

**Dynamic Therapeutic Effect of Targeted Photothermal Nanovaccine Incorporating
Toll-like Receptor 7 Agonist Enhanced Cancer Immunotherapy**

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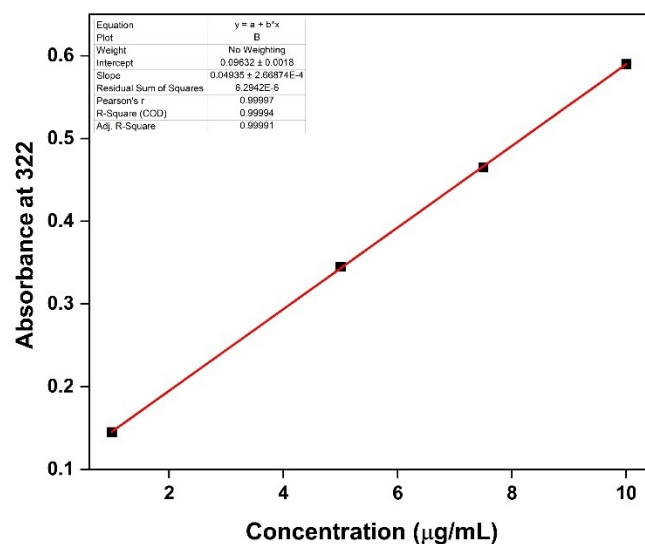


Fig. S1 The regression equation is determined by the absorbance at 322 nm versus concentration of R837.

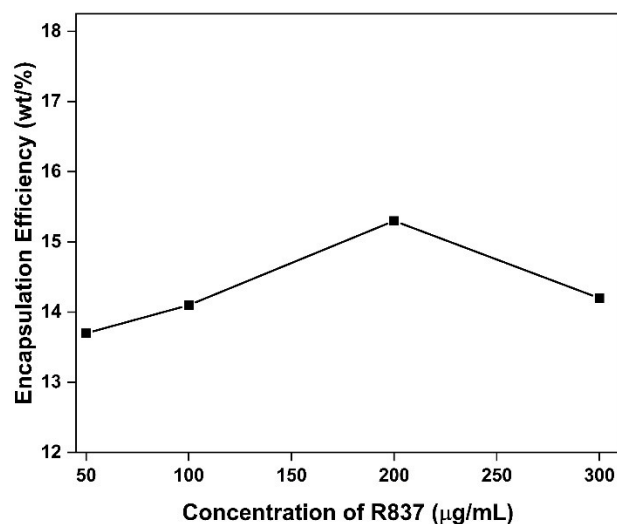


Fig. S2 The encapsulation efficiency R837 by CA-PANi NPs at different concentration.

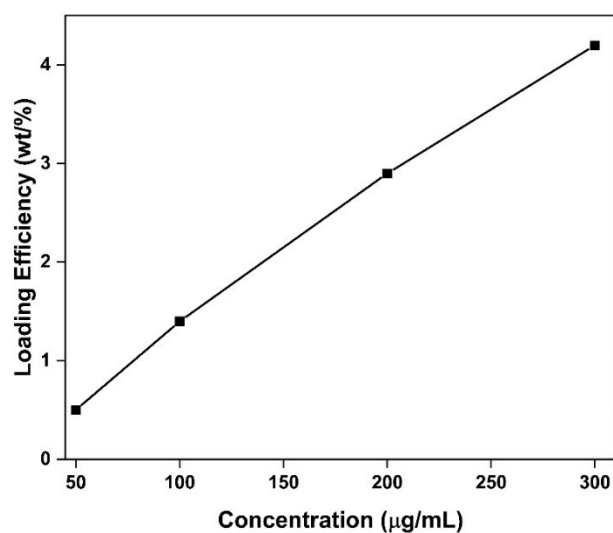


Fig. S3 The loading efficiency of R837 by CA-PANi NPs at different concentration.

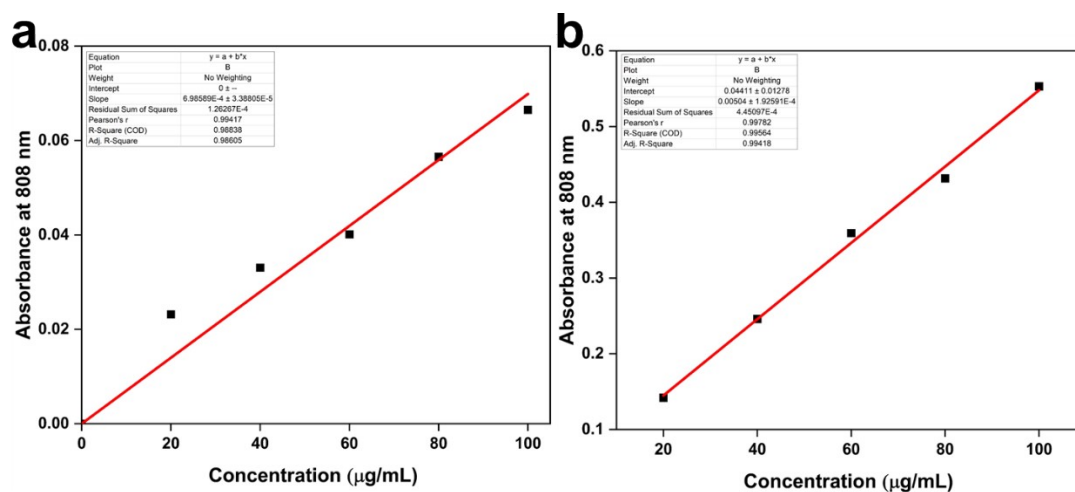


Fig. S4 The regression equation is determined by the absorbance at 808 nm different concentration of (a) CA-PANi and (b) CPRR.

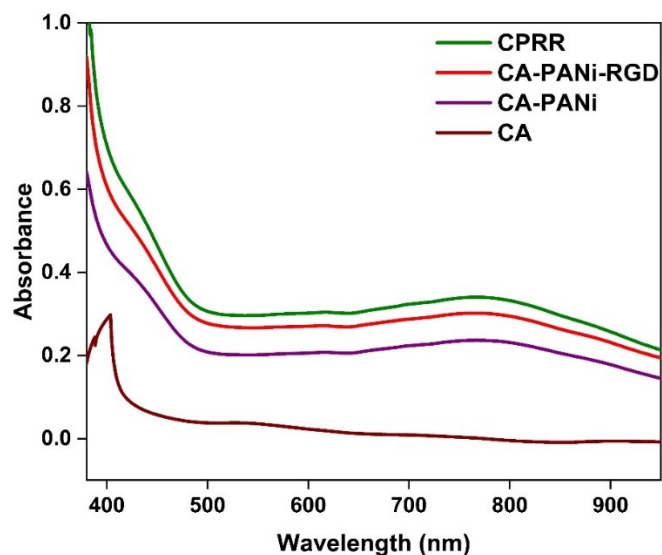


Fig. S5 UV-Vis-NIR spectrum of components of CPRR.

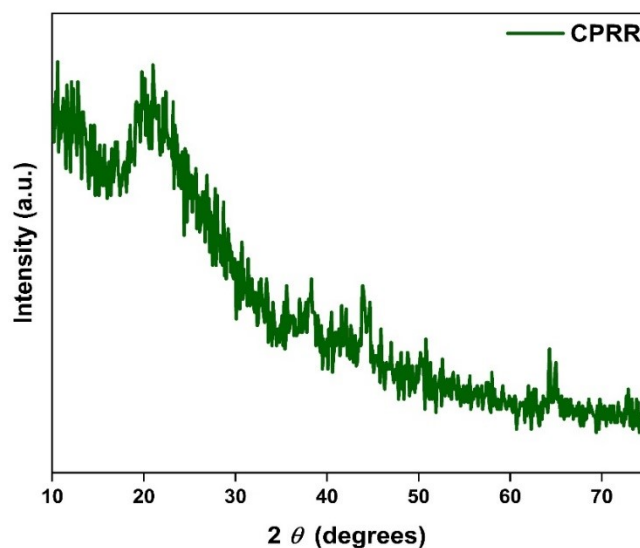


Fig. S6 XRD spectra of CPRR.

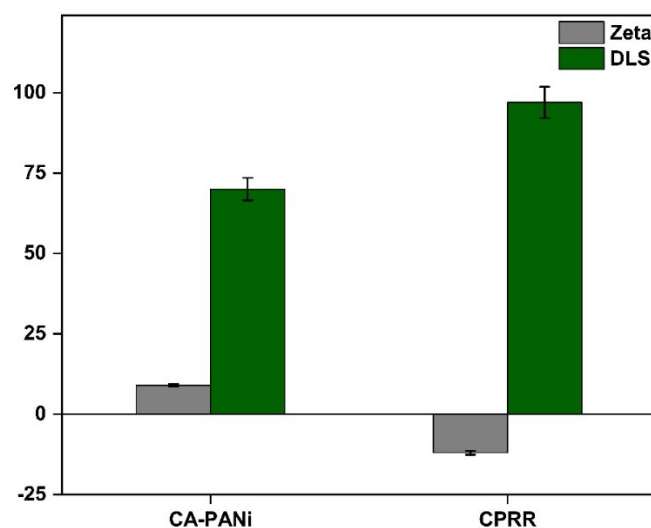


Fig. S7 Zeta and DLS of CA-PANi and CPRR.

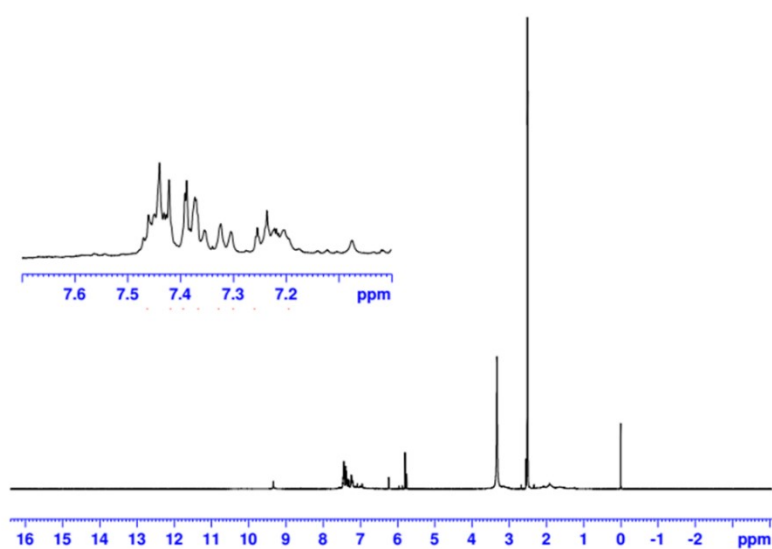


Fig. S8 ^1H -nuclear magnetic resonance (NMR) spectrum of PANi.

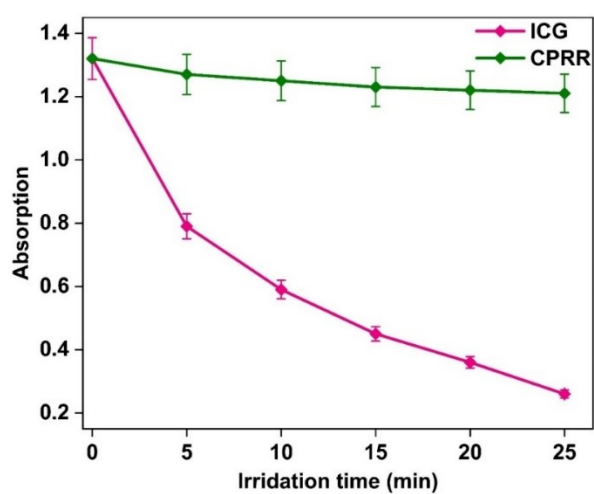


Fig. S9 CPRR photostability compared with ICG.

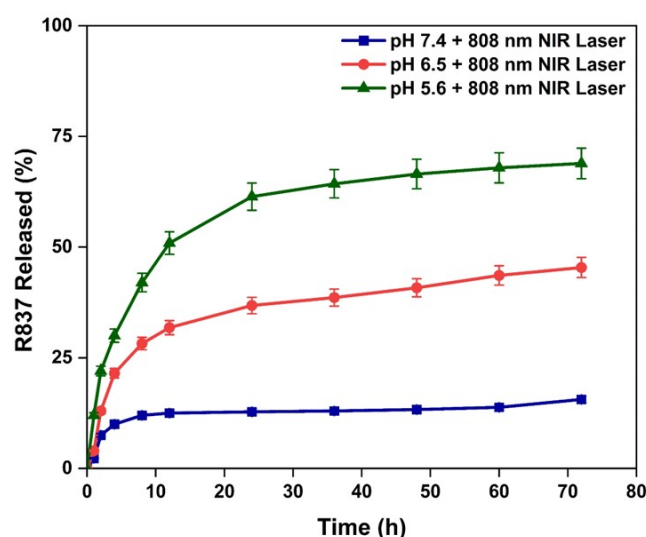


Fig. S10 Cumulative release curves of R837 at different pH under 808 nm laser irradiation.

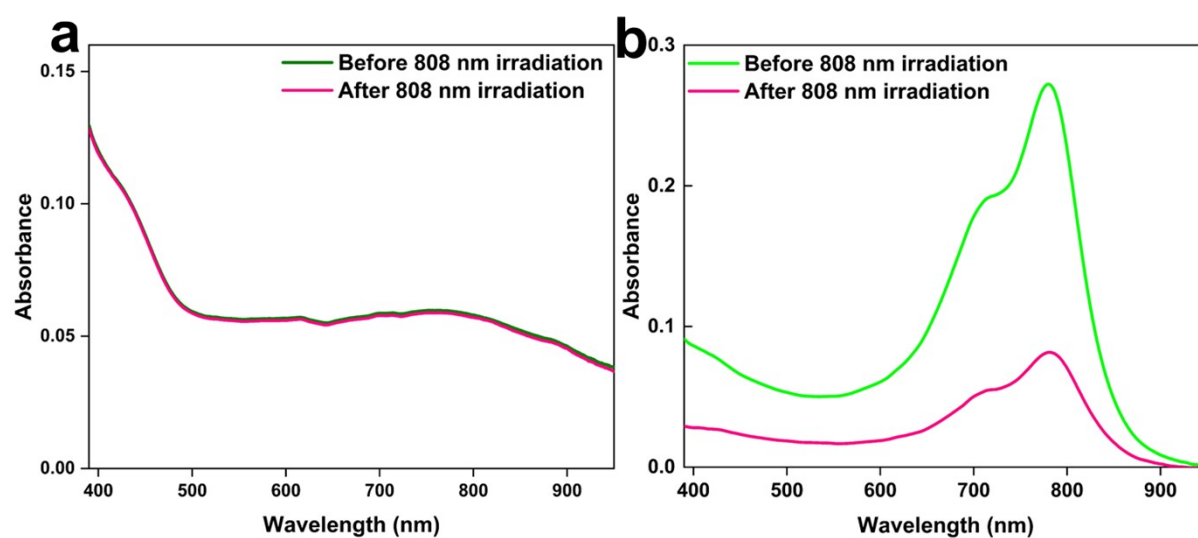


Fig. S11 UV-vis-NIR absorbance spectra of CPRR aqueous dispersions before and after, a) 808nm and b) UV-Vis-NIR absorbance spectra of free ICG before and after an 808 nm laser irradiation for 5 min.

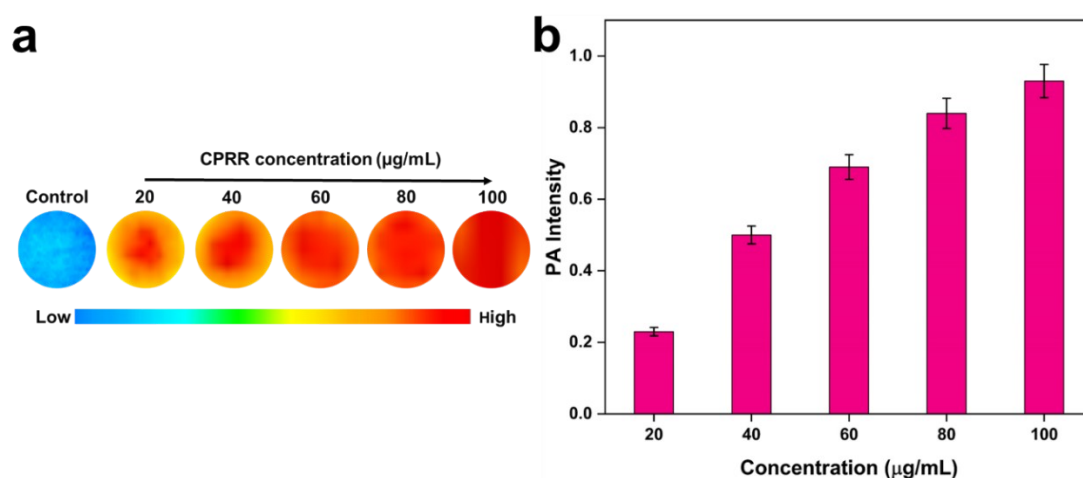


Fig. S12 PA images (Inset) corresponding PA signal intensity of CPRR solutions with different concentrations.

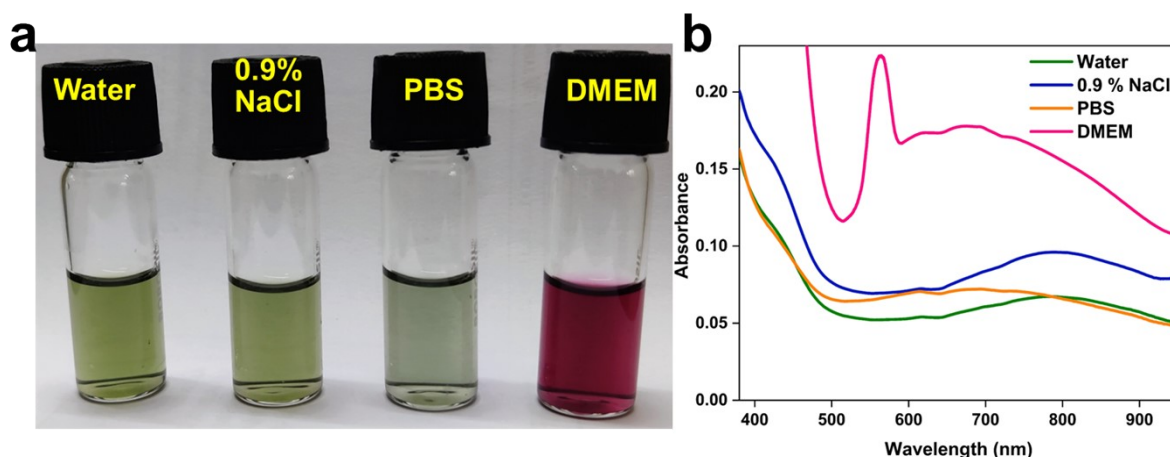


Fig. S13 a) Stability of NC dispersion in Water, 0.9% NaCl, PBS, and DMEM, b) UV-vis-NIR absorbance spectra CPRR in Water, 0.9% NaCl, PBS, and DMEM.

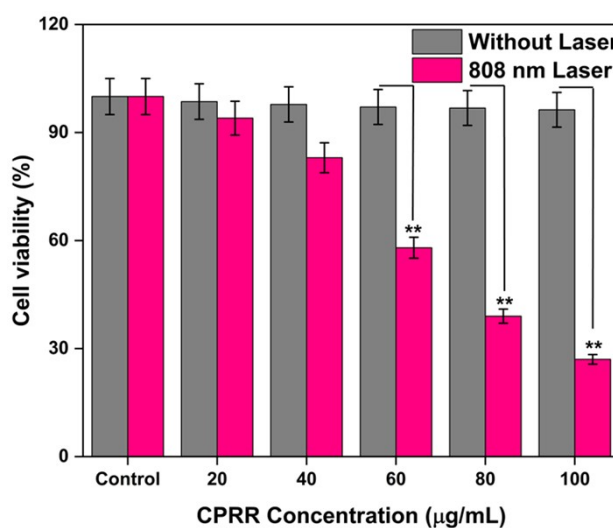


Fig. S14 Relative cell viabilities of NIH3T3 cells with various concentrations (20, 40, 60, 80, and 100 µg/mL). CPRR for 24 h and exposed with and without NIR laser irradiation power density 1 W/cm².

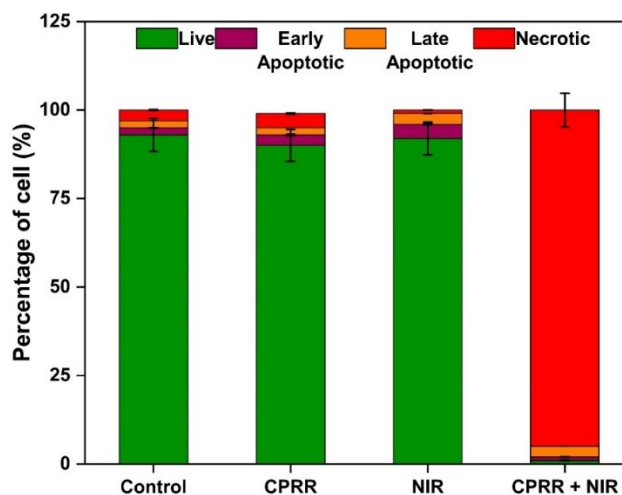


Fig. S15 The quantitative apoptosis analysis of HeLa cells after various treatments co-stained with Annexin V-FITC/PI.