Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information of the manuscript entitled "Reversible Vapochromic Response of Polymer Films Doped with a Highly-Emissive Molecular Rotor"

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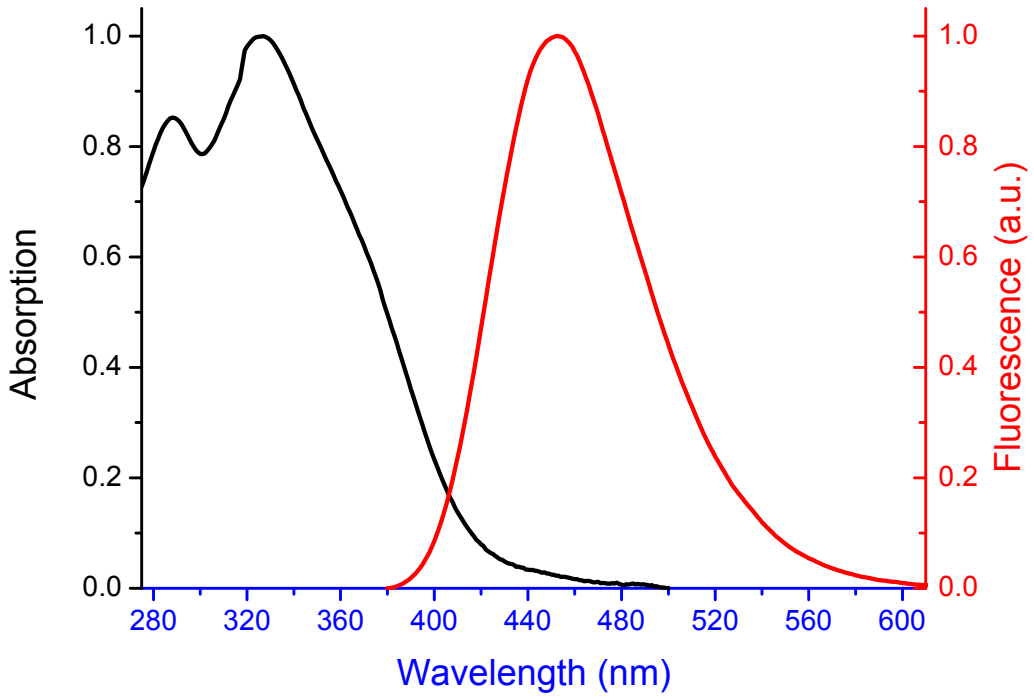

Fig. S1 Absorption (black spectrum) and emission (red spectrum) of a 0.05 wt.% **DPAP**/PMMA film (λ_{exc} = 325 nm).

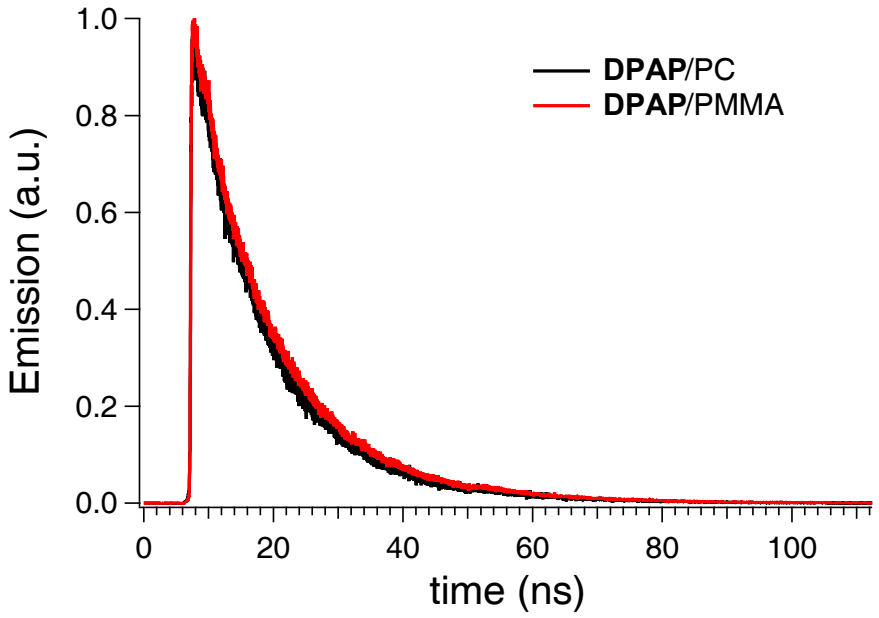

Fig. S2 Fluorescence lifetime profiles of **DPAP**/polymer films (λ_{exc} = 403 nm).

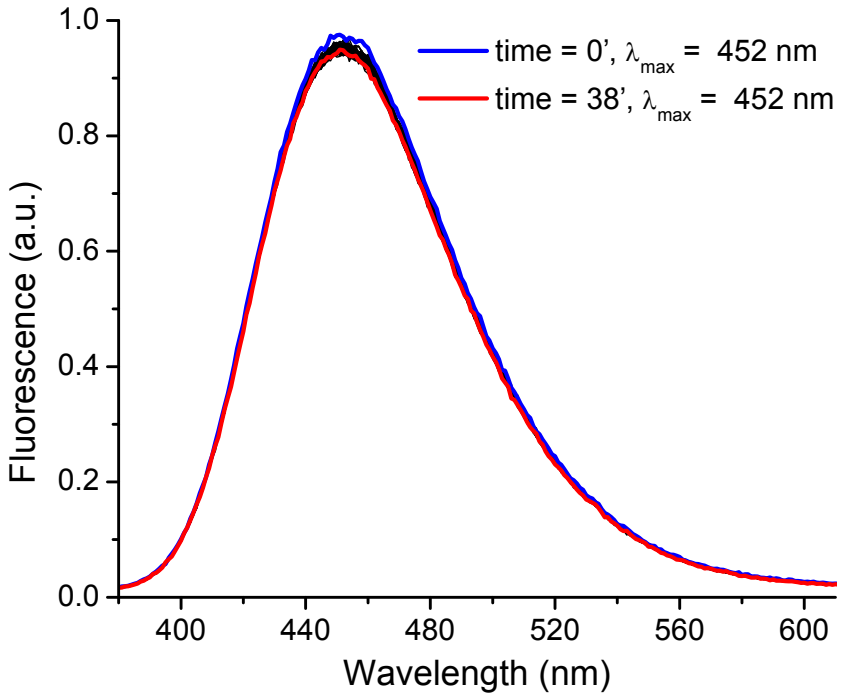

Fig. S3 Emission of a 0.05 wt.% **DPAP**/PMMA film as a function of the exposure to *n*-hexane vapours (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

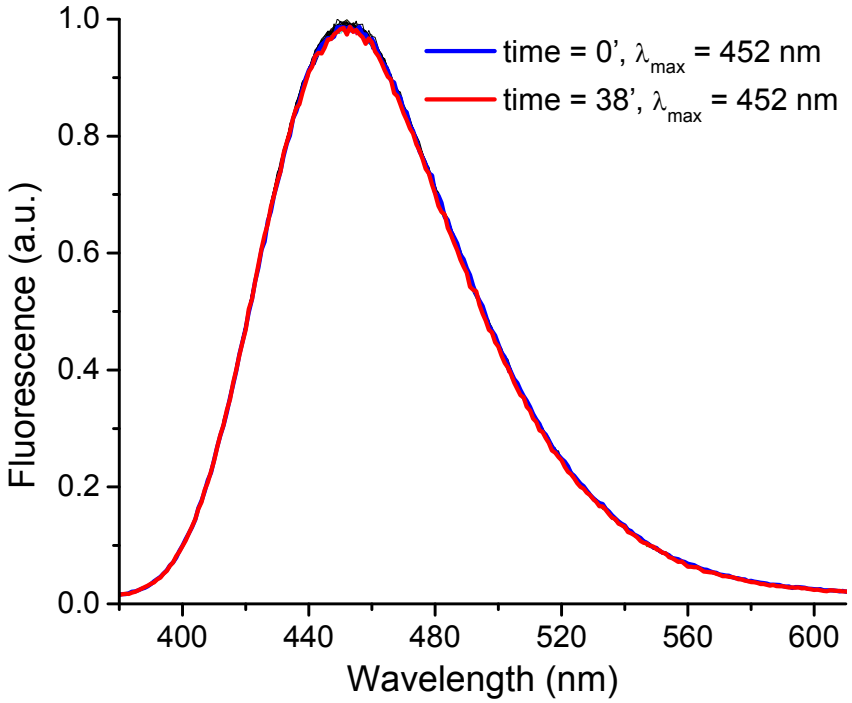

Fig. S4 Multiple emission spectra of a 0.05 wt.% **DPAP**/PMMA film (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

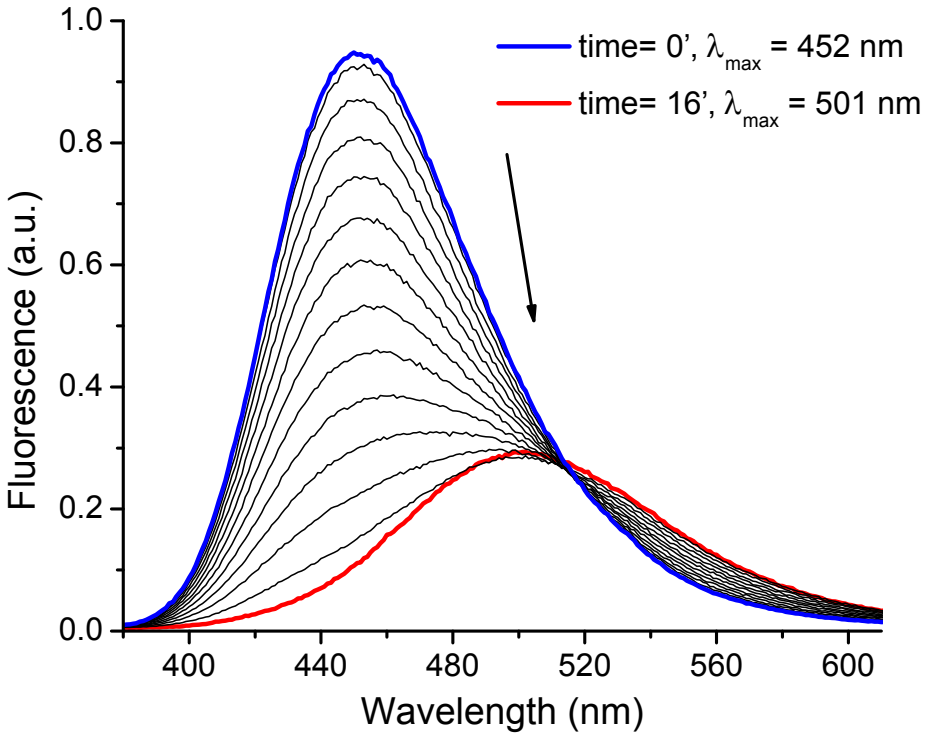

Fig. S5 Progressive changes in the fluorescence of a 0.1 wt.% **DPAP**/PMMA film as a function of the exposure to $CHCl_3$ vapours (λ_{exc} = 325 nm). The spectra were collected for 16 min. with a time interval of 1 min.

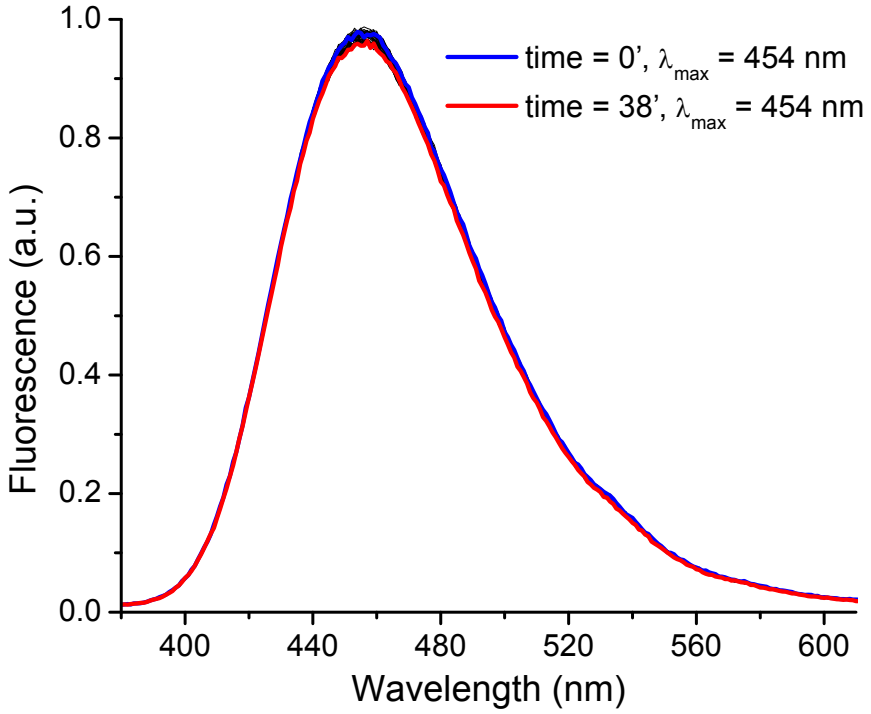

Fig. S6 Multiple emission spectra of a 0.05 wt.% **DPAP**/PC film (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

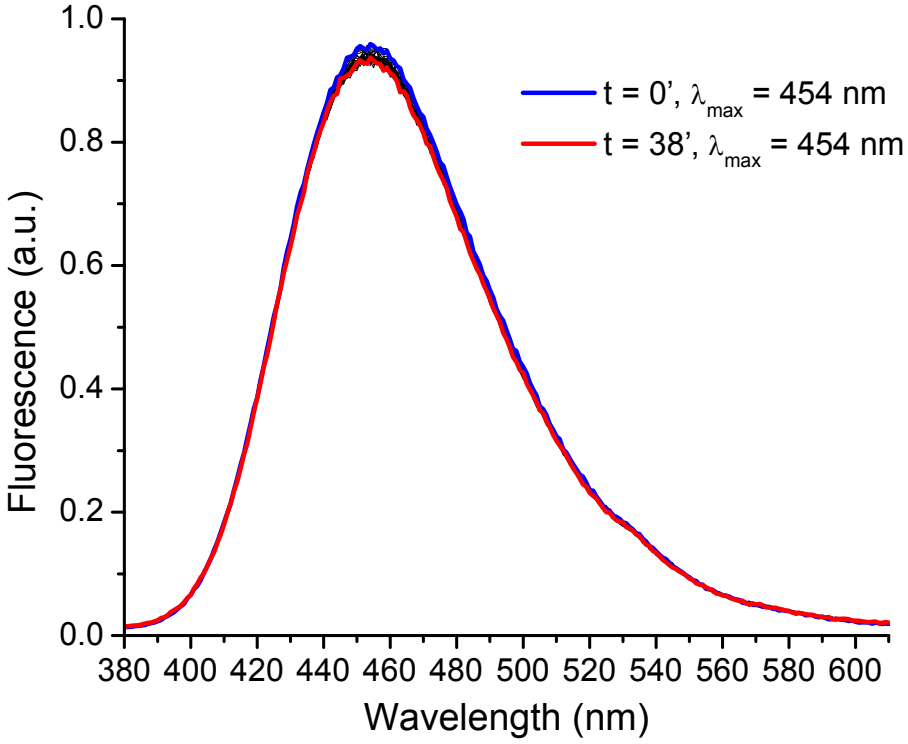

Fig. S7 Emission of a 0.05 wt.% **DPAP**/PC film as a function of the exposure to *n*-hexane vapours (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

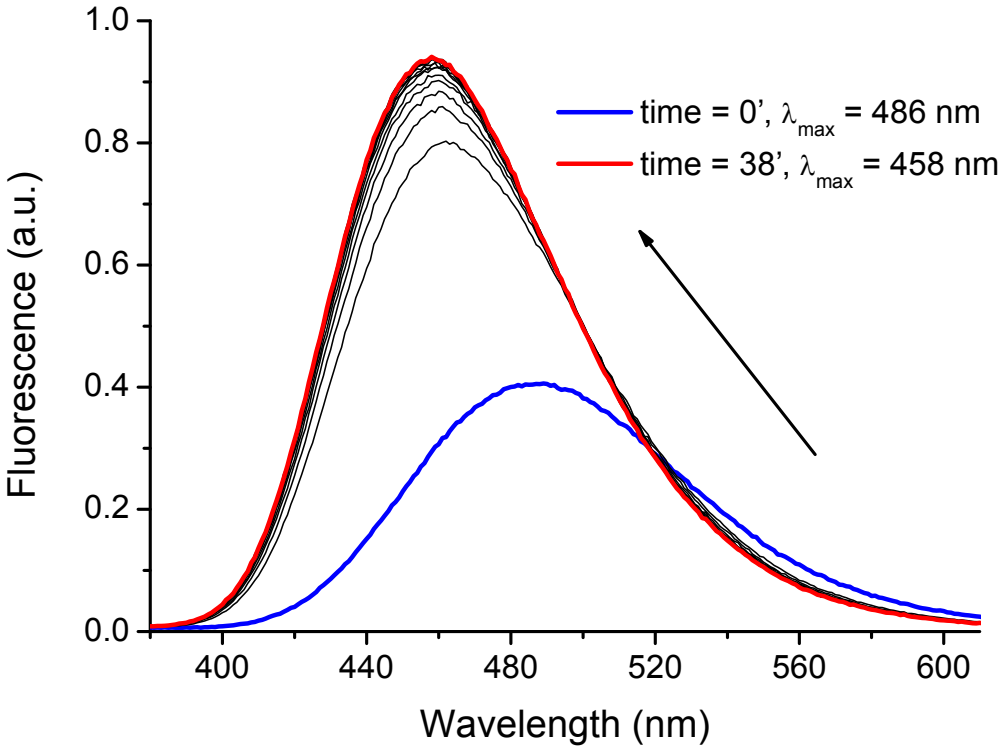

Fig. S8 Progressive changes in the emission of a THF−exposed 0.05 wt.% **DPAP**/PC film (after its equilibration in the presence of THF vapours) as a function of THF desorption (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

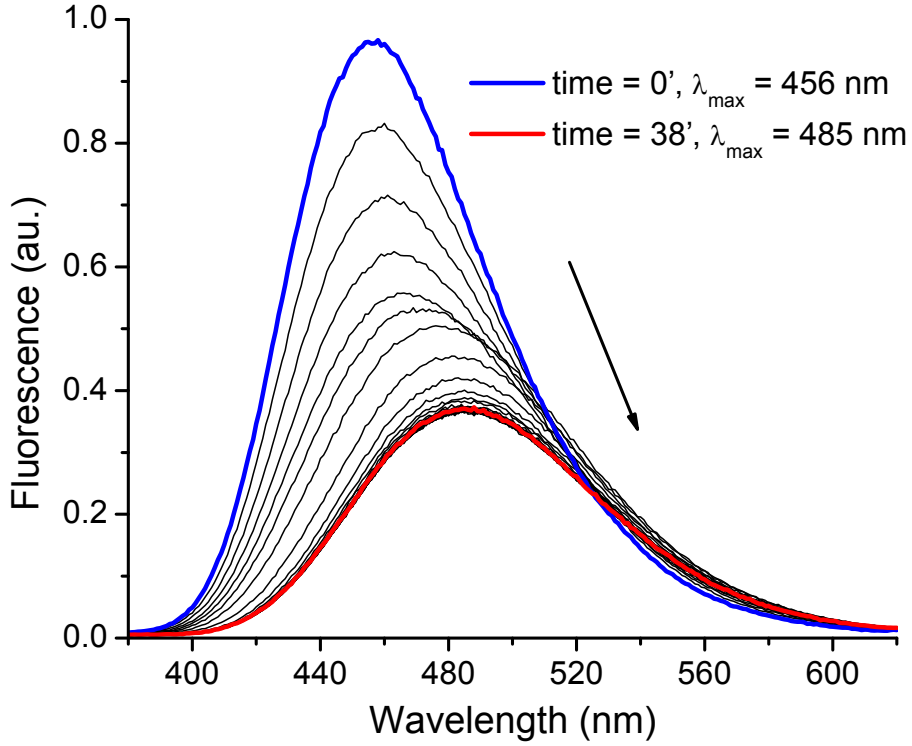

Fig. S9 Second exposure cycle of a 0.05 wt.% **DPAP**/PC film to THF vapours (λ_{exc} = 325 nm). The spectra were collected for 38 min. with a time interval of 1 min.

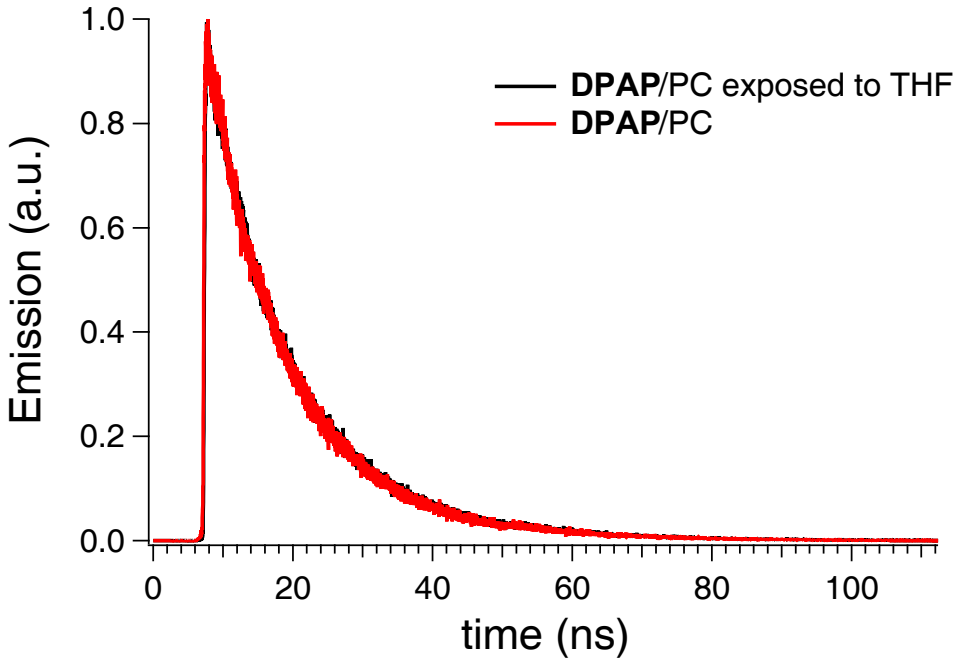

Fig. S10 Fluorescence lifetime profiles of **DPAP**/PC films before and after exposure to THF vapours (λ_{exc} = 403 nm). In this latter case, after the THF vapour exposure, the investigated **DPAP**/PC film was allowed to stand at room temperature and atmospheric pressure for 40 minutes allowing the desorption of the trapped solvent molecules from the polymeric matrix.

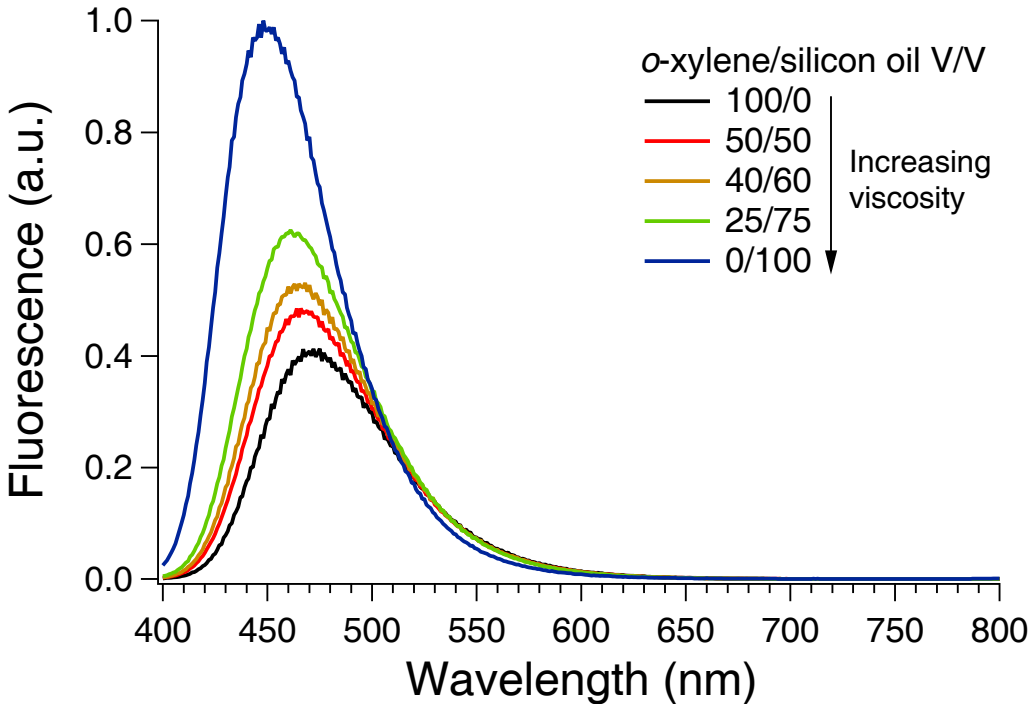

Fig. S11 Emission of **DPAP** in mixtures of *o*-xylene/silicon oil at different volume composition (λ_{exc} = 328 nm). The OD at the excitation wavelength was 0.13 for all spectra.

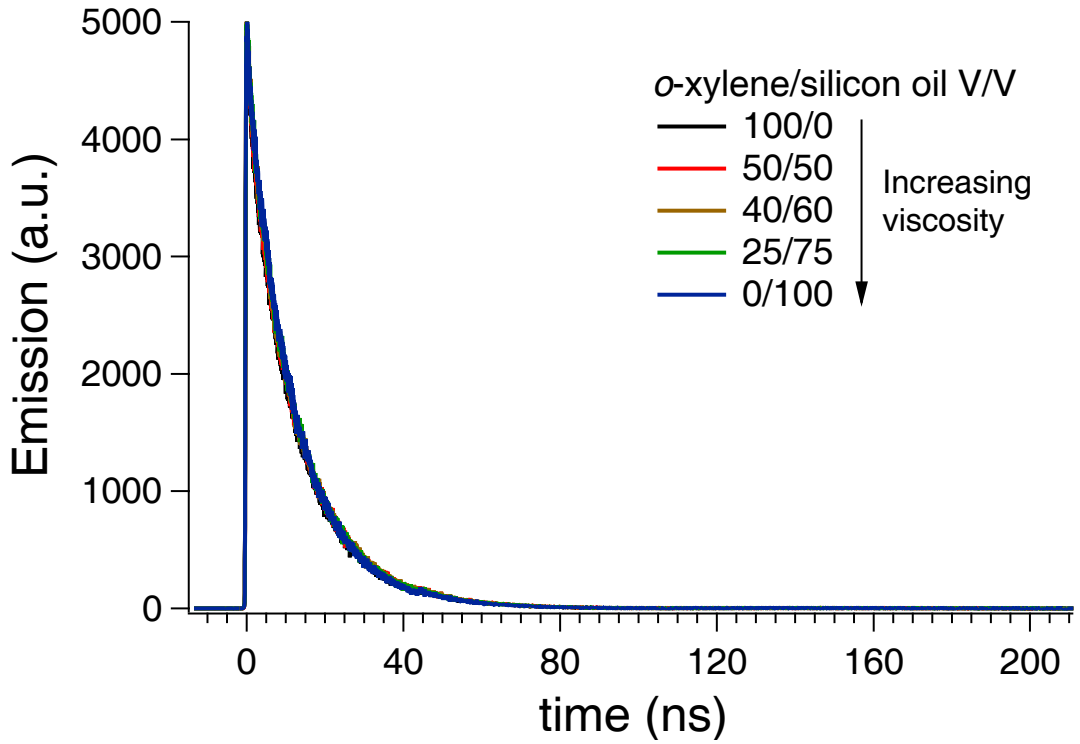

Fig. S12 Fluorescence lifetime profiles of **DPAP** in mixtures of *o*-xylene/silicon oil at different volume composition (λ_{exc} = 403 nm).