

Supporting Information

Synthesis of Conjugated Polymers *via* Exclusive Direct-Arylation Coupling Reaction: A Facile and Straightforward Way to Synthesize Thiophene-Flanked Benzothiadiazole Derivatives and Their Polymers

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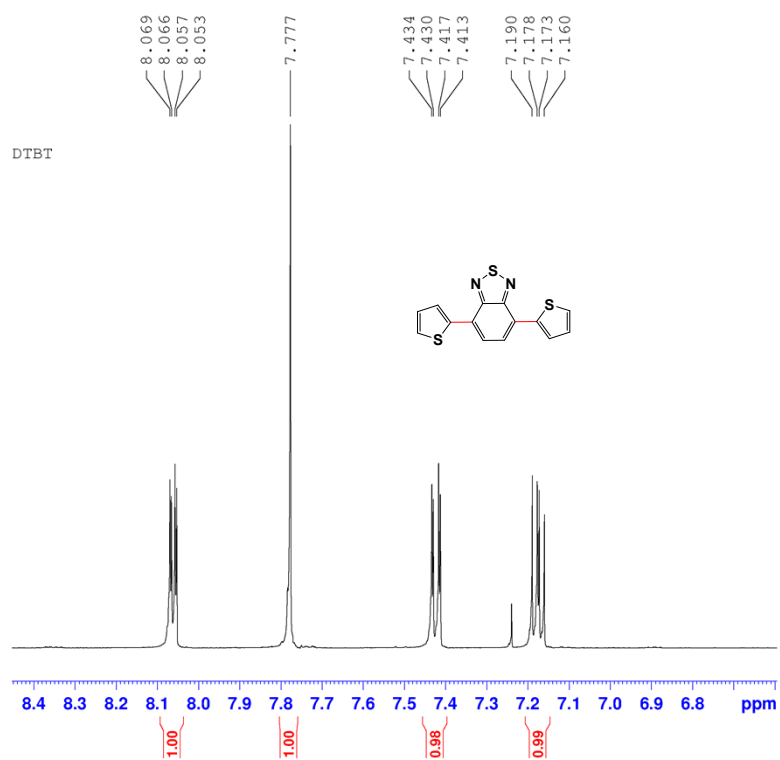


Figure S1. ^1H NMR (300 MHz) spectrum of **DTBT** in CDCl_3 .

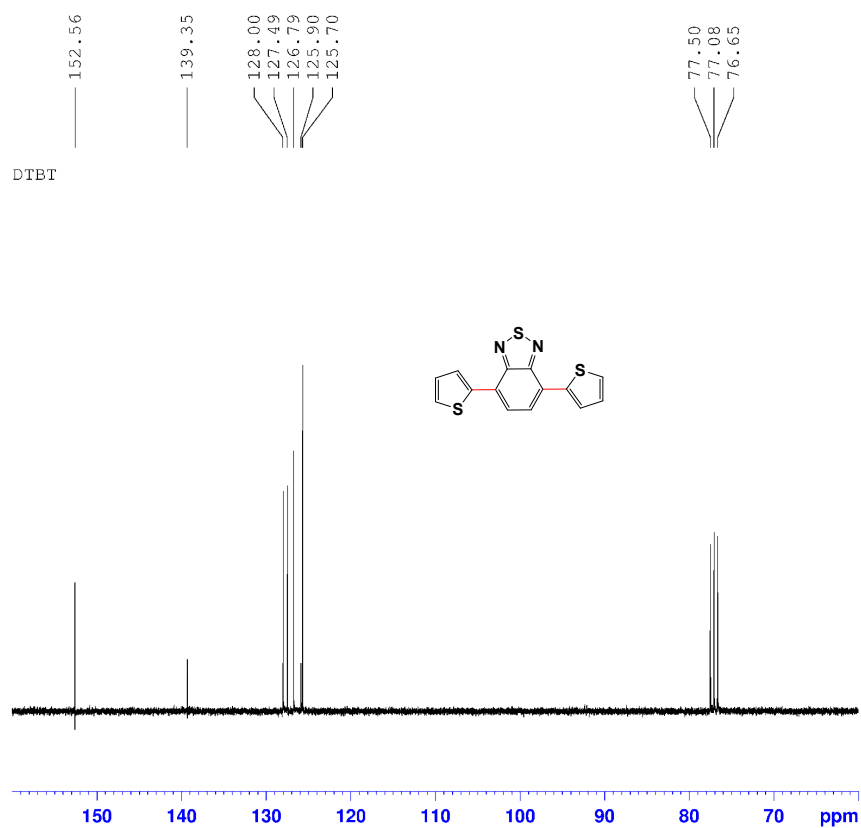


Figure S2. ^{13}C NMR (300 MHz) spectrum of **DTBT** in CDCl_3 .

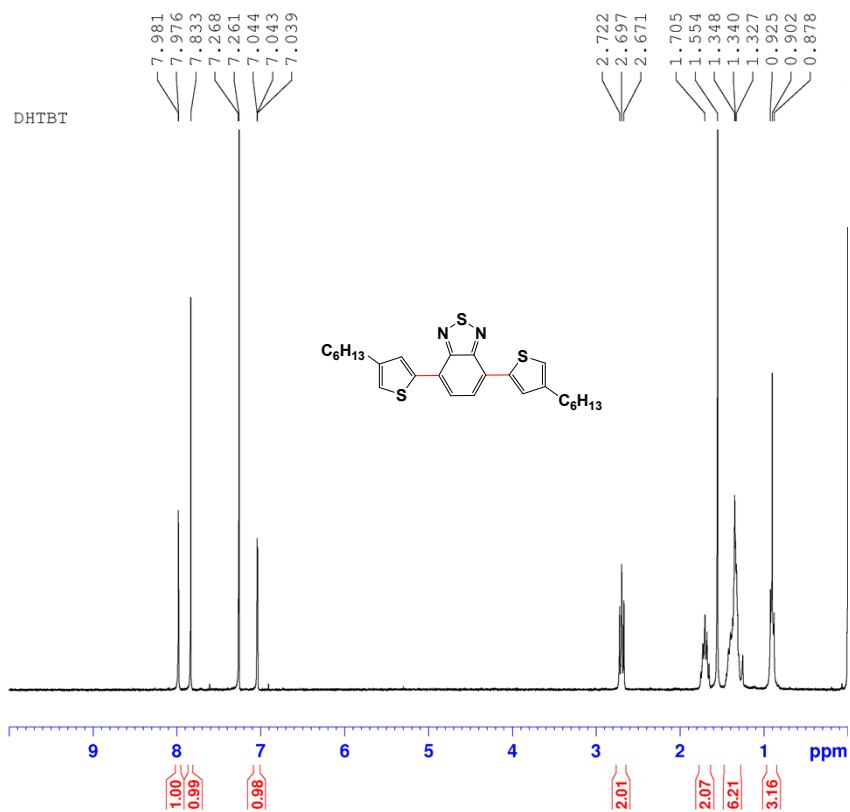


Figure S3. ^1H NMR (300 MHz) spectrum of **DHTBT** in CDCl_3 .

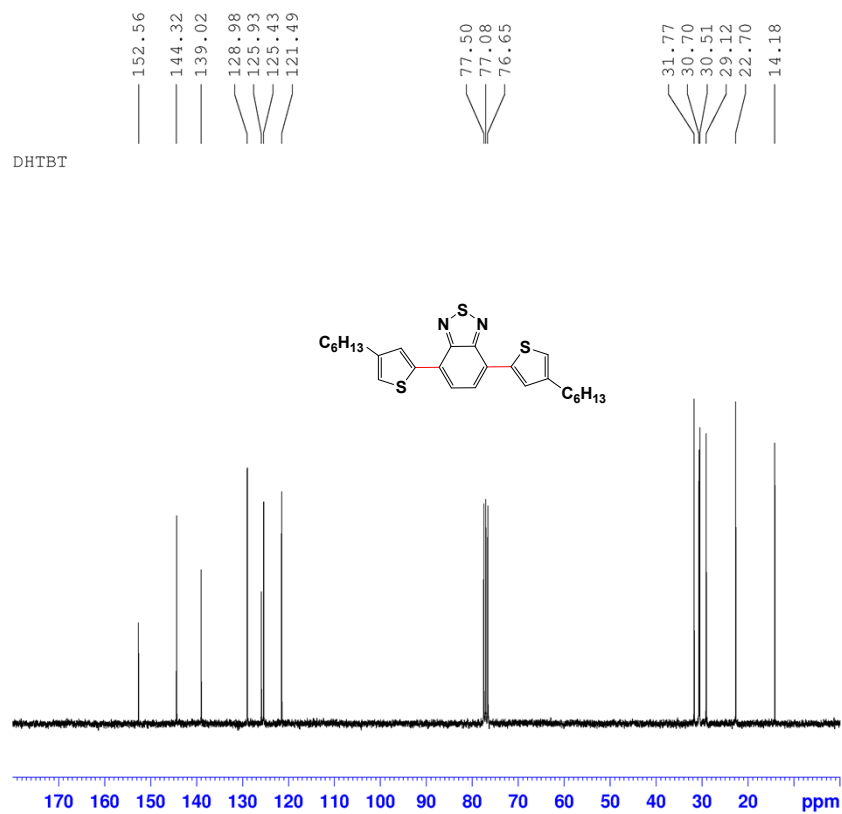


Figure S4. ^{13}C NMR (300 MHz) spectrum of **DHTBT** in CDCl_3 .

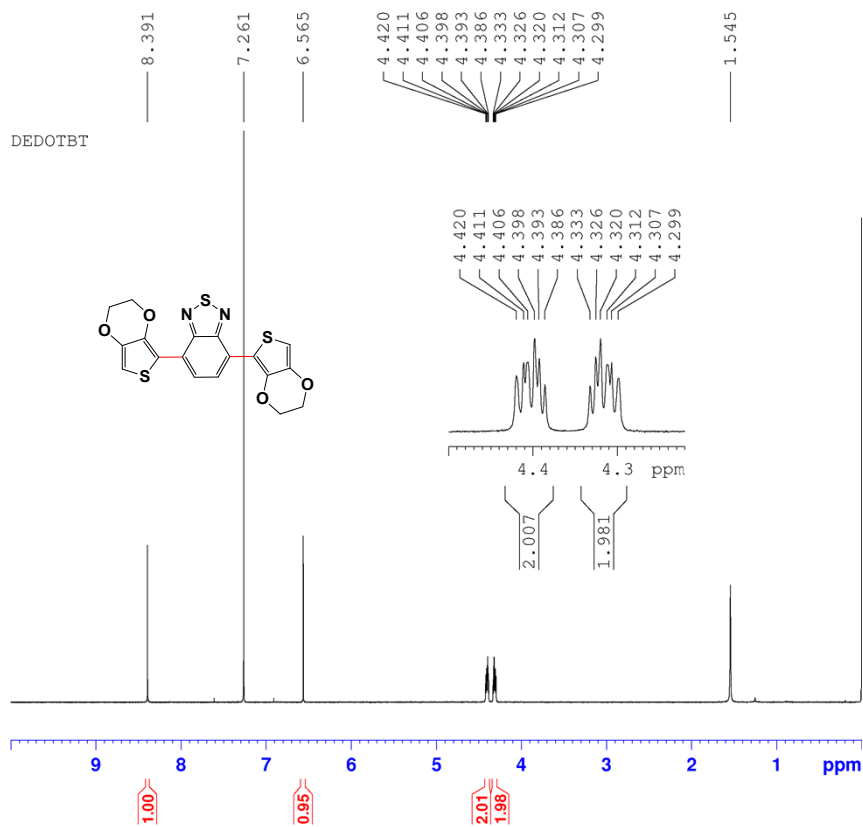


Figure S5. ^1H NMR (300 MHz) spectrum of **DEDOTBT** in CDCl_3 .

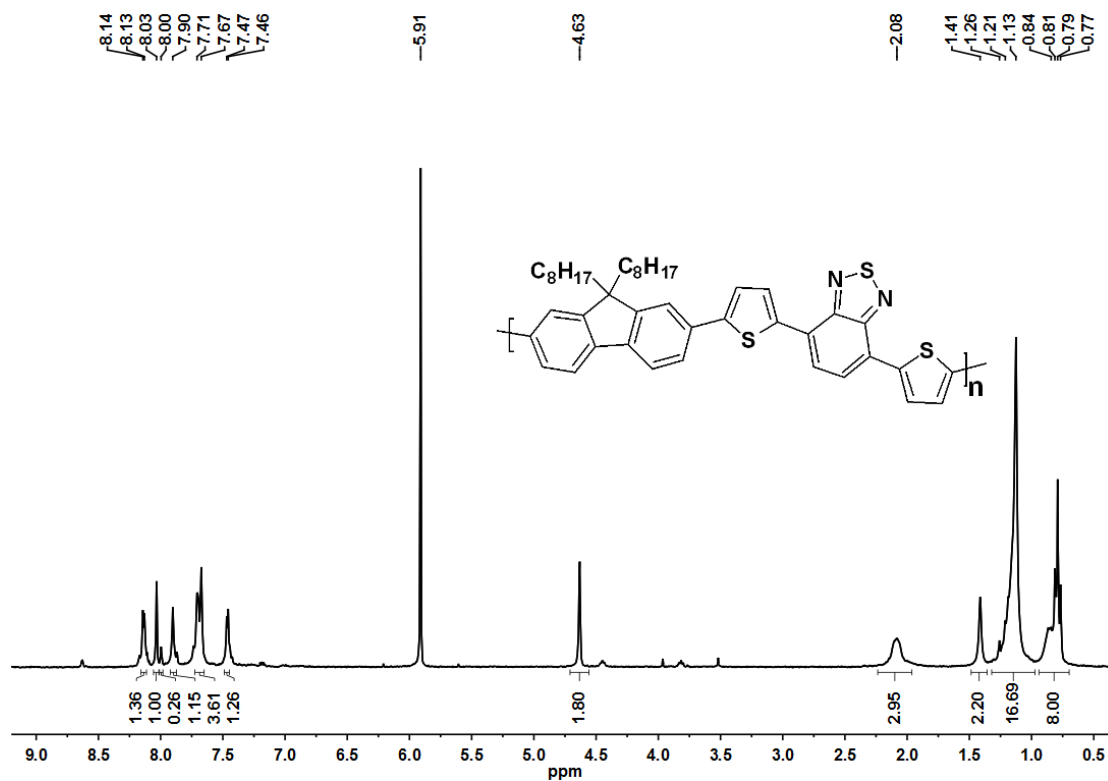


Figure S6. ^1H NMR (300 MHz) spectrum of **PFTBT** in $\text{C}_2\text{D}_2\text{Cl}_4$ at $100\text{ }^\circ\text{C}$.

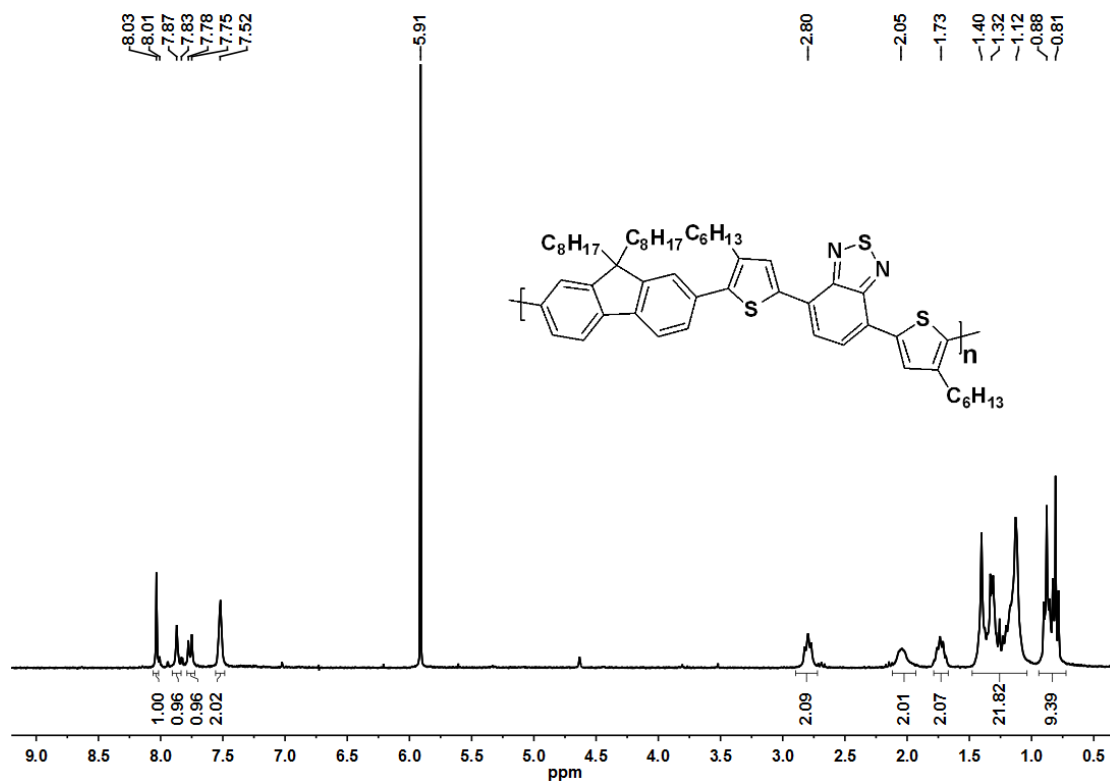


Figure S7. ¹H NMR (300 MHz) spectrum of **PFHTBT** in C₂D₂Cl₄ at 100 °C.

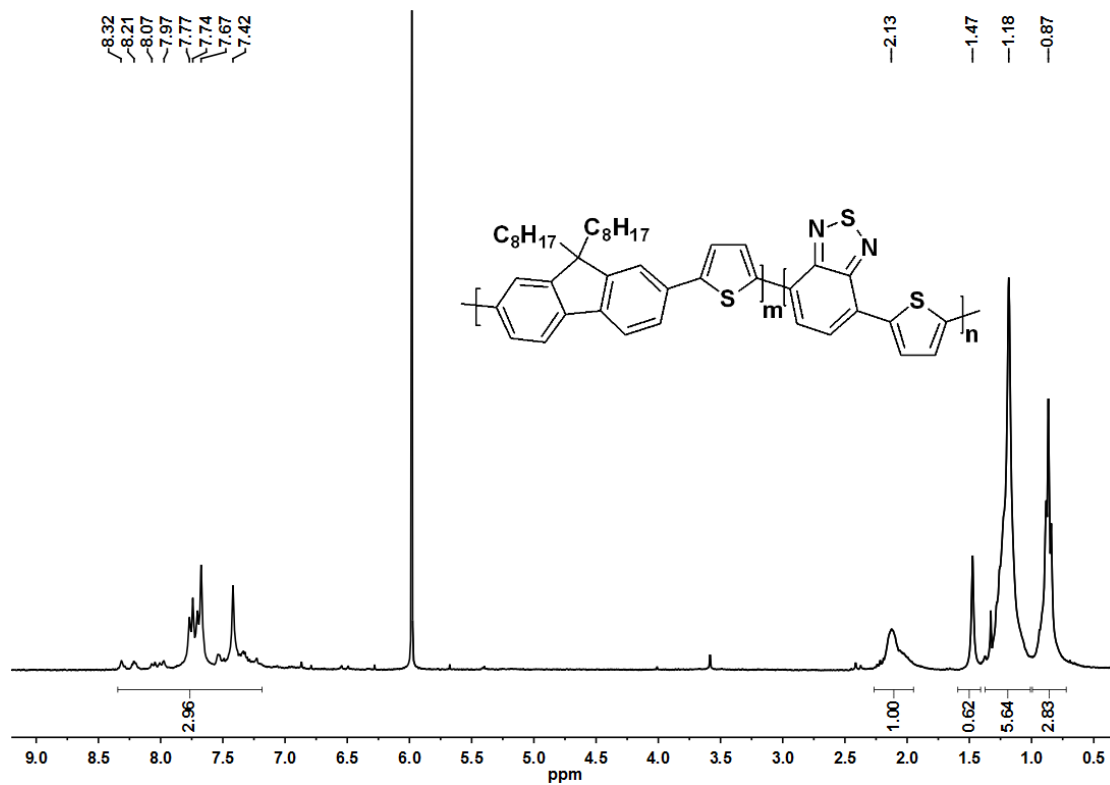


Figure S8. ¹H NMR (300 MHz) spectrum of **PFTBT-R** in C₂D₂Cl₄ at 100 °C.

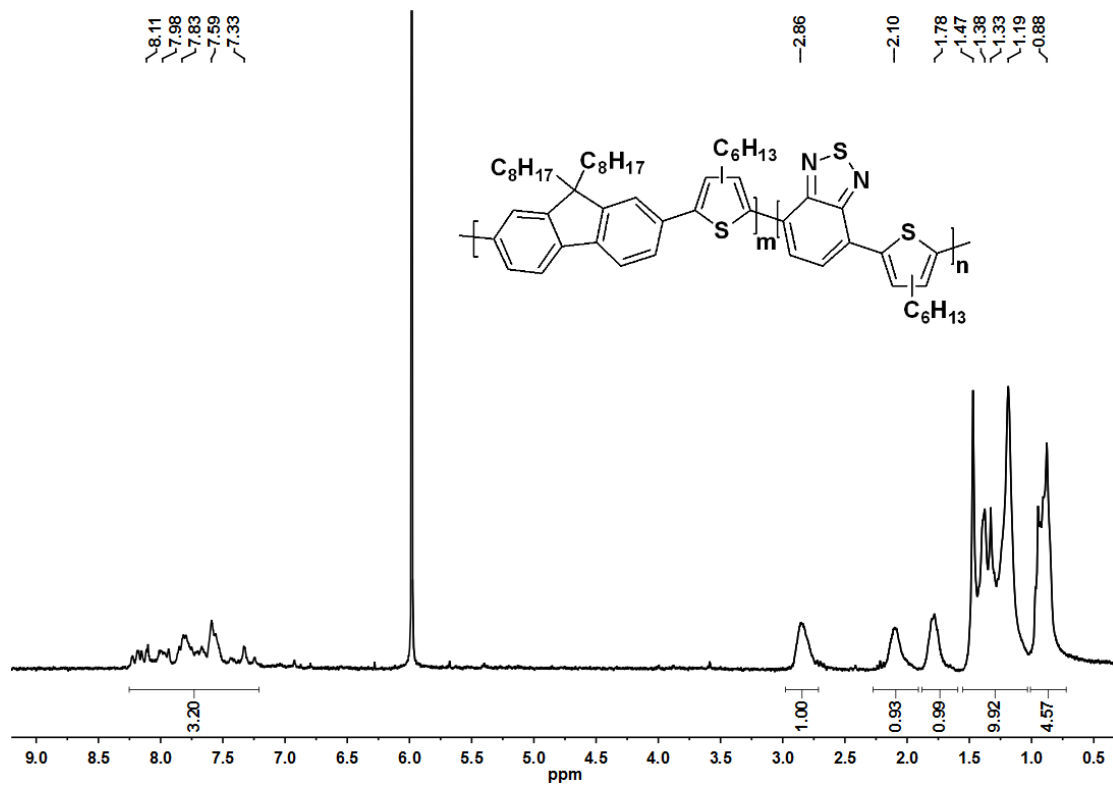


Figure S9. ^1H NMR (300 MHz) spectrum of PFHTBT-R in $\text{C}_2\text{D}_2\text{Cl}_4$ at $100\text{ }^\circ\text{C}$.

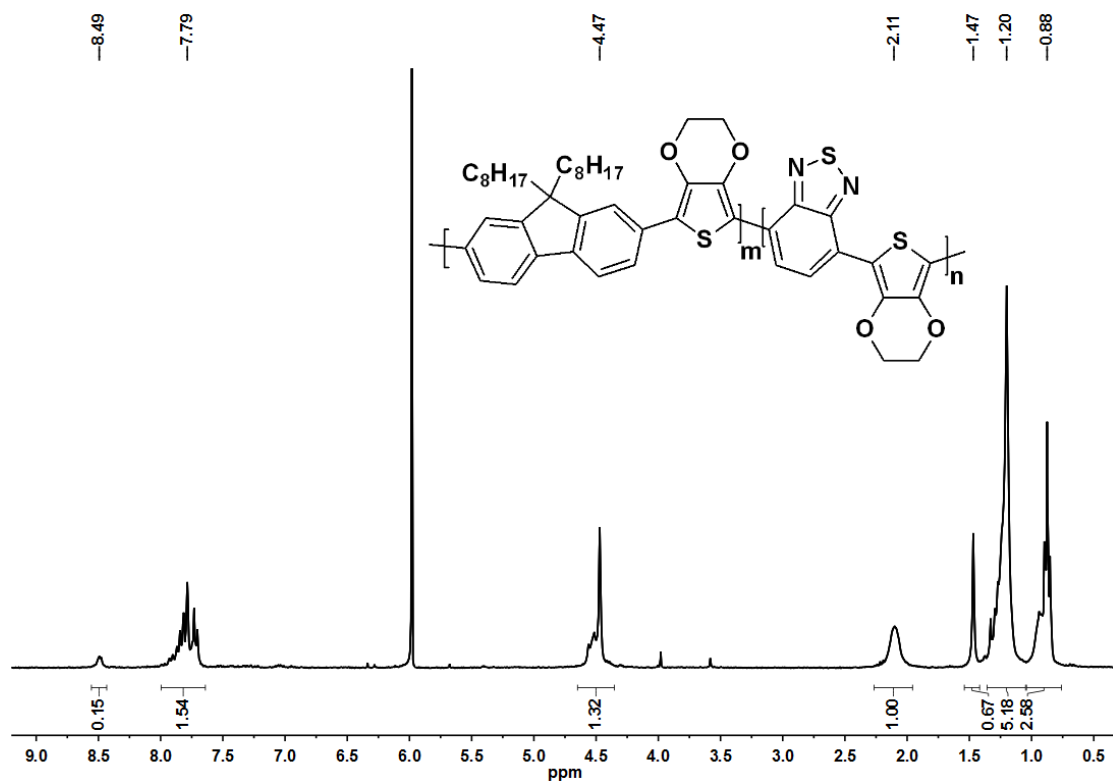


Figure S10. ^1H NMR (300 MHz) spectrum of PFEDOTBT-R in $\text{C}_2\text{D}_2\text{Cl}_4$ at $100\text{ }^\circ\text{C}$.

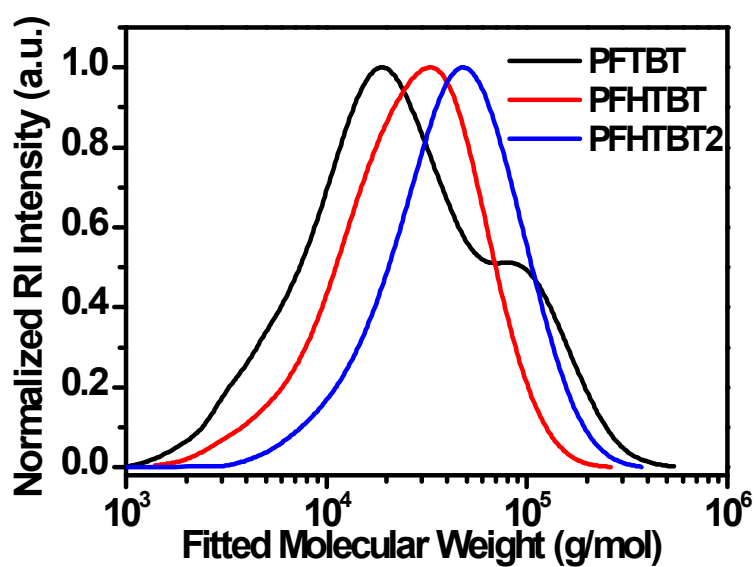


Figure S11. GPC curves of the alternating copolymers.

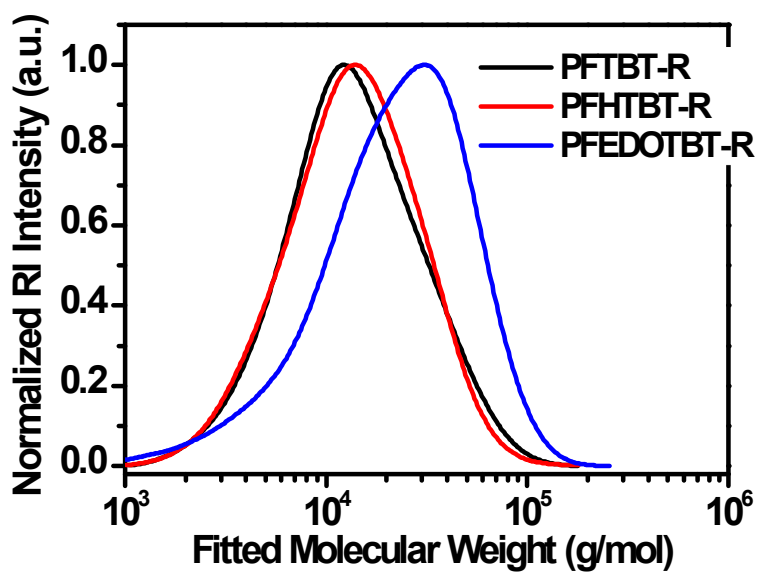


Figure S12. GPC curves of the random copolymers.

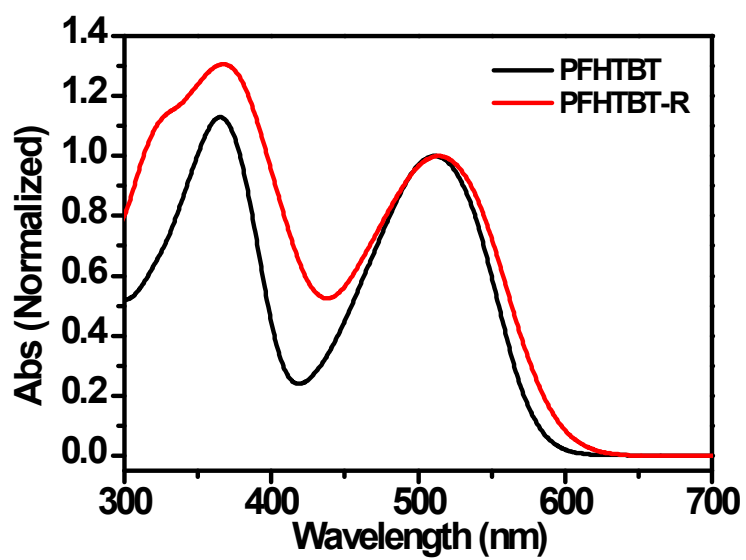


Figure S13. Comparison of normalized UV-Vis absorption spectra of the alternating polymer **PFHTBT** and the random polymer **PFHTBT-R**.