Supplementary Information

The Strategy of Precise Targeting and In Situ Oxygenating for Enhanced Triple-Negative Breast Cancer Chemophototherapy

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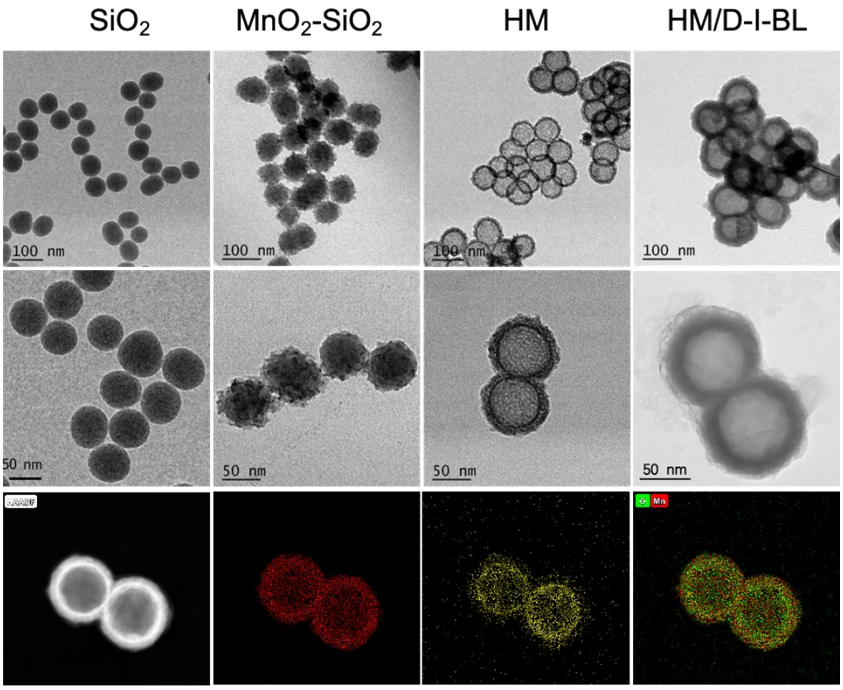

Fig. S1 STEM images of SiO_2, MnO_2-SiO_2, HM and HM/D-I-BL; HAADF-STEM image and elemental mapping for HM.

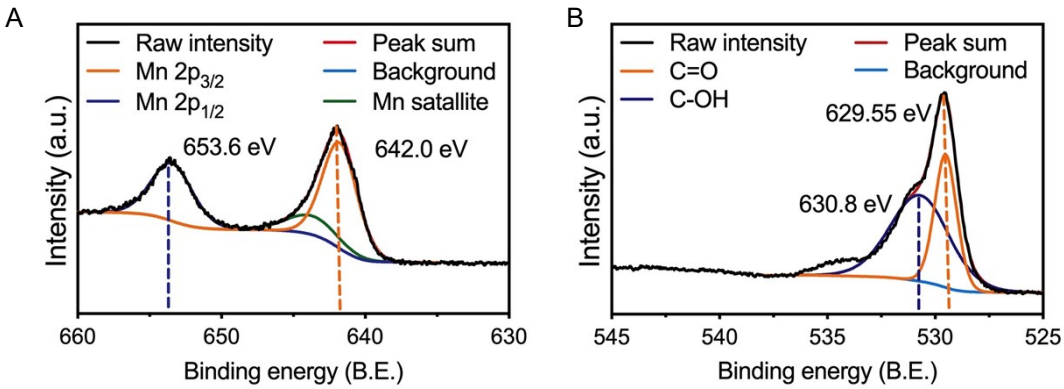

Fig. S2 (A) Mn 2p and (B) O 1s XPS spectrum of HM.

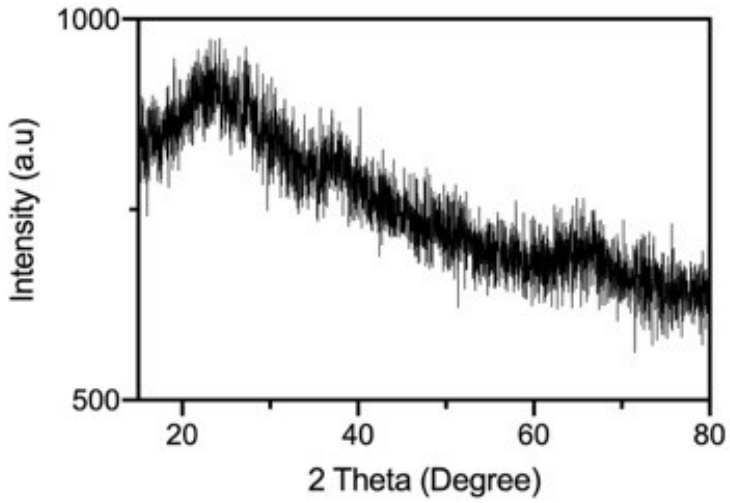

Fig. S3 XRD result of HM.

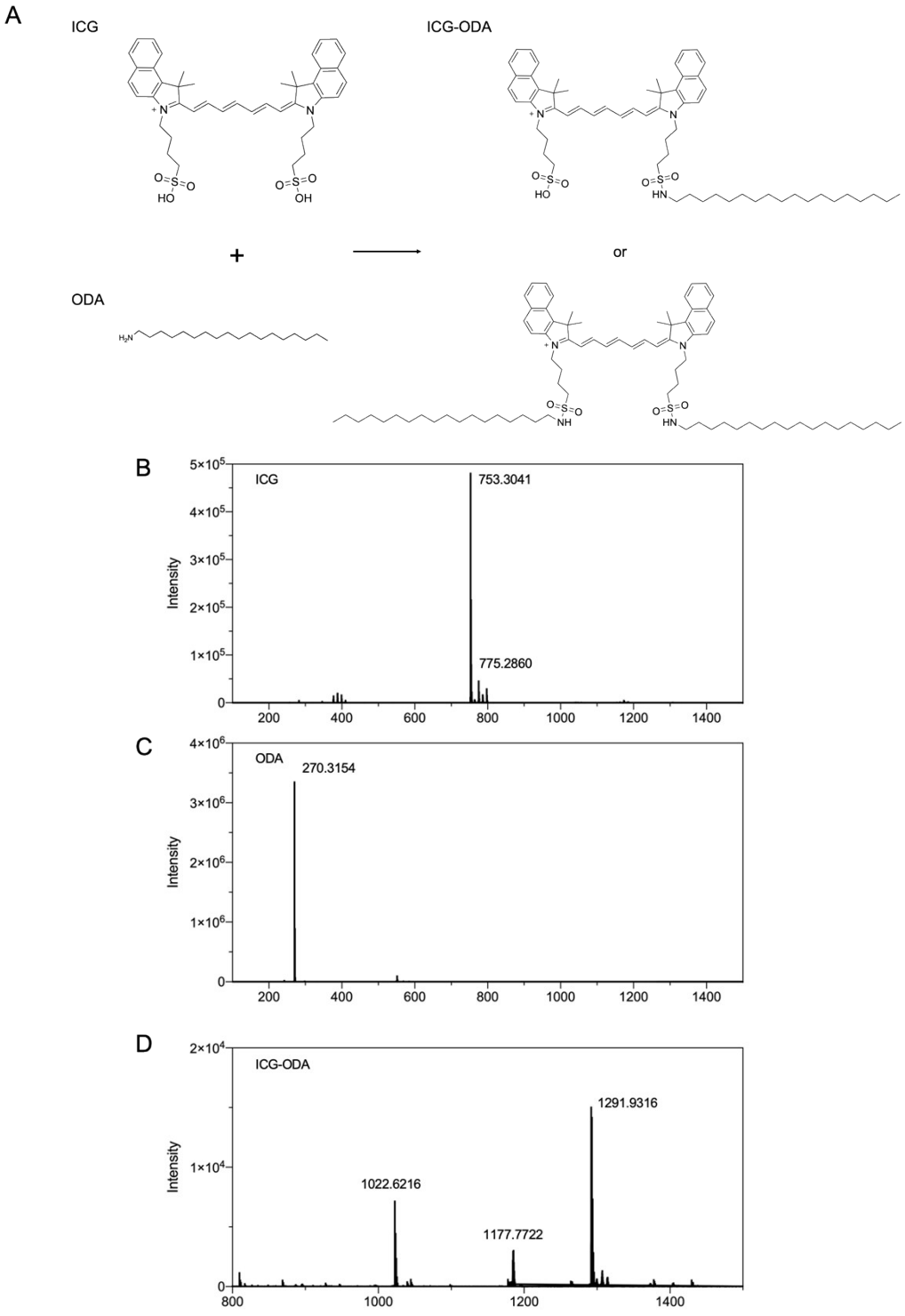

Fig. S4 Synthetic scheme of ICG-ODA conjugates (A). The mass spectrum of ICG (B), ODA (C) and ICG-ODA (B). Abbreviations: ICG, indocyanine green; ODA, octadecylamine; CS-ODA, octadecylamine modified indocyanine green. O-Tof/Tof-MS: calcd for $C_{61}H_{88}N_3O_6S_2^+$ $[M+H_2O]^+$, 1022.6109;Found, 1022.6216. O-Tof/Tof-MS: calcd for $C_{79}H_{127}N_4O_6S_2^+$ $[M+2H_2O]^+$, 1291.9192, Found, 1291.9316.

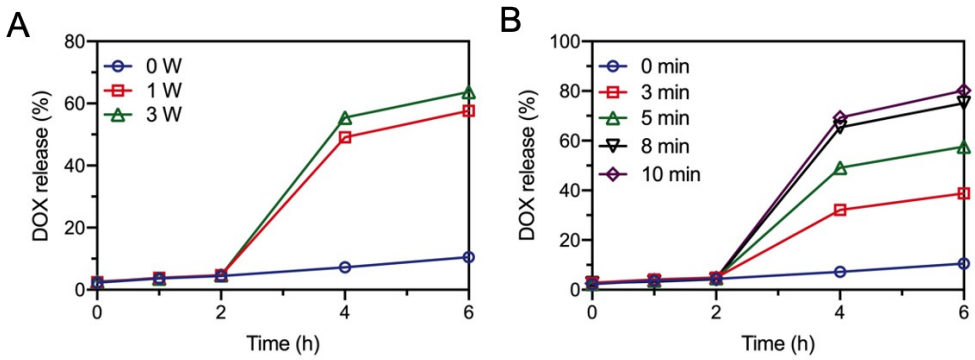

Fig. S5 The influence of different laser irradiation parameters on DOX leakage. (A) The influence of laser irradiation power on DOX leakage; (B) The influence of laser irradiation time on DOX leakage (808nm laser, 1W/cm^2, 5min).

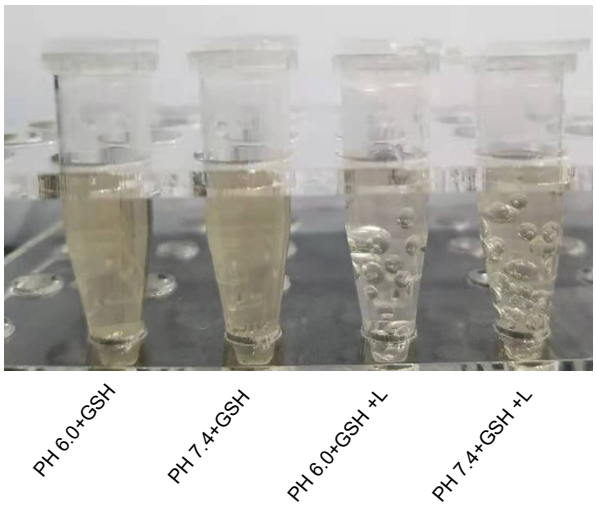

Figure S6. The O_2 generation image of HM/D-I-BL solutions under different PH values with or without laser irradiation.

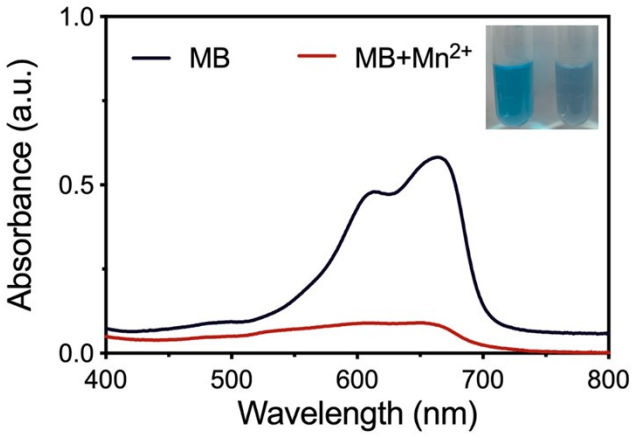

Fig. S7 UV–Vis absorbance spectra and photographs of MB solution (containing 25 mmol/L HCO^{3-} and 8 mmol/L H_2O_2) in presence and absence of 0.2mmol/L Mn^{2+} for 30 min. The decreased UV absorbance and faked color indicated the Fenton-like activity.

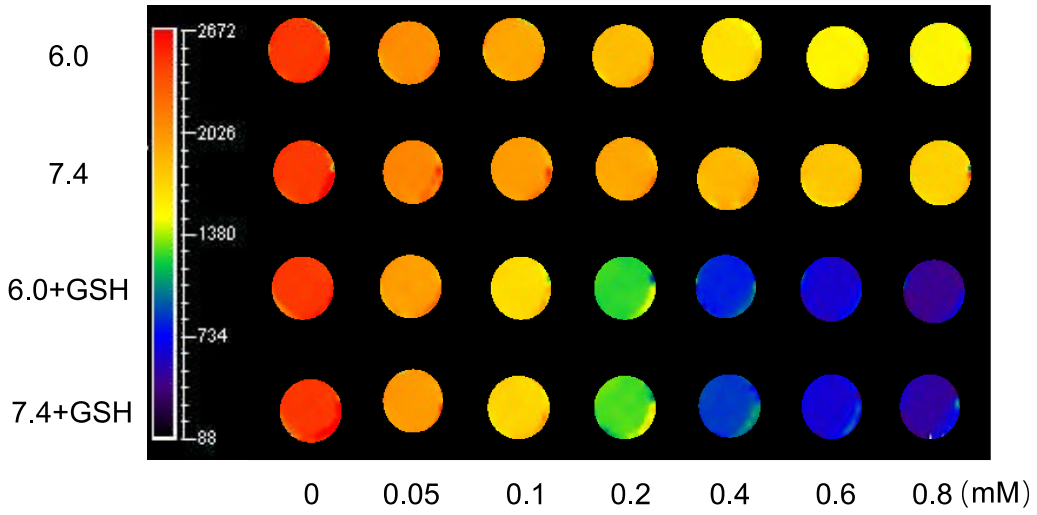

Fig. S8 The T1 weighted mapping result of HM/D-I-BL solutions under different PH values with or without GSH.

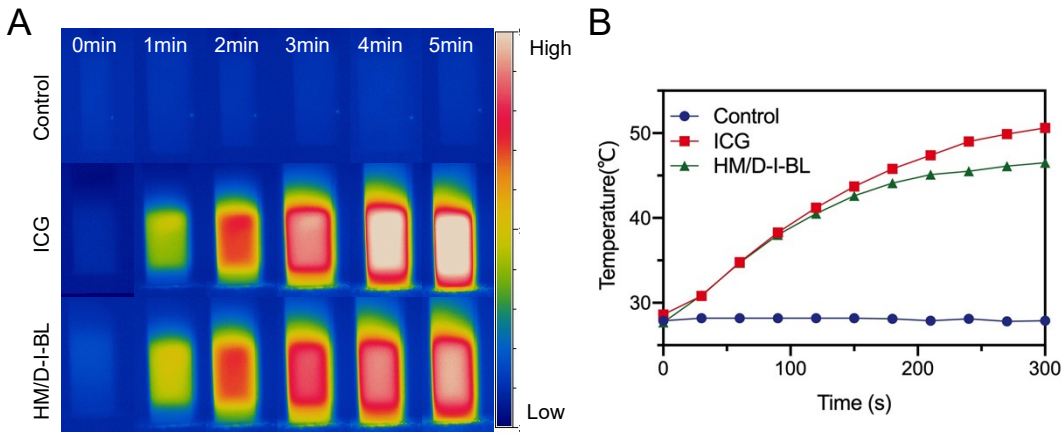

Fig. S9 In vitro infrared thermal images of different solutions after treated with deionized water, ICG and HM/D-I-BL plus laser irradiation (808nm, 1W/cm^2). (B) The temperature changes of different solutions after laser irradiation.

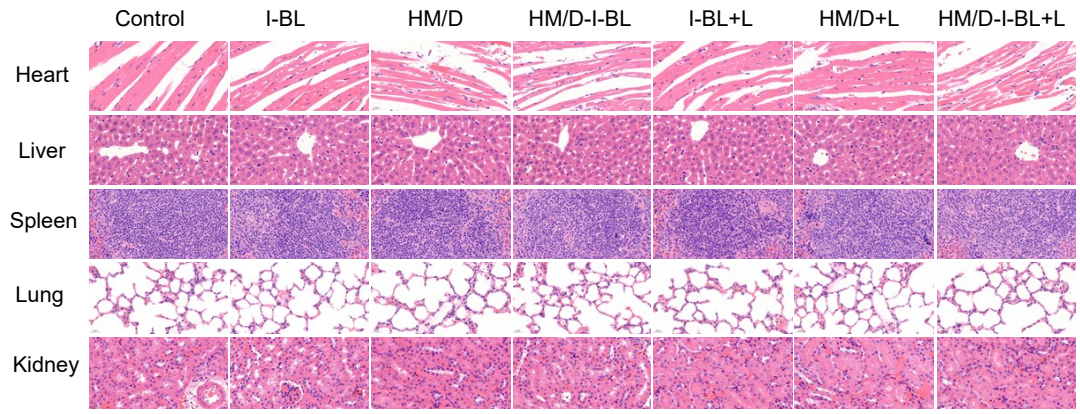

Fig. S10 H&E staining of the major organs from 4T1-bearing mice after different treatments. The bar indicates 20 μm.