



**Groundwater Sample Results,
Combined Level 2 and Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Report, SDG 18-0566**

*Naval Construction Battalion Center Gulfport
Gulfport, Mississippi*

July 2019

N62604_002151
GULFPORT_NCBC
SSIC 5000-33c

LABORATORY DATA PACKAGE 18-0566 NCBC GULFPORT MS

10/04/2018

BATTELLE

Approved for public release: distribution unlimited.

PFAS Analytical work
Project No 100112541
PFAS by DoD QSM 5.1 Table B-15
GW, QC
Batch 18-0566
Package DP-18-0274

Submitted to:
Tetra Tech
661 Anderson Drive Foster Plaza 7
Pittsburgh, PA 15220 USA

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061





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NELAP Accreditation Number: E87856 (Florida Department of Health)
DoD-ELAP Accreditation Number: 91667

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Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061


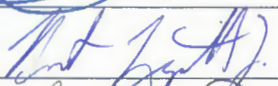




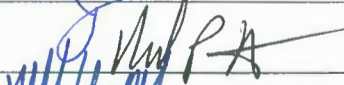

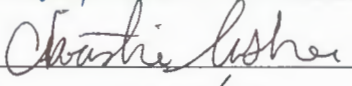

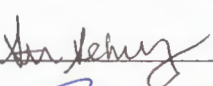

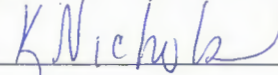



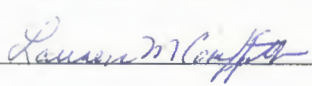
Analyst Approval:		schumitzd@battelle.org 2018.10.01 13:48:59 -04'00'
QC Chemist Approval:		Digitally signed by devinec@battelle.org DN: cn=devinec@battelle.org Date: 2018.10.04 12:02:29 -04'00'
Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.10.04 12:22:59 -04'00'



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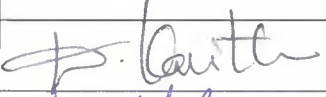
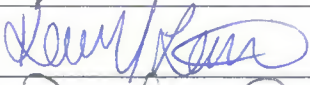
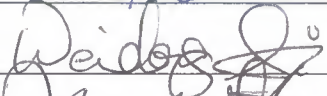
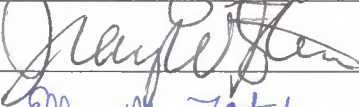

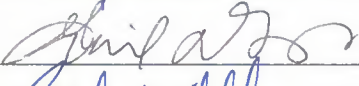
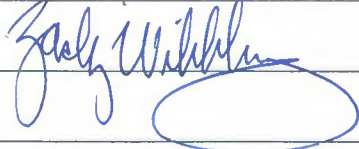
1	<i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
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Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schmitz		DUS	4/4/18
Carol Ann McManis		CM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mendez		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matrone		km	4/4/18
Stephanie Schmitz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimico H Brown		CB	4/4/18
Matt Schmitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

Signature Page

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Signature Page

Name (Printed)	Signature	Initials	Date
KAVITHA DASU		KD	04/04/18
Kayla Lamarre		KAL	04/04/18
Weidong Li		W.L	04/04/18
Tracy W Stender		TWS	04/04/18
Ellyn M Fitch		EF	12-April-2018
Gail DeRuzzo		GD	4/18/18
Zachary Willenberg		Z/W	4/20/18

Sample Summary

Client: Tetra Tech Inc.

SDG: 18-0566

Project/Site: Naval Construction Battalion Center (NCBC)

CTO: JM08

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CR843PB-FS	Procedural Blank	WATER	9/25/2018	9/25/2018
CR844LCS-FS	Laboratory Control Sample	WATER	9/25/2018	9/25/2018
J8278-FS	07GW07092018	GW	9/20/2018	9/21/2018
J8279-FS	07FRB092018	QC	9/20/2018	9/21/2018
J8280-FS	07GW13092018	GW	9/20/2018	9/21/2018
J8281-FS	07GW11092018	GW	9/20/2018	9/21/2018

Work Plan



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: CTO-JM08 - Naval Construction Battalion Center (NCBC)
Project Number: 100112541
Client: Tetra Tech
 661 Anderson Drive Foster Plaza 7
 Pittsburgh, PA 15220
 USA

Client Contact Information: Greg Roof
 NA
 NA
 NA
 greg.roof@tetrattech.com

Effective Date of QAPP: 3/21/2018
Version Number: 100112541(L)-02
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 4/10/2018

2.0 SCOPE OF WORK

Overview: Analysis of non-potable water samples collected at NCBC in Gulfport, Mississippi. All time should be charged to 100115738-JM08.
Matrix: Water

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

The list of samples for this project plan are presented in Attachment 1.

Storage Directions: Store samples refrigerated prior to extraction.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: NA
Archiving: NA
Disposal: NA



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

NA

Samples Expected:	Samples Per Batch:	Batches Expected:
12	20	1

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

Type:	Description:	Count:	Rgt:	Reference:	Comment:
PB	Laboratory control reagent blank.	1 per batch	--	NA	
LCS	Laboratory Control Sample	1 per batch	No	NA	
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	Sample for MS/MSD to be identified by PM
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	Sample for MS/MSD to be identified by PM

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-370-05
SOP Title:	<i>Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices</i>
Sample Size:	250 ml
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	None.
Comments:	FRB samples will only be extracted and analyzed if hits in the associated samples are greater than 1/3 the LOQ (5.0 ng/L).

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)	JR05 SIS	~ 0.100 ng	50 uL	NA



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Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DOD Second Source LCS/MS Solution	JP49 LCS/MS	~ 10.0 ng	200 uL	MS/MSD samples
PFAS - Second Source Low Level Fortification	JP88 LCS/MS	~ 2.50 ng	500 uL	LCS sample.

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 500

Table 3: RIS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JR08 RIS	~ 0.050 ng	25 uL	NA

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

- 1) SOP_No-Rev: **5-369-05**
- SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*
- Deviations: None
- Comments: All criteria from DoD QSM 5.1 Table B-15 must be met

2.2. DELIVERABLES

Deliverables Due:	4/10/2018
LIMS Reports:	Yes
Histograms:	No
Excel Tables:	Yes
EICs:	No
Chromatograms:	No



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WORK/QUALITY ASSURANCE PROJECT PLAN

EDDs: *Yes*

Comments:

- Three week Turnaround Time
- Data tables must contain LOD/LOQ information.
- Case narrative must identify instrument used.
- Include sample calculation in final deliverable.
- Hard copy summary package, including case narrative, cross reference table of client to laboratory sample IDs, copy of COC, and all CLP-like data tables.
- Full L4 validation package per SAP and ADAPT EDD format.
- PDF of L4 and summary package will be provided (CD or DVD, two copies)
- ADAPT EDD format required - see SOW for details.

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

Staff Member	Role	Comment
Jonathan R. Thorn	Project Manager	NA
Stephanie A. Schultz	Sample Preparation	NA
Denise M. Schumitz	LC-MS/MS Analysis	NA
Matt D. Schumitz	Sample Custody	NA
Carla R. Devine	Quality Control Officer	Zach Willenberg will perform QA review after data has been finalized by QC Chemist and deliverables have been made.

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.



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WORK/QUALITY ASSURANCE PROJECT PLAN

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	NA	NA	0	NA
Sample Preparation	NA	NA	0	NA
Instrument Analysis	NA	NA	0	NA
Quality Control Review	NA	NA	0	NA

6.0 BUDGET

The labor budget for the analytical task is presented in Table 6.

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	1	1	1	NA
Sample Preparation	4	1	4	NA
Instrument Analysis	4	1	4	NA
Quality Control Review	2	1	2	0.5 hours for QA review.

7.0 STAFF DEVELOPMENT

None anticipated



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-180320-02
Status: Approved
Description: 112G08005-JM08
Range: J5386-J5397
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J5386	06GW09FRB0318	03/17/2018 9:05 am	QC	R0118 (NA)			
2	J5387	06GW08031718	03/17/2018 9:25 am	GW	R0118 (NA)			MSMSD
3	J5388	06GW09031718	03/17/2018 9:23 am	GW	R0118 (NA)			
4	J5389	06GW04031718	03/17/2018 9:30 am	GW	R0118 (NA)			
5	J5390	06GW16031718	03/17/2018 10:23 am	GW	R0118 (NA)			
6	J5391	06GW15FRB0318	03/17/2018 10:25 am	QC	R0118 (NA)			
7	J5392	06GW15031718	03/17/2018 10:30 am	GW	R0118 (NA)			
8	J5393	06GW14FRB0318	03/17/2018 10:35 am	QC	R0118 (NA)			
9	J5394	06GW14031718	03/17/2018 10:40 am	GW	R0118 (NA)			
10	J5395	06GW06031718	03/17/2018 11:25 am	GW	R0118 (NA)			
11	J5396	06GW03031718	03/17/2018 12:05 pm	GW	R0118 (NA)			
12	J5397	06FDGW0318	03/17/2018 12:00 am	GW	R0118 (NA)			

Shipment: SHP-180921-02
Status: Pending
Description: NEBC Gulfport
Range: J8278-J8281
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8278	07GW07092018	09/20/2018 9:20 am	GW	R0119 (NA)			
2	J8279	07FRB092018	09/20/2018 10:00 am	QC	R0119 (NA)			
3	J8280	07G13092018	09/20/2018 10:25 am	GW	R0119 (NA)			
4	J8281	07G11092018	09/20/2018 11:20 am	GW	R0119 (NA)			



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Attachment 2: Test Codes

Project Test Code Name:	Master_369
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.1 Table B-15
Matrix:	L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting		Holding Times (days)	Data Flags
Result Units:	ng/L	Unit Conversion: (none)	Sample: 14 DL_Flag: U
Weight Basis:	LIQUID	Result Format: Fixed Digits	Frozen: 40 RL_Flag: J
Standard Basis:	SIS	# of Figures/Digits: 2	Extract: 28 PB_Flag: B
Oil Weight Basis:	No	Oil Weight Source: Oil Weight	DIL_Flag: D
U-Value Substitution:	ND=MDL	Histograms: No	HT_Flag: T
ECD_Reporting:	No		

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T		N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	No	No
12	Perfluoro-1-butanefulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanesulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanesulfonate	PFOS	T		13C8-PFOS	No	No
1	13C5-PFHxA	13C5-PFHxA	SIS	13C2-PFOA		No	No
2	13C4-PFHpA	13C4-PFHpA	SIS	13C2-PFOA		No	No
3	13C8-PFOA	13C8-PFOA	SIS	13C2-PFOA		No	No



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
4	13C9-PFNA	13C9-PFNA	SIS	13C2-PFOA		No	No
5	13C6-PFDA	13C6-PFDA	SIS	13C2-PFDA		No	No
6	13C7-PFUnA	13C7-PFUnA	SIS	13C2-PFDA		No	No
7	13C2-PFDoA	13C2-PFDoA	SIS	13C2-PFDA		No	No
8	13C2-PFTeDA	13C2-PFTeDA	SIS	13C2-PFDA		No	No
9	N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	d5-EtFOSAA	SIS	13C4-PFOS		No	No
11	13C3-PFBS	13C3-PFBS	SIS	13C4-PFOS		No	No
12	13C3-PFHxS	13C3-PFHxS	SIS	13C4-PFOS		No	No
13	13C8-PFOS	13C8-PFOS	SIS	13C4-PFOS		No	No

Total Analytes: 27

Subtract Peaks:

None

Sum Peaks:

None



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

ICAL Acceptance Criteria:

Curve Fit:	Limit Mean(%):	Mean Qual:	Limit Ind.:	Ind. Qual:	Min Points:	Points Qual:	Comments:
Linear	NA	NA	0.99	N	5	N	y = Bx + C
Quadratic	NA	NA	0.99	N	6	N	y = Ax ² + Bx + C

Continuing Calibration Verification Criteria:

CCV Name: 5-369									
Frequency Hrs:	Mean PD(%):	Individual PD(%):	RIS/SIS RT Window (min):	Area Limit Low(%):	Area Limit High(%):	Comment:			
12 (N)	30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA			

Independent Calibration Verification:

ICC Name: 5-369									
Mean PD Limit(%):	Ind. PD Limit(%):	RIS/SIS Window Limit (Secs):	Area Limit High(%):	Area Limit Low(%):	Comment:				
30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA				

Mass Discrimination Criteria:

None

Degradation Check Criteria:

None



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application		<i>Universal_LC</i>	
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Procedural Blank	Samples must be greater than five times the blank concentration (>5xPB).	B	Review with Project Manager; re-analyze or justify results in project records.
PB Measurement Quality Objective	Organic results in the Procedural Blank are less than 1/2 times the LOQ (<1/2xLOQ)	N	Review with Project Manager; re-analyze or justify results in project records.
Laboratory Control Sample	Recovery values 70-130%.	N	Review with project manager; re-analyze or justify reporting the results in project records.
Matrix Spike / Matrix Spike Duplicate Recovery	Organics 70-130%. Analyte concentration in MS/MSD must be greater than five times reported background concentration.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Matrix Spike/Spike Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Standard Reference Material Accuracy	Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL).	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the MDL	n	
Analytical Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application	<i>Universal_LC</i>		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-5: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-5: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-5: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

ShpNo SHP-180921-02

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Battelle Project No: _____

Sample Receipt Form

Approved: Authorized:

Project Number: _____ Client: Tetra Tech
 Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 9:45 AM
 No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier Tracking Number: Fed Ex
 COC Forms: Shipped with samples No Forms

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	7828 6893 5783	Custody Seal	Intact	Intact	Therm_1	1.7	4

Samples

Sample Labels: Sample labels agree with COC forms
 Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: Tape Custody Seals Other Seals (See sample Log)
 Seals intact for each shipping container
 Seals broken (See sample log for impacted samples)

Condition of Samples: Sample containers intact
 Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 1.7 Temperature Blank used Yes No
 (Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: Yes No Unknown

Initial pH 5-9?: Yes No NA
 If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: Yes No NA
 If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: Yes No NA
 Individual sample deviations noted on sample log

Samples Containers:
 Samples returned in PC-grade jars: Yes No Unknown /Lot No.: UnKnown

Storage Location: Custody: Refrigerator - R0119 (NA) BDO IDs Assigned: J8278 - J8281

Samples logged in by: Schumitz, Matt Date/Time: 09/21/2018 9:45 AM

Approved By: _____ Approved On: _____

Authorized By: _____ Authorized On: _____



It can be done

ShpNo SHP-180921-02

Battelle Project No: 100112541

Sample Receipt Form Details

Approved: Authorized

Project Number: _____ Client: Tetra Tech

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 9:45 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8278	07GW07092018	09/20/18 9:20	09/21/18 12:16	2	GW	1.7	NA	NA	NA	R0119 (NA)			
J8279	07FRB092018	09/20/18 10:00	09/21/18 12:16	1	QC	1.7	NA	NA	NA	R0119 (NA)			
J8280	07GW13092018	09/20/18 10:25	09/21/18 12:16	2	GW	1.7	NA	NA	NA	R0119 (NA)			
J8281	07GW11092018	09/20/18 11:20	09/21/18 12:17	2	GW	1.7	NA	NA	NA	R0119 (NA)			

Total Samples: 4



It can be done

Chain-of-Custody

Client Contact Information		Project Manager: <u>G. Roal</u>			Sampling Site: <u>7</u>		Site Information: <u>NEBC Gulfport</u>				
		Sampler Information (print name): <u>W Olson</u>					COC #				
		Phone: <u>950 443 6855</u>									
		Email: <u>William.Olson@tortech.com</u>									
		Turnaround Time (TAT) Requested: <u>1 day</u>									
Project Name: <u>NEBC Gulfport</u>		Normal <input checked="" type="checkbox"/>					Page#				
Project No.:		Priority <input type="checkbox"/>									
		RUSH <input type="checkbox"/>									
		Time Zone:									
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative	Analysis			
07GW07092018		9-20-18	0920	G	GW	2					
07FRA092018		9-20-18	1000	GC	GC	1					
07GW13092018		9-20-18	1025	G	GW	2					
07GW11092018		9-20-18	1120	G	GW	2					
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:			
Relinquished by (Print/Sign): <u>W Olson</u>	Company: <u>Tortech</u>	Date/Time: <u>9-20-18 1600</u>	Received by (Print/Sign): <u>[Signature]</u>		Company: <u>Battelle</u>	Date/Time: <u>9-21-18 945</u>					
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):		Company:	Date/Time:					
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):		Company:	Date/Time:					
Comments:											

J8278
J8279
J8280
J8281

1.7° Therm. 1 9.45 9-21-15

ORIGIN ID: BIXA (904) 636-6125
MIKE J

8640 PHILIPS HWY STE 16

JACKSONVILLE, FL 32256
UNITED STATES US

MDS

SHIP DATE: 20SEP18
ACTWGT: 21.30 LB
CAD: 006993800/SSFE1922
DIMS: 18x10x10 IN

BILL THIRD PARTY

Part # 156297-435 PRRR EXP 09/19
5930/86/17255

TO **MATHEW SCHUMITZ**
BATTELLE - REF 112G08005 - SE0308
141 LONGWATER DR STE 202

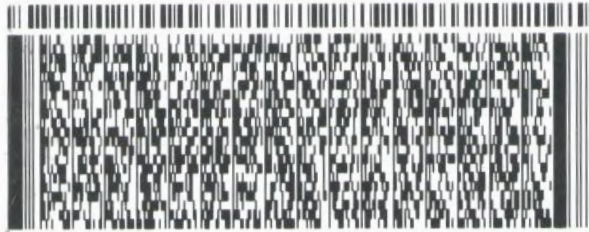
NORWELL MA 02061

(781) 681-6688

REF:

INU:
PO:

DEPT:



FedEx
Express



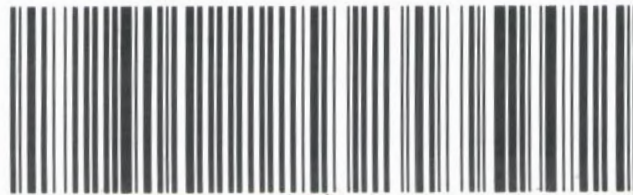
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FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT

TRK# **7828 6893 5783**
0201

XE XPUA

02061
MA-US BOS



Data Tables



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW07092018				
Battelle ID	J8278-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.285				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	71.37	0.17	0.44	4.39
PFHpA	375-85-9	5.17	0.14	0.44	4.39
PFOA	335-67-1	44.95	0.16	0.44	4.39
PFNA	375-95-1	0.78 J	0.23	0.88	4.39
PFDA	335-76-2	0.44 U	0.14	0.44	4.39
PFUnA	2058-94-8	0.88 U	0.25	0.88	4.39
PFDaA	307-55-1	0.44 U	0.16	0.44	4.39
PFTeDA	72629-94-8	0.44 U	0.13	0.44	4.39
PFTeDA	376-06-7	0.88 U	0.22	0.88	4.39
NMeFOSAA	2355-31-9	1.75 U	0.49	1.75	4.39
NEtFOSAA	2991-50-6	0.88 U	0.43	0.88	4.39
PFBS	375-73-5	8.65	0.11	0.44	4.39
PFHxS	355-46-4	95.54	0.10	0.35	4.39
PFOS	1763-23-1	9.25	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	87
13C4-PFHpA	101
13C8-PFOA	98
13C9-PFNA	105
13C6-PFDA	96
13C7-PFUnA	102
13C2-PFDaA	91
13C2-PFTeDA	70
d3-MeFOSAA	99
d5-EtFOSAA	106
13C3-PFBS	56
13C3-PFHxS	103
13C8-PFOS	93



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07FRB092018				
Battelle ID	J8279-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	QC				
Sample Size	0.265				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.95 J	0.18	0.47	4.72
PFHpA	375-85-9	0.47 U	0.15	0.47	4.72
PFOA	335-67-1	0.76 J	0.17	0.47	4.72
PFNA	375-95-1	0.30 J	0.25	0.94	4.72
PFDA	335-76-2	0.47 U	0.15	0.47	4.72
PFUnA	2058-94-8	0.94 U	0.27	0.94	4.72
PFDaA	307-55-1	0.47 U	0.17	0.47	4.72
PFTeDA	72629-94-8	0.30 J	0.14	0.47	4.72
PFTeDA	376-06-7	0.31 J	0.24	0.94	4.72
NMeFOSAA	2355-31-9	1.89 U	0.53	1.89	4.72
NEtFOSAA	2991-50-6	0.94 U	0.46	0.94	4.72
PFBS	375-73-5	0.47 U	0.12	0.47	4.72
PFHxS	355-46-4	0.38 U	0.10	0.38	4.72
PFOS	1763-23-1	0.47 U	0.18	0.47	4.72

Surrogate Recoveries (%)

13C5-PFHxA	101
13C4-PFHpA	102
13C8-PFOA	103
13C9-PFNA	101
13C6-PFDA	106
13C7-PFUnA	111
13C2-PFDaA	93
13C2-PFTeDA	84
d3-MeFOSAA	78
d5-EtFOSAA	129
13C3-PFBS	127
13C3-PFHxS	107
13C8-PFOS	105



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW13092018				
Battelle ID	J8280-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	22.64	0.18	0.46	4.63
PFHpA	375-85-9	7.12	0.15	0.46	4.63
PFOA	335-67-1	19.77	0.17	0.46	4.63
PFNA	375-95-1	1.32 J	0.24	0.93	4.63
PFDA	335-76-2	0.19 J	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDaA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	25.71	0.12	0.46	4.63
PFHxS	355-46-4	219.18 D	0.51	1.85	23.15
PFOS	1763-23-1	68.78	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	70
13C4-PFHpA	84
13C8-PFOA	90
13C9-PFNA	92
13C6-PFDA	93
13C7-PFUnA	99
13C2-PFDaA	91
13C2-PFTeDA	59
d3-MeFOSAA	106
d5-EtFOSAA	91
13C3-PFBS	59
13C3-PFHxS	103
13C8-PFOS	99



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW11092018				
Battelle ID	J8281-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	13.40	0.18	0.46	4.63
PFHpA	375-85-9	6.46	0.15	0.46	4.63
PFOA	335-67-1	21.63	0.17	0.46	4.63
PFNA	375-95-1	2.09 J	0.24	0.93	4.63
PFDA	335-76-2	0.18 J	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDaA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	8.67	0.12	0.46	4.63
PFHxS	355-46-4	86.71	0.10	0.37	4.63
PFOS	1763-23-1	31.30	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	83
13C4-PFHpA	104
13C8-PFOA	90
13C9-PFNA	95
13C6-PFDA	95
13C7-PFUnA	103
13C2-PFDaA	94
13C2-PFTeDA	72
d3-MeFOSAA	110
d5-EtFOSAA	134
13C3-PFBS	60
13C3-PFHxS	92
13C8-PFOS	91



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	KB35 IB				
Battelle ID	KB35 IB_09/27/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Water				
Sample Size	0.250				
Size Unit-Basis	NA				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	0.50 U	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTeDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.17 J	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	103
13C4-PFHpA	103
13C8-PFOA	100
13C9-PFNA	107
13C6-PFDA	106
13C7-PFUnA	112
13C2-PFDaA	99
13C2-PFTeDA	102
d3-MeFOSAA	97
d5-EtFOSAA	103
13C3-PFBS	98
13C3-PFHxS	100
13C8-PFOS	95



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	Procedural Blank				
Battelle ID	CR843PB-FS				
Sample Type	PB				
Collection Date	09/25/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	WATER				
Sample Size	0.250				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.78 J	0.19	0.50	5.00
PFHpA	375-85-9	0.26 J	0.16	0.50	5.00
PFOA	335-67-1	0.76 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	94
13C4-PFHpA	94
13C8-PFOA	95
13C9-PFNA	98
13C6-PFDA	103
13C7-PFUnA	105
13C2-PFDaA	90
13C2-PFTeDA	83
d3-MeFOSAA	105
d5-EtFOSAA	127
13C3-PFBS	100
13C3-PFHxS	104
13C8-PFOS	99



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID		Laboratory Control Sample					Control Limits	
Battelle ID		CR844LCS-FS						
Sample Type		LCS						
Collection Date		09/25/2018						
Extraction Date		09/25/2018						
Analysis Date		09/27/2018						
Analytical Instrument		Sciex 5500 LC/MS/MS						
% Moisture		NA						
Matrix		WATER						
Sample Size		0.250						
Size Unit-Basis		L						
Units		ng/L	Target	Recovery	Qual	Lower	Upper	
PFHxA	307-24-4	26.70	25.25	106		51	137	
PFHpA	375-85-9	24.49	25.00	98		48	136	
PFOA	335-67-1	25.79	25.00	103		49	141	
PFNA	375-95-1	23.59	25.00	94		58	122	
PFDA	335-76-2	24.73	25.00	99		59	135	
PFUnA	2058-94-8	24.30	25.00	97		64	134	
PFDoA	307-55-1	24.18	25.00	97		75	131	
PFTeDA	72629-94-8	26.80	25.00	107		42	148	
PFTeDA	376-06-7	25.93	25.00	104		42	158	
NMeFOSAA	2355-31-9	31.05	25.00	124		50	146	
NEtFOSAA	2991-50-6	22.83	25.00	91		51	131	
PFBS	375-73-5	22.60	25.25	90		56	134	
PFHxS	355-46-4	26.42	25.25	105		52	128	
PFOS	1763-23-1	25.10	25.00	100		40	144	

Surrogate Recoveries (%)

13C5-PFHxA	89
13C4-PFHpA	95
13C8-PFOA	91
13C9-PFNA	93
13C6-PFDA	94
13C7-PFUnA	97
13C2-PFDoA	99
13C2-PFTeDA	87
d3-MeFOSAA	99
d5-EtFOSAA	122
13C3-PFBS	116
13C3-PFHxS	99
13C8-PFOS	102



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Method detection limit (MDL) value, Limit of Detection (LOD) reported

Miscellaneous Documentation

QA/QC Summary
Batch 18-0566

Project:	CTO-JM08 - Naval Construction Battalion Center (NCBC)
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW, QC
Data Set:	DP-18-0274
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
9/20/2018	9/21/2018	1.7
Corrective Actions	None	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	NA	

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH ₃ in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	With the exception of the FRB sample, all sample had orange particulate matter in the samples prior to extraction. The SPE cartridge filter was popped off the top of the bed material during extraction for sample 07GW07092018 (J8278-FS) as it clogged during the extraction process.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. PFHxS and PFOS detections in the authentic field samples contained both the linear and branched isomers.

Holding Times	Extraction Date(s)	Analysis Date(s)
	9/25/2018	9/27/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ	No exceedances noted.
Samples >10x PB	No comments.

QA/QC Summary
Batch 18-0566

Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted.
	No comments.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted.
	No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted.
	No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted.
	No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



It can be done

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project Number: 100112541
 Preparation Batch: 18-0566
 Data Set: DP-18-0274
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	NA	NA
Matrix Spike / Matrix Spike Duplicate Precision	NA	NA
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title: PFAS Analytical work

Data Set Number: DP-18-0274

Project Number: 100112541

Prep Batch Number: 18-0566

Entered By: Denise Schumitz

Entered On: 10/01/2018

Test Code (Matrix Type): Master_369(L)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS10/1/2018

Task Leader Approval:

SupervisorApproval:

Digitally signed by Jonathan Thorn

PM Approval:

Date: 2018.10.01 15:21:03 -04'00'



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

PA = Area of target / area of internal standard
 b = y intercept from calibration curve
 CIS = concentration of internal standard (ng/L)
 m = slope of calibration
 DF = dilution factor
 S = Sample Size
 PIV = Pre-injection volume (L)

Sample ID: J8280-FS-D(5)
 Client Sample ID: 07GW13092018
 Sample Size: 0.27
 Units: L
 Dilution Factor: 5.000
 PIV (L): 0.001
 Target Analyte: PFHxS
 MRM Transition: 399.0 / 80.0
 Data file: 18-0579.wiff
 Result table: 18-0566_BASE
 Area: 4,867,730.85
 IS Name: 13C3-PFHxS
 IS Area: 27,584.16
 IS Amount (ng/L): 236.5
 y-intercept: 0.16241
 slope: 3.52287

$$\text{Concentration} = \frac{[(4867730.85/27584.16) - 0.16241]}{3.52287} * 236.5 * 0.001 * 5 / 0.27$$

ng/L = 219.18



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541
 Preparation Batch: 18-0566
 Data Set: DP-18-0274

		CR843PB-FS (Procedural Blank)	CR844LCS-FS (Laboratory Control Sample)	J8278-FS (07GW07092018)	J8279-FS (07FRB092018)	J8280-FS (07GW13092018)	J8281-FS (07GW11092018)
PFHxA	307-24-4	L	L	L	L	L	L
PFHpA	375-85-9	L	L	L	-	L	L
PFOA	335-67-1	L	L	L	L	L	L
PFNA	375-95-1	-	L	L	L	L	L
PFDA	335-76-2	-	L	-	-	L	L
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	L	-	-
PFTeDA	376-06-7	-	L	-	L	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	L	-	L	L
PFHxS	355-46-4	-	L	L/Br	-	L/Br	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	-	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C2-PFOA	102,171.99	51,086.00	153,257.99

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C2-PFOA	92,568.05	51,086.00	153,257.99	
KA87	L2	9/27/18 18:17	13C2-PFOA	99,607.47	51,086.00	153,257.99	
KA88	L3	9/27/18 18:28	13C2-PFOA	103,926.94	51,086.00	153,257.99	
KA89	L4	9/27/18 18:39	13C2-PFOA	102,513.01	51,086.00	153,257.99	
KA90	L5	9/27/18 18:50	13C2-PFOA	102,171.99	51,086.00	153,257.99	
KA91	L6	9/27/18 19:01	13C2-PFOA	89,123.37	51,086.00	153,257.99	
KA92	L7	9/27/18 19:11	13C2-PFOA	93,608.25	51,086.00	153,257.99	
KB35 IB	Instrument Blank	9/27/18 19:22	13C2-PFOA	92,013.28	51,086.00	153,257.99	
KB36 ICC	ICC	9/27/18 19:33	13C2-PFOA	99,790.21	51,086.00	153,257.99	
KA90 CCV	CCV	9/27/18 21:33	13C2-PFOA	103,166.69	51,086.00	153,257.99	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C2-PFOA	90,023.26	51,086.00	153,257.99	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C2-PFOA	98,607.86	51,086.00	153,257.99	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C2-PFOA	66,542.24	51,086.00	153,257.99	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C2-PFOA	89,512.51	51,086.00	153,257.99	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C2-PFOA	86,070.27	51,086.00	153,257.99	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C2-PFOA	87,864.53	51,086.00	153,257.99	
KA89 CCV	CCV	9/27/18 23:43	13C2-PFOA	108,147.90	51,086.00	153,257.99	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C2-PFOA	70,969.40	51,086.00	153,257.99	
KA90 CCV	CCV	9/28/18 0:27	13C2-PFOA	108,706.80	51,086.00	153,257.99	

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C2-PFDA	100,763.62	50,381.81	151,145.43

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C2-PFDA	96,279.07	50,381.81	151,145.43	
KA87	L2	9/27/18 18:17	13C2-PFDA	95,113.65	50,381.81	151,145.43	
KA88	L3	9/27/18 18:28	13C2-PFDA	116,638.94	50,381.81	151,145.43	
KA89	L4	9/27/18 18:39	13C2-PFDA	108,405.81	50,381.81	151,145.43	
KA90	L5	9/27/18 18:50	13C2-PFDA	100,763.62	50,381.81	151,145.43	
KA91	L6	9/27/18 19:01	13C2-PFDA	97,919.48	50,381.81	151,145.43	
KA92	L7	9/27/18 19:11	13C2-PFDA	106,165.27	50,381.81	151,145.43	
KB35 IB	Instrument Blank	9/27/18 19:22	13C2-PFDA	91,584.90	50,381.81	151,145.43	
KB36 ICC	ICC	9/27/18 19:33	13C2-PFDA	101,884.09	50,381.81	151,145.43	
KA90 CCV	CCV	9/27/18 21:33	13C2-PFDA	104,014.17	50,381.81	151,145.43	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C2-PFDA	88,591.40	50,381.81	151,145.43	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C2-PFDA	104,290.81	50,381.81	151,145.43	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C2-PFDA	85,051.54	50,381.81	151,145.43	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C2-PFDA	96,147.78	50,381.81	151,145.43	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C2-PFDA	93,121.60	50,381.81	151,145.43	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C2-PFDA	93,655.21	50,381.81	151,145.43	
KA89 CCV	CCV	9/27/18 23:43	13C2-PFDA	110,839.11	50,381.81	151,145.43	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C2-PFDA	81,211.41	50,381.81	151,145.43	
KA90 CCV	CCV	9/28/18 0:27	13C2-PFDA	105,092.04	50,381.81	151,145.43	

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C4-PFOS	32,536.22	16,268.11	48,804.33

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C4-PFOS	31,850.17	16,268.11	48,804.33	
KA87	L2	9/27/18 18:17	13C4-PFOS	28,077.79	16,268.11	48,804.33	
KA88	L3	9/27/18 18:28	13C4-PFOS	33,693.87	16,268.11	48,804.33	
KA89	L4	9/27/18 18:39	13C4-PFOS	33,583.58	16,268.11	48,804.33	
KA90	L5	9/27/18 18:50	13C4-PFOS	32,536.22	16,268.11	48,804.33	
KA91	L6	9/27/18 19:01	13C4-PFOS	33,632.81	16,268.11	48,804.33	
KA92	L7	9/27/18 19:11	13C4-PFOS	31,296.64	16,268.11	48,804.33	
KB35 IB	Instrument Blank	9/27/18 19:22	13C4-PFOS	29,901.26	16,268.11	48,804.33	
KB36 ICC	ICC	9/27/18 19:33	13C4-PFOS	34,236.26	16,268.11	48,804.33	
KA90 CCV	CCV	9/27/18 21:33	13C4-PFOS	29,653.50	16,268.11	48,804.33	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C4-PFOS	27,459.01	16,268.11	48,804.33	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C4-PFOS	28,902.59	16,268.11	48,804.33	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C4-PFOS	23,181.78	16,268.11	48,804.33	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C4-PFOS	27,609.11	16,268.11	48,804.33	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C4-PFOS	24,416.48	16,268.11	48,804.33	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C4-PFOS	27,486.26	16,268.11	48,804.33	
KA89 CCV	CCV	9/27/18 23:43	13C4-PFOS	33,930.24	16,268.11	48,804.33	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C4-PFOS	22,770.58	16,268.11	48,804.33	
KA90 CCV	CCV	9/28/18 0:27	13C4-PFOS	33,473.96	16,268.11	48,804.33	

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 7:11:59 PM	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.54	23	>10
PFBS_2	298.9 / 99.0	1.54	26	>10
PFHxA_1	313.0 / 269.0	1.86	23	>10
PFHxA_2	313.0 / 119.0	1.86	24	>10
PFHpA_1	363.0 / 319.0	2.27	30	>10
PFHpA_2	363.0 / 169.0	2.27	29	>10
PFHxS_1	399.0 / 80.0	2.29	53	>10
PFHxS_2	399.0 / 99.0	2.29	55	>10
PFOA_1	413.0 / 369.0	2.68	36	>10
PFOA_2	413.0 / 169.0	2.68	38	>10
PFNA_1	463.0 / 419.0	3.08	30	>10
PFNA_2	463.0 / 219.0	3.08	39	>10
PFOS_1	499.0 / 80.0	3.08	41	>10
PFOS_2	499.0 / 99.0	3.08	35	>10
PFDA_1	513.0 / 469.0	3.43	44	>10
PFDA_2	513.0 / 219.0	3.43	43	>10
PFUnA_1	563.0 / 519.0	3.76	63	>10
PFUnA_2	563.0 / 269.0	3.76	55	>10
PFDoA_1	613.0 / 569.0	4.04	64	>10
PFDoA_2	613.0 / 319.0	4.04	42	>10
PFTTrDA_1	663.0 / 619.0	4.29	68	>10
PFTTrDA_2	663.0 / 169.0	4.29	45	>10
PFTeDA_1	713.0 / 669.0	4.50	55	>10
PFTeDA_2	713.0 / 169.0	4.50	64	>10
NMeFOSAA_1	570.0 / 419.0	3.59	42	>10
NMeFOSAA_2	570.0 / 512.0	3.59	48	>10
NEtFOSAA_1	584.0 / 419.0	3.75	42	>10
NEtFOSAA_2	584.0 / 483.0	3.75	22	>10



Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 7:11:59 PM	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.03	51	>10
d3-MeFOSAA	573.0 / 419.0	3.58	28	>10
d5-EtFOSAA	589.0 / 419.0	3.74	24	>10
13C5-PFHxA	318.0 / 273.0	1.85	33	>10
13C4-PFHpA	367.0 / 322.0	2.26	31	>10
13C8-PFOA	421.0 / 376.0	2.67	42	>10
13C9-PFNA	472.0 / 427.0	3.06	39	>10
13C6-PFDA	519.0 / 474.0	3.42	33	>10
13C7-PFUnA	570.0 / 525.0	3.74	25	>10
13C2-PFTeDA	715.0 / 670.0	4.49	49	>10
13C3-PFBS	302.0 / 99.0	1.53	23	>10
13C3-PFHxS	402.0 / 99.0	2.28	32	>10
13C8-PFOS	507.0 / 99.0	3.06	29	>10



Precision and Bias at the LOQ for PFAS in non-potable Water

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n
PFBA	375-22-4	12.29	2.02	4.04	13
PFPeA	2706-90-3	10.73	1.51	3.02	9
PFHxA	307-24-4	9.93	1.30	2.60	39
PFHpA	375-85-9	9.42	1.57	3.14	39
PFOA	335-67-1	10.18	1.47	2.94	40
PFNA	375-95-1	9.64	1.15	2.30	39
PFDA	335-76-2	9.89	1.32	2.64	39
PFUnA	2058-94-8	9.86	1.31	2.62	39
PFDoA	307-55-1	10.75	1.29	2.58	39
PFTTrDA	72629-94-8	11.18	1.54	3.08	39
PFTeDA	376-06-7	10.70	1.91	3.82	39
NMeFOSAA	2355-31-9	10.26	1.87	3.74	39
NEtFOSAA	2991-50-6	9.63	1.54	3.08	39
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.05	1.44	2.88	40
PFPeS	BDO-2114	9.80	0.96	1.92	5
PFHxS	355-46-4	9.76	1.40	2.80	39
PFHpS	375-99-6	10.96	0.96	1.92	10
PFOS	1763-23-1	10.09	1.36	2.72	38
PFNS	98789-57-2	9.34	1.10	2.20	4
PFDS	2806-15-7	10.13	1.88	3.76	9
4:2FTS	BDO-2205	11.03	1.26	2.52	9
6:2FTS	27619-97-2	12.52	2.91	5.82	9
8:2FTS	39108-34-4	12.11	2.54	5.08	9

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369
Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Compliant Table B-15

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.14	0.5	5.0
PFPeA	2706-90-3	0.31	1.0	5.0
PFHxA	307-24-4	0.19	0.5	5.0
PFHpA	375-85-9	0.16	0.5	5.0
PFOA	335-67-1	0.18	0.5	5.0
PFNA	375-95-1	0.26	1.0	5.0
PFDA	335-76-2	0.16	0.5	5.0
PFUnA	2058-94-8	0.29	1.0	5.0
PFDoA	307-55-1	0.18	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.25	1.0	5.0
NMeFOSAA	2355-31-9	0.56	2.0	5.0
NEtFOSAA	2991-50-6	0.49	1.0	5.0
PFOSA	754-91-6	TBD	TBD	TBD
PFBS	375-73-5	0.13	0.5	5.0
PFPeS	BDO-2114	0.67	2.5	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-99-6	0.20	0.5	5.0
PFOS	1763-23-1	0.19	0.5	5.0
PFNS	98789-57-2	0.46	1.0	5.0
PFDS	2806-15-7	0.17	0.5	5.0
4:2FTS	BDO-2205	0.14	0.5	5.0
6:2FTS	27619-97-2	1.36	2.5	5.0
8:2FTS	39108-34-4	0.22	0.5	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

Analytical Transitions for PFAS in non-potable water, solid, and tissue

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDaA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFHpA	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFHxS	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (L)	Sample Equivalent (ng/L) ²
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

QTRAP 5500 Preventive Maintenance Checklist

Preventive Maintenance Date:	12-June-2018
Request ID:	9749
Company Name:	Battelle Memorial Institute
Instrument ID:	X60666
Instrument Model:	QTRAP 5500
Instrument Serial Number:	AU23051004

PASS

FAIL

Any failure will lead to an automatic Service Call being open to investigate fault.

Preventive Maintenance is performed twice every year unless specified in the Service Contract. It is designed to help maintain optimum system performance and to help diagnose any system deficiencies.

Engineer is required the assigned Request ID for this PM otherwise making this job invalid.

Comments: Suspected issue with pulse gas manifold. TRAP testing in POSITIVE mode couldn't be finished because of pulse gas issue. The same issue will be taken care in separate service call.

Performed By: Kaustubh Dhayagude **Date:** 12-June-2018

Approved By : _____ **Date:** _____

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

- Consult Customer concerning the unit overall performance.
- Check Logbook for Services recently performed.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.6	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop

Pre PM PPG Test: Perform each of the following tests. Optimize ion source position only. The specifications listed for these Pre PM tests are guidelines only, not required to be met.

- Perform Q1 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	Read Only

- Perform Q3 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 28.87% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	Read Only

Perform Q1 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.42 e7	Read Only	0.7686	Read Only

Perform Q3 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.24 e7	Read Only	0.7243	Read Only

Perform Product Ion scan using NEG PPG 3e-5M. Record 10 mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: _____(200-240VAC).
If Out-of-Range, notify customer.

- Clean Interface
 - Curtain Plate
 - Orifice Plate
 - QJet
 - Q0 Rods.

- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable. N/A
- Clean and inspect built-in divert valve if used. N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.

- Pump down overnight if possible. N/A

- Perform Maintenance on Turbo V source.

- Replace Electrode, if necessary. N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed. N/A

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

- Set-up Sample for Infusion.
- Check spray and adjust sprayer's position of the TIS source.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.7	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Perform Q1 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2 ^{e6}	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0 ^{e6}	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4 ^{e7}	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 ^{e7}	0.7465	0.6 to 0.8

- Perform Q3 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2 ^{e6}	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0 ^{e6}	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4 ^{e7}	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8 ^{e7}	0.7202	0.6 to 0.8

- Perform "Product of 609.3" POS and record product ion 195.1 using Reserpine 0.167pmol/uL. Record 10 mca. Calculate Transmission efficiency comparing Q1POS 609 intensity.

Transmission Efficiency: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform Q1 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	$\geq 1.0^{e7}$	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	$\geq 4.0^{e7}$	0.7206	0.6 to 0.8

- Perform Q3 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	2.15 e7	$\geq 8.0^{e6}$	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	$\geq 4.0^{e7}$	0.7299	0.6 to 0.8

- Perform Product Ion scan using NEG PPG 3e-5M.

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

- Perform ER POS 118.087 and 922.01 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.54 e6	$\geq 7.2^{e6}$	0.1473	<0.35
ER 922.010	0.05	4.96 e7	$\geq 2.8^{e6}$	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		$\geq 2.4^{e7}$		<0.65
ER 922.010	0.05		$\geq 6.8^{e7}$		<0.65

- Perform ER NEG 431.982 and 601.978 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.81 e8	$\geq 4.4^{e7}$	0.1862	<0.35
ER 601.978	0.05	1.70 e8	$\geq 5.6^{e7}$	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	$\geq 1.2^{e8}$	0.5102	<0.65
ER 601.978	0.05	4.52 e8	$\geq 1.6^{e8}$	0.6187	<0.65

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform EPI POS 397.2 using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥6.4 e6

- Perform MS3 POS full scan Fragmentation ON & OFF using Reserpine 0.167pmol/uL. Record 20 mca.

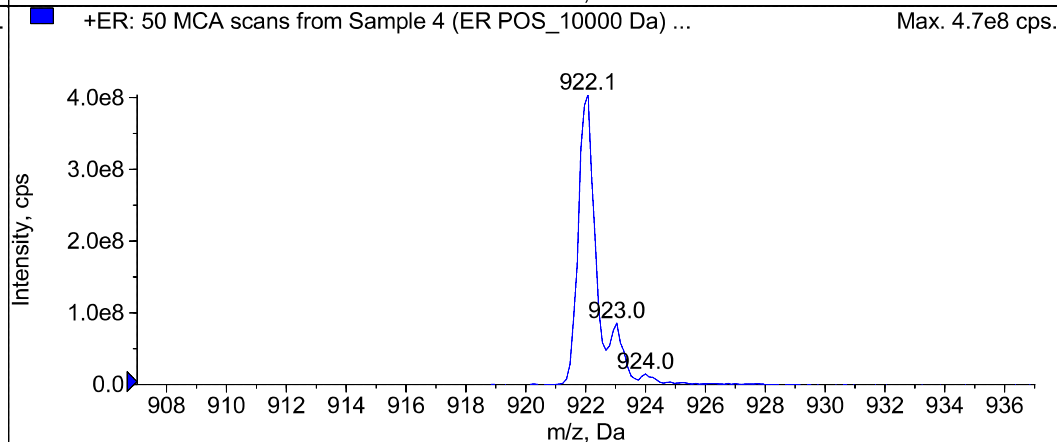
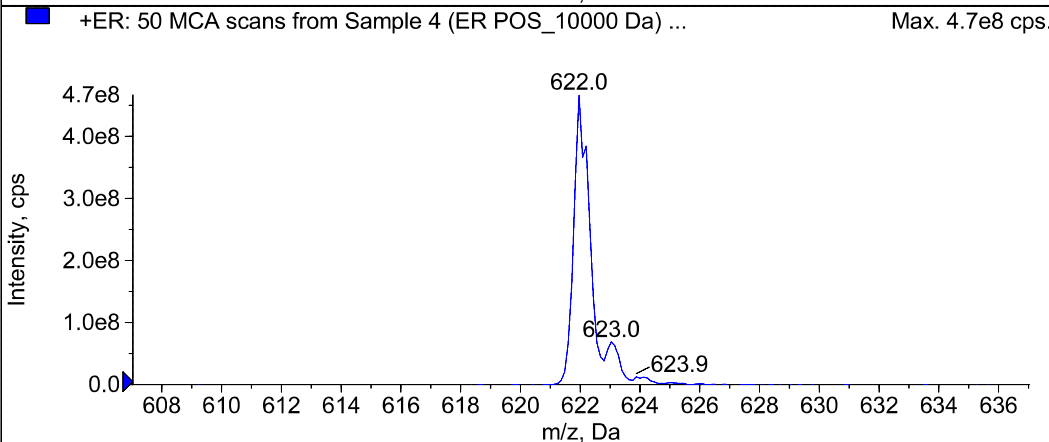
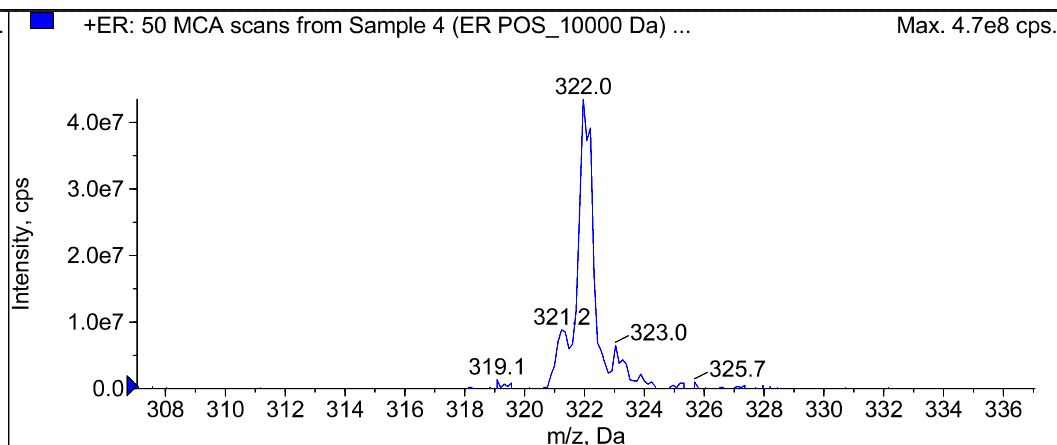
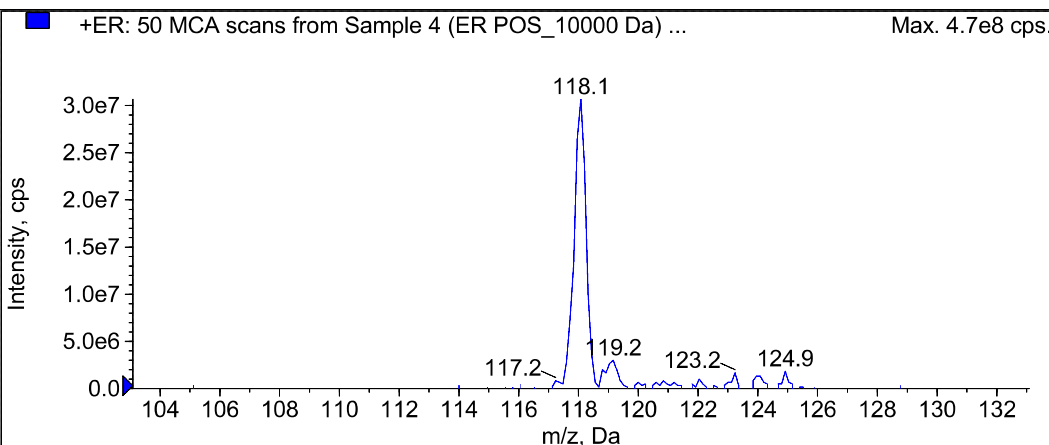
Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	Yes	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x 10 ^{e6}

REVIEW:

- Attach all spectrums printouts to this procedure.
- If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- Empty tuning cache folder, if necessary. N/A
- Update Service Work Order status
- Fill and replace PM Label.

END OF PREVENTIVE MAINTENANCE CHECKLIST**Document history:**

06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.



Peak List for "+ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4

Battelle Standard ID	Description	Intermediate Solutions	Battelle Reagent ID (purchased solutions)
JZ88	PFAS - DoD Second Source LCS/MS Solution	-	170724-01
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-02
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-03
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-04
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-06
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-07
KA86	PFAS - DoD Calibration L1	JY23	180705-02
KA86	PFAS - DoD Calibration L1	JY25	180726-04
KA86	PFAS - DoD Calibration L1	JY27	180726-05
KA87	PFAS - DoD Calibration L2	JY27	180726-05
KA87	PFAS - DoD Calibration L2	JY25	180726-04
KA87	PFAS - DoD Calibration L2	JY23	180705-02
KA88	PFAS - DoD Calibration L3	JY25	180726-04
KA88	PFAS - DoD Calibration L3	JY27	180726-05
KA88	PFAS - DoD Calibration L3	KA85	180705-02
KA89	PFAS - DoD Calibration L4	KA85	180705-02
KA89	PFAS - DoD Calibration L4	JY27	180726-05
KA89	PFAS - DoD Calibration L4	JY25	180726-04
KA90	PFAS - DoD Calibration L5	JY25	180726-04
KA90	PFAS - DoD Calibration L5	JY27	180726-05
KA90	PFAS - DoD Calibration L5	KA85	180705-02
KA91	PFAS - DoD Calibration L6	KA85	180705-02
KA91	PFAS - DoD Calibration L6	JY27	180726-05
KA91	PFAS - DoD Calibration L6	JY25	180726-04
KA92	PFAS - DoD Calibration L7	JY25	180726-04
KA92	PFAS - DoD Calibration L7	JY27	180726-05
KA92	PFAS - DoD Calibration L7	KA85	180705-02
KB33	PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)	JY27	180726-05
KB34	PFAS - DoD Internal Standard Spiking Solution	JY25	180726-04
KB35	PFAS - DoD Instrument Blank	JY25	180726-04
KB35	PFAS - DoD Instrument Blank	JY27	180726-05
KB36	PFAS - DoD ICC	JY27	180726-05
KB36	PFAS - DoD ICC	JY25	180726-04
KB36	PFAS - DoD ICC	JZ88	170724-01

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JX28**

Description: PFAS Branched Standard Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180618-02	Branched NEtFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-03	Branched NMeFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-04	PFOA - Technical Mix	Neat	~50.0000 00	02/16/22	---	---	100 uL	1	10	~0.5000
180618-06	Branched PFHxS Standard (50 µg/mL)	Neat	~50.0000 00	01/04/22	---	---	100 uL	1	10	~0.5000
180618-07	Branched PFOS Standard (50 µg/mL)	Neat	~50.0000 00	01/12/22	---	---	100 uL	1	10	~0.5000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 6/18/2018	Expiration Date: 6/18/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID:	Solvent:	Lot:
Comment:	Methanol (HPLC)	179315

Approved By: Thorn, Jonathan Date: 7/3/2018 8:10:00 AM

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JX28

Description: PFAS Branched Standard Stock

Stock Id: 180618-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-n-octanoic Acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-hexanesulfonate	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-07

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-octanesulfonate	100	50.00	1	100.000	1	10	0.50000

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.50000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.50000
Perfluoro-1-hexanesulfonate	.50000
Perfluoro-1-octanesulfonate	.50000
Perfluoro-n-octanoic Acid	.50000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180618-02	Pipette	I0793912B
180618-03	Pipette	I0793912B
180618-04	Pipette	I0793912B
180618-06	Pipette	I0793912B
180618-07	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie Date Prepared: 6/18/2018 Expiration Date: 6/18/2019

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: Approved By: Thorn, Jonathan Date: 7/3/2018 8:10:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	100	~0.0050

Solution Prepared By: Schultz, Stephanie

Date Prepared: 7/16/2018

Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	100	0.00505
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	100	0.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-butanedisulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluorononanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	100	0.00500
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	100	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00500
(Na) Perfluoro-1-decanesulfonate	.00505
(NA) Perfluoro-1-heptanesulfonate	.00500
(Na) Perfluoro-1-nonanesulfonate	.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanedisulfonate	.00505

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Perfluoro-1-hexanesulfonate	.00505
Perfluoro-1-octanesulfonamide	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-butanoic Acid	.00500
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00505
Perfluoro-n-octanoic Acid	.00500
Perfluorononanoic Acid	.00500
Perfluoro-n-pentanoic acid	.00505
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500
Sodium perfluoro-1-pentanesulfonate	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 96/4 Methanol/milli-q water		

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JY25**

Description: PFAS - DoD Internal Standard Stock Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-04	Mass-labelled PFAS injection standards	Neat	~2.00000 0	05/02/22	---	---	625 uL	1	25	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY25

Description: PFAS - DoD Internal Standard Stock Solution

Stock ID: 180726-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	625	2.00	1	100.000	1	25	0.05000
13C2-PFOA	625	2.00	1	100.000	1	25	0.05000
13C3-PFBA	625	2.00	1	100.000	1	25	0.05000
13C4-PFOS	625	1.91	1	100.000	1	25	0.04785

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.05000
13C2-PFOA	.05000
13C3-PFBA	.05000
13C4-PFOS	.04785

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-04	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JY27**

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-05	Mass-labelled PFAS Extraction Standard Solution	Neat	~1.00000 0	02/07/23	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: **JY27**

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: **180726-05**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	1000	0.94	1	100.000	1	20	0.04675
13C2-6:2FTS	1000	0.95	1	100.000	1	20	0.04745
13C2-8:2FTS	1000	0.96	1	100.000	1	20	0.04790
13C2-PFDoA	1000	1.00	1	100.000	1	20	0.05000
13C2-PFTeDA	1000	1.00	1	100.000	1	20	0.05000
13C3-PFBS	1000	0.93	1	100.000	1	20	0.04645
13C3-PFHxS	1000	0.95	1	100.000	1	20	0.04730
13C4-PFBA	1000	1.00	1	100.000	1	20	0.05000
13C4-PFHpA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFHxA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFPeA	1000	1.00	1	100.000	1	20	0.05000
13C6-PFDA	1000	1.00	1	100.000	1	20	0.05000
13C7-PFUnA	1000	1.00	1	100.000	1	20	0.05000
13C8-FOSA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOS	1000	0.96	1	100.000	1	20	0.04785
13C9-PFNA	1000	1.00	1	100.000	1	20	0.05000
d3-MeFOSAA	1000	1.00	1	100.000	1	20	0.05000
d5-EtFOSAA	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.04675
13C2-6:2FTS	.04745
13C2-8:2FTS	.04790
13C2-PFDoA	.05000
13C2-PFTeDA	.05000
13C3-PFBS	.04645
13C3-PFHxS	.04730
13C4-PFBA	.05000
13C4-PFHpA	.05000
13C5-PFHxA	.05000
13C5-PFPeA	.05000
13C6-PFDA	.05000
13C7-PFUnA	.05000
13C8-FOSA	.05000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

13C8-PFOA	.05000
13C8-PFOS	.04785
13C9-PFNA	.05000
d3-MeFOSAA	.05000
d5-EtFOSAA	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-05	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170724-01	PFOA- 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 8/20/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: **170724-01**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanefulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonate	.05050

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 8/20/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JZ88

Description: PFAS - DoD Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
170724-01	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 8/20/2018 **Expiration Date:** 8/20/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan **Date:** 8/21/2018 7:17:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA29

Description: PFAS Branched Solution (~5,000 ng/L)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JX28	PFAS Branched Standard Stock	Solution	~0	06/18/19	---	---	100 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	8/31/2018	Expiration Date	6/18/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA29

Description: PFAS Branched Solution (~5,000 ng/L)

Stock Id: JX28

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
Perfluoro-1-hexanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-1-octanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-n-octanoic Acid	100	0.50	---	---	1	10	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-hexanesulfonate	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-octanoic Acid	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JX28	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/31/2018 Expiration Date: 6/18/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	10	~0.0500

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	9/13/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	10	0.05050
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	10	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-butanefulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluorononanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	10	0.05000
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	10	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonate	.05050

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 9/13/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05050
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 9/13/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 96/4 methanol/milli-q water		

Approved By: Schumitz, Denise **Date:** 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-decanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-heptanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-nonanesulfonate	200	0.01	---	---	1	10	0.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-1-butanefulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanoic acid	200	0.01	---	---	1	10	0.00010
Sodium perfluoro-1-pentanesulfonate	200	0.01	---	---	1	10	0.00010

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00010
(Na) Perfluoro-1-decanesulfonate	.00010
(NA) Perfluoro-1-heptanesulfonate	.00010
(Na) Perfluoro-1-nonanesulfonate	.00010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanefulfonate	.00010
Perfluoro-1-hexanesulfonate	.00010
Perfluoro-1-octanesulfonamide	.00010
Perfluoro-1-octanesulfonate	.00010
Perfluoro-n-butanoic Acid	.00010
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluorononanoic Acid	.00010
Perfluoro-n-pentanoic acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010
Sodium perfluoro-1-pentanesulfonate	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B814657482
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 methanol/milli-q water		

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	500 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-nonanesulfonate	500	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-1-butanedisulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic acid	500	0.01	---	---	1	10	0.00025
Sodium perfluoro-1-pentanesulfonate	500	0.01	---	---	1	10	0.00025

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
(Na) Perfluoro-1-decanesulfonate	.00025
(NA) Perfluoro-1-heptanesulfonate	.00025
(Na) Perfluoro-1-nonanesulfonate	.00025
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanefulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butanefulfonic Acid	.00025
Perfluoro-n-decanefulfonic Acid	.00025
Perfluoro-n-dodecanefulfonic acid	.00025
Perfluoro-n-heptanefulfonic Acid	.00025
Perfluoro-n-hexanefulfonic acid	.00025
Perfluoro-n-octanefulfonic Acid	.00025
Perfluorononanefulfonic Acid	.00025
Perfluoro-n-pentanefulfonic acid	.00025
Perfluoro-n-tetradecanefulfonic acid	.00025
Perfluoro-n-tridecanefulfonic acid	.00025
Perfluoro-n-undecanefulfonic acid	.00025
Sodium perfluoro-1-pentanesulfonate	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B820865811
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	100 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

 Comment:

80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-decanesulfonate	100	0.05	---	---	1	10	0.00051
(NA) Perfluoro-1-heptanesulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-nonanesulfonate	100	0.05	---	---	1	10	0.00051

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-1-butanedisulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	100	0.05	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	100	0.05	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluorononanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-tetradecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	100	0.05	---	---	1	10	0.00050
Sodium perfluoro-1-pentanesulfonate	100	0.05	---	---	1	10	0.00050

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
(Na) Perfluoro-1-decanedisulfonate	.00051
(NA) Perfluoro-1-heptadisulfonate	.00050
(Na) Perfluoro-1-nonadisulfonate	.00051
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanefulfonate	.00051
Perfluoro-1-hexanesulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanesulfonate	.00050
Perfluoro-n-butyric Acid	.00050
Perfluoro-n-decanoic Acid	.00050
Perfluoro-n-dodecanoic acid	.00050
Perfluoro-n-heptanoic Acid	.00050
Perfluoro-n-hexanoic acid	.00051
Perfluoro-n-octanoic Acid	.00050
Perfluorononanoic Acid	.00050
Perfluoro-n-pentanoic acid	.00051
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050
Sodium perfluoro-1-pentanesulfonate	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanedisulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanedisulfonate	.00101
(NA) Perfluoro-1-heptanedisulfonate	.00100
(Na) Perfluoro-1-nonanedisulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00101
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	500 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-decanesulfonate	500	0.05	---	---	1	10	0.00253
(NA) Perfluoro-1-heptanesulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-nonanesulfonate	500	0.05	---	---	1	10	0.00253

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-1-butanedisulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-hexanesulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-octanesulfonamide	500	0.05	---	---	1	10	0.00250
Perfluoro-1-octanesulfonate	500	0.05	---	---	1	10	0.00250
Perfluoro-n-butanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluorononanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-tetradecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	500	0.05	---	---	1	10	0.00250
Sodium perfluoro-1-pentanesulfonate	500	0.05	---	---	1	10	0.00250

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
(Na) Perfluoro-1-decanedisulfonate	.00253
(NA) Perfluoro-1-heptadisulfonate	.00250
(Na) Perfluoro-1-nonadisulfonate	.00253
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butyric Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00253
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250
Sodium perfluoro-1-pentanesulfonate	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA91

Description: PFAS - DoD Calibration L6

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	1000 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA91

Description: PFAS - DoD Calibration L6

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023
13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	5	0.01010
(NA) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	5	0.01010

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA91

Description: PFAS - DoD Calibration L6

N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-butanedisulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluorononanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	5	0.01000
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	5	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
(Na) Perfluoro-1-decanedisulfonate	.01010
(NA) Perfluoro-1-heptadisulfonate	.01000
(Na) Perfluoro-1-nonadisulfonate	.01010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA91

Description: PFAS - DoD Calibration L6

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefulfonate	.01010
Perfluoro-1-hexanesulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanesulfonate	.01000
Perfluoro-n-butanefulfonic Acid	.01000
Perfluoro-n-decanefulfonic Acid	.01000
Perfluoro-n-dodecanefulfonic acid	.01000
Perfluoro-n-heptanefulfonic Acid	.01000
Perfluoro-n-hexanefulfonic acid	.01010
Perfluoro-n-octanefulfonic Acid	.01000
Perfluorononanefulfonic Acid	.01000
Perfluoro-n-pentanefulfonic acid	.01010
Perfluoro-n-tetradecanefulfonic acid	.01000
Perfluoro-n-tridecanefulfonic acid	.01000
Perfluoro-n-undecanefulfonic acid	.01000
Sodium perfluoro-1-pentanesulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814657482
KA85	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 Methanol/Milli-q water		

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA92

Description: PFAS - DoD Calibration L7

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	2000 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA92

Description: PFAS - DoD Calibration L7

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023
13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-decanesulfonate	2000	0.05	---	---	1	5	0.02020
(NA) Perfluoro-1-heptanesulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-nonanesulfonate	2000	0.05	---	---	1	5	0.02020

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA92

Description: PFAS - DoD Calibration L7

N-ethylperfluoro-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-butanedisulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-hexanesulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-octanesulfonamide	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-octanesulfonate	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-butanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-decanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-dodecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-heptanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-hexanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-octanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluorononanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-pentanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-tetradecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tridecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-undecanoic acid	2000	0.05	---	---	1	5	0.02000
Sodium perfluoro-1-pentanesulfonate	2000	0.05	---	---	1	5	0.02000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.02000
(Na) Perfluoro-1-decanedisulfonate	.02020
(NA) Perfluoro-1-heptadisulfonate	.02000
(Na) Perfluoro-1-nonadisulfonate	.02020
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA92

Description: PFAS - DoD Calibration L7

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-butanefulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butanefulfonate	.02000
Perfluoro-n-decanoic Acid	.02000
Perfluoro-n-dodecanoic acid	.02000
Perfluoro-n-heptanoic Acid	.02000
Perfluoro-n-hexanoic acid	.02020
Perfluoro-n-octanoic Acid	.02000
Perfluorononanoic Acid	.02000
Perfluoro-n-pentanoic acid	.02020
Perfluoro-n-tetradecanoic acid	.02000
Perfluoro-n-tridecanoic acid	.02000
Perfluoro-n-undecanoic acid	.02000
Sodium perfluoro-1-pentanesulfonate	.02000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB33**

Description: PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB33**

Description: PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)

Stock Id: **JY27**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	2500	0.05	---	---	1	25	0.00468
13C2-6:2FTS	2500	0.05	---	---	1	25	0.00475
13C2-8:2FTS	2500	0.05	---	---	1	25	0.00479
13C2-PFDoA	2500	0.05	---	---	1	25	0.00500
13C2-PFTeDA	2500	0.05	---	---	1	25	0.00500
13C3-PFBS	2500	0.05	---	---	1	25	0.00465
13C3-PFHxS	2500	0.05	---	---	1	25	0.00473
13C4-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFHpA	2500	0.05	---	---	1	25	0.00500
13C5-PFHxA	2500	0.05	---	---	1	25	0.00500
13C5-PFPeA	2500	0.05	---	---	1	25	0.00500
13C6-PFDA	2500	0.05	---	---	1	25	0.00500
13C7-PFUnA	2500	0.05	---	---	1	25	0.00500
13C8-FOSA	2500	0.05	---	---	1	25	0.00500
13C8-PFOA	2500	0.05	---	---	1	25	0.00500
13C8-PFOS	2500	0.05	---	---	1	25	0.00478
13C9-PFNA	2500	0.05	---	---	1	25	0.00500
d3-MeFOSAA	2500	0.05	---	---	1	25	0.00500
d5-EtFOSAA	2500	0.05	---	---	1	25	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00468
13C2-6:2FTS	.00475
13C2-8:2FTS	.00479
13C2-PFDoA	.00500
13C2-PFTeDA	.00500
13C3-PFBS	.00465
13C3-PFHxS	.00473
13C4-PFBA	.00500
13C4-PFHpA	.00500
13C5-PFHxA	.00500
13C5-PFPeA	.00500
13C6-PFDA	.00500
13C7-PFUnA	.00500
13C8-FOSA	.00500

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KB33

Description: PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)

13C8-PFOA	.00500
13C8-PFOS	.00478
13C9-PFNA	.00500
d3-MeFOSAA	.00500
d5-EtFOSAA	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY27	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 9/24/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 mL X 1 **Vials Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan **Date:** 9/24/2018 3:46:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB34**

Description: PFAS - DoD Internal Standard Spiking Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/24/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB34**

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: **JY25**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2500	0.05	---	---	1	25	0.00500
13C2-PFOA	2500	0.05	---	---	1	25	0.00500
13C3-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFOS	2500	0.05	---	---	1	25	0.00479

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00500
13C2-PFOA	.00500
13C3-PFBA	.00500
13C4-PFOS	.00479

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date: 7/16/2019
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Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB35**

Description: PFAS - DoD Instrument Blank

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB35**

Description: PFAS - DoD Instrument Blank

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KB35

Description: PFAS - DoD Instrument Blank

13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025
13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 9/24/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JZ88	PFAS - DoD Second Source LCS/MS Solution	Solution	~0	08/20/19	---	---	200 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: JZ88

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanedisulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanedisulfonate	.00101
(NA) Perfluoro-1-heptanedisulfonate	.00100
(Na) Perfluoro-1-nonanedisulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanefulfonate	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
JZ88	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

BDO Id: 170724-01

Reagent Receipt Report

 Approved: Authorized

Name: <u>PFOA- 2nd Source</u>	Received: <u>7/24/2017</u>
Vendor: <u>ABSOLUTE STANDARDS</u>	Custodian: <u>Schumitz, Matt</u>
Catalogue No: <u>99207</u>	Expires: <u>3/22/2022</u>
Type: <u>Solution</u>	Consumed: _____
Lot No: <u>032217</u>	Stored In: <u>LC Laboratory - F0111</u>
Quantity: <u>5 ea</u> mL % Moisture: _____	
Description: <u>PFOA - 2nd Source</u>	

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorohexane s	414911-30-1	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--	<input type="checkbox"/>			
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--	<input type="checkbox"/>			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-butanefulfonate	375-73-5	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonate	1763-23-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Sodium perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 24

Notes:

Approved by: _____	Approved on: _____
Authorized by: _____	Authorized on: _____



CERTIFIED WEIGHT REPORT

170784-01

Part Number: 99207
Lot Number: 032217
Description: PFOA - DOD
24 components
Expiration Date: 032222
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 822-275872-11

Solvent(s): Methanol (1 mM KOH) 031317 (98%)
2-Propanol 23214 (2%)

Lot#

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

<i>Paul Barron</i>		032217
Formulated By:	Paul Barron	DATE
<i>Pedro L. Rentas</i>		032217
Reviewed By:	Pedro L. Rentas	DATE

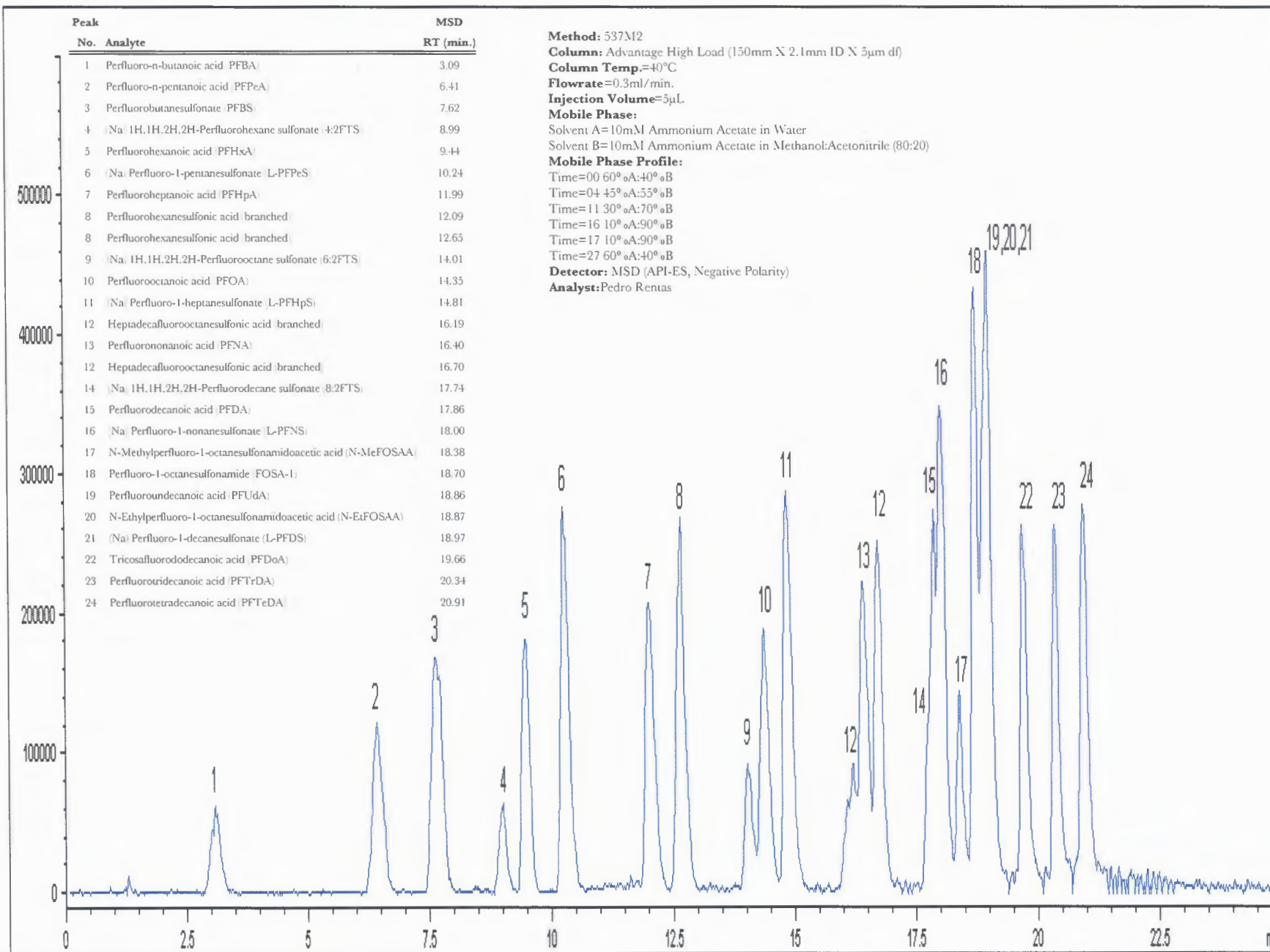
Volume(s) shown below were combined and diluted to (mL): 50.0

Note: All assigned values are anion concentrations.

Expanded SDS Information
(Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916l	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



BATTELLE

It can be done

BDO Id: 180618-02**Reagent Receipt Report**Approved: Authorized:

Name: Branched NEtFOSAA Standard (50 µ Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: br-NEtFOSAAA Expires: 1/17/2023
 Type: Solution Consumed: _____
 Lot No: brNEtFOSAA0118 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched NEtFOSAA Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

18 0618-02



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

**N-Ethylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

<u>PRODUCT CODE:</u>	br-NEtFOSAA
<u>LOT NUMBER:</u>	brNEtFOSAA0118
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/ml
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/10/2018
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/17/2018
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/17/2023
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

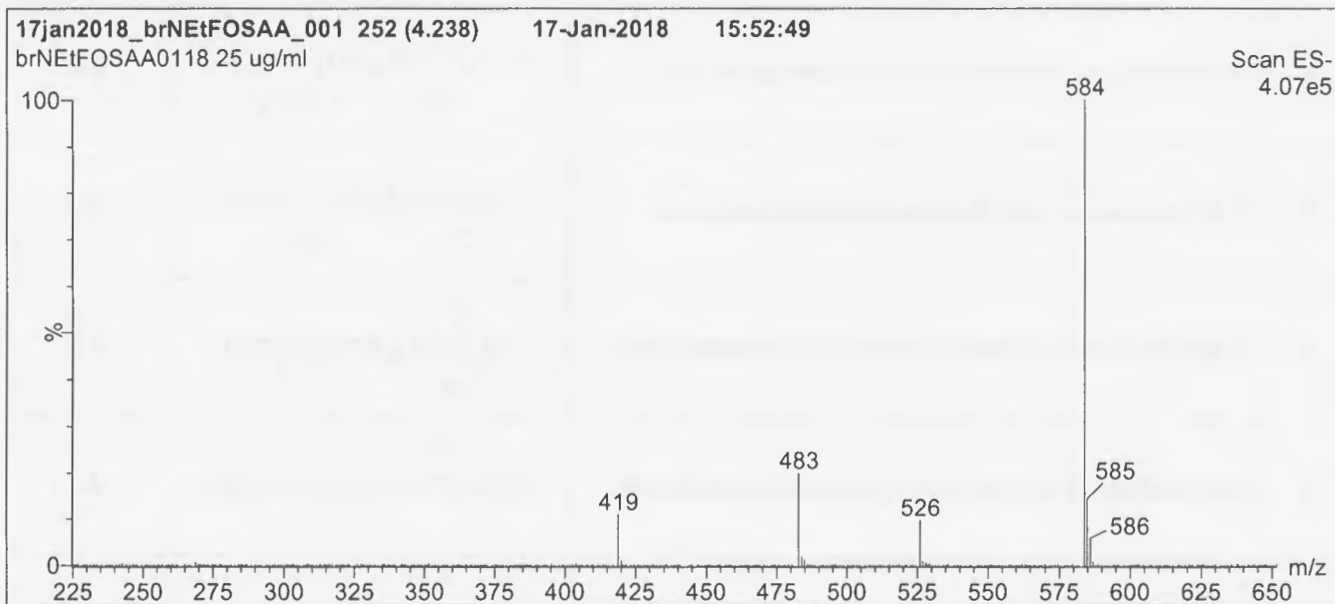
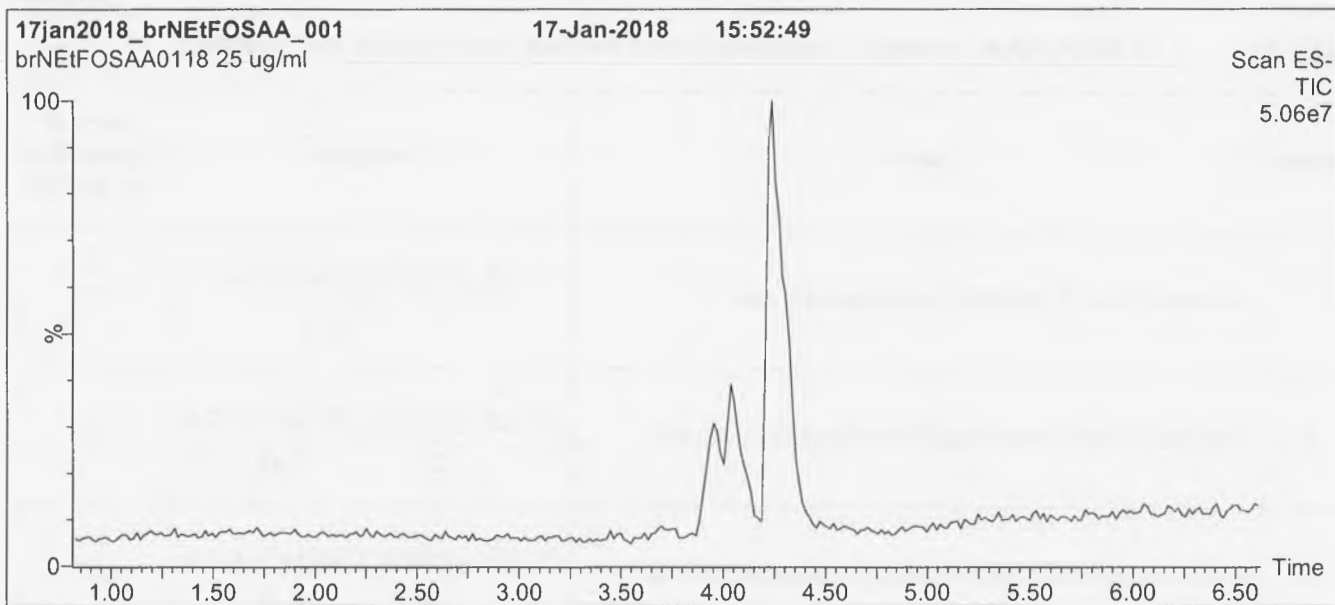
Table A: br-NEtFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\qquad\qquad\qquad $ $\qquad\qquad\qquad \text{C}_2\text{H}_5$	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\qquad\qquad\qquad \qquad\qquad\qquad $ $\qquad\qquad\qquad \text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\qquad\qquad\qquad \qquad\qquad\qquad $ $\qquad\qquad\qquad \text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	2.2
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\qquad\qquad\qquad \qquad\qquad\qquad $ $\qquad\qquad\qquad \text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	5.4
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\qquad\qquad\qquad \qquad\qquad\qquad $ $\qquad\qquad\qquad \text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	10.4
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	CF_3 $ $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $ \qquad\qquad\qquad $ $\text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	0.3
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	CF_3 $ $ $\text{CF}_3\text{CFCF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $ \qquad\qquad\qquad $ $\text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	CF_3 $ $ $\text{CF}_3\text{CFCF}_2\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $ \qquad\qquad\qquad $ $\text{CF}_3 \qquad\qquad\qquad \text{C}_2\text{H}_5$	0.3
9	Other Unidentified Isomers		1.3

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: 
B.G. Chittim, General Manager

Date: 03/22/2018
(mm/dd/yyyy)

Figure 1: br-NEtFOSAA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

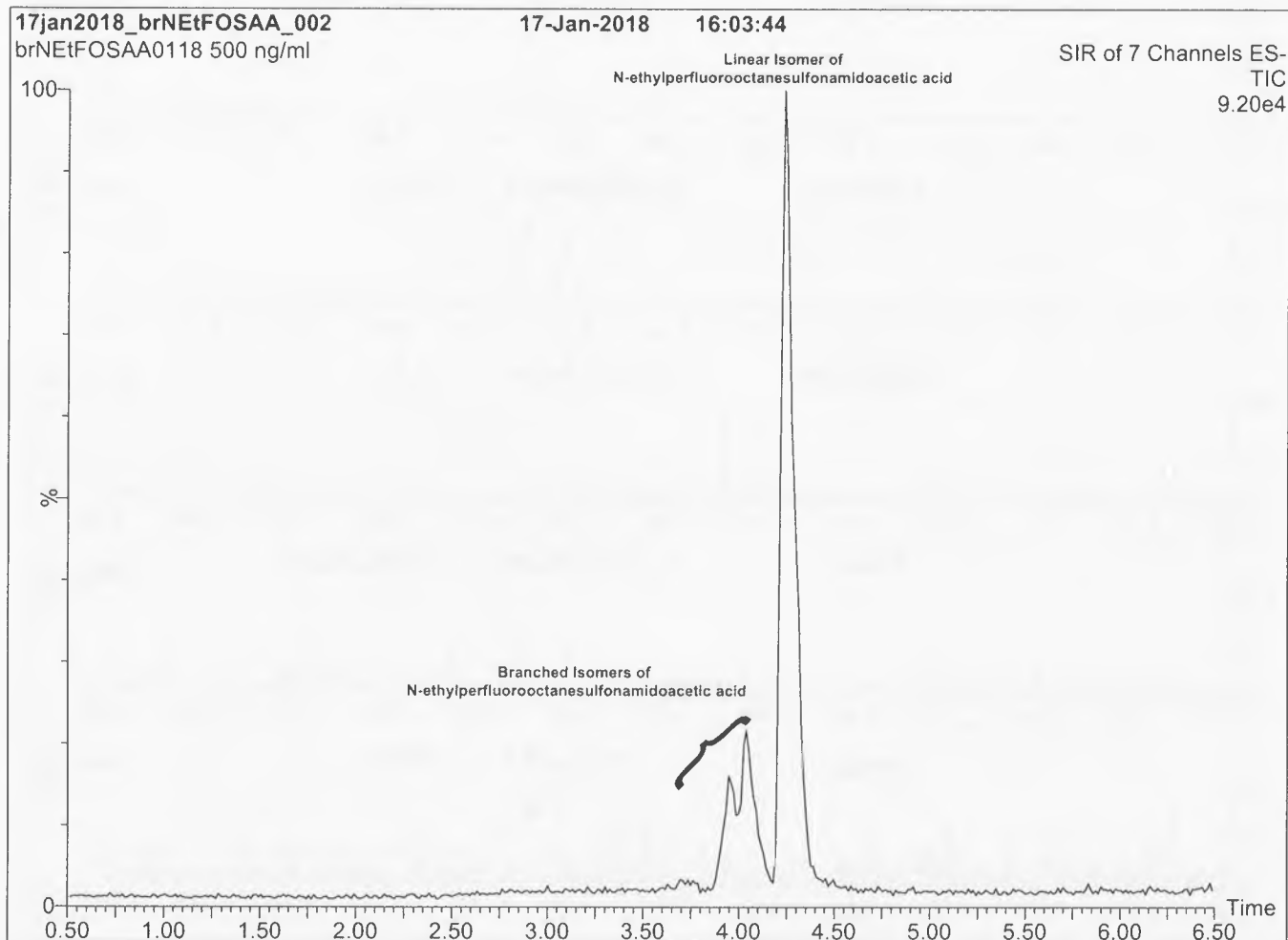
Time: 10 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

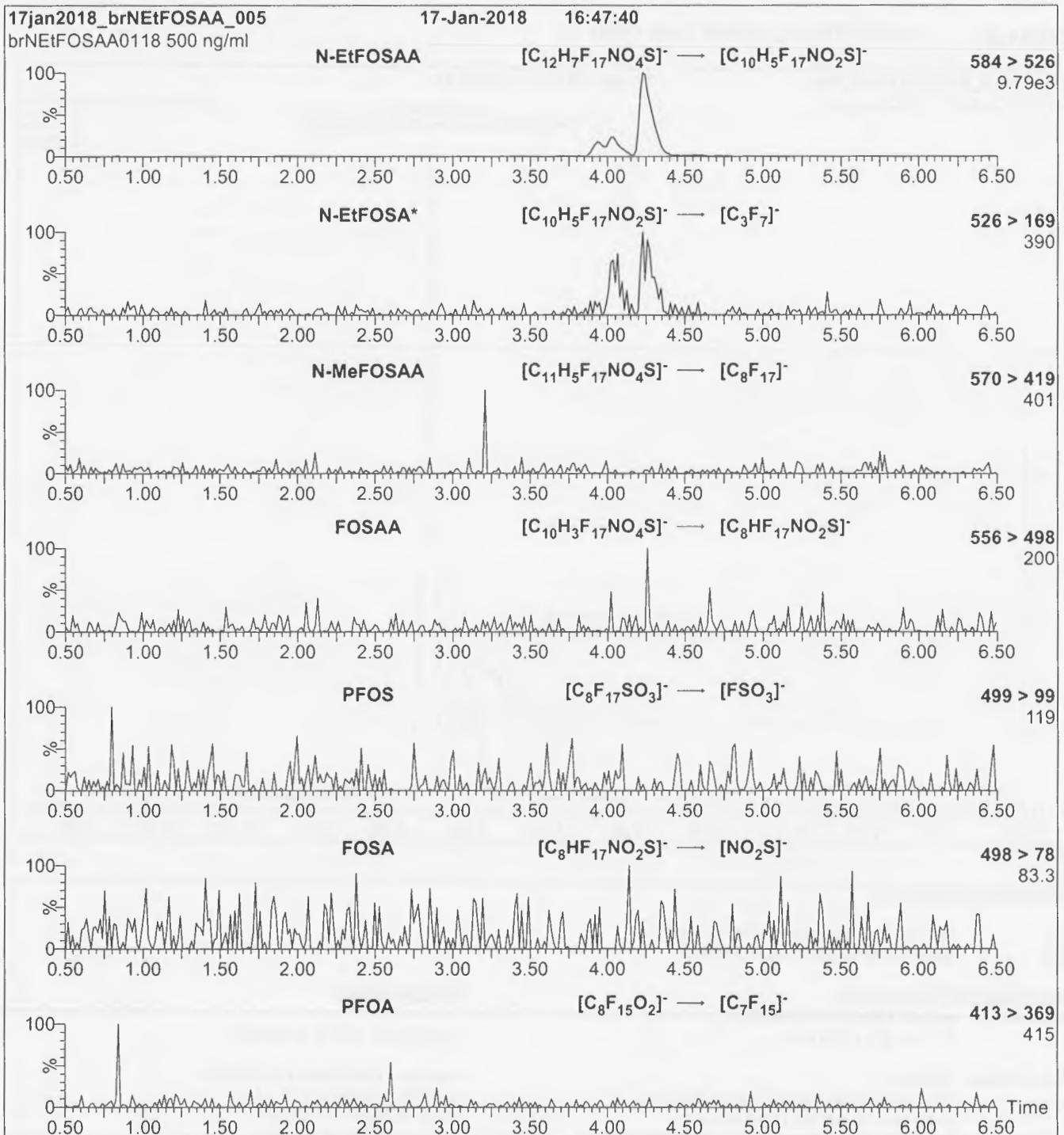
Figure 2: br-NEtFOSAA; LC/MS Data (SIR)**Conditions for Figure 2:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mmMobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

Time: 10 min

Flow: 300 μ l/min**MS Parameters**

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 3: br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)

*Note: N-EtFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min

BATTELLE

It can be done

BDO Id: 180618-03**Reagent Receipt Report**Approved: Authorized:

Name: Branched NMeFOSAA Standard (50 Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: brNMeFOSAA Expires: 1/17/2023
 Type: Solution Consumed: _____
 Lot No: brNMeFOSAA0118 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched NMeFOSAA Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-03



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

**N-Methylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-NMeFOSAA
LOT NUMBER: brNMeFOSAA0118
CONCENTRATION: 50.0 ± 2.5 µg/ml
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2018
LAST TESTED: (mm/dd/yyyy) 01/17/2018
EXPIRY DATE: (mm/dd/yyyy) 01/17/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

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x_1, x_2, \dots, x_n on which it depends is:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

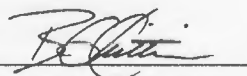


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

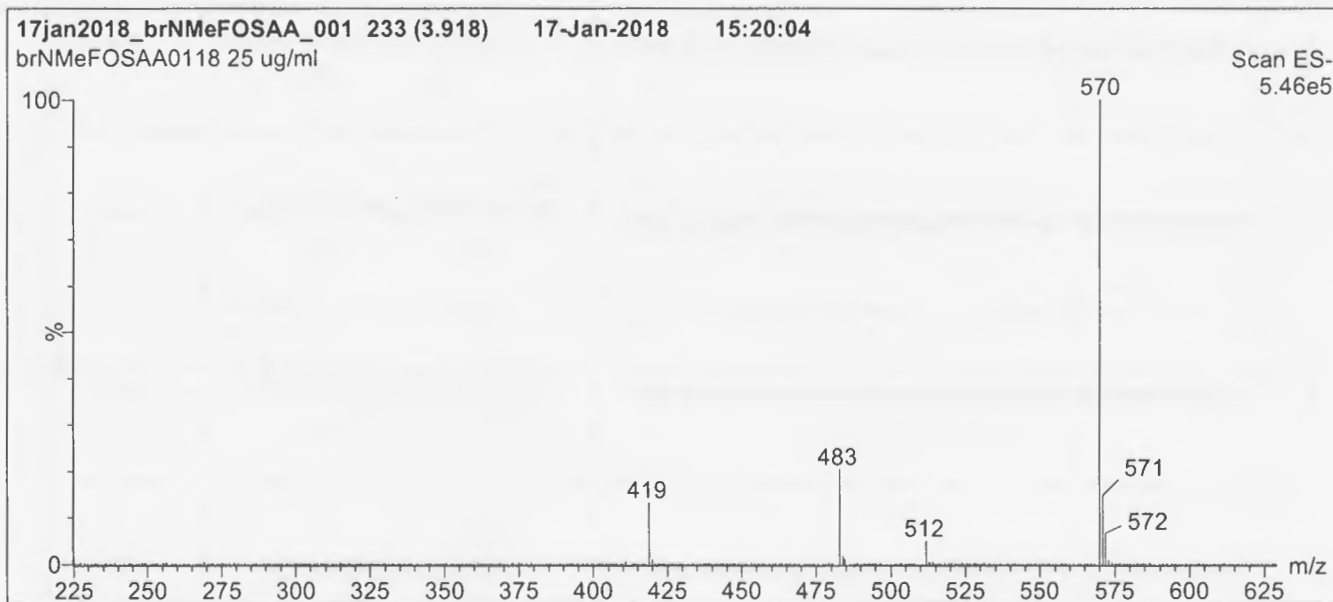
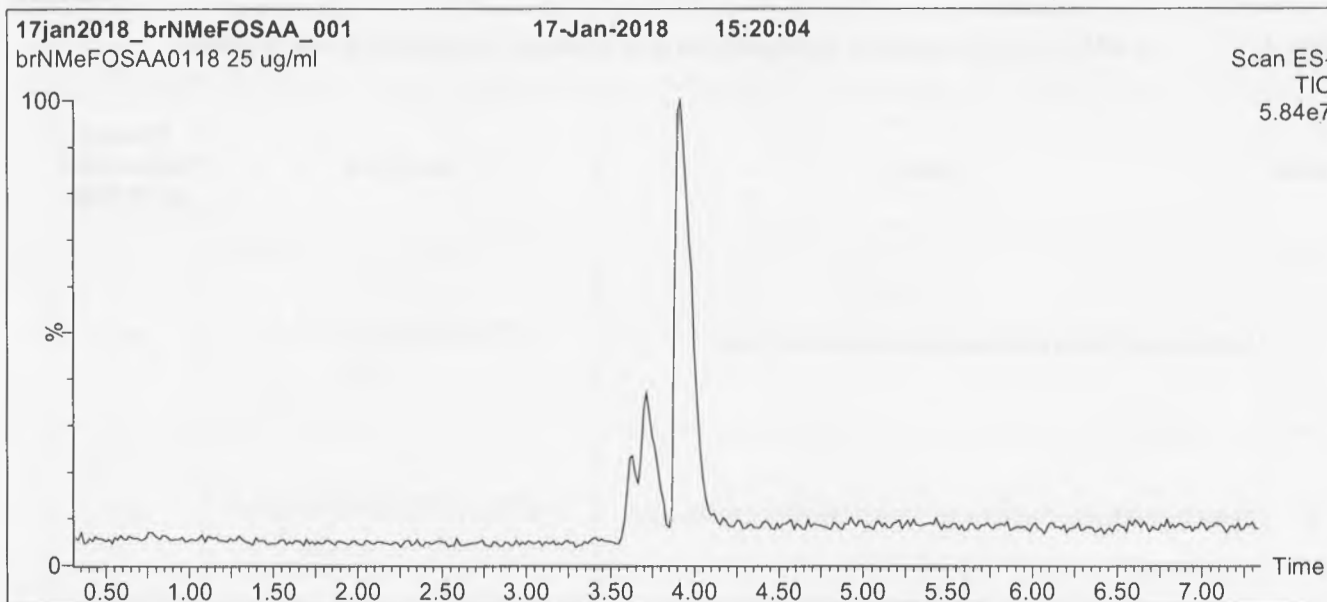
Table A: br-NMeFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$	0.2
7	Other Unidentified Isomers		1.1

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: 
B.G. Chittim, General Manager

Date: 03/22/2018
(mm/dd/yyyy)

Figure 1: br-NMeFOSAA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

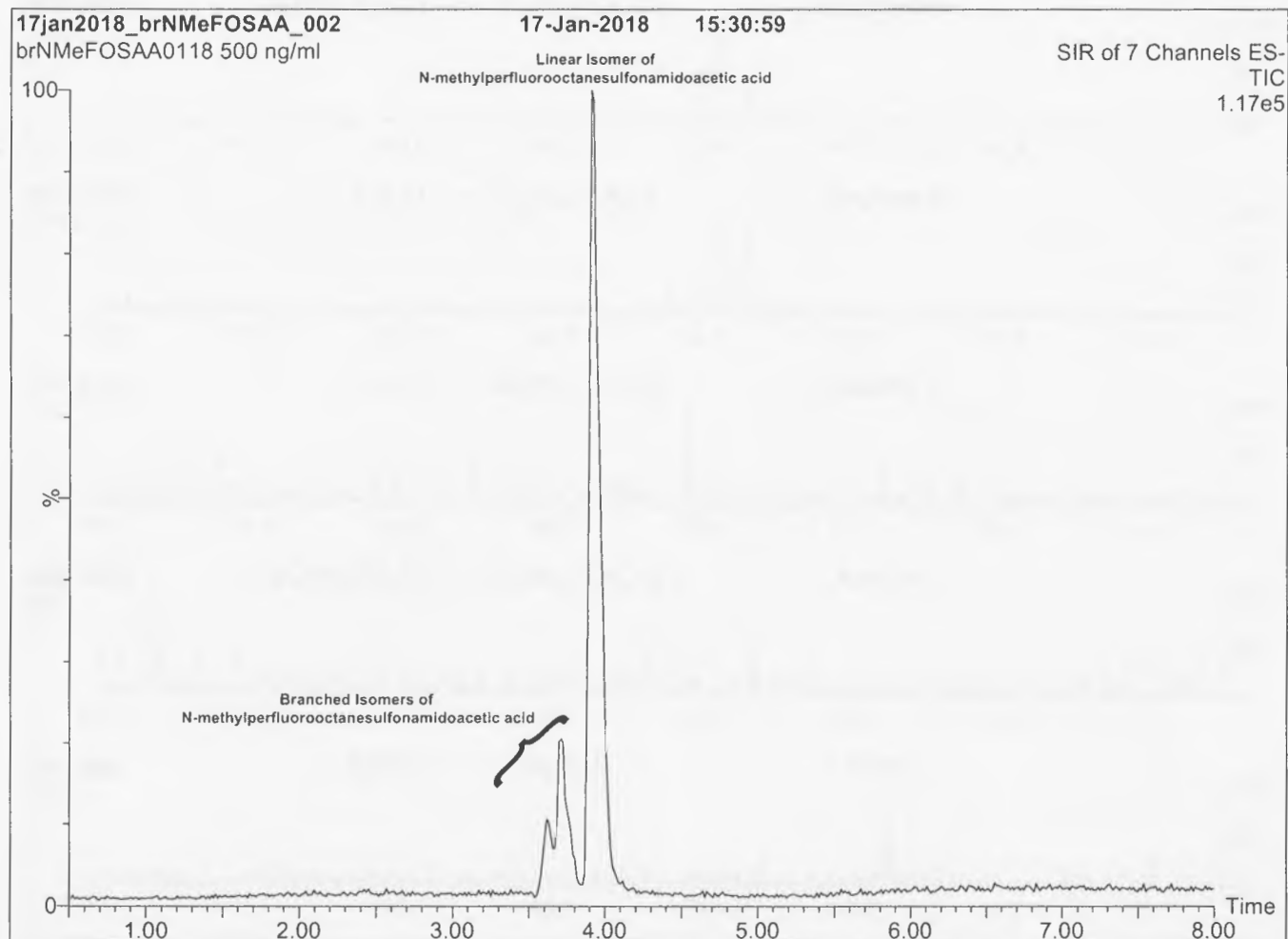
Time: 10 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

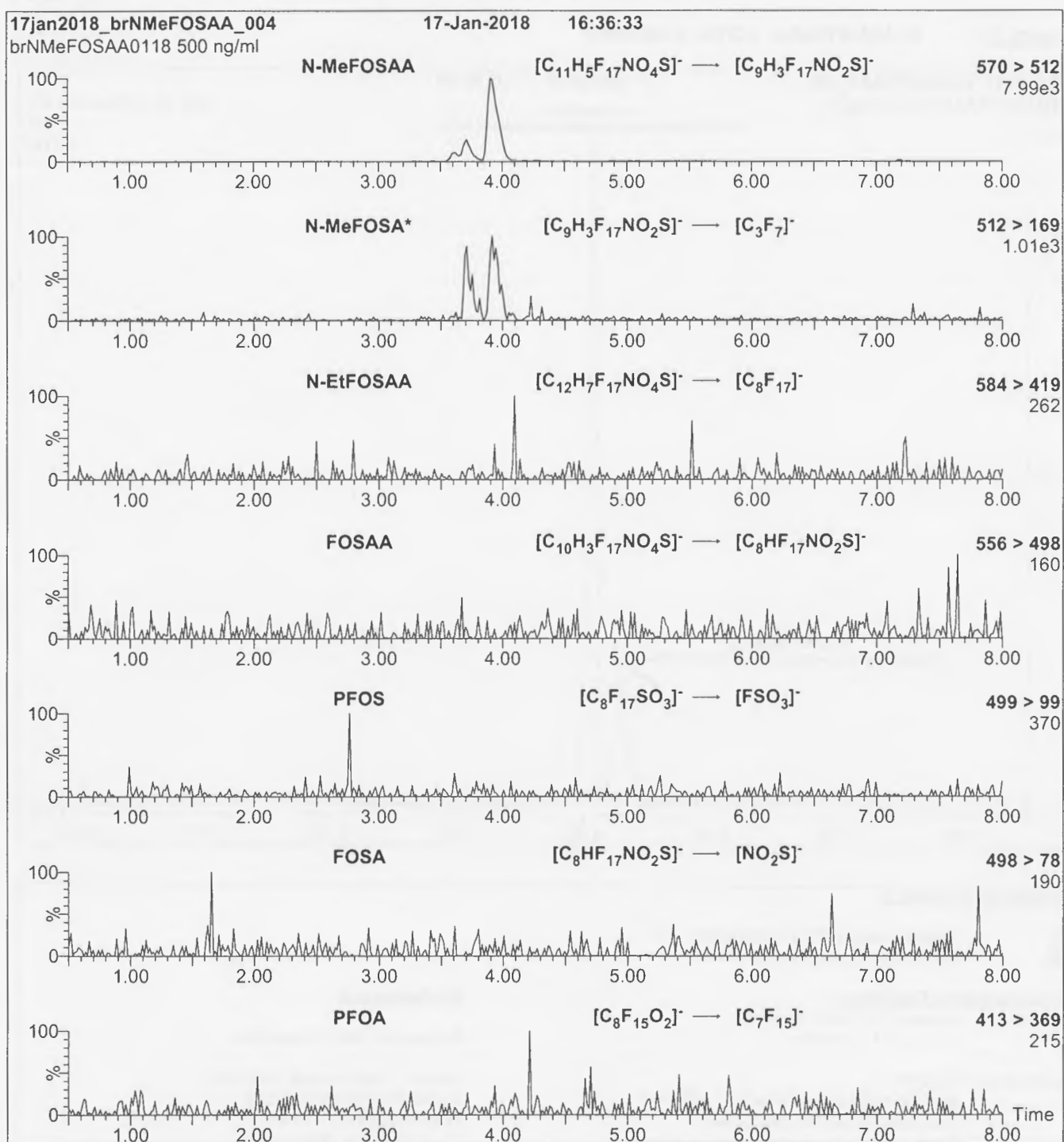
Figure 2: br-NMeFOSAA; LC/MS Data (SIR)**Conditions for Figure 2:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mmMobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

Time: 10 min

Flow: 300 μ l/min**MS Parameters**

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 3: br-NMeFOSAA; LC/MS/MS Data (Selected MRM Transitions)

*Note: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min



It can be done

BDO Id: 180618-04

Reagent Receipt Report

Approved: Authorized

Name: PFOA - Technical Mix Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: T-PFOA Expires: 2/16/2022
 Type: Solution Consumed: _____
 Lot No: TPFOA0217 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: PFOA - Technical Mix

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-04



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: T-PFOA **LOT NUMBER:** TPFOA0217
COMPOUND: Technical Ammonium Perfluorooctanoate

STRUCTURE: (see Table A) **CAS #:** 95328-99-7
 (for linear ammonium perfluorooctanoate)

MOLECULAR FORMULA: $C_8F_{15}O_2NH_4$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$ (gravimetric)
CHEMICAL PURITY: Technical material
SOLVENT(S): Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy) 02/16/2017
EXPIRY DATE: (mm/dd/yyyy) 02/16/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition
 Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)
 Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only*.
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____

B.G. Chittim

Date: 02/22/2017

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used for the identification and/or semi-quantitative determination of the specific chemical compound(s) it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

CHARACTERIZATION / HOMOGENEITY:

This product is a technical mixture obtained from an industrial manufacturer. It has been characterized as to its content and components using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Testing of samples in solution has shown it to be homogeneous. As this product is a technical mixture, it should not be used to quantitate any of the listed components.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.


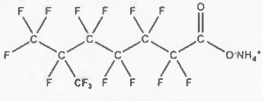
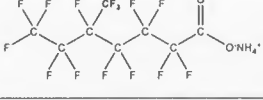
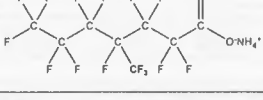
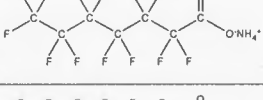
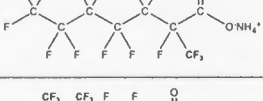
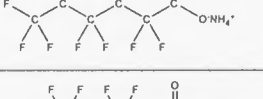
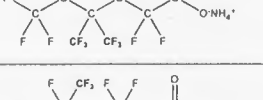
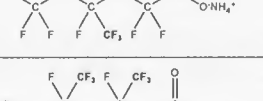
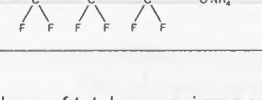
QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



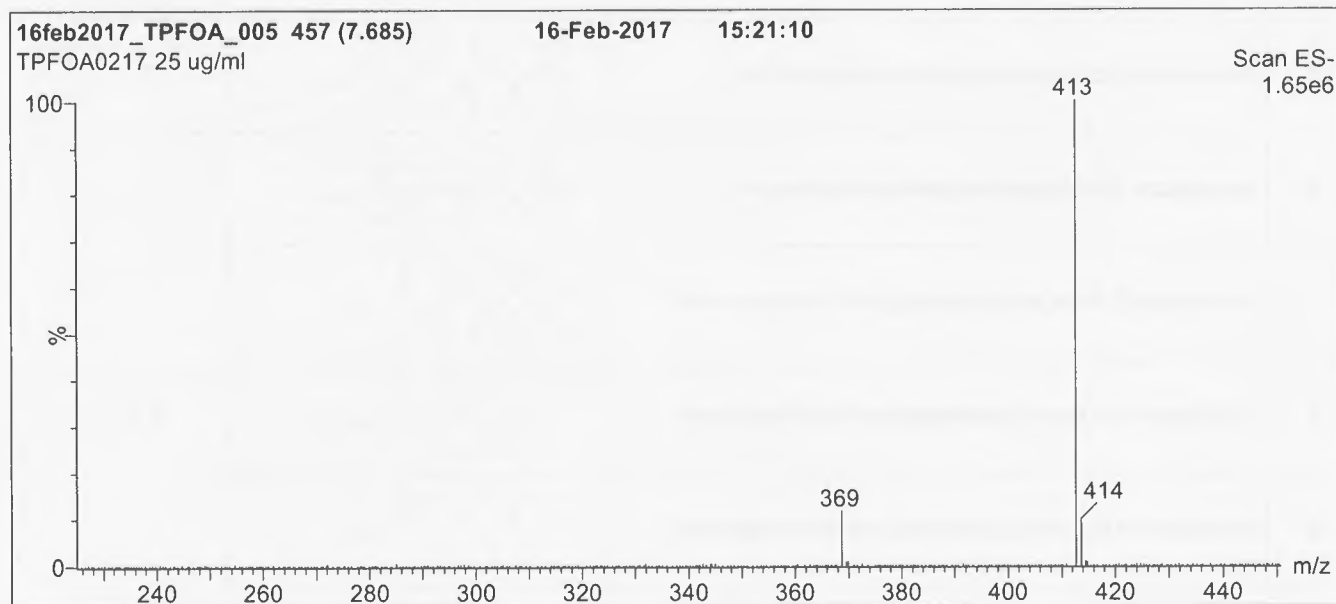
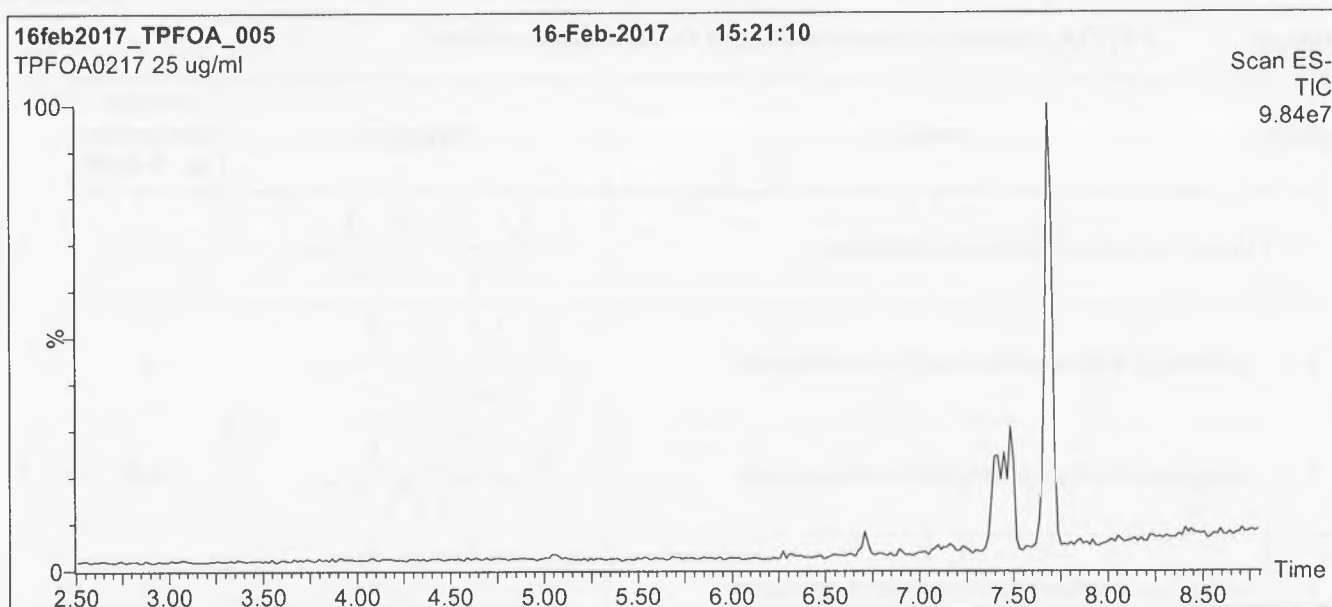
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: T-PFOA; Isomeric Components and Percent Composition*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Linear ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3
6 ^a	Ammonium 2-trifluoromethylperfluoroheptanoate		0.5
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9 ^a	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ¹⁹F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

^a Presence of this isomer could not be verified by LC/MS due to co-elution.

Figure 1: T-PFOA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

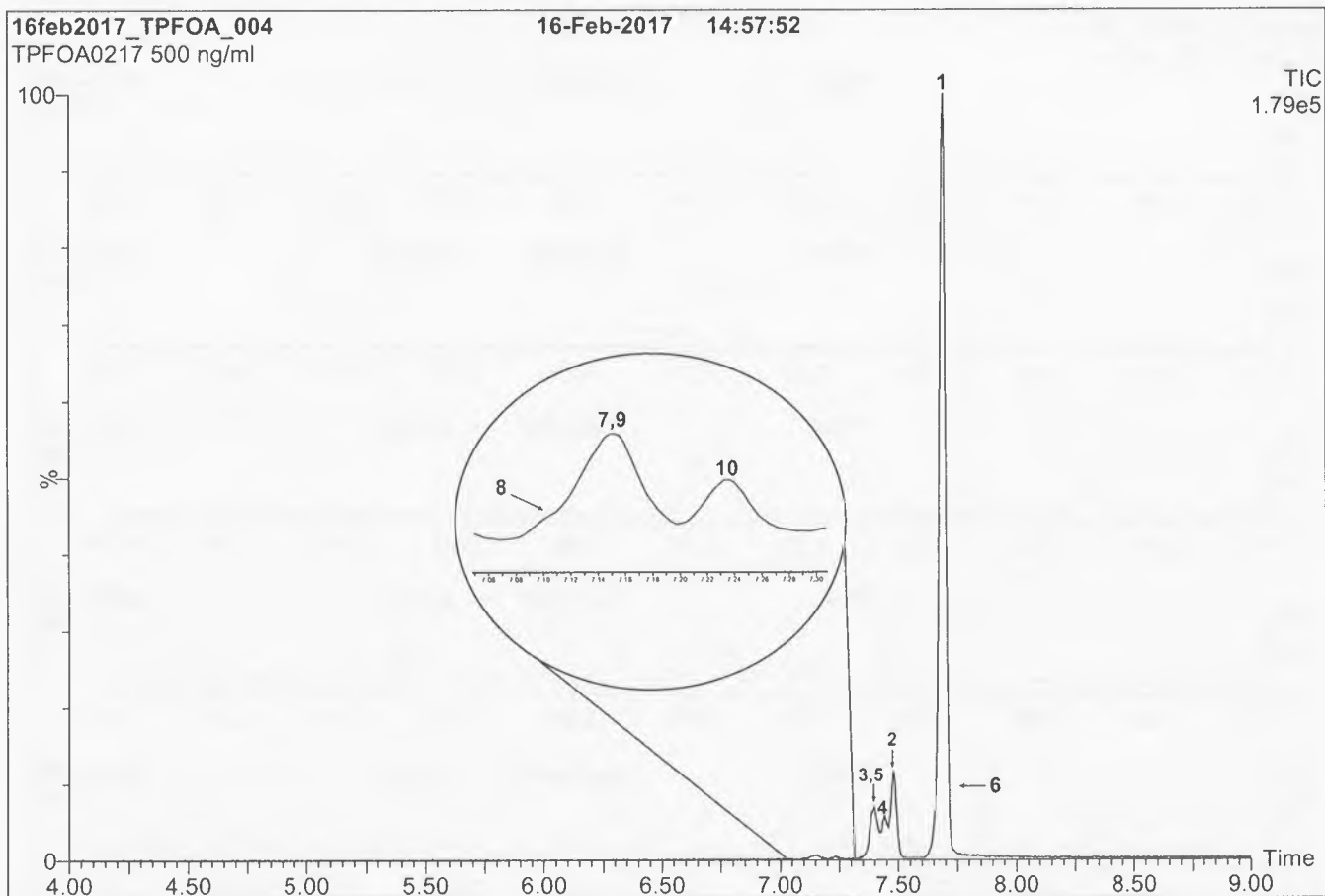
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: T-PFOA; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

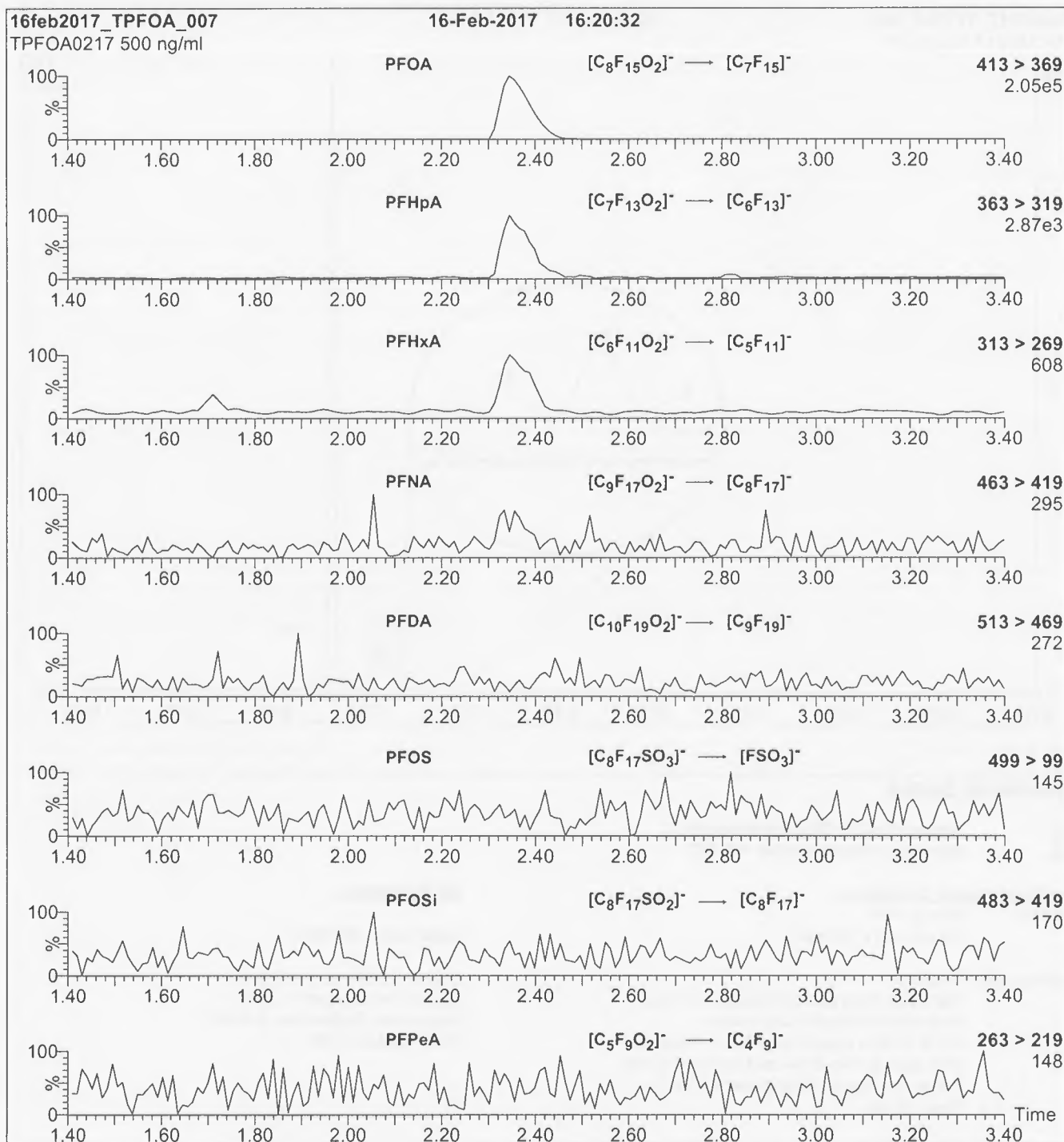
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/min

MS Parameters:

Experiment: SIR (ES)

Source conditions: see Figure 1
Source Temperature = 110 °C
Desolvation Temperature = 325 °C
Cone Voltage = 15V

Figure 3: T-PFOA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

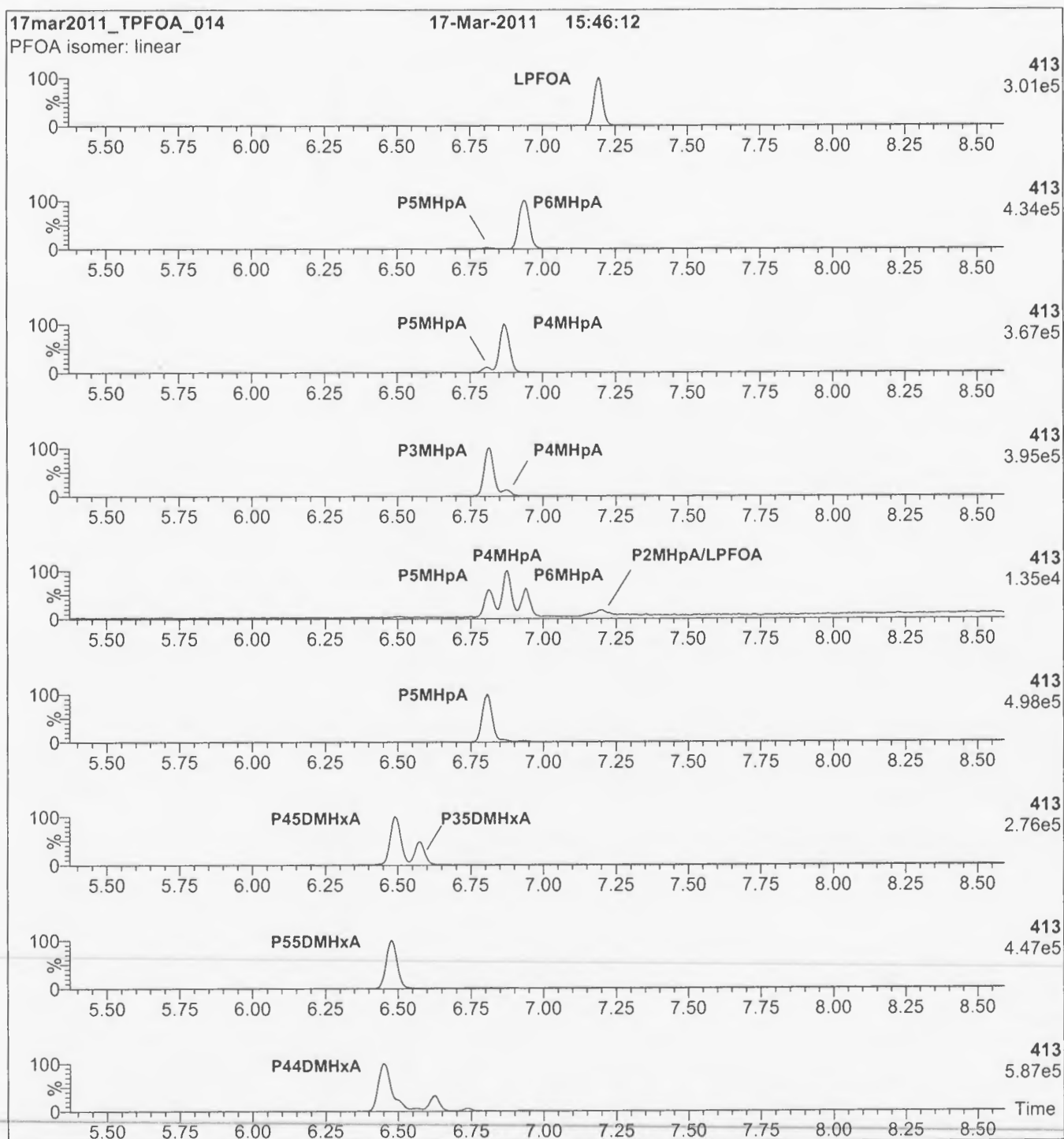
Injection: Direct loop injection
10 μ l (500 ng/ml T-PFOA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = variable (9-40)

Figure 4: T-PFOA; LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers**Conditions for Figure 4:**

Same as Figure 2.

BATTELLE

It can be done

BDO Id: 180618-06**Reagent Receipt Report**Approved: Authorized:

Name:	<u>Branched PFHxS Standard (50 µg/m</u>	Received:	<u>6/18/2018</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Thorn, Jonathan</u>
Catalogue No:	<u>br-PFHxSK</u>	Expires:	<u>1/4/2022</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>brPFHxSK0117</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea mL</u> % Moisture: <u>0</u>		
Description:	<u>Branched PFHxS Standard (50 µg/mL)</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____	Approved on: _____
Authorized by: _____	Authorized on: _____

180618-06



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

<u>PRODUCT CODE:</u>	br-PFHxSK
<u>LOT NUMBER:</u>	brPFHxSK0117
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/ml (total potassium salt) 45.5 ± 2.3 µg/ml (total PFHxS anion)
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/03/2017
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/04/2017
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/04/2022
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



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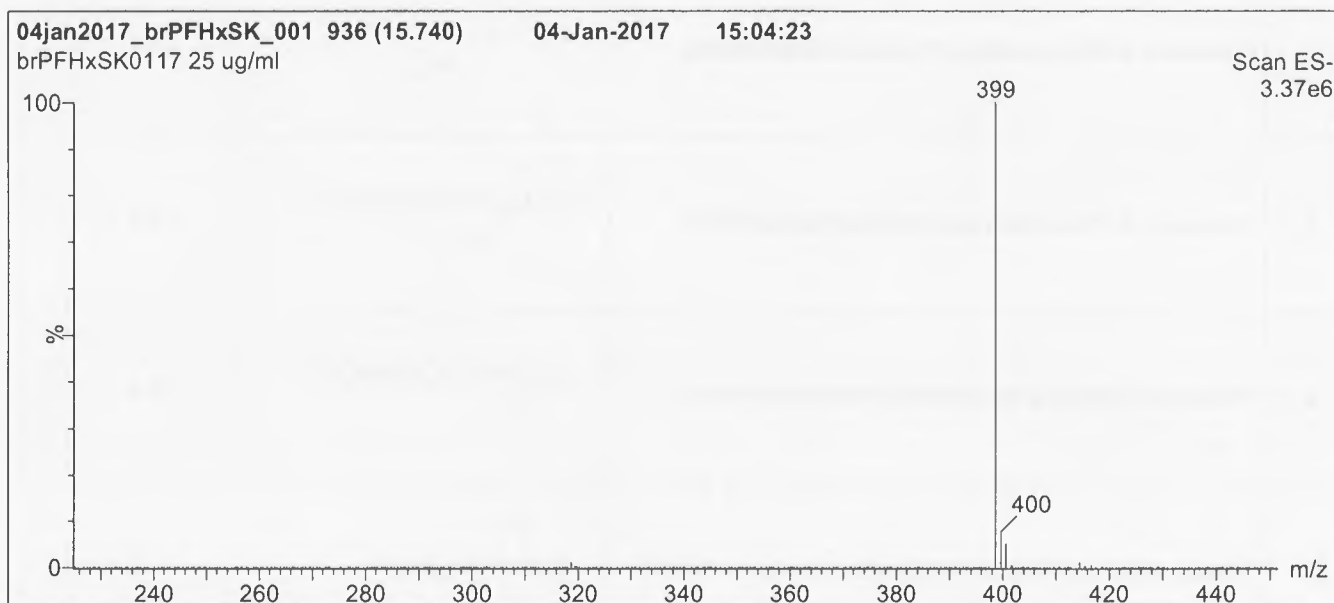
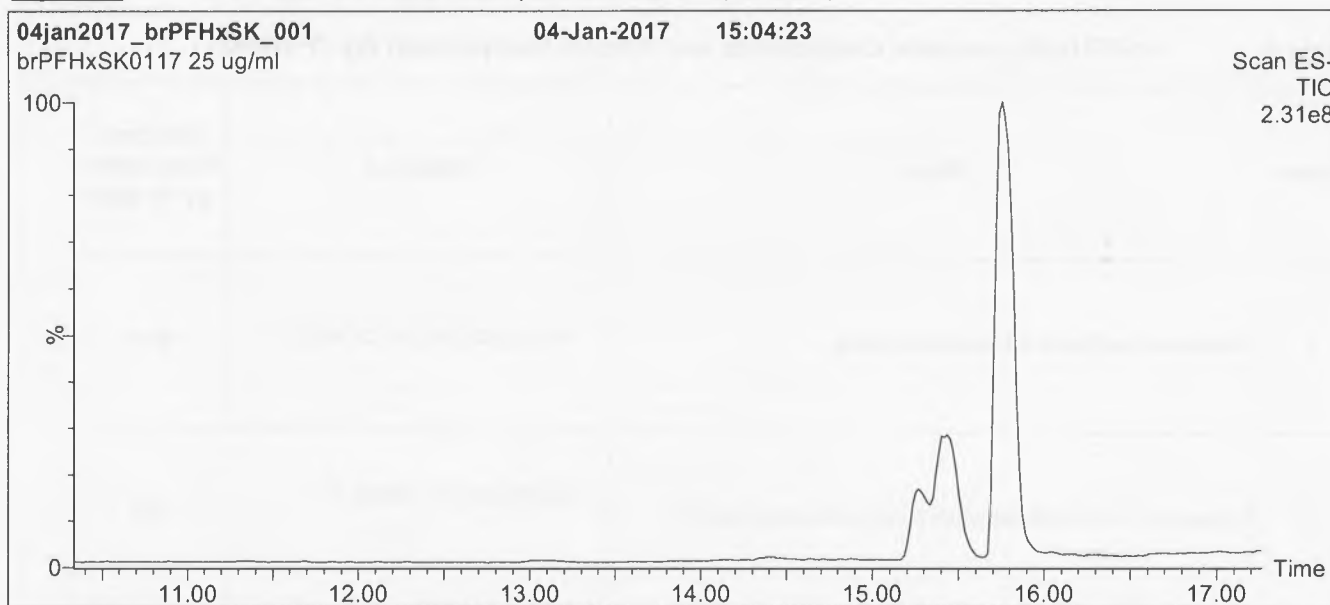
Table A: br-PFHxSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-hexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF(SO ₃ ⁻)K ⁺ CF ₃	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF ₂ CF(CF ₃)CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF(CF ₃)CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	CF ₃ CF(CF ₃)CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	CF ₃ CF ₃ CCF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.2
7	Other Unidentified Isomers		0.5

* Percent of total perfluorohexanesulfonate isomers only.
 ** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By:


 B.G. Chittim
Date: 01/20/2017
(mm/dd/yyyy)

Figure 1: br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

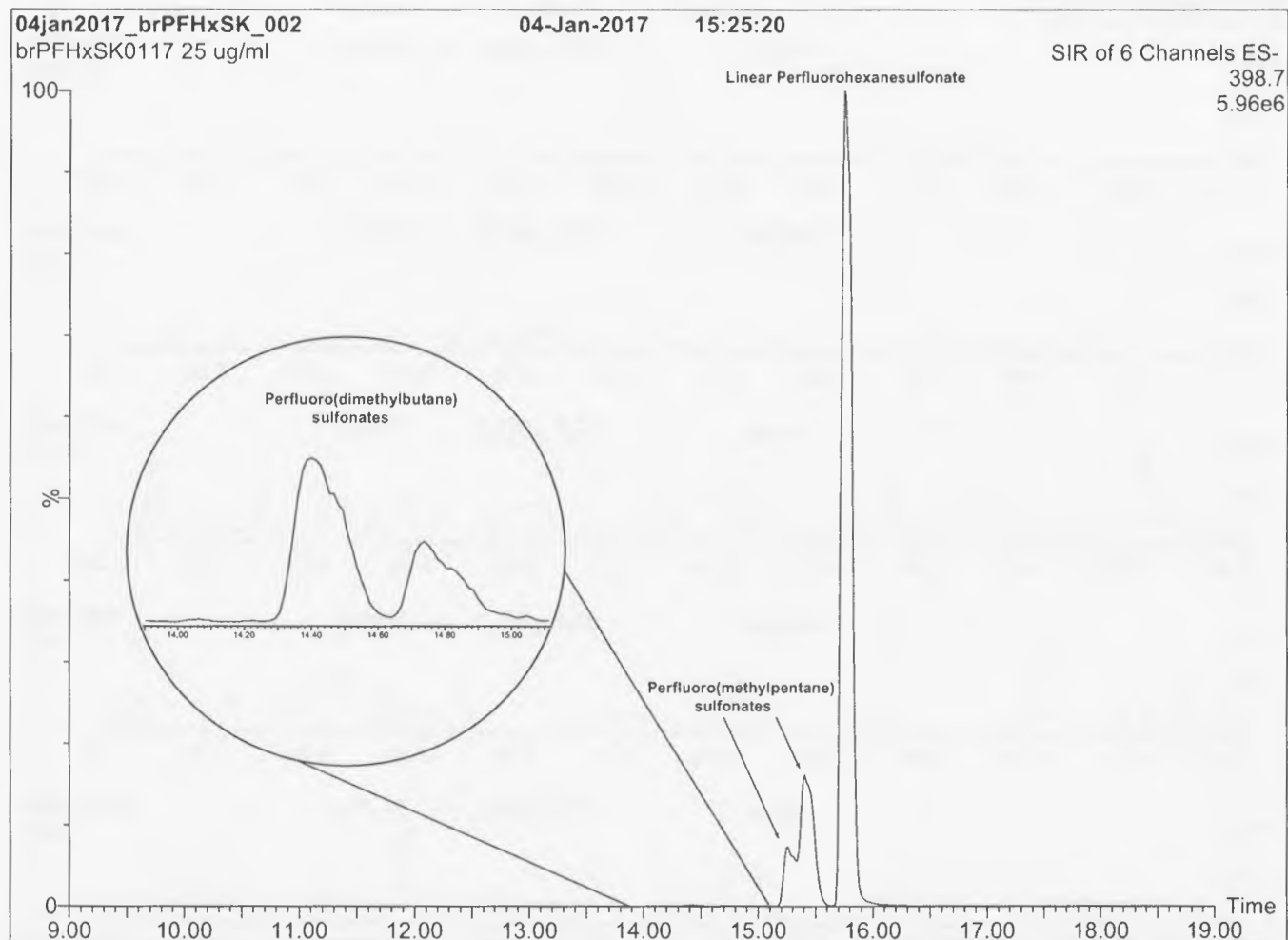
Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 14 min. Ramp to
90% organic over 3 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 20 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-PFHxSK; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

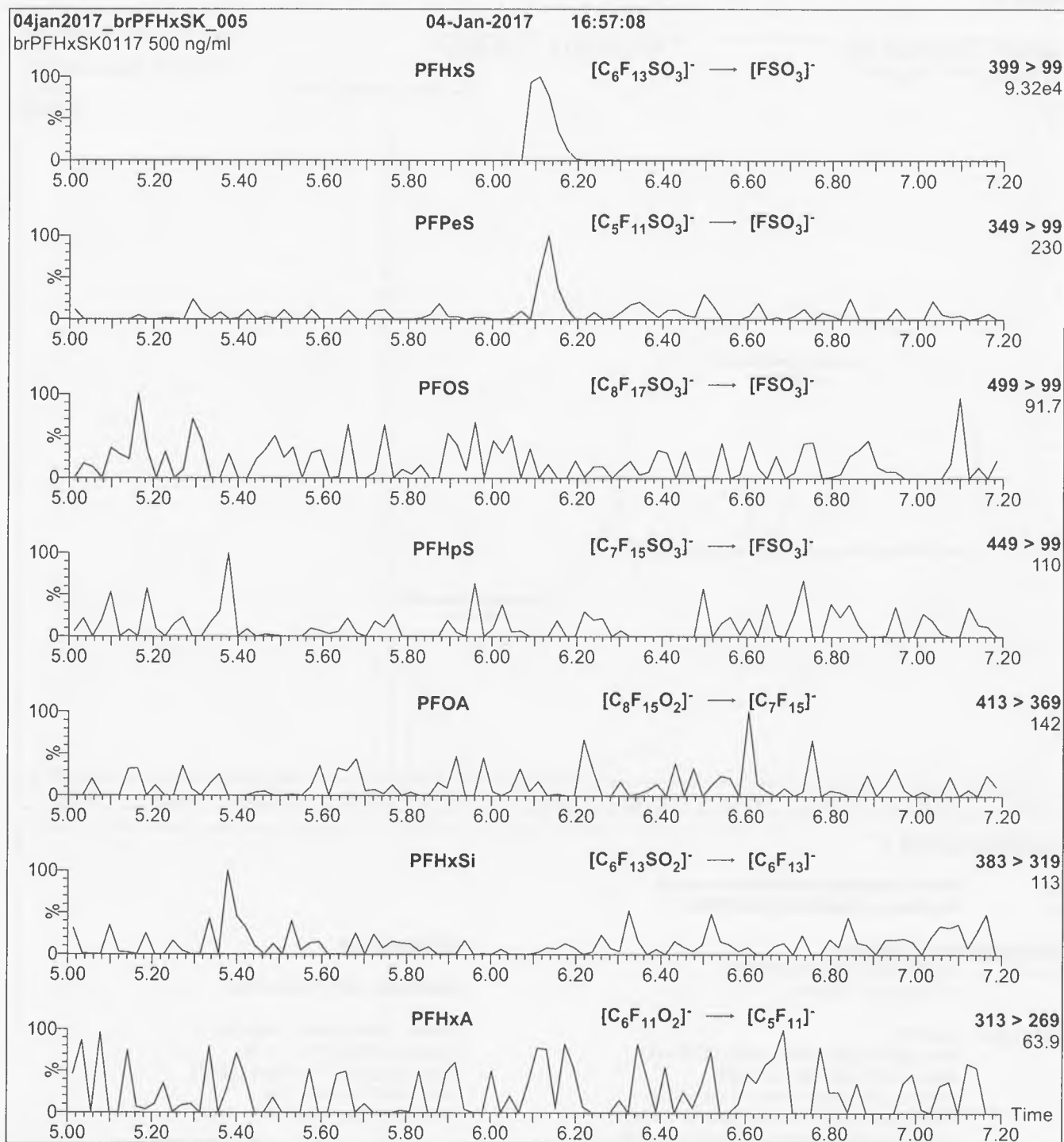
Mobile phase: Gradient
 Start: 20% (80:20 MeOH:ACN) / 80% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 50% organic over 14 min. Ramp to
 90% organic over 3 min and hold for 1.5 min
 before returning to initial conditions in 0.5 min.
 Time: 20 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR (6 channels)

Source: Electrospray (negative)
 Capillary Voltage (kV) = 3.00
 Cone Voltage (V) = variable (15-62)
 Cone Gas Flow (l/hr) = 60
 Desolvation Gas Flow (l/hr) = 750

Figure 3: br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: Direct loop injection
10 μ l (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30

BATTELLE

It can be done

BDO Id: 180618-07**Reagent Receipt Report**Approved: Authorized:

Name: Branched PFOS Standard (50 µg/mL) Received: 6/18/2018

Vendor: Wellington Laboratories Custodian: Thorn, Jonathan

Catalogue No: br-PFOSK Expires: 1/12/2022

Type: Solution Consumed: _____

Lot No: brPFOSK0117 Stored In: Sample Preparation - C0103

Quantity: 1 ea mL % Moisture: 0

Description: Branched PFOS Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-07



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

**Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

<u>PRODUCT CODE:</u>	br-PFOSK
<u>LOT NUMBER:</u>	brPFOSK0117
<u>CONCENTRATION:</u>	50 ± 2.5 µg/ml (total potassium salt) 46.4 ± 2.3 µg/ml (total PFOS anion)
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/09/2017
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/12/2017
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/12/2022
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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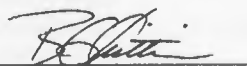
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: br-PFOSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-octanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CCF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF ₂ CCF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.07

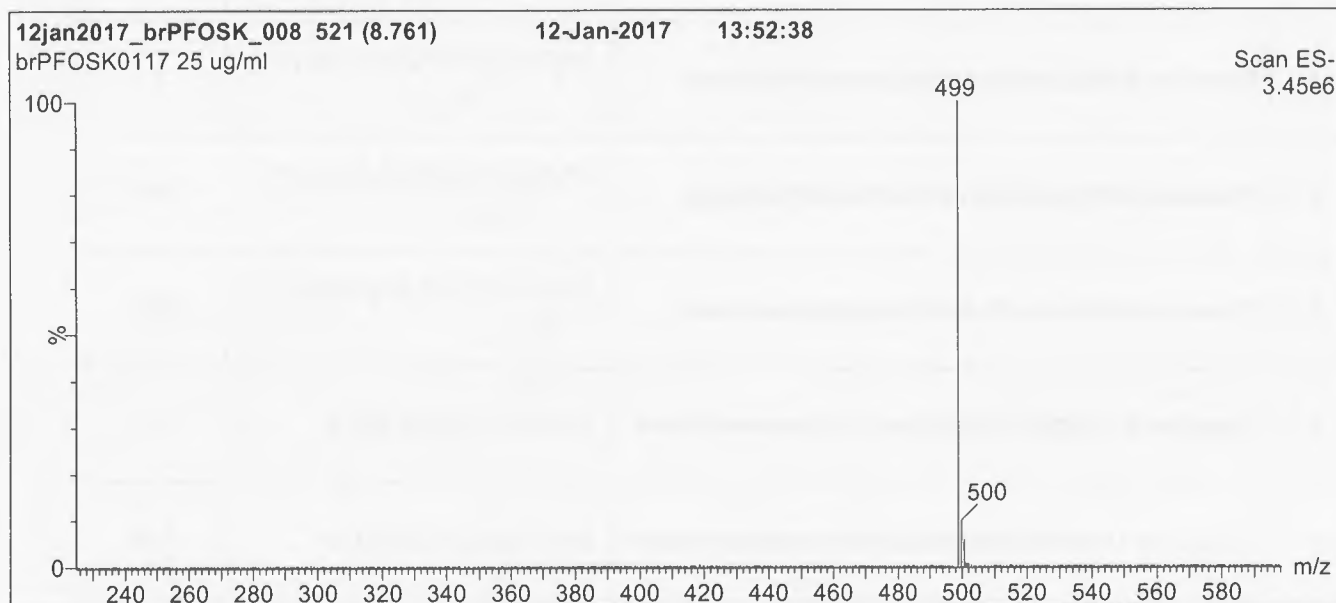
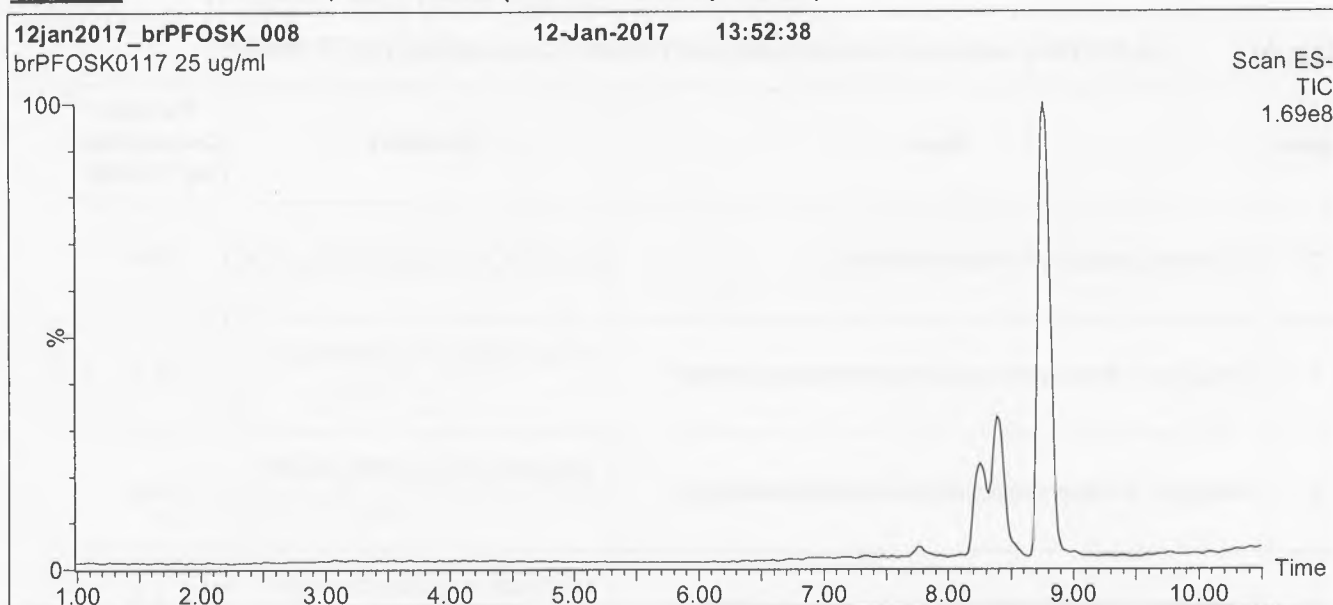
* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
 ** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By:


 B.G. Chittim

Date: 01/20/2017

(mm/dd/yyyy)

Figure 1: br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

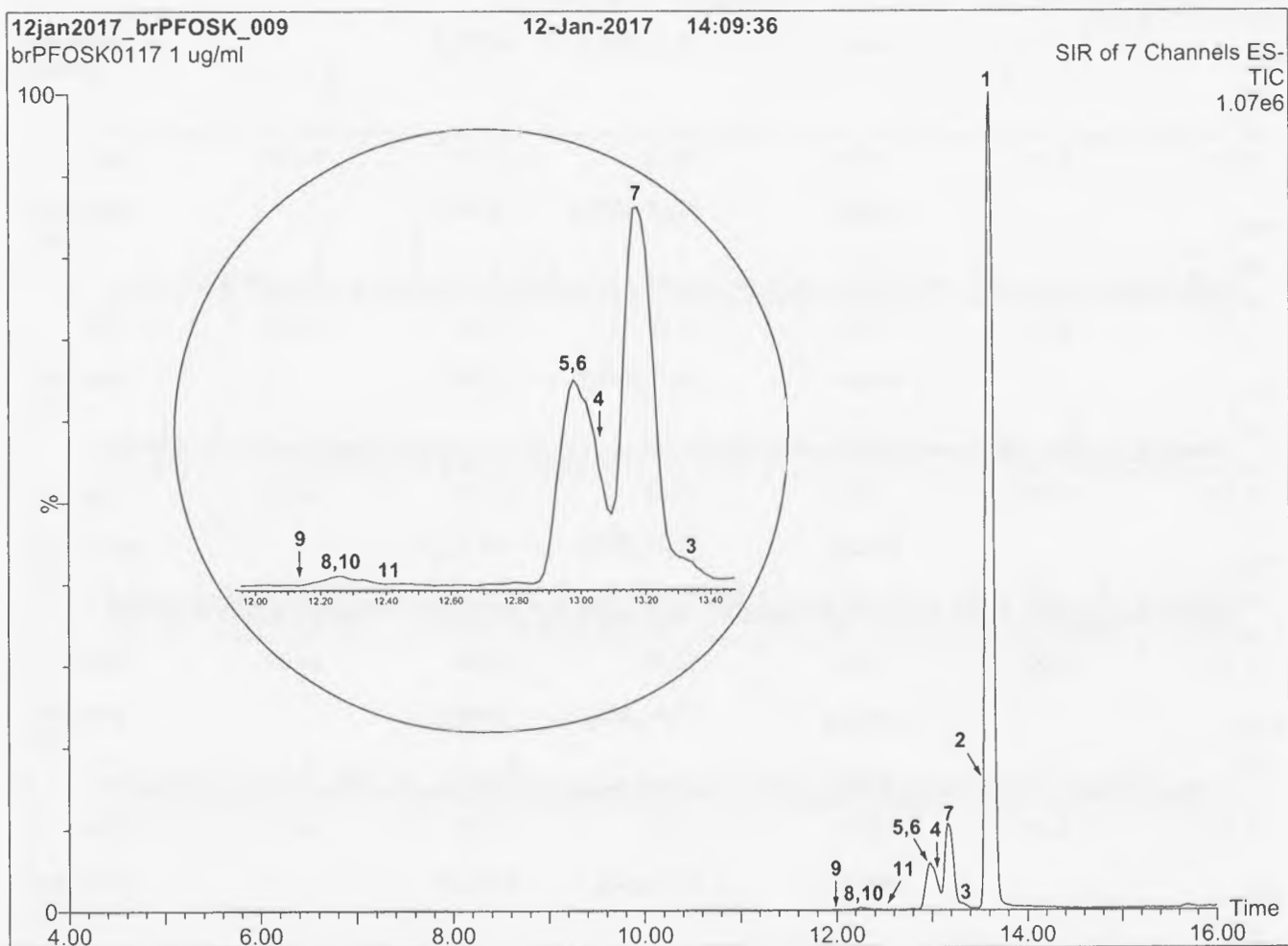
Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-PFOSK; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈ (1.7 μ m, 2.1 x 100 mm)

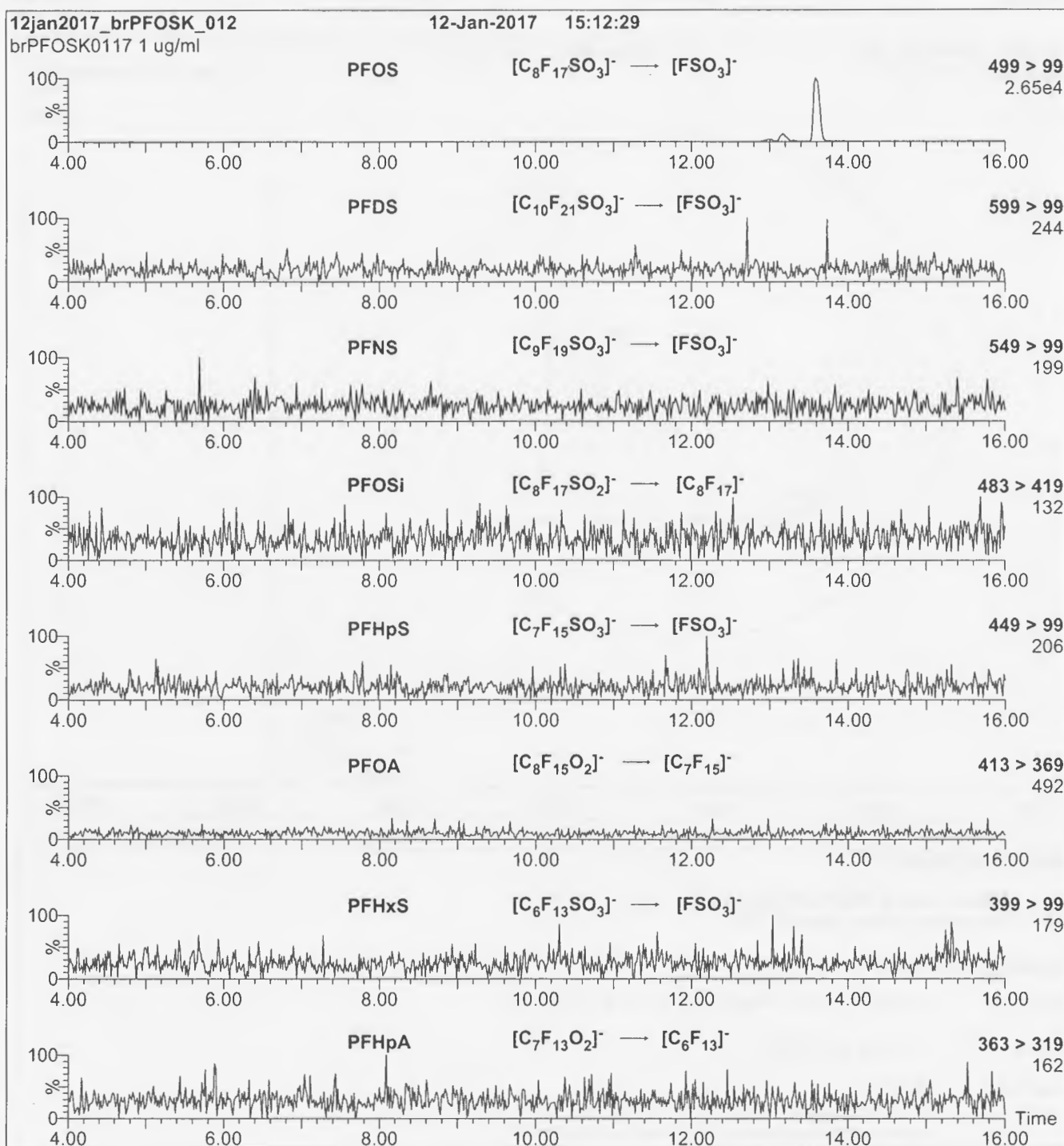
Injection: 1.0 μ g/ml of br-PFOSK

Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H₂O (both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 15 min and hold for 3 min.
Return to initial conditions over 1 min.
Time: 20 min

Flow: 300 μ l/min

MS Conditions:

SIR (ES)
Source = 110 °C
Desolvation = 325 °C
Cone Voltage = 60V

Figure 3: br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

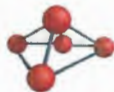
Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 11-50 (variable)



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 061918
Description: PFOA - DOD
24 components
Expiration Date: 061923
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 2684186

Solvent(s): Methanol (1 mM KOH)
2-Propanol
Lot# 061918 (98%)
23214 (2%)

50.0 5E-05 Balance Uncertainty
0.007 Flask Uncertainty

		061918
Formulated By:	Mario Luis	DATE
		061918
Reviewed By:	Pedro L. Rentas	DATE

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

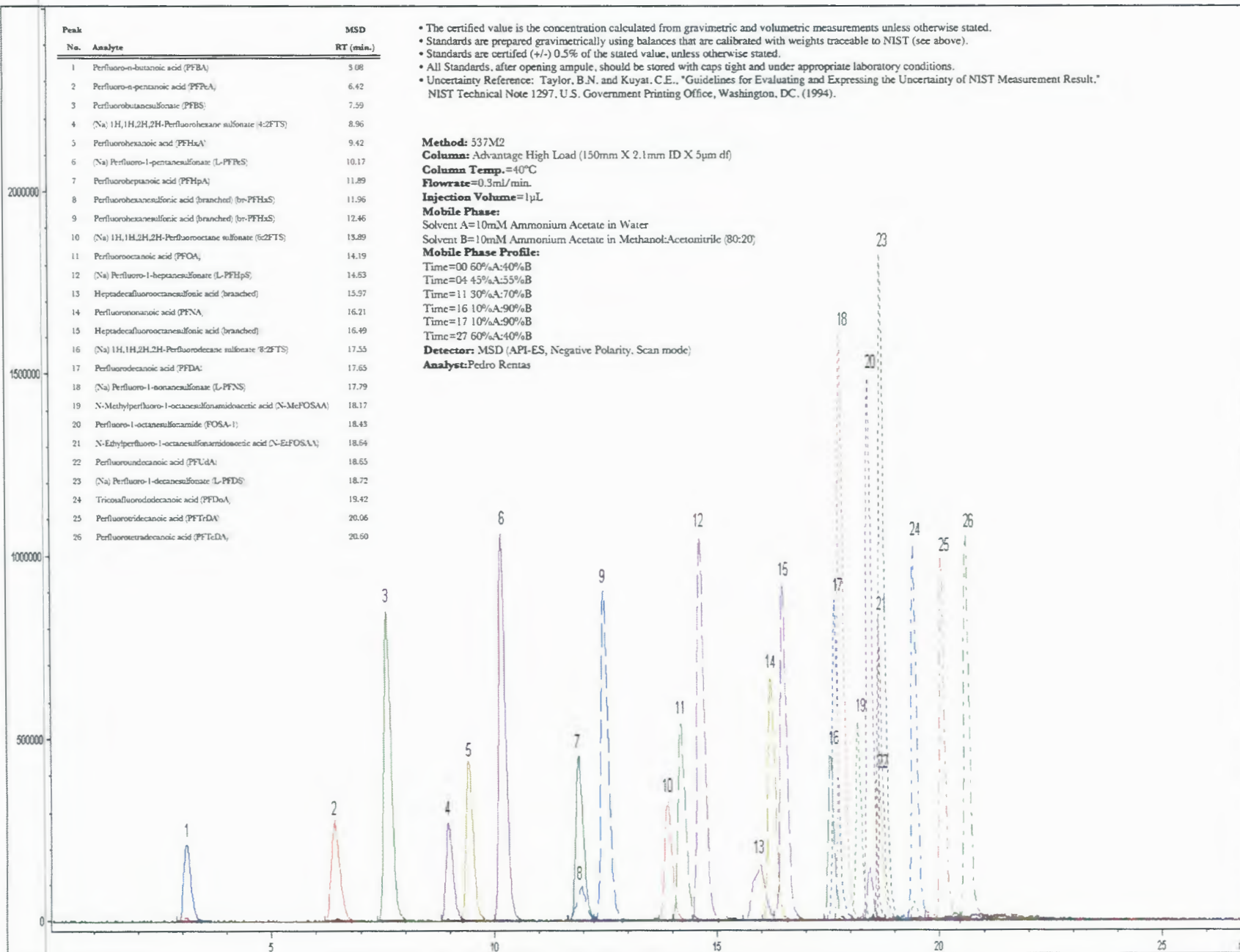
Expanded SDS Information
(Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid (linear)	99542	110317	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	99543	110317	0.02	1.00	0.004	50.7	1.01	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0817I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonate	99544	111017	0.02	0.98	0.004	51.3	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0917	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Method: 537M2
Column: Advantage High Load (150mm X 2.1mm ID X 5µm df)
Column Temp.: =40°C
Flowrate: =0.3ml/min.
Injection Volume: =1µL
Mobile Phase:
 Solvent A=10mM Ammonium Acetate in Water
 Solvent B=10mM Ammonium Acetate in Methanol:Acetonitrile (80:20)
Mobile Phase Profile:
 Time=00 60%A:40%B
 Time=04 45%A:55%B
 Time=11 30%A:70%B
 Time=16 10%A:90%B
 Time=17 10%A:90%B
 Time=27 60%A:40%B
Detector: MSD (API-ES, Negative Polarity, Scan mode)
Analyst: Pedro Rentas



It can be done

BDO Id: 180726-04

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS injection standar Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-C-IS Expires: 5/2/2022
Type: Solution Consumed: _____
Lot No: MPFACCIS0516 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS injection standards

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	2.0000	100.00	--	--	<input type="checkbox"/>		
13C2-PFOA	BDO-2107	2.0000	100.00	--	--	<input type="checkbox"/>		
13C3-PFBA	BDO-2231	2.0000	100.00	--	--	<input type="checkbox"/>		
13C4-PFOS	BDO-2121	1.9140	100.00	--	--	<input type="checkbox"/>		

Total Analytes: 4

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**MPFAC-C-IS****Mass-Labelled Perfluorinated
Compound Injection Standards Solution**

PRODUCT CODE: MPFAC-C-IS
LOT NUMBER: MPFACCIS0516
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 05/24/2016
LAST TESTED: (mm/dd/yyyy) 05/02/2017
EXPIRY DATE: (mm/dd/yyyy) 05/02/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-C-IS is a solution/mixture of mass-labelled (¹³C) perfluoroalkylcarboxylic acids and a mass-labelled (¹³C) perfluoroalkylsulfonate. The components and their concentrations are given in Table A.

MPFAC-C-IS was designed for, and prepared to be used with, PFC-CVS-C.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkylsulfonate all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The mass-labelled perfluoroalkylsulfonate compound concentration is reported as the salt.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

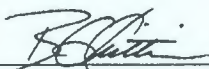


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

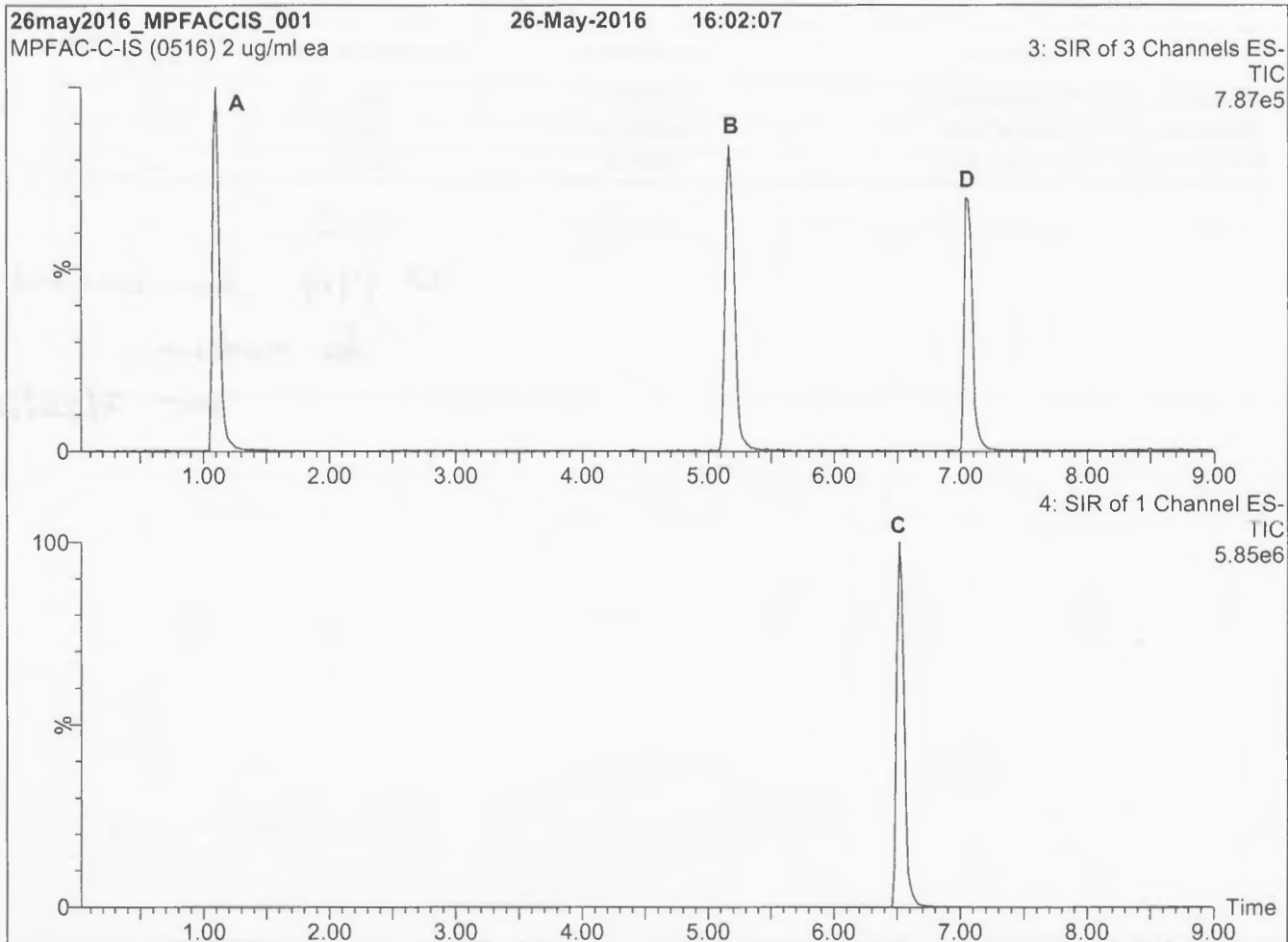
Table A: MPFAC-C-IS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[2,3,4- ¹³ C ₃]butanoic acid	M3PFBA	2000	A
Perfluoro-n-[1,2- ¹³ C ₂]octanoic acid	M2PFOA	2000	B
Perfluoro-n-[1,2- ¹³ C ₂]decanoic acid	MPFDA	2000	D
Sodium perfluoro-1-[1,2,3,4- ¹³ C ₄]octanesulfonate	MPFOS	2000 [Ⓢ]	C

Ⓢ 1914 when corrected
for sodium
JMS 7/26/2017

Certified By: 
B.G. Chittim, General Manager

Date: 05/04/2017
(mm/dd/yyyy)

Figure 1: MPFAC-C-IS; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

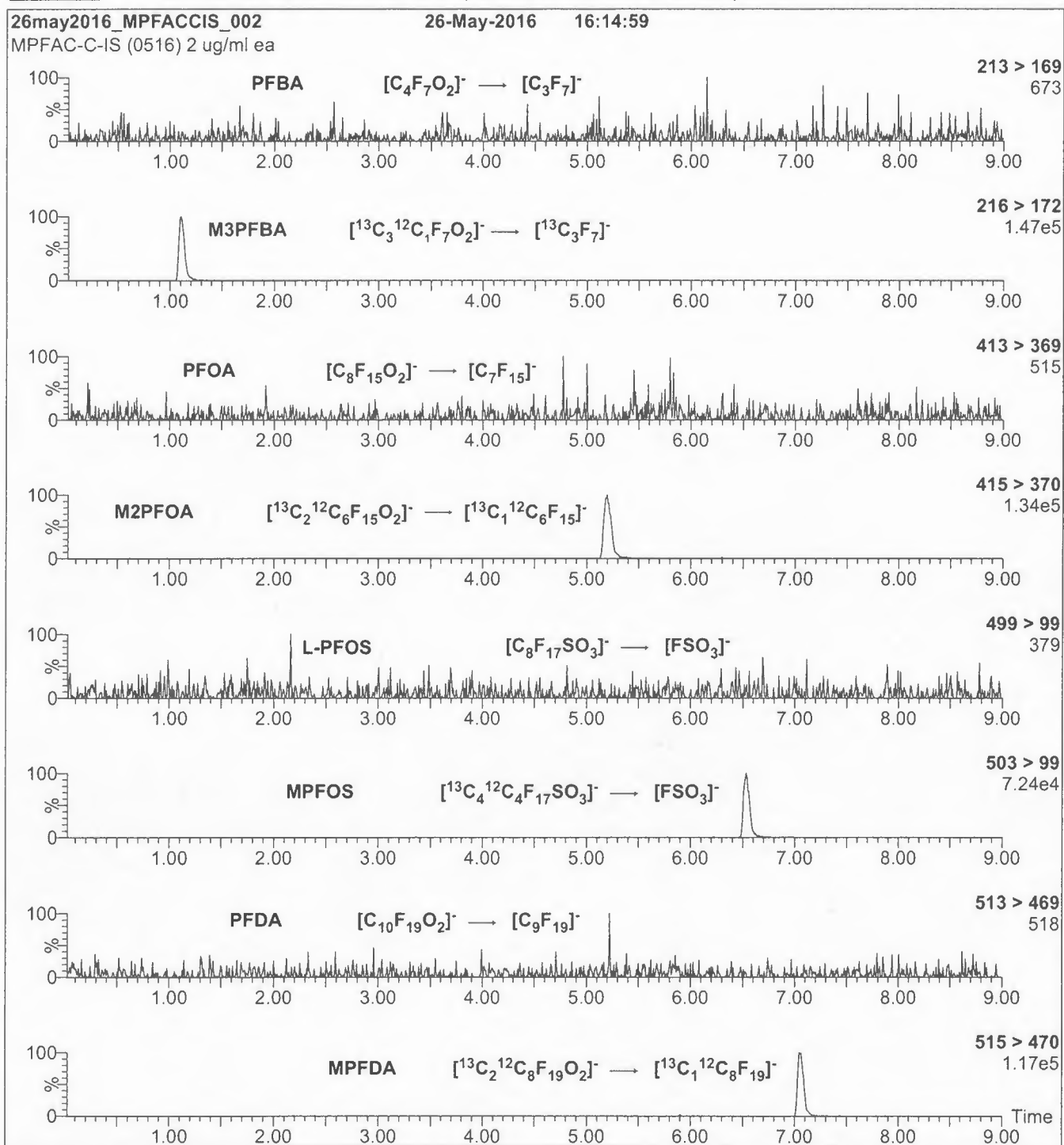
Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min
and hold for 2 min before returning
to initial conditions in 1 min.
Time: 12 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (10-80)
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: MPFAC-C-IS; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-C-IS)

Mobile phase: Same as Figure 1

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.50e-3

Collision Energy (eV) = 8-50 (variable)

It can be done

BDO Id: 180726-05

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS Extraction Stand Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-24ES Expires: 2/7/2023
Type: Solution Consumed: _____
Lot No: MPFAC24ES0218 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS Extraction Standard Solution

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	0.9350	100.00	--	--	<input type="checkbox"/>			
13C2-6:2FTS	BDO-2230	0.9490	100.00	--	--	<input type="checkbox"/>			
13C2-8:2FTS	BDO-2220	0.9580	100.00	--	--	<input type="checkbox"/>			
13C2-PFDoA	BDO-2112	1.0000	100.00	--	--	<input type="checkbox"/>			
13C2-PFTeDA	BDO-2224	1.0000	100.00	--	--	<input type="checkbox"/>			
13C3-PFBS	BDO-2226	0.9290	100.00	--	--	<input type="checkbox"/>			
13C3-PFHxS	BDO-2227	0.9460	100.00	--	--	<input type="checkbox"/>			
13C4-PFBA	BDO-2105	1.0000	100.00	--	--	<input type="checkbox"/>			
13C4-PFHpA	BDO-2218	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFHxA	BDO-2217	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFPeA	BDO-2216	1.0000	100.00	--	--	<input type="checkbox"/>			
13C6-PFDA	BDO-2222	1.0000	100.00	--	--	<input type="checkbox"/>			
13C7-PFUnA	BDO-2223	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-FOSA	BDO-2225	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOA	BDO-2219	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOS	BDO-2228	0.9570	100.00	--	--	<input type="checkbox"/>			
13C9-PFNA	BDO-2221	1.0000	100.00	--	--	<input type="checkbox"/>			
d3-MeFOSAA	BDO-1838	1.0000	100.00	--	--	<input type="checkbox"/>			
d5-EtFOSAA	BDO-1839	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 19

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIESCERTIFICATE OF ANALYSIS
DOCUMENTATION**MPFAC-24ES****Mass-Labelled Per- and Poly-fluoroalkyl Substance
Extraction Standard Solution**

PRODUCT CODE: MPFAC-24ES
LOT NUMBER: MPFAC24ES0218
SOLVENT(S): Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 02/07/2018
LAST TESTED: (mm/dd/yyyy) 02/07/2018
EXPIRY DATE: (mm/dd/yyyy) 02/07/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

MPFAC-24ES is a solution/mixture of ten mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂ and C₁₄), three mass-labelled (¹³C) perfluoroalkylsulfonates (C₄, C₆, and C₈), three mass-labelled (¹³C) telomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, and perfluoro-1-[¹³C₈]octanesulfonamide. The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkylsulfonates, mass-labelled telomer sulfonates, and perfluoro-1-[¹³C₈]octanesulfonamide all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



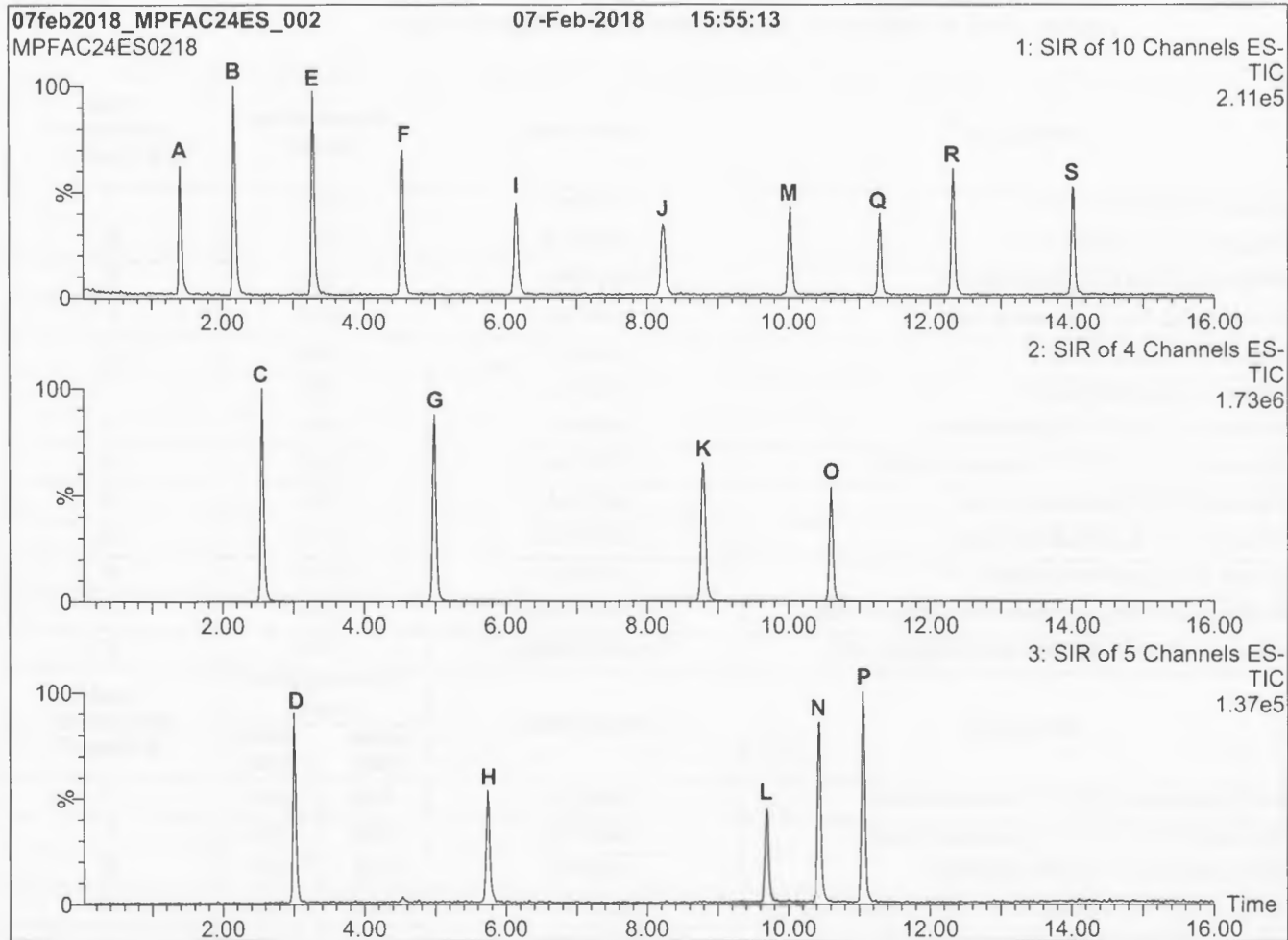
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: MPFAC-24ES; Components and Concentrations
(ng/ml, \pm 5% in Methanol / Isopropanol (2%) / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-[$^{13}\text{C}_4$]butanoic acid	MPFBA	1000		A
Perfluoro-n-[$^{13}\text{C}_5$]pentanoic acid	M5PFPeA	1000		B
Perfluoro-n-[1,2,3,4,6- $^{13}\text{C}_5$]hexanoic acid	M5PFHxA	1000		E
Perfluoro-n-[1,2,3,4- $^{13}\text{C}_4$]heptanoic acid	M4PFHpA	1000		F
Perfluoro-n-[$^{13}\text{C}_6$]octanoic acid	M8PFOA	1000		I
Perfluoro-n-[$^{13}\text{C}_7$]nonanoic acid	M9PFNA	1000		J
Perfluoro-n-[1,2,3,4,5,6- $^{13}\text{C}_6$]decanoic acid	M6PFDA	1000		M
Perfluoro-n-[1,2,3,4,5,6,7- $^{13}\text{C}_7$]undecanoic acid	M7PFUdA	1000		Q
Perfluoro-n-[1,2- $^{13}\text{C}_2$]dodecanoic acid	MPFDaA	1000		R
Perfluoro-n-[1,2- $^{13}\text{C}_2$]tetradecanoic acid	M2PFTeDA	1000		S
Perfluoro-1-[$^{13}\text{C}_8$]octanesulfonamide	M8FOSA	1000		O
N-methyl- d_3 -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		N
N-ethyl- d_5 -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		P
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[2,3,4- $^{13}\text{C}_3$]butanesulfonate	M3PFBS	1000	929	C
Sodium perfluoro-1-[1,2,3- $^{13}\text{C}_3$]hexanesulfonate	M3PFHxS	1000	946	G
Sodium perfluoro-1-[$^{13}\text{C}_8$]octanesulfonate	M8PFOS	1000	957	K
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]hexanesulfonate	M2-4:2FTS	1000	935	D
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]octanesulfonate	M2-6:2FTS	1000	949	H
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- $^{13}\text{C}_2$]decanesulfonate	M2-8:2FTS	1000	958	L

Certified By: 
B.G. Chittim, General Manager

Date: 02/09/2018
(mm/dd/yyyy)

Figure 1: MPFAC-24ES; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
 Start: 40% (80:20 MeOH:ACN) / 60% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 55% organic over 3.5 min.
 Ramp to 70% organic over 6.5 min.
 Ramp to 85% organic over 5 min and hold for
 1 min before returning to initial conditions in 0.5 min.
 Time: 17 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
 Capillary Voltage (kV) = 3.00
 Cone Voltage (V) = variable (10-60)
 Cone Gas Flow (l/hr) = 100
 Desolvation Gas Flow (l/hr) = 750

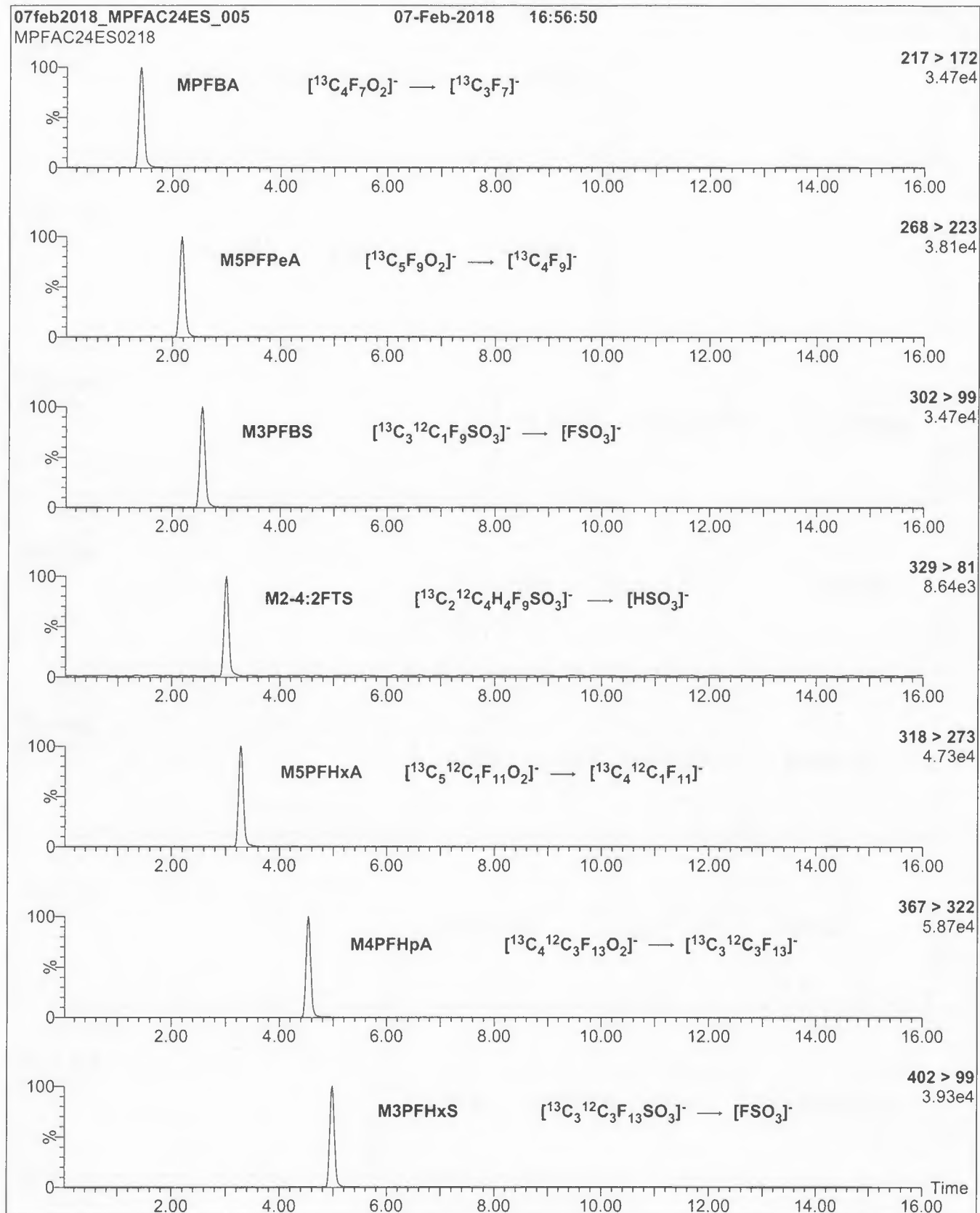
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

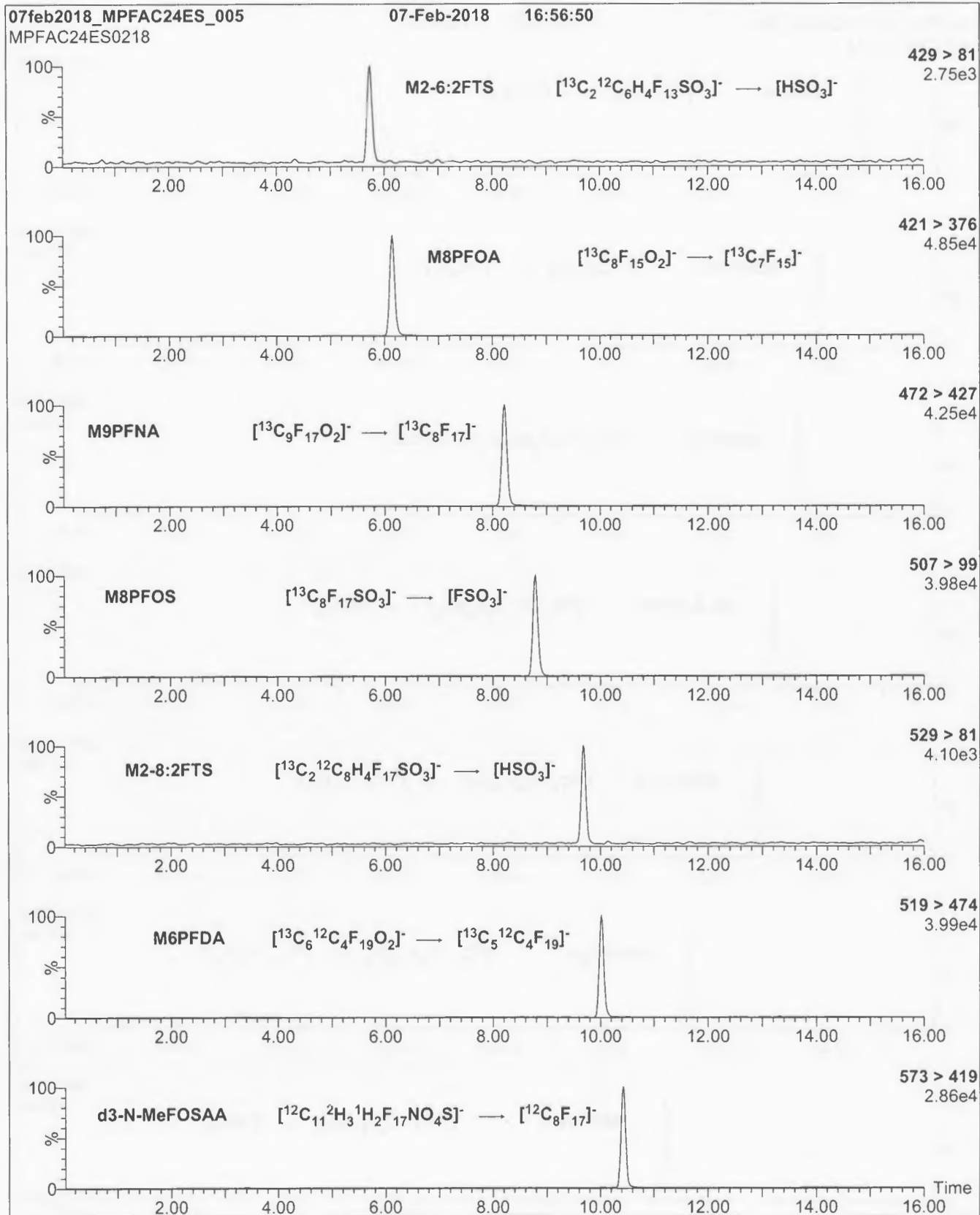
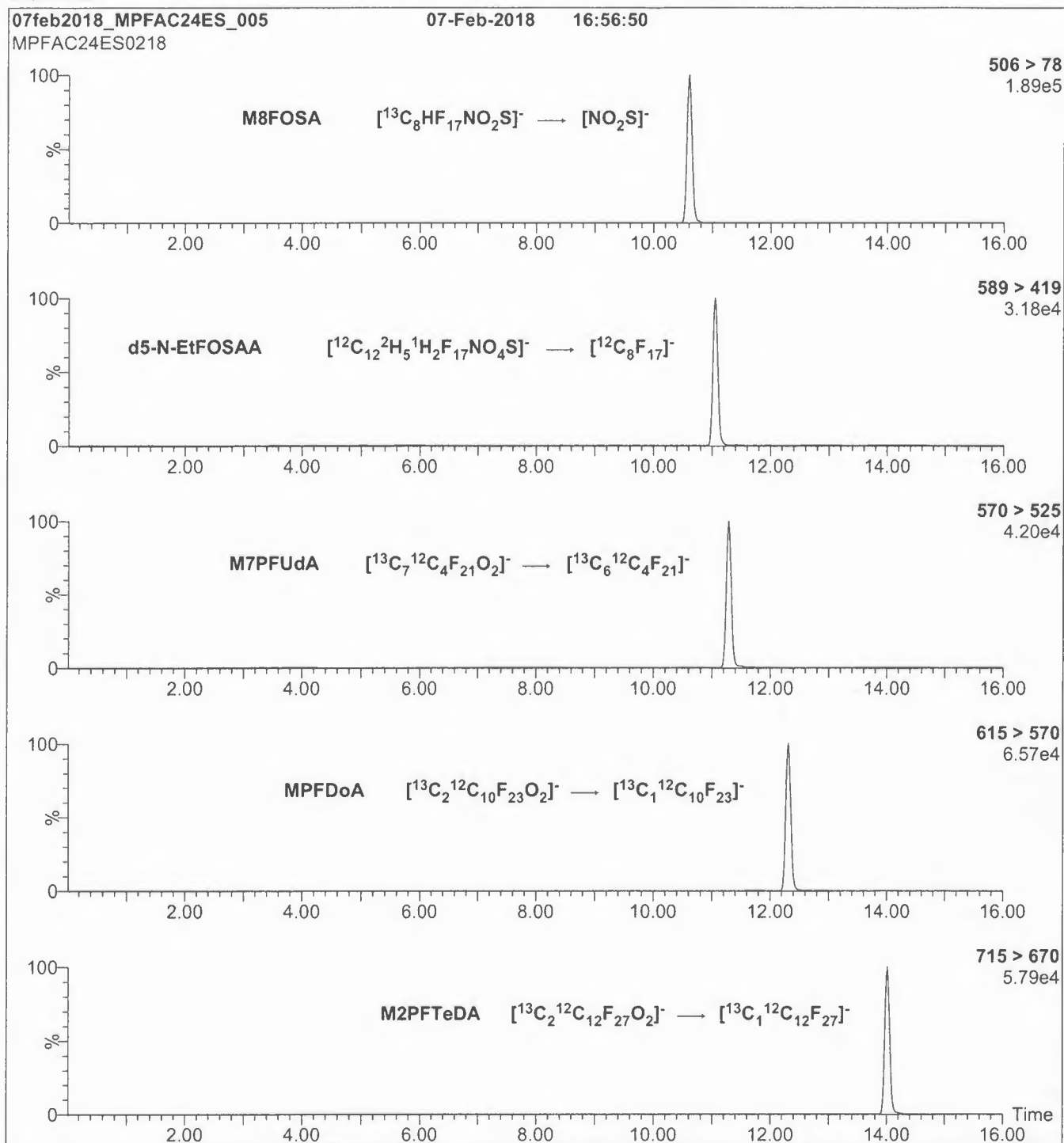
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-24ES)

Mobile phase: Same as Figure 1

Flow: 300 $\mu\text{l}/\text{min}$ **MS Parameters**

Collision Gas (mbar) = 3.28e-3

Collision Energy (eV) = 8-40 (variable)

Sample Preparation



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS**

<u>Project Title(s)</u>	<u>Project No.(s)</u>
PFAS Analytical work	100112541
18-0566	
CTO-JM08 - Naval Construction Batallion Center (NCBC)	
GW, QC	
SOP Numbers (see workplan for modifications)	
ExtractionSOP No.	5-370

This Batch Contains The Following Samples:
CR843PB-FS CR844LCS-FS J8278-FS J8279-FS J8280-FS J8281-FS

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	10/02/2018	DMS



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE**

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0566

**CTO-JM08 - Naval Construction Batallion Center (NCBC)
GW, QC**

Sample ID	Description
CR843PB-FS	Procedural Blank
CR844LCS-FS	Laboratory Control Sample
J8278-FS	07GW07092018
J8279-FS	07FRB092018
J8280-FS	07GW13092018
J8281-FS	07GW11092018

Samples Assigned By:

Jonathan Thorn

Date : September 21, 2018

Comments:



**BATTELLE - NORWELL OPERATIONS
SAMPLE CUSTODY LOG**

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566

**CTO-JM08 - Naval Construction Battalion Center (NCBC)
GW, QC**

Requested On/By: 09/25/2018 JRT	Purpose: Sample Preparation
Relinquished On/By: 09/25/2018 MDS	Last Activity: Transfer
Accepted On/By: 10/02/2018 SAS Stored In Facility: Sample Preparation Stored Until: 09/27/2018 Stored Comment: Samples inadvertently not requested on day of extraction	Returned On/To: Returned To Facility: Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J8278	1	C	Consumed	NA
2	J8279	1	C	Consumed	NA
3	J8280	1	C	Consumed	NA
4	J8281	1	C	Consumed	NA
Total Samples		4		* "C" = Consumed Container	



It can be done

**BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM**

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566

CTO-JM08 - Naval Construction Battalion Center (NCBC)

GW, QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR843PB-FS	Procedural Blank	250.0	NA	--	09/25/18 LMG
CR844LCS-FS	Laboratory Control Sample	250.0	NA	--	09/25/18 LMG
J8278-FS	07GW07092018	285.0	1	C	09/25/18 LMG
J8279-FS	07FRB092018	265.0	1	C	09/25/18 LMG
J8280-FS	07GW13092018	270.0	1	C	09/25/18 LMG
J8281-FS	07GW11092018	270.0	1	C	09/25/18 LMG

Comments:

Samples Assigned By

Jonathan Thorn

Date : September 21, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR843PB-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA
CR844LCS-FS	JZ88	LCS/MS	1	125	09/25/18 JRT	SAS	NA
CR844LCS-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA
J8278-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA
J8279-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA
J8280-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA
J8281-FS	KB33	SIS	1	50	09/25/18 JRT	SAS	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JZ88	Pipette	B814657482
KB33	Pipette	B814659662



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CR843PB-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA
CR844LCS-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA
J8278-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA
J8279-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA
J8280-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA
J8281-FS	09/25/18 LMG	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
Oasis WAX 6cc Cartridge 500mg 60um	171222-01	12/22/22	003537250A/ 0035	NA	
0.4% NH3 in Methanol	RP-180925-1	09/25/18	182674	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
0.4% NH3 in Methanol	RP-180925-1	09/25/18	SHBJ0412	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	

Solvents/Reagents:



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC****(N/A Fraction)**

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution*	Date Spiked/ Spiked By	Witn'd By
CR843PB-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
CR844LCS-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8278-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8278-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL
J8279-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8280-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8280-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL
J8280-FS-D(5)	970	30	KB34	50	1	1000	5.000	09/27/18 JRT	RDL
J8281-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8281-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB33	Pipette	B814657482
KB33	Pipette	B814659662
KB34	Pipette	B814659662

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT SPIKE FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J8278-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL
J8280-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL
J8280-FS-D(5)	5	KB33	SIS	1	30	0	0	09/27/18 JRT	RDL
J8281-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB33	Pipette	B814657482
KB33	Pipette	B814659662
KB34	Pipette	B814659662



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR843PB-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
CR844LCS-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8278-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8278-FS	2	--	9/27/2018 3:49:00 PM	J8278-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8278-FS-D	3	--	9/27/2018 3:49:00 PM	J8278-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8279-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8280-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8280-FS	2	--	9/27/2018 3:49:00 PM	J8280-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8280-FS-D	3	C	9/27/2018 3:49:00 PM	J8280-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8280-FS-D	4	--	9/27/2018 3:55:00 PM	J8280-FS-D	3	1000	600	1.667	3.333	09/27/18 JRT
J8280-FS-D	5	--	9/27/2018 3:55:00 PM	J8280-FS-D	3	1000	400	2.500	5.000	09/27/18 JRT
J8281-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8281-FS	2	--	9/27/2018 3:49:00 PM	J8281-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8281-FS-D	3	--	9/27/2018 3:49:00 PM	J8281-FS	0	1000	500	2.000	2.000	09/27/18 JRT

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst			
Relinquished On/By: Sep 27 2018 6:20PM JRT		Received On/By: Sep 27 2018 7:10PM DMS			
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA			
Relinquish Comment: NA		Received Comment: NA			
No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR843PB-FS(0)	1000	1	Intact	NA
2	CR844LCS-FS(0)	1000	1	Intact	NA
3	J8278-FS(0)	1000	1	Intact	NA
4	J8278-FS-D(3)	1000	2	Intact	NA
5	J8279-FS(0)	1000	1	Intact	NA
6	J8280-FS(0)	1000	1	Intact	NA
7	J8280-FS-D(3)	1000	2	Intact	NA
8	J8280-FS-D(5)	1000	5	Intact	NA
9	J8281-FS(0)	1000	1	Intact	NA
10	J8281-FS-D(3)	1000	2	Intact	NA
Total Extracts:		10			



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC**

Sample ID:	Comment:	Date/Initials:
CR843PB-FS	extraction started at 12:25 PM for all samples	09/25/18 JRT
CR843PB-FS	Sample extraction ended at 1:29 pm	09/25/18 LMG
CR844LCS-FS	Sample extraction ended at 1:15 pm	09/25/18 LMG
J8278-FS	sample had orange particulate matter.	09/25/18 JRT
J8278-FS	Sample extraction ended at 2:36 pm	09/25/18 LMG
J8278-FS	Cartridge filter was popped off	09/25/18 LMG
J8279-FS	Sample extraction ended at 1:23 pm	09/25/18 LMG
J8280-FS	sample had orange particulate matter.	09/25/18 JRT
J8280-FS	Sample extraction ended at 2:08 pm	09/25/18 LMG
J8281-FS	sample had orange particulate matter.	09/25/18 JRT
J8281-FS	Sample extraction ended at 1:43 pm	09/25/18 LMG



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Entered By:

On:

Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:

Analytical Calibrations

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		9/27/2018 5:55:55 PM	5-0369.dam	18-0579.wiff
2	KA86	L1	9/27/2018 6:06:47 PM	5-0369.dam	18-0579.wiff
3	KA87	L2	9/27/2018 6:17:38 PM	5-0369.dam	18-0579.wiff
4	KA88	L3	9/27/2018 6:28:31 PM	5-0369.dam	18-0579.wiff
5	KA89	L4	9/27/2018 6:39:23 PM	5-0369.dam	18-0579.wiff
6	KA90	L5	9/27/2018 6:50:15 PM	5-0369.dam	18-0579.wiff
7	KA91	L6	9/27/2018 7:01:07 PM	5-0369.dam	18-0579.wiff
8	KA92	L7	9/27/2018 7:11:59 PM	5-0369.dam	18-0579.wiff
9	KB35 IB	Instrument Blank	9/27/2018 7:22:50 PM	5-0369.dam	18-0579.wiff
10	KB36 ICC	ICC	9/27/2018 7:33:41 PM	5-0369.dam	18-0579.wiff
11	KA29 Branch	Branch Standard	9/27/2018 7:44:33 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 7:55:25 PM	5-0369.dam	18-0579.wiff
6	KA90 CCV	CCV	9/27/2018 9:33:14 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 9:44:06 PM	5-0369.dam	18-0579.wiff
22	CR843PB-FS(0)	Procedural Blank	9/27/2018 10:16:44 PM	5-0369.dam	18-0579.wiff
23	CR844LCS-FS(0)	Laboratory Control Sample	9/27/2018 10:27:36 PM	5-0369.dam	18-0579.wiff
24	J8278-FS(0)	07GW07092018	9/27/2018 10:38:27 PM	5-0369.dam	18-0579.wiff
25	J8278-FS-D(3)	07GW07092018	9/27/2018 10:49:19 PM	5-0369.dam	18-0579.wiff
26	J8279-FS(0)	07FRB092018	9/27/2018 11:00:10 PM	5-0369.dam	18-0579.wiff
27	J8280-FS(0)	07GW13092018	9/27/2018 11:11:01 PM	5-0369.dam	18-0579.wiff
28	J8280-FS-D(3)	07GW13092018	9/27/2018 11:21:52 PM	5-0369.dam	18-0579.wiff
29	J8280-FS-D(5)	07GW13092018	9/27/2018 11:32:45 PM	5-0369.dam	18-0579.wiff
5	KA89 CCV	CCV	9/27/2018 11:43:37 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 11:54:29 PM	5-0369.dam	18-0579.wiff
30	J8281-FS(0)	07GW11092018	9/28/2018 12:05:21 AM	5-0369.dam	18-0579.wiff
34	J8281-FS-D(3)	07G11092018	9/28/2018 12:16:12 AM	5-0369.dam	18-0579.wiff
6	KA90 CCV	CCV	9/28/2018 12:27:03	5-0369.dam	18-0579.wiff

1

2

1

1 Dilutions made and run but not needed. DMS 10/4/2018

2 Additional dilution was needed and nothing is being reported from this one. DMS 10/4/2018



Sequence Report

Created with Analyst Reporter
Printed: 03/10/2018 5:22:39 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
			AM		



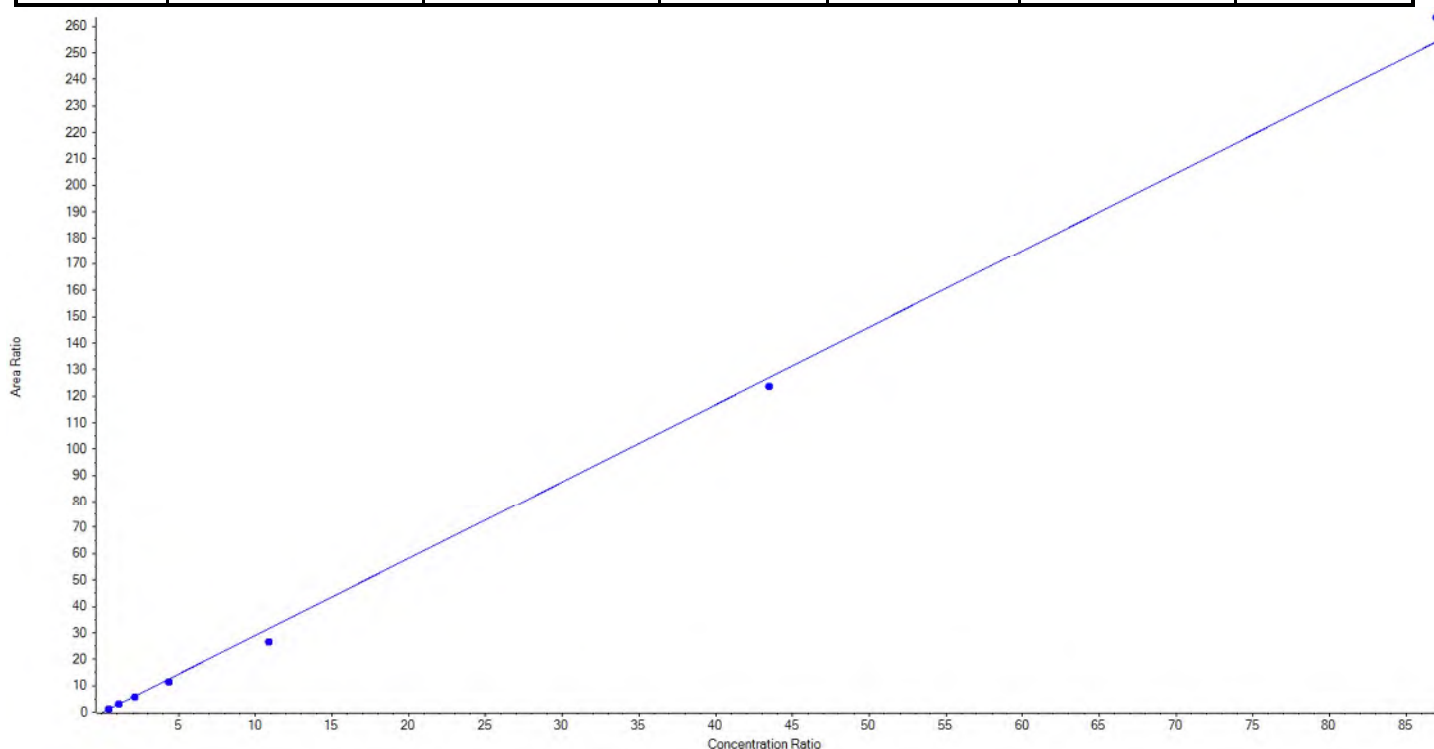
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFBS_1	Data File	18-0579.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.92545x + -0.27585$ ($r = 0.99836$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	123.563339	122.3
3	KA87	L2	True	252.50	265.980331	105.3
4	KA88	L3	True	505.00	477.951669	94.6
5	KA89	L4	True	1010.00	928.471502	91.9
6	KA90	L5	True	2525.00	2141.327770	84.8
7	KA91	L6	True	10100.00	9834.581398	97.4
8	KA92	L7	True	20200.00	20921.623990	103.6





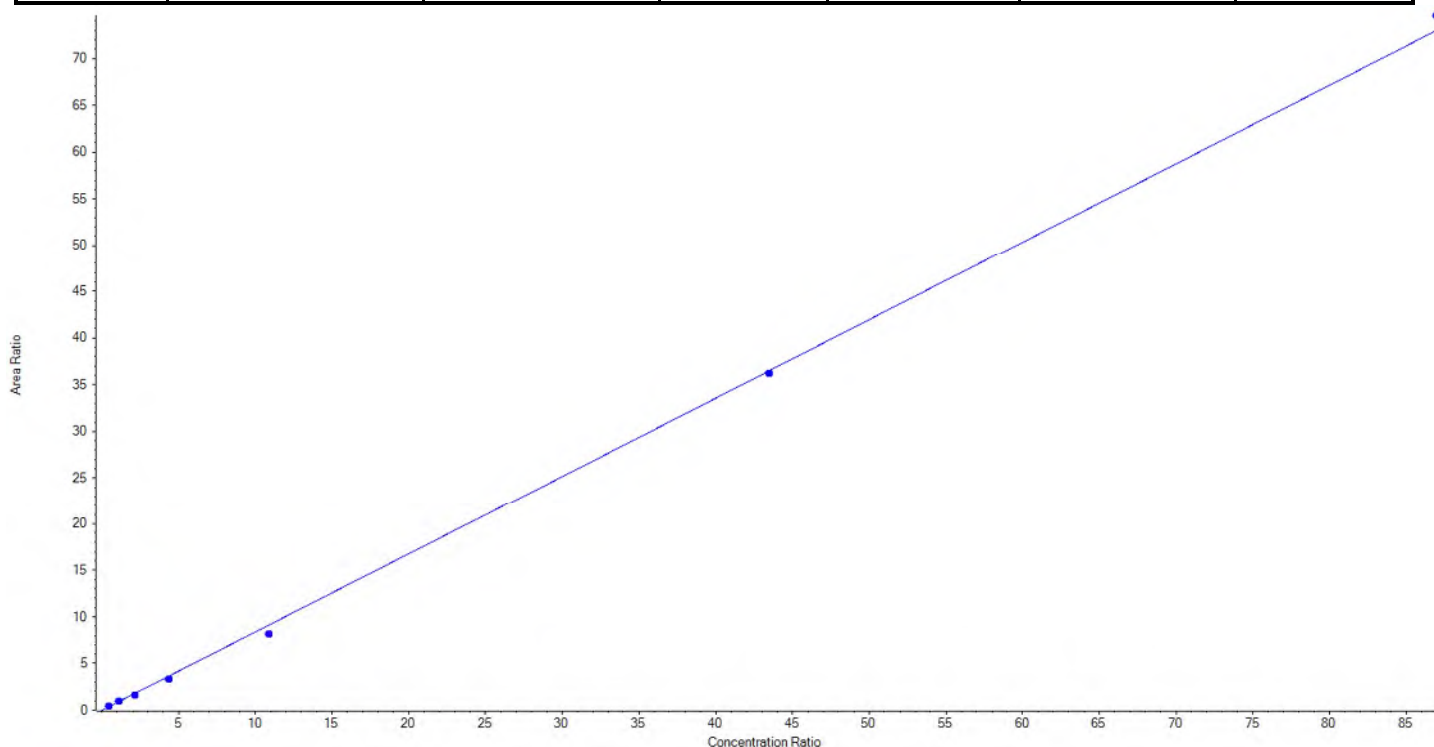
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFBS_2	Data File	18-0579.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83941 x + -0.01803$ ($r = 0.99917$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	122.248707	121.0
3	KA87	L2	True	252.50	263.462301	104.3
4	KA88	L3	True	505.00	460.229914	91.1
5	KA89	L4	True	1010.00	937.723626	92.8
6	KA90	L5	True	2525.00	2254.703938	89.3
7	KA91	L6	True	10100.00	10016.842401	99.2
8	KA92	L7	True	20200.00	20638.289113	102.2





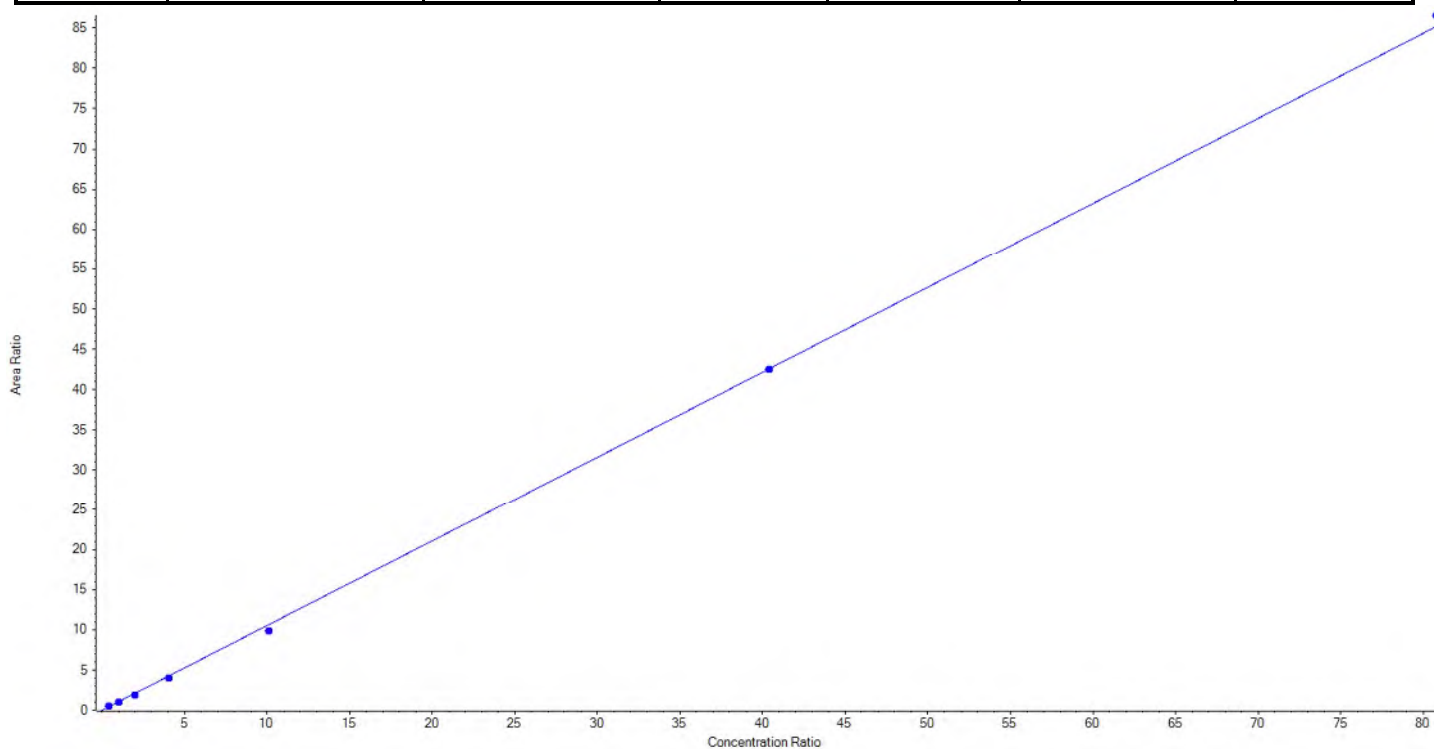
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFHxA_1	Data File	18-0579.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0566_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05450 x + -0.02715$ ($r = 0.99935$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	130.216628	128.9
3	KA87	L2	True	252.50	244.662241	96.9
4	KA88	L3	True	505.00	440.448114	87.2
5	KA89	L4	True	1010.00	940.169982	93.1
6	KA90	L5	True	2525.00	2334.256954	92.5
7	KA91	L6	True	10100.00	10084.569261	99.9
8	KA92	L7	True	20200.00	20519.176820	101.6





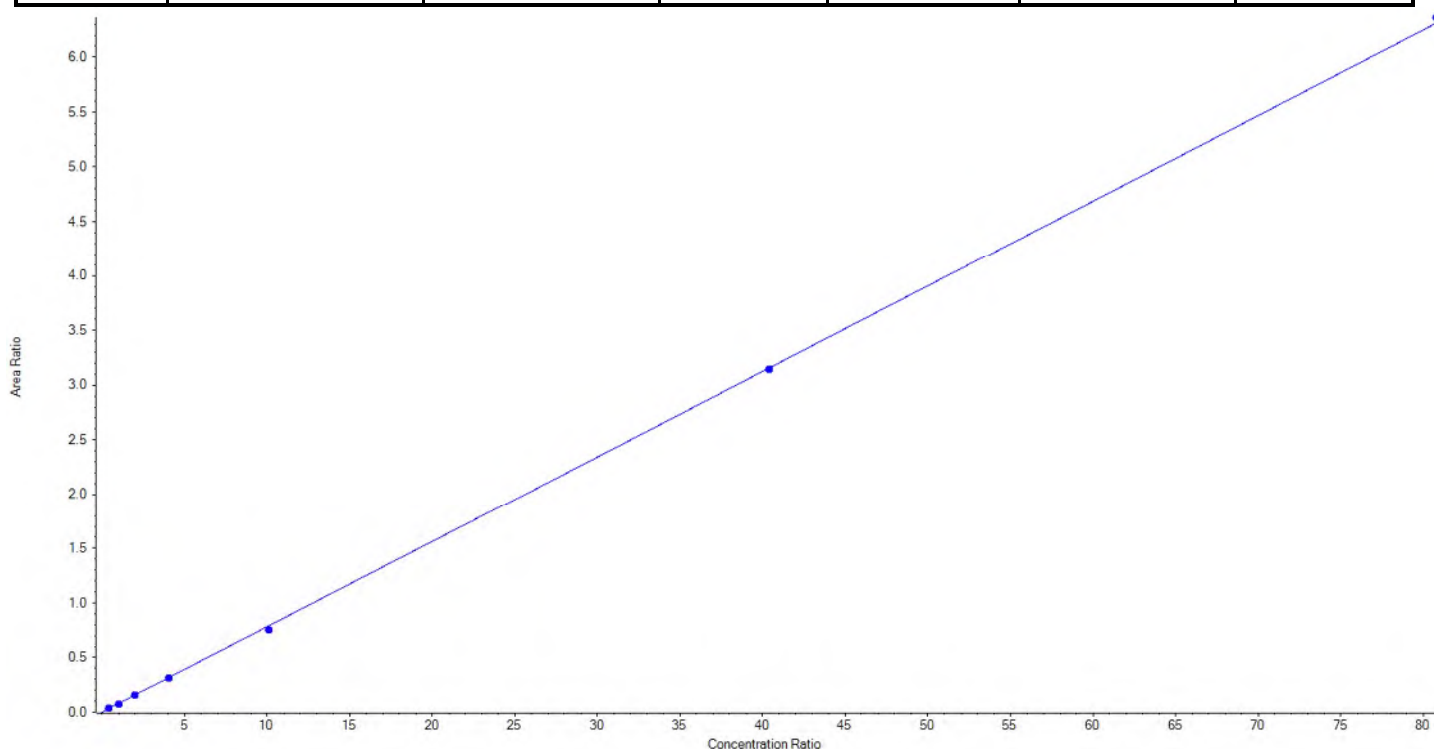
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFHxA_2	Data File	18-0579.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0566_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07812x + -3.80071e-4$ (r = 0.99988) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	110.731124	109.6
3	KA87	L2	True	252.50	243.831966	96.6
4	KA88	L3	True	505.00	499.894513	99.0
5	KA89	L4	True	1010.00	998.384754	98.9
6	KA90	L5	True	2525.00	2409.842159	95.4
7	KA91	L6	True	10100.00	10074.189534	99.7
8	KA92	L7	True	20200.00	20356.625950	100.8





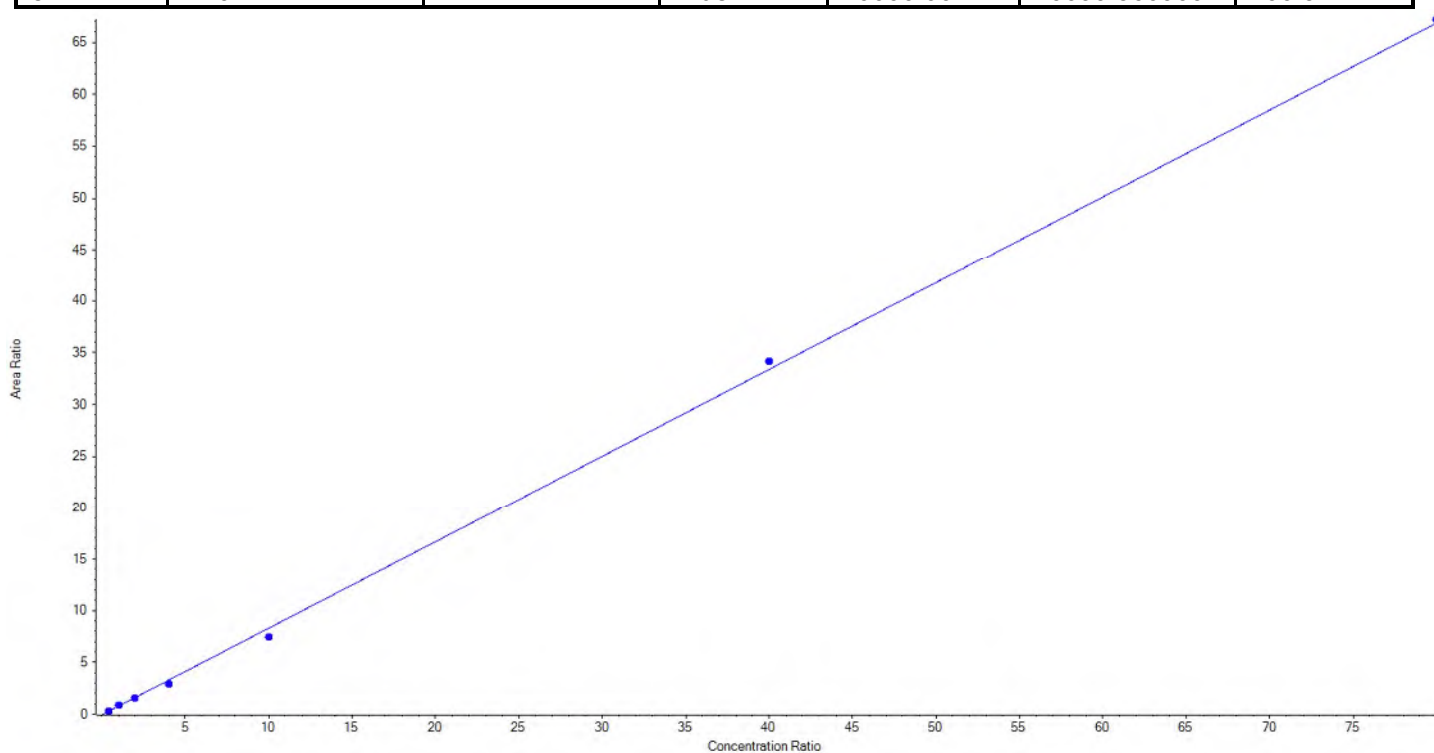
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFHpA_1	Data File	18-0579.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83649x + -0.06691$ ($r = 0.99929$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	112.141197	112.1
3	KA87	L2	True	250.00	271.691767	108.7
4	KA88	L3	True	500.00	481.727864	96.4
5	KA89	L4	True	1000.00	899.203183	89.9
6	KA90	L5	True	2500.00	2252.021680	90.1
7	KA91	L6	True	10000.00	10233.853402	102.3
8	KA92	L7	True	20000.00	20099.360909	100.5





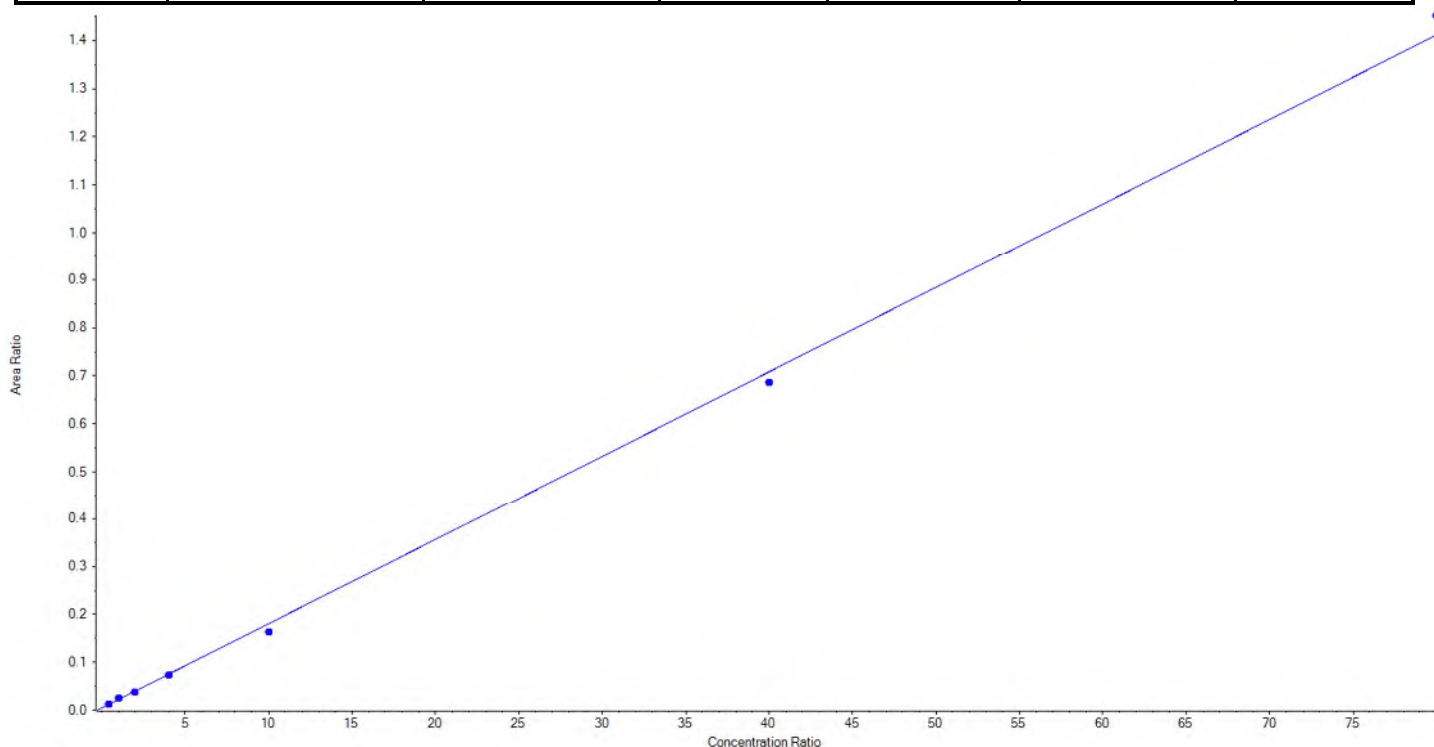
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Analyte Name	PFHpA_2	Data File	18-0579.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01759x + 0.00463$ ($r = 0.99904$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	102.495489	102.5
3	KA87	L2	True	250.00	291.248647	116.5
4	KA88	L3	True	500.00	463.652444	92.7
5	KA89	L4	True	1000.00	985.741903	98.6
6	KA90	L5	True	2500.00	2249.265012	90.0
7	KA91	L6	True	10000.00	9688.358068	96.9
8	KA92	L7	True	20000.00	20569.238438	102.9





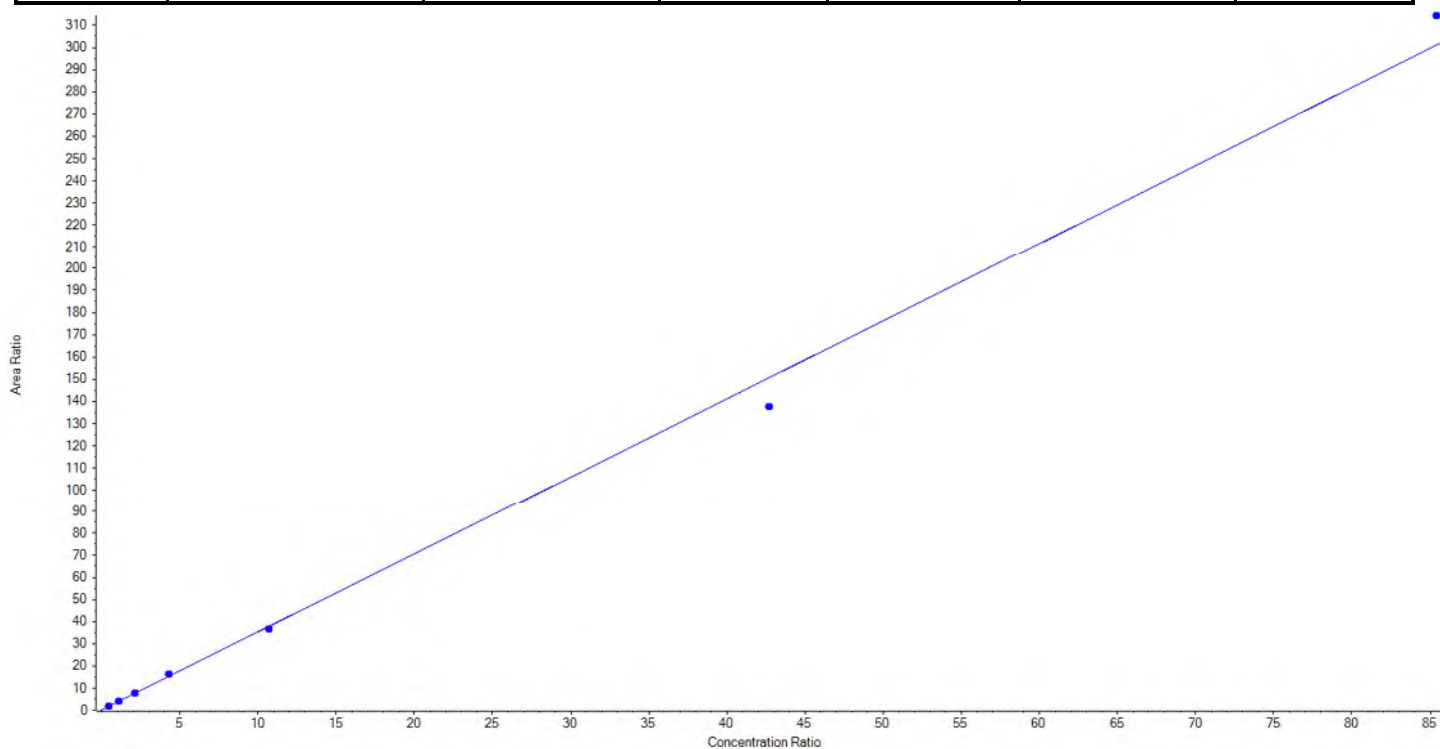
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Analyte Name	PFHxS_1	Data File	18-0579.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.52287x + 0.16241$ ($r = 0.99812$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	103.101735	102.1
3	KA87	L2	True	252.50	253.404188	100.4
4	KA88	L3	True	505.00	497.796212	98.6
5	KA89	L4	True	1010.00	1070.103940	106.0
6	KA90	L5	True	2525.00	2457.101002	97.3
7	KA91	L6	True	10100.00	9224.589677	91.3
8	KA92	L7	True	20200.00	21087.403246	104.4





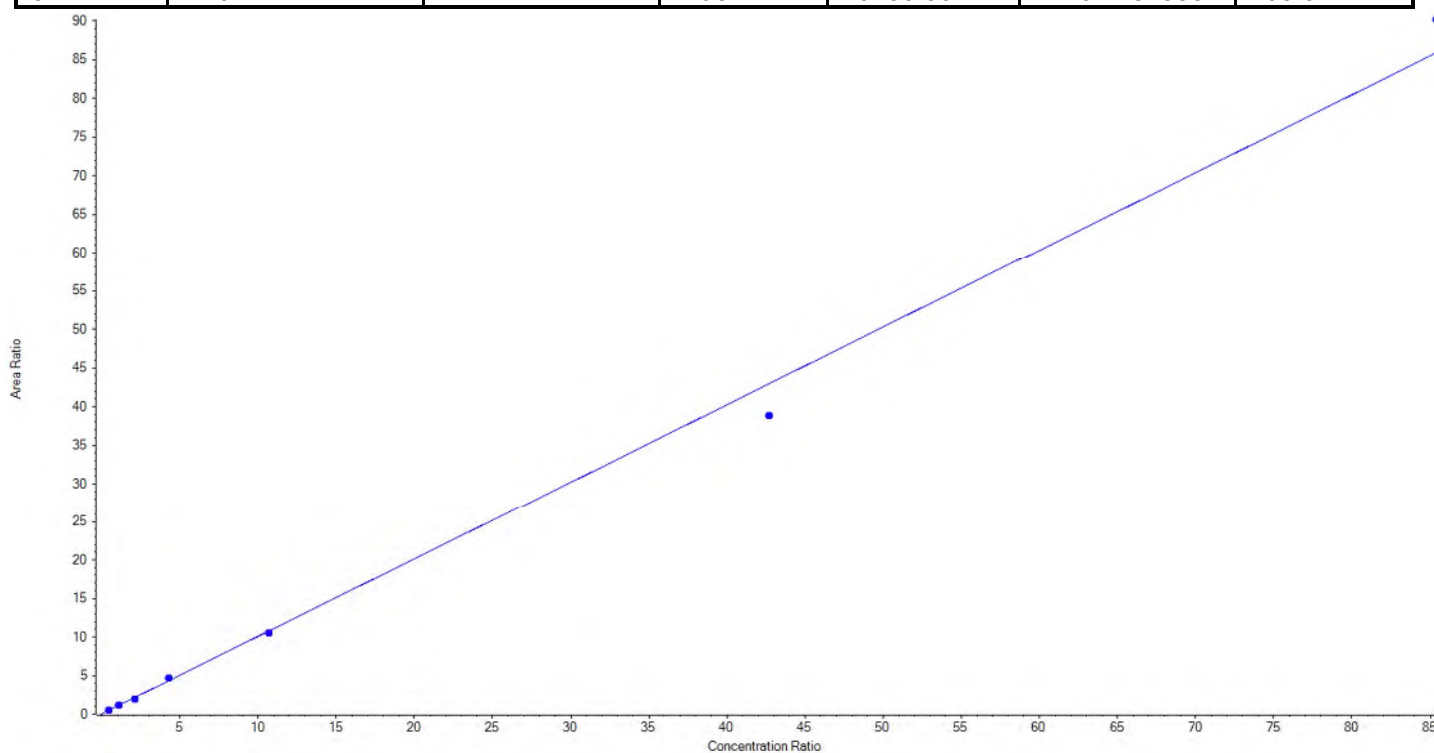
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Analyte Name	PFHxS_2	Data File	18-0579.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.00510x + 0.03078$ ($r = 0.99749$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	104.623771	103.6
3	KA87	L2	True	252.50	274.611400	108.8
4	KA88	L3	True	505.00	443.433317	87.8
5	KA89	L4	True	1010.00	1082.909194	107.2
6	KA90	L5	True	2525.00	2456.542318	97.3
7	KA91	L6	True	10100.00	9127.098648	90.4
8	KA92	L7	True	20200.00	21204.281353	105.0





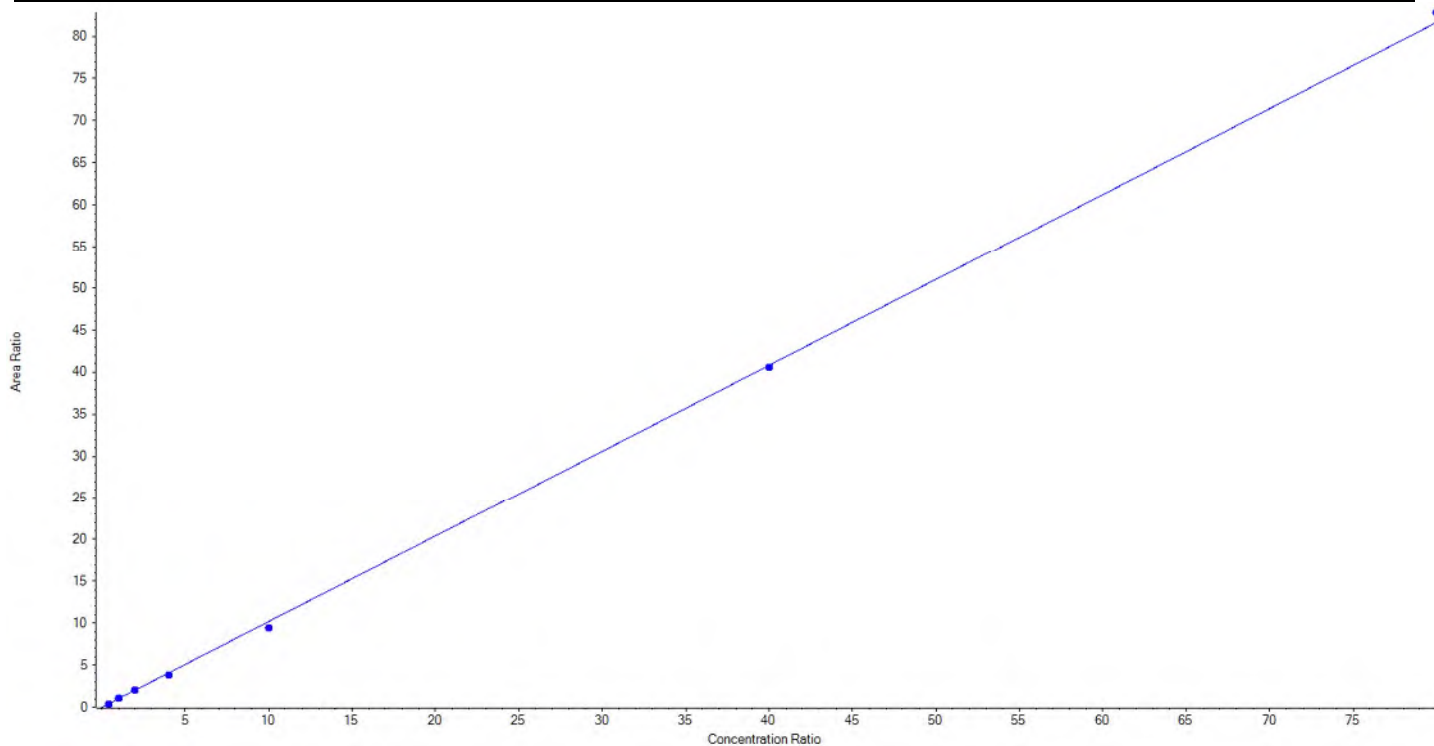
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Analyte Name	PFOA_1	Data File	18-0579.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02072x + -0.01771$ ($r = 0.99963$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	104.490689	104.5
3	KA87	L2	True	250.00	273.381680	109.4
4	KA88	L3	True	500.00	493.119105	98.6
5	KA89	L4	True	1000.00	939.487668	94.0
6	KA90	L5	True	2500.00	2320.826433	92.8
7	KA91	L6	True	10000.00	9931.504468	99.3
8	KA92	L7	True	20000.00	20287.189958	101.4





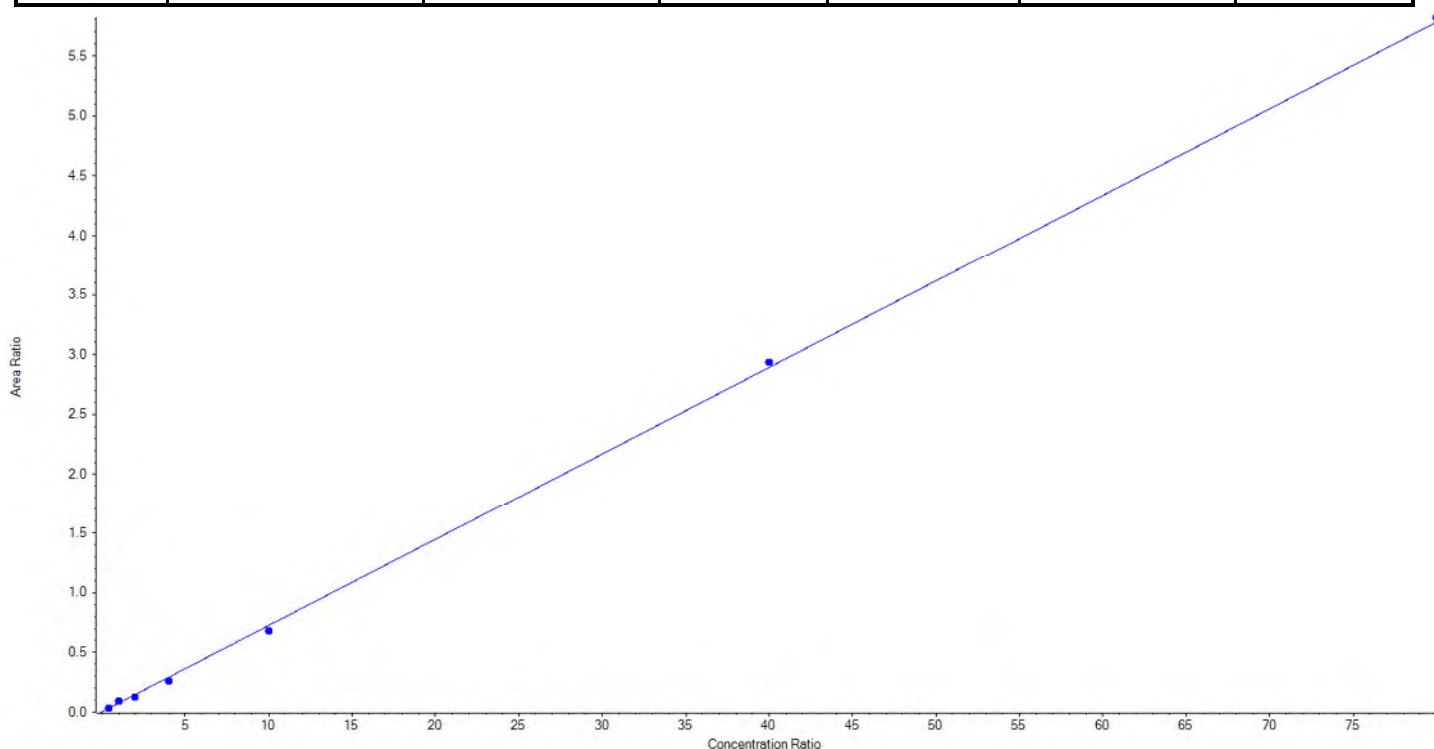
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Analyte Name	PFOA_2	Data File	18-0579.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07223 x + 0.00246$ (r = 0.99921) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	102.120923	102.1
3	KA87	L2	True	250.00	315.290887	126.1
4	KA88	L3	True	500.00	432.418540	86.5
5	KA89	L4	True	1000.00	898.134186	89.8
6	KA90	L5	True	2500.00	2336.488177	93.5
7	KA91	L6	True	10000.00	10135.666425	101.4
8	KA92	L7	True	20000.00	20129.880861	100.7





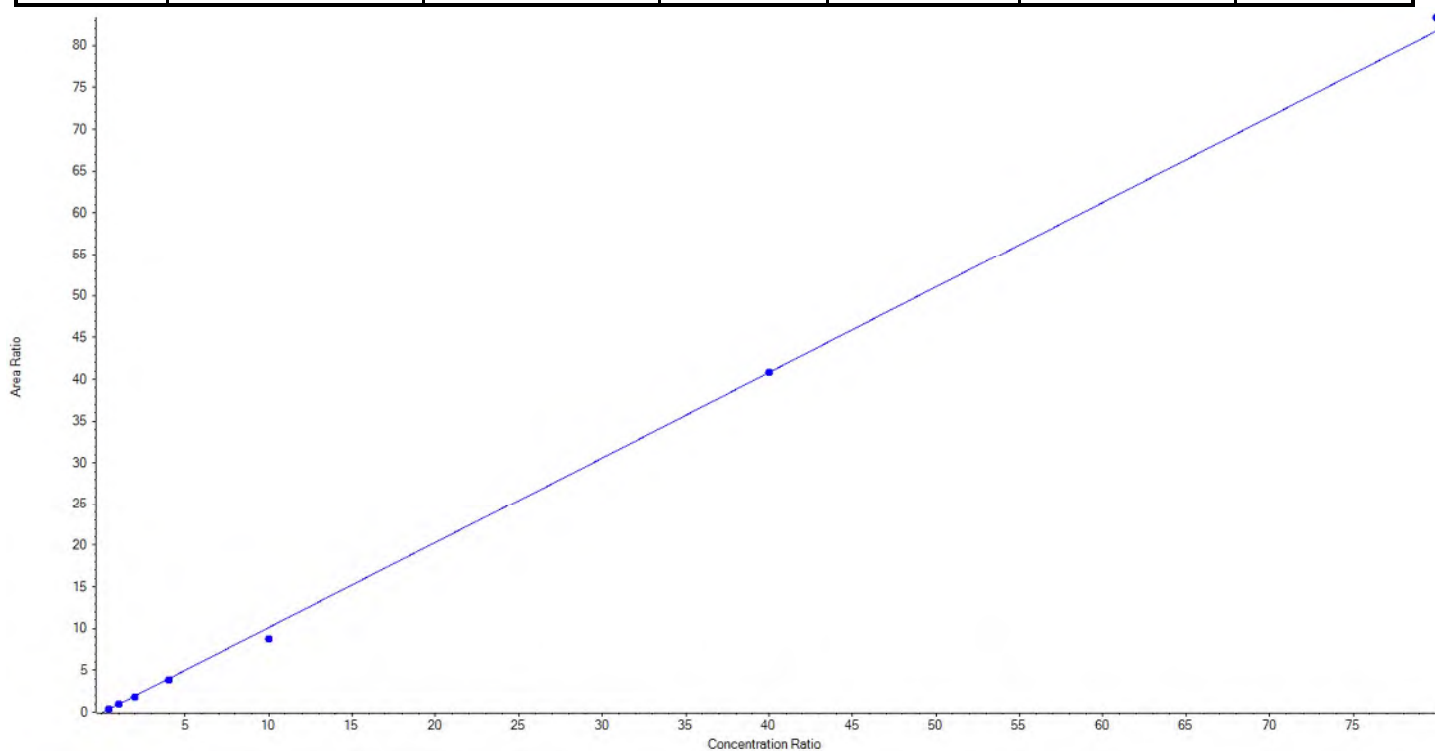
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Analyte Name	PFNA_1	Data File	18-0579.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02304 x + -0.09973$ ($r = 0.99896$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	115.360995	115.4
3	KA87	L2	True	250.00	273.023805	109.2
4	KA88	L3	True	500.00	450.998391	90.2
5	KA89	L4	True	1000.00	971.667622	97.2
6	KA90	L5	True	2500.00	2154.353539	86.2
7	KA91	L6	True	10000.00	9993.184497	99.9
8	KA92	L7	True	20000.00	20391.411152	102.0





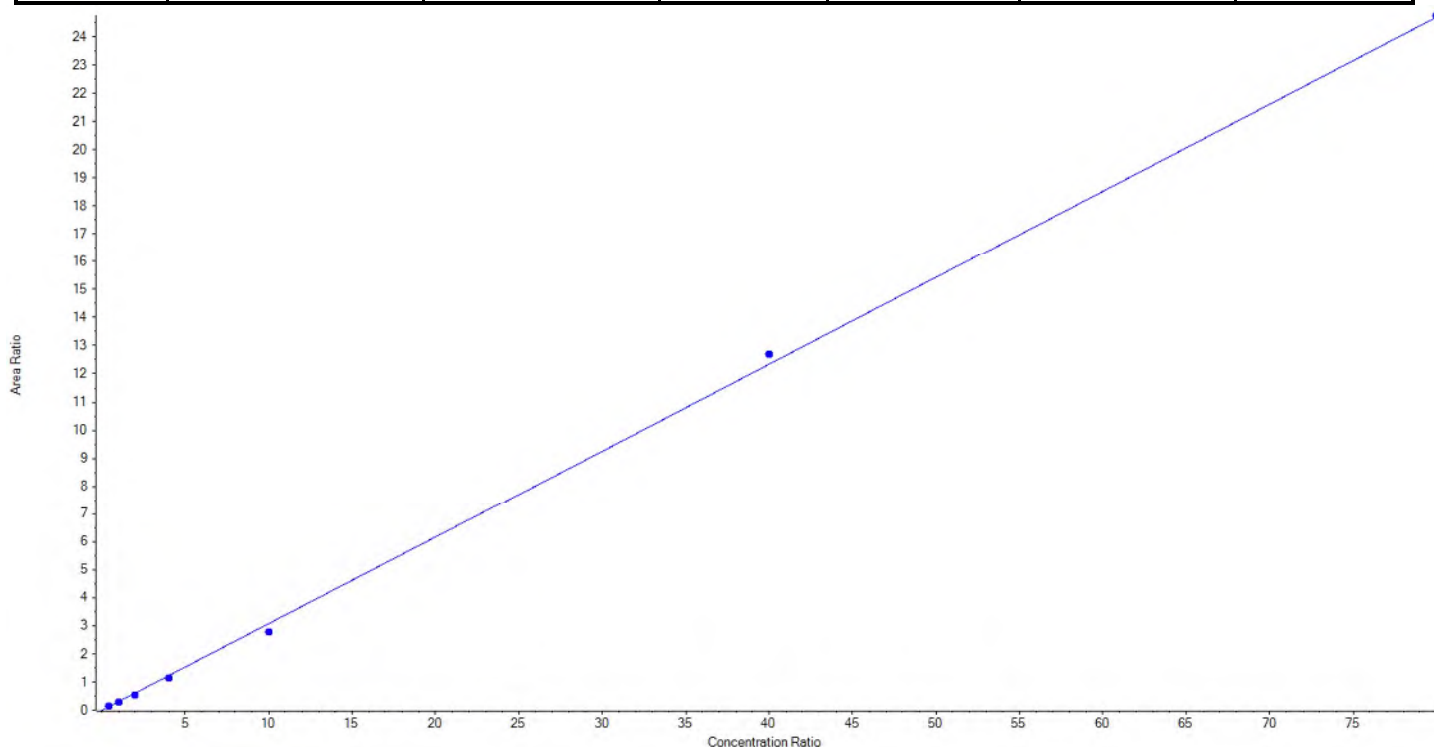
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Analyte Name	PFNA_2	Data File	18-0579.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0566_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.30883x + -0.01151$ ($r = 0.99924$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	122.600848	122.6
3	KA87	L2	True	250.00	251.960184	100.8
4	KA88	L3	True	500.00	444.810828	89.0
5	KA89	L4	True	1000.00	945.735861	94.6
6	KA90	L5	True	2500.00	2248.221066	89.9
7	KA91	L6	True	10000.00	10293.425735	102.9
8	KA92	L7	True	20000.00	20043.245479	100.2





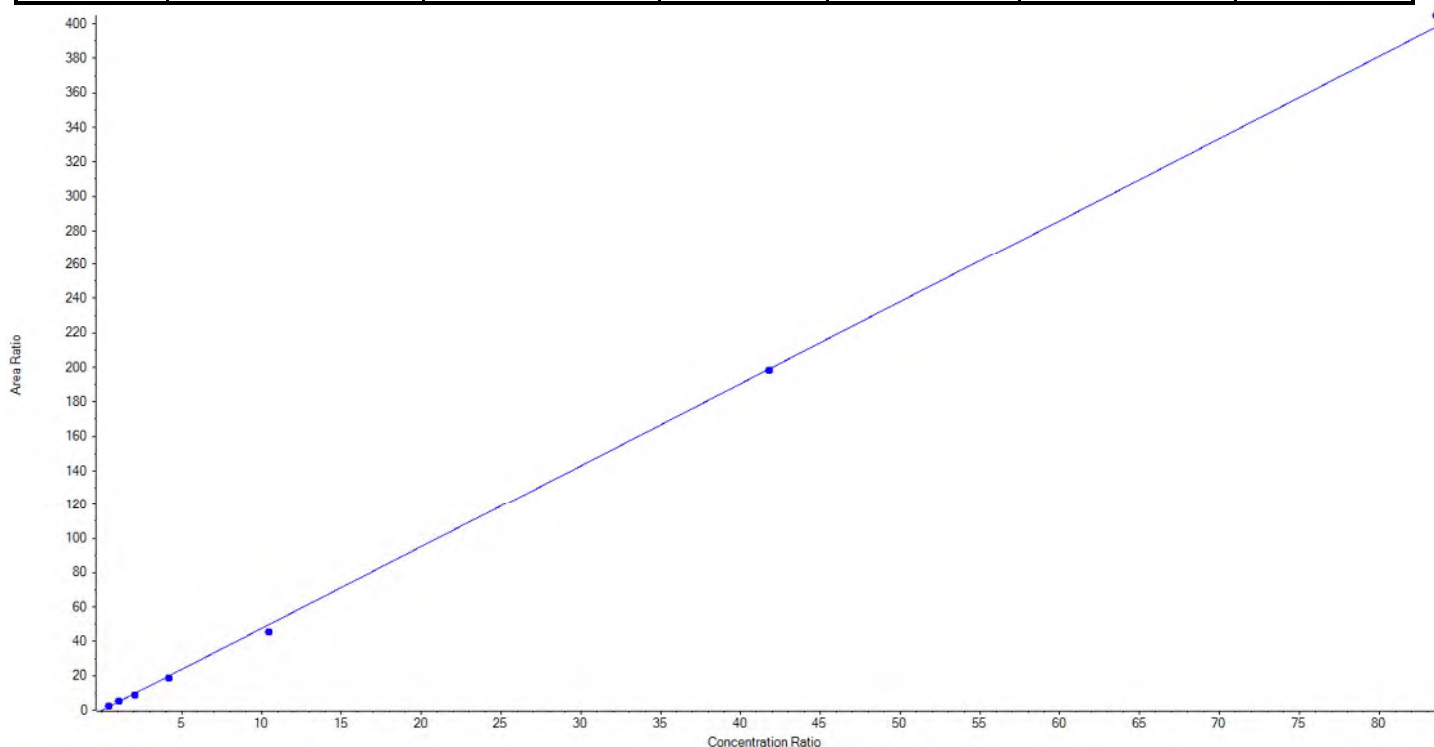
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Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOS_1	Data File	18-0579.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.76596 x + -0.15570$ ($r = 0.99937$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	120.298700	120.3
3	KA87	L2	True	250.00	263.435360	105.4
4	KA88	L3	True	500.00	436.284825	87.3
5	KA89	L4	True	1000.00	941.833555	94.2
6	KA90	L5	True	2500.00	2287.728854	91.5
7	KA91	L6	True	10000.00	9975.117509	99.8
8	KA92	L7	True	20000.00	20325.301197	101.6





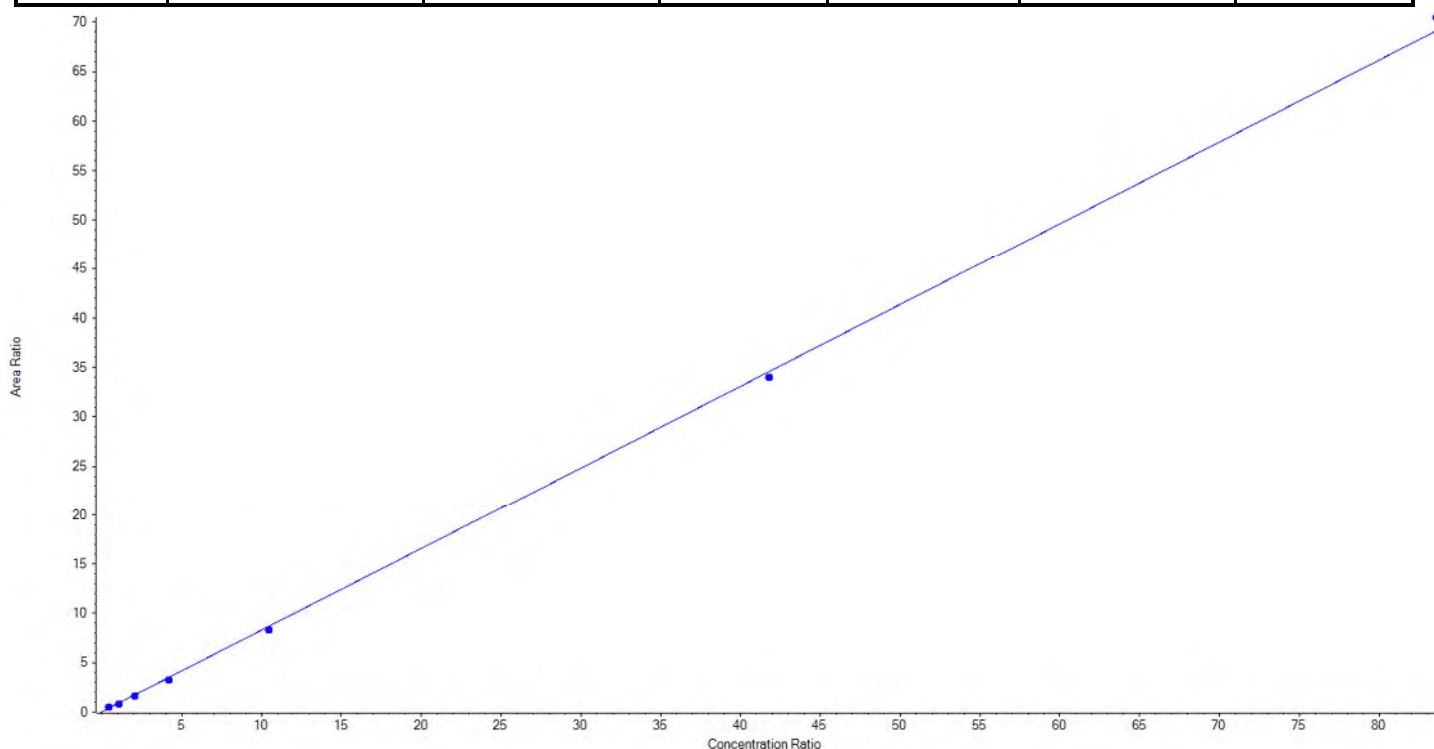
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Analyte Name	PFOS_2	Data File	18-0579.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.82644 x + 0.04345$ ($r = 0.99945$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	128.430857	128.4
3	KA87	L2	True	250.00	234.208510	93.7
4	KA88	L3	True	500.00	443.222074	88.6
5	KA89	L4	True	1000.00	935.384047	93.5
6	KA90	L5	True	2500.00	2383.966701	95.4
7	KA91	L6	True	10000.00	9844.062371	98.4
8	KA92	L7	True	20000.00	20380.725439	101.9





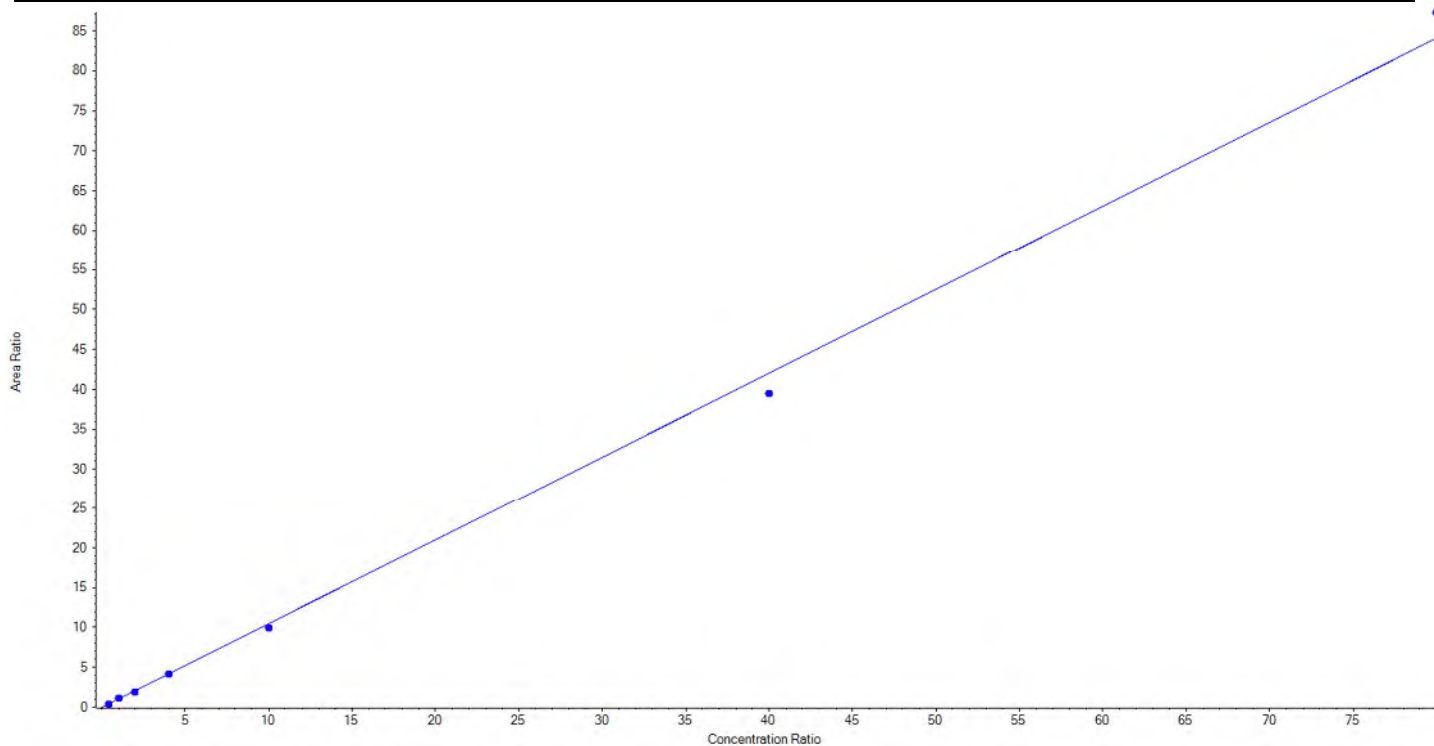
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDA_1	Data File	18-0579.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0566_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05144 x + -0.03550$ ($r = 0.99874$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	106.346822	106.4
3	KA87	L2	True	250.00	277.994741	111.2
4	KA88	L3	True	500.00	458.873472	91.8
5	KA89	L4	True	1000.00	984.633166	98.5
6	KA90	L5	True	2500.00	2359.640912	94.4
7	KA91	L6	True	10000.00	9403.815943	94.0
8	KA92	L7	True	20000.00	20758.694944	103.8





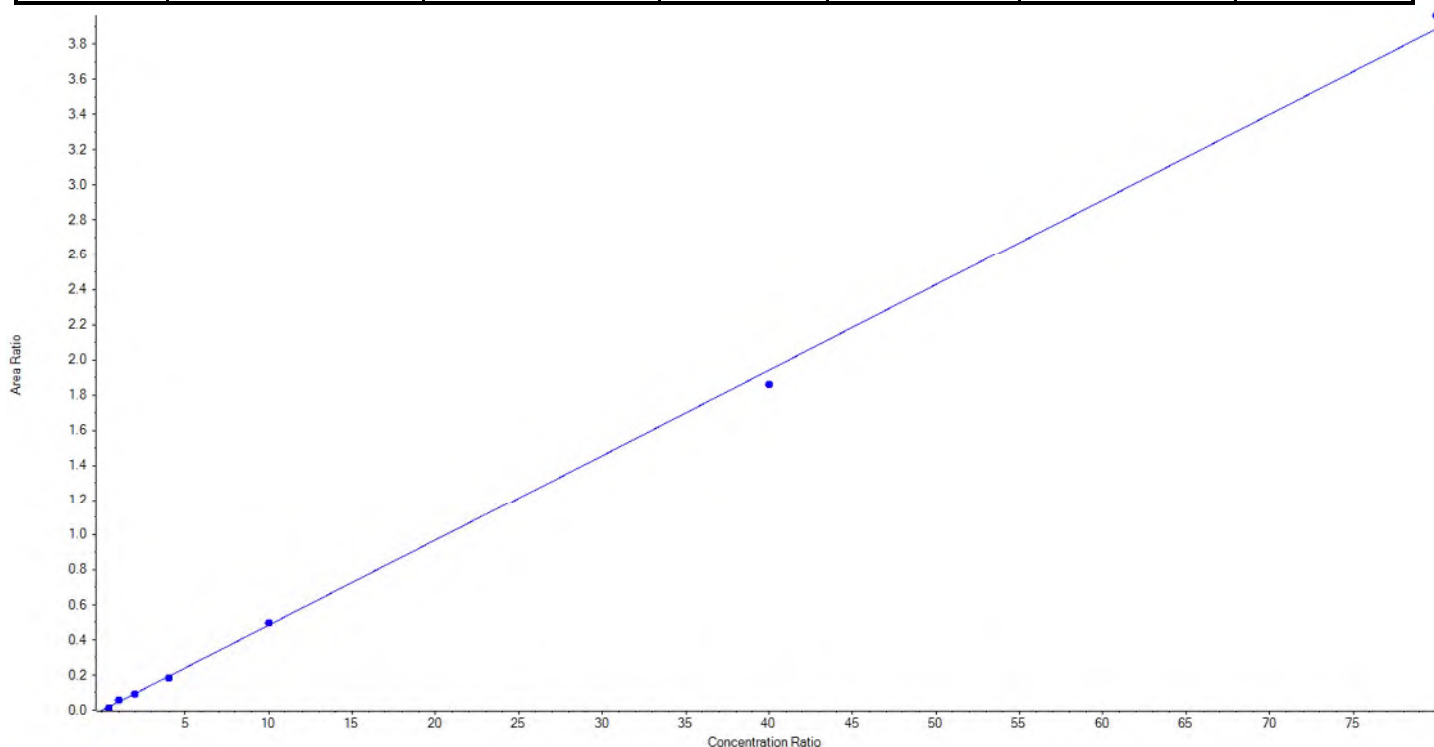
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDA_2	Data File	18-0579.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0566_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04861 x + -0.00239$ ($r = 0.99923$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	85.284206	85.3
3	KA87	L2	True	250.00	309.209144	123.7
4	KA88	L3	True	500.00	482.427863	96.5
5	KA89	L4	True	1000.00	937.377167	93.7
6	KA90	L5	True	2500.00	2579.026038	103.2
7	KA91	L6	True	10000.00	9572.885577	95.7
8	KA92	L7	True	20000.00	20383.790005	101.9





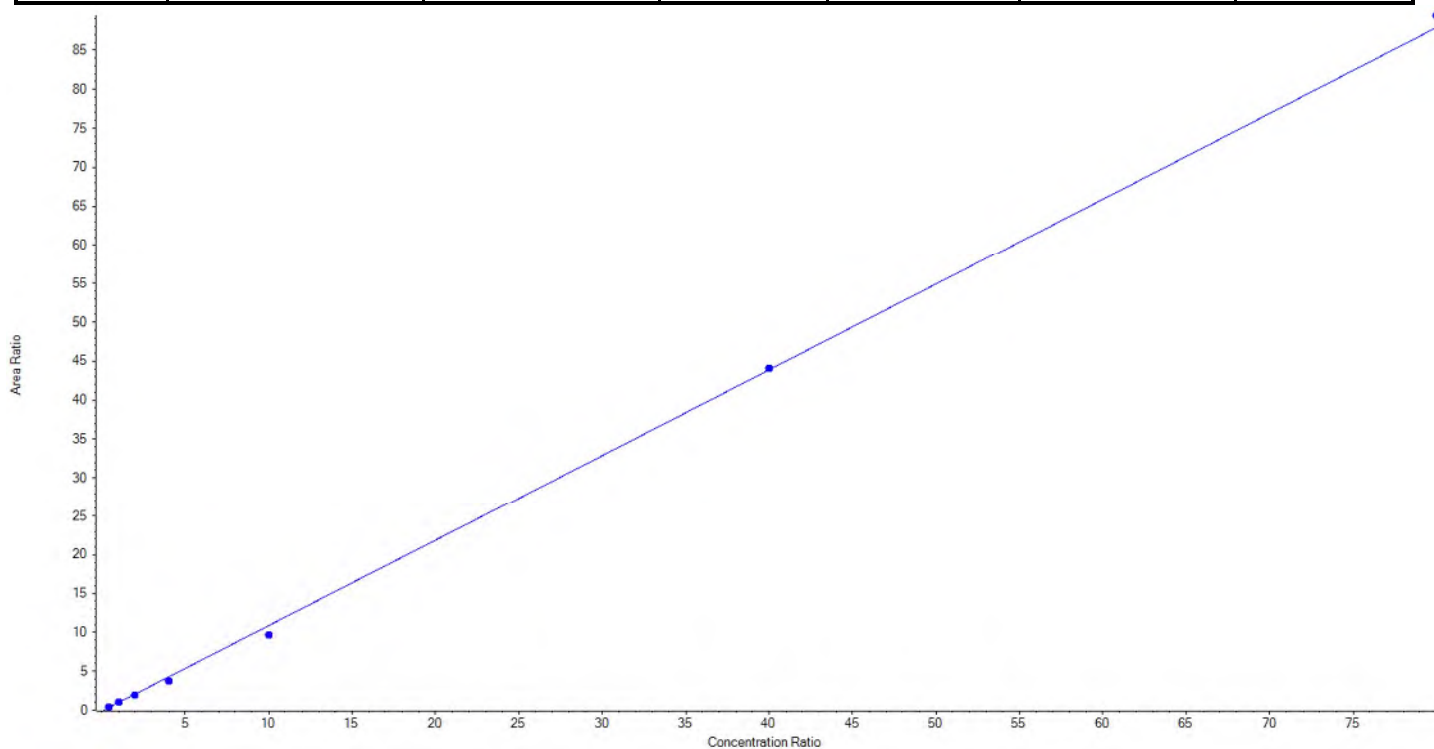
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFUnA_1	Data File	18-0579.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0566_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.10061x + -0.13915$ ($r = 0.99907$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	116.334724	116.3
3	KA87	L2	True	250.00	277.753480	111.1
4	KA88	L3	True	500.00	470.669148	94.1
5	KA89	L4	True	1000.00	869.494049	87.0
6	KA90	L5	True	2500.00	2234.979293	89.4
7	KA91	L6	True	10000.00	10035.526309	100.4
8	KA92	L7	True	20000.00	20345.242998	101.7





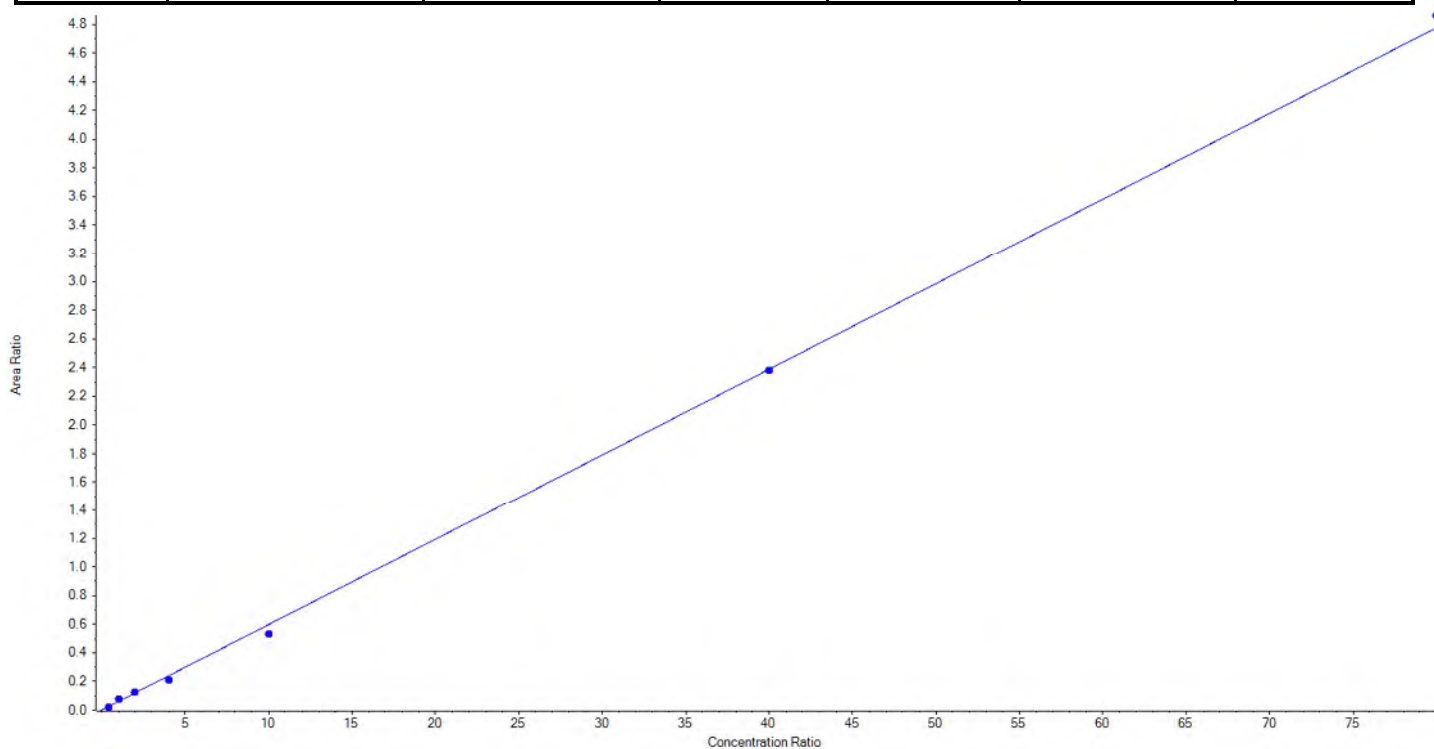
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFUnA_2	Data File	18-0579.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0566_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05968x + 0.00122$ ($r = 0.99882$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	91.548794	91.6
3	KA87	L2	True	250.00	322.537251	129.0
4	KA88	L3	True	500.00	510.533058	102.1
5	KA89	L4	True	1000.00	863.160693	86.3
6	KA90	L5	True	2500.00	2238.301426	89.5
7	KA91	L6	True	10000.00	9972.394828	99.7
8	KA92	L7	True	20000.00	20351.523950	101.8





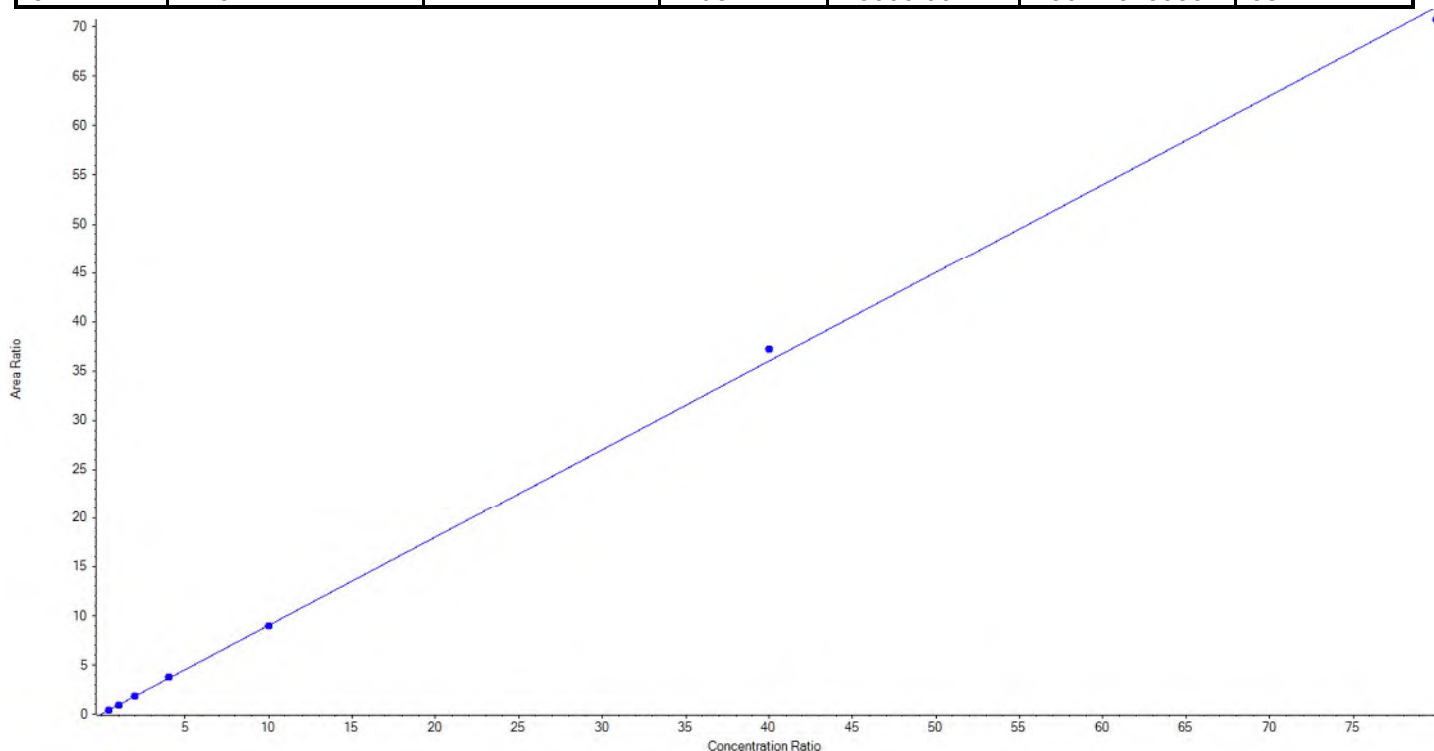
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDaA_1	Data File	18-0579.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.89981x + 0.02941$ ($r = 0.99969$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	96.602802	96.6
3	KA87	L2	True	250.00	243.077085	97.2
4	KA88	L3	True	500.00	509.858710	102.0
5	KA89	L4	True	1000.00	1034.624207	103.5
6	KA90	L5	True	2500.00	2477.014904	99.1
7	KA91	L6	True	10000.00	10341.498757	103.4
8	KA92	L7	True	20000.00	19647.323535	98.2





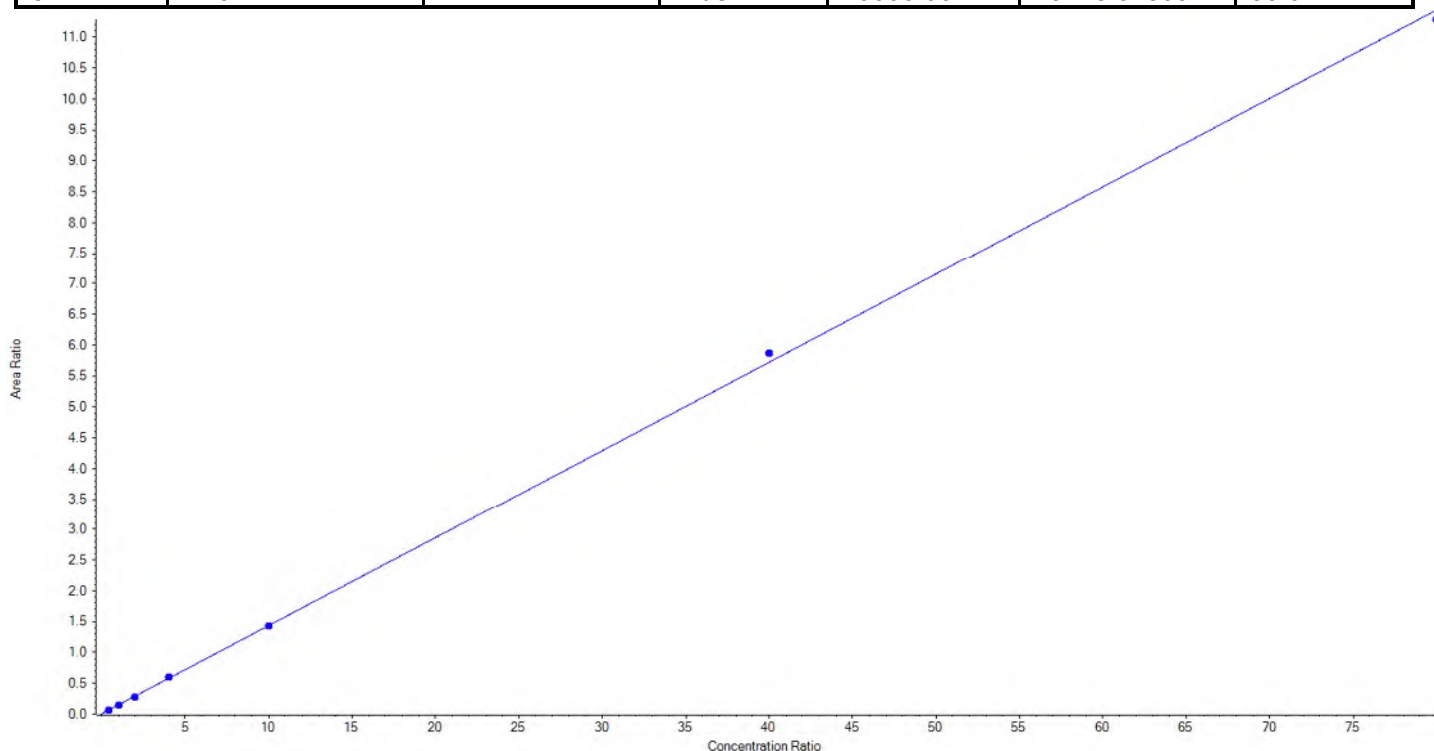
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDaA_2	Data File	18-0579.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.14289x + 0.00761$ ($r = 0.99979$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	95.994091	96.0
3	KA87	L2	True	250.00	256.510705	102.6
4	KA88	L3	True	500.00	482.582176	96.5
5	KA89	L4	True	1000.00	1041.937484	104.2
6	KA90	L5	True	2500.00	2486.735958	99.5
7	KA91	L6	True	10000.00	10258.161495	102.6
8	KA92	L7	True	20000.00	19728.078092	98.6





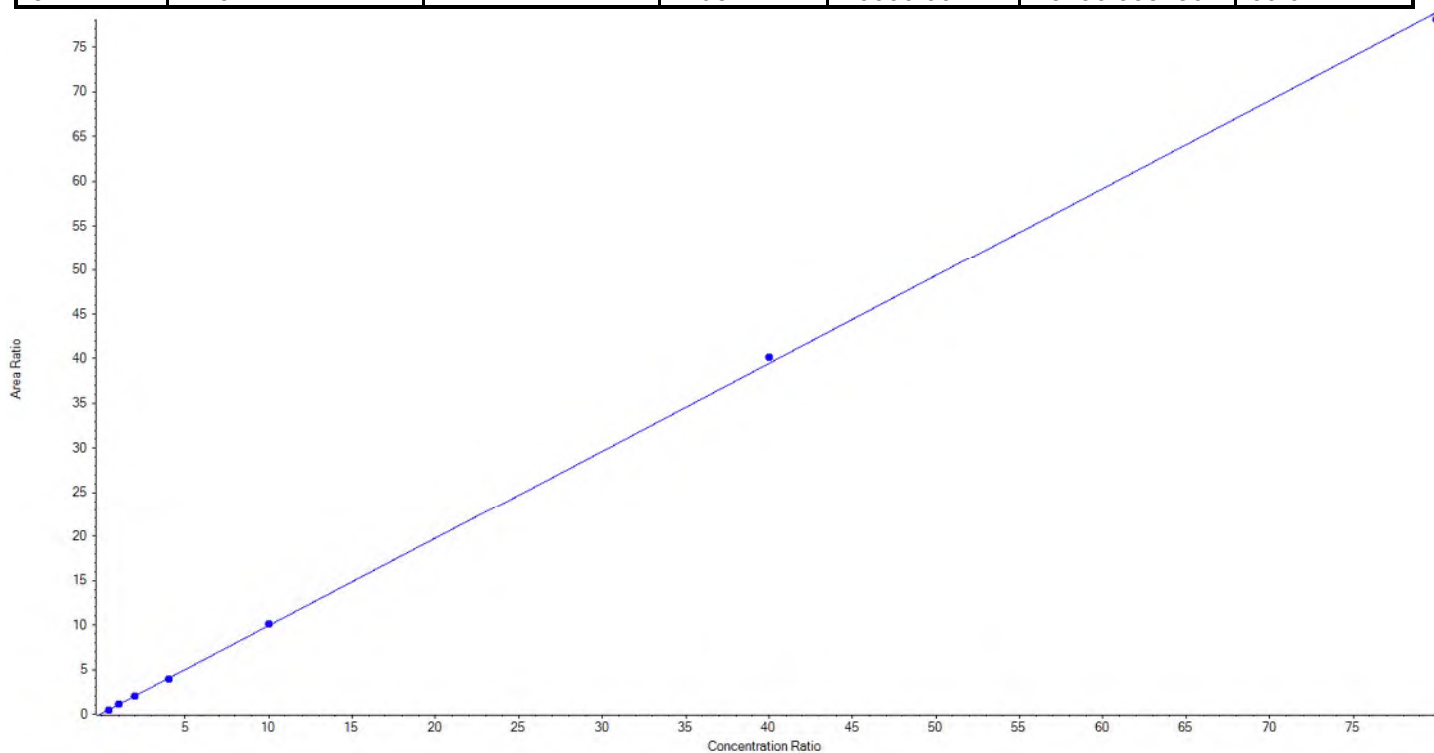
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFTrDA_1	Data File	18-0579.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98485x + 0.08012$ ($r = 0.99984$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	93.181523	93.2
3	KA87	L2	True	250.00	272.439148	109.0
4	KA88	L3	True	500.00	487.576252	97.5
5	KA89	L4	True	1000.00	973.049109	97.3
6	KA90	L5	True	2500.00	2558.896932	102.4
7	KA91	L6	True	10000.00	10168.498749	101.7
8	KA92	L7	True	20000.00	19796.358286	99.0





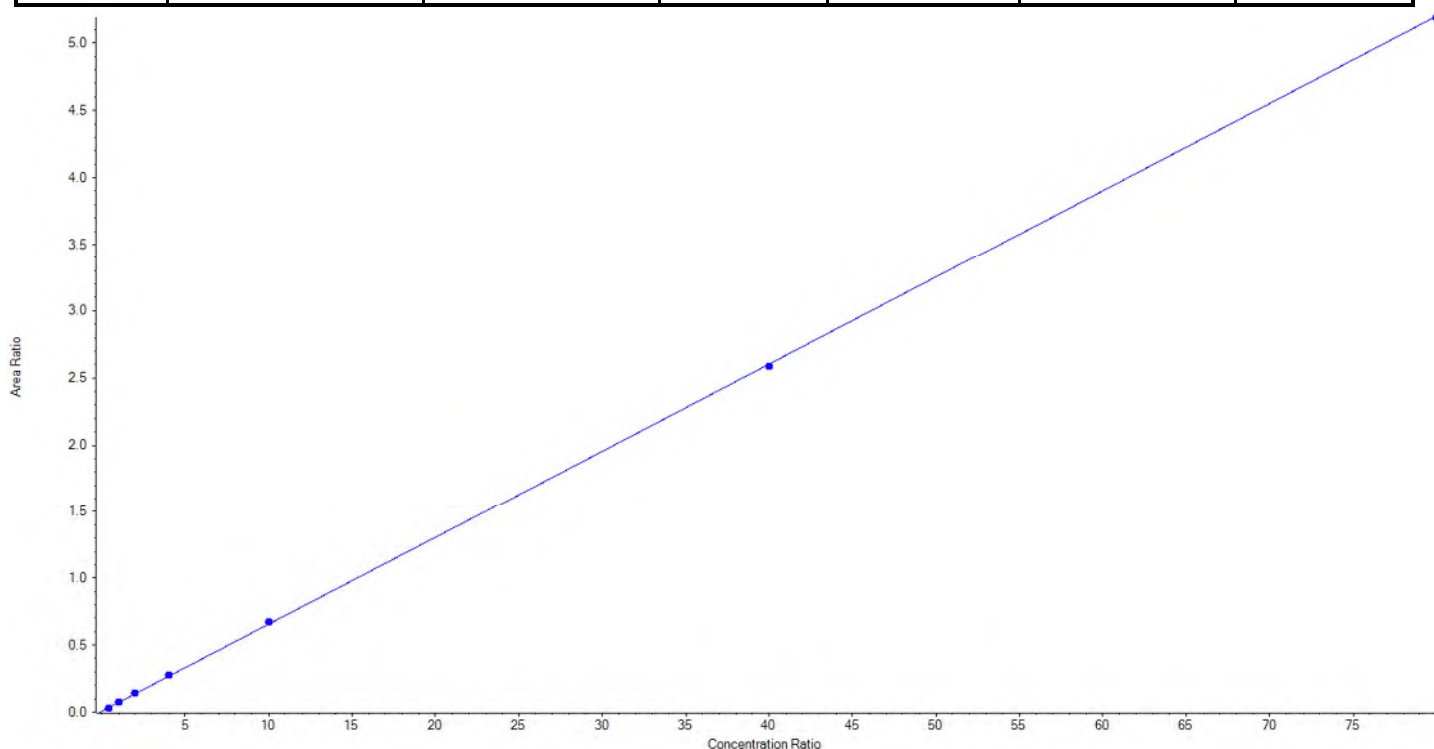
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFTTrDA_2	Data File	18-0579.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06491 x + 0.00717$ (r = 0.99990) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	87.199372	87.2
3	KA87	L2	True	250.00	266.825158	106.7
4	KA88	L3	True	500.00	505.482749	101.1
5	KA89	L4	True	1000.00	1031.414582	103.1
6	KA90	L5	True	2500.00	2567.609082	102.7
7	KA91	L6	True	10000.00	9934.169664	99.3
8	KA92	L7	True	20000.00	19957.299393	99.8





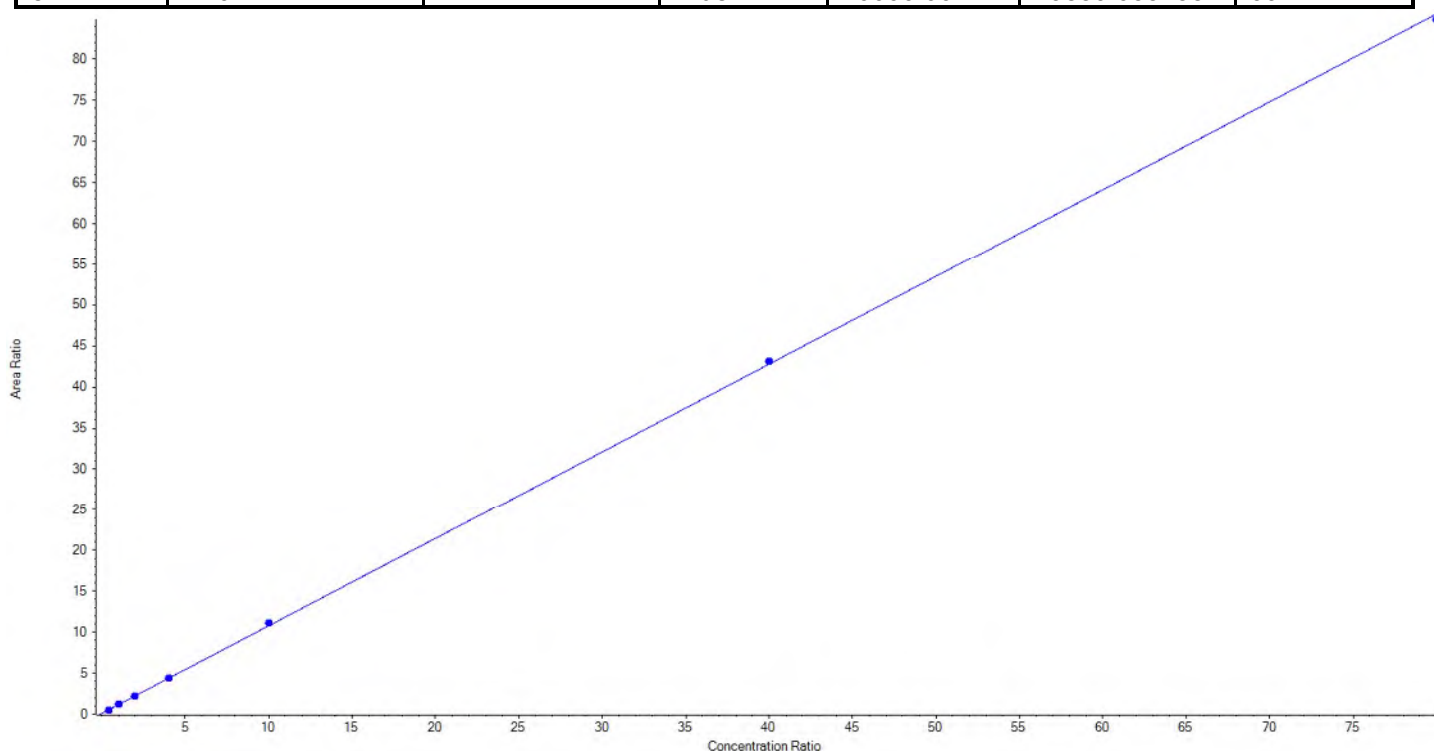
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFTeDA_1	Data File	18-0579.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06749x + 0.09329$ ($r = 0.99990$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	92.437920	92.4
3	KA87	L2	True	250.00	266.603763	106.6
4	KA88	L3	True	500.00	490.003536	98.0
5	KA89	L4	True	1000.00	996.686650	99.7
6	KA90	L5	True	2500.00	2580.122904	103.2
7	KA91	L6	True	10000.00	10085.111989	100.9
8	KA92	L7	True	20000.00	19839.033238	99.2





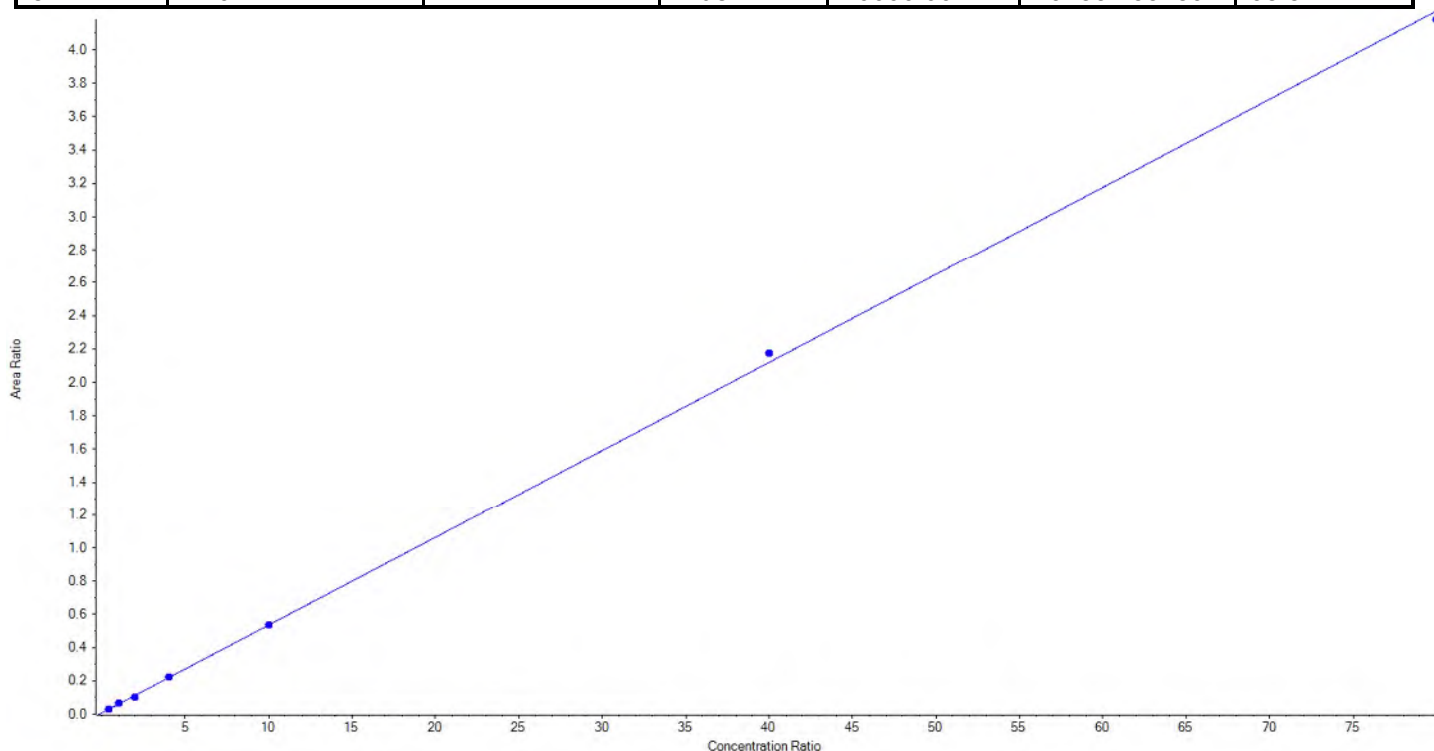
Calibration Summary Report

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Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFTeDA_2	Data File	18-0579.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05282 x + 0.00717$ ($r = 0.99978$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	96.950081	97.0
3	KA87	L2	True	250.00	269.107641	107.6
4	KA88	L3	True	500.00	463.583723	92.7
5	KA89	L4	True	1000.00	1013.261550	101.3
6	KA90	L5	True	2500.00	2502.291947	100.1
7	KA91	L6	True	10000.00	10249.651868	102.5
8	KA92	L7	True	20000.00	19755.153189	98.8





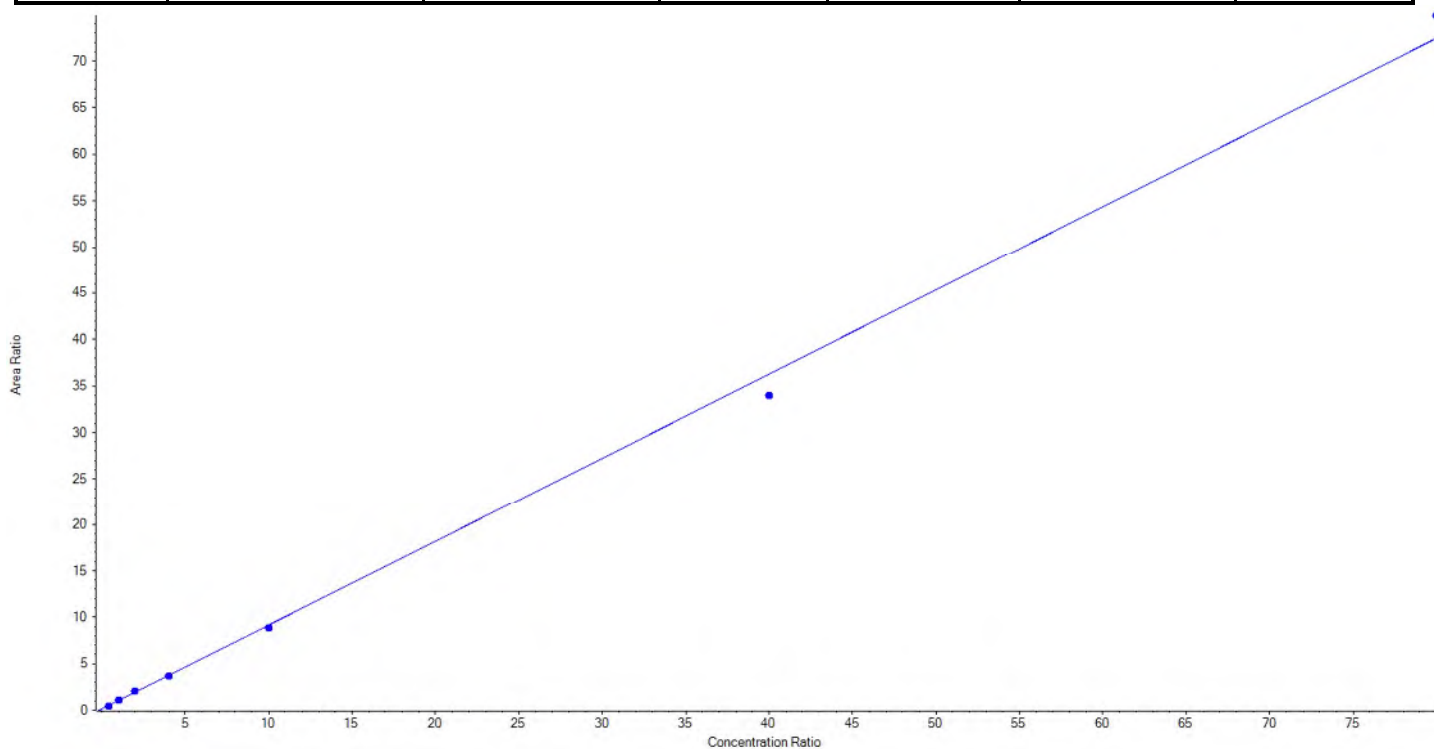
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NMeFOSAA_1	Data File	18-0579.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.90416x + 0.11402$ ($r = 0.99892$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	92.577849	92.6
3	KA87	L2	True	250.00	271.488100	108.6
4	KA88	L3	True	500.00	531.632416	106.3
5	KA89	L4	True	1000.00	984.504002	98.5
6	KA90	L5	True	2500.00	2423.246221	96.9
7	KA91	L6	True	10000.00	9377.484279	93.8
8	KA92	L7	True	20000.00	20669.067132	103.4





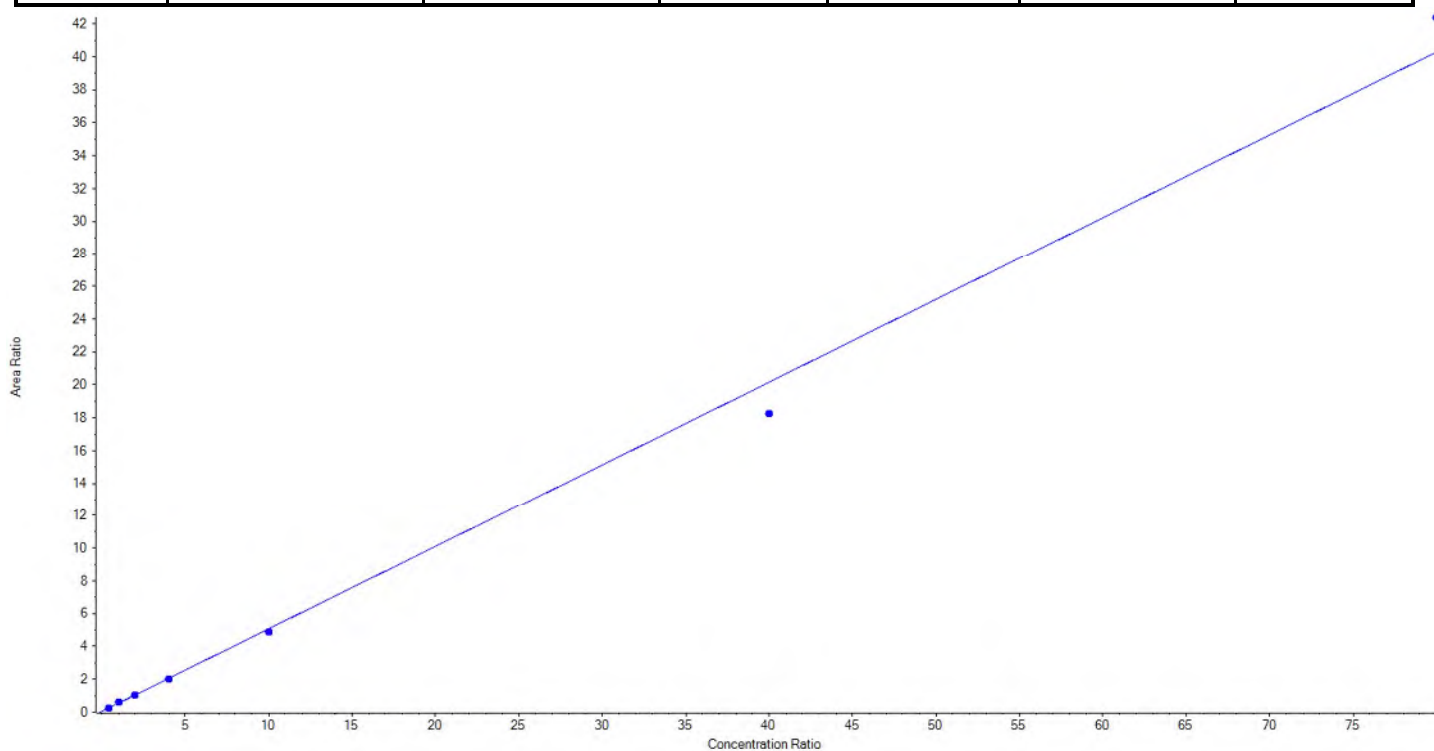
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NMeFOSAA_2	Data File	18-0579.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0566_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.50318x + 0.04055$ ($r = 0.99762$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	100.239775	100.2
3	KA87	L2	True	250.00	279.683457	111.9
4	KA88	L3	True	500.00	485.310742	97.1
5	KA89	L4	True	1000.00	987.371140	98.7
6	KA90	L5	True	2500.00	2409.809503	96.4
7	KA91	L6	True	10000.00	9051.454546	90.5
8	KA92	L7	True	20000.00	21036.130837	105.2





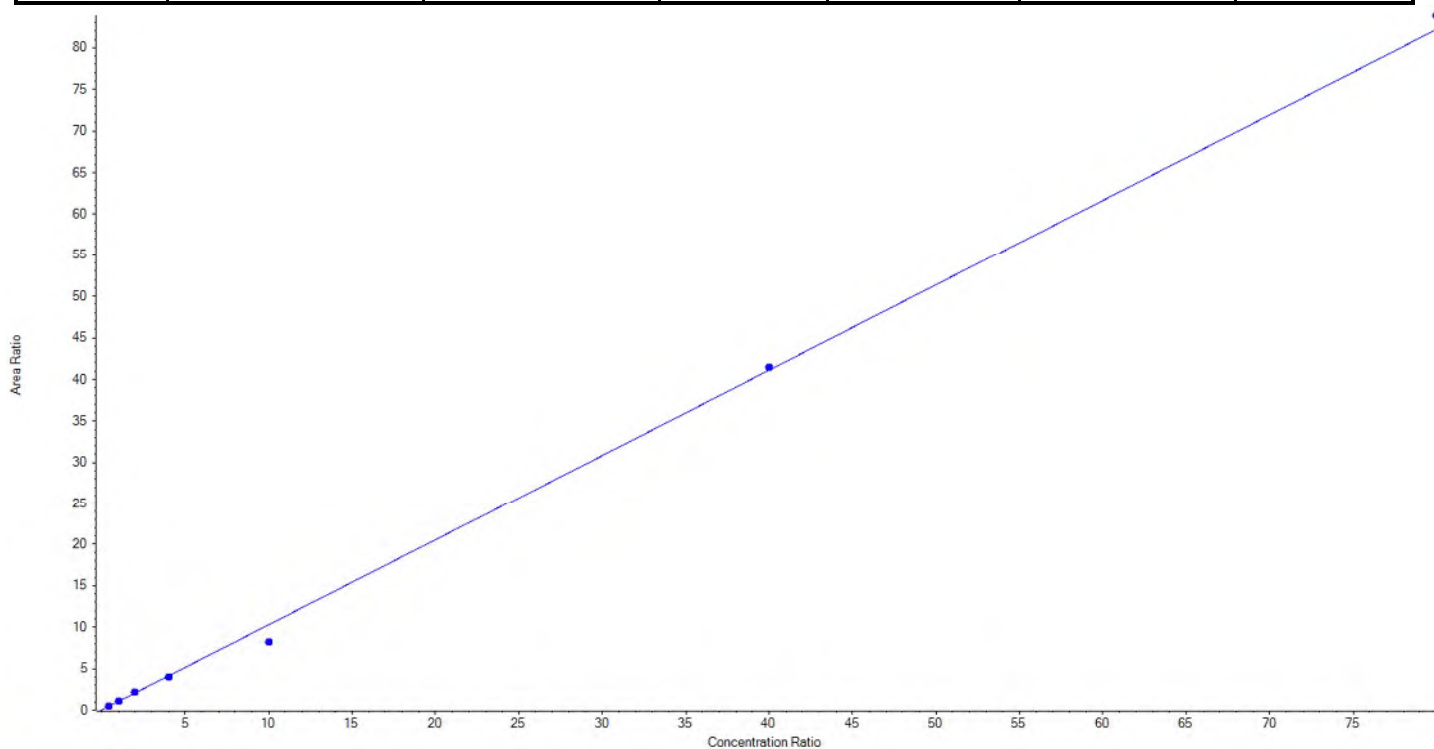
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	NEtFOSAA_1	Data File	18-0579.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02721 x + 0.01329$ ($r = 0.99826$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	110.490016	110.5
3	KA87	L2	True	250.00	261.463775	104.6
4	KA88	L3	True	500.00	527.011691	105.4
5	KA89	L4	True	1000.00	964.571373	96.5
6	KA90	L5	True	2500.00	2007.099109	80.3
7	KA91	L6	True	10000.00	10076.842845	100.8
8	KA92	L7	True	20000.00	20402.521192	102.0





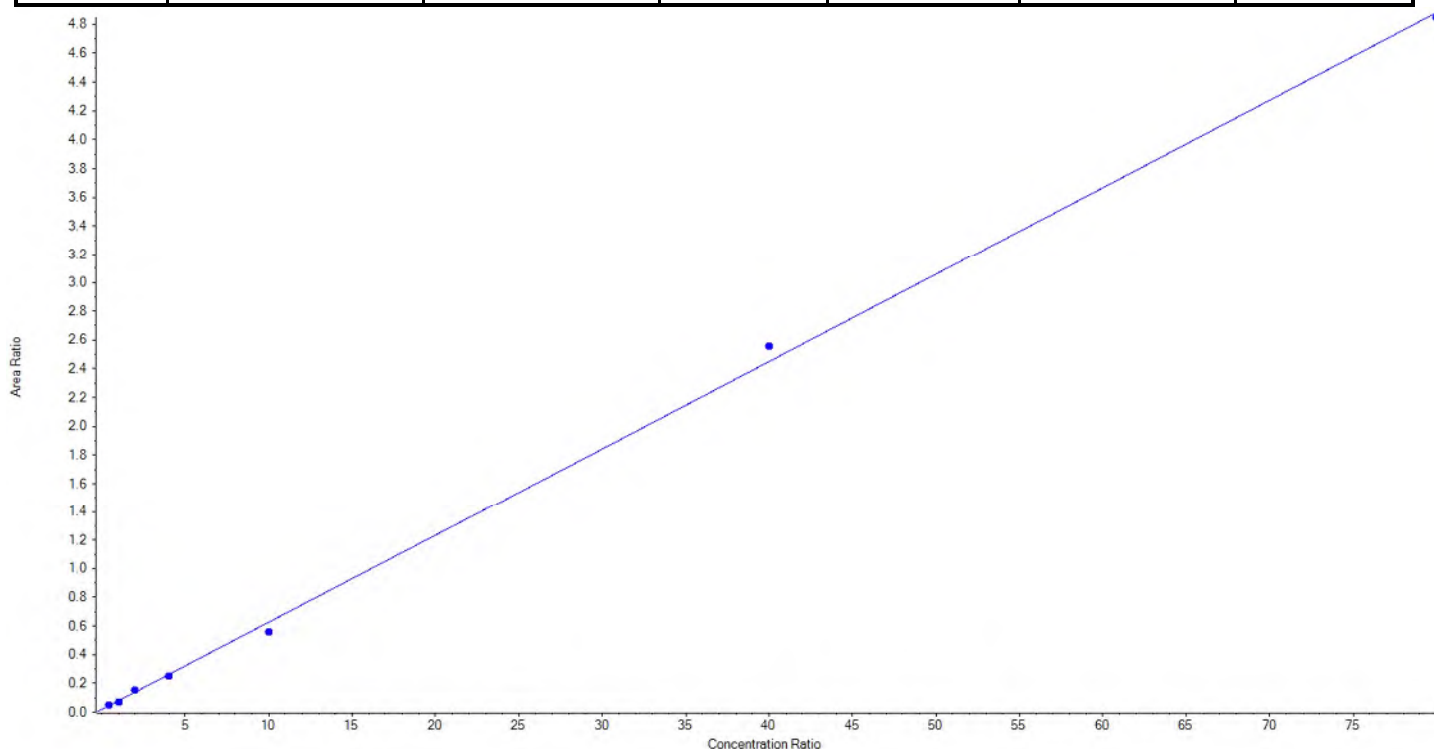
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	NEtFOSAA_2	Data File	18-0579.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0566_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06080x + 0.01851$ ($r = 0.99879$) (weighting: $1/x$)

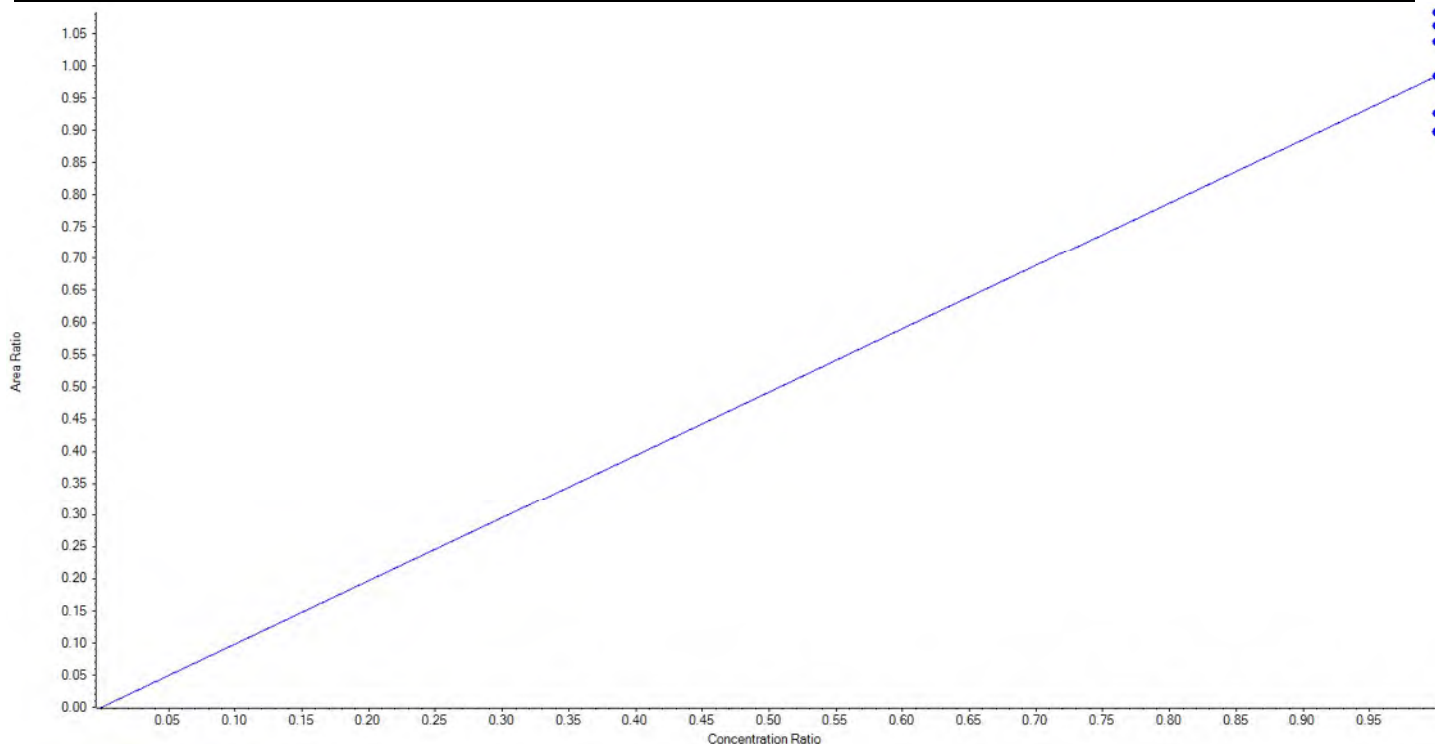
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	123.278792	123.3
3	KA87	L2	True	250.00	197.320666	78.9
4	KA88	L3	True	500.00	550.911263	110.2
5	KA89	L4	True	1000.00	950.012232	95.0
6	KA90	L5	True	2500.00	2220.591809	88.8
7	KA91	L6	True	10000.00	10449.273466	104.5
8	KA92	L7	True	20000.00	19858.611772	99.3



Analyte Name	13C2-PFDoA	Data File	18-0579.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98451 x$ (std. dev. = 0.07843) (weighting: 1 / x)

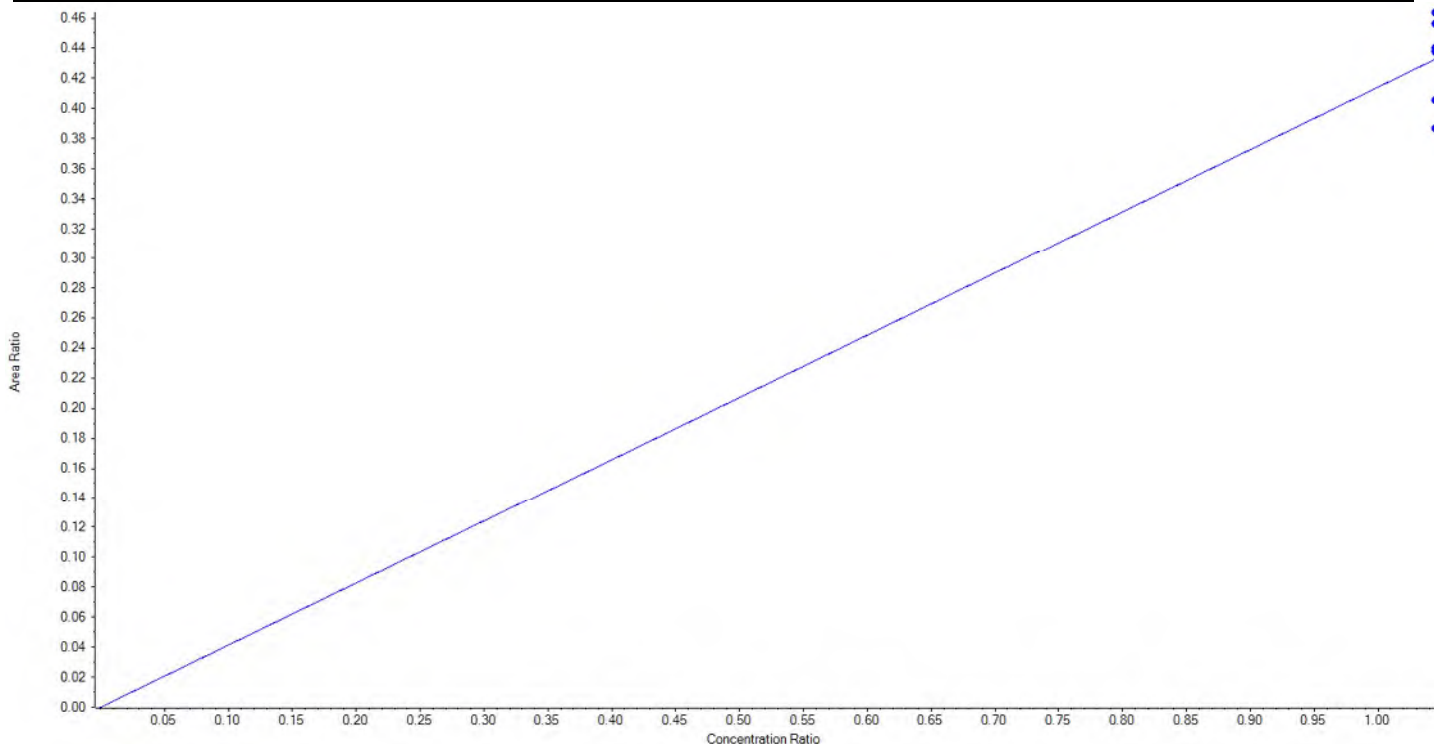
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	235.249102	94.1
3	KA87	L2	True	250.00	275.026865	110.0
4	KA88	L3	True	250.00	227.855222	91.1
5	KA89	L4	True	250.00	228.355527	91.3
6	KA90	L5	True	250.00	269.914362	108.0
7	KA91	L6	True	250.00	263.428736	105.4
8	KA92	L7	True	250.00	250.170187	100.1



Analyte Name	d3-MeFOSAA	Data File	18-0579.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.41422 x$ (std. dev. = 0.02616) (weighting: 1 / x)

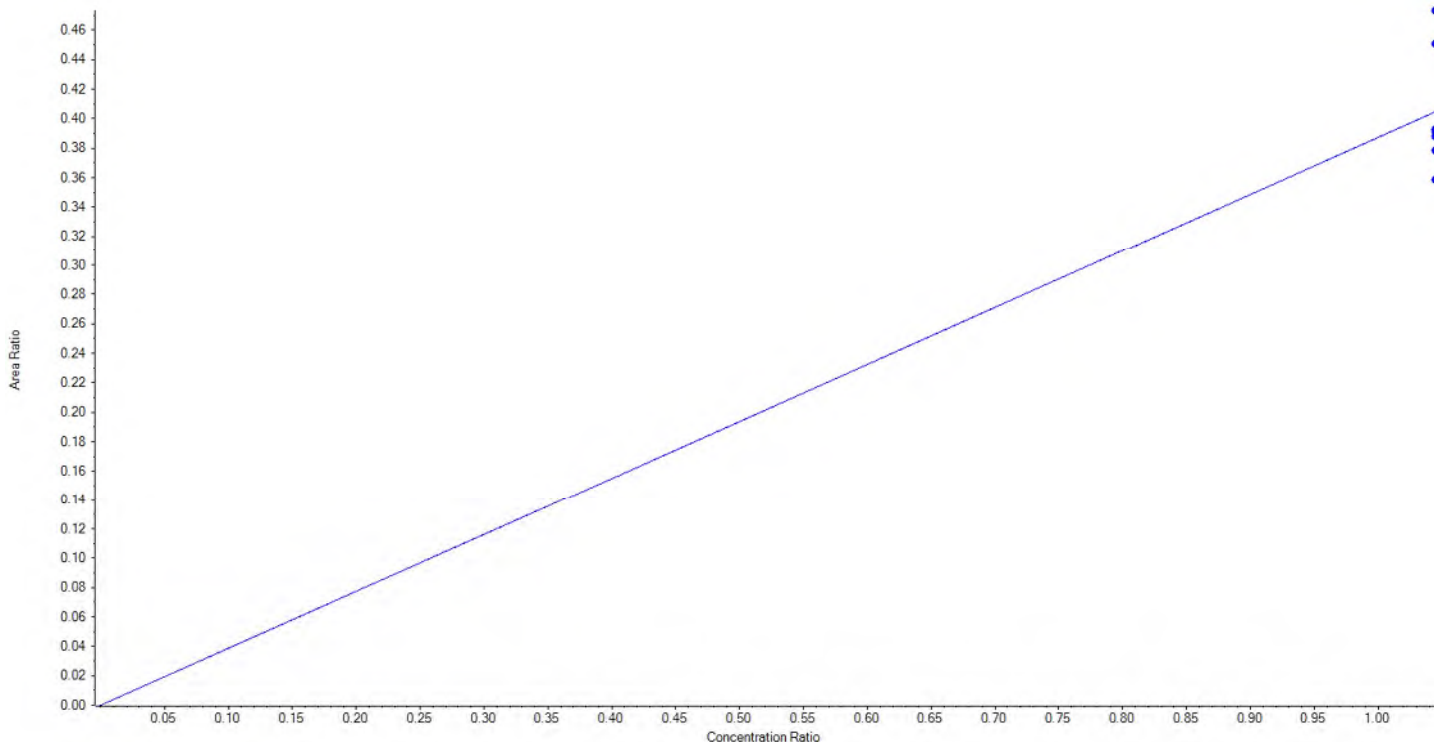
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	234.279564	93.7
3	KA87	L2	True	250.00	254.283316	101.7
4	KA88	L3	True	250.00	223.451862	89.4
5	KA89	L4	True	250.00	253.564598	101.4
6	KA90	L5	True	250.00	263.679238	105.5
7	KA91	L6	True	250.00	267.819374	107.1
8	KA92	L7	True	250.00	252.922048	101.2



Analyte Name	d5-EtFOSAA	Data File	18-0579.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.38737 x$ (std. dev. = 0.03956) (weighting: 1 / x)

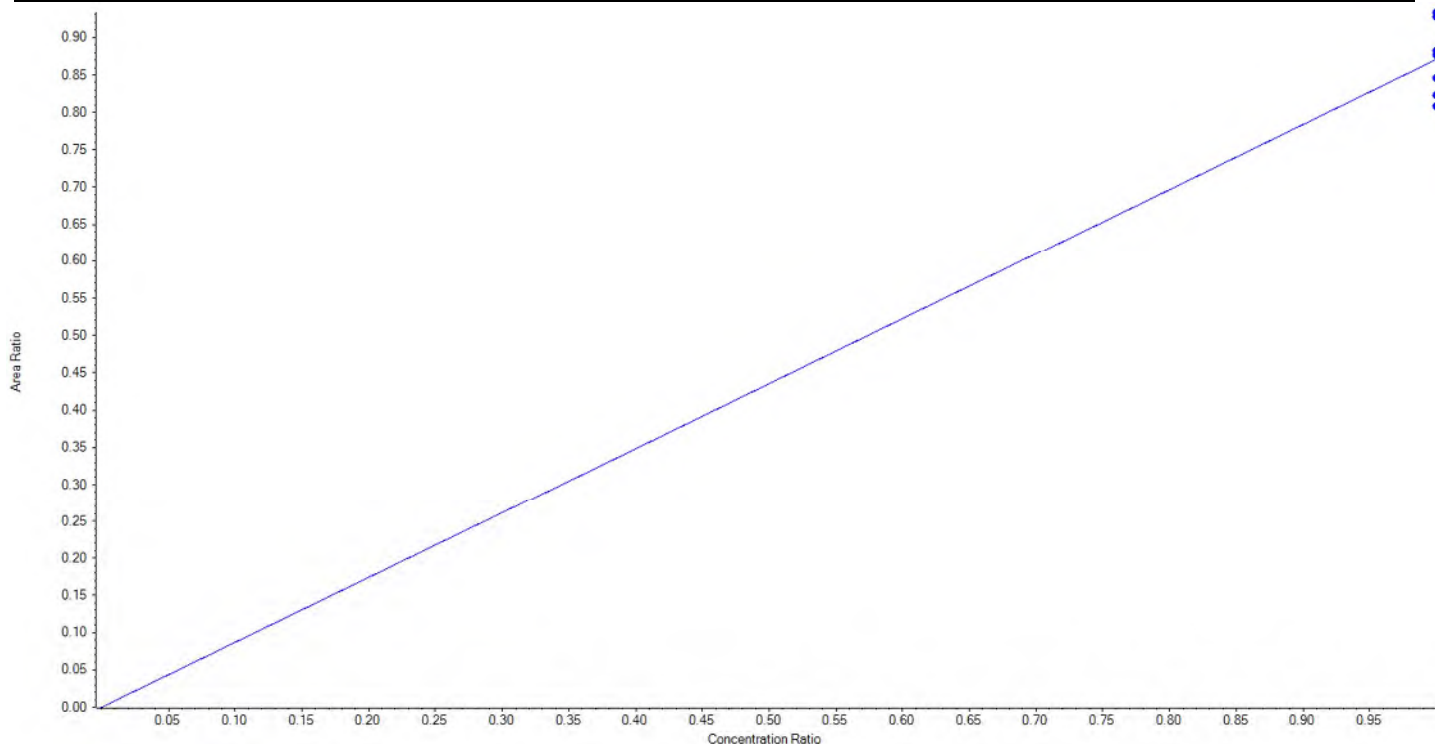
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	242.539347	97.0
3	KA87	L2	True	250.00	292.305343	116.9
4	KA88	L3	True	250.00	241.586194	96.6
5	KA89	L4	True	250.00	239.513288	95.8
6	KA90	L5	True	250.00	278.597544	111.4
7	KA91	L6	True	250.00	221.633643	88.7
8	KA92	L7	True	250.00	233.824640	93.5



Analyte Name	13C5-PFHxA	Data File	18-0579.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.87085 x$ (std. dev. = 0.04883) (weighting: 1 / x)

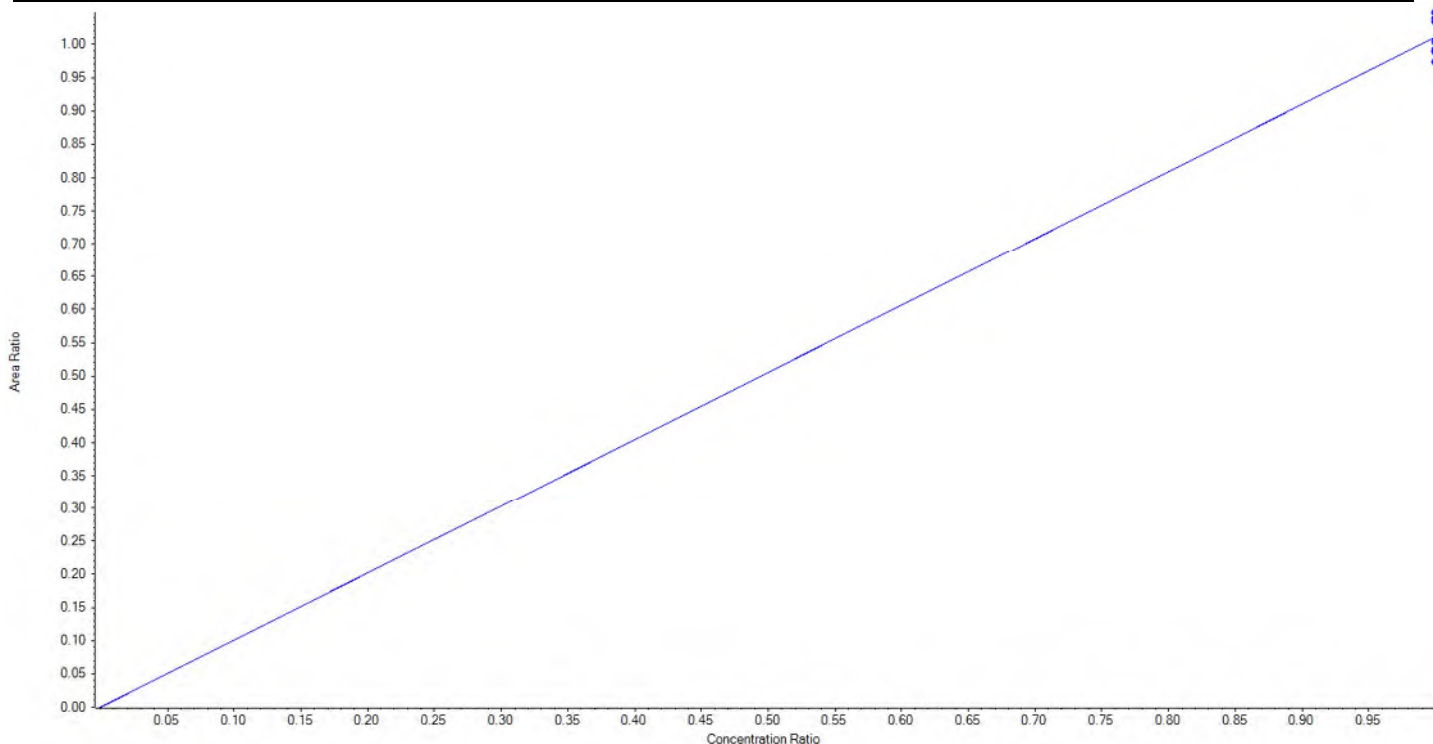
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	242.652644	97.1
3	KA87	L2	True	250.00	253.193551	101.3
4	KA88	L3	True	250.00	267.925469	107.2
5	KA89	L4	True	250.00	231.960191	92.8
6	KA90	L5	True	250.00	236.175526	94.5
7	KA91	L6	True	250.00	266.570670	106.6
8	KA92	L7	True	250.00	251.521948	100.6



Analyte Name	13C4-PFHpA	Data File	18-0579.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.01102 x$ (std. dev. = 0.02875) (weighting: 1 / x)

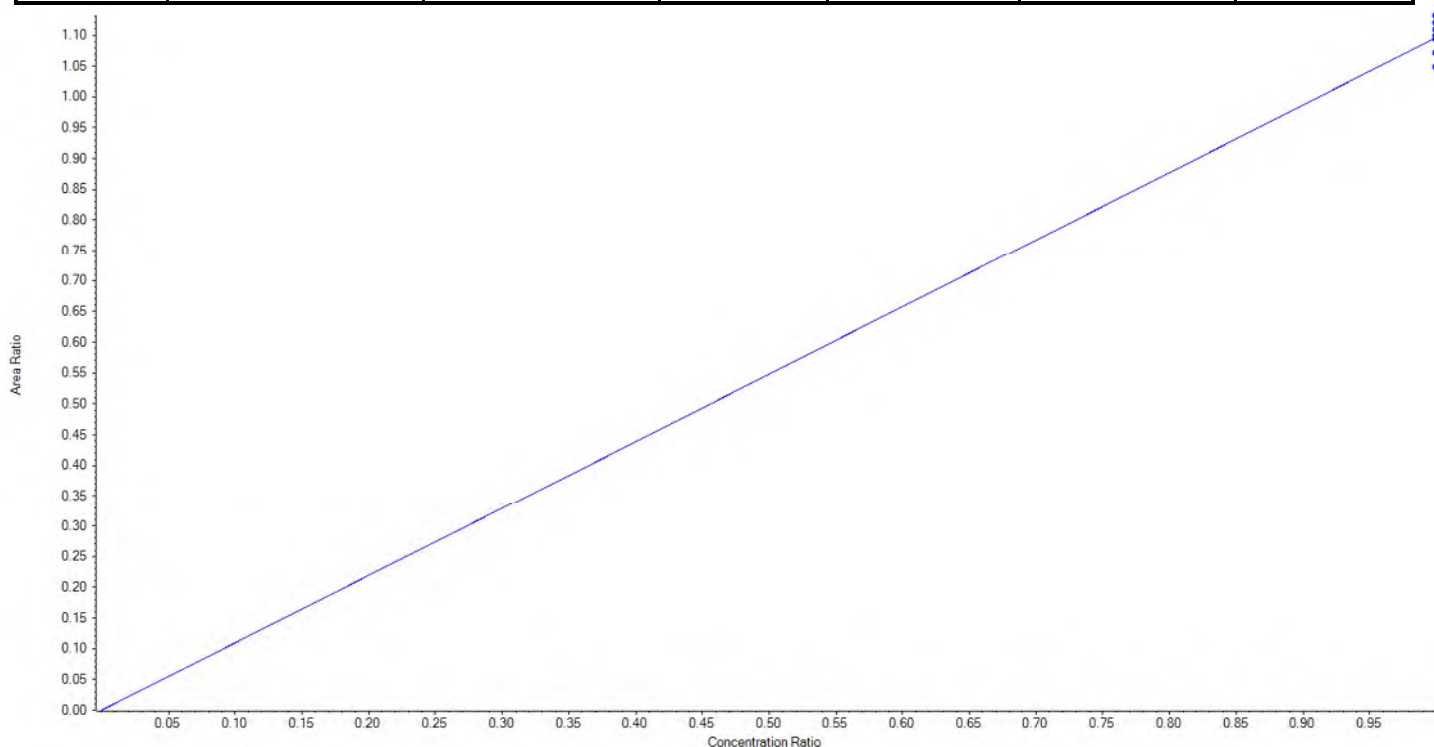
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	240.614008	96.3
3	KA87	L2	True	250.00	245.179090	98.1
4	KA88	L3	True	250.00	256.919715	102.8
5	KA89	L4	True	250.00	255.505877	102.2
6	KA90	L5	True	250.00	244.570419	97.8
7	KA91	L6	True	250.00	258.999394	103.6
8	KA92	L7	True	250.00	248.211498	99.3



Analyte Name	13C8-PFOA	Data File	18-0579.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.09665 x$ (std. dev. = 0.02899) (weighting: 1 / x)

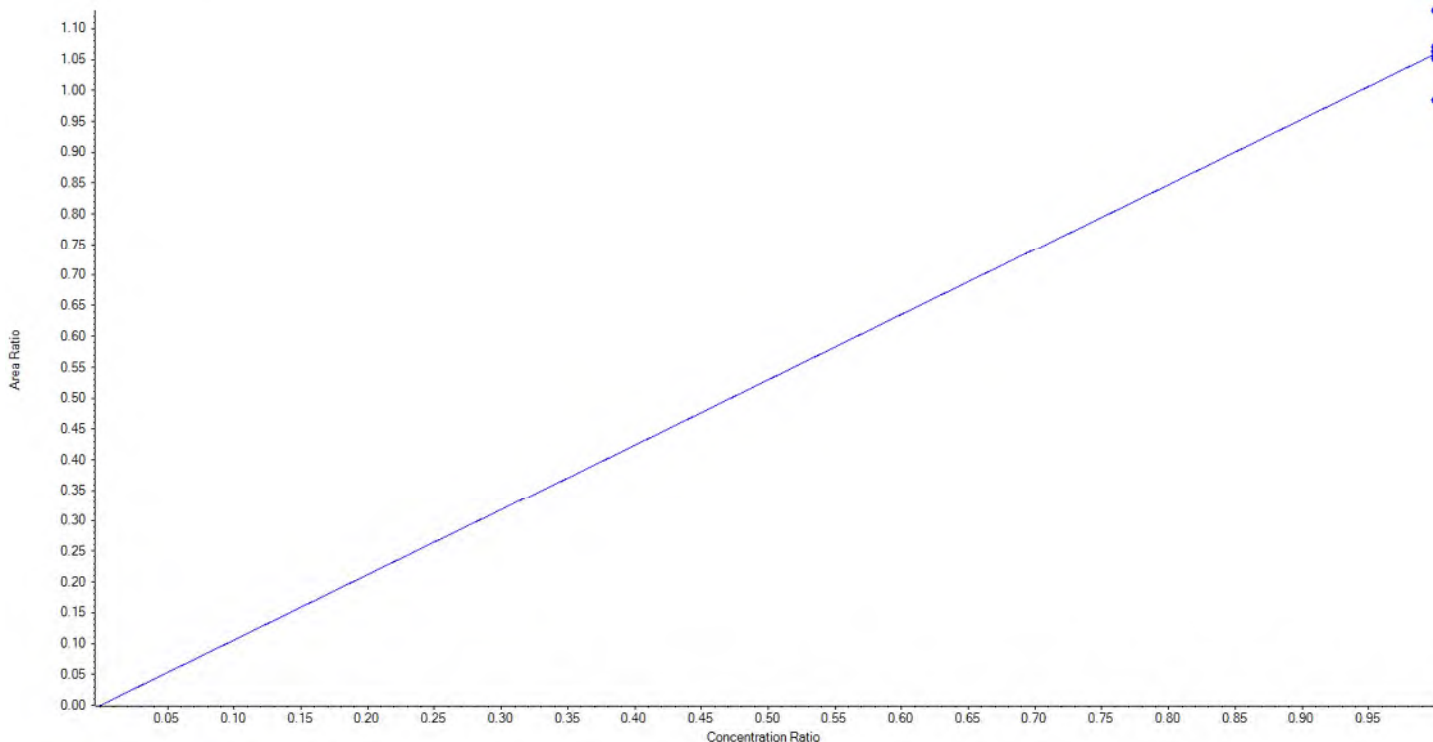
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	255.599565	102.2
3	KA87	L2	True	250.00	244.201407	97.7
4	KA88	L3	True	250.00	250.681456	100.3
5	KA89	L4	True	250.00	252.983800	101.2
6	KA90	L5	True	250.00	249.607458	99.8
7	KA91	L6	True	250.00	258.022558	103.2
8	KA92	L7	True	250.00	238.903756	95.6



Analyte Name	13C9-PFNA	Data File	18-0579.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05936 x$ (std. dev. = 0.04218) (weighting: 1 / x)

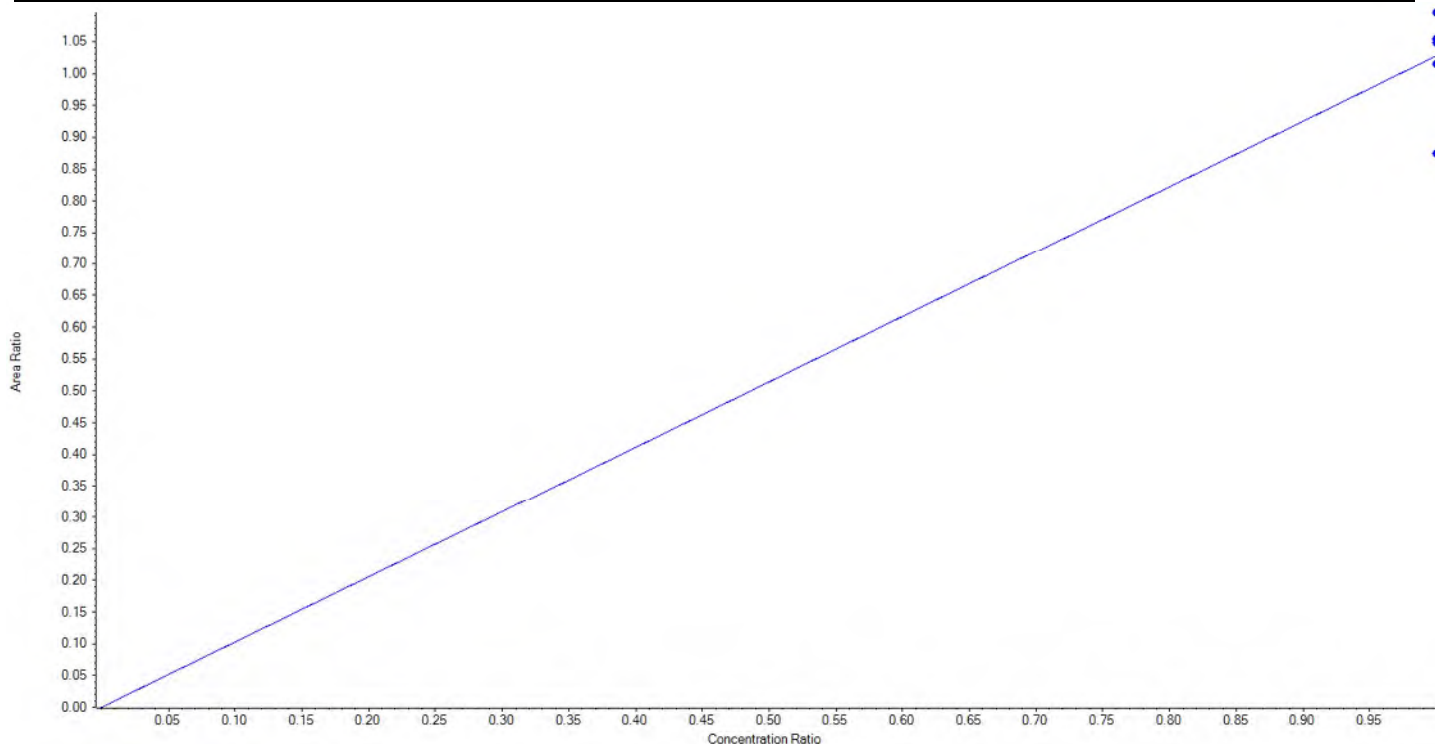
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	248.857324	99.5
3	KA87	L2	True	250.00	248.021526	99.2
4	KA88	L3	True	250.00	266.425060	106.6
5	KA89	L4	True	250.00	250.992907	100.4
6	KA90	L5	True	250.00	252.667389	101.1
7	KA91	L6	True	250.00	250.667949	100.3
8	KA92	L7	True	250.00	232.367846	93.0



Analyte Name	13C6-PFDA	Data File	18-0579.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02782 x$ (std. dev. = 0.07185) (weighting: 1 / x)

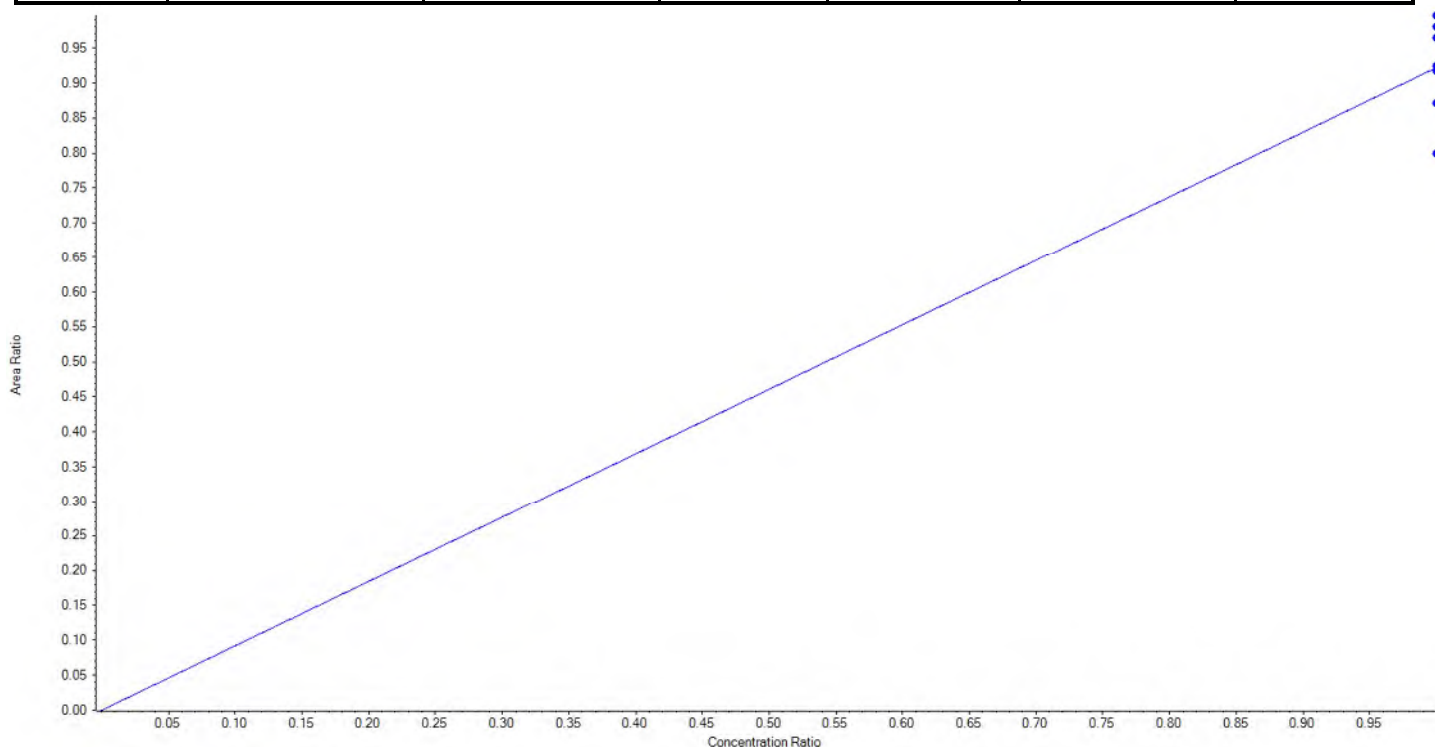
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	256.669554	102.7
3	KA87	L2	True	250.00	266.463646	106.6
4	KA88	L3	True	250.00	255.119798	102.1
5	KA89	L4	True	250.00	255.961091	102.4
6	KA90	L5	True	250.00	246.787812	98.7
7	KA91	L6	True	250.00	256.454988	102.6
8	KA92	L7	True	250.00	212.543112	85.0



Analyte Name	13C7-PFUnA	Data File	18-0579.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.92198x$ (std. dev. = 0.06887) (weighting: 1 / x)

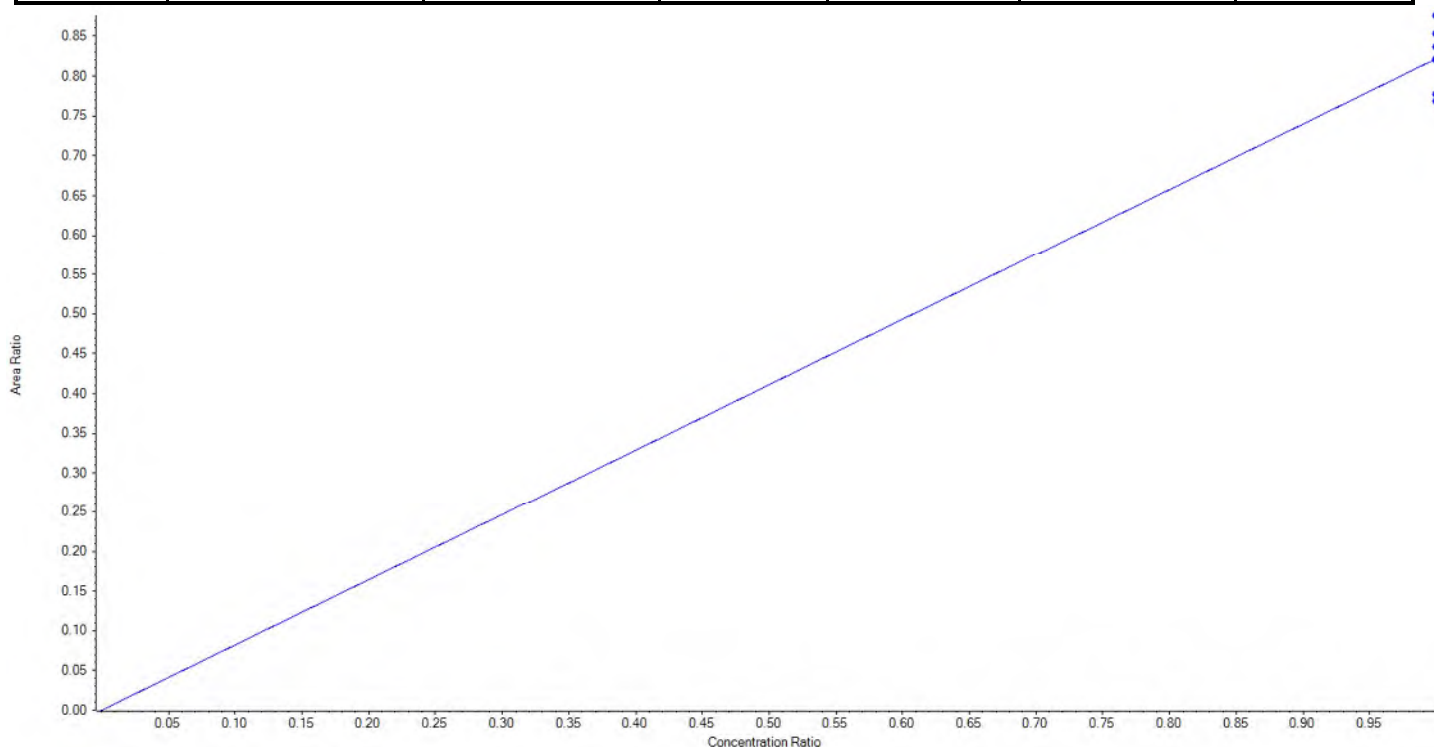
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	236.323554	94.5
3	KA87	L2	True	250.00	265.975043	106.4
4	KA88	L3	True	250.00	248.694066	99.5
5	KA89	L4	True	250.00	261.641930	104.7
6	KA90	L5	True	250.00	270.086901	108.0
7	KA91	L6	True	250.00	250.580301	100.2
8	KA92	L7	True	250.00	216.698204	86.7



Analyte Name	13C2-PFTeDA	Data File	18-0579.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.82194 x$ (std. dev. = 0.03866) (weighting: 1 / x)

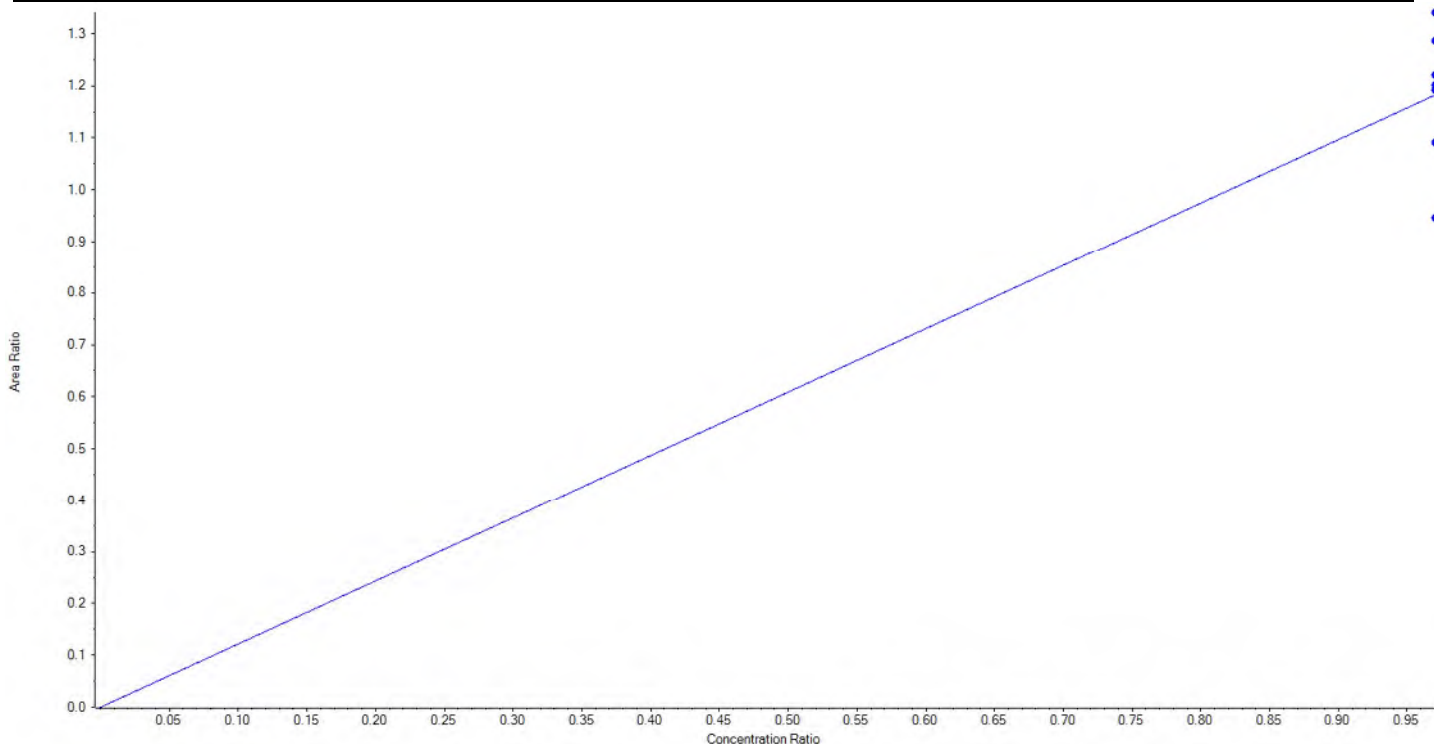
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	236.425610	94.6
3	KA87	L2	True	250.00	259.567030	103.8
4	KA88	L3	True	250.00	233.723948	93.5
5	KA89	L4	True	250.00	254.565604	101.8
6	KA90	L5	True	250.00	249.963230	100.0
7	KA91	L6	True	250.00	266.357895	106.5
8	KA92	L7	True	250.00	249.396683	99.8



Analyte Name	13C3-PFBS	Data File	18-0579.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.21828 x$ (std. dev. = 0.13417) (weighting: 1 / x)

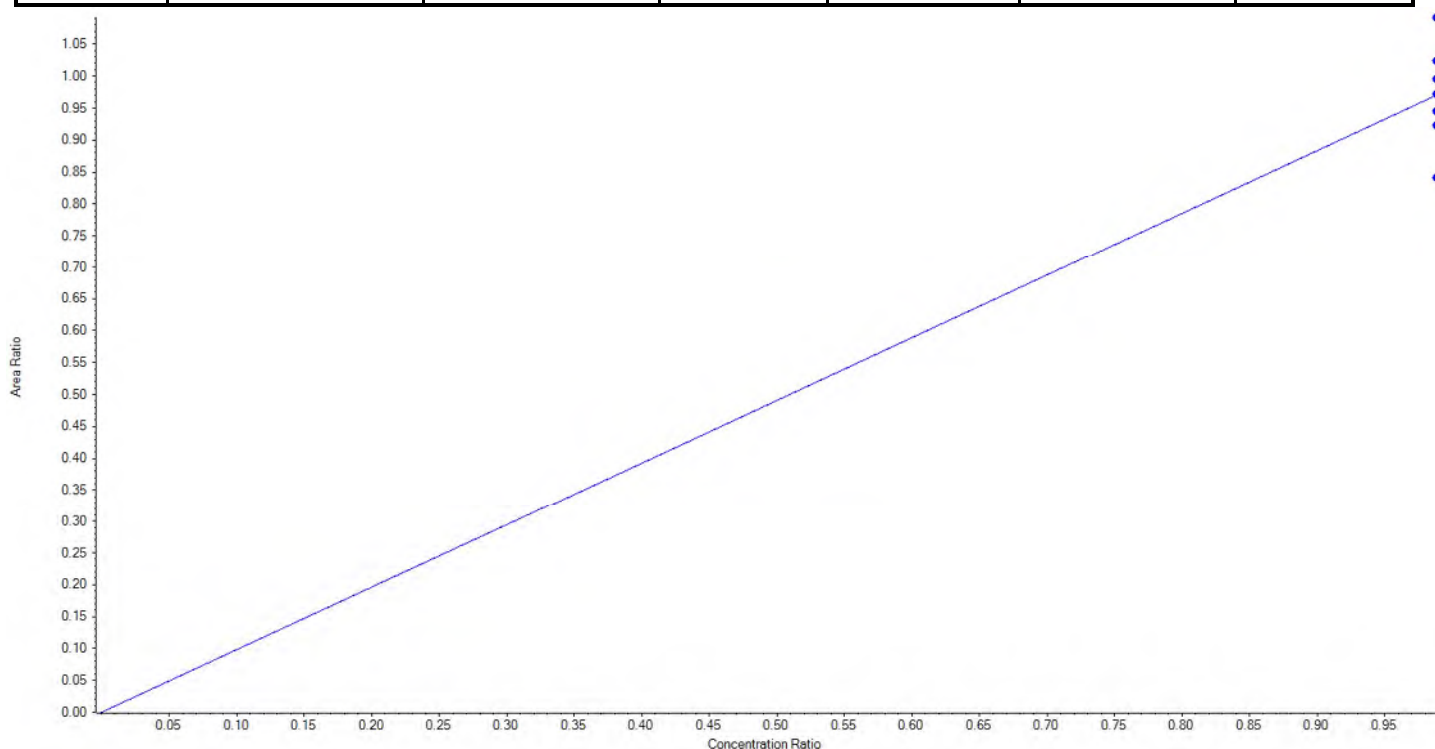
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	232.25	185.874213	80.0
3	KA87	L2	True	232.25	263.221131	113.3
4	KA88	L3	True	232.25	234.077297	100.8
5	KA89	L4	True	232.25	239.571547	103.2
6	KA90	L5	True	232.25	252.735746	108.8
7	KA91	L6	True	232.25	214.233123	92.2
8	KA92	L7	True	232.25	236.036942	101.6



Analyte Name	13C3-PFHxS	Data File	18-0579.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98155 x$ (std. dev. = 0.08010) (weighting: 1 / x)

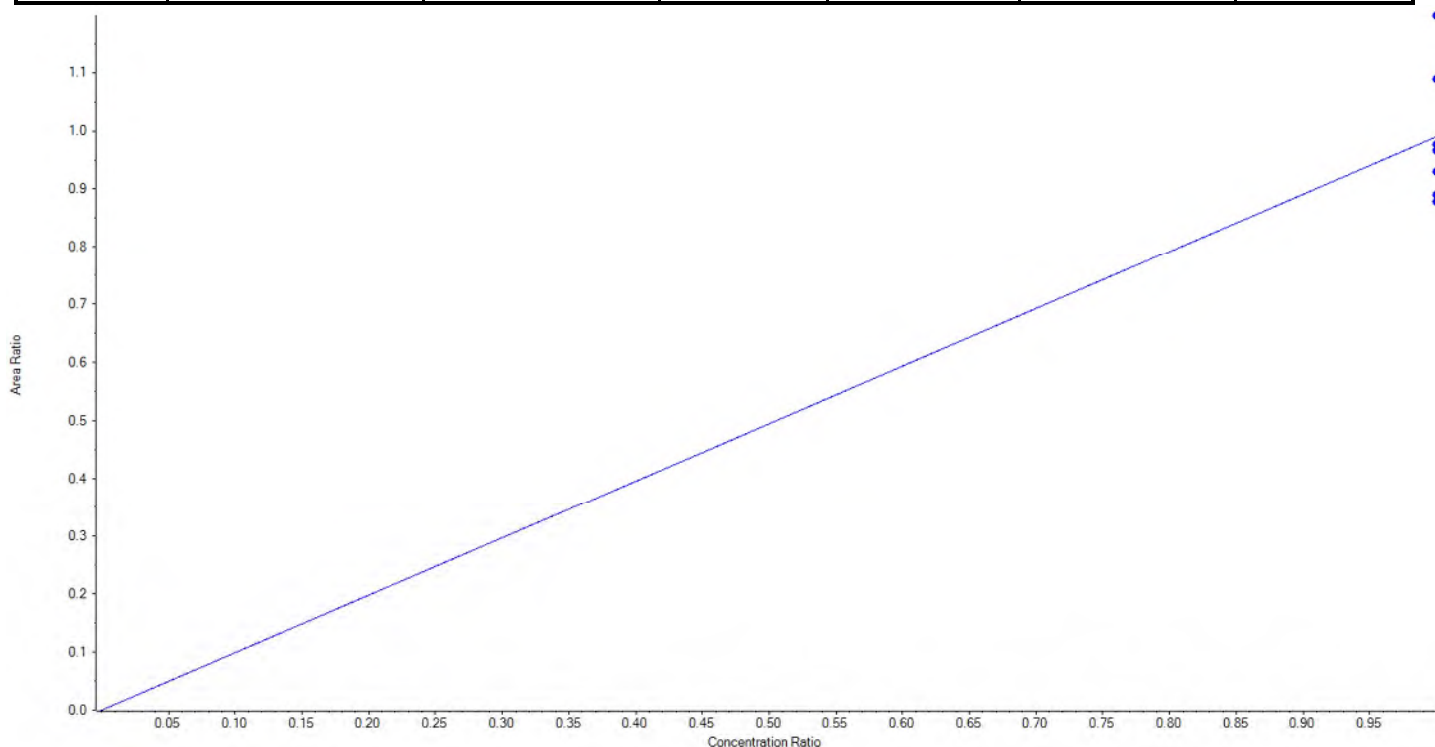
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	236.50	224.959400	95.1
3	KA87	L2	True	236.50	266.028699	112.5
4	KA88	L3	True	236.50	236.988682	100.2
5	KA89	L4	True	236.50	205.167052	86.8
6	KA90	L5	True	236.50	242.473126	102.5
7	KA91	L6	True	236.50	249.643643	105.6
8	KA92	L7	True	236.50	230.239398	97.4



Analyte Name	13C8-PFOS	Data File	18-0579.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99013 x$ (std. dev. = 0.11486) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	239.25	215.308243	90.0
3	KA87	L2	True	239.25	289.396354	121.0
4	KA88	L3	True	239.25	263.040177	109.9
5	KA89	L4	True	239.25	233.511046	97.6
6	KA90	L5	True	239.25	236.154697	98.7
7	KA91	L6	True	239.25	212.417209	88.8
8	KA92	L7	True	239.25	224.922274	94.0



Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	38603.89	123.563339	43.4	false
PFBS 2	298.9 / 99.0	1.55	12776.07	122.248707	38.6	true
PFHxA 1	313.0 / 269.0	1.87	40851.54	130.216628	6.6	true
PFHxA 2	313.0 / 119.0	1.87	2677.77	110.731124	5.5	false
PFHpA 1	363.0 / 319.0	2.28	31998.88	112.141197	25.9	false
PFHpA 2	363.0 / 169.0	2.28	1228.76	102.495489	26.2	false
PFHxS 1	399.0 / 80.0	2.30	50036.24	103.101735	65.7	false
PFHxS 2	399.0 / 99.0	2.30	14007.92	104.623771	80.6	false
PFOA 1	413.0 / 369.0	2.69	42440.53	104.490689	88.4	true
PFOA 2	413.0 / 169.0	2.70	3317.39	102.120923	50.4	false
PFNA 1	463.0 / 419.0	3.09	36346.06	115.360995	70.0	true
PFNA 2	463.0 / 219.0	3.09	13660.24	122.600848	58.4	false
PFOS 1	499.0 / 80.0	3.09	61420.90	120.298700	28.2	true
PFOS 2	499.0 / 99.0	3.09	13351.91	128.430857	56.4	true
PFDA 1	513.0 / 469.0	3.45	41834.62	106.346822	108.1	true
PFDA 2	513.0 / 219.0	3.46	1441.62	85.284206	28.6	false
PFUnA 1	563.0 / 519.0	3.77	31299.25	116.334724	83.7	true
PFUnA 2	563.0 / 269.0	3.77	1936.40	91.548794	26.5	false
PFDoA 1	613.0 / 569.0	4.06	33636.39	96.602802	139.4	false
PFDoA 2	613.0 / 319.0	4.06	5572.09	95.994091	84.9	false
PFTrDA 1	663.0 / 619.0	4.31	33467.85	93.181523	201.6	false
PFTrDA 2	663.0 / 169.0	4.30	2231.37	87.199372	72.1	false
PFTeDA 1	713.0 / 669.0	4.52	36520.85	92.437920	319.4	false
PFTeDA 2	713.0 / 169.0	4.52	2069.97	96.950081	135.9	false
NMeFOSAA 1	570.0 / 419.0	3.60	5652.22	92.577849	110.8	true
NMeFOSAA 2	570.0 / 512.0	3.60	3051.39	100.239775	90.8	false
NEtFOSAA 1	584.0 / 419.0	3.77	5932.00	110.490016	115.7	true
NEtFOSAA 2	584.0 / 483.0	3.73	615.60	123.278792	18.2	true

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	115704.77	265.980331	86.4	false
PFBS 2	298.9 / 99.0	1.55	35157.25	263.462301	96.6	true
PFHxA 1	313.0 / 269.0	1.87	88276.49	244.662241	11.9	false
PFHxA 2	313.0 / 119.0	1.87	6660.67	243.831966	12.6	false
PFHpA 1	363.0 / 319.0	2.28	89859.29	271.691767	51.1	false
PFHpA 2	363.0 / 169.0	2.28	2680.42	291.248647	41.5	false
PFHxS 1	399.0 / 80.0	2.30	117360.09	253.404188	118.9	false
PFHxS 2	399.0 / 99.0	2.30	35706.48	274.611400	175.1	false
PFOA 1	413.0 / 369.0	2.69	117208.05	273.381680	153.8	true
PFOA 2	413.0 / 169.0	2.69	9982.20	315.290887	136.7	false
PFNA 1	463.0 / 419.0	3.09	106519.76	273.023805	151.4	true
PFNA 2	463.0 / 219.0	3.09	31378.23	251.960184	116.6	false
PFOS 1	499.0 / 80.0	3.09	175629.28	263.435360	60.4	true
PFOS 2	499.0 / 99.0	3.09	29402.82	234.208510	114.8	false
PFDA 1	513.0 / 469.0	3.44	118126.76	277.994741	182.6	true
PFDA 2	513.0 / 219.0	3.44	6015.63	309.209144	63.0	false
PFUnA 1	563.0 / 519.0	3.77	101099.90	277.753480	141.1	true
PFUnA 2	563.0 / 269.0	3.77	7297.52	322.537251	70.0	false
PFDoA 1	613.0 / 569.0	4.05	93156.93	243.077085	203.9	false
PFDoA 2	613.0 / 319.0	4.05	15886.21	256.510705	153.0	false
PFTrDA 1	663.0 / 619.0	4.30	93618.46	272.439148	277.4	false
PFTrDA 2	663.0 / 169.0	4.29	6205.76	266.825158	156.5	false
PFTeDA 1	713.0 / 669.0	4.51	99974.26	266.603763	715.4	false
PFTeDA 2	713.0 / 169.0	4.51	5197.61	269.107641	243.8	false
NMeFOSAA 1	570.0 / 419.0	3.60	14037.93	271.488100	179.6	true
NMeFOSAA 2	570.0 / 512.0	3.60	7730.31	279.683457	114.5	false
NEtFOSAA 1	584.0 / 419.0	3.76	15285.76	261.463775	241.7	true
NEtFOSAA 2	584.0 / 483.0	3.77	934.59	197.320666	31.0	false

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	230705.91	477.951669	131.8	false
PFBS 2	298.9 / 99.0	1.55	66079.44	460.229914	141.5	false
PFHxA 1	313.0 / 269.0	1.87	177564.25	440.448114	21.5	false
PFHxA 2	313.0 / 119.0	1.86	15115.31	499.894513	26.9	false
PFHpA 1	363.0 / 319.0	2.27	176558.57	481.727864	71.3	false
PFHpA 2	363.0 / 169.0	2.27	4257.26	463.652444	63.7	false
PFHxS 1	399.0 / 80.0	2.30	241405.42	497.796212	155.3	false
PFHxS 2	399.0 / 99.0	2.30	61018.50	443.433317	228.9	false
PFOA 1	413.0 / 369.0	2.68	228065.01	493.119105	228.6	true
PFOA 2	413.0 / 169.0	2.68	14558.89	432.418540	144.5	false
PFNA 1	463.0 / 419.0	3.08	204836.94	450.998391	216.1	true
PFNA 2	463.0 / 219.0	3.08	63119.61	444.810828	188.2	false
PFOS 1	499.0 / 80.0	3.08	310367.20	436.284825	89.0	true
PFOS 2	499.0 / 99.0	3.08	57252.46	443.222074	180.7	false
PFDA 1	513.0 / 469.0	3.44	231760.66	458.873472	235.8	true
PFDA 2	513.0 / 219.0	3.44	11183.76	482.427863	127.9	false
PFUnA 1	563.0 / 519.0	3.76	206780.31	470.669148	210.4	true
PFUnA 2	563.0 / 269.0	3.76	13168.56	510.533058	103.4	false
PFDoA 1	613.0 / 569.0	4.05	195141.98	509.858710	247.6	false
PFDoA 2	613.0 / 319.0	4.05	29663.23	482.582176	186.1	false
PFTrDA 1	663.0 / 619.0	4.29	179336.78	487.576252	406.9	false
PFTrDA 2	663.0 / 169.0	4.29	12406.42	505.482749	235.9	false
PFTeDA 1	713.0 / 669.0	4.51	195890.60	490.003536	594.9	false
PFTeDA 2	713.0 / 169.0	4.51	9422.19	463.583723	437.9	false
NMeFOSAA 1	570.0 / 419.0	3.59	27585.14	531.632416	317.9	true
NMeFOSAA 2	570.0 / 512.0	3.59	13778.73	485.310742	239.3	false
NEtFOSAA 1	584.0 / 419.0	3.76	29333.84	527.011691	281.3	true
NEtFOSAA 2	584.0 / 483.0	3.76	2053.06	550.911263	74.5	false

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	467841.27	928.471502	270.2	false
PFBS 2	298.9 / 99.0	1.55	138113.03	937.723626	294.5	false
PFHxA 1	313.0 / 269.0	1.87	326232.72	940.169982	33.3	false
PFHxA 2	313.0 / 119.0	1.86	25811.63	998.384754	32.8	false
PFHpA 1	363.0 / 319.0	2.27	334666.64	899.203183	108.6	false
PFHpA 2	363.0 / 169.0	2.27	8417.23	985.741903	75.6	false
PFHxS 1	399.0 / 80.0	2.30	452726.50	1070.103940	186.4	false
PFHxS 2	399.0 / 99.0	2.30	130258.30	1082.909194	439.7	false
PFOA 1	413.0 / 369.0	2.68	434356.49	939.487668	329.1	true
PFOA 2	413.0 / 169.0	2.68	29800.26	898.134186	236.9	false
PFNA 1	463.0 / 419.0	3.08	422652.38	971.667622	365.6	true
PFNA 2	463.0 / 219.0	3.08	126121.66	945.735861	285.7	false
PFOS 1	499.0 / 80.0	3.08	606415.02	941.833555	132.3	true
PFOS 2	499.0 / 99.0	3.08	106725.52	935.384047	301.1	false
PFDA 1	513.0 / 469.0	3.43	468364.91	984.633166	411.1	true
PFDA 2	513.0 / 219.0	3.43	20520.83	937.377167	185.5	false
PFUnA 1	563.0 / 519.0	3.76	385851.45	869.494049	246.1	true
PFUnA 2	563.0 / 269.0	3.76	21681.63	863.160693	161.5	false
PFDoA 1	613.0 / 569.0	4.04	365894.77	1034.624207	309.9	false
PFDoA 2	613.0 / 319.0	4.04	58796.05	1041.937484	255.3	false
PFTTrDA 1	663.0 / 619.0	4.29	355061.19	973.049109	542.9	false
PFTTrDA 2	663.0 / 169.0	4.29	24948.57	1031.414582	282.6	false
PFTeDA 1	713.0 / 669.0	4.50	394594.54	996.686650	862.6	false
PFTeDA 2	713.0 / 169.0	4.50	20075.51	1013.261550	635.7	false
NMeFOSAA 1	570.0 / 419.0	3.59	55772.74	984.504002	446.7	true
NMeFOSAA 2	570.0 / 512.0	3.59	30778.46	987.371140	360.5	false
NEtFOSAA 1	584.0 / 419.0	3.75	53302.06	964.571373	437.7	true
NEtFOSAA 2	584.0 / 483.0	3.75	3344.86	950.012232	79.9	false

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	1117857.45	2141.327770	410.9	false
PFBS 2	298.9 / 99.0	1.55	340467.16	2254.703938	546.8	false
PFHxA 1	313.0 / 269.0	1.87	825331.56	2334.256954	59.8	false
PFHxA 2	313.0 / 119.0	1.87	63268.95	2409.842159	63.9	false
PFHpA 1	363.0 / 319.0	2.27	835485.11	2252.021680	172.4	false
PFHpA 2	363.0 / 169.0	2.27	18223.56	2249.265012	132.7	false
PFHxS 1	399.0 / 80.0	2.30	1136678.68	2457.101002	283.1	false
PFHxS 2	399.0 / 99.0	2.30	323746.86	2456.542318	407.8	false
PFOA 1	413.0 / 369.0	2.68	1058066.08	2320.826433	519.0	true
PFOA 2	413.0 / 169.0	2.68	75795.67	2336.488177	373.7	false
PFNA 1	463.0 / 419.0	3.08	953485.90	2154.353539	466.6	true
PFNA 2	463.0 / 219.0	3.08	302548.95	2248.221066	410.4	false
PFOS 1	499.0 / 80.0	3.08	1454722.47	2287.728854	189.7	true
PFOS 2	499.0 / 99.0	3.08	265160.87	2383.966701	530.5	false
PFDA 1	513.0 / 469.0	3.44	1010973.18	2359.640912	565.3	true
PFDA 2	513.0 / 219.0	3.44	51027.17	2579.026038	228.6	false
PFUnA 1	563.0 / 519.0	3.76	973576.95	2234.979293	383.8	true
PFUnA 2	563.0 / 269.0	3.76	53751.43	2238.301426	270.7	false
PFDoA 1	613.0 / 569.0	4.04	958035.23	2477.014904	572.4	false
PFDoA 2	613.0 / 319.0	4.04	153041.08	2486.735958	367.5	false
PFTrDA 1	663.0 / 619.0	4.29	841401.55	2558.896932	743.1	false
PFTrDA 2	663.0 / 169.0	4.29	55800.17	2567.609082	486.4	false
PFTeDA 1	713.0 / 669.0	4.50	920037.23	2580.122904	1392.7	false
PFTeDA 2	713.0 / 169.0	4.50	44376.07	2502.291947	751.1	false
NMeFOSAA 1	570.0 / 419.0	3.59	134668.37	2423.246221	536.2	true
NMeFOSAA 2	570.0 / 512.0	3.59	74187.54	2409.809503	460.9	false
NEtFOSAA 1	584.0 / 419.0	3.75	121767.70	2007.099109	461.1	true
NEtFOSAA 2	584.0 / 483.0	3.75	8233.58	2220.591809	308.7	false

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	4534939.65	9834.581398	1148.1	false
PFBS 2	298.9 / 99.0	1.54	1327633.33	10016.842401	1180.6	false
PFHxA 1	313.0 / 269.0	1.86	3518003.83	10084.569261	123.7	false
PFHxA 2	313.0 / 119.0	1.86	260505.06	10074.189534	112.1	false
PFHpA 1	363.0 / 319.0	2.27	3447382.71	10233.853402	353.4	false
PFHpA 2	363.0 / 169.0	2.27	69235.06	9688.358068	269.7	false
PFHxS 1	399.0 / 80.0	2.29	4572214.38	9224.589677	441.0	false
PFHxS 2	399.0 / 99.0	2.29	1290192.81	9127.098648	804.1	false
PFOA 1	413.0 / 369.0	2.68	4088534.83	9931.504468	985.2	true
PFOA 2	413.0 / 169.0	2.68	295650.80	10135.666425	798.2	false
PFNA 1	463.0 / 419.0	3.08	3861813.02	9993.184497	1213.7	true
PFNA 2	463.0 / 219.0	3.08	1202641.54	10293.425735	813.0	false
PFOS 1	499.0 / 80.0	3.08	5997746.78	9975.117509	397.7	true
PFOS 2	499.0 / 99.0	3.08	1028492.75	9844.062371	1292.2	false
PFDA 1	513.0 / 469.0	3.43	4079594.80	9403.815943	1052.0	true
PFDA 2	513.0 / 219.0	3.43	191937.99	9572.885577	540.2	false
PFUnA 1	563.0 / 519.0	3.76	3985304.45	10035.526309	659.4	true
PFUnA 2	563.0 / 269.0	3.76	215531.29	9972.394828	470.6	false
PFDoA 1	613.0 / 569.0	4.04	3784002.81	10341.498757	734.0	false
PFDoA 2	613.0 / 319.0	4.04	596342.13	10258.161495	510.9	false
PFTrDA 1	663.0 / 619.0	4.29	3441849.32	10168.498749	964.5	false
PFTrDA 2	663.0 / 169.0	4.28	221794.23	9934.169664	694.5	false
PFTeDA 1	713.0 / 669.0	4.50	3700652.85	10085.111989	2002.5	false
PFTeDA 2	713.0 / 169.0	4.50	186319.09	10249.651868	1631.3	false
NMeFOSAA 1	570.0 / 419.0	3.59	518325.83	9377.484279	828.0	true
NMeFOSAA 2	570.0 / 512.0	3.59	278112.59	9051.454546	825.6	false
NEtFOSAA 1	584.0 / 419.0	3.75	521968.15	10076.842845	772.2	true
NEtFOSAA 2	584.0 / 483.0	3.75	32257.93	10449.273466	529.4	false

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	9902667.48	20921.623990	1679.7	false
PFBS 2	298.9 / 99.0	1.54	2805176.41	20638.289113	1869.2	false
PFHxA 1	313.0 / 269.0	1.86	7096202.14	20519.176820	212.4	false
PFHxA 2	313.0 / 119.0	1.86	521704.26	20356.625950	202.3	false
PFHpA 1	363.0 / 319.0	2.27	6590791.30	20099.360909	526.0	false
PFHpA 2	363.0 / 169.0	2.27	142439.50	20569.238438	390.3	false
PFHxS 1	399.0 / 80.0	2.29	9266542.34	21087.403246	578.3	false
PFHxS 2	399.0 / 99.0	2.29	2657987.01	21204.281353	721.3	false
PFOA 1	413.0 / 369.0	2.68	8123800.19	20287.189958	1227.3	true
PFOA 2	413.0 / 169.0	2.68	570788.14	20129.880861	997.6	false
PFNA 1	463.0 / 419.0	3.08	7682020.70	20391.411152	1636.2	true
PFNA 2	463.0 / 219.0	3.08	2281053.22	20043.245479	952.1	false
PFOS 1	499.0 / 80.0	3.08	12057827.83	20325.301197	538.1	true
PFOS 2	499.0 / 99.0	3.08	2098690.84	20380.725439	1591.7	false
PFDA 1	513.0 / 469.0	3.43	8096094.64	20758.694944	1303.9	true
PFDA 2	513.0 / 219.0	3.43	367492.78	20383.790005	647.9	false
PFUnA 1	563.0 / 519.0	3.76	7587535.81	20345.242998	775.4	true
PFUnA 2	563.0 / 269.0	3.76	412302.42	20351.523950	537.6	false
PFDoA 1	613.0 / 569.0	4.04	7399368.79	19647.323535	714.9	false
PFDoA 2	613.0 / 319.0	4.04	1180120.40	19728.078092	818.1	false
PFTrDA 1	663.0 / 619.0	4.29	6795743.28	19796.358286	1087.2	false
PFTrDA 2	663.0 / 169.0	4.29	451703.46	19957.299393	844.5	false
PFTeDA 1	713.0 / 669.0	4.50	7382352.43	19839.033238	2270.7	false
PFTeDA 2	713.0 / 169.0	4.50	363979.18	19755.153189	1935.6	false
NMeFOSAA 1	570.0 / 419.0	3.59	1041064.45	20669.067132	1107.2	true
NMeFOSAA 2	570.0 / 512.0	3.59	589324.02	21036.130837	1179.0	false
NEtFOSAA 1	584.0 / 419.0	3.75	1019282.22	20402.521192	768.9	true
NEtFOSAA 2	584.0 / 483.0	3.75	58934.56	19858.611772	423.7	false

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.05	89194.97	235.249102	1364.3	false
d3-MeFOSAA	573.0 / 419.0	3.60	12918.97	234.279564	138.4	false
d5-EtFOSAA	589.0 / 419.0	3.76	12507.48	242.539347	128.1	false
13C5-PFHxA	318.0 / 273.0	1.86	78244.02	242.652644	471.4	false
13C4-PFHpA	367.0 / 322.0	2.27	90074.53	240.614008	643.5	false
13C8-PFOA	421.0 / 376.0	2.68	103788.59	255.599565	2555.4	false
13C9-PFNA	472.0 / 427.0	3.08	97614.58	248.857324	813.9	false
13C6-PFDA	519.0 / 474.0	3.43	101597.81	256.669554	1011.6	false
13C7-PFUnA	570.0 / 525.0	3.76	83911.45	236.323554	621.4	false
13C2-PFTeDA	715.0 / 670.0	4.52	74838.88	236.425610	1532.1	false
13C3-PFBS	302.0 / 99.0	1.53	30145.83	185.874213	478.8	false
13C3-PFHxS	402.0 / 99.0	2.29	29395.16	224.959400	265.1	false
13C8-PFOS	507.0 / 99.0	3.07	28380.07	215.308243	205.7	false

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	103014.53	275.026865	783.2	false
d3-MeFOSAA	573.0 / 419.0	3.59	12361.25	254.283316	129.8	false
d5-EtFOSAA	589.0 / 419.0	3.75	13288.49	292.305343	121.8	false
13C5-PFHxA	318.0 / 273.0	1.86	87851.58	253.193551	572.6	false
13C4-PFHpA	367.0 / 322.0	2.27	98763.24	245.179090	467.5	false
13C8-PFOA	421.0 / 376.0	2.68	106700.99	244.201407	1696.6	false
13C9-PFNA	472.0 / 427.0	3.07	104684.99	248.021526	754.0	false
13C6-PFDA	519.0 / 474.0	3.43	104197.90	266.463646	699.4	false
13C7-PFUnA	570.0 / 525.0	3.75	93296.66	265.975043	526.8	false
13C2-PFTeDA	715.0 / 670.0	4.51	81169.57	259.567030	2045.5	false
13C3-PFBS	302.0 / 99.0	1.53	37633.97	263.221131	612.3	false
13C3-PFHxS	402.0 / 99.0	2.29	30644.42	266.028699	299.1	false
13C8-PFOS	507.0 / 99.0	3.07	33627.69	289.396354	226.7	false

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	104660.55	227.855222	910.9	false
d3-MeFOSAA	573.0 / 419.0	3.59	13035.17	223.451862	127.1	false
d5-EtFOSAA	589.0 / 419.0	3.75	13179.50	241.586194	143.5	false
13C5-PFHxA	318.0 / 273.0	1.85	96994.52	267.925469	525.4	false
13C4-PFHpA	367.0 / 322.0	2.26	107980.55	256.919715	561.5	false
13C8-PFOA	421.0 / 376.0	2.68	114282.24	250.681456	1330.1	false
13C9-PFNA	472.0 / 427.0	3.07	117329.27	266.425060	4417.1	false
13C6-PFDA	519.0 / 474.0	3.43	122339.25	255.119798	761.4	false
13C7-PFUnA	570.0 / 525.0	3.75	106977.22	248.694066	717.1	false
13C2-PFTeDA	715.0 / 670.0	4.50	89628.81	233.723948	1401.8	false
13C3-PFBS	302.0 / 99.0	1.53	40161.19	234.077297	510.4	false
13C3-PFHxS	402.0 / 99.0	2.29	32759.60	236.988682	312.1	false
13C8-PFOS	507.0 / 99.0	3.07	36678.71	263.040177	211.7	false

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	97486.53	228.355527	653.6	false
d3-MeFOSAA	573.0 / 419.0	3.58	14743.39	253.564598	151.5	false
d5-EtFOSAA	589.0 / 419.0	3.74	13023.64	239.513288	133.7	false
13C5-PFHxA	318.0 / 273.0	1.85	82831.87	231.960191	517.2	false
13C4-PFHpA	367.0 / 322.0	2.26	105925.33	255.505877	530.9	false
13C8-PFOA	421.0 / 376.0	2.67	113762.74	252.983800	256.8	false
13C9-PFNA	472.0 / 427.0	3.07	109029.38	250.992907	727.1	false
13C6-PFDA	519.0 / 474.0	3.42	114078.72	255.961091	987.2	false
13C7-PFUnA	570.0 / 525.0	3.74	104602.55	261.641930	664.3	false
13C2-PFTeDA	715.0 / 670.0	4.50	90730.47	254.565604	1754.5	false
13C3-PFBS	302.0 / 99.0	1.53	40969.30	239.571547	509.2	false
13C3-PFHxS	402.0 / 99.0	2.28	28267.97	205.167052	268.8	false
13C8-PFOS	507.0 / 99.0	3.06	32454.54	233.511046	224.0	false

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	107105.13	269.914362	577.8	false
d3-MeFOSAA	573.0 / 419.0	3.58	14853.36	263.679238	140.3	false
d5-EtFOSAA	589.0 / 419.0	3.74	14676.42	278.597544	151.3	false
13C5-PFHxA	318.0 / 273.0	1.85	84056.59	236.175526	531.1	false
13C4-PFHpA	367.0 / 322.0	2.26	101054.52	244.570419	570.3	false
13C8-PFOA	421.0 / 376.0	2.67	111871.07	249.607458	3106.1	false
13C9-PFNA	472.0 / 427.0	3.07	109391.65	252.667389	915.0	false
13C6-PFDA	519.0 / 474.0	3.42	102236.41	246.787812	790.9	false
13C7-PFUnA	570.0 / 525.0	3.74	100366.70	270.086901	542.9	false
13C2-PFTeDA	715.0 / 670.0	4.50	82809.61	249.963230	1580.8	false
13C3-PFBS	302.0 / 99.0	1.53	41872.61	252.735746	677.4	false
13C3-PFHxS	402.0 / 99.0	2.29	32366.12	242.473126	267.8	false
13C8-PFOS	507.0 / 99.0	3.06	31798.36	236.154697	270.4	false

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	101581.06	263.428736	952.2	false
d3-MeFOSAA	573.0 / 419.0	3.58	15595.05	267.819374	97.3	false
d5-EtFOSAA	589.0 / 419.0	3.74	12069.10	221.633643	147.2	false
13C5-PFHxA	318.0 / 273.0	1.85	82757.81	266.570670	434.0	false
13C4-PFHpA	367.0 / 322.0	2.26	93349.14	258.999394	539.3	false
13C8-PFOA	421.0 / 376.0	2.67	100873.63	258.022558	1088.9	false
13C9-PFNA	472.0 / 427.0	3.06	94665.89	250.667949	571.0	false
13C6-PFDA	519.0 / 474.0	3.42	103242.47	256.454988	654.1	false
13C7-PFUnA	570.0 / 525.0	3.74	90489.54	250.580301	469.8	false
13C2-PFTeDA	715.0 / 670.0	4.50	85750.28	266.357895	2002.0	false
13C3-PFBS	302.0 / 99.0	1.53	36689.87	214.233123	433.4	false
13C3-PFHxS	402.0 / 99.0	2.28	34446.39	249.643643	246.5	false
13C8-PFOS	507.0 / 99.0	3.06	29566.09	212.417209	185.3	false

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	104592.01	250.170187	1051.6	false
d3-MeFOSAA	573.0 / 419.0	3.58	13704.59	252.922048	82.2	false
d5-EtFOSAA	589.0 / 419.0	3.74	11848.51	233.824640	98.2	false
13C5-PFHxA	318.0 / 273.0	1.85	82015.33	251.521948	427.0	false
13C4-PFHpA	367.0 / 322.0	2.26	93962.81	248.211498	716.5	false
13C8-PFOA	421.0 / 376.0	2.67	98099.20	238.903756	1135.5	false
13C9-PFNA	472.0 / 427.0	3.06	92170.79	232.367846	520.5	false
13C6-PFDA	519.0 / 474.0	3.42	92770.01	212.543112	527.4	false
13C7-PFUnA	570.0 / 525.0	3.74	84843.80	216.698204	791.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	87051.04	249.396683	3015.6	false
13C3-PFBS	302.0 / 99.0	1.53	37616.12	236.036942	465.8	false
13C3-PFHxS	402.0 / 99.0	2.28	29562.23	230.239398	240.2	false
13C8-PFOS	507.0 / 99.0	3.06	29132.06	224.922274	209.1	false

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.330	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.380	0.315	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.220	0.182	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.030	0.046	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.06	PFDaA			
PFDaA_2	613.0 / 319.0	4.06	PFDaA	0.170	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.31	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.30	PFTTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.52	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.52	PFTeDA	0.060	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.540	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.77	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.100	0.069	ü

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.090	0.073	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.290	0.315	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.070	0.060	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.77	NEtFOSAA	0.060	0.069	ü

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.090	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.250	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.500	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.070	0.069	ü

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.070	0.069	ü

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.060	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.540	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.280	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.570	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	30145.83	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	30145.83	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	78244.02	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	78244.02	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	103788.59	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	103788.59	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	29464.20	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	29464.20	236.50
PFOA 1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	103788.59	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	103788.59	250.00
PFNA 1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	97614.58	250.00
PFNA 2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	97614.58	250.00
PFOS 1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	27411.51	239.25
PFOS 2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	27411.51	239.25
PFDA 1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	101597.81	250.00
PFDA 2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	101597.81	250.00
PFOA 1	563.0 / 519.0	3.77	13C7-PFOA	570.0 / 525.0	83911.45	250.00
PFOA 2	563.0 / 269.0	3.77	13C7-PFOA	570.0 / 525.0	83911.45	250.00
PFOA 3	613.0 / 569.0	4.06	13C2-PFOA	615.0 / 570.0	89194.97	250.00
PFOA 4	613.0 / 319.0	4.06	13C2-PFOA	615.0 / 570.0	89194.97	250.00
PFOA 5	663.0 / 619.0	4.31	13C2-PFOA	715.0 / 670.0	74838.88	250.00
PFOA 6	663.0 / 169.0	4.30	13C2-PFOA	715.0 / 670.0	74838.88	250.00
PFOA 7	713.0 / 669.0	4.52	13C2-PFOA	715.0 / 670.0	74838.88	250.00
PFOA 8	713.0 / 169.0	4.52	13C2-PFOA	715.0 / 670.0	74838.88	250.00
MeFOSAA 1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	12593.01	250.00
MeFOSAA 2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	12593.01	250.00
EtFOSAA 1	584.0 / 419.0	3.77	d5-EtFOSAA	589.0 / 419.0	12694.94	250.00
EtFOSAA 2	584.0 / 483.0	3.73	d5-EtFOSAA	589.0 / 419.0	12694.94	250.00

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	37633.97	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	37633.97	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	87851.58	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	87851.58	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	106700.99	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	106700.99	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	29808.83	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	29808.83	236.50
PFOA 1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	106700.99	250.00
PFOA 2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	106700.99	250.00
PFNA 1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	104684.99	250.00
PFNA 2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	104684.99	250.00
PFOS 1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	34490.97	239.25
PFOS 2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	34490.97	239.25
PFDA 1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	104197.90	250.00
PFDA 2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	104197.90	250.00
PFOA 1	563.0 / 519.0	3.77	13C7-PFOA	570.0 / 525.0	93296.66	250.00
PFOA 2	563.0 / 269.0	3.77	13C7-PFOA	570.0 / 525.0	93296.66	250.00
PFDa 1	613.0 / 569.0	4.05	13C2-PFDa	615.0 / 570.0	103014.53	250.00
PFDa 2	613.0 / 319.0	4.05	13C2-PFDa	615.0 / 570.0	103014.53	250.00
PFTeDA 1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	81169.57	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	81169.57	250.00
PFTeDA 1	713.0 / 669.0	4.51	13C2-PFTeDA	715.0 / 670.0	81169.57	250.00
PFTeDA 2	713.0 / 169.0	4.51	13C2-PFTeDA	715.0 / 670.0	81169.57	250.00
NMeFOSAA 1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	12809.59	250.00
NMeFOSAA 2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	12809.59	250.00
NEtFOSAA 1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	14054.62	250.00
NEtFOSAA 2	584.0 / 483.0	3.77	d5-EtFOSAA	589.0 / 419.0	14054.62	250.00

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	40161.19	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	40161.19	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	96994.52	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	96994.52	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	114282.24	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	114282.24	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	31858.09	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	31858.09	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	114282.24	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	114282.24	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	117329.27	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	117329.27	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	36362.91	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	36362.91	239.25
PFDA 1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	122339.25	250.00
PFDA 2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	122339.25	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	106977.22	250.00
PFUnA 2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	106977.22	250.00
PFDoA 1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	104660.55	250.00
PFDoA 2	613.0 / 319.0	4.05	13C2-PFDoA	615.0 / 570.0	104660.55	250.00
PFTeDA 1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	89628.81	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	89628.81	250.00
PFTeDA 1	713.0 / 669.0	4.51	13C2-PFTeDA	715.0 / 670.0	89628.81	250.00
PFTeDA 2	713.0 / 169.0	4.51	13C2-PFTeDA	715.0 / 670.0	89628.81	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	13543.78	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	13543.78	250.00
NEtFOSAA 1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	13464.01	250.00
NEtFOSAA 2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	13464.01	250.00

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	40969.30	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	40969.30	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	82831.87	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	82831.87	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	113762.74	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	113762.74	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	28115.21	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	28115.21	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	113762.74	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	113762.74	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	109029.38	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	109029.38	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	32592.44	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	32592.44	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	114078.72	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	114078.72	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	104602.55	250.00
PFUnA 2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	104602.55	250.00
PFDoA 1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	97486.53	250.00
PFDoA 2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	97486.53	250.00
PFTeDA 1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	90730.47	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	90730.47	250.00
PFTeDA 1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	90730.47	250.00
PFTeDA 2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	90730.47	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	15177.86	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	15177.86	250.00
NEtFOSAA 1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	13404.13	250.00
NEtFOSAA 2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	13404.13	250.00

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	41872.61	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	41872.61	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	84056.59	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	84056.59	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	111871.07	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	111871.07	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	30919.03	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	30919.03	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	111871.07	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	111871.07	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	109391.65	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	109391.65	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	32030.51	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	32030.51	239.25
PFDA 1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	102236.41	250.00
PFDA 2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	102236.41	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	100366.70	250.00
PFUnA 2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	100366.70	250.00
PFDoA 1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	107105.13	250.00
PFDoA 2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	107105.13	250.00
PFTeDA 1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	82809.61	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	82809.61	250.00
PFTeDA 1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	82809.61	250.00
PFTeDA 2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	82809.61	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	15168.74	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	15168.74	250.00
NEtFOSAA 1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	14741.67	250.00
NEtFOSAA 2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	14741.67	250.00

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	36689.87	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	36689.87	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	82757.81	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	82757.81	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	100873.63	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	100873.63	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	33235.37	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	33235.37	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	100873.63	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	100873.63	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	94665.89	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	94665.89	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	30207.34	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	30207.34	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	103242.47	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	103242.47	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	90489.54	250.00
PFUnA 2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	90489.54	250.00
PFDoA 1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	101581.06	250.00
PFDoA 2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	101581.06	250.00
PFTeDA 1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	85750.28	250.00
PFTeDA 2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	85750.28	250.00
PFTeDA 1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	85750.28	250.00
PFTeDA 2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	85750.28	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	15231.90	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	15231.90	250.00
NEtFOSAA 1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	12602.68	250.00
NEtFOSAA 2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	12602.68	250.00

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	37616.12	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	37616.12	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	82015.33	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	82015.33	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	98099.20	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	98099.20	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	29485.20	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	29485.20	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	98099.20	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	98099.20	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	92170.79	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	92170.79	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	29792.09	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	29792.09	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	92770.01	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	92770.01	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	84843.80	250.00
PFUnA 2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	84843.80	250.00
PFDoA 1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	104592.01	250.00
PFDoA 2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	104592.01	250.00
PFTeDA 1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	87051.04	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	87051.04	250.00
PFTeDA 1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	87051.04	250.00
PFTeDA 2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	87051.04	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	13905.60	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	13905.60	250.00
NEtFOSAA 1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	12156.95	250.00
NEtFOSAA 2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	12156.95	250.00

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.05	13C2-PFDA	515.0 / 470.0	96279.07	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	31850.17	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	31850.17	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	92568.05	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	92568.05	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	92568.05	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	92568.05	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	96279.07	250.00
13C7-PFUnA	570.0 / 525.0	3.76	13C2-PFDA	515.0 / 470.0	96279.07	250.00
13C2-PFTeDA	715.0 / 670.0	4.52	13C2-PFDA	515.0 / 470.0	96279.07	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	31850.17	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	31850.17	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	31850.17	239.25

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	95113.65	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	28077.79	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	28077.79	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	99607.47	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	99607.47	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	99607.47	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	99607.47	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	95113.65	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	95113.65	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	95113.65	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	28077.79	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	28077.79	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	28077.79	239.25

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	116638.94	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	33693.87	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	33693.87	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	103926.94	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	103926.94	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	103926.94	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	103926.94	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	116638.94	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	116638.94	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	116638.94	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33693.87	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	33693.87	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	33693.87	239.25

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	108405.81	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	33583.58	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	33583.58	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	102513.01	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	102513.01	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	102513.01	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	102513.01	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	108405.81	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	108405.81	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	108405.81	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33583.58	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	33583.58	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	33583.58	239.25

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	100763.62	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	33348.11	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	33348.11	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	102171.99	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	102171.99	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	102171.99	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	102171.99	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	100763.62	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	100763.62	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	100763.62	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33348.11	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	33348.11	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	33348.11	239.25

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	97919.48	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	33632.81	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	33632.81	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	89123.37	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	89123.37	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	89123.37	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	89123.37	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	97919.48	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	97919.48	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	97919.48	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33632.81	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	33632.81	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	33632.81	239.25

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	106165.27	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	31296.64	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	31296.64	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	93608.25	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	93608.25	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	93608.25	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	93608.25	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	106165.27	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	106165.27	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	106165.27	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	31296.64	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	31296.64	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	31296.64	239.25

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1038.681822	1010.00	102.84
PFBS_2	298.9 / 99.0	1.54	1010.926100	1010.00	100.09
PFHxA_1	313.0 / 269.0	1.86	924.521348	1010.00	91.54
PFHxA_2	313.0 / 119.0	1.86	958.202422	1010.00	94.87
PFHpA_1	363.0 / 319.0	2.27	957.214423	1000.00	95.72
PFHpA_2	363.0 / 169.0	2.27	869.857478	1000.00	86.99
PFHxS_1	399.0 / 80.0	2.30	1006.654212	1010.00	99.67
PFHxS_2	399.0 / 99.0	2.29	1073.993234	1010.00	106.34
PFOA_1	413.0 / 369.0	2.68	995.347052	1000.00	99.53
PFOA_2	413.0 / 169.0	2.68	957.098631	1000.00	95.71
PFNA_1	463.0 / 419.0	3.08	971.368674	1000.00	97.14
PFNA_2	463.0 / 219.0	3.08	984.059584	1000.00	98.41
PFOS_1	499.0 / 80.0	3.08	978.848893	1000.00	97.88
PFOS_2	499.0 / 99.0	3.08	946.766227	1000.00	94.68
PFDA_1	513.0 / 469.0	3.43	938.431144	1000.00	93.84
PFDA_2	513.0 / 219.0	3.43	956.017373	1000.00	95.60
PFUnA_1	563.0 / 519.0	3.76	957.865330	1000.00	95.79
PFUnA_2	563.0 / 269.0	3.75	1074.491725	1000.00	107.45
PFDoA_1	613.0 / 569.0	4.04	999.859418	1000.00	99.99
PFDoA_2	613.0 / 319.0	4.04	1096.735475	1000.00	109.67
PFTTrDA_1	663.0 / 619.0	4.28	1061.209652	1000.00	106.12
PFTTrDA_2	663.0 / 169.0	4.28	1046.076309	1000.00	104.61
PFTeDA_1	713.0 / 669.0	4.49	1037.241196	1000.00	103.72
PFTeDA_2	713.0 / 169.0	4.49	1006.120674	1000.00	100.61
NMeFOSAA_1	570.0 / 419.0	3.59	1236.438285	1000.00	123.64
NMeFOSAA_2	570.0 / 512.0	3.59	1079.889556	1000.00	107.99
NEtFOSAA_1	584.0 / 419.0	3.75	972.496525	1000.00	97.25
NEtFOSAA_2	584.0 / 483.0	3.74	1163.397024	1000.00	116.34

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2277.460736	2525.00	90.20
PFBS_2	298.9 / 99.0	1.54	2308.124356	2525.00	91.41
PFHxA_1	313.0 / 269.0	1.86	2388.007428	2525.00	94.57
PFHxA_2	313.0 / 119.0	1.86	2273.140207	2525.00	90.03
PFHpA_1	363.0 / 319.0	2.27	2271.466874	2500.00	90.86
PFHpA_2	363.0 / 169.0	2.27	2262.341048	2500.00	90.49
PFHxS_1	399.0 / 80.0	2.29	2351.662684	2525.00	93.14
PFHxS_2	399.0 / 99.0	2.29	2423.789728	2525.00	95.99
PFOA_1	413.0 / 369.0	2.68	2428.001039	2500.00	97.12
PFOA_2	413.0 / 169.0	2.68	2412.016136	2500.00	96.48
PFNA_1	463.0 / 419.0	3.07	2205.108620	2500.00	88.20
PFNA_2	463.0 / 219.0	3.07	2189.778390	2500.00	87.59
PFOS_1	499.0 / 80.0	3.07	2163.960852	2500.00	86.56
PFOS_2	499.0 / 99.0	3.07	2291.321362	2500.00	91.65
PFDA_1	513.0 / 469.0	3.43	2191.338290	2500.00	87.65
PFDA_2	513.0 / 219.0	3.43	2289.552993	2500.00	91.58
PFUnA_1	563.0 / 519.0	3.75	2321.852504	2500.00	92.87
PFUnA_2	563.0 / 269.0	3.75	2199.306147	2500.00	87.97
PFDoA_1	613.0 / 569.0	4.03	2509.622832	2500.00	100.38
PFDoA_2	613.0 / 319.0	4.03	2472.694618	2500.00	98.91
PFTrDA_1	663.0 / 619.0	4.27	2599.812521	2500.00	103.99
PFTrDA_2	663.0 / 169.0	4.27	2568.579467	2500.00	102.74
PFTeDA_1	713.0 / 669.0	4.49	2442.799340	2500.00	97.71
PFTeDA_2	713.0 / 169.0	4.49	2438.706662	2500.00	97.55
NMeFOSAA_1	570.0 / 419.0	3.58	2634.575243	2500.00	105.38
NMeFOSAA_2	570.0 / 512.0	3.58	2658.450644	2500.00	106.34
NEtFOSAA_1	584.0 / 419.0	3.74	1857.550551	2500.00	74.30
NEtFOSAA_2	584.0 / 483.0	3.74	1857.012910	2500.00	74.28

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	936.483509	1010.00	92.72
PFBS_2	298.9 / 99.0	1.54	953.476292	1010.00	94.40
PFHxA_1	313.0 / 269.0	1.85	892.074059	1010.00	88.32
PFHxA_2	313.0 / 119.0	1.86	934.479720	1010.00	92.52
PFHpA_1	363.0 / 319.0	2.26	852.670480	1000.00	85.27
PFHpA_2	363.0 / 169.0	2.26	734.629445	1000.00	73.46
PFHxS_1	399.0 / 80.0	2.28	977.770573	1010.00	96.81
PFHxS_2	399.0 / 99.0	2.28	1032.807652	1010.00	102.26
PFOA_1	413.0 / 369.0	2.67	933.440886	1000.00	93.34
PFOA_2	413.0 / 169.0	2.67	859.910935	1000.00	85.99
PFNA_1	463.0 / 419.0	3.06	994.133669	1000.00	99.41
PFNA_2	463.0 / 219.0	3.06	1025.638335	1000.00	102.56
PFOS_1	499.0 / 80.0	3.06	942.245728	1000.00	94.22
PFOS_2	499.0 / 99.0	3.06	944.674311	1000.00	94.47
PFDA_1	513.0 / 469.0	3.42	952.509088	1000.00	95.25
PFDA_2	513.0 / 219.0	3.42	954.340245	1000.00	95.43
PFUnA_1	563.0 / 519.0	3.74	917.368734	1000.00	91.74
PFUnA_2	563.0 / 269.0	3.74	881.290891	1000.00	88.13
PFDoA_1	613.0 / 569.0	4.02	1025.673264	1000.00	102.57
PFDoA_2	613.0 / 319.0	4.02	1007.203753	1000.00	100.72
PFTrDA_1	663.0 / 619.0	4.27	1043.998224	1000.00	104.40
PFTrDA_2	663.0 / 169.0	4.26	1075.446790	1000.00	107.54
PFTeDA_1	713.0 / 669.0	4.48	990.681101	1000.00	99.07
PFTeDA_2	713.0 / 169.0	4.48	1008.112806	1000.00	100.81
NMeFOSAA_1	570.0 / 419.0	3.57	1025.233714	1000.00	102.52
NMeFOSAA_2	570.0 / 512.0	3.57	1082.241825	1000.00	108.22
NEtFOSAA_1	584.0 / 419.0	3.73	842.926570	1000.00	84.29
NEtFOSAA_2	584.0 / 483.0	3.74	849.637783	1000.00	84.96

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2357.208633	2525.00	93.35
PFBS_2	298.9 / 99.0	1.54	2420.976320	2525.00	95.88
PFHxA_1	313.0 / 269.0	1.86	2346.266726	2525.00	92.92
PFHxA_2	313.0 / 119.0	1.86	2421.427162	2525.00	95.90
PFHpA_1	363.0 / 319.0	2.26	2181.108701	2500.00	87.24
PFHpA_2	363.0 / 169.0	2.26	2236.932113	2500.00	89.48
PFHxS_1	399.0 / 80.0	2.28	2422.306376	2525.00	95.93
PFHxS_2	399.0 / 99.0	2.28	2363.945627	2525.00	93.62
PFOA_1	413.0 / 369.0	2.67	2392.162843	2500.00	95.69
PFOA_2	413.0 / 169.0	2.67	2151.868184	2500.00	86.07
PFNA_1	463.0 / 419.0	3.06	2172.629329	2500.00	86.91
PFNA_2	463.0 / 219.0	3.06	2304.608832	2500.00	92.18
PFOS_1	499.0 / 80.0	3.06	2355.853610	2500.00	94.23
PFOS_2	499.0 / 99.0	3.06	2322.667399	2500.00	92.91
PFDA_1	513.0 / 469.0	3.42	2357.772917	2500.00	94.31
PFDA_2	513.0 / 219.0	3.42	2330.363865	2500.00	93.21
PFUnA_1	563.0 / 519.0	3.74	2356.490409	2500.00	94.26
PFUnA_2	563.0 / 269.0	3.73	2284.276131	2500.00	91.37
PFDoA_1	613.0 / 569.0	4.02	2420.359838	2500.00	96.81
PFDoA_2	613.0 / 319.0	4.02	2496.680687	2500.00	99.87
PFTTrDA_1	663.0 / 619.0	4.26	2647.965269	2500.00	105.92
PFTTrDA_2	663.0 / 169.0	4.26	2742.771718	2500.00	109.71
PFTeDA_1	713.0 / 669.0	4.48	2578.671574	2500.00	103.15
PFTeDA_2	713.0 / 169.0	4.47	2455.308048	2500.00	98.21
NMeFOSAA_1	570.0 / 419.0	3.57	3192.830858	2500.00	127.71
NMeFOSAA_2	570.0 / 512.0	3.57	3209.220346	2500.00	128.37
NEtFOSAA_1	584.0 / 419.0	3.73	1972.571426	2500.00	78.90
NEtFOSAA_2	584.0 / 483.0	3.73	1777.058178	2500.00	71.08

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.03	257.996802	250.00	103.20
d3-MeFOSAA	573.0 / 419.0	3.58	235.330032	250.00	94.13
d5-EtFOSAA	589.0 / 419.0	3.74	249.130521	250.00	99.65
13C5-PFHxA	318.0 / 273.0	1.85	250.941708	250.00	100.38
13C4-PFHpA	367.0 / 322.0	2.26	251.539496	250.00	100.62
13C8-PFOA	421.0 / 376.0	2.67	250.095674	250.00	100.04
13C9-PFNA	472.0 / 427.0	3.06	261.901808	250.00	104.76
13C6-PFDA	519.0 / 474.0	3.42	263.436715	250.00	105.37
13C7-PFUnA	570.0 / 525.0	3.74	281.906391	250.00	112.76
13C2-PFTeDA	715.0 / 670.0	4.49	249.542694	250.00	99.82
13C3-PFBS	302.0 / 99.0	1.52	219.865963	232.25	94.67
13C3-PFHxS	402.0 / 99.0	2.28	233.688625	236.50	98.81
13C8-PFOS	507.0 / 99.0	3.06	233.692351	239.25	97.68

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	242.285471	250.00	96.91
d3-MeFOSAA	573.0 / 419.0	3.57	257.512508	250.00	103.01
d5-EtFOSAA	589.0 / 419.0	3.73	321.481250	250.00	128.59
13C5-PFHxA	318.0 / 273.0	1.85	231.333905	250.00	92.53
13C4-PFHpA	367.0 / 322.0	2.26	231.598136	250.00	92.64
13C8-PFOA	421.0 / 376.0	2.67	236.609921	250.00	94.64
13C9-PFNA	472.0 / 427.0	3.06	248.357974	250.00	99.34
13C6-PFDA	519.0 / 474.0	3.41	270.046751	250.00	108.02
13C7-PFUnA	570.0 / 525.0	3.73	254.200537	250.00	101.68
13C2-PFTeDA	715.0 / 670.0	4.48	231.120621	250.00	92.45
13C3-PFBS	302.0 / 99.0	1.53	239.755923	232.25	103.23
13C3-PFHxS	402.0 / 99.0	2.28	255.466176	236.50	108.02
13C8-PFOS	507.0 / 99.0	3.06	263.452691	239.25	110.12

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	246.882241	250.00	98.75
d3-MeFOSAA	573.0 / 419.0	3.56	236.407219	250.00	94.56
d5-EtFOSAA	589.0 / 419.0	3.73	294.515912	250.00	117.81
13C5-PFHxA	318.0 / 273.0	1.84	243.005113	250.00	97.20
13C4-PFHpA	367.0 / 322.0	2.25	237.478521	250.00	94.99
13C8-PFOA	421.0 / 376.0	2.66	253.373063	250.00	101.35
13C9-PFNA	472.0 / 427.0	3.05	231.332138	250.00	92.53
13C6-PFDA	519.0 / 474.0	3.40	264.427228	250.00	105.77
13C7-PFUnA	570.0 / 525.0	3.72	275.887006	250.00	110.35
13C2-PFTeDA	715.0 / 670.0	4.47	231.142196	250.00	92.46
13C3-PFBS	302.0 / 99.0	1.52	230.785459	232.25	99.37
13C3-PFHxS	402.0 / 99.0	2.27	229.615261	236.50	97.09
13C8-PFOS	507.0 / 99.0	3.05	247.883117	239.25	103.61

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	256.655790	250.00	102.66
d3-MeFOSAA	573.0 / 419.0	3.56	204.450873	250.00	81.78
d5-EtFOSAA	589.0 / 419.0	3.72	318.860097	250.00	127.54
13C5-PFHxA	318.0 / 273.0	1.84	226.207082	250.00	90.48
13C4-PFHpA	367.0 / 322.0	2.25	236.008571	250.00	94.40
13C8-PFOA	421.0 / 376.0	2.66	237.206151	250.00	94.88
13C9-PFNA	472.0 / 427.0	3.05	247.798405	250.00	99.12
13C6-PFDA	519.0 / 474.0	3.40	257.956173	250.00	103.18
13C7-PFUnA	570.0 / 525.0	3.72	265.290593	250.00	106.12
13C2-PFTeDA	715.0 / 670.0	4.47	225.765587	250.00	90.31
13C3-PFBS	302.0 / 99.0	1.52	232.104363	232.25	99.94
13C3-PFHxS	402.0 / 99.0	2.27	239.053803	236.50	101.08
13C8-PFOS	507.0 / 99.0	3.05	243.821194	239.25	101.91

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	489056.93	1038.681822	299.6	false
PFBS 2	298.9 / 99.0	1.54	138829.75	1010.926100	256.5	false
PFHxA 1	313.0 / 269.0	1.86	337796.96	924.521348	34.0	false
PFHxA 2	313.0 / 119.0	1.86	26086.81	958.202422	37.4	false
PFHpA 1	363.0 / 319.0	2.27	343308.44	957.214423	91.7	false
PFHpA 2	363.0 / 169.0	2.27	7207.41	869.857478	69.3	false
PFHxS 1	399.0 / 80.0	2.30	473534.58	1006.654212	162.7	false
PFHxS 2	399.0 / 99.0	2.29	143556.97	1073.993234	306.2	false
PFOA 1	413.0 / 369.0	2.68	442960.70	995.347052	267.5	true
PFOA 2	413.0 / 169.0	2.68	30542.65	957.098631	214.9	false
PFNA 1	463.0 / 419.0	3.08	429172.85	971.368674	340.8	true
PFNA 2	463.0 / 219.0	3.08	133350.75	984.059584	253.3	false
PFOS 1	499.0 / 80.0	3.08	647438.77	978.848893	134.1	true
PFOS 2	499.0 / 99.0	3.08	110917.90	946.766227	415.5	false
PFDA 1	513.0 / 469.0	3.43	431602.08	938.431144	332.8	true
PFDA 2	513.0 / 219.0	3.43	20249.54	956.017373	170.4	false
PFUnA 1	563.0 / 519.0	3.76	431934.83	957.865330	259.7	true
PFUnA 2	563.0 / 269.0	3.75	27299.25	1074.491725	194.2	false
PFDaA 1	613.0 / 569.0	4.04	375567.00	999.859418	324.0	false
PFDaA 2	613.0 / 319.0	4.04	65673.66	1096.735475	300.0	false
PFTrDA 1	663.0 / 619.0	4.28	356147.01	1061.209652	458.9	false
PFTrDA 2	663.0 / 169.0	4.28	23303.22	1046.076309	294.7	false
PFTeDA 1	713.0 / 669.0	4.49	378013.02	1037.241196	729.0	false
PFTeDA 2	713.0 / 169.0	4.49	18369.35	1006.120674	573.3	false
NMeFOSAA 1	570.0 / 419.0	3.59	64609.60	1236.438285	412.7	true
NMeFOSAA 2	570.0 / 512.0	3.59	31194.33	1079.889556	323.9	false
NEtFOSAA 1	584.0 / 419.0	3.75	55272.13	972.496525	374.3	true
NEtFOSAA 2	584.0 / 483.0	3.74	4155.73	1163.397024	149.9	false

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	1060783.80	2277.460736	508.7	false
PFBS 2	298.9 / 99.0	1.54	310793.37	2308.124356	581.2	false
PFHxA 1	313.0 / 269.0	1.86	835130.86	2388.007428	58.4	false
PFHxA 2	313.0 / 119.0	1.86	59023.79	2273.140207	61.2	false
PFHpA 1	363.0 / 319.0	2.27	806656.98	2271.466874	174.5	false
PFHpA 2	363.0 / 169.0	2.27	17541.33	2262.341048	160.9	false
PFHxS 1	399.0 / 80.0	2.29	1104872.63	2351.662684	219.4	false
PFHxS 2	399.0 / 99.0	2.29	324362.00	2423.789728	405.1	false
PFOA 1	413.0 / 369.0	2.68	1059590.18	2428.001039	565.3	false
PFOA 2	413.0 / 169.0	2.68	74884.98	2412.016136	488.4	false
PFNA 1	463.0 / 419.0	3.07	968898.33	2205.108620	503.9	true
PFNA 2	463.0 / 219.0	3.07	292445.62	2189.778390	423.8	false
PFOS 1	499.0 / 80.0	3.07	1449367.26	2163.960852	207.8	true
PFOS 2	499.0 / 99.0	3.07	268550.54	2291.321362	568.7	false
PFDA 1	513.0 / 469.0	3.43	1060198.90	2191.338290	565.8	true
PFDA 2	513.0 / 219.0	3.43	51137.20	2289.552993	292.6	false
PFUnA 1	563.0 / 519.0	3.75	983164.34	2321.852504	384.5	false
PFUnA 2	563.0 / 269.0	3.75	51314.06	2199.306147	239.3	false
PFDaA 1	613.0 / 569.0	4.03	899358.54	2509.622832	462.9	false
PFDaA 2	613.0 / 319.0	4.03	141010.70	2472.694618	430.6	false
PFTrDA 1	663.0 / 619.0	4.27	815811.72	2599.812521	663.8	false
PFTrDA 2	663.0 / 169.0	4.27	53278.15	2568.579467	436.8	false
PFTeDA 1	713.0 / 669.0	4.49	831781.09	2442.799340	1420.9	false
PFTeDA 2	713.0 / 169.0	4.49	41292.70	2438.706662	844.9	false
NMeFOSAA 1	570.0 / 419.0	3.58	132450.09	2634.575243	493.5	true
NMeFOSAA 2	570.0 / 512.0	3.58	74056.15	2658.450644	446.7	false
NEtFOSAA 1	584.0 / 419.0	3.74	129669.39	1857.550551	448.3	true
NEtFOSAA 2	584.0 / 483.0	3.74	7973.00	1857.012910	197.0	false

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	457621.21	936.483509	247.1	false
PFBS 2	298.9 / 99.0	1.54	136174.06	953.476292	268.6	false
PFHxA 1	313.0 / 269.0	1.85	341980.75	892.074059	36.1	false
PFHxA 2	313.0 / 119.0	1.86	26698.83	934.479720	36.0	false
PFHpA 1	363.0 / 319.0	2.26	334890.80	852.670480	108.9	false
PFHpA 2	363.0 / 169.0	2.26	6769.65	734.629445	97.8	false
PFHxS 1	399.0 / 80.0	2.28	466724.35	977.770573	260.2	false
PFHxS 2	399.0 / 99.0	2.28	140078.94	1032.807652	456.5	false
PFOA 1	413.0 / 369.0	2.67	455969.54	933.440886	328.8	false
PFOA 2	413.0 / 169.0	2.67	30159.22	859.910935	205.8	false
PFNA 1	463.0 / 419.0	3.06	420703.80	994.133669	358.9	true
PFNA 2	463.0 / 219.0	3.06	133095.75	1025.638335	273.1	false
PFOS 1	499.0 / 80.0	3.06	651867.76	942.245728	150.7	true
PFOS 2	499.0 / 99.0	3.06	115798.17	944.674311	447.4	false
PFDA 1	513.0 / 469.0	3.42	478437.29	952.509088	449.2	true
PFDA 2	513.0 / 219.0	3.42	22072.89	954.340245	159.9	false
PFUnA 1	563.0 / 519.0	3.74	439760.25	917.368734	268.5	false
PFUnA 2	563.0 / 269.0	3.74	23863.34	881.290891	182.6	false
PFDaA 1	613.0 / 569.0	4.02	400987.73	1025.673264	351.3	false
PFDaA 2	613.0 / 319.0	4.02	62853.79	1007.203753	271.8	false
PFTrDA 1	663.0 / 619.0	4.27	353169.76	1043.998224	466.2	false
PFTrDA 2	663.0 / 169.0	4.26	24124.43	1075.446790	351.9	false
PFTeDA 1	713.0 / 669.0	4.48	364168.82	990.681101	891.0	false
PFTeDA 2	713.0 / 169.0	4.48	18545.82	1008.112806	555.2	false
NMeFOSAA 1	570.0 / 419.0	3.57	55673.25	1025.233714	281.4	false
NMeFOSAA 2	570.0 / 512.0	3.57	32320.92	1082.241825	227.1	false
NEtFOSAA 1	584.0 / 419.0	3.73	56586.68	842.926570	397.3	false
NEtFOSAA 2	584.0 / 483.0	3.74	3664.19	849.637783	123.5	false

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	1159369.60	2357.208633	531.5	false
PFBS 2	298.9 / 99.0	1.54	344153.51	2420.976320	501.9	false
PFHxA 1	313.0 / 269.0	1.86	845394.63	2346.266726	58.4	false
PFHxA 2	313.0 / 119.0	1.86	64784.43	2421.427162	62.5	false
PFHpA 1	363.0 / 319.0	2.26	817918.78	2181.108701	166.0	false
PFHpA 2	363.0 / 169.0	2.26	18327.65	2236.932113	178.6	false
PFHxS 1	399.0 / 80.0	2.28	1179134.89	2422.306376	400.1	false
PFHxS 2	399.0 / 99.0	2.28	327839.26	2363.945627	758.4	false
PFOA 1	413.0 / 369.0	2.67	1102753.31	2392.162843	511.0	false
PFOA 2	413.0 / 169.0	2.67	70603.28	2151.868184	474.0	false
PFNA 1	463.0 / 419.0	3.06	1003457.34	2172.629329	521.9	true
PFNA 2	463.0 / 219.0	3.06	323647.50	2304.608832	373.2	false
PFOS 1	499.0 / 80.0	3.06	1618079.36	2355.853610	189.3	true
PFOS 2	499.0 / 99.0	3.06	279054.68	2322.667399	576.6	false
PFDA 1	513.0 / 469.0	3.42	1101241.93	2357.772917	621.8	true
PFDA 2	513.0 / 219.0	3.42	50238.35	2330.363865	278.7	false
PFUnA 1	563.0 / 519.0	3.74	1052368.84	2356.490409	440.9	false
PFUnA 2	563.0 / 269.0	3.73	56193.30	2284.276131	324.7	false
PFDaA 1	613.0 / 569.0	4.02	928447.52	2420.359838	505.8	false
PFDaA 2	613.0 / 319.0	4.02	152378.35	2496.680687	421.4	false
PFTrDA 1	663.0 / 619.0	4.26	819964.92	2647.965269	687.3	false
PFTrDA 2	663.0 / 169.0	4.26	56111.06	2742.771718	423.3	false
PFTeDA 1	713.0 / 669.0	4.48	866185.22	2578.671574	1231.5	false
PFTeDA 2	713.0 / 169.0	4.47	41027.57	2455.308048	803.4	false
NMeFOSAA 1	570.0 / 419.0	3.57	143222.13	3192.830858	649.3	false
NMeFOSAA 2	570.0 / 512.0	3.57	79829.32	3209.220346	466.8	false
NEtFOSAA 1	584.0 / 419.0	3.73	148989.36	1972.571426	532.2	false
NEtFOSAA 2	584.0 / 483.0	3.73	8270.79	1777.058178	237.0	false

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	103514.50	257.996802	821.5	false
d3-MeFOSAA	573.0 / 419.0	3.58	13897.90	235.330032	137.5	false
d5-EtFOSAA	589.0 / 419.0	3.74	13756.33	249.130521	187.3	false
13C5-PFHxA	318.0 / 273.0	1.85	87229.99	250.941708	479.4	false
13C4-PFHpA	367.0 / 322.0	2.26	101511.22	251.539496	619.7	false
13C8-PFOA	421.0 / 376.0	2.67	109476.90	250.095674	1163.8	false
13C9-PFNA	472.0 / 427.0	3.06	110746.38	261.901808	885.6	false
13C6-PFDA	519.0 / 474.0	3.42	110347.07	263.436715	853.6	false
13C7-PFUnA	570.0 / 525.0	3.74	105923.82	281.906391	727.7	false
13C2-PFTeDA	715.0 / 670.0	4.49	83589.57	249.542694	2482.4	false
13C3-PFBS	302.0 / 99.0	1.52	38185.09	219.865963	800.3	false
13C3-PFHxS	402.0 / 99.0	2.28	32706.38	233.688625	323.1	false
13C8-PFOS	507.0 / 99.0	3.06	32997.29	233.692351	201.2	false

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	99243.11	242.285471	960.4	false
d3-MeFOSAA	573.0 / 419.0	3.57	13636.40	257.512508	130.0	false
d5-EtFOSAA	589.0 / 419.0	3.73	15916.98	321.481250	164.7	true
13C5-PFHxA	318.0 / 273.0	1.85	83134.98	231.333905	491.3	false
13C4-PFHpA	367.0 / 322.0	2.26	96626.11	231.598136	562.5	false
13C8-PFOA	421.0 / 376.0	2.67	107078.14	236.609921	1554.1	false
13C9-PFNA	472.0 / 427.0	3.06	108572.72	248.357974	952.2	false
13C6-PFDA	519.0 / 474.0	3.41	115480.74	270.046751	1091.4	false
13C7-PFUnA	570.0 / 525.0	3.73	97510.48	254.200537	626.5	false
13C2-PFTeDA	715.0 / 670.0	4.48	79037.29	231.120621	1455.4	false
13C3-PFBS	302.0 / 99.0	1.53	37336.59	239.755923	510.2	false
13C3-PFHxS	402.0 / 99.0	2.28	32059.57	255.466176	299.0	false
13C8-PFOS	507.0 / 99.0	3.06	33355.38	263.452691	281.6	false

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	107761.44	246.882241	604.0	false
d3-MeFOSAA	573.0 / 419.0	3.56	13836.73	236.407219	155.0	false
d5-EtFOSAA	589.0 / 419.0	3.73	16117.03	294.515912	186.4	false
13C5-PFHxA	318.0 / 273.0	1.84	91545.82	243.005113	573.7	false
13C4-PFHpA	367.0 / 322.0	2.25	103863.36	237.478521	520.3	false
13C8-PFOA	421.0 / 376.0	2.66	120200.67	253.373063	1437.5	false
13C9-PFNA	472.0 / 427.0	3.05	106012.52	231.332138	1066.9	false
13C6-PFDA	519.0 / 474.0	3.40	120497.30	264.427228	532.9	false
13C7-PFUnA	570.0 / 525.0	3.72	112773.39	275.887006	764.7	false
13C2-PFTeDA	715.0 / 670.0	4.47	84231.22	231.142196	2620.6	false
13C3-PFBS	302.0 / 99.0	1.52	39723.26	230.785459	587.9	false
13C3-PFHxS	402.0 / 99.0	2.27	31849.04	229.615261	265.5	false
13C8-PFOS	507.0 / 99.0	3.05	34688.17	247.883117	236.3	false

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	106218.80	256.655790	940.4	false
d3-MeFOSAA	573.0 / 419.0	3.56	11805.43	204.450873	106.1	false
d5-EtFOSAA	589.0 / 419.0	3.72	17214.59	318.860097	198.8	true
13C5-PFHxA	318.0 / 273.0	1.84	85658.00	226.207082	487.2	false
13C4-PFHpA	367.0 / 322.0	2.25	103753.90	236.008571	552.6	false
13C8-PFOA	421.0 / 376.0	2.66	113112.61	237.206151	1404.1	false
13C9-PFNA	472.0 / 427.0	3.05	114145.38	247.798405	1087.0	false
13C6-PFDA	519.0 / 474.0	3.40	111453.54	257.956173	946.4	false
13C7-PFUnA	570.0 / 525.0	3.72	102819.15	265.290593	1195.4	false
13C2-PFTeDA	715.0 / 670.0	4.47	78006.07	225.765587	1425.0	false
13C3-PFBS	302.0 / 99.0	1.52	39413.03	232.104363	508.3	false
13C3-PFHxS	402.0 / 99.0	2.27	32712.32	239.053803	269.8	false
13C8-PFOS	507.0 / 99.0	3.05	33660.93	243.821194	251.1	false



Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.280	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.170	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.28	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.28	PFTTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.480	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.080	0.069	ü

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.190	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.560	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.069	ü

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.580	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.069	ü

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.73	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.26	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.560	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.060	0.069	ü

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	38185.09	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	38185.09	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	87229.99	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	87229.99	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	109476.90	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	109476.90	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	31241.13	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	31241.13	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	109476.90	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	109476.90	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	110746.38	250.00
PFNA 2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	110746.38	250.00
PFOS 1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	33470.85	239.25
PFOS 2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	33470.85	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	110347.07	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	110347.07	250.00
PFUnA 1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	105923.82	250.00
PFUnA 2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	105923.82	250.00
PFDoA 1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	103514.50	250.00
PFDoA 2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	103514.50	250.00
PFTeDA 1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	83589.57	250.00
PFTeDA 2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	83589.57	250.00
PFTeDA 1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	83589.57	250.00
PFTeDA 2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	83589.57	250.00
NMeFOSAA 1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	14089.16	250.00
NMeFOSAA 2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	14089.16	250.00
NEtFOSAA 1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	13786.66	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	13786.66	250.00

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	37336.59	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	37336.59	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	83134.98	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	83134.98	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	107078.14	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	107078.14	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	31395.13	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	31395.13	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	107078.14	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	107078.14	250.00
PFNA 1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	108572.72	250.00
PFNA 2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	108572.72	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	33744.46	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	33744.46	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	115480.74	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	115480.74	250.00
PFUnA 1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	97510.48	250.00
PFUnA 2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	97510.48	250.00
PFDoA 1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	99243.11	250.00
PFDoA 2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	99243.11	250.00
PFTeDA 1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	79037.29	250.00
PFTeDA 2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	79037.29	250.00
PFTeDA 1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	79037.29	250.00
PFTeDA 2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	79037.29	250.00
NMeFOSAA 1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	13736.33	250.00
NMeFOSAA 2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	13736.33	250.00
NEtFOSAA 1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	16959.93	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	16959.93	250.00

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	39723.26	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	39723.26	232.25
PFHxA 1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	91545.82	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	91545.82	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	120200.67	250.00
PFHpA 2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	120200.67	250.00
PFHxS 1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	31691.40	236.50
PFHxS 2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	31691.40	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	120200.67	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	120200.67	250.00
PFNA 1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	106012.52	250.00
PFNA 2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	106012.52	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	35019.89	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	35019.89	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	120497.30	250.00
PFDA 2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	120497.30	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	112773.39	250.00
PFUnA 2	563.0 / 269.0	3.74	13C7-PFUnA	570.0 / 525.0	112773.39	250.00
PFDoA 1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	107761.44	250.00
PFDoA 2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	107761.44	250.00
PFTeDA 1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	84231.22	250.00
PFTeDA 2	663.0 / 169.0	4.26	13C2-PFTeDA	715.0 / 670.0	84231.22	250.00
PFTeDA 1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	84231.22	250.00
PFTeDA 2	713.0 / 169.0	4.48	13C2-PFTeDA	715.0 / 670.0	84231.22	250.00
NMeFOSAA 1	570.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	14566.84	250.00
NMeFOSAA 2	570.0 / 512.0	3.57	d3-MeFOSAA	573.0 / 419.0	14566.84	250.00
NEtFOSAA 1	584.0 / 419.0	3.73	d5-EtFOSAA	589.0 / 419.0	16275.86	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	16275.86	250.00

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	39413.03	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	39413.03	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	85658.00	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	85658.00	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	113112.61	250.00
PFHpA 2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	113112.61	250.00
PFHxS 1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	32532.54	236.50
PFHxS 2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	32532.54	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	113112.61	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	113112.61	250.00
PFNA 1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	114145.38	250.00
PFNA 2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	114145.38	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	34593.67	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	34593.67	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	111453.54	250.00
PFDA 2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	111453.54	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	102819.15	250.00
PFUnA 2	563.0 / 269.0	3.73	13C7-PFUnA	570.0 / 525.0	102819.15	250.00
PFDoA 1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	106218.80	250.00
PFDoA 2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	106218.80	250.00
PFTeDA 1	663.0 / 619.0	4.26	13C2-PFTeDA	715.0 / 670.0	78006.07	250.00
PFTeDA 2	663.0 / 169.0	4.26	13C2-PFTeDA	715.0 / 670.0	78006.07	250.00
PFTeDA 1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	78006.07	250.00
PFTeDA 2	713.0 / 169.0	4.47	13C2-PFTeDA	715.0 / 670.0	78006.07	250.00
NMeFOSAA 1	570.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	12281.80	250.00
NMeFOSAA 2	570.0 / 512.0	3.57	d3-MeFOSAA	573.0 / 419.0	12281.80	250.00
NEtFOSAA 1	584.0 / 419.0	3.73	d5-EtFOSAA	589.0 / 419.0	18352.44	250.00
NEtFOSAA 2	584.0 / 483.0	3.73	d5-EtFOSAA	589.0 / 419.0	18352.44	250.00

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	101884.09	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	34236.26	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	34236.26	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	99790.21	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	99790.21	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	99790.21	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	99790.21	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	101884.09	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	101884.09	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	101884.09	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	34236.26	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	34236.26	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	34236.26	239.25

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	104014.17	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	30698.40	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	30698.40	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	103166.69	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	103166.69	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	103166.69	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	103166.69	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	104014.17	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	104014.17	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	104014.17	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	30698.40	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	30698.40	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	30698.40	239.25

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	110839.11	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	33930.24	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	33930.24	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	108147.90	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	108147.90	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	108147.90	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	108147.90	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	110839.11	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	110839.11	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	110839.11	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	33930.24	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	33930.24	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	33930.24	239.25

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	105092.04	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	33473.96	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	33473.96	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	108706.80	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	108706.80	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	108706.80	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	108706.80	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	105092.04	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	105092.04	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	105092.04	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	33473.96	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	33473.96	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	33473.96	239.25

Raw Analytical Data

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	8948.62	42.351063	16.1	true
PFBS_2	298.9 / 99.0	1.54	3559.76	33.341670	21.6	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.30	6766.91	4.917496	18.8	false
PFHxS_2	399.0 / 99.0	2.30	1743.43	7.043398	18.2	false
PFOA_1	413.0 / 369.0	2.68	8891.62	25.898839	28.1	true
PFOA_2	413.0 / 169.0	2.69	565.63	10.876486	13.8	false
PFNA_1	463.0 / 419.0	3.08	7273.31	41.400689	24.3	true
PFNA_2	463.0 / 219.0	3.07	3148.75	33.738083	27.0	false
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.43	10256.74	32.783802	40.8	true
PFDA_2	513.0 / 219.0	3.43	664.83	46.439973	14.3	true
PFUnA_1	563.0 / 519.0	3.75	6963.98	48.408258	30.8	true
PFUnA_2	563.0 / 269.0	3.77	1208.42	48.642377	19.1	true
PFDoA_1	613.0 / 569.0	4.03	7761.94	15.924773	78.7	false
PFDoA_2	613.0 / 319.0	4.03	1241.59	10.965531	33.4	false
PFTTrDA_1	663.0 / 619.0	4.28	7145.15	3.222578	114.0	false
PFTTrDA_2	663.0 / 169.0	4.27	409.21	< 0	18.0	true
PFTeDA_1	713.0 / 669.0	4.50	8309.91	3.432070	166.3	false
PFTeDA_2	713.0 / 169.0	4.49	400.91	< 0	35.0	false
NMeFOSAA_1	570.0 / 419.0	3.58	2069.26	13.796655	64.8	true
NMeFOSAA_2	570.0 / 512.0	3.59	1198.51	27.020735	36.2	true
NEtFOSAA_1	584.0 / 419.0	3.75	1021.65	16.343762	34.6	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	1.86	58175.69	194.114604	10.1	true
PFHxA_2	313.0 / 119.0	1.86	5772.34	252.567624	10.9	true
PFHpA_1	363.0 / 319.0	2.27	14024.10	64.637402	13.5	true
PFHpA_2	363.0 / 169.0	2.26	438.81	0.661781	14.2	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.68	71455.70	190.733334	108.2	true
PFOA_2	413.0 / 169.0	2.67	4243.43	147.915534	55.7	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	2806346.35	5650.434650	867.8	false
PFBS_2	298.9 / 99.0	1.54	840146.00	5877.569426	1019.2	false
PFHxA_1	313.0 / 269.0	1.86	2155803.53	6673.884087	99.1	false
PFHxA_2	313.0 / 119.0	1.86	165202.32	6897.646188	96.2	false
PFHpA_1	363.0 / 319.0	2.27	2011683.18	6122.634549	288.3	false
PFHpA_2	363.0 / 169.0	2.27	43639.76	6229.332612	276.5	false
PFHxS_1	399.0 / 80.0	2.29	2711832.14	6603.771119	420.9	false
PFHxS_2	399.0 / 99.0	2.29	796673.93	6803.827959	999.6	false
PFOA_1	413.0 / 369.0	2.67	2592188.94	6448.729980	939.9	false
PFOA_2	413.0 / 169.0	2.67	182249.79	6394.181521	697.9	false
PFNA_1	463.0 / 419.0	3.07	2345422.16	5897.455783	872.6	true
PFNA_2	463.0 / 219.0	3.07	722307.46	6000.954759	639.2	false
PFOS_1	499.0 / 80.0	3.07	3706851.99	6276.118351	356.3	true
PFOS_2	499.0 / 99.0	3.07	654808.58	6372.955976	871.2	false
PFDA_1	513.0 / 469.0	3.42	2611713.80	6182.822410	772.4	true
PFDA_2	513.0 / 219.0	3.42	115133.31	5899.322633	265.0	false
PFUnA_1	563.0 / 519.0	3.74	2482977.23	6075.290371	571.8	false
PFUnA_2	563.0 / 269.0	3.74	133661.57	5994.709044	372.1	false
PFDoA_1	613.0 / 569.0	4.03	2214984.60	6046.056388	781.4	false
PFDoA_2	613.0 / 319.0	4.03	356209.27	6118.030859	651.5	false
PFTrDA_1	663.0 / 619.0	4.27	1983023.23	6701.064947	997.0	false
PFTrDA_2	663.0 / 169.0	4.27	126975.18	6502.257164	601.3	false
PFTeDA_1	713.0 / 669.0	4.48	2080130.38	6482.924856	1397.3	false
PFTeDA_2	713.0 / 169.0	4.48	103405.31	6500.814489	1021.6	false
NMeFOSAA_1	570.0 / 419.0	3.58	355606.33	7762.628323	865.9	true
NMeFOSAA_2	570.0 / 512.0	3.58	188037.24	7385.544129	694.3	false
NEtFOSAA_1	584.0 / 419.0	3.74	333251.15	5708.088768	973.1	false
NEtFOSAA_2	584.0 / 483.0	3.74	19043.58	5438.245095	391.5	false

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	472150.13	2465.179310	54.2	false
PFBS_2	298.9 / 99.0	1.54	83219.41	1505.840024	56.9	false
PFHxA_1	313.0 / 269.0	1.85	4321154.85	20340.166142	74.8	false
PFHxA_2	313.0 / 119.0	1.85	317663.51	20177.552775	134.3	false
PFHpA_1	363.0 / 319.0	2.26	348910.51	1474.564186	33.4	false
PFHpA_2	363.0 / 169.0	2.24	8332.82	1586.103507	47.3	false
PFHxS_1	399.0 / 80.0	2.28	9225415.61	27229.049610	320.1	false
PFHxS_2	399.0 / 99.0	2.28	2504261.30	25910.023692	918.1	false
PFOA_1	413.0 / 369.0	2.67	3748443.09	12810.758224	264.7	false
PFOA_2	413.0 / 169.0	2.66	318369.19	15361.987474	395.7	false
PFNA_1	463.0 / 419.0	3.06	60068.92	222.650135	57.7	true
PFNA_2	463.0 / 219.0	3.06	20818.29	236.956801	68.6	false
PFOS_1	499.0 / 80.0	2.97	1147171.96	2636.369955	103.7	false
PFOS_2	499.0 / 99.0	3.06	147572.15	1937.404505	160.0	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.02	6857.52	16.883018	54.3	false
PFDoA_2	613.0 / 319.0	4.02	1036.38	10.537842	28.4	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	1.86	80998.37	251.072856	11.7	false
PFHxA_2	313.0 / 119.0	1.86	5606.19	229.760101	10.6	false
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.29	6368.95	4.143602	13.6	false
PFHxS_2	399.0 / 99.0	2.29	1821.84	7.842894	15.4	false
PFOA_1	413.0 / 369.0	2.67	81210.44	200.656472	99.9	false
PFOA_2	413.0 / 169.0	2.67	6273.73	205.810882	85.9	false
PFNA_1	463.0 / 419.0	3.06	21906.93	80.402871	56.1	true
PFNA_2	463.0 / 219.0	3.07	7900.51	76.255969	53.5	false
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.42	5315.32	20.562093	28.2	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.02	16264.58	42.928376	97.6	false
PFDoA_2	613.0 / 319.0	4.02	1950.50	25.283518	39.8	false
PFTrDA_1	663.0 / 619.0	4.26	26133.82	79.871907	179.5	false
PFTrDA_2	663.0 / 169.0	4.26	1842.81	79.577313	70.6	false
PFTeDA_1	713.0 / 669.0	4.48	29610.42	82.903758	197.2	false
PFTeDA_2	713.0 / 169.0	4.47	1315.00	60.056491	129.9	false
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	1496138.91	6942.628715	160.1	false
PFBS_2	298.9 / 99.0	1.54	432004.55	6969.463714	186.0	false
PFHxA_1	313.0 / 269.0	1.85	1360324.64	6113.656292	49.1	false
PFHxA_2	313.0 / 119.0	1.85	90621.43	5492.699448	60.2	false
PFHpA_1	363.0 / 319.0	2.26	541532.95	1922.524499	58.6	false
PFHpA_2	363.0 / 169.0	2.26	12666.53	2050.290272	83.3	false
PFHxS_1	399.0 / 80.0	2.28	21582118.05	59733.137291	685.3	false
PFHxS_2	399.0 / 99.0	2.28	6234158.43	60480.518004	1435.7	false
PFOA_1	413.0 / 369.0	2.67	1852256.52	5337.248751	226.7	false
PFOA_2	413.0 / 169.0	2.66	105614.35	4288.501058	284.1	false
PFNA_1	463.0 / 419.0	3.06	113525.17	355.809577	76.5	true
PFNA_2	463.0 / 219.0	3.06	36255.18	359.954127	108.0	false
PFOS_1	499.0 / 80.0	2.94	9072468.35	18571.479981	356.8	false
PFOS_2	499.0 / 99.0	3.04	1208828.70	14251.418634	378.3	false
PFDA_1	513.0 / 469.0	3.42	15588.80	50.227845	24.6	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.28	4867730.85	11835.891946	707.9	false
PFHxS_2	399.0 / 99.0	2.28	1354733.94	11549.021567	1126.6	false
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	468814.52	2341.302538	73.6	false
PFBS_2	298.9 / 99.0	1.53	92514.90	1600.158101	64.9	false
PFHxA_1	313.0 / 269.0	1.85	785737.99	3618.845861	28.2	false
PFHxA_2	313.0 / 119.0	1.85	53931.06	3347.909175	41.6	false
PFHpA_1	363.0 / 319.0	2.26	403685.63	1743.007320	41.6	false
PFHpA_2	363.0 / 169.0	2.24	9653.77	1893.552919	76.4	false
PFHxS_1	399.0 / 80.0	2.28	6943451.02	23413.011529	488.4	false
PFHxS_2	399.0 / 99.0	2.28	1949248.20	23041.136079	1024.9	false
PFOA_1	413.0 / 369.0	2.67	1668470.16	5840.403228	202.4	false
PFOA_2	413.0 / 169.0	2.64	162296.48	8013.643834	302.8	false
PFNA_1	463.0 / 419.0	3.06	157628.43	563.099807	93.8	true
PFNA_2	463.0 / 219.0	3.06	54150.01	622.389191	148.2	false
PFOS_1	499.0 / 80.0	2.95	3490755.18	8451.164011	197.4	false
PFOS_2	499.0 / 99.0	3.05	465096.12	6474.904350	277.0	true
PFDA_1	513.0 / 469.0	3.42	12974.10	47.477085	24.1	true
PFDA_2	513.0 / 219.0	3.41	732.63	59.989256	13.3	false
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	89495.10	248.138915	887.1	false
d3-MeFOSAA	573.0 / 419.0	3.57	12518.41	242.702475	133.3	false
d5-EtFOSAA	589.0 / 419.0	3.74	12517.22	259.554800	148.2	false
13C5-PFHxA	318.0 / 273.0	1.85	82527.89	257.481014	498.5	false
13C4-PFHpA	367.0 / 322.0	2.26	95632.81	257.001965	637.4	false
13C8-PFOA	421.0 / 376.0	2.67	101002.49	250.237974	1050.7	false
13C9-PFNA	472.0 / 427.0	3.06	104375.52	267.697941	634.2	false
13C6-PFDA	519.0 / 474.0	3.42	100184.53	266.071714	1079.9	false
13C7-PFUnA	570.0 / 525.0	3.74	94156.93	278.770016	559.9	false
13C2-PFTeDA	715.0 / 670.0	4.49	76984.28	255.668579	1443.8	false
13C3-PFBS	302.0 / 99.0	1.53	34737.09	229.010006	367.8	false
13C3-PFHxS	402.0 / 99.0	2.28	29097.77	238.046441	360.4	false
13C8-PFOS	507.0 / 99.0	3.06	28088.06	227.763841	220.9	false

Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	78906.15	226.171969	614.5	false
d3-MeFOSAA	573.0 / 419.0	3.57	12432.76	262.480442	161.7	false
d5-EtFOSAA	589.0 / 419.0	3.73	14063.78	317.561553	151.6	false
13C5-PFHxA	318.0 / 273.0	1.85	73488.83	234.348173	626.5	false
13C4-PFHpA	367.0 / 322.0	2.26	85873.74	235.877043	643.8	false
13C8-PFOA	421.0 / 376.0	2.67	93893.39	237.767192	1336.8	false
13C9-PFNA	472.0 / 427.0	3.06	93200.72	244.321342	1135.4	false
13C6-PFDA	519.0 / 474.0	3.41	94111.86	258.389403	821.5	false
13C7-PFUnA	570.0 / 525.0	3.73	86004.60	263.237516	429.7	false
13C2-PFTeDA	715.0 / 670.0	4.48	60195.58	206.667505	1093.0	false
13C3-PFBS	302.0 / 99.0	1.53	32464.43	233.063046	453.6	false
13C3-PFHxS	402.0 / 99.0	2.28	27780.31	247.482038	287.9	false
13C8-PFOS	507.0 / 99.0	3.05	26852.70	237.113155	177.5	false

Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	101648.21	247.498855	804.3	false
d3-MeFOSAA	573.0 / 419.0	3.57	12331.87	247.346958	78.5	false
d5-EtFOSAA	589.0 / 419.0	3.73	14311.59	307.016591	164.1	false
13C5-PFHxA	318.0 / 273.0	1.85	76655.33	223.164842	589.1	false
13C4-PFHpA	367.0 / 322.0	2.25	95108.75	238.500328	709.3	false
13C8-PFOA	421.0 / 376.0	2.66	98518.99	227.761352	1293.9	false
13C9-PFNA	472.0 / 427.0	3.05	97588.93	233.553237	926.3	false
13C6-PFDA	519.0 / 474.0	3.41	100574.43	234.565117	649.8	false
13C7-PFUnA	570.0 / 525.0	3.73	93320.73	242.632918	502.6	false
13C2-PFTeDA	715.0 / 670.0	4.48	74892.13	218.418418	854.0	false
13C3-PFBS	302.0 / 99.0	1.53	39582.96	269.974018	556.4	false
13C3-PFHxS	402.0 / 99.0	2.28	27817.97	235.439967	289.6	false
13C8-PFOS	507.0 / 99.0	3.05	29273.73	245.580478	178.1	false

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	76043.14	227.037383	786.6	false
d3-MeFOSAA	573.0 / 419.0	3.57	9916.33	247.981116	89.1	false
d5-EtFOSAA	589.0 / 419.0	3.73	9915.42	265.200881	109.1	false
13C5-PFHxA	318.0 / 273.0	1.84	50382.02	217.356717	95.2	false
13C4-PFHpA	367.0 / 322.0	2.25	67685.35	251.522745	296.4	false
13C8-PFOA	421.0 / 376.0	2.66	71689.98	245.602405	413.2	false
13C9-PFNA	472.0 / 427.0	3.05	74032.25	262.555035	312.2	false
13C6-PFDA	519.0 / 474.0	3.40	84102.68	240.519072	406.9	false
13C7-PFUnA	570.0 / 525.0	3.73	79902.87	254.740400	474.9	false
13C2-PFTeDA	715.0 / 670.0	4.48	49225.09	176.036809	939.5	false
13C3-PFBS	302.0 / 99.0	1.52	15341.55	130.458690	161.5	false
13C3-PFHxS	402.0 / 99.0	2.27	23200.00	244.811994	213.0	false
13C8-PFOS	507.0 / 99.0	3.05	21220.36	221.951668	111.7	false

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	88431.41	233.553735	882.8	false
d3-MeFOSAA	573.0 / 419.0	3.56	9268.32	194.609124	139.4	false
d5-EtFOSAA	589.0 / 419.0	3.72	14460.46	324.743373	160.0	false
13C5-PFHxA	318.0 / 273.0	1.84	78496.18	251.744368	534.9	false
13C4-PFHpA	367.0 / 322.0	2.25	92560.50	255.694864	522.6	false
13C8-PFOA	421.0 / 376.0	2.66	101317.39	258.030986	1211.6	false
13C9-PFNA	472.0 / 427.0	3.05	95543.36	251.891582	933.4	false
13C6-PFDA	519.0 / 474.0	3.40	104269.22	263.778112	516.4	false
13C7-PFUnA	570.0 / 525.0	3.72	98644.20	278.195406	539.4	false
13C2-PFTeDA	715.0 / 670.0	4.47	66200.69	209.422060	1602.3	false
13C3-PFBS	302.0 / 99.0	1.52	41449.20	295.947262	423.5	false
13C3-PFHxS	402.0 / 99.0	2.27	28767.62	254.884221	189.6	false
13C8-PFOS	507.0 / 99.0	3.05	28800.44	252.929384	261.3	false

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	83222.95	226.940593	610.9	false
d3-MeFOSAA	573.0 / 419.0	3.57	11195.53	265.812858	107.1	false
d5-EtFOSAA	589.0 / 419.0	3.73	9014.37	228.909141	87.6	false
13C5-PFHxA	318.0 / 273.0	1.84	52807.04	176.130105	120.8	false
13C4-PFHpA	367.0 / 322.0	2.25	72759.61	209.034144	379.8	false
13C8-PFOA	421.0 / 376.0	2.66	85069.14	225.315206	389.8	false
13C9-PFNA	472.0 / 427.0	3.05	83702.08	229.498568	321.8	false
13C6-PFDA	519.0 / 474.0	3.41	88701.80	231.688194	492.0	false
13C7-PFUnA	570.0 / 525.0	3.72	85338.30	248.491310	536.3	false
13C2-PFTeDA	715.0 / 670.0	4.47	44871.08	146.559936	730.9	false
13C3-PFBS	302.0 / 99.0	1.52	17162.57	138.563799	246.0	false
13C3-PFHxS	402.0 / 99.0	2.28	24434.85	244.803757	194.4	false
13C8-PFOS	507.0 / 99.0	3.05	23991.91	238.250706	137.9	false

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	85329.49	231.359167	886.4	false
d3-MeFOSAA	573.0 / 419.0	3.56	10733.51	226.381331	139.3	false
d5-EtFOSAA	589.0 / 419.0	3.73	13560.78	305.900066	162.8	false
13C5-PFHxA	318.0 / 273.0	1.84	70543.00	230.481108	226.4	false
13C4-PFHpA	367.0 / 322.0	2.25	93191.52	262.266518	518.5	false
13C8-PFOA	421.0 / 376.0	2.66	92129.91	239.033461	894.6	false
13C9-PFNA	472.0 / 427.0	3.05	84965.89	228.206444	685.7	false
13C6-PFDA	519.0 / 474.0	3.40	96722.58	251.198956	560.5	false
13C7-PFUnA	570.0 / 525.0	3.72	86088.87	249.248597	772.6	false
13C2-PFTeDA	715.0 / 670.0	4.47	61389.03	199.369166	1307.9	false
13C3-PFBS	302.0 / 99.0	1.52	29489.65	211.497138	408.1	false
13C3-PFHxS	402.0 / 99.0	2.27	28123.35	250.289605	235.4	false
13C8-PFOS	507.0 / 99.0	3.05	25834.42	227.895399	204.5	false

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	75280.35	235.387868	642.0	false
d3-MeFOSAA	573.0 / 419.0	3.57	10872.31	276.797536	114.2	false
d5-EtFOSAA	589.0 / 419.0	3.72	12370.69	336.845274	118.3	false
13C5-PFHxA	318.0 / 273.0	1.84	51567.20	208.591880	106.4	false
13C4-PFHpA	367.0 / 322.0	2.25	74660.87	260.136889	344.5	false
13C8-PFOA	421.0 / 376.0	2.66	70021.84	224.923075	565.3	false
13C9-PFNA	472.0 / 427.0	3.05	71500.81	237.758842	347.3	false
13C6-PFDA	519.0 / 474.0	3.40	79026.08	236.687477	550.0	false
13C7-PFUnA	570.0 / 525.0	3.72	76916.62	256.815241	408.0	false
13C2-PFTeDA	715.0 / 670.0	4.47	47894.67	179.378036	1067.5	false
13C3-PFBS	302.0 / 99.0	1.52	16046.75	138.919605	191.8	false
13C3-PFHxS	402.0 / 99.0	2.27	20309.60	218.181888	160.6	false
13C8-PFOS	507.0 / 99.0	3.04	20497.38	218.261313	132.4	false

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.400	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.260	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.430	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.060	0.046	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.170	0.060	
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.060	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.580	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	

Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.100	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.040	0.046	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.060	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.530	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.069	ü

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.180	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.270	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.350	0.315	ü
PFOS_1	499.0 / 80.0	2.97	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.360	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.120	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.26	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.26	PFTTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.040	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.200	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.100	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.340	0.315	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.060	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	34737.09	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	34737.09	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	82527.89	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	82527.89	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	101002.49	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	101002.49	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	28714.19	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	28714.19	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	101002.49	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	101002.49	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	104375.52	250.00
PFNA_2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	104375.52	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	28450.87	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	28450.87	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	100184.53	250.00
PFDA_2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	100184.53	250.00
PFUnA_1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	94156.93	250.00
PFUnA_2	563.0 / 269.0	3.77	13C7-PFUnA	570.0 / 525.0	94156.93	250.00
PFDoA_1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	89495.10	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	89495.10	250.00
PFTeDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	76984.28	250.00
PFTeDA_2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	76984.28	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	76984.28	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	76984.28	250.00
NMeFOSAA_1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	12623.98	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	12623.98	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	12700.33	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	12700.33	250.00

Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	32464.43	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	32464.43	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	73488.83	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	73488.83	250.00
PFHpA_1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	93893.39	250.00
PFHpA_2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	93893.39	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	27109.29	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	27109.29	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	93893.39	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	93893.39	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	93200.72	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	93200.72	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	27490.05	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	27490.05	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	94111.86	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	94111.86	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	86004.60	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	86004.60	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	78906.15	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	78906.15	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	60195.58	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	60195.58	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	60195.58	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	60195.58	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13227.14	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13227.14	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14050.89	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14050.89	250.00

Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	39582.96	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	39582.96	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	76655.33	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	76655.33	250.00
PFHpA_1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	98518.99	250.00
PFHpA_2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	98518.99	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	27522.53	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	27522.53	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	98518.99	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	98518.99	250.00
PFNA_1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	97588.93	250.00
PFNA_2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	97588.93	250.00
PFOS_1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	29686.38	239.25
PFOS_2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	29686.38	239.25
PFDA_1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	100574.43	250.00
PFDA_2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	100574.43	250.00
PFUnA_1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	93320.73	250.00
PFUnA_2	563.0 / 269.0	3.74	13C7-PFUnA	570.0 / 525.0	93320.73	250.00
PFDoA_1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	101648.21	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	101648.21	250.00
PFTrDA_1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	74892.13	250.00
PFTrDA_2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	74892.13	250.00
PFTeDA_1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	74892.13	250.00
PFTeDA_2	713.0 / 169.0	4.48	13C2-PFTeDA	715.0 / 670.0	74892.13	250.00
NMeFOSAA_1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	12615.24	250.00
NMeFOSAA_2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	12615.24	250.00
NEtFOSAA_1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	14200.96	250.00
NEtFOSAA_2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	14200.96	250.00

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	15341.55	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	15341.55	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	50382.02	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	50382.02	250.00
PFHpA_1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	22735.98	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	22735.98	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	74032.25	250.00
PFNA_2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	74032.25	250.00
PFOS_1	499.0 / 80.0	2.97	13C8-PFOS	507.0 / 99.0	21908.54	239.25
PFOS_2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	21908.54	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	84102.68	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	84102.68	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	79902.87	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	79902.87	250.00
PFDoA_1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	76043.14	250.00
PFDoA_2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	76043.14	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10547.66	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10547.66	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10078.56	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10078.56	250.00

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	23798.90	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	23798.90	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	66236.94	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	66236.94	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	26125.40	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	26125.40	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	83596.39	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	83596.39	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	22197.82	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	22197.82	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	83615.10	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	83615.10	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	90878.44	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	90878.44	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	83323.91	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	83323.91	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10690.70	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10690.70	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10056.14	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10056.14	250.00

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	41449.20	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	41449.20	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	78496.18	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	78496.18	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	101317.39	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	101317.39	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	28415.50	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	28415.50	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	101317.39	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	101317.39	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	95543.36	250.00
PFNA_2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	95543.36	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	28740.58	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	28740.58	239.25
PFDA_1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	104269.22	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	104269.22	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	98644.20	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	98644.20	250.00
PFDoA_1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	88431.41	250.00
PFDoA_2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	88431.41	250.00
PFTrDA_1	663.0 / 619.0	4.26	13C2-PFTeDA	715.0 / 670.0	66200.69	250.00
PFTrDA_2	663.0 / 169.0	4.26	13C2-PFTeDA	715.0 / 670.0	66200.69	250.00
PFTeDA_1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	66200.69	250.00
PFTeDA_2	713.0 / 169.0	4.47	13C2-PFTeDA	715.0 / 670.0	66200.69	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9394.92	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9394.92	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13520.78	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13520.78	250.00

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	17162.57	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	17162.57	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	52807.04	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	52807.04	250.00
PFHpA_1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	85069.14	250.00
PFHpA_2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	85069.14	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	24251.21	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	24251.21	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	85069.14	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	85069.14	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	83702.08	250.00
PFNA_2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	83702.08	250.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	24533.73	239.25
PFOS_2	499.0 / 99.0	3.04	13C8-PFOS	507.0 / 99.0	24533.73	239.25
PFDA_1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	88701.80	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	88701.80	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	85338.30	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	85338.30	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	83222.95	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	83222.95	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	44871.08	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	44871.08	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	44871.08	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	44871.08	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	11344.80	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	11344.80	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	9060.50	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	9060.50	250.00

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	24999.10	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	24999.10	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	65791.70	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	65791.70	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	24869.22	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	24869.22	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	84693.52	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	84693.52	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	25454.04	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	25454.04	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	90565.89	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	90565.89	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	89037.09	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	89037.09	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	85059.44	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	85059.44	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10844.77	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10844.77	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13769.74	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13769.74	250.00

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	29489.65	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	29489.65	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	70543.00	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	70543.00	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	92129.91	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	92129.91	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	27584.16	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	27584.16	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	92129.91	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	92129.91	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	84965.89	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	84965.89	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	26202.19	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	26202.19	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	96722.58	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	96722.58	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	86088.87	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	86088.87	250.00
PFDaA_1	613.0 / 569.0	N/A	13C2-PFDaA	615.0 / 570.0	85329.49	250.00
PFDaA_2	613.0 / 319.0	N/A	13C2-PFDaA	615.0 / 570.0	85329.49	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	61389.03	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	61389.03	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	61389.03	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	61389.03	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10928.74	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10928.74	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13762.22	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13762.22	250.00

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	16046.75	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	16046.75	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	51567.20	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	51567.20	250.00
PFHpA_1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	70021.84	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	70021.84	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	19899.86	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	19899.86	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	70021.84	250.00
PFOA_2	413.0 / 169.0	2.64	13C8-PFOA	421.0 / 376.0	70021.84	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	71500.81	250.00
PFNA_2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	71500.81	250.00
PFOS_1	499.0 / 80.0	2.95	13C8-PFOS	507.0 / 99.0	20754.23	239.25
PFOS_2	499.0 / 99.0	3.05	13C8-PFOS	507.0 / 99.0	20754.23	239.25
PFDA_1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	79026.08	250.00
PFDA_2	513.0 / 219.0	3.41	13C6-PFDA	519.0 / 474.0	79026.08	250.00
PFOA_1	563.0 / 519.0	N/A	13C7-PFOA	570.0 / 525.0	76916.62	250.00
PFOA_2	563.0 / 269.0	N/A	13C7-PFOA	570.0 / 525.0	76916.62	250.00
PFOA_3	613.0 / 569.0	N/A	13C2-PFOA	615.0 / 570.0	75280.35	250.00
PFOA_4	613.0 / 319.0	N/A	13C2-PFOA	615.0 / 570.0	75280.35	250.00
PFOA_5	663.0 / 619.0	N/A	13C2-PFOA	715.0 / 670.0	47894.67	250.00
PFOA_6	663.0 / 169.0	N/A	13C2-PFOA	715.0 / 670.0	47894.67	250.00
PFOA_7	713.0 / 669.0	N/A	13C2-PFOA	715.0 / 670.0	47894.67	250.00
PFOA_8	713.0 / 169.0	N/A	13C2-PFOA	715.0 / 670.0	47894.67	250.00
MeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9791.39	250.00
MeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9791.39	250.00
EtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	12495.57	250.00
EtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	12495.57	250.00

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	22223.01	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	22223.01	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	68254.68	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	68254.68	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	25977.49	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	25977.49	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	81989.56	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	81989.56	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	25993.84	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	25993.84	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	89260.92	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	89260.92	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	91291.30	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	91291.30	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	89157.34	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	89157.34	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9905.84	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9905.84	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13298.73	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13298.73	250.00

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	91584.90	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	29901.26	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	29901.26	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	92013.28	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	92013.28	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	92013.28	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	92013.28	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	91584.90	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	91584.90	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	91584.90	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	29901.26	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	29901.26	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	29901.26	239.25

Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	88591.40	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	27459.01	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	27459.01	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	90023.26	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	90023.26	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	90023.26	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	90023.26	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	88591.40	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	88591.40	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	88591.40	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	27459.01	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	27459.01	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	27459.01	239.25

Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	104290.81	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	28902.59	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	28902.59	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	98607.86	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	98607.86	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	98607.86	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	98607.86	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	104290.81	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	104290.81	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	104290.81	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	28902.59	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	28902.59	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	28902.59	239.25

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	85051.54	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	23181.78	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	23181.78	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	66542.24	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	66542.24	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	66542.24	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	66542.24	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	85051.54	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	85051.54	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	85051.54	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	23181.78	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	23181.78	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	23181.78	239.25

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.00	13C2-PFDA	515.0 / 470.0	80677.36	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	22592.13	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C7-PFUnA	570.0 / 525.0	3.71	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C8-PFOS	507.0 / 99.0	3.04	13C4-PFOS	503.0 / 99.0	22592.13	239.25

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	96147.78	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	27609.11	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	27609.11	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	89512.51	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	89512.51	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	89512.51	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	89512.51	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	96147.78	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	96147.78	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	96147.78	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	27609.11	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	27609.11	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	27609.11	239.25

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	93121.60	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	24416.48	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	24416.48	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	86070.27	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	86070.27	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	86070.27	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	86070.27	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	93121.60	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	93121.60	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	93121.60	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24416.48	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	24416.48	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	24416.48	239.25

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	89851.83	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	24874.67	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	24874.67	239.25

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	93655.21	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	27486.26	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	27486.26	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	87864.53	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	87864.53	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	87864.53	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	87864.53	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	93655.21	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	93655.21	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	93655.21	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	27486.26	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	27486.26	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	27486.26	239.25

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	81211.41	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	22770.58	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	22770.58	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	70969.40	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	70969.40	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	70969.40	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	70969.40	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	81211.41	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	81211.41	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	81211.41	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22770.58	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	22770.58	239.25
13C8-PFOS	507.0 / 99.0	3.04	13C4-PFOS	503.0 / 99.0	22770.58	239.25

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

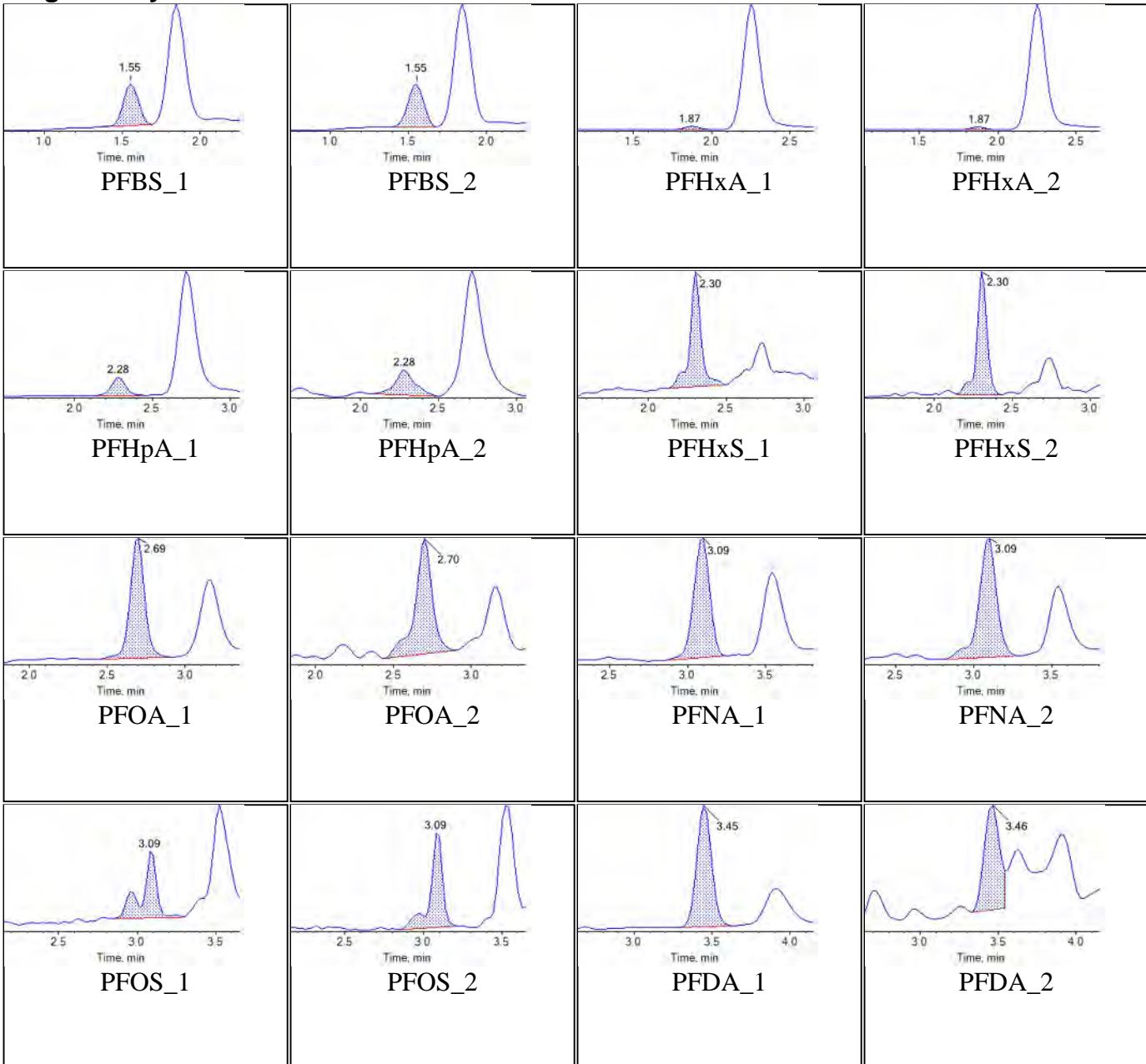
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	83122.19	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	22517.41	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	22517.41	239.25

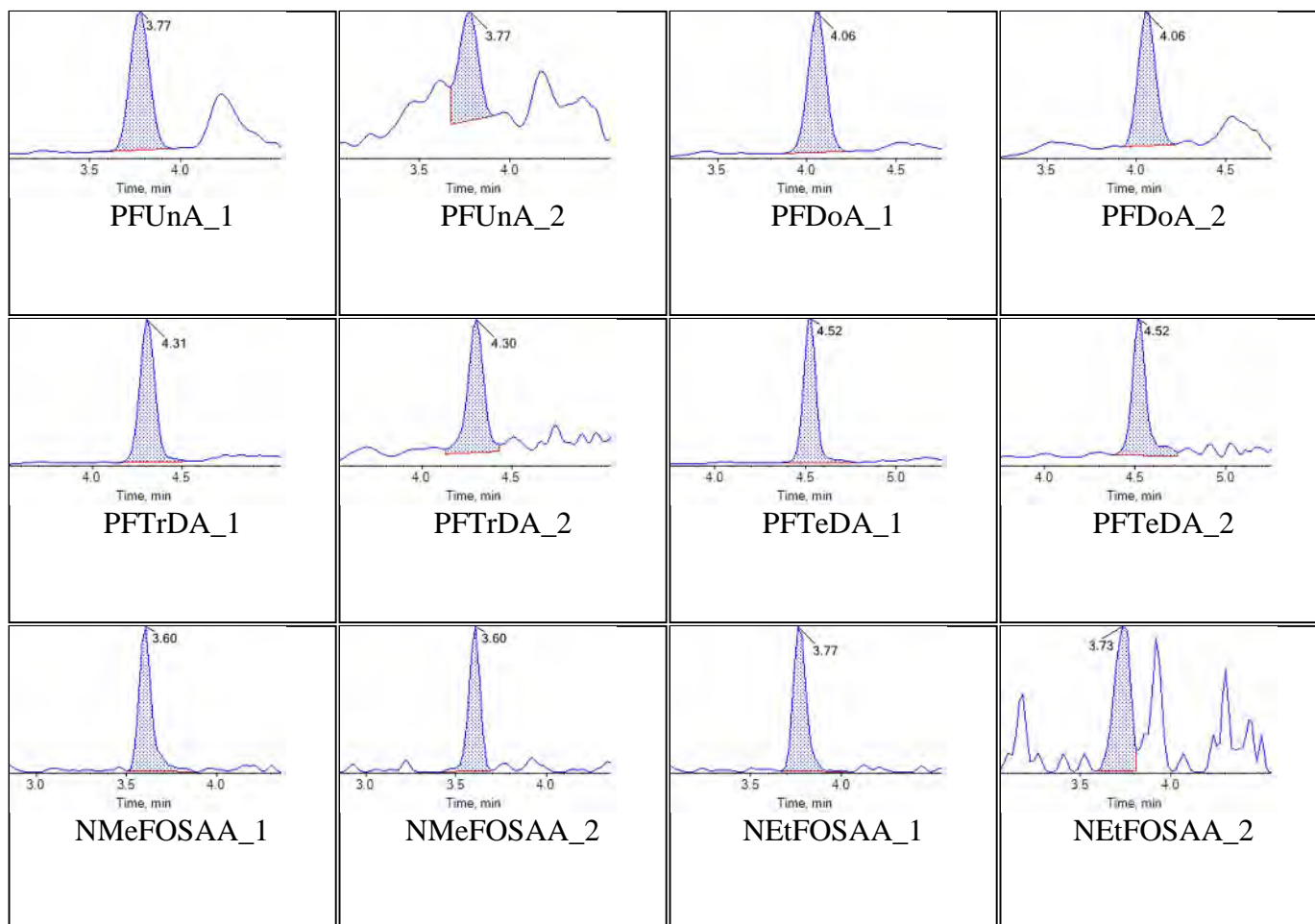
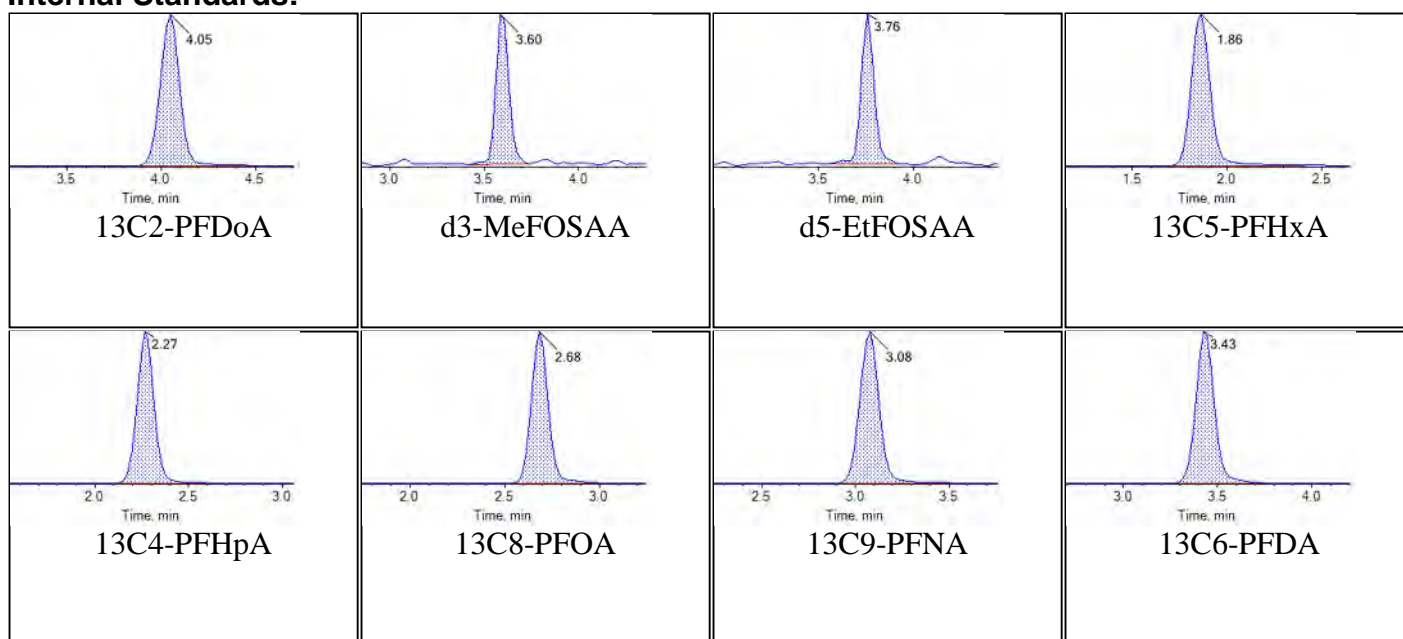
Chromatograms

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

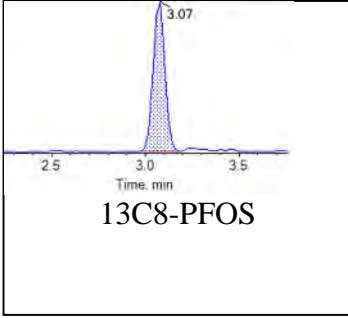
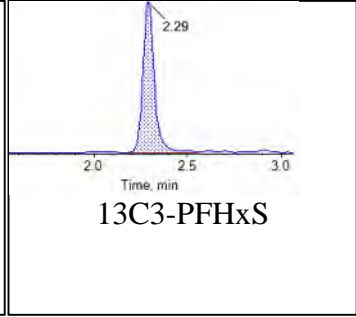
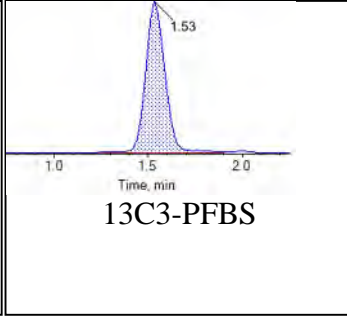
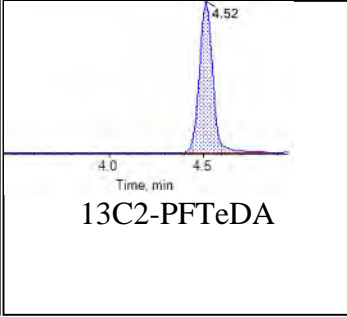
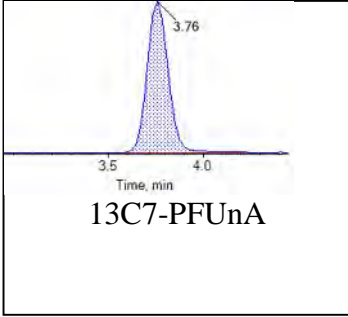
Target Analytes:



**Internal Standards:**

Chromatogram Report

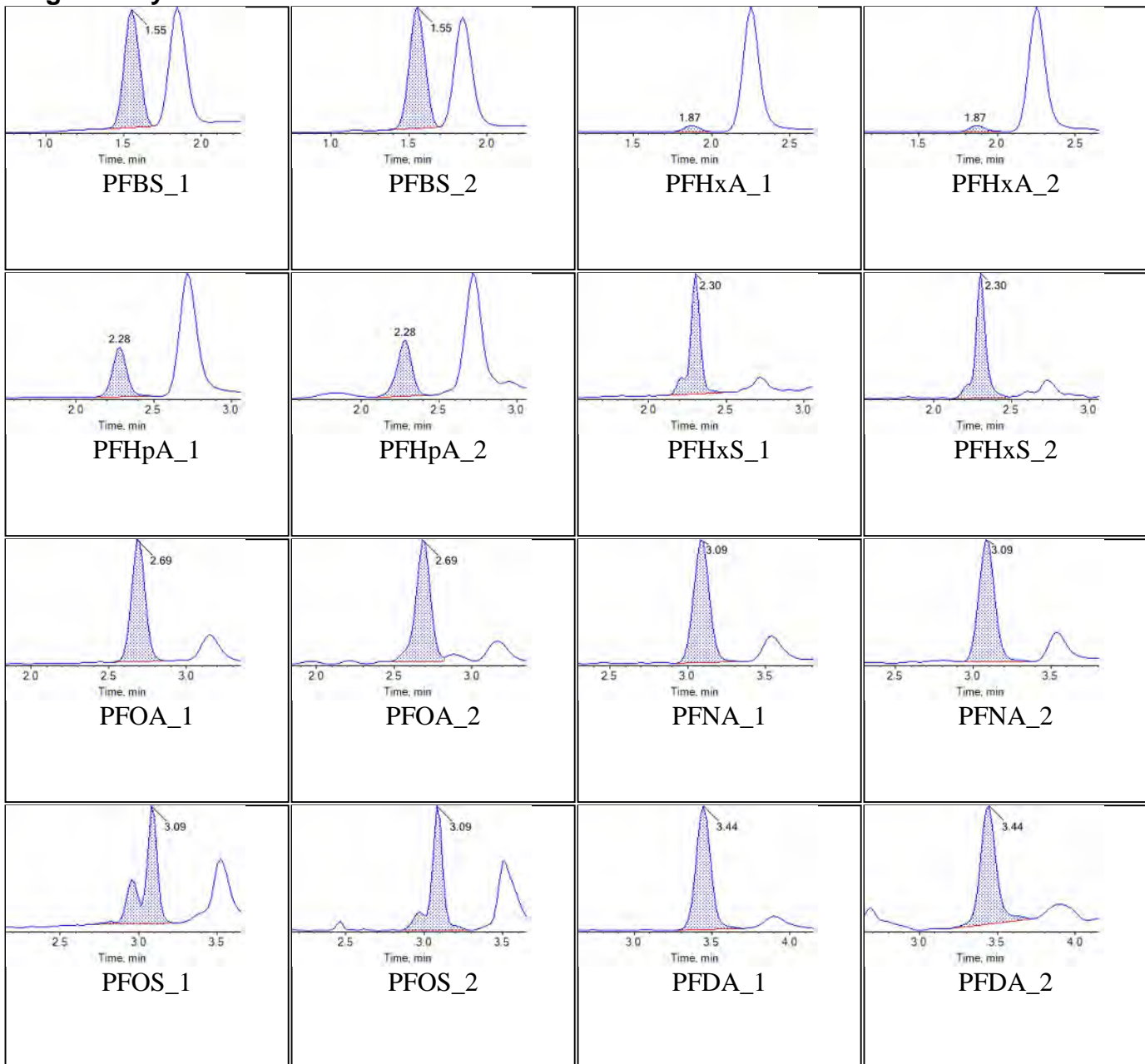
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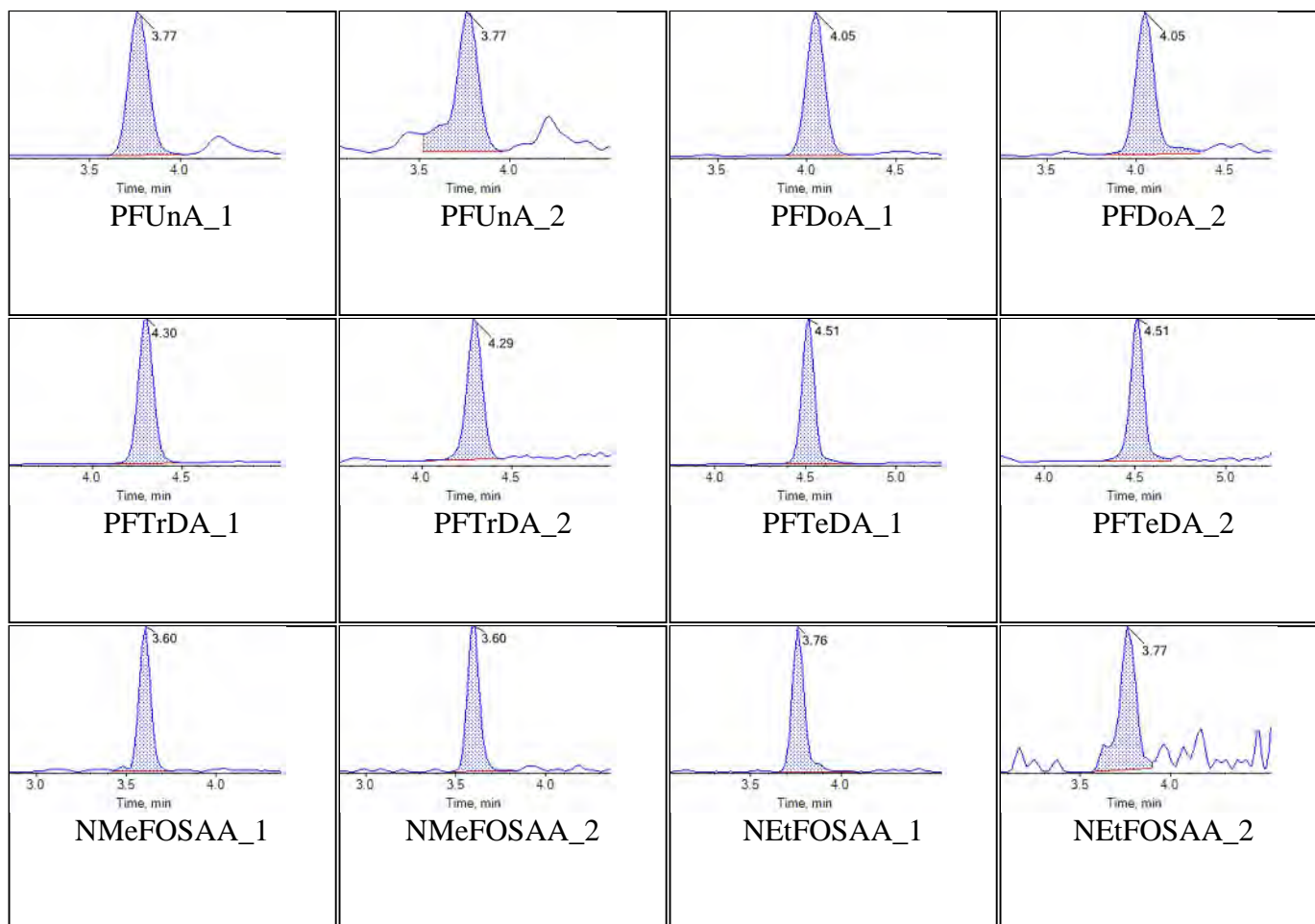
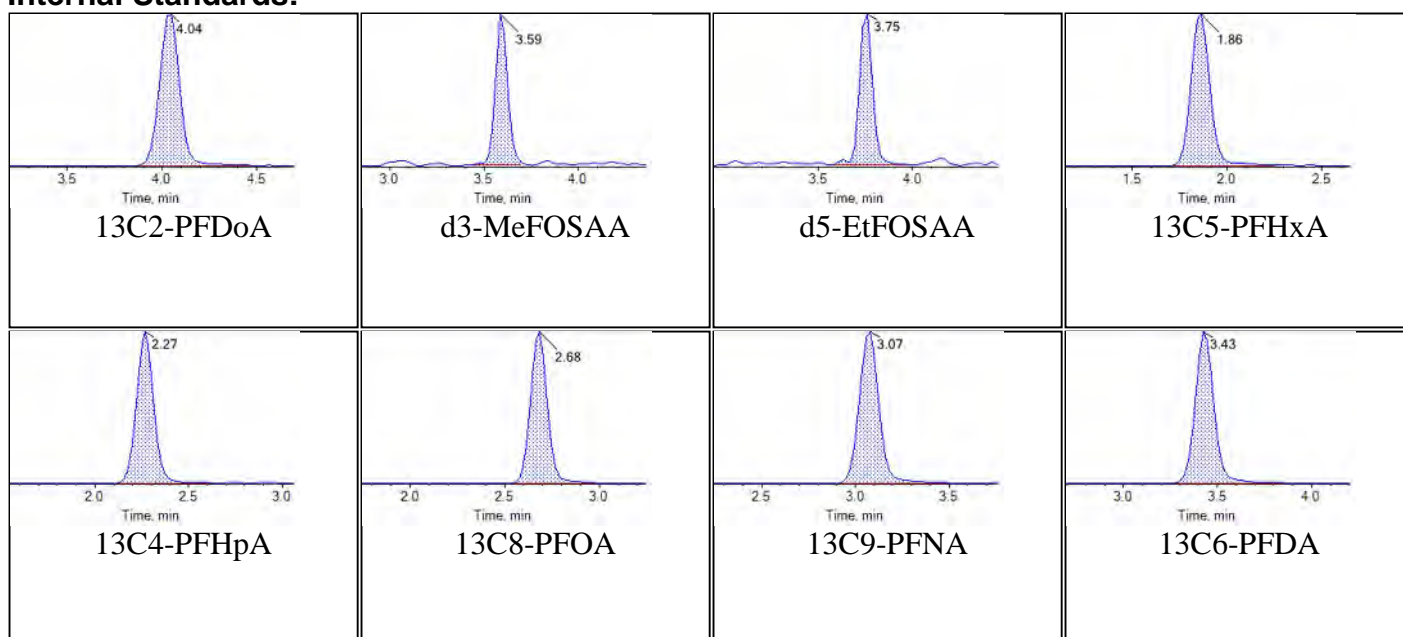


Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

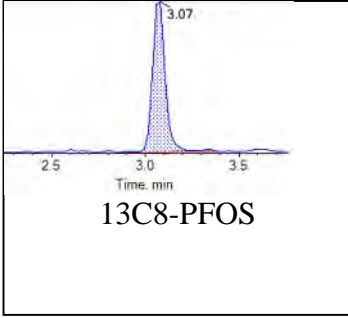
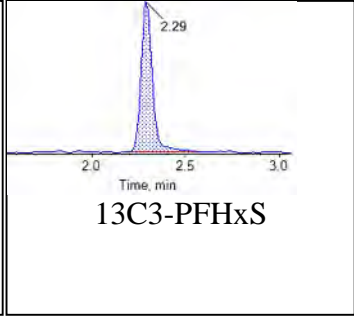
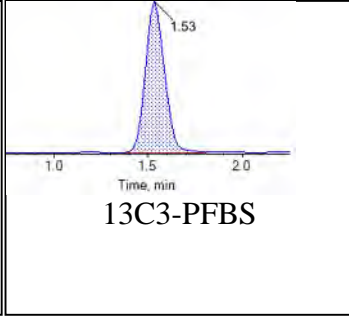
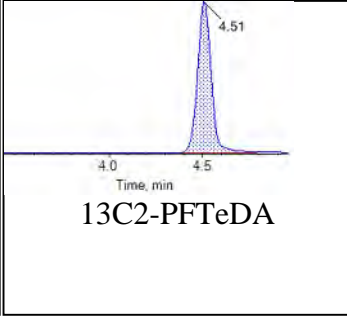
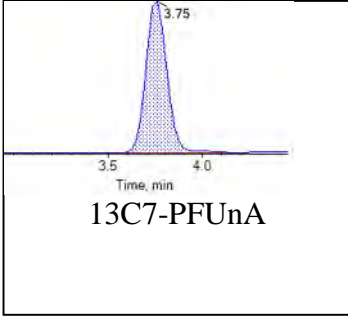


**Internal Standards:**



Chromatogram Report

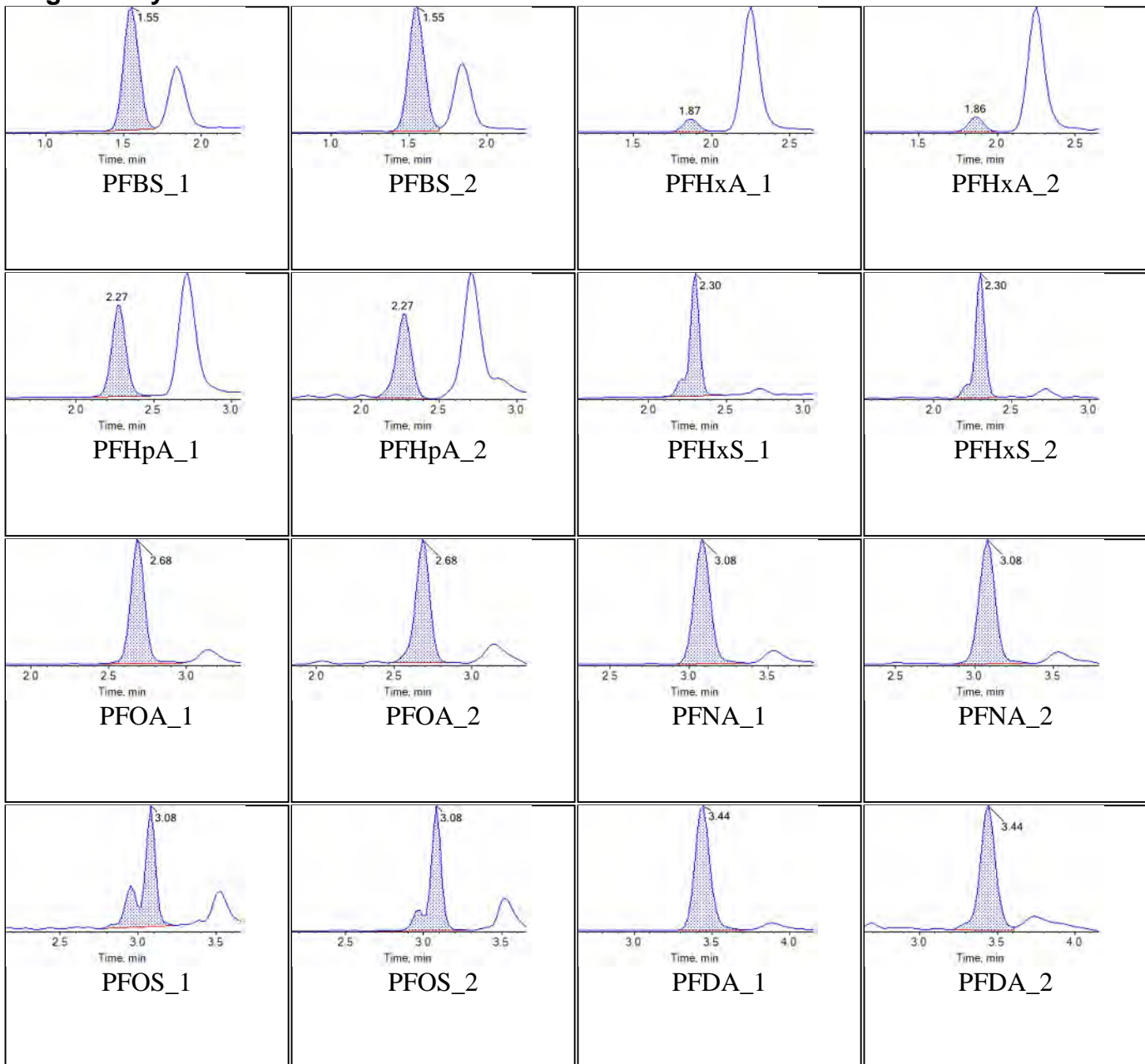
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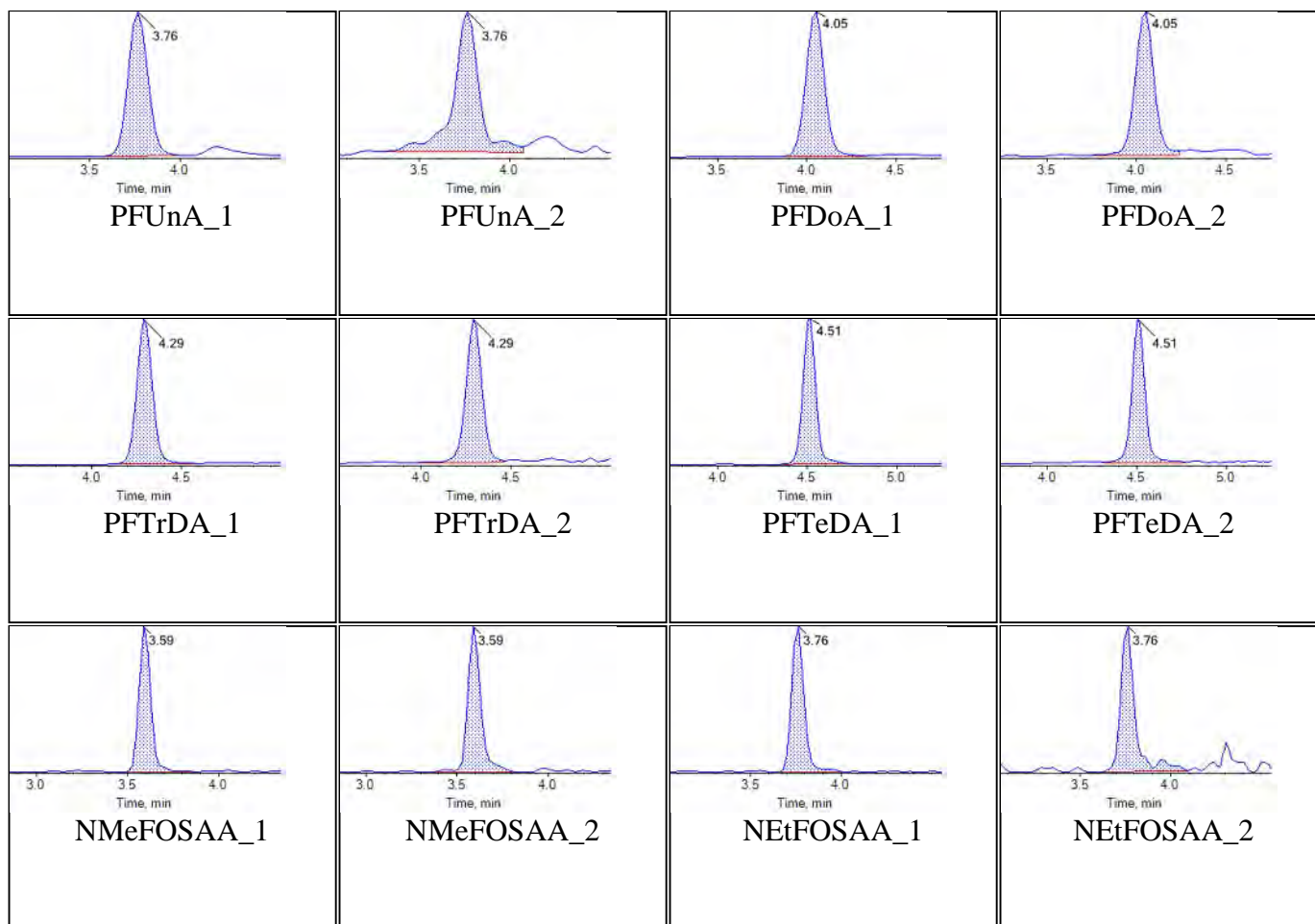
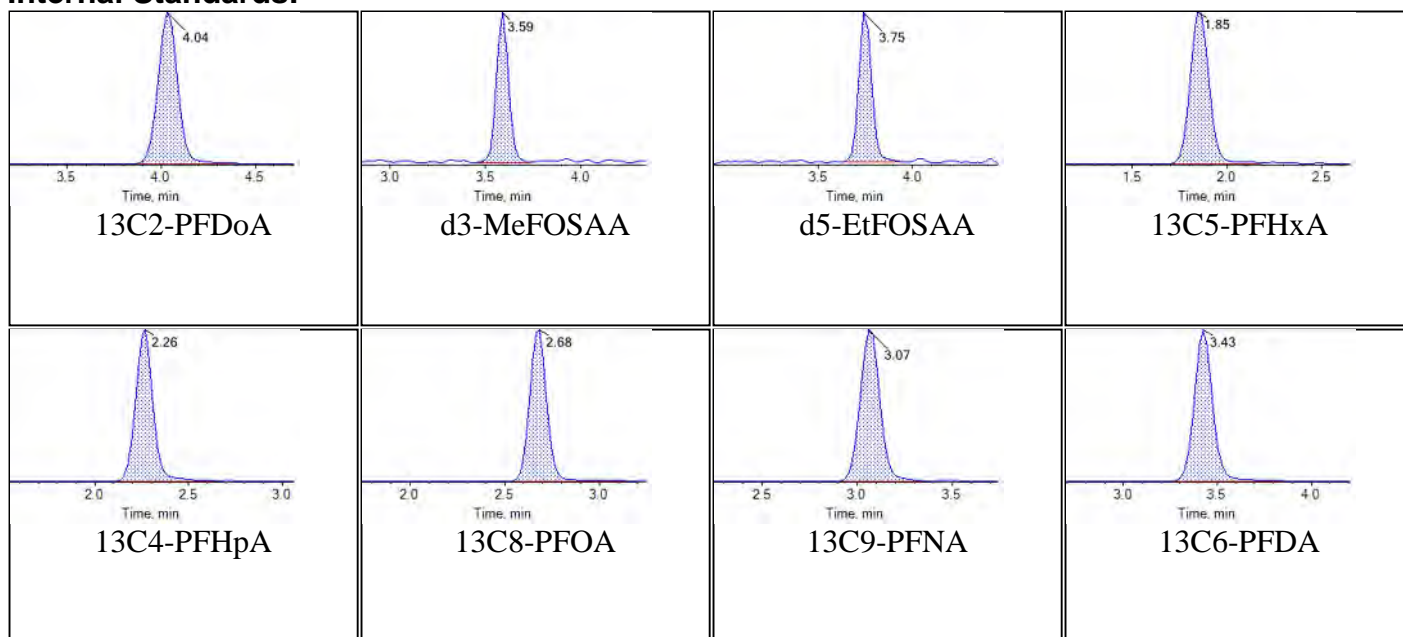


Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

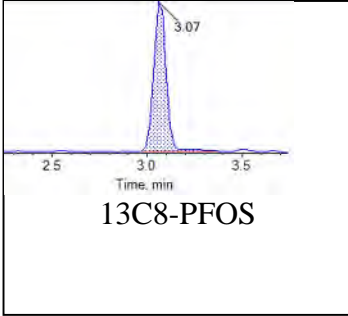
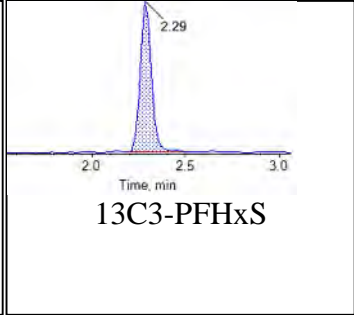
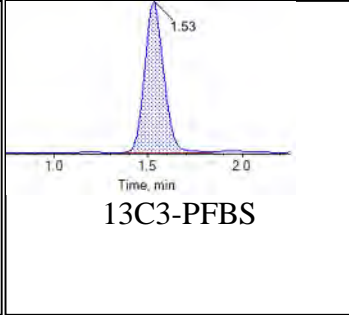
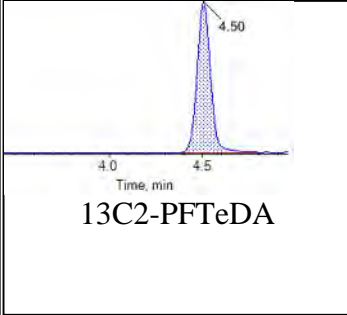
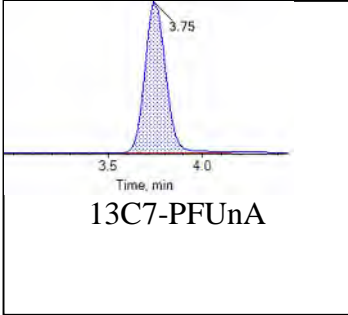


**Internal Standards:**



Chromatogram Report

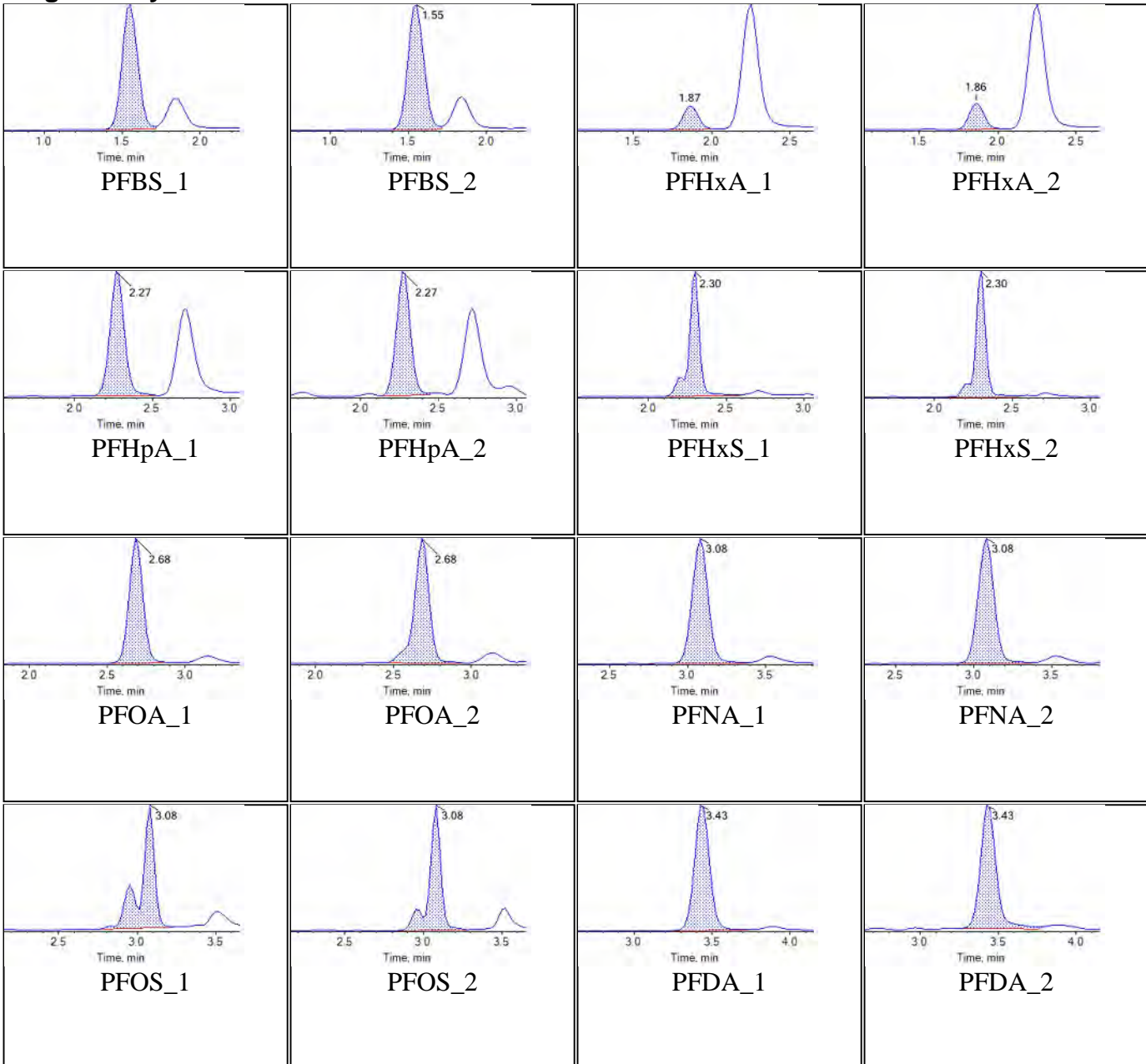
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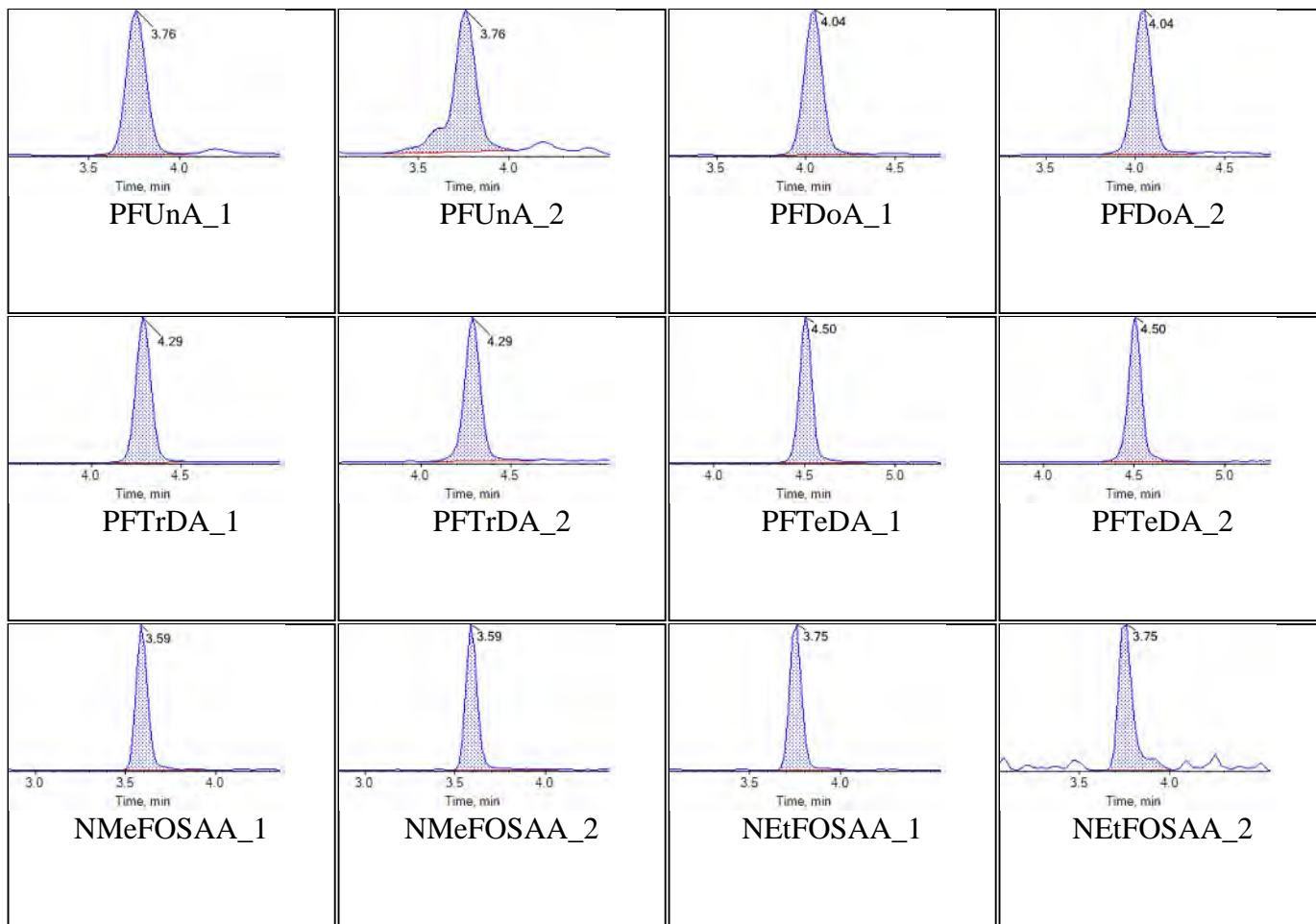
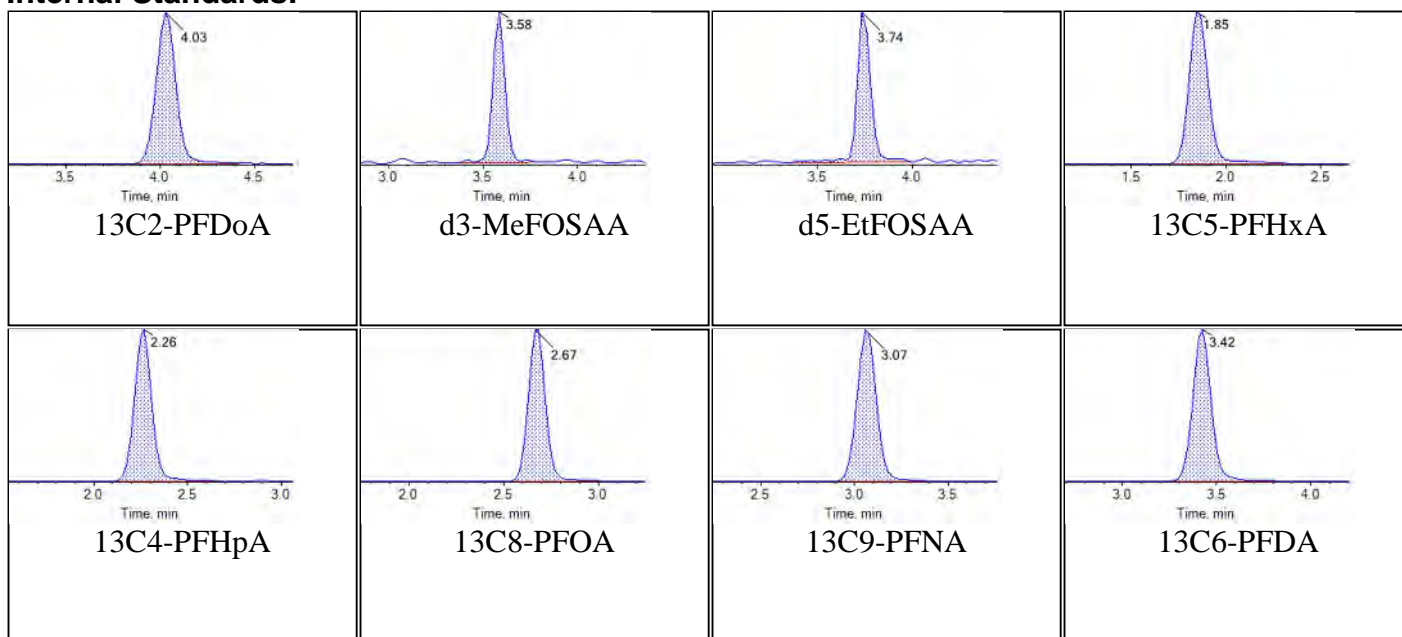


Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

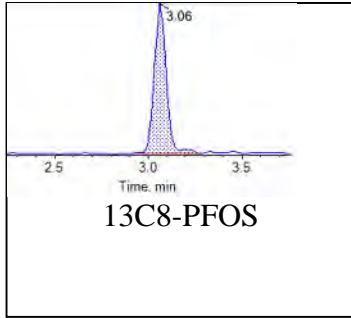
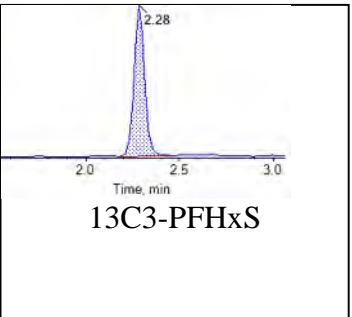
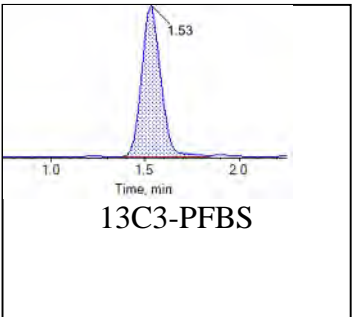
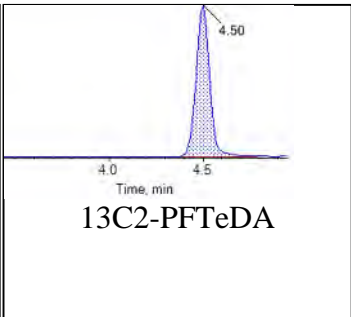
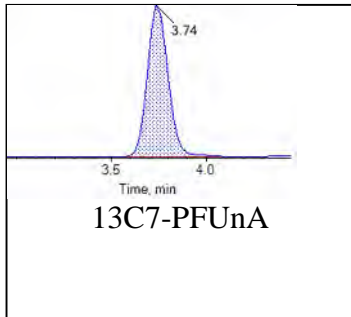


**Internal Standards:**



Chromatogram Report

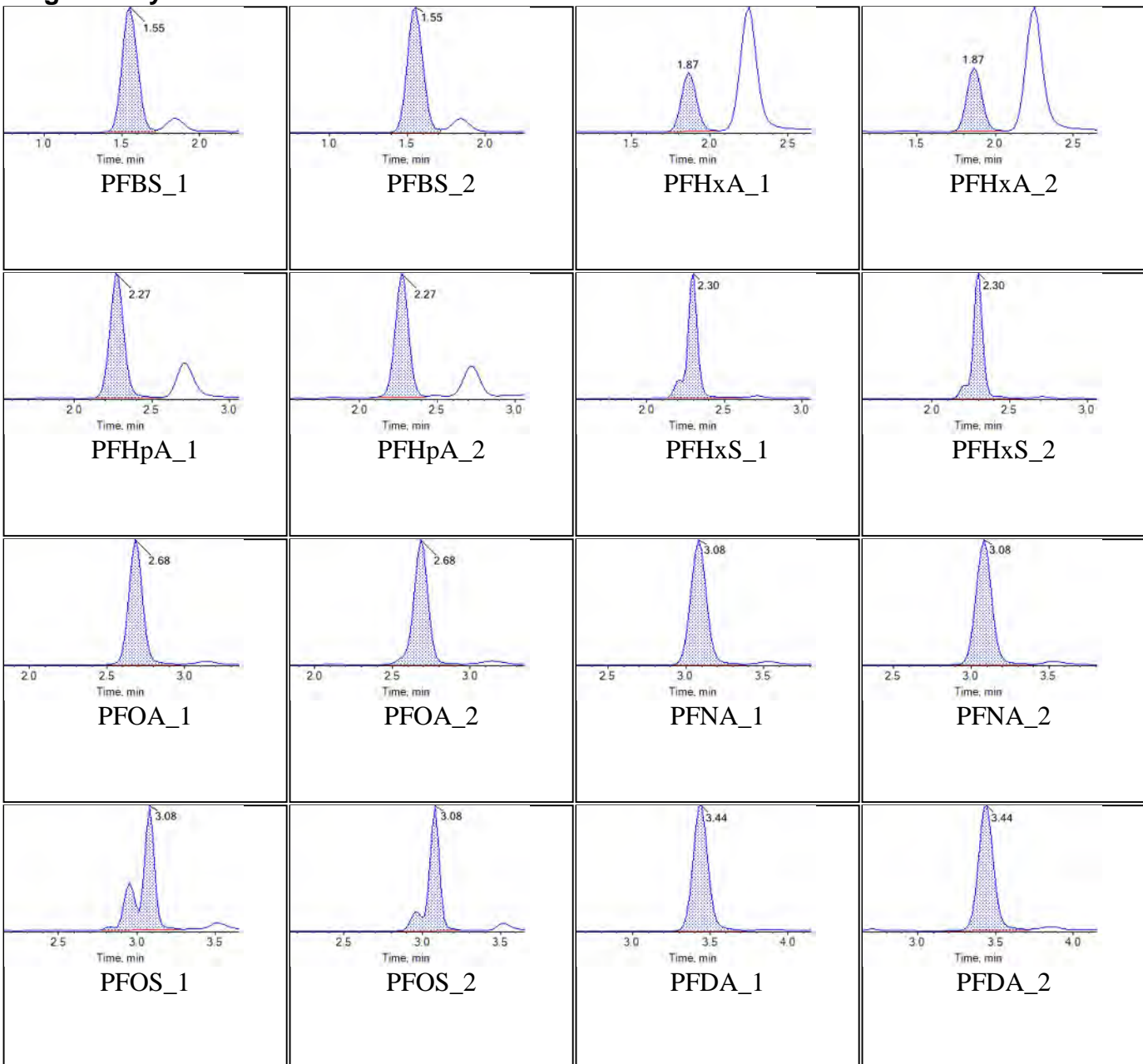
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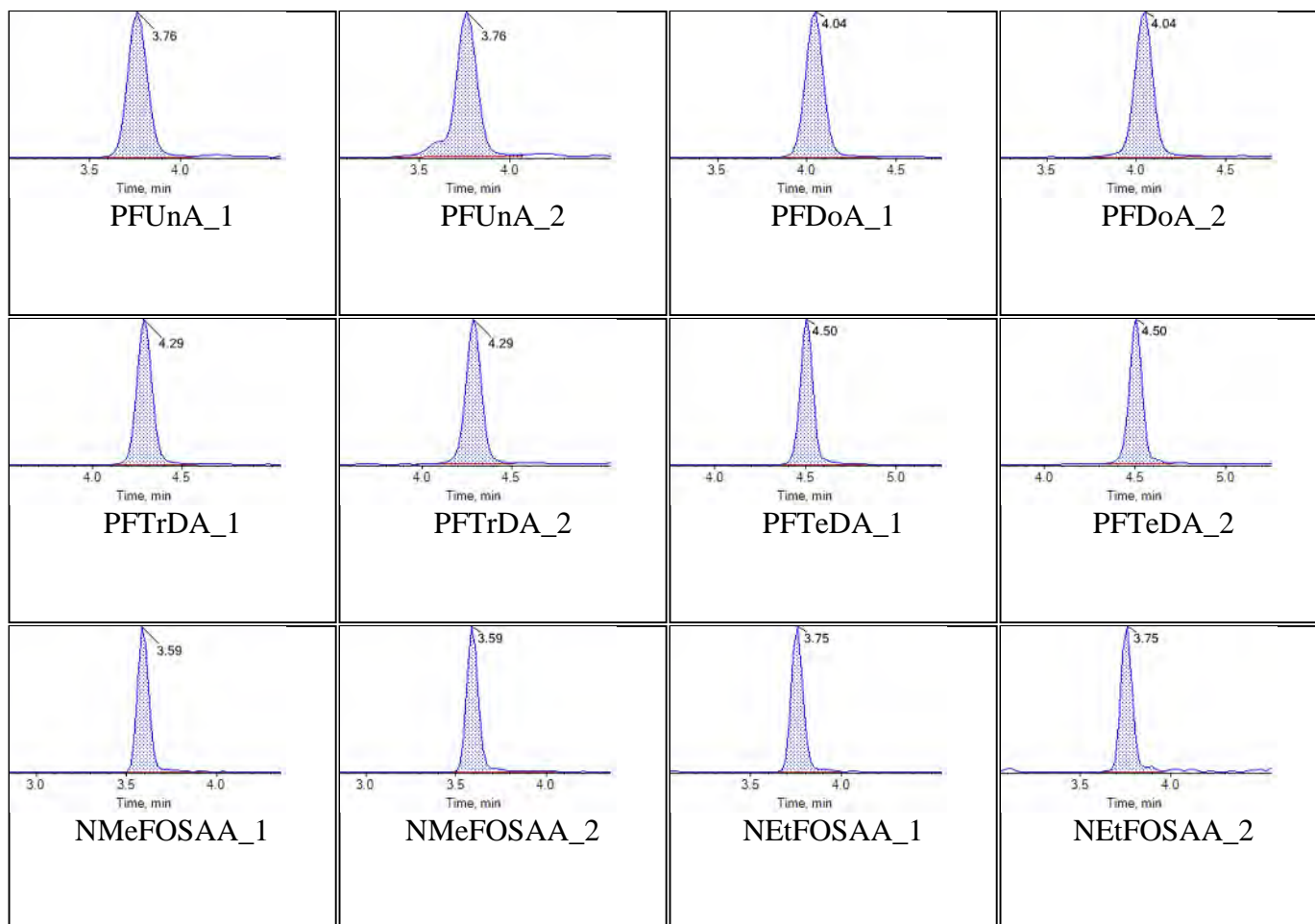
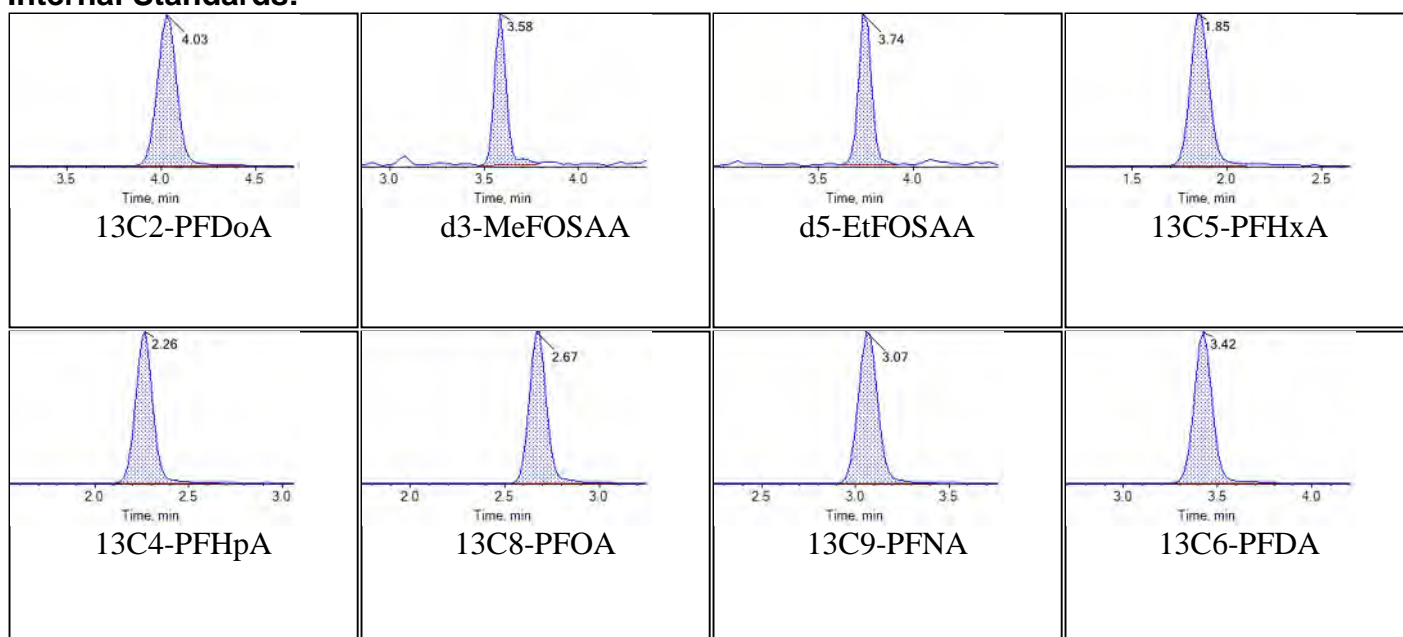


Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

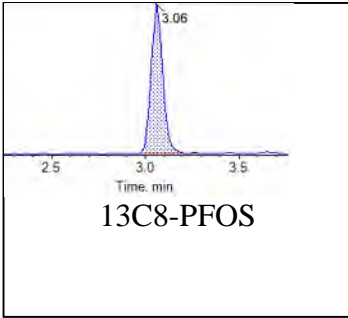
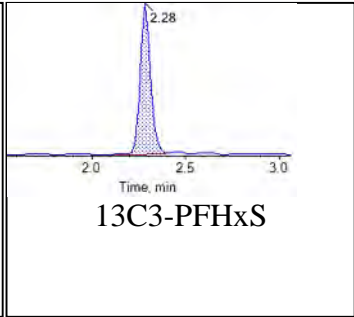
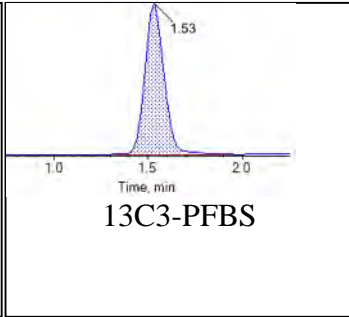
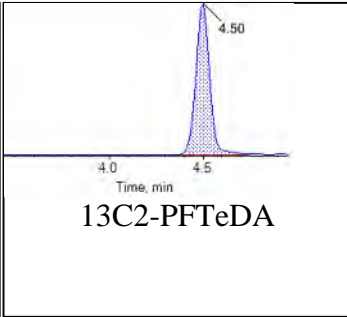
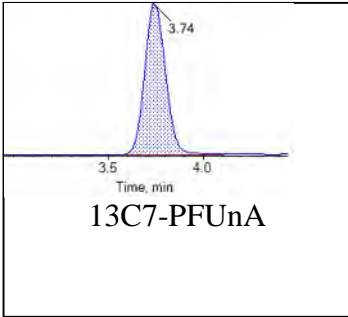
Target Analytes:



**Internal Standards:**

Chromatogram Report

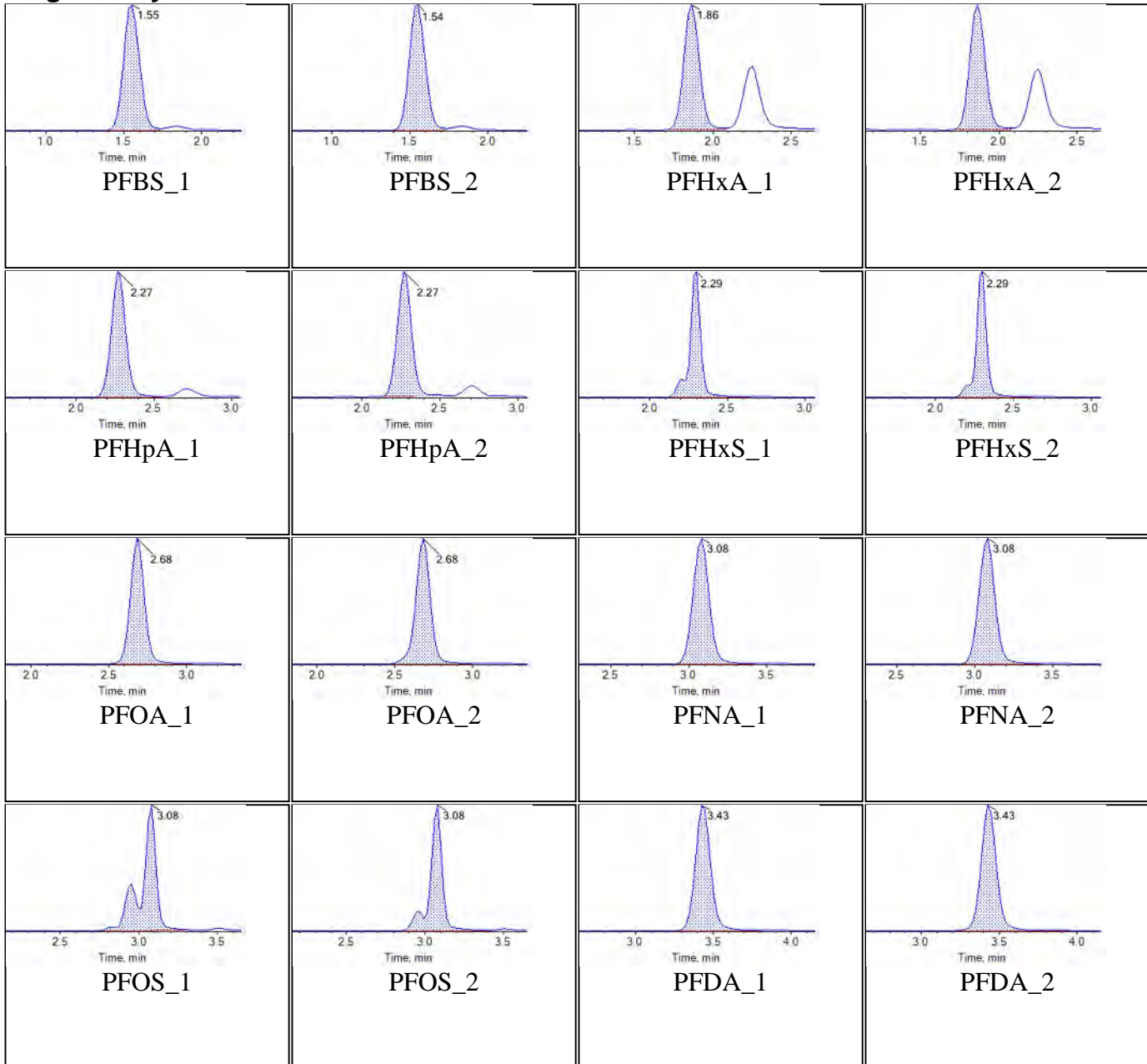
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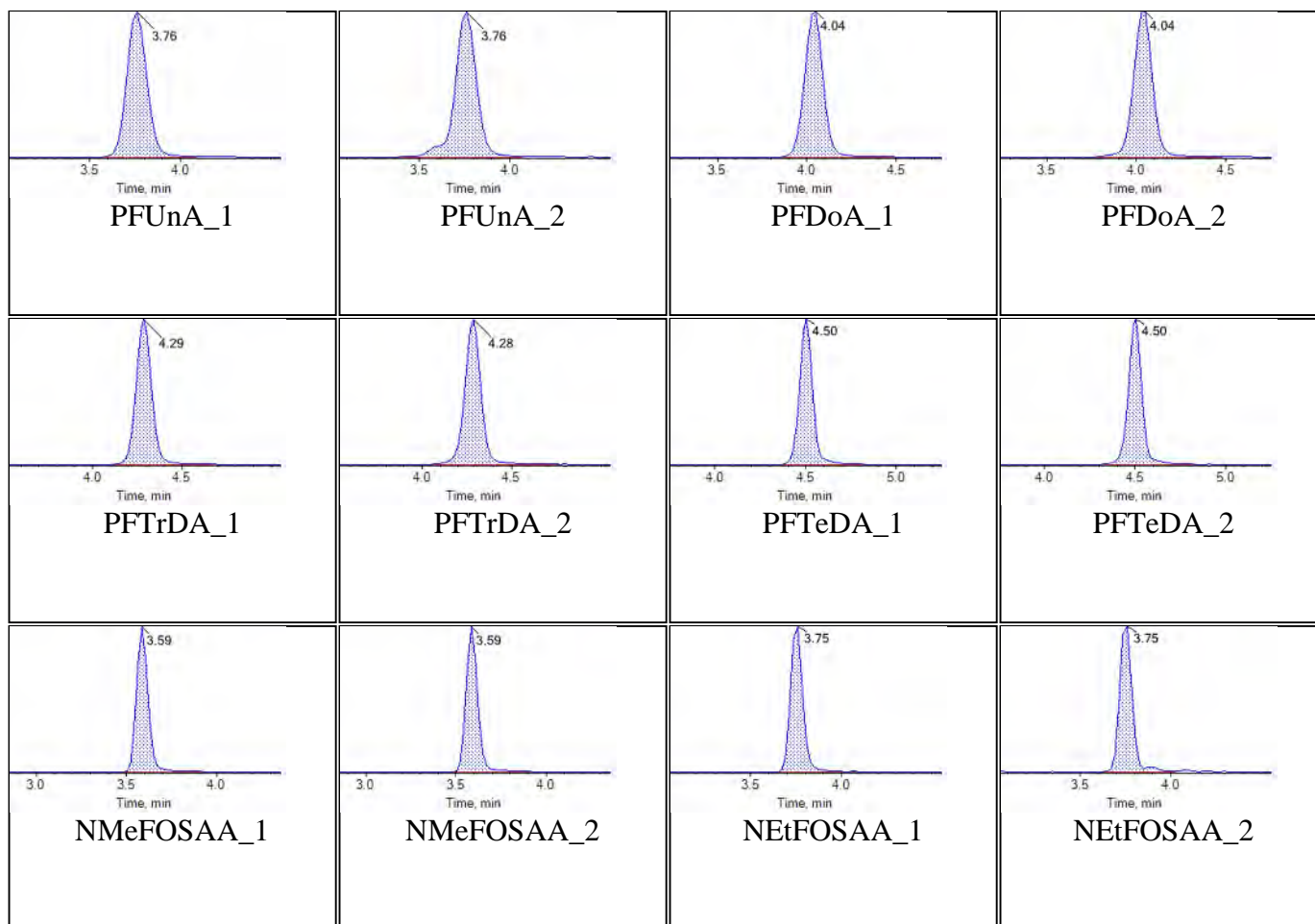
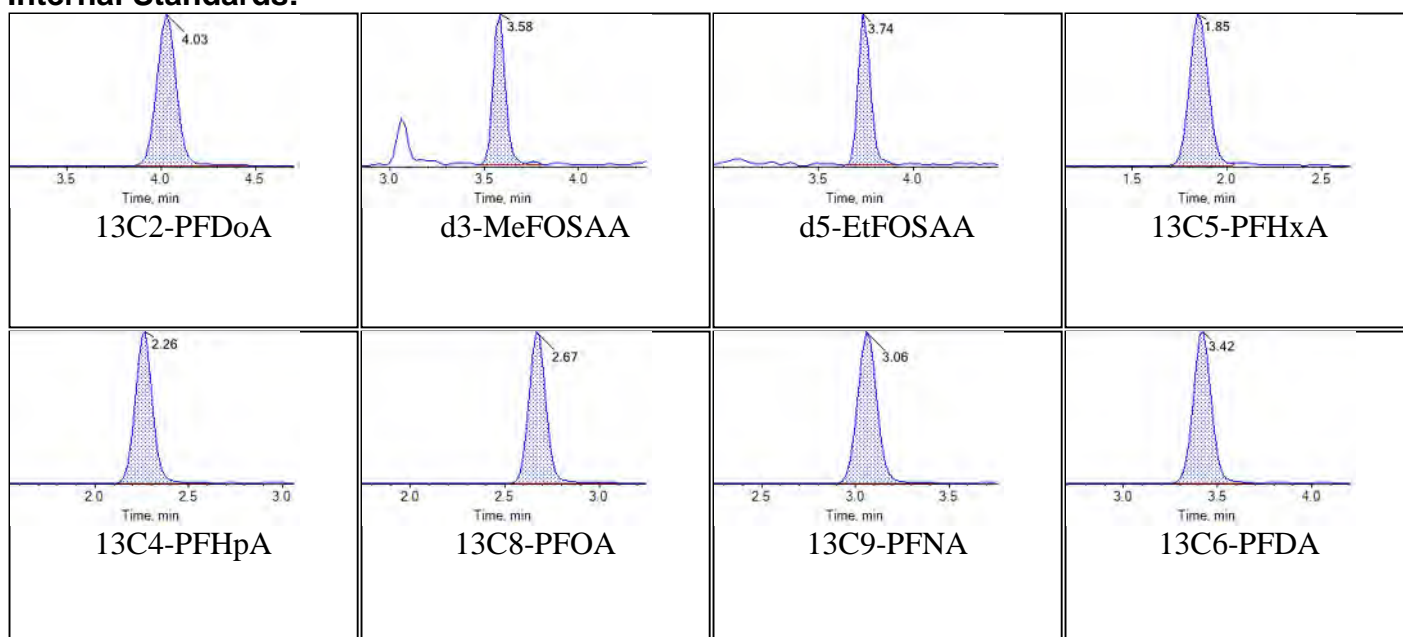


Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

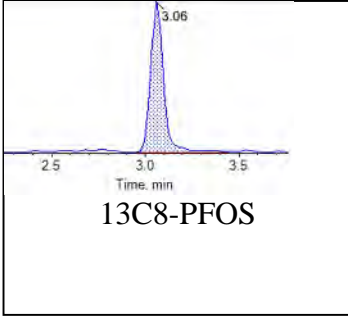
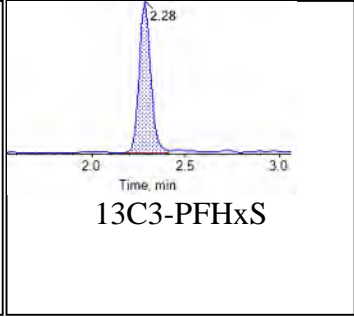
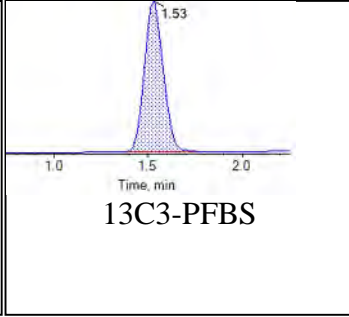
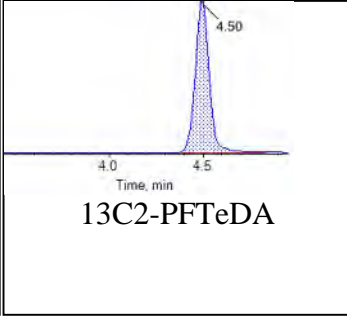
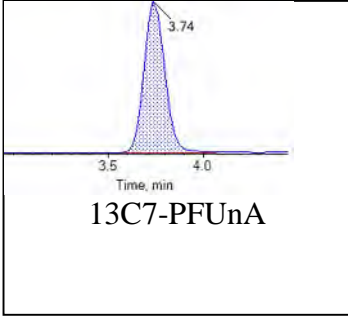
Target Analytes:



**Internal Standards:**

Chromatogram Report

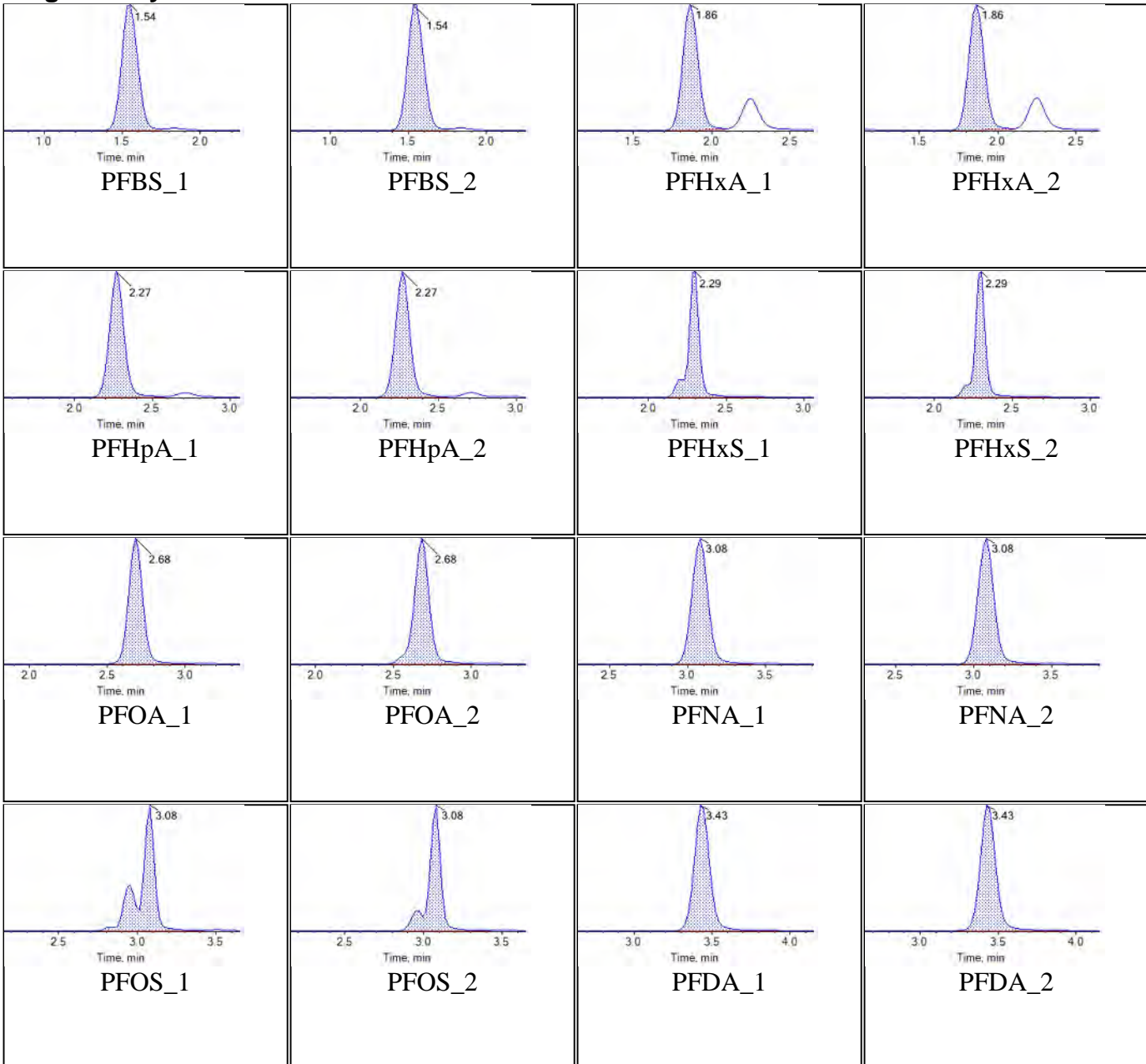
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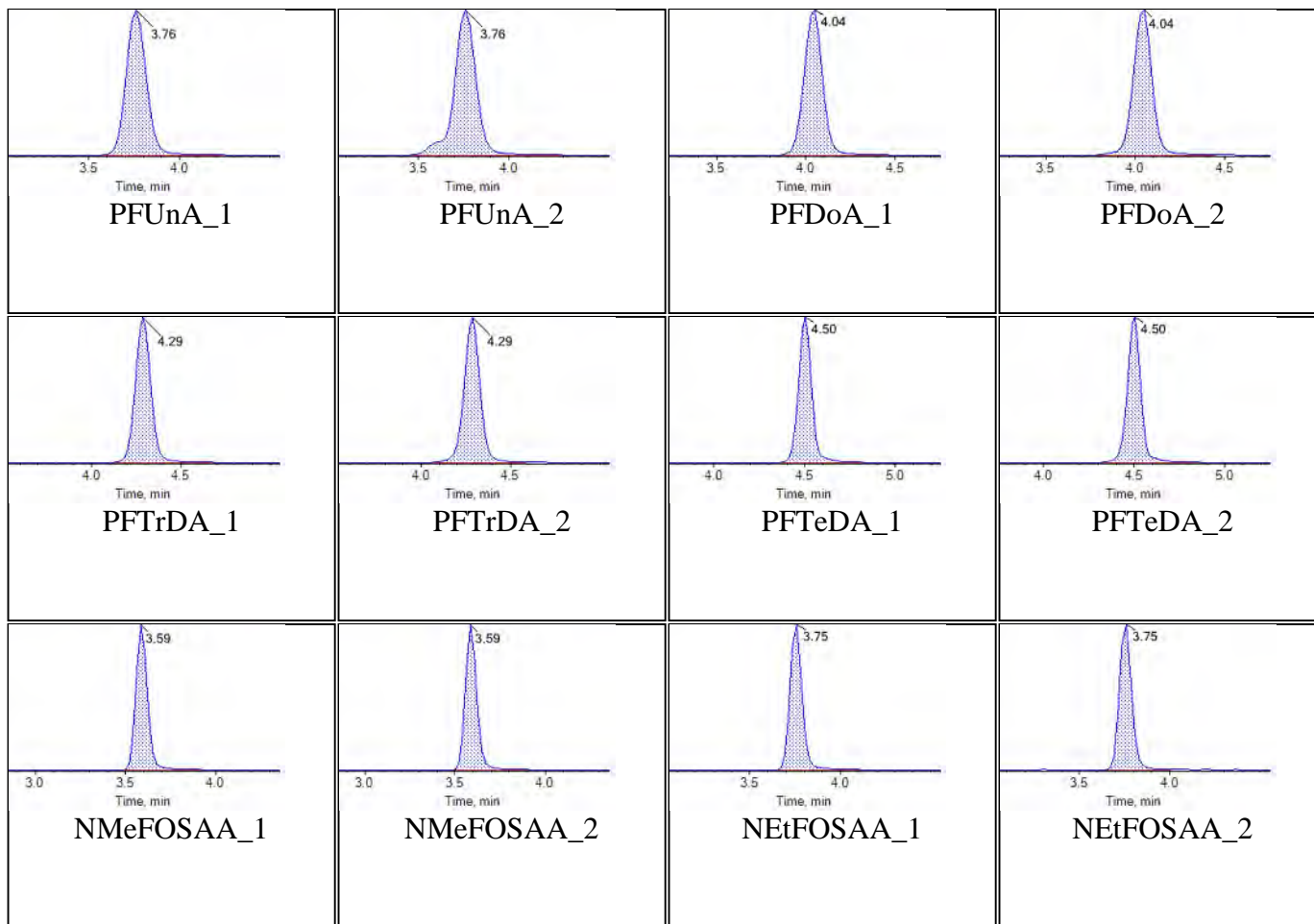
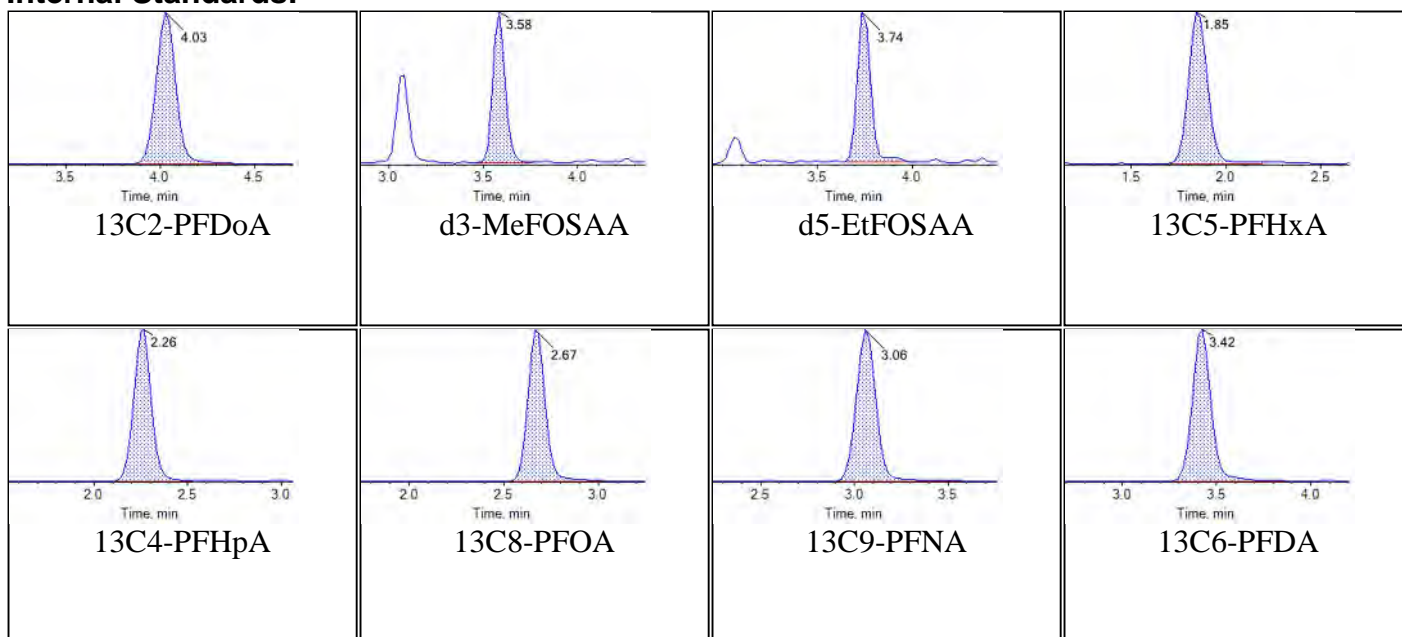


Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

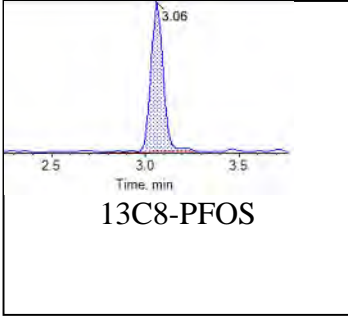
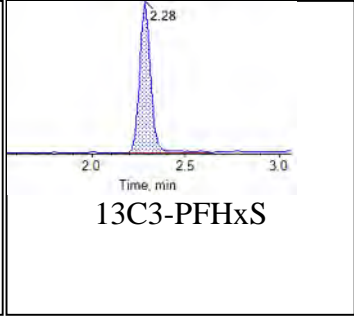
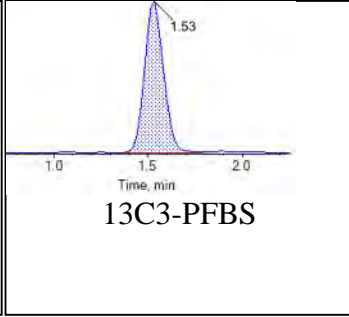
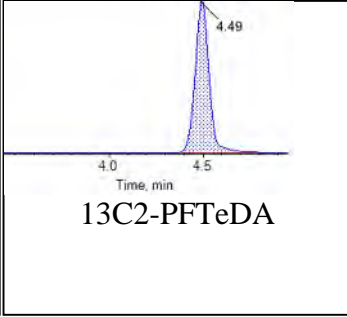
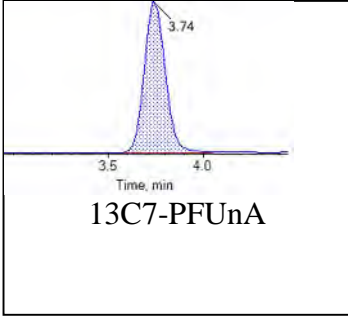
Target Analytes:



**Internal Standards:**

Chromatogram Report

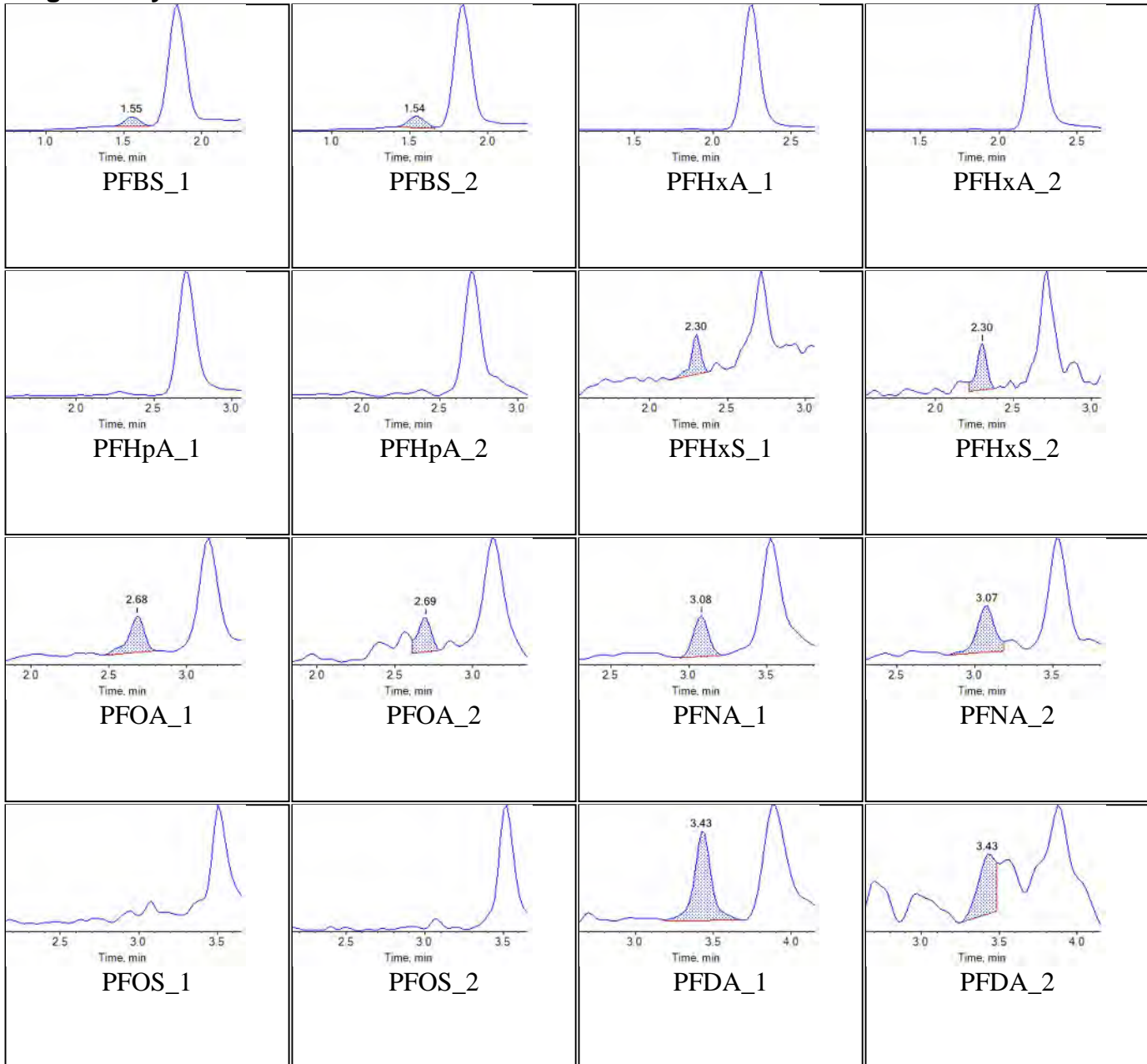
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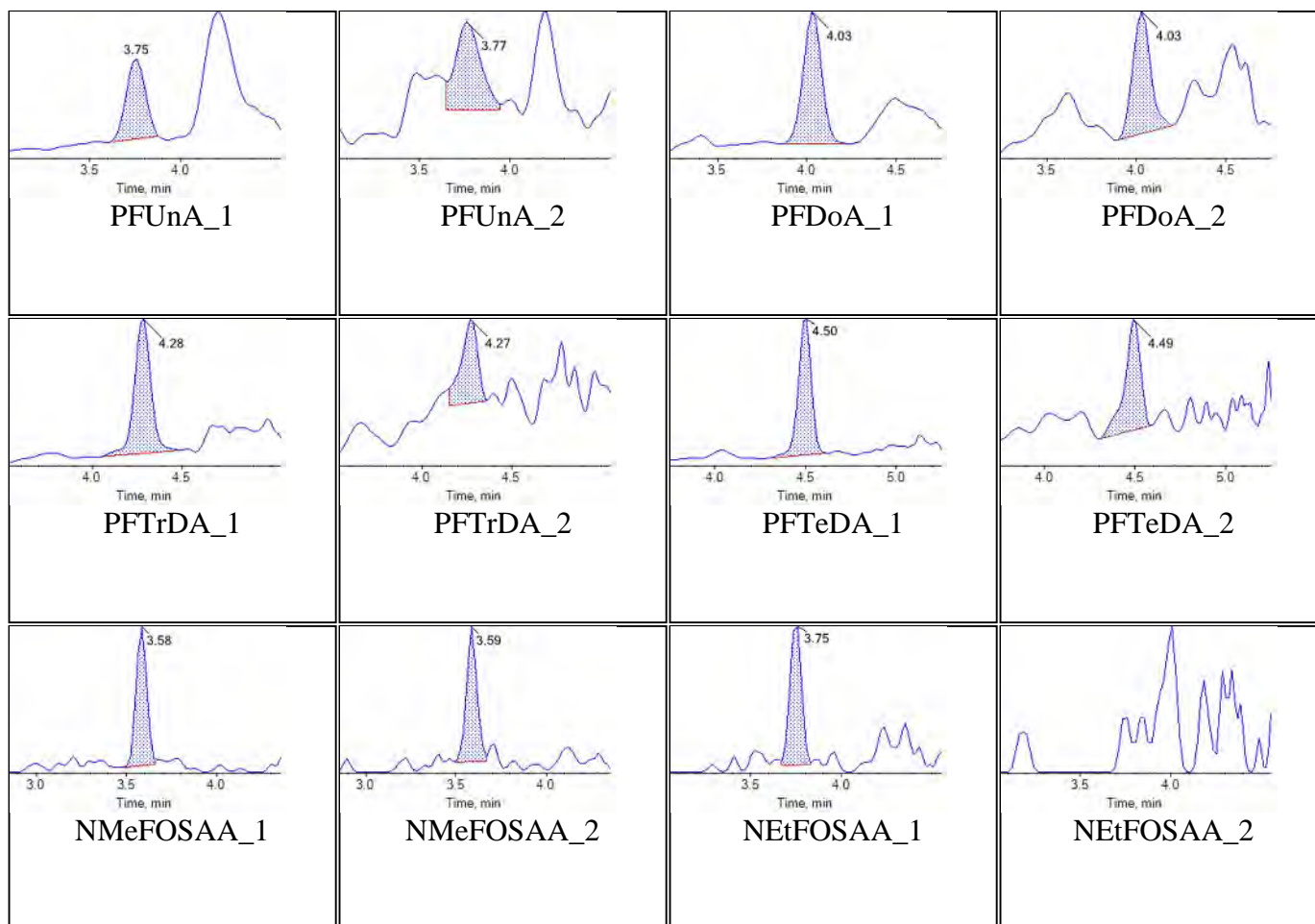
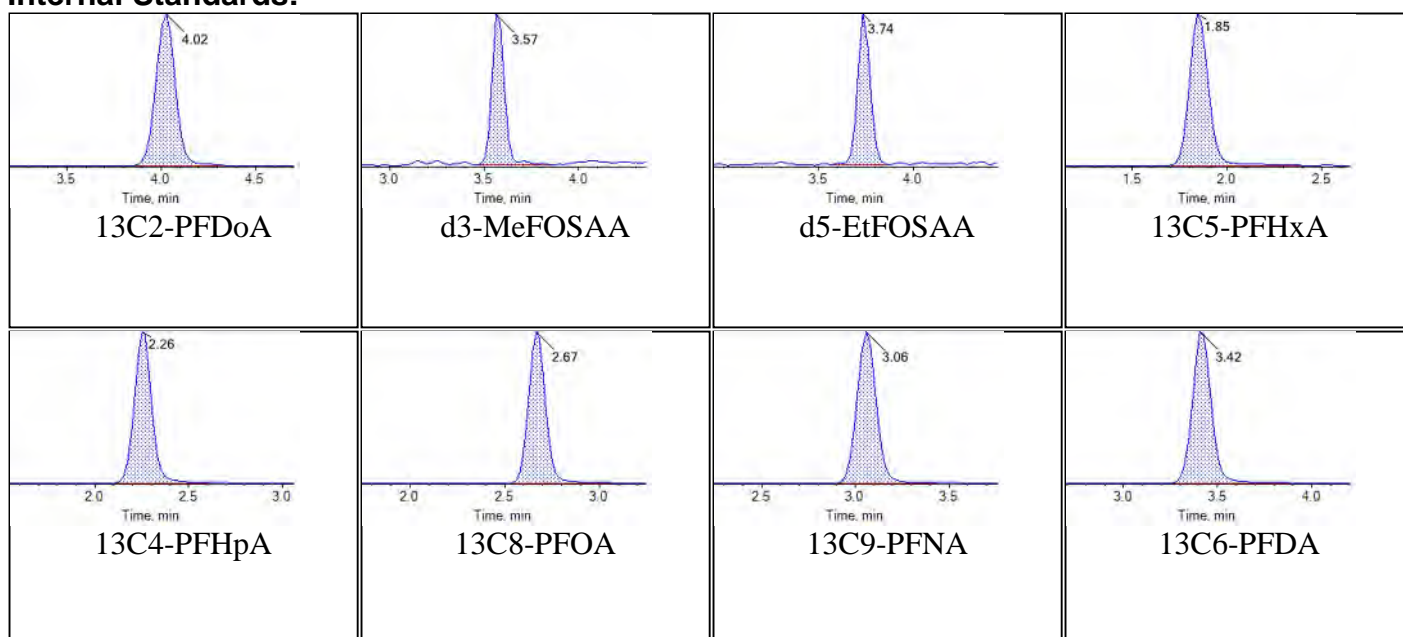


Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

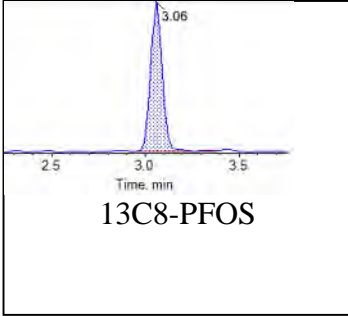
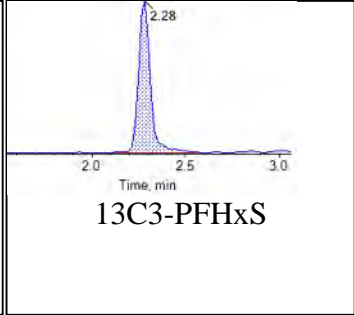
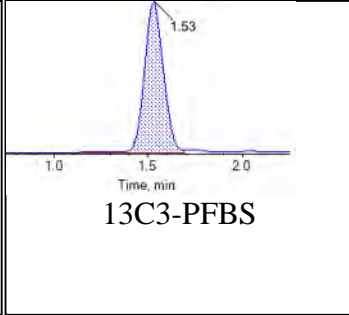
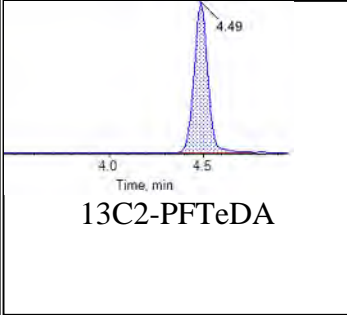
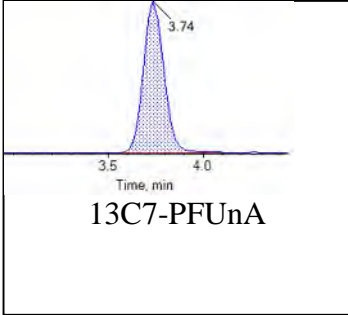


**Internal Standards:**



Chromatogram Report

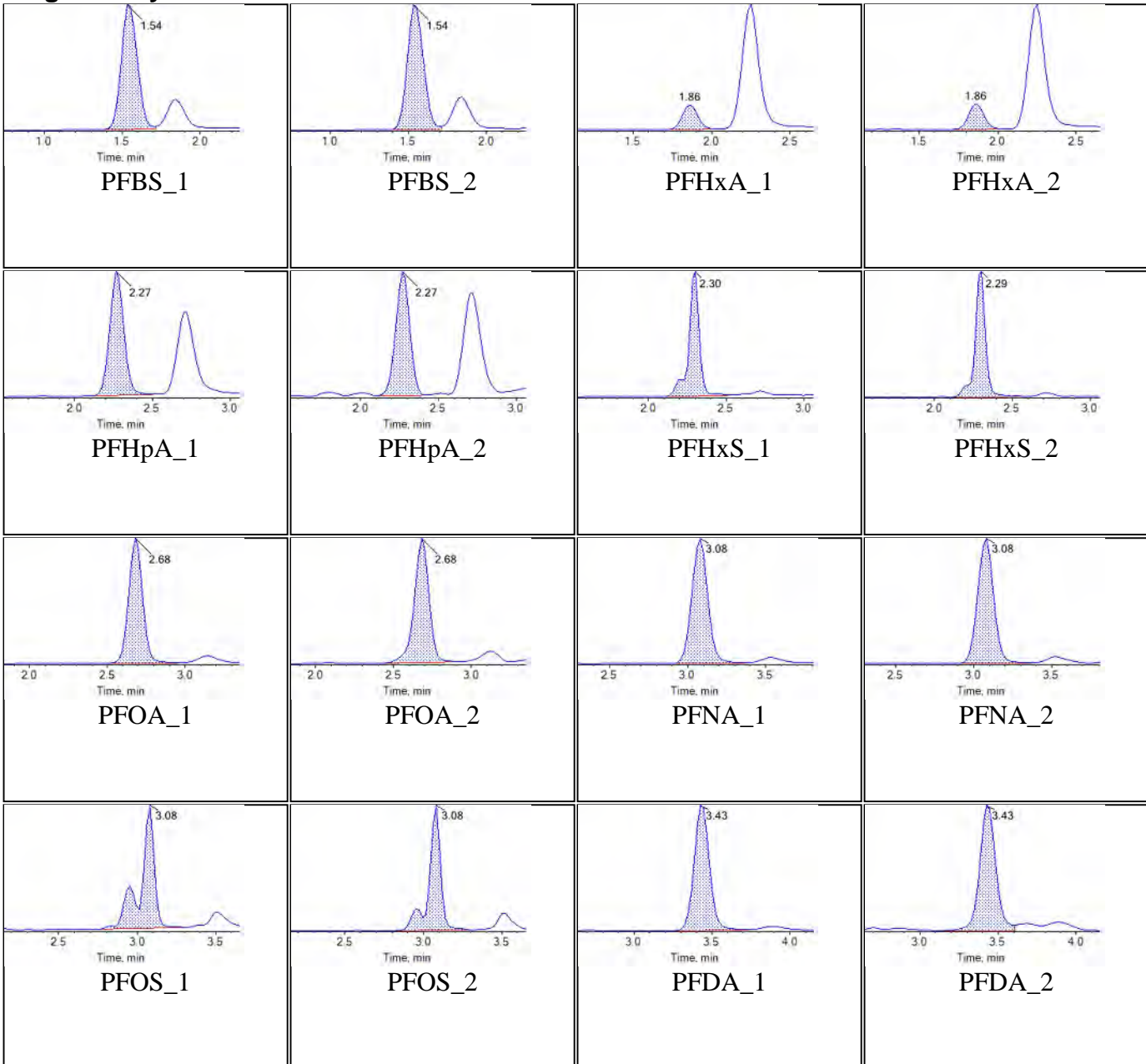
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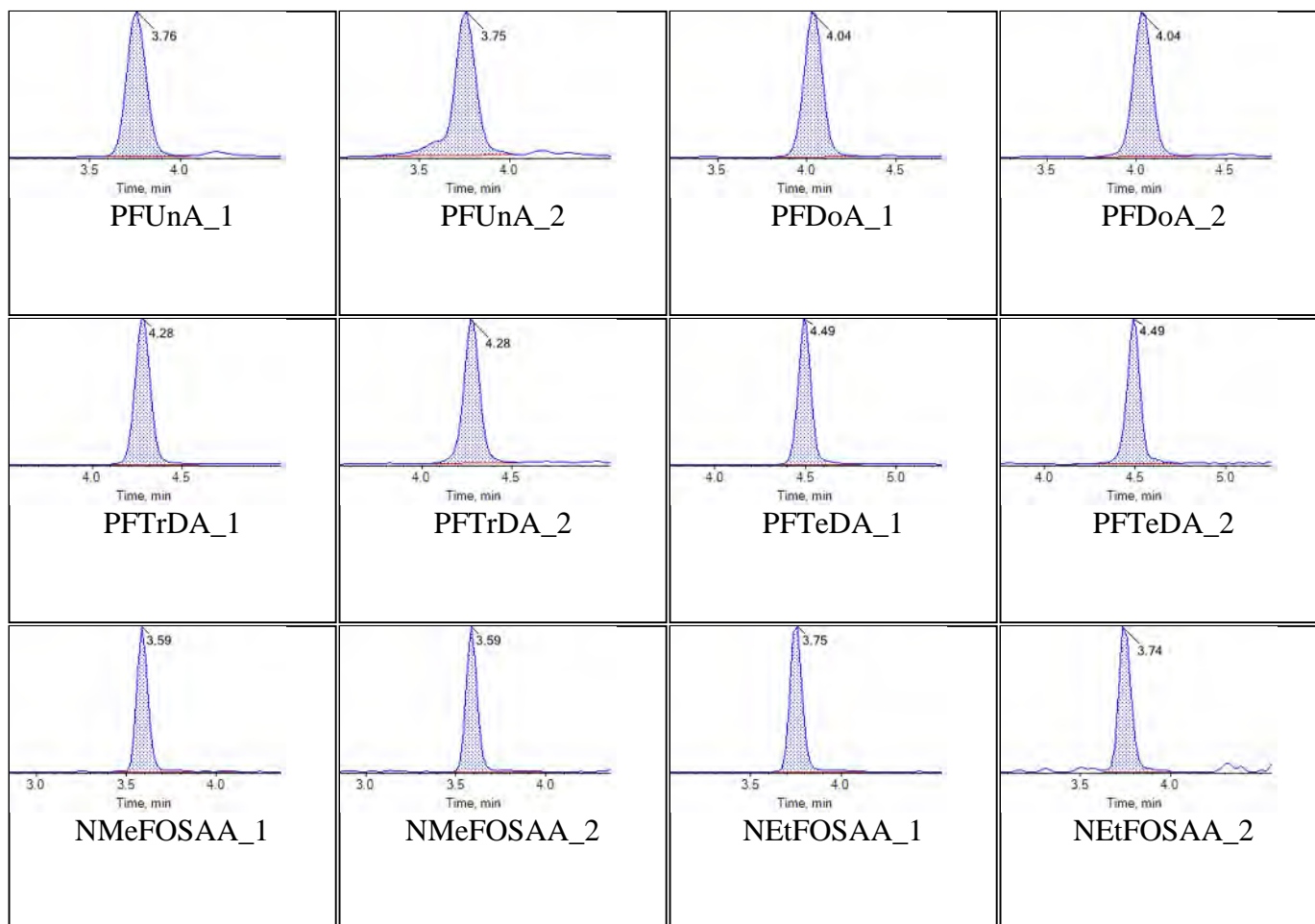
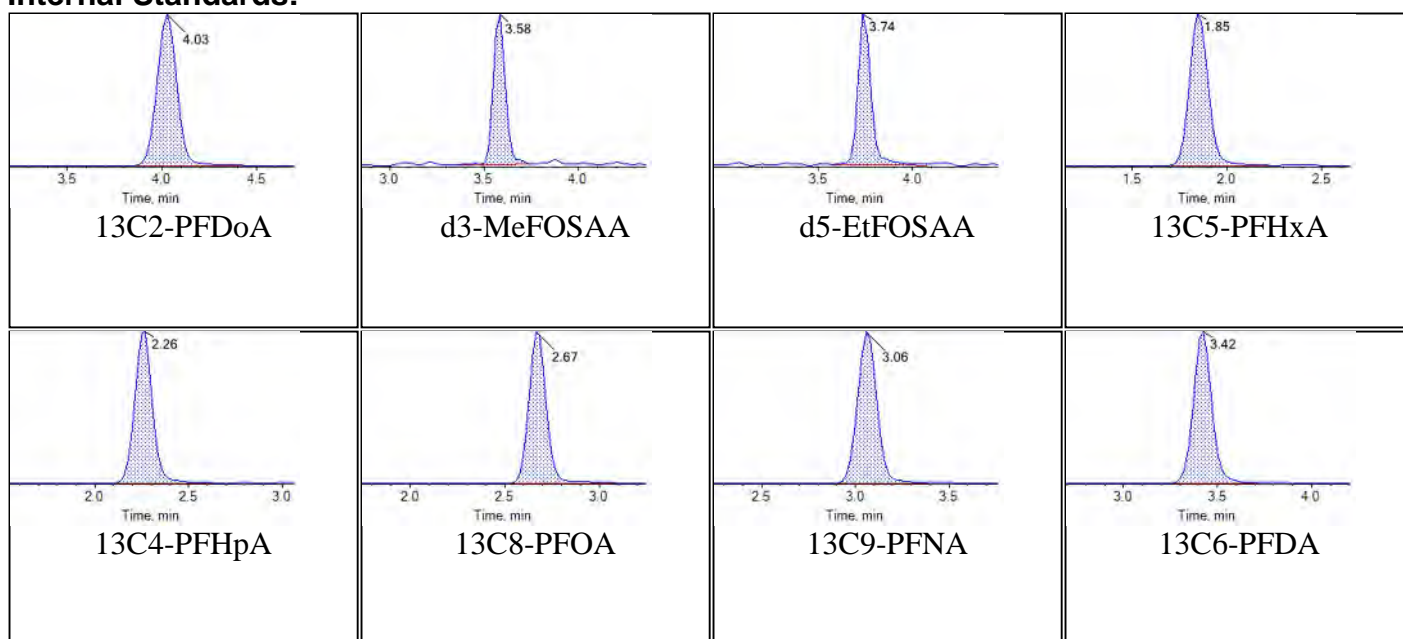


Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

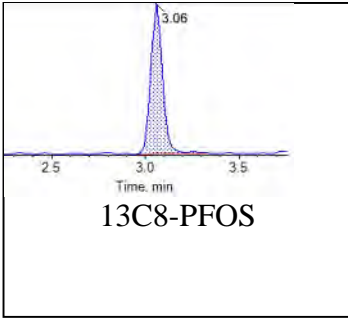
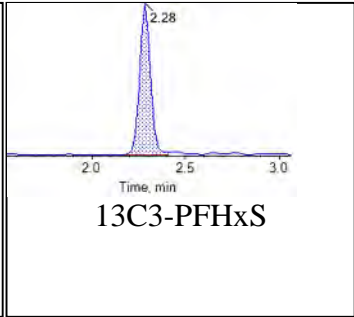
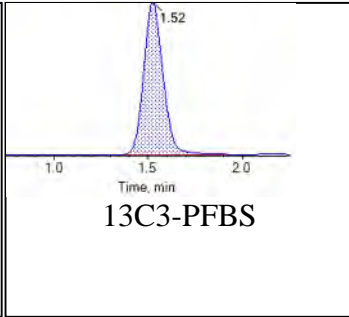
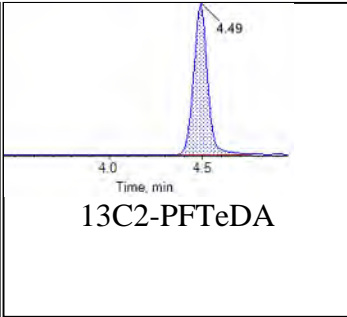
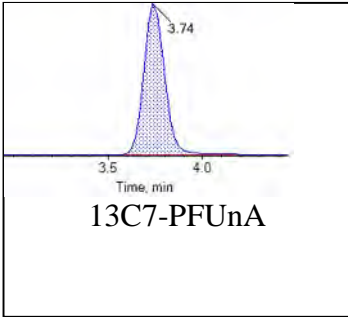
Target Analytes:



**Internal Standards:**

Chromatogram Report

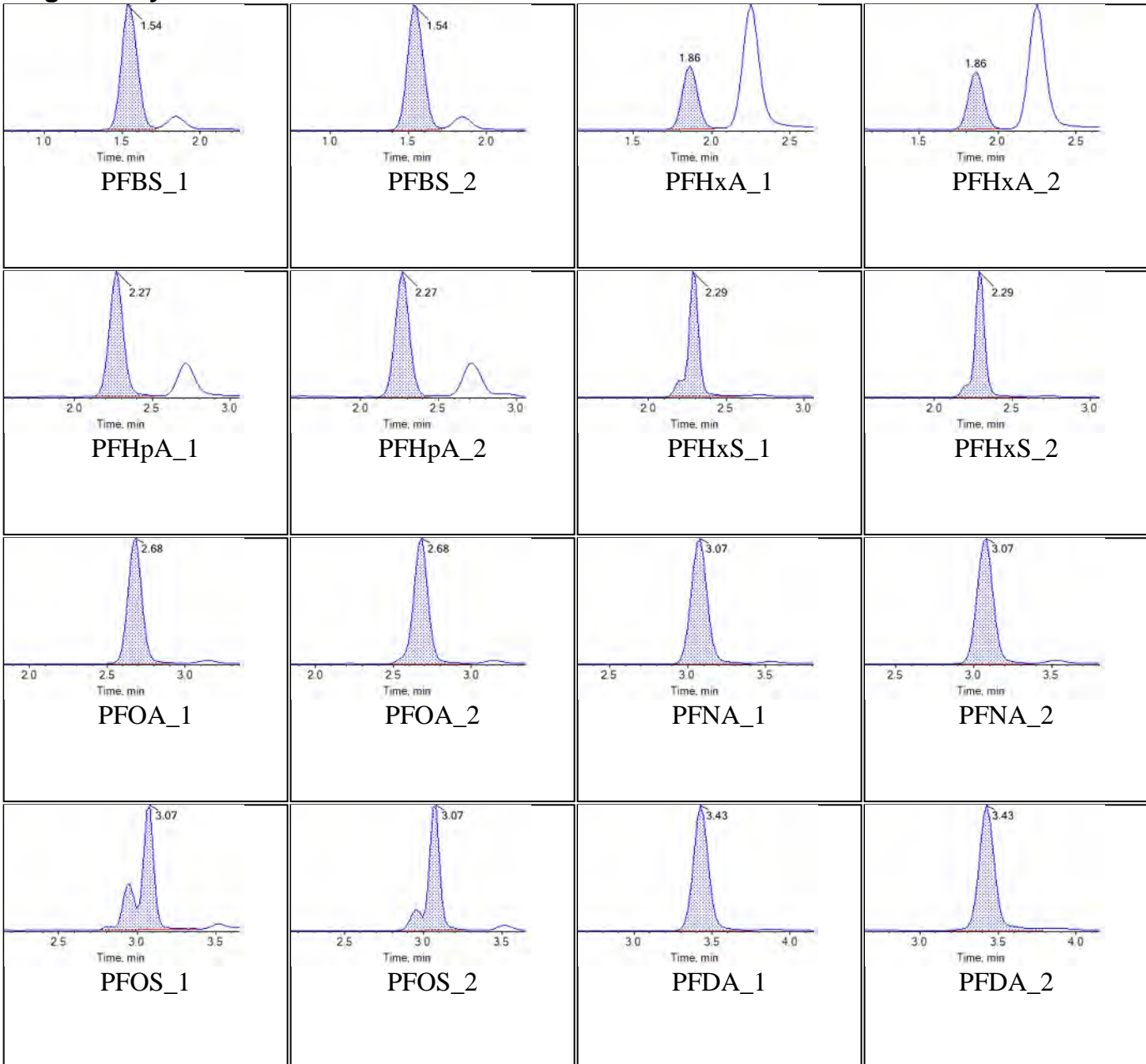
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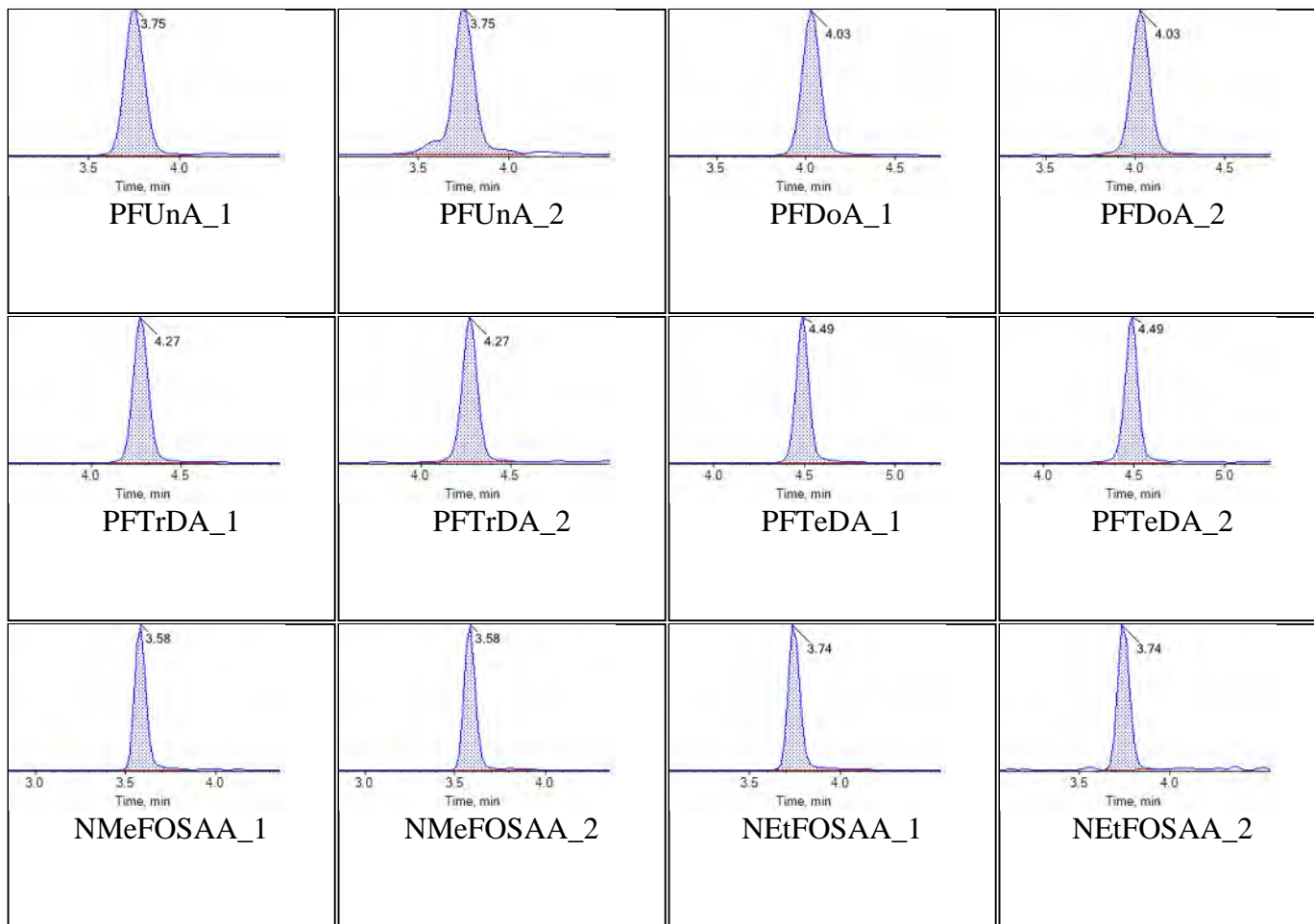
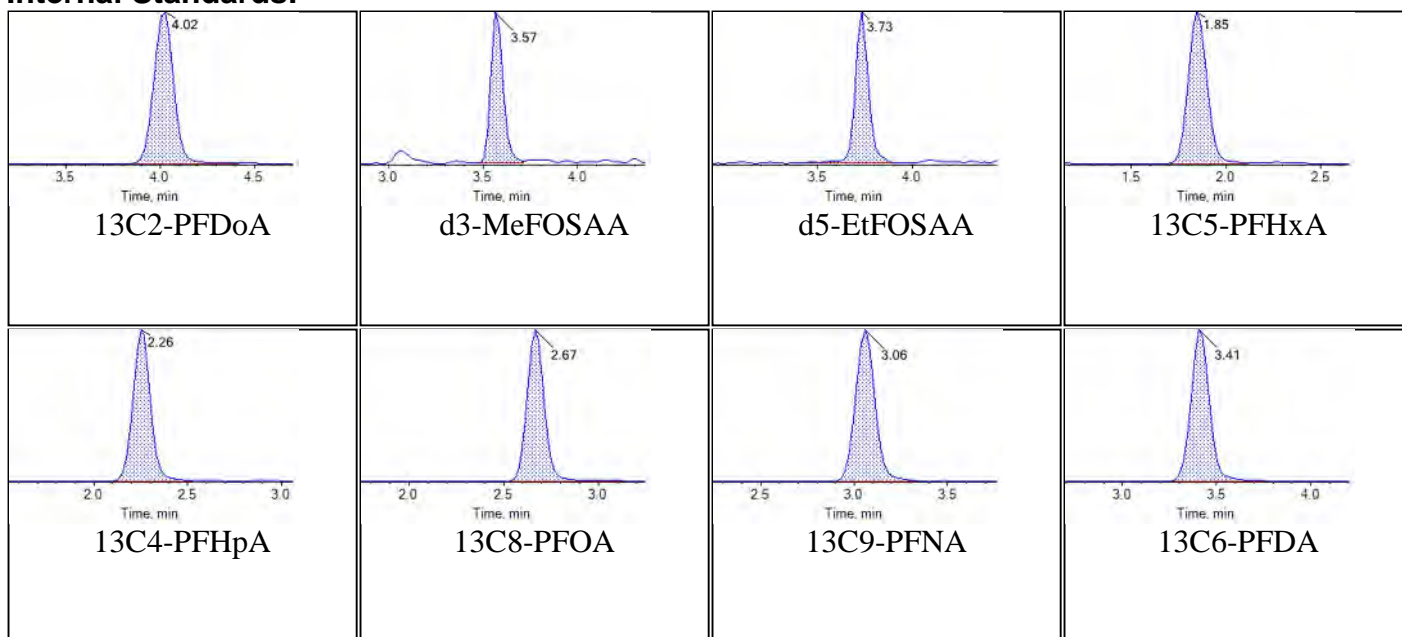


Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

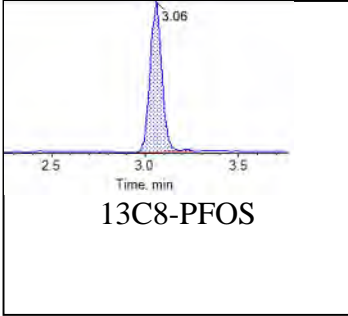
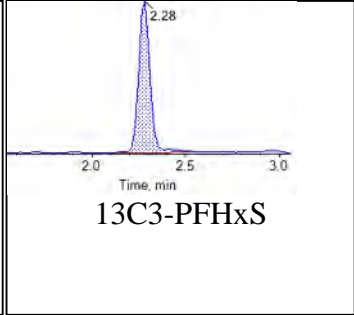
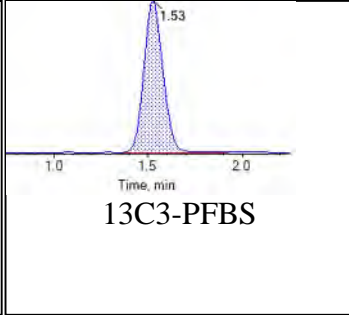
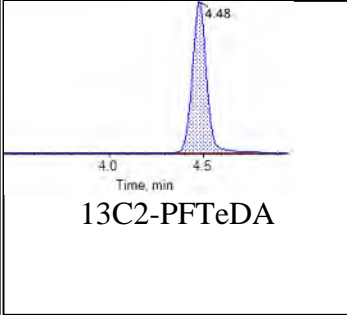
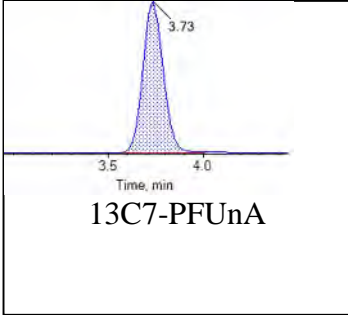
Target Analytes:



**Internal Standards:**

Chromatogram Report

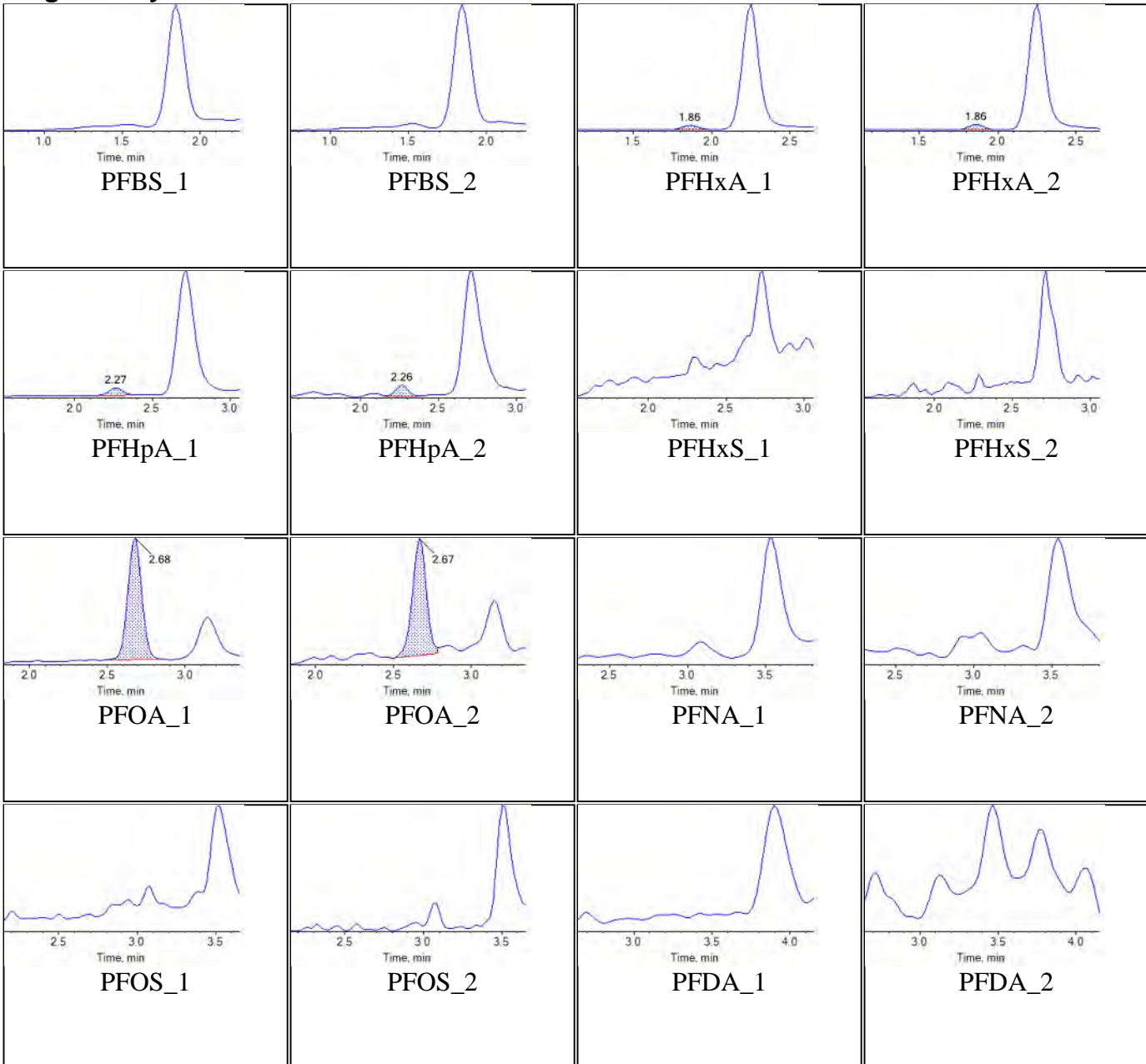
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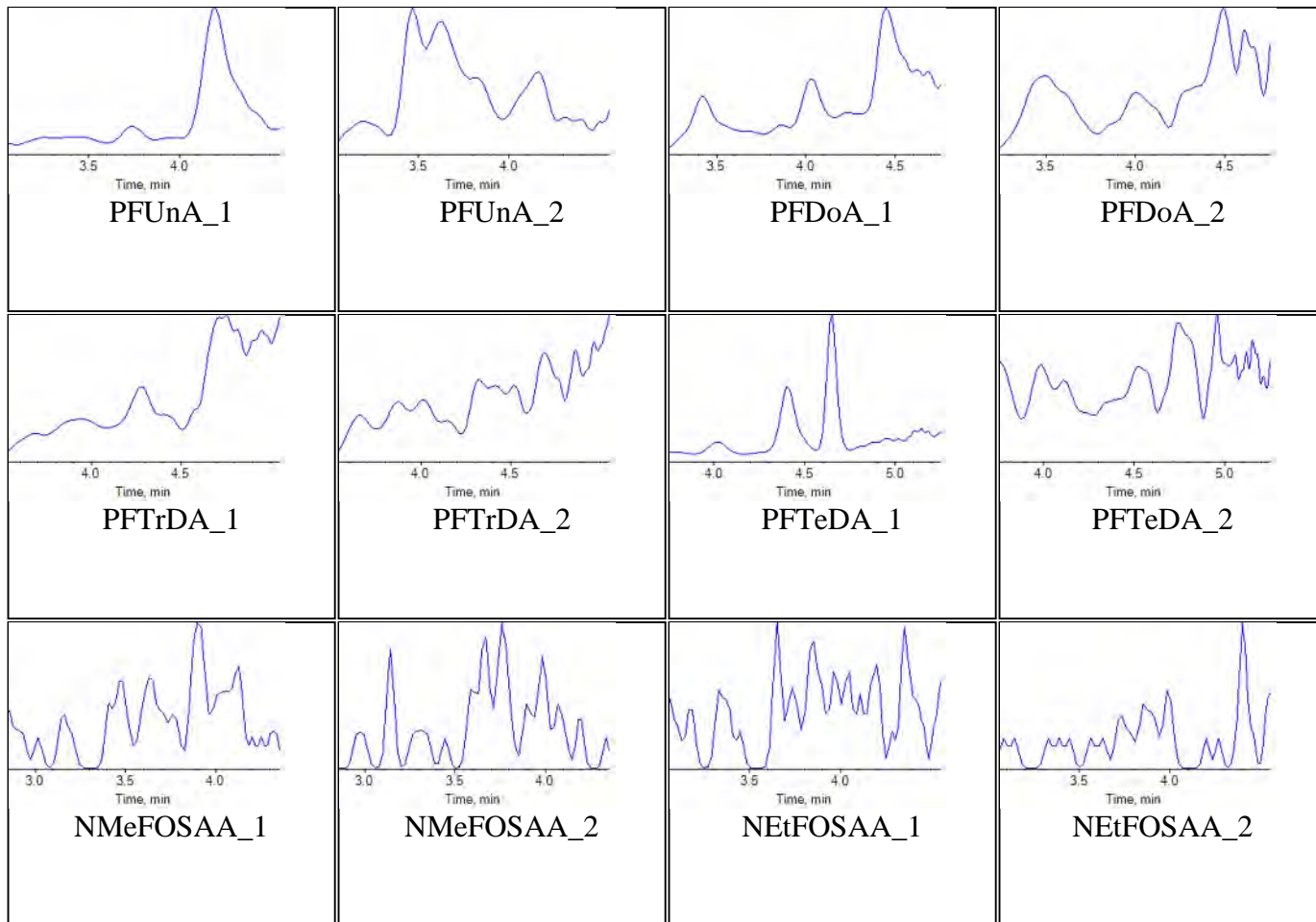
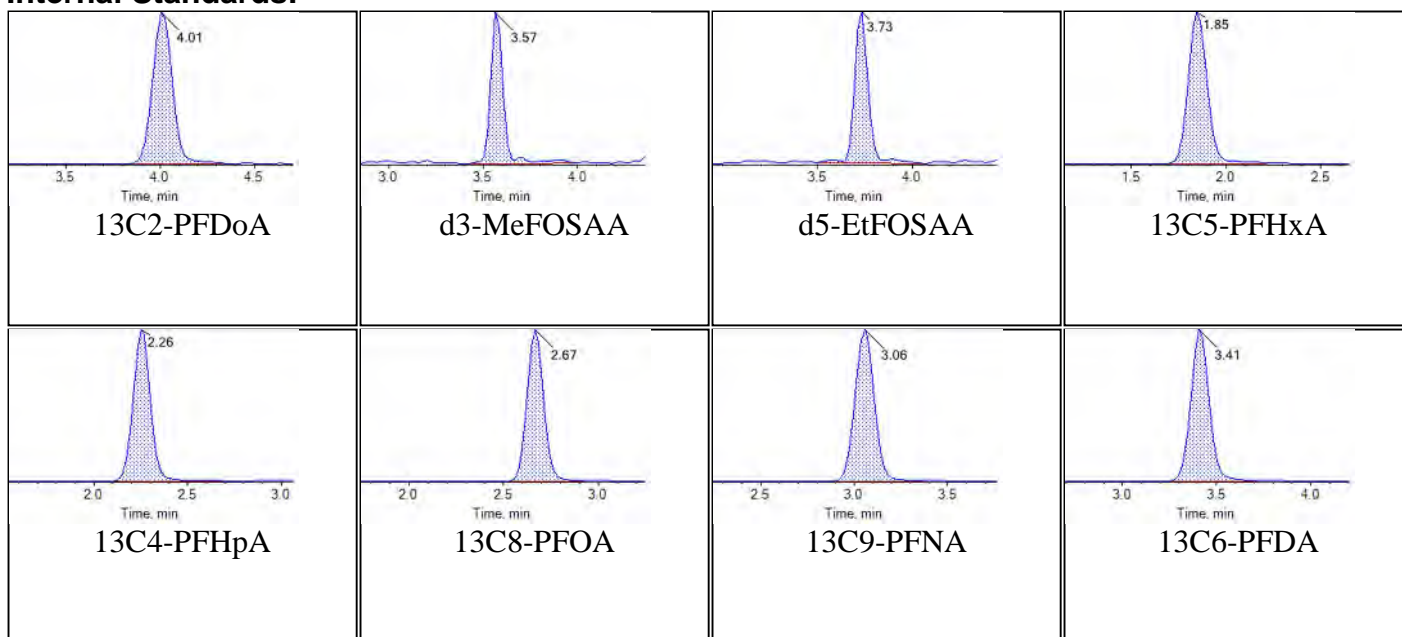


Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

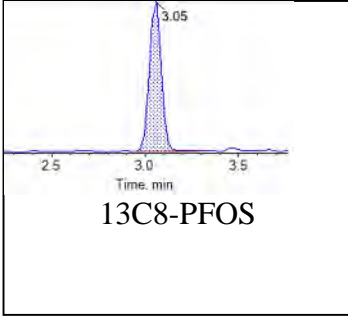
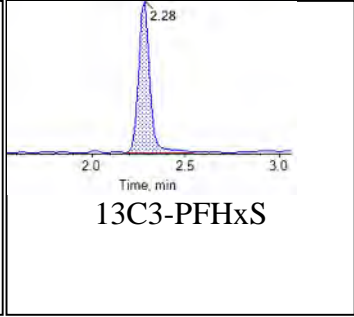
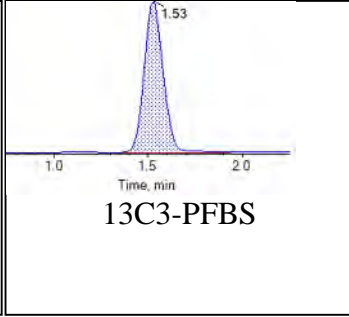
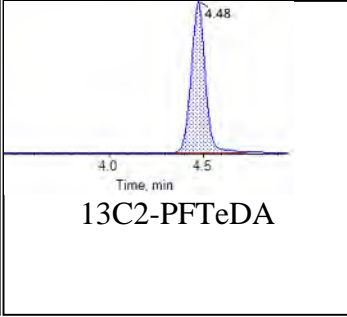
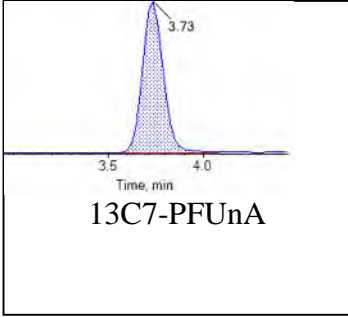
Target Analytes:



**Internal Standards:**

Chromatogram Report

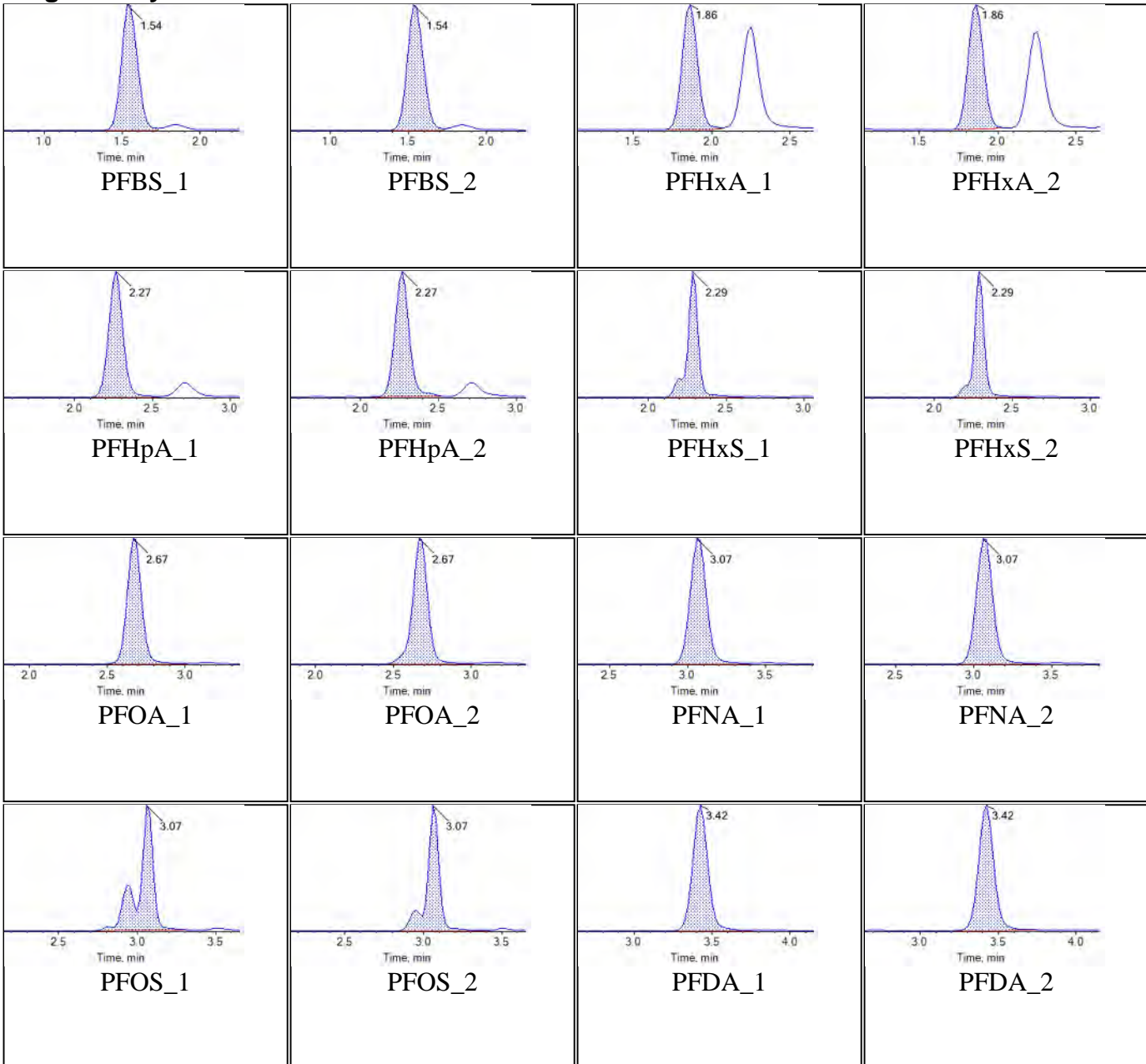
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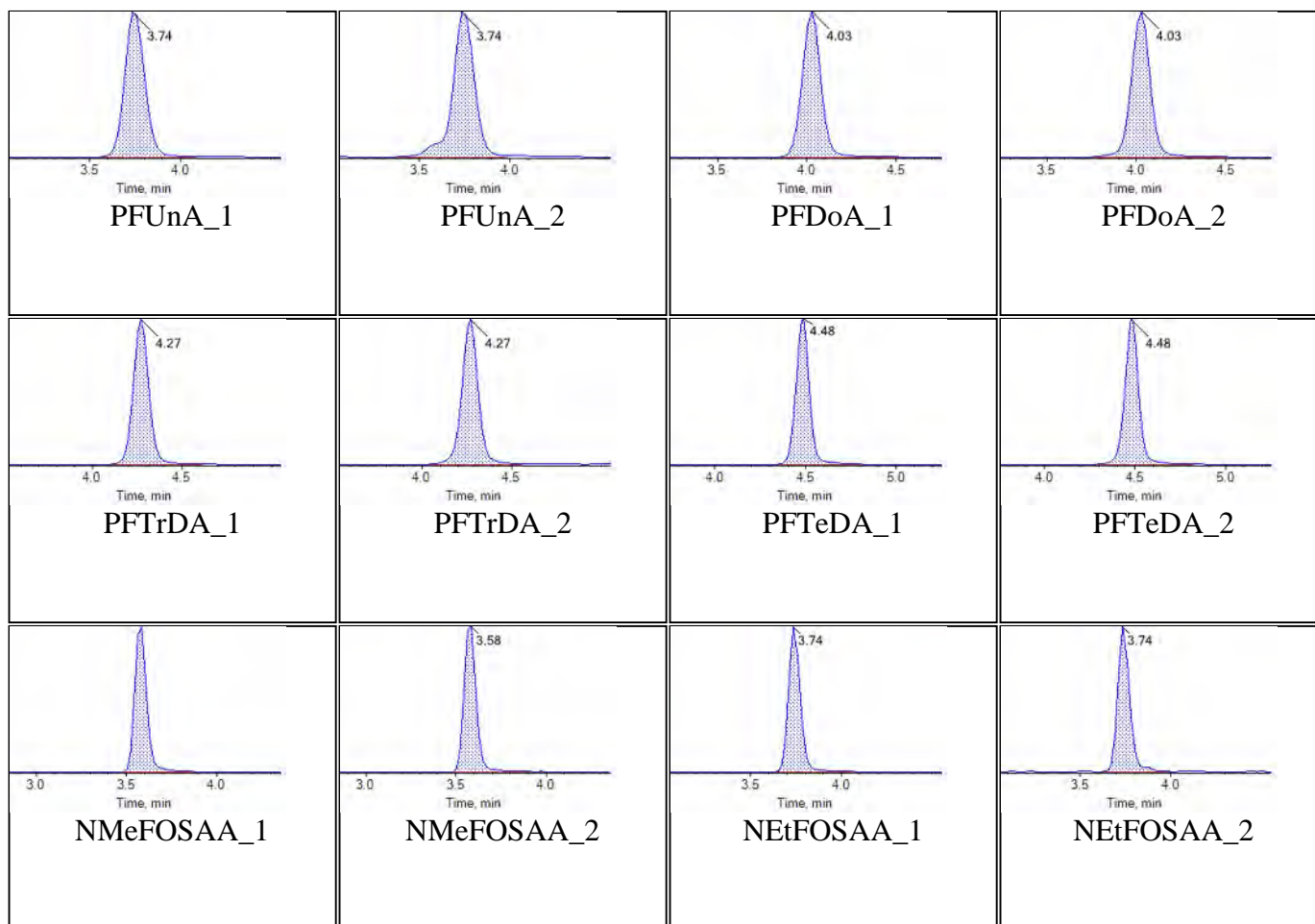
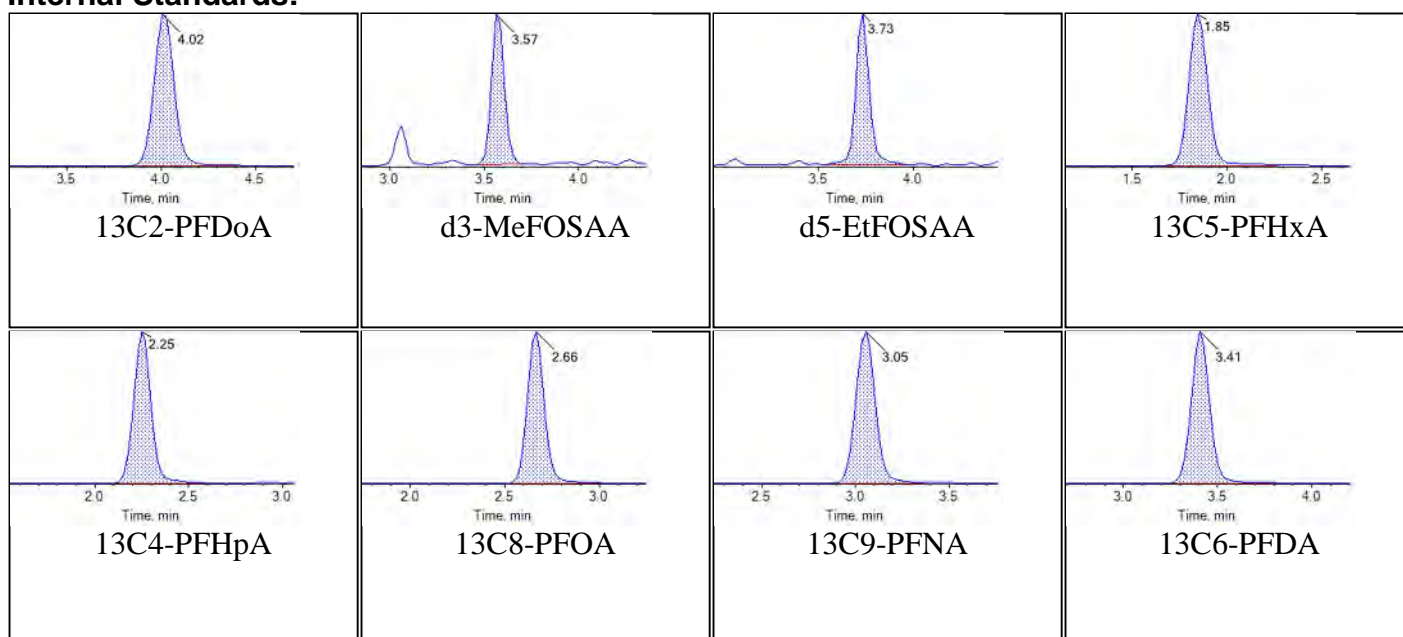


Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

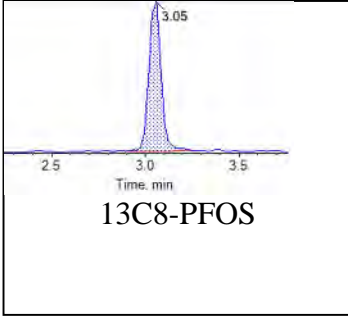
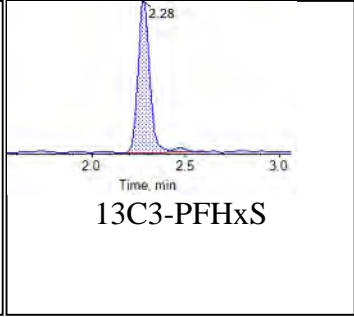
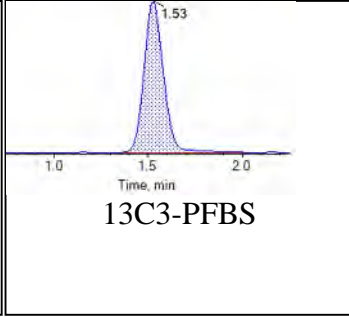
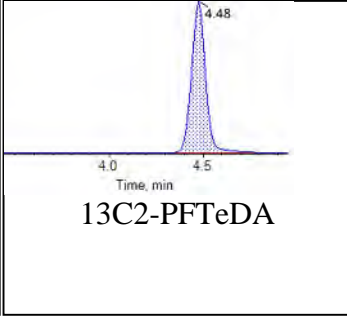
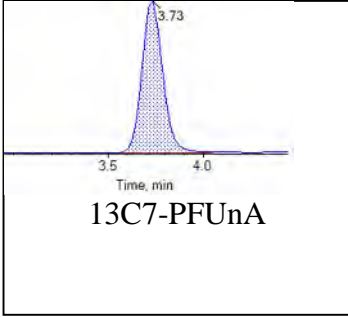
Target Analytes:



**Internal Standards:**

Chromatogram Report

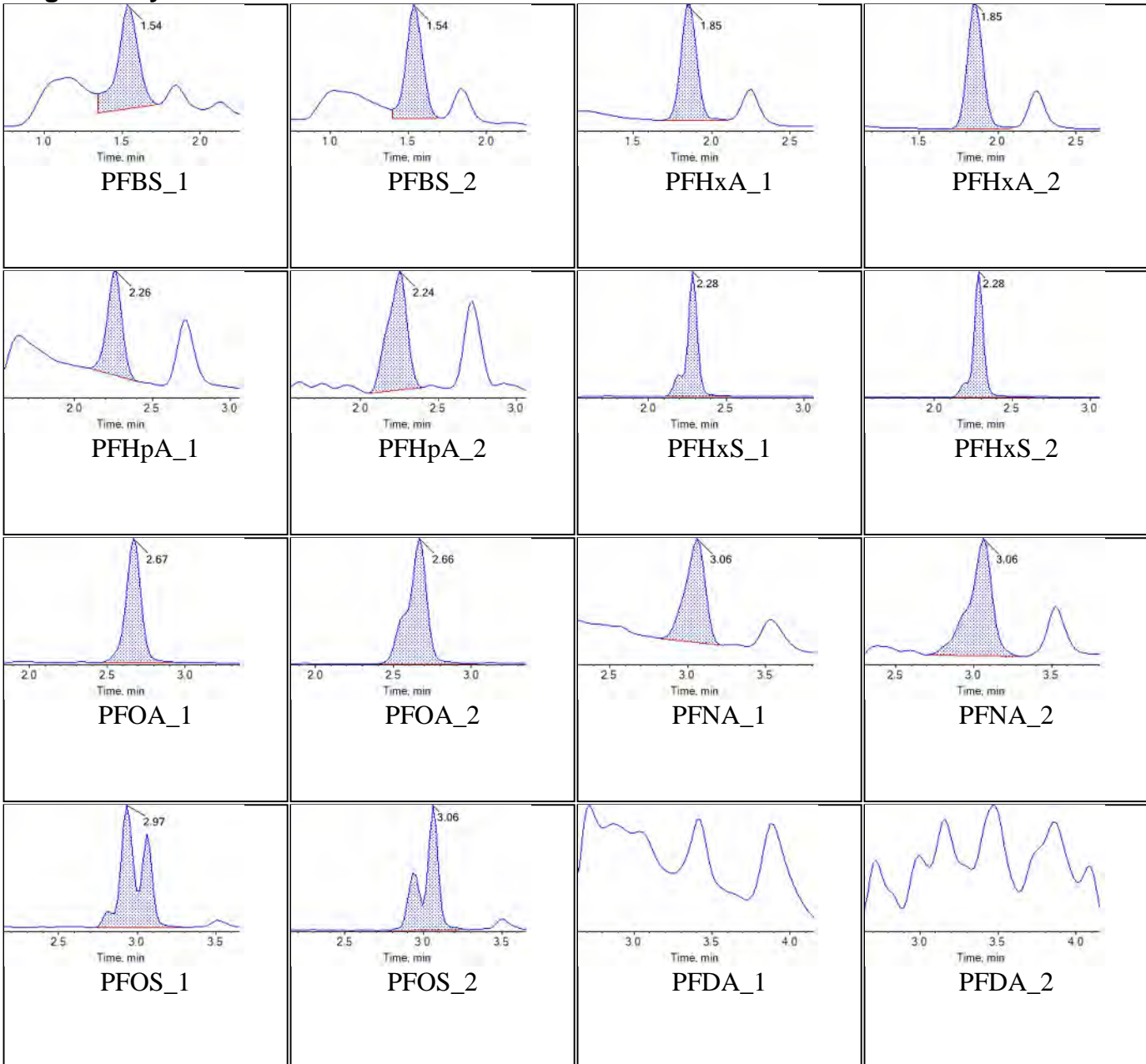
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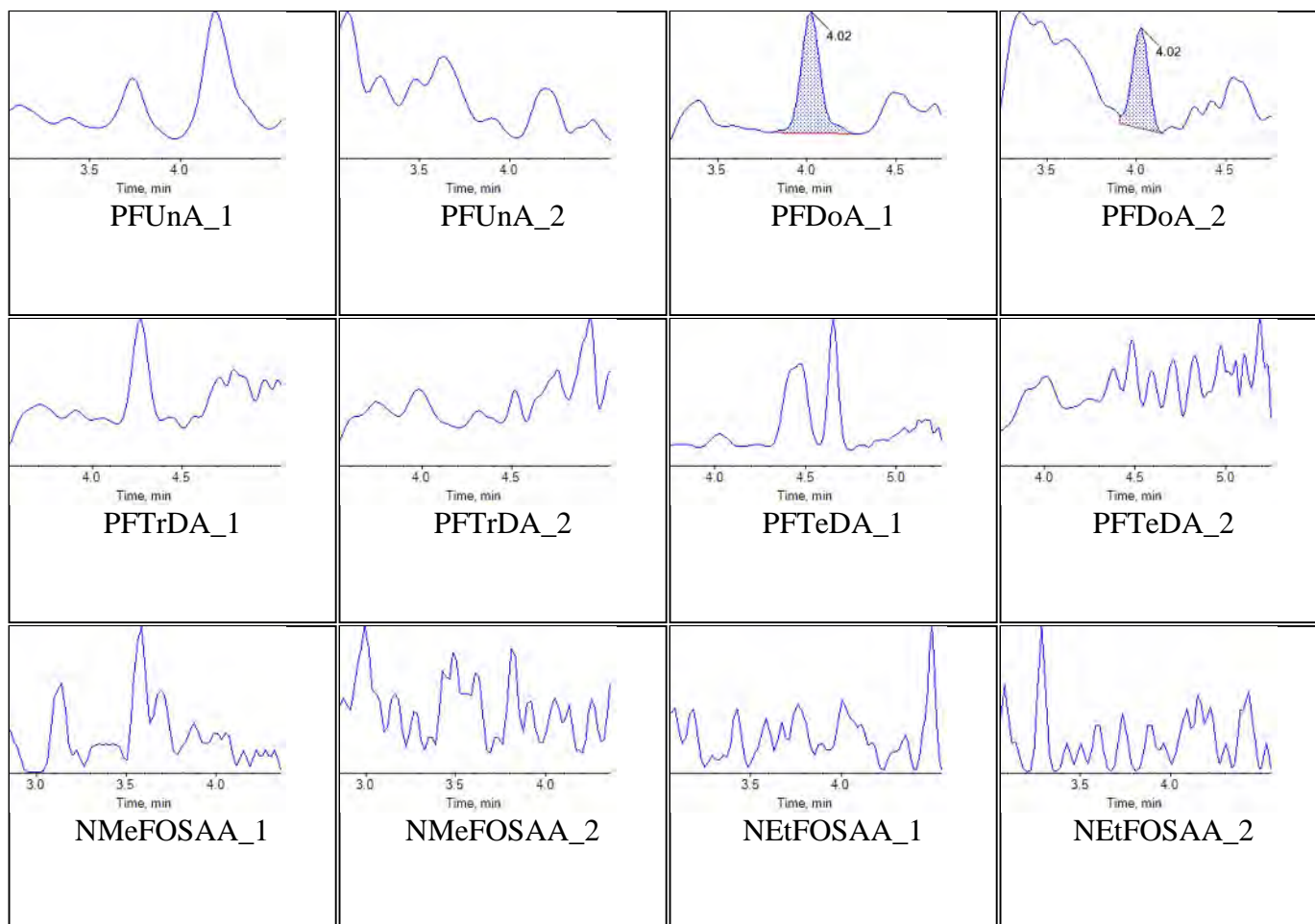
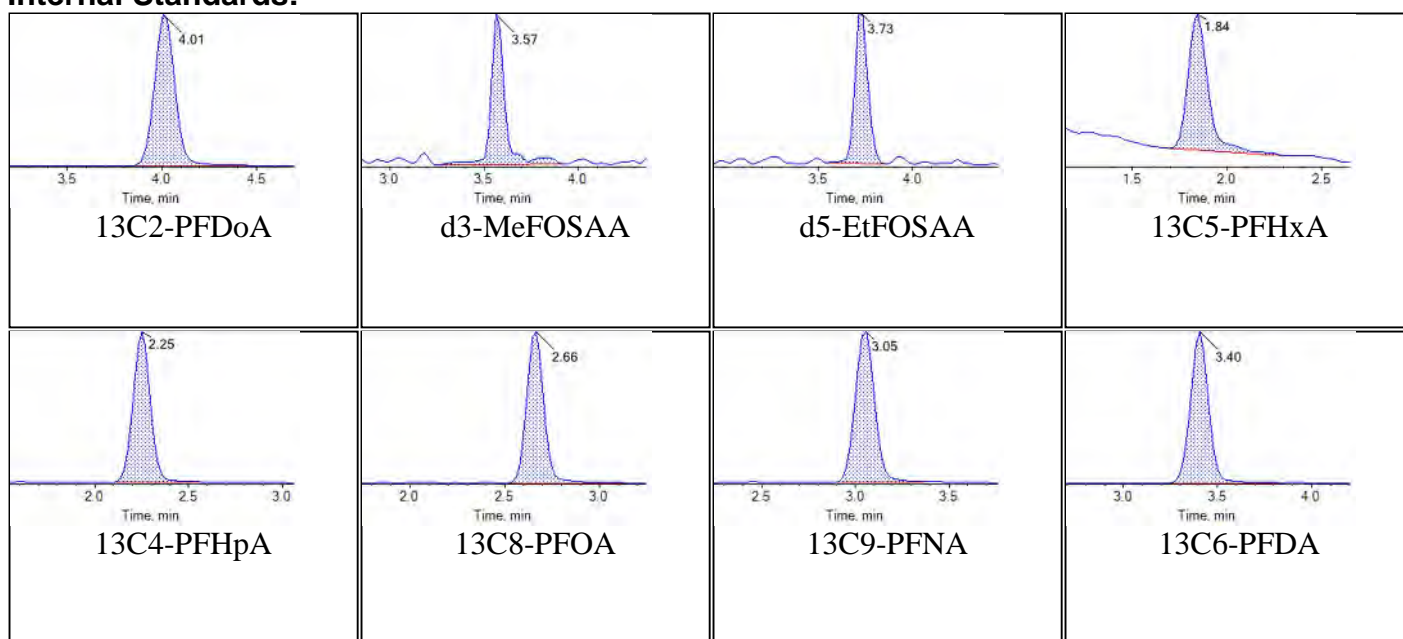


Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

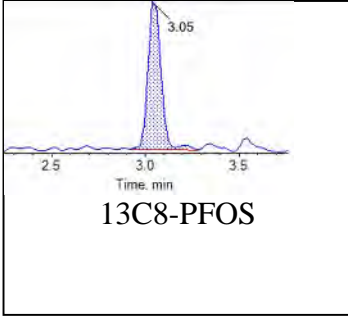
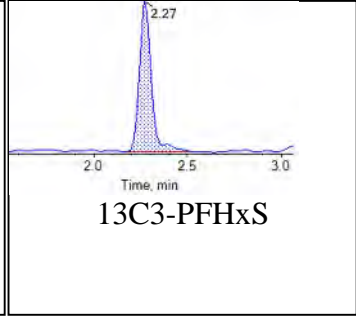
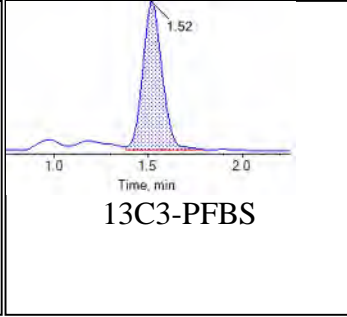
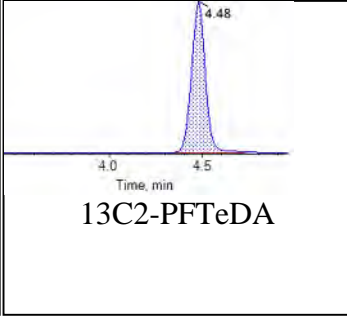
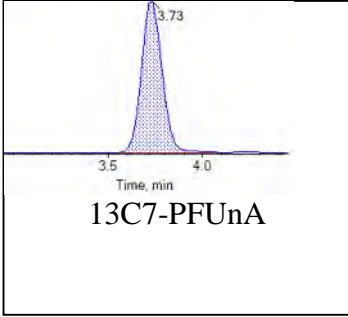
Target Analytes:



**Internal Standards:**

Chromatogram Report

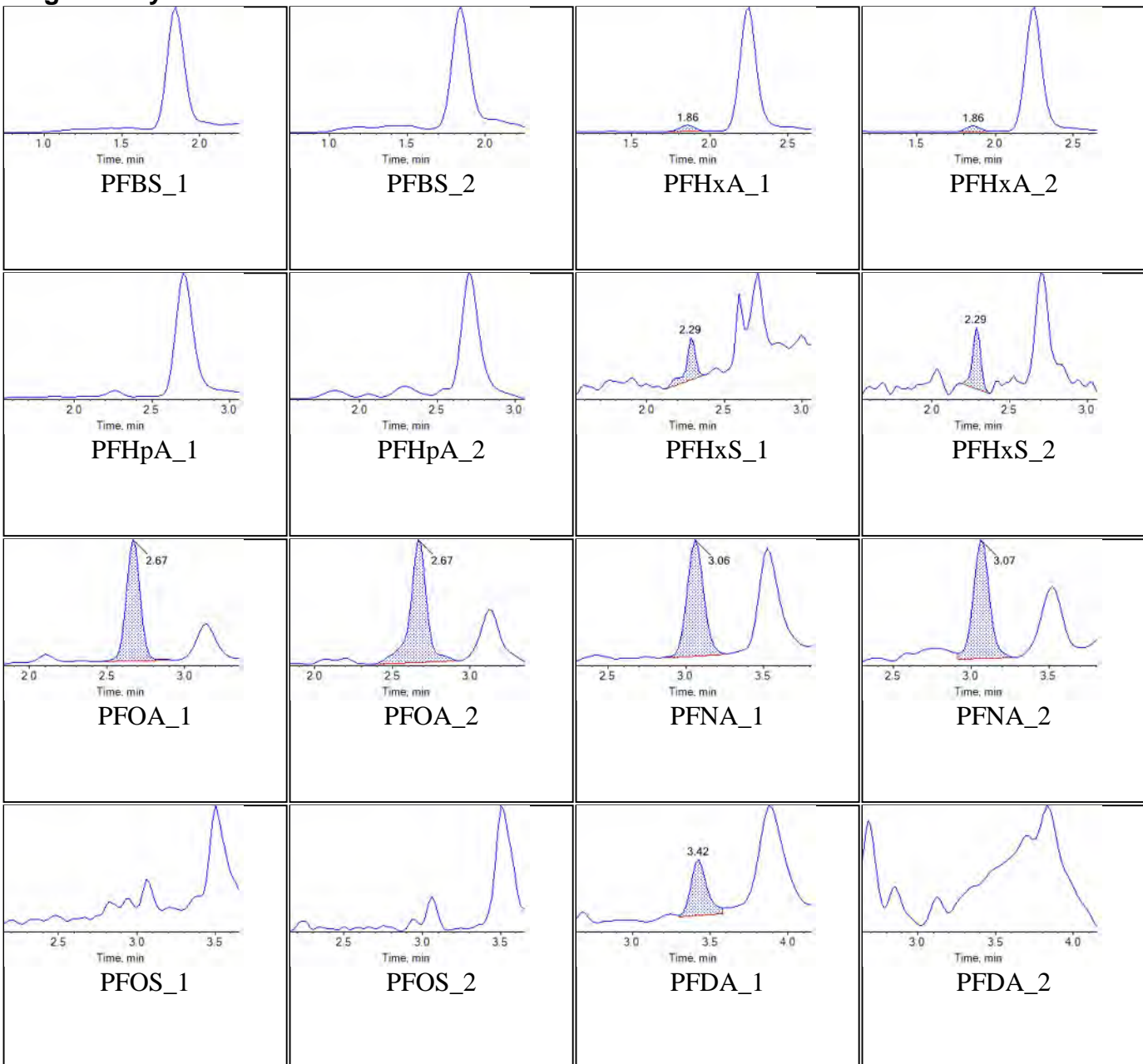
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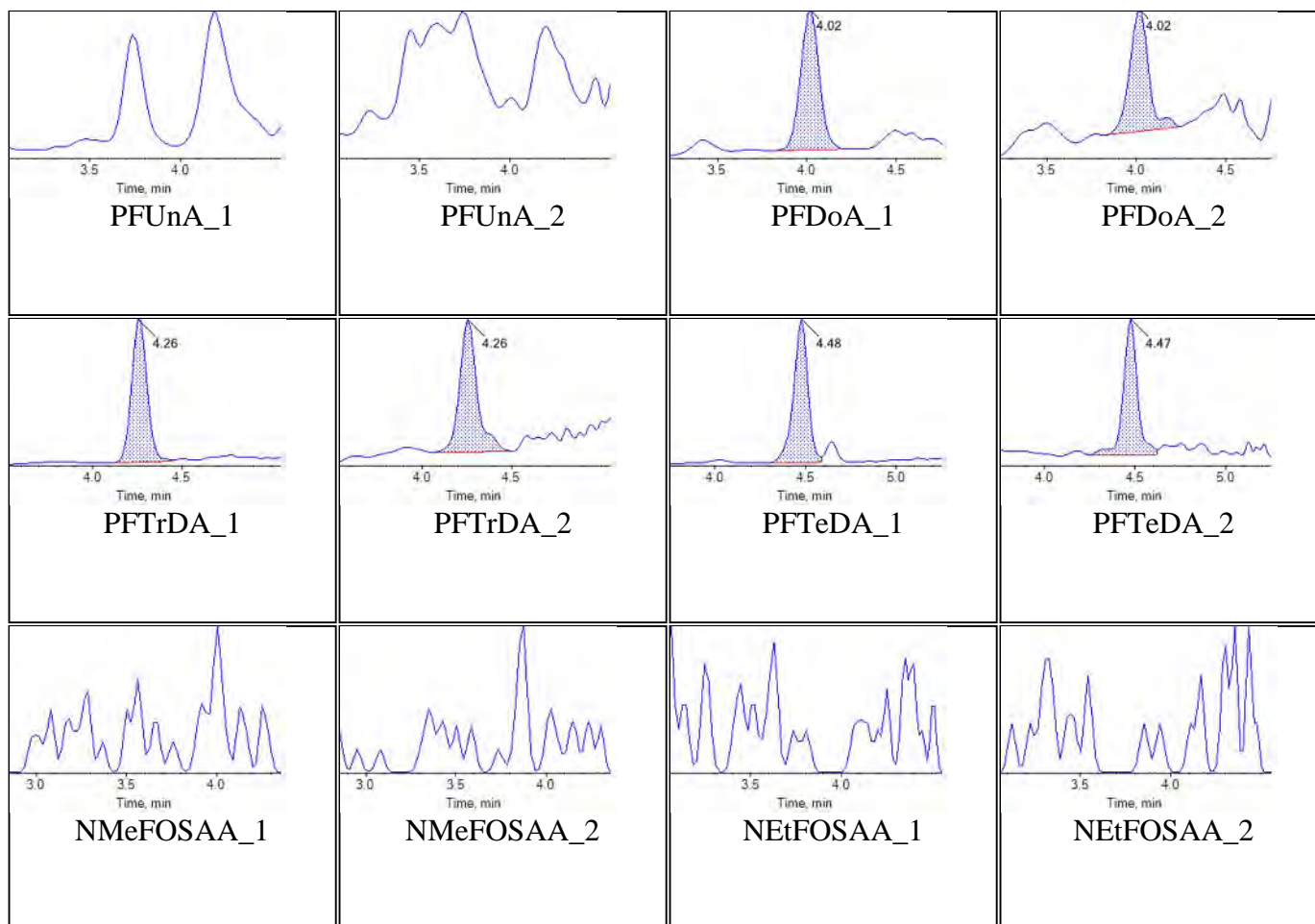
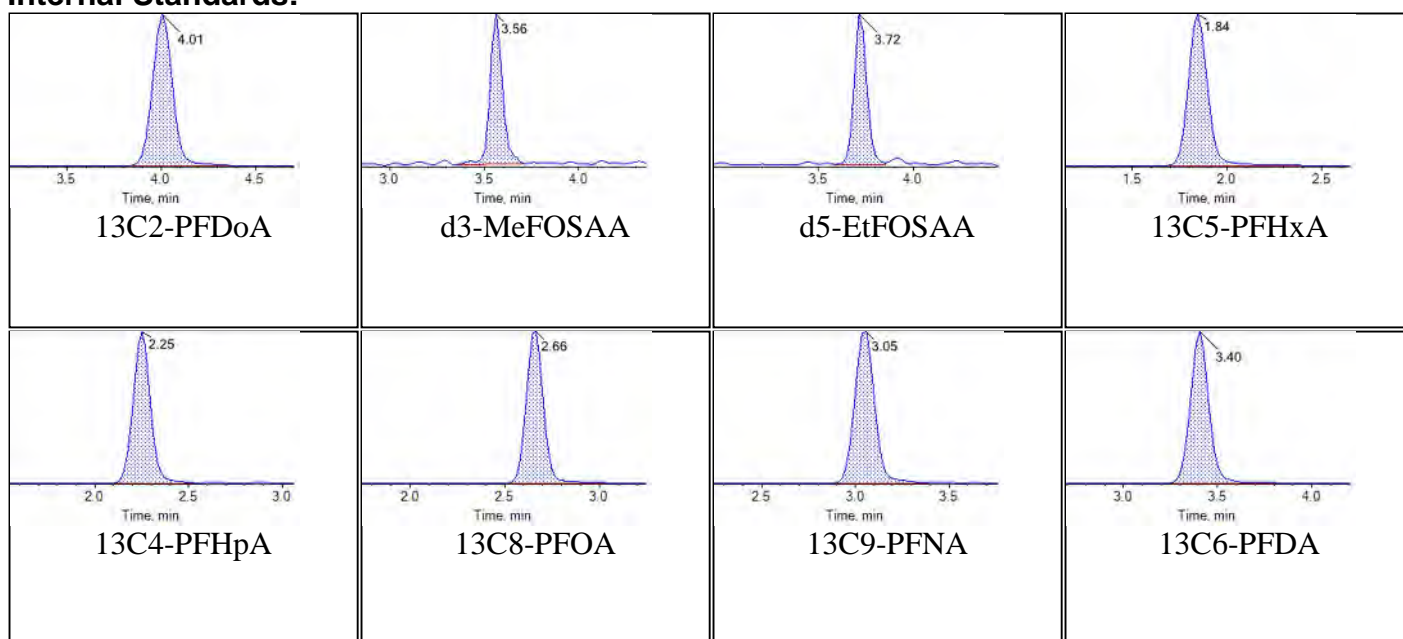


Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

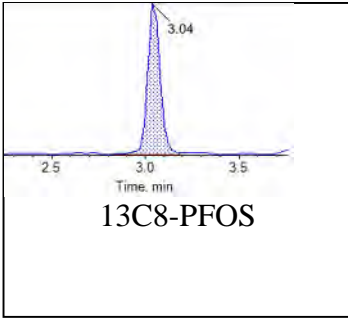
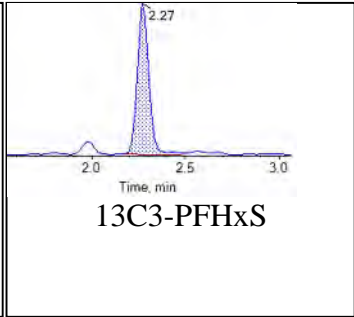
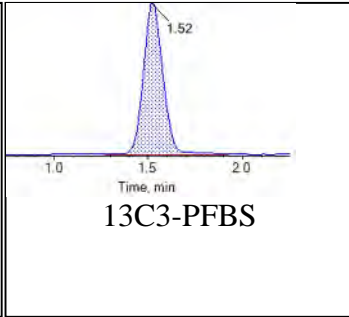
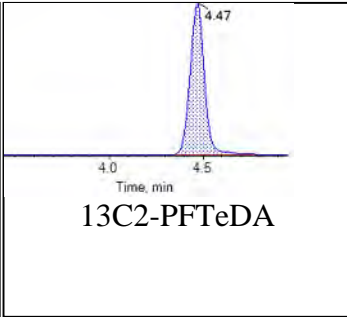
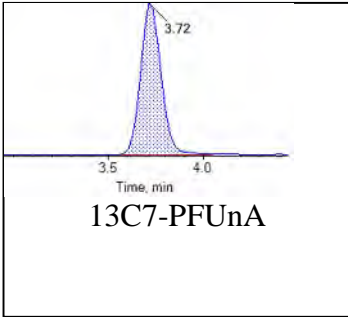


**Internal Standards:**



Chromatogram Report

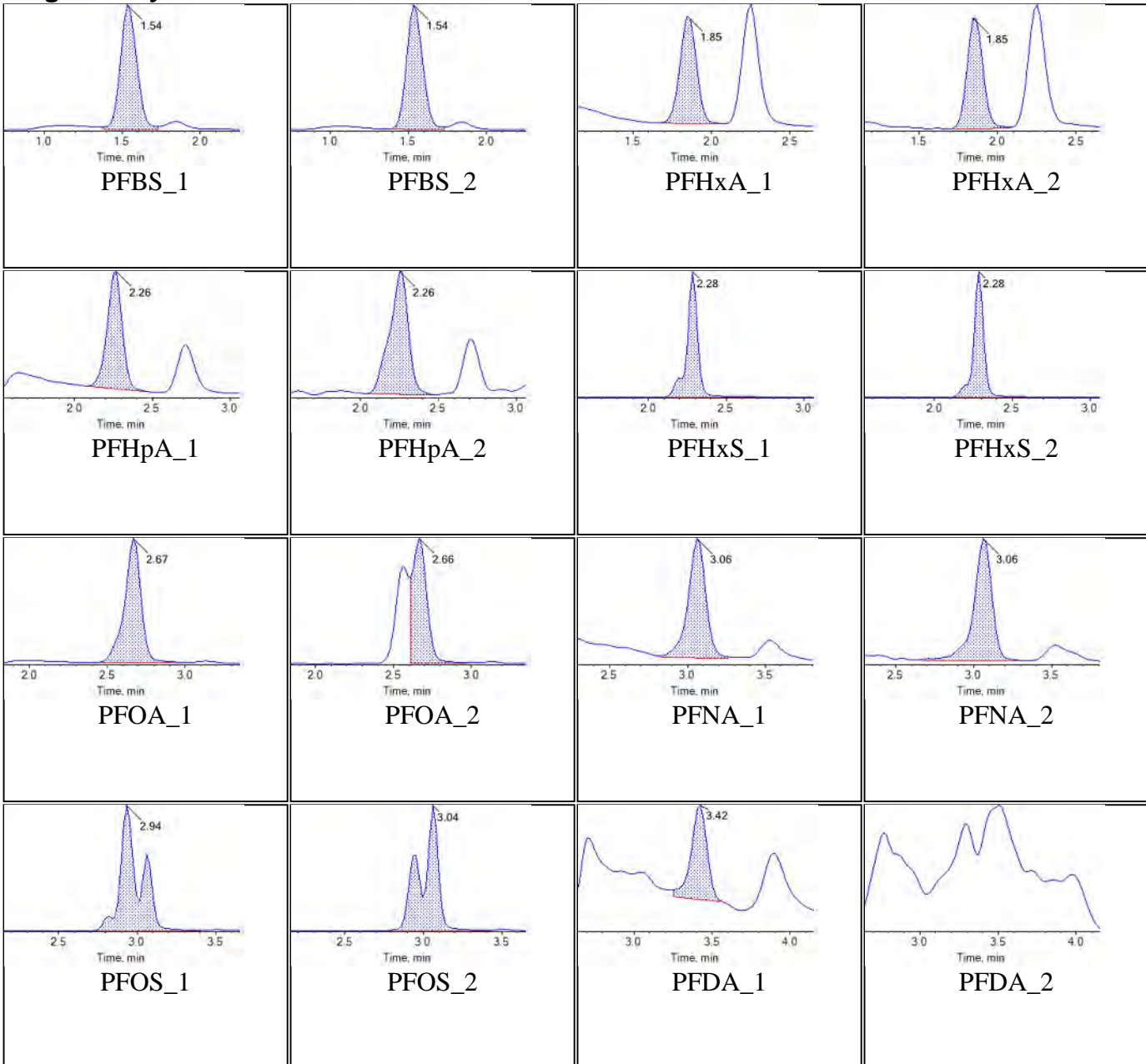
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Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

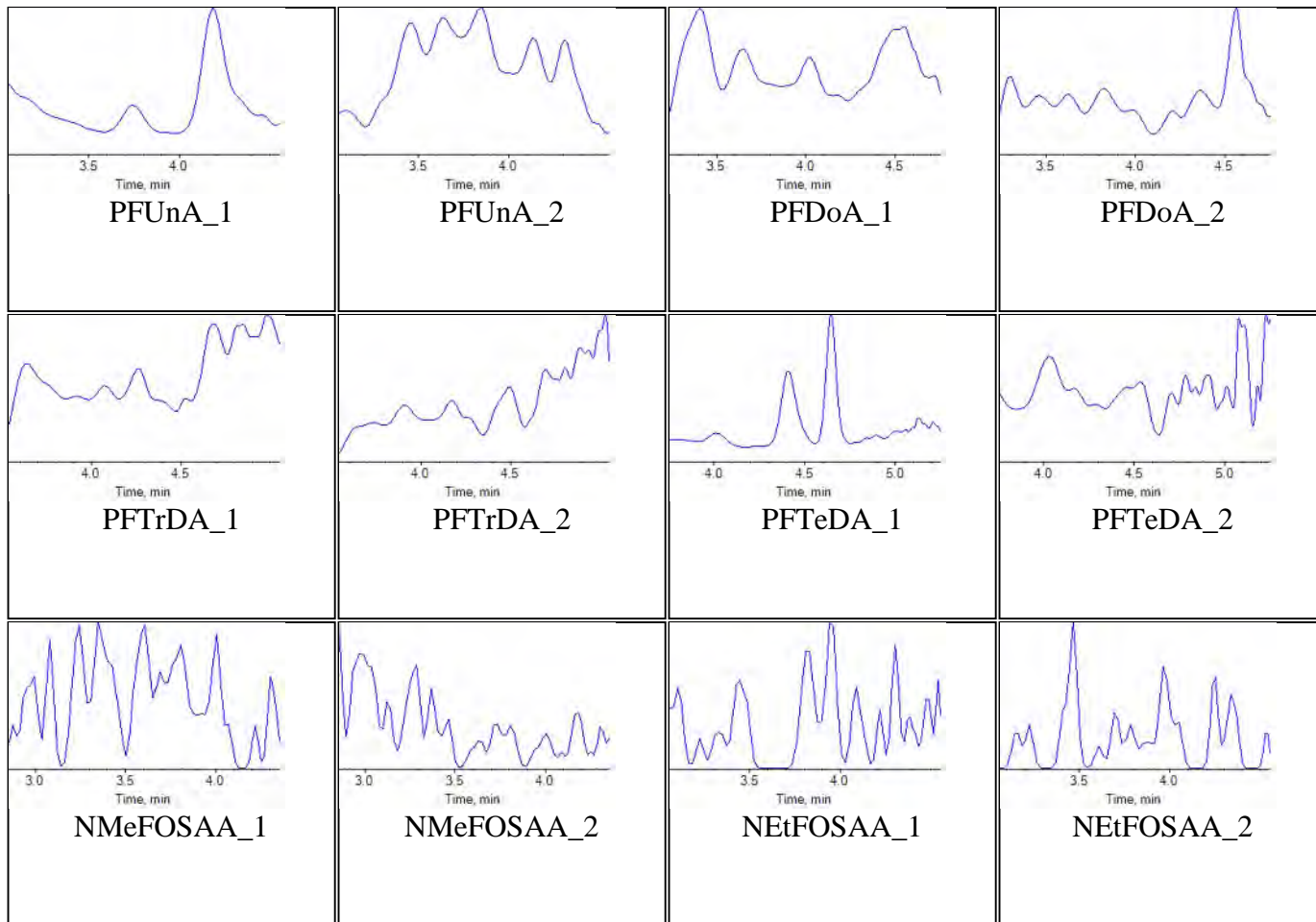
Target Analytes:



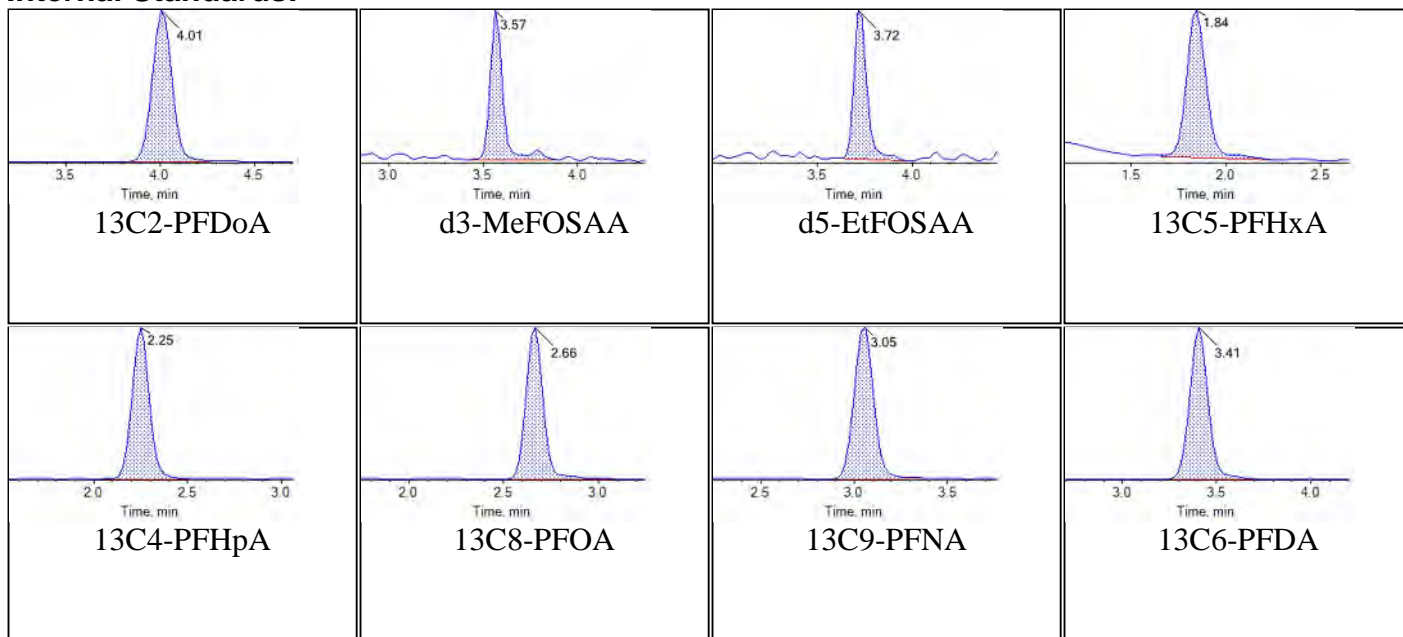


Chromatogram Report

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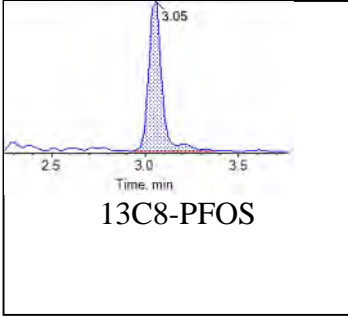
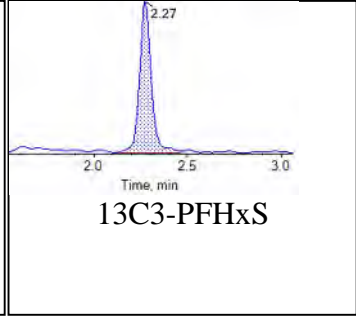
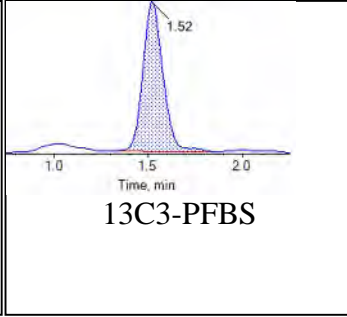
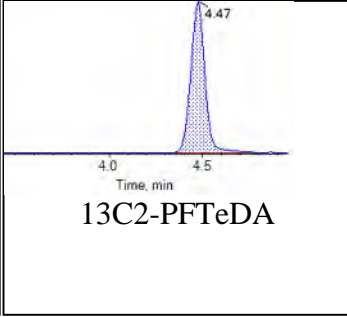
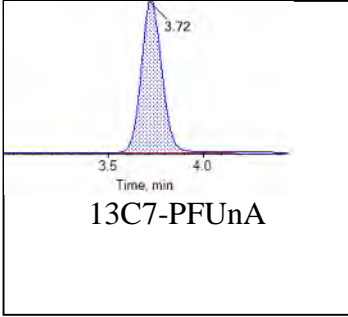


Internal Standards:



Chromatogram Report

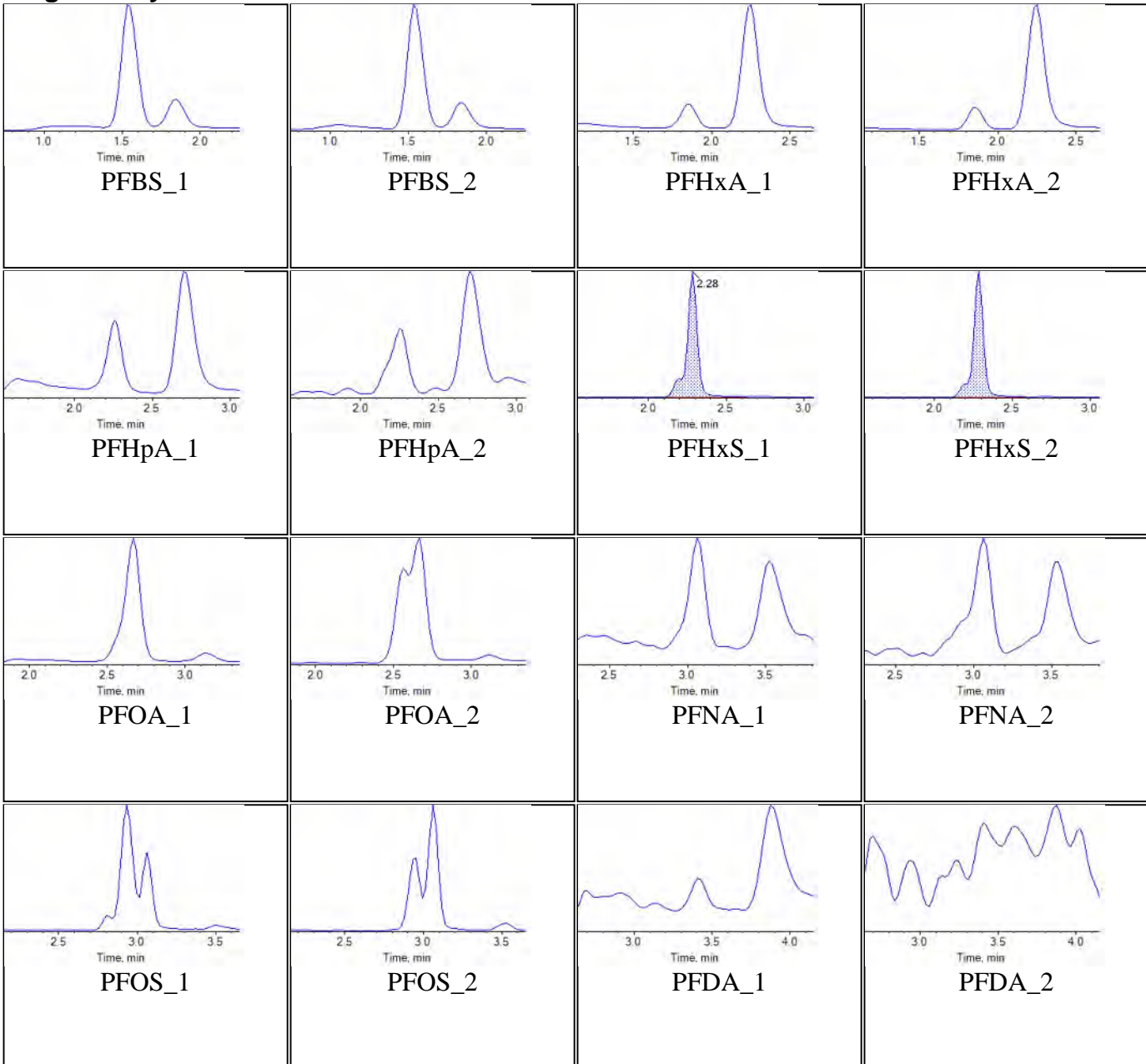
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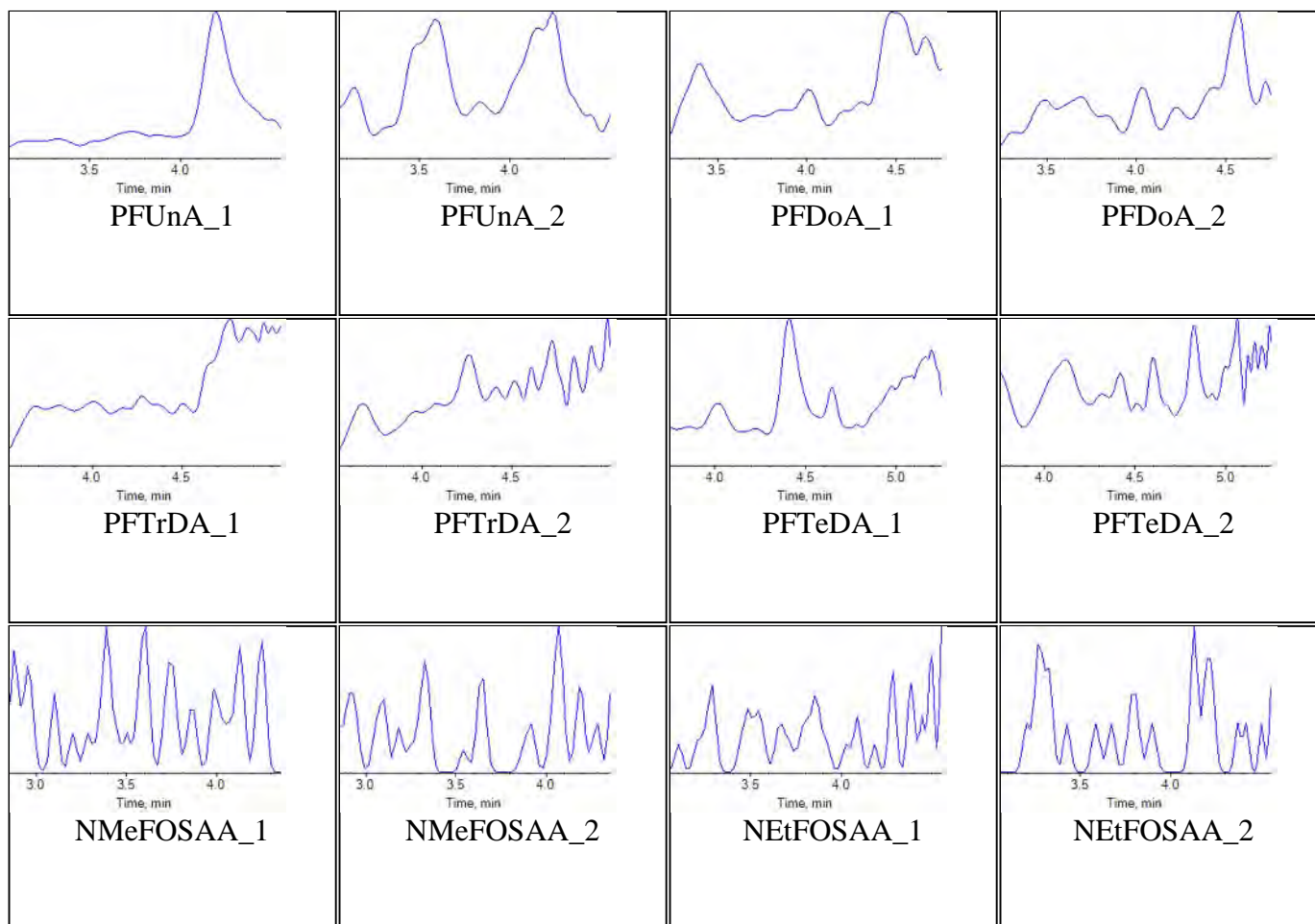
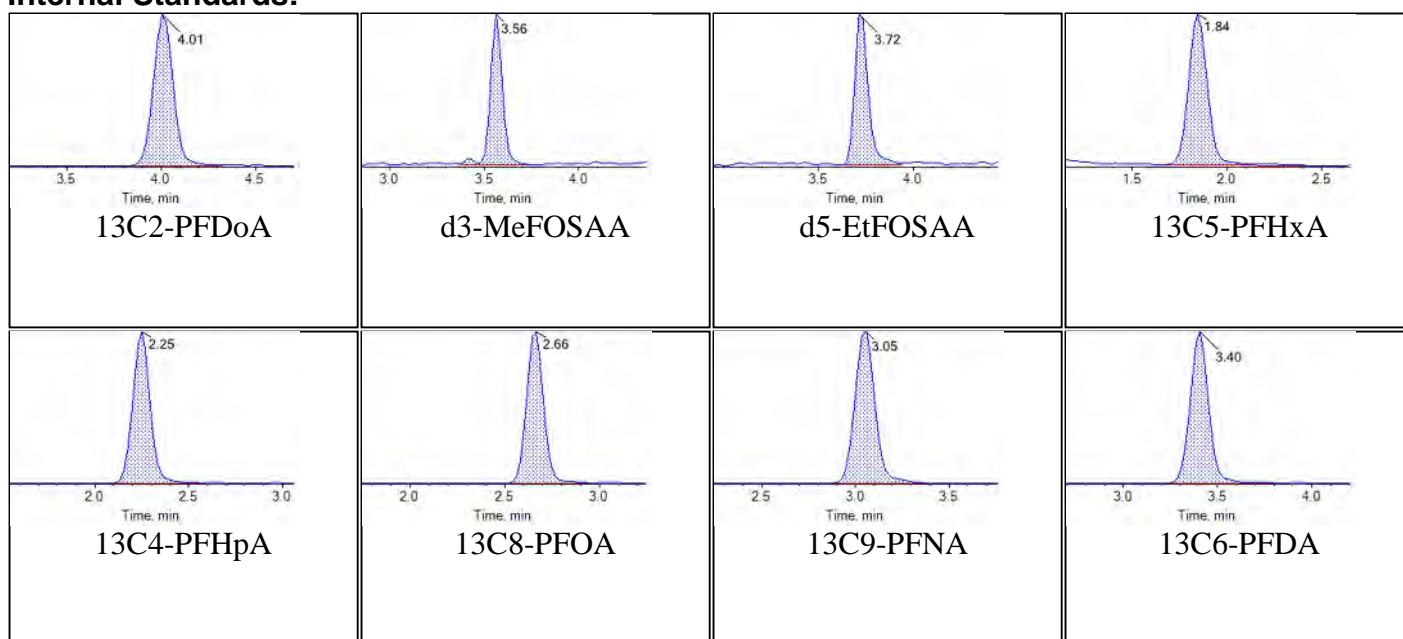


Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

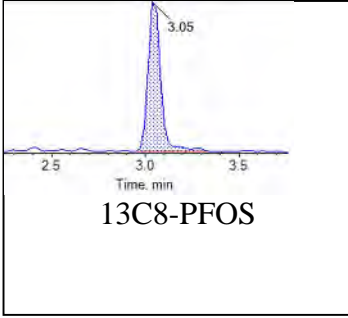
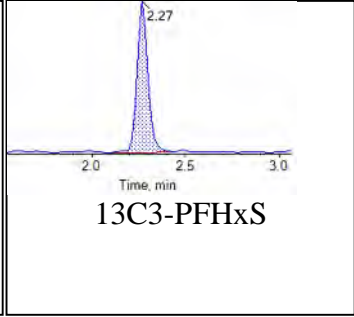
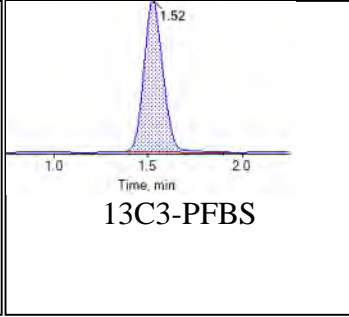
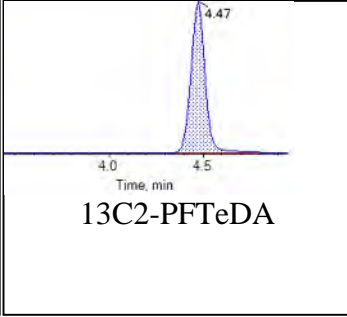
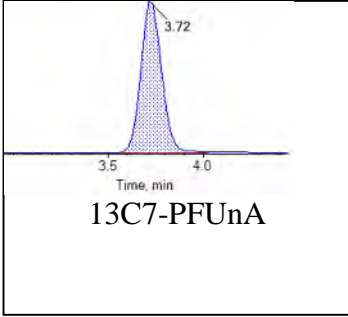
Target Analytes:



**Internal Standards:**

Chromatogram Report

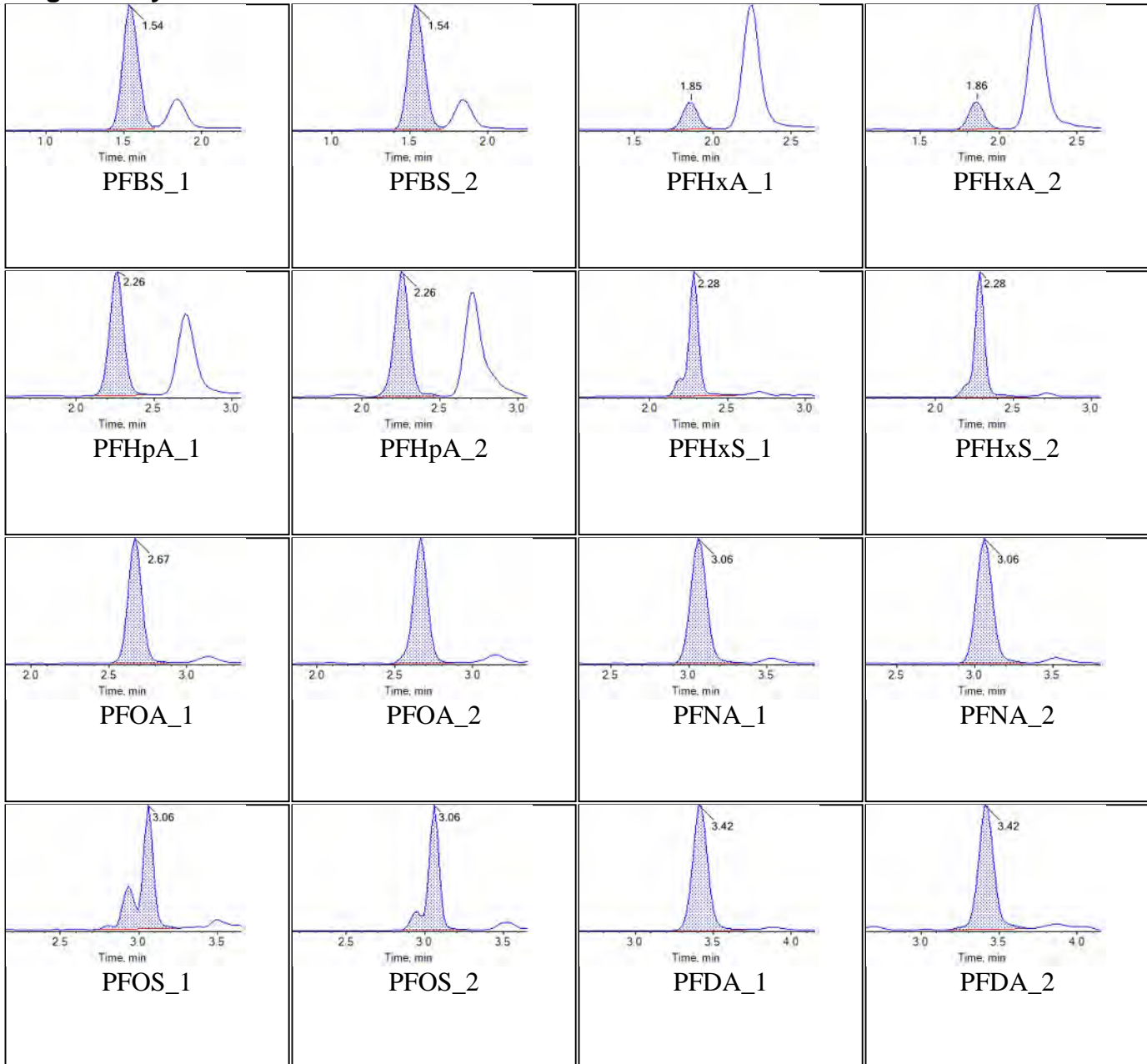
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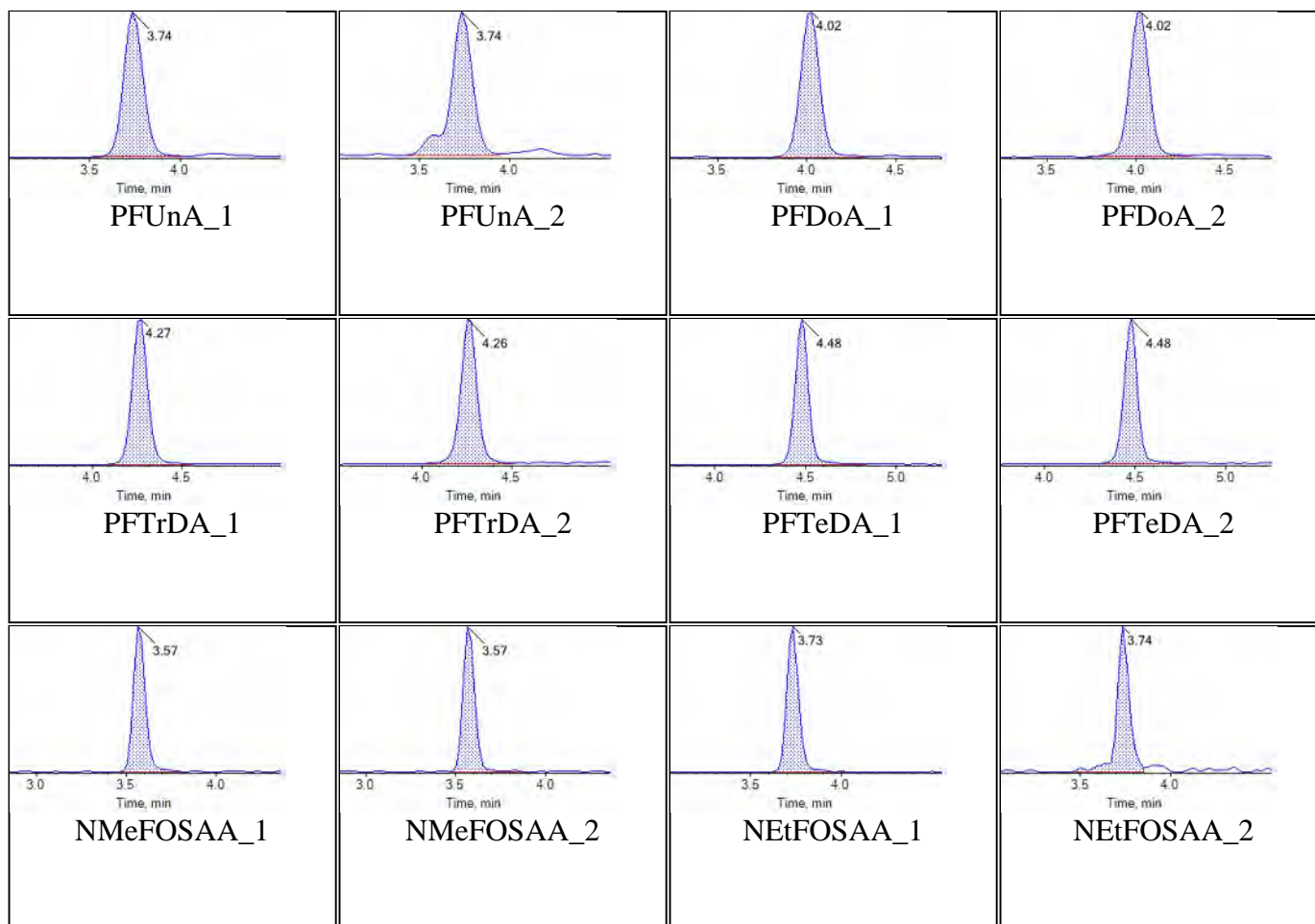
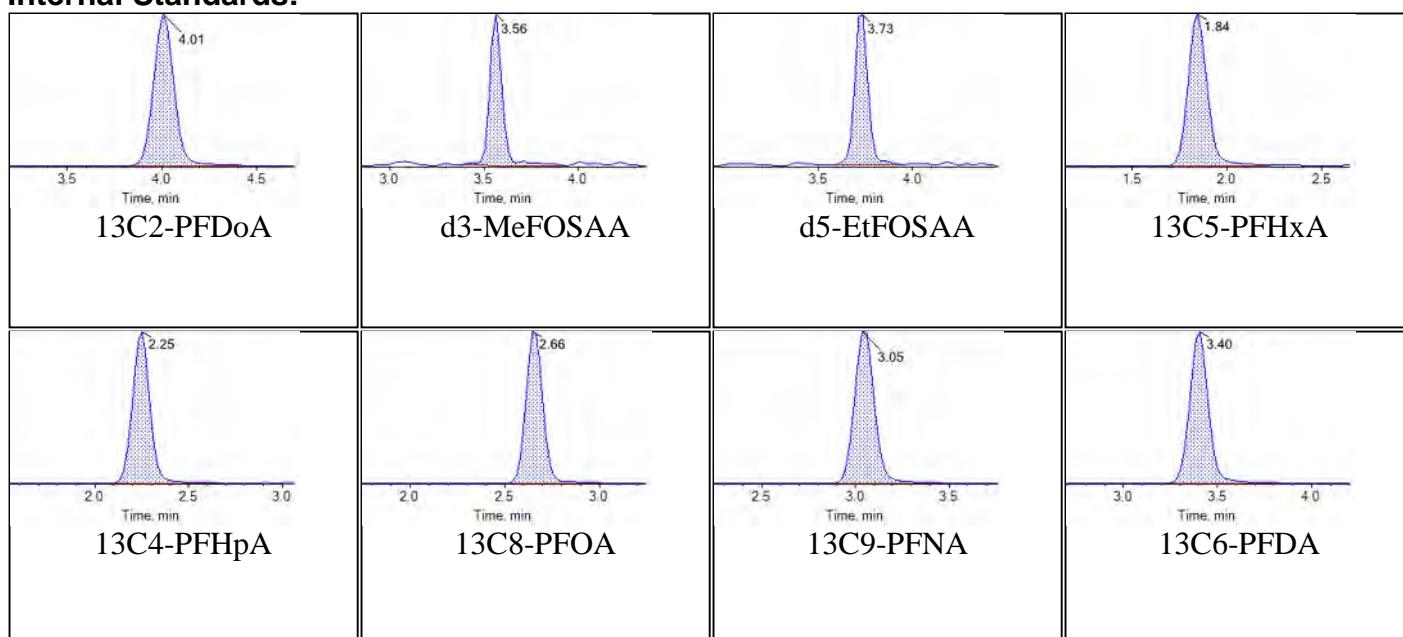


Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

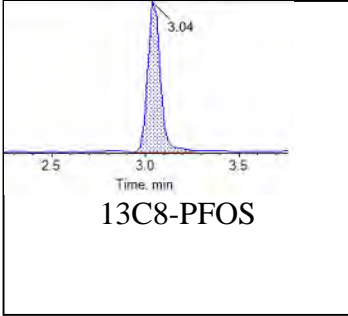
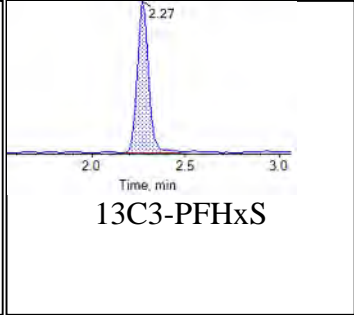
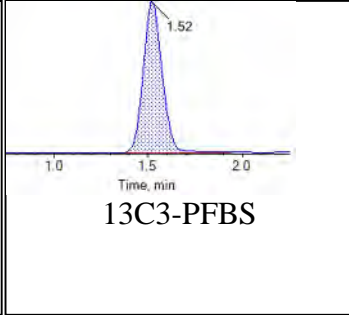
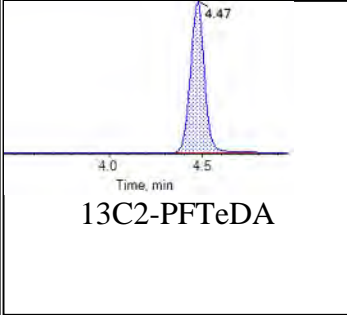
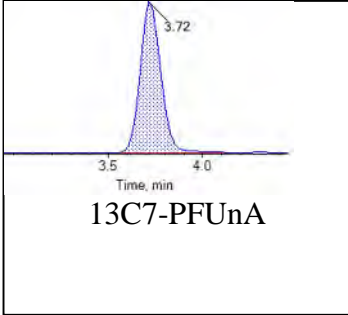


**Internal Standards:**



Chromatogram Report

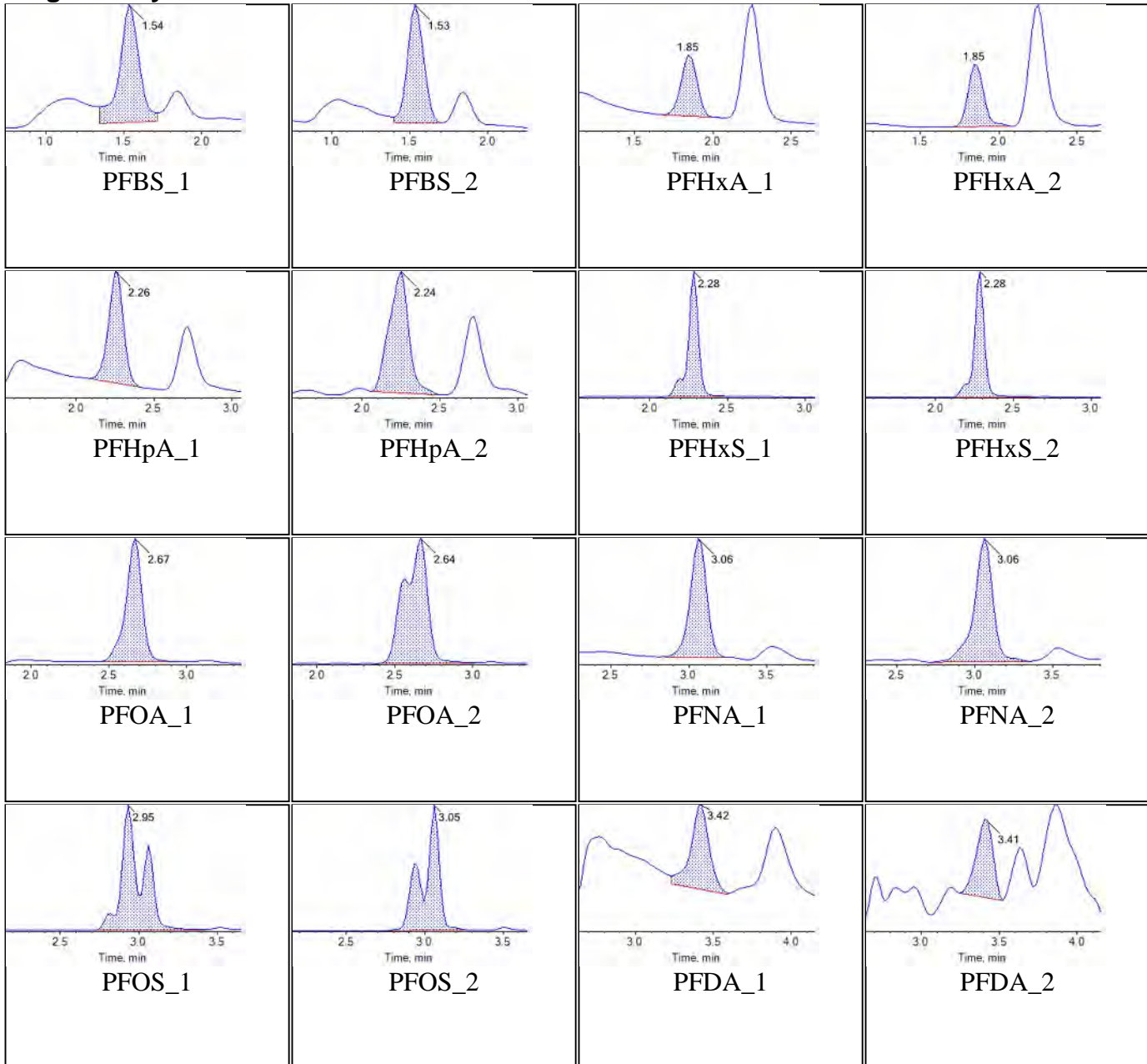
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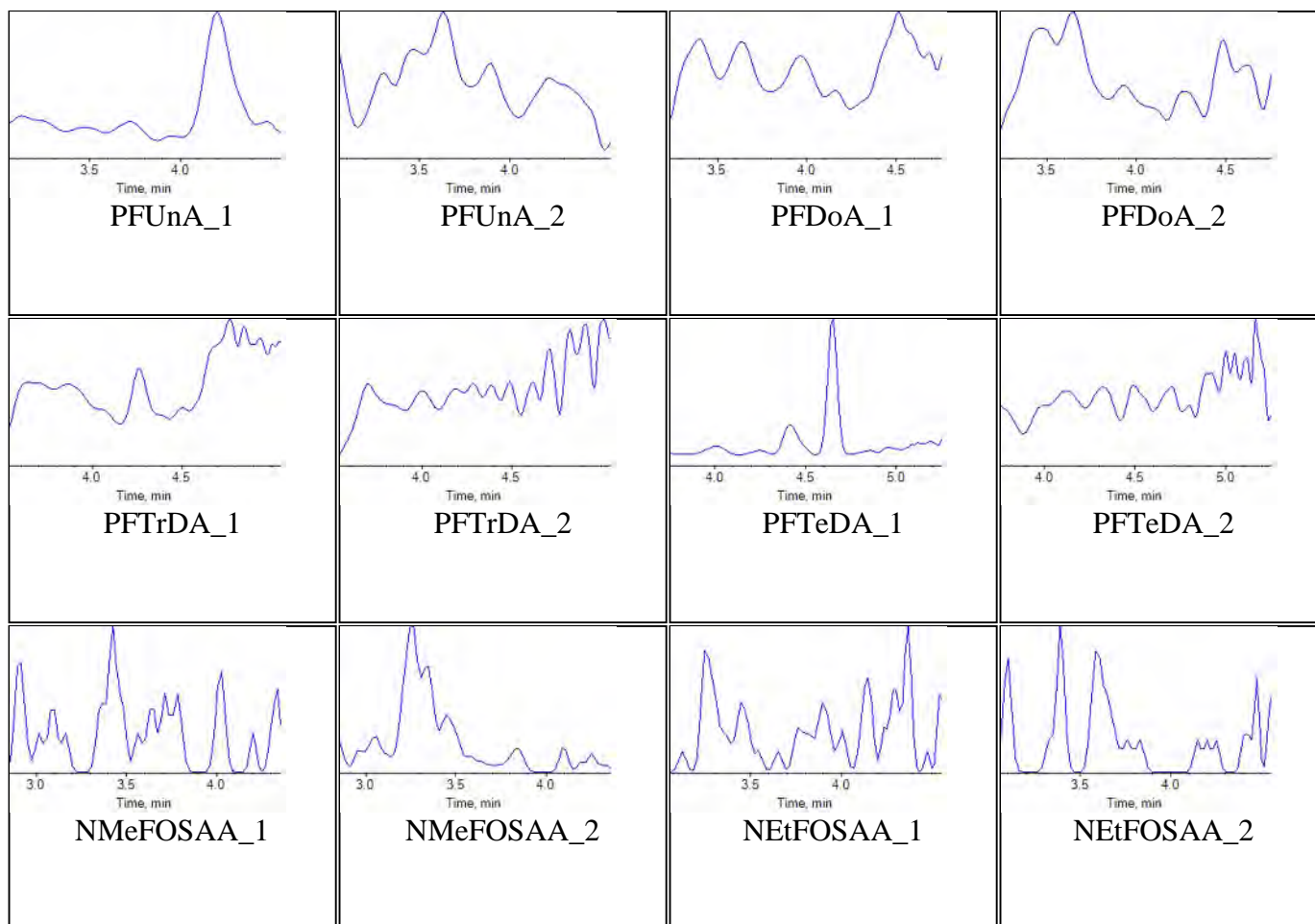
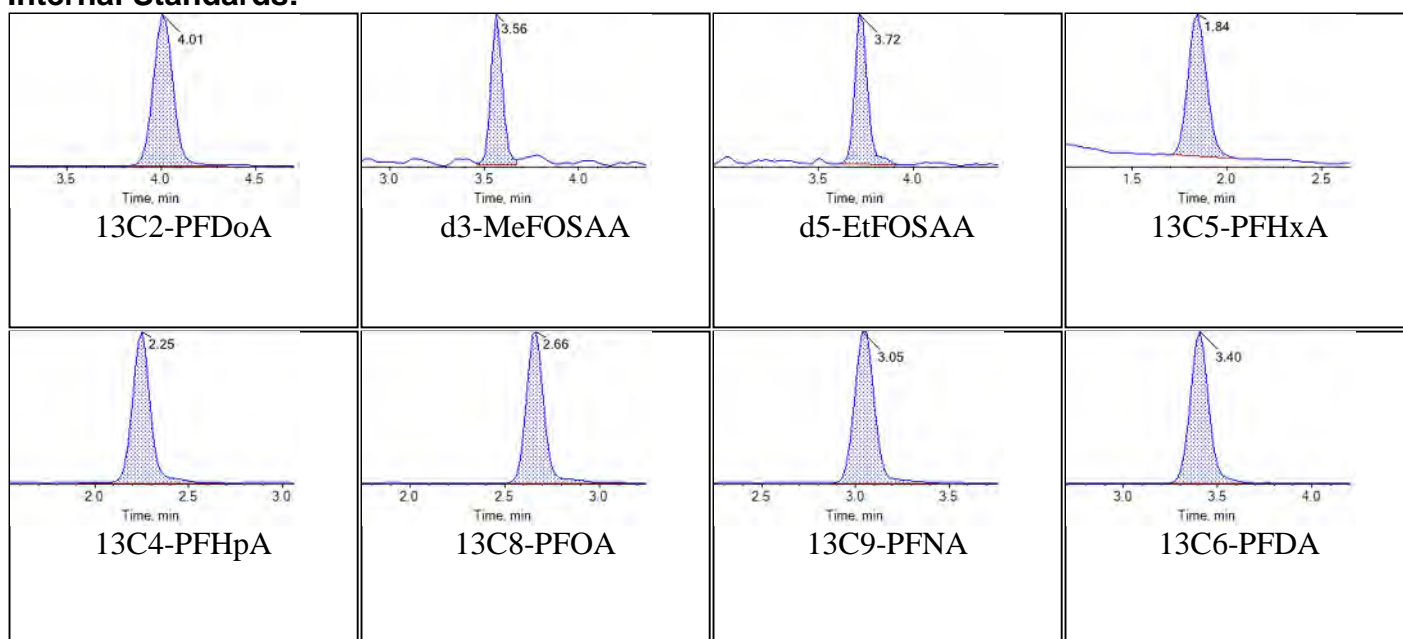


Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

Target Analytes:

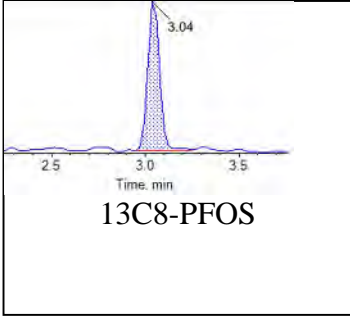
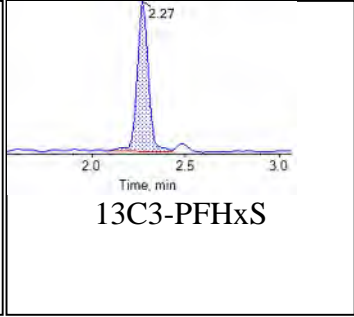
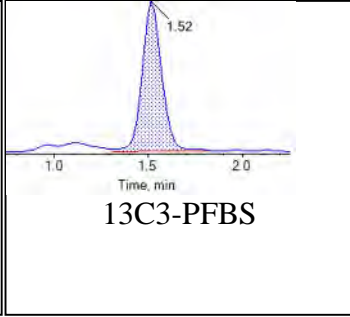
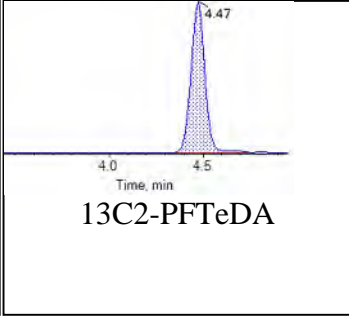
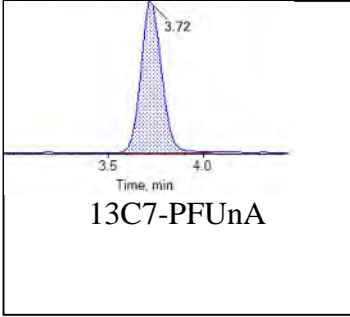


**Internal Standards:**



Chromatogram Report

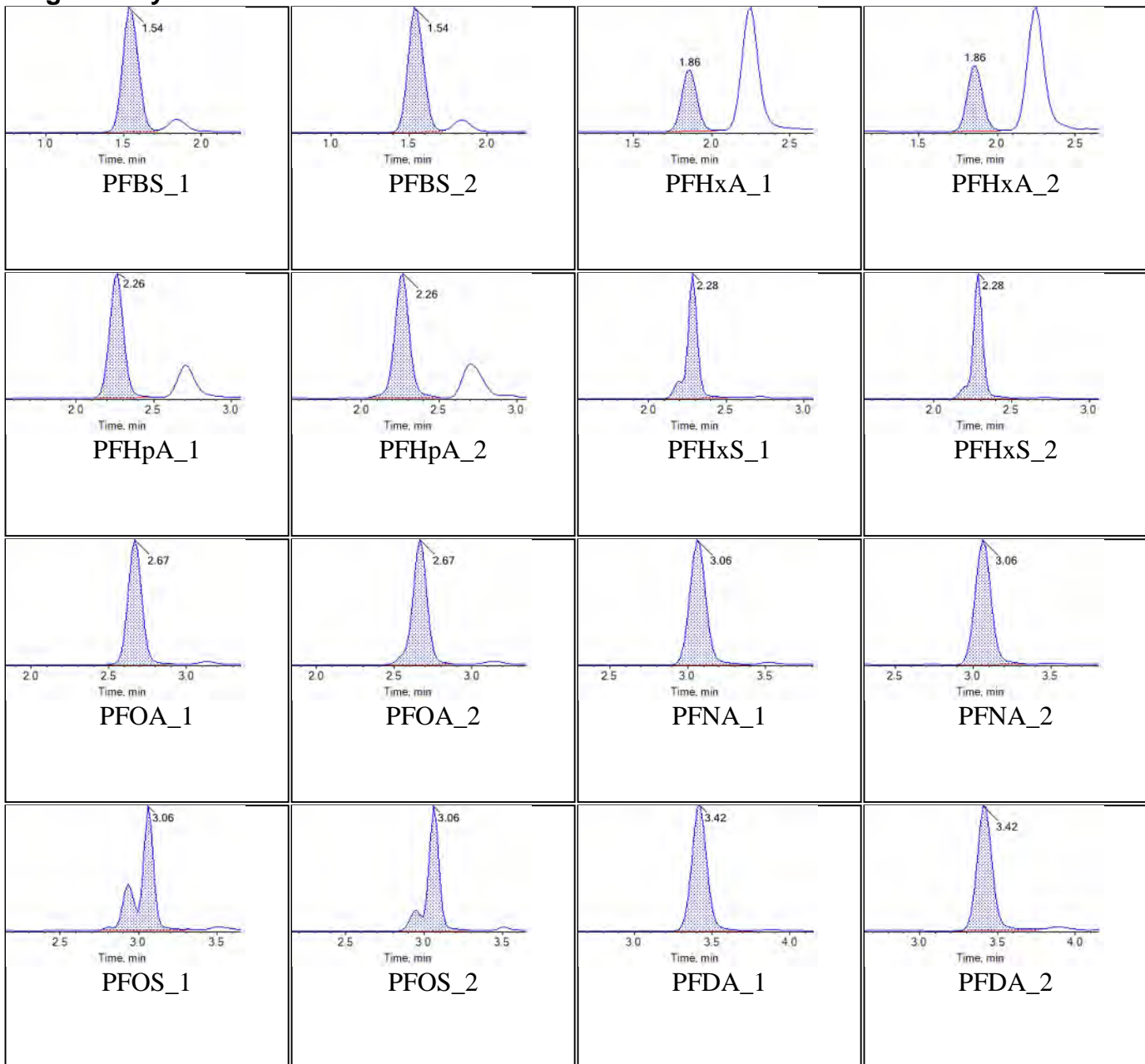
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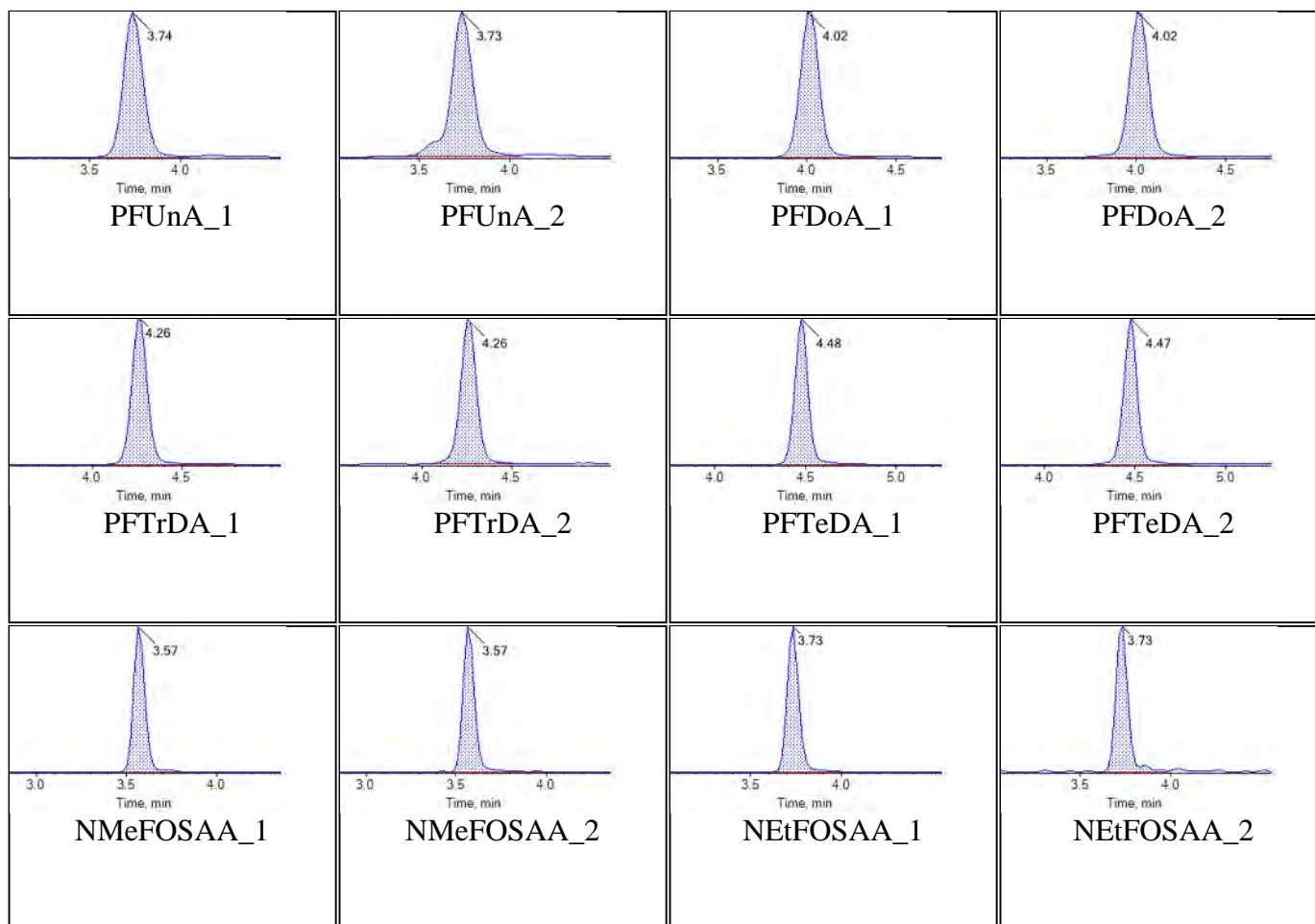
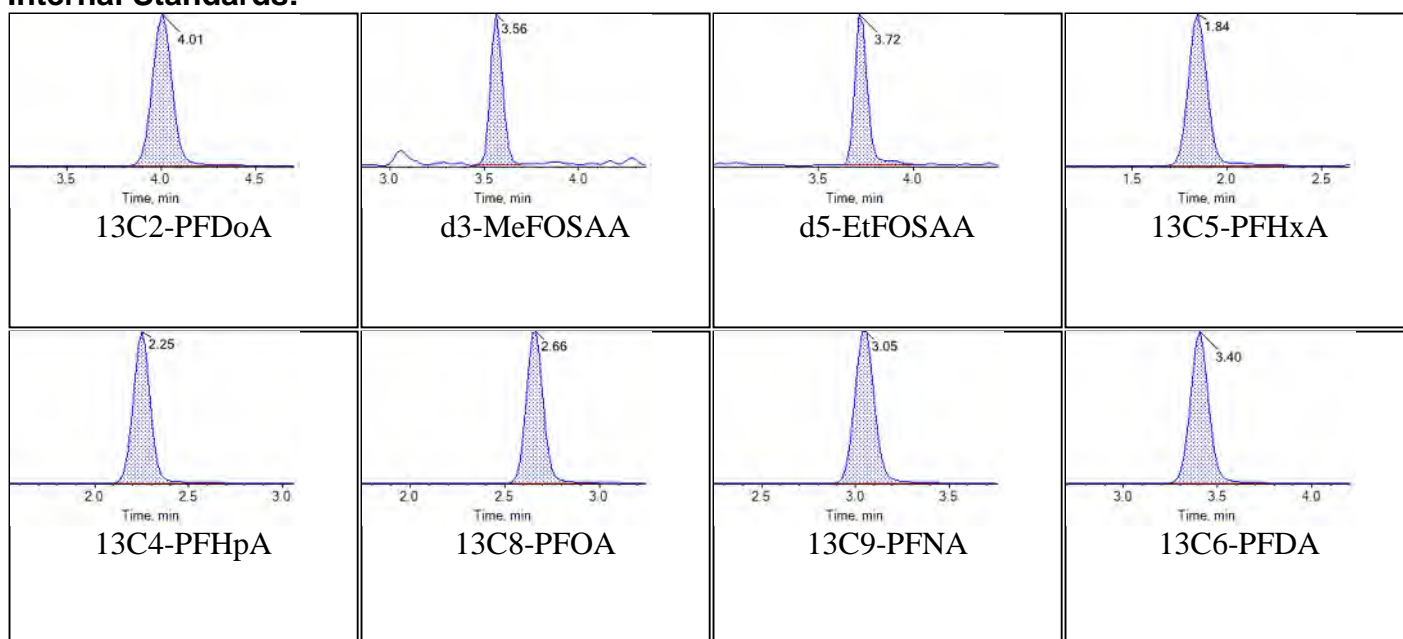


Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

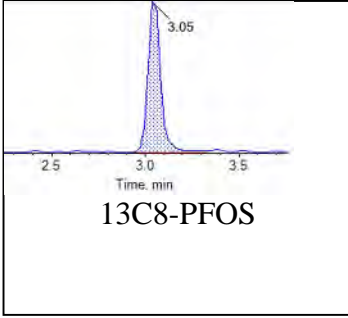
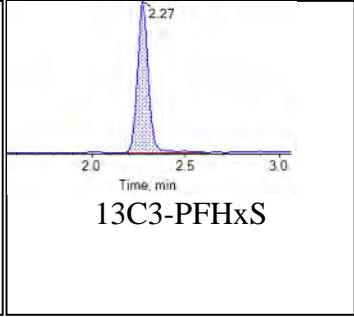
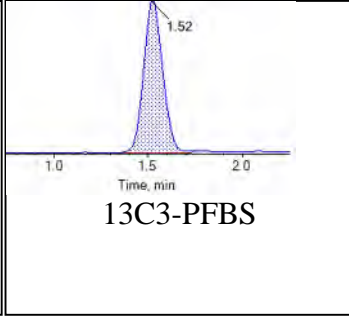
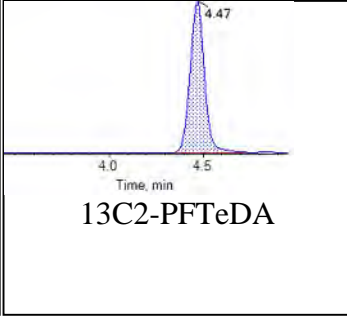
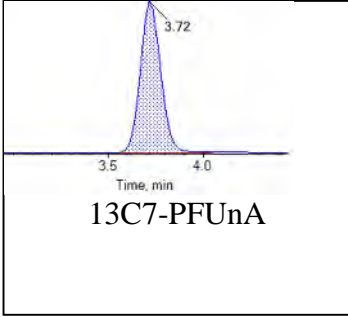
Target Analytes:



**Internal Standards:**

Chromatogram Report

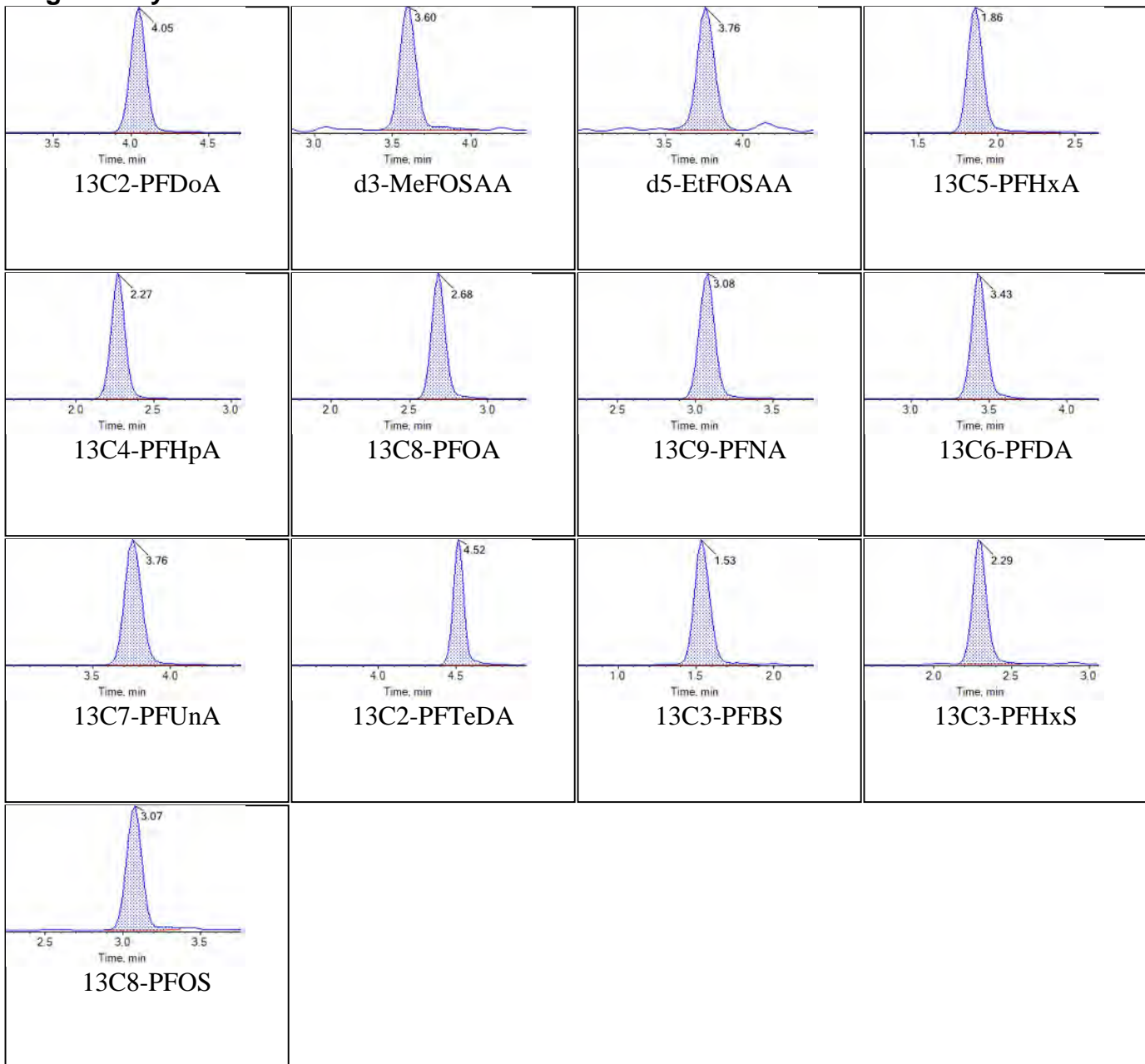
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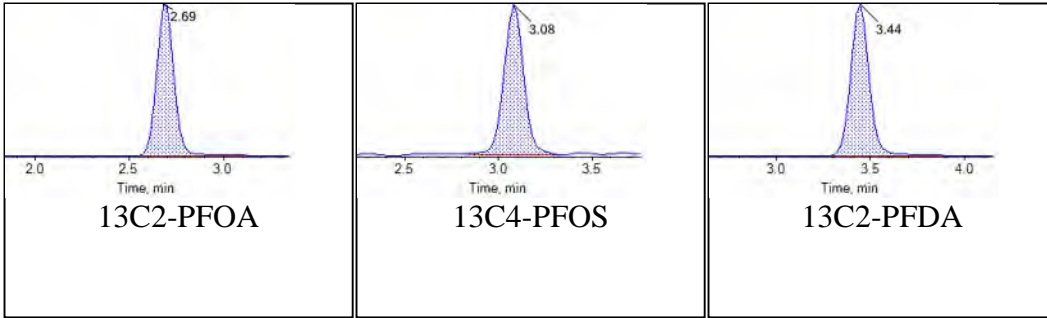
Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



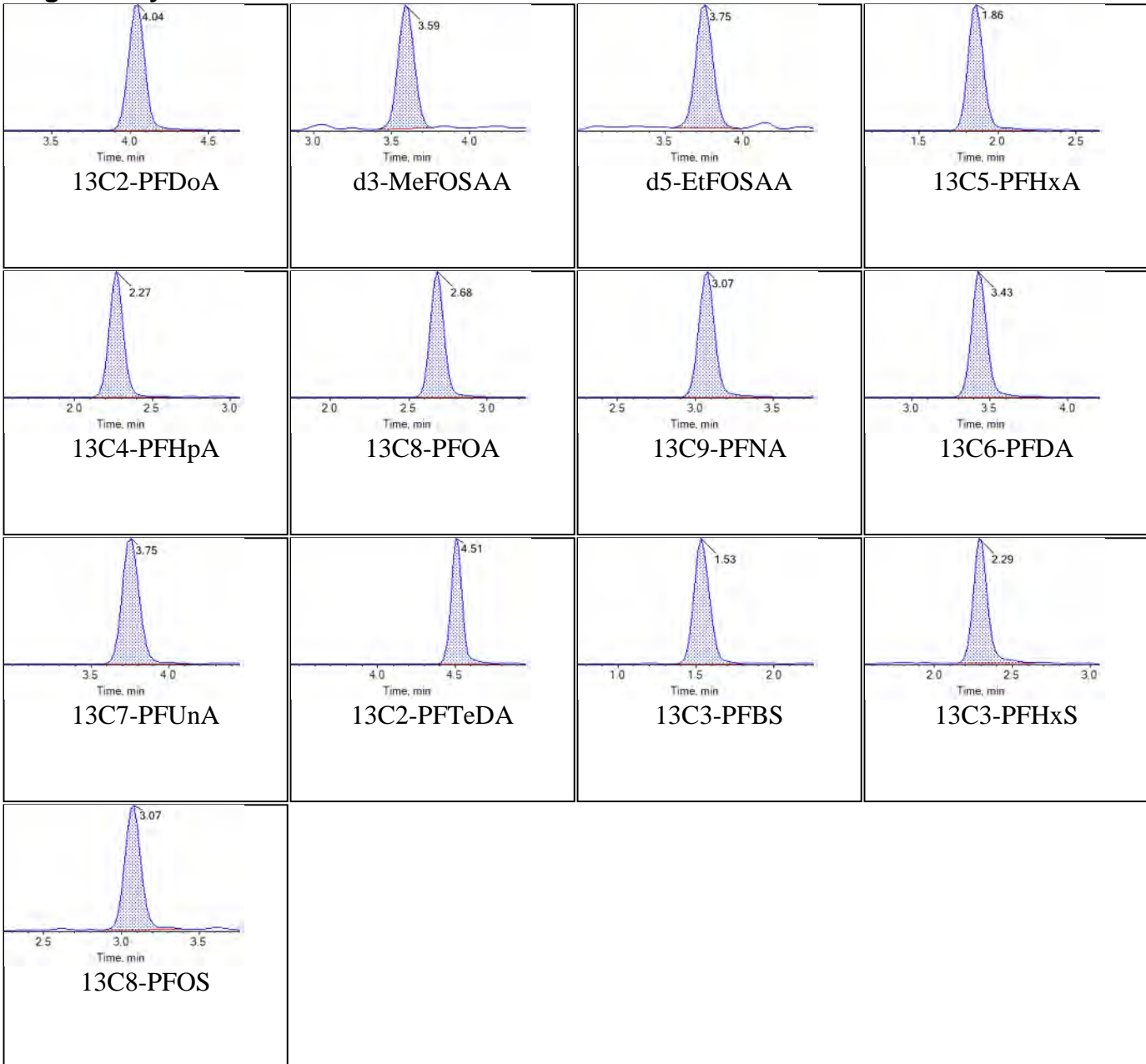
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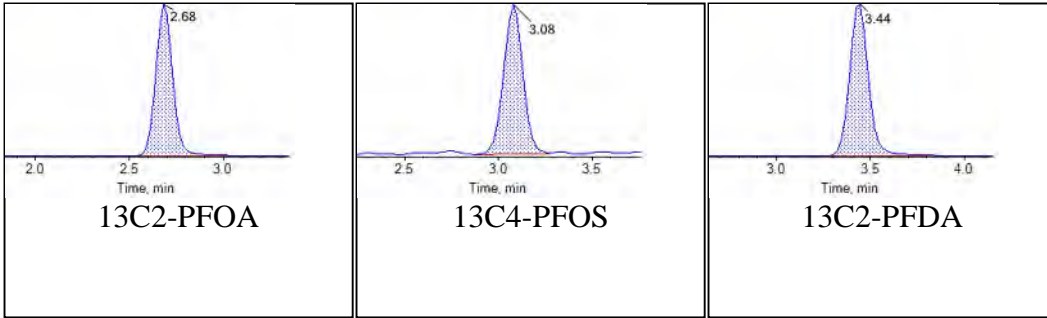
Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



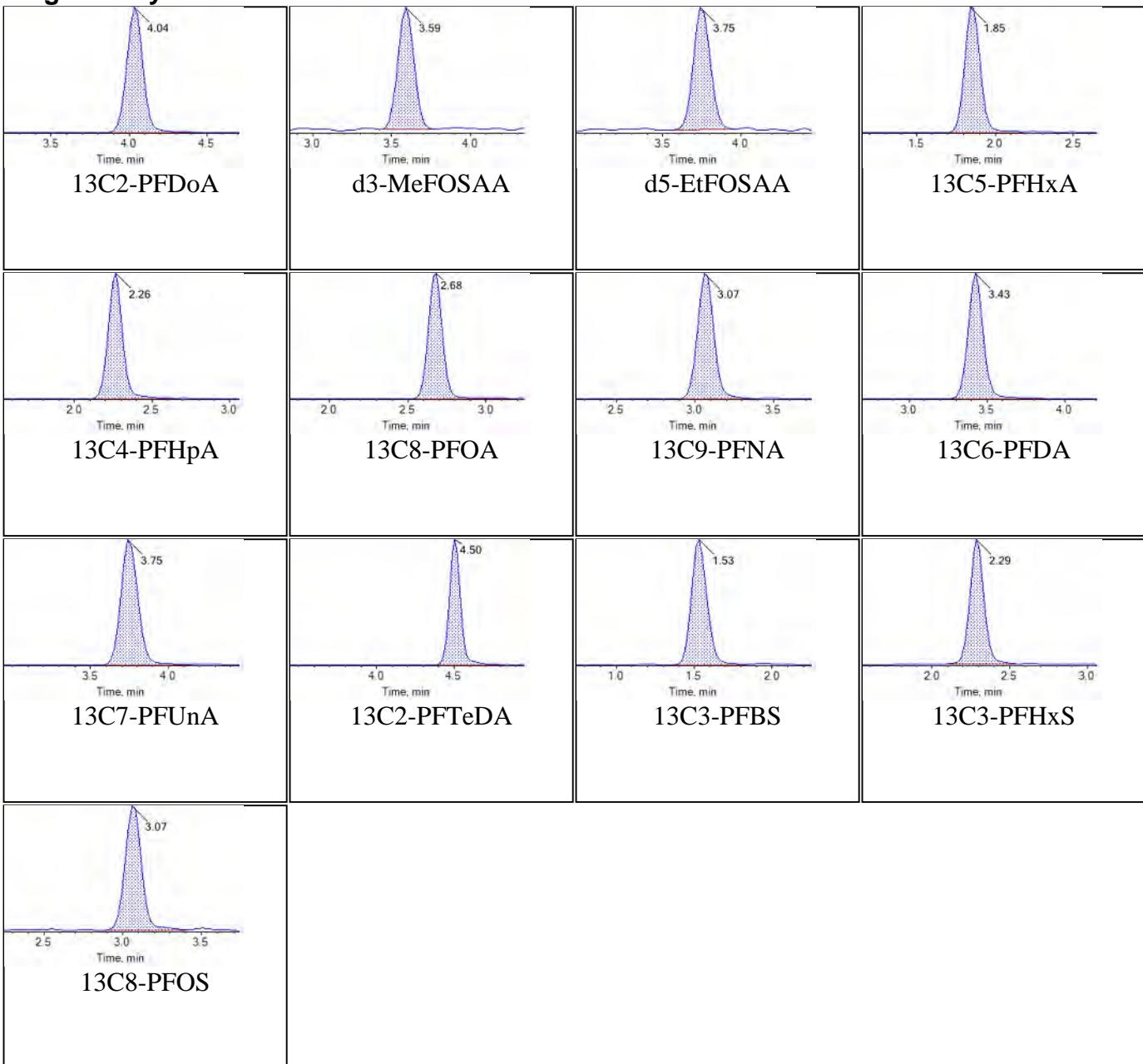
Internal Standards:



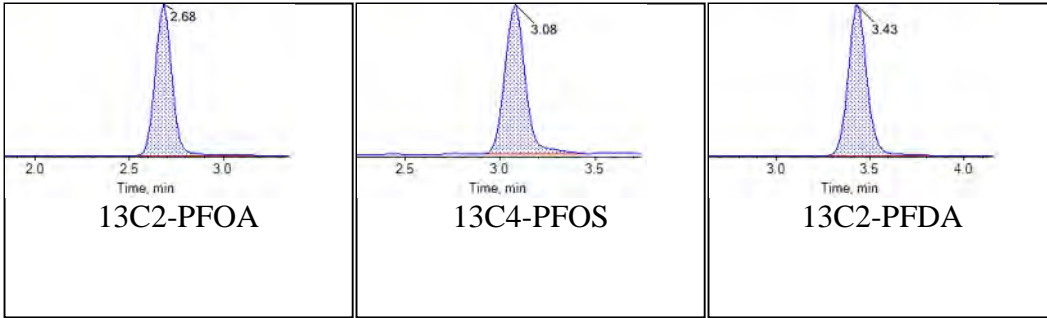
Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



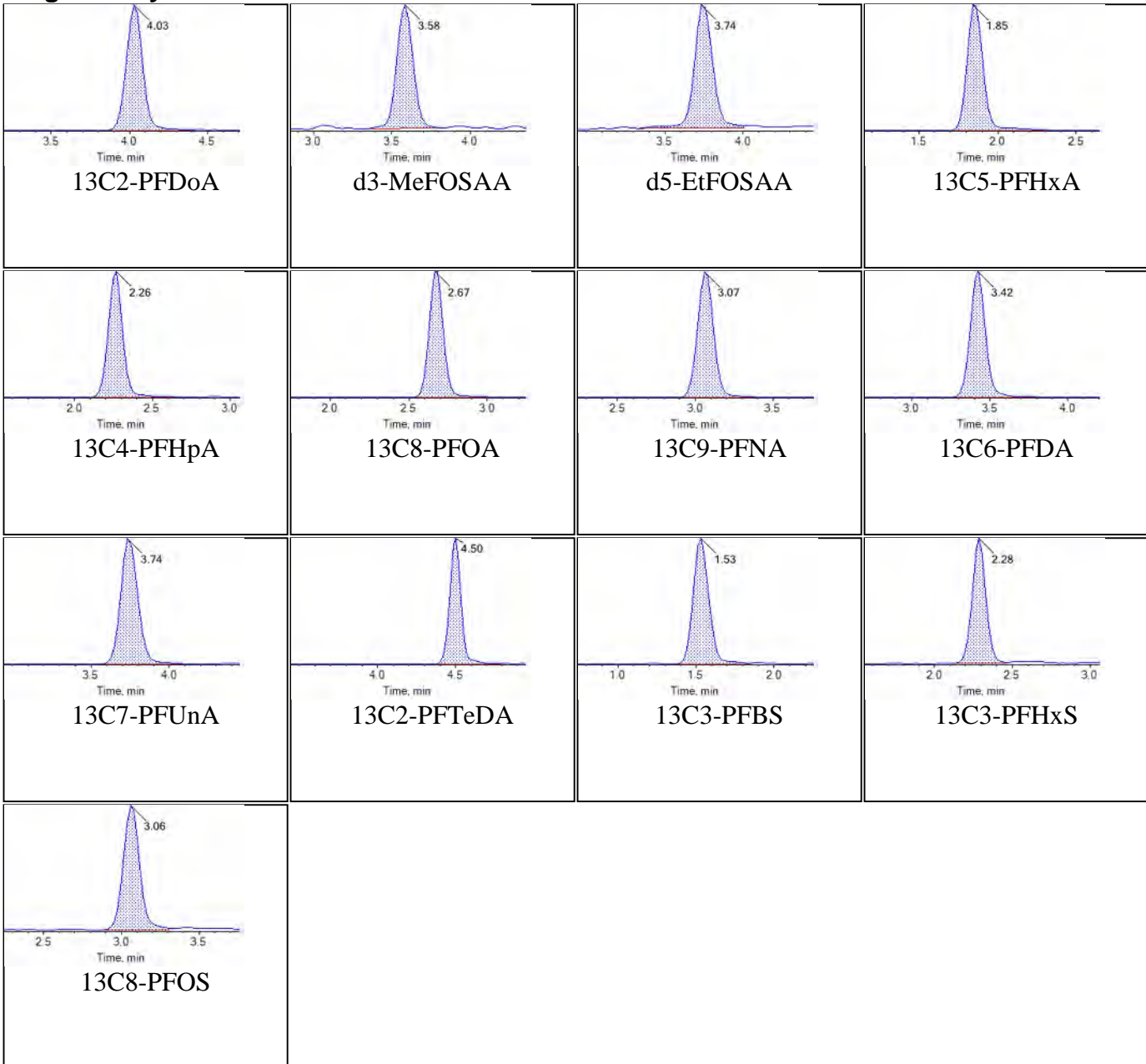
Internal Standards:



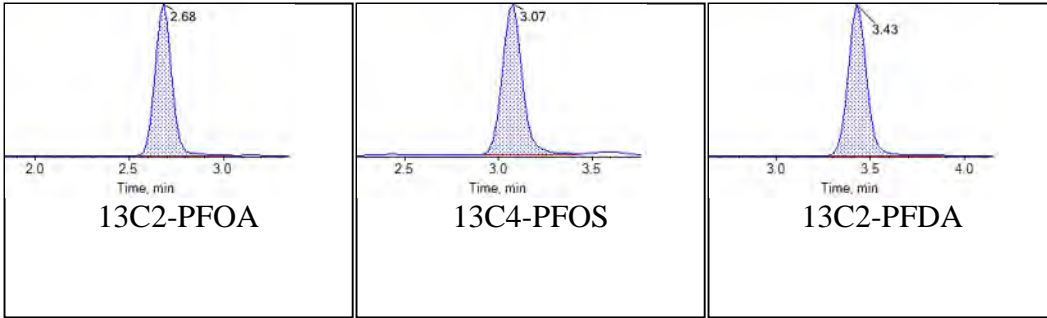
Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



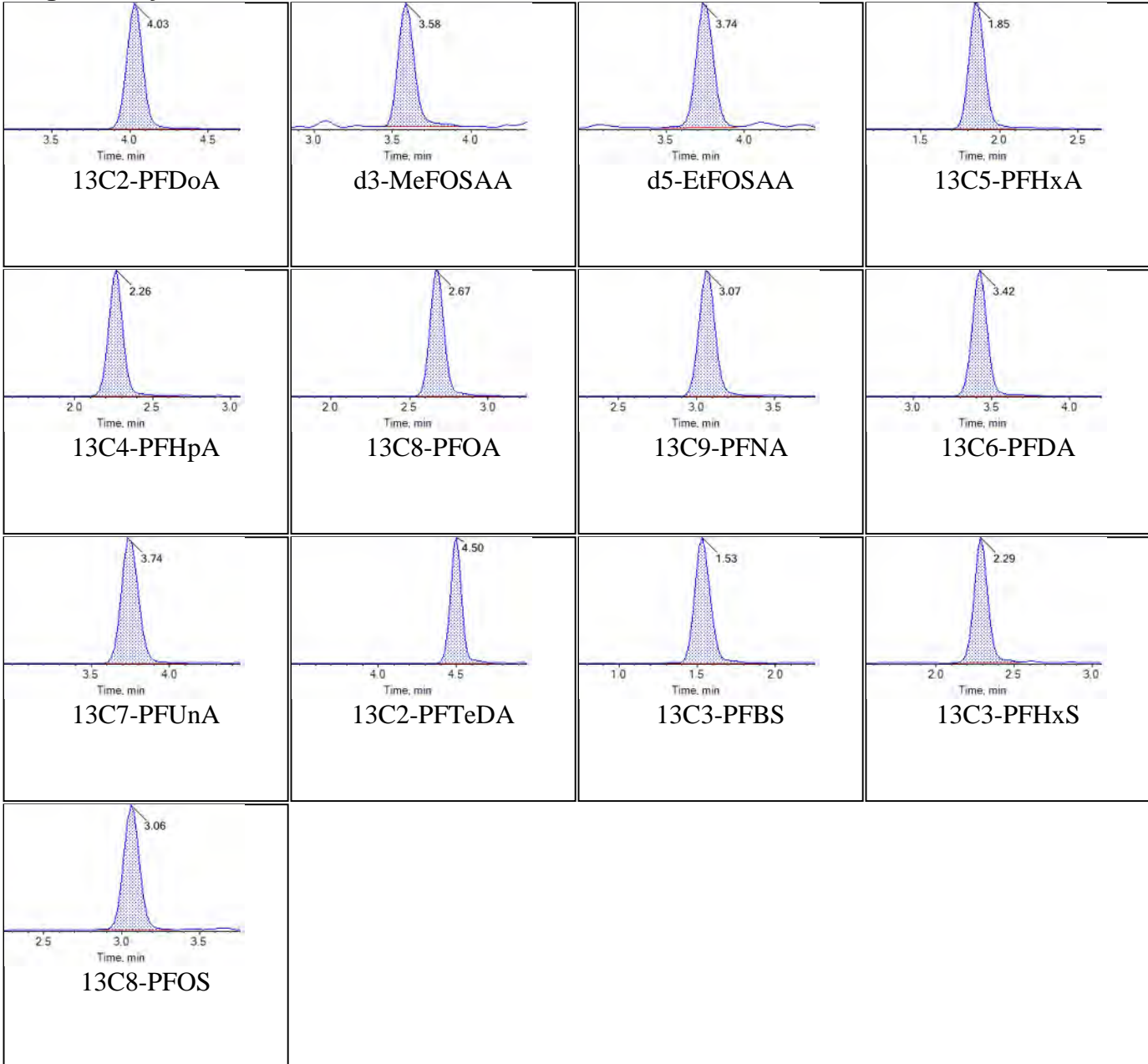
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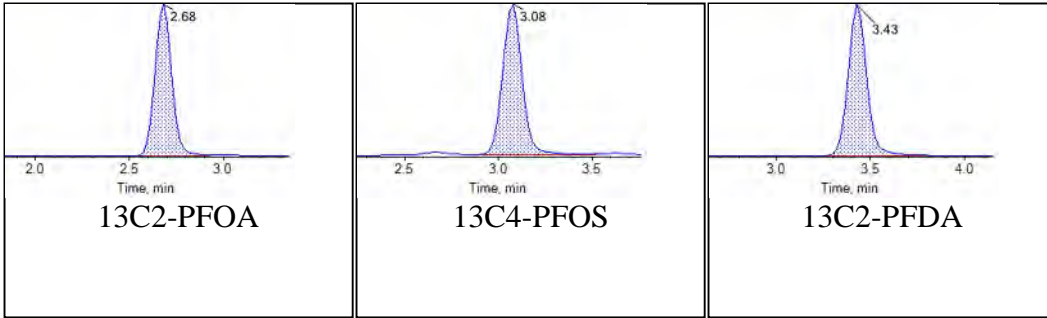
Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



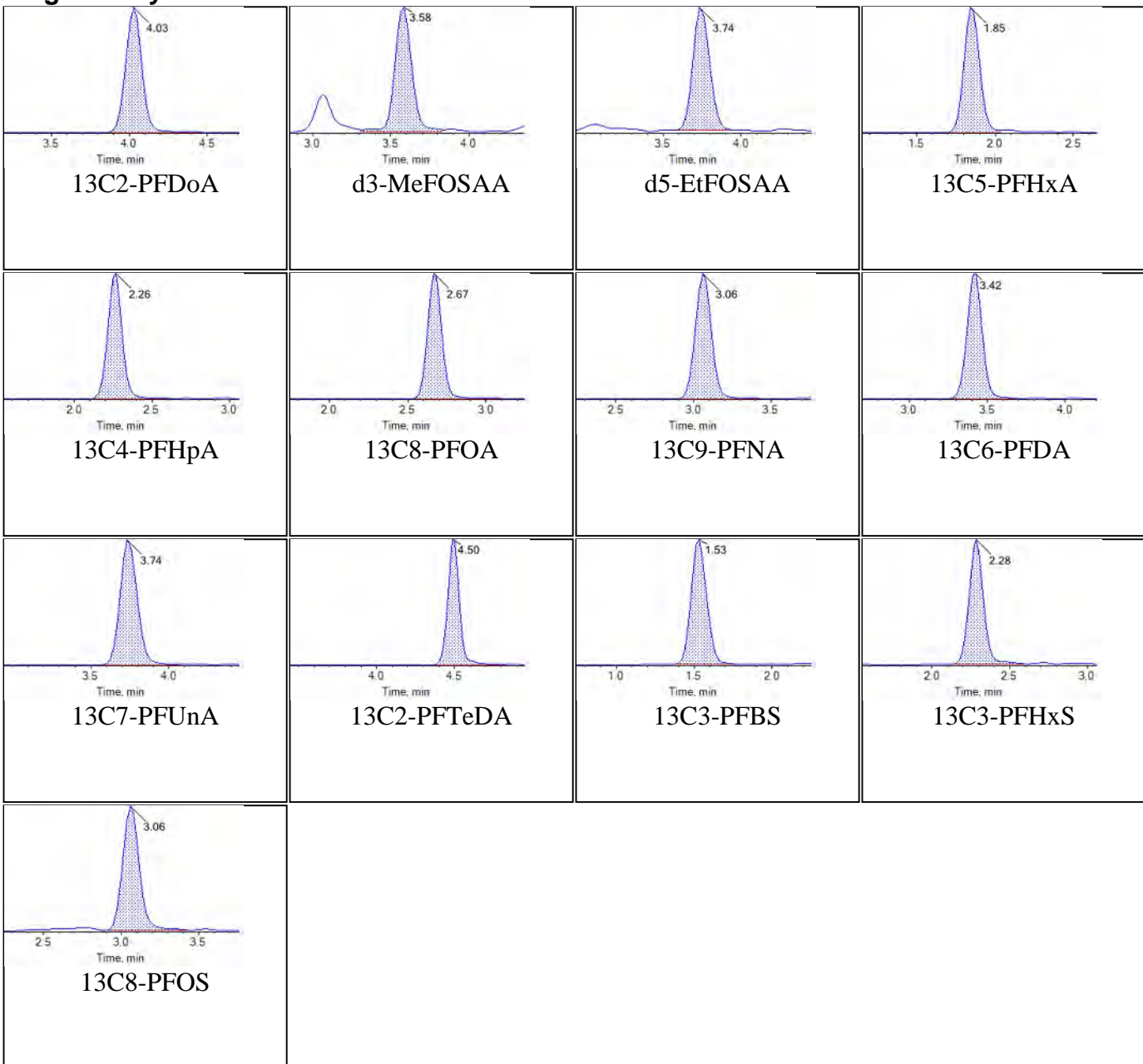
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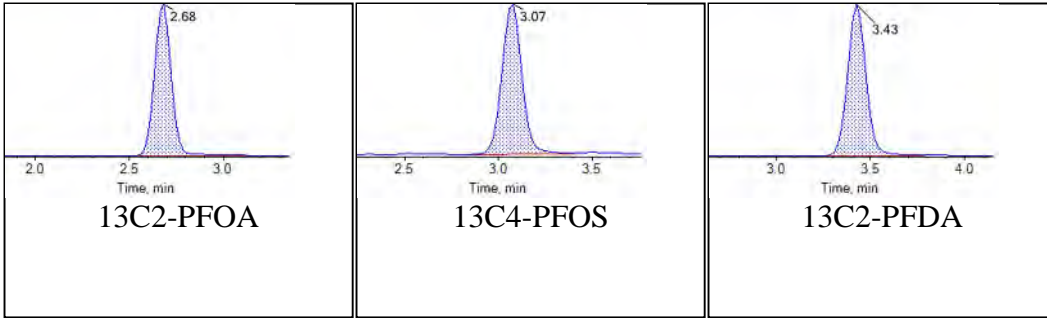
Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



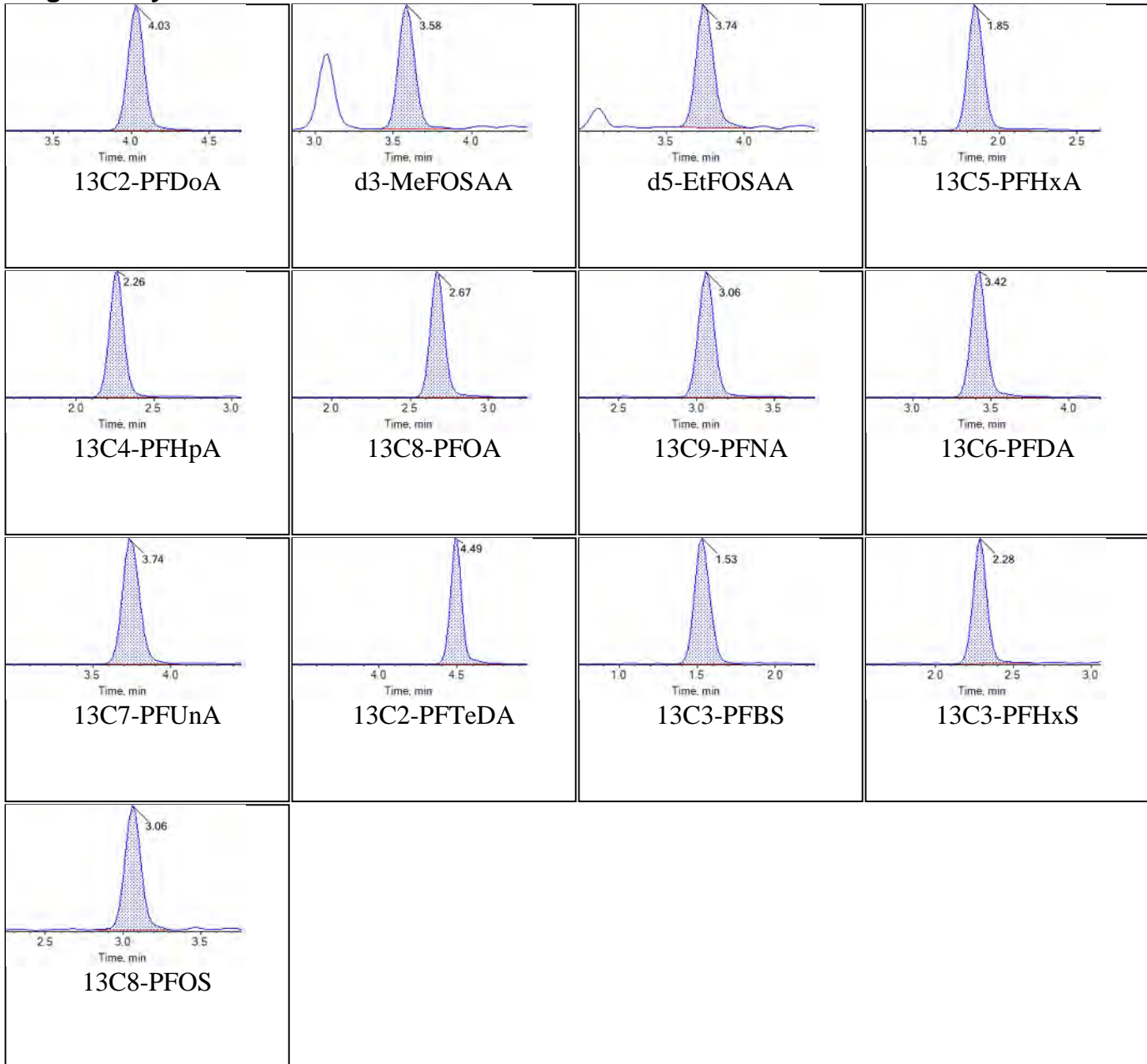
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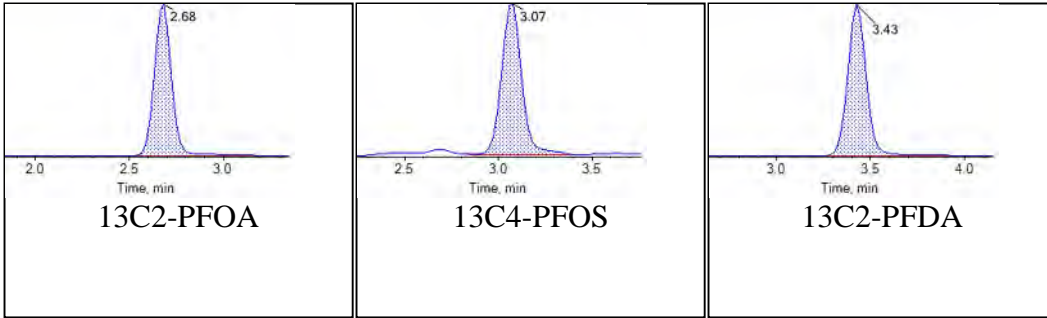
Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



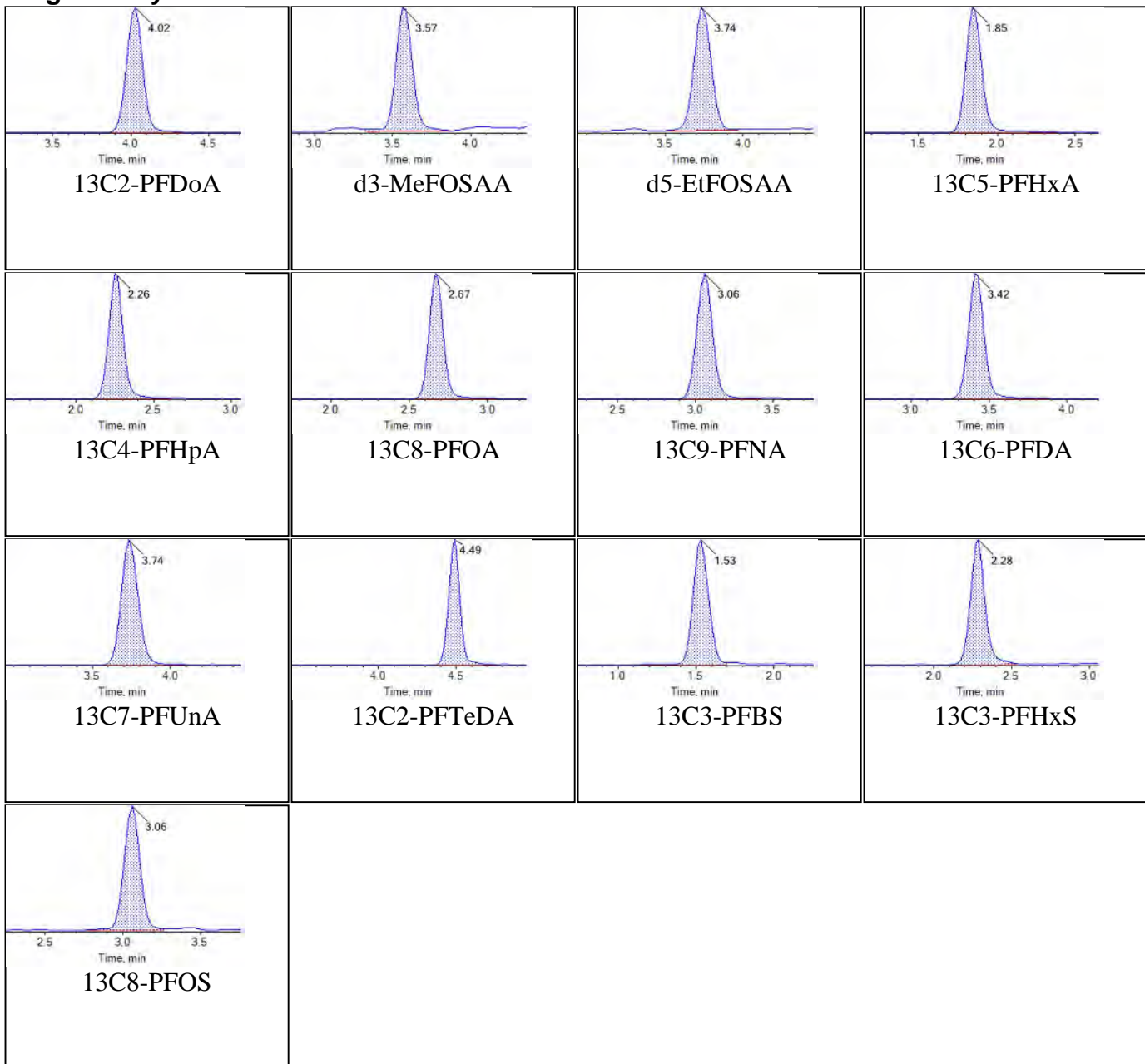
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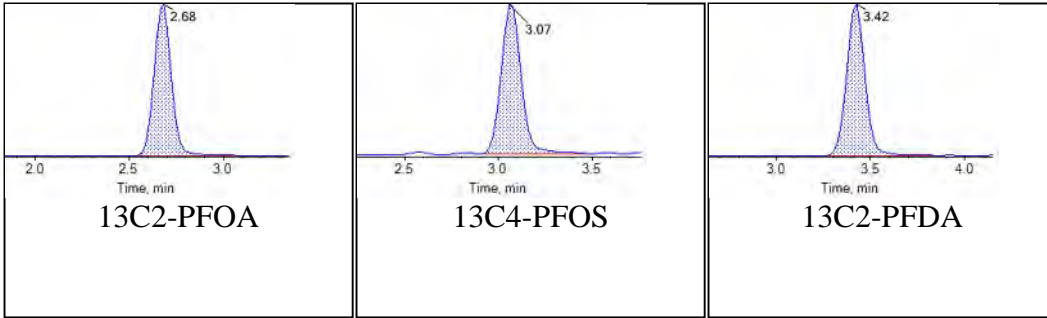
Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:22:50	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



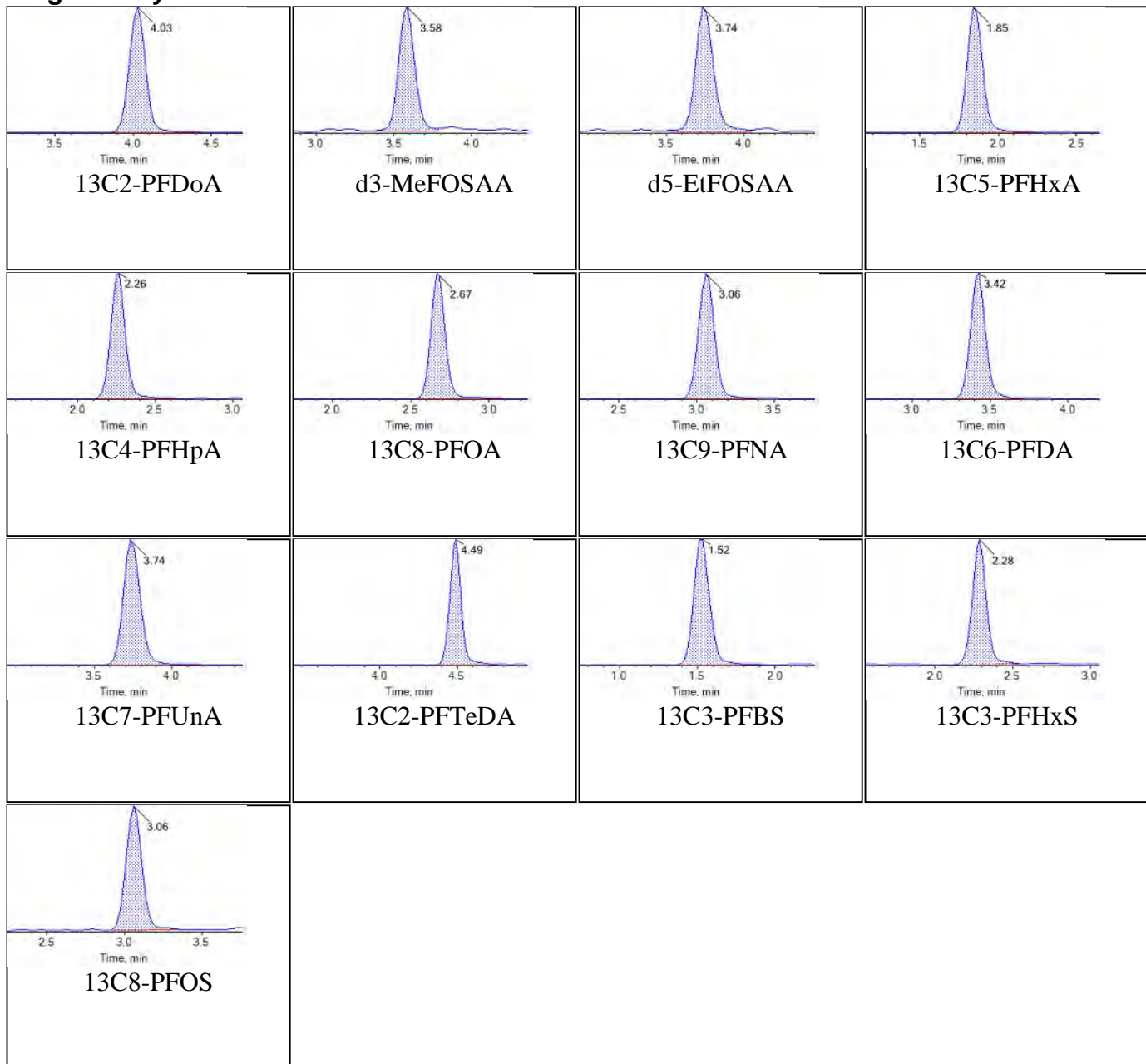
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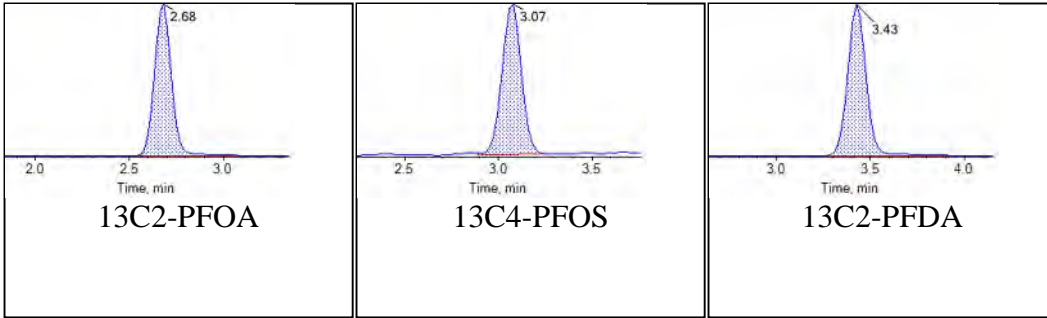
Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



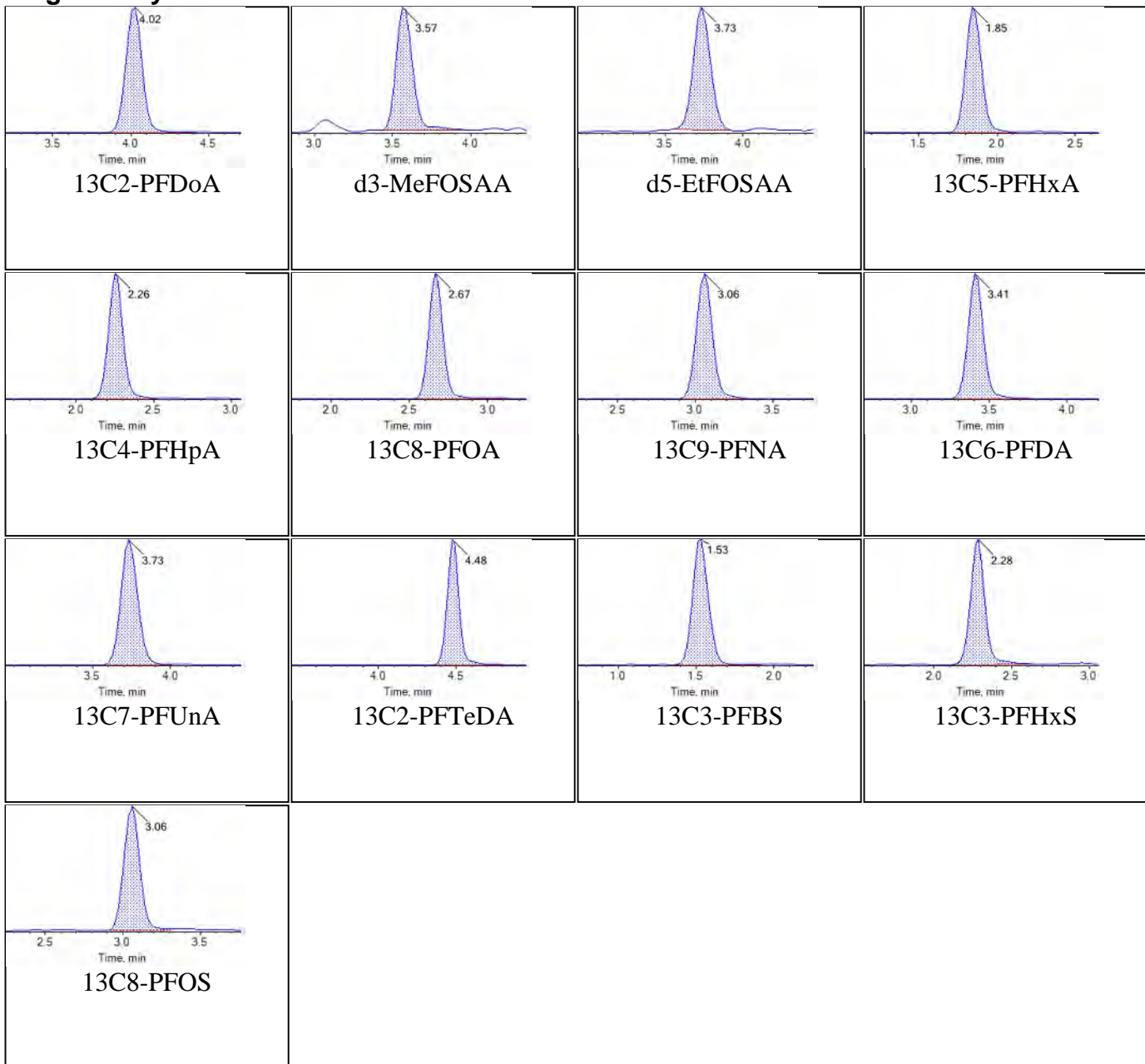
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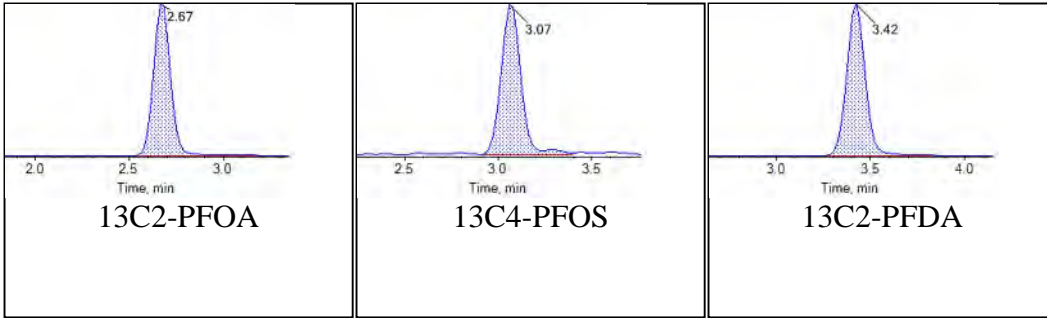
Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



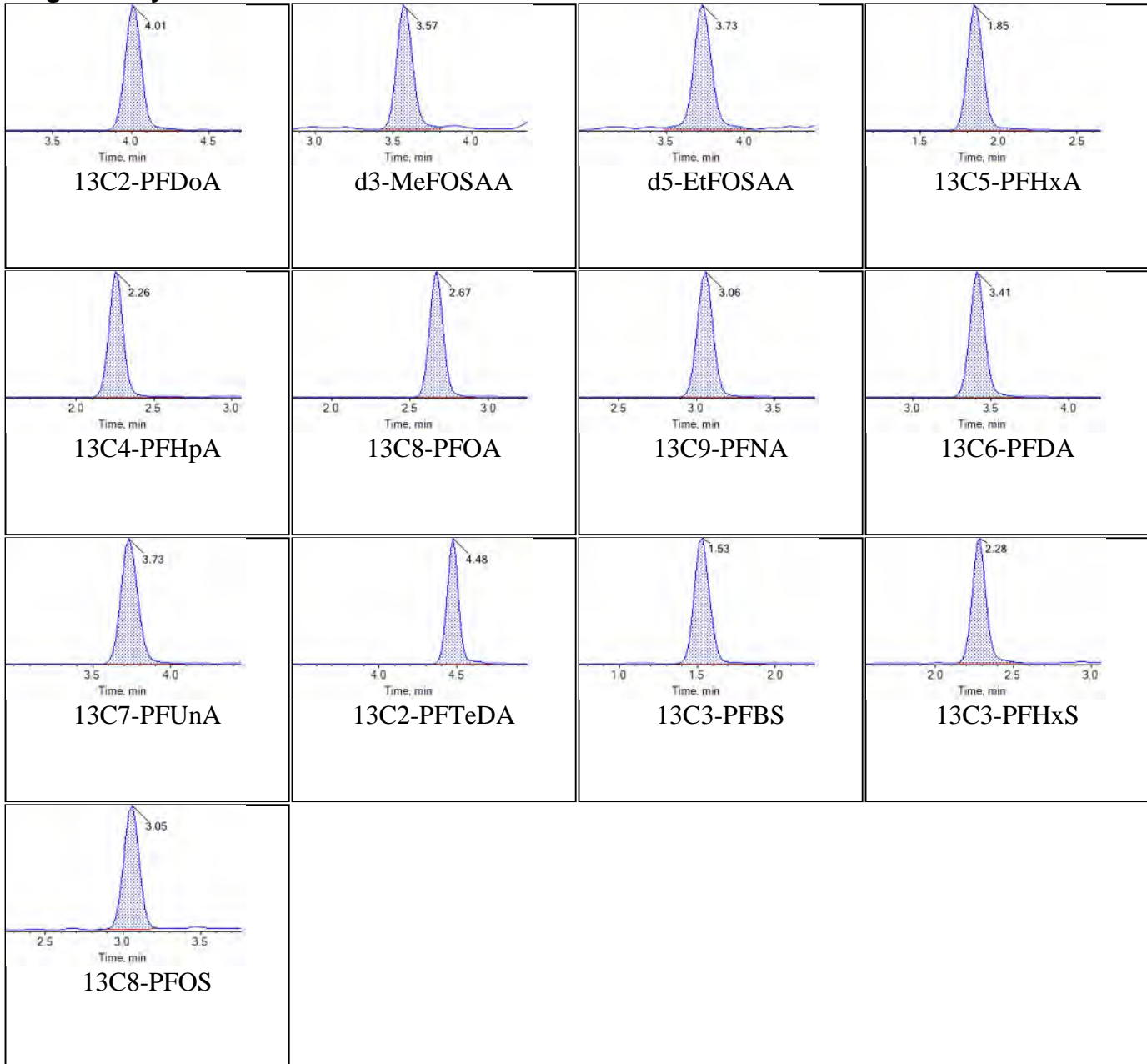
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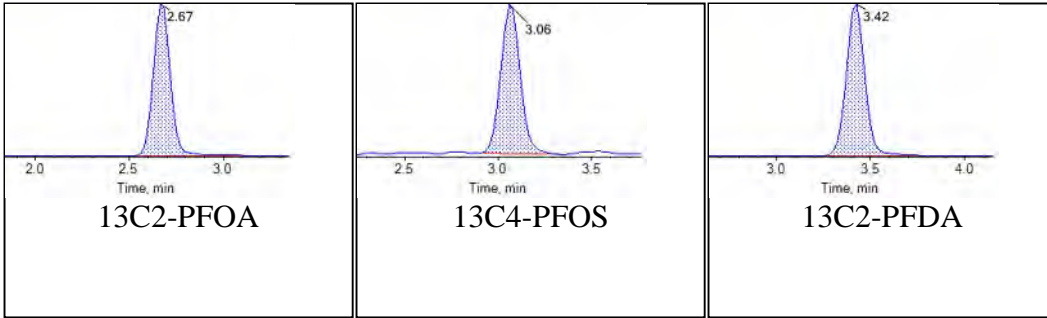
Sample Name	CR843PB-FS(0)	Injection Vial	22
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:16:44	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



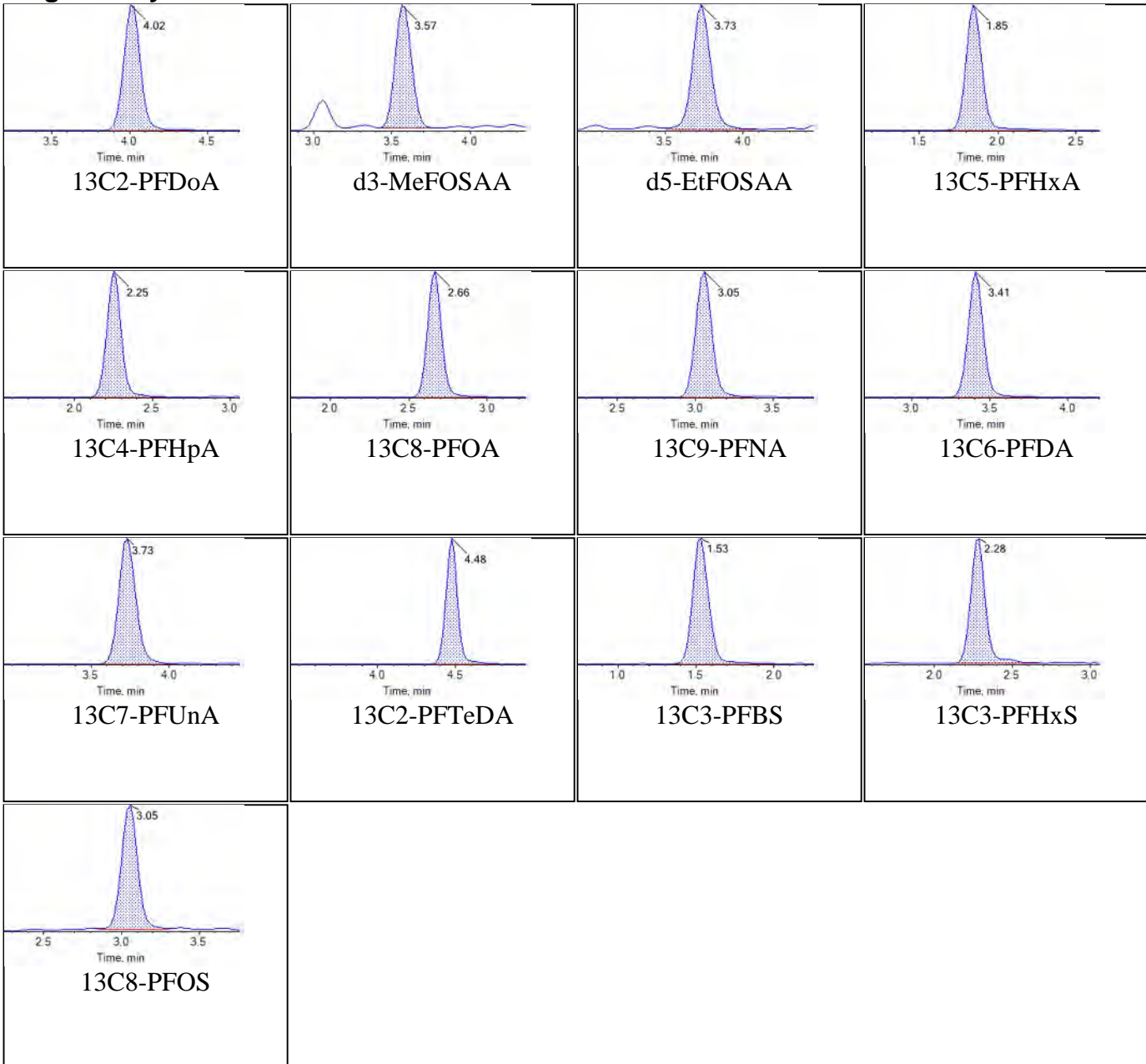
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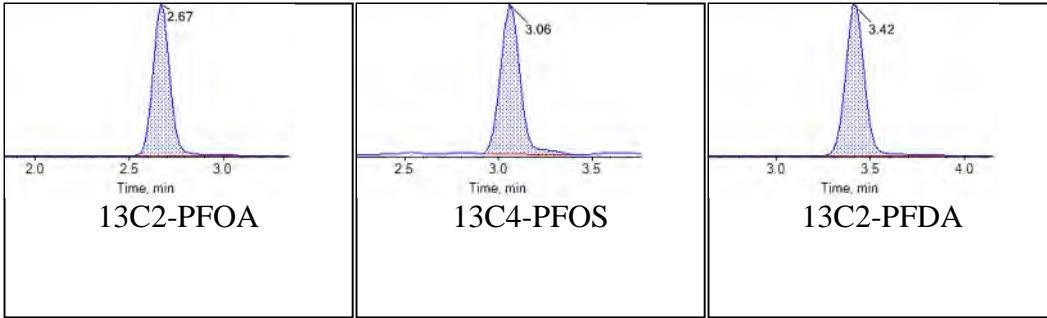
Sample Name	CR844LCS-FS(0)	Injection Vial	23
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:27:36	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



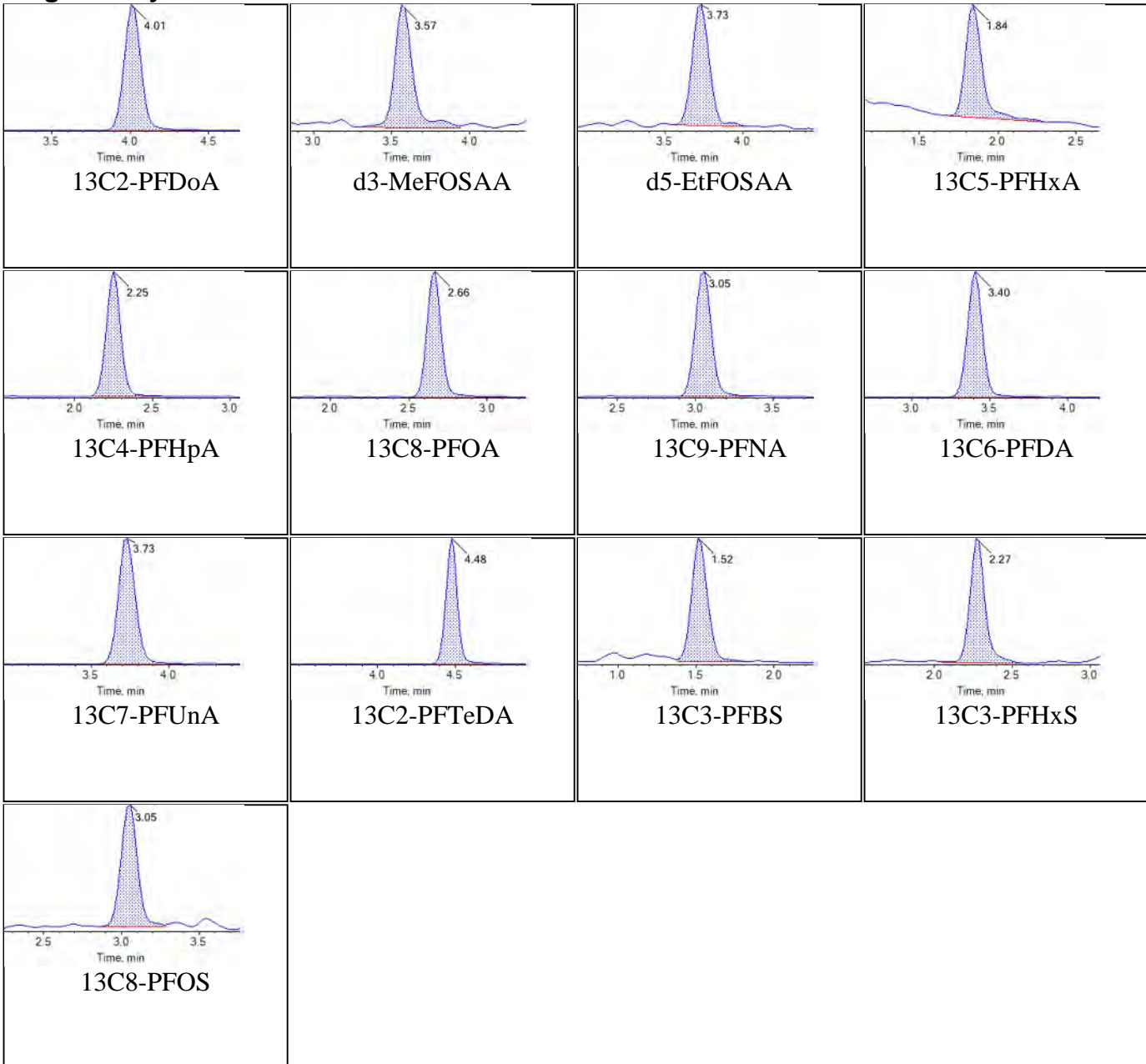
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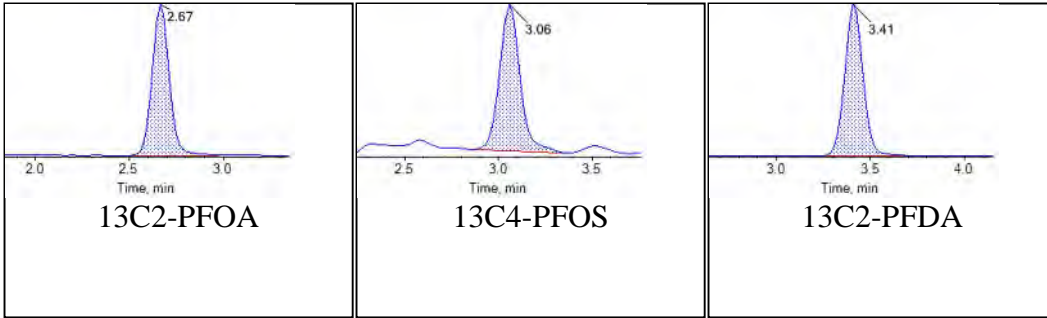
Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



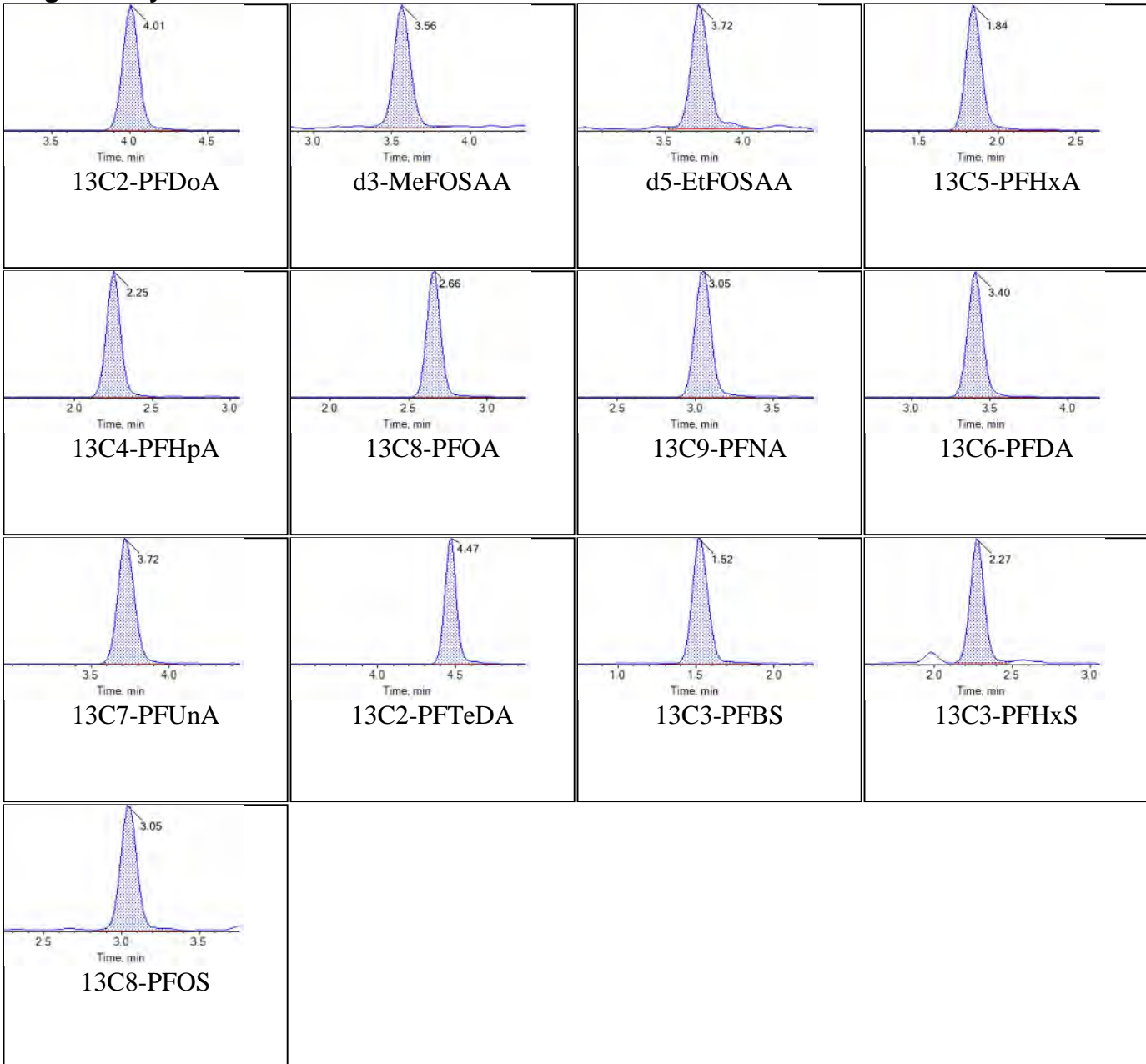
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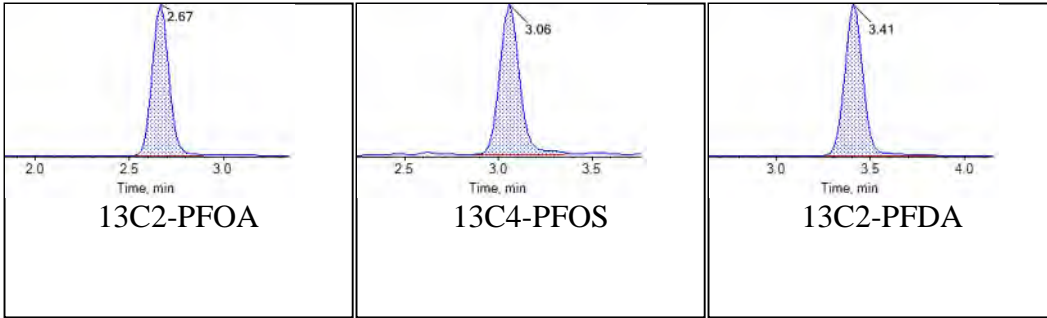
Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



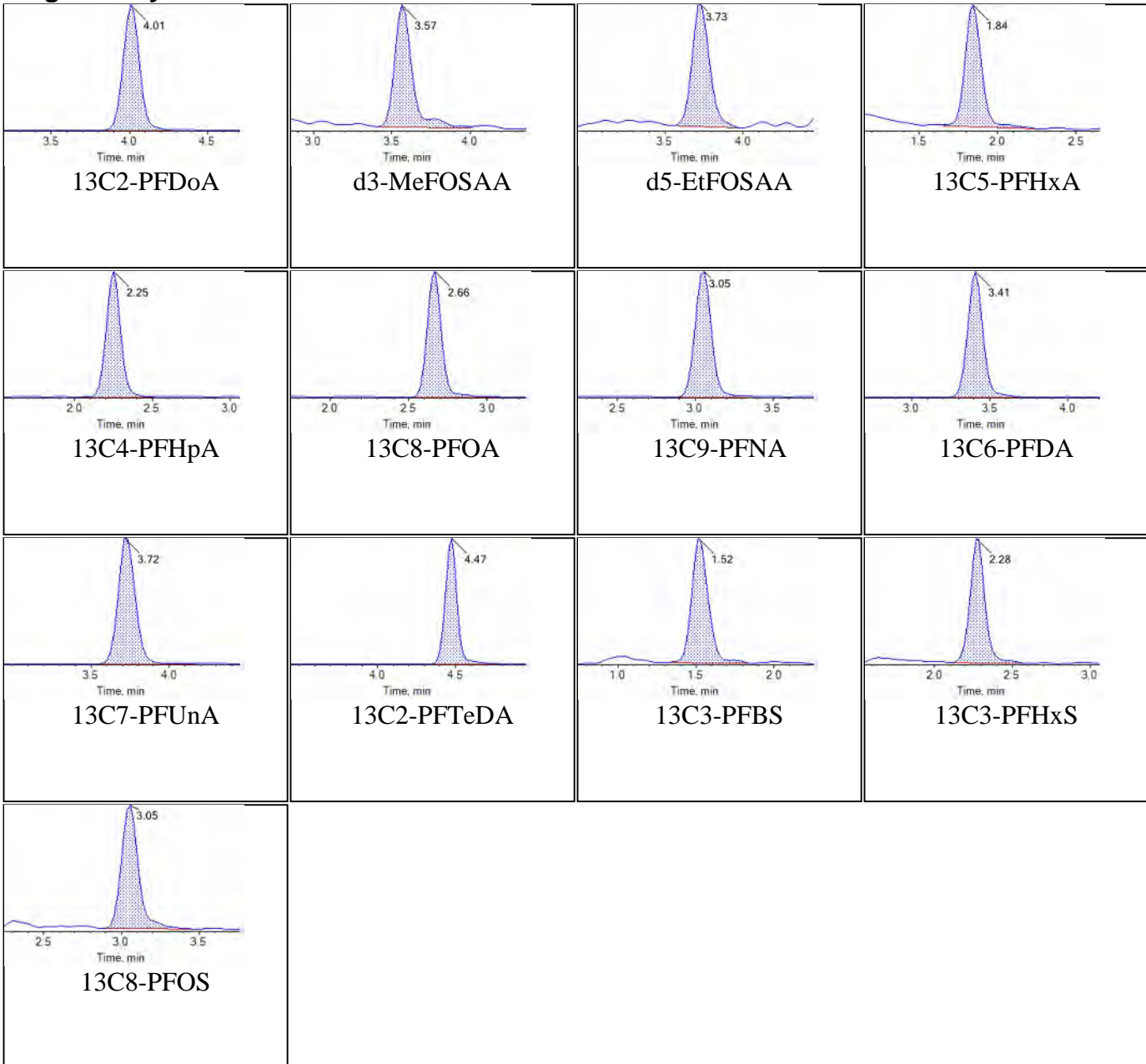
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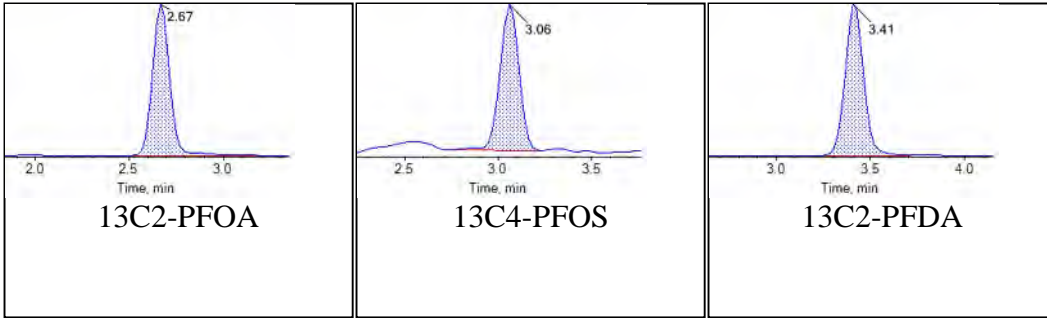
Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



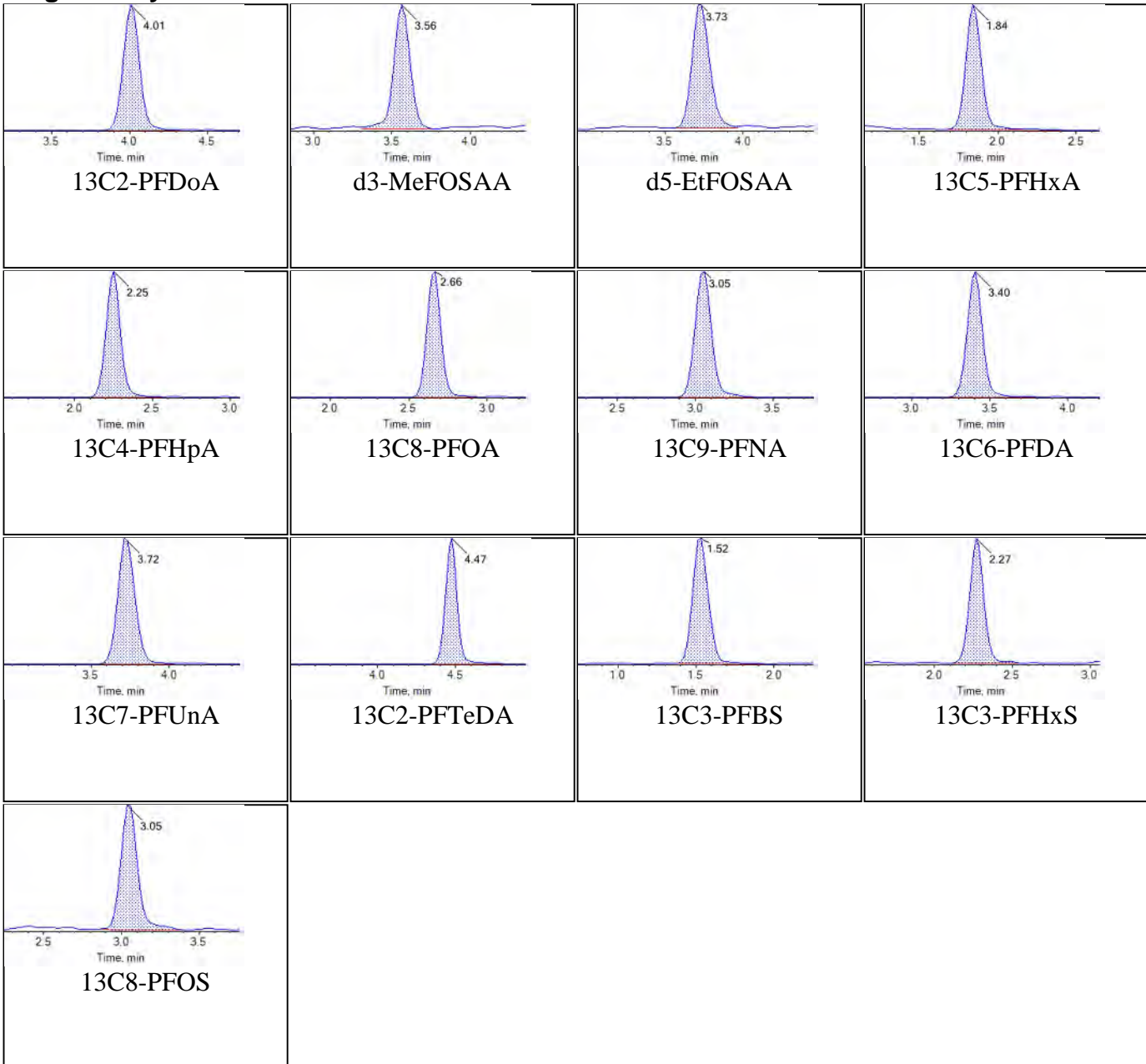
Internal Standards:



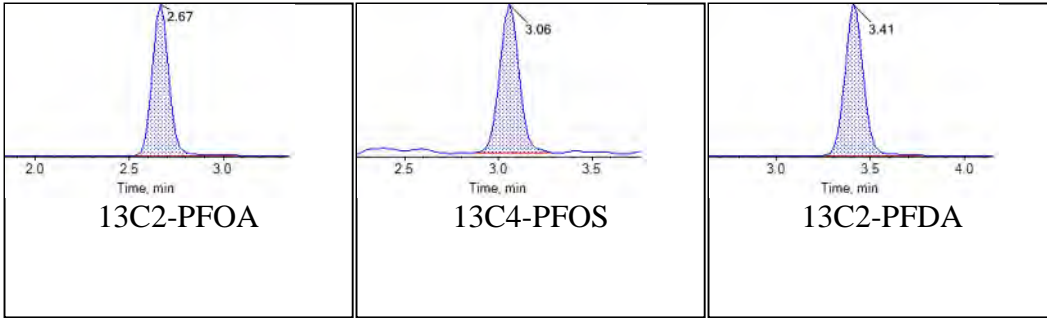
Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



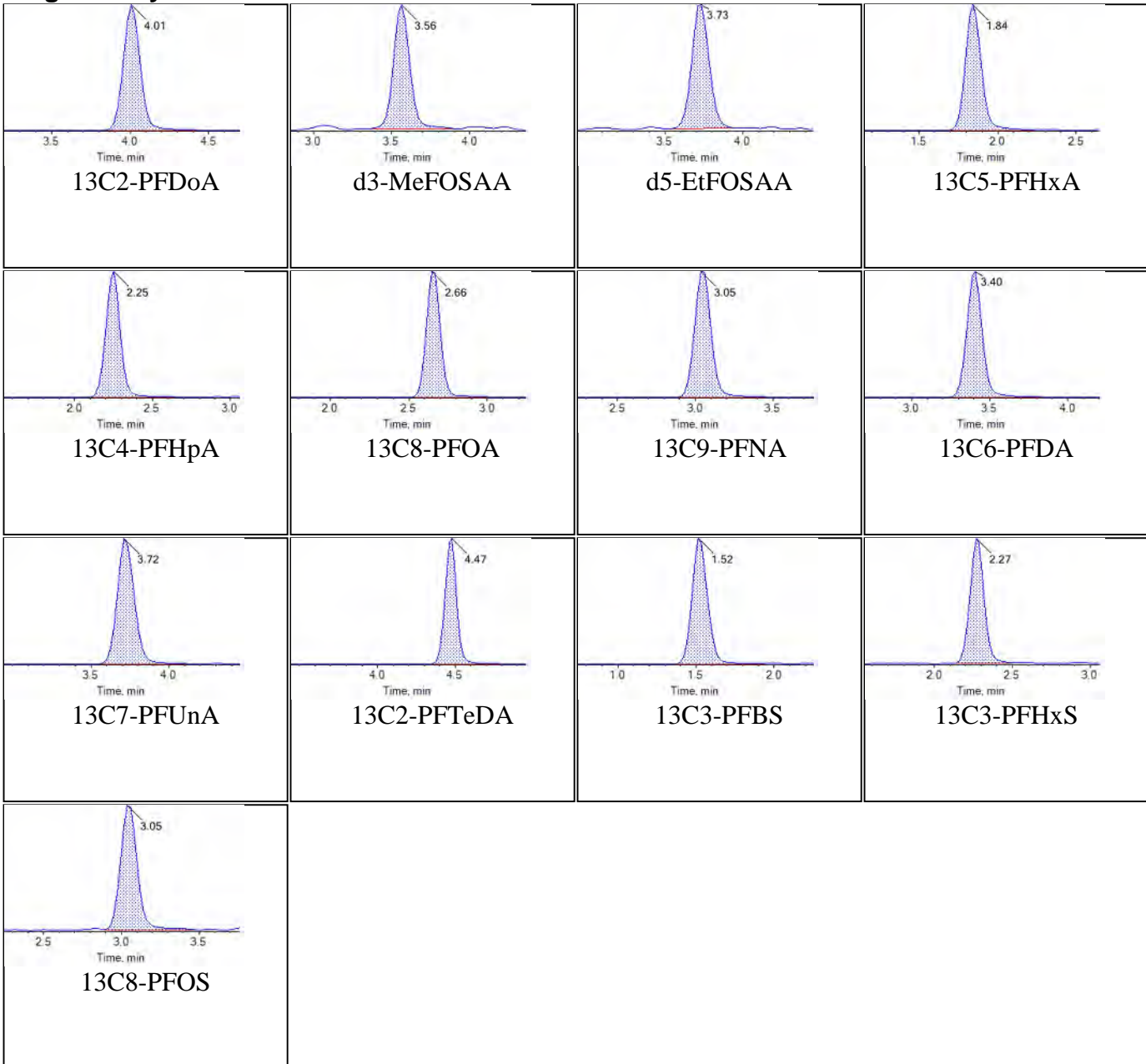
Internal Standards:



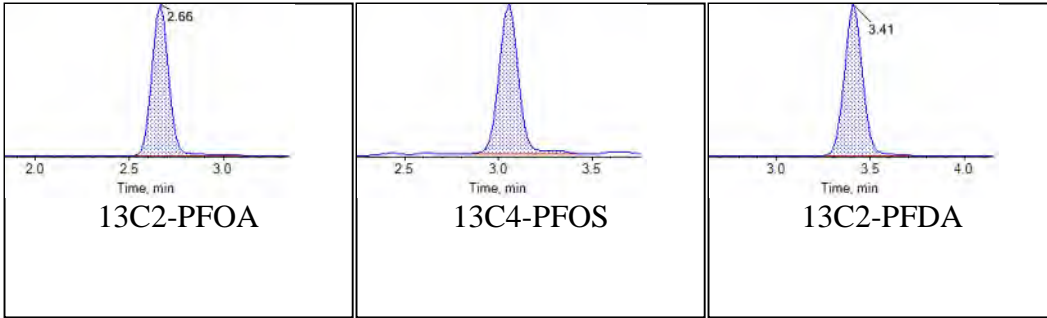
Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



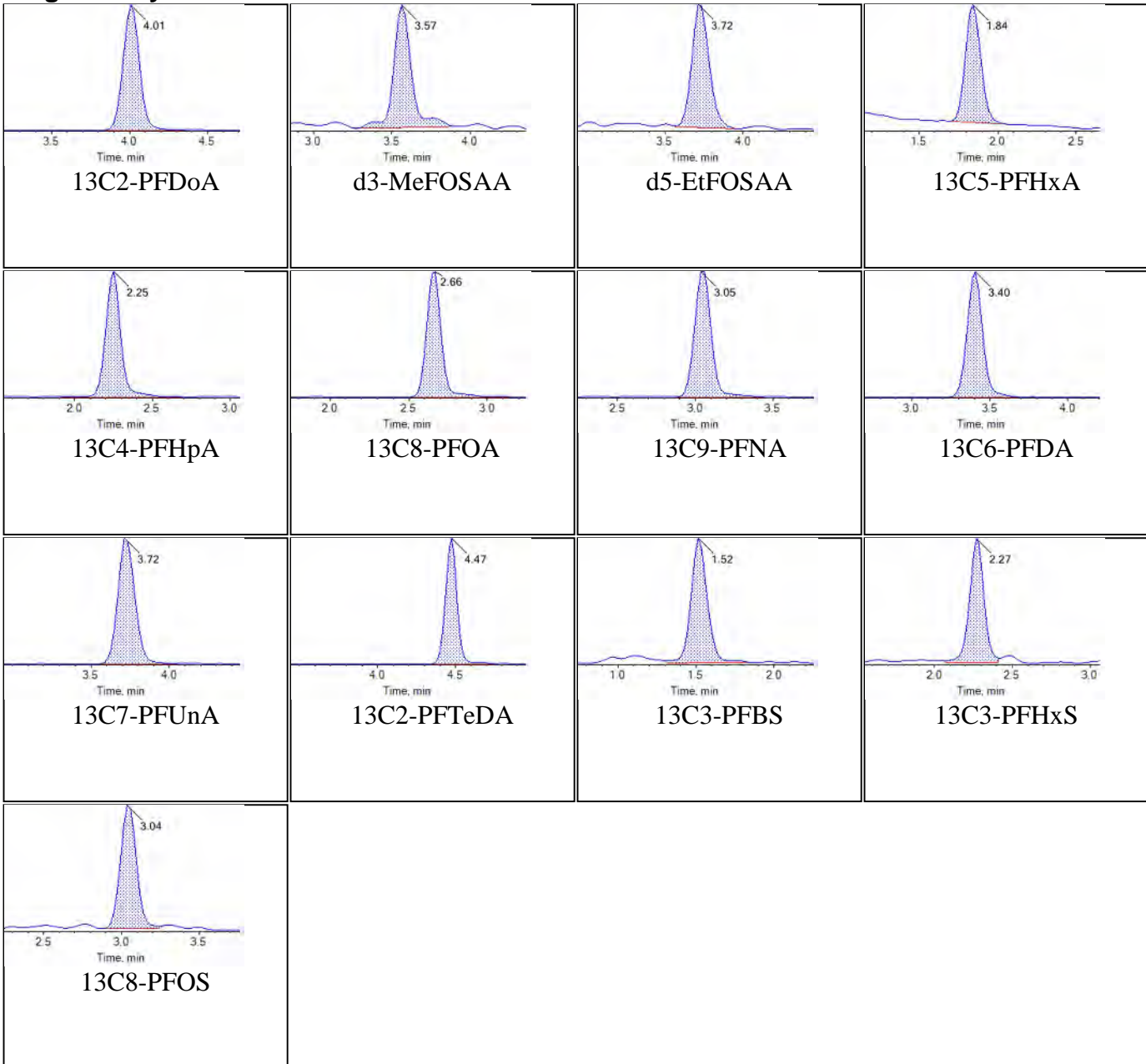
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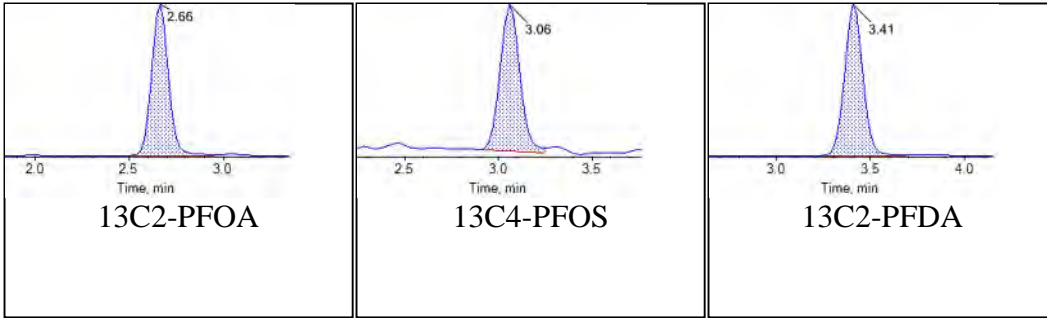
Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



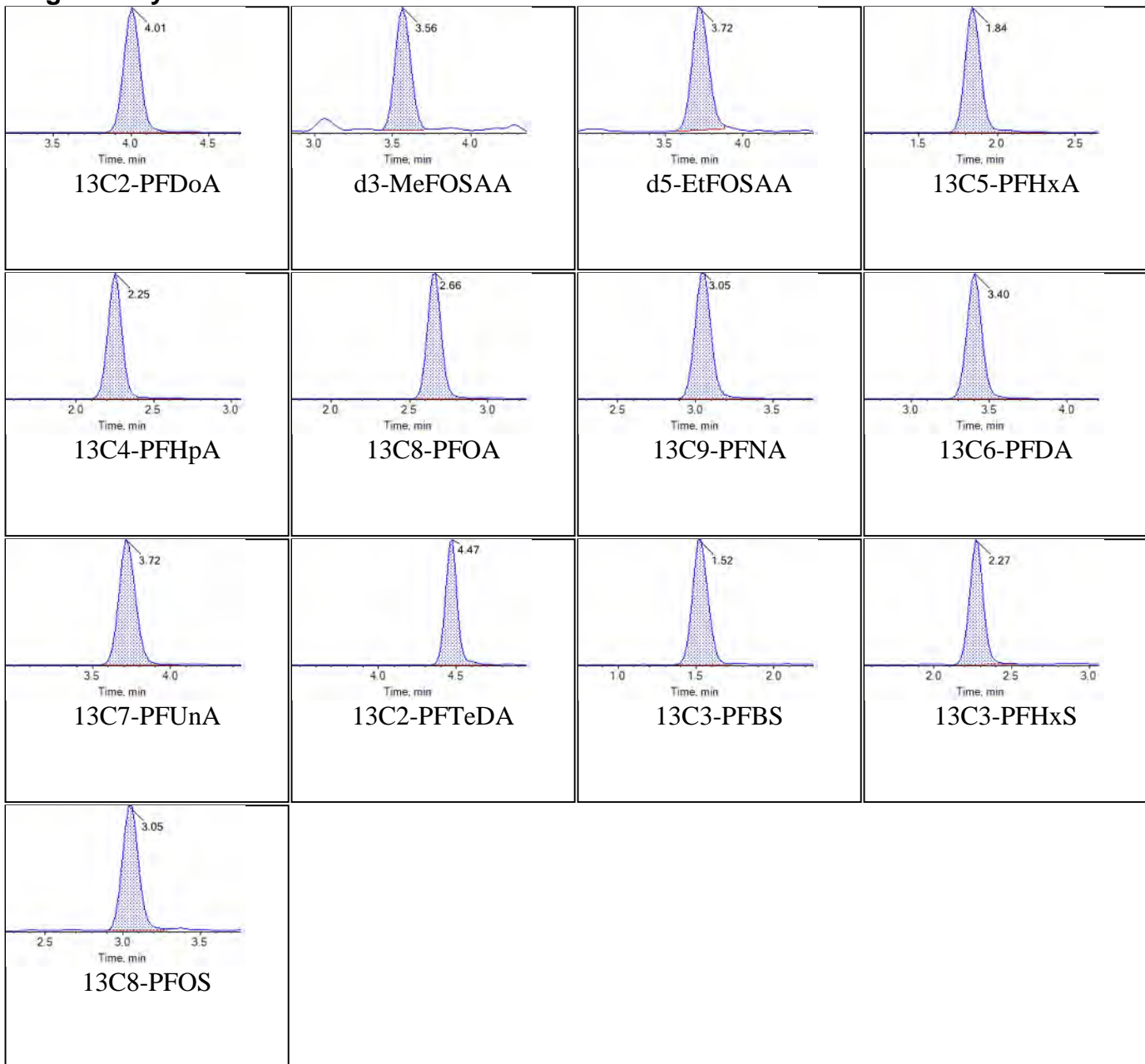
Internal Standards:



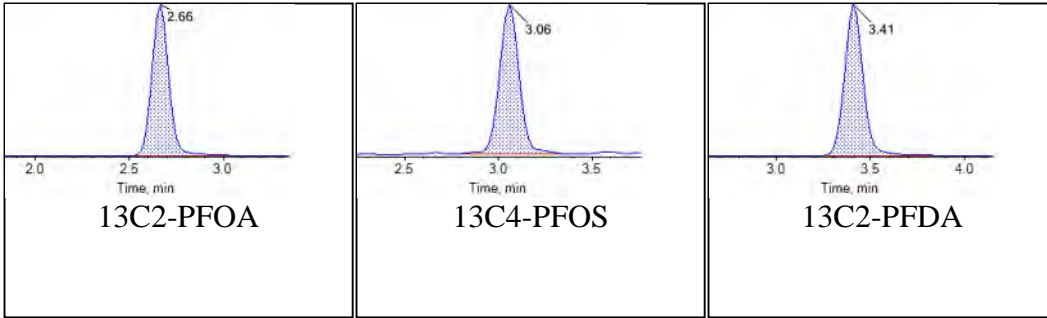
Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



Internal Standards:



Unused Data

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.28	12021254.58	32439.620271	851.0	false
PFHxS_2	399.0 / 99.0	2.28	3348952.34	31678.947270	1381.4	false
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.00	83323.91	262.263289	752.5	false
d3-MeFOSAA	573.0 / 419.0	3.56	10923.00	279.256380	119.8	false
d5-EtFOSAA	589.0 / 419.0	3.71	10538.88	288.111961	118.9	false
13C5-PFHxA	318.0 / 273.0	1.84	66236.94	265.321148	144.0	false
13C4-PFHpA	367.0 / 322.0	2.25	85625.43	295.433303	376.9	false
13C8-PFOA	421.0 / 376.0	2.66	85622.06	272.354111	494.5	false
13C9-PFNA	472.0 / 427.0	3.04	83596.39	275.271372	399.2	false
13C6-PFDA	519.0 / 474.0	3.39	83615.10	252.089612	516.1	false
13C7-PFUnA	570.0 / 525.0	3.71	90878.44	305.440660	491.3	false
13C2-PFTeDA	715.0 / 670.0	4.46	56650.51	213.575442	942.9	false
13C3-PFBS	302.0 / 99.0	1.52	23798.90	206.872746	262.6	false
13C3-PFHxS	402.0 / 99.0	2.27	26112.37	281.727378	255.0	false
13C8-PFOS	507.0 / 99.0	3.04	22363.30	239.186989	137.5	false

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07G13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	85059.44	240.389259	654.5	false
d3-MeFOSAA	573.0 / 419.0	3.57	10700.61	248.467399	112.8	false
d5-EtFOSAA	589.0 / 419.0	3.73	13807.52	342.833011	143.9	false
13C5-PFHxA	318.0 / 273.0	1.84	65791.70	231.249494	182.6	false
13C4-PFHpA	367.0 / 322.0	2.25	92855.62	281.127239	389.4	false
13C8-PFOA	421.0 / 376.0	2.66	88107.09	245.921873	648.4	false
13C9-PFNA	472.0 / 427.0	3.05	84693.52	244.715646	434.4	false
13C6-PFDA	519.0 / 474.0	3.41	90565.89	245.165625	639.2	false
13C7-PFUnA	570.0 / 525.0	3.73	89037.09	268.696278	552.3	false
13C2-PFTeDA	715.0 / 670.0	4.48	54702.50	185.173723	869.2	false
13C3-PFBS	302.0 / 99.0	1.52	24999.10	197.365249	303.9	false
13C3-PFHxS	402.0 / 99.0	2.27	25423.58	249.126224	186.6	false
13C8-PFOS	507.0 / 99.0	3.05	25282.45	245.595761	148.8	false

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	89157.34	272.370219	738.1	false
d3-MeFOSAA	573.0 / 419.0	3.56	9964.59	255.599000	133.6	false
d5-EtFOSAA	589.0 / 419.0	3.72	13382.16	367.055624	132.9	false
13C5-PFHxA	318.0 / 273.0	1.84	68254.68	251.044270	153.5	false
13C4-PFHpA	367.0 / 322.0	2.25	90426.10	286.481610	424.9	false
13C8-PFOA	421.0 / 376.0	2.66	87946.58	256.870062	525.7	false
13C9-PFNA	472.0 / 427.0	3.05	81989.56	247.901025	413.5	false
13C6-PFDA	519.0 / 474.0	3.40	89260.92	261.195849	495.7	false
13C7-PFUnA	570.0 / 525.0	3.72	91291.30	297.803665	668.9	false
13C2-PFTeDA	715.0 / 670.0	4.47	58086.70	212.548888	1430.7	false
13C3-PFBS	302.0 / 99.0	1.52	22223.01	193.815313	253.5	false
13C3-PFHxS	402.0 / 99.0	2.27	26654.08	288.526220	208.8	false
13C8-PFOS	507.0 / 99.0	3.05	25225.82	270.698495	154.6	false

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	23798.90	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	23798.90	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	66236.94	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	66236.94	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	26125.40	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	26125.40	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	85622.06	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	83596.39	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	83596.39	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	22197.82	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	22197.82	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	83615.10	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	83615.10	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	90878.44	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	90878.44	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	83323.91	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	83323.91	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56650.51	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10690.70	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10690.70	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10056.14	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10056.14	250.00

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	24999.10	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	24999.10	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	65791.70	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	65791.70	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	24869.22	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	24869.22	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	88107.09	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	84693.52	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	84693.52	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	25454.04	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	25454.04	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	90565.89	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	90565.89	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	89037.09	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	89037.09	250.00
PFDaA_1	613.0 / 569.0	N/A	13C2-PFDaA	615.0 / 570.0	85059.44	250.00
PFDaA_2	613.0 / 319.0	N/A	13C2-PFDaA	615.0 / 570.0	85059.44	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	54702.50	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10844.77	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10844.77	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13769.74	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13769.74	250.00

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	22223.01	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	22223.01	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	68254.68	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	68254.68	250.00
PFHpA_1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFHpA_2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	25977.49	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	25977.49	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	87946.58	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	81989.56	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	81989.56	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	25993.84	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	25993.84	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	89260.92	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	89260.92	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	91291.30	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	91291.30	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	89157.34	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	89157.34	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58086.70	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9905.84	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9905.84	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13298.73	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13298.73	250.00

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.00	13C2-PFDA	515.0 / 470.0	80677.36	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	22592.13	239.25
d5-EtFOSAA	589.0 / 419.0	3.71	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C9-PFNA	472.0 / 427.0	3.04	13C2-PFOA	415.0 / 370.0	71667.68	250.00
13C6-PFDA	519.0 / 474.0	3.39	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C7-PFUnA	570.0 / 525.0	3.71	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C2-PFTeDA	715.0 / 670.0	4.46	13C2-PFDA	515.0 / 470.0	80677.36	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	22592.13	239.25
13C8-PFOS	507.0 / 99.0	3.04	13C4-PFOS	503.0 / 99.0	22592.13	239.25

Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07G13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	89851.83	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	24874.67	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	81674.28	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	89851.83	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	24874.67	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	24874.67	239.25

Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

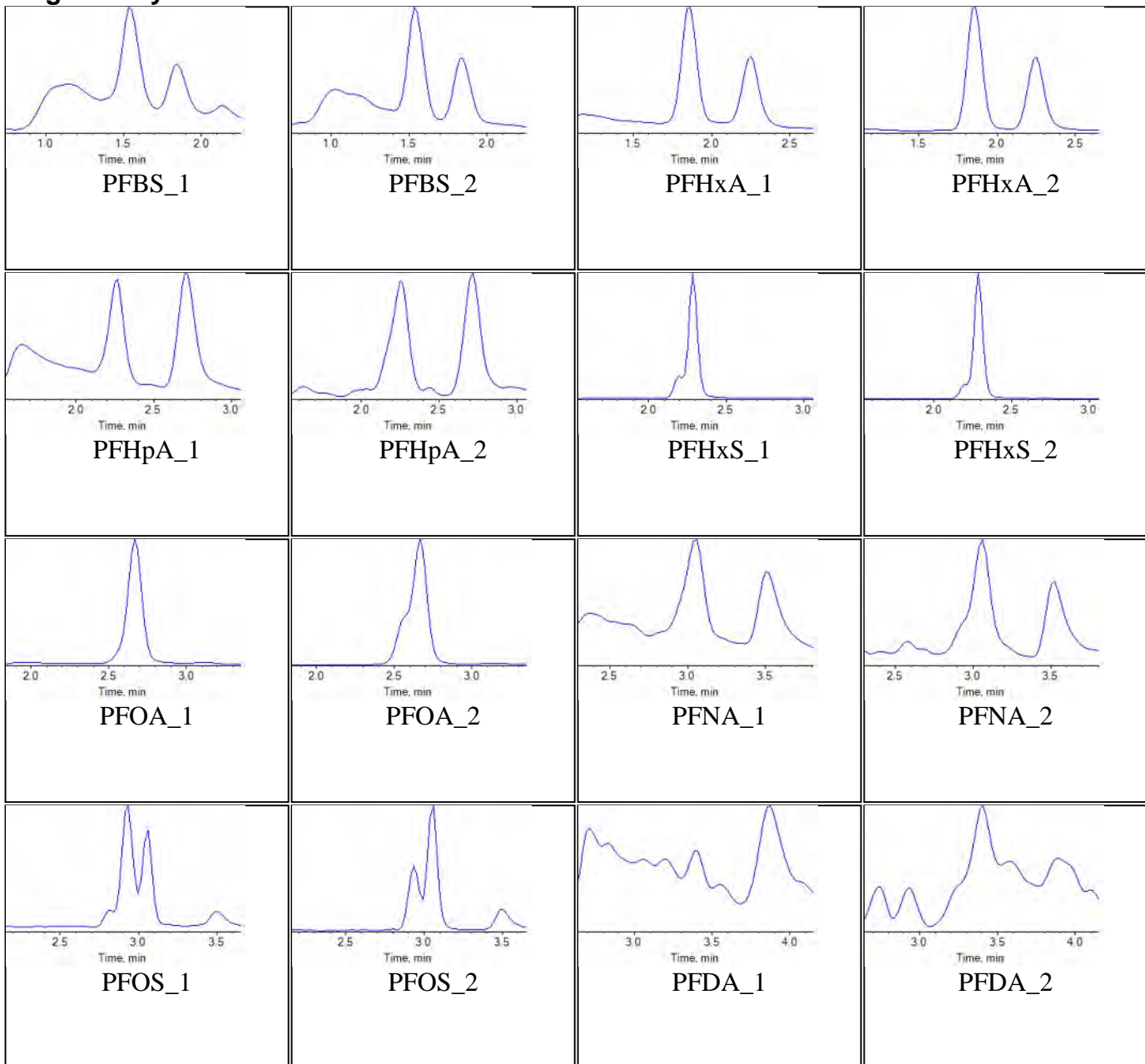
Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	83122.19	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	22517.41	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	78050.75	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	83122.19	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	22517.41	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	22517.41	239.25

Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

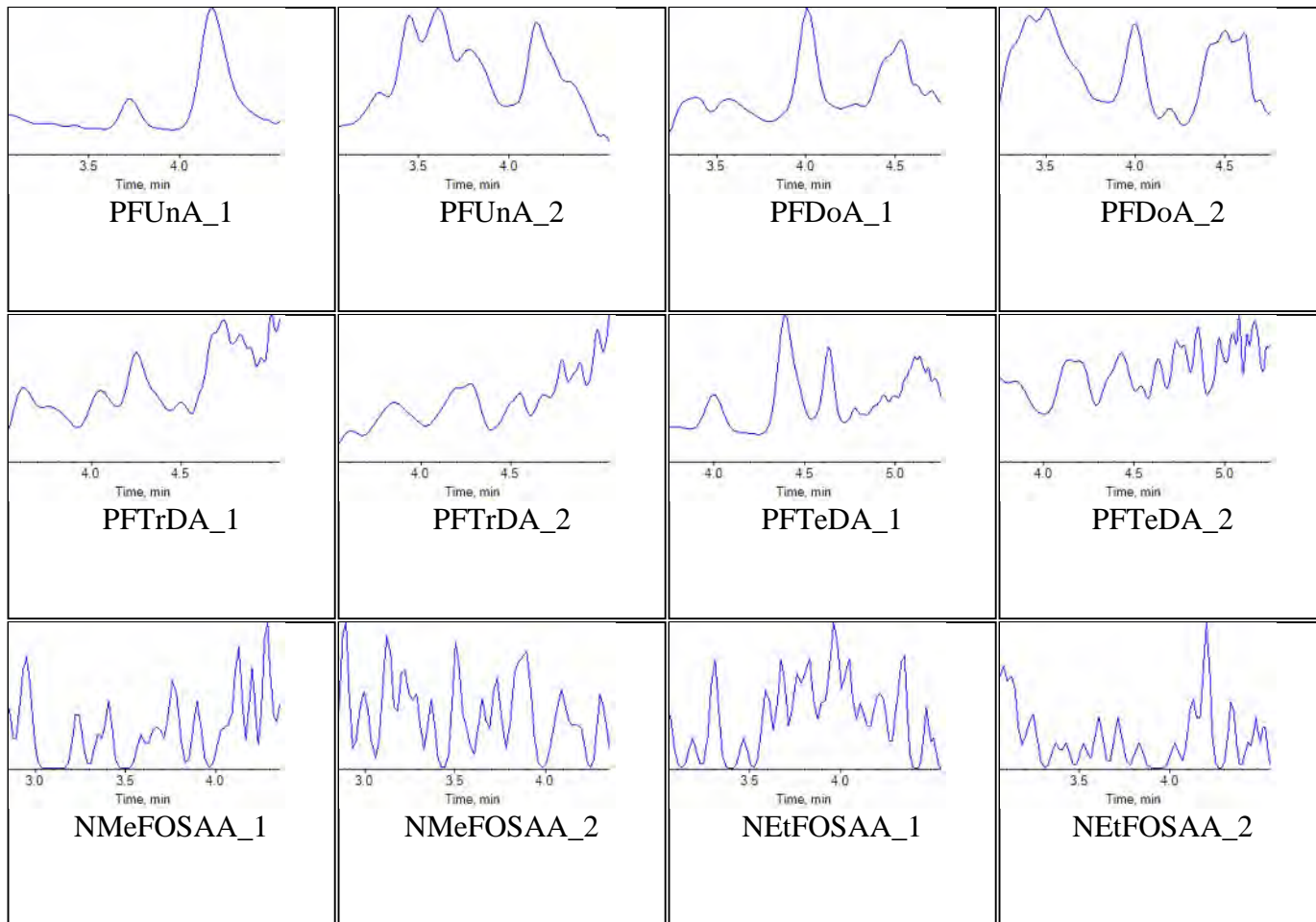
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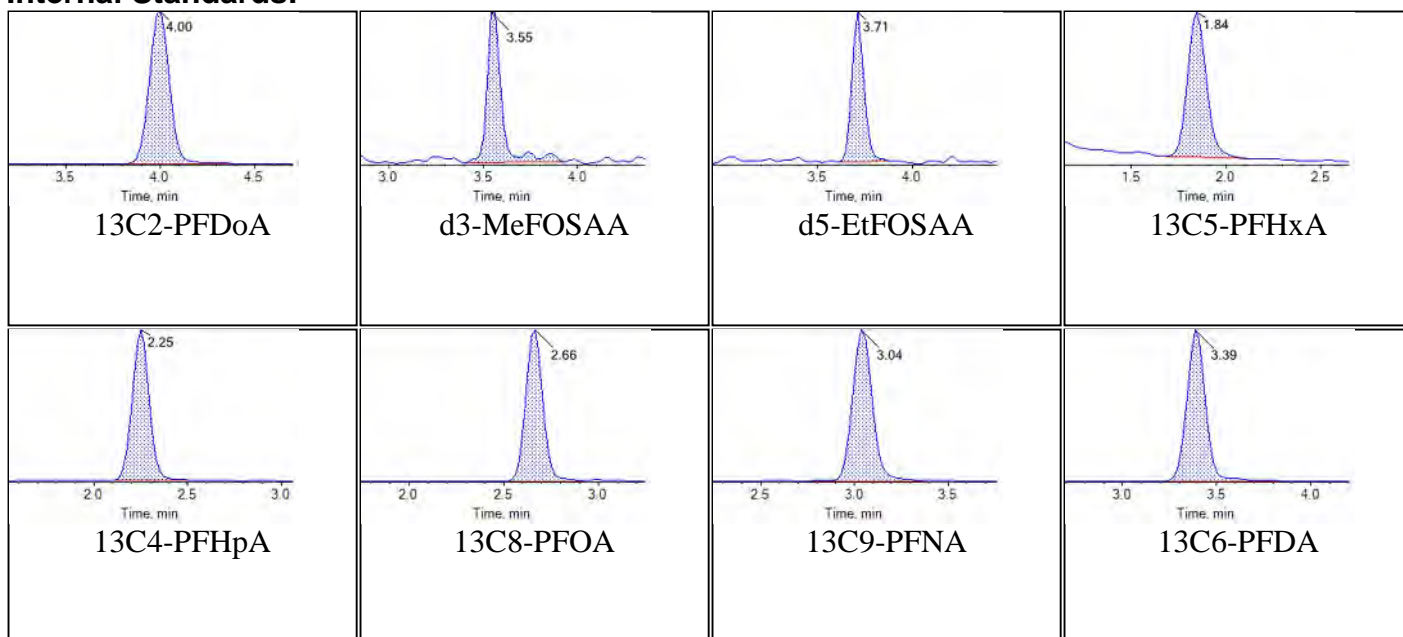


Chromatogram Report

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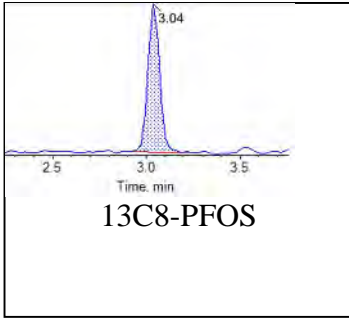
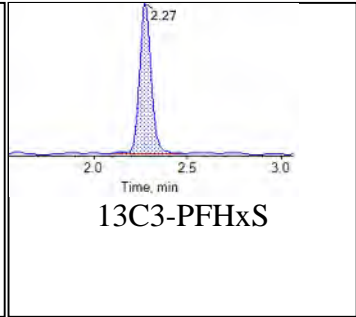
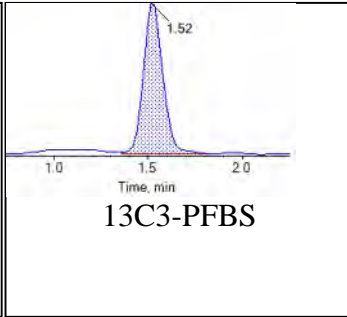
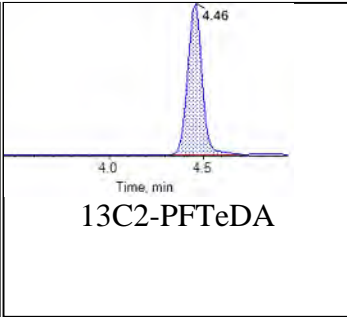
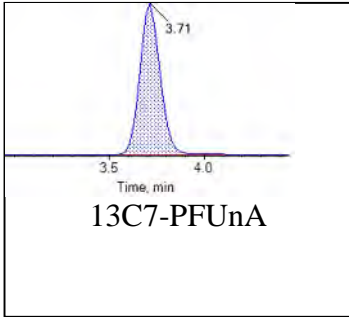


Internal Standards:



Chromatogram Report

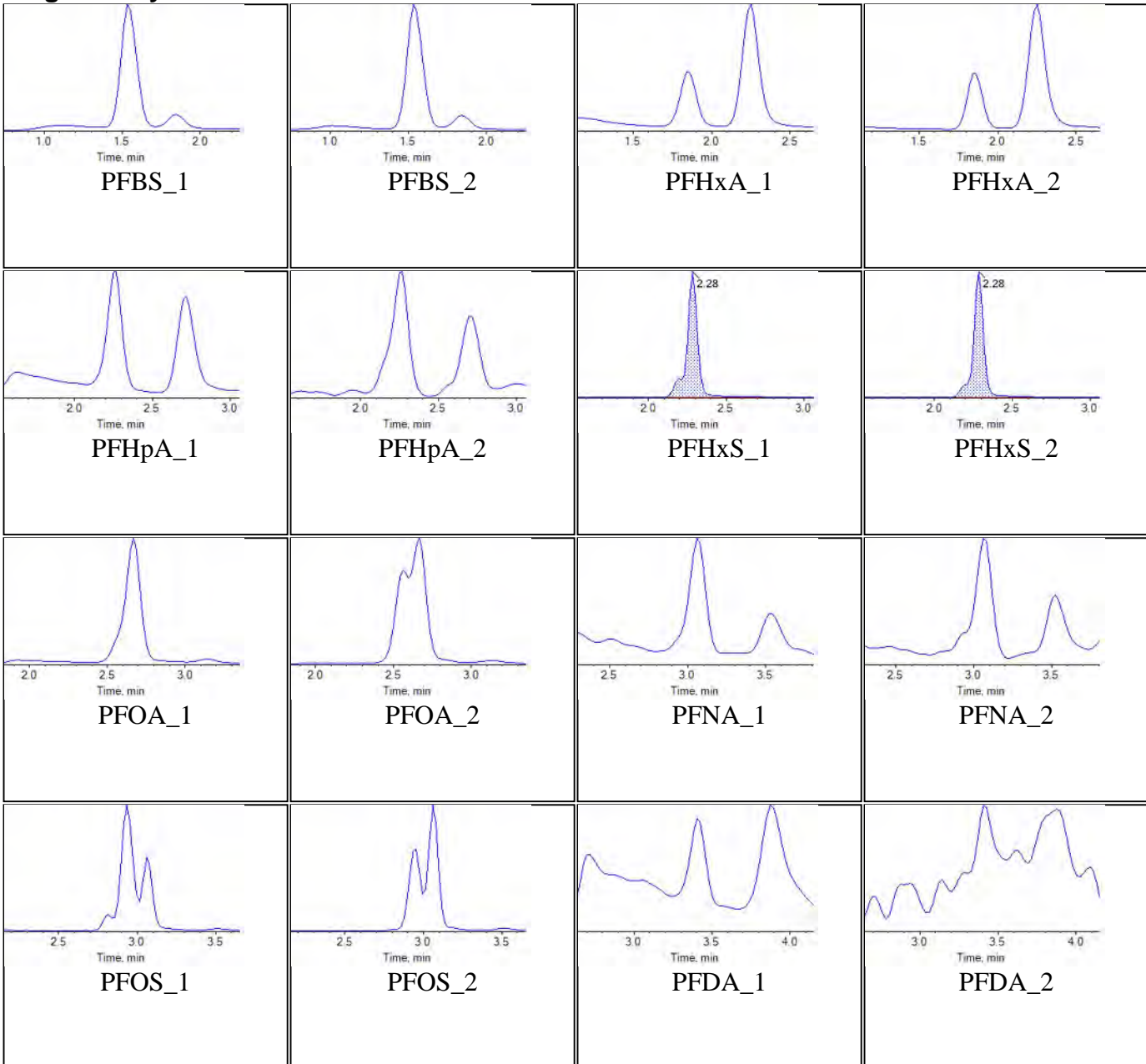
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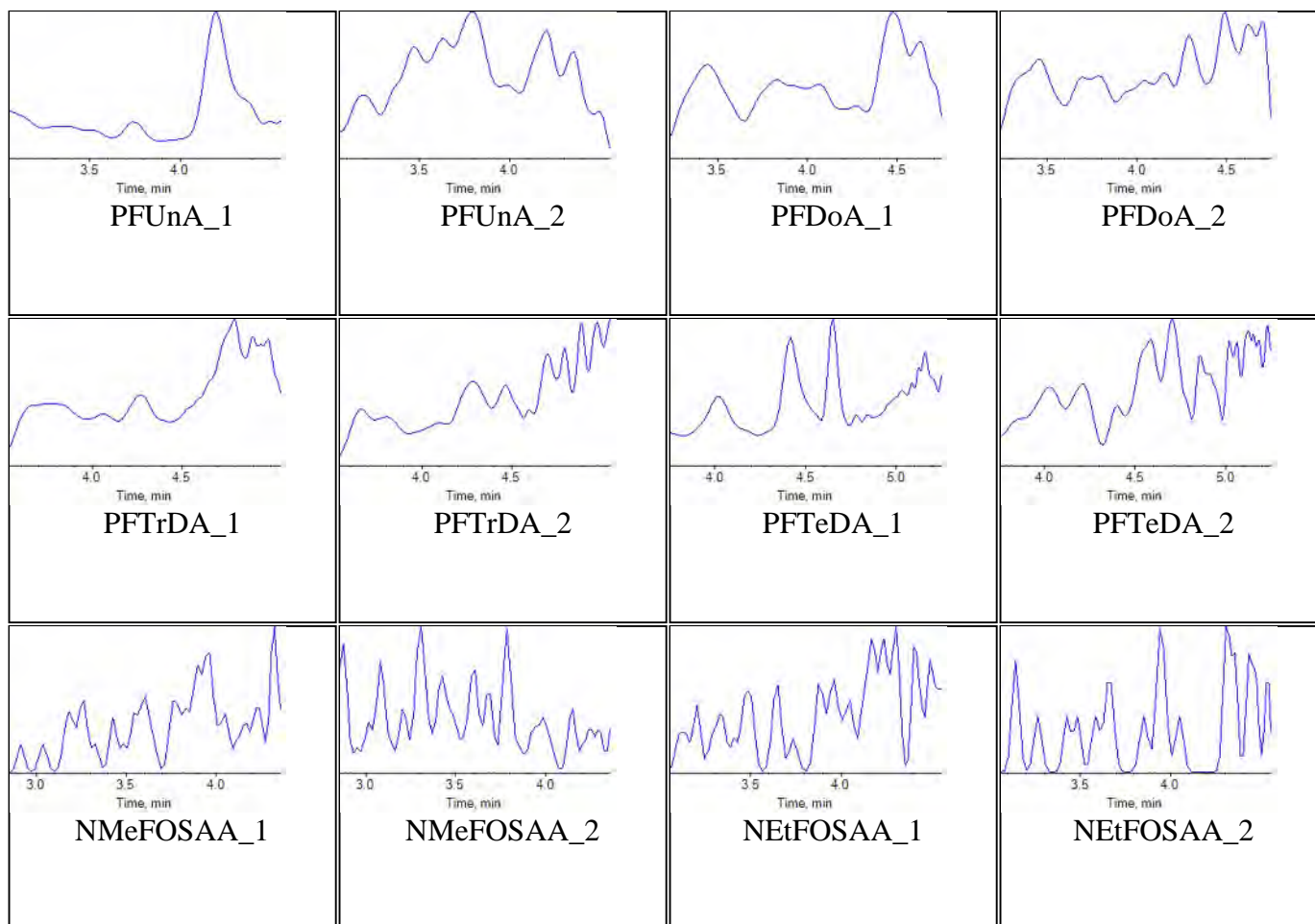
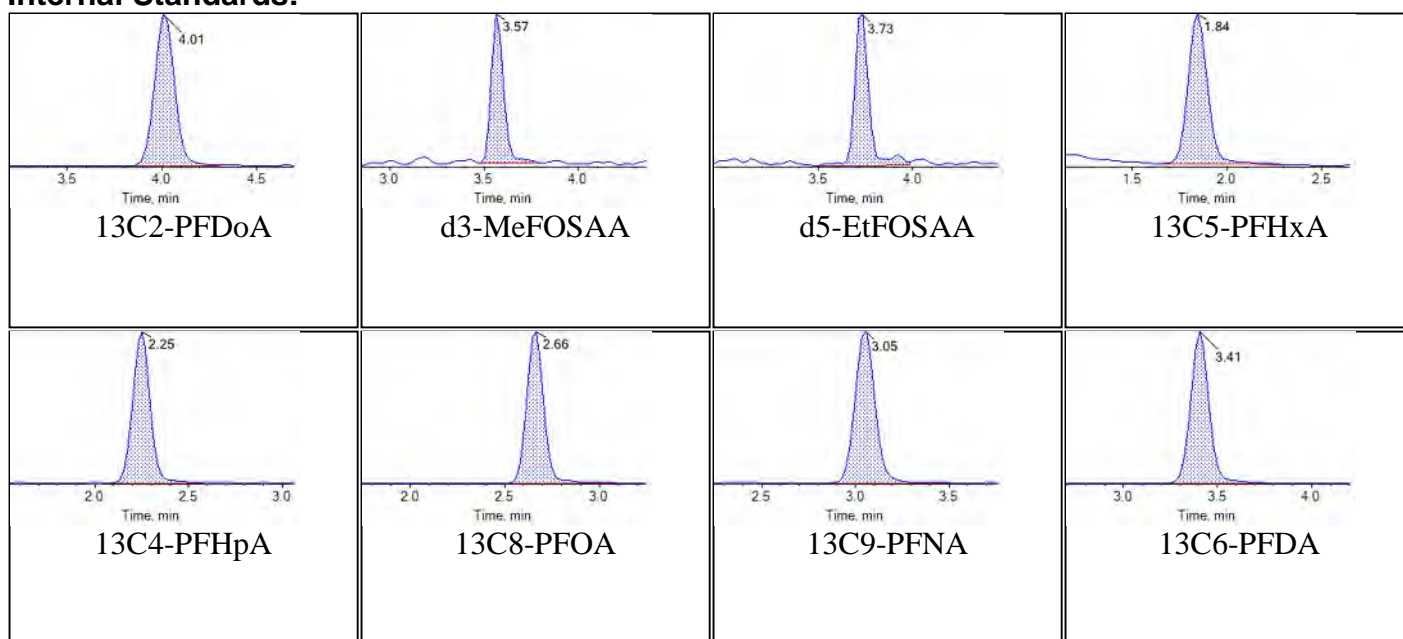


Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07G13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

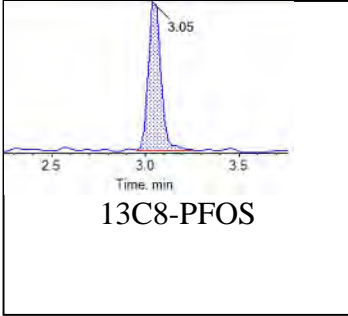
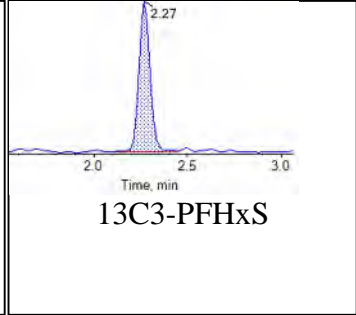
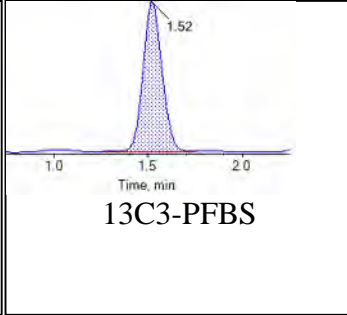
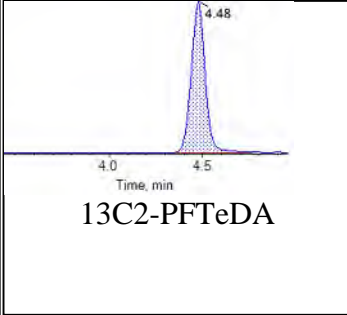
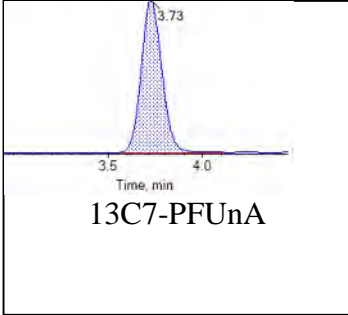
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**Internal Standards:**

Chromatogram Report

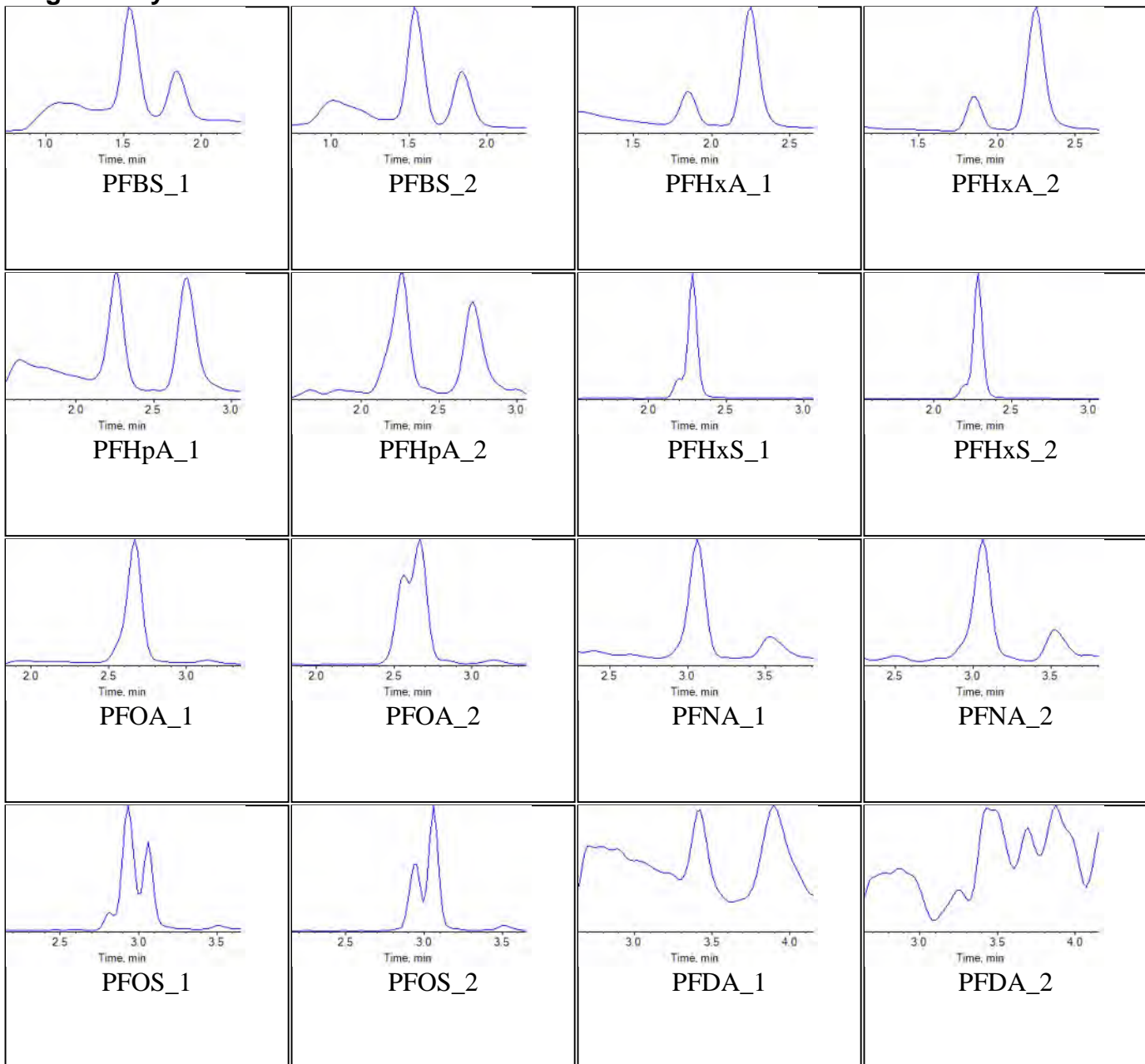
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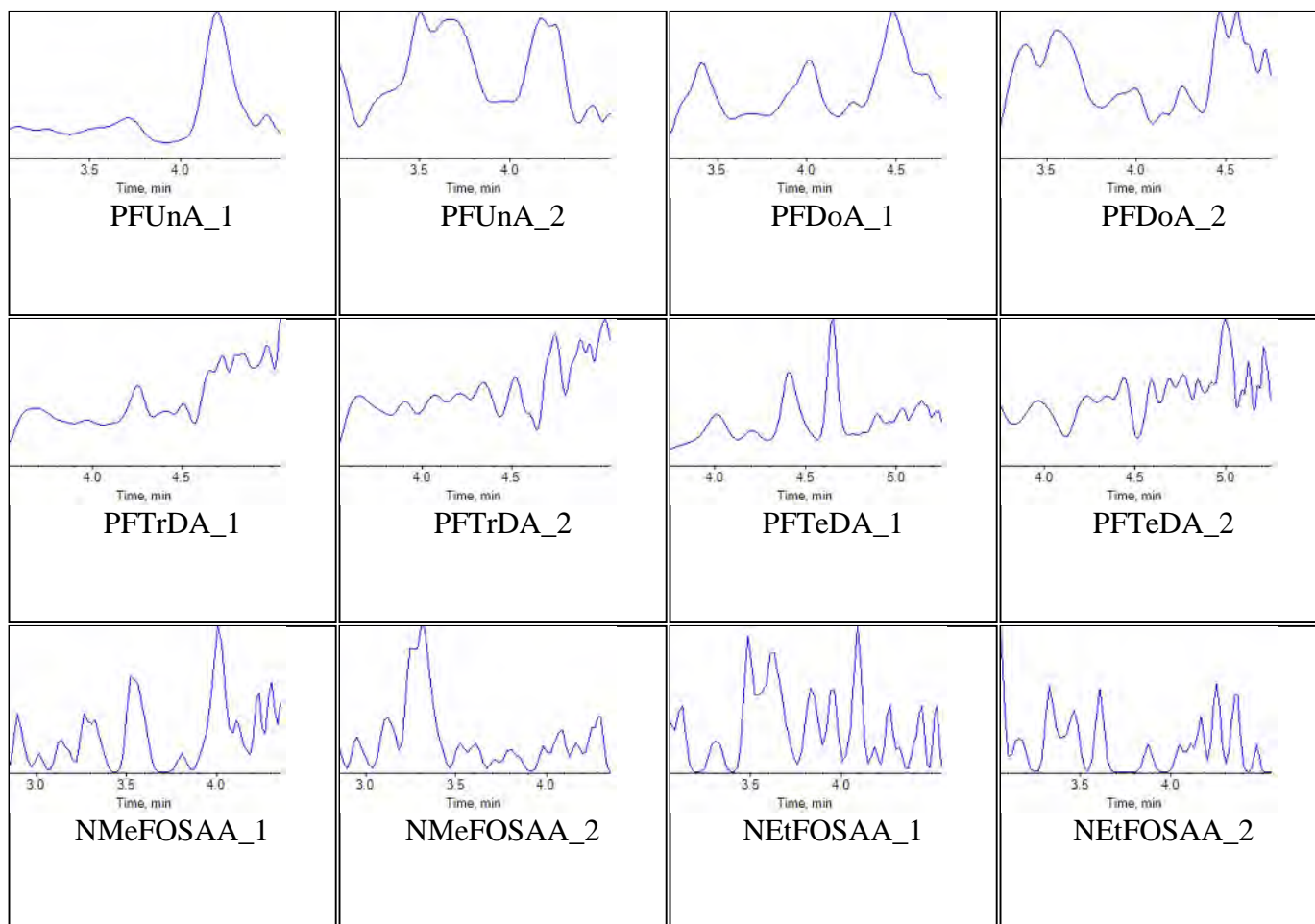
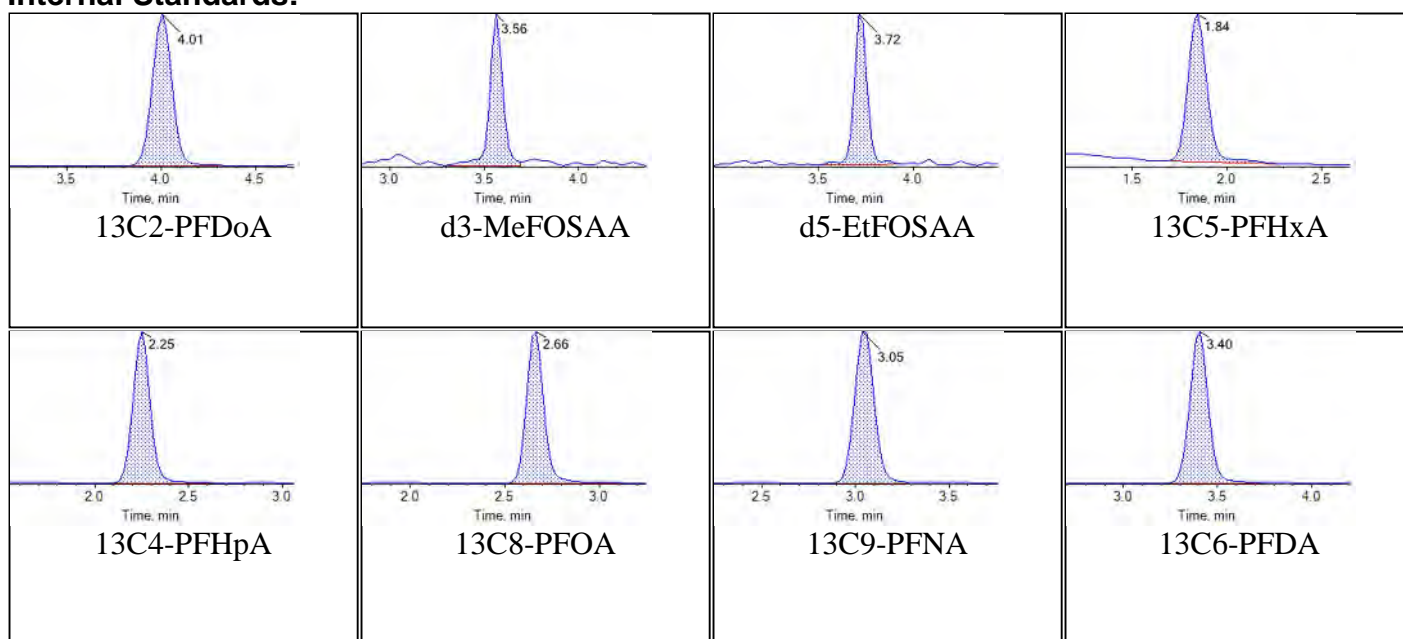


Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Chromatograms

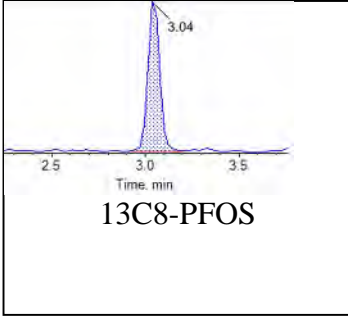
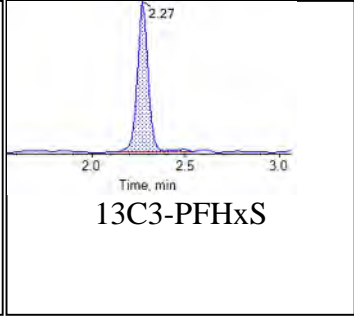
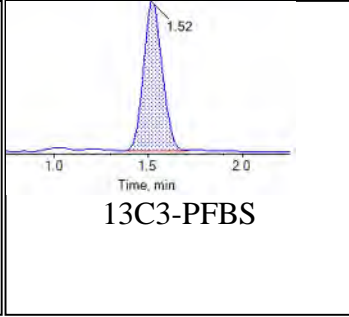
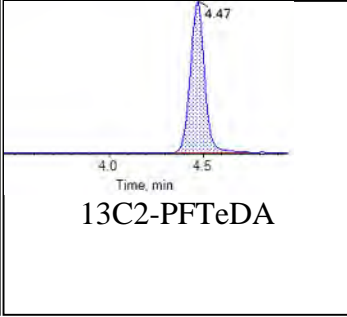
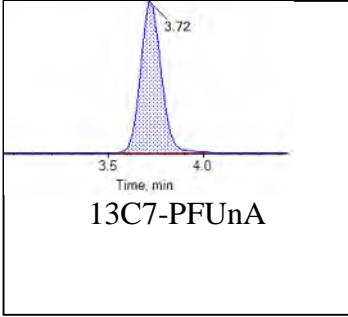
Target Analytes:



**Internal Standards:**

Chromatogram Report

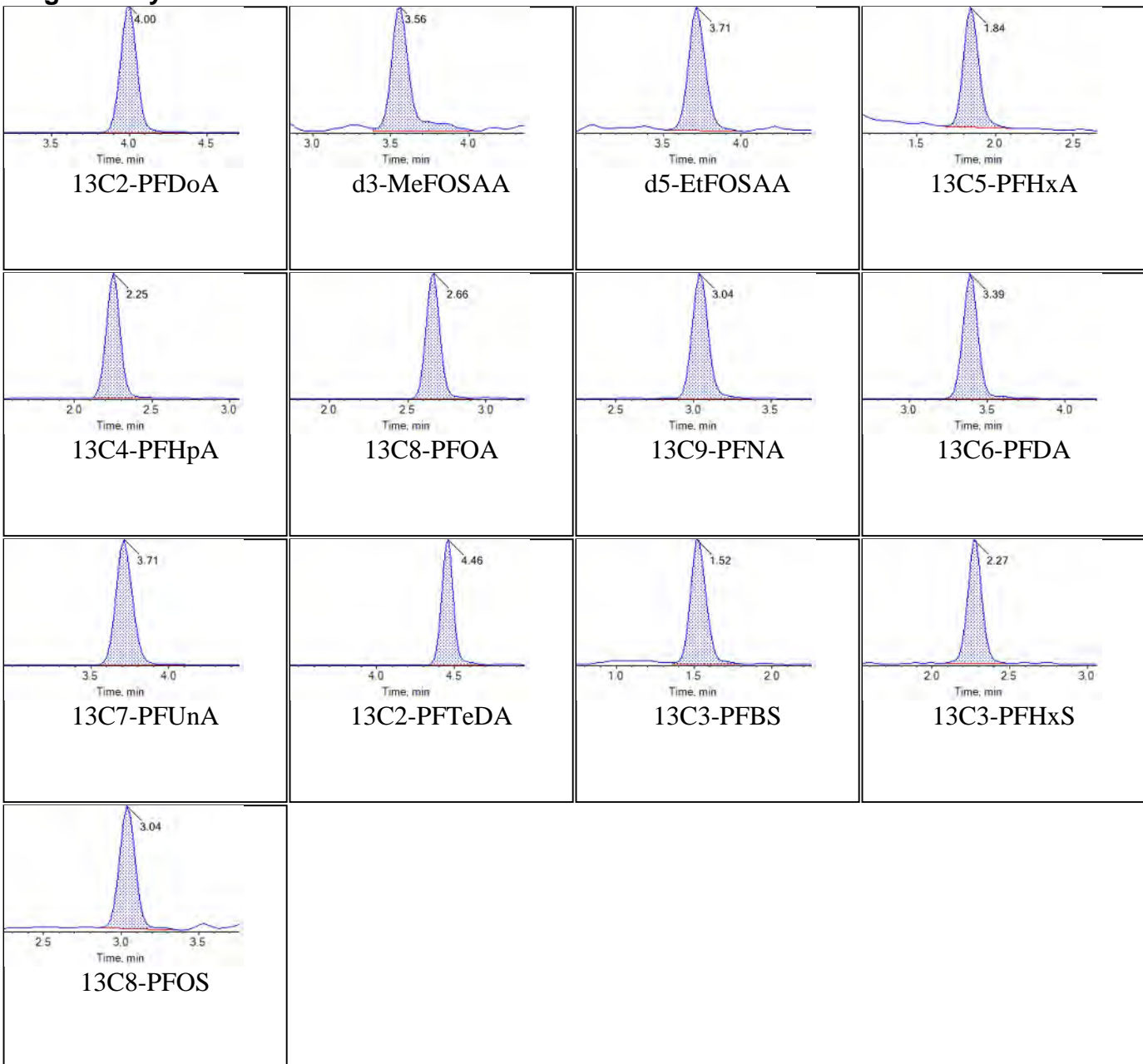
Created with Analyst Reporter
Printed: 01/10/2018 11:43:01 AM



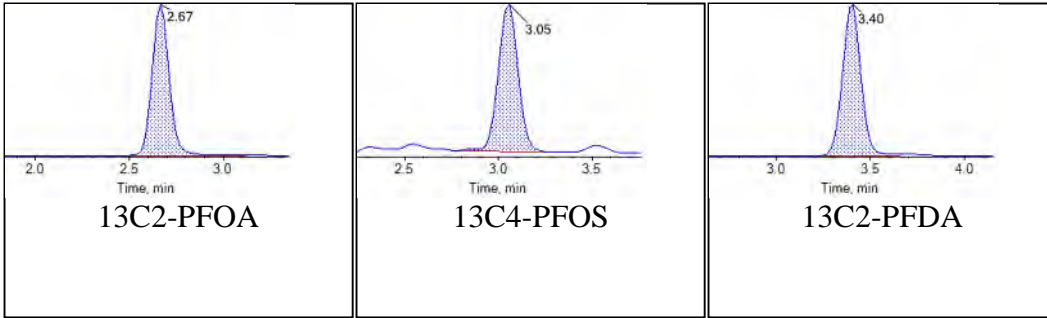
Sample Name	J8278-FS-D(3)	Injection Vial	25
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:49:19	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



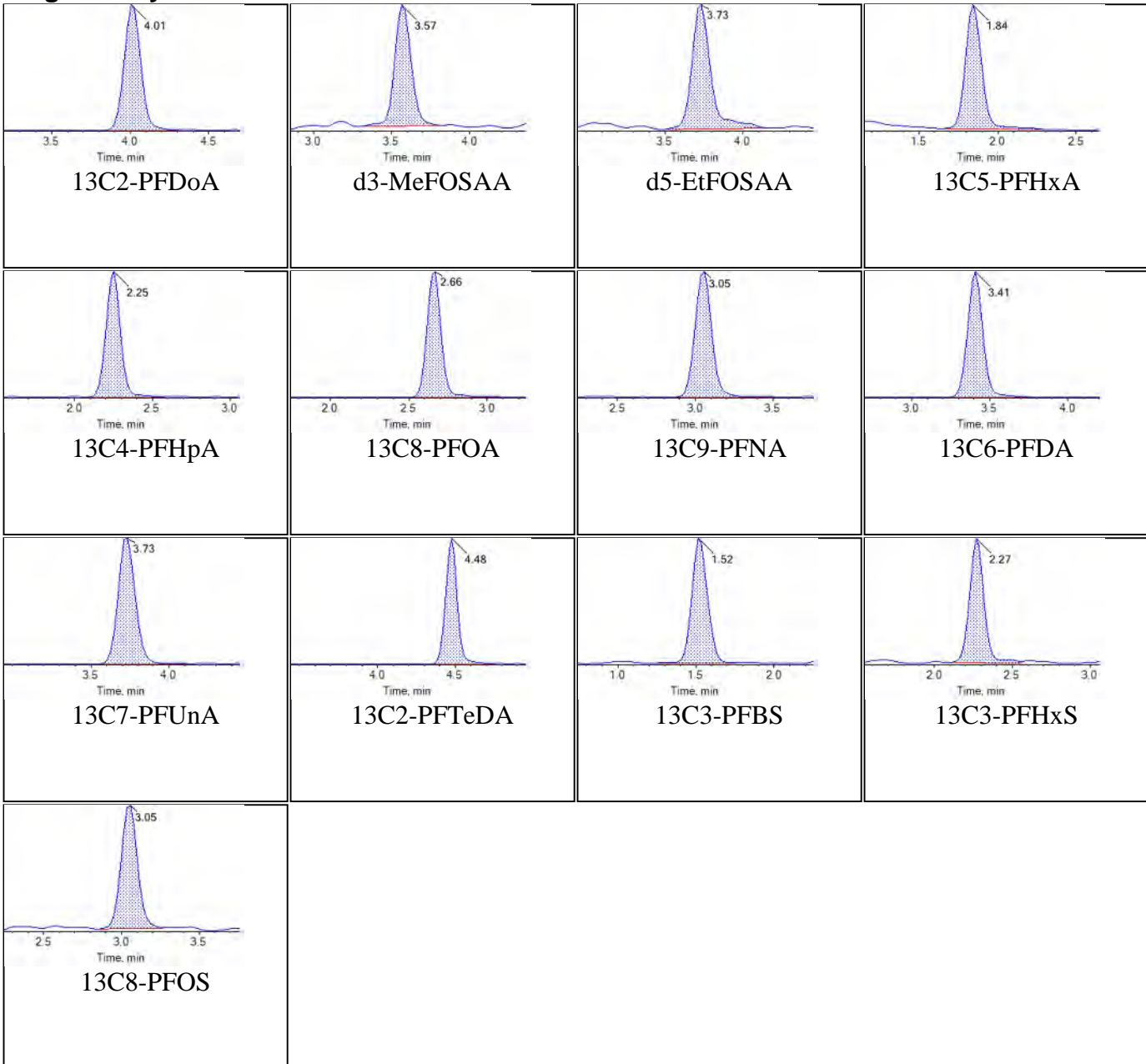
Internal Standards:



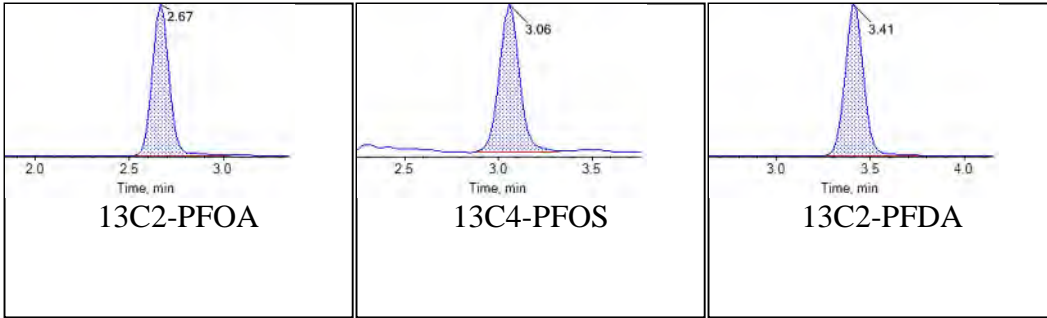
Sample Name	J8280-FS-D(3)	Injection Vial	28
Sample ID	07G13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:21:52	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



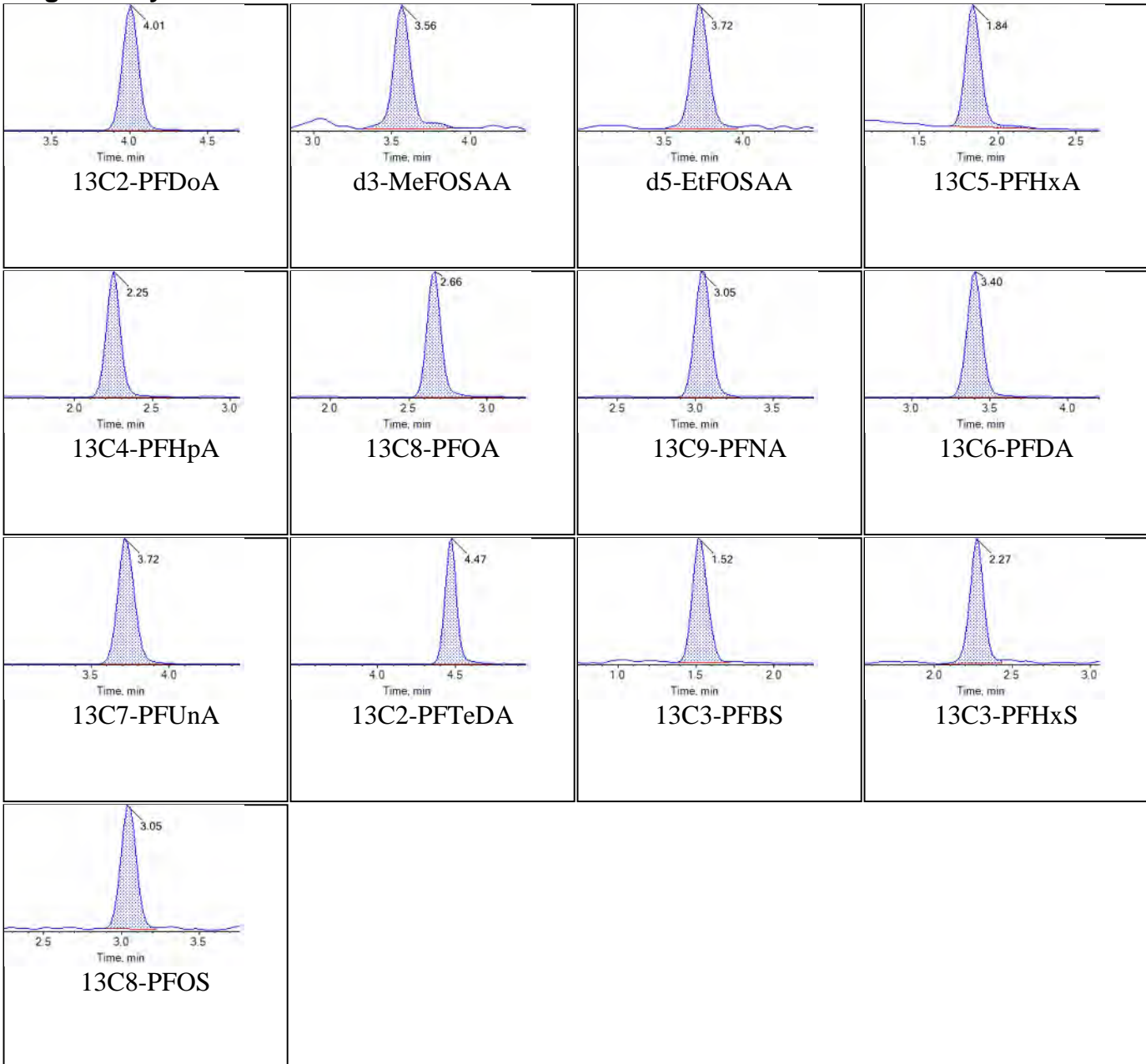
Internal Standards:



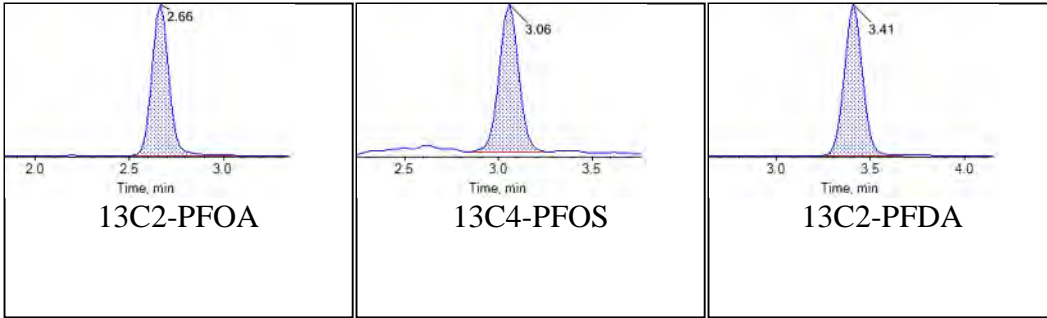
Sample Name	J8281-FS-D(3)	Injection Vial	31
Sample ID	07G11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:16:12	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Chromatograms

Target Analytes:



Internal Standards:



"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","307-24-4","PFHxA",".780000","ng/L","J",".19","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","375-85-9","PFHpA",".260000","ng/L","J",".16","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","335-67-1","PFOA",".760000","ng/L","J",".18","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","375-95-1","PFNA","1.000000","ng/L","U",".26","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500","1.00",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","335-76-2","PFDA",".500000","ng/L","U",".16","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","2058-94-8","PFUnA","1.000000","ng/L","U",".29","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500","1.00",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","307-55-1","PFDaA",".500000","ng/L","U",".18","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","72629-94-8","PFTTrDA",".500000","ng/L","U",".15","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","376-06-7","PFTeDA","1.000000","ng/L","U",".25","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500","1.00",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","2355-31-9","NMeFOSAA","2.000000","ng/L","U",".56","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500","2.00",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","2991-50-6","NEtFOSAA","1.000000","ng/L","U",".49","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500","1.00",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","375-73-5","PFBS",".500000","ng/L","U",".13","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","355-46-4","PFHxS",".400000","ng/L","U",".11","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".40",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","1763-23-1","PFOS",".500000","ng/L","U",".19","MDL","","T","","","5.00","LOQ","YES",-99.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2217","13C5-PFHxA",".940000","ng/L","","-99.00","NA","","SIS","94.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2218","13C4-PFHpA",".940000","ng/L","","-99.00","NA","","SIS","94.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2219","13C8-PFOA",".950000","ng/L","","-99.00","NA","","SIS","95.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""

"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2221","13C9-PFNA",".980000","ng/L","","-99.00","NA","","SIS","98.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""

0",".50",""
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PFDA","1.030000","ng/L","",-99.00,"NA","","SIS","103.00","",-99.00,"NA","YES","1.000000","",".250000",".000
500",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2223","13C7-
PFUnA","1.050000","ng/L","",-99.00,"NA","","SIS","105.00","",-99.00,"NA","YES","1.000000","",".250000",".00
0500",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2112","13C2-
PFDaA",".900000","ng/L","",-99.00,"NA","","SIS","90.00","",-99.00,"NA","YES","1.000000","",".250000",".0005
00",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2224","13C2-
PFTeDA",".830000","ng/L","",-99.00,"NA","","SIS","83.00","",-99.00,"NA","YES","1.000000","",".250000",".000
500",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-1838","d3-
MeFOSAA","1.050000","ng/L","",-99.00,"NA","","SIS","105.00","",-99.00,"NA","YES","1.000000","",".250000",
".000500",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-1839","d5-
EtFOSAA","1.270000","ng/L","",-99.00,"NA","","SIS","127.00","",-99.00,"NA","YES","1.000000","",".250000",
".000500",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2226","13C3-
PFBS",".930000","ng/L","",-99.00,"NA","","SIS","100.00","",-99.00,"NA","YES",".930000","",".250000",".00050
0",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2227","13C3-
PFHxS",".990000","ng/L","",-99.00,"NA","","SIS","104.00","",-99.00,"NA","YES",".950000","",".250000",".0005
00",".50",""
"CR843PB-FS","SOP 5-369","Initial","CR843PB-FS","BNO","BDO-2228","13C8-
PFOS",".950000","ng/L","",-99.00,"NA","","SIS","99.00","",-99.00,"NA","YES",".960000","",".250000",".000500
",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","307-24-
4","PFHxA","26.700000","ng/L","",.19,"MDL","","T","106.00","",5.00,"LOQ","YES","25.250000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","375-85-
9","PFHpA","24.490000","ng/L","",.16,"MDL","","T","98.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","335-67-
1","PFOA","25.790000","ng/L","",.18,"MDL","","T","103.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","375-95-
1","PFNA","23.590000","ng/L","",.26,"MDL","","T","94.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500","1.00",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","335-76-
2","PFDA","24.730000","ng/L","",.16,"MDL","","T","99.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","2058-94-
8","PFUnA","24.300000","ng/L","",.29,"MDL","","T","97.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500","1.00",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","307-55-
1","PFDaA","24.180000","ng/L","",.18,"MDL","","T","97.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","72629-94-
8","PFTTrDA","26.800000","ng/L","",.15,"MDL","","T","107.00","",5.00,"LOQ","YES","25.000000","",".250000",
".000500",".50",""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","376-06-
7","PFTeDA","25.930000","ng/L","",.25,"MDL","","T","104.00","",5.00,"LOQ","YES","25.000000","",".250000",

".000500","1.00", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","2355-31-9","NMeFOSAA","31.050000","ng/L", "", ".56","MDL", "", "T","124.00", "", "5.00","LOQ","YES","25.000000", "", ".250000", ".000500", "2.00", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","2991-50-6","NEtFOSAA","22.830000","ng/L", "", ".49","MDL", "", "T","91.00", "", "5.00","LOQ","YES","25.000000", "", ".250000", ".000500", "1.00", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","375-73-5","PFBS","22.600000","ng/L", "", ".13","MDL", "", "T","90.00", "", "5.00","LOQ","YES","25.250000", "", ".250000", ".000500", ".50", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","355-46-4","PFHxS","26.420000","ng/L", "", ".11","MDL", "", "T","105.00", "", "5.00","LOQ","YES","25.250000", "", ".250000", ".000500", ".40", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","1763-23-1","PFOS","25.100000","ng/L", "", ".19","MDL", "", "T","100.00", "", "5.00","LOQ","YES","25.000000", "", ".250000", ".000500", ".50", ""
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"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2221","13C9-PFNA", ".930000","ng/L", "", "-99.00","NA", "", "SIS","93.00", "", "-99.00","NA","YES","1.000000", "", ".250000", ".000500", ".50", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2222","13C6-PFDA", ".940000","ng/L", "", "-99.00","NA", "", "SIS","94.00", "", "-99.00","NA","YES","1.000000", "", ".250000", ".000500", ".50", ""
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"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2112","13C2-PFDoA", ".990000","ng/L", "", "-99.00","NA", "", "SIS","99.00", "", "-99.00","NA","YES","1.000000", "", ".250000", ".000500", ".50", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2224","13C2-PFTeDA", ".870000","ng/L", "", "-99.00","NA", "", "SIS","87.00", "", "-99.00","NA","YES","1.000000", "", ".250000", ".000500", ".50", ""
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"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2226","13C3-PFBS", "1.080000","ng/L", "", "-99.00","NA", "", "SIS","116.00", "", "-99.00","NA","YES", ".930000", "", ".250000", ".000500", ".50", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2227","13C3-PFHxS", ".940000","ng/L", "", "-99.00","NA", "", "SIS","99.00", "", "-99.00","NA","YES", ".950000", "", ".250000", ".000500", ".50", ""
"CR844LCS-FS","SOP 5-369","Initial","CR844LCS-FS","BNO","BDO-2228","13C8-PFOS", ".980000","ng/L", "", "-99.00","NA", "", "SIS","102.00", "", "-99.00","NA","YES", ".960000", "", ".250000", ".000500", ".50", ""

0",".50",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","307-24-4","PFHxA","71.370000","ng/L","",".17","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","375-85-9","PFHpA","5.170000","ng/L","",".14","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","335-67-1","PFOA","44.950000","ng/L","",".16","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","375-95-1","PFNA",".780000","ng/L","J",".23","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","335-76-2","PFDA",".440000","ng/L","U",".14","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","2058-94-8","PFUnA",".880000","ng/L","U",".25","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","307-55-1","PFDoA",".440000","ng/L","U",".16","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","72629-94-8","PFTTrDA",".440000","ng/L","U",".13","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","376-06-7","PFTeDA",".880000","ng/L","U",".22","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","2355-31-9","NMeFOSAA","1.750000","ng/L","U",".49","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500","1.75",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","2991-50-6","NEtFOSAA",".880000","ng/L","U",".43","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","375-73-5","PFBS","8.650000","ng/L","",".11","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","355-46-4","PFHxS","95.540000","ng/L","",".10","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".35",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","1763-23-1","PFOS","9.250000","ng/L","",".17","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"07GW07092018","SOP 5-369","Initial","J8278-FS","BNO","BDO-2217","13C5-PFHxA",".760000","ng/L","", "-99.00","NA","", "SIS","87.00","", "-99.00","NA","YES",".880000","", ".285000",".000500",".50",""
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PFDA",".880000","ng/L","","-99.00","NA","","SIS","95.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2223","13C7-
PFUnA",".950000","ng/L","","-99.00","NA","","SIS","103.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2112","13C2-
PFD_oA",".870000","ng/L","","-99.00","NA","","SIS","94.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2224","13C2-
PFTeDA",".660000","ng/L","","-99.00","NA","","SIS","72.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-1838","d3-
MeFOSAA","1.020000","ng/L","","-99.00","NA","","SIS","110.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-1839","d5-
EtFOSAA","1.240000","ng/L","","-99.00","NA","","SIS","134.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2226","13C3-
PFBS",".510000","ng/L","","-99.00","NA","","SIS","60.00","","-99.00","NA","YES",".860000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2227","13C3-
PFHxS",".810000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".880000","",".270000",".000500",".50",""
"07GW11092018","SOP 5-369","Initial","J8281-FS","BNO","BDO-2228","13C8-
PFOS",".810000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".890000","",".270000",".000500"

",".50", ""
"112g08005-JM08", "JM08 NCBC Gulfport Site 6 TS", "CR843PB-FS", "", "WATER", "CR843PB-FS", "MB", "", "-99.000000", "SOP 5-369", "Gen Prep", "Initial", "09/25/2018 00:00", "09/27/2018 22:16", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0566", "18-0566", "DP-18-0274", "DP-18-0274", "18-0566", "09/25/2018 00:00", "10/08/2018 09:30", ""
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"112g08005-JM08", "JM08 NCBC Gulfport Site 6 TS", "07GW13092018", "09/20/2018 10:25", "GW", "J8280-FS", "NM", "SHP-180921-02", "1.700000", "SOP 5-369", "Gen Prep", "Dilution", "09/25/2018 00:00", "09/27/2018 23:32", "BNO", "COA", "NA", "T", "5.000", "NA", "NA", "", "100.000000", "18-0566", "18-0566", "DP-18-0274", "DP-18-0274", "18-0566", "09/21/2018 09:45", "10/08/2018 09:30", ""
"112g08005-JM08", "JM08 NCBC Gulfport Site 6 TS", "07GW13092018", "09/20/2018 10:25", "GW", "J8280-FS", "NM", "SHP-180921-02", "1.700000", "SOP 5-369", "Gen Prep", "Initial", "09/25/2018 00:00", "09/27/2018 23:11", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0566", "18-0566", "DP-18-0274", "DP-18-0274", "18-0566", "09/21/2018 09:45", "10/08/2018 09:30", ""
"112g08005-JM08", "JM08 NCBC Gulfport Site 6 TS", "07GW11092018", "09/20/2018 11:20", "GW", "J8281-FS", "NM", "SHP-180921-02", "1.700000", "SOP 5-369", "Gen Prep", "Initial", "09/25/2018 00:00", "09/28/2018 00:05", "BNO", "COA", "NA", "T", "1.000", "NA", "NA", "", "100.000000", "18-0566", "18-0566", "DP-18-0274", "DP-18-0274", "18-0566", "09/21/2018 09:45", "10/08/2018 09:30", ""



TETRA TECH

INTERNAL CORRESPONDENCE

TO: G. ROOF **DATE:** NOVEMBER 9, 2018
FROM: TERRI L. SOLOMON **COPIES:** DV FILE
SUBJECT: ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)
NAVAL CONSTRUCTION BATTALION CENTER (NCBC) GULFPORT, GULFPORT,
MISSISSIPPI
CTO JM08
SAMPLE DELIVERY GROUP (SDG) 18-0566

SAMPLES: 3/Groundwater

07GW07092018 07GW11092018
07GW13092018

1/Field Reagent Blank (FRB)

07FRB092018

Overview

The sample set for NCBC Gulfport, SDG 18-0566 consisted of three (3) aqueous environmental samples and one (1) FRB sample. All samples were analyzed for Polyfluoroalkyl Substances (PFAS). No field duplicate samples were included in this SDG.

The samples were collected by Tetra Tech, Inc. on September 20, 2018 and analyzed by Battelle Norwell Operations. The analyses were conducted in compliance with the Department of Defense (DoD)/Department of Energy (DOE) Quality Systems Manual (QSM) for Environmental Laboratories version 5.1 PFAS using LC/MS/MS Appendix B Table B-15 (July 2017). The data was validated at Stage 4 based on the following parameters:

- * • Data Completeness
- * • Holding Times/Sample Preservation
- * • Mass Calibration
- * • Mass Spectral Acquisition Rate
- * • Tune Check
- * • Instrument Sensitivity Check
- * • Initial and Continuing Calibration Results
- * • Ion Transition Check
- * • Laboratory Method/ FRB/ Instrument Blank Results
- * • Surrogate Spike Recoveries (Extracted Internal Standard Recoveries)
- * • Injected Internal Standard Areas and Recoveries
- * • Laboratory Control Sample Results
- * • Chromatographic Resolution
- * • Detection Limits
- * • Analyte Identification and Quantification

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

The following compounds were detected in the laboratory method/instrument/field reagent blanks at concentrations less than one-half the limit of quantitation (LOQ):

<u>Analyte</u>	<u>Maximum Concentration (ng/L)</u>	<u>Action Level LOQ (> or <)</u>
Perfluorobutanesulfonic acid(PFBS) ⁽¹⁾	0.17	< LOQ
Perfluoroheptanoic acid (PFHpA) ⁽²⁾	0.26	< LOQ
Pentadecafluorooctanoic acid (PFOA) ⁽²⁾	0.76	< LOQ
Perfluorohexanoic acid (PFHxA) ⁽³⁾	0.95	< LOQ
Perfluorononanoic acid (PFNA) ⁽³⁾	0.30	< LOQ
Perfluorotetradecanoic acid (PFTeDA) ⁽³⁾	0.31	< LOQ
Perfluorotridecanoic acid (PFTrDA) ⁽³⁾	0.30	< LOQ

- (1) Maximum concentration in an instrument blank affecting all samples.
- (2) Maximum concentration present in a method blank affecting all samples.
- (3) Maximum concentration present in an FRB affecting all samples.

The detected results reported for these compounds below the LOQ but above the Limit of Detection (LOD) were qualified as non-detected, (U). Detected results reported below the LOD were raised to the LOD and qualified as non-detected, (U). Field blanks are not qualified for blank contamination.

NOTES

The laboratory uses a primary transition (_1) for the quantitation of a compound and a secondary transition (_2) for confirmation.

The sample result for perfluorohexanesulfonic acid (PFHxS) for sample 07GW13092018 was analyzed at a 5X dilution.

Samples with detections and their associated FRBs are summarized below.

<u>Sample</u>	<u>Associated FRB</u>
07GW07092018	07FRB092018
07GW11092018	07FRB092018
07GW13092018	07FRB092018

Detected results reported below the LOQ but above the Detection Limit (DL) were qualified as estimated, (J). Non-detected results are reported to the Limit of Detection (LOD).

EXECUTIVE SUMMARY

Laboratory Performance: Contaminants were detected in the method/instrument/field reagent blanks.


Other Factors Affecting Data Quality: Detected results below the LOQ were estimated.

The data for these analyses were reviewed with reference to the Environmental Protection Agency document EPA/600/R-08/092, Method 537, "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)", (September 2009), US EPA National Functional Guidelines for Organic Data Review (January 2017), and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM)

TO: G. ROOF
SDG: 18-0566

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for Environmental Laboratories Version 5.1" (2017) as applicable. The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.
Terri L. Solomon
Environmental Chemist



Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:

Appendix A - Qualified Analytical Results
Appendix B - Results as reported by the Laboratory
Appendix C - Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted method detection limit for sample and method.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Appendix A

Qualified Analytical Results

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $>40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-JM08 SDG: 18-0566 FRACTION: PFAS MEDIA: WATER	NSAMPLE	07FRB092018			07GW07092018			07GW11092018			07GW13092018		
	LAB_ID	J8279-FS			J8278-FS			J8281-FS			J8280-FS		
	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018			9/20/2018		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	0.94	U		0.88	U		0.93	U		0.93	U		
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	1.89	U		1.75	U		1.85	U		1.85	U		
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	0.76	J	P	44.95			21.63			19.77			
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.47	U		8.65			8.67			25.71			
PERFLUORODECANOIC ACID (PFDA)	0.47	U		0.44	U		0.18	J	P	0.19	J	P	
PERFLUORODODECANOIC ACID (PFDOA)	0.47	U		0.44	U		0.46	U		0.46	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	0.47	U		5.17			6.46			7.12			
PERFLUOROHEXANESULFONIC ACID (PFHXS)	0.38	U		95.54			86.71			219.18			
PERFLUOROHEXANOIC ACID (PFHXA)	0.95	J	P	71.37			13.4			22.64			
PERFLUORONONANOIC ACID (PFNA)	0.3	J	P	0.88	U	B	2.09	U	B	1.32	U	B	
PERFLUOROOCCTANESULFONIC ACID (PFOS)	0.47	U		9.25			31.3			68.78			
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.31	J	P	0.88	U		0.93	U		0.93	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.3	J	P	0.44	U		0.46	U		0.46	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	0.94	U		0.88	U		0.93	U		0.93	U		

Appendix B

Results as Reported by the Laboratory



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW07092018				
Battelle ID	J8278-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.285				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	71.37	0.17	0.44	4.39
PFHpA	375-85-9	5.17	0.14	0.44	4.39
PFOA	335-67-1	44.95	0.16	0.44	4.39
PFNA	375-95-1	0.78 J	0.23	0.88	4.39
PFDA	335-76-2	0.44 U	0.14	0.44	4.39
PFUnA	2058-94-8	0.88 U	0.25	0.88	4.39
PFDaA	307-55-1	0.44 U	0.16	0.44	4.39
PFTeDA	72629-94-8	0.44 U	0.13	0.44	4.39
PFTeDA	376-06-7	0.88 U	0.22	0.88	4.39
NMeFOSAA	2355-31-9	1.75 U	0.49	1.75	4.39
NEtFOSAA	2991-50-6	0.88 U	0.43	0.88	4.39
PFBS	375-73-5	8.65	0.11	0.44	4.39
PFHxS	355-46-4	95.54	0.10	0.35	4.39
PFOS	1763-23-1	9.25	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	87
13C4-PFHpA	101
13C8-PFOA	98
13C9-PFNA	105
13C6-PFDA	96
13C7-PFUnA	102
13C2-PFDaA	91
13C2-PFTeDA	70
d3-MeFOSAA	99
d5-EtFOSAA	106
13C3-PFBS	56
13C3-PFHxS	103
13C8-PFOS	93



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07FRB092018				
Battelle ID	J8279-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	QC				
Sample Size	0.265				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.95 J	0.18	0.47	4.72
PFHpA	375-85-9	0.47 U	0.15	0.47	4.72
PFOA	335-67-1	0.76 J	0.17	0.47	4.72
PFNA	375-95-1	0.30 J	0.25	0.94	4.72
PFDA	335-76-2	0.47 U	0.15	0.47	4.72
PFUnA	2058-94-8	0.94 U	0.27	0.94	4.72
PFDaA	307-55-1	0.47 U	0.17	0.47	4.72
PFTeDA	72629-94-8	0.30 J	0.14	0.47	4.72
PFTeDA	376-06-7	0.31 J	0.24	0.94	4.72
NMeFOSAA	2355-31-9	1.89 U	0.53	1.89	4.72
NEtFOSAA	2991-50-6	0.94 U	0.46	0.94	4.72
PFBS	375-73-5	0.47 U	0.12	0.47	4.72
PFHxS	355-46-4	0.38 U	0.10	0.38	4.72
PFOS	1763-23-1	0.47 U	0.18	0.47	4.72

Surrogate Recoveries (%)

13C5-PFHxA	101
13C4-PFHpA	102
13C8-PFOA	103
13C9-PFNA	101
13C6-PFDA	106
13C7-PFUnA	111
13C2-PFDaA	93
13C2-PFTeDA	84
d3-MeFOSAA	78
d5-EtFOSAA	129
13C3-PFBS	127
13C3-PFHxS	107
13C8-PFOS	105



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW13092018				
Battelle ID	J8280-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	22.64	0.18	0.46	4.63
PFHpA	375-85-9	7.12	0.15	0.46	4.63
PFOA	335-67-1	19.77	0.17	0.46	4.63
PFNA	375-95-1	1.32 J	0.24	0.93	4.63
PFDA	335-76-2	0.19 J	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDaA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	25.71	0.12	0.46	4.63
PFHxS	355-46-4	219.18 D	0.51	1.85	23.15
PFOS	1763-23-1	68.78	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	70
13C4-PFHpA	84
13C8-PFOA	90
13C9-PFNA	92
13C6-PFDA	93
13C7-PFUnA	99
13C2-PFDaA	91
13C2-PFTeDA	59
d3-MeFOSAA	106
d5-EtFOSAA	91
13C3-PFBS	59
13C3-PFHxS	103
13C8-PFOS	99



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	07GW11092018				
Battelle ID	J8281-FS				
Sample Type	SA				
Collection Date	09/20/2018				
Extraction Date	09/25/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	GW				
Sample Size	0.270				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	13.40	0.18	0.46	4.63
PFHpA	375-85-9	6.46	0.15	0.46	4.63
PFOA	335-67-1	21.63	0.17	0.46	4.63
PFNA	375-95-1	2.09 J	0.24	0.93	4.63
PFDA	335-76-2	0.18 J	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDaA	307-55-1	0.46 U	0.17	0.46	4.63
PFTeDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	8.67	0.12	0.46	4.63
PFHxS	355-46-4	86.71	0.10	0.37	4.63
PFOS	1763-23-1	31.30	0.18	0.46	4.63

Surrogate Recoveries (%)


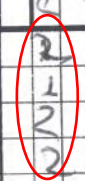
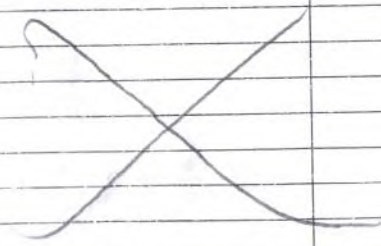
13C5-PFHxA	83
13C4-PFHpA	104
13C8-PFOA	90
13C9-PFNA	95
13C6-PFDA	95
13C7-PFUnA	103
13C2-PFDaA	94
13C2-PFTeDA	72
d3-MeFOSAA	110
d5-EtFOSAA	134
13C3-PFBS	60
13C3-PFHxS	92
13C8-PFOS	91

Appendix C

Support Documentation



Chain-of-Custody

<u>Client Contact Information</u>		Project Manager: <u>G. Roof</u>			Sampling Site: <u>7</u>		Site Information: <u>NE BC Gulfport</u>				
		Sampler Information (print name): <u>W. Olson</u>			Preservative		COC #				
		Phone: <u>950 443 6855</u>									
		Email: <u>William.Olson@battelle.com</u>			Analysis		Page#				
		Turnaround Time (TAT) Requested:									
Project Name: <u>NE BC Gulfport</u>		Normal <input checked="" type="checkbox"/>			Time Zone:						
Project No.:		Priority <input type="checkbox"/>									
		RUSH <input type="checkbox"/>									
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.					
J8278 J8279 J8280 J8281		<u>07GWO7 092018</u>	<u>9-20/18</u>	<u>0920</u>	<u>G</u>	<u>GWO</u>	<u>2</u>	PCAS 			
		<u>07FRA 092018</u>	<u>9-20/18</u>	<u>1000</u>	<u>CPC</u>	<u>CPC</u>	<u>1</u>				
		<u>07GWO13 092018</u>	<u>9-20/18</u>	<u>1025</u>	<u>G</u>	<u>GWO</u>	<u>2</u>				
		<u>07GWO 11 092018</u>	<u>9-20/18</u>	<u>1120</u>	<u>G</u>	<u>GW</u>	<u>2</u>				
											
Receipt Temperature:(°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:			
Relinquished by (Print/Sign): <u>W. Olson</u>		Company: <u>Battelle</u>		Date/Time: <u>9-20/18 1600</u>		Received by (Print/Sign): <u>[Signature]</u>		Company: <u>Battelle</u>		Date/Time: <u>9-21-18 945</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Comments:											

QA/QC Summary
Batch 18-0566

Project:	CTO-JM08 - Naval Construction Battalion Center (NCBC)
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW, QC
Data Set:	DP-18-0274
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
9/20/2018	9/21/2018	1.7
Corrective Actions	None	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	NA	

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH ₃ in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	With the exception of the FRB sample, all sample had orange particulate matter in the samples prior to extraction. The SPE cartridge filter was popped off the top of the bed material during extraction for sample 07GW07092018 (J8278-FS) as it clogged during the extraction process.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. PFHxS and PFOS detections in the authentic field samples contained both the linear and branched isomers.

Holding Times	Extraction Date(s)	Analysis Date(s)
	9/25/2018	9/27/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ	No exceedances noted.
Samples >10x PB	No comments.

QA/QC Summary
Batch 18-0566

Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted.
	No comments.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted.
	No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted.
	No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, R ² ≥0.99	No exceedances noted.
	No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ the LOQ	No exceedances noted.
	No comments.



It can be done

BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title: PFAS Analytical work

Data Set Number: DP-18-0274

Project Number: 100112541

Prep Batch Number: 18-0566

Entered By: Denise Schumitz

Entered On: 10/01/2018

Test Code (Matrix Type): Master_369(L)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS10/1/2018

Task Leader Approval:

SupervisorApproval:

Digitally signed by Jonathan Thorn
Date: 2018.10.01 15:21:03 -04'00'

PM Approval:



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

PA = Area of target / area of internal standard
 b = y intercept from calibration curve
 CIS = concentration of internal standard (ng/L)
 m = slope of calibration
 DF = dilution factor
 S = Sample Size
 PIV = Pre-injection volume (L)

Sample ID: J8280-FS-D(5)
 Client Sample ID: 07GW13092018
 Sample Size: 0.27
 Units: L
 Dilution Factor: 5.000
 PIV (L): 0.001
 Target Analyte: PFHxS
 MRM Transition: 399.0 / 80.0
 Data file: 18-0579.wiff
 Result table: 18-0566_BASE
 Area: 4,867,730.85
 IS Name: 13C3-PFHxS
 IS Area: 27,584.16
 IS Amount (ng/L): 236.5
 y-intercept: 0.16241
 slope: 3.52287

$$\text{Concentration} = \frac{[(4867730.85/27584.16) - 0.16241]}{3.52287} * 236.5 * 0.001 * 5 / 0.27$$

ng/L = 219.18

Sample Summary

Client: Tetra Tech Inc.

SDG: 18-0566

Project/Site: Naval Construction Battalion Center (NCBC)

CTO: JM08

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CR843PB-FS	Procedural Blank	WATER	9/25/2018	9/25/2018
CR844LCS-FS	Laboratory Control Sample	WATER	9/25/2018	9/25/2018
J8278-FS	07GW07092018	GW	9/20/2018	9/21/2018
J8279-FS	07FRB092018	QC	9/20/2018	9/21/2018
J8280-FS	07GW13092018	GW	9/20/2018	9/21/2018
J8281-FS	07GW11092018	GW	9/20/2018	9/21/2018



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	KB35 IB				
Battelle ID	KB35 IB_09/27/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/27/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Water				
Sample Size	0.250				
Size Unit-Basis	NA				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	0.50 U	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTeDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.17 J	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	103
13C4-PFHpA	103
13C8-PFOA	100
13C9-PFNA	107
13C6-PFDA	106
13C7-PFUnA	112
13C2-PFDaA	99
13C2-PFTeDA	102
d3-MeFOSAA	97
d5-EtFOSAA	103
13C3-PFBS	98
13C3-PFHxS	100
13C8-PFOS	95



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID		Procedural Blank			
Battelle ID		CR843PB-FS			
Sample Type		PB			
Collection Date		09/25/2018			
Extraction Date		09/25/2018			
Analysis Date		09/27/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		WATER			
Sample Size		0.250			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.78 J	0.19	0.50	5.00
PFHpA	375-85-9	0.26 J	0.16	0.50	5.00
PFOA	335-67-1	0.76 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDaA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	94
13C4-PFHpA	94
13C8-PFOA	95
13C9-PFNA	98
13C6-PFDA	103
13C7-PFUnA	105
13C2-PFDaA	90
13C2-PFTeDA	83
d3-MeFOSAA	105
d5-EtFOSAA	127
13C3-PFBS	100
13C3-PFHxS	104
13C8-PFOS	99



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541

Client ID	Laboratory Control Sample					
Battelle ID	CR844LCS-FS					
Sample Type	LCS					
Collection Date	09/25/2018					
Extraction Date	09/25/2018					
Analysis Date	09/27/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	307-24-4	26.70	25.25	106	51	137
PFHpA	375-85-9	24.49	25.00	98	48	136
PFOA	335-67-1	25.79	25.00	103	49	141
PFNA	375-95-1	23.59	25.00	94	58	122
PFDA	335-76-2	24.73	25.00	99	59	135
PFUnA	2058-94-8	24.30	25.00	97	64	134
PFDoA	307-55-1	24.18	25.00	97	75	131
PFTeDA	72629-94-8	26.80	25.00	107	42	148
PFTeDA	376-06-7	25.93	25.00	104	42	158
NMeFOSAA	2355-31-9	31.05	25.00	124	50	146
NEtFOSAA	2991-50-6	22.83	25.00	91	51	131
PFBS	375-73-5	22.60	25.25	90	56	134
PFHxS	355-46-4	26.42	25.25	105	52	128
PFOS	1763-23-1	25.10	25.00	100	40	144

Surrogate Recoveries (%)

13C5-PFHxA	89
13C4-PFHpA	95
13C8-PFOA	91
13C9-PFNA	93
13C6-PFDA	94
13C7-PFUnA	97
13C2-PFDoA	99
13C2-PFTeDA	87
d3-MeFOSAA	99
d5-EtFOSAA	122
13C3-PFBS	116
13C3-PFHxS	99
13C8-PFOS	102



Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541
 Preparation Batch: 18-0566
 Data Set: DP-18-0274

		CR843PB-FS (Procedural Blank)	CR844LCS-FS (Laboratory Control Sample)	J8278-FS (07GW07092018)	J8279-FS (07FRB092018)	J8280-FS (07GW13092018)	J8281-FS (07GW11092018)
PFHxA	307-24-4	L	L	L	L	L	L
PFHpA	375-85-9	L	L	L	-	L	L
PFOA	335-67-1	L	L	L	L	L	L
PFNA	375-95-1	-	L	L	L	L	L
PFDA	335-76-2	-	L	-	-	L	L
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	L	-	-
PFTeDA	376-06-7	-	L	-	L	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	L	-	L	L
PFHxS	355-46-4	-	L	L/Br	-	L/Br	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	-	L/Br	L/Br

"L" :Linear
 "Br": branched
 "L/Br": Linear/Branched
 "-": Not detected

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C2-PFOA	102,171.99	51,086.00	153,257.99

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C2-PFOA	92,568.05	51,086.00	153,257.99	
KA87	L2	9/27/18 18:17	13C2-PFOA	99,607.47	51,086.00	153,257.99	
KA88	L3	9/27/18 18:28	13C2-PFOA	103,926.94	51,086.00	153,257.99	
KA89	L4	9/27/18 18:39	13C2-PFOA	102,513.01	51,086.00	153,257.99	
KA90	L5	9/27/18 18:50	13C2-PFOA	102,171.99	51,086.00	153,257.99	
KA91	L6	9/27/18 19:01	13C2-PFOA	89,123.37	51,086.00	153,257.99	
KA92	L7	9/27/18 19:11	13C2-PFOA	93,608.25	51,086.00	153,257.99	
KB35 IB	Instrument Blank	9/27/18 19:22	13C2-PFOA	92,013.28	51,086.00	153,257.99	
KB36 ICC	ICC	9/27/18 19:33	13C2-PFOA	99,790.21	51,086.00	153,257.99	
KA90 CCV	CCV	9/27/18 21:33	13C2-PFOA	103,166.69	51,086.00	153,257.99	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C2-PFOA	90,023.26	51,086.00	153,257.99	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C2-PFOA	98,607.86	51,086.00	153,257.99	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C2-PFOA	66,542.24	51,086.00	153,257.99	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C2-PFOA	89,512.51	51,086.00	153,257.99	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C2-PFOA	86,070.27	51,086.00	153,257.99	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C2-PFOA	87,864.53	51,086.00	153,257.99	
KA89 CCV	CCV	9/27/18 23:43	13C2-PFOA	108,147.90	51,086.00	153,257.99	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C2-PFOA	70,969.40	51,086.00	153,257.99	
KA90 CCV	CCV	9/28/18 0:27	13C2-PFOA	108,706.80	51,086.00	153,257.99	

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C2-PFDA	100,763.62	50,381.81	151,145.43

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C2-PFDA	96,279.07	50,381.81	151,145.43	
KA87	L2	9/27/18 18:17	13C2-PFDA	95,113.65	50,381.81	151,145.43	
KA88	L3	9/27/18 18:28	13C2-PFDA	116,638.94	50,381.81	151,145.43	
KA89	L4	9/27/18 18:39	13C2-PFDA	108,405.81	50,381.81	151,145.43	
KA90	L5	9/27/18 18:50	13C2-PFDA	100,763.62	50,381.81	151,145.43	
KA91	L6	9/27/18 19:01	13C2-PFDA	97,919.48	50,381.81	151,145.43	
KA92	L7	9/27/18 19:11	13C2-PFDA	106,165.27	50,381.81	151,145.43	
KB35 IB	Instrument Blank	9/27/18 19:22	13C2-PFDA	91,584.90	50,381.81	151,145.43	
KB36 ICC	ICC	9/27/18 19:33	13C2-PFDA	101,884.09	50,381.81	151,145.43	
KA90 CCV	CCV	9/27/18 21:33	13C2-PFDA	104,014.17	50,381.81	151,145.43	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C2-PFDA	88,591.40	50,381.81	151,145.43	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C2-PFDA	104,290.81	50,381.81	151,145.43	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C2-PFDA	85,051.54	50,381.81	151,145.43	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C2-PFDA	96,147.78	50,381.81	151,145.43	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C2-PFDA	93,121.60	50,381.81	151,145.43	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C2-PFDA	93,655.21	50,381.81	151,145.43	
KA89 CCV	CCV	9/27/18 23:43	13C2-PFDA	110,839.11	50,381.81	151,145.43	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C2-PFDA	81,211.41	50,381.81	151,145.43	
KA90 CCV	CCV	9/28/18 0:27	13C2-PFDA	105,092.04	50,381.81	151,145.43	

Project Client: Tetra Tech
 Project Name: PFAS Analytical work
 Project No.: 100112541



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/27/18 18:50	13C4-PFOS	32,536.22	16,268.11	48,804.33

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/27/18 18:06	13C4-PFOS	31,850.17	16,268.11	48,804.33	
KA87	L2	9/27/18 18:17	13C4-PFOS	28,077.79	16,268.11	48,804.33	
KA88	L3	9/27/18 18:28	13C4-PFOS	33,693.87	16,268.11	48,804.33	
KA89	L4	9/27/18 18:39	13C4-PFOS	33,583.58	16,268.11	48,804.33	
KA90	L5	9/27/18 18:50	13C4-PFOS	32,536.22	16,268.11	48,804.33	
KA91	L6	9/27/18 19:01	13C4-PFOS	33,632.81	16,268.11	48,804.33	
KA92	L7	9/27/18 19:11	13C4-PFOS	31,296.64	16,268.11	48,804.33	
KB35 IB	Instrument Blank	9/27/18 19:22	13C4-PFOS	29,901.26	16,268.11	48,804.33	
KB36 ICC	ICC	9/27/18 19:33	13C4-PFOS	34,236.26	16,268.11	48,804.33	
KA90 CCV	CCV	9/27/18 21:33	13C4-PFOS	29,653.50	16,268.11	48,804.33	
CR843PB-FS(0)	Procedural Blank	9/27/18 22:16	13C4-PFOS	27,459.01	16,268.11	48,804.33	
CR844LCS-FS(0)	Laboratory Control Sample	9/27/18 22:27	13C4-PFOS	28,902.59	16,268.11	48,804.33	
J8278-FS(0)	07GW07092018	9/27/18 22:38	13C4-PFOS	23,181.78	16,268.11	48,804.33	
J8279-FS(0)	07FRB092018	9/27/18 23:00	13C4-PFOS	27,609.11	16,268.11	48,804.33	
J8280-FS(0)	07GW13092018	9/27/18 23:11	13C4-PFOS	24,416.48	16,268.11	48,804.33	
J8280-FS-D(5)	07GW13092018	9/27/18 23:32	13C4-PFOS	27,486.26	16,268.11	48,804.33	
KA89 CCV	CCV	9/27/18 23:43	13C4-PFOS	33,930.24	16,268.11	48,804.33	
J8281-FS(0)	07GW11092018	9/28/18 0:05	13C4-PFOS	22,770.58	16,268.11	48,804.33	
KA90 CCV	CCV	9/28/18 0:27	13C4-PFOS	33,473.96	16,268.11	48,804.33	

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 7:11:59 PM	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.54	23	>10
PFBS_2	298.9 / 99.0	1.54	26	>10
PFHxA_1	313.0 / 269.0	1.86	23	>10
PFHxA_2	313.0 / 119.0	1.86	24	>10
PFHpA_1	363.0 / 319.0	2.27	30	>10
PFHpA_2	363.0 / 169.0	2.27	29	>10
PFHxS_1	399.0 / 80.0	2.29	53	>10
PFHxS_2	399.0 / 99.0	2.29	55	>10
PFOA_1	413.0 / 369.0	2.68	36	>10
PFOA_2	413.0 / 169.0	2.68	38	>10
PFNA_1	463.0 / 419.0	3.08	30	>10
PFNA_2	463.0 / 219.0	3.08	39	>10
PFOS_1	499.0 / 80.0	3.08	41	>10
PFOS_2	499.0 / 99.0	3.08	35	>10
PFDA_1	513.0 / 469.0	3.43	44	>10
PFDA_2	513.0 / 219.0	3.43	43	>10
PFUnA_1	563.0 / 519.0	3.76	63	>10
PFUnA_2	563.0 / 269.0	3.76	55	>10
PFDoA_1	613.0 / 569.0	4.04	64	>10
PFDoA_2	613.0 / 319.0	4.04	42	>10
PFTTrDA_1	663.0 / 619.0	4.29	68	>10
PFTTrDA_2	663.0 / 169.0	4.29	45	>10
PFTeDA_1	713.0 / 669.0	4.50	55	>10
PFTeDA_2	713.0 / 169.0	4.50	64	>10
NMeFOSAA_1	570.0 / 419.0	3.59	42	>10
NMeFOSAA_2	570.0 / 512.0	3.59	48	>10
NEtFOSAA_1	584.0 / 419.0	3.75	42	>10
NEtFOSAA_2	584.0 / 483.0	3.75	22	>10

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 7:11:59 PM	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.03	51	>10
d3-MeFOSAA	573.0 / 419.0	3.58	28	>10
d5-EtFOSAA	589.0 / 419.0	3.74	24	>10
13C5-PFHxA	318.0 / 273.0	1.85	33	>10
13C4-PFHpA	367.0 / 322.0	2.26	31	>10
13C8-PFOA	421.0 / 376.0	2.67	42	>10
13C9-PFNA	472.0 / 427.0	3.06	39	>10
13C6-PFDA	519.0 / 474.0	3.42	33	>10
13C7-PFUnA	570.0 / 525.0	3.74	25	>10
13C2-PFTeDA	715.0 / 670.0	4.49	49	>10
13C3-PFBS	302.0 / 99.0	1.53	23	>10
13C3-PFHxS	402.0 / 99.0	2.28	32	>10
13C8-PFOS	507.0 / 99.0	3.06	29	>10



Precision and Bias at the LOQ for PFAS in non-potable Water

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n
PFBA	375-22-4	12.29	2.02	4.04	13
PFPeA	2706-90-3	10.73	1.51	3.02	9
PFHxA	307-24-4	9.93	1.30	2.60	39
PFHpA	375-85-9	9.42	1.57	3.14	39
PFOA	335-67-1	10.18	1.47	2.94	40
PFNA	375-95-1	9.64	1.15	2.30	39
PFDA	335-76-2	9.89	1.32	2.64	39
PFUnA	2058-94-8	9.86	1.31	2.62	39
PFDoA	307-55-1	10.75	1.29	2.58	39
PFTTrDA	72629-94-8	11.18	1.54	3.08	39
PFTeDA	376-06-7	10.70	1.91	3.82	39
NMeFOSAA	2355-31-9	10.26	1.87	3.74	39
NEtFOSAA	2991-50-6	9.63	1.54	3.08	39
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.05	1.44	2.88	40
PFPeS	BDO-2114	9.80	0.96	1.92	5
PFHxS	355-46-4	9.76	1.40	2.80	39
PFHpS	375-99-6	10.96	0.96	1.92	10
PFOS	1763-23-1	10.09	1.36	2.72	38
PFNS	98789-57-2	9.34	1.10	2.20	4
PFDS	2806-15-7	10.13	1.88	3.76	9
4:2FTS	BDO-2205	11.03	1.26	2.52	9
6:2FTS	27619-97-2	12.52	2.91	5.82	9
8:2FTS	39108-34-4	12.11	2.54	5.08	9

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369

Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Compliant Table B-15

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.14	0.5	5.0
PFPeA	2706-90-3	0.31	1.0	5.0
PFHxA	307-24-4	0.19	0.5	5.0
PFHpA	375-85-9	0.16	0.5	5.0
PFOA	335-67-1	0.18	0.5	5.0
PFNA	375-95-1	0.26	1.0	5.0
PFDA	335-76-2	0.16	0.5	5.0
PFUnA	2058-94-8	0.29	1.0	5.0
PFDoA	307-55-1	0.18	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.25	1.0	5.0
NMeFOSAA	2355-31-9	0.56	2.0	5.0
NEtFOSAA	2991-50-6	0.49	1.0	5.0
PFOSA	754-91-6	TBD	TBD	TBD
PFBS	375-73-5	0.13	0.5	5.0
PFPeS	BDO-2114	0.67	2.5	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-99-6	0.20	0.5	5.0
PFOS	1763-23-1	0.19	0.5	5.0
PFNS	98789-57-2	0.46	1.0	5.0
PFDS	2806-15-7	0.17	0.5	5.0
4:2FTS	BDO-2205	0.14	0.5	5.0
6:2FTS	27619-97-2	1.36	2.5	5.0
8:2FTS	39108-34-4	0.22	0.5	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

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ID 596 04/18



It can be done

Analytical Transitions for PFAS in non-potable water, solid, and tissue

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFHpA	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFHxS	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (L)	Sample Equivalent (ng/L) ²
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

Mass calibration and Tune Check

QTRAP 5500 Preventive Maintenance Checklist

Preventive Maintenance Date:	12-June-2018
Request ID:	9749
Company Name:	Battelle Memorial Institute
Instrument ID:	X60666
Instrument Model:	QTRAP 5500
Instrument Serial Number:	AU23051004

PASS **FAIL**

Any failure will lead to an automatic Service Call being open to investigate fault.

Preventive Maintenance is performed twice every year unless specified in the Service Contract. It is designed to help maintain optimum system performance and to help diagnose any system deficiencies.

Engineer is required the assigned Request ID for this PM otherwise making this job invalid.

Comments: Suspected issue with pulse gas manifold. TRAP testing in POSITIVE mode couldn't be finished because of pulse gas issue. The same issue will be taken care in separate service call.

Performed By: Kaustubh Dhayagude **Date:** 12-June-2018

Approved By : _____ **Date:** _____

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

- Consult Customer concerning the unit overall performance.
- Check Logbook for Services recently performed.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.6	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop

Pre PM PPG Test: Perform each of the following tests. Optimize ion source position only. The specifications listed for these Pre PM tests are guidelines only, not required to be met.

- Perform Q1 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	Read Only

- Perform Q3 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 28.87% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	Read Only

Perform Q1 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.42 e7	Read Only	0.7686	Read Only

Perform Q3 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.24 e7	Read Only	0.7243	Read Only

Perform Product Ion scan using NEG PPG 3e-5M. Record 10 mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: _____(200-240VAC).
If Out-of-Range, notify customer.

- Clean Interface
 - Curtain Plate
 - Orifice Plate
 - QJet
 - Q0 Rods.

- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable. N/A
- Clean and inspect built-in divert valve if used. N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.

- Pump down overnight if possible. N/A

- Perform Maintenance on Turbo V source.

- Replace Electrode, if necessary. N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed. N/A

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

- Set-up Sample for Infusion.
- Check spray and adjust sprayer's position of the TIS source.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.7	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Perform Q1 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2 ^{e6}	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0 ^{e6}	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4 ^{e7}	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 ^{e7}	0.7465	0.6 to 0.8

- Perform Q3 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2 ^{e6}	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0 ^{e6}	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4 ^{e7}	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8 ^{e7}	0.7202	0.6 to 0.8

- Perform "Product of 609.3" POS and record product ion 195.1 using Reserpine 0.167pmol/uL. Record 10 mca. Calculate Transmission efficiency comparing Q1POS 609 intensity.

Transmission Efficiency: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform Q1 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	$\geq 1.0^{e7}$	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	$\geq 4.0^{e7}$	0.7206	0.6 to 0.8

- Perform Q3 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	2.15 e7	$\geq 8.0^{e6}$	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	$\geq 4.0^{e7}$	0.7299	0.6 to 0.8

- Perform Product Ion scan using NEG PPG 3e-5M.

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

- Perform ER POS 118.087 and 922.01 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.54 e6	$\geq 7.2^{e6}$	0.1473	<0.35
ER 922.010	0.05	4.96 e7	$\geq 2.8^{e6}$	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		$\geq 2.4^{e7}$		<0.65
ER 922.010	0.05		$\geq 6.8^{e7}$		<0.65

- Perform ER NEG 431.982 and 601.978 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.81 e8	$\geq 4.4^{e7}$	0.1862	<0.35
ER 601.978	0.05	1.70 e8	$\geq 5.6^{e7}$	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	$\geq 1.2^{e8}$	0.5102	<0.65
ER 601.978	0.05	4.52 e8	$\geq 1.6^{e8}$	0.6187	<0.65

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform EPI POS 397.2 using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥6.4 e6

- Perform MS3 POS full scan Fragmentation ON & OFF using Reserpine 0.167pmol/uL. Record 20 mca.

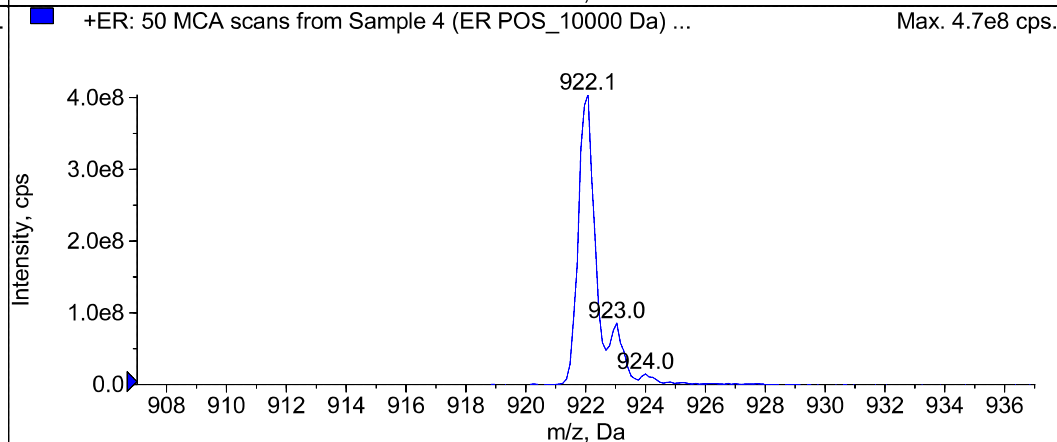
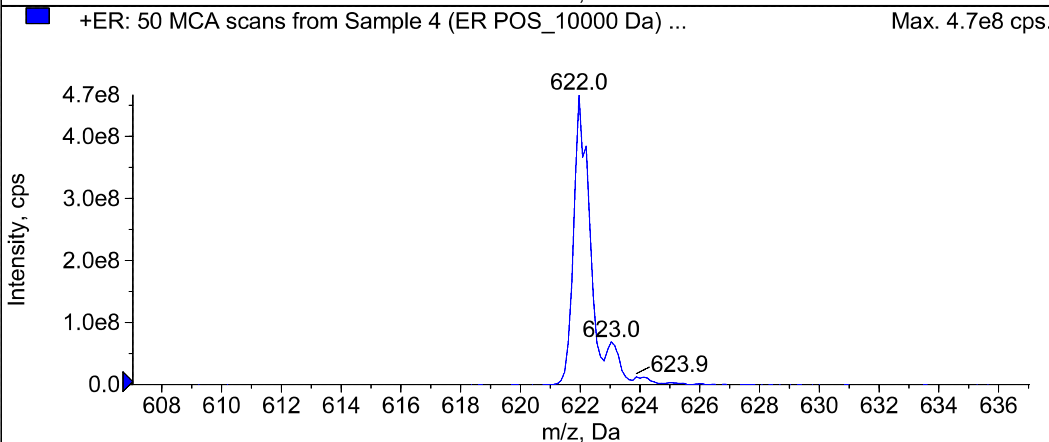
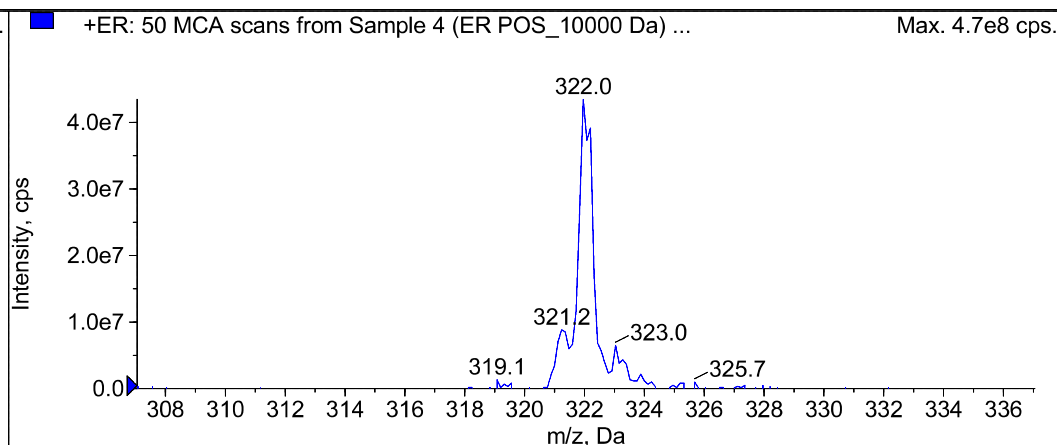
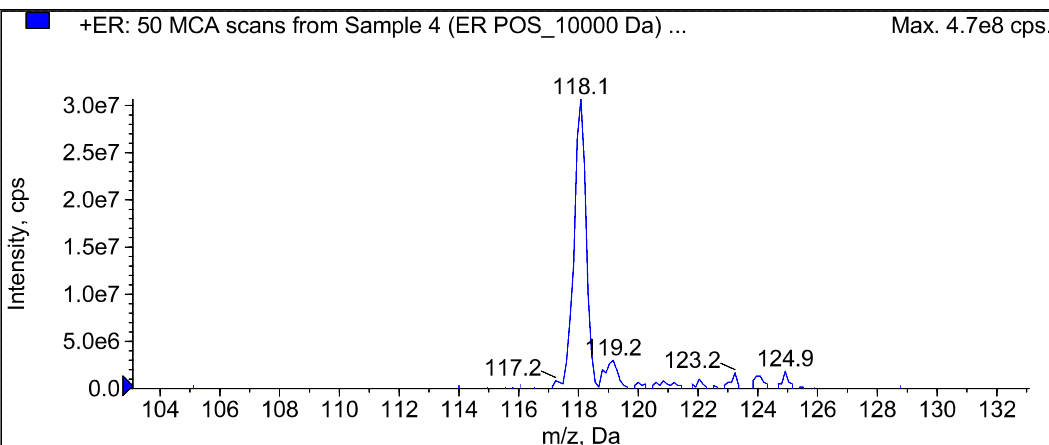
Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	Yes	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x 10 ^{e6}

REVIEW:

- Attach all spectrums printouts to this procedure.
- If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- Empty tuning cache folder, if necessary. N/A
- Update Service Work Order status
- Fill and replace PM Label.

END OF PREVENTIVE MAINTENANCE CHECKLIST**Document history:**

06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.



Peak List for "+ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4



It can be done

**BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM**

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566

CTO-JM08 - Naval Construction Battalion Center (NCBC)

GW, QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR843PB-FS	Procedural Blank	250.0	NA	--	09/25/18 LMG
CR844LCS-FS	Laboratory Control Sample	250.0	NA	--	09/25/18 LMG
J8278-FS	07GW07092018	285.0	1	C	09/25/18 LMG
J8279-FS	07FRB092018	265.0	1	C	09/25/18 LMG
J8280-FS	07GW13092018	270.0	1	C	09/25/18 LMG
J8281-FS	07GW11092018	270.0	1	C	09/25/18 LMG

Comments:

Samples Assigned By

Jonathan Thorn

Date : September 21, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Battalion Center (NCBC)****GW, QC****(N/A Fraction)**

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution*	Date Spiked/ Spiked By	Witn'd By
CR843PB-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
CR844LCS-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8278-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8278-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL
J8279-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8280-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8280-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL
J8280-FS-D(5)	970	30	KB34	50	1	1000	5.000	09/27/18 JRT	RDL
J8281-FS(0)	950	50	KB34	50	1	1000	1.000	09/27/18 SAS	LMG
J8281-FS-D(3)	975	25	KB34	50	1	1000	2.000	09/27/18 JRT	RDL

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB33	Pipette	B814657482
KB33	Pipette	B814659662
KB34	Pipette	B814659662

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT SPIKE FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566

CTO-JM08 - Naval Construction Battalion Center (NCBC)

GW, QC

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J8278-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL
J8280-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL
J8280-FS-D(5)	5	KB33	SIS	1	30	0	0	09/27/18 JRT	RDL
J8281-FS-D(3)	2	KB33	SIS	1	25	0	0	09/27/18 JRT	RDL

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB33	Pipette	B814657482
KB33	Pipette	B814659662
KB34	Pipette	B814659662



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

PFAS Analytical work

Project No.(s)

100112541

18-0566**CTO-JM08 - Naval Construction Batallion Center (NCBC)****GW, QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR843PB-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
CR844LCS-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8278-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8278-FS	2	--	9/27/2018 3:49:00 PM	J8278-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8278-FS-D	3	--	9/27/2018 3:49:00 PM	J8278-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8279-FS	0	--	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8280-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8280-FS	2	--	9/27/2018 3:49:00 PM	J8280-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8280-FS-D	3	C	9/27/2018 3:49:00 PM	J8280-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8280-FS-D	4	--	9/27/2018 3:55:00 PM	J8280-FS-D	3	1000	600	1.667	3.333	09/27/18 JRT
J8280-FS-D	5	--	9/27/2018 3:55:00 PM	J8280-FS-D	3	1000	400	2.500	5.000	09/27/18 JRT
J8281-FS	0	C	9/25/2018	NA		NA	NA	1.000	1.000	09/25/18 LMG
J8281-FS	2	--	9/27/2018 3:49:00 PM	J8281-FS	0	1000	500	2.000	2.000	09/27/18 JRT
J8281-FS-D	3	--	9/27/2018 3:49:00 PM	J8281-FS	0	1000	500	2.000	2.000	09/27/18 JRT

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		9/27/2018 5:55:55 PM	5-0369.dam	18-0579.wiff
2	KA86	L1	9/27/2018 6:06:47 PM	5-0369.dam	18-0579.wiff
3	KA87	L2	9/27/2018 6:17:38 PM	5-0369.dam	18-0579.wiff
4	KA88	L3	9/27/2018 6:28:31 PM	5-0369.dam	18-0579.wiff
5	KA89	L4	9/27/2018 6:39:23 PM	5-0369.dam	18-0579.wiff
6	KA90	L5	9/27/2018 6:50:15 PM	5-0369.dam	18-0579.wiff
7	KA91	L6	9/27/2018 7:01:07 PM	5-0369.dam	18-0579.wiff
8	KA92	L7	9/27/2018 7:11:59 PM	5-0369.dam	18-0579.wiff
9	KB35 IB	Instrument Blank	9/27/2018 7:22:50 PM	5-0369.dam	18-0579.wiff
10	KB36 ICC	ICC	9/27/2018 7:33:41 PM	5-0369.dam	18-0579.wiff
11	KA29 Branch	Branch Standard	9/27/2018 7:44:33 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 7:55:25 PM	5-0369.dam	18-0579.wiff
6	KA90 CCV	CCV	9/27/2018 9:33:14 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 9:44:06 PM	5-0369.dam	18-0579.wiff
22	CR843PB-FS(0)	Procedural Blank	9/27/2018 10:16:44 PM	5-0369.dam	18-0579.wiff
23	CR844LCS-FS(0)	Laboratory Control Sample	9/27/2018 10:27:36 PM	5-0369.dam	18-0579.wiff
24	J8278-FS(0)	07GW07092018	9/27/2018 10:38:27 PM	5-0369.dam	18-0579.wiff
25	J8278-FS-D(3)	07GW07092018	9/27/2018 10:49:19 PM	5-0369.dam	18-0579.wiff
26	J8279-FS(0)	07FRB092018	9/27/2018 11:00:10 PM	5-0369.dam	18-0579.wiff
27	J8280-FS(0)	07GW13092018	9/27/2018 11:11:01 PM	5-0369.dam	18-0579.wiff
28	J8280-FS-D(3)	07GW13092018	9/27/2018 11:21:52 PM	5-0369.dam	18-0579.wiff
29	J8280-FS-D(5)	07GW13092018	9/27/2018 11:32:45 PM	5-0369.dam	18-0579.wiff
5	KA89 CCV	CCV	9/27/2018 11:43:37 PM	5-0369.dam	18-0579.wiff
12	MeOH		9/27/2018 11:54:29 PM	5-0369.dam	18-0579.wiff
30	J8281-FS(0)	07GW11092018	9/28/2018 12:05:21 AM	5-0369.dam	18-0579.wiff
34	J8281-FS-D(3)	07G11092018	9/28/2018 12:16:12 AM	5-0369.dam	18-0579.wiff
6	KA90 CCV	CCV	9/28/2018 12:27:03	5-0369.dam	18-0579.wiff

1

2

1

1 Dilutions made and run but not needed. DMS 10/4/2018

2 Additional dilution was needed and nothing is being reported from this one. DMS 10/4/2018



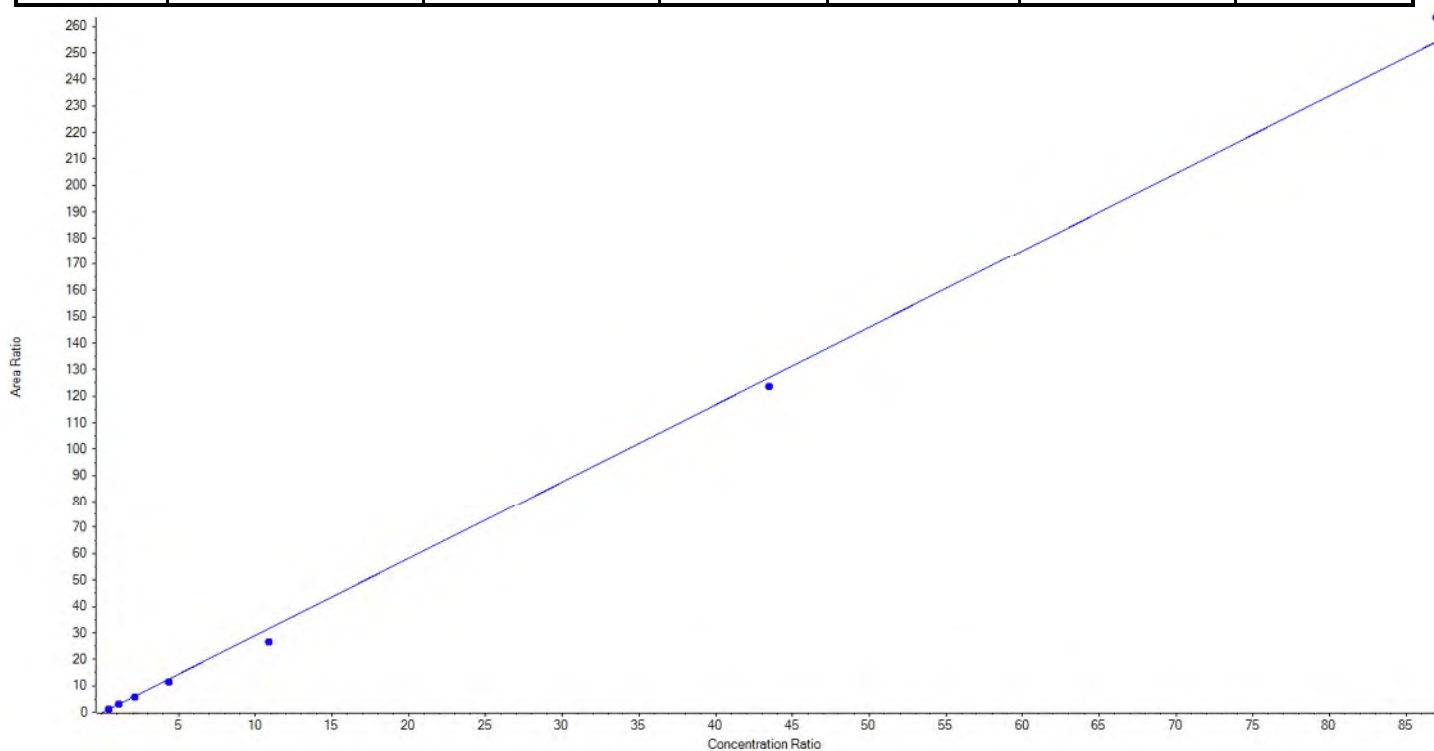
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFBS_1	Data File	18-0579.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.92545x + -0.27585$ ($r = 0.99836$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	123.563339	122.3
3	KA87	L2	True	252.50	265.980331	105.3
4	KA88	L3	True	505.00	477.951669	94.6
5	KA89	L4	True	1010.00	928.471502	91.9
6	KA90	L5	True	2525.00	2141.327770	84.8
7	KA91	L6	True	10100.00	9834.581398	97.4
8	KA92	L7	True	20200.00	20921.623990	103.6





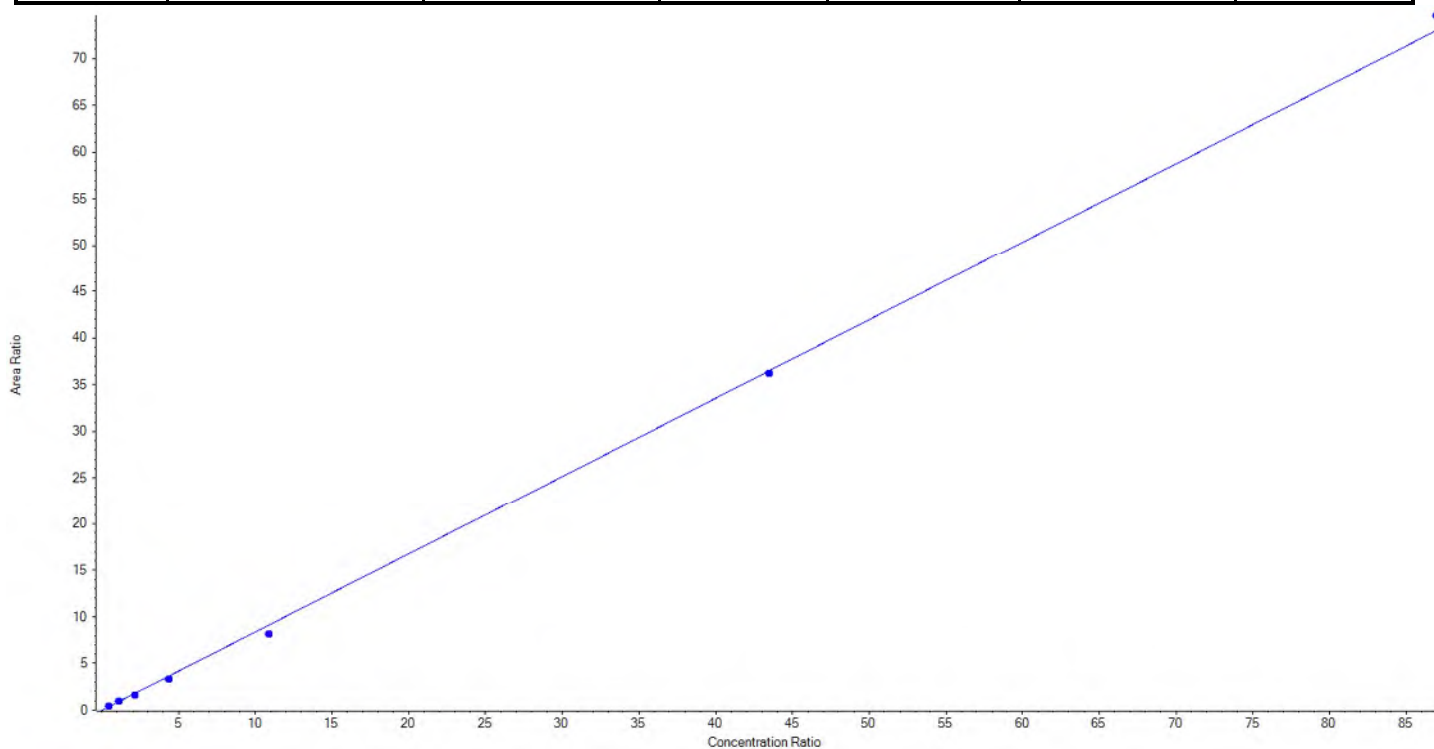
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Created with Analyst Reporter
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Analyte Name	PFBS_2	Data File	18-0579.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83941 x + -0.01803$ ($r = 0.99917$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	122.248707	121.0
3	KA87	L2	True	252.50	263.462301	104.3
4	KA88	L3	True	505.00	460.229914	91.1
5	KA89	L4	True	1010.00	937.723626	92.8
6	KA90	L5	True	2525.00	2254.703938	89.3
7	KA91	L6	True	10100.00	10016.842401	99.2
8	KA92	L7	True	20200.00	20638.289113	102.2





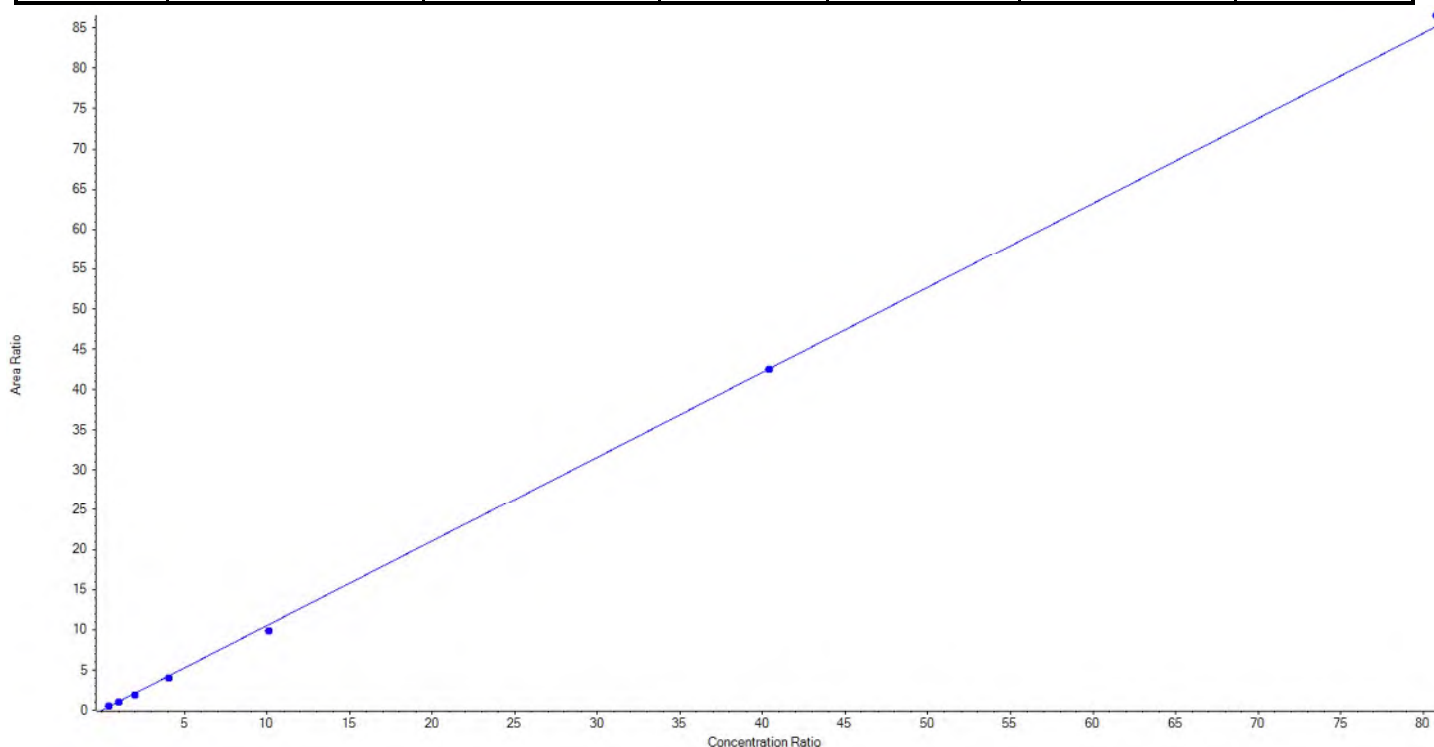
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFHxA_1	Data File	18-0579.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0566_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05450x + -0.02715$ ($r = 0.99935$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	130.216628	128.9
3	KA87	L2	True	252.50	244.662241	96.9
4	KA88	L3	True	505.00	440.448114	87.2
5	KA89	L4	True	1010.00	940.169982	93.1
6	KA90	L5	True	2525.00	2334.256954	92.5
7	KA91	L6	True	10100.00	10084.569261	99.9
8	KA92	L7	True	20200.00	20519.176820	101.6





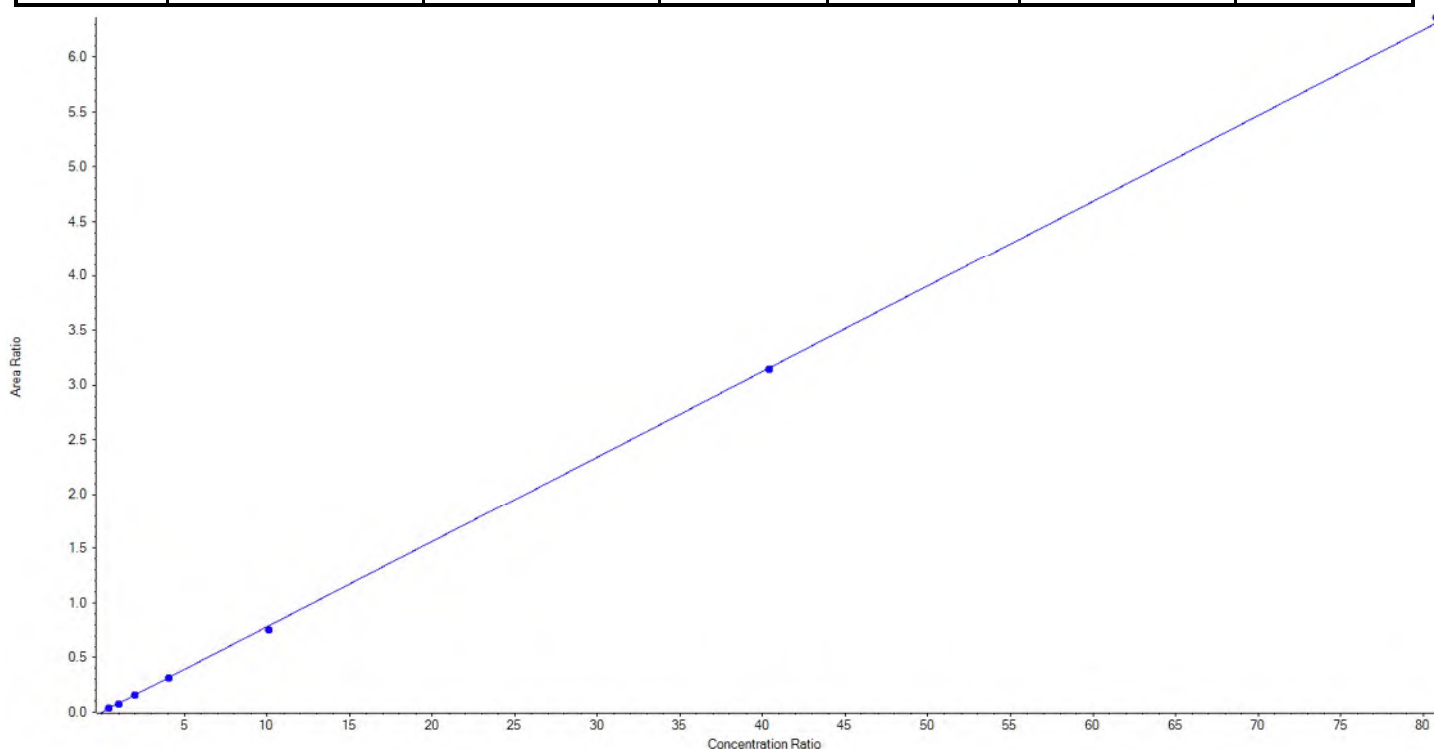
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Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFHxA_2	Data File	18-0579.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0566_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07812x + -3.80071e-4$ (r = 0.99988) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	110.731124	109.6
3	KA87	L2	True	252.50	243.831966	96.6
4	KA88	L3	True	505.00	499.894513	99.0
5	KA89	L4	True	1010.00	998.384754	98.9
6	KA90	L5	True	2525.00	2409.842159	95.4
7	KA91	L6	True	10100.00	10074.189534	99.7
8	KA92	L7	True	20200.00	20356.625950	100.8





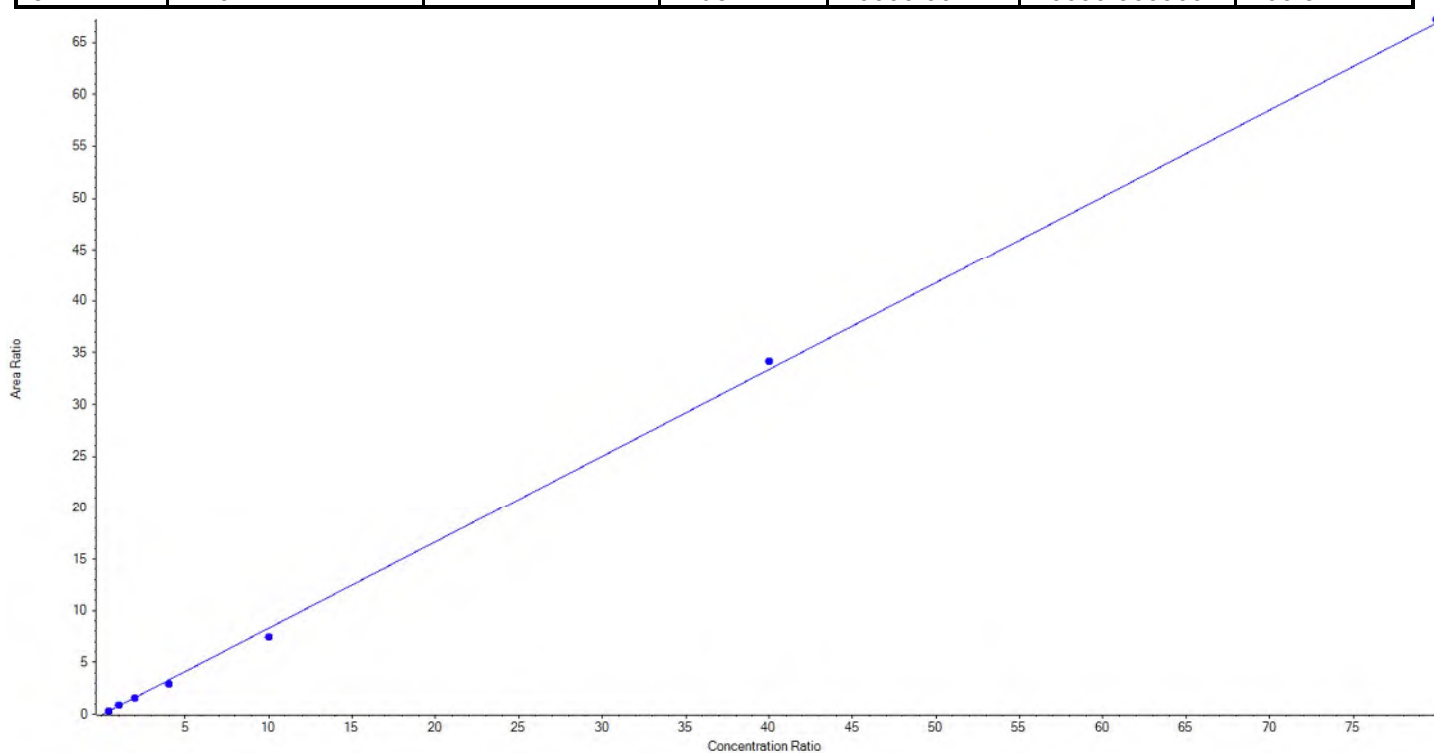
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MRM Transition	363.0 / 319.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.83649x + -0.06691$ ($r = 0.99929$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	112.141197	112.1
3	KA87	L2	True	250.00	271.691767	108.7
4	KA88	L3	True	500.00	481.727864	96.4
5	KA89	L4	True	1000.00	899.203183	89.9
6	KA90	L5	True	2500.00	2252.021680	90.1
7	KA91	L6	True	10000.00	10233.853402	102.3
8	KA92	L7	True	20000.00	20099.360909	100.5





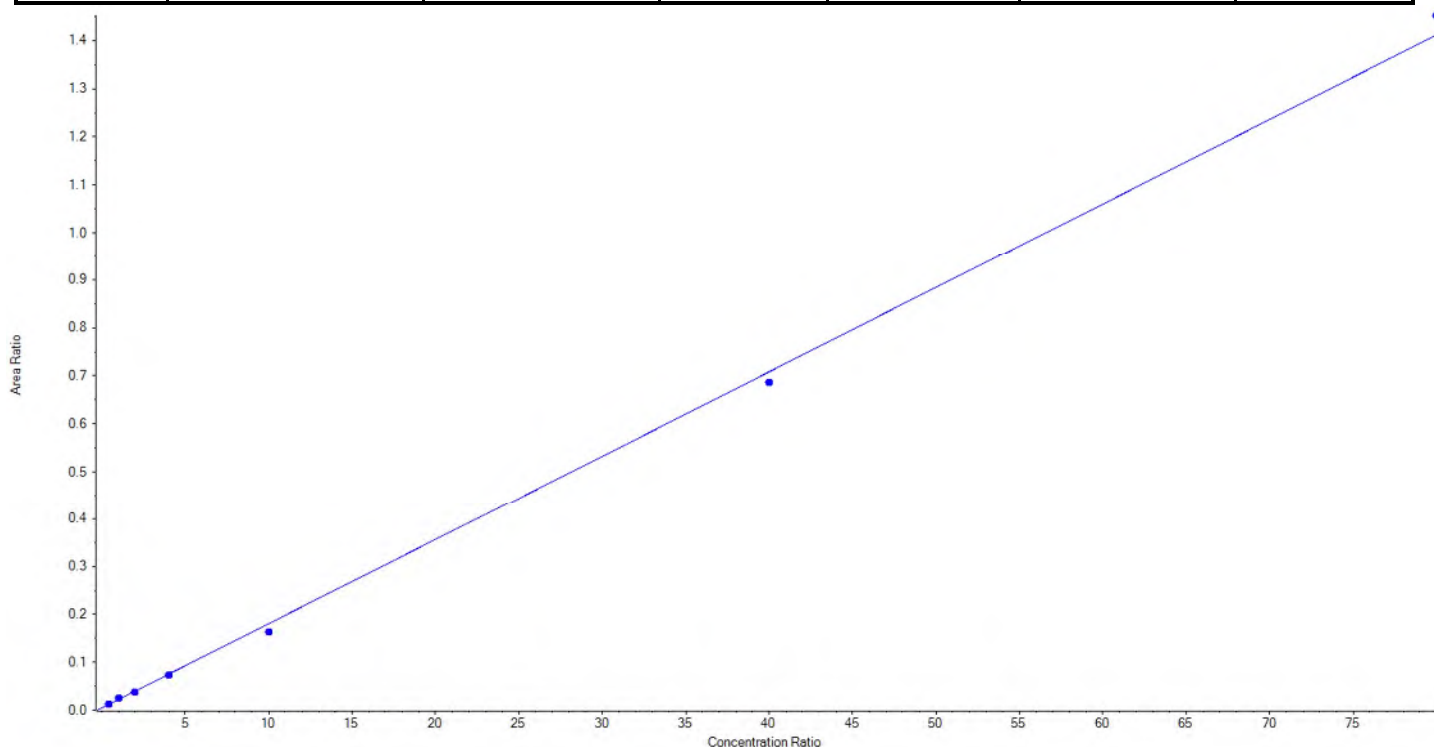
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Analyte Name	PFHpA_2	Data File	18-0579.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01759x + 0.00463$ ($r = 0.99904$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	102.495489	102.5
3	KA87	L2	True	250.00	291.248647	116.5
4	KA88	L3	True	500.00	463.652444	92.7
5	KA89	L4	True	1000.00	985.741903	98.6
6	KA90	L5	True	2500.00	2249.265012	90.0
7	KA91	L6	True	10000.00	9688.358068	96.9
8	KA92	L7	True	20000.00	20569.238438	102.9





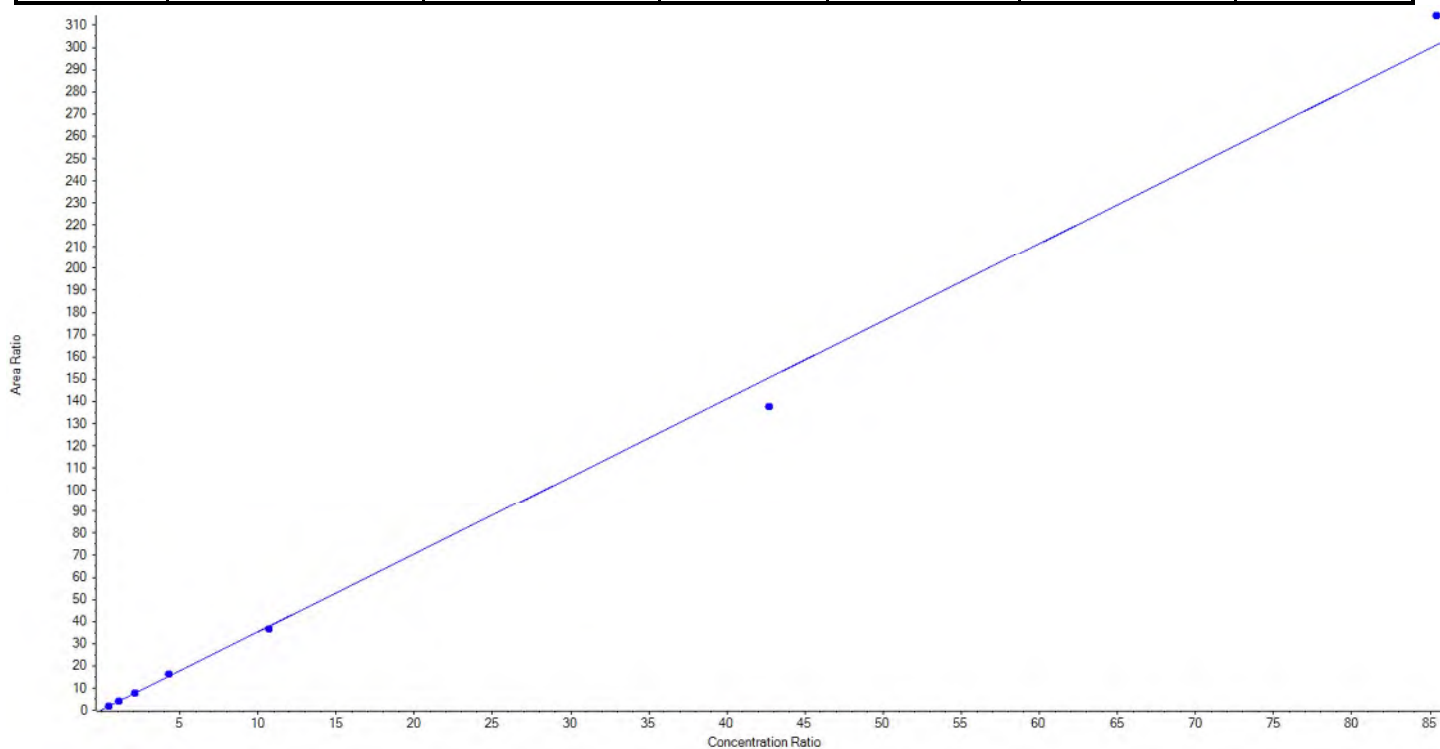
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Analyte Name	PFHxS_1	Data File	18-0579.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.52287x + 0.16241$ ($r = 0.99812$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	103.101735	102.1
3	KA87	L2	True	252.50	253.404188	100.4
4	KA88	L3	True	505.00	497.796212	98.6
5	KA89	L4	True	1010.00	1070.103940	106.0
6	KA90	L5	True	2525.00	2457.101002	97.3
7	KA91	L6	True	10100.00	9224.589677	91.3
8	KA92	L7	True	20200.00	21087.403246	104.4





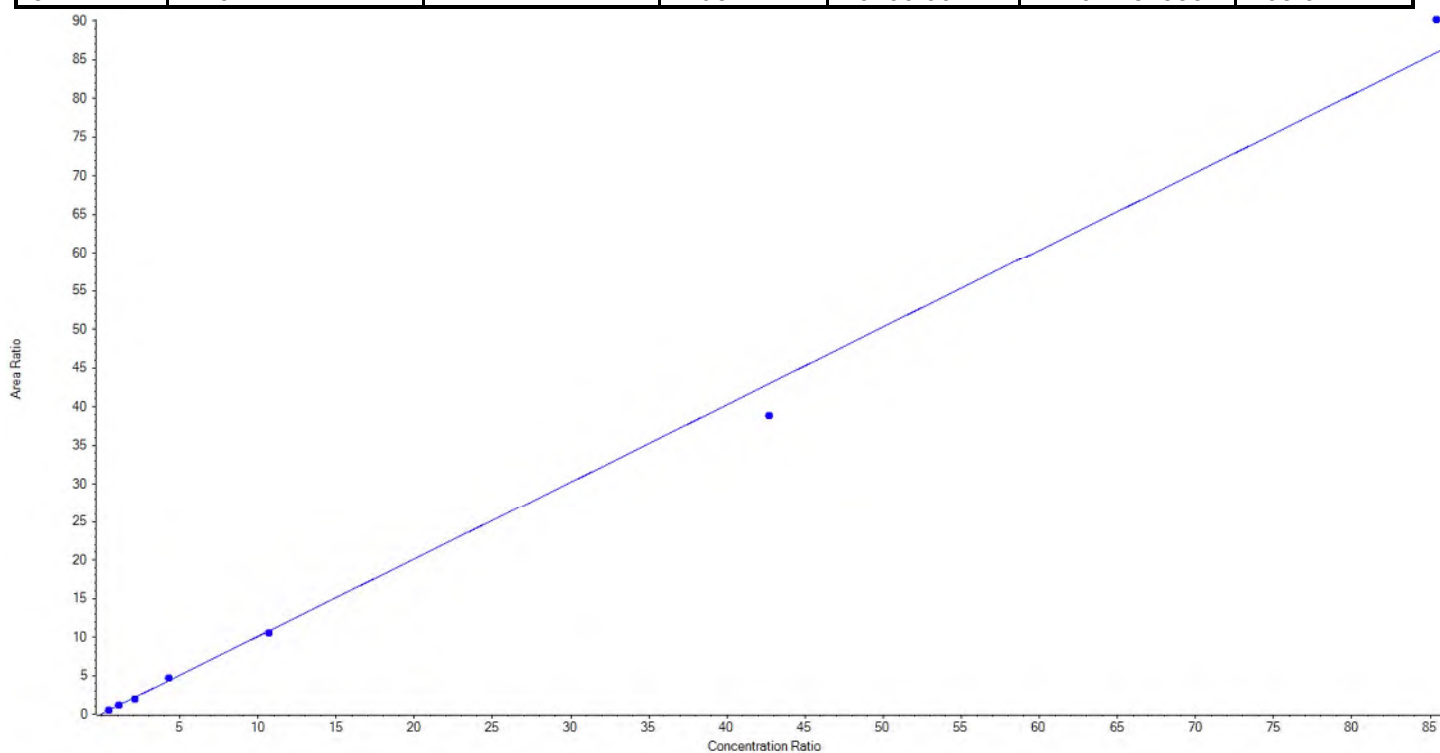
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Analyte Name	PFHxS_2	Data File	18-0579.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.00510x + 0.03078$ ($r = 0.99749$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	104.623771	103.6
3	KA87	L2	True	252.50	274.611400	108.8
4	KA88	L3	True	505.00	443.433317	87.8
5	KA89	L4	True	1010.00	1082.909194	107.2
6	KA90	L5	True	2525.00	2456.542318	97.3
7	KA91	L6	True	10100.00	9127.098648	90.4
8	KA92	L7	True	20200.00	21204.281353	105.0





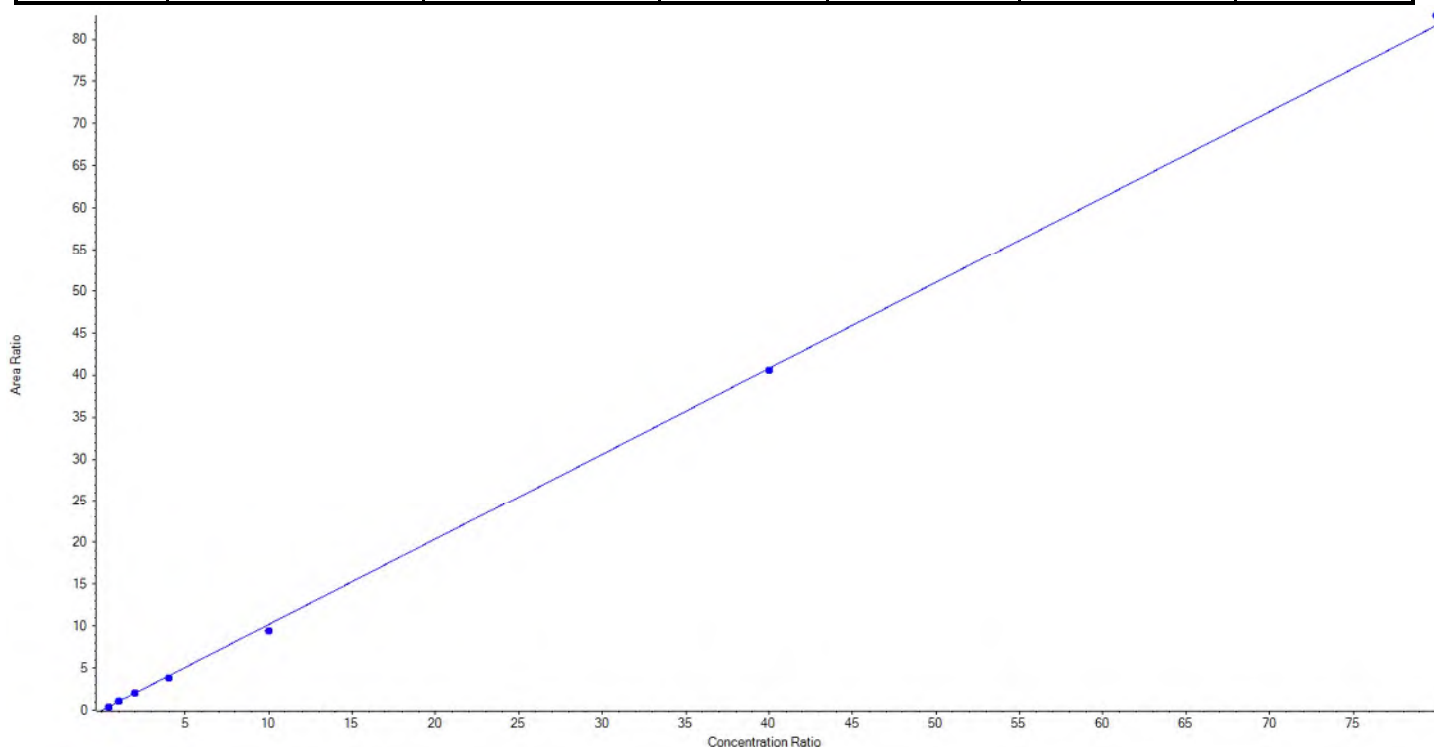
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOA_1	Data File	18-0579.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02072x + -0.01771$ ($r = 0.99963$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	104.490689	104.5
3	KA87	L2	True	250.00	273.381680	109.4
4	KA88	L3	True	500.00	493.119105	98.6
5	KA89	L4	True	1000.00	939.487668	94.0
6	KA90	L5	True	2500.00	2320.826433	92.8
7	KA91	L6	True	10000.00	9931.504468	99.3
8	KA92	L7	True	20000.00	20287.189958	101.4





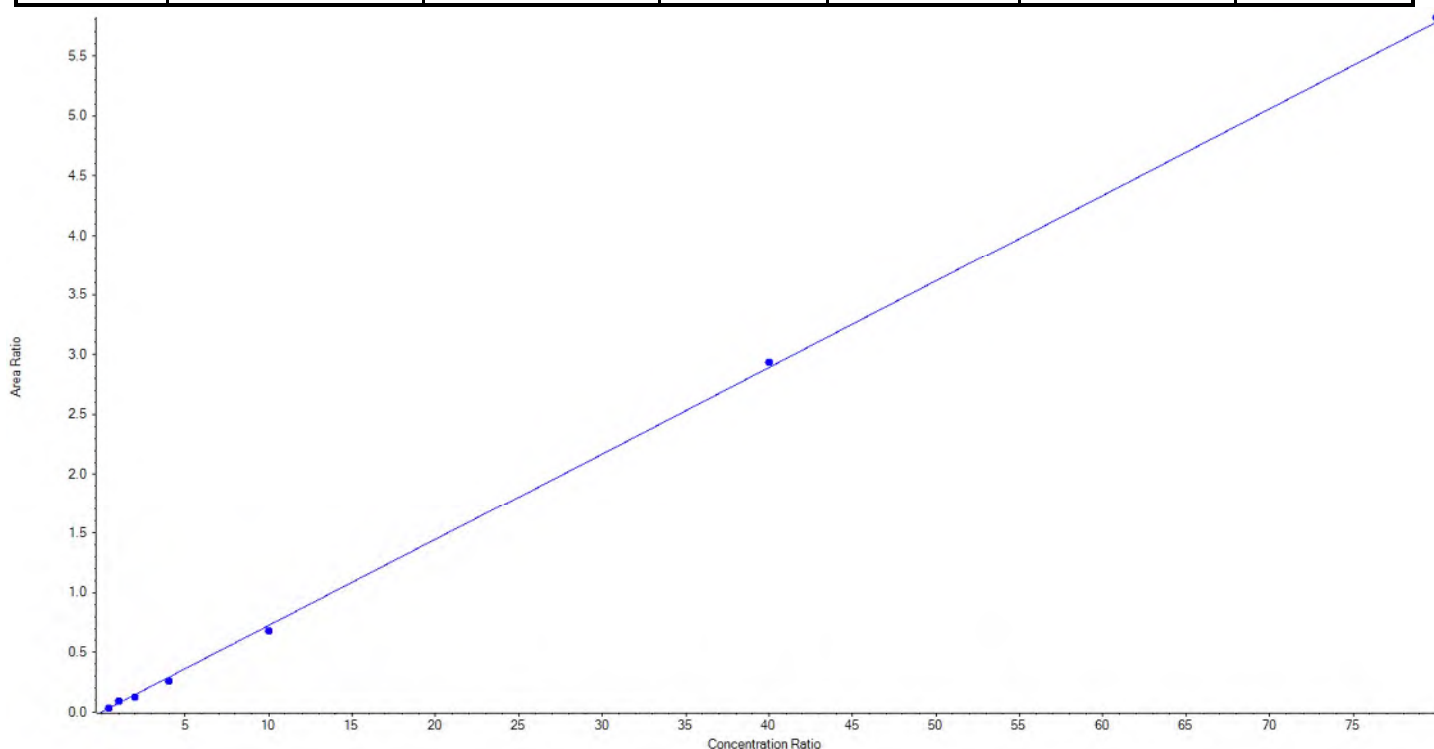
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOA_2	Data File	18-0579.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07223x + 0.00246$ ($r = 0.99921$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	102.120923	102.1
3	KA87	L2	True	250.00	315.290887	126.1
4	KA88	L3	True	500.00	432.418540	86.5
5	KA89	L4	True	1000.00	898.134186	89.8
6	KA90	L5	True	2500.00	2336.488177	93.5
7	KA91	L6	True	10000.00	10135.666425	101.4
8	KA92	L7	True	20000.00	20129.880861	100.7





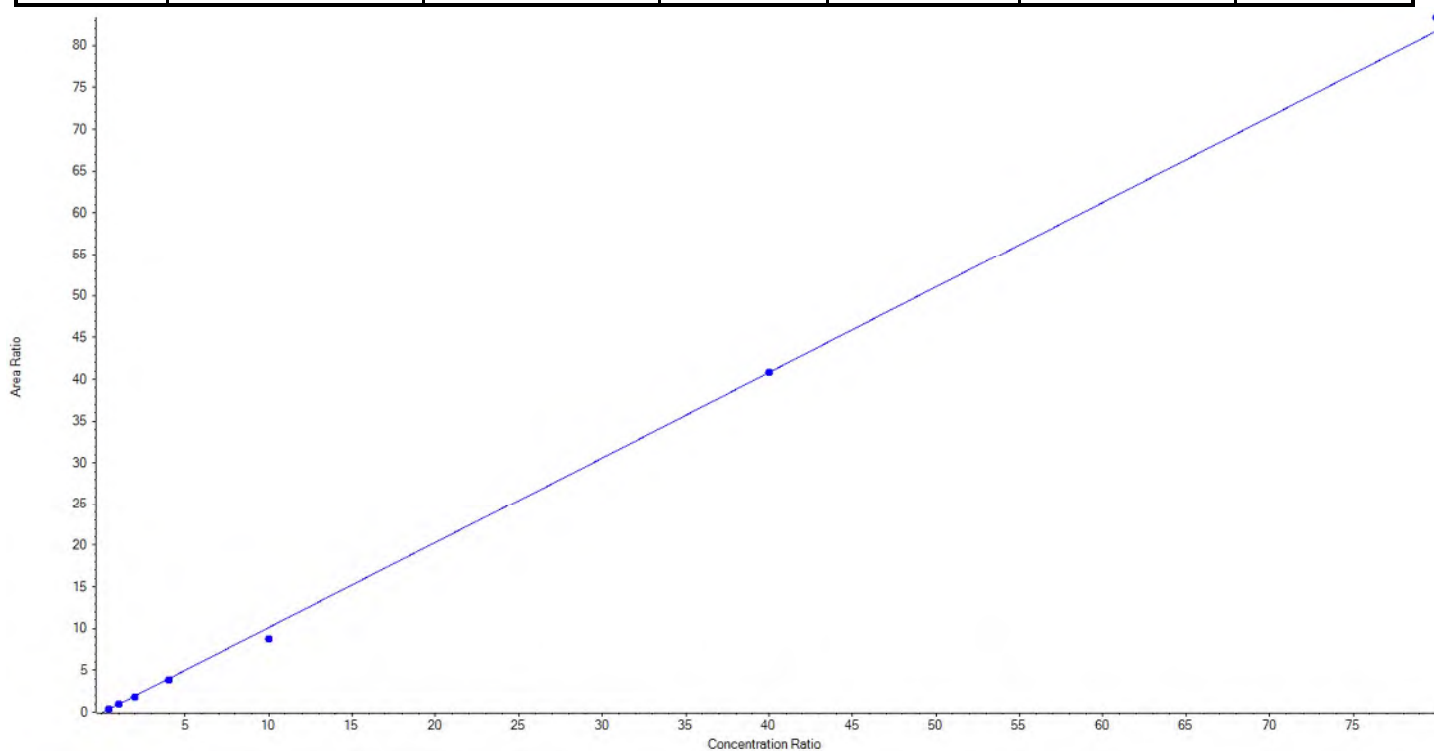
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFNA_1	Data File	18-0579.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02304 x + -0.09973$ ($r = 0.99896$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	115.360995	115.4
3	KA87	L2	True	250.00	273.023805	109.2
4	KA88	L3	True	500.00	450.998391	90.2
5	KA89	L4	True	1000.00	971.667622	97.2
6	KA90	L5	True	2500.00	2154.353539	86.2
7	KA91	L6	True	10000.00	9993.184497	99.9
8	KA92	L7	True	20000.00	20391.411152	102.0





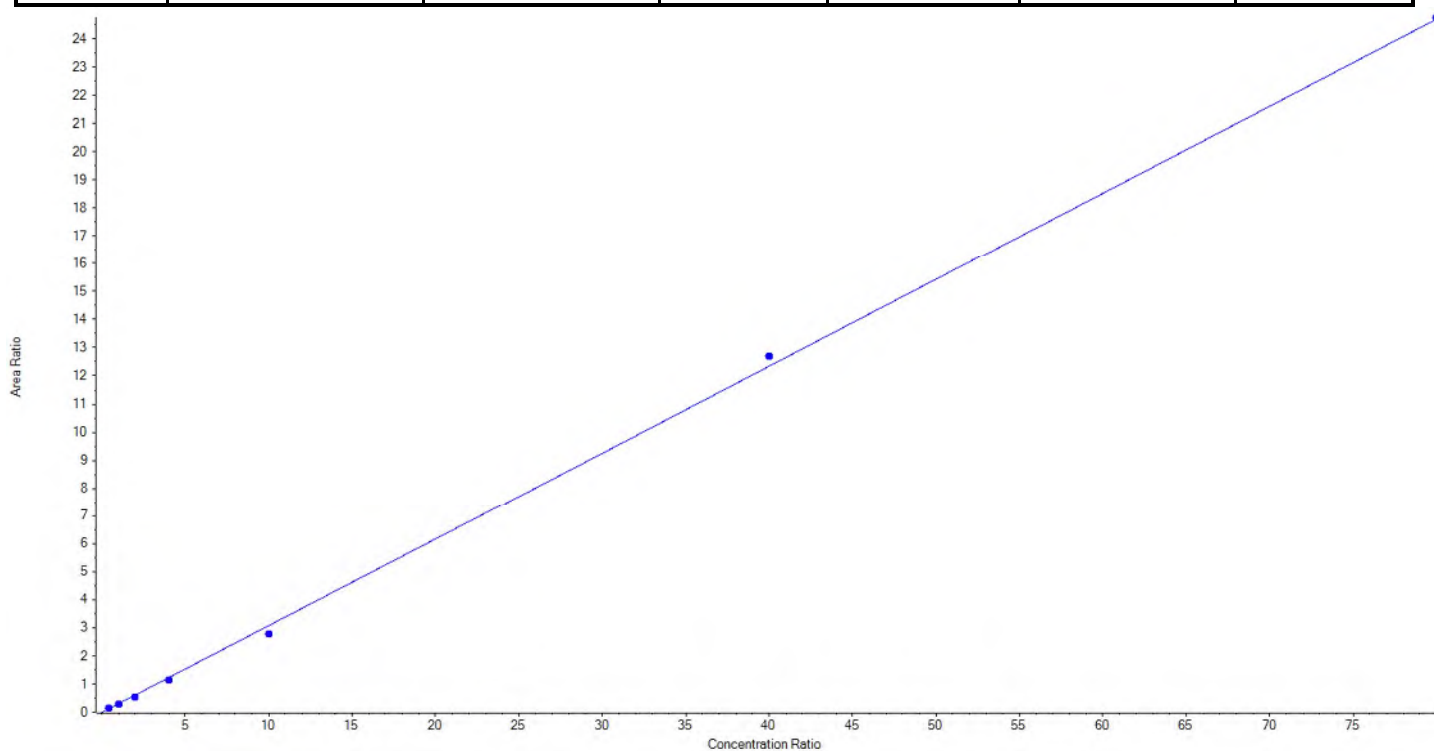
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFNA_2	Data File	18-0579.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0566_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.30883x + -0.01151$ ($r = 0.99924$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	122.600848	122.6
3	KA87	L2	True	250.00	251.960184	100.8
4	KA88	L3	True	500.00	444.810828	89.0
5	KA89	L4	True	1000.00	945.735861	94.6
6	KA90	L5	True	2500.00	2248.221066	89.9
7	KA91	L6	True	10000.00	10293.425735	102.9
8	KA92	L7	True	20000.00	20043.245479	100.2





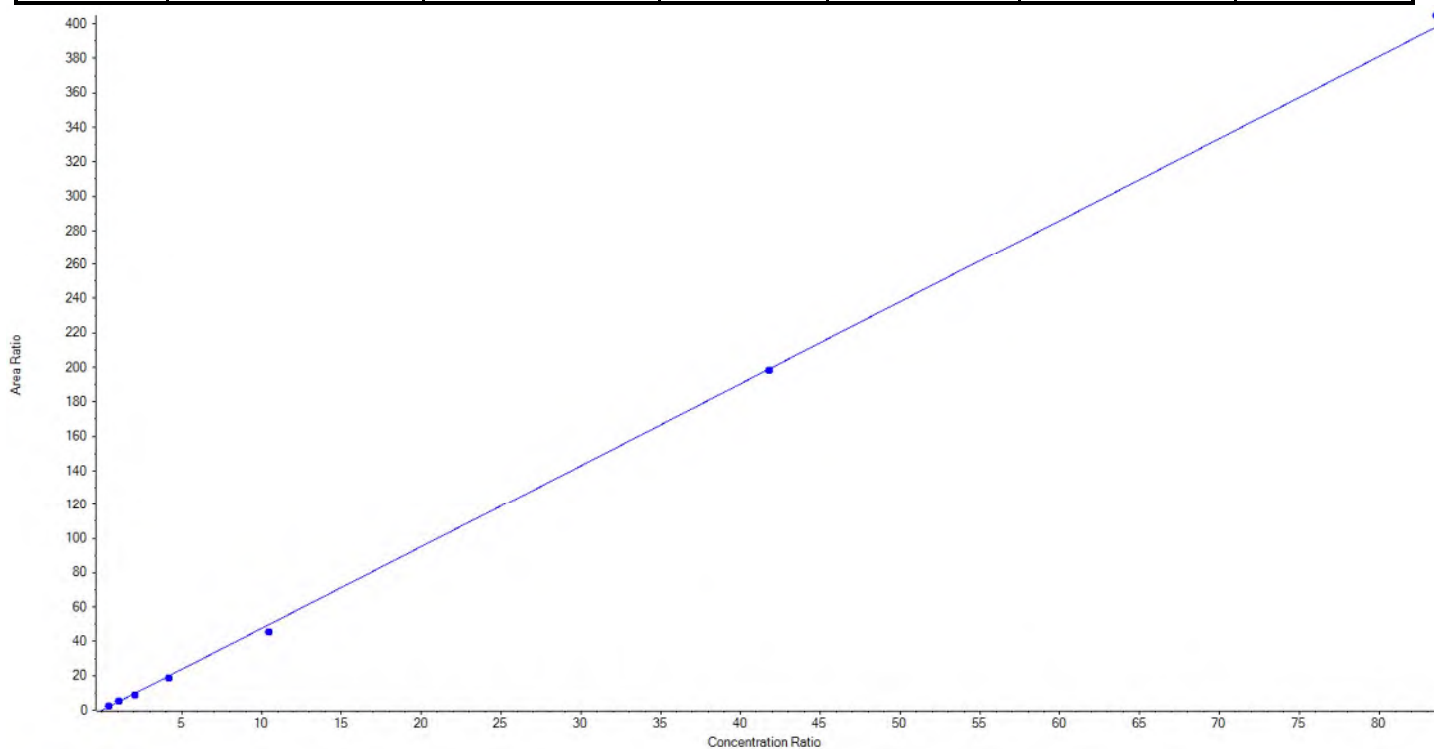
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOS_1	Data File	18-0579.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.76596 x + -0.15570$ ($r = 0.99937$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	120.298700	120.3
3	KA87	L2	True	250.00	263.435360	105.4
4	KA88	L3	True	500.00	436.284825	87.3
5	KA89	L4	True	1000.00	941.833555	94.2
6	KA90	L5	True	2500.00	2287.728854	91.5
7	KA91	L6	True	10000.00	9975.117509	99.8
8	KA92	L7	True	20000.00	20325.301197	101.6





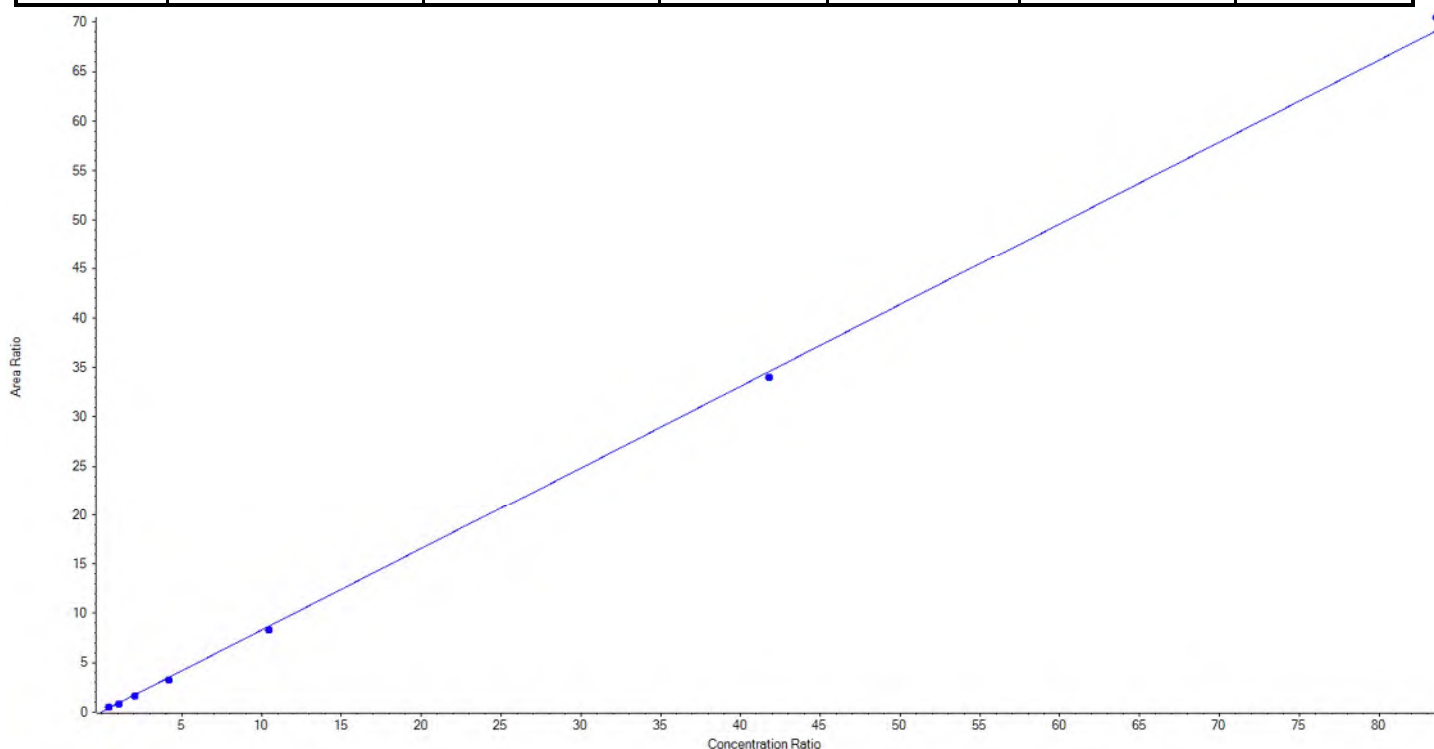
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOS_2	Data File	18-0579.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.82644 x + 0.04345$ (r = 0.99945) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	128.430857	128.4
3	KA87	L2	True	250.00	234.208510	93.7
4	KA88	L3	True	500.00	443.222074	88.6
5	KA89	L4	True	1000.00	935.384047	93.5
6	KA90	L5	True	2500.00	2383.966701	95.4
7	KA91	L6	True	10000.00	9844.062371	98.4
8	KA92	L7	True	20000.00	20380.725439	101.9





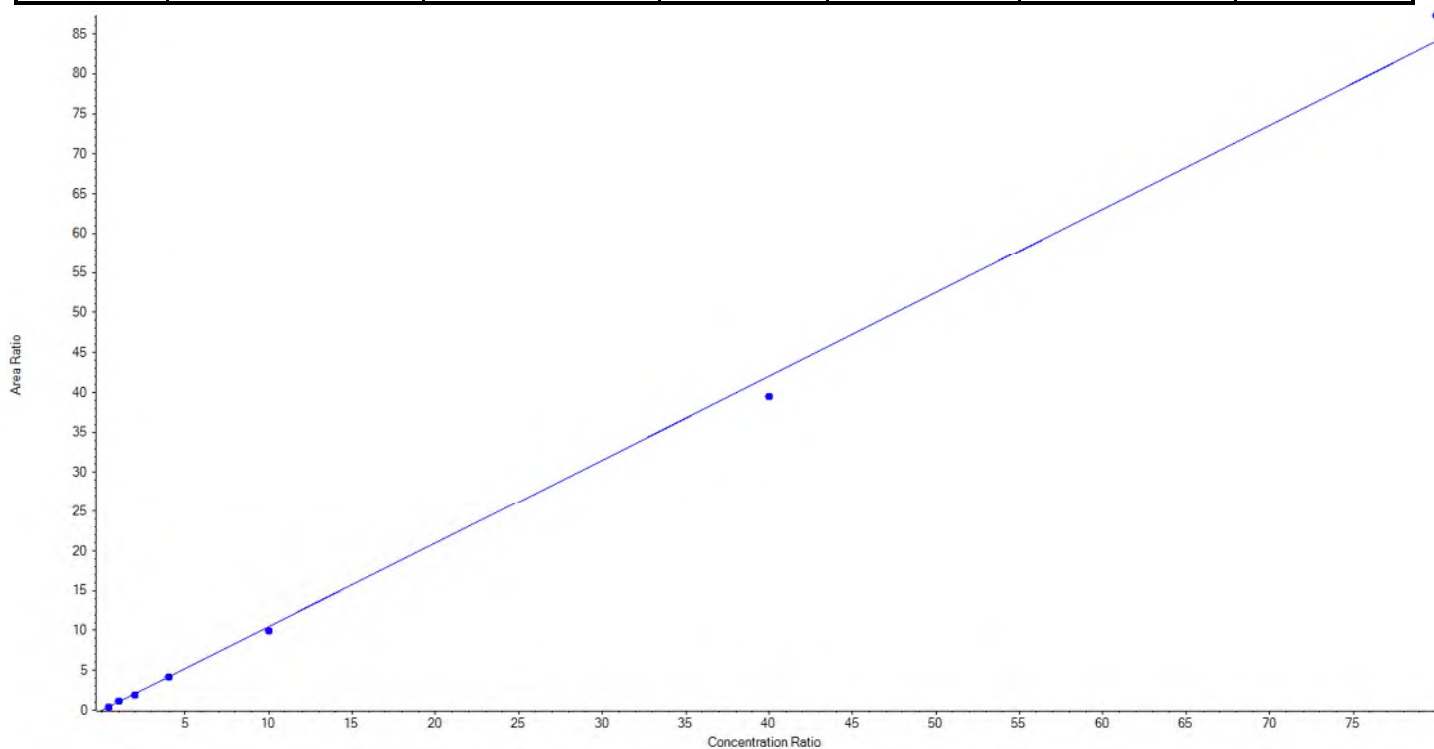
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Created with Analyst Reporter
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Analyte Name	PFDA_1	Data File	18-0579.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0566_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05144 x + -0.03550$ ($r = 0.99874$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	106.346822	106.4
3	KA87	L2	True	250.00	277.994741	111.2
4	KA88	L3	True	500.00	458.873472	91.8
5	KA89	L4	True	1000.00	984.633166	98.5
6	KA90	L5	True	2500.00	2359.640912	94.4
7	KA91	L6	True	10000.00	9403.815943	94.0
8	KA92	L7	True	20000.00	20758.694944	103.8





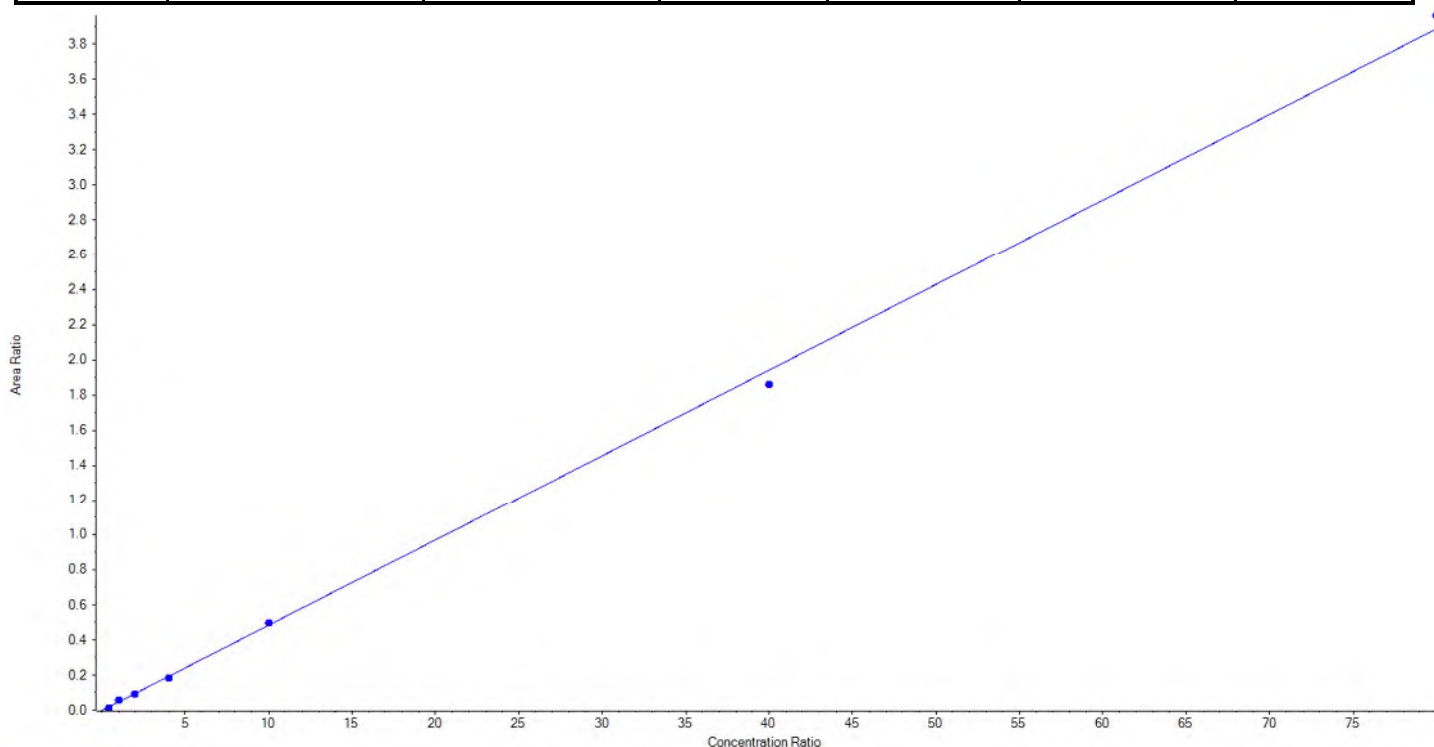
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDA_2	Data File	18-0579.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0566_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04861x + -0.00239$ ($r = 0.99923$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	85.284206	85.3
3	KA87	L2	True	250.00	309.209144	123.7
4	KA88	L3	True	500.00	482.427863	96.5
5	KA89	L4	True	1000.00	937.377167	93.7
6	KA90	L5	True	2500.00	2579.026038	103.2
7	KA91	L6	True	10000.00	9572.885577	95.7
8	KA92	L7	True	20000.00	20383.790005	101.9





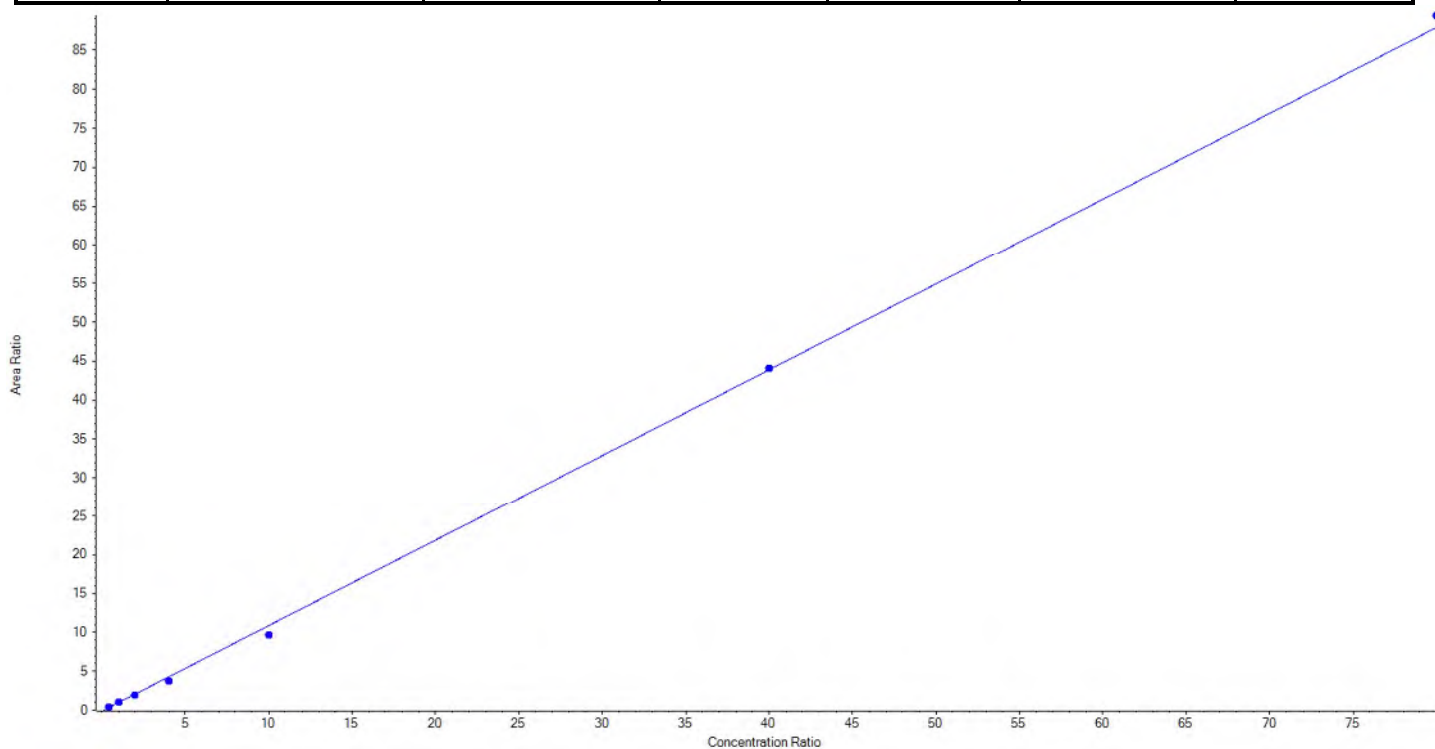
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFUnA_1	Data File	18-0579.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0566_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.10061x + -0.13915$ ($r = 0.99907$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	116.334724	116.3
3	KA87	L2	True	250.00	277.753480	111.1
4	KA88	L3	True	500.00	470.669148	94.1
5	KA89	L4	True	1000.00	869.494049	87.0
6	KA90	L5	True	2500.00	2234.979293	89.4
7	KA91	L6	True	10000.00	10035.526309	100.4
8	KA92	L7	True	20000.00	20345.242998	101.7





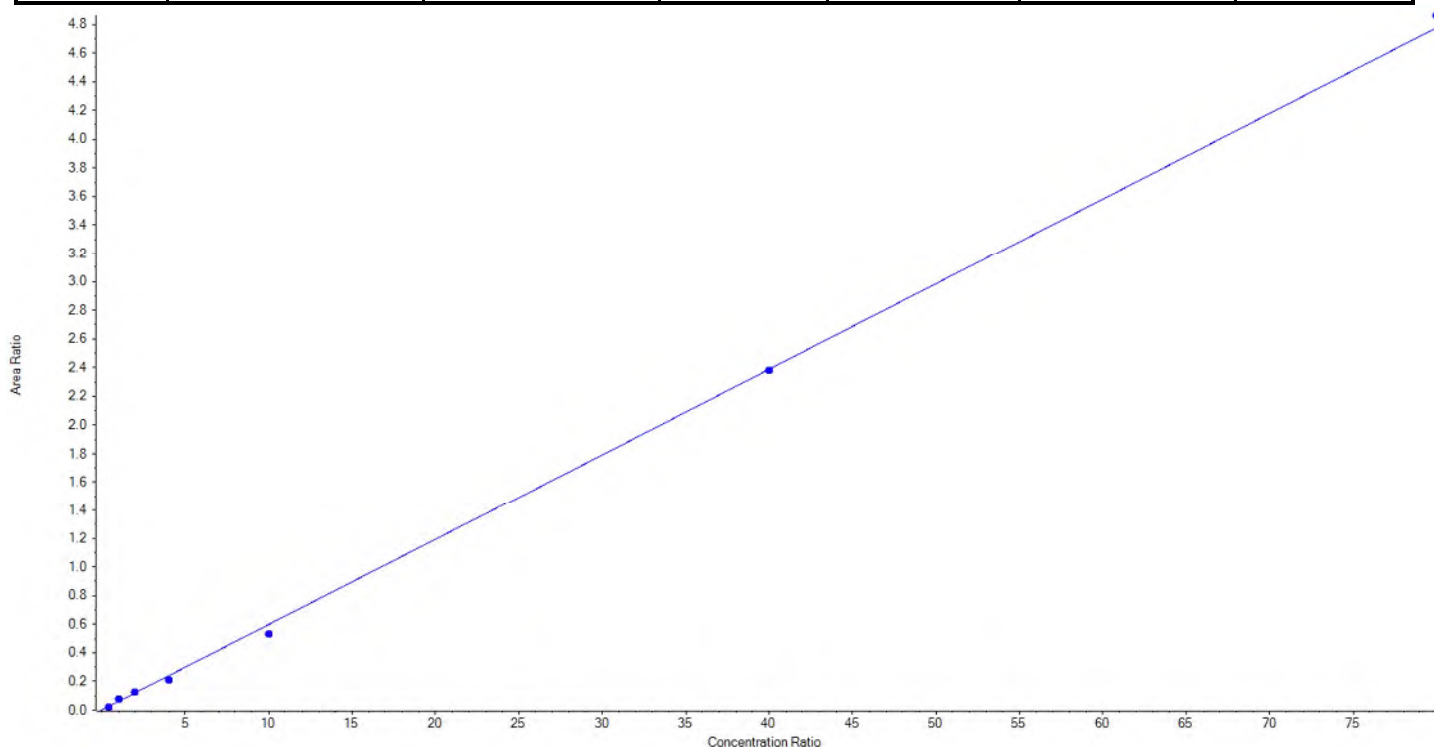
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Analyte Name	PFUnA_2	Data File	18-0579.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0566_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05968x + 0.00122$ (r = 0.99882) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	91.548794	91.6
3	KA87	L2	True	250.00	322.537251	129.0
4	KA88	L3	True	500.00	510.533058	102.1
5	KA89	L4	True	1000.00	863.160693	86.3
6	KA90	L5	True	2500.00	2238.301426	89.5
7	KA91	L6	True	10000.00	9972.394828	99.7
8	KA92	L7	True	20000.00	20351.523950	101.8





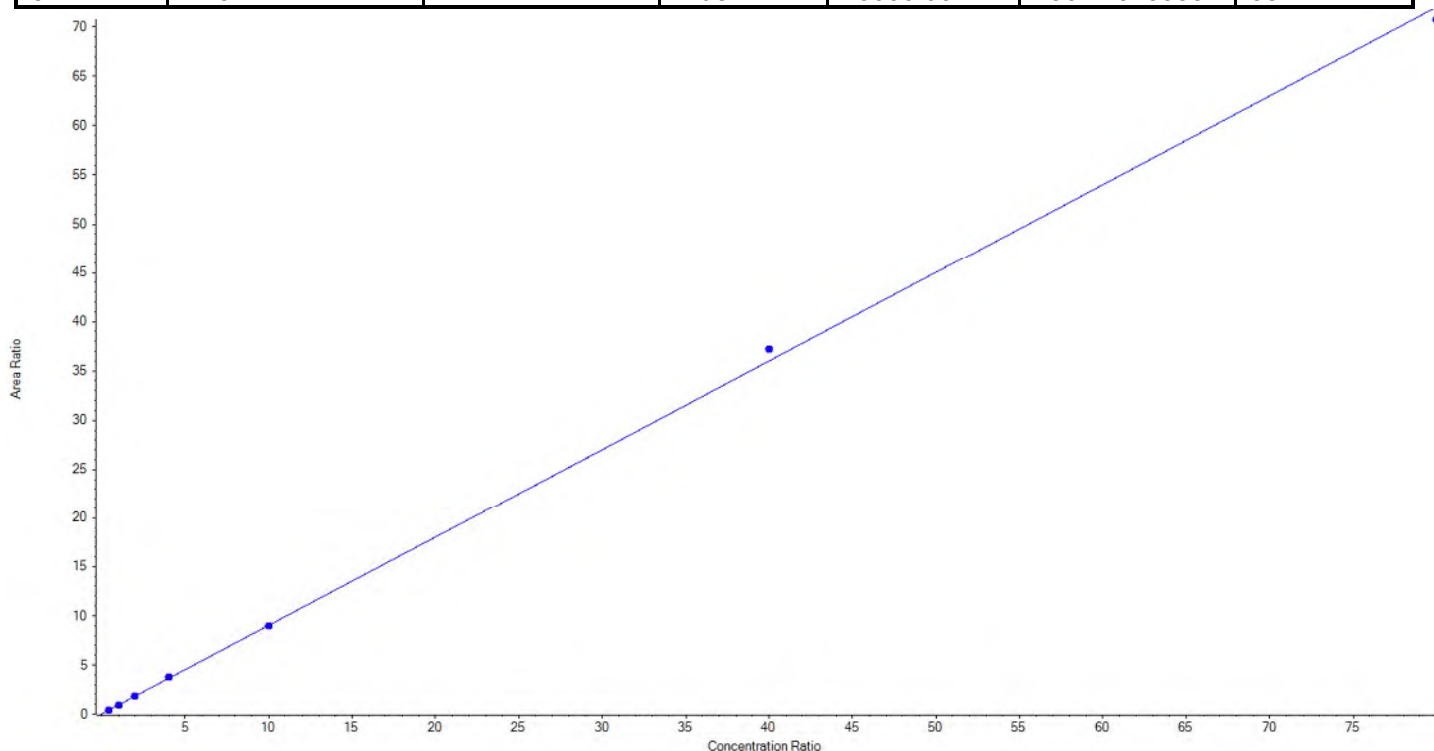
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Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFD _o A_1	Data File	18-0579.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFD _o A	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.89981x + 0.02941$ ($r = 0.99969$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	96.602802	96.6
3	KA87	L2	True	250.00	243.077085	97.2
4	KA88	L3	True	500.00	509.858710	102.0
5	KA89	L4	True	1000.00	1034.624207	103.5
6	KA90	L5	True	2500.00	2477.014904	99.1
7	KA91	L6	True	10000.00	10341.498757	103.4
8	KA92	L7	True	20000.00	19647.323535	98.2





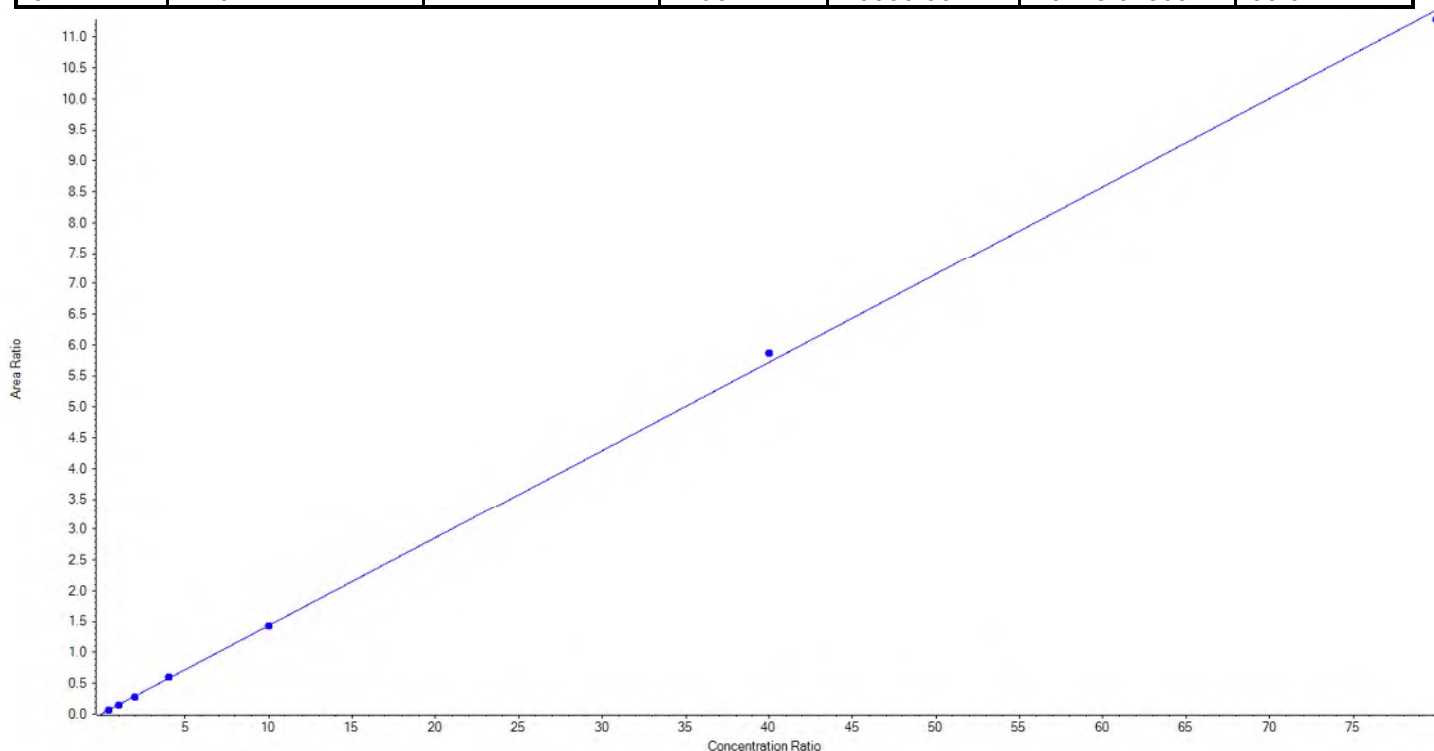
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFDaA_2	Data File	18-0579.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.14289x + 0.00761$ ($r = 0.99979$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	95.994091	96.0
3	KA87	L2	True	250.00	256.510705	102.6
4	KA88	L3	True	500.00	482.582176	96.5
5	KA89	L4	True	1000.00	1041.937484	104.2
6	KA90	L5	True	2500.00	2486.735958	99.5
7	KA91	L6	True	10000.00	10258.161495	102.6
8	KA92	L7	True	20000.00	19728.078092	98.6





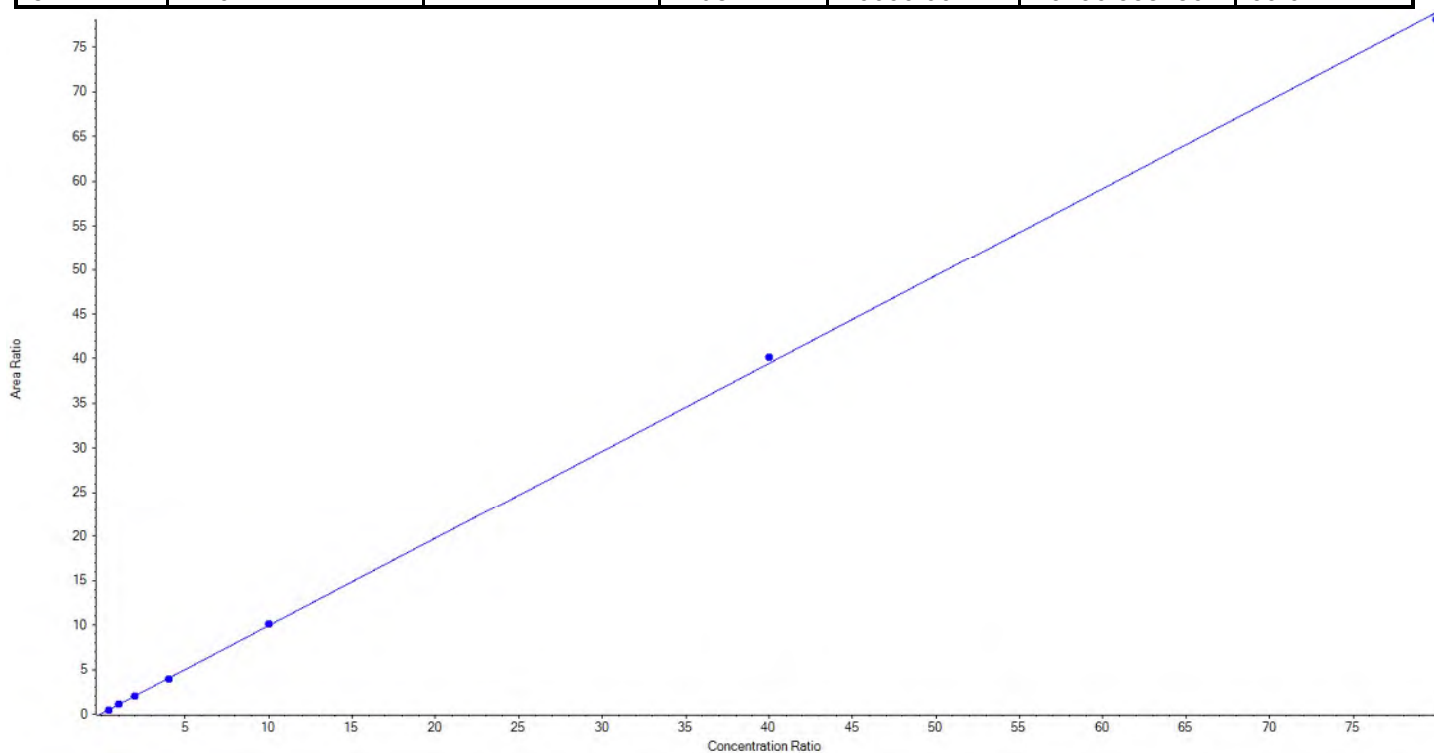
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Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFTTrDA_1	Data File	18-0579.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98485x + 0.08012$ ($r = 0.99984$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	93.181523	93.2
3	KA87	L2	True	250.00	272.439148	109.0
4	KA88	L3	True	500.00	487.576252	97.5
5	KA89	L4	True	1000.00	973.049109	97.3
6	KA90	L5	True	2500.00	2558.896932	102.4
7	KA91	L6	True	10000.00	10168.498749	101.7
8	KA92	L7	True	20000.00	19796.358286	99.0





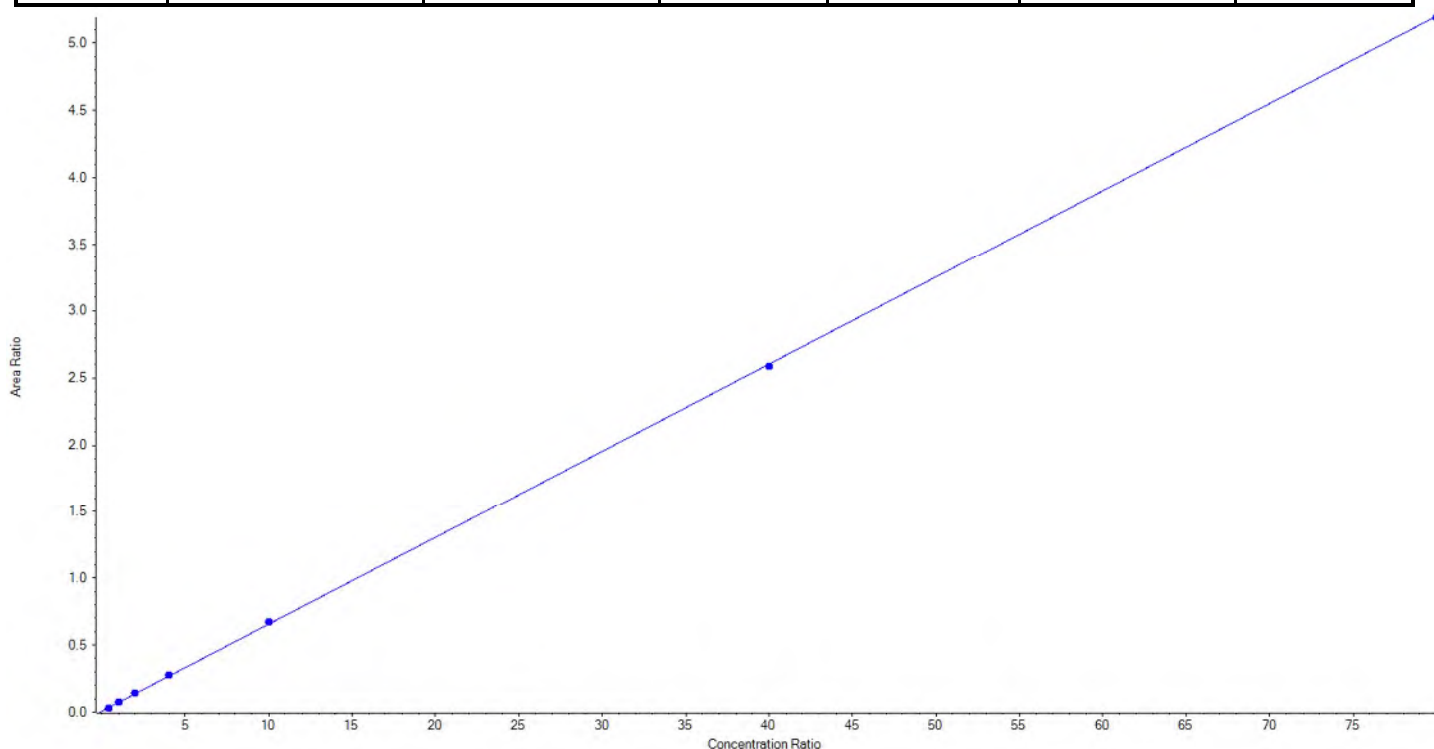
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Analyte Name	PFTTrDA_2	Data File	18-0579.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06491 x + 0.00717$ ($r = 0.99990$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	87.199372	87.2
3	KA87	L2	True	250.00	266.825158	106.7
4	KA88	L3	True	500.00	505.482749	101.1
5	KA89	L4	True	1000.00	1031.414582	103.1
6	KA90	L5	True	2500.00	2567.609082	102.7
7	KA91	L6	True	10000.00	9934.169664	99.3
8	KA92	L7	True	20000.00	19957.299393	99.8





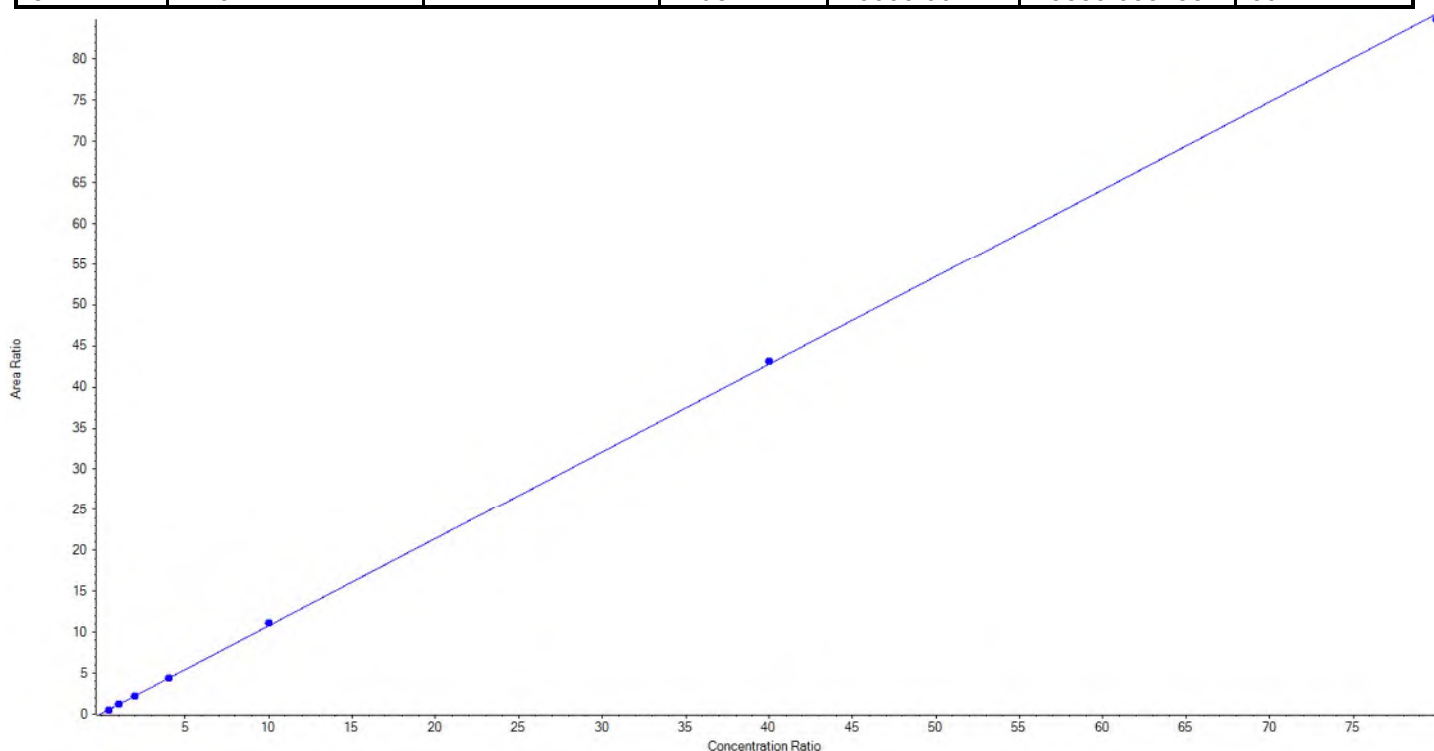
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Analyte Name	PFTeDA_1	Data File	18-0579.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06749x + 0.09329$ ($r = 0.99990$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	92.437920	92.4
3	KA87	L2	True	250.00	266.603763	106.6
4	KA88	L3	True	500.00	490.003536	98.0
5	KA89	L4	True	1000.00	996.686650	99.7
6	KA90	L5	True	2500.00	2580.122904	103.2
7	KA91	L6	True	10000.00	10085.111989	100.9
8	KA92	L7	True	20000.00	19839.033238	99.2





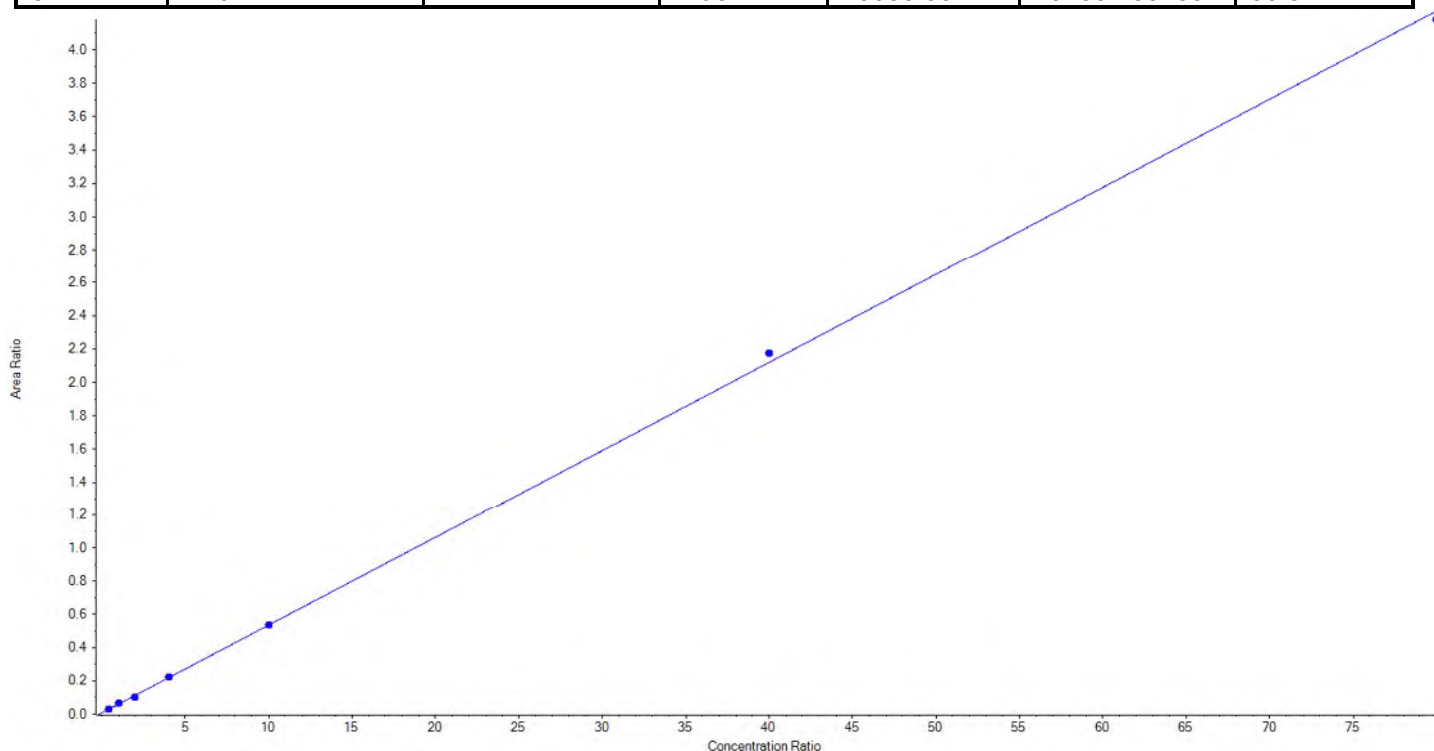
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Analyte Name	PFTeDA_2	Data File	18-0579.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0566_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05282 x + 0.00717$ ($r = 0.99978$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	96.950081	97.0
3	KA87	L2	True	250.00	269.107641	107.6
4	KA88	L3	True	500.00	463.583723	92.7
5	KA89	L4	True	1000.00	1013.261550	101.3
6	KA90	L5	True	2500.00	2502.291947	100.1
7	KA91	L6	True	10000.00	10249.651868	102.5
8	KA92	L7	True	20000.00	19755.153189	98.8





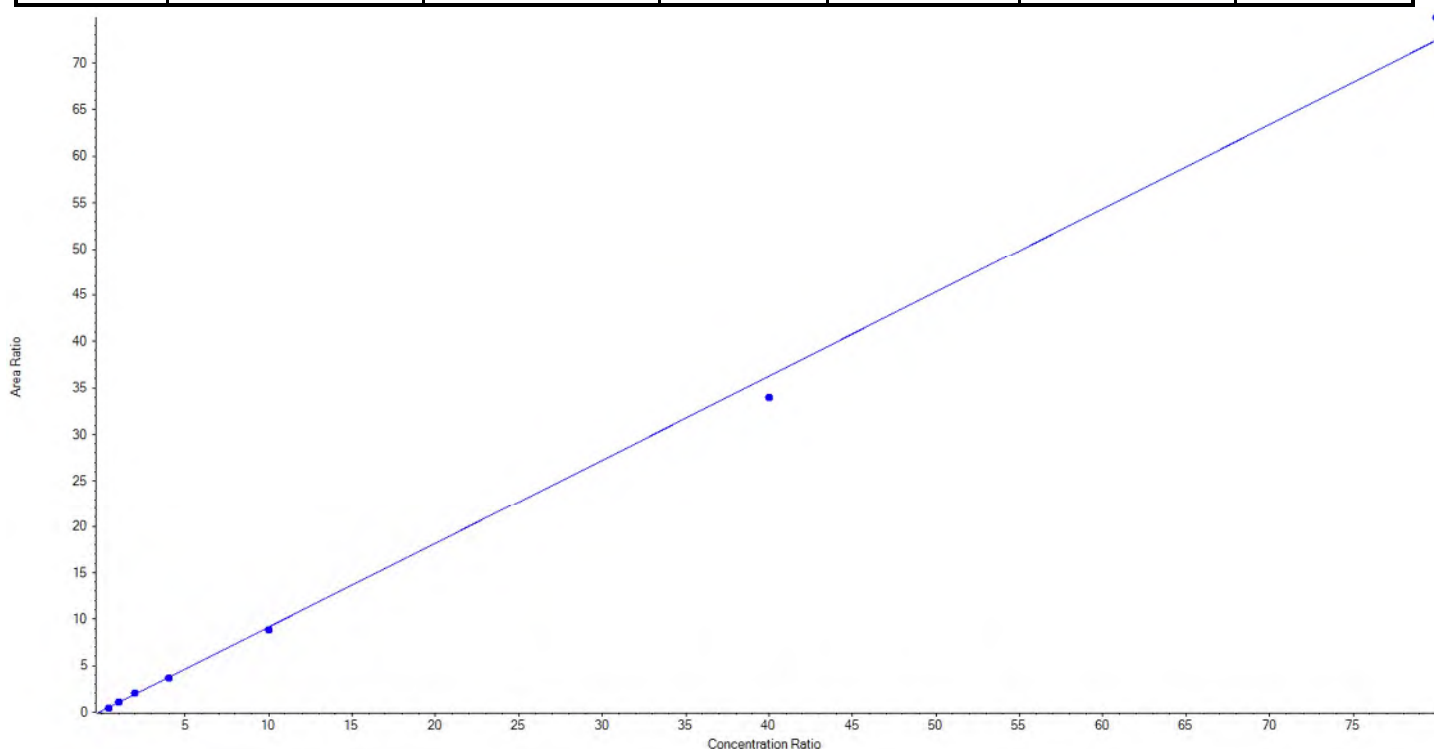
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	NMeFOSAA_1	Data File	18-0579.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.90416x + 0.11402$ ($r = 0.99892$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	92.577849	92.6
3	KA87	L2	True	250.00	271.488100	108.6
4	KA88	L3	True	500.00	531.632416	106.3
5	KA89	L4	True	1000.00	984.504002	98.5
6	KA90	L5	True	2500.00	2423.246221	96.9
7	KA91	L6	True	10000.00	9377.484279	93.8
8	KA92	L7	True	20000.00	20669.067132	103.4





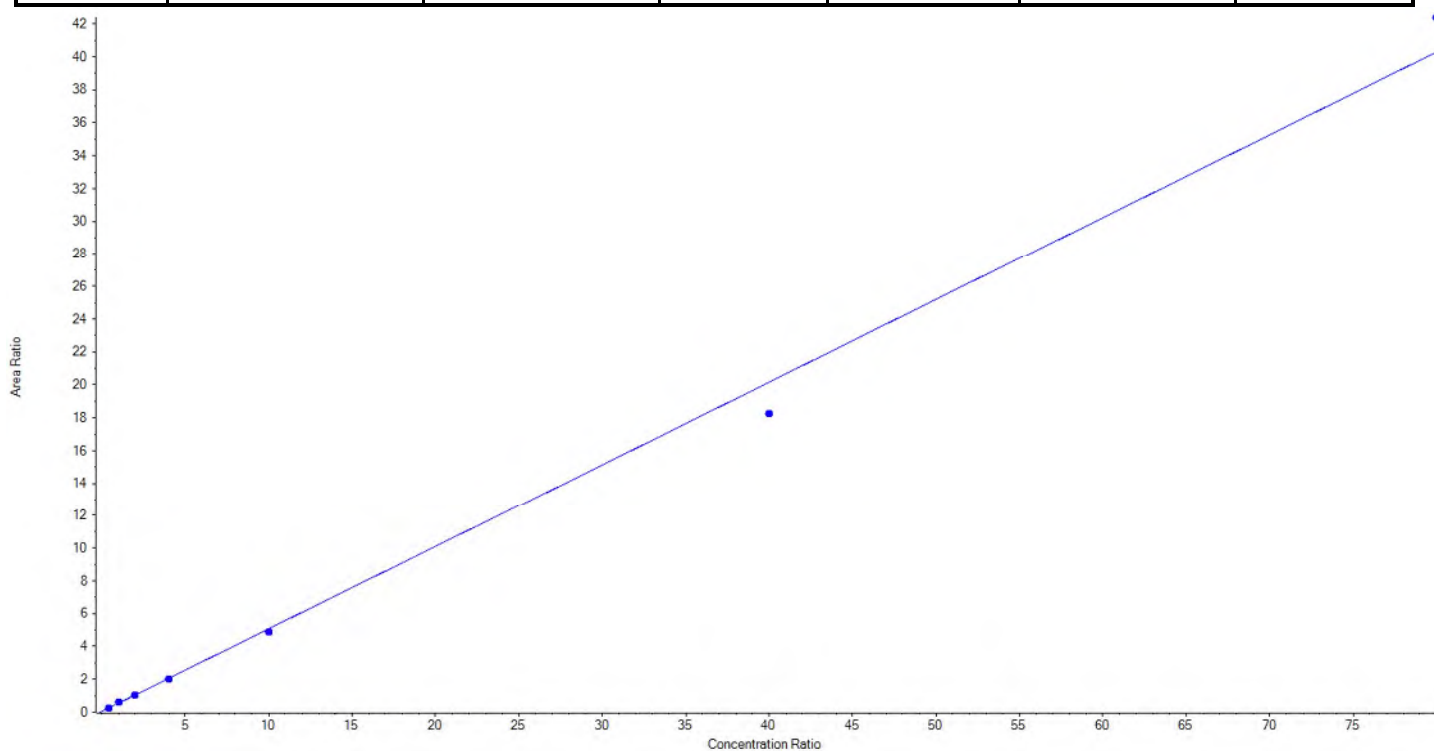
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Analyte Name	NMeFOSAA_2	Data File	18-0579.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0566_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.50318x + 0.04055$ ($r = 0.99762$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	100.239775	100.2
3	KA87	L2	True	250.00	279.683457	111.9
4	KA88	L3	True	500.00	485.310742	97.1
5	KA89	L4	True	1000.00	987.371140	98.7
6	KA90	L5	True	2500.00	2409.809503	96.4
7	KA91	L6	True	10000.00	9051.454546	90.5
8	KA92	L7	True	20000.00	21036.130837	105.2





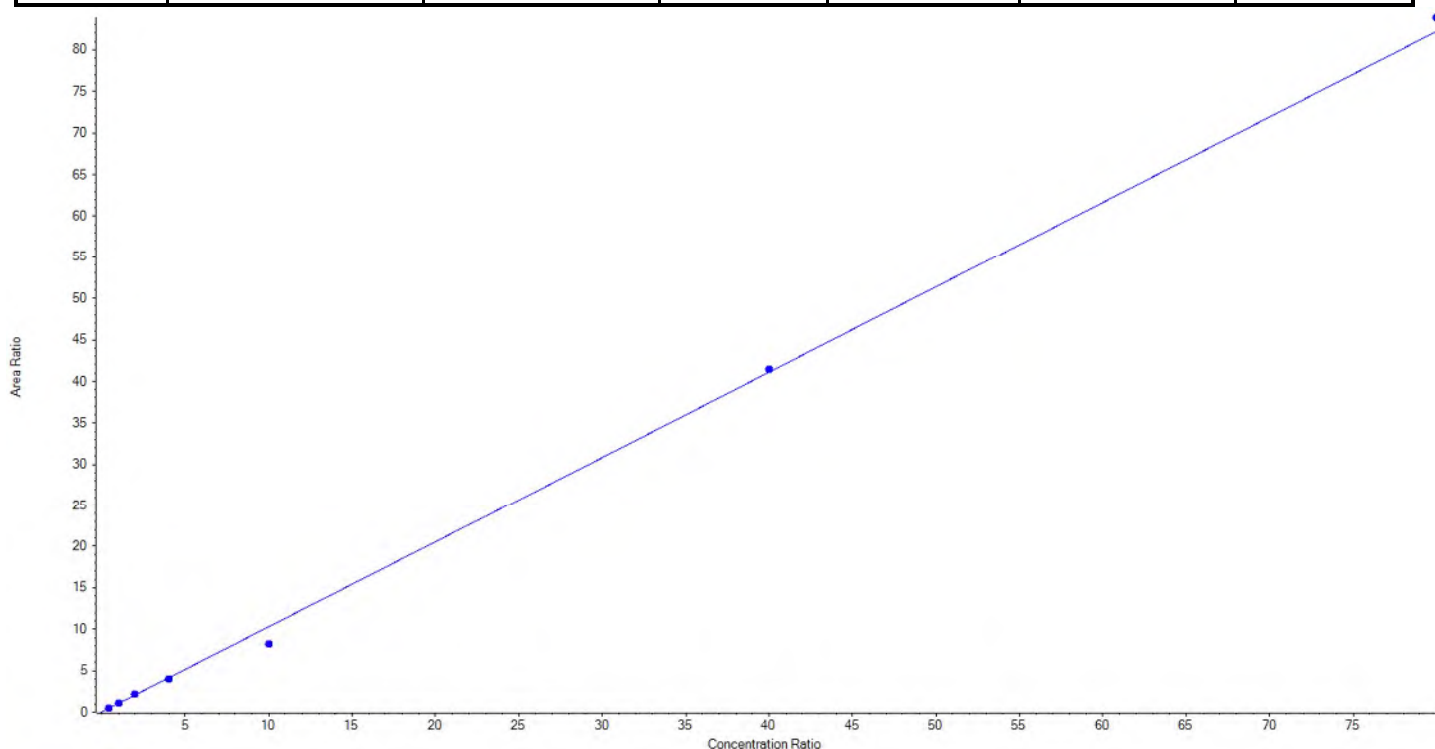
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	NEtFOSAA_1	Data File	18-0579.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0566_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02721x + 0.01329$ ($r = 0.99826$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	110.490016	110.5
3	KA87	L2	True	250.00	261.463775	104.6
4	KA88	L3	True	500.00	527.011691	105.4
5	KA89	L4	True	1000.00	964.571373	96.5
6	KA90	L5	True	2500.00	2007.099109	80.3
7	KA91	L6	True	10000.00	10076.842845	100.8
8	KA92	L7	True	20000.00	20402.521192	102.0





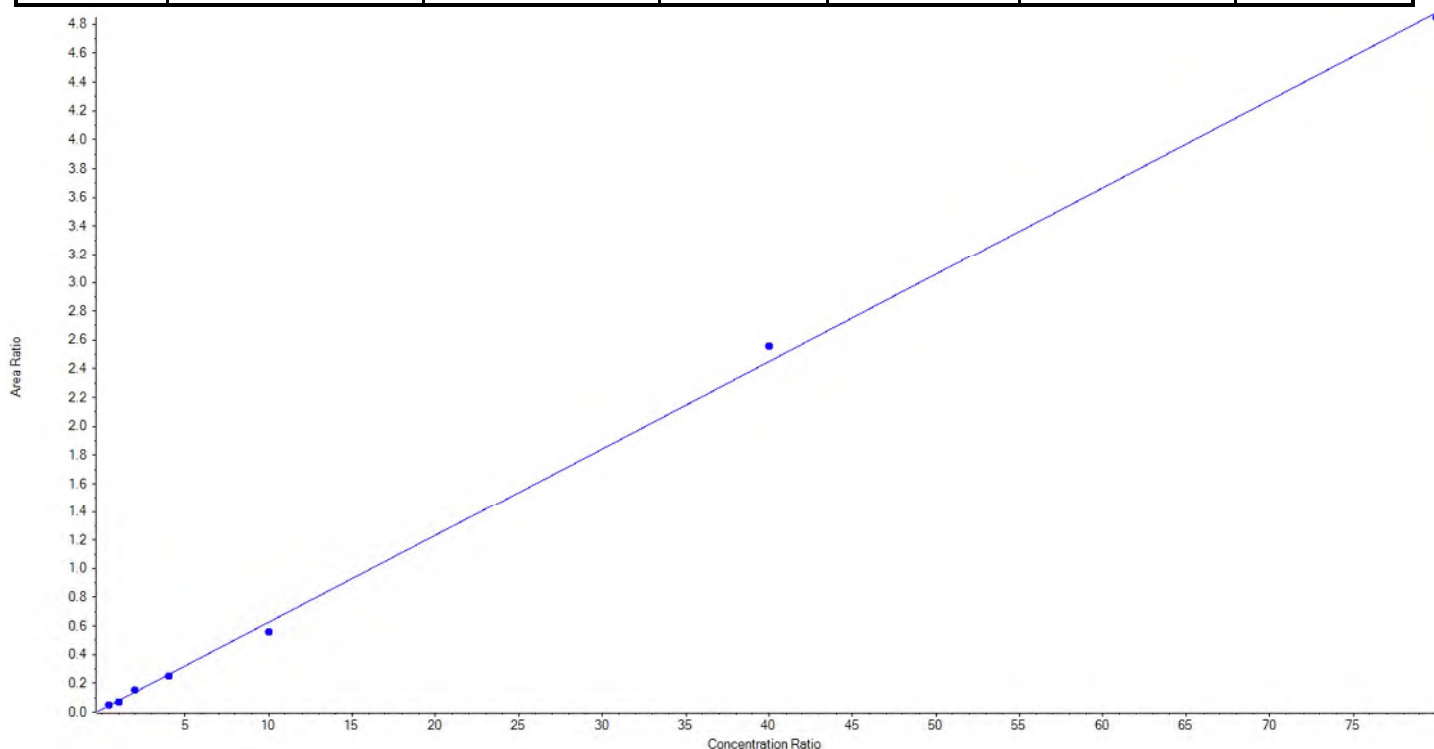
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	NEtFOSAA_2	Data File	18-0579.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0566_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06080x + 0.01851$ ($r = 0.99879$) (weighting: $1/x$)

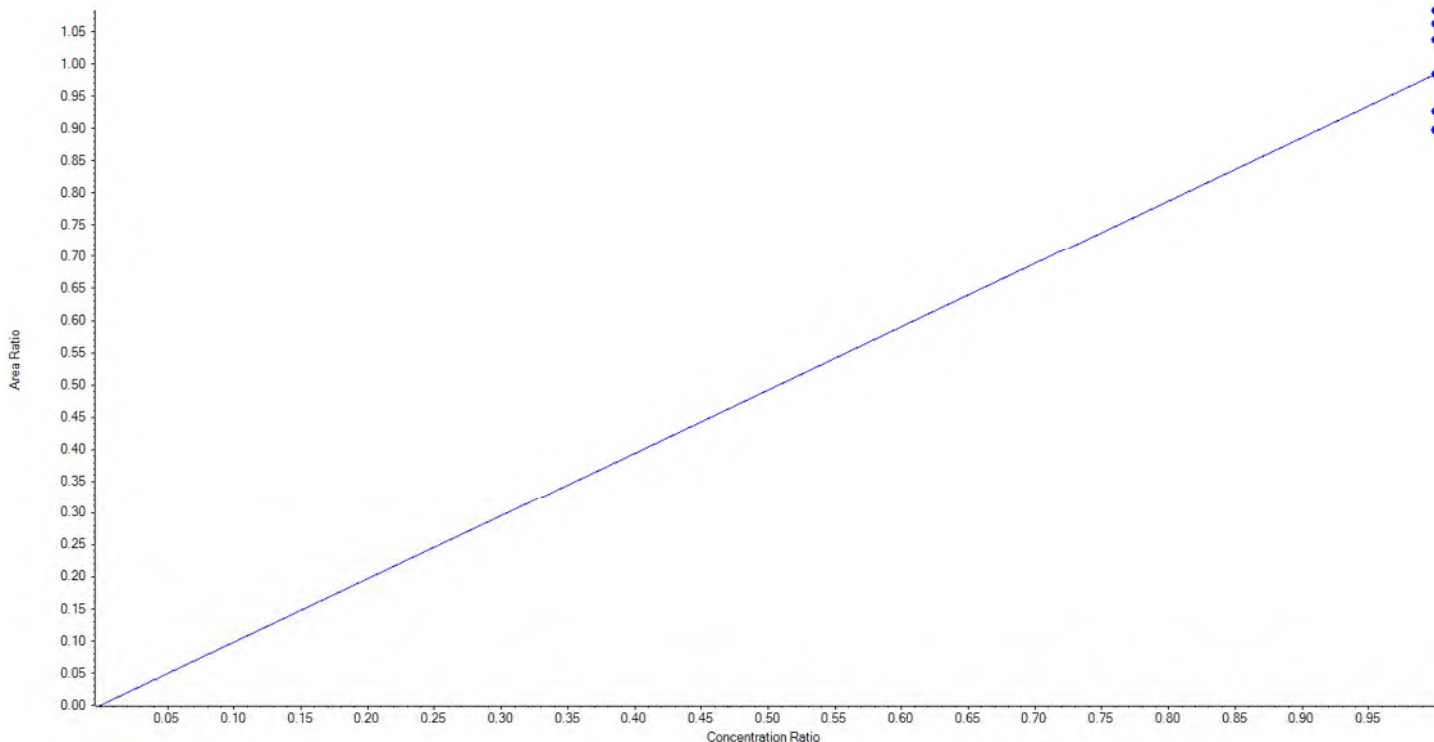
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	123.278792	123.3
3	KA87	L2	True	250.00	197.320666	78.9
4	KA88	L3	True	500.00	550.911263	110.2
5	KA89	L4	True	1000.00	950.012232	95.0
6	KA90	L5	True	2500.00	2220.591809	88.8
7	KA91	L6	True	10000.00	10449.273466	104.5
8	KA92	L7	True	20000.00	19858.611772	99.3



Analyte Name	13C2-PFDoA	Data File	18-0579.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98451 x$ (std. dev. = 0.07843) (weighting: 1 / x)

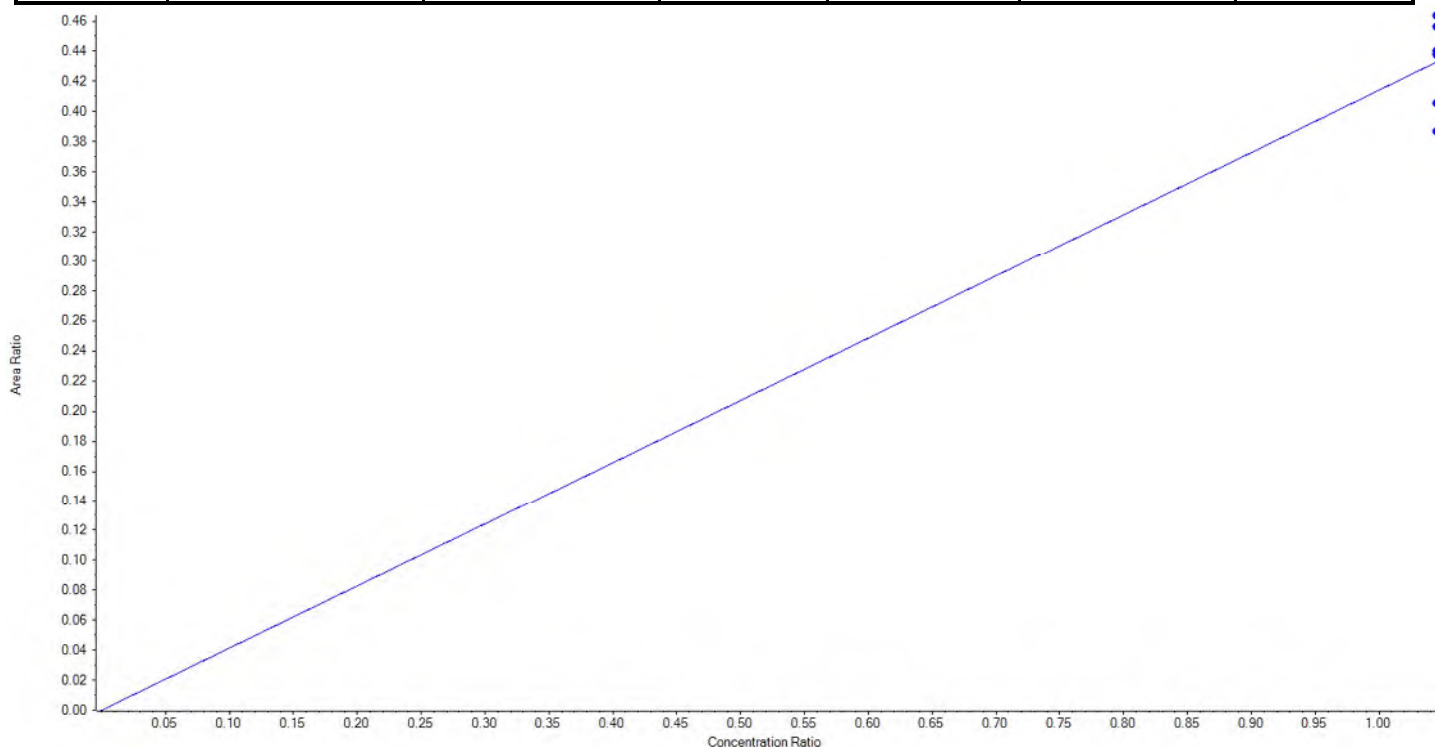
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	235.249102	94.1
3	KA87	L2	True	250.00	275.026865	110.0
4	KA88	L3	True	250.00	227.855222	91.1
5	KA89	L4	True	250.00	228.355527	91.3
6	KA90	L5	True	250.00	269.914362	108.0
7	KA91	L6	True	250.00	263.428736	105.4
8	KA92	L7	True	250.00	250.170187	100.1



Analyte Name	d3-MeFOSAA	Data File	18-0579.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.41422 x$ (std. dev. = 0.02616) (weighting: 1 / x)

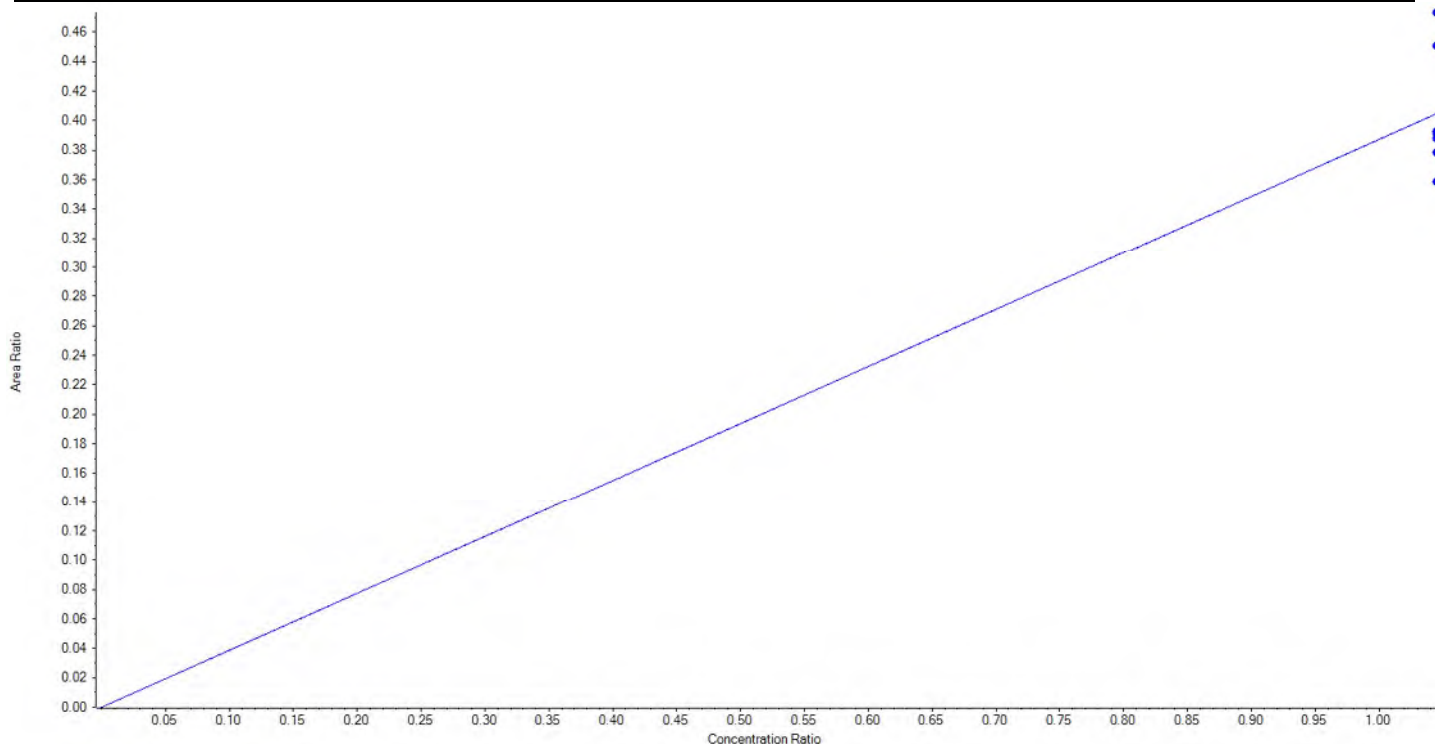
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	234.279564	93.7
3	KA87	L2	True	250.00	254.283316	101.7
4	KA88	L3	True	250.00	223.451862	89.4
5	KA89	L4	True	250.00	253.564598	101.4
6	KA90	L5	True	250.00	263.679238	105.5
7	KA91	L6	True	250.00	267.819374	107.1
8	KA92	L7	True	250.00	252.922048	101.2



Analyte Name	d5-EtFOSAA	Data File	18-0579.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.38737 x$ (std. dev. = 0.03956) (weighting: 1 / x)

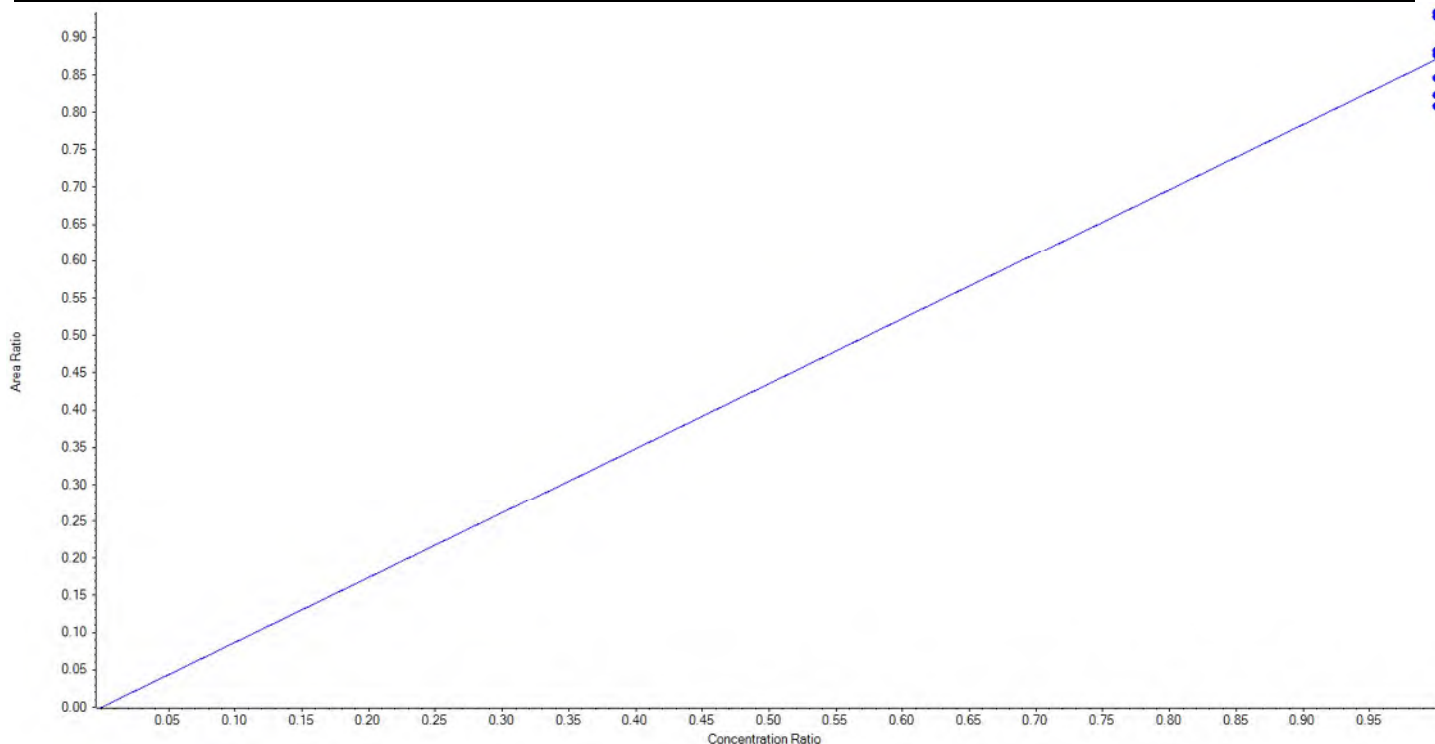
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	242.539347	97.0
3	KA87	L2	True	250.00	292.305343	116.9
4	KA88	L3	True	250.00	241.586194	96.6
5	KA89	L4	True	250.00	239.513288	95.8
6	KA90	L5	True	250.00	278.597544	111.4
7	KA91	L6	True	250.00	221.633643	88.7
8	KA92	L7	True	250.00	233.824640	93.5



Analyte Name	13C5-PFHxA	Data File	18-0579.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.87085 x$ (std. dev. = 0.04883) (weighting: 1 / x)

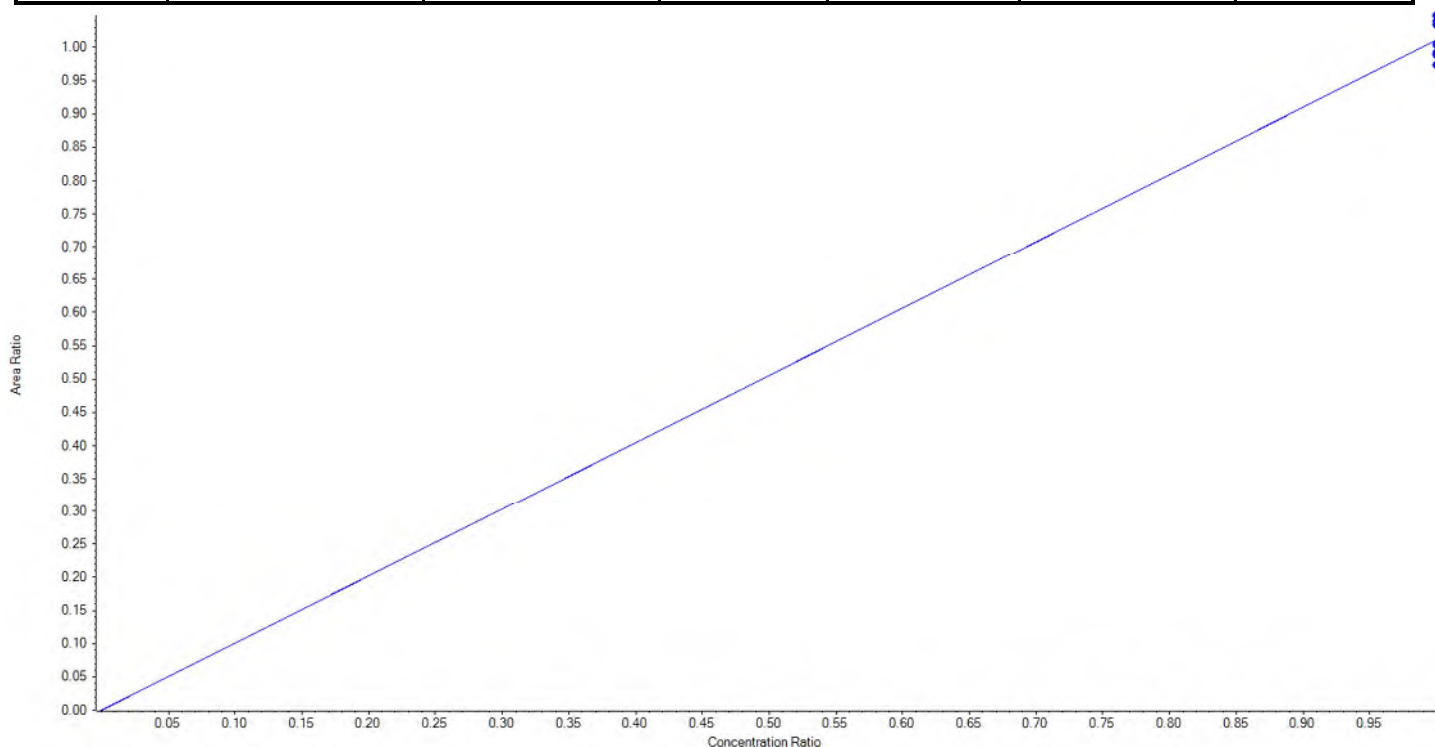
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	242.652644	97.1
3	KA87	L2	True	250.00	253.193551	101.3
4	KA88	L3	True	250.00	267.925469	107.2
5	KA89	L4	True	250.00	231.960191	92.8
6	KA90	L5	True	250.00	236.175526	94.5
7	KA91	L6	True	250.00	266.570670	106.6
8	KA92	L7	True	250.00	251.521948	100.6



Analyte Name	13C4-PFHpA	Data File	18-0579.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.01102 x$ (std. dev. = 0.02875) (weighting: 1 / x)

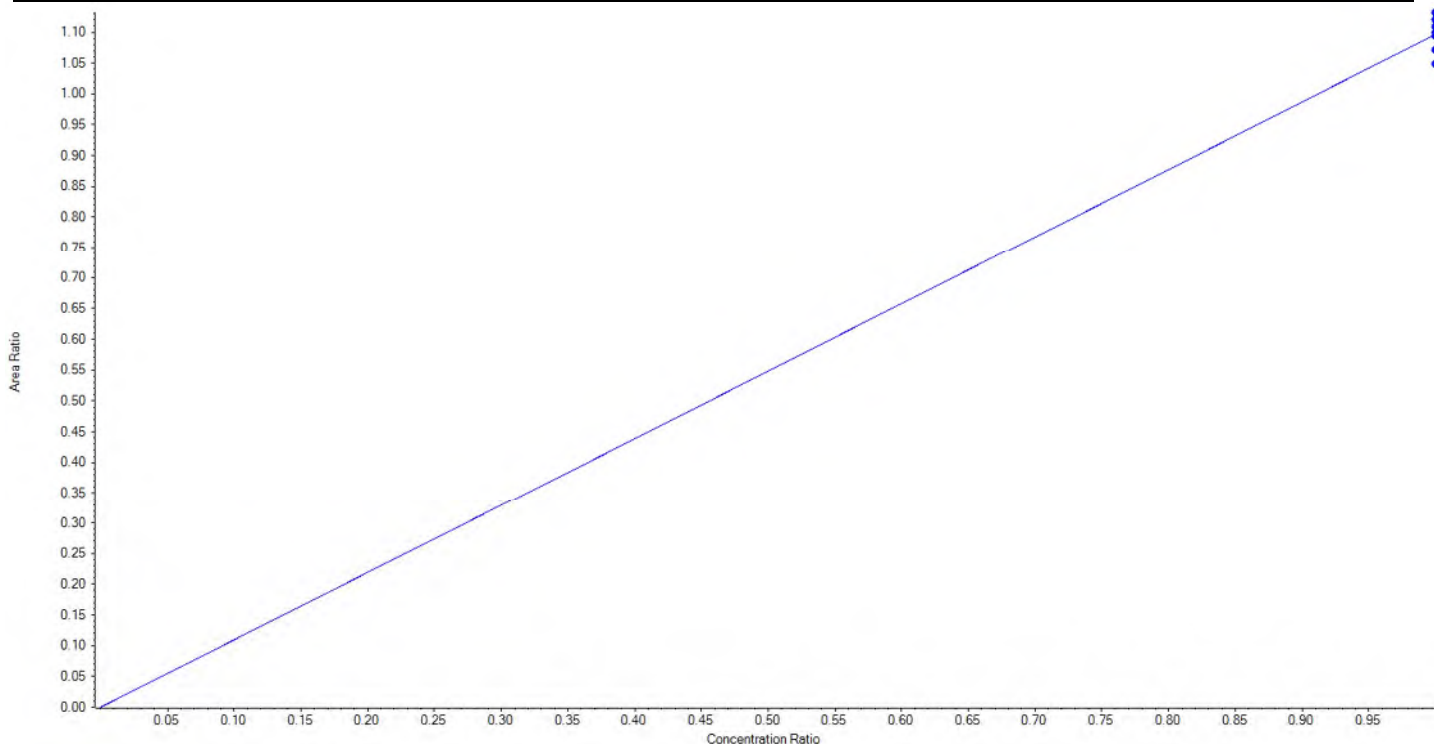
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	240.614008	96.3
3	KA87	L2	True	250.00	245.179090	98.1
4	KA88	L3	True	250.00	256.919715	102.8
5	KA89	L4	True	250.00	255.505877	102.2
6	KA90	L5	True	250.00	244.570419	97.8
7	KA91	L6	True	250.00	258.999394	103.6
8	KA92	L7	True	250.00	248.211498	99.3



Analyte Name	13C8-PFOA	Data File	18-0579.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.09665 x$ (std. dev. = 0.02899) (weighting: 1 / x)

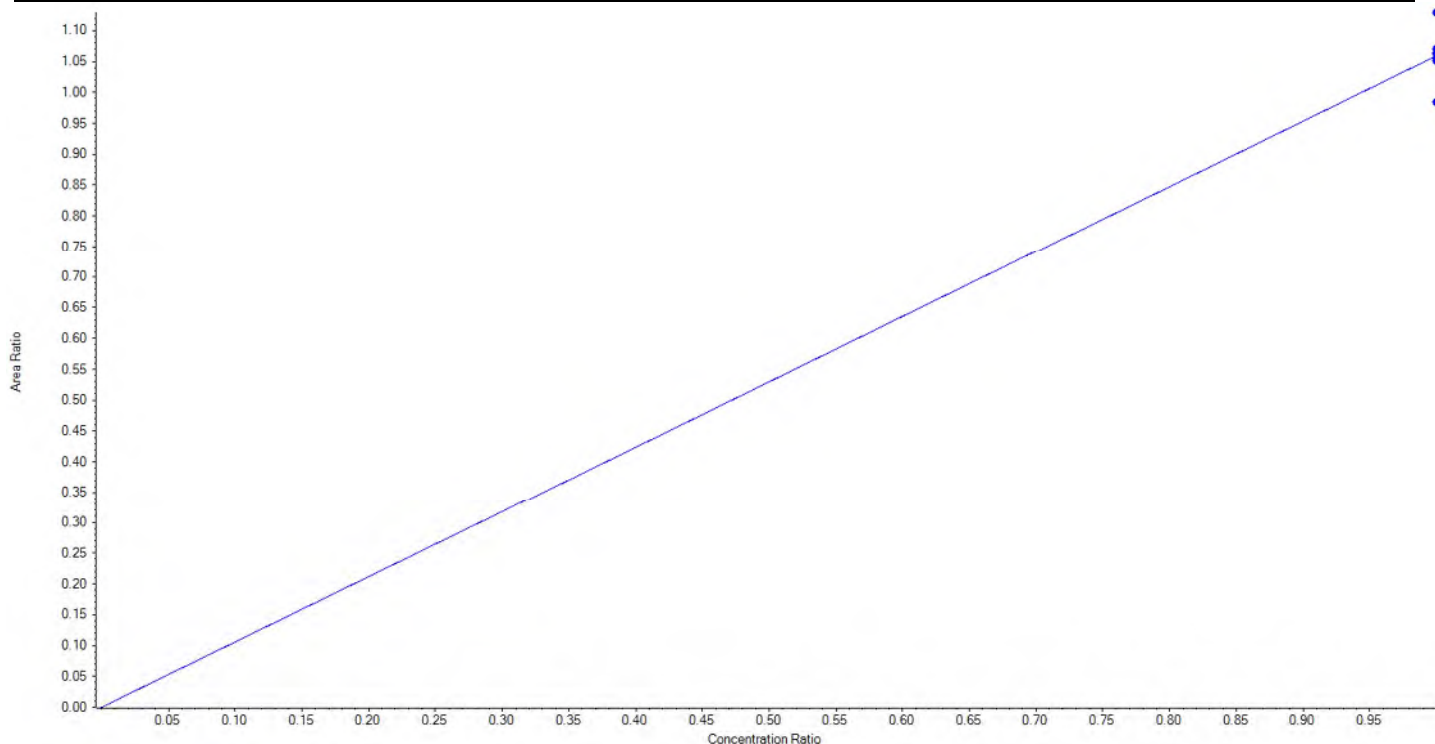
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	255.599565	102.2
3	KA87	L2	True	250.00	244.201407	97.7
4	KA88	L3	True	250.00	250.681456	100.3
5	KA89	L4	True	250.00	252.983800	101.2
6	KA90	L5	True	250.00	249.607458	99.8
7	KA91	L6	True	250.00	258.022558	103.2
8	KA92	L7	True	250.00	238.903756	95.6



Analyte Name	13C9-PFNA	Data File	18-0579.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05936 x$ (std. dev. = 0.04218) (weighting: 1 / x)

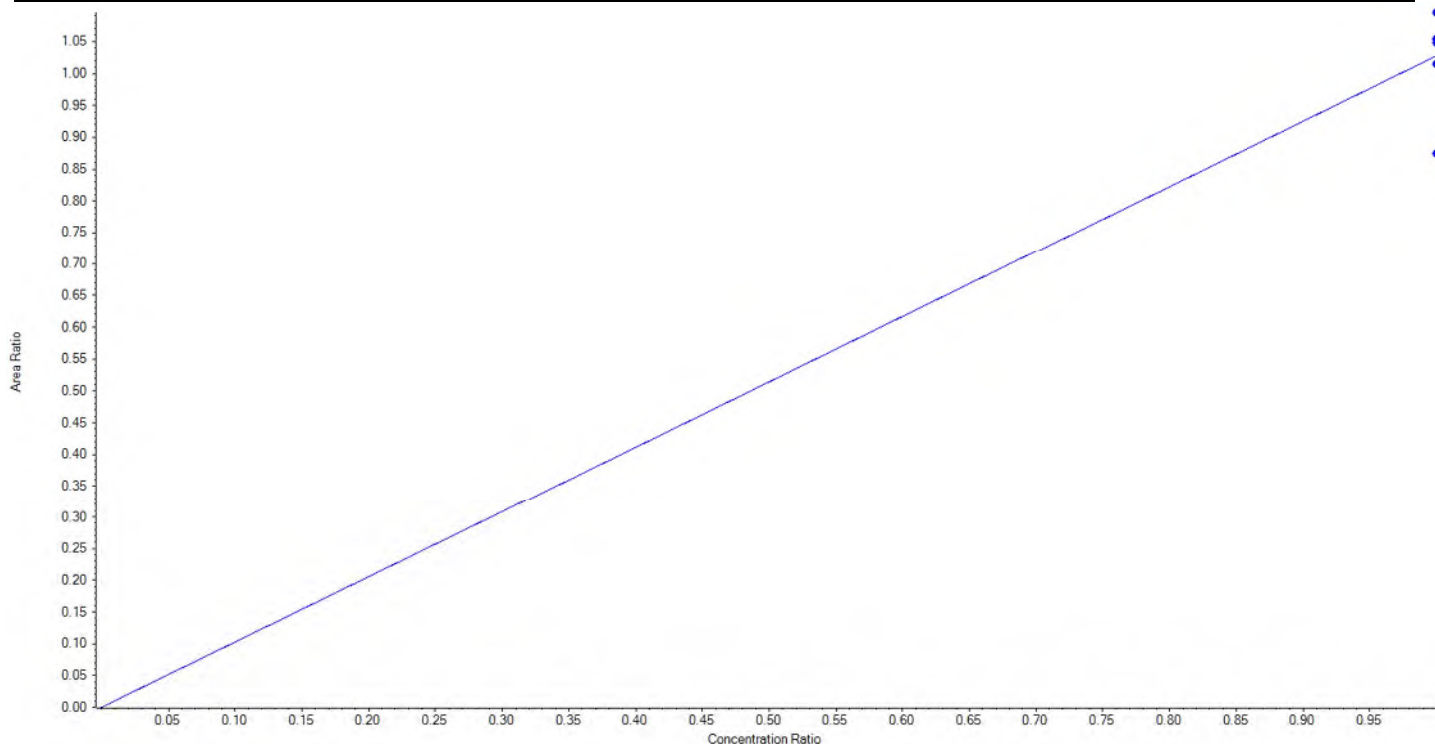
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	248.857324	99.5
3	KA87	L2	True	250.00	248.021526	99.2
4	KA88	L3	True	250.00	266.425060	106.6
5	KA89	L4	True	250.00	250.992907	100.4
6	KA90	L5	True	250.00	252.667389	101.1
7	KA91	L6	True	250.00	250.667949	100.3
8	KA92	L7	True	250.00	232.367846	93.0



Analyte Name	13C6-PFDA	Data File	18-0579.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02782 x$ (std. dev. = 0.07185) (weighting: 1 / x)

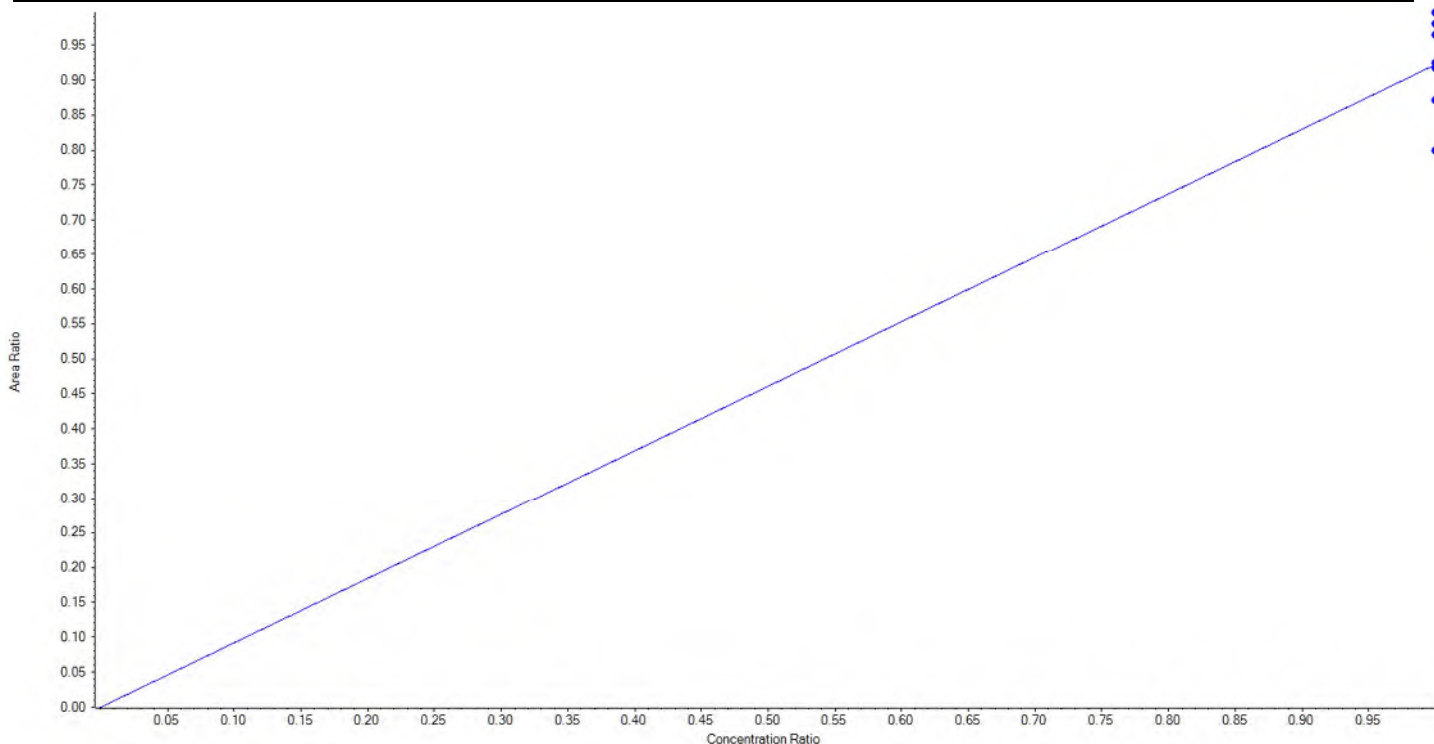
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	256.669554	102.7
3	KA87	L2	True	250.00	266.463646	106.6
4	KA88	L3	True	250.00	255.119798	102.1
5	KA89	L4	True	250.00	255.961091	102.4
6	KA90	L5	True	250.00	246.787812	98.7
7	KA91	L6	True	250.00	256.454988	102.6
8	KA92	L7	True	250.00	212.543112	85.0



Analyte Name	13C7-PFUnA	Data File	18-0579.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.92198 x$ (std. dev. = 0.06887) (weighting: 1 / x)

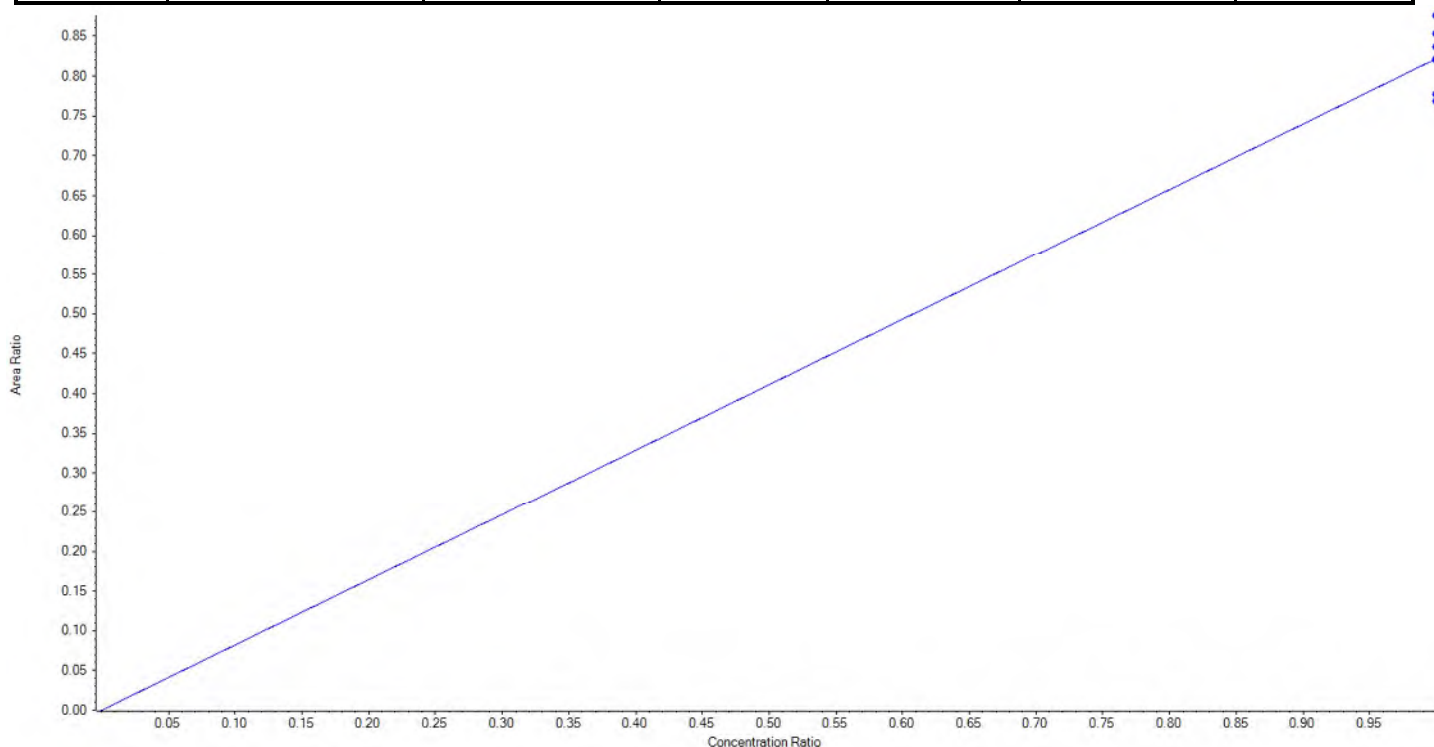
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	236.323554	94.5
3	KA87	L2	True	250.00	265.975043	106.4
4	KA88	L3	True	250.00	248.694066	99.5
5	KA89	L4	True	250.00	261.641930	104.7
6	KA90	L5	True	250.00	270.086901	108.0
7	KA91	L6	True	250.00	250.580301	100.2
8	KA92	L7	True	250.00	216.698204	86.7



Analyte Name	13C2-PFTeDA	Data File	18-0579.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0566_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.82194 x$ (std. dev. = 0.03866) (weighting: 1 / x)

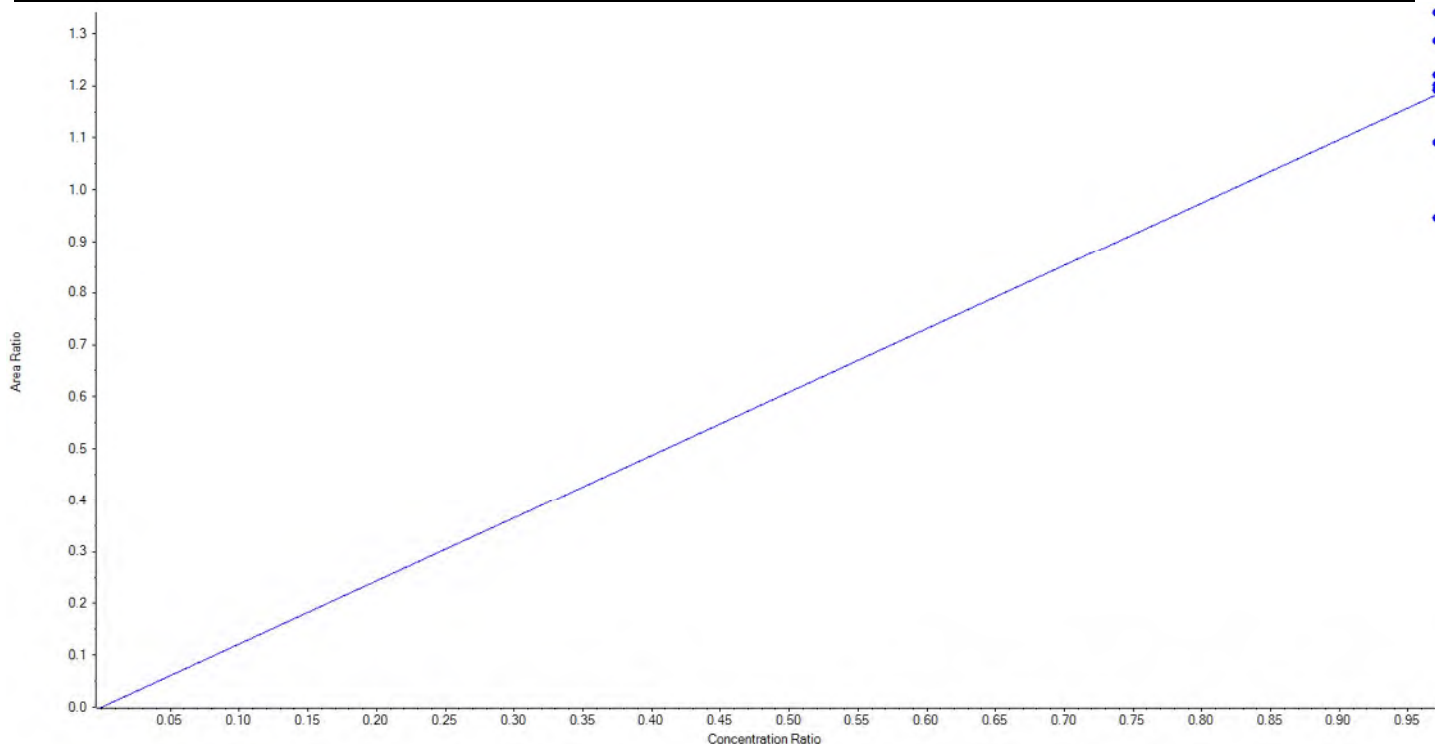
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	236.425610	94.6
3	KA87	L2	True	250.00	259.567030	103.8
4	KA88	L3	True	250.00	233.723948	93.5
5	KA89	L4	True	250.00	254.565604	101.8
6	KA90	L5	True	250.00	249.963230	100.0
7	KA91	L6	True	250.00	266.357895	106.5
8	KA92	L7	True	250.00	249.396683	99.8



Analyte Name	13C3-PFBS	Data File	18-0579.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.21828 x$ (std. dev. = 0.13417) (weighting: 1 / x)

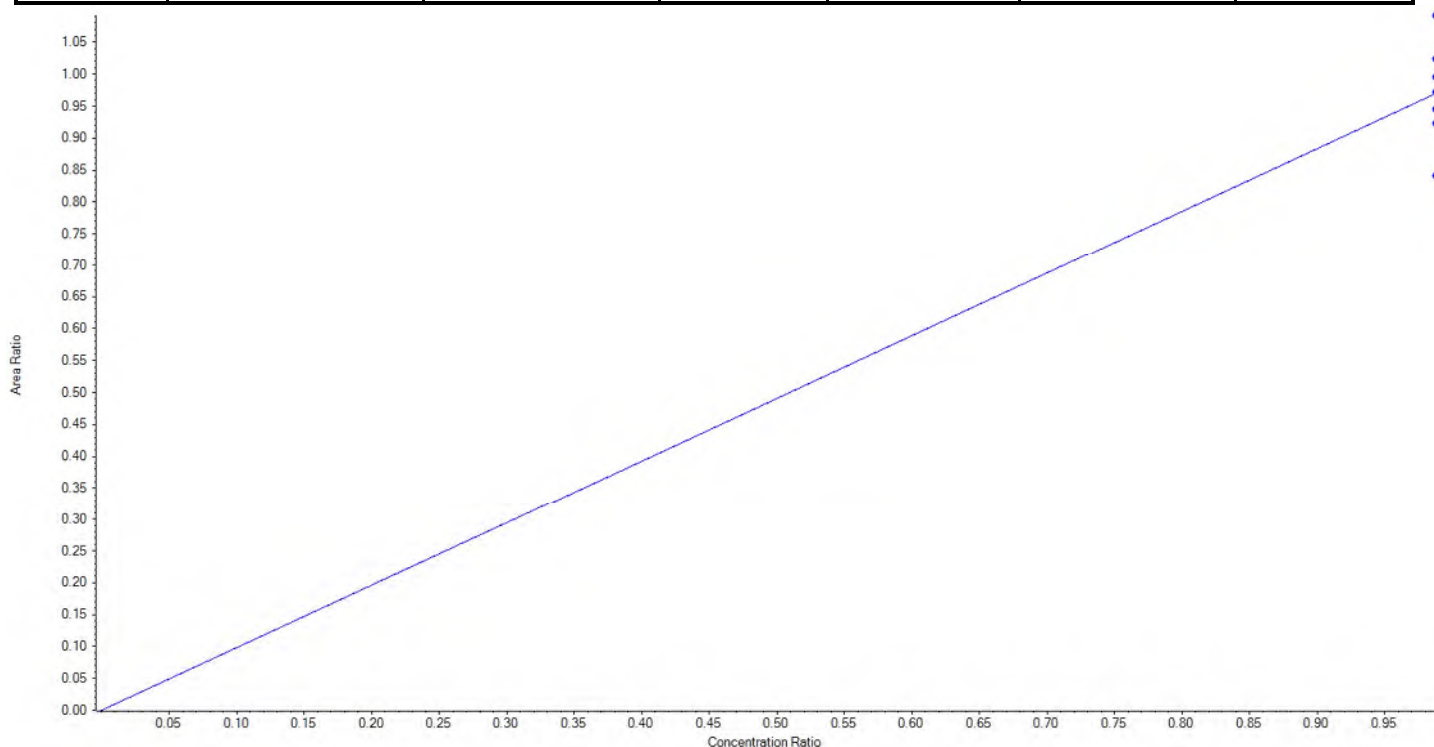
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	232.25	185.874213	80.0
3	KA87	L2	True	232.25	263.221131	113.3
4	KA88	L3	True	232.25	234.077297	100.8
5	KA89	L4	True	232.25	239.571547	103.2
6	KA90	L5	True	232.25	252.735746	108.8
7	KA91	L6	True	232.25	214.233123	92.2
8	KA92	L7	True	232.25	236.036942	101.6



Analyte Name	13C3-PFHxS	Data File	18-0579.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.98155 x$ (std. dev. = 0.08010) (weighting: 1 / x)

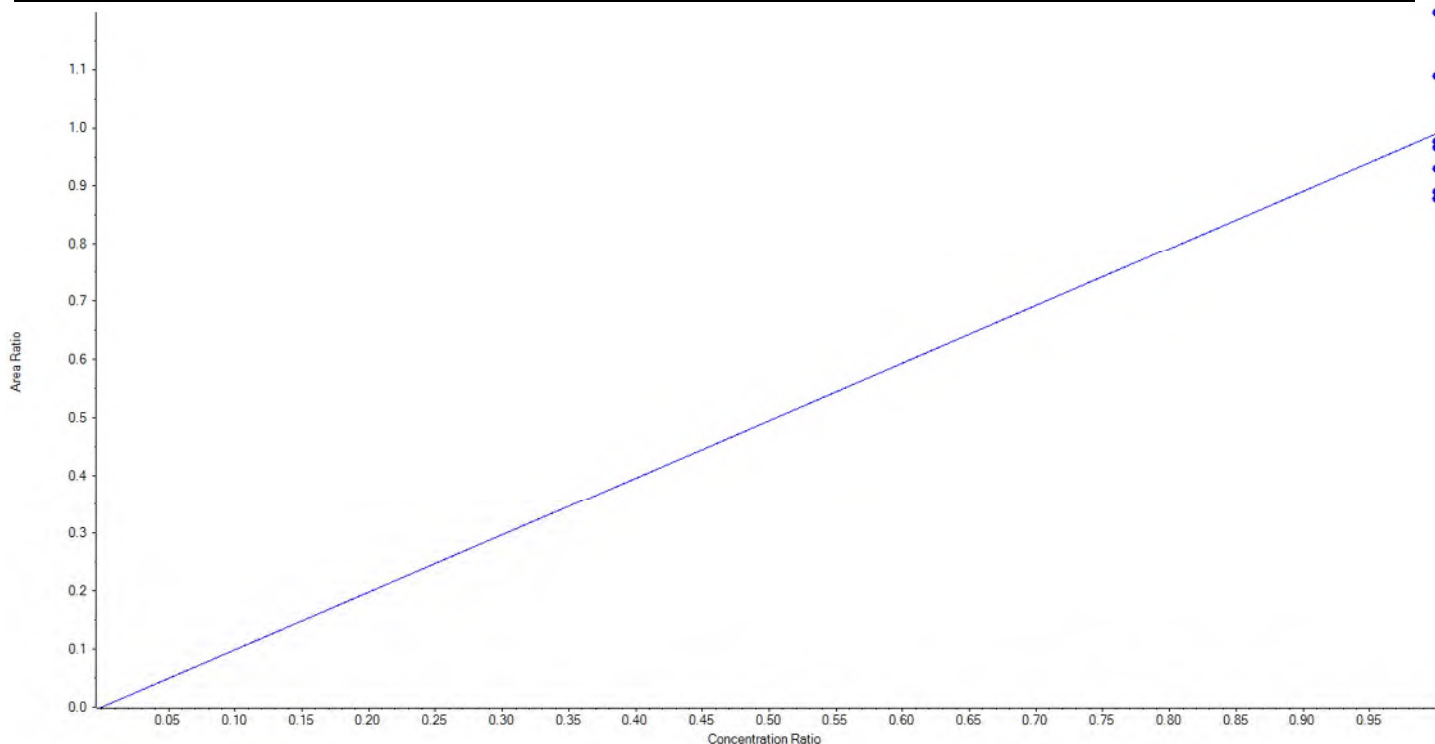
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	236.50	224.959400	95.1
3	KA87	L2	True	236.50	266.028699	112.5
4	KA88	L3	True	236.50	236.988682	100.2
5	KA89	L4	True	236.50	205.167052	86.8
6	KA90	L5	True	236.50	242.473126	102.5
7	KA91	L6	True	236.50	249.643643	105.6
8	KA92	L7	True	236.50	230.239398	97.4



Analyte Name	13C8-PFOS	Data File	18-0579.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0566_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99013 x$ (std. dev. = 0.11486) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	239.25	215.308243	90.0
3	KA87	L2	True	239.25	289.396354	121.0
4	KA88	L3	True	239.25	263.040177	109.9
5	KA89	L4	True	239.25	233.511046	97.6
6	KA90	L5	True	239.25	236.154697	98.7
7	KA91	L6	True	239.25	212.417209	88.8
8	KA92	L7	True	239.25	224.922274	94.0



Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:06:47	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.330	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.380	0.315	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.220	0.182	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.030	0.046	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.06	PFDaA			
PFDaA_2	613.0 / 319.0	4.06	PFDaA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.31	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.30	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.52	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.52	PFTeDA	0.060	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.540	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.77	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.100	0.069	ü

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:17:38	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.090	0.073	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.290	0.315	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.070	0.060	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.77	NEtFOSAA	0.060	0.069	ü

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:28:31	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.090	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.250	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.500	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.070	0.069	ü

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:39:23	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.29	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.29	PFTTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T18:50:15	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.550	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.070	0.069	ü

Sample Name	KA91	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:01:07	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.060	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.540	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KA92	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:11:59	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.280	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.570	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.069	ü

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1038.681822	1010.00	102.84
PFBS_2	298.9 / 99.0	1.54	1010.926100	1010.00	100.09
PFHxA_1	313.0 / 269.0	1.86	924.521348	1010.00	91.54
PFHxA_2	313.0 / 119.0	1.86	958.202422	1010.00	94.87
PFHpA_1	363.0 / 319.0	2.27	957.214423	1000.00	95.72
PFHpA_2	363.0 / 169.0	2.27	869.857478	1000.00	86.99
PFHxS_1	399.0 / 80.0	2.30	1006.654212	1010.00	99.67
PFHxS_2	399.0 / 99.0	2.29	1073.993234	1010.00	106.34
PFOA_1	413.0 / 369.0	2.68	995.347052	1000.00	99.53
PFOA_2	413.0 / 169.0	2.68	957.098631	1000.00	95.71
PFNA_1	463.0 / 419.0	3.08	971.368674	1000.00	97.14
PFNA_2	463.0 / 219.0	3.08	984.059584	1000.00	98.41
PFOS_1	499.0 / 80.0	3.08	978.848893	1000.00	97.88
PFOS_2	499.0 / 99.0	3.08	946.766227	1000.00	94.68
PFDA_1	513.0 / 469.0	3.43	938.431144	1000.00	93.84
PFDA_2	513.0 / 219.0	3.43	956.017373	1000.00	95.60
PFUnA_1	563.0 / 519.0	3.76	957.865330	1000.00	95.79
PFUnA_2	563.0 / 269.0	3.75	1074.491725	1000.00	107.45
PFDoA_1	613.0 / 569.0	4.04	999.859418	1000.00	99.99
PFDoA_2	613.0 / 319.0	4.04	1096.735475	1000.00	109.67
PFTrDA_1	663.0 / 619.0	4.28	1061.209652	1000.00	106.12
PFTrDA_2	663.0 / 169.0	4.28	1046.076309	1000.00	104.61
PFTeDA_1	713.0 / 669.0	4.49	1037.241196	1000.00	103.72
PFTeDA_2	713.0 / 169.0	4.49	1006.120674	1000.00	100.61
NMeFOSAA_1	570.0 / 419.0	3.59	1236.438285	1000.00	123.64
NMeFOSAA_2	570.0 / 512.0	3.59	1079.889556	1000.00	107.99
NEtFOSAA_1	584.0 / 419.0	3.75	972.496525	1000.00	97.25
NEtFOSAA_2	584.0 / 483.0	3.74	1163.397024	1000.00	116.34

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2277.460736	2525.00	90.20
PFBS_2	298.9 / 99.0	1.54	2308.124356	2525.00	91.41
PFHxA_1	313.0 / 269.0	1.86	2388.007428	2525.00	94.57
PFHxA_2	313.0 / 119.0	1.86	2273.140207	2525.00	90.03
PFHpA_1	363.0 / 319.0	2.27	2271.466874	2500.00	90.86
PFHpA_2	363.0 / 169.0	2.27	2262.341048	2500.00	90.49
PFHxS_1	399.0 / 80.0	2.29	2351.662684	2525.00	93.14
PFHxS_2	399.0 / 99.0	2.29	2423.789728	2525.00	95.99
PFOA_1	413.0 / 369.0	2.68	2428.001039	2500.00	97.12
PFOA_2	413.0 / 169.0	2.68	2412.016136	2500.00	96.48
PFNA_1	463.0 / 419.0	3.07	2205.108620	2500.00	88.20
PFNA_2	463.0 / 219.0	3.07	2189.778390	2500.00	87.59
PFOS_1	499.0 / 80.0	3.07	2163.960852	2500.00	86.56
PFOS_2	499.0 / 99.0	3.07	2291.321362	2500.00	91.65
PFDA_1	513.0 / 469.0	3.43	2191.338290	2500.00	87.65
PFDA_2	513.0 / 219.0	3.43	2289.552993	2500.00	91.58
PFOA_1	563.0 / 519.0	3.75	2321.852504	2500.00	92.87
PFOA_2	563.0 / 269.0	3.75	2199.306147	2500.00	87.97
PFDoA_1	613.0 / 569.0	4.03	2509.622832	2500.00	100.38
PFDoA_2	613.0 / 319.0	4.03	2472.694618	2500.00	98.91
PFTTrDA_1	663.0 / 619.0	4.27	2599.812521	2500.00	103.99
PFTTrDA_2	663.0 / 169.0	4.27	2568.579467	2500.00	102.74
PFTTeDA_1	713.0 / 669.0	4.49	2442.799340	2500.00	97.71
PFTTeDA_2	713.0 / 169.0	4.49	2438.706662	2500.00	97.55
NMeFOSAA_1	570.0 / 419.0	3.58	2634.575243	2500.00	105.38
NMeFOSAA_2	570.0 / 512.0	3.58	2658.450644	2500.00	106.34
NEtFOSAA_1	584.0 / 419.0	3.74	1857.550551	2500.00	74.30
NEtFOSAA_2	584.0 / 483.0	3.74	1857.012910	2500.00	74.28

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	936.483509	1010.00	92.72
PFBS_2	298.9 / 99.0	1.54	953.476292	1010.00	94.40
PFHxA_1	313.0 / 269.0	1.85	892.074059	1010.00	88.32
PFHxA_2	313.0 / 119.0	1.86	934.479720	1010.00	92.52
PFHpA_1	363.0 / 319.0	2.26	852.670480	1000.00	85.27
PFHpA_2	363.0 / 169.0	2.26	734.629445	1000.00	73.46
PFHxS_1	399.0 / 80.0	2.28	977.770573	1010.00	96.81
PFHxS_2	399.0 / 99.0	2.28	1032.807652	1010.00	102.26
PFOA_1	413.0 / 369.0	2.67	933.440886	1000.00	93.34
PFOA_2	413.0 / 169.0	2.67	859.910935	1000.00	85.99
PFNA_1	463.0 / 419.0	3.06	994.133669	1000.00	99.41
PFNA_2	463.0 / 219.0	3.06	1025.638335	1000.00	102.56
PFOS_1	499.0 / 80.0	3.06	942.245728	1000.00	94.22
PFOS_2	499.0 / 99.0	3.06	944.674311	1000.00	94.47
PFDA_1	513.0 / 469.0	3.42	952.509088	1000.00	95.25
PFDA_2	513.0 / 219.0	3.42	954.340245	1000.00	95.43
PFUnA_1	563.0 / 519.0	3.74	917.368734	1000.00	91.74
PFUnA_2	563.0 / 269.0	3.74	881.290891	1000.00	88.13
PFDoA_1	613.0 / 569.0	4.02	1025.673264	1000.00	102.57
PFDoA_2	613.0 / 319.0	4.02	1007.203753	1000.00	100.72
PFTTrDA_1	663.0 / 619.0	4.27	1043.998224	1000.00	104.40
PFTTrDA_2	663.0 / 169.0	4.26	1075.446790	1000.00	107.54
PFTeDA_1	713.0 / 669.0	4.48	990.681101	1000.00	99.07
PFTeDA_2	713.0 / 169.0	4.48	1008.112806	1000.00	100.81
NMeFOSAA_1	570.0 / 419.0	3.57	1025.233714	1000.00	102.52
NMeFOSAA_2	570.0 / 512.0	3.57	1082.241825	1000.00	108.22
NEtFOSAA_1	584.0 / 419.0	3.73	842.926570	1000.00	84.29
NEtFOSAA_2	584.0 / 483.0	3.74	849.637783	1000.00	84.96

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2357.208633	2525.00	93.35
PFBS_2	298.9 / 99.0	1.54	2420.976320	2525.00	95.88
PFHxA_1	313.0 / 269.0	1.86	2346.266726	2525.00	92.92
PFHxA_2	313.0 / 119.0	1.86	2421.427162	2525.00	95.90
PFHpA_1	363.0 / 319.0	2.26	2181.108701	2500.00	87.24
PFHpA_2	363.0 / 169.0	2.26	2236.932113	2500.00	89.48
PFHxS_1	399.0 / 80.0	2.28	2422.306376	2525.00	95.93
PFHxS_2	399.0 / 99.0	2.28	2363.945627	2525.00	93.62
PFOA_1	413.0 / 369.0	2.67	2392.162843	2500.00	95.69
PFOA_2	413.0 / 169.0	2.67	2151.868184	2500.00	86.07
PFNA_1	463.0 / 419.0	3.06	2172.629329	2500.00	86.91
PFNA_2	463.0 / 219.0	3.06	2304.608832	2500.00	92.18
PFOS_1	499.0 / 80.0	3.06	2355.853610	2500.00	94.23
PFOS_2	499.0 / 99.0	3.06	2322.667399	2500.00	92.91
PFDA_1	513.0 / 469.0	3.42	2357.772917	2500.00	94.31
PFDA_2	513.0 / 219.0	3.42	2330.363865	2500.00	93.21
PFUnA_1	563.0 / 519.0	3.74	2356.490409	2500.00	94.26
PFUnA_2	563.0 / 269.0	3.73	2284.276131	2500.00	91.37
PFDoA_1	613.0 / 569.0	4.02	2420.359838	2500.00	96.81
PFDoA_2	613.0 / 319.0	4.02	2496.680687	2500.00	99.87
PFTTrDA_1	663.0 / 619.0	4.26	2647.965269	2500.00	105.92
PFTTrDA_2	663.0 / 169.0	4.26	2742.771718	2500.00	109.71
PFTeDA_1	713.0 / 669.0	4.48	2578.671574	2500.00	103.15
PFTeDA_2	713.0 / 169.0	4.47	2455.308048	2500.00	98.21
NMeFOSAA_1	570.0 / 419.0	3.57	3192.830858	2500.00	127.71
NMeFOSAA_2	570.0 / 512.0	3.57	3209.220346	2500.00	128.37
NEtFOSAA_1	584.0 / 419.0	3.73	1972.571426	2500.00	78.90
NEtFOSAA_2	584.0 / 483.0	3.73	1777.058178	2500.00	71.08

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.03	257.996802	250.00	103.20
d3-MeFOSAA	573.0 / 419.0	3.58	235.330032	250.00	94.13
d5-EtFOSAA	589.0 / 419.0	3.74	249.130521	250.00	99.65
13C5-PFHxA	318.0 / 273.0	1.85	250.941708	250.00	100.38
13C4-PFHpA	367.0 / 322.0	2.26	251.539496	250.00	100.62
13C8-PFOA	421.0 / 376.0	2.67	250.095674	250.00	100.04
13C9-PFNA	472.0 / 427.0	3.06	261.901808	250.00	104.76
13C6-PFDA	519.0 / 474.0	3.42	263.436715	250.00	105.37
13C7-PFUnA	570.0 / 525.0	3.74	281.906391	250.00	112.76
13C2-PFTeDA	715.0 / 670.0	4.49	249.542694	250.00	99.82
13C3-PFBS	302.0 / 99.0	1.52	219.865963	232.25	94.67
13C3-PFHxS	402.0 / 99.0	2.28	233.688625	236.50	98.81
13C8-PFOS	507.0 / 99.0	3.06	233.692351	239.25	97.68

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	242.285471	250.00	96.91
d3-MeFOSAA	573.0 / 419.0	3.57	257.512508	250.00	103.01
d5-EtFOSAA	589.0 / 419.0	3.73	321.481250	250.00	128.59
13C5-PFHxA	318.0 / 273.0	1.85	231.333905	250.00	92.53
13C4-PFHpA	367.0 / 322.0	2.26	231.598136	250.00	92.64
13C8-PFOA	421.0 / 376.0	2.67	236.609921	250.00	94.64
13C9-PFNA	472.0 / 427.0	3.06	248.357974	250.00	99.34
13C6-PFDA	519.0 / 474.0	3.41	270.046751	250.00	108.02
13C7-PFUnA	570.0 / 525.0	3.73	254.200537	250.00	101.68
13C2-PFTeDA	715.0 / 670.0	4.48	231.120621	250.00	92.45
13C3-PFBS	302.0 / 99.0	1.53	239.755923	232.25	103.23
13C3-PFHxS	402.0 / 99.0	2.28	255.466176	236.50	108.02
13C8-PFOS	507.0 / 99.0	3.06	263.452691	239.25	110.12

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	246.882241	250.00	98.75
d3-MeFOSAA	573.0 / 419.0	3.56	236.407219	250.00	94.56
d5-EtFOSAA	589.0 / 419.0	3.73	294.515912	250.00	117.81
13C5-PFHxA	318.0 / 273.0	1.84	243.005113	250.00	97.20
13C4-PFHpA	367.0 / 322.0	2.25	237.478521	250.00	94.99
13C8-PFOA	421.0 / 376.0	2.66	253.373063	250.00	101.35
13C9-PFNA	472.0 / 427.0	3.05	231.332138	250.00	92.53
13C6-PFDA	519.0 / 474.0	3.40	264.427228	250.00	105.77
13C7-PFUnA	570.0 / 525.0	3.72	275.887006	250.00	110.35
13C2-PFTeDA	715.0 / 670.0	4.47	231.142196	250.00	92.46
13C3-PFBS	302.0 / 99.0	1.52	230.785459	232.25	99.37
13C3-PFHxS	402.0 / 99.0	2.27	229.615261	236.50	97.09
13C8-PFOS	507.0 / 99.0	3.05	247.883117	239.25	103.61

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	256.655790	250.00	102.66
d3-MeFOSAA	573.0 / 419.0	3.56	204.450873	250.00	81.78
d5-EtFOSAA	589.0 / 419.0	3.72	318.860097	250.00	127.54
13C5-PFHxA	318.0 / 273.0	1.84	226.207082	250.00	90.48
13C4-PFHpA	367.0 / 322.0	2.25	236.008571	250.00	94.40
13C8-PFOA	421.0 / 376.0	2.66	237.206151	250.00	94.88
13C9-PFNA	472.0 / 427.0	3.05	247.798405	250.00	99.12
13C6-PFDA	519.0 / 474.0	3.40	257.956173	250.00	103.18
13C7-PFUnA	570.0 / 525.0	3.72	265.290593	250.00	106.12
13C2-PFTeDA	715.0 / 670.0	4.47	225.765587	250.00	90.31
13C3-PFBS	302.0 / 99.0	1.52	232.104363	232.25	99.94
13C3-PFHxS	402.0 / 99.0	2.27	239.053803	236.50	101.08
13C8-PFOS	507.0 / 99.0	3.05	243.821194	239.25	101.91

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T19:33:41	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.280	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.315	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.060	0.060	ü
PFDaA_1	613.0 / 569.0	4.04	PFDaA			
PFDaA_2	613.0 / 319.0	4.04	PFDaA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.480	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.080	0.069	ü

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T21:33:14	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.300	0.315	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.190	0.182	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.560	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.069	ü

Sample Name	KA89 CCV	Injection Vial	5
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:43:37	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.070	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.180	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.580	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.069	ü

Sample Name	KA90 CCV	Injection Vial	6
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:27:03	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.170	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.73	PFUnA	0.050	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.26	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.050	0.051	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.560	0.542	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.060	0.069	ü

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.180	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.270	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.350	0.315	ü
PFOS_1	499.0 / 80.0	2.97	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8279-FS(0)	Injection Vial	26
Sample ID	07FRB092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:00:10	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.080	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.360	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.120	0.161	ü
PFTrDA_1	663.0 / 619.0	4.26	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.070	0.067	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.47	PFTeDA	0.040	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8280-FS(0)	Injection Vial	27
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:11:01	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.320	0.315	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	3.04	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8280-FS-D(5)	Injection Vial	29
Sample ID	07GW13092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T23:32:45	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.300	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.073	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.315	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.182	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Name	J8281-FS(0)	Injection Vial	30
Sample ID	07GW11092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T00:05:21	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.200	0.300	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.64	PFOA	0.100	0.073	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.340	0.315	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	3.05	PFOS	0.130	0.182	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.41	PFDA	0.060	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.060	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.067	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.051	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.542	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.069	ü

Sample Calculation

Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	472150.13	2465.179310	54.2	false
PFBS_2	298.9 / 99.0	1.54	83219.41	1505.840024	56.9	false
PFHxA_1	313.0 / 269.0	1.85	4321154.85	20340.166142	74.8	false
PFHxA_2	313.0 / 119.0	1.85	317663.51	20177.552775	134.3	false
PFHpA_1	363.0 / 319.0	2.26	348910.51	1474.564186	33.4	false
PFHpA_2	363.0 / 169.0	2.24	8332.82	1586.103507	47.3	false
PFHxS_1	399.0 / 80.0	2.28	9225415.61	27229.049610	320.1	false
PFHxS_2	399.0 / 99.0	2.28	2504261.30	25910.023692	918.1	false
PFOA_1	413.0 / 369.0	2.67	3748443.09	12810.758224	264.7	false
PFOA_2	413.0 / 169.0	2.66	318369.19	15361.987474	395.7	false
PFNA_1	463.0 / 419.0	3.06	60068.92	222.650135	57.7	true
PFNA_2	463.0 / 219.0	3.06	20818.29	236.956801	68.6	false
PFOS_1	499.0 / 80.0	2.97	1147171.96	2636.369955	103.7	false
PFOS_2	499.0 / 99.0	3.06	147572.15	1937.404505	160.0	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.02	6857.52	16.883018	54.3	false
PFDoA_2	613.0 / 319.0	4.02	1036.38	10.537842	28.4	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample calc PFOA 44.95 ng/L
y=1.02072x+-0.01771

$$((3748443.09 / 71689.98) + 0.01771) / 1.02072 * 250 * 0.001 / 0.285 = 44.95 \text{ ng/L}$$

$$\text{LCS PFOA } 103\% \quad 25.79 / 25.0 * 100 = 103.16\%$$



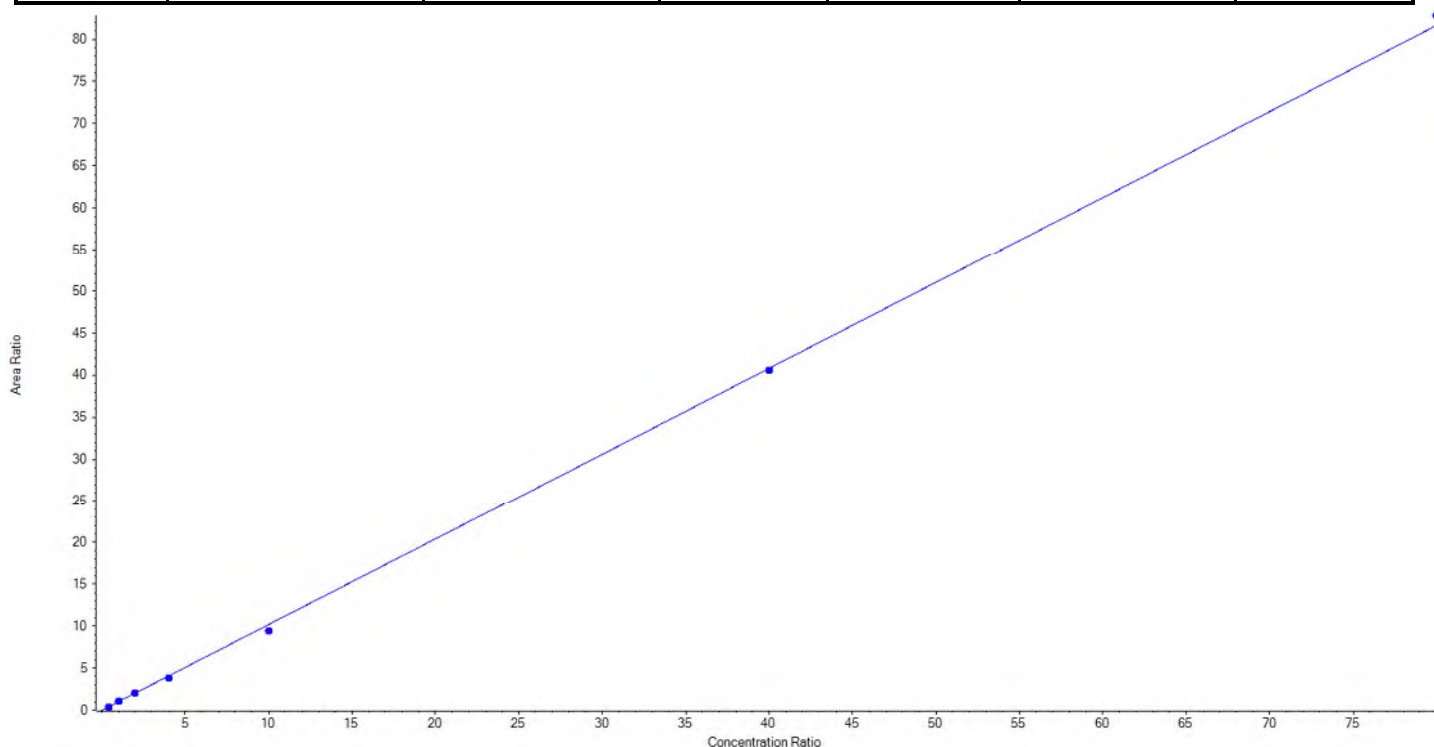
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/10/2018 9:43:58 AM

Analyte Name	PFOA_1	Data File	18-0579.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0566_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/27/2018 5:55:55 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02072x + -0.01771$ ($r = 0.99963$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	104.490689	104.5
3	KA87	L2	True	250.00	273.381680	109.4
4	KA88	L3	True	500.00	493.119105	98.6
5	KA89	L4	True	1000.00	939.487668	94.0
6	KA90	L5	True	2500.00	2320.826433	92.8
7	KA91	L6	True	10000.00	9931.504468	99.3
8	KA92	L7	True	20000.00	20287.189958	101.4



Sample Name	J8278-FS(0)	Injection Vial	24
Sample ID	07GW07092018	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-27T22:38:27	Data File	18-0579.wiff
Acquisition Method	5-0369.dam	Result Table	18-0566_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	15341.55	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	15341.55	232.25
PFHxA_1	313.0 / 269.0	1.85	13C5-PFHxA	318.0 / 273.0	50382.02	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	50382.02	250.00
PFHpA_1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFHpA_2	363.0 / 169.0	2.24	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFHxS_1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	22735.98	236.50
PFHxS_2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	22735.98	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	71689.98	250.00
PFNA_1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	74032.25	250.00
PFNA_2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	74032.25	250.00
PFOS_1	499.0 / 80.0	2.97	13C8-PFOS	507.0 / 99.0	21908.54	239.25
PFOS_2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	21908.54	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	84102.68	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	84102.68	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	79902.87	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	79902.87	250.00
PFDoA_1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	76043.14	250.00
PFDoA_2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	76043.14	250.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	49225.09	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10547.66	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10547.66	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10078.56	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10078.56	250.00

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	GULFPORT_NCBC	18-0566	SITE 00007	SITE 00007	07GW13	Monitoring well	888740.833	321421.437	N6247016D9008	JM08	TETRA TECH, INC.	07GW13092018	Ground water	Normal (Regular)	20-Sep-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0566	SITE 00007	SITE 00007	07GW07	Monitoring well	889057.681	321444.971	N6247016D9008	JM08	TETRA TECH, INC.	07GW07092018	Ground water	Normal (Regular)	20-Sep-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0566	SITE 00007	SITE 00007	07GW11	Monitoring well	888744.927	321182.824	N6247016D9008	JM08	TETRA TECH, INC.	07GW11092018	Ground water	Normal (Regular)	20-Sep-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0566							N6247016D9008	JM08	TETRA TECH, INC.	07FRB092018	Water for QC samples	QC Sample	20-Sep-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00