Persistent Organic Pollutant Residues in Human Fetal Liver and Placenta from Greater Montreal, Quebec: A Longitudinal Study from 1998 - 2006

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Supplemental Material, Table 1: Selected Ion Mode mass to charge ratios monitored for polychlorinated biphenyl (PCB), organochlorine and brominated diphenyl ether (BDE) analytes (listed in order of chromatographic elution).

Analyte	Retention Time (min)	Target Ion[a] (Q1)	Qualifier Ion(Q2)	Q2/Q1 (%)	Tolerance (±%)
HCB	15.92	284	286	80	20
PCB 49	19.22	292	290	78	20
PCB 99	21.65	326	328	65	20
trans-Nonachlor	21.80	409	407	90	20
p,p'-DDE	22.55	246	248	66	20
PCB 118	23.96	326	328	65	20
PCB 153	24.90	360	362	81	20
PCB 137	25.65	360	362	81	20
p,p'-DDT	26.00	235	237	68	20
PCB 180	26.57	394	396	96	20
PCB 138	26.97	360	362	81	20
BDE 47	28.49	326	486	77	20
BDE 100	30.71	404	406	98	20
BDE 99	31.34	404	406	98	20
BDE 85	32.35	404	406	99	20
BDE 154	32.85	484	482	71	20
BDE 153	33.79	484	482	72	20
BDE 183	37.12	562	564	98	20

[a] Target ion used for quantification.

Supplemental Material, Table 2: Mean (n = 8) analyte recovery values and method detection limits (n=8) for analytes extracted from corn oil. Spiking levels: 75ng/g and 120ng/g for polychlorinated biphenyl (PCB), organochlorine and brominated diphenyl ether (BDE) analytes based on sample weight.

Analyte	% Recovered (based on lipid weight)	MDL (ng/g)[a]
HCB	63	2.71
PCB 49	83	2.87
PCB 99	85	3.17
trans-Nonachlor	81	3.19
p,p'-DDE	92	4.15
PCB 118	85	3.24
PCB 137	86	3.14
p,p'-DDT	84	3.38
PCB 180	86	3.10
PCB 138	85	3.32
BDE 47	96	8.35
BDE 100	90	6.39
BDE 99	90	8.67
BDE 85	93	5.95
BDE 154	91	5.56
BDE 153	92	5.56
BDE 183	86	8.32

[a] Method Detection Limit

Supplemental Material, Table 3: Levels of individual OCs and PCBs analyzed in human fetal liver and placental samples collected in 1998-2006 (expressed as mean concentrations, ng/g on a lipid basis).

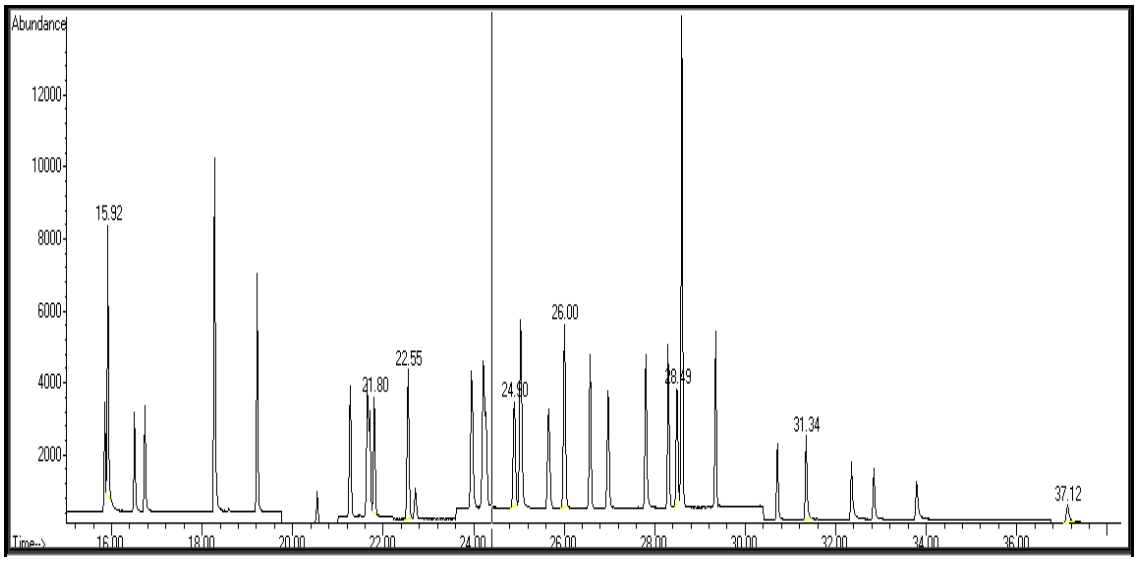
Liver Concentrations
(l.w.)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
HCB	5.54	5.65	3.03	3.70	3.95	0.00	3.93	5.33	9.73
PCB #49	0.00	0.00	3.89	3.33	6.28	5.23	0.00	13.17	0.00
PCB #99	2.64	7.53	4.22	4.09	5.90	28.60	31.80	6.83	7.05
trans-nonachlor	7.99	5.94	5.55	7.85	4.06	0.00	12.39	51.61	19.14
p,p'-DDE	322.04	146.27	459.49	466.85	51.90	120.50	248.68	155.26	171.20
PCB #118	2.49	8.55	15.08	3.93	5.73	5.23	21.76	6.50	14.88
PCB #153	15.71	20.12	24.24	15.81	11.50	32.57	19.33	30.06	16.82
p,p'-DDT	12.88	0.00	6.61	0.00	2.23	19.19	0.00	0.00	0.00
PCB #180	4.56	2.52	1.03	0.00	0.69	0.00	0.00	0.00	0.00
PCB #138	0.00	3.31	19.04	0.00	4.01	28.08	0.00	0.00	0.00

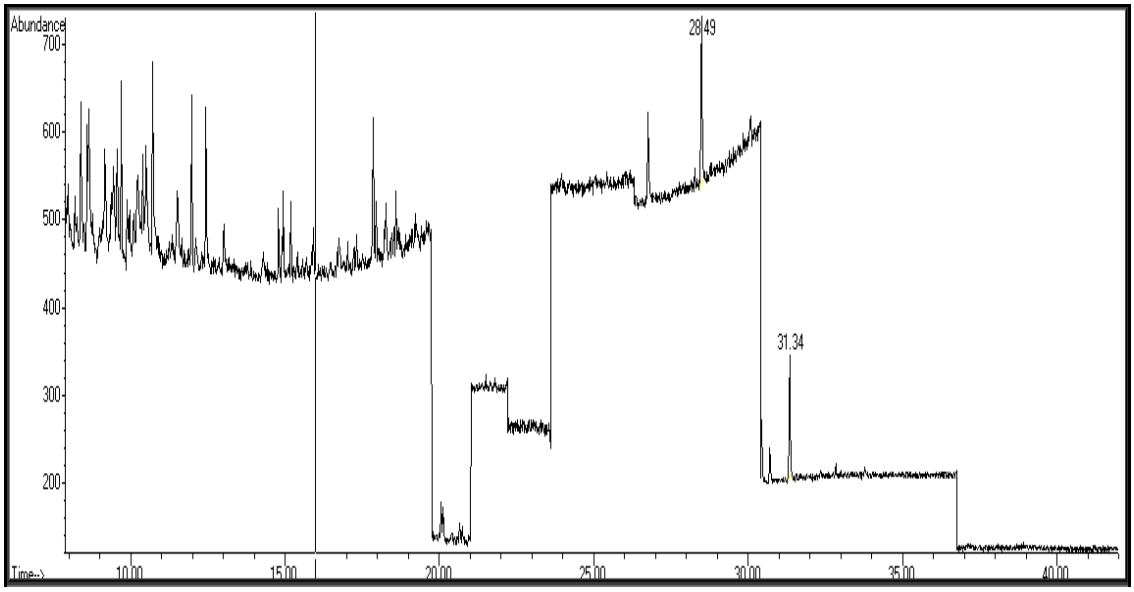
Placenta Concentrations
(l.w.)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
HCB	1.45	0.60	1.82	0.00	2.35	0.00	1.70	0.00	0.00
PCB #49	0.00	0.82	1.65	0.00	0.00	0.61	0.86	0.00	0.00
PCB #99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
trans-nonachlor	0.91	0.00	1.62	1.77	0.57	1.08	0.68	1.20	0.00
p,p'-DDE	54.94	110.47	47.50	33.89	17.67	49.42	59.80	86.24	47.00
PCB #118	0.00	1.72	0.00	0.00	0.00	1.00	0.00	0.00	0.00
PCB #153	4.21	5.68	5.62	3.66	4.44	7.18	7.76	1.60	2.11
p,p'-DDT	0.00	0.00	0.00	0.00	0.00	2.06	0.00	2.24	2.45
PCB #180	0.00	0.00	0.00	0.00	0.57	4.04	0.63	0.00	0.00
PCB #138	0.00	0.00	0.00	0.00	0.58	1.63	0.00	0.00	0.00

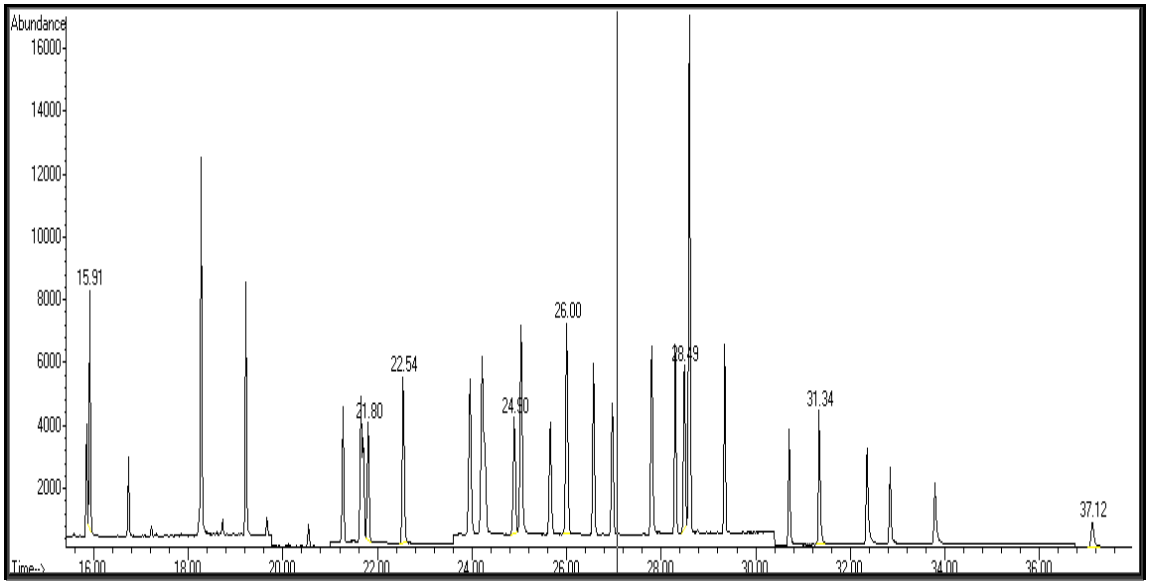
<u>Supplemental Material, Figure 1</u>: A representative Gas Chromatograph-Mass Spectrometer Selected Ion Mode chromatogram of the external calibration standard. Retention time data (minutes) are provided in Supplemental Material, Table 1.



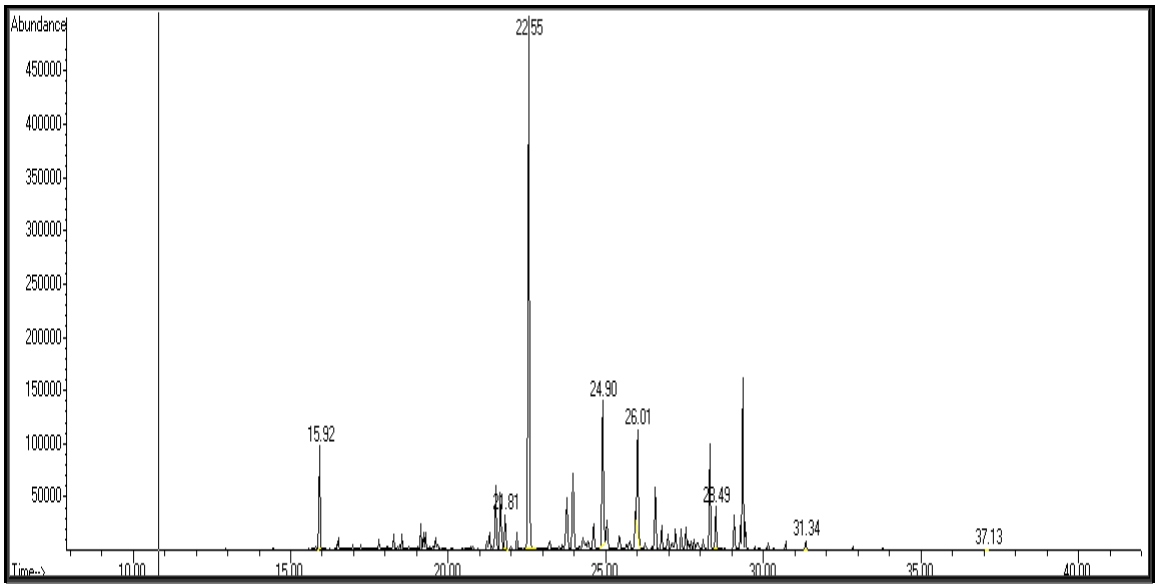
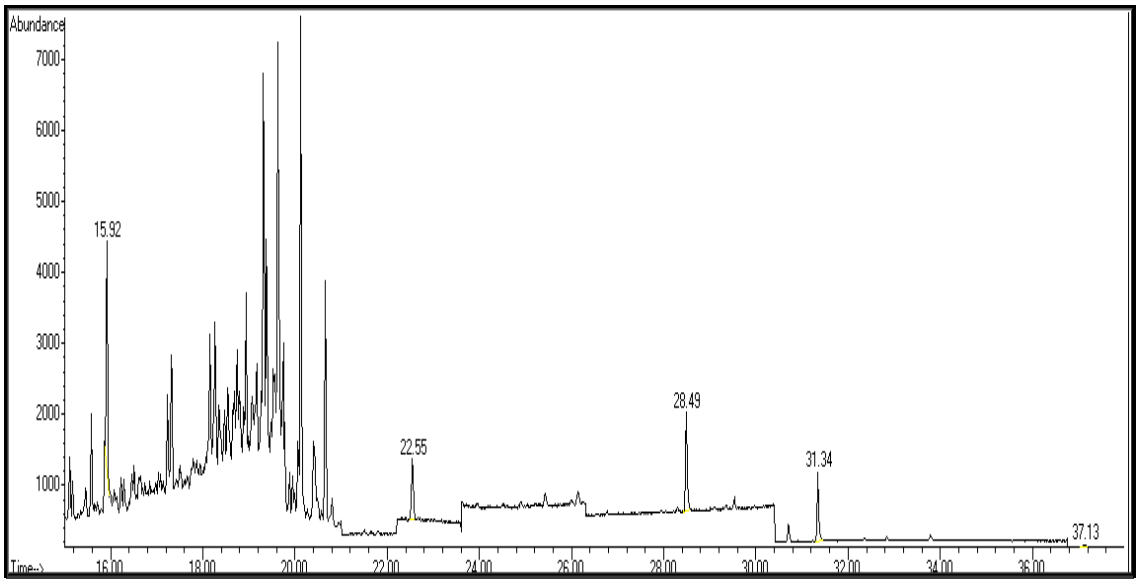
Supplemental Material, Figure 2: A representative Gas Chromatograph-Mass Spectrometer Selected Ion Mode chromatogram of the reagent blank extract. Retention time data (minutes) are provided in Supplemental Material, Table 1.



<u>Supplemental Material, Figure 3</u>: A representative Gas Chromatograph-Mass Spectrometer Selected Ion Mode chromatogram of the recovery sample (spiked corn oil) extract. Retention time data (minutes) are provided in Supplemental Material, Table 1. Mean recovery values and spiking levels are provided in Supplemental Material, Table 2.



<u>Supplemental Material, Figure 4</u>: A representative Gas Chromatograph-Mass Spectrometer Selected Ion Mode chromatogram of the Standard Reference Material extract (WMF-01, freeze dried fish tissue; Wellington Laboratory, Guelph, ON). Retention time data (minutes) are provided in Supplemental Material, Table 1.



Supplemental Material, Figure 5: A representative Gas Chromatograph-Mass Spectrometer Selected Ion Mode chromatogram of human fetal liver extract. Retention time data (minutes) are provided in Supplemental Material, Table 1.