Supplementary Materials

Fig. A1. Distribution of as-prepared Fe$_3$O$_4$ particles sizes.

Fig. A2. Magnetization curve of as-prepared particles.
Fig. A3. SEM image of Fe$_3$O$_4$ nanoparticles after reaction without H$_2$O$_2$.

Fig. A4. Changes of pH value during reaction at the different initial pH values.
Fig. A5. HPLC spectrum of solutions after reaction