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Supplemental Material

Cross-Sectional Estimation of Endogenous Biomarker Associations with Prenatal Phenols, Phthalates, Metals, and Polycyclic Aromatic Hydrocarbons in Single-Pollutant and Mixtures Analysis Approaches

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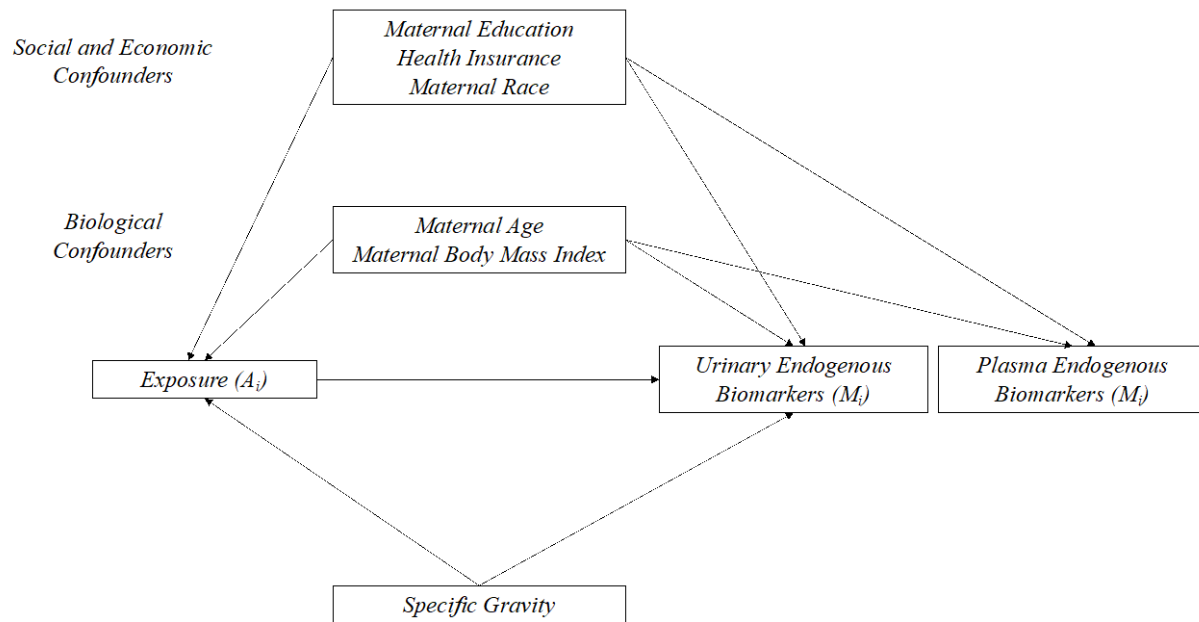
Table of Contents

Figure S1. Directed acyclic graph of the relationship between environmental toxicants and endogenous biomarkers.

Table S1. LIFECODES cohort characteristics in subset and larger study sample.

Population Characteristics		Subset (N=173) Count (percent)	Overall LIFECODES (N=482) Count (percent)
Preterm Birth	Case	58 (33.5%)	130 (27%)
	Control	115 (66.5)	352 (73%)
Age	18 - 24	8 (4.62%)	54 (11.2%)
	25 - 29	32 (18.5%)	95 (19.7%)
	30 - 34	90 (52.0%)	190 (39.4%)
	35 +	43 (24.9%)	143 (29.7%)
Race/ethnicity	White	108 (62.4%)	282 (58.5%)
	African-American	21 (12.1%)	77 (16.0%)
	Other	44 (25.4%)	123 (25.5%)
Education	High school degree (13 years)	24 (13.9%)	68 (14.1%)
	Technical school (>13 years)	20 (11.6%)	77 (16.0%)
	Junior college or some college (>13 years)	57 (32.9%)	139 (28.8%)
	College graduate (16+ years)	72 (41.6%)	187 (38.8%)
	Missing	-	11 (2.3%)
Health Insurance Provider	Private/HMO/Self-pay	153 (88.4%)	385 (79.9%)
	Medicaid/SSI/MassHealth	19 (11.0%)	85 (17.6%)
	Missing	1 (0.58%)	12 (2.5%)
BMI at Initial Visit	<25 kg/m^2	84 (48.6%)	250 (51.9%)
	25 - 29.9 kg/m^2	49 (28.3%)	126 (26.1%)
	$\geq$ 30 kg/m^2	40 (23.1%)	102 (21.2%)
	Missing	-	4 (0.8%)
Tobacco Use	No smoking during pregnancy	161 (93.1%)	445 (92.3%)
	Smoked during pregnancy	12 (6.9%)	31 (6.4%)
	Missing	-	6 (1.2%)
Alcohol Use	No alcohol use during pregnancy	163 (94.2%)	452 (93.8%)
	Alcohol use during pregnancy	7 (4.0%)	20 (4.1%)
	Missing	3 (1.7%)	10 (2.1%)
Fetal Sex	Female	79 (45.7%)	213 (44.4%)
	Male	94 (54.3%)	267 (55.6%)

Figure S2. Heat map of pairwise associations between exposure analytes and endogenous biomarkers estimated using multiple linear regression using case control covariate adjustment. The sample size for most models is N=160, except for the following biomarkers: BCPGE1 (N=159), LTE4 (N=132), sFlt-1 (N=156), and PGF (N=157). Black and blue grids indicate positive and negative associations, respectively. Color intensities are representative of p-values, i.e. darker grids indicate smaller p-values. Pairwise associations that remain significant after controlling the false discovery rate at 0.2 are labeled by white 'X' symbols. Abbreviations and subclasses of toxicants are defined in **Figure 1**.