

Supporting Information

**Porphyrin-containing Amphiphilic Block Copolymer for
Photodynamic Therapy**

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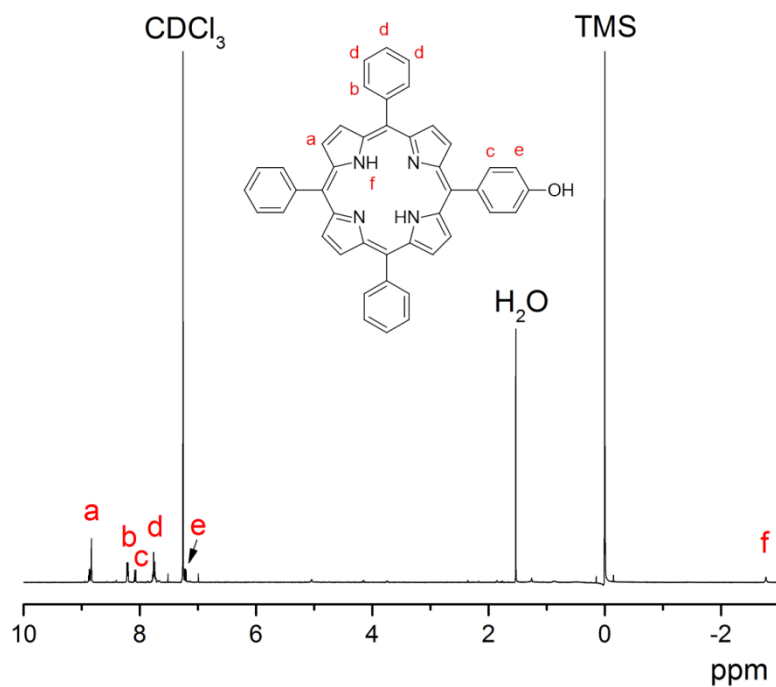


Fig. S1. ¹H-NMR spectrum of TPP-OH in CDCl₃.

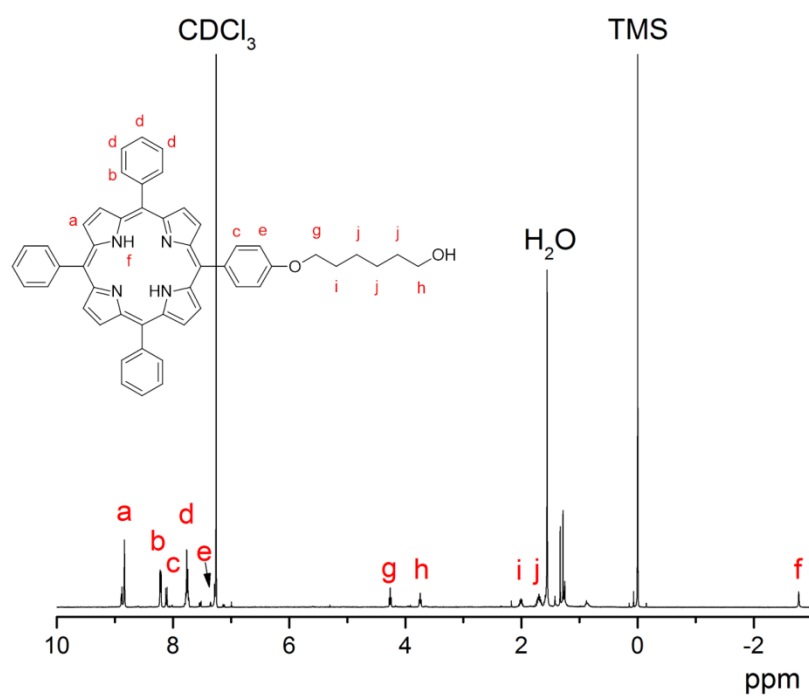


Fig. S2. ¹H-NMR spectrum of TPPC6-OH in CDCl₃.

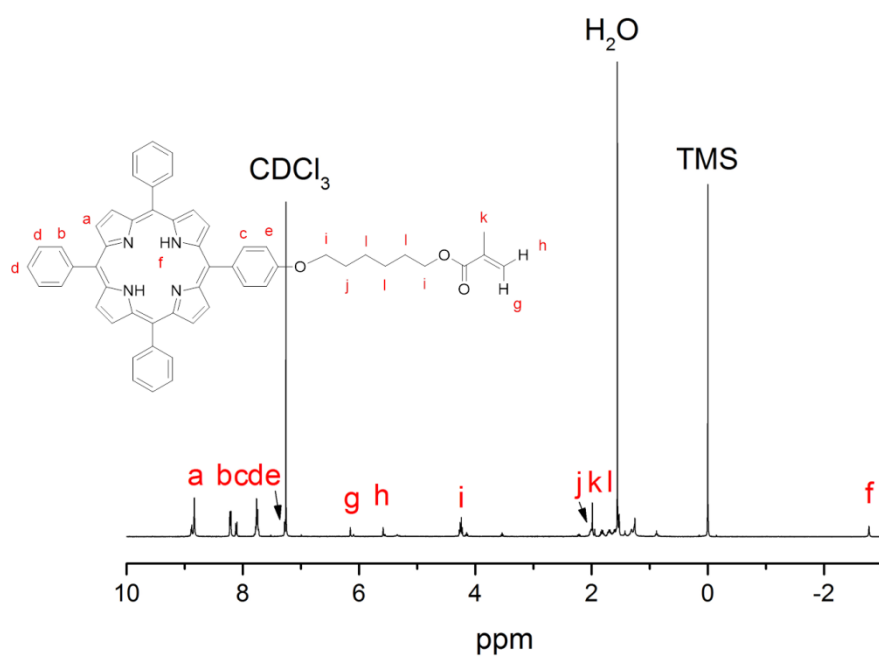


Fig. S3. ¹H-NMR spectrum of TPPC6MA in CDCl₃.

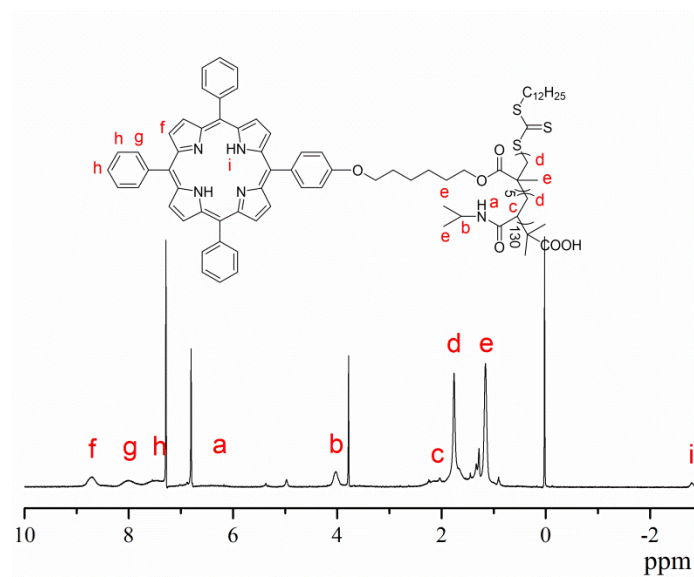


Fig. S4. ^1H -NMR spectrum of PNIPAM₁₃₀-*b*-PTPPC6MA₅ in CDCl_3 .

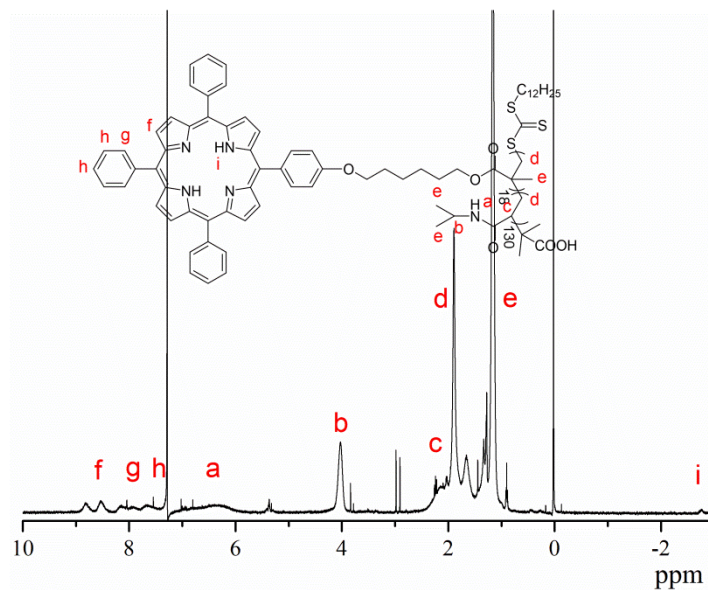


Fig. S5. ^1H -NMR spectrum of PNIPAM₁₃₀-*b*-PTPPC6MA₁₈ in CDCl_3 .

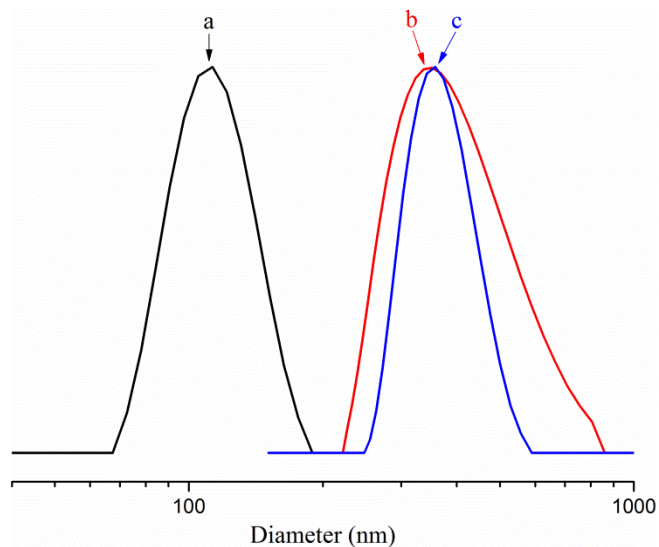


Fig. S6. Size distributions of the redissolved lyophilized powder (a) PNIPAM₁₃₀-*b*-PTPPC6MA₅, (b) PNIPAM₁₃₀-*b*-PTPPC6MA₁₈ and (c) PNIPAM₁₃₀-*b*-PTPPC6MA₃₇ micelles in aqueous solution.

Table S2. Characterization of redissolved Polymeric Micelles

Samples	D_h (nm) ^a	PDI ^a
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₅	113.5	0.118
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₁₈	344.5	0.203
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₃₇	350.8	0.055

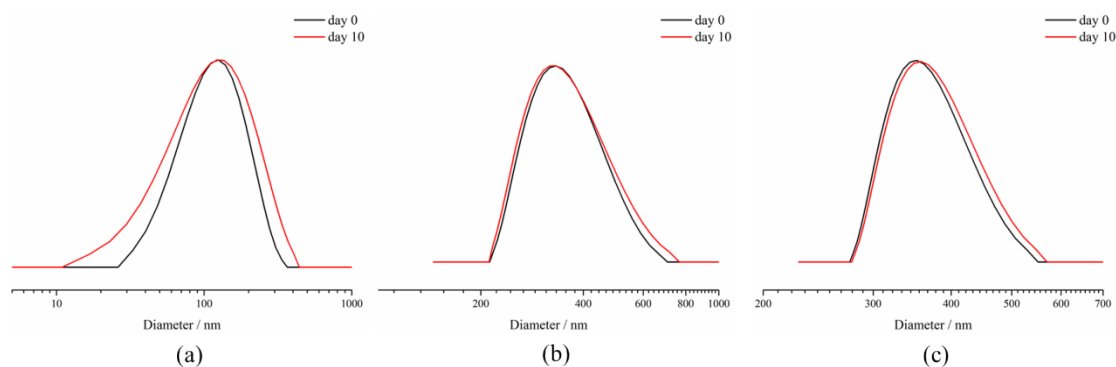
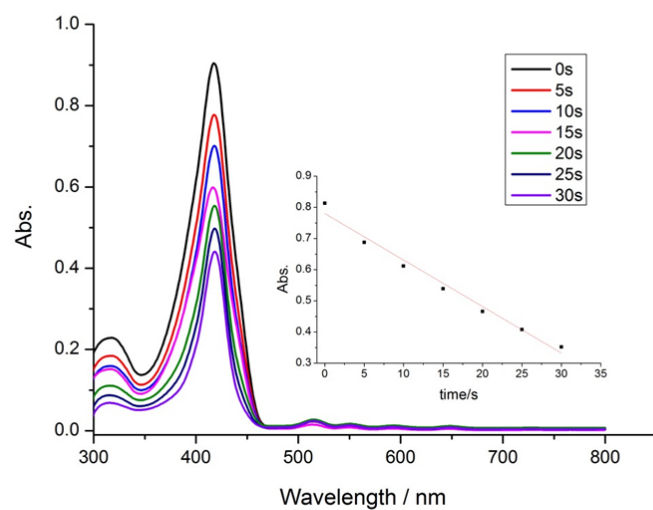


Fig. S7. Size distribution of (a) PNIPAM₁₃₀-*b*-PTPPC6MA₅, (b) PNIPAM₁₃₀-*b*-PTPPC6MA₁₈, (c) PNIPAM₁₃₀-*b*-PTPPC6MA₃₇ in PBS at 37 °C with different days.

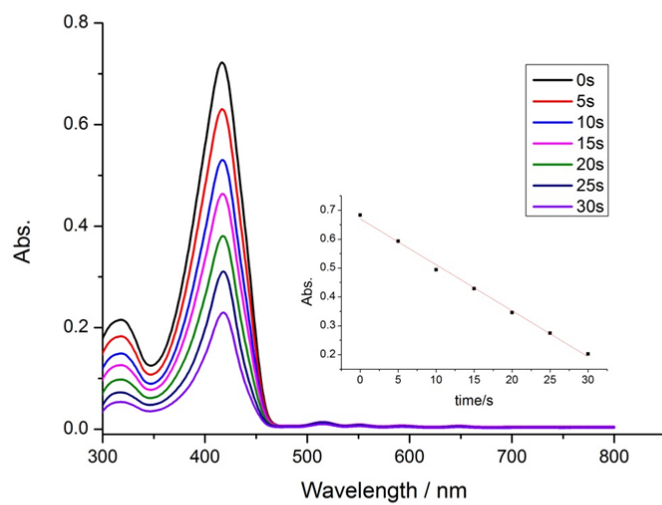
Table S3. DLS results of PNIPAM-*b*-PTPPC6MA in PBS at 37 °C with different

days

	Day 0		Day 10	
	D_h (nm)	PDI	D_h (nm)	PDI
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₅	116.6	0.078	117.3	0.108
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₁₈	321.2	0.128	320.5	0.166
PNIPAM ₁₃₀ - <i>b</i> -PTPPC6MA ₃₇	345.1	0.107	350.8	0.108



(a)



(b)

Fig. S8. UV-Vis absorption spectra of DPBF with (a) PNIPAM₁₃₀-*b*-PTPPC6MA₅ micelles and (b) PNIPAM₁₃₀-*b*-PTPPC6MA₁₈ micelles after irradiation for different times (inset: plot of absorbance versus concentration).

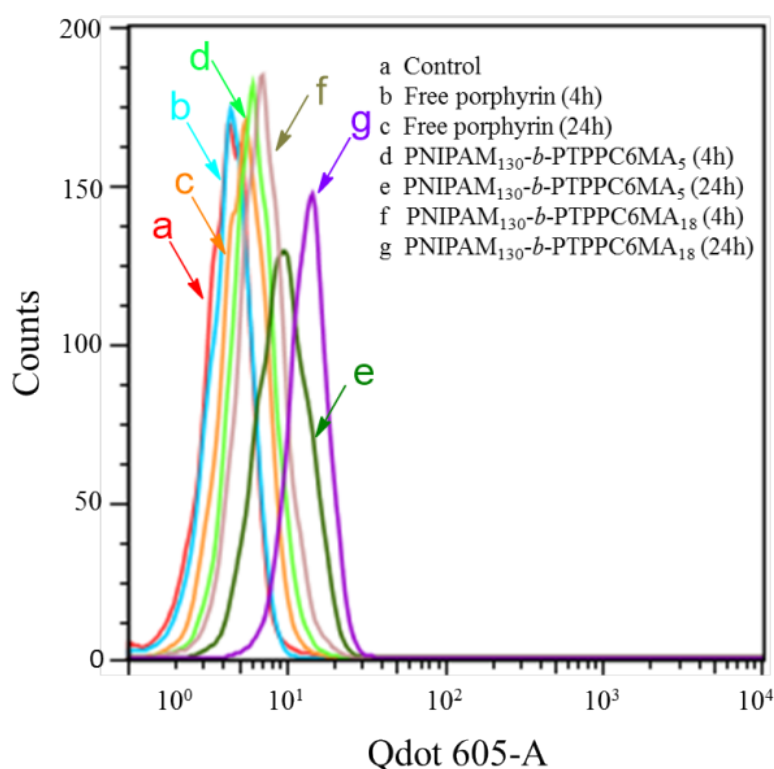


Fig. S9. Flow cytometric demonstration of MCF-7 cells after incubation with (a) control, (b) free porphyrin for 4 h, (c) free porphyrin for 24 h, (d) PNIPAM₁₃₀-*b*-PTPPC6MA₅ for 4 h, (e) PNIPAM₁₃₀-*b*-PTPPC6MA₅ for 24 h, (f) PNIPAM₁₃₀-*b*-PTPPC6MA₁₈ for 4 h and (g) PNIPAM₁₃₀-*b*-PTPPC6MA₁₈ for 24 h. Fluorescence being measured is due to the porphyrin signal.

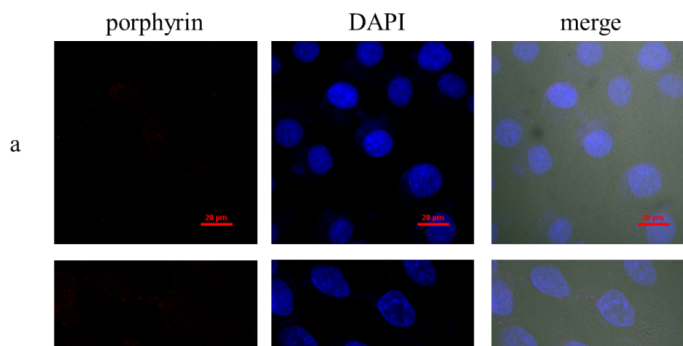


Fig. S10. CLSM images of MCF-7 cells incubated with free porphyrin for 4 h (a) and 24 h (b), with PNIPAM₁₃₀-b-PTPPC6MA₅ for 4 h (c) and 24 h (d), with PNIPAM₁₃₀-b-PTPPC6MA₁₈ for 4 h (e) and 24 h (f). The images from left to right were the cells with porphyrin fluorescence, with nucleus staining with DAPI and overlays of images. Scale bar, 20 μ m.