

## Supporting informations

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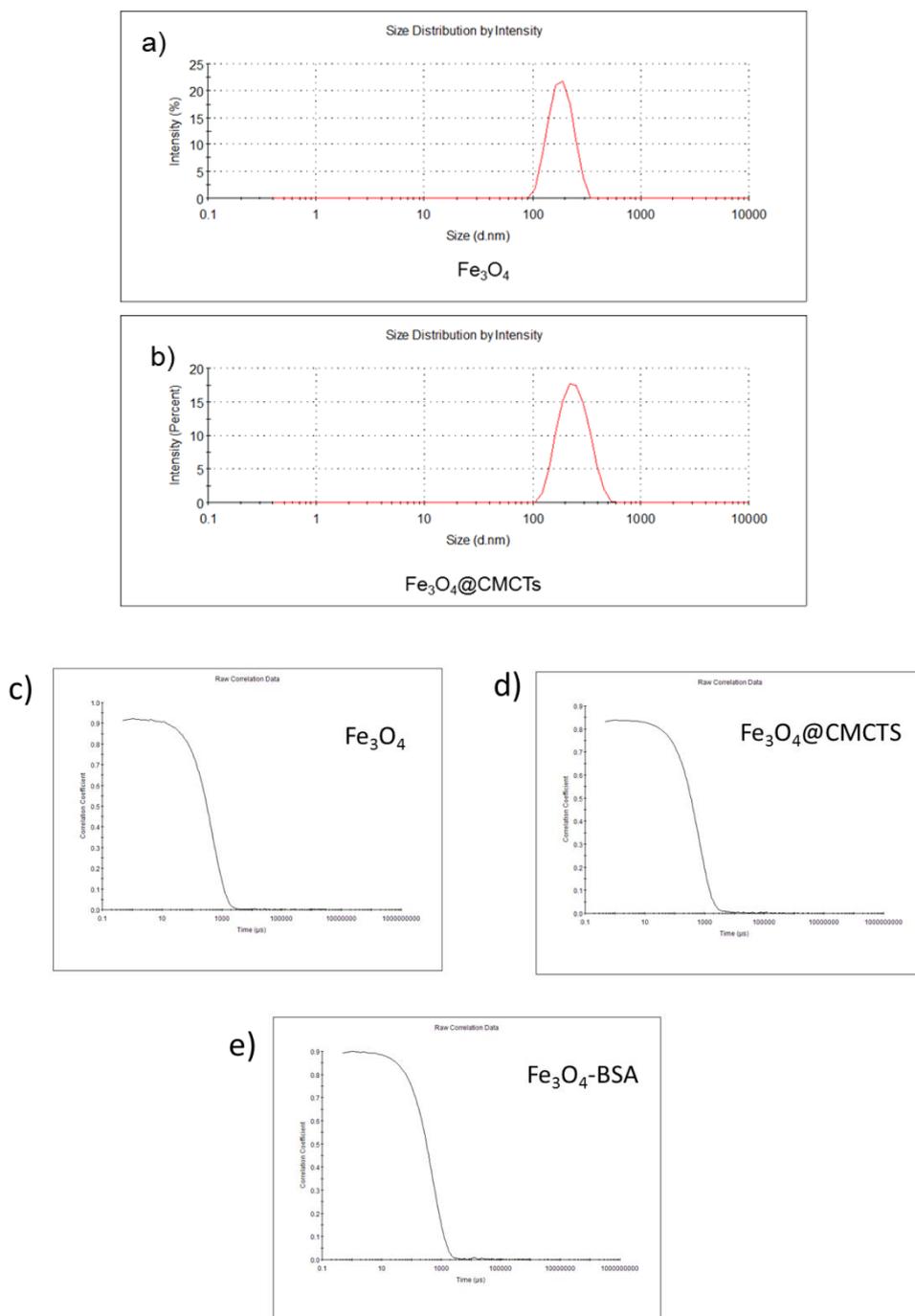


Figure S1. The size distribution of (a) PEGlated  $\text{Fe}_3\text{O}_4$ , the average diameter is 177nm (PDI=0.037), (b)  $\text{Fe}_3\text{O}_4@CMCTS$ , the average diameter is 228nm (PDI=0.056). The DLS correlograms of PEGlated  $\text{Fe}_3\text{O}_4$  (c),  $\text{Fe}_3\text{O}_4@CMCTS$  (d) and  $\text{Fe}_3\text{O}_4\text{-BSA}$  (e).

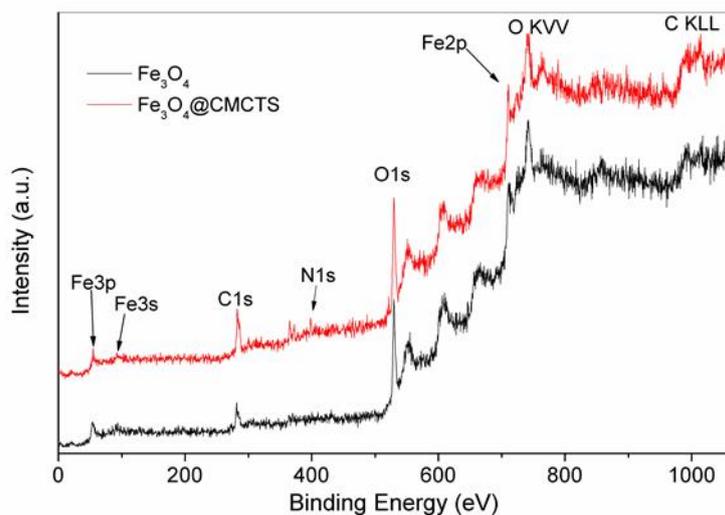


Figure S2. XPS wide-scan spectra of Fe<sub>3</sub>O<sub>4</sub> and Fe<sub>3</sub>O<sub>4</sub>@CMCTS.

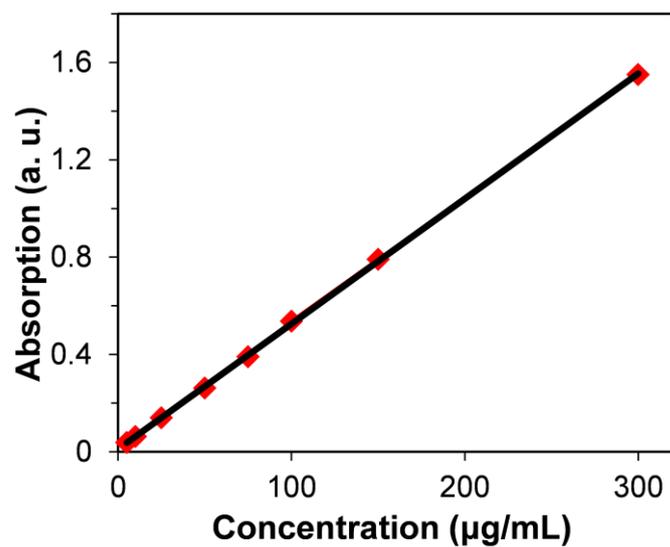


Figure S3. Absorbance at 808 nm vs Fe<sub>3</sub>O<sub>4</sub>@CMCTS concentration. Solid line is the linear fit with  $R^2 = 0.9998$ .

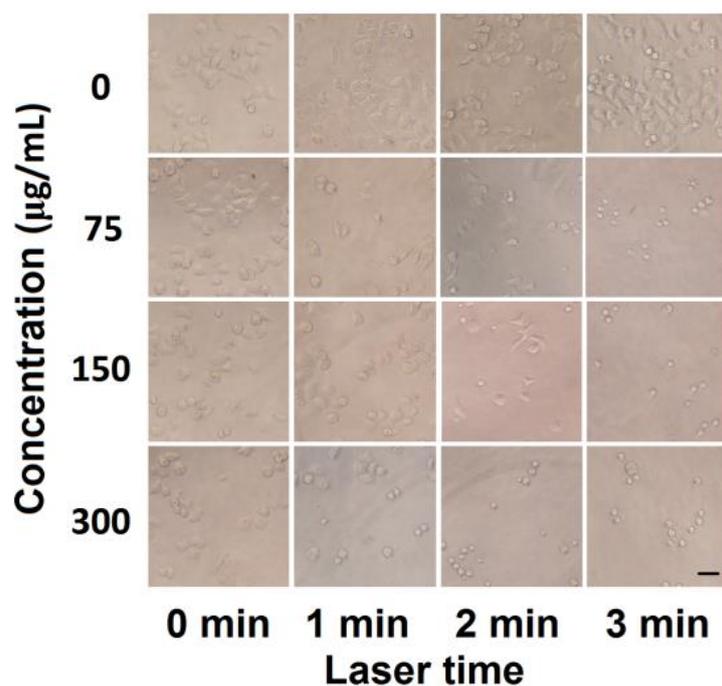


Figure S4. Morphology of KB cells treated with  $\text{Fe}_3\text{O}_4@\text{CMCTS}$  and then irradiated by NIR laser. Scale bar =  $35 \mu\text{m}$ .

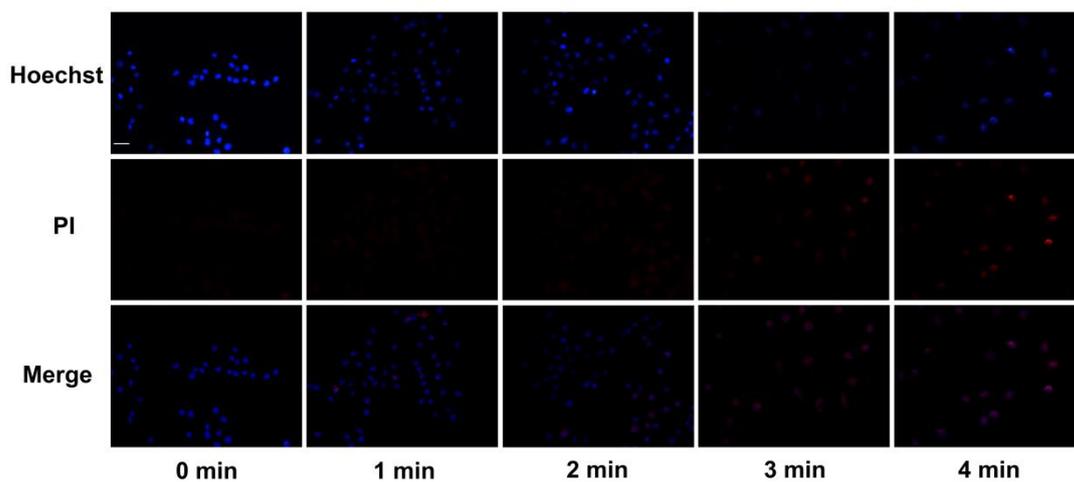


Figure S5. Fluorescence microscopic images of differently treated KB cells stained with Hoechst and PI. Scale bar =  $35 \mu\text{m}$ .