Supporting Information

One-Step Synthesis of Water-dispersible Ultra-Small Fe₃O₄ Nanoparticles as Contrast Agents for $T_1$ and $T_2$ Magnetic Resonance Imaging

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Figure S1. The size of Fe$_3$O$_4$ nanoparticles can be impacted by changing the amount of PAA. The TEM images as-synthesized Fe$_3$O$_4$ nanoparticles by changing the amount of PAA: a) 1mmol, b) 10mmol. The histograms below a and b are their DLS spectrum. Scale bar represents 5nm.
Figure S2. The FTIR spectra of 2.2 nm sized Fe₃O₄ nanoparticles, the insert is the schematic showing the carboxylate group bound to surface of nanoparticles in a bridging coordination.
Figure S3. TGA curves of 2.2 nm sized Fe₃O₄ nanoparticles.