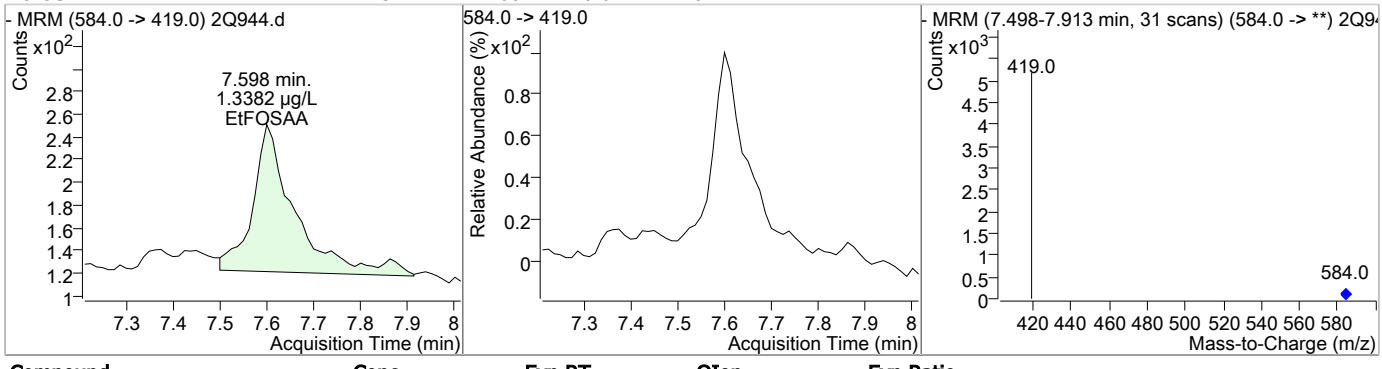
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.56	7.48	-0.01	408				



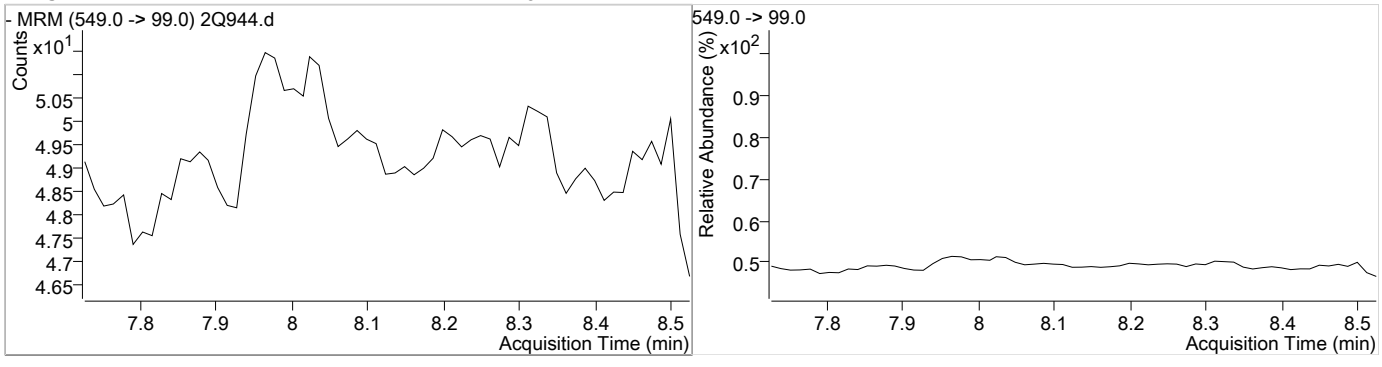
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	11.92	7.60	-0.01	8037				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.34	7.60	-0.01	824				



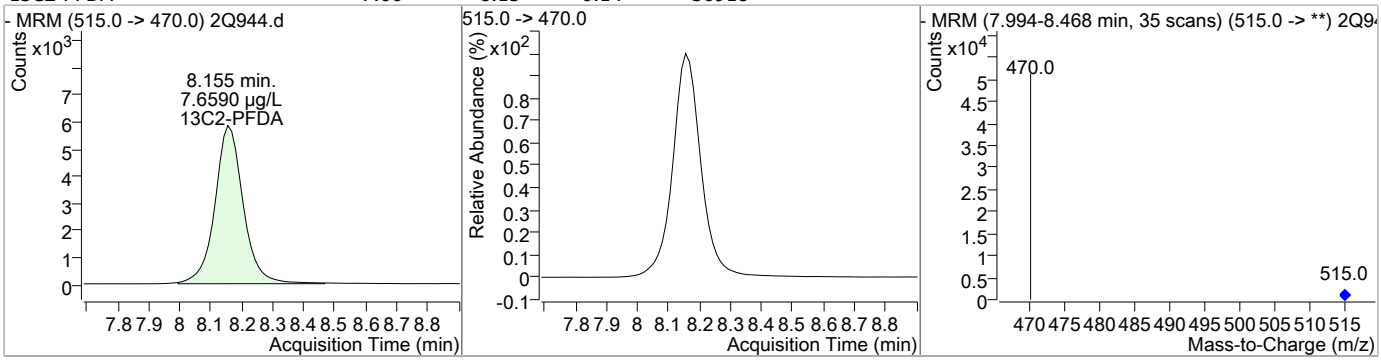
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNS	N.D.	8.14		



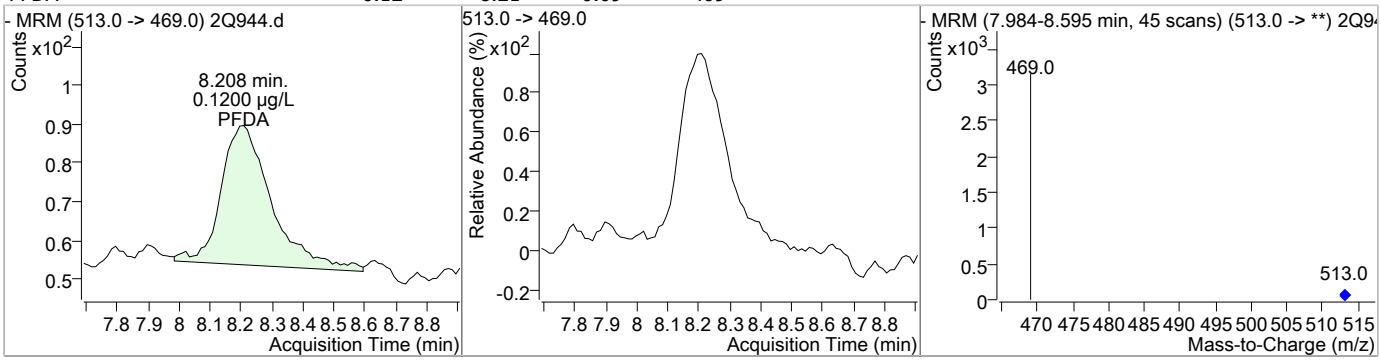
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

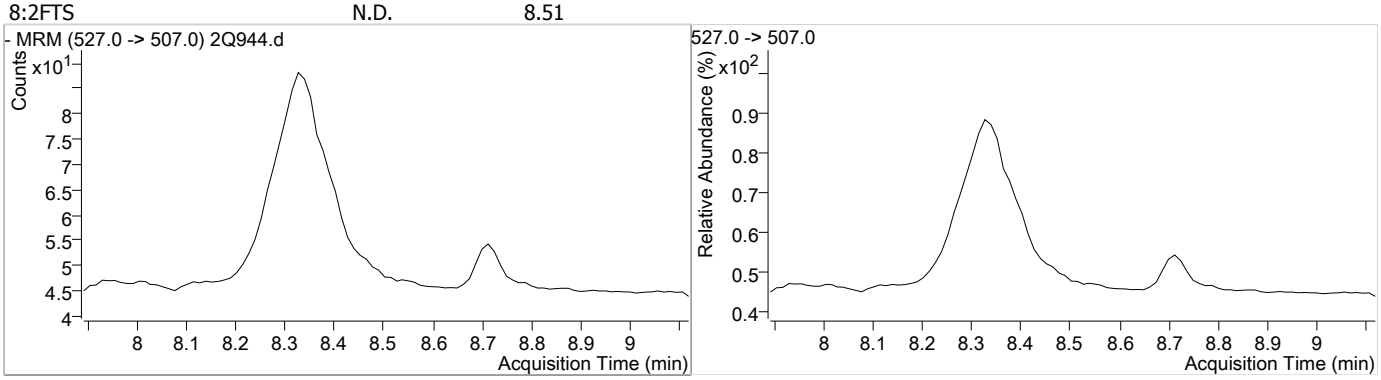
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	7.66	8.15	-0.14	36918				



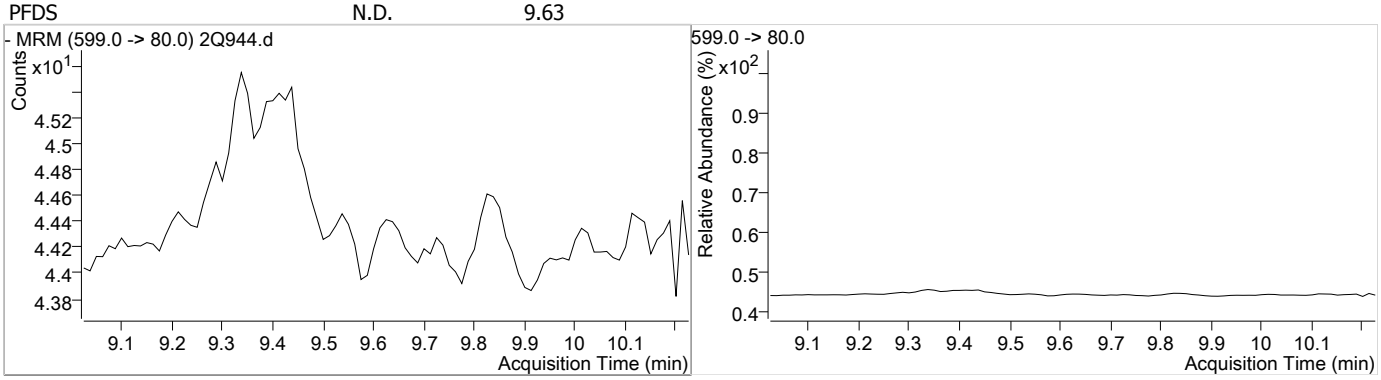
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.12	8.21	-0.09	409				



Compound	Conc.	Exp RT	QIon	Exp Ratio
8:2FTS	N.D.	8.51		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDS	N.D.	9.63		



Perfluorinated Compounds by LC/MS/MS

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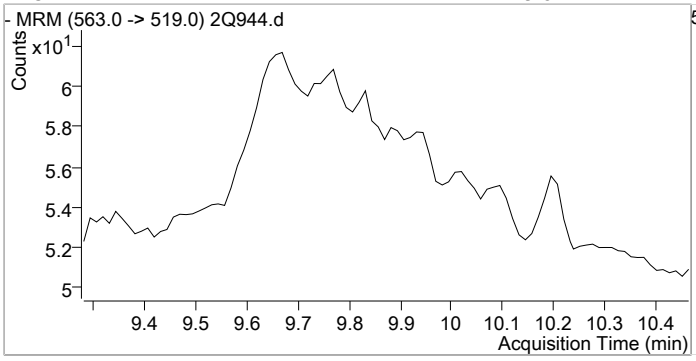
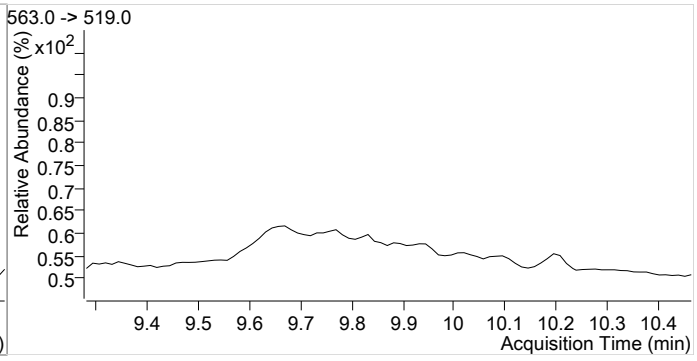
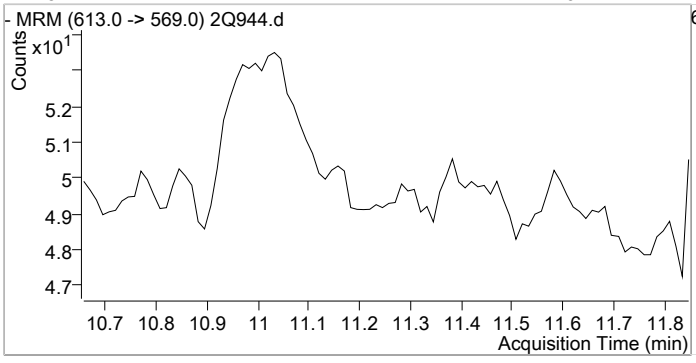
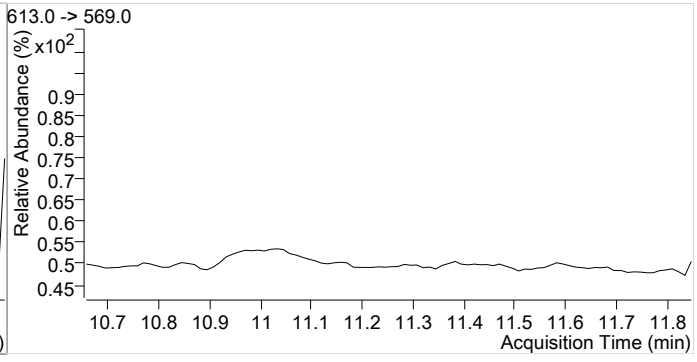
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFUnDA	N.D.	9.87		



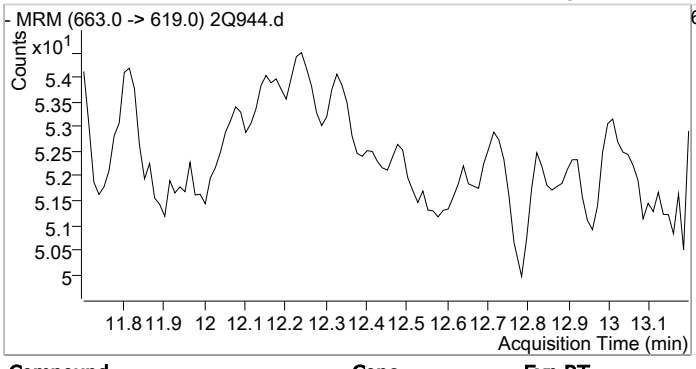


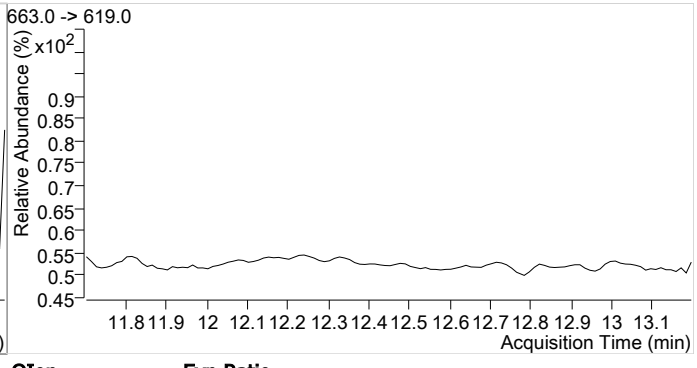
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDoDA	N.D.	11.26		



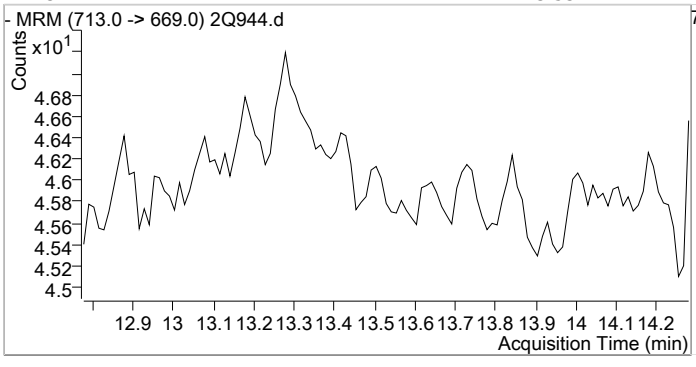


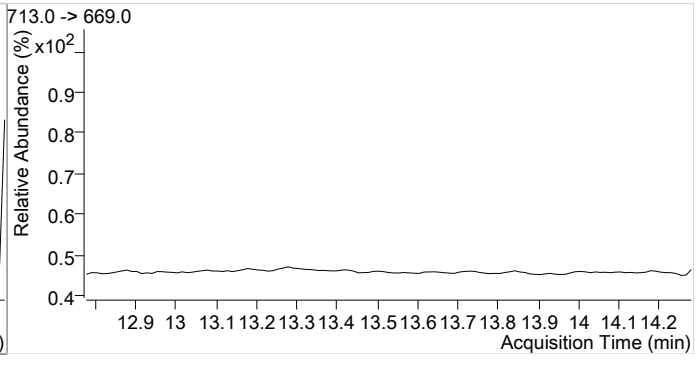
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTrDA	N.D.	12.45		





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTeDA	N.D.	13.53		





Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

Data File	:	2Q934.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 6:47:01 PM
Sample Name	:	OP64835-MB
Vial	:	Vial 22
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-6:2FTS	6.710	429.0 -> 409.0	127291	20.00	µg/L	-0.075
13C2-PFDoDA	11.014	615.0 -> 570.0	76679	20.00	µg/L	-0.250
13C2-PFOA	6.701	415.0 -> 370.0	68804	20.00	µg/L	-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	64801	20.00	µg/L	-0.063
13C4-PFOS	7.289	503.0 -> 80.0	49847	20.00	µg/L	-0.075
d3-MeFOSAA	7.462	573.0 -> 419.0	27801	20.00	µg/L	-0.025
System Monitoring Compounds						
13C2-PFDA	8.130	515.0 -> 470.0	101514	21.09	µg/L	-0.163
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 105.4%		
13C2-PFHxA	5.235	315.0 -> 270.0	77236	21.25	µg/L	-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 106.3%		
d5-EtFOSAA	7.585	589.0 -> 419.0	22187	30.86	µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 154.3%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.712	427.0 -> 407.0	956	0.16	µg/L	100
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.598	584.0 -> 419.0	2673	4.41	µg/L	100
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	7.476	570.0 -> 419.0	2883	4.00	µg/L	100
PFBA	2.952	213.0 -> 169.0	506	0.28	µg/L	100
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	8.145	513.0 -> 469.0	698	0.21	µg/L	100
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.023	363.0 -> 319.0	847	0.18	µg/L	85
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.237	313.0 -> 269.0	473	0.31	µg/L	85
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	7.369	463.0 -> 419.0	377	0.12	µg/L	55
PFNS	-	549.0 -> 99.0	-	N.D.		
PFOA	6.702	413.0 -> 369.0	468	0.16	µg/L	54
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	4.250	263.0 -> 219.0	519	0.11	µg/L	100
PFPeS	-	349.0 -> 99.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	9.631	563.0 -> 519.0	363	0.11	µg/L	100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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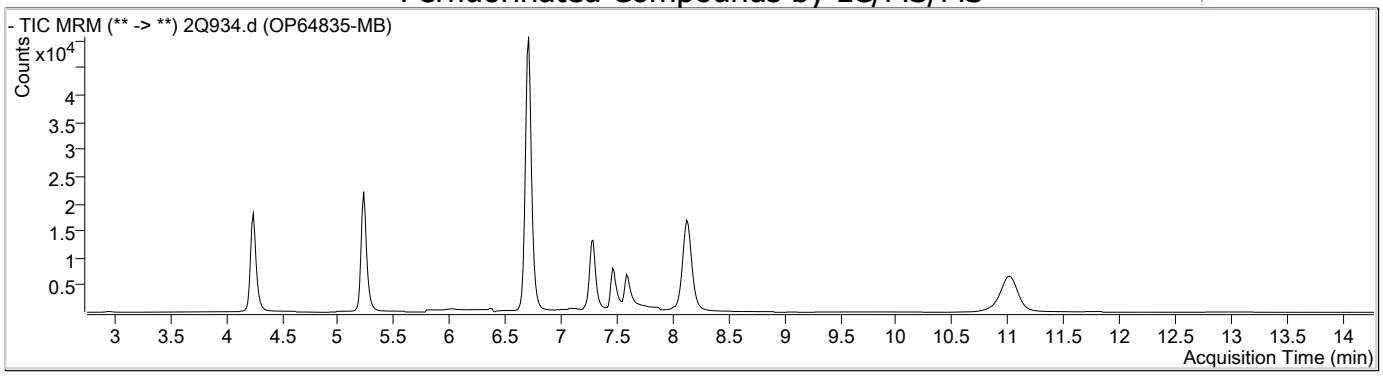
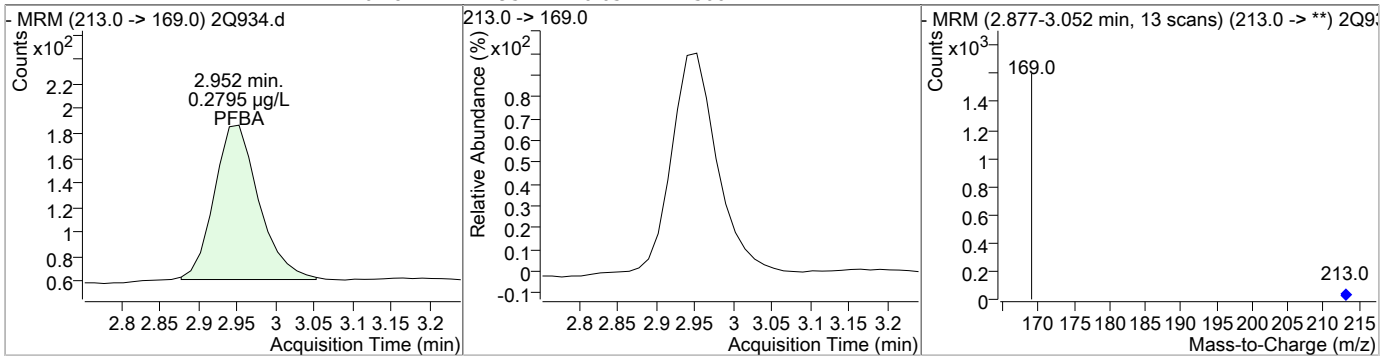
Perfluorinated Compounds by LC/MS/MS

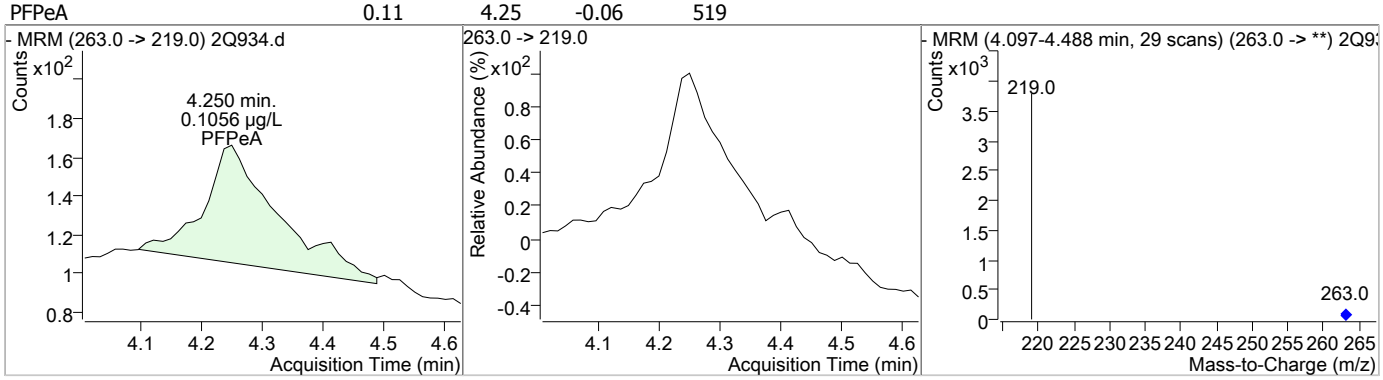
Agilent Technologies



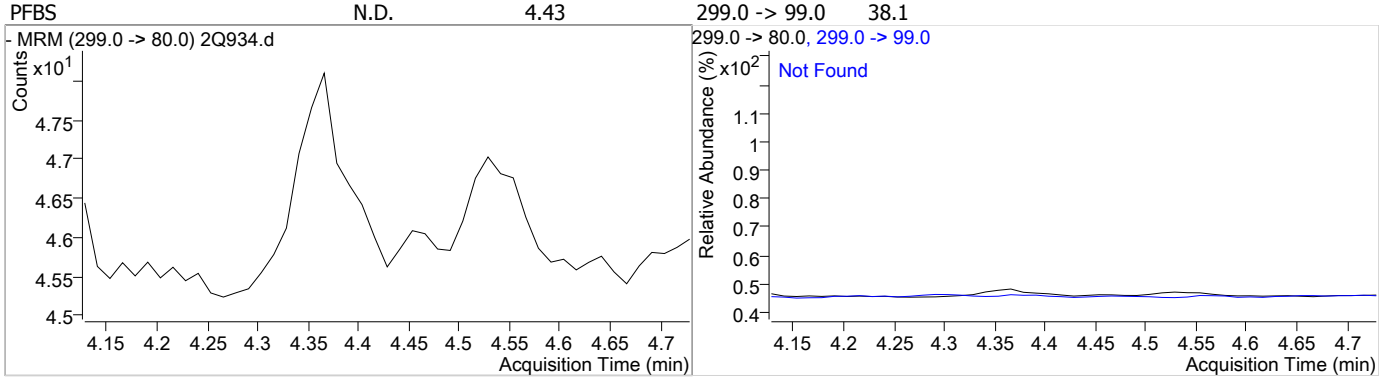
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.28	2.95	-0.05	506				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.11	4.25	-0.06	519				



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBS	N.D.	4.43	299.0 -> 99.0	38.1



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Perfluorinated Compounds by LC/MS/MS

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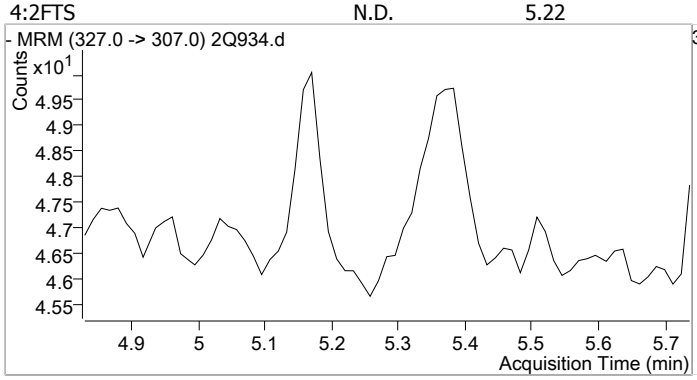
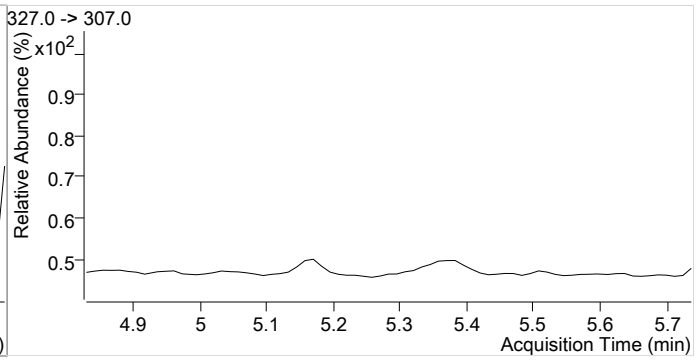
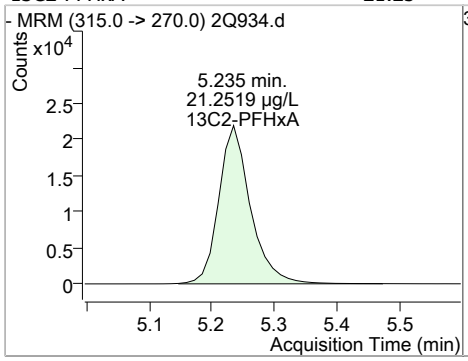
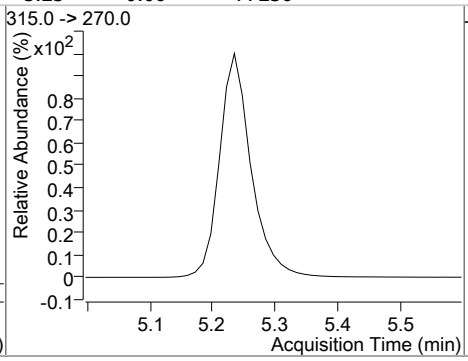
Compound	Conc.	Exp RT	QIon	Exp Ratio
4:2FTS	N.D.	5.22		

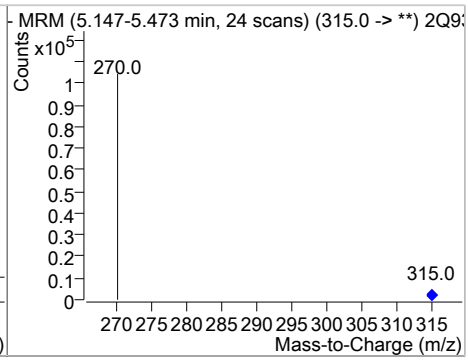




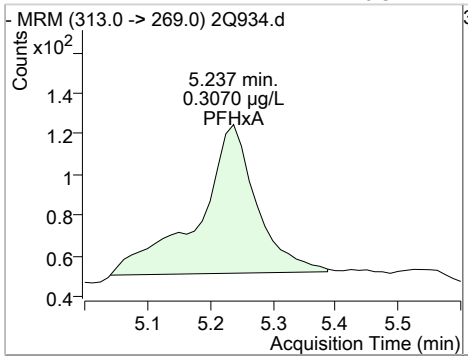
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	21.25	5.23	-0.06	77236				

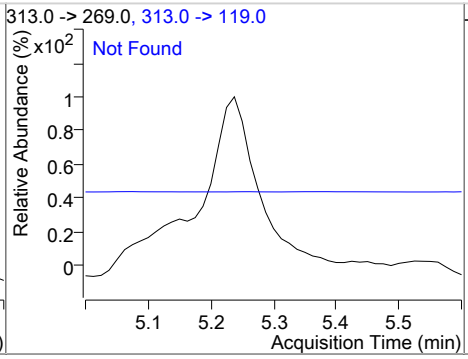


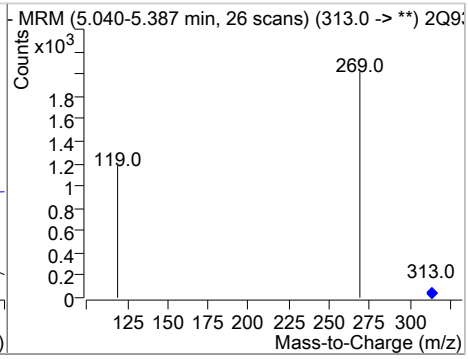




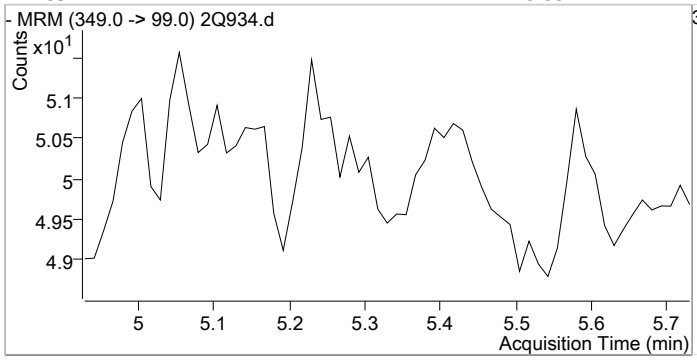
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.31	5.24	-0.06	473	313.0 -> 119.0		4.0	6.0

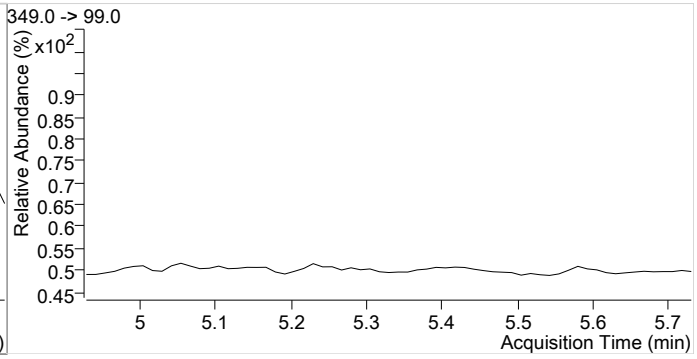






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeS	N.D.	5.33		





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Perfluorinated Compounds by LC/MS/MS

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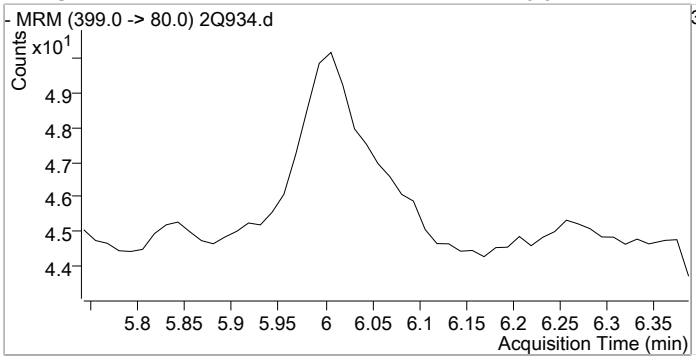
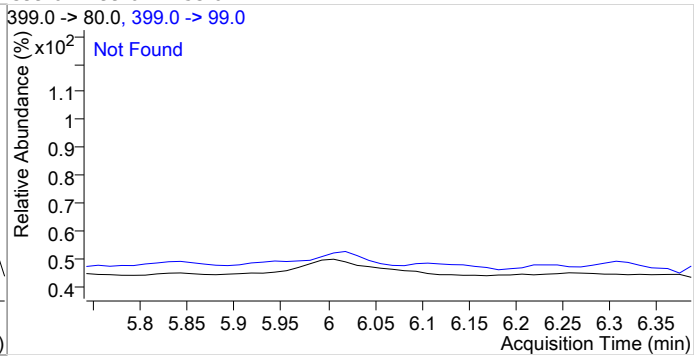
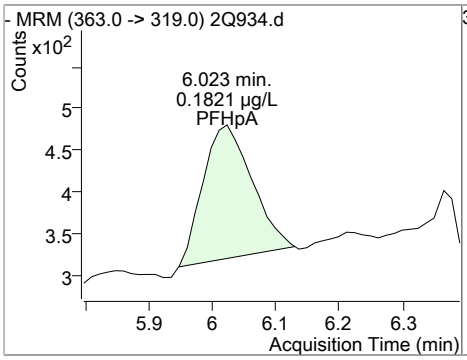
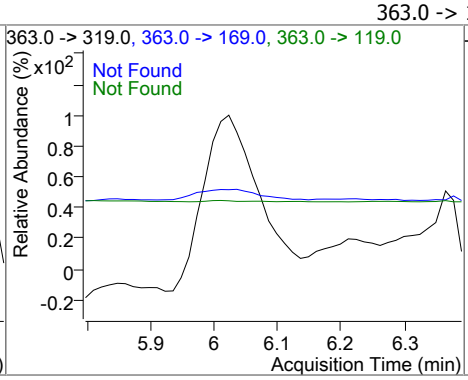
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxS	N.D.	6.07	399.0 -> 99.0	53.6

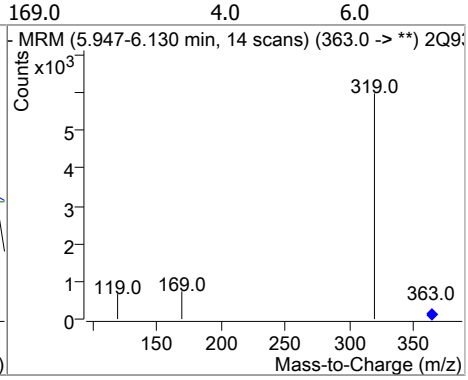




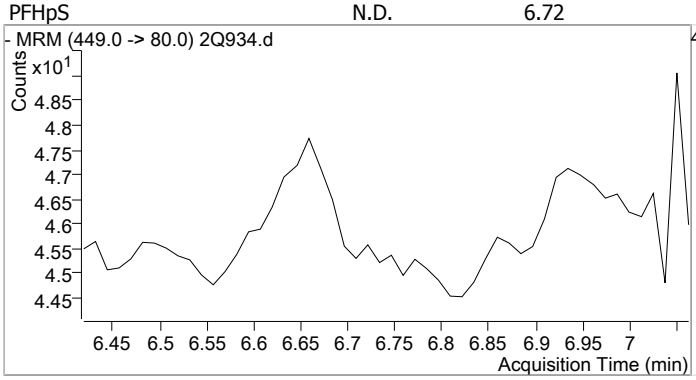
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.18	6.02	-0.06	847	363.0 -> 119.0		4.0	6.0
					363.0 -> 169.0		4.0	6.0

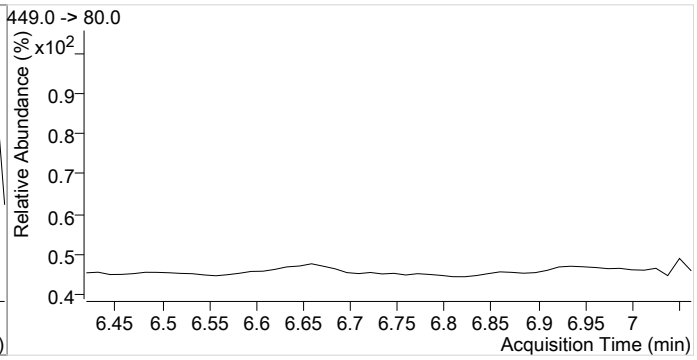




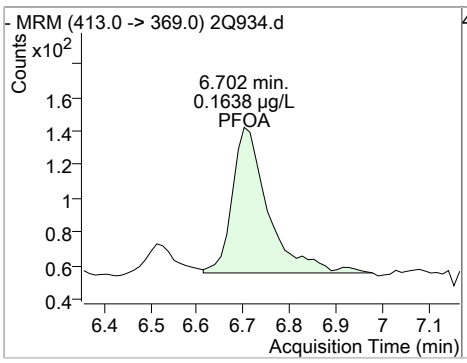


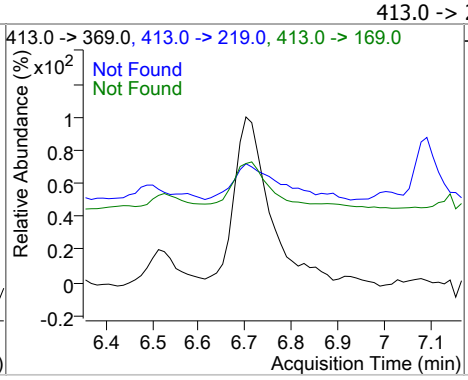
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHpS	N.D.	6.72		

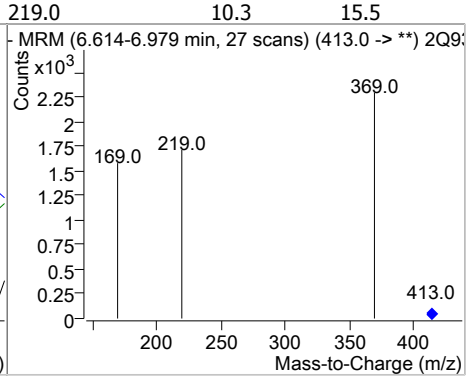




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.16	6.70	-0.06	468	413.0 -> 169.0		21.8	32.6
					413.0 -> 219.0		10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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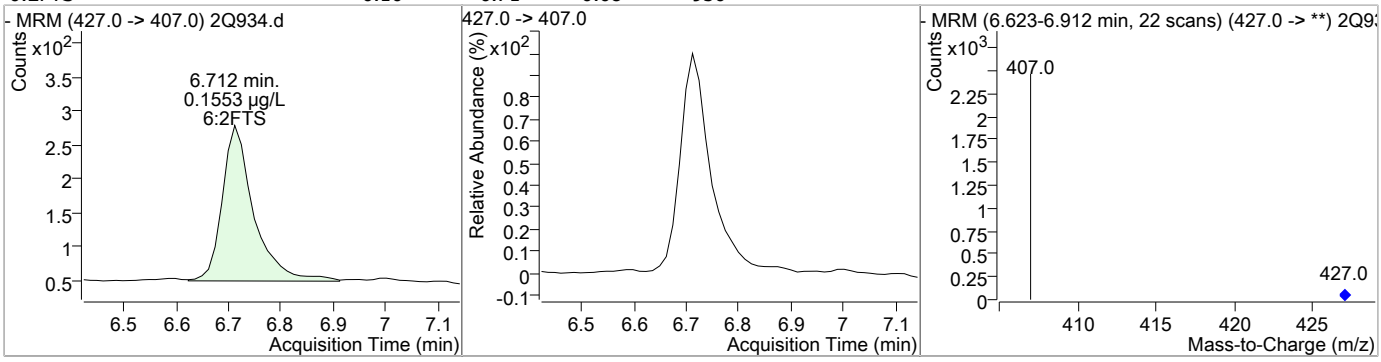
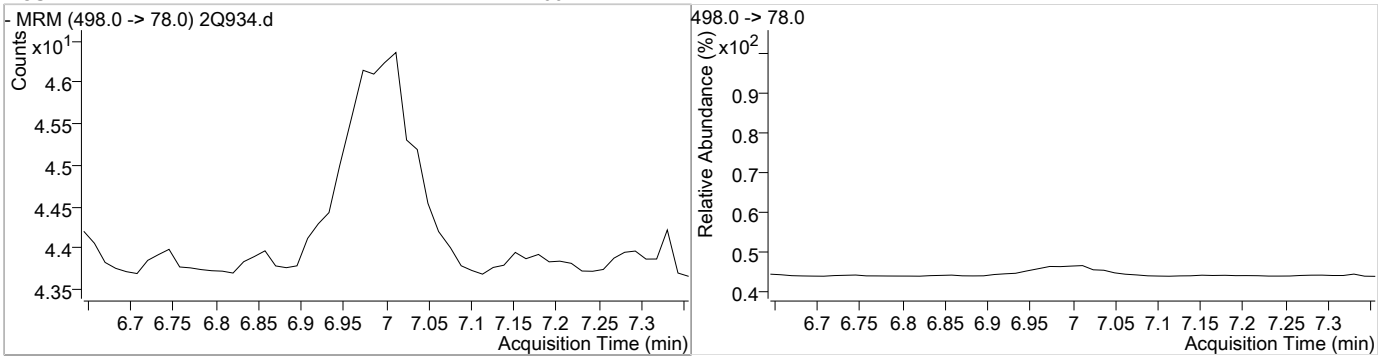
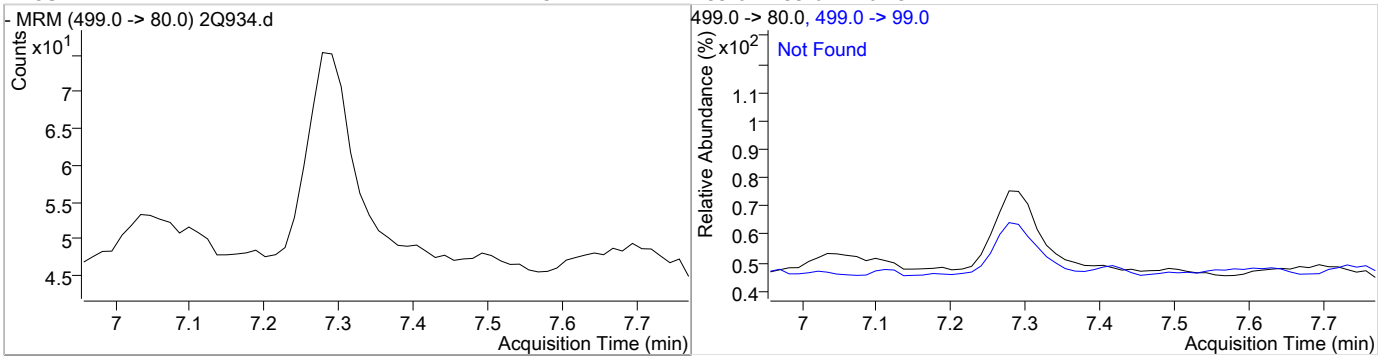
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.16	6.71	-0.08	956				



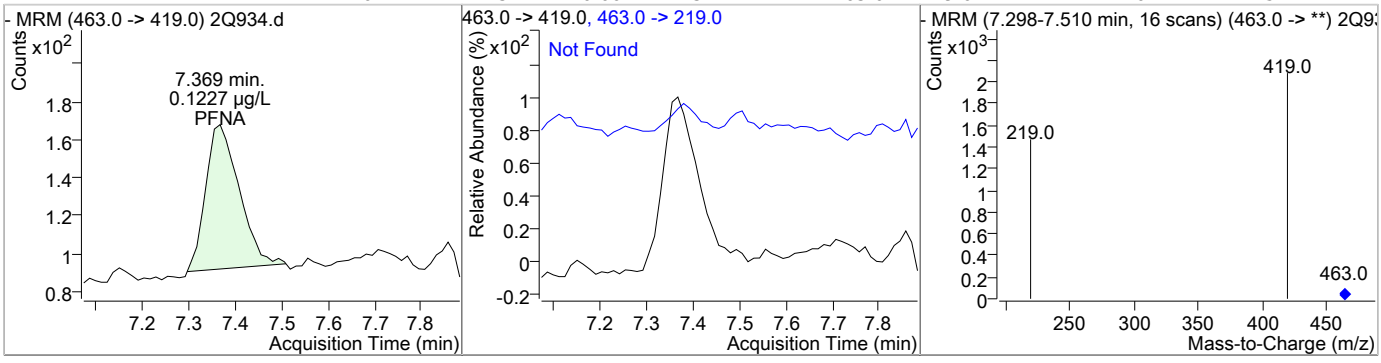
Compound	Conc.	Exp RT	QIon	Exp Ratio
FOSA	N.D.	7.00		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFOS	N.D.	7.37	499.0 -> 99.0	61.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.12	7.37	-0.06	377	463.0 -> 219.0		16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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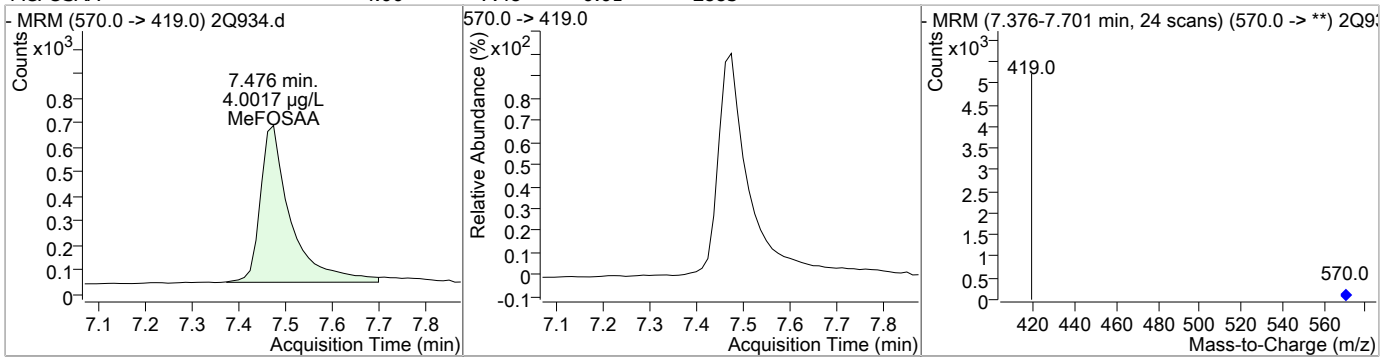
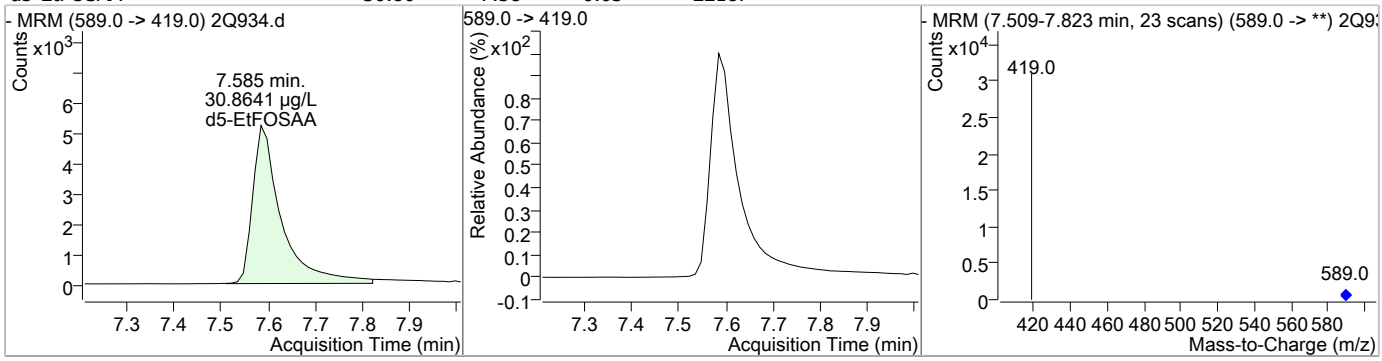
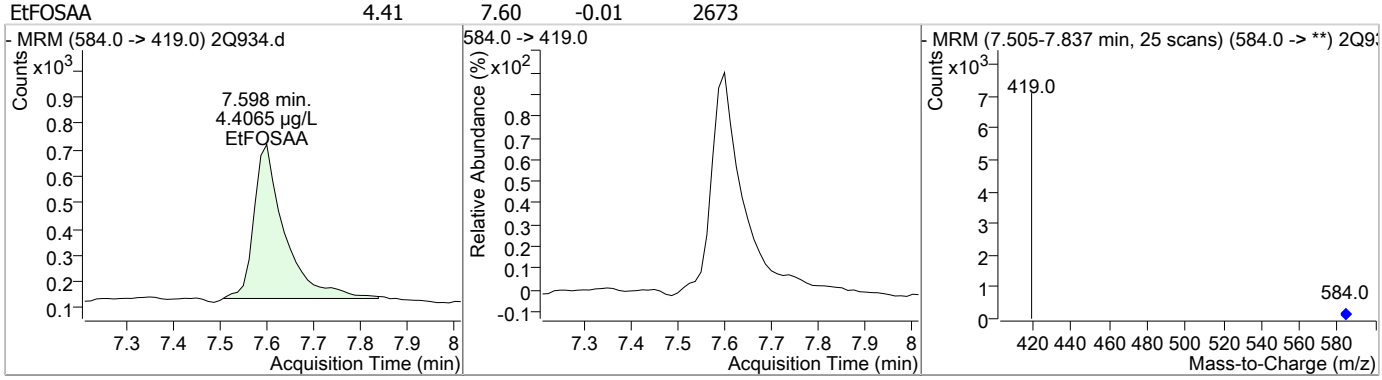
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.00	7.48	-0.01	2883				



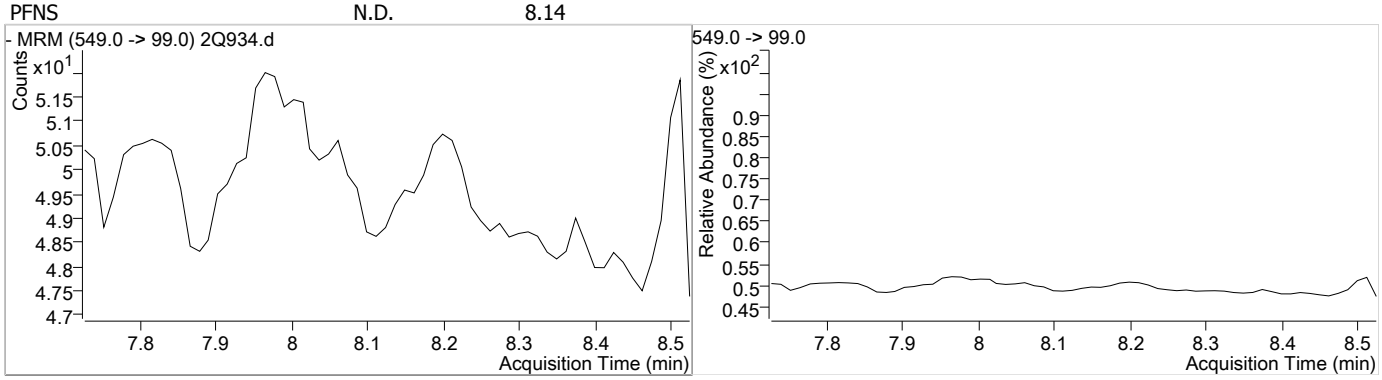
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	30.86	7.58	-0.03	22187				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.41	7.60	-0.01	2673				



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNS	N.D.	8.14		



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Perfluorinated Compounds by LC/MS/MS

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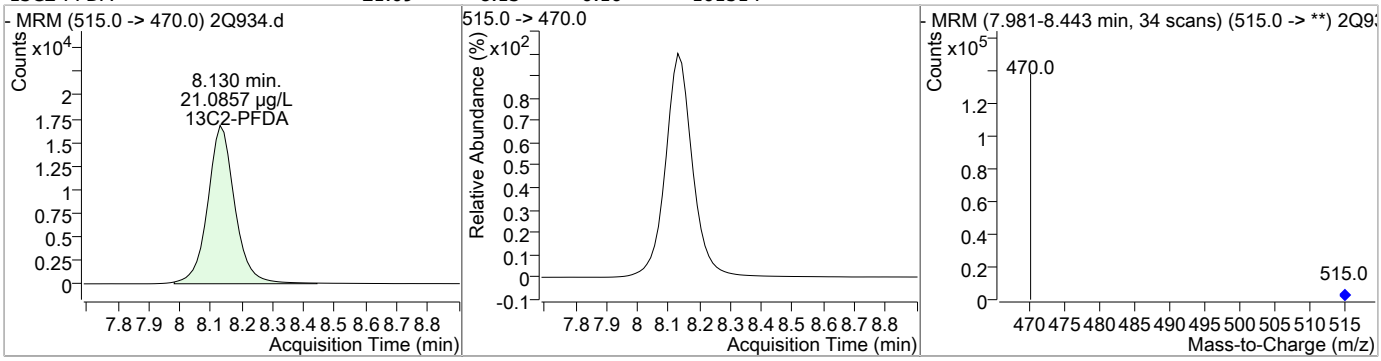
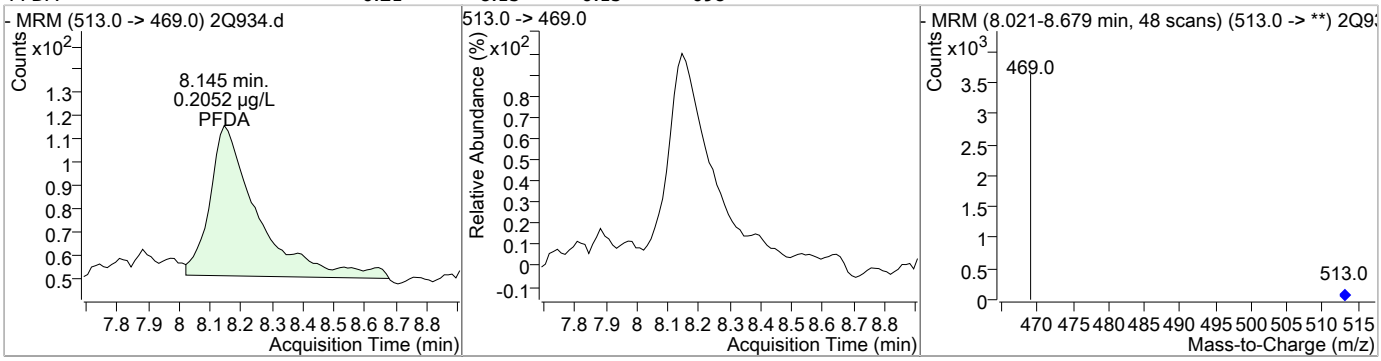
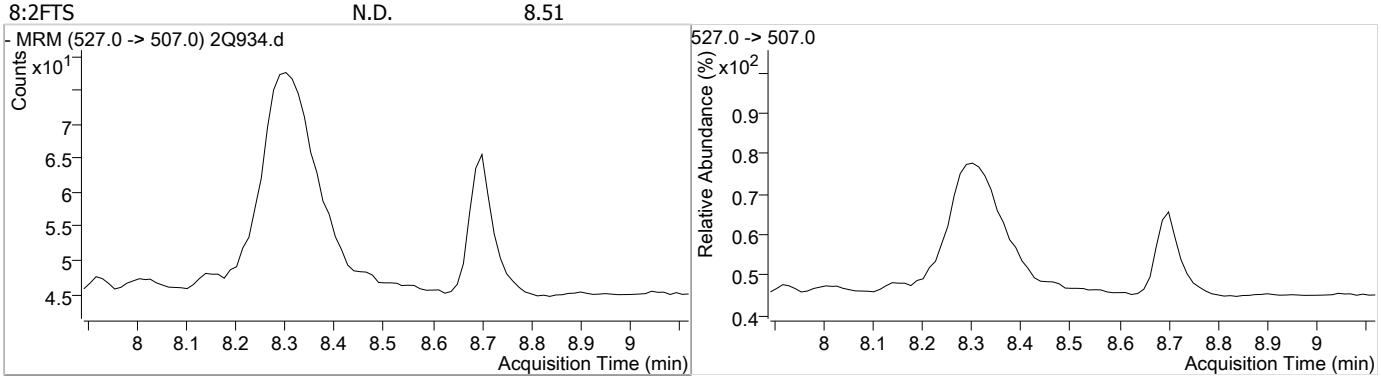
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.09	8.13	-0.16	101514				



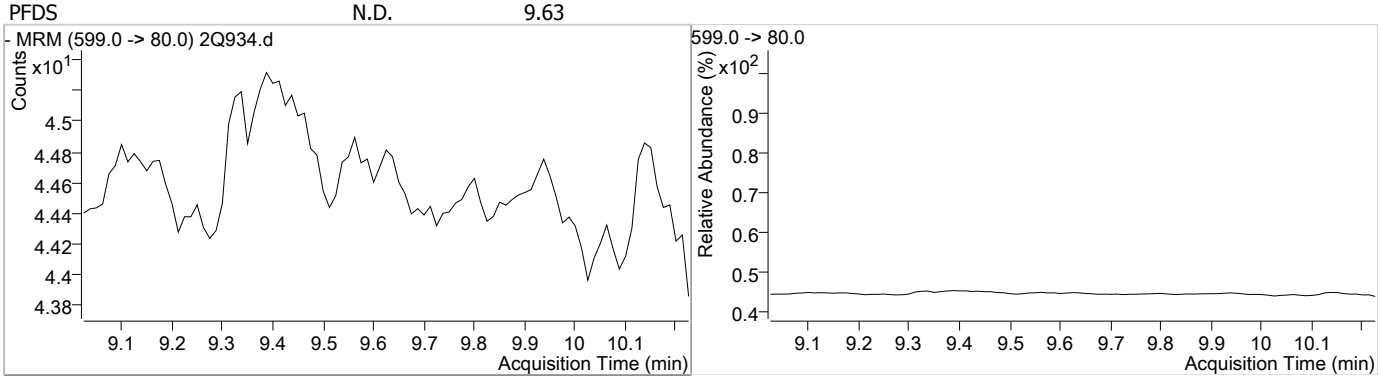
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.21	8.15	-0.15	698				



Compound	Conc.	Exp RT	QIon	Exp Ratio
8:2FTS	N.D.	8.51		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDS	N.D.	9.63		



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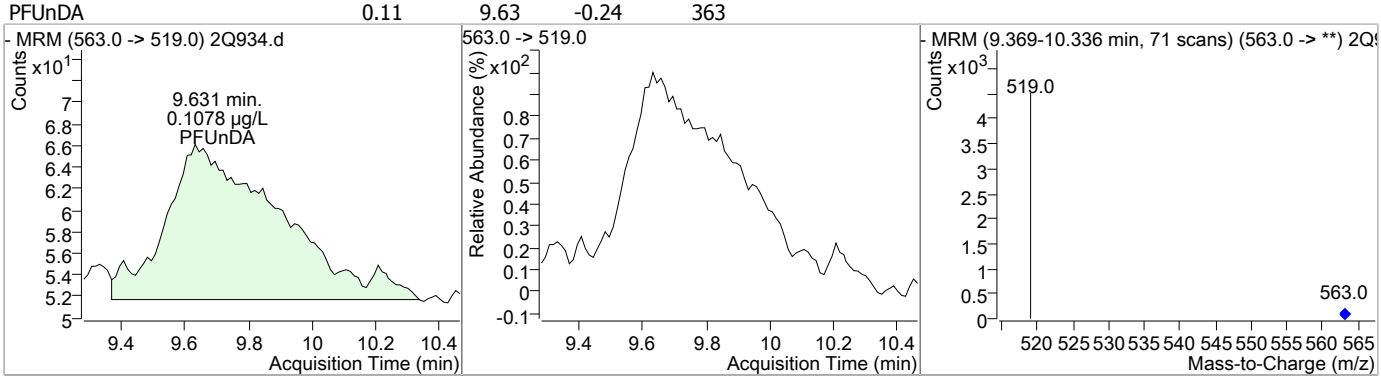
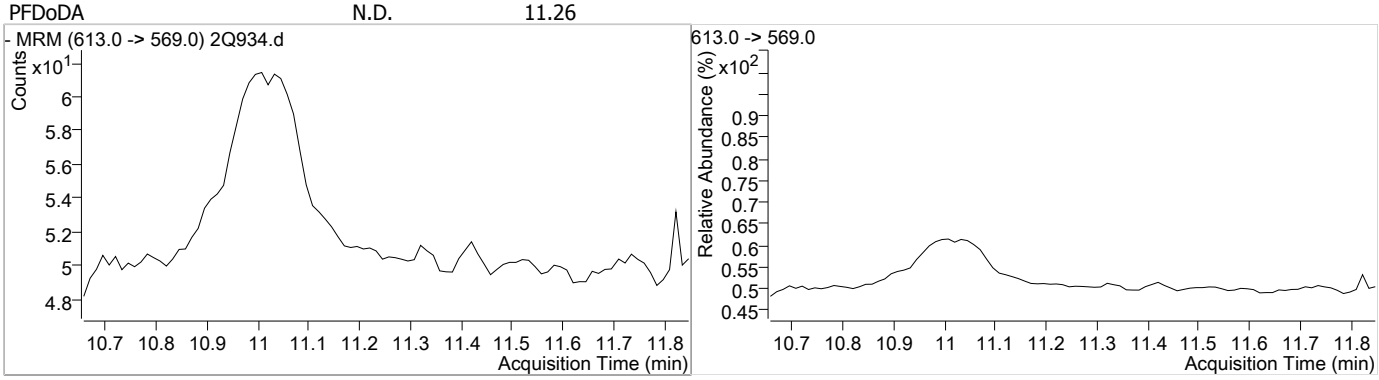
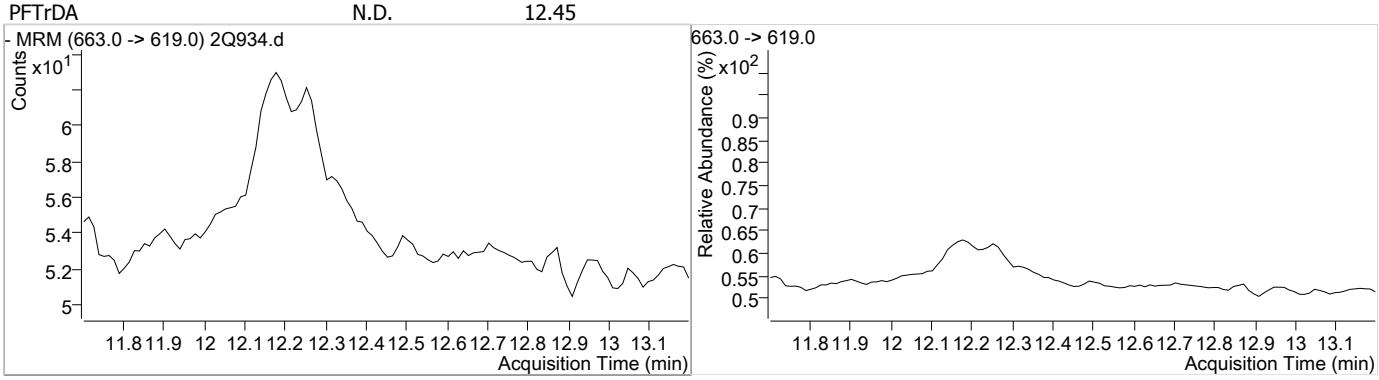
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.11	9.63	-0.24	363				



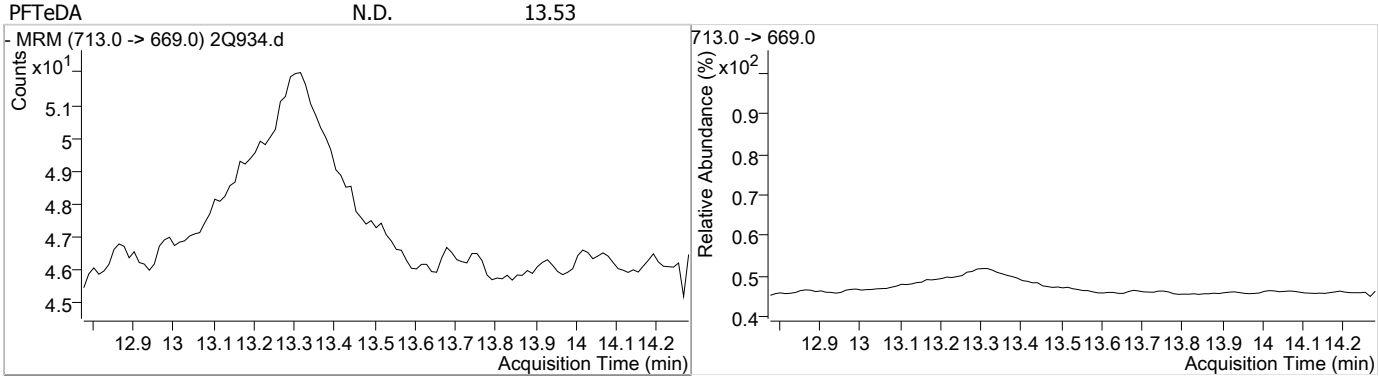
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDoDA	N.D.	11.26		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTrDA	N.D.	12.45		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTeDA	N.D.	13.53		



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Perfluorinated Compounds by LC/MS/MS

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Data File	:	2Q995.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/3/2017 4:52:05 PM
Sample Name	:	OP64883-MB
Vial	:	Vial 14
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q28.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
13C2-6:2FTS	6.710	429.0 -> 409.0	128048	20.00	µg/L	-0.025
13C2-PFDoDA	11.026	615.0 -> 570.0	75233	20.00	µg/L	0.000
13C2-PFOA	6.701	415.0 -> 370.0	63388	20.00	µg/L	-0.025
13C3-PFPeA	4.247	266.0 -> 222.0	58842	20.00	µg/L	-0.025
13C4-PFOS	7.289	503.0 -> 80.0	48878	20.00	µg/L	-0.025
d3-MeFOSAA	7.462	573.0 -> 419.0	26783	20.00	µg/L	-0.013
System Monitoring Compounds						
13C2-PFDA	8.130	515.0 -> 470.0	96367	21.73	µg/L	-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 108.6%		
13C2-PFHxA	5.235	315.0 -> 270.0	76866	22.96	µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 114.8%		
d5-EtFOSAA	7.585	589.0 -> 419.0	24625	34.93	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 174.7%		
Target Compounds						**QValue**
4:2FTS	-	327.0 -> 307.0	-	N.D.		
6:2FTS	6.712	427.0 -> 407.0	470	0.08	µg/L	100
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	7.599	584.0 -> 419.0	2907	4.97	µg/L	100
FOSA	-	498.0 -> 78.0	-	N.D.		
MeFOSAA	7.476	570.0 -> 419.0	3125	4.49	µg/L	100
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	8.145	513.0 -> 469.0	499	0.16	µg/L	100
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFDS	-	599.0 -> 80.0	-	N.D.		
PFHpA	6.011	363.0 -> 319.0	1281	0.30	µg/L	85
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.237	313.0 -> 269.0	454	0.32	µg/L	85
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFNS	-	549.0 -> 99.0	-	N.D.		
PFOA	6.702	413.0 -> 369.0	408	0.15	µg/L	54
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.0 -> 99.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		

 # = Qualifier out of range, m = manually integrated, + = Area summed

7.2.2

7

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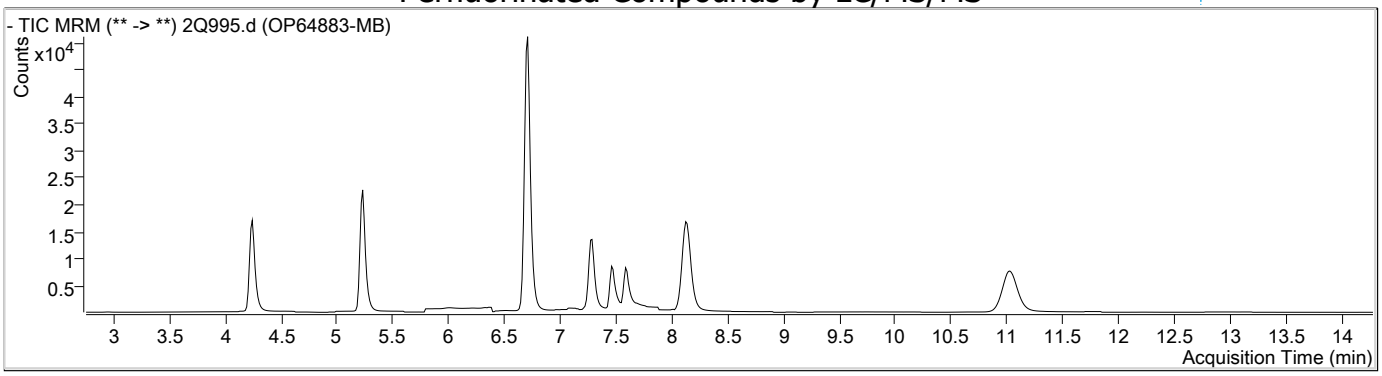
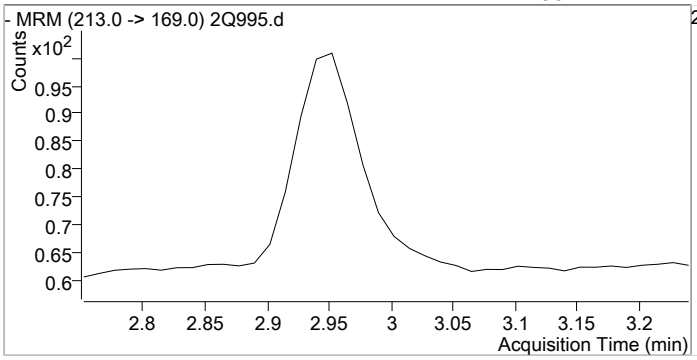
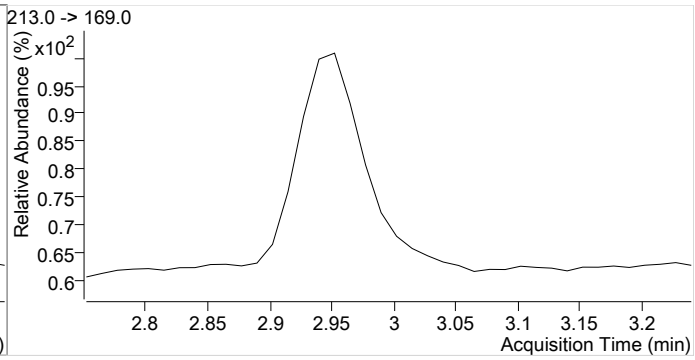
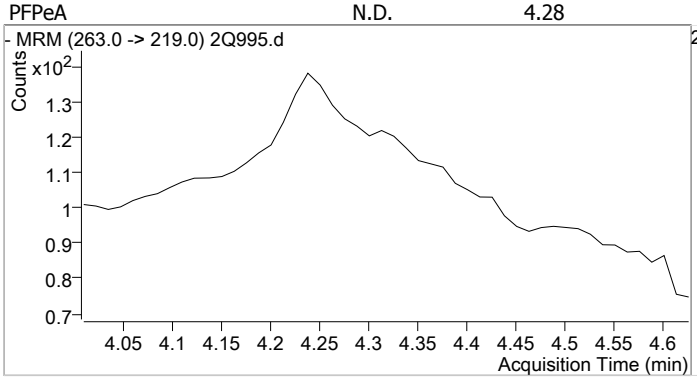


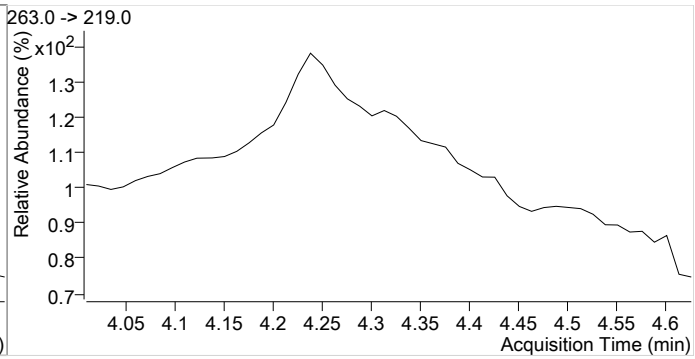
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBA	N.D.	2.98		



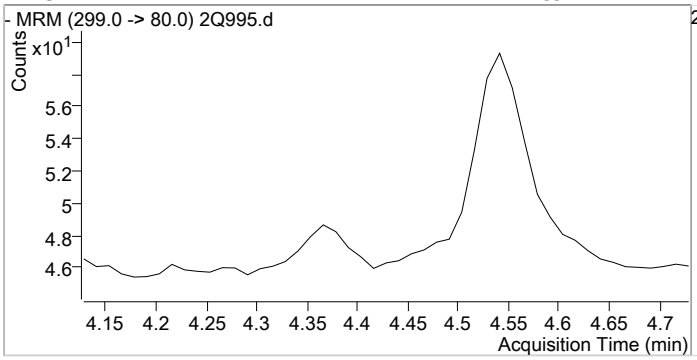


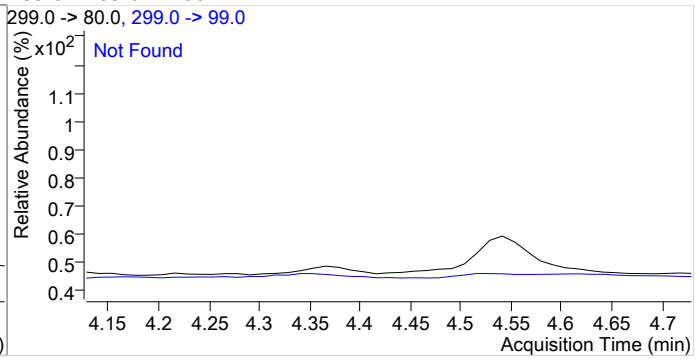
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeA	N.D.	4.28		





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFBS	N.D.	4.39	299.0 -> 99.0	38.1





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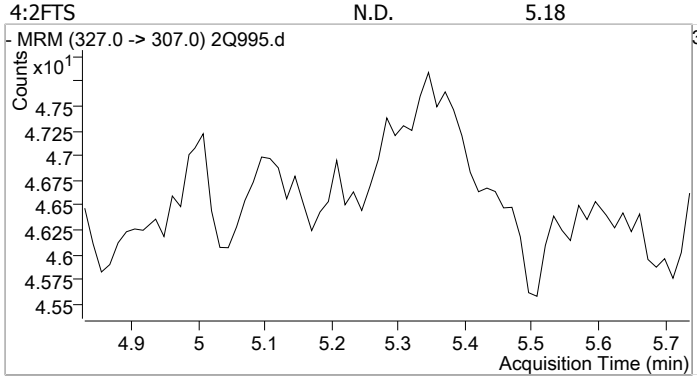
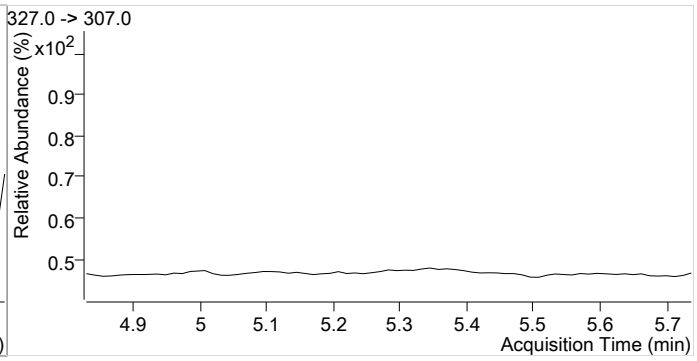
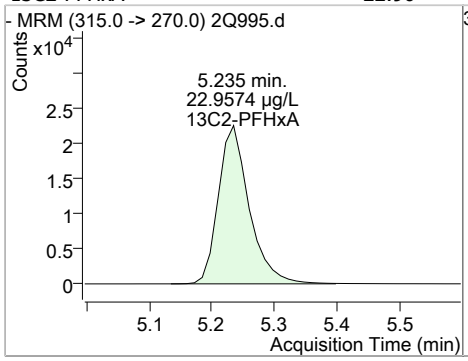
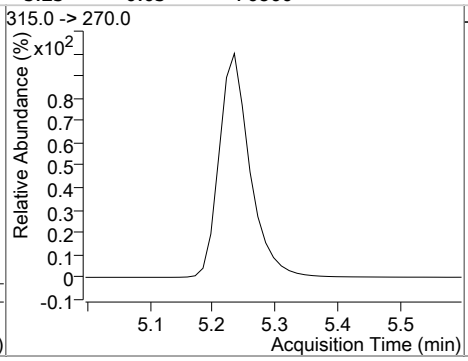
Compound	Conc.	Exp RT	QIon	Exp Ratio
4:2FTS	N.D.	5.18		

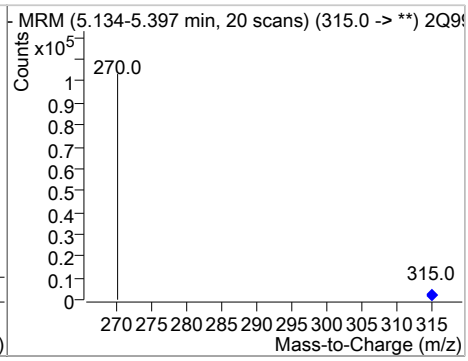




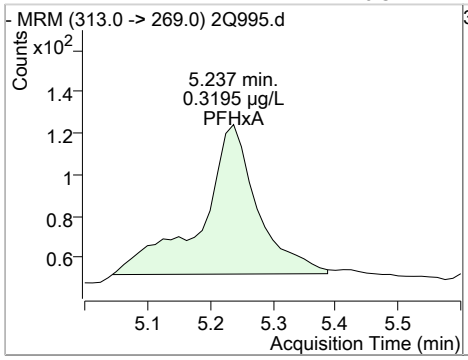
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	22.96	5.23	-0.03	76866				

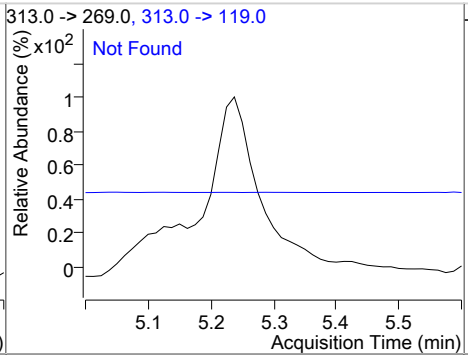


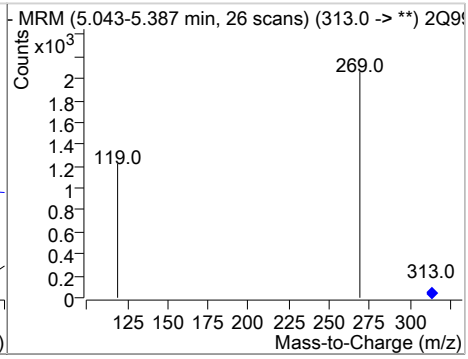




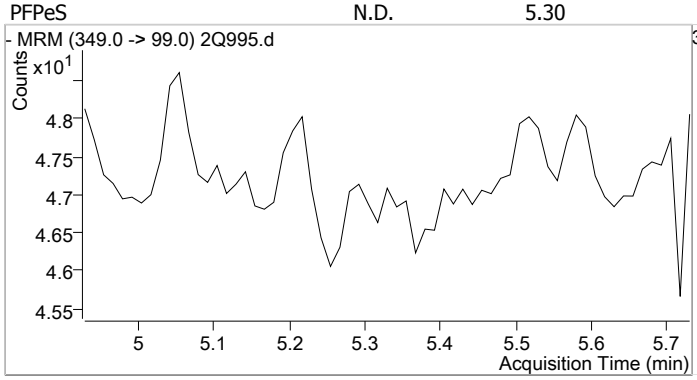
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.32	5.24	-0.03	454	313.0 -> 119.0		4.0	6.0

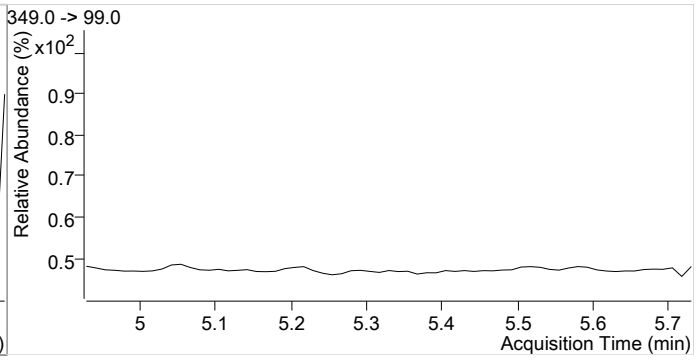






Compound	Conc.	Exp RT	QIon	Exp Ratio
PFPeS	N.D.	5.30		





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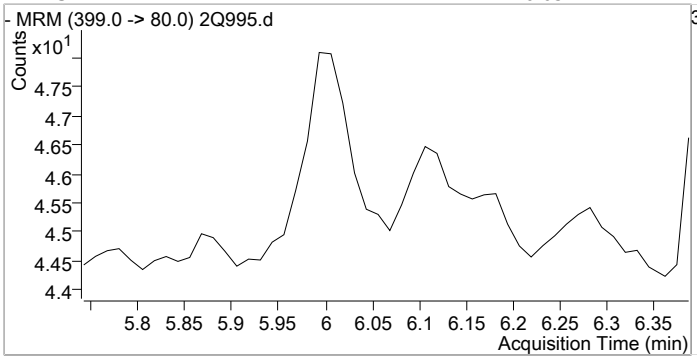
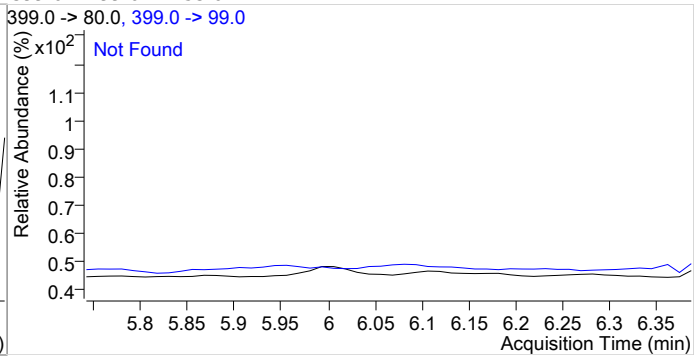
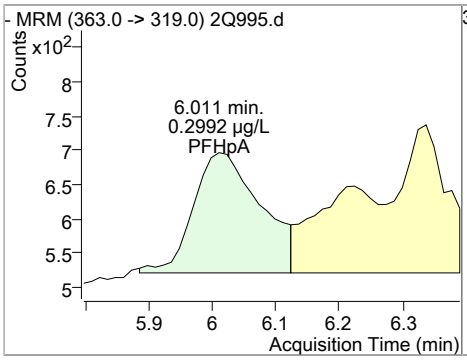
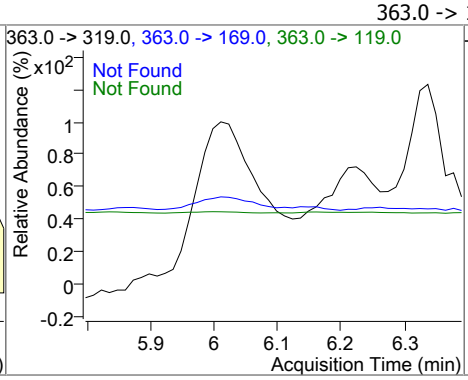
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHxS	N.D.	6.03	399.0 -> 99.0	53.6

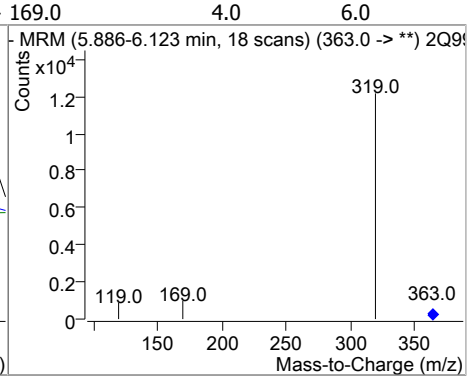




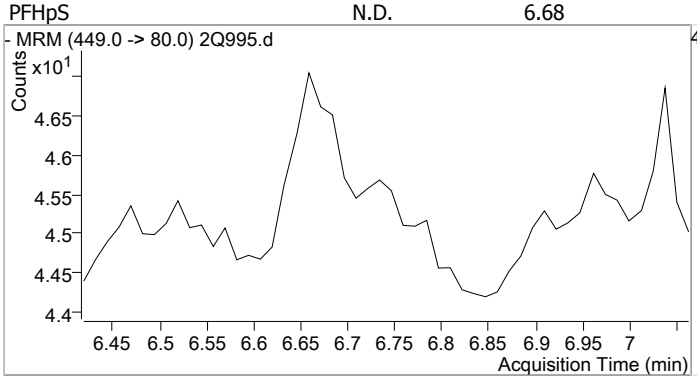
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.30	6.01	-0.04	1281	363.0 -> 119.0		4.0	6.0
					363.0 -> 169.0		4.0	6.0

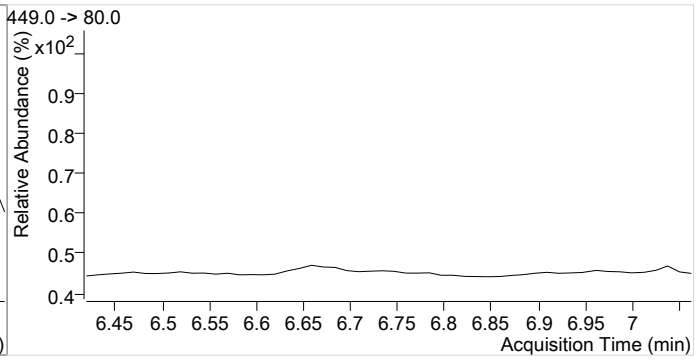




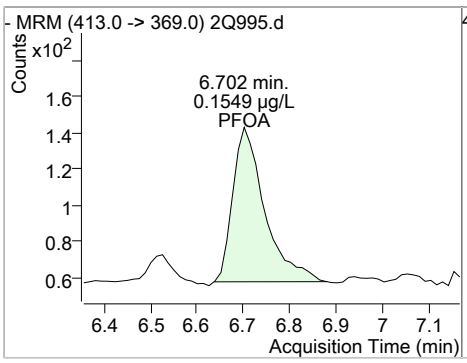


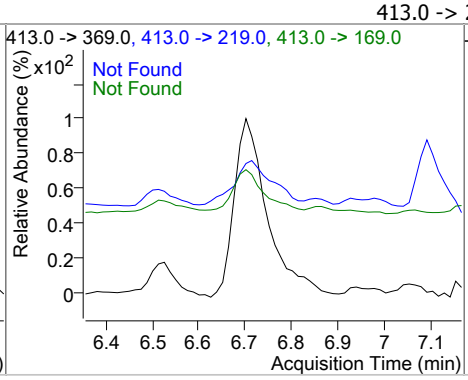
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFHpS	N.D.	6.68		

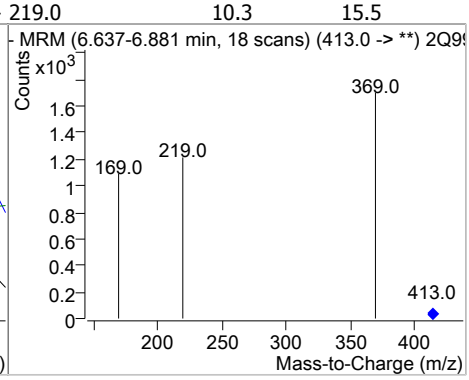




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.15	6.70	-0.03	408	413.0 -> 169.0		21.8	32.6
					413.0 -> 219.0		10.3	15.5







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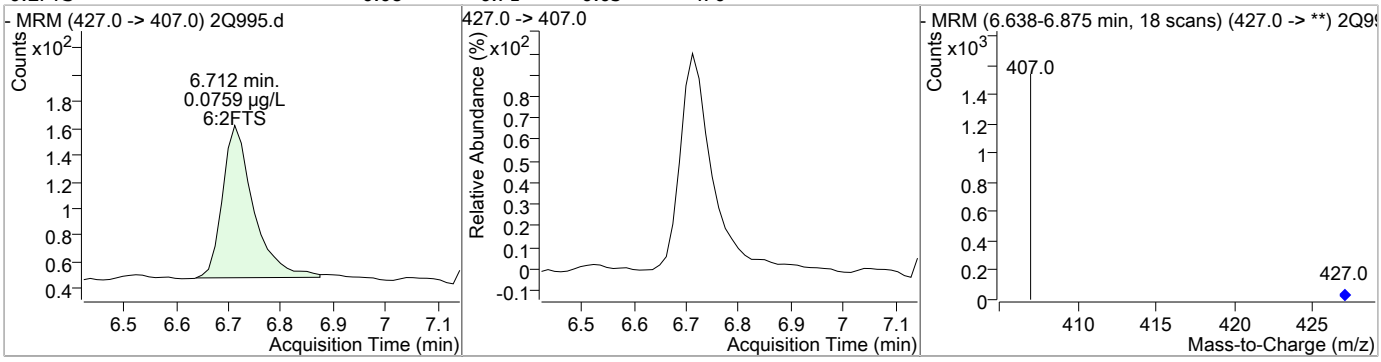
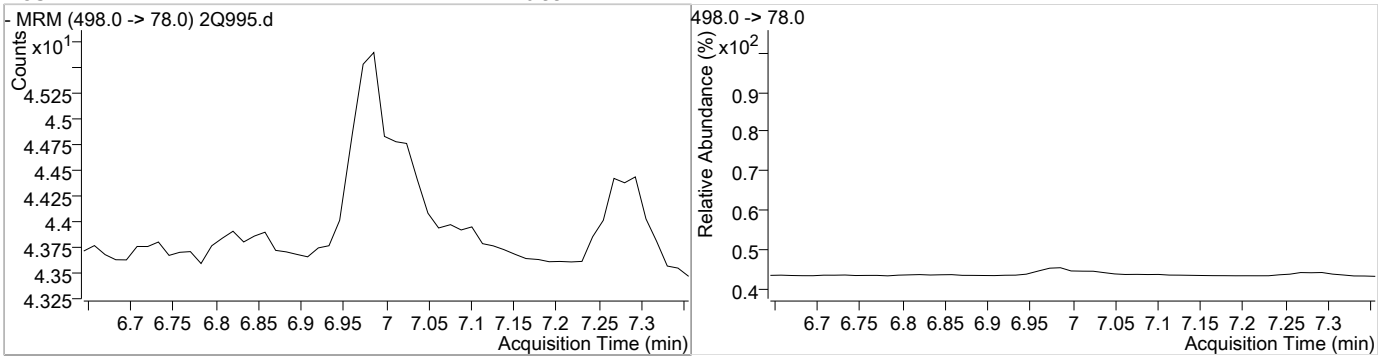
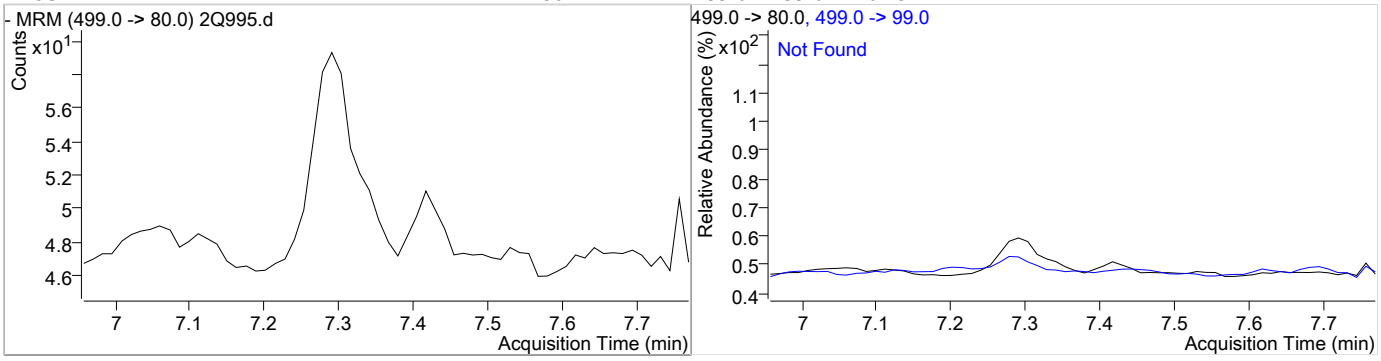
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.08	6.71	-0.03	470				



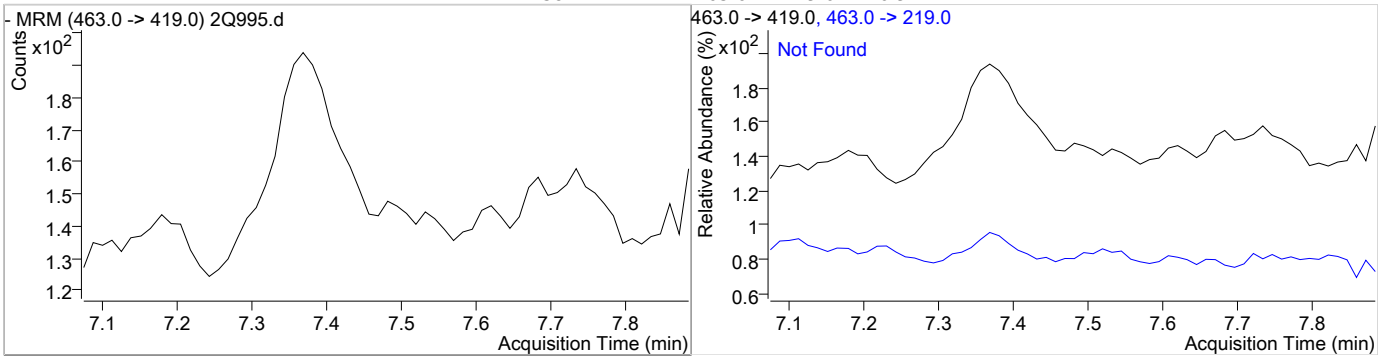
Compound	Conc.	Exp RT	QIon	Exp Ratio
FOSA	N.D.	6.99		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFOS	N.D.	7.30	499.0 -> 99.0	61.3



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNA	N.D.	7.38	463.0 -> 219.0	20.9



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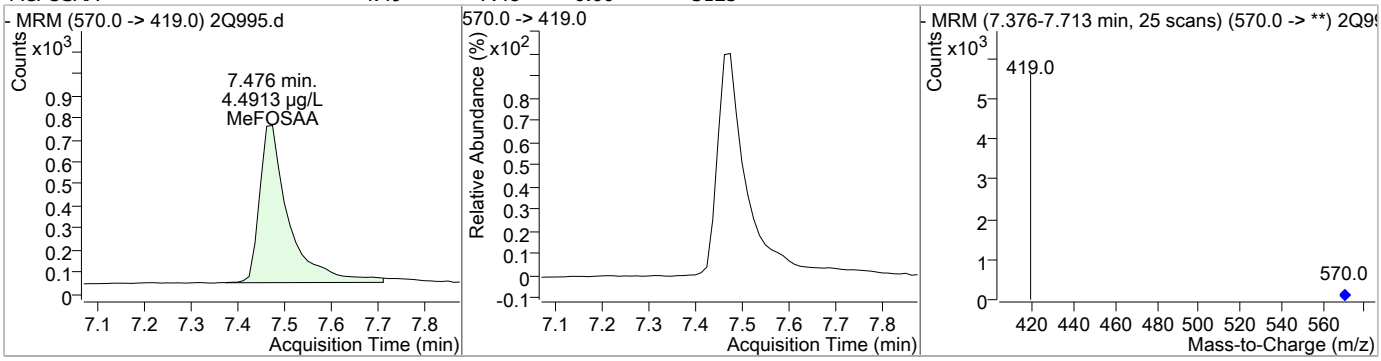
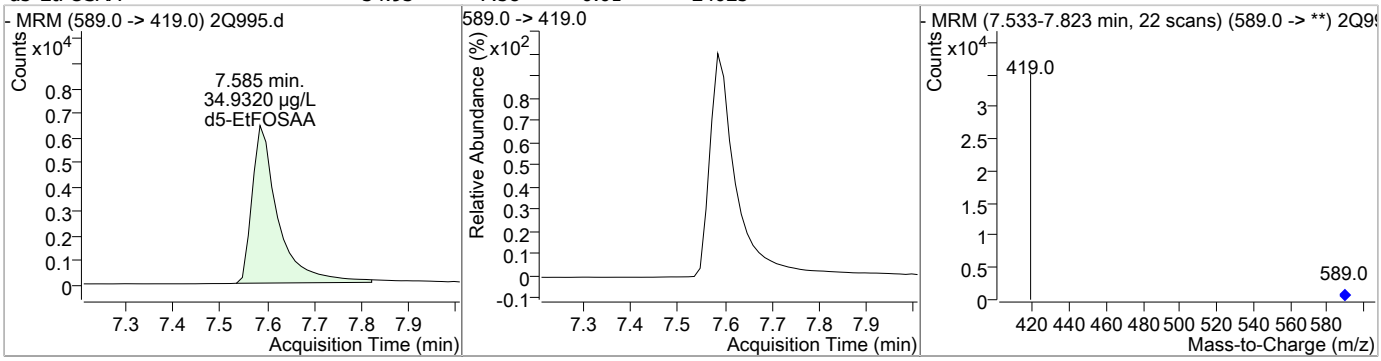
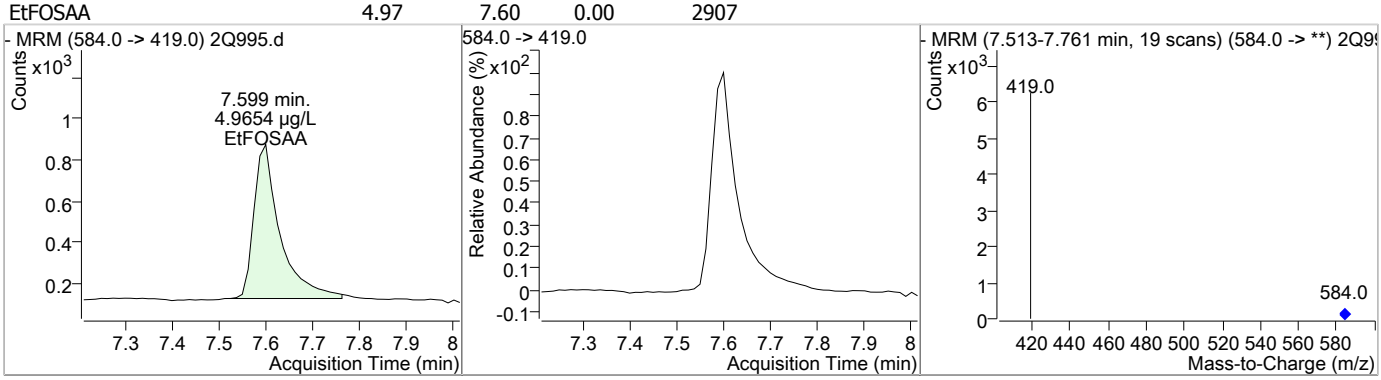
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.49	7.48	0.00	3125				



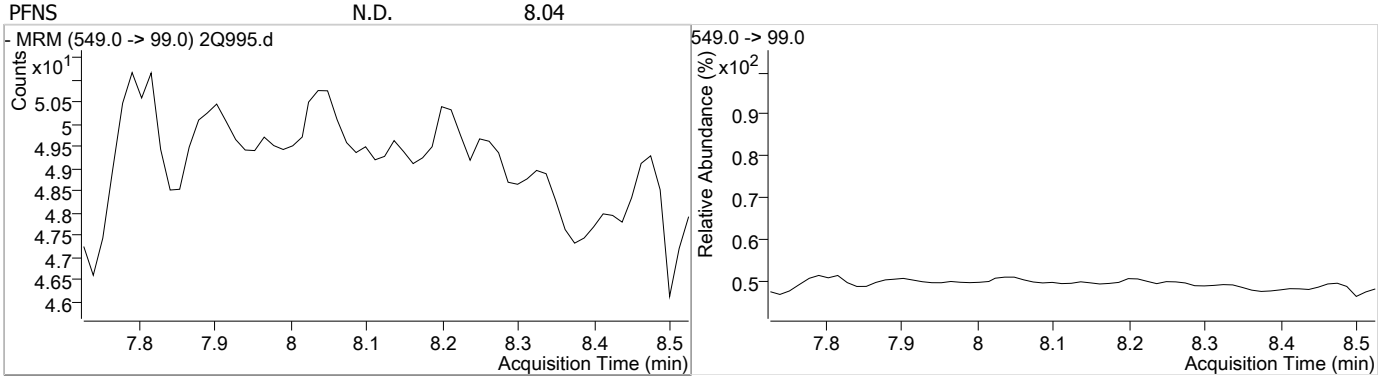
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	34.93	7.58	-0.01	24625				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.97	7.60	0.00	2907				



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFNS	N.D.	8.04		



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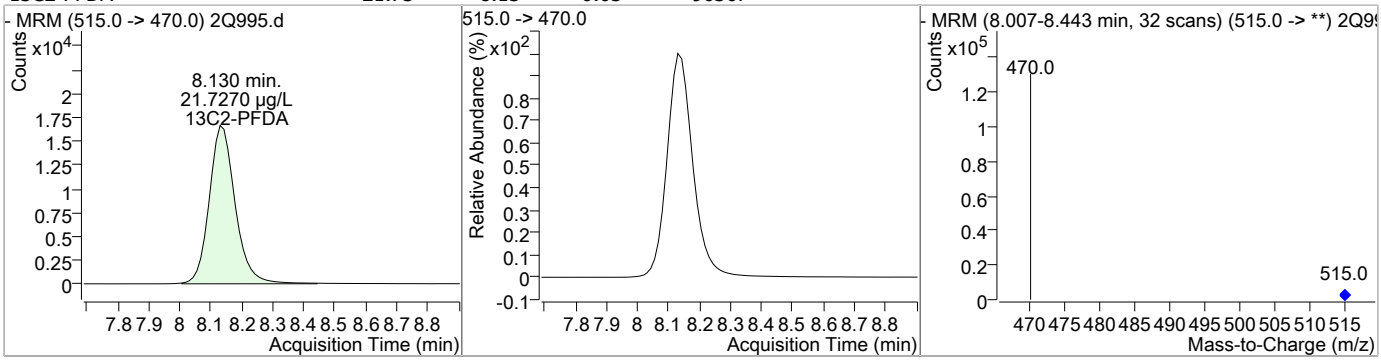
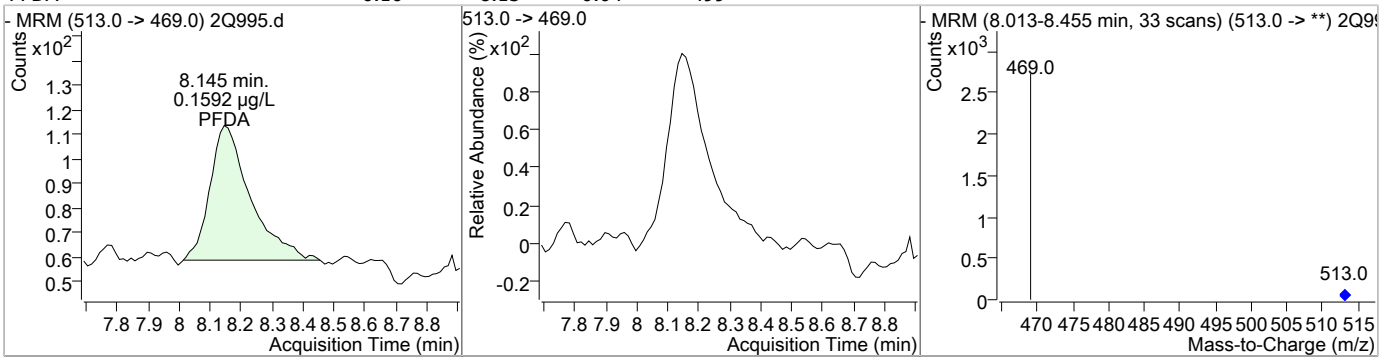
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

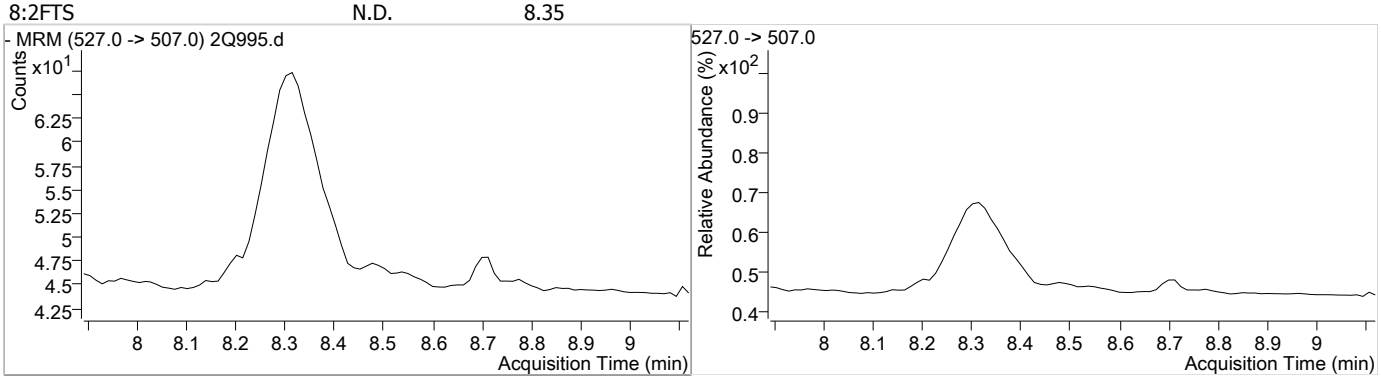
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.73	8.13	-0.05	96367				



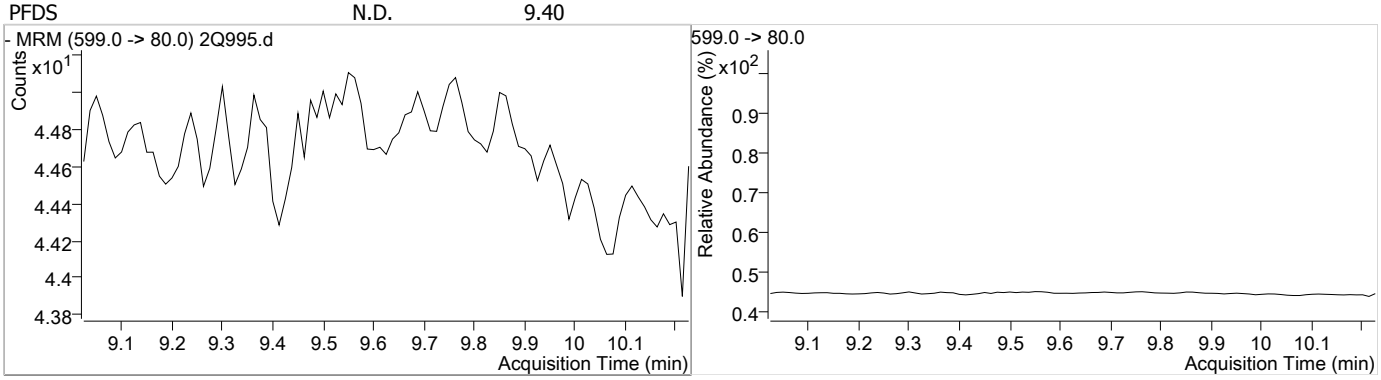
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.16	8.15	-0.04	499				



Compound	Conc.	Exp RT	QIon	Exp Ratio
8:2FTS	N.D.	8.35		



Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDS	N.D.	9.40		



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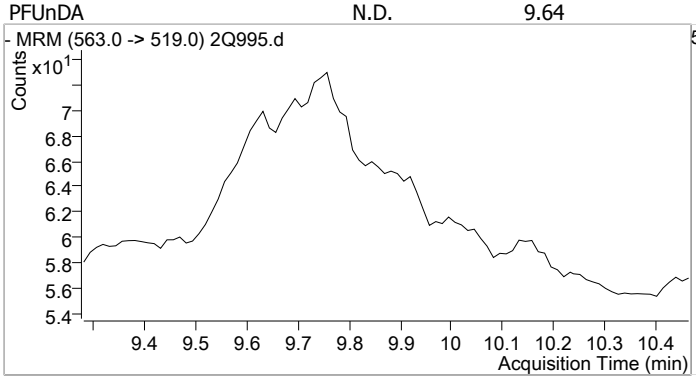
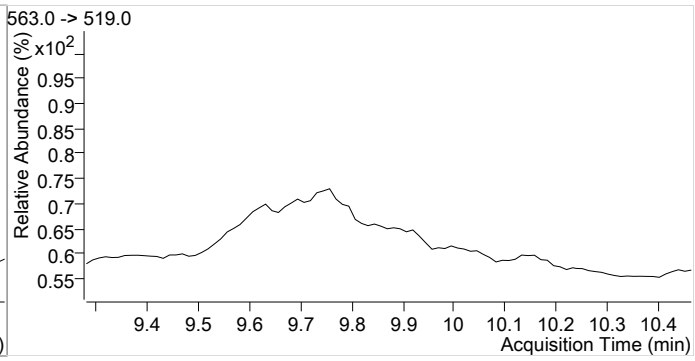
Perfluorinated Compounds by LC/MS/MS

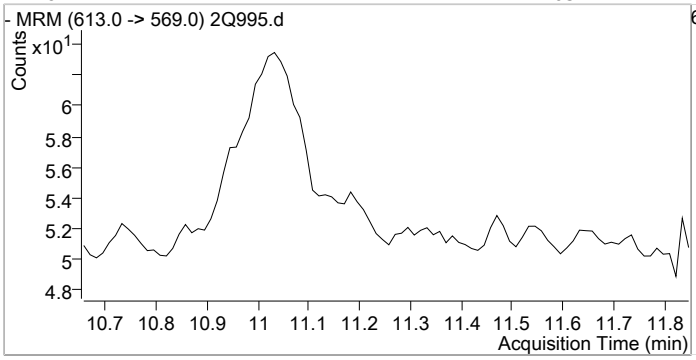
Agilent Technologies

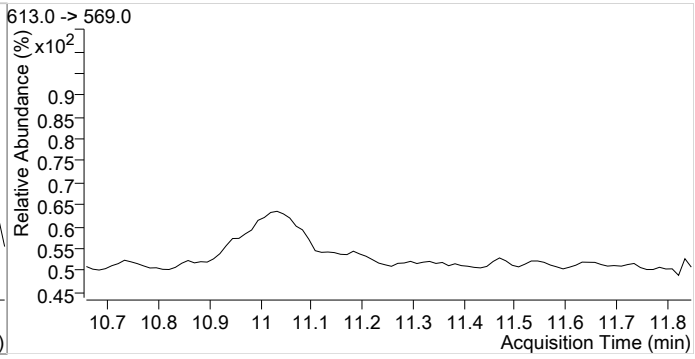
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFUnDA	N.D.	9.64		



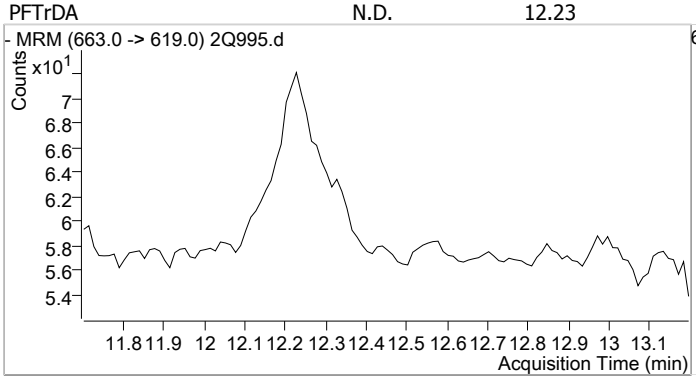


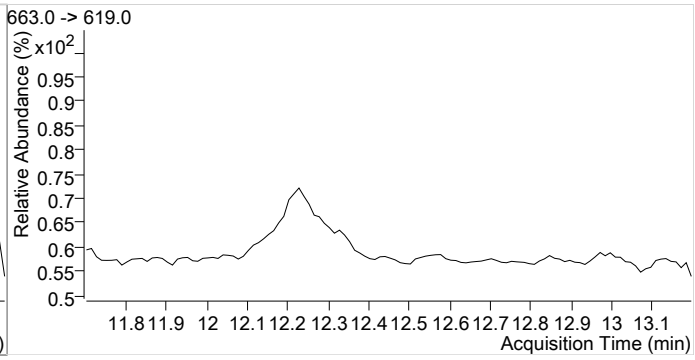
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFDoDA	N.D.	11.03		



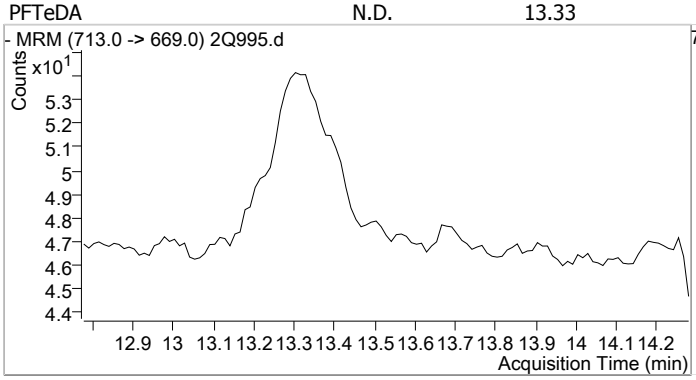


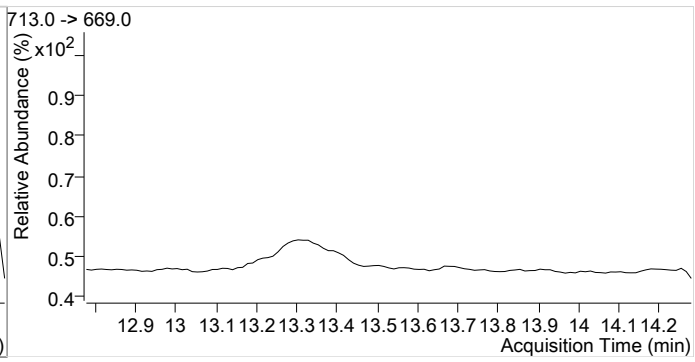
Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTrDA	N.D.	12.23		





Compound	Conc.	Exp RT	QIon	Exp Ratio
PFTeDA	N.D.	13.33		





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Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

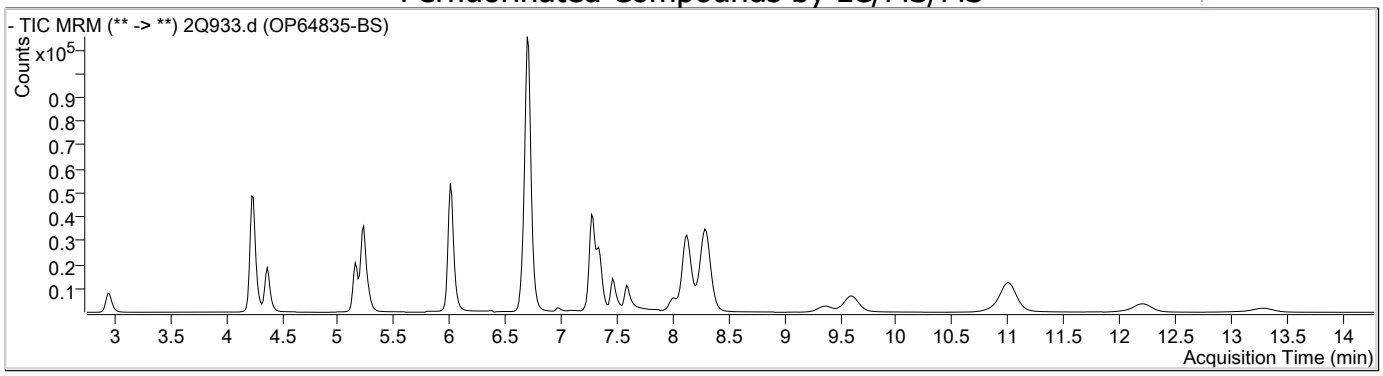
Data File	:	2Q933.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 6:27:17 PM
Sample Name	:	OP64835-BS
Vial	:	Vial 21
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	142600	20.00	µg/L		-0.075
13C2-PFDoDA	11.001	615.0 -> 570.0	81813	20.00	µg/L		-0.263
13C2-PFOA	6.701	415.0 -> 370.0	72889	20.00	µg/L		-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	68513	20.00	µg/L		-0.063
13C4-PFOS	7.276	503.0 -> 80.0	52646	20.00	µg/L		-0.088
d3-MeFOSAA	7.462	573.0 -> 419.0	30328	20.00	µg/L		-0.025
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	114187	22.39	µg/L		-0.163
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 111.9%			
13C2-PFHxA	5.235	315.0 -> 270.0	84068	21.84	µg/L		-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 109.2%			
d5-EtFOSAA	7.585	589.0 -> 419.0	24696	31.42	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 157.1%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	69262	19.23	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	134443	19.50	µg/L		100
8:2FTS	8.289	527.0 -> 507.0	239296	20.96	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	17026	24.30	µg/L		100
FOSA	6.973	498.0 -> 78.0	4108	2.52	µg/L		100
MeFOSAA	7.463	570.0 -> 419.0	24165	27.51	µg/L		100
PFBA	2.940	213.0 -> 169.0	32124	16.75	µg/L		100
PFBS	4.366	299.0 -> 80.0	44496	21.18	µg/L		100
PFDA	8.133	513.0 -> 469.0	78606	21.81	µg/L		100
PFDoDA	11.008	613.0 -> 569.0	61334	17.27	µg/L		100
PFDS	9.362	599.0 -> 80.0	22714	16.34	µg/L		100
PFHpA	6.023	363.0 -> 319.0	113521	22.33	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	39789	17.84	µg/L		100
PFHxA	5.237	313.0 -> 269.0	39995	23.25	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	50234	22.85	µg/L		94
PFNA	7.344	463.0 -> 419.0	76119	23.37	µg/L		96
PFNS	8.002	549.0 -> 99.0	23386	17.59	µg/L		100
PFOA	6.702	413.0 -> 369.0	70473	23.26	µg/L		99
PFOS	7.278	499.0 -> 80.0	61977	20.40	µg/L		98
PFPeA	4.238	263.0 -> 219.0	112932	21.72	µg/L		100
PFPeS	5.267	349.0 -> 99.0	11763	18.04	µg/L		100
PFTeDA	13.291	713.0 -> 669.0	25532	15.49	µg/L		100
PFTrDA	12.203	663.0 -> 619.0	48069	16.06	µg/L		100
PFUnDA	9.606	563.0 -> 519.0	69271	19.30	µg/L		100

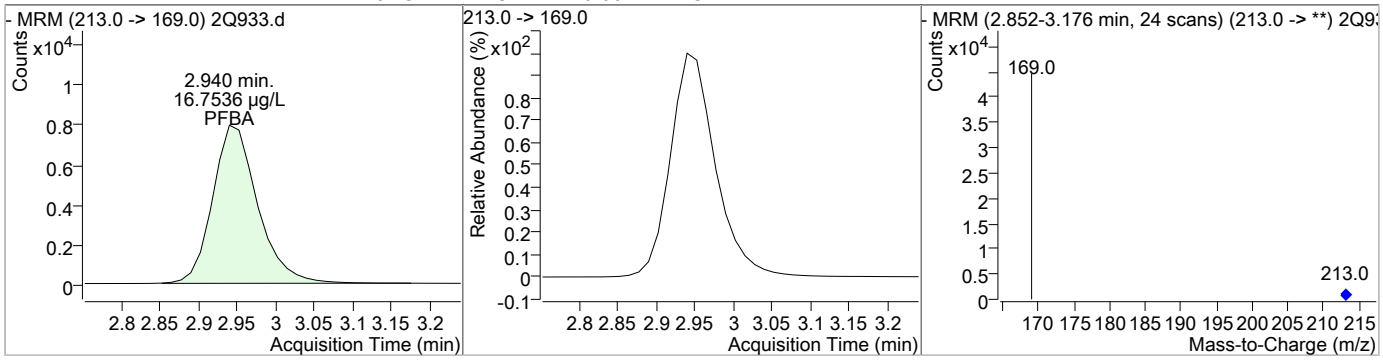
 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

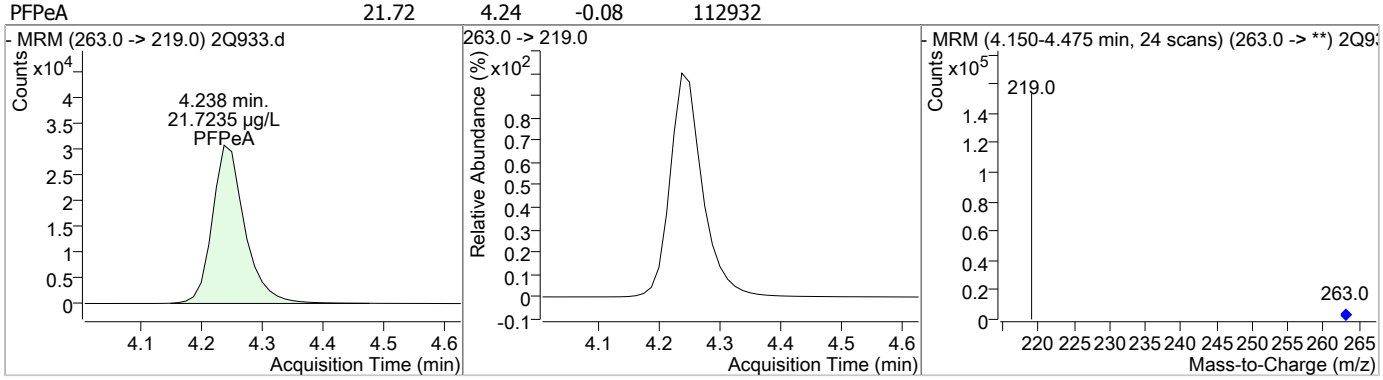
Agilent Technologies



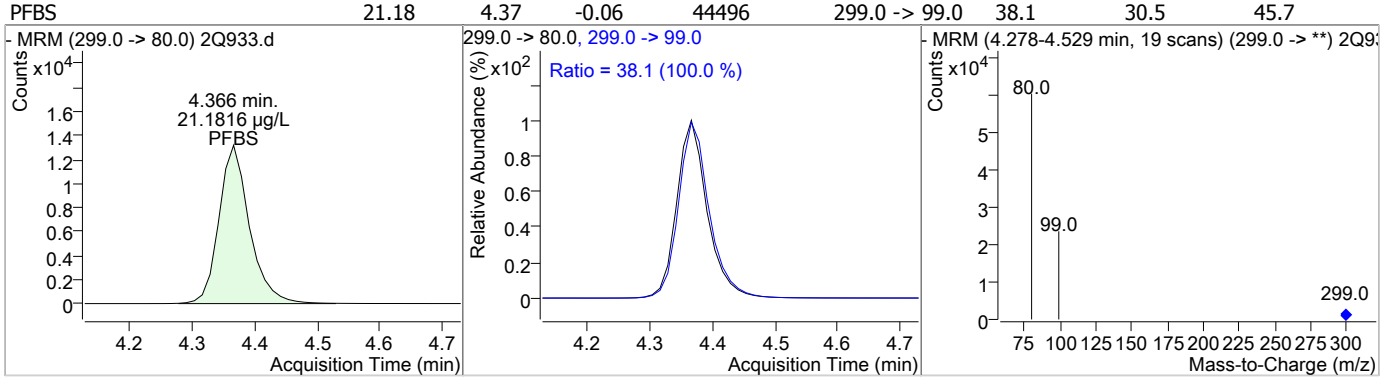
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	16.75	2.94	-0.06	32124				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	21.72	4.24	-0.08	112932				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	21.18	4.37	-0.06	44496	299.0 -> 99.0	38.1	30.5	45.7



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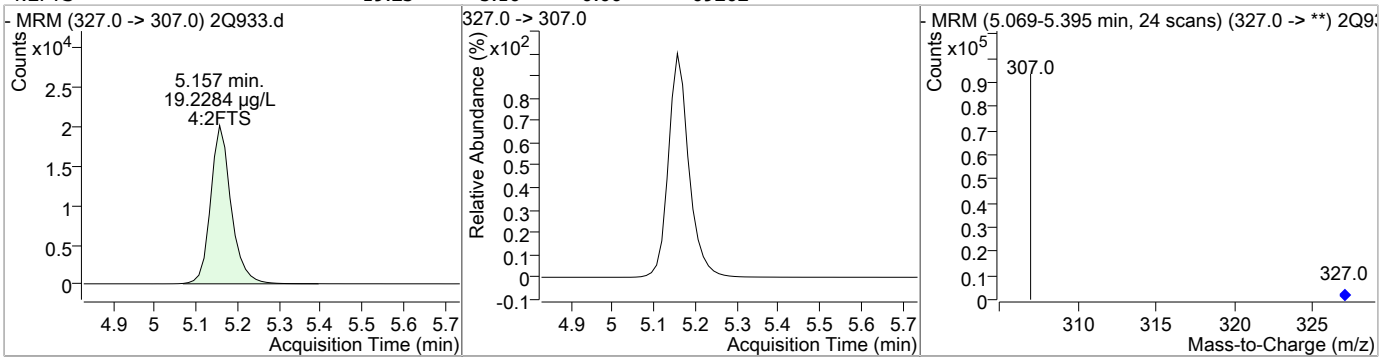
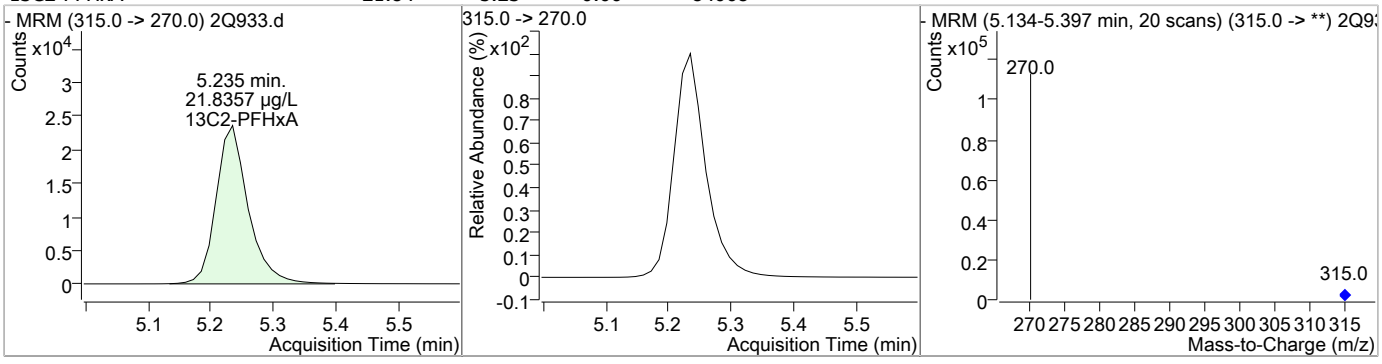
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

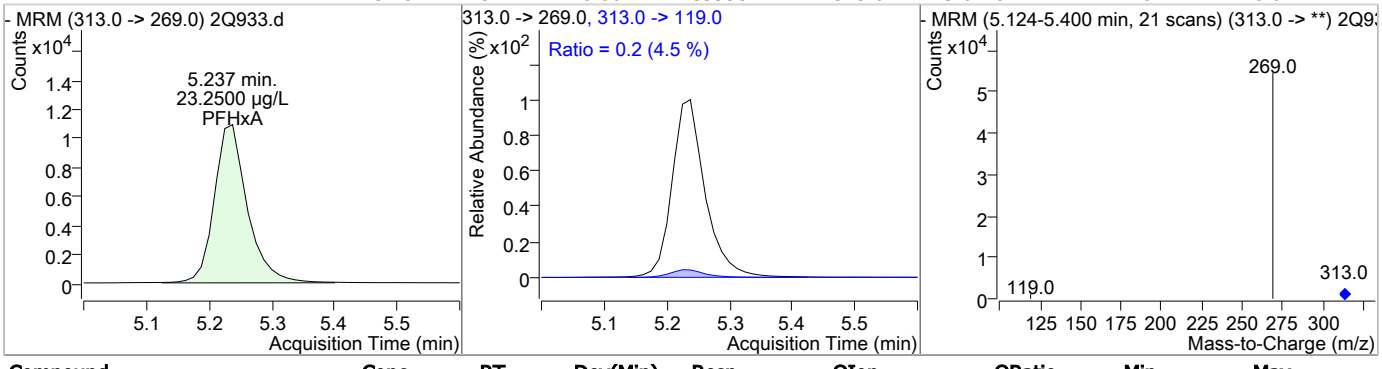
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	19.23	5.16	-0.06	69262				



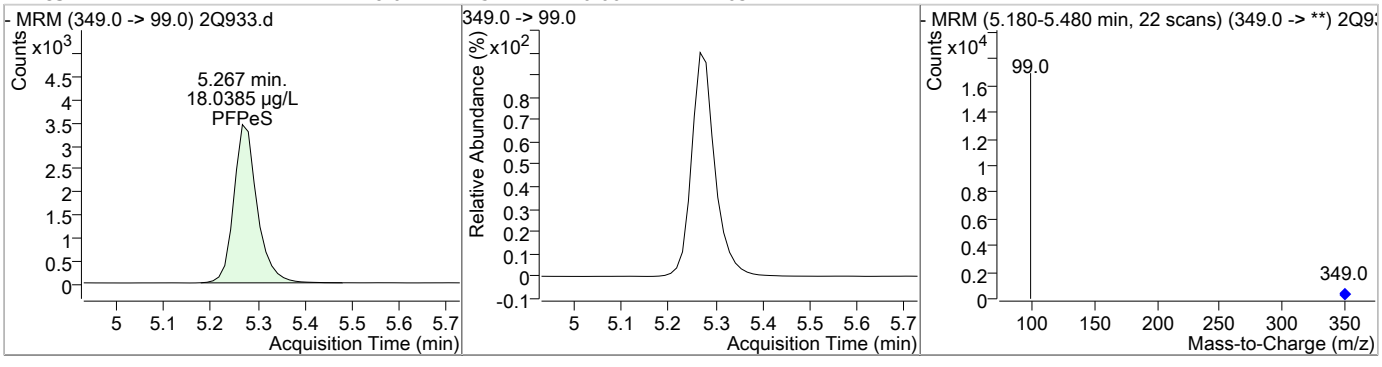
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	21.84	5.23	-0.06	84068				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	23.25	5.24	-0.06	39995	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.04	5.27	-0.06	11763				



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Perfluorinated Compounds by LC/MS/MS

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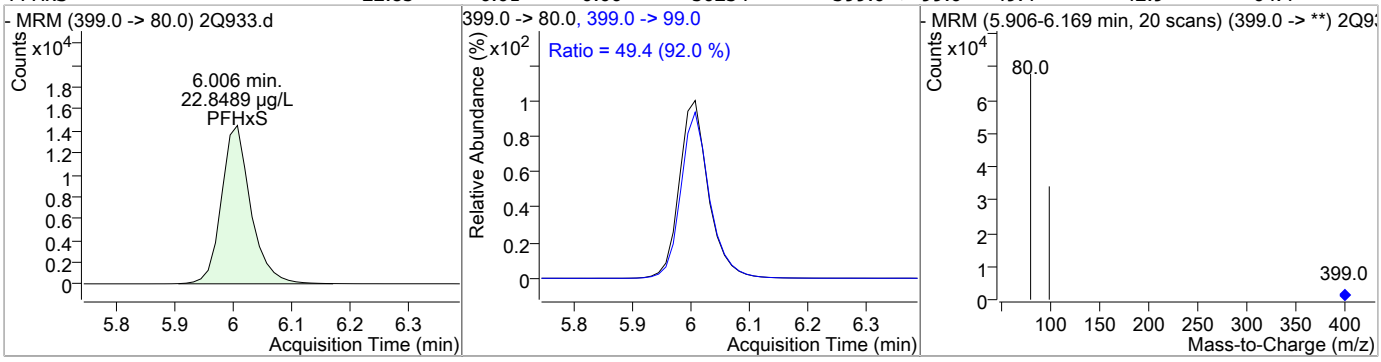
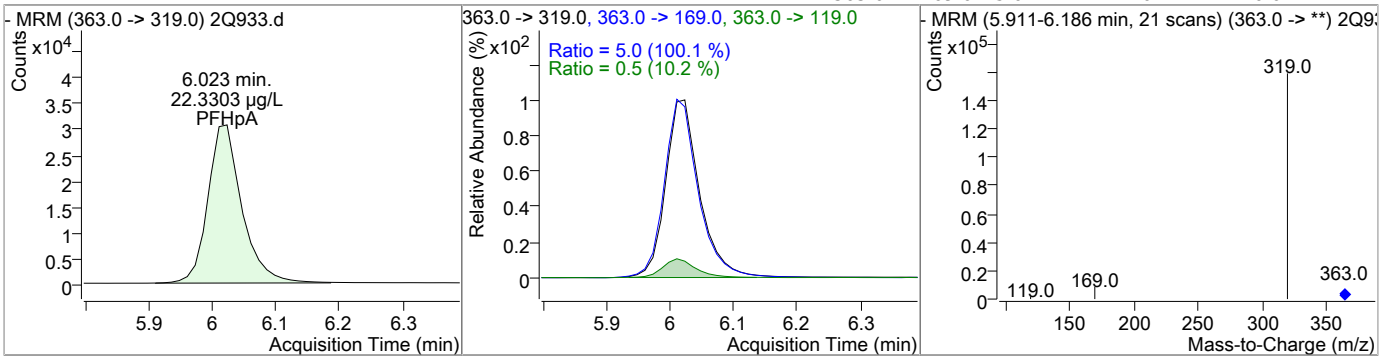
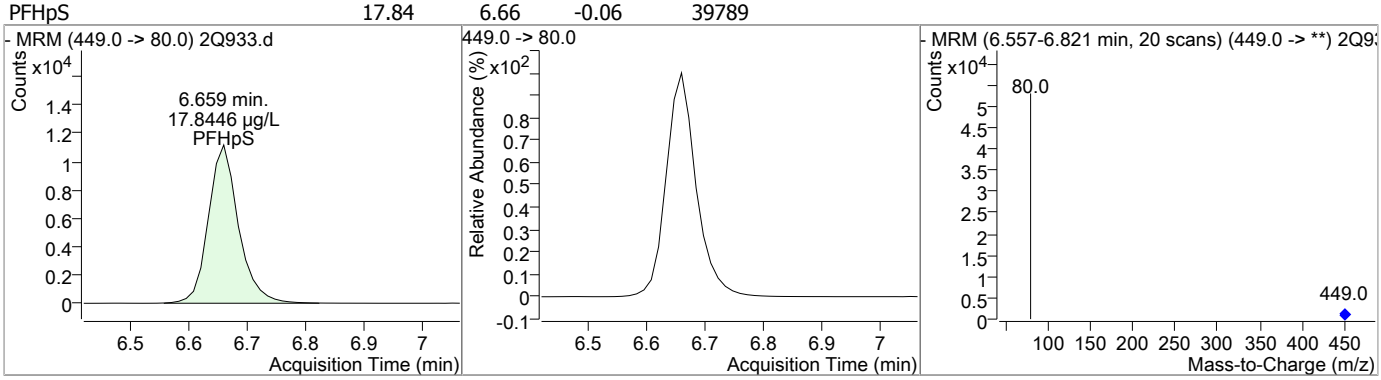
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	22.85	6.01	-0.06	50234	399.0 -> 99.0	49.4	42.9	64.4



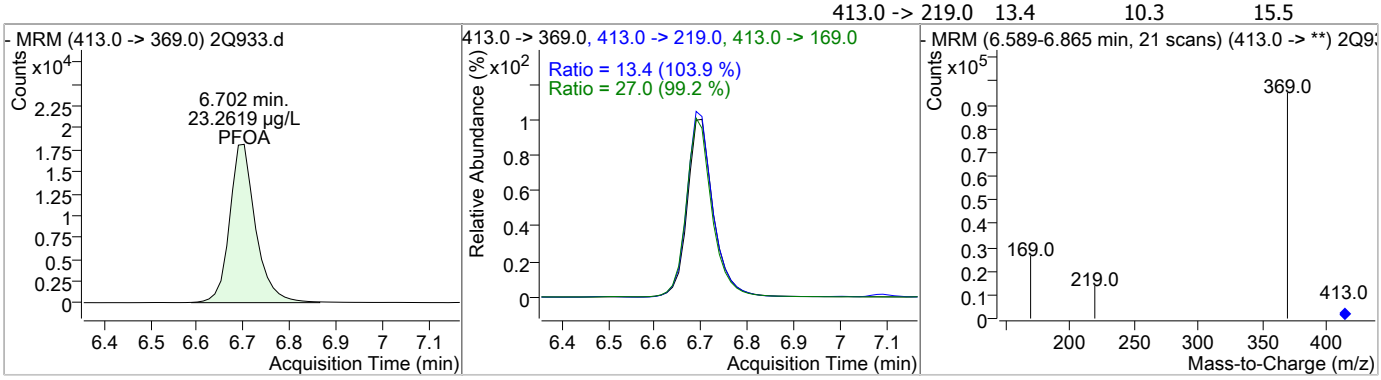
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	22.33	6.02	-0.06	113521	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	5.0	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	17.84	6.66	-0.06	39789				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	23.26	6.70	-0.06	70473	413.0 -> 169.0	27.0	21.8	32.6
					413.0 -> 219.0	13.4	10.3	15.5



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Perfluorinated Compounds by LC/MS/MS

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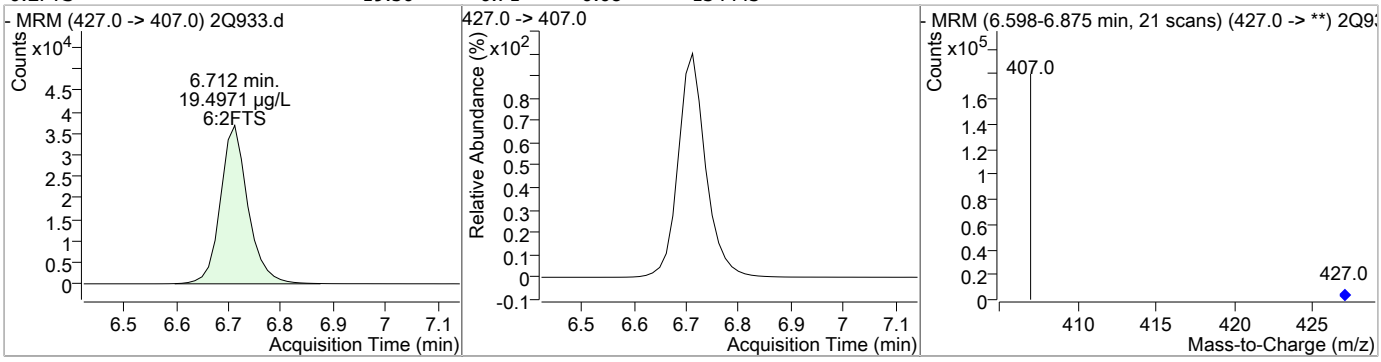
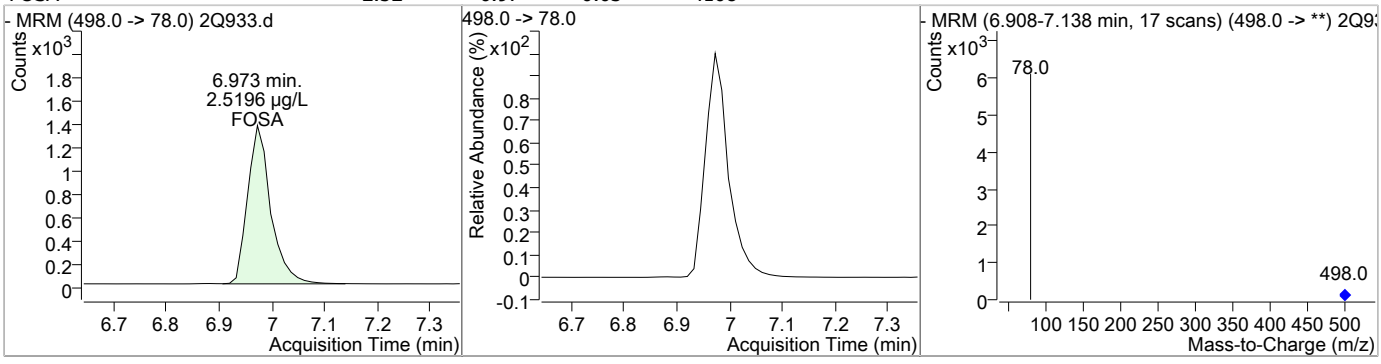
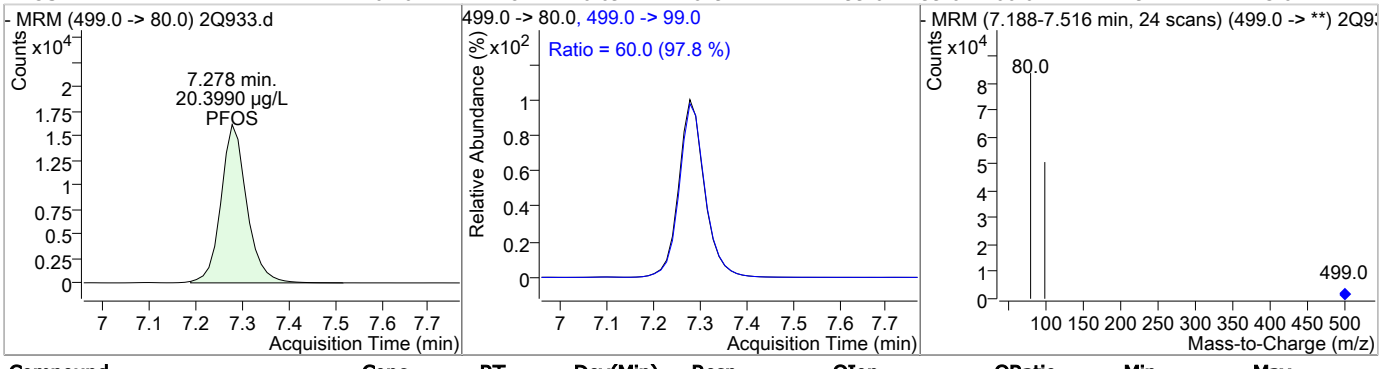
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.50	6.71	-0.08	134443				



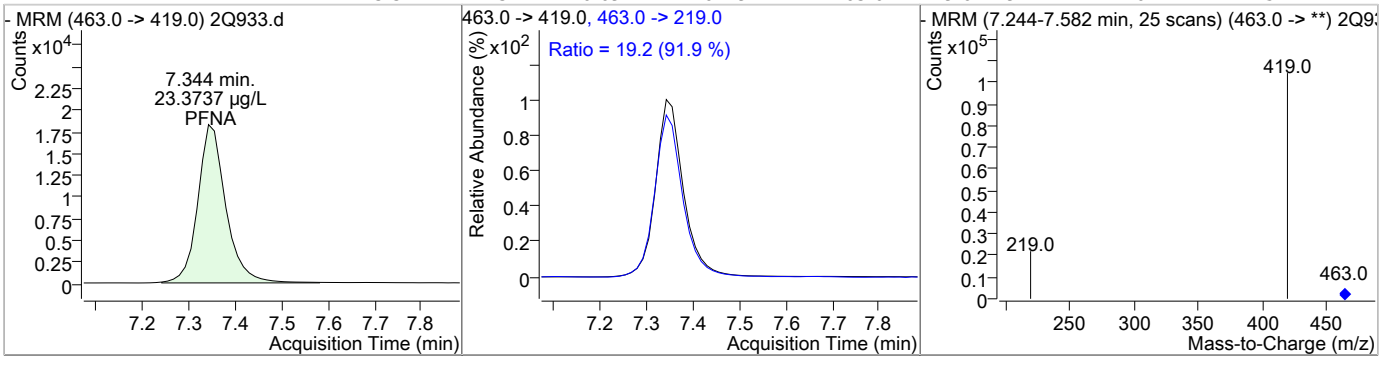
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.52	6.97	-0.03	4108				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	20.40	7.28	-0.09	61977	499.0 -> 99.0	60.0	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	23.37	7.34	-0.09	76119	463.0 -> 219.0	19.2	16.7	25.1



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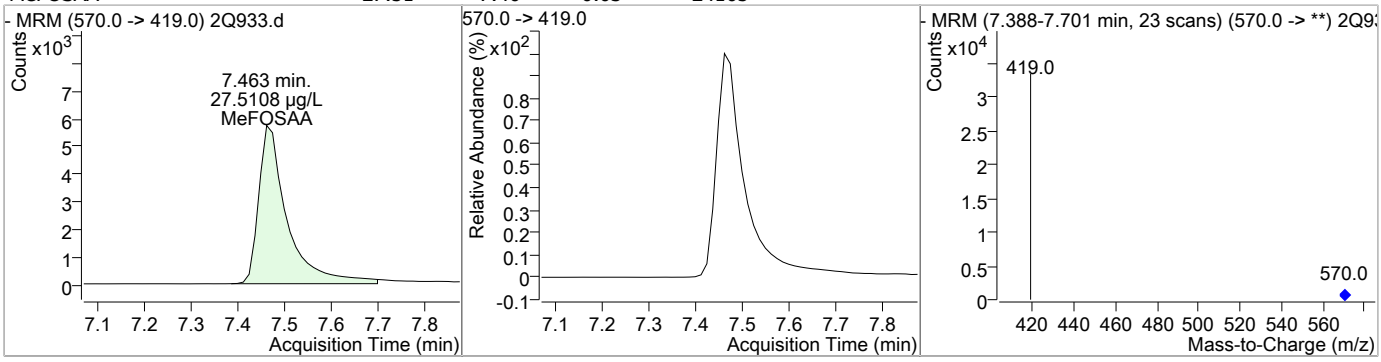
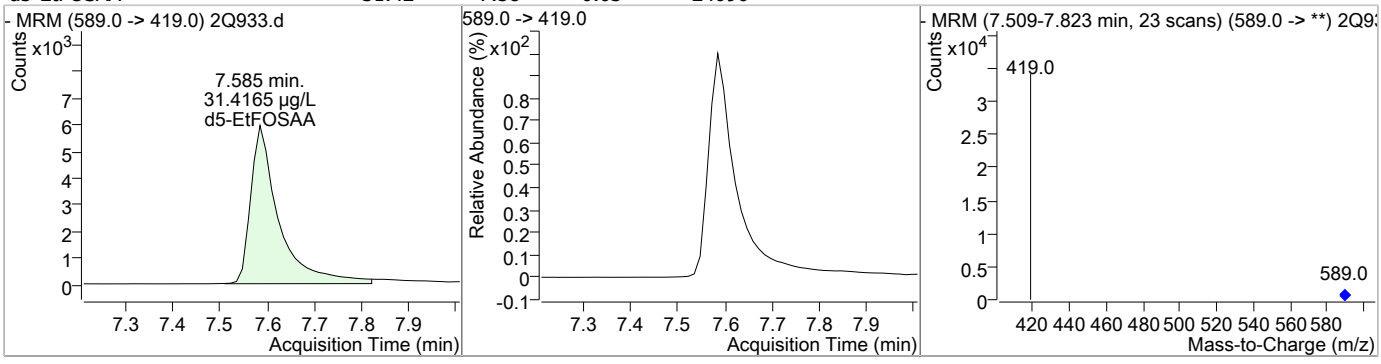
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

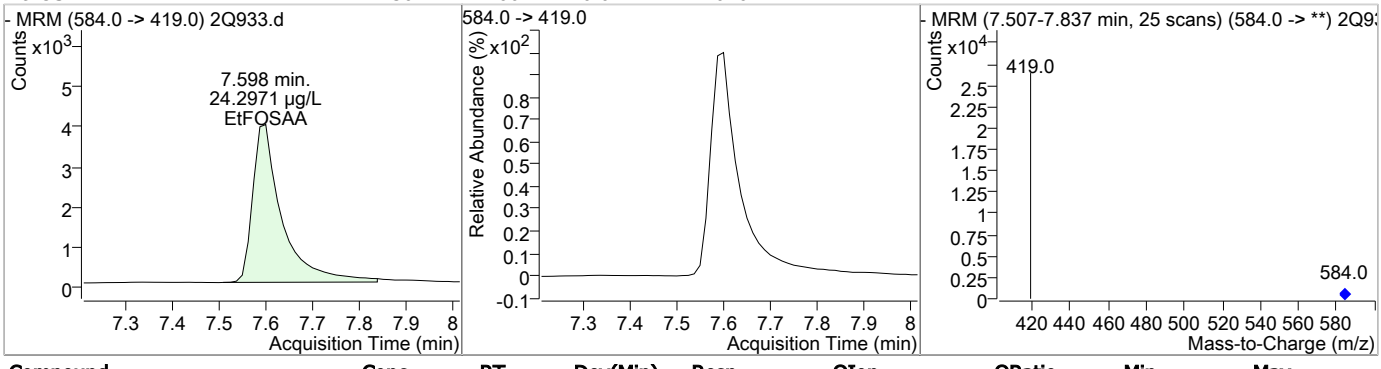
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	27.51	7.46	-0.03	24165				



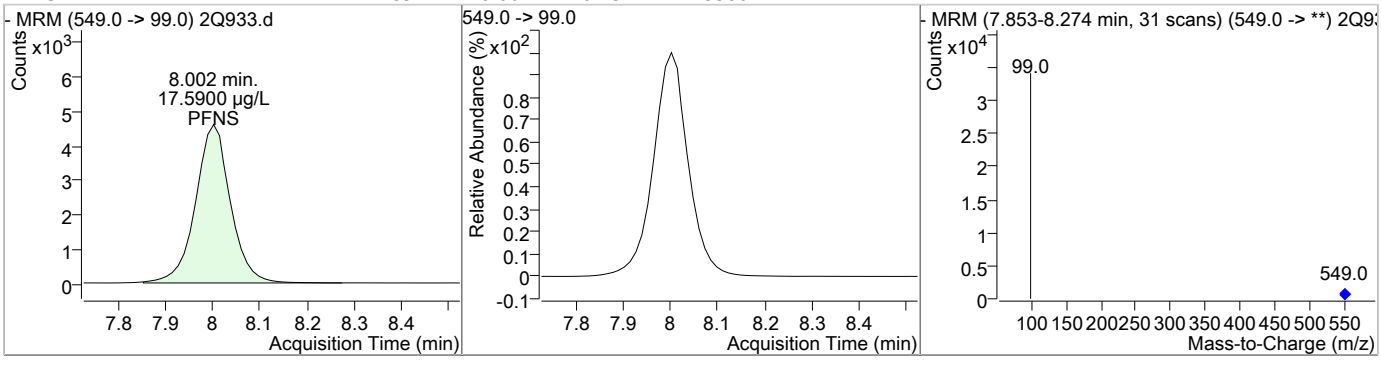
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	31.42	7.58	-0.03	24696				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	24.30	7.60	-0.01	17026				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	17.59	8.00	-0.13	23386				



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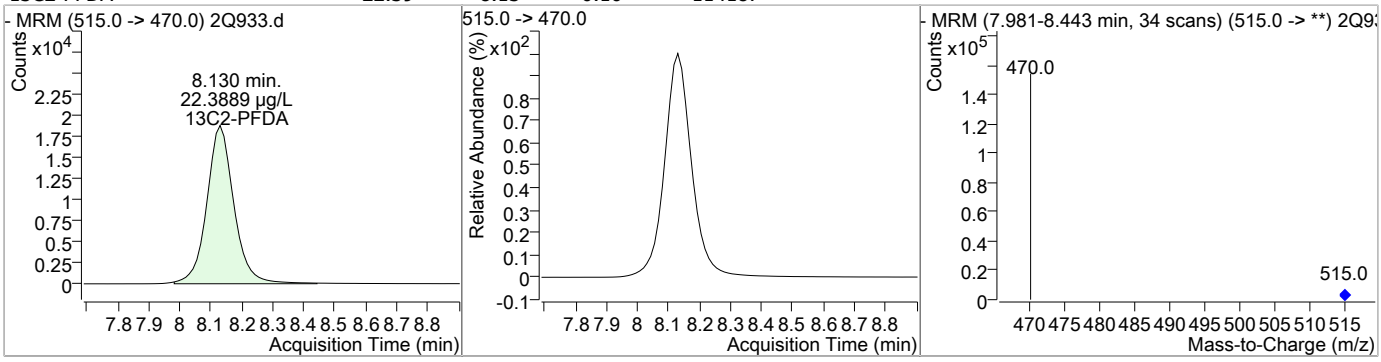
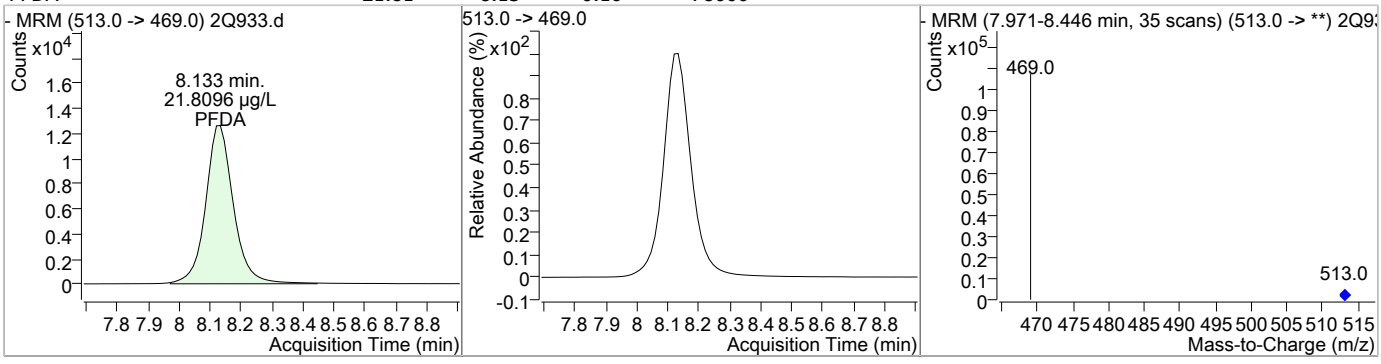
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

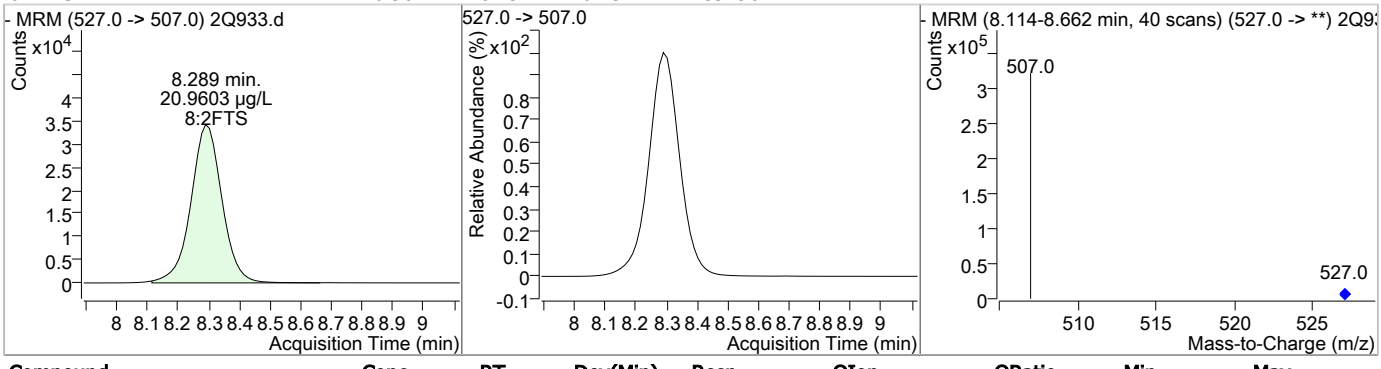
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	22.39	8.13	-0.16	114187				



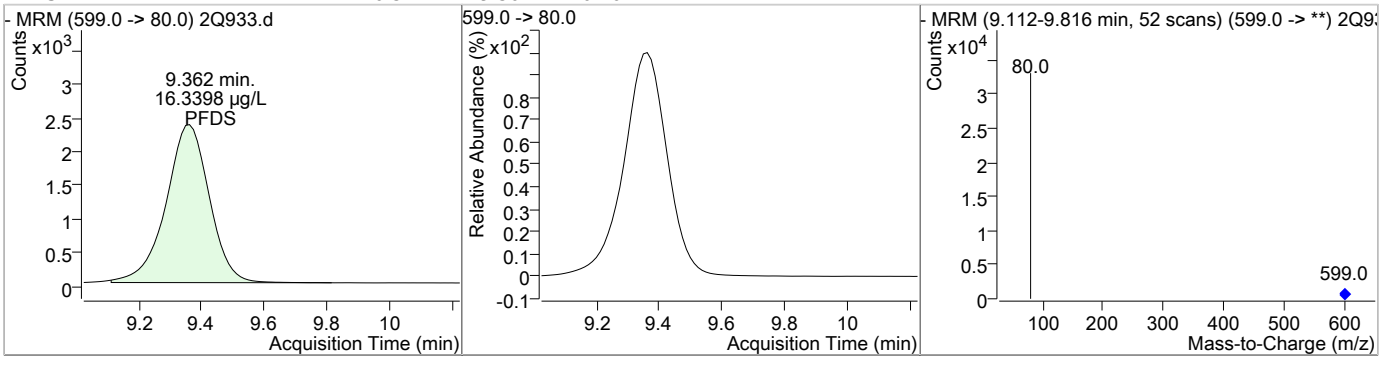
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.81	8.13	-0.16	78606				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.96	8.29	-0.23	239296				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	16.34	9.36	-0.26	22714				



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Perfluorinated Compounds by LC/MS/MS

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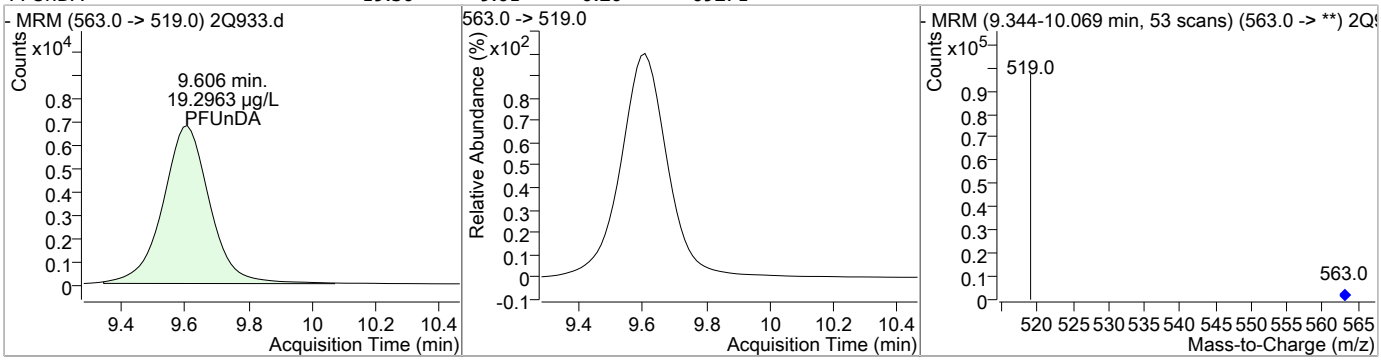
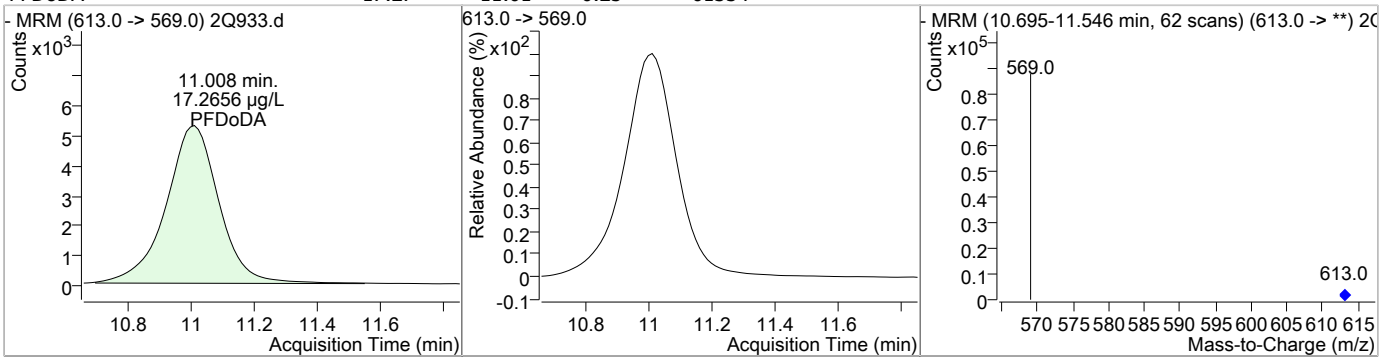
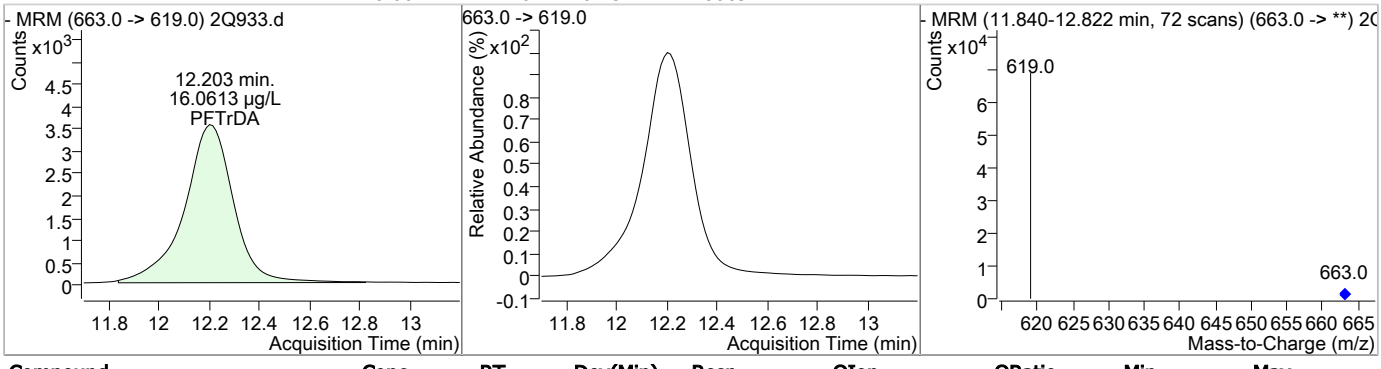
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.30	9.61	-0.26	69271				



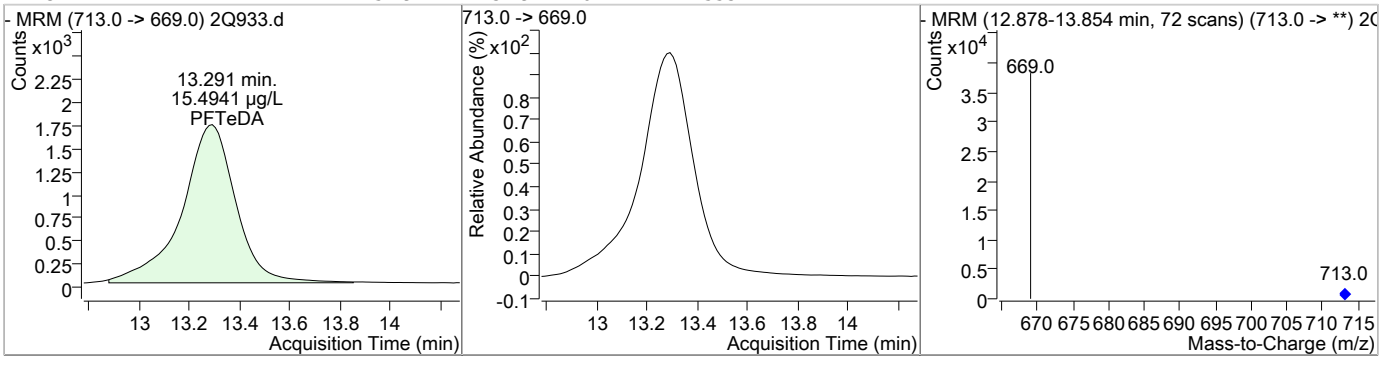
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	17.27	11.01	-0.25	61334				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	16.06	12.20	-0.25	48069				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	15.49	13.29	-0.24	25532				



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Perfluorinated Compounds by LC/MS/MS

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Data File	:	2Q994.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/3/2017 4:32:22 PM
Sample Name	:	OP64883-BS
Vial	:	Vial 13
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q28.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	143394	20.00	µg/L		-0.025
13C2-PFDoDA	11.026	615.0 -> 570.0	80954	20.00	µg/L		0.000
13C2-PFOA	6.701	415.0 -> 370.0	67035	20.00	µg/L		-0.025
13C3-PFPeA	4.247	266.0 -> 222.0	62564	20.00	µg/L		-0.025
13C4-PFOS	7.276	503.0 -> 80.0	51660	20.00	µg/L		-0.038
d3-MeFOSAA	7.462	573.0 -> 419.0	28869	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	116611	24.86	µg/L		-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 124.3%			
13C2-PFHxA	5.235	315.0 -> 270.0	89197	25.19	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 126.0%			
d5-EtFOSAA	7.585	589.0 -> 419.0	26113	34.44	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 172.2%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	81606	22.53	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	149104	21.50	µg/L		100
8:2FTS	8.289	527.0 -> 507.0	267561	23.31	µg/L		100
EtFOSAA	7.599	584.0 -> 419.0	18746	27.83	µg/L		100
FOSA	6.985	498.0 -> 78.0	24476	15.77	µg/L		100
MeFOSAA	7.476	570.0 -> 419.0	25789	30.44	µg/L		100
PFBA	2.940	213.0 -> 169.0	32450	18.40	µg/L		100
PFBS	4.366	299.0 -> 80.0	43841	21.27	µg/L		99
PFDA	8.133	513.0 -> 469.0	74669	22.53	µg/L		100
PFDoDA	11.020	613.0 -> 569.0	61532	17.50	µg/L		100
PFDS	9.375	599.0 -> 80.0	23104	16.91	µg/L		100
PFHpA	6.023	363.0 -> 319.0	107639	23.00	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	43375	19.82	µg/L		100
PFHxA	5.237	313.0 -> 269.0	39080	24.63	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	50874	23.58	µg/L		93
PFNA	7.344	463.0 -> 419.0	69277	23.13	µg/L		97
PFNS	8.002	549.0 -> 99.0	24200	18.55	µg/L		100
PFOA	6.702	413.0 -> 369.0	65553	23.53	µg/L		99
PFOS	7.278	499.0 -> 80.0	60232	20.20	µg/L		98
PFPeA	4.250	263.0 -> 219.0	108629	22.88	µg/L		100
PFPeS	5.267	349.0 -> 99.0	13117	22.03	µg/L		100
PFTeDA	13.316	713.0 -> 669.0	25098	15.40	µg/L		100
PFTrDA	12.228	663.0 -> 619.0	48412	16.33	µg/L		100
PFUnDA	9.619	563.0 -> 519.0	70653	19.89	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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Perfluorinated Compounds by LC/MS/MS

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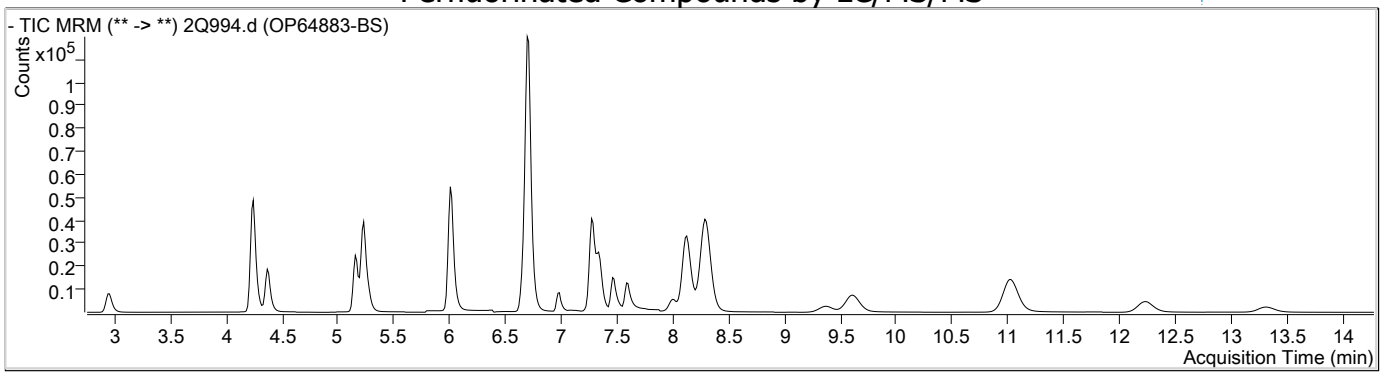
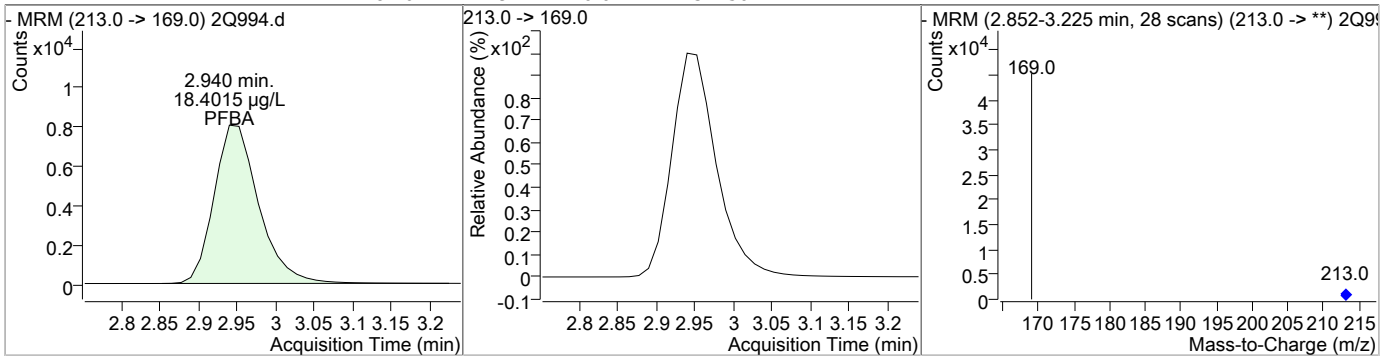
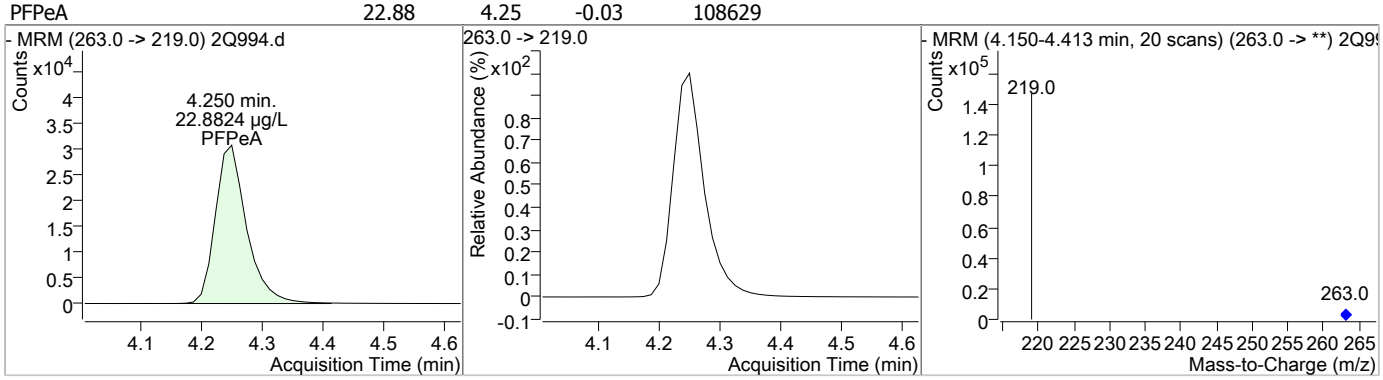


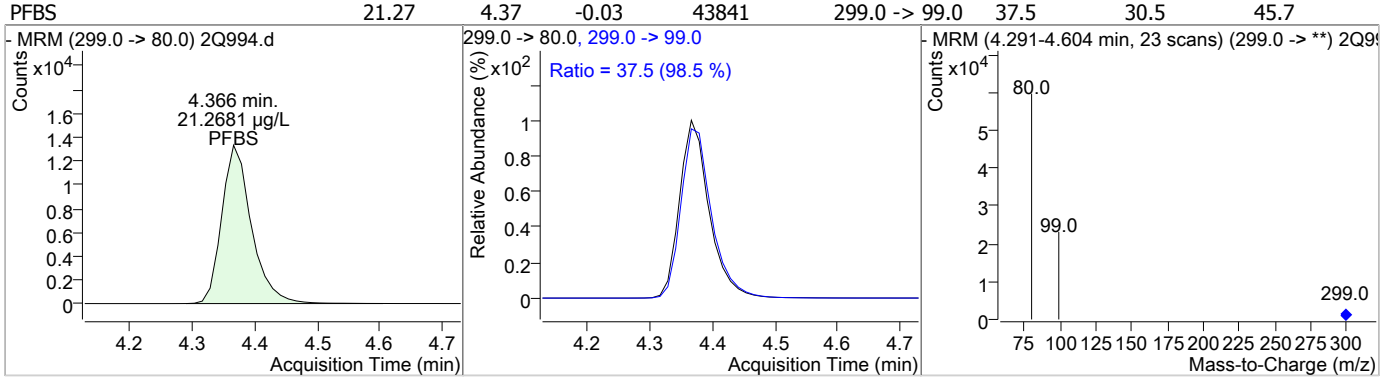
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.40	2.94	-0.04	32450				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	22.88	4.25	-0.03	108629				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	21.27	4.37	-0.03	43841	299.0 -> 99.0	37.5	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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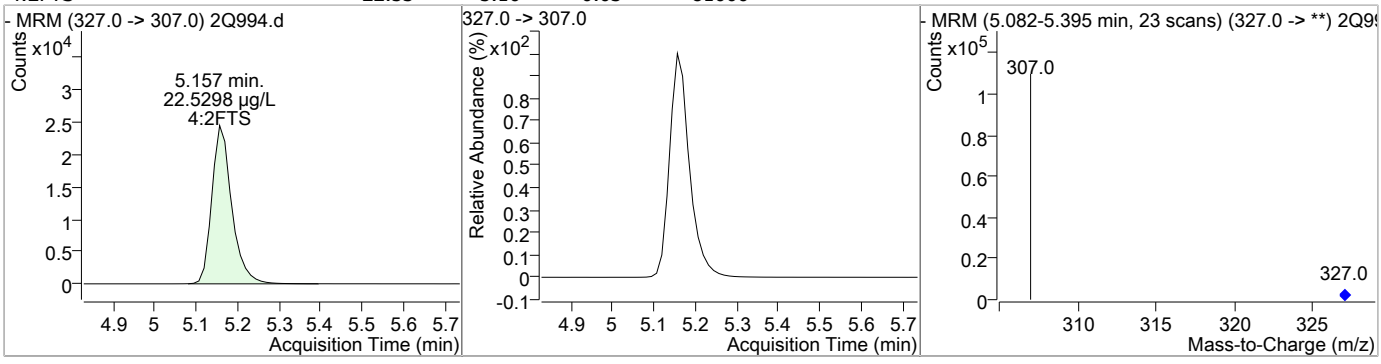
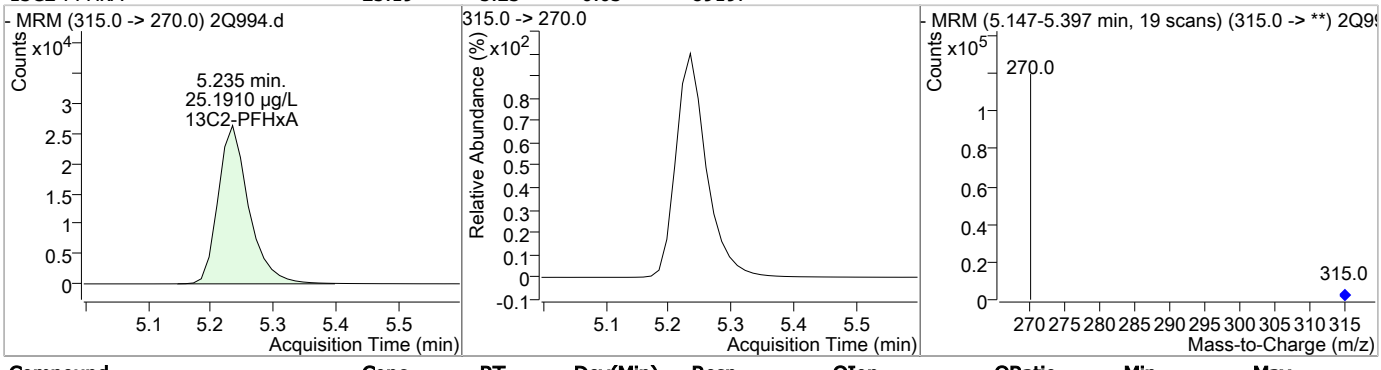
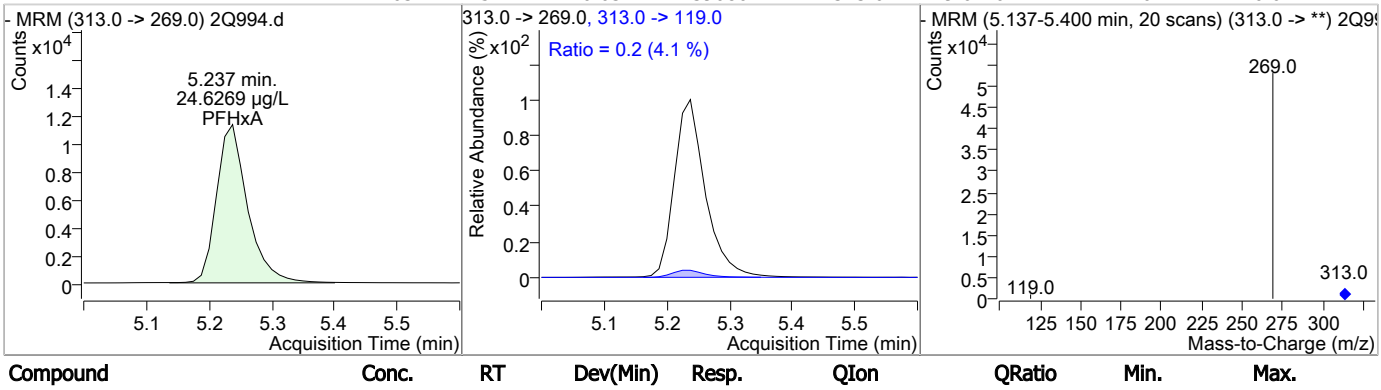
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	22.53	5.16	-0.03	81606				



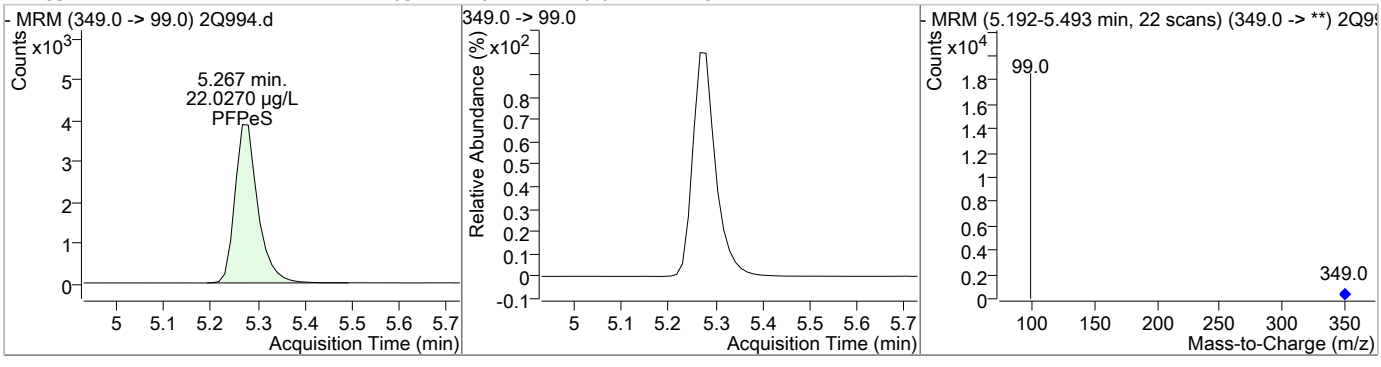
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	25.19	5.23	-0.03	89197				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	24.63	5.24	-0.03	39080	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	22.03	5.27	-0.04	13117				



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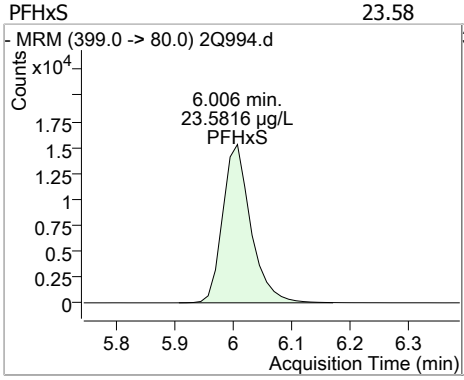
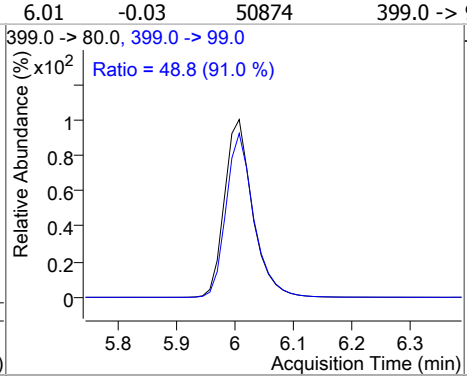
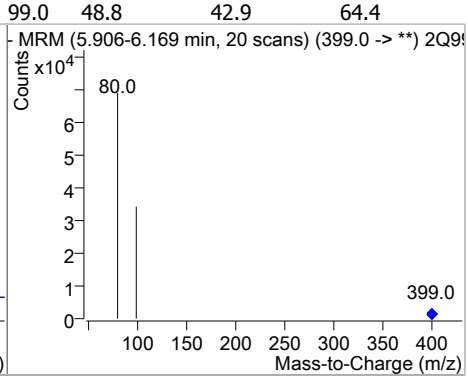
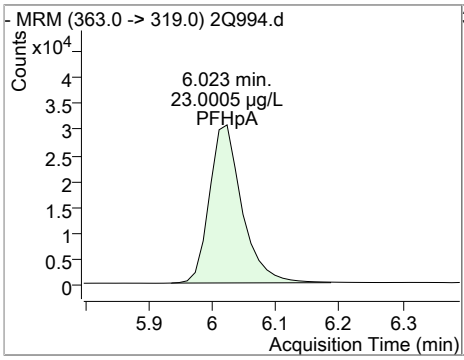
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	23.58	6.01	-0.03	50874	399.0 -> 99.0	48.8	42.9	64.4

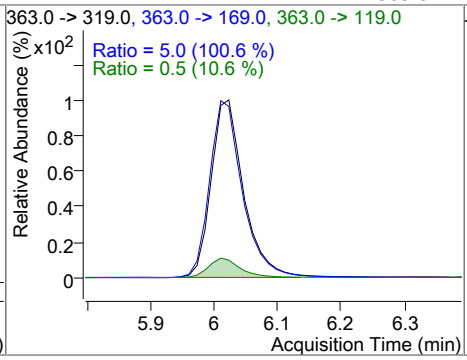


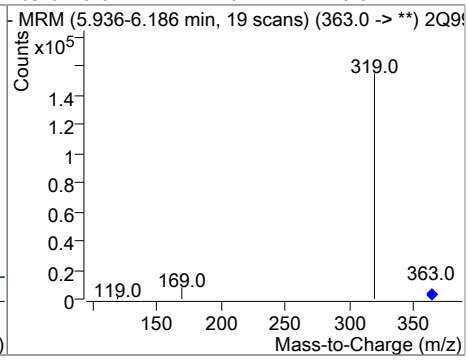




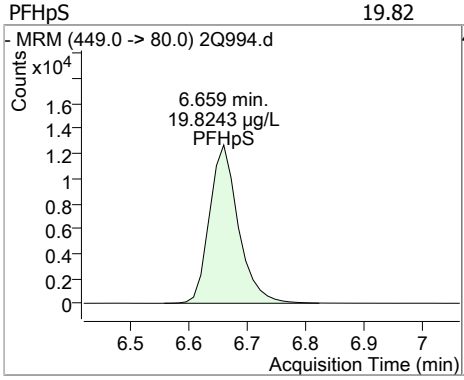
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	23.00	6.02	-0.03	107639	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	5.0	4.0	6.0

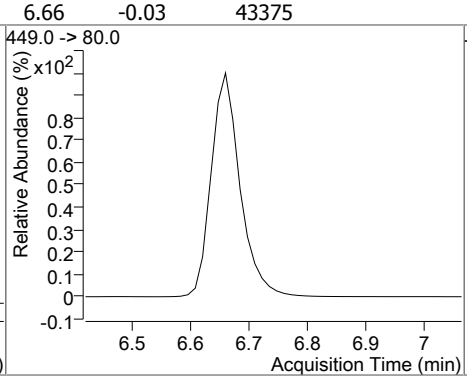


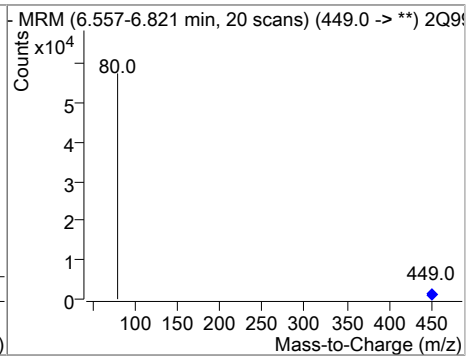




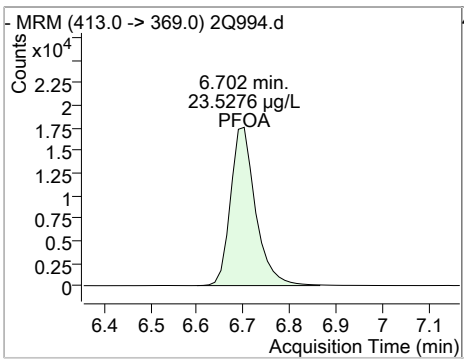
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	19.82	6.66	-0.03	43375				

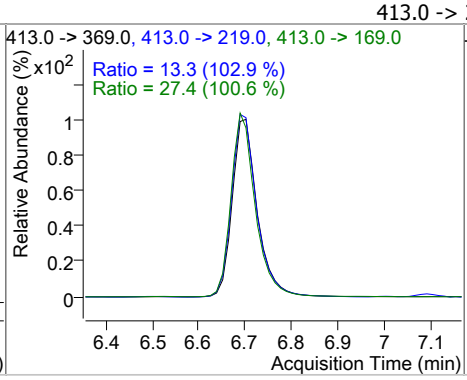


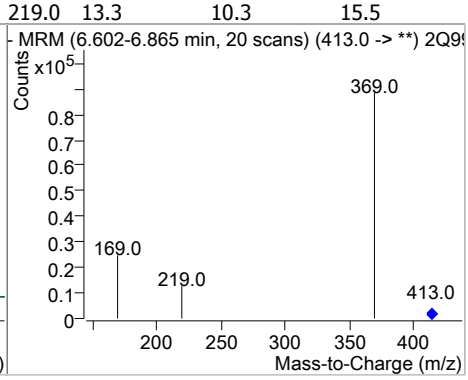




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	23.53	6.70	-0.03	65553	413.0 -> 169.0	27.4	21.8	32.6
					413.0 -> 219.0	13.3	10.3	15.5







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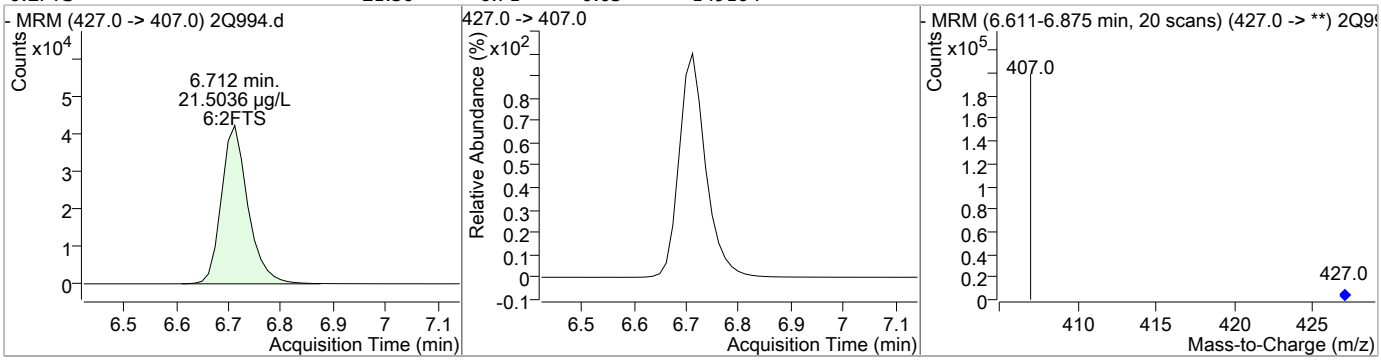
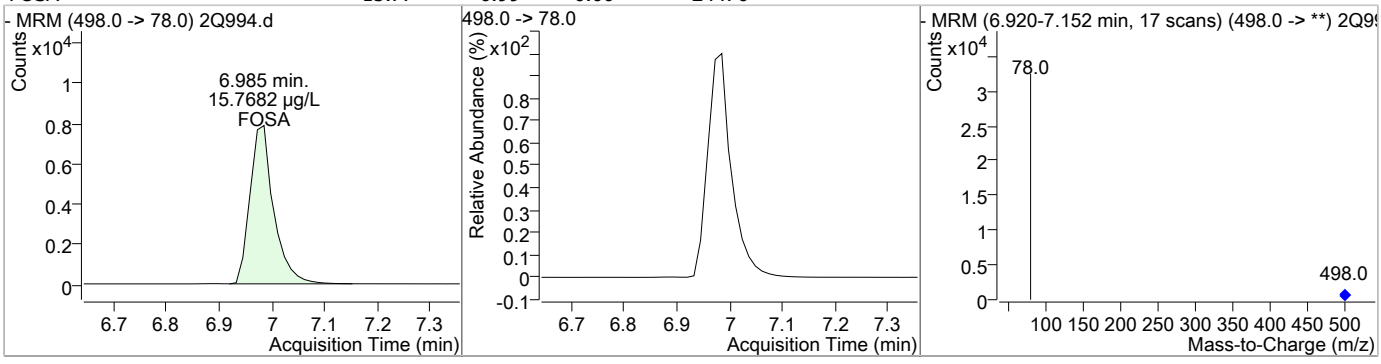
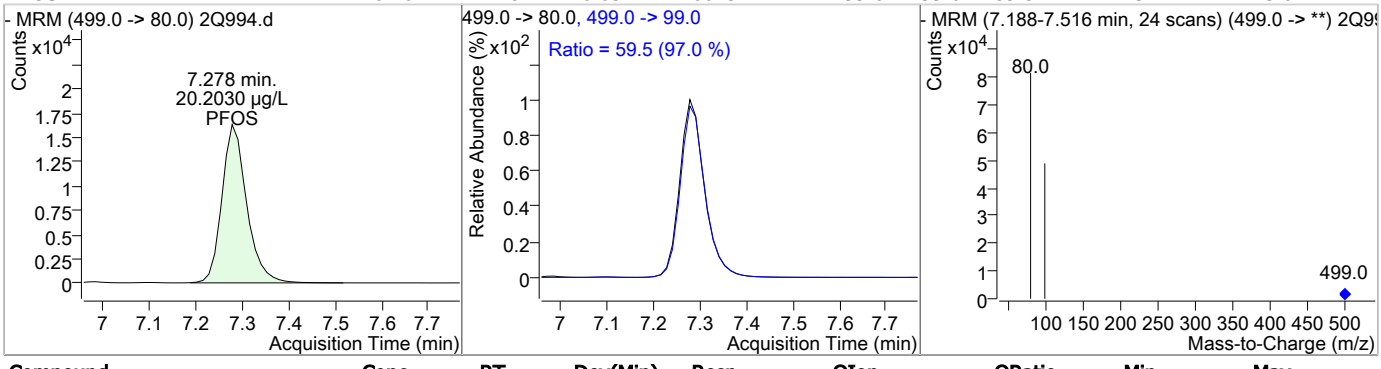
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	21.50	6.71	-0.03	149104				



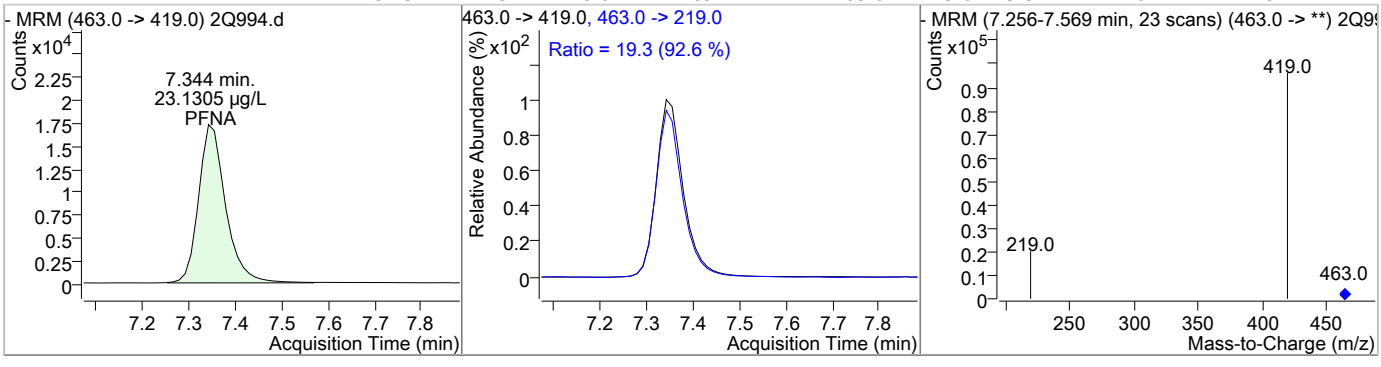
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	15.77	6.99	0.00	24476				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	20.20	7.28	-0.03	60232	499.0 -> 99.0	59.5	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	23.13	7.34	-0.04	69277	463.0 -> 219.0	19.3	16.7	25.1



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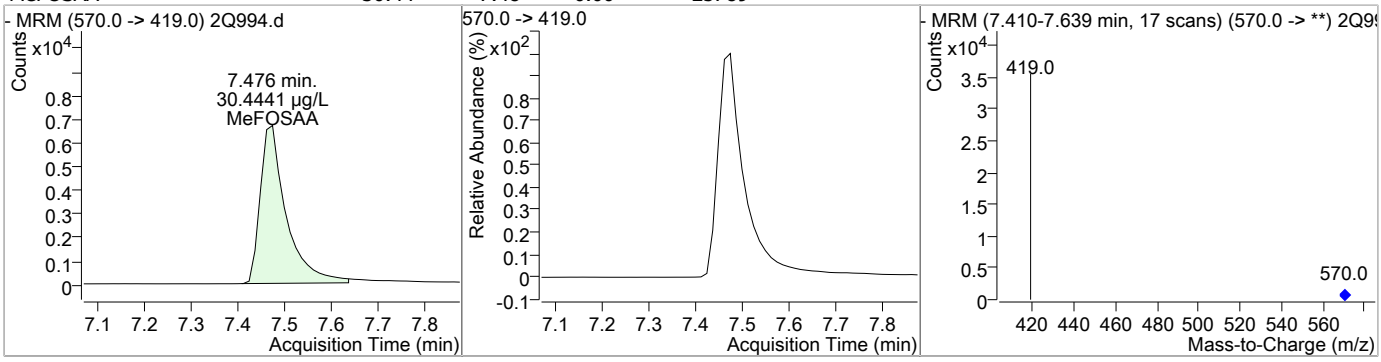
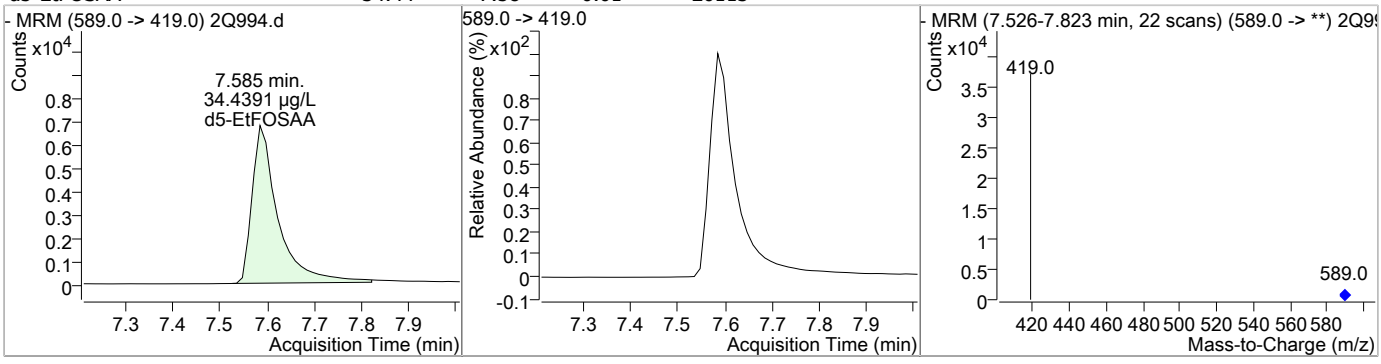
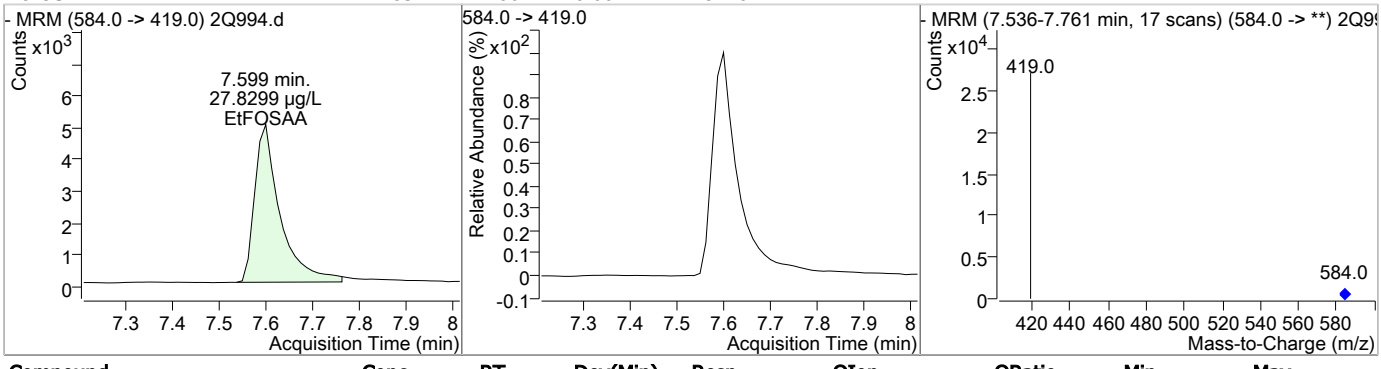
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	30.44	7.48	0.00	25789				



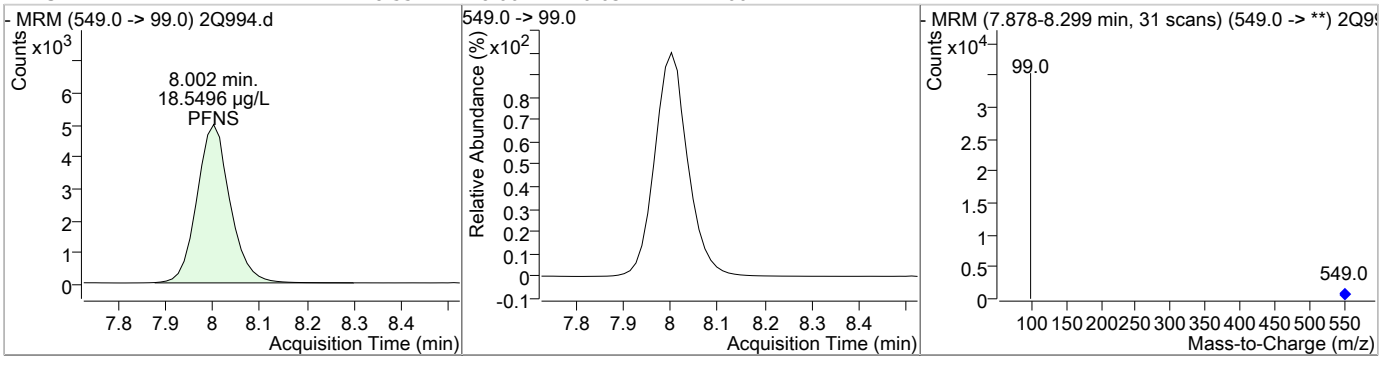
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	34.44	7.58	-0.01	26113				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	27.83	7.60	0.00	18746				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.55	8.00	-0.03	24200				



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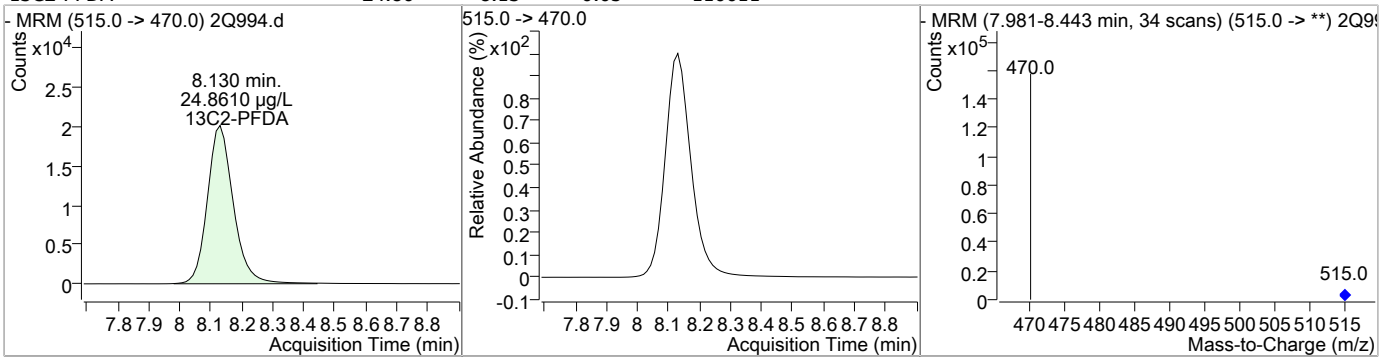
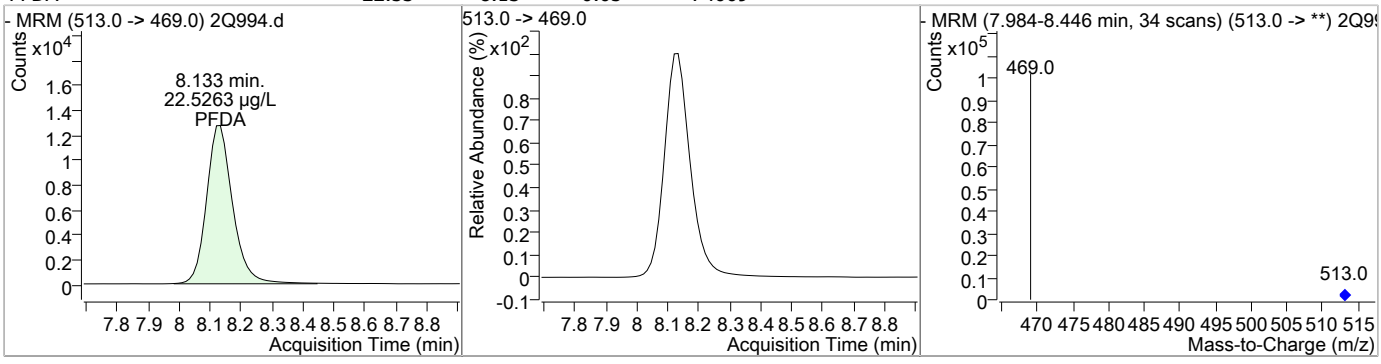
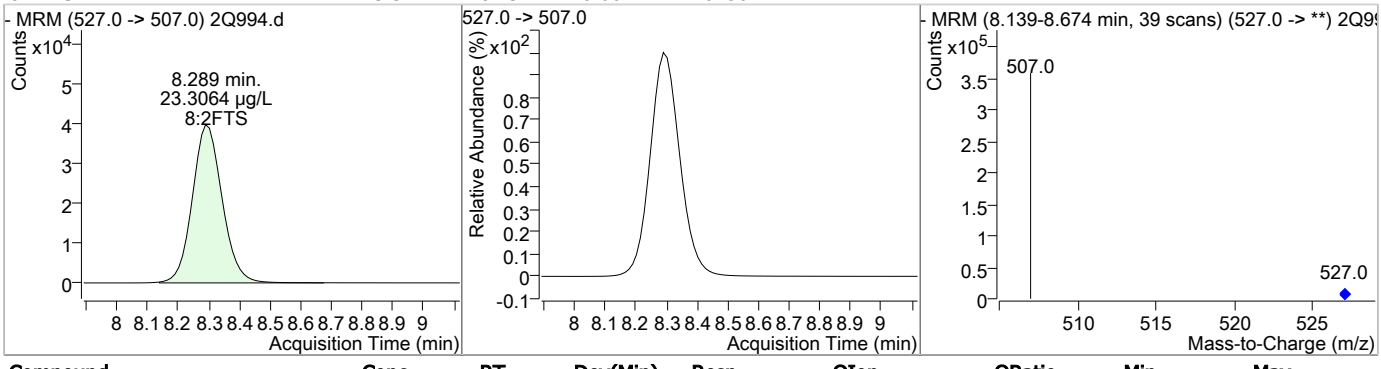
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	24.86	8.13	-0.05	116611				



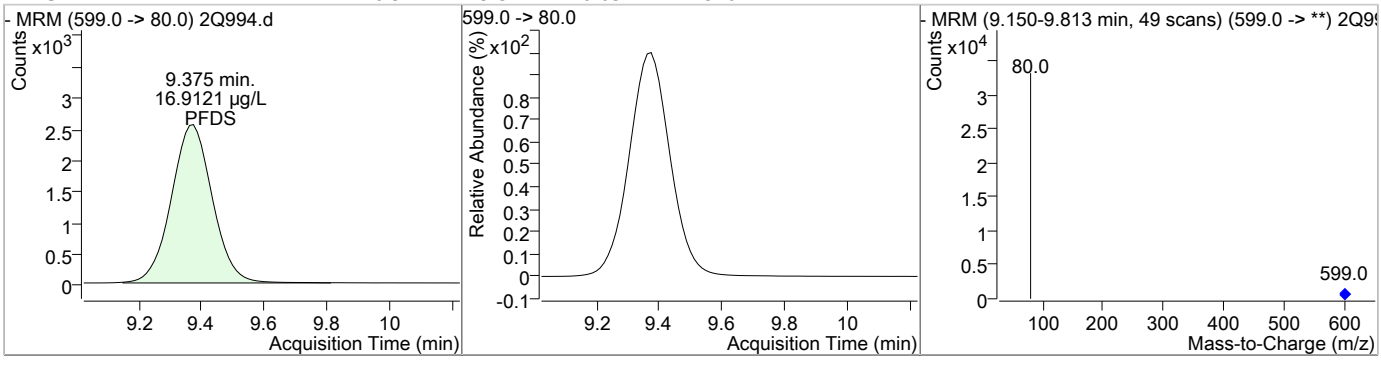
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	22.53	8.13	-0.05	74669				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	23.31	8.29	-0.06	267561				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	16.91	9.37	-0.03	23104				



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Perfluorinated Compounds by LC/MS/MS

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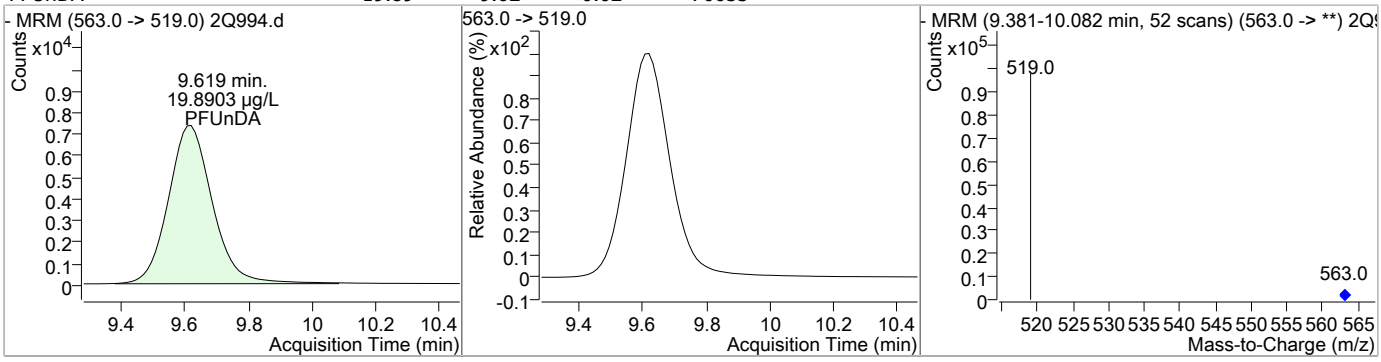
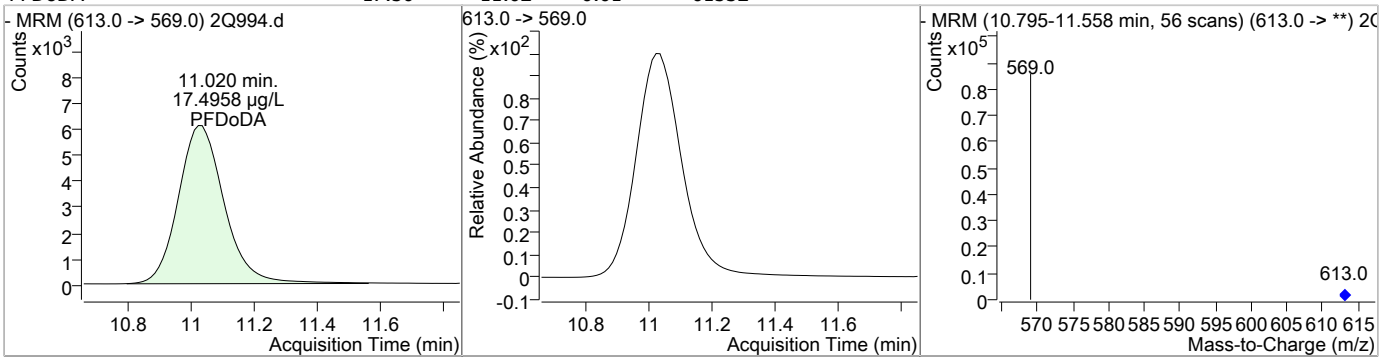
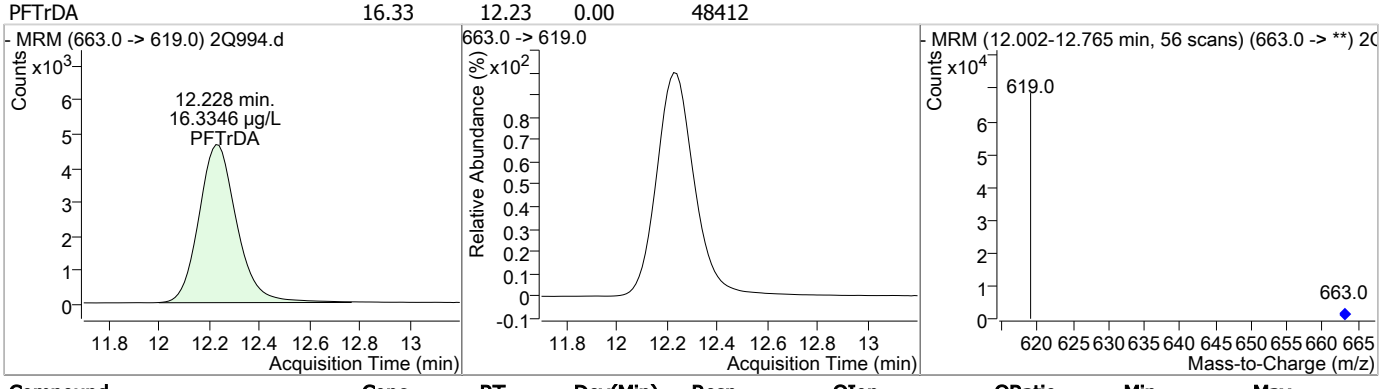
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.89	9.62	-0.02	70653				



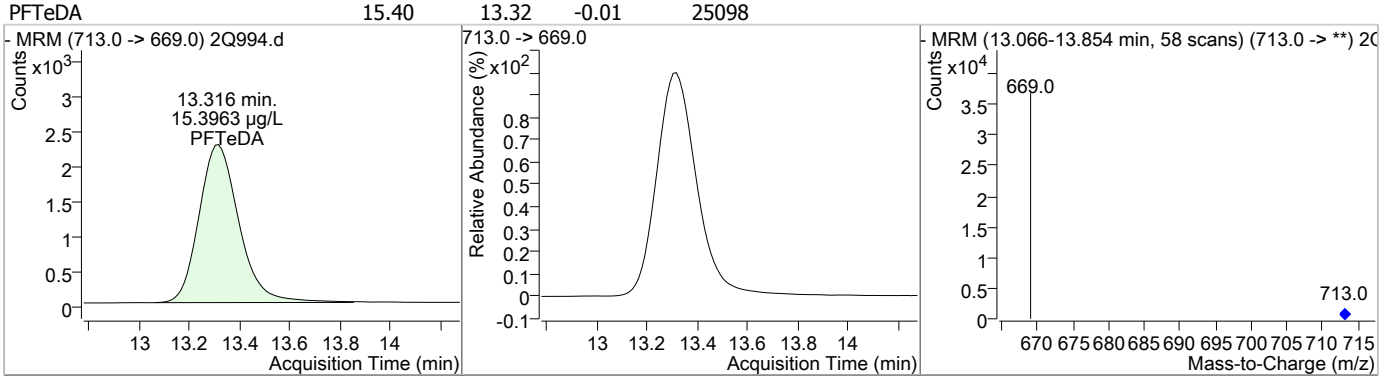
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	17.50	11.02	-0.01	61532				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	16.33	12.23	0.00	48412				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	15.40	13.32	-0.01	25098				



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Perfluorinated Compounds by LC/MS/MS

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Data File	:	2Q936.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 7:26:30 PM
Sample Name	:	OP64835-MS
Vial	:	Vial 24
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	134087	20.00	µg/L		-0.075
13C2-PFDoDA	10.951	615.0 -> 570.0	74341	20.00	µg/L		-0.313
13C2-PFOA	6.701	415.0 -> 370.0	68112	20.00	µg/L		-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	61523	20.00	µg/L		-0.063
13C4-PFOS	7.276	503.0 -> 80.0	49270	20.00	µg/L		-0.088
d3-MeFOSAA	7.462	573.0 -> 419.0	28208	20.00	µg/L		-0.025
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	54308	11.40	µg/L		-0.163
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 57.0%			
13C2-PFHxA	5.235	315.0 -> 270.0	64056	17.80	µg/L		-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 89.0%			
d5-EtFOSAA	7.585	589.0 -> 419.0	10186	15.02	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 75.1%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	79109	23.36	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	151473	23.36	µg/L		100
8:2FTS	8.289	527.0 -> 507.0	224714	20.93	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	7092	11.29	µg/L		100
FOSA	6.973	498.0 -> 78.0	1126	0.74	µg/L		100
MeFOSAA	7.463	570.0 -> 419.0	10061	13.16	µg/L		100
PFBA	2.940	213.0 -> 169.0	28352	15.82	µg/L		100
PFBS	4.366	299.0 -> 80.0	38704	19.69	µg/L		100
PFDA	8.133	513.0 -> 469.0	36768	10.92	µg/L		100
PFDoDA	10.958	613.0 -> 569.0	37215	11.68	µg/L		100
PFDS	9.325	599.0 -> 80.0	16477	12.79	µg/L		100
PFHpA	6.023	363.0 -> 319.0	84336	17.87	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	43865	21.02	µg/L		100
PFHxA	5.237	313.0 -> 269.0	30540	19.17	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	44324	21.54	µg/L		94
PFNA	7.344	463.0 -> 419.0	43225	14.20	µg/L		98
PFNS	8.002	549.0 -> 99.0	17628	14.17	µg/L		100
PFOA	6.702	413.0 -> 369.0	48160	17.01	µg/L		99
PFOS	7.278	499.0 -> 80.0	44379	15.61	µg/L		98
PFPeA	4.250	263.0 -> 219.0	86543	18.54	µg/L		100
PFPeS	5.267	349.0 -> 99.0	13295	22.70	µg/L		100
PFTeDA	13.241	713.0 -> 669.0	21878	14.64	µg/L		100
PFTrDA	12.152	663.0 -> 619.0	37518	13.88	µg/L		100
PFUnDA	9.569	563.0 -> 519.0	31231	9.57	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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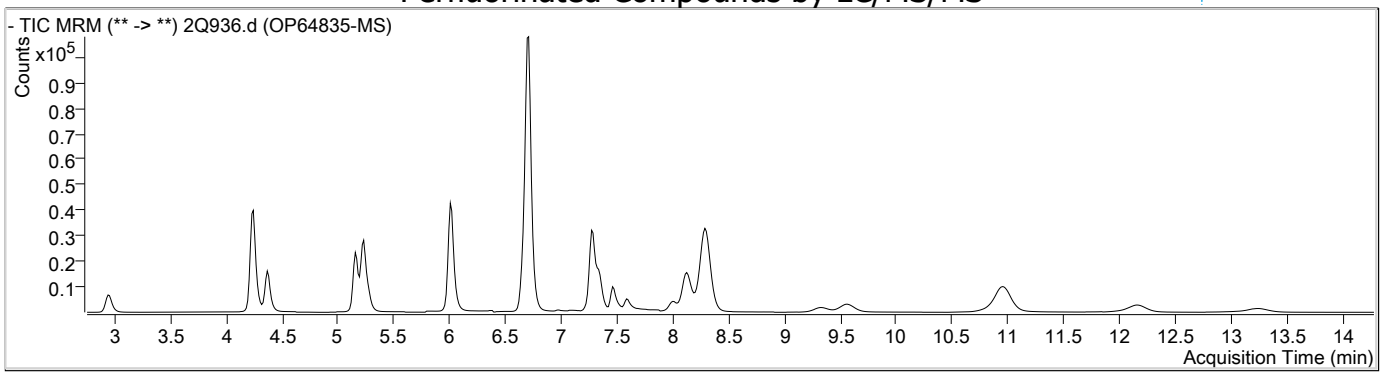
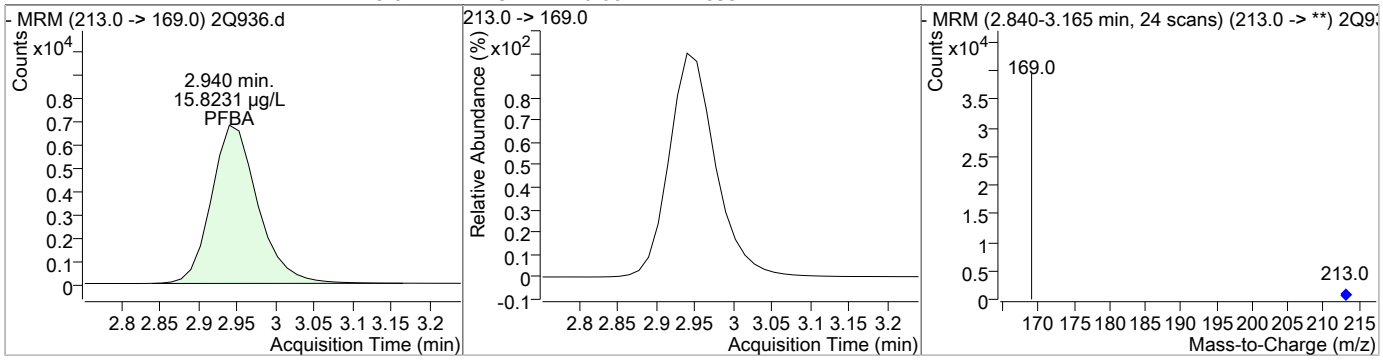
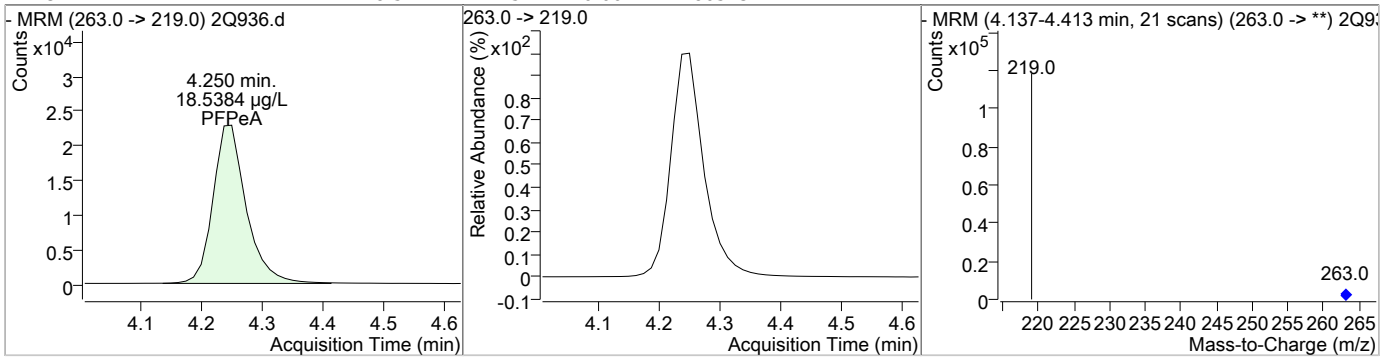


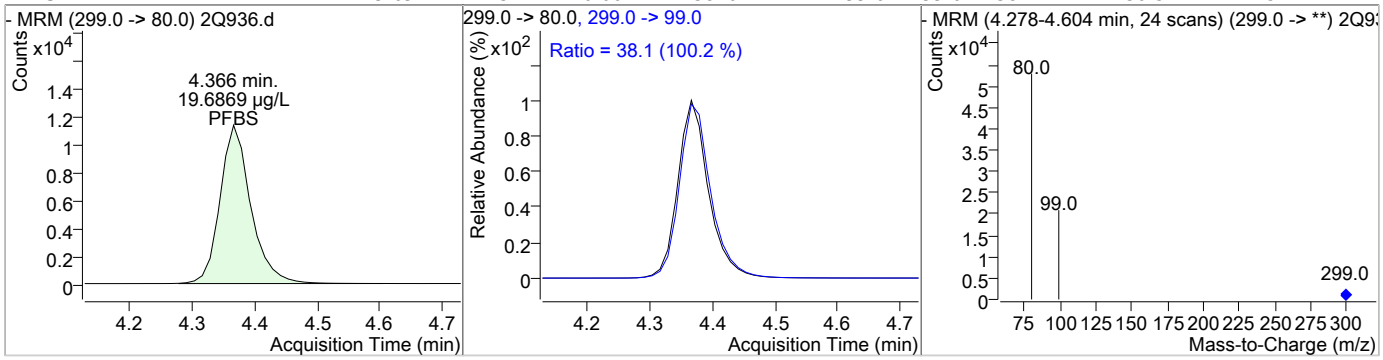
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	15.82	2.94	-0.06	28352				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.54	4.25	-0.06	86543				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.69	4.37	-0.06	38704	299.0 -> 99.0	38.1	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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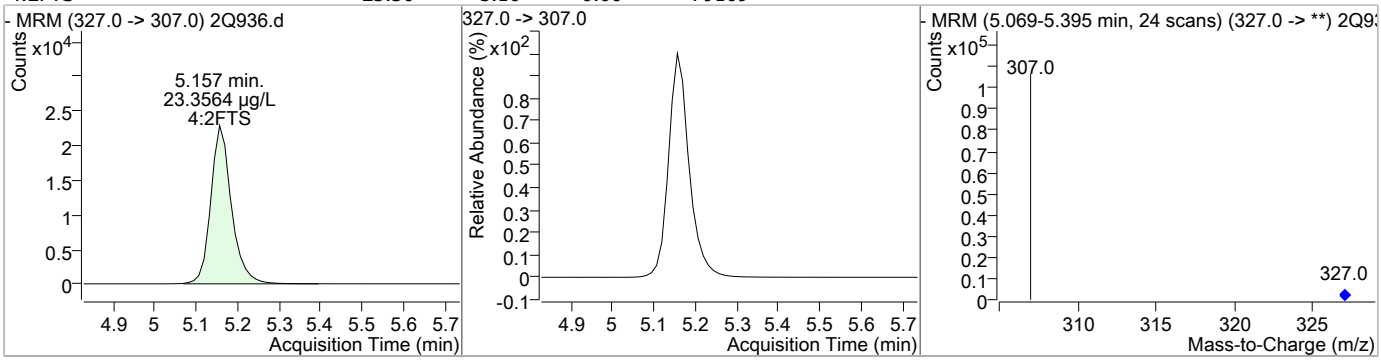
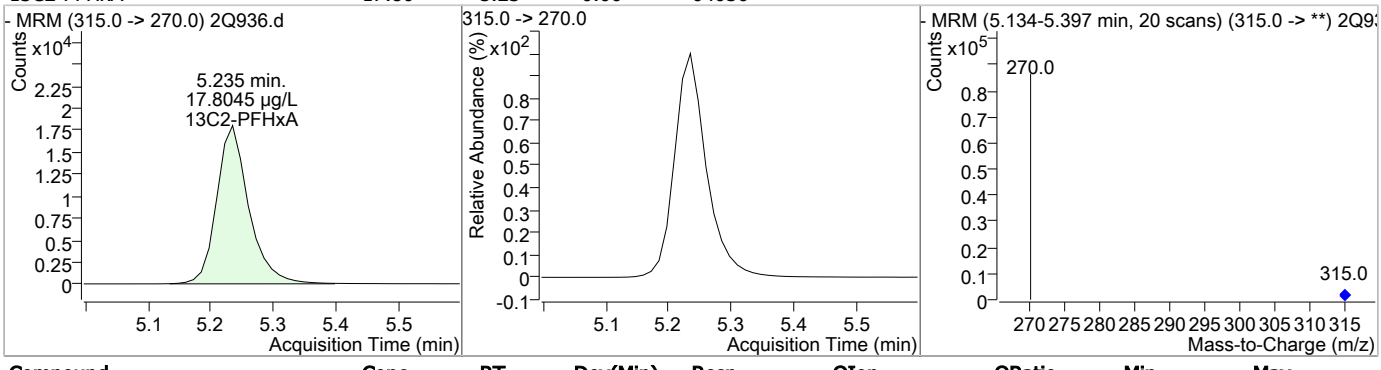
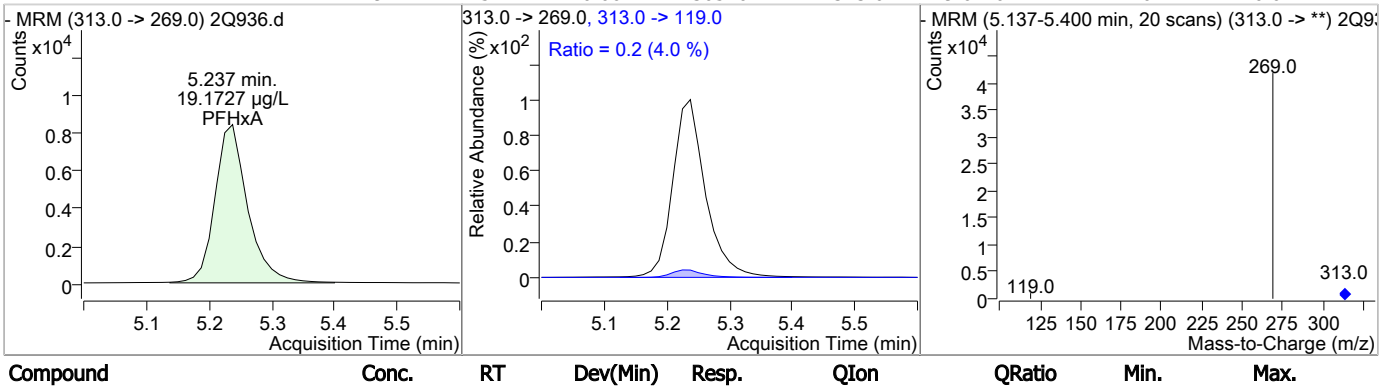
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	23.36	5.16	-0.06	79109				



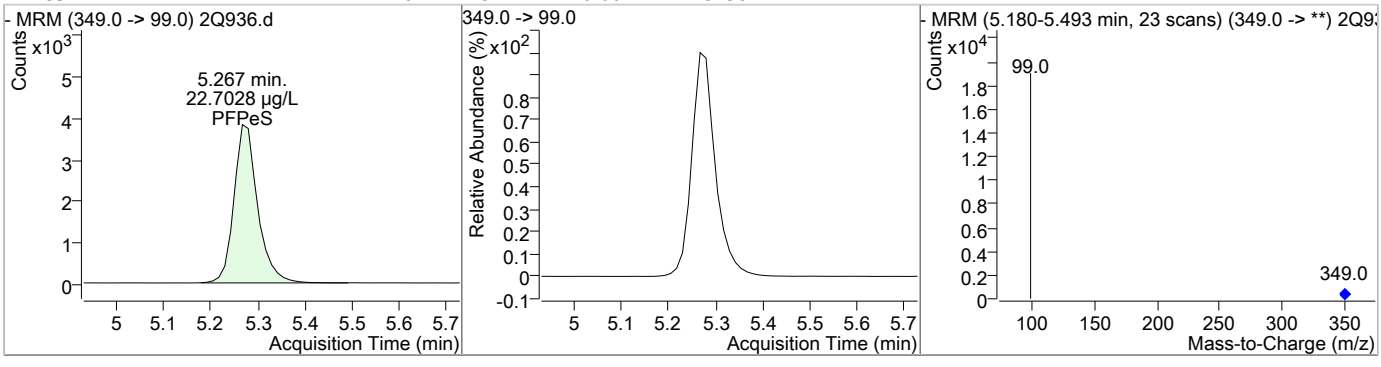
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.80	5.23	-0.06	64056				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.17	5.24	-0.06	30540	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	22.70	5.27	-0.06	13295				



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Perfluorinated Compounds by LC/MS/MS

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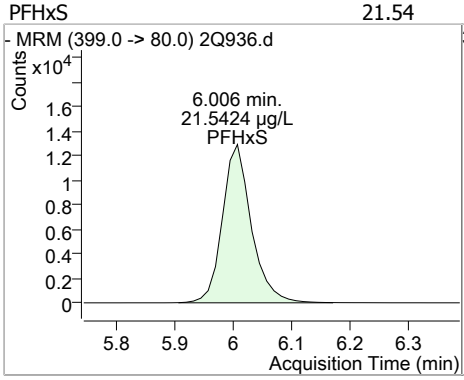
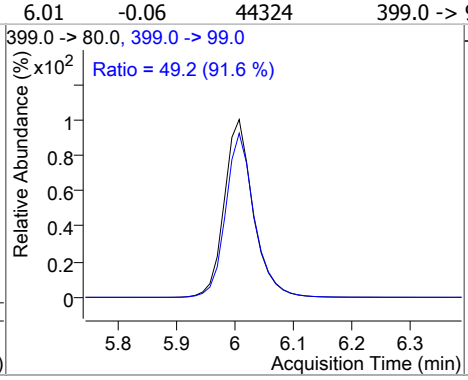
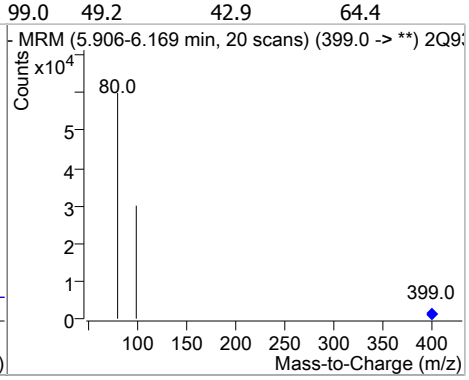
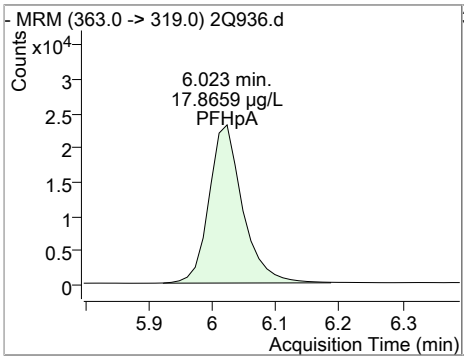
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	21.54	6.01	-0.06	44324	399.0 -> 99.0	49.2	42.9	64.4

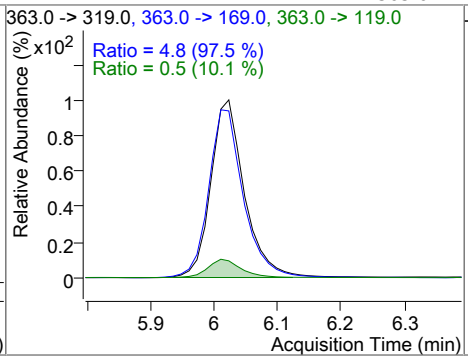


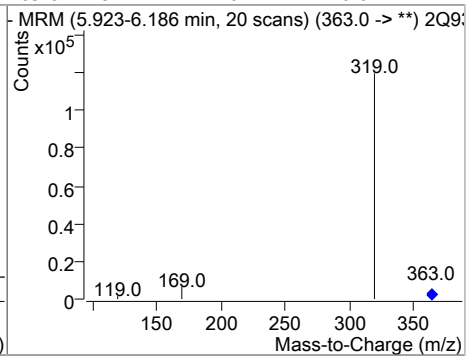




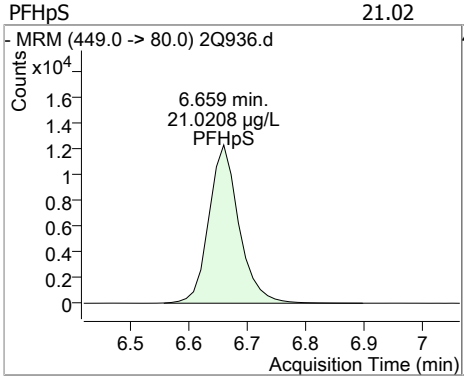
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	17.87	6.02	-0.06	84336	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.8	4.0	6.0

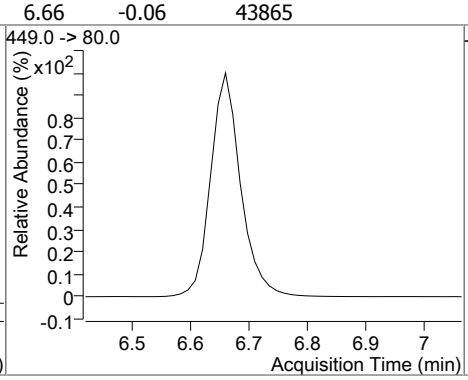


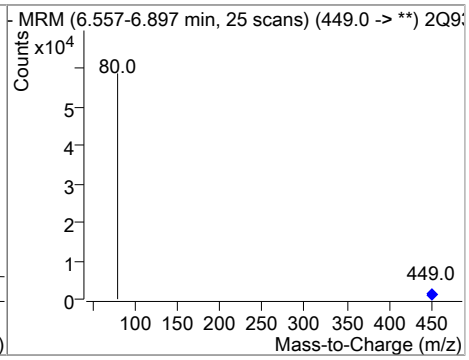




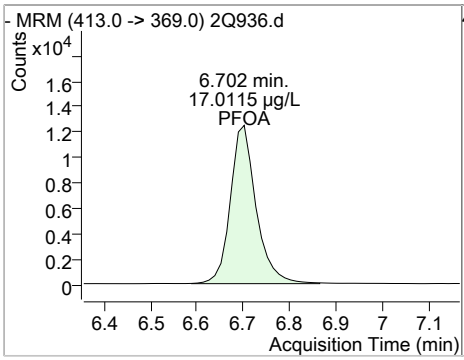
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	21.02	6.66	-0.06	43865				

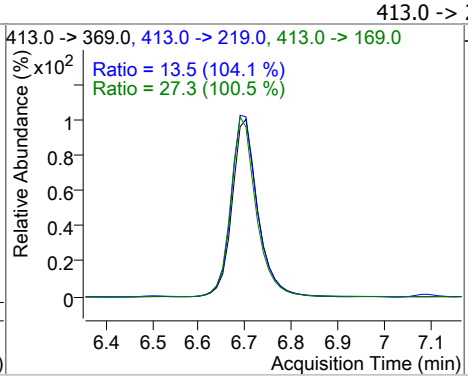


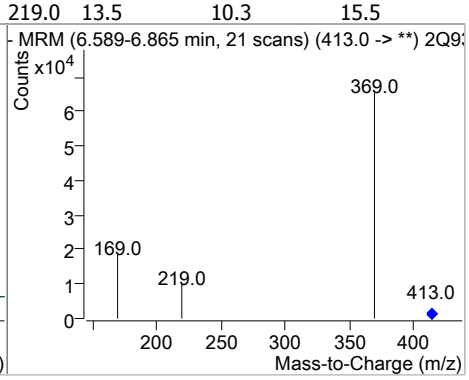




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	17.01	6.70	-0.06	48160	413.0 -> 169.0	27.3	21.8	32.6
					413.0 -> 219.0	13.5	10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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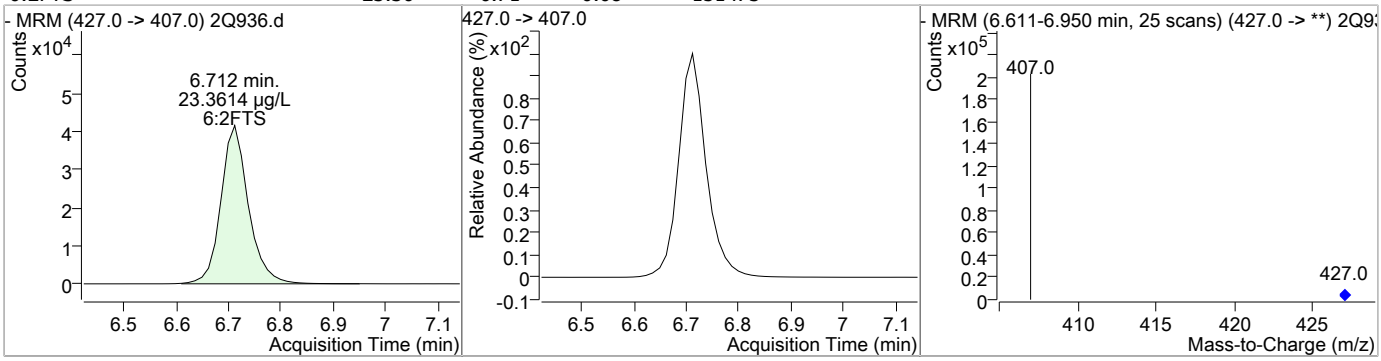
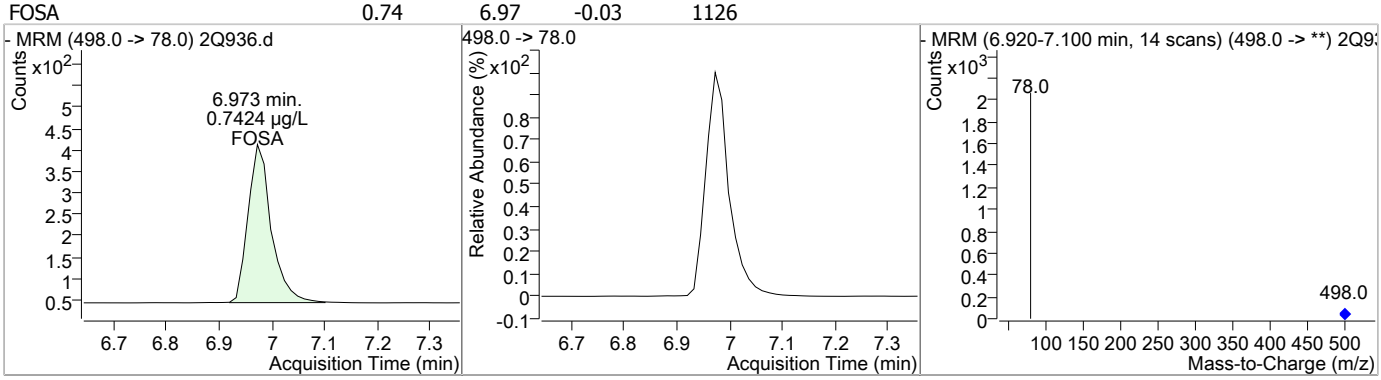
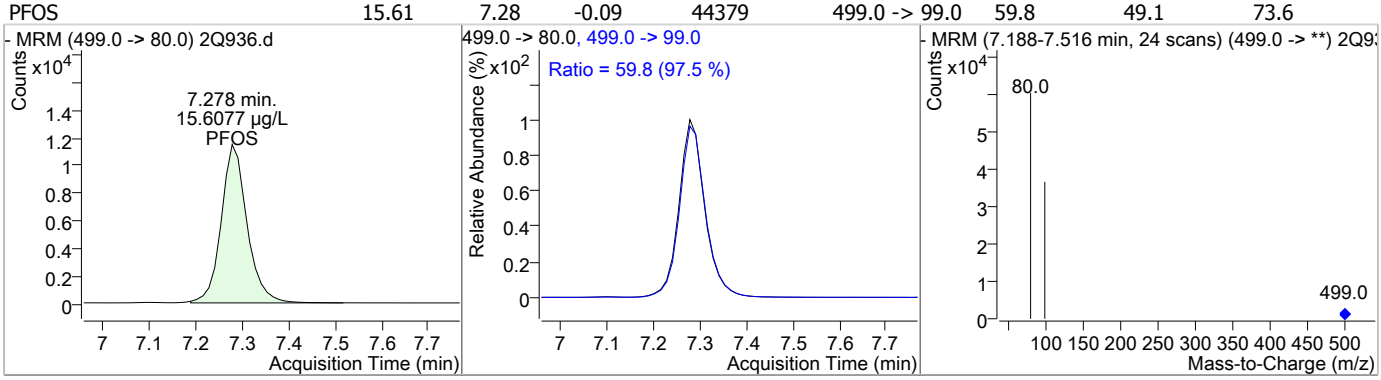
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	23.36	6.71	-0.08	151473				



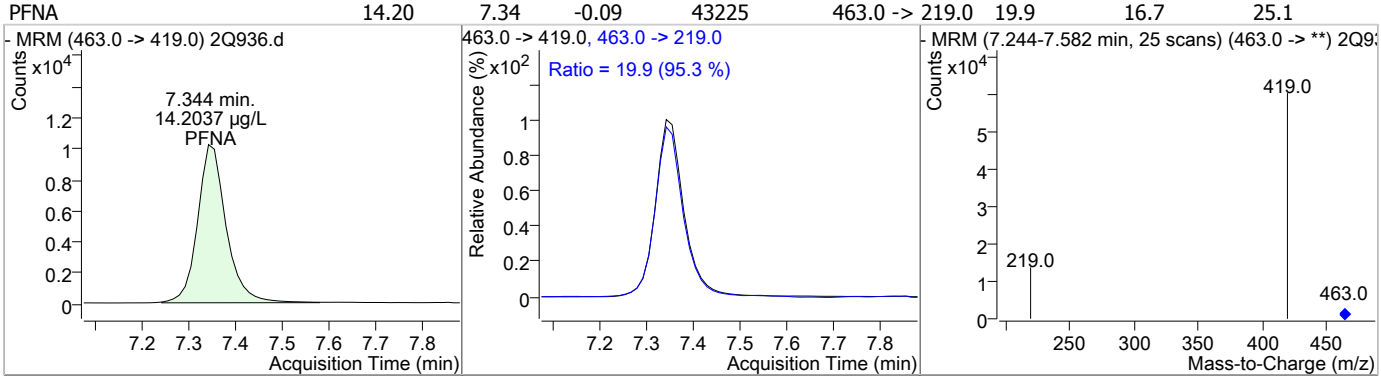
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.74	6.97	-0.03	1126				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	15.61	7.28	-0.09	44379	499.0 -> 99.0	59.8	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	14.20	7.34	-0.09	43225	463.0 -> 219.0	19.9	16.7	25.1



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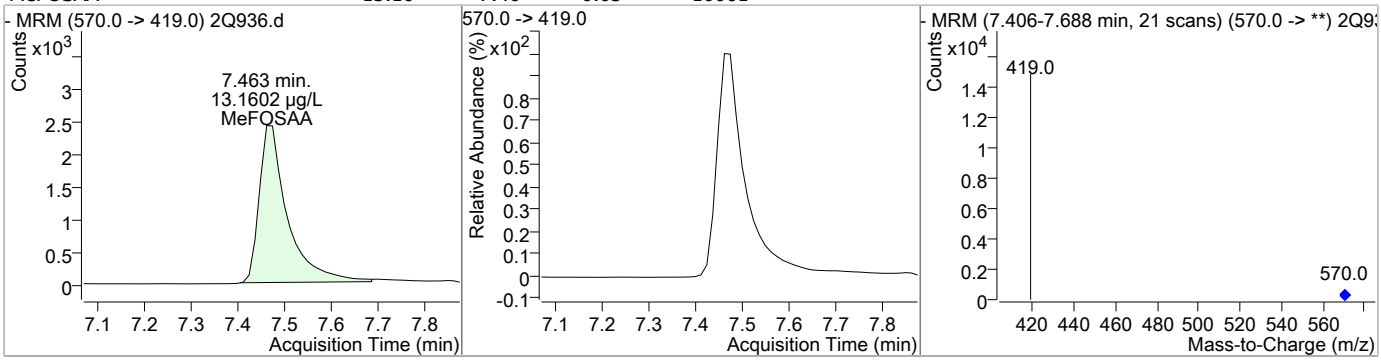
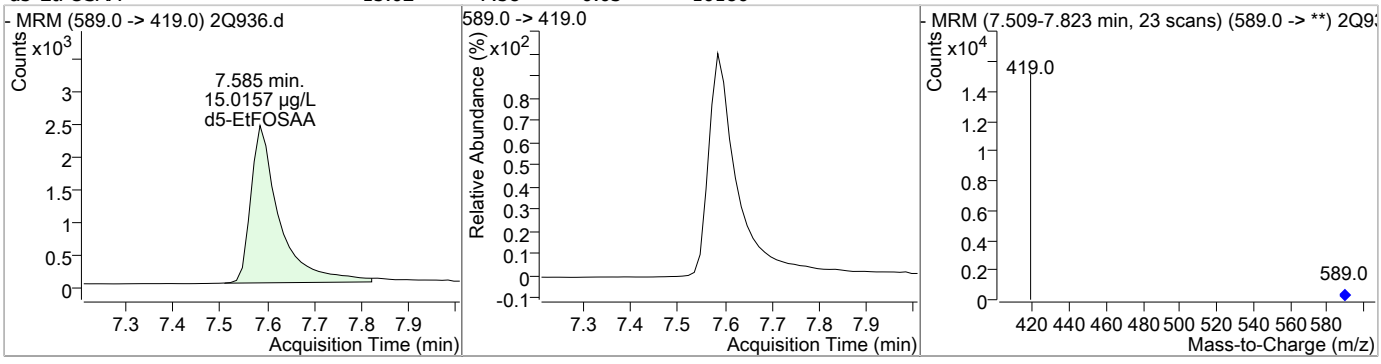
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

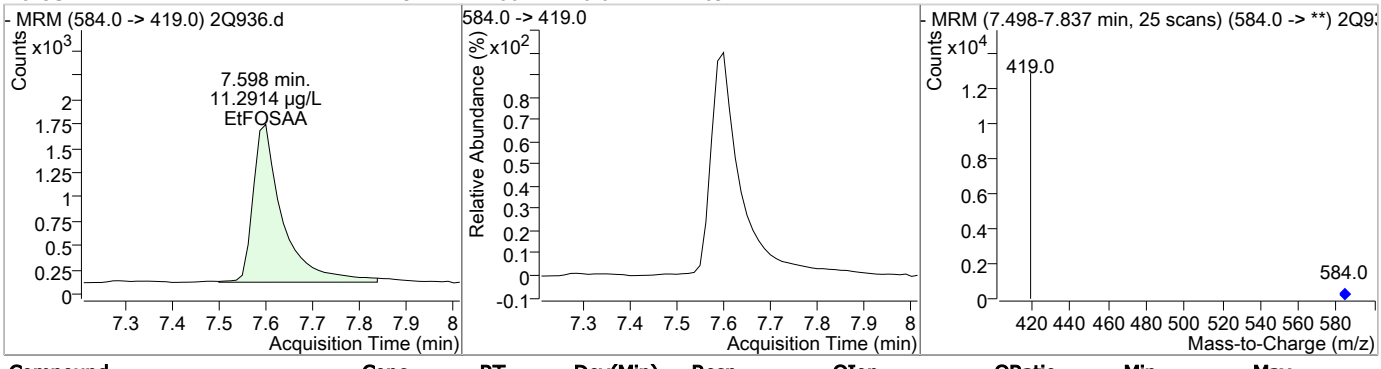
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	13.16	7.46	-0.03	10061				



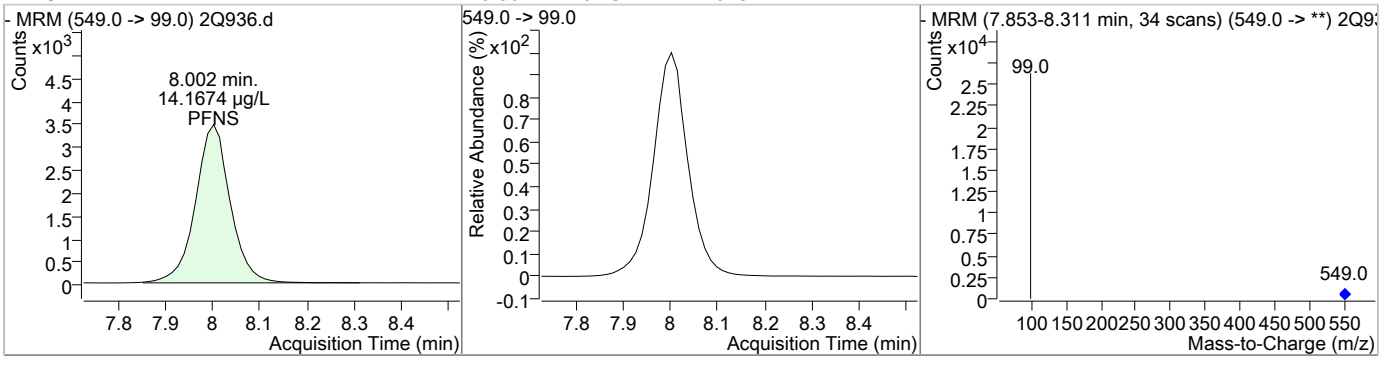
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	15.02	7.58	-0.03	10186				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	11.29	7.60	-0.01	7092				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	14.17	8.00	-0.13	17628				



Perfluorinated Compounds by LC/MS/MS

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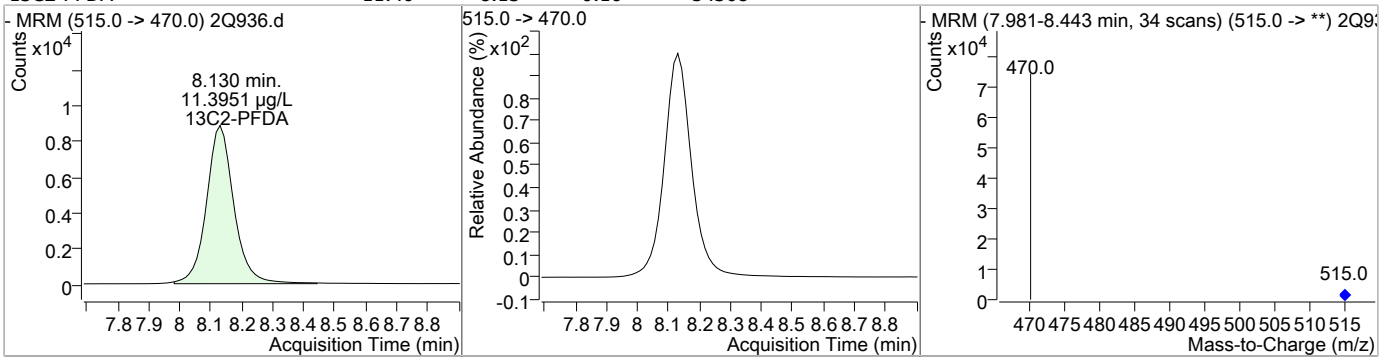
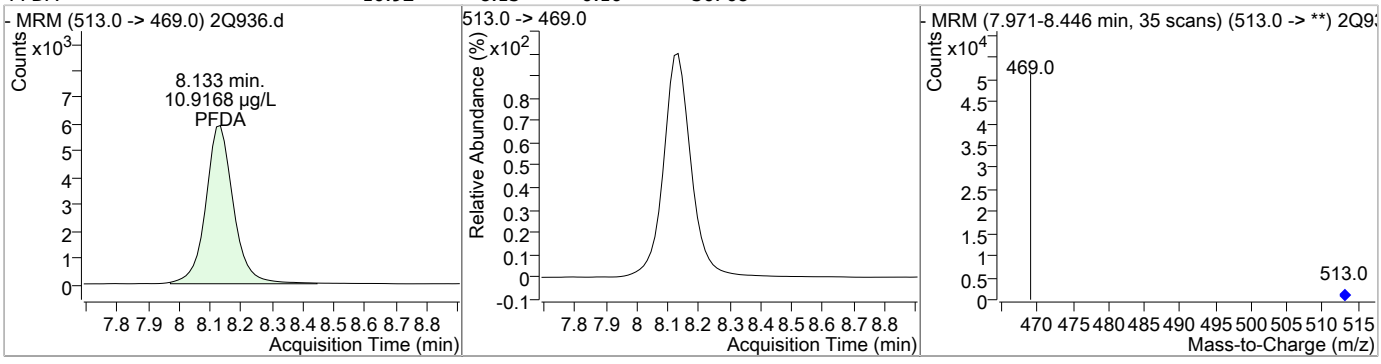
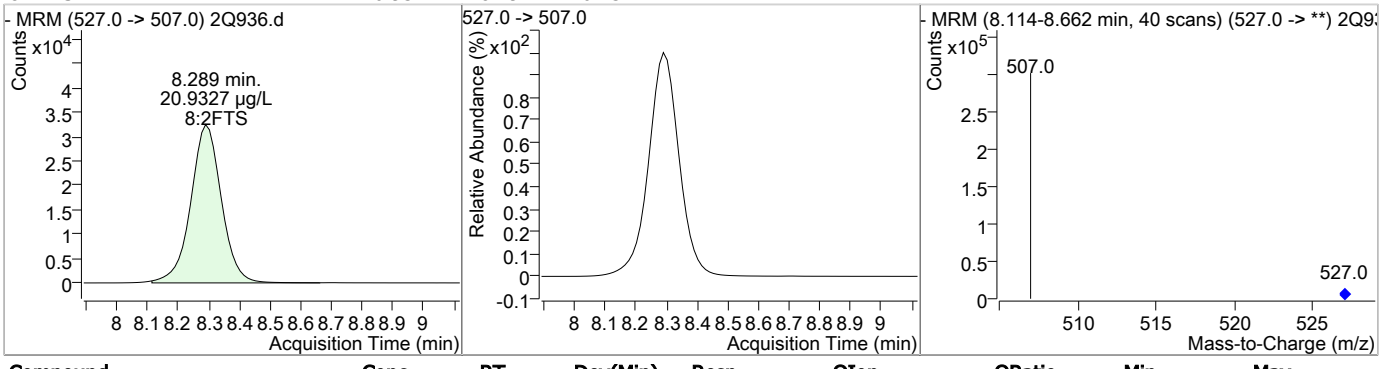
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	11.40	8.13	-0.16	54308				



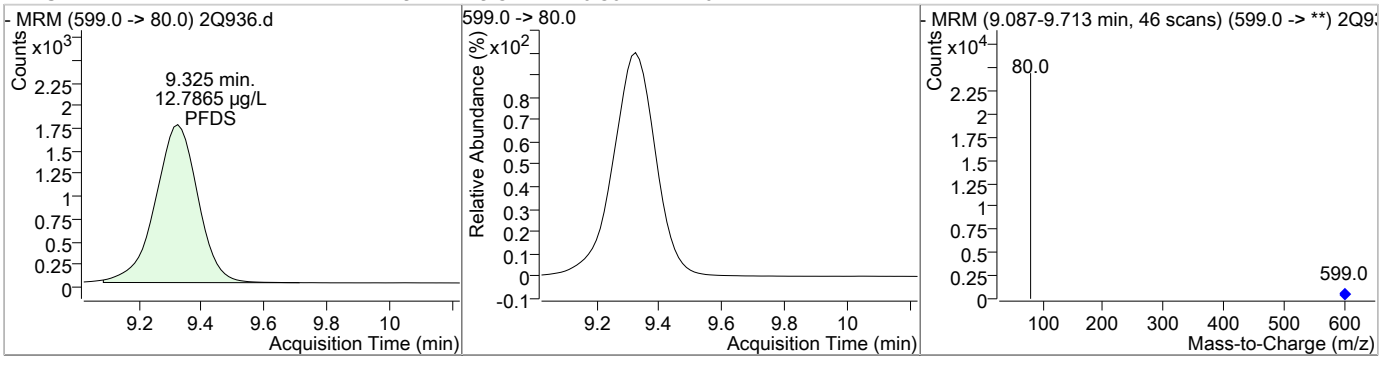
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	10.92	8.13	-0.16	36768				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.93	8.29	-0.23	224714				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	12.79	9.32	-0.30	16477				



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Perfluorinated Compounds by LC/MS/MS

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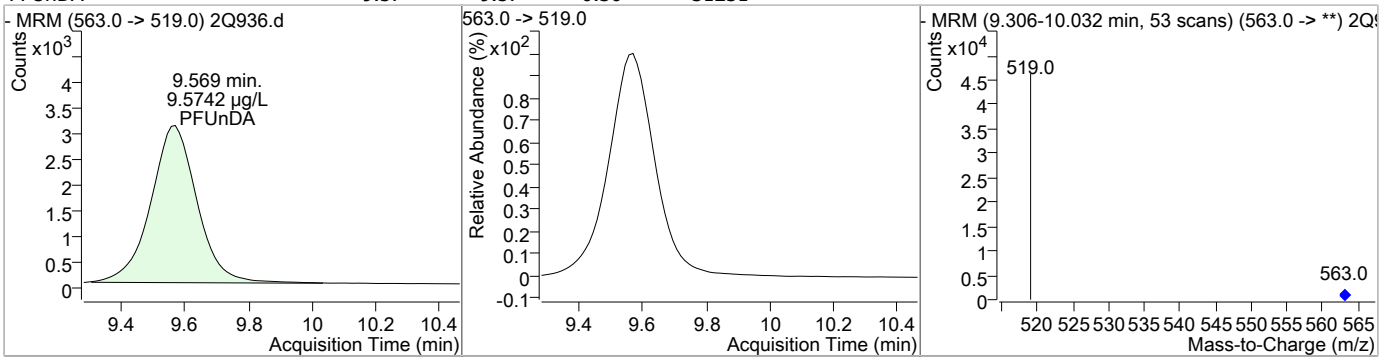
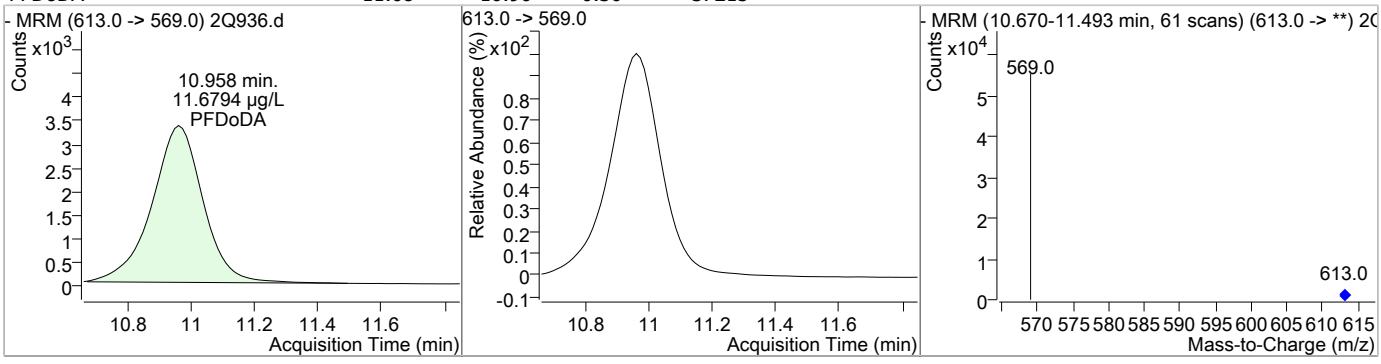
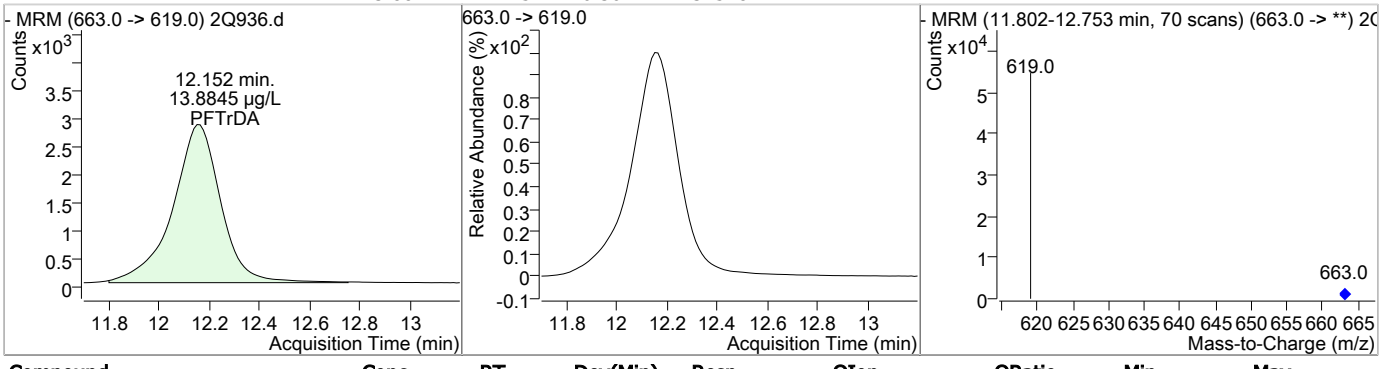
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	9.57	9.57	-0.30	31231				



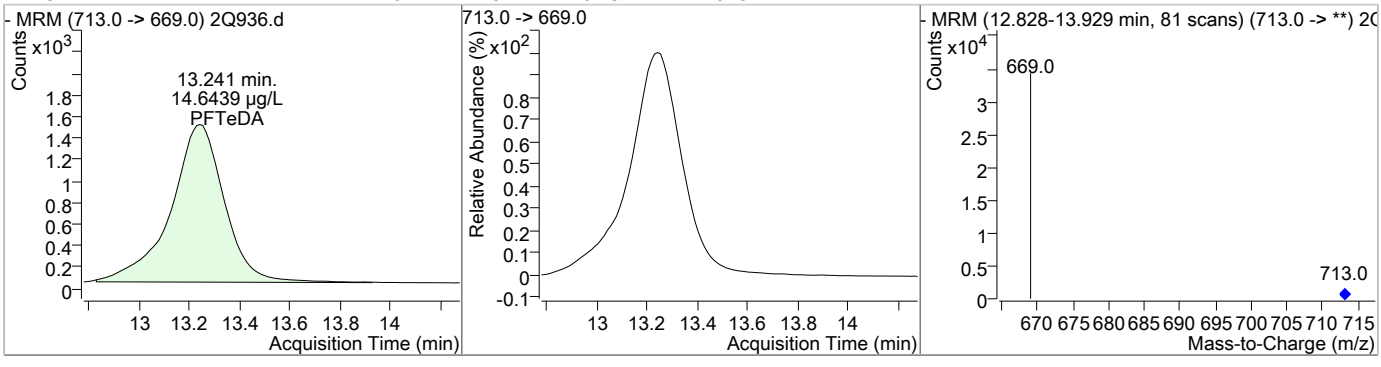
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	11.68	10.96	-0.30	37215				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	13.88	12.15	-0.30	37518				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	14.64	13.24	-0.29	21878				



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Perfluorinated Compounds by LC/MS/MS

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Data File	:	2Q937.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 7:46:17 PM
Sample Name	:	OP64835-MSD
Vial	:	Vial 25
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	134618	20.00	µg/L		-0.075
13C2-PFDoDA	10.964	615.0 -> 570.0	75902	20.00	µg/L		-0.300
13C2-PFOA	6.701	415.0 -> 370.0	67912	20.00	µg/L		-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	61709	20.00	µg/L		-0.063
13C4-PFOS	7.276	503.0 -> 80.0	49481	20.00	µg/L		-0.088
d3-MeFOSAA	7.462	573.0 -> 419.0	27475	20.00	µg/L		-0.025
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	45353	9.54	µg/L		-0.163
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 47.7%			
13C2-PFHxA	5.235	315.0 -> 270.0	59032	16.46	µg/L		-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 82.3%			
d5-EtFOSAA	7.585	589.0 -> 419.0	8673	13.24	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 66.2%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	75274	22.14	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	142635	21.91	µg/L		100
8:2FTS	8.289	527.0 -> 507.0	209507	19.44	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	6750	11.04	µg/L		100
FOSA	6.973	498.0 -> 78.0	841	0.57	µg/L		100
MeFOSAA	7.463	570.0 -> 419.0	9852	13.23	µg/L		100
PFBA	2.940	213.0 -> 169.0	26235	14.69	µg/L		100
PFBS	4.366	299.0 -> 80.0	37999	19.25	µg/L		99
PFDA	8.133	513.0 -> 469.0	30494	9.08	µg/L		100
PFDoDA	10.958	613.0 -> 569.0	30655	9.47	µg/L		100
PFDS	9.325	599.0 -> 80.0	17081	13.18	µg/L		100
PFHpA	6.023	363.0 -> 319.0	76944	16.38	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	40737	19.44	µg/L		100
PFHxA	5.237	313.0 -> 269.0	27812	17.57	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	43089	20.85	µg/L		94
PFNA	7.344	463.0 -> 419.0	36641	12.08	µg/L		100
PFNS	8.002	549.0 -> 99.0	18346	14.68	µg/L		100
PFOA	6.702	413.0 -> 369.0	42251	14.97	µg/L		98
PFOS	7.278	499.0 -> 80.0	44657	15.64	µg/L		97
PFPeA	4.238	263.0 -> 219.0	79354	16.95	µg/L		100
PFPeS	5.267	349.0 -> 99.0	12689	21.60	µg/L		100
PFTeDA	13.241	713.0 -> 669.0	19040	12.55	µg/L		100
PFTrDA	12.153	663.0 -> 619.0	31135	11.37	µg/L		100
PFUnDA	9.569	563.0 -> 519.0	26925	8.08	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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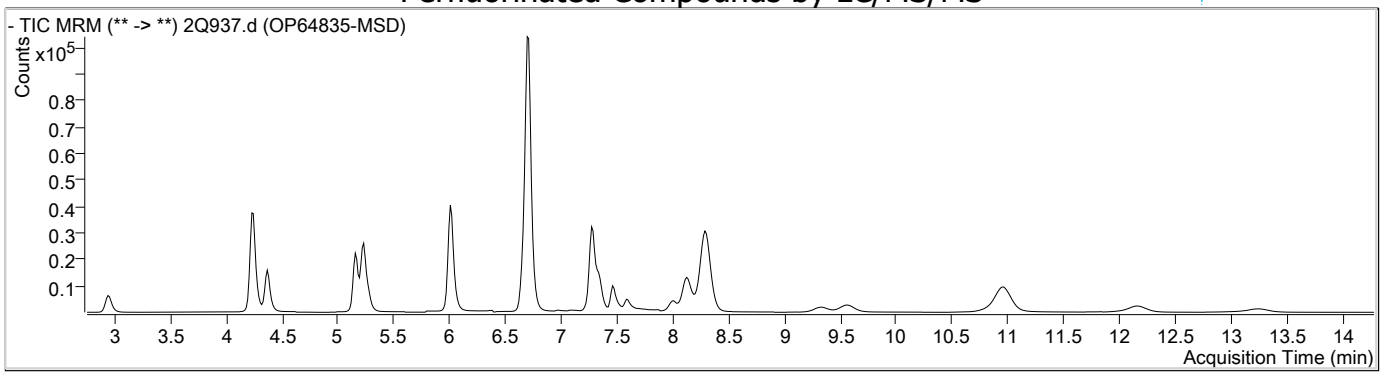
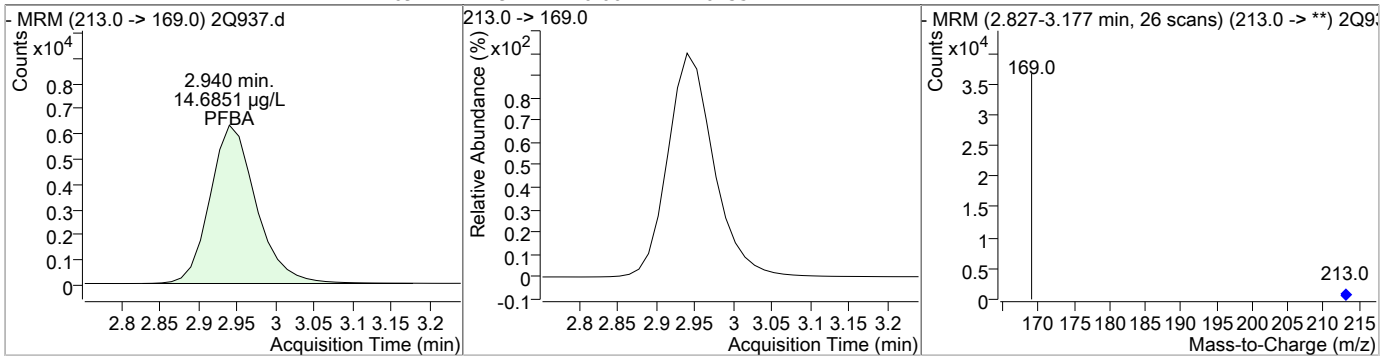
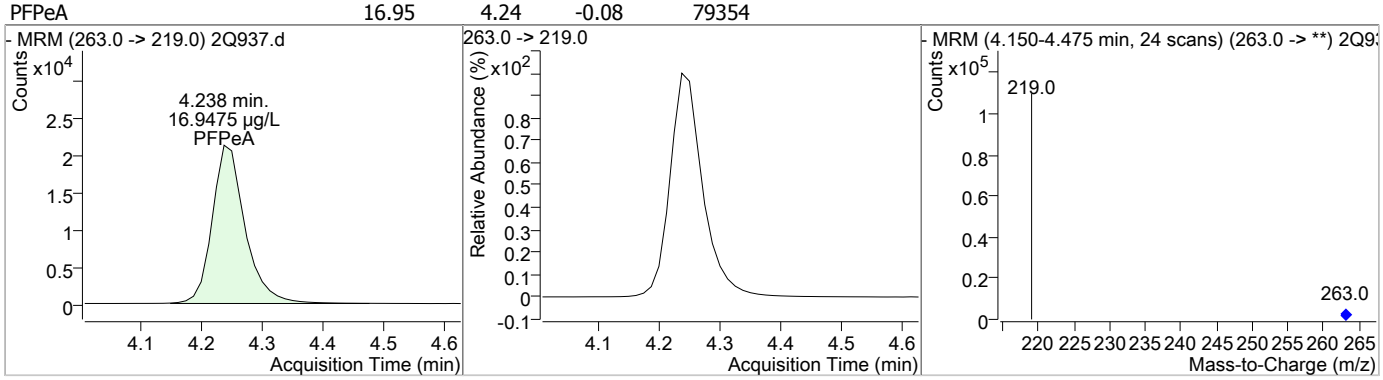


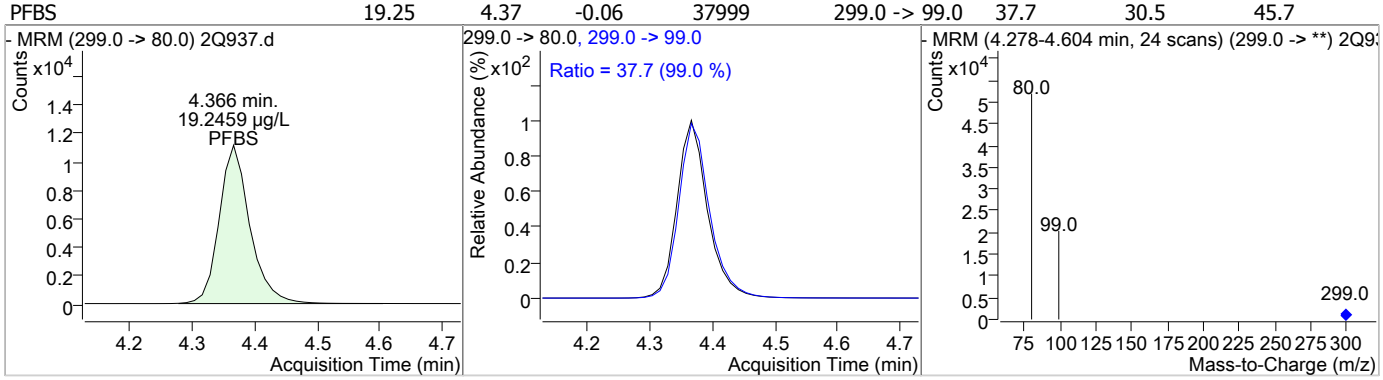
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	14.69	2.94	-0.06	26235				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	16.95	4.24	-0.08	79354				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.25	4.37	-0.06	37999	299.0 -> 99.0	37.7	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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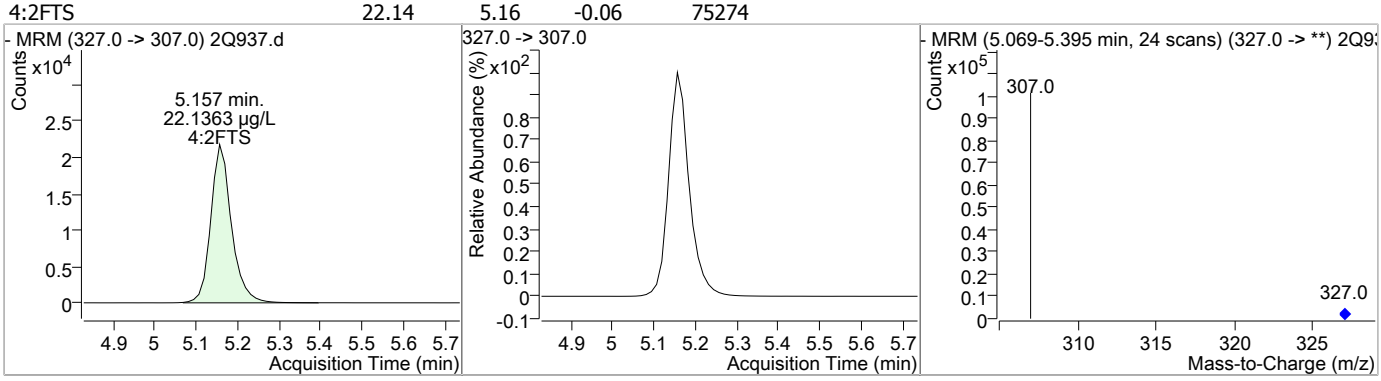
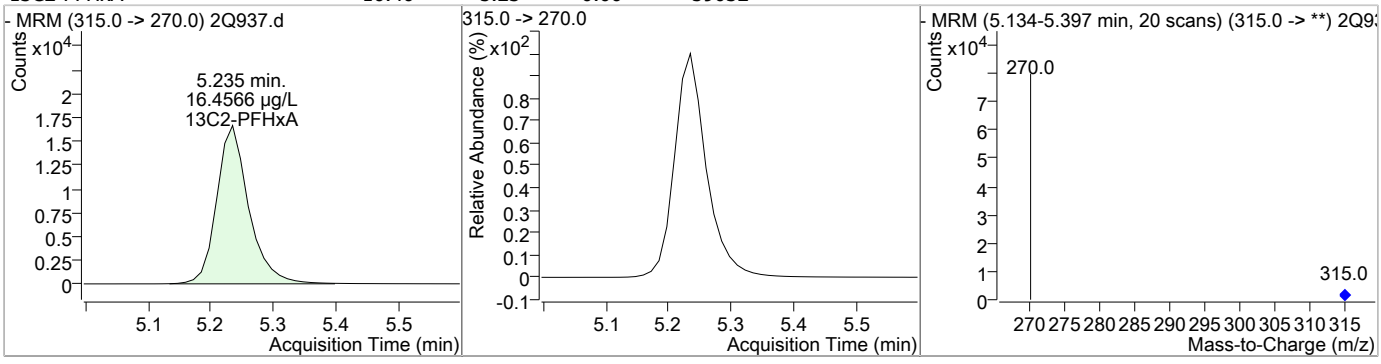
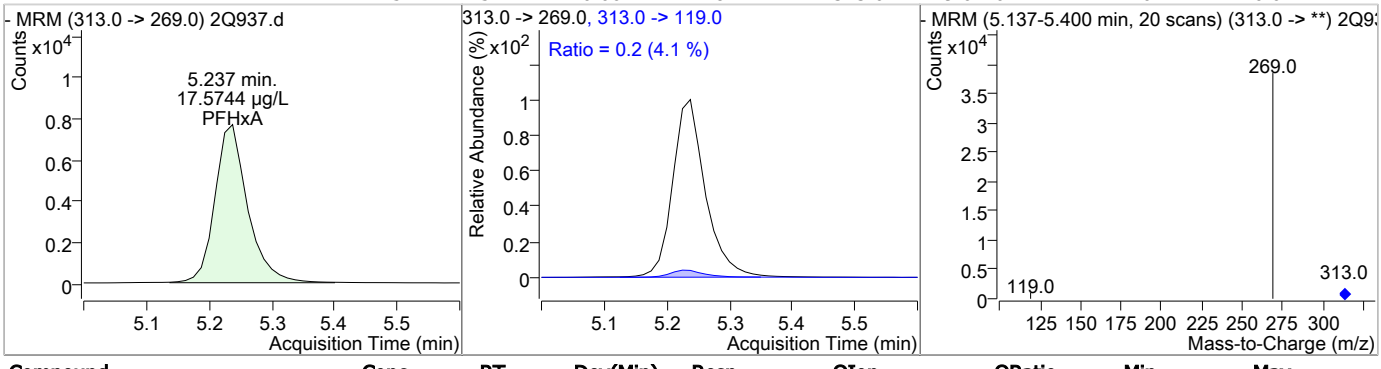
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	22.14	5.16	-0.06	75274				



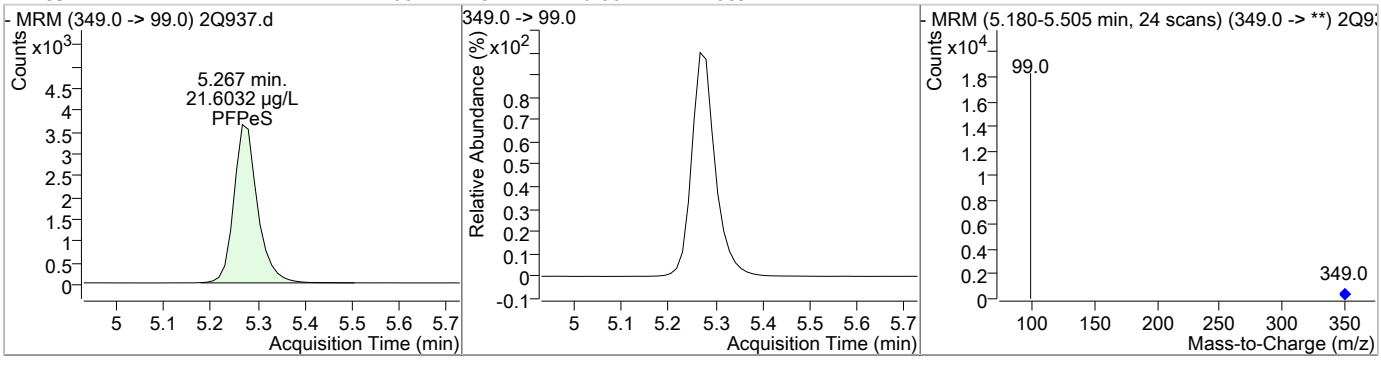
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	16.46	5.23	-0.06	59032				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	17.57	5.24	-0.06	27812	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	21.60	5.27	-0.06	12689				



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Perfluorinated Compounds by LC/MS/MS

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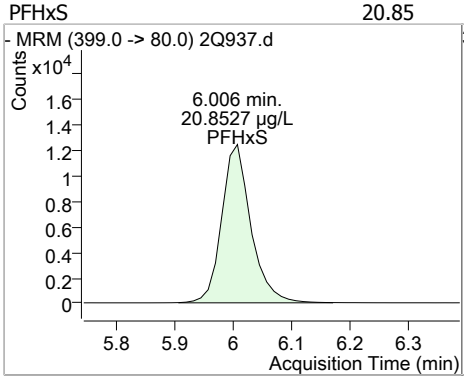
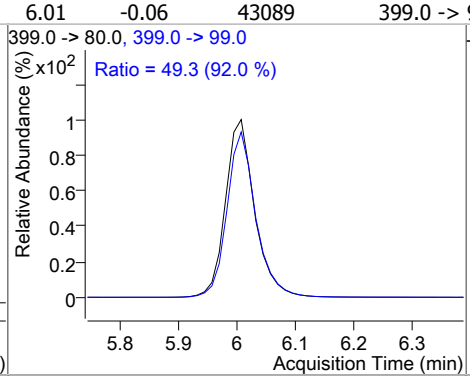
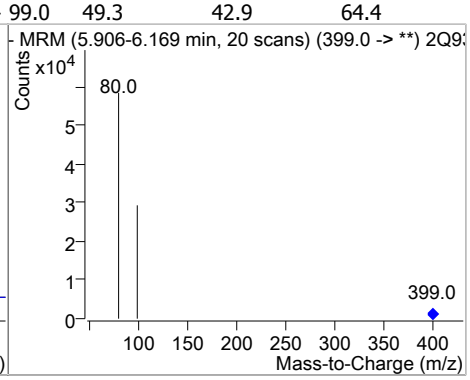
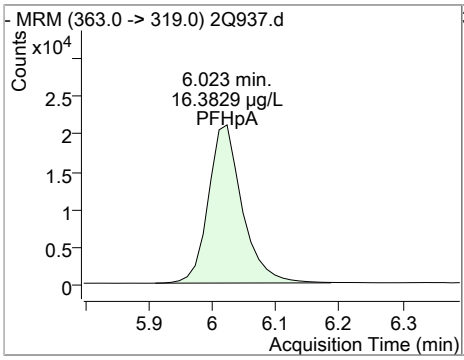
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	20.85	6.01	-0.06	43089	399.0 -> 99.0	49.3	42.9	64.4

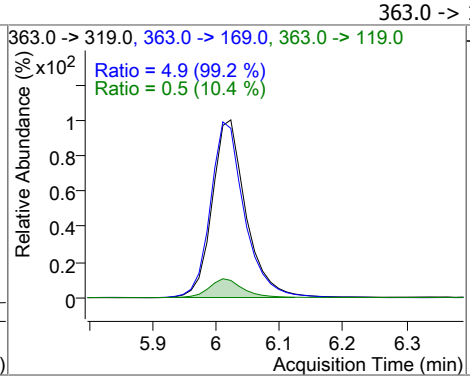


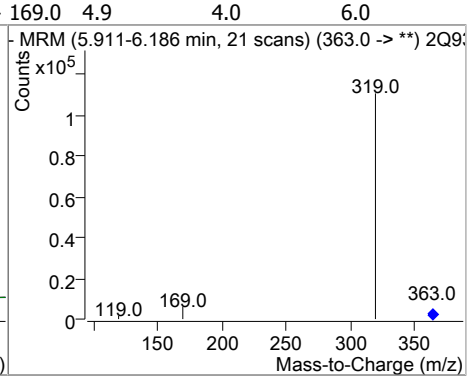




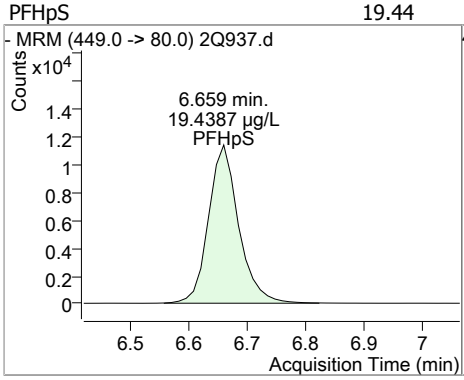
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	16.38	6.02	-0.06	76944	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.9	4.0	6.0

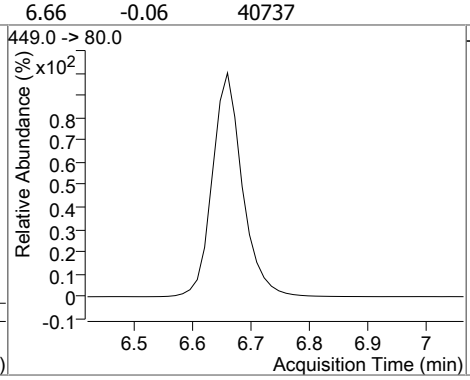


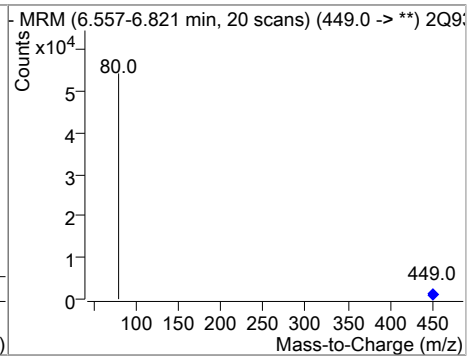




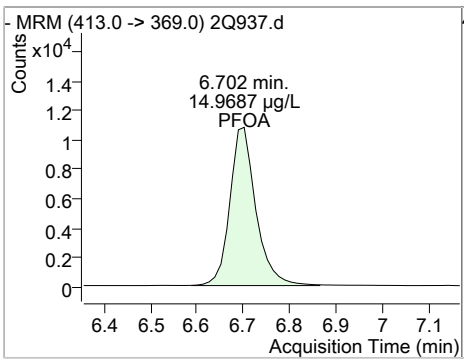
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	19.44	6.66	-0.06	40737				

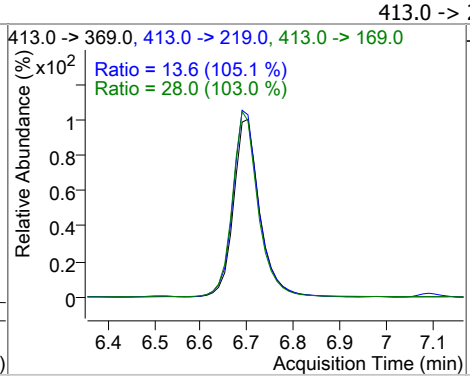


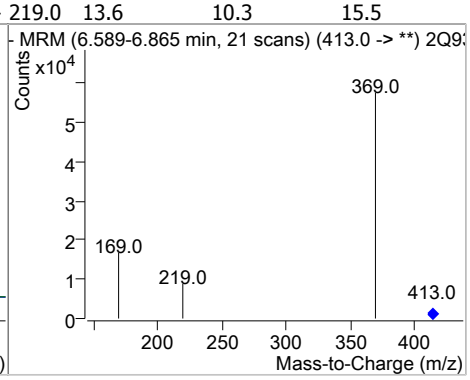




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	14.97	6.70	-0.06	42251	413.0 -> 169.0	28.0	21.8	32.6
					413.0 -> 219.0	13.6	10.3	15.5







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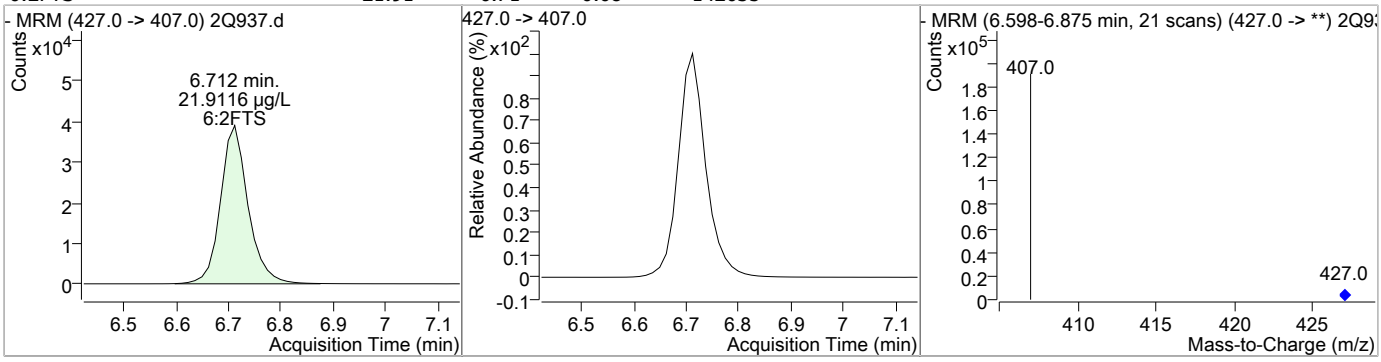
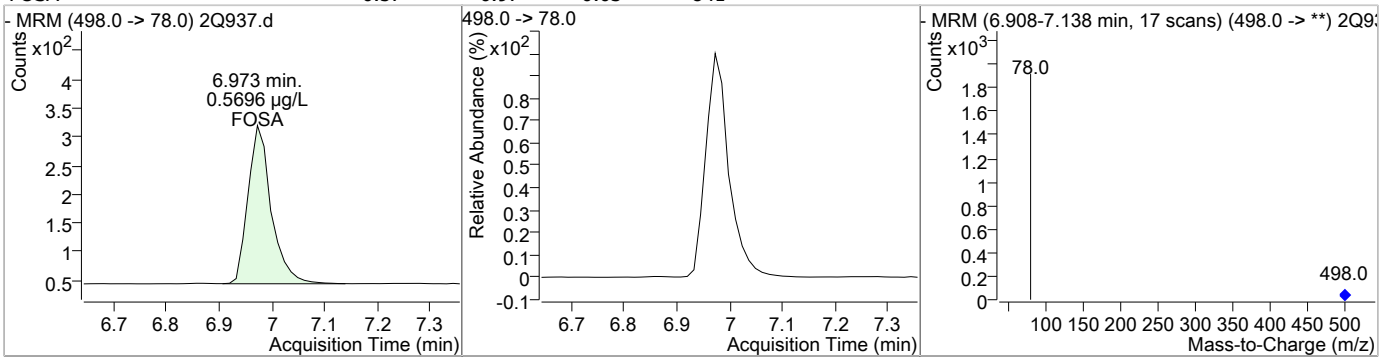
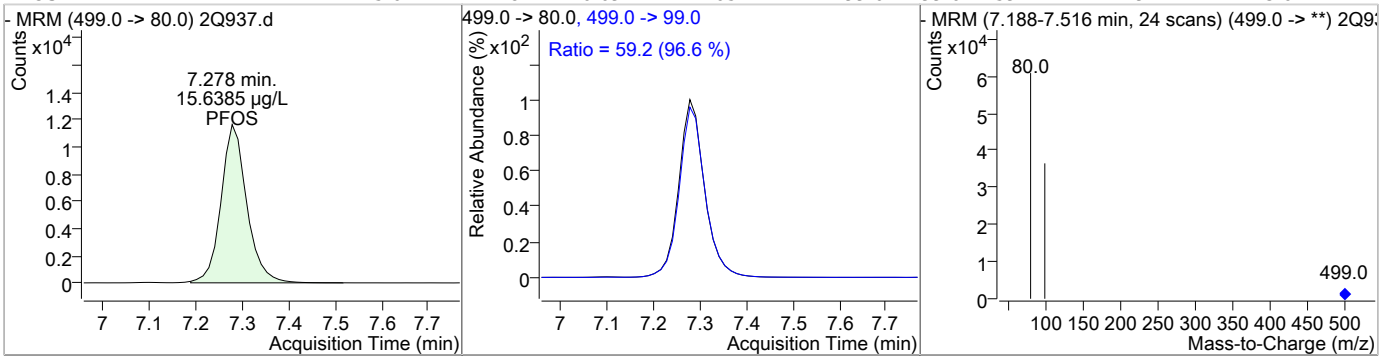
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	21.91	6.71	-0.08	142635				



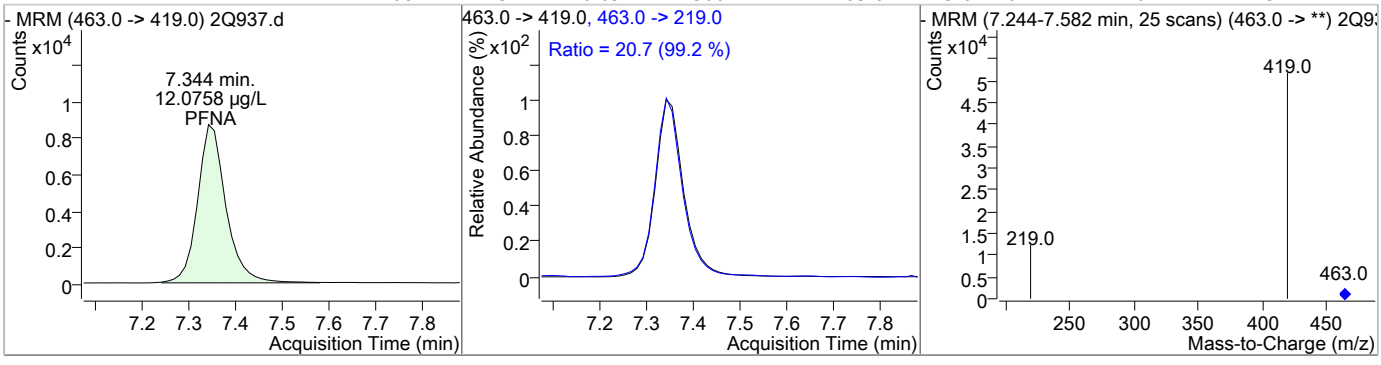
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.57	6.97	-0.03	841				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	15.64	7.28	-0.09	44657	499.0 -> 99.0	59.2	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	12.08	7.34	-0.09	36641	463.0 -> 219.0	20.7	16.7	25.1



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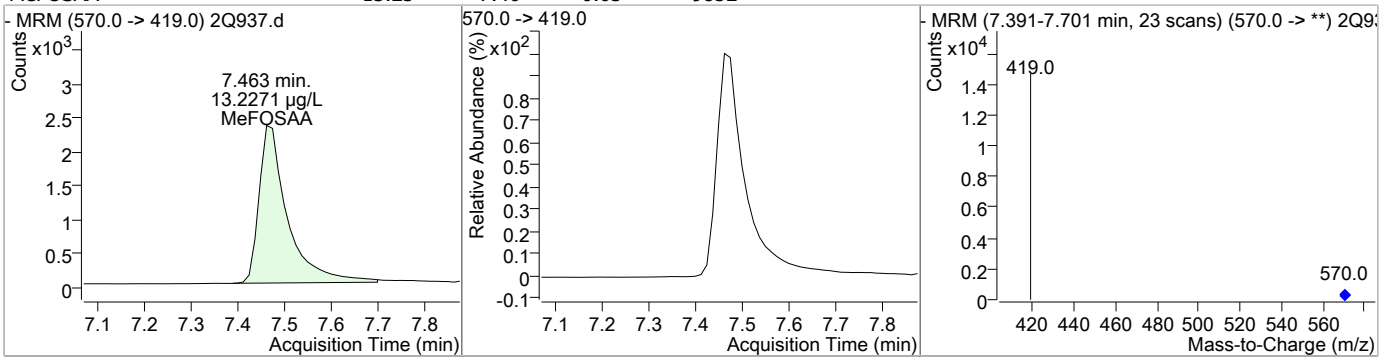
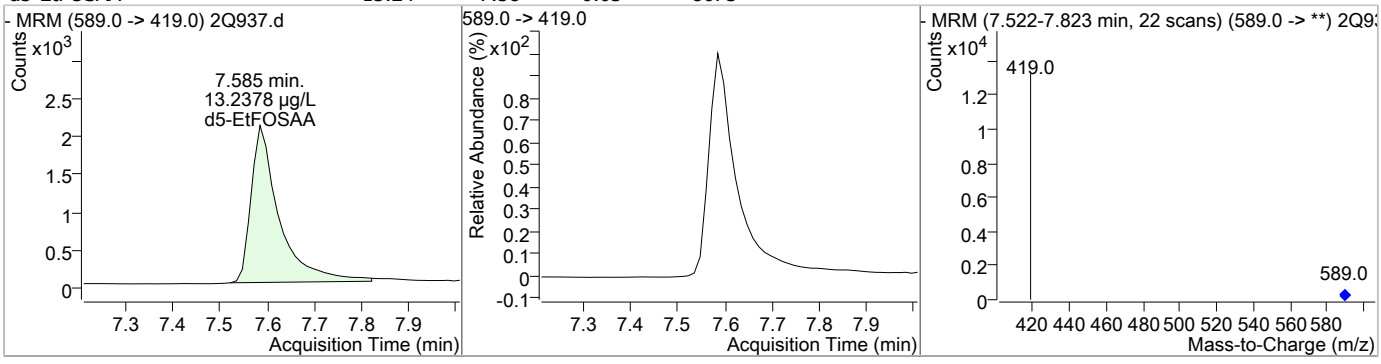
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

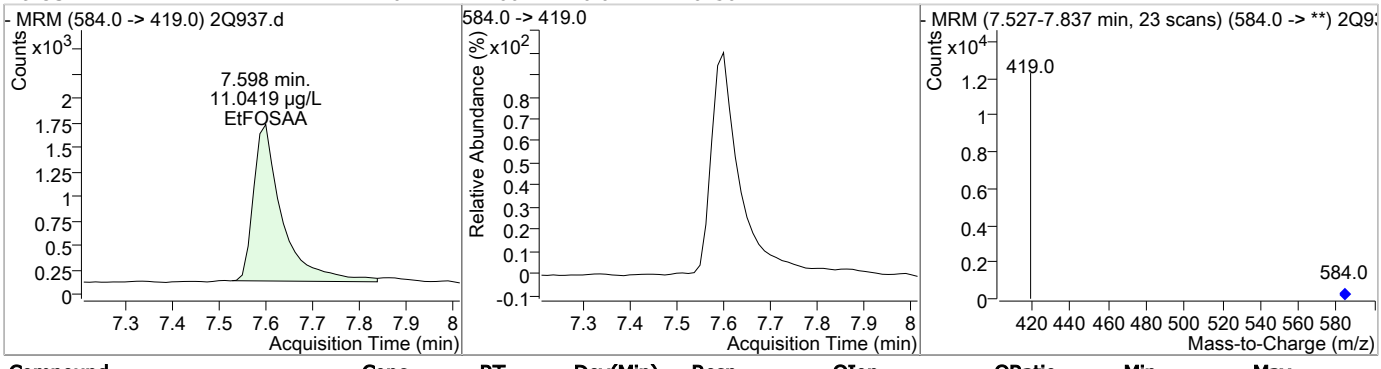
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	13.23	7.46	-0.03	9852				



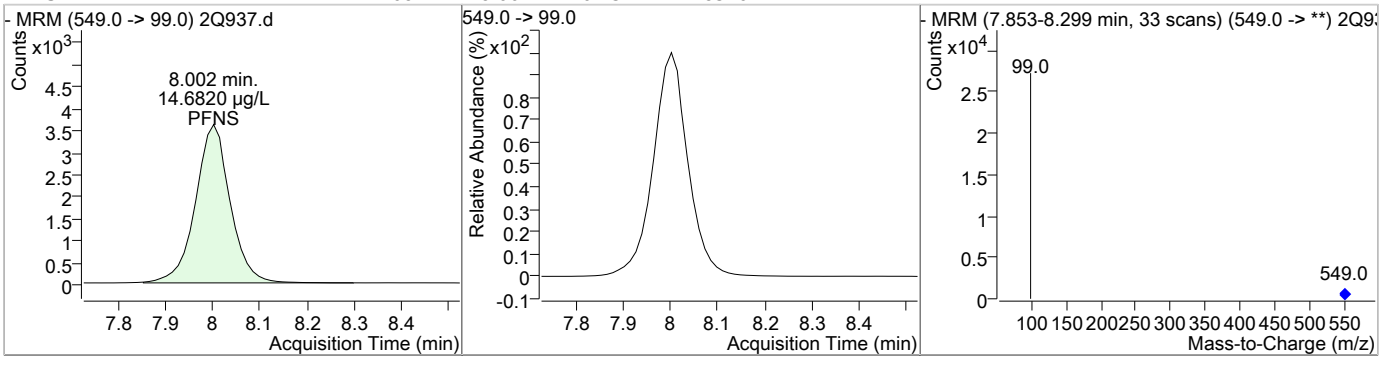
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	13.24	7.58	-0.03	8673				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	11.04	7.60	-0.01	6750				



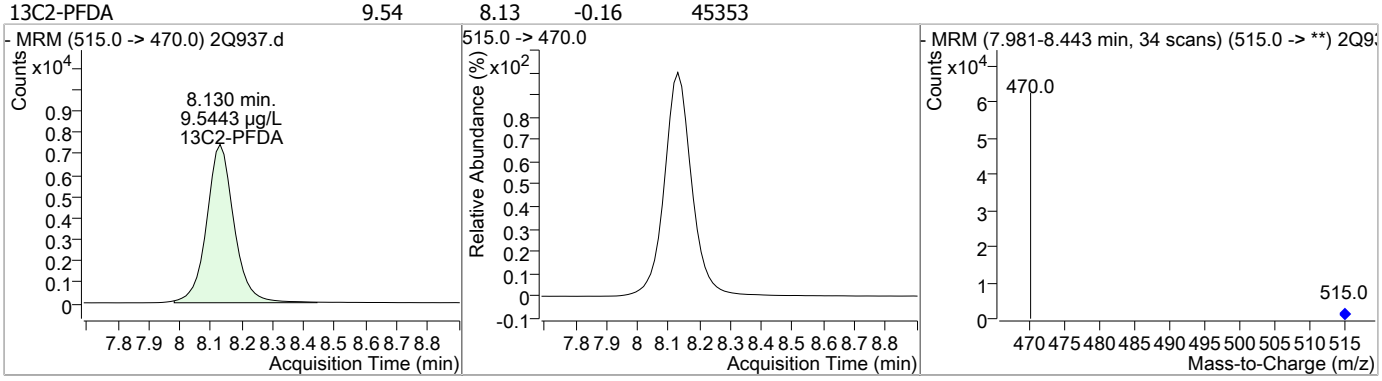
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	14.68	8.00	-0.13	18346				



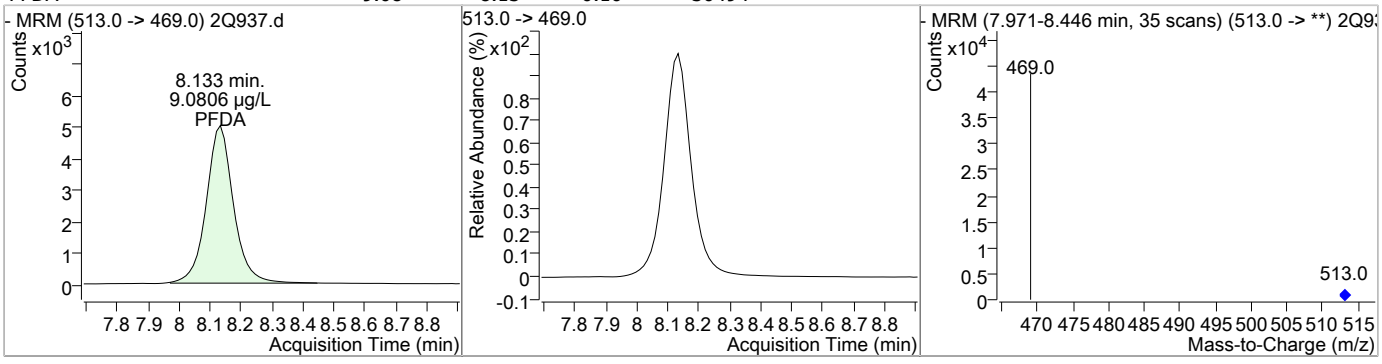
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

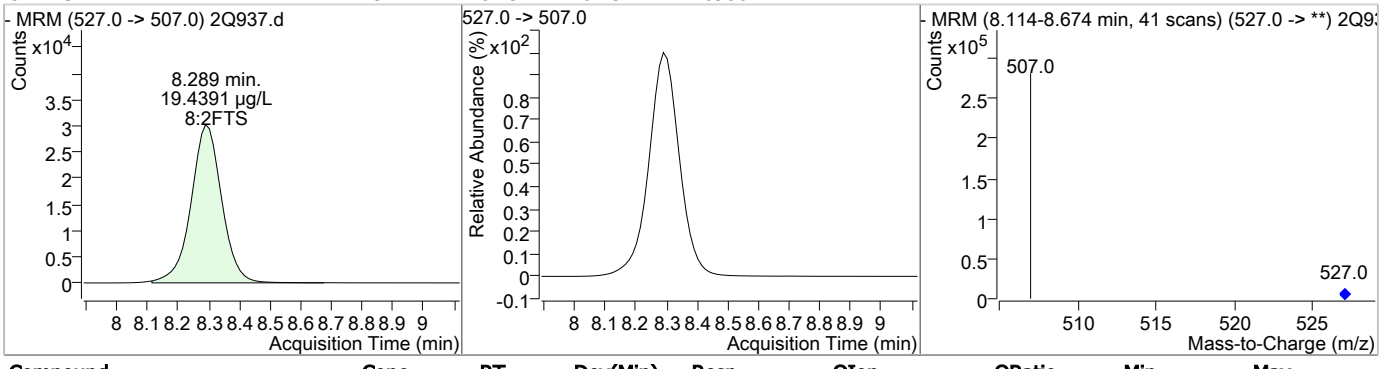
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	9.54	8.13	-0.16	45353				



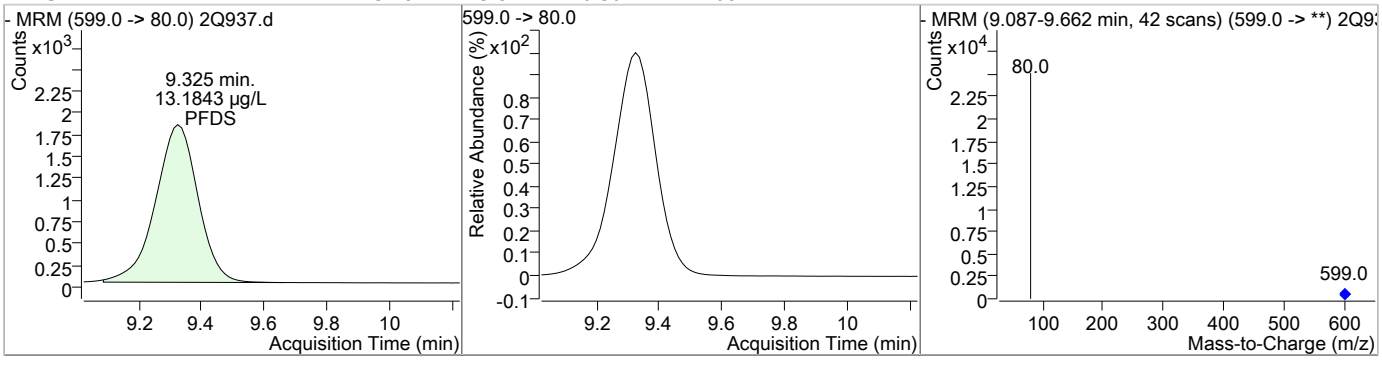
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	9.08	8.13	-0.16	30494				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.44	8.29	-0.23	209507				



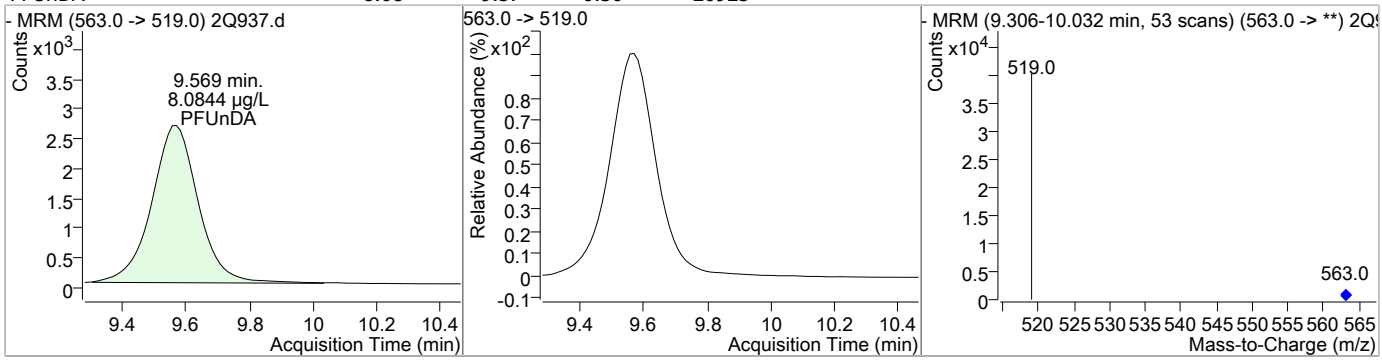
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	13.18	9.32	-0.30	17081				



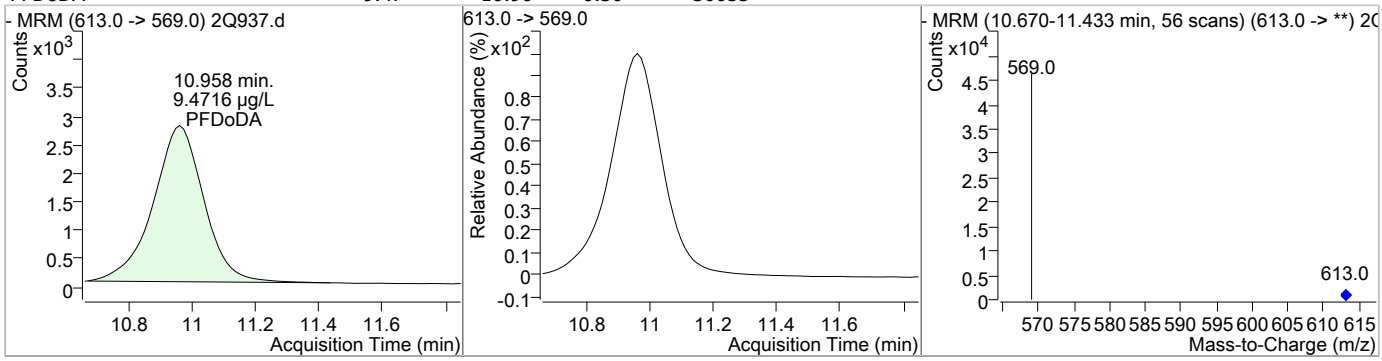
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

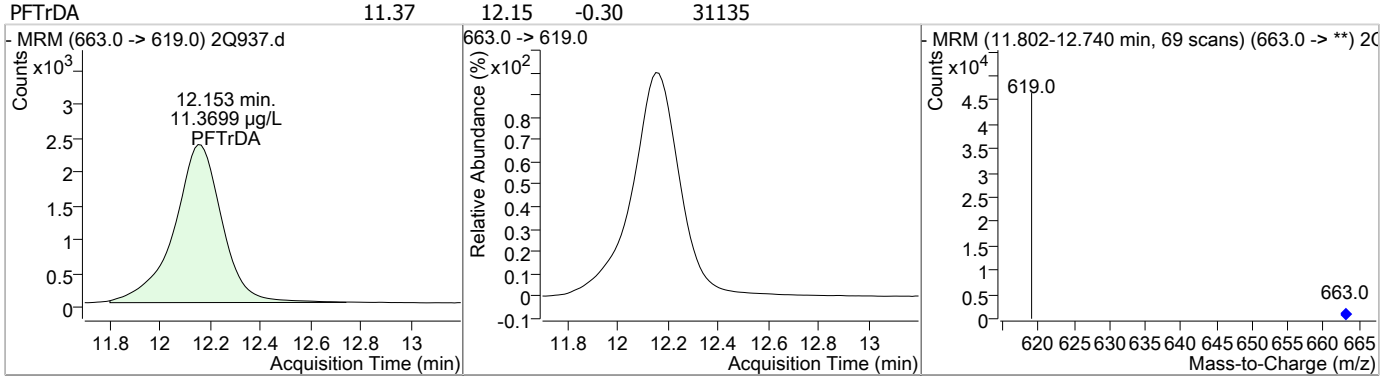
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	8.08	9.57	-0.30	26925				



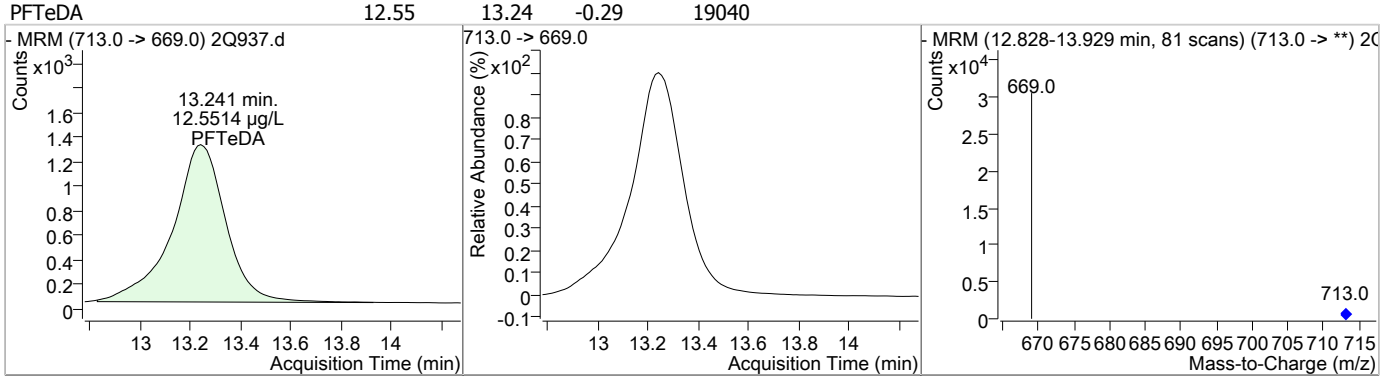
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	9.47	10.96	-0.30	30655				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	11.37	12.15	-0.30	31135				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	12.55	13.24	-0.29	19040				



7.4.2

7

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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q651.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 11:54:23 AM
Sample Name	:	IC18-1
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.660	429.0 -> 409.0	146593	20.00	µg/L		0.013
13C2-PFDoDA	10.714	615.0 -> 570.0	95399	20.00	µg/L		0.050
13C2-PFOA	6.651	415.0 -> 370.0	81433	20.00	µg/L		0.013
13C3-PFPeA	4.247	266.0 -> 222.0	77778	20.00	µg/L		0.013
13C4-PFOS	7.214	503.0 -> 80.0	57060	20.00	µg/L		0.014
d3-MeFOSAA	7.474	573.0 -> 419.0	34386	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.994	515.0 -> 470.0	5647	0.99	µg/L		0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 5.0%			
13C2-PFHxA	5.222	315.0 -> 270.0	3970	0.92	µg/L		0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 4.6%			
d5-EtFOSAA	7.597	589.0 -> 419.0	1446	1.87	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 9.3%			
Target Compounds							**QValue**
4:2FTS	5.144	327.0 -> 307.0	3987	1.08	µg/L		100
6:2FTS	6.662	427.0 -> 407.0	10182	1.44	µg/L		100
8:2FTS	8.114	527.0 -> 507.0	12214	1.04	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	1377	1.85	µg/L		100
FOSA	6.986	498.0 -> 78.0	1869	1.01	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	1515	1.72	µg/L		100
PFBA	2.952	213.0 -> 169.0	1933	0.90	µg/L		100
PFBS	4.366	299.0 -> 80.0	2172	0.95	µg/L		98
PFDA	7.996	513.0 -> 469.0	4148	1.03	µg/L		100
PFDoDA	10.707	613.0 -> 569.0	4321	1.08	µg/L		100
PFDS	9.062	599.0 -> 80.0	1489	1.03	µg/L		100
PFHpA	5.986	363.0 -> 319.0	6687	1.21	µg/L	#m	93
PFHpS	6.620	449.0 -> 80.0	2286	0.95	µg/L		100
PFHxA	5.225	313.0 -> 269.0	1931	1.06	µg/L	#	86
PFHxS	5.981	399.0 -> 80.0	2304	0.97	µg/L	m	92
PFNA	7.281	463.0 -> 419.0	4586	1.26	µg/L		97
PFNS	7.879	549.0 -> 99.0	1372	0.95	µg/L		100
PFOA	6.652	413.0 -> 369.0	3911	1.16	µg/L	#	96
PFOS	7.215	499.0 -> 80.0	3230	0.98	µg/L	m	86
PFPeA	4.250	263.0 -> 219.0	5893	1.00	µg/L		100
PFPeS	5.255	349.0 -> 99.0	674	0.91	µg/L		100
PFTeDA	12.978	713.0 -> 669.0	2073	1.12	µg/L		100
PFTrDA	11.915	663.0 -> 619.0	3725	1.12	µg/L		100
PFUnDA	9.306	563.0 -> 519.0	4328	1.03	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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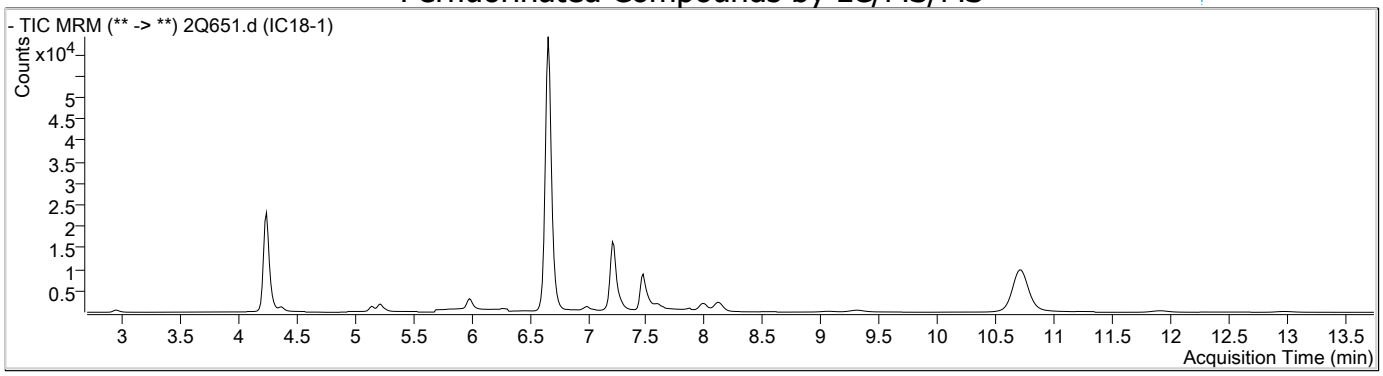
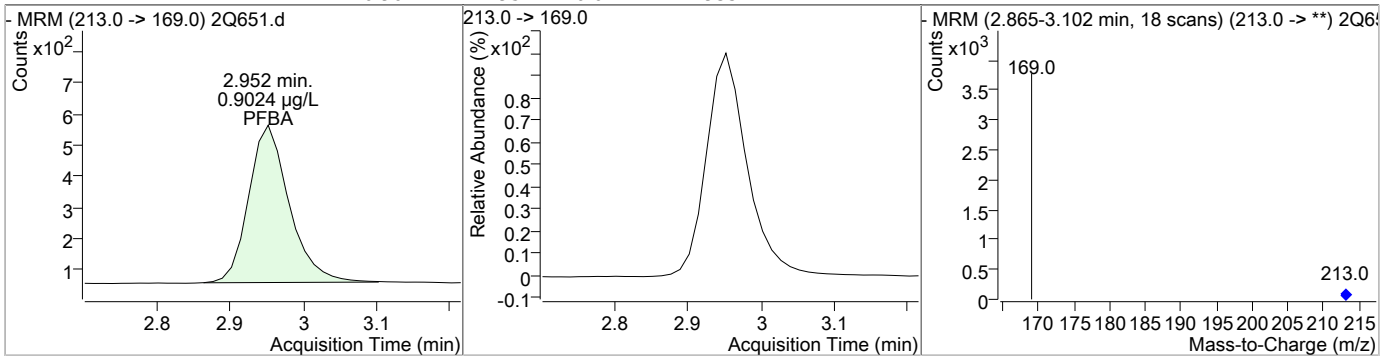
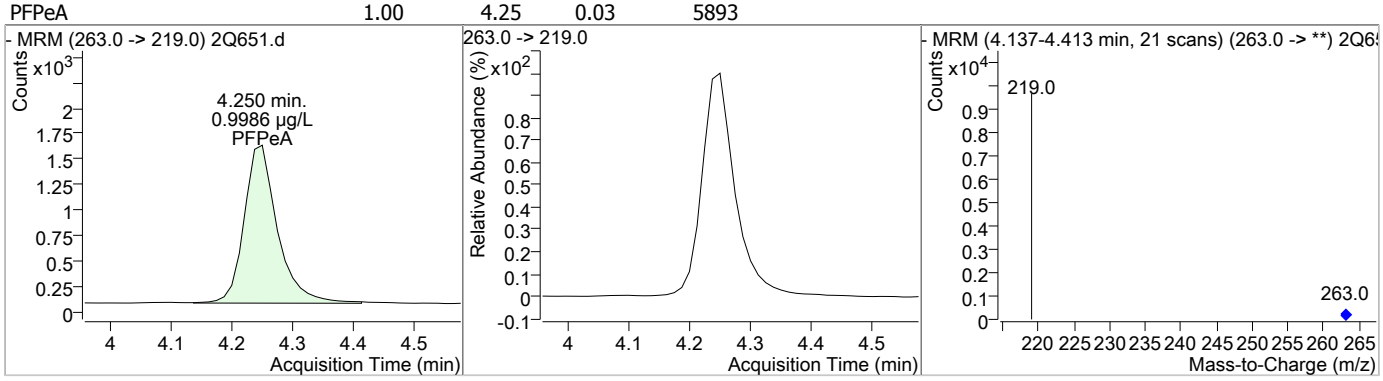


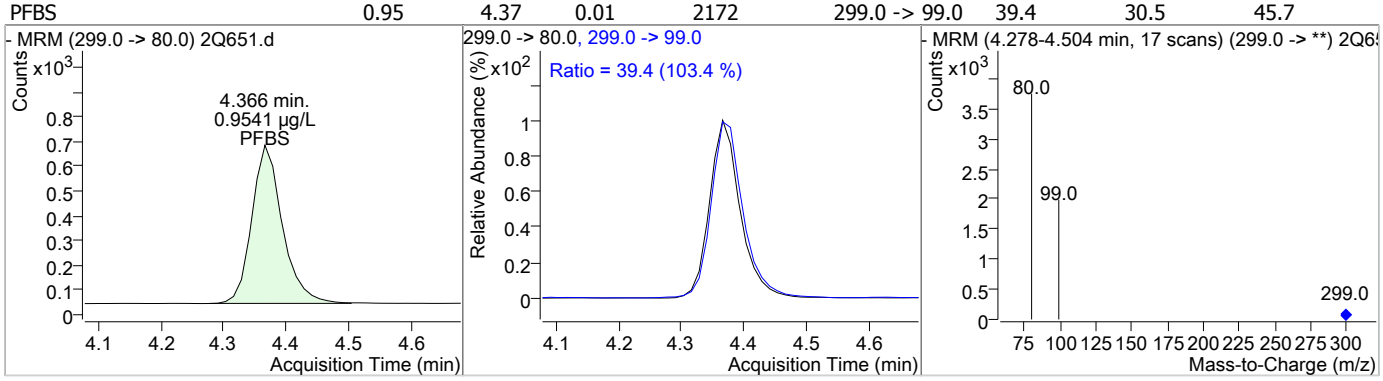
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.90	2.95	0.01	1933				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.00	4.25	0.03	5893				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.95	4.37	0.01	2172	299.0 -> 99.0	39.4	30.5	45.7



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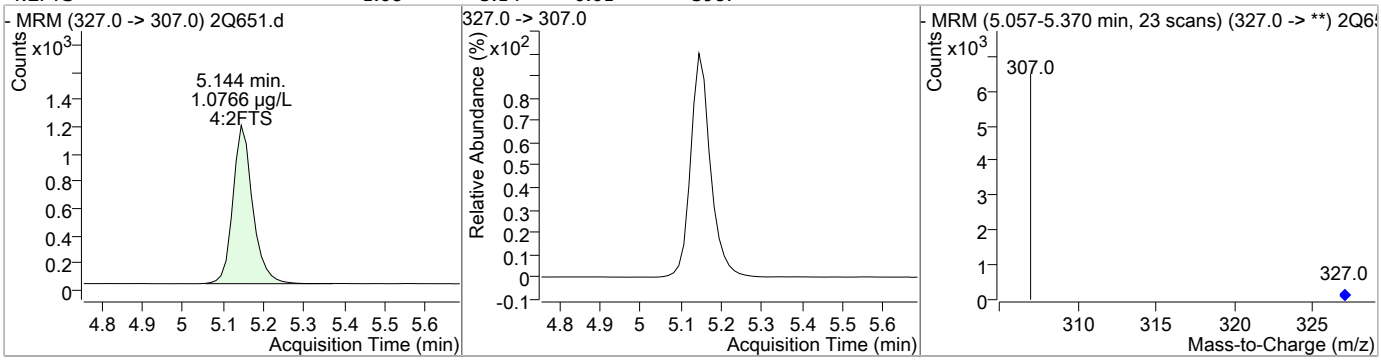
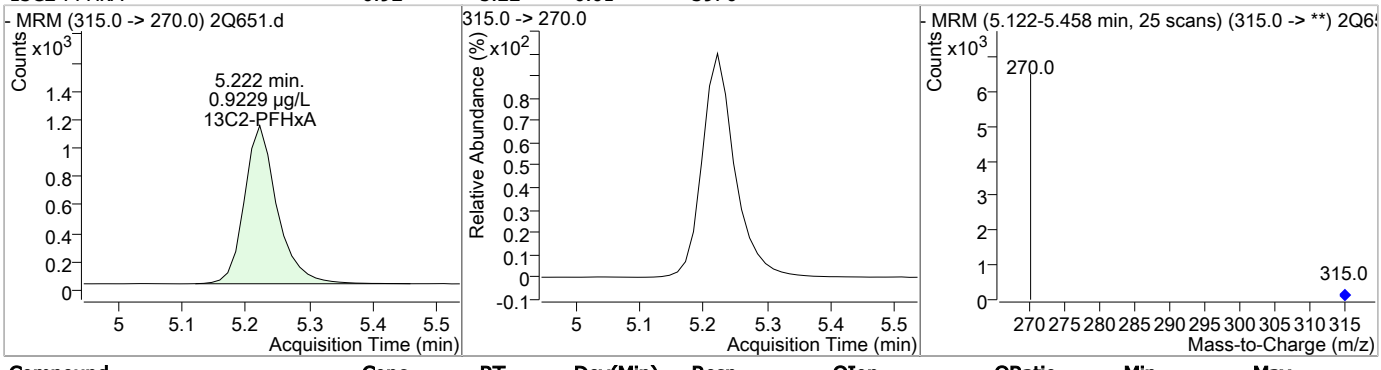
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

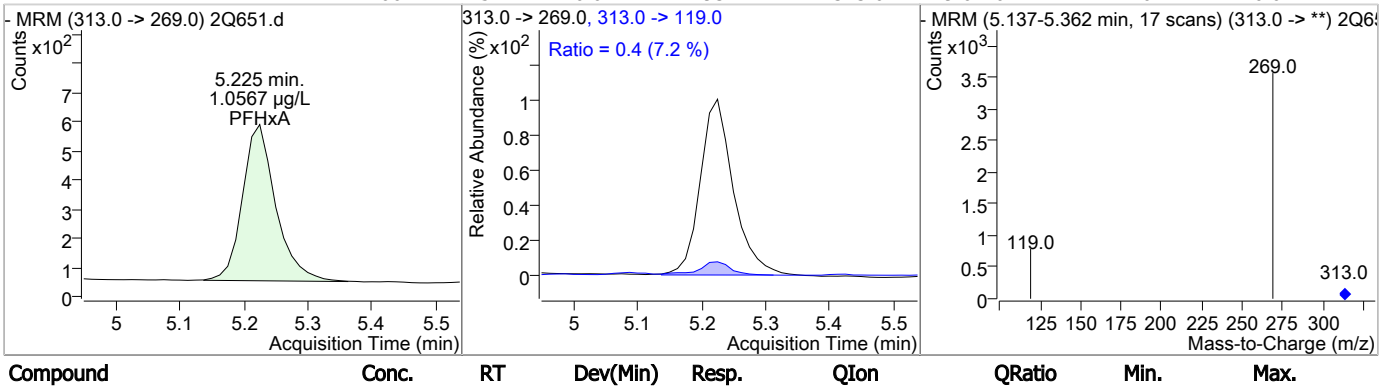
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	1.08	5.14	0.01	3987				



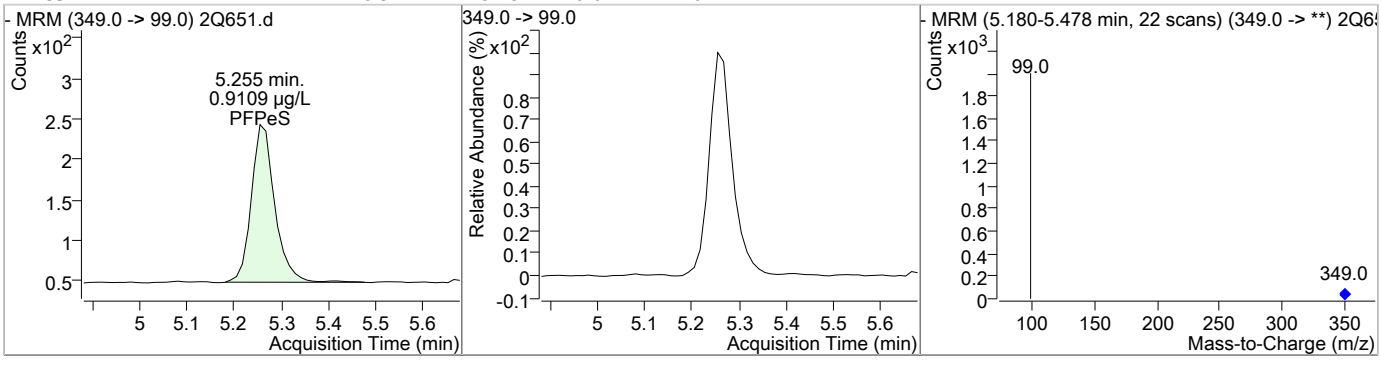
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	0.92	5.22	0.01	3970				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.06	5.22	0.01	1931	313.0 -> 119.0	0.4	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.91	5.25	0.01	674				



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Perfluorinated Compounds by LC/MS/MS

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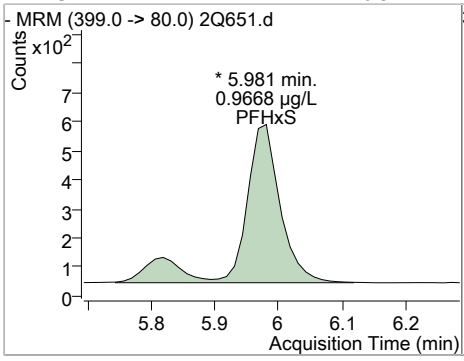
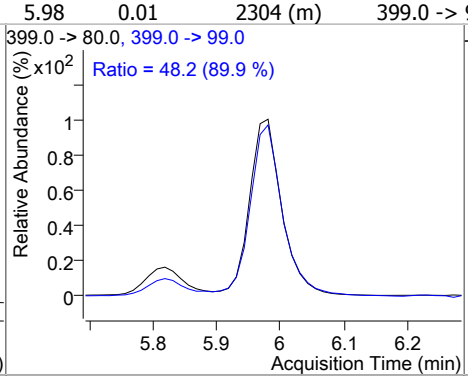
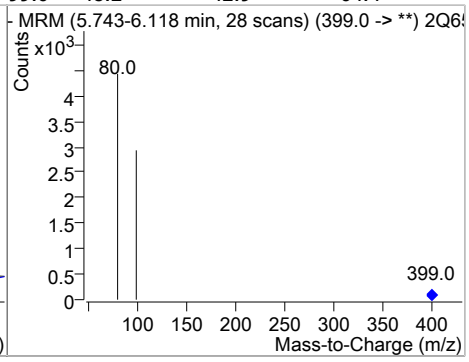
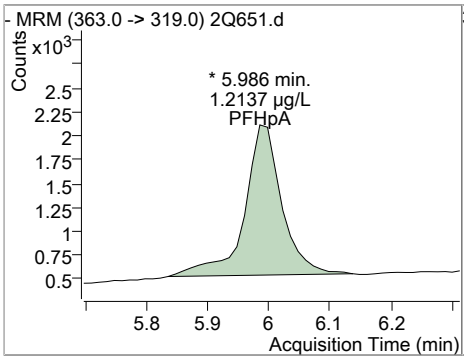
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.97	5.98	0.01	2304 (m)	399.0 -> 99.0	48.2	42.9	64.4

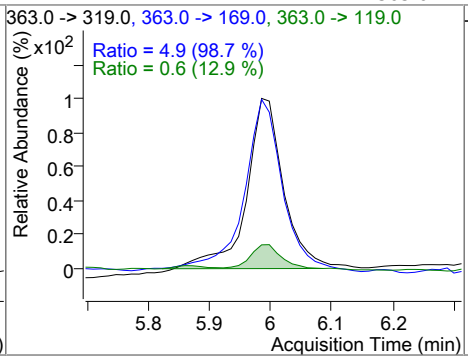


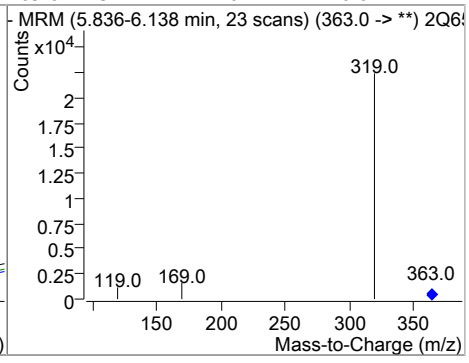




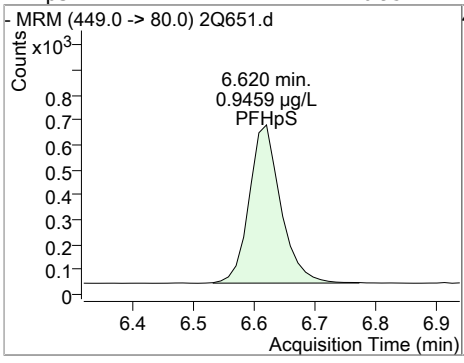
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.21	5.99	0.00	6687 (m)	363.0 -> 119.0	0.6	4.0	6.0
					363.0 -> 169.0	4.9	4.0	6.0

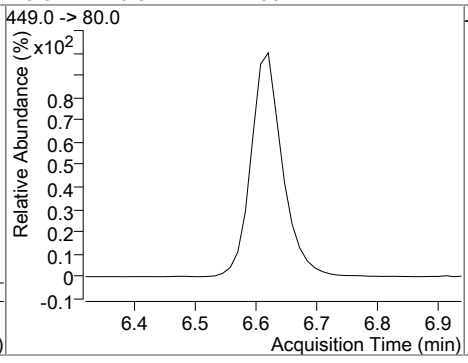


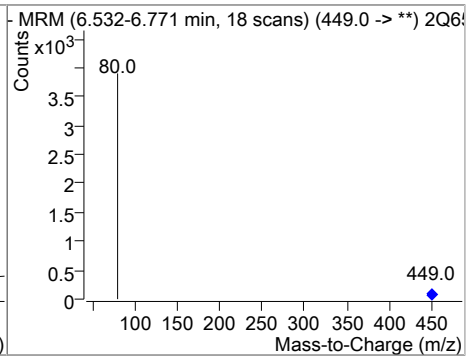




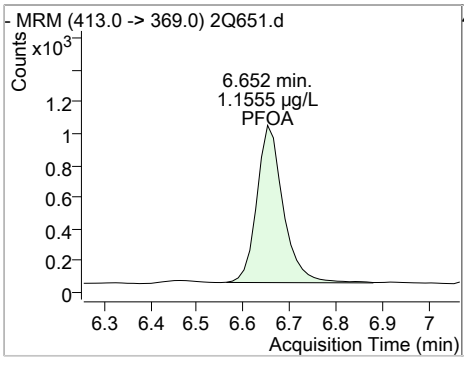
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.95	6.62	0.01	2286				

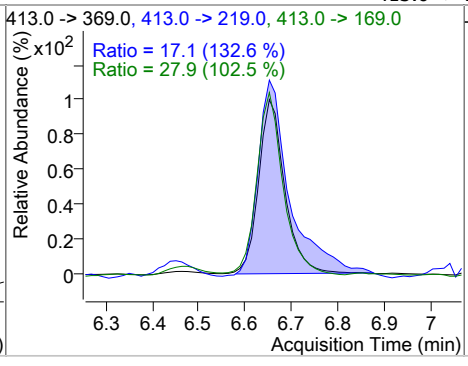


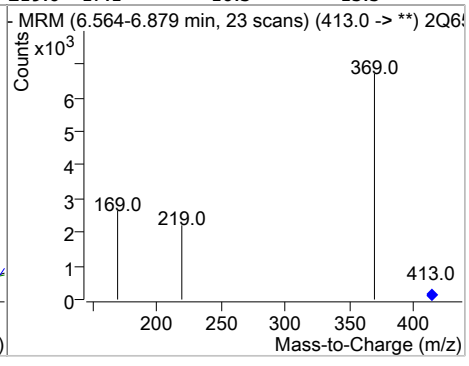




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.16	6.65	0.01	3911	413.0 -> 169.0	27.9	21.8	32.6
					413.0 -> 219.0	17.1	10.3	15.5







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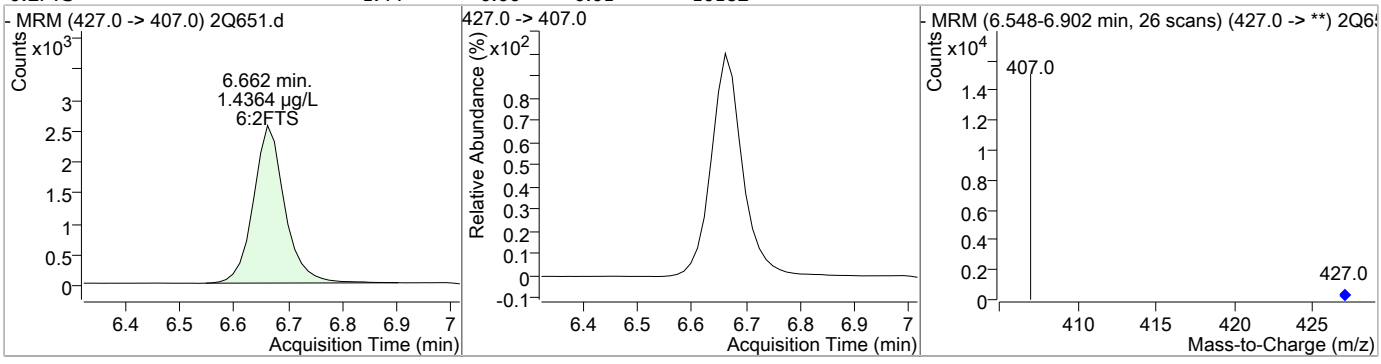
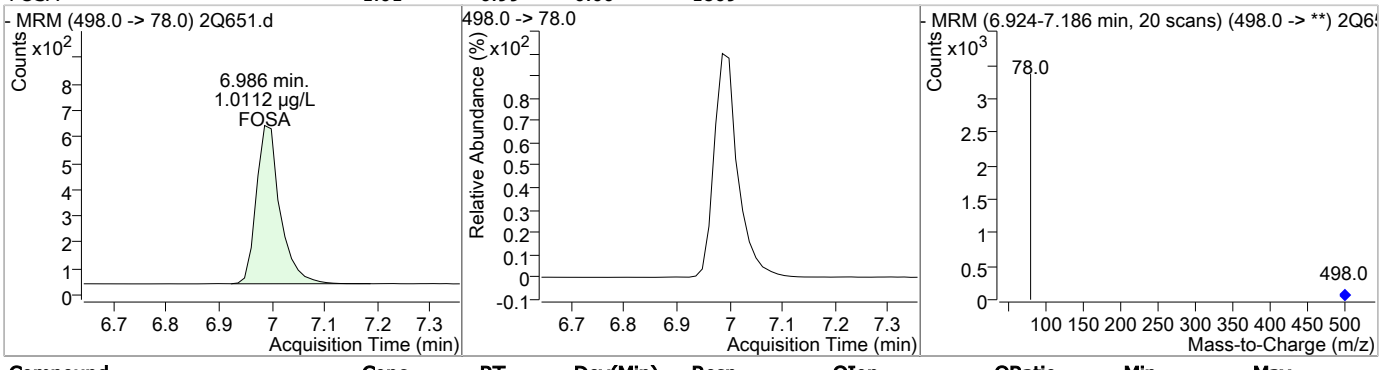
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

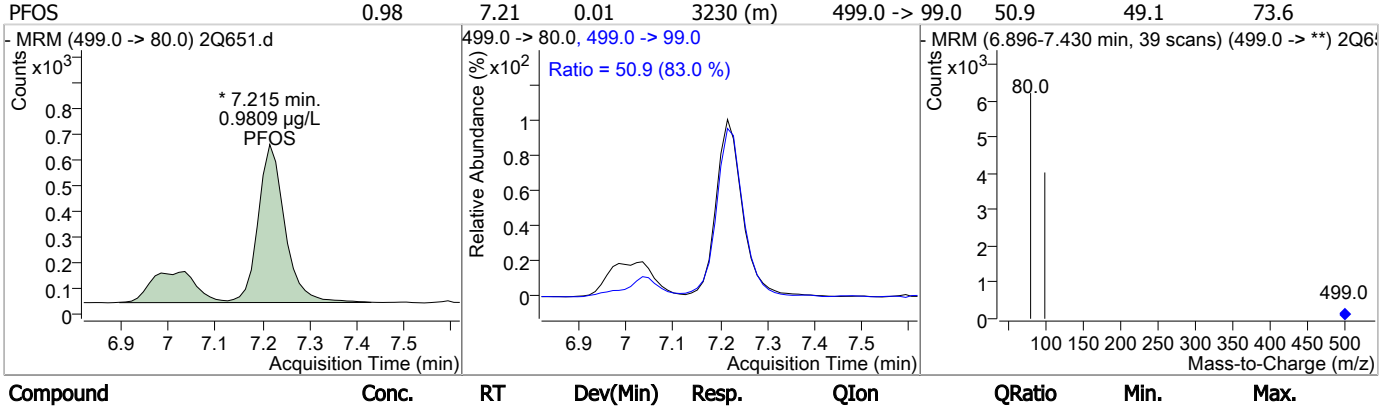
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.44	6.66	0.01	10182				



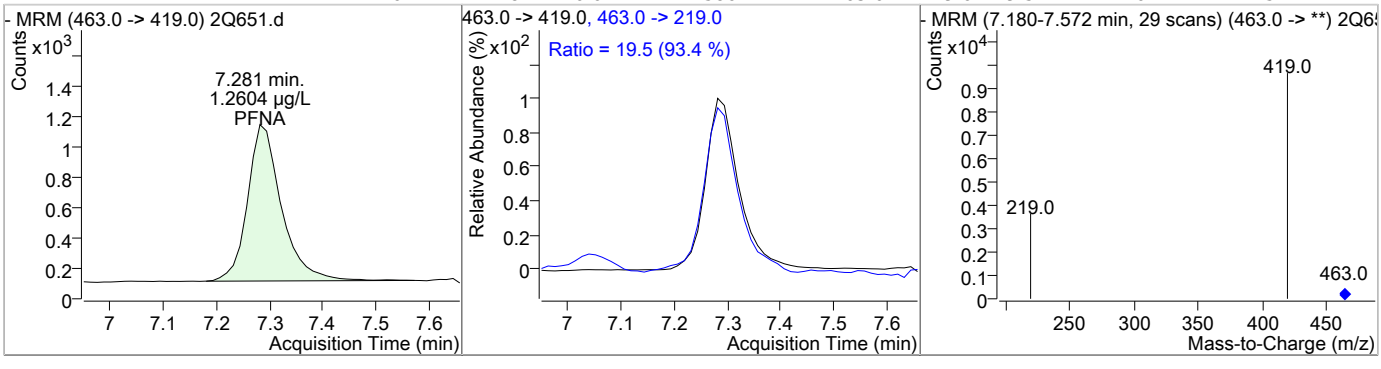
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	1.01	6.99	0.00	1869				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.98	7.21	0.01	3230 (m)	499.0 -> 99.0	50.9	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.26	7.28	0.01	4586	463.0 -> 219.0	19.5	16.7	25.1



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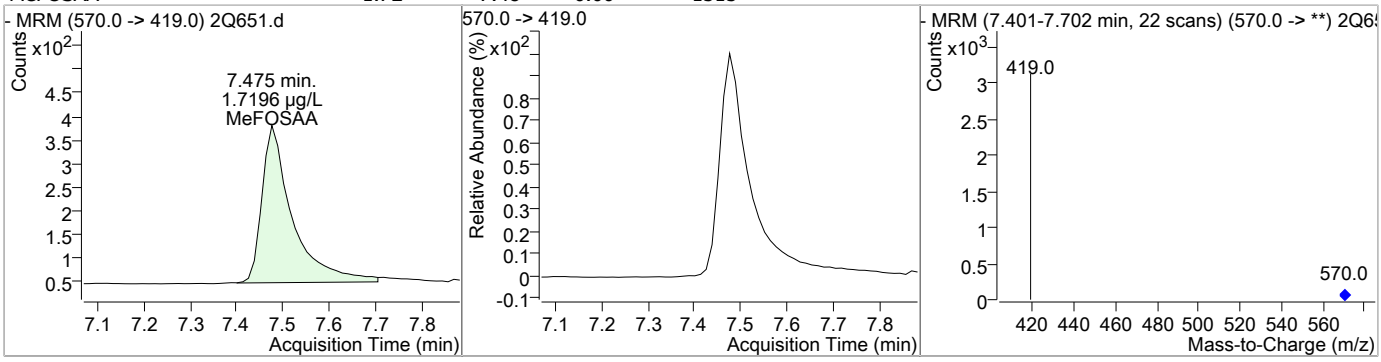
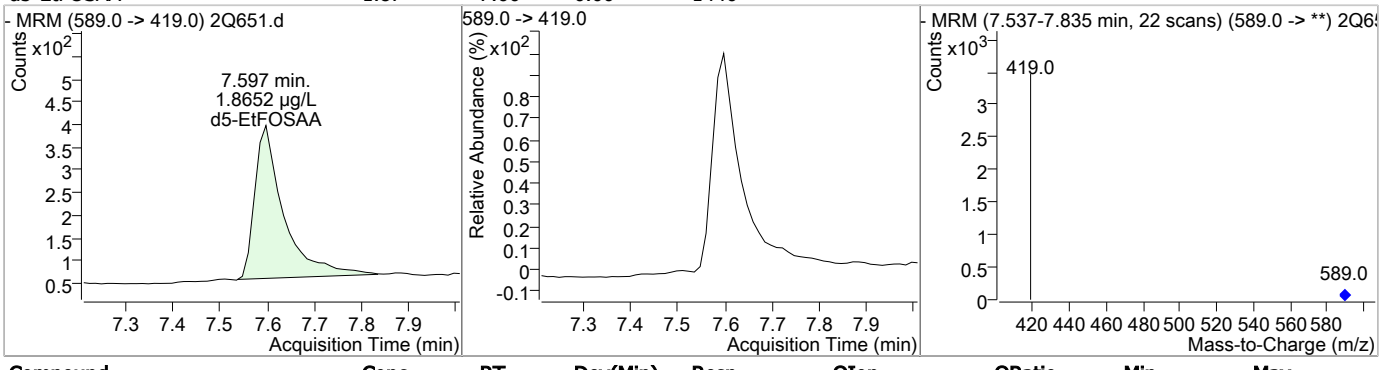
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

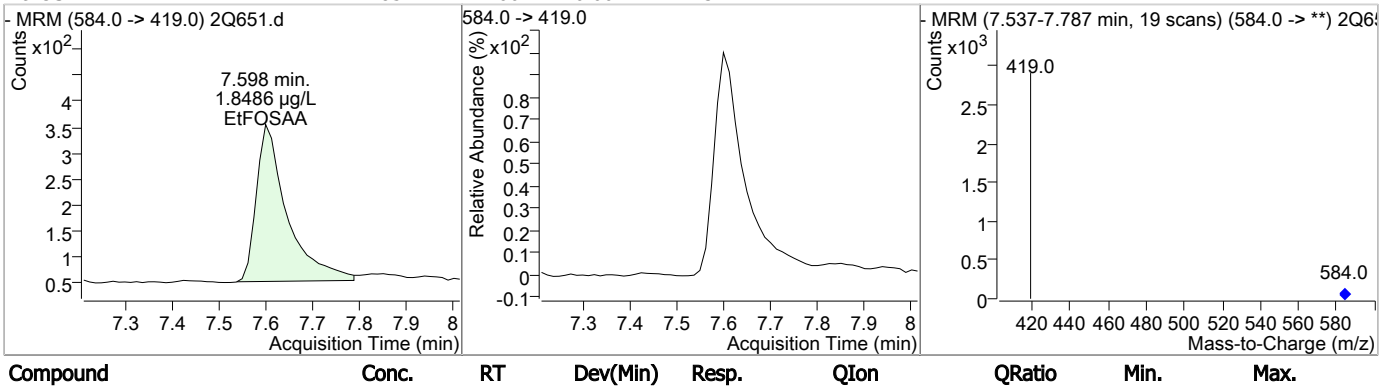
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.72	7.48	0.00	1515				



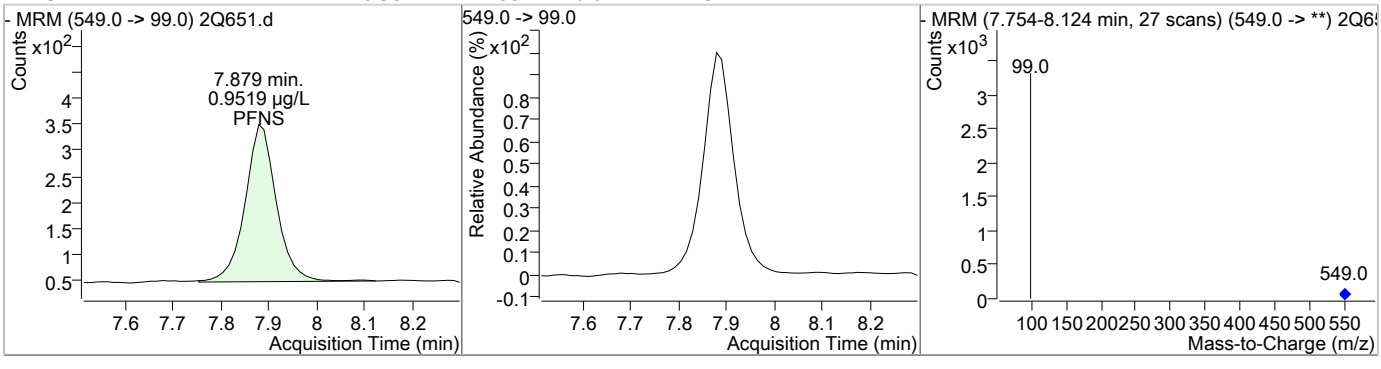
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	1.87	7.60	0.00	1446				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.85	7.60	0.00	1377				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.95	7.88	0.01	1372				



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Perfluorinated Compounds by LC/MS/MS

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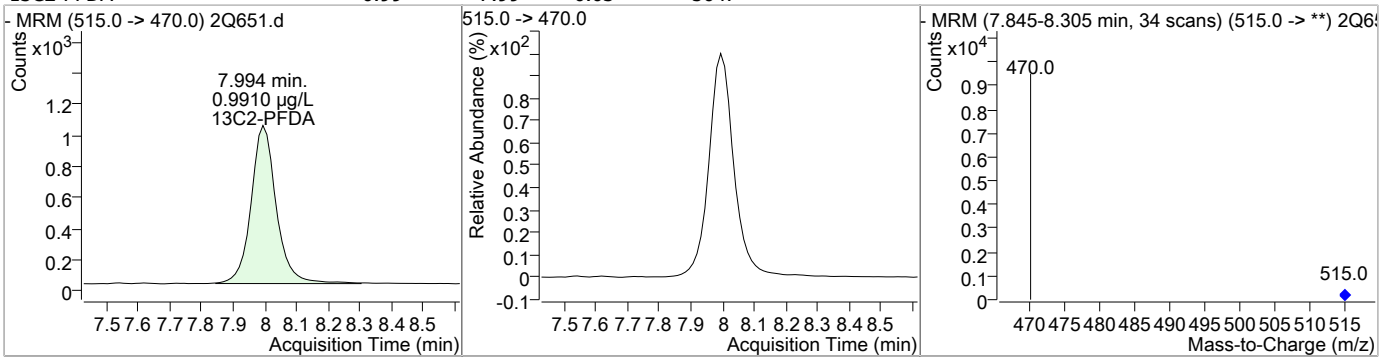
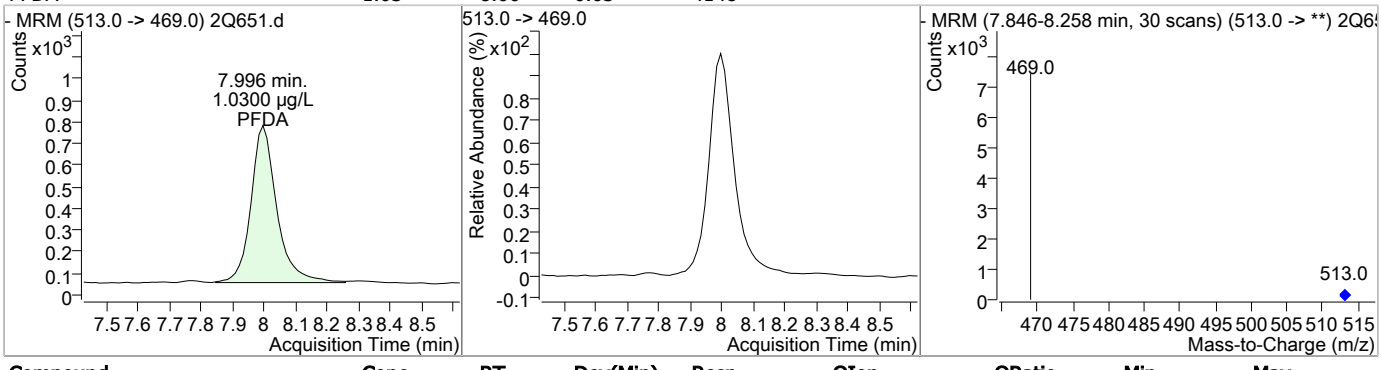
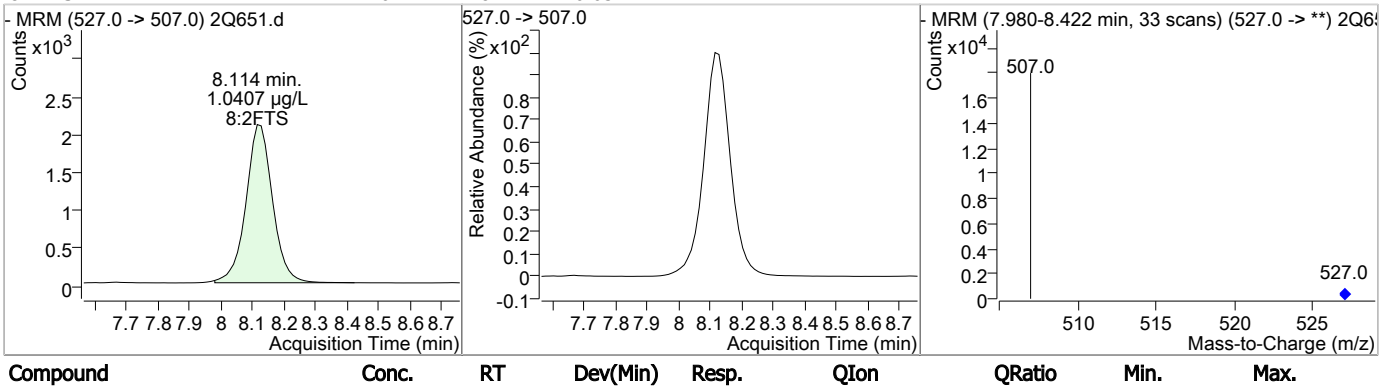
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	0.99	7.99	0.03	5647				



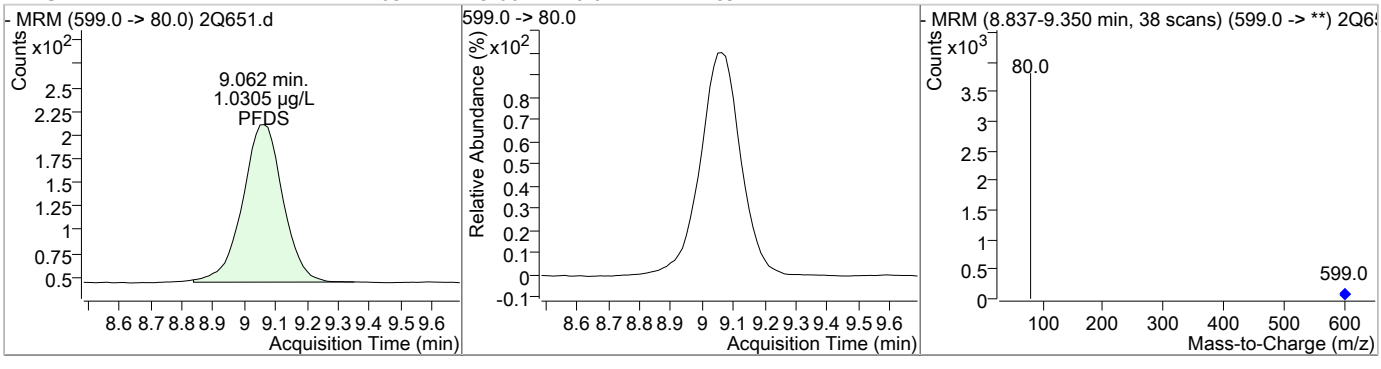
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.03	8.00	0.03	4148				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	1.04	8.11	0.03	12214				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.03	9.06	0.04	1489				



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Perfluorinated Compounds by LC/MS/MS

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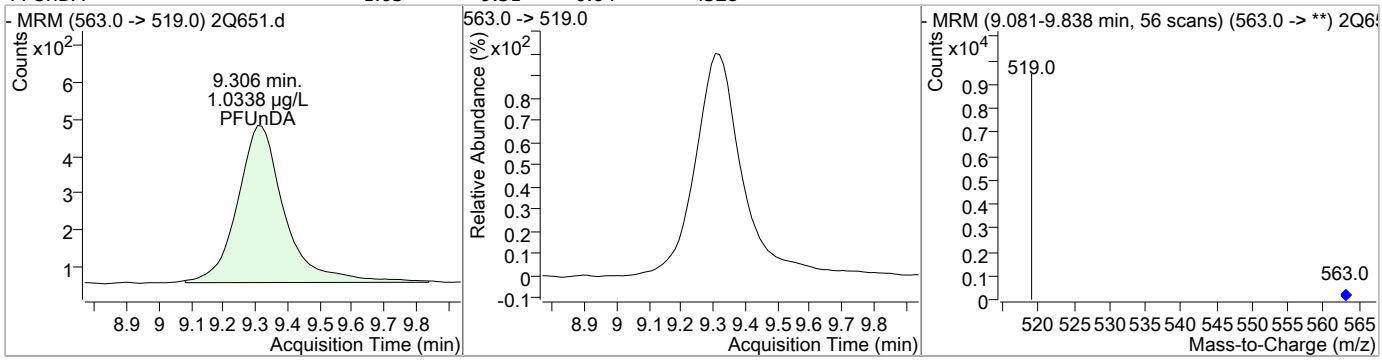
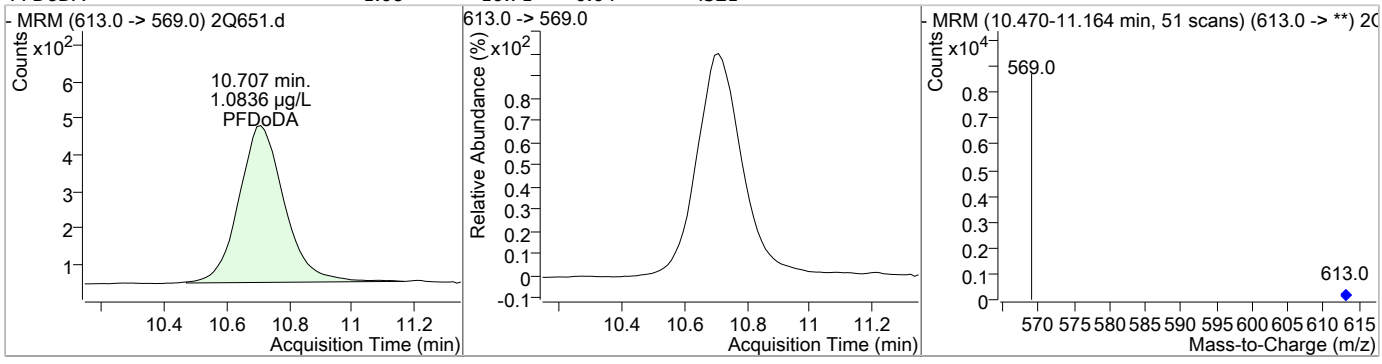
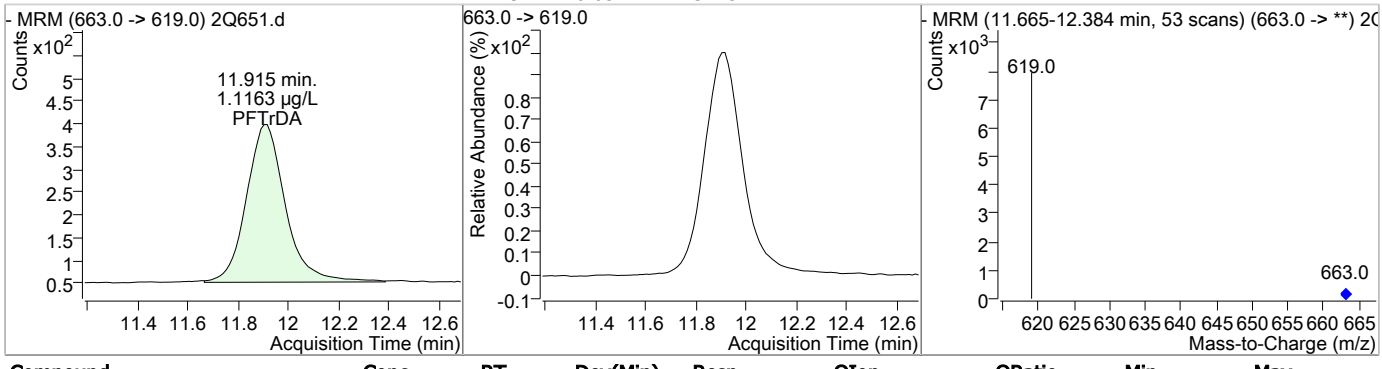
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.03	9.31	0.04	4328				



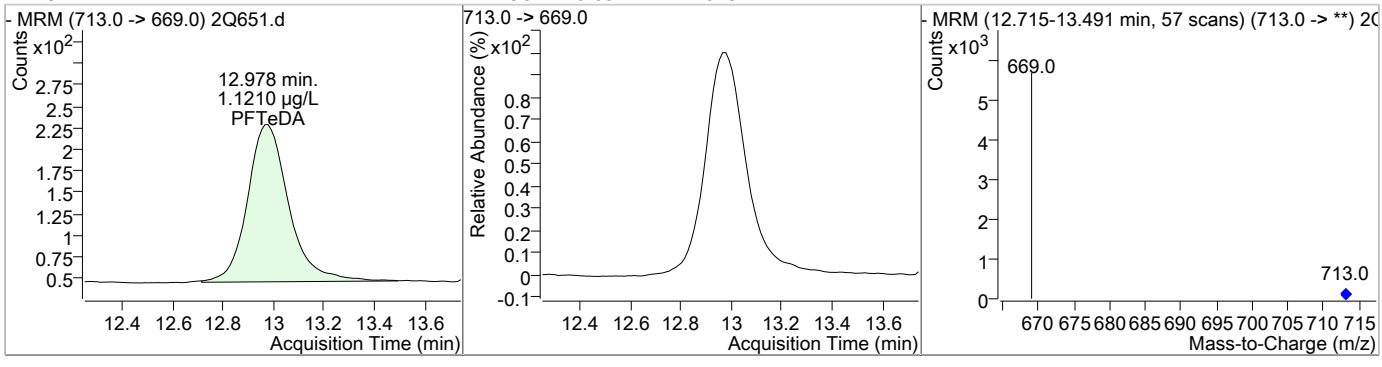
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.08	10.71	0.04	4321				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.12	11.91	0.05	3725				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.12	12.98	0.05	2073				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q651.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 11:54	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.98	Split peak
Perfluoroheptanoic acid	375-85-9		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q652.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 12:14:08 PM
Sample Name	:	IC18-2
Vial	:	Vial 3
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.660	429.0 -> 409.0	145491	20.00	µg/L		0.013
13C2-PFDoDA	10.651	615.0 -> 570.0	90132	20.00	µg/L		-0.013
13C2-PFOA	6.651	415.0 -> 370.0	73705	20.00	µg/L		0.013
13C3-PFPeA	4.234	266.0 -> 222.0	73997	20.00	µg/L		0.000
13C4-PFOS	7.214	503.0 -> 80.0	55828	20.00	µg/L		0.014
d3-MeFOSAA	7.474	573.0 -> 419.0	34397	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.982	515.0 -> 470.0	10452	2.03	µg/L		0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 10.1%			
13C2-PFHxA	5.210	315.0 -> 270.0	7723	1.98	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 9.9%			
d5-EtFOSAA	7.597	589.0 -> 419.0	2107	2.71	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 13.5%			
Target Compounds							**QValue**
4:2FTS	5.144	327.0 -> 307.0	7942	2.16	µg/L		100
6:2FTS	6.662	427.0 -> 407.0	16517	2.35	µg/L		100
8:2FTS	8.102	527.0 -> 507.0	24338	2.09	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	1809	2.42	µg/L		100
FOSA	6.999	498.0 -> 78.0	3734	2.02	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	2113	2.39	µg/L		100
PFBA	2.940	213.0 -> 169.0	3920	2.02	µg/L		100
PFBS	4.366	299.0 -> 80.0	4304	1.93	µg/L		99
PFDA	7.984	513.0 -> 469.0	7508	2.06	µg/L		100
PFDoDA	10.645	613.0 -> 569.0	8380	2.22	µg/L		100
PFDS	9.025	599.0 -> 80.0	3097	2.18	µg/L		100
PFHpA	5.986	363.0 -> 319.0	10857	2.17	µg/L	#	93
PFHpS	6.607	449.0 -> 80.0	4657	1.97	µg/L		100
PFHxA	5.212	313.0 -> 269.0	3743	2.26	µg/L	#	85
PFHxS	5.968	399.0 -> 80.0	4586	1.97	µg/L	m	94
PFNA	7.281	463.0 -> 419.0	6918	2.10	µg/L		98
PFNS	7.879	549.0 -> 99.0	2814	2.00	µg/L		100
PFOA	6.652	413.0 -> 369.0	6233	2.03	µg/L		96
PFOS	7.215	499.0 -> 80.0	6408	1.99	µg/L	#m	82
PFPeA	4.238	263.0 -> 219.0	11585	2.06	µg/L		100
PFPeS	5.255	349.0 -> 99.0	1417	2.01	µg/L		100
PFTeDA	12.903	713.0 -> 669.0	3940	2.25	µg/L		100
PFTrDA	11.840	663.0 -> 619.0	6935	2.19	µg/L		100
PFUnDA	9.269	563.0 -> 519.0	8003	2.02	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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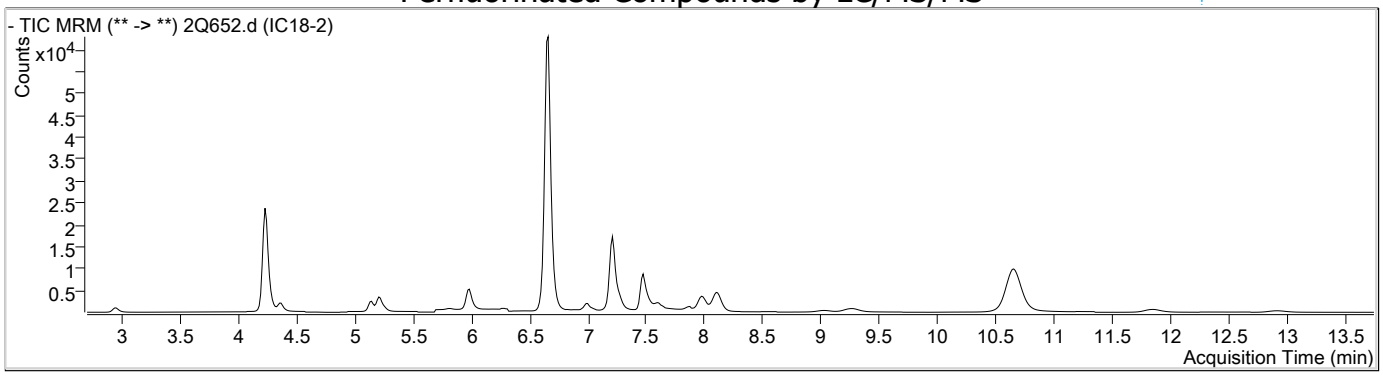
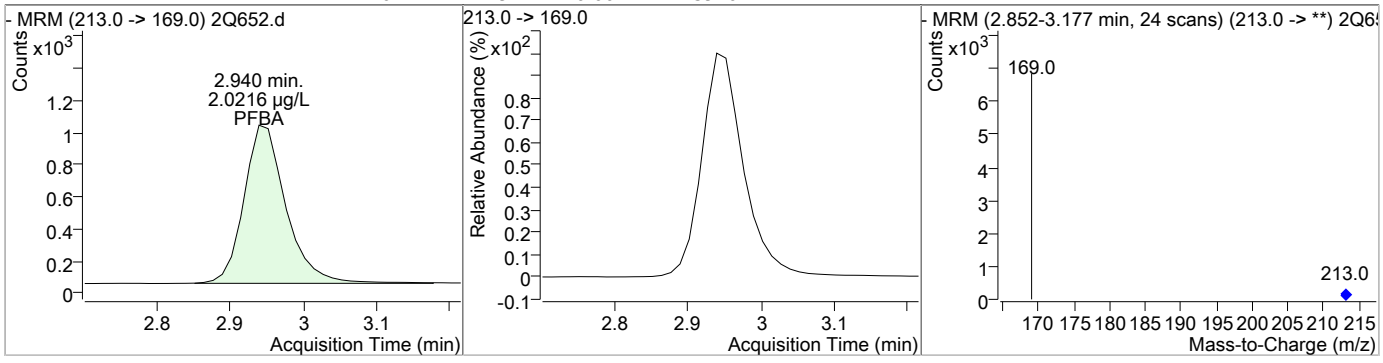
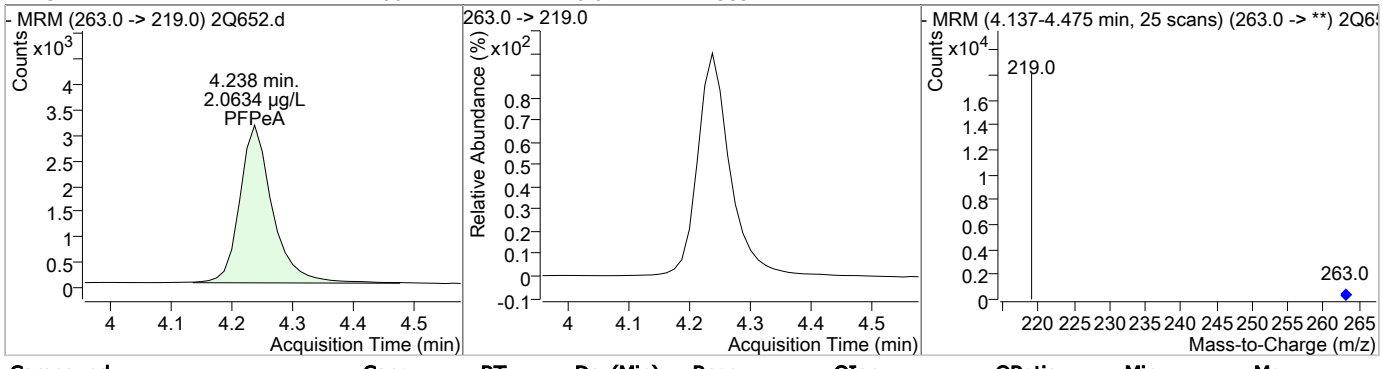


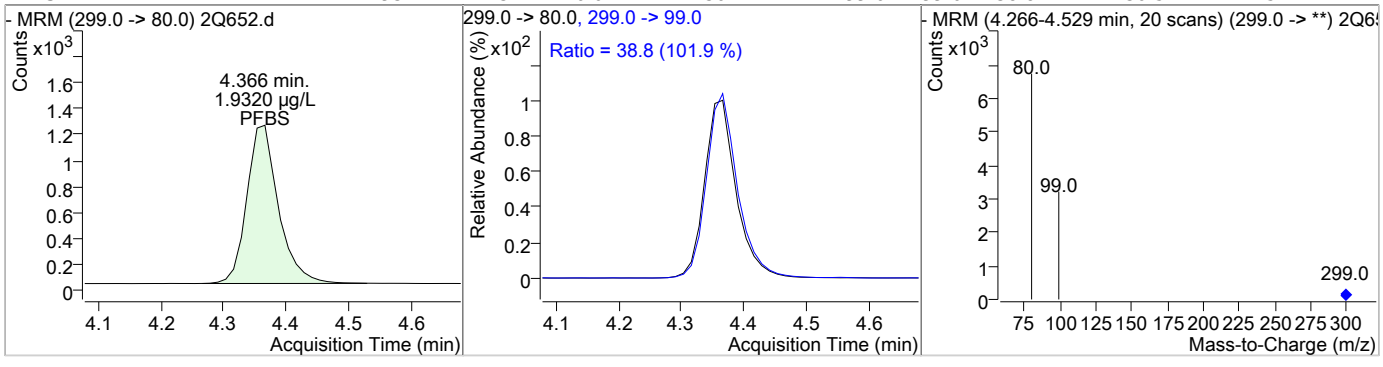
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	2.02	2.94	0.00	3920				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	2.06	4.24	0.01	11585				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.93	4.37	0.01	4304	299.0 -> 99.0	38.8	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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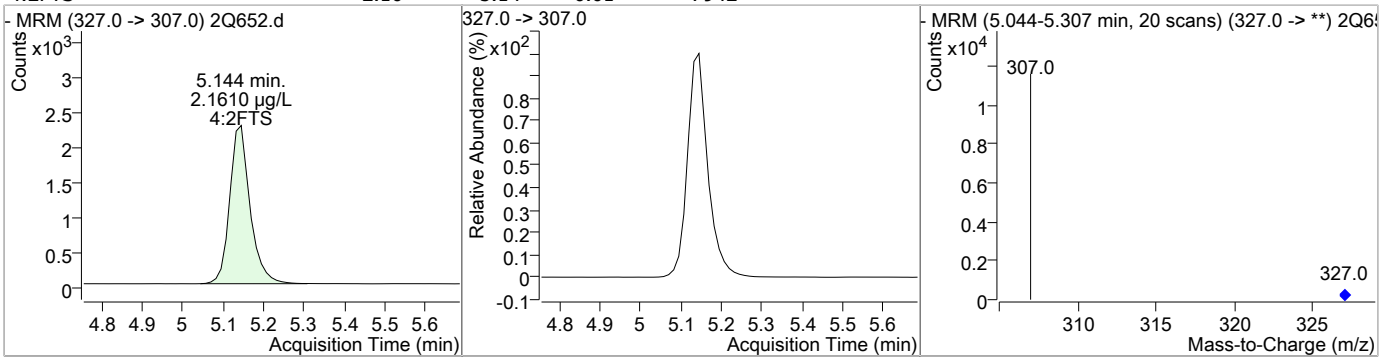
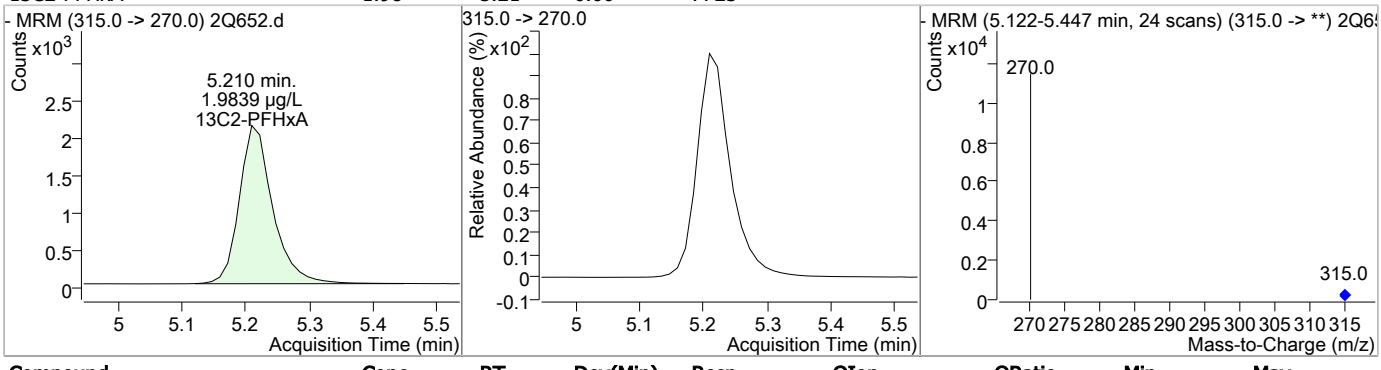
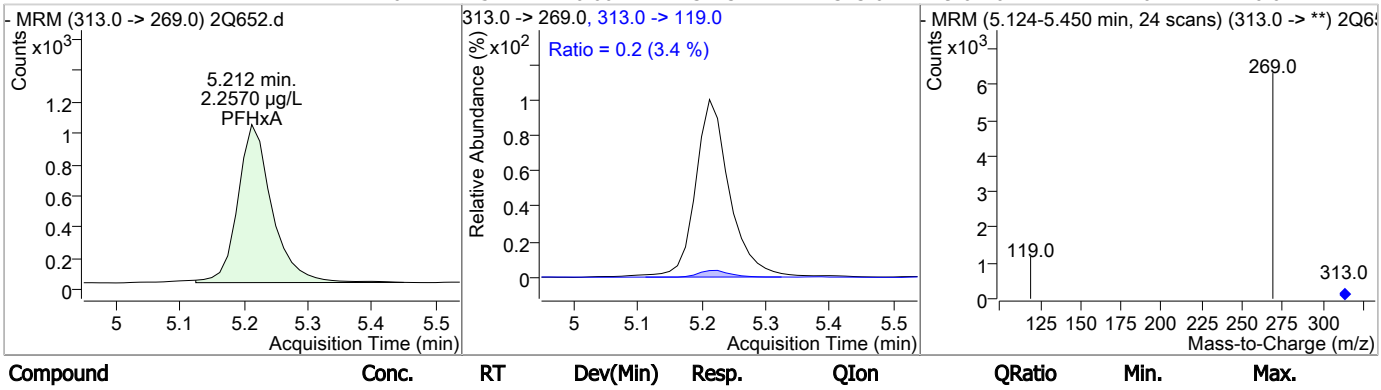
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	2.16	5.14	0.01	7942				



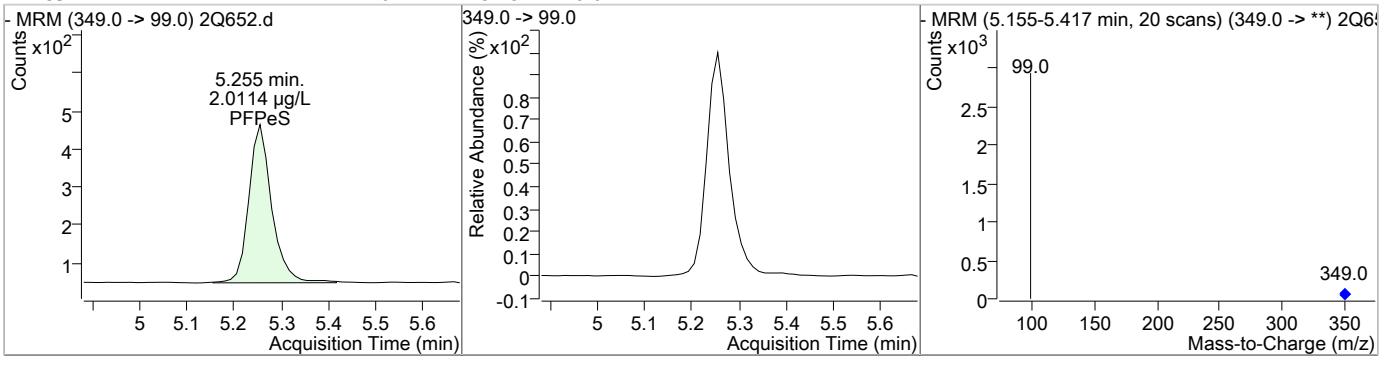
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	1.98	5.21	0.00	7723				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.26	5.21	0.00	3743	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.01	5.25	0.01	1417				



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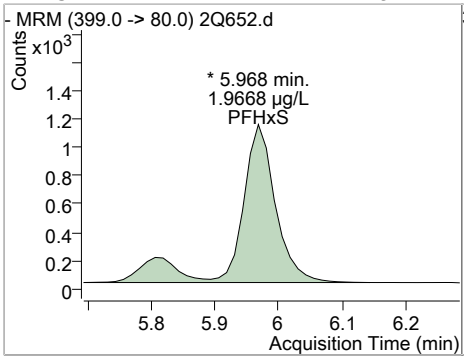
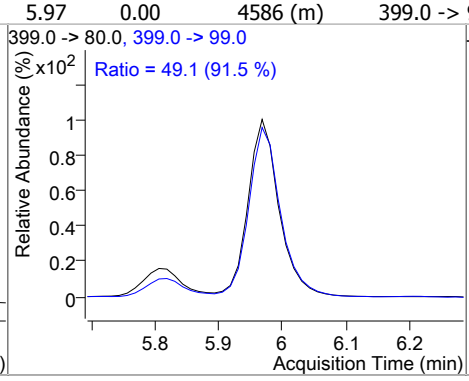
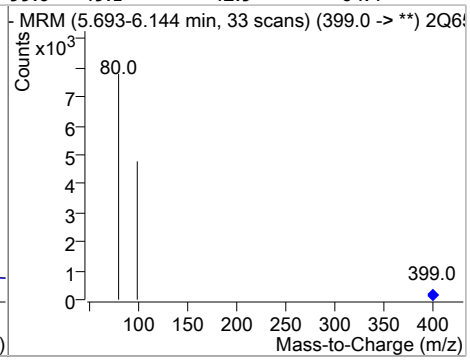
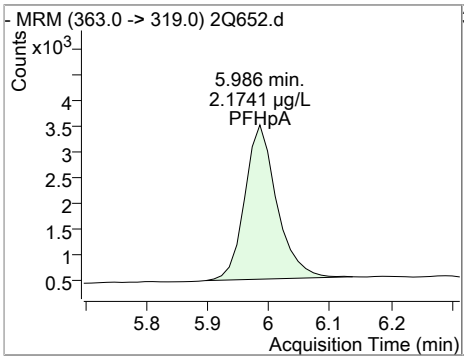
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.97	5.97	0.00	4586 (m)	399.0 -> 99.0	49.1	42.9	64.4

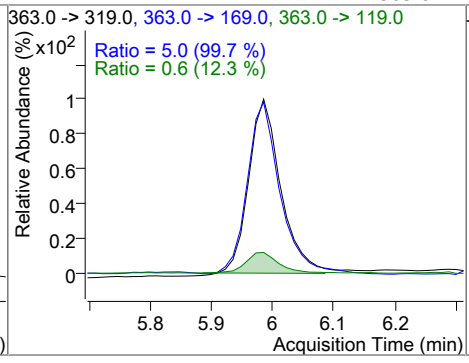


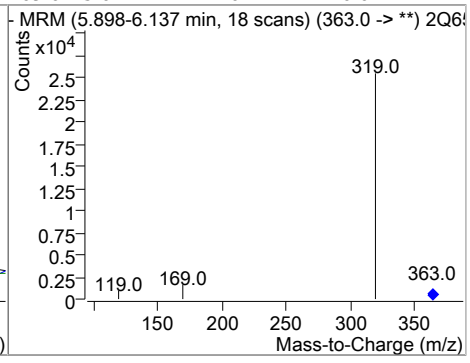




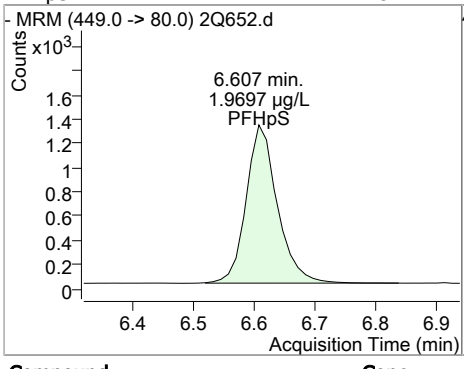
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.17	5.99	0.00	10857	363.0 -> 119.0	0.6	4.0	6.0
					363.0 -> 169.0	5.0	4.0	6.0

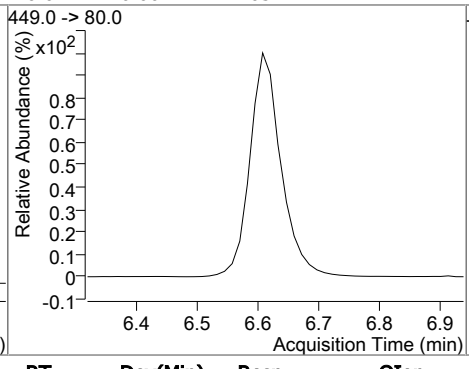


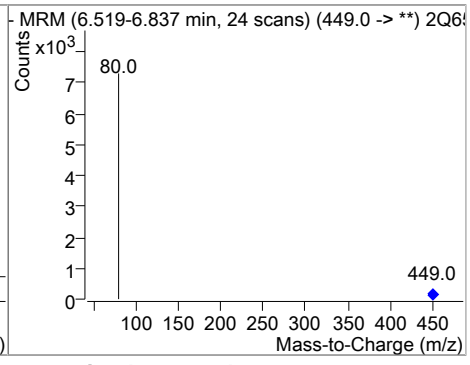




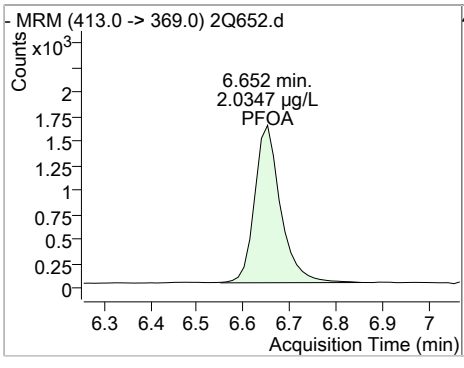
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.97	6.61	0.00	4657				

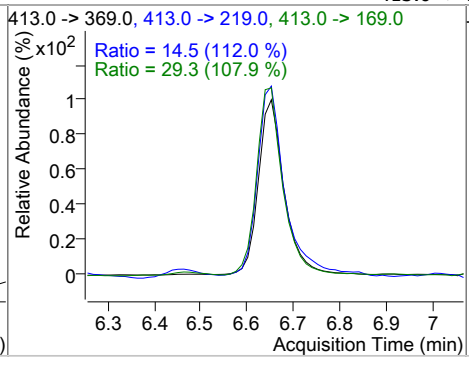


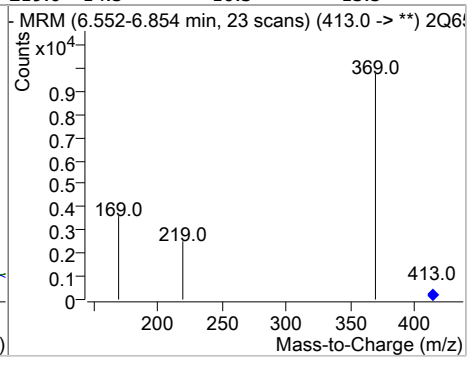




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.03	6.65	0.01	6233	413.0 -> 169.0	29.3	21.8	32.6
					413.0 -> 219.0	14.5	10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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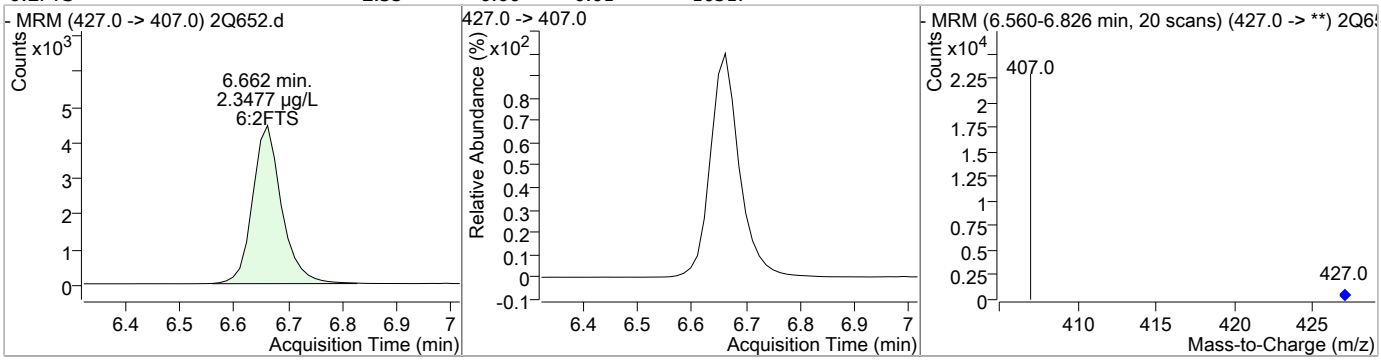
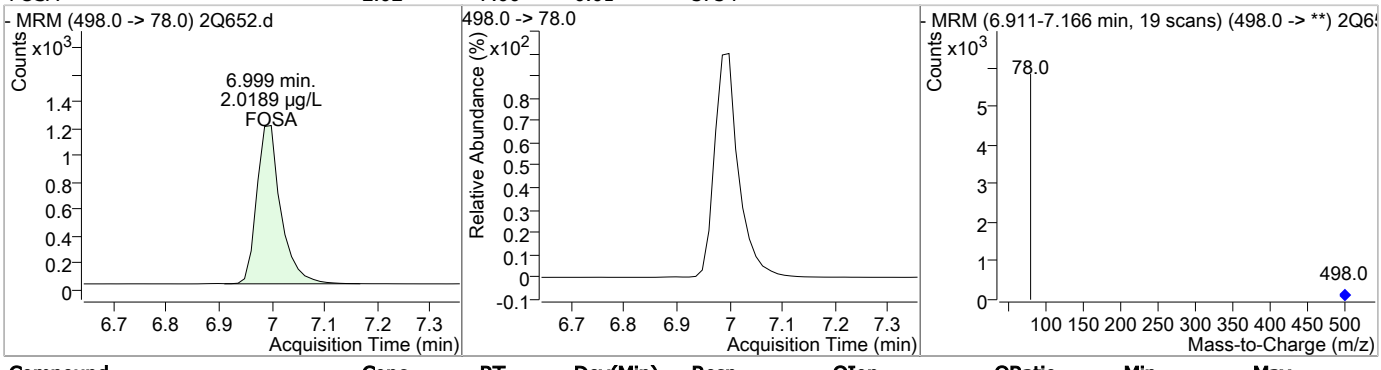
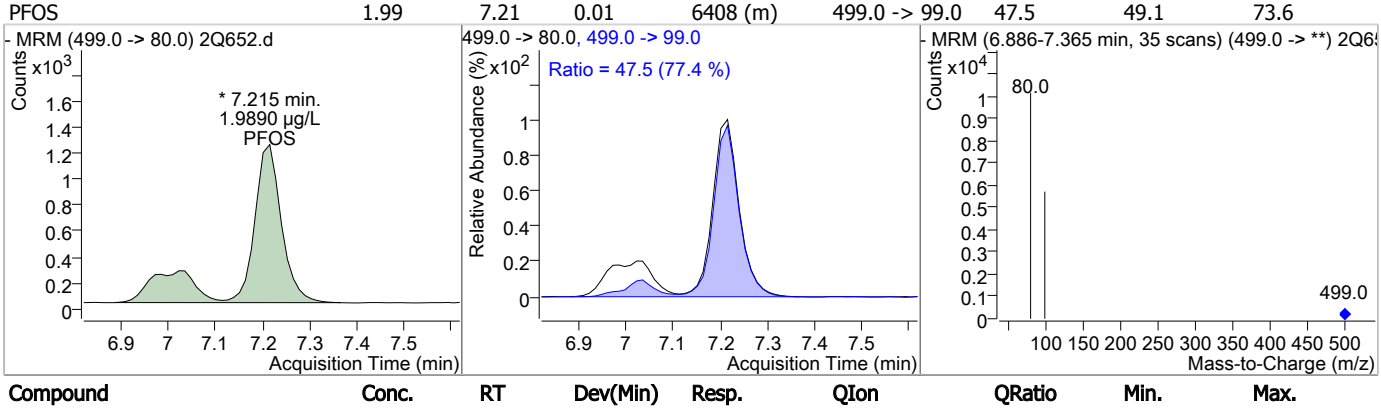
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	2.35	6.66	0.01	16517				



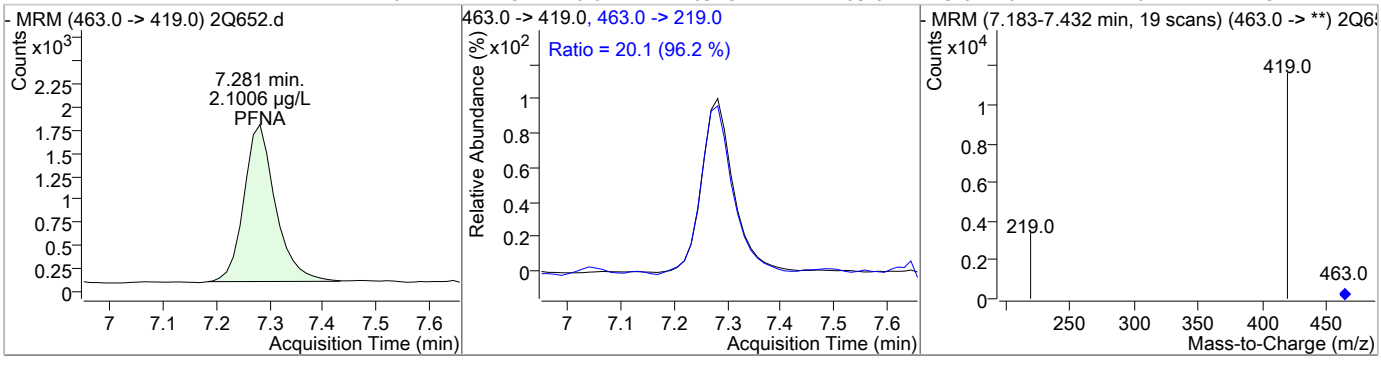
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.02	7.00	0.01	3734				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.99	7.21	0.01	6408 (m)	499.0 -> 99.0	47.5	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.10	7.28	0.01	6918	463.0 -> 219.0	20.1	16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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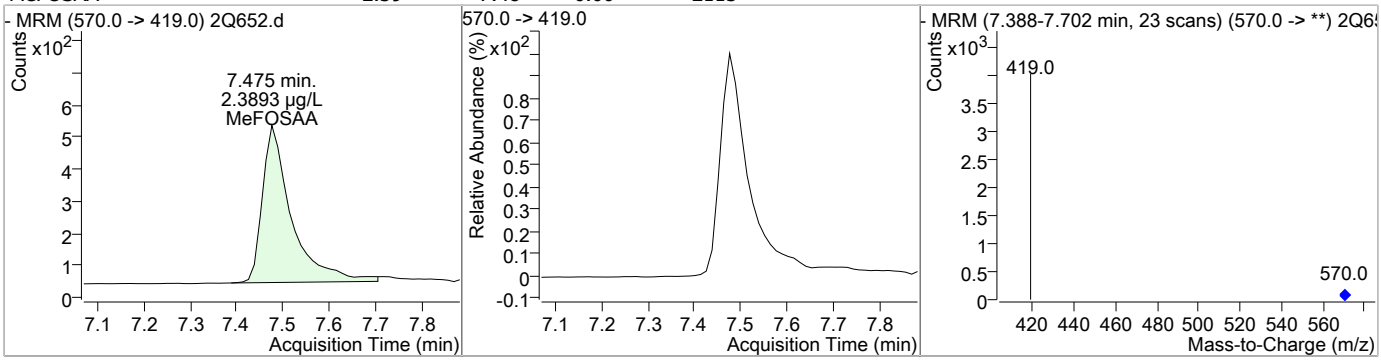
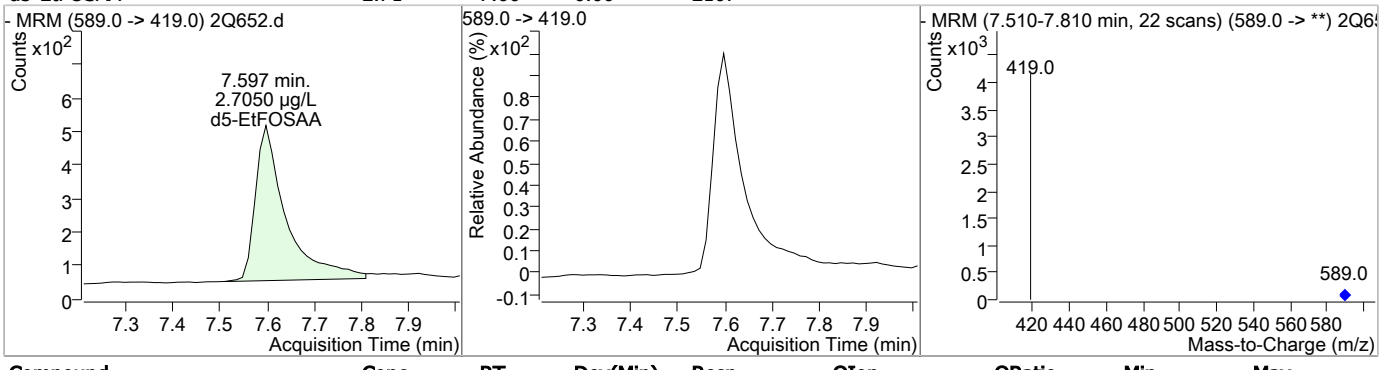
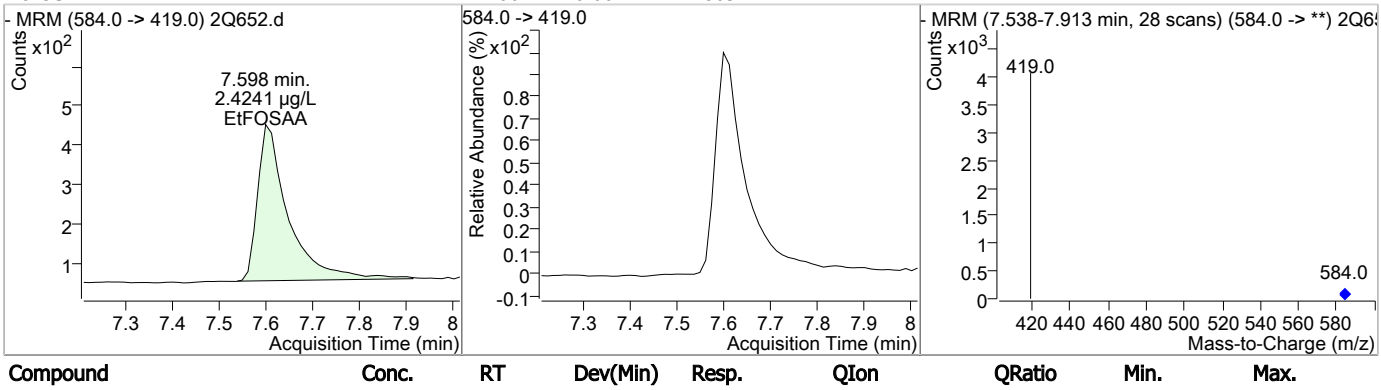
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.39	7.48	0.00	2113				



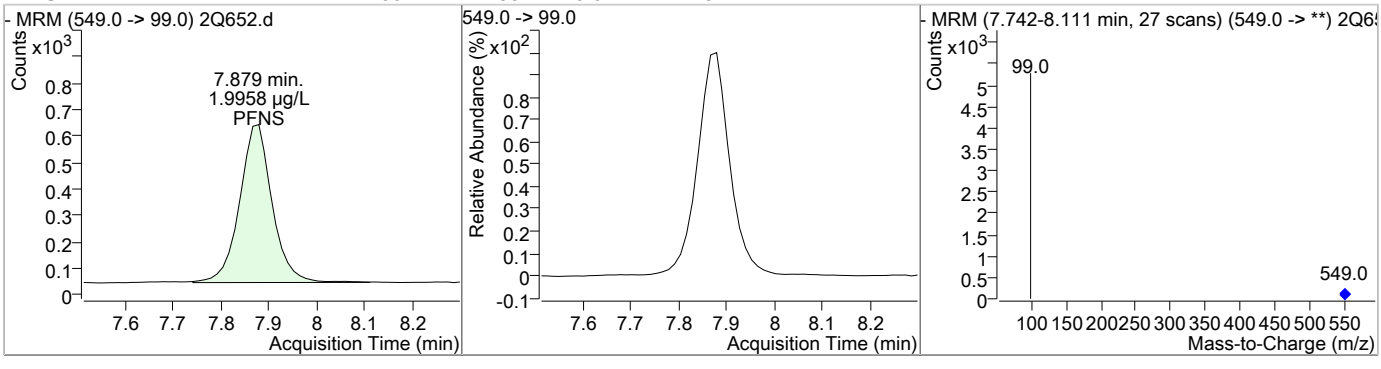
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	2.71	7.60	0.00	2107				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.42	7.60	0.00	1809				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.00	7.88	0.01	2814				



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Perfluorinated Compounds by LC/MS/MS

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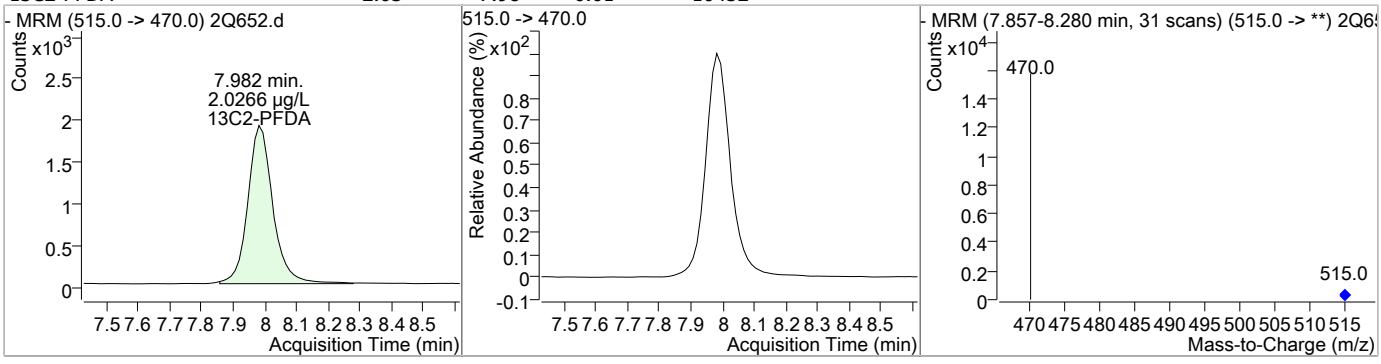
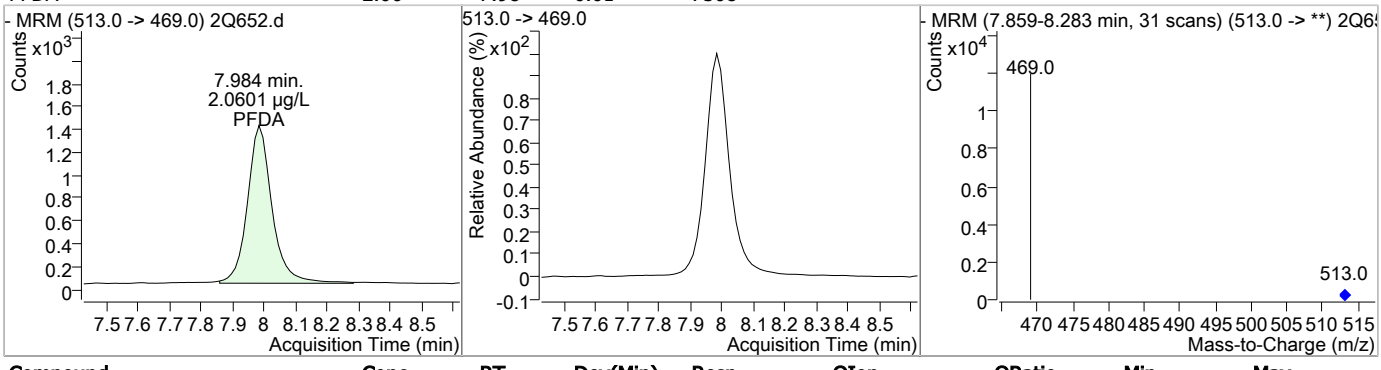
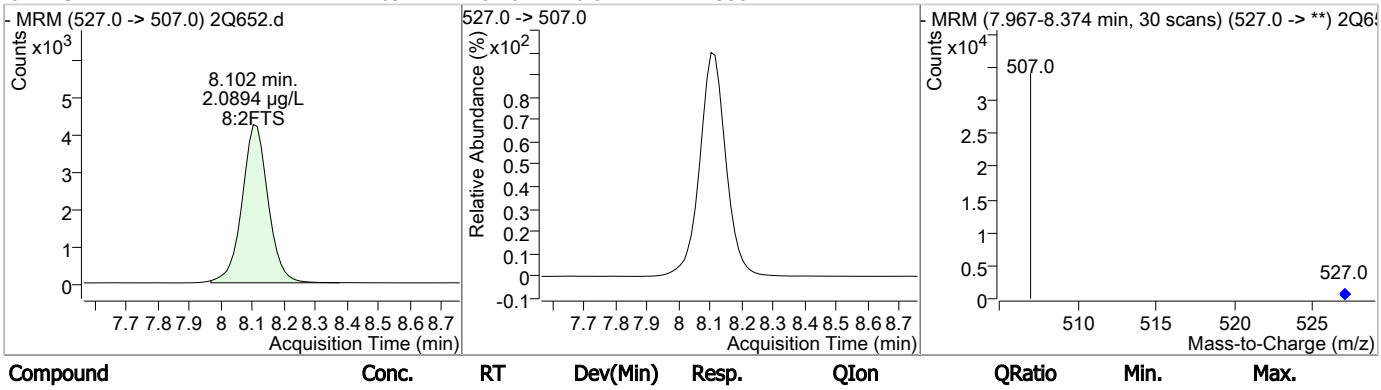
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	2.03	7.98	0.01	10452				



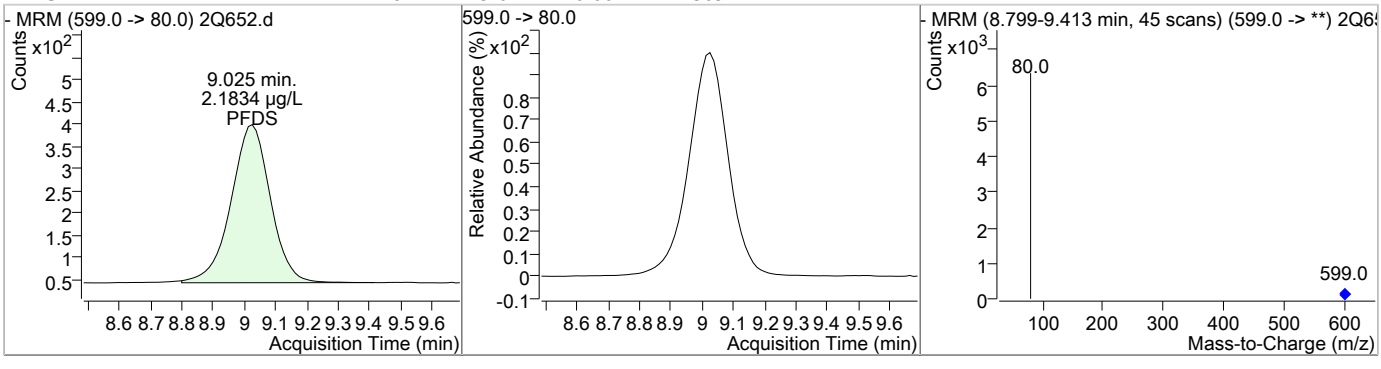
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.06	7.98	0.01	7508				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	2.09	8.10	0.01	24338				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.18	9.02	0.00	3097				



Perfluorinated Compounds by LC/MS/MS

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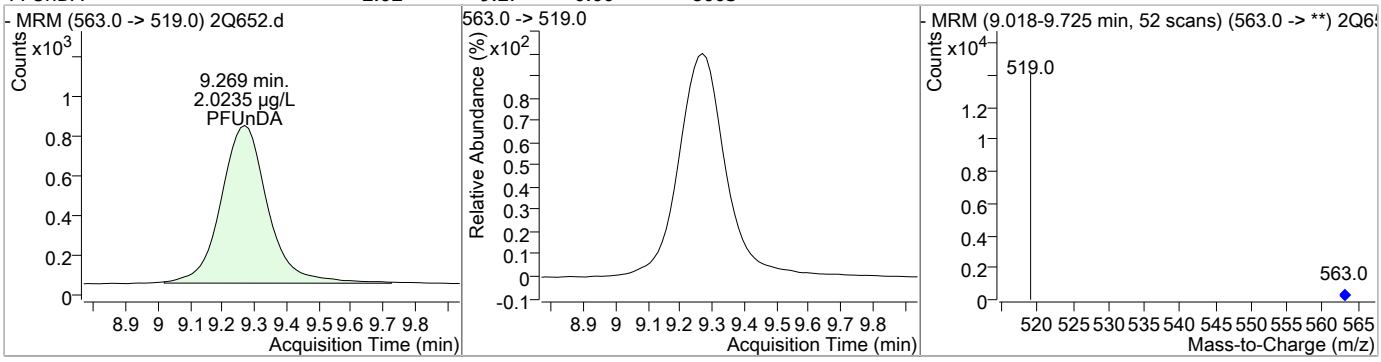
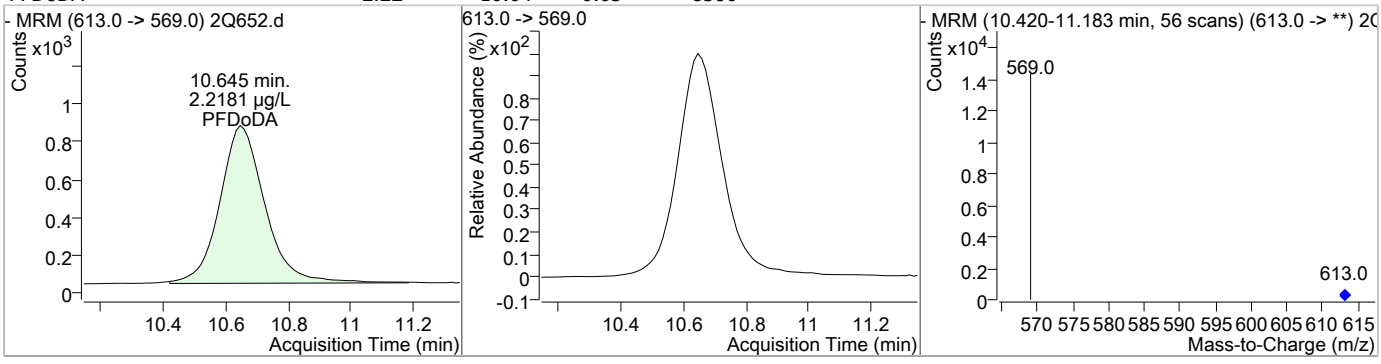
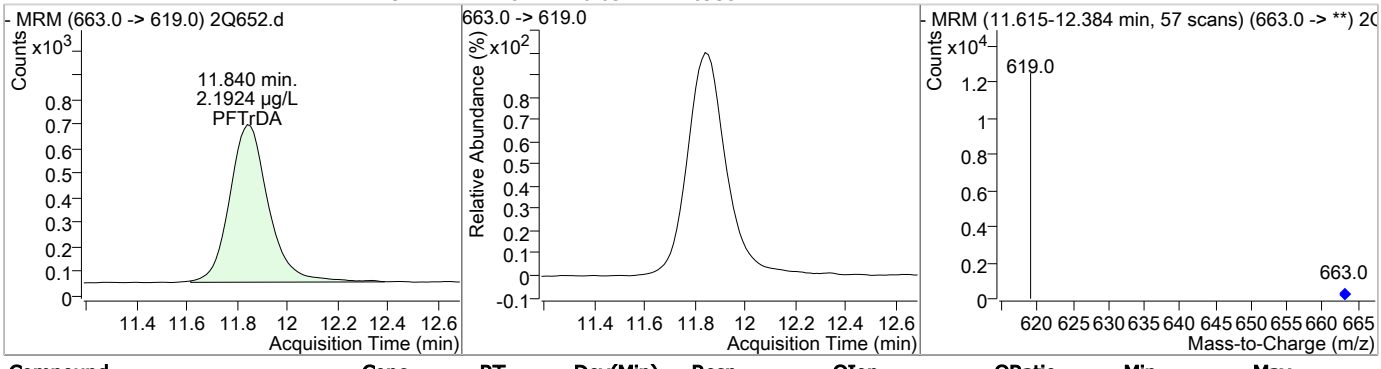
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.02	9.27	0.00	8003				



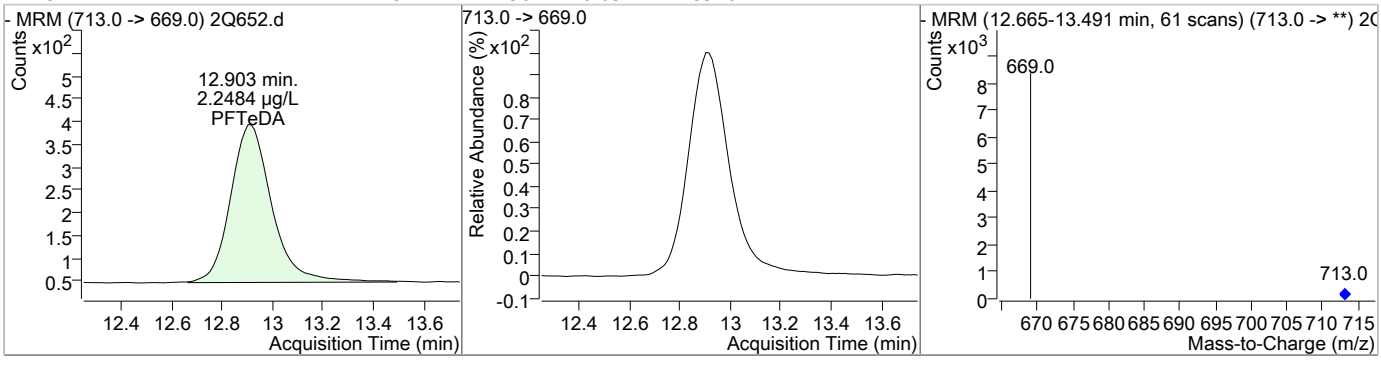
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.22	10.64	-0.03	8380				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.19	11.84	-0.03	6935				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.25	12.90	-0.03	3940				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q652.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 12:14	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.97	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q653.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 12:33:51 PM
Sample Name	:	IC18-5
Vial	:	Vial 4
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.660	429.0 -> 409.0	149408	20.00	µg/L		0.013
13C2-PFDoDA	10.651	615.0 -> 570.0	89183	20.00	µg/L		-0.013
13C2-PFOA	6.651	415.0 -> 370.0	74588	20.00	µg/L		0.013
13C3-PFPeA	4.234	266.0 -> 222.0	74514	20.00	µg/L		0.000
13C4-PFOS	7.214	503.0 -> 80.0	56334	20.00	µg/L		0.014
d3-MeFOSAA	7.474	573.0 -> 419.0	32584	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.982	515.0 -> 470.0	25239	4.84	µg/L		0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 24.2%			
13C2-PFHxA	5.210	315.0 -> 270.0	19144	4.86	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 24.3%			
d5-EtFOSAA	7.597	589.0 -> 419.0	4389	5.86	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 29.3%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	19964	5.29	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	39875	5.52	µg/L		100
8:2FTS	8.102	527.0 -> 507.0	62098	5.19	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	3997	5.60	µg/L		100
FOSA	6.986	498.0 -> 78.0	9105	5.20	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	4778	5.61	µg/L		100
PFBA	2.940	213.0 -> 169.0	9579	4.88	µg/L		100
PFBS	4.353	299.0 -> 80.0	10925	4.86	µg/L		100
PFDA	7.971	513.0 -> 469.0	18022	4.89	µg/L		100
PFDoDA	10.645	613.0 -> 569.0	20252	5.38	µg/L		100
PFDS	9.025	599.0 -> 80.0	7692	5.33	µg/L		100
PFHpA	5.986	363.0 -> 319.0	26345	5.19	µg/L	#	93
PFHpS	6.607	449.0 -> 80.0	11503	4.82	µg/L		100
PFHxA	5.212	313.0 -> 269.0	9120	5.39	µg/L	#	86
PFHxS	5.968	399.0 -> 80.0	11419	4.85	µg/L	m	93
PFNA	7.269	463.0 -> 419.0	17156	5.15	µg/L		97
PFNS	7.867	549.0 -> 99.0	7047	4.95	µg/L		100
PFOA	6.652	413.0 -> 369.0	15593	5.03	µg/L		99
PFOS	7.201	499.0 -> 80.0	16099	4.95	µg/L	m	85
PFPeA	4.238	263.0 -> 219.0	27861	4.93	µg/L		100
PFPeS	5.255	349.0 -> 99.0	3487	4.92	µg/L		100
PFTeDA	12.903	713.0 -> 669.0	9627	5.50	µg/L		100
PFTrDA	11.840	663.0 -> 619.0	17193	5.44	µg/L		100
PFUnDA	9.269	563.0 -> 519.0	19572	5.00	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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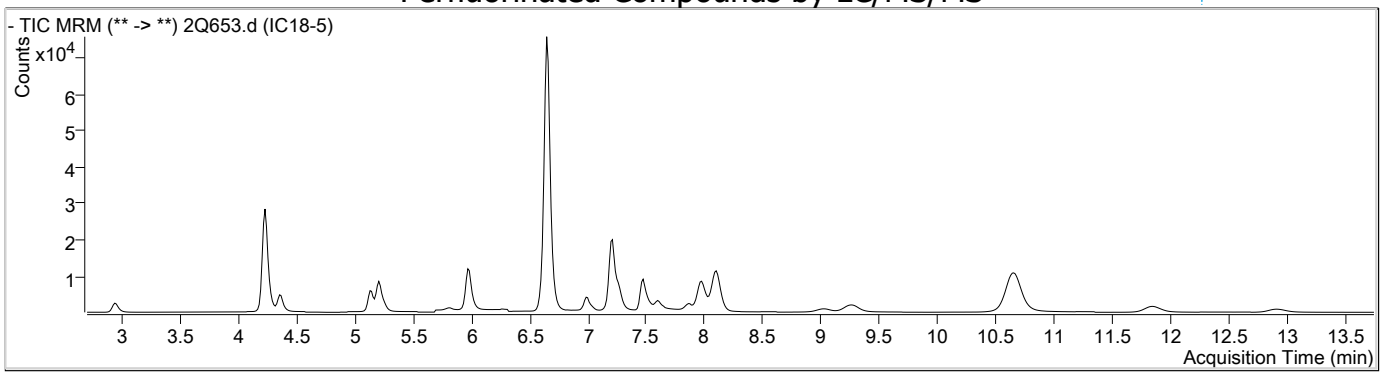
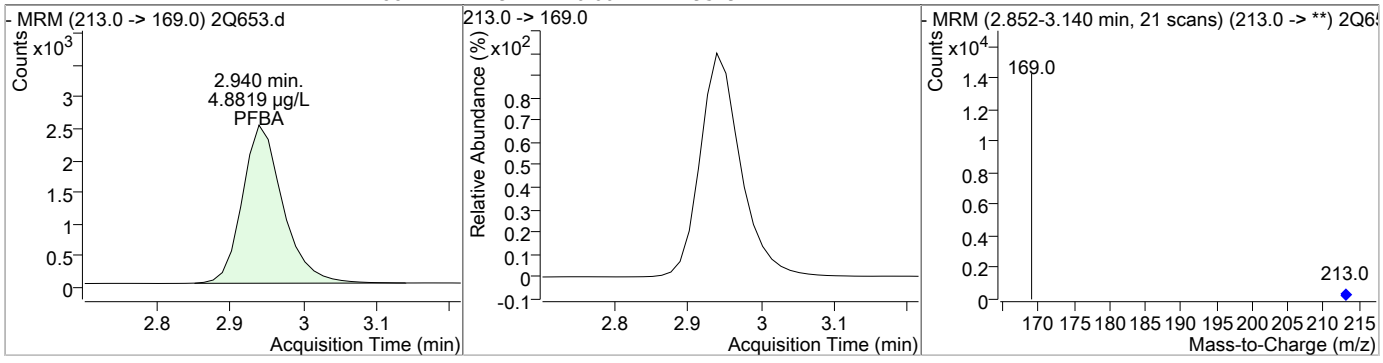
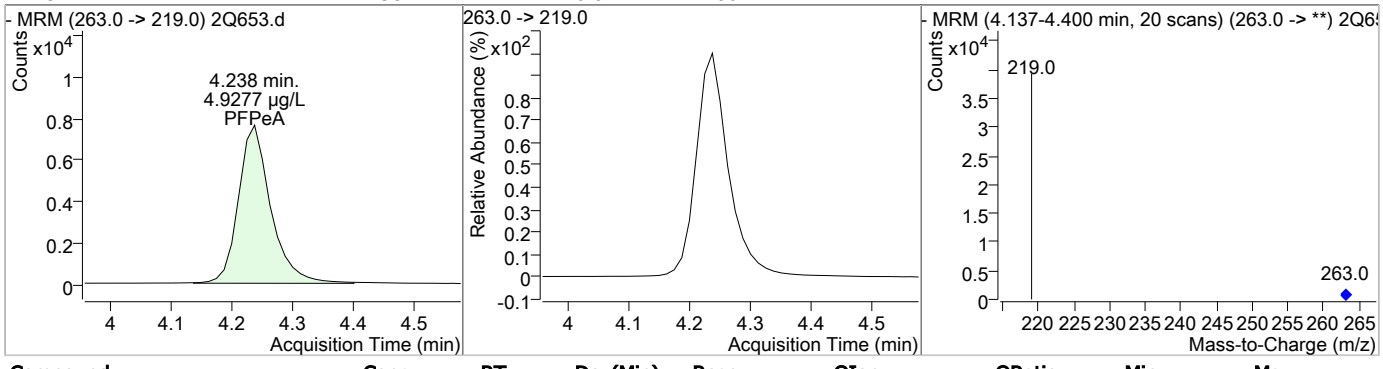


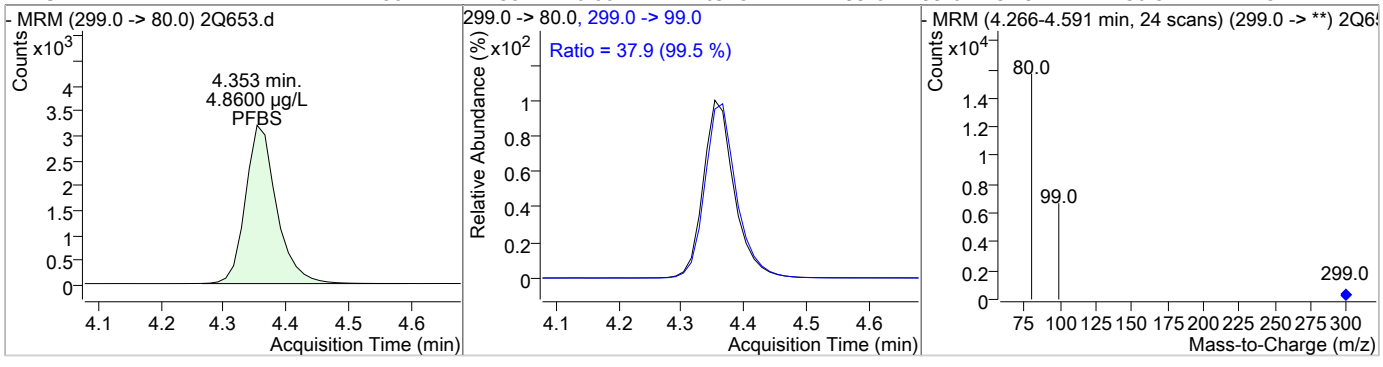
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	4.88	2.94	0.00	9579				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.93	4.24	0.01	27861				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.86	4.35	0.00	10925	299.0 -> 99.0	37.9	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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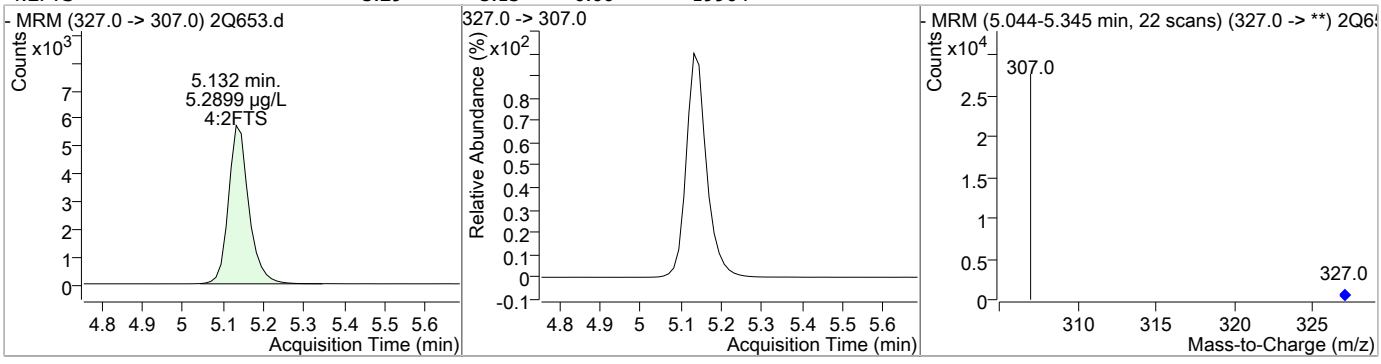
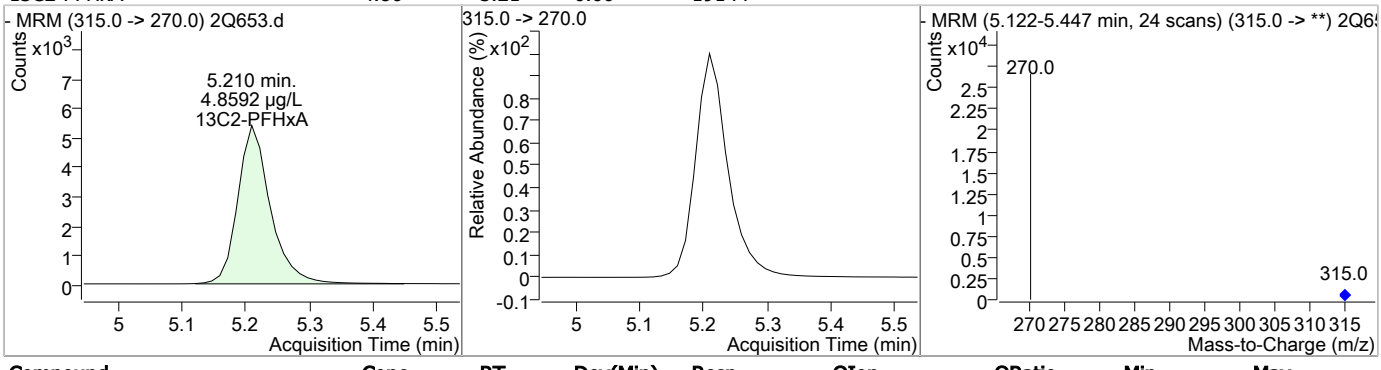
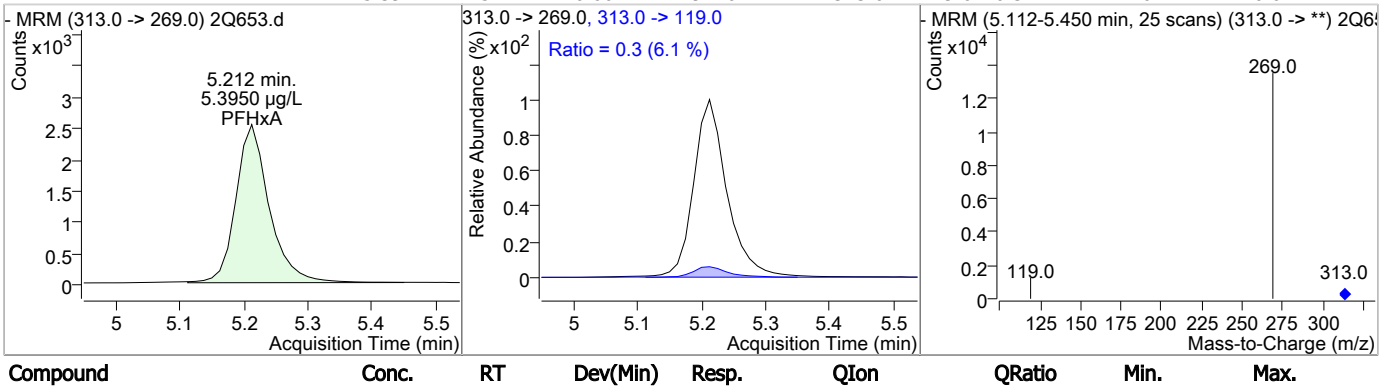
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	5.29	5.13	0.00	19964				



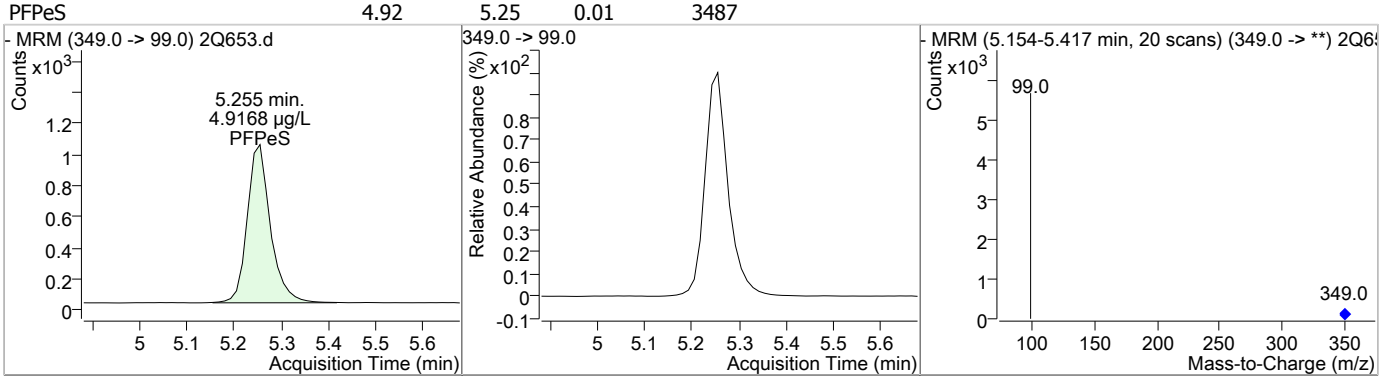
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	4.86	5.21	0.00	19144				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	5.39	5.21	0.00	9120	313.0 -> 119.0	0.3	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	4.92	5.25	0.01	3487				



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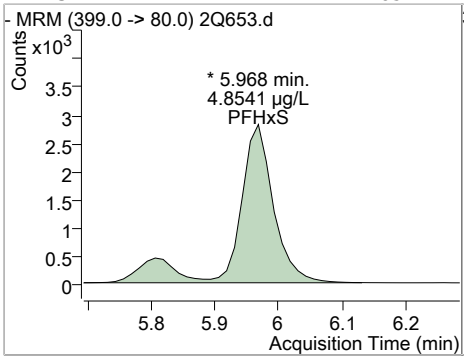
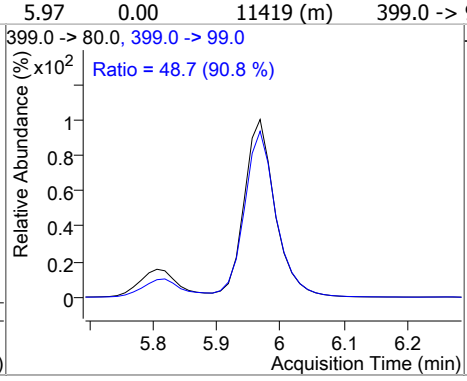
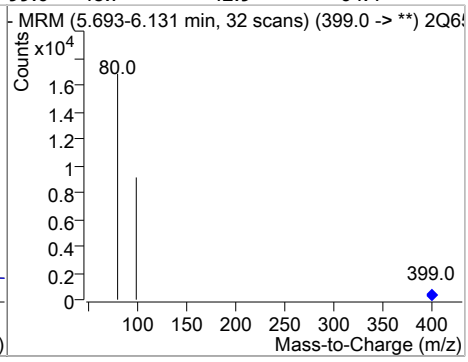
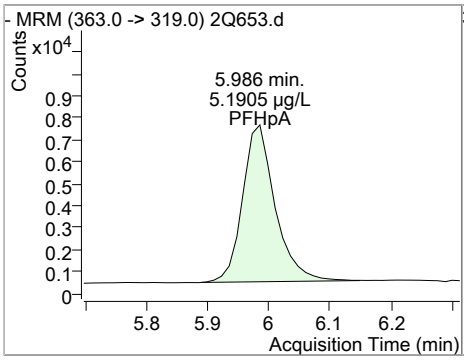
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	4.85	5.97	0.00	11419 (m)	399.0 -> 99.0	48.7	42.9	64.4

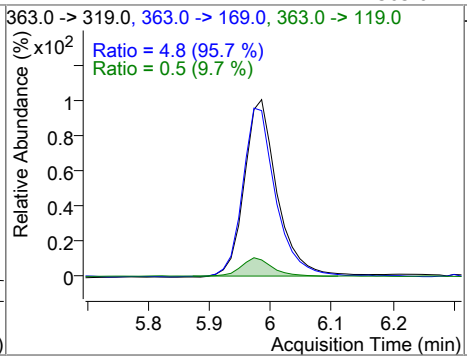


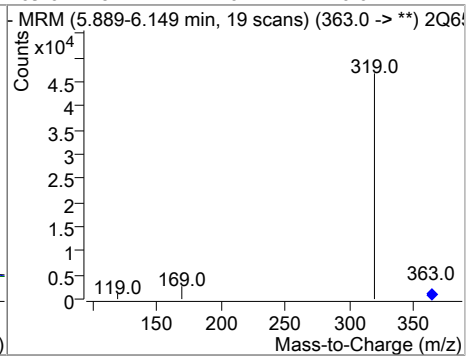




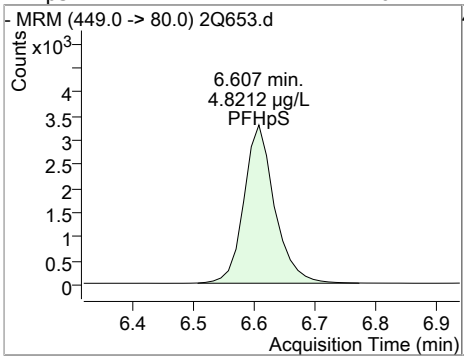
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	5.19	5.99	0.00	26345	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.8	4.0	6.0

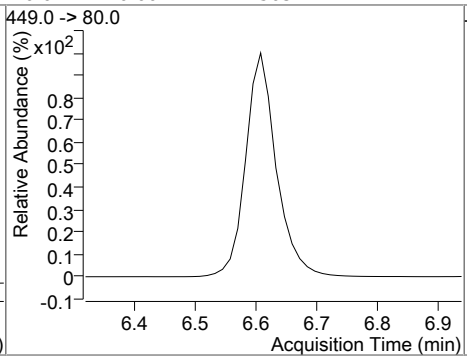


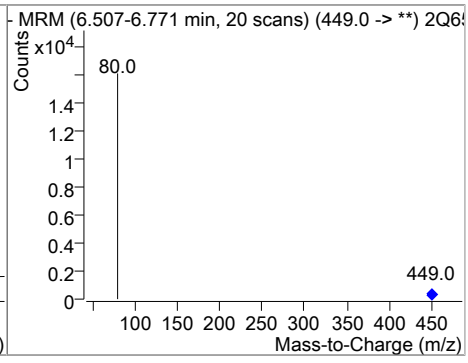




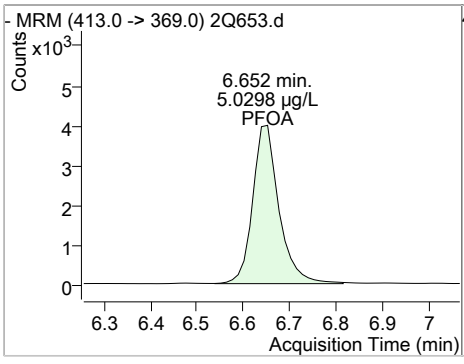
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	4.82	6.61	0.00	11503				

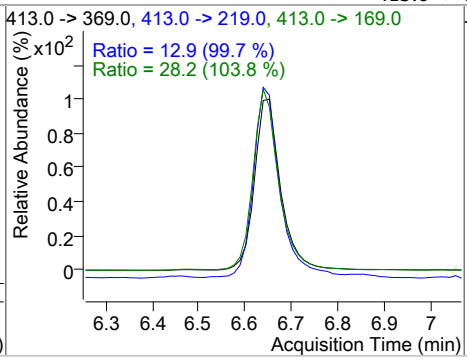


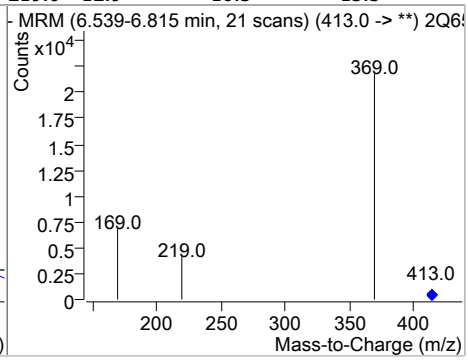




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	5.03	6.65	0.01	15593	413.0 -> 169.0	28.2	21.8	32.6
					413.0 -> 219.0	12.9	10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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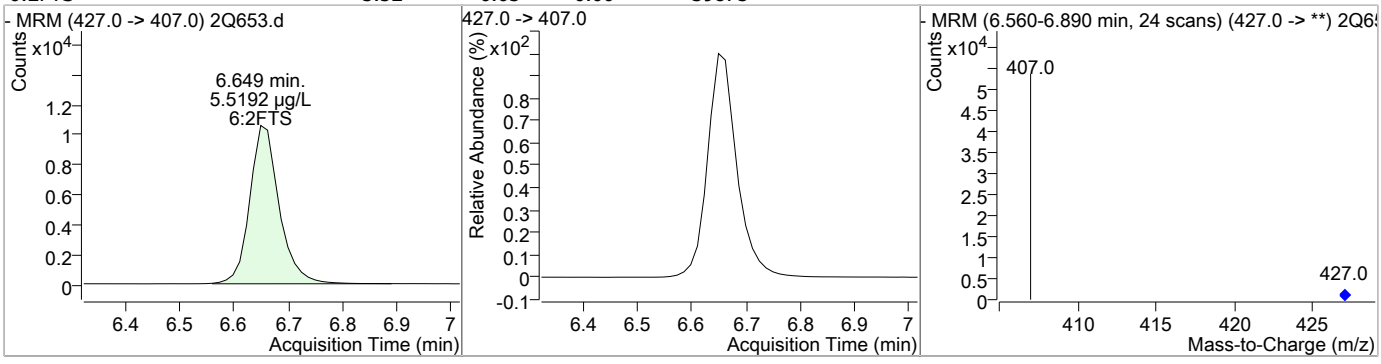
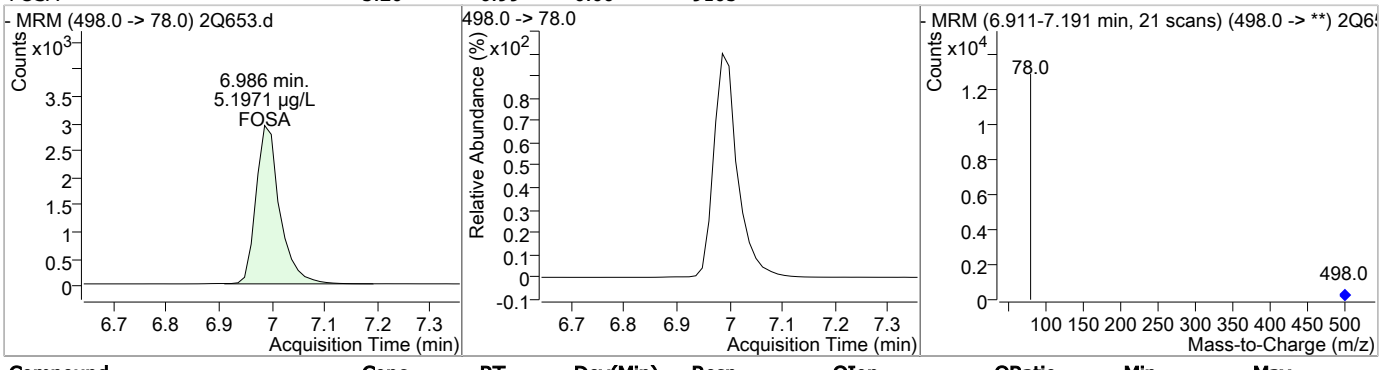
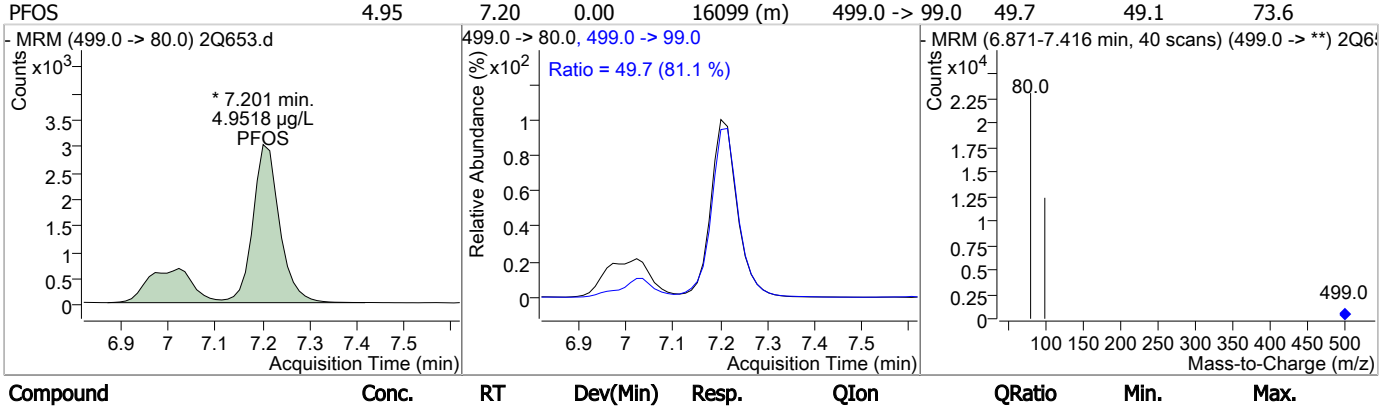
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	5.52	6.65	0.00	39875				



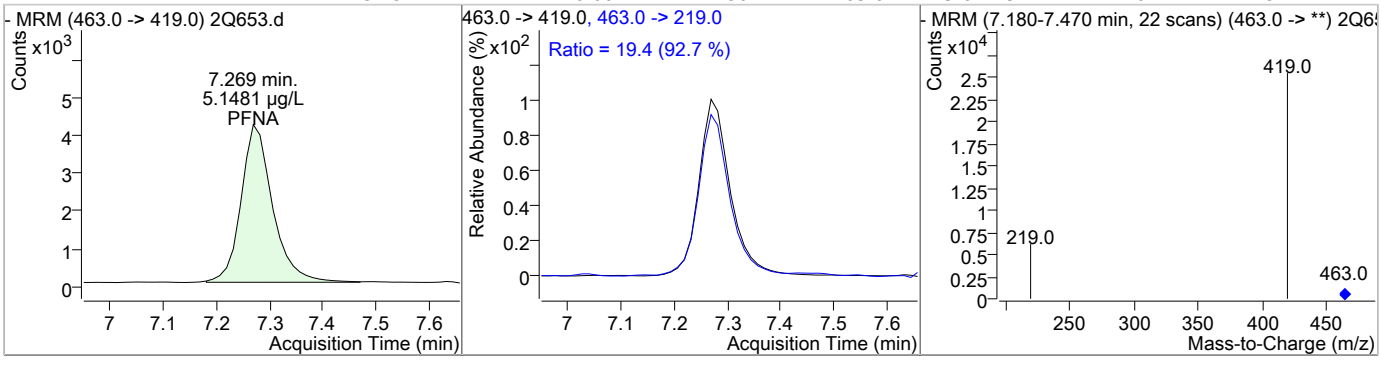
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	5.20	6.99	0.00	9105				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.95	7.20	0.00	16099 (m)	499.0 -> 99.0	49.7	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	5.15	7.27	0.00	17156	463.0 -> 219.0	19.4	16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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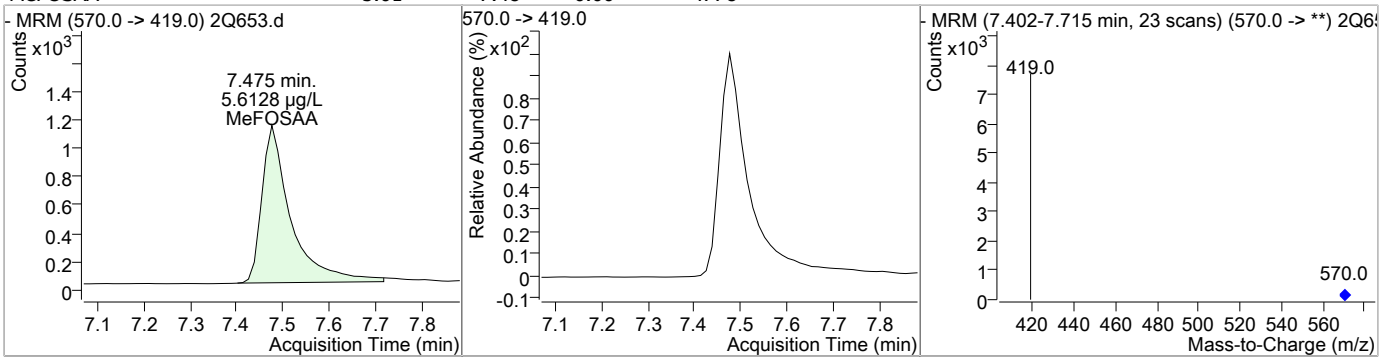
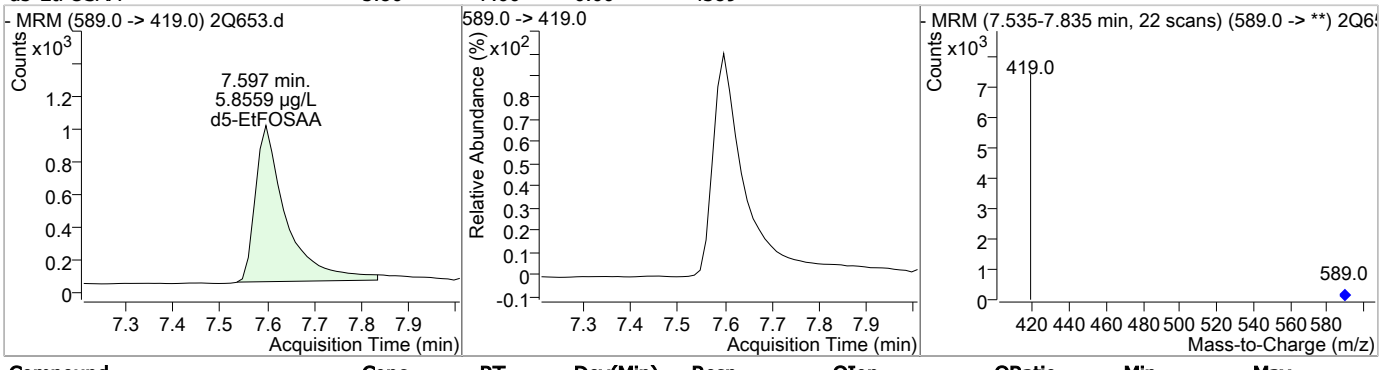
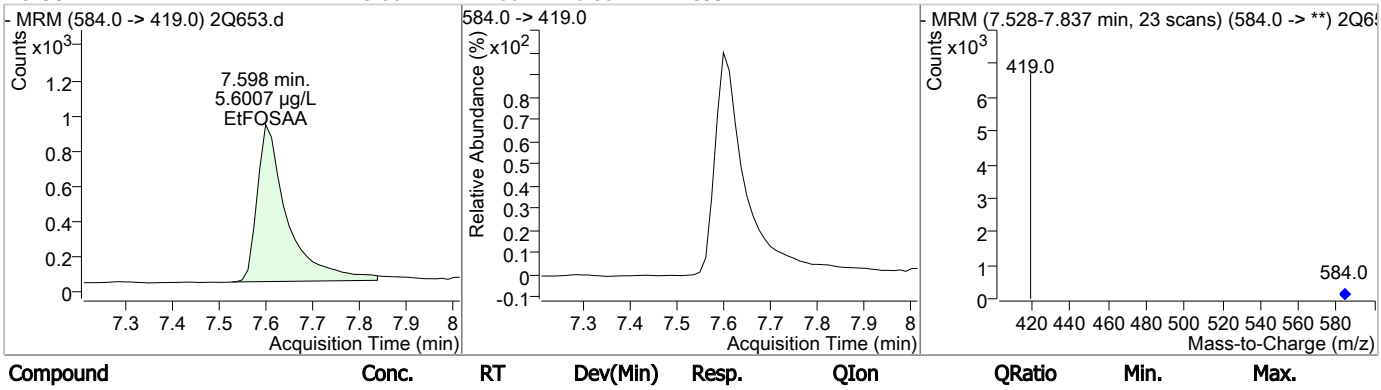
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	5.61	7.48	0.00	4778				



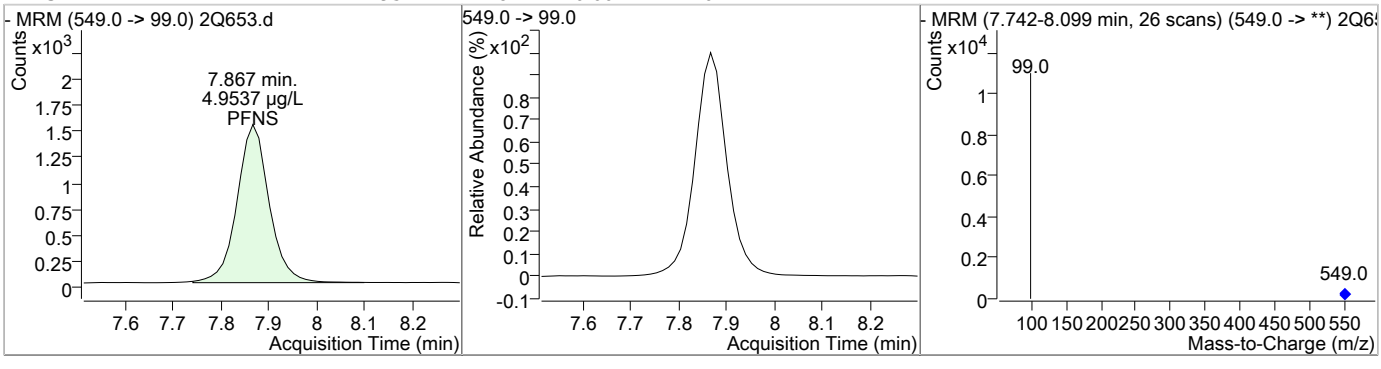
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.86	7.60	0.00	4389				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	5.60	7.60	0.00	3997				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	4.95	7.87	0.00	7047				



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Perfluorinated Compounds by LC/MS/MS

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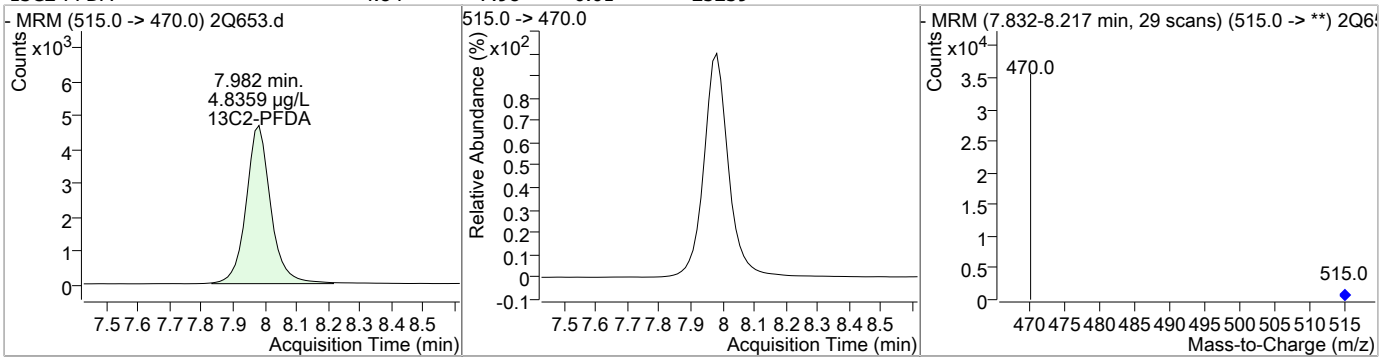
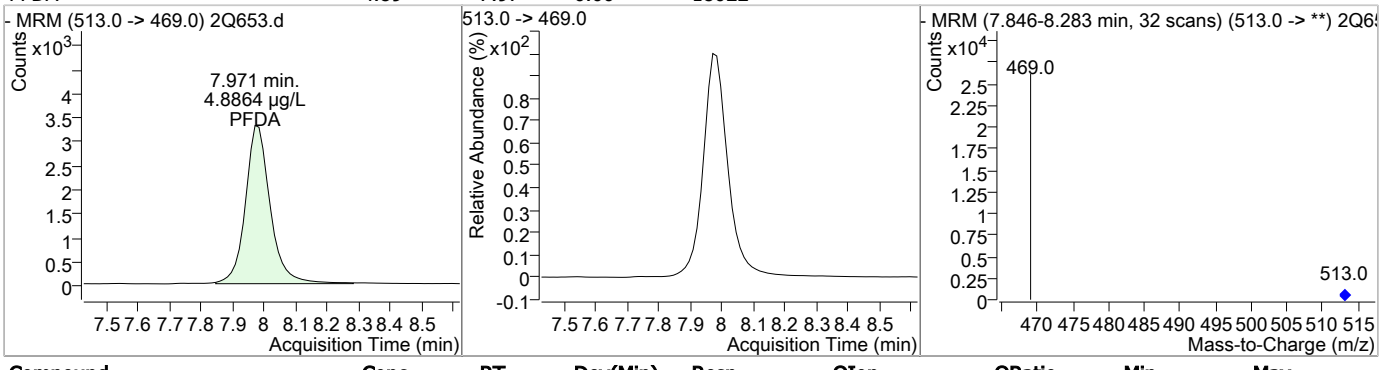
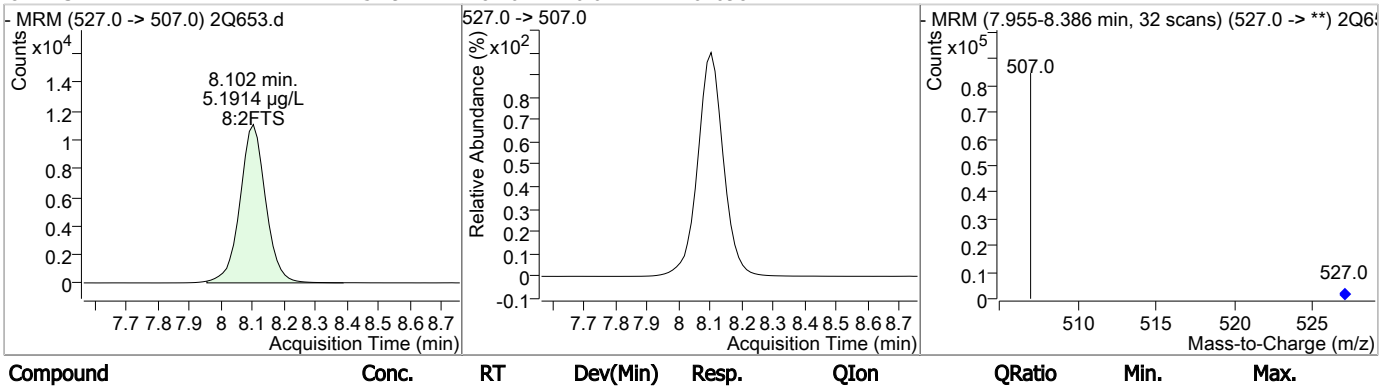
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	4.84	7.98	0.01	25239				



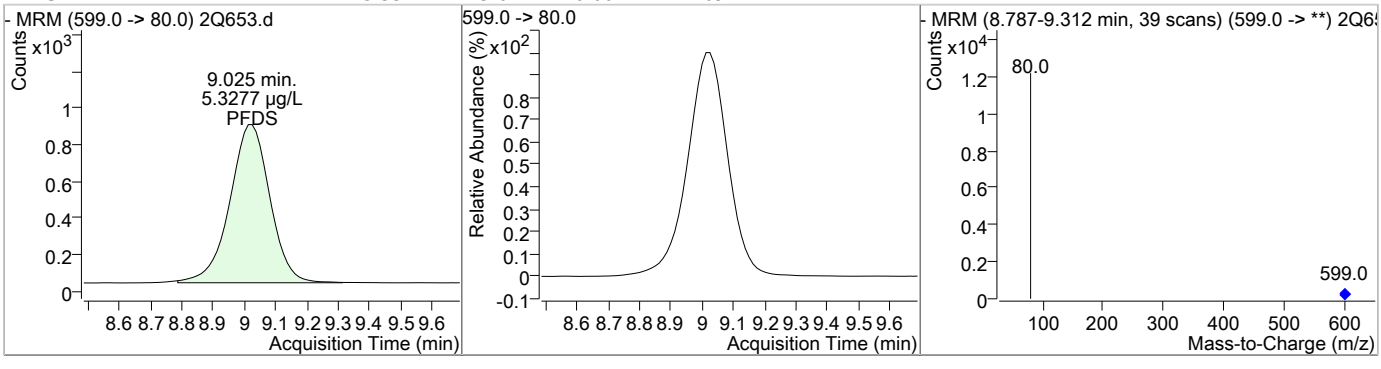
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	4.89	7.97	0.00	18022				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	5.19	8.10	0.01	62098				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	5.33	9.02	0.00	7692				



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Perfluorinated Compounds by LC/MS/MS

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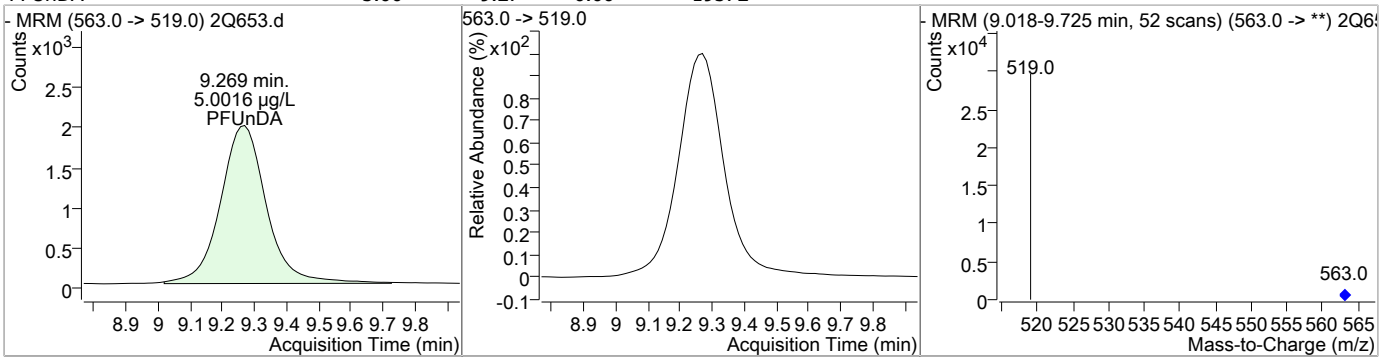
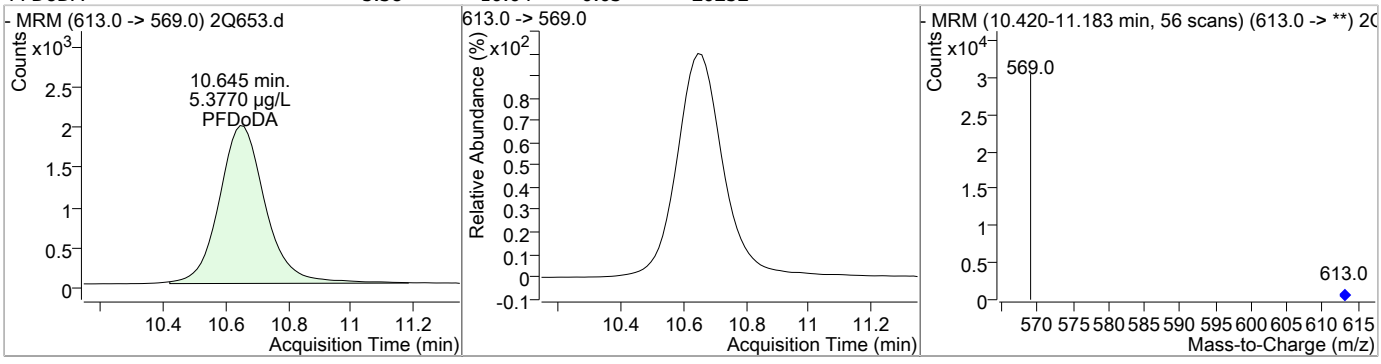
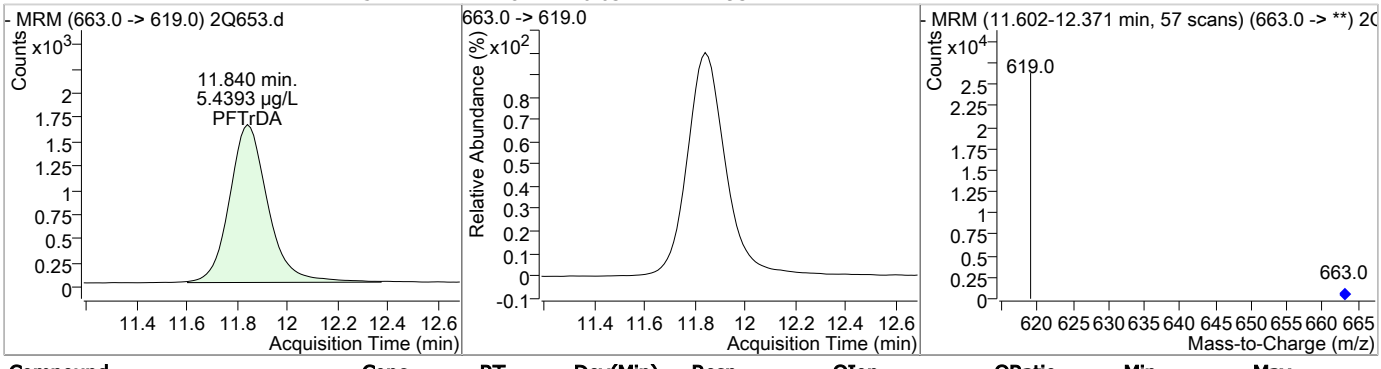
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	5.00	9.27	0.00	19572				



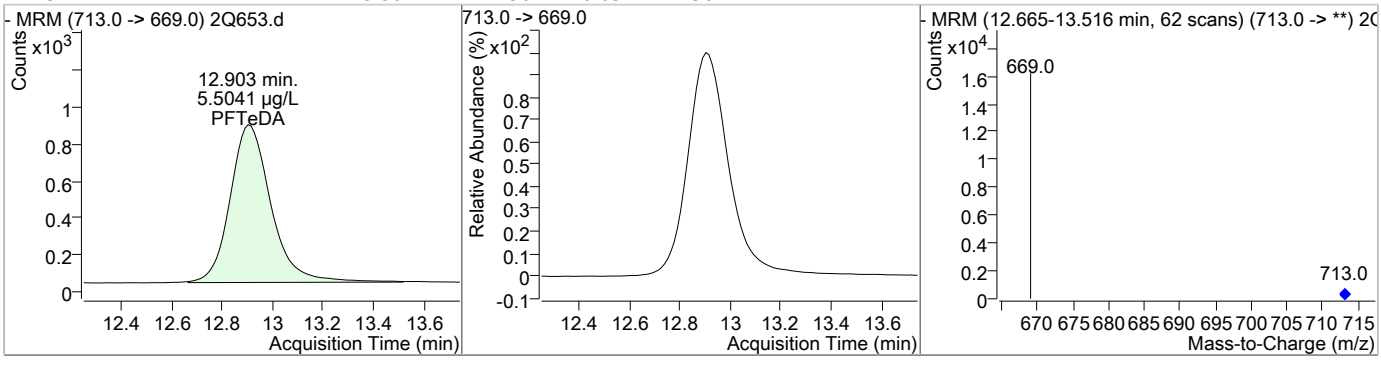
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	5.38	10.64	-0.03	20252				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	5.44	11.84	-0.03	17193				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	5.50	12.90	-0.03	9627				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q653.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 12:33	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.97	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.20	Split peak

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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q654.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 12:53:35 PM
Sample Name	:	IC18-10
Vial	:	Vial 5
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.660	429.0 -> 409.0	151398	20.00	µg/L		0.013
13C2-PFDoDA	10.676	615.0 -> 570.0	90119	20.00	µg/L		0.013
13C2-PFOA	6.651	415.0 -> 370.0	75500	20.00	µg/L		0.013
13C3-PFPeA	4.234	266.0 -> 222.0	74532	20.00	µg/L		0.000
13C4-PFOS	7.214	503.0 -> 80.0	56977	20.00	µg/L		0.014
d3-MeFOSAA	7.474	573.0 -> 419.0	34214	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.982	515.0 -> 470.0	51879	9.82	µg/L		0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 49.1%			
13C2-PFHxA	5.210	315.0 -> 270.0	39125	9.81	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 49.1%			
d5-EtFOSAA	7.597	589.0 -> 419.0	8943	11.08	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 55.4%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	40678	10.64	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	79916	10.92	µg/L		100
8:2FTS	8.102	527.0 -> 507.0	128092	10.57	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	7765	10.22	µg/L		100
FOSA	6.986	498.0 -> 78.0	18892	10.27	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	10408	11.32	µg/L		100
PFBA	2.940	213.0 -> 169.0	19476	9.81	µg/L		100
PFBS	4.353	299.0 -> 80.0	22215	9.77	µg/L		100
PFDA	7.971	513.0 -> 469.0	36869	9.88	µg/L		100
PFDoDA	10.670	613.0 -> 569.0	41408	10.74	µg/L		100
PFDS	9.025	599.0 -> 80.0	15632	10.55	µg/L		100
PFHpA	5.986	363.0 -> 319.0	53261	10.29	µg/L	#	93
PFHpS	6.607	449.0 -> 80.0	23423	9.71	µg/L		100
PFHxA	5.212	313.0 -> 269.0	17995	10.40	µg/L	#	86
PFHxS	5.968	399.0 -> 80.0	23060	9.69	µg/L	m	94
PFNA	7.269	463.0 -> 419.0	33687	9.99	µg/L		98
PFNS	7.867	549.0 -> 99.0	14200	9.87	µg/L		100
PFOA	6.639	413.0 -> 369.0	31431	10.02	µg/L		99
PFOS	7.201	499.0 -> 80.0	32188	9.79	µg/L	m	85
PFPeA	4.238	263.0 -> 219.0	56336	9.96	µg/L		100
PFPeS	5.242	349.0 -> 99.0	7019	9.89	µg/L		100
PFTeDA	12.928	713.0 -> 669.0	19571	10.91	µg/L		100
PFTrDA	11.865	663.0 -> 619.0	35228	10.85	µg/L		100
PFUnDA	9.269	563.0 -> 519.0	39980	10.11	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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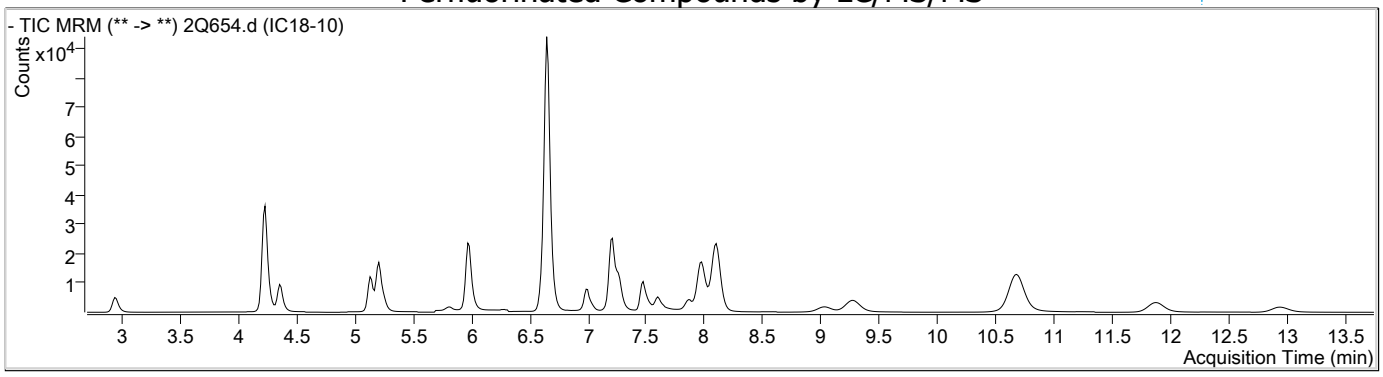
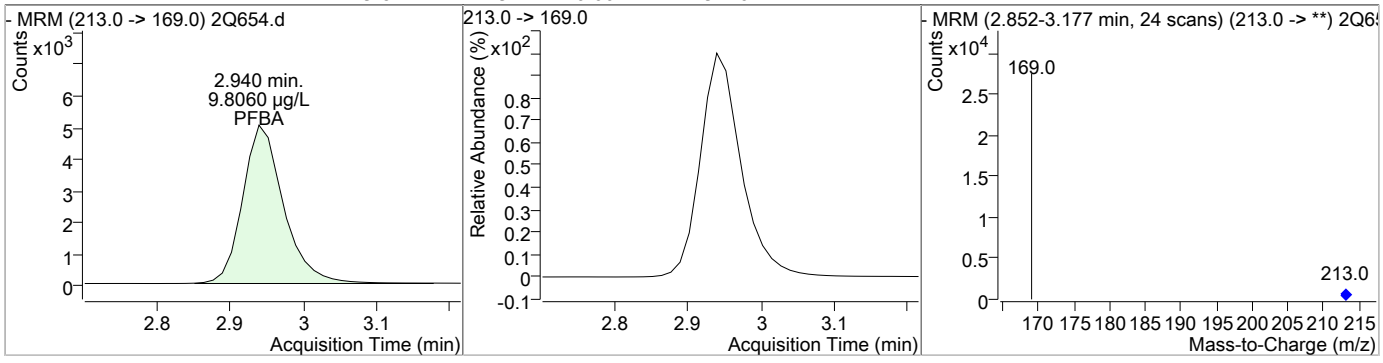
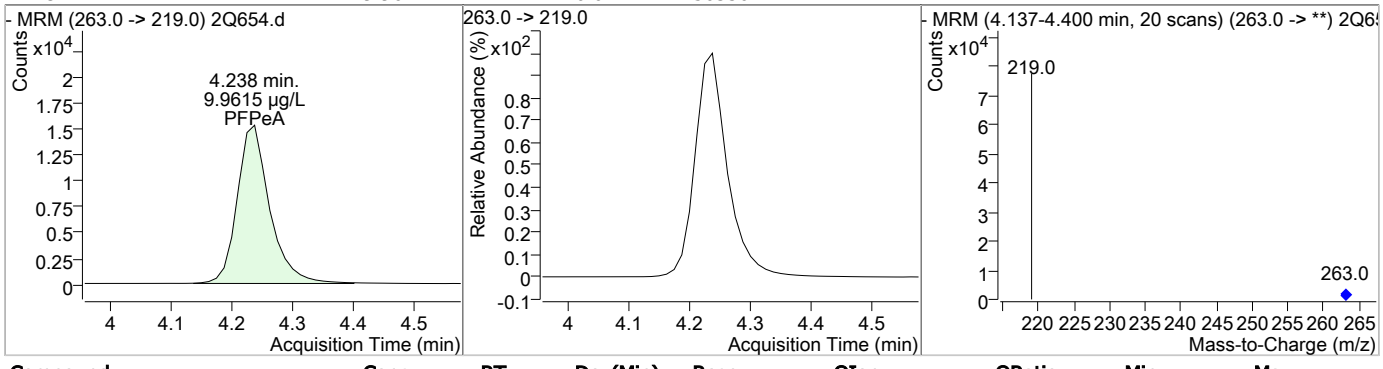


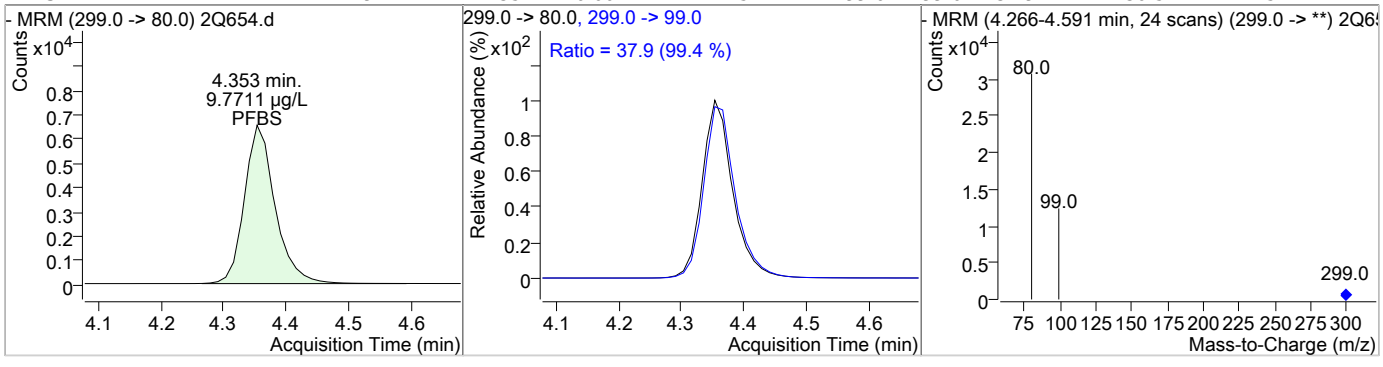
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.81	2.94	0.00	19476				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	9.96	4.24	0.01	56336				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	9.77	4.35	0.00	22215	299.0 -> 99.0	37.9	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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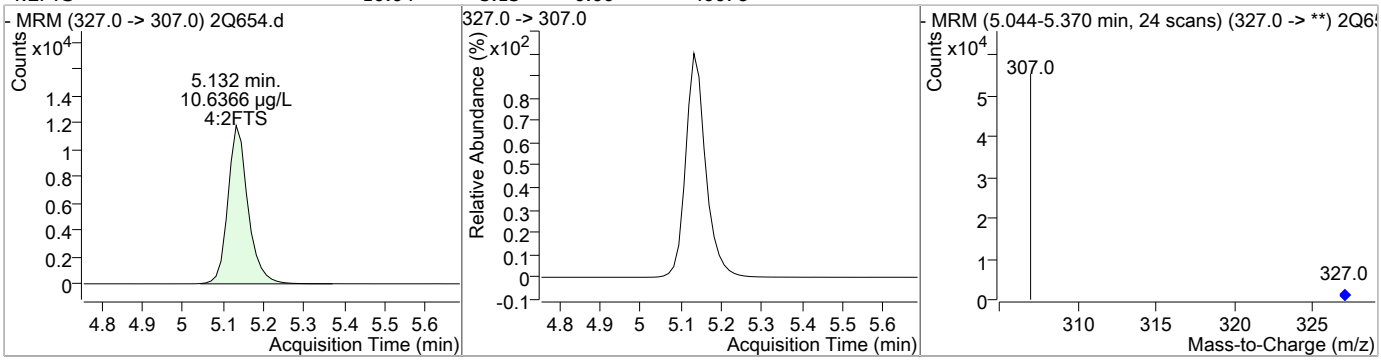
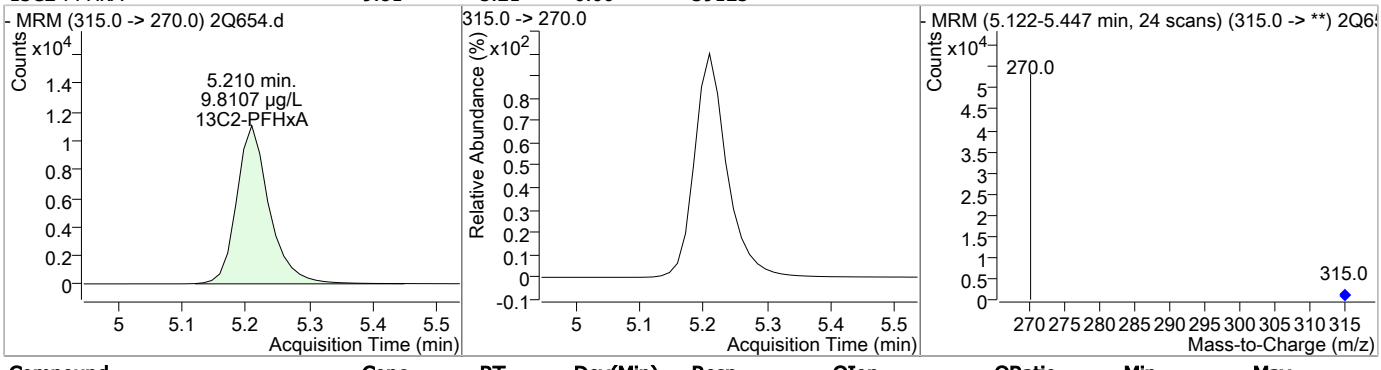
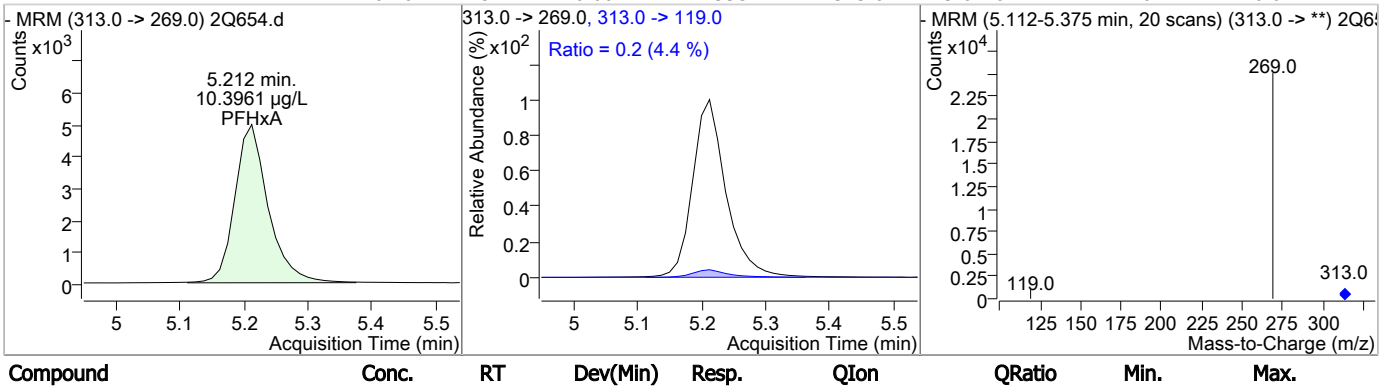
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	10.64	5.13	0.00	40678				



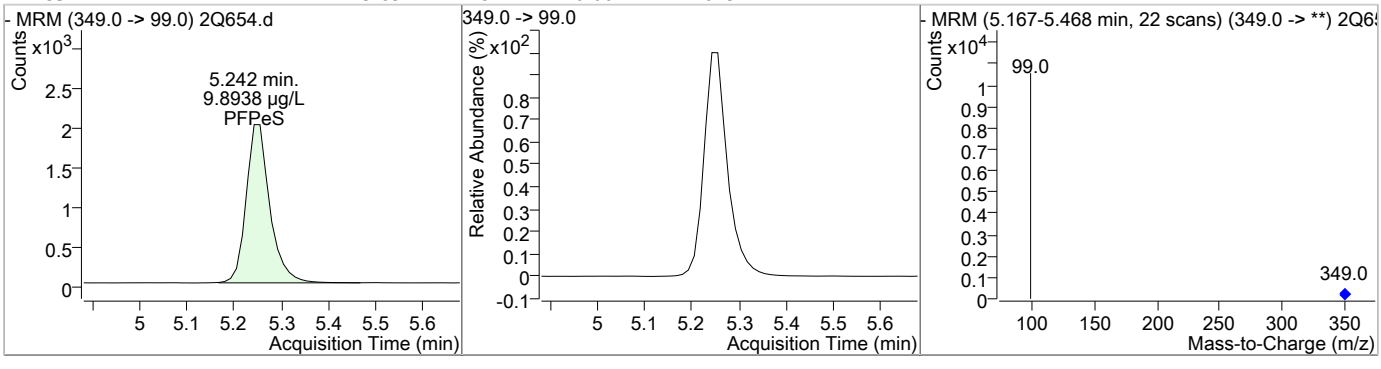
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	9.81	5.21	0.00	39125				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	10.40	5.21	0.00	17995	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	9.89	5.24	0.00	7019				



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Perfluorinated Compounds by LC/MS/MS

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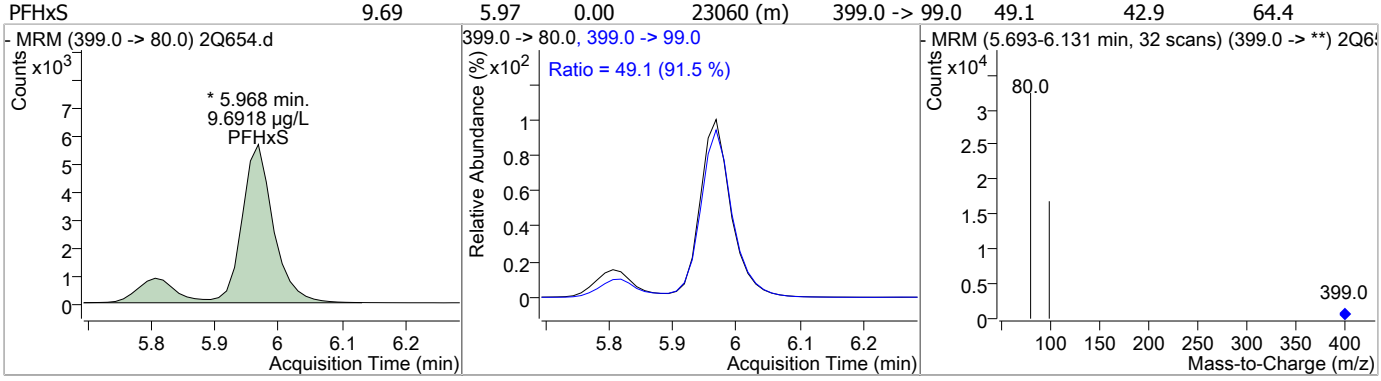
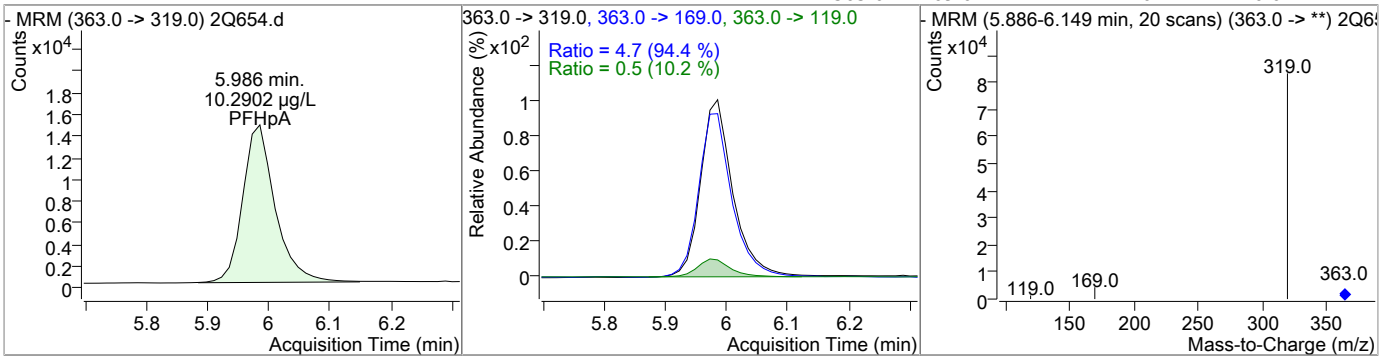
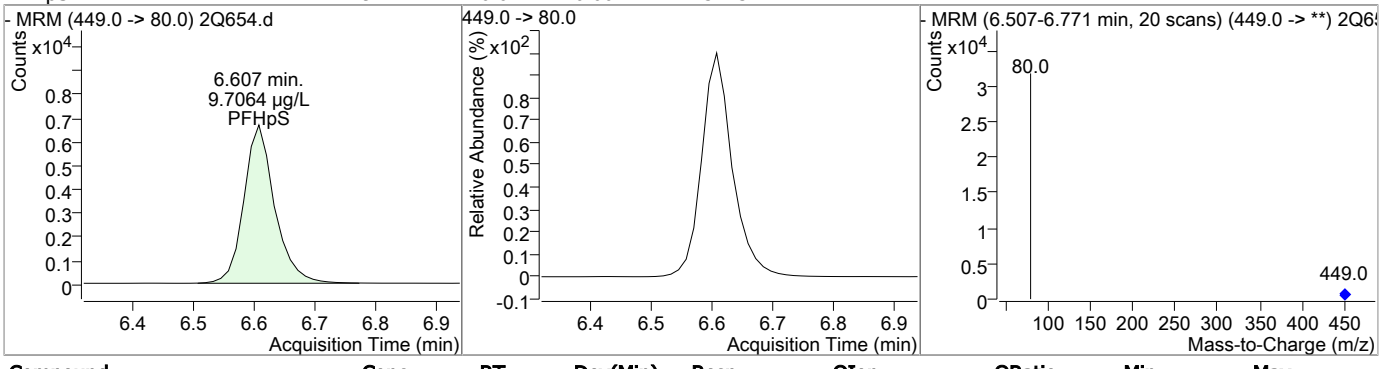
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	9.69	5.97	0.00	23060 (m)	399.0 -> 99.0	49.1	42.9	64.4



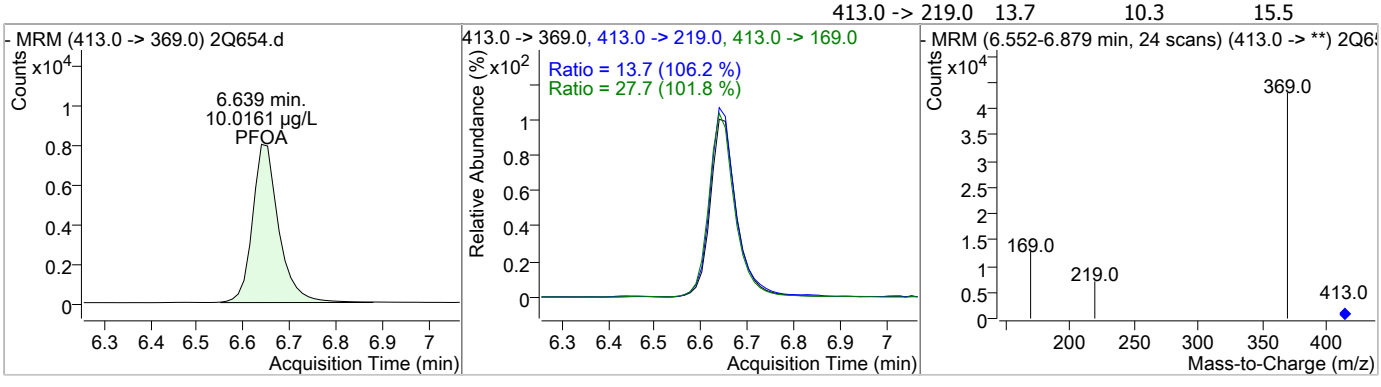
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	10.29	5.99	0.00	53261	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.7	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	9.71	6.61	0.00	23423				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	10.02	6.64	0.00	31431	413.0 -> 169.0	27.7	21.8	32.6
					413.0 -> 219.0	13.7	10.3	15.5



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Perfluorinated Compounds by LC/MS/MS

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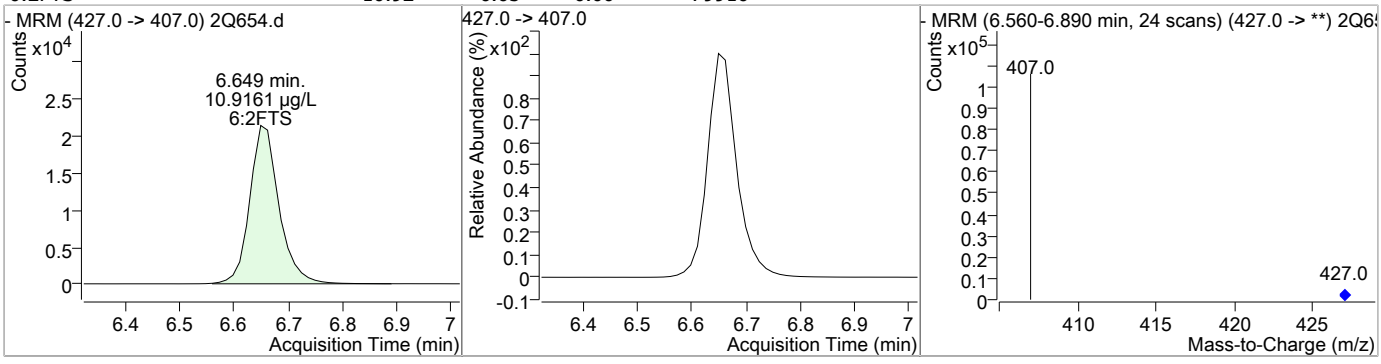
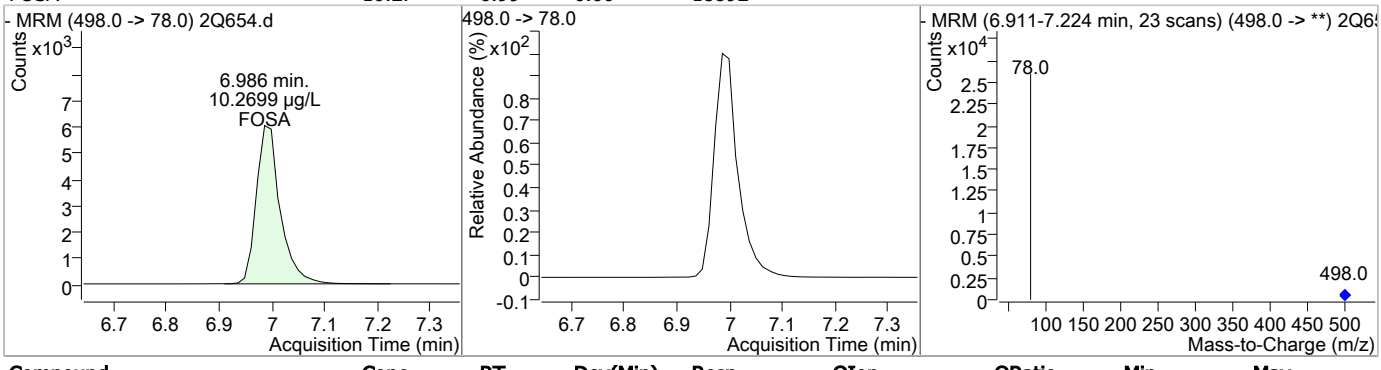
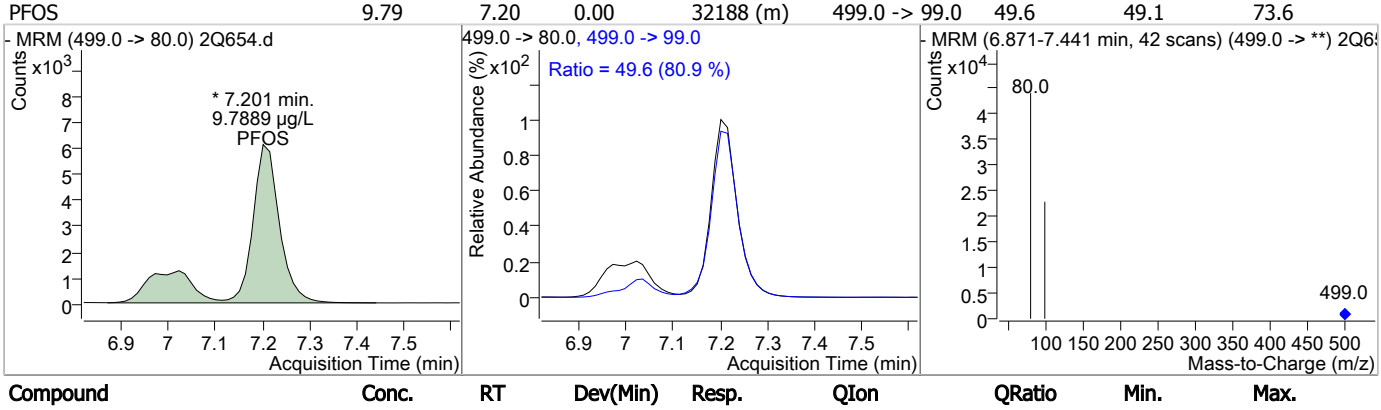
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	10.92	6.65	0.00	79916				



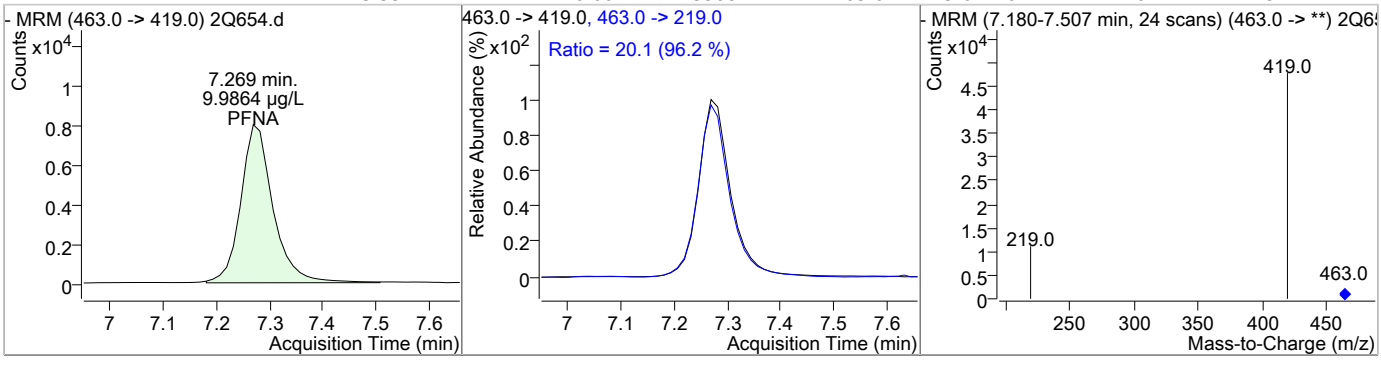
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	10.27	6.99	0.00	18892				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	9.79	7.20	0.00	32188 (m)	499.0 -> 99.0	49.6	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	9.99	7.27	0.00	33687	463.0 -> 219.0	20.1	16.7	25.1



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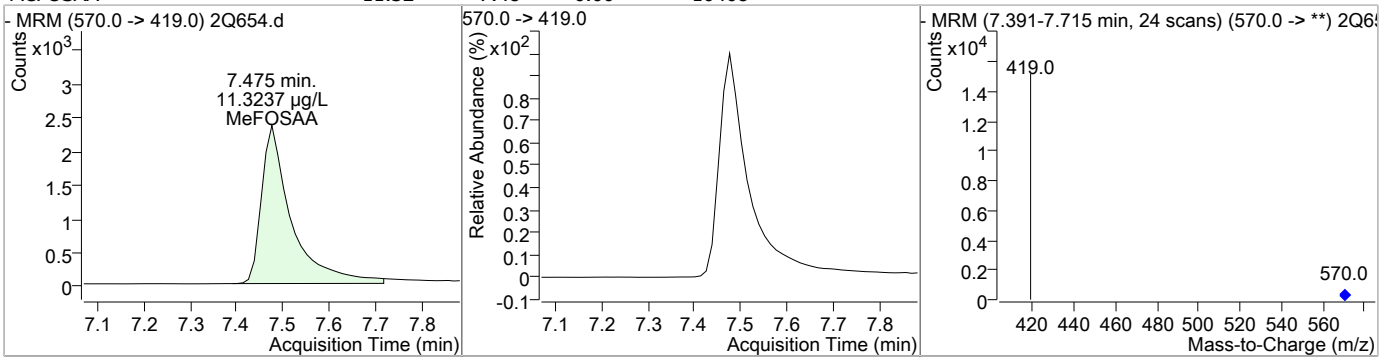
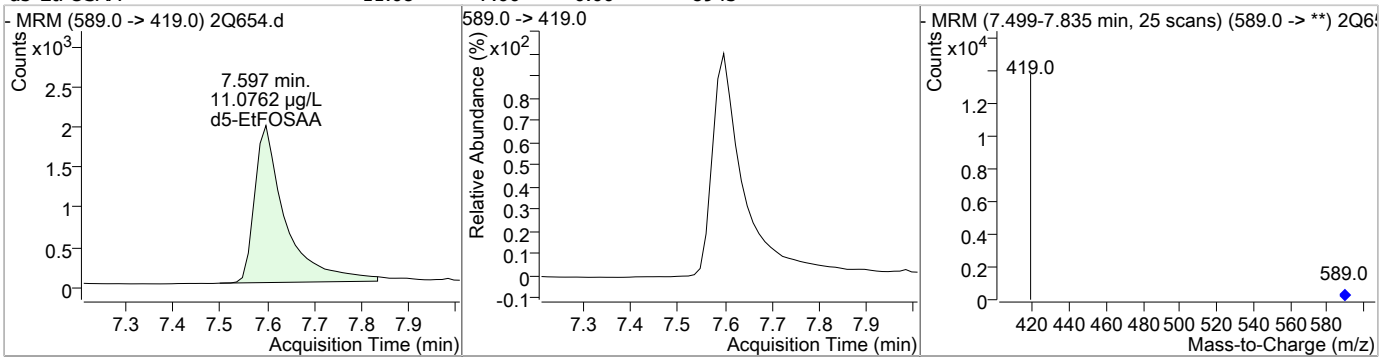
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

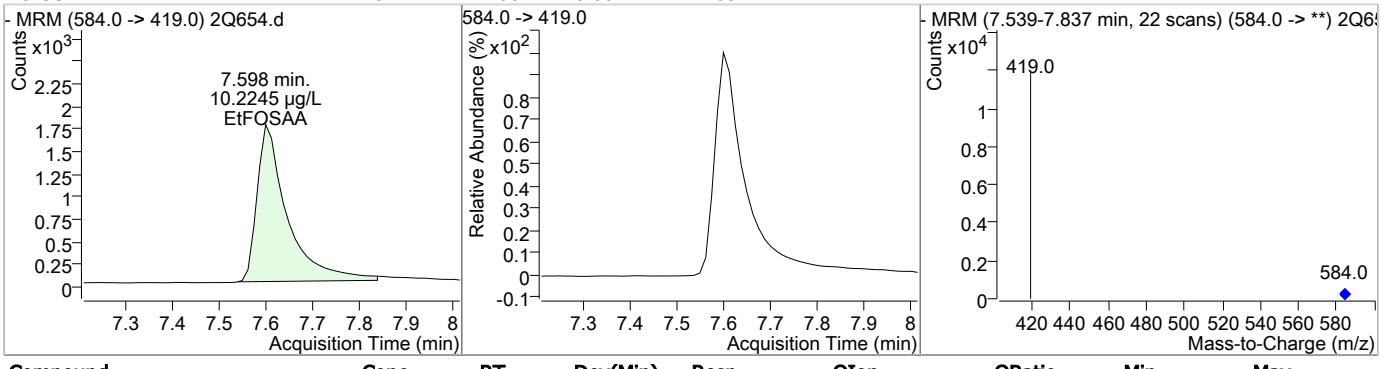
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	11.32	7.48	0.00	10408				



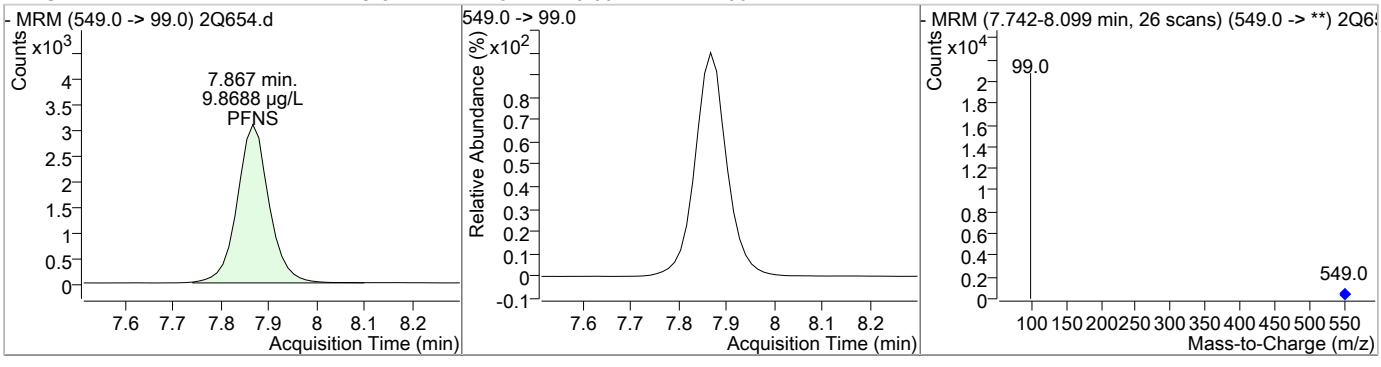
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	11.08	7.60	0.00	8943				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	10.22	7.60	0.00	7765				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	9.87	7.87	0.00	14200				



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Perfluorinated Compounds by LC/MS/MS

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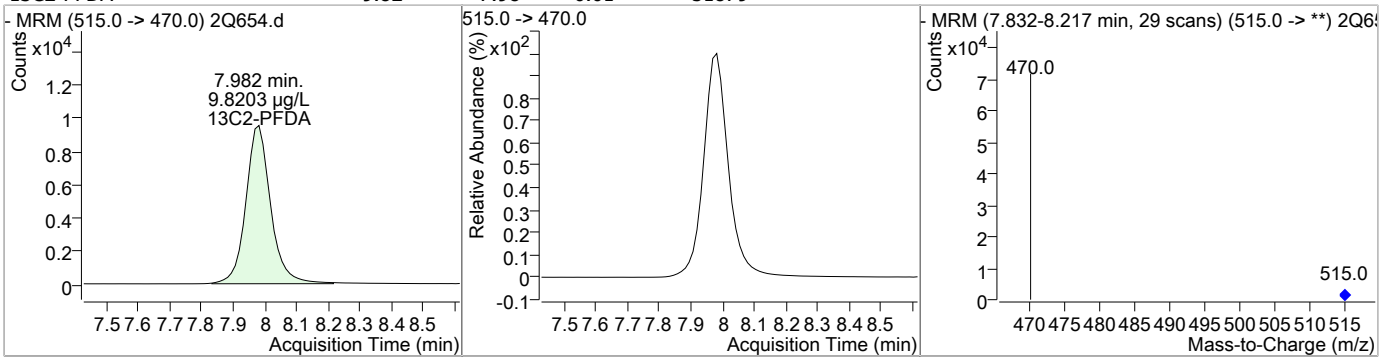
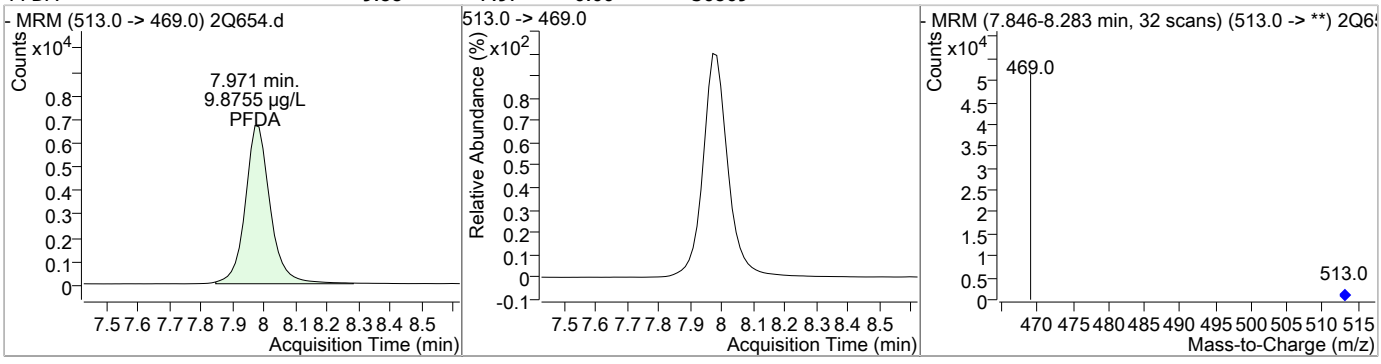
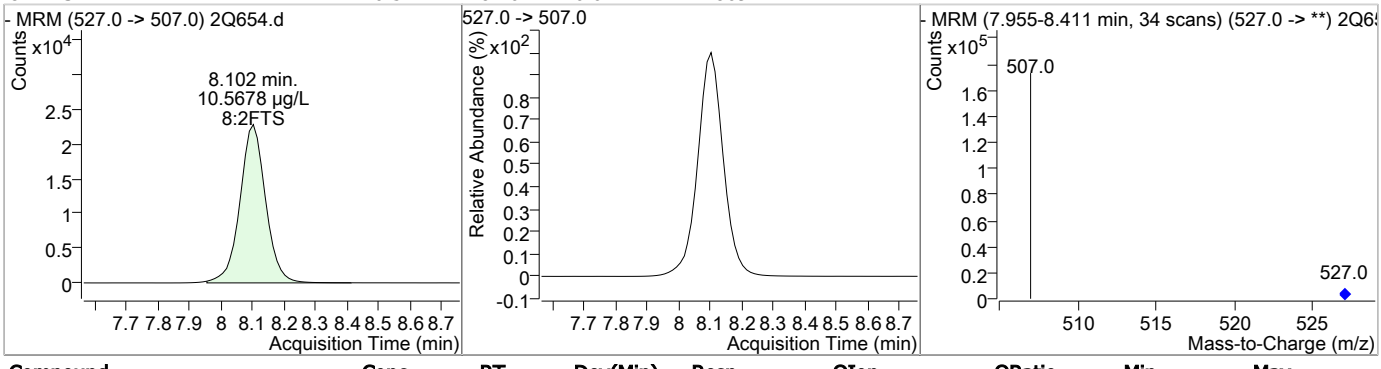
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	9.82	7.98	0.01	51879				



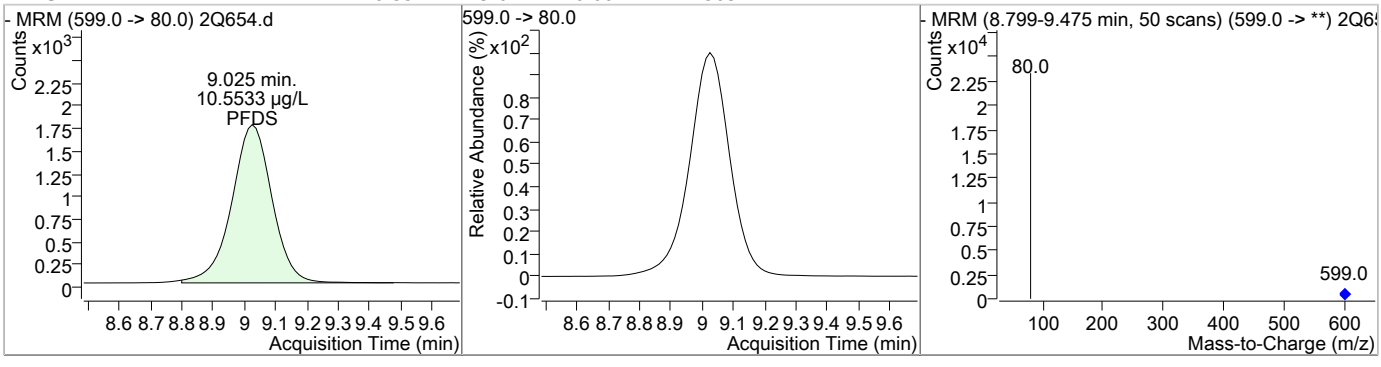
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	9.88	7.97	0.00	36869				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.57	8.10	0.01	128092				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	10.55	9.02	0.00	15632				



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Perfluorinated Compounds by LC/MS/MS

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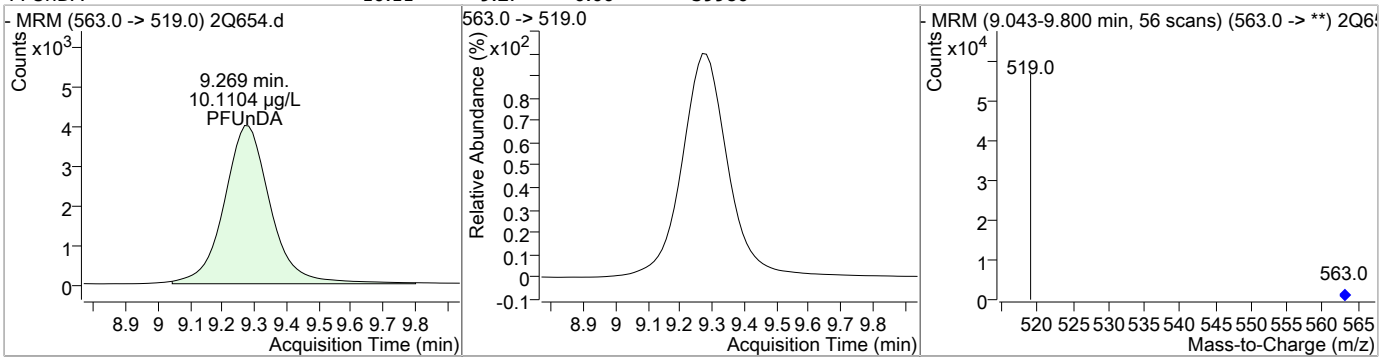
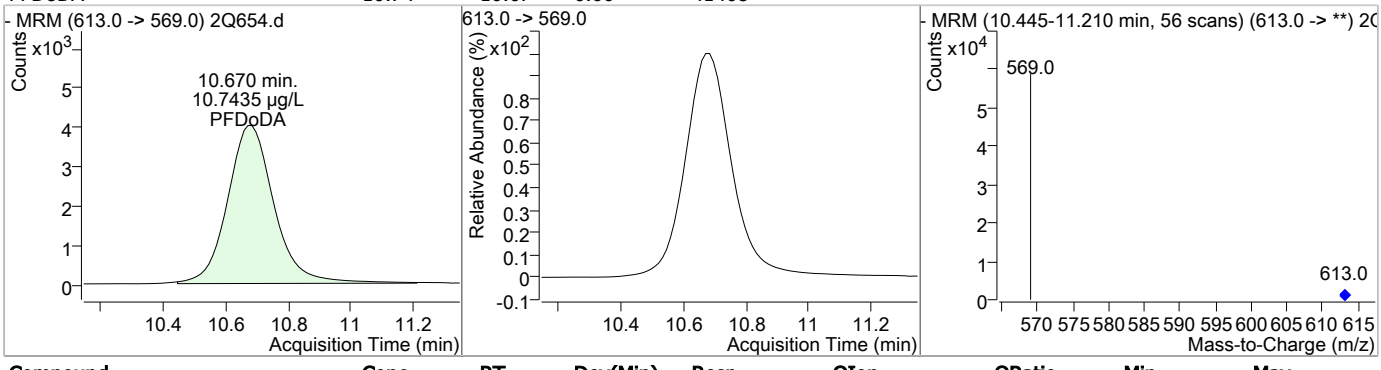
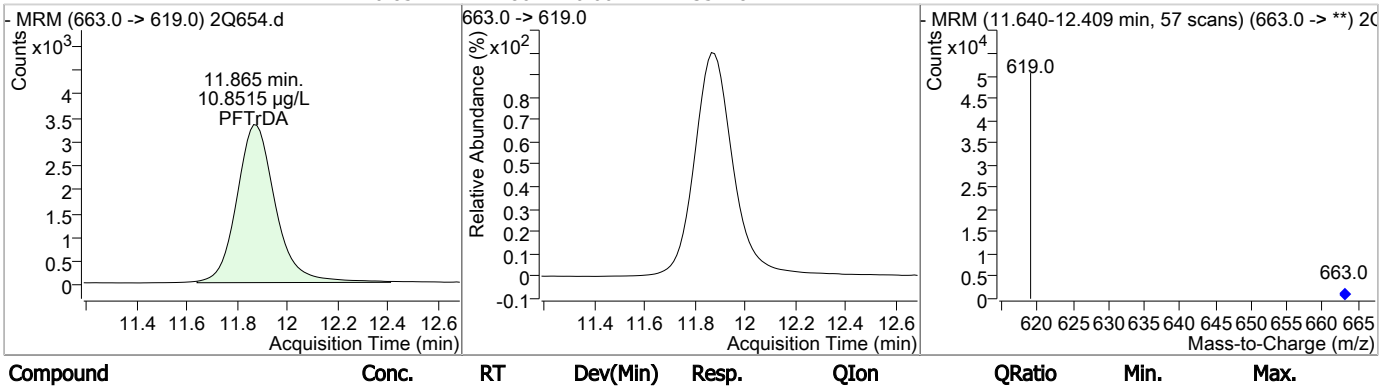
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	10.11	9.27	0.00	39980				



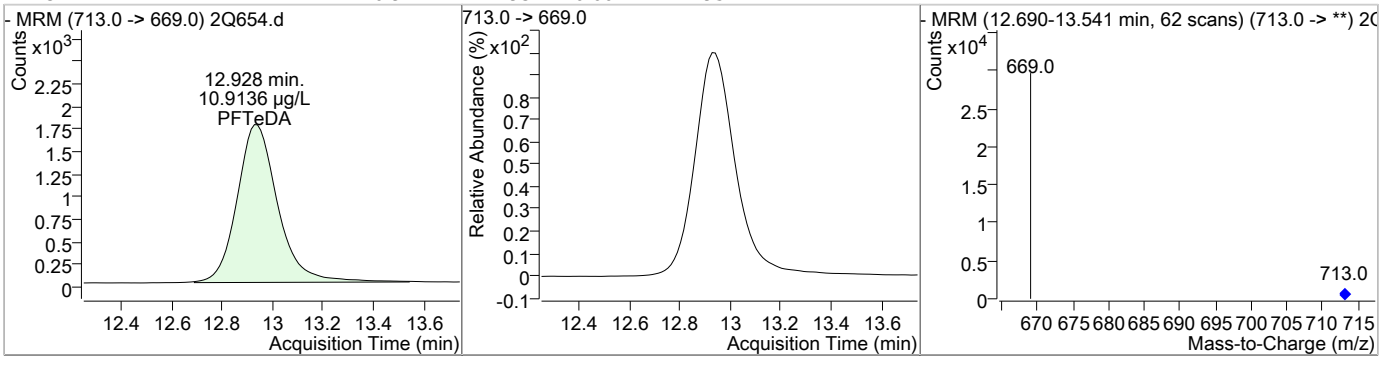
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	10.74	10.67	0.00	41408				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	10.85	11.86	0.00	35228				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	10.91	12.93	0.00	19571				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q654.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 12:53	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.97	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.20	Split peak

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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q655.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 1:13:18 PM
Sample Name	:	ICC18-20
Vial	:	Vial 6
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.648	429.0 -> 409.0	174056	20.00	µg/L		0.000
13C2-PFDoDA	10.664	615.0 -> 570.0	101125	20.00	µg/L		0.000
13C2-PFOA	6.637	415.0 -> 370.0	84279	20.00	µg/L		0.000
13C3-PFPeA	4.234	266.0 -> 222.0	82762	20.00	µg/L		0.000
13C4-PFOS	7.199	503.0 -> 80.0	61486	20.00	µg/L		0.000
d3-MeFOSAA	7.474	573.0 -> 419.0	36374	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.969	515.0 -> 470.0	107957	18.31	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 91.5%			
13C2-PFHxA	5.210	315.0 -> 270.0	81843	18.38	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 91.9%			
d5-EtFOSAA	7.597	589.0 -> 419.0	18459	20.56	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 102.8%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	85144	19.37	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	169510	20.14	µg/L		100
8:2FTS	8.089	527.0 -> 507.0	269915	19.37	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	15926	19.22	µg/L		100
FOSA	6.986	498.0 -> 78.0	38302	19.58	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	21165	20.72	µg/L		100
PFBA	2.940	213.0 -> 169.0	40607	18.32	µg/L		100
PFBS	4.353	299.0 -> 80.0	45584	18.58	µg/L		99
PFDA	7.971	513.0 -> 469.0	75901	18.21	µg/L		100
PFDoDA	10.670	613.0 -> 569.0	86004	19.49	µg/L		100
PFDS	9.025	599.0 -> 80.0	32276	19.70	µg/L		100
PFHpA	5.986	363.0 -> 319.0	110187	18.84	µg/L	#	93
PFHpS	6.607	449.0 -> 80.0	48655	18.68	µg/L		100
PFHxA	5.212	313.0 -> 269.0	38157	19.35	µg/L	#	86
PFHxS	5.968	399.0 -> 80.0	47438	18.47	µg/L	m	95
PFNA	7.269	463.0 -> 419.0	67724	17.99	µg/L		98
PFNS	7.867	549.0 -> 99.0	28984	18.67	µg/L		100
PFOA	6.639	413.0 -> 369.0	64840	18.51	µg/L		98
PFOS	7.201	499.0 -> 80.0	65253	18.39	µg/L	m	86
PFPeA	4.225	263.0 -> 219.0	117428	18.70	µg/L		100
PFPeS	5.242	349.0 -> 99.0	14687	18.64	µg/L		100
PFTeDA	12.928	713.0 -> 669.0	40066	19.47	µg/L		100
PFTrDA	11.865	663.0 -> 619.0	73047	19.55	µg/L		100
PFUnDA	9.269	563.0 -> 519.0	83071	18.72	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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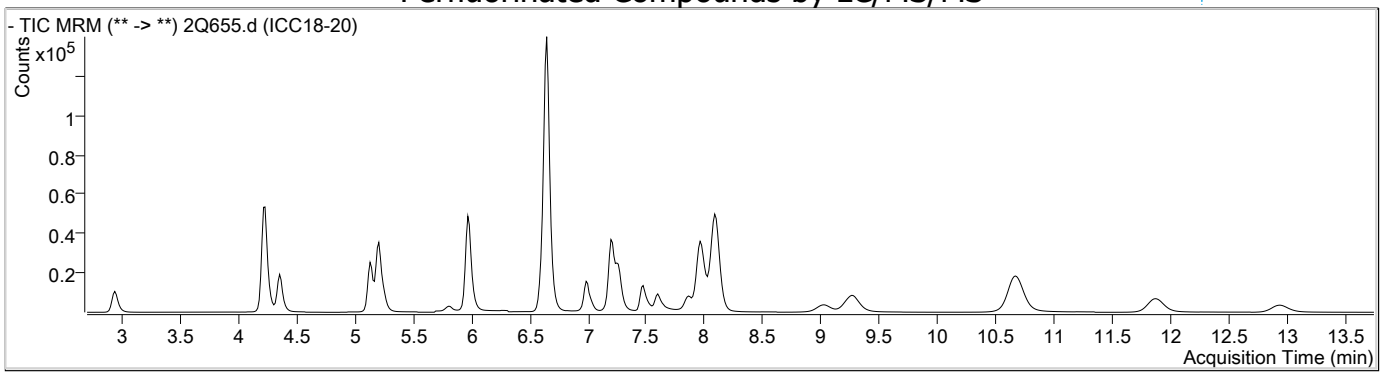
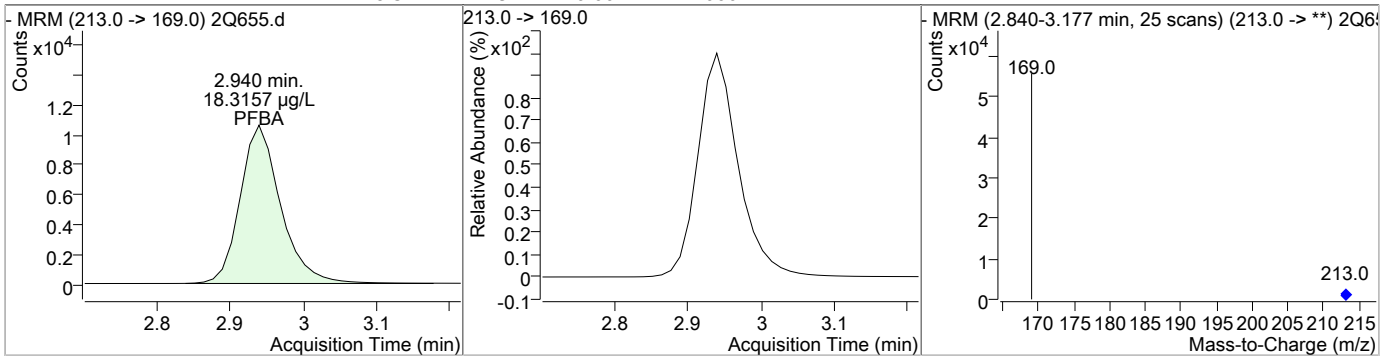
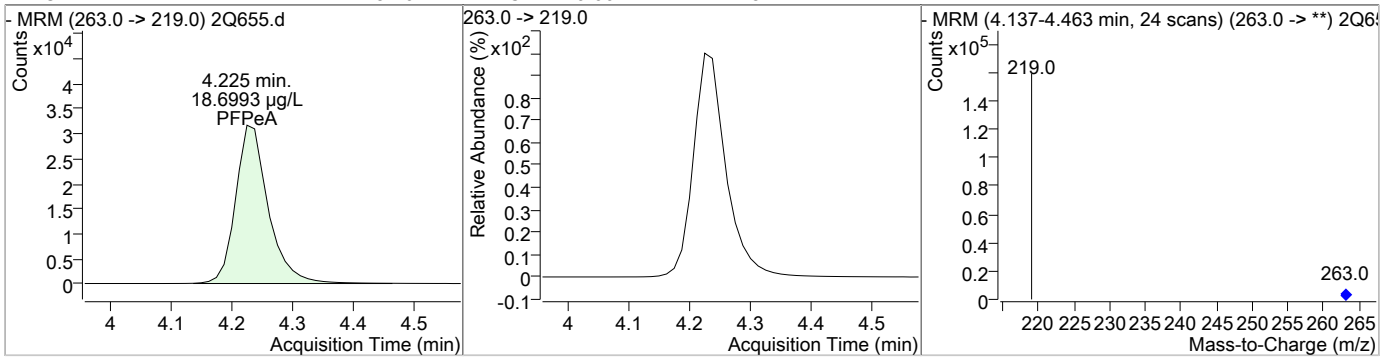


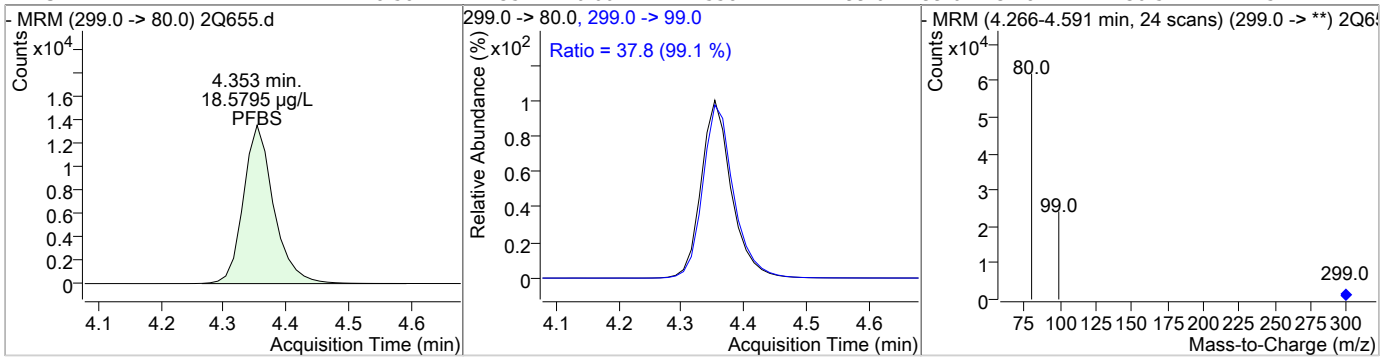
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.32	2.94	0.00	40607				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.70	4.23	0.00	117428				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.58	4.35	0.00	45584	299.0 -> 99.0	37.8	30.5	45.7



7.5.5

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Perfluorinated Compounds by LC/MS/MS

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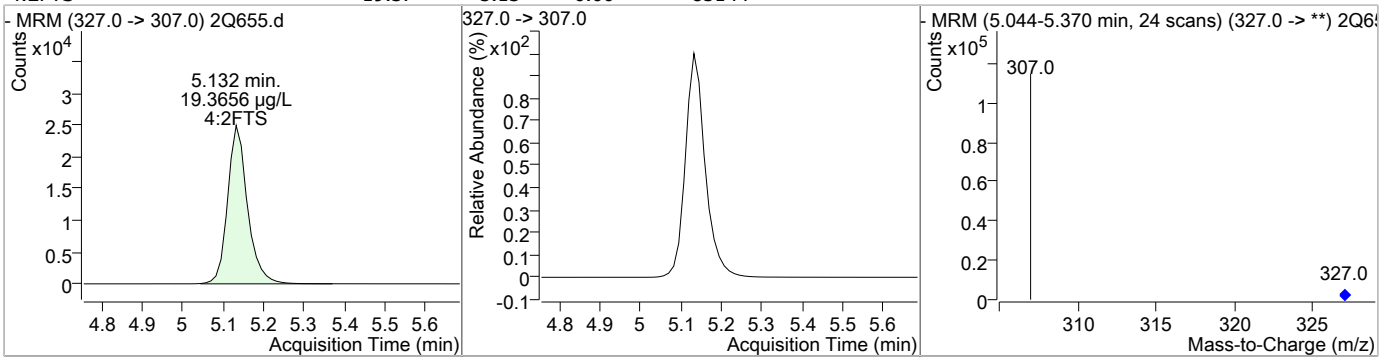
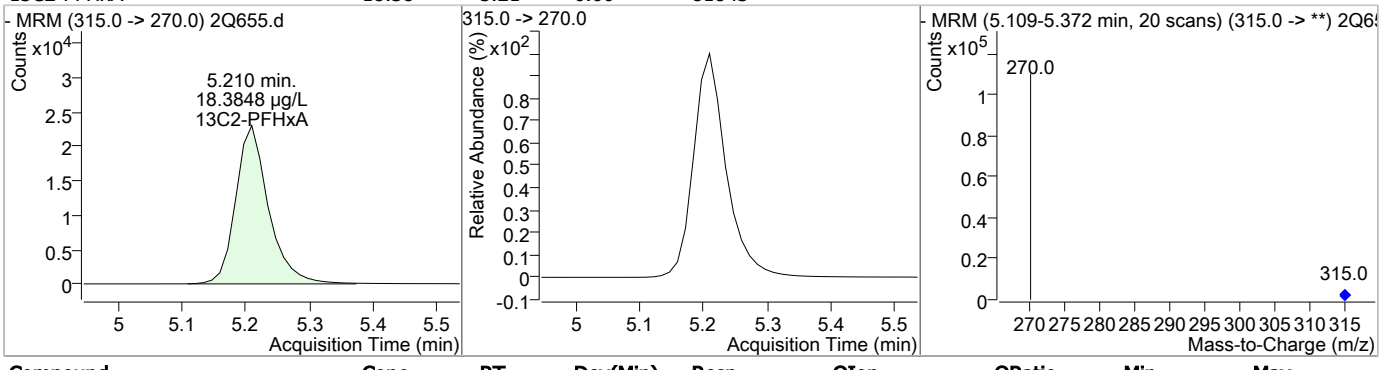
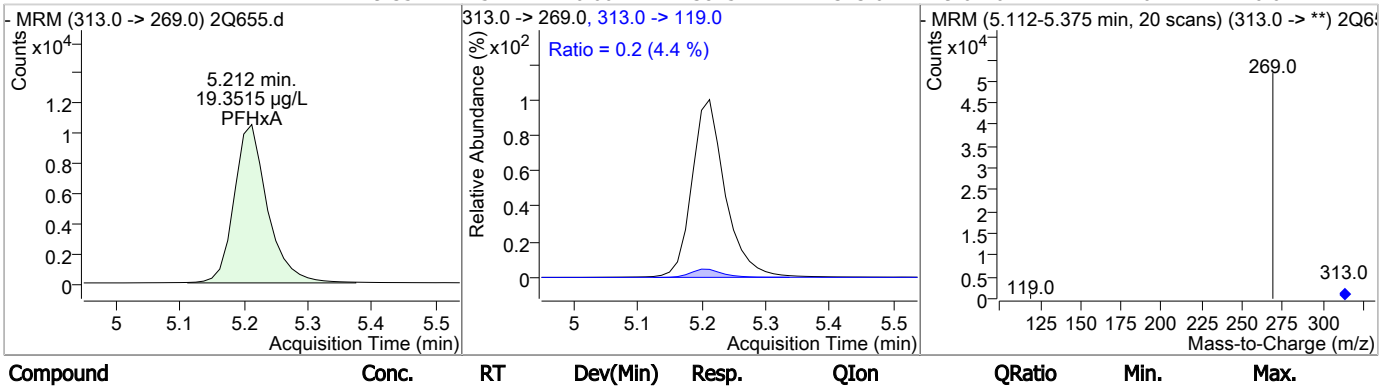
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	19.37	5.13	0.00	85144				



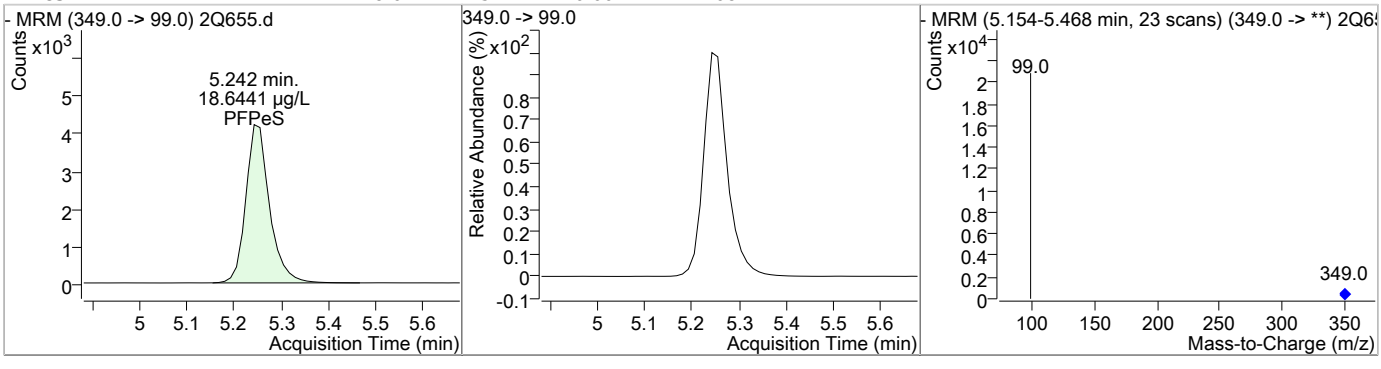
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	18.38	5.21	0.00	81843				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.35	5.21	0.00	38157	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.64	5.24	0.00	14687				



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Perfluorinated Compounds by LC/MS/MS

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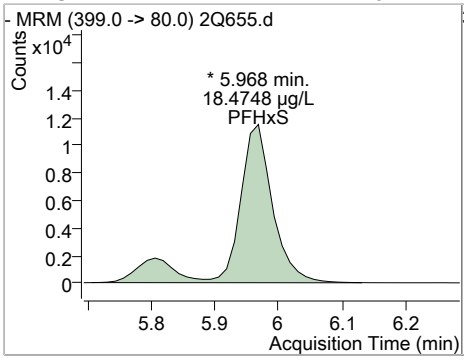
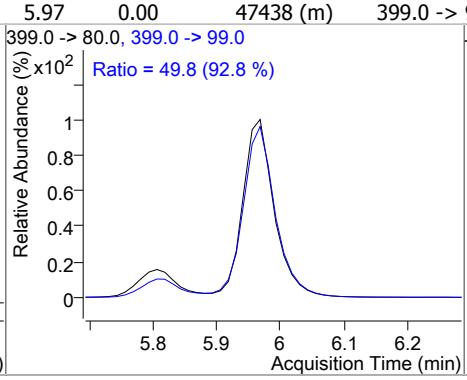
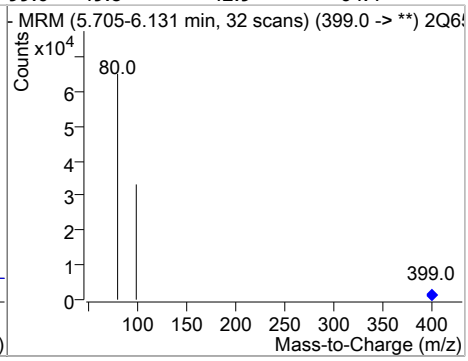
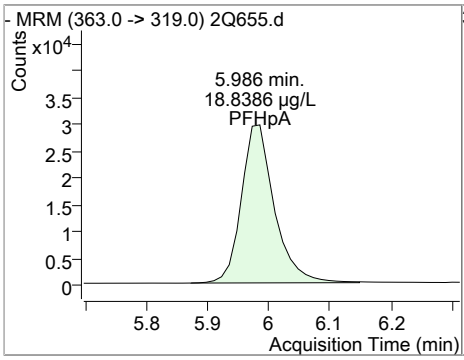
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	18.47	5.97	0.00	47438 (m)	399.0 -> 99.0	49.8	42.9	64.4

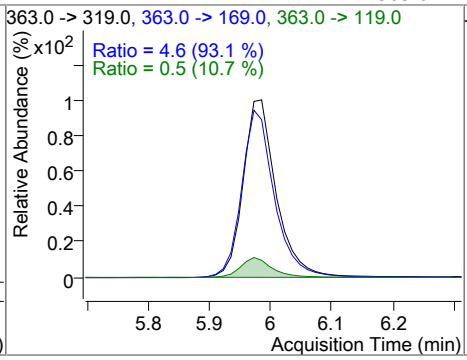


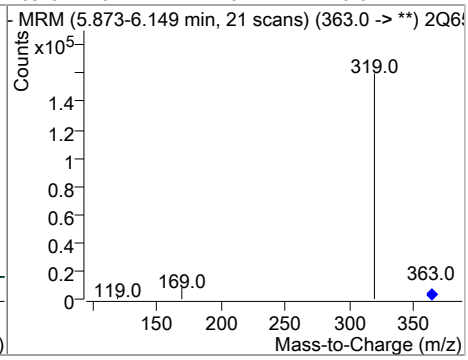




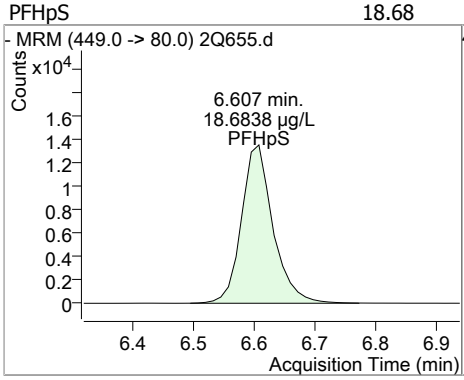
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.84	5.99	0.00	110187	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.6	4.0	6.0

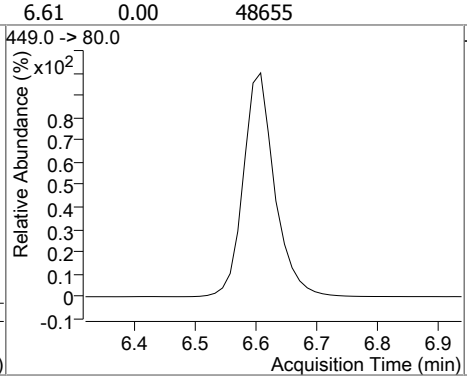


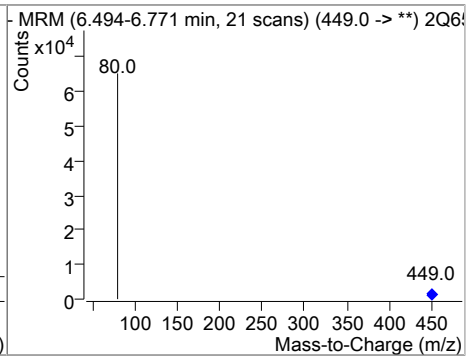




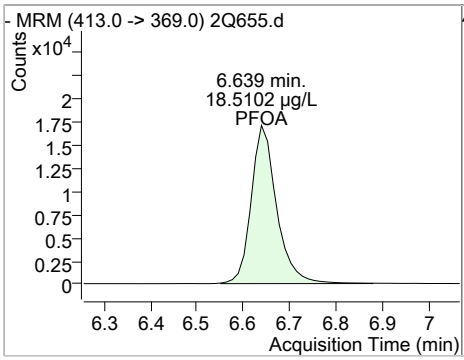
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.68	6.61	0.00	48655				

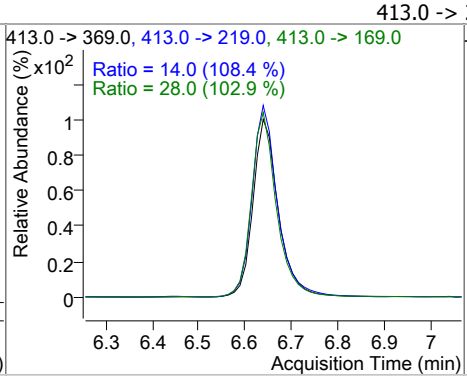


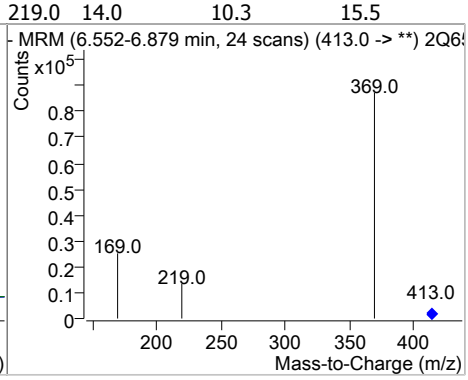




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.51	6.64	0.00	64840	413.0 -> 169.0	28.0	21.8	32.6
					413.0 -> 219.0	14.0	10.3	15.5







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Perfluorinated Compounds by LC/MS/MS

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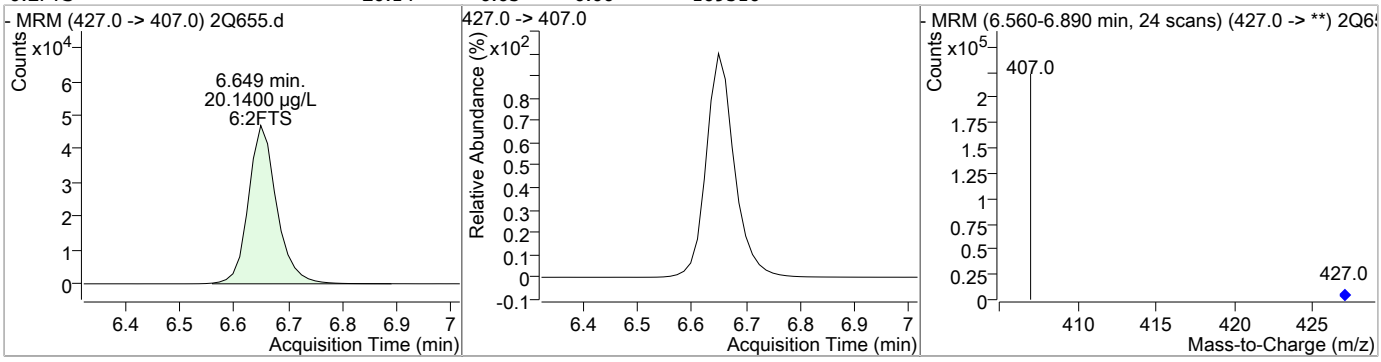
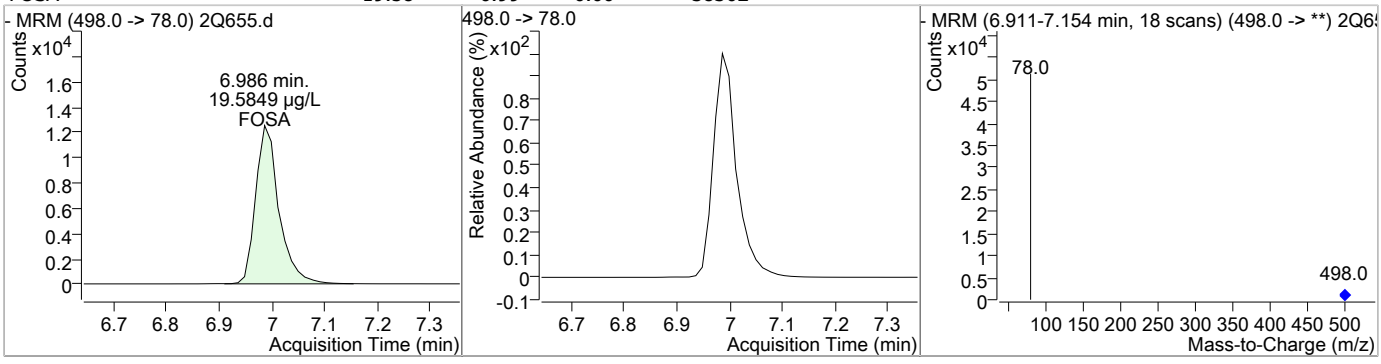
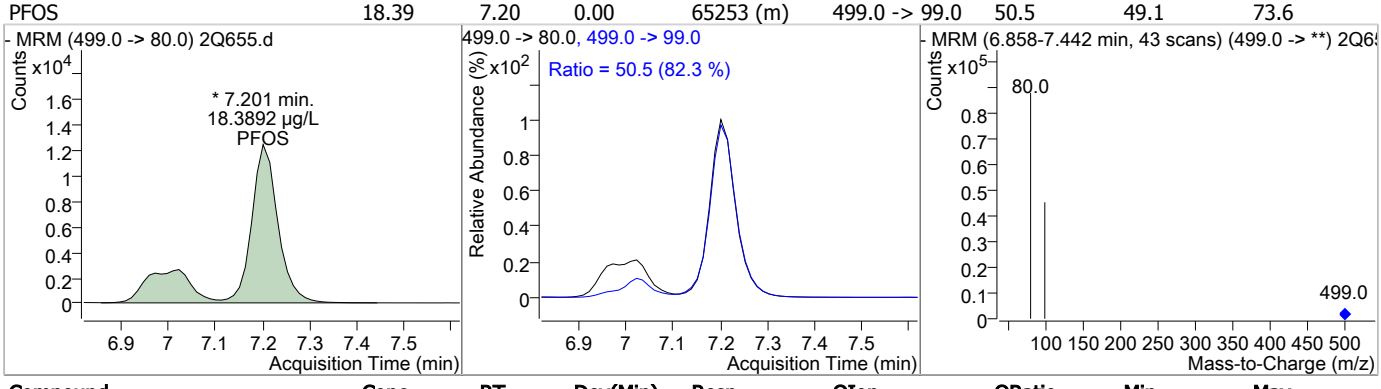
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	20.14	6.65	0.00	169510				



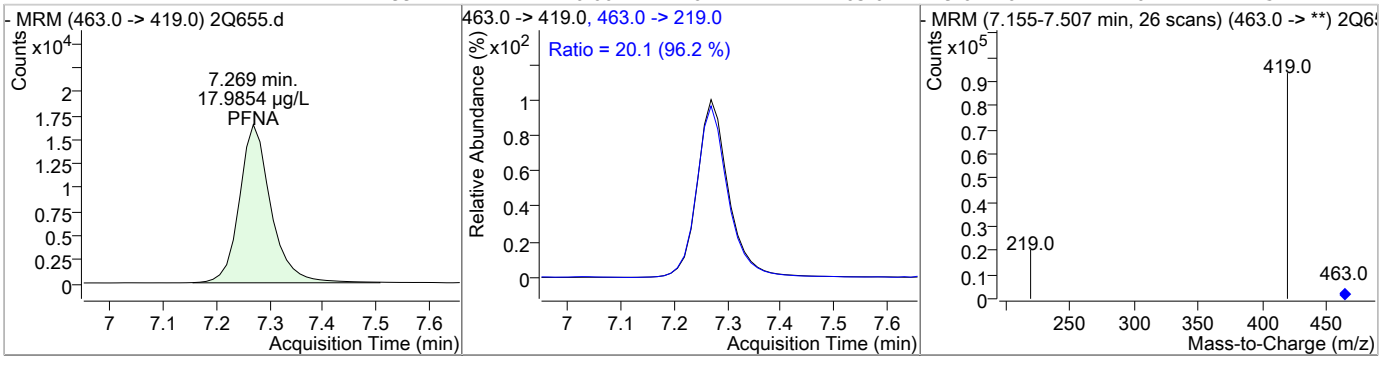
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.58	6.99	0.00	38302				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	18.39	7.20	0.00	65253 (m)	499.0 -> 99.0	50.5	49.1	73.6



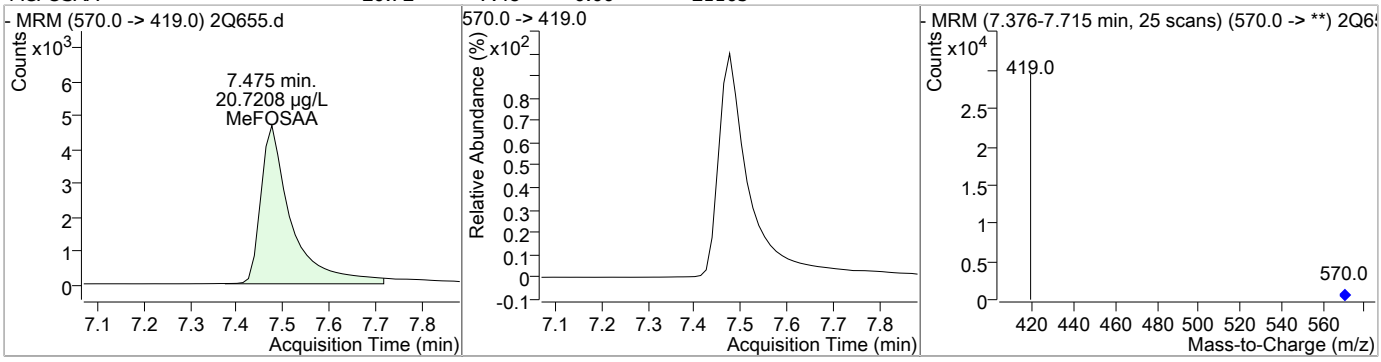
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	17.99	7.27	0.00	67724	463.0 -> 219.0	20.1	16.7	25.1



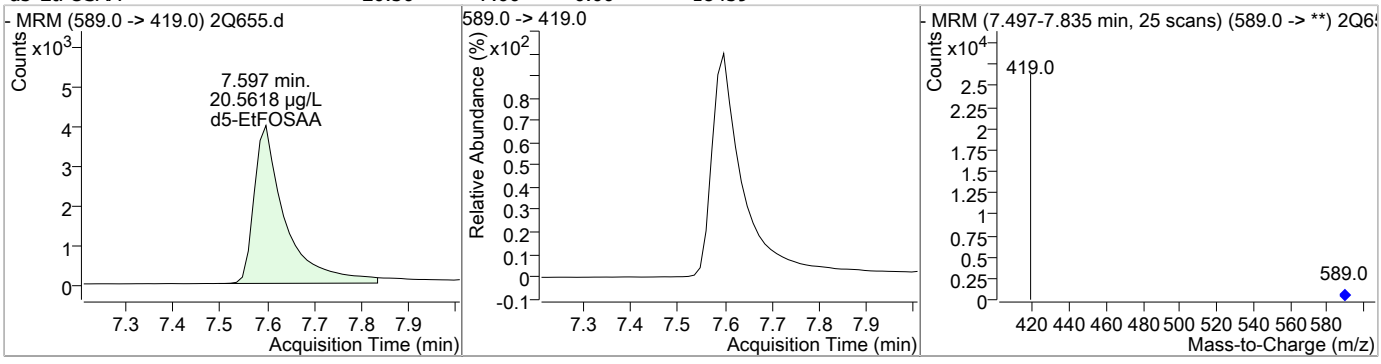
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

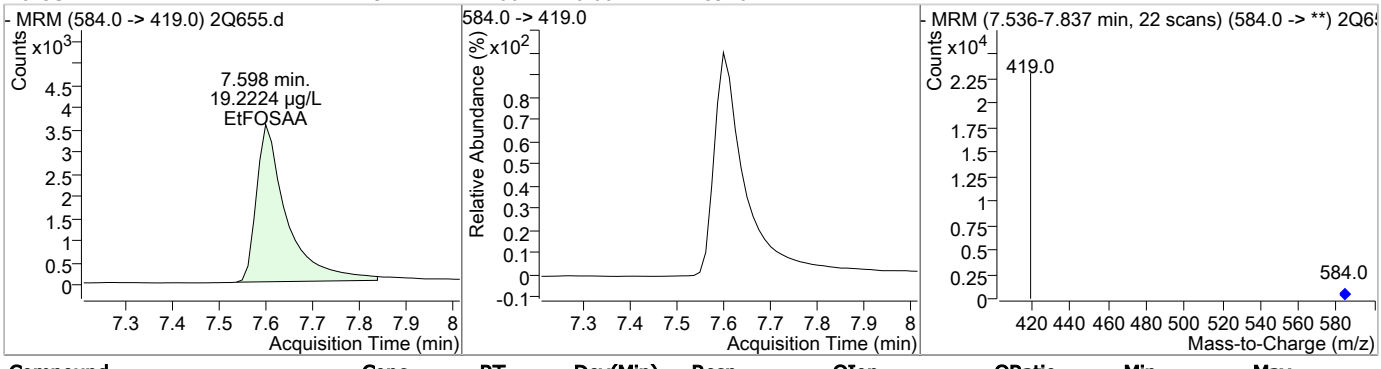
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.72	7.48	0.00	21165				



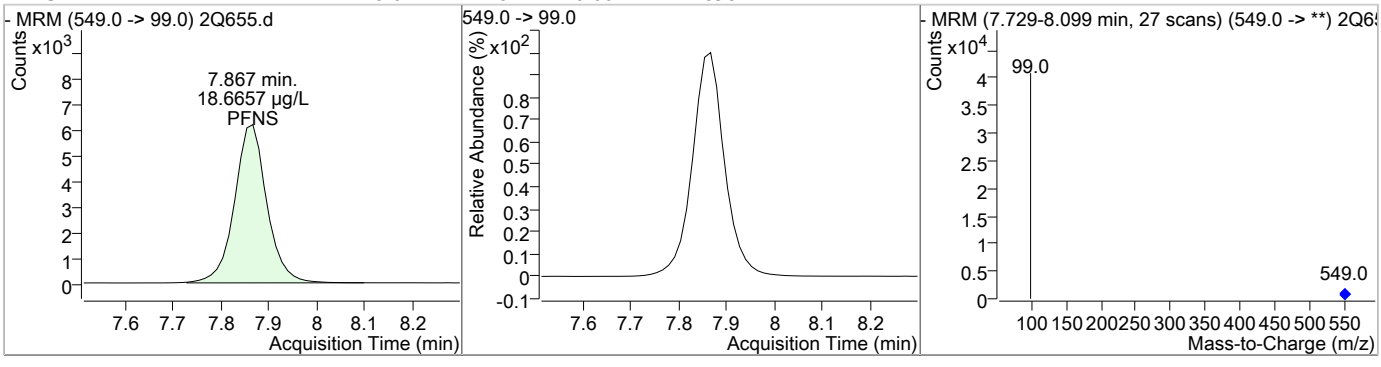
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	20.56	7.60	0.00	18459				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	19.22	7.60	0.00	15926				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.67	7.87	0.00	28984				



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Perfluorinated Compounds by LC/MS/MS

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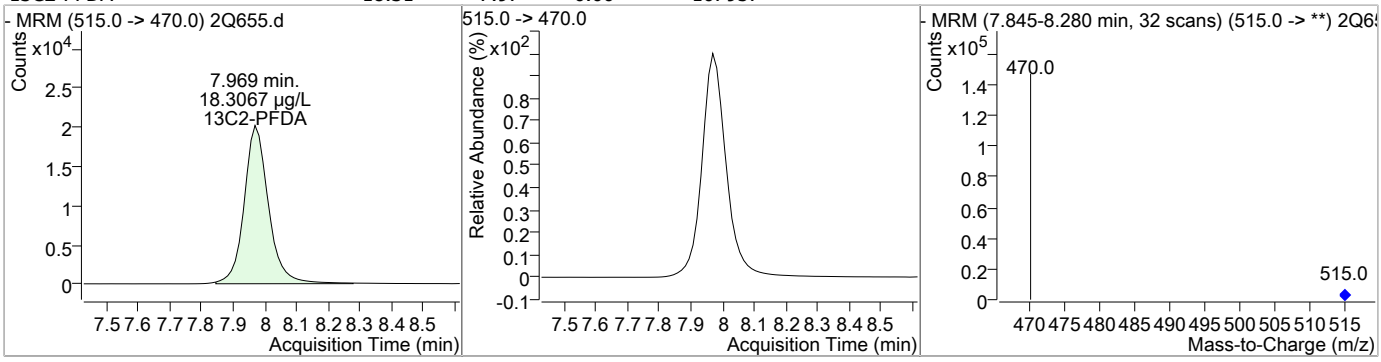
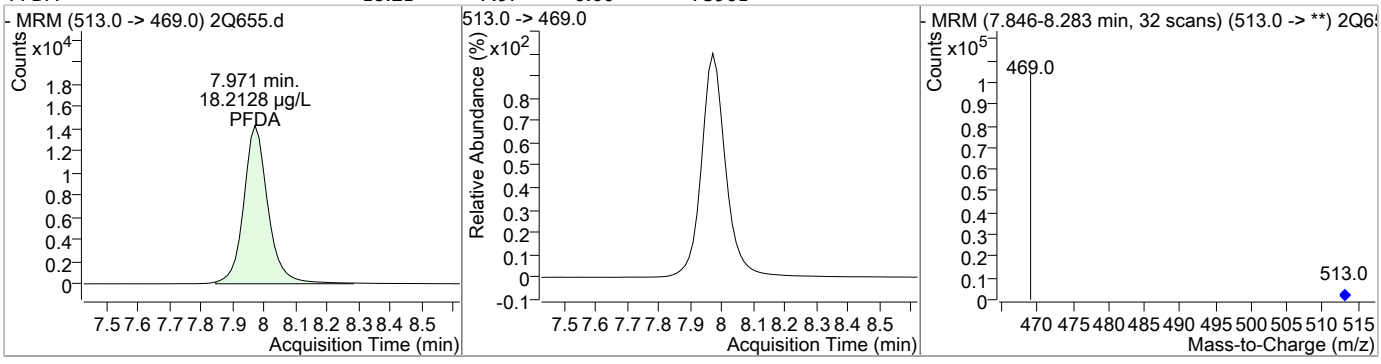
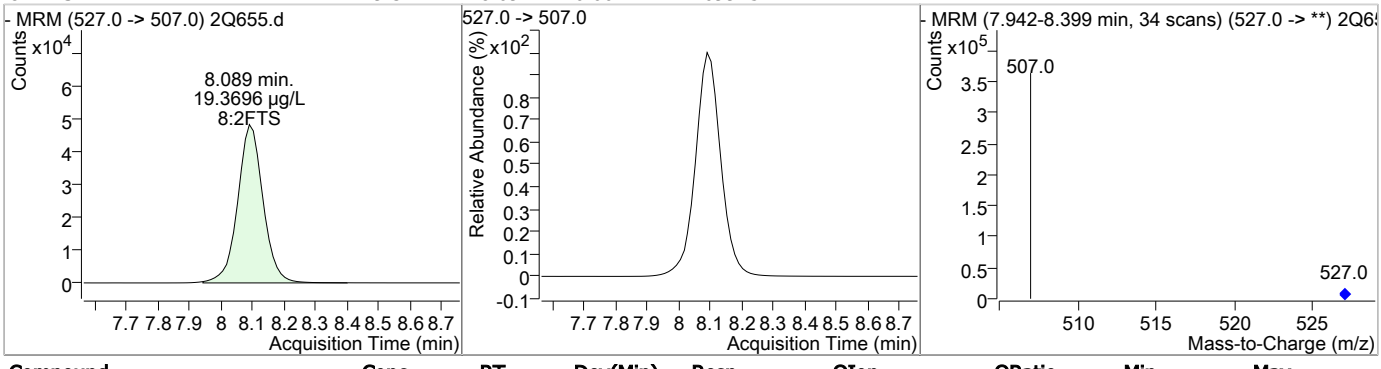
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	18.31	7.97	0.00	107957				



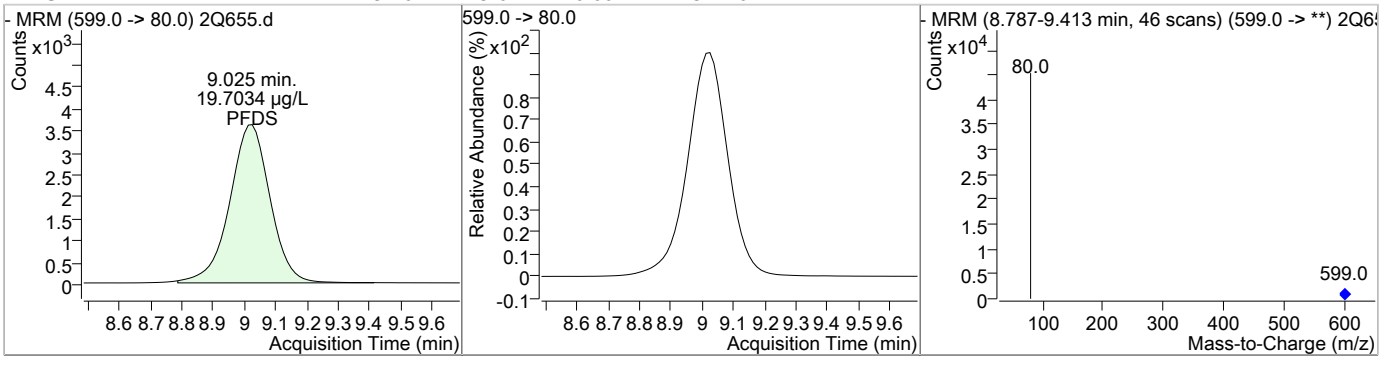
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.21	7.97	0.00	75901				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.37	8.09	0.00	269915				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.70	9.02	0.00	32276				



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Perfluorinated Compounds by LC/MS/MS

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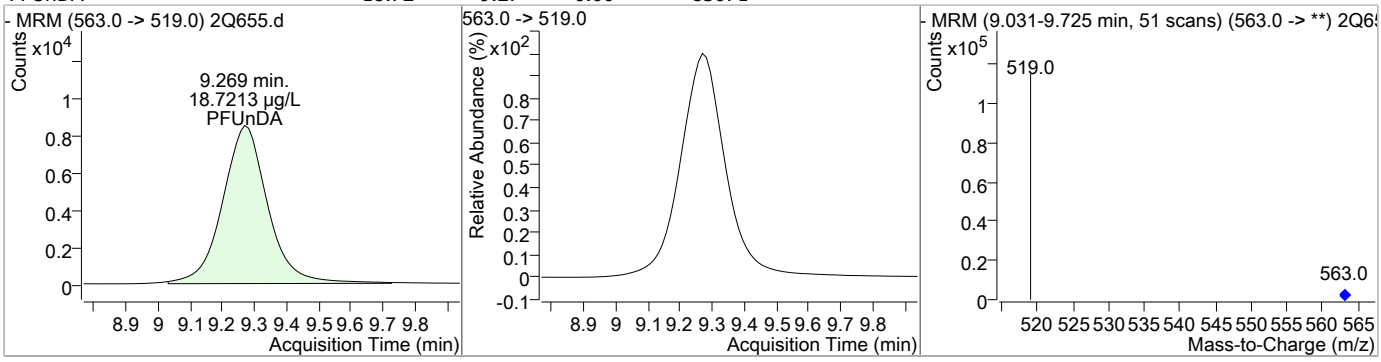
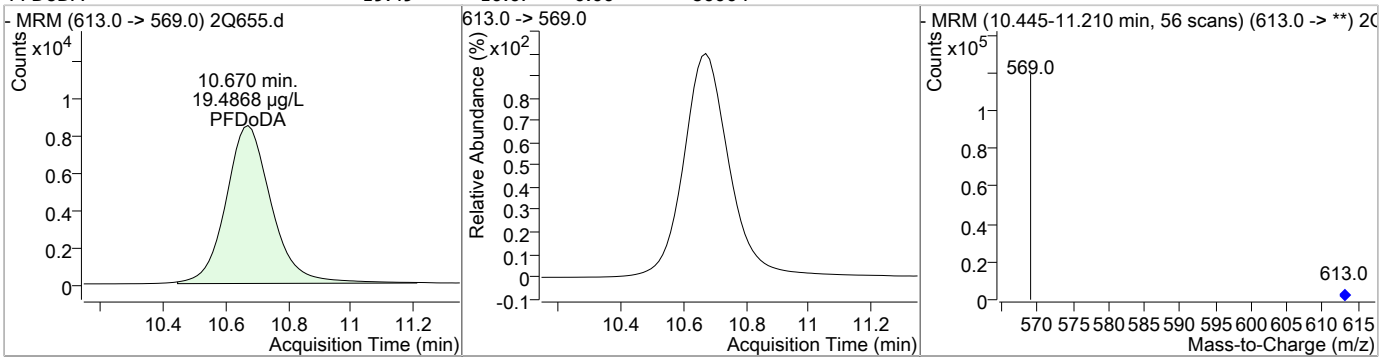
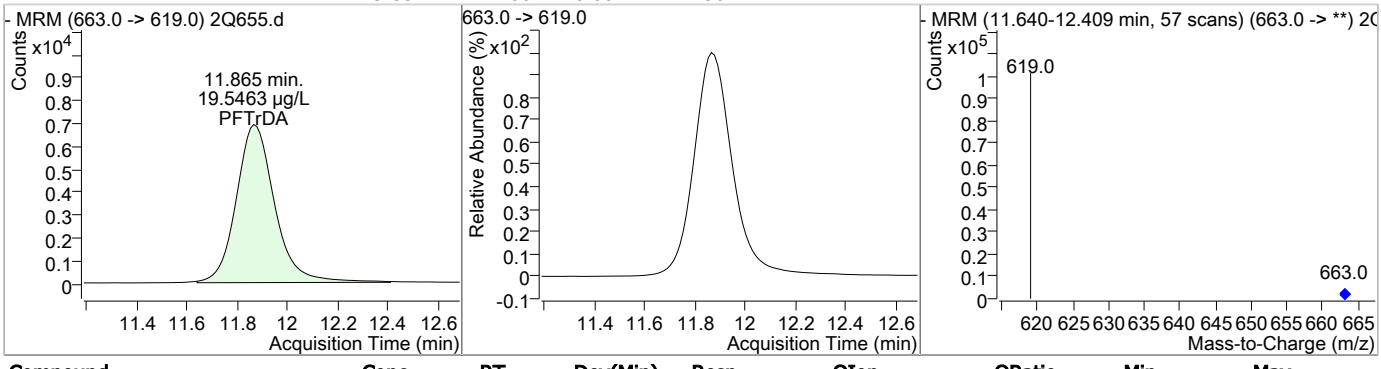
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.72	9.27	0.00	83071				



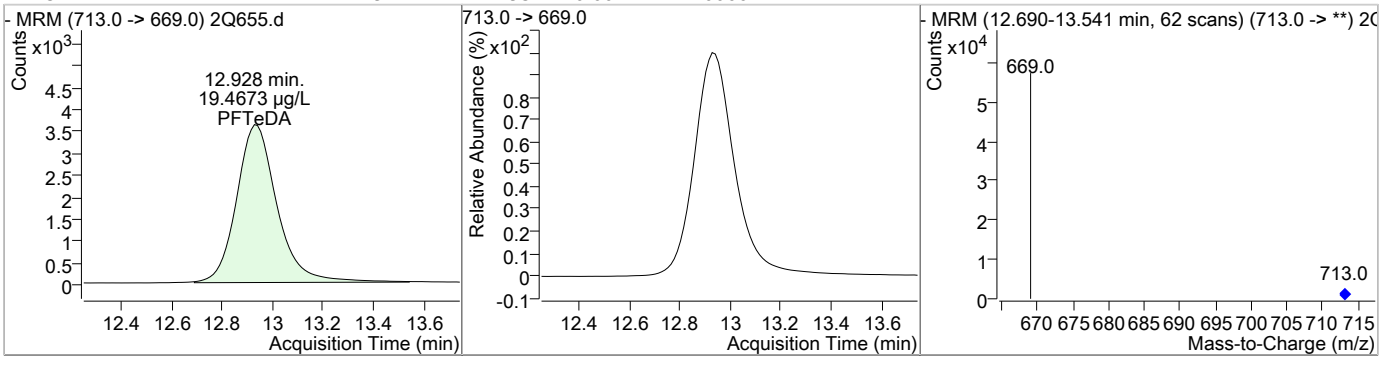
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.49	10.67	0.00	86004				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.55	11.86	0.00	73047				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.47	12.93	0.00	40066				



SGS ACCUTEST FA43289

Manual Integration Approval Summary

Sample Number:	S2Q18-ICC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q655.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 13:13	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.97	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.20	Split peak

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FA43289

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q656.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 1:33:02 PM
Sample Name	:	IC18-40
Vial	:	Vial 7
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.648	429.0 -> 409.0	169693	20.00	µg/L		0.000
13C2-PFDoDA	10.664	615.0 -> 570.0	95637	20.00	µg/L		0.000
13C2-PFOA	6.637	415.0 -> 370.0	77698	20.00	µg/L		0.000
13C3-PFPeA	4.222	266.0 -> 222.0	77130	20.00	µg/L		-0.013
13C4-PFOS	7.199	503.0 -> 80.0	57707	20.00	µg/L		0.000
d3-MeFOSAA	7.462	573.0 -> 419.0	37333	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	7.969	515.0 -> 470.0	216770	39.87	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 199.4%			
13C2-PFHxA	5.210	315.0 -> 270.0	164933	40.19	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 200.9%			
d5-EtFOSAA	7.597	589.0 -> 419.0	37670	37.86	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 189.3%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	170604	39.80	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	326949	39.84	µg/L		100
8:2FTS	8.089	527.0 -> 507.0	539797	39.73	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	33444	37.40	µg/L		100
FOSA	6.986	498.0 -> 78.0	76229	37.98	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	42603	37.69	µg/L		100
PFBA	2.940	213.0 -> 169.0	81236	39.74	µg/L		100
PFBS	4.353	299.0 -> 80.0	90994	39.52	µg/L		99
PFDA	7.959	513.0 -> 469.0	151294	39.38	µg/L		100
PFDoDA	10.657	613.0 -> 569.0	173937	39.82	µg/L		100
PFDS	9.012	599.0 -> 80.0	64318	39.73	µg/L		100
PFHpA	5.973	363.0 -> 319.0	220762	39.75	µg/L	#	93
PFHpS	6.594	449.0 -> 80.0	96459	39.47	µg/L		100
PFHxA	5.200	313.0 -> 269.0	76691	40.30	µg/L	#	86
PFHxS	5.956	399.0 -> 80.0	94522	39.22	µg/L	m	94
PFNA	7.269	463.0 -> 419.0	137792	39.69	µg/L		98
PFNS	7.854	549.0 -> 99.0	57477	39.44	µg/L		100
PFOA	6.639	413.0 -> 369.0	131759	40.80	µg/L		98
PFOS	7.201	499.0 -> 80.0	131036	39.35	µg/L	m	85
PFPeA	4.225	263.0 -> 219.0	232061	39.65	µg/L		100
PFPeS	5.242	349.0 -> 99.0	29023	39.53	µg/L		100
PFTeDA	12.916	713.0 -> 669.0	81191	39.63	µg/L		100
PFTrDA	11.852	663.0 -> 619.0	148239	39.63	µg/L		100
PFUnDA	9.256	563.0 -> 519.0	164495	39.20	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

7.5.6

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Perfluorinated Compounds by LC/MS/MS

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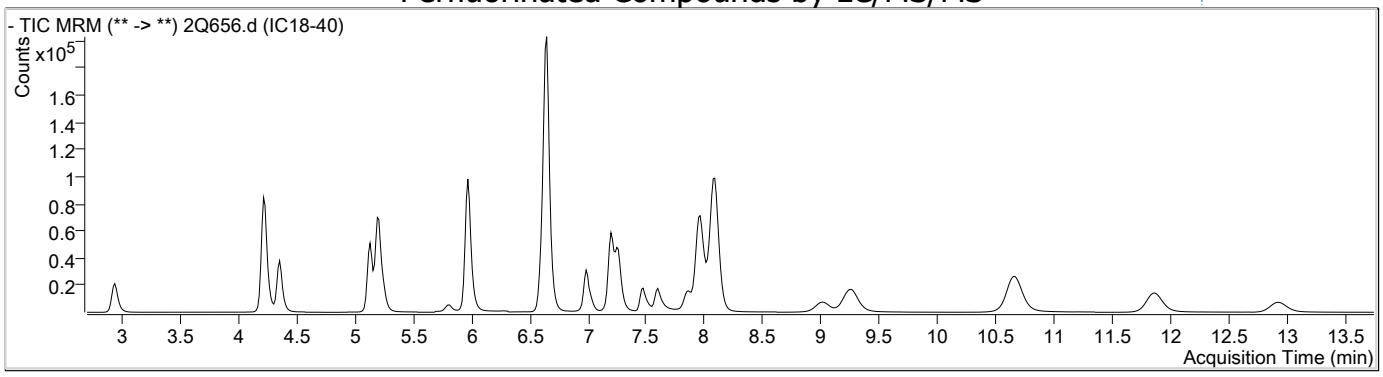
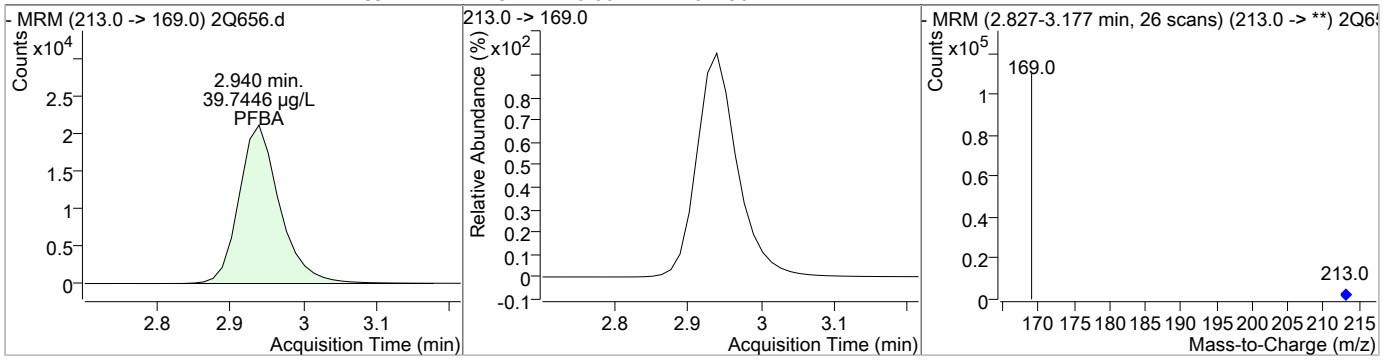
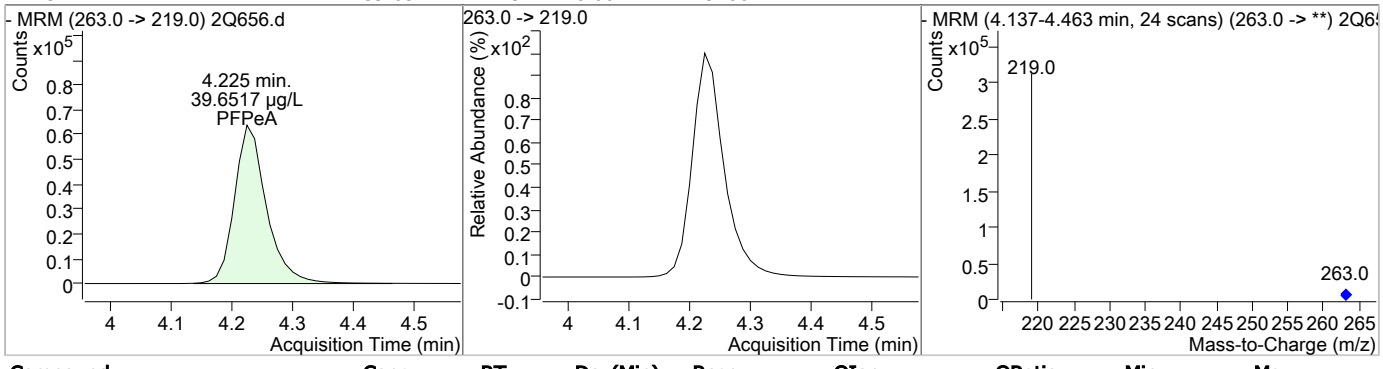


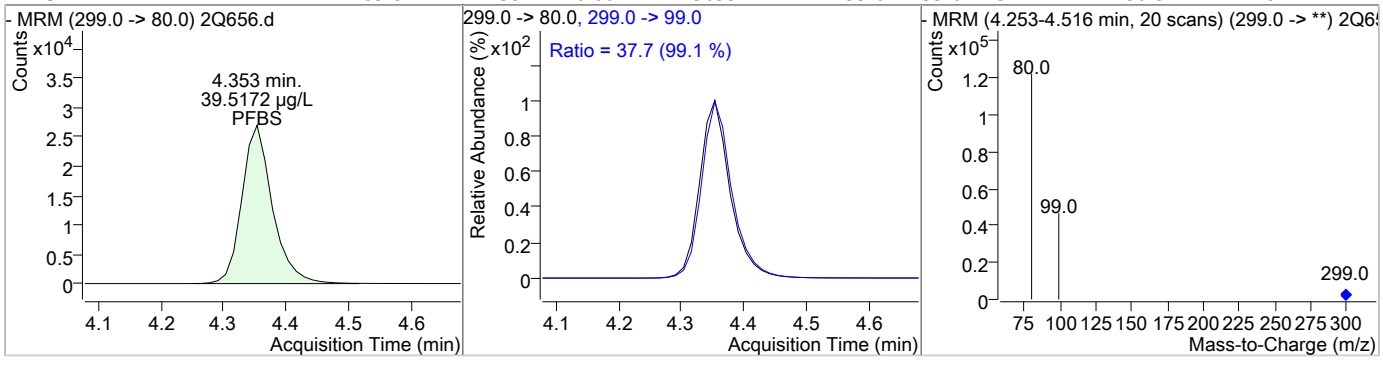
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	39.74	2.94	0.00	81236				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	39.65	4.23	0.00	232061				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	39.52	4.35	0.00	90994	299.0 -> 99.0	37.7	30.5	45.7



7.5.6

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Perfluorinated Compounds by LC/MS/MS

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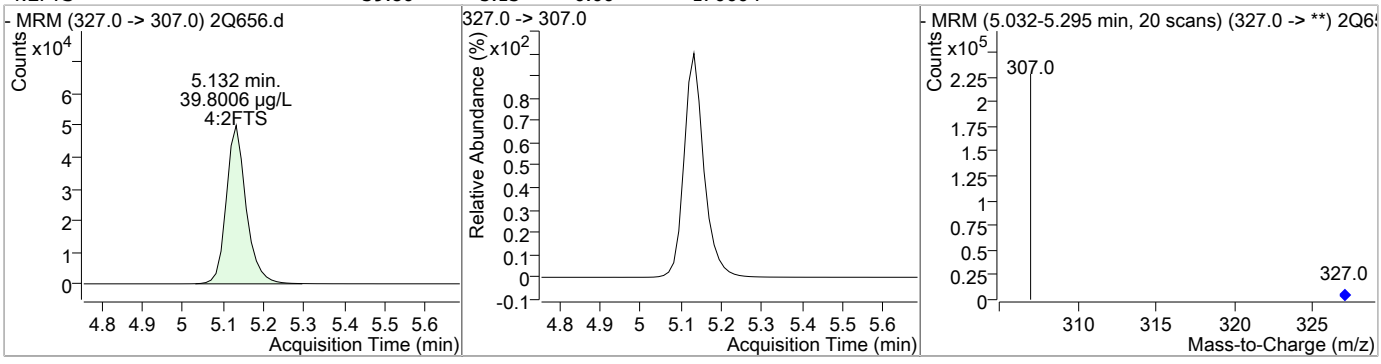
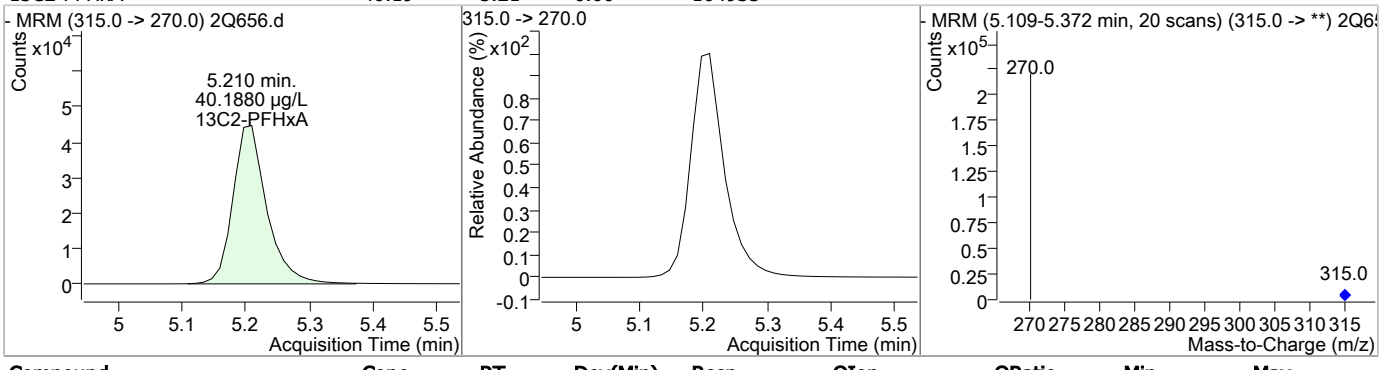
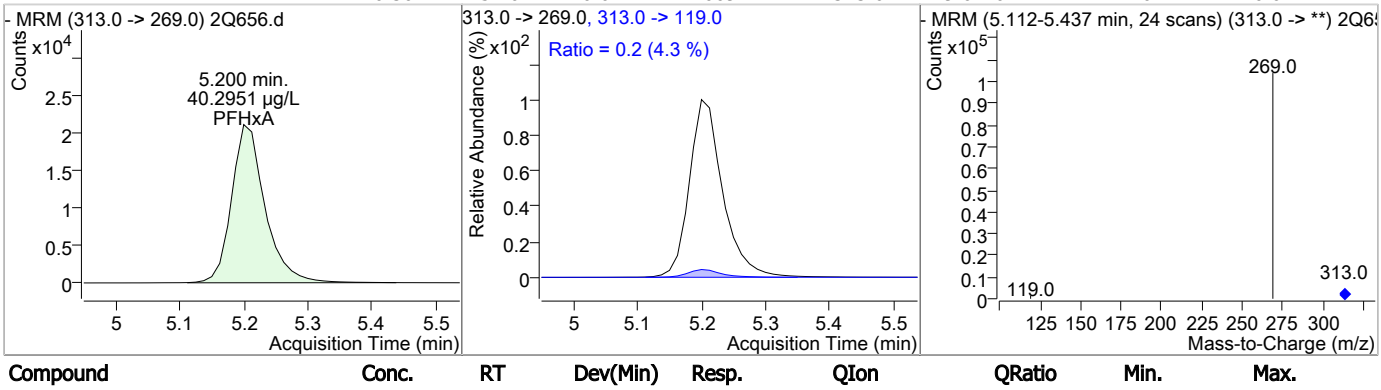
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	39.80	5.13	0.00	170604				



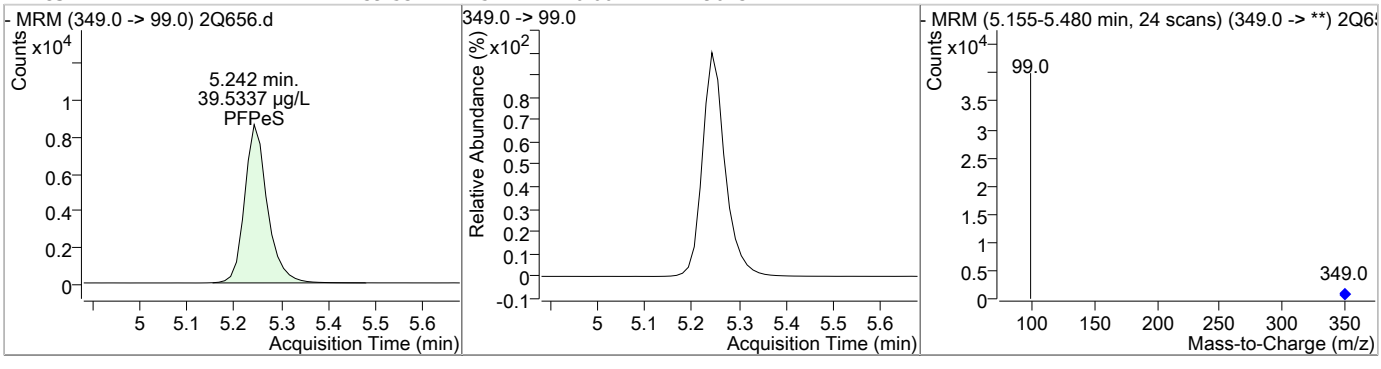
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	40.19	5.21	0.00	164933				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	40.30	5.20	-0.01	76691	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	39.53	5.24	0.00	29023				



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Perfluorinated Compounds by LC/MS/MS

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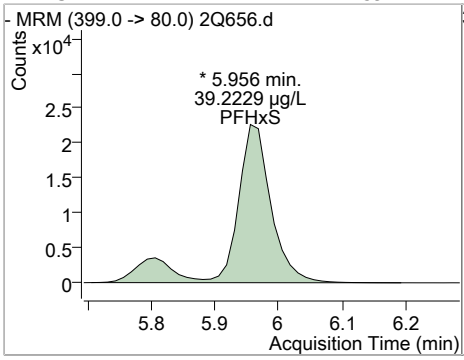
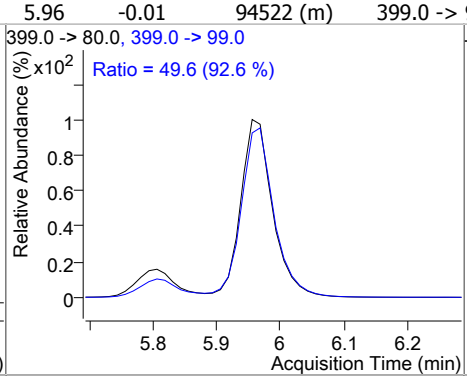
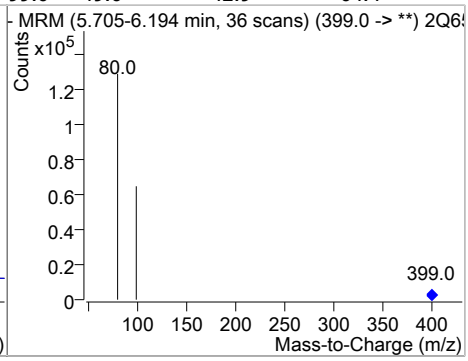
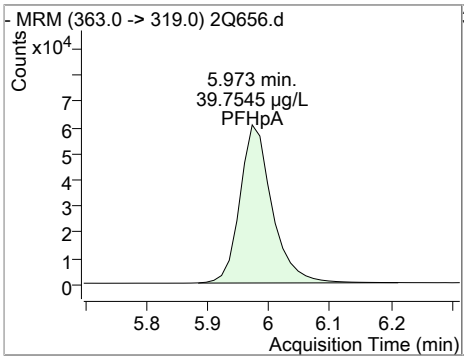
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	39.22	5.96	-0.01	94522 (m)	399.0 -> 99.0	49.6	42.9	64.4

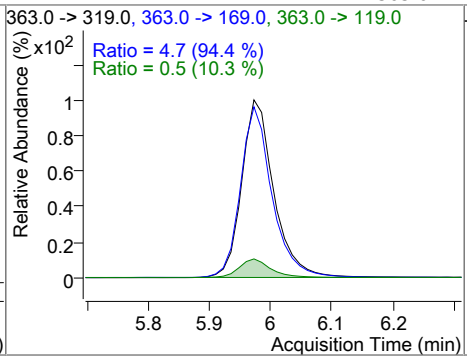


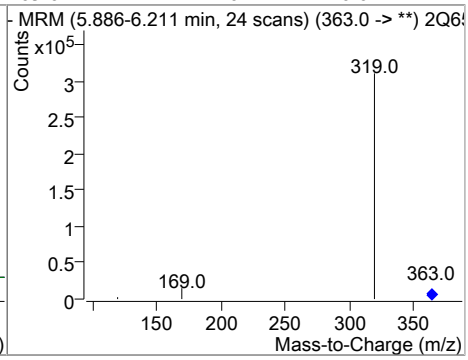




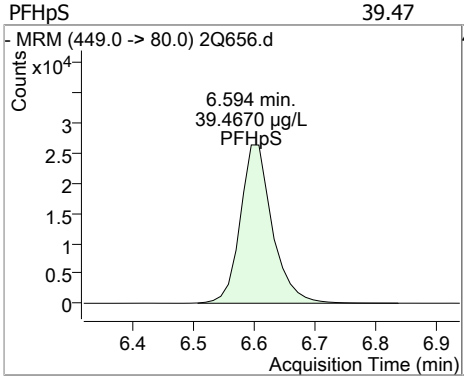
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	39.75	5.97	-0.01	220762	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.7	4.0	6.0

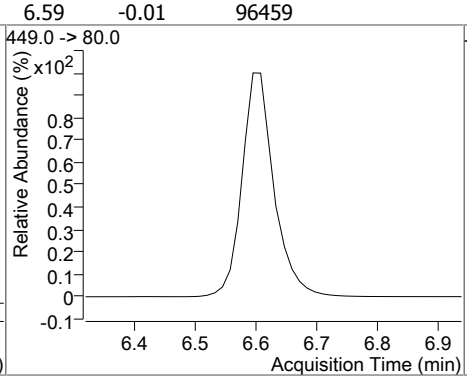


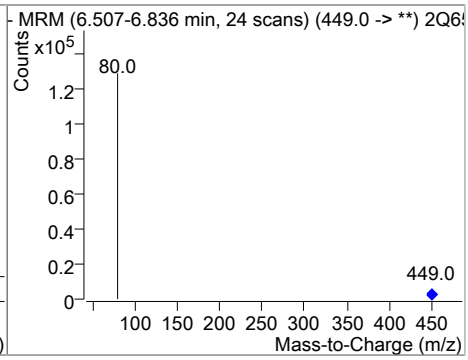




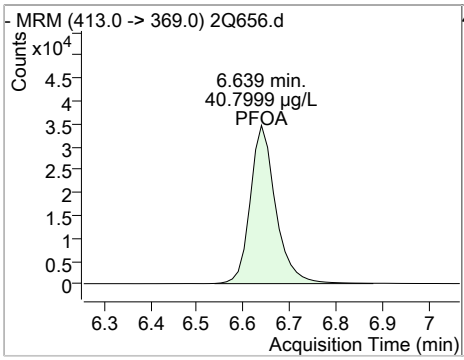
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	39.47	6.59	-0.01	96459				

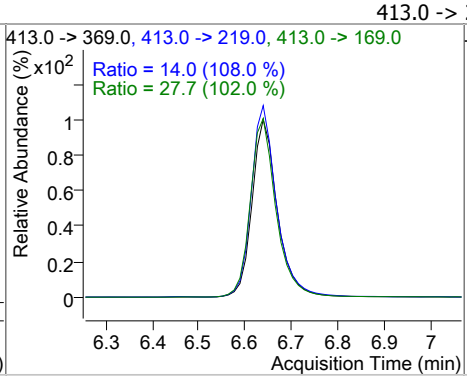


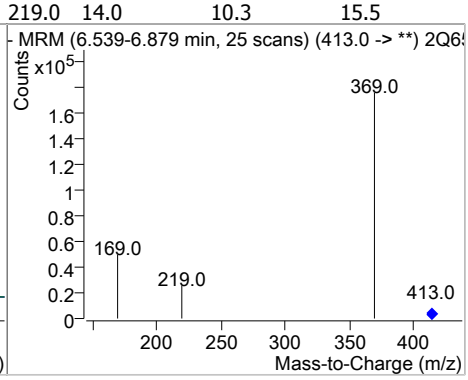




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	40.80	6.64	0.00	131759	413.0 -> 169.0	27.7	21.8	32.6
					413.0 -> 219.0	14.0	10.3	15.5





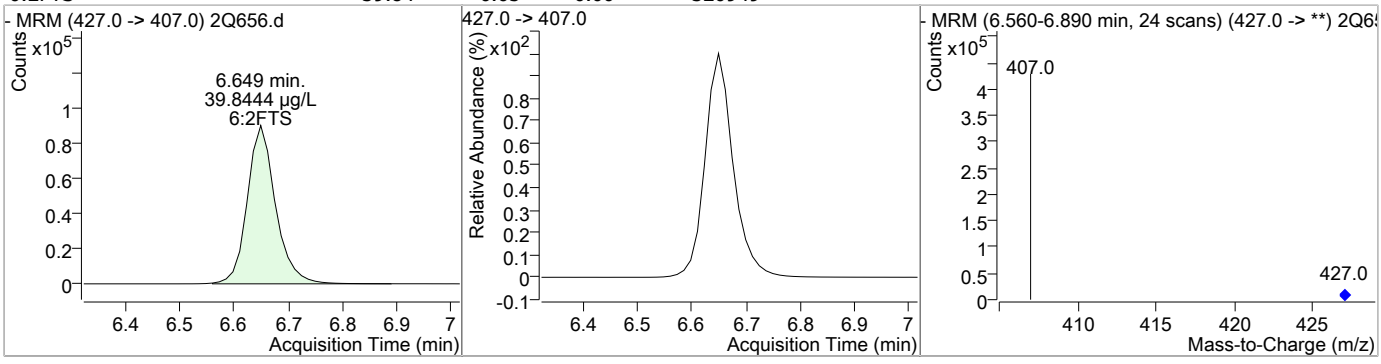


SGS ACCUTEST FA43289

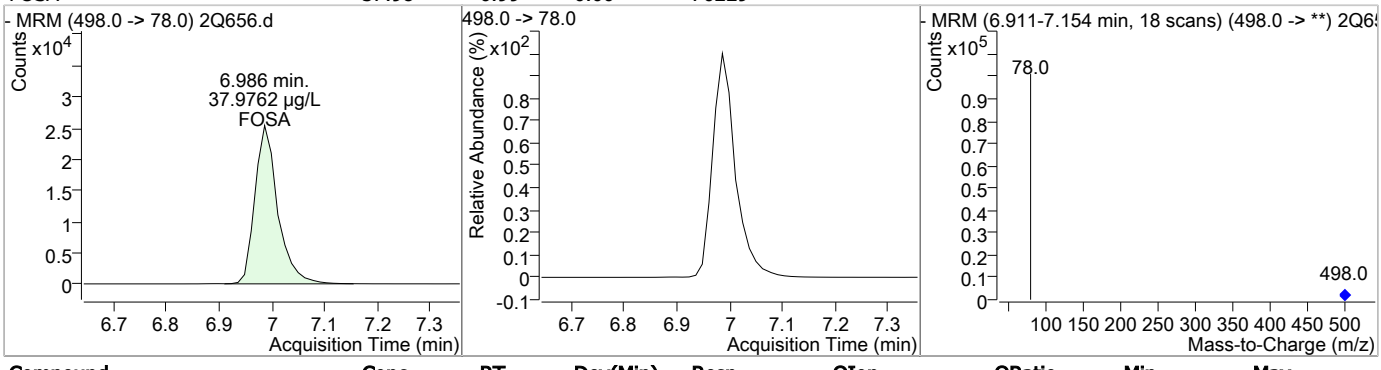
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

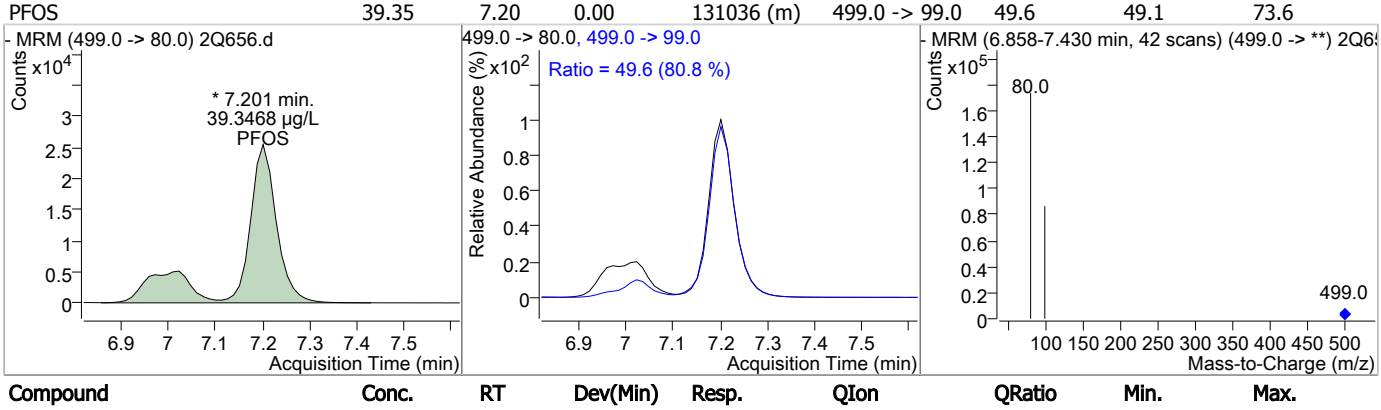
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	39.84	6.65	0.00	326949				



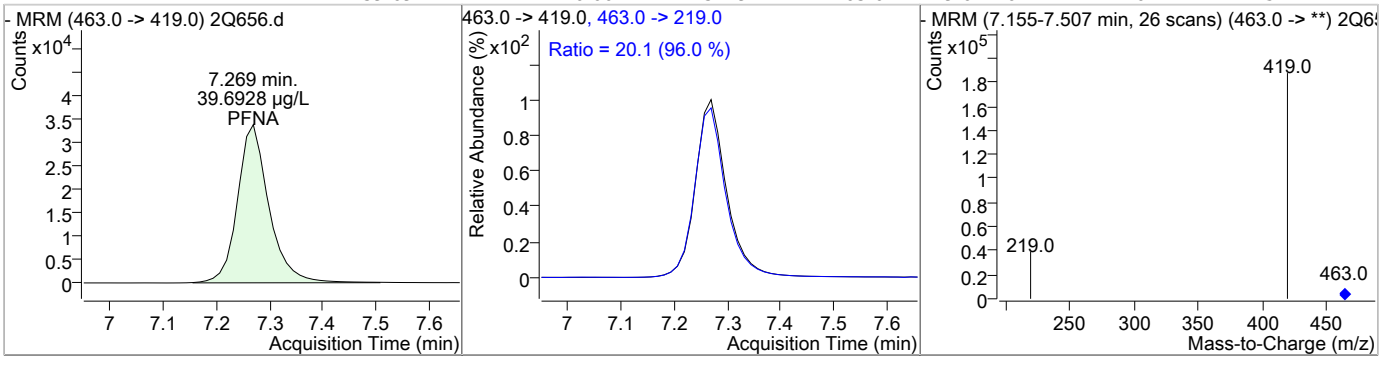
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	37.98	6.99	0.00	76229				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	39.35	7.20	0.00	131036 (m)	499.0 -> 99.0	49.6	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	39.69	7.27	0.00	137792	463.0 -> 219.0	20.1	16.7	25.1



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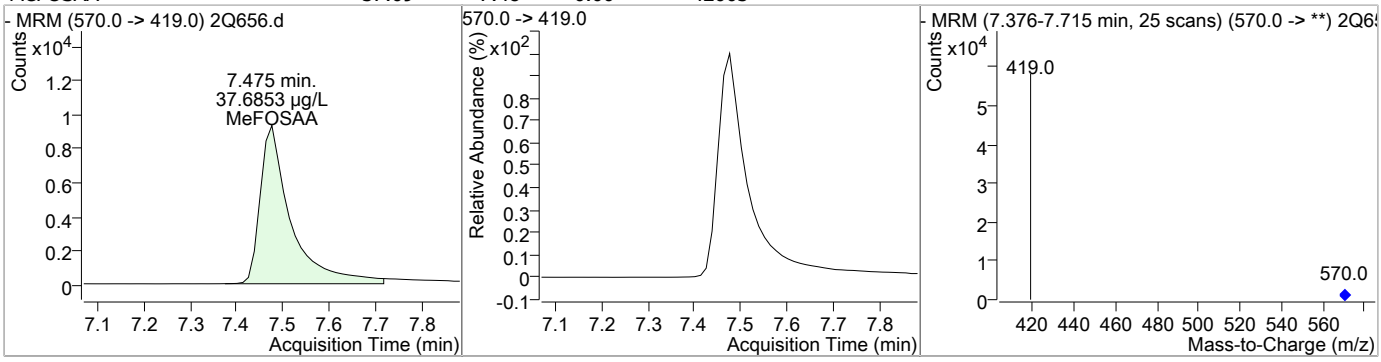
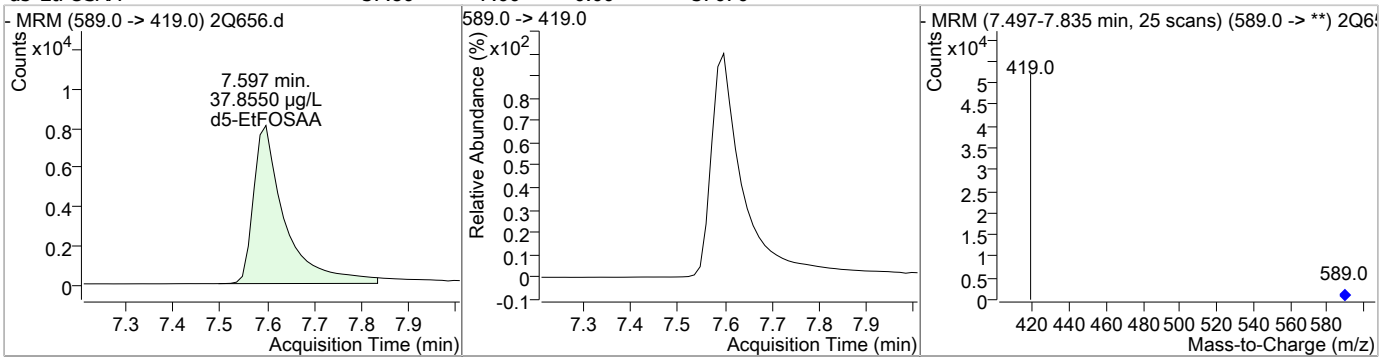
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

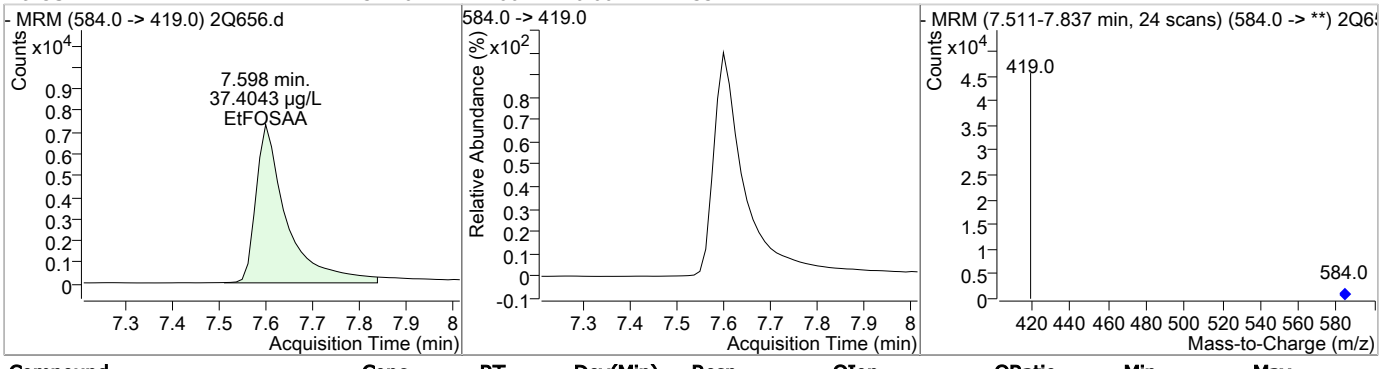
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	37.69	7.48	0.00	42603				



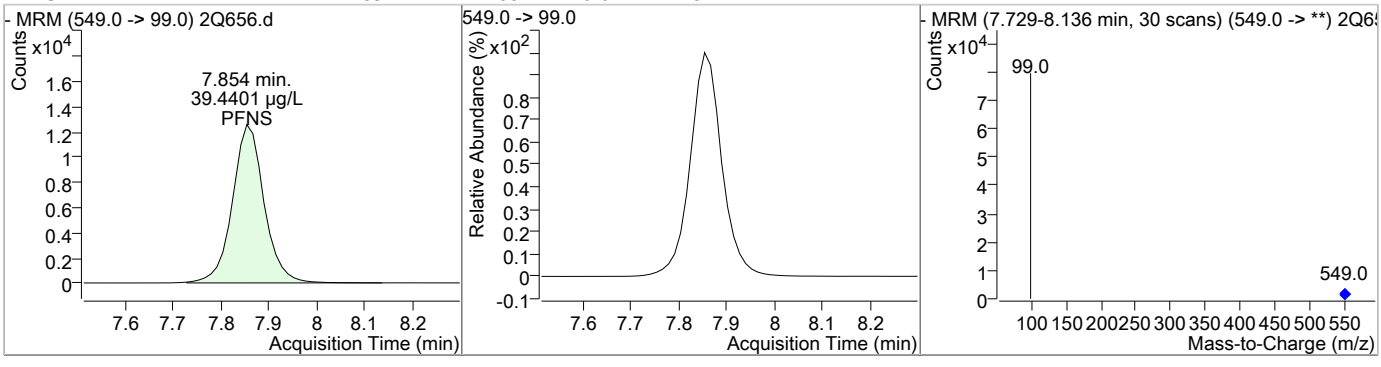
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	37.86	7.60	0.00	37670				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	37.40	7.60	0.00	33444				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	39.44	7.85	-0.01	57477				



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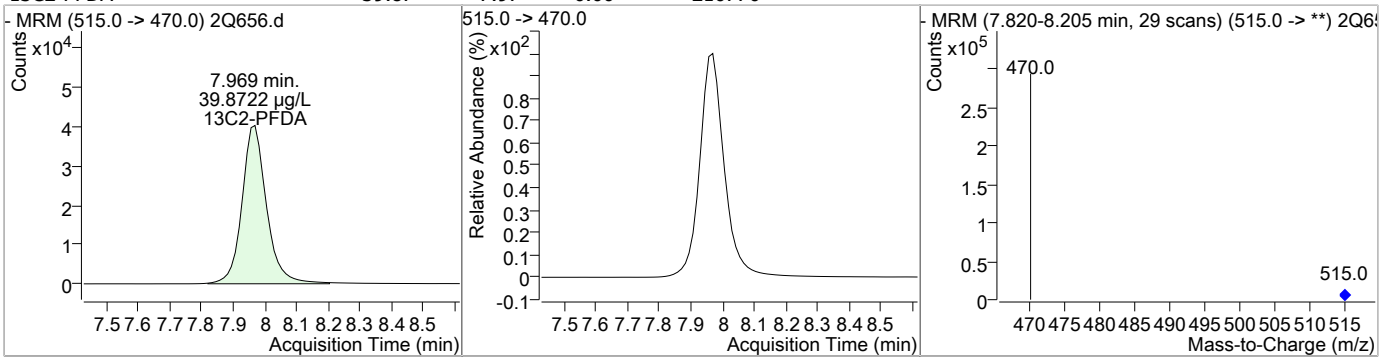
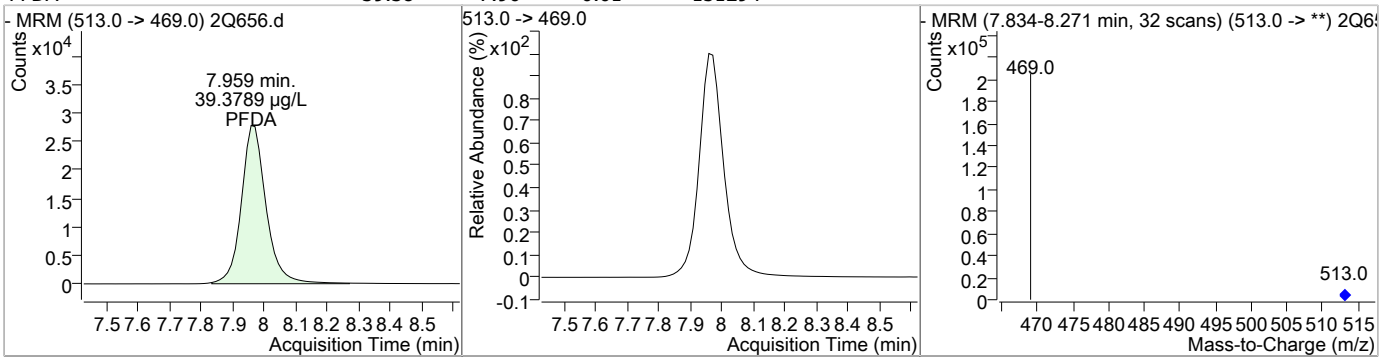
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

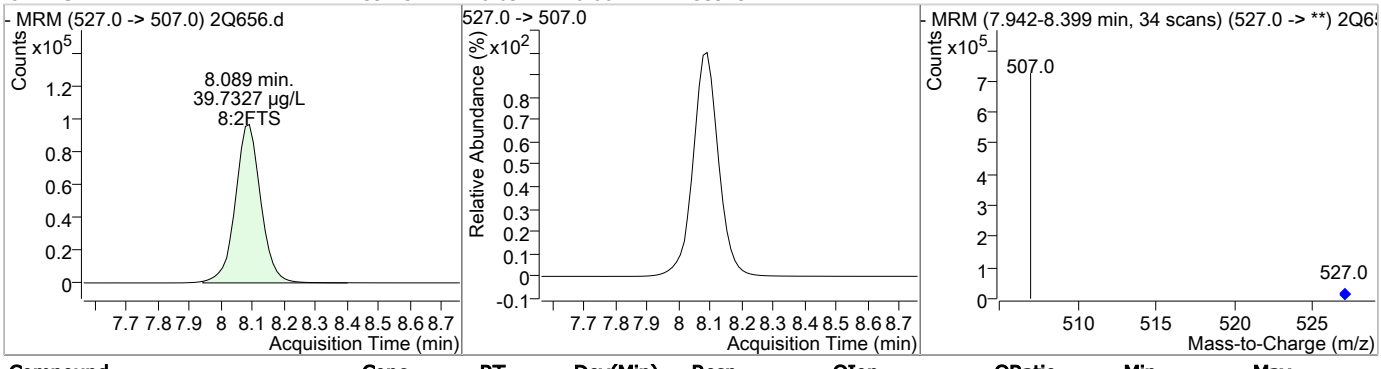
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	39.87	7.97	0.00	216770				



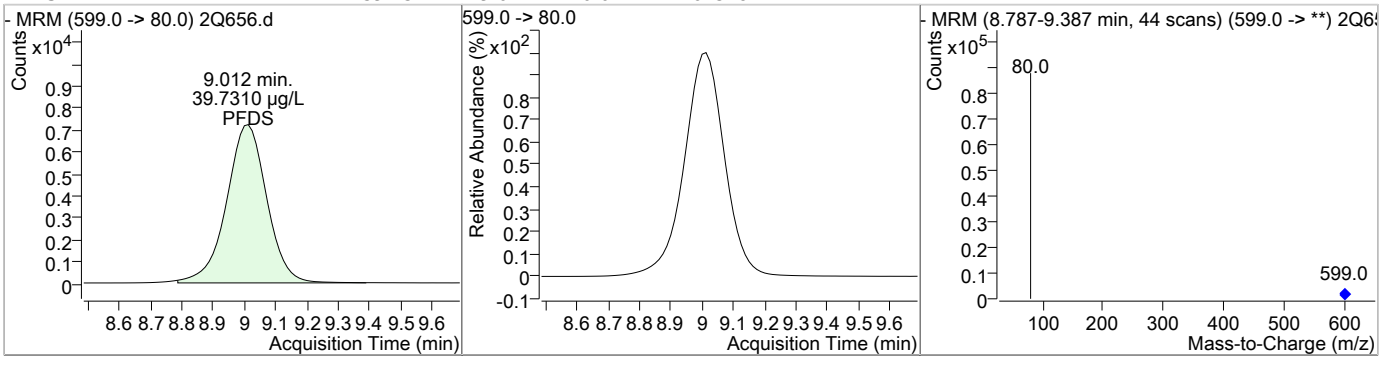
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	39.38	7.96	-0.01	151294				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	39.73	8.09	0.00	539797				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	39.73	9.01	-0.01	64318				



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Perfluorinated Compounds by LC/MS/MS

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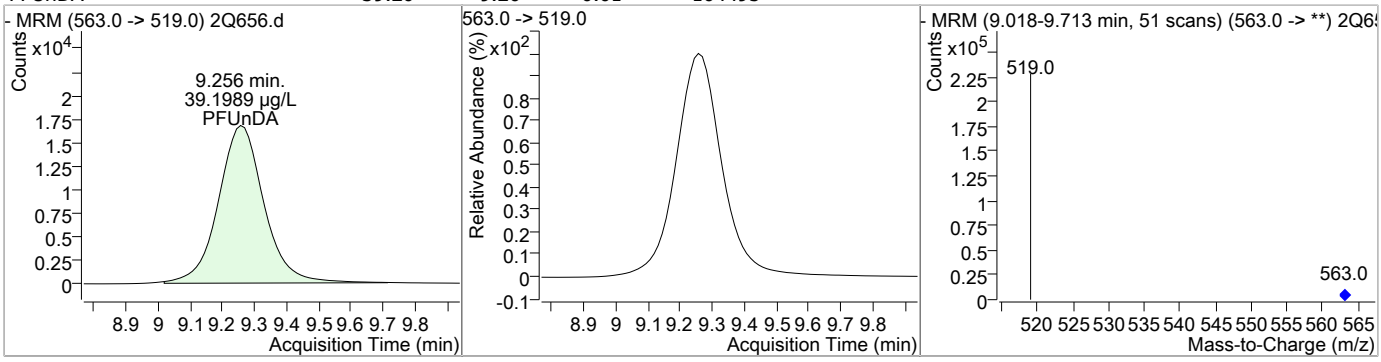
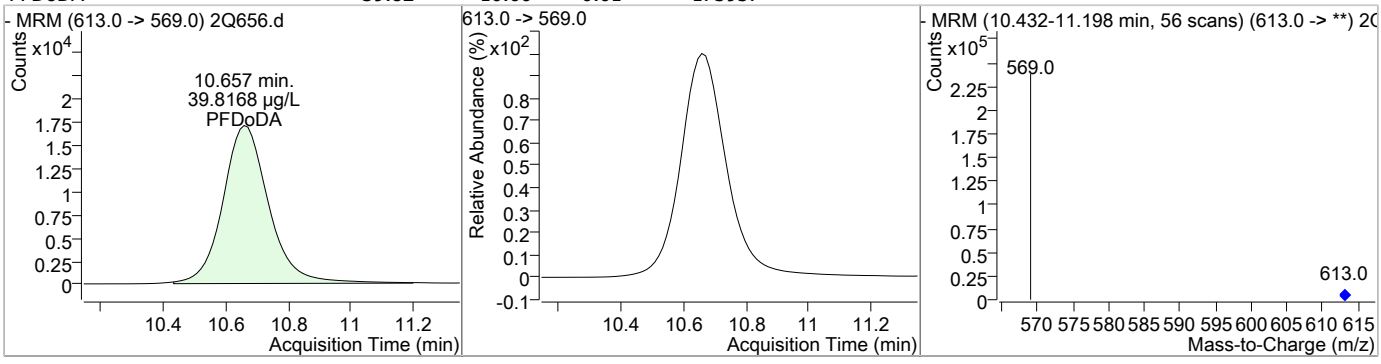
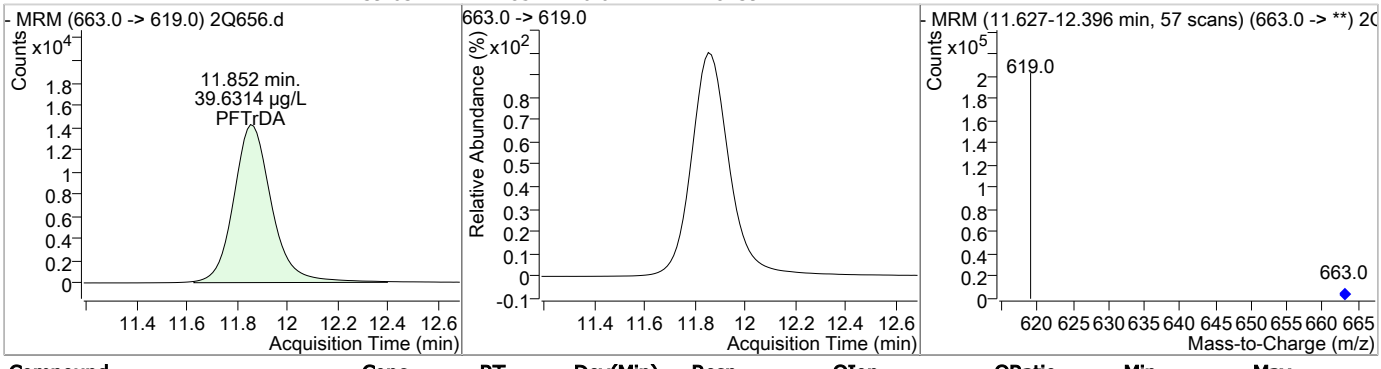
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	39.20	9.26	-0.01	164495				



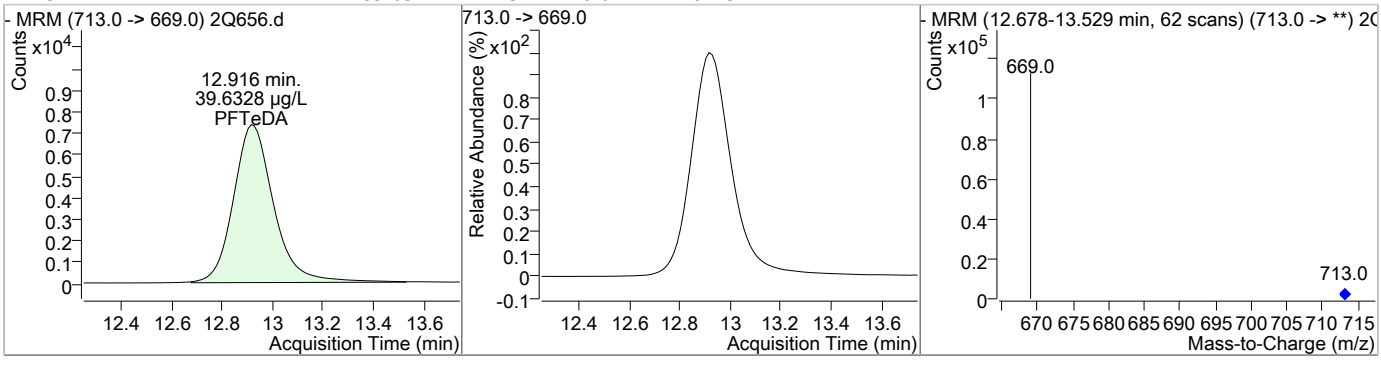
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	39.82	10.66	-0.01	173937				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	39.63	11.85	-0.01	148239				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	39.63	12.92	-0.01	81191				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q656.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 13:33	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.96	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.20	Split peak

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FA43289

2Q657.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 04/21/17 11:22

Perfluorinated Compounds by LC/MS/MS

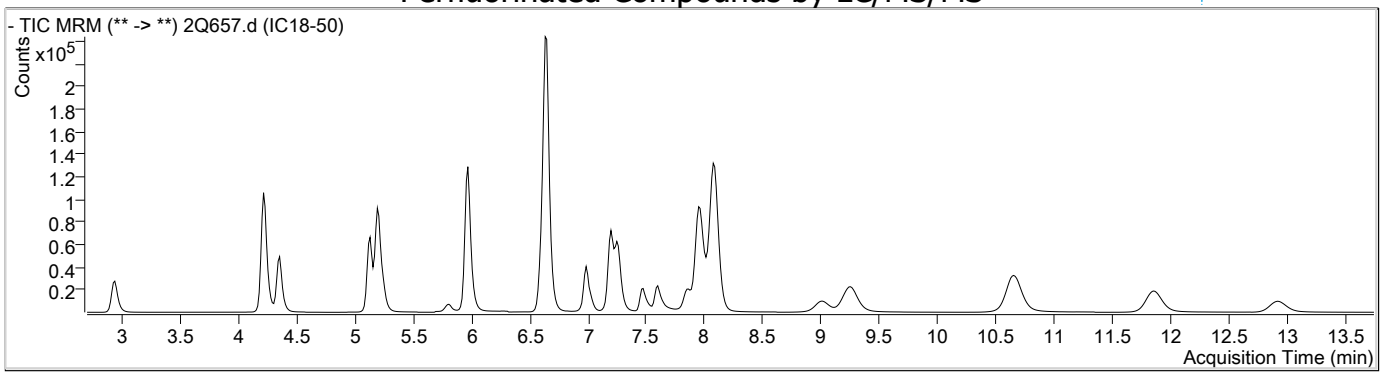
Data File	:	2Q657.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 1:53:01 PM
Sample Name	:	IC18-50
Vial	:	Vial 8
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.648	429.0 -> 409.0	177873	20.00	µg/L		0.000
13C2-PFDoDA	10.651	615.0 -> 570.0	97502	20.00	µg/L		-0.013
13C2-PFOA	6.637	415.0 -> 370.0	80320	20.00	µg/L		0.000
13C3-PFPeA	4.222	266.0 -> 222.0	78721	20.00	µg/L		-0.013
13C4-PFOS	7.199	503.0 -> 80.0	58581	20.00	µg/L		0.000
d3-MeFOSAA	7.462	573.0 -> 419.0	35696	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	7.957	515.0 -> 470.0	285676	50.83	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 254.2%			
13C2-PFHxA	5.197	315.0 -> 270.0	214460	50.55	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 252.7%			
d5-EtFOSAA	7.597	589.0 -> 419.0	51446	51.16	µg/L		0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 255.8%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	225772	50.25	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	428504	49.82	µg/L		100
8:2FTS	8.077	527.0 -> 507.0	716709	50.33	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	46332	52.13	µg/L		100
FOSA	6.986	498.0 -> 78.0	99247	51.71	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	58587	51.23	µg/L		100
PFBA	2.940	213.0 -> 169.0	107611	50.93	µg/L		100
PFBS	4.353	299.0 -> 80.0	119255	51.02	µg/L		99
PFDA	7.959	513.0 -> 469.0	203528	51.25	µg/L		100
PFDoDA	10.657	613.0 -> 569.0	228436	50.16	µg/L		100
PFDS	9.000	599.0 -> 80.0	84636	50.18	µg/L		100
PFHpA	5.973	363.0 -> 319.0	294462	50.54	µg/L	#	93
PFHpS	6.594	449.0 -> 80.0	126613	51.03	µg/L		100
PFHxA	5.200	313.0 -> 269.0	100182	49.89	µg/L	#	86
PFHxS	5.956	399.0 -> 80.0	125523	51.31	µg/L	m	94
PFNA	7.269	463.0 -> 419.0	183128	51.03	µg/L		98
PFNS	7.854	549.0 -> 99.0	75469	51.01	µg/L		100
PFOA	6.639	413.0 -> 369.0	168435	50.45	µg/L		97
PFOS	7.201	499.0 -> 80.0	173143	51.21	µg/L	#m	84
PFPeA	4.225	263.0 -> 219.0	303509	50.81	µg/L		100
PFPeS	5.242	349.0 -> 99.0	38173	50.95	µg/L		100
PFTeDA	12.916	713.0 -> 669.0	107737	50.26	µg/L		100
PFTrDA	11.852	663.0 -> 619.0	197227	50.26	µg/L		100
PFUnDA	9.256	563.0 -> 519.0	218740	51.13	µg/L		100

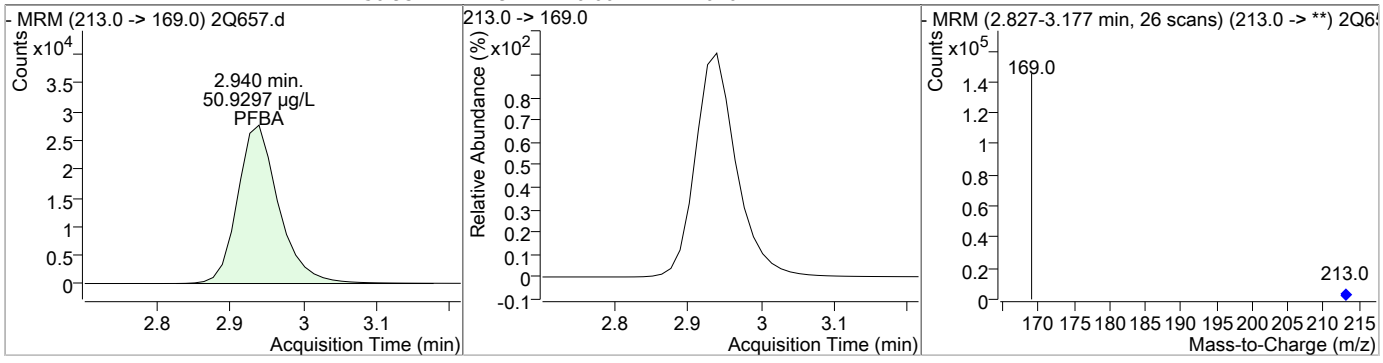
 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

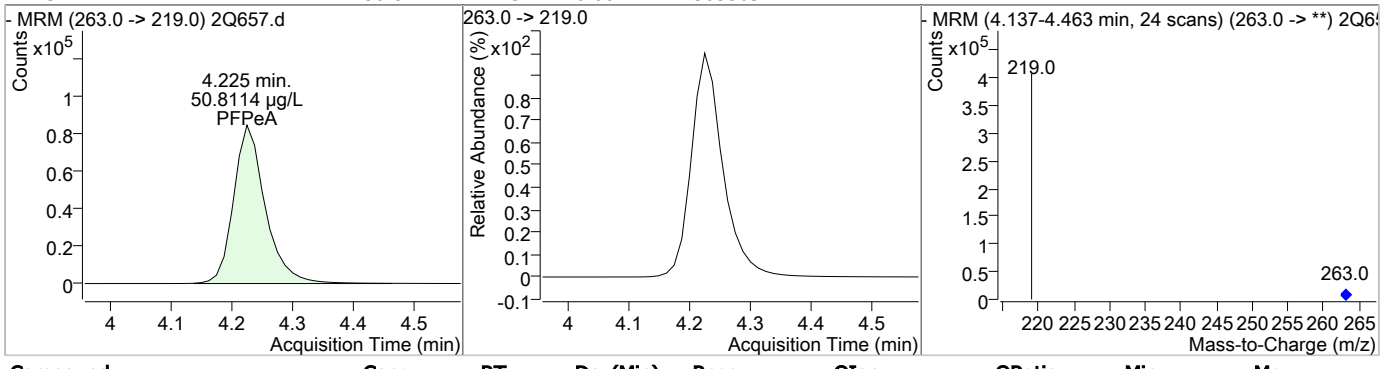
Agilent Technologies



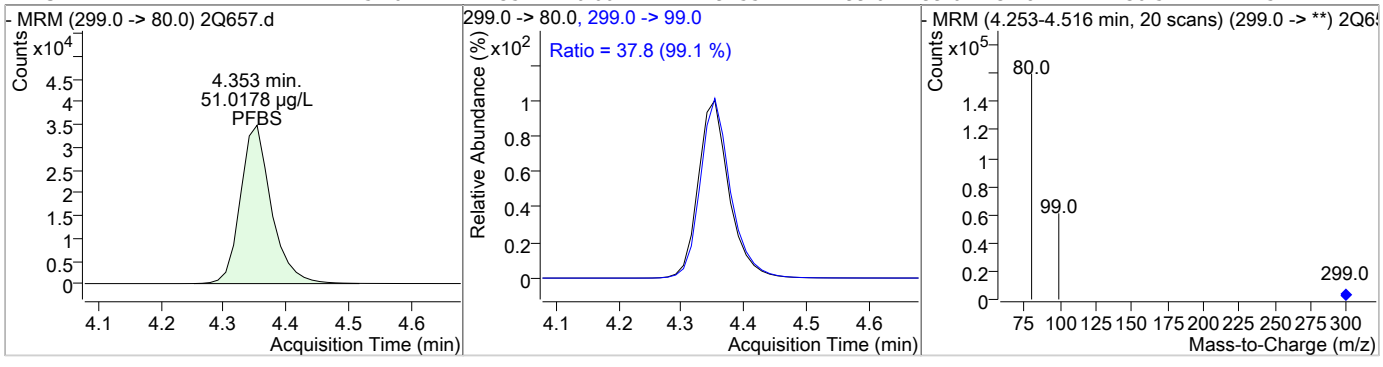
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	50.93	2.94	0.00	107611				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	50.81	4.23	0.00	303509				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	51.02	4.35	0.00	119255	299.0 -> 99.0	37.8	30.5	45.7



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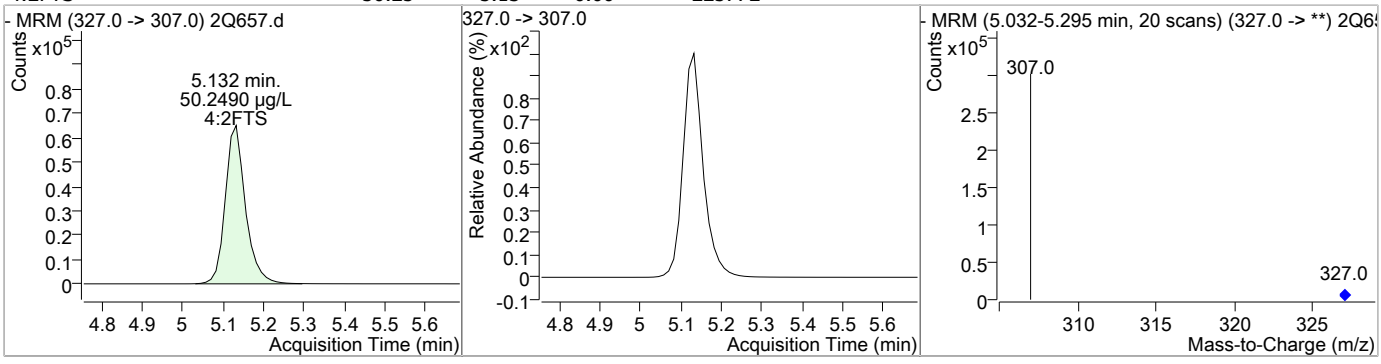
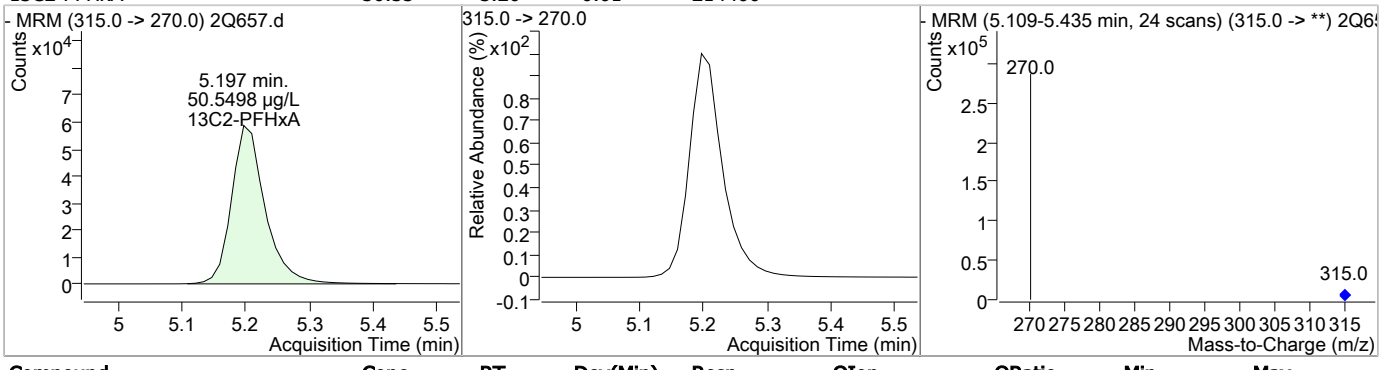
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

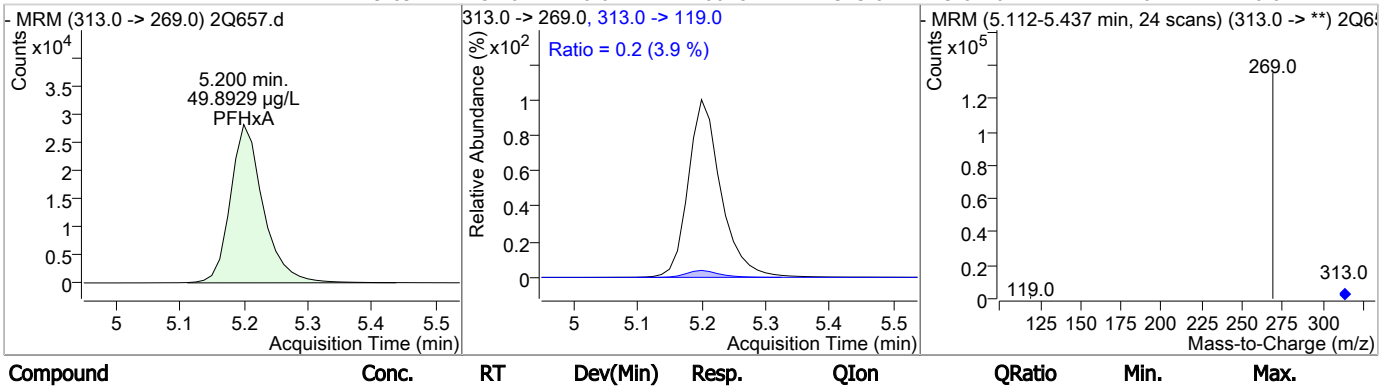
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	50.25	5.13	0.00	225772				



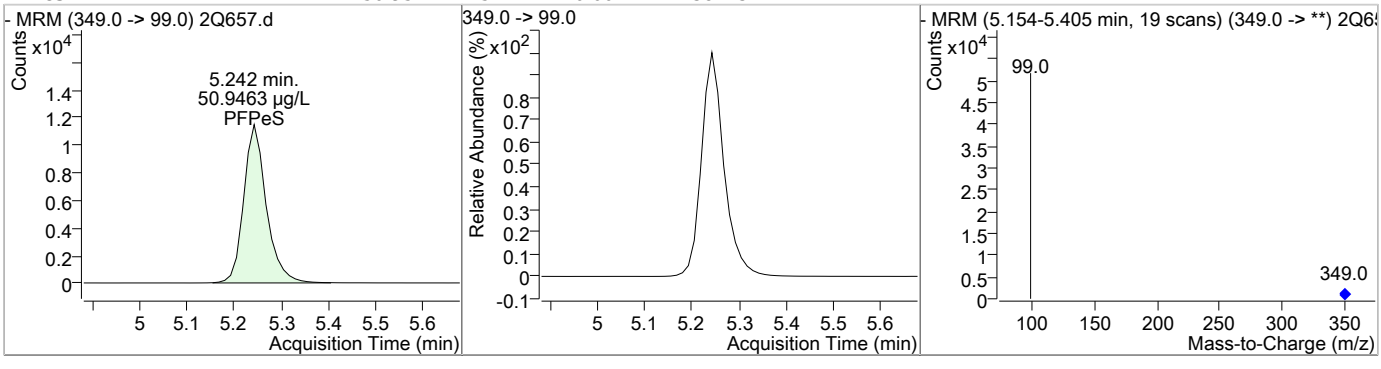
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	50.55	5.20	-0.01	214460				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	49.89	5.20	-0.01	100182	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	50.95	5.24	0.00	38173				



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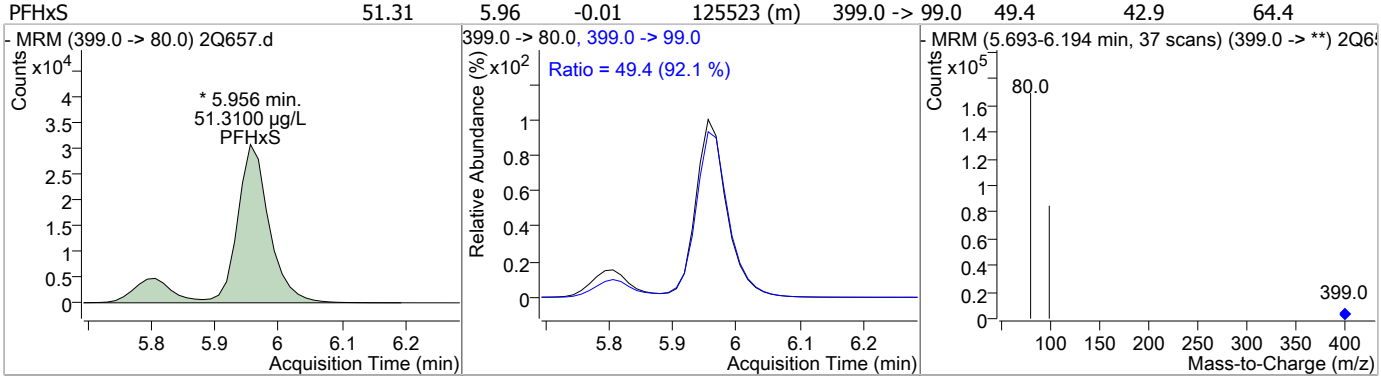
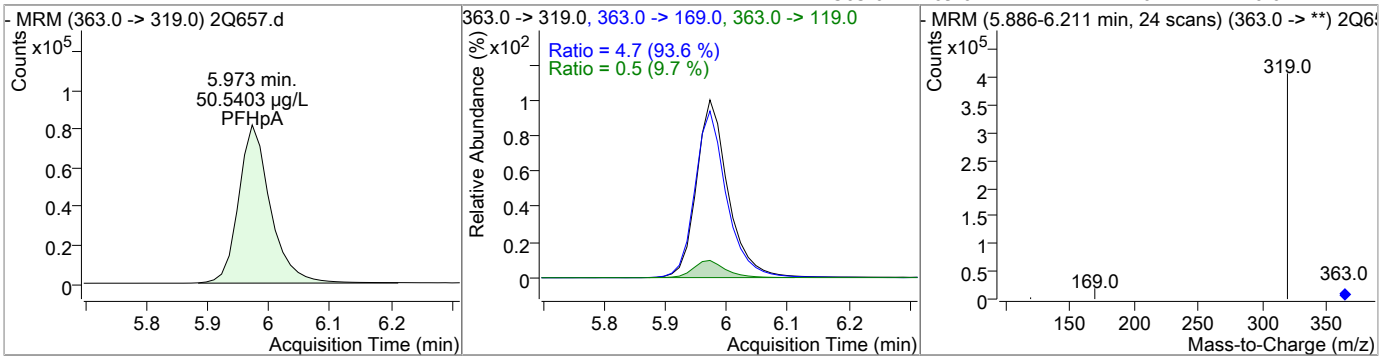
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

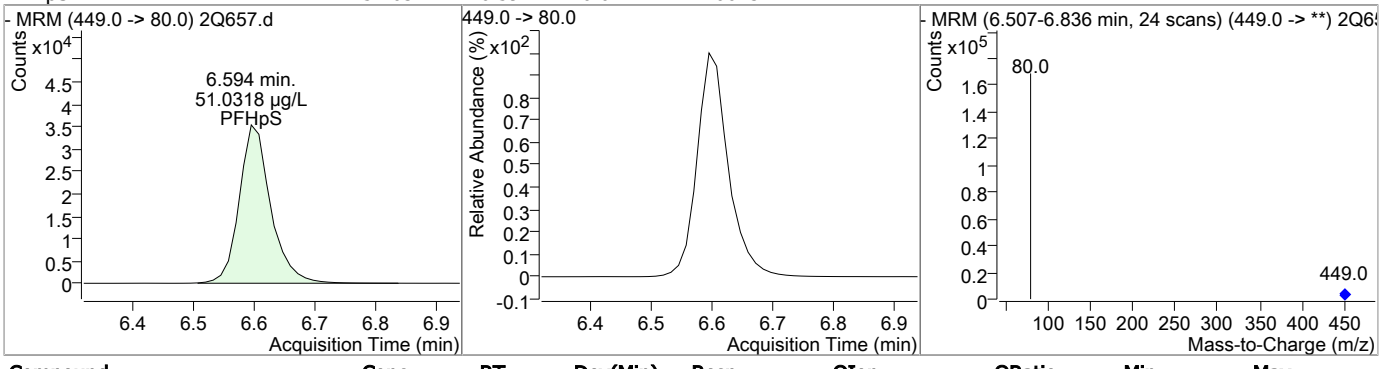
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	51.31	5.96	-0.01	125523 (m)	399.0 -> 99.0	49.4	42.9	64.4



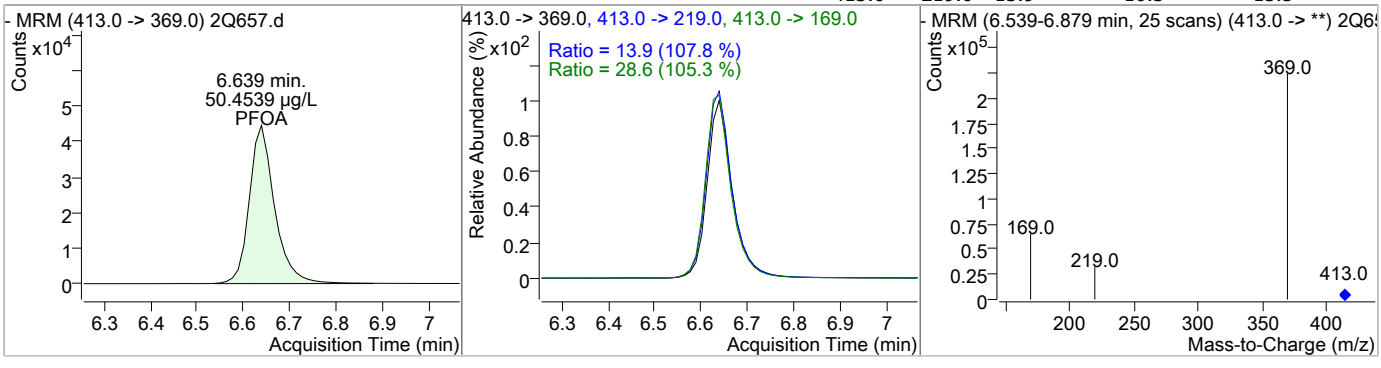
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	50.54	5.97	-0.01	294462	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.7	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	51.03	6.59	-0.01	126613				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	50.45	6.64	0.00	168435	413.0 -> 169.0	28.6	21.8	32.6
					413.0 -> 219.0	13.9	10.3	15.5



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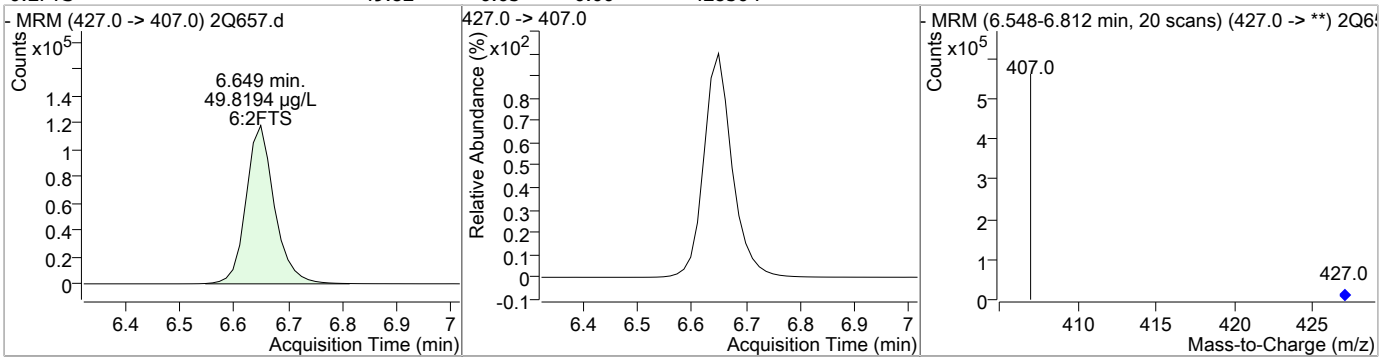
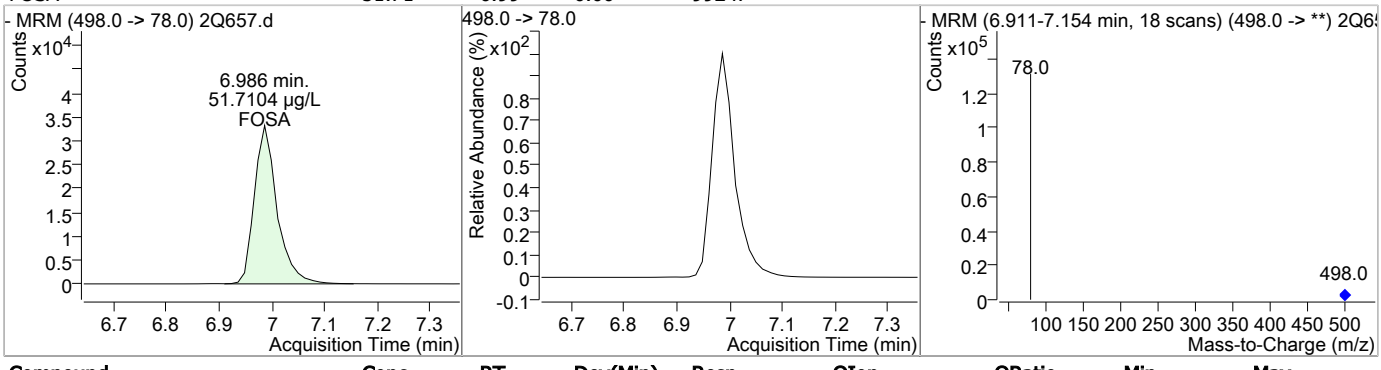
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

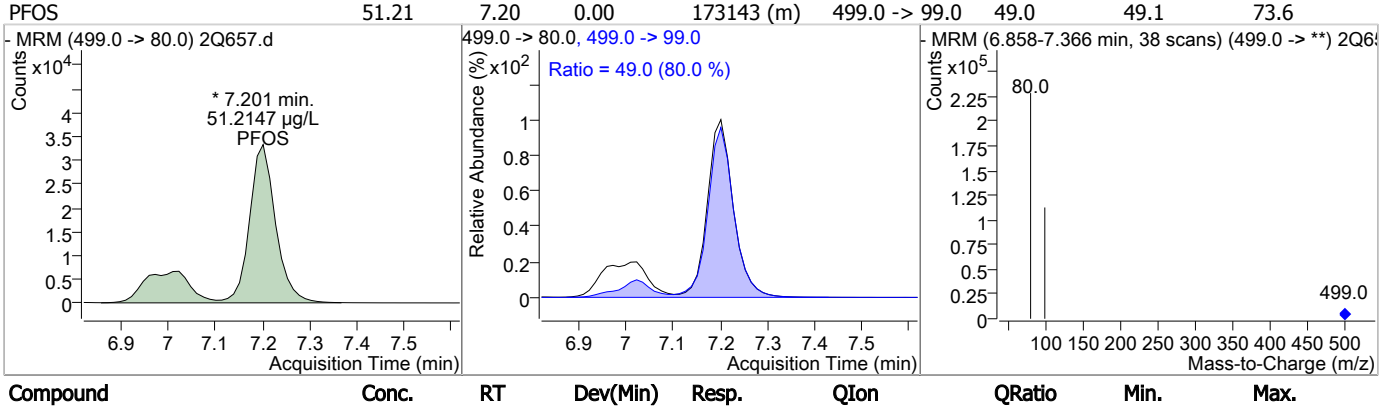
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	49.82	6.65	0.00	428504				



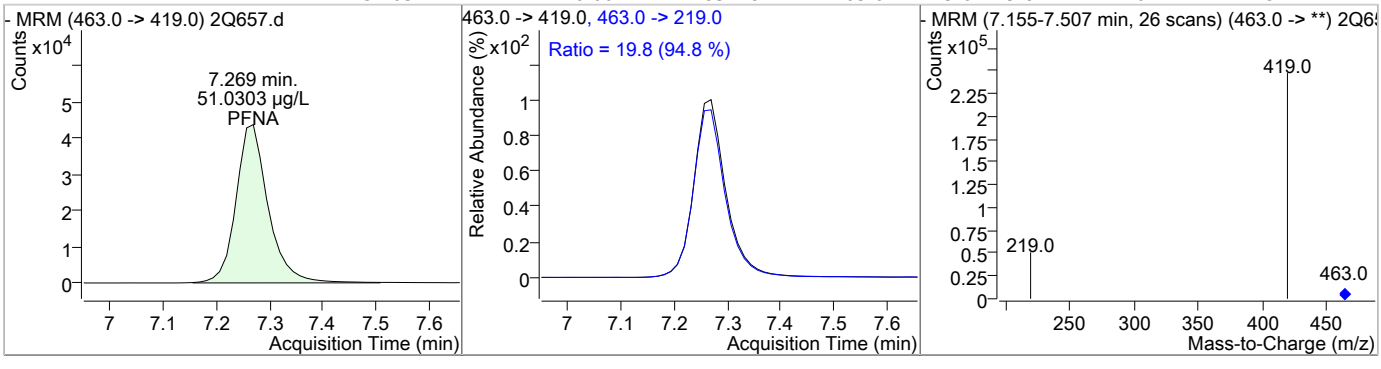
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	51.71	6.99	0.00	99247				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	51.21	7.20	0.00	173143 (m)	499.0 -> 99.0	49.0	49.1	73.6



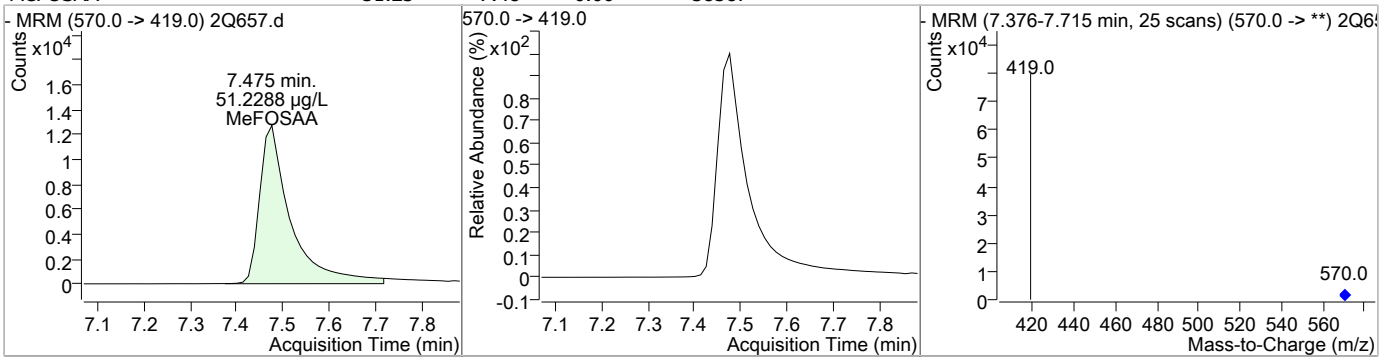
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	51.03	7.27	0.00	183128	463.0 -> 219.0	19.8	16.7	25.1



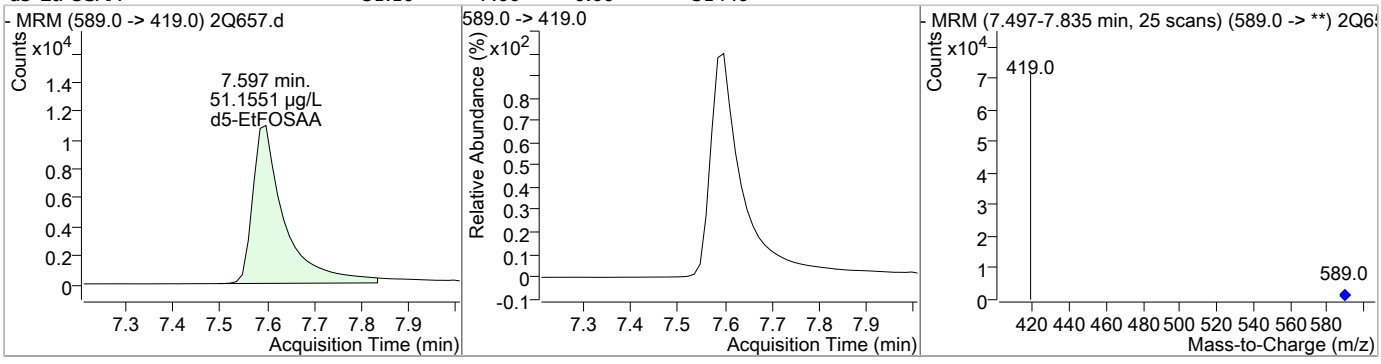
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

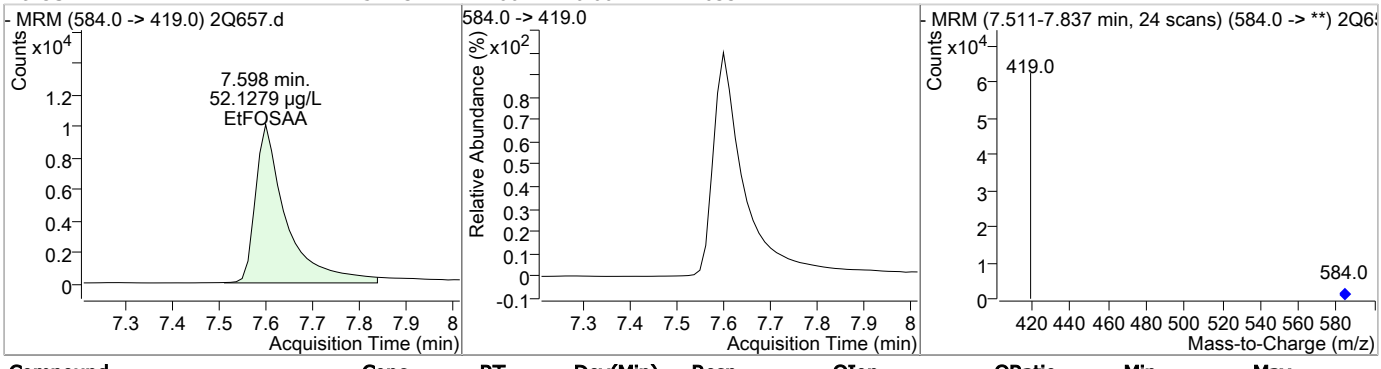
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	51.23	7.48	0.00	58587				



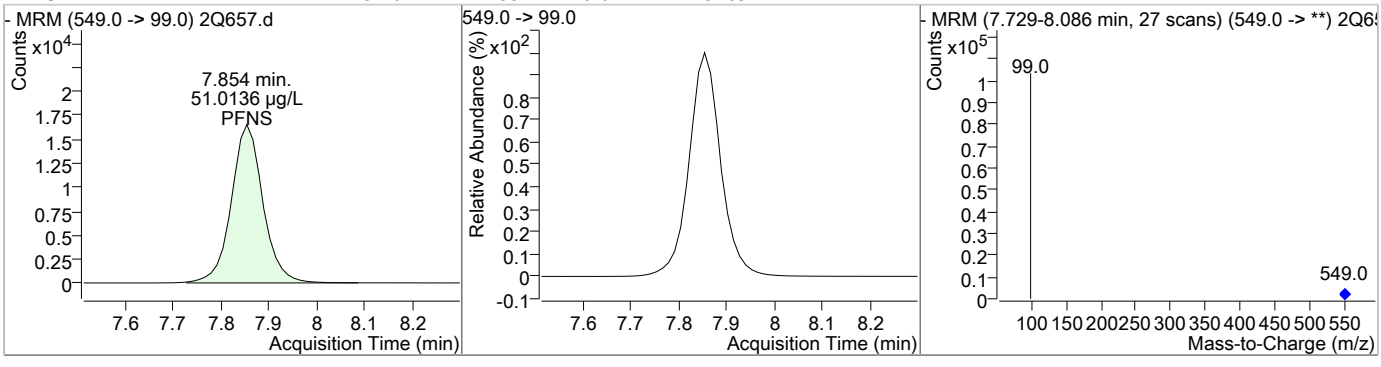
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	51.16	7.60	0.00	51446				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	52.13	7.60	0.00	46332				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	51.01	7.85	-0.01	75469				



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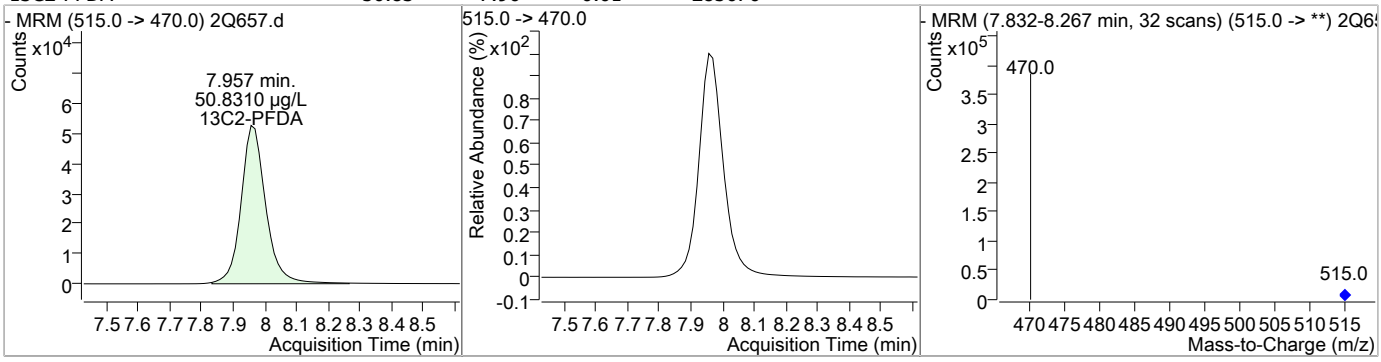
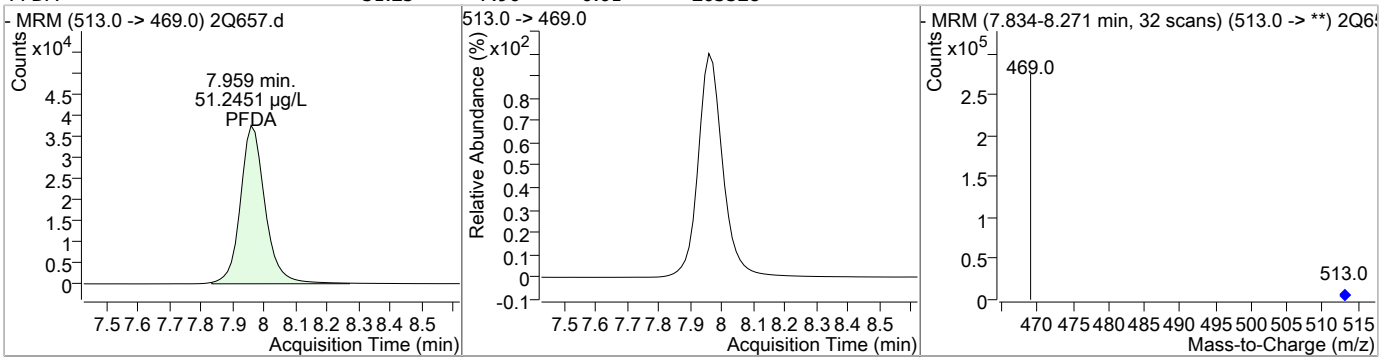
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

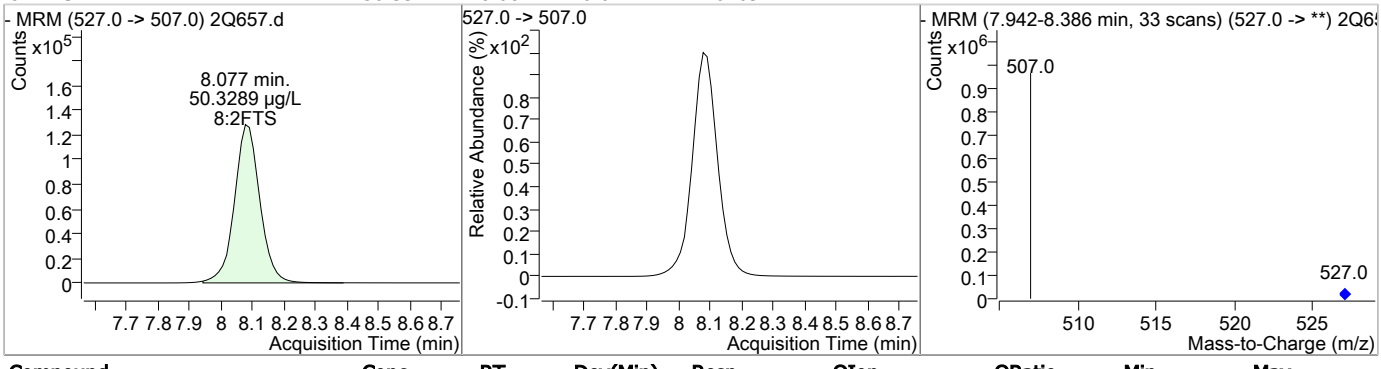
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	50.83	7.96	-0.01	285676				



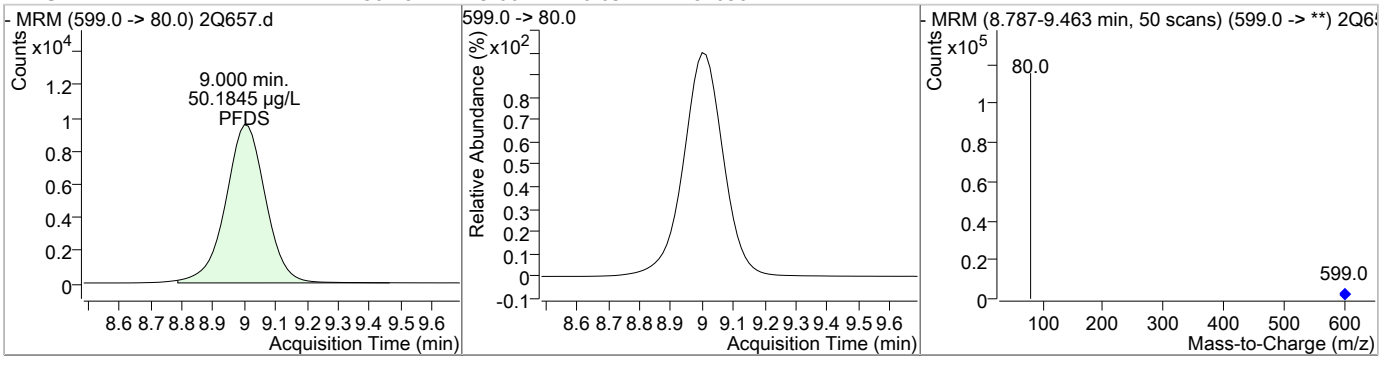
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	51.25	7.96	-0.01	203528				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	50.33	8.08	-0.01	716709				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	50.18	9.00	-0.03	84636				



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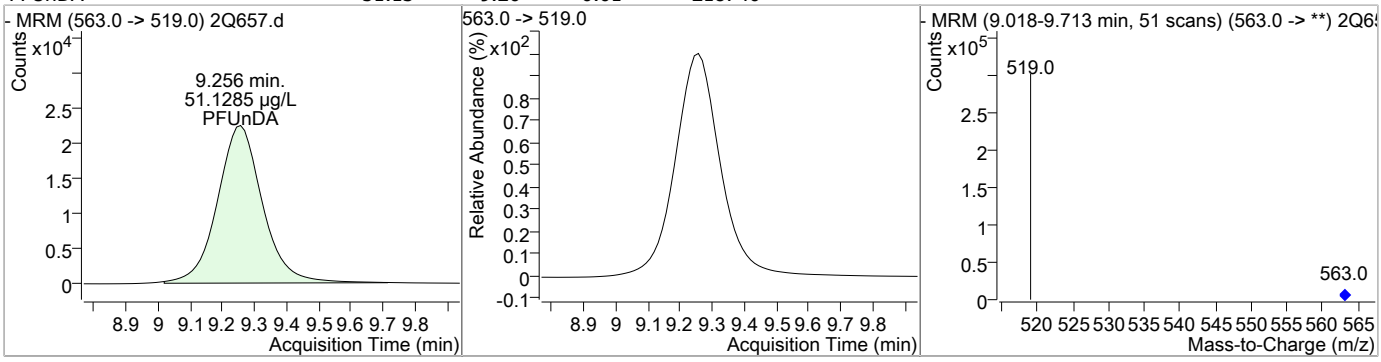
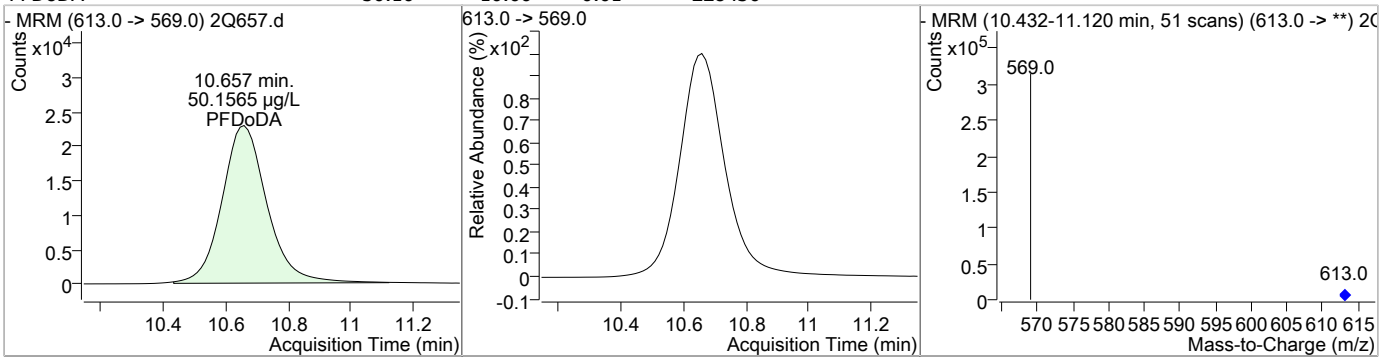
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

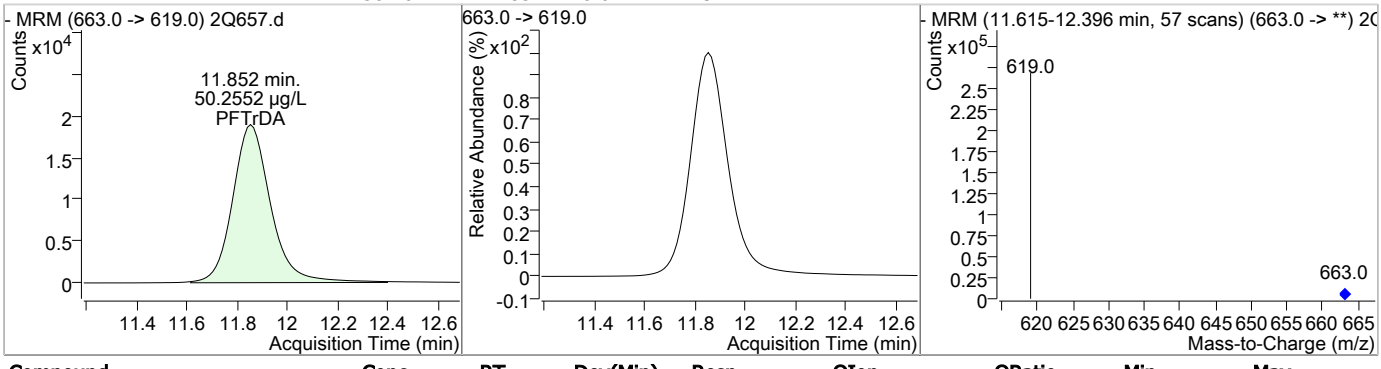
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	51.13	9.26	-0.01	218740				



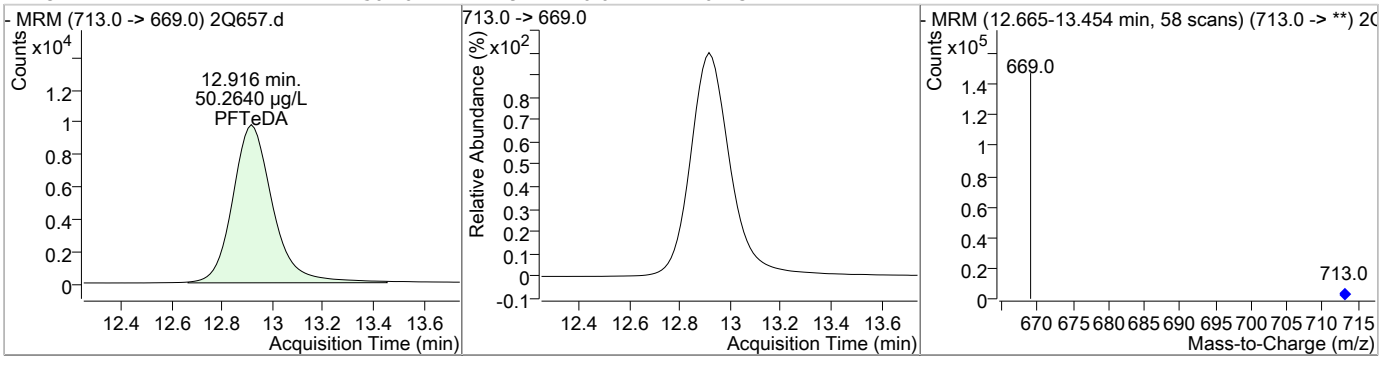
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	50.16	10.66	-0.01	228436				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	50.26	11.85	-0.01	197227				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	50.26	12.92	-0.01	107737				



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Manual Integration Approval Summary

Sample Number:	S2Q18-IC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q657.D	**Analyst approved:**	04/21/17 09:46	Nancy Saunders
Injection Time:	04/20/17 13:53	**Supervisor approved:**	04/21/17 11:22	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.96	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.20	Split peak

Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

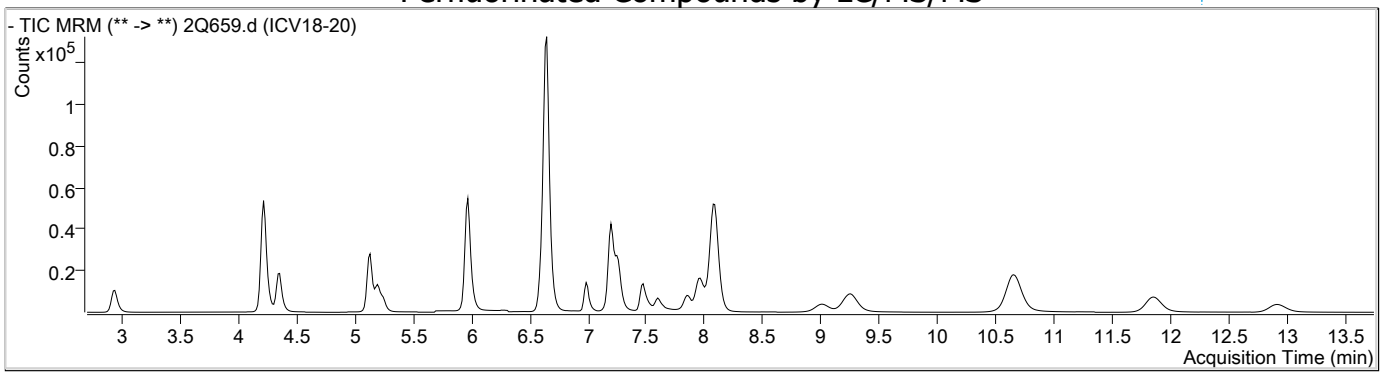
Data File	:	2Q659.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	4/20/2017 2:34:37 PM
Sample Name	:	ICV18-20
Vial	:	Vial 9
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q18.batch.bin
Last Calib Update	:	4/21/2017 7:57:04 AM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.648	429.0 -> 409.0	158830	20.00	µg/L		0.000
13C2-PFDoDA	10.651	615.0 -> 570.0	91721	20.00	µg/L		-0.013
13C2-PFOA	6.637	415.0 -> 370.0	75324	20.00	µg/L		0.000
13C3-PFPeA	4.222	266.0 -> 222.0	74004	20.00	µg/L		-0.013
13C4-PFOS	7.199	503.0 -> 80.0	55296	20.00	µg/L		0.000
d3-MeFOSAA	7.474	573.0 -> 419.0	34720	20.00	µg/L		0.000
System Monitoring Compounds							
13C2-PFDA	7.969	515.0 -> 470.0	0	0.00	µg/L	m	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = NA%			
13C2-PFHxA	-	315.0 -> 270.0	-	N.D.			
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = NA%			
d5-EtFOSAA	7.597	589.0 -> 419.0	0	0.00	µg/L	m	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = NA%			
Target Compounds							**QValue**
4:2FTS	5.132	327.0 -> 307.0	96548	24.06	µg/L		100
6:2FTS	6.649	427.0 -> 407.0	172861	22.51	µg/L		100
8:2FTS	8.077	527.0 -> 507.0	286680	22.54	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	18871	23.57	µg/L		100
FOSA	6.986	498.0 -> 78.0	40260	21.57	µg/L		100
MeFOSAA	7.475	570.0 -> 419.0	24006	24.23	µg/L		100
PFBA	2.940	213.0 -> 169.0	41613	21.00	µg/L		100
PFBS	4.341	299.0 -> 80.0	46062	20.88	µg/L		100
PFDA	7.959	513.0 -> 469.0	78630	21.11	µg/L		100
PFDoDA	10.657	613.0 -> 569.0	89904	22.31	µg/L		100
PFDS	9.000	599.0 -> 80.0	33156	22.35	µg/L		100
PFHpA	5.973	363.0 -> 319.0	113139	21.56	µg/L	#	93
PFHpS	6.594	449.0 -> 80.0	49317	21.06	µg/L		100
PFHxA	5.200	313.0 -> 269.0	38876	21.93	µg/L	#	86
PFHxS	5.956	399.0 -> 80.0	50890	22.04	µg/L		94
PFNA	7.269	463.0 -> 419.0	71725	21.31	µg/L		97
PFNS	7.854	549.0 -> 99.0	31642	22.66	µg/L		100
PFOA	6.639	413.0 -> 369.0	66629	21.28	µg/L		99
PFOS	7.201	499.0 -> 80.0	62605	19.62	µg/L		96
PFPeA	4.225	263.0 -> 219.0	118214	21.05	µg/L		100
PFPeS	5.242	349.0 -> 99.0	15528	22.05	µg/L		100
PFTeDA	12.916	713.0 -> 669.0	42406	22.54	µg/L		100
PFTrDA	11.852	663.0 -> 619.0	76534	22.39	µg/L		100
PFUnDA	9.256	563.0 -> 519.0	85345	21.21	µg/L		100

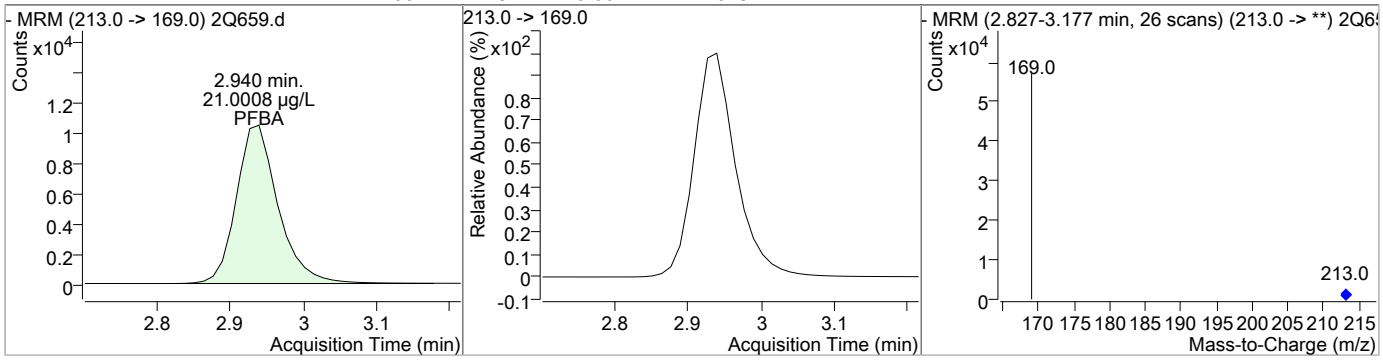
 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

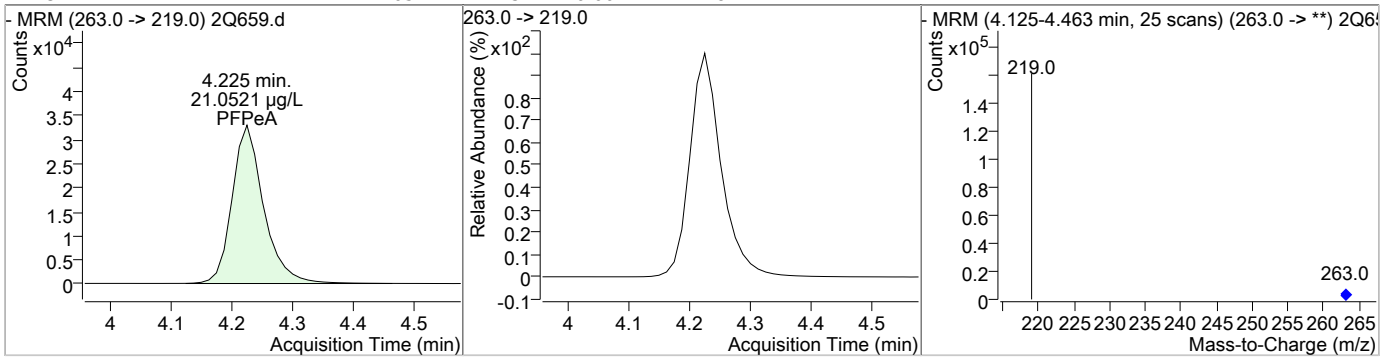
Agilent Technologies



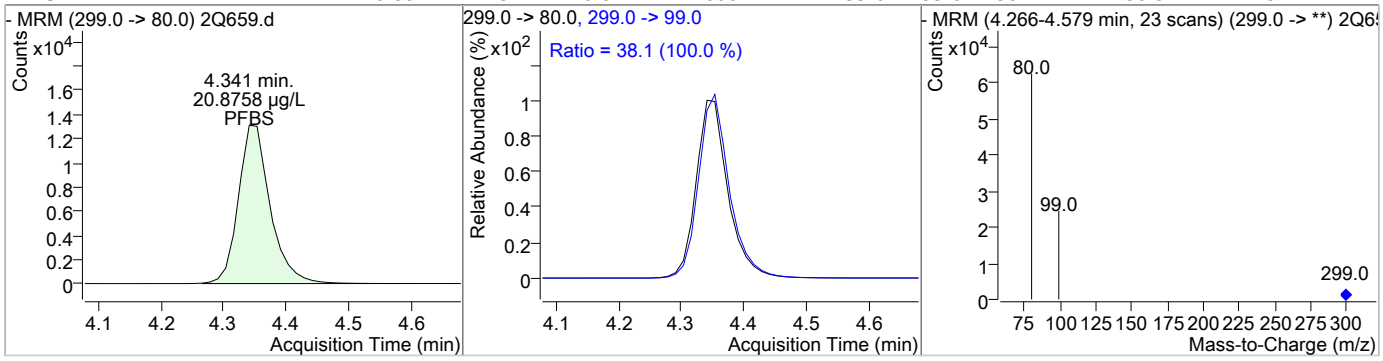
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	21.00	2.94	0.00	41613				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	21.05	4.23	0.00	118214				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	20.88	4.34	-0.01	46062	299.0 -> 99.0	38.1	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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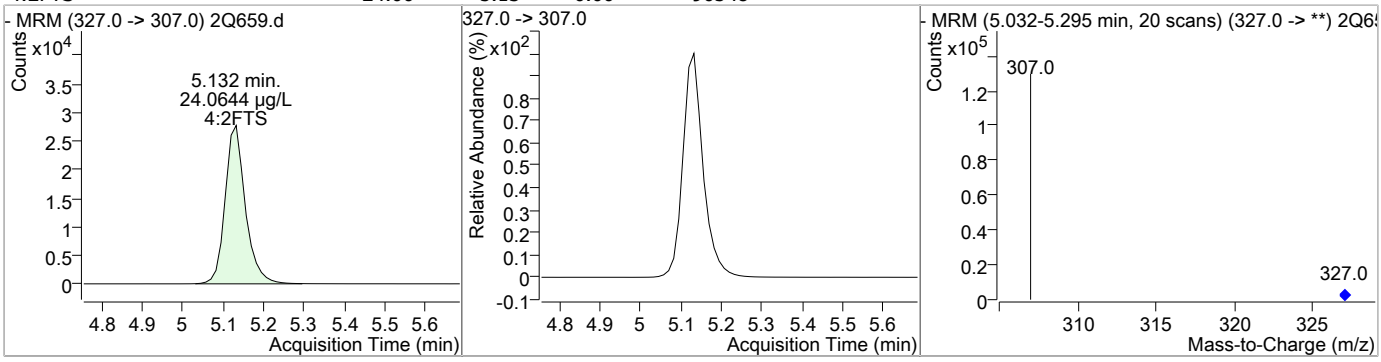
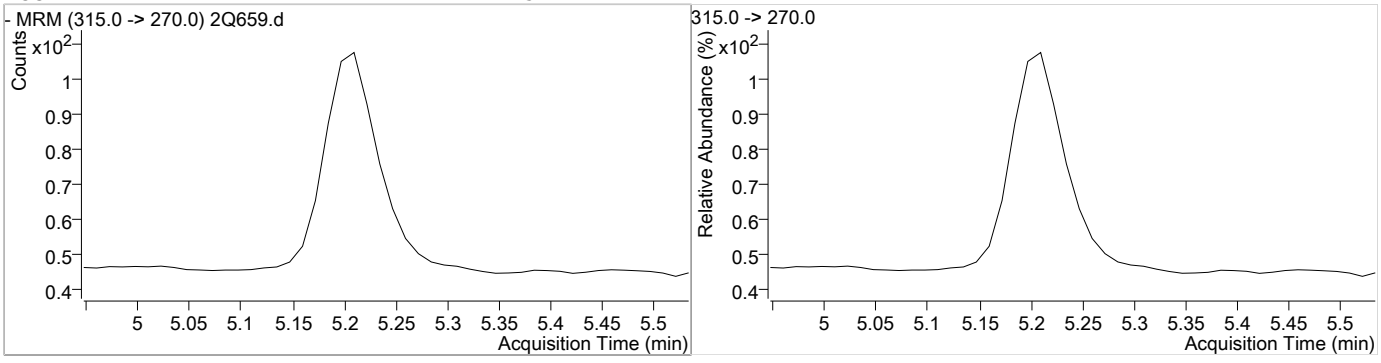
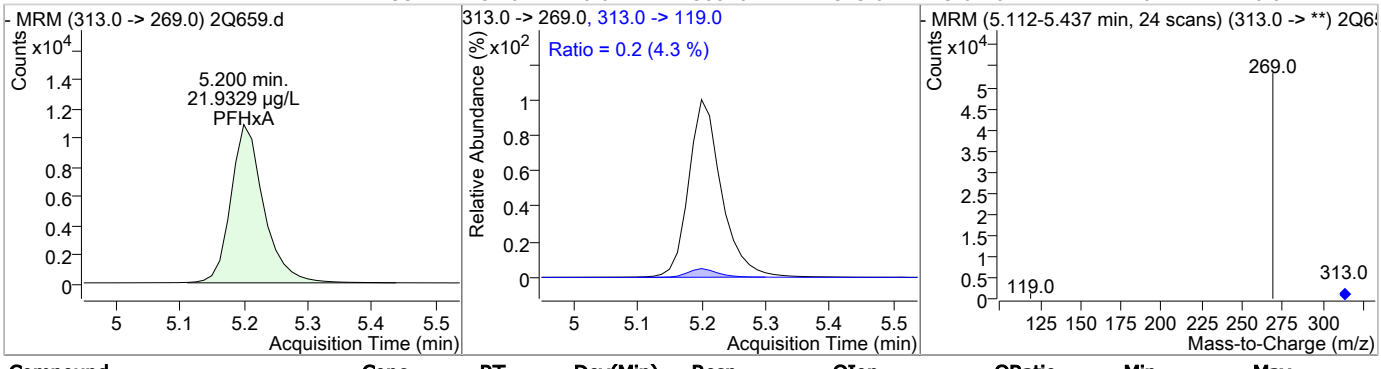
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	24.06	5.13	0.00	96548				



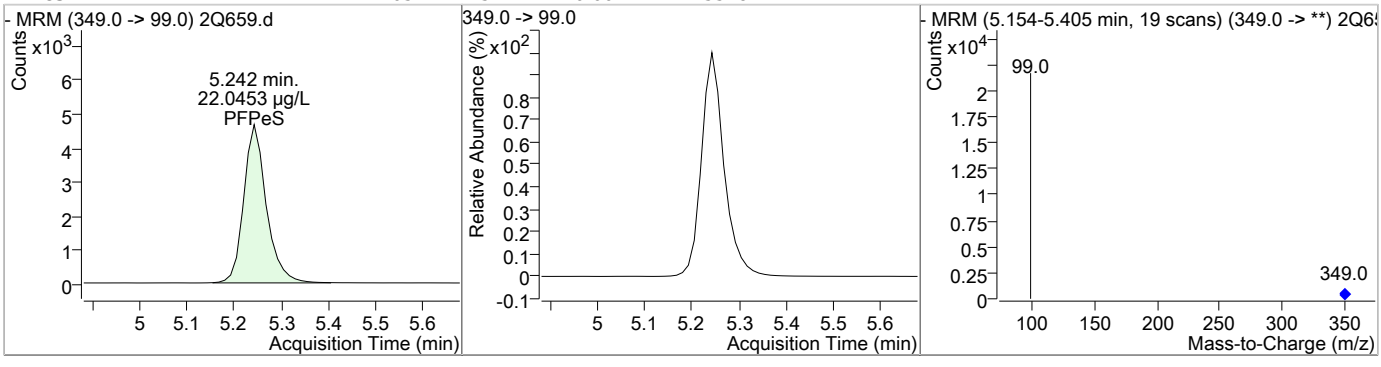
Compound	Conc.	Exp RT	QIon	Exp Ratio
13C2-PFHxA	N.D.	5.21		



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	21.93	5.20	-0.01	38876	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	22.05	5.24	0.00	15528				



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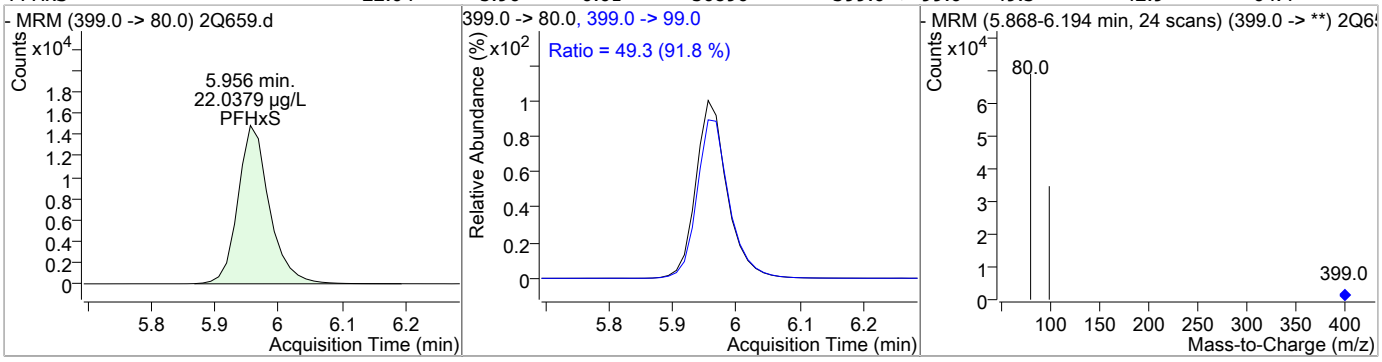
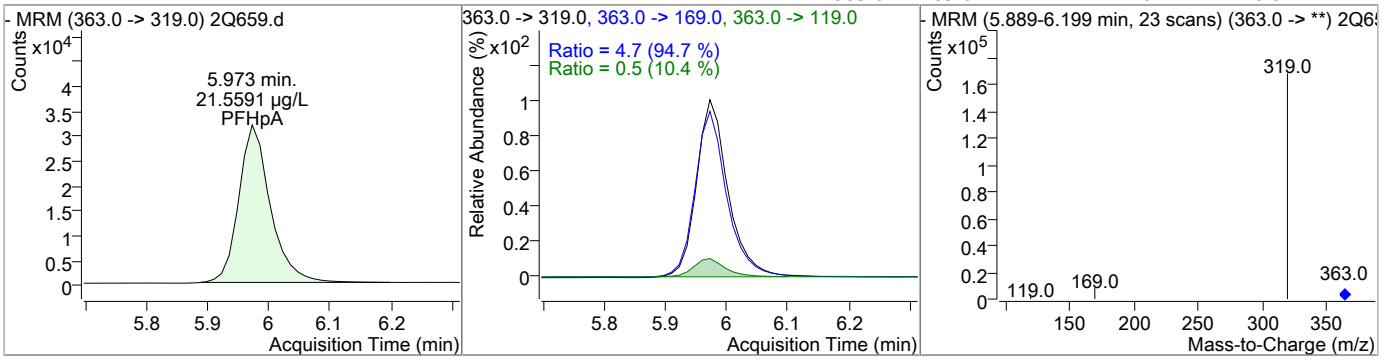
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

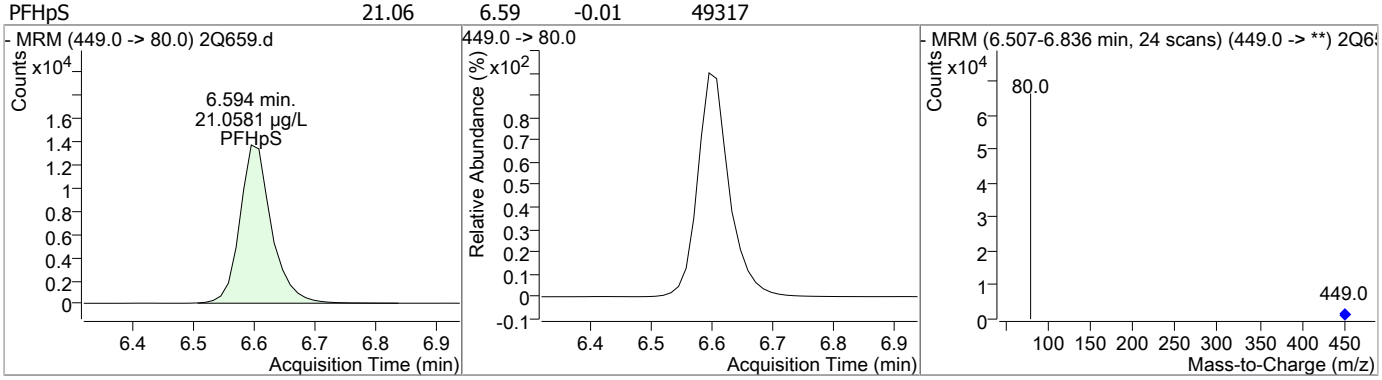
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	22.04	5.96	-0.01	50890	399.0 -> 99.0	49.3	42.9	64.4



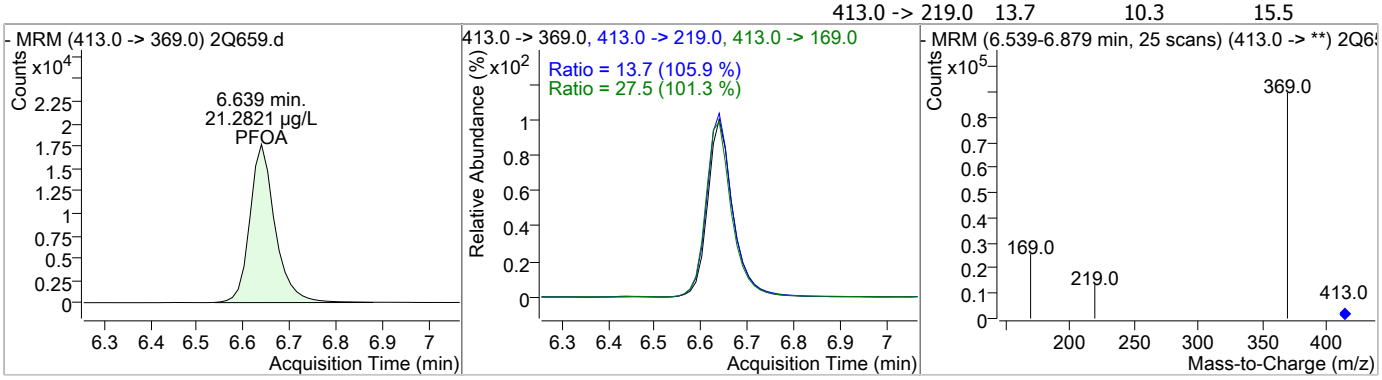
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	21.56	5.97	-0.01	113139	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.7	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	21.06	6.59	-0.01	49317				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	21.28	6.64	0.00	66629	413.0 -> 169.0	27.5	21.8	32.6
					413.0 -> 219.0	13.7	10.3	15.5



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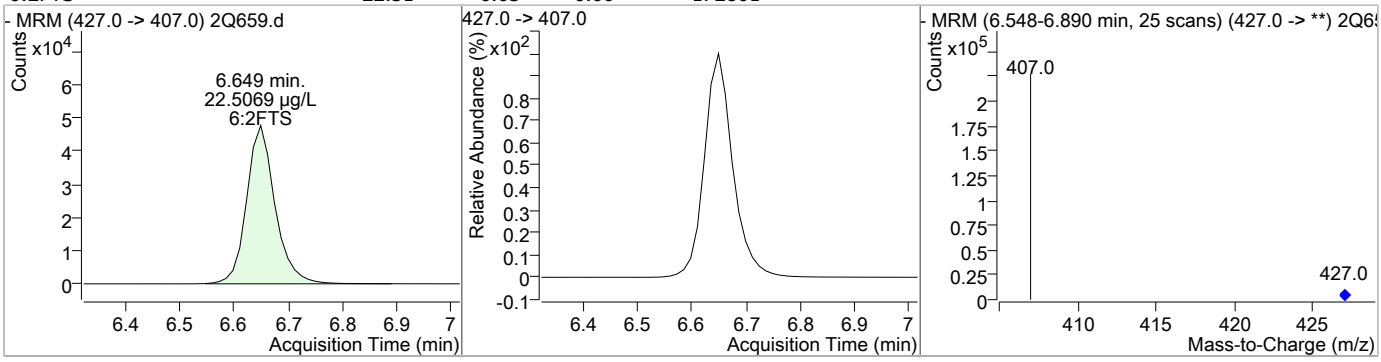
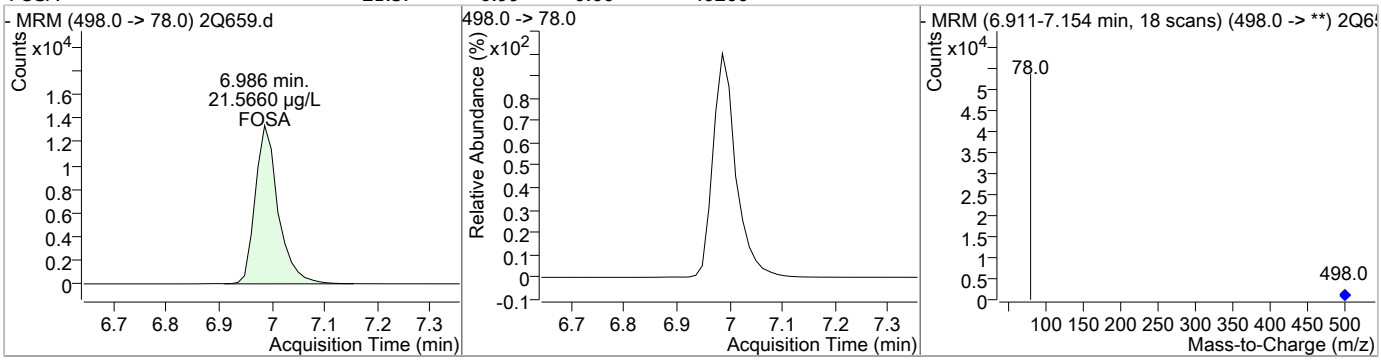
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

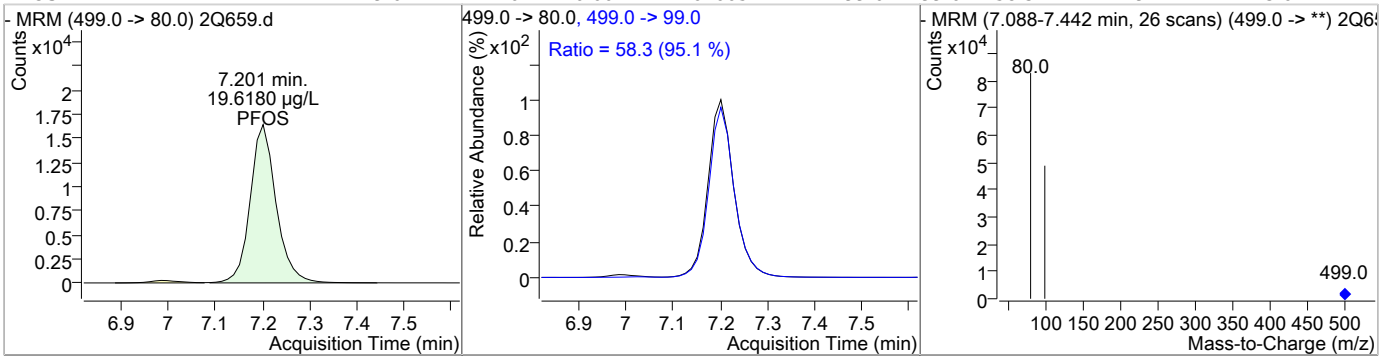
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	22.51	6.65	0.00	172861				



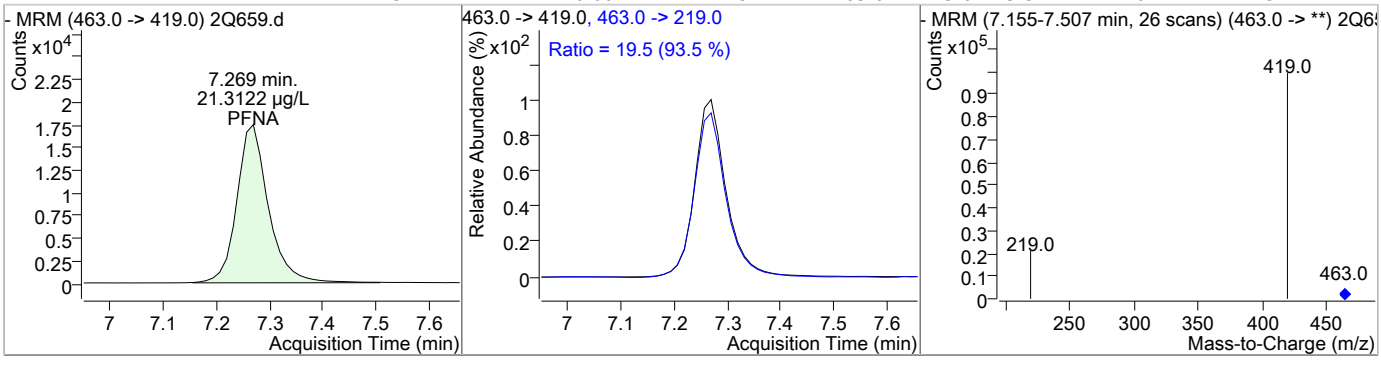
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	21.57	6.99	0.00	40260				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.62	7.20	0.00	62605	499.0 -> 99.0	58.3	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	21.31	7.27	0.00	71725	463.0 -> 219.0	19.5	16.7	25.1



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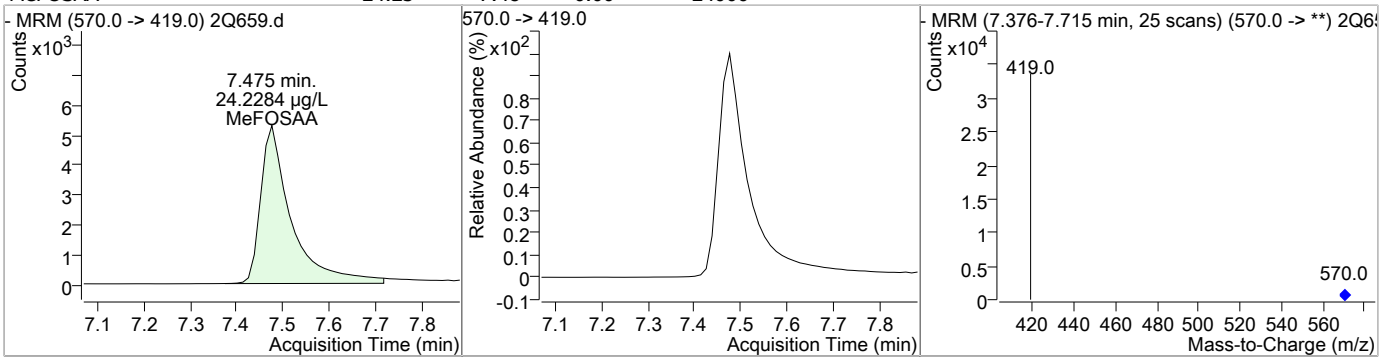
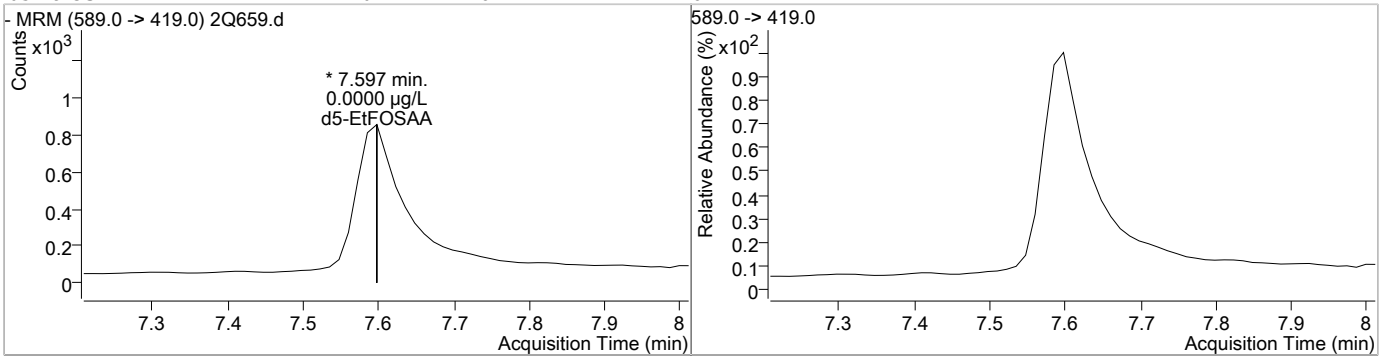
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

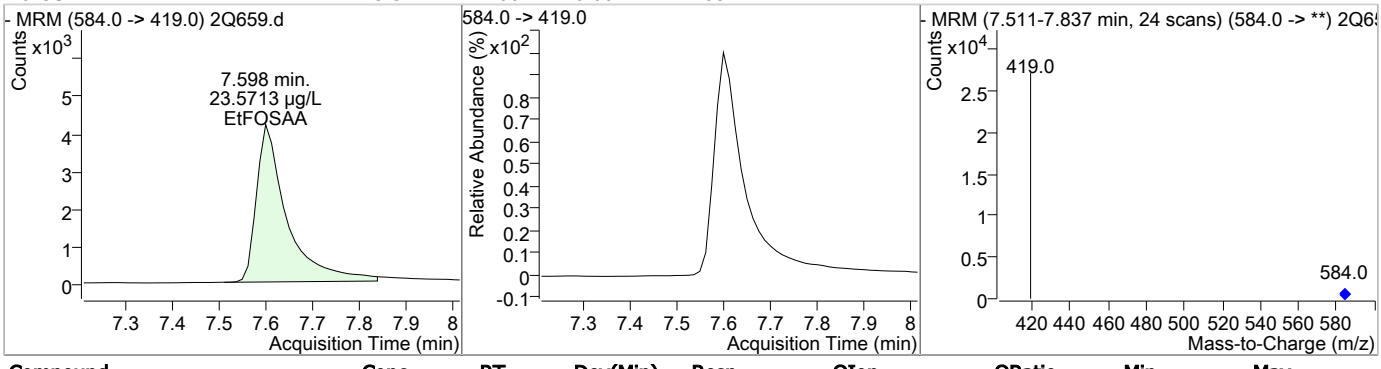
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	24.23	7.48	0.00	24006				



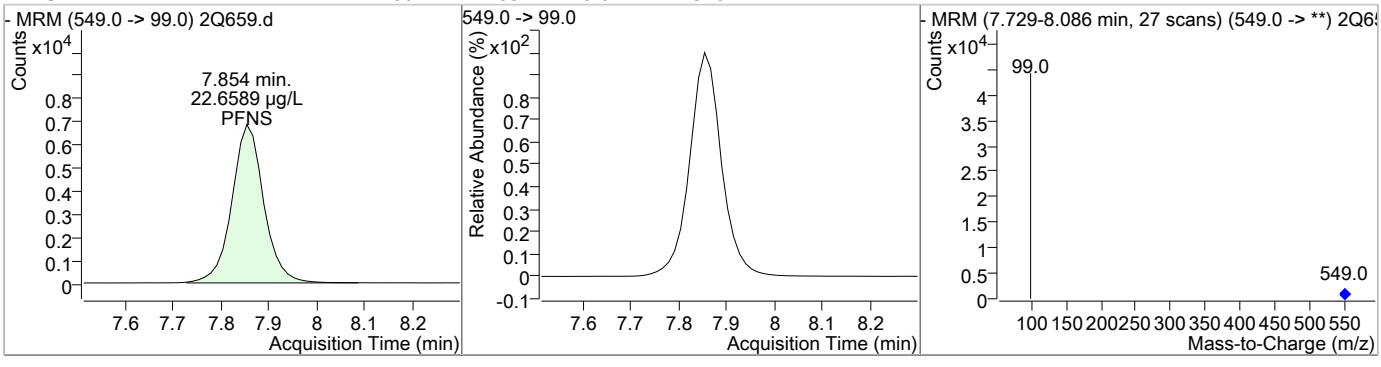
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	d	0		0				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	23.57	7.60	0.00	18871				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	22.66	7.85	-0.01	31642				



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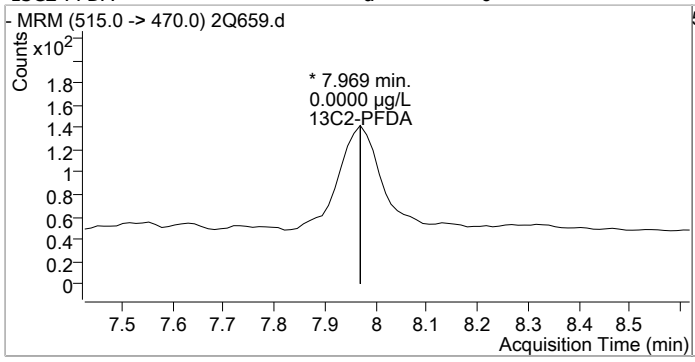
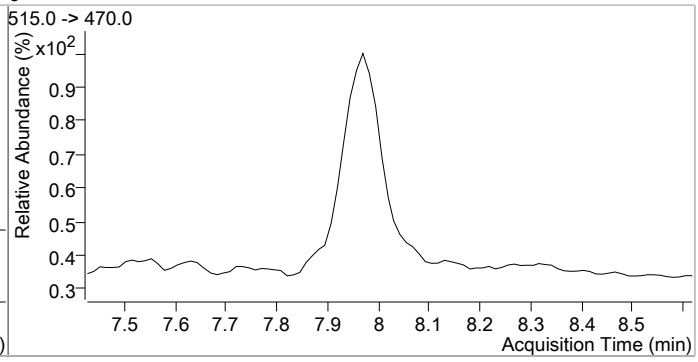
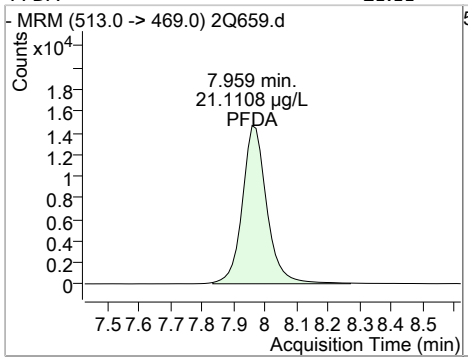
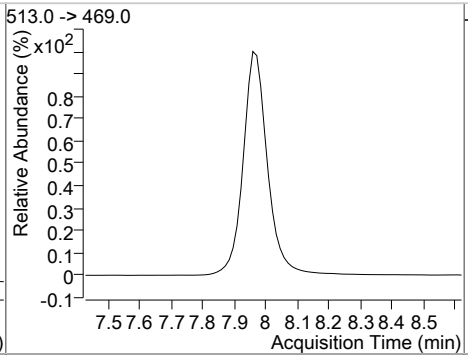
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	d	0		0				

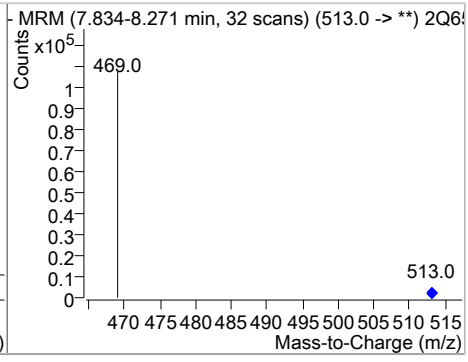




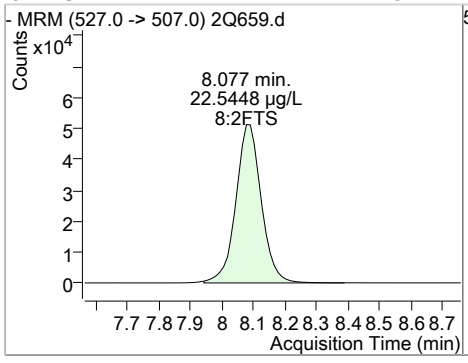
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.11	7.96	-0.01	78630				

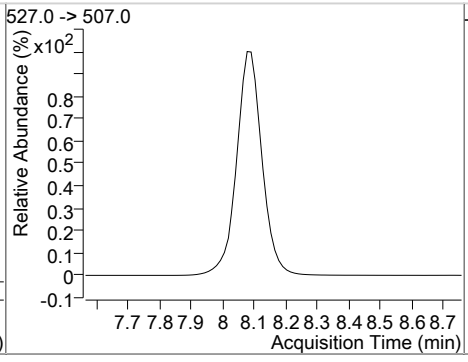


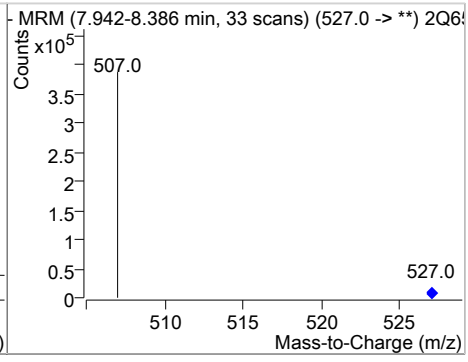




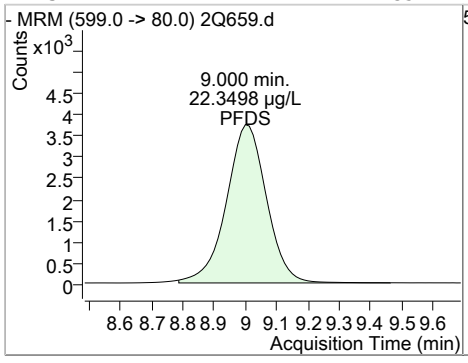
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	22.54	8.08	-0.01	286680				

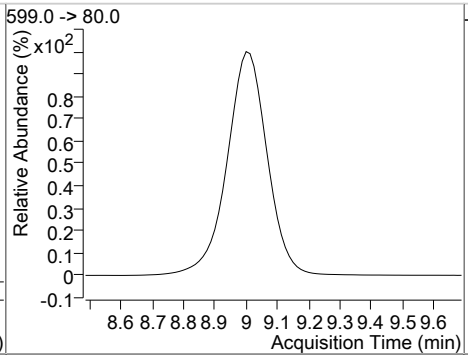


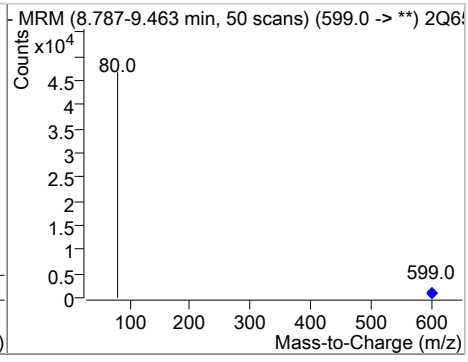




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	22.35	9.00	-0.03	33156				







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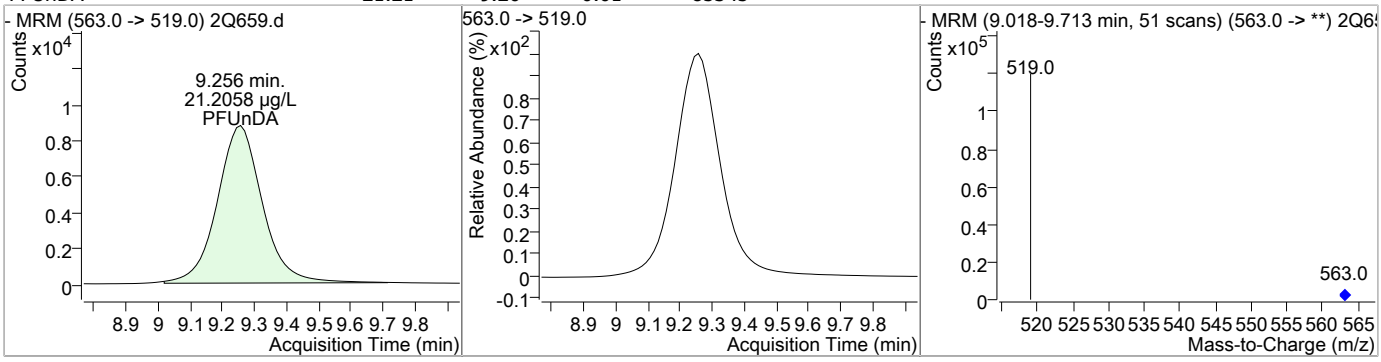
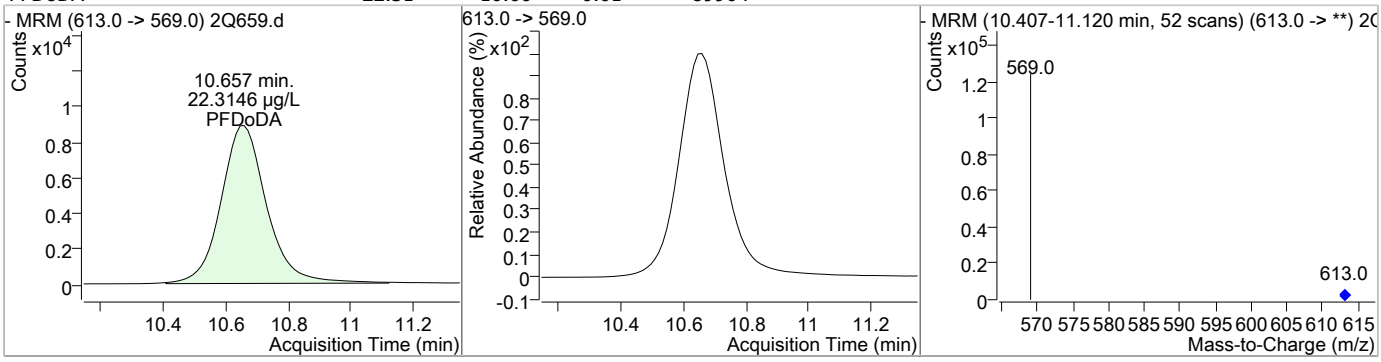
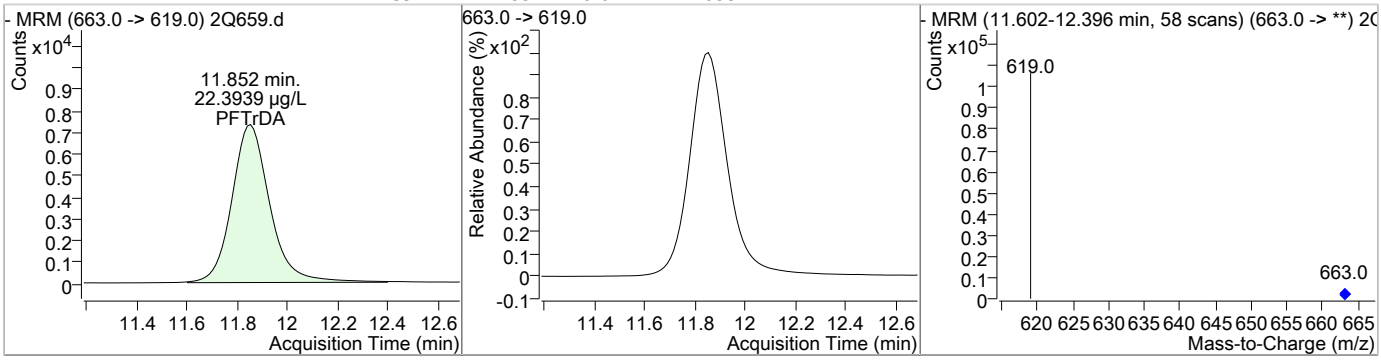
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	21.21	9.26	-0.01	85345				



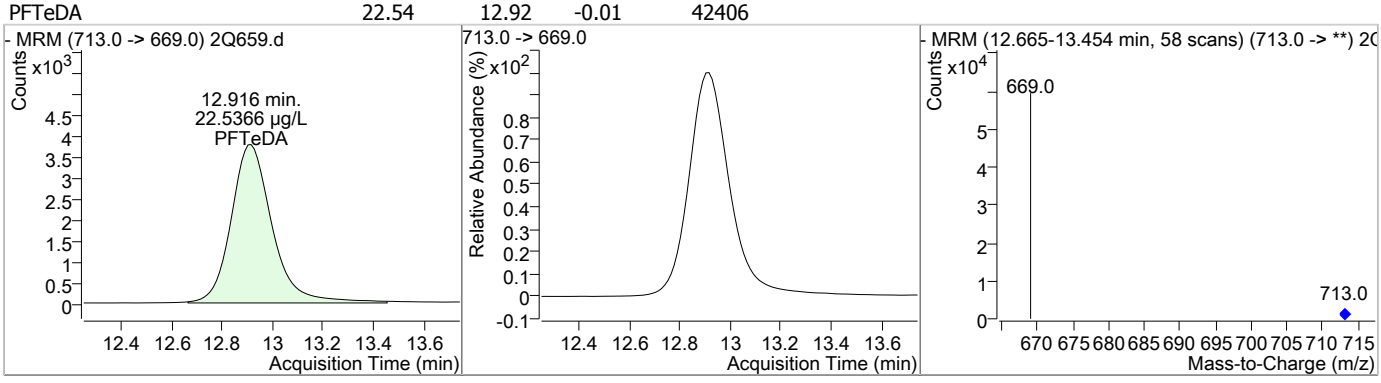
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	22.31	10.66	-0.01	89904				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	22.39	11.85	-0.01	76534				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	22.54	12.92	-0.01	42406				



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Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
05/02/17 12:48

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q931.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 5:47:49 PM
Sample Name	:	CC18-20
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	143615	20.00	µg/L		-0.075
13C2-PFDoDA	11.026	615.0 -> 570.0	81876	20.00	µg/L		-0.238
13C2-PFOA	6.701	415.0 -> 370.0	72752	20.00	µg/L		-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	67613	20.00	µg/L		-0.063
13C4-PFOS	7.289	503.0 -> 80.0	52830	20.00	µg/L		-0.075
d3-MeFOSAA	7.462	573.0 -> 419.0	30990	20.00	µg/L		-0.025
System Monitoring Compounds							
13C2-PFDA	8.142	515.0 -> 470.0	95118	18.69	µg/L		-0.150
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 93.4%			
13C2-PFHxA	5.235	315.0 -> 270.0	68466	17.82	µg/L		-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 89.1%			
d5-EtFOSAA	7.585	589.0 -> 419.0	26297	32.57	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 162.9%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	65364	18.02	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	136561	19.66	µg/L		100
8:2FTS	8.302	527.0 -> 507.0	242565	21.10	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	20691	28.56	µg/L		100
FOSA	6.973	498.0 -> 78.0	31872	19.13	µg/L		100
MeFOSAA	7.476	570.0 -> 419.0	26612	29.40	µg/L		100
PFBA	2.952	213.0 -> 169.0	31316	16.36	µg/L		100
PFBS	4.366	299.0 -> 80.0	35933	17.05	µg/L		100
PFDA	8.133	513.0 -> 469.0	66057	18.36	µg/L		100
PFDoDA	11.020	613.0 -> 569.0	70108	19.61	µg/L		100
PFDS	9.375	599.0 -> 80.0	25046	17.88	µg/L		100
PFHpA	6.023	363.0 -> 319.0	90876	18.02	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	41073	18.36	µg/L		100
PFHxA	5.237	313.0 -> 269.0	33122	19.45	µg/L	#	85
PFHxS	6.006	399.0 -> 80.0	39293	17.81	µg/L	m	93
PFNA	7.356	463.0 -> 419.0	62904	19.35	µg/L		97
PFNS	8.015	549.0 -> 99.0	25582	19.17	µg/L		100
PFOA	6.702	413.0 -> 369.0	55803	18.45	µg/L		98
PFOS	7.290	499.0 -> 80.0	53613	17.58	µg/L	m	88
PFPeA	4.250	263.0 -> 219.0	91798	17.89	µg/L		100
PFPeS	5.280	349.0 -> 99.0	11923	18.53	µg/L		100
PFTeDA	13.303	713.0 -> 669.0	30940	18.61	µg/L		100
PFTrDA	12.228	663.0 -> 619.0	59176	19.56	µg/L		100
PFUnDA	9.619	563.0 -> 519.0	64904	18.07	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

7.5.9

7

Perfluorinated Compounds by LC/MS/MS

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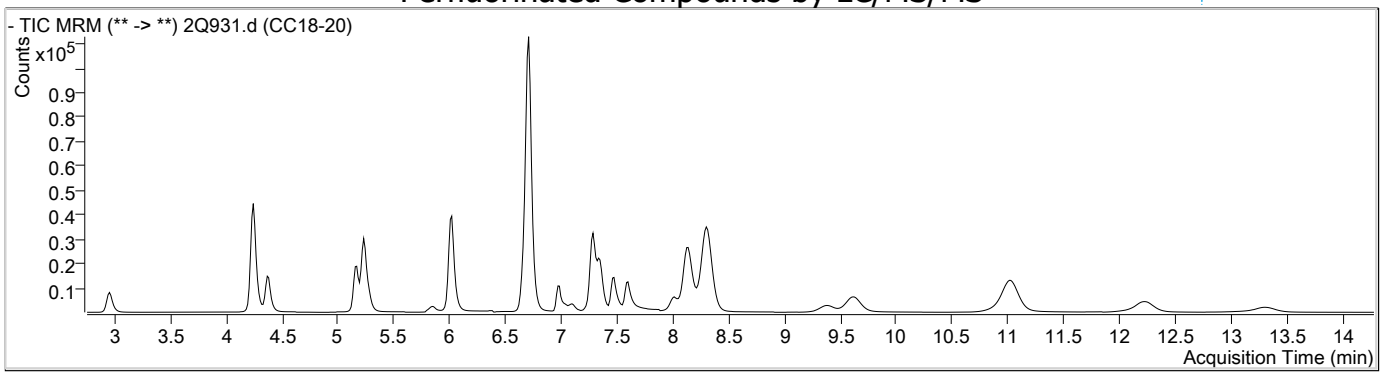
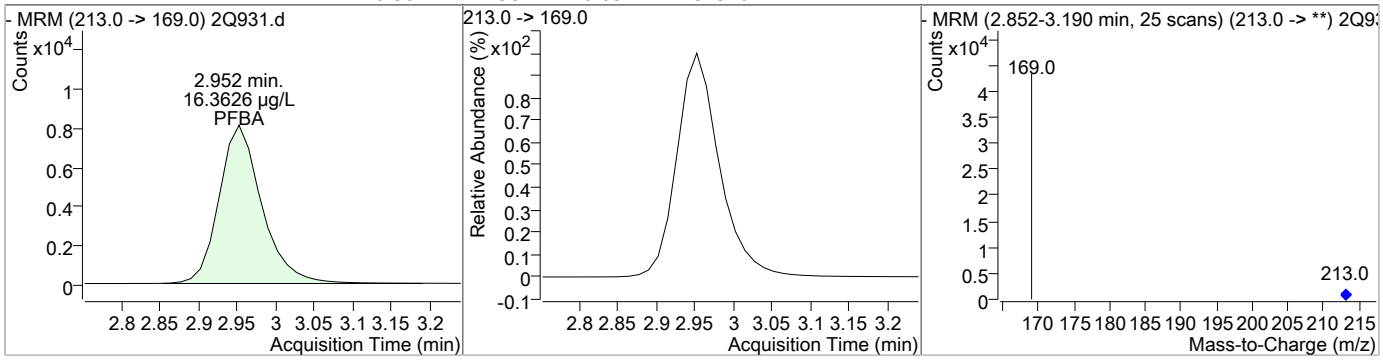
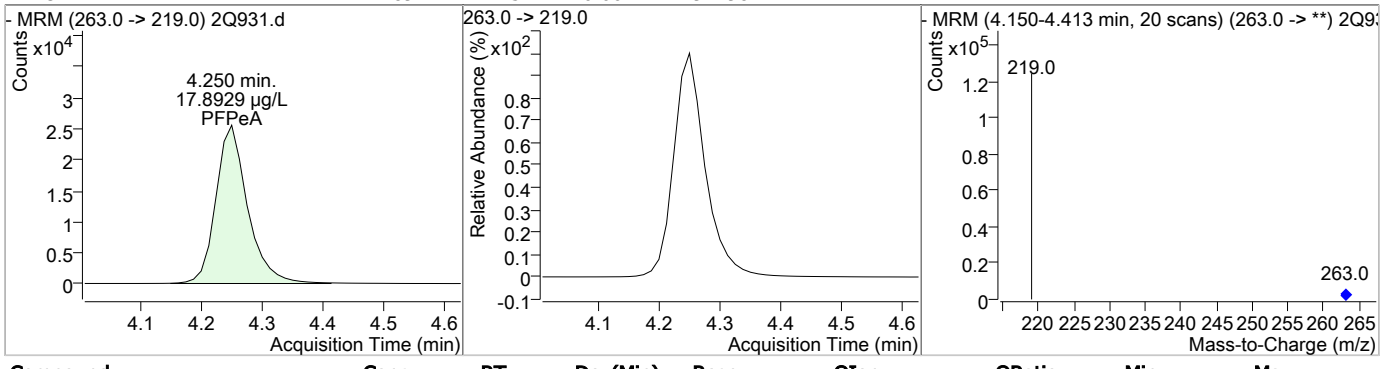


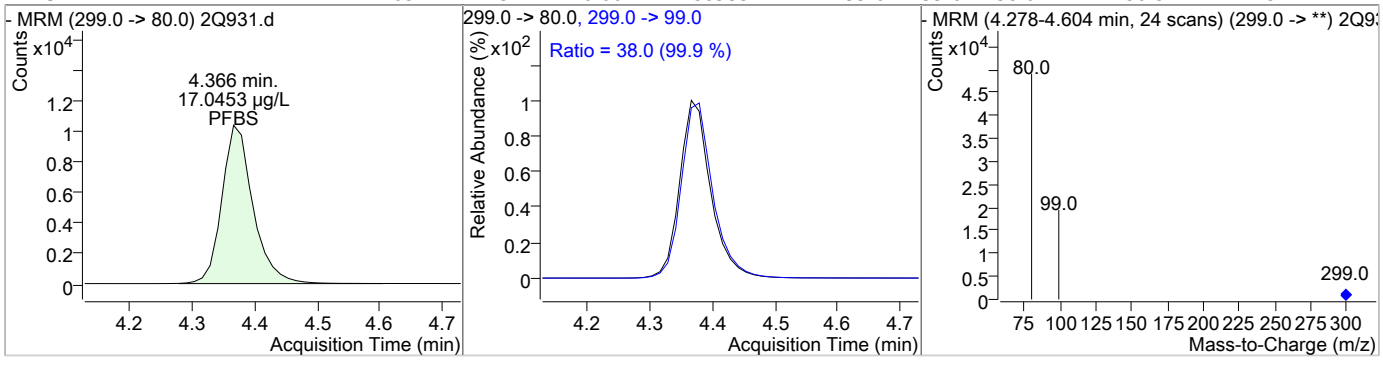
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	16.36	2.95	-0.05	31316				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	17.89	4.25	-0.06	91798				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	17.05	4.37	-0.06	35933	299.0 -> 99.0	38.0	30.5	45.7



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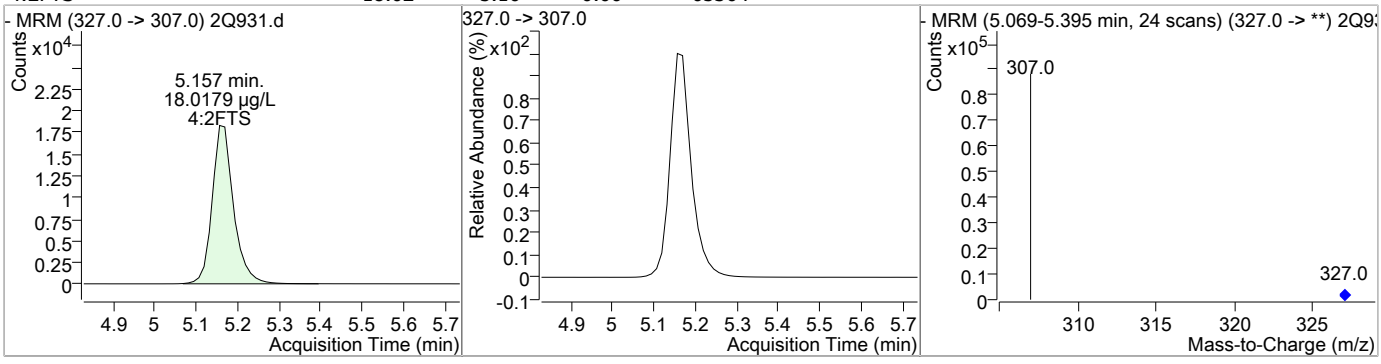
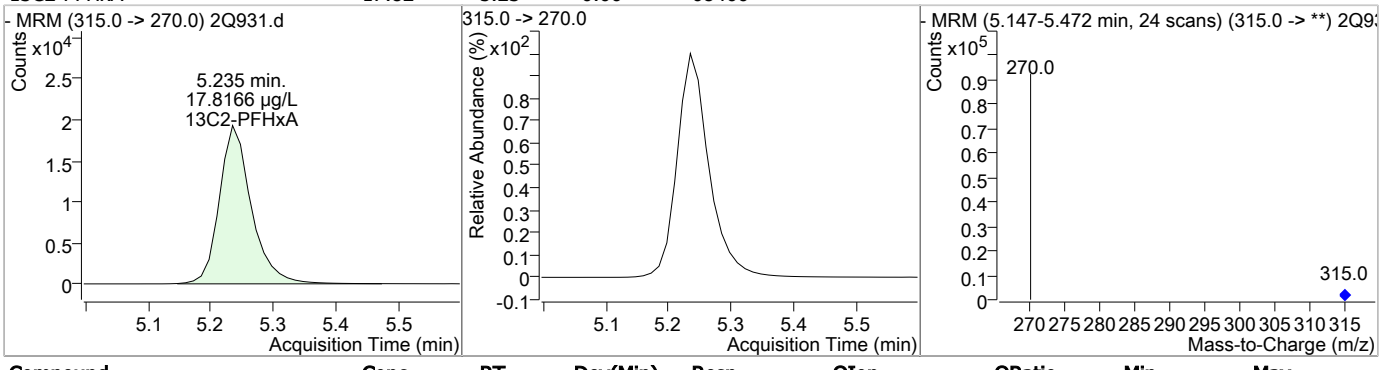
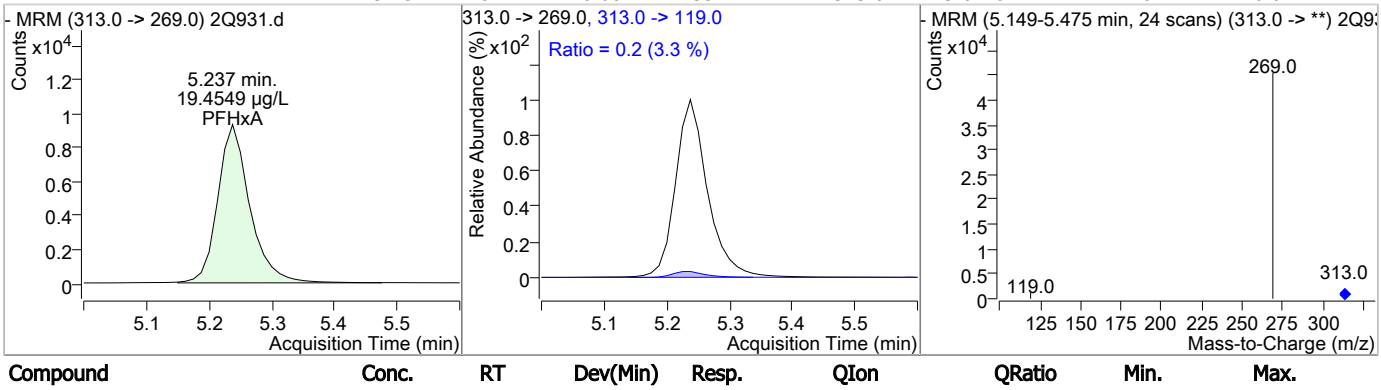
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.02	5.16	-0.06	65364				



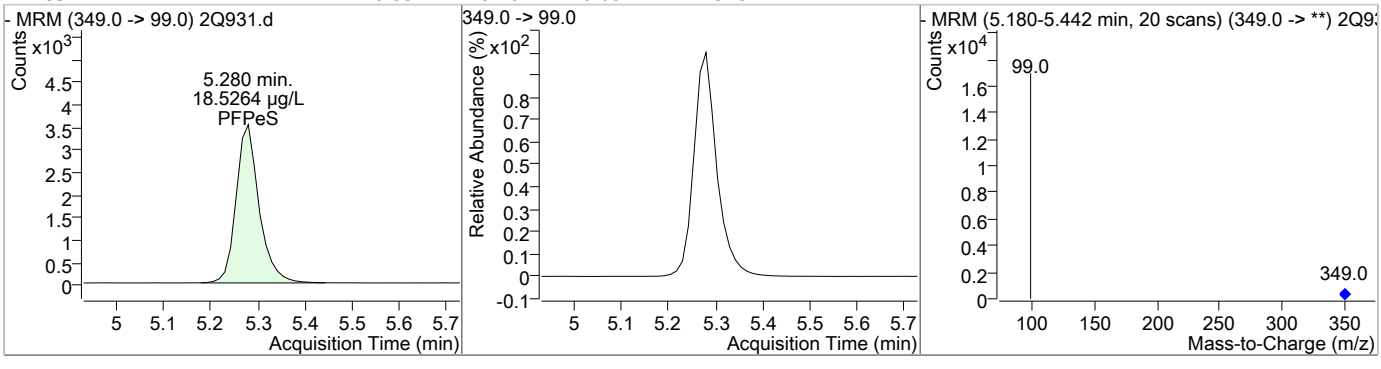
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.82	5.23	-0.06	68466				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.45	5.24	-0.06	33122	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.53	5.28	-0.05	11923				



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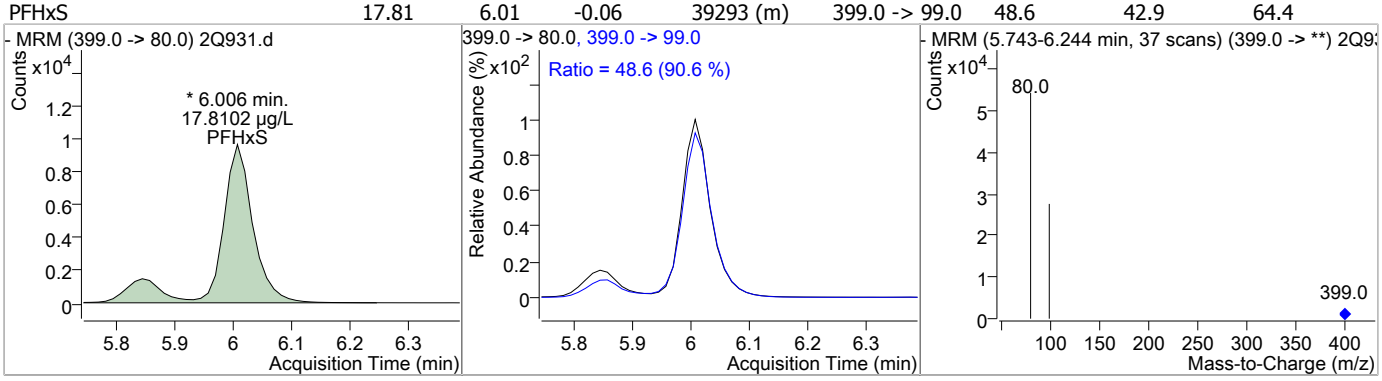
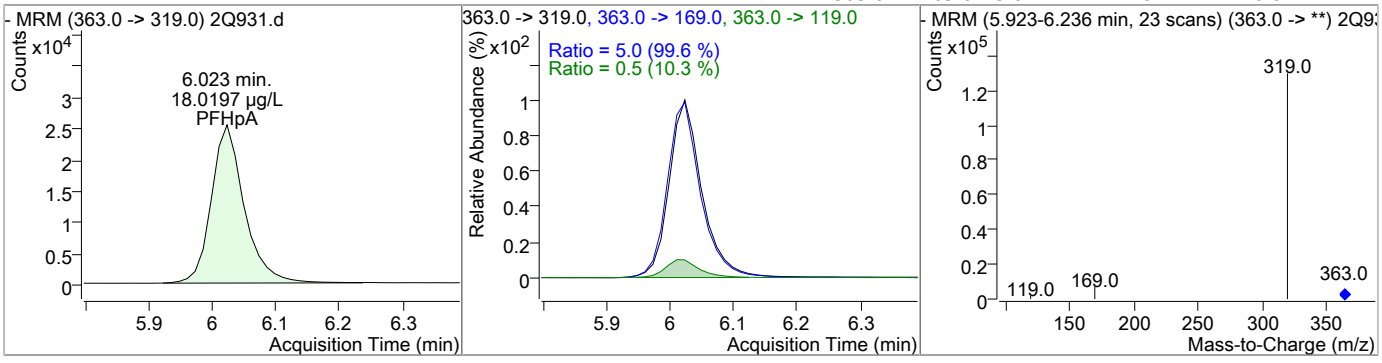
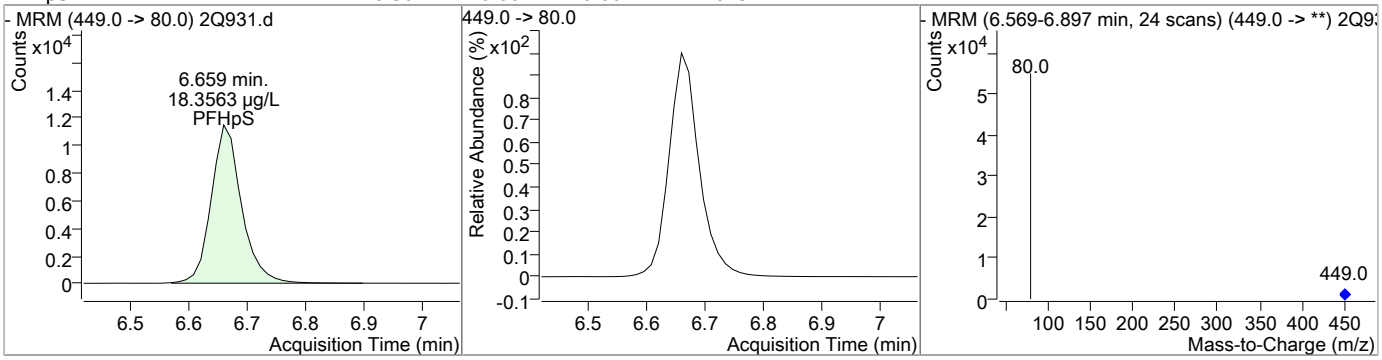
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	17.81	6.01	-0.06	39293 (m)	399.0 -> 99.0	48.6	42.9	64.4



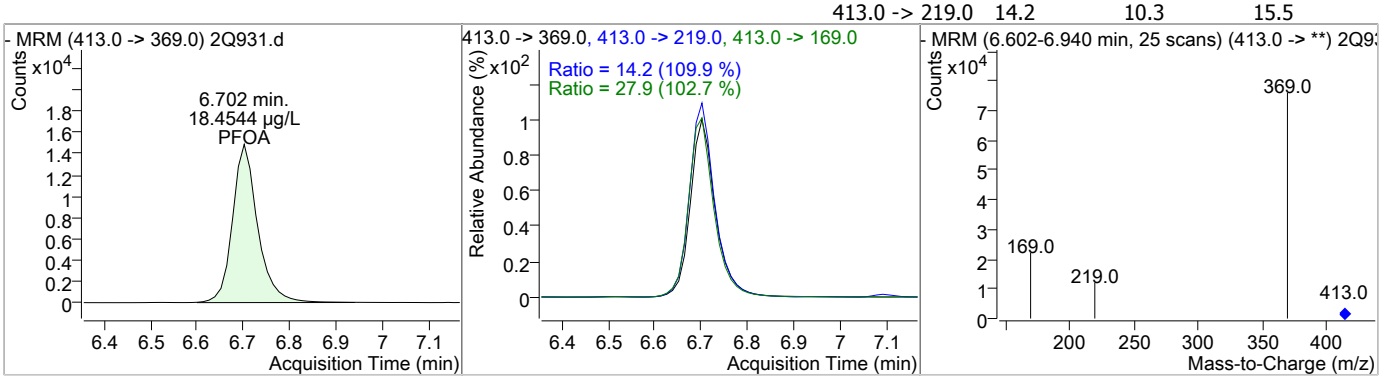
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.02	6.02	-0.06	90876	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	5.0	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.36	6.66	-0.06	41073				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.45	6.70	-0.06	55803	413.0 -> 169.0	27.9	21.8	32.6
					413.0 -> 219.0	14.2	10.3	15.5



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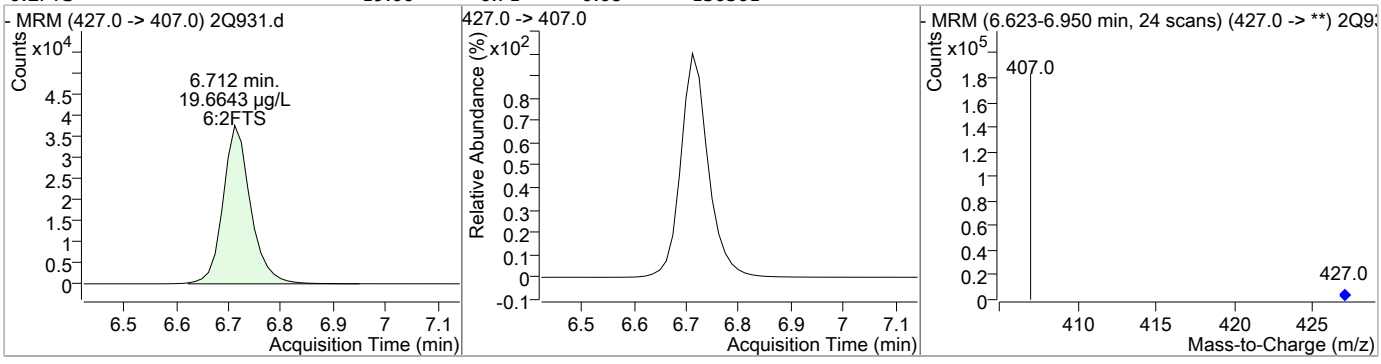
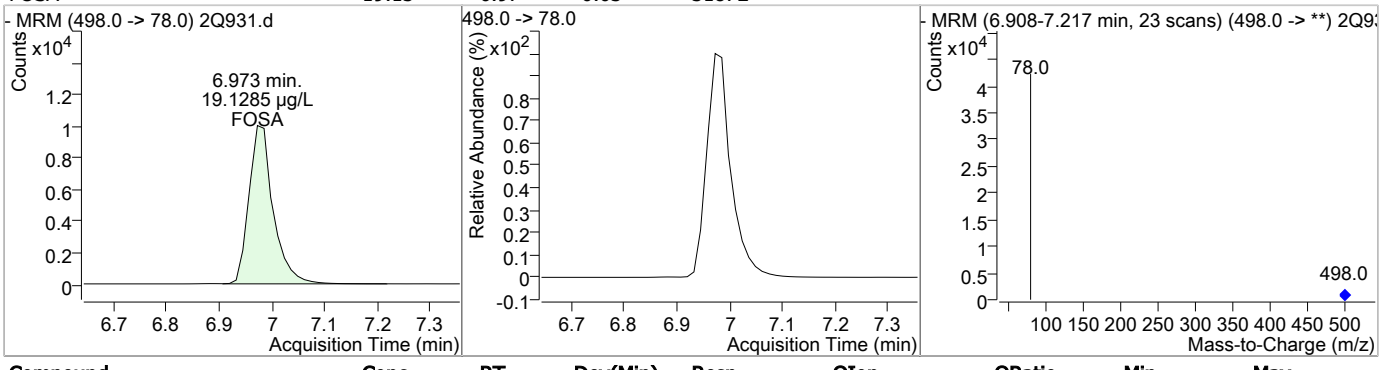
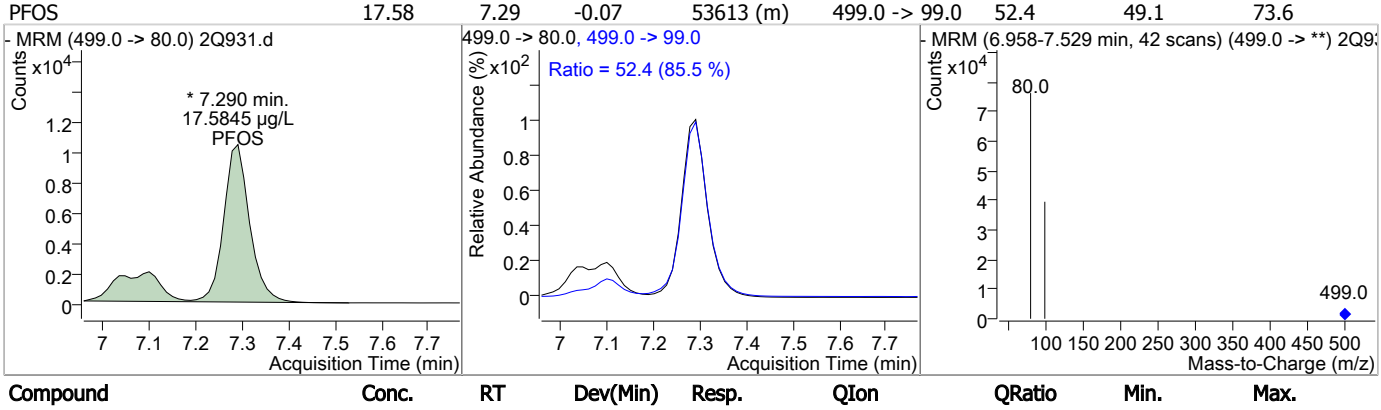
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.66	6.71	-0.08	136561				



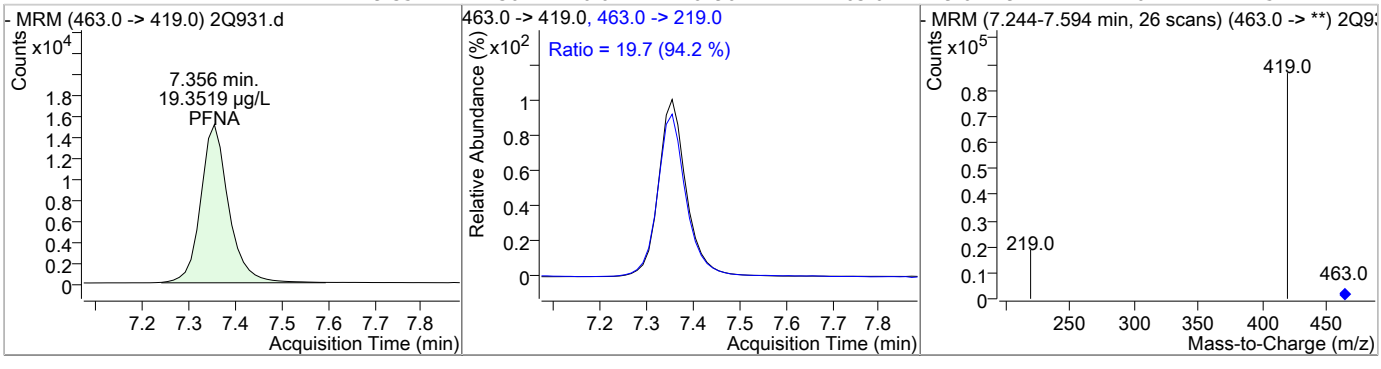
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.13	6.97	-0.03	31872				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.58	7.29	-0.07	53613 (m)	499.0 -> 99.0	52.4	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.35	7.36	-0.07	62904	463.0 -> 219.0	19.7	16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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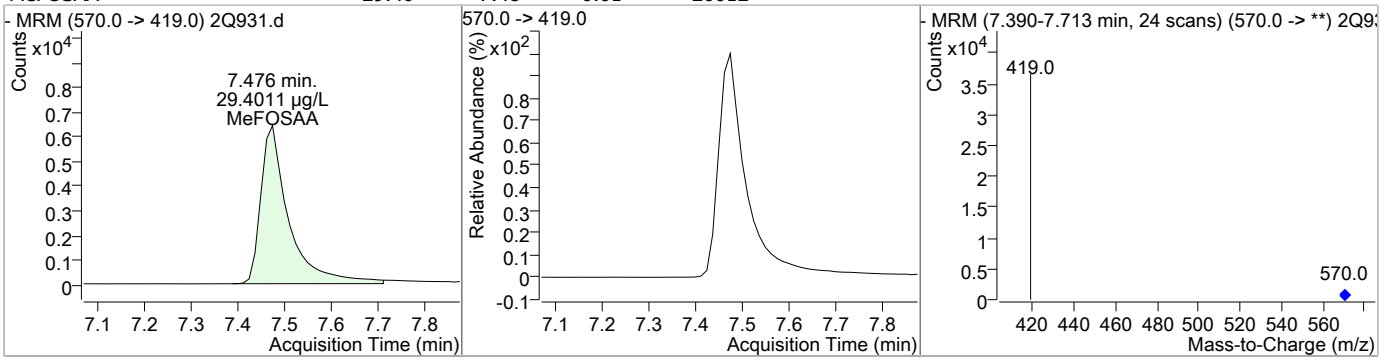
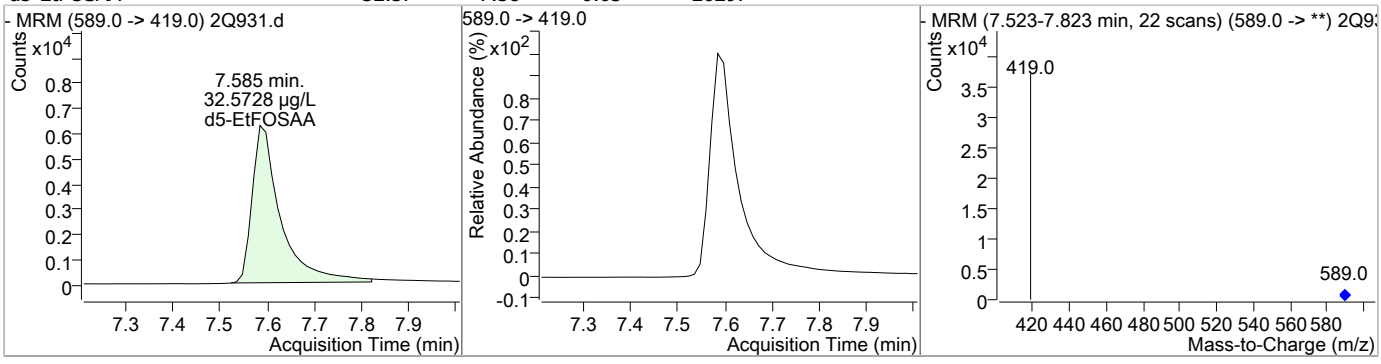
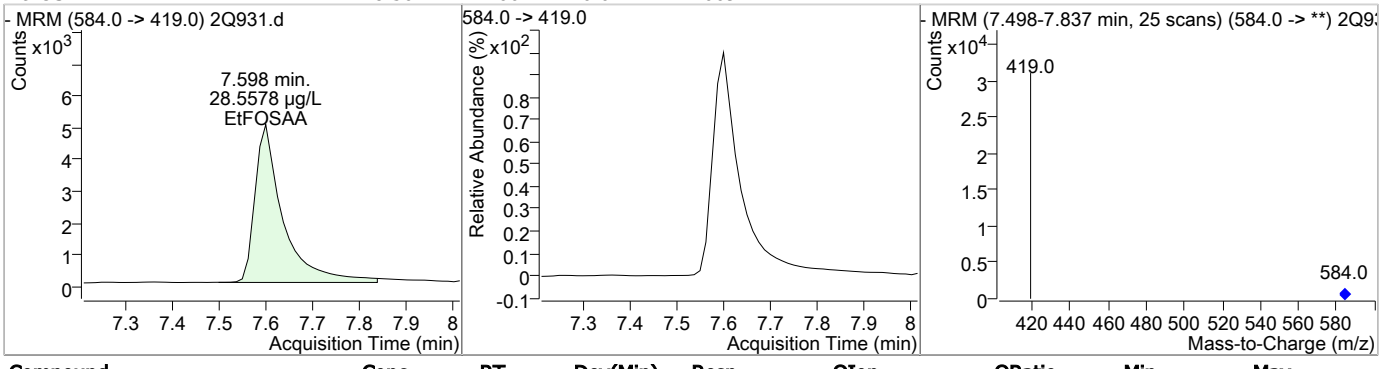
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	29.40	7.48	-0.01	26612				



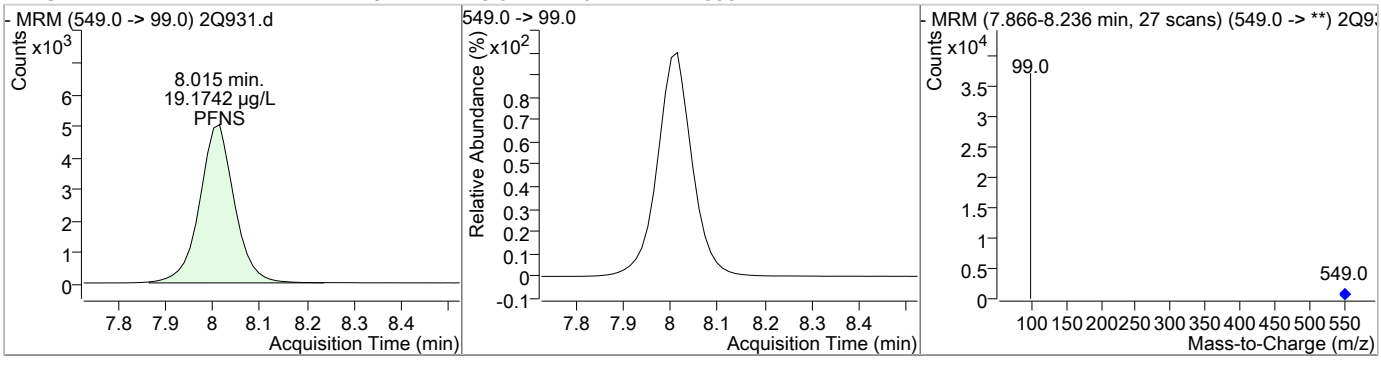
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	32.57	7.58	-0.03	26297				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	28.56	7.60	-0.01	20691				



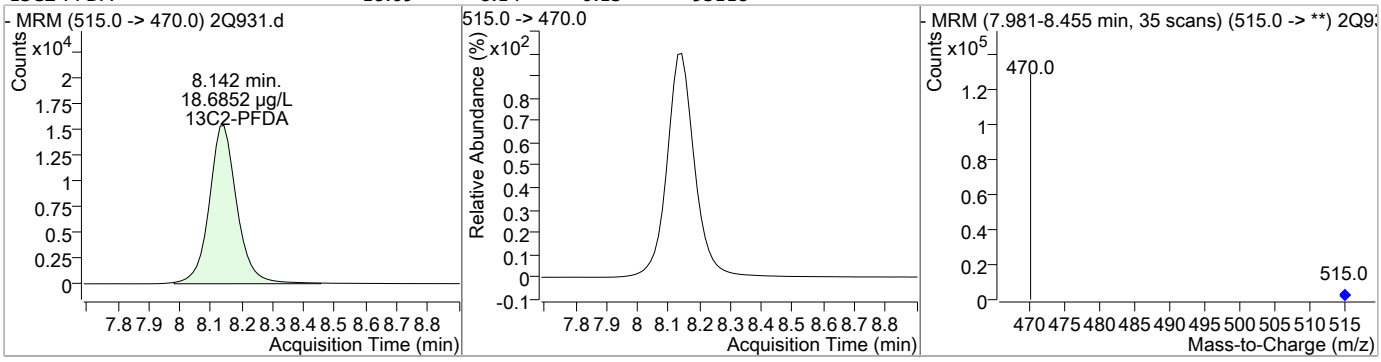
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.17	8.01	-0.12	25582				



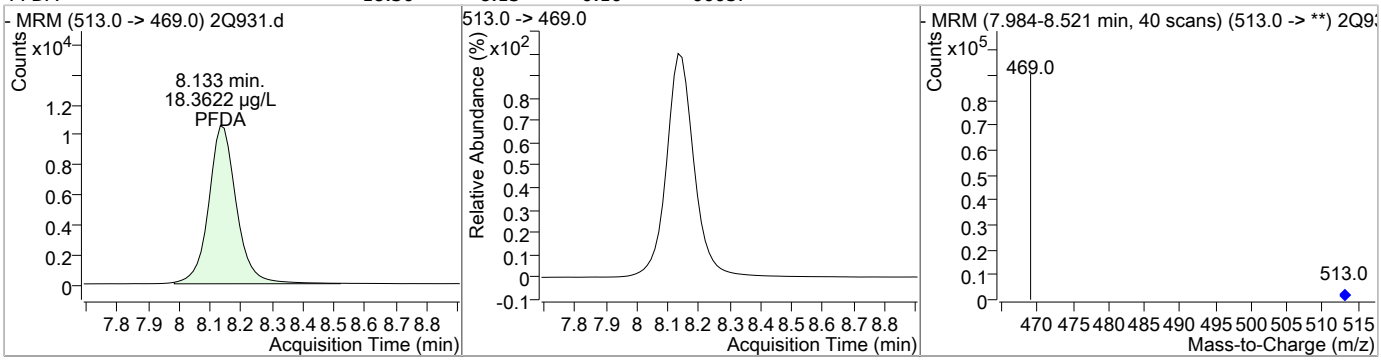
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

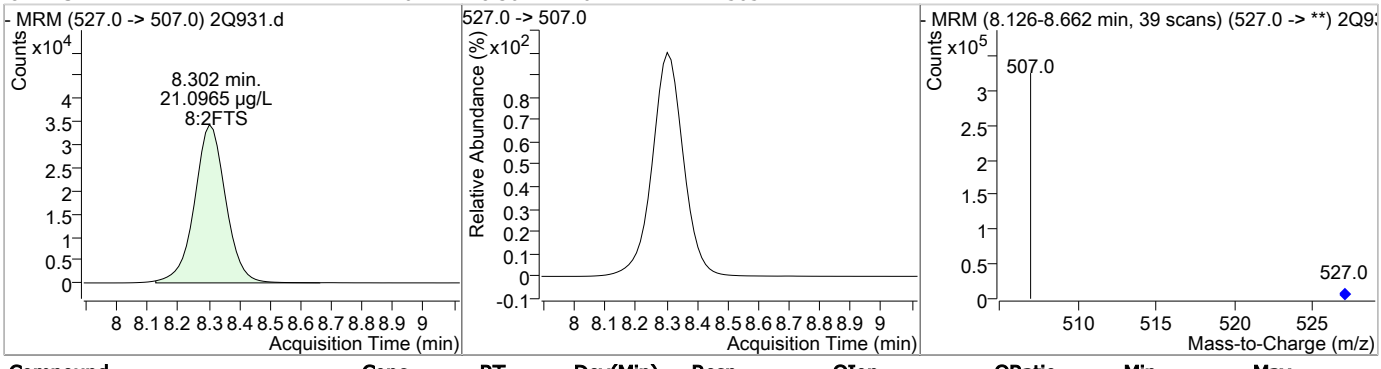
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	18.69	8.14	-0.15	95118				



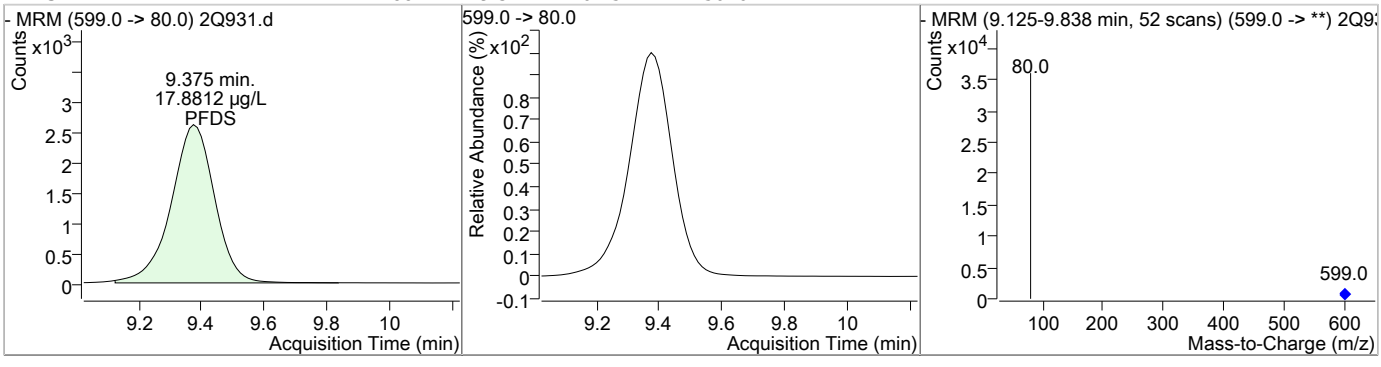
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.36	8.13	-0.16	66057				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	21.10	8.30	-0.21	242565				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	17.88	9.37	-0.25	25046				



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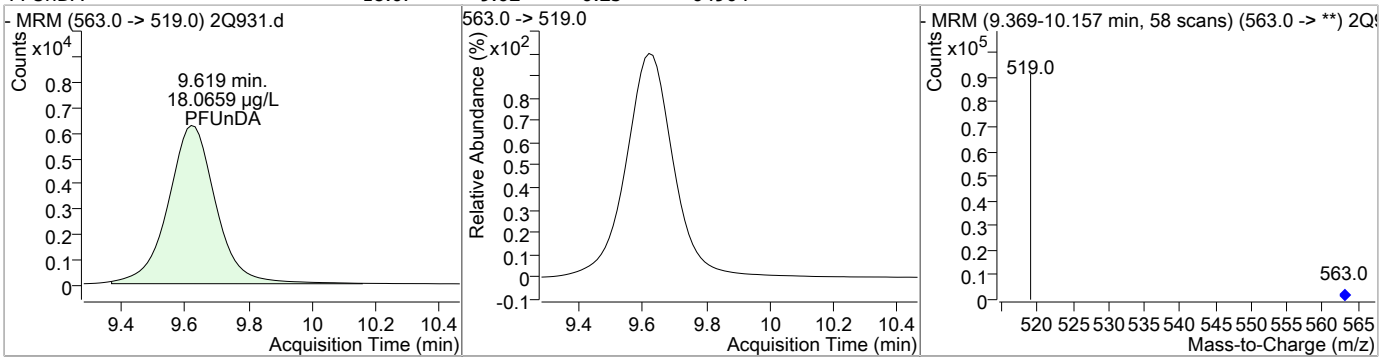
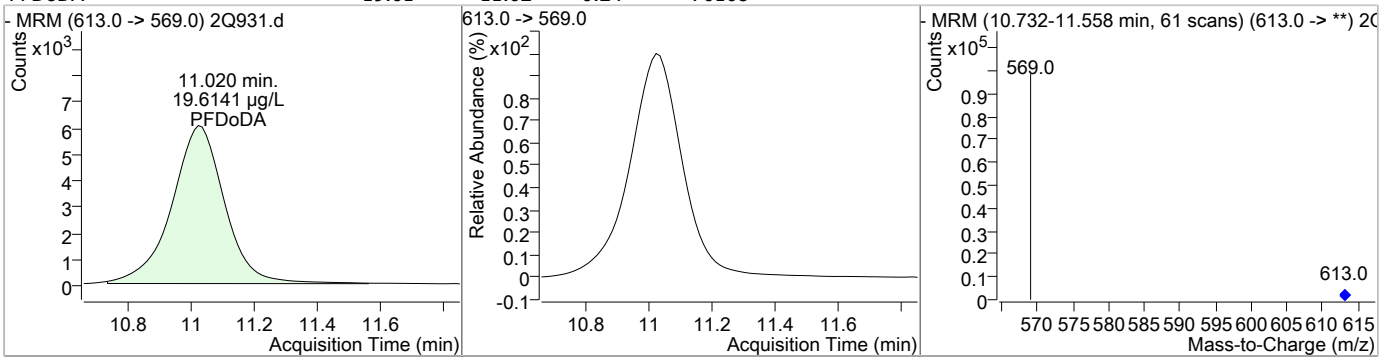
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

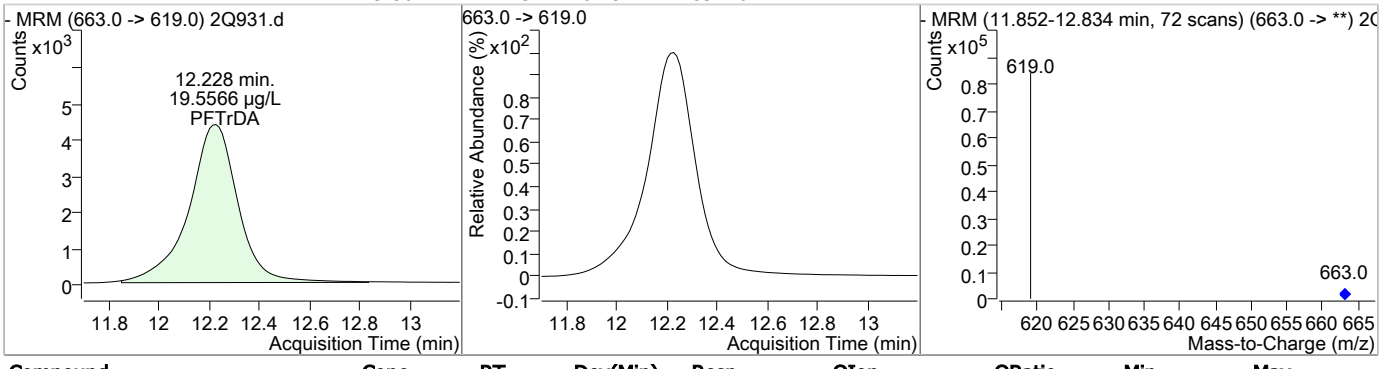
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.07	9.62	-0.25	64904				



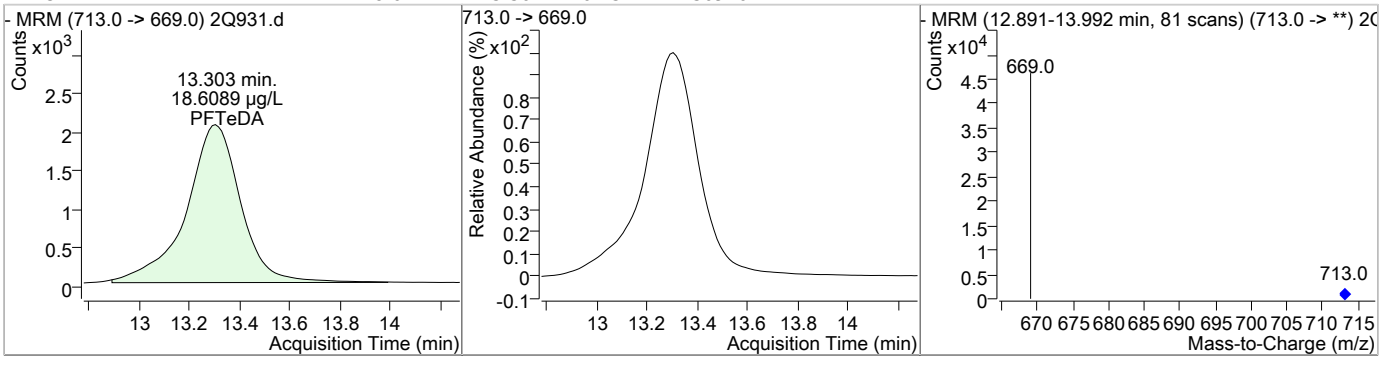
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.61	11.02	-0.24	70108				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.56	12.23	-0.23	59176				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.61	13.30	-0.23	30940				



SGS ACCUTEST FA43289

Manual Integration Approval Summary

Sample Number:	S2Q26-CC18	**Method:**	EPA 537	
Lab FileID:	2Q931.D	**Analyst approved:**	05/02/17 10:05	Nancy Saunders
Injection Time:	05/01/17 17:47	**Supervisor approved:**	05/02/17 12:48	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.29	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
05/02/17 12:48

Perfluorinated Compounds by LC/MS/MS

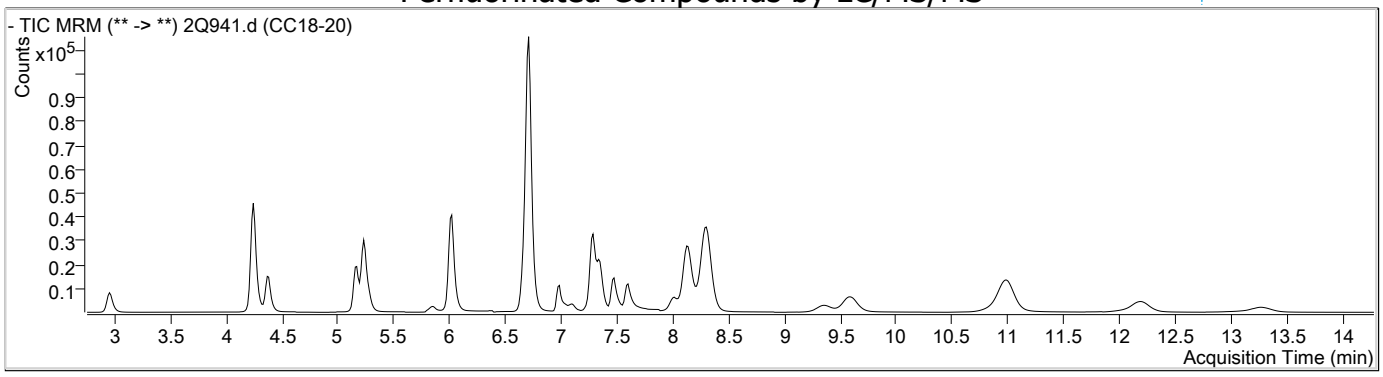
Data File	:	2Q941.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 9:05:14 PM
Sample Name	:	CC18-20
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	146839	20.00	µg/L		-0.075
13C2-PFDoDA	10.989	615.0 -> 570.0	83705	20.00	µg/L		-0.275
13C2-PFOA	6.701	415.0 -> 370.0	74961	20.00	µg/L		-0.063
13C3-PFPeA	4.247	266.0 -> 222.0	68658	20.00	µg/L		-0.063
13C4-PFOS	7.289	503.0 -> 80.0	53971	20.00	µg/L		-0.075
d3-MeFOSAA	7.475	573.0 -> 419.0	30848	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	99591	18.99	µg/L		-0.163
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 94.9%			
13C2-PFHxA	5.235	315.0 -> 270.0	68996	17.43	µg/L		-0.063
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 87.1%			
d5-EtFOSAA	7.585	589.0 -> 419.0	25093	31.39	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 156.9%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	66531	17.94	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	138984	19.57	µg/L		100
8:2FTS	8.302	527.0 -> 507.0	246798	20.99	µg/L		100
EtFOSAA	7.598	584.0 -> 419.0	20614	28.58	µg/L		100
FOSA	6.985	498.0 -> 78.0	32405	19.54	µg/L		100
MeFOSAA	7.476	570.0 -> 419.0	26819	29.72	µg/L		100
PFBA	2.952	213.0 -> 169.0	31632	16.04	µg/L		100
PFBS	4.366	299.0 -> 80.0	37044	17.20	µg/L		100
PFDA	8.133	513.0 -> 469.0	68003	18.35	µg/L		100
PFDoDA	10.983	613.0 -> 569.0	70871	19.40	µg/L		100
PFDS	9.350	599.0 -> 80.0	25831	18.04	µg/L		100
PFHpA	6.023	363.0 -> 319.0	95272	18.33	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	42136	18.43	µg/L		100
PFHxA	5.237	313.0 -> 269.0	32728	18.69	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	40112	17.80	µg/L	m	95
PFNA	7.356	463.0 -> 419.0	62789	18.75	µg/L		97
PFNS	8.002	549.0 -> 99.0	25559	18.75	µg/L		100
PFOA	6.702	413.0 -> 369.0	58815	18.88	µg/L		99
PFOS	7.290	499.0 -> 80.0	57284	18.39	µg/L	m	85
PFPeA	4.250	263.0 -> 219.0	95260	18.29	µg/L		100
PFPeS	5.280	349.0 -> 99.0	12104	18.52	µg/L		100
PFTeDA	13.266	713.0 -> 669.0	31315	18.43	µg/L		100
PFTrDA	12.190	663.0 -> 619.0	60947	19.69	µg/L		100
PFUnDA	9.594	563.0 -> 519.0	65882	17.94	µg/L		100

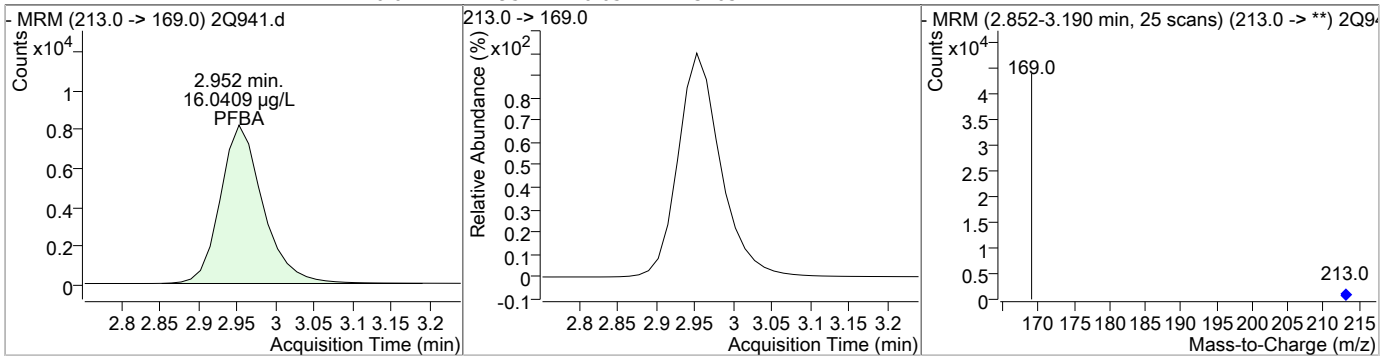
 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

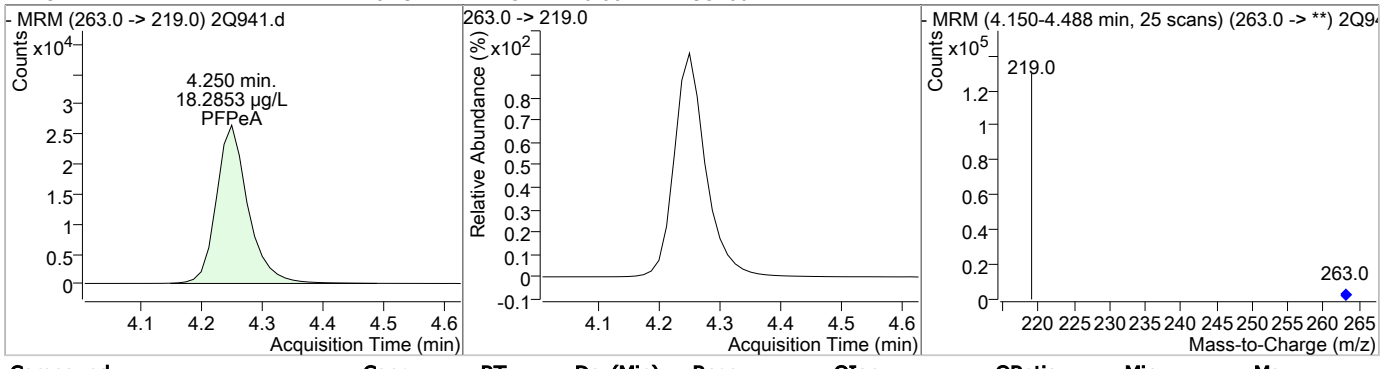
Agilent Technologies



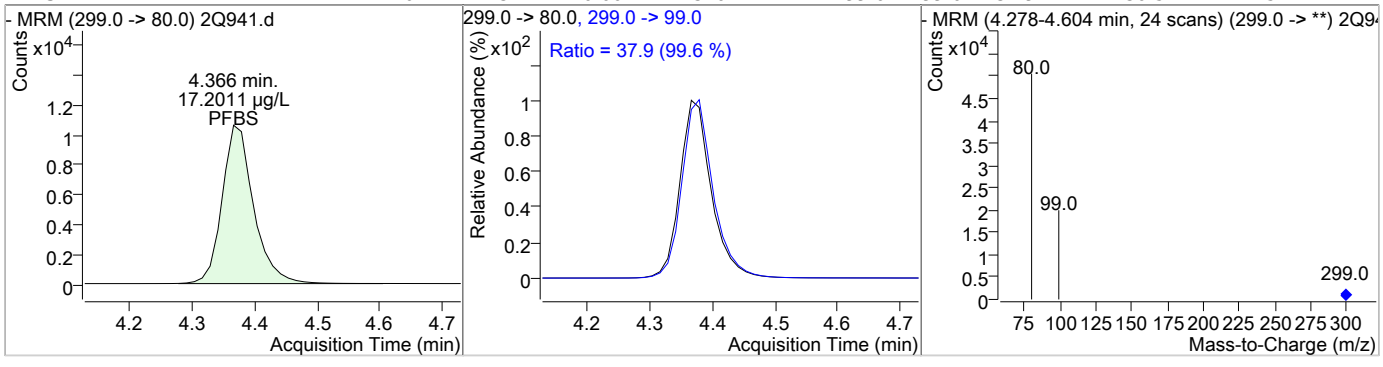
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	16.04	2.95	-0.05	31632				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.29	4.25	-0.06	95260				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	17.20	4.37	-0.06	37044	299.0 -> 99.0	37.9	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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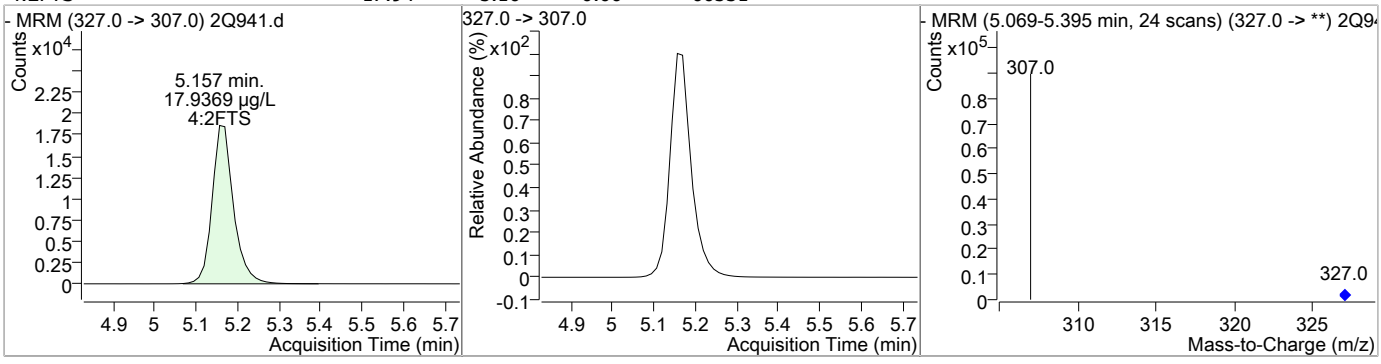
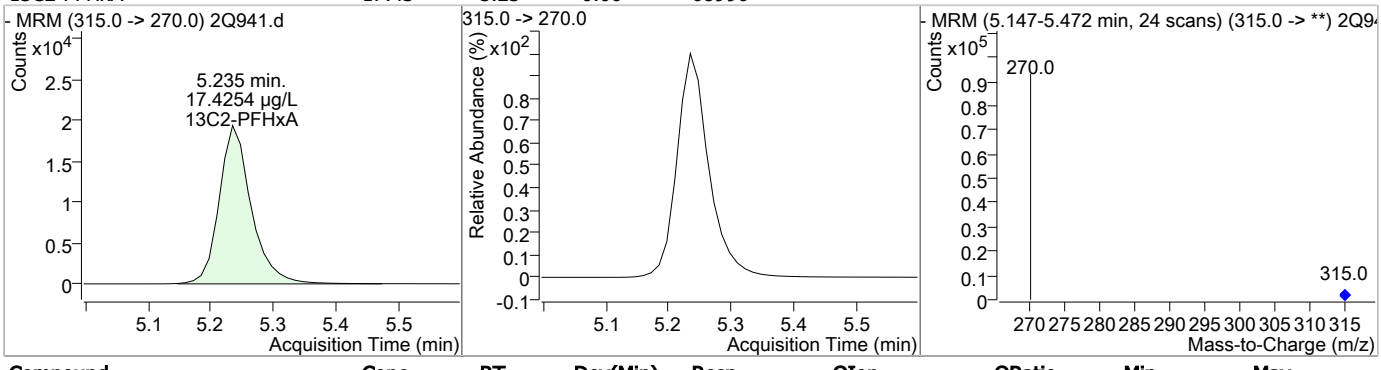
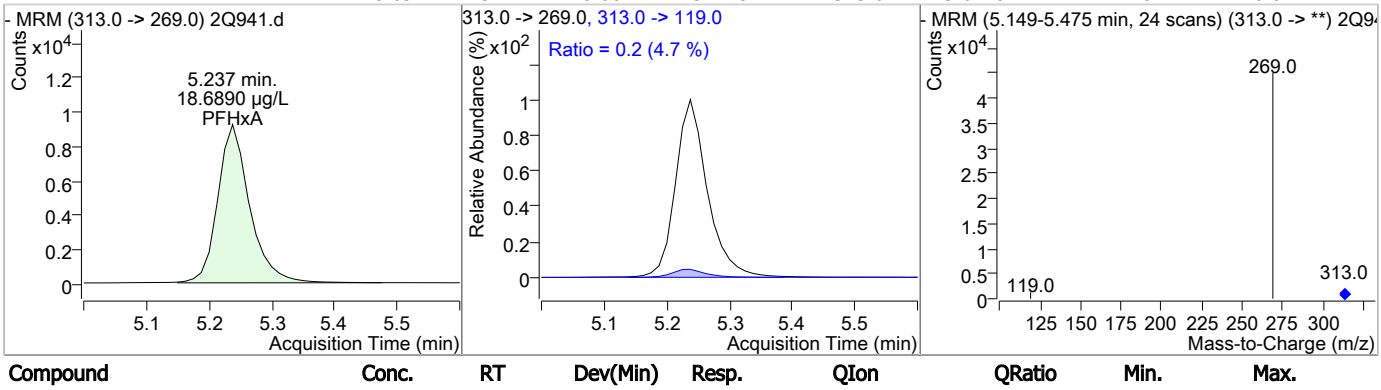
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	17.94	5.16	-0.06	66531				



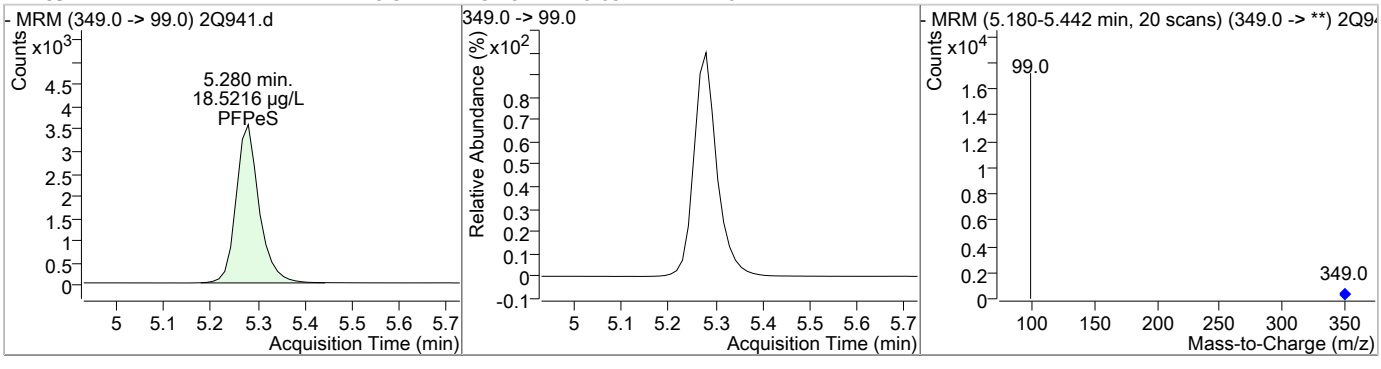
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.43	5.23	-0.06	68996				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	18.69	5.24	-0.06	32728	313.0 -> 119.0	0.2	4.0	6.0



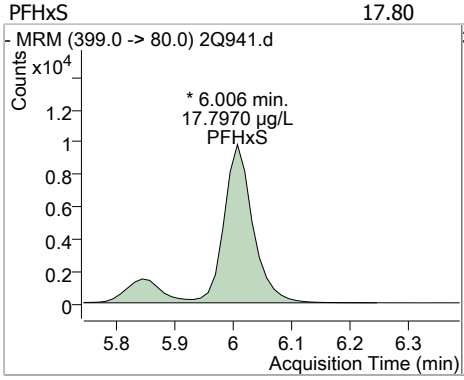
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.52	5.28	-0.05	12104				

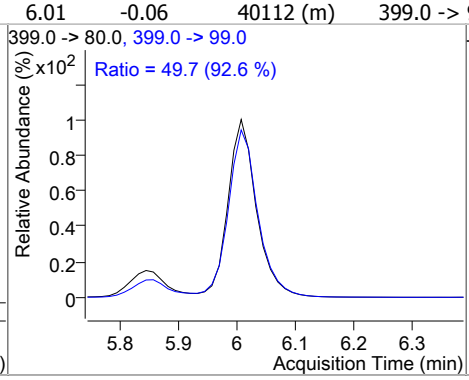


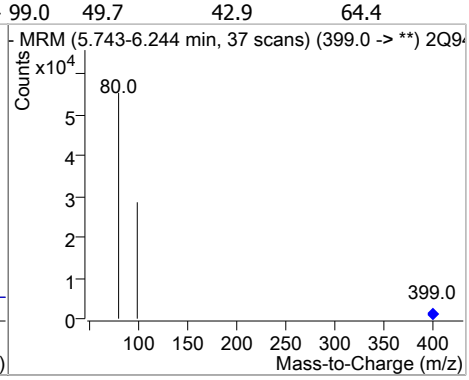
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

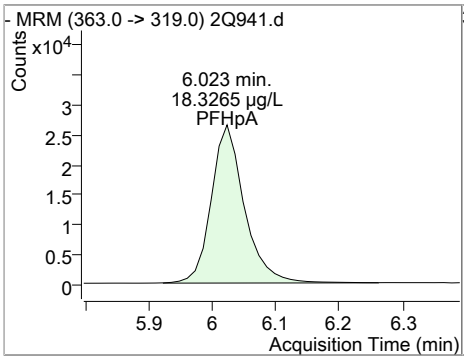
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	17.80	6.01	-0.06	40112 (m)	399.0 -> 99.0	49.7	42.9	64.4

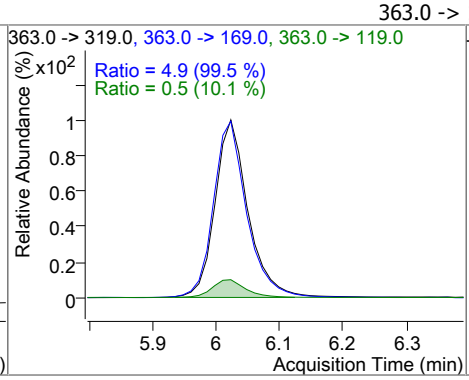


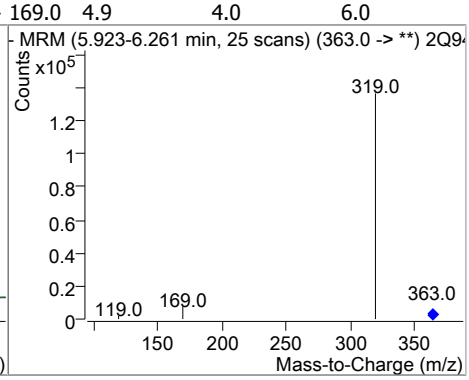




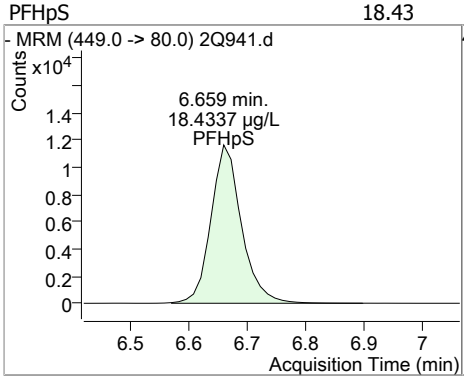
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.33	6.02	-0.06	95272	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.9	4.0	6.0

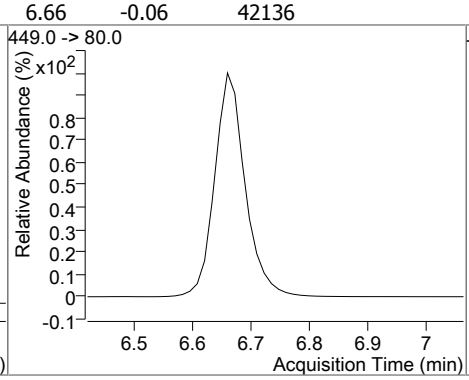


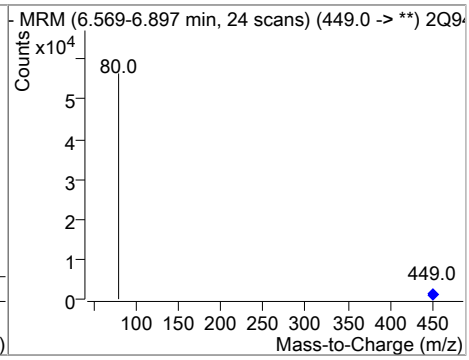




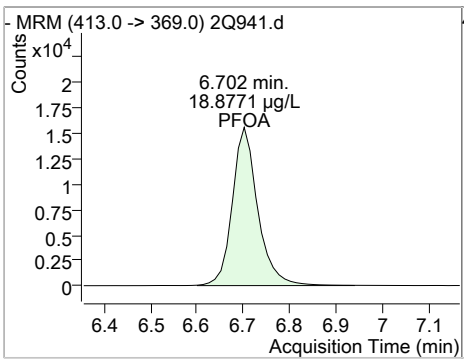
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.43	6.66	-0.06	42136				

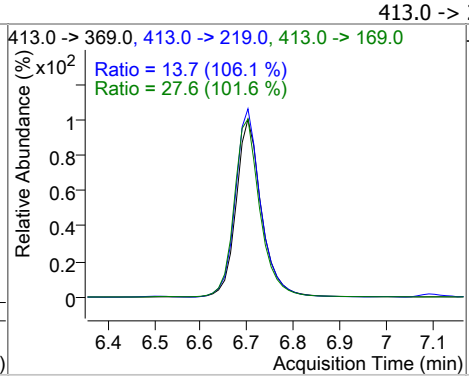


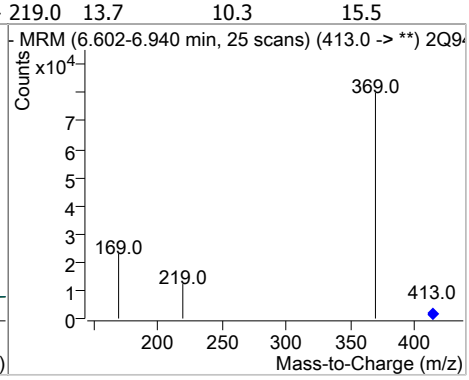




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.88	6.70	-0.06	58815	413.0 -> 169.0	27.6	21.8	32.6
					413.0 -> 219.0	13.7	10.3	15.5







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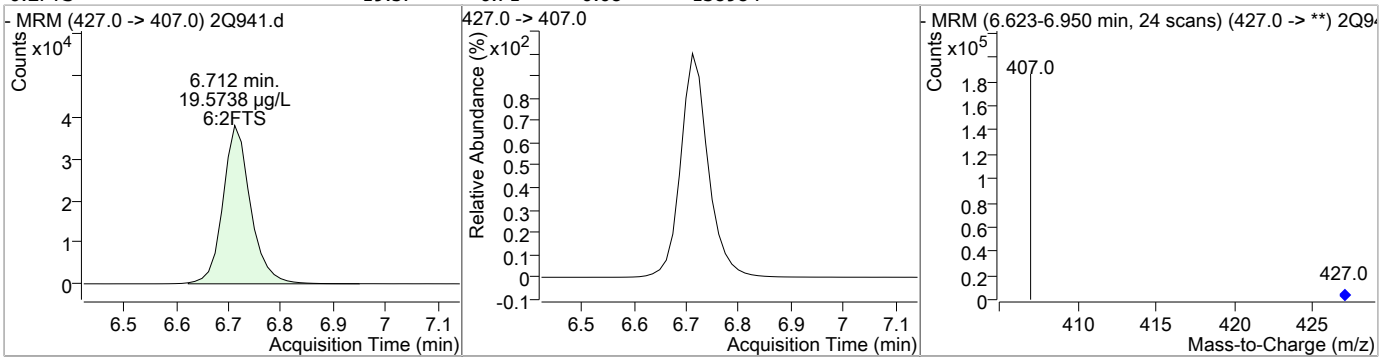
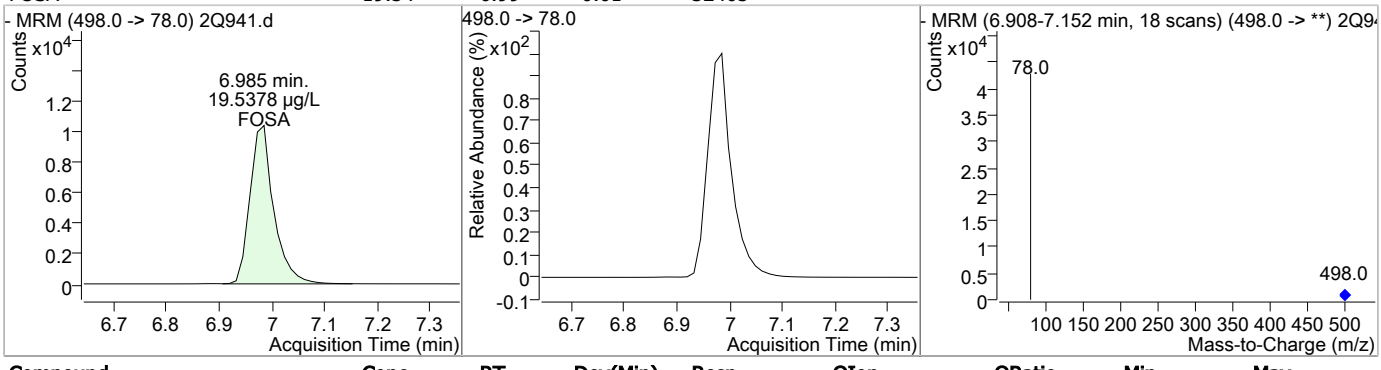
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

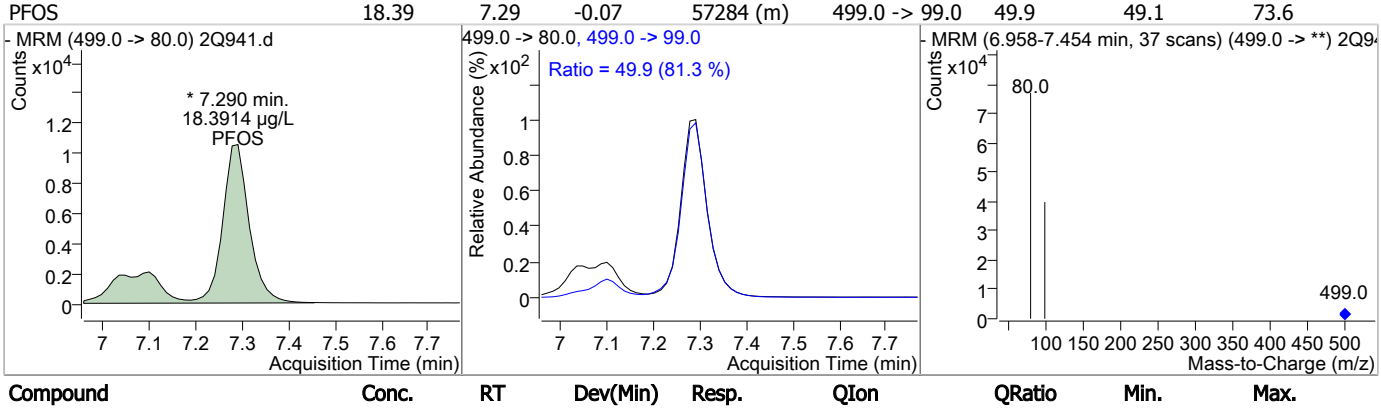
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.57	6.71	-0.08	138984				



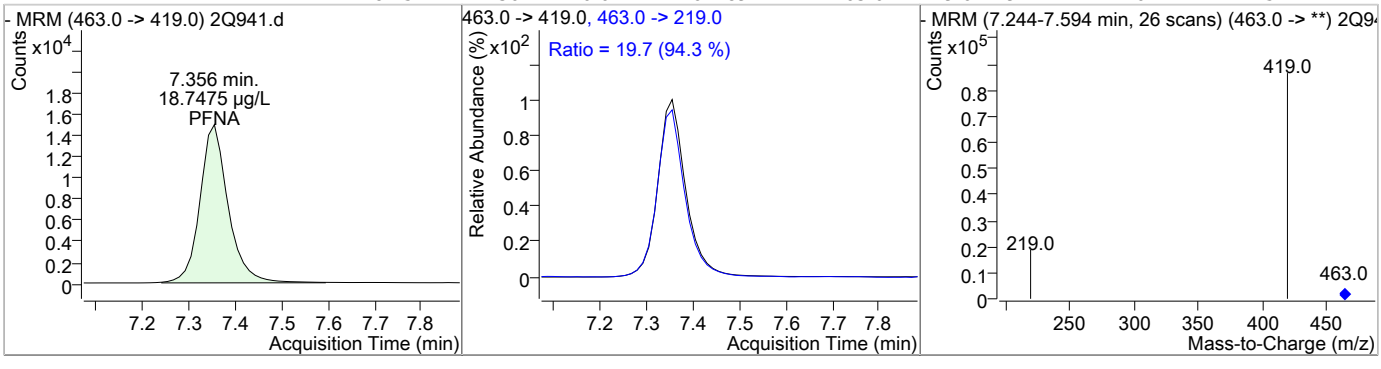
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.54	6.99	-0.01	32405				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	18.39	7.29	-0.07	57284 (m)	499.0 -> 99.0	49.9	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.75	7.36	-0.07	62789	463.0 -> 219.0	19.7	16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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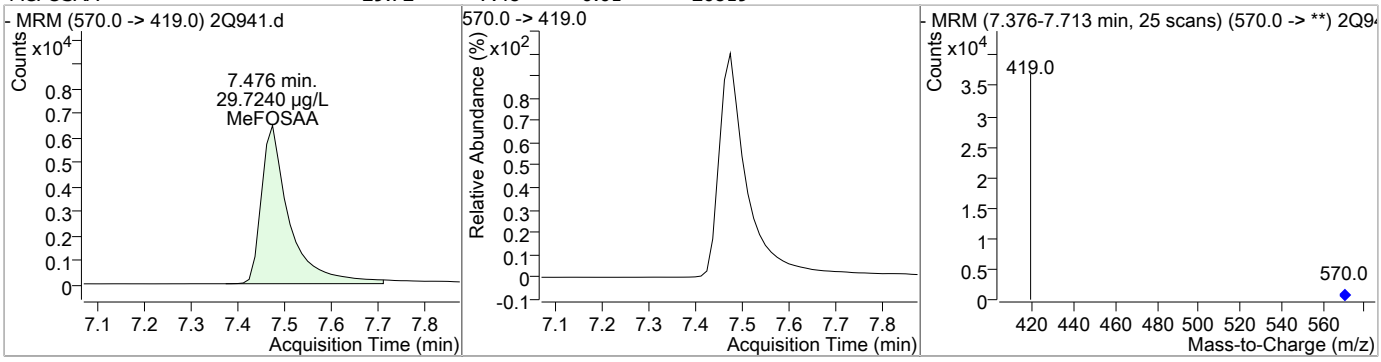
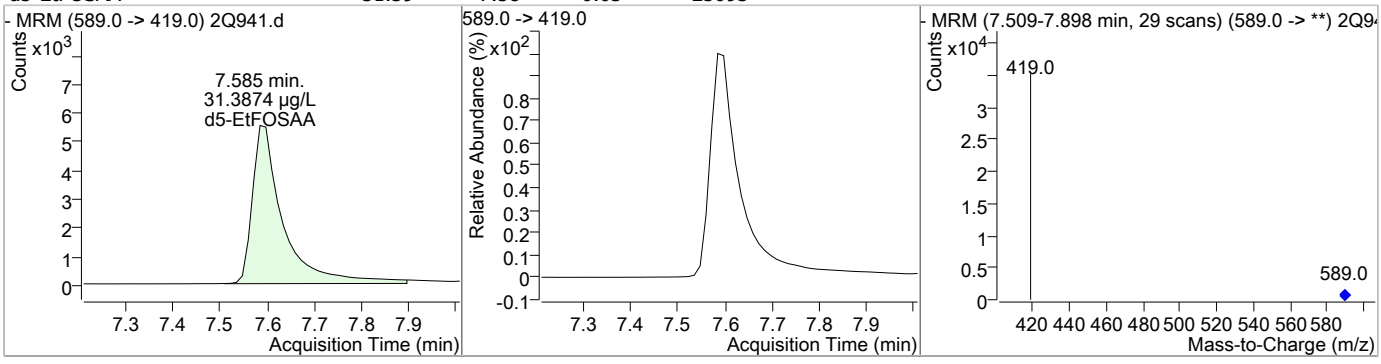
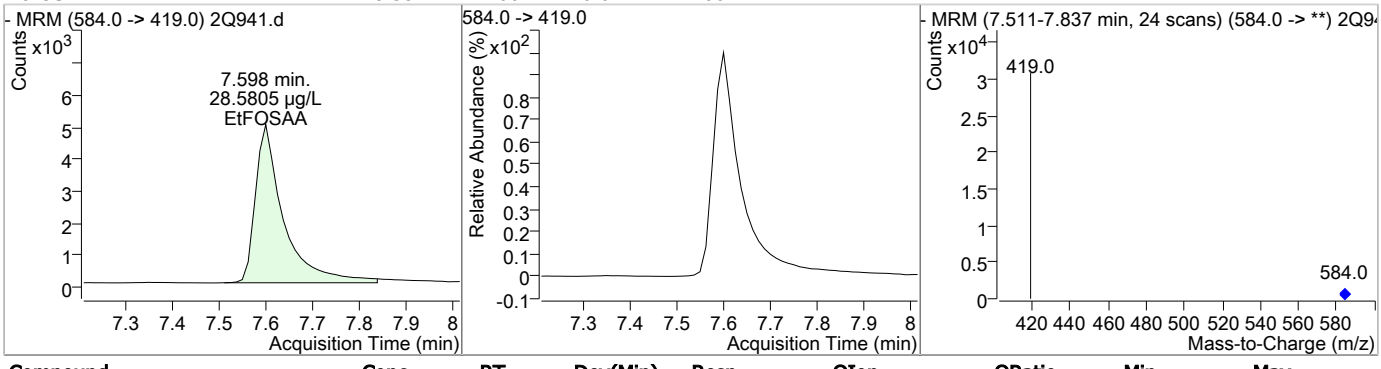
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	29.72	7.48	-0.01	26819				



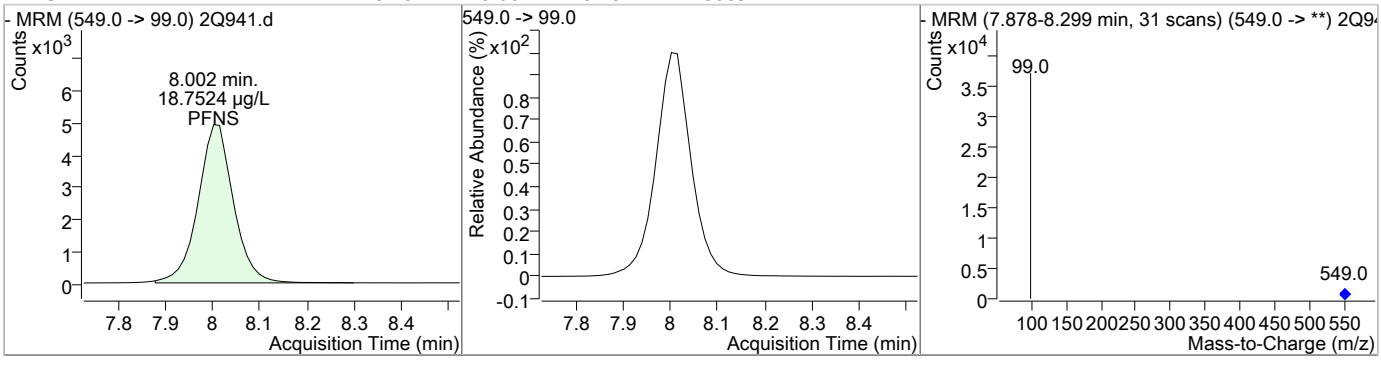
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	31.39	7.58	-0.03	25093				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	28.58	7.60	-0.01	20614				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.75	8.00	-0.13	25559				



Perfluorinated Compounds by LC/MS/MS

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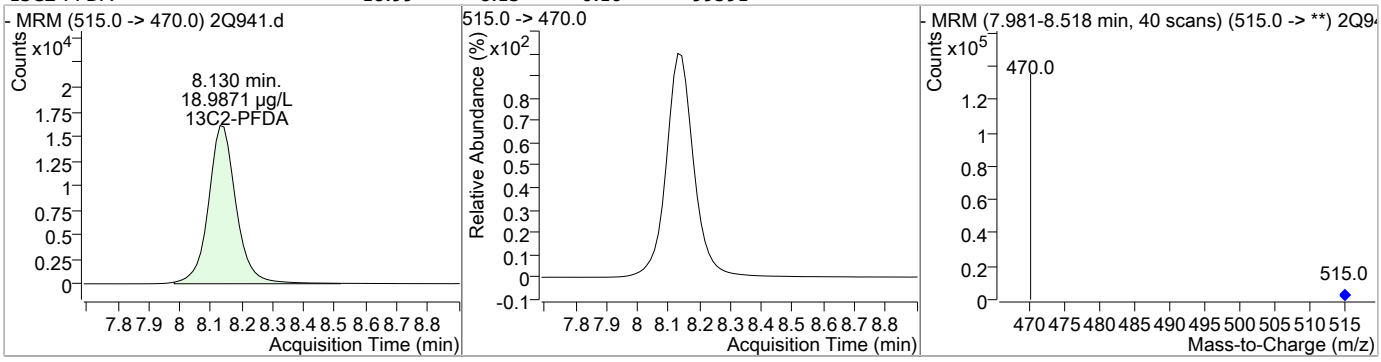
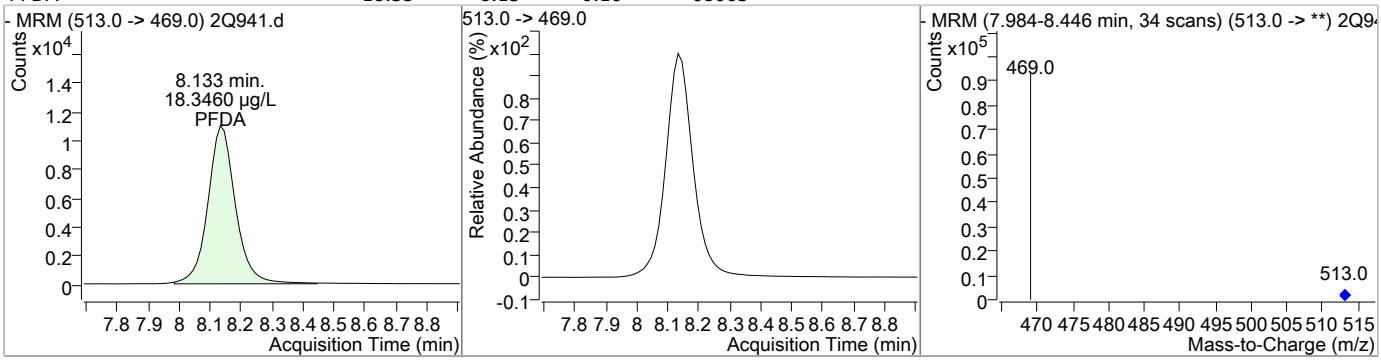
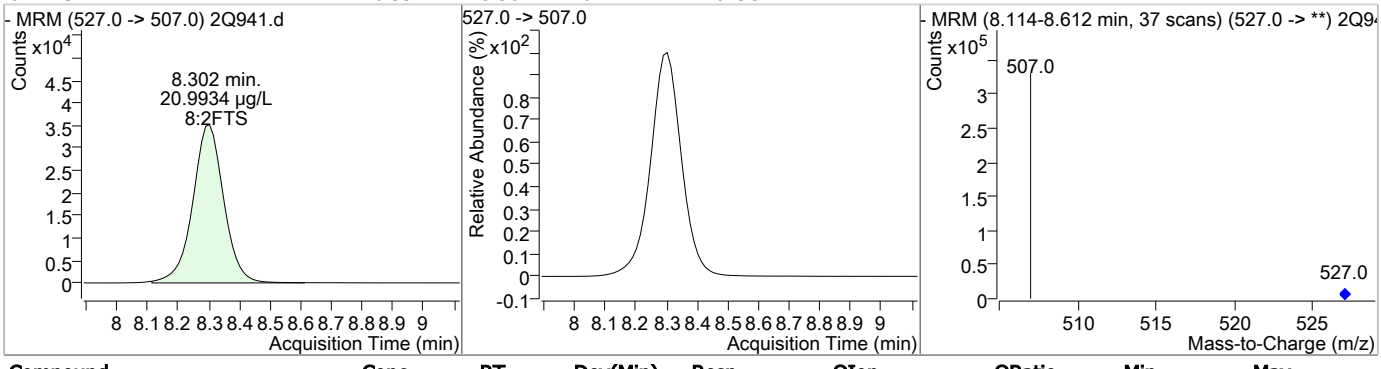
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	18.99	8.13	-0.16	99591				



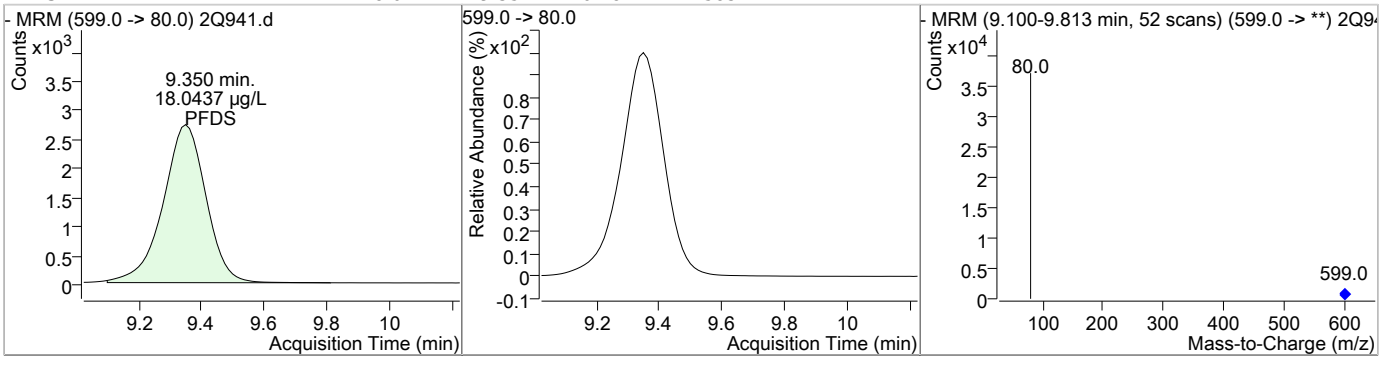
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.35	8.13	-0.16	68003				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.99	8.30	-0.21	246798				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.04	9.35	-0.28	25831				



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Perfluorinated Compounds by LC/MS/MS

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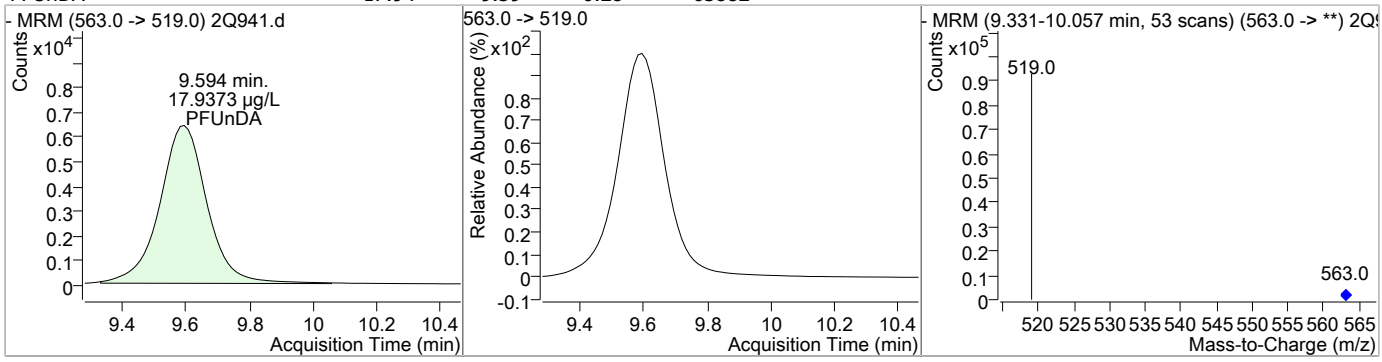
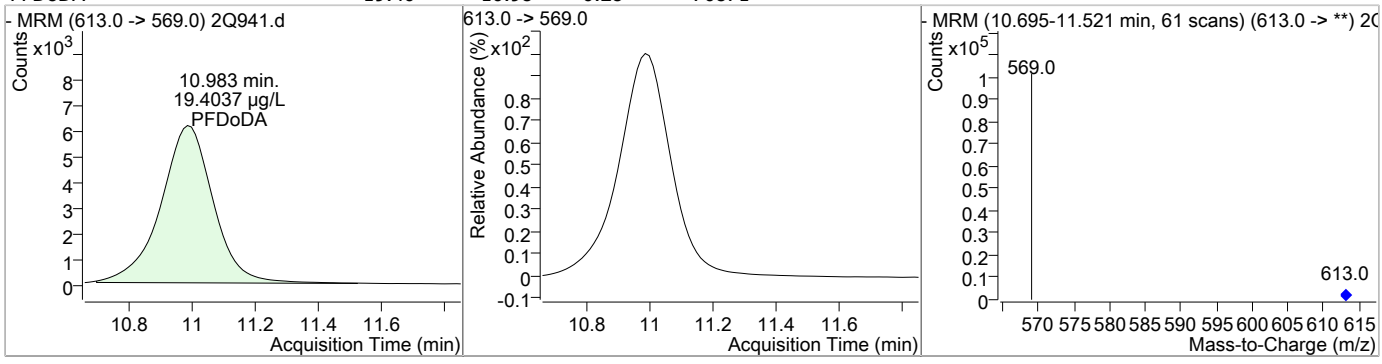
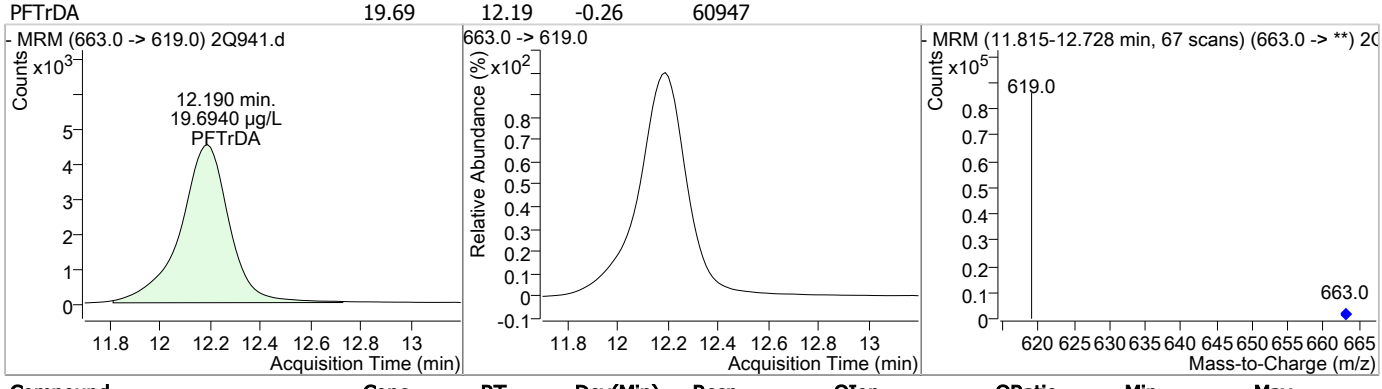
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	17.94	9.59	-0.28	65882				



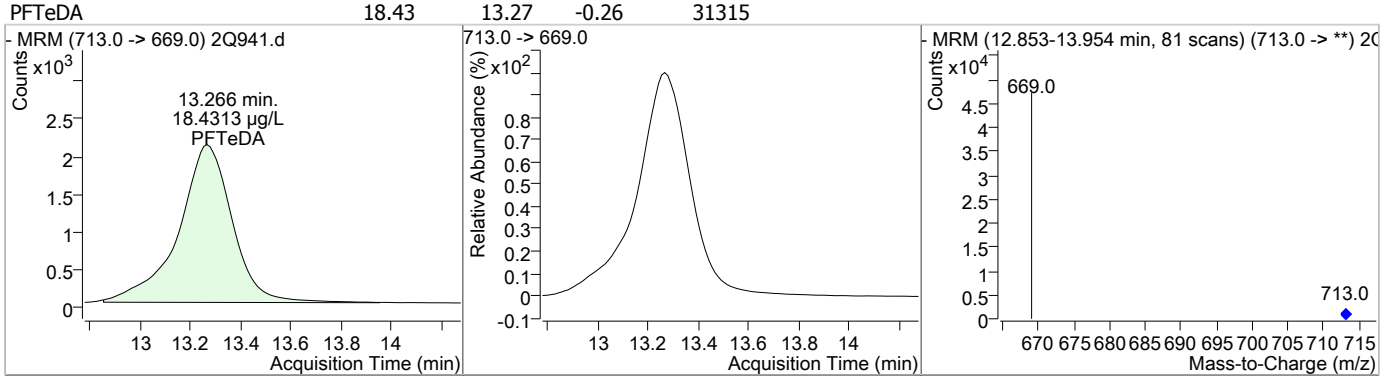
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.40	10.98	-0.28	70871				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.69	12.19	-0.26	60947				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.43	13.27	-0.26	31315				



SGS ACCUTEST FA43289

Manual Integration Approval Summary

Sample Number:	S2Q26-CC18	**Method:**	EPA 537	
Lab FileID:	2Q941.D	**Analyst approved:**	05/02/17 10:05	Nancy Saunders
Injection Time:	05/01/17 21:05	**Supervisor approved:**	05/02/17 12:48	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.29	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
05/02/17 12:48

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q948.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/1/2017 11:23:24 PM
Sample Name	:	ECC18-20
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q26.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.735	429.0 -> 409.0	149308	20.00	µg/L		-0.050
13C2-PFDoDA	11.051	615.0 -> 570.0	85133	20.00	µg/L		-0.213
13C2-PFOA	6.713	415.0 -> 370.0	75288	20.00	µg/L		-0.050
13C3-PFPeA	4.272	266.0 -> 222.0	70179	20.00	µg/L		-0.038
13C4-PFOS	7.301	503.0 -> 80.0	55312	20.00	µg/L		-0.063
d3-MeFOSAA	7.475	573.0 -> 419.0	30387	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	8.167	515.0 -> 470.0	100400	19.06	µg/L		-0.125
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 95.3%			
13C2-PFHxA	5.260	315.0 -> 270.0	70193	17.65	µg/L		-0.038
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 88.3%			
d5-EtFOSAA	7.597	589.0 -> 419.0	23528	30.05	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 150.3%			
Target Compounds							**QValue**
4:2FTS	5.182	327.0 -> 307.0	68649	18.20	µg/L		100
6:2FTS	6.737	427.0 -> 407.0	142425	19.73	µg/L		100
8:2FTS	8.339	527.0 -> 507.0	254796	21.32	µg/L		100
EtFOSAA	7.611	584.0 -> 419.0	21251	29.81	µg/L		100
FOSA	6.985	498.0 -> 78.0	32670	20.00	µg/L		100
MeFOSAA	7.488	570.0 -> 419.0	26451	29.76	µg/L		100
PFBA	2.977	213.0 -> 169.0	31852	16.08	µg/L		100
PFBS	4.391	299.0 -> 80.0	37834	17.14	µg/L		99
PFDA	8.170	513.0 -> 469.0	67390	18.10	µg/L		100
PFDoDA	11.058	613.0 -> 569.0	72682	19.56	µg/L		100
PFDS	9.400	599.0 -> 80.0	26203	17.87	µg/L		100
PFHpA	6.036	363.0 -> 319.0	96696	18.51	µg/L	#	93
PFHpS	6.684	449.0 -> 80.0	42946	18.33	µg/L		100
PFHxA	5.262	313.0 -> 269.0	33448	19.00	µg/L	#	85
PFHxS	6.031	399.0 -> 80.0	40976	17.74	µg/L	m	93
PFNA	7.369	463.0 -> 419.0	62284	18.52	µg/L		98
PFNS	8.023	549.0 -> 99.0	26012	18.62	µg/L		100
PFOA	6.715	413.0 -> 369.0	58622	18.73	µg/L		99
PFOS	7.303	499.0 -> 80.0	57122	17.89	µg/L	m	87
PFPeA	4.275	263.0 -> 219.0	95992	18.03	µg/L		100
PFPeS	5.292	349.0 -> 99.0	12480	18.68	µg/L		100
PFTeDA	13.341	713.0 -> 669.0	31328	18.14	µg/L		100
PFTrDA	12.253	663.0 -> 619.0	60810	19.34	µg/L		100
PFUnDA	9.656	563.0 -> 519.0	67519	18.07	µg/L		100

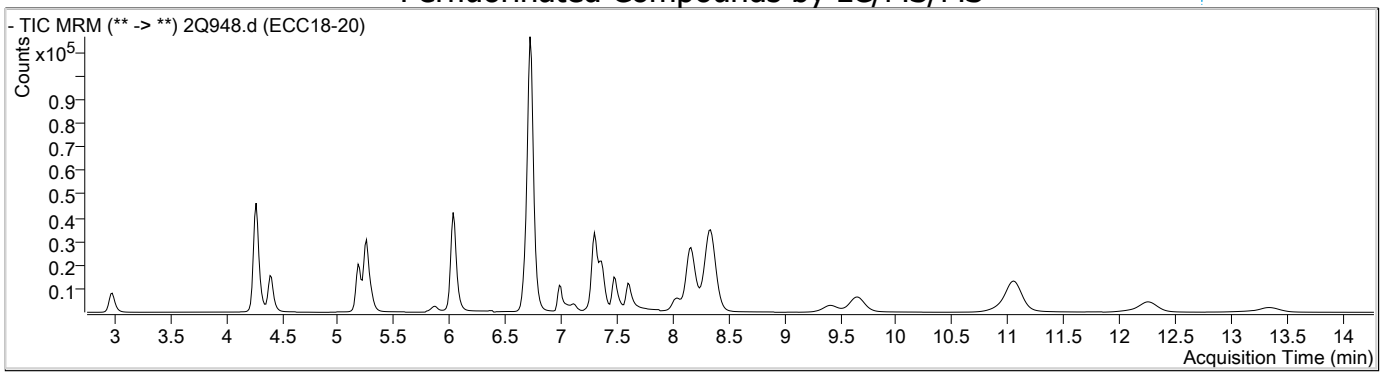
 # = Qualifier out of range, m = manually integrated, + = Area summed

7.5.11

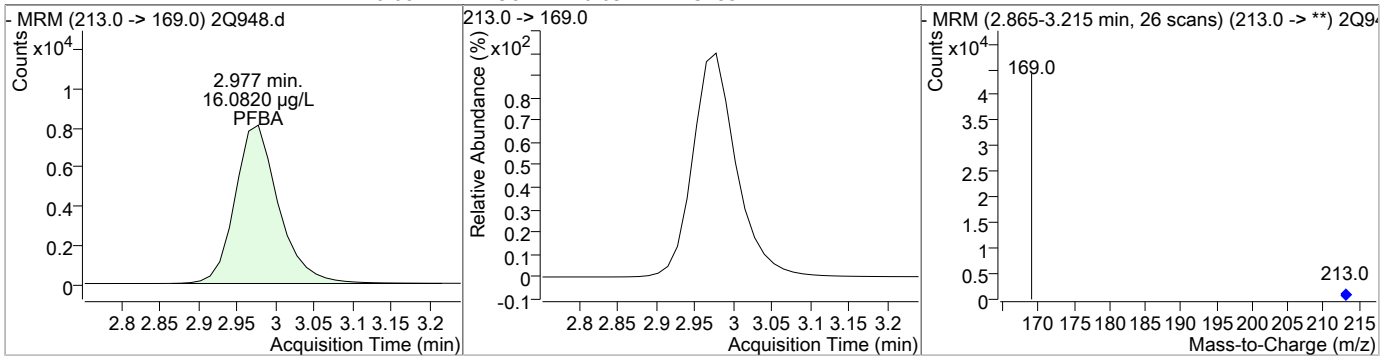
7

Perfluorinated Compounds by LC/MS/MS

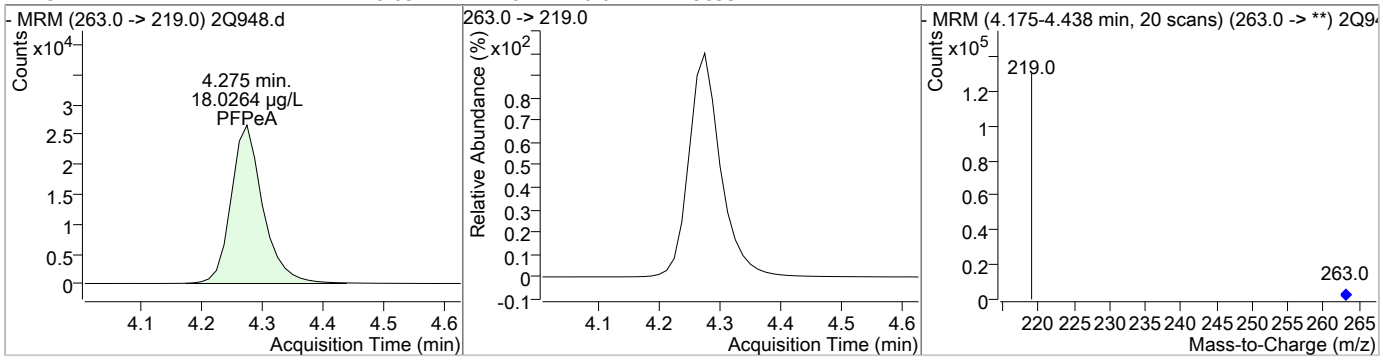
Agilent Technologies



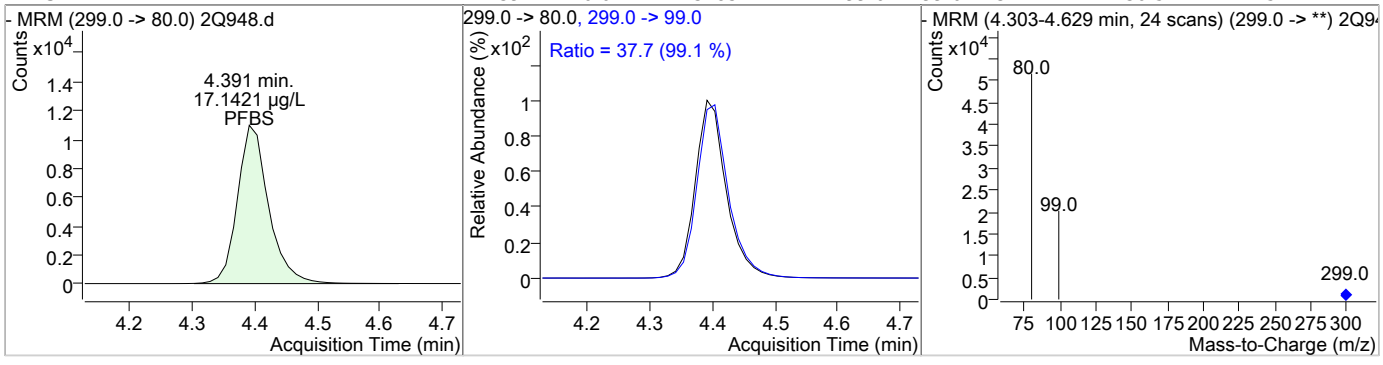
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	16.08	2.98	-0.03	31852				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.03	4.28	-0.04	95992				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	17.14	4.39	-0.04	37834	299.0 -> 99.0	37.7	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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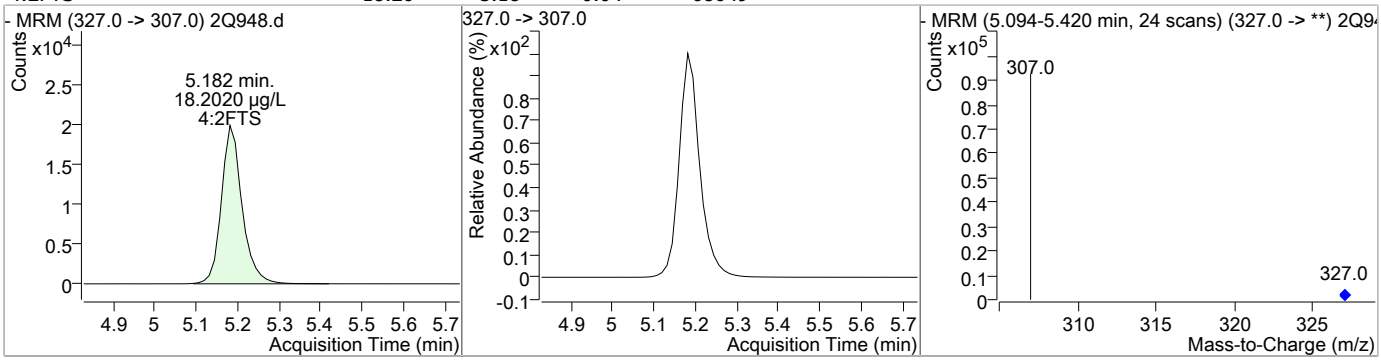
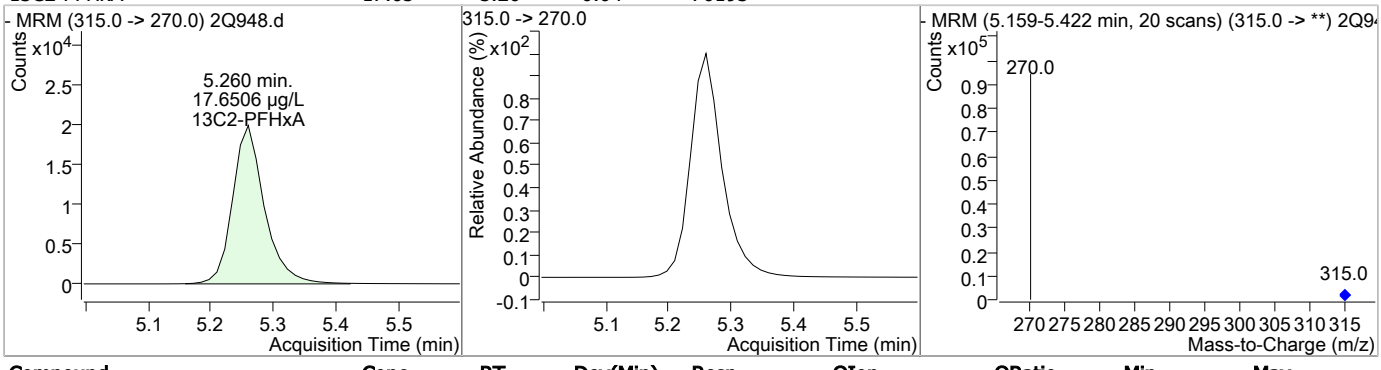
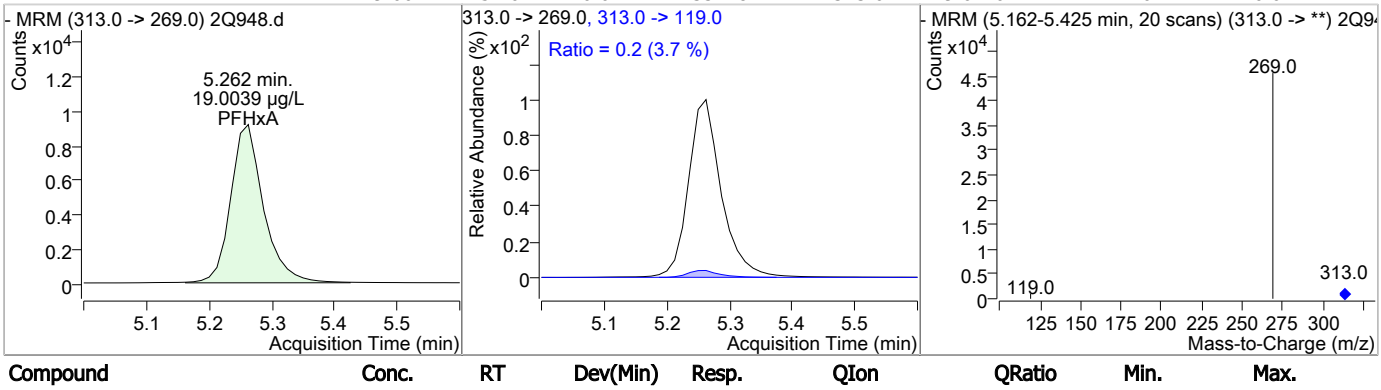
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.20	5.18	-0.04	68649				



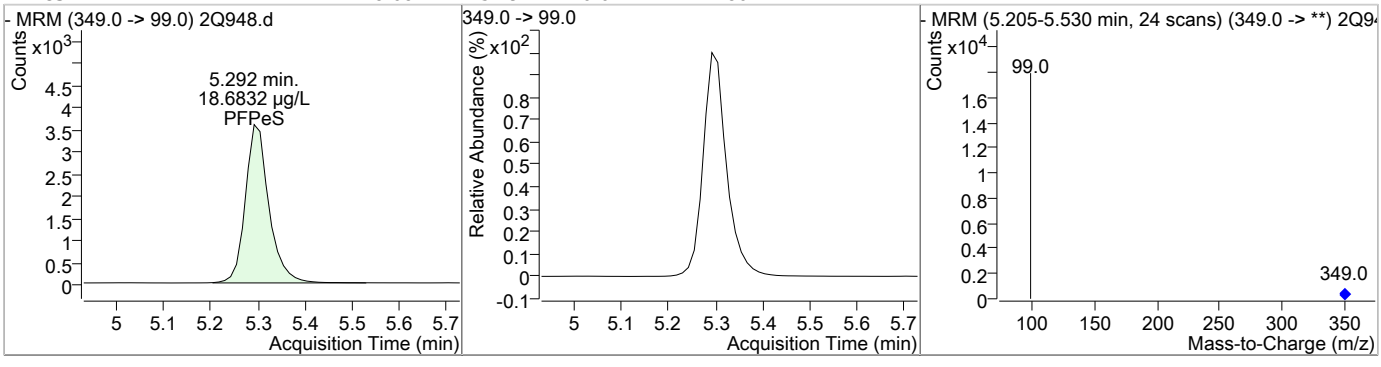
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.65	5.26	-0.04	70193				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.00	5.26	-0.04	33448	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.68	5.29	-0.04	12480				



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Perfluorinated Compounds by LC/MS/MS

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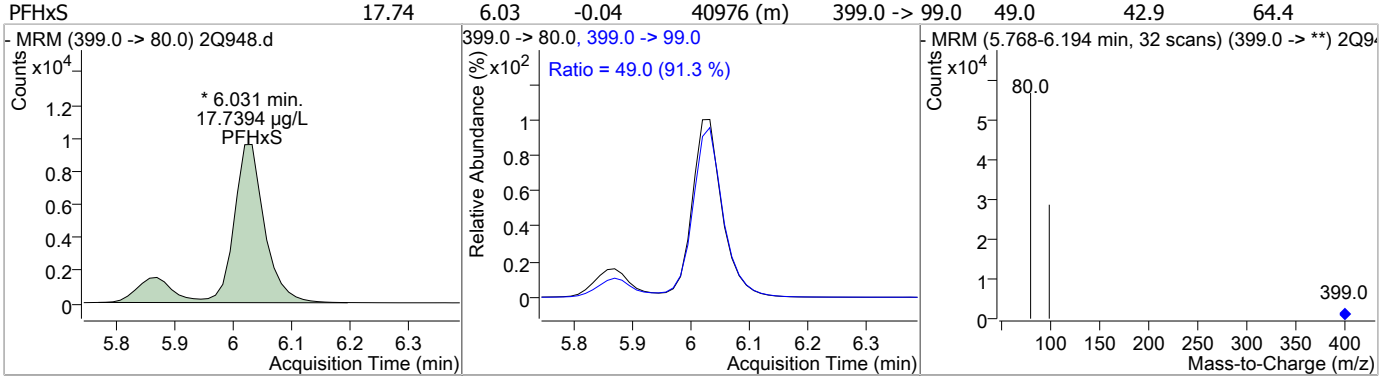
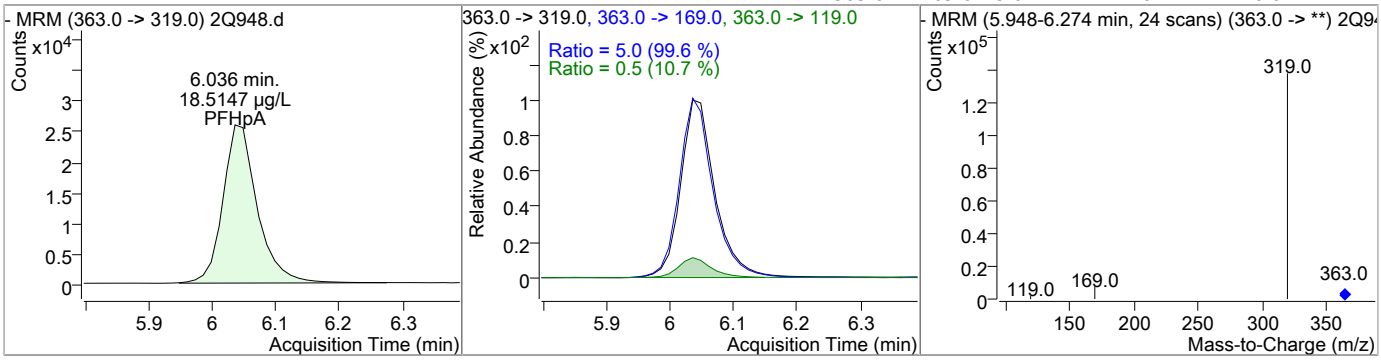
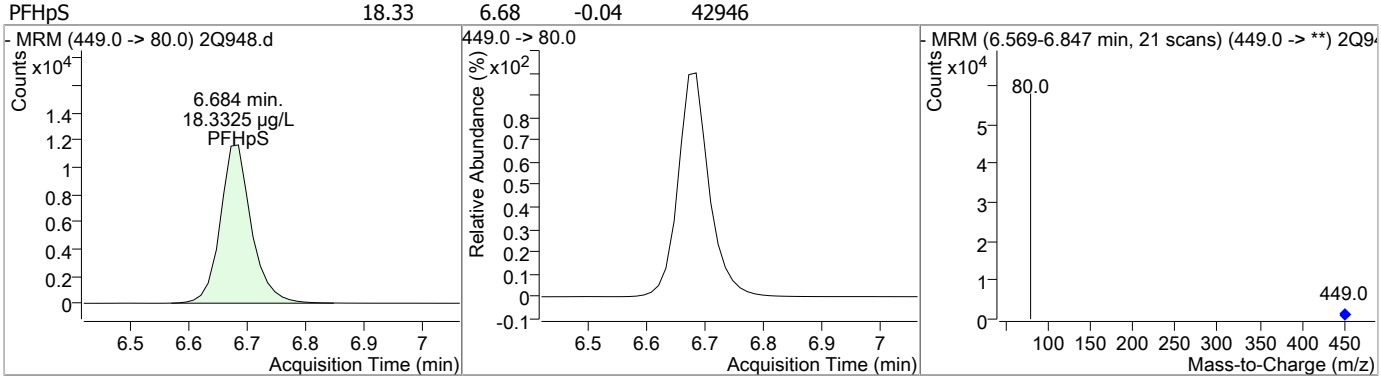
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	17.74	6.03	-0.04	40976 (m)	399.0 -> 99.0	49.0	42.9	64.4



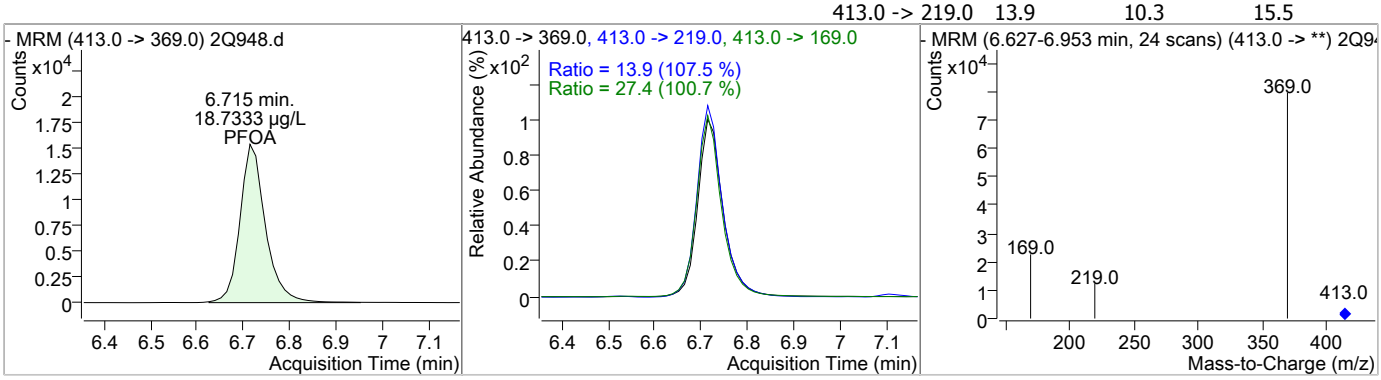
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.51	6.04	-0.05	96696	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	5.0	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.33	6.68	-0.04	42946				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.73	6.71	-0.05	58622	413.0 -> 169.0	27.4	21.8	32.6
					413.0 -> 219.0	13.9	10.3	15.5



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Perfluorinated Compounds by LC/MS/MS

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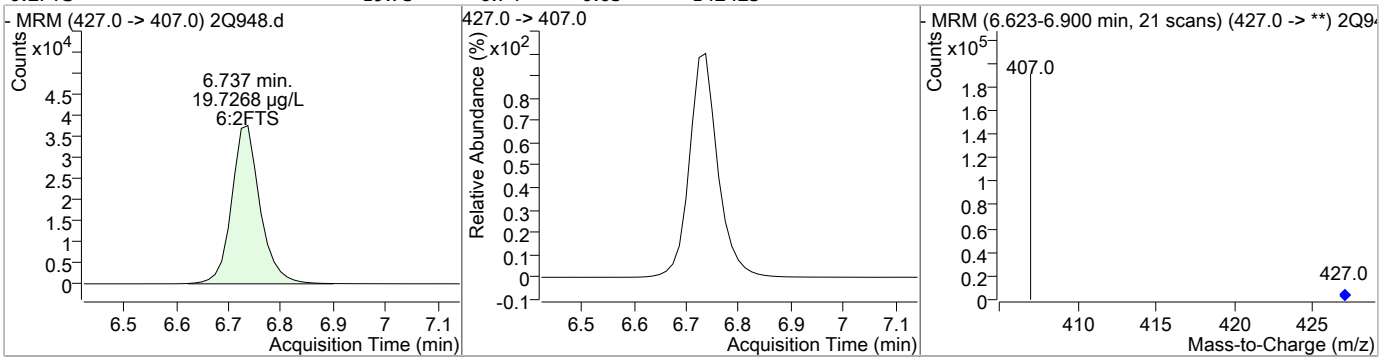
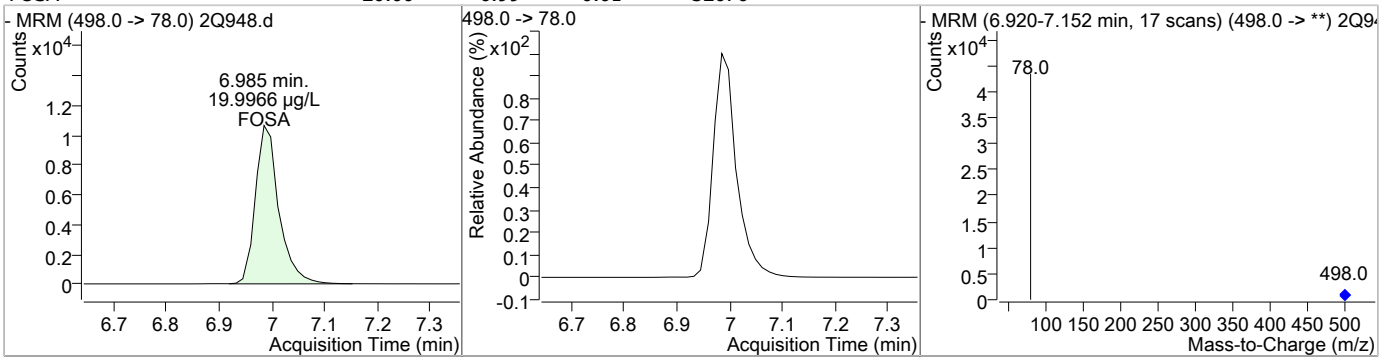
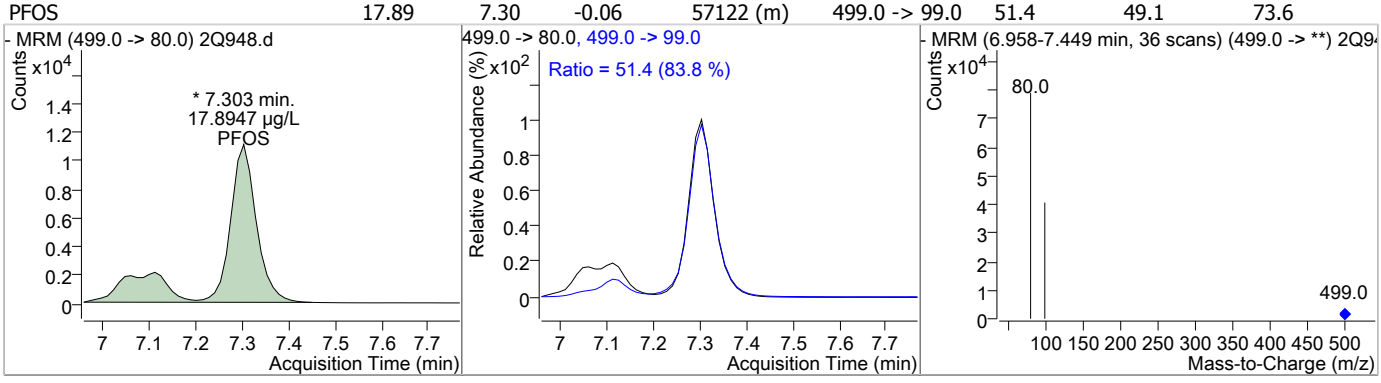
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.73	6.74	-0.05	142425				



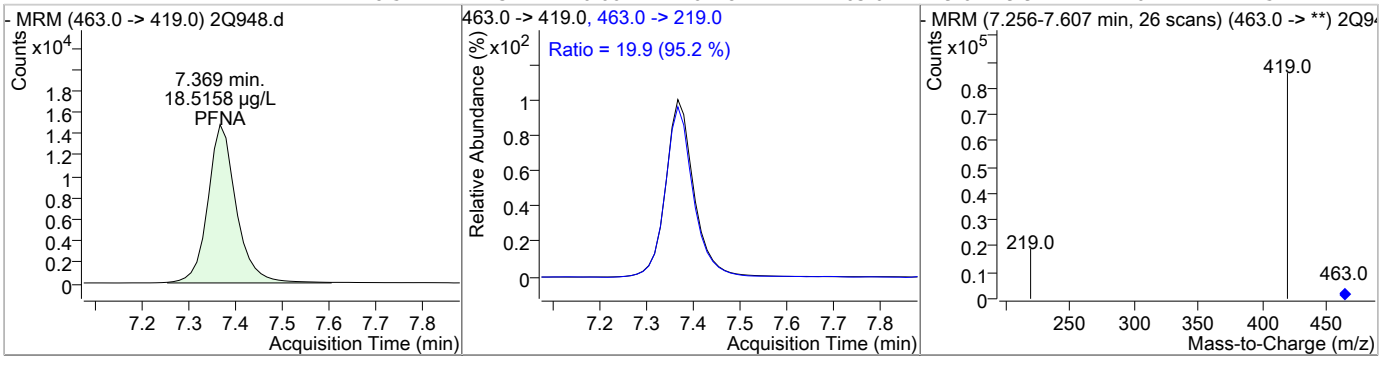
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	20.00	6.99	-0.01	32670				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.89	7.30	-0.06	57122 (m)	499.0 -> 99.0	51.4	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.52	7.37	-0.06	62284	463.0 -> 219.0	19.9	16.7	25.1



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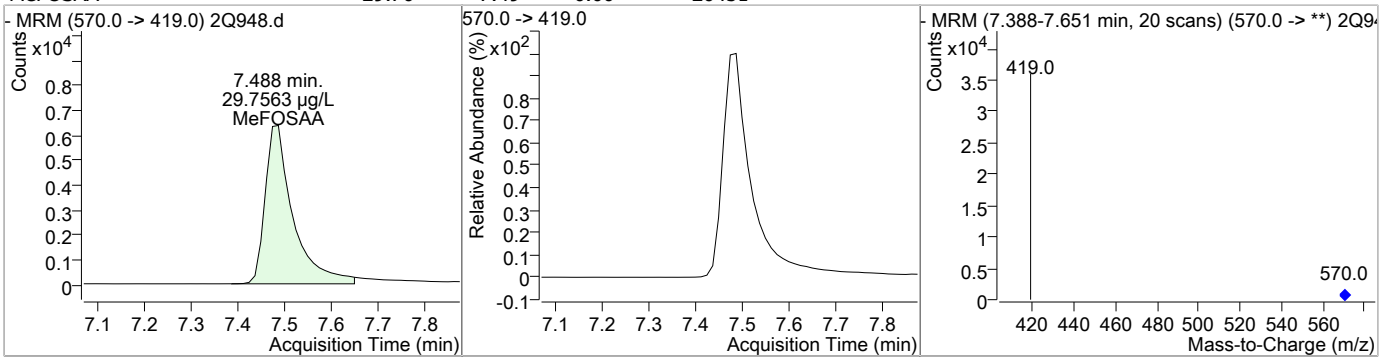
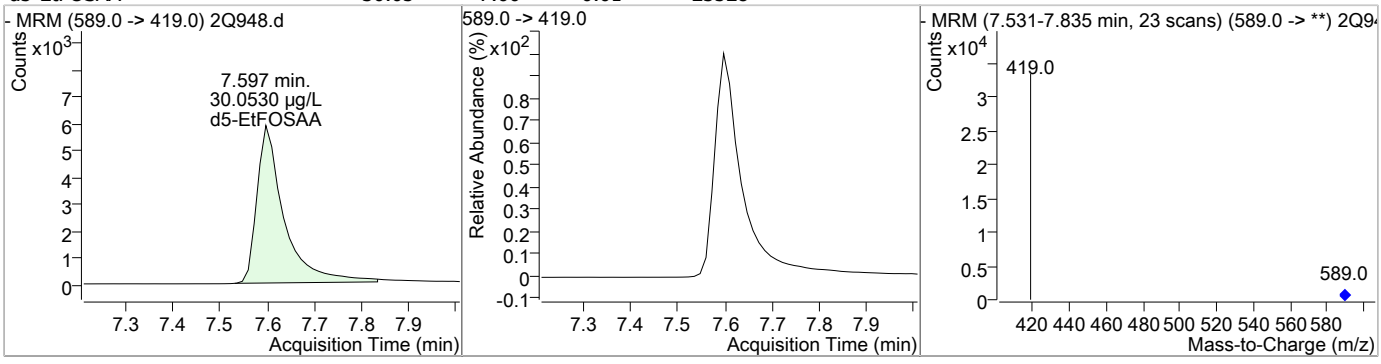
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

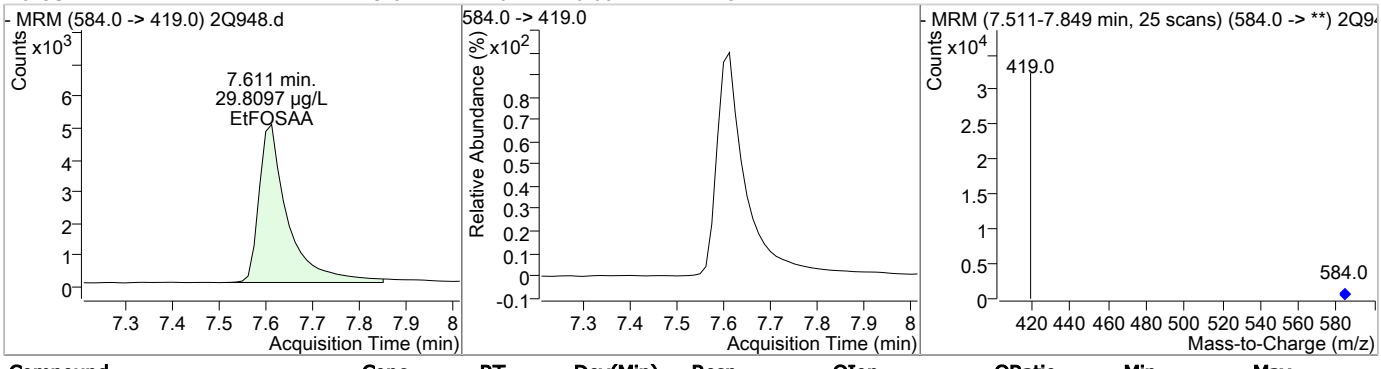
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	29.76	7.49	0.00	26451				



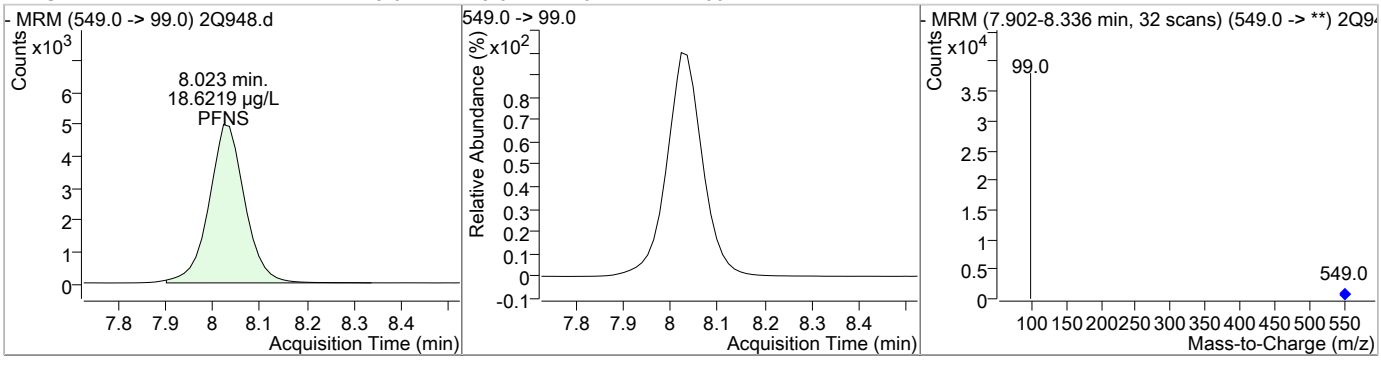
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	30.05	7.60	-0.01	23528				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	29.81	7.61	0.00	21251				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.62	8.02	-0.11	26012				



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Perfluorinated Compounds by LC/MS/MS

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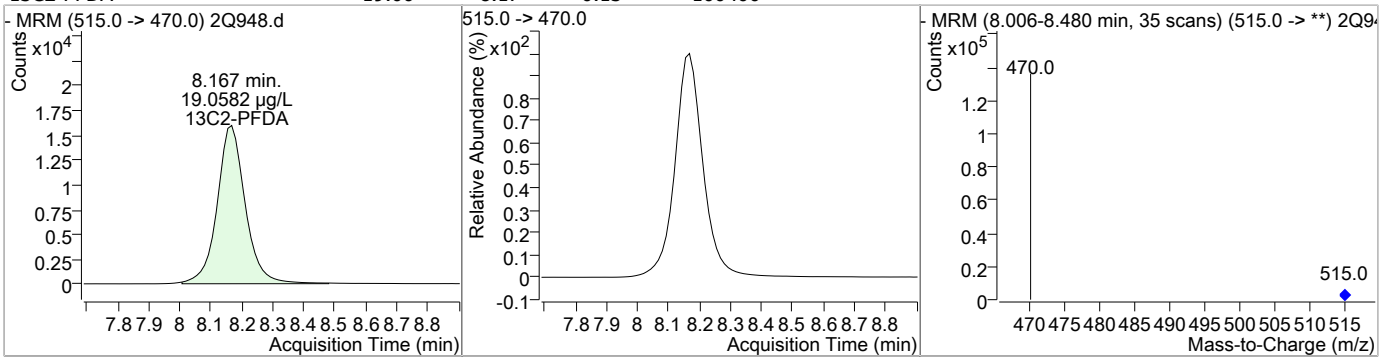
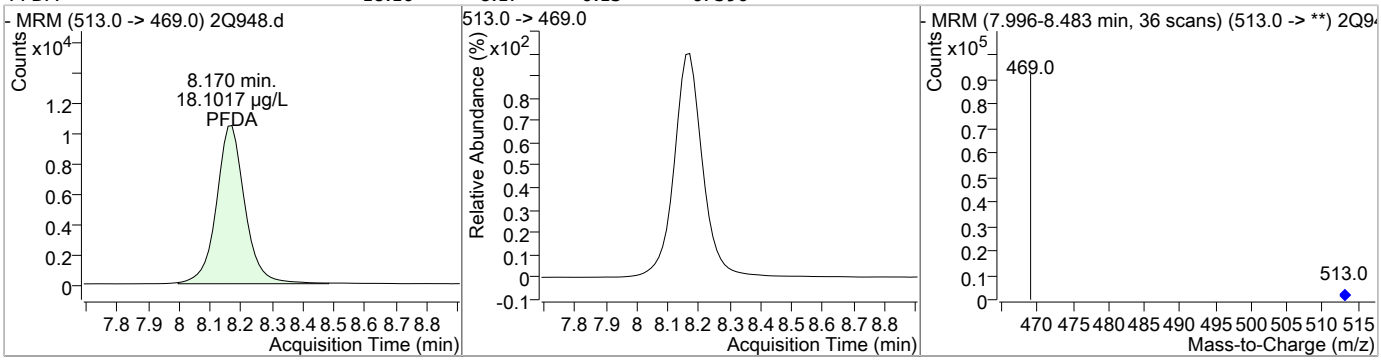
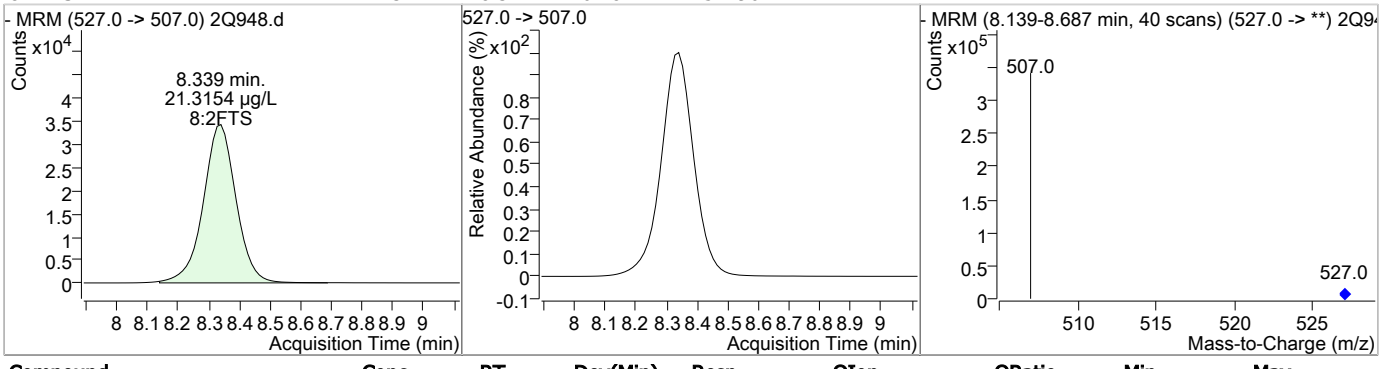
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	19.06	8.17	-0.13	100400				



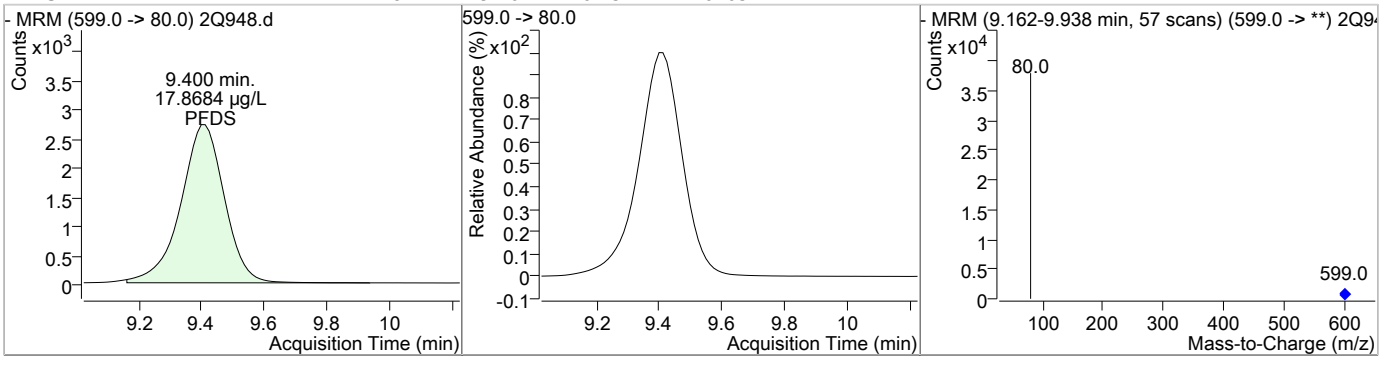
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.10	8.17	-0.13	67390				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	21.32	8.34	-0.18	254796				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	17.87	9.40	-0.23	26203				



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Perfluorinated Compounds by LC/MS/MS

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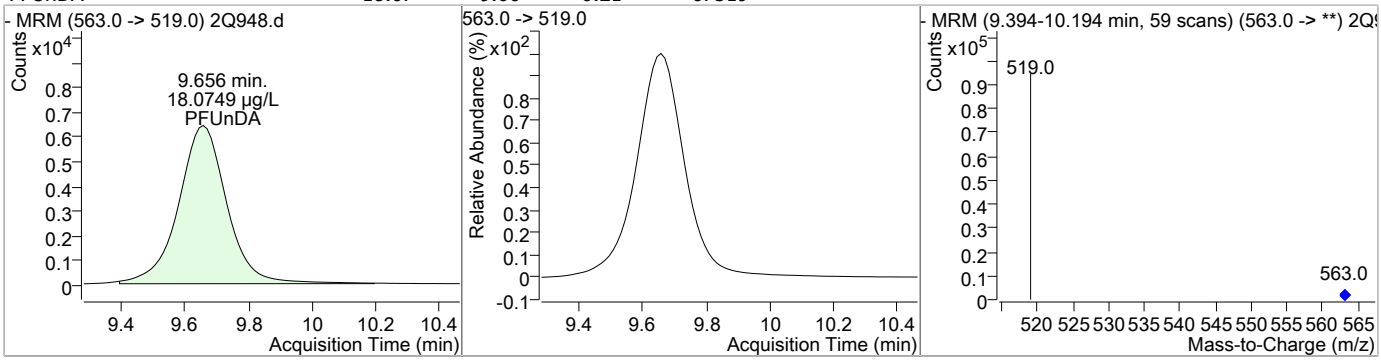
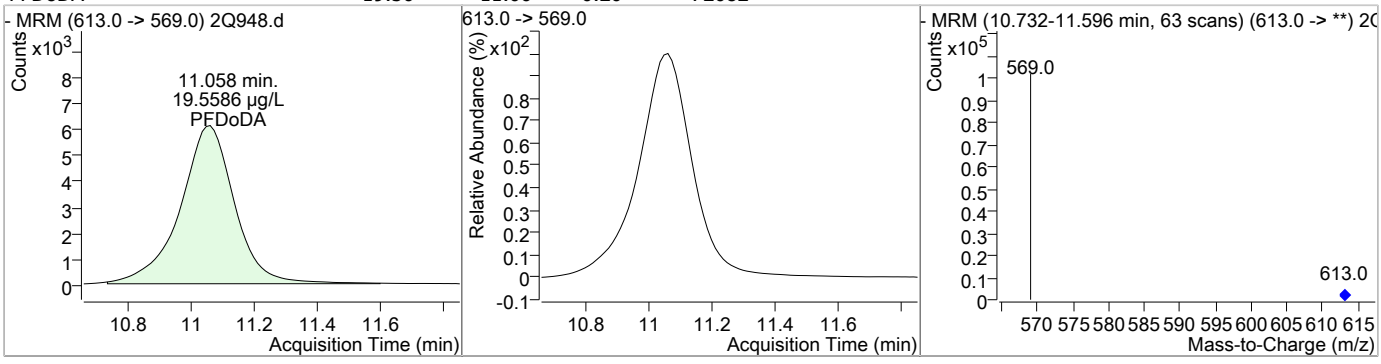
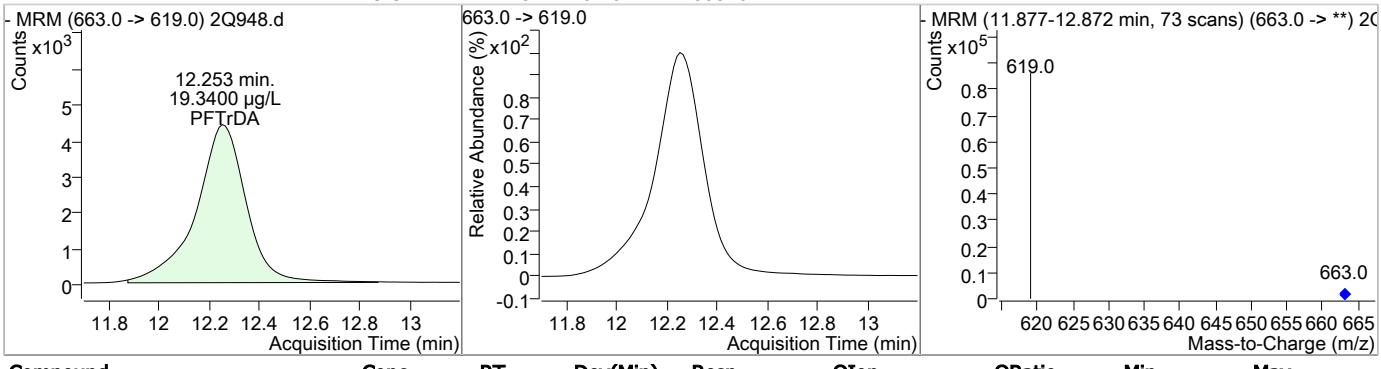
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.07	9.66	-0.21	67519				



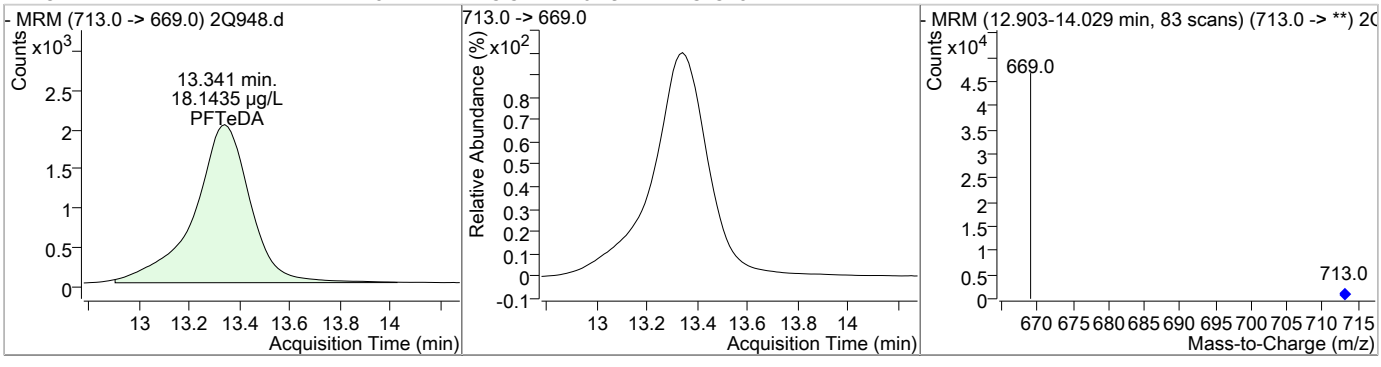
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.56	11.06	-0.20	72682				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.34	12.25	-0.20	60810				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.14	13.34	-0.19	31328				



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Manual Integration Approval Summary

Sample Number:	S2Q26-ECC18	**Method:**	EPA 537	
Lab FileID:	2Q948.D	**Analyst approved:**	05/02/17 10:05	Nancy Saunders
Injection Time:	05/01/17 23:23	**Supervisor approved:**	05/02/17 12:48	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.03	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.30	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
05/04/17 11:46

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q992.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/3/2017 3:52:54 PM
Sample Name	:	CC18-20
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q28.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	144649	20.00	µg/L		-0.025
13C2-PFDoDA	11.039	615.0 -> 570.0	82383	20.00	µg/L		0.013
13C2-PFOA	6.701	415.0 -> 370.0	68578	20.00	µg/L		-0.025
13C3-PFPeA	4.247	266.0 -> 222.0	63332	20.00	µg/L		-0.025
13C4-PFOS	7.289	503.0 -> 80.0	52509	20.00	µg/L		-0.025
d3-MeFOSAA	7.462	573.0 -> 419.0	29507	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	88869	18.52	µg/L		-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 92.6%			
13C2-PFHxA	5.235	315.0 -> 270.0	63329	17.48	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 87.4%			
d5-EtFOSAA	7.585	589.0 -> 419.0	22889	30.10	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 150.5%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	66551	18.21	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	136350	19.49	µg/L		100
8:2FTS	8.302	527.0 -> 507.0	246649	21.30	µg/L		100
EtFOSAA	7.599	584.0 -> 419.0	19745	28.62	µg/L		100
FOSA	6.973	498.0 -> 78.0	30483	19.21	µg/L		100
MeFOSAA	7.476	570.0 -> 419.0	25346	29.41	µg/L		100
PFBA	2.952	213.0 -> 169.0	28378	15.73	µg/L		100
PFBS	4.366	299.0 -> 80.0	34524	16.48	µg/L		100
PFDA	8.133	513.0 -> 469.0	61728	18.20	µg/L		100
PFDoDA	11.033	613.0 -> 569.0	70083	19.49	µg/L		100
PFDS	9.375	599.0 -> 80.0	25395	18.22	µg/L		100
PFHpA	6.023	363.0 -> 319.0	85261	17.94	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	41146	18.50	µg/L		100
PFHxA	5.237	313.0 -> 269.0	30330	18.92	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	39008	17.79	µg/L	m	93
PFNA	7.356	463.0 -> 419.0	56368	18.40	µg/L		99
PFNS	8.002	549.0 -> 99.0	24692	18.62	µg/L		100
PFOA	6.702	413.0 -> 369.0	53030	18.60	µg/L		100
PFOS	7.278	499.0 -> 80.0	53631	17.70	µg/L	m	86
PFPeA	4.250	263.0 -> 219.0	85718	17.84	µg/L		100
PFPeS	5.280	349.0 -> 99.0	11855	19.67	µg/L		100
PFTeDA	13.316	713.0 -> 669.0	29681	17.78	µg/L		100
PFTrDA	12.240	663.0 -> 619.0	57810	19.02	µg/L		100
PFUnDA	9.619	563.0 -> 519.0	67338	18.63	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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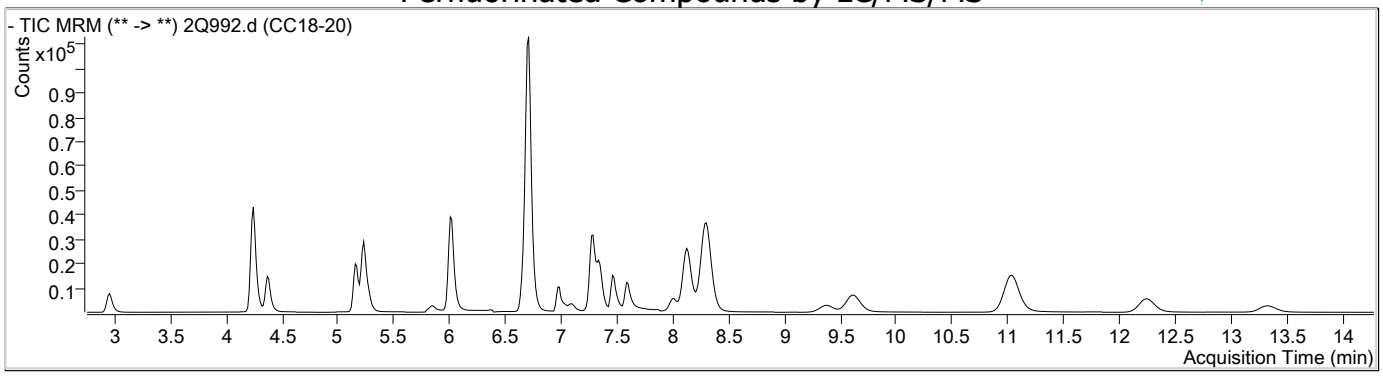
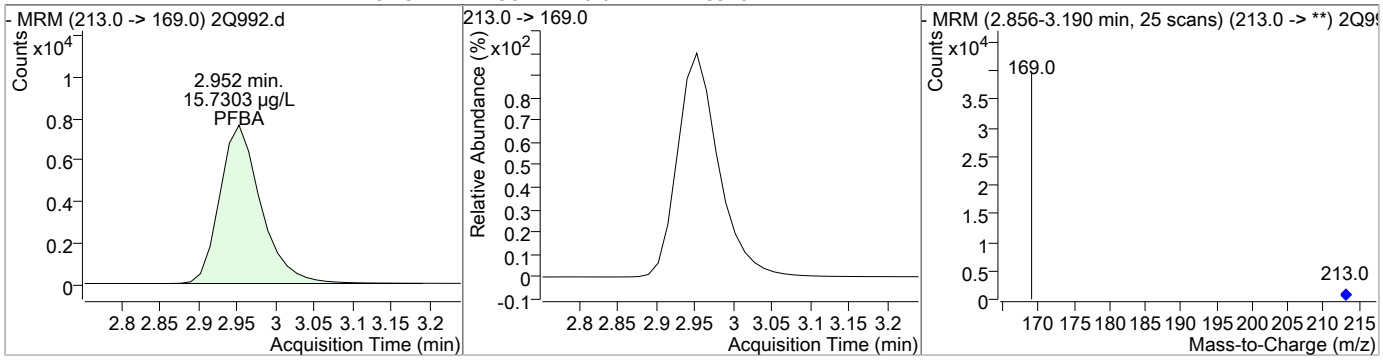
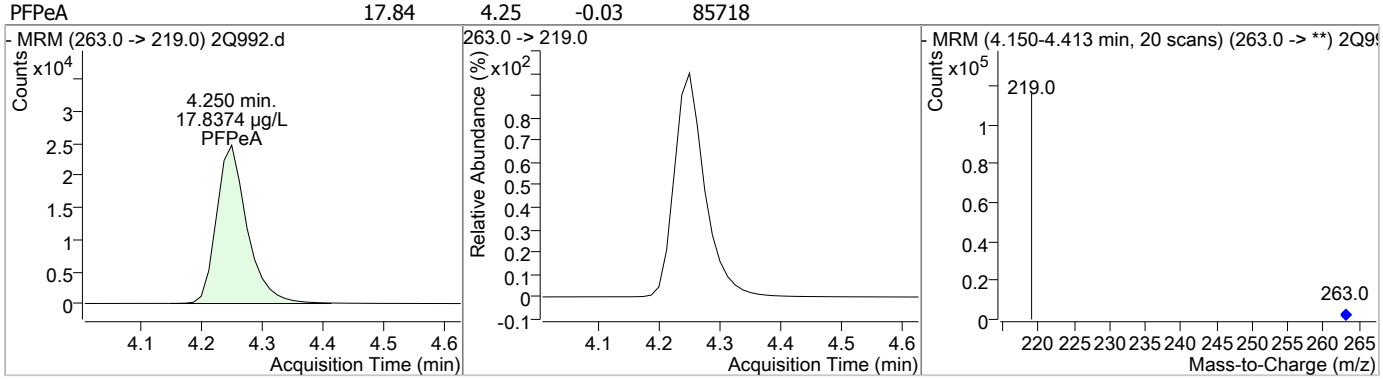


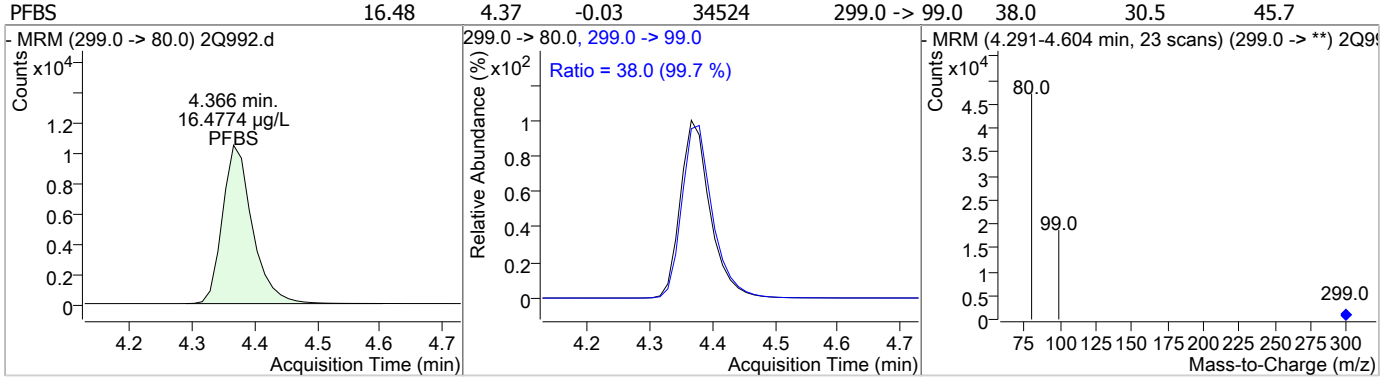
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	15.73	2.95	-0.02	28378				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	17.84	4.25	-0.03	85718				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	16.48	4.37	-0.03	34524	299.0 -> 99.0	38.0	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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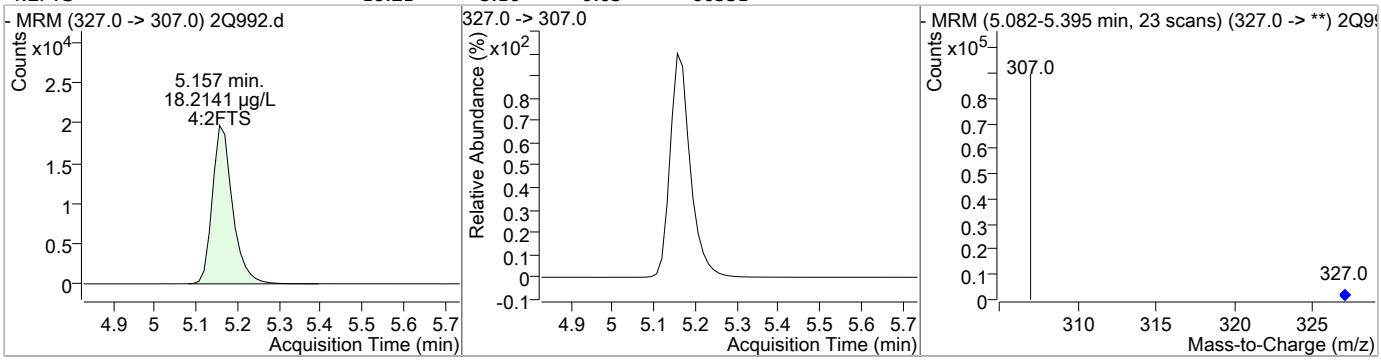
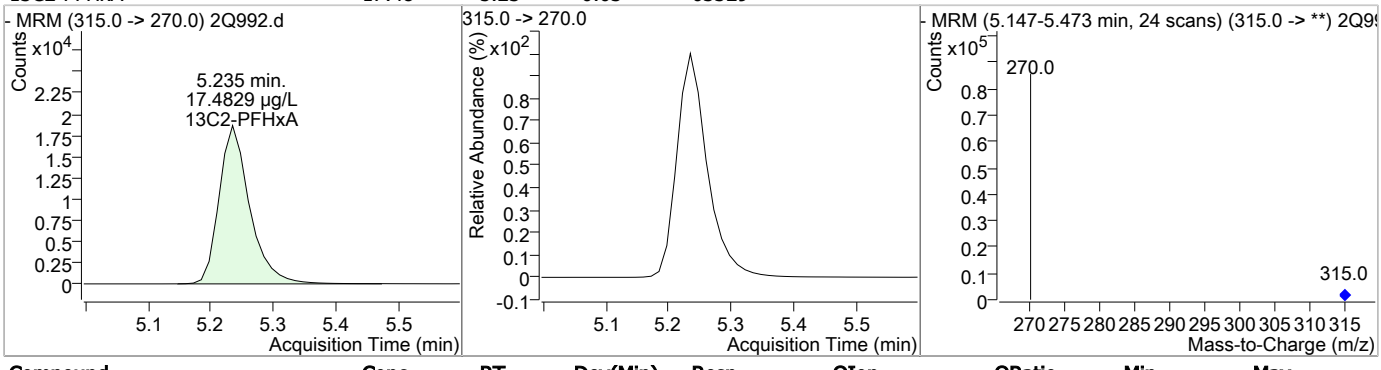
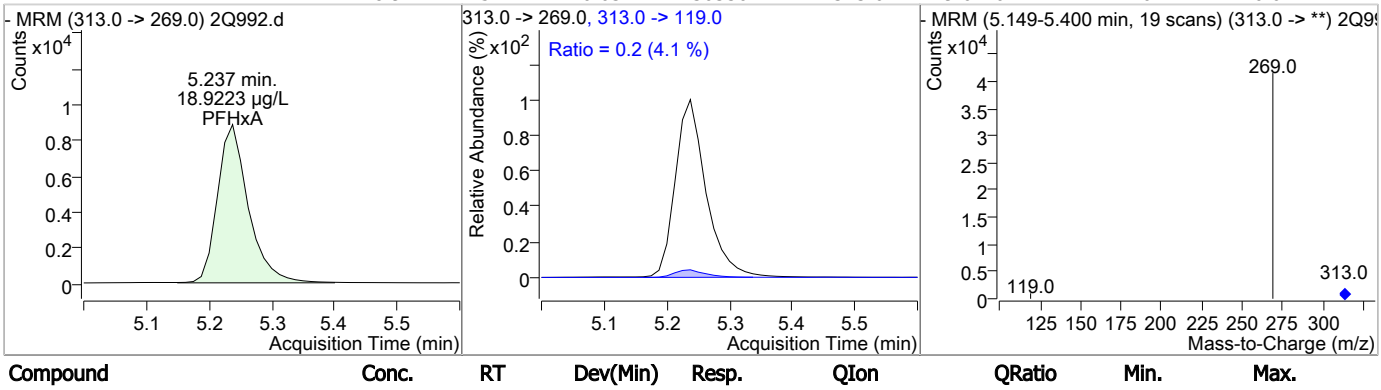
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.21	5.16	-0.03	66551				



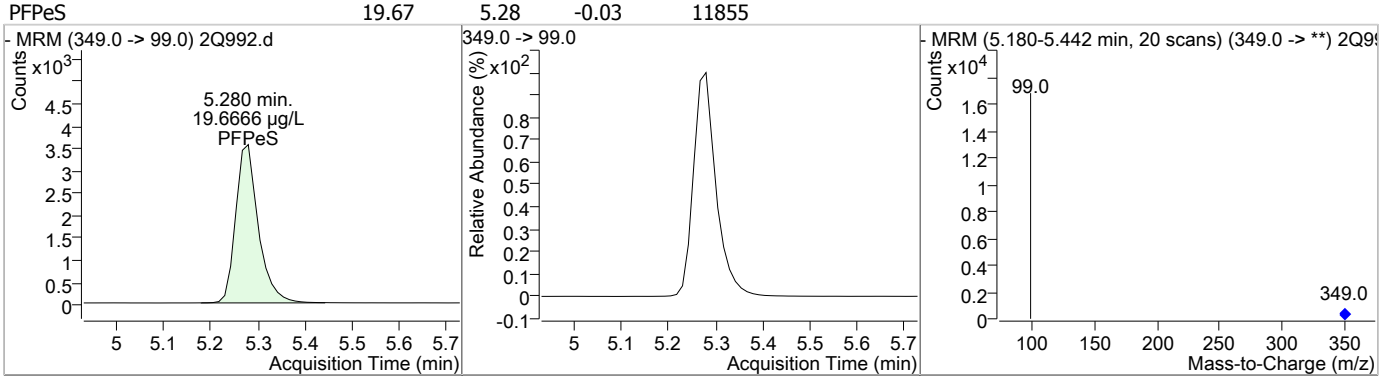
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.48	5.23	-0.03	63329				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	18.92	5.24	-0.03	30330	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	19.67	5.28	-0.03	11855				



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Perfluorinated Compounds by LC/MS/MS

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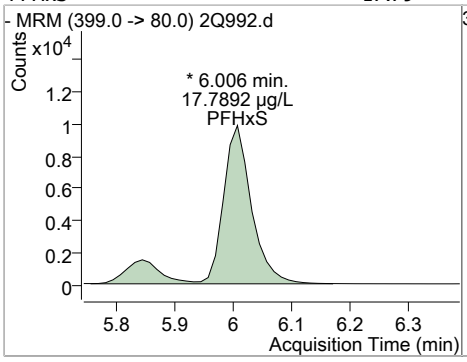
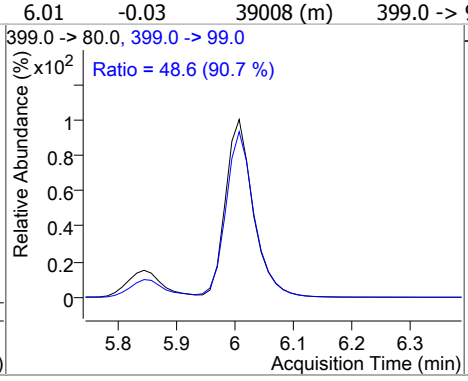
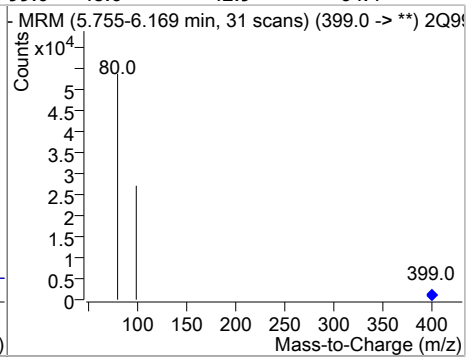
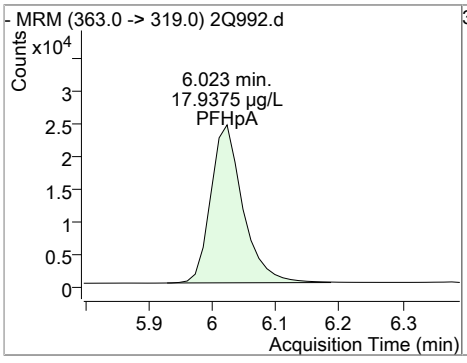
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	17.79	6.01	-0.03	39008 (m)	399.0 -> 99.0	48.6	42.9	64.4

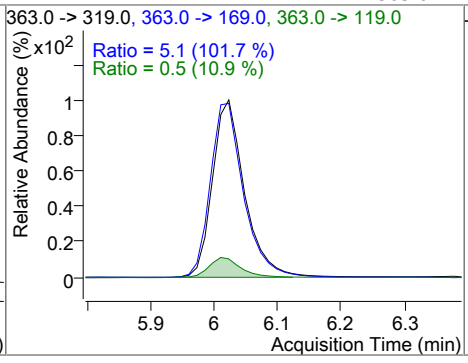


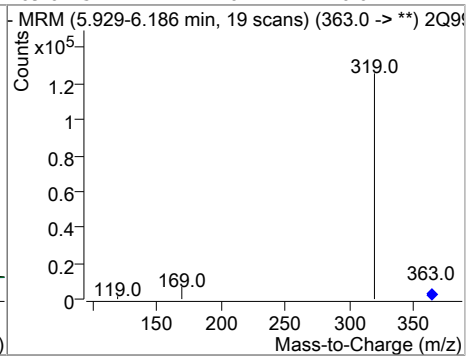




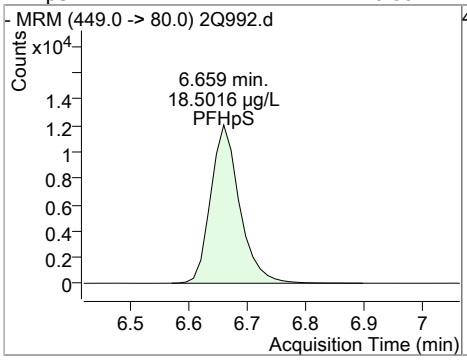
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	17.94	6.02	-0.03	85261	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	5.1	4.0	6.0

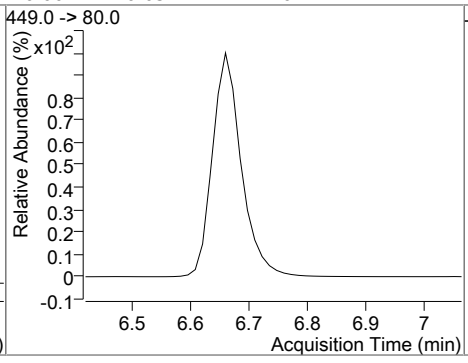


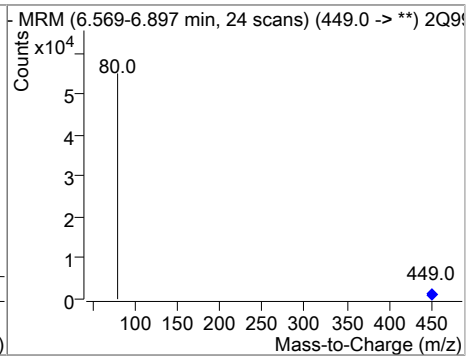




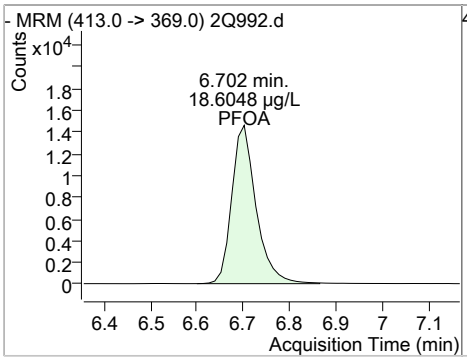
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.50	6.66	-0.03	41146				

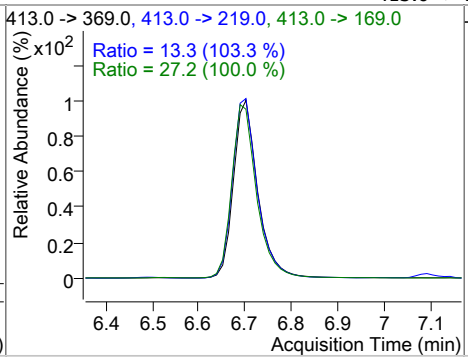


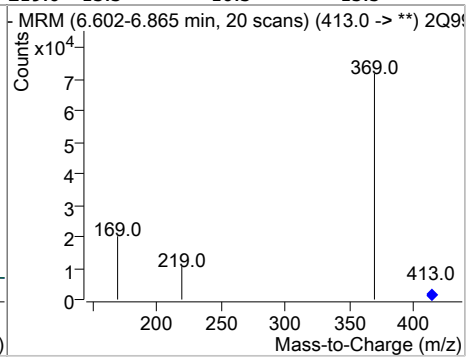




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.60	6.70	-0.03	53030	413.0 -> 169.0	27.2	21.8	32.6
					413.0 -> 219.0	13.3	10.3	15.5







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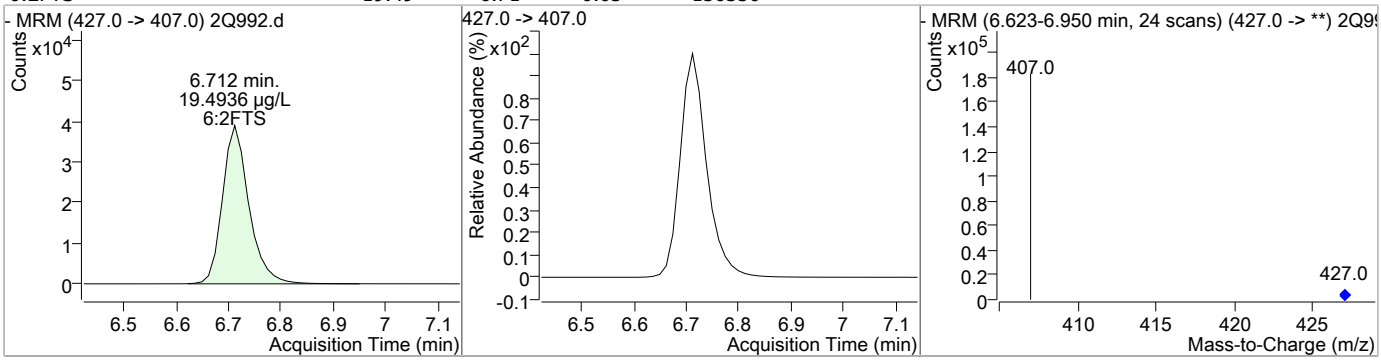
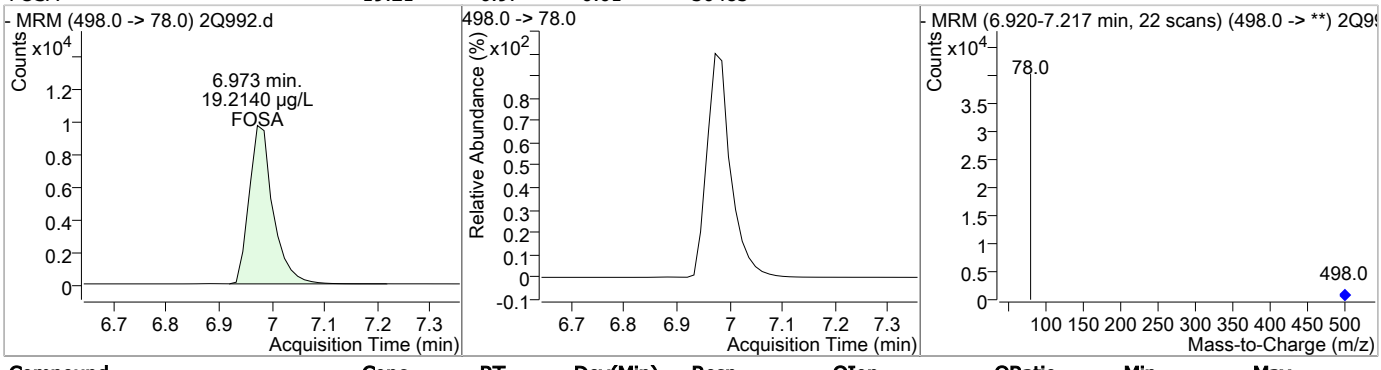
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

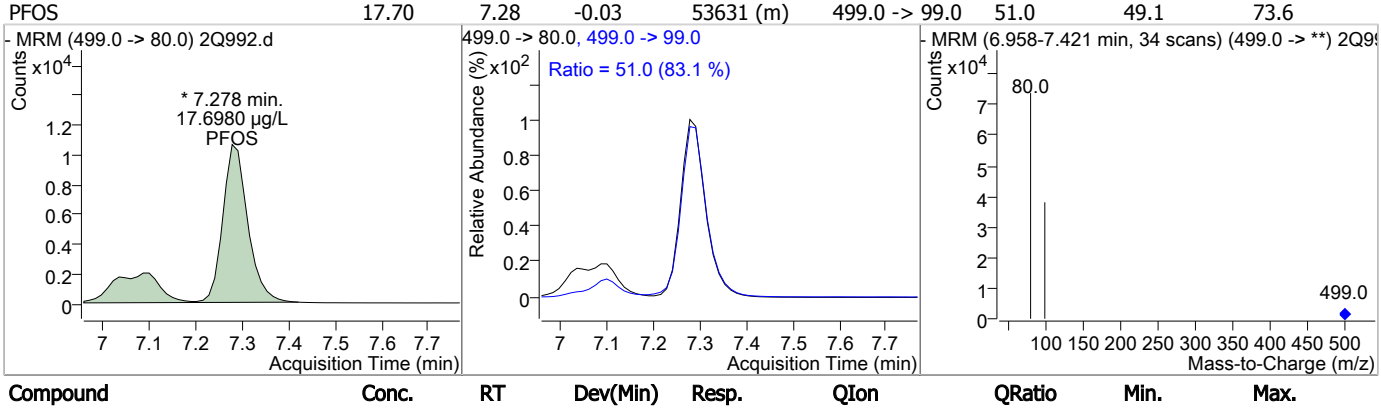
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.49	6.71	-0.03	136350				



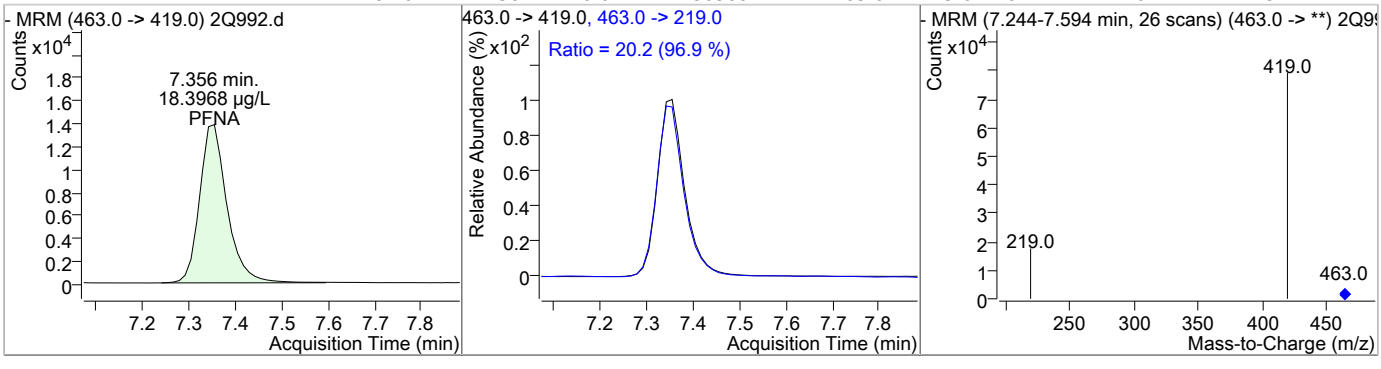
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.21	6.97	-0.01	30483				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.70	7.28	-0.03	53631 (m)	499.0 -> 99.0	51.0	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.40	7.36	-0.02	56368	463.0 -> 219.0	20.2	16.7	25.1



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Perfluorinated Compounds by LC/MS/MS

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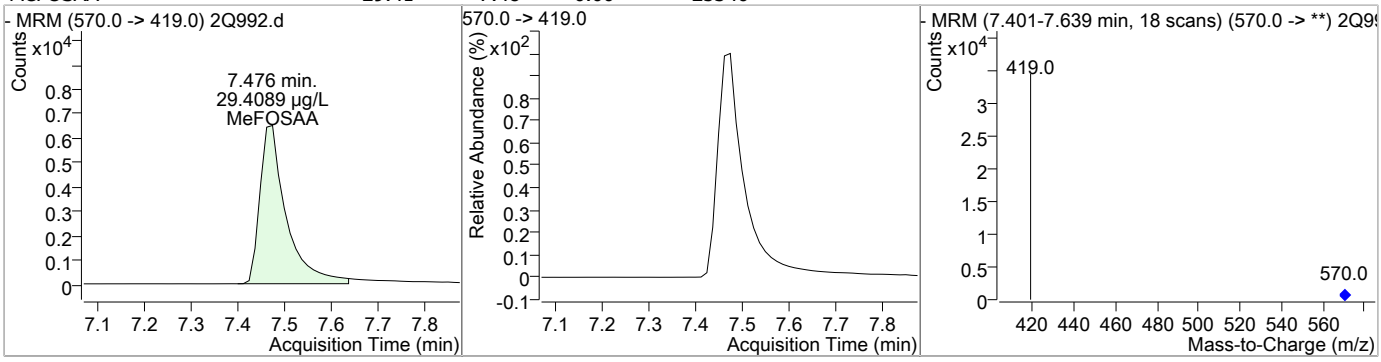
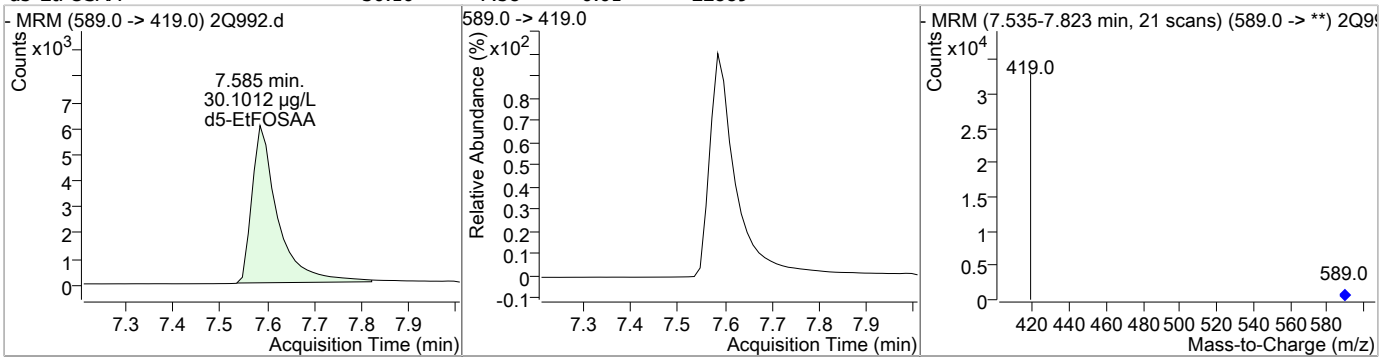
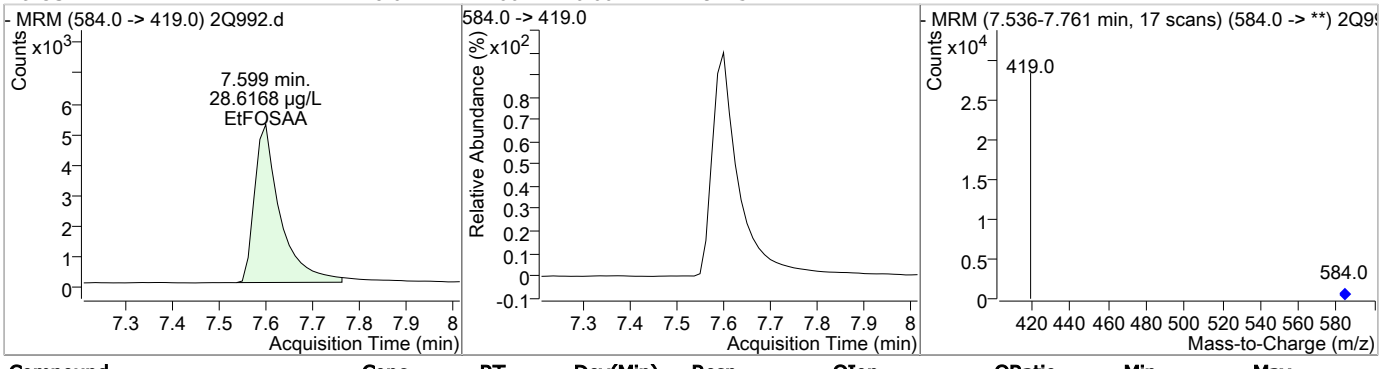
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	29.41	7.48	0.00	25346				



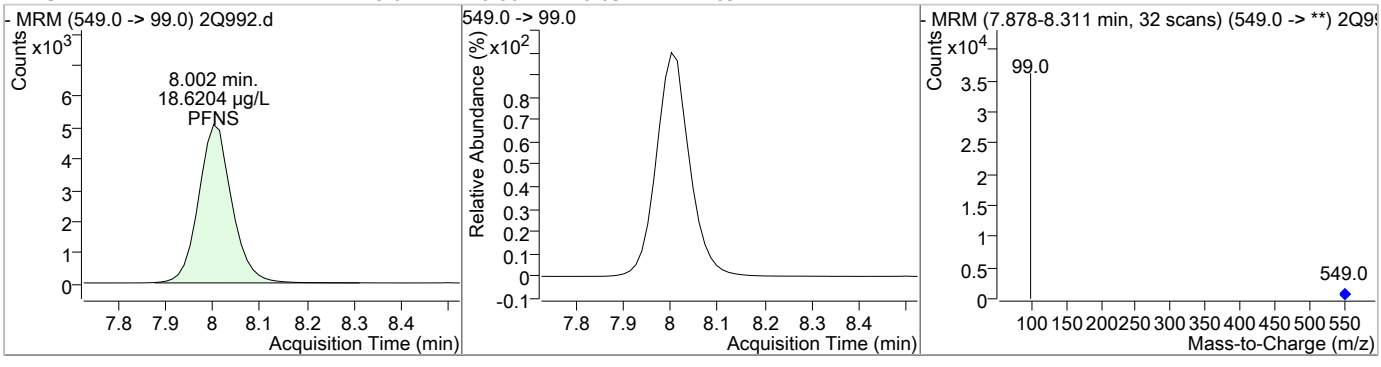
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	30.10	7.58	-0.01	22889				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	28.62	7.60	0.00	19745				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.62	8.00	-0.03	24692				



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Perfluorinated Compounds by LC/MS/MS

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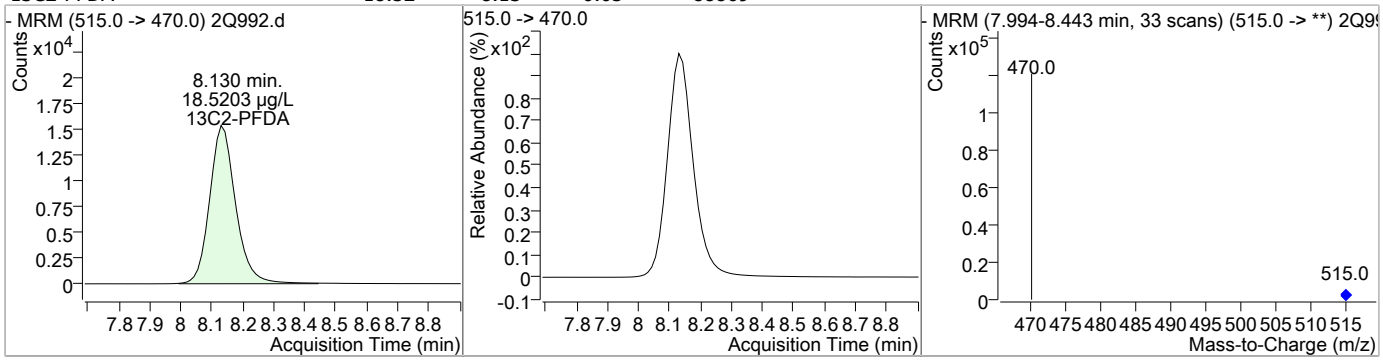
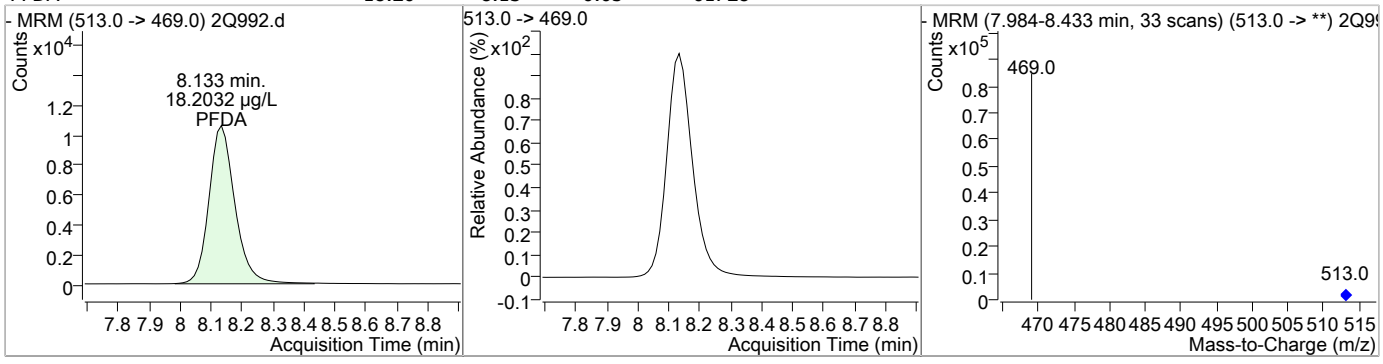
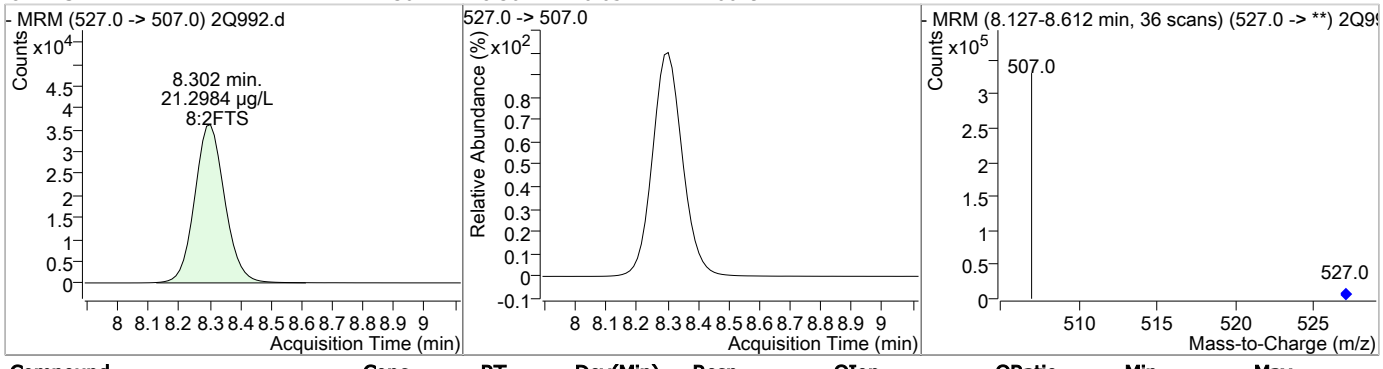
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	18.52	8.13	-0.05	88869				



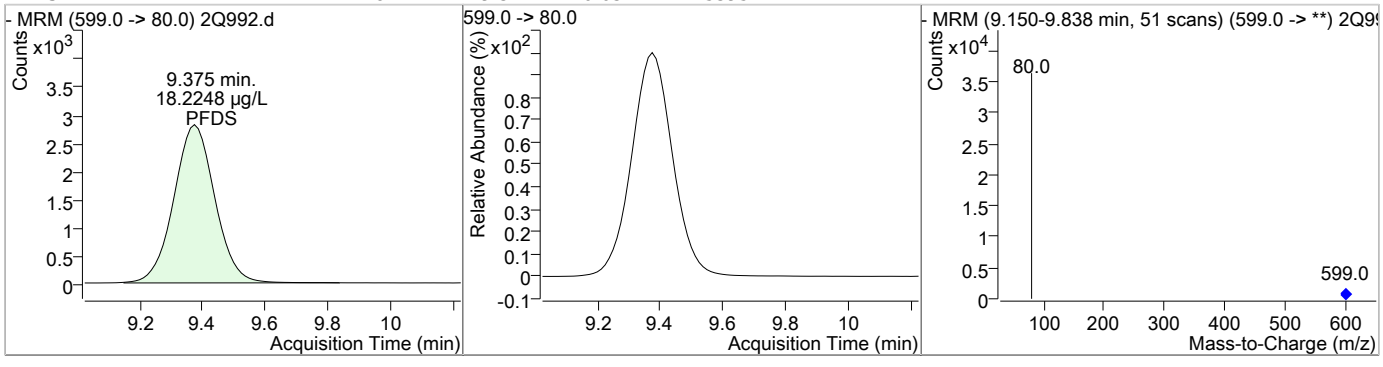
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	18.20	8.13	-0.05	61728				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	21.30	8.30	-0.05	246649				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.22	9.37	-0.03	25395				



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Perfluorinated Compounds by LC/MS/MS

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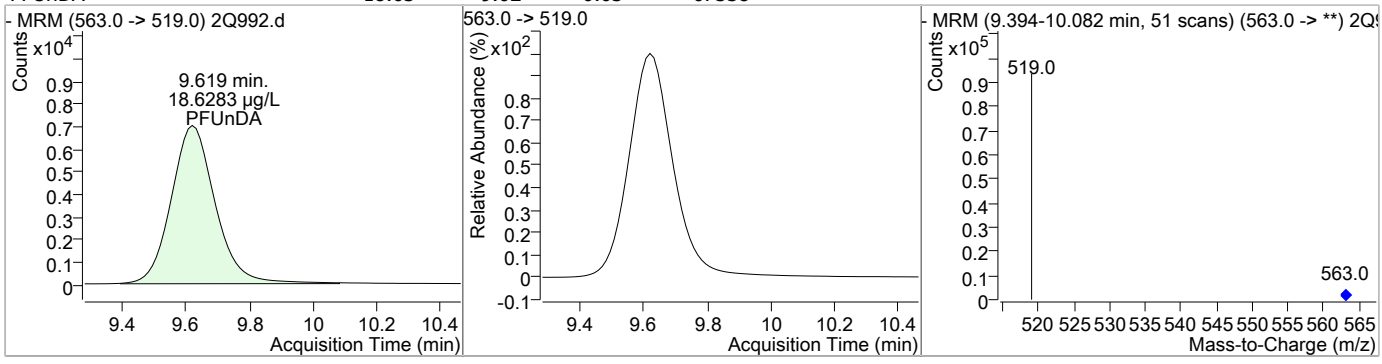
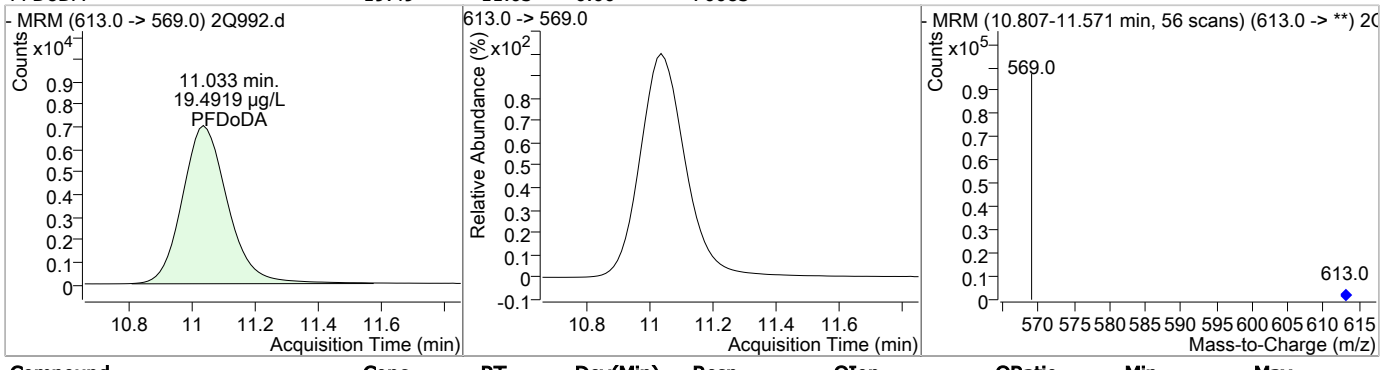
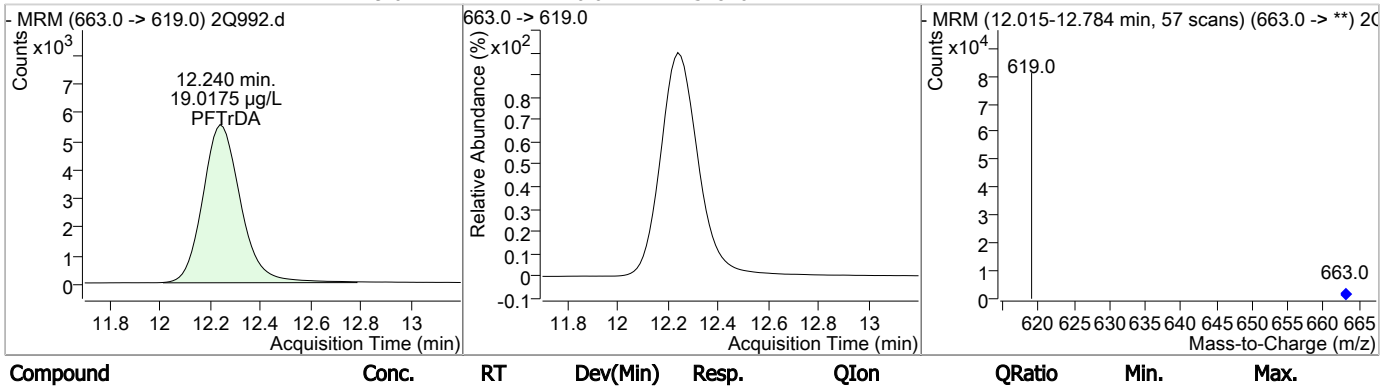
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.63	9.62	-0.03	67338				



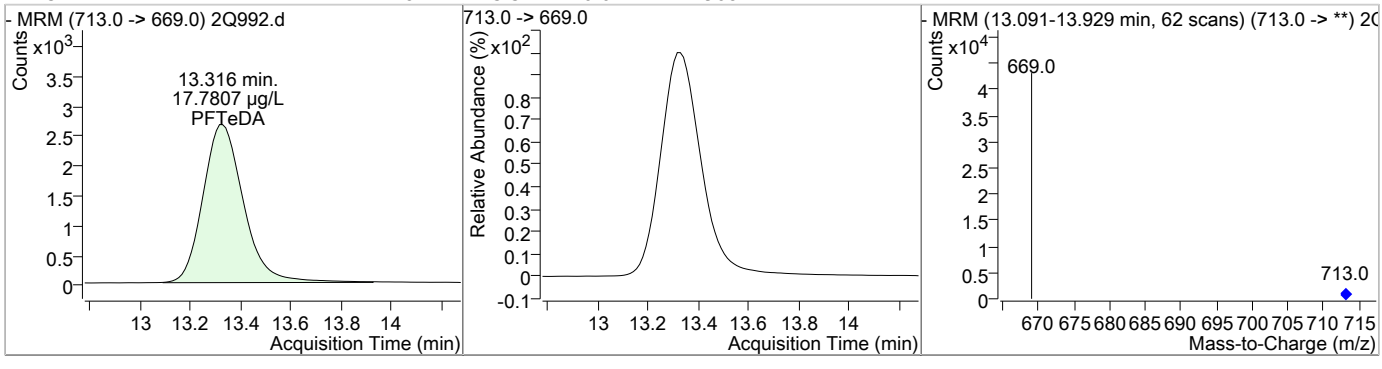
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.49	11.03	0.00	70083				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.02	12.24	0.01	57810				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	17.78	13.32	-0.01	29681				



Manual Integration Approval Summary

Sample Number:	S2Q28-CC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q992.D	**Analyst approved:**	05/04/17 09:41	Nancy Saunders
Injection Time:	05/03/17 15:52	**Supervisor approved:**	05/04/17 11:46	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.28	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
05/04/17 11:46

Perfluorinated Compounds by LC/MS/MS

Data File	:	2Q1004.d
Operator	:	NANCYF
Acq. Method	:	dMRM_PFOA_PFOS_LIST.m
Acq. Date-Time	:	5/3/2017 7:49:38 PM
Sample Name	:	ECC18-20
Vial	:	Vial 2
DA Method File	:	PFCLISTDW_0420_S2Q18.m
Batch Name	:	S2Q28.batch.bin
Last Calib Update	:	5/1/2017 4:47:24 PM

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
13C2-6:2FTS	6.710	429.0 -> 409.0	163134	20.00	µg/L		-0.025
13C2-PFDoDA	10.964	615.0 -> 570.0	93260	20.00	µg/L		-0.063
13C2-PFOA	6.701	415.0 -> 370.0	77328	20.00	µg/L		-0.025
13C3-PFPeA	4.247	266.0 -> 222.0	72607	20.00	µg/L		-0.025
13C4-PFOS	7.276	503.0 -> 80.0	58178	20.00	µg/L		-0.038
d3-MeFOSAA	7.462	573.0 -> 419.0	33671	20.00	µg/L		-0.013
System Monitoring Compounds							
13C2-PFDA	8.130	515.0 -> 470.0	101403	18.74	µg/L		-0.050
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 93.7%			
13C2-PFHxA	5.235	315.0 -> 270.0	73312	17.95	µg/L		-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 89.7%			
d5-EtFOSAA	7.585	589.0 -> 419.0	29813	33.80	µg/L		-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 169.0%			
Target Compounds							**QValue**
4:2FTS	5.157	327.0 -> 307.0	76398	18.54	µg/L		100
6:2FTS	6.712	427.0 -> 407.0	153832	19.50	µg/L		100
8:2FTS	8.289	527.0 -> 507.0	278077	21.29	µg/L		100
EtFOSAA	7.599	584.0 -> 419.0	22774	28.90	µg/L		100
FOSA	6.985	498.0 -> 78.0	33453	18.48	µg/L		100
MeFOSAA	7.476	570.0 -> 419.0	27970	28.55	µg/L		100
PFBA	2.952	213.0 -> 169.0	31944	15.70	µg/L		100
PFBS	4.366	299.0 -> 80.0	39169	16.87	µg/L		100
PFDA	8.120	513.0 -> 469.0	68702	17.97	µg/L		100
PFDoDA	10.970	613.0 -> 569.0	79564	19.55	µg/L		100
PFDS	9.325	599.0 -> 80.0	28723	18.59	µg/L		100
PFHpA	6.023	363.0 -> 319.0	97623	18.21	µg/L	#	93
PFHpS	6.659	449.0 -> 80.0	46372	18.82	µg/L		100
PFHxA	5.237	313.0 -> 269.0	34546	19.11	µg/L	#	86
PFHxS	6.006	399.0 -> 80.0	43804	18.03	µg/L	m	94
PFNA	7.344	463.0 -> 419.0	62197	18.00	µg/L		99
PFNS	8.002	549.0 -> 99.0	27420	18.66	µg/L		100
PFOA	6.702	413.0 -> 369.0	58754	18.28	µg/L		99
PFOS	7.278	499.0 -> 80.0	60549	18.03	µg/L	m	85
PFPeA	4.250	263.0 -> 219.0	97615	17.72	µg/L		100
PFPeS	5.280	349.0 -> 99.0	12970	18.77	µg/L		100
PFTeDA	13.266	713.0 -> 669.0	32644	17.30	µg/L		100
PFTrDA	12.178	663.0 -> 619.0	64210	18.68	µg/L		100
PFUnDA	9.569	563.0 -> 519.0	76029	18.58	µg/L		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

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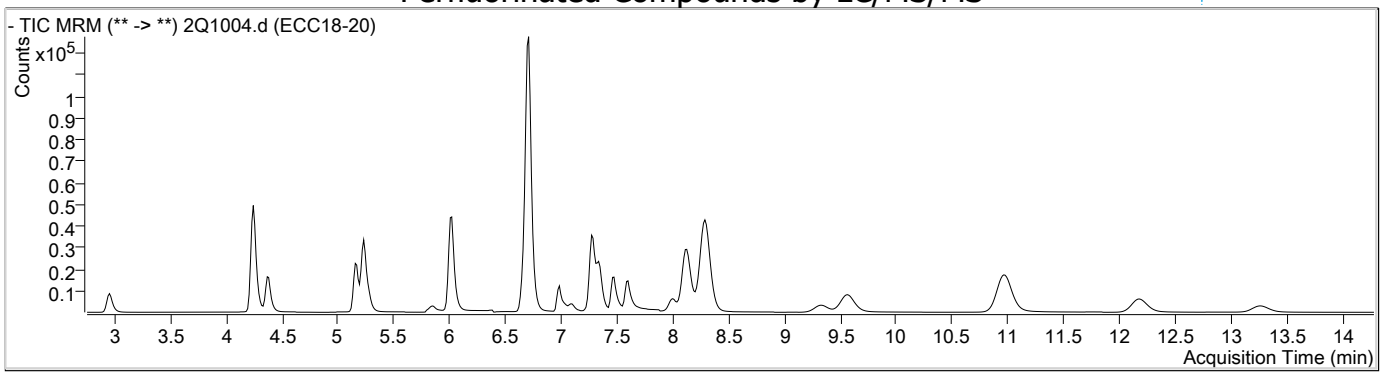
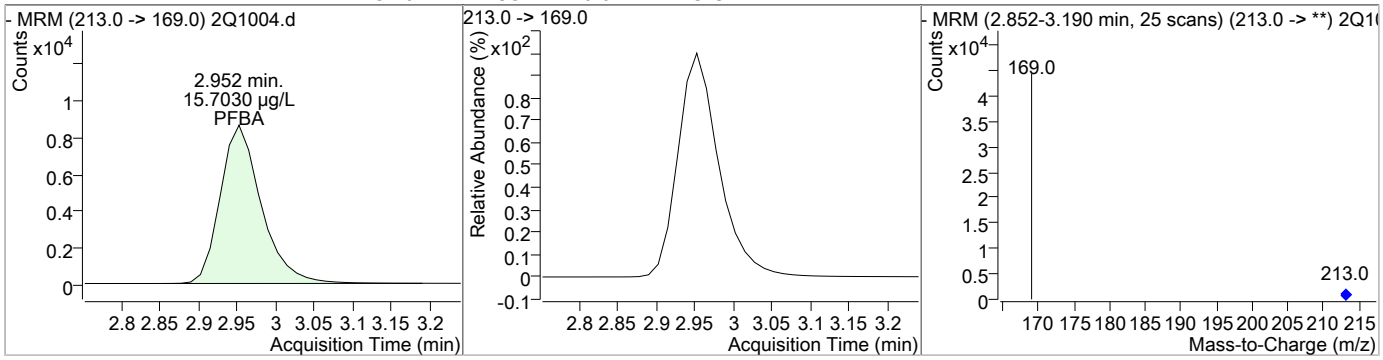
Perfluorinated Compounds by LC/MS/MS

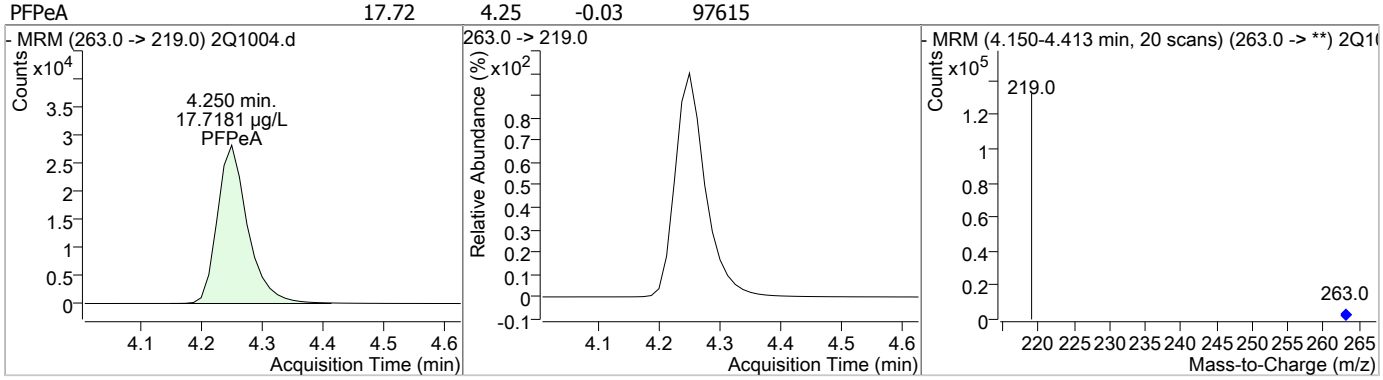
Agilent Technologies



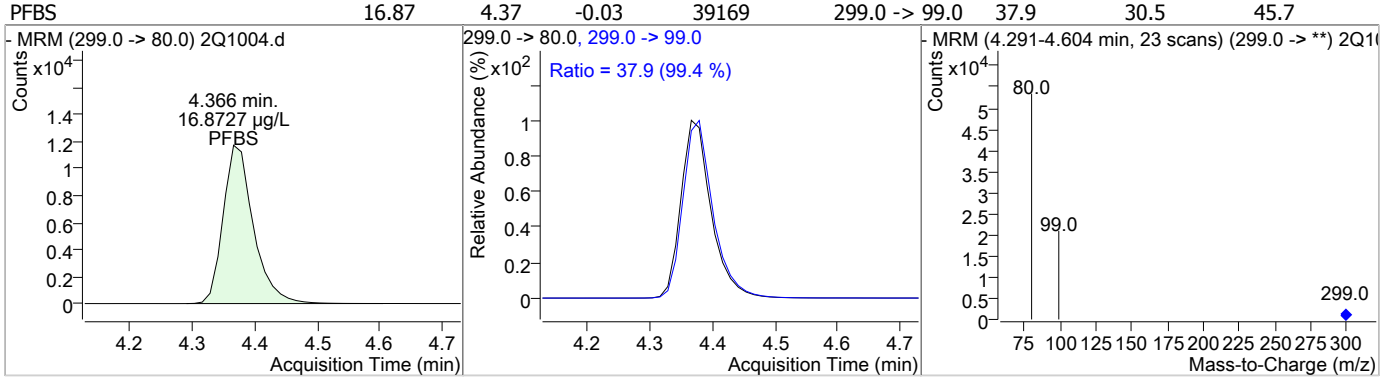
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	15.70	2.95	-0.02	31944				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	17.72	4.25	-0.03	97615				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	16.87	4.37	-0.03	39169	299.0 -> 99.0	37.9	30.5	45.7



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Perfluorinated Compounds by LC/MS/MS

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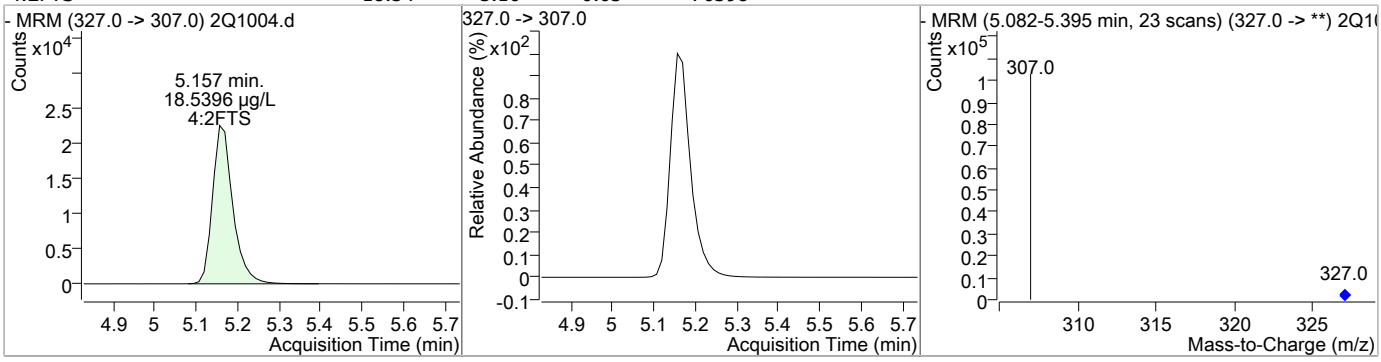
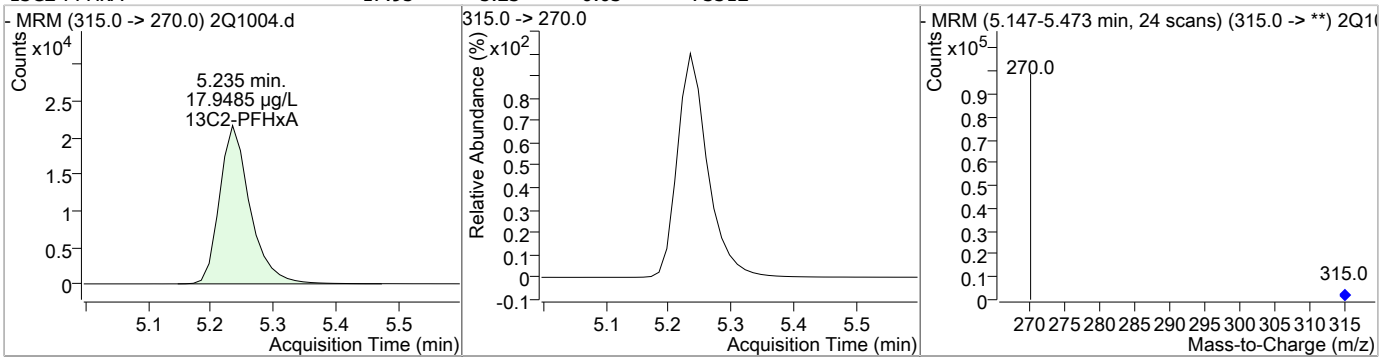
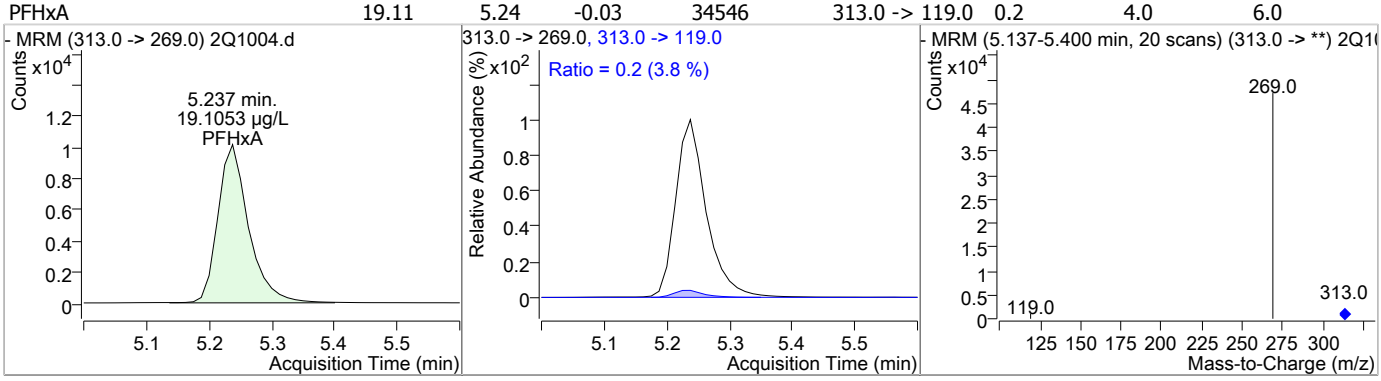
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.54	5.16	-0.03	76398				



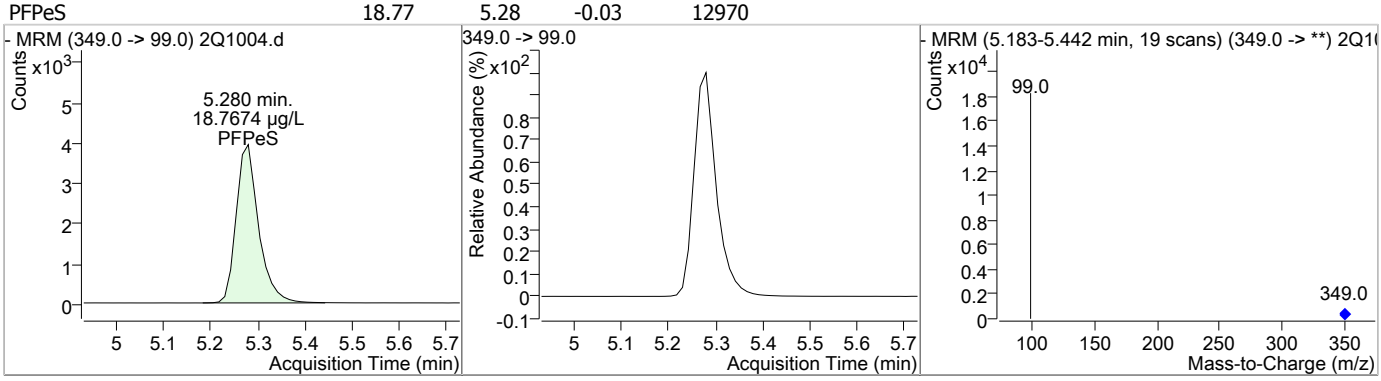
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	17.95	5.23	-0.03	73312				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.11	5.24	-0.03	34546	313.0 -> 119.0	0.2	4.0	6.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	18.77	5.28	-0.03	12970				



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Perfluorinated Compounds by LC/MS/MS

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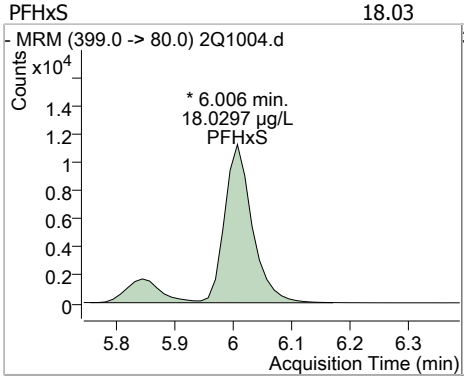
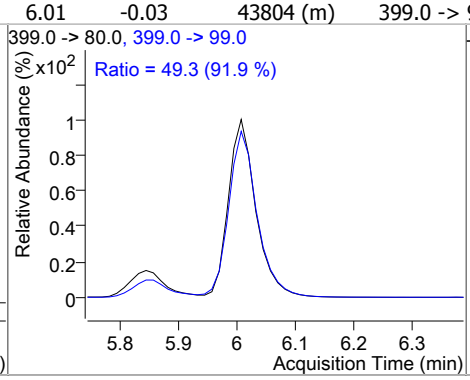
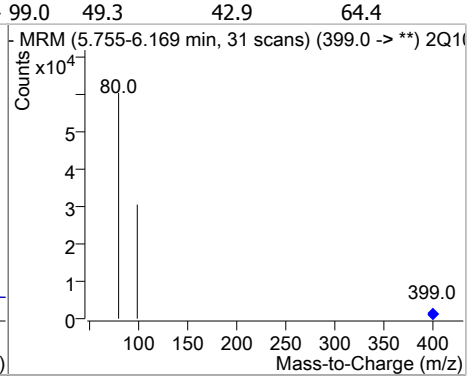
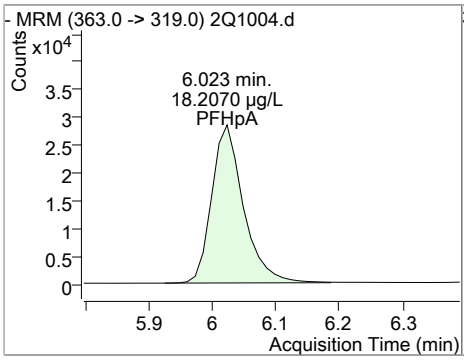
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	18.03	6.01	-0.03	43804 (m)	399.0 -> 99.0	49.3	42.9	64.4

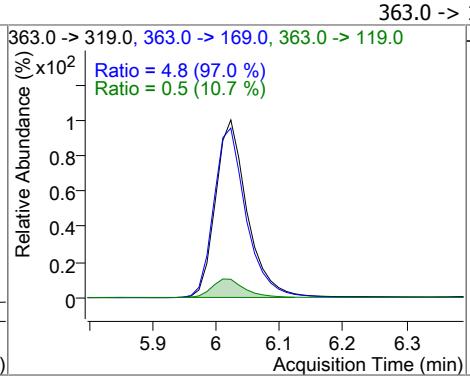


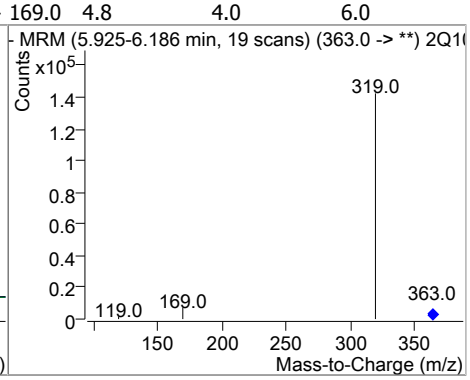




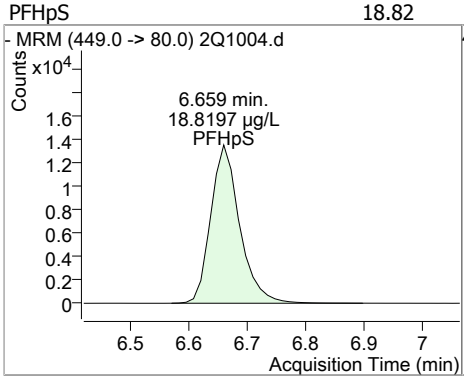
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.21	6.02	-0.03	97623	363.0 -> 119.0	0.5	4.0	6.0
					363.0 -> 169.0	4.8	4.0	6.0

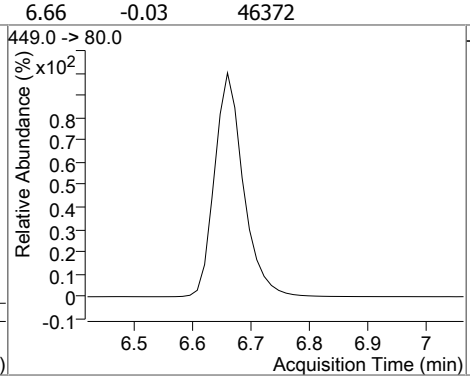


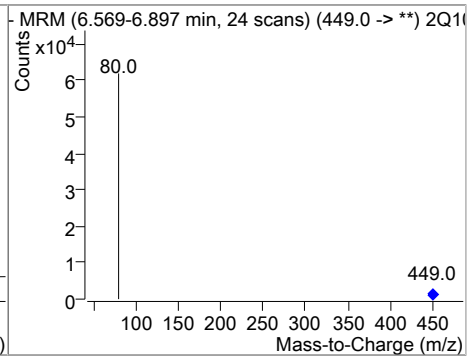




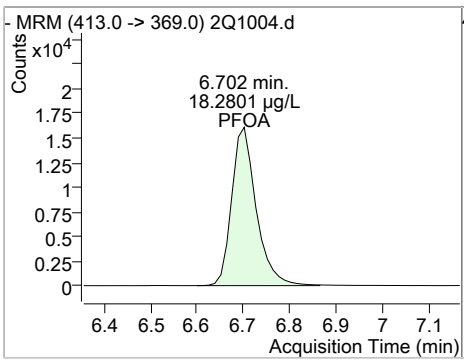
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	18.82	6.66	-0.03	46372				

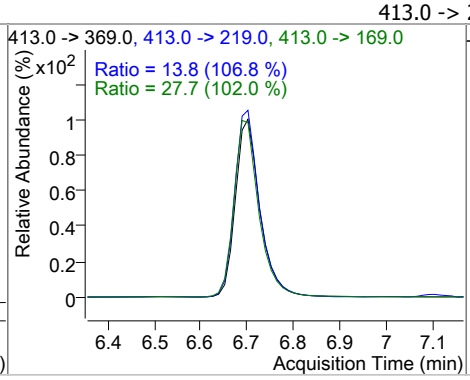


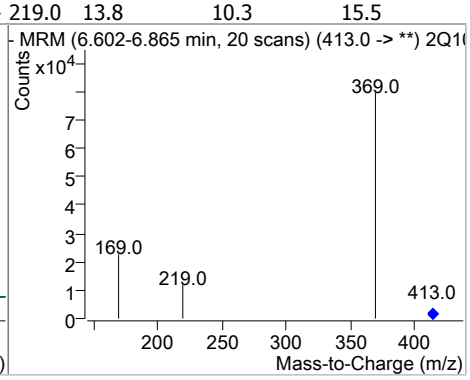




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.28	6.70	-0.03	58754	413.0 -> 169.0	27.7	21.8	32.6
					413.0 -> 219.0	13.8	10.3	15.5







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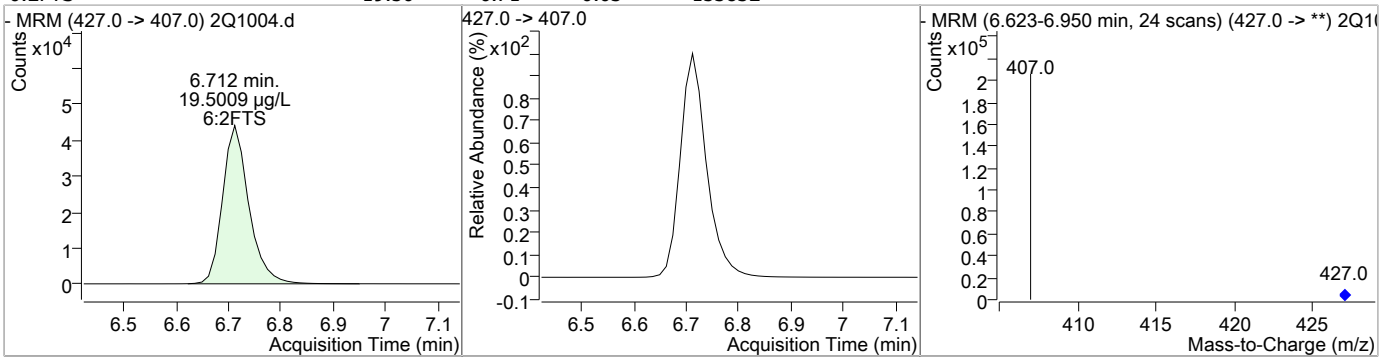
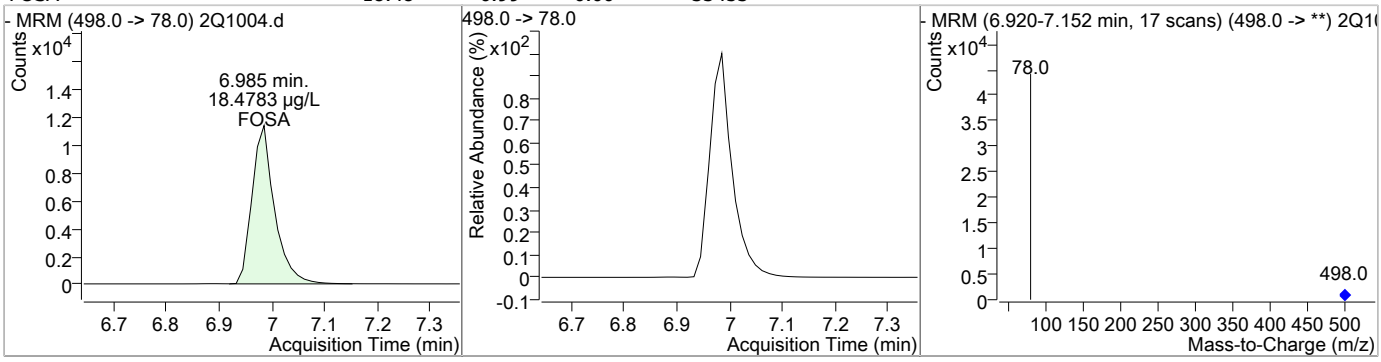
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

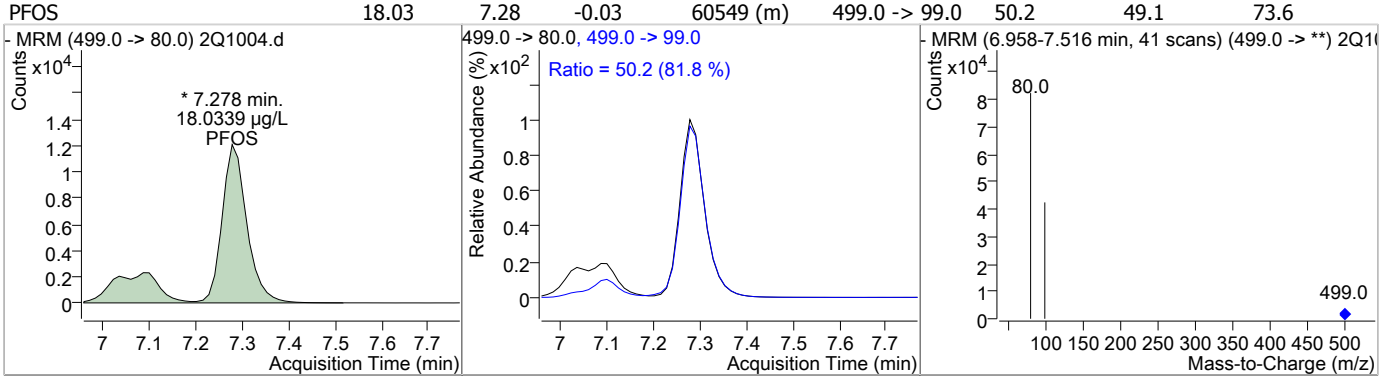
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	19.50	6.71	-0.03	153832				



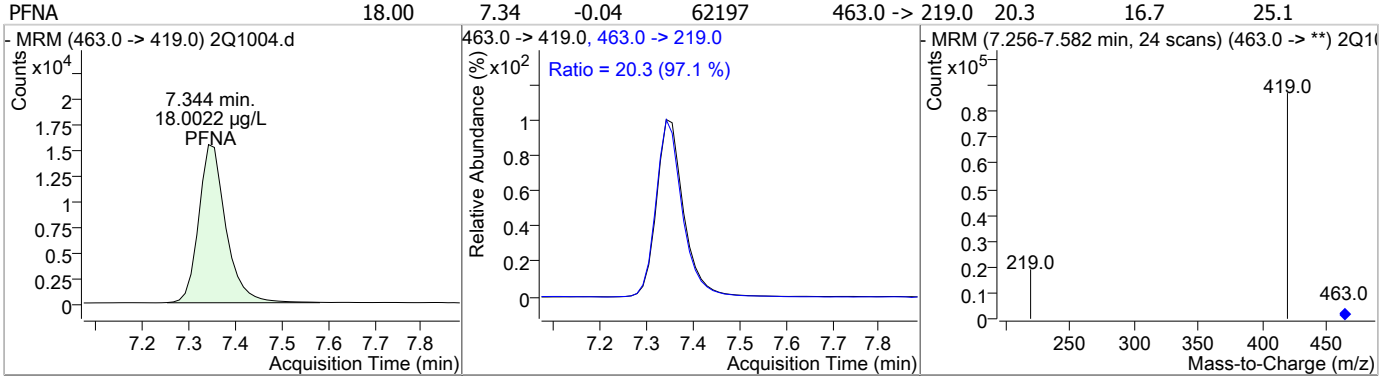
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	18.48	6.99	0.00	33453				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	18.03	7.28	-0.03	60549 (m)	499.0 -> 99.0	50.2	49.1	73.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.00	7.34	-0.04	62197	463.0 -> 219.0	20.3	16.7	25.1

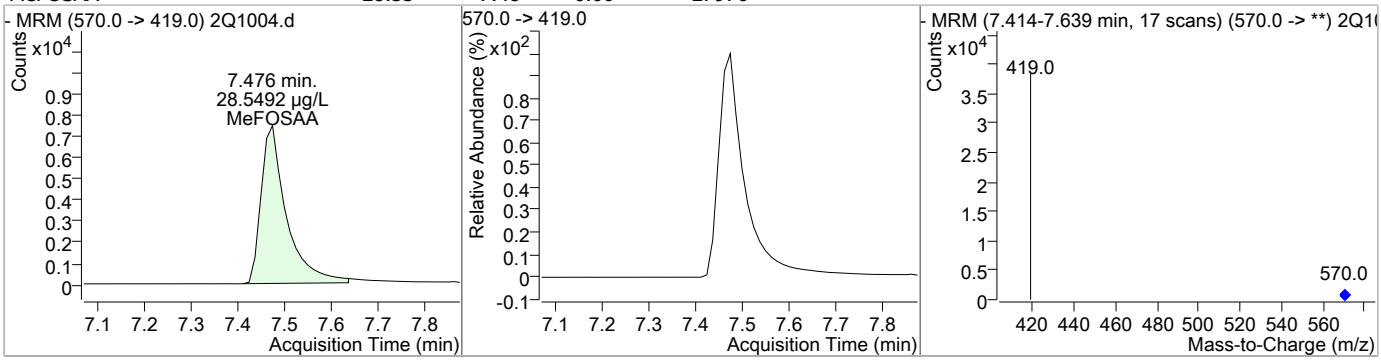


SGS ACCUTEST FA43289

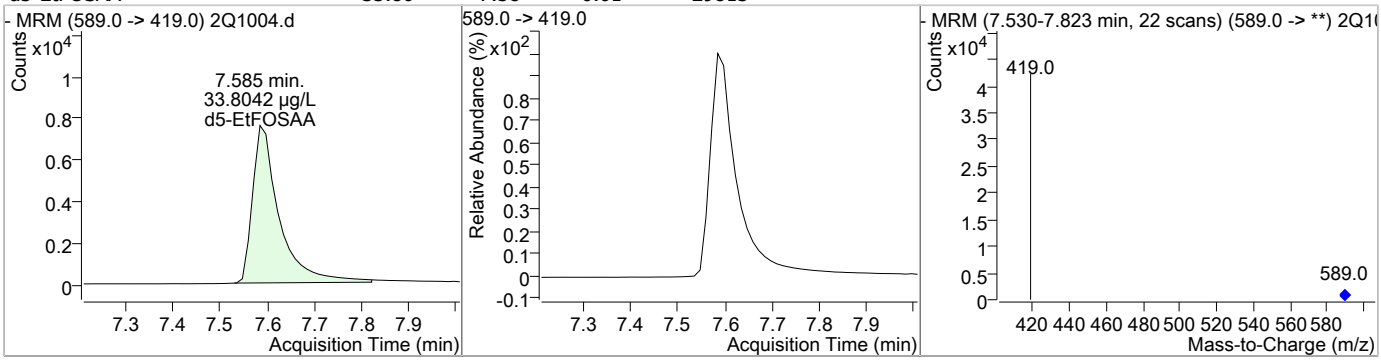
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

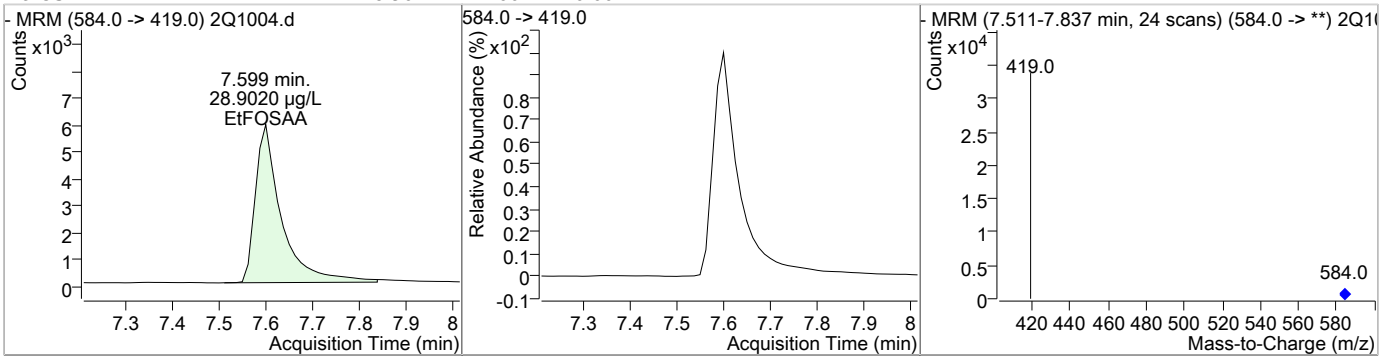
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	28.55	7.48	0.00	27970				



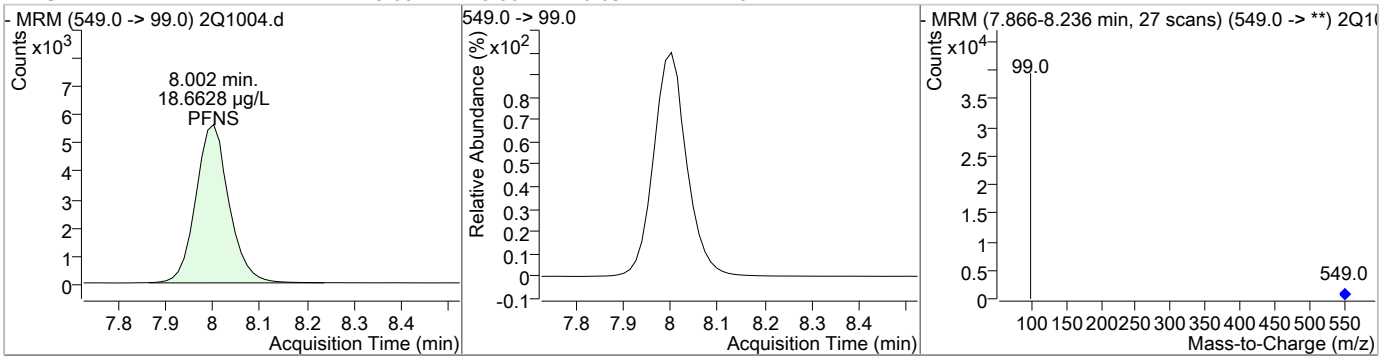
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	33.80	7.58	-0.01	29813				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	28.90	7.60	0.00	22774				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.66	8.00	-0.03	27420				

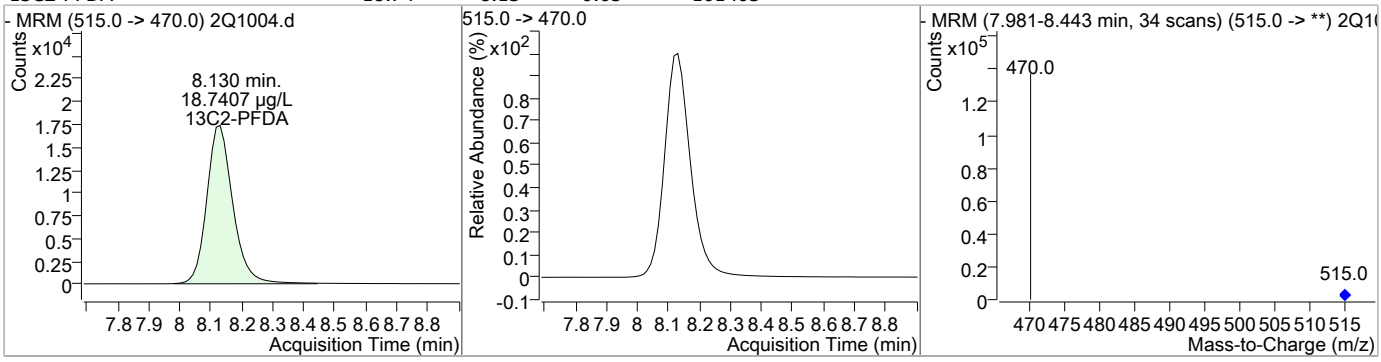


SGS ACCUTEST FA43289

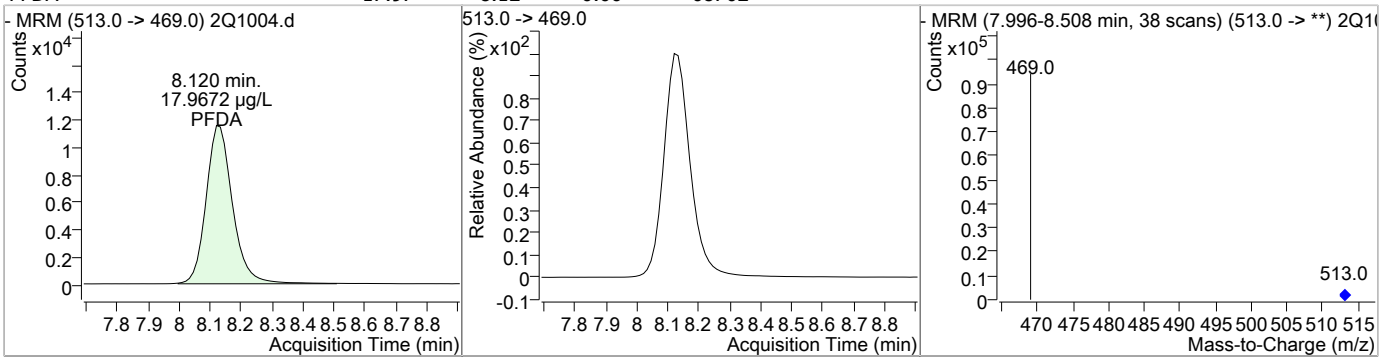
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

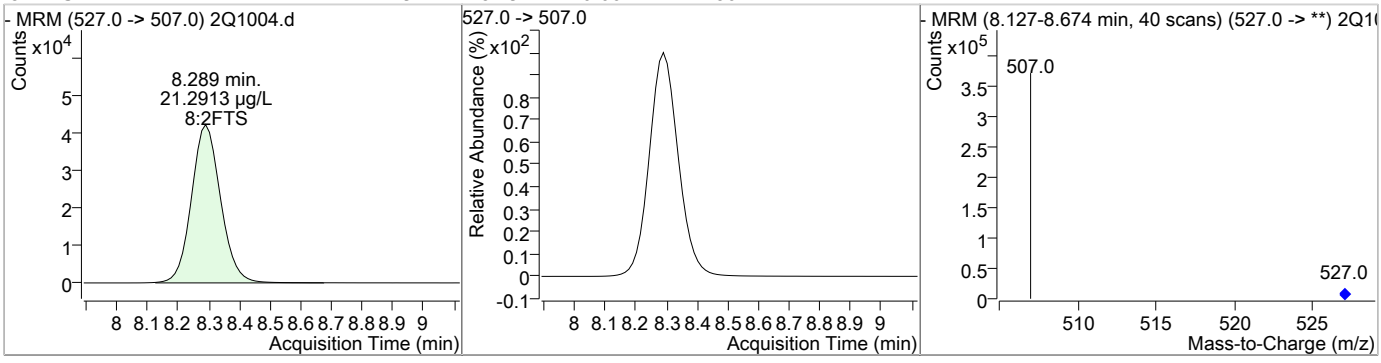
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	18.74	8.13	-0.05	101403				



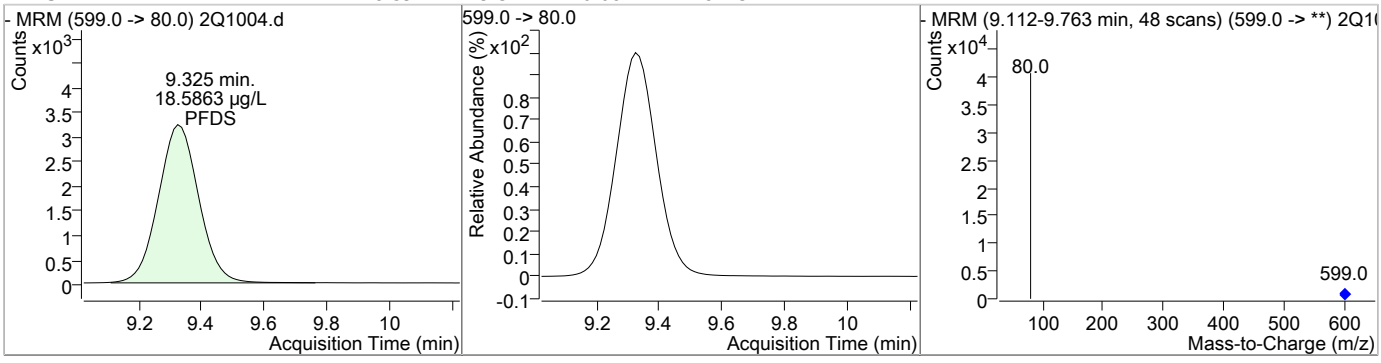
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	17.97	8.12	-0.06	68702				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	21.29	8.29	-0.06	278077				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.59	9.32	-0.08	28723				



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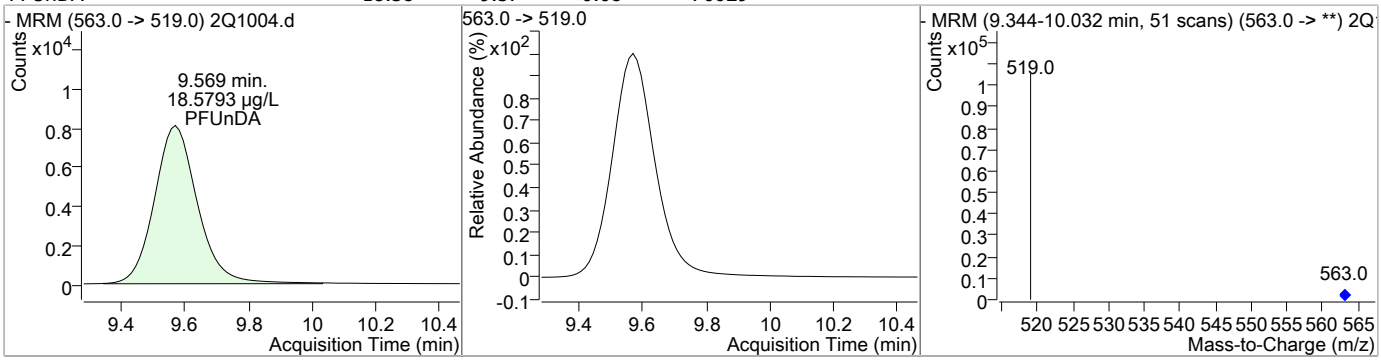
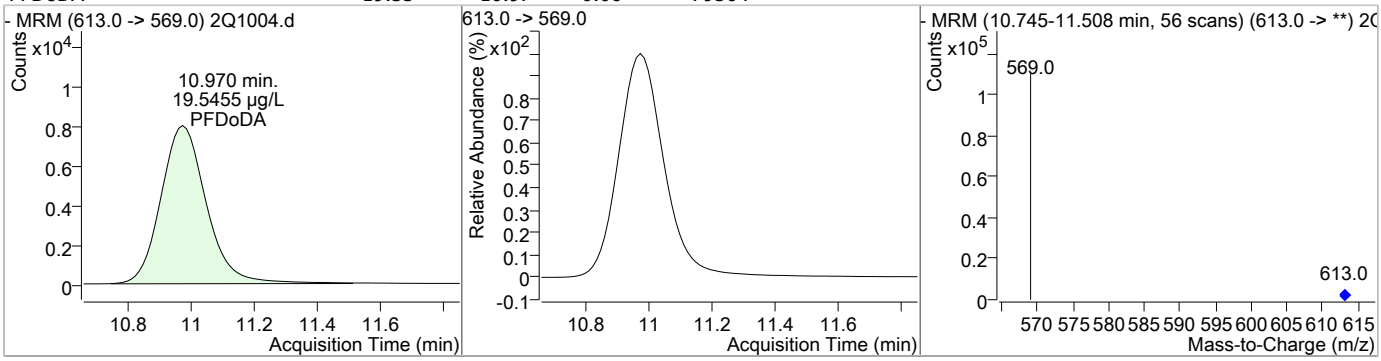
Perfluorinated Compounds by LC/MS/MS

Agilent Technologies

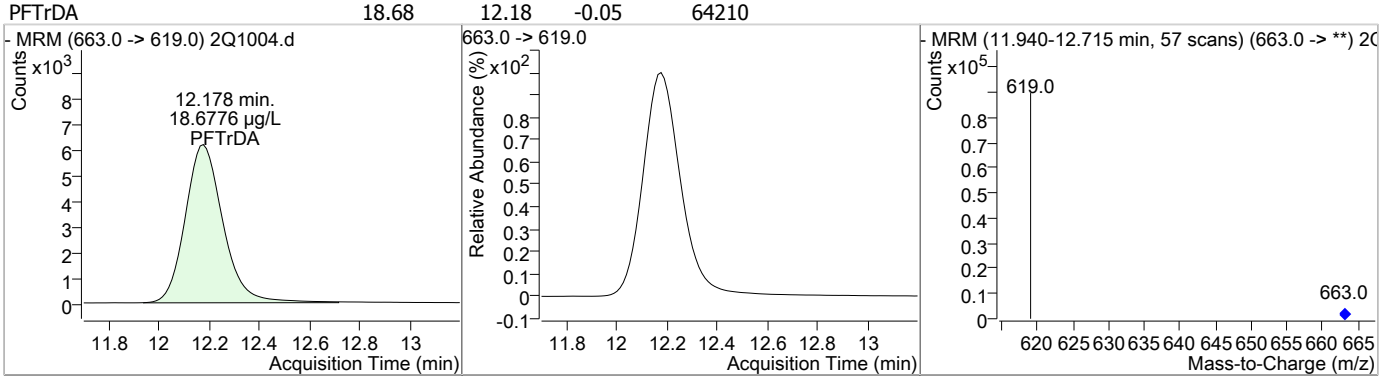
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	18.58	9.57	-0.08	76029				



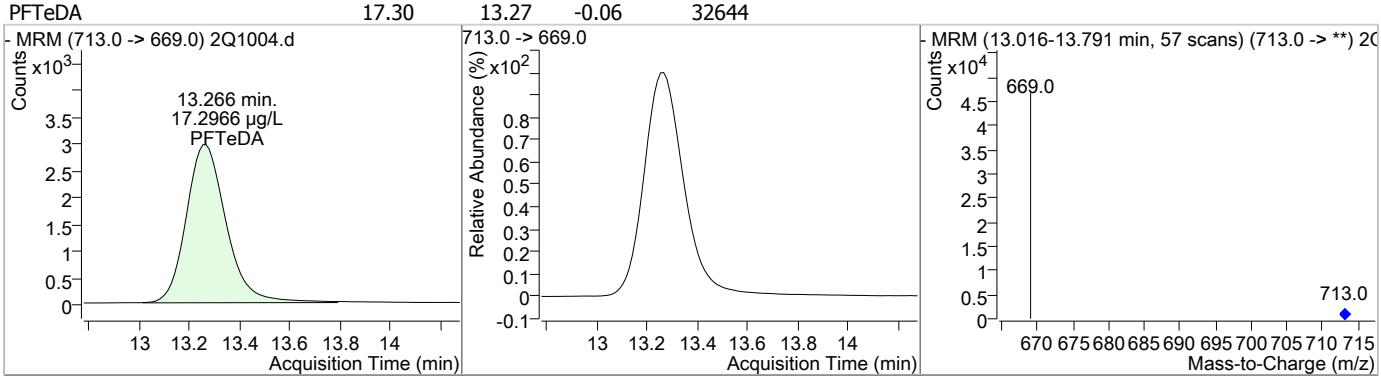
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.55	10.97	-0.06	79564				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	18.68	12.18	-0.05	64210				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	17.30	13.27	-0.06	32644				



SGS ACCUTEST FA43289

Manual Integration Approval Summary

Sample Number:	S2Q28-ECC18	**Method:**	EPA 537 MOD	
Lab FileID:	2Q1004.D	**Analyst approved:**	05/04/17 09:41	Nancy Saunders
Injection Time:	05/03/17 19:49	**Supervisor approved:**	05/04/17 11:46	Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.28	Split peak

SGS ACCUTEST-ORLANDO

DATE:	04-20-17
COLUMN TYPE:	Penguin EC18
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	350

LCMS2-2Q ANALYSIS LOG

METHODS:	537 mod
ACQ. METHOD:	dmam ACQA PFOS List
PROC. METHOD:	PFCList+DW 04202017B
CALIB. DATE:	04-20-17
RUN BATCH: S2Q	18

ANALYST:	MAS [illegible]
ELUENT A LOT #:	167421
ELUENT B LOT #:	166751
WATER LOT #:	167421
ISTD Lot #:	LC836

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 044	1	CCB	PFC	—	—				✓
2Q 45	1	CCB		—	—				✓
2Q 46	1	CCB		—	—				✓
2Q 47	2	CC16-20		LC838	100/100				SS ↓ Am curve
2Q 48	1	CCB		—	—				✓
2Q 49	1	CCB		—	—				✓
2Q 50	2	EC18-1		LC838	5/100				X fix AT AR
2Q 51	2	-1			1		SP		✓
2Q 52	3	-2			10/100		SP		✓
2Q 53	4	-5			25/100		SP		✓
2Q 54	5	-10			50/100		SP		✓
2Q 55	6	EC18-20			100/100		SP		✓
2Q 56	7	EC18-40			200/100		SP		✓
2Q 57	8	-50			250/100		SP		✓
2Q 58	1	CCB		—	—				✓
2Q 59	9	EC18-20		LC817/819 840613	5/100 5/100				Ass
2Q 60	10	OP64645-BS		OP64645	1X				✓
2Q 61	11	F442757-3			10X		SP		✓ Report Et, Me from 1X
2Q 62	12	-25			10X		SP ±		✓ ↓
2Q 63	13	-4	↓	↓	1X		SP		✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS2_2Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST FA43289

SGS ACCUTEST-ORLANDO

LCMS2-2Q ANALYSIS LOG

DATE:	04-20-17	METHODS:	537 MOD	ANALYST:	NAS
COLUMN TYPE:	Perkin Elmer	ACQ. METHOD:	AMEM PFOA PFOS LIST	ELUENT A LOT #:	167421 W Acetate
AMOUNT INJECTED:	5 ul	PROC. METHOD:	PFC LIST DW 3120 SAQ18	ELUENT B LOT #:	166751
INSTRUMENT:	LCMS2-2Q	CALIB. DATE:	04-20-17	WATER LOT #:	167421
HEAD PRESSURE:	330	RUN BATCH:	S2Q 18	ISTD Lot #:	LCB36

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 64	14	OP 64707-BS	PFC	OP64707	1x				✓
2Q 65	15	-MB							✓ ME, ETAR
2Q 66	15	-MB							BDL
2Q 67	16	FA43168-1							BDL
2Q 68	17	-2					SP		✓
2Q 69	18	-3					SP		✓
2Q 70	19	-4					SP		✓
2Q 71	6	CC18-20		LCB38	100/500		SP		Pass
2Q 72	1	CCB		—	—				✓
2Q 73	1	CCB		—	—				✓
2Q 74	20	FA42877-1		OP64707	1x		SP		✓
2Q 75	24	-3					SP		✓ RR 10x, 100x
2Q 76	25	-4					SP		✓ RR 5x
2Q 77	26	-5					SP		✓ RR 5x
2Q 78	27	-6					SP		✓ RR 10x, 50x
2Q 79	28	-8					SP OP I		✓ RR 20x
2Q 80	29	-9					SP		✓ RR 20x, 50x
2Q 81	21	-2					SP		✓ RR 5x
2Q 82	22	OP64707-MS					SP		
2Q 83	23	MSD					SP		

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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LCMS2_2Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	04-20-17
COLUMN TYPE:	Poroshell II EC18
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	330

LCMS2-2Q ANALYSIS LOG

METHODS:	537 mod
ACQ. METHOD:	dmam PFOA PFOS List
PROC. METHOD:	PFC List OW 0420 S2Q18
CALIB. DATE:	04-20-17
RUN BATCH: S2Q	18

ANALYST:	MAS
ELUENT A LOT #:	167421 w Acetic
ELUENT B LOT #:	166751 L
WATER LOT #:	167421
ISTD Lot #:	LC936

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 684	6	CCIB-20	PFC	LC938	100/TW		SP		Pass
2Q 85	1	CCB		—	—				✓
2Q 86	1	CCB		—	—				✓
2Q 87	30	FA42877-11		OA64707	1X		SP		✓ RA 20X
2Q 88	31	-16		+	+				Bnc
2Q 89	6	ECC 18-20		LC938	100/TW		SP		Pass
2Q 90	1	CCB		—	—				✓
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									

MAS
04-21-17

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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Analyst's Signature: _____

SGS ACCUTEST-ORLANDO NJ5017

LCMS2-2Q ANALYSIS LOG

DATE:	~~04-01-17~~ 05-01-17	METHODS:	537 mod	ANALYST:	NAS
COLUMN TYPE:	Phenomenex C18	ACQ. METHOD:	A B2D AEQA PFOS 4.mt	ELUENT A LOT #:	167421 w Acetate
AMOUNT INJECTED:	5 ul	PROC. METHOD:	PFCLIST-DW 040052017B	ELUENT B LOT #:	166757 +
INSTRUMENT:	LCMS2-2Q	CALIB. DATE:	4-21-17	WATER LOT #:	167421
HEAD PRESSURE:	303	RUN BATCH:	S2Q 26	ISTD Lot #:	LC836

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 906	1	CCB	PFC	—	—				✓
2Q 07	1	CCB		—	—				✓
2Q 08	1	CCB		—	—				✓
2Q 09	2	CC18 20		LC836			SP		Pass
2Q 10	3	FA43116-2		0P64760	2x		SP		AA 4X DoNA 25TAL
2Q 11	4	-9		↓	10x		SP		✓
2Q 12	5	-12		↓	↓		SP		✓
2Q 13	6	FA43153-1		0P64765	2x		SP		✓
2Q 14	7	-2		↓	↓		SP		✓
2Q 15	8	0P64783-BS		0P64783	1x				✓
2Q 16	9	-MB		↓	↓				BDL
2Q 17	10	FA42999-2CFS		0P64700	↓		MI		✓ ~~SST~~ 5/1/17
2Q 18	20	CC18-2		LC836	10/500		SP		Pass Et, Me, d-Et↑
2Q 19	2	CC18-20		↓	10/500		SP		Pass Et, Me, d-Et↑
2Q 20	1	CCB		—	—				✓
2Q 21	10	FA43086-5		0P64783	1x		SP		✓ Run 2x
2Q 22	11	-6		↓	↓		SP		✓ Run 5x
2Q 23	12	-7		↓	↓				✓ Run 2x
2Q 24	13	-13		↓	↓				BDL.
2Q 25	14	-8	↓	↓	↓				✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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Analyst's Signature: [signature]

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SGS ACCUTEST-ORLANDO 05-01-17

LCMS2-2Q ANALYSIS LOG

DATE:	05-01-17
COLUMN TYPE:	Perkin Elmer C18
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	303

METHODS:	537 mod
ACQ. METHOD:	dmam PFOA PFOS LIST
PROC. METHOD:	PFCLST+DW 0420 S2Q18
CALIB. DATE:	04-20-17
RUN BATCH: S2Q	26

ANALYST:	AJS
ELUENT A LOT #:	167421 w Acetic
ELUENT B LOT #:	166771 2
WATER LOT #:	167421
ISTD Lot #:	LC836

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 926	3	FA43116-2	PFC	OP64760	4x				BDL dS-Et↑ ATA ISTD matrix
2Q 27	15	FA43086-9		OP64783	1x				✓ RA 2x
2Q 28	16	-10					MP		BDL ISTD PoSA Δ
2Q 29	17	-11					SP		✓ ~~RA 2x~~ nosa217
2Q 30	18	-12					SP		✓ Rula 2x
2Q 31	2	CC18-20		LC836	100/100		SP		Pass Et, me, dS Et↑
2Q 32	1	CCB		—	—				✓
2Q 33	21	OP64835-BS		OP64835	1x				✓
2Q 34	22	-MB							✓ me, Et
2Q 35	23	FA43132-1						nosa217	✗ BDL SSL PeA, Me ISTD L
2Q 36	24	OP64835-MS							✓ SSL
2Q 37	25	-MSD							✓ SSL
2Q 38	26	FA43132-2							BDL SSL
2Q 39	27	FA43133-1							BDL SSL PeA, Me ISTD L DoDA 6:2 nosa217
2Q 40	28	-2							BDL SSL
2Q 41	2	CC18-20		LC836	100/100		SP		Pass Et, me, dS Et↑
2Q 42	1	CCB		—	—				✓
2Q 43	29	FA43289-1		OP64835	1x				BDL
2Q 44	30	-2							BDL SSL
2Q 45	31	FA43290-1							BDL SSL

*< Conductivity Limit For Perchlorate by SW846 6850 nosa217

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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LCMS2_2Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST FA43289

7.6.2 7

SGS ACCUTEST-ORLANDO

DATE:	05-01-17
COLUMN TYPE:	Perkin Elmer ECLIP
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	303

LCMS2-2Q ANALYSIS LOG

METHODS:	537 mod
ACQ. METHOD:	LMRM PFA PFOS LIST
PROC. METHOD:	PFCLIST-DW 0420 S2Q18
CALIB. DATE:	04-20-17
RUN BATCH: S2Q	26

ANALYST:	NAI
ELUENT A LOT #:	167421 w Acetic
ELUENT B LOT #:	166771 +
WATER LOT #:	167421
ISTD Lot #:	LC836

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 946	32	FAL13290-2	PFC	OP64855	1X				BDL SSL
2Q 47	33	-3	|	+	✓				BDL SSL
2Q 48	2	ECLIB-20	|	LCB38	100/TN		SP		Pass Et, Me, PS Et ↑
2Q 49	1	CIB	↓	—	—				✓
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q									
2Q							MAS 05-02-17		
2Q									
2Q									
2Q									
2Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS2_2Q_log.xls ME rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	05-03-17
COLUMN TYPE:	Restek Acid
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	300

LCMS2-2Q ANALYSIS LOG

METHODS:	537 Mod
ACQ. METHOD:	dmam PFOA PFOS List
PROC. METHOD:	PFC List Low 0424 S2Q-18
CALIB. DATE:	04-20-17
RUN BATCH:	S2Q 28

ANALYST:	MAS
ELUENT A LOT #:	167124 w Acetic
ELUENT B LOT #:	160757 +
WATER LOT #:	167421
ISTD Lot #:	LCB312

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
2Q 976	1	CCB	PFC	—	—				✓
2Q 77	1	CCB		—	—				✓
2Q 78	2	CC18-20		LCB38	100/500		SP		Pass Et,me,d5,E+n
2Q 79	3	FA43415-9		OP64843	2x				✓
2Q 80	4	-2		↓	500x				✓
2Q 81	2	CC18-20		LCB38	100/500		SP		Pass Et,me,d5-Et ↑
2Q 82	1	CCB		—	—				✓
2Q 83	5	FA43325-1		OP64843	5x		SP		✓
2Q 84	6	-2cfs			1x		SP		✓ ss ↓
2Q 85	7	-4cfs	MOS0417				SP		✓
2Q 86	8	-6cfs					SP		✓ ss ↓
2Q 87	9	-7			5x		SP		✓
2Q 88	10	-9cfs			1x		SP		✓ ss ↓
2Q 89	11	-10cfs							vial stuck AL
2Q 90	11	-10cfs					SP		✓ ss ↓ Auto
2Q 91	12	-10			MOS0417 ~~5~~2x		SP		✓ ss ↓
2Q 92	2	CC18-20		LCB38	100/500		SP		Pass Et,me,d-5Et
2Q 93	1	CCB		—	—				✓
2Q 94	13	OP64883-BS		OP64883	1x				✓
2Q 95	14	-MB		↓	↓				BDL target

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	05-03-17
COLUMN TYPE:	Poroshell ECID
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS2-2Q
HEAD PRESSURE:	300

LCMS2-2Q ANALYSIS LOG

METHODS:	537 mod
ACQ. METHOD:	Amam PFOA PFOS List
PROC. METHOD:	PFCLIST-DW 04205206/B
CALIB. DATE:	04-20-17
RUN BATCH: S2Q	28

ANALYST:	NAS
ELUENT A LOT #:	167421 W Arctic
ELUENT B LOT #:	166751 L
WATER LOT #:	167421
ISTD Lot #:	LC842

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS 050417
2Q 996	15	FA43132-2 CFS	PFC	OP64803	17				X BDL target
2Q 97	16	FA43133-1 CFS							BDL target
2Q 98	17	-2 CFS							BDL target
2Q 99	18	FA43289-2							BDL
2Q 1000	19	FA43290-1							BDL
2Q 01	20	-2					SP		✓
2Q 02	21	-3							BDL
2Q 03	22	FA43485-4							BDL
2Q 04	2	ECL 18-20		LC838	100/100		SP		Pass
2Q 05	1	CCB		—	—				✓
2Q 06	23	Test vial		—	—				✓
2Q 07	24	test vial		—	—				✓
2Q									
2Q									
2Q									
2Q									
2Q									
2Q							NAS 05-04-17		
2Q									
2Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS2_2Q_log.xls ME rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 04/28/17 1100 (mm/dd/yy 24:00) Started

Date/Time: 04/28/17 1600 (mm/dd/yy 24:00) Finished

Prep Method: 3535A or Method (circle)

Analytical Method: LC 537 DW

Batch#: OP64835 Ext. By: MB Conc. By: KC Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 64835 MB	X	250	6	N/A	20 ul		1 ml	DI H2O TEST BOT. 1
OP 64835 BS		250				10+10 ul		1 1 BOT. 2
FA43132-1	1	260						
-2	1	260						
FA43133-1	1	250						
-2	1	250						
FA43289-1	1	260						
-2	1	250						
FA43290-1	1	250						
-2	1	250						
-3	1	260						
FA43132-1 MS	2	130	6	N/A	20 ul	10+10 ul	1 ml	
-1 MSD	2	130						
DUP								

MB 04/28/17

Comments:

Surr.1 ID: LC834 Conc: 1 ppm Exp. Date: 10/05/17 Inj. By: MB Ver. By MB

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: LC839 Conc: 2 ppm Exp. Date: 08/25/17 Inj. By: MB Ver. By MB

Spk.2 ID: B487A Conc: 2 ppm Exp. Date: 04/19/18 Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

Exchange Bath/N-Evap Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 170294 SPE Lot # S308-0072 pH Paper # 230016

Acetonitrile Lot # — SPE Lot # — Reagent # —

Water Lot# OP64835 Syringe Filter Lot# — Solvent # —

Relinquished By: [signature] Date: 04/28/17

Accepted By: [signature] Date: 05-01-17

NF 02/16 extwater_spe 020116.xls

7.7.1 7

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 05/03/17 0930
Started {mm/dd/yy 24:00}

Date/Time: 05/03/17 1400
Finished {mm/dd/yy 24:00}

Prep Method: MB 05/03/17 3535A or Method (circle)

Analytical Method: LC537 DW

Batch#: OP64883 Ext. By: MB Conc. By: MB Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 64883 MB	X	250	6	N/A	20ml		1ml	
OP 64883 BS		250				10+10ml		
FA 43132-2RE	2	260						
FA 43133-1RE	2	250						
-2RE	2	260						
FA 43289-2RE	2	260						
FA 43290-1RE	2	250						
-2RE	2	250						
-3RE	2	250						
FA 43485-4	1	260						
MS								
~~MSD~~								
DUP								

MB 05/03/17

Comments:

Surr.1 ID: LC834 Conc: 1 ppm Exp. Date: 10/05/17 Inj. By: MB Ver. By MB

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: LC839 Conc: 2 ppm Exp. Date: 08/25/17 Inj. By: MB Ver. By MB

Spk.2 ID: 8487A Conc: 2 ppm Exp. Date: 04/19/18 Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): —
Observed Temp °C: — Corr. Temp °C: —

Exchange Bath/N-Evap Temp (Therm ID): NVAP
Observed Temp °C: 50 Corr. Temp °C: 52

Methanol Lot # 170294 SPE Lot # 5308-0072 pH Paper # 230016

Acetonitrile Lot # — SPE Lot # — Reagent # —

Water Lot# MB 05/03/17 OP64835 Syringe Filter Lot# — Solvent # —

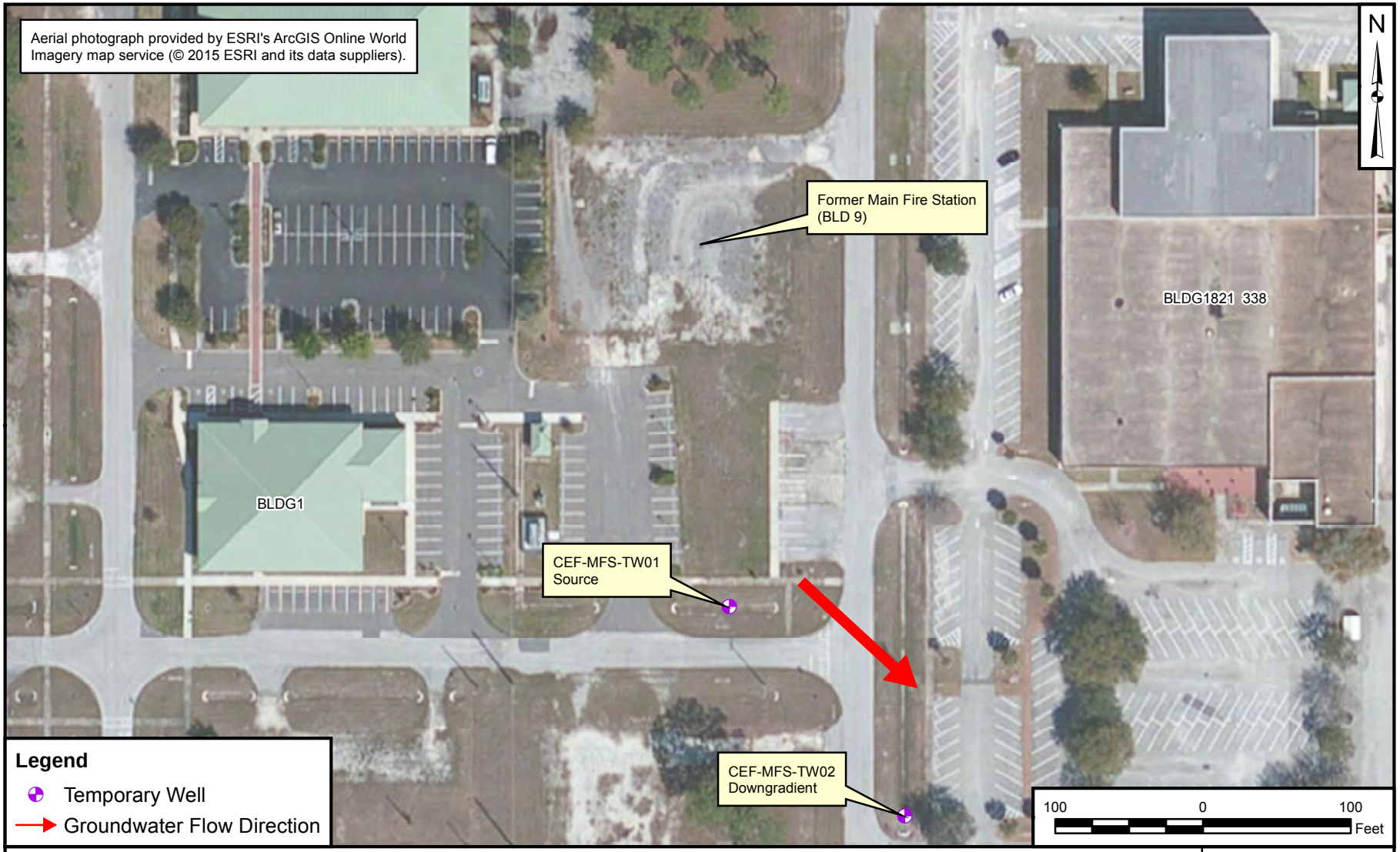
Relinquished By: [signature] Date: 05/03/17

Accepted By: [signature] Date: 05-07-17

NF 02/16 extwater_spe 020116.xls

SGS ACCUTEST FA43289

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\FORMER_FIRE_STATION_SITE_MAP.MXD 03/27/17 JEE

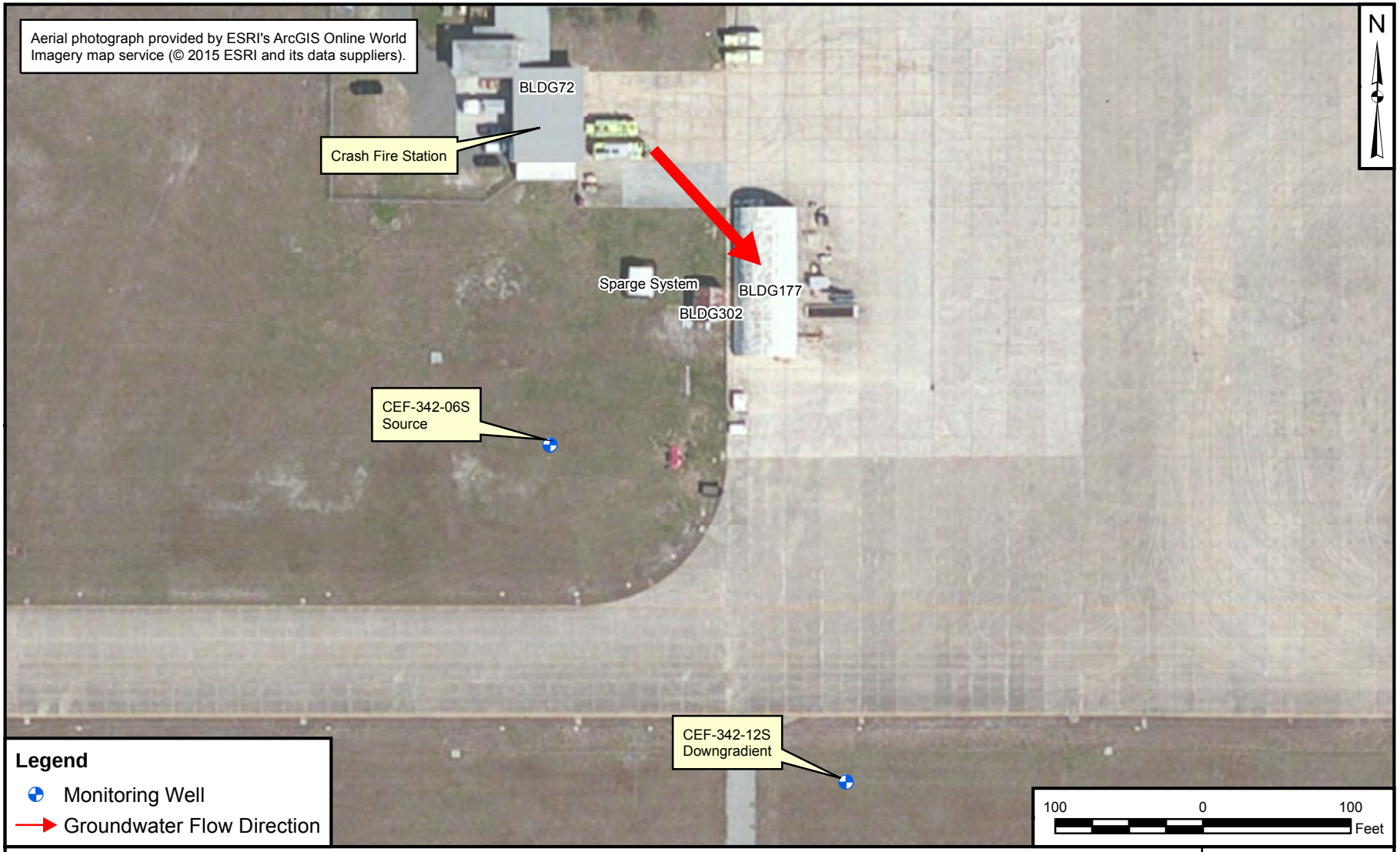


NAVFAC

SITE LOCATION
FORMER FIRE STATION
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-1	

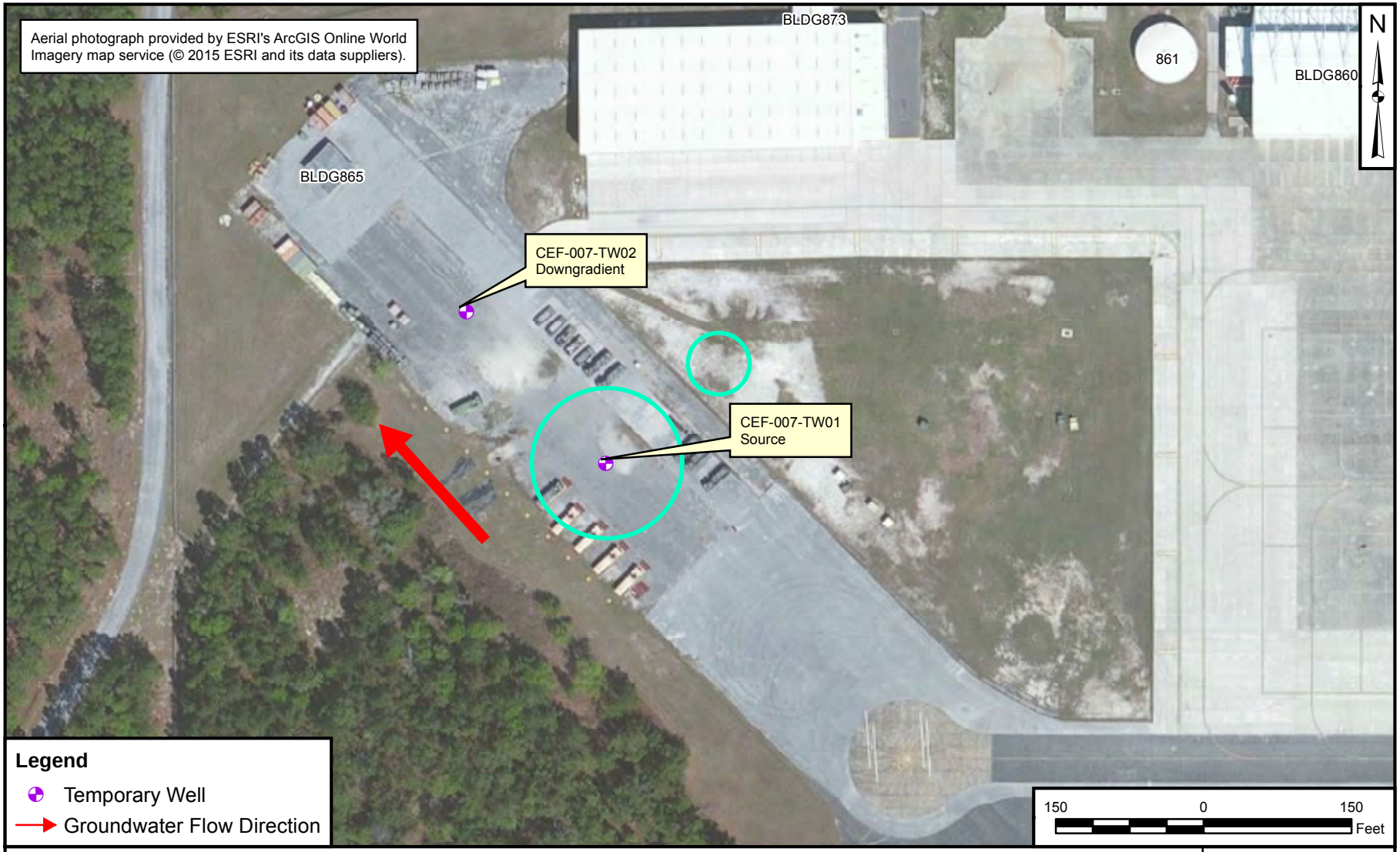
PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\CRASH_FIRE_STATION_SITE_MAP.MXD 03/27/17 JEE



SITE LOCATION
CRASH FIRE STATION
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	JM10
DRAWN BY	K. MOORE
DATE	02/21/17
CHECKED BY	T. JOHNSTON
DATE	03/27/17
FIGURE NUMBER	17-2

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE07_SITE_MAP.MXD 03/27/17 JEE

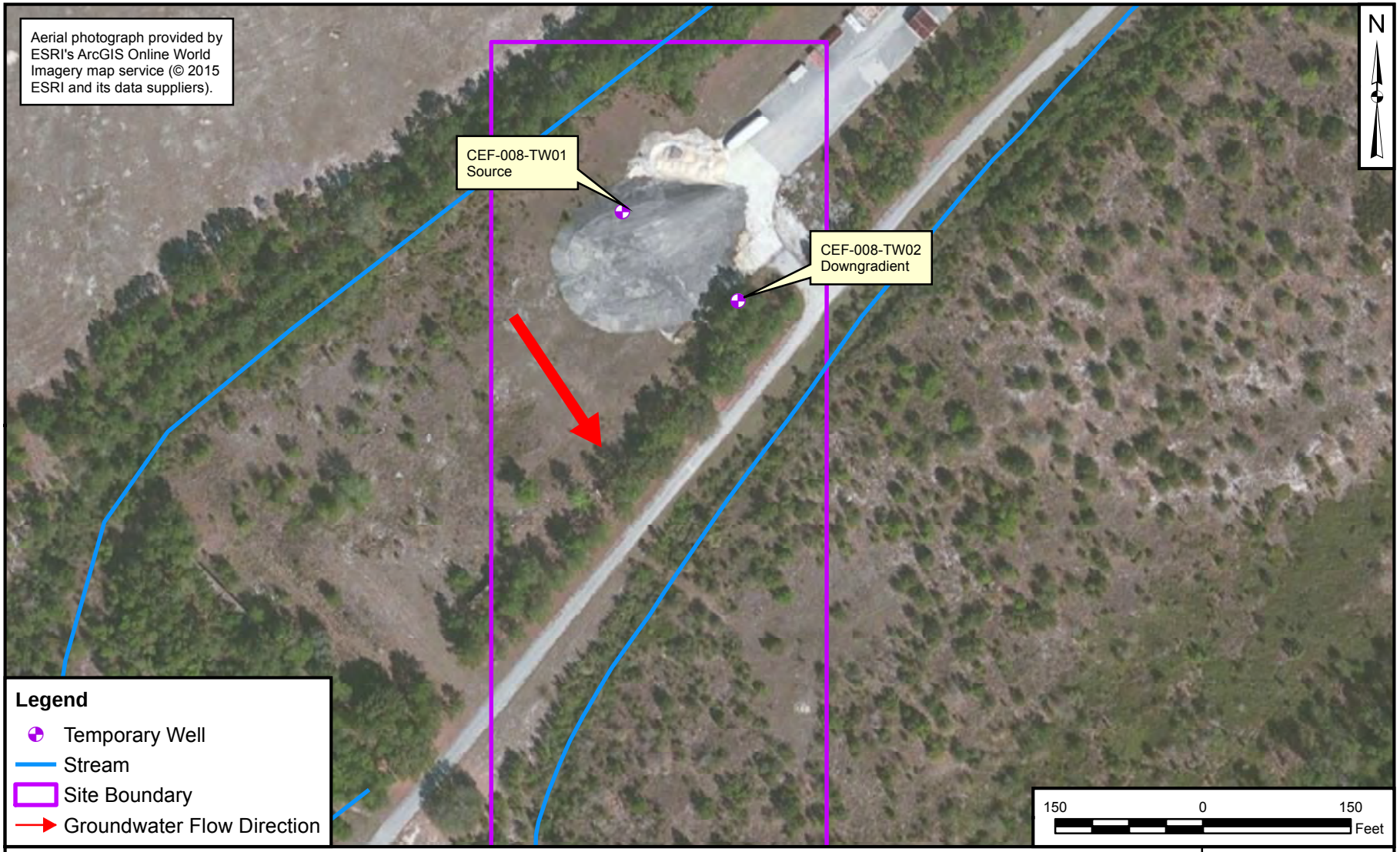


NAVFAC

SITE LOCATION
SITE 7
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-3	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE08_SITE_MAP.MXD 03/27/17 JEE

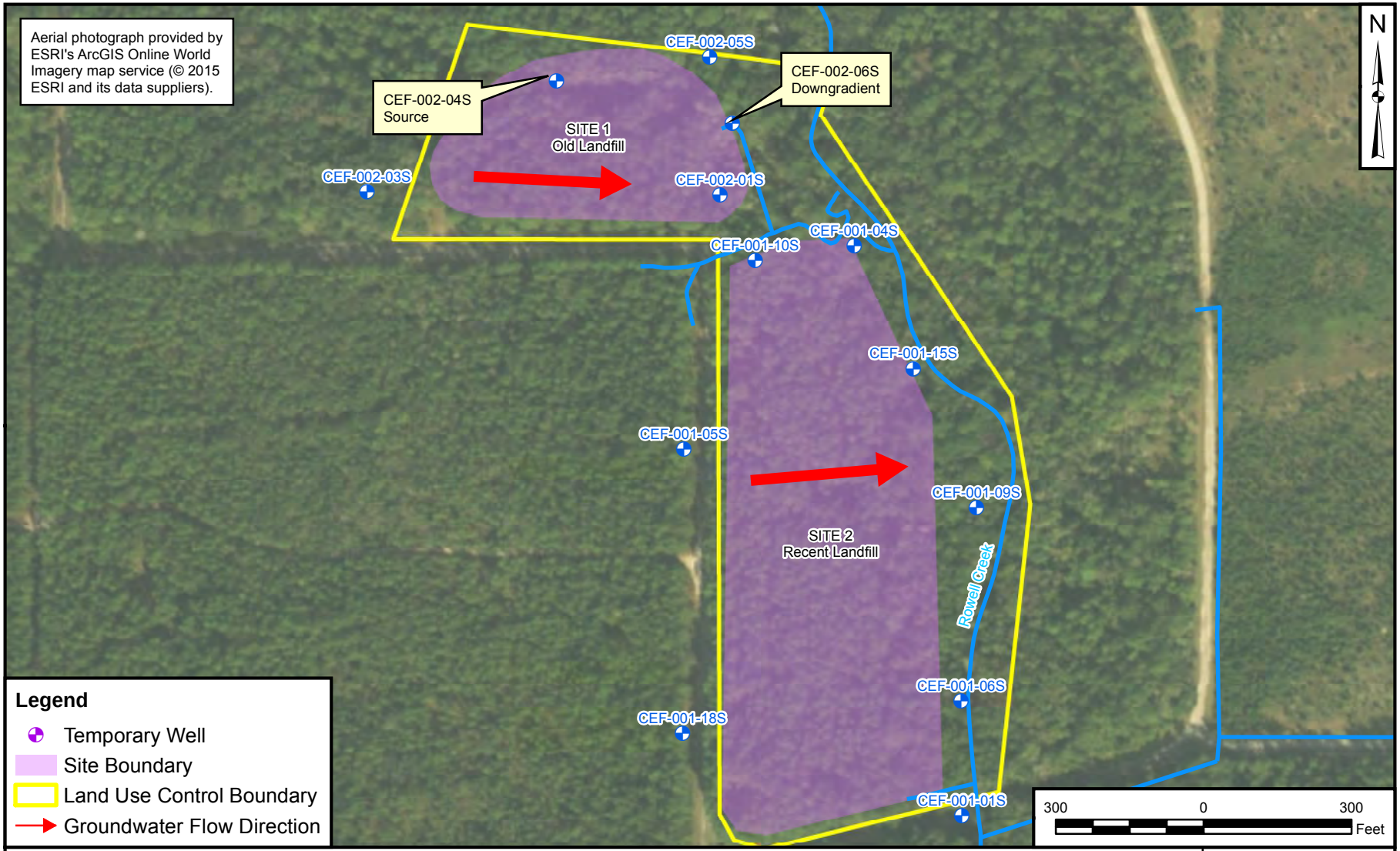


NAVFAC

SITE LOCATION
SITE 8
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-4	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE01-02_SITE_MAP.MXD 03/27/17 JEE

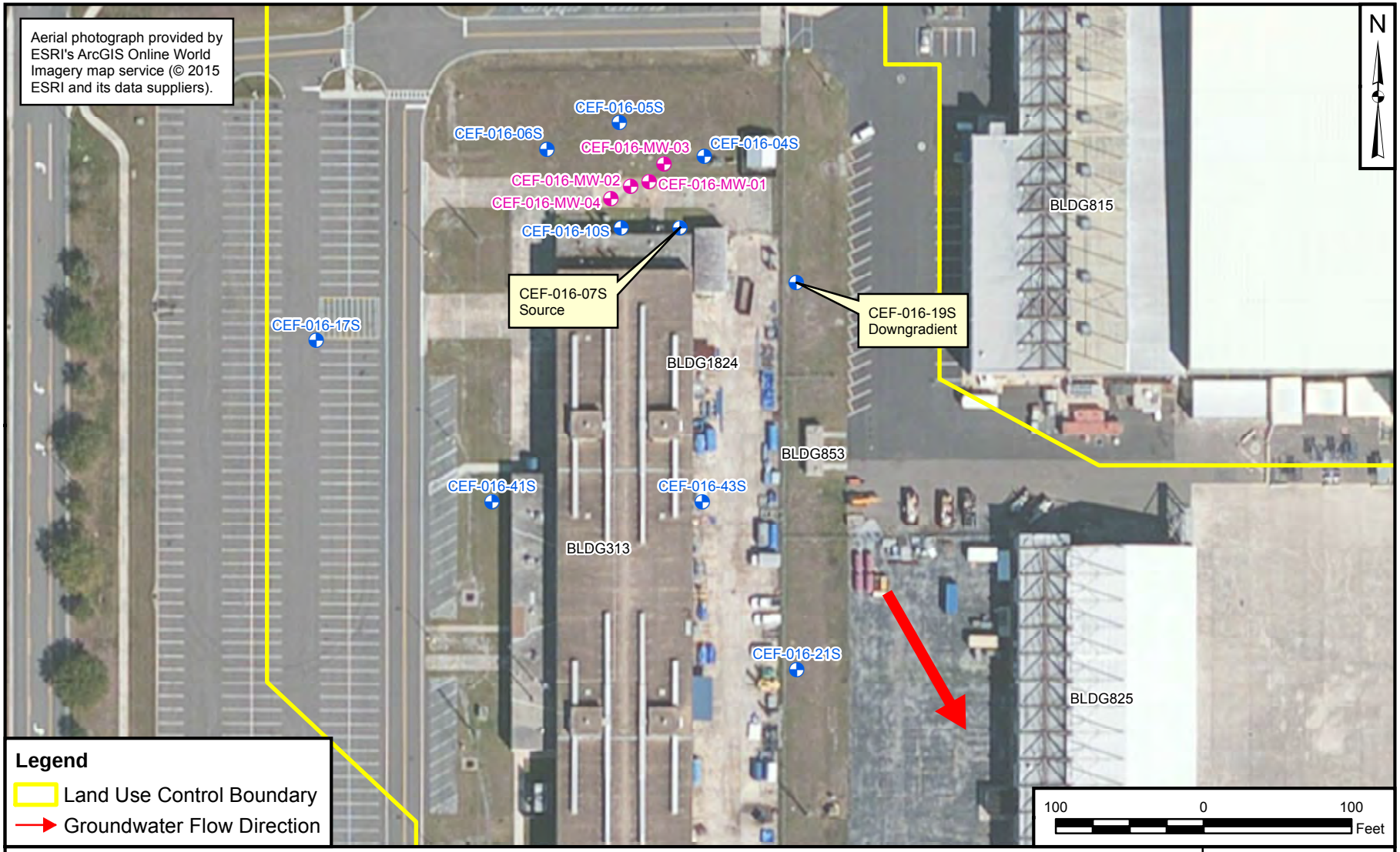


NAVFAC

SITE LOCATION
SITES 1 & 2
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-5	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE16_SITE_MAP.MXD 03/27/17 JEE



Legend

Land Use Control Boundary

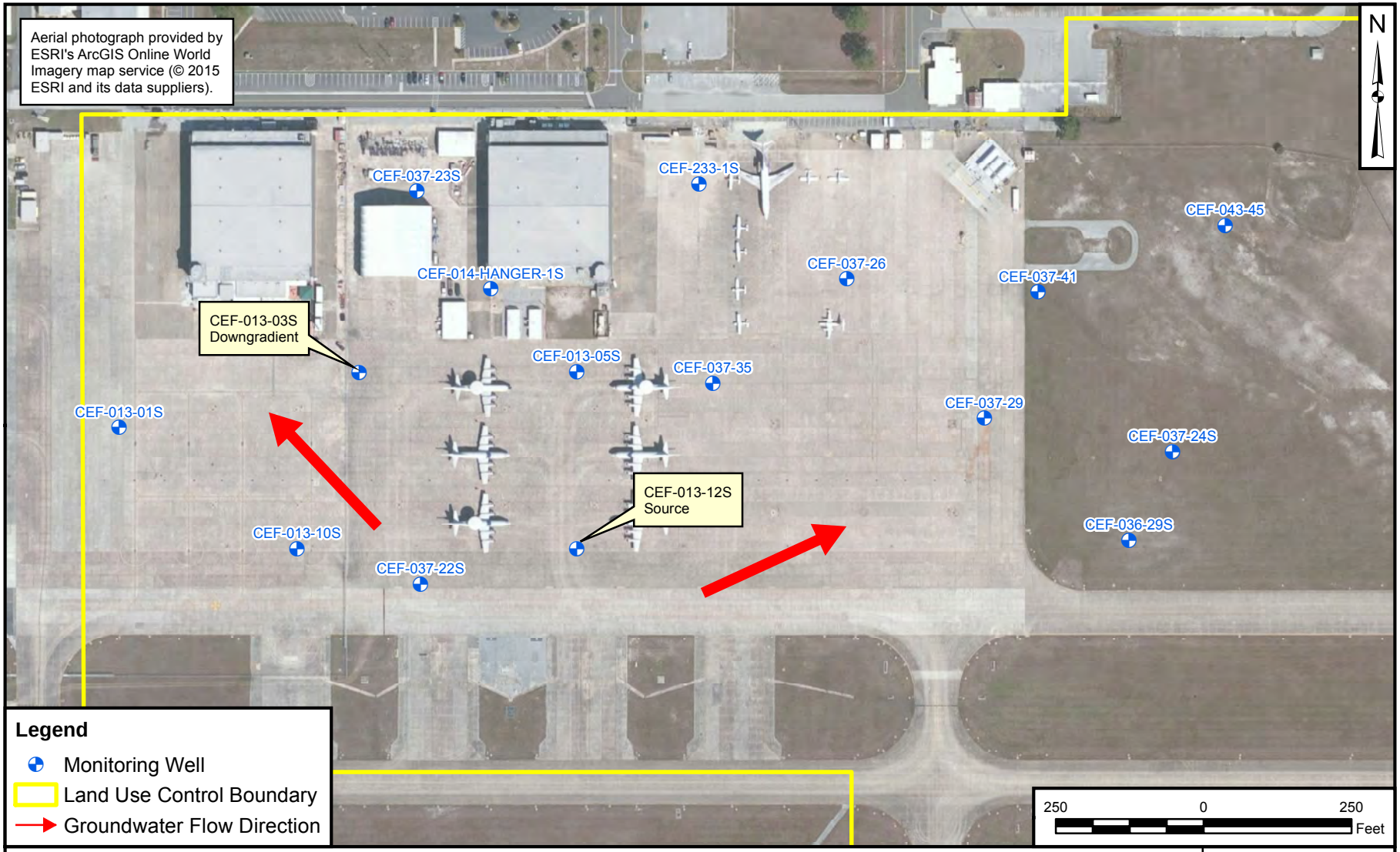
Groundwater Flow Direction

NAVFAC

SITE LOCATION
SITE 16
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-6	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE36-37_SITE_MAP.MXD 03/27/17 JEE



Legend

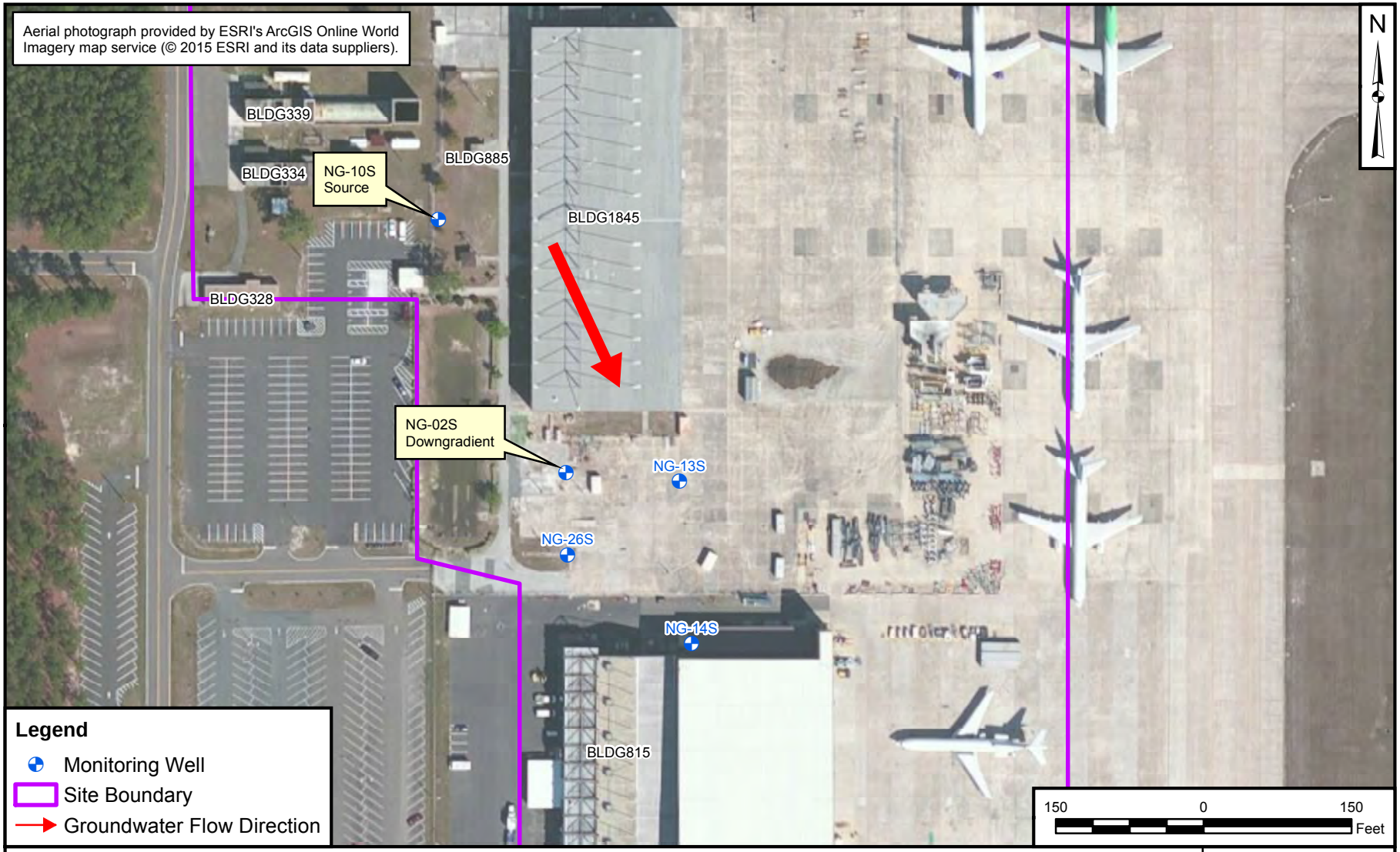
- Monitoring Well
- Land Use Control Boundary
- Groundwater Flow Direction

NAVFAC

SITE LOCATION
SITES 36 & 37
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-7	

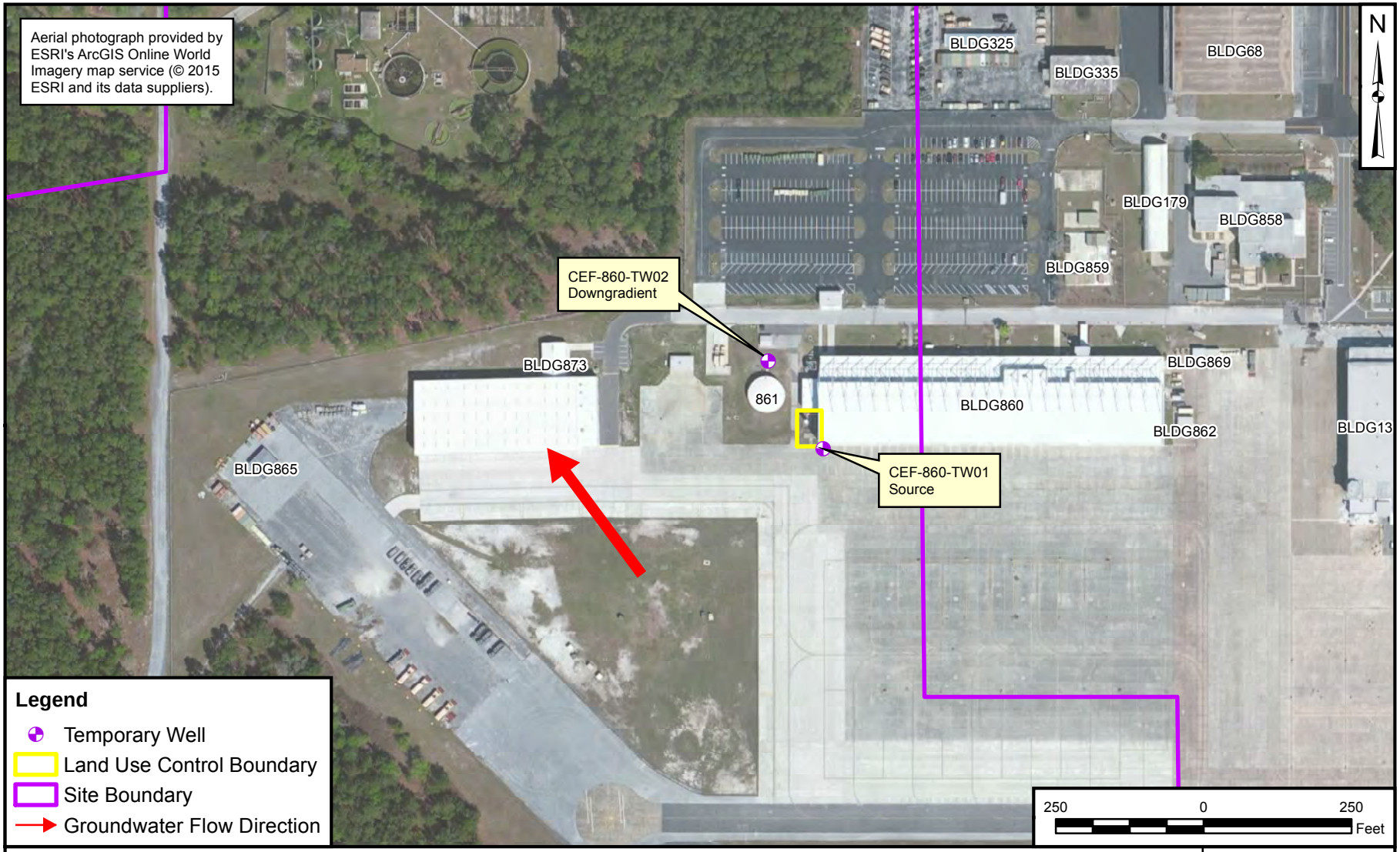
PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE59_SITE_MAP.MXD 03/27/17 JEE



SITE LOCATION
SITE 59
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-8	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\BULDING860_SITE_MAP.MXD 03/27/17 JEE

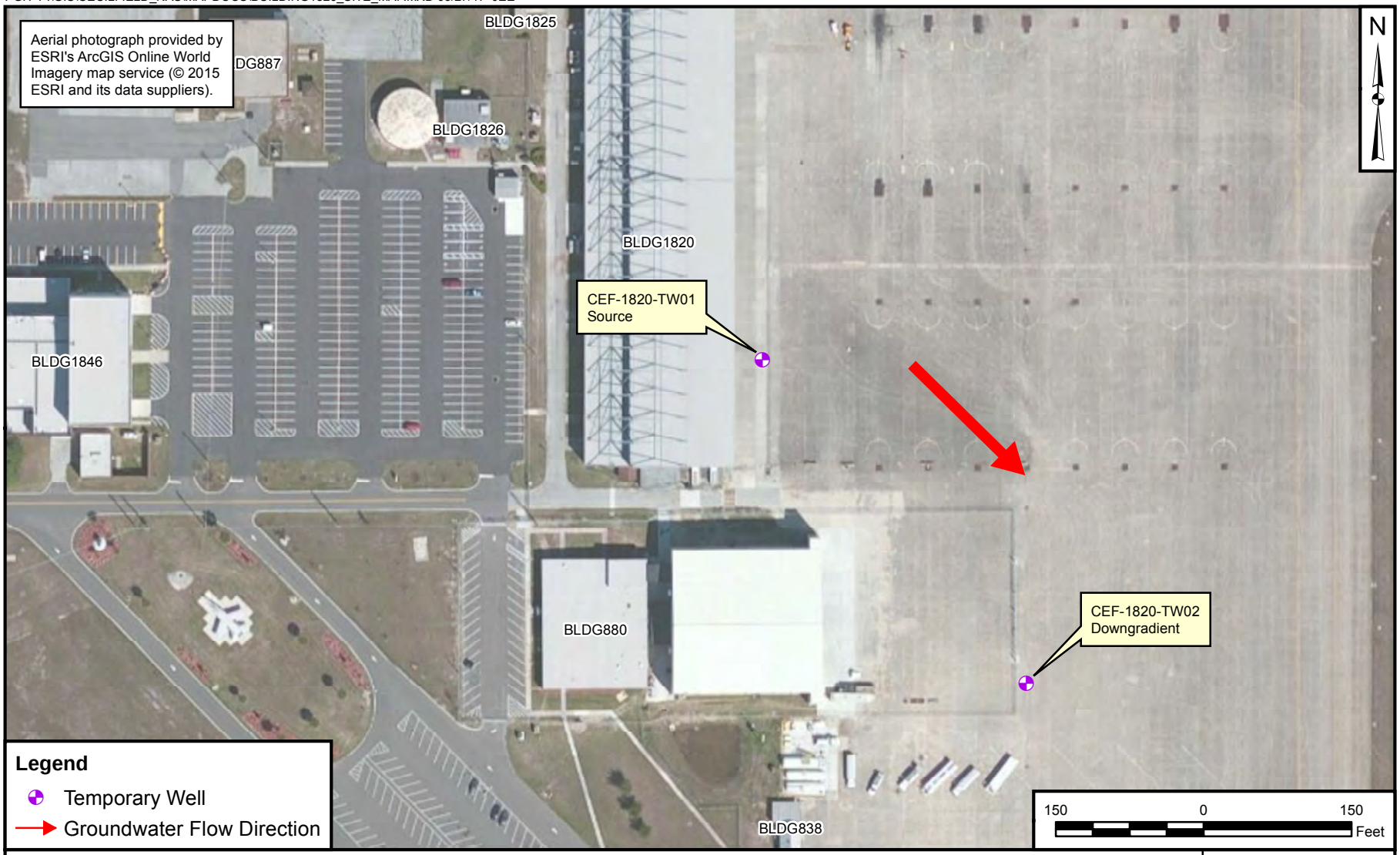


NAVFAC

SITE LOCATION
BUILDING 860
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	JM10
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	17-9

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\BUILDING1820_SITE_MAP.MXD 03/27/17 JEE

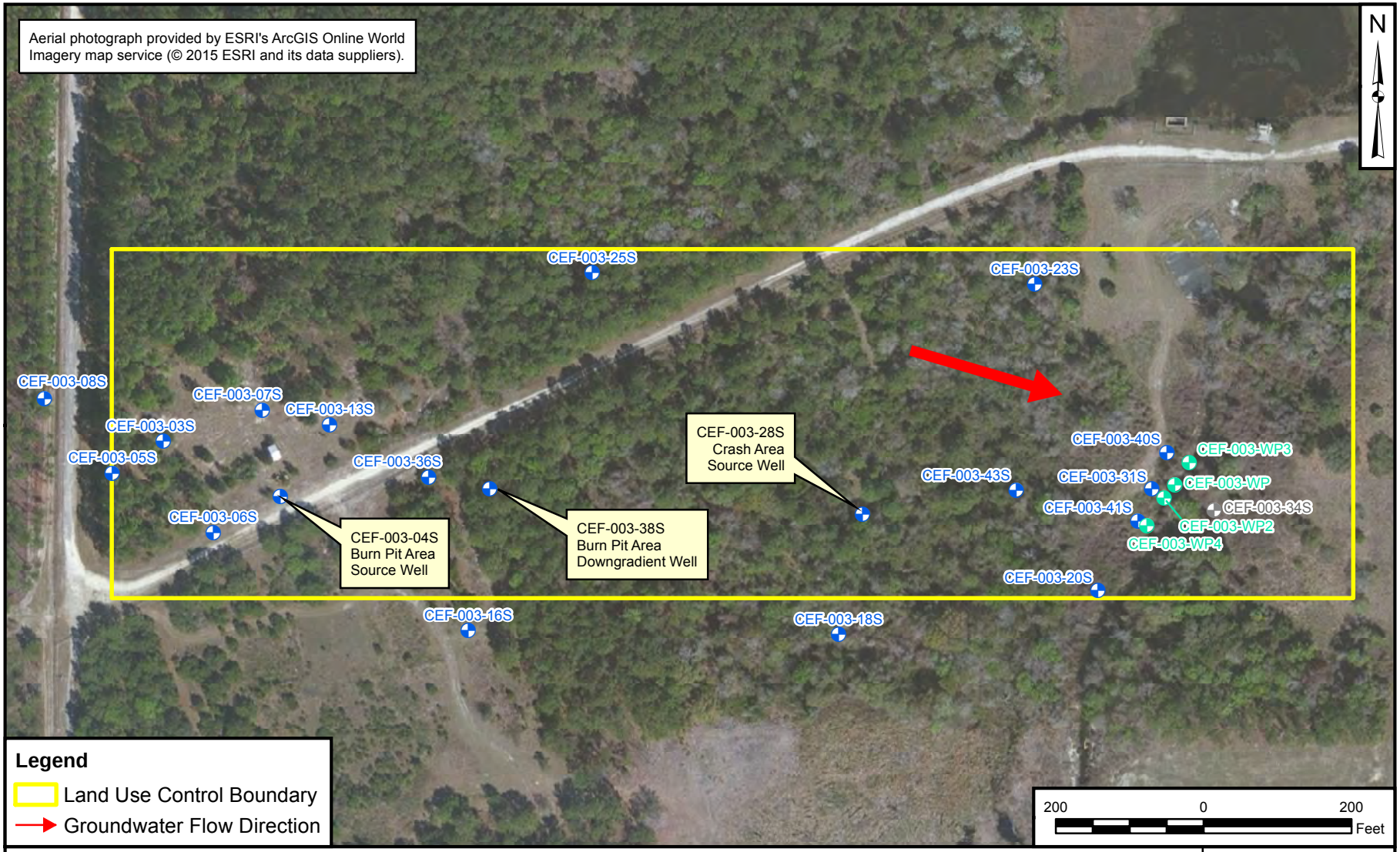


NAVFAC

SITE LOCATION
BUILDING 1820
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-10	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\SITE03_SITE_MAP.MXD 03/27/17 JEE



SITE LOCATION
NORTH FUEL FARM
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	JM10
DRAWN BY	K. MOORE
DATE	02/21/17
CHECKED BY	T. JOHNSTON
DATE	03/27/17
FIGURE NUMBER	17-11

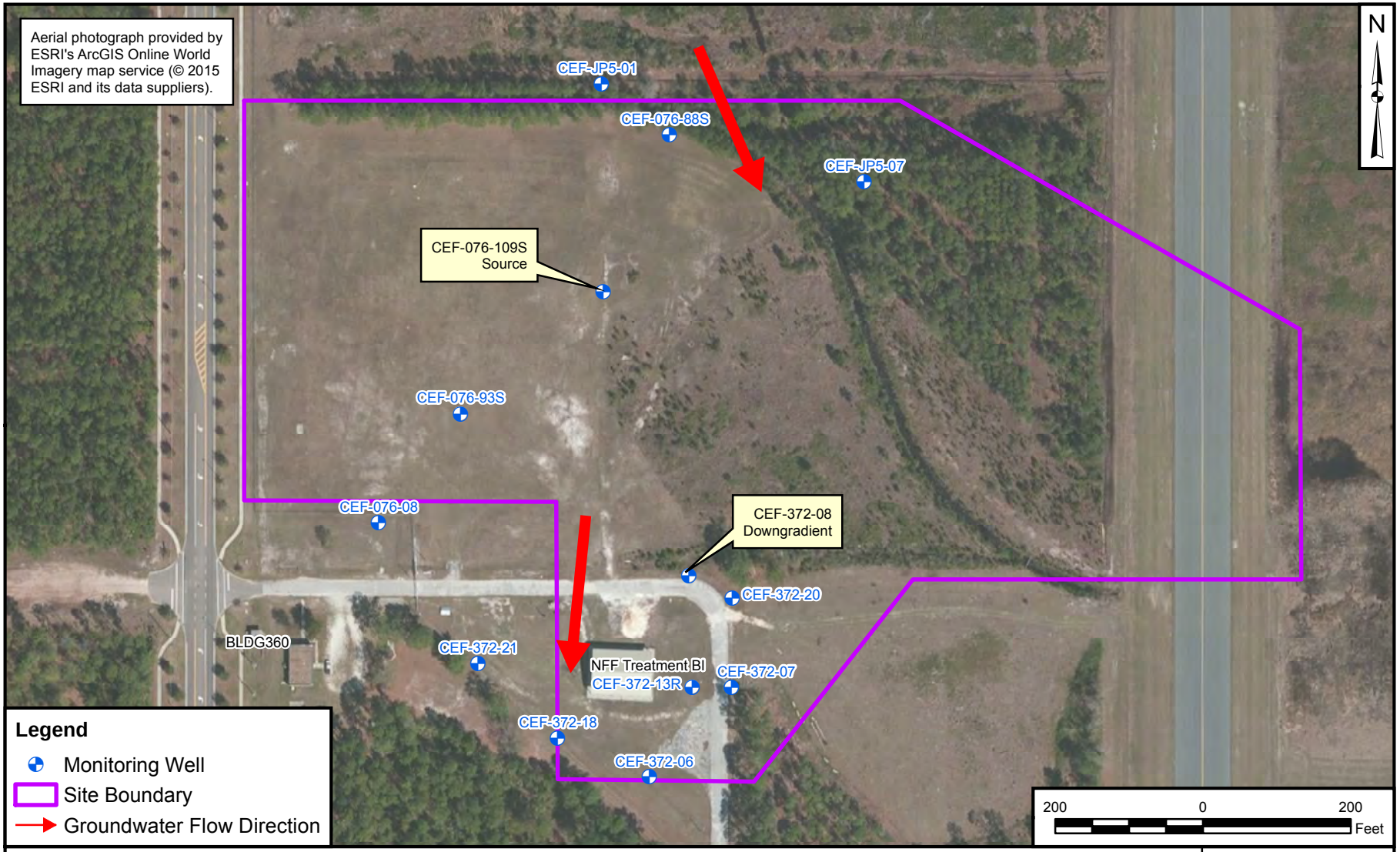
PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\OCALA_CRASH_SITE_MAP.MXD 03/27/17 JEE

NAVFAC

SITE LOCATION
OCALA CRASH SITE
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-12	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\NORTH_FUEL_FARM_SITE_MAP.MXD 03/27/17 JEE

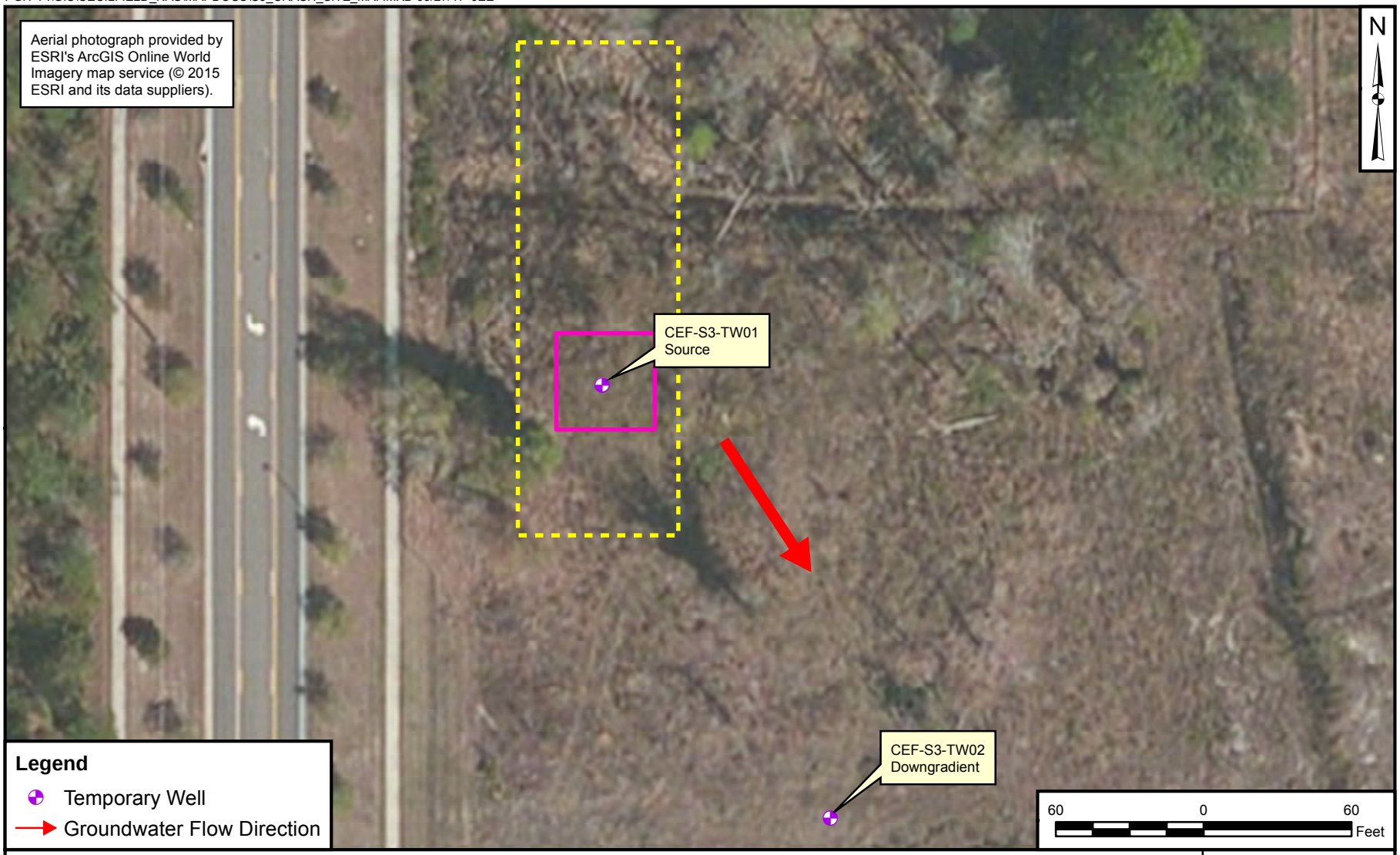


NAVFAC

SITE LOCATION
NORTH FUEL FARM
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-13	

PGH P:\GIS\CECILFIELD_NAS\MAPDOCS\S3_CRASH_SITE_MAP.MXD 03/27/17 JEE



NAVFAC

SITE LOCATION
S-3 CRASH SITE
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO	
JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER	
17-14	