Supporting Information

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

Yan Xu,a Jingjie Jin,a Xianliang Li,b Yide Han,a Hao Meng,a Tianyu Wang,a Xia Zhang*a

aDepartment of Chemistry, College of Science, Northeastern University, Shenyang, Liaoning 110819, China.
bCollege of Materials Science and Engineering, Shenyang University of Chemical Technology, Shenyang, Liaoning 110142, China.

Corresponding Author:

Prof. Xia Zhang

E-mail: xzhang@mail.neu.edu.cn (X. Zhang)

Fax: +86-024-83684533

Tel.: +86-024-83684533
Figure S1. FTIR spectra of Fe$_3$O$_4$@SiO$_2$-NH$_2$, Fe$_3$O$_4$@SiO$_2$-NH$_2$, and Fe$_3$O$_4$@SiO$_2$@HKUST-1.

Figure S2 TG curves of (A) Fe$_3$O$_4$@SiO$_2$, Fe$_3$O$_4$@SiO$_2$-NH$_2$ and (B) Fe$_3$O$_4$@SiO$_2$@HKUST-1.
Figure S3. Nitrogen adsorption-desorption isotherm of (a) HKUST-1 and (b) Fe$_3$O$_4$@SiO$_2$@HKUST-1.

Figure S4. TEM image of Fe$_3$O$_4$@SiO$_2$@HKUST-1.
Figure S5. (A) Adsorption isotherms of pure HKUST-1 and (B) amino functionalized Fe$_3$O$_4$@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.