

## Electronic Supplementary Information

### **Facile synthesis of hyaluronic acid-modified Fe<sub>3</sub>O<sub>4</sub>/Au composite nanoparticles for targeted dual mode MR/CT imaging of tumors†**

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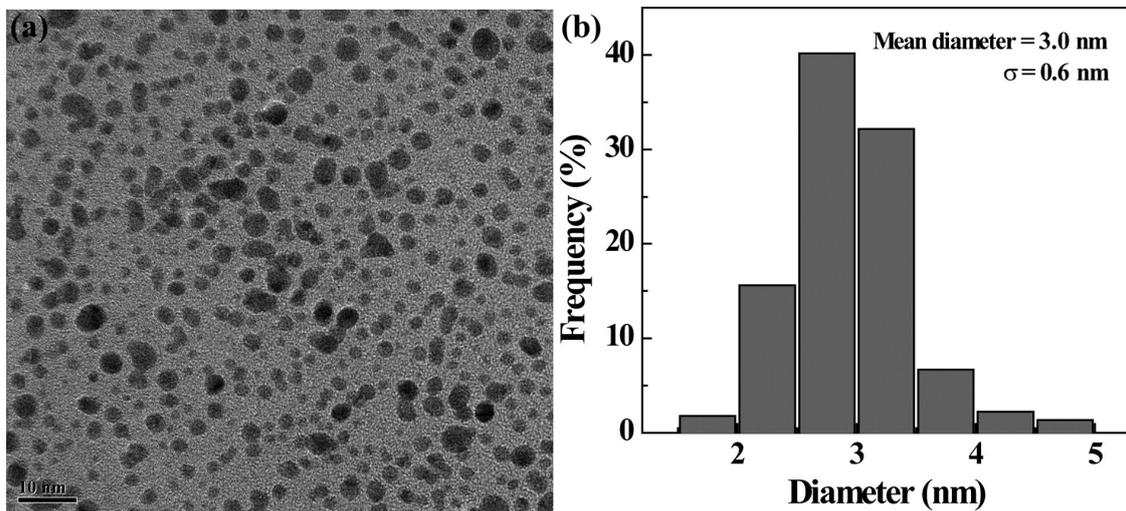
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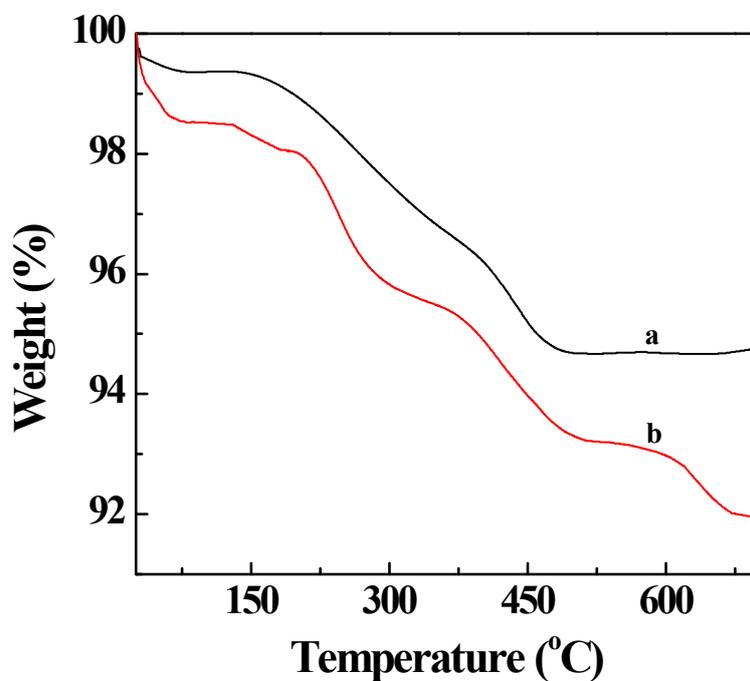
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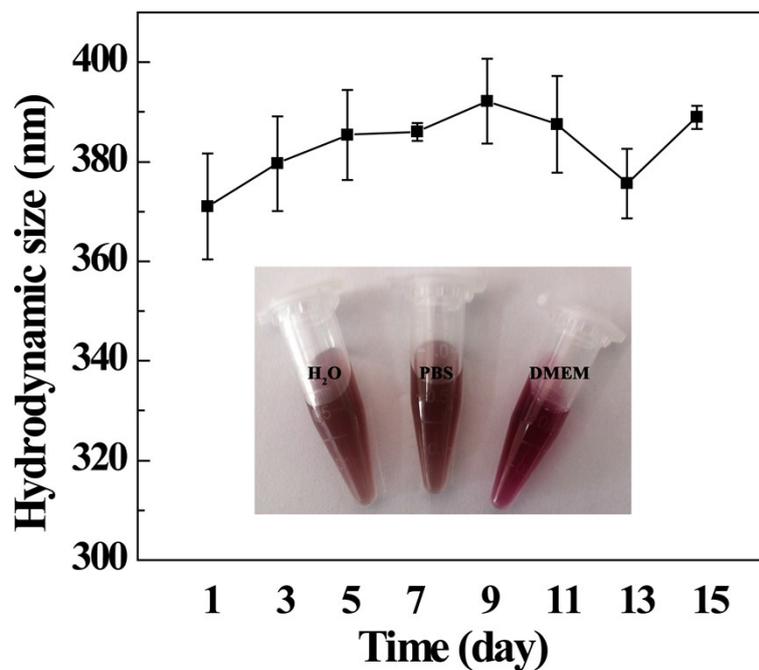
<sup>1</sup> Authors contributed equally to this work.



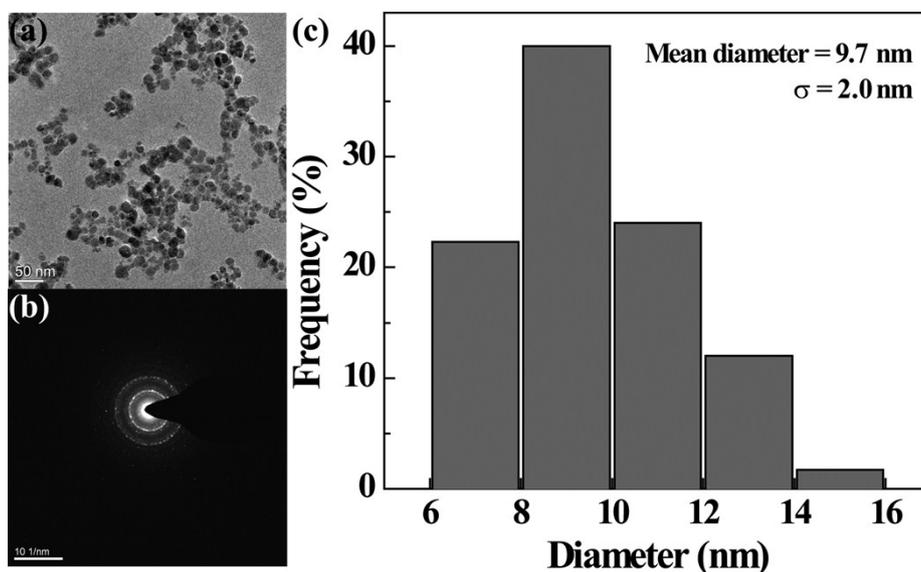
**Fig. S1.** TEM image (a) and size distribution histogram (b) of the formed PEI-Au NPs.



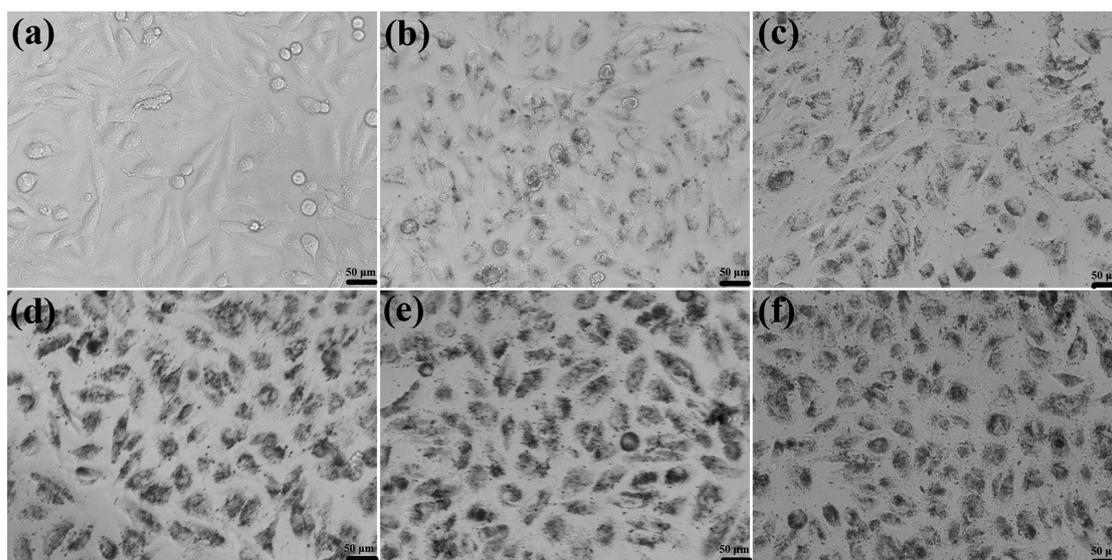
**Fig. S2.** TGA curves of the Fe<sub>3</sub>O<sub>4</sub>/Au-PEI CNPs before (a) and after (b) HA modification.



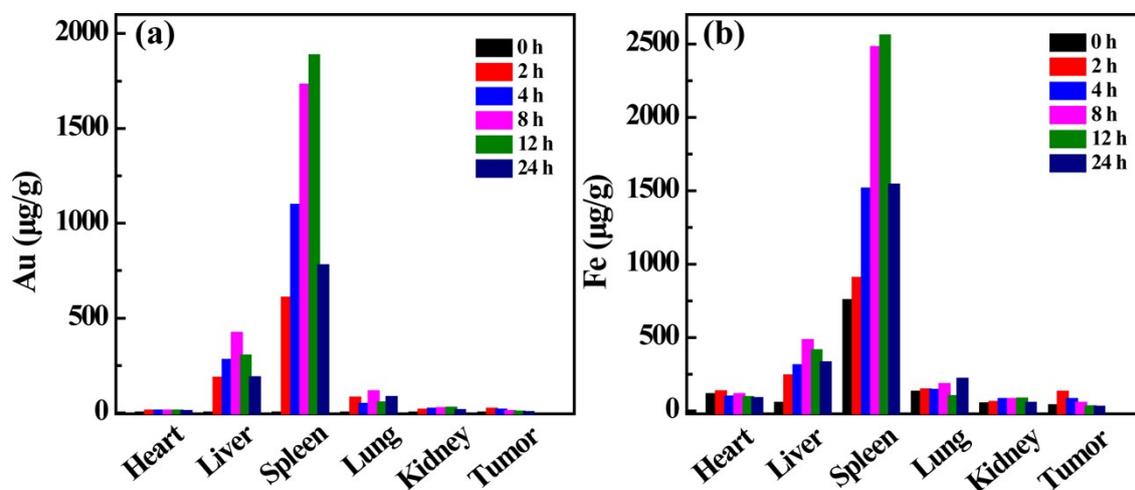
**Fig. S3.** Hydrodynamic size of the  $\text{Fe}_3\text{O}_4/\text{Au-PEI-HA}$  CNPs (0.1 mg/mL, in water) at different storage time periods. Inset shows the photographs of the  $\text{Fe}_3\text{O}_4/\text{Au-PEI-HA}$  CNPs dispersed in water, PBS, and DMEM, respectively for one month.



**Fig. S4.** TEM image (a), selected area electron diffraction pattern (b), and size distribution histogram (c) of the  $\text{Fe}_3\text{O}_4\text{-PEI}$  NPs.



**Fig. S5.** Phase contrast microscopic images of HeLa cells treated with PBS (a), the  $\text{Fe}_3\text{O}_4/\text{Au}$ -HA CNPs at the Fe concentrations of 0.2 mM (b), 0.4 mM (c), 0.8 mM (d), 1.5 mM (e), and 2.0 mM (f) for 24 h. The scale bar in each panel represents 50  $\mu\text{m}$ .



**Fig. S6.** Biodistribution of Au (a) and Fe (b) elements in the major organs and tumor of the mice at different time points post intravenous injection of the  $\text{Fe}_3\text{O}_4/\text{Au}$ -PEI-HA CNPs ( $[\text{Fe}] = 215.29 \text{ mM}$ ,  $[\text{Au}] = 50 \text{ mM}$ , 0.1 mL PBS).