Electronic Supplementary Information (ESI)

Carbon Network-Hosted Porphyrin as a Highly Biocompatible Nanophotosensitizer for Enhanced Photodynamic Therapy

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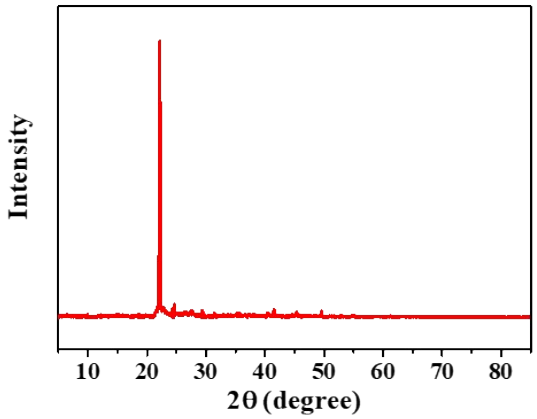

Figure S1. XRD pattern of CPs.

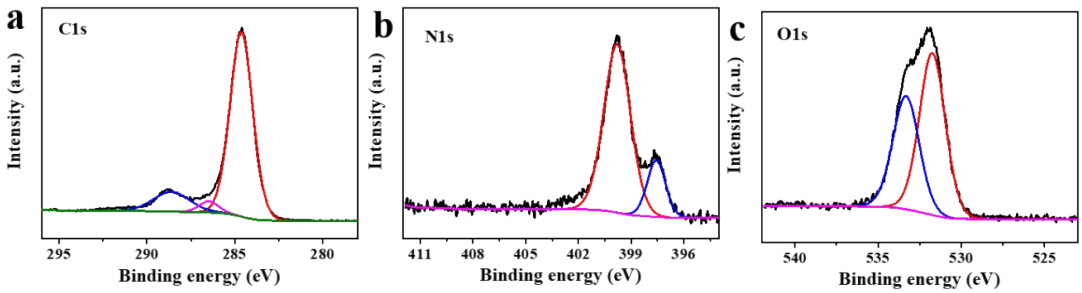

Figure S2. (a) C1s XPS spectra of CPs. (b) N1s XPS spectra of CPs. (c) O1s XPS spectra of CPs.

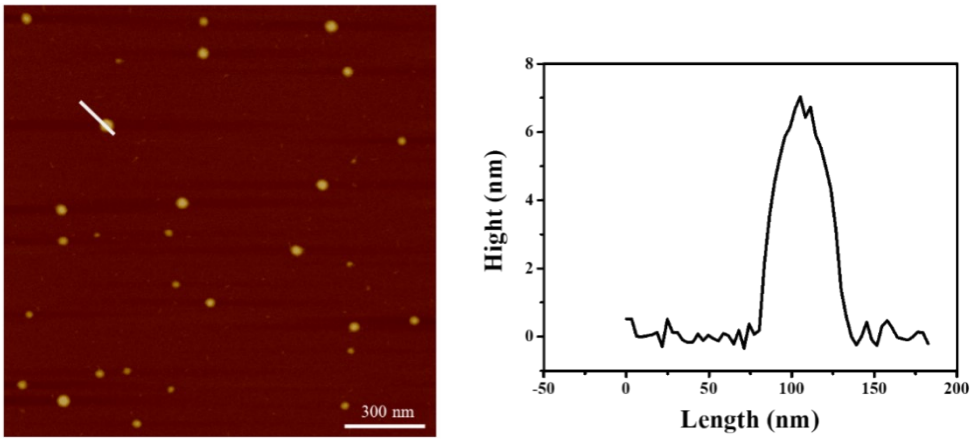

Figure S3. AFM image of T-CPs.

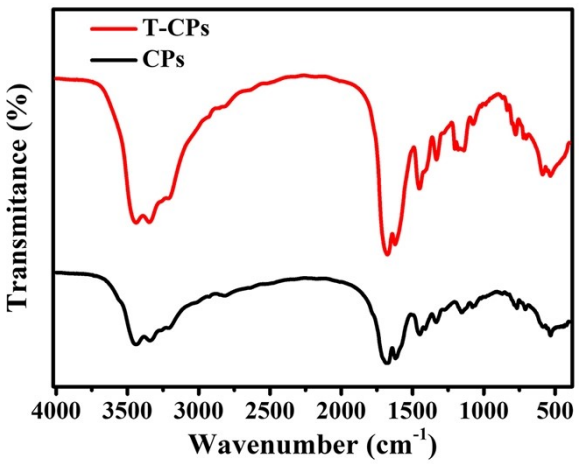

Figure S4. FTIR spectra of CPs and T-CPs.

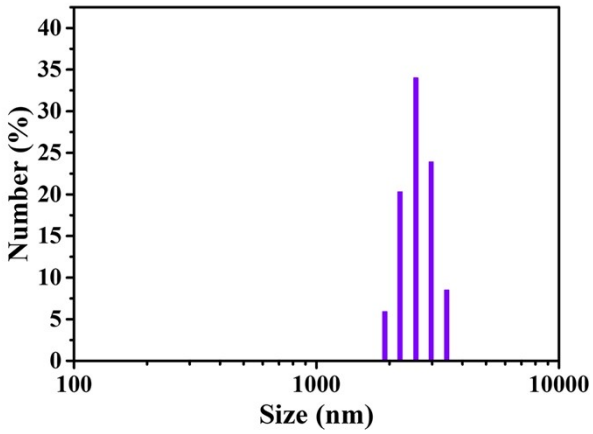

Figure S5. Hydrodynamic diameters of TCPP.

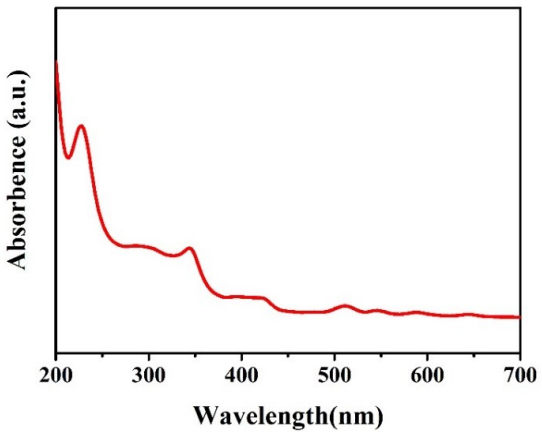

Figure S6. Absorption spectrum of TCPP in DMSO.

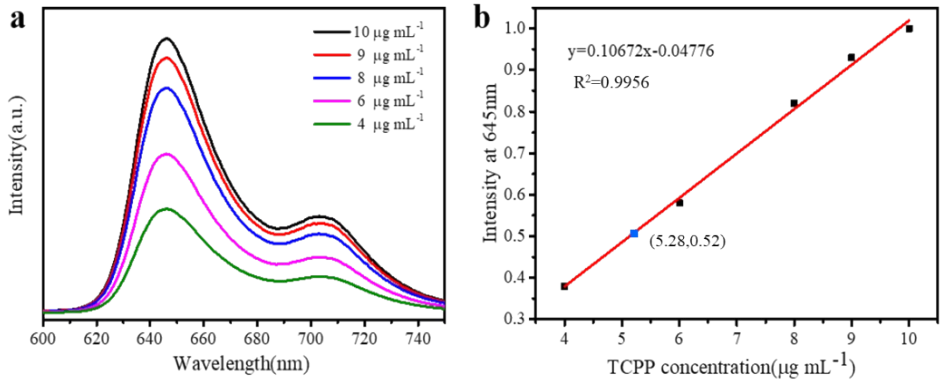

Figure S7. (a) Fluorescence spectra of TCPP in DMSO at different concentrations. (b) Normalized fluorescence intensity of TCPP at different concentrations at λ_{em}= 645 nm. The standard curves of TCPP were measured by the fluorescence of TCPP in DMSO. The CPs were prepared in two same samples (same volumes). One sample (1 mL) was freeze-dried directly to calculate the total weight. The mass of CPs was 8.38 mg. Another sample (1 mL) was diluted a thousand times. Then, the diluent was measured the fluorescence of TCPP. The concentration of TCPP in the diluent were calculated by the standard working curves, which was 5.28 μg mL^{-1}. The concentration of prepared CPs (1 mL) before dilution was 5.28 mg mL^{-1}. Therefore, loading rate of TCPP was (5.28/8.38) × 100% = 63%

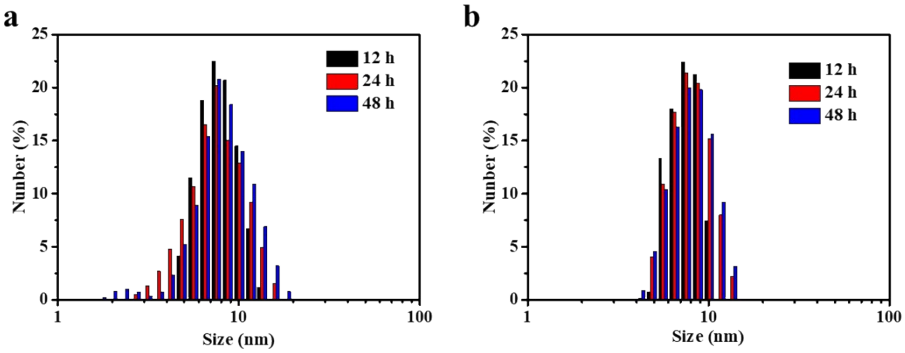

Figure S8. Hydrodynamic diameters of (a) CPs and (b) T-CPs after different times incubation in PBS.

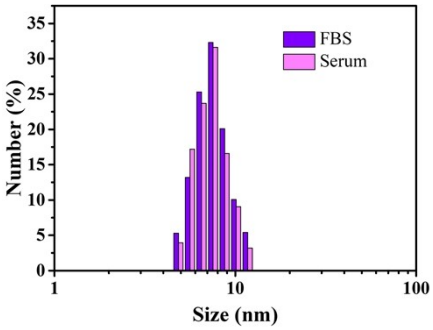

Figure S9. Hydrodynamic diameters of T-CPs in FBS and serum.

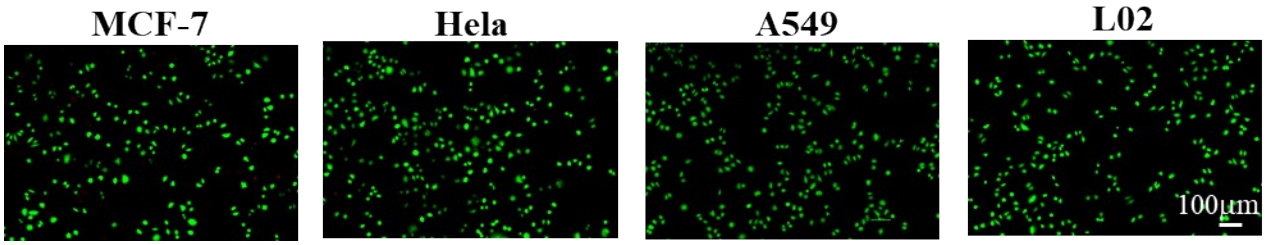

Figure S10. Live/dead staining of different cells after treatment with T-CPs for 24 h.

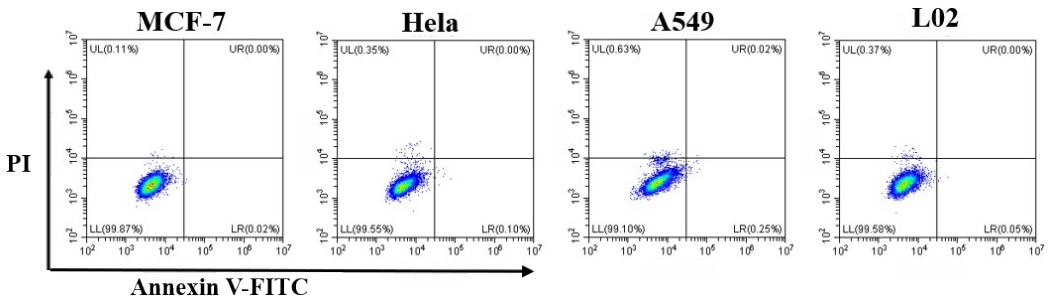

Figure S11. Flow cytometry analysis of different cells after treatments with T-CPs for 24 h.

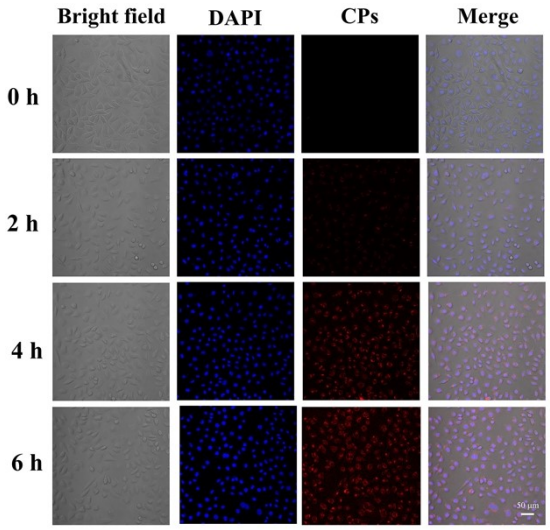

Figure S12. Intracellular phagocytosis of CPs after incubating for different time.

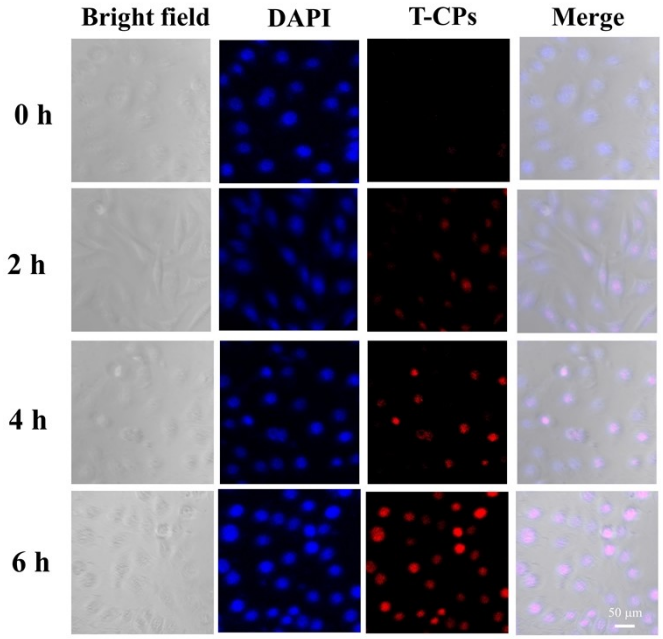

Figure S13. Intracellular phagocytosis of CPs after incubating for different time.

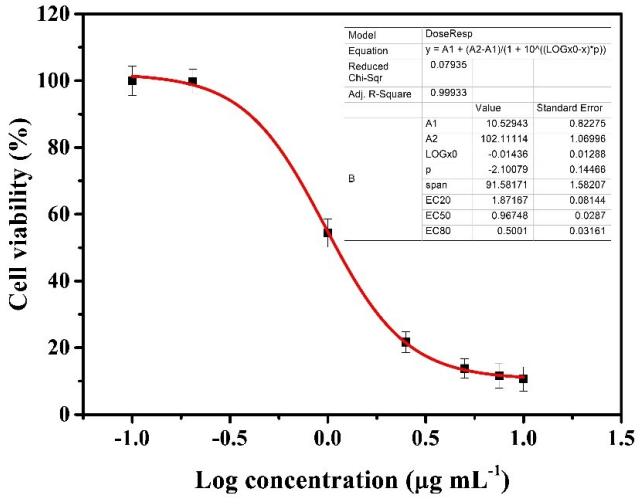

Figure S14. IC_{50} calculation of T-CPs under light irradiation (660 nm, 100 mW cm^{-2}) for 10 min.

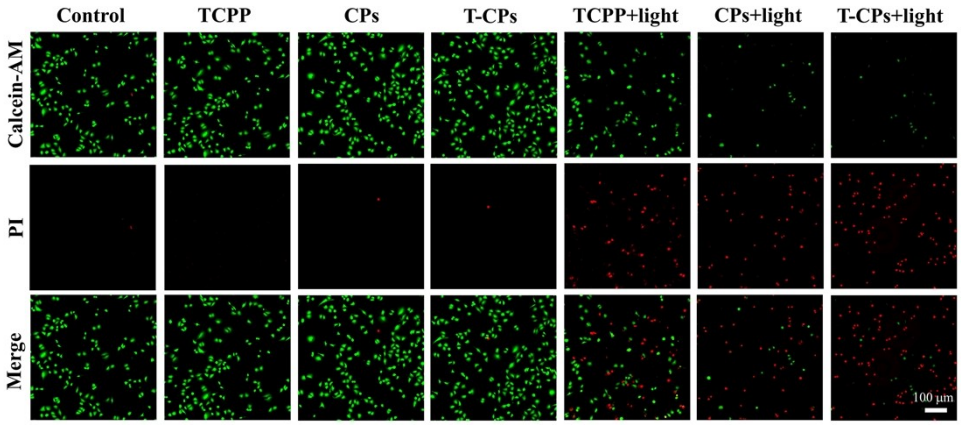

Figure S15. Live/dead staining of MCF-7 cells after different treatments. Green fluorescence shows the live cells stained with calcein AM, and red fluorescence shows the dead cells stained with PI.

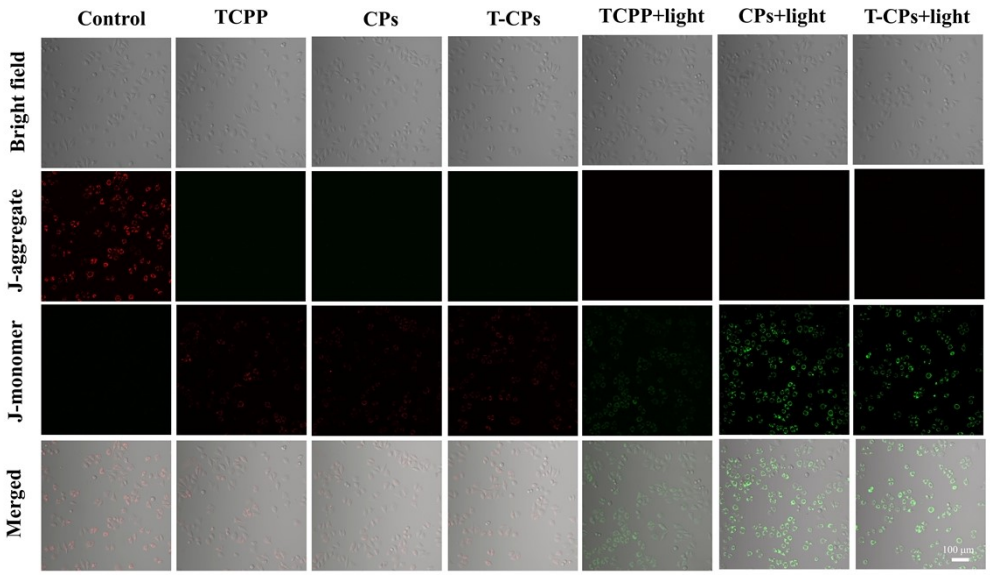

Figure S16. JC-1 determining the mitochondrial membrane potential changes.

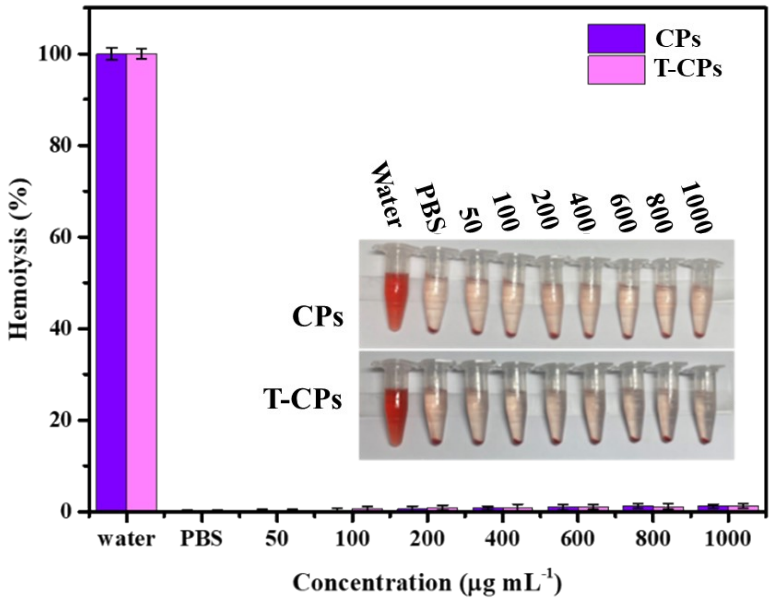

Figure S17. Hemolytic behavior of CPs and T-CPs.

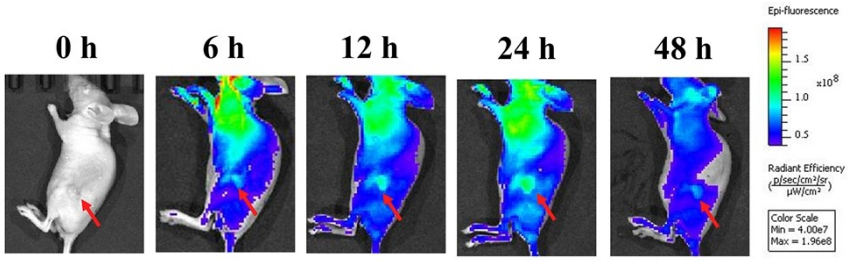

Figure S18. Time dependent in vivo fluorescence imaging of tumor-bearing mice after intravenous injection of T-CPs.

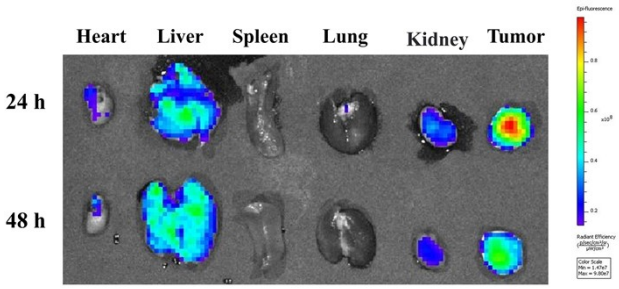

Figure S19. Time dependent in ex vivo fluorescence imaging of tumor-bearing mice after intravenous injection of T-CPs.

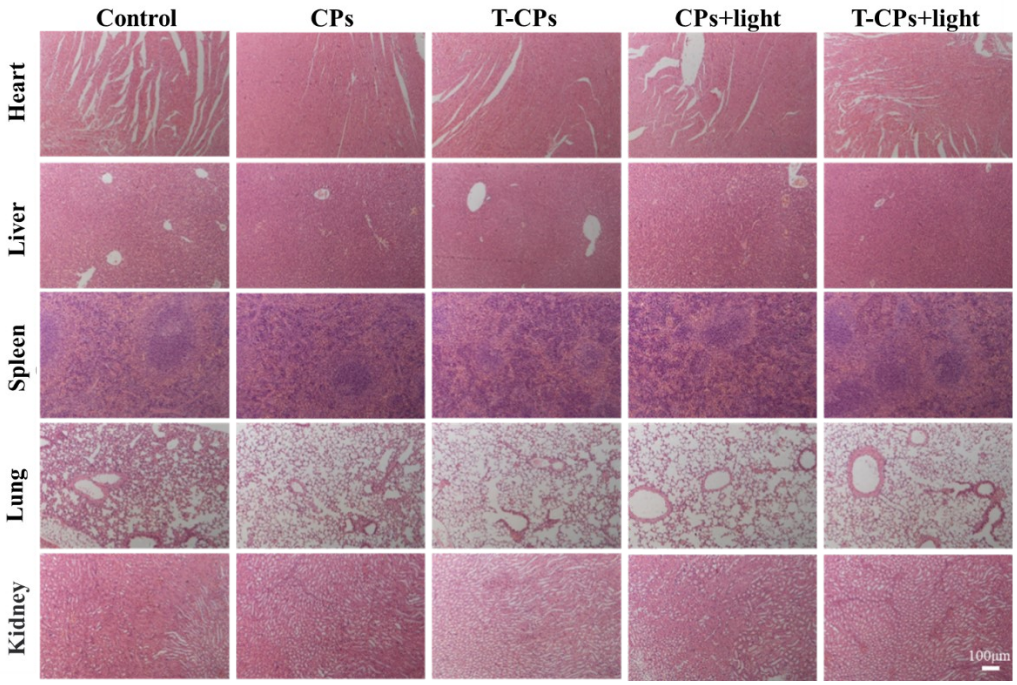

Figure S20. H&E stained histological images of major organs after different treatments.