

Supporting Information

A Theranostic Nanocomposite System Based on Radial Mesoporous  
Silica Hybridized with Fe<sub>3</sub>O<sub>4</sub> Nanoparticles for Targeted Magnetic  
Field Responsive Chemotherapy of Breast Cancer

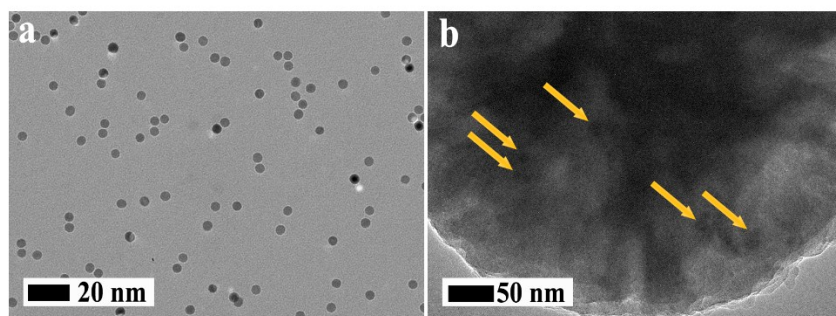
Qin Gao<sup>ab</sup>, Wensheng Xie<sup>ab</sup>, Yu Wang<sup>ab</sup>, Dan Wang<sup>ab</sup>, Zhenhu Guo<sup>c</sup>, Fei Gao<sup>d</sup>, Lingyun Zhao<sup>ab\*</sup>,  
Qiang Cai<sup>ab\*</sup>

<sup>a</sup> State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China; E-mail: lyzhao@mail.tsinghua.edu.cn, caiqiang@mail.tsinghua.edu.cn

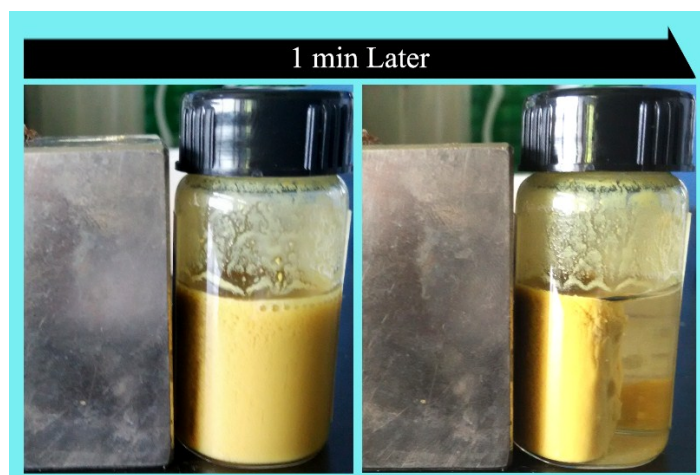
<sup>b</sup> Advanced Materials of Ministry of Education of China, School of Materials Science & Engineering, Tsinghua University, Beijing, 100084, China;

<sup>c</sup> School of Earth Sciences and Resources, China University of Geosciences, Beijing, 10083, China;

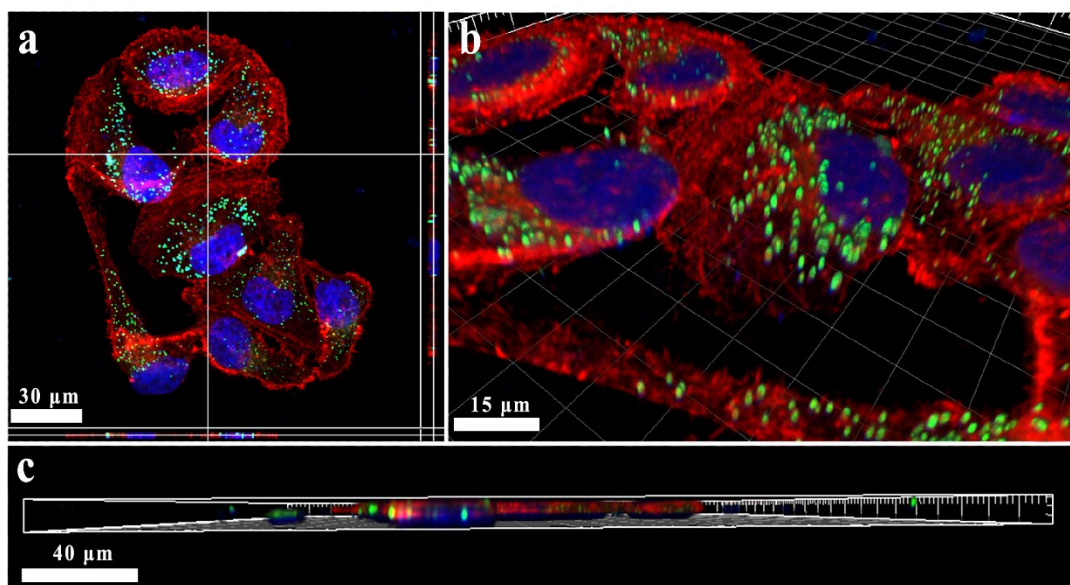
<sup>d</sup> College of Chemistry and Materials Science, Northwest University, Xi'an, Shanxi, 710069, China;



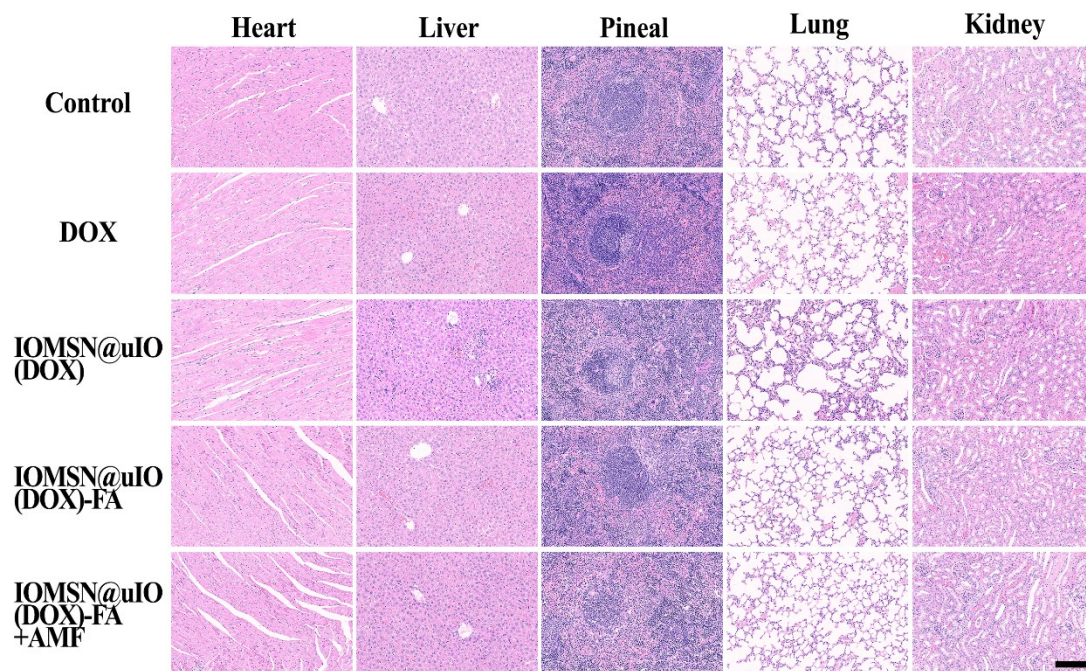
**Fig. S1.** HRTEM images of uIO NPs (a) and IOMSN@uIO-FA NPs (b). The arrow in the b presented the uIO NPs.



**Fig. S2.** Magnetic aggregation of IOMSN@uIO-FA NPs in DI water with a magnet placed nearby for 1 min.



**Fig. S3.** 3D images of MCF-7 cells from different perspectives using the Z-stack model of LSCM. Cytoskeleton was stained by rhodamine-phalloidin (red), the nuclei of cells were stained by DAPI (blue) and coumarin-6 was loaded in IOMSN@uIO-FA NPs to track the nanoparticles (green).



**Fig. S4.** H&E-stained images of main tissues (heart, liver, pineal, lung and kidney) of mice in Control group, DOX group, IOMSN@uIO(DOX) group, IOMSN@uIO(DOX)-FA group and IOMSN@uIO(DOX)-FA + AMF group. Scale bar = 100  $\mu$ m.