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## **Supplementary Materials**



Fig. A1. Distribution of as-prepared Fe<sub>3</sub>O<sub>4</sub> particles sizes.



Fig. A2. Magnetization curve of as-prepared particles.



Fig. A3. SEM image of Fe<sub>3</sub>O<sub>4</sub> nanoparticles after reaction without H<sub>2</sub>O<sub>2</sub>.



Fig. A4. Changes of pH value during reaction at the different initial pH values



Fig. A5. HPLC spectrum of solutions after reaction