Electronic supplementary information (ESI)

“Stealthy” chitosan/mesoporous silica nanoparticle based complex system for tumor-triggered intracellular drug release

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Synthesis of DOX loaded mPEG succinimidyl carboxymethyl ester shielded MSN-SS-CHI (DOX@MSN-SS-CHI-PEG*)

mPEG succinimidyl carboxymethyl ester (mPEG-SC, \( M_w = 2000 \)) was purchased from Jenkem Technology Co., Ltd., Beijing, China.

100 mg of DOX@MSN-SS-CHI was suspended in 50 mL of anhydrous DMSO. 200 mg of mPEG-SC and 0.2 mL anhydrous triethylamine was then dissolved in the suspension. The reaction was taken at 40 °C for 72 h. After that, the product was centrifuged, washed with DI water, and lyophilized to give DOX loaded DOX@MSN-SS-CHI-PEG*. 

Fig. S1 FT-IR spectrum of CHI-N$_3$. 
Fig. S2 $^1$H NMR spectrum of mPEG-CHO.
Fig. S3 Size distributions of MSN-SH (A) and DOX@MSN-SS-CHI-PEG (B).
Fig. S4 Sizes of DOX@MSN-SS-CHI-PEG being dipped and shaken in pH 7.4 PBS at 37 °C.
Fig. S5 Nitrogen adsorption-desorption isotherms (A) and BJH pore distributions (B) of MSN-SH, MSN-SS-NH$_2$, MSN-SS-alkyne, DOX@MSN-SS-CHI and DOX@MSN-SS-CHI-PEG.
**Fig. S6** TGA curves of MSN-SS-CHI and MSN-SS-CHI-PEG after being dipped in pH 6.0 PBS for 24 h.