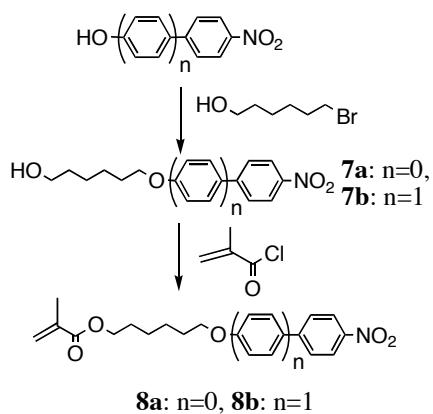


## Supporting information

## Synthesis of methacrylate monomer containing photosensitizing side groups

The syntheses for the methacrylate monomers with NB or NP side groups are outlined in Scheme 1.

*4-Nitro-4'-(6-hydroxyhexyloxy)biphenyl* (**7a**) was synthesized by the Williamson synthesis from 4-nitro-4'-hydroxybiphenyl and 6-chlorohexane-1-ol. *4-Nitro-4'-(6-methacryloyloxyhexyloxy)biphenyl* (**8a**) was obtained from methacryloyl chloride and **7a**. Viscoid liquid,  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ ):  $\delta$  (ppm) 1.46-1.52 (m, 4H), 1.69-1.74 (m, 2H), 1.80-1.84 (m, 2H), 1.93 (s, 3H), 4.04 (t,  $J=6.26$  Hz, 2H), 4.15 (t,  $J=6.50$  Hz, 2H), 5.54 (s, 1H), 6.08 (s, 1H), 6.92 (s, 1H), 6.92 (d,  $J=8.9$  Hz, 2H), 8.17 (d,  $J=8.9$  Hz, 2H). IR(KBr) : 2941, 2861, 1717, 1592, 1511, 1012, 846  $\text{cm}^{-1}$ . A similar synthetic procedure was used to synthesize *1-nitro-4-(6-methacryloyloxyhexyloxy)benzene* (**8b**). C 61 N 75 I.  $^1\text{H-NMR}$  ( $\text{CDCl}_3$ ):  $\delta$  (ppm) 1.48-1.54 (m, 4H), 1.73-1.74 (m, 2H), 1.83-1.85 (m, 2H), 1.94 (s, 3H), 4.02 (t,  $J=6.26$  Hz, 2H), 4.15 (t,  $J=6.50$  Hz, 2H), 5.55 (s, 1H), 6.10 (s, 1H), 6.92 (s, 1H), 7.00 (d,  $J=8.45$  Hz, 2H), 7.56 (d,  $J=8.35$  Hz, 2H), 7.69 (d,  $J=8.52$  Hz, 2H), 8.27 (d,  $J=8.48$  Hz, 2H). IR(KBr) : 2940, 2867, 1712, 1594, 1504, 1338, 1250, 1173, 855, 830  $\text{cm}^{-1}$ .



**Scheme 1.** Synthesis of methacrylate monomers with photosensitizing units **8a** and **8b**.