

## Supporting Information

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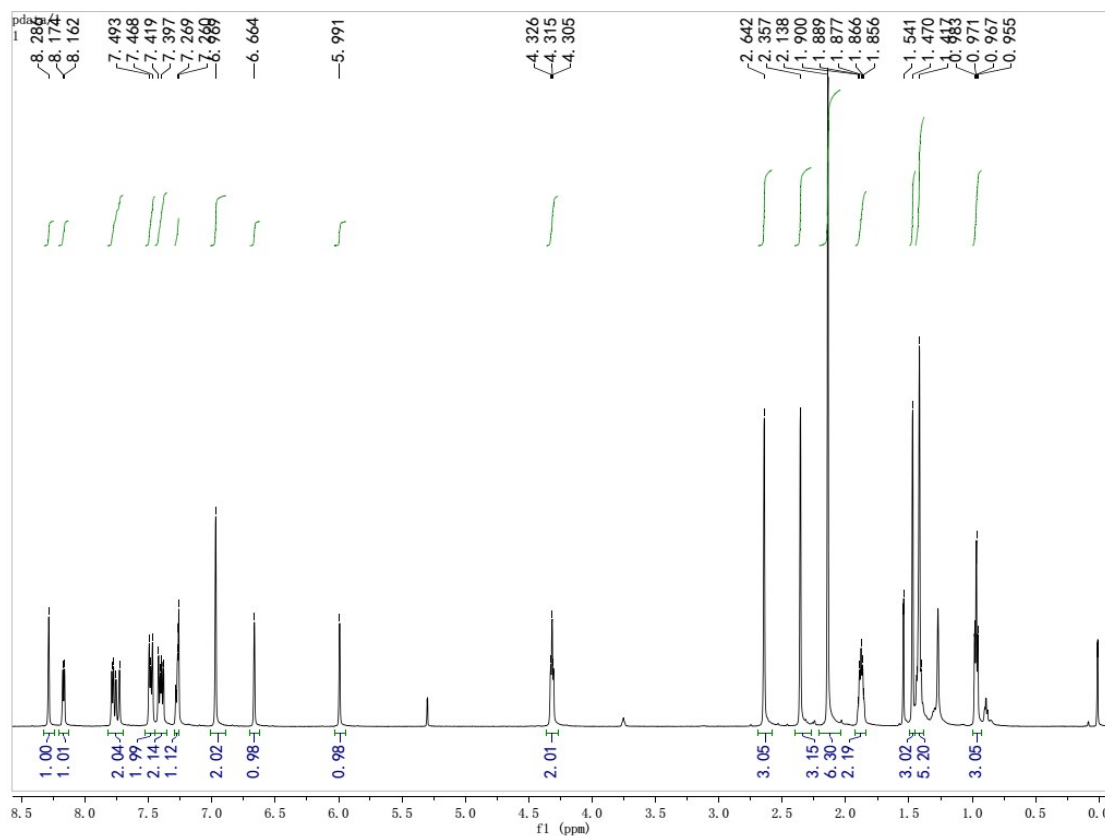
# Carbazole Green and Blue-BODIPY Dyads and Triads as Donors for Bulk Heterojunction Organic Solar Cells

Jian Yang, Charles H. Devillers, Paul Fleurat-Lessard, Hao Jiang, Shifa Wang, Claude P. Gros, Gaurav Gupta, Ganesh D. Sharma, and Haijun Xu

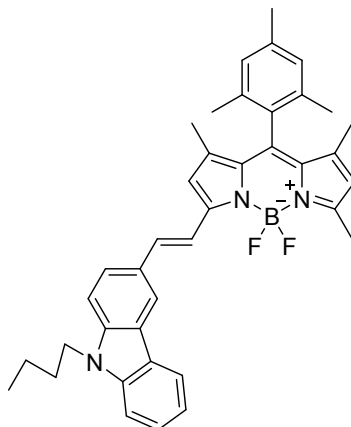
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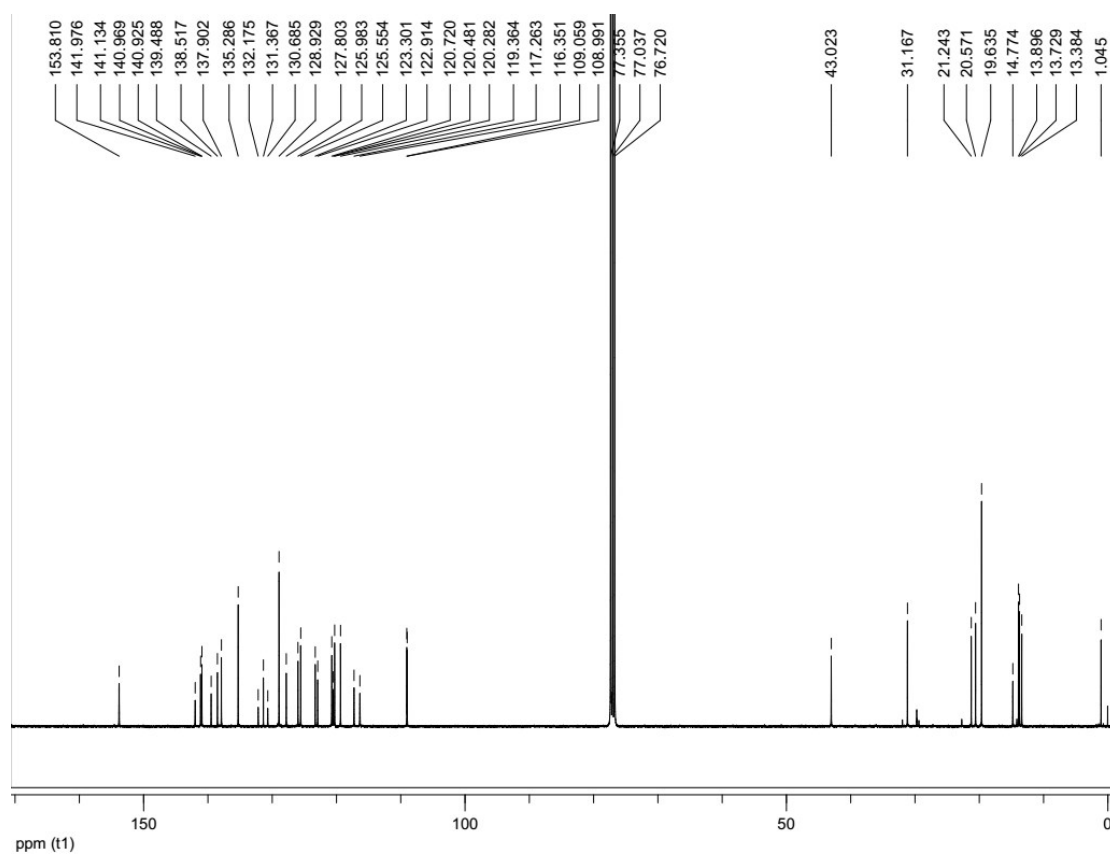
**Figure S1.**  $^1\text{H-NMR}$  spectrum (600 MHz,  $\text{CDCl}_3$ , 298 K) of compound **B2** in  $\text{CDCl}_3$



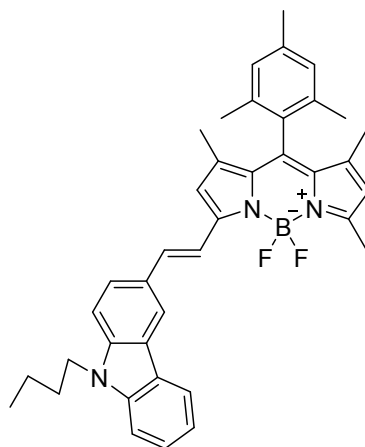
Chemical Formula:  $\text{C}_{39}\text{H}_{40}\text{BF}_2\text{N}_3$

Exact Mass: 599.328

Molecular Weight: 599.577



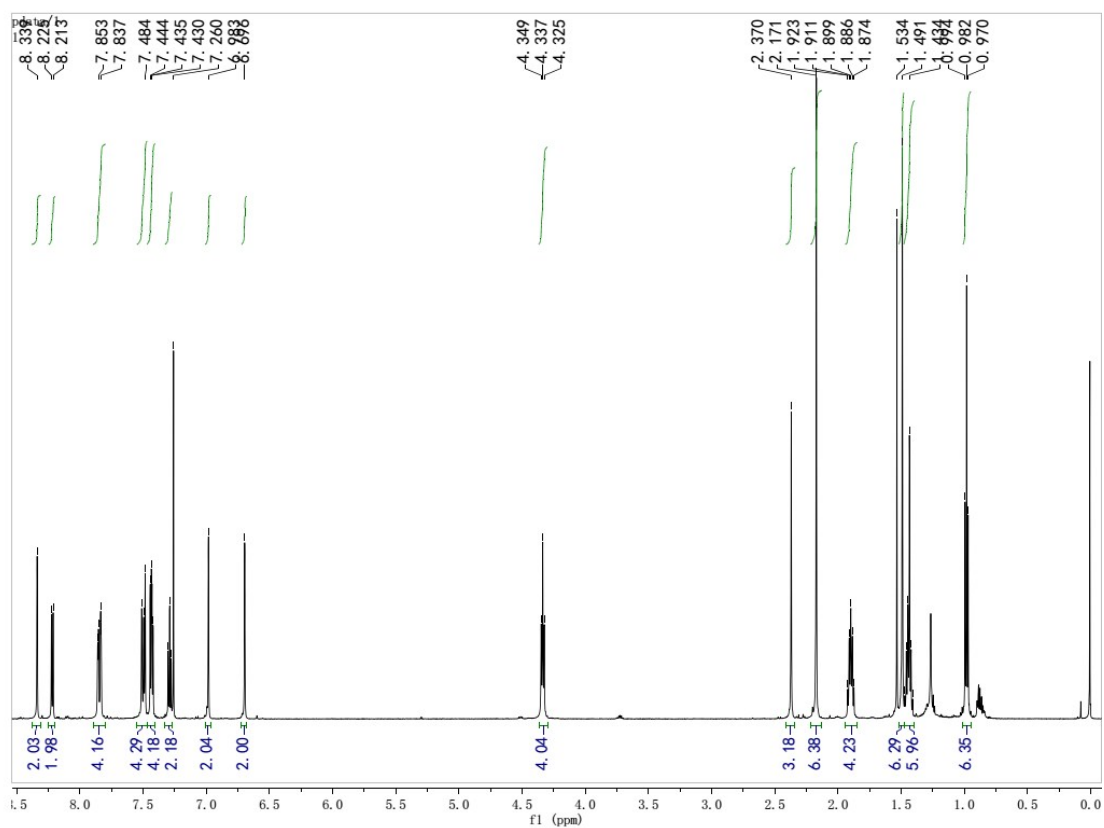
**Figure S2.**  $^{13}\text{C}$ -NMR spectrum (150 MHz,  $\text{CDCl}_3$ , 298 K) of compound **B2** in  $\text{CDCl}_3$



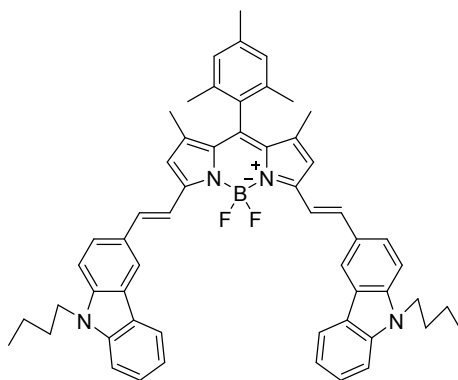
Chemical Formula:  $\text{C}_{39}\text{H}_{40}\text{BF}_2\text{N}_3$

Exact Mass: 599.328

Molecular Weight: 599.577



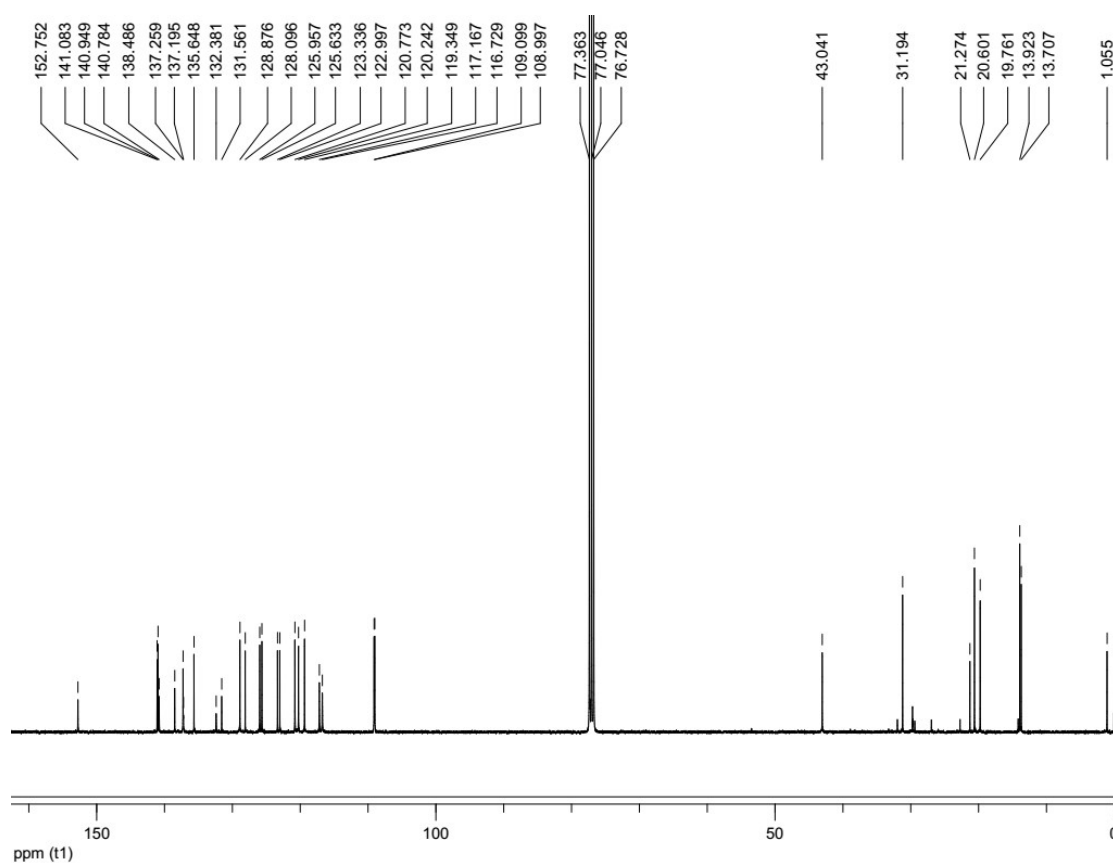
**Figure S3.**  $^1\text{H-NMR}$  spectrum (600 MHz,  $\text{CDCl}_3$ , 298 K) of compound **B3** in  $\text{CDCl}_3$



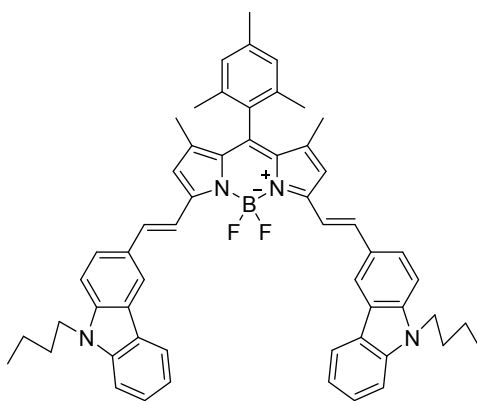
Chemical Formula:  $\text{C}_{56}\text{H}_{55}\text{BF}_2\text{N}_4$

Exact Mass: 832.449

Molecular Weight: 832.891



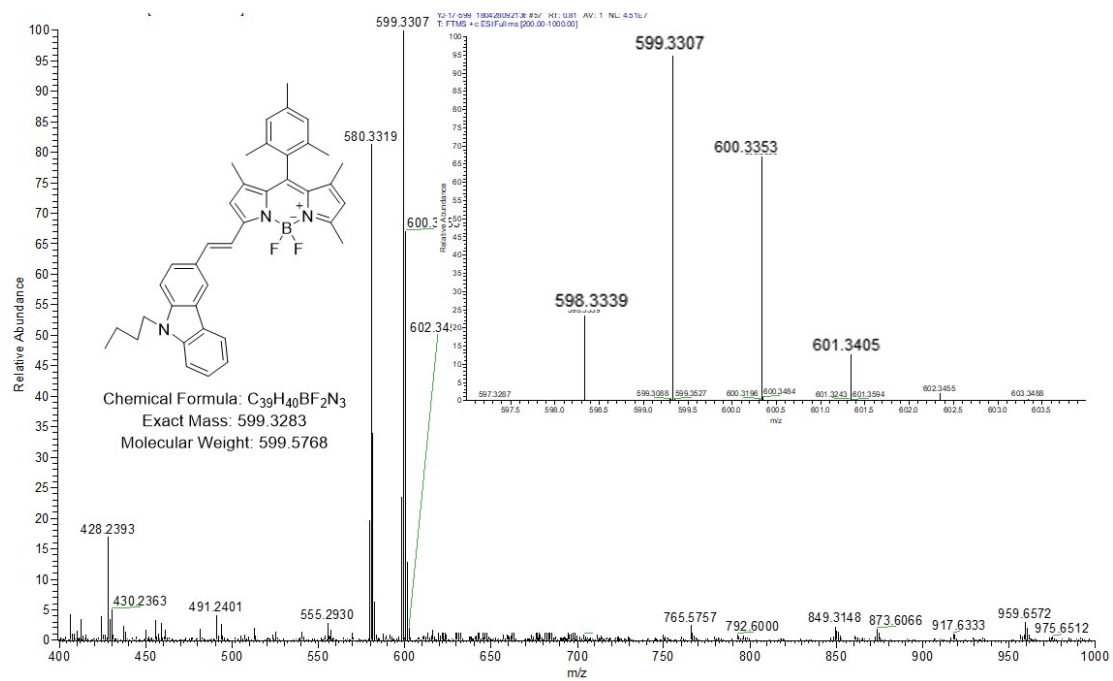
**Figure S4.**  $^{13}\text{C}$ -NMR spectrum (150 MHz,  $\text{CDCl}_3$ , 298 K) of compound **B3** in  $\text{CDCl}_3$



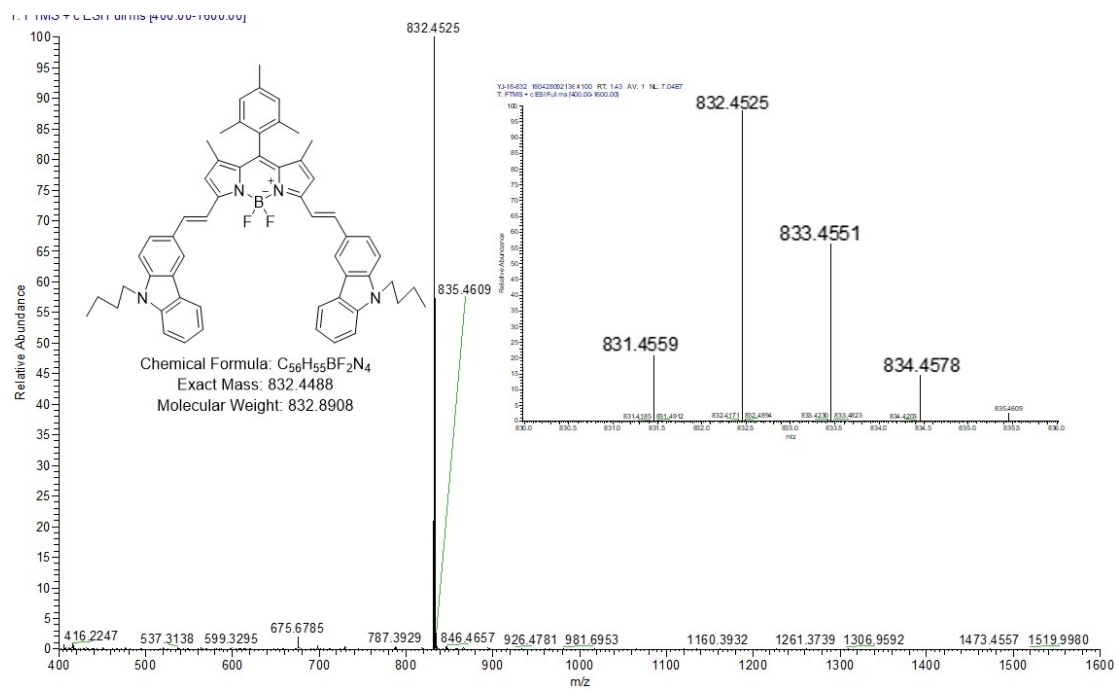
Chemical Formula:  $\text{C}_{56}\text{H}_{55}\text{BF}_2\text{N}_4$

Exact Mass: 832.449

Molecular Weight: 832.891



**Figure S5.** HRMS (ESI) spectra of compound **B2**



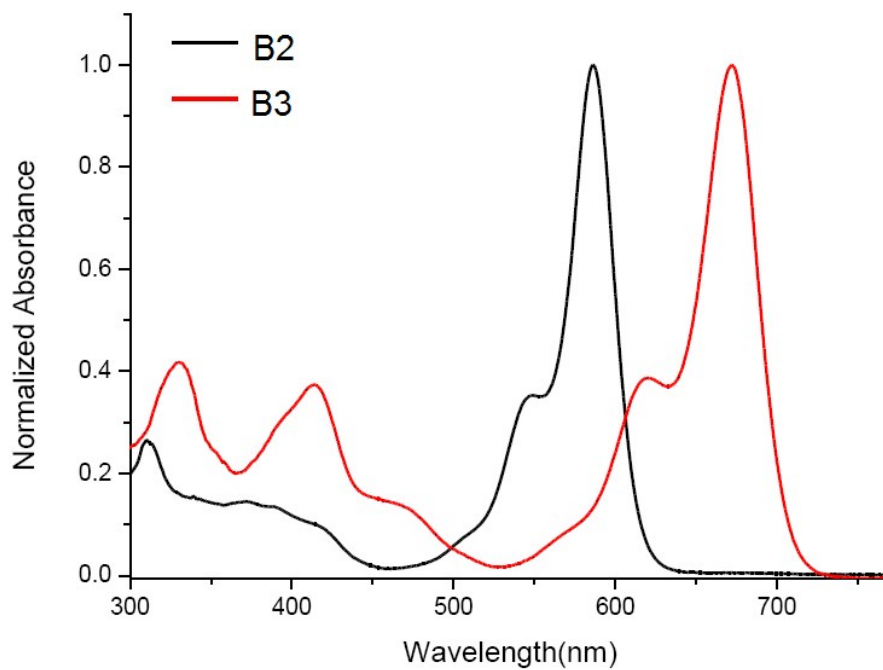
**Figure S6.** HRMS (ESI) spectra of compound **B3**

**Table S1.** The photophysical properties of compounds **B2**, **B3** in DCM

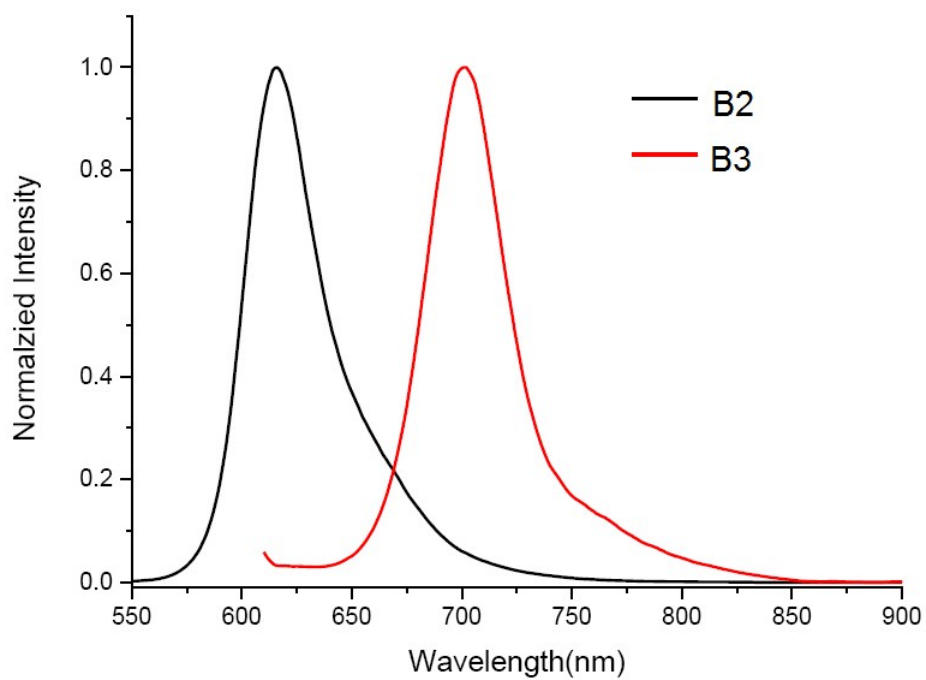
Compound	$\lambda_{\text{abs}}$ [nm]	$\lambda_{\text{em}}$ [nm]	$\Delta\nu$ [ $\text{cm}^{-1}$ ]	$\epsilon$ ( $10^5 \cdot \text{M}^{-1} \cdot \text{cm}^{-1}$ )	$\Phi_{\text{F}}$	$\tau_{\text{F}}$ [ns]
<b>B2</b>	586	616	831	1.37	0.86	4.01
<b>B3</b>	672	701	616	1.48	0.42	3.92

Concentration  $1 \times 10^{-5}$  M. Compound **B2** was excited at 520 nm, compound **B3** was excited at 600 nm.

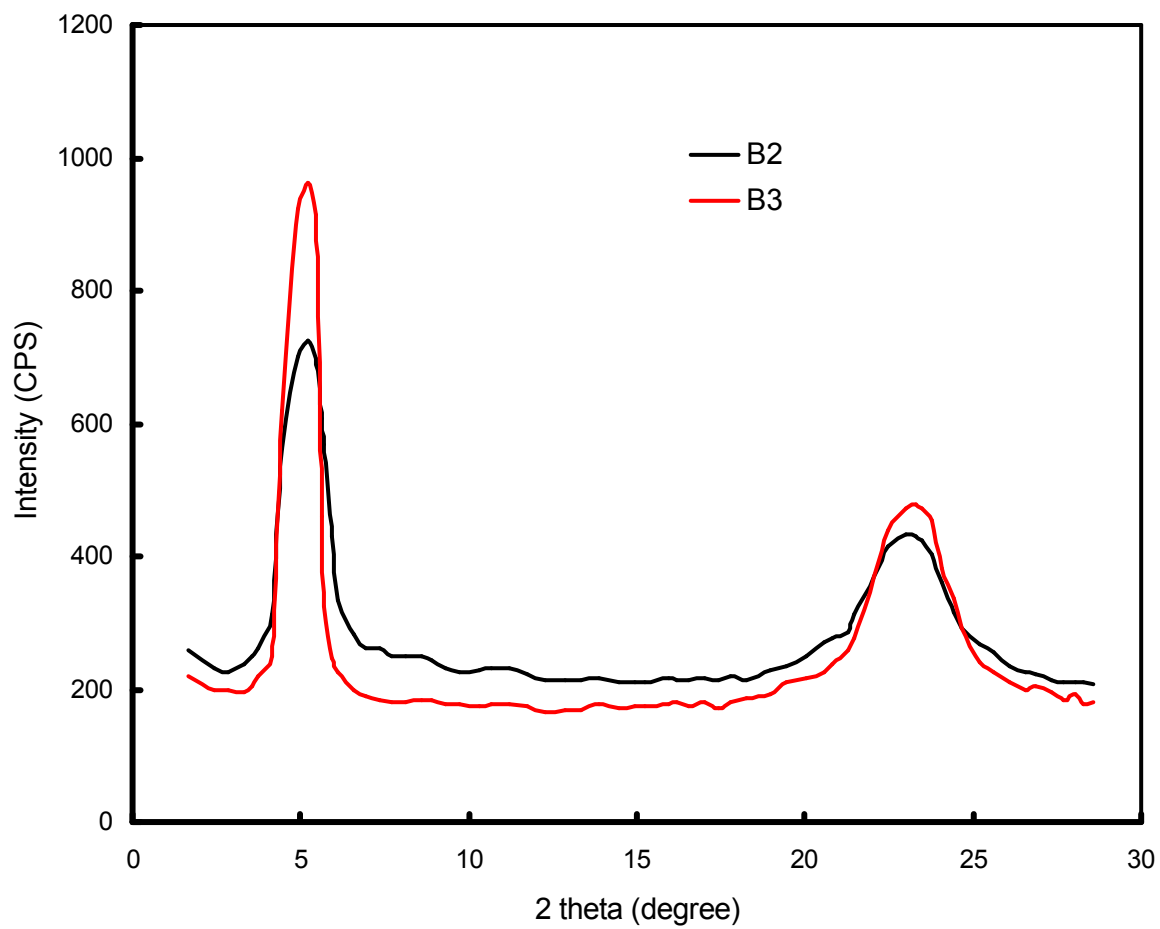




**Figure S7.** UV-vis spectra of compounds **B2**, **B3** in DCM



**Figure S8.** Emission spectra of compounds **B2**, **B3** in DCM



**Figure S9.** XRD patterns of pristine **B2** and **B3**