

Figure S1 The variation size and the PDI of NPs under different ratio between Mn ions and Dy ions.

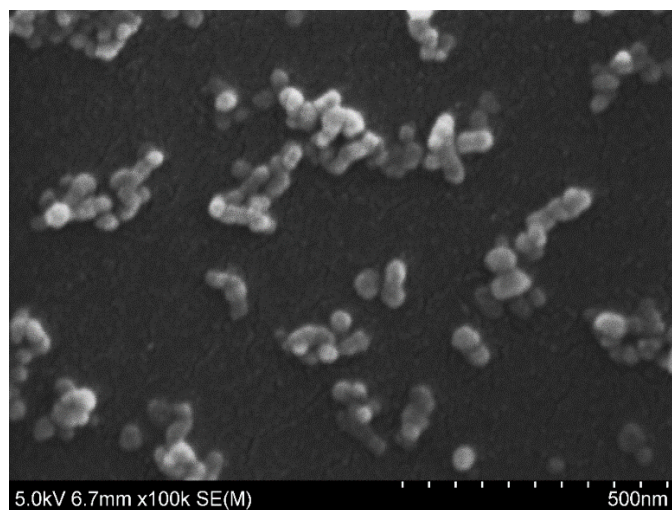


Figure S2 SEM image of Dy/Mn-P. Scale bar = 500 nm.

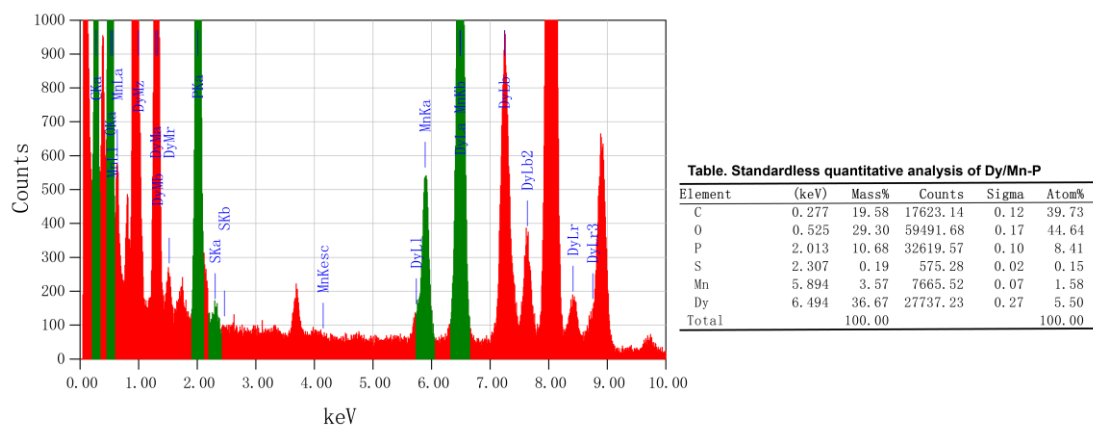


Figure S3 EDS spectrum of Dy/Mn-P.

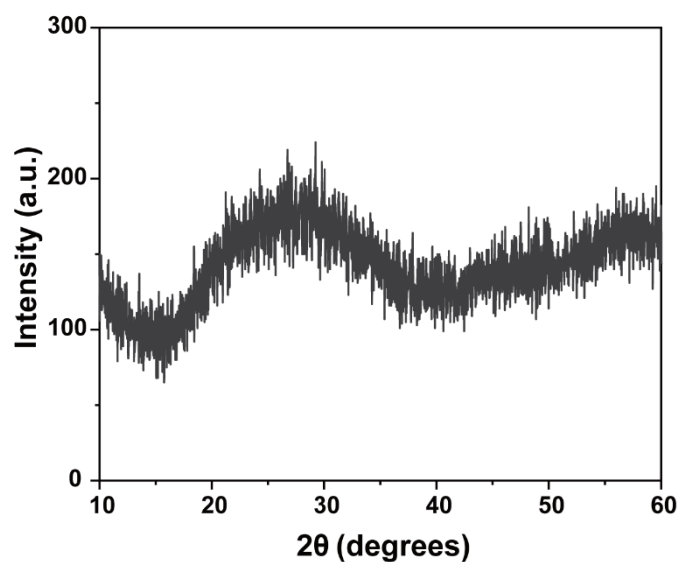


Figure S4 XRD pattern of Dy/Mn-P.

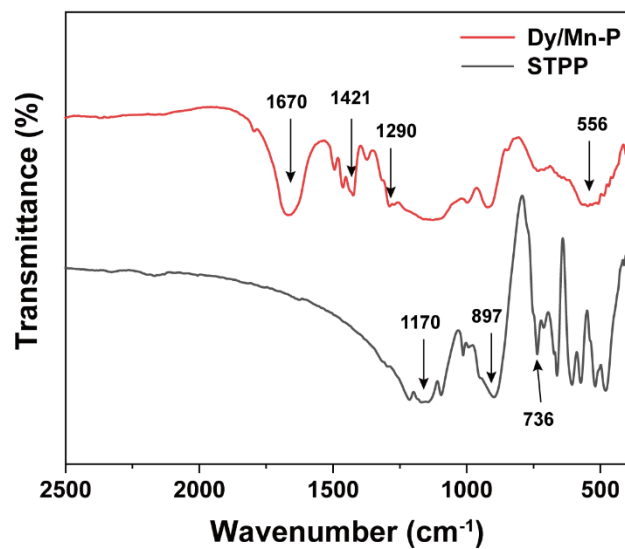


Figure S5 FTIR spectra of Dy/Mn-P and STPP.

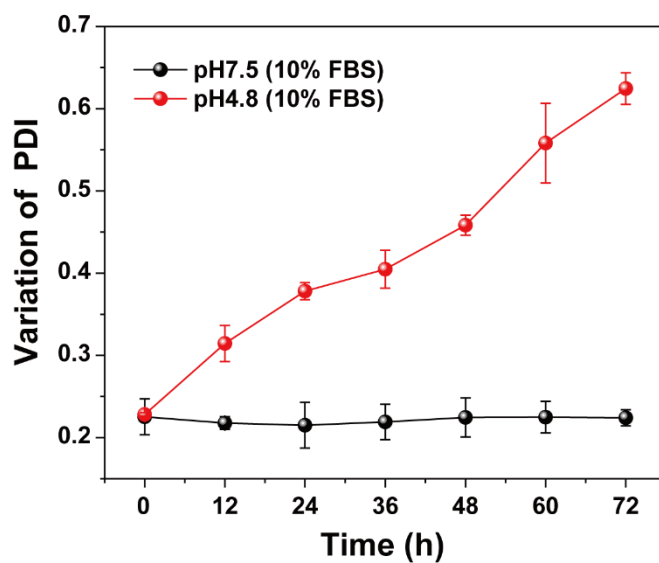


Figure S6 The PDI variation of Dy/Mn-P in 10% FBS in different pH value solution at various time points.

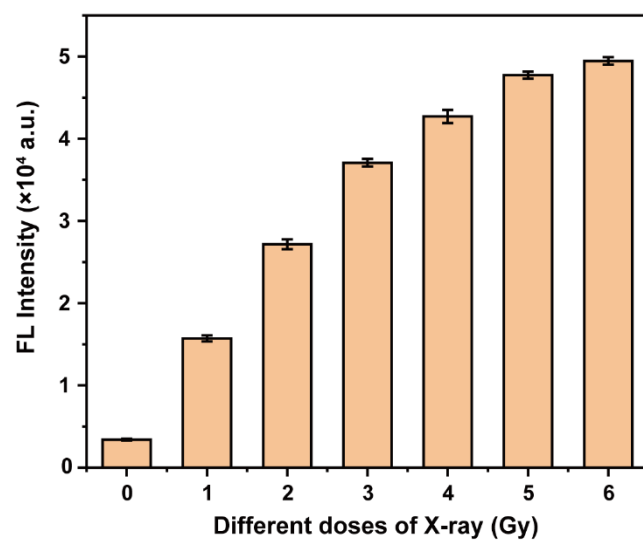


Figure S7 Quantification of generation of $^1\text{O}_2$ induced by Dy/Mn-P at different irradiation doses.

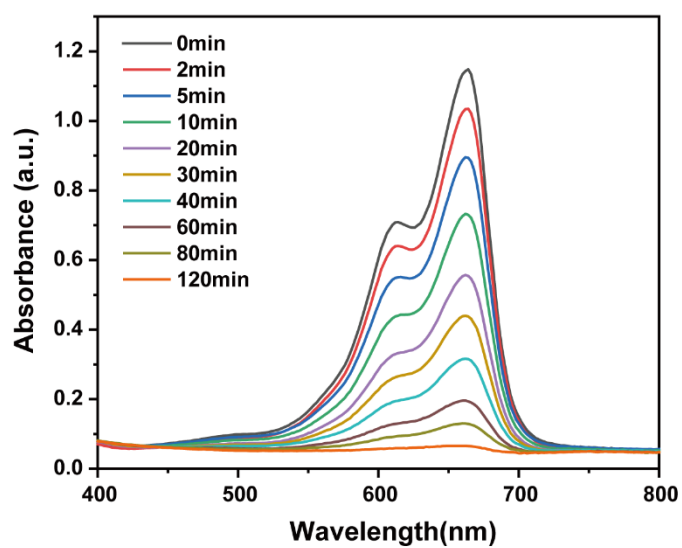


Figure S8 Absorbance spectra changes of MB under different times.

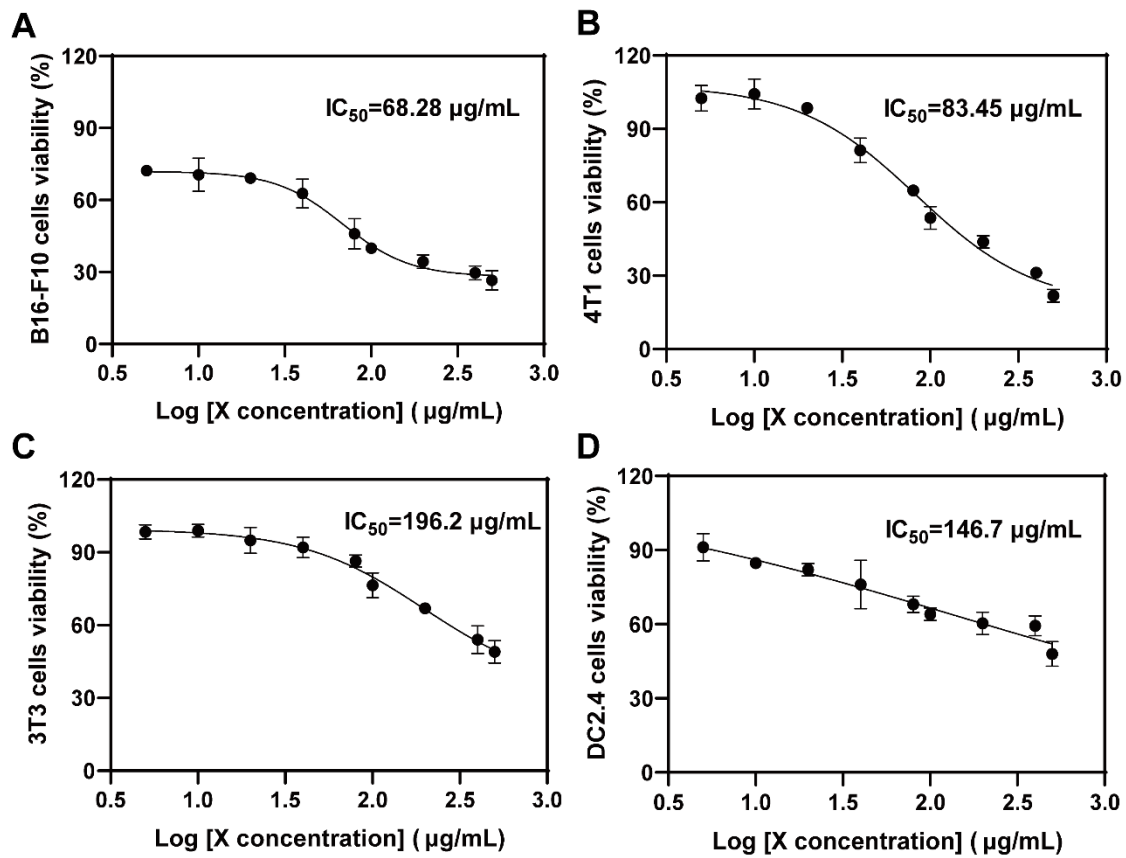


Figure S9 (A-D) The calculation of IC_{50} for B16-F10 cells, 4T1 cells, 3T3 cells, and DC2.4 cells, respectively.