Supporting Information

for

A Nanozyme Combing Multi-Enzymatic Activity with Targeted Carbon Monoxide Delivery for Synergistic Antitumor Therapy

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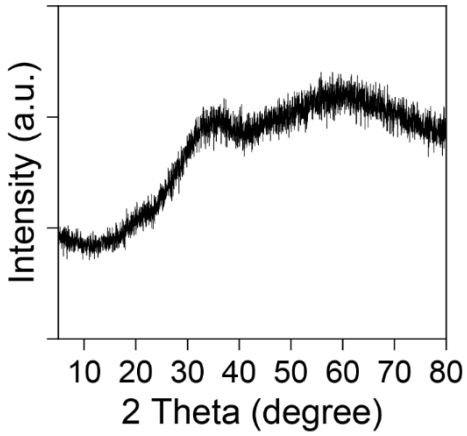

Fig. S1 XRD pattern of CuPO NPs.

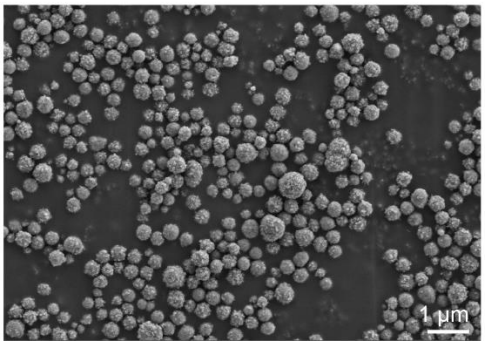

Fig. S2 SEM image of CuPO NPs. Scale bar: 1 µm.

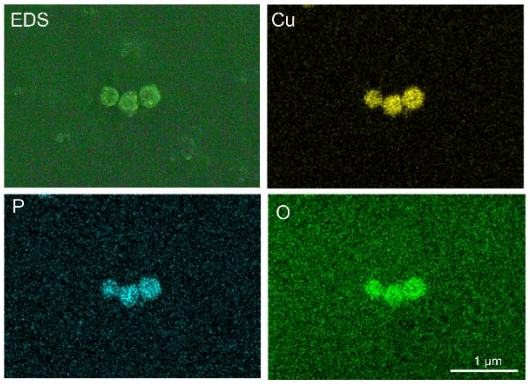

Fig. S3 EDS elemental mapping images of CuPO NPs. Cu, yellow; P, blue; and O, green. Scale bar: 1 µm.

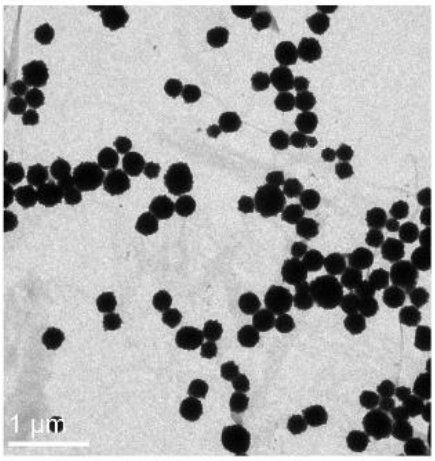

Fig. S4 A larger field view of TEM of CPMF.

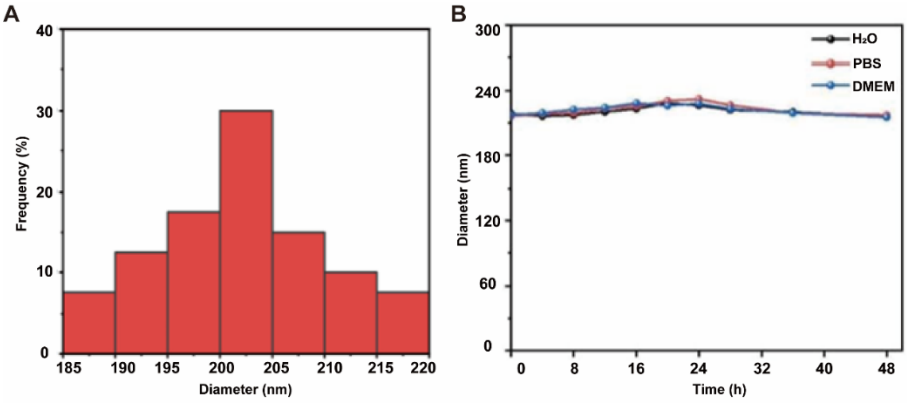

Fig. S5 (A) Corresponding particle size distribution maps of CPMF nanoplatform. (B) Hydrodynamic size variation in 48 h of CPMF nanoplatform. CPMF: CuPO@PDA@MnCO@FA.

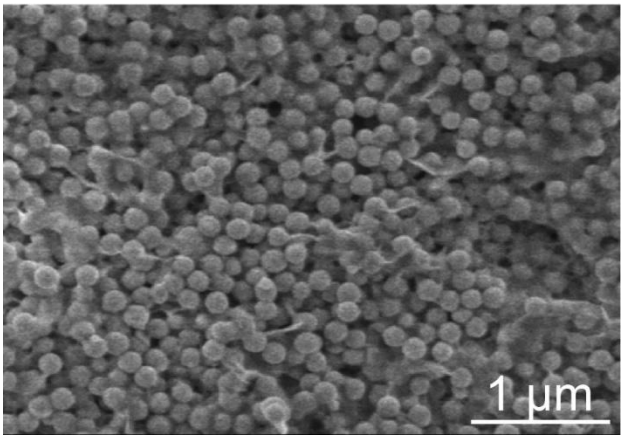

Fig. S6 SEM image of CPMF.

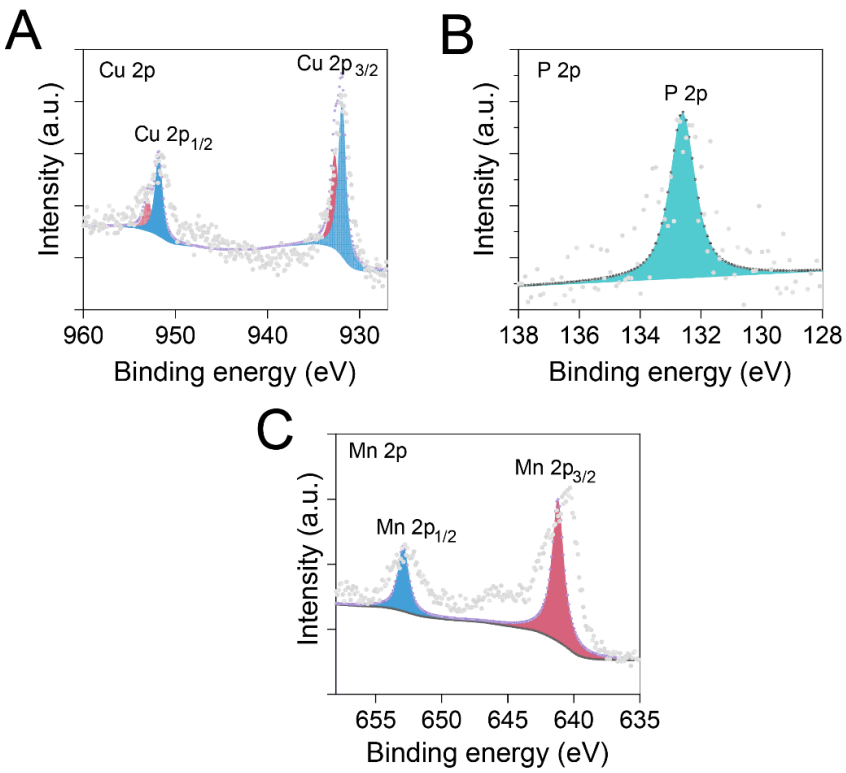

Fig. S7 (A) XPS high-resolution Cu 2p, (B) high-resolution P 2p, (C) high-resolution Mn 2p of CPMF.

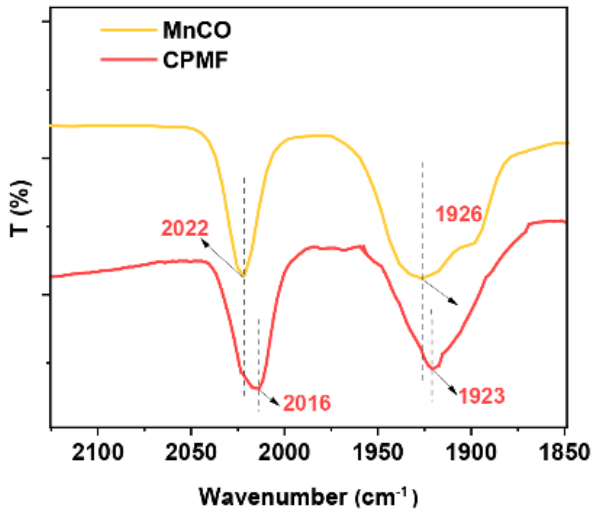

Fig. S8 The enlarged FT-IR spectra of MnCO and CPMF. CPMF: CuPO@PDA@MnCO@FA.

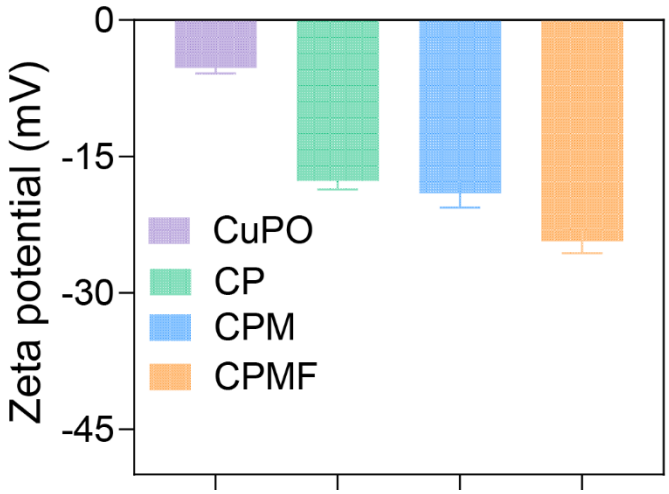

Fig. S9 Zeta potential of CuPO, CP, CPM, and CPMF. CP: CuPO@PDA, CPM: CuPO@PDA@MnCO, CPMF: CuPO@PDA@MnCO@FA.

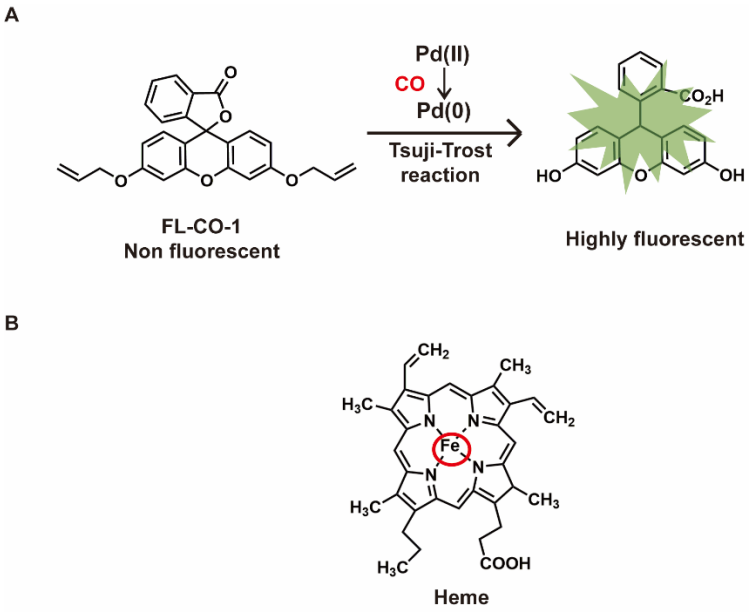

Fig. S10 (A) Schematic diagram of the mechanism of CO detection by the FL-CO-1 probe. (B) Structural formula of hemoglobin.

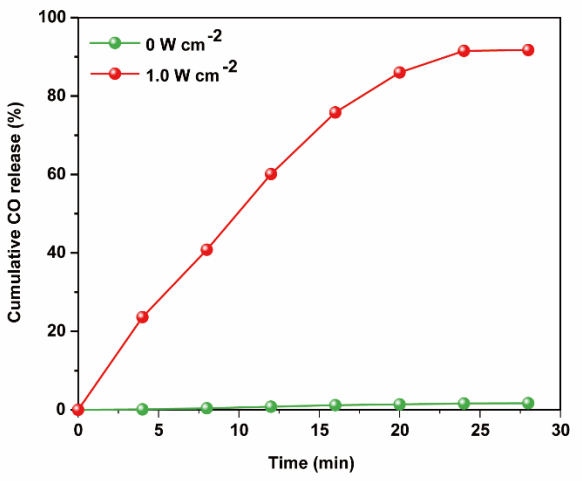

Fig. S11 Cumulative CO release curves under 808 nm light irradiation (0, 1.0 W cm^{-2}).

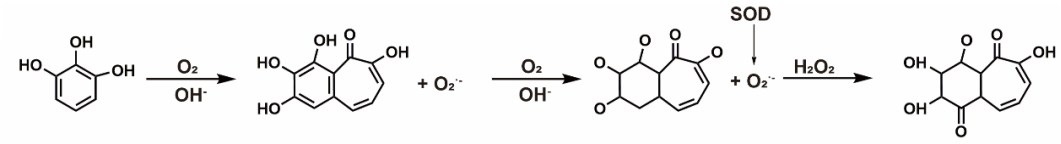

Fig. S12 Schematic diagram of the principle of SOD determination by o-phenylen triol.

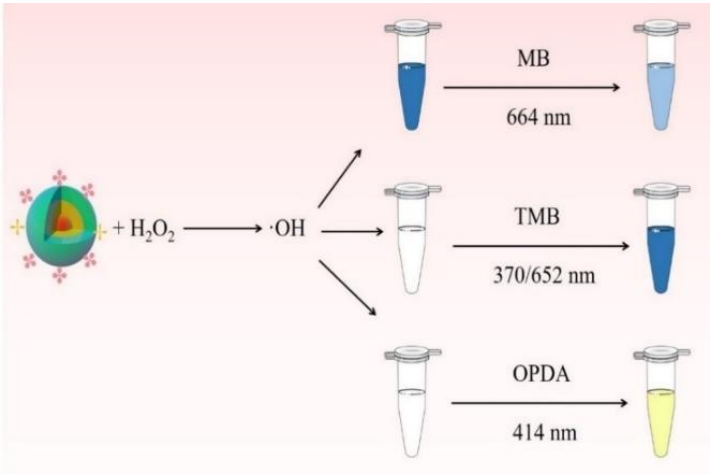

Fig. S13 Schematic diagram of the CPMF nanoplatform, a POD-like enzyme, catalyzing the decomposition of H_2O_2 to generate •OH that is detected by MB, TMB and OPDA indicators, respectively. CPMF: CuPO@PDA@MnCO@FA.

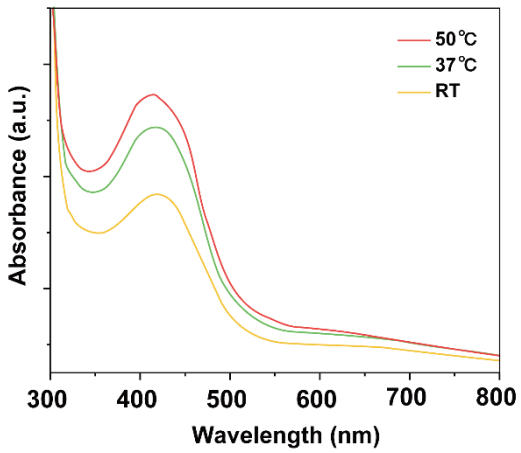

Fig. S14 UV-vis absorption spectra of oxOPDA with the addition of CPMF NPs (0.2 mg mL^{-1}) and H_2O_2 (10 mM) at different temperatures. CPMF: CuPO@PDA@MnCO@FA.

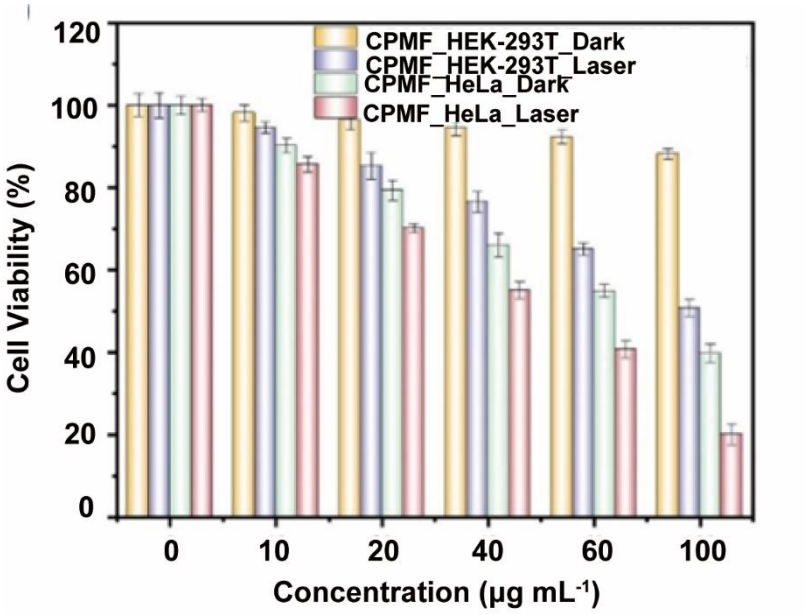

Fig. S15 Comparison of cell survival after CPMF treatment of HeLa and HEK-293T cells under dark and 808 nm light irradiation, respectively. CPMF: CuPO@PDA@MnCO@FA.

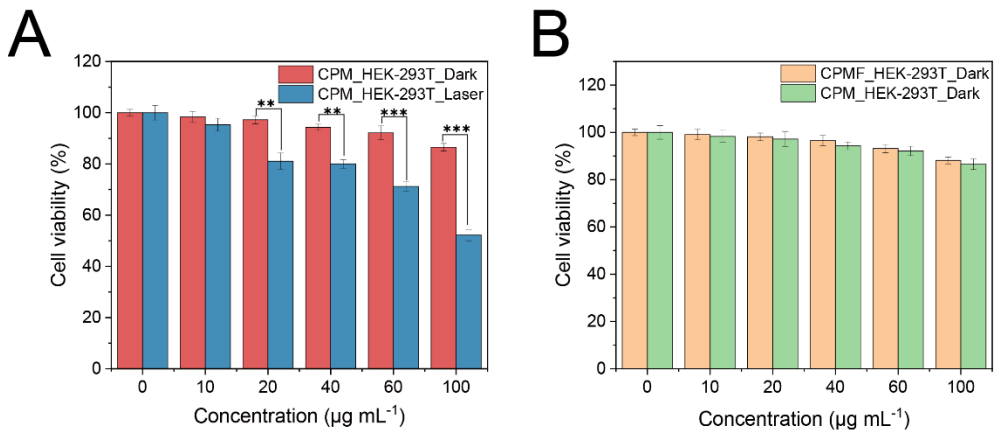

Fig. S16 (A) Comparison of cell survival after CPM treatment of HEK-293T cells under dark and 808 nm light irradiation, respectively. (B) Comparison of cell survival after CPM and CPMF treatment of HEK-293T cells under dark. CPMF: CuPO@PDA@MnCO@FA.