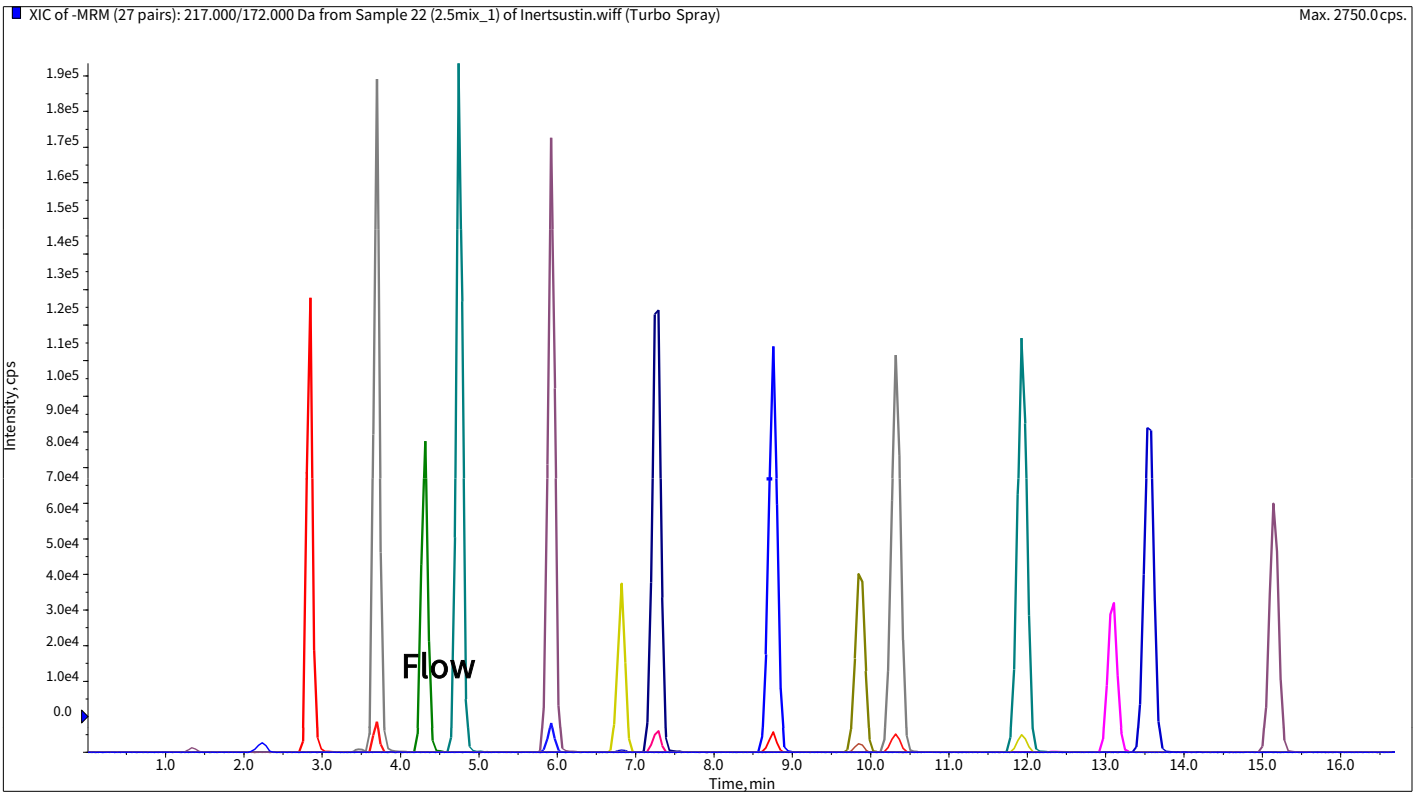
LC Technical Note
LT108
GL Sciences Inc.

Simultaneous Analysis of Organic Fluorine Compounds Using LC/MS/MS

As represented by perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), organic fluorine compounds are a type of environmental pollutant. These compounds are detected not only in tap water but also in blood of wild animals due to their exceptional stability in the environment. However, their accurate determination has been difficult because these compounds are also eluted from some parts of chromatograph, such as tubing made of PTFE.

In this note, chromatgrams obtained with an InertSustain C18 column are shown. Peak shape was excellent for each compound. This analysis was performed on an LC/MS/MS system where the liquid was not in touch with PTFE.



PFBS	-	299/80	4.3
PFHxS	-	399/80	
6.8 PFHxS 13C	-	403/103	
6.8 PFOS	-	499/80	9.9
PFOS 13C	-	503/80	9.9
PFDS	-	599/80	13.1
PFBA	-	213/169	2.2
PFBA 13C	-	217/172	2.2
PFPeA	-	263/219	2.8
PFHxA	-	313/269	
3.7 PFHxA 13C	-	315/270	
3.7 PFHpA	-	363/319	4.8
PFOA	-	413/369	5.9
PFOA 13C	-	417/372	5.9
PFNA	-	463/419	7.3
PFNA	-	468/423	7.3
PFDA	-	513/469	8.8
PFDA	-	515/470	8.7
PFuDA	-	563/519	10.3
PFuDA 13C	-	565/520	10.3
PFdDA	-	613/569	11.9
PFdDA 13C	-	615/570	11.9
PFTrDA	-	663/619	13.6
PFTeDA	-	713/669	15.1

(2.5 µg/L each)

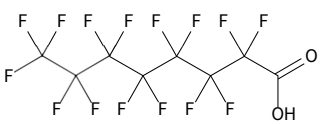
HPLC Conditions;

System	**:LC800**
Column	**: InertSustain C18 (3 µm, 150 x 2.1 mm I.D.)**
Eluent	**: A) 10 mM Ammonium acetate** B) CH_3CN A / B = 60 / 40 — 3 min — 50 / 50 — 22 min — 0 / 100 — 5 min — 0 / 100 (Equilibration for 15 min), v/v
Flow rate	**:** 0.2 mL/min
Column Temp.	**:** 40 °C
Detection	**:** LC/MS/MS (4000Q TRAP® : ESI, Nega, MRM)
Injection Vol.	**:**10 µL

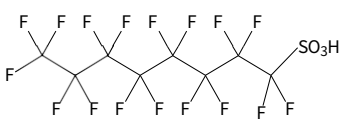
* Contact us for more detailed analytical

Chemical structures

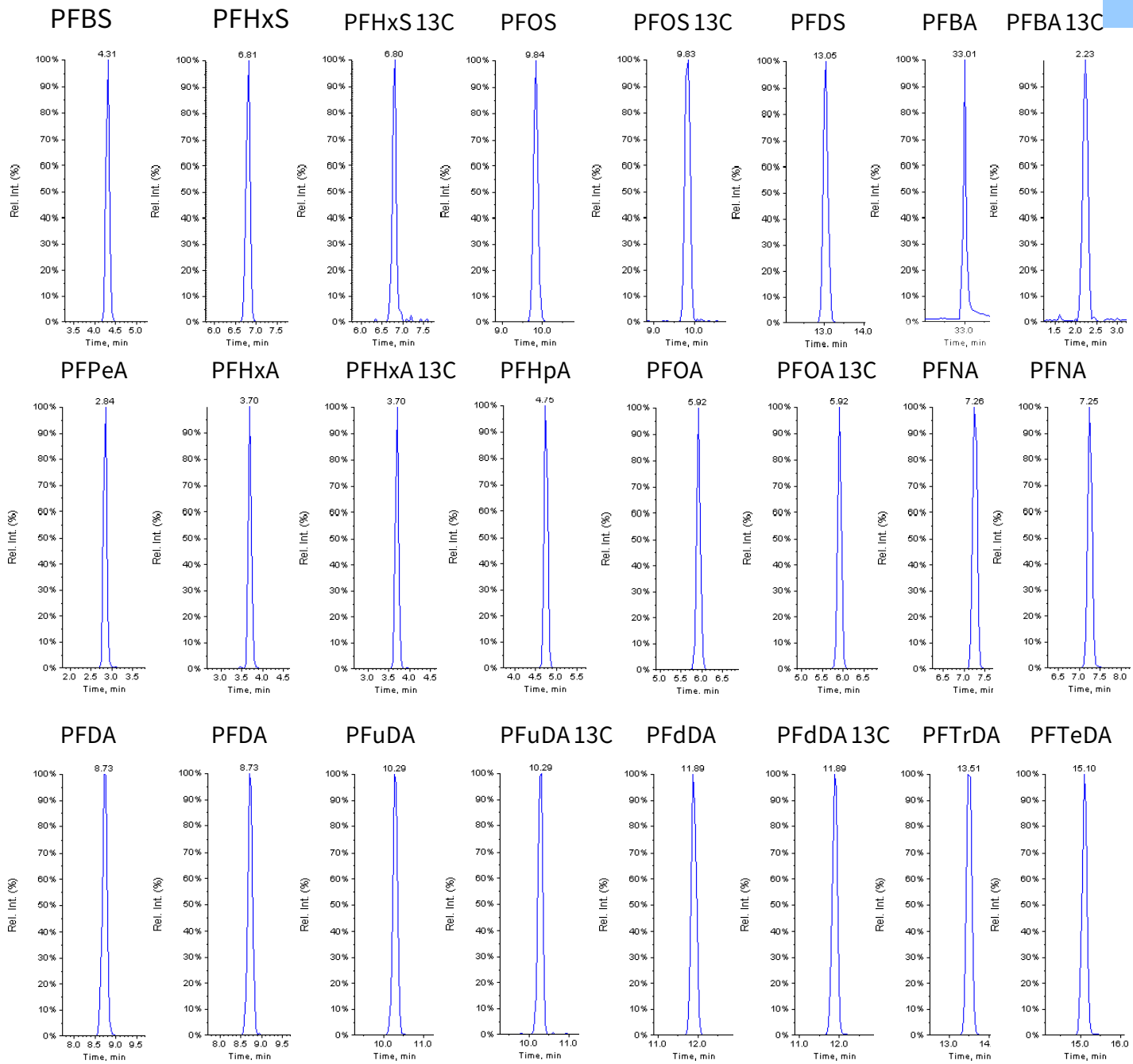
PFOA



PFOS



Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.



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