Supporting information for

Topology Effects in Photodynamic Therapy with Phthalocyanine Nanocarriers

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Characterisation spectra

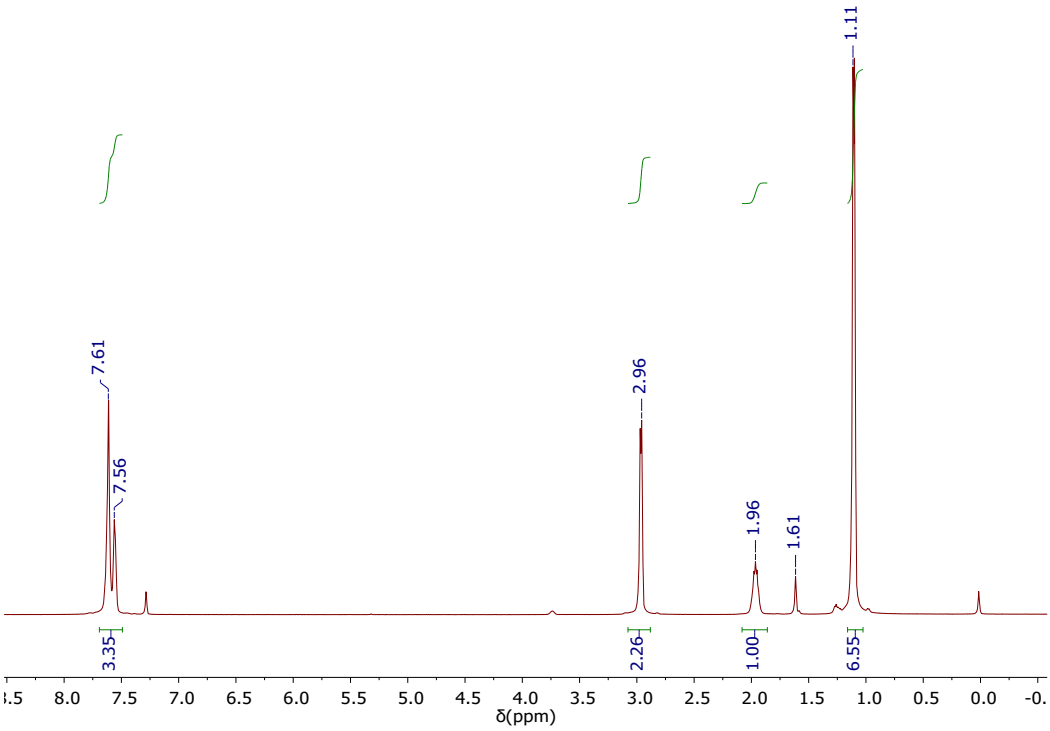

Figure S1. ^{1}H NMR spectrum of phthalonitrile **1** ($CDCl_3$)

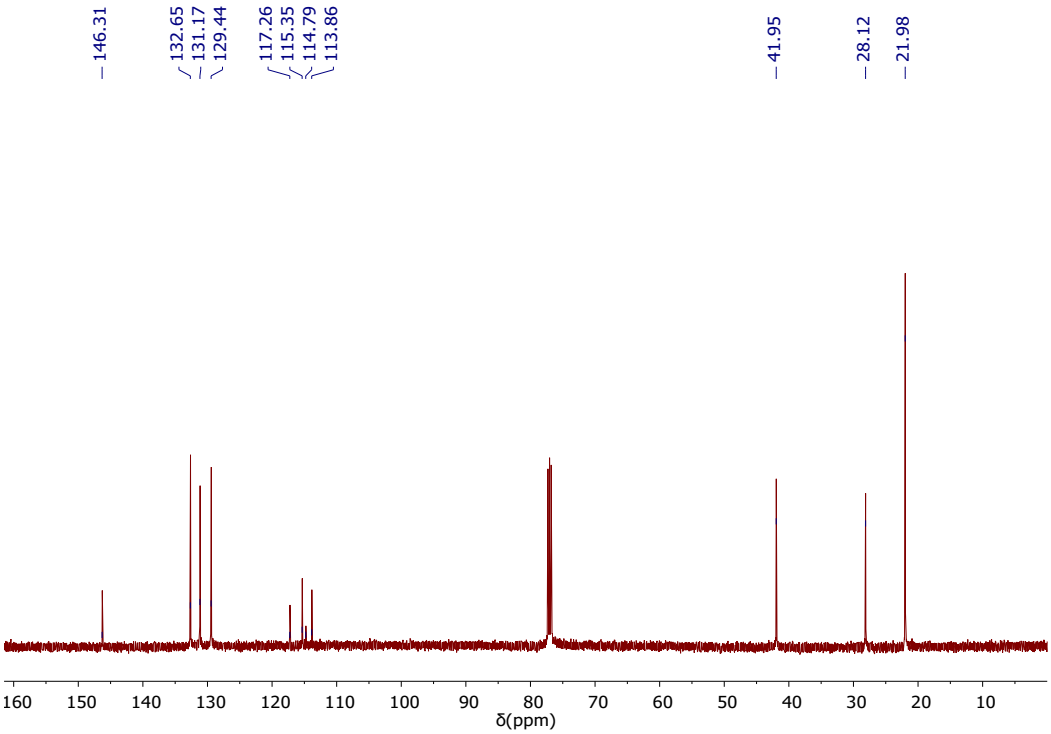

Figure S2. ^{13}C NMR spectrum of phthalonitrile **1** ($CDCl_3$)

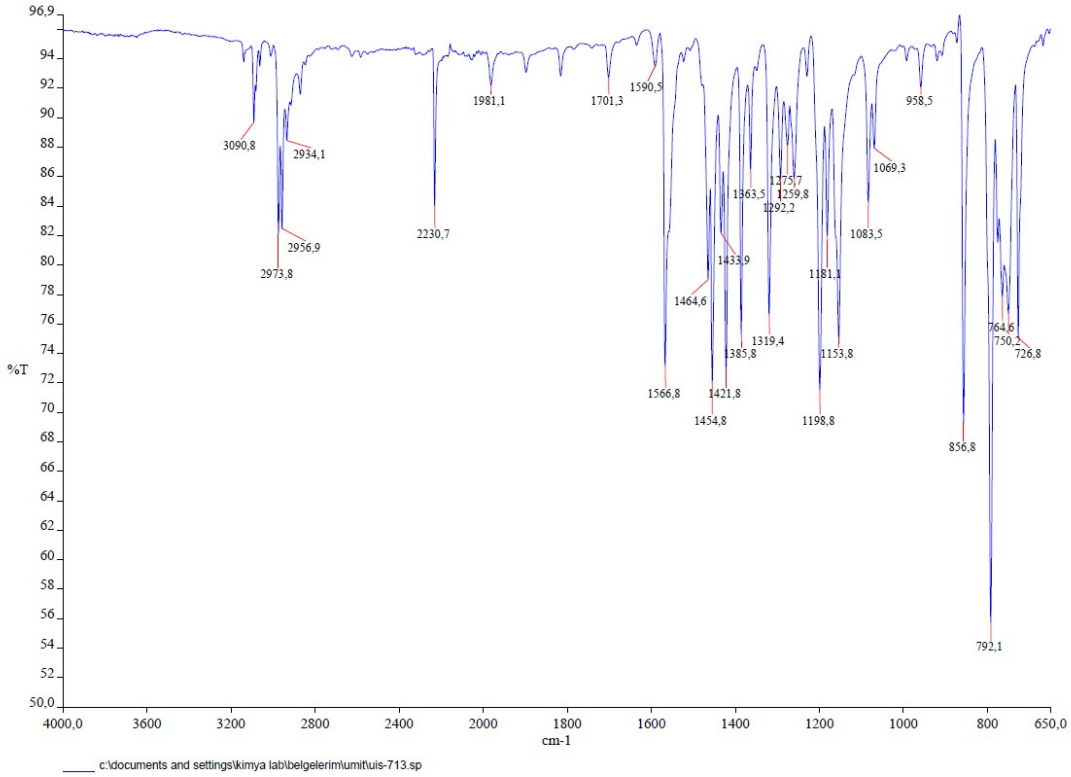

Figure S3. FT-IR spectrum of phthalonitrile **1**

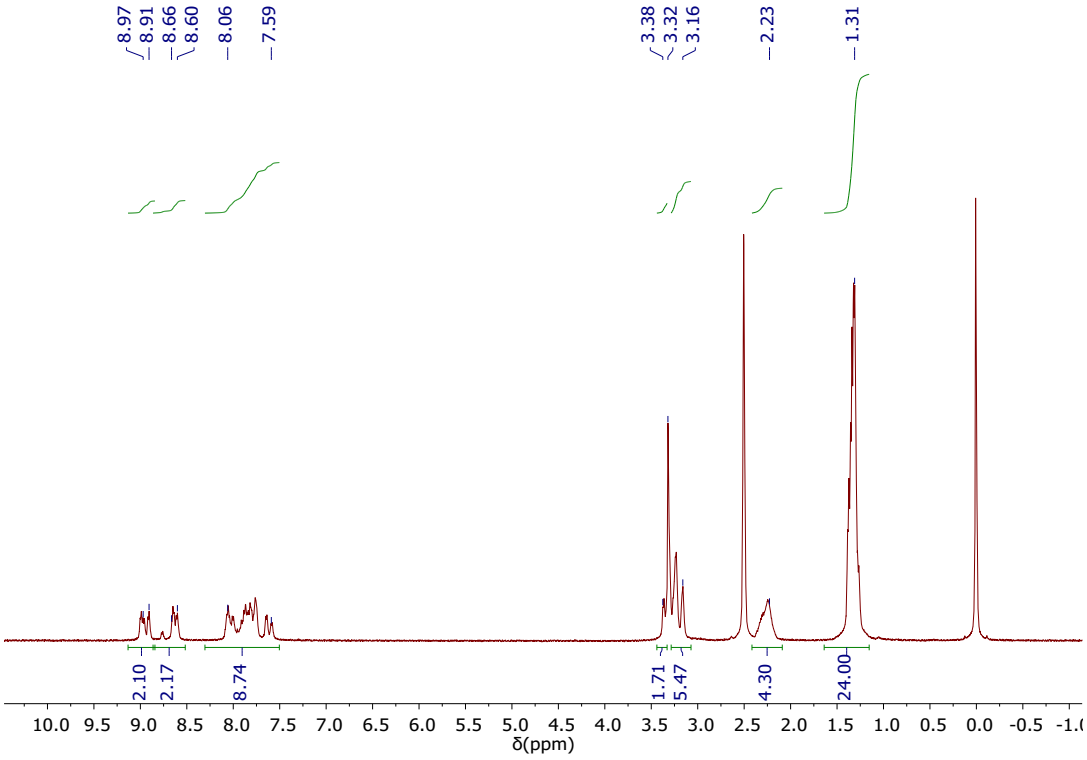

Figure S4. ^{1}H NMR spectrum of phthalocyanine **Pc2** (DMSO-d_6)

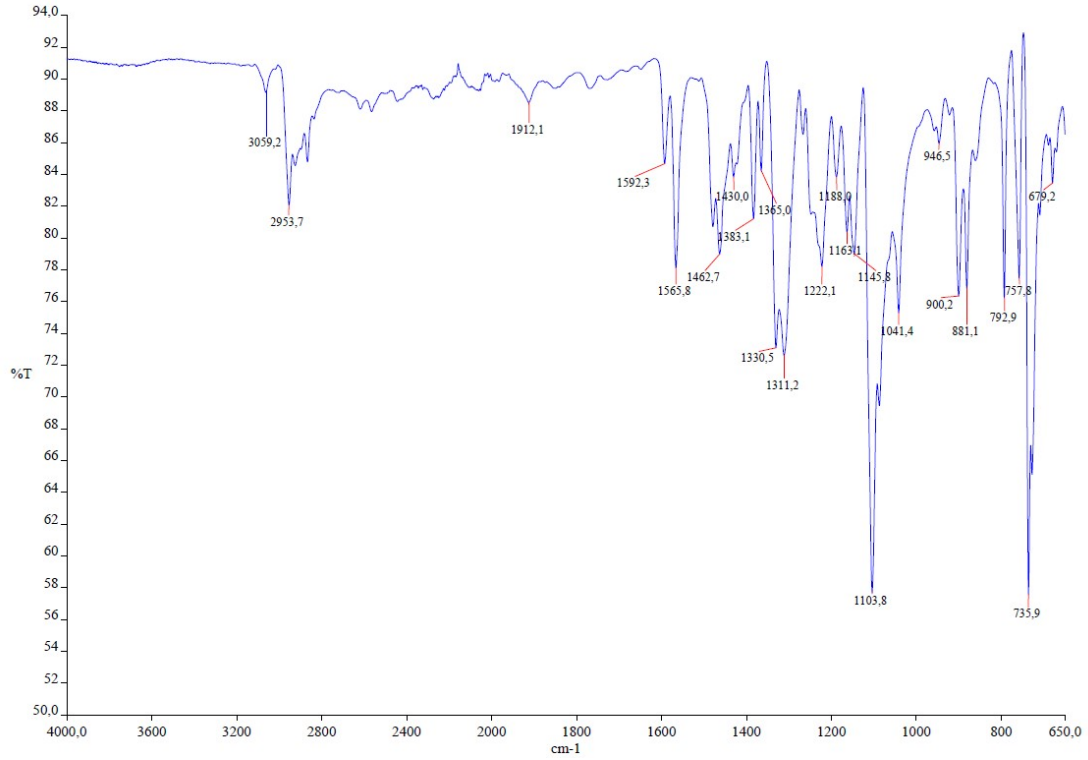

Figure S5. FT-IR spectrum of phthalocyanine **Pc2**

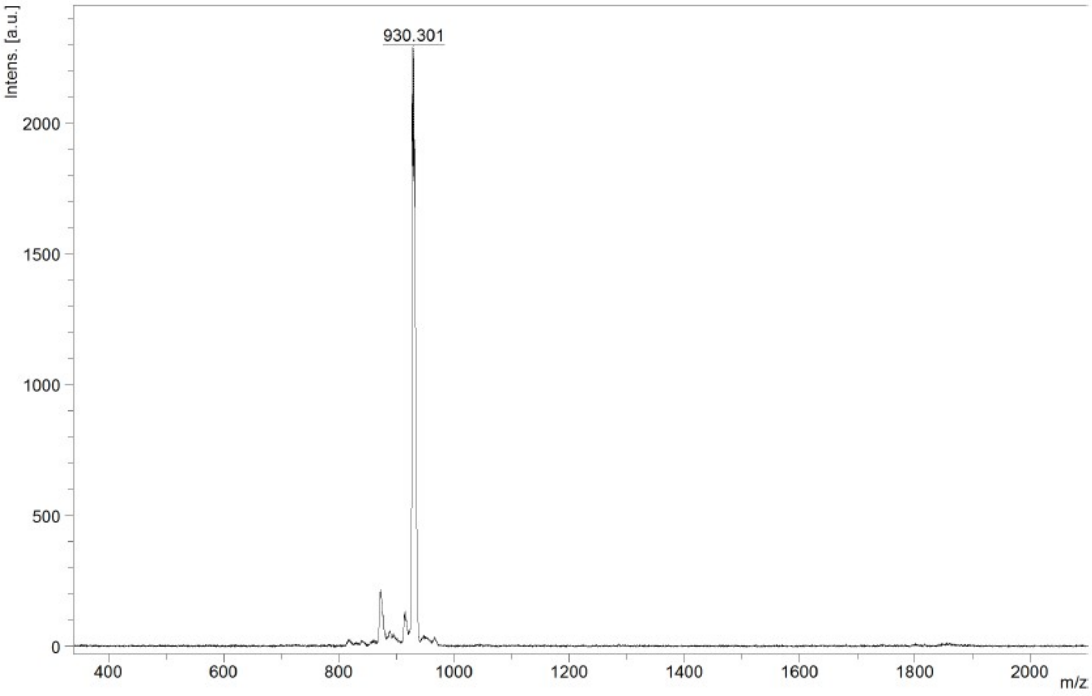

Figure S6. MALDI-MS spectrum of phthalocyanine **Pc2**

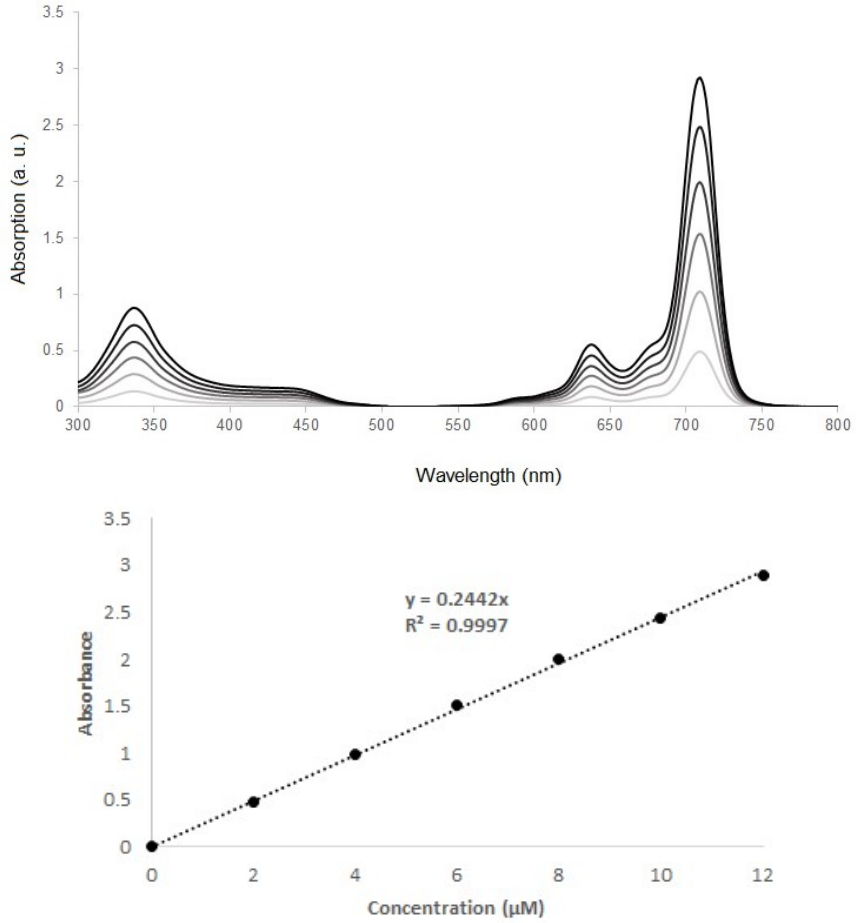

Figure S7. Top: UV-vis spectrum of **Pc2** in THF (2-12 µM). Bottom: absorbance values vs concentration

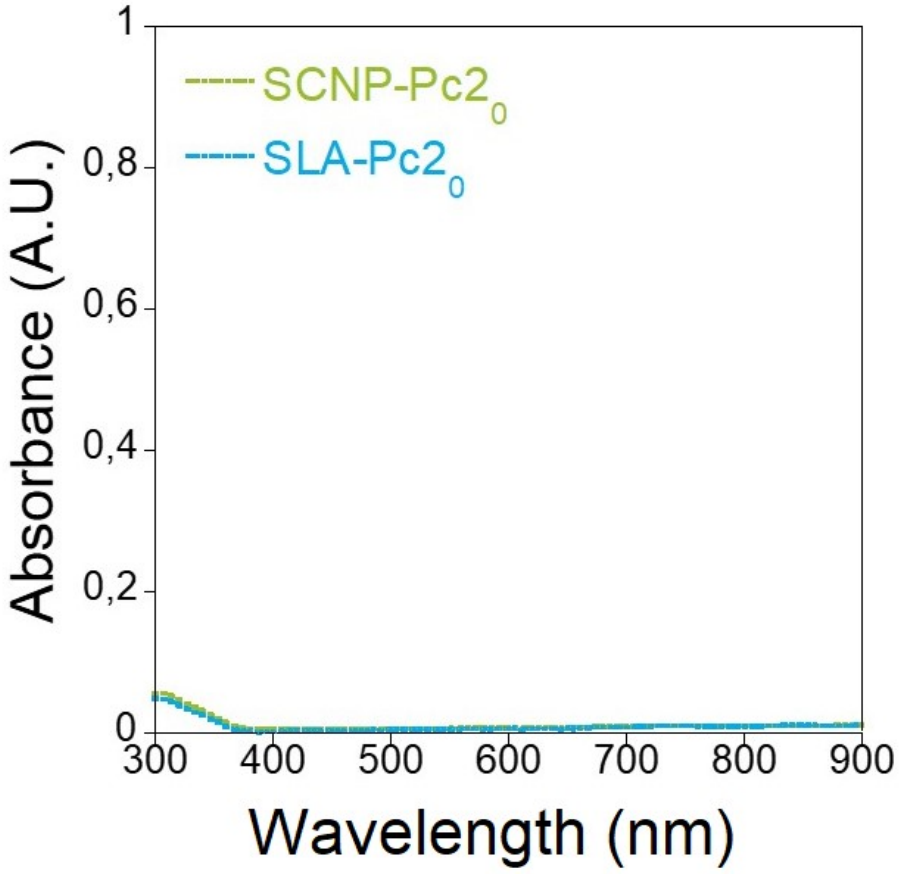

Figure S8. UV spectra of blank nanocarriers in water.

Table S1. Amounts of **Pc2** encapsulated in **SLA** or **SCNP** nanocarriers

SLA-Pc2$_x$ or **SCNP-P$_C$2$_x$** (μg/ml)	1	10	50	100	200
Pc2$_5$ (μg/ml)	0.005	0.05	0.25	0.5	1
Pc2$_5$ (μM)	0.0005	0.005	0.025	0.05	0.1
Pc2$_{12}$ (μg/ml)	0.012	0.12	0.6	1.2	2.4
Pc2$_{12}$ (μM)	0.0012	0.012	0.06	0.12	0.24

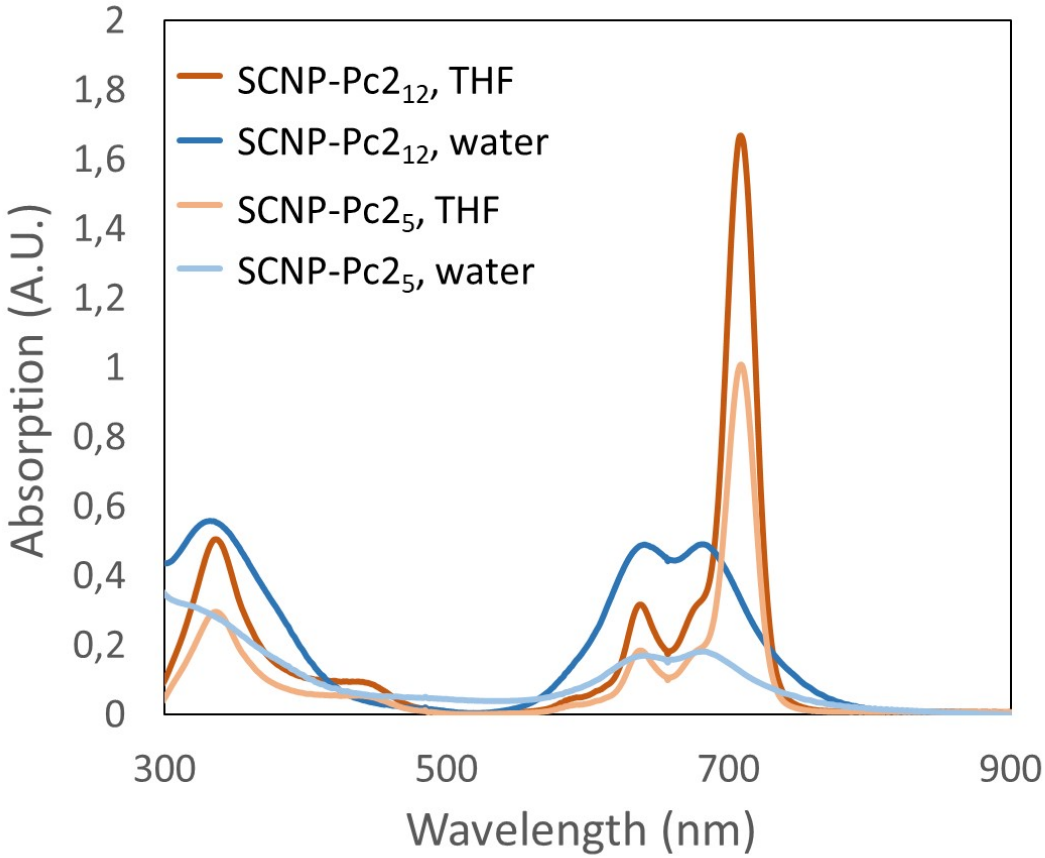

Figure S9. UV-Vis absorption spectra of **SCNP-Pc2$_x$** aggregates in water and in THF. After removal of water *via* lyophilization of the corresponding aqueous samples, the measurements with equal volumes of THF inducing the in the disruption of the nanoparticles and the monomerization of the phthalocyanines

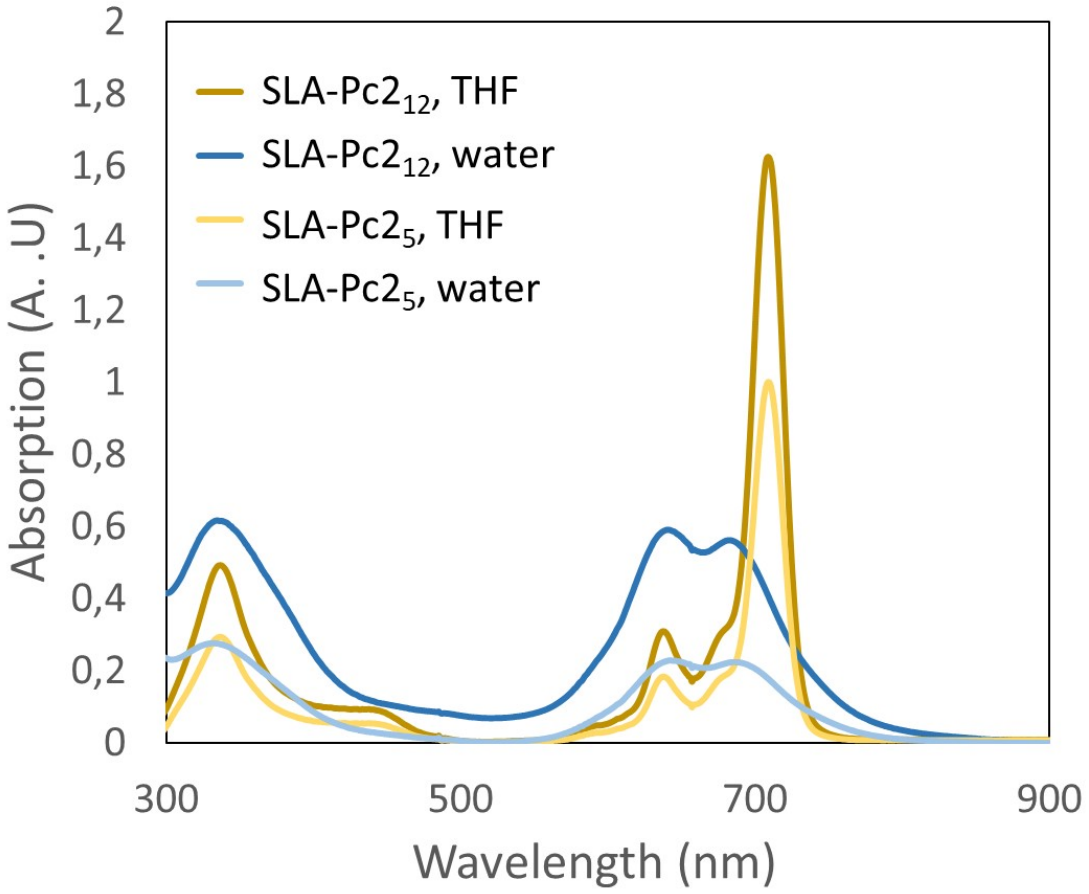

Figure S10. UV-Vis absorption spectra of **SLA-Pc2$_x$** aggregates in water and in THF. After removal of water *via* lyophilization of the corresponding aqueous samples, the measurements with equal volumes of THF inducing the in the disruption of the nanoparticles and the monomerization of the phthalocyanines

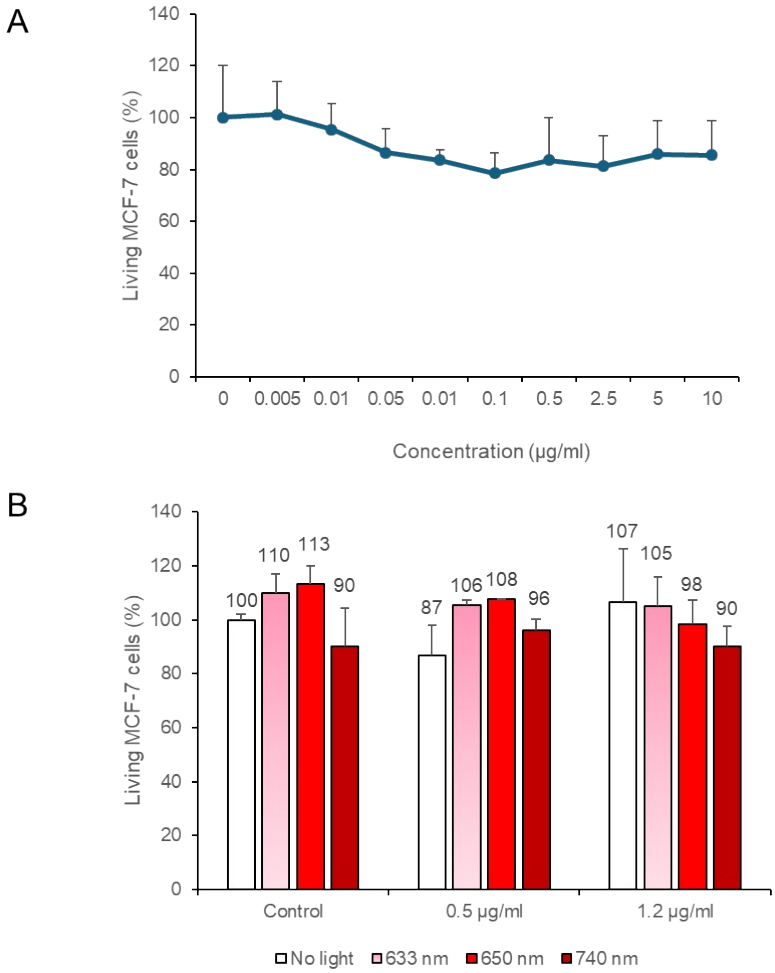

Figure S11. (A) Cell viability study of MCF-7 cells incubated 72 h with increasing concentrations (from 0.005 to 10 µg.mL^{-1}) of **Pc2**. (B) PDT effect of **Pc2** (at 0.5 and 1.2 µg.mL^{-1}) incubated 24 h with MCF-7 cells and excited at 633, 650 and 740 nm.

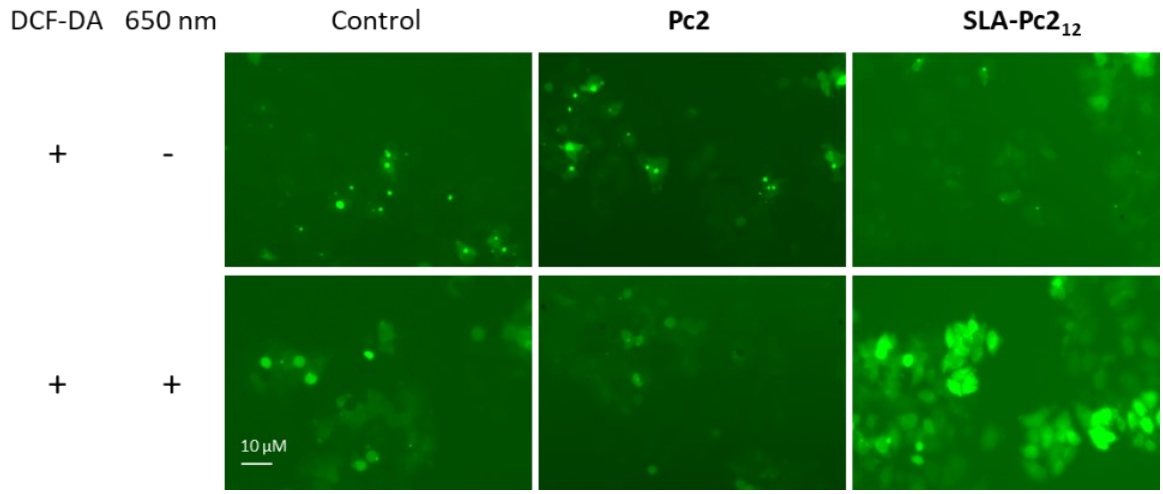

Figure S12. Detection of intracellular reactive oxygen production (ROS) realized using DCFDA-Cellular ROS Detection Assay Kit (Abcam). MCF-7 cells were seeded on 96 wells plate and incubated 24 h with **SLA-Pc2$_{12}$** at 100 µg.ml^{-1} and **Pc2** at 1.2 µg.ml^{-1}. 45 min before irradiation, cells were incubated at 37°C with DCFDA (2,7-dichlorofluorescein diacetate) at 20 µM and submitted or not to laser irradiation at 650 nm during 20 min. Pictures were performed on EVOS M5000 Cell imaging system at 482/25 nm wavelength excitation at 20X magnification. Green luminescence results from the generation of ROS.