Supplementary Information (SI):

**Porphyrin-ferrocene conjugates for photodynamic and chemodynamic Therapy**

Zhitao Lei,\textsuperscript{ab} Xiaoyu Zhang*,\textsuperscript{a} Xiaohua Zheng,\textsuperscript{bc} Shi Liu,\textsuperscript{b} and Zhigang Xie*\textsuperscript{b}

\textsuperscript{a} College of Environmental and Chemical Engineering, Yanshan University, 438 Heibei Avenue, Qinhuangdao, Hebei 066004, P. R. China. E-mail: xiaoyuzhang@ysu.edu.cn
\textsuperscript{b} State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022 (P. R. China) E-mail: xiez@ciac.ac.cn
\textsuperscript{c} University of Science and Technology of China, Hefei 230026, P. R. China.
Synthetic procedures of TPP-NH₂

\[
\text{Im} + \text{CHO} \xrightarrow{\text{Propionic Acid}} \xrightarrow{145^\circ C} \text{TPP} \xrightarrow{\text{TFA}} \xrightarrow{\text{NaNO}_2} \text{TPP-NO}_2
\]

\[
\xrightarrow{\text{SnCl}_2/2\text{H}_2\text{O}} \xrightarrow{\text{HCl}} \text{TPP-NH}_2
\]

Synthetic procedures of TNCF

\[
\text{FeOOC} \xrightarrow{\text{(COCl)}_2} \text{FeOOC} \xrightarrow{\text{DMF/THF}} \xrightarrow{\text{H}_2\text{N}} + \text{TNCF}
\]

\[
\xrightarrow{\text{Triethylamine}} \text{TNCF}
\]
Figure S1. $^1$H NMR spectrum of TPP-NO$_2$. 

Chemical Formula: C$_{24}$H$_{24}$N$_4$ 
Molecular Weight: 629.767
Figure S2. (A) $^1$H NMR spectrum of TPP-NH$_2$. (B) MALDI-TOF mass spectrum of TPP-NH$_2$.

Figure S3. (A) $^1$H NMR spectrum of TNCF. (B) MALDI-TOF mass spectrum of TNCF.
Figure S4. Time-dependent UV-vis absorption spectra of TNCF (A) and DPBF (B) upon irradiation with a 620 nm lamp irradiation (12 mW/cm²) from 0 to 240 s.

Figure S5. CLSM images of MCF-7 cells incubated with TNCF under the condition of 37°C. For each panel, the images show cell nuclei stained by DAPI (blue), fluorescence of TNCF (red) and overlays of three images. Scale bars, 20 μm. Fluorescence of TNCF and Lyso-tracker Red in cells at 2.5D mode (A-C).
Figure S6. CLSM images of MCF-7 cells incubated with TNCF under the condition of 4°C. For each panel, the images show cell nuclei stained by DAPI (blue), fluorescence of TNCF (red) and overlays of three images. Scale bars, 20 μm. Fluorescence of TNCF and Lyso-tracker Red in cells at 2.5D mode (A-C).

Figure S7. Cell viabilities of MCF-7 cells treated with H₂O₂ at various concentrations.
Figure S8. Generation of ROS in vitro (HeLa) under different treatments denoted by the fluorescence of DCF. Scale bars, 20 μm.