Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

Supporting information for:

Highly crystallized iron oxide nanoparticle as an effective and biodegradable mediator for photothermal cancer therapy

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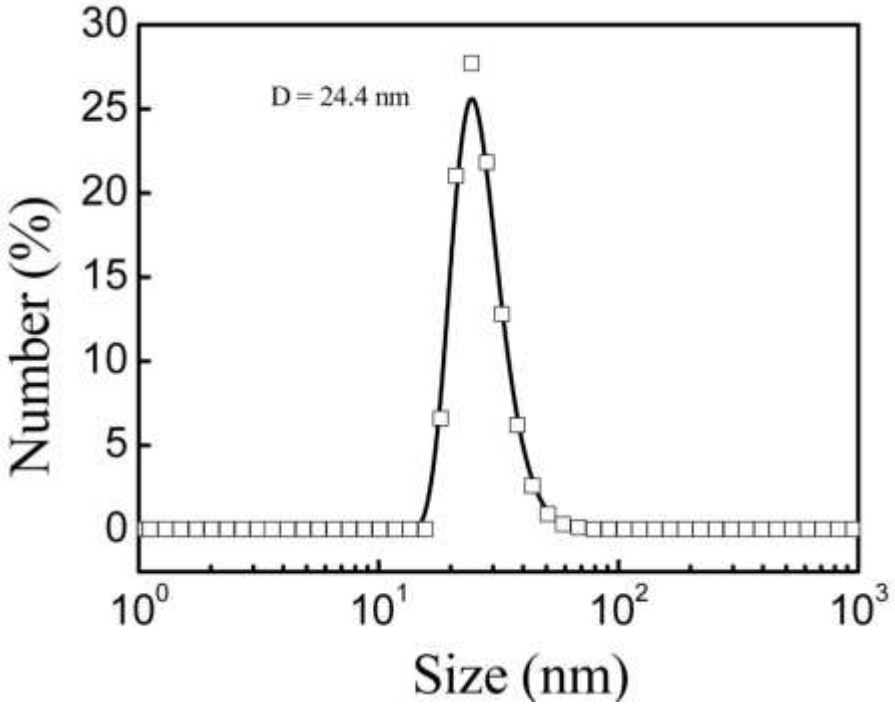

Figure S1. Hydrodynamic size distribution of polymer coated as-prepared HCIONPs in water.

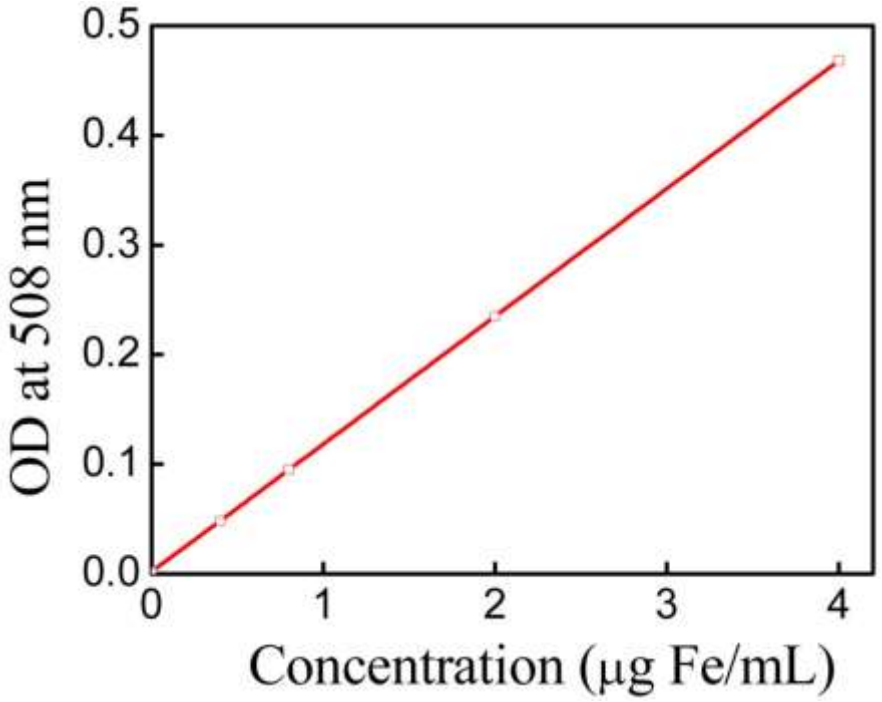

Figure S2. The calibration curve for determination of iron colorimetrically using 1,10-phenanthroline.

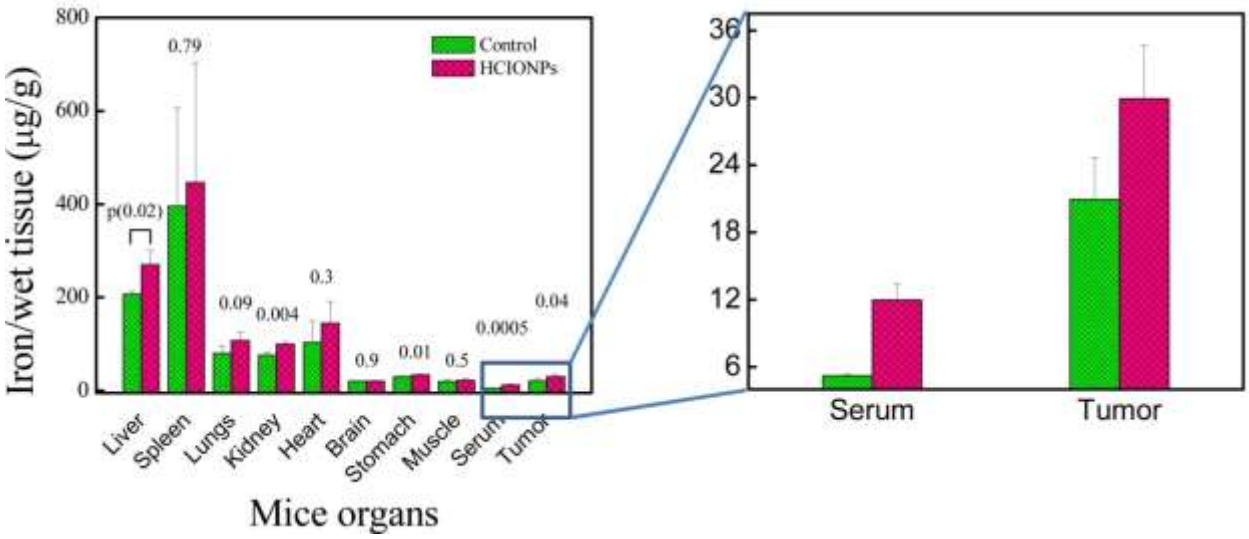

Figure S3. Biodistribution of polysiloxane-containing polymer coated HCIONPs in the major organs. The data is recorded from whole organ taken at 48 h post tail vein injection and the iron concentration is determined by ICP-OES. Each group has four mice, and the error bar is standard deviation. Numbers are *p*-value of iron content in each organ between two group mice.

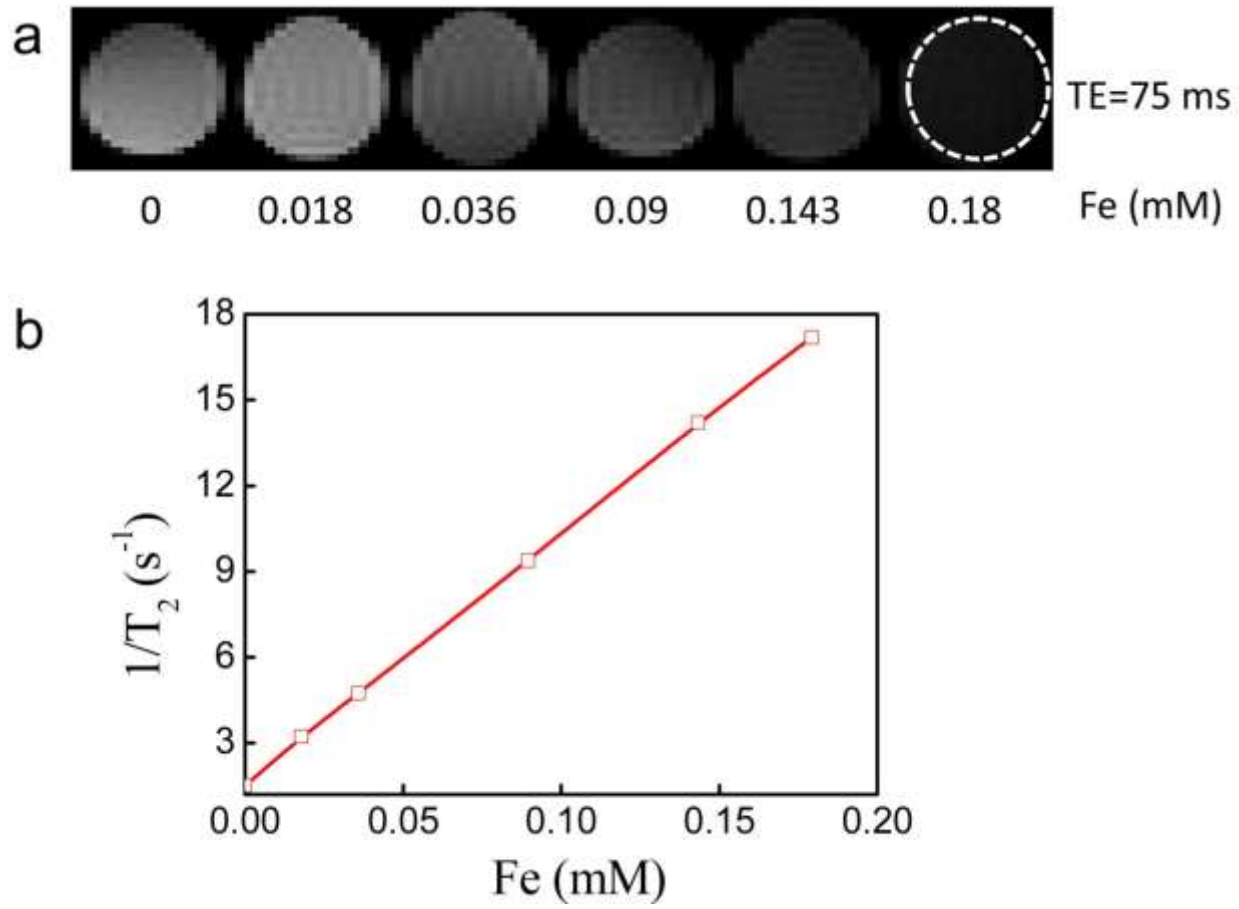

Figure S4. (a) T2-weighted MR images (b) T2 relaxation rates (R2) of as-prepared HCIONP solutions at each concentration.

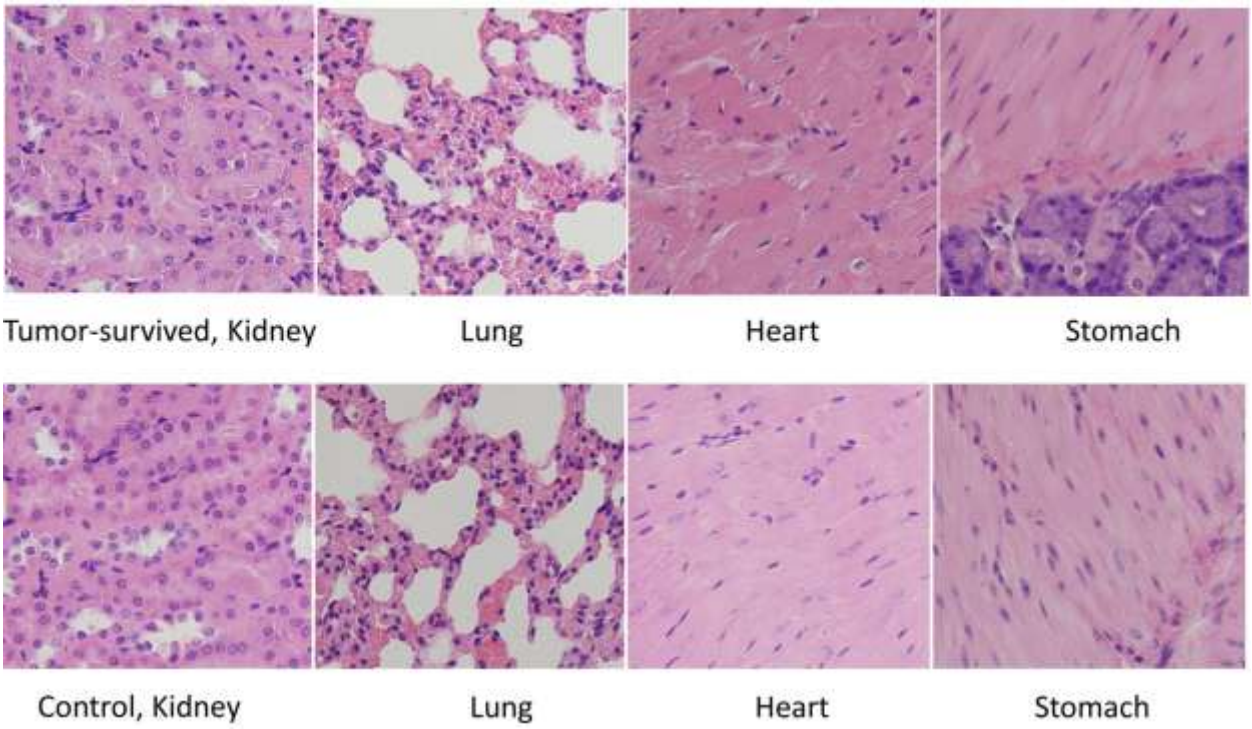

Figure S5. H&E tissue staining of the rest main organs from tumor-survived and control mouse.

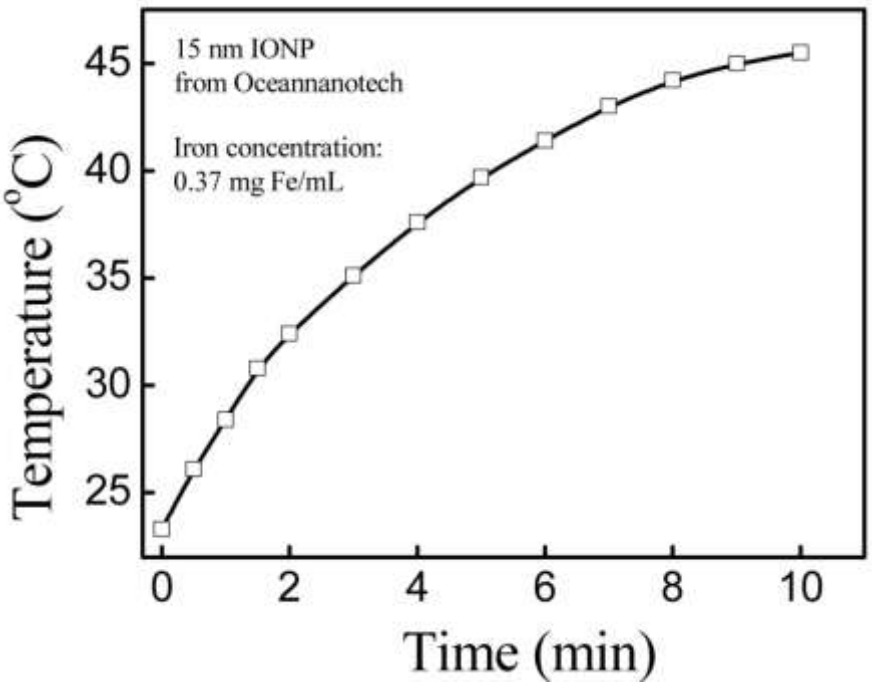

Figure S6. Measured temperature of commercial 15-nm magnetic nanocrystals from Oceannanotech. All temperatures were measured during 10 minutes of illumination with a diode laser (λ = 885 nm) at a fluence rate of 2.5 W/cm^2.

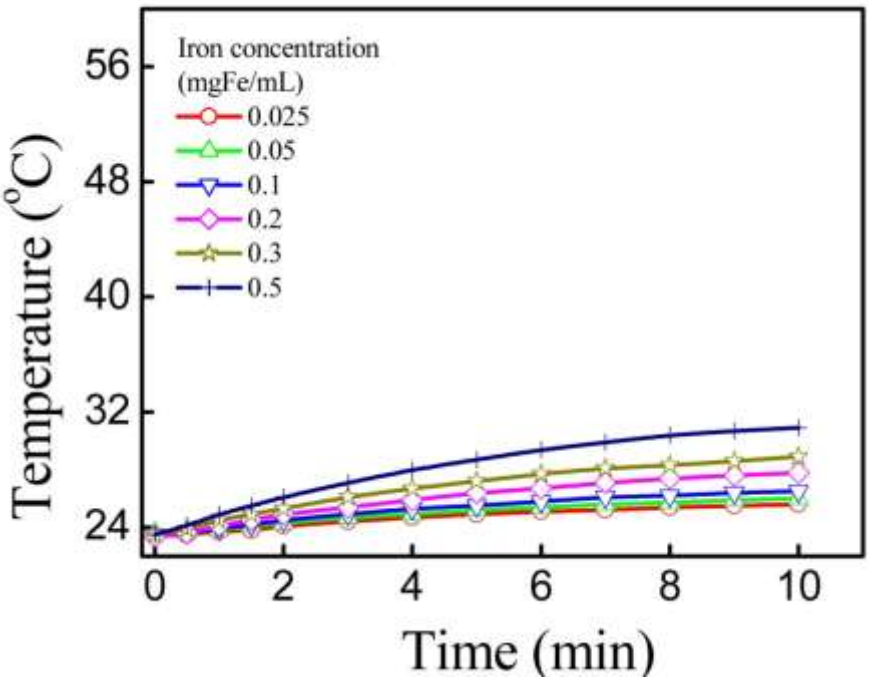

Figure S7. Measured temperature of increasing concentrations of magnetic nanoparticles from FeREX in water. All temperatures were measured during 10 minutes of illumination with a diode laser (λ = 885 nm) at a fluence rate of 2.5 W/cm^2.

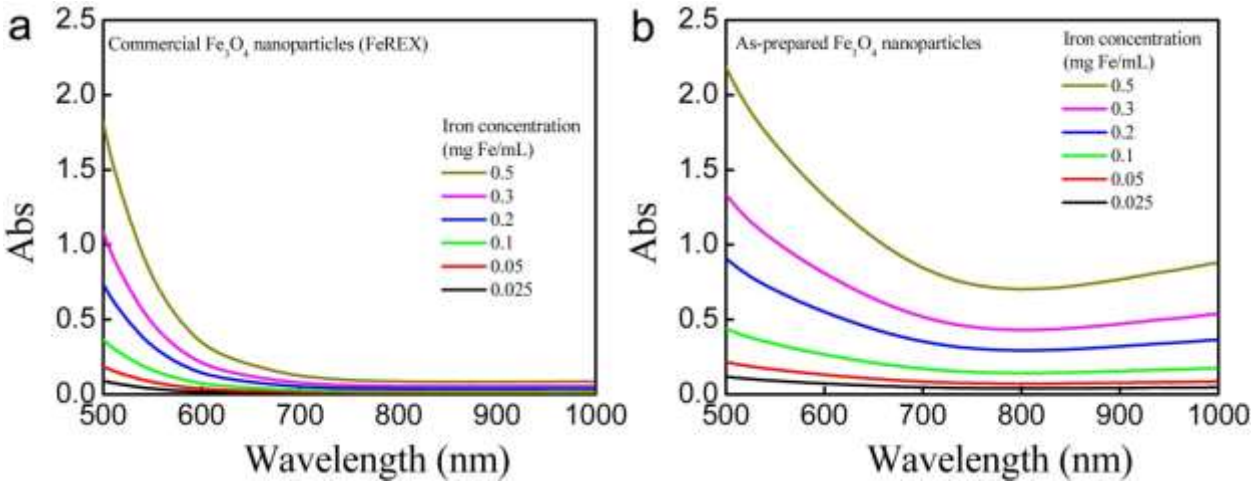

Figure S8. (a) UV-vis-NIR absorbance spectra of commercial magnetic nanoparticles from FeREX (a) and as-prepared HCIONPs (b).

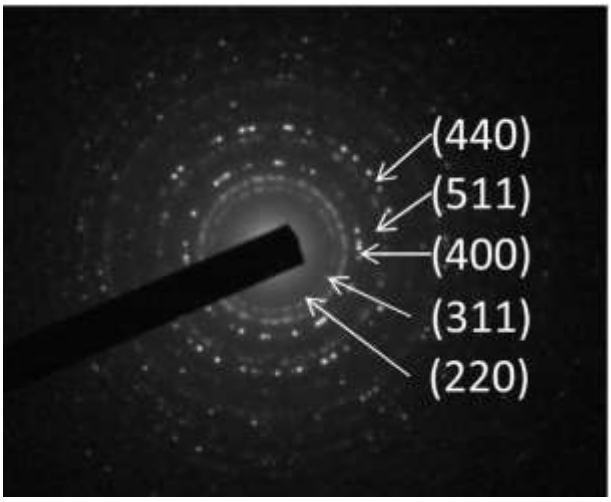

Figure S9. Electron diffraction of as-prepared HCIONPs.

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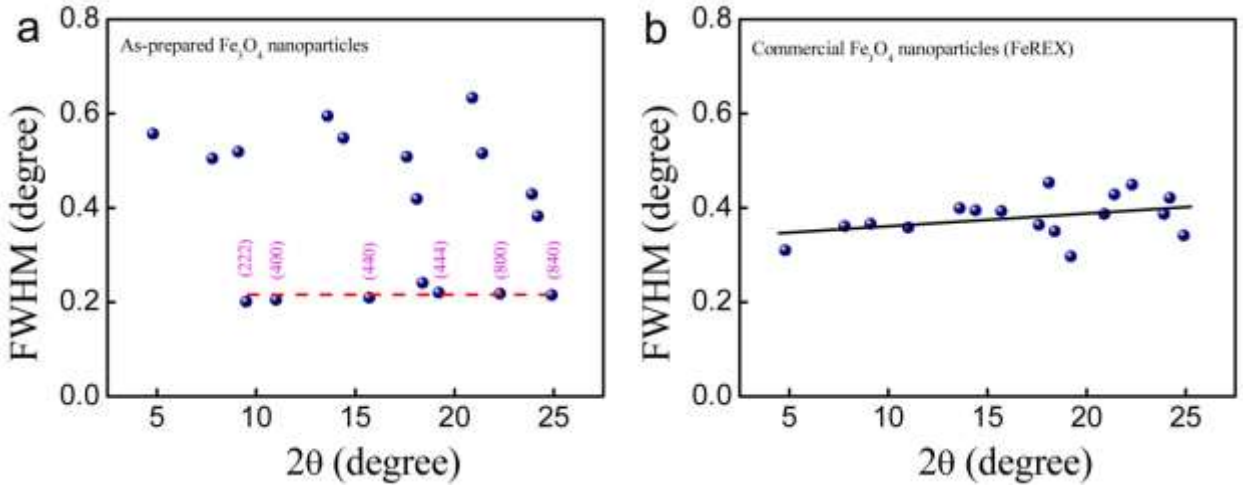

Figure S10. Full width at half maximum (FWHM) (degree) of as-prepared HCIONPs (a) and nanoparticles from FeRex (b). The pink dotted line (left) indicates that all fourfold symmetry indexes have smaller FWHM than other indexes from the same sample. The black solid line (right) is the best linear fit of all the data points.

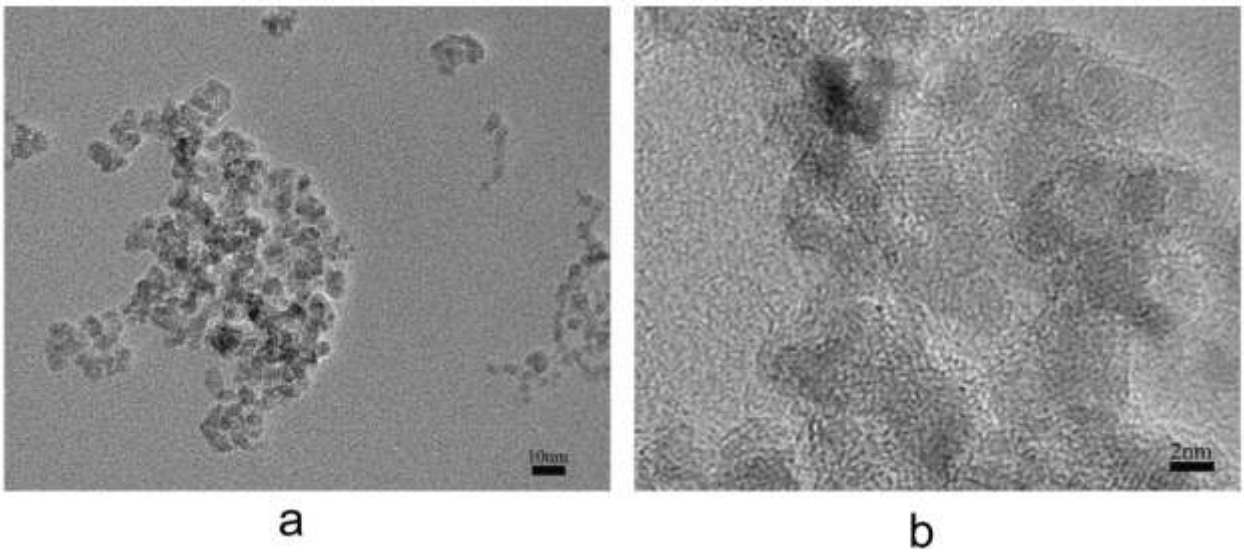

Figure S11. (a) TEM image and (b) High-resolution TEM image of magnetic nanoparticles from FeRex