

Lysosome and plasma membrane accumulative and tumor-targetable polythiophene nanoparticles for enhanced sonodynamic therapy

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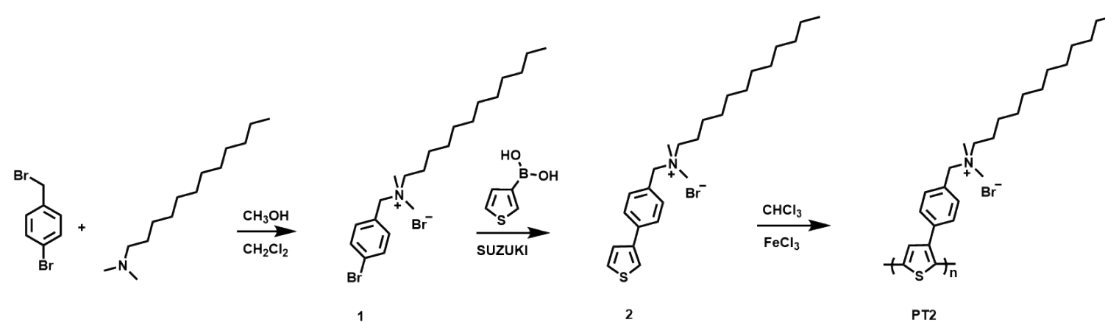


Figure S1 Synthetic route of PT2.

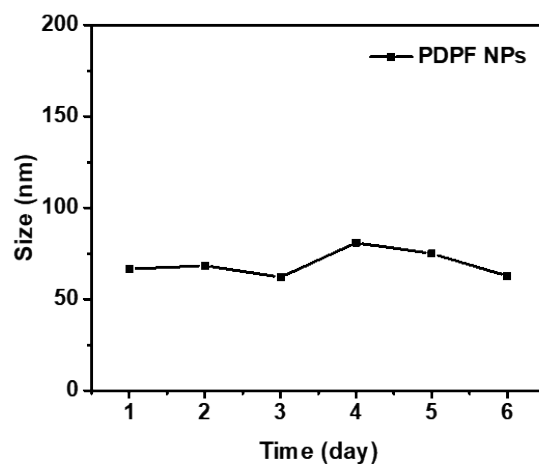


Figure S2. Time-dependent DLS result of PDPF NPs (43 μM) in aqueous solution.

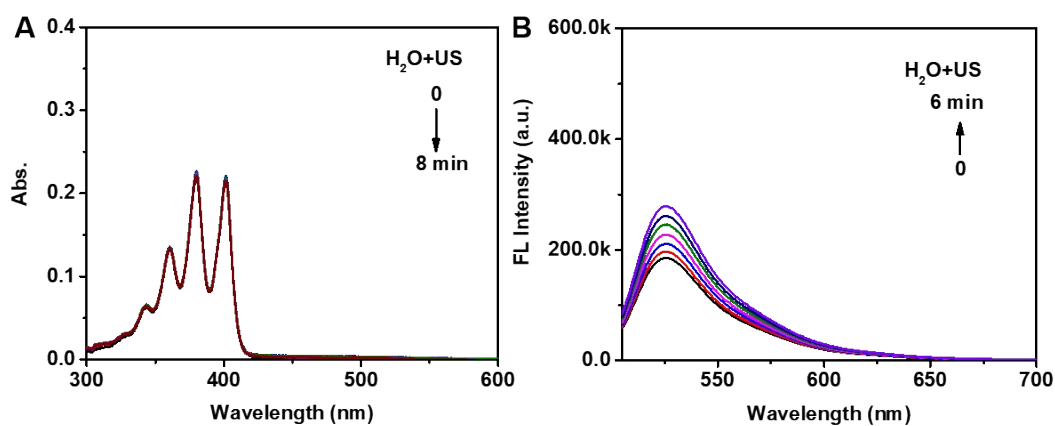


Figure S3. US irradiation time-dependent (A) UV-vis absorption spectra of ABDA sodium salt (60 nM) and (B) fluorescence spectra of DHR 123 (400 nM, $\lambda_{\text{ex}}=500 \text{ nm}$) aqueous solutions.

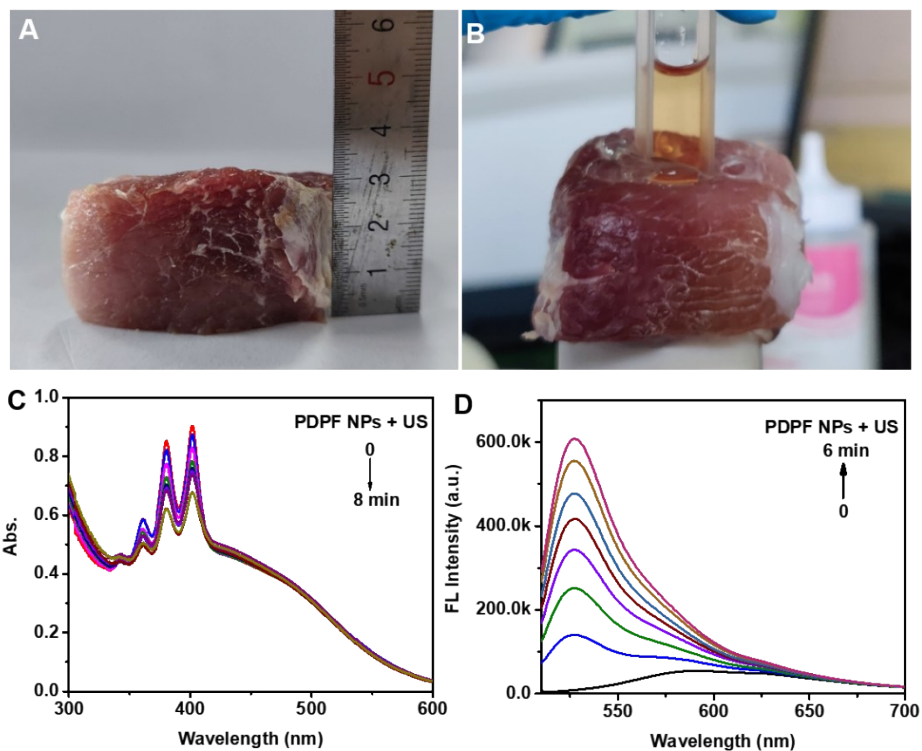


Figure S4. Photographs of (A) thickness measurement of pork tissue and (B) PDPF NPs aqueous solution was set in the pork tissue and then exposed to US irradiation. (C) UV-vis absorption spectra of ABDA sodium salt (120 nM) and (D) fluorescence spectra of DHR 123 (110 nM, $\lambda_{\text{ex}}=500$ nm) in the presence of PDPF NPs (120 μM) under US irradiation (1.75 W/cm²) under the pork medium.

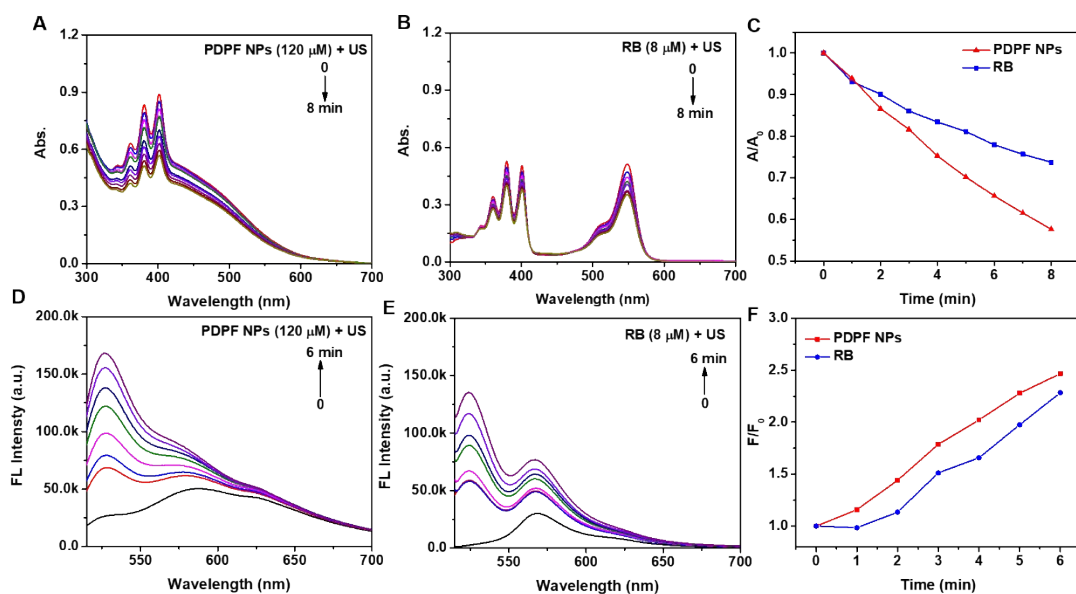


Figure S5. US irradiation time-dependent (A, B) UV-vis absorption spectra of ABDA sodium salt (120 nM) and (C) its linear relationship, and (D, E) fluorescence spectra of DHR 123 (110 nM, $\lambda_{\text{ex}}=500$ nm) and (F) its linear relationship in the presence of (A, D) PDPF NPs (120 μM) and (B, E) RB (8 μM) under normoxic conditions.

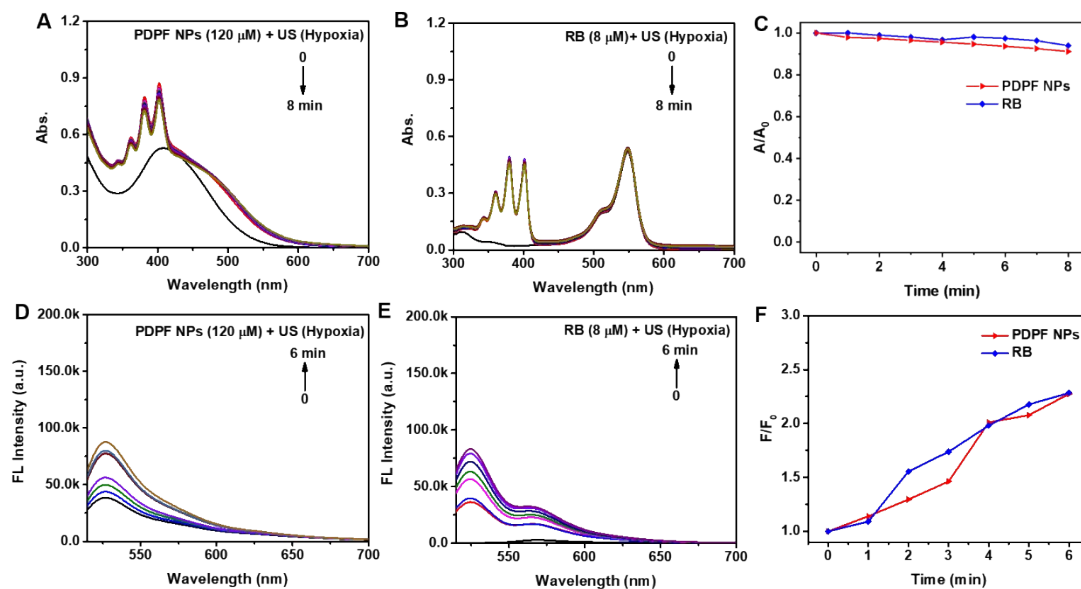


Figure S6. US irradiation time-dependent (A, B) UV-vis absorption spectra of ABDA sodium salt (120 nM) and (C) its linear relationship, and (D, E) fluorescence spectra of DHR 123 (110 nM, $\lambda_{\text{ex}}=500$ nm) and (F) its linear relationship in the presence of (A,

D) PDPF NPs (120 μM) and (B, E) RB (8 μM) under hypoxia conditions.

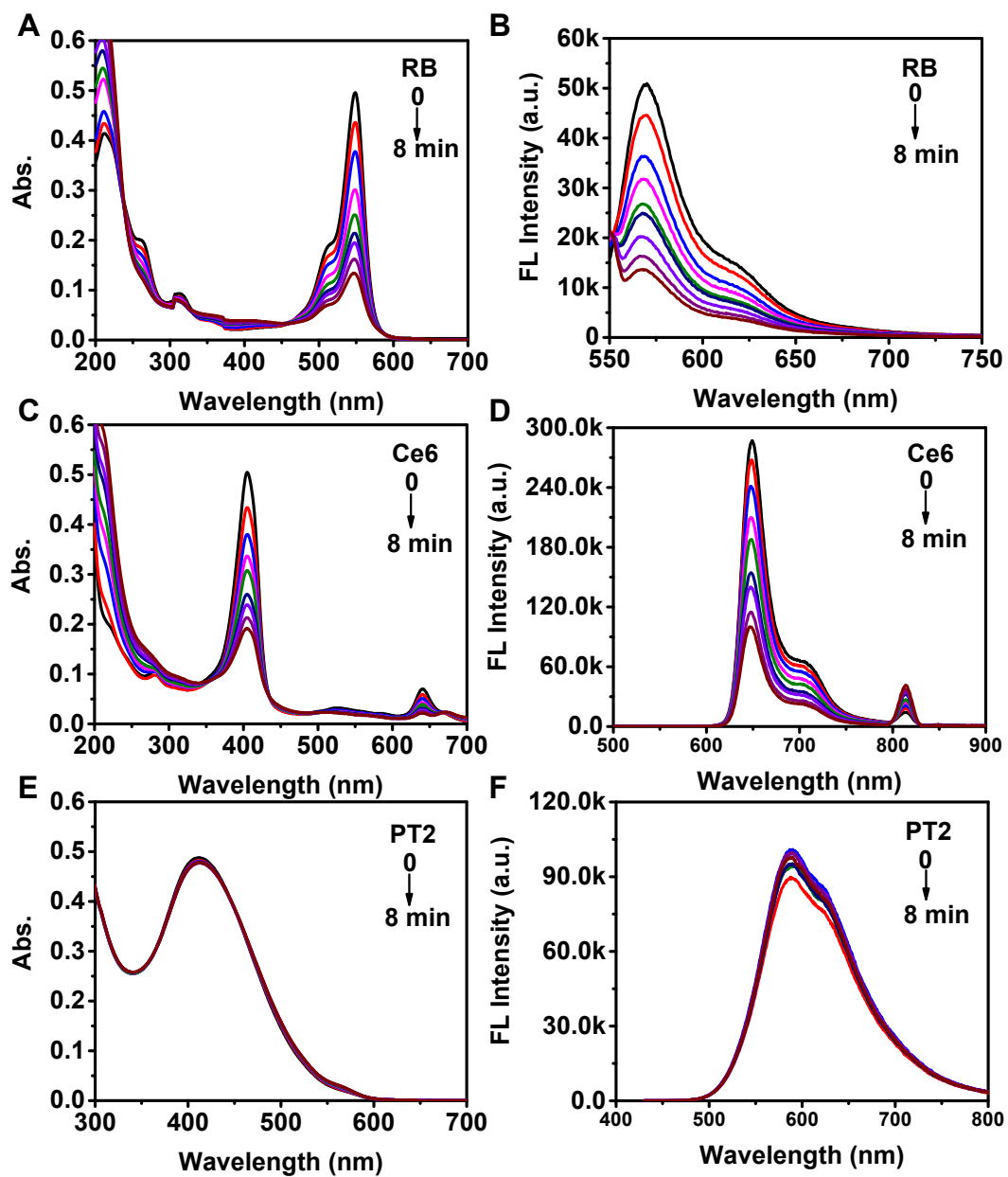


Figure S7. (A, C, E) UV-vis absorption and (B, D, F) fluorescence spectra of RB, Ce6, and PT2 aqueous solutions under US irradiation (1.75 W/cm²).

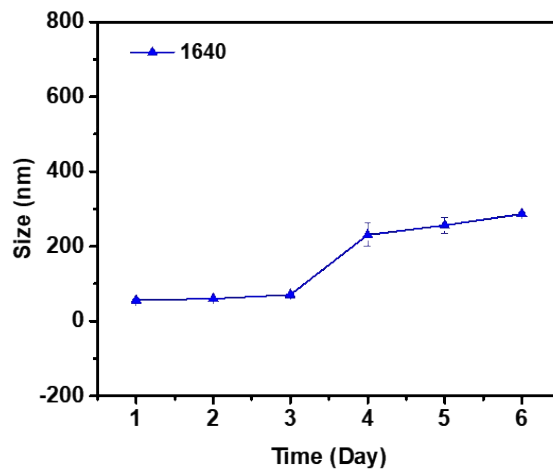


Figure S8. Time-dependent size changes of PDPF NPs in 1640 medium.

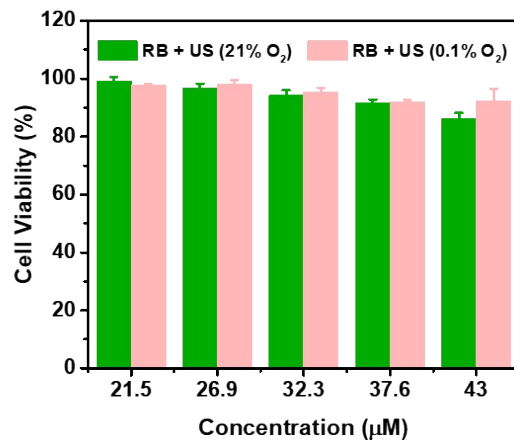


Figure S9. Cytotoxicity assays of RB in 4T1 cells under normoxic and hypoxic conditions with US irradiation (1.75 W/cm², 10 min).