

Supporting Information

π -Extended Isoindigo-Based Derivative: A Promising Electron-Deficient Building Block for Polymer Semiconductors

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Contents:

1. GPC chromatograms of **PIVI2T** and **PF₄IVI2T** using 1,2,4-trichlorobenzene as an eluent at 150 °C. Figure S1
2. TGA plot of **PIVI2T** and **PF₄IVI2T**. Figure S2
3. DSC curves of **PIVI2T** and **PF₄IVI2T**. Figure S3
4. Output and transfer characteristics of **PIVI2T** annealed at 160 °C. Figure S4
5. OTFT Performance of **PIVI2T** and **PF₄IVI2T**. Table S1.
6. ¹H NMR spectra of compound **2a**, **2b**, **3a**, **3b**, **4a** and **4b**. Figure S5–S10.
7. ¹³C NMR spectra of compound **2a**, **2b**, **3a**, **3b**, **4a** and **4b**. Figure S11–S16.
8. Mass spectra of compound **2a**, **2b**, **3a**, **3b**, **4a** and **4b**. Figure S17–S22.

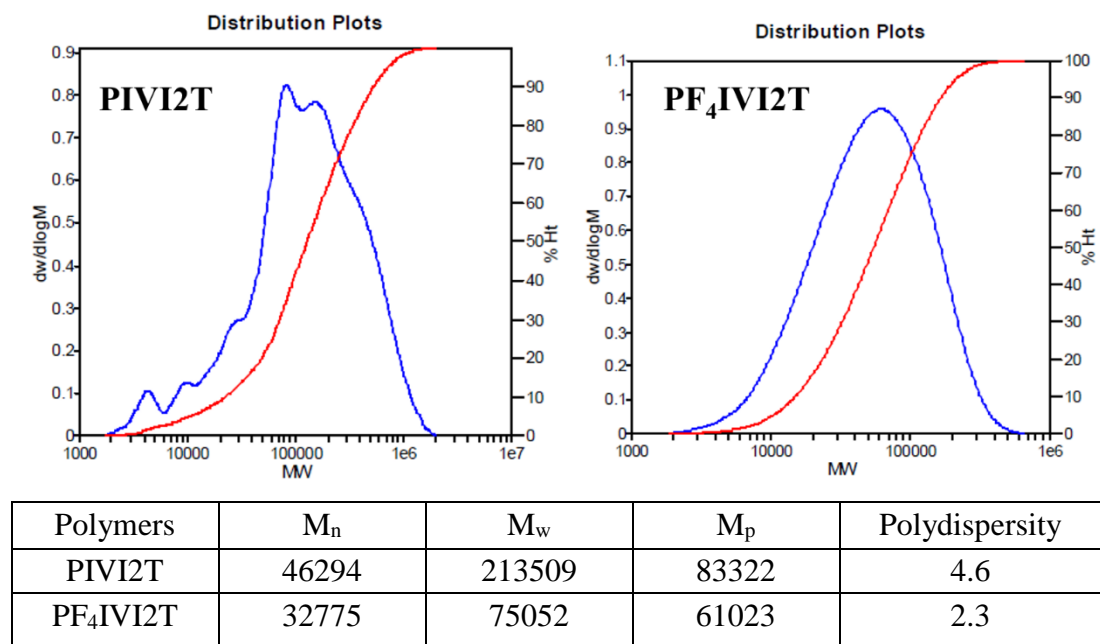


Figure S1. GPC chromatograms of **PIVI2T** and **PF₄IVI2T** using 1,2,4-trichlorobenzene as an eluent at 150 °C.

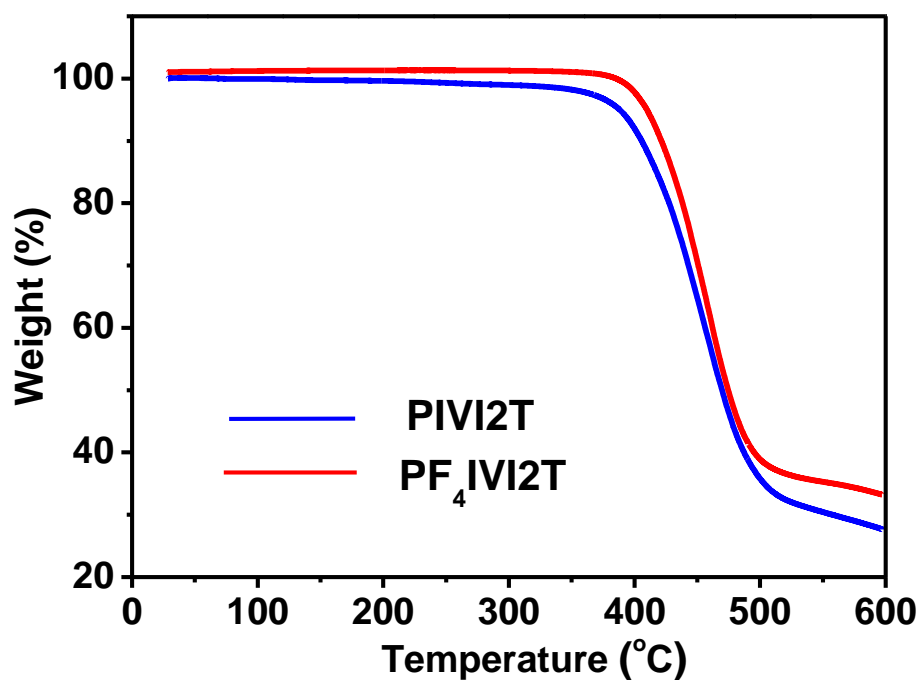


Figure S2. TGA plot of **PIVI2T** and **PF₄IVI2T**. (scan rate: 10 °C/min)

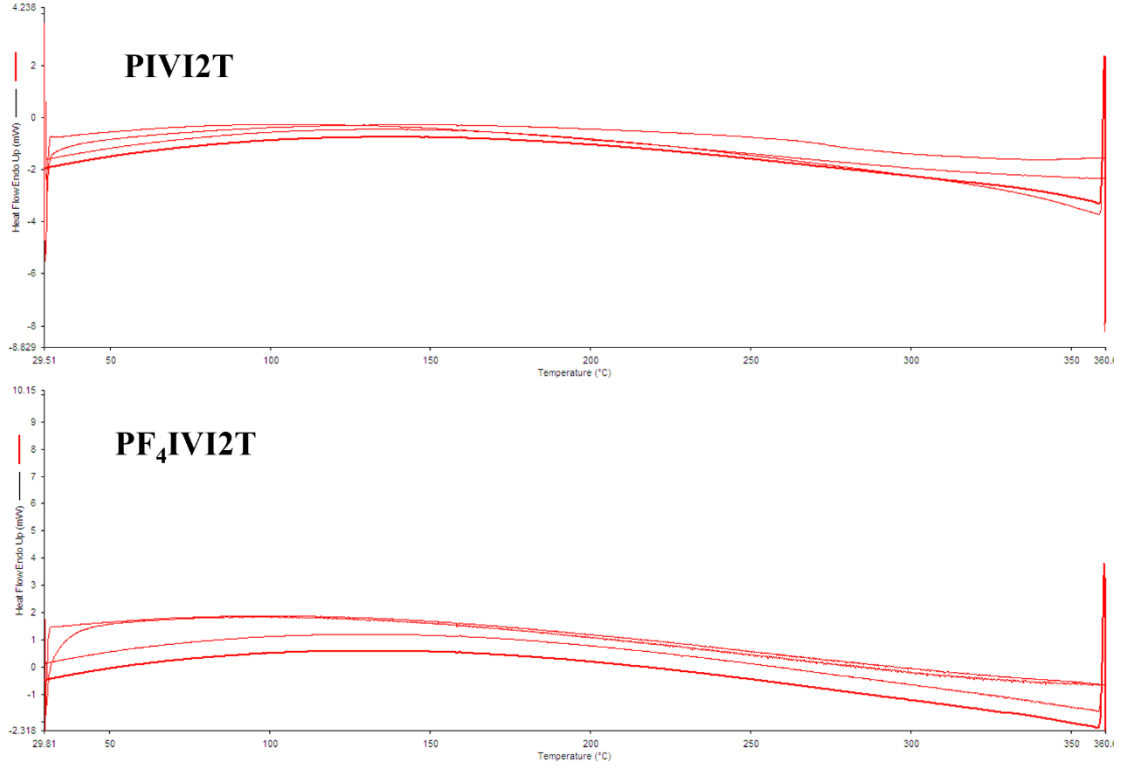


Figure S3. DSC curves of **PIVI2T** and **PF₄IVI2T**. (scan rate: 10 °C/min)

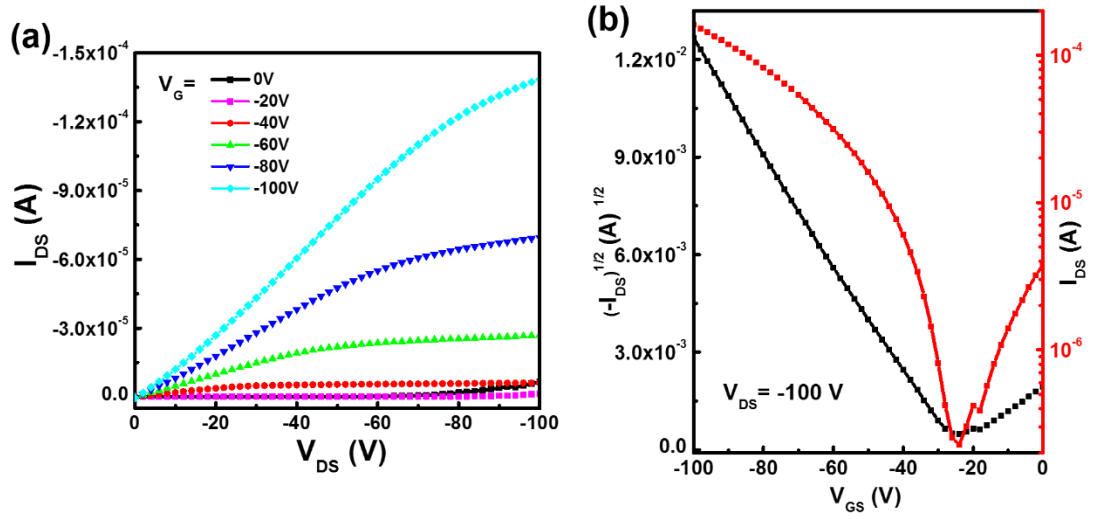


Figure S4. Output (a) and transfer (b) characteristics of **PIVI2T** annealed at 160 °C ($L = 10 \text{ } \mu\text{m}$; $W = 1400 \text{ } \mu\text{m}$).

Table S1. OTFT Performance of **PIVI2T** and **PF4IVI2T**.

Polymers	μ_h max/avg ($\text{cm}^2\text{V}^{-1}\text{s}^{-1}$)	V_T (V)	$I_{\text{on}}/I_{\text{off}}^a$	μ_h max/avg ($\text{cm}^2\text{V}^{-1}\text{s}^{-1}$)	V_T (V)	$I_{\text{on}}/I_{\text{off}}^a$
PIVI2T	0.32/0.26	-38~-3	10^3	—	—	—
PF4IVI2T	1.03/0.96	-37~-5	10^3	1.82/1.31	-5~70	10^3

^a $I_{\text{on}}/I_{\text{off}}$ refers to the corresponding on-to-off ratio at the maximum mobility.

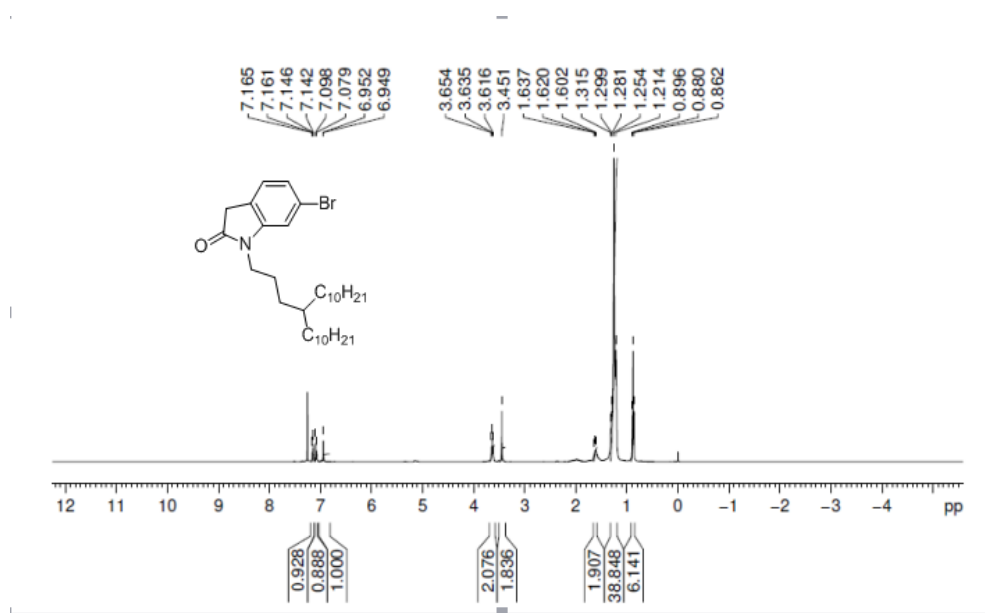
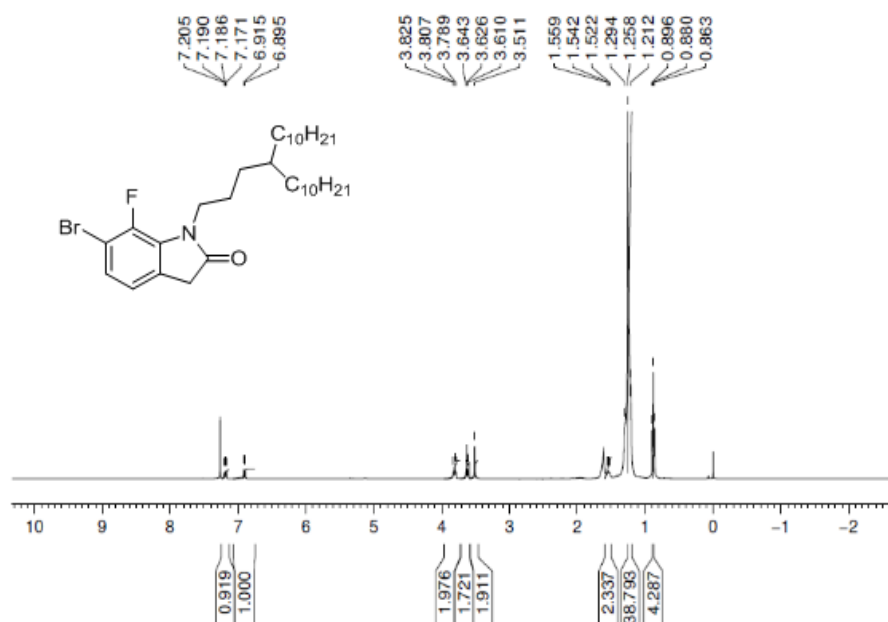
**Figure S5.** ¹H NMR spectrum of compound **2a**.**Figure S6.** ¹H NMR spectrum of compound **2b**.



Figure S7. ¹H NMR spectrum of compound **3a**.

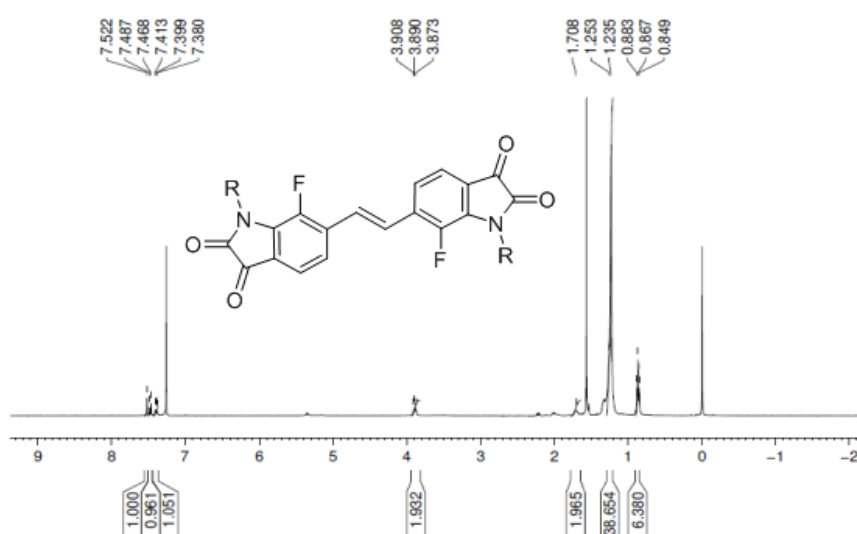


Figure S8. ¹H NMR spectrum of compound **3b**.

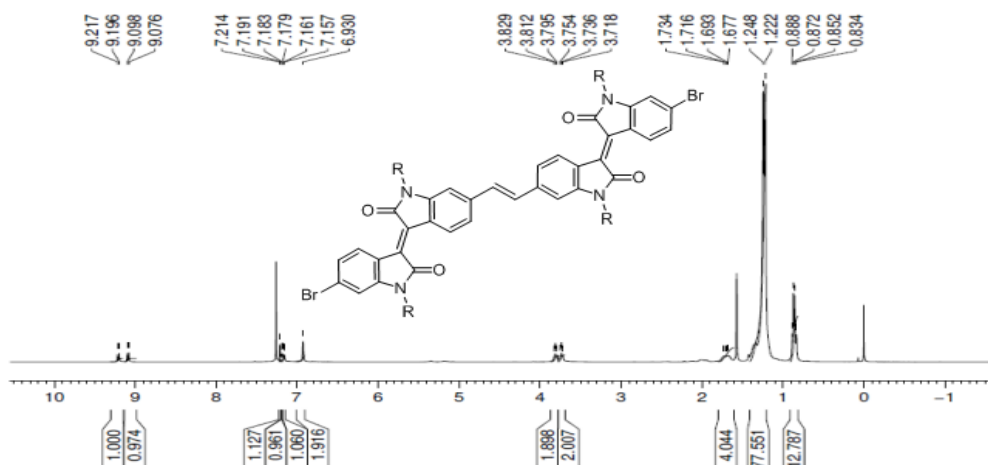


Figure S9. ^1H NMR spectrum of compound **4a**.

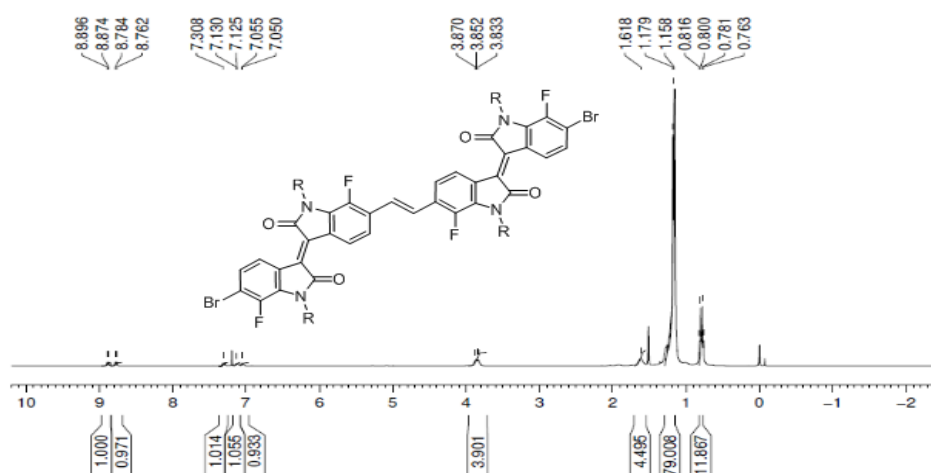


Figure S10. ^1H NMR spectrum of compound **4b**.

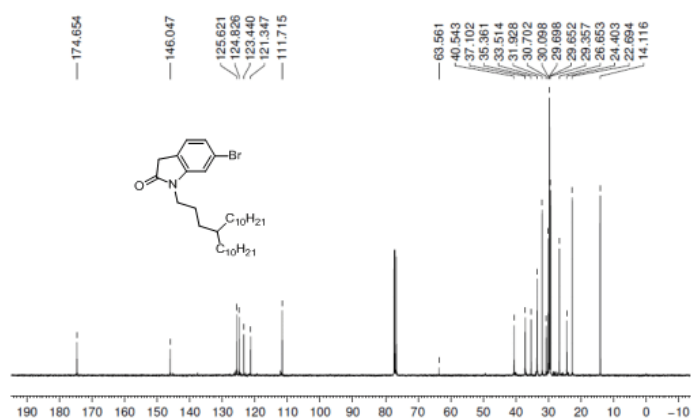


Figure S11. ^{13}C NMR spectrum of compound **2a**.

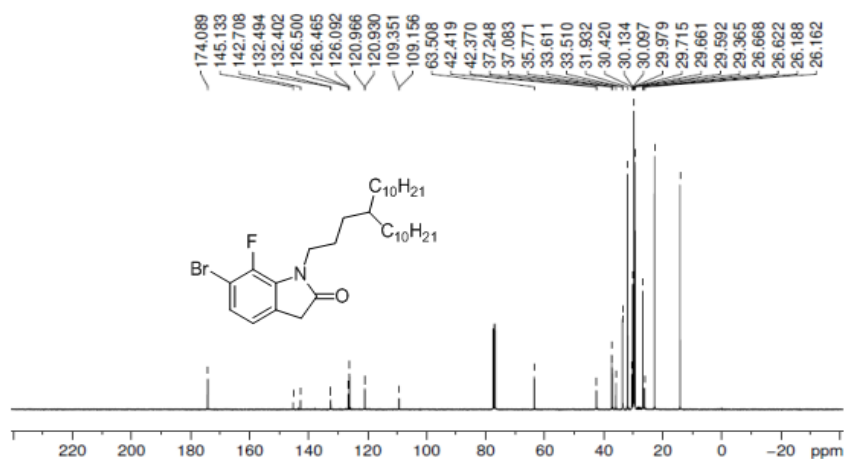


Figure S12. ¹³C NMR spectrum of compound 2b.

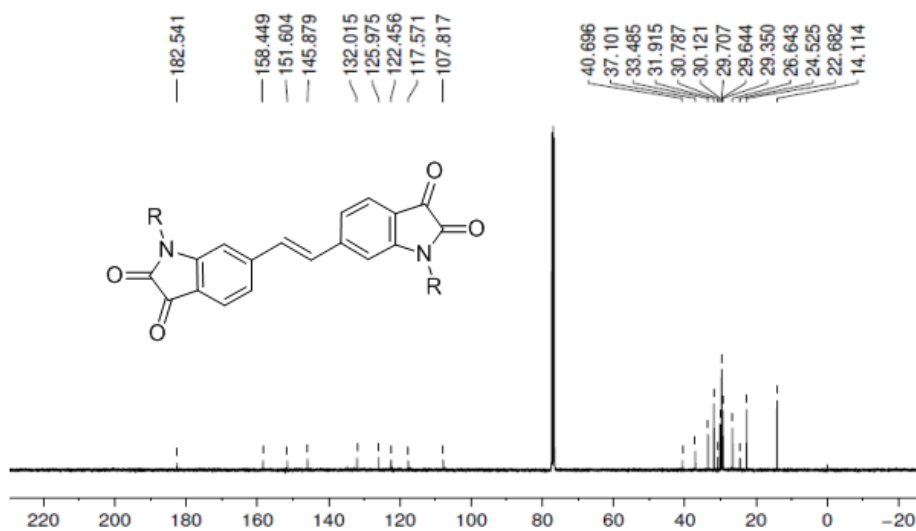


Figure S13. ¹³C NMR spectrum of compound 3a.

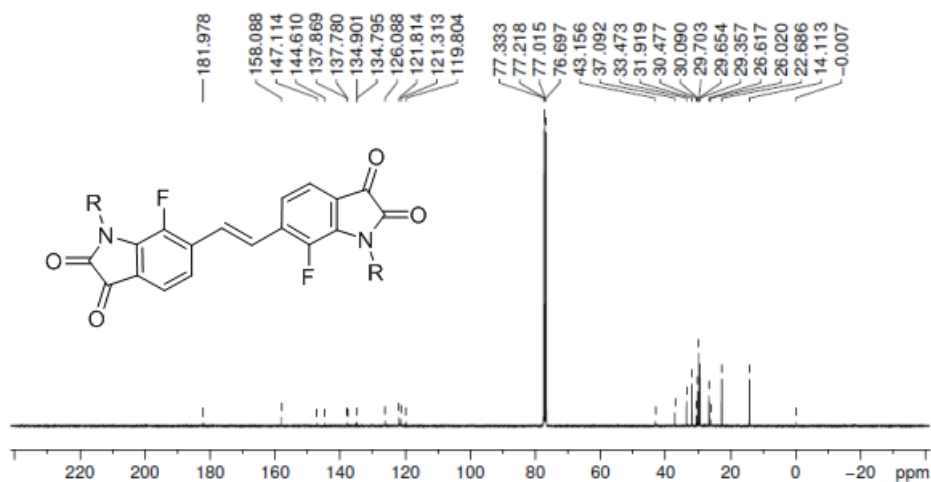


Figure S14. ^{13}C NMR spectrum of compound **3b**.

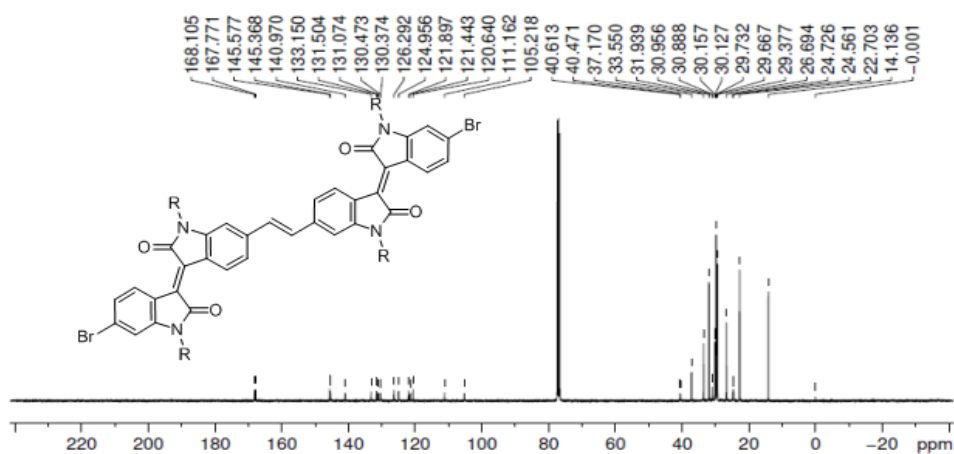


Figure S15. ^{13}C NMR spectrum of compound **4a**.

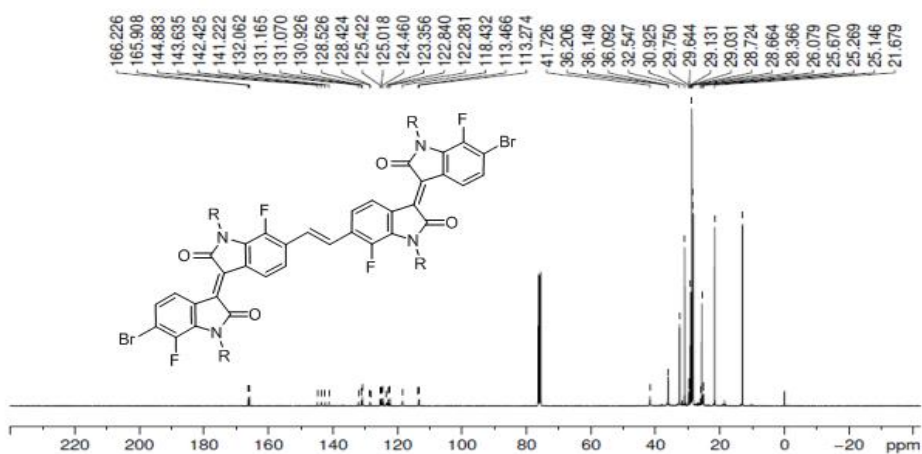


Figure S16. ^{13}C NMR spectrum of compound **4b**.

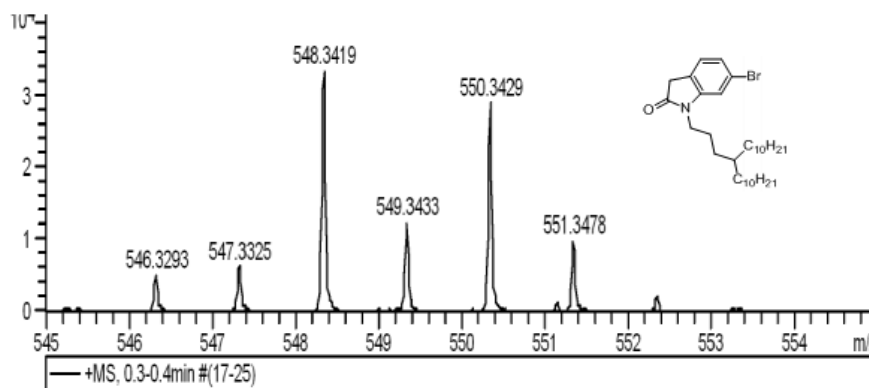


Figure S17. MS spectrum of compound **2a**.

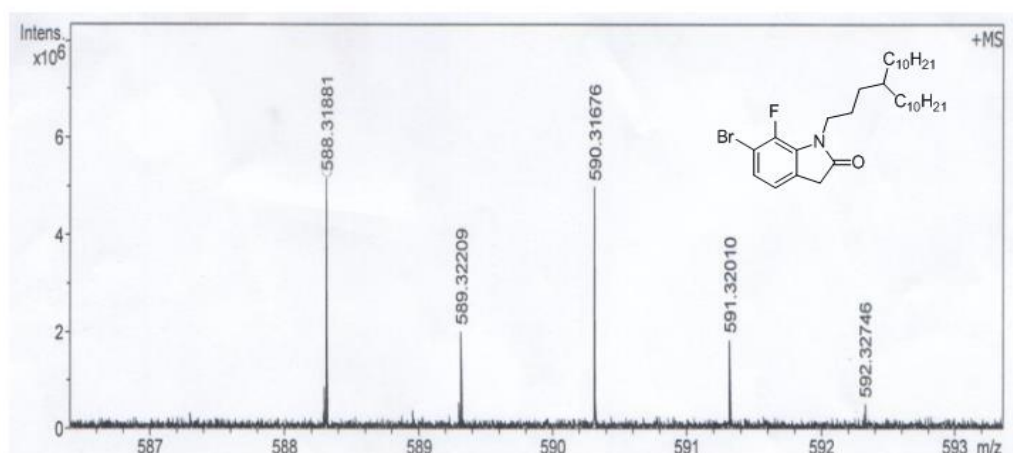


Figure S18. MS spectrum of compound **2b**.

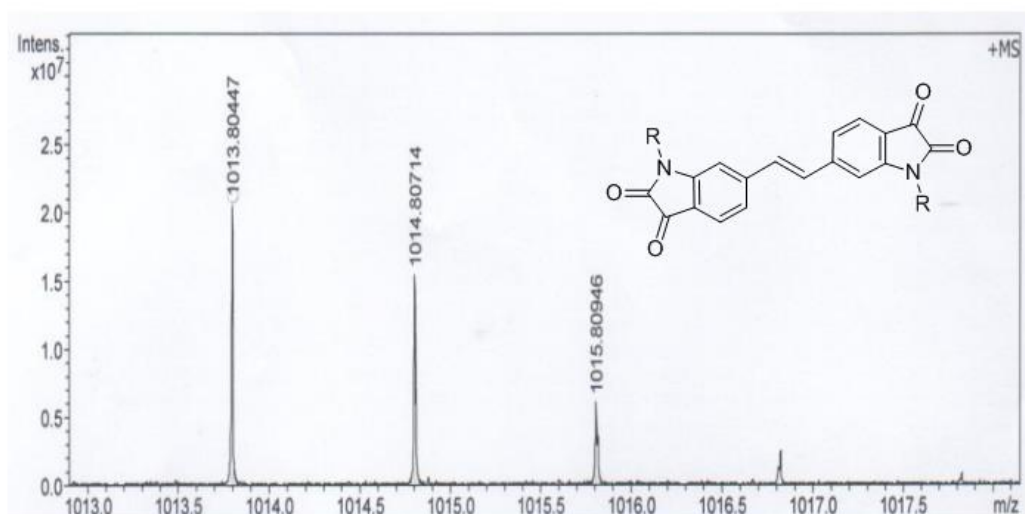


Figure S19. MS spectrum of compound **3a**.

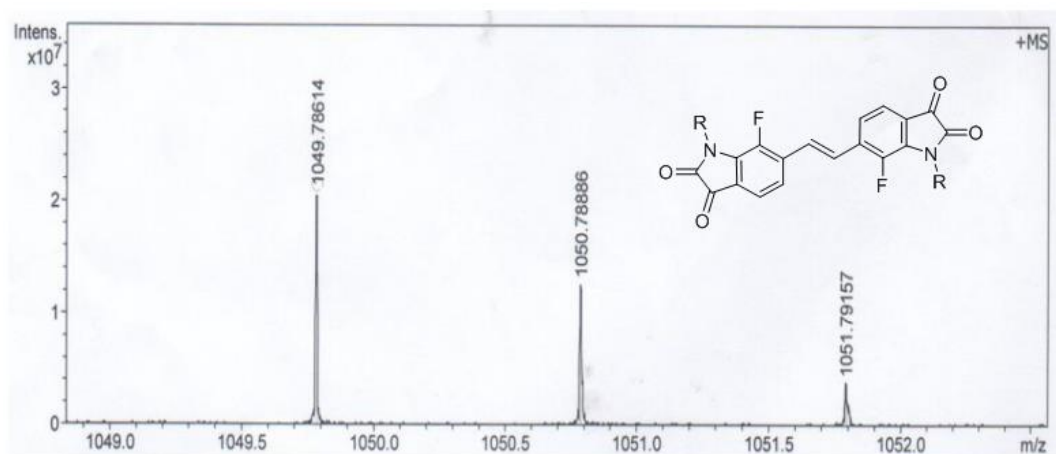


Figure S20. MS spectrum of compound **3b**.

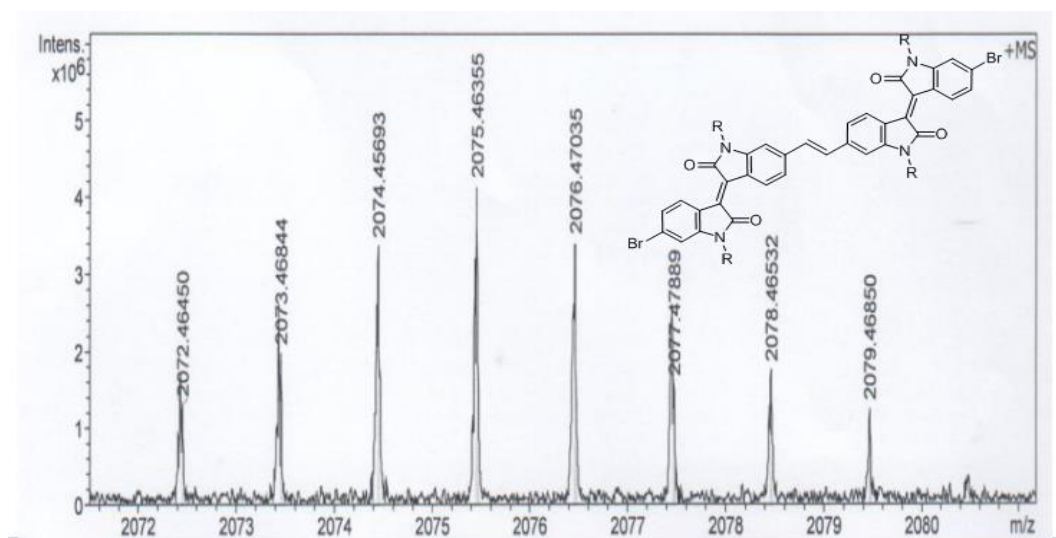


Figure S21. MS spectrum of compound **4a**.

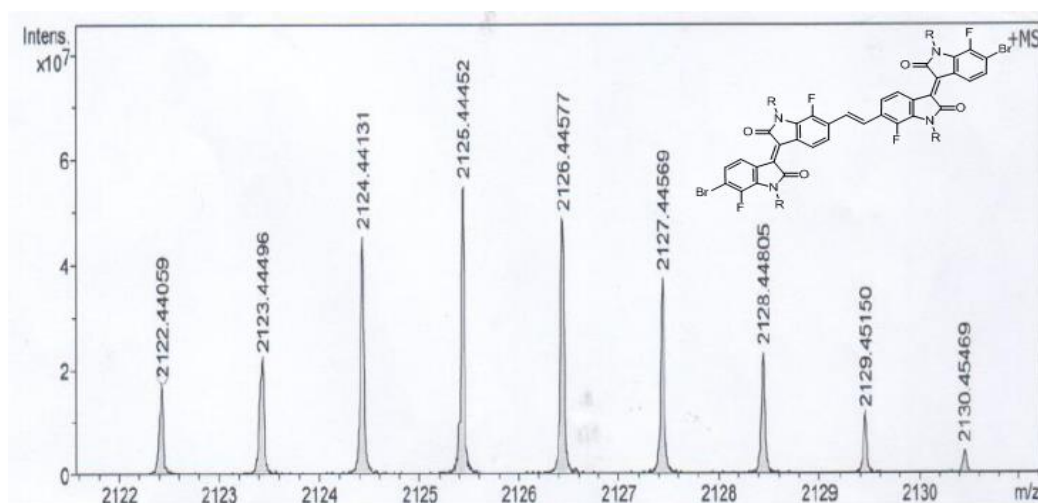


Figure S22. MS spectrum of compound **4b**.