

Supplementary Online Content

Ouidir M, Buck Louis GM, Kanner J, et al. Association of maternal exposure to persistent organic pollutants in early pregnancy with fetal growth. *JAMA Pediatr*. Published online December 30, 2019. doi:10.1001/jamapediatrics.2019.5104

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eTable 18. Association Between EDCs and Longitudinal Estimated Fetal Growth Using a Generalized Additive Mixed Model, NICHD Fetal Growth Studies – Singletons (n=2,284)

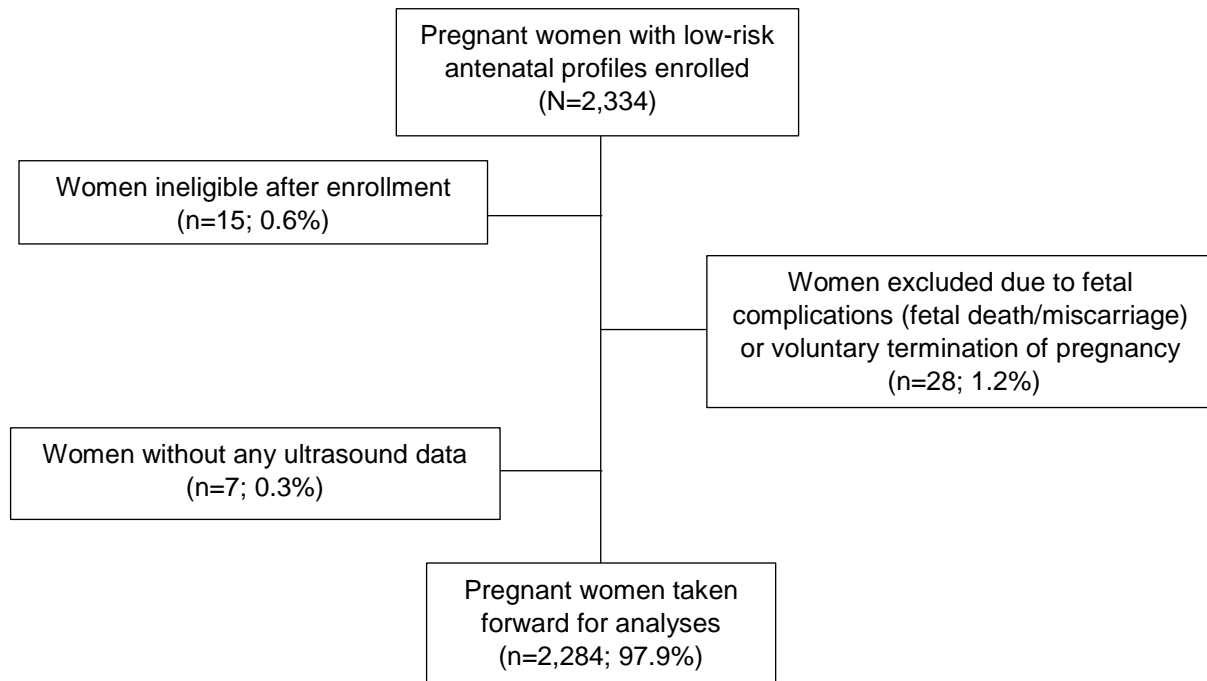
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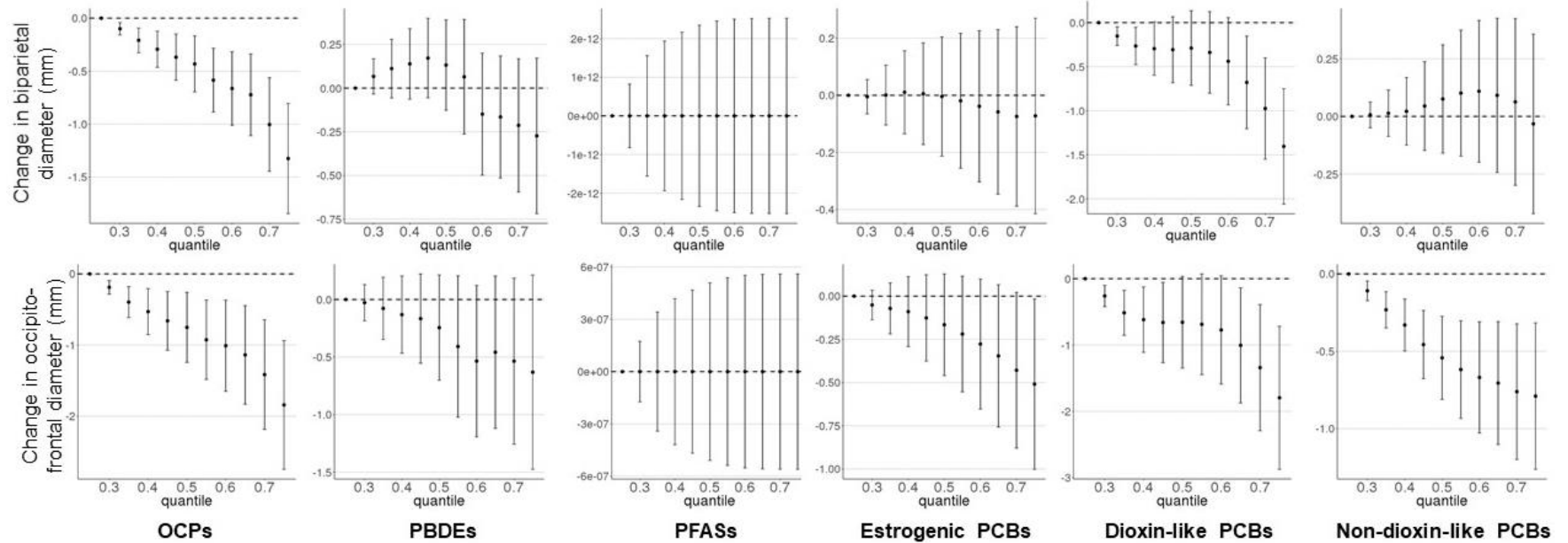
eTable 21. Association Between EDCs and Longitudinal Outer Orbit Diameter Using a Generalized Additive Mixed Model, NICHD Fetal Growth Studies – Singletons (n=2,284)

This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure 1: Flowchart, NICHD Fetal Growth Studies – Singletons (n=2,284).

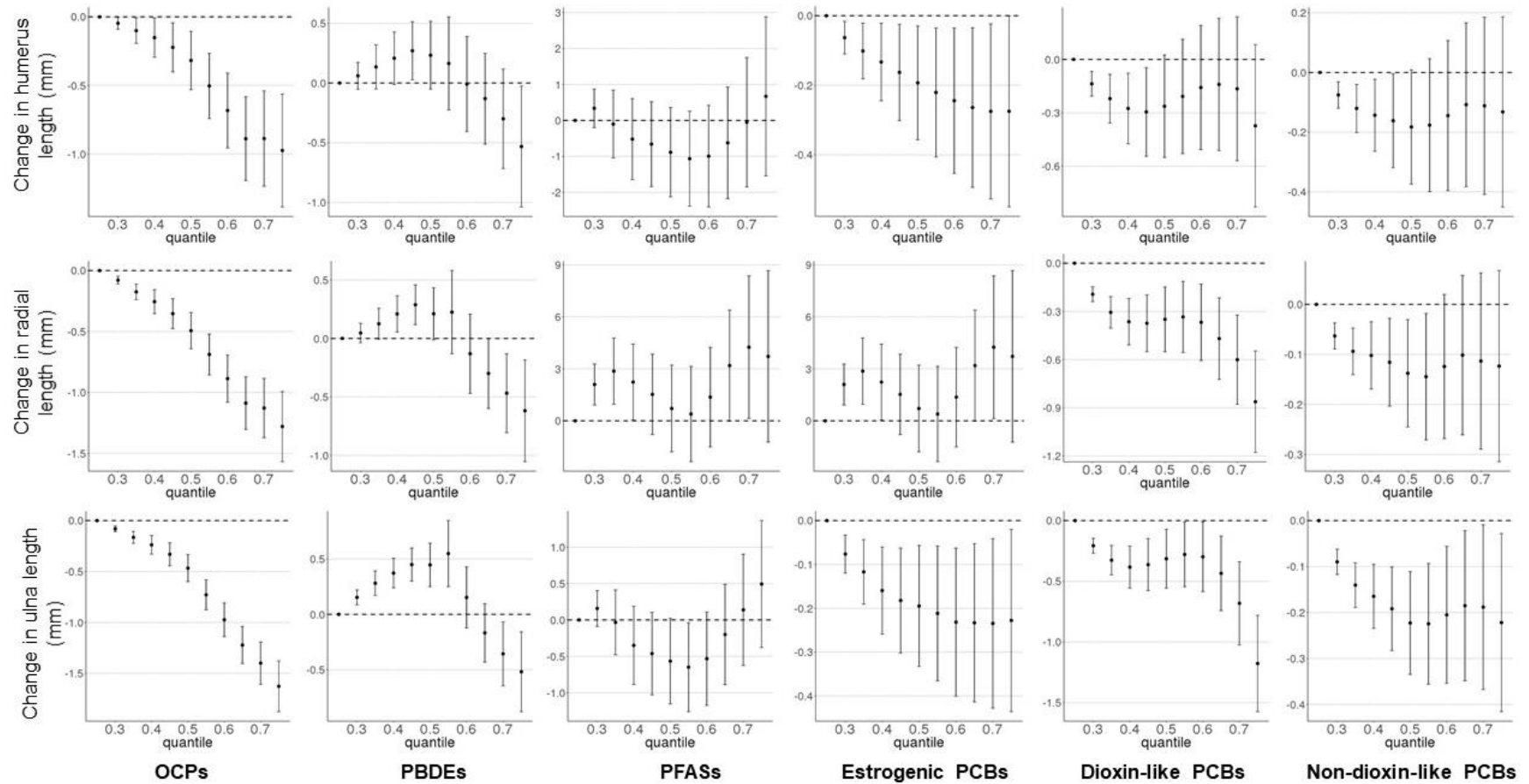


eFigure 2: Changes in head measurements for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



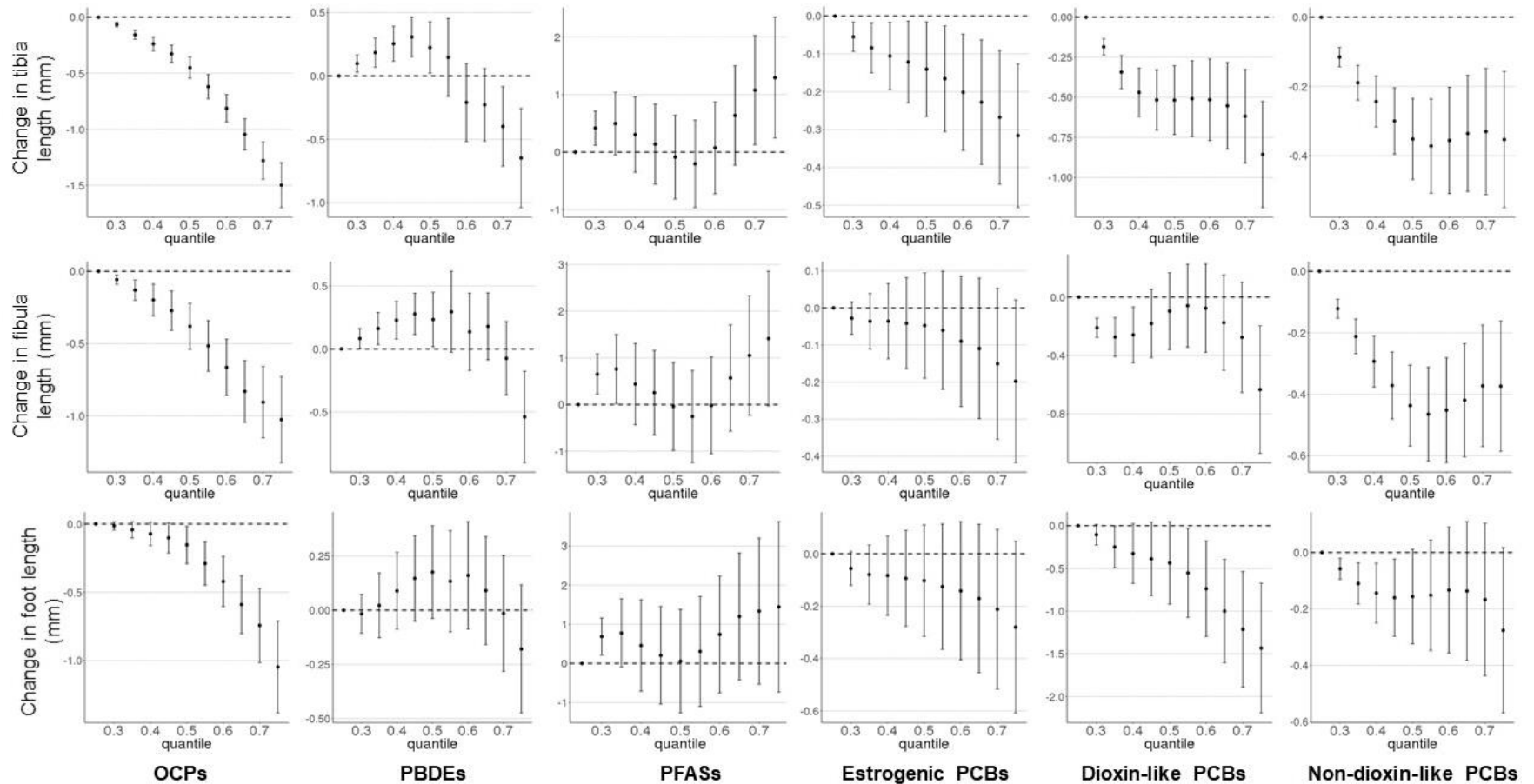
The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eFigure 3: Changes in arm measurements for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



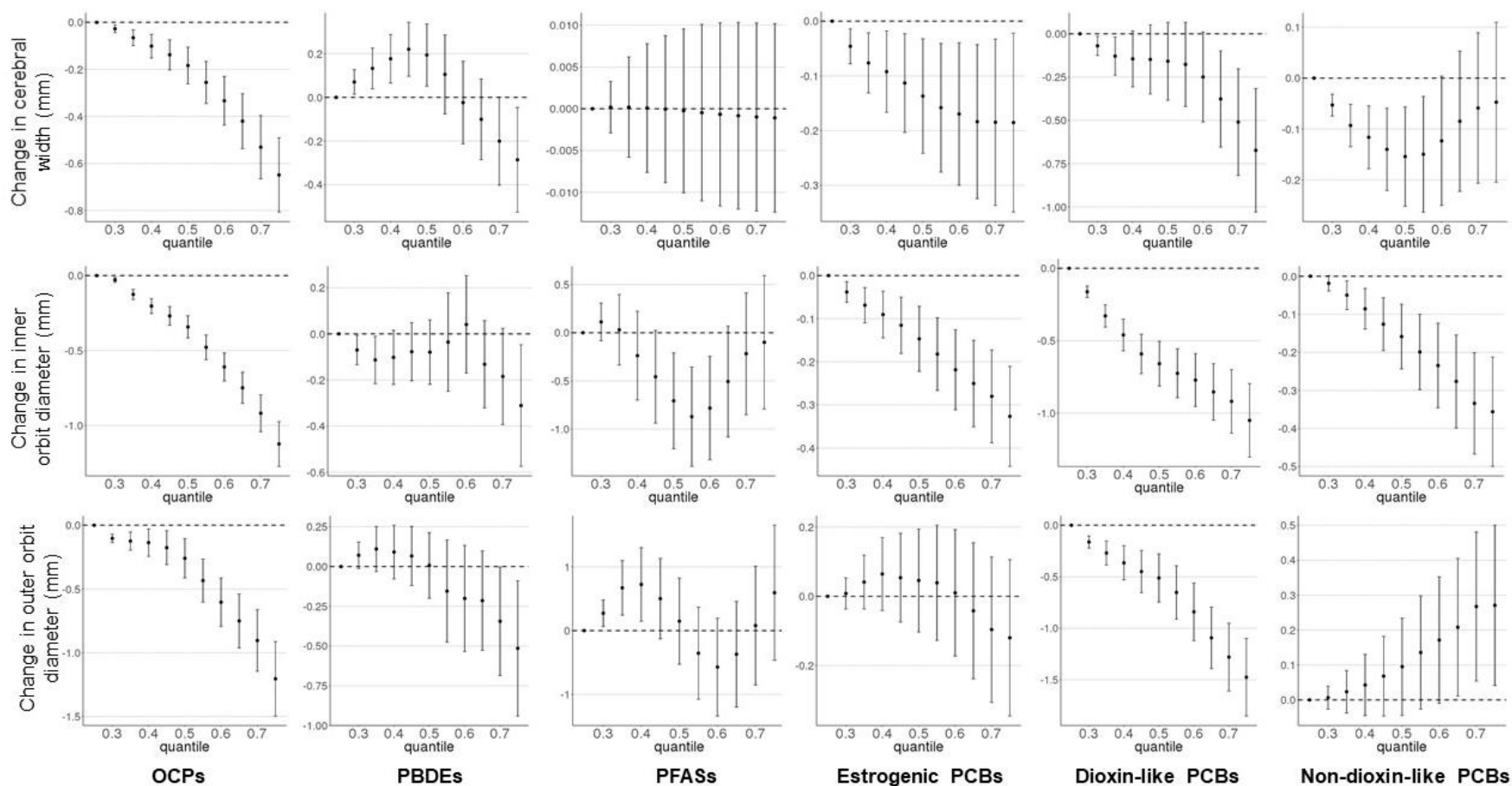
The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eFigure 4: Changes in leg measurements for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



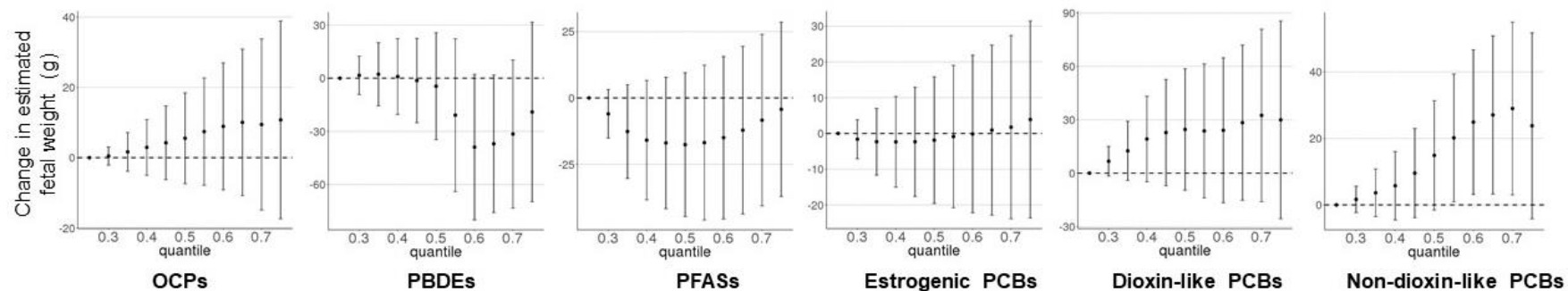
The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eFigure 5: Changes in cerebral width, inner orbit diameter and outer orbit diameter for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



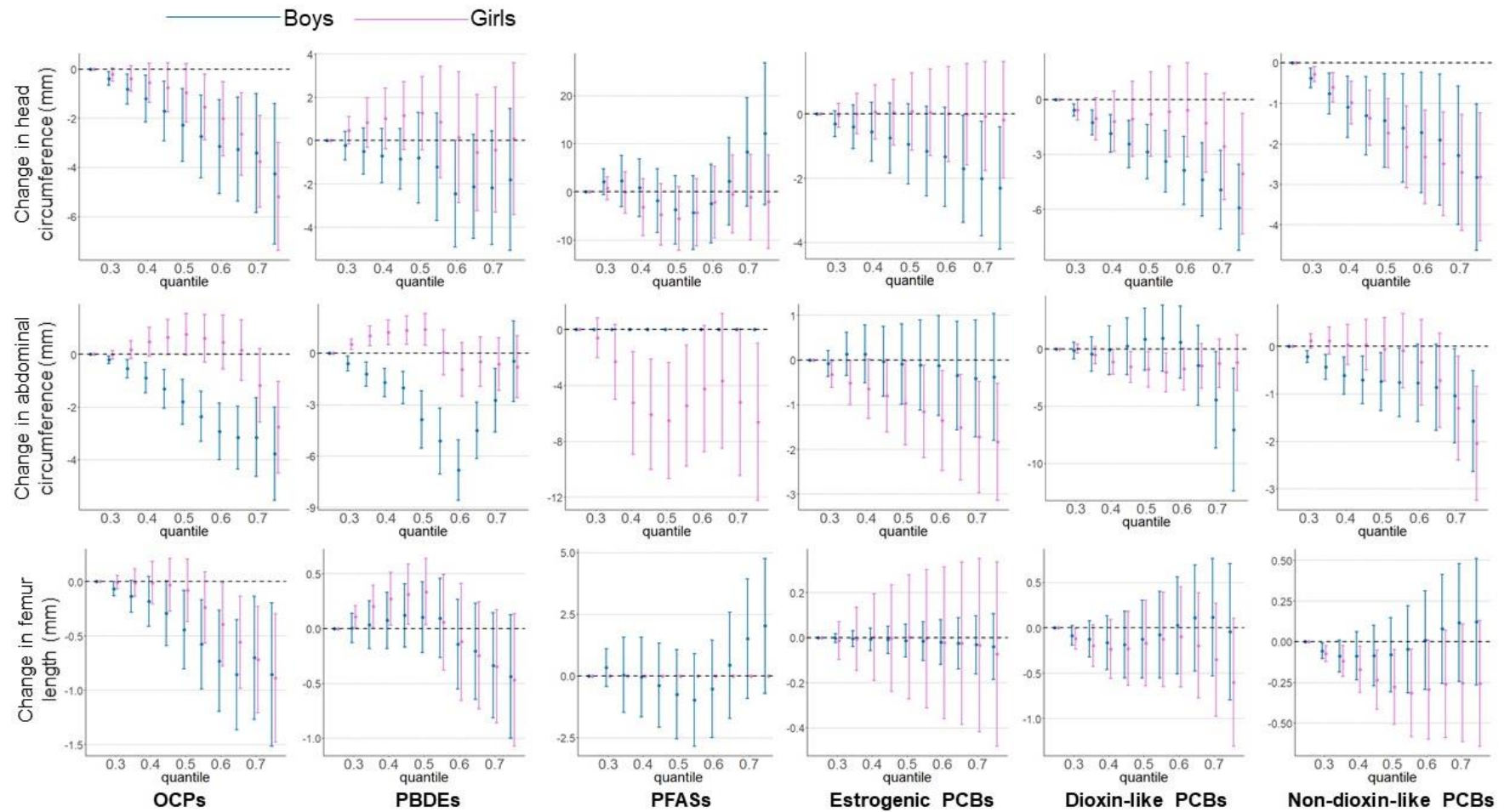
The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eFigure 6: Changes in estimated fetal weight for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



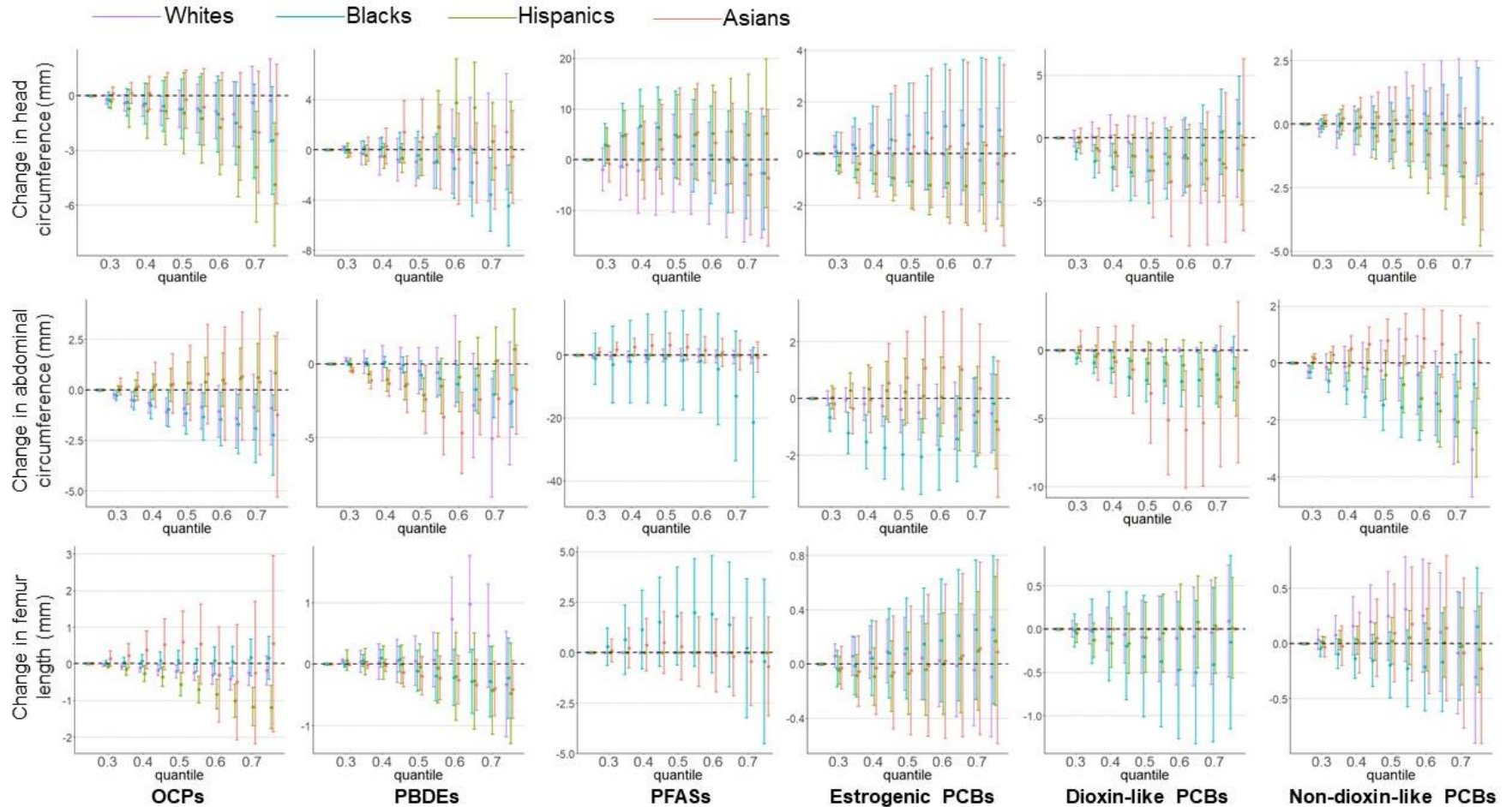
The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eFigure 7: Changes in longitudinal head circumference, abdominal circumference and femur length by fetal sex for each 5% increase (quantile) of POPs mixture exposure using the 25th percentiles as the reference point, NICHD Fetal Growth Studies – singletons (n=2,284).



The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

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The dot corresponds to the estimate and the vertical lines correspond to the 95% confidence intervals. The dashed horizontal line represents the NULL. Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids (except for PFASs) and log transformed plasma cotinine level, with repeated measurements of fetal growth

eTable 1: Comparison between the original cohort and the study population (pregnant women from the NICHD Fetal Growth Studies - Singletons). Note: Missing data in the study population have been imputed.

	Original cohort		Study population		Women excluded	
	n=2,334		n=2,284		n=50	
	N	mean ± sd	N	mean ± sd	N	mean ± sd
Gestational age at enrollment (weeks)	2,333	12.7 ± 1.0	2,283	12.7 ± 1.0	50	12.7 ± 1.0
Maternal age at enrollment (years)	2,334	28.2 ± 5.4	2,284	28.2 ± 5.5	50	28.0 ± 6.0
Pre-pregnancy maternal BMI (kg/m²)	2,334	23.6 ± 3.1	2,284	23.6 ± 3.0	50	25.0 ± 4.7
Plasma cotinine level at enrollment (ng/mL)	2,294	1.2 ± 14.4	2,284	1.3 ± 14.7	50	0.1 ± 0.4
Total plasma lipids level at enrollment (ng/mL)	2,272	608.8 ± 99.2	2,284	609.3 ± 99.4	50	598.2 ± 78.6
Gestational age at delivery (weeks)	2,152	39.2 ± 1.9	2,139	39.2 ± 1.7	13	32.0 ± 8.4
	N	%	N	%	N	%
Highest level of education						
Less than high school	253	11	248	11	5	10
High school diploma or GED or equivalent	404	17	394	17	10	20
Some college or Associate degree	683	29	664	29	19	38
Bachelors degree	565	24	556	24	9	18
Masters degree or Advanced degree	428	18	422	18	7	14
Parity (live and still-births > 20 GW)						
0	1,149	49	1,128	49	21	42
1	792	34	774	34	18	36
2	279	12	274	12	5	10
≥3	114	5	108	5	6	12
Marital Status						
Not married	562	24	547	24	16	32
Married or living as married	1,769	76	1,737	76	34	68
Sex of infant						
Male	1,105	47	1,187	52	2	4
Female	1,025	44	1,097	48	8	16
Missing	204	9	0	0	40	80

BMI: Body mass index

eTable 2: Comparison of the POPs exposures (median (25th, 75th percentile) at enrollment between included and excluded pregnant women from the NICHD Fetal growth Studies - Singletons.

Chemical Class	Overall (n=2,284)			Women excluded (n=50)			P-Value
	median	p25	p75	median	p25	p75	
Organochlorine pesticides (OCPs, ng/g)							
β-HCH	0	0	4.51	0	0	2.65	0.537
γ-HCH	0	0	0	0	0	0	0.897
HCB	7.09	4.05	10.64	6.75	4.16	10.66	0.779
Oxychlorane	2.52	0.75	4.41	2.08	0	4.33	0.955
Trans-chlordane	0	-0.86	1.2	0.02	-0.87	2.5	0.874
Trans-nonachlor	4.57	2.5	7.88	4.64	2.3	6.79	0.836
p,p'-DDE	83.14	52.34	170.68	73.43	44.76	130.89	0.558
o,p'-DDD	0	0	0	0	0	0	0.483
p,p'-DDD	0	0	0.5	0	0	0.51	0.610
p,p'-DDT	1.27	0	2.71	1.62	0.23	2.96	0.878
Mirex	0	0	0.79	0	0	0.71	0.444
Polybrominated biphenyl (PBB, ng/g)							
PBB 153	0	0	0	0	0	0	0.571
Polychlorinated biphenyl congeners (PCBs, ng/g)							
Di-CB							
5/8	0	-0.6	0.53	-0.07	-0.9	0.54	0.572
Tri-CB							
18/17	-0.08	-0.96	0.77	-0.11	-1.77	0.44	0.921
22	-0.05	-0.23	0.11	-0.09	-0.28	0.08	0.245
31/28	0.44	-0.8	1.55	0.34	-1.29	1.35	0.289
33/20	-0.1	-0.44	0.19	-0.15	-0.63	0.21	0.257
37	-0.04	-0.16	0.08	-0.02	-0.26	0.06	0.239
Tetra-CB							
41/64	-0.13	-0.57	0.27	-0.2	-0.69	0.24	0.351
44	-0.2	-0.65	0.2	-0.26	-0.82	0.11	0.312
47/48/75	0.03	-0.24	0.26	0.07	-0.41	0.34	0.377
49/43	-0.12	-0.47	0.15	-0.22	-0.63	0.12	0.335
52/73	-0.37	-1.55	0.64	-0.54	-2.13	0.41	0.307
66/80	0.25	-0.07	0.59	0.23	-0.16	0.57	0.423
70/76	-0.25	-0.84	0.32	-0.35	-1.19	0.44	0.477
74/61	1.11	0.52	1.92	0.93	0.45	1.55	0.083
Penta-CB							
90/101/89	-0.42	-1.49	0.52	-0.49	-1.91	0.19	0.490
93/95	-0.42	-1.43	0.45	-0.69	-1.98	0.18	0.312
99	1.05	0.47	1.86	1.16	0.22	2.22	0.617
85/120	0.02	-0.08	0.1	-0.01	-0.12	0.11	0.773
110	-0.23	-0.75	0.22	-0.27	-0.86	0.2	0.659
118/106	1.93	1	3.26	2.08	0.98	3.3	0.439
105/127	0.6	0.29	1.05	0.66	0.3	1.24	0.448
114/122	0.13	0.06	0.21	0.12	0.03	0.19	0.087
Hexa-CB							
128	0.11	0	0.21	0.11	0.02	0.22	0.398
137	0.24	0.11	0.43	0.18	0.03	0.32	0.043
138/158	4.9	2.84	8.24	4.65	2.64	9.1	0.329

Chemical Class	Overall (n=2,284)			Women excluded (n=50)			P-Value
	median	p25	p75	median	p25	p75	
146/161	0.58	0.27	1.15	0.66	0.18	1.22	0.575
153	5.77	3.2	10.25	6.05	2.67	11.83	0.445
156	0.6	0.34	1.07	0.57	0.33	0.9	0.091
157	0.13	0.07	0.25	0.12	0.06	0.2	0.140
167	0.21	0.12	0.36	0.24	0.12	0.37	0.559
Hepta-CB							
170	1.37	0.8	2.28	1.32	0.65	2.12	0.342
172/192	0.15	0.05	0.32	0.14	0	0.33	0.327
177	0.24	0.11	0.44	0.2	0.05	0.47	0.431
180	3.35	1.93	5.76	3.24	1.59	6.26	0.386
182/187	1.24	0.57	2.36	1.41	0.66	2.58	0.692
183	0.51	0.28	0.86	0.55	0.17	0.97	0.602
Octa-CB							
194	0.63	0.35	1.07	0.6	0.33	1.02	0.422
195	0.17	0.09	0.29	0.19	0.11	0.29	0.590
196/203	0.73	0.4	1.23	0.76	0.29	1.49	0.545
199	0.63	0.32	1.16	0.58	0.24	1.23	0.460
202	0.18	0.07	0.35	0.18	0.08	0.41	0.582
Nona-CB							
206	0.39	0.21	0.67	0.35	0.18	0.67	0.533
208	0.15	0.06	0.28	0.17	0.07	0.28	0.745
Deca-CB							
209	0.28	0.17	0.47	0.27	0.17	0.48	0.869
Polybrominated diphenyl ethers (PBDEs, ng/g)							
28	0	0	1.09	0	0	0.51	0.603
47	8.84	3.89	17.84	8.01	3.44	20.01	0.082
85	0	0	0	0	0	0	0.047
99	2.17	0	5.44	1.35	0	7.48	0.090
100	2.17	0	4.45	1.94	0	4.26	0.462
153	0	0	7.12	1.16	0	13.2	0.400
154	0.45	0	2.86	0.79	0	2.11	0.726
183	0	0	0	0	0	0	0.791
209	0	0	0	0	0	0	0.833
Poly-and-perfluorinated alkyl substances (PFASs, ng/mL)							
NMeFOSAA	0.06	0.03	0.12	0.07	0.04	0.12	0.611
PFDA	0.25	0.16	0.42	0.24	0.17	0.36	0.778
PFDoDA	0.03	0.01	0.05	0.03	0.02	0.06	0.941
PFDS	0.01	0	0.03	0.02	0.01	0.03	0.095
PFHpA	0.02	0.01	0.06	0.02	0.01	0.07	0.964
PFHxS	0.71	0.44	1.23	0.57	0.36	1.2	0.320
PFNA	0.77	0.54	1.17	0.74	0.47	1.01	0.170
PFOA	2	1.31	3.01	1.79	0.97	2.62	0.318
PFOS	5.16	3.39	7.98	5.26	3.67	8.4	0.784
PFOSA	0	0	0	0	0	0	0.722
PFUnDA	0.19	0.09	0.35	0.19	0.11	0.31	0.651

NOTE: All POP concentrations were based upon machine measured concentrations without substitution of concentrations <LOQ. OCPs, PBB, PCBs and PPBDEs concentration are adjusted for total plasma lipids. Missing data have been imputed. P-values are from Kruskal-Wallis nonparametric test comparing the median.

eTable 3: Organochlorine pesticides - Estimation of the contribution of individual chemical to the fetal growth changes when the chemical of interest changes from the 25th to the 75th percentile while all of the other chemicals in the mixture are fixed to their 25th percentile, NICHD Fetal Growth Studies – singletons (n=2,284).

	Head circumference		Abdominal circumference		Femur length	
	est	sd	est	sd	est	sd
β-HCH	-0.789	0.709	-0.668	0.394	0.147	0.170
γ-HCH	0.000	0.000	0.000	0.000	0.000	0.000
HCB	0.193	0.377	-0.182	0.249	0.142	0.134
Oxychlorane	0.320	0.805	-0.576	0.389	-0.435	0.227
Trans-chlordane	-0.007	0.090	-0.015	0.031	0.000	0.026
Trans-nonachlor	-0.594	1.008	-1.184	0.573	-0.253	0.229
<i>p,p'</i> -DDE	-0.710	1.655	-1.056	0.933	0.072	0.390
<i>o,p'</i> -DDD	0.000	0.000	0.000	0.000	0.000	0.000
<i>p,p'</i> -DDD	-1.004	0.715	-0.213	0.379	0.333	0.167
<i>p,p'</i> -DDT	1.944	1.324	0.363	0.584	-0.195	0.317
Mirex	-1.481	0.950	-1.161	0.633	0.101	0.230

Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids and log transformed plasma cotinine level, with repeated measurements of fetal growth.

eTable 4: Polybrominated diphenyl ethers - Estimation of the contribution of individual chemical to the fetal growth changes when the chemical of interest changes from the 25th to the 75th percentile while all of the other chemicals in the mixture are fixed to their 25th percentile, NICHD Fetal Growth Studies – singletons (n=2,284).

	Head circumference		Abdominal circumference		Femur length	
	est	sd	est	sd	est	sd
28	3.132	1.824	2.505	1.615	-0.074	0.268
47	-2.205	2.771	-4.423	1.970	-0.528	0.345
85	0.000	0.000	0.000	0.000	0.000	0.000
99	0.909	1.189	2.151	0.883	-0.046	0.203
100	6.389	4.353	-3.506	3.029	-0.307	0.417
153	1.852	2.030	0.380	1.711	0.096	0.317
154	-0.193	1.655	-0.632	1.464	-0.487	0.345
183	0.000	0.000	0.000	0.000	0.000	0.000
209	0.000	0.000	0.000	0.000	0.000	0.000

Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids and log transformed plasma cotinine level, with repeated measurements of fetal growth.

eTable 5: Poly-and-perfluorinated alkyl substances - Estimation of the contribution of individual chemical to the fetal growth changes when the chemical of interest changes from the 25th to the 75th percentile while all of the other chemicals in the mixture are fixed to their 25th percentile, NICHD Fetal Growth Studies – singletons (n=2,284).

	Head circumference		Abdominal circumference		Femur length	
	est	sd	est	sd	est	sd
NMeFOSAA	-0.247	1.089	0.032	0.283	-0.196	1.633
PFDA	3.125	2.163	0.075	0.228	-0.094	2.220
PFDoDA	0.476	1.219	0.026	0.155	-0.040	1.237
PFDS	-0.134	1.400	0.066	0.273	-0.044	1.914
PFHpA	-0.484	1.758	0.022	0.261	0.455	1.676
PFHxS	0.307	1.375	-0.033	0.390	-0.715	2.149
PFNA	1.591	1.989	0.096	0.286	0.857	2.375
PFOA	1.626	1.837	0.090	0.360	0.737	2.353
PFOS	1.455	1.907	0.131	0.397	0.515	2.350
PFOSA	0.278	0.884	0.026	0.195	1.400	1.402
PFUnDA	0.581	1.447	0.103	0.289	-1.035	2.154

Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound and log transformed plasma cotinine level, with repeated measurements of fetal growth.

eTable 6: Polychlorinated biphenyl congeners - Estimation of the contribution of individual chemical to the fetal growth changes when the chemical of interest changes from the 25th to the 75th percentile while all of the other chemicals in the mixture are fixed to their 25th percentile, NICHD Fetal Growth Studies – singletons (n=2,284).

	Head circumference		Abdominal circumference		Femur length	
	est	sd	est	sd	est	sd
Potentially estrogenic						
31/28	-0.245	1.692	2.108	1.246	-0.188	0.395
44	2.852	2.822	-0.615	1.312	-0.064	0.782
49/43	4.888	2.759	3.918	1.940	0.578	0.624
52/73	-1.064	1.933	0.460	1.220	-0.234	0.311
70/76	-0.068	1.766	-0.297	1.503	-0.195	0.498
90/101/89	-0.561	1.758	-0.793	1.310	-0.468	0.438
182/187	-1.629	1.559	-5.205	1.204	-0.384	0.297
177	-2.418	1.549	-4.701	1.223	-0.596	0.324
Dioxin-like						
66/80	-0.437	1.397	-2.473	1.340	-0.253	0.459
74/61	3.758	2.473	3.927	1.653	0.069	0.717
105/127	-0.992	2.294	-1.198	2.312	0.235	0.910
118/106	0.935	2.858	0.314	2.095	0.226	0.854
156	-0.822	3.371	2.638	1.885	-0.128	0.994
167	-5.158	2.716	3.491	1.637	-0.411	0.763
128	-0.521	1.136	-1.149	1.333	0.186	0.342
138/158	5.620	3.358	2.683	2.759	0.960	1.187
170	2.275	2.671	-0.855	1.961	0.878	0.790
Non-dioxin like						
99	-2.785	1.326	-0.470	0.516	-0.165	0.216
153	2.520	2.537	-1.552	2.043	-0.098	0.455
180	-3.238	3.523	-4.415	2.064	-0.311	0.544
196/203	-0.842	1.957	-0.823	1.019	0.000	0.367
183	0.574	1.725	-0.421	0.845	0.798	0.330

Adjusted for maternal race/ethnicity, maternal age, pre-pregnancy BMI, parity, highest level of education, marital status, infant sex, gestational age at the time of ultrasound, total plasma lipids and log transformed plasma cotinine level, with repeated measurements of fetal growth.

eTable 7: Association between EDCs and longitudinal head circumference using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.13			0.12			0.14			0.878	-1.48			4.16	**	.	-1.81	**		0.18	.		<0.001
γ-HCH	0.03			0.04			0.00			0.869	8.04			-0.12			4.19			0.03			0.483
HCB	-0.11			-0.13			1.30	.		0.052	-1.33			1.93	.		0.09			-0.12			0.336
Oxychlorane	0.00			-2.50	*		0.03			0.039	-4.30	**		-0.44			-2.55			0.04			0.044
Trans-chlordane	-0.10			-0.19			0.11			0.189	5.79			12.09	***	**	4.14			-0.12			<0.001
Trans-nonachlor	0.03			-0.76	.		0.09			0.071	-1.40	*		1.19	*		-0.12			0.05			0.025
p,p'-DDE	-0.35	***	.	-0.41	**	*	-0.29	*		0.535	-3.28	***	***	0.16			-0.37	*		-0.02			<0.001
o,p'-DDD	0.15	.		0.46	**	*	-0.04			0.005	0.13			0.16			0.40	*		0.03			0.453
p,p'-DDD	0.09			0.08			0.09			0.953	0.50			0.12			0.09			0.04			0.798
p,p'-DDT	0.11			0.11			0.10			0.971	-1.20			0.22			0.11			0.11			0.770
Mirex	-0.16	.		-0.31	*	.	0.01			0.081	-0.22			-0.03			-0.23	.		-0.02			0.780
PBB 153	0.26	**	.	0.39	***	**	-0.11			0.006	0.09			0.20			0.34			0.34	**		0.540
PBDE 28	-0.03			0.02			-0.38	.		0.080	-3.05	***	***	0.08			0.11			0.05			<0.001
PBDE 47	-0.17	.		-0.03			-0.30	*		0.127	-0.58	***	.	0.19			0.19			-0.43	*		0.002
PBDE 85	-0.15	.		-0.14			-0.19			0.820	-0.12			0.33			-0.07			-1.58	***	***	<0.001
PBDE 99	-0.05			-0.03			-0.10			0.727	-0.15			0.17			-0.08			-0.55	*		0.073
PBDE 100	-0.28	**	.	-0.19			-0.38	**		0.249	-0.89	***	***	-0.10			0.23			-0.90	***	*	<0.001
PBDE 153	-0.19	*		0.02			-0.38	**		0.026	-0.49	***	*	0.19			0.58	.		-0.43			<0.001
PBDE 154	-0.34	***	*	-0.34	**	*	-0.33	*		0.987	-0.38	*		-0.44	*		-0.30	*		-0.20			0.853
PBDE 183	0.01			0.06			-0.09			0.377	-0.05			0.75			-0.05			-0.05			0.014
PBDE 209	-0.24	**		-0.07			-0.46	***	*	0.024	-0.07			-0.46			-0.07			-0.07			0.002
PCB 5/8	0.06			0.18			-0.03			0.347	-1.20			0.89	**	.	0.00			-0.07			0.016
PCB 18/17	0.15	.		0.16	*		-0.21			0.697	0.15	.		5.27	***	*	-1.65			-5.09			0.002
PCB 22	0.11			0.14			0.09			0.802	-0.07			1.14	***	**	-0.03			-0.10			<0.001
PCB 31/28	0.14			0.21	.		0.04			0.390	-0.49			1.00	***	**	-0.03			0.35	.		<0.001
PCB 33/20	0.07			0.11			0.05			0.773	-0.28			1.15	***	**	-0.02			-0.25			<0.001
PCB 37	0.16			0.20			0.13			0.704	0.00			1.00	***	**	0.04			-0.12			0.003
PCB 41/64	0.13			0.52	**	.	-0.03			0.026	-0.16			0.71	***	*	-0.20			-0.04			0.013
PCB 44	0.08			0.50	*	.	-0.10			0.014	-0.15			0.67	**	*	-0.38			-0.06			0.006
PCB 47/48/75	0.08			0.49	*	.	-0.07			0.019	-0.23			0.55	**	.	-0.46	.		0.01			0.010
PCB 49/43	0.07			0.42	*		-0.09			0.029	-0.26			0.62	**	*	-0.29			-0.07			0.009
PCB 52/73	0.02			0.42			-0.05			0.174	-0.97			0.74	*		-0.37			-0.01			0.039
PCB 66/80	0.18	.		0.52	***	**	-0.09			0.002	-0.13			0.61	**	*	-0.01			0.09			0.060
PCB 70/76	0.14			0.40	*	.	-0.04			0.040	-0.23			0.69	***	*	-0.06			-0.07			0.009
PCB 74/61	0.01			0.27	*		-0.30	*		0.004	-0.32			0.36			-0.49	.		0.25	.		0.013
PCB 90/101/89	0.08			0.61	*		-0.05			0.031	0.06			0.70	**		-0.55			0.00			0.043
PCB 93/95	0.06			1.43	*		0.00			0.044	-0.23			1.88	*		-1.72	.		0.03			0.022
PCB 99	0.00			0.46	.		-0.10			0.062	0.10			0.39			-0.40			-0.05			0.550
PCB 85/120	0.23	*		0.64	***	**	0.00			0.005	0.40			0.47	*		0.31			-0.01			0.304
PCB 110	0.13			0.67	**	*	-0.06			0.007	0.15			0.69	**	.	-0.25			-0.01			0.067

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.11			0.24			-0.32	*		0.009	0.11			0.09			-0.74	*		-0.19			0.106
PCB 105/127	-0.04			0.29			-0.22			0.019	0.14			0.19			-0.45			-0.14			0.314
PCB 114/122	-0.08			0.17			-0.21			0.054	0.00			-0.01			-0.71	*		0.04			0.195
PCB 128	-0.27	**		-0.15			-0.39	**		0.200	-0.27			-0.26			-0.26			-0.26			1.000
PCB 137	-0.14			0.16			-0.32	*		0.031	0.01			-0.04			-0.64	*		-0.16			0.327
PCB 138/158	-0.25	*		-0.03			-0.43	**		0.058	-0.26			-0.02			-0.10			-0.35	*		0.804
PCB 146/161	-0.11			0.21			-0.38	*		0.007	-0.06			0.55	*		-0.03			-0.37	*		0.045
PCB 153	-0.18			0.06			-0.38	**		0.034	-0.30			0.41			0.44			-0.35	*		0.059
PCB 156	-0.14			0.04			-0.42	**		0.015	-0.07			-0.18			-0.12			-0.38			0.742
PCB 157	-0.36	***	*	-0.07			-0.82	***	***	<0.001	-0.09			-0.73	**		-0.93	***	*	-0.50	*		0.015
PCB 167	-0.41	***	*	-0.17			-0.66	***	**	0.016	-0.18			-0.56			-1.05	***	*	-0.37	*		0.093
PCB 170	-0.13			-0.05			-0.34			0.178	-0.25	*		0.98	*		1.30	***	*	-0.39			<0.001
PCB 172/192	-0.16			-0.02			-0.42	*		0.061	-0.36	*		0.81	*		0.21			-0.29			0.006
PCB 177	-0.16			-0.06			-0.25			0.416	-0.17			0.56			0.31			-0.38	*		0.068
PCB 180	-0.11			0.00			-0.37	*		0.074	-0.28	*		0.89	*		1.24	***	*	-0.28			<0.001
PCB 182/187	0.01			0.30			-0.11			0.123	-0.01			1.28	**		0.34			-0.14			0.026
PCB 183	-0.08			0.05			-0.20			0.266	-0.28			0.94	**		0.34			-0.17			0.020
PCB 194	-0.18			-0.08			-0.55	**		0.035	-0.28	*		0.57			2.09	***	**	-0.33			<0.001
PCB 195	-0.11			-0.06			-0.22			0.480	-0.29	*		1.06	*		1.76	***	*	-0.19			<0.001
PCB 196/203	-0.29	**		-0.14			-0.57	***	*	0.034	-0.42	**		0.15			1.44	**		-0.33			0.002
PCB 199	-0.26	*		-0.11			-0.52	**		0.043	-0.43	**		0.13			0.67			-0.25			0.093
PCB 202	-0.10			0.23			-0.27			0.043	-0.31			0.49			0.28			-0.18			0.229
PCB 206	-0.21			-0.07			-0.41	*		0.162	-0.50	*		0.47			0.80			-0.45	*		0.003
PCB 208	-0.40	**		-0.08			-0.77	***	**	0.009	-0.77	**		-0.43			0.59			-0.44	*		0.061
PCB 209	0.25			0.82	***	**	-0.16			0.000	-0.14			0.21			0.93	**		0.16			0.113
NMeFOSAA	-0.19			-0.08			-0.29	*		0.250	-0.36			-0.02			-0.64	***	*	0.28			0.008
PFDA	0.21	*		0.26			0.18			0.712	0.37	*		-0.04			0.42			0.18			0.247
PFDoDA	0.18	*		0.30			0.15			0.455	0.73	**		0.35			-0.08			0.42			0.020
PFDS	-0.27	**		-0.20			-0.34	*		0.450	-0.15			-0.48	**		-0.65			-0.06			0.173
PFHpA	0.39	***	**	0.31	*		0.46	***	*	0.406	0.48	**		0.48	*		0.34	*		0.22			0.731
PFHxS	-0.22	*		-0.28	*		-0.16			0.498	-0.21			-0.58	**	*	-0.08			0.41			0.017
PFNA	0.11			0.08			0.14			0.749	0.28			-0.01			0.14			0.04			0.680
PFOA	0.08			-0.04			0.19			0.227	-0.04			-0.01			0.17			0.29			0.581
PFOS	-0.27	**		-0.07			-0.47	***	*	0.029	-0.30			-0.35			-0.20			-0.20			0.908
PFOSA	-0.15			0.09			-0.52	***	*	<0.001	-0.96	***	***	-0.27			-0.25			0.51	**		0.000
PFUnDA	0.32	**		0.37	**		0.29	*		0.633	0.49			0.13			0.08			0.58	***		0.201

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 8: Association between EDCs and longitudinal biparietal diameter using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	-0.04			-0.09	*		0.00			0.122	-0.17			0.86	*		-0.54	**		-0.04			0.014
Y-HCH	-0.12	***	**	-0.13	***	***	0.02			0.163	-1.98			-0.36			-0.24			-0.12	***	*	0.848
HCB	-0.01			-0.02			0.41	.		0.069	0.31			0.38			-0.07			-0.01			0.761
Oxychlorodane	0.03			-0.06			0.03			0.797	-0.92	.		0.19			0.28			0.03			0.322
Trans-chlordane	0.00			-0.02			0.06			0.249	-0.85			2.35	*		0.43			0.00			0.111
Trans-nonachlor	0.03			-0.19			0.05			0.116	-0.42	*		0.25			0.21			0.03			0.052
p,p'-DDE	-0.07	*		-0.10	*	.	-0.04			0.316	-0.81	***	***	0.17			-0.01			-0.11	*		<0.001
o,p'-DDD	0.00			0.11	*	.	-0.07	.		0.001	-0.14			0.05			0.10			-0.07	.		0.056
p,p'-DDD	0.04			0.07			0.01			0.393	0.15			0.12			0.18	*		-0.01			0.098
p,p'-DDT	0.04			0.04			0.04			0.906	-0.46			0.09			0.10	**		-0.06			0.047
Mirex	-0.02			-0.02			-0.03			0.815	-0.05			0.04			-0.02			-0.03			0.963
PBB 153	0.12	***	**	0.16	***	***	0.01			0.011	0.08			0.18			0.21	**		0.11	**		0.503
PBDE 28	-0.03			-0.01			-0.16	*		0.034	-1.07	***	***	0.00			0.05			0.00			<0.001
PBDE 47	0.01			0.04			-0.02			0.296	-0.13	*		0.15	*		0.12	*		-0.10			<0.001
PBDE 85	-0.03			-0.06	.		0.01			0.267	0.01			0.06			-0.03			-0.46	***	***	<0.001
PBDE 99	-0.03			-0.05			0.01			0.277	0.02			0.02			-0.09			-0.17	*		0.136
PBDE 100	-0.04			-0.02			-0.07	.		0.294	-0.22	***	*	-0.01			0.11	*		-0.21	**		<0.001
PBDE 153	0.04			0.14	***	**	-0.07			<0.001	-0.06			0.15	**		0.25	**		-0.02			<0.001
PBDE 154	-0.04			-0.09	*	.	0.03			0.039	0.06			-0.10			-0.08			-0.06			0.151
PBDE 183	-0.01			0.00			-0.03			0.535	-0.03			0.23			-0.03			-0.03			0.012
PBDE 209	-0.05	.		-0.02			-0.09	*		0.209	-0.02			-0.09			-0.02			-0.02			0.081
PCB 5/8	0.04			0.04			0.05			0.875	0.35			0.26	**		0.01			0.02			0.088
PCB 18/17	0.10	***	**	0.11	***	***	-0.06			0.597	0.11	***	**	1.60	**	*	-0.61			-1.20			0.004
PCB 22	0.04			0.04			0.05			0.816	0.22	.		0.25	**	.	-0.01			-0.03			0.011
PCB 31/28	0.03			0.03			0.04			0.899	0.07			0.22	**		-0.01			0.01			0.092
PCB 33/20	0.03			0.03			0.05			0.719	0.16			0.25	**	.	0.00			-0.05			0.022
PCB 37	0.04			0.05			0.05			0.984	0.16			0.18	*		0.02			-0.07			0.097
PCB 41/64	0.09	*		0.23	***	**	0.02			0.008	0.23	.		0.23	***	*	-0.04			0.01			0.020
PCB 44	0.08	*		0.23	***	**	0.01			0.004	0.22	.		0.25	***	*	-0.06			0.00			0.006
PCB 47/48/75	0.06	.		0.20	**	*	0.01			0.021	0.12			0.19	**	*	-0.08			0.01			0.050
PCB 49/43	0.07	*		0.20	***	**	0.01			0.013	0.18			0.23	***	*	-0.04			0.00			0.012
PCB 52/73	0.06			0.20	*		0.03			0.127	0.24			0.30	**	.	-0.08			0.02			0.045
PCB 66/80	0.06	.		0.15	**	*	-0.01			0.017	0.05			0.20	***	*	0.01			-0.01			0.057
PCB 70/76	0.09	*		0.17	***	**	0.03			0.033	0.19			0.23	***	*	0.00			0.02			0.028
PCB 74/61	0.02			0.08	.		-0.04			0.067	-0.06			0.15	.		-0.13			0.07			0.041
PCB 90/101/89	0.08	*		0.30	***	**	0.03			0.005	0.36	*		0.27	**	*	-0.10			0.03			0.018
PCB 93/95	0.06			0.71	**	**	0.03			0.003	0.69			0.75	**	*	-0.36			0.03			0.007
PCB 99	0.02			0.11			0.00			0.306	0.10			0.15			-0.14			0.00			0.363
PCB 85/120	0.12	***	*	0.28	***	***	0.04			<0.001	0.32	***	*	0.19	**	*	0.06			0.02			0.032
PCB 110	0.09	*		0.29	***	**	0.03			0.003	0.33	*		0.26	***	*	-0.05			0.03			0.020

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.02			0.02			-0.05			0.315	0.05			0.07			-0.24	*		-0.07			0.044
PCB 105/127	-0.02			0.02			-0.05			0.308	0.05			0.07			-0.24	*		-0.07			0.118
PCB 114/122	0.01			0.06			-0.01			0.940	0.09			0.10			-0.15			-0.04			0.082
PCB 128	-0.06	.		-0.05			-0.06			0.993	-0.02			-0.03			-0.30	**		-0.10			0.125
PCB 137	-0.10	**	*	-0.10	*	.	-0.10	*		0.338	-0.02			-0.16	**		-0.04			-0.19	**		0.240
PCB 138/158	-0.03			0.02			-0.05			0.803	0.06			-0.02			-0.14			-0.07			0.391
PCB 146/161	-0.06	.		-0.05			-0.07			0.291	0.00			-0.03			-0.01			-0.13	*		0.042
PCB 153	-0.03			0.01			-0.07			0.322	0.10			0.07			0.03			-0.14	**		0.073
PCB 156	-0.01			0.03			-0.04			0.612	0.02			0.12			0.18			-0.10	.		0.055
PCB 157	-0.03			-0.02			-0.05			0.218	0.01			-0.02			0.01			-0.22	**		0.046
PCB 167	-0.09	**		-0.06			-0.14	**		0.922	-0.01			-0.09			-0.17	.		-0.22	***	*	0.007
PCB 170	-0.11	**	*	-0.11	*	.	-0.12	*		0.711	0.04			-0.12			-0.27	**		-0.21	***	*	<0.001
PCB 172/192	0.00			0.01			-0.02			0.956	0.00			0.29	*		0.45	***	*	-0.17	*		0.020
PCB 177	-0.02			-0.02			-0.03			0.661	-0.01			0.08			0.18	.		-0.14	*		0.009
PCB 180	-0.01			-0.02			0.00			0.408	0.09			0.13			0.10			-0.14	**		<0.001
PCB 182/187	0.01			0.02			-0.03			0.423	0.00			0.28	*		0.43	***	*	-0.14	*		0.021
PCB 183	0.03			0.09			0.01			0.700	0.12			0.38	**		0.20			-0.04			0.210
PCB 194	0.00			0.02			-0.01			0.208	0.01			0.22	.		0.08			-0.05			<0.001
PCB 195	0.00			0.02			-0.07			0.640	-0.01			0.20			0.68	***	**	-0.14	.		<0.001
PCB 196/203	0.00			0.01			-0.02			0.155	-0.02			0.22			0.53	***	*	-0.08			<0.001
PCB 199	-0.03			0.00			-0.09	.		0.131	-0.04			0.12			0.50	**	.	-0.13	*		0.023
PCB 202	-0.04			0.00			-0.10	.		0.204	-0.03			0.10			0.31	*		-0.13	*		0.073
PCB 206	-0.02			0.05			-0.05			0.295	0.04			0.21	*		0.09			-0.09	.		0.015
PCB 208	-0.11	**		-0.08			-0.16	**		0.083	-0.14	*		0.04			0.19			-0.23	***	*	0.106
PCB 209	-0.18	***	**	-0.11	.		-0.26	***	**	0.126	-0.28	**		-0.08			0.06			-0.23	***	*	0.365
NMeFOSAA	0.06			0.14	*		0.00			0.238	0.05			0.13			0.18			-0.03			<0.001
PFDA	-0.08	**		-0.04			-0.12	**		0.202	-0.21	**		-0.01			-0.25	***	*	0.14	*		0.013
PFDoDA	-0.01			0.04			-0.04			0.769	0.03			-0.11	*		0.15	*		-0.06			0.709
PFDS	0.02			0.01			0.02			0.859	0.12			0.01			0.00			0.03			0.338
PFHpA	-0.13	***	**	-0.12	**	*	-0.13	**		0.414	-0.17	.		-0.18	***	*	-0.12			-0.06			0.558
PFHxS	0.07	*		0.10	*	.	0.05			0.562	0.09	.		0.11			0.08			-0.01			0.087
PFNA	-0.12	***	**	-0.13	**	**	-0.10	*		0.153	-0.11	*		-0.20	***	*	-0.11			0.05			0.041
PFOA	-0.03			0.01			-0.07			0.669	-0.03			-0.07			0.10	.		-0.12	.		0.013
PFOS	-0.02			-0.01			-0.03			<0.001	-0.08			-0.13	.		0.03			0.14	*		0.845
PFOSA	-0.09	**		0.02			-0.20	***	**	0.115	-0.08			-0.12	*		-0.05			-0.11	.		<0.001
PFUnDA	-0.01			0.02			-0.07			0.590	-0.18	**		-0.11	.		0.01			0.15	**		0.062

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 9: Association between EDCs and longitudinal occipital-frontal diameter using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.18	***	.	0.20	**	.	0.16	*		0.740	-0.24			1.73	*		-0.51			0.20	***	*	0.016
γ-HCH	0.10	.		0.12	*		-0.12			0.163	7.01	.		-0.12			3.72	*		0.10	.		0.071
HCB	-0.08	.		-0.09	*		0.46			0.157	0.10			0.59			-0.05			-0.09	.		0.743
Oxychlorthane	-0.03			-1.75	**	.	-0.01			0.007	-1.81	*		-1.35			-1.54			0.00			0.047
Trans-chlordane	-0.09	.		-0.13	*		0.02			0.216	3.30			3.49	*		1.62			-0.10	.		0.085
Trans-nonachlor	-0.04			-0.45	.		0.00			0.073	-0.32			0.13			-0.44			-0.01			0.452
p,p'-DDE	-0.14	**		-0.18	*		-0.11			0.446	-1.17	***	***	-0.21			-0.18	*		0.07			<0.001
o,p'-DDD	0.10	*		0.18	*		0.05			0.160	0.20			0.07			0.13			0.10			0.959
p,p'-DDD	0.03			0.01			0.04			0.716	0.25			0.07			-0.14			0.03			0.479
p,p'-DDT	0.07			0.06			0.08			0.831	0.27			0.23			0.01			0.17	*		0.402
Mirex	-0.06			-0.16	*		0.05			0.035	-0.04			-0.15			-0.12	.		0.07			0.428
PBB 153	0.06			0.14	**		-0.13			0.005	-0.05			0.07			0.00			0.15	*		0.184
PBDE 28	0.00			0.03			-0.18			0.090	-0.92	***	*	0.02			0.04			0.08			0.001
PBDE 47	-0.16	***	.	-0.08			-0.23	***	.	0.111	-0.23	*		-0.16	.		-0.06			-0.17	.		0.678
PBDE 85	-0.10	*		-0.07			-0.16	*		0.334	-0.06			-0.02			-0.06			-0.58	***	*	0.011
PBDE 99	-0.03			-0.01			-0.08			0.524	-0.09			0.05			-0.08			-0.16			0.401
PBDE 100	-0.20	***	**	-0.14	*		-0.25	***	*	0.224	-0.30	**		-0.21	**		-0.03			-0.37	**		0.052
PBDE 153	-0.13	*		-0.03			-0.22	**		0.053	-0.18	**		-0.01			-0.07			-0.24			0.428
PBDE 154	-0.13	**		-0.13	*		-0.13	.		0.947	-0.18	*		-0.16			-0.08			-0.07			0.782
PBDE 183	0.01			0.03			-0.03			0.510	0.01			0.08			0.01			0.01			0.742
PBDE 209	-0.09	.		0.02			-0.22	**		0.011	0.02			-0.22			0.02			0.02			0.006
PCB 5/8	0.02			0.11			-0.05			0.151	-0.47			0.32	*		0.02			-0.06			0.157
PCB 18/17	0.03			0.04			0.01			0.935	0.04			1.68	*		-0.28			-2.02			0.132
PCB 22	0.07			0.09			0.05			0.710	-0.03			0.46	***	.	0.02			0.00			0.022
PCB 31/28	0.10	*		0.14	*		0.03			0.280	-0.10			0.37	**		0.02			0.24	*		0.036
PCB 33/20	0.05			0.07			0.02			0.651	-0.10			0.46	***	.	0.02			-0.11			0.015
PCB 37	0.10	.		0.12	.		0.08			0.712	0.06			0.44	***	.	0.04			0.02			0.038
PCB 41/64	0.05			0.19	.		-0.01			0.115	-0.05			0.25	*		-0.01			-0.04			0.195
PCB 44	0.01			0.16			-0.05			0.095	-0.10			0.22	*		-0.11			-0.04			0.173
PCB 47/48/75	0.02			0.18	.		-0.04			0.076	-0.08			0.17	.		-0.13			-0.01			0.272
PCB 49/43	0.01			0.13			-0.05			0.146	-0.12			0.19	.		-0.09			-0.05			0.188
PCB 52/73	-0.01			0.16			-0.04			0.250	-0.43			0.23			-0.06			-0.03			0.322
PCB 66/80	0.11	*		0.26	***	.	-0.02			0.009	0.08			0.19	*		0.05			0.10			0.796
PCB 70/76	0.06			0.17	*		-0.02			0.085	-0.04			0.25	*		0.01			-0.04			0.165
PCB 74/61	0.04			0.14	*		-0.09			0.025	-0.06			0.05			-0.06			0.13			0.427
PCB 90/101/89	0.02			0.20			-0.02			0.151	0.06			0.25	.		-0.14			-0.02			0.308
PCB 93/95	0.00			0.49			-0.01			0.171	0.03			0.66	.		-0.51			-0.01			0.260
PCB 99	0.02			0.22			-0.02			0.124	0.15			0.12			0.14			-0.03			0.752
PCB 85/120	0.09			0.25	**	.	0.00			0.031	0.18	.		0.18	.		0.15			-0.01			0.489
PCB 110	0.04			0.25	*		-0.03			0.043	0.10			0.26	*		-0.04			-0.03			0.277

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.00			0.14			-0.09			0.042	0.08			0.01			-0.07			-0.05			0.776
PCB 105/127	0.02			0.15			-0.06			0.062	0.08			0.07			-0.02			-0.04			0.856
PCB 114/122	0.03			0.11			-0.01			0.232	0.03			0.06			-0.11			0.13			0.706
PCB 128	-0.07			-0.01			-0.13			0.240	-0.16			0.00			-0.09			-0.01			0.595
PCB 137	-0.05			0.06			-0.10			0.154	0.01			-0.08			-0.12			-0.06			0.879
PCB 138/158	-0.05			0.02			-0.11			0.203	-0.05			0.02			0.14			-0.11			0.656
PCB 146/161	0.02			0.14			-0.08			0.047	0.00			0.36	*		0.12			-0.12			0.033
PCB 153	-0.04			0.04			-0.11			0.175	-0.08			0.19			0.34			-0.14			0.075
PCB 156	-0.05			0.03			-0.17	*		0.039	-0.03			-0.14			0.05			-0.12			0.748
PCB 157	-0.13	**		-0.02			-0.31	***	*	0.003	-0.03			-0.37	*		-0.31	*		-0.16			0.092
PCB 167	-0.13	*		-0.03			-0.22	**		0.075	-0.06			-0.25			-0.31	*		-0.10			0.457
PCB 170	-0.04			-0.02			-0.11			0.442	-0.09			0.32			0.53	**		-0.14			0.005
PCB 172/192	-0.02			0.04			-0.13			0.127	-0.11			0.59	***		0.09			-0.10			0.002
PCB 177	-0.03			0.04			-0.10			0.232	-0.06			0.38	*		0.27			-0.14			0.037
PCB 180	-0.04			0.00			-0.13			0.238	-0.10			0.34			0.47	*		-0.12			0.007
PCB 182/187	0.01			0.13			-0.03			0.209	0.03			0.61	**		0.27			-0.07			0.040
PCB 183	-0.02			0.04			-0.07			0.321	-0.06			0.45	*		0.13			-0.09			0.066
PCB 194	-0.08			-0.04			-0.24	*		0.075	-0.10			0.20			0.76	**		-0.19			0.002
PCB 195	-0.04			-0.02			-0.07			0.660	-0.09			0.39			0.79	***		-0.11			<0.001
PCB 196/203	-0.09			-0.04			-0.19	*		0.174	-0.14	*		0.06			0.69	**		-0.13			0.013
PCB 199	-0.07			-0.02			-0.16			0.205	-0.14			0.09			0.34			-0.08			0.216
PCB 202	0.00			0.13			-0.07			0.104	-0.08			0.26			0.28			-0.05			0.275
PCB 206	-0.05			0.01			-0.13			0.274	-0.13			0.16			0.46	*		-0.15			0.040
PCB 208	-0.09			0.01			-0.20	*		0.111	-0.19			-0.19			0.52	*		-0.13			0.030
PCB 209	0.13			0.35	**		-0.03			0.010	-0.01			-0.04			0.62	***		0.07			0.016
NMeFOSAA	-0.08			0.02			-0.17	*		0.057	-0.04			-0.08			-0.17			0.01			0.645
PFDA	0.09			0.10			0.08			0.808	0.27	**		-0.06			0.05			0.11			0.135
PFDoDA	0.01			0.08			-0.01			0.379	0.24			0.02			-0.10			0.23			0.039
PFDS	-0.03			0.02			-0.09			0.247	0.18			-0.18	*		-0.14			0.05			0.101
PFHpA	0.10	*		0.02			0.18	**		0.069	0.18	*		0.04			0.08			0.05			0.627
PFHxS	-0.04			-0.03			-0.05			0.886	-0.07			-0.21	*		0.12			0.19			0.052
PFNA	0.04			0.02			0.06			0.734	0.18			-0.05			-0.01			0.07			0.338
PFOA	0.02			-0.05			0.09			0.139	0.02			-0.07			0.10			0.02			0.786
PFOS	-0.07			0.00			-0.13			0.184	-0.03			-0.18			0.02			-0.04			0.587
PFOSA	-0.05			0.04			-0.21	**		0.008	-0.38	***	*	-0.04			-0.10			0.16			<0.001
PFUnDA	0.10	*		0.16	*		0.06			0.291	0.30	*		-0.02			-0.03			0.22	*		0.101

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 10: Association between EDCs and longitudinal abdominal circumference using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	-0.37	*		-0.65	**	*	-0.16			0.057	-0.27			5.15	**		1.73	.		-0.47	**		0.003
γ-HCH	-0.30	*		-0.15			-1.76	***	*	<0.001	18.62			-5.18	.		-2.19			-0.29	*		0.118
HCB	0.10			0.10			0.26			0.906	0.80			-1.50			-0.36			0.12			0.757
Oxychlorthane	-0.03			-1.23			-0.01			0.455	-1.57			-5.51	*		-2.02			0.03			0.098
Trans-chlordane	0.11			0.14			0.05			0.787	0.69			3.34			-0.65			0.11			0.901
Trans-nonachlor	0.10			0.58			0.06			0.454	-0.55			-0.43			1.40			0.10			0.384
p,p'-DDE	-0.06			-0.28			0.17			0.083	-4.60	***	***	0.26			0.47	*		-0.25			<0.001
o,p'-DDD	-0.10			0.01			-0.17			0.449	-0.44			-0.79	**	.	0.74	**		-0.09			<0.001
p,p'-DDD	0.29	*		0.64	**	*	-0.01			0.027	-0.77			0.44			0.78	*		0.24			0.188
p,p'-DDT	0.17			0.09			0.29			0.431	-3.79	.		0.75			0.39	*		-0.24			0.021
Mirex	0.08			-0.04			0.21			0.350	-0.27			0.81			0.00			0.22			0.492
PBB 153	0.11			0.18			-0.10			0.281	0.16			-0.25			0.44			0.01			0.676
PBDE 28	-0.16			-0.08			-0.67	*		0.092	-3.53	***	***	-0.22			0.32			-0.05			<0.001
PBDE 47	-0.24	.		0.27			-0.71	***	*	<0.001	-0.69	**		-0.19			0.32			-0.34			0.059
PBDE 85	-0.20			-0.14			-0.35			0.401	-0.46	*		0.43			-0.13			-0.72	.		0.061
PBDE 99	-0.21			-0.20			-0.23			0.915	-0.46			-0.27			0.16			-0.21			0.465
PBDE 100	-0.36	**		-0.20			-0.53	**		0.181	-1.24	***	***	-0.35			0.28			-0.39			<0.001
PBDE 153	0.03			0.34	.		-0.27			0.020	-0.34	.		0.13			1.21	**		0.67			0.004
PBDE 154	-0.34	**		-0.35	*		-0.33	.		0.970	-0.80	***	*	-0.26			-0.06			-0.11			0.104
PBDE 183	-0.21			-0.38	*	.	0.18			0.046	-0.30			1.01			-0.30			-0.30			0.007
PBDE 209	-0.12			-0.03			-0.24			0.416	-0.03			-0.24			-0.03			-0.03			0.461
PCB 5/8	0.02			0.16			-0.08			0.458	-0.61			1.00	*		-0.22			0.19			0.072
PCB 18/17	0.26	*		0.25	*		1.84			0.281	0.24	*		7.73	***	.	-1.11			7.19			0.003
PCB 22	0.14			0.14			0.17			0.935	0.27			1.26	***	.	-0.17			0.88	.		<0.001
PCB 31/28	0.03			0.06			0.03			0.919	-0.57			0.93	*		-0.20			0.38			0.015
PCB 33/20	0.10			0.10			0.15			0.886	0.02			1.32	***	.	-0.17			0.58			0.003
PCB 37	0.20			0.19			0.24			0.837	0.34			1.28	***	.	-0.14			0.74	.		0.002
PCB 41/64	0.28	.		0.78	**	*	0.05			0.040	0.35			0.80	**		-0.40			0.18			0.097
PCB 44	0.26			0.77	**	*	0.03			0.035	0.50			0.68	*		-0.44			0.24			0.121
PCB 47/48/75	0.14			0.53	.		-0.01			0.128	0.34			0.52	.		-0.80	*		0.22			0.033
PCB 49/43	0.23			0.64	*	.	0.03			0.072	0.33			0.66	*		-0.42			0.22			0.107
PCB 52/73	0.15			0.73	.		0.04			0.159	0.21			0.65			-0.46			0.15			0.432
PCB 66/80	0.22			0.42	.		0.06			0.233	0.34			0.77	**		-0.39			0.17			0.036
PCB 70/76	0.33	*		0.64	**	*	0.11			0.093	0.35			0.87	**	.	-0.19			0.31			0.058
PCB 74/61	0.05			0.21			-0.14			0.223	-0.34			0.23			-0.68	.		0.44	*		0.029
PCB 90/101/89	0.25			1.10	**	*	0.04			0.017	0.90			0.79	*		-0.48			0.16			0.203
PCB 93/95	0.14			2.67	**	*	0.03			0.009	1.97			2.20	*		-1.45			0.07			0.112
PCB 99	0.21			0.69	.		0.10			0.178	0.71			0.55			-0.99			0.16			0.183
PCB 85/120	0.46	**		0.83	**	*	0.25			0.074	0.82	*		0.54	.		0.45			0.29			0.765
PCB 110	0.29	.		0.96	**	*	0.05			0.020	0.53			0.77	*		-0.12			0.15			0.384

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.13			0.45	.		-0.07			0.103	0.37			0.45			-1.26	**		0.20			0.009
PCB 105/127	0.19			0.58	*	.	-0.03			0.056	0.48	.		0.50			-1.14	*		0.23			0.010
PCB 114/122	0.32	*		0.62	**	*	0.15			0.096	0.24			0.49	*		-0.63			0.98	*		0.048
PCB 128	-0.02			0.00			-0.03			0.909	0.00			0.34			-0.62	*		0.13			0.090
PCB 137	-0.09			0.08			-0.18			0.418	0.02			0.12			-1.30	**		0.11			0.036
PCB 138/158	-0.08			-0.08			-0.08			0.971	-0.17			0.04			-0.98	.		0.16			0.186
PCB 146/161	-0.09			-0.11			-0.07			0.870	-0.41			0.48			-0.85	*		0.06			0.073
PCB 153	-0.06			-0.08			-0.05			0.885	-0.37			0.25			-0.63			0.19			0.231
PCB 156	0.32	*		0.43	*	.	0.15			0.309	0.21			0.31			0.50			0.61	.		0.732
PCB 157	0.03			0.34	.		-0.46	*		0.004	0.16			-0.33			-0.46			0.18			0.370
PCB 167	-0.14			-0.12			-0.16			0.914	-0.02			-0.11			-1.39	**		0.14			0.014
PCB 170	0.06			-0.09			0.47	.		0.050	-0.14			0.42			0.53			0.55	.		0.162
PCB 172/192	-0.01			-0.17			0.28			0.114	-0.32			0.59			-0.48			0.43			0.045
PCB 177	-0.09			-0.28			0.10			0.194	-0.28			0.64			-0.41			-0.05			0.406
PCB 180	0.10			-0.03			0.39			0.132	-0.17			0.40			0.16			0.63	*		0.104
PCB 182/187	0.04			-0.03			0.07			0.773	-0.20			0.82			-2.08	*		0.13			0.044
PCB 183	-0.02			-0.14			0.09			0.434	-0.23			0.74			-1.06	.		0.14			0.096
PCB 194	0.07			-0.02			0.40			0.183	-0.11			-0.03			0.54			0.73	*		0.098
PCB 195	0.02			-0.10			0.33			0.147	-0.22			0.00			1.23	.		0.43			0.065
PCB 196/203	-0.06			-0.09			0.01			0.704	-0.28			0.06			0.20			0.37			0.247
PCB 199	-0.03			-0.05			-0.01			0.855	-0.26			0.07			-0.67			0.37			0.180
PCB 202	0.08			0.30			-0.04			0.356	-0.04			0.31			-1.17			0.15			0.328
PCB 206	-0.07			-0.04			-0.11			0.859	-0.46			0.42			0.03			0.08			0.308
PCB 208	-0.20			-0.21			-0.22			1.000	-0.74	.		-0.43			0.17			0.04			0.369
PCB 209	0.25			0.79	*	.	-0.14			0.023	-0.16			0.03			1.21	*		0.15			0.184
NMeFOSAA	0.02			0.15			-0.08			0.387	0.04			0.12			-0.31			0.27			0.568
PFDA	0.43	**		0.62	**	*	0.27			0.211	1.01	***	*	0.21			0.00			0.42			0.067
PFDoDA	0.24	.		0.74	**	*	0.08			0.020	1.40	***	*	0.52	*		-0.22			0.52			<0.001
PFDS	-0.01			-0.09			0.11			0.464	-0.43			0.00			-1.08	*		0.33			0.044
PFHpA	0.45	***		0.12			0.75	***	**	0.015	0.99	***	***	0.70	*		0.14			-0.34			0.002
PFHxS	0.11			-0.03			0.25			0.287	0.35			-0.88	***	.	1.26	***	.	0.13			<0.001
PFNA	0.28	*		0.22			0.33	.		0.680	0.63	*		0.01			0.07			0.48			0.299
PFOA	0.16			-0.21			0.50	*		0.007	0.38			0.47			0.04			-0.42			0.126
PFOS	0.38	**		0.56	**	*	0.21			0.174	0.13			0.09			0.52			0.88	**		0.165
PFOSA	-0.15			0.21			-0.70	***	.	<0.001	-1.01	***	*	-0.38			-0.41			0.74	**		<0.001
PFUnDA	0.16			0.39	.		-0.03			0.111	0.13			0.23			-0.86	*		0.49	*		0.033

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 11: Association between EDCs and longitudinal humerus length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.09	***	**	0.11	**	**	0.07	*		0.465	0.29			-0.18			-0.59	***	.	0.11	***	***	<0.001
γ-HCH	0.05	*		0.06	*	.	0.02			0.702	-0.19			0.49			-1.97	*		0.05	*		0.091
HCB	-0.02			-0.02			-0.22			0.226	0.25			-0.76	**	.	-0.21			-0.02			0.030
Oxychlorthane	-0.02			-0.91	**	**	-0.01			0.002	-0.29			-0.75	.		-1.75	**		0.00			0.002
Trans-chlordane	-0.01			-0.02			0.02			0.490	0.68			1.47	*		1.27			-0.01			0.147
Trans-nonachlor	-0.01			-0.06			0.00			0.544	-0.04			-0.05			-0.02			0.00			0.954
p,p'-DDE	-0.13	***	***	-0.19	***	***	-0.07	*		0.006	-0.72	***	***	-0.37	***	**	-0.12	***		-0.03			<0.001
o,p'-DDD	-0.04	.		0.03			-0.07	**		0.020	0.00			-0.09	*		0.09	.		-0.07	*		0.017
p,p'-DDD	0.04	.		0.00			0.08	*		0.121	0.04			-0.07			0.00			0.08	**	.	0.224
p,p'-DDT	0.03			-0.02			0.09	**		0.014	0.57	.		-0.41	**		0.00			0.11	**	*	<0.001
Mirex	-0.06	**	.	-0.11	***	**	0.00			0.011	0.20	*		-0.12			-0.05	.		-0.17	***	**	<0.001
PBB 153	0.00			0.01			-0.03			0.323	-0.03			-0.01			0.05			0.01			0.677
PBDE 28	-0.05	*		-0.03			-0.15	**		0.033	-0.47	***	***	-0.07	*		0.02			-0.02			<0.001
PBDE 47	-0.06	**	.	0.00			-0.12	***	**	0.004	-0.15	***	**	0.00			-0.05			-0.04			0.087
PBDE 85	-0.03			-0.01			-0.07	.		0.200	-0.08	*		0.18	***	**	-0.04			-0.20	**	*	<0.001
PBDE 99	0.03			0.04			0.00			0.349	-0.06			0.07	*		-0.07			0.13	*		0.008
PBDE 100	-0.09	***	***	-0.06	*	.	-0.13	***	**	0.075	-0.15	***	*	-0.10	**	.	-0.05			-0.06			0.311
PBDE 153	-0.04	.		-0.01			-0.07	*		0.195	-0.05	.		-0.04			-0.03			0.00			0.921
PBDE 154	-0.02			0.01			-0.07	*		0.058	-0.07	.		0.05			0.00			-0.09			0.155
PBDE 183	0.05	*		0.05	*	.	0.05			0.964	0.05			0.10			0.05			0.05			0.514
PBDE 209	-0.06	**	*	-0.02			-0.13	***	**	0.009	-0.02			-0.13			-0.02			-0.02			<0.001
PCB 5/8	0.04			0.08	*	.	0.01			0.157	0.26			0.19	**		0.04			-0.04			0.063
PCB 18/17	0.06	**	*	0.06	**	*	0.65	**		0.018	0.06	**	*	1.78	***	***	0.02			-1.61			<0.001
PCB 22	0.08	***	*	0.08	**	*	0.10	**		0.591	0.24	**	.	0.33	***	***	0.04			-0.05			<0.001
PCB 31/28	0.10	***	***	0.10	***	**	0.10	*		0.956	0.18	*		0.32	***	***	0.04			0.12	*		<0.001
PCB 33/20	0.07	**	*	0.07	*	*	0.09	*		0.694	0.24	**	.	0.35	***	***	0.04			-0.10			<0.001
PCB 37	0.11	***	***	0.10	***	**	0.12	**	*	0.776	0.25	**	*	0.37	***	***	0.05	.		0.00			<0.001
PCB 41/64	0.09	***	*	0.19	***	***	0.05			0.013	0.37	***	**	0.20	***	**	0.05			-0.01			<0.001
PCB 44	0.06	*		0.17	***	**	0.02			0.013	0.27	**	.	0.18	***	**	0.01			-0.03			<0.001
PCB 47/48/75	0.06	*		0.17	***	**	0.03			0.017	0.31	**	*	0.15	***	*	0.02			-0.03			0.002
PCB 49/43	0.06	*		0.14	**	**	0.03			0.037	0.27	**	*	0.17	***	**	0.02			-0.04			<0.001
PCB 52/73	0.03			0.18	*	*	0.00			0.032	0.34	*		0.18	*		0.05			-0.02			0.041
PCB 66/80	0.11	***	***	0.19	***	***	0.04			0.003	0.31	***	**	0.19	***	**	0.08	.		0.00			<0.001
PCB 70/76	0.08	**	*	0.15	***	**	0.03			0.026	0.23	**		0.19	***	**	0.05			-0.03			0.004
PCB 74/61	0.02			0.03			0.02			0.847	0.08			0.11	.		0.10			-0.06			0.037
PCB 90/101/89	0.05			0.20	**	**	0.01			0.009	0.41	***	*	0.21	**	*	0.04			-0.03			<0.001
PCB 93/95	0.03			0.53	***	**	0.01			0.002	1.10	***	*	0.70	***	**	0.00			-0.01			<0.001
PCB 99	0.01			0.08			0.00			0.295	0.34	***	***	0.09			0.21	.		-0.09	*		<0.001
PCB 85/120	0.07	**	.	0.16	***	**	0.03			0.016	0.23	***	*	0.11	*		0.16	*		-0.03			0.010
PCB 110	0.06	*		0.20	***	**	0.01			0.003	0.35	***	*	0.17	**	.	0.10			-0.02			0.002

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.02			0.06			0.00			0.259	0.20	***	***	0.02			0.06			-0.15	***	**	<0.001
PCB 105/127	0.02			0.07			-0.01			0.169	0.20	***	***	0.02			0.08			-0.14	***	**	<0.001
PCB 114/122	0.02			0.09	*	.	-0.02			0.031	0.09	**		-0.04			0.09			-0.14	.		0.007
PCB 128	-0.04	.		-0.03			-0.05			0.629	0.07			-0.01			-0.01			-0.24	***	***	<0.001
PCB 137	-0.01			0.01			-0.02			0.623	0.06			0.04			0.05			-0.12	**	.	0.019
PCB 138/158	-0.06	*		-0.08	*	.	-0.05			0.438	0.09	*		-0.09			0.06			-0.21	***	***	<0.001
PCB 146/161	-0.09	**	*	-0.09	*	.	-0.09	*		0.831	0.16	*		-0.06			0.04			-0.24	***	***	<0.001
PCB 153	-0.06	*		-0.08	*	.	-0.05			0.513	0.08	.		-0.04			0.09			-0.21	***	***	<0.001
PCB 156	-0.02			-0.02			-0.02			0.840	0.03			-0.16	*		0.05			-0.17	**	*	0.002
PCB 157	-0.03			0.00			-0.09	*		0.074	0.06	.		-0.19	**	.	-0.04			-0.17	***	**	<0.001
PCB 167	-0.10	***	**	-0.09	*	*	-0.11	**		0.750	0.08	.		-0.21	**	.	-0.17	*		-0.21	***	***	<0.001
PCB 170	-0.06	*		-0.06	*	.	-0.06			0.888	0.00			-0.15			-0.08			-0.22	***	***	0.002
PCB 172/192	-0.08	**	.	-0.07	*	.	-0.08	*		0.935	-0.01			0.04			-0.16	*		-0.17	***	**	0.012
PCB 177	-0.05	*		-0.07	.		-0.04			0.480	0.08	.		0.07			0.00			-0.19	***	***	<0.001
PCB 180	-0.07	**	.	-0.07	*	*	-0.06			0.661	0.00			-0.06			-0.06			-0.21	***	***	0.002
PCB 182/187	-0.03			-0.06			-0.02			0.493	0.10			0.25	*		0.14			-0.11	**	*	<0.001
PCB 183	-0.02			-0.04			-0.01			0.556	0.06			0.21	*		-0.06			-0.13	***	*	<0.001
PCB 194	-0.04	.		-0.03			-0.05			0.767	0.00			0.02			-0.02			-0.22	***	***	0.002
PCB 195	-0.02			-0.03			0.00			0.552	0.03			0.07			0.00			-0.17	***	**	0.003
PCB 196/203	-0.06	*		-0.04			-0.09	*		0.350	0.00			-0.01			0.06			-0.21	***	***	0.002
PCB 199	-0.06	*		-0.05			-0.08	*		0.490	0.02			-0.03			-0.01			-0.20	***	***	<0.001
PCB 202	-0.06	*		-0.05			-0.07	.		0.912	0.10			0.07			0.04			-0.15	***	**	0.002
PCB 206	-0.07	*		-0.08	*	.	-0.05			0.570	0.03			0.06			0.16			-0.30	***	***	<0.001
PCB 208	-0.15	***	***	-0.14	**	**	-0.16	***	*	0.915	-0.01			-0.08			0.03			-0.28	***	***	<0.001
PCB 209	-0.08	*		-0.07			-0.09	.		0.821	-0.01			-0.13	.		0.21	*		-0.22	***	**	<0.001
NMeFOSAA	0.04	.		0.17	***	***	-0.08	*		<0.001	0.05			0.13	**	*	-0.09	.		0.06			0.011
PFDA	0.07	**	*	0.04			0.10	**	*	0.217	0.36	***	***	0.13	**	*	0.01			-0.29	***	***	<0.001
PFDoDA	0.00			-0.03			0.01			0.484	0.30	***	***	0.13	**	*	-0.02			-0.38	***	***	<0.001
PFDS	-0.07	**	.	-0.06	.		-0.08	*		0.689	0.10			-0.02			0.00			-0.17	***	***	<0.001
PFHpA	0.16	***	***	0.08	*	*	0.24	***	***	<0.001	0.20	***	***	0.37	***	***	0.00			0.18	***	**	<0.001
PFHxS	0.13	***	***	0.11	***	**	0.14	***	**	0.568	0.18	***	***	0.03			0.11	.		0.20	**	*	0.038
PFNA	0.07	**	*	0.01			0.12	***	**	0.012	0.35	***	***	0.11	**		0.02			-0.26	***	***	<0.001
PFOA	0.12	***	***	0.06	.		0.17	***	***	0.008	0.19	***	***	0.20	***	**	-0.01			0.06			<0.001
PFOS	0.02			0.04			-0.01			0.171	0.30	***	***	0.07			0.03			-0.35	***	***	<0.001
PFOSA	-0.13	***	***	-0.08	**	*	-0.20	***	***	0.005	-0.07			-0.21	***	***	-0.03			-0.14	***	**	0.030
PFUnDA	0.00			-0.02			0.01			0.442	0.39	***	***	0.07	.		0.07			-0.27	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 12: Association between EDCs and longitudinal radial length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.10	***	*	0.18	***	***	0.04			0.006	0.08			-0.84	*		-0.62	***	.	0.12	***	***	<0.001
γ-HCH	0.06	*		0.07	**	*	-0.02			0.295	-0.40			-0.38			-1.58	.		0.07	*		0.332
HCB	-0.02			-0.01			-0.30			0.125	0.73			-0.53	.		-0.52	*		-0.01			0.018
Oxychlorodane	-0.05			-1.23	***	**	-0.01			<0.001	-0.21			-0.96	*		-2.53	***	*	-0.01			<0.001
Trans-chlordane	-0.01			-0.01			0.04			0.718	1.18			1.24			1.66			0.00			0.224
Trans-nonachlor	-0.04			-0.27	*	.	0.00			0.053	-0.06			-0.08			-0.37	*		0.00			0.225
p,p'-DDE	-0.12	***	**	-0.15	***	***	-0.09	*		0.153	-0.71	***	***	-0.27	**	.	-0.12	**		-0.01			<0.001
o,p'-DDD	-0.09	***	*	-0.04			-0.12	***	*	0.093	-0.10			-0.09	.		0.04			-0.15	***	***	0.021
p,p'-DDD	0.04			0.04			0.04			0.965	0.10			-0.01			0.00			0.05			0.766
p,p'-DDT	0.01			0.01			0.01			0.837	0.56			-0.20			-0.04			0.10	*		0.008
Mirex	-0.09	***	*	-0.10	**	**	-0.07	.		0.467	0.31	***	**	-0.03			-0.08	*		-0.26	***	***	<0.001
PBB 153	0.01			0.00			0.02			0.666	0.07	.		-0.08			0.03			-0.04			0.180
PBDE 28	-0.04	.		-0.02			-0.16	**		0.031	-0.25	*		-0.05			0.02			-0.06			0.135
PBDE 47	-0.06	*		0.00			-0.12	***	*	0.009	-0.12	**	.	0.07			-0.06			-0.10	*		0.021
PBDE 85	-0.03			-0.01			-0.07	.		0.153	-0.07	.		0.23	***	**	-0.03			-0.32	***	***	<0.001
PBDE 99	0.02			0.04			-0.03			0.160	-0.11	*		0.09	*		-0.06			0.07			0.005
PBDE 100	-0.11	***	***	-0.07	*	.	-0.15	***	***	0.065	-0.18	***	**	-0.10	*		-0.06			-0.13	*		0.279
PBDE 153	-0.08	**	*	-0.06	.		-0.09	*		0.598	-0.08	*		-0.06			-0.09			-0.08			0.973
PBDE 154	-0.02			0.02			-0.05			0.129	-0.02			0.11	*		-0.03			-0.15	*		0.013
PBDE 183	0.08	***	*	0.10	***	**	0.04			0.217	0.09			-0.04			0.09			0.09			0.104
PBDE 209	-0.08	**	*	-0.07	*	.	-0.09	*		0.675	-0.07			-0.09			-0.07			-0.07			0.004
PCB 5/8	0.04			0.07			0.03			0.432	0.14			0.29	***	**	0.02			-0.06			0.008
PCB 18/17	0.05	*		0.05	*	.	0.58	*		0.075	0.05	*		2.02	***	***	-0.26			-1.63			<0.001
PCB 22	0.07	**	.	0.06	.		0.10	*		0.447	0.21	*		0.34	***	***	0.03			-0.09			<0.001
PCB 31/28	0.10	***	**	0.11	***	**	0.09	*		0.635	0.18	.		0.33	***	***	0.03			0.14	*		<0.001
PCB 33/20	0.06	*		0.05			0.09	*		0.458	0.20	*		0.36	***	***	0.03			-0.14	.		<0.001
PCB 37	0.09	***	*	0.09	**	*	0.11	**		0.687	0.21	*		0.37	***	***	0.04			-0.05			<0.001
PCB 41/64	0.11	***	*	0.21	***	***	0.07	.		0.028	0.34	***	*	0.23	***	***	0.06			-0.02			<0.001
PCB 44	0.10	**	*	0.19	***	**	0.05			0.027	0.26	*		0.23	***	***	0.06			-0.04			<0.001
PCB 47/48/75	0.10	**	*	0.22	***	***	0.04			0.006	0.34	**	*	0.18	***	**	0.04			-0.02			<0.001
PCB 49/43	0.10	**	*	0.17	***	**	0.06			0.086	0.27	**	.	0.23	***	***	0.07			-0.07			<0.001
PCB 52/73	0.06			0.24	**	*	0.03			0.018	0.32	.		0.30	***	**	0.10			-0.03			0.003
PCB 66/80	0.13	***	***	0.22	***	***	0.05			<0.001	0.32	***	**	0.23	***	***	0.08			0.01			<0.001
PCB 70/76	0.11	***	*	0.16	***	**	0.07	.		0.117	0.23	*		0.24	***	***	0.05			-0.04			<0.001
PCB 74/61	0.05	.		0.08	*	.	0.01			0.142	0.10	.		0.19	**	.	0.09			-0.05			0.013
PCB 90/101/89	0.09	*		0.26	***	**	0.04			0.005	0.41	**	*	0.30	***	**	0.12			-0.04			<0.001
PCB 93/95	0.05			0.65	***	**	0.02			<0.001	1.03	**	*	0.91	***	***	0.24			-0.01			<0.001
PCB 99	0.05			0.19	**	*	0.01			0.023	0.35	***	**	0.22	*		0.32	*		-0.12	*		<0.001
PCB 85/120	0.10	***	*	0.19	***	***	0.05			0.020	0.22	**	*	0.15	**	*	0.25	**		-0.05			0.002
PCB 110	0.10	**	.	0.24	***	***	0.04			0.006	0.33	**	*	0.25	***	**	0.14			-0.03			<0.001

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.04			0.11	*	*	0.00			0.064	0.17	***	*	0.14	*		0.10			-0.18	**	*	<0.001
PCB 105/127	0.05	.		0.14	**	*	0.00			0.025	0.19	***	**	0.12	.		0.12			-0.16	**	*	<0.001
PCB 114/122	0.03			0.09	*	.	-0.01			0.063	0.07	.		0.01			0.07			-0.11			0.176
PCB 128	0.00			0.06	.		-0.07	.		0.010	0.15	**	*	0.05			-0.01			-0.25	***	***	<0.001
PCB 137	0.03			0.07			0.01			0.239	0.09	.		0.14	.		0.12			-0.12	*		0.003
PCB 138/158	0.01			0.03			-0.01			0.501	0.15	**	*	0.08			0.15			-0.21	***	***	<0.001
PCB 146/161	-0.03			0.02			-0.07	.		0.139	0.24	***	*	0.09			0.08			-0.24	***	***	<0.001
PCB 153	0.01			0.04			-0.02			0.248	0.16	**	*	0.14	.		0.19	.		-0.22	***	***	<0.001
PCB 156	0.01			0.03			-0.02			0.250	0.05			-0.01			0.06			-0.15	*		0.055
PCB 157	0.00			0.05			-0.07			0.024	0.06	.		-0.09			0.03			-0.10	.		0.050
PCB 167	-0.05			0.00			-0.10	*		0.086	0.11	*		-0.08			-0.10			-0.18	***	**	<0.001
PCB 170	0.01			0.02			-0.02			0.500	0.05	.		0.10			-0.02			-0.19	**	*	0.003
PCB 172/192	0.00			0.03			-0.05			0.128	0.08	*		0.23	**	.	-0.13			-0.15	**	*	<0.001
PCB 177	0.02			0.04			0.01			0.626	0.19	***	**	0.23	*		0.04			-0.21	***	***	<0.001
PCB 180	0.00			0.02			-0.03			0.417	0.07	*		0.16	.		-0.02			-0.20	***	**	<0.001
PCB 182/187	0.04			0.11	.		0.00			0.108	0.27	***	**	0.47	***	**	0.24			-0.14	**	*	<0.001
PCB 183	0.06	.		0.09	*	.	0.03			0.309	0.16	***	*	0.41	***	***	0.00			-0.15	**	*	<0.001
PCB 194	0.01			0.02			-0.04			0.278	0.05	.		0.16			0.00			-0.21	***	**	<0.001
PCB 195	0.03			0.04			0.00			0.407	0.08	**		0.23	*		-0.07			-0.18	**	*	<0.001
PCB 196/203	-0.01			0.02			-0.08	.		0.059	0.06			0.10			-0.07			-0.25	***	***	<0.001
PCB 199	-0.01			0.02			-0.07			0.107	0.08	*		0.08			-0.04			-0.21	***	***	<0.001
PCB 202	-0.02			0.05			-0.06			0.084	0.22	**	*	0.22	**		0.02			-0.19	***	***	<0.001
PCB 206	-0.04			-0.02			-0.08	.		0.290	0.10	*		0.11			0.03			-0.34	***	***	<0.001
PCB 208	-0.11	**	.	-0.06			-0.16	**	.	0.128	0.08			0.05			0.03			-0.31	***	***	<0.001
PCB 209	-0.05			0.01			-0.09	.		0.206	0.09			0.04			0.15	.		-0.26	***	***	<0.001
NMeFOSAA	0.04	.		0.13	***	**	-0.05			<0.001	0.00			0.13	**	*	-0.06			0.05			0.020
PFDA	0.06	*		0.05			0.08	*		0.593	0.34	***	***	0.17	***	**	-0.08			-0.29	***	***	<0.001
PFDoDA	-0.01			0.02			-0.02			0.483	0.33	***	***	0.18	***	**	-0.07	*		-0.39	***	***	<0.001
PFDS	-0.05	.		-0.03			-0.08	*		0.247	0.10			0.07			-0.11			-0.19	***	***	<0.001
PFHpA	0.13	***	***	0.04			0.21	***	***	<0.001	0.16	***	**	0.35	***	***	-0.04			0.16	**	.	<0.001
PFHxS	0.06	*		0.03			0.07	*		0.395	0.10	*		0.03			-0.13	*		0.26	***	**	<0.001
PFNA	0.07	**	.	0.04			0.10	**		0.246	0.31	***	***	0.16	***	**	0.02			-0.26	***	***	<0.001
PFOA	0.09	**	*	0.04			0.13	***	*	0.084	0.13	**	*	0.22	***	**	-0.08			0.06			<0.001
PFOS	0.01			0.03			-0.01			0.331	0.29	***	***	0.07			-0.09			-0.29	***	***	<0.001
PFOSA	-0.10	***	**	-0.04			-0.20	***	***	0.001	-0.08			-0.19	***	**	0.03			-0.13	**	*	0.018
PFUnDA	0.01			0.05			-0.01			0.185	0.37	***	***	0.14	**	*	0.02			-0.26	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 13: Association between EDCs and longitudinal ulnar length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.13	***	***	0.21	***	***	0.07	*		0.011	-0.02			-0.10			-0.69	***	*	0.16	***	***	<0.001
γ-HCH	0.05	.		0.06	*	.	-0.06			0.163	-1.14			-0.56			-0.76			0.05	.		0.615
HCB	-0.02			-0.01			-0.30			0.143	0.53			-0.45			-0.63	**		-0.01			0.016
Oxychlorodane	-0.08	.		-1.60	***	***	-0.04			<0.001	-0.34			-1.64	***	**	-2.30	***	.	-0.03			<0.001
Trans-chlordane	-0.01			-0.01			0.00			0.876	1.70			2.06	*		0.31			-0.01			0.063
Trans-nonachlor	-0.08	.		-0.39	**	*	-0.03			0.011	-0.03			-0.17			-0.47	**		-0.04			0.104
p,p'-DDE	-0.10	***	*	-0.15	***	**	-0.06			0.072	-0.66	***	***	-0.09			-0.10	*		-0.03			<0.001
o,p'-DDD	-0.09	***	*	-0.04			-0.12	***	*	0.108	-0.16			-0.12	*		0.06			-0.13	***	**	0.021
p,p'-DDD	0.07	*		0.08	.		0.06	.		0.784	0.06			0.06			0.11			0.07	.		0.946
p,p'-DDT	0.03			0.02			0.04			0.630	0.71	.		0.10			-0.02			0.10	*		0.052
Mirex	-0.11	***	**	-0.12	***	**	-0.10	*		0.644	0.26	**	*	-0.06			-0.09	**		-0.28	***	***	<0.001
PBB 153	0.00			0.00			-0.01			0.680	0.00			0.00			0.06			-0.01			0.834
PBDE 28	-0.02			0.00			-0.16	*		0.021	-0.33	**	.	-0.03			0.04			-0.04			0.030
PBDE 47	-0.06	*		-0.01			-0.11	**	.	0.047	-0.13	**	.	0.05			-0.08			-0.08			0.077
PBDE 85	-0.03			-0.01			-0.07			0.210	-0.06			0.25	***	***	-0.03			-0.35	***	***	<0.001
PBDE 99	0.02			0.05			-0.01			0.250	-0.08			0.09	*		-0.03			0.06			0.056
PBDE 100	-0.08	***	*	-0.06	.		-0.12	***	*	0.166	-0.17	***	**	-0.06			-0.05			-0.08			0.232
PBDE 153	-0.07	*		-0.06	.		-0.07	.		0.827	-0.08	*		-0.01			-0.11			-0.09			0.655
PBDE 154	-0.01			0.03			-0.05			0.111	0.00			0.07			0.02			-0.19	**	*	0.011
PBDE 183	0.06	*		0.05	.		0.07	.		0.718	0.07			-0.01			0.07			0.07			0.336
PBDE 209	-0.09	***	*	-0.09	**	*	-0.08	*		0.954	-0.09			-0.08			-0.09			-0.09			0.002
PCB 5/8	0.03			0.04			0.03			0.764	0.32			0.31	***	**	-0.01			-0.04			0.003
PCB 18/17	0.06	**		0.06	**	*	0.69	*		0.038	0.06	**	.	2.21	***	***	-0.45			-0.29			<0.001
PCB 22	0.09	**	*	0.06	.		0.15	***	*	0.096	0.27	**	.	0.47	***	***	-0.01			0.07			<0.001
PCB 31/28	0.11	***	**	0.10	**	*	0.14	**	.	0.427	0.25	**	.	0.45	***	***	-0.01			0.19	**	*	<0.001
PCB 33/20	0.07	**		0.04			0.14	**	.	0.108	0.27	**	.	0.49	***	***	-0.01			-0.01			<0.001
PCB 37	0.11	***	**	0.09	*	*	0.15	***	*	0.239	0.25	**	*	0.49	***	***	0.01			0.07			<0.001
PCB 41/64	0.11	***	*	0.21	***	**	0.06			0.028	0.43	***	***	0.25	***	***	-0.05			-0.02			<0.001
PCB 44	0.09	**		0.19	***	**	0.05			0.035	0.35	***	*	0.24	***	***	-0.04			-0.03			<0.001
PCB 47/48/75	0.09	**	.	0.22	***	**	0.04			0.006	0.41	***	**	0.21	***	**	-0.06			-0.02			<0.001
PCB 49/43	0.09	**	.	0.16	**	*	0.06			0.121	0.34	***	**	0.24	***	***	-0.03			-0.06			<0.001
PCB 52/73	0.04			0.19	*	.	0.01			0.046	0.45	*		0.28	**	*	-0.02			-0.04			0.002
PCB 66/80	0.13	***	**	0.21	***	***	0.05			0.004	0.38	***	***	0.24	***	***	0.01			0.03			<0.001
PCB 70/76	0.09	**	.	0.14	**	*	0.06			0.195	0.28	**	.	0.24	***	***	-0.02			-0.03			<0.001
PCB 74/61	0.06	*		0.08	*	.	0.03			0.353	0.14	*		0.20	**	.	0.01			-0.02			0.024
PCB 90/101/89	0.07	.		0.25	***	**	0.02			0.007	0.47	***	*	0.29	***	**	0.01			-0.05			<0.001
PCB 93/95	0.03			0.60	**	**	0.00			0.002	1.28	***	**	0.91	***	***	-0.12			-0.03			<0.001
PCB 99	0.04			0.18	*	*	0.01			0.034	0.41	***	***	0.21	*		0.23	.		-0.13	*		<0.001
PCB 85/120	0.10	**	*	0.19	***	**	0.06			0.033	0.24	**	*	0.14	**		0.20	*		-0.03			0.013
PCB 110	0.09	*		0.25	***	**	0.03			0.004	0.40	***	*	0.25	***	**	0.05			-0.03			<0.001

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.05			0.11	*	.	0.02			0.132	0.22	***	***	0.10			0.05			-0.17	**	*	<0.001
PCB 105/127	0.06	.		0.14	**	*	0.01			0.040	0.24	***	***	0.08			0.08			-0.17	**	*	<0.001
PCB 114/122	0.03			0.09	*		0.00			0.101	0.09	*		-0.02			0.04			-0.11			0.087
PCB 128	0.02			0.06			-0.02			0.159	0.18	***	**	0.06			-0.01			-0.20	***	**	<0.001
PCB 137	0.02			0.05			0.00			0.333	0.13	**	.	0.11			0.00			-0.15	**	.	<0.001
PCB 138/158	0.01			0.02			0.01			0.867	0.20	***	**	0.09			0.09			-0.25	***	***	<0.001
PCB 146/161	-0.04			-0.01			-0.06			0.406	0.28	***	**	0.15	*		0.01			-0.27	***	***	<0.001
PCB 153	0.01			0.04			-0.01			0.376	0.19	***	**	0.17	*		0.11			-0.26	***	***	<0.001
PCB 156	0.02			0.03			0.00			0.642	0.08	*		-0.02			0.04			-0.21	**	*	0.002
PCB 157	0.00			0.03			-0.04			0.188	0.08	*		-0.10			0.02			-0.15	**	.	0.005
PCB 167	-0.05			-0.02			-0.07			0.461	0.15	**	*	-0.06			-0.10			-0.22	***	***	<0.001
PCB 170	0.01			0.02			-0.02			0.466	0.08	*	.	0.14			-0.07			-0.29	***	***	<0.001
PCB 172/192	-0.01			0.02			-0.06			0.124	0.11	**	.	0.33	***	**	-0.19	*		-0.23	***	***	<0.001
PCB 177	0.02			0.04			-0.01			0.379	0.21	***	***	0.30	**	*	0.01			-0.26	***	***	<0.001
PCB 180	-0.01			0.01			-0.04			0.350	0.09	**	.	0.20	.		-0.08			-0.29	***	***	<0.001
PCB 182/187	0.01			0.08			-0.02			0.153	0.30	***	**	0.51	***	***	0.12			-0.19	***	**	<0.001
PCB 183	0.05			0.08	.		0.02			0.302	0.19	***	**	0.45	***	***	-0.05			-0.22	***	***	<0.001
PCB 194	0.01			0.03			-0.07			0.095	0.07	*		0.18	.		-0.07			-0.31	***	***	<0.001
PCB 195	0.03			0.05			-0.02			0.205	0.12	***	**	0.21	.		-0.07			-0.26	***	***	<0.001
PCB 196/203	-0.02			0.02			-0.12	*		0.013	0.07	*		0.08			-0.10			-0.32	***	***	<0.001
PCB 199	-0.03			0.01			-0.11	*		0.036	0.09	*		0.06			-0.09			-0.30	***	***	<0.001
PCB 202	-0.06			0.02			-0.10	*		0.081	0.22	**	*	0.23	**		-0.02			-0.25	***	***	<0.001
PCB 206	-0.04			-0.01			-0.09	.		0.243	0.11	*		0.17	*		0.02			-0.38	***	***	<0.001
PCB 208	-0.11	**	.	-0.09	.		-0.15	**		0.436	0.04			0.05			0.06			-0.31	***	***	<0.001
PCB 209	-0.07	.		-0.03			-0.10	*		0.378	-0.01			-0.01			0.18	.		-0.26	***	***	<0.001
NMeFOSAA	0.04			0.13	***	**	-0.05			<0.001	0.02			0.10	*		-0.10	.		0.12	*		0.013
PFDA	0.08	**	.	0.05			0.11	**		0.302	0.38	***	***	0.17	***	**	-0.07			-0.28	***	***	<0.001
PFDoDA	0.00			0.04			0.00			0.452	0.32	***	***	0.19	***	**	-0.05			-0.39	***	***	<0.001
PFDS	-0.05	.		-0.03			-0.07			0.423	0.14	.		0.03			-0.07			-0.16	***	**	<0.001
PFHpA	0.15	***	***	0.08	*	.	0.21	***	***	0.006	0.21	***	***	0.36	***	***	-0.03			0.14	*		<0.001
PFHxS	0.06	*		0.05			0.07	.		0.673	0.13	**	*	0.02			-0.12	.		0.20	*		0.002
PFNA	0.05	*		-0.02			0.12	***	*	0.005	0.31	***	***	0.09	*		0.00			-0.24	***	***	<0.001
PFOA	0.10	***	*	0.05			0.14	***	*	0.058	0.15	**	*	0.22	***	**	-0.10	.		0.11	.		<0.001
PFOS	0.02			0.02			0.00			0.595	0.31	***	***	0.08			-0.12	*		-0.29	***	***	<0.001
PFOSA	-0.12	***	***	-0.08	*	*	-0.18	***	**	0.051	-0.09	.		-0.18	***	**	0.01			-0.16	***	**	0.044
PFUnDA	0.01			0.03			0.01			0.641	0.38	***	***	0.12	**		0.08			-0.26	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 14: Association between EDCs and longitudinal femur length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.16	***	***	0.18	***	***	0.14	***	**	0.445	0.40			0.17			-0.39	*		0.17	***	***	0.006
γ-HCH	0.06	*		0.06	*	.	0.00			0.454	1.39			0.84	.		-0.94			0.05	*		0.265
HCB	-0.03			-0.03			-0.05			0.889	-0.40			-0.55	.		-0.14			-0.02			0.257
Oxychlorodane	0.01			-0.98	**	*	0.02			<0.001	-0.95	*		0.02			-1.67	**		0.02			0.003
Trans-chlordane	-0.01			-0.03			0.04			0.193	0.03			1.43	.		1.68			-0.01			0.156
Trans-nonachlor	0.00			-0.31	**	*	0.03			0.005	-0.19			0.14			-0.23			0.02			0.212
p,p'-DDE	-0.09	***	*	-0.16	***	***	-0.03			0.006	-0.83	***	***	-0.32	***	*	-0.05			-0.01			<0.001
o,p'-DDD	-0.04			0.01			-0.07	*		0.070	0.03			-0.05			0.09	.		-0.09	**	.	0.015
p,p'-DDD	0.05	*		0.03			0.07	.		0.441	0.03			0.00			0.07			0.06	.		0.867
p,p'-DDT	0.05	*		0.02			0.09	**		0.099	0.57	.		-0.13			0.04			0.08	.		0.325
Mirex	-0.09	***	**	-0.13	***	***	-0.05			0.056	0.24	**	.	-0.08			-0.10	***		-0.17	***	**	<0.001
PBB 153	0.01			0.01			0.00			0.893	-0.01			0.00			0.01			0.01			0.973
PBDE 28	-0.06	**	.	-0.04	.		-0.19	**	*	0.016	-0.62	***	***	-0.07	*		-0.01			-0.01			<0.001
PBDE 47	-0.08	***	*	0.00			-0.15	***	***	<0.001	-0.20	***	***	0.01			-0.10	*		-0.01			0.008
PBDE 85	-0.02			-0.01			-0.06			0.264	-0.06			0.19	***	*	-0.05			-0.21	**	.	<0.001
PBDE 99	0.02			0.04			-0.02			0.266	-0.05			0.07	.		-0.09	.		0.13	*		0.011
PBDE 100	-0.10	***	***	-0.05	.		-0.15	***	***	0.018	-0.19	***	**	-0.10	*		-0.06			0.00			0.066
PBDE 153	-0.05	*		-0.02			-0.08	*		0.178	-0.08	*		-0.03			-0.03			0.06			0.405
PBDE 154	-0.03			0.02			-0.09	**		0.021	-0.11	**	.	0.00			0.05			-0.09			0.021
PBDE 183	0.05	*		0.04			0.06			0.765	0.04			0.22			0.04			0.04			0.035
PBDE 209	-0.07	***	*	-0.02			-0.14	***	**	0.010	-0.02			-0.14			-0.02			-0.02			<0.001
PCB 5/8	0.04			0.08	.		0.02			0.301	0.22			0.13	.		0.04			0.01			0.514
PCB 18/17	0.07	**	*	0.06	**	*	0.93	***	*	<0.001	0.06	**	*	1.92	***	***	0.08			-0.21			<0.001
PCB 22	0.08	***	*	0.07	*	*	0.11	**		0.535	0.18	*		0.29	***	***	0.04			0.06			0.002
PCB 31/28	0.10	***	**	0.10	***	**	0.11	**		0.914	0.10			0.27	***	**	0.04			0.17	**	*	0.005
PCB 33/20	0.07	**	.	0.07	*	.	0.10	*		0.589	0.17	.		0.30	***	***	0.04			0.00			<0.001
PCB 37	0.09	***	**	0.09	**	*	0.10	**		0.948	0.16	.		0.32	***	***	0.04			0.05			<0.001
PCB 41/64	0.09	***	*	0.18	***	**	0.06	.		0.055	0.31	**	*	0.17	***	*	0.03			0.03			0.022
PCB 44	0.07	*		0.14	**	*	0.04			0.094	0.24	*		0.15	**	.	-0.01			0.02			0.054
PCB 47/48/75	0.07	*		0.15	**	*	0.04			0.070	0.26	*		0.13	**	.	0.01			0.02			0.070
PCB 49/43	0.07	*		0.13	**	*	0.04			0.132	0.23	*		0.14	**	.	0.01			0.01			0.054
PCB 52/73	0.04			0.14	.		0.02			0.161	0.30			0.11			0.04			0.01			0.448
PCB 66/80	0.09	***	*	0.16	***	***	0.04			0.015	0.19	*		0.15	**	*	0.07			0.04			0.241
PCB 70/76	0.08	**	.	0.13	**	*	0.04			0.109	0.19	*		0.15	**	.	0.03			0.03			0.169
PCB 74/61	0.03			0.03			0.03			0.918	0.03			0.08			0.07			0.00			0.773
PCB 90/101/89	0.05			0.17	*	*	0.02			0.060	0.34	**		0.15	*		-0.02			0.00			0.039
PCB 93/95	0.04			0.42	*	*	0.02			0.026	0.99	**	.	0.51	**		-0.11			0.02			0.003
PCB 99	0.00			0.03			-0.01			0.680	0.23	**		0.00			0.16			-0.06			0.017
PCB 85/120	0.05	.		0.12	**	*	0.01			0.056	0.17	*		0.03			0.07			0.02			0.464
PCB 110	0.06	*		0.17	**	*	0.02			0.033	0.32	**	.	0.11	.		0.05			0.01			0.094

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.01			0.01			-0.02			0.718	0.12	**		-0.06			0.01			-0.11	*		0.004
PCB 105/127	-0.01			0.01			-0.03			0.555	0.12	*		-0.08			0.04			-0.11	*		0.004
PCB 114/122	0.03			0.10	*	*	-0.01			0.038	0.08	*		-0.03			0.13			-0.05			0.098
PCB 128	-0.07	**	*	-0.03			-0.13	***	*	0.045	0.07			-0.08			-0.09			-0.24	***	***	<0.001
PCB 137	-0.01			0.02			-0.03			0.417	0.05			0.01			0.04			-0.08	.		0.214
PCB 138/158	-0.06	*		-0.07	.		-0.06			0.642	0.08			-0.09			0.08			-0.21	***	***	<0.001
PCB 146/161	-0.07	*		-0.06			-0.09	*		0.682	0.17	*		-0.04			0.08			-0.22	***	***	<0.001
PCB 153	-0.05	.		-0.06			-0.05			0.811	0.07			-0.03			0.14			-0.20	***	***	<0.001
PCB 156	0.01			0.01			0.00			0.990	0.05			-0.15	*		0.14	*		-0.15	*		<0.001
PCB 157	-0.01			0.02			-0.07	.		0.099	0.07	.		-0.20	**	.	0.05			-0.15	**	.	<0.001
PCB 167	-0.12	***	***	-0.09	*	*	-0.15	***	**	0.309	0.04			-0.24	**	.	-0.17	*		-0.23	***	***	<0.001
PCB 170	-0.04			-0.03			-0.07			0.600	0.01			-0.07			-0.02			-0.20	***	**	0.012
PCB 172/192	-0.04			-0.02			-0.09	*		0.235	0.02			0.14	.		-0.14	.		-0.14	**	*	0.004
PCB 177	-0.04			-0.04			-0.04			0.819	0.09	.		0.05			0.02			-0.17	***	***	<0.001
PCB 180	-0.05	.		-0.04			-0.07			0.726	0.01			0.04			-0.01			-0.20	***	***	0.003
PCB 182/187	-0.01			-0.02			-0.01			0.867	0.14	*		0.28	*		0.18			-0.10	**		<0.001
PCB 183	-0.01			-0.01			-0.01			0.850	0.07			0.24	*		-0.03			-0.12	**	.	<0.001
PCB 194	-0.02			-0.01			-0.05			0.649	0.01			0.15			0.03			-0.19	***	**	0.003
PCB 195	-0.01			-0.01			0.00			0.782	0.04			0.16			0.05			-0.15	**	*	0.005
PCB 196/203	-0.05	.		-0.02			-0.10	*		0.183	0.00			0.02			0.14			-0.21	***	***	0.002
PCB 199	-0.05	.		-0.02			-0.09	*		0.233	0.02			0.04			0.04			-0.20	***	***	<0.001
PCB 202	-0.06	.		-0.04			-0.07	.		0.828	0.09			0.11			0.02			-0.14	***	**	0.005
PCB 206	-0.08	*		-0.08	*		-0.07			0.724	0.00			0.16	*		0.15			-0.32	***	***	<0.001
PCB 208	-0.15	***	***	-0.14	**	*	-0.18	***	*	0.684	-0.07			0.04			0.01			-0.31	***	***	<0.001
PCB 209	-0.11	**	*	-0.06			-0.15	**	*	0.251	-0.09			-0.13			0.21	*		-0.26	***	***	<0.001
NMeFOSAA	0.07	**		0.17	***	***	-0.03			<0.001	0.00			0.19	***	**	-0.12	*		0.18	**	*	<0.001
PFDA	0.06	*		0.02			0.09	**		0.198	0.35	***	***	0.14	**	*	-0.04			-0.31	***	***	<0.001
PFDoDA	-0.01			0.00			-0.01			0.806	0.46	***	***	0.13	**	.	-0.07	*		-0.41	***	***	<0.001
PFDS	-0.07	**		-0.03			-0.11	**	.	0.105	0.18	*		-0.05			-0.04			-0.15	***	**	<0.001
PFHpA	0.16	***	***	0.13	***	**	0.18	***	***	0.215	0.22	***	***	0.28	***	***	0.03			0.13	*		<0.001
PFHxS	0.12	***	***	0.09	**	*	0.15	***	***	0.206	0.13	***	*	0.12	**	.	0.04			0.20	**	*	0.225
PFNA	0.06	**		0.00			0.12	***	*	0.014	0.36	***	***	0.10	*		0.00			-0.26	***	***	<0.001
PFOA	0.13	***	***	0.07	.		0.19	***	***	0.006	0.18	***	***	0.18	***	*	0.04			0.10	.		0.058
PFOS	0.03			0.07	.		0.00			0.140	0.25	***	***	0.16	***	*	0.01			-0.33	***	***	<0.001
PFOSA	-0.13	***	***	-0.09	**	*	-0.21	***	***	0.009	-0.18	***	*	-0.18	***	**	0.01			-0.15	***	**	0.012
PFUnDA	-0.02			-0.02			-0.03			0.813	0.47	***	***	0.08	.		-0.04			-0.31	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 15: Association between EDCs and longitudinal tibia length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.16	***	***	0.20	***	***	0.13	***	*	0.187	0.45			-0.35			-0.53	**		0.18	***	***	<0.001
γ-HCH	0.07	*		0.07	*	.	0.09			0.792	0.64			-0.35			-1.70	.		0.07	**	.	0.312
HCB	-0.06	*		-0.06	*	.	0.04			0.768	1.15	*		-0.57	.		-0.43	.		-0.05	*		0.022
Oxychlorthane	-0.03			-1.60	***	***	0.01			<0.001	-0.26			-1.33	**	.	-2.63	***	*	0.01			<0.001
Trans-chlordane	-0.05	.		-0.08	*	.	0.06			0.107	0.19			0.33			-0.09			-0.05			0.971
Trans-nonachlor	-0.05			-0.40	**	*	0.00			0.005	-0.10			-0.19			-0.47	**		0.01			0.059
p,p'-DDE	-0.11	***	**	-0.17	***	***	-0.05			0.019	-0.82	***	***	-0.26	*		-0.09	*		-0.01			<0.001
o,p'-DDD	-0.06	*		-0.04			-0.07	*		0.523	0.05			-0.06			0.02			-0.11	**	*	0.251
p,p'-DDD	0.02			0.02			0.03			0.921	-0.10			-0.07			0.11			0.04			0.296
p,p'-DDT	0.04			0.02			0.06			0.421	0.36			-0.18			0.00			0.12	**	.	0.090
Mirex	-0.10	***	**	-0.14	***	**	-0.05			0.109	0.30	**	*	-0.13			-0.09	**		-0.25	***	***	<0.001
PBB 153	-0.01			-0.01			0.01			0.637	0.04			-0.01			-0.04			-0.03			0.581
PBDE 28	-0.05	*		-0.01			-0.29	***	***	<0.001	-0.57	***	***	-0.06	*		-0.02			0.04			<0.001
PBDE 47	-0.09	***	*	0.01			-0.18	***	***	<0.001	-0.21	***	***	0.02			-0.10	.		-0.04			0.005
PBDE 85	-0.01			0.00			-0.04			0.386	-0.09	*		0.28	***	***	-0.03			-0.21	**	.	<0.001
PBDE 99	0.03			0.07	*	.	-0.04			0.040	-0.10	.		0.10	**		-0.05			0.10			0.006
PBDE 100	-0.12	***	***	-0.06	.		-0.17	***	***	0.021	-0.23	***	***	-0.09	*		-0.08	.		-0.05			0.068
PBDE 153	-0.10	***	**	-0.11	**	*	-0.08	*		0.625	-0.13	***	**	-0.02			-0.11			-0.14	.		0.329
PBDE 154	-0.03			0.03			-0.11	**	.	0.006	-0.06			0.05			0.02			-0.21	**	*	0.009
PBDE 183	0.07	**	.	0.06	.		0.09	*		0.498	0.07			0.01			0.07			0.07			0.439
PBDE 209	-0.09	***	**	-0.06	.		-0.13	***	*	0.127	-0.06			-0.13			-0.06			-0.06			<0.001
PCB 5/8	0.06	.		0.05			0.07	.		0.750	0.59	**	.	0.25	**	.	0.02			-0.01			0.006
PCB 18/17	0.07	**	*	0.07	**	*	0.86	**	.	0.010	0.07	**	*	2.62	***	***	-0.66			-0.50			<0.001
PCB 22	0.11	***	**	0.08	*		0.16	***	**	0.153	0.31	**	*	0.42	***	***	0.02			0.05			<0.001
PCB 31/28	0.15	***	***	0.13	***	**	0.17	***	**	0.494	0.28	**	*	0.41	***	***	0.03			0.20	***	**	<0.001
PCB 33/20	0.10	***	*	0.06			0.15	***	*	0.125	0.31	**	*	0.44	***	***	0.02			-0.04			<0.001
PCB 37	0.13	***	***	0.11	**	*	0.16	***	**	0.490	0.29	***	*	0.45	***	***	0.03			0.05			<0.001
PCB 41/64	0.13	***	**	0.18	**	*	0.11	**		0.321	0.48	***	***	0.21	***	**	0.00			0.03			<0.001
PCB 44	0.11	**	*	0.15	**	*	0.09	*		0.353	0.41	***	**	0.19	***	*	0.00			0.02			0.002
PCB 47/48/75	0.11	***	*	0.15	**	*	0.10	*		0.390	0.43	***	**	0.17	**	*	0.01			0.02			0.003
PCB 49/43	0.11	***	*	0.13	*	*	0.10	*		0.618	0.40	***	**	0.19	***	*	0.01			0.00			0.001
PCB 52/73	0.08	.		0.15	.		0.07			0.351	0.59	**	*	0.24	**		0.03			0.01			0.007
PCB 66/80	0.15	***	***	0.19	***	***	0.10	*		0.132	0.37	***	***	0.19	***	*	0.07			0.08			0.017
PCB 70/76	0.11	***	*	0.12	*	*	0.11	*		0.752	0.36	***	**	0.19	***	*	0.02			0.02			0.006
PCB 74/61	0.06	*		0.04			0.10	*		0.359	0.11	.		0.17	*		0.05			0.00			0.183
PCB 90/101/89	0.10	*		0.17	*	.	0.08	.		0.263	0.57	***	**	0.24	**	*	0.01			-0.01			<0.001
PCB 93/95	0.07			0.48	*	*	0.05			0.031	1.57	***	***	0.76	***	**	-0.11			0.02			<0.001
PCB 99	0.04			0.01			0.06			0.602	0.35	***	**	0.15	.		0.22			-0.10	.		<0.001
PCB 85/120	0.09	**	.	0.13	*	*	0.07			0.321	0.24	**	*	0.10	.		0.09			0.01			0.110
PCB 110	0.11	**	.	0.18	**	*	0.08	.		0.188	0.49	***	**	0.18	**		0.05			0.01			0.002

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.03			-0.01			0.06			0.257	0.18	***	**	0.05			0.04			-0.17	**	*	<0.001
PCB 105/127	0.04			0.03			0.05			0.732	0.20	***	**	0.03			0.08			-0.15	**	.	<0.001
PCB 114/122	0.05			0.07			0.03			0.525	0.08	*		0.04			0.09			-0.12			0.154
PCB 128	-0.02			0.00			-0.05			0.388	0.11	*		0.02			-0.02			-0.24	***	***	<0.001
PCB 137	0.00			-0.04			0.04			0.246	0.09	.		0.05			0.00			-0.12	*		0.037
PCB 138/158	-0.02			-0.09	*		0.05			0.029	0.15	**	*	0.03			0.08			-0.26	***	***	<0.001
PCB 146/161	-0.05			-0.08	.		-0.02			0.358	0.24	**	*	0.11			0.05			-0.28	***	***	<0.001
PCB 153	-0.01			-0.06			0.04			0.101	0.15	**	*	0.08			0.15			-0.26	***	***	<0.001
PCB 156	0.01			-0.01			0.04			0.268	0.07	*		-0.05			0.07			-0.25	***	**	<0.001
PCB 157	0.00			0.00			0.00			0.984	0.10	*		-0.14	.		0.04			-0.18	**	*	<0.001
PCB 167	-0.09	**	.	-0.11	**	*	-0.06			0.356	0.10	*		-0.14			-0.15	.		-0.25	***	***	<0.001
PCB 170	-0.02			-0.03			0.01			0.457	0.04			0.09			-0.11			-0.28	***	***	<0.001
PCB 172/192	-0.05			-0.04			-0.04			1.000	0.05			0.16	.		-0.20	*		-0.22	***	***	<0.001
PCB 177	0.00			-0.05			0.05			0.122	0.16	**	*	0.22	*		0.06			-0.24	***	***	<0.001
PCB 180	-0.03			-0.05			0.00			0.380	0.05			0.15			-0.12			-0.28	***	***	<0.001
PCB 182/187	0.02			-0.02			0.04			0.402	0.26	***	**	0.36	**	.	0.23			-0.16	**	*	<0.001
PCB 183	0.02			-0.02			0.06			0.267	0.13	**	.	0.26	*		-0.05			-0.19	***	**	<0.001
PCB 194	-0.02			-0.03			-0.02			0.878	0.02			0.21	.		-0.16			-0.29	***	***	<0.001
PCB 195	0.00			-0.02			0.03			0.431	0.06	.		0.23	.		-0.12			-0.25	***	***	<0.001
PCB 196/203	-0.06	*		-0.06	.		-0.07			0.864	0.02			0.02			-0.14			-0.31	***	***	<0.001
PCB 199	-0.06	.		-0.06	.		-0.05			0.887	0.04			0.05			-0.08			-0.28	***	***	<0.001
PCB 202	-0.04			-0.07			-0.02			0.470	0.18	*		0.16	.		0.03			-0.20	***	***	<0.001
PCB 206	-0.09	*		-0.12	*	*	-0.04			0.292	0.02			0.20	*		-0.01			-0.40	***	***	<0.001
PCB 208	-0.15	***	**	-0.20	***	**	-0.09			0.124	-0.03			0.01			-0.04			-0.30	***	***	0.003
PCB 209	-0.04			-0.08			-0.02			0.459	0.08			-0.03			0.18	.		-0.22	***	*	0.002
NMeFOSAA	0.04			0.13	***	**	-0.06			<0.001	0.00			0.11	*		-0.11	*		0.14	*		0.005
PFDA	0.08	**	.	0.04			0.11	**	.	0.163	0.35	***	***	0.19	***	**	-0.05			-0.30	***	***	<0.001
PFDoDA	-0.02			-0.03			-0.02			0.823	0.21	**	*	0.14	**	.	-0.07	*		-0.32	***	***	<0.001
PFDS	-0.05			-0.06			-0.03			0.648	0.12			0.01			0.08			-0.17	***	**	0.002
PFHpA	0.14	***	***	0.09	*	*	0.19	***	***	0.038	0.21	***	***	0.34	***	***	-0.01			0.09			0.000
PFHxS	0.13	***	***	0.12	**	*	0.13	***	*	0.838	0.17	***	**	0.11	*		0.00			0.19	*		0.144
PFNA	0.07	**	.	0.00			0.14	***	**	0.008	0.35	***	***	0.16	**	*	0.00			-0.28	***	***	<0.001
PFOA	0.15	***	***	0.08	*		0.22	***	***	0.007	0.18	***	**	0.33	***	***	0.00			0.09			<0.001
PFOS	0.05	.		0.05			0.05			0.903	0.30	***	***	0.15	**	.	0.00			-0.31	***	***	<0.001
PFOSA	-0.12	***	***	-0.08	*	.	-0.19	***	***	0.025	-0.09	.		-0.19	***	**	-0.01			-0.15	***	**	0.075
PFUnDA	0.00			-0.03			0.02			0.408	0.36	***	***	0.10	*		0.03			-0.27	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 16: Association between EDCs and longitudinal fibula length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.17	***	***	0.18	***	***	0.15	***	**	0.633	0.25			-0.64	.		-0.31	.		0.18	***	***	0.008
γ-HCH	0.07	*		0.07	*	*	0.03			0.617	-2.20			-0.14	.		-2.61	*		0.07	**	.	0.053
HCB	-0.04			-0.04			-0.01			0.948	1.25	*		-0.79	*		-0.47	*		-0.03			0.003
Oxychlorodane	-0.06			-1.60	***	***	-0.02			<0.001	-0.99	*		-1.13	*		-2.57	***	*	-0.01			<0.001
Trans-chlordane	-0.03			-0.04			0.03			0.432	2.00			0.35			-0.15			-0.03			0.656
Trans-nonachlor	-0.08	.		-0.45	***	**	-0.02			0.003	-0.19			-0.17			-0.60	***		-0.01			0.016
p,p'-DDE	-0.08	**		-0.15	***	**	-0.01			0.005	-0.78	***	***	-0.35	**	*	-0.03			0.00			<0.001
o,p'-DDD	-0.08	**	.	-0.02			-0.11	***	*	0.063	-0.02			-0.12	*		0.10	.		-0.13	***	**	0.005
p,p'-DDD	0.03			0.02			0.04			0.689	-0.05			-0.10			0.13	.		0.04			0.162
p,p'-DDT	0.03			0.01			0.05			0.428	0.56			-0.33	.		0.00			0.10	*		0.030
Mirex	-0.10	***	**	-0.14	***	***	-0.06			0.095	0.28	**	*	-0.17			-0.08	*		-0.26	***	***	<0.001
PBB 153	0.01			-0.01			0.03			0.491	0.06			-0.08			-0.01			-0.02			0.413
PBDE 28	-0.05	*		-0.01			-0.28	***	**	<0.001	-0.53	***	***	-0.06	.		0.01			0.01			<0.001
PBDE 47	-0.08	**	.	0.01			-0.15	***	**	<0.001	-0.18	***	**	0.01			-0.08			-0.04			0.037
PBDE 85	-0.02			0.01			-0.06			0.153	-0.07	.		0.21	***	*	-0.02			-0.20	*		<0.001
PBDE 99	0.04			0.08	*	*	-0.03			0.037	-0.07			0.09	*		0.00			0.09			0.073
PBDE 100	-0.10	***	**	-0.03			-0.18	***	***	0.002	-0.23	***	***	-0.14	**	.	-0.01			-0.03			0.007
PBDE 153	-0.10	***	**	-0.08	*	.	-0.12	**	.	0.492	-0.15	***	**	-0.04			-0.02			-0.05			0.214
PBDE 154	-0.03			0.02			-0.09	*	.	0.019	-0.08	.		0.00			0.07			-0.18	**	.	0.007
PBDE 183	0.08	***	*	0.08	**	*	0.10	*	.	0.706	0.09			0.09			0.09			0.09			0.954
PBDE 209	-0.06	*		-0.04			-0.08	*	.	0.415	-0.04			-0.08			-0.04			-0.04			0.033
PCB 5/8	0.06	.		0.09	.		0.04			0.385	0.46	.		0.23	**		0.04			-0.03			0.033
PCB 18/17	0.05	*		0.05	*	.	0.78	*	.	0.019	0.05	*		2.71	***	***	-0.82	*		-0.36			<0.001
PCB 22	0.11	***	**	0.09	*	.	0.14	**	.	0.437	0.27	**	.	0.38	***	***	0.03			0.07			<0.001
PCB 31/28	0.14	***	***	0.15	***	***	0.13	**	.	0.742	0.22	*		0.35	***	***	0.03			0.24	***	***	<0.001
PCB 33/20	0.10	***	*	0.08	.		0.13	**	.	0.357	0.27	**	.	0.39	***	***	0.03			-0.02			<0.001
PCB 37	0.12	***	**	0.12	**	*	0.13	**	.	0.958	0.25	**	.	0.37	***	***	0.03			0.08			<0.001
PCB 41/64	0.11	**	*	0.18	**	*	0.08	.		0.128	0.45	***	***	0.17	**	.	0.00			0.02			<0.001
PCB 44	0.09	**		0.16	**	*	0.06			0.179	0.37	***	**	0.16	**		0.00			0.01			0.006
PCB 47/48/75	0.09	**		0.17	**	*	0.06			0.106	0.44	***	**	0.12	*		0.00			0.01			0.003
PCB 49/43	0.09	**	.	0.14	*	*	0.08	.		0.326	0.38	***	**	0.16	**	.	0.02			-0.02			0.002
PCB 52/73	0.05			0.18	.		0.03			0.132	0.55	**	.	0.17	.		0.05			-0.01			0.020
PCB 66/80	0.12	***	**	0.20	***	***	0.05			0.015	0.33	***	**	0.14	**		0.05			0.08			0.059
PCB 70/76	0.09	**	.	0.13	**	*	0.07			0.311	0.32	**	*	0.15	**	.	0.03			0.01			0.024
PCB 74/61	0.02			0.04			0.01			0.547	0.10	.		0.06			-0.02			-0.02			0.316
PCB 90/101/89	0.06			0.17	*	.	0.03			0.109	0.55	***	**	0.17	*		-0.01			-0.02			<0.001
PCB 93/95	0.04			0.48	*	.	0.02			0.023	1.54	***	**	0.60	**	.	-0.11			0.00			<0.001
PCB 99	-0.01			0.00			0.00			0.881	0.34	***	**	0.04			0.01			-0.12	*		<0.001
PCB 85/120	0.06	.		0.12	*	.	0.02			0.110	0.22	**	.	0.04			0.07			0.00			0.158
PCB 110	0.08	*		0.18	**	*	0.04			0.067	0.46	***	**	0.14	*		0.05			-0.01			0.004

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.01			0.00			-0.01			0.832	0.20	***	**	-0.05			-0.10			-0.19	**	*	<0.001
PCB 105/127	0.00			0.03			-0.02			0.401	0.21	***	**	-0.06			-0.05			-0.17	**	.	<0.001
PCB 114/122	0.03			0.08	.		0.00			0.162	0.10	*		-0.01			0.05			-0.19	*	.	0.019
PCB 128	-0.03			0.02			-0.09	*		0.043	0.13	*		-0.02			-0.07			-0.21	***	**	0.000
PCB 137	-0.02			-0.01			-0.02			0.789	0.09	.		-0.03			-0.04			-0.15	**	.	0.012
PCB 138/158	-0.07	*		-0.10	*	.	-0.03			0.311	0.15	**	.	-0.11			-0.07			-0.27	***	***	<0.001
PCB 146/161	-0.07	*		-0.07			-0.07			0.973	0.26	***	**	0.02			-0.01			-0.28	***	***	<0.001
PCB 153	-0.05			-0.08	.		-0.02			0.415	0.15	**	.	-0.03			-0.03			-0.27	***	***	<0.001
PCB 156	-0.01			-0.01			-0.01			0.947	0.08	*		-0.17	*		-0.01			-0.28	***	**	<0.001
PCB 157	-0.02			0.00			-0.04			0.494	0.10	**	.	-0.24	**	.	0.01			-0.21	***	**	<0.001
PCB 167	-0.10	**	.	-0.10	*	.	-0.09	*		0.932	0.13	*		-0.21	*		-0.19	*		-0.26	***	***	<0.001
PCB 170	-0.04			-0.03			-0.06			0.676	0.04			-0.11			-0.20	.		-0.28	***	***	<0.001
PCB 172/192	-0.07	*		-0.05			-0.11	*		0.252	0.05			0.04			-0.27	**		-0.22	***	***	<0.001
PCB 177	-0.03			-0.05			0.01			0.432	0.17	**	*	0.11			-0.09			-0.25	***	***	<0.001
PCB 180	-0.06	.		-0.05			-0.07			0.653	0.04			-0.01			-0.20	*		-0.28	***	***	<0.001
PCB 182/187	-0.01			-0.03			0.00			0.810	0.26	***	*	0.24	.		-0.03			-0.16	**	*	<0.001
PCB 183	0.00			-0.01			0.02			0.646	0.14	**	.	0.20	.		-0.15			-0.20	***	**	<0.001
PCB 194	-0.04			-0.02			-0.11	.		0.177	0.02			0.12			-0.31	*		-0.27	***	***	<0.001
PCB 195	-0.01			0.00			-0.04			0.520	0.06	.		0.11			-0.26	*		-0.23	***	**	<0.001
PCB 196/203	-0.07	*		-0.04			-0.15	**		0.069	0.02			-0.04			-0.32	*		-0.30	***	***	<0.001
PCB 199	-0.07	*		-0.05			-0.12	*		0.233	0.04			-0.04			-0.23	.		-0.27	***	***	<0.001
PCB 202	-0.08	*		-0.08			-0.08			0.985	0.17	*		0.05			-0.16			-0.21	***	***	<0.001
PCB 206	-0.06	.		-0.07			-0.07			0.986	0.05			0.20	*		-0.13			-0.35	***	***	<0.001
PCB 208	-0.15	***	**	-0.17	**	*	-0.13	*		0.572	-0.01			0.02			-0.20			-0.29	***	***	0.005
PCB 209	-0.07	.		-0.09			-0.06			0.696	0.03			-0.09			0.08			-0.18	**	.	0.068
NMeFOSAA	0.07	*		0.16	***	***	-0.02			0.001	-0.02			0.15	**	.	-0.03			0.15	*	.	0.017
PFDA	0.05	.		0.04			0.05			0.839	0.36	***	***	0.15	**	.	-0.07			-0.36	***	***	<0.001
PFDoDA	-0.04	.		-0.01			-0.05	.		0.425	0.27	***	**	0.13	*		-0.10	**		-0.37	***	***	<0.001
PFDS	-0.06	*		-0.04			-0.08	.		0.439	0.04			0.03			0.07			-0.19	***	***	<0.001
PFHpA	0.15	***	***	0.09	*	*	0.21	***	***	0.025	0.20	***	***	0.41	***	***	-0.01			0.09			<0.001
PFHxS	0.09	***	*	0.10	**	*	0.09	*		0.855	0.16	***	**	0.06			-0.05			0.16	*	.	0.037
PFNA	0.04			0.00			0.08	*		0.151	0.35	***	***	0.11	*		-0.04			-0.32	***	***	<0.001
PFOA	0.10	***	*	0.06			0.14	***	*	0.146	0.17	***	**	0.24	***	**	-0.10	.		0.07			<0.001
PFOS	0.02			0.04			-0.01			0.260	0.28	***	***	0.10	.		-0.02			-0.32	***	***	<0.001
PFOSA	-0.11	***	**	-0.12	***	**	-0.11	**		0.862	-0.12	*		-0.17	***	*	0.08			-0.17	***	**	0.003
PFUnDA	-0.04			-0.01			-0.05			0.494	0.37	***	***	0.06			-0.05			-0.29	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 17: Association between EDCs and longitudinal foot length using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.10	*		0.13	*		0.07			0.546	0.03			-0.29			-0.12			0.11	*		0.823
γ-HCH	-0.08	.		-0.07			-0.25			0.312	-0.96			-2.37	**		1.54			-0.08	.		0.033
HCB	-0.04			-0.05			0.29			0.365	0.73			-0.01			0.36			-0.05			0.650
Oxychlorodane	-0.02			-1.00	.		0.00			0.071	0.05			-1.09			-0.53			-0.01			0.564
Trans-chlordane	-0.04			-0.07			0.03			0.429	-0.33			2.90	*		2.55			-0.05			0.121
Trans-nonachlor	0.02			-0.17			0.05			0.305	-0.04			0.18			-0.13			0.03			0.857
p,p'-DDE	0.02			-0.05			0.10			0.067	-0.47	*		0.19			-0.05			0.15	.		0.010
o,p'-DDD	-0.11	**		-0.12	.		-0.11	*		0.977	-0.21			-0.41	***	***	0.09			-0.03			<0.001
p,p'-DDD	0.12	**		0.11			0.13	*		0.872	0.08			0.08			0.06			0.14	**		0.926
p,p'-DDT	0.12	**		0.12	*		0.13	*		0.884	0.02			0.19			0.04			0.24	***		0.143
Mirex	0.00			0.03			-0.04			0.446	0.22			0.16			-0.04			-0.05			0.248
PBB 153	-0.09	*		-0.03			-0.20	**		0.034	-0.13	*		-0.41	*		0.30	*		-0.11	.		0.002
PBDE 28	-0.03			-0.01			-0.16			0.183	-1.05	***	***	-0.01			-0.02			0.11			<0.001
PBDE 47	-0.08	.		0.05			-0.19	***		0.005	-0.28	***	*	0.01			-0.01			0.04			0.017
PBDE 85	-0.08	*		-0.02			-0.18	**		0.059	-0.17	**		0.10			0.01			-0.41	**		0.007
PBDE 99	0.01			0.07			-0.09			0.077	-0.20	*		0.14	.		0.06			-0.02			0.026
PBDE 100	-0.08	.		0.01			-0.16	**		0.027	-0.26	**	.	-0.05			0.01			0.02			0.065
PBDE 153	0.02			0.15	*		-0.11	.		0.002	-0.05			0.09			0.25	.		-0.08			0.132
PBDE 154	-0.07	.		0.00			-0.16	**		0.039	-0.15	*		0.00			0.06			-0.32	**		0.016
PBDE 183	0.01			0.03			0.00			0.697	-0.02			0.27			-0.02			-0.02			0.034
PBDE 209	-0.12	**		0.03			-0.25	***	*	0.002	0.03			-0.25			0.03			0.03			<0.001
PCB 5/8	-0.06			0.02			-0.11	.		0.192	0.02			-0.03			-0.04			-0.11			0.949
PCB 18/17	0.05			0.06	.		-1.28	*		0.028	0.05	.		1.48			-0.54			-2.43			0.309
PCB 22	0.00			0.05			-0.07			0.188	0.11			0.13			-0.03			-0.15			0.435
PCB 31/28	-0.01			0.05			-0.09			0.112	0.00			0.10			-0.04			0.01			0.800
PCB 33/20	-0.02			0.04			-0.09			0.161	0.10			0.13			-0.02			-0.24	.		0.224
PCB 37	0.00			0.05			-0.05			0.233	0.07			0.22	*		-0.03			-0.18			0.109
PCB 41/64	-0.01			0.15			-0.09			0.035	0.32	*		0.02			-0.13			-0.08			0.108
PCB 44	-0.04			0.14			-0.12	.		0.018	0.27	.		0.01			-0.16			-0.10			0.148
PCB 47/48/75	-0.05			0.08			-0.10	.		0.094	0.12			-0.02			-0.16			-0.07			0.569
PCB 49/43	-0.04			0.12			-0.12	*		0.021	0.23			0.01			-0.13			-0.13			0.172
PCB 52/73	-0.06			0.09			-0.09			0.254	0.31			-0.05			-0.18			-0.06			0.589
PCB 66/80	0.00			0.07			-0.06			0.161	0.17			0.05			-0.09			-0.05			0.375
PCB 70/76	-0.03			0.08			-0.10			0.063	0.19			0.05			-0.08			-0.13			0.266
PCB 74/61	-0.08			-0.09			-0.06			0.775	-0.01			-0.01			-0.12			-0.13	.		0.707
PCB 90/101/89	-0.06			0.10			-0.10			0.147	0.31			-0.04			-0.23			-0.08			0.270
PCB 93/95	-0.03			0.35			-0.05			0.209	0.93	.		-0.07			-0.58			-0.03			0.220
PCB 99	-0.06			-0.10			-0.04			0.662	0.21			-0.13			-0.14			-0.11			0.213
PCB 85/120	0.00			0.10			-0.06			0.094	0.18			-0.04			0.05			-0.07			0.336
PCB 110	-0.04			0.12			-0.10			0.070	0.23			-0.01			-0.15			-0.08			0.419

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			Whites			Blacks			Hispanics			Asians			P _{int}	
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p		FDR
PCB 118/106	-0.06			-0.06			-0.05			0.906	0.08			-0.07			-0.17			-0.18	*		0.137
PCB 105/127	-0.05			-0.05			-0.04			0.973	0.08			-0.09			-0.10			-0.14			0.277
PCB 114/122	0.03			0.06			0.01			0.545	0.06			0.10			-0.24			-0.21			0.061
PCB 128	-0.06			-0.06			-0.05			0.964	-0.03			-0.01			-0.08			-0.12			0.814
PCB 137	-0.01			0.02			-0.02			0.633	0.09			-0.02			-0.05			-0.11			0.384
PCB 138/158	-0.06			-0.08			-0.03			0.625	0.02			0.03			0.09			-0.21	*		0.166
PCB 146/161	-0.09			-0.07			-0.11			0.673	0.11			0.00			-0.03			-0.23	**		0.071
PCB 153	-0.08			-0.09			-0.06			0.777	-0.01			0.03			0.18			-0.24	**		0.069
PCB 156	0.01			0.00			0.04			0.694	0.03			0.20			0.07			-0.24	*		0.059
PCB 157	0.00			0.04			-0.07			0.183	0.06			0.05			-0.19			-0.15			0.130
PCB 167	-0.10			-0.09			-0.10			0.911	-0.05			0.00			-0.15			-0.17	*		0.600
PCB 170	-0.05			-0.08			0.07			0.122	-0.05			0.26			0.34	*		-0.23	*		0.013
PCB 172/192	-0.07			-0.09			-0.03			0.601	-0.12	*		0.11			0.17			-0.11			0.124
PCB 177	-0.12	*		-0.15	*		-0.08			0.497	-0.10			-0.02			0.25			-0.23	**		0.103
PCB 180	-0.05			-0.07			0.01			0.401	-0.06			0.15			0.33	*		-0.19	*		0.027
PCB 182/187	-0.08			-0.18			-0.03			0.200	-0.04			0.11			-0.06			-0.13			0.733
PCB 183	-0.09			-0.14	*		-0.01			0.188	-0.07			0.08			0.00			-0.15			0.614
PCB 194	-0.07			-0.07			-0.06			0.969	-0.08			0.12			0.29			-0.13			0.210
PCB 195	-0.05			-0.08			0.06			0.158	-0.08			0.17			0.39			-0.09			0.110
PCB 196/203	-0.12	**		-0.10	*		-0.15			0.601	-0.13	*		-0.07			0.11			-0.13			0.753
PCB 199	-0.11	*		-0.09			-0.15	*		0.460	-0.13	*		-0.02			0.04			-0.12			0.778
PCB 202	-0.08			0.00			-0.13			0.216	-0.10			-0.05			0.15			-0.10			0.823
PCB 206	-0.11			-0.07			-0.18	*		0.319	-0.14			0.03			0.16			-0.22	*		0.230
PCB 208	-0.15	*		-0.08			-0.23	**		0.198	-0.18			-0.07			0.16			-0.23	*		0.309
PCB 209	-0.05			0.25	*		-0.23	**		<0.001	-0.11			-0.04			0.36	*		-0.19			0.037
NMeFOSAA	-0.06			0.08			-0.19	**		0.002	-0.10			-0.04			-0.10			0.01			0.801
PFDA	0.19	***	**	0.25	***	**	0.15	*		0.219	0.39	***	***	0.24	**		0.16			-0.09			<0.001
PFDoDA	0.05			0.19	*		0.00			0.029	0.15			0.13			0.01			-0.06			0.318
PFDS	0.05			0.10			-0.02			0.133	-0.16			0.08			0.12			0.07			0.304
PFHpA	0.09	*		0.01			0.16	**		0.064	0.16	*		0.20	*		-0.04			0.06			0.127
PFHxS	0.14	***		0.17	**		0.12			0.484	0.18	**		0.04			0.17			0.23			0.435
PFNA	0.12	**		0.07			0.17	**		0.226	0.31	***	*	0.21	**		0.02			-0.14			<0.001
PFOA	0.11	*		0.04			0.17	**		0.092	0.12			0.32	***		0.08			-0.10			0.024
PFOS	0.14	**		0.20	**	*	0.07			0.119	0.34	***	**	0.18	*		0.14			-0.14			0.002
PFOSA	0.07			0.18	***	*	-0.11			<0.001	0.12			-0.02			0.10			0.08			0.650
PFUnDA	0.10	*		0.14	*		0.06			0.294	0.36	**		0.13			0.09			-0.05			0.030

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 18: Association between EDCs and longitudinal estimated fetal growth using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	-0.38			-1.20			0.24			0.716	4.75			76.53	*		7.51			-1.06			0.113
γ-HCH	-1.65			0.63			-22.04	**		0.005	288.95			-41.96			-92.40			-1.46			0.228
HCB	1.15			1.14			-0.36			0.940	31.95			-36.61			-6.91			1.39			0.481
Oxychlorodane	-0.30			-21.32			-0.17			0.466	-34.89			-76.48	.		-64.28			0.55			0.129
Trans-chlordane	1.53			1.59			1.13			0.953	74.97			41.39			-3.41			1.40			0.912
Trans-nonachlor	0.98			1.40			0.83			0.960	-5.05			-14.44			12.28			1.46			0.589
p,p'-DDE	-3.44			-5.35			-1.48			0.378	-73.09	***	***	-4.95			3.10			-2.72			<0.001
o,p'-DDD	-1.68			1.71			-3.71			0.207	3.62			-9.18	*		9.21	*		-2.71			0.022
p,p'-DDD	4.26	.		8.63	*		0.65			0.096	-9.48			5.47			7.91			4.34			0.535
p,p'-DDT	2.24			0.43			4.64			0.336	-36.36			6.02			4.43			-1.77			0.332
Mirex	-1.96			-3.73			-0.06			0.412	4.51			2.97			-2.22			-4.50			0.755
PBB 153	2.27			4.64	.		-3.87			0.058	1.28			-1.15			4.95			2.44			0.932
PBDE 28	-4.33	*		-2.55			-15.31	**		0.029	-65.61	***	***	-4.16			1.70			-1.78			<0.001
PBDE 47	-6.17	**		2.28			-14.01	***	**	<0.001	-16.86	***	**	-1.78			0.59			-5.23			0.018
PBDE 85	-3.65	.		-1.29			-8.35	*		0.097	-8.82	**		11.24	*		-1.80			-17.89	*		0.002
PBDE 99	-2.50			-0.16			-7.37	*		0.109	-9.61	*		0.05			1.21			-6.18			0.269
PBDE 100	-7.35	***	.	-3.83			-11.54	***	*	0.063	-23.11	***	***	-7.13	.		2.95			-6.00			<0.001
PBDE 153	-2.47			1.53			-6.41	*		0.072	-8.28	**		-0.21			15.47	*		4.35			0.013
PBDE 154	-8.38	***	*	-7.74	**		-9.17	**		0.723	-16.07	***	**	-6.89			-2.97			-6.75			0.086
PBDE 183	-1.13			-2.59			1.97			0.311	-2.36			14.11			-2.36			-2.36			0.036
PBDE 209	-3.48	.		-1.66			-5.79	.		0.326	-1.66			-5.79			-1.66			-1.66			0.152
PCB 5/8	0.41			0.80			-0.05			0.890	-14.52			11.59			-2.78			3.16			0.221
PCB 18/17	4.07	*		3.88	*		40.53	.		0.117	3.83	*		143.75	***	*	-34.71			113.68			<0.001
PCB 22	2.16			0.89			4.56			0.435	2.44			17.71	**		-2.32			13.80	.		0.009
PCB 31/28	2.41			2.34			2.77			0.918	-8.99			13.71	*		-2.72			15.26	**		0.002
PCB 33/20	1.52			0.15			4.06			0.409	-1.10			18.28	**		-2.48			9.18			0.014
PCB 37	2.94			1.92			4.52			0.571	3.97			18.09	**		-2.08			11.95	.		0.008
PCB 41/64	4.40			10.82	*		1.25			0.100	5.99			11.83	*		-7.56			3.36			0.114
PCB 44	3.29			9.68	*		0.21			0.105	5.17			9.45	.		-9.17			3.78			0.120
PCB 47/48/75	2.27			7.45			0.02			0.204	4.89			7.73	.		-13.19	*		3.69			0.044
PCB 49/43	2.97			7.37	.		0.59			0.227	3.79			9.26	*		-8.35			3.55			0.113
PCB 52/73	1.73			7.92			0.28			0.341	-1.40			7.41			-8.94			2.26			0.506
PCB 66/80	4.37	.		9.52	**		-0.11			0.055	2.95			10.99	*		-5.09			5.77			0.102
PCB 70/76	4.40	.		8.30	*		1.28			0.177	4.11			12.21	**		-3.78			4.50			0.099
PCB 74/61	0.63			3.83			-3.60			0.122	-3.80			0.73			-10.65			6.39	.		0.086
PCB 90/101/89	3.04			13.62	*		0.15			0.064	11.47			10.85	.		-11.12			1.99			0.207
PCB 93/95	1.85			31.91	*		0.43			0.055	29.03			30.98	.		-34.80			1.08			0.104
PCB 99	1.77			7.90			0.11			0.289	9.66			3.64			-11.63			0.90			0.469
PCB 85/120	6.20	*		12.30	**		2.37			0.069	12.41	.		7.21			4.90			3.32			0.721
PCB 110	3.85			12.75	*		0.37			0.054	8.34			10.49	.		-5.24			2.16			0.392

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.41			5.67			-3.00			0.101	5.58			1.51			-17.68	*		0.74			0.059
PCB 105/127	0.84			6.28			-2.51			0.100	5.92			2.00			-15.15	*		0.99			0.104
PCB 114/122	3.73			8.61	*		0.82			0.091	2.79			4.71			-7.69			13.97	*		0.179
PCB 128	-3.17			-2.61			-3.80			0.827	0.08			-1.39			-9.62	*		-2.94			0.461
PCB 137	-1.72			1.43			-3.73			0.330	0.18			-0.33			-15.70	*		0.02			0.253
PCB 138/158	-2.55			-2.54			-2.70			0.993	-1.58			-4.15			-10.41			-1.30			0.750
PCB 146/161	-2.56			-3.94			-1.59			0.627	-1.13			3.40			-10.40			-2.99			0.503
PCB 153	-2.13			-2.21			-2.24			0.973	-3.67			0.25			-3.76			-1.55			0.950
PCB 156	3.20			5.56	.		-0.57			0.174	1.98			-2.31			9.12			7.20			0.553
PCB 157	-0.62			5.17	.		-9.69	**		<0.001	2.28			-10.56			-6.93			0.86			0.239
PCB 167	-3.88			-2.64			-5.19			0.620	0.10			-6.51			-21.63	**		-1.13			0.043
PCB 170	0.40			-1.33			5.12			0.179	-1.81			3.37			12.61			3.51			0.394
PCB 172/192	-0.43			-2.29			2.61			0.306	-3.25			11.96			-6.61			2.05			0.222
PCB 177	-1.11			-4.24			1.96			0.213	-1.48			7.60			-1.55			-2.74			0.738
PCB 180	0.44			-0.81			3.05			0.400	-1.95			5.78			8.10			2.62			0.580
PCB 182/187	0.86			-0.74			1.31			0.727	0.76			14.95			-16.20			-0.05			0.344
PCB 183	-0.25			-2.02			1.29			0.501	-1.51			11.56			-12.26			-0.11			0.318
PCB 194	0.83			-0.02			4.09			0.418	-1.04			2.64			19.65	.		4.66			0.264
PCB 195	1.13			-0.86			5.92			0.171	-1.66			4.71			25.35	*		3.44			0.097
PCB 196/203	-1.41			-1.39			-1.69			0.983	-3.39			-1.03			12.90			0.86			0.538
PCB 199	-1.07			-0.92			-1.56			0.921	-2.43			0.41			-2.28			0.43			0.939
PCB 202	-0.37			1.47			-1.60			0.611	1.80			3.28			-13.87			-1.09			0.655
PCB 206	-0.76			-1.39			-0.21			0.824	-4.61			9.08			10.15			-3.63			0.246
PCB 208	-4.86			-5.13			-4.86			0.948	-8.98			-4.55			5.20			-5.26			0.715
PCB 209	2.31			9.79	.		-3.29			0.056	0.63			-1.78			22.41	**		-3.65			0.060
NMeFOSAA	1.87			4.70			-0.73			0.243	3.18			5.75			-6.54			5.02			0.206
PFDA	6.11	**		6.01	.		5.99	.		0.995	18.58	***	**	5.47			-0.54			-2.23			0.006
PFDoDA	2.84			6.98	.		1.41			0.238	28.70	***	***	9.95	*		-3.92			-5.68			<0.001
PFDS	-2.88			-3.66			-2.11			0.720	-1.35			-1.73			-14.47	.		-2.19			0.533
PFHpA	8.13	***	*	3.79			12.18	***	**	0.047	15.12	***	**	12.21	*		2.46			0.39			0.030
PFHxS	2.30			-0.46			5.05			0.204	4.09			-10.25	*		14.96	**		8.06			0.002
PFNA	3.27			0.99			5.37	.		0.306	14.30	**	.	1.63			-1.78			-0.68			0.040
PFOA	2.59			-3.14			7.81	*		0.011	5.86			5.86			-0.46			-3.10			0.400
PFOS	3.82			5.80	.		1.72			0.349	3.31			3.18			6.83			2.55			0.944
PFOSA	-5.69	*		-0.84			-13.39	***	*	0.005	-18.83	***	**	-8.82	*		-7.12			5.59			<0.001
PFUnDA	1.47			2.57			0.42			0.618	13.60	*		5.06			-10.22			-2.38			0.032

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 19: Association between EDCs and longitudinal cerebral width using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

	Overall			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	(n=2,284)			Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
	beta	p	FDR	beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	0.03			-0.02			0.08	*		0.057	0.13			0.21			-0.34	.		0.04			0.185
γ-HCH	0.00			-0.01			0.06			0.491	0.22			0.20			-0.45			0.00			0.948
HCB	-0.01			-0.01			0.36	.		0.077	0.79			0.46			0.49	*		-0.02			0.024
Oxychlorodane	-0.01			-0.16			-0.01			0.602	-0.30			-1.05	*		-0.08			0.00			0.083
Trans-chlordane	-0.02			-0.03			0.01			0.560	0.29			1.45	.		1.15			-0.02			0.204
Trans-nonachlor	0.02			-0.05			0.02			0.550	-0.02			0.20			-0.17			0.01			0.441
p,p'-DDE	-0.06	*		-0.10	**	*	-0.01			0.079	-0.29	*		-0.15			-0.07	.		0.02			0.055
o,p'-DDD	0.01			0.03			-0.01			0.444	-0.11			-0.02			0.05			0.01			0.569
p,p'-DDD	0.02			0.02			0.02			0.908	-0.24	*		-0.04			0.13	.		0.03			0.029
p,p'-DDT	0.04	.		0.02			0.08	*		0.158	0.19			-0.21			0.04			0.08	.		0.413
Mirex	-0.01			-0.02			-0.01			0.888	0.01			0.07			-0.02			-0.02			0.926
PBB 153	0.07	**		0.07	**	*	0.05			0.553	0.04			0.06			0.13	*		0.07	*		0.635
PBDE 28	-0.02			-0.01			-0.11	.		0.087	-0.43	***	.	0.02			-0.06			0.01			<0.001
PBDE 47	-0.06	*		0.00			-0.11	***		0.019	-0.09	.		0.06			-0.11	*		-0.10	*		0.066
PBDE 85	-0.08	***		-0.07	*	.	-0.10	**		0.450	-0.08	*		0.03			-0.09	*		-0.23	**		0.061
PBDE 99	-0.05	*		-0.04			-0.09	*		0.388	-0.10	*		0.00			-0.07			-0.16	**		0.088
PBDE 100	-0.04	.		-0.02			-0.06	.		0.419	-0.12	*		0.05			-0.03			-0.18	**		0.004
PBDE 153	-0.01			0.03			-0.04			0.140	0.03			0.02			-0.15	.		-0.13			0.085
PBDE 154	-0.04	.		-0.02			-0.08	*		0.200	-0.02			-0.08			-0.01			-0.14	*		0.280
PBDE 183	0.03			0.03			0.04			0.843	0.03			0.07			0.03			0.03			0.587
PBDE 209	-0.02			-0.02			-0.03			0.793	-0.02			-0.03			-0.02			-0.02			0.686
PCB 5/8	0.03			0.11	*	.	-0.03			0.026	0.05			0.14			0.05			-0.08			0.159
PCB 18/17	0.05	**		0.05	**	*	0.33			0.342	0.05	**		0.68			0.69	.		-2.30	*		0.014
PCB 22	0.04			0.08	*	.	-0.01			0.072	0.03			0.14	*		0.05			-0.13	.		0.074
PCB 31/28	0.04	.		0.09	**	*	-0.02			0.030	-0.03			0.12	.		0.06			0.00			0.394
PCB 33/20	0.03			0.08	*	.	-0.03			0.041	0.02			0.14	*		0.05			-0.14	.		0.036
PCB 37	0.05	*		0.09	*	.	0.02			0.180	0.08			0.13	.		0.06	.		-0.08			0.190
PCB 41/64	0.03			0.16	**	*	-0.04			0.003	0.05			0.11	.		0.10			-0.06			0.110
PCB 44	0.03			0.17	**	*	-0.03			0.003	0.03			0.11	.		0.12	.		-0.06			0.089
PCB 47/48/75	0.02			0.12	*	.	-0.02			0.035	0.06			0.08			0.09			-0.07			0.201
PCB 49/43	0.03			0.15	**	*	-0.03			0.005	0.03			0.10	.		0.11	.		-0.07			0.062
PCB 52/73	0.02			0.21	*	.	-0.03			0.013	-0.07			0.13			0.17	.		-0.04			0.125
PCB 66/80	0.04			0.11	*	.	-0.01			0.040	0.05			0.10	.		0.09			-0.04			0.241
PCB 70/76	0.05	.		0.14	**	*	-0.02			0.008	0.09			0.12	*		0.08			-0.07			0.101
PCB 74/61	0.01			0.02			0.01			0.763	-0.07			0.00			0.11			0.04			0.189
PCB 90/101/89	0.04			0.20	**	*	-0.02			0.009	0.14			0.14	.		0.16			-0.04			0.116
PCB 93/95	0.02			0.58	**	*	-0.02			0.002	0.27			0.38	.		0.46	.		-0.02			0.076
PCB 99	0.00			-0.01			0.00			0.869	0.00			0.03			0.29	*		-0.05			0.121
PCB 85/120	0.07	*		0.16	***	*	0.00			0.011	0.16	*		0.10	.		0.23	**		-0.06			0.011
PCB 110	0.05			0.20	***	*	-0.02			0.004	0.14			0.15	*		0.18	.		-0.05			0.037

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.03			-0.07			-0.01			0.218	-0.02			-0.03			0.04			-0.08			0.708
PCB 105/127	-0.01			-0.05			0.01			0.310	-0.01			0.00			0.09			-0.06			0.548
PCB 114/122	-0.04			-0.07	.		-0.02			0.279	-0.02			-0.08	.		0.01			-0.01			0.679
PCB 128	-0.04	.		-0.07	*		-0.01			0.231	-0.05			-0.06			0.11	.		-0.15	**		0.007
PCB 137	-0.05	.		-0.11	*	.	-0.02			0.099	-0.04			-0.16	.		-0.06			-0.03			0.578
PCB 138/158	-0.03			-0.09	*		0.02			0.055	-0.01			-0.12			0.20	*		-0.08	.		0.039
PCB 146/161	-0.04			-0.05			-0.02			0.594	-0.02			-0.07			0.20	*		-0.11	*		0.011
PCB 153	-0.01			-0.02			0.01			0.542	0.00			-0.04			0.38	***	.	-0.07			0.002
PCB 156	-0.04			-0.05			-0.01			0.383	-0.02			-0.19	*		-0.04			-0.02			0.254
PCB 157	-0.06	*		-0.07	*	.	-0.04			0.440	-0.02			-0.29	***	*	-0.10			-0.02			0.007
PCB 167	-0.08	**		-0.11	**	*	-0.05			0.251	-0.02			-0.34	***	*	-0.05			-0.06			0.006
PCB 170	0.02			0.01			0.07			0.303	0.00			0.02			0.23	*		0.03			0.153
PCB 172/192	0.01			0.01			0.02			0.743	0.01			-0.04			0.08			0.00			0.733
PCB 177	0.02			0.01			0.03			0.700	0.04			0.03			0.34	***		-0.07			0.004
PCB 180	0.04			0.03			0.07			0.414	0.02			0.06			0.23	*		0.05			0.206
PCB 182/187	0.05			0.07			0.03			0.547	0.09			0.15			0.68	***	*	-0.02			<0.001
PCB 183	0.03			0.02			0.04			0.665	0.02			0.10			0.35	**		-0.03			0.021
PCB 194	0.04	.		0.04			0.06			0.707	0.02			0.07			0.25	*		0.07			0.305
PCB 195	0.03			0.02			0.04			0.679	0.01			0.06			0.23	.		0.05			0.321
PCB 196/203	0.03			0.03			0.01			0.732	0.02			-0.01			0.28	*		0.02			0.288
PCB 199	0.05	.		0.05	.		0.03			0.712	0.04			0.04			0.27	*		0.04			0.365
PCB 202	0.04			0.08			0.00			0.239	0.12	.		0.11			0.28	.		-0.03			0.061
PCB 206	0.01			0.03			-0.03			0.366	0.03			-0.02			0.23	.		-0.06			0.190
PCB 208	-0.04			-0.02			-0.07			0.460	-0.04			-0.12			0.25	*		-0.07			0.060
PCB 209	0.04			0.08			0.00			0.268	0.09			-0.08			0.31	**		-0.04			0.008
NMeFOSAA	-0.05	.		-0.02			-0.08	*		0.181	0.00			-0.10	*		-0.12	*		0.06			0.063
PFDA	0.00			0.00			0.01			0.901	0.13	**		-0.03			0.00			-0.11	*		0.007
PFDoDA	-0.01			-0.05			0.00			0.442	0.06			-0.04			-0.01			-0.05			0.591
PFDS	-0.05	.		-0.03			-0.07	.		0.568	0.14	*		-0.06			-0.14			-0.08	*		0.025
PFHpA	-0.02			-0.04			-0.01			0.619	0.04			-0.08			-0.05			-0.06			0.267
PFHxS	0.01			-0.06	.		0.08	*		0.004	-0.01			-0.01			-0.04			0.16	*		0.129
PFNA	-0.03			-0.05			-0.01			0.455	0.05			-0.03			-0.03			-0.12	*		0.137
PFOA	0.01			-0.07	.		0.09	*		<0.001	0.02			-0.07			0.02			0.08			0.278
PFOS	-0.03			-0.02			-0.04			0.686	0.10	.		-0.03			-0.10			-0.11	*		0.020
PFOSA	-0.04			-0.01			-0.08	.		0.182	0.05			-0.09	*		-0.10	.		-0.01			0.108
PFUnDA	-0.02			-0.02			-0.03			0.782	-0.04			-0.01			0.07			-0.06			0.485

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 20: Association between EDCs and longitudinal inner orbit diameter using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	-0.06	*		-0.10	**	.	0.00			0.030	0.05			0.94	***		-0.28			-0.06	*		0.003
γ-HCH	-0.03			-0.03			-0.09			0.385	0.29			0.72			0.20			-0.03			0.411
HCB	-0.01			-0.01			-0.12			0.453	-0.14			0.39			0.18			-0.02			0.257
Oxychlorane	0.02			0.42			0.02			0.141	0.75	*		0.11			-0.58			0.02			0.152
Trans-chlordane	-0.01			-0.02			0.02			0.604	1.62			2.01	**		1.70			-0.01			0.008
Trans-nonachlor	0.06	.		0.27	*		0.04			0.039	0.34	*		0.29	*		0.00			0.03			0.043
p,p'-DDE	-0.06	*		-0.05			-0.08	*		0.447	-0.30	**	.	0.15	.		-0.09	*		-0.04			0.003
o,p'-DDD	-0.06	**		-0.03			-0.07	**		0.269	-0.07			-0.02			0.06			-0.13	***	***	<0.001
p,p'-DDD	-0.02			0.00			-0.04			0.429	-0.05			0.03			0.12	.		-0.05	.		0.122
p,p'-DDT	-0.05	*		-0.03			-0.07	*		0.461	-0.17			0.37	*		-0.04			-0.08	*		0.024
Mirex	-0.03			-0.02			-0.07	.		0.290	0.02			0.09			-0.02			-0.09	*		0.236
PBB 153	0.02			0.01			0.06	.		0.210	0.05			-0.14			-0.01			0.03			0.231
PBDE 28	0.01			0.02			-0.04			0.291	-0.17	.		0.02			-0.01			0.06			0.181
PBDE 47	0.03			0.09	**	.	-0.02			0.007	-0.03			0.02			0.12	**		0.02			0.086
PBDE 85	0.02			0.03			0.00			0.352	-0.05			0.12	*		0.07	*		-0.15	*		<0.001
PBDE 99	0.04	.		0.04			0.04			0.988	0.00			0.02			0.17	***	*	-0.06			0.005
PBDE 100	0.00			0.02			-0.02			0.218	-0.09	*		-0.01			0.08	*		-0.02			0.012
PBDE 153	0.00			0.01			-0.01			0.570	-0.03			-0.01			0.12	.		0.03			0.208
PBDE 154	-0.02			-0.04			0.00			0.324	-0.05			-0.02			0.04			-0.11	*		0.063
PBDE 183	-0.06	**		-0.04	.		-0.08	*		0.424	-0.06			-0.05			-0.06			-0.06			0.986
PBDE 209	-0.03	.		-0.05	*		0.00			0.252	-0.05			0.00			-0.05			-0.05			0.122
PCB 5/8	0.00			0.01			-0.01			0.552	-0.16			0.04			-0.01			0.01			0.796
PCB 18/17	0.03	.		0.03			0.27			0.289	0.03			0.47			0.29			0.32			0.472
PCB 22	0.02			0.01			0.03			0.706	0.01			0.08			0.00			0.01			0.697
PCB 31/28	0.00			0.00			0.02			0.732	-0.03			0.06			0.00			-0.02			0.737
PCB 33/20	0.02			0.01			0.03			0.688	0.02			0.09			0.00			0.02			0.635
PCB 37	0.01			0.02			0.02			0.965	0.06			0.05			0.01			-0.03			0.769
PCB 41/64	0.02			0.09	*		-0.02			0.040	0.06			0.01			0.02			0.02			0.937
PCB 44	0.01			0.09	*		-0.02			0.036	0.01			0.00			0.02			0.02			0.995
PCB 47/48/75	-0.02			0.05			-0.04			0.105	0.03			-0.03			0.00			-0.01			0.925
PCB 49/43	0.02			0.09	*		-0.02			0.042	0.03			0.00			0.02			0.03			0.977
PCB 52/73	0.00			0.09			-0.02			0.144	-0.11			-0.02			0.00			0.02			0.877
PCB 66/80	-0.01			0.02			-0.04			0.198	0.03			-0.02			0.03			-0.05			0.534
PCB 70/76	0.01			0.05			-0.02			0.179	-0.08			0.02			0.01			0.03			0.707
PCB 74/61	-0.03			-0.01			-0.04			0.387	0.02			-0.06			-0.03			-0.04			0.649
PCB 90/101/89	0.01			0.09			-0.01			0.141	-0.01			-0.01			0.04			0.02			0.970
PCB 93/95	0.01			0.28	.		0.01			0.077	-0.01			0.10			0.08			0.01			0.958
PCB 99	-0.03			-0.02			-0.02			0.973	0.08			-0.11			-0.04			-0.02			0.286
PCB 85/120	0.00			0.03			-0.02			0.316	0.02			-0.01			0.00			0.01			0.977
PCB 110	0.01			0.07			-0.01			0.211	-0.06			0.02			0.02			0.02			0.888

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	-0.01			0.01			-0.01			0.633	0.09	*		-0.10	.		-0.06			-0.04			0.013
PCB 105/127	-0.02			-0.01			-0.02			0.788	0.09	*		-0.10	.		-0.10			-0.05			0.011
PCB 114/122	0.03			0.04			0.02			0.587	0.10	***	*	-0.05			-0.16	*		0.08			<0.001
PCB 128	-0.06	**		-0.06	.		-0.06	*		0.873	-0.02			-0.07	.		0.00			-0.14	**		0.138
PCB 137	0.02			0.03			0.01			0.608	0.08	*		0.02			-0.12			-0.01			0.093
PCB 138/158	-0.03			-0.03			-0.03			0.983	0.01			-0.08			-0.08			-0.05			0.469
PCB 146/161	-0.04			-0.02			-0.05			0.657	0.01			-0.04			-0.04			-0.06			0.777
PCB 153	-0.04			-0.03			-0.05			0.659	-0.03			-0.06			0.00			-0.05			0.947
PCB 156	0.05	*		0.04			0.07	*		0.542	0.07	*		0.02			-0.06			0.07			0.450
PCB 157	0.02			0.03			0.01			0.542	0.07	*		-0.05			-0.13	*		0.00			0.016
PCB 167	-0.03			-0.04			-0.02			0.632	0.03			-0.08			-0.21	**		-0.04			0.030
PCB 170	-0.01			-0.02			0.02			0.369	-0.03			-0.01			0.04			0.08			0.246
PCB 172/192	-0.04			-0.04			-0.03			0.902	-0.08	*		-0.05			-0.06			0.06			0.056
PCB 177	-0.04	.		-0.05	.		-0.03			0.626	-0.08	*		-0.01			-0.04			-0.02			0.711
PCB 180	-0.02			-0.02			0.00			0.709	-0.05	.		-0.02			0.05			0.07			0.123
PCB 182/187	-0.02			-0.01			-0.01			0.871	-0.09			0.02			0.04			0.01			0.531
PCB 183	-0.02			-0.03			0.00			0.617	-0.06	.		0.06			0.00			0.02			0.387
PCB 194	0.00			-0.01			0.03			0.373	-0.03			0.11			0.12			0.10	*		0.026
PCB 195	-0.02			-0.02			0.00			0.711	-0.04			-0.05			0.04			0.05			0.368
PCB 196/203	-0.03			-0.02			-0.05			0.547	-0.06	*		0.00			-0.04			0.05			0.241
PCB 199	-0.02			-0.01			-0.05			0.409	-0.06	*		0.02			-0.07			0.05			0.161
PCB 202	-0.04			-0.02			-0.04			0.704	-0.12	*		-0.01			-0.07			-0.01			0.444
PCB 206	0.01			0.02			-0.01			0.617	-0.04			0.11	.		0.02			0.01			0.229
PCB 208	-0.02			0.01			-0.05			0.345	-0.02			0.05			-0.04			-0.04			0.719
PCB 209	-0.04			0.04			-0.08	*		0.058	0.02			-0.06			0.02			-0.07			0.595
NMeFOSAA	0.05	*		0.04			0.05			0.829	0.05			0.00			0.01			0.16	**		0.094
PFDA	0.11	***	***	0.10	**	.	0.12	***	**	0.564	0.25	***	***	0.14	***		0.21	***	**	-0.14	**		<0.001
PFDoDA	0.04	.		0.04			0.04			0.914	0.27	***	**	0.13	**		0.02			-0.23	***	**	<0.001
PFDS	-0.06	*		-0.06	.		-0.05	.		0.969	-0.09			0.05			-0.09			-0.12	***	*	0.004
PFHpA	0.12	***	***	0.13	***	**	0.11	***	**	0.607	0.23	***	***	0.04			0.08	*		0.11	*		0.008
PFHxS	0.08	***	*	0.08	*		0.08	**		0.919	0.11	***	*	0.00			0.09	.		0.15	*		0.092
PFNA	0.08	***	*	0.04			0.12	***	**	0.047	0.22	***	***	0.11	**		0.08	*		-0.11	*		<0.001
PFOA	0.13	***	***	0.09	**	.	0.17	***	***	0.046	0.16	***	**	0.14	**		0.20	***	**	0.00			0.016
PFOS	0.05	*		0.04			0.05	.		0.720	0.10	*		0.05			0.19	***	*	-0.13	**		<0.001
PFOSA	-0.02			0.02			-0.07	*		0.023	0.06			-0.05			-0.02			-0.04			0.177
PFUnDA	0.02			0.01			0.03			0.662	0.21	***	*	0.12	***		0.06			-0.17	***	***	<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.

eTable 21: Association between EDCs and longitudinal outer orbit diameter using a generalized additive mixed model, NICHD Fetal Growth Studies – Singletons (n=2,284).

Chemicals	Overall (n=2,284)			Interaction by infant sex						Interaction by maternal race/ethnicity group													
	beta	p	FDR	Boys Only			Girls Only			P _{int}	Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR		beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
β-HCH	-0.07	*		-0.10	*	*	-0.03			0.233	0.21			-0.39			-0.89	***	*	-0.05			<0.001
γ-HCH	-0.05	.		-0.03			-0.25	*		0.031	0.69			0.17			-0.14			-0.05			0.967
HCB	0.02			0.02			0.02			0.887	0.34			-0.25			-0.08			0.02			0.789
Oxychlorthane	-0.04			-0.93	*	*	-0.02			0.018	-1.51	**	*	-0.98	*		-1.10			0.00			0.004
Trans-chlordane	0.01			0.02			-0.01			0.573	2.48			-0.60			0.05			0.02			0.566
Trans-nonachlor	-0.04			-0.22			-0.02			0.203	-0.49	*		-0.15			0.19			-0.01			0.061
p,p'-DDE	-0.12	***	*	-0.14	***	**	-0.10	*		0.384	-0.39	**	*	0.11			-0.16	***	.	-0.08			0.017
o,p'-DDD	0.07	**		0.01			0.10	**		0.121	0.16			-0.04			0.09			0.12	**		0.077
p,p'-DDD	0.09	**	.	0.13	**	*	0.07	.		0.310	0.30	*		0.00			0.06			0.09	*		0.273
p,p'-DDT	0.01			-0.01			0.03			0.435	1.53	***	**	0.26			-0.05			0.06			<0.001
Mirex	-0.04			-0.04			-0.05			0.818	0.12			-0.07			-0.12	**		0.10	.		0.005
PBB 153	0.08	**		0.10	**	*	0.02			0.184	0.08	.		-0.06			-0.04			0.12	**		0.147
PBDE 28	0.00			0.01			-0.05			0.465	-0.63	***	***	0.07	.		0.00			-0.07			<0.001
PBDE 47	-0.14	***	***	-0.08	*	.	-0.19	***	***	0.048	-0.30	***	***	-0.02			-0.06			-0.16	*		<0.001
PBDE 85	-0.06	*		0.01			-0.17	***	**	<0.001	-0.20	***	**	-0.01			0.03			-0.19	*		<0.001
PBDE 99	-0.08	**		-0.04			-0.13	**		0.133	-0.30	***	***	-0.02			0.04			-0.06			<0.001
PBDE 100	-0.10	***	**	-0.08	*	*	-0.11	**		0.534	-0.33	***	***	-0.03			0.03			-0.22	**		<0.001
PBDE 153	-0.10	***	*	-0.10	*	*	-0.10	*		0.995	-0.20	***	***	0.00			-0.02			-0.02			0.009
PBDE 154	-0.11	***	**	-0.09	*	*	-0.14	***	*	0.256	-0.23	***	***	-0.10	.		0.02			-0.21	**		<0.001
PBDE 183	-0.01			-0.05			0.06			0.036	-0.02			0.14			-0.02			-0.02			0.097
PBDE 209	-0.05	*		-0.03			-0.09	*		0.281	-0.03			-0.09			-0.03			-0.03			0.061
PCB 5/8	0.03			0.05			0.03			0.795	0.55	*		0.20	*		-0.01			0.02			0.045
PCB 18/17	0.06	*		0.06	*	*	0.09			0.938	0.05	*		0.94	*		-0.43			1.37			0.083
PCB 22	0.08	*		0.05			0.11	*		0.374	0.36	***	**	0.31	***	*	-0.02			0.11			<0.001
PCB 31/28	0.09	**		0.06	.		0.13	*		0.340	0.45	***	**	0.28	***	*	-0.02			0.10			<0.001
PCB 33/20	0.07	*		0.04			0.11	*		0.288	0.35	**	*	0.30	***	*	-0.02			0.08			<0.001
PCB 37	0.09	**		0.07	.		0.11	*		0.502	0.28	**	*	0.26	***	*	0.01			0.08			0.006
PCB 41/64	0.07	*		0.18	**	*	0.03			0.037	0.24	*		0.10	.		0.04			0.03			0.308
PCB 44	0.09	*		0.20	**	*	0.04			0.035	0.33	**	*	0.11	.		0.06			0.03			0.094
PCB 47/48/75	0.06	.		0.16	*	*	0.03			0.066	0.30	*		0.05			0.04			0.05			0.199
PCB 49/43	0.07	*		0.16	**	*	0.04			0.089	0.25	*		0.10	.		0.03			0.03			0.240
PCB 52/73	0.06			0.26	**	*	0.03			0.031	0.66	**	*	0.14			0.02			0.02			0.019
PCB 66/80	0.11	**	*	0.16	**	**	0.07			0.149	0.34	***	**	0.12	*		0.05			0.06			0.048
PCB 70/76	0.11	**	.	0.17	**	**	0.07			0.116	0.43	***	**	0.15	*		0.03			0.05			0.008
PCB 74/61	0.06	.		0.13	**	*	-0.01			0.017	0.16	**		0.08			-0.02			0.02			0.214
PCB 90/101/89	0.10	*		0.31	***	**	0.05			0.005	0.59	***	**	0.18	*		0.12			0.02			0.003
PCB 93/95	0.04			0.73	***	**	0.02			<0.001	1.24	**	*	0.58	**		0.12			0.00			<0.001
PCB 99	0.08	*		0.34	***	**	0.01			<0.001	0.19	*		0.23	*		0.01			0.02			0.146
PCB 85/120	0.15	***	**	0.25	***	***	0.08	.		0.013	0.38	***	***	0.19	**	.	0.04			0.04			0.003
PCB 110	0.11	**		0.27	***	**	0.05			0.008	0.46	***	**	0.20	**		0.08			0.01			0.004

Chemicals	Overall (n=2,284)			Interaction by infant sex							Interaction by maternal race/ethnicity group												
	beta	p	FDR	Boys Only			Girls Only				Whites			Blacks			Hispanics			Asians			P _{int}
				beta	p	FDR	beta	p	FDR	P _{int}	beta	p	FDR	beta	p	FDR	beta	p	FDR	beta	p	FDR	
PCB 118/106	0.04			0.14	**	*	-0.02			0.011	0.06			0.11			-0.08			0.02			0.450
PCB 105/127	0.04			0.15	**	*	-0.02			0.010	0.07			0.16	*		-0.07			0.00			0.197
PCB 114/122	0.04			0.05			0.04			0.913	0.00			0.09	.		0.11			0.07			0.523
PCB 128	0.03			0.05			0.01			0.499	0.05			0.07			0.01			-0.02			0.749
PCB 137	0.00			0.08			-0.04			0.055	0.03			0.01			-0.02			-0.03			0.887
PCB 138/158	0.02			0.09	.		-0.04			0.038	0.02			0.10			-0.03			0.00			0.718
PCB 146/161	0.04			0.13	*	*	-0.02			0.029	0.15	.		0.22	**		-0.08			-0.03			0.026
PCB 153	0.04			0.13	**	*	-0.04			0.005	0.06			0.16	.		0.08			-0.01			0.413
PCB 156	0.03			0.07	*	.	-0.03			0.053	0.04			0.04			0.00			0.02			0.976
PCB 157	0.01			0.05			-0.06			0.038	0.03			-0.04			0.04			-0.03			0.770
PCB 167	0.01			0.08	.		-0.06			0.023	0.07			0.02			-0.08			-0.02			0.452
PCB 170	0.04			0.06	.		-0.03			0.152	0.03			0.23	.		0.12			-0.01			0.333
PCB 172/192	0.06	.		0.10	**	*	-0.01			0.068	0.10	*		0.12			0.05			-0.01			0.407
PCB 177	0.02			0.08	.		-0.05			0.042	0.07			0.32	**		-0.08			-0.08			0.005
PCB 180	0.05			0.08	*	*	-0.04			0.050	0.04			0.26	*		0.12			-0.01			0.179
PCB 182/187	0.07	.		0.20	**	*	0.00			0.010	0.17	*		0.45	**	.	0.18			-0.02			0.005
PCB 183	0.05			0.10	*	*	-0.01			0.075	0.04			0.36	**	.	0.30	*		-0.04			0.005
PCB 194	0.05	.		0.07	*	*	-0.06			0.048	0.04			0.30	**		0.38	**		-0.04			0.009
PCB 195	0.04			0.06	.	.	-0.03			0.127	0.03			0.30	*		0.31	*		-0.03			0.028
PCB 196/203	0.03			0.09	**	*	-0.11	*		<0.001	0.04			0.18	*		0.13			-0.05			0.173
PCB 199	0.03			0.10	**	*	-0.10	.		<0.001	0.03			0.20	*		0.19			-0.05			0.077
PCB 202	0.07	.		0.21	***	**	-0.02			<0.001	0.13			0.27	**		0.15			-0.01			0.039
PCB 206	0.02			0.10	*	.	-0.10	.		0.007	-0.08			0.21	*		0.45	**		-0.04			<0.001
PCB 208	-0.02			0.06			-0.12	*		0.025	-0.16	.		0.14			0.06			-0.04			0.101
PCB 209	0.07			0.20	**	*	-0.01			0.016	0.16	.		0.11			0.00			0.03			0.583
NMeFOSAA	-0.13	***	**	-0.08	.	.	-0.18	***	**	0.098	-0.21	***	*	-0.03			-0.25	***	*	-0.11			0.025
PFDA	-0.08	**		-0.10	*	.	-0.07	.		0.634	-0.53	***	***	0.02			0.11			0.07			<0.001
PFDoDA	0.03			0.01			0.03			0.662	-0.38	***	***	0.13	*		0.04			0.08			<0.001
PFDS	0.03			0.06			-0.02			0.149	0.05			-0.03			0.03			0.06			0.662
PFHpA	0.03			0.00			0.05			0.372	-0.07			0.10			0.08	.		-0.01			0.075
PFHxS	-0.13	***	**	-0.13	***	**	-0.12	**		0.845	-0.18	***	**	-0.19	***	*	0.02			-0.02			0.028
PFNA	-0.06	*		-0.05			-0.06	.		0.789	-0.42	***	***	0.07			0.05			0.03			<0.001
PFOA	-0.06	*		-0.09	*	.	-0.04			0.429	-0.27	***	***	0.08			0.06			0.02			<0.001
PFOS	-0.09	**		-0.05			-0.13	**		0.153	-0.29	***	***	-0.12	*		0.03			0.05			<0.001
PFOSA	-0.02			0.04			-0.13	**		0.002	-0.17	**	*	0.00			-0.02			0.04			0.037
PFUnDA	0.02			0.06			-0.01			0.232	-0.43	***	***	0.08	.		0.07			0.09	.		<0.001

P-values: ***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1

FDR: p-values after false discovery rate correction (***<0.001 ; **0.001-0.01 ; *<0.01-0.05 ; . 0.05-0.1)

P_{int}: p-values of interaction

Adjusted for maternal race/ethnicity (White, Black, Hispanic, Asian), maternal age (years, continuous), pre-pregnancy BMI (kg/m², continuous), parity (0,1,2, 3 or more), highest level of education (Less than high school, High school diploma or GED or equivalent, Some college or Associate degree, Bachelors degree, Masters degree or Advanced degree), marital status (not married vs. living as married), infant sex (male, female), gestational age at the time of ultrasound (continuous), total serum lipids (except for PFASs, ng/mL, continuous) and log transformed plasma cotinine level (log(x+1), continuous), with repeated measurements of fetal growth (random effect variable corresponding to the mother-child pair), and with a smooth function for the gestational age.