

Supporting information for

Microwave-assisted-demulsification dispersive liquid-liquid microextraction coupled with gas chromatography-mass spectrometry for the determination of PAHs in water

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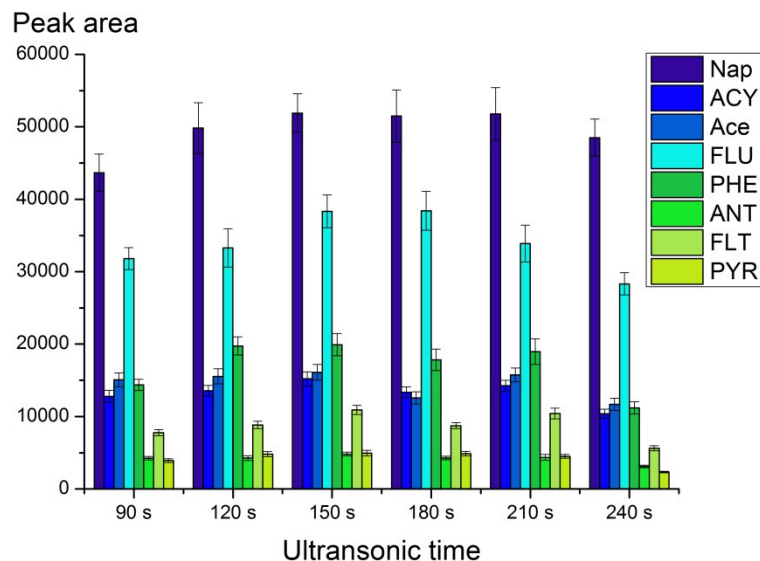


Fig. S1 Effect of ultrasound time on the extraction of 8 PAHs (n=3). Extraction conditions: extraction solvent (toluene) volume, 80 μ L; microwave power, 500 W; microwave time, 30 s; salt concentration, 0% of NaCl (w/v). (Nap, ACY, Ace, FLU, PHE, ANT, FLT, PYR is short for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, respectively.)

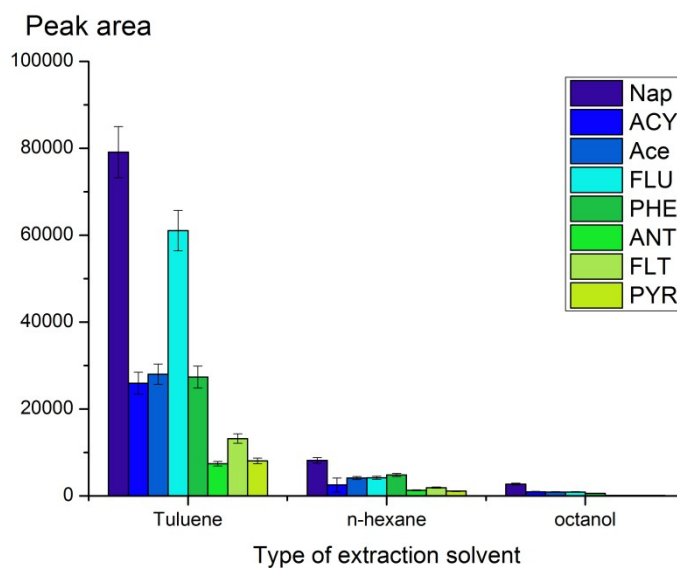


Fig. S2 Effect of type of extraction solvent on the extraction of 8 PAHs (n=3). Extraction conditions: ultrasound time, 150 s; microwave power, 500 W; microwave time, 30 s; the final volume of extraction solvent, 35-37 μ L; salt concentration, 0% of NaCl (w/v). (Nap, ACY, Ace, FLU, PHE, ANT, FLT, PYR is short for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, respectively.)

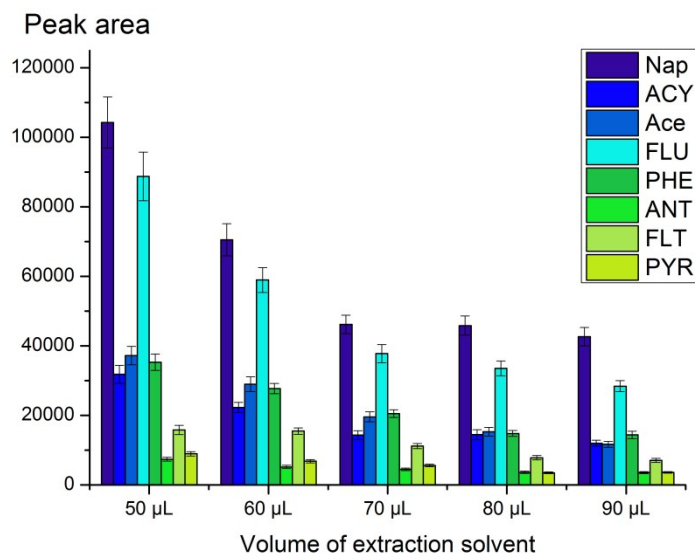


Fig. S3 Effect of volume of the extraction solvent on the extraction of 8 PAHs (n=3). Extraction conditions: extraction solvent, toluene; ultrasound time, 150 s; microwave power, 500 W; microwave time, 30 s; salt concentration, 0% of NaCl (w/v). (Nap, ACY, Ace, FLU, PHE, ANT, FLT, PYR is short for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, respectively.)

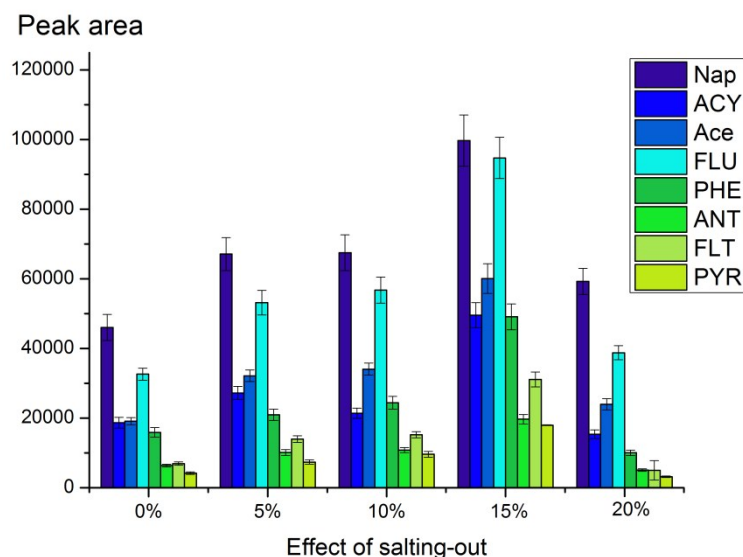


Fig. S4 Effect of salting-out on the extraction of 8 PAHs (n=3). Extraction conditions: extraction solvent (toluene) volume, 80 µL; ultrasound time, 150 s; microwave power, 500 W; microwave time, 30 s. (Nap, ACY, Ace, FLU, PHE, ANT, FLT, PYR is short for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, respectively.)

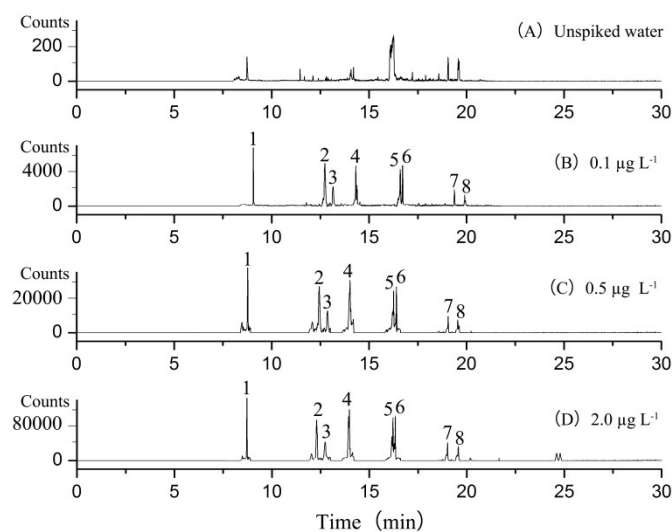


Fig. S5 Total ionic chromatograms of (A) an unspiked water sample; (B) water samples spiked with 0.1 $\mu\text{g/L}$ of each analyte; (C) 0.5 $\mu\text{g/L}$ of each analyte; (D) 2.0 $\mu\text{g/L}$ of each analyte. 1: naphthalene, 2: acenaphthylene, 3: acenaphthene, 4: fluorene, 5: phenanthrene, 6: anthracene, 7: fluoranthene, 8: pyrene.

Table S1. Accuracy and precision of the proposed method in water matrices.

Analyte	Spiked level (0.1 $\mu\text{g/L}$)		Spiked level (0.5 $\mu\text{g/L}$)		Spiked level (2.0 $\mu\text{g/L}$)	
	R ^a (%)	RSD ^b (%)	R ^a (%)	RSD ^b (%)	R ^a (%)	RSD ^b (%)
Naphthalene	101.7	1.6	100.6	1.5	100.4	3.0
Acenaphthylene	105.9	4.8	98.8	1.1	99.0	5.4
Acenaphthene	100.5	1.5	98.4	2.3	101.9	6.7
Fluorene	100.9	5.8	98.3	1.6	100.3	2.6
Phenanthrene	94.6	5.2	100.2	2.4	100.9	1.2
Anthracene	98.6	1.4	98.3	2.0	102.5	5.3
Fluoranthene	97.6	1.1	102.0	5.4	100.8	2.0
Pyrene	102.2	2.6	101.4	5.1	98.8	1.4

^a Recovery. ^b Relative standard deviation ($n=5$).