Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

DNAzyme Adsorbed Polydopamine@MnO_2 Core-Shell Nanocomposites for Enhanced Photothermal Therapy via Self-Activable Suppression of Heat Shock Protein 70

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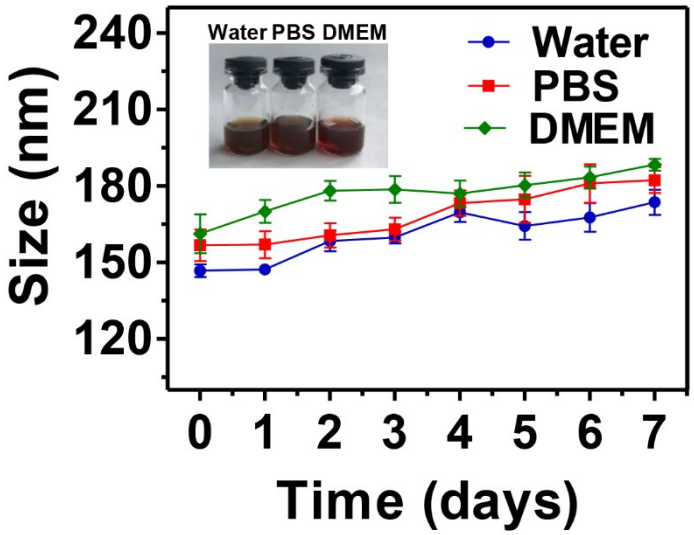

Figure S1. Dynamic size change of PDA@MnO_2/DZ during 7 days storage. No macroscopic aggregate and precipitate were observed after 7 days storage in different media at room temperature, indicating the high stability of PDA@MnO_2/DZ. Inset: Appearance of the nanoparticles after 7 days storage in different media.

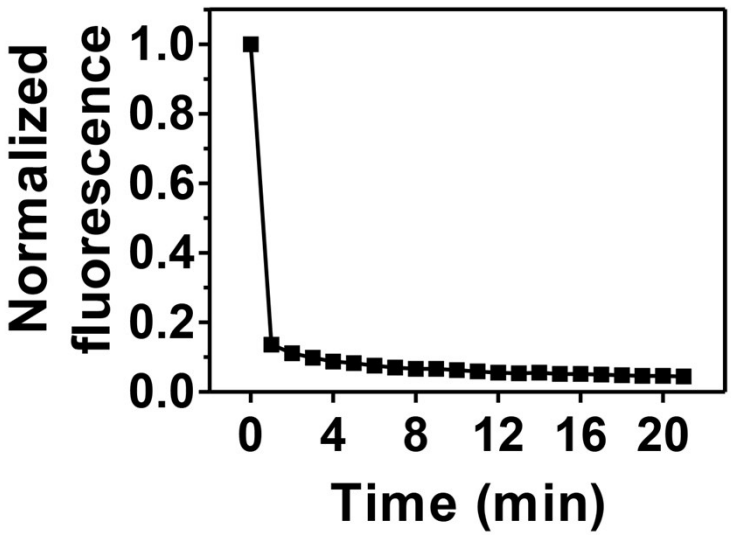

Figure S2. Adsorption kinetics of FAM labeled-DZ (100 nM) on PDA@MnO_2 NPs (200 μg/mL).

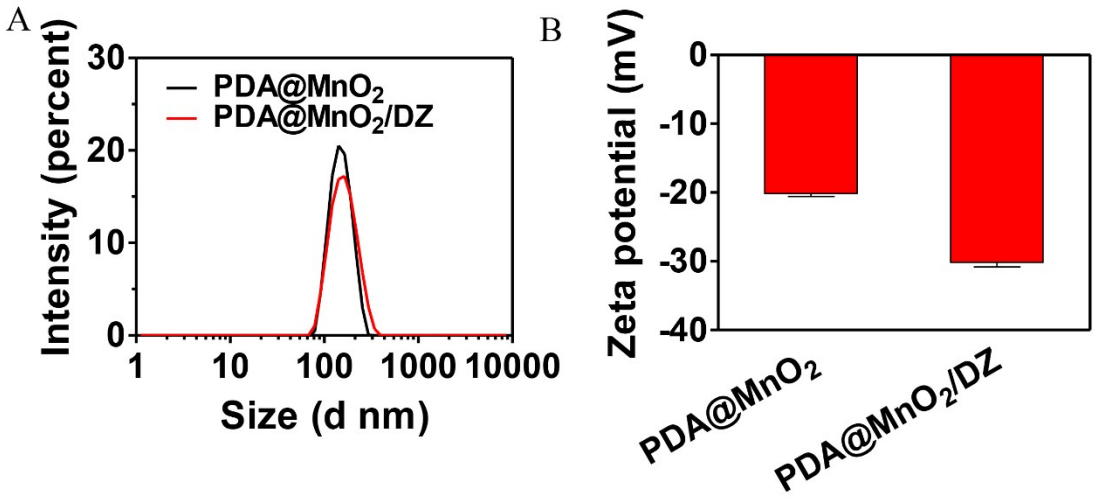

Figure S3. (A) Size distribution and (B) ζ-potential of PDA@MnO_2 and PDA@MnO_2/DZ nanoparticles.

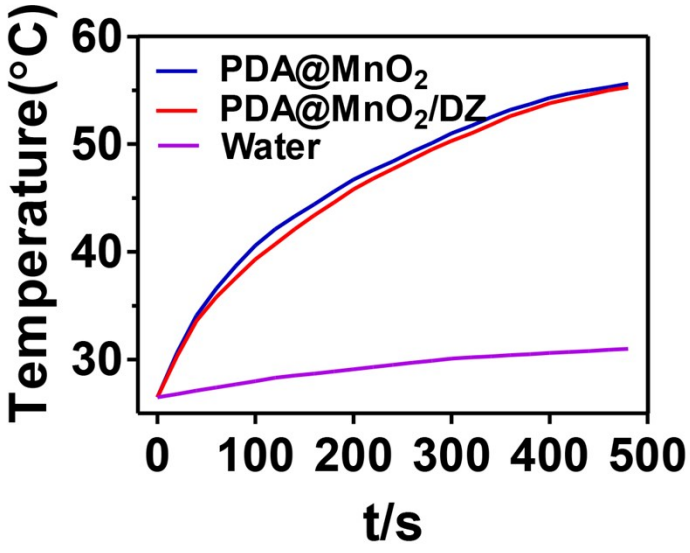

Figure S4. Temperature increase curves of different samples under 808 nm irradiation (2 W/cm^2) for 500 s.

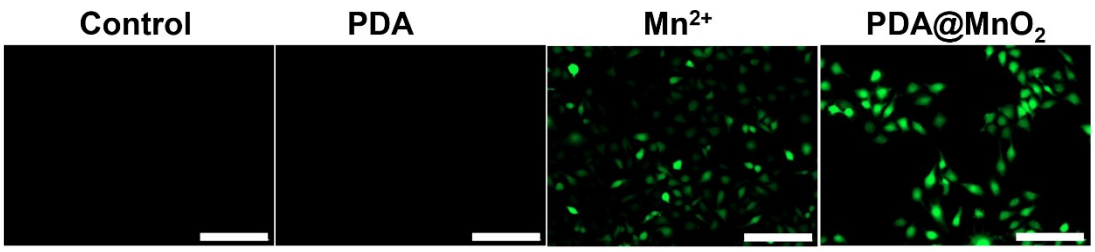

Figure S5. Probing the intracellular Mn^{2+} release using 2,7-dichlorodihydrofluorescein

(DCFH-DA) after different treatments. Scare bar: 200 μm.

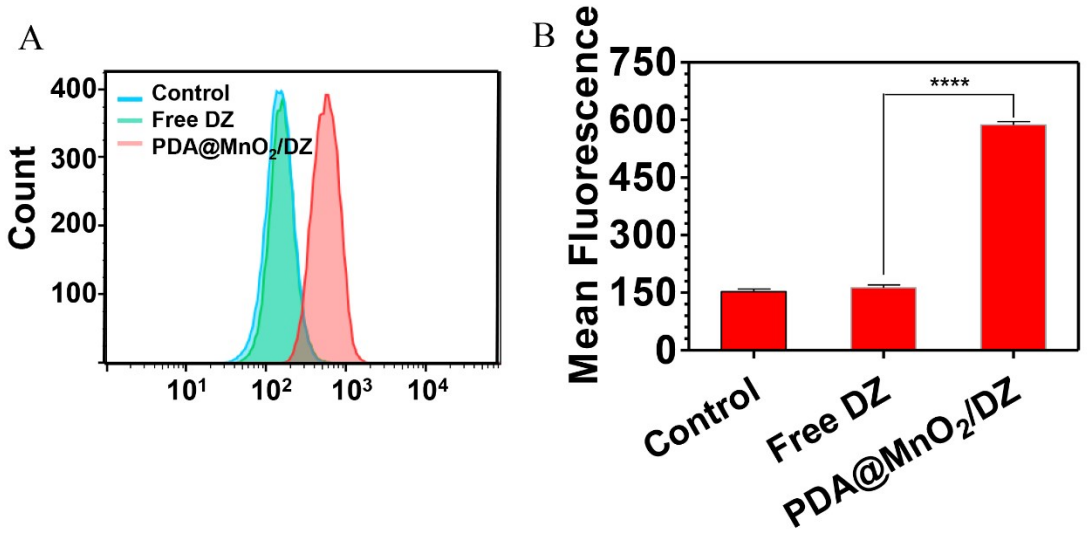

Figure S6. (A) Flow cytometry analysis the uptake of free DZ and PDA@MnO_2/DZ by M231 cells, and (B) the quantified fluorescence intensity.

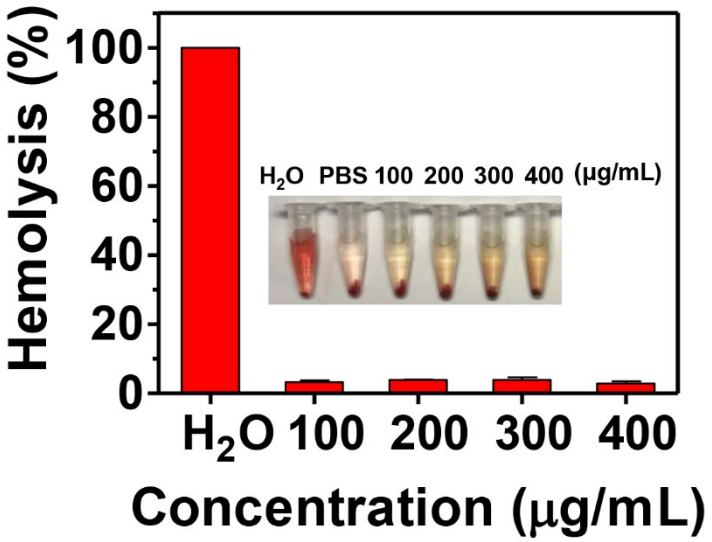

Figure S7. Hemolysis assay of PDA@MnO_2/DZ at various concentrations. PBS and ultrapure water were used as the negative and positive control, respectively. Inset: Appearance of different treatments after centrifugation.

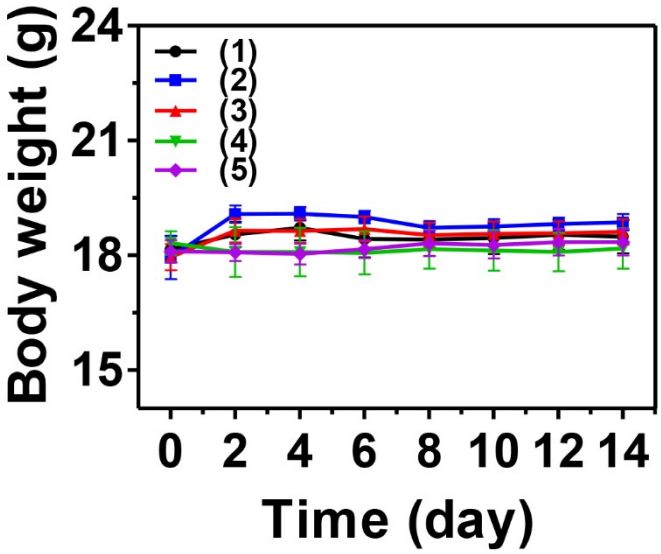

Figure S8. (A) The dynamic body weight of M231 tumor-bearing mice during different treatments.

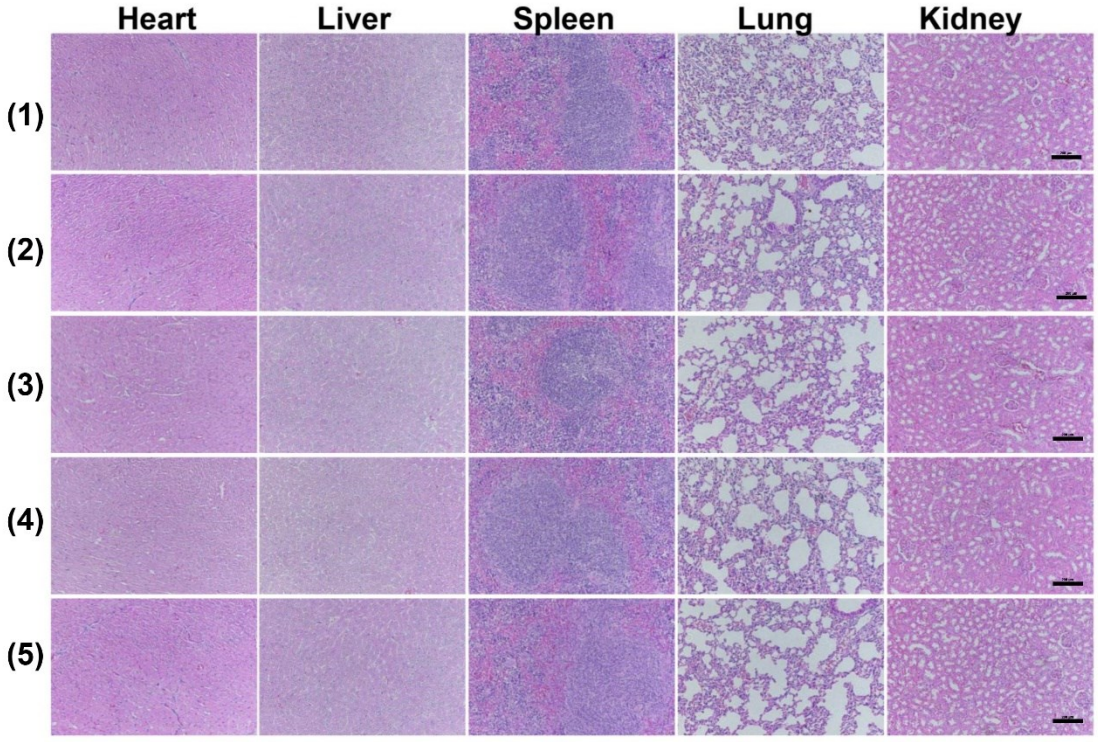

Figure S9. Hematoxylin and eosin (H&E) staining images of the major organs after different treatments. Scale bar: 200 μm. The treatments were as follows: (1) PBS, (2) PDA@MnO_2, (3) PDA@MnO_2/DZ, (4) PDA@MnO_2 + Laser, (5) PDA@MnO_2/DZ + Laser.

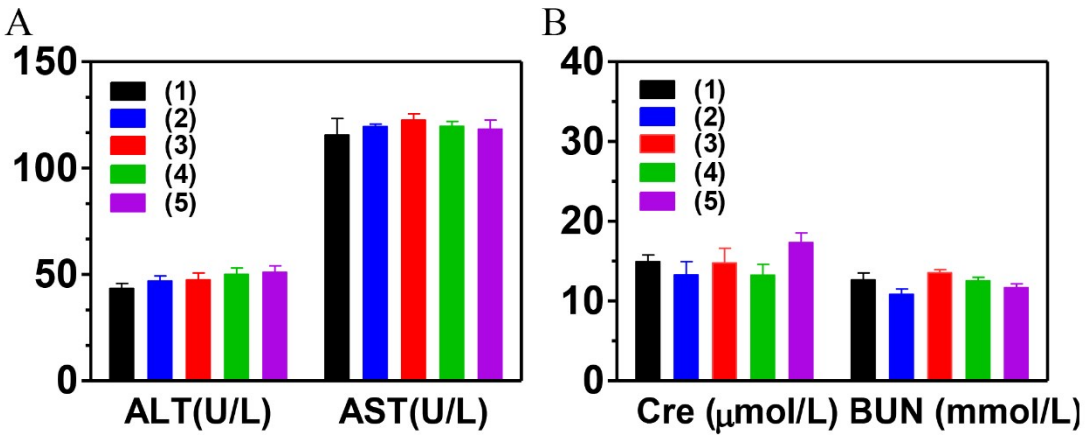

Figure S10. Evaluation of the (A) hepatotoxicity (B) and nephrotoxicity of different treatments by measuring the serum levels of ALT, AST, BUN and Cre. The treatments were as follows: (1) PBS, (2) PDA@MnO_2, (3) PDA@MnO_2/DZ, (4) PDA@MnO_2 + Laser, (5) PDA@MnO_2/DZ + Laser.