

## Supporting Information

# **The generation of full-color and switchable circularly polarized luminescence from nonchiral dyes assembled in cholesteric cellulose films**

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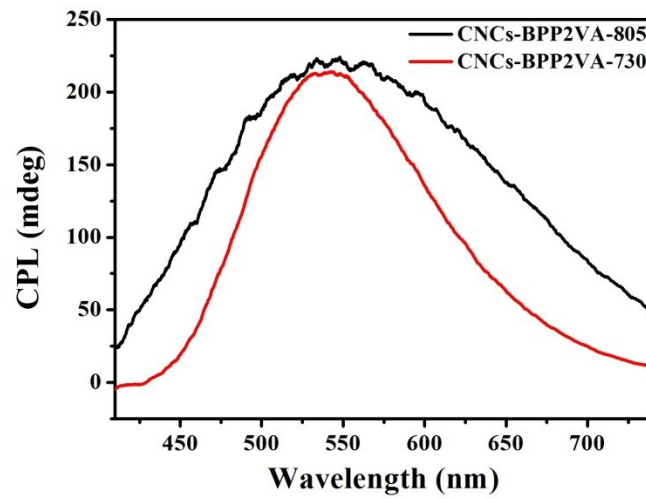
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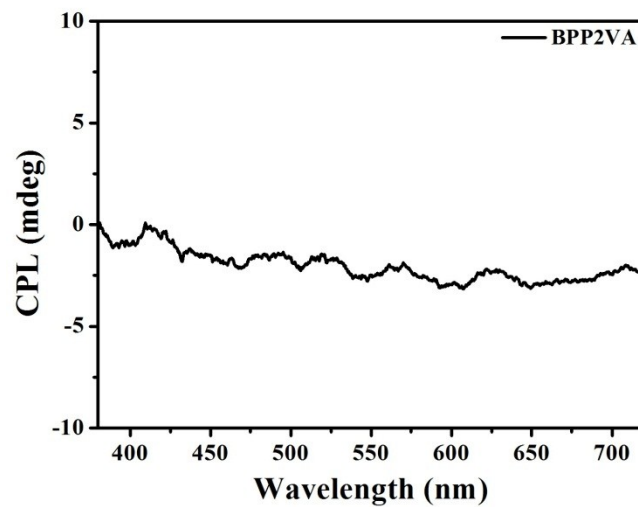
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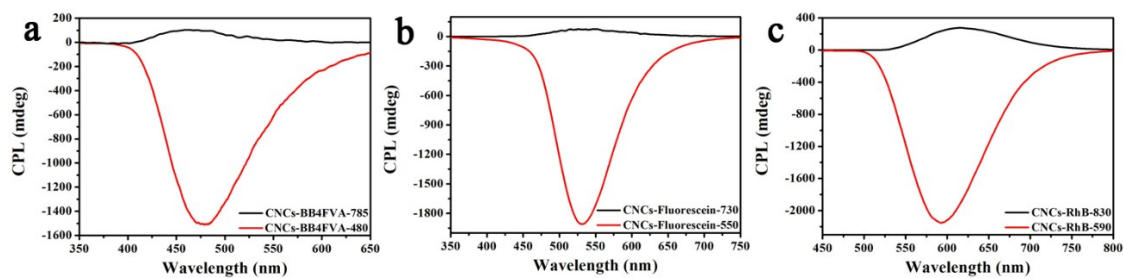
**Figure S1.** TEM image of cellulose nanocrystals.



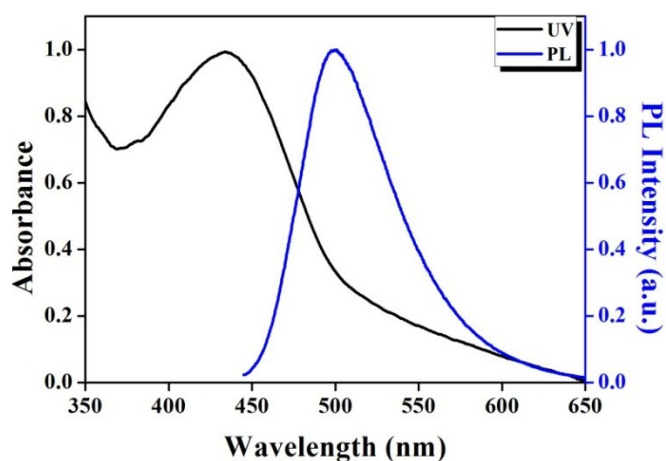
**Figure S2.** CPL spectra of CNCs-BPP2VA composite films with different helical pitch,  $\lambda_{\text{ex}} = 365$  nm.



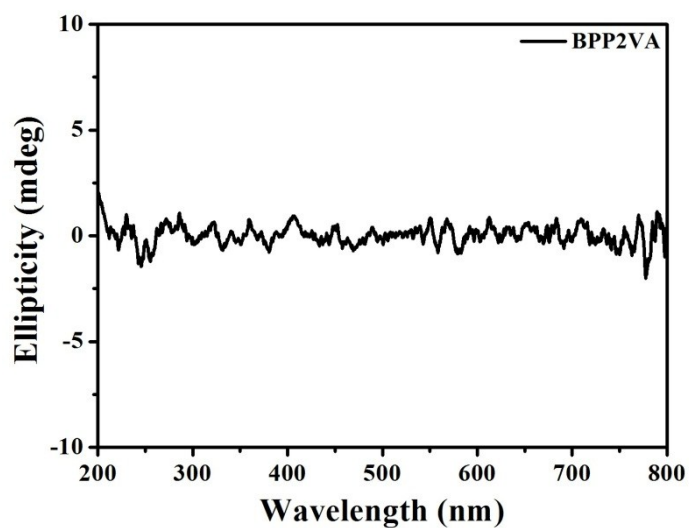
**Figure S3.** CPL spectrum of BPP2VA in THF solution excited at 365 nm.



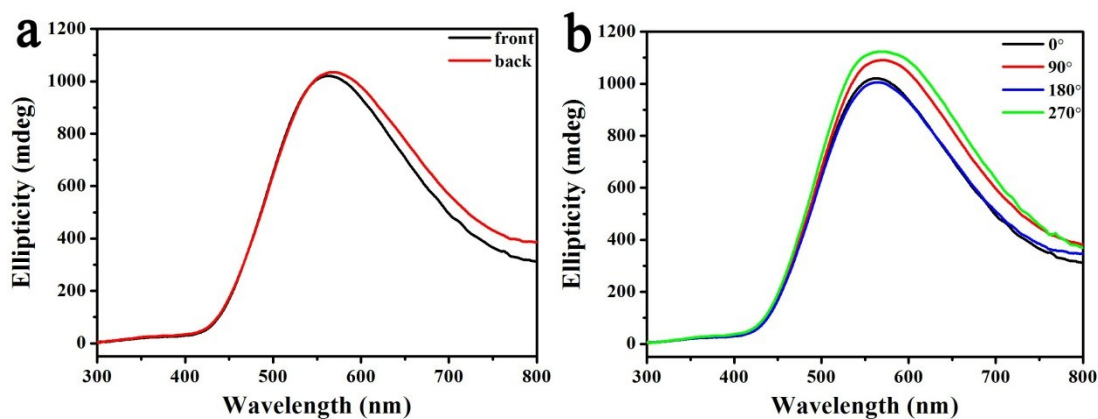
**Figure S4.** CPL spectra of (a) CNCs-BB4FVA, (b) CNCs-Fluorescein and (c) CNCs-RhB composite films.



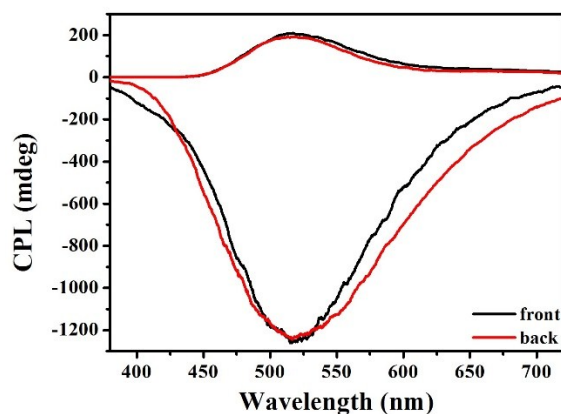
**Figure S5.** The spectra of UV-vis and PL measured from the BPP2VA in THF solution,  $\lambda_{\text{ex}} = 425$  nm.



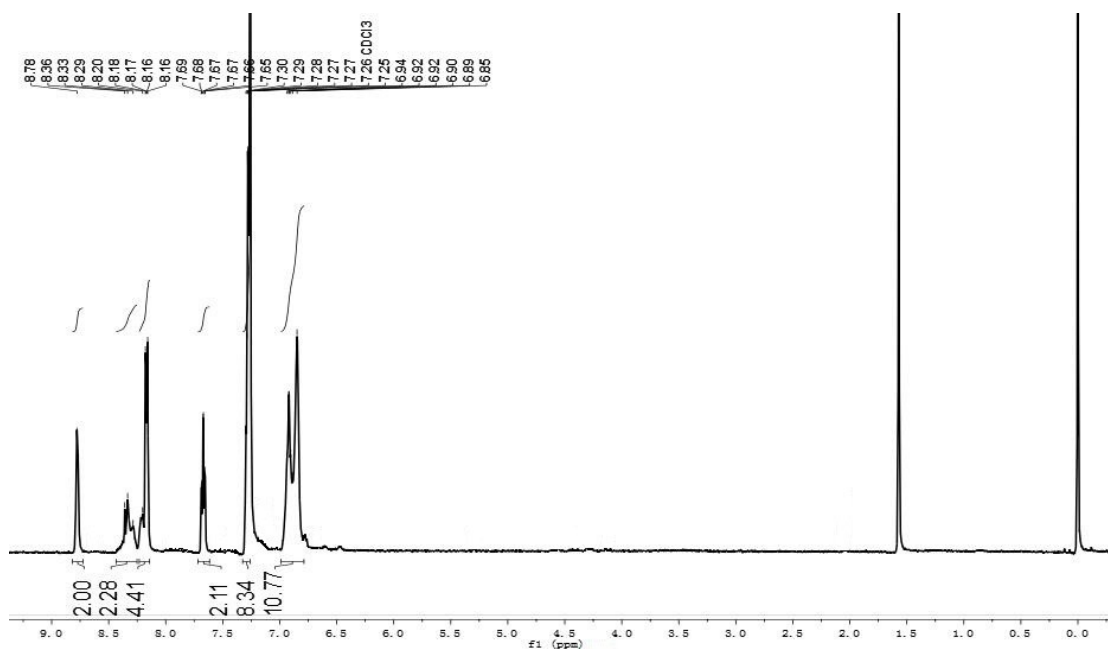
**Figure S6.** CD spectrum of BPP2VA in THF solution.



**Figure S7.** The “front-and-back” CD measurements (a) and CD spectra rotated at different angles normal to the beam path (b) of CNCs-BPP2VA composite films.



**Figure S8.** The “front-and-back” CPL spectra of CNCs-BPP2VA composite films.



**Figure S9.**  $^1\text{H}$  NMR spectrum of BPP2VA (500 MHz,  $\text{CDCl}_3$ , TMS, 25 °C).