

1 **SUPPORTING INFORMATION**

2 **Occurrence of Polyethylene Terephthalate and Polycarbonate Microplastics in**
3 **Infant and Adult Feces**

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Text S1 Detailed Extraction Method

Approximately 0.1 g of homogenized stool sample was mixed with 0.1 g of KOH in a 100-mL round-bottom flask containing 10 mL of 1-pentanol. The flask was refluxed at 135 °C in a stirring heating mantle for 30 min. The pentanol solution was then cooled to room temperature and transferred into a 50-mL PP tube. The round-bottom flask was rinsed twice with 5 mL of HPLC-grade water each time, and the rinsate was transferred to the PP tube. To extract the depolymerization products of PET and PC (i.e., TPA and BPA, respectively) from the pentanol solvent, the PP tube was oscillated at 180 strokes per min for 5 min in an orbital shaker, and then centrifuged at $1570 \times g$ for 5 min. The upper, organic phase (i.e., pentanol) was transferred into another PP tube, 10 mL of water was added, and the extraction was repeated as described above. 10 mL of extracted samples were diluted with HPLC grade water to 10 mL and adjusted to pH 2-3 with HCL before SPE. The cartridges (HLB 6 cc/200 mg) were conditioned by 12 mL of MeOH and equilibrated with 12 mL of HPLC grade water. Then, the extracts were passed through the cartridge. Cartridges were washed by 5 mL of HPLC grade water (0.5% formic acid) containing 10% MeOH before dryness. Finally, the target analytes were eluted with 10 mL of MeOH. The solvent was evaporated to near dryness under a gentle stream of nitrogen, reconstituted with a 2 mL of water/MeOH (8:2 v/v) and transferred into an auto-sampler vial for HPLC-MS/MS analysis.

Analysis of free BPA and TPA: 0.1 g feces samples were used for the extraction of TPA and BPA (after spiking with 100 ng D₄-TPA and 20 ng ¹³C₁₂-BPA). BPA extraction in feces samples is similar to that reported for foods (methanol). For the extraction of TPA, we used mixed solvents of MeOH:water (3:2, v/v) after the extraction of BPA. Five mL of mixed solvents was added in the 15 mL PP tube (after BPA extraction) and the mixture was oscillated for 30 min in an orbital shaker. The mixture was centrifuged at 4000 g for 5 min (Eppendorf Centrifuge 5804, Hamburg, Germany), and the supernatant was transferred into a new PP tube. The extraction step was repeated one more time with 5 mL of solvent, and the extracts were combined and concentrated to ~1 mL under a gentle nitrogen stream. The solution was made up to 2 mL with MeOH. Finally, 1 mL of the extract was centrifuged at 10000 rpm for 5 min, then transferred into amber glass vials for HPLC–MS/MS analysis.

55 A Shimadzu Prominence LC-20 AD HPLC instrument (Shimadzu, Kyoto, Japan)
56 interfaced with an API 3200 electrospray ionization triple-quadrupole mass spectrometer (ESI-
57 MS/MS; Sciex, Foster City, CA, USA) was used for the determination of concentrations of TPA
58 and BPA. TPA and BPA were chromatographically separated by the analytical columns, Ultra
59 Biphenyl USP L11 (100 × 2.1 mm, 3 μm; Restek Corporation, Bellefonte, PA, USA) and Betasil®
60 C18 (100 × 2.1 mm, 3 μm; Thermo Electron Corporation, Waltham, MA, USA) connected to a
61 Betasil® C18 Javelin guard column (20 × 2.1 mm, 3 μm), respectively (Table S1). The negative-
62 ion multiple reaction monitoring (MRM) mode was used for the identification of target chemicals.
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Table S1. HPLC Gradient Elution Programs for Terephthalic Acid (TPA) and Bisphenol A (BPA)^a

Time (min)	TPA (%)		Time (min)	BPA (%)	
	H ₂ O (0.1% v/v acetic acid)	ACN (0.1% v/v acetic acid)		H ₂ O (0.1% v/v NH ₄ ·H ₂ O)	MeOH
0	0	0	0	0	0
1	90	10	2	85	15
2	70	30	5	25	25
3	40	60	7	25	75
8	40	60	10	1	99
8.5	90	10	10.5	85	25
15	90	10	15	85	15

^a TPA and BPA were chromatographically separated by the analytical columns, Ultra Biphenyl USP L11 (100 × 2.1 mm, 3 μm; Restek Corporation, Bellefonte, PA, USA) and Betasil® C18 (100 × 2.1 mm, 3 μm; Thermo Electron Corporation, Waltham, MA, USA) connected to a Betasil® C18 Javelin guard column (20 × 2.1 mm, 3 μm), respectively. For both TPA and BPA analyses, the injection volume was 10 μL. The flow rates of 250 and 300 μL/min were applied for TPA and BPA, respectively.

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Table S2. MS/MS Parameters for the Analyses of Terephthalic Acid (TPA) and Bisphenol A (BPA) in Samples^a

Compounds	Precursor ion (m/z)	Quantification/Qualitative ion (m/z)	Declustering potential (DP) ^b	Entrance potential (EP) ^b	Collision energy (CE) ^b	Collision cell exit potential (CXP) ^b
TPA	165	121/77	-45/-45	-10/-10	-10/-20	-20/-10
D ₄ -TPA	169	125/81	-45/-45	-10/-10	-10/-20	-20/-10
BPA	227	212/133	-30/-30	-10/-10	-22/-35	-40/-40
¹³ C ₁₂ -BPA	239	224/139	-30/-30	-10/-10	-22/-35	-40/-40

^a A Shimadzu Prominence LC-20 AD HPLC instrument (Shimadzu, Kyoto, Japan) interfaced with an API 3200 electrospray ionization triple-quadrupole mass spectrometer (ESI-MS/MS; Sciex, Foster City, CA, USA) was used for the determination of concentrations of TPA and BPA. TPA: The Curtain gas and Collision gas were 10 and 8 psi, respectively. Electrospray Voltage was -4500 V, Source heater was set at 500 °C. The nebulizer gas/ion source gas 1 was set at 60 psi, and the heater gas/ion source gas 2 was set at 40 psi; BPA: The Curtain gas and Collision gas were 20 and 8 psi, respectively. Electrospray Voltage was -4500 V, Source heater was set at 400 °C. The nebulizer gas/ion source gas 1 was set at 45 psi, and the heater gas/ion source gas 2 was set at 80 psi. Nitrogen was used as both a curtain and a collision gas.

^b “coefficient for quantitative product ion/coefficient for qualitative product ion” was shown respectively.

Table S3 Limits of Quantification (LOQ) and Recoveries from Matrices for Terephthalic Acid (TPA) and Bisphenol A (BPA)

Compound	LOQs (ng/g) ^a	LOQs (ng/g) ^b	Matrix spiked (%) ^c	Matrix Spiked (%) ^d
TPA	140	1700	86.7±14.7	80.3±2.0
BPA	4.6	9.1	75.4±9.2	71.2±5.9

^a For free TPA and BPA

^b For depolymerized TPA and BPA

^c Recovery of free TPA and BPA spiked 100 and 10 ng.

^d Recovery of depolymerized TPA and BPA spiked 200 and 20 ng

Table S4 Concentrations of free terephthalic acid (TPA) and free bisphenol A (BPA), and polyethylene terephthalate (PET) and polycarbonate (PC) microplastics in feces samples (ng/g)

Infants feces				
	TPA	PET	BPA	PC
Fecal	1600	33000	16	230
Fecal	1300	39000	<LOQ	49
Fecal	1400	65000	<LOQ	100
Fecal	620	23000	<LOQ	50
Fecal	390	5700	<LOQ	56
Fecal	1100	82000	<LOQ	2100
Meconium	1300	12000	136	<LOQ
Meconium	110	3200	<LOQ	110
Meconium	500	<LOQ	73	<LOQ
Adults feces				
	TPA	PET	BPA	PC
A1	280	2300	<LOQ	92
A2	230	<LOQ	<LOQ	93
A3	380	2200	<LOQ	110
A4	210	6000	<LOQ	130
A5	2600	7600	<LOQ	620
A6	3000	16000	<LOQ	130
A7	440	1400	<LOQ	67
A8	700	1400	<LOQ	110
A9	1200	3400	<LOQ	37
A10	180	2800	<LOQ	140