

Supporting information

Investigation of the Effect of Substituents on Electronic and Charge Transport Properties of Benzothiazole Derivatives

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1. Synthesis of Comp1:

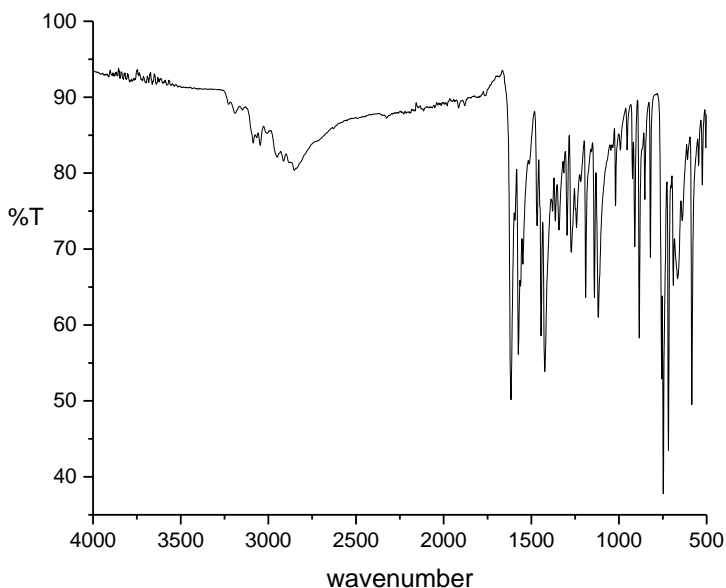
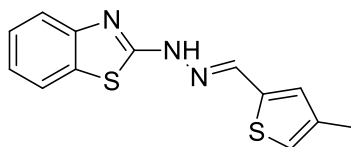


Figure S1. FTIR spectrum of ligand of **Comp1**.

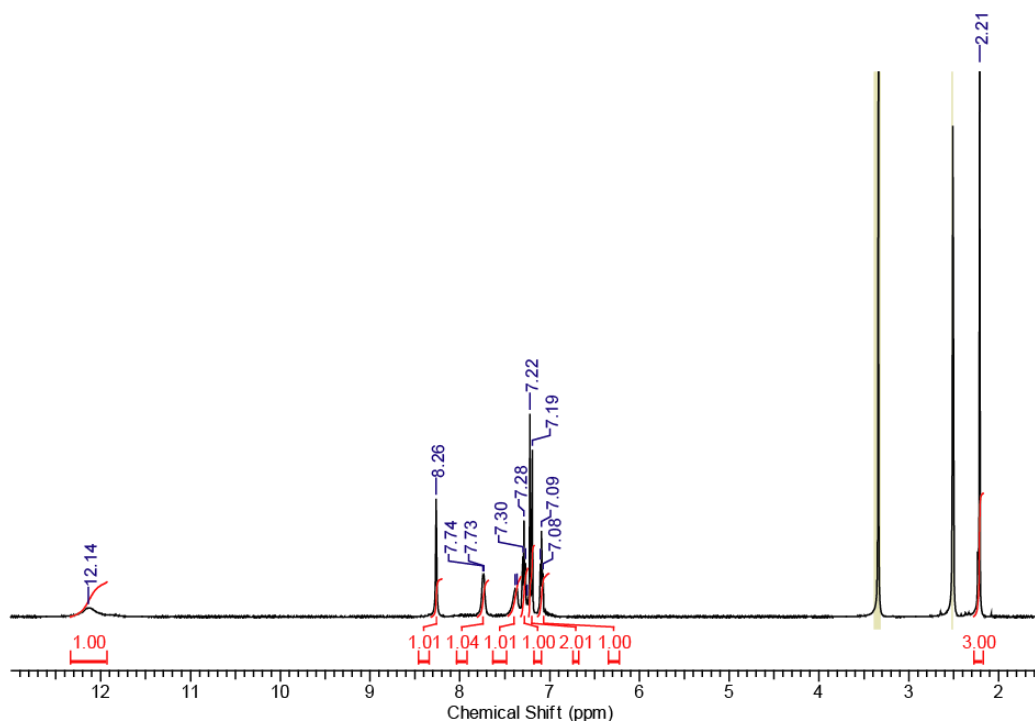


Figure S2. ^1H NMR spectrum of **Comp1**.

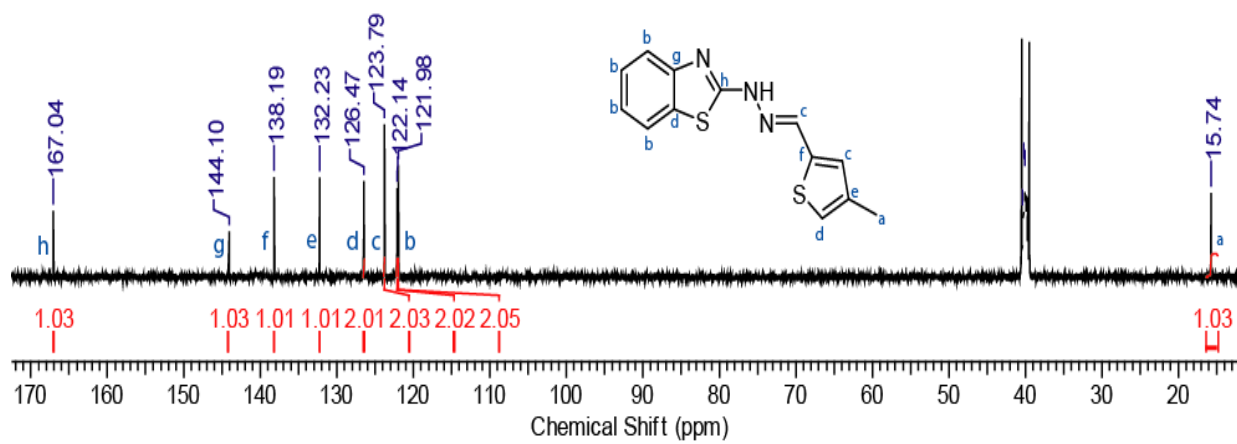


Figure S3. ^{13}C NMR spectra of **Comp1**.

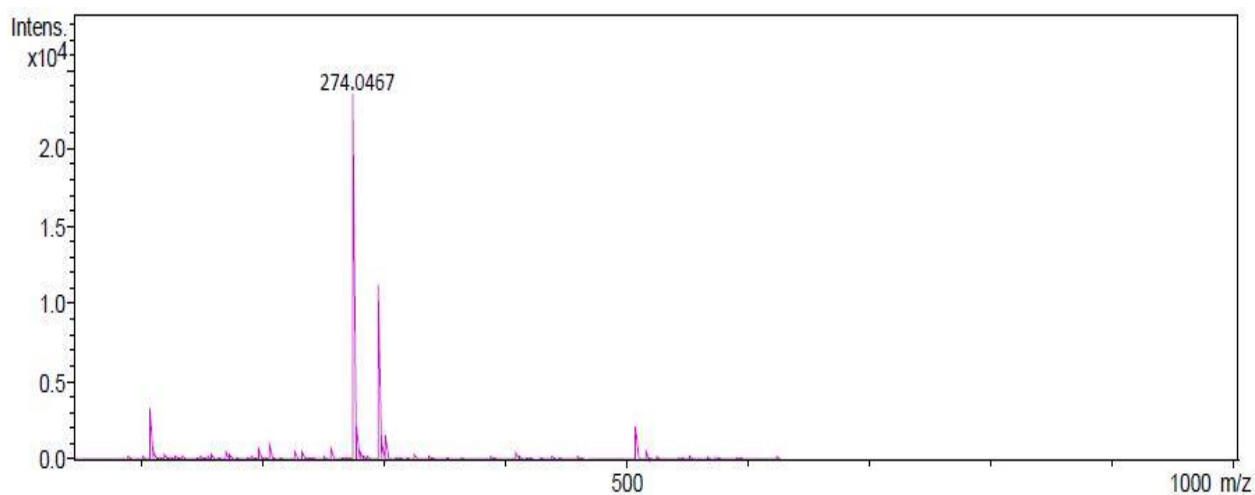


Figure S4. HR-MS spectra of **Comp1**.

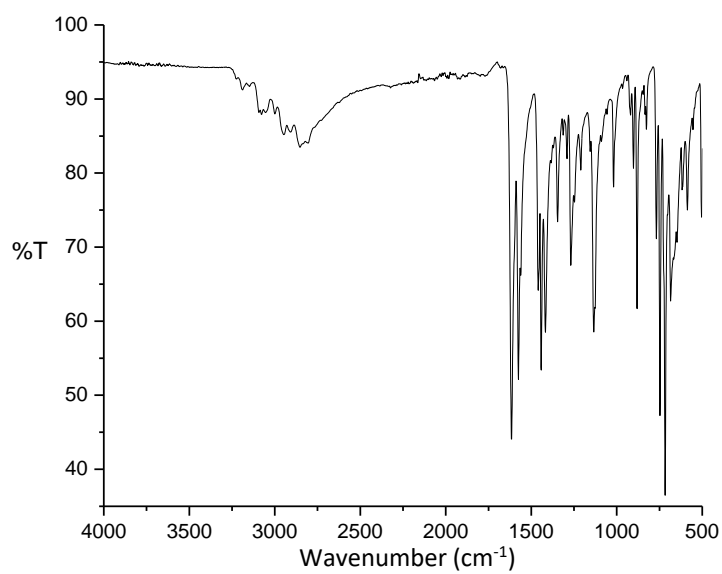
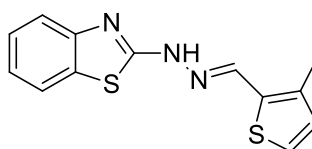


Figure S5. FTIR spectrum of ligand of **Comp2**.

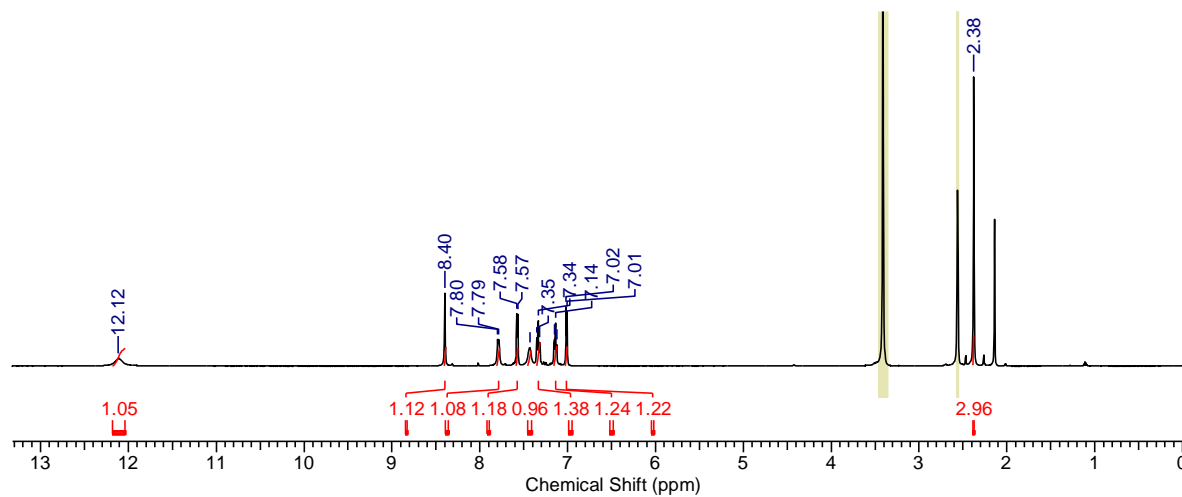


Figure S6. ^1H NMR spectrum of **Comp2**.

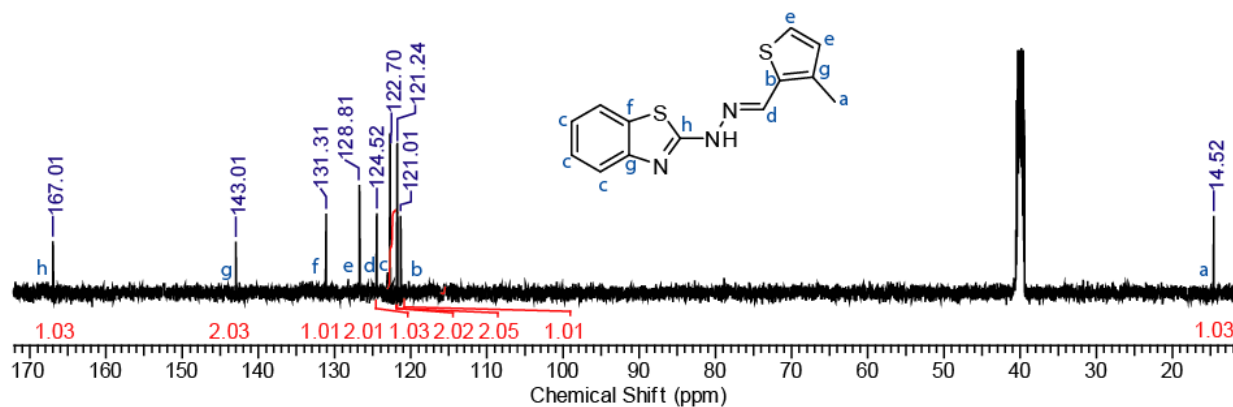


Figure S7. ^{13}C NMR spectra of **Comp2**.

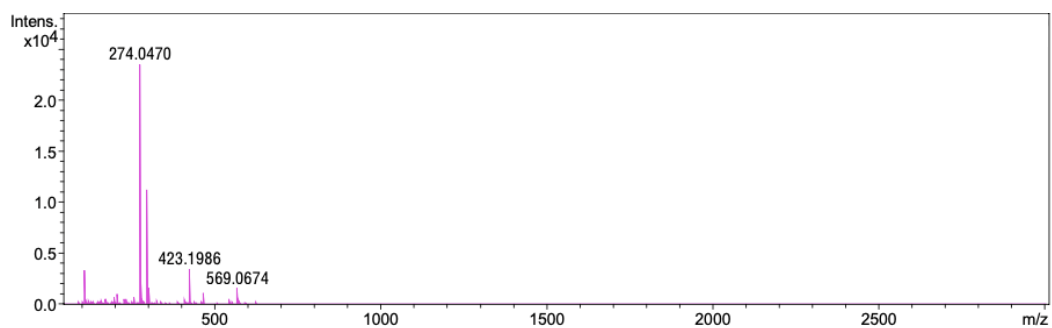


Figure S8. HR-MS spectra of **Comp2**.

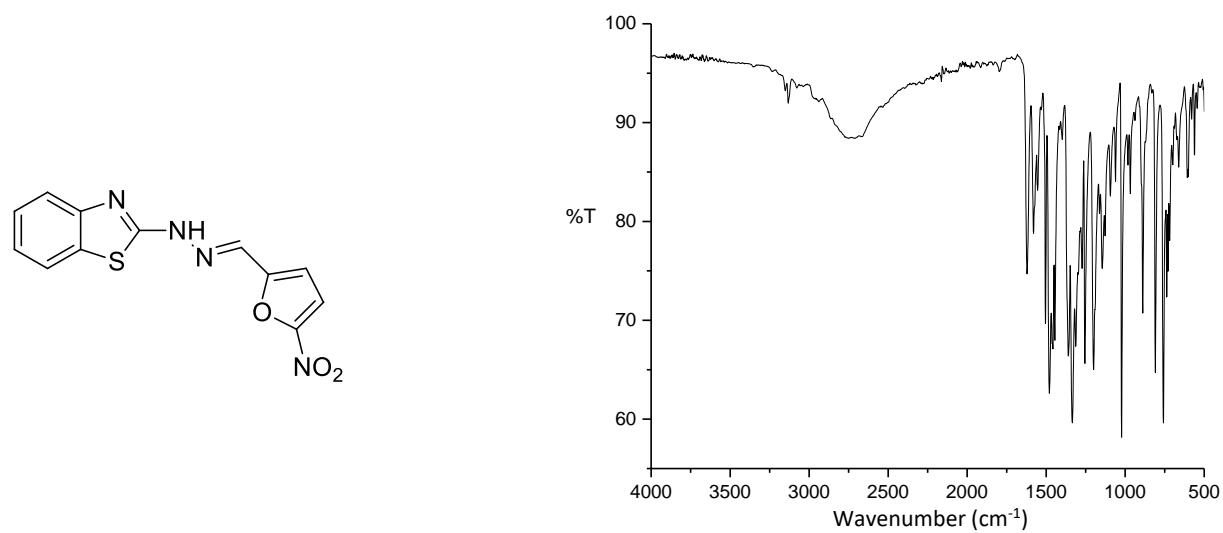


Figure S9. FTIR spectrum of **Comp3**.

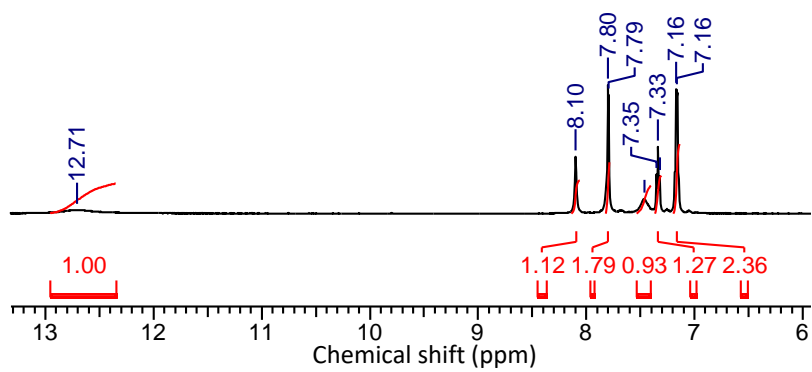


Figure S10. ¹H NMR spectrum of **Comp3**.

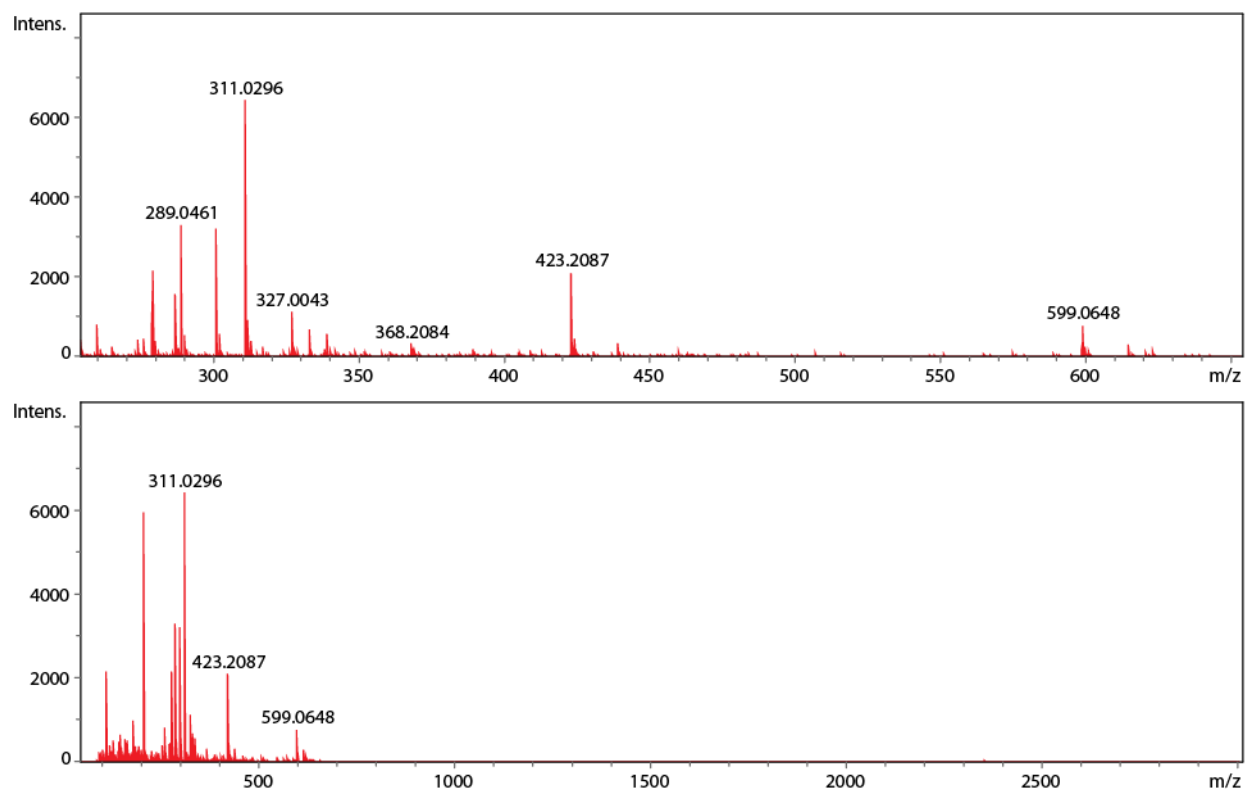


Figure S11. (Lower) Full HR-MS spectrum and (upper) selected HR-MS spectrum of **Comp3**.

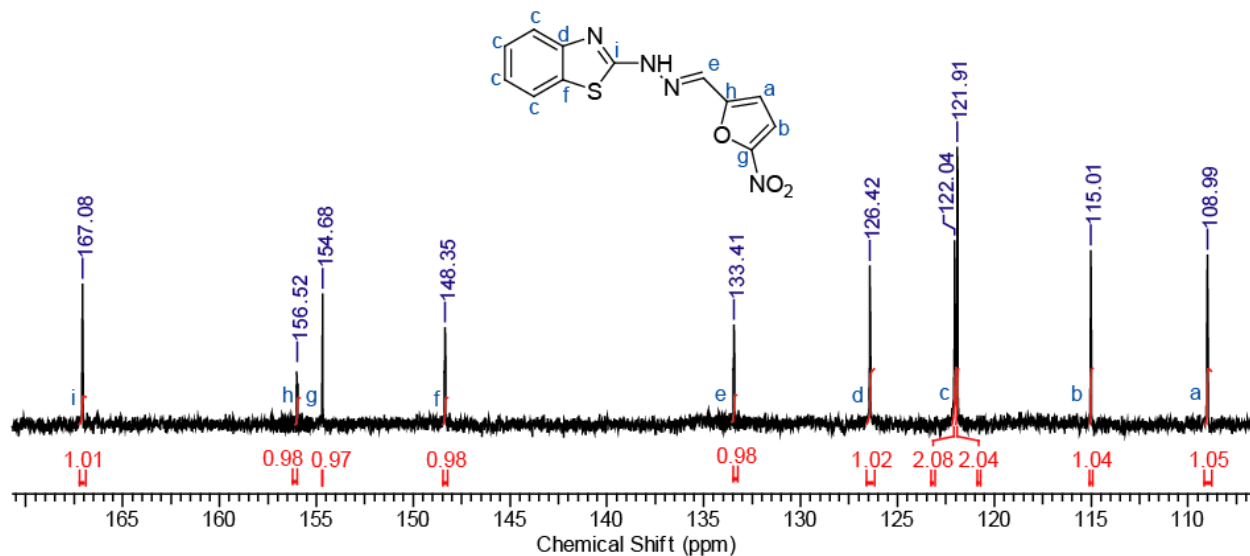


Figure S12. ^{13}C NMR spectra of **Comp3**.

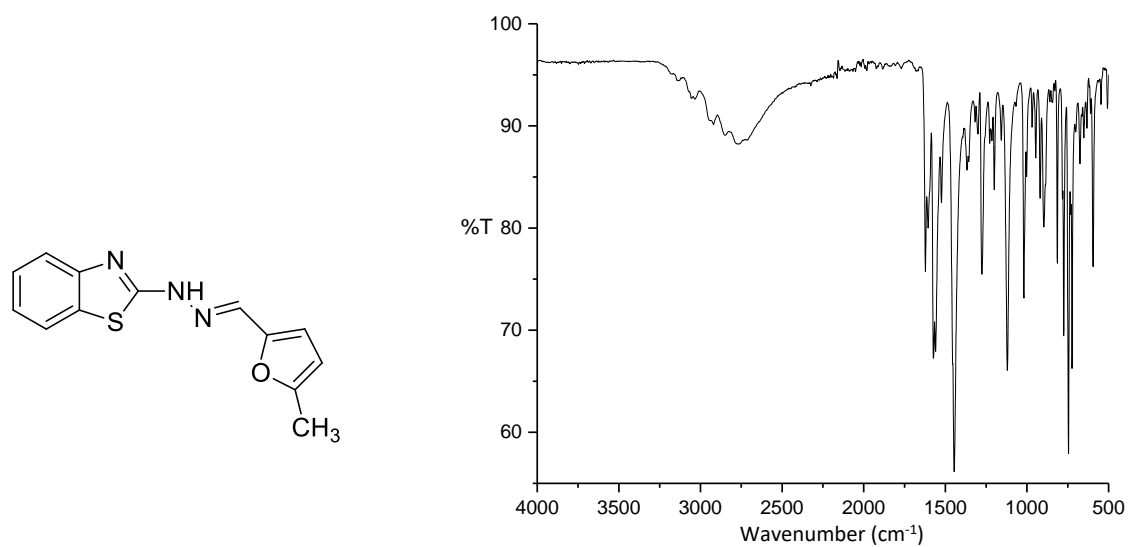


Figure S13. FTIR spectrum of **Comp4**.

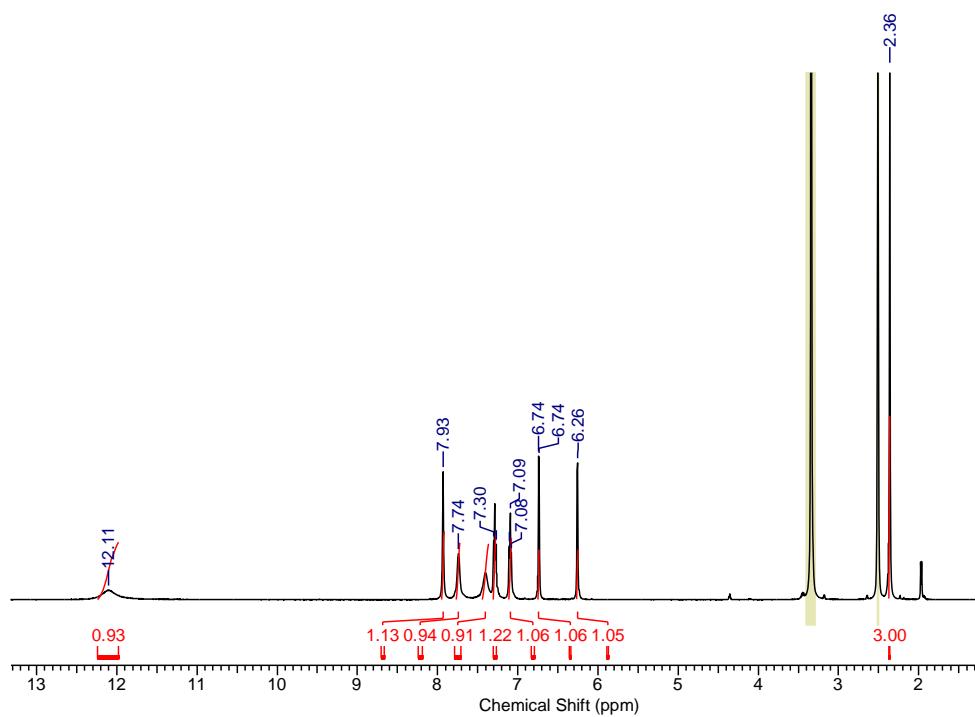


Figure S14. ¹H NMR spectrum of **Comp4**.

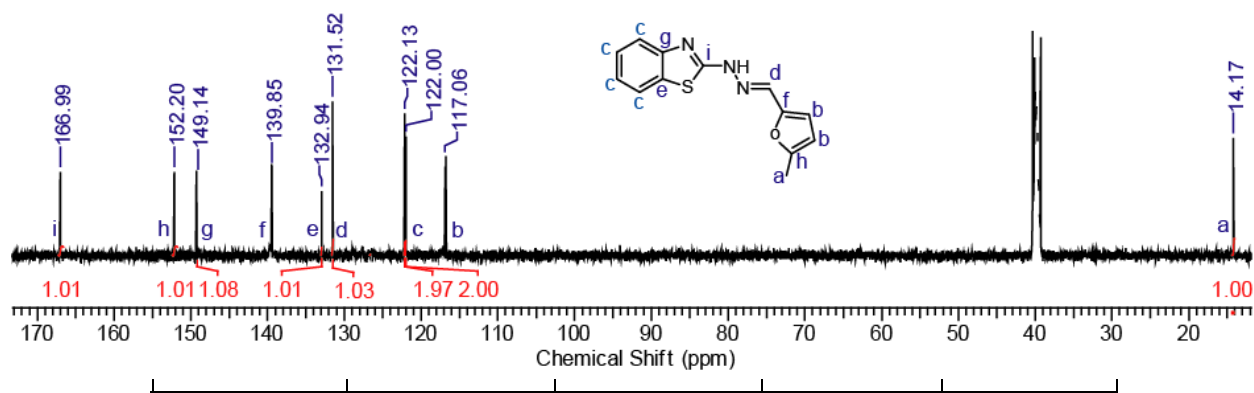


Figure S15. ^{13}C NMR spectra of **Comp4**.

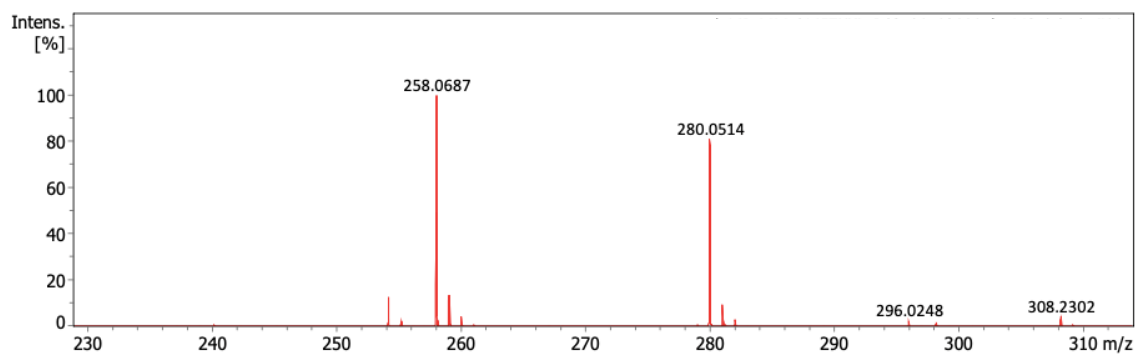


Figure S16. HR-MS spectrum of **Comp4**.

Table S1. λ_{max} for all the four compounds in acetone, ethanol, DMF and DMSO.

Compounds	Acetone	Ethanol	DMF	DMSO
	λ_{max} (nm)	λ_{max} (nm)	λ_{max} (nm)	λ_{max} (nm)
Comp1	353	Insoluble	360	362
Comp2	353	352	358	361
Comp3	Insoluble	Insoluble	430	445
Comp4	343	344	350	353

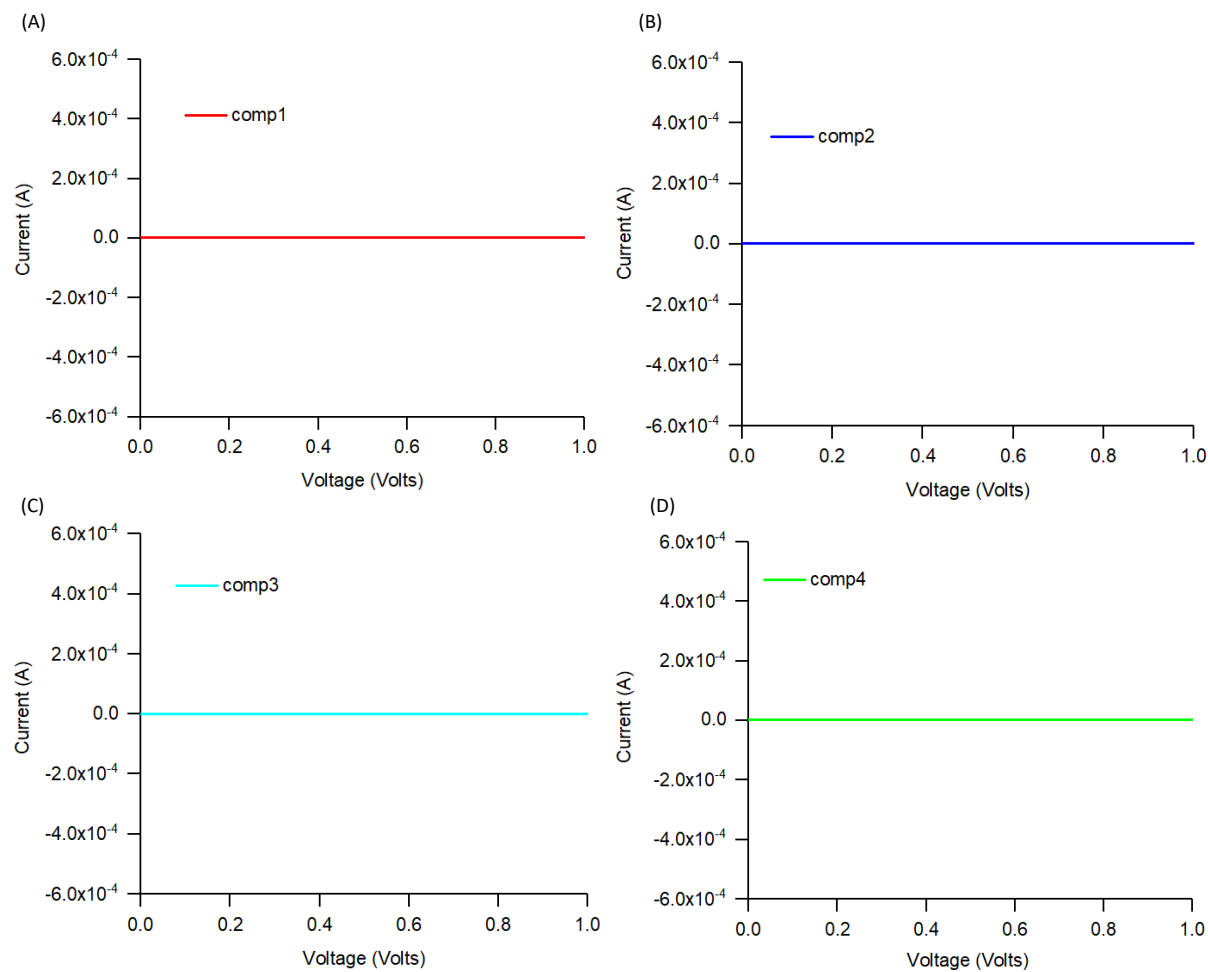


Figure S17. I-V characteristics of (A) **Comp1**-film, (B) **Comp2**-film, (C) **Comp3**-film and (D) **Comp4**-film.