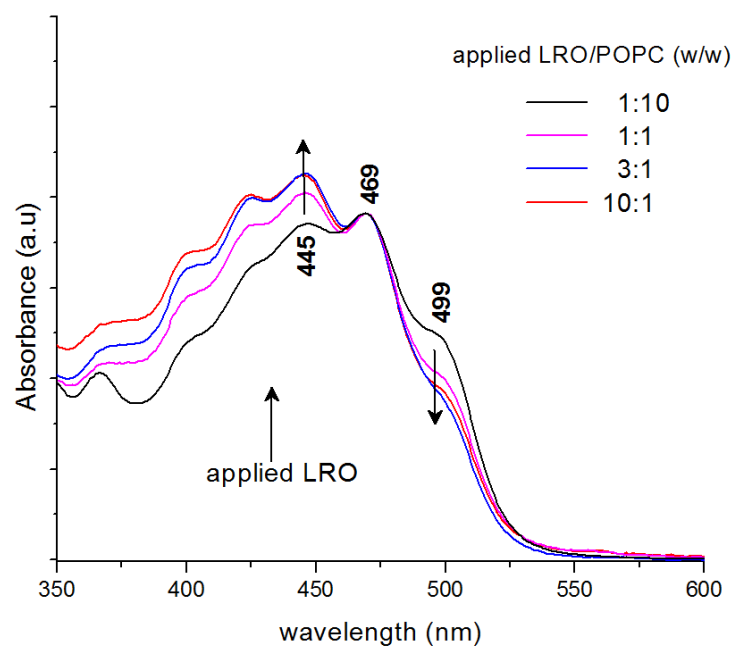


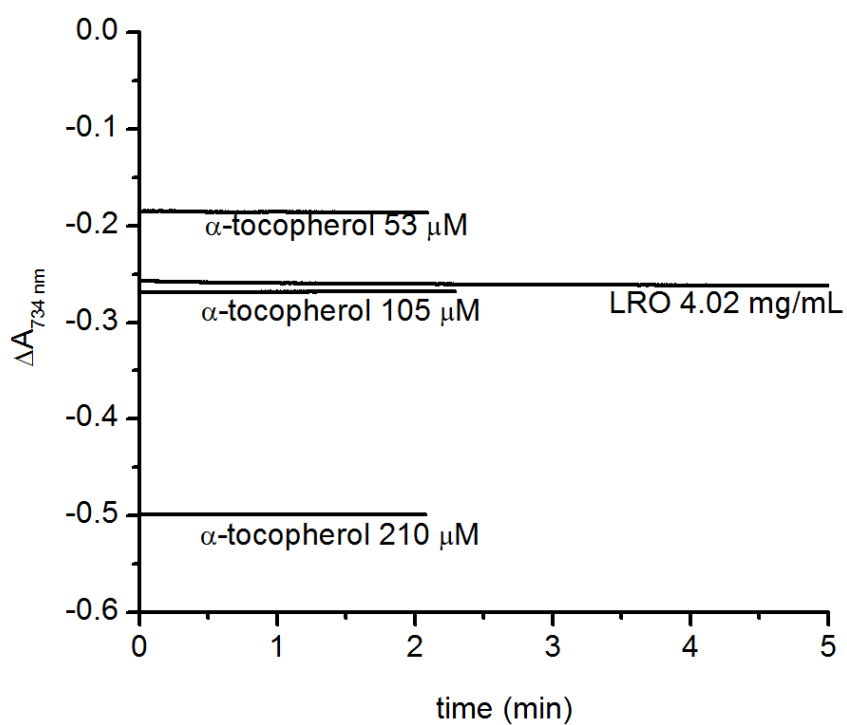
## Electronic Supplementary Information



**Fig. 1**

Qualitative changes of absorption spectra relevant to pigments extracted from LRO-loaded POPC/cholate mixed micelles prepared by method A.

The same volume of a stock POPC solution in ethanol was employed for dissolving increasing amounts of LRO resulting in different LRO/POPC mass ratios. After solvent evaporation, the addition of a 4% cholate solution allowed to obtain LRO-loaded POPC/cholate mixed micelles. Spectra of extracted pigments were normalized at 469 nm in order to better appreciate qualitative changes. Original spectra show that overall signal intensities increase raising the applied LRO mass.



**Fig. 2**

Time evolution of  $\text{ABTS}^+$  decolourization obtained for standard  $\alpha$ -tocopherol and LRO by adopting the decolourization assay modified for hydrophobic compounds (see Experimental section).

Addition of antioxidants was performed *ex-situ* in 1.5 mL microtubes. Once removed antioxidant-containing *n*-hexane phase, spectrophotometric measurements were started immediately after transfer of blank and decolourized  $\text{ABTS}^+$  solutions in the reference and sample cuvettes respectively.