

## Supporting information

### **Gas-generating mesoporous silica nanoparticles with rapid localized drug release for enhanced chemo-photothermal tumor therapy**

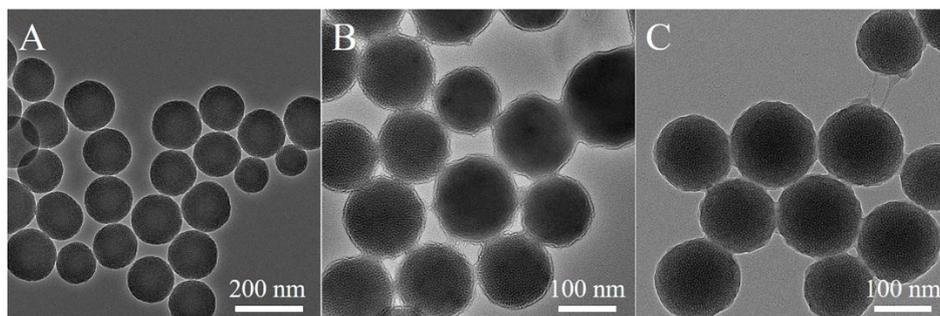
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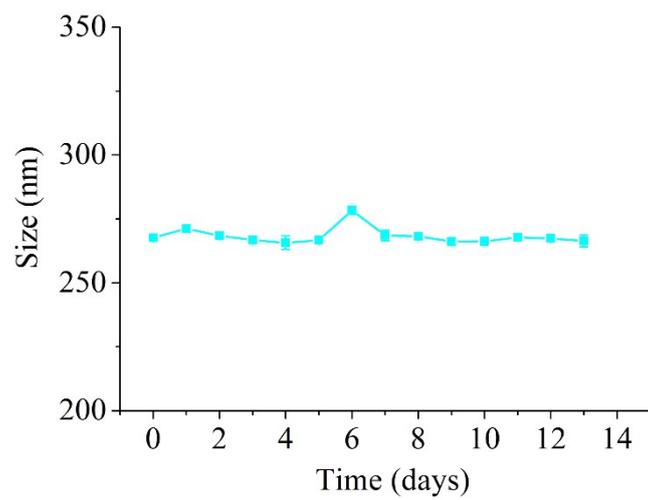
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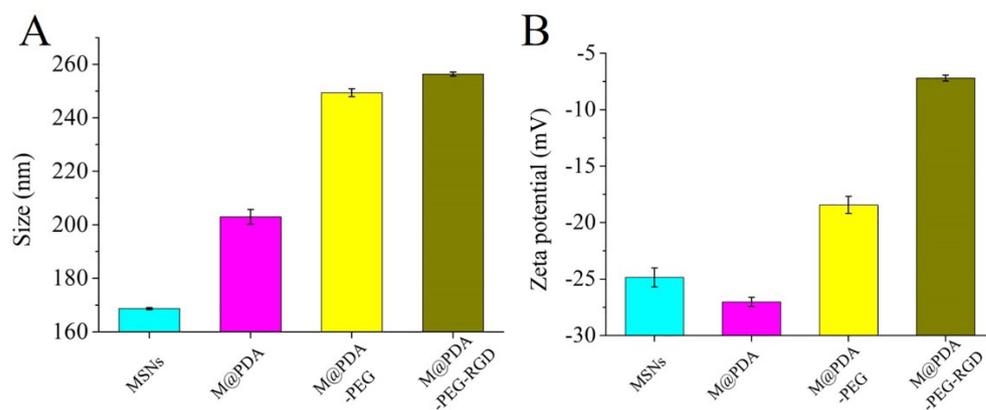
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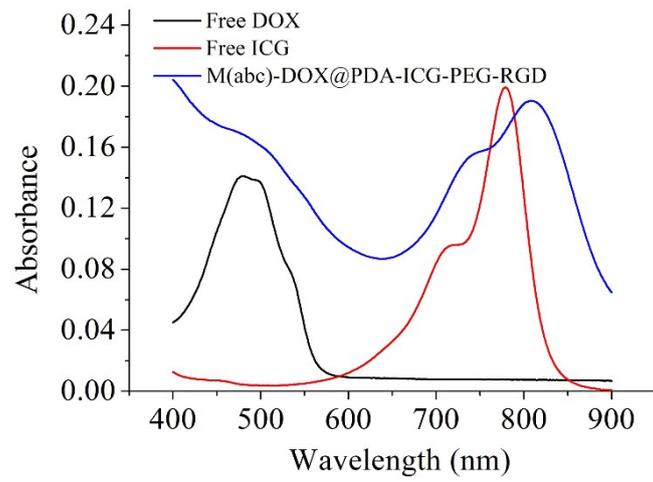
**Figure S1.** TEM image of (A) MSNs; (B) M@PDA; (C) M@PDA-PEG.



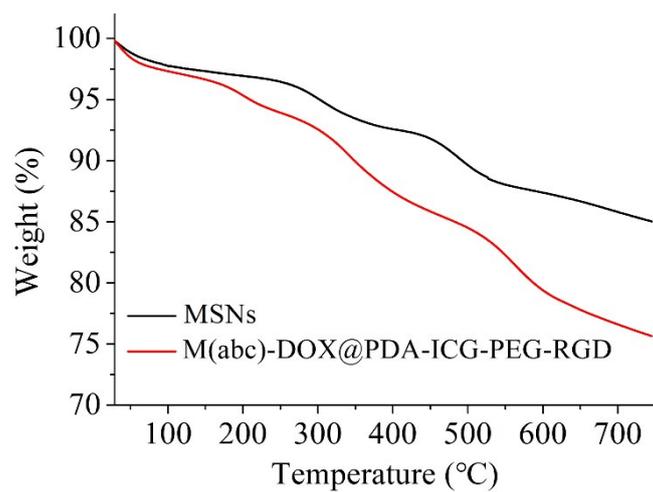
**Figure S2.** Size stability of M(abc)-DOX@PDA-ICG-PEG-RGD for 14 days



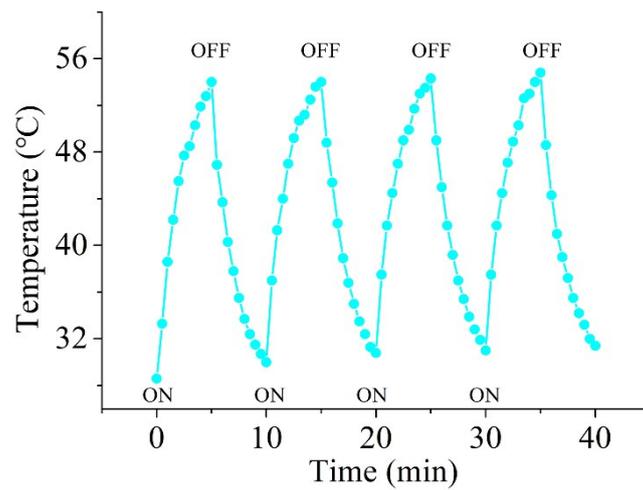
**Figure S3.** (A) Sizes of MSNs, M@PDA, M@PDA-PEG and M@PDA-PEG-RGD; (B) Zeta potentials of MSNs, M@PDA, M@PDA-PEG and M@PDA-PEG-RGD.



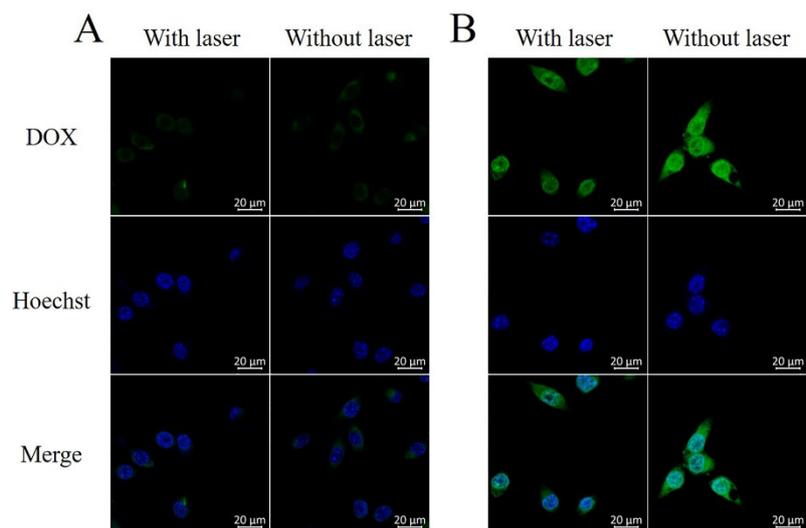
**Figure S4.** UV-vis spectra of free DOX, free ICG and M(abc)-DOX@PDA-ICG-PEG-RGD.



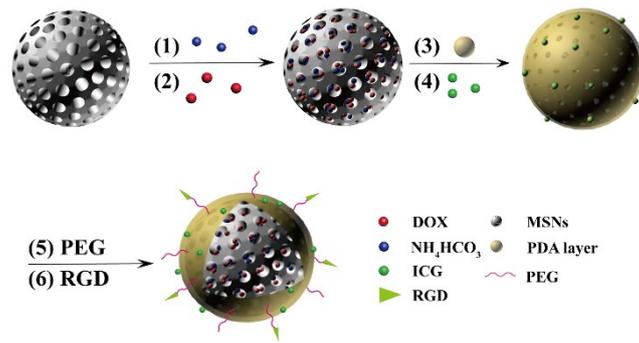
**Figure S5.** Thermogravimetric analysis (TGA) curves of MSNs and M(abc)-DOX@PDA-ICG-PEG-RGD.



**Figure S6.** Photostability assessment of M(abc)-DOX@PDA-ICG-PEG-RGD over four ON/OFF cycles of laser irradiation.



**Figure S7.** Cellular uptake of CT26 mouse colon cancer cells for M(abc)-DOX@PDA-ICG-PEG-RGD at different times. (A) 3 h; (B) 12 h.



**Figure S8.** Scheme of M(abc)-DOX@PDA-ICG-PEG-RGD synthesis.