

Supplementary Material (ESI) for Soft Matter
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Supplementary Information

**Magnetic colloidosomes fabricated by $\text{Fe}_3\text{O}_4\text{-SiO}_2$
hetero-nanorods**

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Figure S1. Contact angle measurement images of Fe_3O_4 nanoparticles (a), $\text{Fe}_3\text{O}_4@\text{SiO}_2$ nanoparticles (b) and $\text{Fe}_3\text{O}_4\text{-SiO}_2$ rod-like particles (c) surfaces.

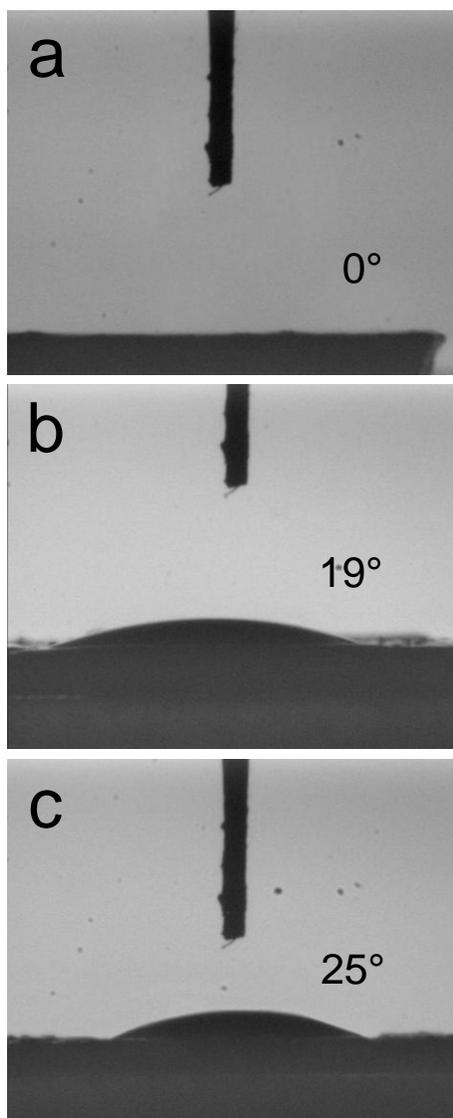


Figure S2. TEM images of $\text{Fe}_3\text{O}_4\text{-SiO}_2$ rod-like particles with different aspect ratio 2:1 (a), 4:1 (b) 5:1 (c) and 7:1 (d).

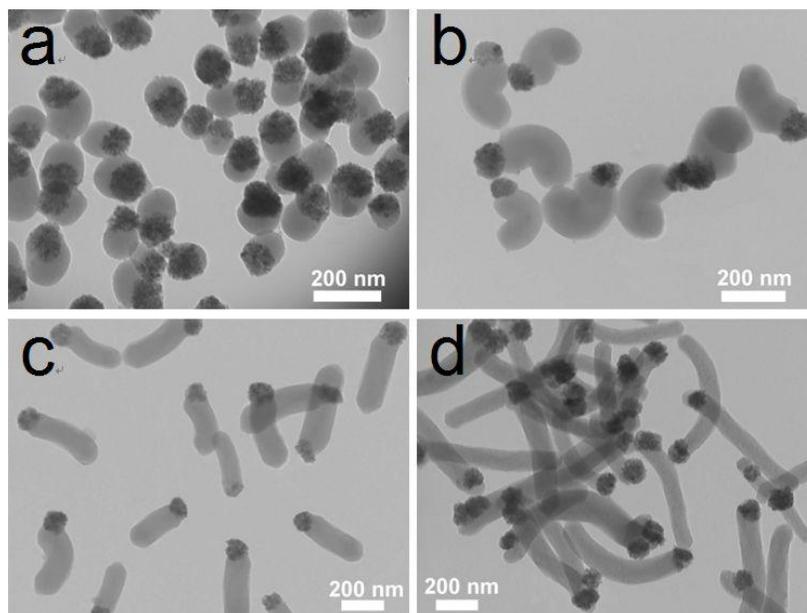
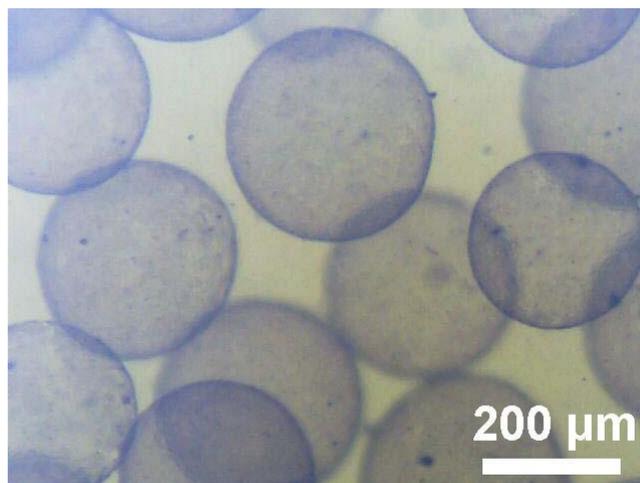


Figure S3. Optical image of water-soluble agarose capsules by gelating the water phase with agarose.



5 mg $\text{Fe}_3\text{O}_4\text{-SiO}_2$ hetero-nanorods of aspect ratios 3:1 was dissolved in 0.5 mL ethanol for 20 min ultrasound. 1 ml agarose aqueous solution (1.5 wt%) was added into 5 ml preheated toluene at 70 °C, and the agarose aqueous solution would sink to the bottom of the bottle. Then, $\text{Fe}_3\text{O}_4\text{-SiO}_2$ hetero-nanorods ethanol solution was added into above mixture of toluene and agarose aqueous solution. After emulsification of this three-phase system by vigorous stirring for 10 min at 40 °C, colloidosomes of agarose aqueous solution-in-toluene droplets stabilized with $\text{Fe}_3\text{O}_4\text{-SiO}_2$ hetero-nanorods were obtained. After cooling to room temperature, the phase of aqueous and ethanol phase turned out gelled. These agarose colloidosomes were washed with ethanol for three times and dispersed in water.