Supporting Information

Bubble-Manipulated Local Drug Release from a Smart Thermosensitive Cerasome for Dual-Mode Imaging Guided Tumor Chemo-Photothermal Therapy

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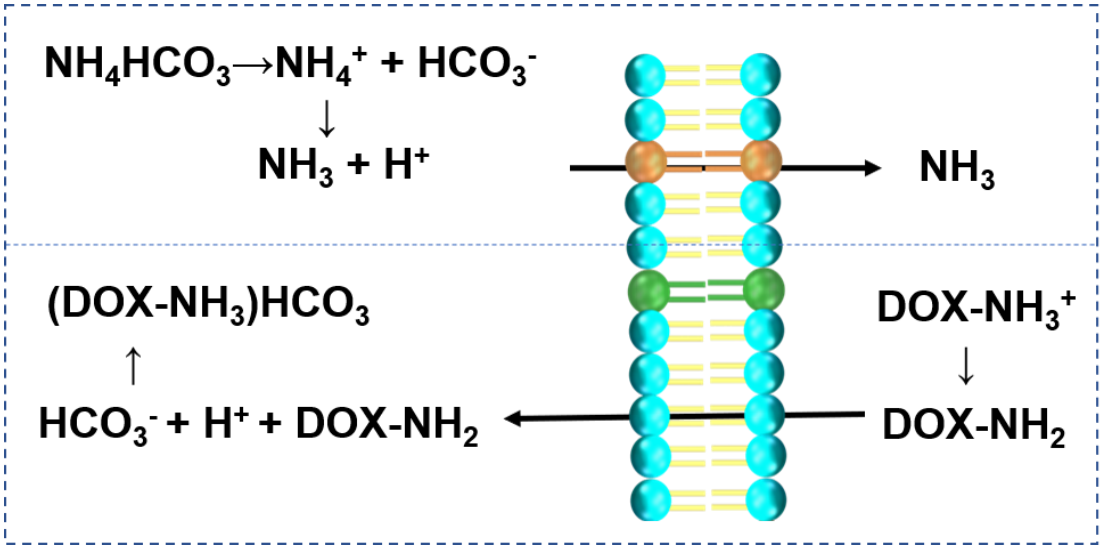

Figure S1. Schematic illustrations showing the process of remote loading of DOX.

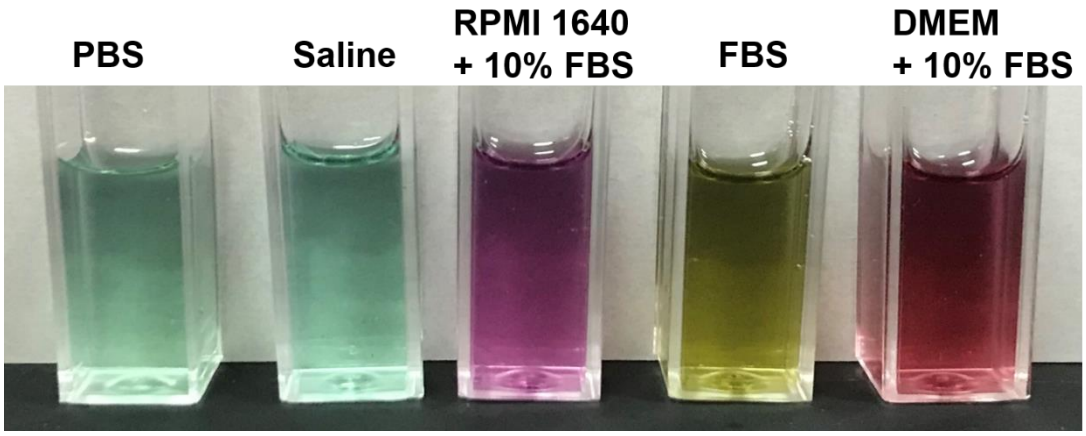

Figure S2. Photos of DOX-DiR@cerasome (ABC) dispersed in PBS, Saline and RPMI-1640 culture media containing 10% FBS, fetal bovine serum (FBS) and DMEM culture media containing 10% FBS.

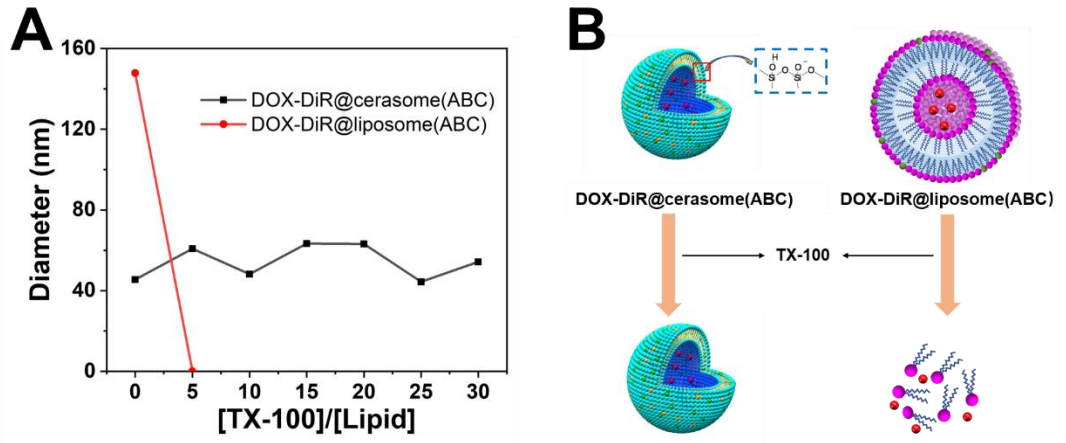

Figure S3. Effect of addition of TX-100 on the diameter of DOX-DiR@cerasome (ABC) and DOX-DiR@liposome (ABC).

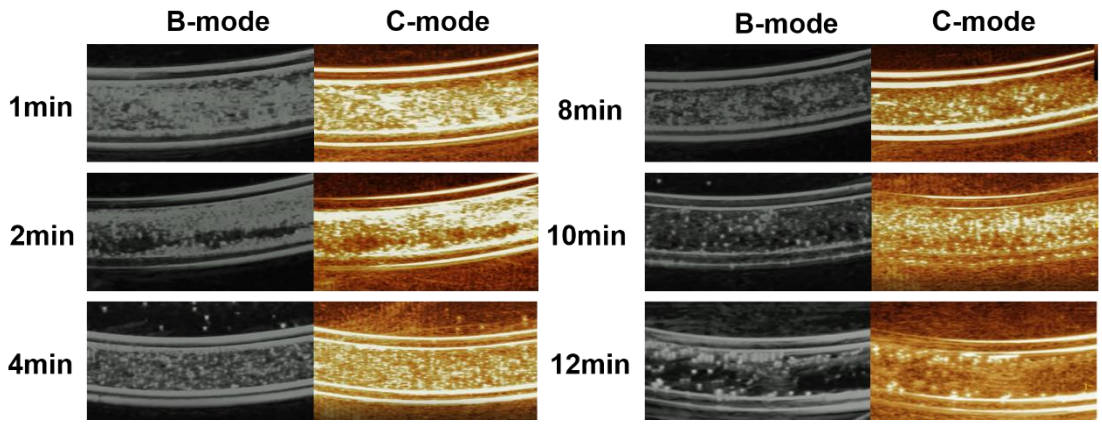

Figure S4. *In vitro* US imaging of DOX-DiR@cerasome (ABC) in a test tube at 50℃.

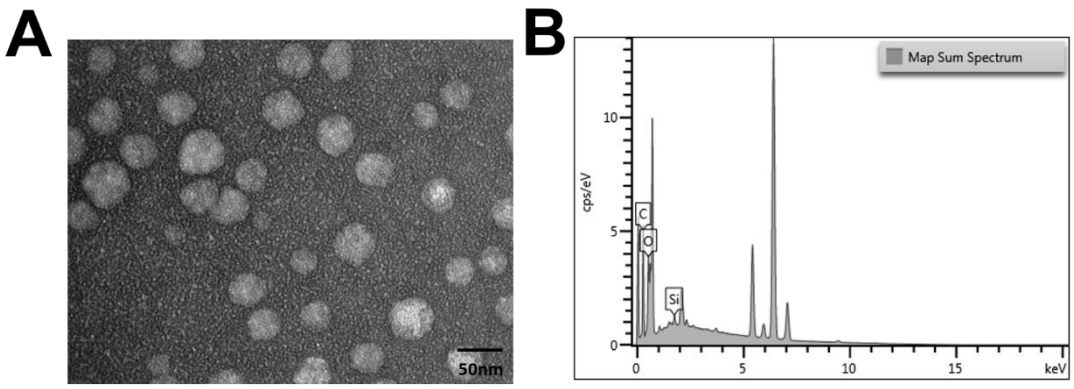

Figure S5. (A) TEM micrograph of DOX-DiR@cerasome (ABC) after laser irradiation; **(B) S**EM-EDS spectrum of DOX-DiR@cerasome (ABC). scale bar = 50nm.

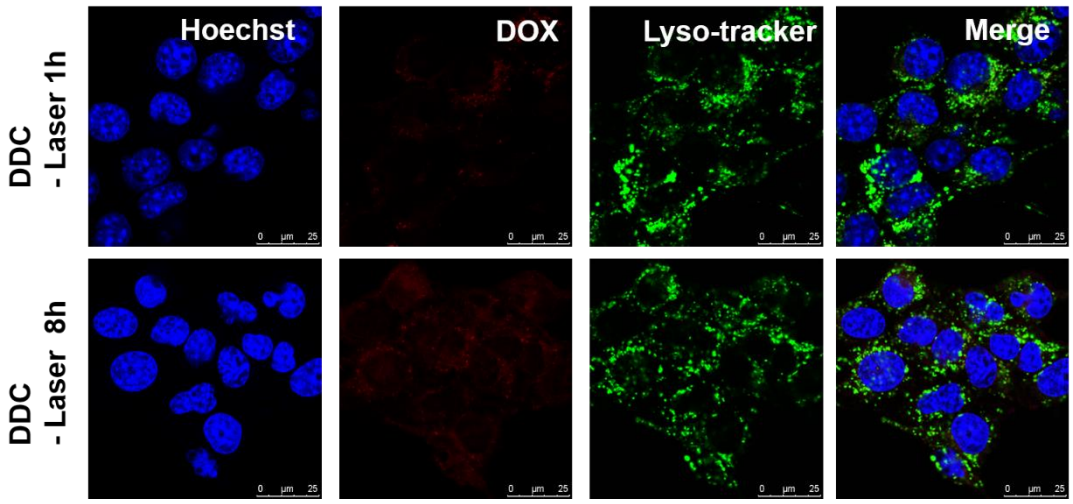

Figure S6. Representative CLSM fluorescence images of 4T1 tumor cells after incubation with DOX-DiR@cerasome (ABC) for 4h without laser irradiation, followed by incubation for another 1 h and 8 h, scale bar = 25 μm. (DDC: DOX-DiR@cerasome (ABC)).

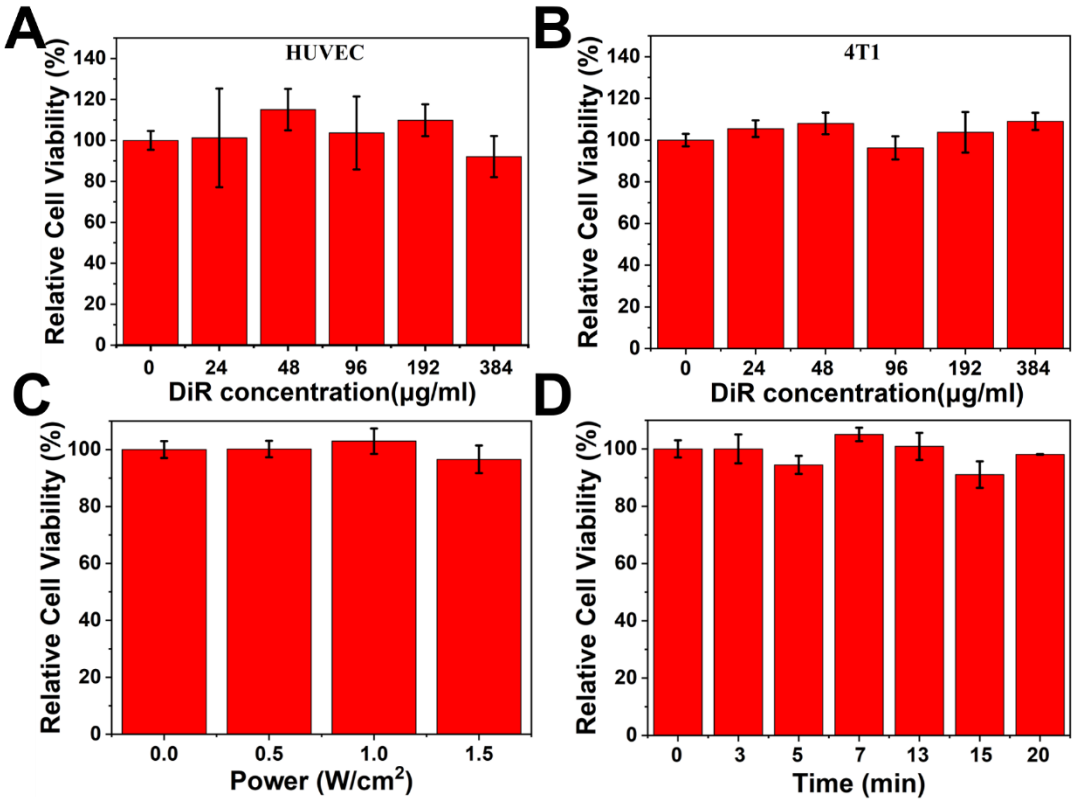

Figure S7. Biocompatibility of DiR@cerasome and laser. The cell survival rate of Huvec cells **(A)** and 4T1 cells **(B)** after treatment with different concentration of DiR@cerasome for 72 h as determined by MTT assay. **(C&D)** Cell viability of 4T1 cells after treatment with different power of laser radiation and different time.

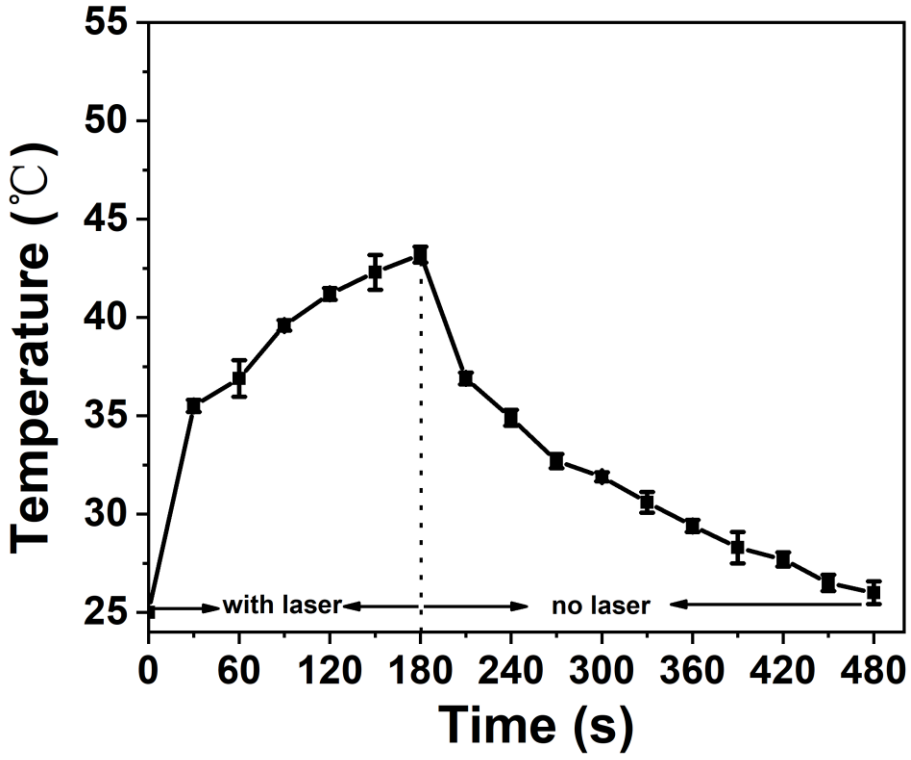

Figure S8: Photothermal elevation curve of cells incubated with DiR@cerasome (ABC) at 40μg/ml when irradiated with 760 nm laser. Data shown as means ± SD (n = 3).

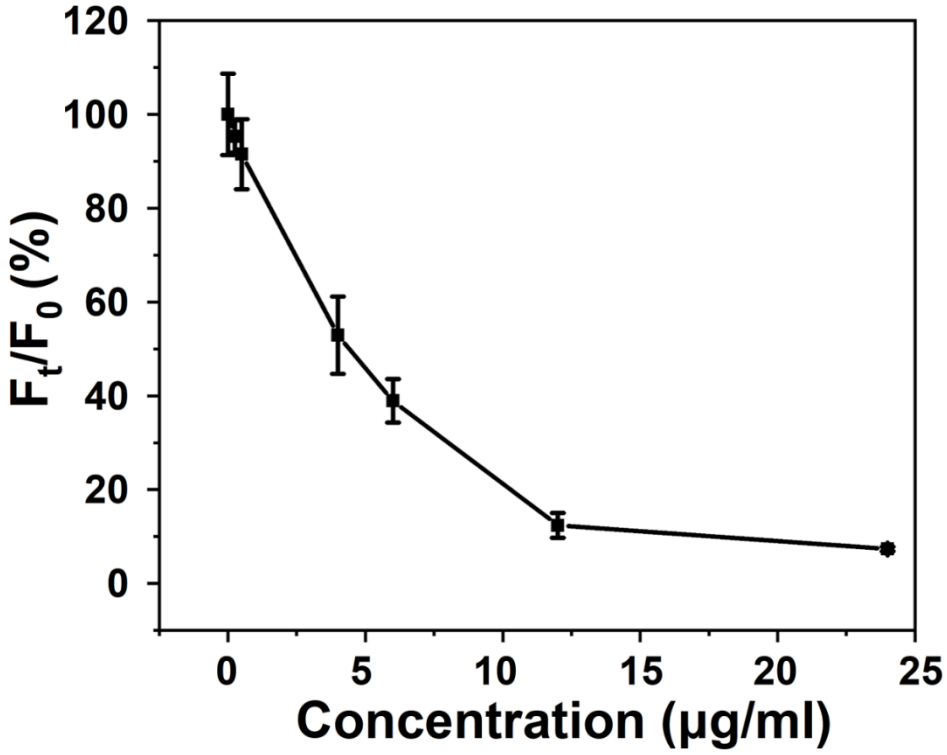

Figure S9. Plasma clearance of PGL labelled DOX-DiR@cerasome (ABC) by measuring changes of blood PGL fluorescence (n = 3). F_0 and F_t represent the PGL fluorescence intensities at the initial and the given time, respectively.

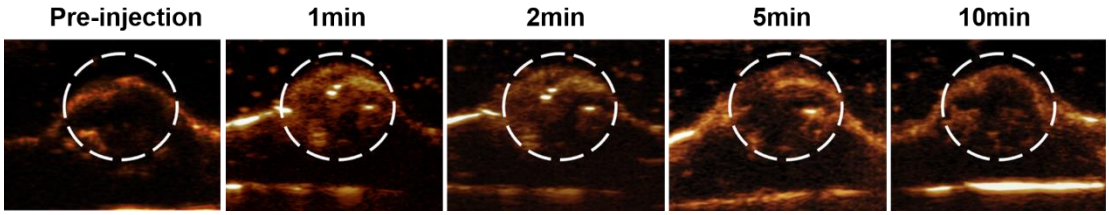

Figure S10. Ultrasound imaging of tumor at different times after DOX-DiR@cerasome (ABC)+laser treatment.

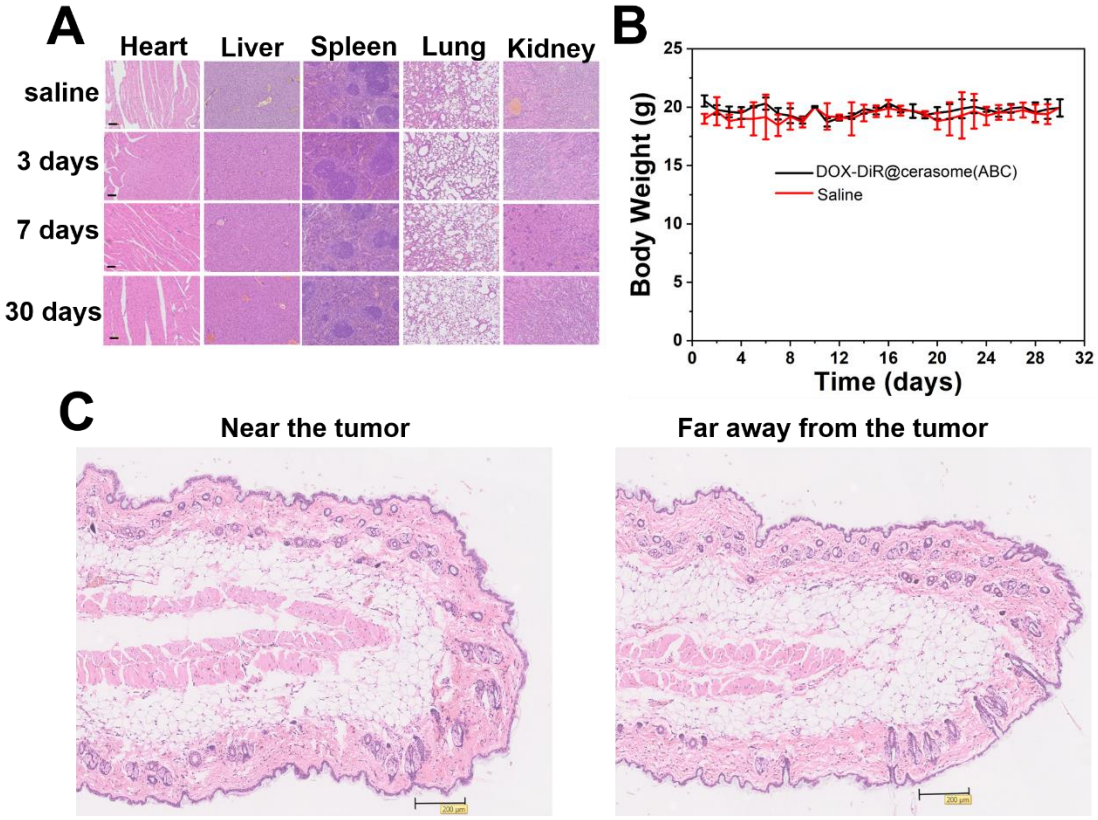

Figure S11. A) Histological analysis of vital organs (heart, liver, spleen, lung and kidney) with H&E staining at 3, 7 and 30 days after intravenous administration DOX-DiR@cerasome (ABC) into the healthy Balb/c mice (DOX concentration at 5 mg/kg). Mice treated with saline were used as control. Scale bar = 100 μm. **B)** Changes of body weight with increasing time. **C)** Histological analysis of tissues near and far away from tumor with H&E staining different treatments. Scale bar = 200 μm.