Supporting Information for

A Ratio of Perfluorochemical Concentrations as a Tracer of Atmospheric Deposition to Surface Waters

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LC/MS/MS conditions:

LC: Agilent1100

Mass Spectrometer: Triple Quad: Quattro Micro from Waters operated in multiple reaction monitoring

Mobile Phase A: 30% methanol in water with 2 mM ammonium acetate
Mobile Phase B: 100% methanol with 2 mM ammonium acetate
Column: Luna C18, 50 x 1.0 mm, 3u
Capillary (kV) 0.70
Cone (V) 19.00
Extractor (V) 0.00
RF Lens (V) 0.5
Source Temperature (°C) 120
Desolvation Temperature (°C)
Cone Gas Flow (L/Hr) 20
Desolvation Gas Flow (L/Hr) 500

HP1100 LC Pump Gradient Timetable

Time	A%	B%	C%	D%	Flow (ml/min)	Pressure
0.00	100.0	0.0	0.0	0.0	0.050	400
13.00	43.0	57.0	0.0	0.0	0.050	400
18.00	43.0	57.0	0.0	0.0	0.050	400
33.00	0.0	100.0	0.0	0.0	0.050	400
33.01	0.0	100.0	0.0	0.0	0.100	400
35.00	0.0	100.0	0.0	0.0	0.100	400
35.01	100.0	0.0	0.0	0.0	0.100	400
44.99	100.0	0.0	0.0	0.0	0.100	400
45.00	100.0	0.0	0.0	0.0	0.050	400

Pre-Injection Wash Repeats 2 times
Injection Volume (ul) - 1.00

Chan	Analyte	Reaction	Dwell(secs)	Cone Volt.	Col.Energy
1 :	PFHxA	313.20 > 269.20	0.20	22.0	11.0
2 :	PFHpA	363.20 > 319.20	0.20	22.0	11.0
3 :	PFOA	413.20 > 369.20	0.20	22.0	11.0
4 :	PFNA	463.20 > 419.20	0.20	22.0	11.0
5 :	PFOS	499.30 > 80.15	0.20	65.0	44.0
6 :	PFOS	499.30 > 99.15	0.20	65.0	36.0
7 :	PFDA	513.20 > 469.20	0.20	22.0	11.0
8 :	PFUnA	563.20 > 519.20	0.20	22.0	11.0

Note: PFOS quantiation was performed using the 499>99 transition.

Table: Perfluorochemical concentrations in surface waters (ng/L)

Values in parentheses are below the quantitiation limit.

	PFHxA	PFHpA	PFOA	PFNA	PFOS	PFDA
Loiten		9.69	0.66			
Little Trout		4.74	0.30		1.23	
Nipisiquit	(0.27)	0.85	(0.14)	(0.24)		
Tettegouche		3.02	0.45		(0.23)	
Calhoun		10.23	19.40	0.58	46.57	0.47
L. Harriet		2.56	3.35		20.44	
L. of Isles		0.41	0.45		2.38	
Minnesota R		0.71	1.16	1.92	8.77	
47M Epi		(0.34)	(0.28)		0.93	
47M Hypo		(0.25)	(0.34)		2.51	
18M Epi		3.97	3.37		3.12	
18M Hypo		0.80	3.08		2.34	