

## Supporting Information

# Hybrid NIR-responsive liposome/hydrogel platform mediating chemophotothermal therapy of retinoblastoma enhanced by quercetin as an adjuvant

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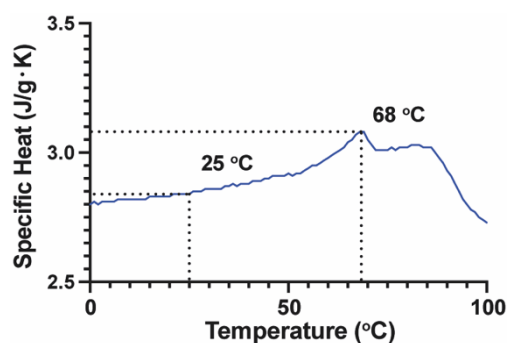


Figure S1 Heat capacity of LA measured by DSC scanning.

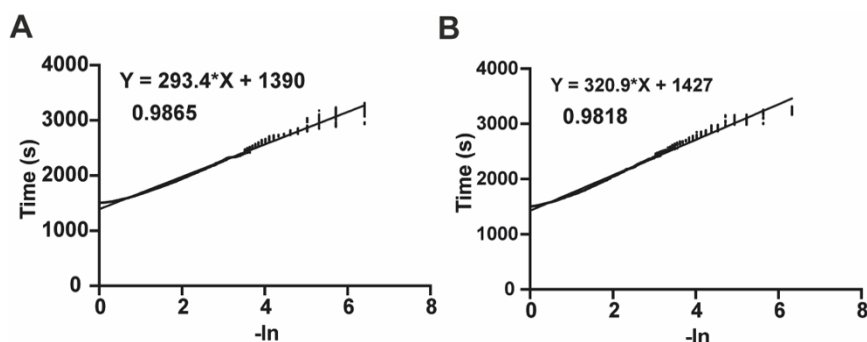
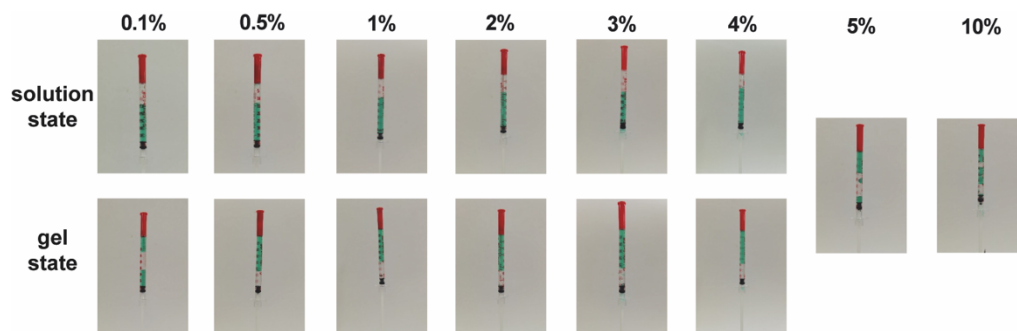
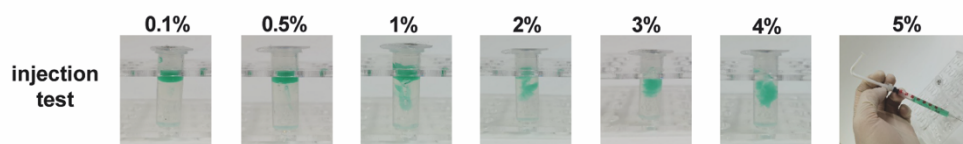


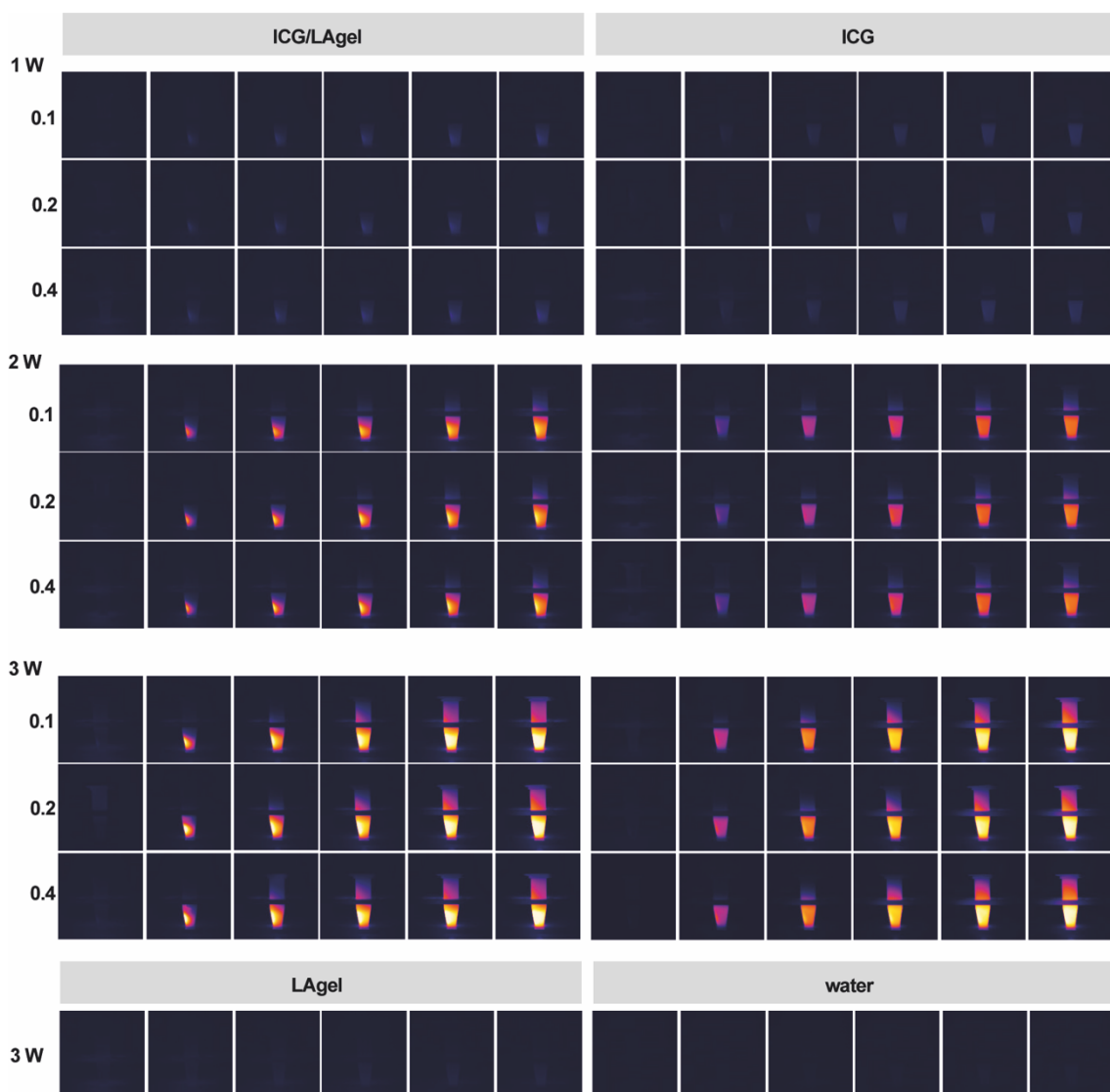
Figure S2 Linear regression of the natural logarithm of temperature change during the cooling segment. (A) After 1 cycle of "on-off" NIR irradiation. (B) After 5 cycles of "on-off" NIR irradiation. The output power of NIR irradiation was 2 W and the irradiation distance was 45 mm.



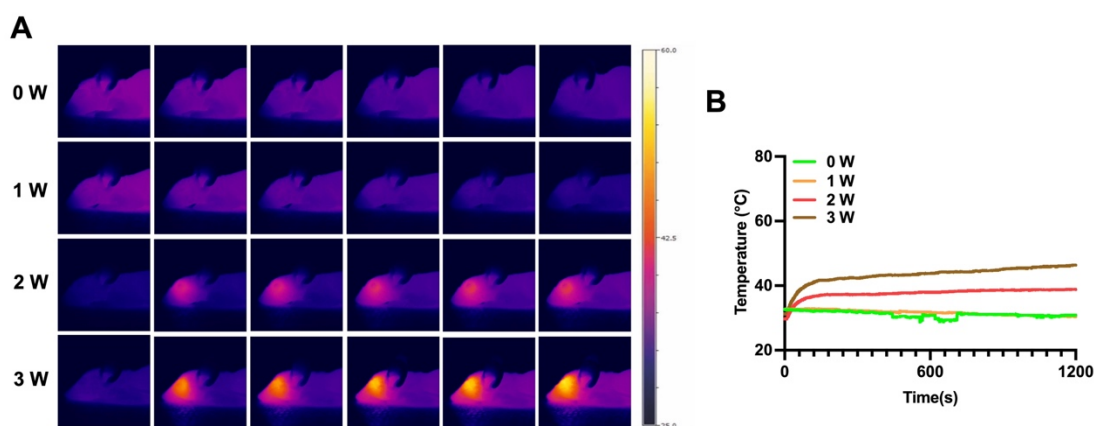
**Figure S3** The appearance of LAgel in solution state or gel state at different concentrations of 0.1%, 0.5%, 1%, 2%, 3%, 4%, 5%, 10% (W/W). In the solution state, LA was dissolved in water at 70 °C, and LA in gel state was observed at room temperature.



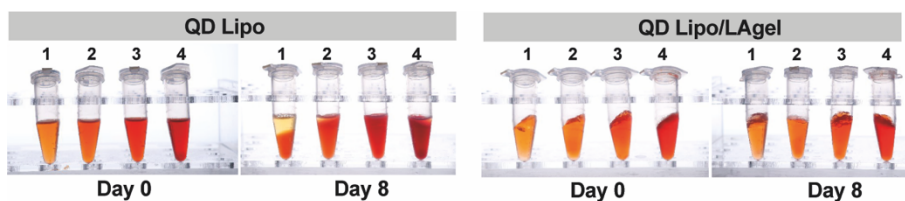
**Figure S4** Injectability of LAgel at different concentrations of 0.1%, 0.5%, 1%, 2%, 3%, 4%, 5% (W/W).



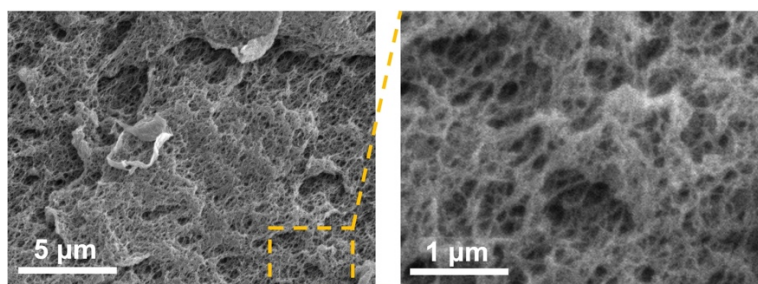
**Figure S5** Thermal images of ICG/LAgel and ICG solution under NIR irradiation of 808 nm at ICG concentration of 0.1 mg/mL, 0.2 mg/mL and 0.4 mg/mL. LAgel and water were used as control. The irradiation distance was 45 mm.



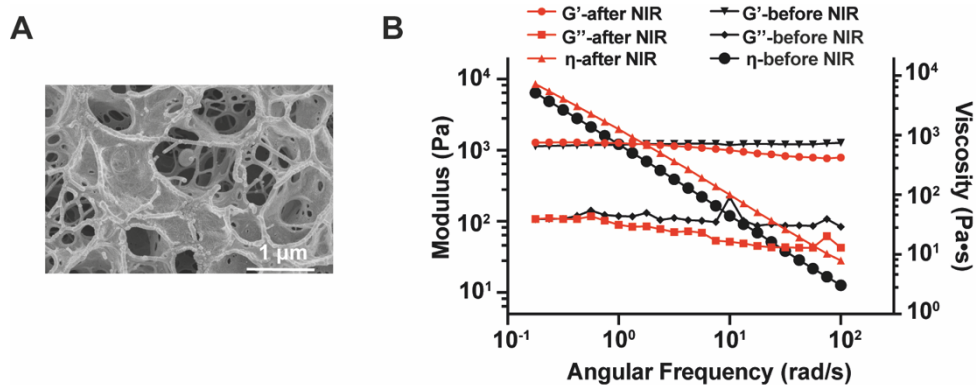
**Figure S6** Thermal response of mice's eyes under sole NIR irradiation (A) Thermal photos. (B) Quantitative temperature change of the mice's eyes in Figure S6A.



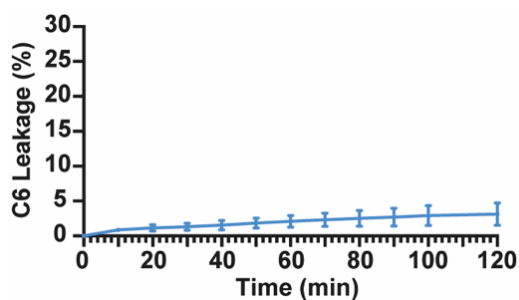
**Figure S7** Stability of QD Lipo and QD Lipo/LA gel at different concentrations. The mass ratio of lipid component in QD Lipo and LA gel was (1) 0.25:1, (2) 0.5:1, (3) 1:1 and (4) 2:1.



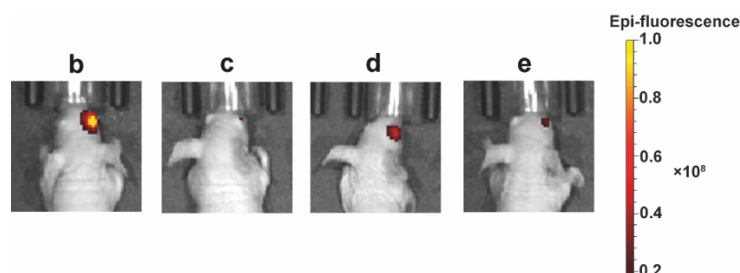
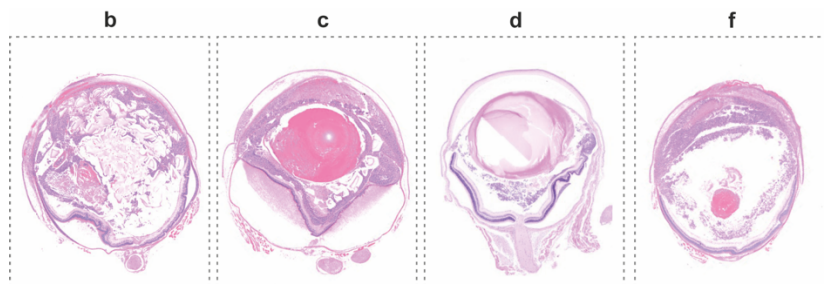
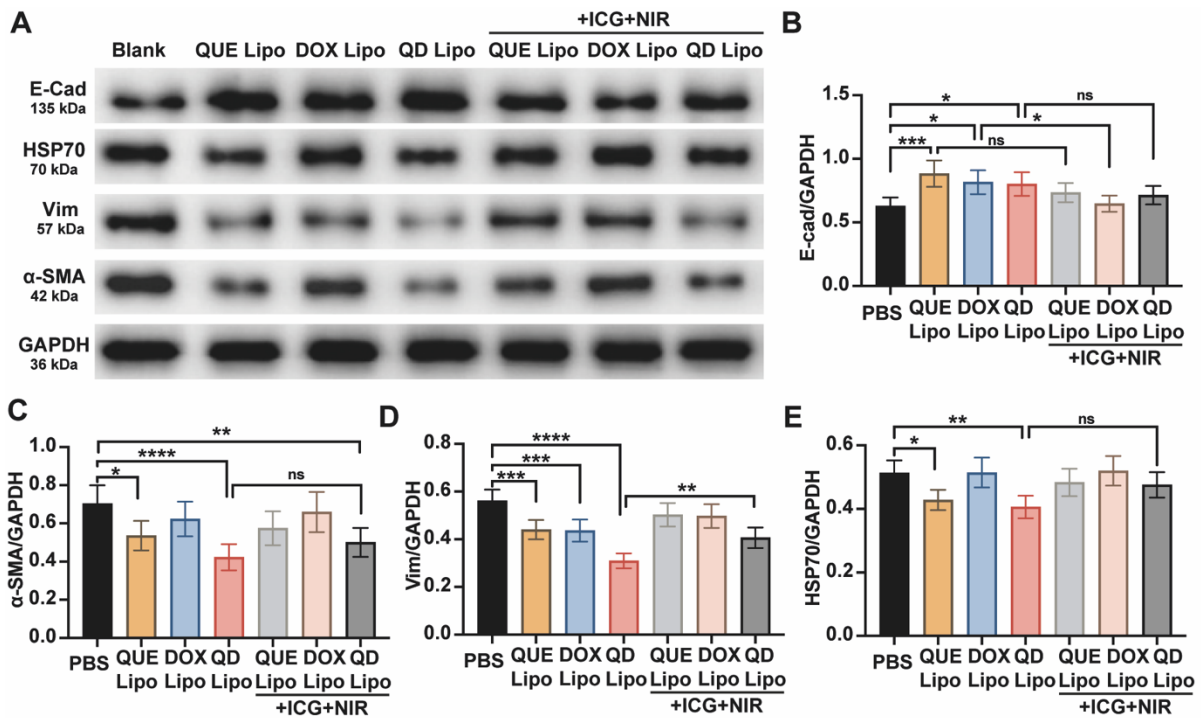
**Figure S8** SEM images of LA gel.



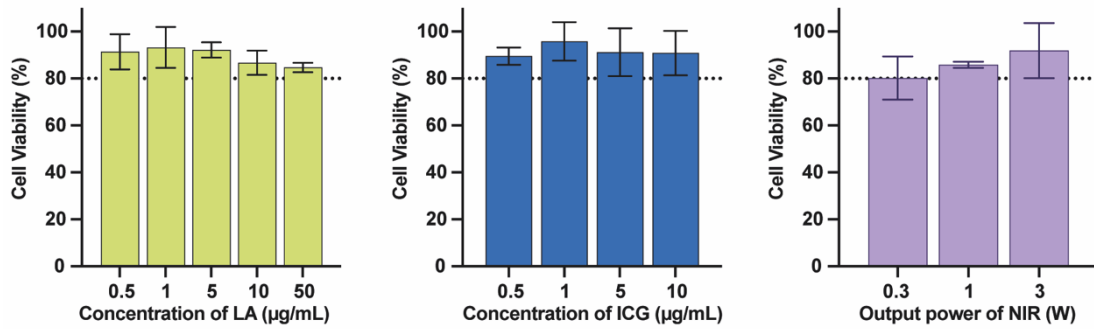
**Figure S9** Characterization of QD Lipo/ICG/LA gel after NIR irradiation. (A) Cryo-SEM image (B) Frequency sweep of QD Lipo/LA gel at fixed strain of 0.1%.



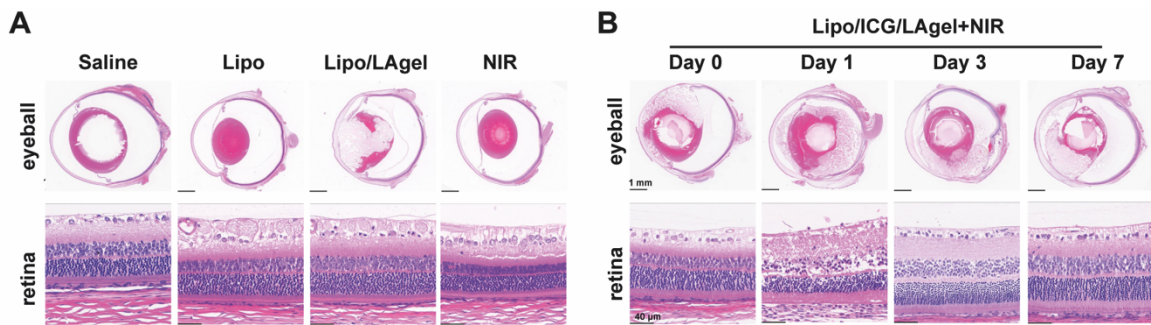
**Figure S10** *In vitro* leakage profile of C6 from C6 Lipo.



**Figure S13** *In vivo* ICG fluorescence images of the eyes in Y79-GFP-luc tumour-bearing mice after treatment with ICG-containing formulations on Day 15. The groups labelled b-e stand for the mice treated with ICG/LA gel, ICG/LA gel+NIR, QD Lipo/ICG/LA gel and QD Lipo/ICG/LA gel+NIR, respectively.



**Figure S14** Cell viability of LA solution, ICG and NIR irradiation on ARPE-9 cells. (means  $\pm$  SD, n = 3).



**Figure S15** H&E staining of the eyeballs harvested from rats after treatment for 7 days. (A) Saline, Lipo and Lipo/LA gel were administered intravitreally. NIR irradiation of 808 nm was performed immediately after saline injection for 5 min. (B) Lipo/ICG/LA gel was intravitreally injected into the rat's eyes followed by 808 nm irradiation on Day 0, Day 1, Day 3 and Day 7 after injection. The volume of preparations for intravitreal injection was 2  $\mu$ L. The output power of NIR irradiation was 2 W and the irradiation distance was 45 mm.