

Supplementary materials

Magnetic solid-phase extraction using a mixture of two types of nanoparticles followed by gas chromatography-mass spectrometry for the determination of six phthalic acid esters in various water samples

Hui Li^a, Zhen Cao^{a*}, Xiaolin Cao^a, Zejun Jiang^a, A. M. Abd El-Aty^{b,c}, Yan Qi^a, Hua Shao^a, Fen Jin^a, Lufei Zheng^a, and Jing Wang^a

^a *Institute of Quality Standard and Testing Technology for Agro-products, Chinese Academy of Agricultural Sciences, Key Laboratory of Agro-product Quality and Safety, Ministry of Agriculture, Beijing, 100081, P. R. China*

^b *Department of Pharmacology, Faculty of Veterinary Medicine, Cairo University, 12211 Giza, Egypt*

^c *Department of Medical Pharmacology, Medical Faculty, Ataturk University, Erzurum 25240, Republic of Turkey*

***Corresponding authors:**

Zhen Cao; Tel.: +86-010-82106513; Fax: +86-10-82106568; E-mail address:

caozhen01@caas.cn.

Figure captions

Fig. S1. The effect of elute solvent on the extraction efficiency of the tested PAEs.

Extraction conditions: 10 mL of spiked drinking water at $10.0 \mu\text{g L}^{-1}$, 30 mg of mixed sorbents (15 mg of $\text{Fe}_3\text{O}_4@\text{MIL-100}$ and 15 mg of $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{PT}$), pH 6.0, adsorption time 15 min, and desorption time 10 min.

Fig. S2. The effect of sample pH on the extraction efficiency of the tested PAEs.

Extraction conditions: 10 mL of spiked drinking water at $10.0 \mu\text{g L}^{-1}$, 30 mg of mixed sorbents, adsorption time 15 min, desorption time 10 min, and 1 mL of ACN as elution solvent.

Fig. S3. The effect of adsorption time on the extraction efficiency of the tested PAEs.

Extraction conditions: 10 mL of spiked drinking water at $10.0 \mu\text{g L}^{-1}$, 30 mg of mixed sorbents, pH 6.0, desorption time 10 min, and 1 mL of ACN as elution solvent.

Fig. S4. The effect of desorption time on the extraction efficiency of the tested PAEs.

Extraction conditions: 10 mL of spiked drinking water at $10.0 \mu\text{g L}^{-1}$, 30 mg of mixed sorbents, pH 6.0, adsorption time 15 min, and 1 mL of ACN as elution solvent.

Fig. S5. The reusability of magnetic sorbents.

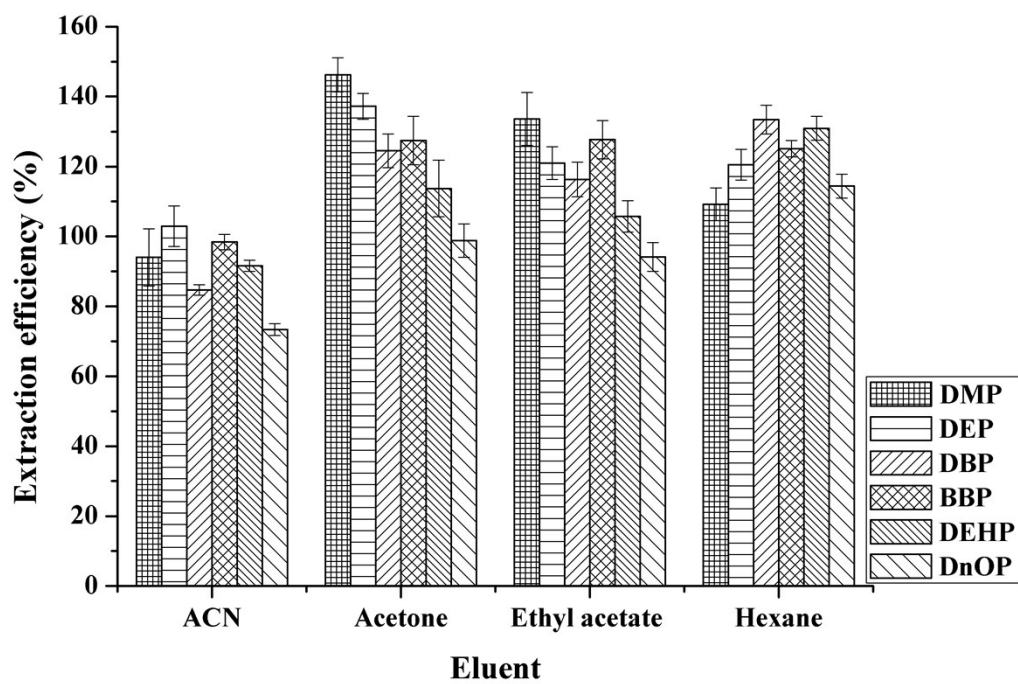


Fig. S1

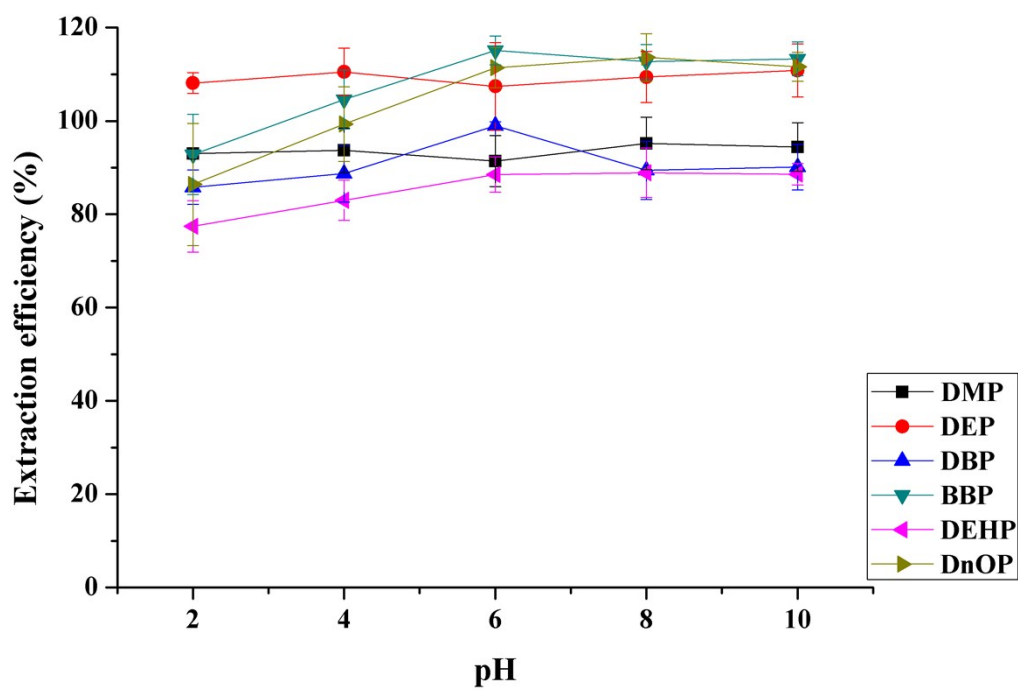


Fig. S2

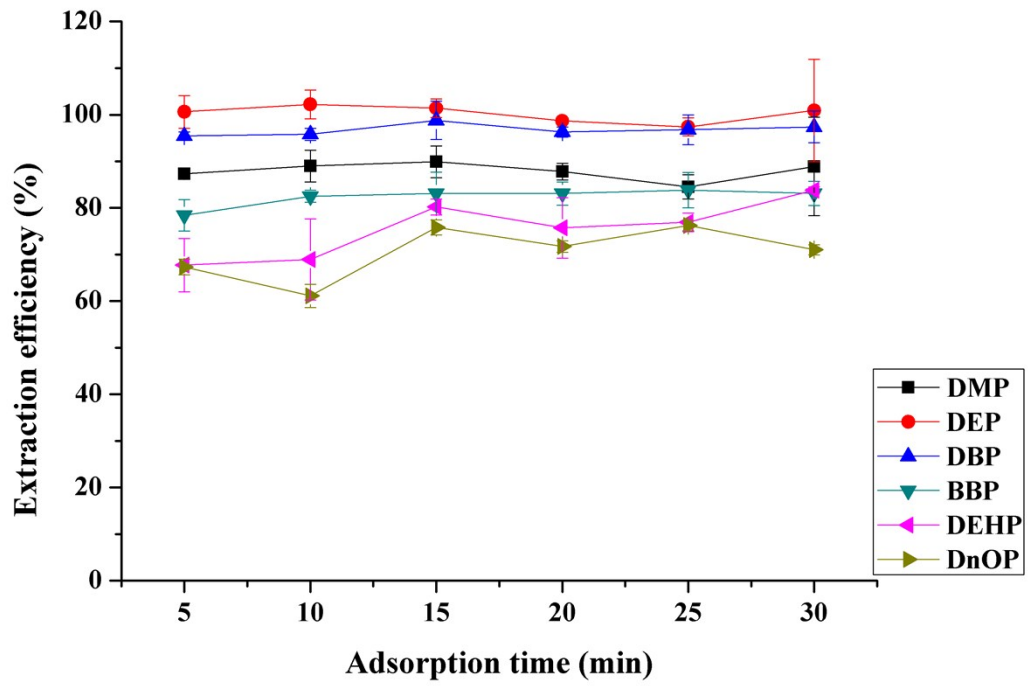


Fig. S3

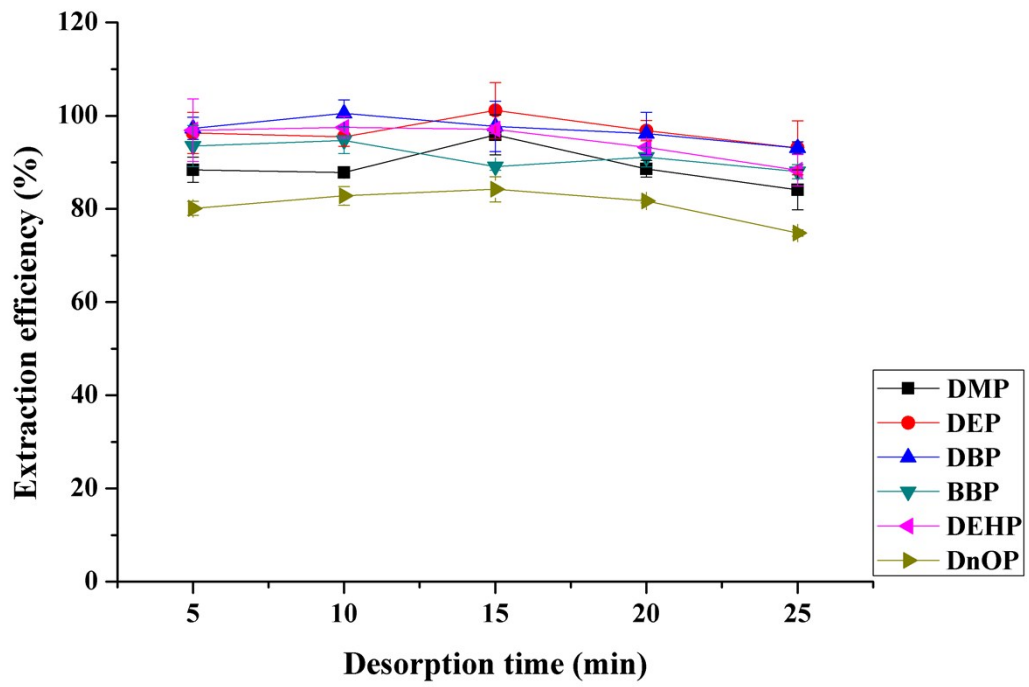


Fig. S4

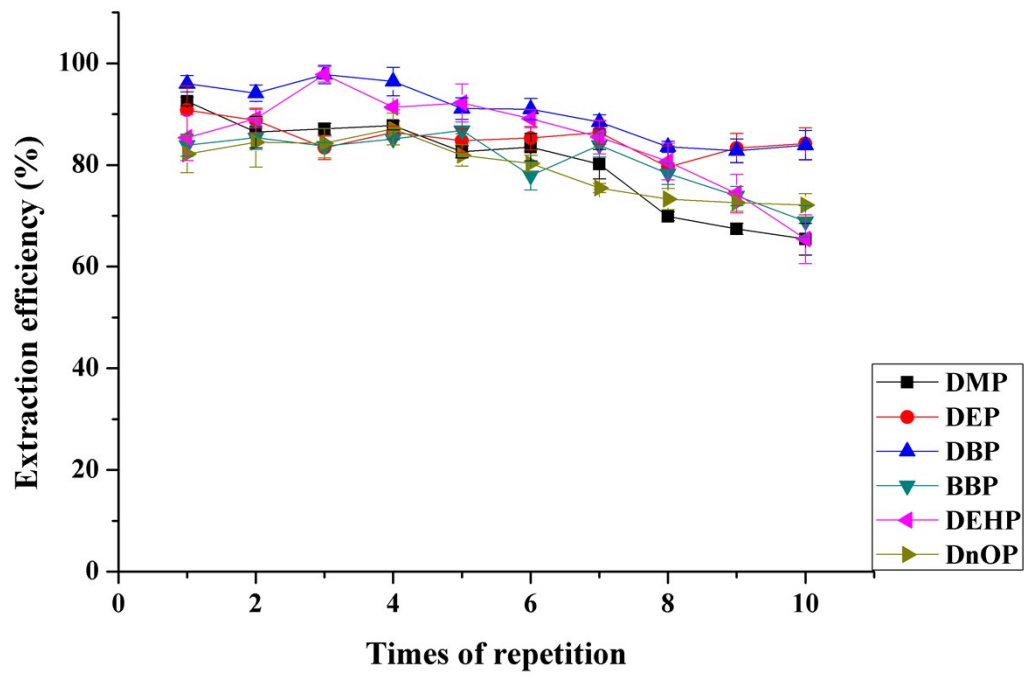


Fig. S5