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Boron-based nanosheets for combined cancer photothermal and photodynamic therapy

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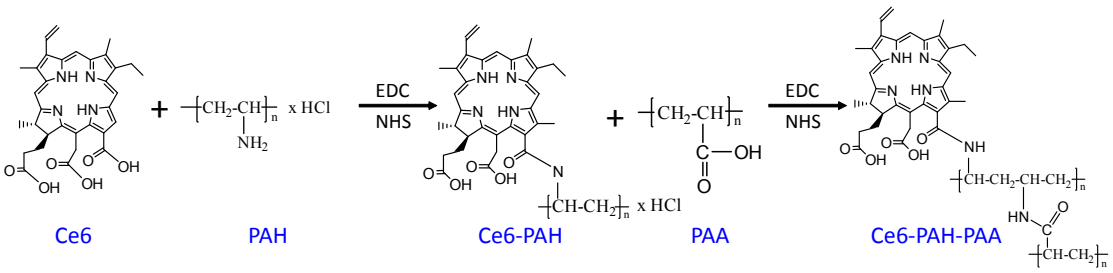


Figure S1. Synthesis scheme of Ce6-PAH-PAA NSs.

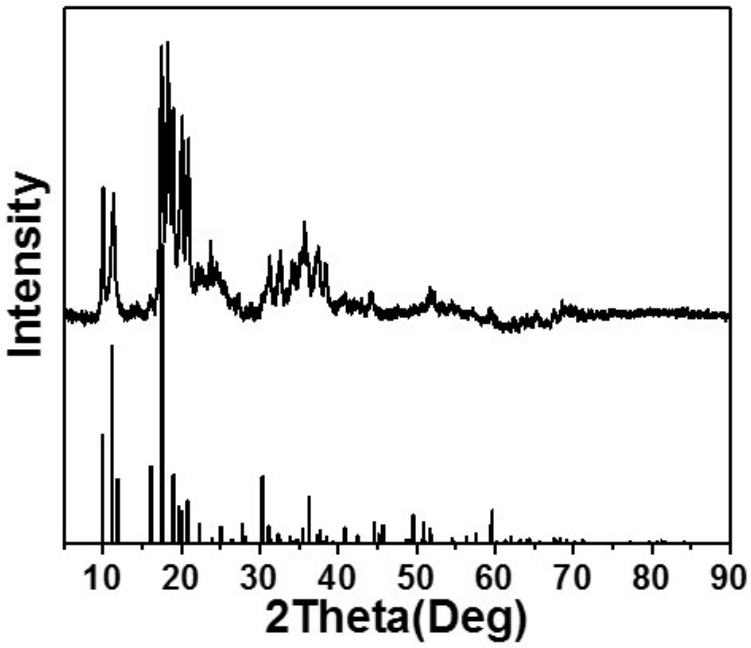


Figure S2. XRD spectrum of B NSs

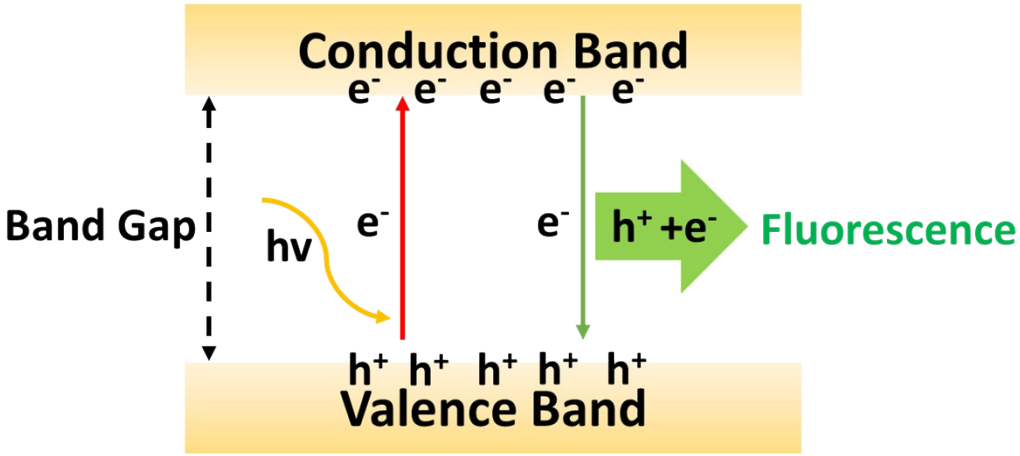


Figure S3. Schematic illustration of the fluorescence release from B NSs.

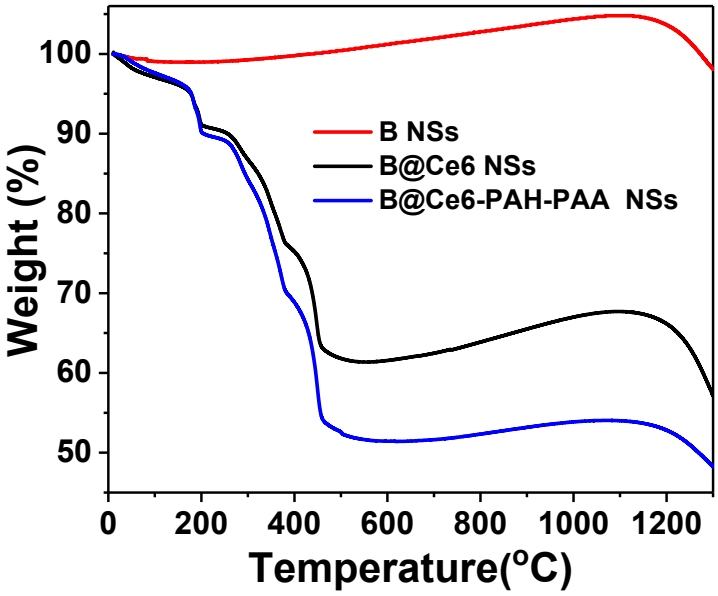


Figure S4. TGA curves of B NSs, B@Ce6 NSs and B@Ce6-PAH-PAA NSs.

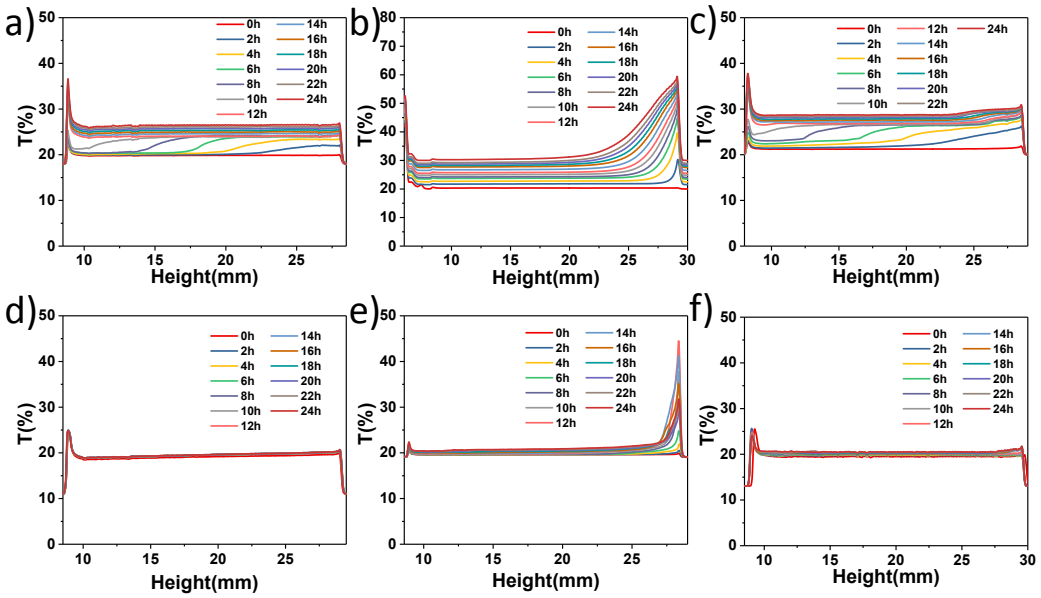


Figure S5. Transmittance (T%) profiles of B@Ce6 NSs dispersed in DI water a), PBS b) and medium c) as a function of time and tube length. Transmittance (T%) profiles of B@Ce6-PAH-PAA NSs dispersed in DI water d), PBS e) and cell culture medium f) as a function of time and tube length.

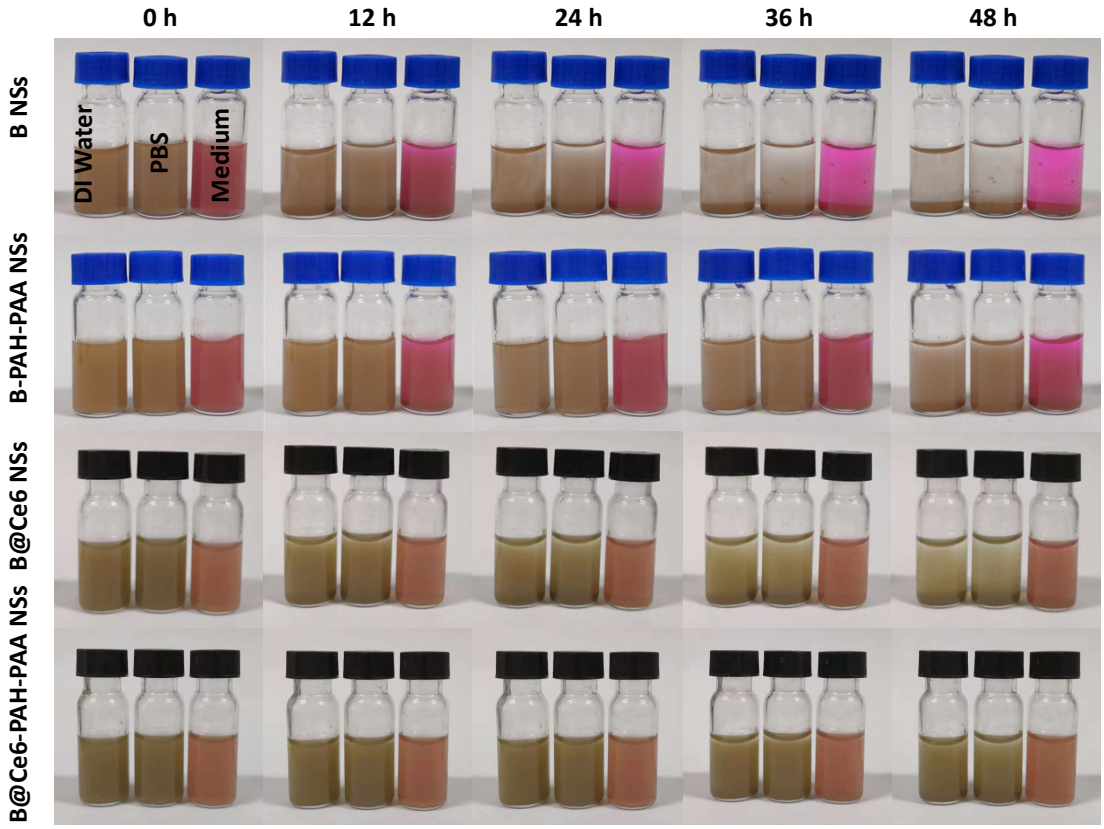


Figure S6. Photograph of B NSs, B-PAH-PAA NSs, B@Ce6 NSs and B@Ce6-PAH-PAA NSs dispersed in DI water, PBS and cell culture medium and placed for various time.

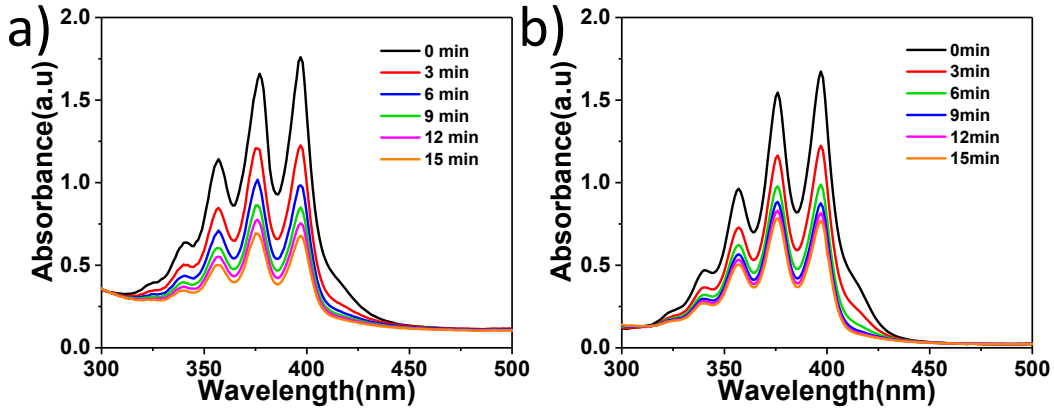


Figure S7. a) Absorption spectrum of ABDA as a sensor to detect the ROS generation in the presence of Ce6 under 660 nm irradiation for various times. b) Absorption spectrum of ABDA as a sensor to detect the ROS generation in the presence of B@Ce6 NSs under 660 nm irradiation for various times.

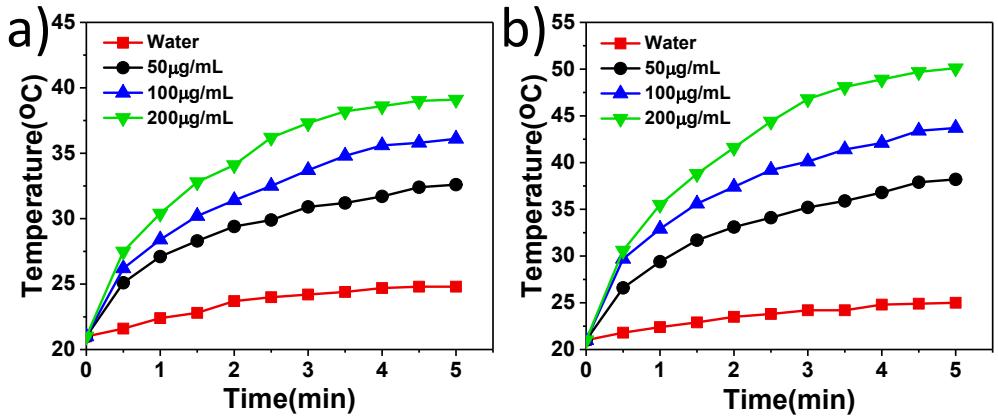
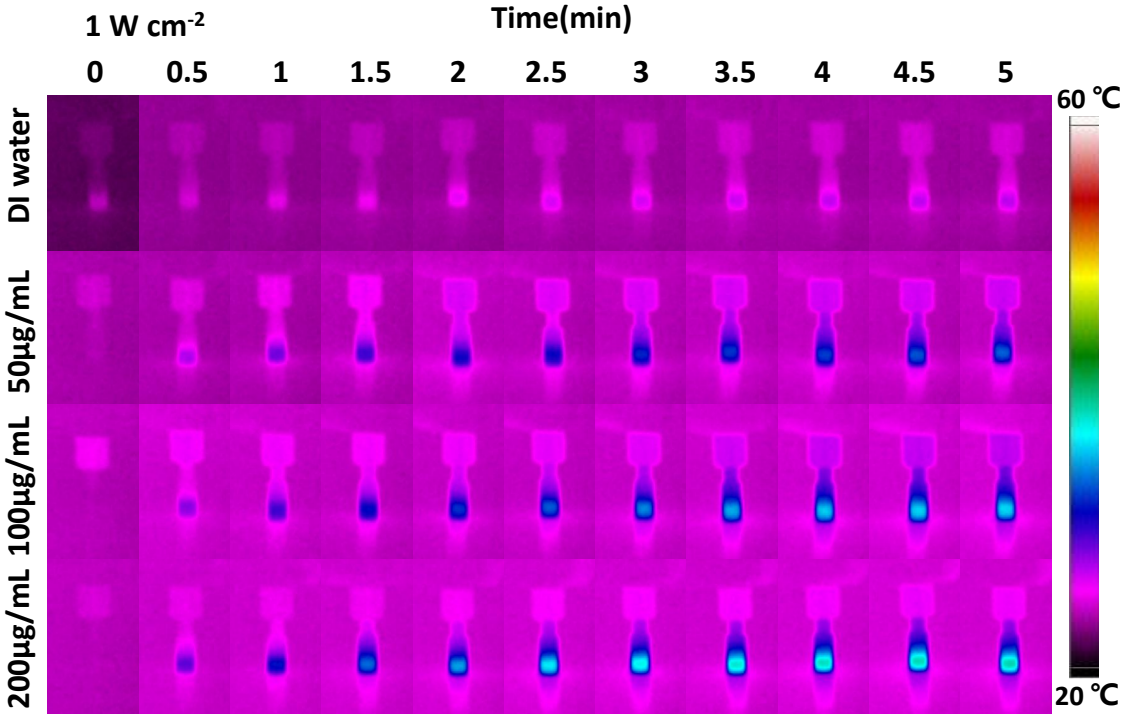


Figure S8. a) Temperature increase curve observed from the B@Ce6-PAH-PAA NSs with different concentration under 808 nm light irradiation at 1 W cm^{-2} for 5 min. b) Temperature increase curve observed from the B@Ce6-PAH-PAA NSs with different concentration under 808 nm light irradiation at 1.5 W cm^{-2} for 5 min.



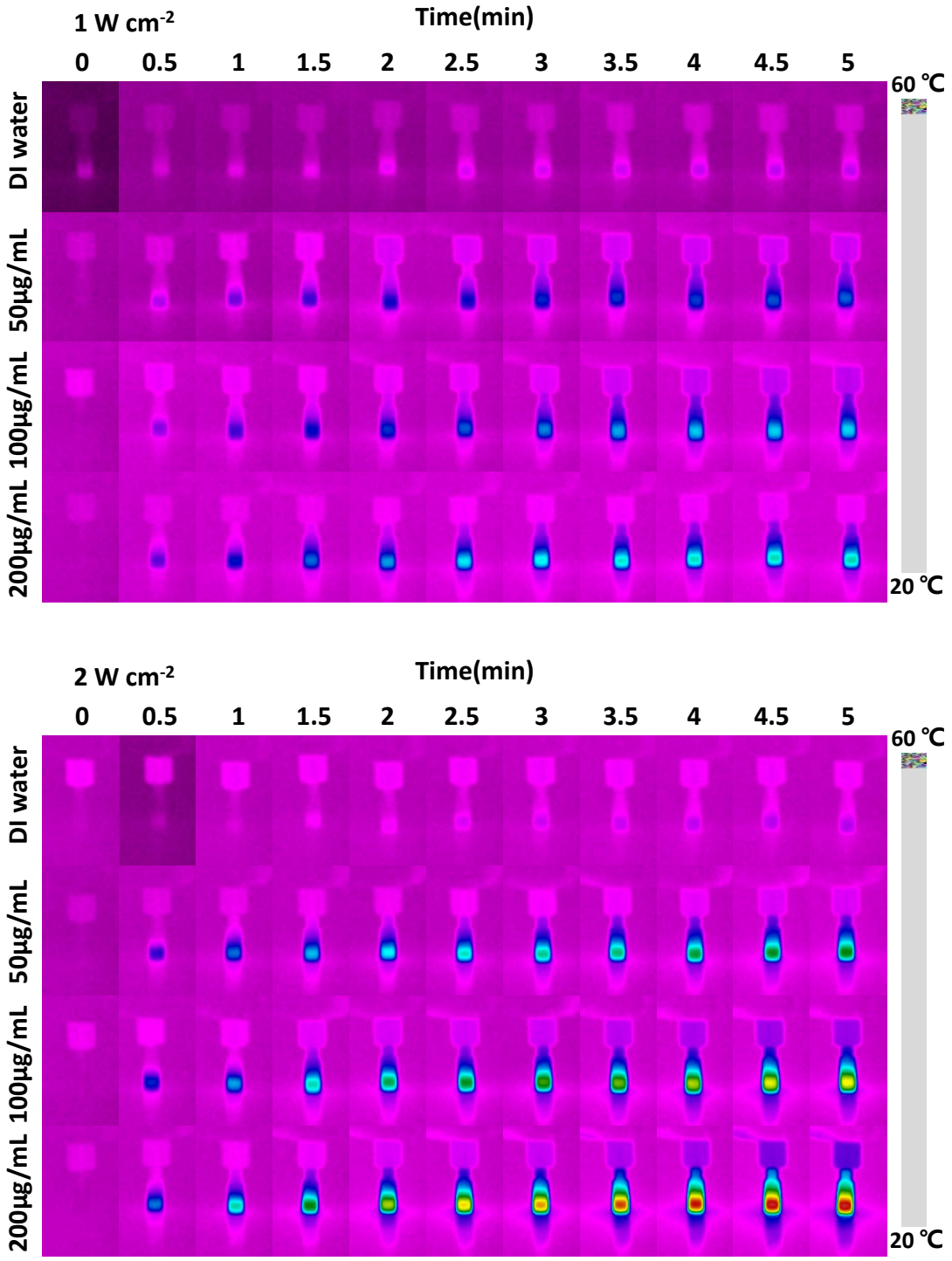


Figure S9. Infrared thermal images of B@Ce6-PAH-PAA NSs aqueous solutions with different concentrations as a function of irradiation time for 5 min under the 808 nm NIR laser with the densities of 1 W cm^{-2}, 1.5 W cm^{-2} and 2 W cm^{-2}

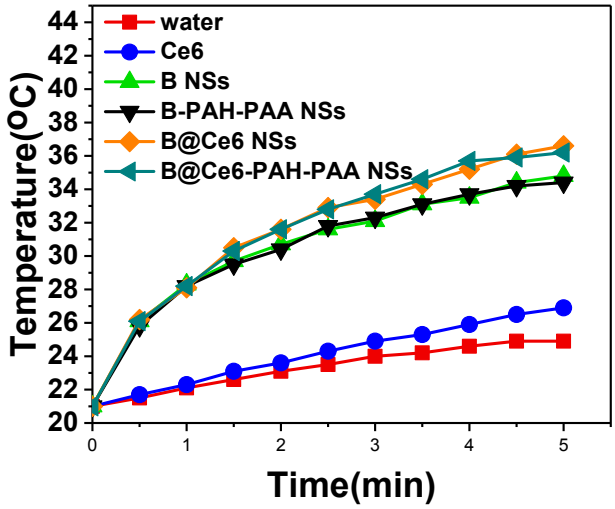


Figure S10. Temperature changes curves of different drugs under 808 nm laser irradiation.

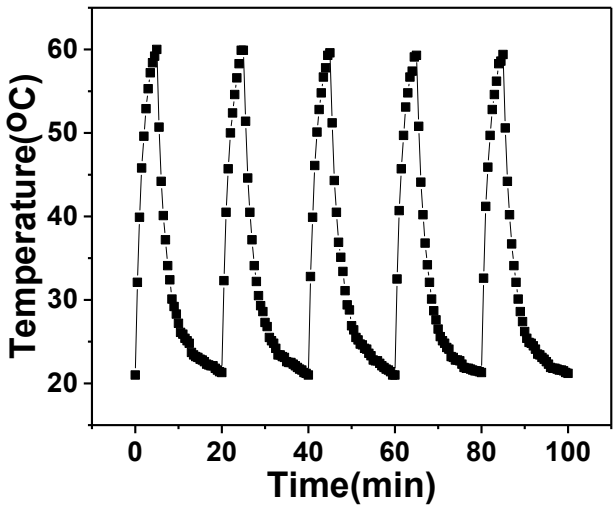


Figure S11. The temperature change variation curve of B@Ce6 NSs solution (200 μg mL^{-1}) during five laser ON and OFF cycles in the laser power density of 2 W cm^{-2}.

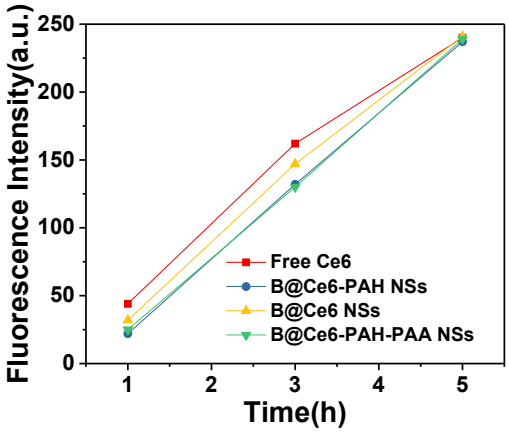


Figure S12. The intracellular fluorescence of Ce6 was quantified using Image J software.

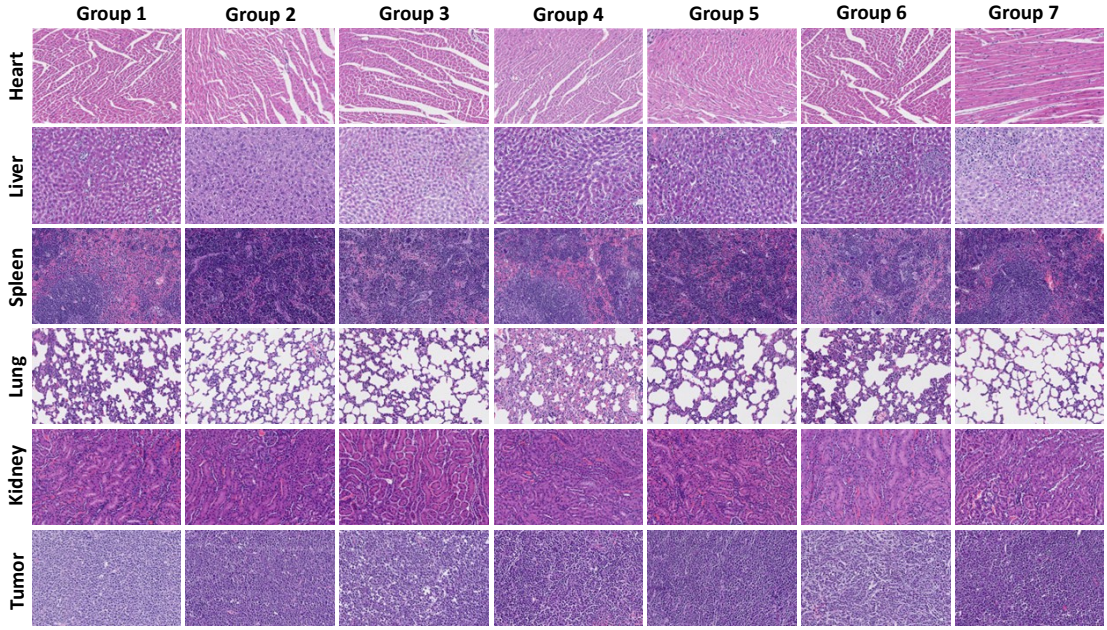


Figure S13. Physiological analysis of major organs (heart, liver, spleen, lung, and kidney) and tumor obtained from various treatments groups after 2 weeks treatment. Images were taken under a 40× objective.