**Supplementary Information** 

## The Influences of Surface Charge on the Tumor Targeting of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles for MRI

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Figure S1 The TEM image of OA-capped NP. (The embedded scale bars correspond to 20 (nm)



Figure S2 Histogram showing the particle size distribution profile of OA-capped NP.



Figure S3 Photographs of various solutions with 0.32 mg/mL Fe<sup>3+</sup> concentration.



Figure S4 Hydrodynamic size distribution profiles of OA-capped NP



Figure S5 Fe contents in a) 4T1 cells and b) SCC-9 cells after incubation with different nanoparticles for 4 h.



**Figure S6** *T*<sub>2</sub>-weighted MR images of tumor-bearing mice acquired at different time points pre- and post-injection of NP-COOH, NP-PEG, and NP-NH<sub>2</sub>, respectively.



Figure S7  $T_2^*$ -weighted with images with pseudocolor for showing the hepatic vessels received at 30 min postinjection of three nanoparticles. The hepatic vessels depicted by the NP-PEG nanoparticles were highlighted by the red frame.



Figure S8 Prussian blue staining of tissues from major organs of mice after imaging. The embedded scale bars correspond to 100 μm.



Figure S9 H&E staining of tissues from major organs of mice after imaging. The embedded scale bars correspond to

100 µm.