

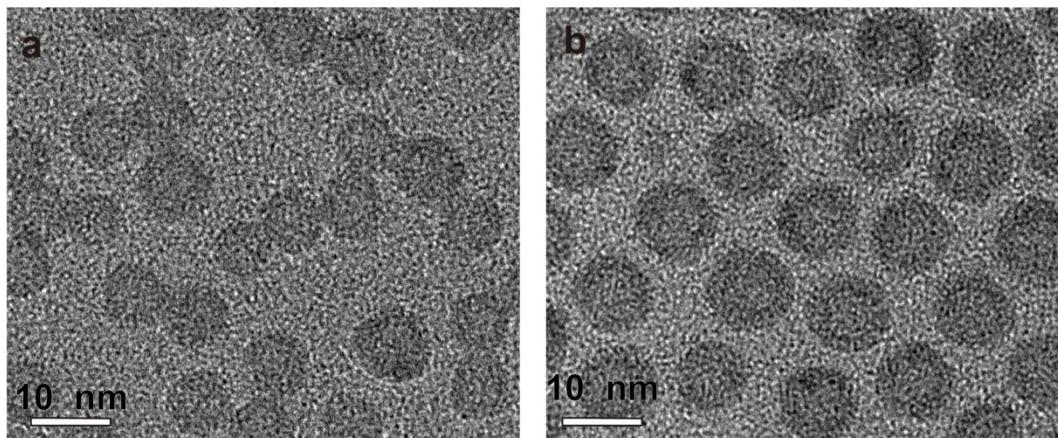
## Supporting information

### Renal Clearable Zwitterionic Conjugated Hollow Ultrasmall $\text{Fe}_3\text{O}_4$ Nanoparticles for $T_1$ -weighted MR Imaging in Vivo

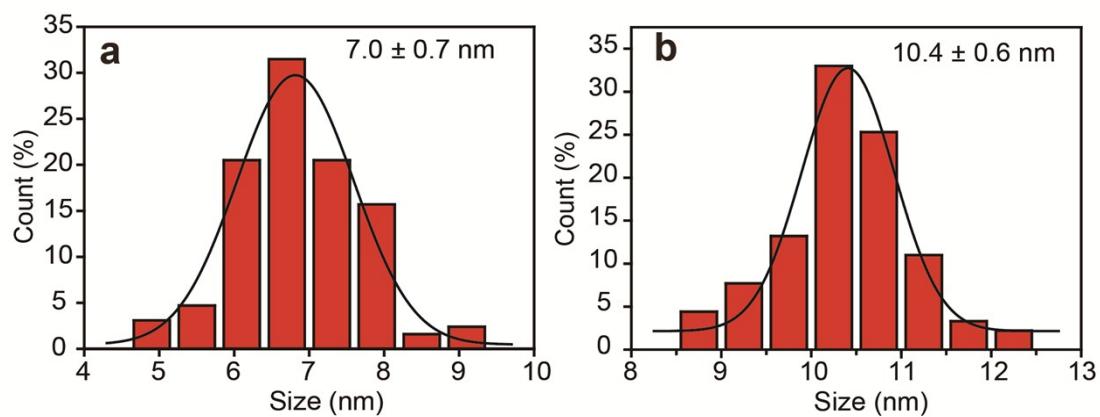
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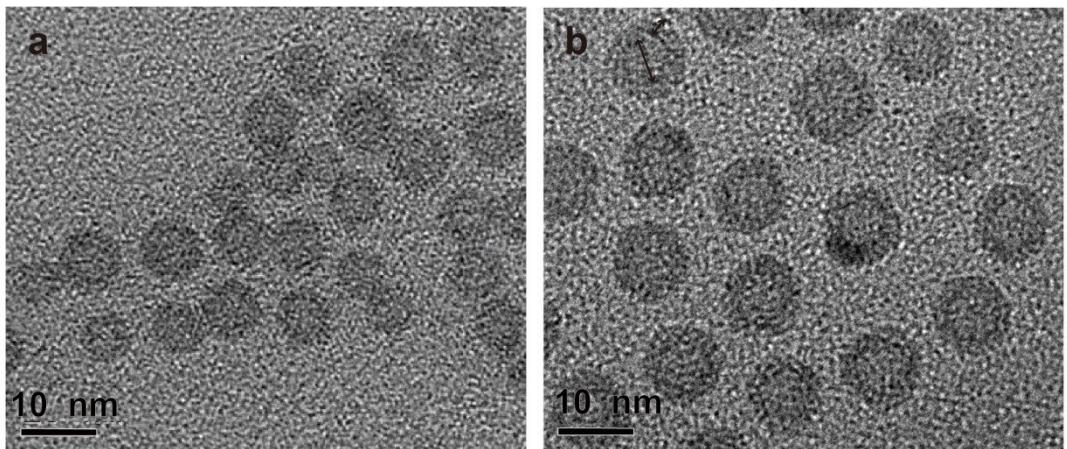
Email: zgzhou@shnu.edu.cn, shipingy@shnu.edu.cn



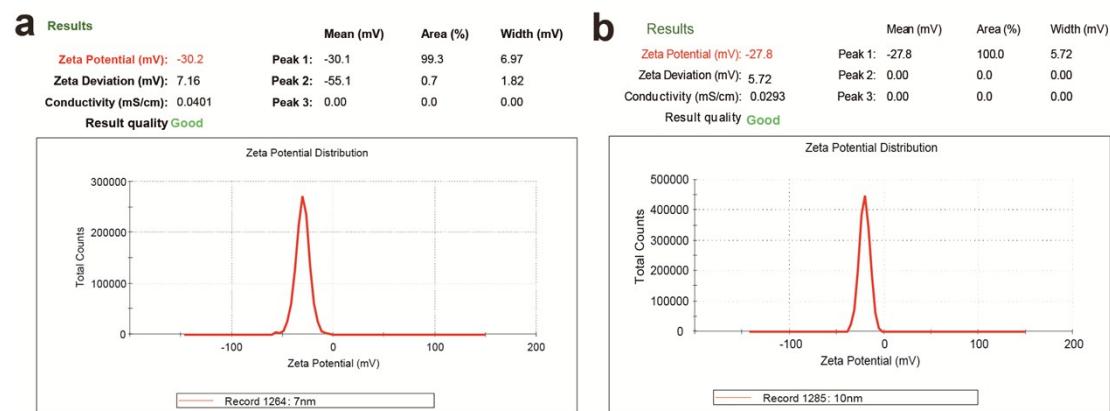
**Fig.S1** TEM images of (b) 7- $\text{Fe}_3\text{O}_4$  NPs and (c) 10- $\text{Fe}_3\text{O}_4$  NPs, respectively.



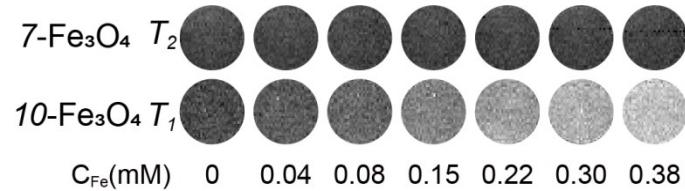
**Fig. S2** The size distribution of (a) 7- $\text{Fe}_3\text{O}_4$  NPs and (b) 10- $\text{Fe}_3\text{O}_4$  NPs from TEM images.



**Fig. S3** TEM images of (a) 7- $\text{Fe}_3\text{O}_4$ @ZDS NPs, and (b) 10- $\text{Fe}_3\text{O}_4$ @ZDS NPs.



**Fig. S4** The zeta potentials of (a) 7- $\text{Fe}_3\text{O}_4$ @ZDS NPs and (b) 10- $\text{Fe}_3\text{O}_4$ @ZDS NPs, respectively.



**Fig. S5**  $T_2$ -weighted images of hollow  $\text{Fe}_3\text{O}_4$  NPs with different concentrations.