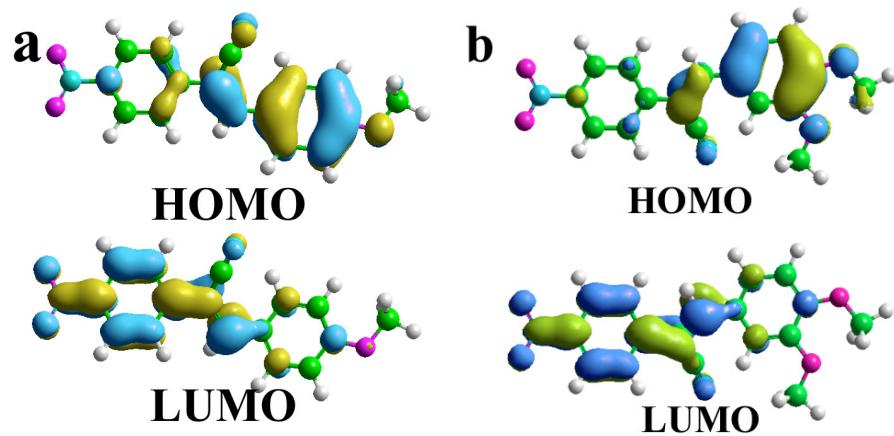


## Multicolor Fluorescent Switches in Gel Systems Controlled by Alkoxy Chain and Solvent

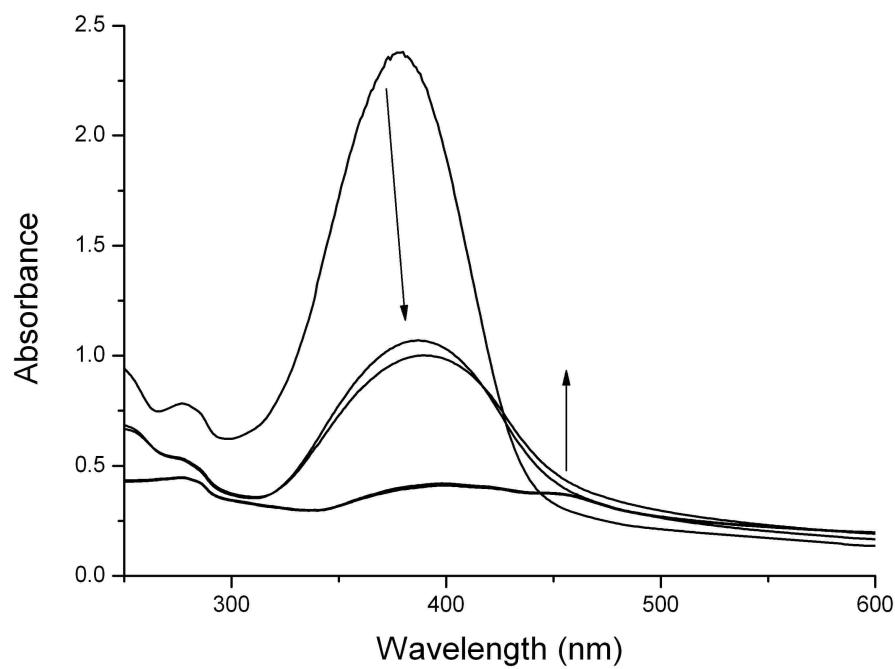
*Yue Xu,<sup>b</sup> Pengchong Xue,<sup>a\*</sup> Defang Xu,<sup>a</sup> Xiaofei Zhang,<sup>a</sup> Xingliang Liu,<sup>a</sup> Huipeng*

*Zhou,<sup>a</sup> Junhui Jia,<sup>a</sup> Xinchun Yang,<sup>a</sup> Fengyong Wang,<sup>a</sup> Ran Lu<sup>\*a</sup>*

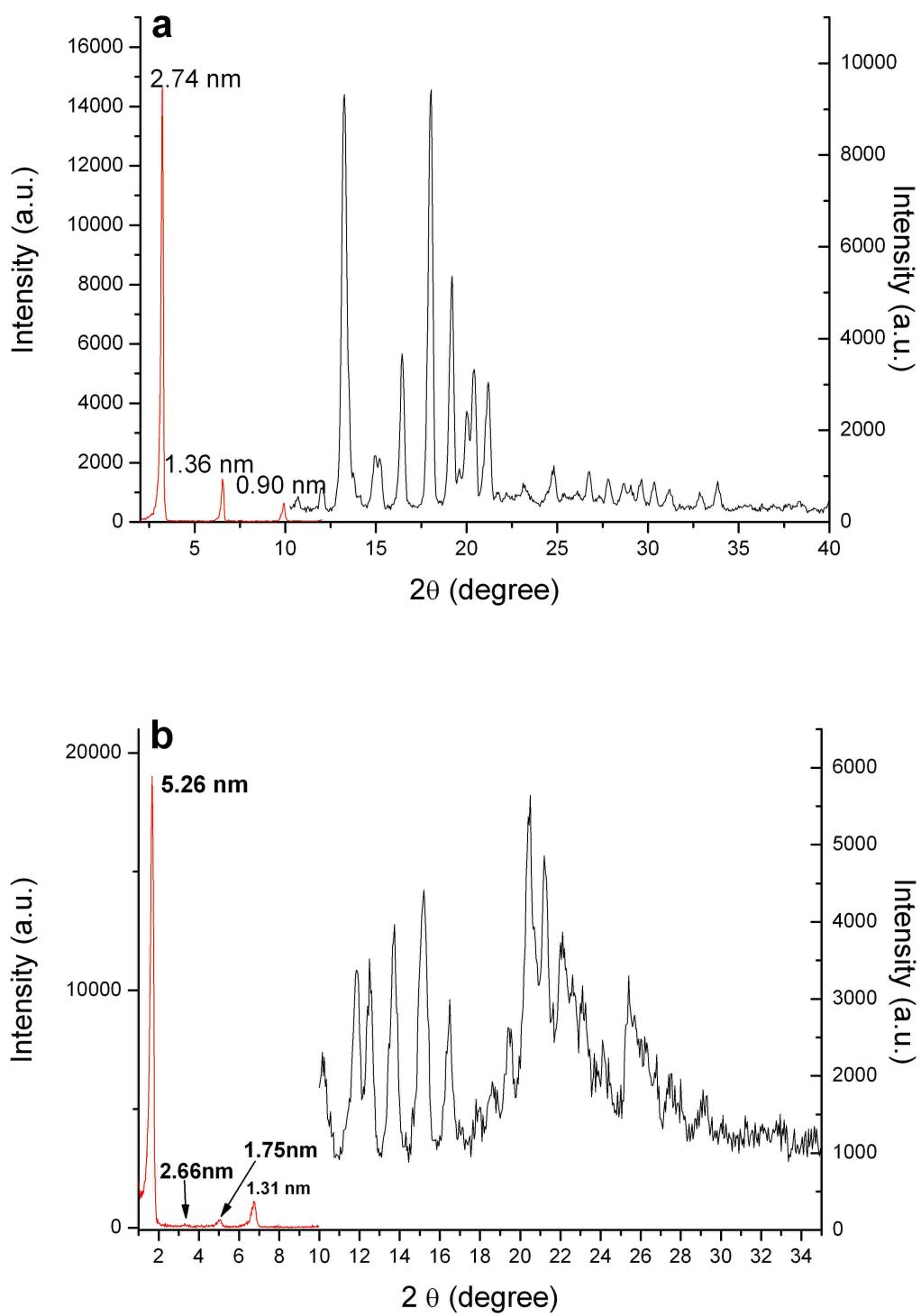
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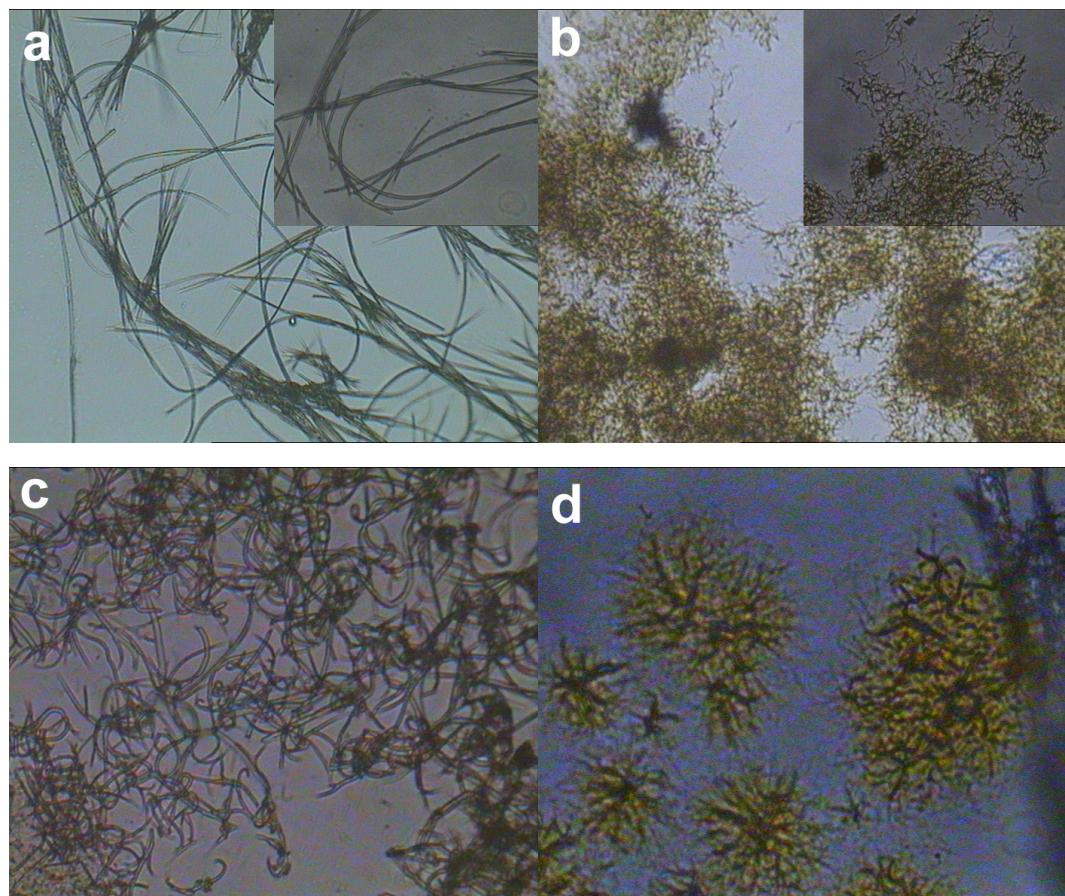
**Fig. S1** The electron density distributions of the frontier molecular orbitals of aromatic units of molecule **1** (a) and **2** (b) based on DFT calculation.



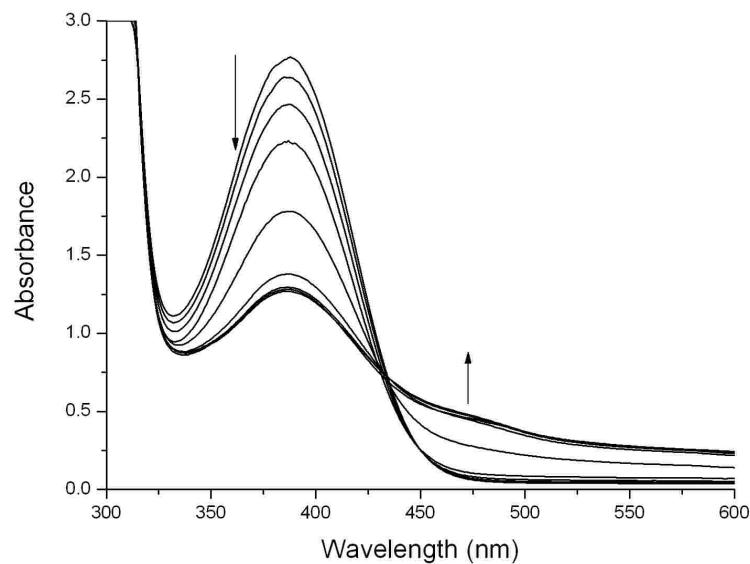
**Fig. S2** Time-dependent UV-vis spectra of **1** in THF/water (V/V = 1/1). The sample firstly was heated to 80 °C. Testing interval is 30 seconds.



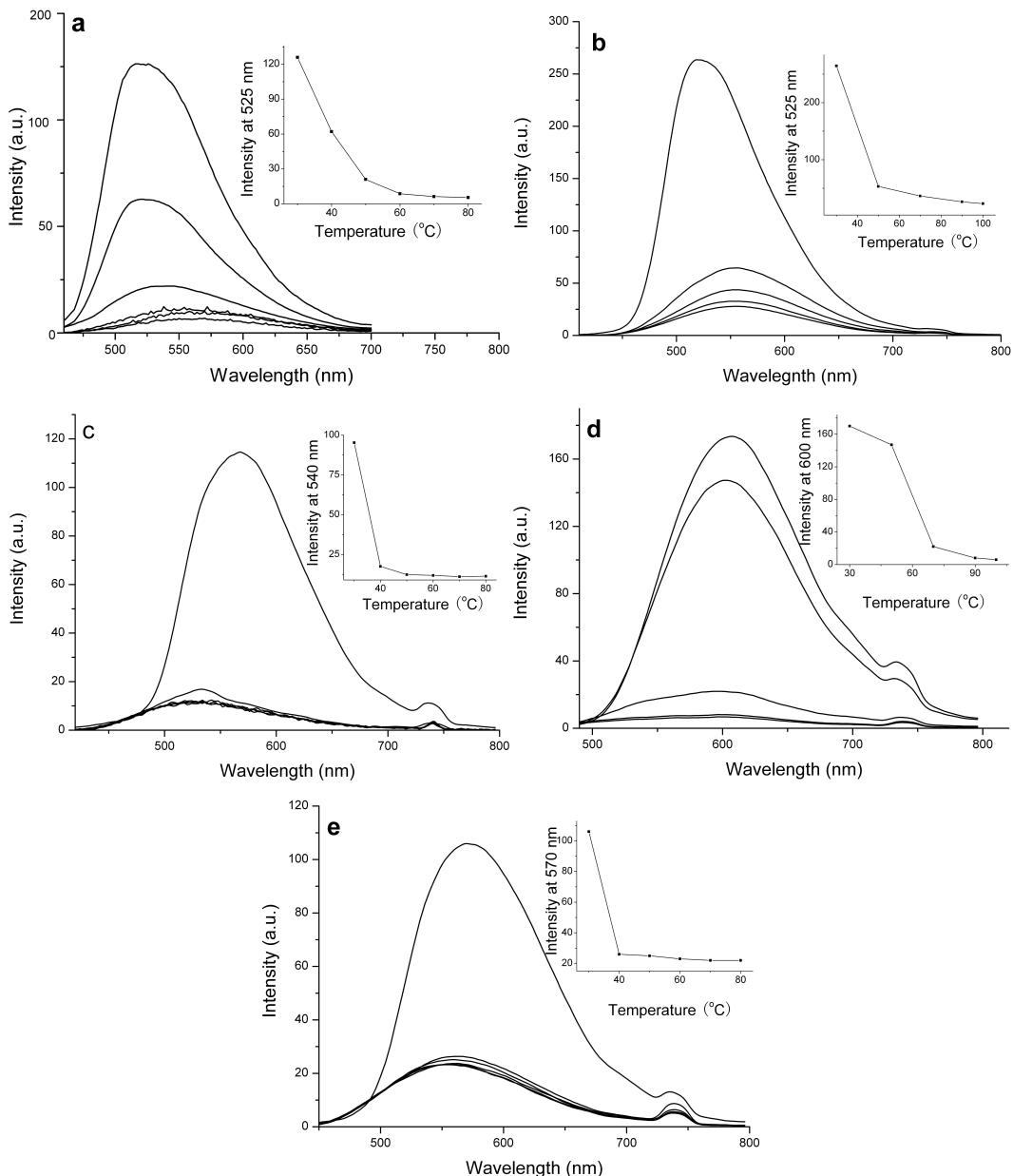
**Fig. S3** The XRD patterns of **1** (a) and **2** (b) in solid state.



**Fig. S4** Light micrographs of **1** in THF/water (a,  $\times 250$ ) and DMSO (c,  $\times 400$ ); **2** in THF/water (b,  $\times 400$ ) and DMSO (d,  $\times 630$ ).



**Fig. S5** Time-dependent UV–vis spectra of **2** in acetone at 0.1 wt/vol%. The samples firstly were heated to 60 °C and cooled down to room temperature naturally, interval is 60 seconds.



**Fig. S6** Temperature-dependent fluorescence spectra of **1** in (a) THF/water and (b) DMSO, and **2** in (c) THF/water, (d) DMSO and (e) acetone. Insets show the plot of emission intensity at specific wavelength versus temperature. Concentration of all samples is 0.1 wt/vol%. From the plots the fluorescent transition temperatures of gel systems can be confirmed. They are 40 °C in THF/water and DMSO gel systems of **1**, 35 °C in THF/water and acetone gel systems of **2**, and 60 °C for DMSO gel of **2**.