

Supplementary material

A Tumor-Targeting and ROS-Responsive Iron-Based T₁ Magnetic Resonance

Imaging Contrast Agent for Highly Specific Tumor Imaging

*Jincong Yan^{1,2,3}, Zhongzhong Lu^{1,2}, Mingsheng Xu^{1,2}, Jihuan Liu^{1,2}, Ye Zhang², Jingbo Yin³, Yi Cao^{*2}, and Renjun Pei^{*1,2}*

¹School of Nano-Tech and Nano-Bionics, University of Science and Technology of China, Hefei 230026, China

²CAS Key Laboratory of Nano-Bio Interface, Division of Nanobiomedicine, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215123, China

³Department of Polymer Materials, School of Materials Science and Engineering, Shanghai University, Shanghai 200444, China

*Corresponding Authors:

Renjun Pei, E-mail: rjpei2011@sinano.ac.cn; Tel.: +86 0512 628722776

Yi Cao, E-mail: ycao2014@sinano.ac.cn; Tel.: +86 0512 62872587

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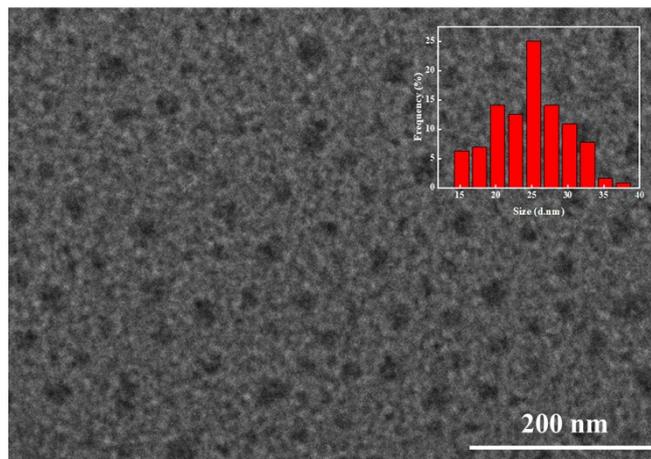


Figure S1. TEM image of GA-Fe(II)-PEG and corresponding particle size distribution histogram.

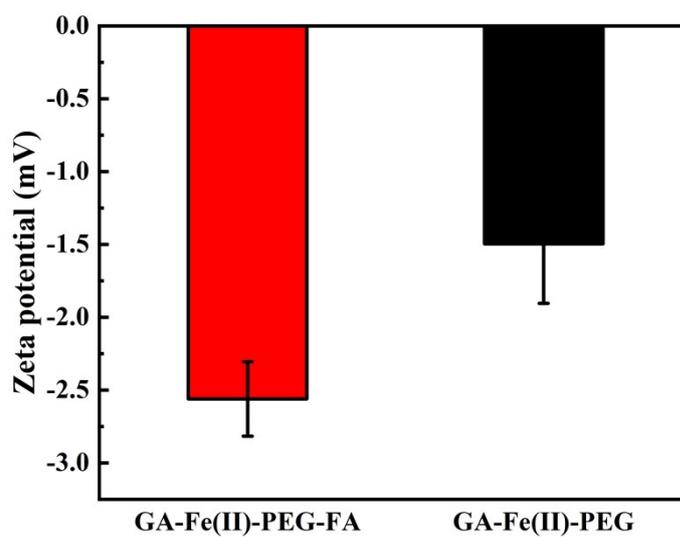


Figure S2. Zeta potentials of GA-Fe(II)-PEG and GA-Fe(II)-PEG-FA in DI water.

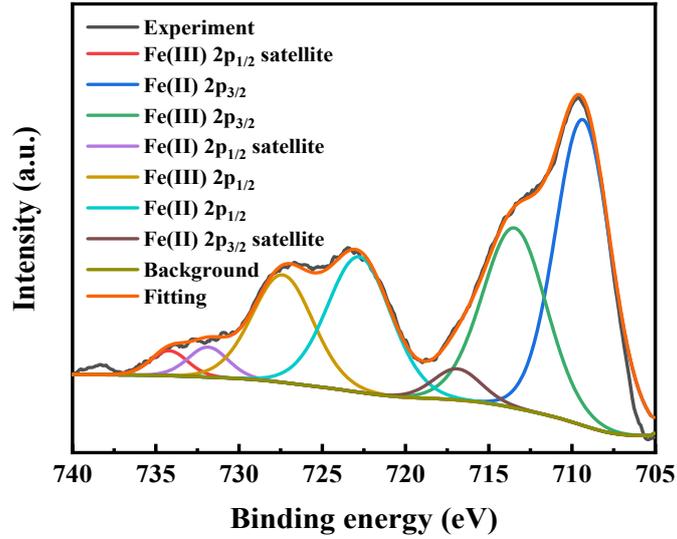


Figure S3. XPS spectrum of GA-Fe(II)-PEG.

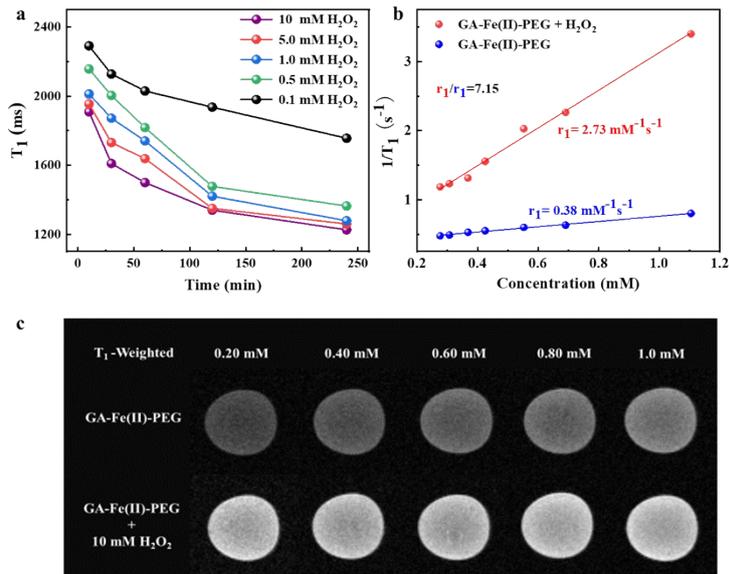


Figure S4. (a) T₁ of GA-Fe(II)-PEG at different time points during the incubation with a series of H₂O₂ solution. (b) r₁ of GA-Fe(II)-PEG as a function of the molar concentration of Fe(II) in the solution before and after oxidation. (c) The T₁-weighted phantom images of GA-Fe(II)-PEG solution in a series of concentrations before and after oxidation.

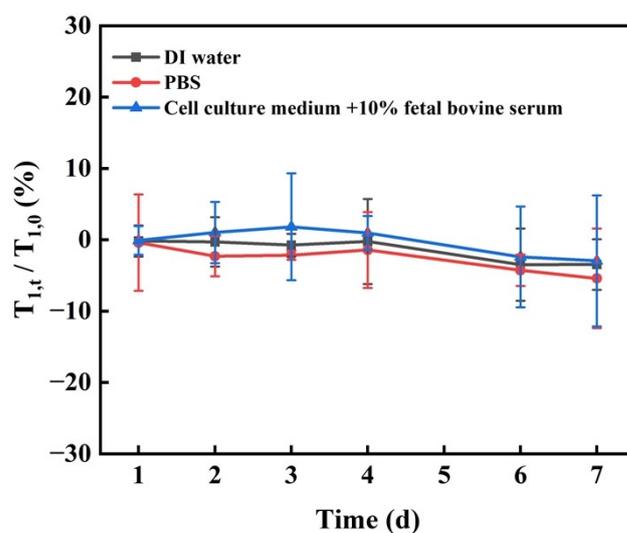


Figure S5. T_1 value of GA-Fe(II)-PEG-FA at an iron concentration of 1 mM in DI water, PBS and cell culture medium (DMEM) with 10% fetal bovine serum (v/v) at different time points, respectively.

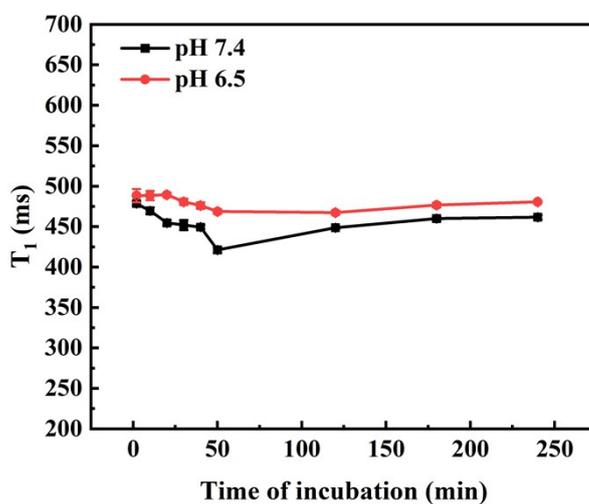


Figure S6. T_1 value of GA-Fe(II)-PEG-FA at a concentration of 1 mM after incubated with PBS solution at pH = 6.5 and 7.4 at different times, respectively.

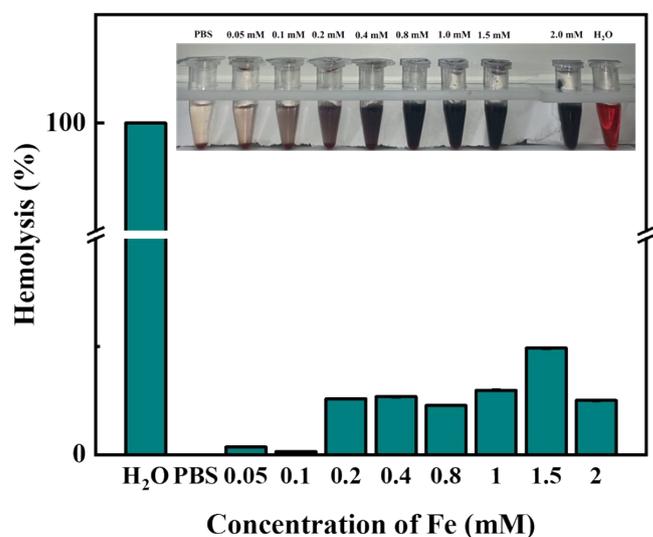


Figure S7. Hemolysis of RBCs incubated with various concentrations of GA-Fe(II)-PEG-FA. The physiological saline and deionized water were served as negative and positive control, respectively.

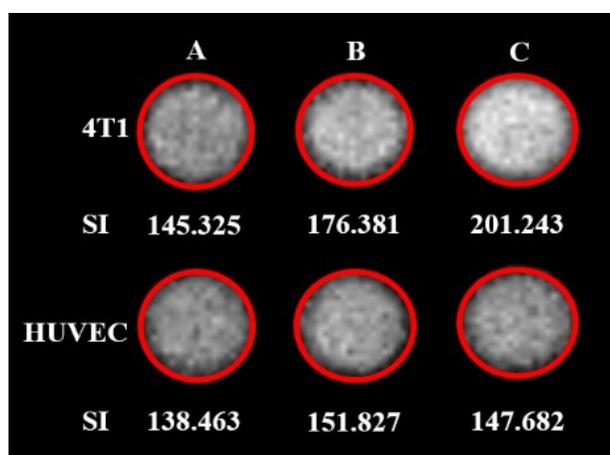


Figure S8. T₁-weighted imaging of 4T1 cell and HUVEC cell incubated without any contrast agent (column A), with GA-Fe(II)-PEG (column B) or GA-Fe(II)-PEG-FA (column C). SI means signal intensity in terms of gray value.