

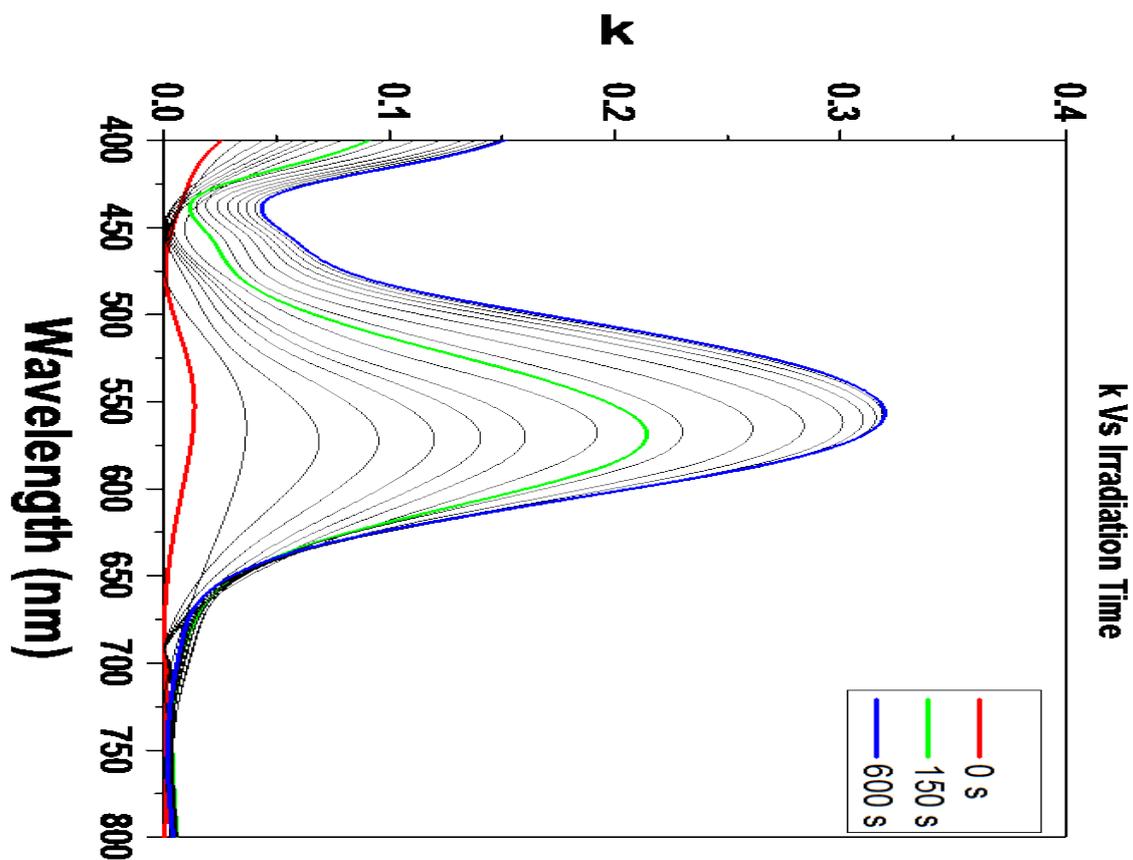
## ELECTRONIC SUPPLEMENTARY INFORMATIONS

### “Colour tunable microcavity by weak-to-strong coupling regime transition through light-switchable material”

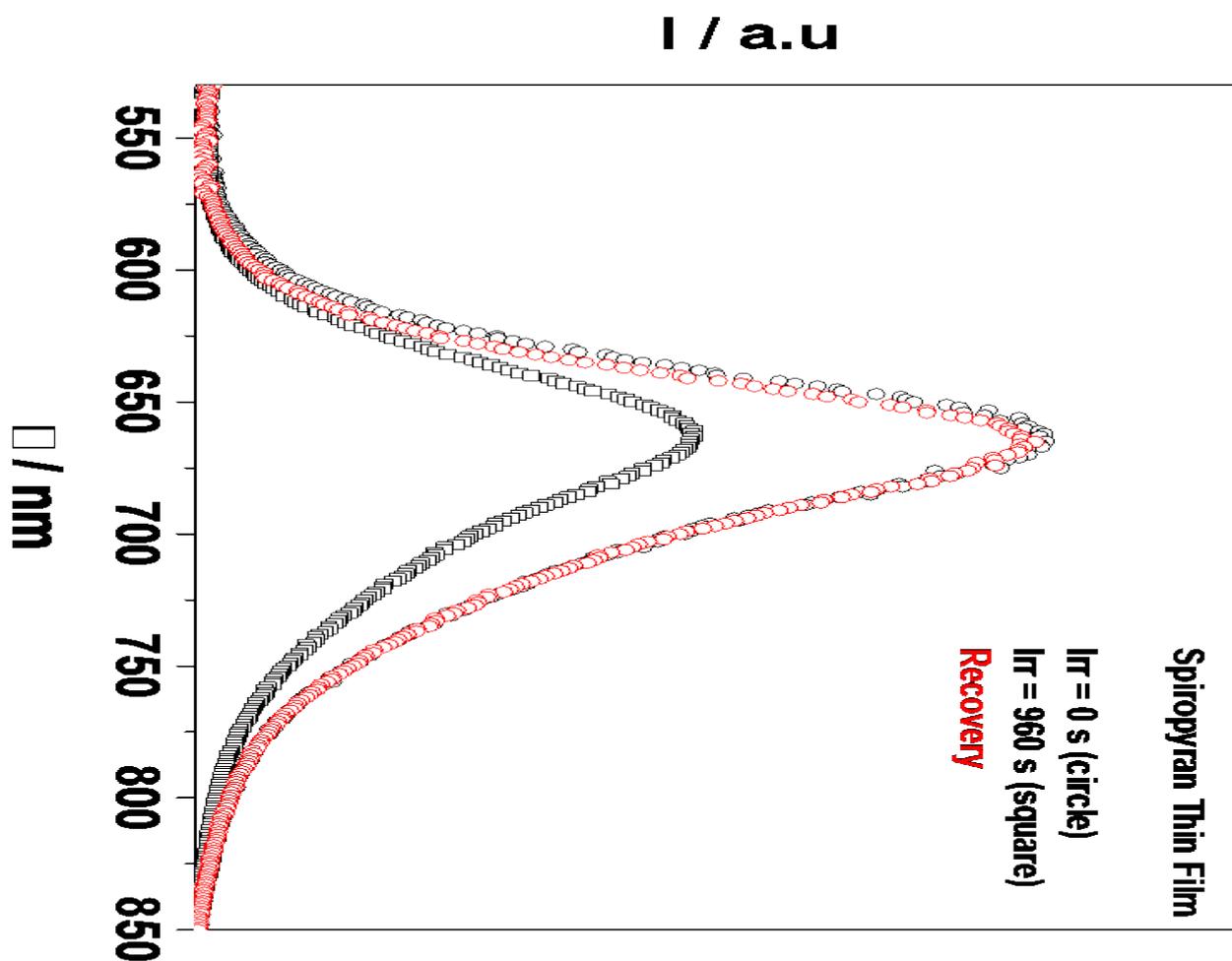
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**Table ESI-1.** Colour Coordinates (CIE) and Colour Rendering Index (CRI) of the emission profiles reported in Fig.2

Emission spectra after an irradiation time of:	CIE <sub>x</sub>	CIE <sub>y</sub>	CRI
0	0,37	0,56	36,9
15''	0,39	0,53	47,3
30''	0,52	0,44	82,1
60''	0,57	0,39	0
120''	0,63	0,35	0
240''	0,42	0,52	57,2
480''	0,46	0,49	74,1
960''	0,66	0,31	0



**FIG.ESI-1:** Dispersion of the imaginary part of the refractive index ( $k$ ) through the studied wavelength range. The red and blue lines represent the two limit cases: not ( $t = 0$  s) and full ( $t = 600$  s) converted cavity, respectively.



**FIG.ESI-2:** Emission spectra of the spiropyran before and after UV irradiation and that of the recovered one. To be noted that the difference in emission intensity between the spiropyran before and after UV irradiation is given by the absorption of the emitted light by the M form ( $t = 960$  s, abs at c.a. 560 nm) that is absent in the S form ( $t = 0$ ). See Fig.1 (article).

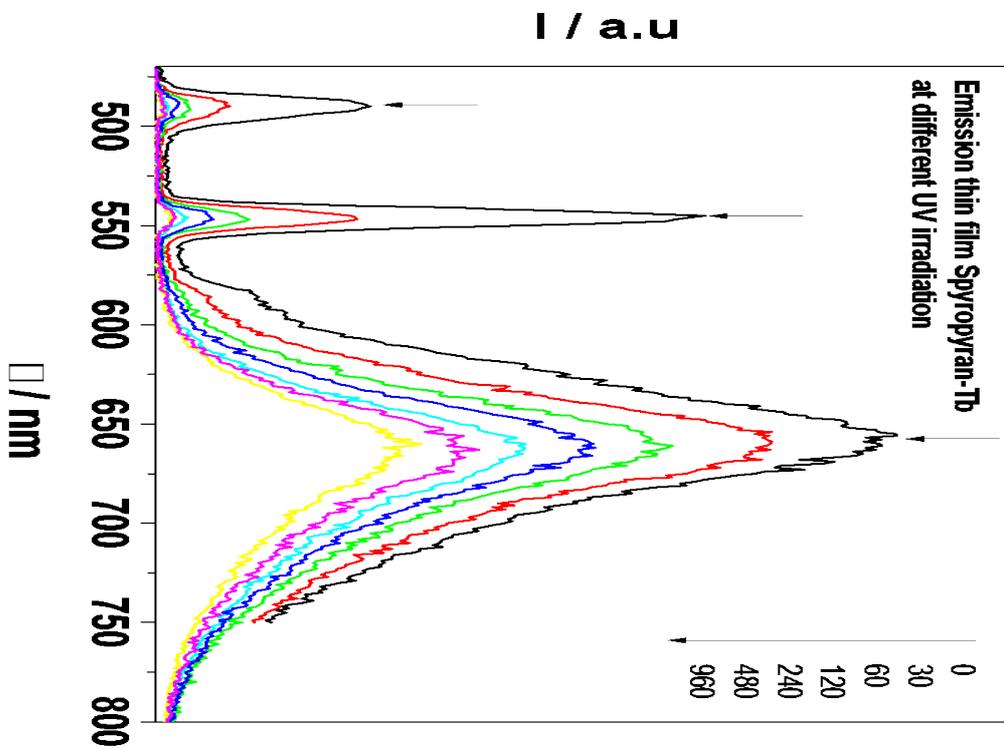
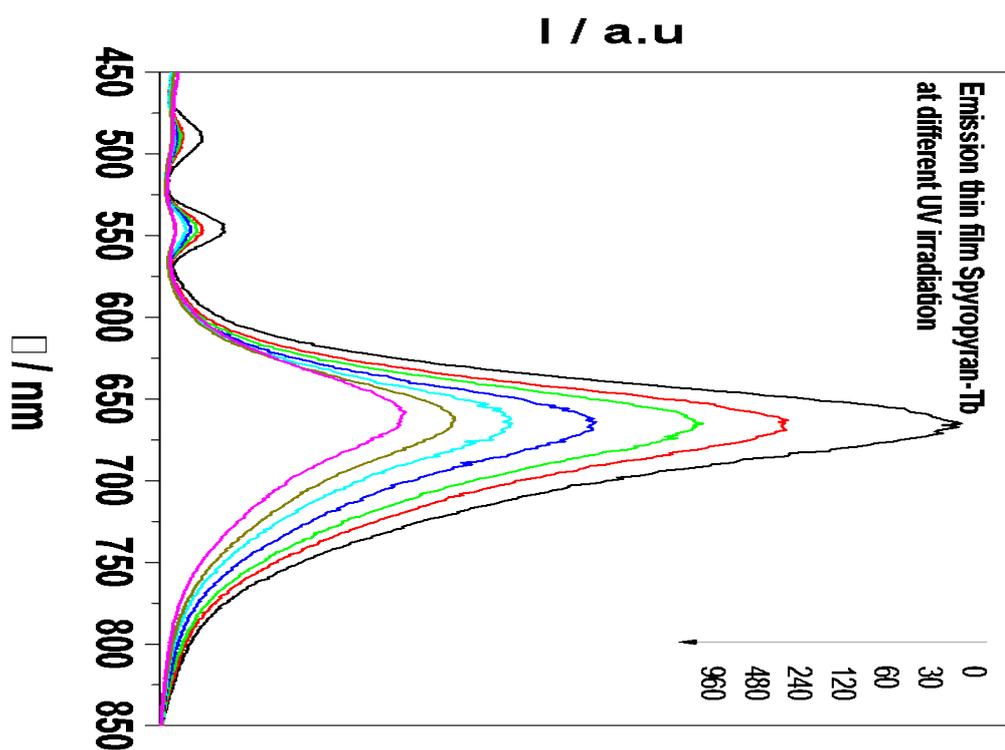
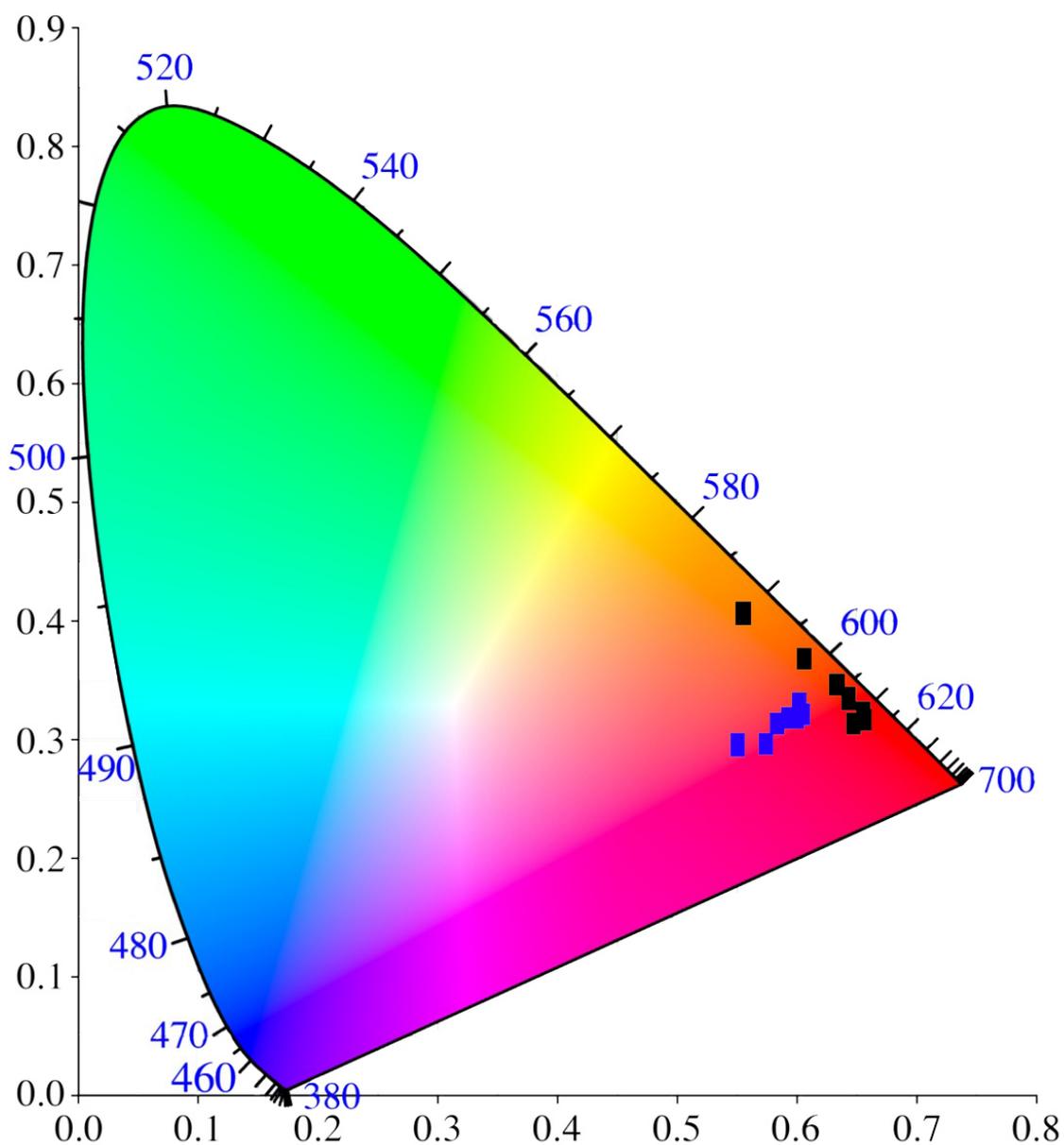


FIG.ESI-3: Emission spectra of the spiropyran-Tb Thin film at different UV irradiation time for two different components ratio (w/w).



**Fig. ESI-4:** Commission Internationale de l'Eclairage (CIE) coordinates corresponding to the emission profiles reported in Fig.ESI2. Blue points correspond to Fig. ESI2 LEFT while the black ones to Fig.ESI2 RIGHT. It can be clearly noted that the colour tunability range is much more smaller than that obtained with the microcavity.