

Supplemental Materials

Title: Children's Exposure to SVOCs Mixtures: The TESIE Study

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Supplemental Table S1: Selected demographic characteristics for children with available biospecimen in the TESIE Study.

Characteristic	TESIE		TESIE with Urine		TESIE with Serum	
	n=203		n=181		n=90	
	N	%	N	%	N	%
	or mean	or range	or mean	or range	or mean	or range
Child sex						
male	113	55.7%	99	54.7%	53	58.9%
female	90	44.3%	82	45.3%	37	41.1%
Child age						
months (mean and range)	53.9	38-73	53.9	38-73	53.7	38-73
Maternal race/ethnicity						
non-Hispanic white	84	41.4%	75	41.4%	42	46.7%
non-Hispanic black	75	36.9%	63	34.8%	37	41.1%
Hispanic white	41	20.2%	40	22.1%	9	10.0%
Other	3	1.5%	3	1.7%	2	2.2%
Maternal educational						
less than college graduate	113	55.7%	94	51.9%	47	52.2%
college graduate or more	90	44.3%	87	48.1%	43	47.8%
Average temperature during sample collection (mean and range)	15.5	-4.4-29.4	15.2	-4.4-29.4	17.7	-4.4-29.4
Season during sample collection						
winter	53	26.1%	49	27.1%	19	21.1%
spring	45	22.2%	33	18.2%	21	23.3%
summer	34	16.7%	31	17.1%	23	25.6%
fall	71	35.0%	68	37.6%	27	30.0%

Supplemental Table S2: Estimated multiplicative change in biomarker concentration.

Biomarker	Non-Hispanic Black		Hispanic		College Graduate		Male Child		Child Age (Months)		Average Outdoor	
	10 β (95% CI)	p-	10 β (95% CI)	p-value	10 β (95% CI)	p-	10 β (95% CI)	p-	10 β (95% CI)	p-	10 β (95% CI)	p-value
BCIPP	1.46 (0.89, 2.38)	0.13	1.14 (0.64, 2.03)	0.65	1.66 (1.02, 2.70)	0.04	1.05 (0.72, 1.52)	0.90	0.98 (0.95, 1.01)	0.12	1.02 (0.99, 1.04)	0.16
BCIPHIPP	1.30 (0.86, 1.95)	0.22	1.21 (0.65, 2.22)	0.55	0.68 (0.45, 1.02)	0.06	0.93 (0.69, 1.20)	0.54	1.02 (1.00, 1.04)	0.11	1.02 (1.00, 1.05)	0.02
BDCIPP	1.35 (0.89, 2.04)	0.15	0.93 (0.53, 1.63)	0.79	1.24 (0.82, 1.89)	0.31	0.88 (0.44, 1.21)	0.64	1.00 (0.97, 1.02)	0.89	1.06 (1.04, 1.08)	<0.0001
DPHP	0.99 (0.63, 1.56)	0.96	0.67 (0.39, 1.15)	0.15	0.77 (0.49, 1.20)	0.25	0.88 (0.65, 1.18)	0.39	1.01 (0.99, 1.03)	0.33	1.01 (0.99, 1.03)	0.23
ip-PPP	1.34 (0.90, 2.00)	0.15	1.15 (0.71, 1.85)	0.57	0.87 (0.59, 1.28)	0.48	1.10 (0.87, 1.39)	0.43	1.02 (1.00, 1.04)	0.05	1.02 (1.00, 1.04)	0.10
tb-PPP	0.77 (0.48, 1.24)	0.29	0.55 (0.31, 1.00)	0.05	0.55 (0.35, 0.85)	0.01	1.12 (0.81, 1.56)	0.47	1.06 (1.02, 1.09)	0.001	1.02 (0.99, 1.04)	0.16
2,4-DCP	1.49 (0.92, 2.44)	0.11	1.53 (0.89, 2.63)	0.12	0.57 (0.36, 0.92)	0.02	1.12 (0.74, 1.69)	0.61	1.01 (0.97, 1.04)	0.76	1.01 (0.99, 1.04)	0.35
2,5-DCP	5.06 (2.29, 11.15)	<.0001	3.82 (1.35, 10.85)	0.01	0.17 (0.08, 0.38)	<.0001	1.36 (0.75, 2.50)	0.30	1.02 (0.97, 1.07)	0.52	1.00 (0.97, 1.04)	0.82
BP-3	0.25 (0.13, 0.47)	<.0001	0.36 (0.19, 0.69)	0.002	2.69 (1.45, 4.98)	0.002	1.20 (0.76, 1.90)	0.43	1.01 (0.98, 1.05)	0.51	1.08 (1.04, 1.11)	<.0001
BPA	1.53 (1.12, 2.09)	0.01	1.19 (0.85, 1.65)	0.31	0.72 (0.54, 0.97)	0.03	0.75 (0.59, 0.96)	0.02	1.02 (0.99, 1.05)	0.22	1.03 (1.01, 1.04)	0.0003
BPS	2.53 (1.42, 4.49)	0.002	2.83 (1.61, 4.98)	0.0003	0.91 (0.56, 1.46)	0.68	0.84 (0.58, 1.22)	0.11	0.99 (0.96, 1.02)	0.57	1.01 (0.99, 1.04)	0.38
E-PB	3.59 (1.59, 8.13)	0.01	0.42 (0.16, 1.14)	0.09	1.08 (0.49, 2.35)	0.86	0.93 (0.45, 1.91)	0.26	0.97 (0.93, 1.01)	0.17	1.06 (1.00, 1.12)	0.03
M-PB	5.87 (2.44, 14.13)	<.0001	2.01 (0.69, 5.83)	0.20	1.13 (0.52, 2.48)	0.75	0.93 (0.54, 1.60)	0.80	0.98 (0.93, 1.02)	0.34	1.06 (1.02, 1.10)	0.002
P-PB	4.21 (1.79, 9.91)	0.001	1.63 (0.63, 4.23)	0.32	1.09 (0.51, 2.35)	0.82	0.91 (0.55, 1.50)	0.71	0.99 (0.94, 1.03)	0.59	1.04 (1.00, 1.07)	0.03
TCS	1.00 (0.54, 1.84)	0.99	0.55 (0.27, 1.12)	0.10	1.52 (0.86, 2.70)	0.15	0.98 (0.60, 1.60)	0.94	0.99 (0.96, 1.03)	0.59	0.99 (0.96, 1.02)	0.43
MEP	1.98 (1.31, 3.01)	0.001	1.16 (0.71, 1.90)	0.55	0.37 (0.25, 0.55)	<.0001	1.04 (0.80, 1.35)	0.78	1.00 (0.98, 1.03)	0.82	1.02 (1.01, 1.04)	0.01
MBP	1.07 (0.74, 1.54)	0.73	0.83 (0.53, 1.29)	0.41	0.64 (0.45, 0.92)	0.02	0.94 (0.76, 1.16)	0.57	1.02 (1.00, 1.04)	0.02	1.00 (0.99, 1.02)	0.66
MNP	1.65 (0.96, 2.83)	0.07	1.30 (0.64, 2.66)	0.47	0.62 (0.37, 1.06)	0.08	0.82 (0.55, 1.23)	0.35	1.03 (1.01, 1.05)	0.005	0.99 (0.96, 1.02)	0.39
MHBP	1.46 (1.08, 1.98)	0.01	1.24 (0.87, 1.77)	0.24	0.86 (0.63, 1.19)	0.38	0.82 (0.66, 1.02)	0.07	1.00 (0.99, 1.02)	0.62	1.01 (1.00, 1.03)	0.15
MHIBP	1.48 (1.10, 2.00)	0.01	1.17 (0.79, 1.74)	0.43	0.77 (0.56, 1.06)	0.11	0.85 (0.69, 1.06)	0.15	1.01 (0.99, 1.02)	0.58	1.01 (1.00, 1.03)	0.06
MiBP	1.63 (0.81, 3.30)	0.17	0.73 (0.30, 1.81)	0.50	0.54 (0.27, 1.08)	0.08	1.03 (0.72, 1.46)	0.87	1.03 (0.99, 1.06)	0.14	0.99 (0.97, 1.02)	0.57
MBzP	1.11 (0.75, 1.65)	0.60	1.01 (0.58, 1.78)	0.96	0.91 (0.60, 1.38)	0.67	0.97 (0.74, 1.27)	0.82	0.99 (0.97, 1.01)	0.36	0.99 (0.98, 1.01)	0.54
MCPP	1.10 (0.74, 1.65)	0.62	0.97 (0.74, 1.28)	0.85	0.92 (0.61, 1.40)	0.71	0.97 (0.74, 1.28)	0.85	1.01 (0.98, 1.04)	0.56	0.99 (0.98, 1.01)	0.54
MEHP	1.46 (1.08, 1.98)	0.01	1.24 (0.87, 1.77)	0.24	0.86 (0.63, 1.19)	0.38	0.82 (0.66, 1.02)	0.07	1.01 (0.99, 1.04)	0.21	1.01 (1.00, 1.03)	0.15
MEOHP	1.30 (0.97, 1.75)	0.07	1.28 (0.92, 1.79)	0.15	0.97 (0.73, 1.29)	0.86	0.96 (0.75, 1.22)	0.73	1.02 (0.99, 1.04)	0.20	1.02 (1.00, 1.03)	0.02
MEHHP	1.13 (0.89, 1.44)	0.30	1.36 (1.03, 1.78)	0.03	0.93 (0.74, 1.18)	0.55	0.99 (0.81, 1.23)	0.96	1.01 (0.99, 1.03)	0.27	1.01 (1.00, 1.02)	0.07
MECPP	1.42 (0.95, 2.11)	0.09	1.53 (0.89, 2.62)	0.12	1.33 (0.87, 2.02)	0.19	0.98 (0.73, 1.31)	0.88	0.99 (0.96, 1.01)	0.36	0.99 (0.97, 1.01)	0.16
MCOP	1.57 (1.14, 2.17)	0.01	1.17 (0.80, 1.70)	0.42	1.29 (0.94, 1.76)	0.12	1.16 (0.92, 1.48)	0.22	1.02 (1.00, 1.05)	0.05	0.99 (0.97, 1.00)	0.16
MCNP	1.13 (0.74, 1.72)	0.58	0.74 (0.46, 1.21)	0.23	0.69 (0.44, 1.08)	0.10	0.92 (0.69, 1.23)	0.59	1.00 (0.97, 1.03)	0.94	1.01 (0.99, 1.02)	0.57
MHINCH	1.11 (0.71, 1.72)	0.65	0.73 (0.44, 1.20)	0.22	0.69 (0.44, 1.08)	0.11	0.94 (0.70, 1.28)	0.71	0.99 (0.97, 1.02)	0.46	1.01 (0.99, 1.02)	0.60
MCOCH	0.95 (0.61, 1.47)	0.81	0.79 (0.49, 1.27)	0.33	0.66 (0.43, 1.03)	0.07	0.97 (0.72, 1.31)	0.84	1.01 (0.99, 1.02)	0.25	1.01 (0.99, 1.03)	0.28
PFDA	1.72 (0.95, 3.14)	0.08	3.76 (2.00, 7.04)	<0.0001	0.91 (0.48, 1.7)	0.76	1.15 (0.75, 1.75)	0.51	1.01 (1.00, 1.03)	0.17	1.04 (1.02, 1.07)	0.0003
PFHxS	0.73 (0.49, 1.08)	0.12	0.89 (0.60, 1.32)	0.57	1.30 (0.88, 1.92)	0.19	0.93 (0.71, 1.23)	0.61	1.00 (0.99, 1.02)	0.83	0.99 (0.98, 1.01)	0.60
PFNA	0.91 (0.70, 1.18)	0.48	0.87 (0.66, 1.13)	0.30	1.12 (0.87, 1.45)	0.37	0.75 (0.62, 0.92)	0.01	1.00 (0.98, 1.02)	0.90	0.99 (0.98, 1.00)	0.06
Sm-PFOS	0.74 (0.51, 1.08)	0.11	0.87 (0.59, 1.26)	0.45	1.35 (0.93, 1.94)	0.11	1.02 (0.80, 1.28)	0.90	1.01 (0.99, 1.02)	0.27	1.00 (0.98, 1.02)	0.99
n-PFOS	0.71 (0.50, 1.01)	0.06	1.01 (0.61, 1.66)	0.97	1.05 (0.72, 1.55)	0.80	0.91 (0.70, 1.02)	0.51	1.01 (0.99, 1.02)	0.27	0.99 (0.97, 1.00)	0.16
n-PFOA	0.73 (0.50, 1.06)	0.09	1.03 (0.62, 1.72)	0.90	1.00 (0.66, 1.53)	0.99	0.86 (0.62, 1.19)	0.37	1.00 (0.98, 1.02)	0.90	0.99 (0.98, 1.00)	0.13

Reference category for categorical variables: race and ethnicity=non-Hispanic white; education=less than college graduate; sex=female.

Supplemental Table S3: Spearman correlations between biomarkers. P<0.05 shaded and bolded.

	BCIPP	BCIPHIPP	BDCIPP	DPHP	ip-PPP	tb-PPP	2,4-DCP	2,5-DCP	BP-3	BPA	BPS	E-PB	M-PB	P-PB	TCS
BCIPP	1.00	0.14	0.32	0.00	-0.11	-0.17	0.03	-0.04	0.20	-0.01	-0.07	0.17	0.07	0.07	0.13
BCIPHIPP	0.14	1.00	0.02	0.12	0.27	0.07	0.09	0.24	-0.16	0.09	0.12	0.01	-0.01	-0.05	-0.06
BDCIPP	0.32	0.02	1.00	0.14	0.06	0.01	0.09	-0.01	0.23	0.30	0.03	0.23	0.22	0.17	0.14
DPHP	0.00	0.12	0.14	1.00	0.29	0.49	0.16	0.17	-0.02	0.24	0.06	0.11	0.15	0.11	0.08
ip-PPP	-0.11	0.27	0.06	0.29	1.00	0.26	0.01	0.24	-0.09	0.20	0.04	-0.04	0.03	0.00	-0.16
tb-PPP	-0.17	0.07	0.01	0.49	0.26	1.00	0.19	0.23	-0.06	0.22	0.15	-0.04	0.08	0.09	-0.01
2,4-DCP	0.03	0.09	0.09	0.16	0.01	0.19	1.00	0.65	-0.12	0.23	0.24	0.07	0.11	0.05	0.19
2,5-DCP	-0.04	0.24	-0.01	0.17	0.24	0.23	0.65	1.00	-0.43	0.28	0.26	0.01	0.15	0.15	-0.20
BP-3	0.20	-0.16	0.23	-0.02	-0.09	-0.06	-0.12	-0.43	1.00	-0.09	-0.20	0.14	-0.07	-0.07	0.15
BPA	-0.01	0.09	0.30	0.24	0.20	0.22	0.23	0.28	-0.09	1.00	0.27	0.23	0.29	0.26	0.01
BPS	-0.07	0.12	0.03	0.06	0.04	0.15	0.24	0.26	-0.20	0.27	1.00	-0.10	0.10	0.13	-0.06
E-PB	0.17	0.01	0.23	0.11	-0.04	-0.04	0.07	0.01	0.14	0.23	-0.10	1.00	0.54	0.42	0.03
M-PB	0.07	-0.01	0.22	0.15	0.03	0.08	0.11	0.15	-0.07	0.29	0.10	0.54	1.00	0.81	0.05
P-PB	0.07	-0.05	0.17	0.11	0.00	0.09	0.05	0.15	-0.07	0.26	0.13	0.42	0.81	1.00	-0.08
TCS	0.13	-0.06	0.14	0.08	-0.16	-0.01	0.19	-0.20	0.15	0.01	-0.06	0.03	0.05	-0.08	1.00
MEP	-0.05	0.25	0.19	0.23	0.16	0.24	0.32	0.53	-0.26	0.41	0.29	0.29	0.38	0.34	-0.06
MBP	0.02	0.09	0.23	0.31	0.06	0.23	0.29	0.37	-0.14	0.30	0.22	0.21	0.22	0.30	-0.09
MNP	0.12	-0.09	0.17	-0.04	-0.17	0.03	0.08	-0.01	0.01	0.14	0.08	-0.01	0.01	0.05	0.04
MHBP	-0.09	0.05	0.07	0.26	-0.04	0.18	0.19	0.34	-0.15	0.26	0.20	0.09	0.14	0.20	-0.12
MHIBP	0.12	0.05	0.17	0.28	0.13	0.10	0.15	0.27	-0.08	0.34	0.21	0.17	0.25	0.24	-0.12
MiBP	0.12	0.13	0.17	0.31	0.18	0.18	0.23	0.35	-0.13	0.34	0.21	0.17	0.25	0.26	-0.10
MBzP	0.03	0.10	0.22	0.33	0.05	0.16	0.18	0.31	-0.15	0.35	0.21	0.16	0.16	0.22	-0.09
MCPP	0.11	-0.05	0.23	0.08	-0.06	0.17	0.18	0.09	0.06	0.35	0.27	0.05	0.10	0.15	0.05
MEHP	0.03	-0.18	0.06	0.26	-0.10	0.28	0.15	0.08	-0.06	0.22	0.25	0.01	0.11	0.21	0.04
MEOHP	0.07	-0.15	0.27	0.31	0.02	0.24	0.28	0.21	0.03	0.37	0.34	0.07	0.17	0.26	0.01
MEHHP	0.04	-0.14	0.23	0.32	0.01	0.27	0.26	0.23	-0.05	0.37	0.35	0.06	0.18	0.27	-0.03
MECPP	-0.01	-0.17	0.22	0.28	0.07	0.22	0.28	0.22	0.01	0.38	0.36	0.01	0.15	0.18	0.03
MCOP	0.11	-0.15	0.26	-0.04	-0.06	0.08	0.13	0.02	0.07	0.24	0.20	-0.01	0.03	0.07	0.11
MCNP	0.11	-0.03	0.21	0.12	0.07	0.17	0.19	0.14	0.00	0.32	0.28	0.08	0.10	0.14	0.14
MHINCH	0.03	0.08	0.29	0.18	0.04	0.18	0.19	0.19	-0.02	0.39	0.12	0.18	0.12	0.08	0.00
MCOCH	0.02	0.09	0.26	0.14	0.05	0.13	0.11	0.11	0.03	0.34	0.10	0.13	0.06	0.00	0.03
PFDA	-0.34	0.24	0.12	0.16	0.27	0.33	0.25	0.30	0.01	0.15	0.18	0.08	0.17	0.11	-0.12
PFHxS	-0.17	-0.17	0.00	-0.17	-0.05	-0.12	-0.09	-0.26	0.10	-0.11	-0.08	-0.14	-0.05	-0.10	0.02
PFNA	-0.20	-0.11	-0.06	0.07	-0.03	0.17	-0.10	-0.14	0.01	0.17	0.16	-0.30	-0.21	-0.13	-0.14
Sm-PFOS	-0.09	-0.28	0.03	-0.24	-0.13	-0.20	-0.13	-0.26	0.16	-0.28	-0.05	-0.18	-0.09	-0.11	-0.01
n-PFOS	-0.22	-0.22	-0.08	-0.26	-0.13	-0.16	-0.16	-0.26	0.03	-0.20	0.05	-0.29	-0.14	-0.16	-0.01
n-PFOA	-0.26	-0.15	-0.06	-0.22	-0.16	-0.10	-0.05	-0.26	0.15	-0.15	-0.04	-0.22	-0.17	-0.20	-0.07

Supplemental Table S3 (continued): Spearman correlations between biomarkers. P<0.05 shaded and bolded.

	MEP	MBP	MNP	MHBP	MHIBP	MiBP	MBzP	MCPP	MEHP	MEOHP	MEHHP	MECPP	MCOP	MCNP	MHINCH
BCIPP	-0.05	0.02	0.12	-0.09	0.12	0.12	0.03	0.11	0.03	0.07	0.04	-0.01	0.11	0.11	0.03
BCIPHIPP	0.25	0.09	-0.09	0.05	0.05	0.13	0.10	-0.05	-0.18	-0.15	-0.14	-0.17	-0.15	-0.03	0.08
BDCIPP	0.19	0.23	0.17	0.07	0.17	0.17	0.22	0.23	0.06	0.27	0.23	0.22	0.26	0.21	0.29
DPHP	0.23	0.31	-0.04	0.26	0.28	0.31	0.33	0.08	0.26	0.31	0.32	0.28	-0.04	0.12	0.18
ip-PPP	0.16	0.06	-0.17	-0.04	0.13	0.18	0.05	-0.06	-0.10	0.02	0.01	0.07	-0.06	0.07	0.04
tb-PPP	0.24	0.23	0.03	0.18	0.10	0.18	0.16	0.17	0.28	0.24	0.27	0.22	0.08	0.17	0.18
2,4-DCP	0.32	0.29	0.08	0.19	0.15	0.23	0.18	0.18	0.15	0.28	0.26	0.28	0.13	0.19	0.19
2,5-DCP	0.53	0.37	-0.01	0.34	0.27	0.35	0.31	0.09	0.08	0.21	0.23	0.22	0.02	0.14	0.19
BP-3	-0.26	-0.14	0.01	-0.15	-0.08	-0.13	-0.15	0.06	-0.06	0.03	-0.05	0.01	0.07	0.00	-0.02
BPA	0.41	0.30	0.14	0.26	0.34	0.34	0.35	0.35	0.22	0.37	0.37	0.38	0.24	0.32	0.39
BPS	0.29	0.22	0.08	0.20	0.21	0.21	0.21	0.27	0.25	0.34	0.35	0.36	0.20	0.28	0.12
E-PB	0.29	0.21	-0.01	0.09	0.17	0.17	0.16	0.05	0.01	0.07	0.06	0.01	-0.01	0.08	0.18
M-PB	0.38	0.22	0.01	0.14	0.25	0.25	0.16	0.10	0.11	0.17	0.18	0.15	0.03	0.10	0.12
P-PB	0.34	0.30	0.05	0.20	0.24	0.26	0.22	0.15	0.21	0.26	0.27	0.18	0.07	0.14	0.08
TCS	-0.06	-0.09	0.04	-0.12	-0.12	-0.10	-0.09	0.05	0.04	0.01	-0.03	0.03	0.11	0.14	0.00
MEP	1.00	0.53	-0.07	0.44	0.41	0.49	0.46	0.16	0.15	0.30	0.32	0.30	0.00	0.18	0.22
MBP	0.53	1.00	0.05	0.79	0.51	0.62	0.76	0.32	0.30	0.51	0.52	0.41	0.14	0.28	0.26
MNP	-0.07	0.05	1.00	0.03	0.10	0.08	0.10	0.60	0.44	0.28	0.27	0.30	0.74	0.40	0.07
MHBP	0.44	0.79	0.03	1.00	0.58	0.57	0.65	0.28	0.26	0.39	0.43	0.38	0.11	0.25	0.19
MHIBP	0.41	0.51	0.10	0.58	1.00	0.89	0.40	0.35	0.21	0.37	0.39	0.39	0.21	0.31	0.24
MiBP	0.49	0.62	0.08	0.57	0.89	1.00	0.44	0.31	0.28	0.43	0.45	0.39	0.16	0.29	0.27
MBzP	0.46	0.76	0.10	0.65	0.40	0.44	1.00	0.28	0.32	0.42	0.45	0.32	0.16	0.26	0.31
MCPP	0.16	0.32	0.60	0.28	0.35	0.31	0.28	1.00	0.36	0.49	0.48	0.56	0.77	0.61	0.20
MEHP	0.15	0.30	0.44	0.26	0.21	0.28	0.32	0.36	1.00	0.68	0.71	0.61	0.31	0.29	0.08
MEOHP	0.30	0.51	0.28	0.39	0.37	0.43	0.42	0.49	0.68	1.00	0.98	0.90	0.30	0.36	0.20
MEHHP	0.32	0.52	0.27	0.43	0.39	0.45	0.45	0.48	0.71	0.98	1.00	0.90	0.31	0.37	0.19
MECPP	0.30	0.41	0.30	0.38	0.39	0.39	0.32	0.56	0.61	0.90	0.90	1.00	0.41	0.45	0.23
MCOP	0.00	0.14	0.74	0.11	0.21	0.16	0.16	0.77	0.31	0.30	0.31	0.41	1.00	0.61	0.15
MCNP	0.18	0.28	0.40	0.25	0.31	0.29	0.26	0.61	0.29	0.36	0.37	0.45	0.61	1.00	0.27
MHINCH	0.22	0.26	0.07	0.19	0.24	0.27	0.31	0.20	0.08	0.20	0.19	0.23	0.15	0.27	1.00
MCOCH	0.15	0.16	0.07	0.13	0.23	0.21	0.21	0.17	0.01	0.13	0.11	0.20	0.13	0.25	0.93
PFDA	0.34	0.07	-0.19	0.13	0.02	0.05	0.01	-0.01	-0.03	0.06	0.06	0.08	-0.20	-0.02	0.10
PFHxS	-0.36	-0.23	0.15	-0.21	-0.10	-0.22	-0.25	-0.06	-0.05	-0.06	-0.05	-0.03	0.11	-0.08	-0.17
PFNA	-0.22	-0.07	0.34	0.02	0.00	-0.06	-0.01	0.25	0.20	0.11	0.13	0.09	0.22	0.02	0.09
Sm-PFOS	-0.31	-0.25	0.04	-0.18	-0.10	-0.23	-0.21	-0.17	-0.05	-0.07	-0.08	-0.05	0.04	-0.14	-0.18
n-PFOS	-0.25	-0.24	0.00	-0.15	-0.14	-0.25	-0.20	-0.12	-0.01	-0.10	-0.10	-0.07	-0.03	-0.19	-0.15
n-PFOA	-0.35	-0.29	-0.01	-0.18	-0.25	-0.33	-0.33	-0.06	-0.10	-0.05	-0.07	-0.02	-0.01	-0.21	-0.10

Supplemental Table S3 (continued): Spearman correlations between biomarkers. P<0.05 shaded and bolded.

	MCOCH	PFDeA	PFHxS	PFNA2	Sm-PFOS	n-PFOS	n-PFOA
BCIPP	0.02	-0.34	-0.17	-0.20	-0.09	-0.22	-0.26
BCIPHIPP	0.09	0.24	-0.17	-0.11	-0.28	-0.22	-0.15
BDCIPP	0.26	0.12	0.00	-0.06	0.03	-0.08	-0.06
DPHP	0.14	0.16	-0.17	0.07	-0.24	-0.26	-0.22
ip-PPP	0.05	0.27	-0.05	-0.03	-0.13	-0.13	-0.16
tb-PPP	0.13	0.33	-0.12	0.17	-0.20	-0.16	-0.10
2,4-DCP	0.11	0.25	-0.09	-0.10	-0.13	-0.16	-0.05
2,5-DCP	0.11	0.30	-0.26	-0.14	-0.26	-0.26	-0.26
BP-3	0.03	0.01	0.10	0.01	0.16	0.03	0.15
BPA	0.34	0.15	-0.11	0.17	-0.28	-0.20	-0.15
BPS	0.10	0.18	-0.08	0.16	-0.05	0.05	-0.04
E-PB	0.13	0.08	-0.14	-0.30	-0.18	-0.29	-0.22
M-PB	0.06	0.17	-0.05	-0.21	-0.09	-0.14	-0.17
P-PB	0.00	0.11	-0.10	-0.13	-0.11	-0.16	-0.20
TCS	0.03	-0.12	0.02	-0.14	-0.01	-0.01	-0.07
MEP	0.15	0.34	-0.36	-0.22	-0.31	-0.25	-0.35
MBP	0.16	0.07	-0.23	-0.07	-0.25	-0.24	-0.29
MNP	0.07	-0.19	0.15	0.34	0.04	0.00	-0.01
MHBP	0.13	0.13	-0.21	0.02	-0.18	-0.15	-0.18
MHIBP	0.23	0.02	-0.10	0.00	-0.10	-0.14	-0.25
MiBP	0.21	0.05	-0.22	-0.06	-0.23	-0.25	-0.33
MBzP	0.21	0.01	-0.25	-0.01	-0.21	-0.20	-0.33
MCPP	0.17	-0.01	-0.06	0.25	-0.17	-0.12	-0.06
MEHP	0.01	-0.03	-0.05	0.20	-0.05	-0.01	-0.10
MEOHP	0.13	0.06	-0.06	0.11	-0.07	-0.10	-0.05
MEHHP	0.11	0.06	-0.05	0.13	-0.08	-0.10	-0.07
MECPP	0.20	0.08	-0.03	0.09	-0.05	-0.07	-0.02
MCOP	0.13	-0.20	0.11	0.22	0.04	-0.03	-0.01
MCNP	0.25	-0.02	-0.08	0.02	-0.14	-0.19	-0.21
MHINCH	0.93	0.10	-0.17	0.09	-0.18	-0.15	-0.10
MCOCH	1.00	0.10	-0.15	0.05	-0.13	-0.13	-0.10
PFDA	0.10	1.00	-0.12	0.08	-0.13	-0.04	0.08
PFHxS	-0.15	-0.12	1.00	0.37	0.77	0.69	0.65
PFNA	0.05	0.08	0.37	1.00	0.32	0.42	0.52
Sm-PFOS	-0.13	-0.13	0.77	0.32	1.00	0.85	0.70
n-PFOS	-0.13	-0.04	0.69	0.42	0.85	1.00	0.70
n-PFOA	-0.10	0.08	0.65	0.52	0.70	0.70	1.00