# Natural cotton fibers as adsorbents for solid-phase extraction of polycyclic aromatic hydrocarbons in water samples

Jianping Wang, Shengquan Liu, Chunyan Chen, Ying Zou,

Huiping Hu, Qingyun Cai\*, Shouzhuo Yao\*

Jianping Wang, Chunyan Chen, Ying Zou, Shengquan Liu, Huiping Hu,

Qingyun Cai\*, Shouzhuo Yao\*

State Key Laboratory of Chemo/Biosensing & Chemometrics, College of Chemistry & Chemical Engineering, Hunan University, Changsha 410082, China E-mail: szyao@hnu.edu.cn; caigroup@126.com; Tel: +86-731-88821968

# Supplementary Materials

# 2. Experimental

## 2.5 HPLC-FLD analysis

Table S-1 Time program of emission and excitation wavelength of fluorescence detection

Time	Emission	Excitation	РАН	
(min)	wavelength (nm)	wavelength (nm)	determined	PAH structure
0.0-12.0	340	260	Flu	
12.0-15.0	370	250	Ant	
15.0-17.5	462	289	FlA	
17.5-21.0	380	320	Pyr	
21.0-25.0	403	266	BaA	
25.0-32.0	430	294	BbF	
25.0-32.0	430	294	BkF	

# 3. Results and discussion

#### 3.1.1. Optimization of desorption conditions

Figure. S1 Effect of eluting solvent volume on SPE performance. Extraction conditions: sample volume, 50 mL; extraction time: 60 min; eluent solvent, acetonitrile; ultrasonic desorption time, 10 min.

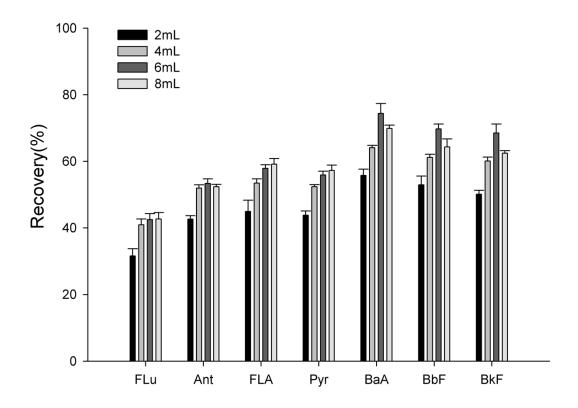
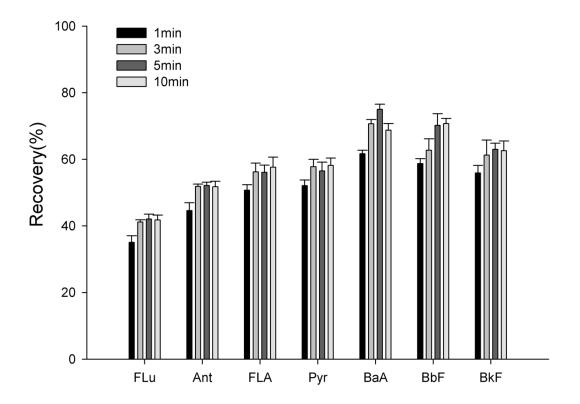
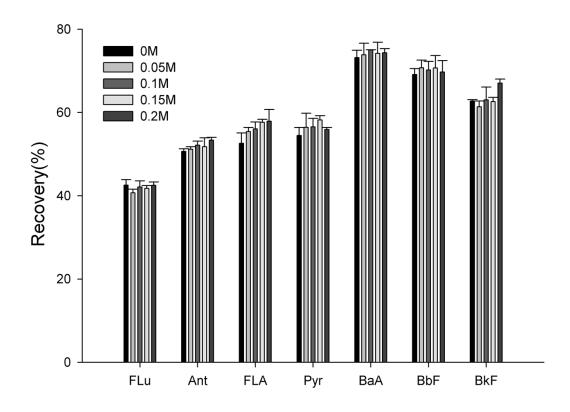


Figure. S2 Effect of ultrasonic desorption time on SPE performance. Extraction conditions: sample volume, 50 mL; extraction time: 60 min; eluent solvent, acetonitrile; volume of elution solvent,  $3 \times 2$  mL.



## **3.1.2.** Effect of salt concentration and organic modifier

Fig. S3 Effect of salt concentration on SPE performance. Extraction conditions: sample volume, 50 mL; extraction time: 60 min; eluent solvent, acetonitrile; volume of elution solvent, 3×2mL; ultrasonic desorption time, 5min



## **3.1.7.Effect of volume of organic modifier.**

Fig. S4 Effect of organic modifier volume on SPE performance. Extraction conditions: sample volume, 50 mL; extraction time: 60 min; eluent solvent, acetonitrile; volume of elution solvent, 3×2 mL; ultrasonic desorption time, 5 min.

