

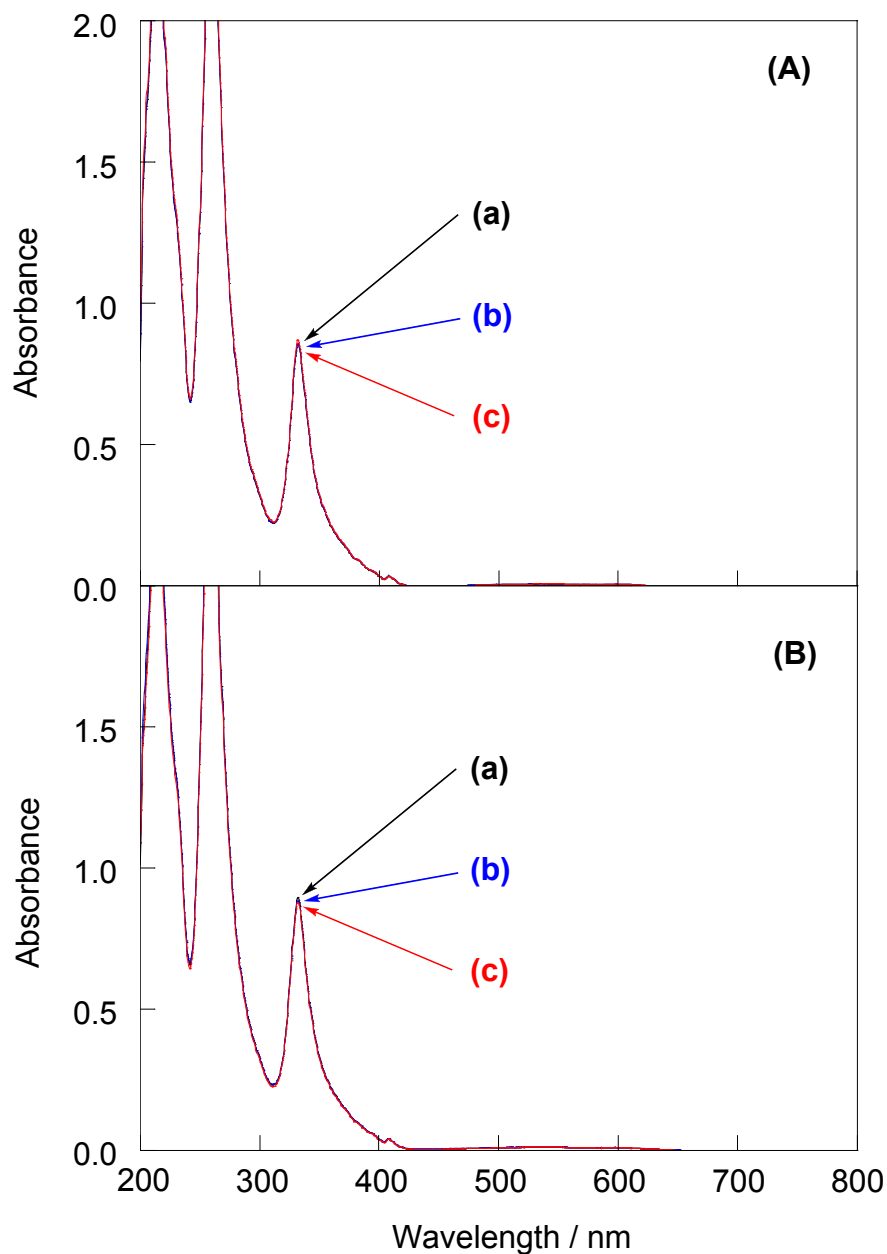
## Supporting Information

### **Direct and short-time uptake of [70]fullerene in the cell membrane using an exchange reaction from [70]fullerene• $\gamma$ -cyclodextrin complex and the resulting photodynamic activity**

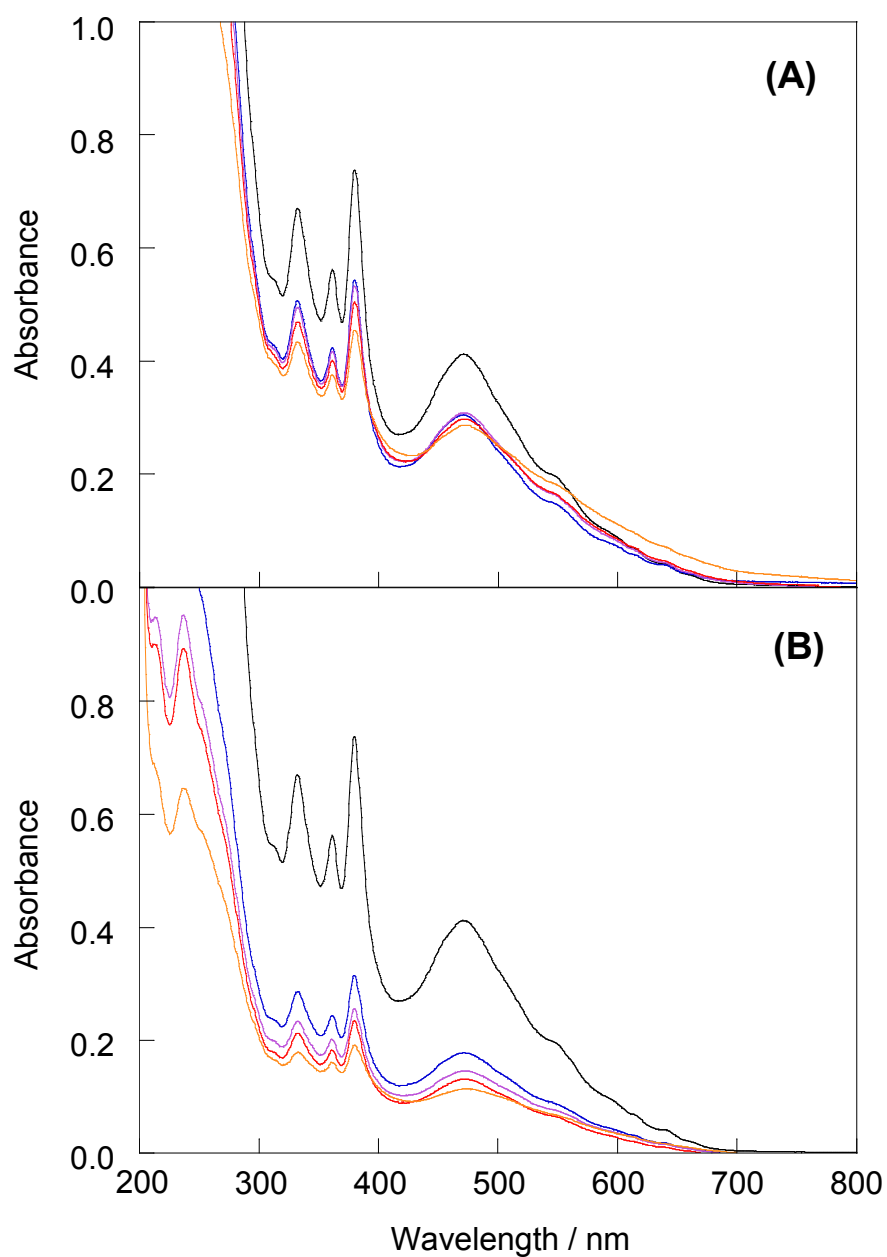
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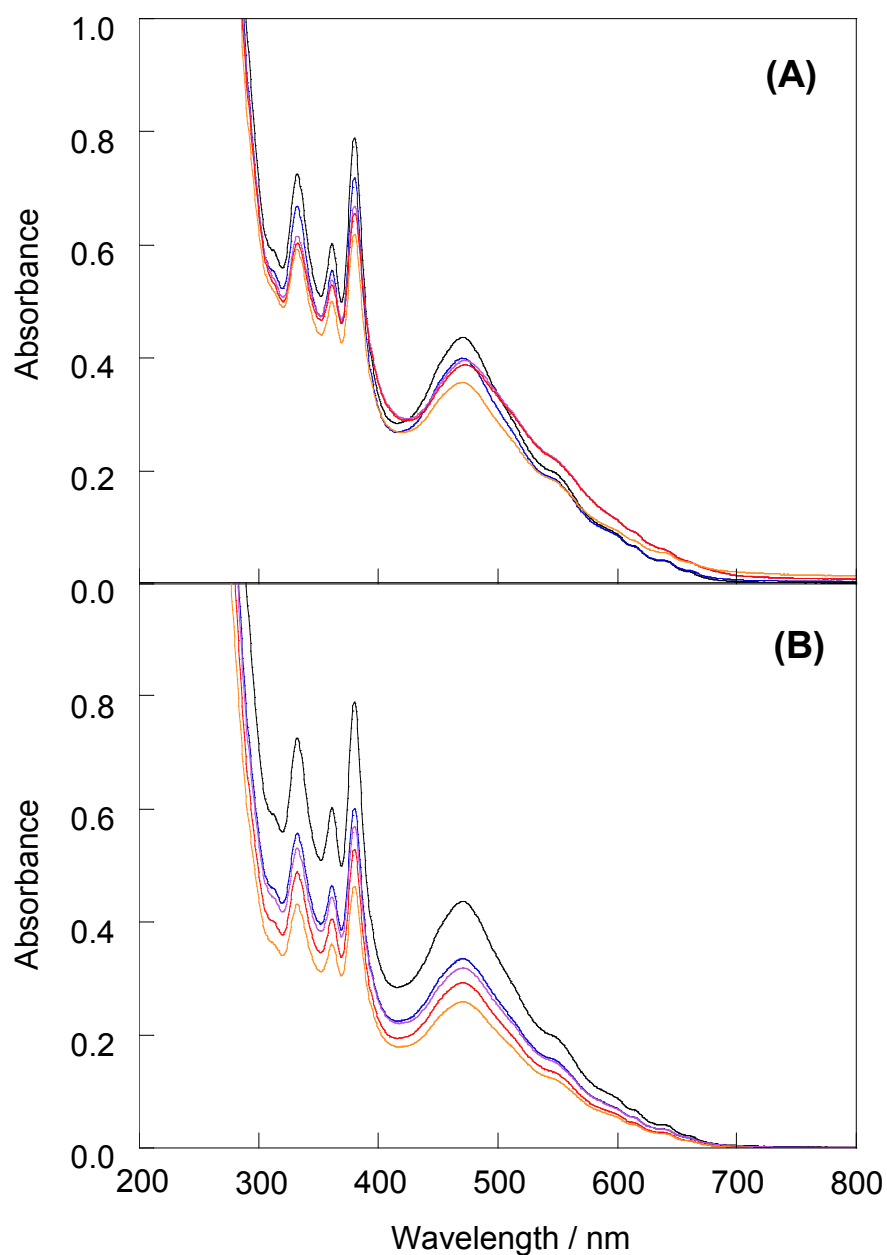
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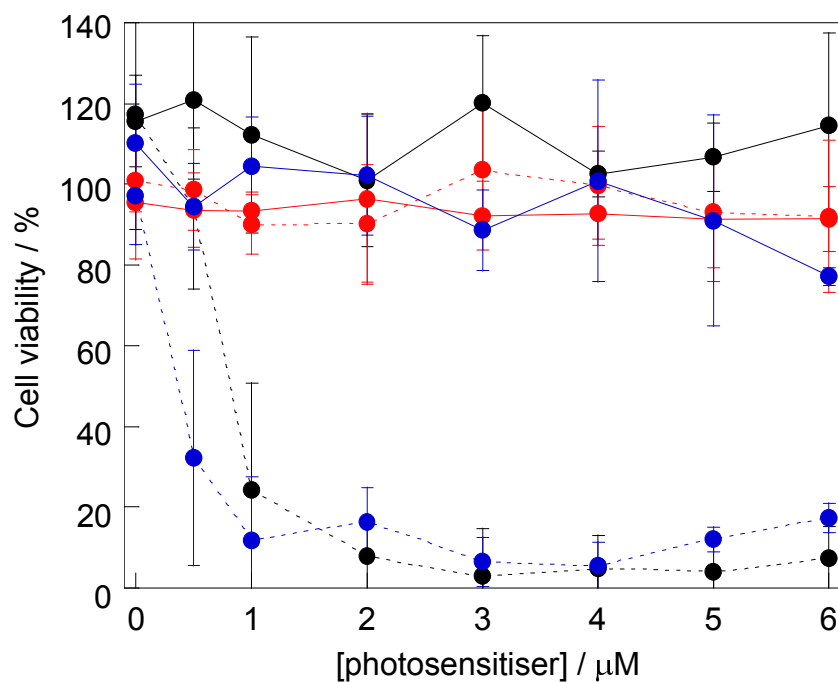
**Fig. S1** UV-vis absorption spectra of (a) the C<sub>60</sub>-γ-CDx complex before incubation (black line) and after incubation (b) without HeLa cells (blue line) and (c) with HeLa cells (red line) in saline at (A) 37 °C and (B) 4 °C for 1 h. All spectra were measured at 25 °C (1 cm-cell); [C<sub>60</sub>] = 20 μM, saline 2.0 mL.



**Fig. S2** UV-vis absorption spectra of the  $C_{70} \cdot \gamma\text{-CD}_x$  complex after incubation (A) without HeLa cells and (B) with HeLa cells in saline at 37 °C. Incubation time: 0 min (black line), 5 min (blue line), 10 min (purple line), 15 min (red line) and 20 min (orange line). All spectra were measured at 25 °C (1 cm-cell);  $[C_{70}] = 20 \mu\text{M}$ , saline 2.0 mL.



**Fig. S3** UV-vis absorption spectra of the  $C_{70}$ · $\gamma$ -CDx complex after incubation (A) without HeLa cells and (B) with HeLa cells in saline at 4 °C. Incubation time: 0 min (black line), 5 min (blue line), 10 min (purple line), 15 min (red line) and 20 min (orange line). All spectra were measured at 25 °C (1 cm-cell);  $[C_{70}] = 20 \mu\text{M}$ , saline 2.0 mL.



**Fig. S4** Concentration dependence of the cytotoxicity of C<sub>60</sub> without (black solid line) and with light irradiation (black dashed line), ALA without (red solid line) and with light irradiation (red dashed line) and PpIX without (blue solid line) and with light irradiation (blue dashed line). Cell viability was assayed by the WST-8 method. In the case of PpIX, DMSO treated cells were used as a standard because of cytotoxicity of DMSO. Data represent the mean values from three independent experiments. Error bars are standard deviations.