Supplementary information

Silica aerogel as extractive coating for in-tube solid-phase microextraction to determine polycyclic aromatic hydrocarbons in water samples

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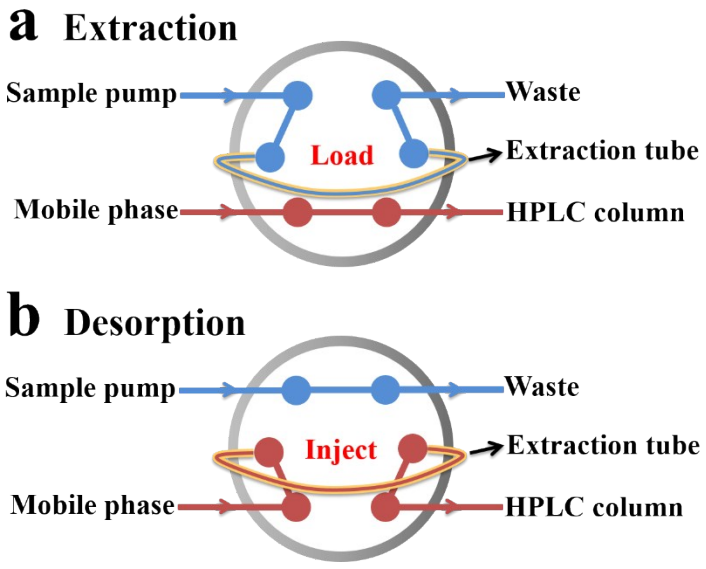

Figure S1. Construction of in-tube SPME-HPLC online system including (a) extraction process and (b) desorption process.

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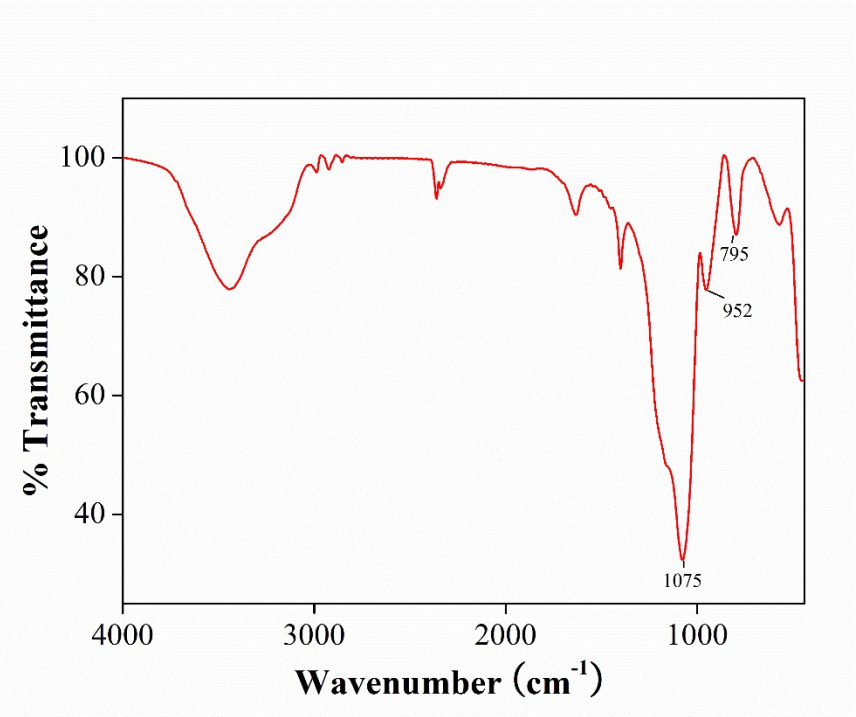

Figure S2. FTIR pattern of silica aerogel.

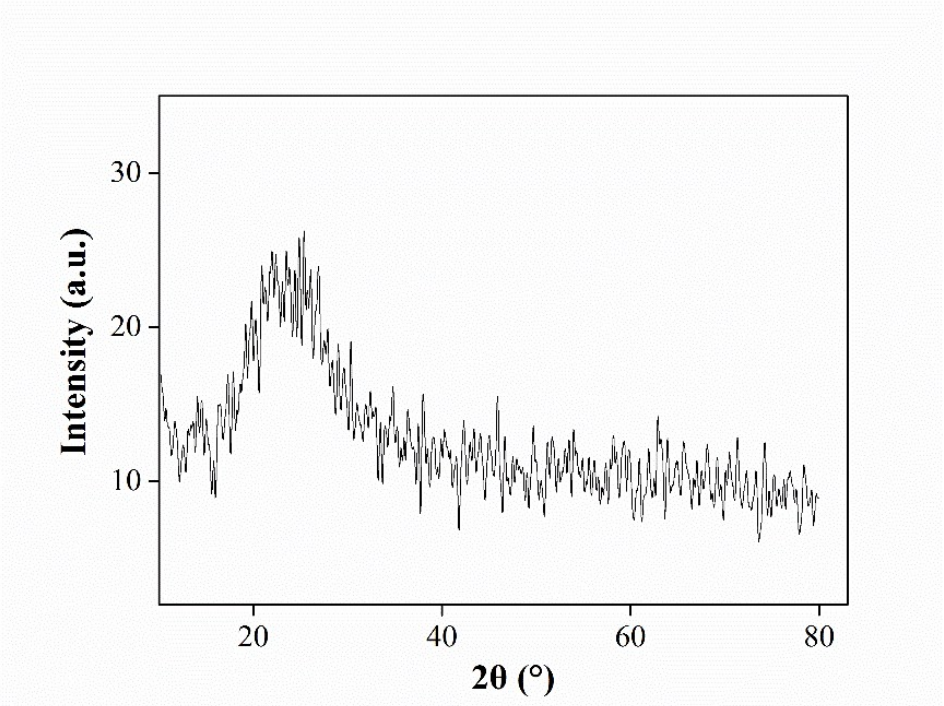

Figure S3. XRD pattern of silica aerogel.

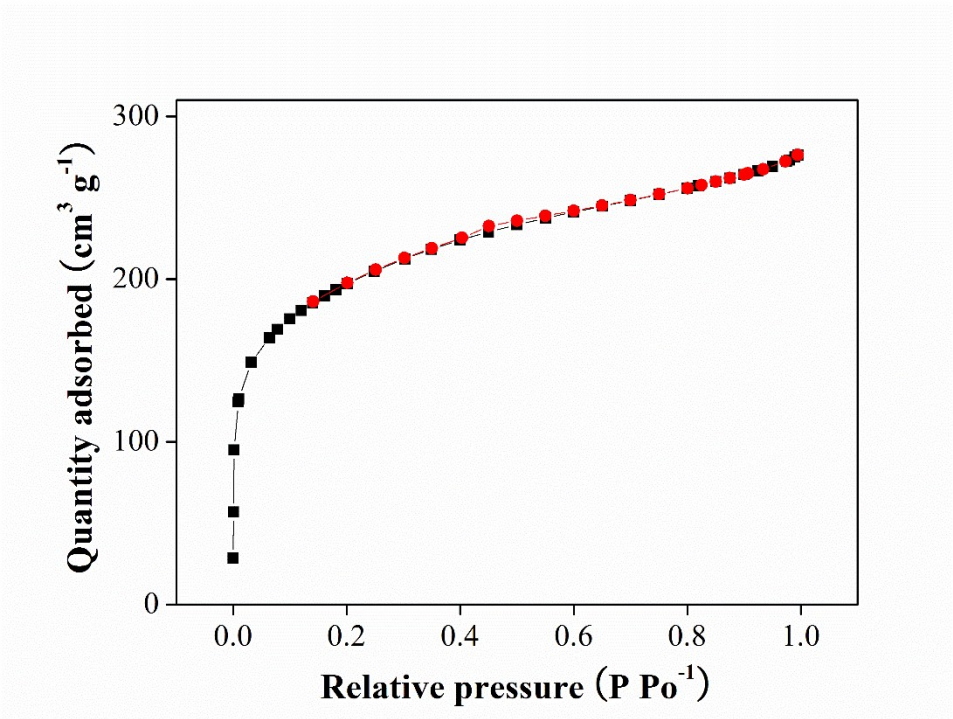

Figure S4. Nitrogen adsorption-desorption measurement of silica aerogel.

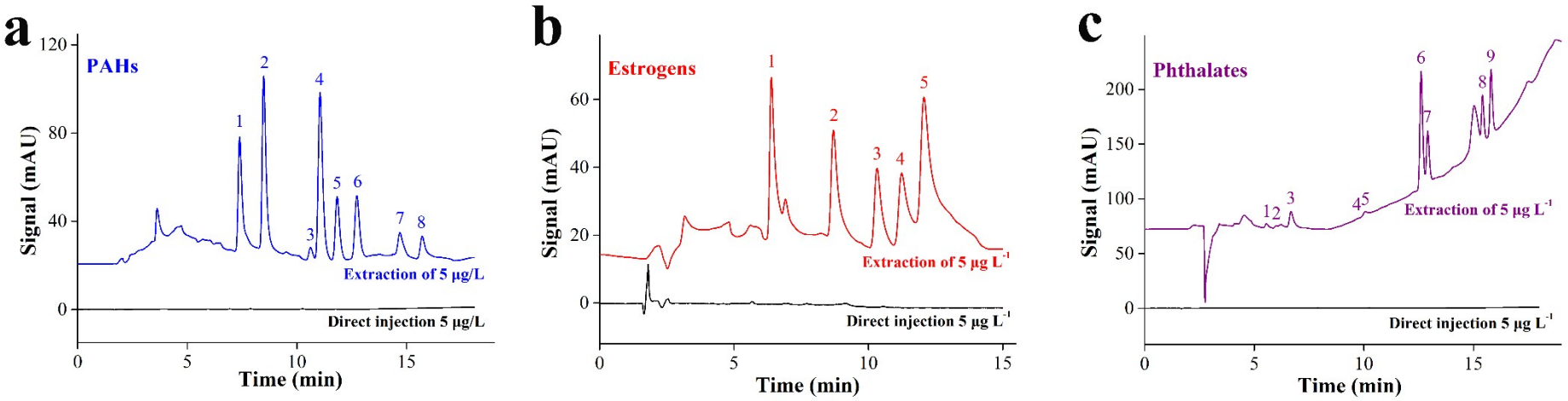

Figure S5. HPLC chromatograms of selectivity containing (a) PAHs, (b) estrogens and (c) phthalates.

Conditions: sampling volume, 30 mL; sampling rate, 1.00 mL min^{-1}; methanol content, 0 (v/v); desorption time, 2.0 min.

(a) PAHs: (1) Nap, (2) Acy, (3) Ace, (4) Flu, (5) Phe, (6) Ant, (7) FlA and (8) Pyr. Detection wavelength, 220 nm; concentration of solution, 5 μg L^{-1}.

(b) Estrogens: (1) bisphenol A, (2) 17 α-ethinylestradiol, (3) estrone, (4) diethylstilbestrol and (5) hexestrol, detection wavelength: 202 nm, concentration of solution: 5 μg L^{-1}.

(c) Phthalates: (1) dimethyl phthalate, (2) diethyl phthalate, (3) diallyl phthalate, (4) benzyl butyl phthalate, (5) di-*n*-butyl phthalate, (6) di-*n*-pentyl phthalate, (7) dicyclohexyl phthalate, (8) di(2-ethylhexyl) phthalate and (9) di-*n*-octyl phthalate, detection wavelength, 210 nm; concentration of solution, 5 μg L^{-1}.

Table S1 The enrichment factors of PAHs, estrogens and phthalates.

Analytes	Enrichment factors	Analytes	Enrichment factors	Analytes	Enrichment factors
Nap	514	Bisphenol A	637	Dimethyl phthalate	165
Acy	931	17 α-Ethinylestradiol	839	Diethyl phthalate	51
Ace	1175	Estrone	620	Diallyl phthalate	688
Flu	967	Diethylstilbestrol	1041	Benzyl butyl phthalate	20
Phe	1136	Hexestrol	985	Di-*n*-butyl phthalate	41
Ant	831			Di-*n*-pentyl phthalate	2624
FlA	888			Dicyclohexyl phthalate	2354
Pyr	951			Di(2-ethylhexyl) phthalate	949
				Di-*n*-octyl phthalate	2245

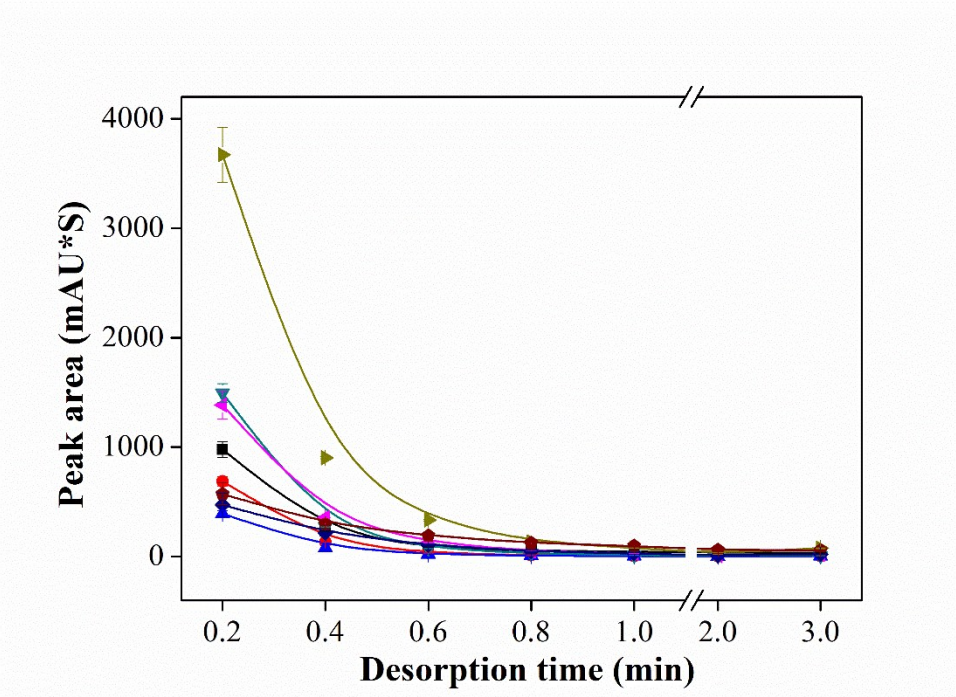

Figure S6. The investigation of the residual on extraction tube under different desorption time.