Supporting information:

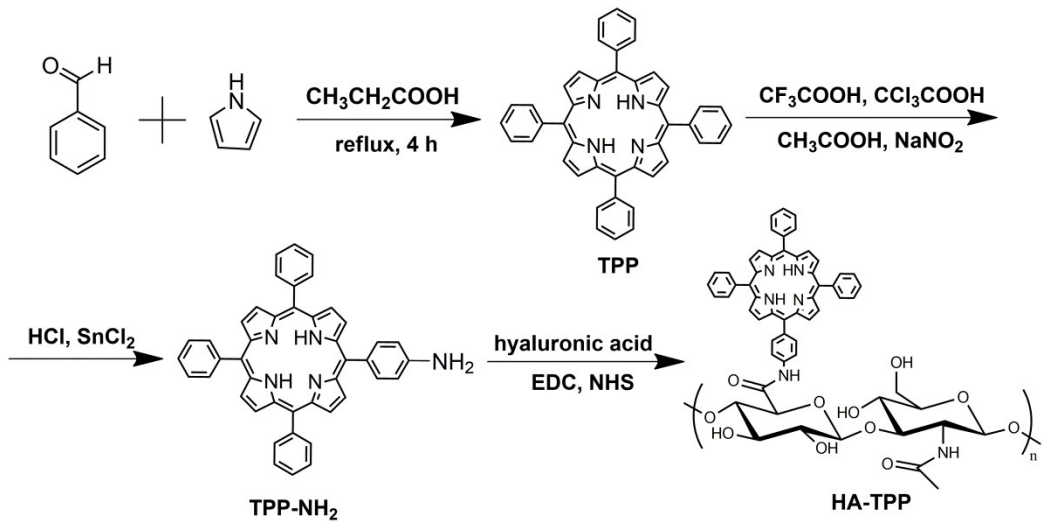
Peroxynitrite ($ONOO^-$) Generation from HA-TPP@NORM Nanoparticles based on Synergistic Interaction between Nitric Oxide and Photodynamic Therapies for Elevating Anticancer Efficiency

Dawei Jiang[a], Tao Yue[a], Guichen Wang[a], Chaochao Wang[a], Chao Chen[b], Hongliang Cao[a,*], Yun Gao[a,*]

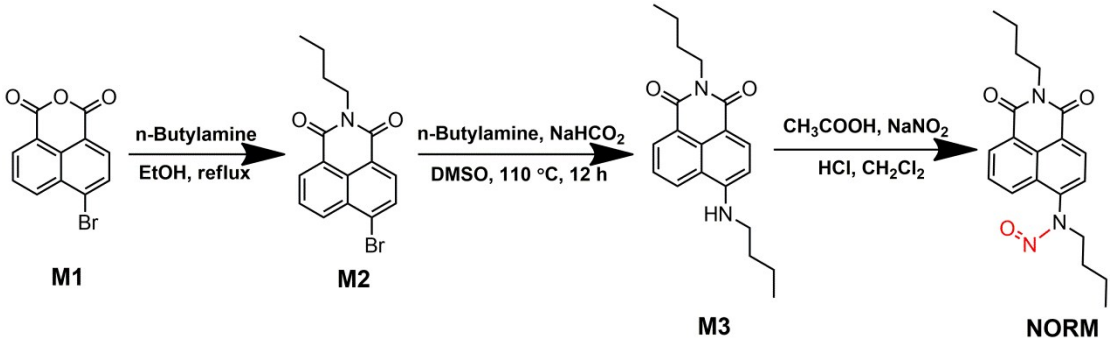
[a]Shanghai Key Laboratory of Functional Materials Chemistry, School of Materials Science and Engineering, East China University of Science and Technology, Shanghai 200237, People's Republic of China.

[b]State Key Laboratory of Bioreactor Engineering, Biomedical Nanotechnology Center, School of Biotechnology, East China University of Science and Technology, Shanghai 200237, People's Republic of China.

E-mail: yungao127@163.com *(Y. Gao)*, caohl@ecust.edu.cn *(H. Cao)*



Scheme S1. Synthetic route of HA-TPP



Scheme S2. Synthetic route of NORM

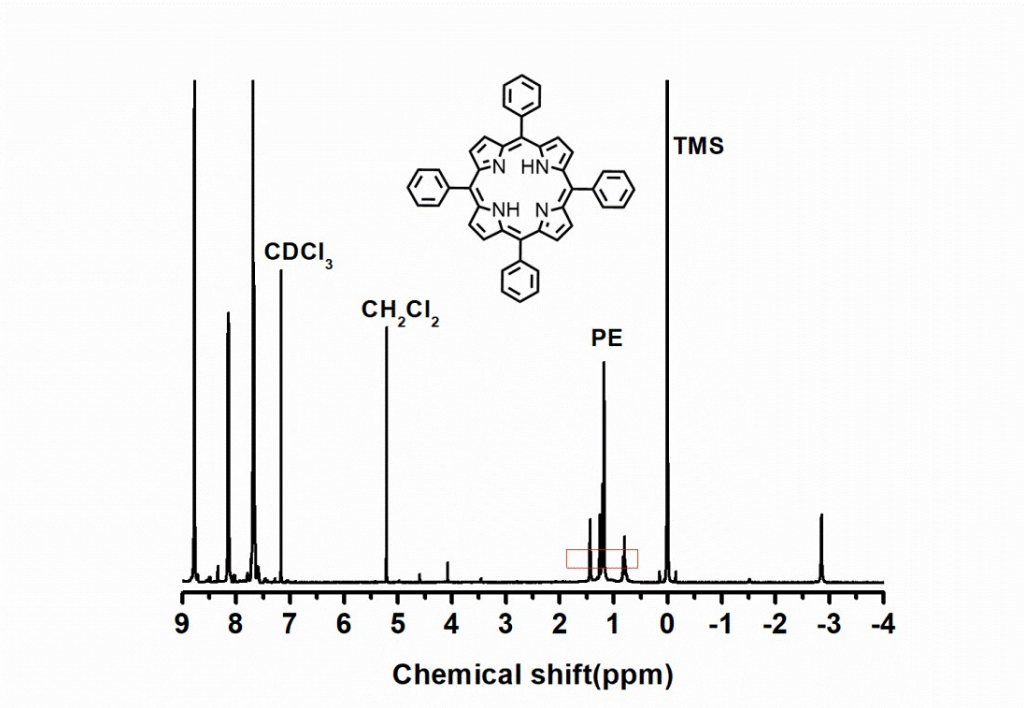


Figure S1. ^{1}H NMR of TPP

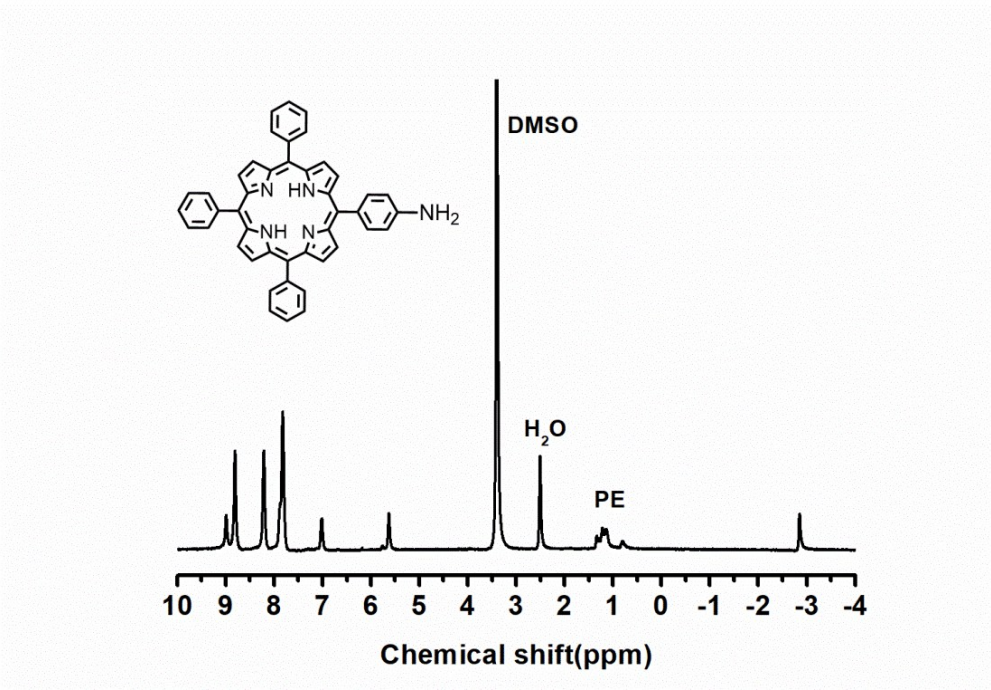


Figure S2. ^{1}H NMR of TPP-NH_2

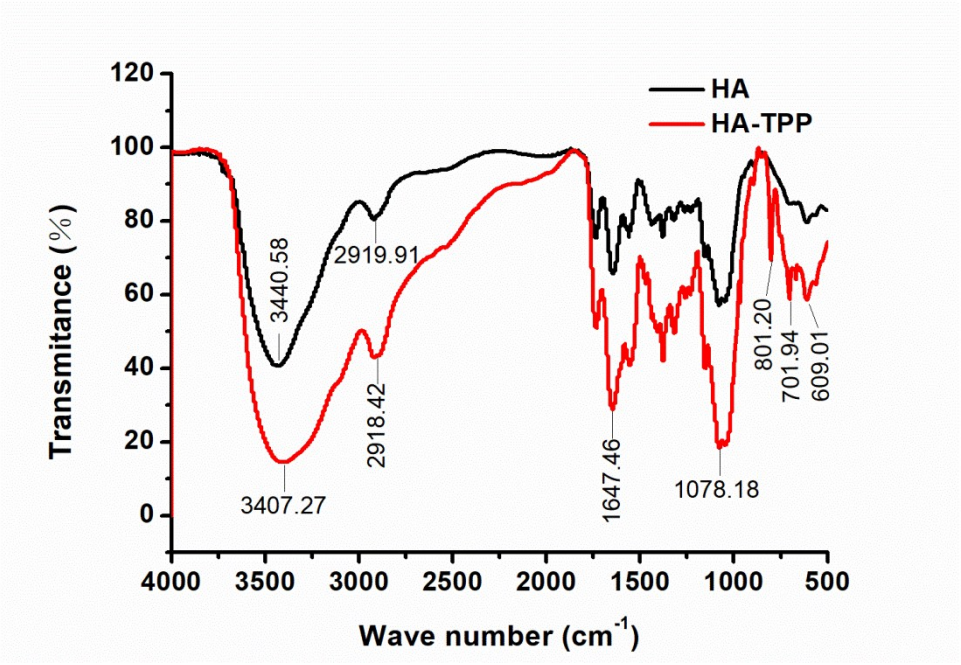


Figure S3. FTIR spectra of HA and HA-TPP.

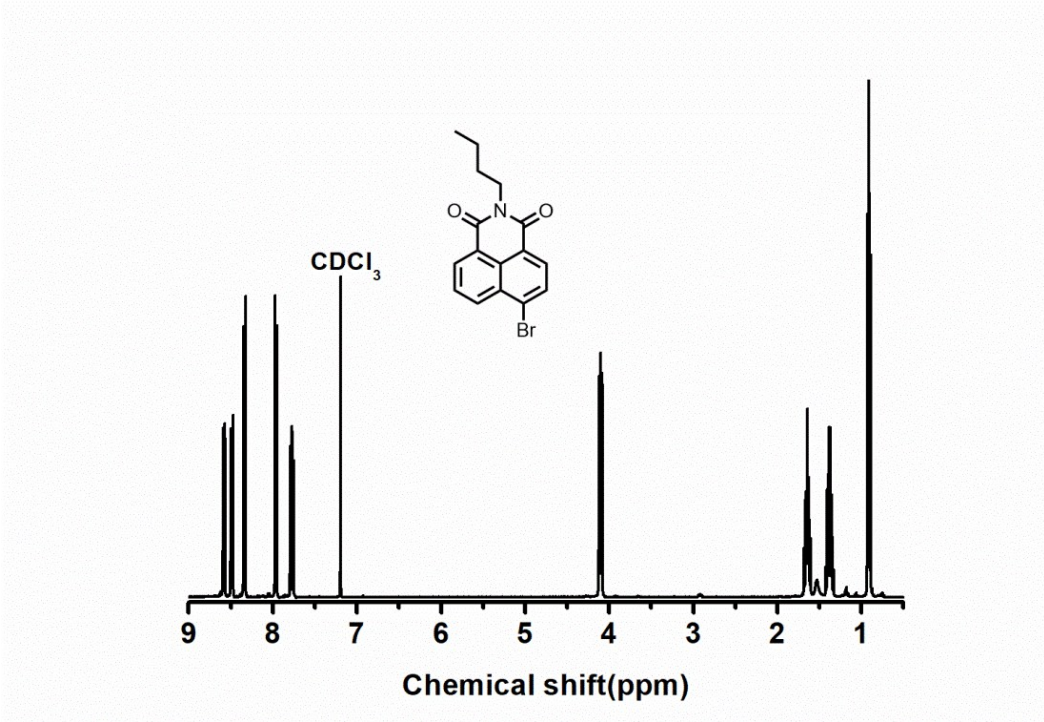


Figure S4. ^{1}H NMR of M2.

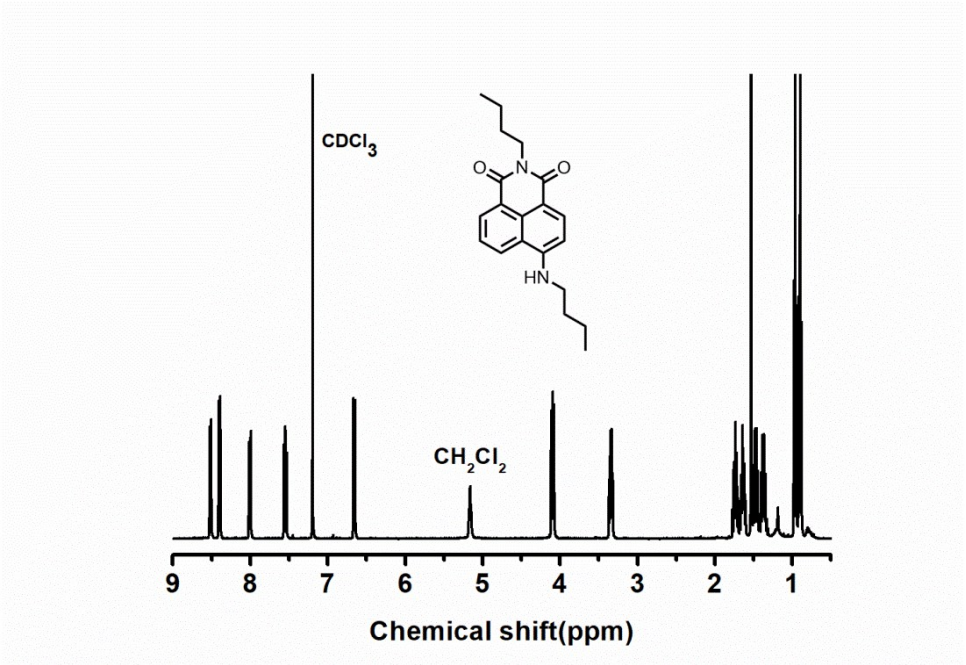


Figure S5. ^{1}H NMR of M3.

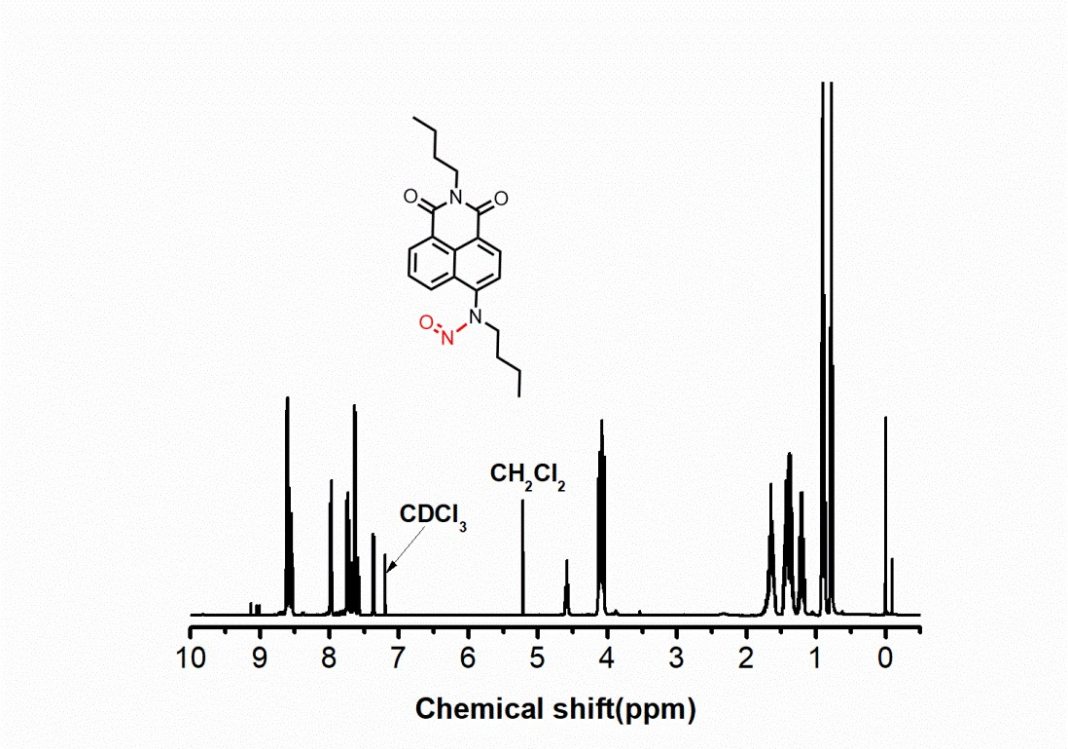


Figure S6. ^{1}H NMR of NORM.

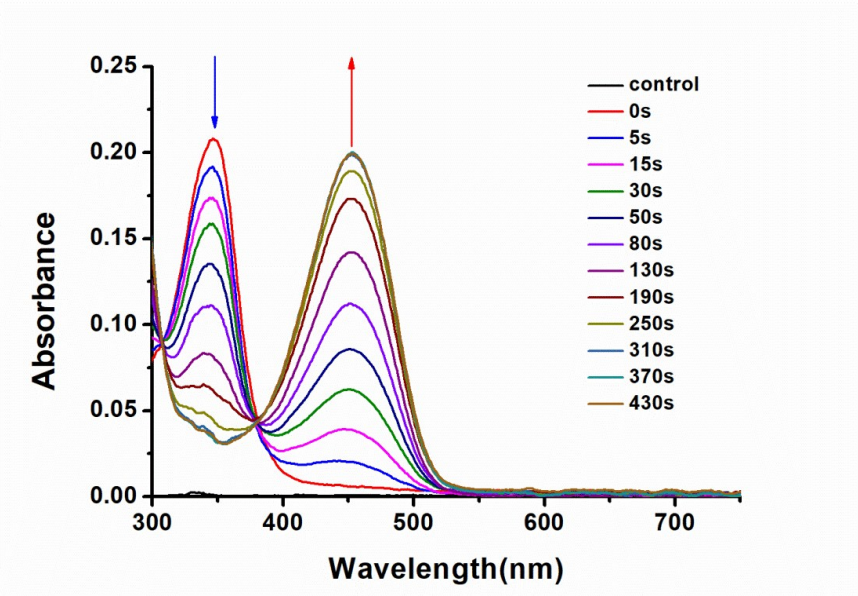


Figure S7. Variation of UV-vis absorption spectra of small NORM molecules in DMSO under 365 nm light irradiation.

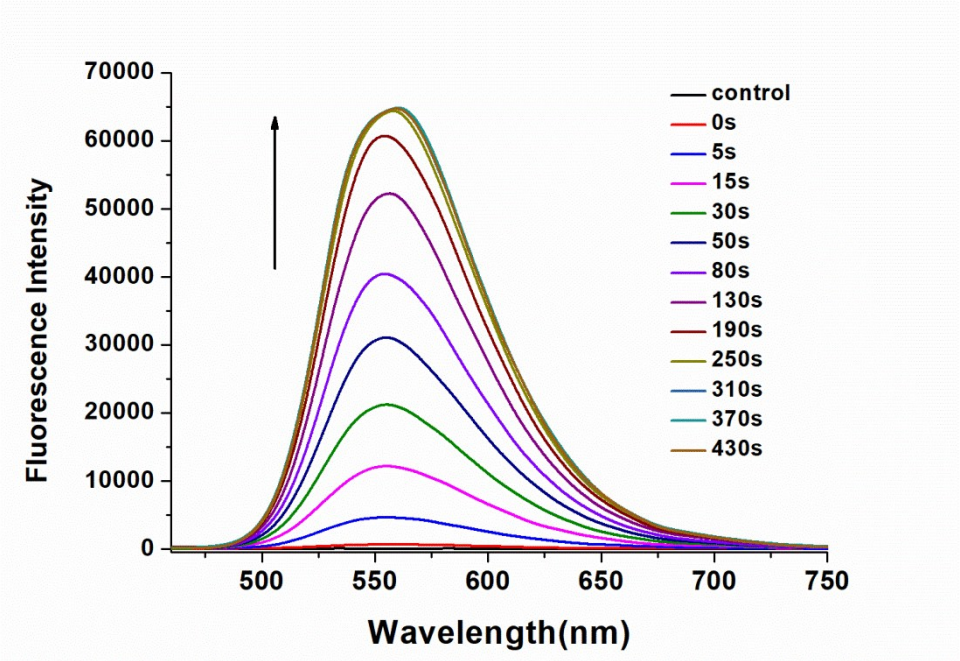


Figure S8. Variation of fluorescence emission spectra of small NORM molecules in DMSO under 365 nm light irradiation (λ_{ex} = 445 nm).

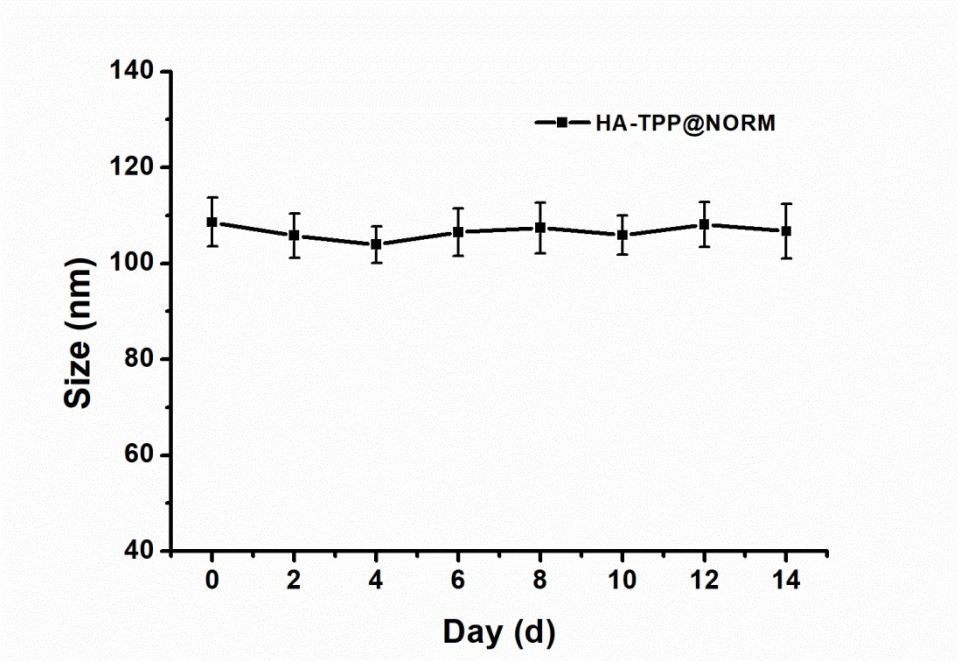


Figure S9. Variation of the dimeter size of HA-TPP@NORM nanoparticles stored in the dark for two weeks.

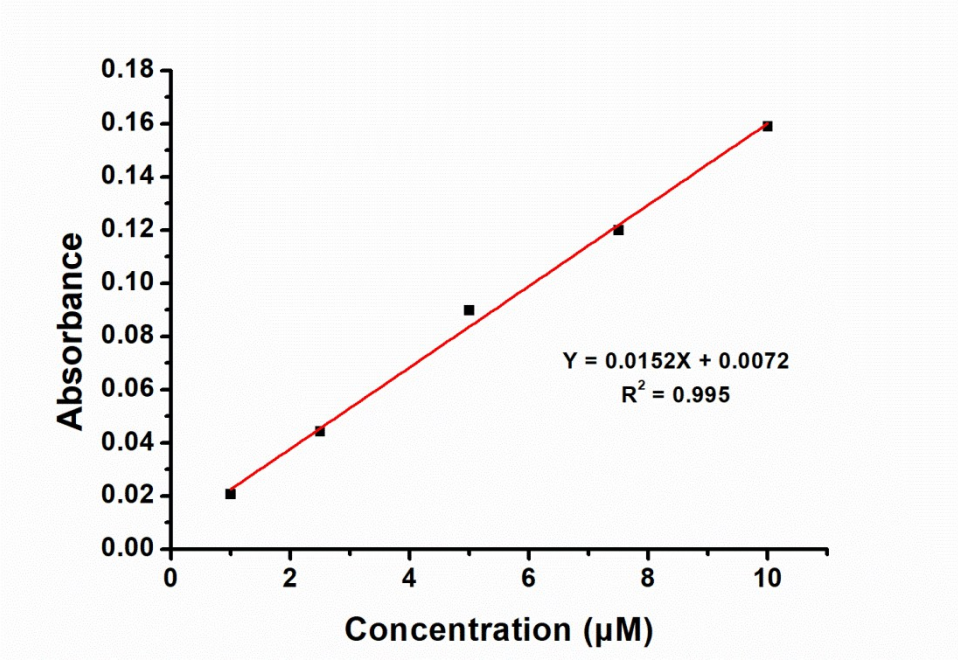


Figure S10. The standard curve of UV-visible absorption spectrometry of M3 at 445 nm in DMSO.

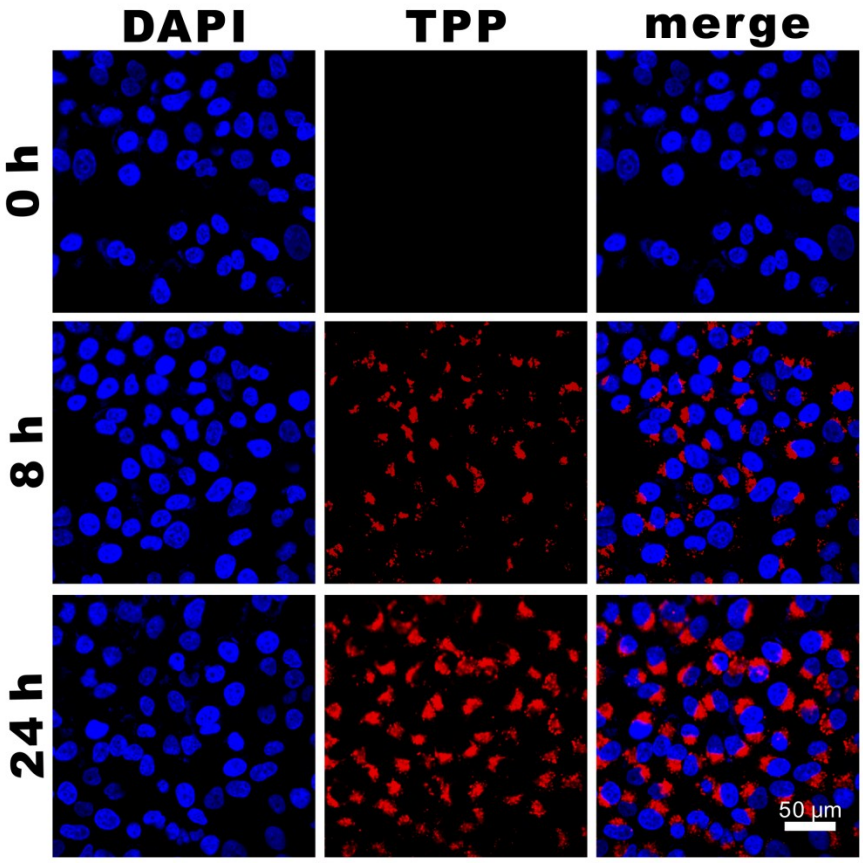


Figure S11. CLSM images of Hela cells incubated with HA-TPP@NORM nanoparticles for 0 h, 8 h or 24 h. Blue signal assigned to the nucleus of Hela cells stained with DAPI; red signal assigned to TPP. Scale bar: 50 μm.

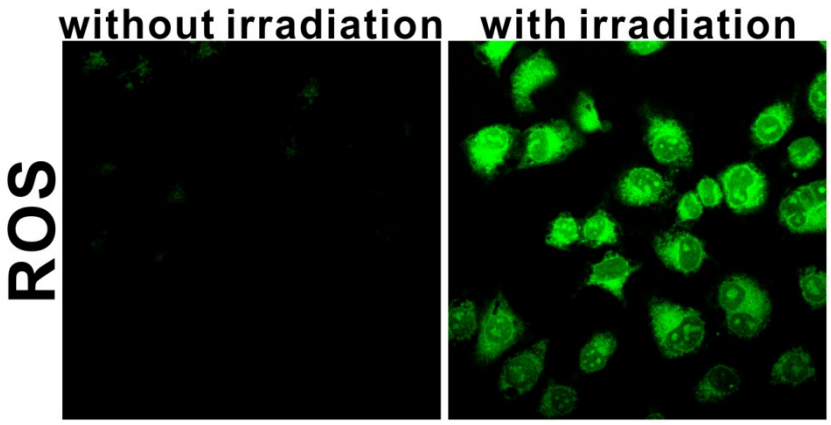


Figure S12. Intracellular ROS detection of the HA-TPP@NORM treated Hela cells with or without 650 nm laser irradiation.

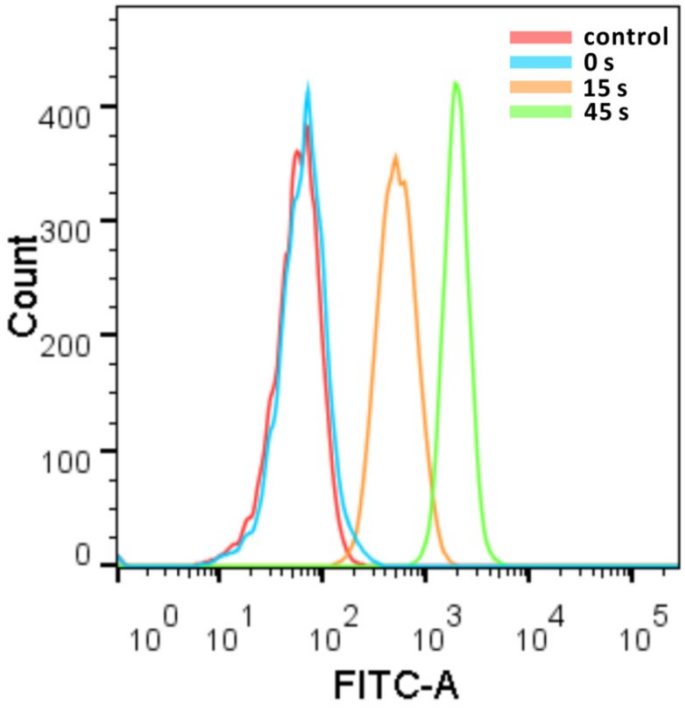


Figure S13. Flow cytometry analysis of intracellular NO release from HA-TPP@NORM nanoparticles detected with self-calibration. The cells without any treatment were used as a control group.

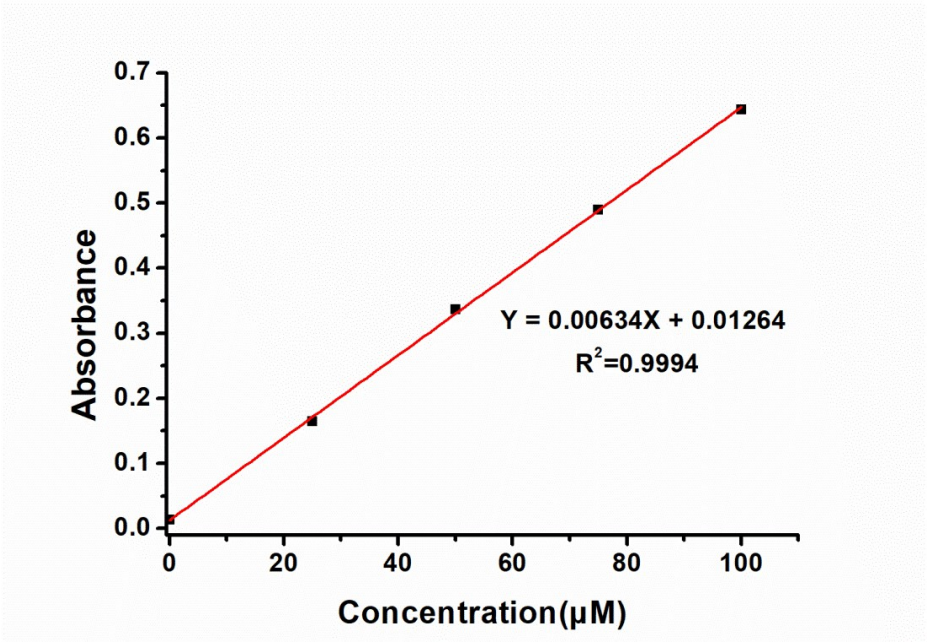


Figure S14. The standard curve of Griess assay in aqueous solution from 0 μM – 100 μM.