Supporting information

Core-shell structure design of hollow mesoporous silica nanospheres for dual pH/thermo-sensitivity

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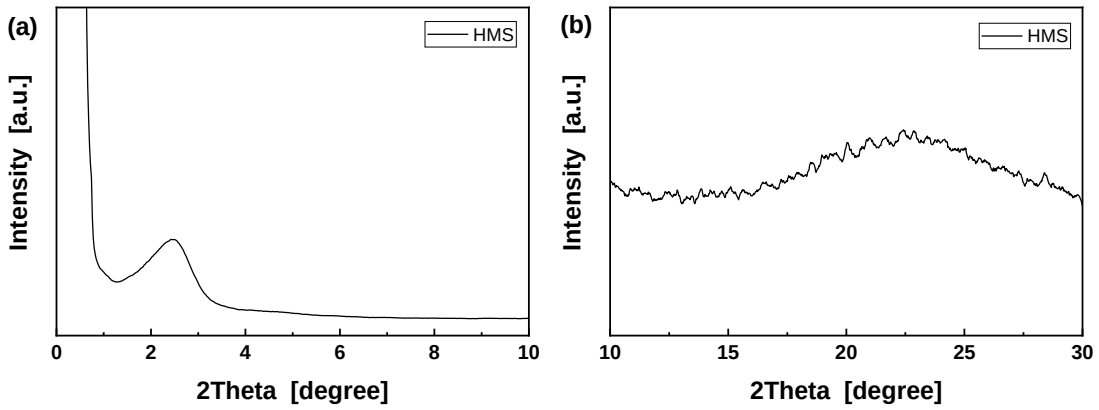


Figure S1. Powder XRD patterns of HMS (preparation conditions: m(CTAB):m(TEOS):m(PS) = 0.5:1:1).

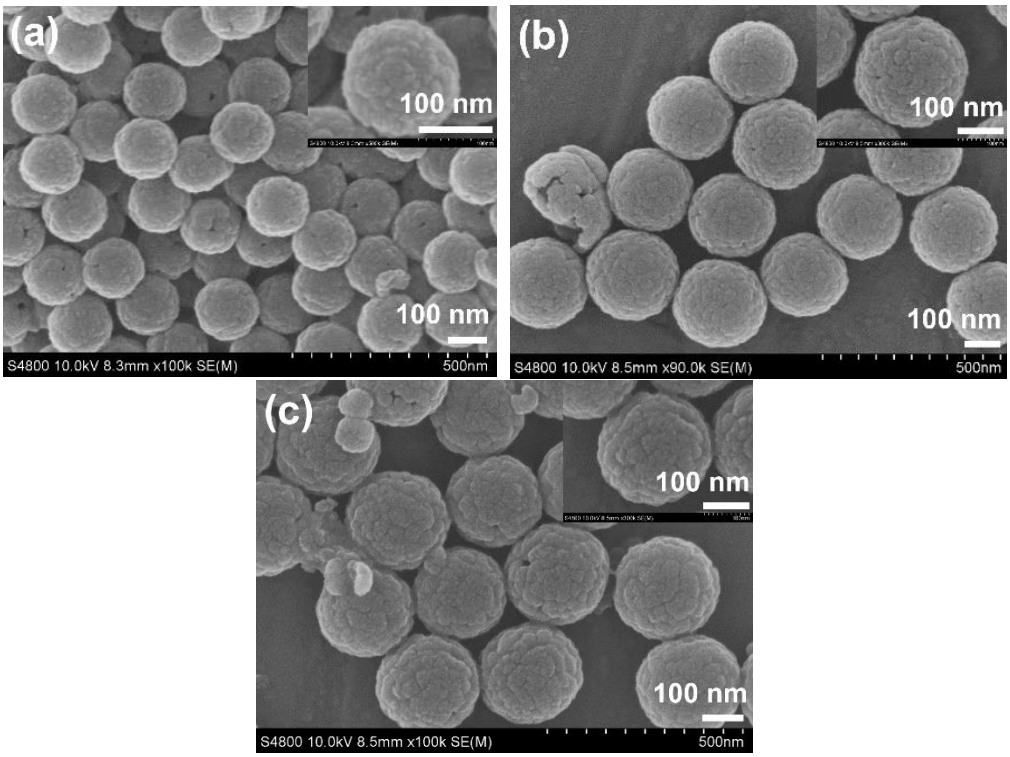
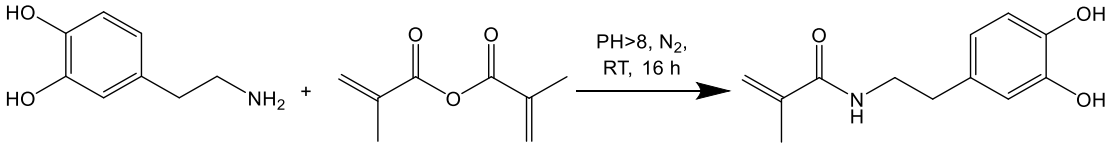


Figure S2. SEM images of HMS obtained from 145 nm (a) and 212 nm (b) PS template microsphere, respectively. Preparation conditions: m(CTAB):m(TEOS):m(PS) = 0.5:1:1. (c) SEM images of HMS obtained from 212 nm PS template microsphere. Preparation conditions: m(CTAB):m(TEOS):m(PS) = 0.5:1.5:1.

Table S1. Structure properties of HMS prepared with various ratio of CTAB and TEOS

m(CTAB):m(TEOS)	S_{BET} (m^2 g^{-1})	V_{tot} (cm^3 g^{-1})	Pore size (nm)
0	144	0.072	-
0.2	715	0.901	2.2

0.5	866	1.203	2.3
0.9	895	1.482	2.2



Scheme S1. The synthesis mechanism of DMA.

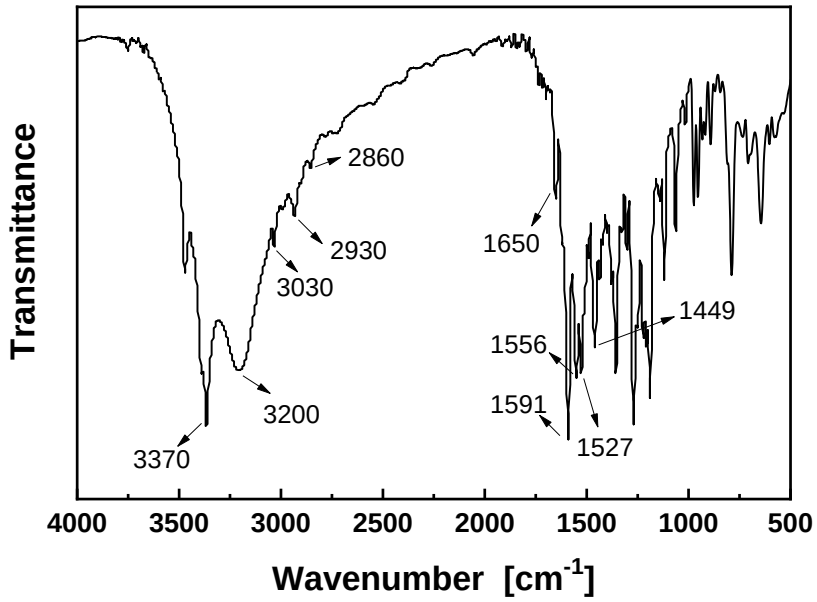


Figure S3. FT-IR spectra of DMA.

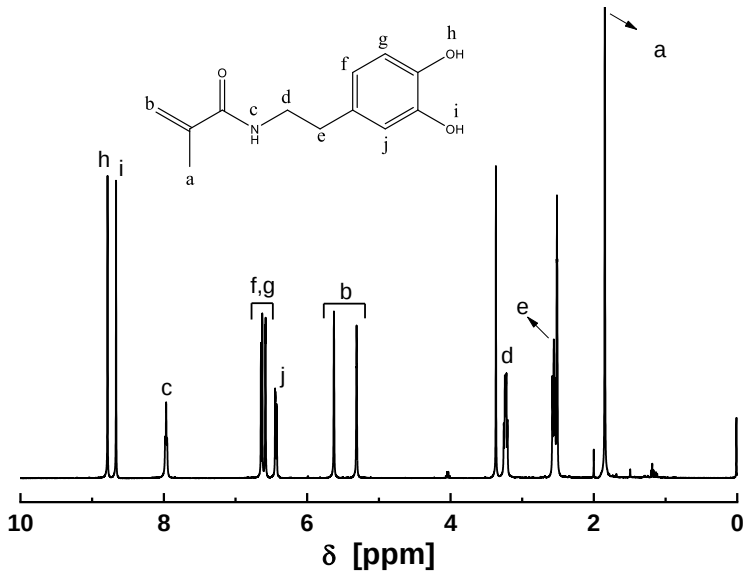


Figure S4. ^{1}H NMR spectra of DMA in DMSO-*d*6.

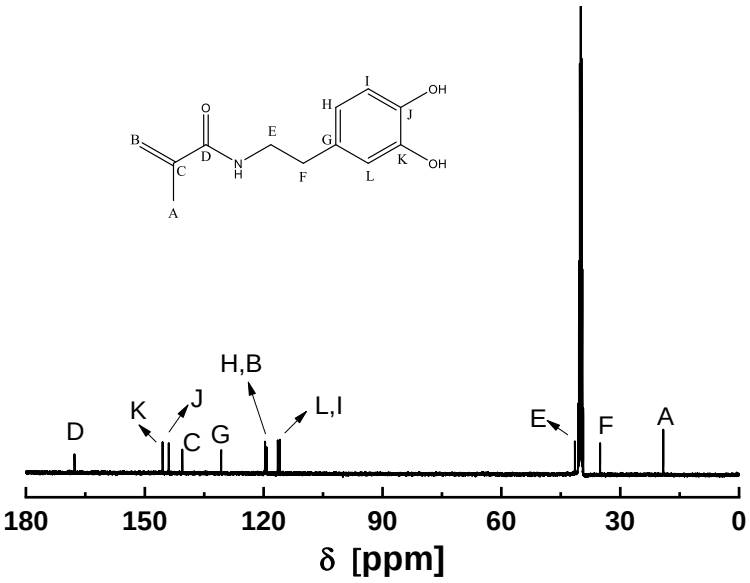


Figure S5. ^{13}C NMR spectra of DMA in DMSO-*d*6.

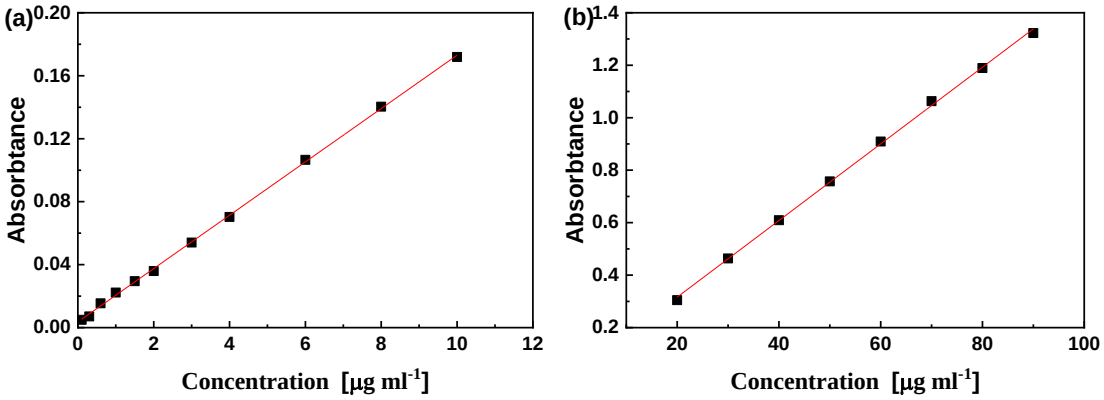


Figure S6. The standard curve of DOX obtained from ultraviolet absorption at 480 nm in the concentration range of 0~10 μg ml^{-1} (a) and 20~90 μg ml^{-1} (b).

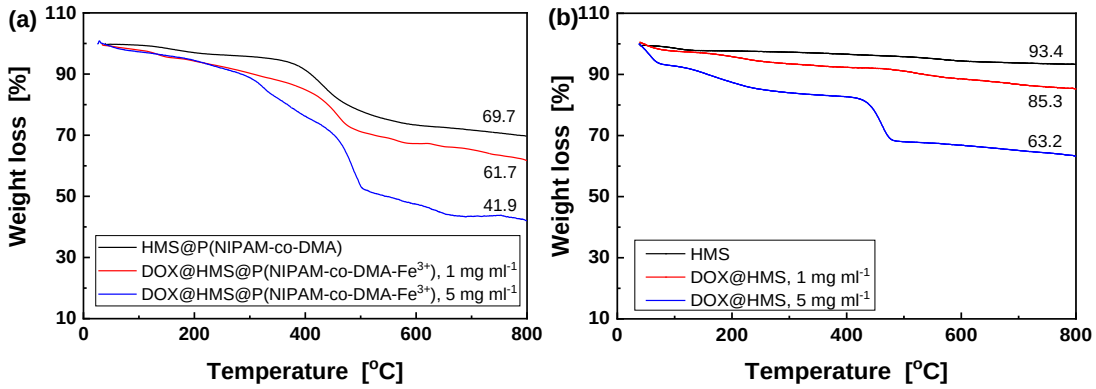


Figure S7. TGA curves of (a) DOX@HMS@P(NIPAM-co-DMA) and un-modified HMS (b) obtained from DOX/PBS of different concentrations.

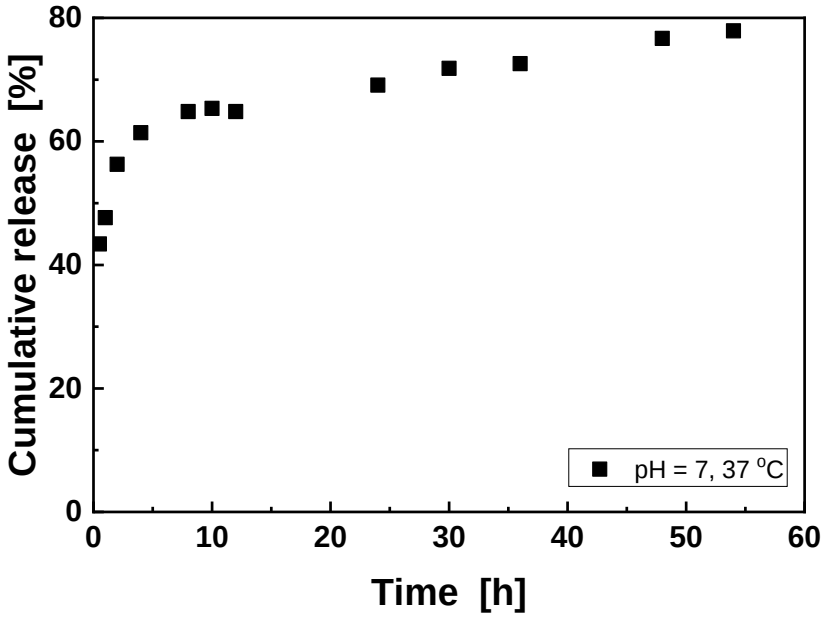


Figure S8. Cumulative release of DOX from DOX@HMS.