

Electronic supplementary information (ESI)

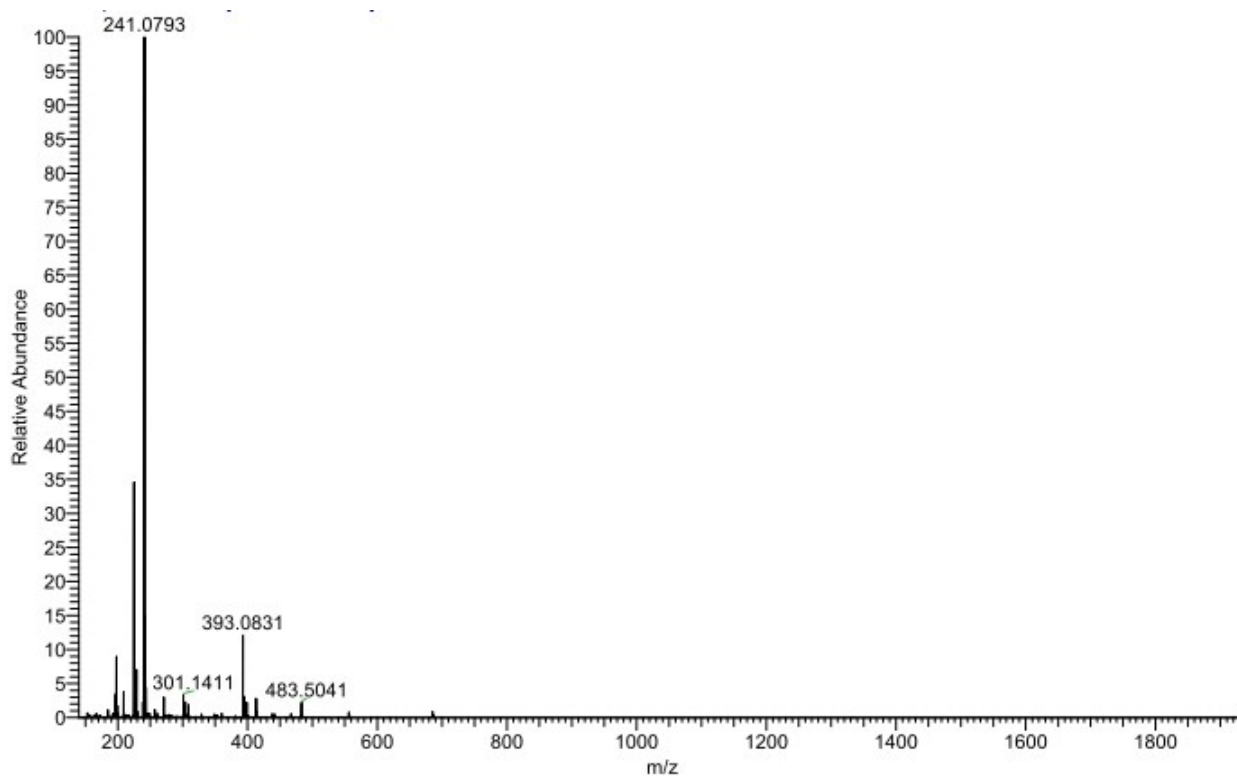


Figure S1. ESI-MS (m/z)(MeOH + NH_4OAc): calcd. for **2** ($\text{C}_{14}\text{H}_{13}\text{N}_2\text{S}$) 241.0794 found (M^+):

241.0793

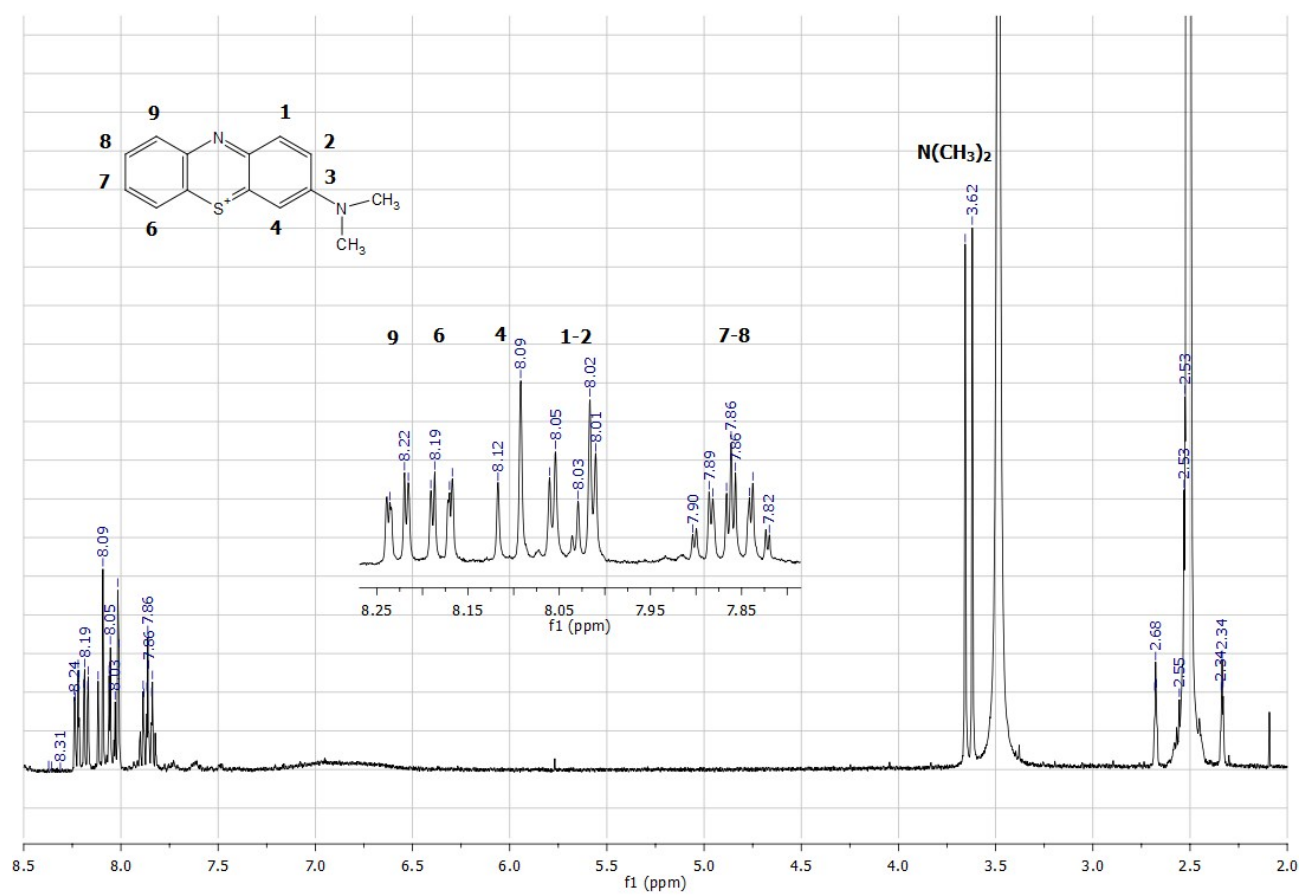


Figure S2. ^1H NMR spectrum of **2** in $\text{DMSO}-d_6$

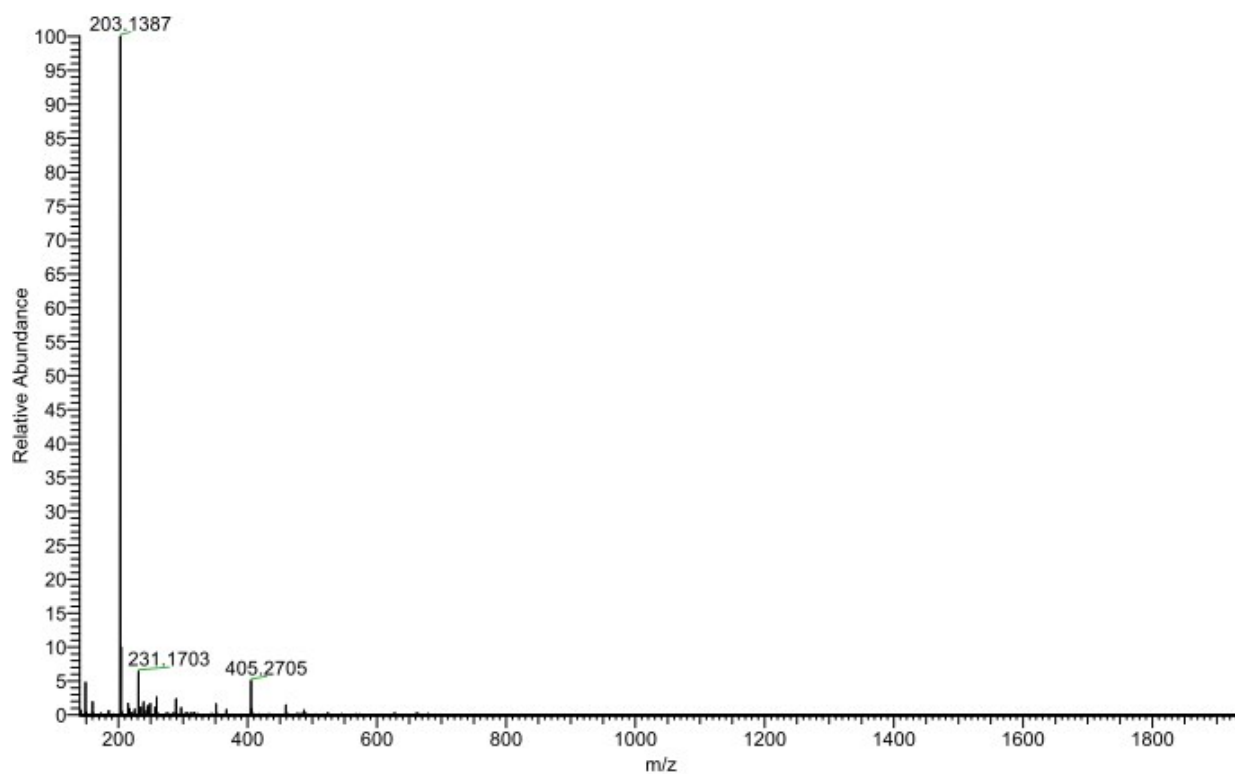


Figure S3. ESI-MS (m/z) (MeOH + NH₄OAc): calcd. for **5** (C₉H₁₉N₂O₃): 202.1387; found (MH)⁺: 203.1387

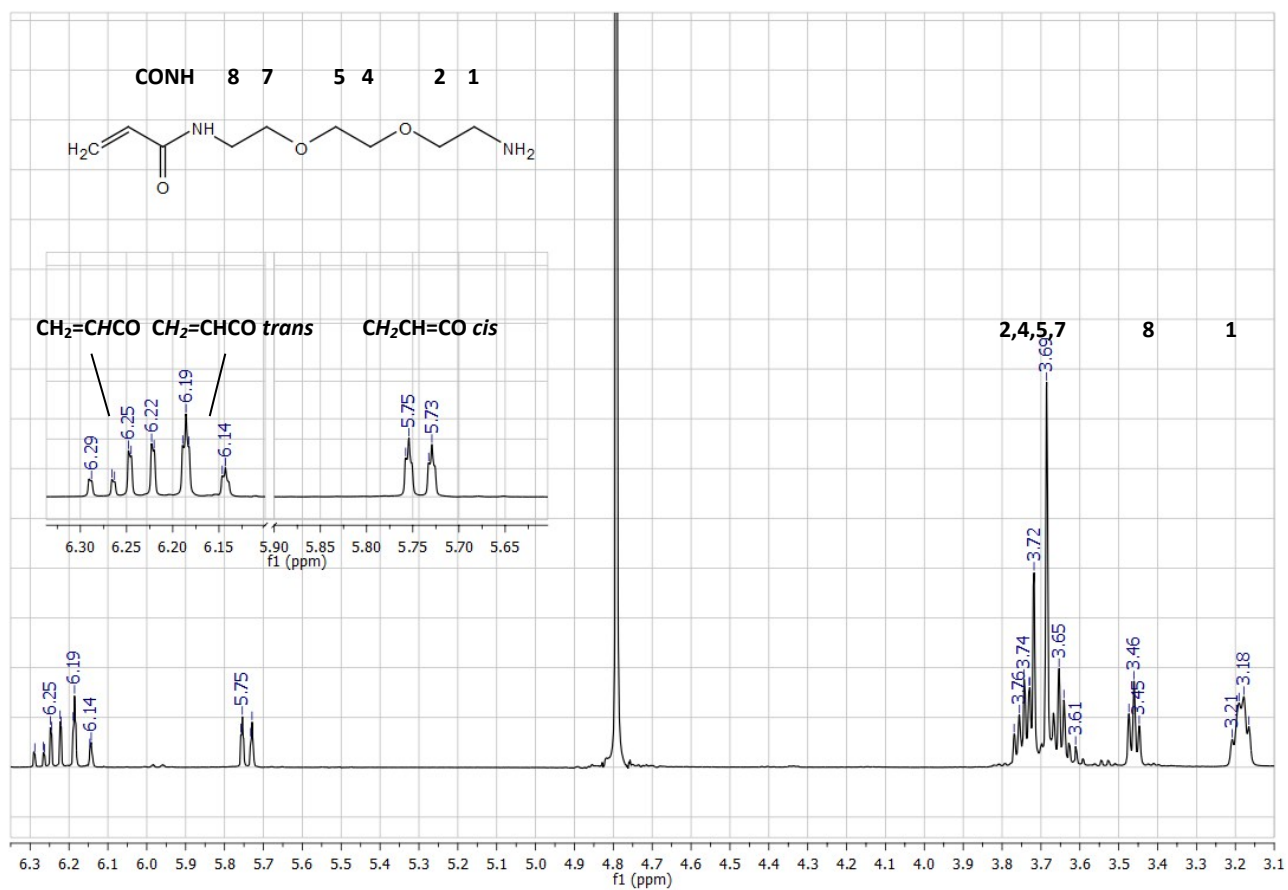


Figure S4. ^1H NMR spectrum of **5** in D_2O

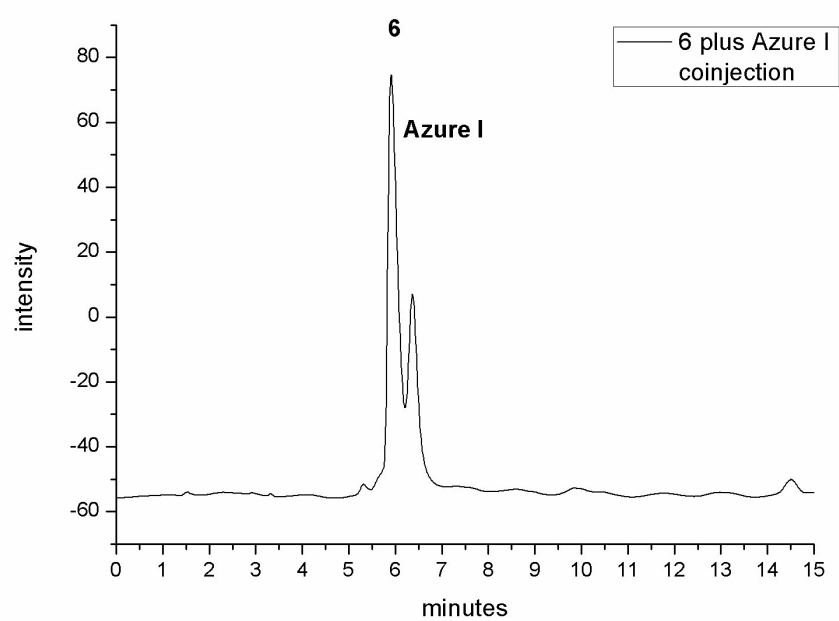


Figure S7. HPLC trace of phenothiazinum derivative **6** and Azure I coinjected for qualitative comparison. Gradient: see Material and Methods

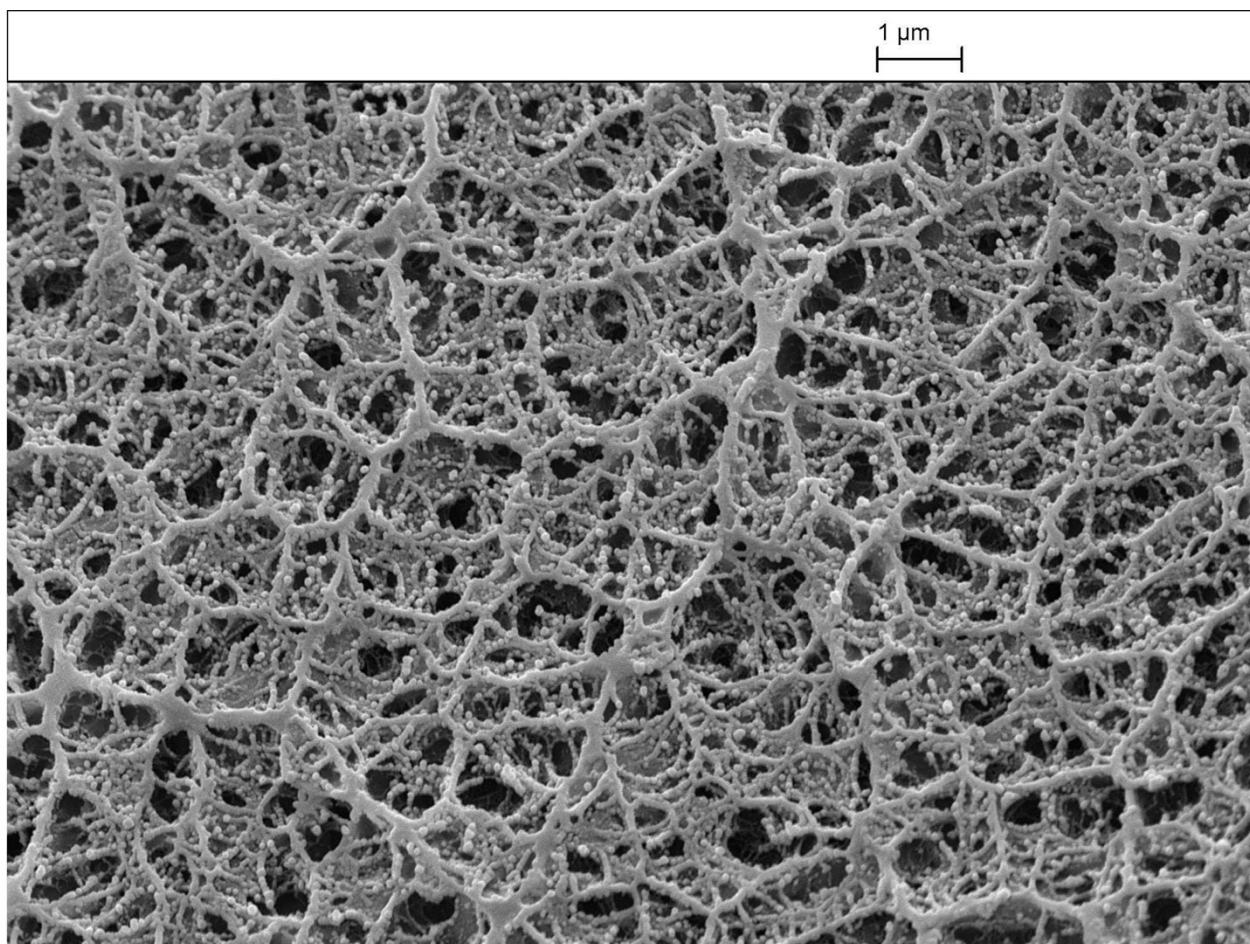


Figure S8. SEM surface images of **7** after irradiation with visible light for 25 minutes.

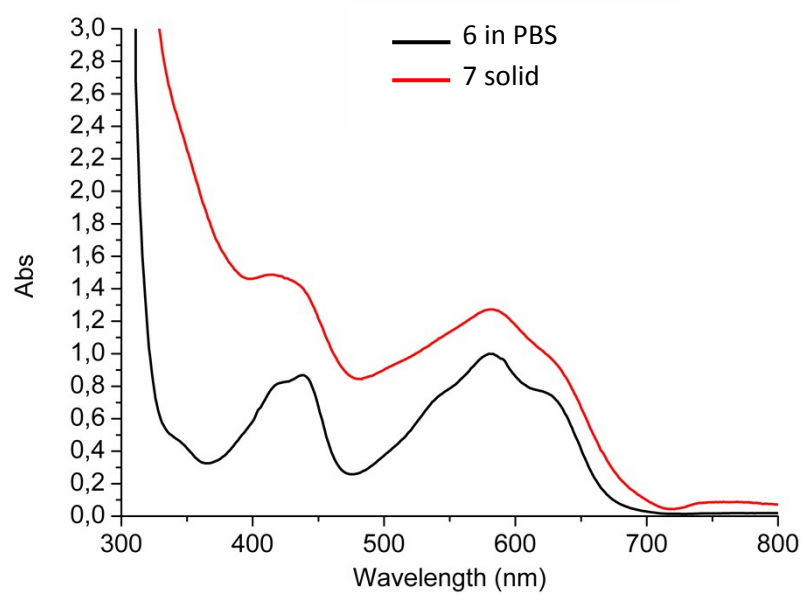
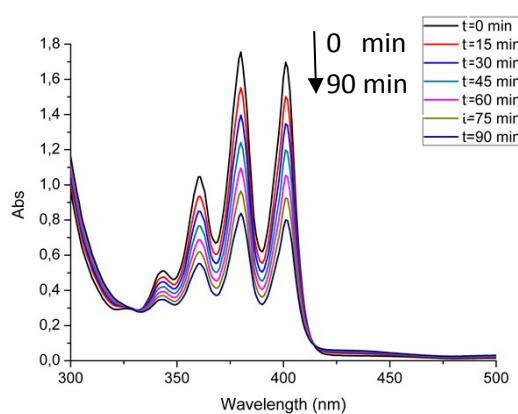
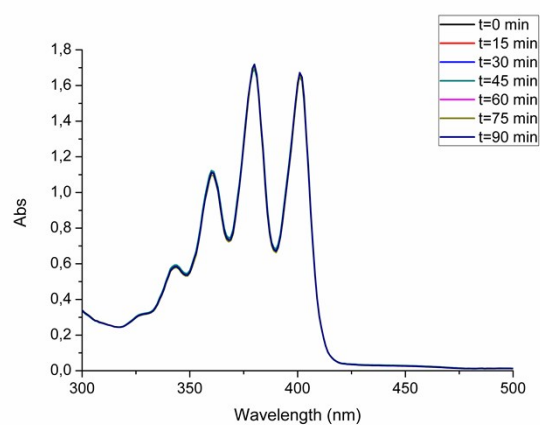


Figure S9. Absorption spectra of **6** in PBS solution and immobilized (1 mg/cm^2)

a)



b)



c)

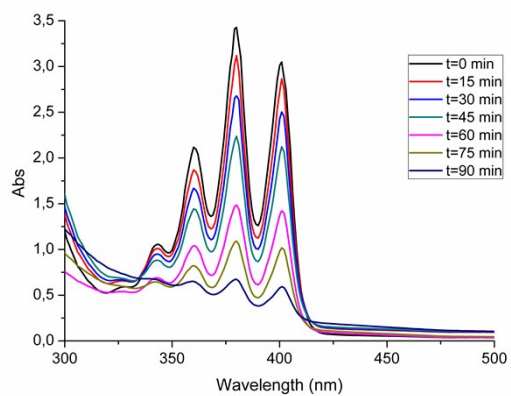


Figure S10. Absorption spectra of ABDA ($150 \mu\text{mol L}^{-1}$) in PBS solution (pH=7.0) photosensitized by **7** (a), **8** (b) and **6** (c).

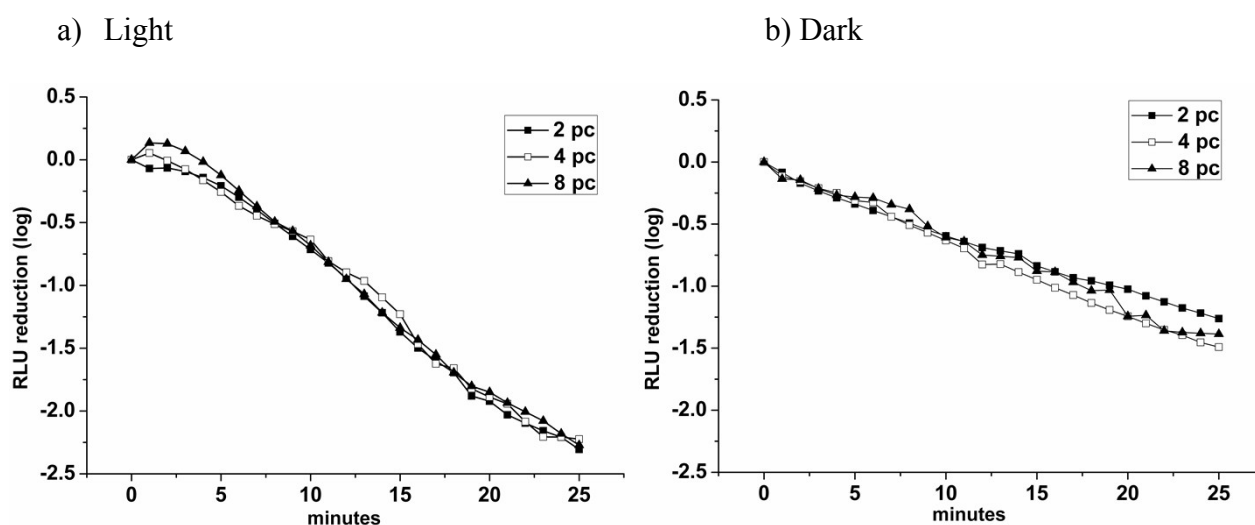


Figure S11. Kill curves obtained for the 1 mg/cm³ photoantimicrobial hydrogel previously cut in 2, 4, 8 squares against *E. coli* under light illumination (a) for 25 min (fluence rate of 14.5 mW/cm² and a total light dose 21.8 J/cm²) and in the dark (b). Dark and light experiments were done with the cell suspensions of 2×10^6 CFU ml⁻¹. The optical fiber was placed 6 cm from the plates. Values represent the mean of two separate experiments.

The filled squares correspond to the killing curve obtained adding 2 pieces of 7 to the *E. coli* suspension. The open squares corresponds to the killing curve obtained adding 4 pieces of 7 to the *E. coli* suspension while the filled triangles correspond to the killing curve obtained adding 8 pieces of 7 to the *E. coli* suspension.