Supporting Information

"All-in-One" Strategy Based on Organic Molecule DCN-4CQA for Effective NIR Fluorescence Imaging guided Dual Phototherapy

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Scheme 1. The synthesis route of DCN-4CQA

Fig. S1 $^1$H NMR spectrum of DCN-4CQA in CDCl$_3$. 
Fig. S2 Calculation of molar absorption coefficient.
**Fig. S3** Thermal imaging of PBS under 655 nm laser irradiation (1.0 W/cm$^2$) for different times.

**Fig. S4** Linear time data versus $-\ln(\theta)$ obtained from the cooling period of NIR laser off.
Fig. S5 (A, B) UV-vis absorption spectra of DPBF with and without DCN-4CQA under 655 nm irradiation at 1.0 W/cm² for different time. (C) Absorption at 419 nm of DPBF with and without DCN-4CQA under 730 nm laser irradiation. (D) Illustration of the reaction from DPBF to DPBF endoperoxide by singlet oxygen.
Fig. S6 $^1$O$_2$ emission at $\sim$1270 nm induced by the commercial MB and DCN-4CQA in ethanol under excitation with a 655 nm light.

Fig. S7 Thermal imaging of mice without any treatments under 730 nm laser irradiation for different times.
Fig. S8 Tumor images of different groups of 4T1 tumor-bearing mice after 14-day treatment.