Supporting Information

Catalytic Rhodium (Rh)-Based (Mesoporous Polydopamine) MPDA Nanoparticles with Enhanced Phototherapeutic Efficiency for Overcoming Tumor Hypoxia

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Table S1. Sizes and Zetas of MPDA, Rh@MPDA and Ce6-Rh@MPDA.

Sample	Size (nm)	Zeta (mV)	PDI
MPDA	248.7	-18.8±5.10	0.150
Rh@MPDA	257.6	-23.0±5.39	0.163
Ce6-Rh@MPDA	254.1	-24.3±5.92	0.096

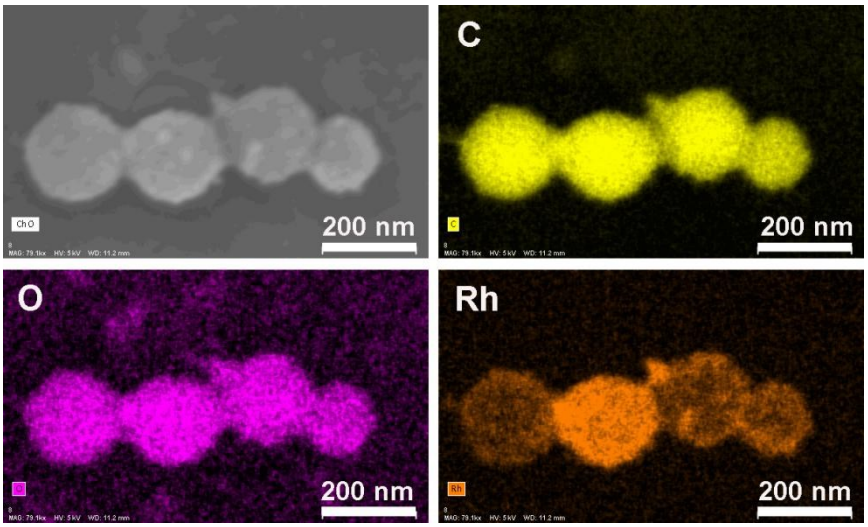

Figure S1. SEM and elemental mapping images of Rh@MPDA.

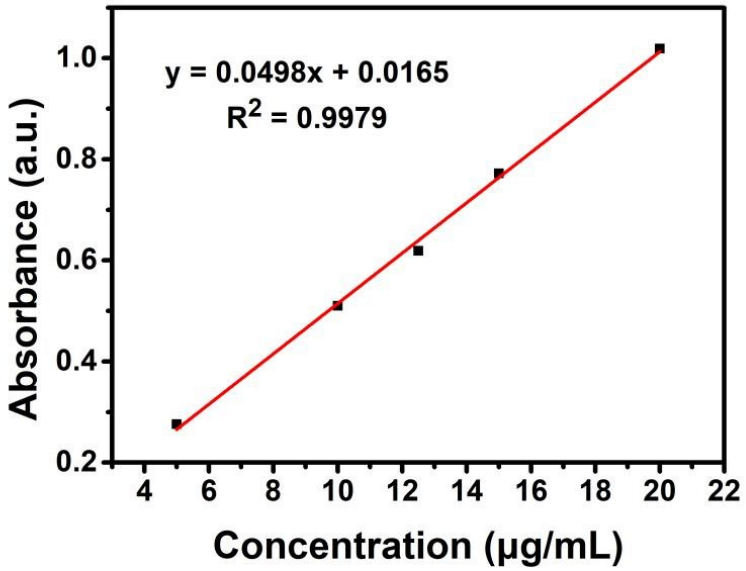

Figure S2. The standard curve of Ce6.

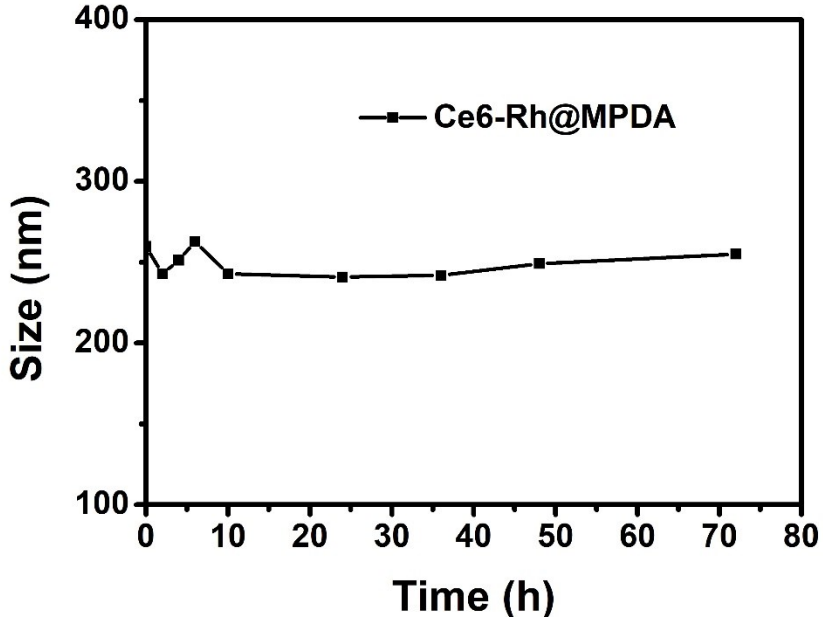

Figure S3. The stability of Ce6-Rh@MPDA in FBS/PBS solution.

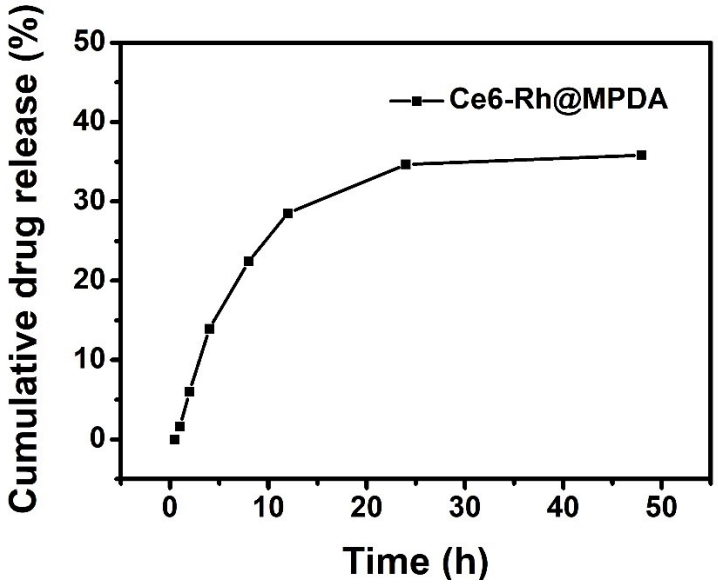

Figure S4. Cumulative drug release of Ce6 in FBS/PBSsolution with pH=7.4.

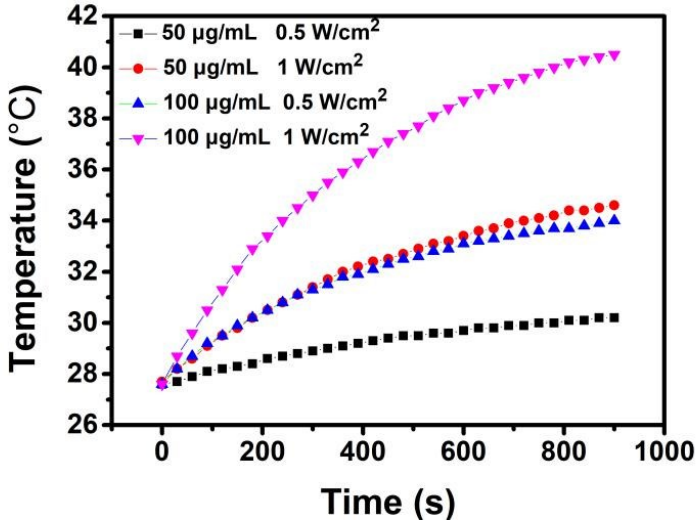

Figure S5. Temperature variations of Ce6-Rh@MPDA under different conditions (808 nm laser, 15 min).

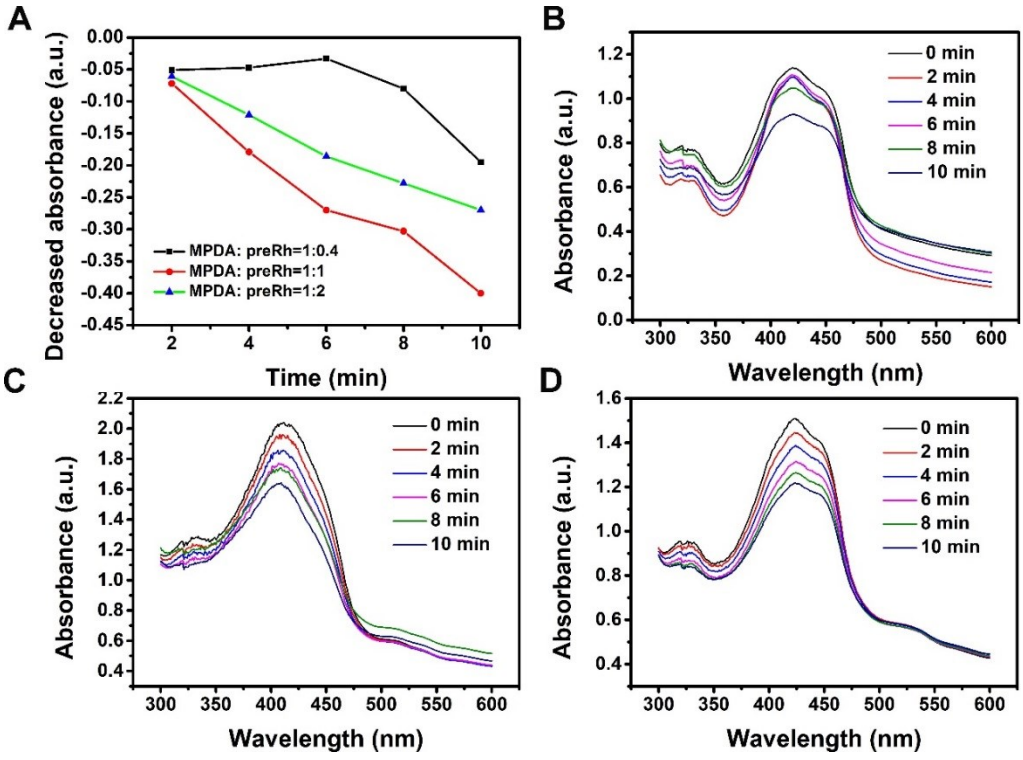

Figure S6. A) The decreased absorbance of DPBF with a 635 nm laser at 0.5 W cm^{-2}. B-D) DPBF absorbance spectra in solutions with three types of Ce6-Rh@MPDA after irradiation for different times (the ratios of MPDA to rhodium chloride trihydrate were 1:0.4 (B), 1:1 (C) and 1:2 (D); the concentrations of Ce6-Rh@MPDA were 50 μg mL^{-1}; 635 nm laser: 0.5 W cm^{-2}, 10 min).

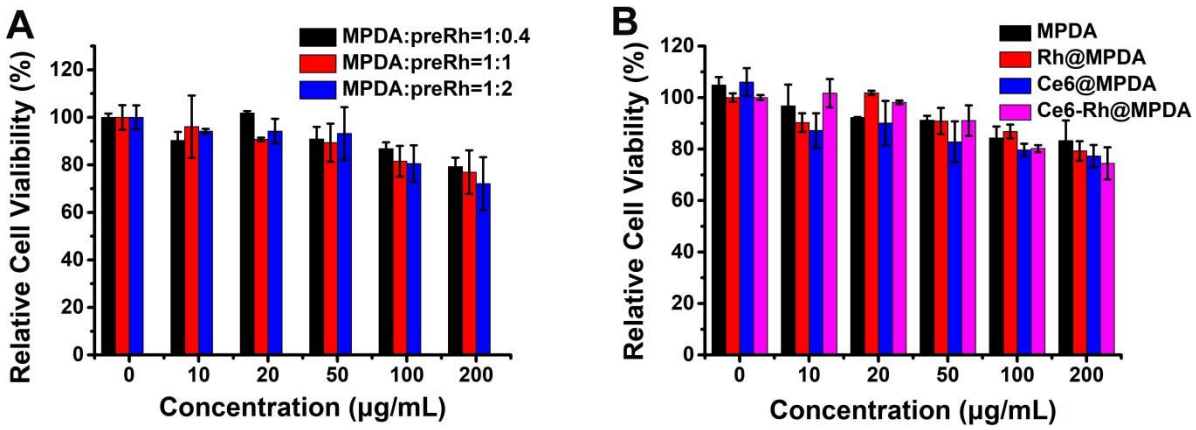

Figure S7. A, B) Relative cell viabilities of 4T1 cells incubated with different samples.

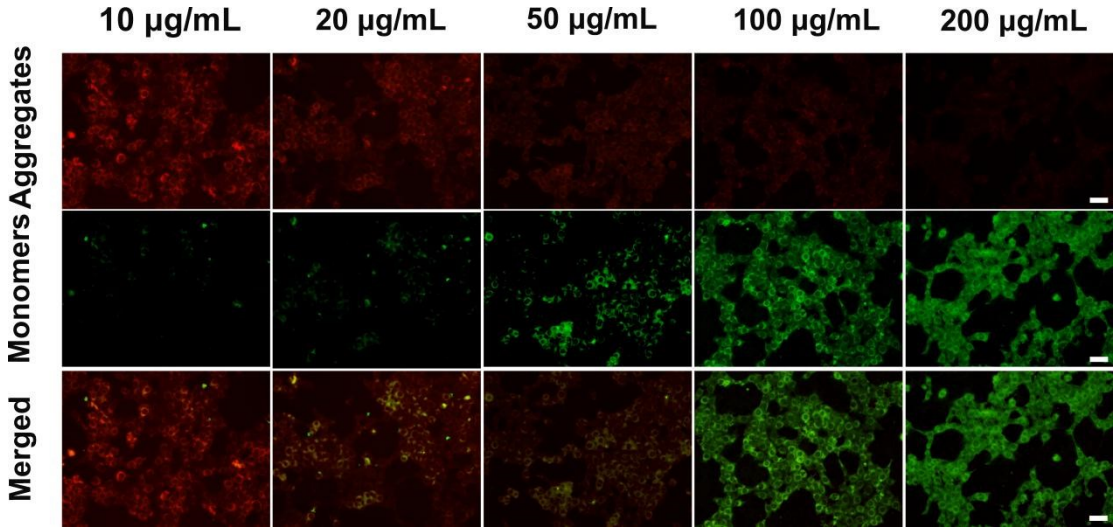

Figure S8. Mitochondrial damage in 4T1 cells subjected to Ce6-Rh@MPDA treatments. The cells were stained with JC-1 (red, aggregates; green, monomers). Scale bar: 20 μm.

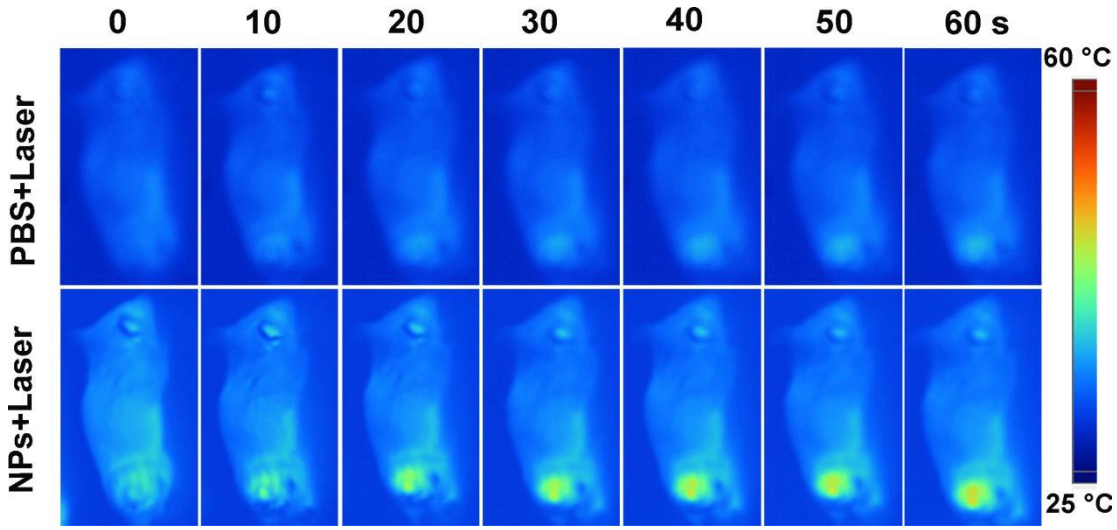

Figure S9. Infrared thermal mapping of 4T1 tumor-bearing mice under laser irradiation (808 nm, 1 W cm^{-2}, 1 min) post-injection of PBS (200 μL) or Ce6-Rh@MPDA (200 μL, 1 mg mL^{-1}).

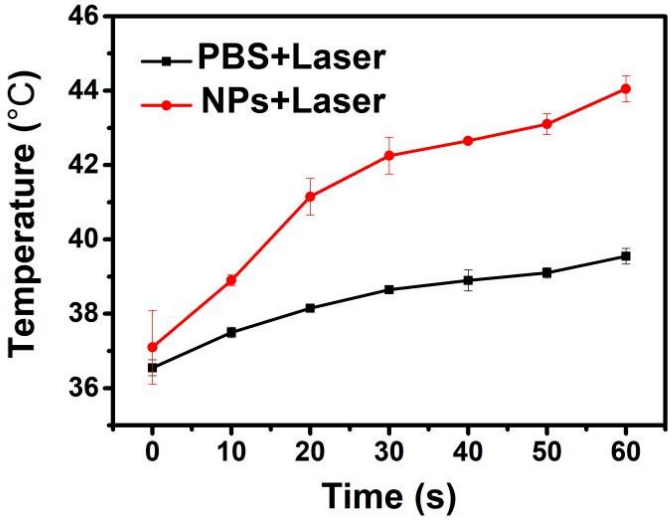

Figure S10. Quantitative values of corresponding temperature changes of 4T1 tumor-bearing mice post-injection of PBS solution or Ce6-Rh@MPDA (1 mg mL^{-1}) under laser irradiation (808 nm, 1 W cm^{-2}, 1 min).

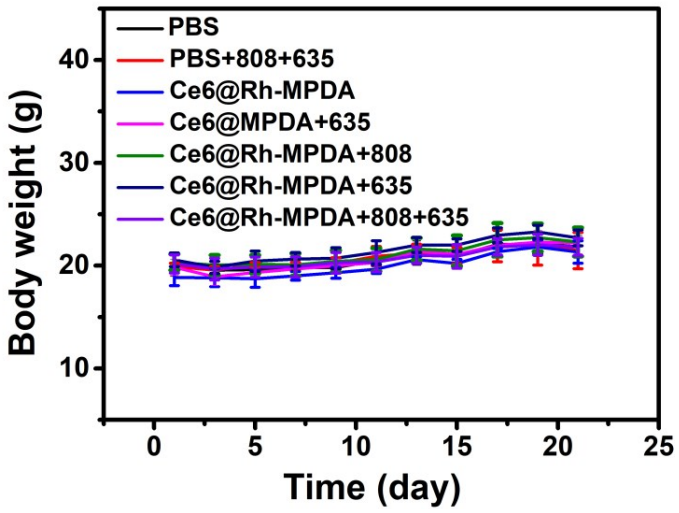

Figure S11. Body weight changes of mice during the experimental period.