

Fig. S1 FT-IR spectra of MnFe<sub>2</sub>O<sub>4</sub>

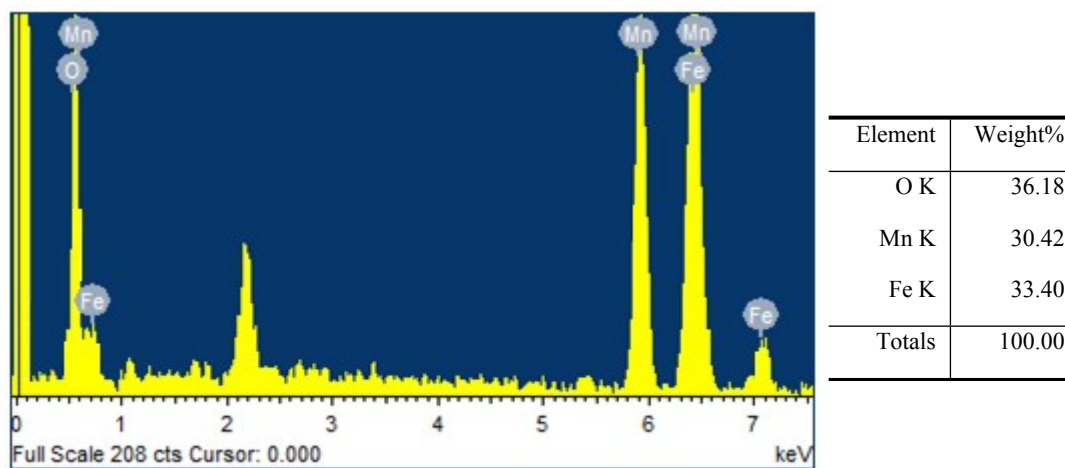


Fig. S2 EDX spectrum of MnFe<sub>2</sub>O<sub>4</sub>

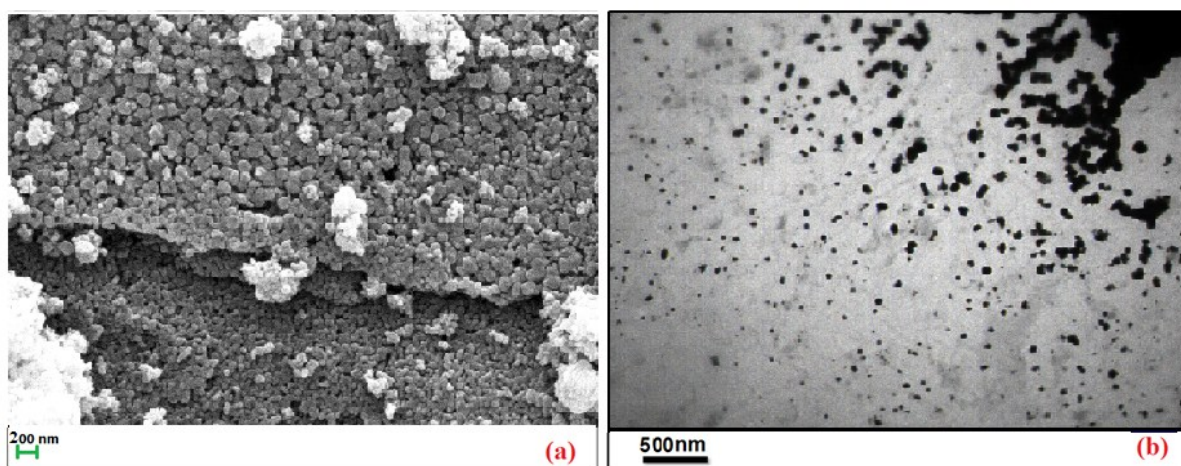


Fig. S3 FE-SEM and TEM images of  $\text{MnFe}_2\text{O}_4$

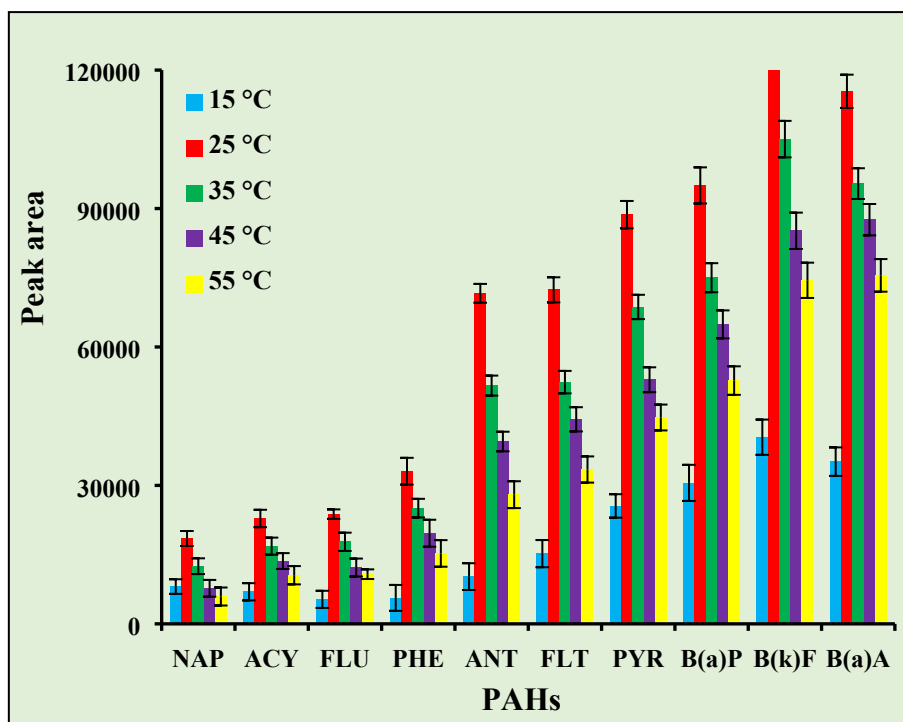
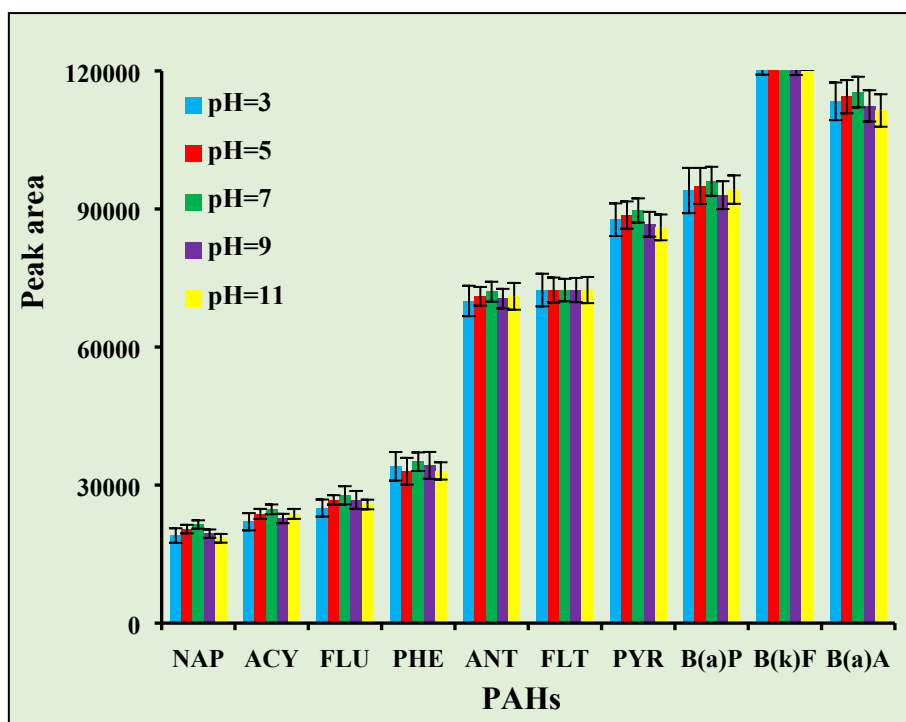
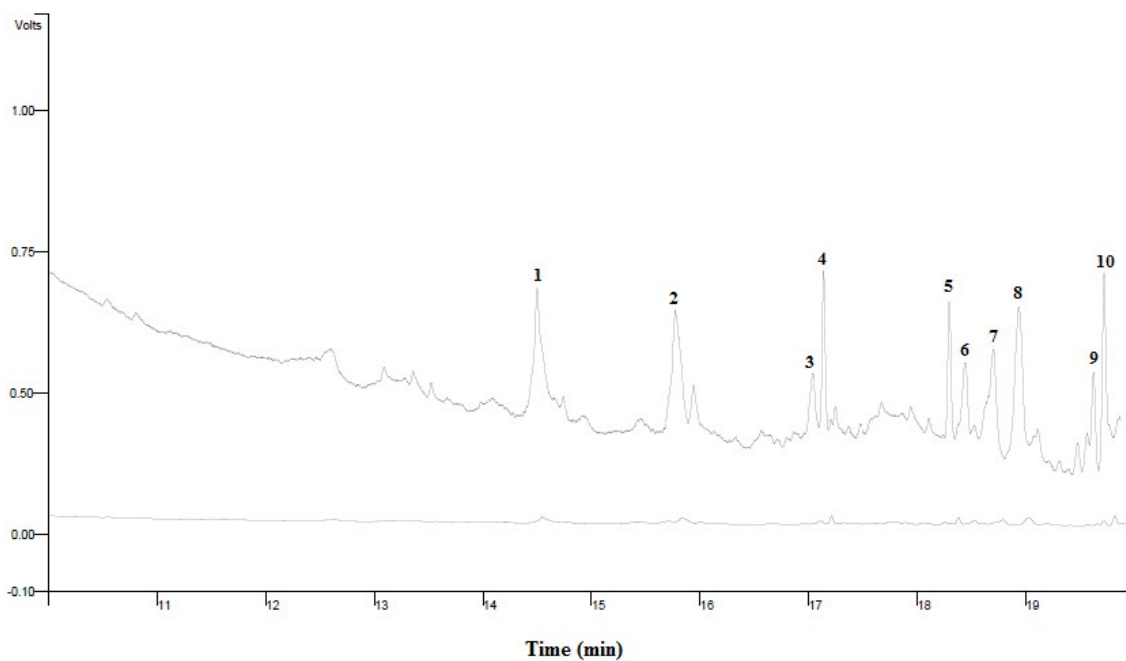


Fig. S4 Effect of extraction temperature on the extraction efficiency of PAHs (N=3)



**Fig. S5** Effect of pH on the extraction efficiency of PAHs (N=3)



**Fig. S6** The chromatograms of blank and spiked real aqueous samples at  $5.0 \text{ ng mL}^{-1}$ , 1: NAP, 2: ACY, 3: FLU, 4: PHE, 5: ANT, 6: FLT, 7: PYR, 8: BaP, 9: BkF, 10: BaA