

Supporting Information

Tunable Fabrication of a New Theranostic Fe₃O₄-black TiO₂ Nanocomposites: Dual Wavelength Stimulated Synergistic Imaging-guided Phototherapy in Cancer

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FeCl ₃ ·6H ₂ O	Sodium acetate	b-TiO ₂ (mg)	Fe-Ti Ratio	VSM emu g ⁻¹
0.2 (40 mM)	1.4 (515mM)	20	4.5 : 1	
0.2 (40 mM)	1.4 (515mM)	30	2 : 1	40
0.1 (20 mM)	1.4 (515mM)	10	3 : 1	48
0.1 (20 mM)	1.4 (515mM)	20	1.7 : 1	35

Table S1. Influence of reaction parameters on the diameter and saturation magnetization values of Fe-Ti NCs, while other parameters like concentration of PEG, ethylene glycol and reaction time kept constant.

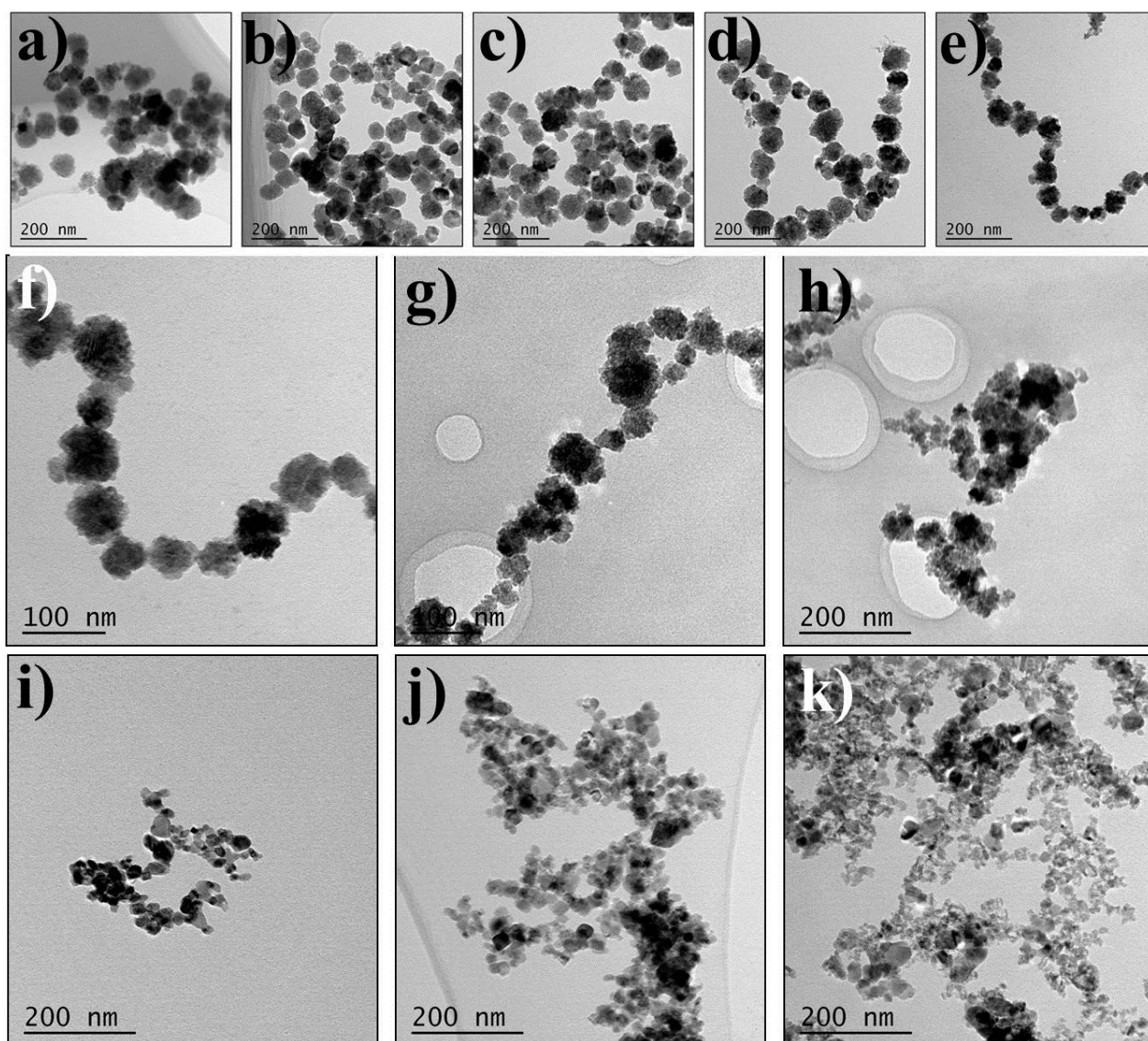


Figure S1. TEM images at different time intervals showing the effect of reaction time on the growth of Fe-Ti NCs a) 2.5 h, b) 5 h, c) 7.5 h, d) 10 h, e) 16 h, TEM images of Fe-Ti NCs showing the effect of varying concentration of b-TiO₂ nanoparticles f) 10mg, g) 20 mg, h) 30 mg, TEM image of b-TiO₂ nanoparticles i) in water, after 16 h at 200 °C, j) in the presence of EG, k) in the presence of EG, NaAc·3H₂O, and PEG.

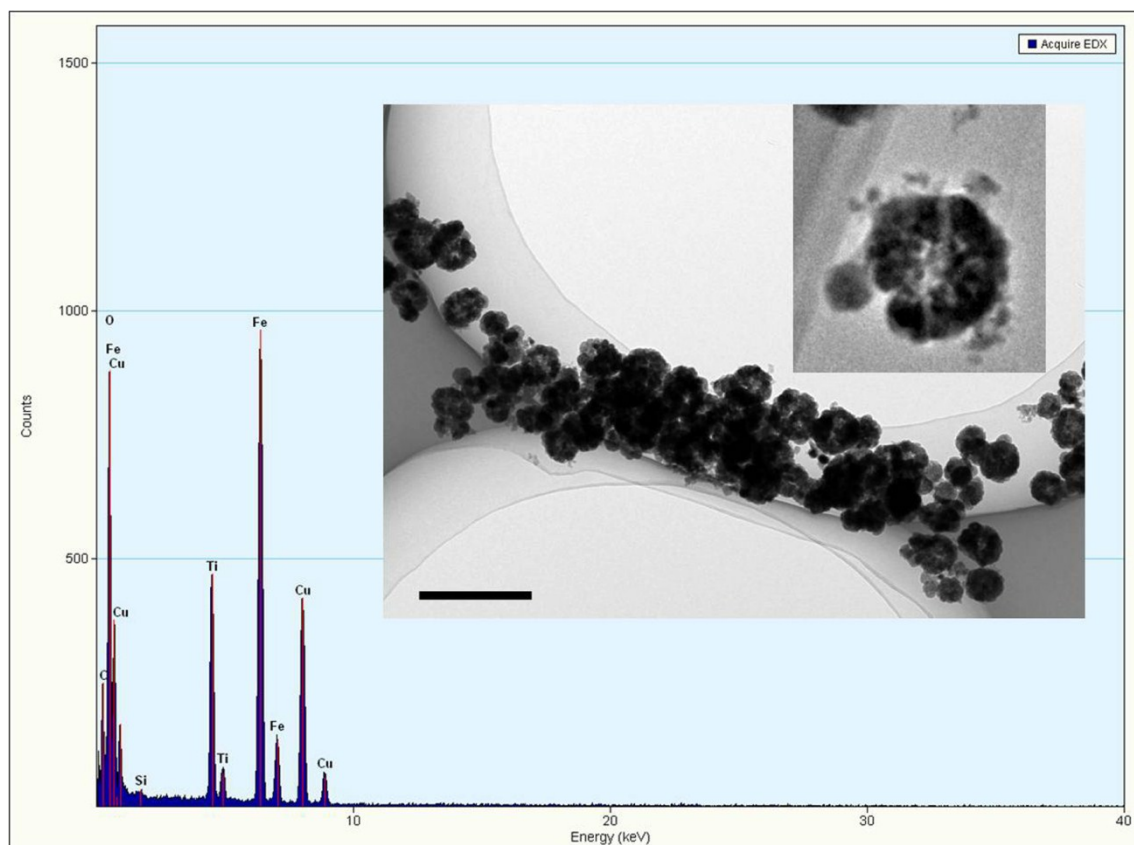


Figure S2 EDX spectrum and TEM image showing the presence of b-TiO₂ NPs on the surface of Fe₃O₄ NPs.

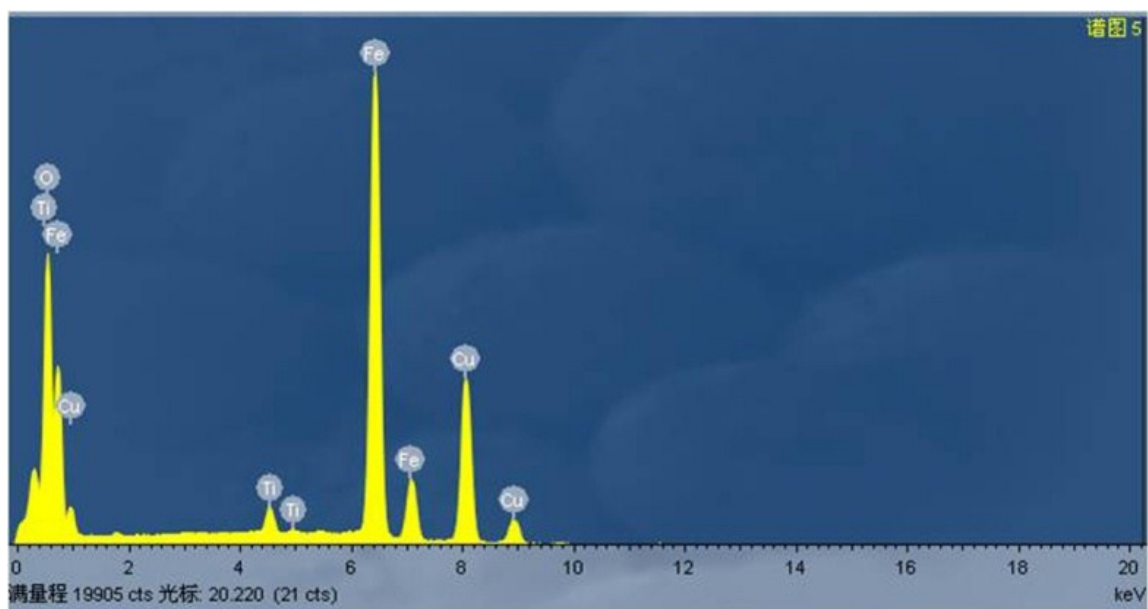


Figure S3. EDX spectrum of Fe-Ti NCs shows the presence of Fe, Ti, and O.

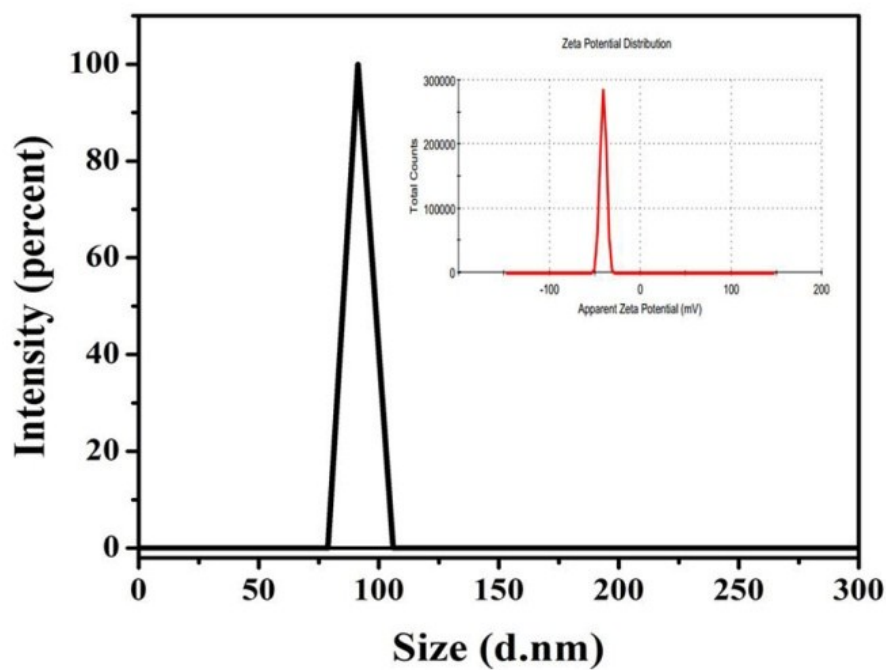


Figure S4. Hydrodynamic diameter and zeta potential value of Fe-Ti NCs dispersed in water.

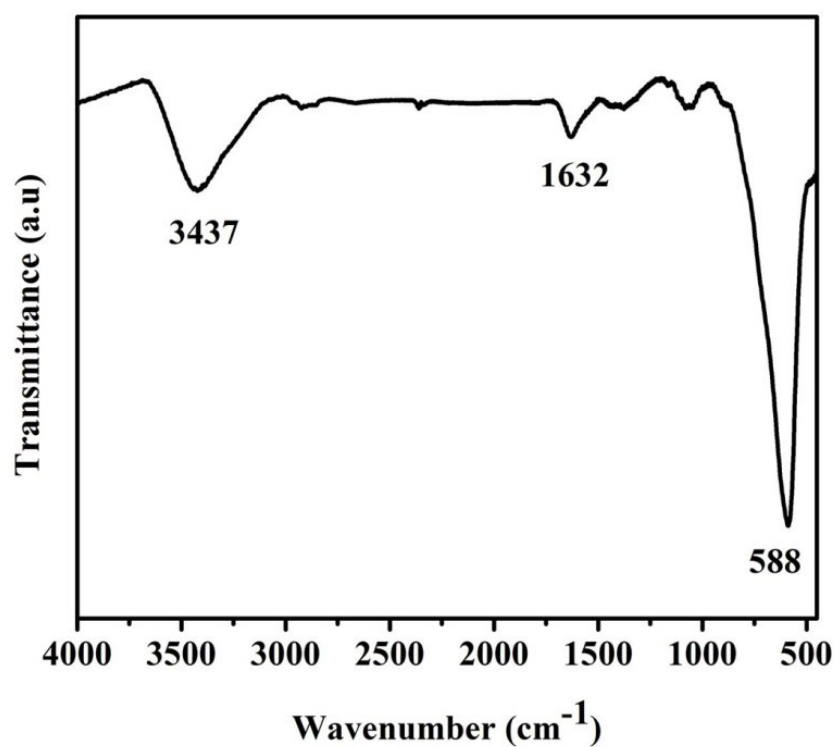


Figure S5. The Fourier transform infrared (FTIR) spectra of PEG-coated Fe-Ti NCs.

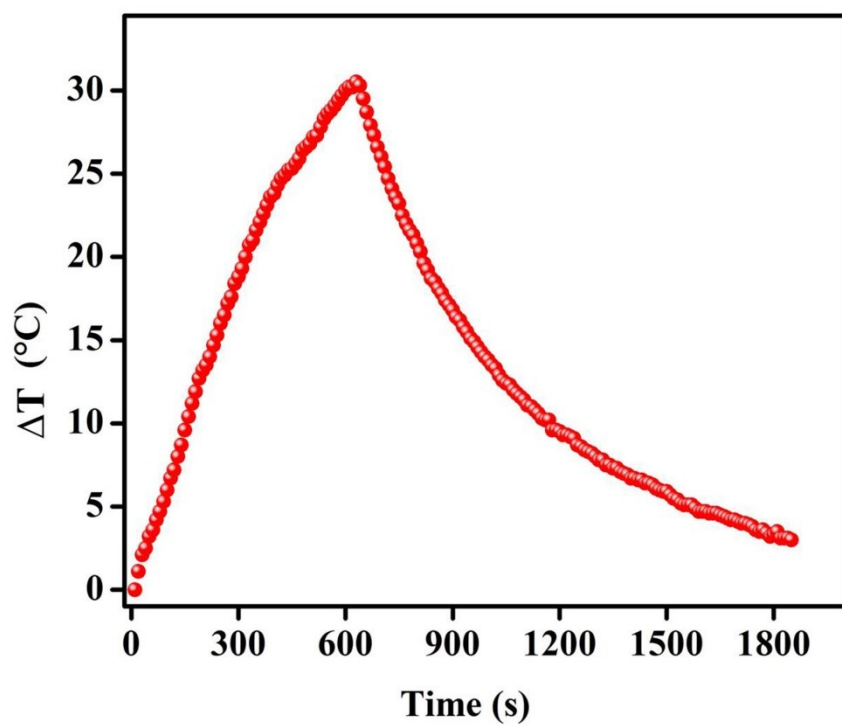


Figure S6. The temperature change (ΔT) response of Fe-Ti NCs to laser and then the laser was turn off (cooling period).

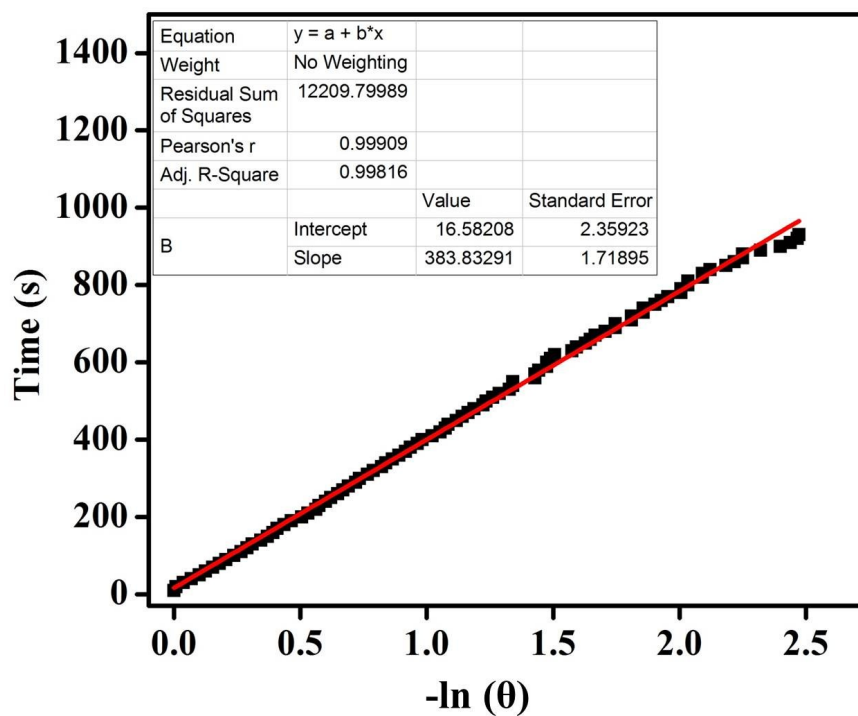


Figure S7. Linear time data versus $-\ln\theta$ calculated from the cooling period.

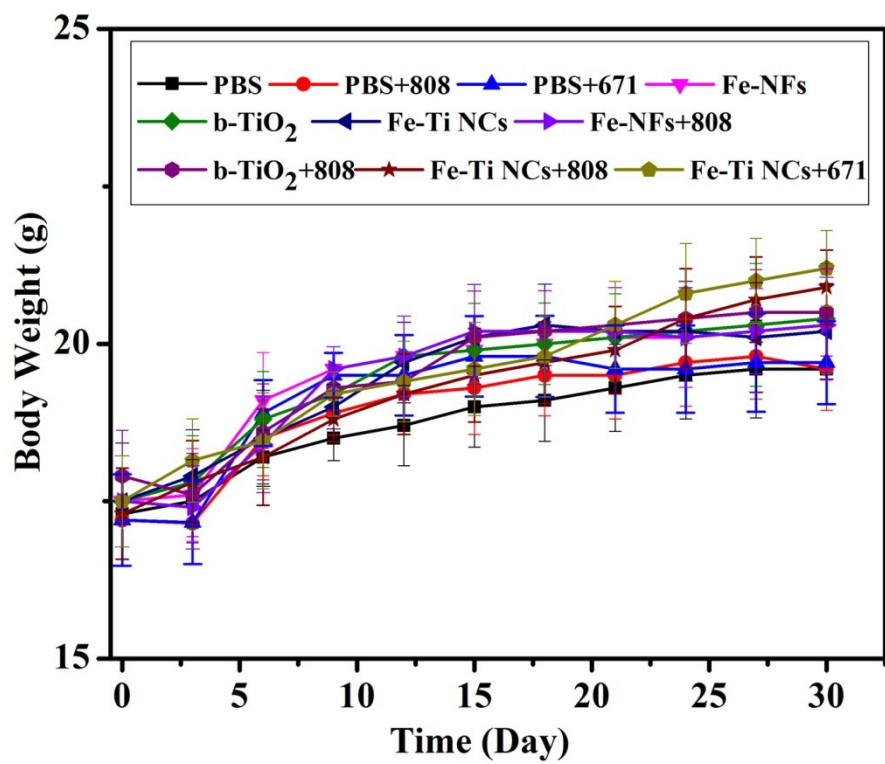


Figure S8. Change of body weight from different groups at 30 d post-treatments.