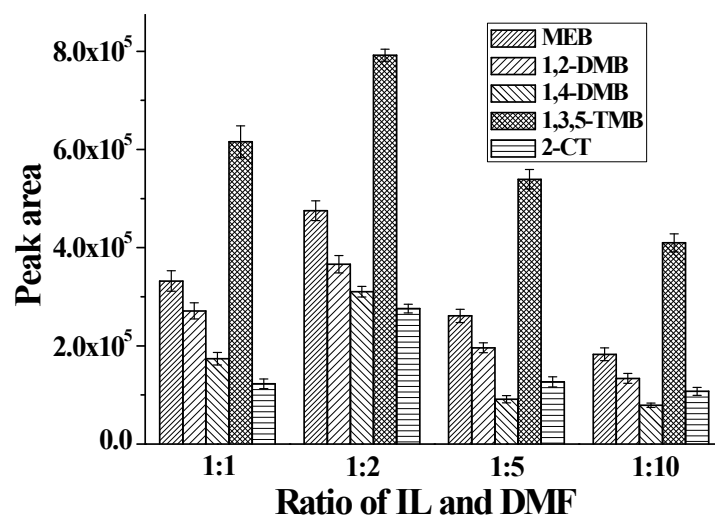
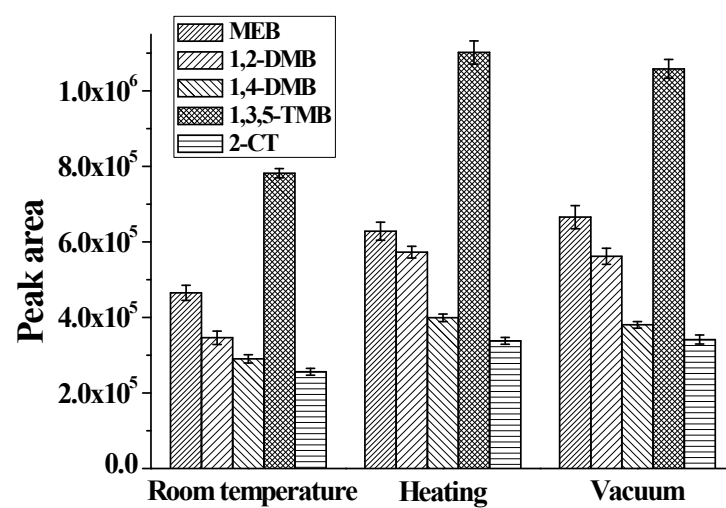


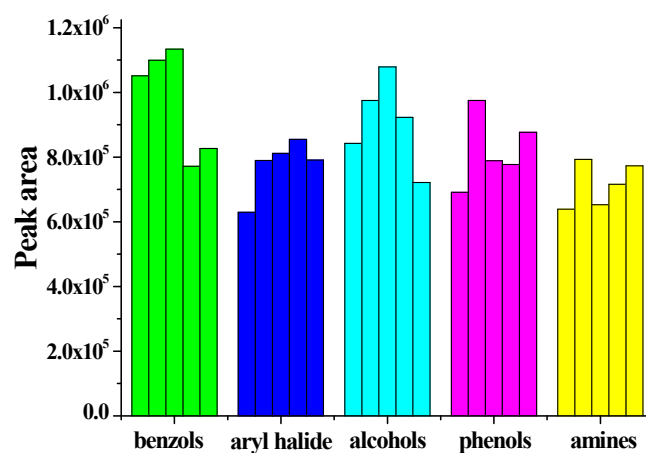
## Electronic supplementary material



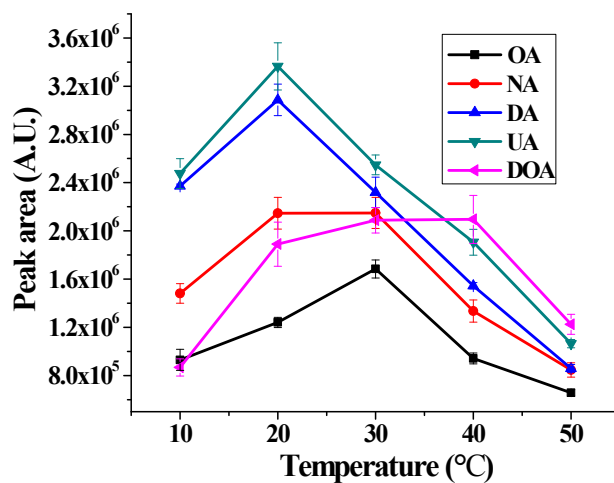
**Fig. S1** Influence of IL concentration on the extraction efficiency. Ratio of IL and DMF (V/V): 1:1, 1:2, 1:5, 1:10; extraction time: 40 min; extraction temperature: 30 °C; stirring speed: 600 rpm; NaCl concentration: 0.35 g mL<sup>-1</sup>; concentration of benzene compounds: 100 µg L<sup>-1</sup> for MEB, 1,2-DMB, 1,4-DMB, 1,3,5-TMB and 2-CT.



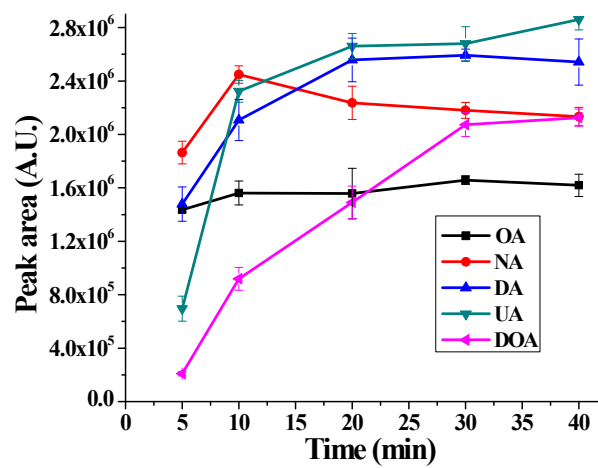
**Fig. S2** Influence of treatment methods on extraction efficiency. The extraction conditions as Fig. S1.



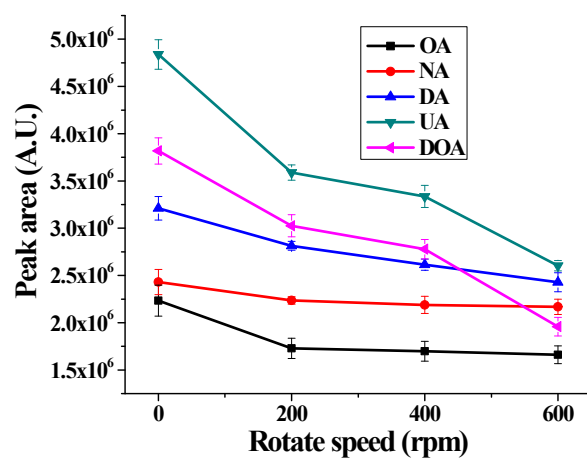
**Fig. S3** Chromatographic peak area of 0.10  $\mu\text{L}$  standard solution containing 0.50 mg  $\text{mL}^{-1}$  (for each) analytes. The five series of analytes included (from left to right ): benzols (i.e. MEB, 1,2-DMB, 1,4-DMB, 1,3,5-TMB and 2-CT), aryl halide (i.e. CB, BB, 1,4-DCB, 4-BT and 1,2,4-TCB), alcohols (i.e. OA, NA, DA, UA and DOA), phenols (i.e. 2-CP, 2-MP, 3-MP, 2,6-DMP and 2,4-DMP) and amines (i.e. ANI, NMA, 3-MA, 2-CA and 3-CA).



**Fig. S4** Influence of extraction temperature on extraction efficiency of the PANI supported IL fiber. Extraction time: 40 min; stirring speed: 600 rpm; NaCl concentration: 0.35 g mL<sup>-1</sup>; concentration of fatty alcohols: 50 ng mL<sup>-1</sup> for OA, NA, DA, UA and DOA.

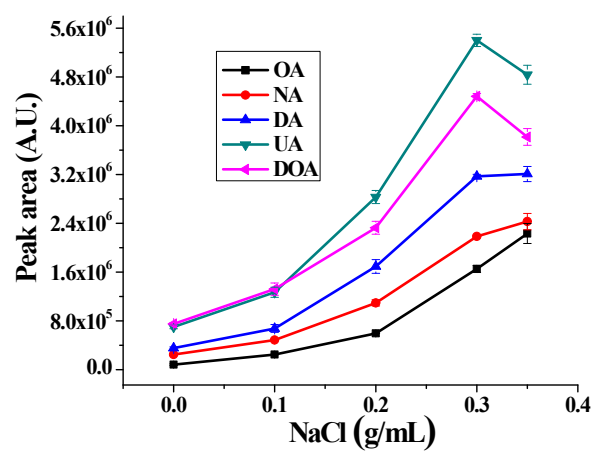


**Fig. S5** Effect of extraction time on the extraction efficiency of the PANI supported IL fiber. Extraction temperature: 30 °C; other conditions as in Fig.S4.

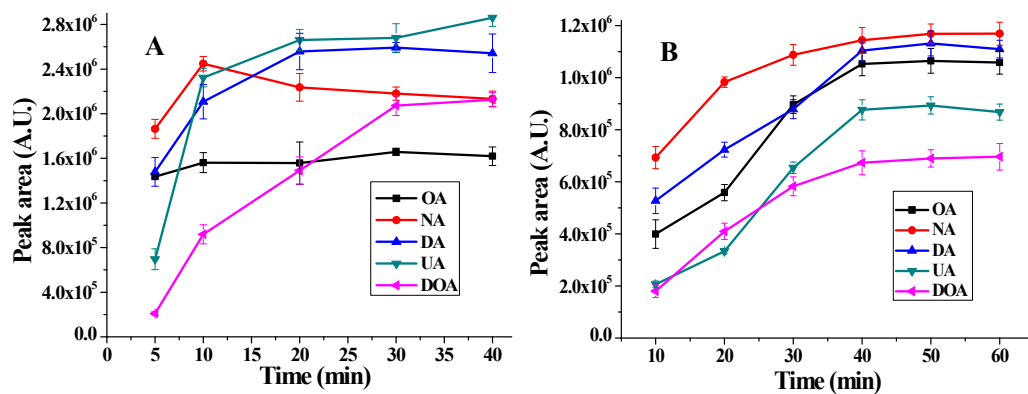


**Fig. S6** Effect of stirring rate on extraction efficiency of the PANI supported IL fiber.

Extraction time: 30 min; other conditions as in Fig. S5.

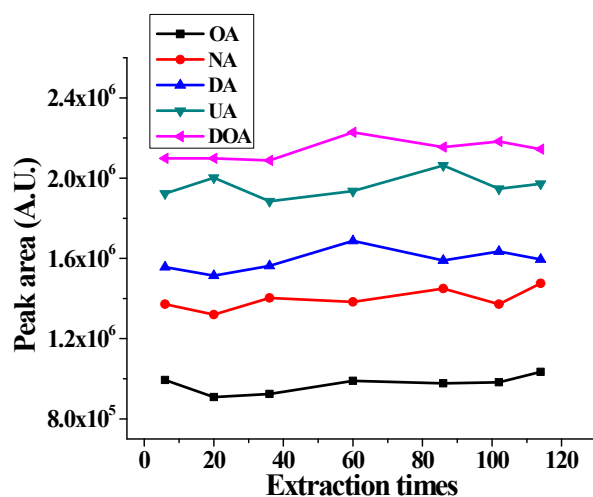


**Fig. S7** Effect of NaCl concentration on the extraction efficiency of the PANI supported IL fiber. Stirring rate: 0 rpm; other conditions as in Fig. S6.



**Fig. S8.** Comparative extraction equilibrium time profiles for fatty alcohol compounds using PANI supported IL fiber (A) and PANI fiber (B). Extraction temperature: 30 °C; NaCl concentration: 0.35 g mL<sup>-1</sup>; concentration of fatty alcohols: 0.05 µg mL<sup>-1</sup> for OA, NA, DA, UA and DOA.

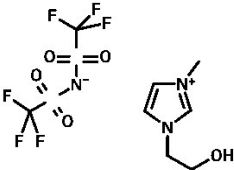
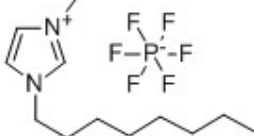
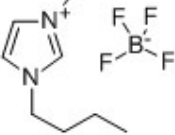




**Fig. S9.** Variation of extraction efficiency with extraction times of the PANI supported IL fiber. Extraction temperature 30 °C; extraction time: 30 min; stirring speed: 0 rpm; NaCl concentration: 0.35 g mL<sup>-1</sup>; concentration of fatty alcohols: 0.05 µg mL<sup>-1</sup> for OA, NA, DA, UA and DOA.

**Table S1**

Chemical structures of the ionic liquids

Ionic liquids	Chemical structures
[HOEMim] <sup>+</sup> NTf <sub>2</sub> <sup>-</sup>	
[Omim] <sup>+</sup> PF <sub>6</sub> <sup>-</sup>	
[Bmim] <sup>+</sup> BF <sub>4</sub> <sup>-</sup>	
[Bmim] <sup>+</sup> PF <sub>6</sub> <sup>-</sup>	