

Hollow magnetic hydroxyapatite microspheres with hierarchically mesoporous microstructure for pH-responsive drug delivery

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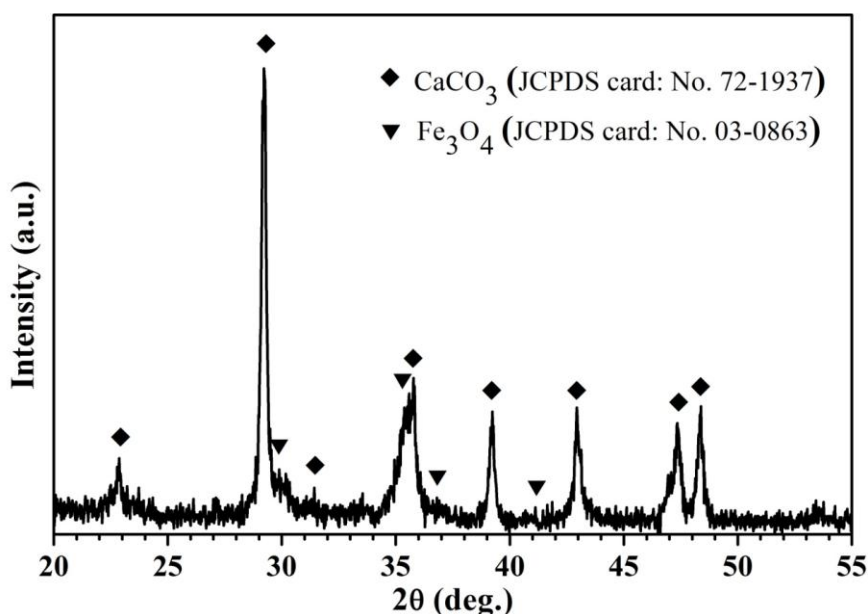


Fig. S1. XRD for CaCO₃/Fe₃O₄ hollow microspheres with 50 wt.% Fe₃O₄ component.

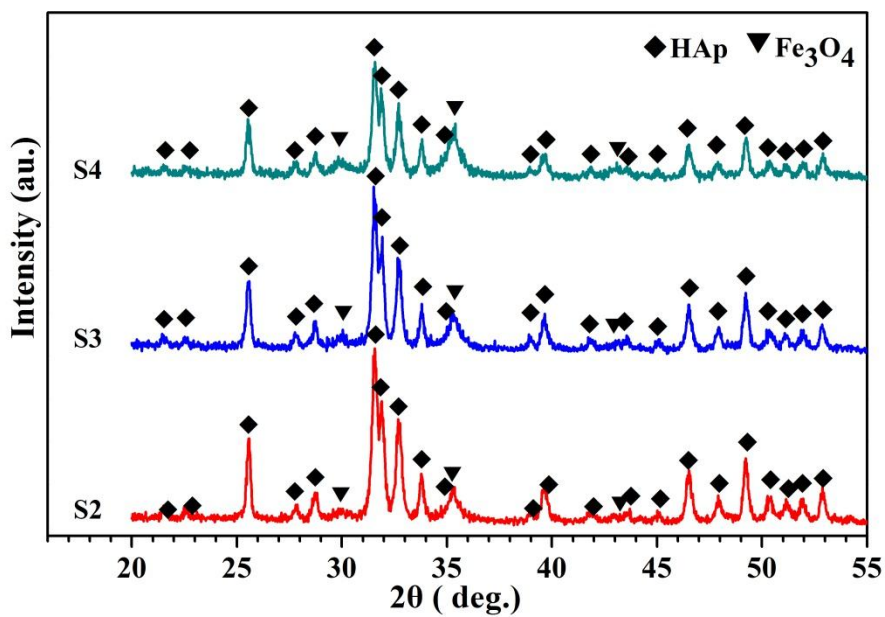


Fig. S2 XRD patterns of the samples with similar composite ratio directly mixed by the Fe₃O₄ and the hydrothermally synthesized HAp powders.

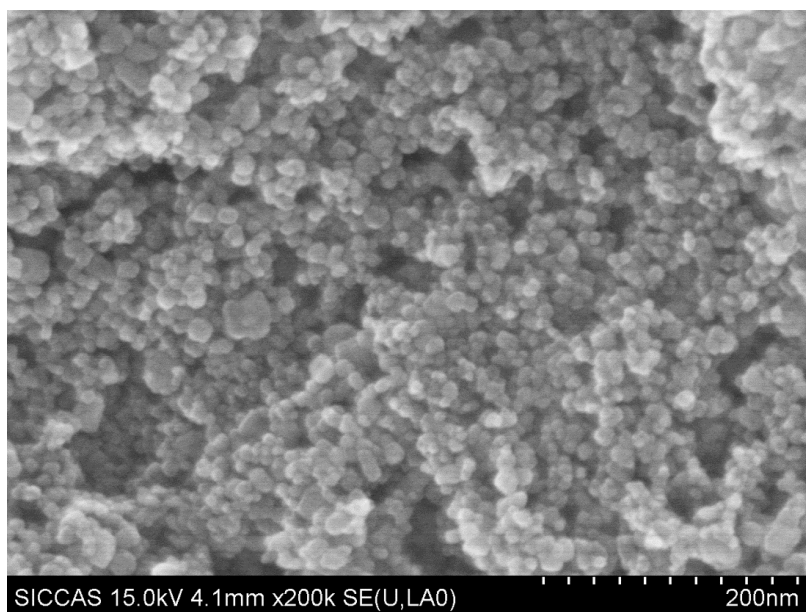


Fig. S3. Morphology image of the raw Fe₃O₄ nanoparticles.

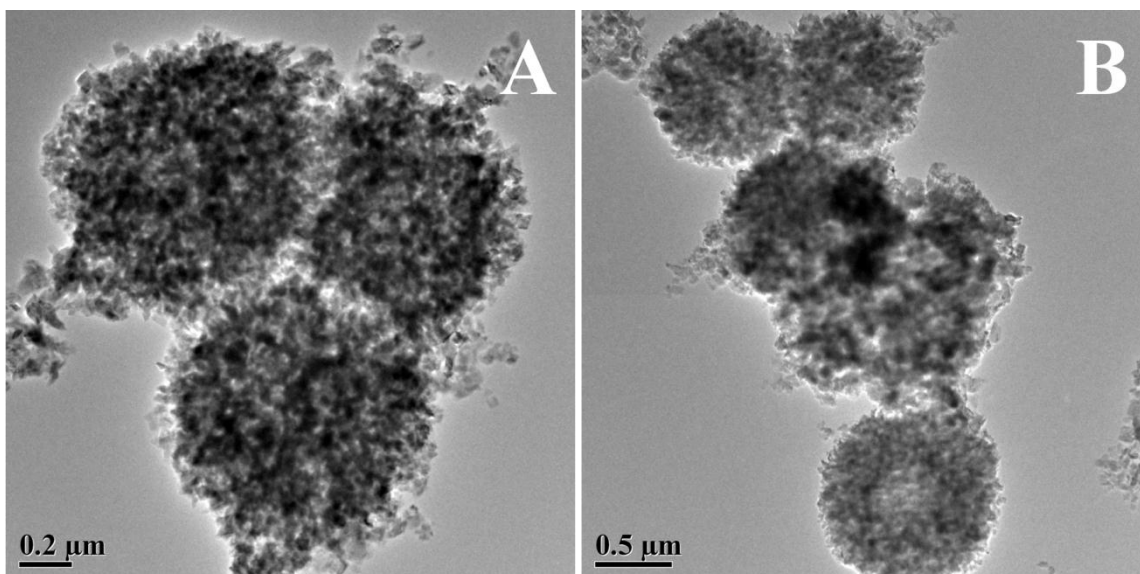


Fig. S4. TEM for $\text{CaCO}_3/\text{Fe}_3\text{O}_4$ hollow microspheres with 25 wt.% Fe_3O_4 component synthesized using very dilute solutions ($[\text{CaCl}_2]=0.002\text{ M}$ and $[\text{Na}_2\text{CO}_3]=0.002\text{ M}$) (A) and hydrothermal transformed to the hollow magnetic HAp microspheres (B).

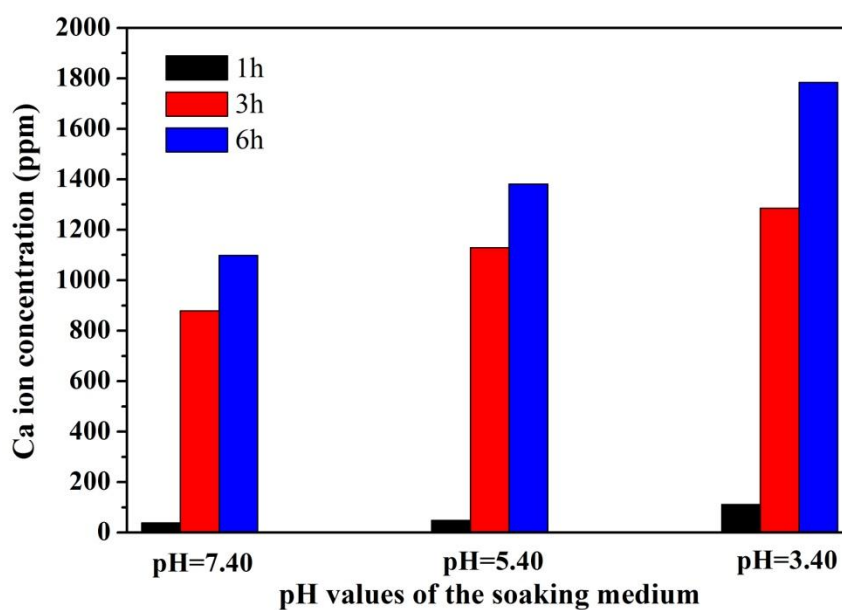


Fig. S5. The concentrations of the Ca^{2+} ion released from sample S3 in different pH PBS without refreshing the soaking medium.

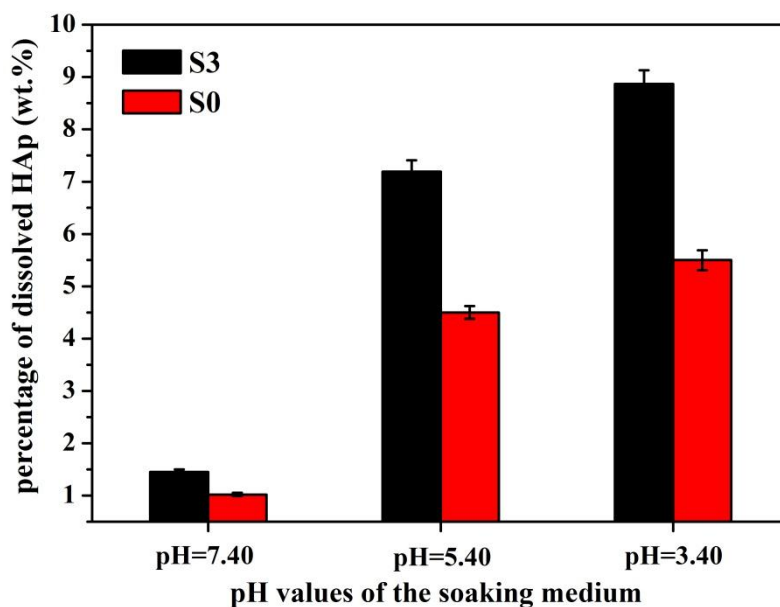


Fig. S6. The percentage of the dissolved HAp from magnetic HAp hollow microspheres (sample S3) and the control HAp nanoparticles (sample S0) after cumulative drug release in different pH PBS up to 48 h.