

Supporting Information

Light-Triggered Polymeric Nanobombs for Targeted Cell Death

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Movie S1. Live-cell imaging of uptake in human neuroblastoma cells of the **5P** compound at short treatment times

Movie S2. Compound **5P** floating in solution in the extracellular space

Movie S3. The **5P** compound in the proximity of the cell membrane: it is able to transfer to the cells the energy harvested from the laser irradiation at 405 nm, which results in an effective cell break-up and no evidence of fluorescence recovery after photo-trigger

Movie S4. light-induced transfer of energy from the **5P** compound to the cells by irradiation at 458/488 nm: it results in a fluorescence recovery and no evidence of cell break-up after photo-trigger

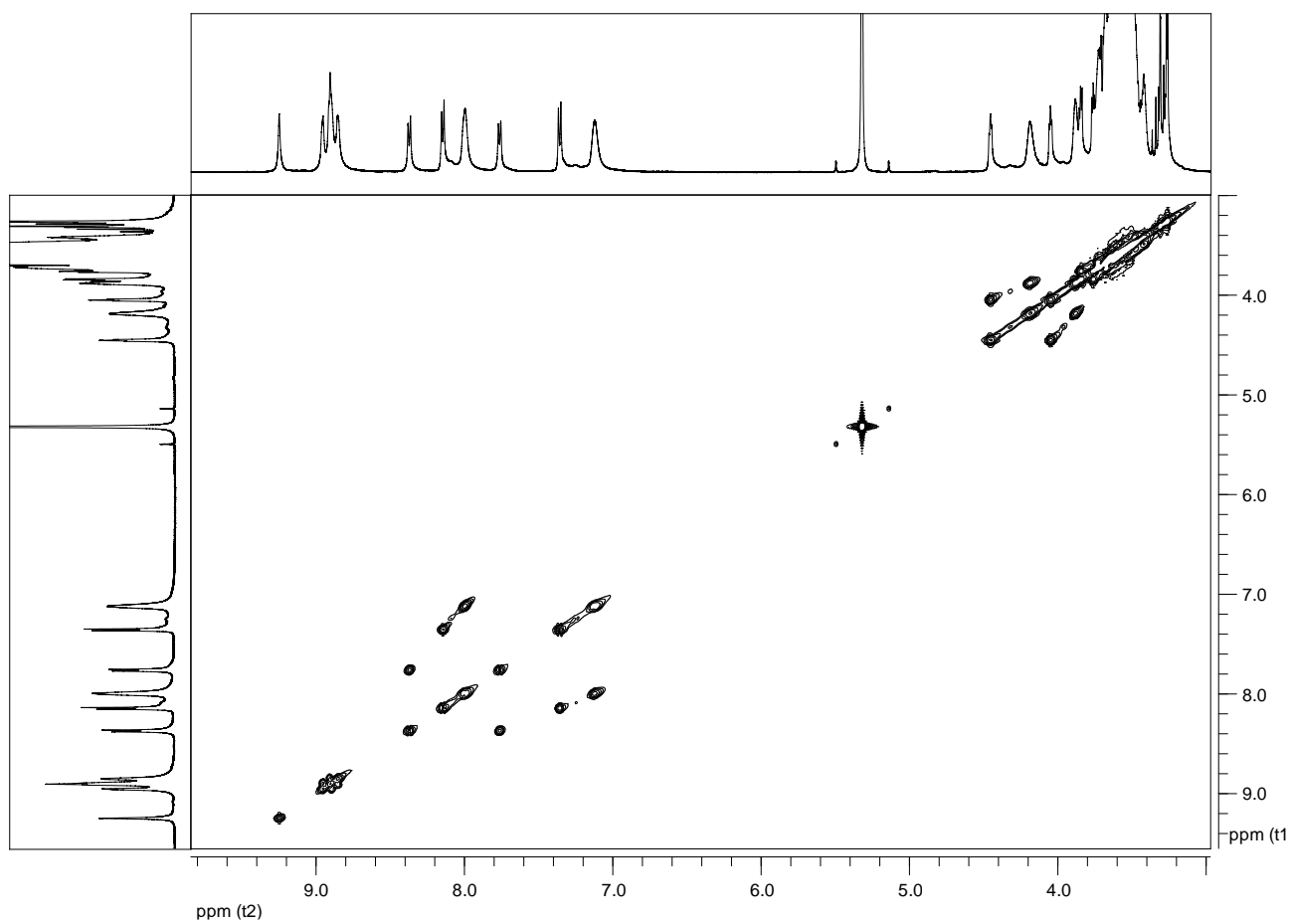


Figure S1. COSY analysis of **5P**

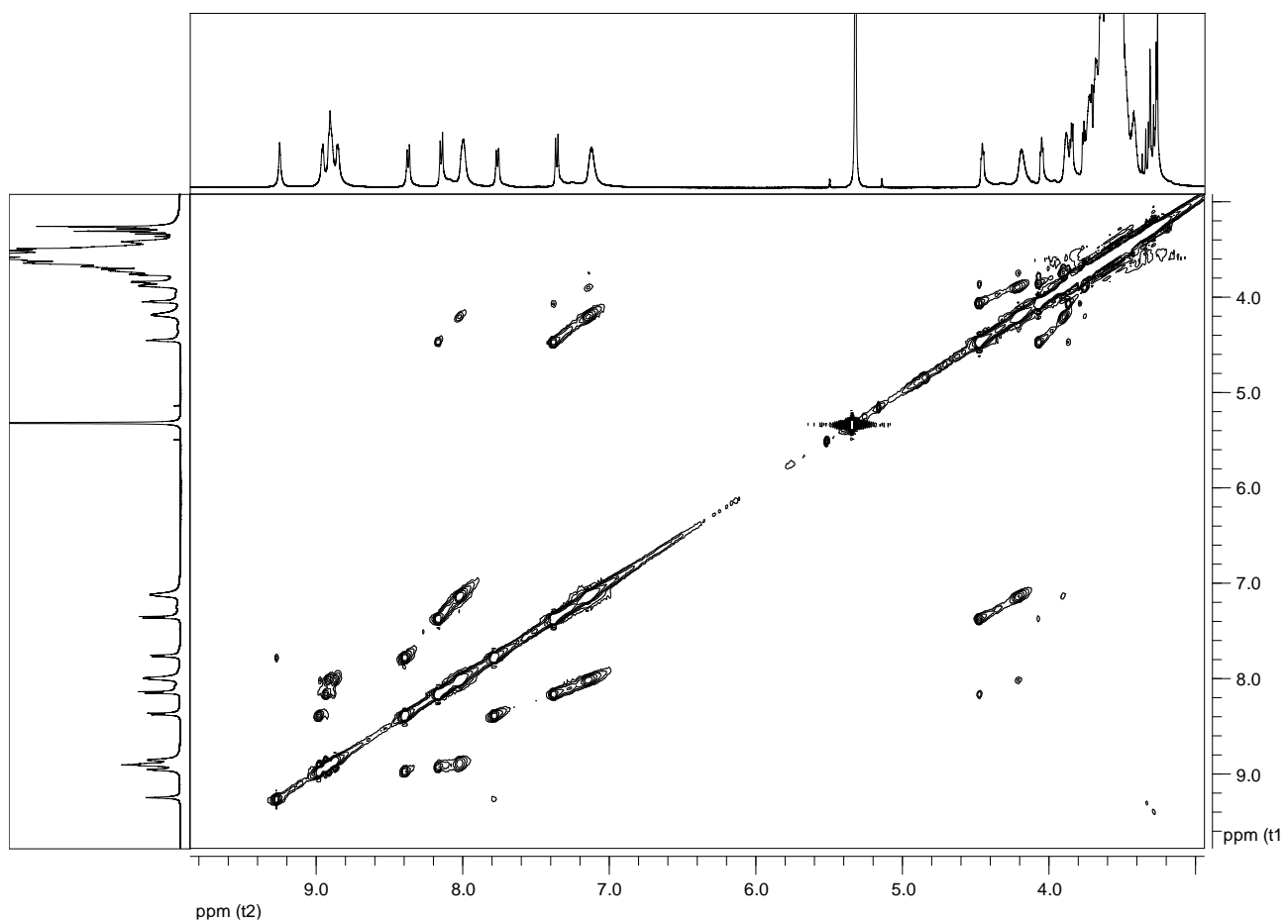


Figure S2. ROESY analysis of **5P**

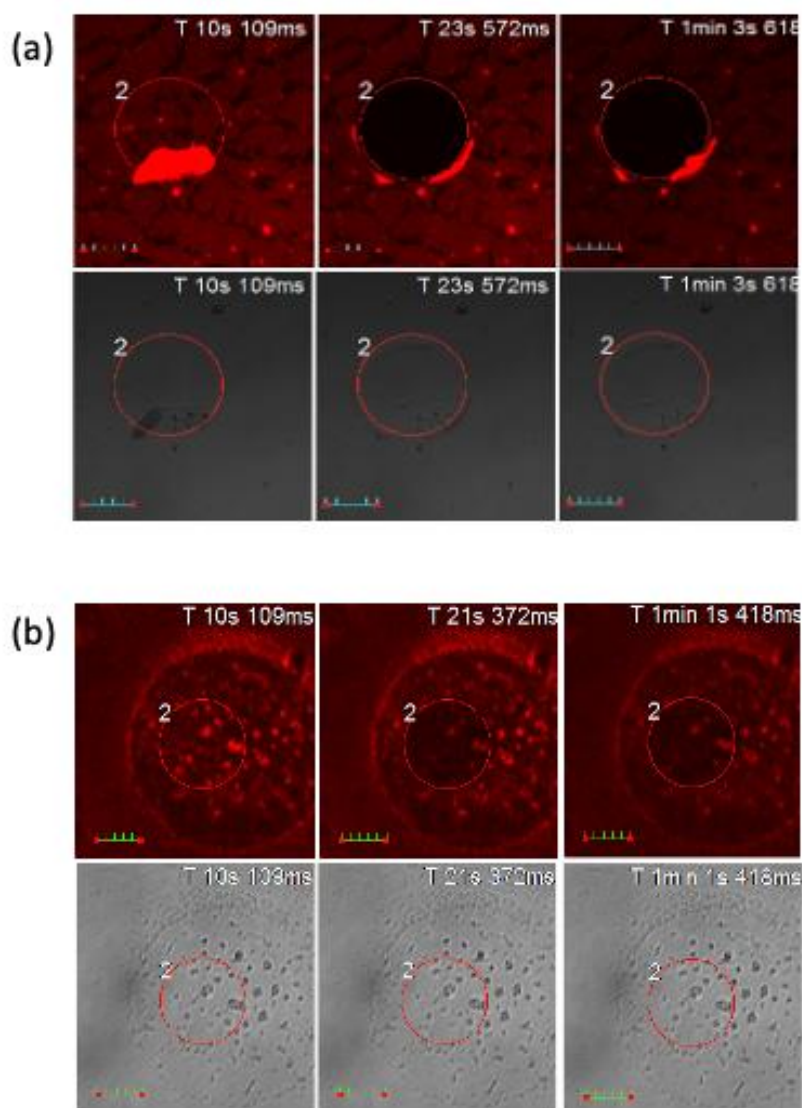


Figure S3. Time lapse sequences of emission (upper panels, $\lambda_{ex/em}=405/640-700$) and optical bright field (lower panels) micrographs recorded with the confocal microscope operating in xy-t mode (scan interval = 5 s) in air for drop-casted films irradiated under 405 nm light (irradiation time = 10 s, power = 5.7 mW): (a) **TPPF20**; (b) **P3PEG**. For each panel, the sequence of three images corresponds from the left to the right to: before bleach and immediately or 1 min after the bleach. Scale bar = 20 μm .

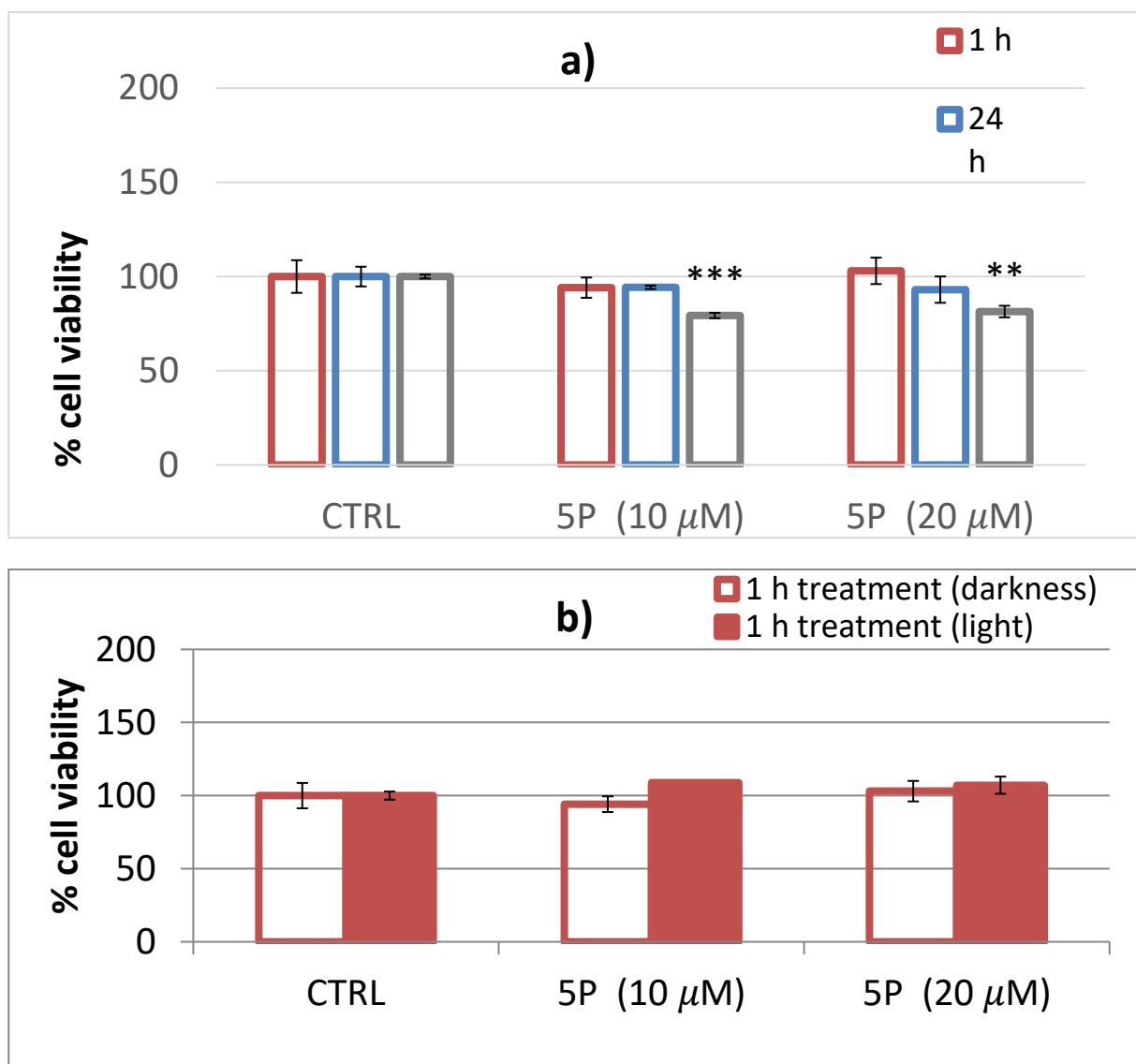


Figure S4. Cell viability from MTT assay of neuroblastoma cells untreated or treated with **5P** compound during the incubation times of: (a) 1, 24 and 48 h under darkness; (b) 1 h under darkness vs. 1 h with white LED light treatment. Results are given as the mean value \pm S.E.M. from experiments performed in triplicate. (** $p < 0.01$ and *** $p < 0.001$ vs. control untreated, one-way Anova).

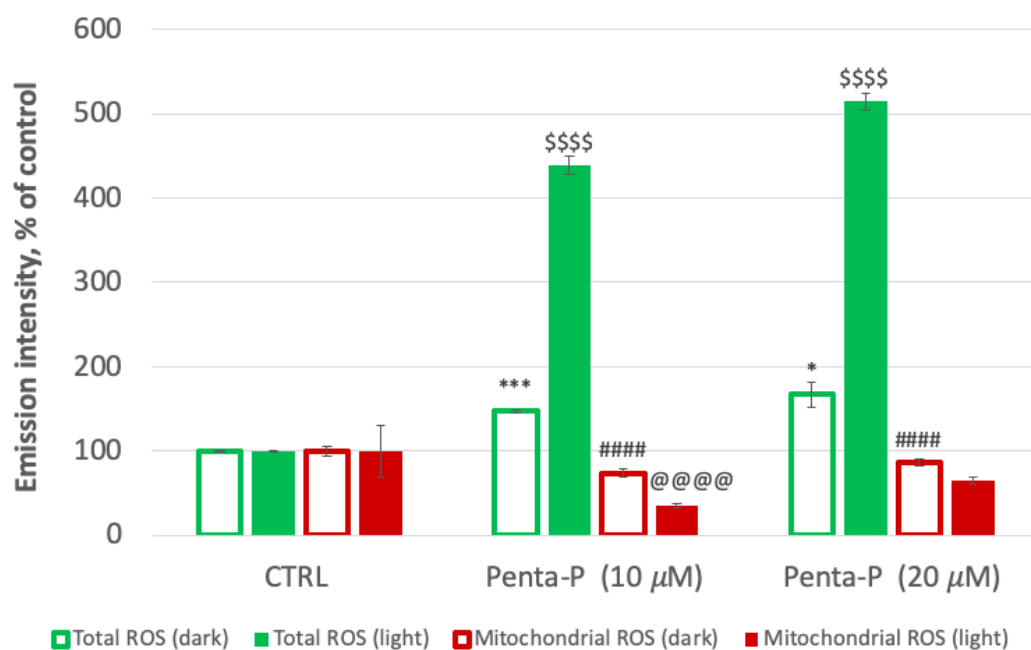


Figure S5. Total and mitochondrial ROS experiments on neuroblastoma SH-SY5Y cell line. Cells were incubated for 1 h with **5P** in the absence or presence of light exposure (15 min). Results are presented as mean \pm S.E.M. from experiments in triplicate and normalized with respect to the control untreated cells. Asterisk (*) represents the correlation significant at the $p \leq 0.05$, (***) at the $p \leq 0.001$ and (\$\$\$\$ or ##### or @@@@) at the $p \leq 0.0001$ level with respect to the respective control.