

Supporting information

Microwave enhanced silica encapsulation of magnetic nanoparticles

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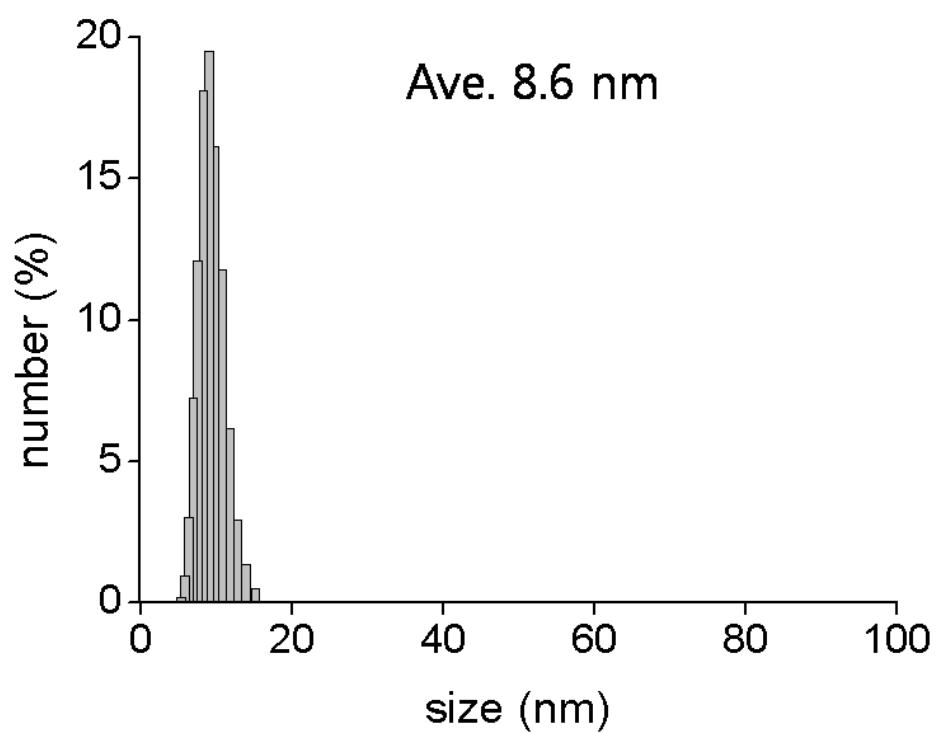


Fig. S1 DLS measurement of organic ligand-capped iron oxide nanoparticles dispersed in hexane.

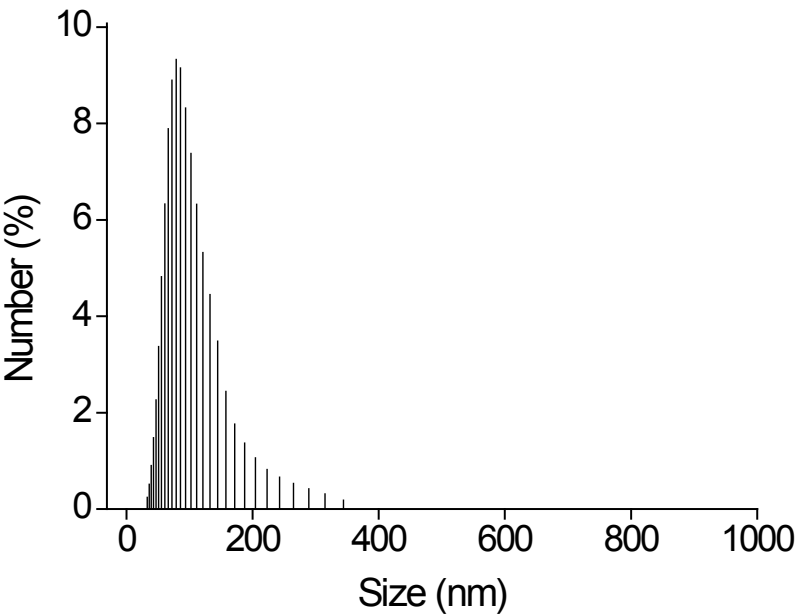


Fig. S2 DLS measurement of phase transferred iron oxide nanoparticles dispersed in water.

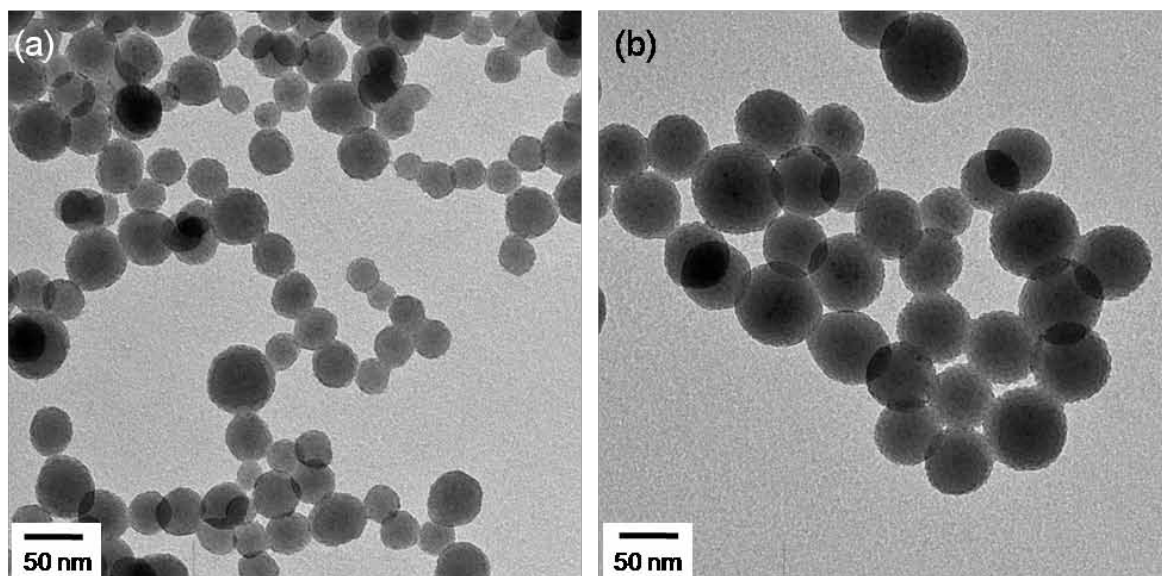


Fig. S3 TEM image of SiO₂ nanoparticles without magnetic cores generated via microwave heating using (a) 50 and (b) 400 μ L of TEOS. They have the average values of 36.7 and 57.5 nm, respectively.

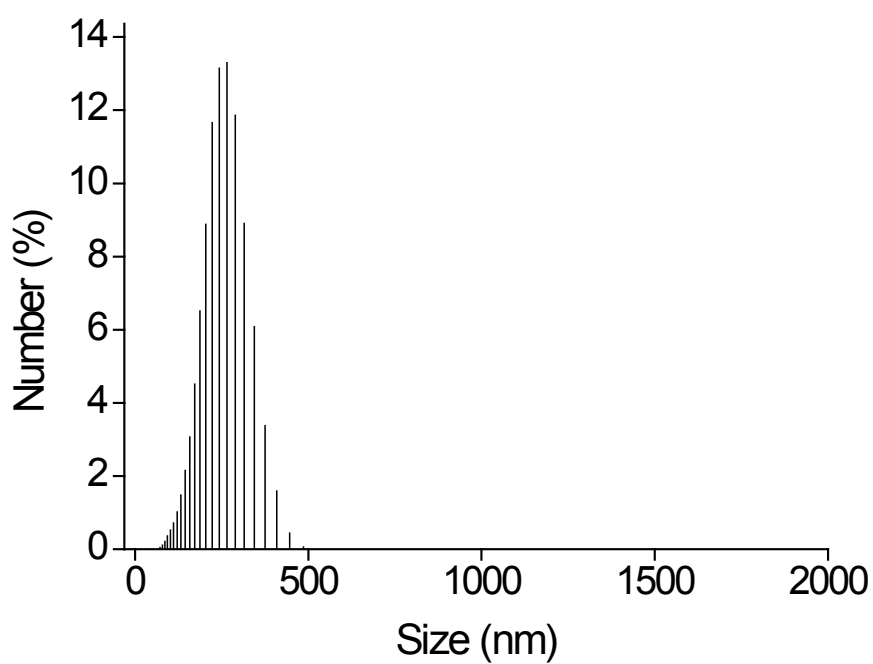


Fig. S4 DLS measurement of MN@SiO₂ after a week incubation in aqueous solution at room temperature.

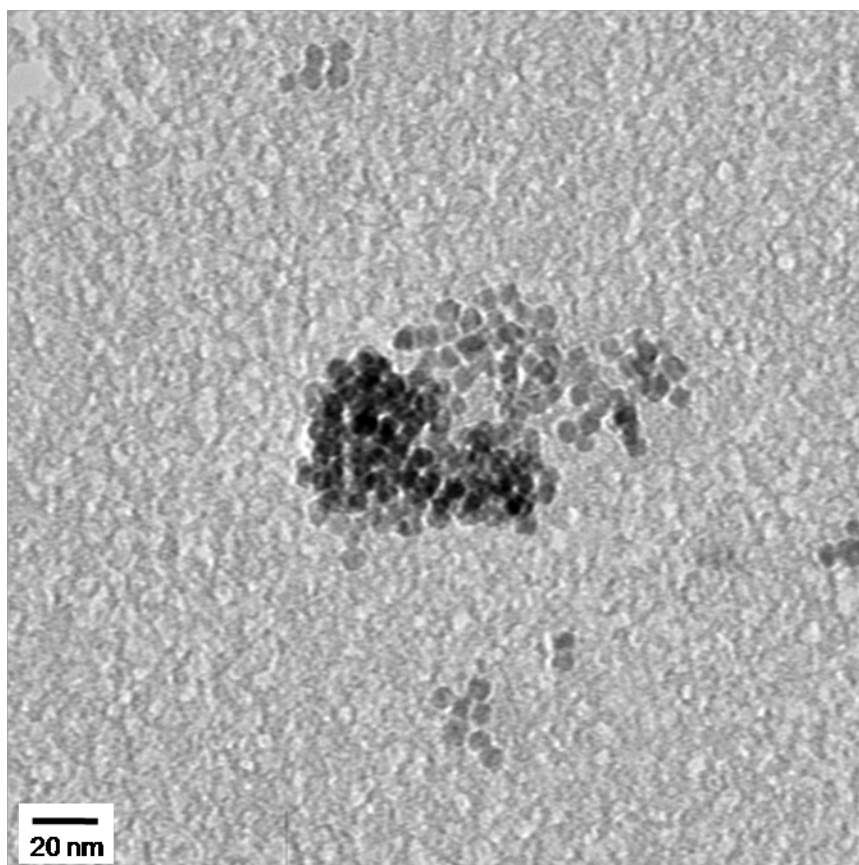


Fig. S5 TEM image of the product using 1 mL of TMAOH as a catalyst to generate the silica shell in the absence of ammonia solution.

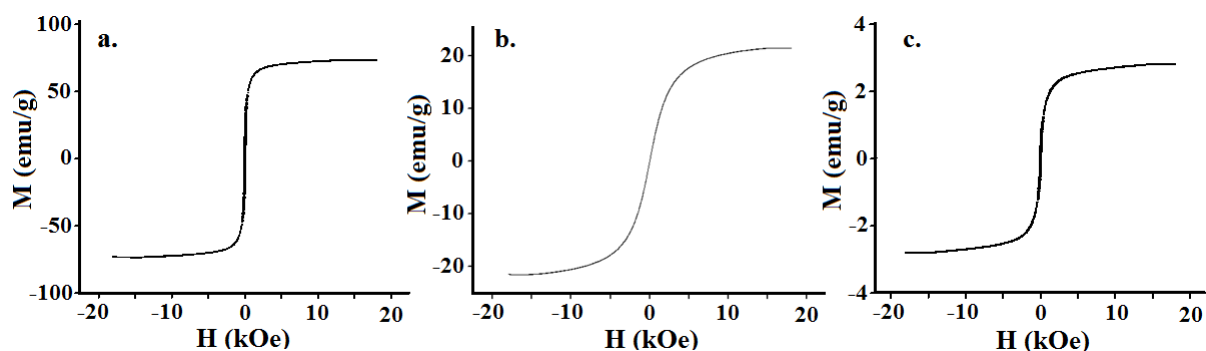


Fig. S6. Magnetic hysteresis loop of (a) uncoated MN at 77 K, (b) phase transferred MN with TMAOH shell at room temperature, and (c) silica coated MN (MN@SiO₂) at 77K.