

**Ionic liquid polymer functionalized carbon nanotubes-coated
polyaniline for the solid-phase microextraction of benzene derivatives**

Mian Wu, Liying Wang, Faqiong Zhao, Baizhao Zeng*

Key Laboratory of Analytical Chemistry for Biology and Medicine (Ministry of Education),
College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, Hubei
Province, P. R. China

Corresponding author: Baizhao Zeng

Tel. : 86-27-68752701

Fax : 86-27-68754067

E-mail : bzzeng@whu.edu.cn

* Corresponding author. Tel: 86-27-68752701, Fax: 86-27-68754067.
E-mail address: bzzeng@whu.edu.cn

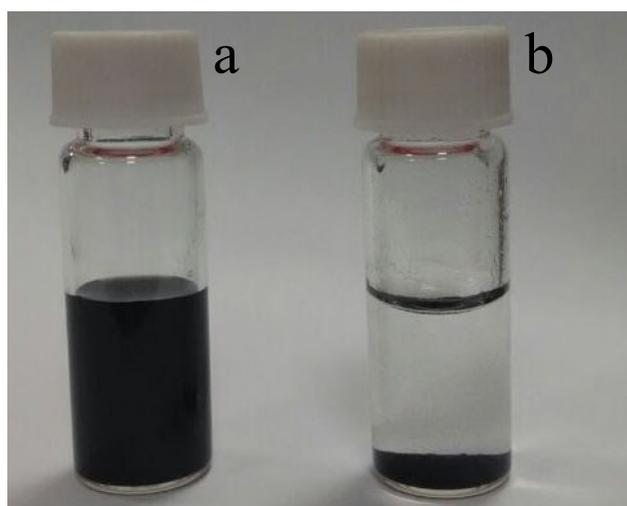


Fig. S1. The photographs of PIL/MWCNTs (a) and MWCNTs (b) dispersed in DMF.

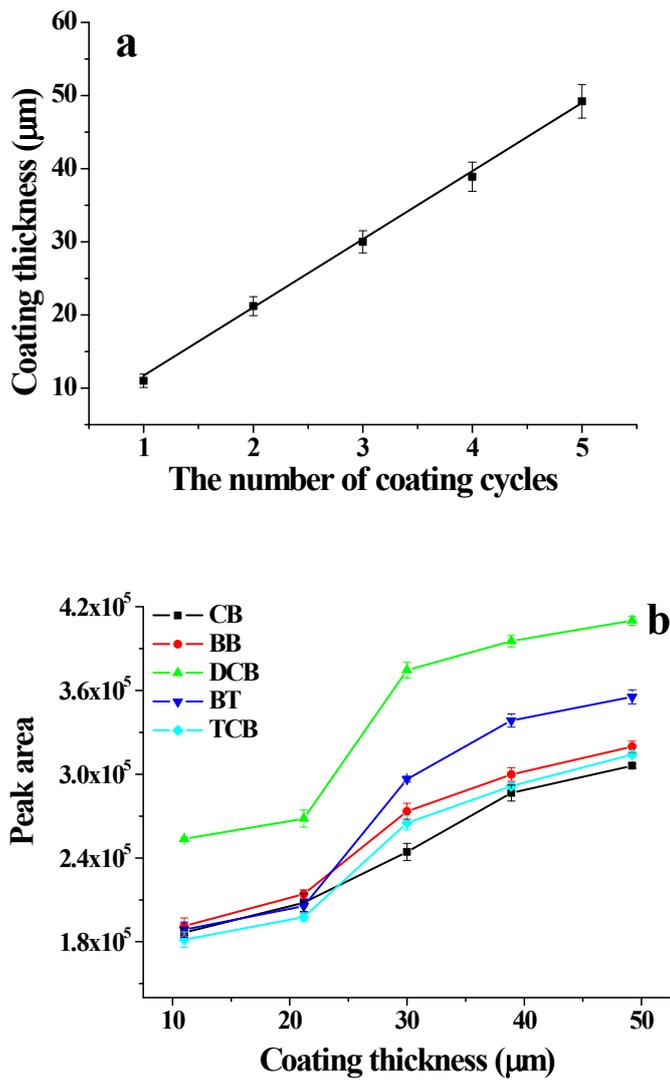


Fig. S2. (a) Variation of the coating thickness (average thickness of five fibers) with the number of coating cycles; (b) variation of enrichment efficiency (error bar shows the standard deviation for triplicate extractions) with coating thickness.

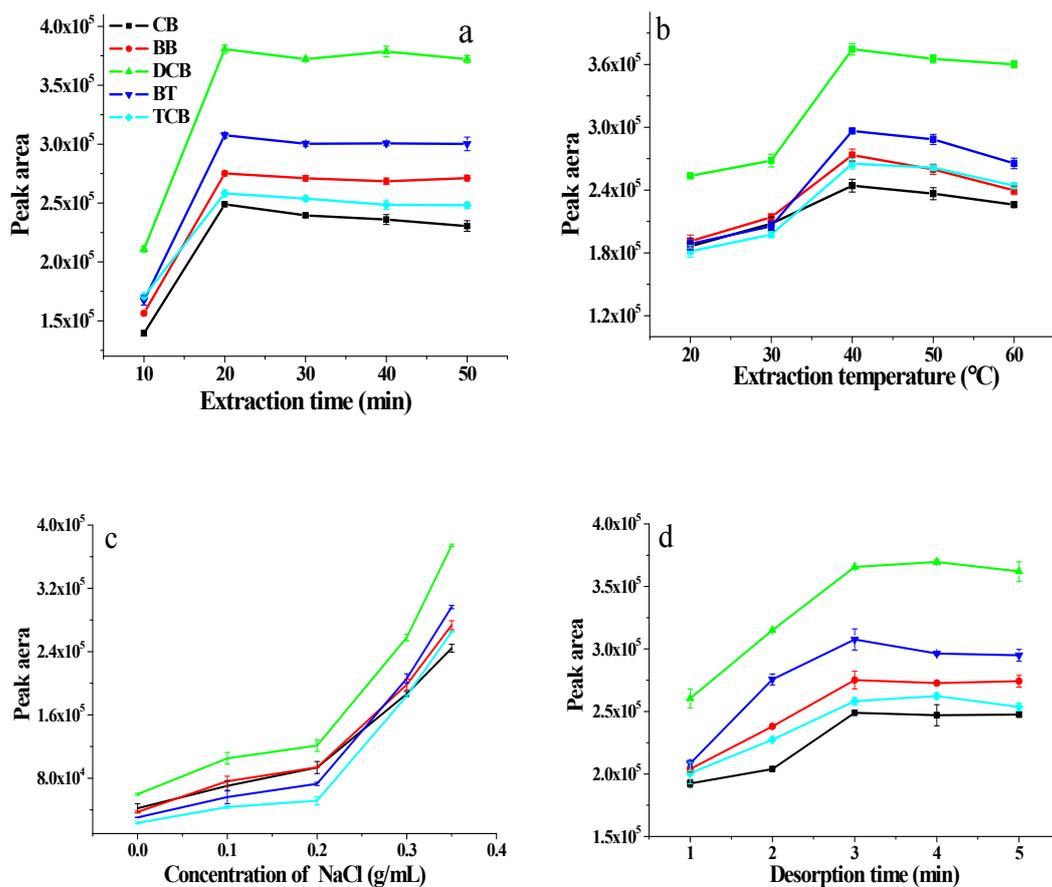


Fig. S3. Influence of extraction time (a), extraction temperature (b) and NaCl concentration (c) on extraction efficiency of PANI-PIL/MWCNTs coating for 50 $\mu\text{g/L}$ benzene derivatives; (d) influence of desorption time on peak area. Error bars show the standard deviation ($n = 3$).

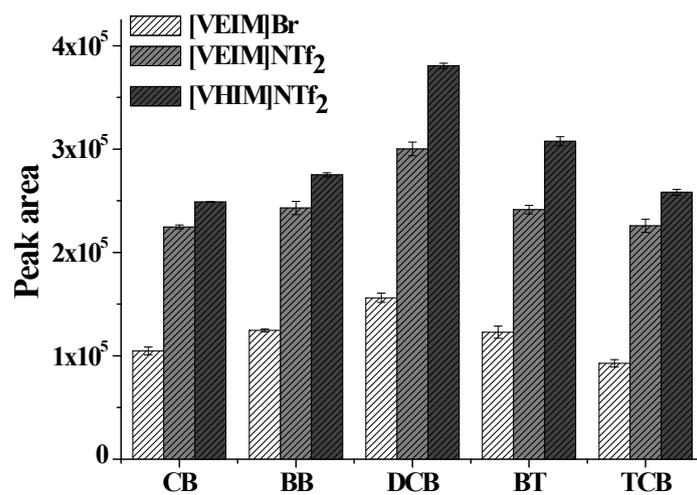


Fig. S4. Influence of ILs on the extraction efficiency of the resulting PANI-PIL/MWCNTs coating for 50 µg/L benzene derivatives. Error bars show the standard deviation (n = 3).

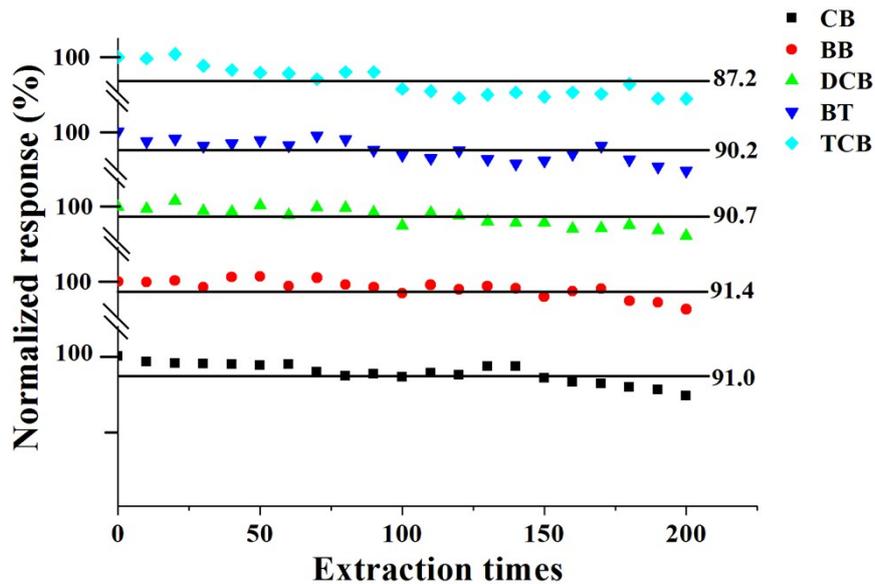


Fig. S5. Variation of the extraction efficiency of PANI-PIL/MWCNTs fiber with extraction times used. HS-SPME was performed in 10 mL aqueous solution containing 50 $\mu\text{g/L}$ benzene derivatives. The solid lines represented average values of the 200 extractions (using a single fiber). Normalization was performed by taking the extraction efficiency of the first extraction for each analyte as 100%.

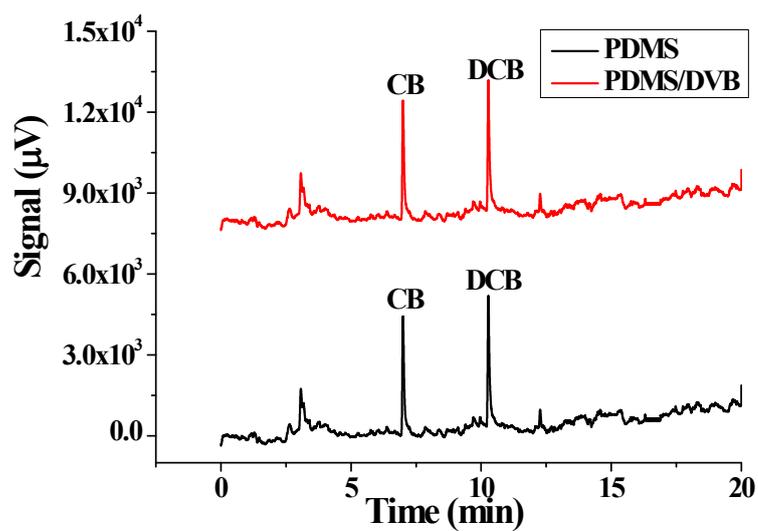


Fig. S6. Chromatograms of benzene derivatives in Sample 2 after extracted with the PDMS and PDMS/DVB fibers. Extraction temperature, 40 °C; extraction time, 20 min; medium, saturated NaCl; desorption temperature, 250 °C; desorption time, 3 min.