

Supporting Information

Polyethylenimine functionalized porous/hollow nanoworm as drug delivery system and bioimaging agent

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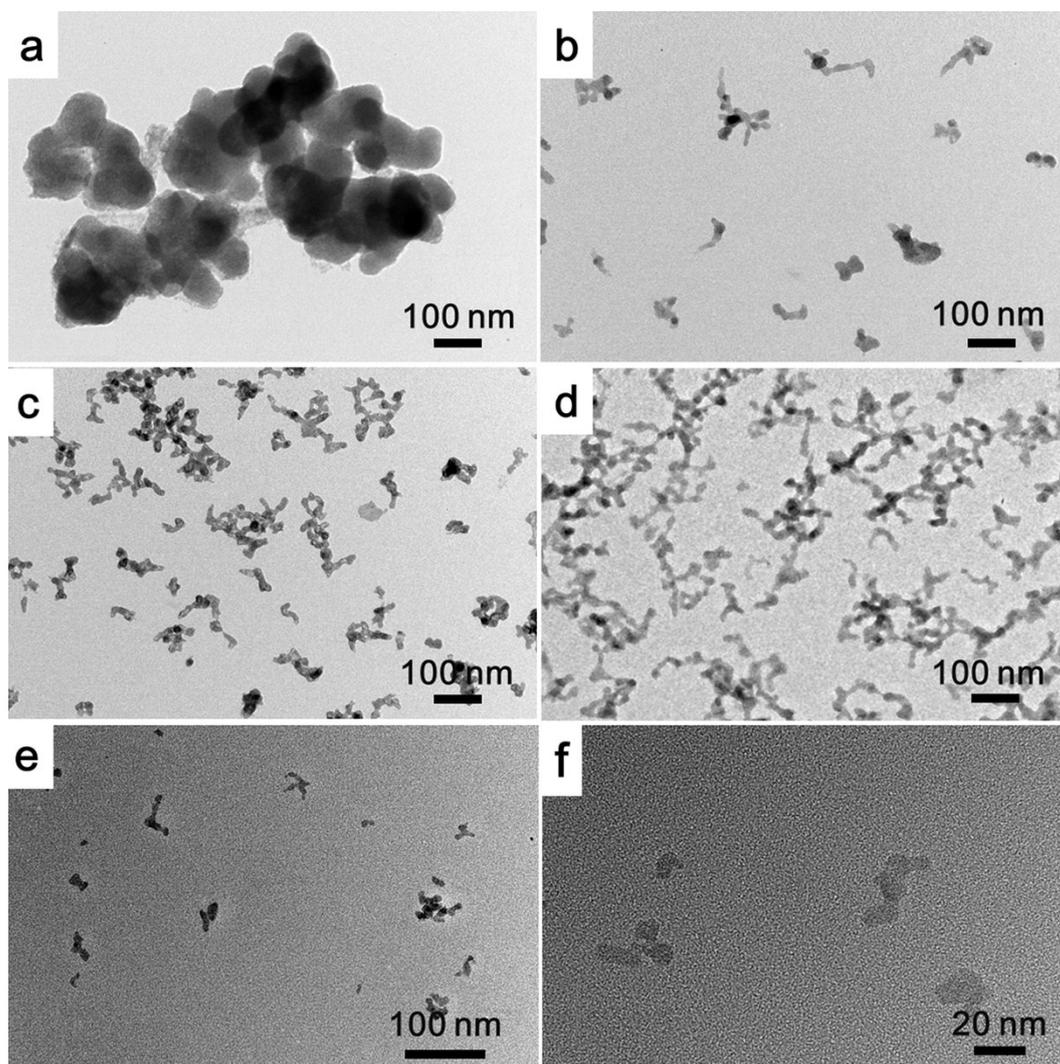


Figure S1. Low-magnification TEM images of Gd₂O₃/Fe₃O₄ composites without PEI (a), and the nanoworm with different molecular weights of PEI: 600 (b), 1800 (c) and 10000 (d); Gd₂O₃/Fe₃O₄ composites fabricated with 10000 molecular weight of PEI but without Fe(acac)₃ as a precursor (e) and its magnified image (f).

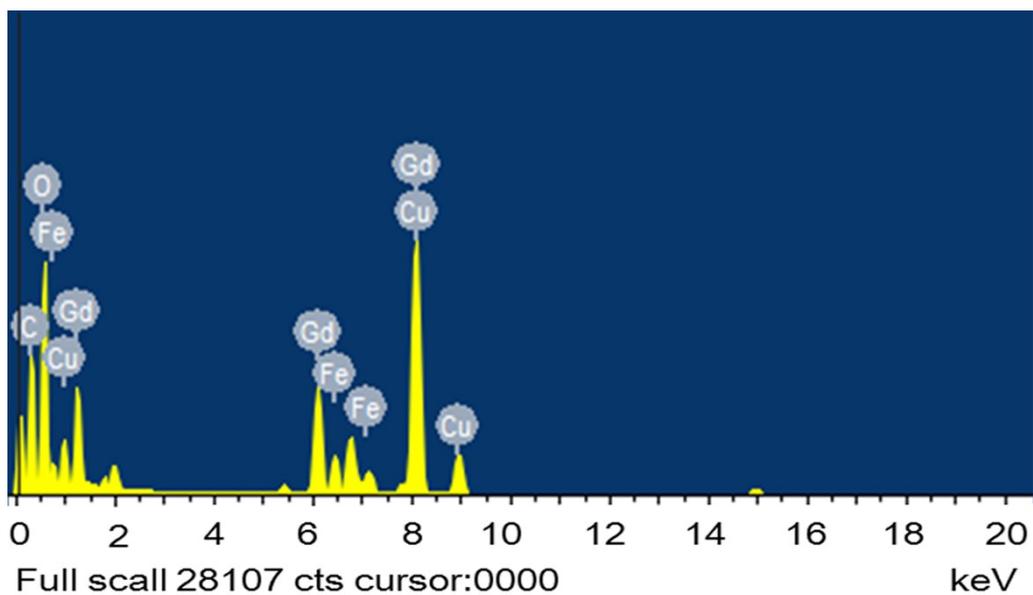


Figure S2. Energy-dispersive X-ray spectrum (EDX) analysis of p-nanoworm.

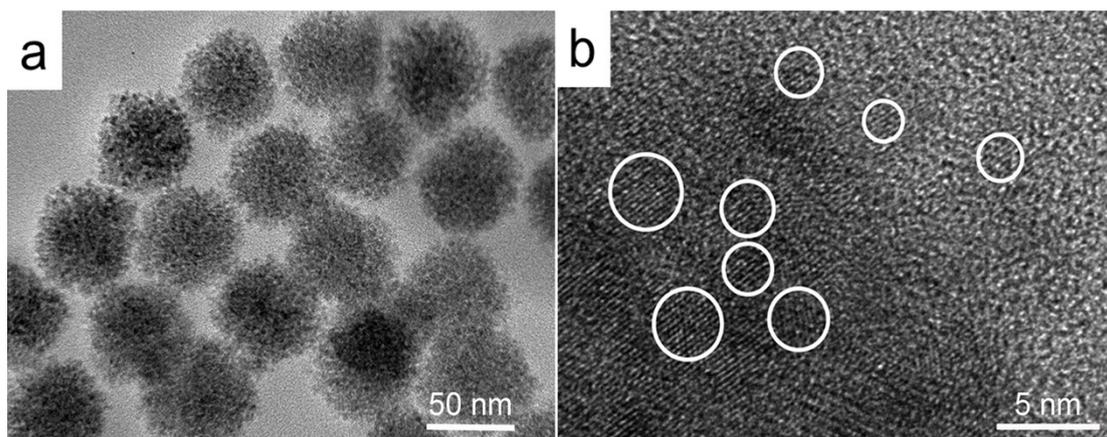


Figure S3. TEM image (a) and high resolution TEM image (b) of Fe_3O_4 .

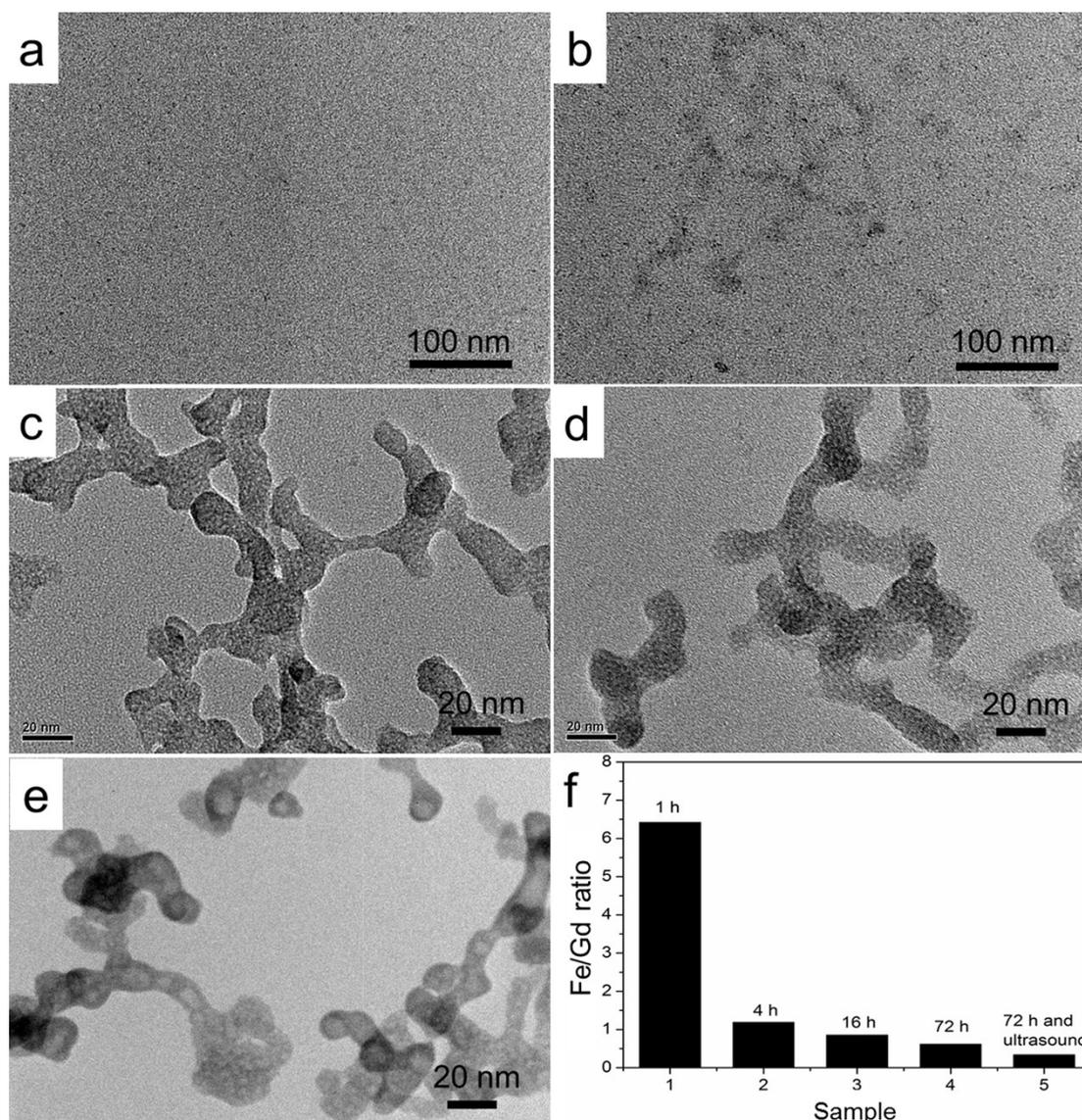


Figure S4. TEM images of sample morphologies at different reaction time: 1 h (a), 4 h (b), 16 h (c), 72 h (d), and 72 h with ultrasonic treatment (e). Fe/Gd ratio of samples at different reaction time (f).

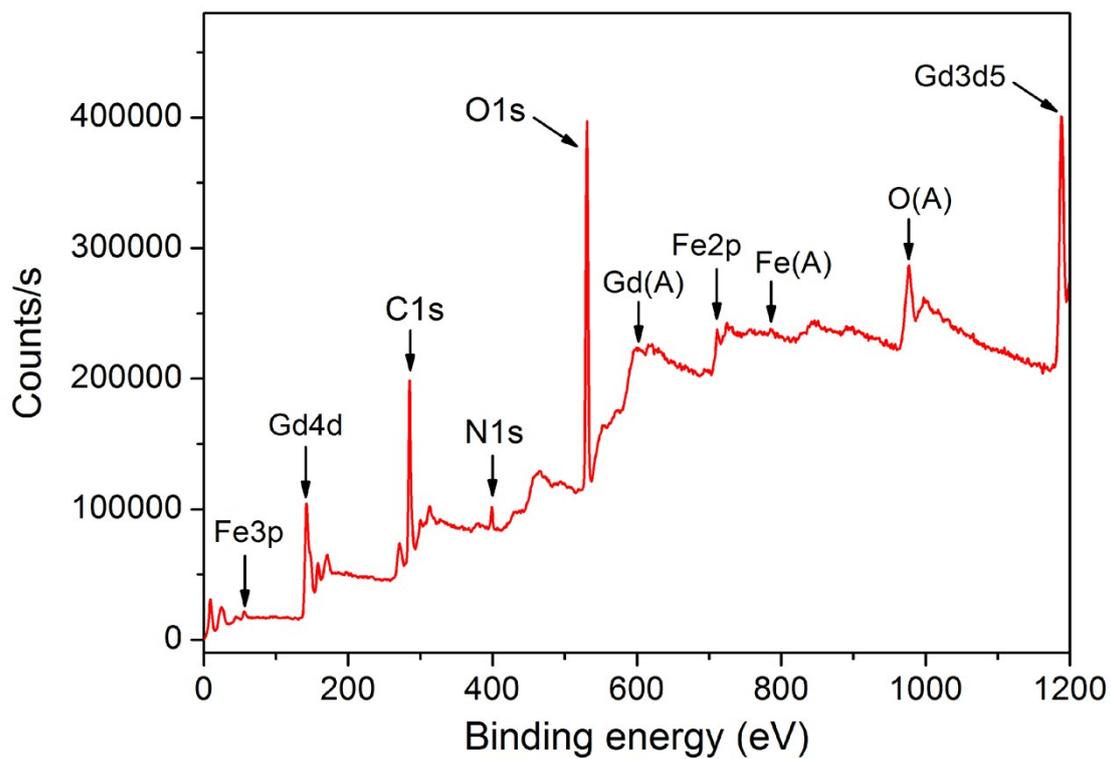


Figure S5. Full XPS spectra of p-nanoworm.

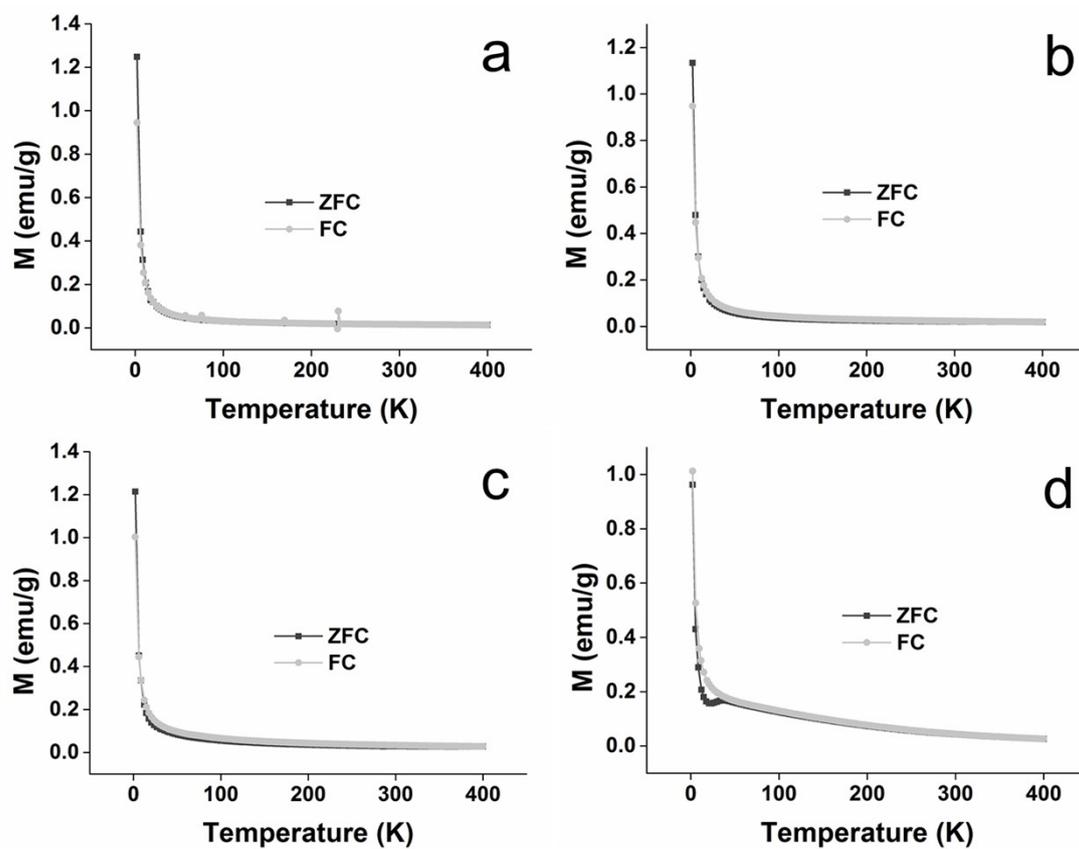


Figure S6. ZFC-FC curves of Gd_2O_3/Fe_3O_4 composites without PEI (a), and the nanoworm with different molecular weights of PEI: 600 (b), 1800 (c), and 10000 (d)