Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Enhanced Photothermal-Ferroptosis effects based on RBCm-coated PDA nanoparticles for effective cancer therapy

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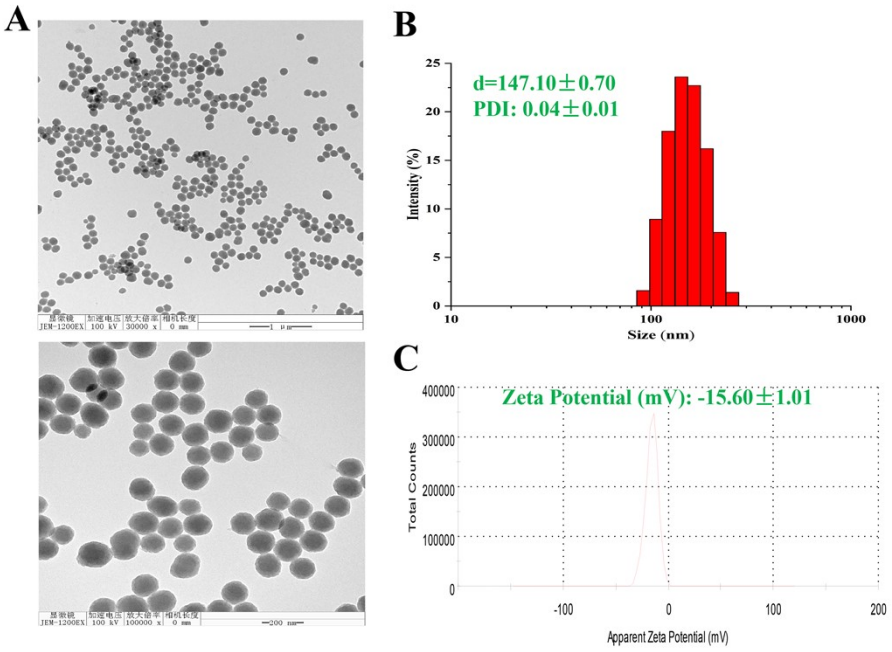

Figure S1. TEM images of (A) Fe-PDA NPs (B) Average size and (C) Zeta potential of Fe-PDA NPs.

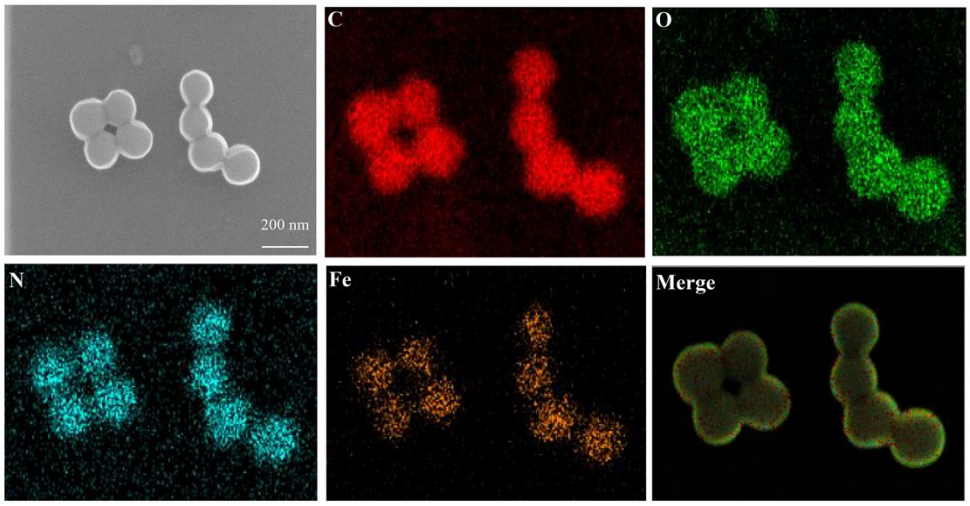

Figure S2. Elemental mapping images of C, O, N, and Fe.

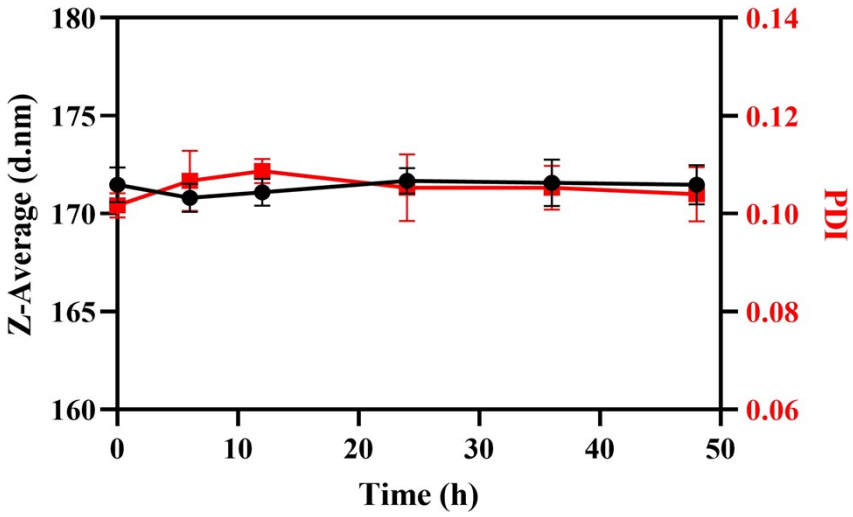

Figure S3. Size distribution analysis of Fe-PDA-EPI@FA-RBCm NPs incubated in the FBS for 48 h.

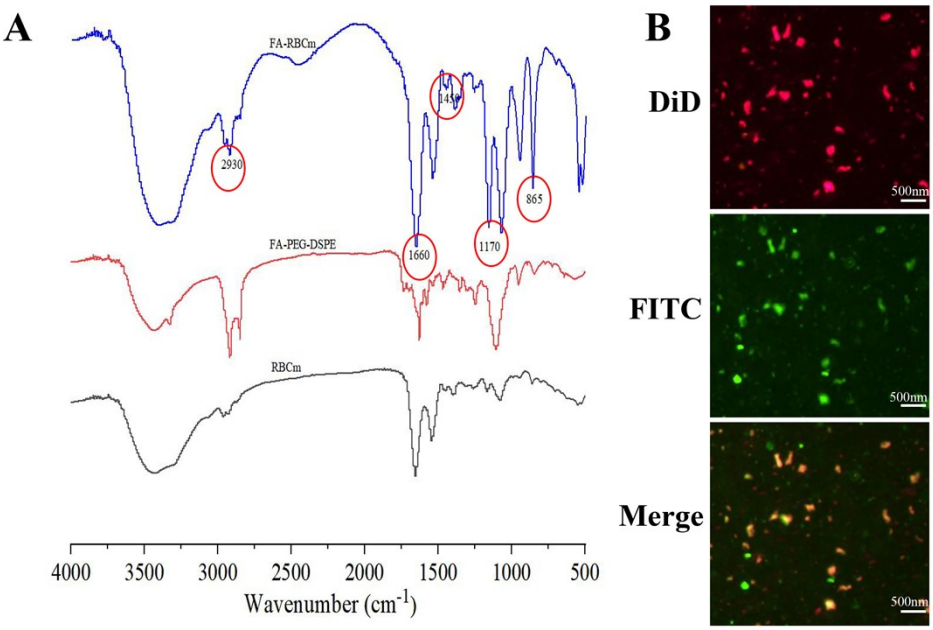

Figure S4. FT-IR spectrogram of RBCm, FA-PEG-DSPE, and FA-RBCm. (B) Confocal fluorescence images of RBCm and FA-RBCm (FITC-PEG-DSPE (FA), green; RBCm, red). Scale bar = 500 nm.

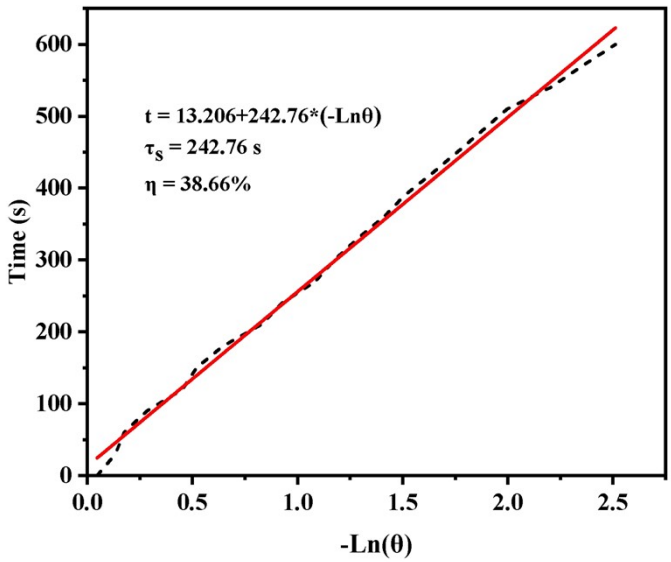

Figure S5 Linear time data versus -lnθ of Fe-PDA-EPI@FA-RBCm NPs obtained from the cooling period of Figure 2C.

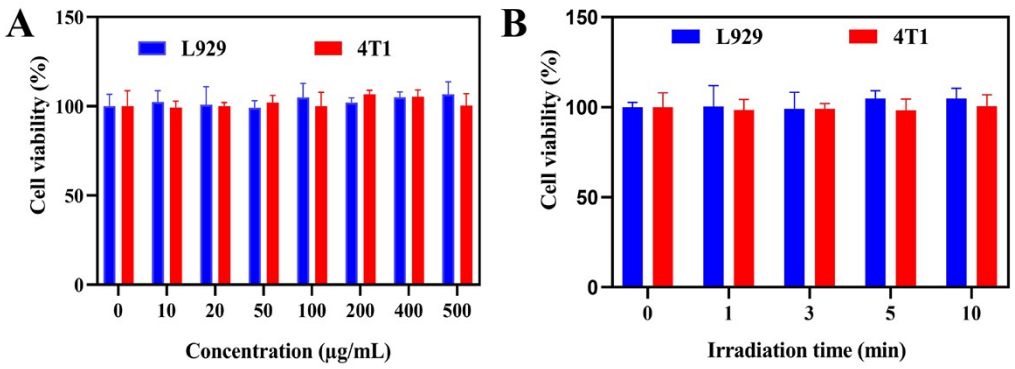

Figure S6. In vitro antitumor activity of blank Fe-PDA NPs and different laser irradiation time incubated with L929 (A) cells and 4T1 (B) cells for 48 h.

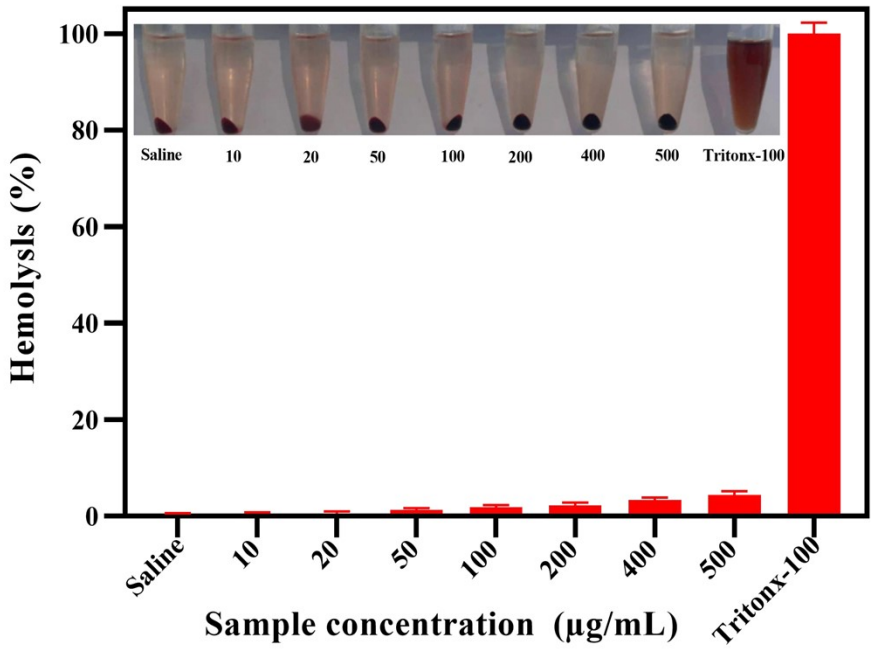

Figure S7. Hemolysis of Fe-PDA NPs with different concentration (0, 10, 20, 50, 100, 200,400, 500 μg/mL) in RBCs suspension.

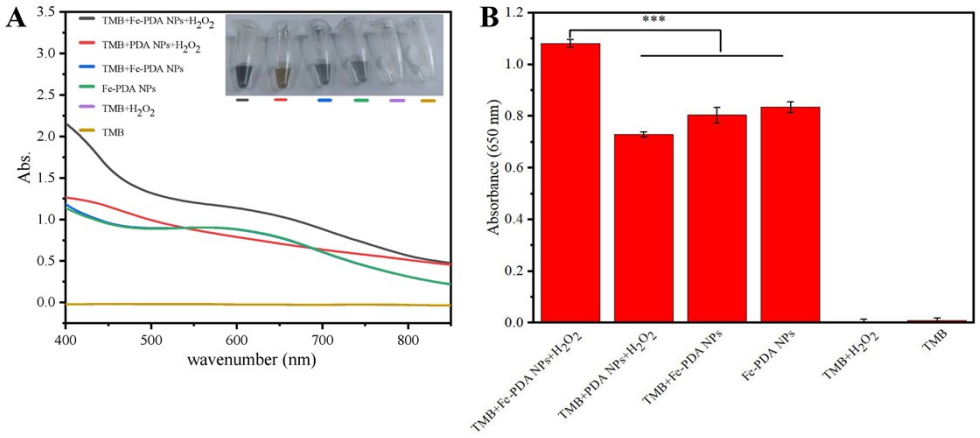

Figure S8. Peroxidation of the substrate under different conditions.

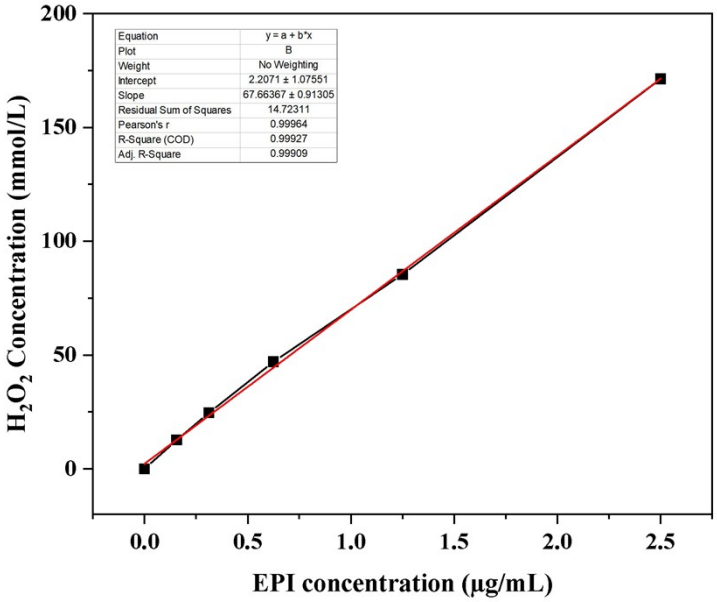

Figure S9. Intracellular H_2O_2 levels in 4T1 cells after incubation with different concentrations of EPI for 24 h.

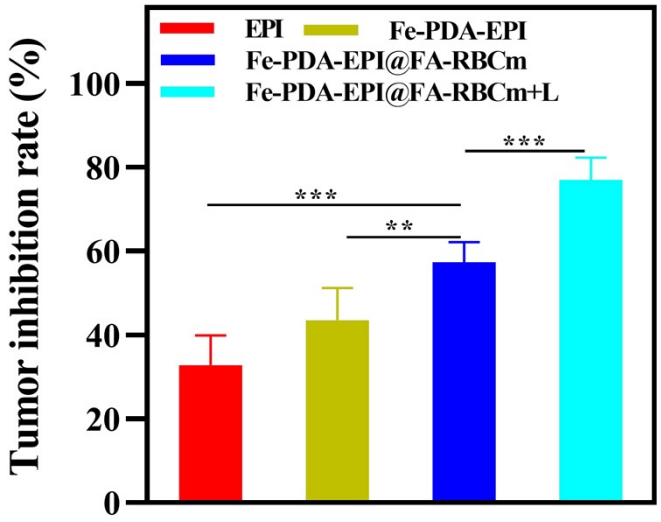

Figure S10. Tumor inhibition rate after different treatments.

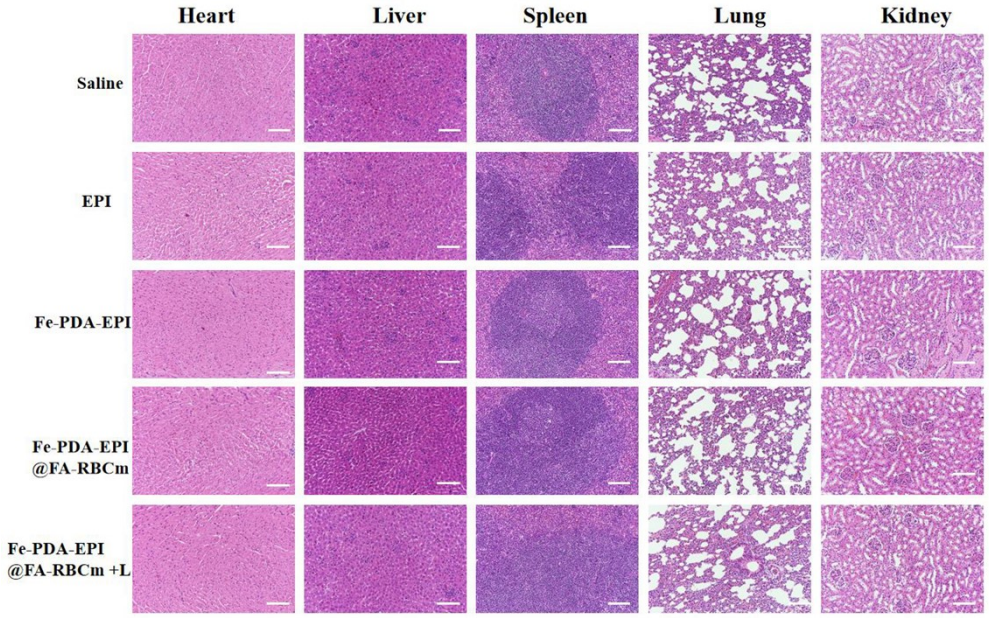

Figure S11. Histological images of major organs from 4T1 tumor-bearing mice after administration of different treatment groups. Tissue samples were stained with H&E and viewed under a light microscope.

Table S1 Characterization of drug-loaded nanoparticles with different ratios (Mean ± SD, n = 3)

Drugs:Carriers	Average (nm)	Zeta Potential (mV)	PDI	EE (%)	DLC (%)
1:9	523.3 ± 4.5	-7.8 ± 0.1	0.26 ± 0.03	83.90 ± 0.15	5.94 ± 0.57
2:8	173.3 ± 2.1	-15.7 ± 0.5	0.08 ± 0.07	80.63 ± 0.12	16.78 ± 0.91
3:7	197.9 ± 2.4	-17.0 ± 0.4	0.05 ± 0.03	70.80 ± 0.18	23.28 ± 0.78
4:6	127.7 ± 1.7	-23.5 ± 2.7	0.30 ± 0.03	52.90 ± 0.15	26.04 ± 0.01
5:5	211.6 ± 7.5	-12.1 ± 0.5	0.14 ± 0.03	35.72 ± 0.89	26.32 ± 0.11