Supporting Information

Highly Efficient and Selective Degradation of Methylene Blue from Mixed Aqueous Solution by Using Monodisperse $CuFe_2O_4$ Nanoparticles

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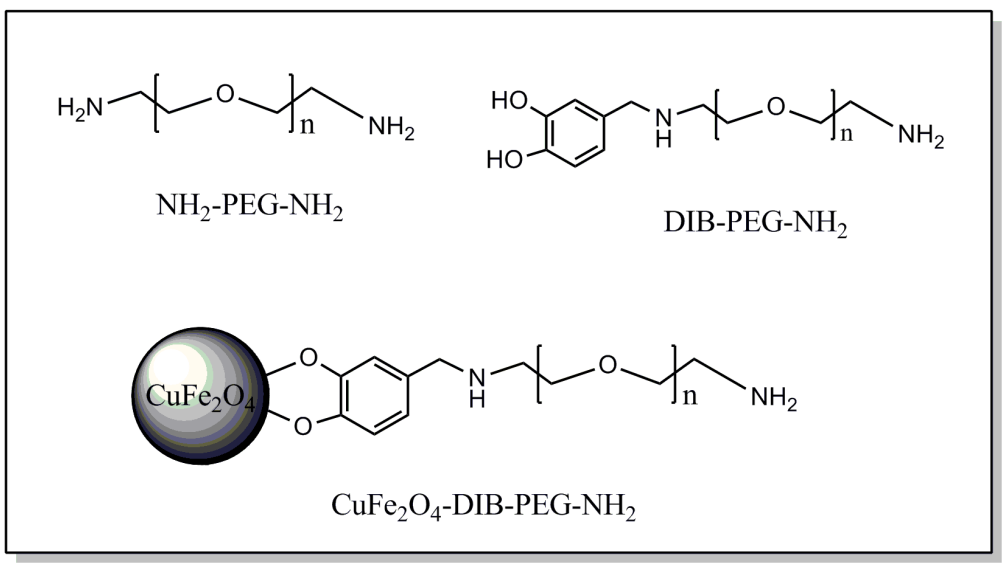

Scheme S1. Synthetic structures of NH_2-PEG-NH_2, DIB-PEG-NH_2 and $CuFe_2O_4$-DIB-PEG-NH_2 (**1a**).

Fig. S1. Fourier transform infrared (FT-IR) spectra of (A) $CuFe_2O_4$-DIB-PEG-NH_2 (**1a**), (B) $CuFe_2O_4$, and (C) DIB-PEG-NH_2.

Fig. S2. UV spectra of alone MB and MB in the presence of $NaBH_4$.

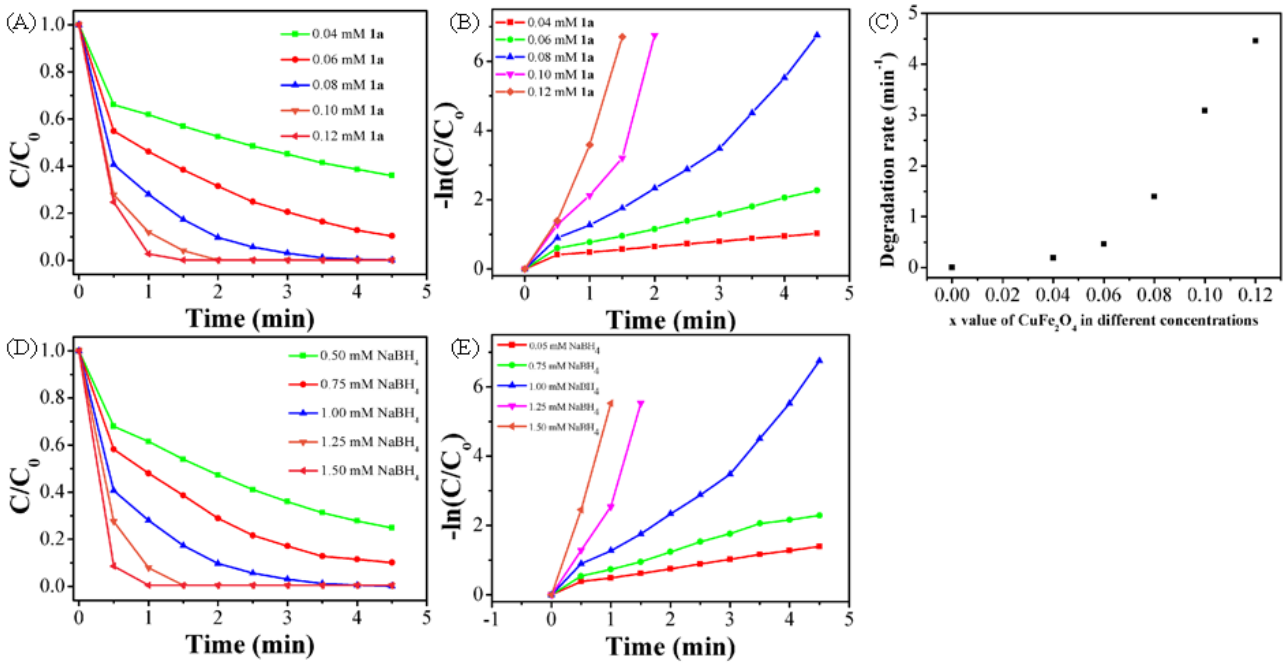

Fig. S3. (A) C/C_0 versus reaction time for the different concentrations of **1a**, (B) First-order linear relationship between $-\ln(C_t/C_0)$ and reaction time of **1a**, (C) Degradation rate and mineralization capabilities of **1a**, (D) C/C_0 versus reaction time for the different concentrations of $NaBH_4$, (E) First-order linear relationship between $-\ln(C_t/C_0)$ and reaction time of $NaBH_4$.

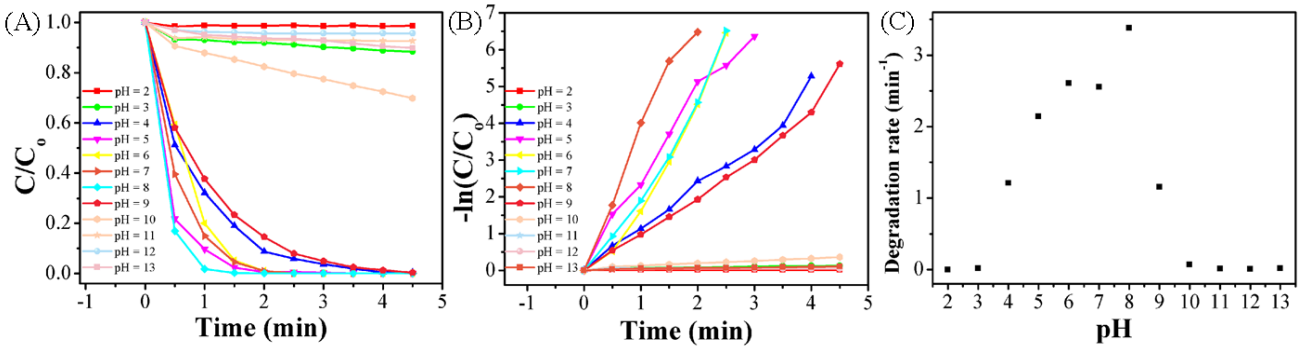

Fig. S4. (A) C/C_0 versus reaction time for the different variation of pH, (B) First-order linear relationship between $-\ln(C_t/C_0)$ and reaction time of pH, (C) Degradation rate of different variation of pH.

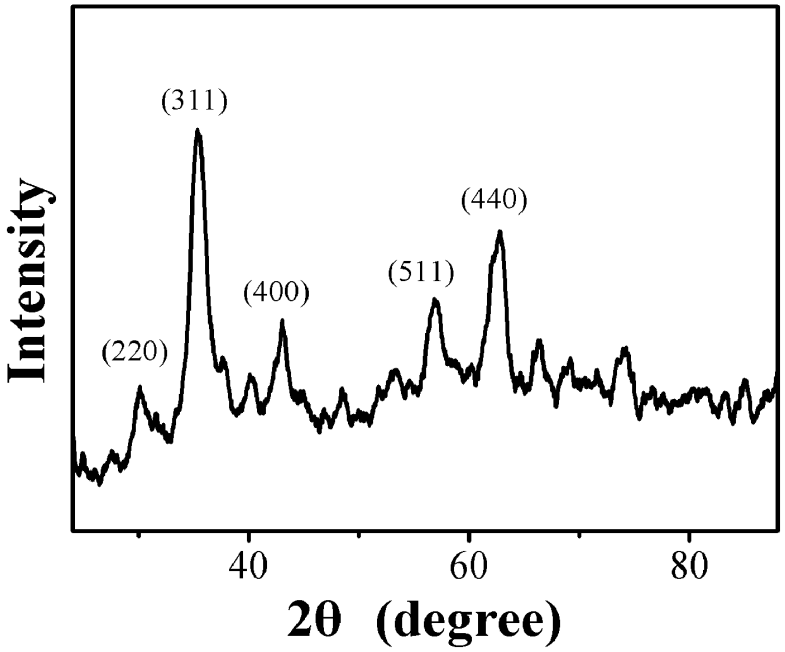

Fig. S5. The XRD of **1a** after ten successive cycles.