Electronic Supplementary Material (ESI) for Biomaterials Science.

Supplementary Information

Table S1. The effects of formulation parameters on particle size PDI and Zeta potential (n=3)

Sample (NO.)	NDs (mg/mL)	Curcumin (mg/mL)	IR780 (mg/mL)	Mean diameter (nm)	Polydispersity Index	Zeta Potential (mV)
1	1	0.1	0.1	111.2±4.6	0.148±0.012	-21.6±0.4
2	1	0.2	0.1	130.4±3.8	0.172±0.013	-20.9±0.8
3	1	0.4	0.1	163.5±4.2	0.204±0.02	-21.9±1.2
4	1	0.8	0.1	180.9±8.7	0.271±0.023	-20.5±0.9

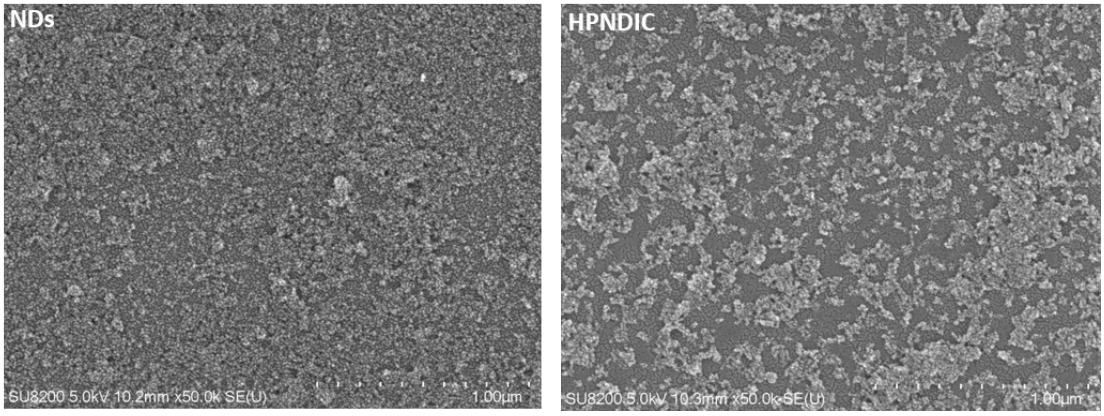

Fig. S1 SEM images of NDs and HPNDIC. The scale bar: 1.00 μm.

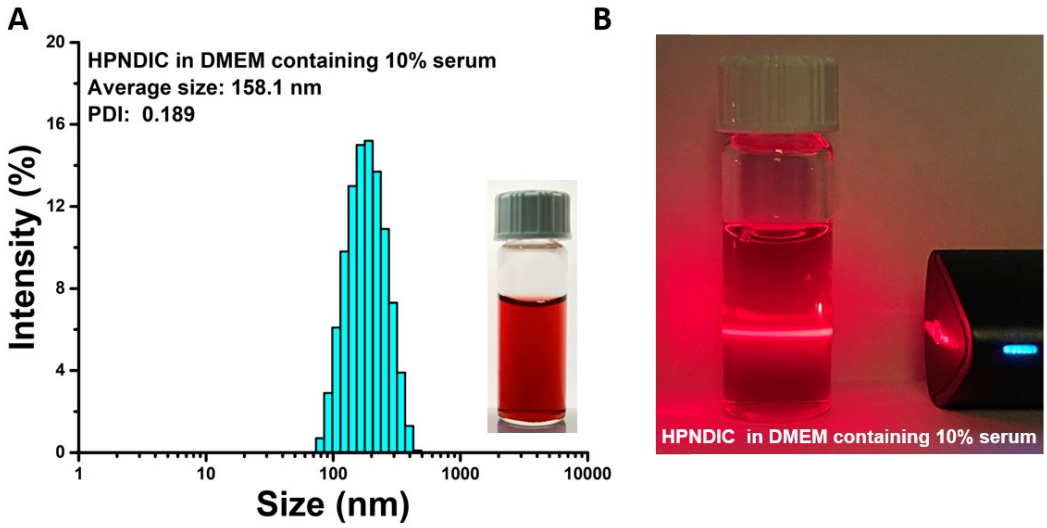

Fig. S2. (A) The size distribution of HPNDIC dispersed in DMEM containing 10% serum. (B) The corresponding Tyndall effect.

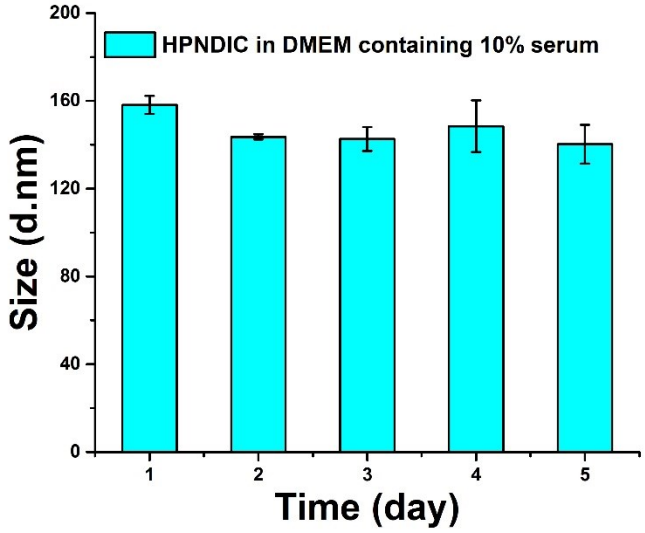

Fig. S3. Stability of HPNDIC dispersed in DMEM containing 10% serum at 1,2,3,4 and 5 days based on the average hydrodynamic size.

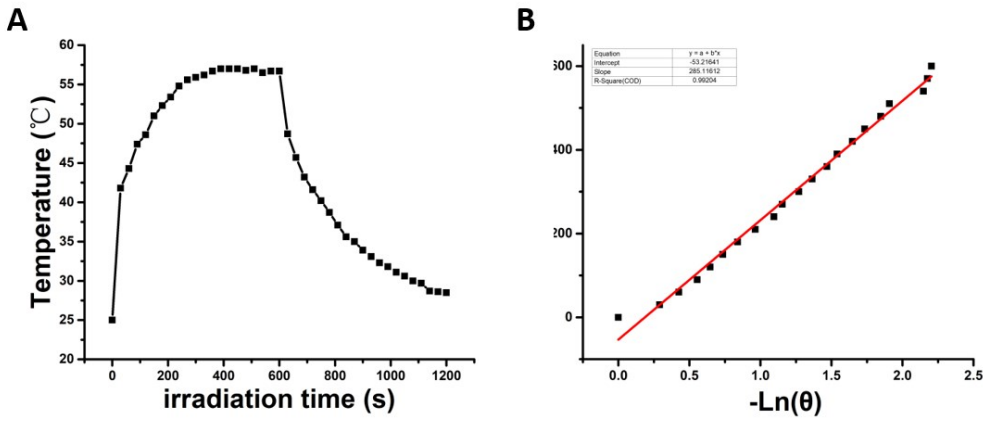

Fig. S4. (A) Temperature changes of HPNDIC solution under 808nm laser irradiation for 600s, and then followed by a cooling period. (B) The time constant (T_s) for the heat transfer in this theranostics agent HPNDIC calculated from the linear time data during the cooling period.

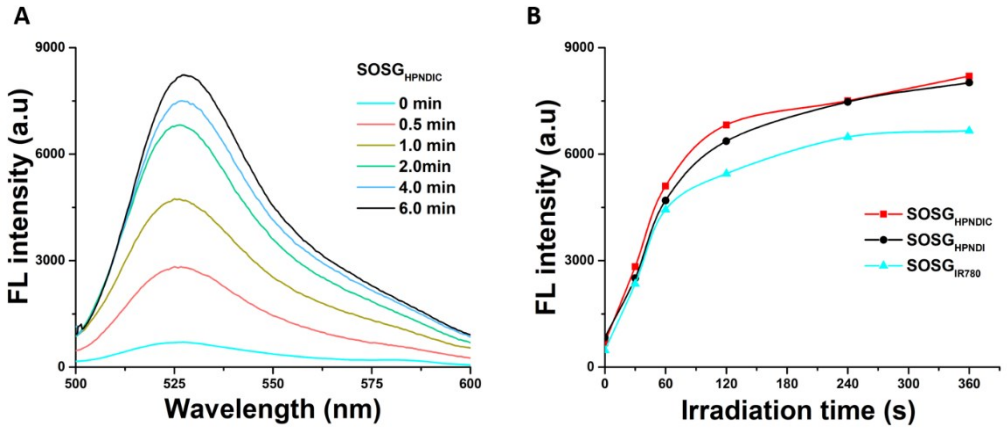

Fig. S5. (A) The fluorescence emission spectra of SOSG to indicate the generation of singlet oxygen in the presence of HPNDIC under NIR laser irradiation (808 nm, 1 W cm^{-2}). (B) The fluorescence intensity at 525 nm of various formulations.

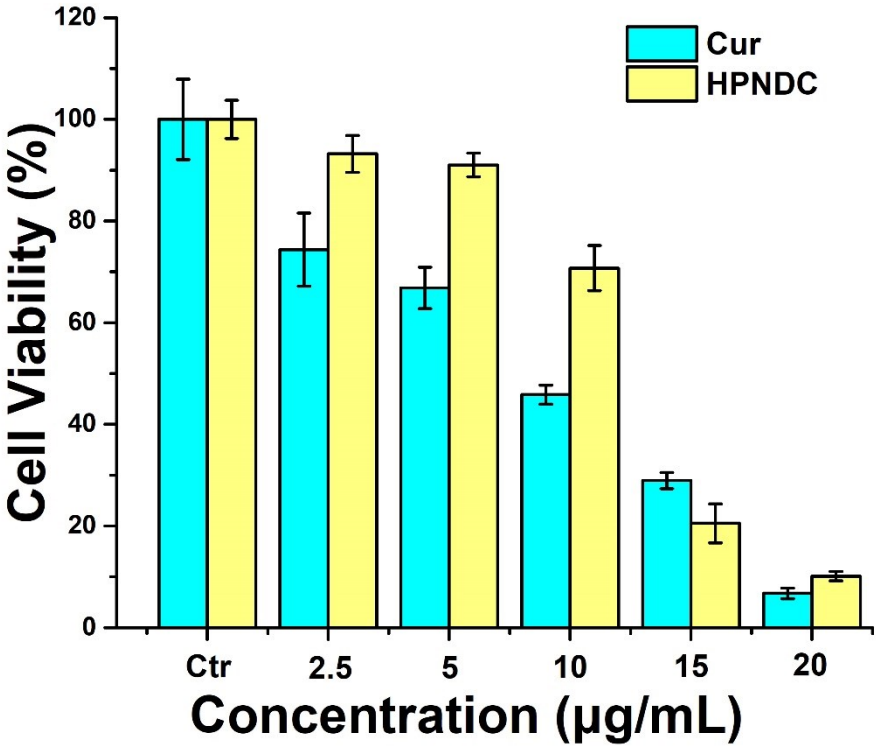

Fig S6. Cell viability of different concentrations of Cur and HPNDC.

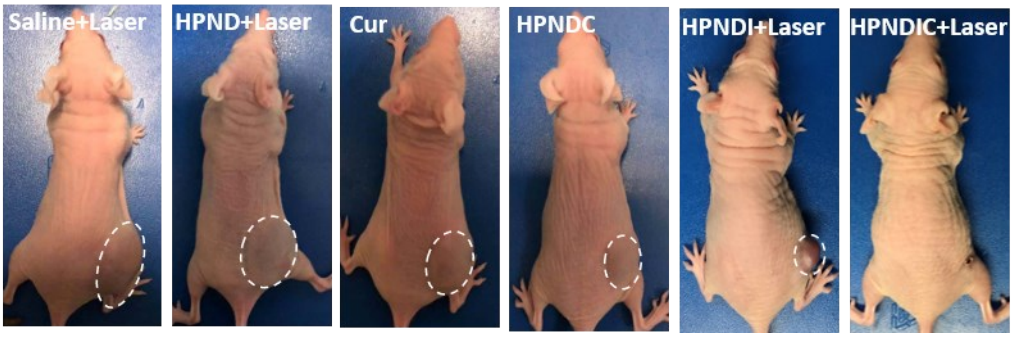

Fig. S7 Representative images of the tumor-bearing mice from each group before euthanizing the animal on day 12.

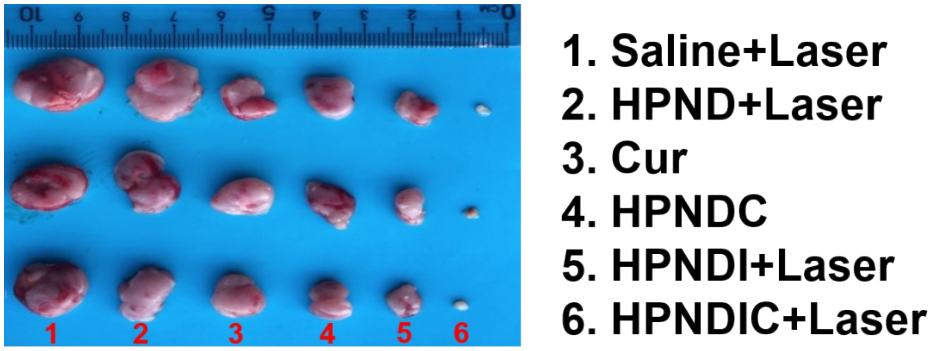

Fig. S8. Representative pictures of tumors with various formulations.

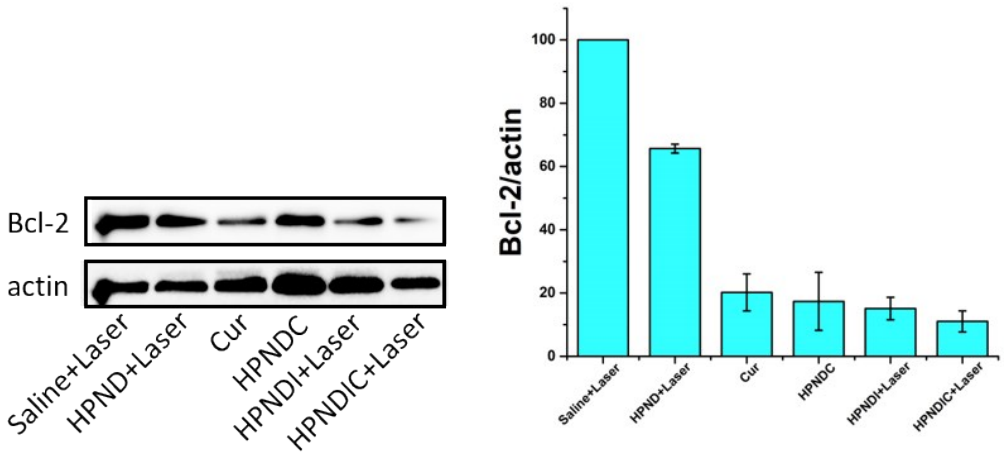

Fig. S9 Western-blotting analysis of tumors after different treatments for 12 days and corresponding gray-scale analysis of the western-blotting analysis.