

## Supporting information

### Mechanofluorochromic properties of an AIEE-Active 2-Phenylbenzoxazole Derivative: More than Meets the Eye?

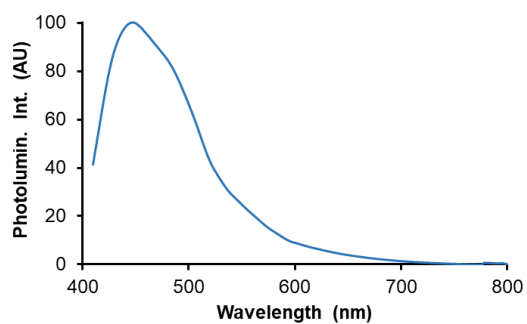
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	$\lambda_{\text{abs}}$ (nm)	$\lambda_{\text{em}}$ (nm)	$\Phi_{\text{F}}$	SS ( $\text{cm}^{-1}$ )
<i>n</i> -Heptane <sup>a</sup>	351, <u>365</u> , 386	397, <u>419</u> , 458	0.02	3531
Tetrahydrofuran <sup>a</sup>	360	478	0.02	7117
Ethanol <sup>a</sup>	358	490	0.03	7603
Nylon filter <sup>b</sup>	nd	448	0.12	nd
Water/THF 95:5 <sup>b</sup>	nd	556	0.13	nd

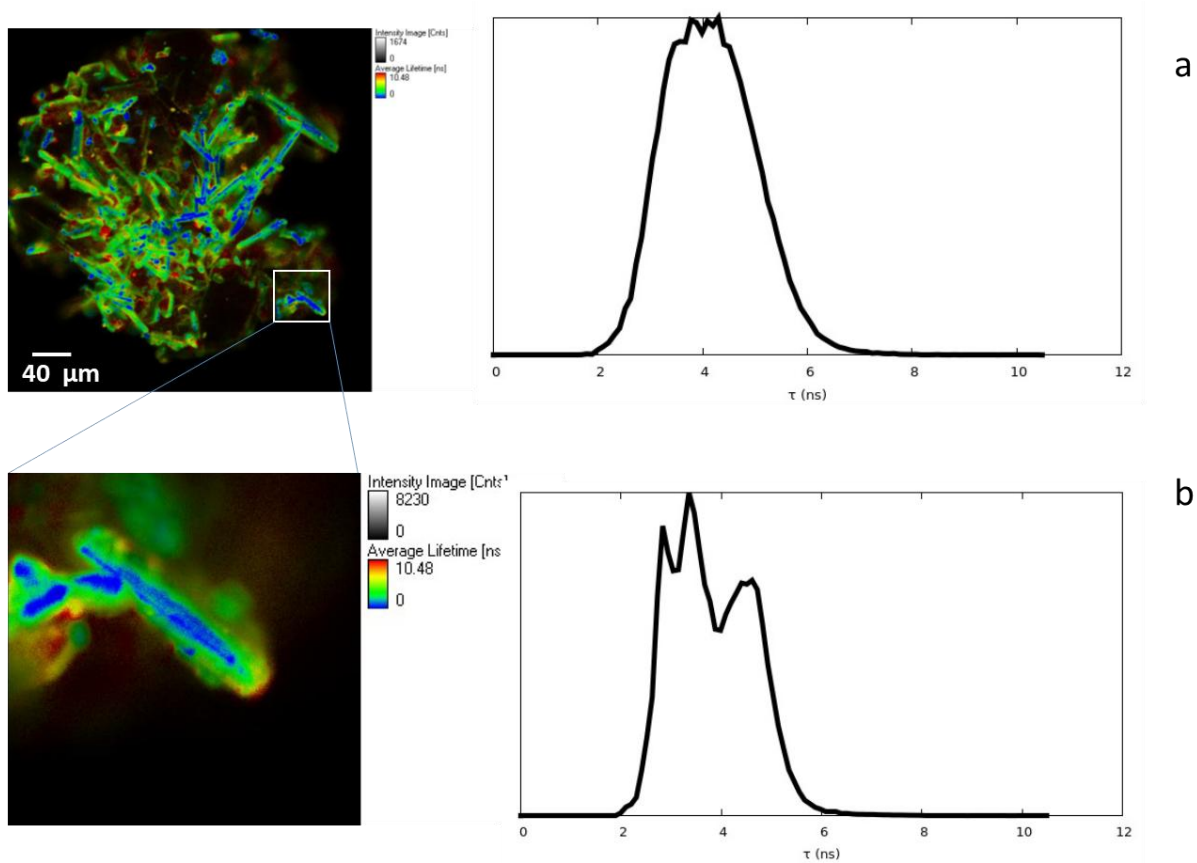
**Table S1.** Spectroscopic characteristics of compound **1** in the three solvents, after adsorption on a Nylon filter and in water/THF 95:5 v/v. Maximum absorption ( $\lambda_{\text{abs}}$ ) and emission ( $\lambda_{\text{em}}$ ) wavelength, fluorescence quantum yield ( $\Phi_{\text{F}}$ ), Stokes shift (SS). a) [Dye]  $\sim 2.6 \times 10^{-5}$  M for absorption; For emission,  $\lambda_{\text{ex}}$  348 nm in *n*-heptane, close to the absorption maximum for THF and ethanol. b)  $\lambda_{\text{ex}}$  380 nm. For finely-resolved spectra, the most intense peak is underlined. nd: not determined.

Sample		$\lambda_{\text{em}}$ (nm)	$\Phi_{\text{PL}}$
Pristine		502	0.34
Ground		508, 554 (sh)	0.39
Heated*(48h)	45 °C	504	0.33
	80 °C	502	0.28
	125 °C	490	0.24
	150 °C	490	0.25
Ground again		508, 554 (sh)	0.29
Fumed* ( $\text{CH}_2\text{Cl}_2$ )	4 days	504	0.29
	8 days	496	0.24
Melted		550	0.20
Crystals grown in ethanol		514, 548	0.12
Pressed pristine		510, 542 (sh)	0.22
Pressed ground		526 (sh), 548	nd

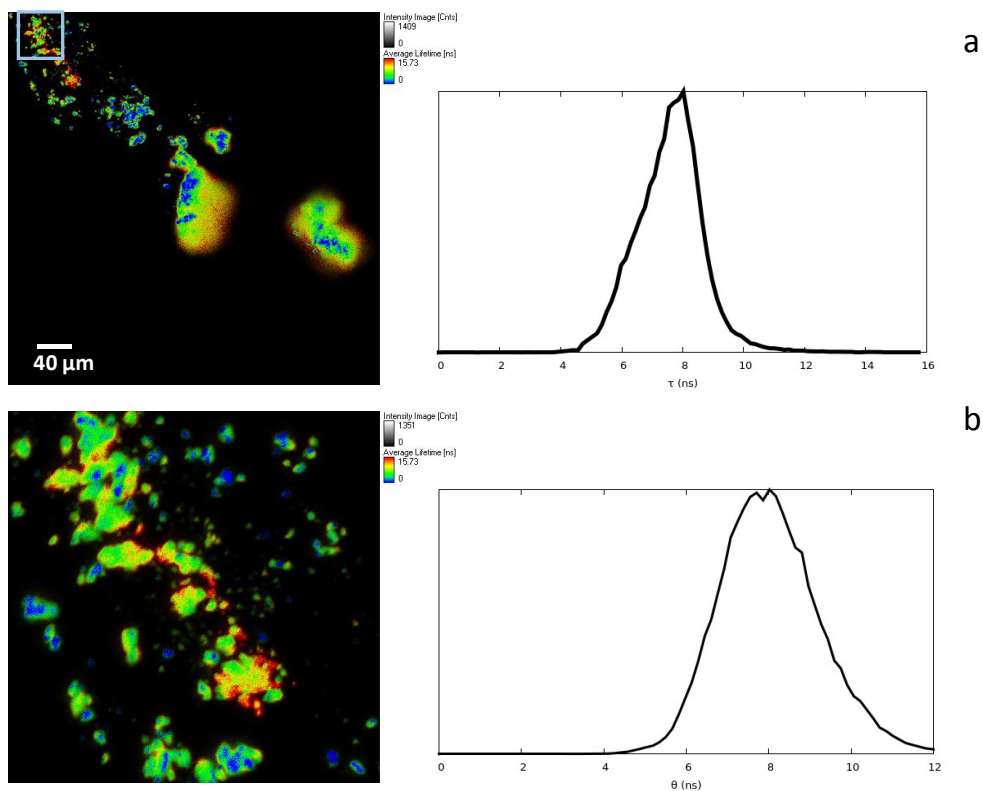
**Table S2.** Maximum emission wavelength ( $\lambda_{\text{em}}$ ) and photoluminescence quantum yield ( $\Phi_{\text{PL}}$ ) of the various solid samples of **1**. Excitation at 380 nm.\*After one grinding process. sh: shoulder. nd: not determined.



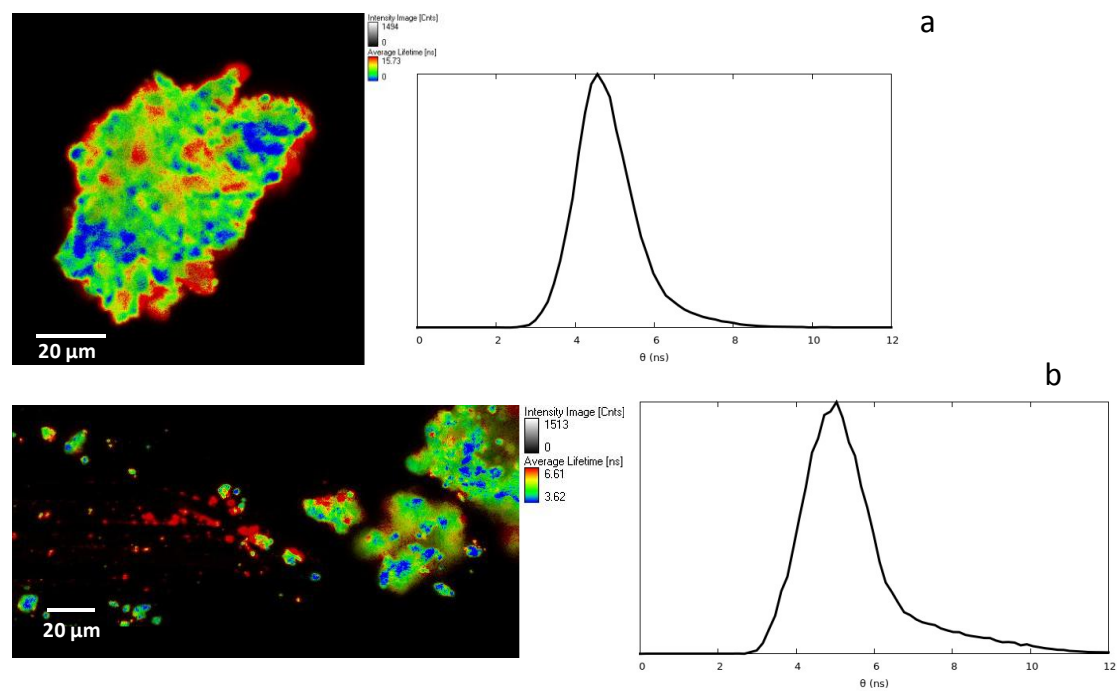
**Figure S1.** Photoluminescence emission spectrum of compound **1** after adsorption on a Nylon filter.  $\lambda_{ex} = 380$  nm.



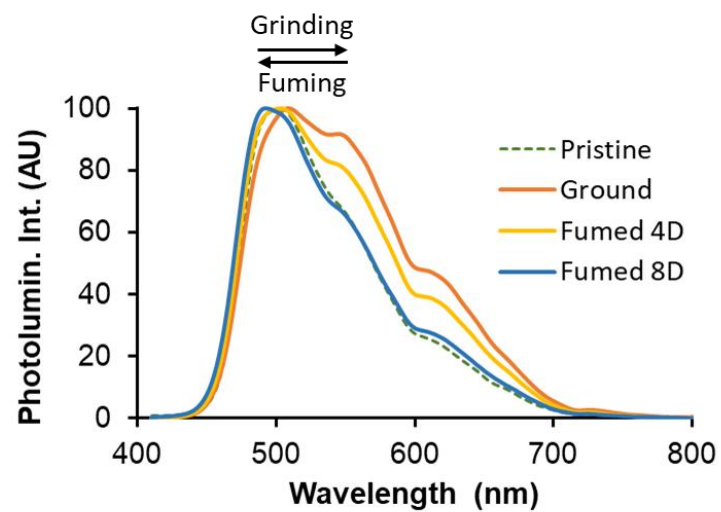
**Figure S2.** (a) Fluorescence lifetime map (left) and distribution of average fluorescence lifetimes (right) for a sample of pristine powder. (b) Zoom of a region of interest.  $\lambda_{ex} = 405$  nm



**Figure S3.** Fluorescence lifetime map (left) and distribution of average fluorescence lifetimes (right) for a sample of ground powder. (b) Zoom of the region indicated by a square in the top left corner.  $\lambda_{\text{ex}} = 405 \text{ nm}$ .



**Figure S4.** Fluorescence lifetime map (left) and distribution of average fluorescence lifetimes (right) taken at different places for a sample of ground-and-then-heated ( $125^\circ\text{C}$ ) powder.



**Figure S5.** Photoluminescence spectra of pristine powder (dashed line), ground powder (orange line), and ground powder fumed for 4 days (yellow line) and 8 days (blue line) with dichloromethane.