Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

Supporting Information for

Biocompatible Hollow Magnetic Supraparticles: Ultrafast Microwave-Assisted Synthesis, Casein-Micelle-Mediated Cavity Formation and Controlled Doxorubicin Delivery

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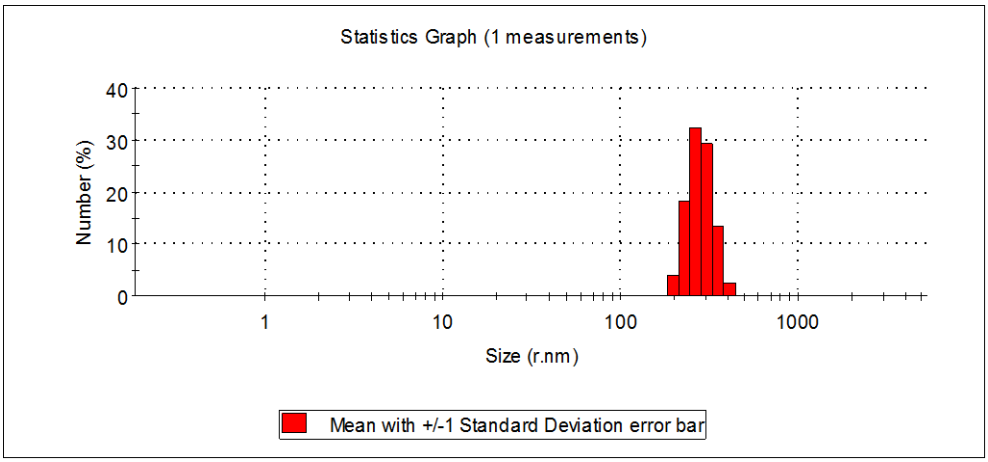

Figure S1. DLS result of as-prepared HMSPs (0.4 g of casein) in deionized water.

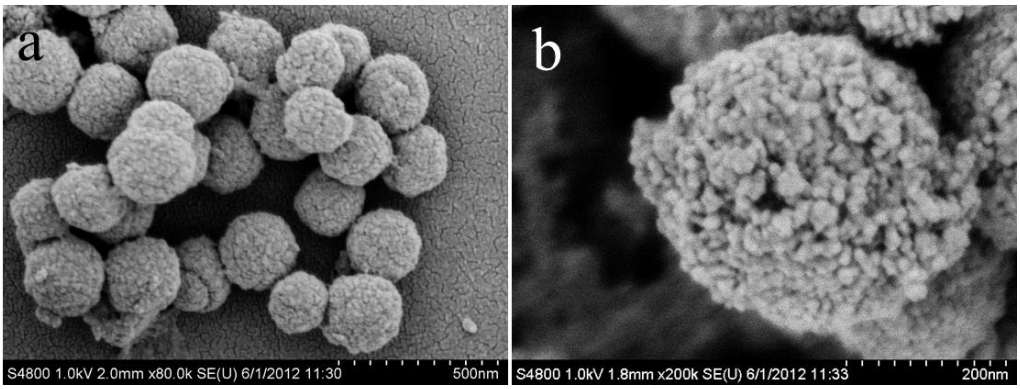

Figure S2. SEM images of HMSPs prepared with 0.4 g of casein.

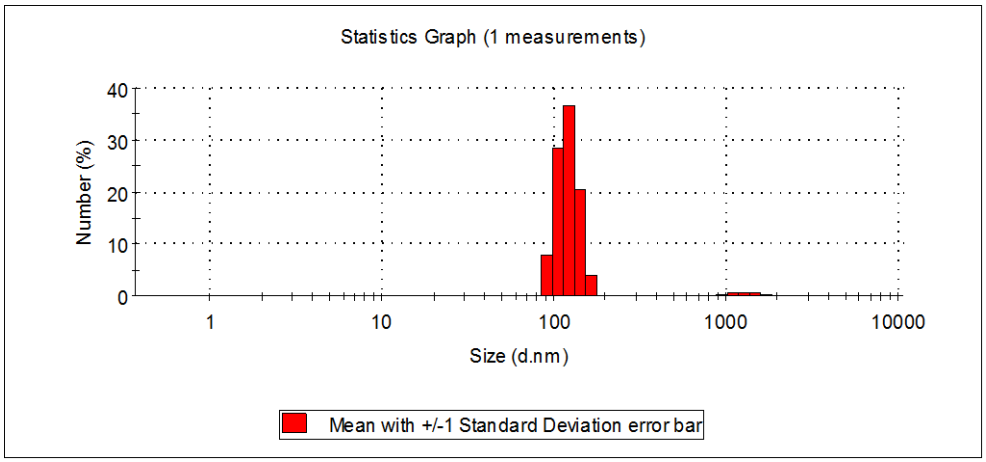

Figure S3. DLS result of casein micelle in EG solvent.

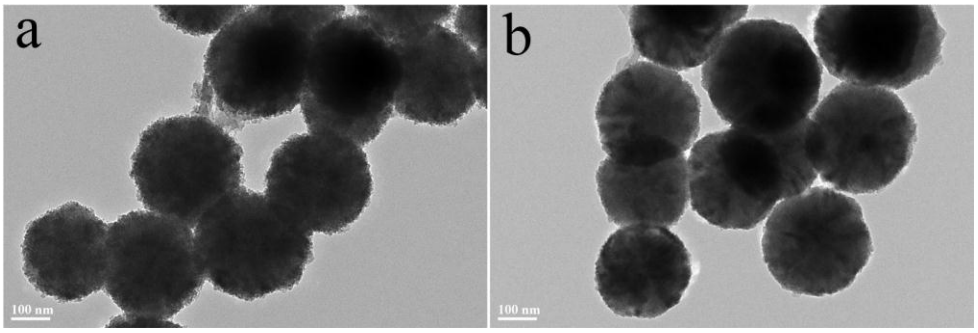

Figure S4. TEM images of magnetic nanoclusters stabilized by (a) acid-soluble soybean proteins and (b) bovine serum albumin.

Table S1. Porous characteristics of the HMSPs synthesized with various amount of casein.

Casein amount (g)	Surface area (m^2/g)[a]	Pore volume (cm^3/g)	Pore size (nm)[b]
0.1	18.6	0.12	/
0.6	60.0	0.23	4.0

[a] Calculated by the BET method.

[b] Calculated from the N_2 desorption branch by the BJH model.

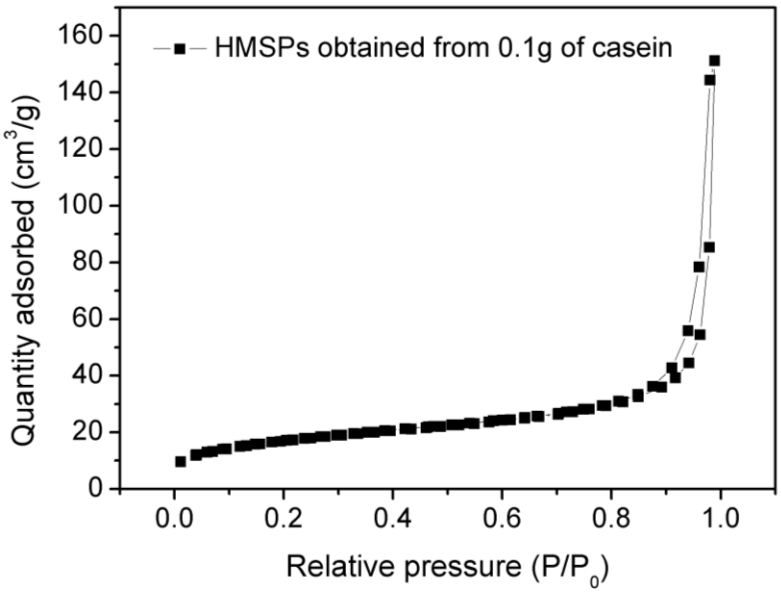

Figure S5. N_2 adsorption-desorption isotherm of HMSPs obtained from 0.1 g of casein.

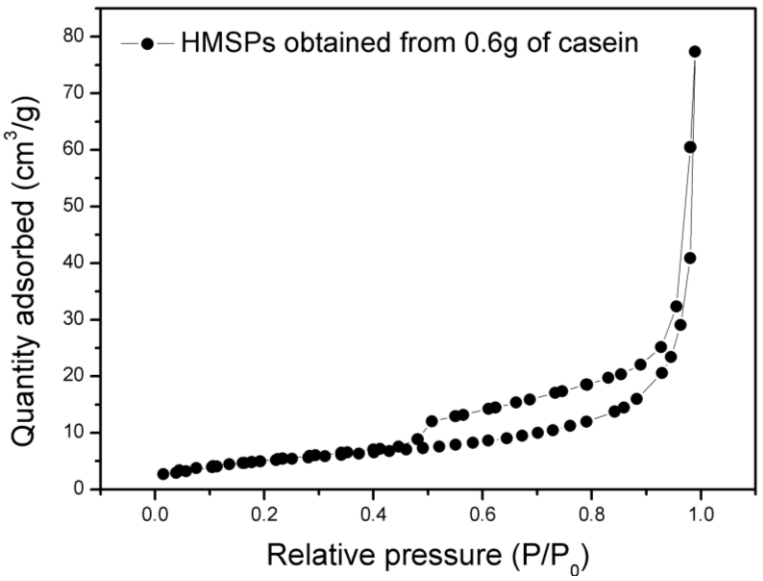

Figure S6. N_2 adsorption-desorption isotherm of HMSPs obtained from 0.6 g of casein.

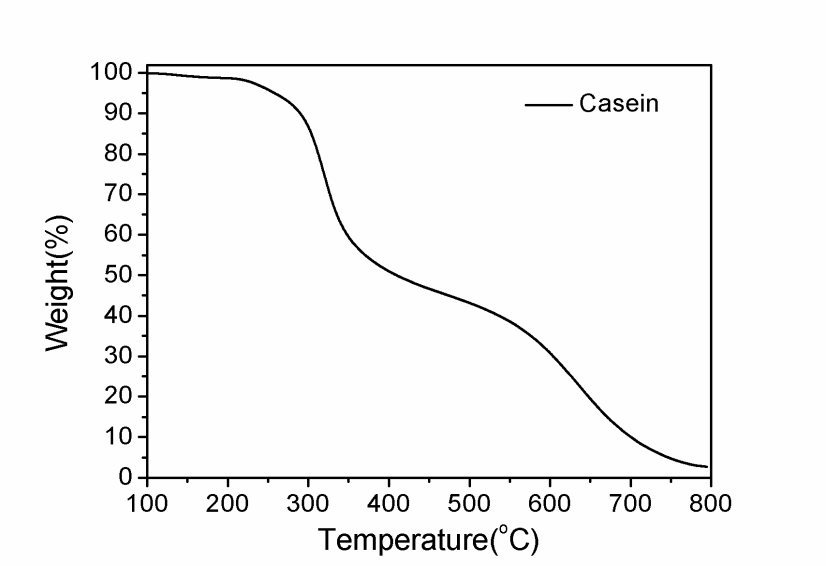

Figure S7. TGA curve of casein in air atmosphere.

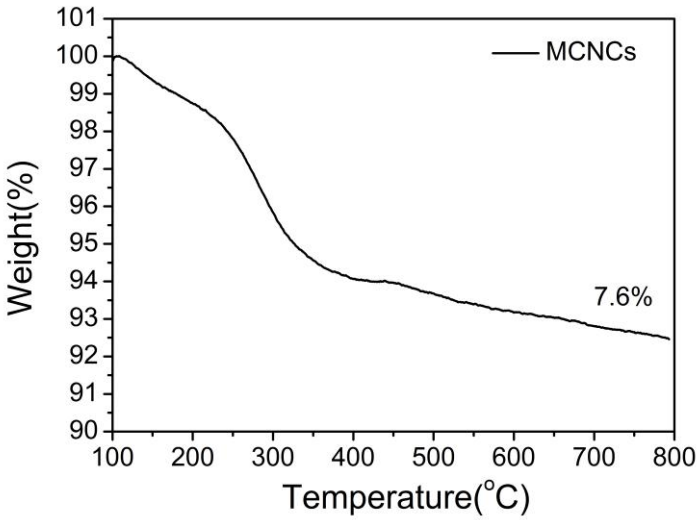

Figure S8. TGA curve of bare magnetic nanoclusters without casein from microwave irradiation.

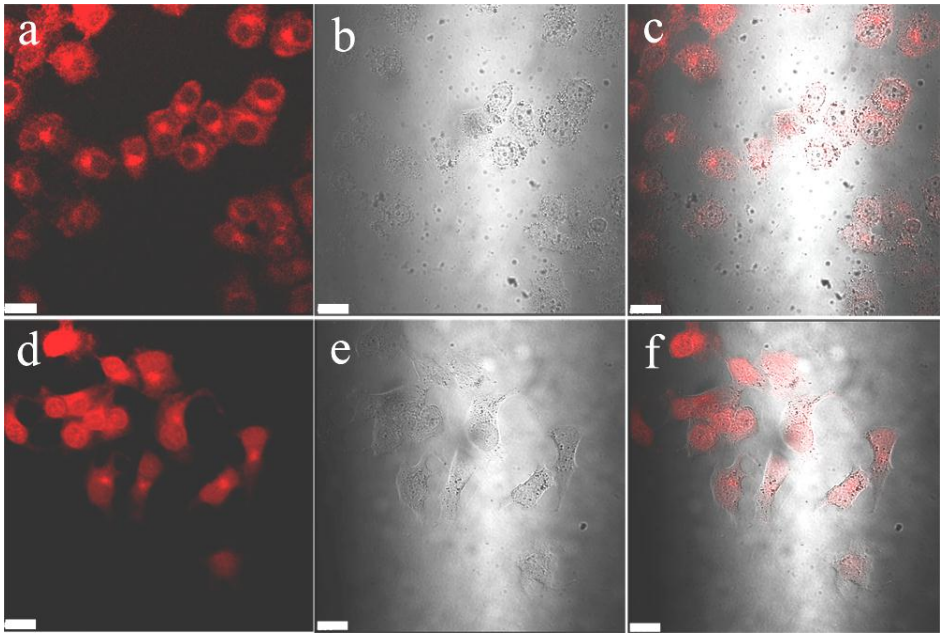

Figure S9. Confocal laser scanning microscope images of KB cells cultivated with (a) DOX-loaded HMSPs and (d) free DOX at 37 ^{o}C for 2 h, which shows 487 nm excitation images, (b, e) panel shows the corresponding bright field images, (c, f) panel shows superposition of fluorescence and bright field images. All scale bars are 10 μm.