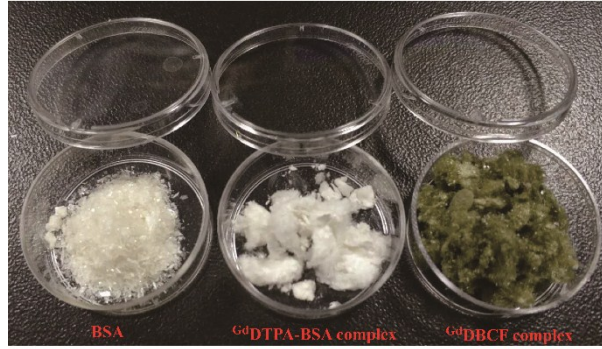


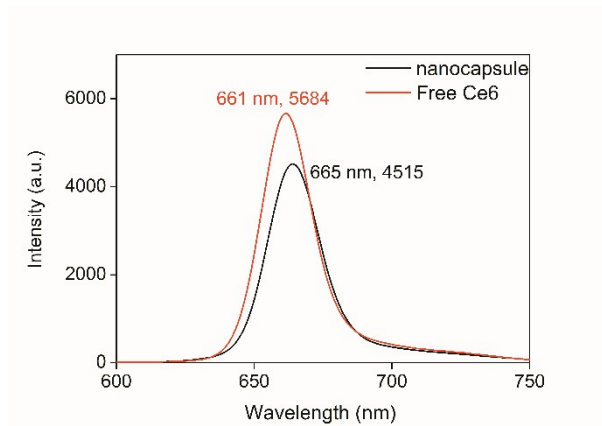
## Supporting Information

### **Charge-switchable nanocapsules with multistage pH-responsive behaviours for enhanced tumour-targeted chemo/photodynamic therapy guided by NIR/MR imaging**

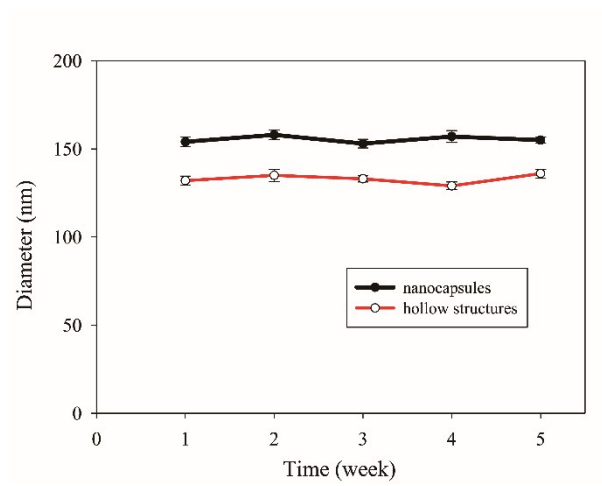
Jia Zhou,<sup>a</sup> Tianliang Li,<sup>b</sup> Chunlei Zhang,<sup>b</sup> Junyuan Xiao,<sup>a</sup> Daxiang Cui <sup>\*b</sup>and Yingsheng Cheng <sup>\*a</sup>



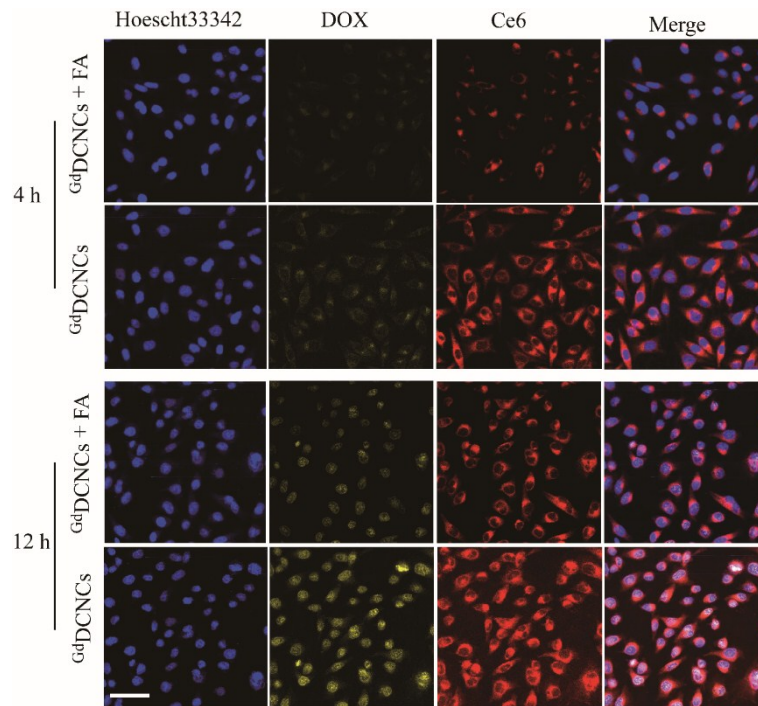
**Fig. S1.** Optical observation images of BSA,  $GdDTPA$ -BSA complex and  $GdDBCf$  complex



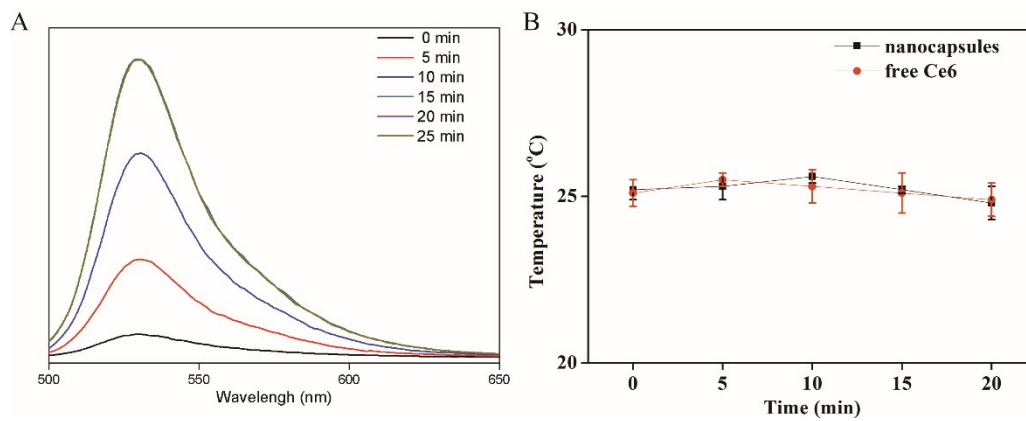
**Fig. S2.** FL spectrum curve of free Ce6 and nanocapsules, wavelength and intensity were marked respectively.



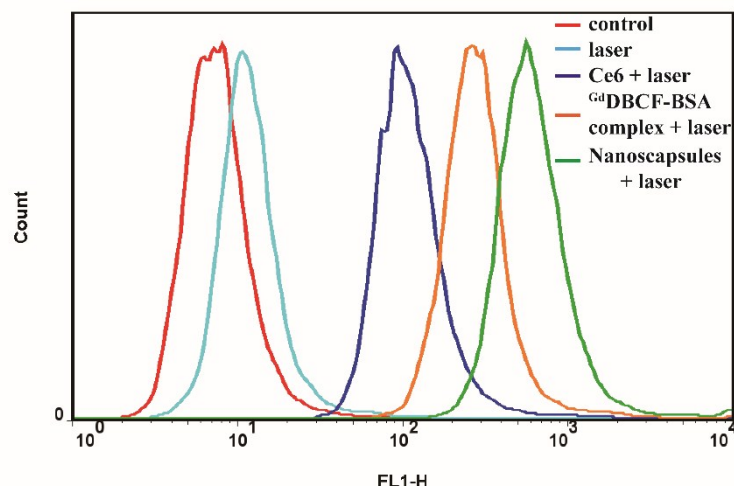
**Fig. S3.** Size stability of hollow structures and nanocapsules



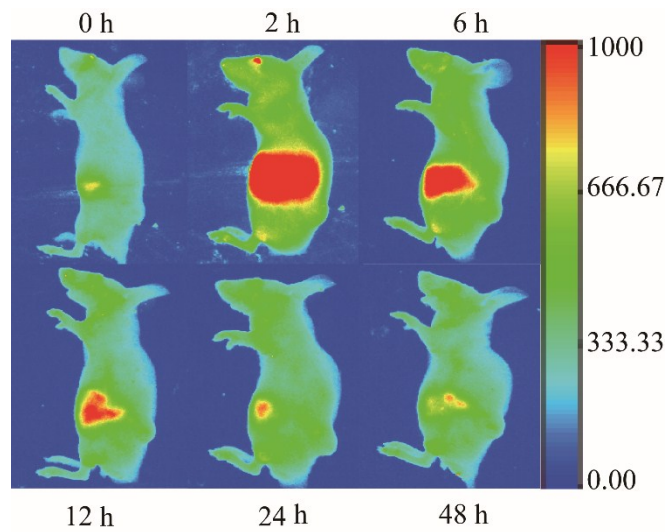
**Fig. S4.** Confocal images of MGC-803 cells incubated with nanocapsules + FA or nanocapsules for 4 h and 12 h respectively. Scale bar, 100  $\mu\text{m}$ .



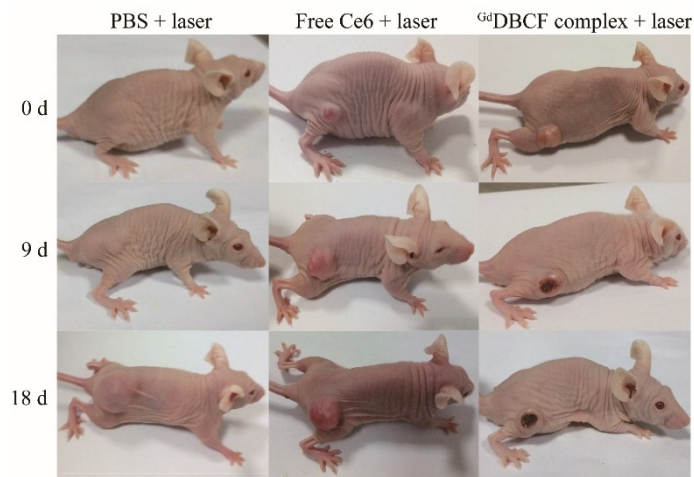
**Fig. S5.** (A) Measurement of capacity of nanocapsules generating  $^1\text{O}_2$  using SOSG reagent: variation of fluorescent intensity (excitation at 494 nm) at different time after irradiation. (B) temperature fluctuation curve of Ce6 and nanocapsules under laser irradiation within 20 min.



**Fig. S6.** Flow cytometric detection of ROS generation in the presence of DCFH-DA.



**Fig. S7.** Fluorescent imaging of MGC-803 tumor bearing mice: *In vivo* fluorescence imaging taken 0, 2, 6, 12, 24, 48, 72 and 96 h respectively.



**Fig. S8.** Tumor images of mice treated with PBS + laser or free Ce6 + laser or GdDBCF complex + laser taken by camera after laser irradiation at 0, 9, 18 d respectively.



**Fig. S9.** Tumor images of mice treated with PBS or free DOX or hollow structure or nanocapsules taken by camera after laser irradiation at 0, 9, 18 d respectively.