

Supporting Information

Fabrication of hybrid magnetic HKUST-1 and its high efficient adsorption performance for Congo red dye

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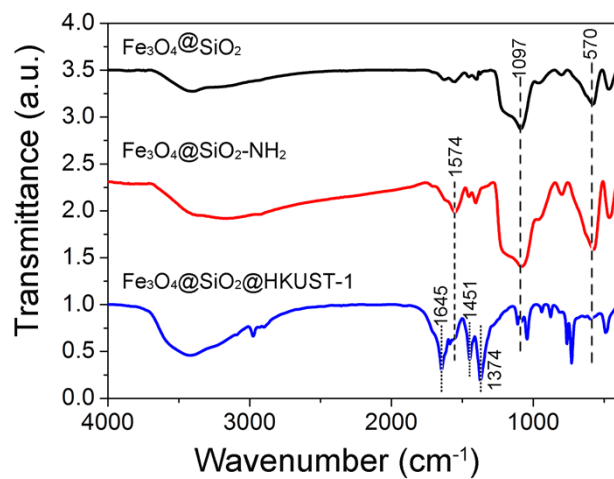


Figure S1. FTIR spectra of $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$, $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$, and $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{HKUST-1}$.

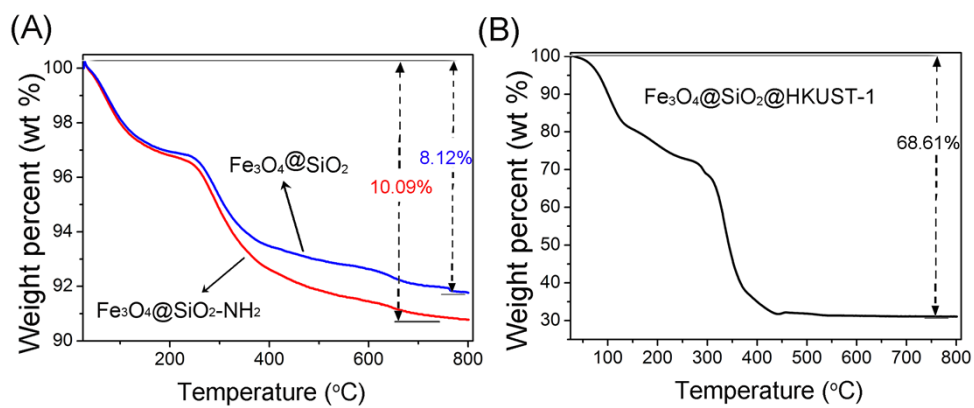


Figure S2 TG curves of (A) $\text{Fe}_3\text{O}_4@\text{SiO}_2$, $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$ and (B) $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{HKUST-1}$.

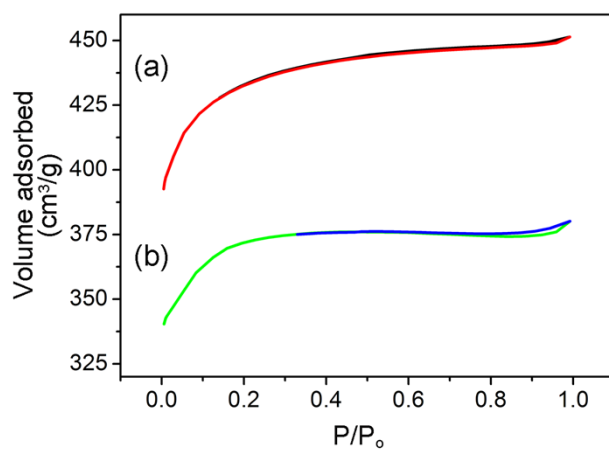


Figure S3. Nitrogen adsorption-desorption isotherm of (a) HKUST-1 and (b) Fe₃O₄@SiO₂@HKUST-1.

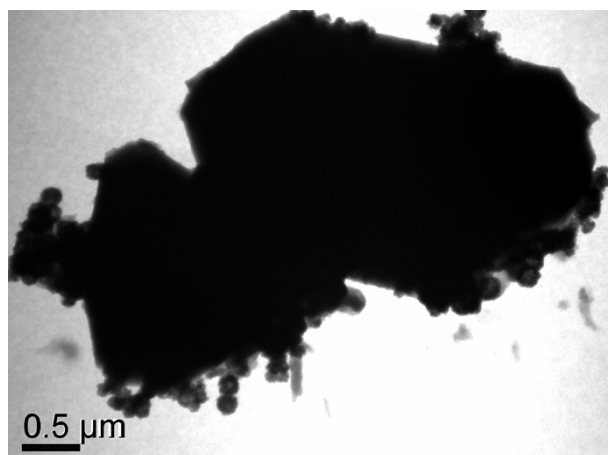


Figure S4. TEM image of Fe₃O₄@SiO₂@HKUST-1.

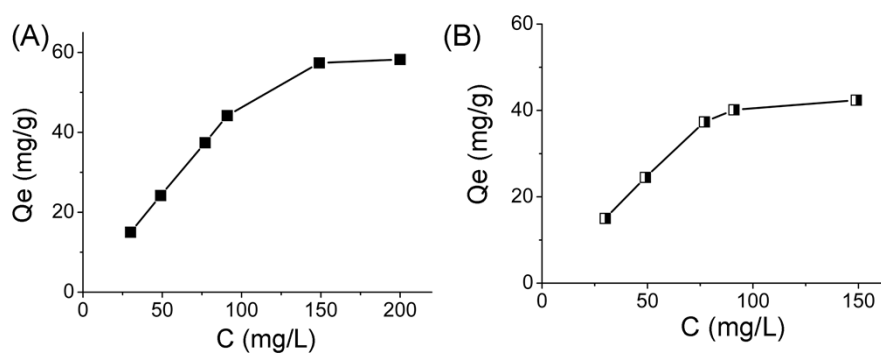


Figure S5. (A) Adsorption isotherms of pure HKUST-1 and (B) amino functionalized $Fe_3O_4@SiO_2$ for various concentration of Congo red.

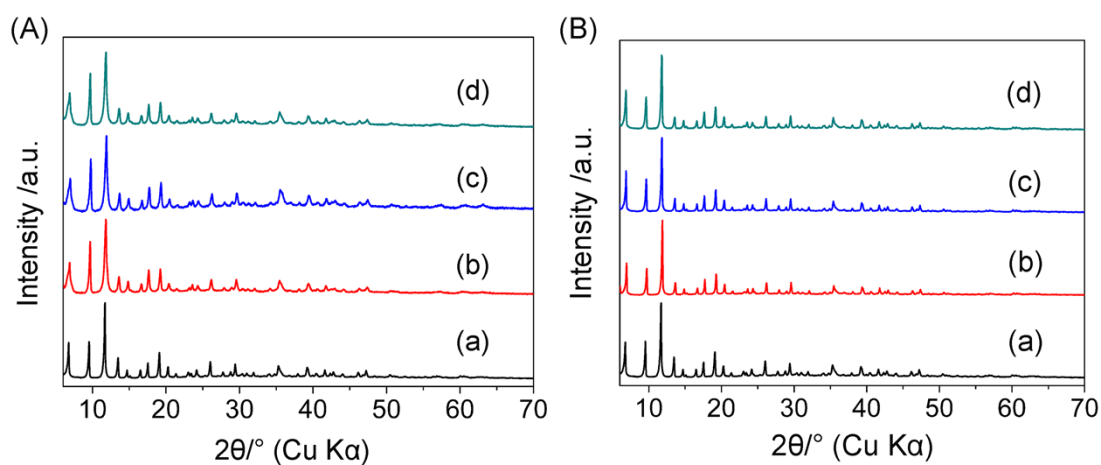


Figure S6. XRD patterns of (a) as-prepared hybrid magnetic HKUST-1 dispersed in pure solvent without Congo red and stirred for (b) 30 min; (c) 60 min and (d) 90 min. Solvent: (A) water; (B) ethanol.

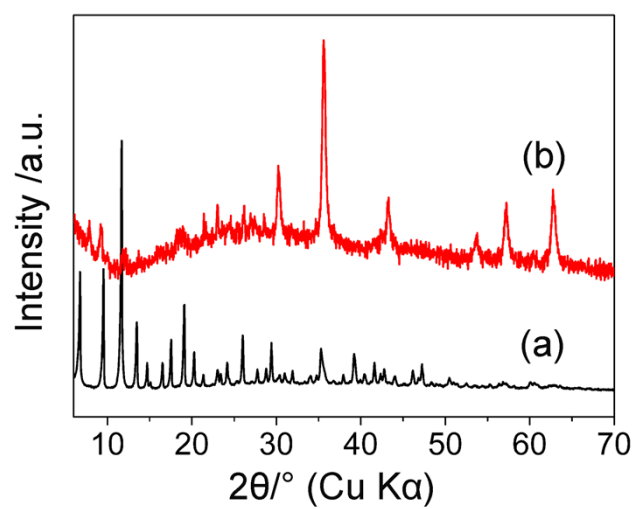


Figure S7. XRD patterns of as-prepared hybrid magnetic HKUST-1 (a) before and (b) after six times sorption and desorption circulatory experiments.