

Supporting Information

Tumor-microenvironment Fully Responsive Nano-platform for MRI-guided Photodynamic and Photothermal Synergistic Therapy

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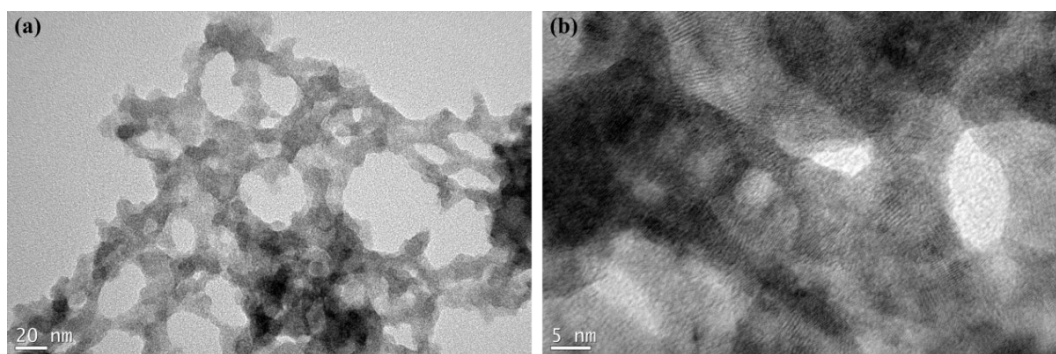


Fig. S1. HR-TEM images of MnO₂ nanoparticles.

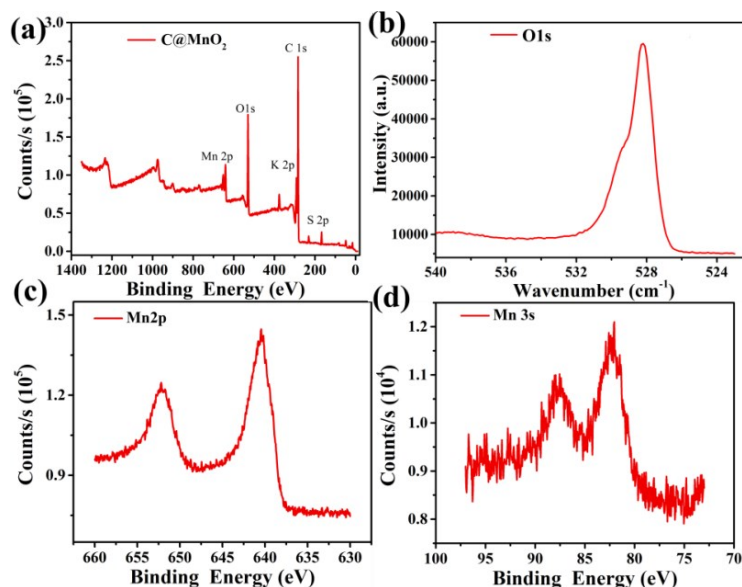


Fig. S2. XPS spectrum of (a) C@MnO₂, (b) Mn 2p, (c) Mn 3s and (d) O 1s.

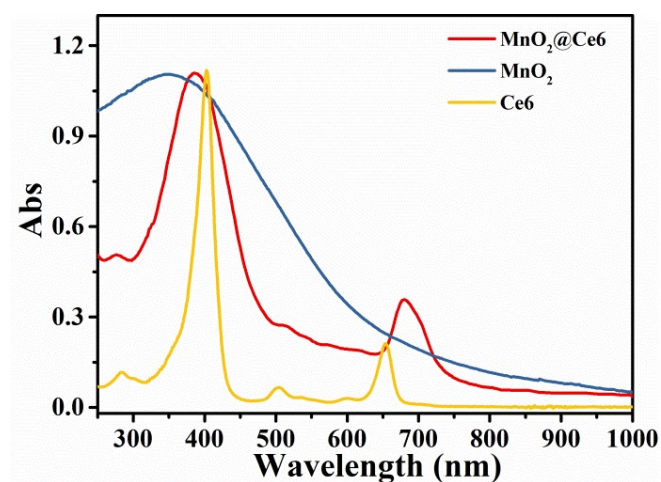


Fig. S3. UV-vis spectrum of the indicated samples.

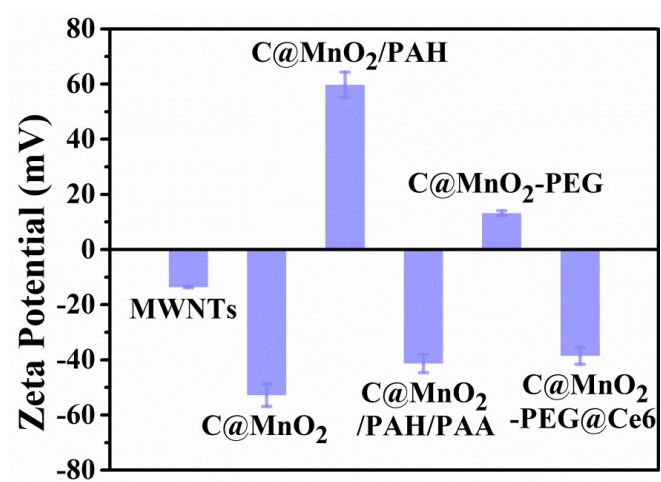


Fig. S4. Zeta potential of the indicated samples (average of five measurements).

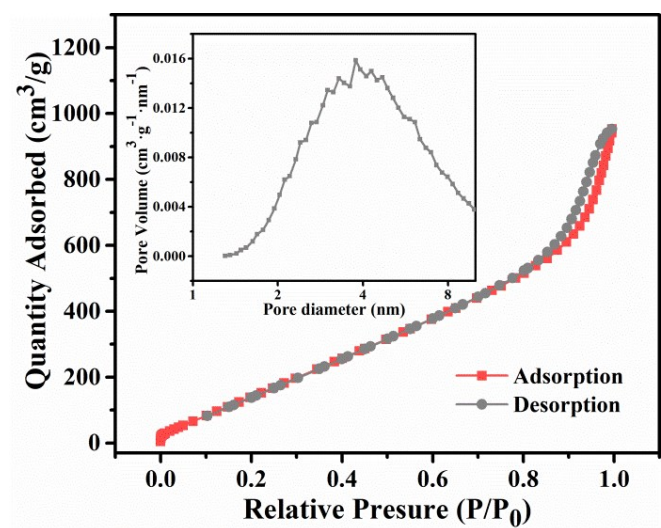


Fig. S5. BET adsorption and desorption curves of C@MnO₂. Inset: distribution of pore diameter.

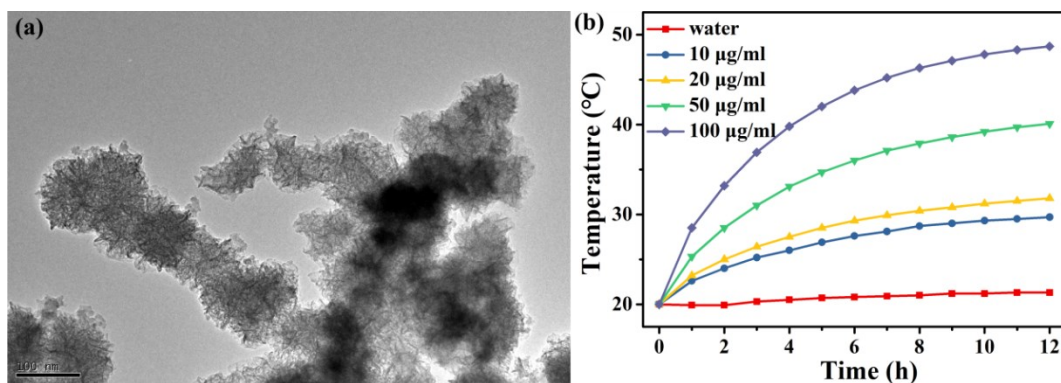


Fig. S6. TEM images and photothermal conversion curve of C@MnO₂ sheet as a function of concentration.

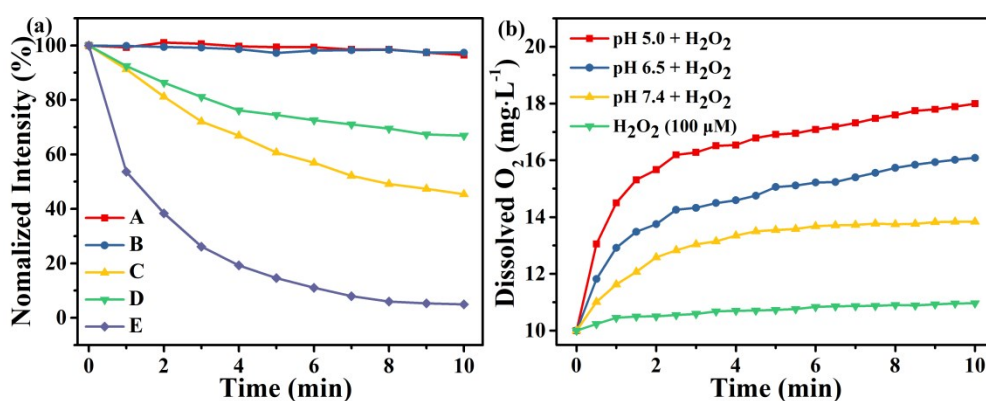


Fig. S7. (a): Consumption of DMA triggered ¹O₂: pH 5.5 PBS, B: free Ce6, C: free Ce6+ Laser, D: C@MnO₂-PEG+H₂O₂, and E: C@MnO₂-PEG@Ce6+H₂O₂+Laser. H₂O₂ concentration = 50 µM, laser: 660nm, 100 mW·cm⁻², 1 min. (b): The O₂ concentration generation ability of C@MnO₂-PEG@Ce6 in H₂O₂ solutions (100 µM) in different pH conditions.

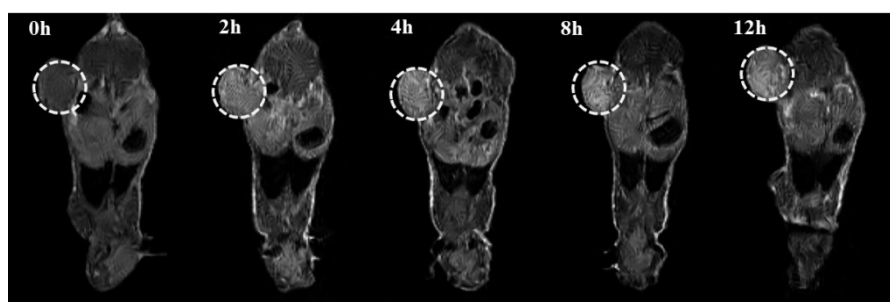


Fig. S8. *In vivo* T1-weighted MRI images of tumor-bearing mice before and after intravenous injection of C@MnO₂-PEG.

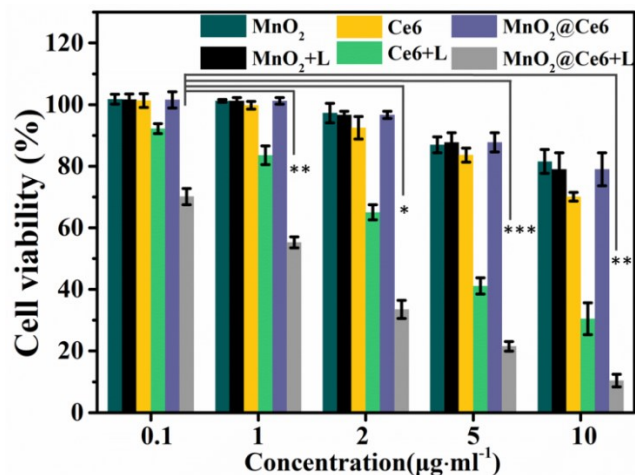


Fig. S9. Viability of HeLa cells incubated with varying concentration of MnO₂, Ce6 and MnO₂@Ce6 for 24h. Laser: 660 nm, 60 mW·cm⁻², 1 min. (*P<0.05, **P<0.01, and ***P<0.001)

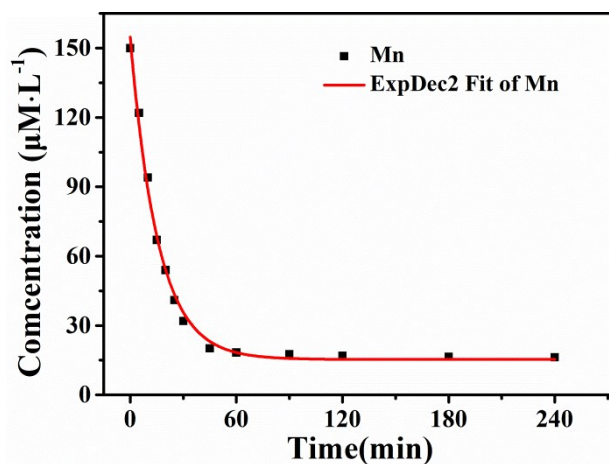


Fig.S10. The Mn concentration-time curve in blood of tail intravenously injected C@MnO₂-PEG@Ce6.

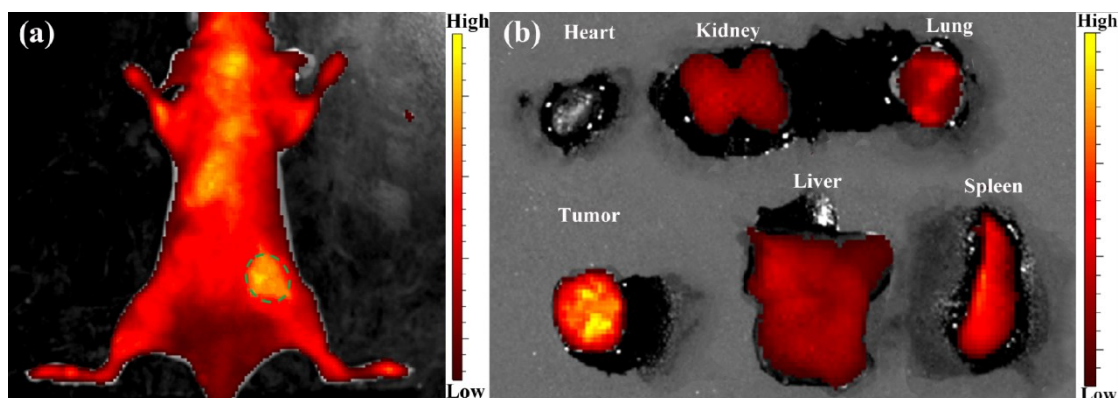


Fig.S11. FL images of tumor-bearing mice after post-injection of C@MnO₂-PEG@Ce6 and FL intensity of major organs (heart, kidney, lung, spleen, liver) and tumor dissected from the mice at 24 h.

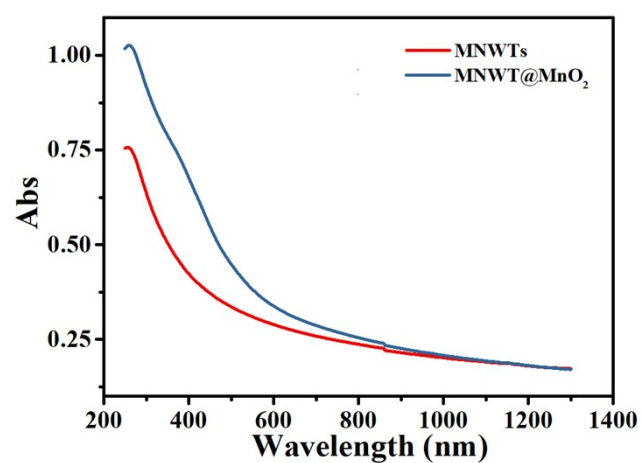


Fig.S12. Absorption spectra of MWNTs and MNWT@MnO₂.

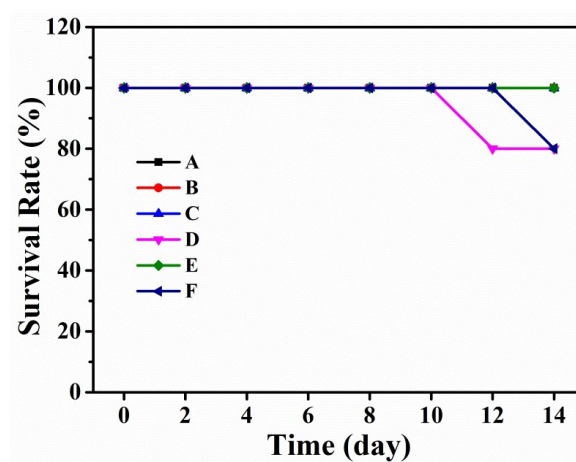


Fig.S13. Survival rate of mice treated with different samples.