

Supporting Information.

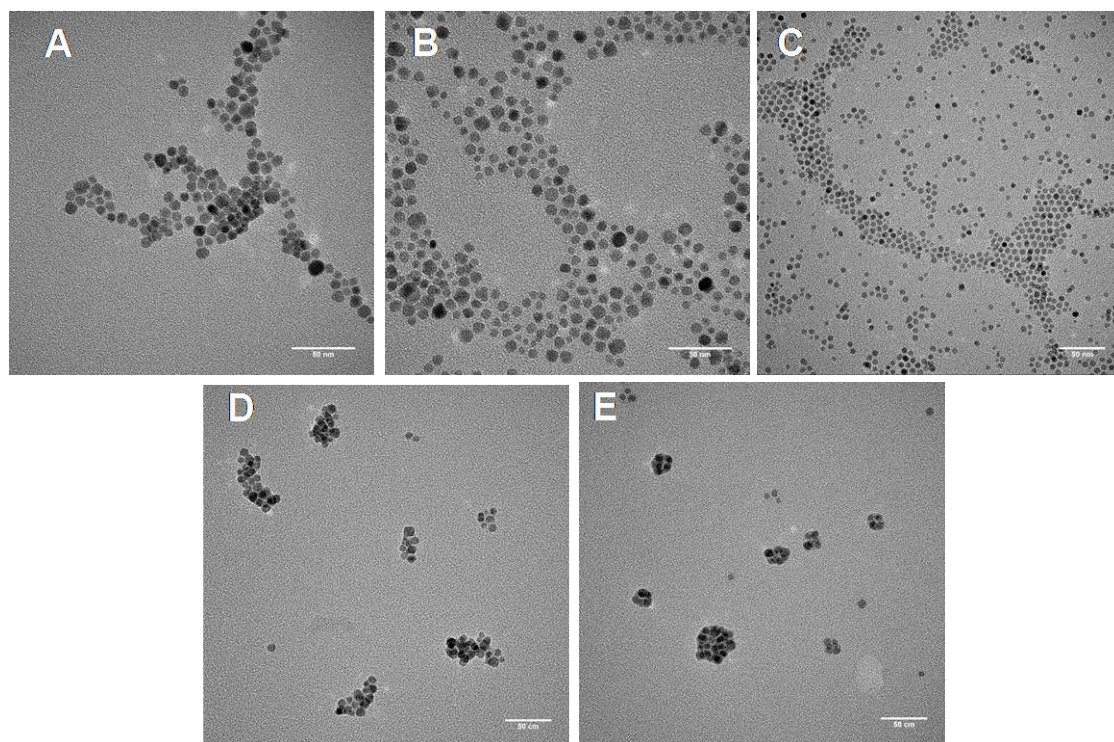


Figure S1. Representative TEM images of water soluble molecular weight PEGylated iron oxide nanoparticles. A) PEG600-SPIONs; B) PEG1500-SPIONs; C) PEG3000-SPION; D) PEG6000-SPIONs and E) PEG8000-SPIONs. Scale bar corresponds to 50 nm.

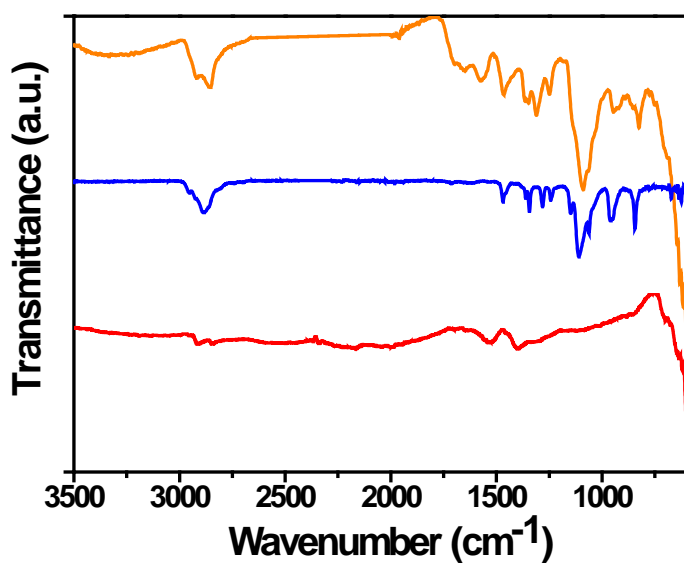


Figure S2. FTIR spectra of as prepared iron oxide nanoparticles (red curve), ligand GA-PEG-OH (blue curve) and PEGylated-SPION (orange curve).

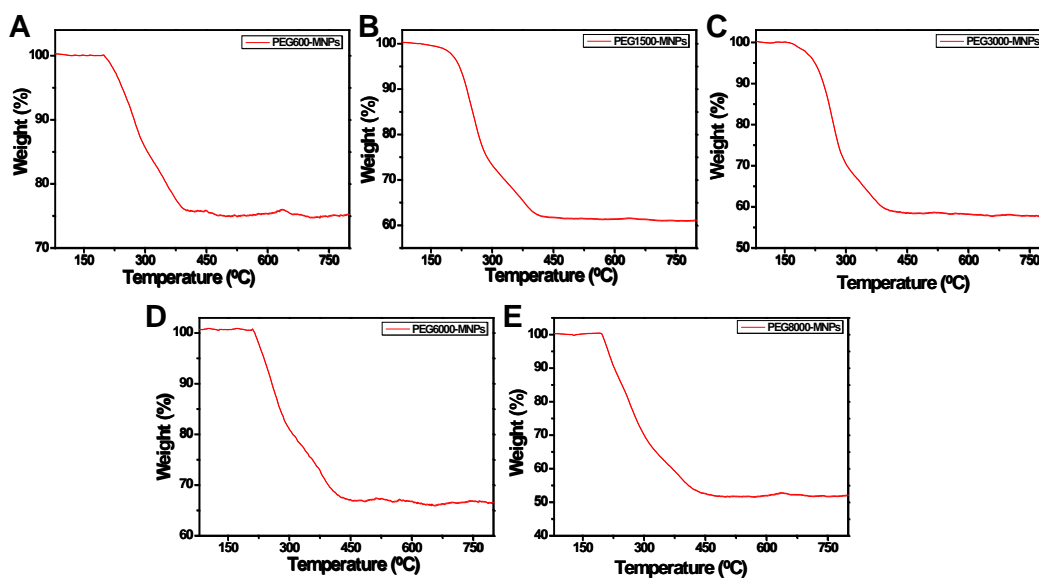


Figure S3. Thermogravimetric analysis of A) PEG600-SPIONs; B) PEG1500-SPIONs; C) PEG3000-SPION; D) PEG6000-SPIONs and E) PEG8000-SPIONs.

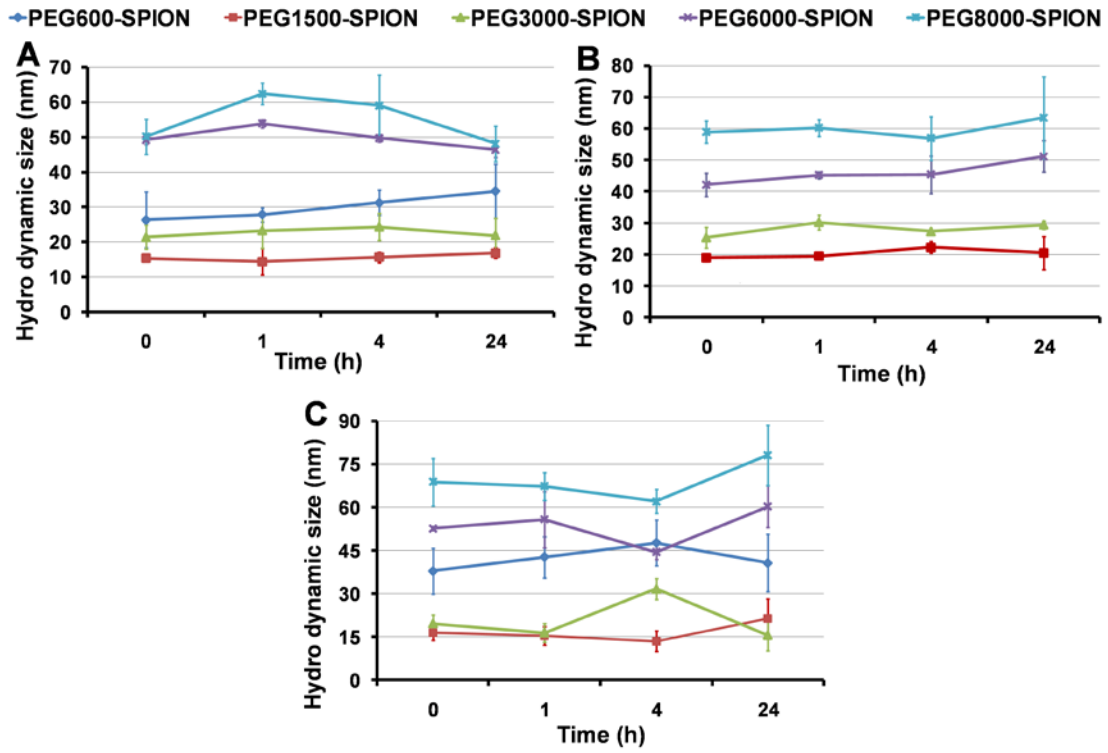


Figure S4. Hydrodynamic diameters of PEG-MNPs (500 $\mu\text{g/mL}$) with incubation time at 37°C in (A) water at pH 7.2; (B) PBS buffer at pH 7.2 and (C) cell growth medium.

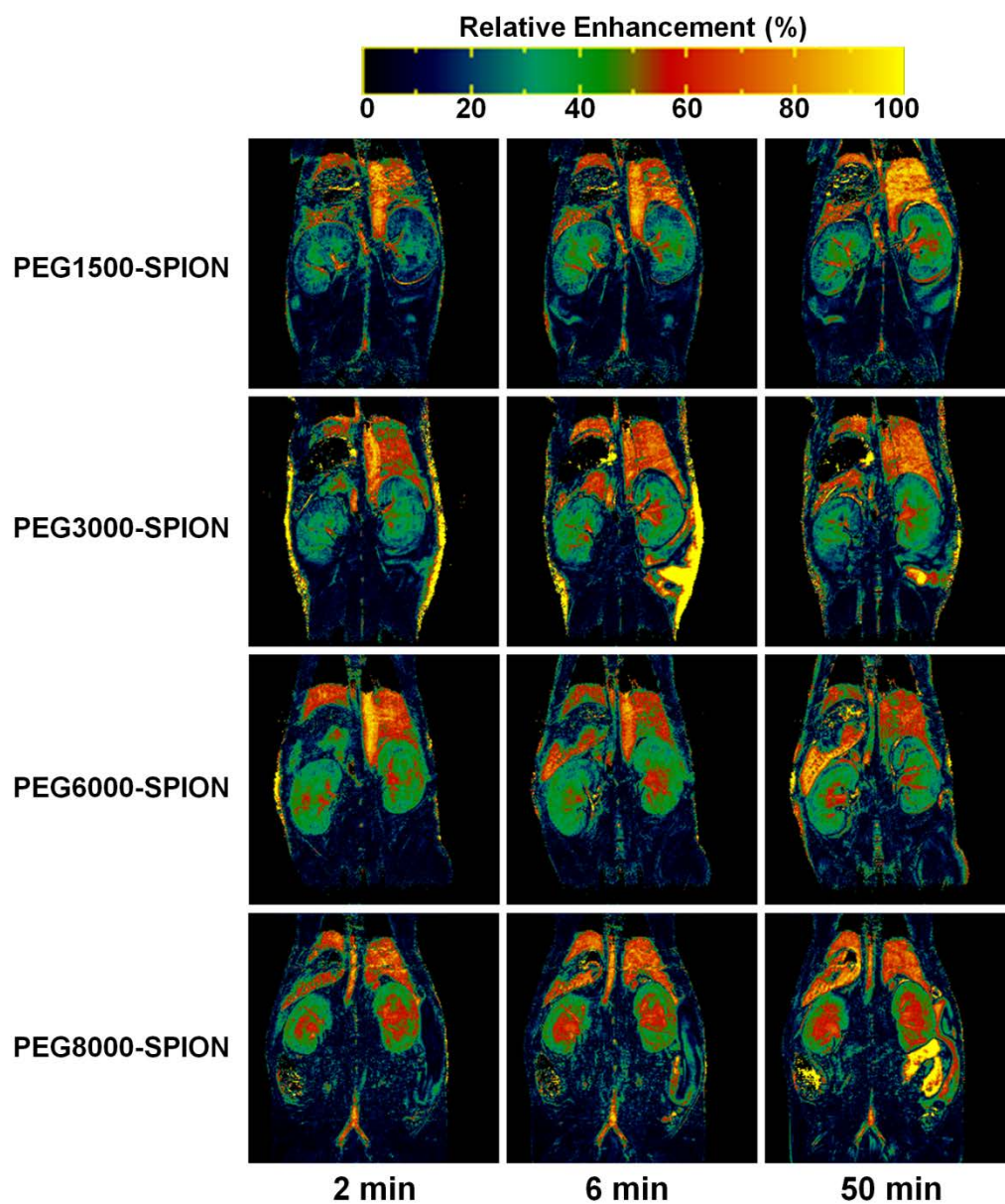


Figure S5. Representative color-coded RE parametric maps at 2, 4 and 50 min after injections of different MW PEG-SPIONs.