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SUPPORTING INFORMATION

Non-aggregating Solvatochromic Bipolar Benzo[*f*]quinolines and Benzo[*a*]acridines for Organic Electronics

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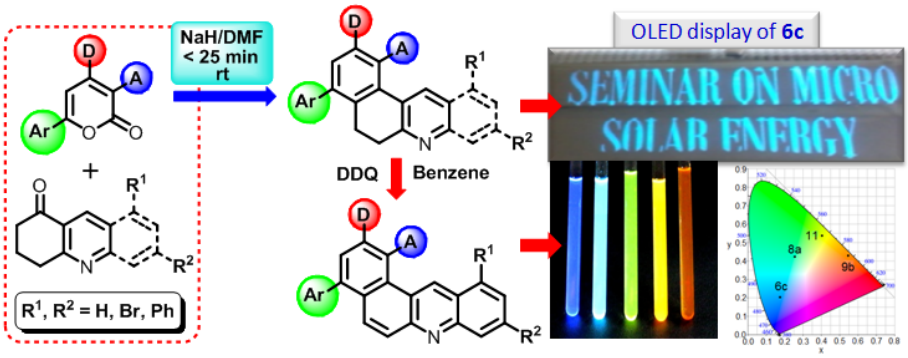

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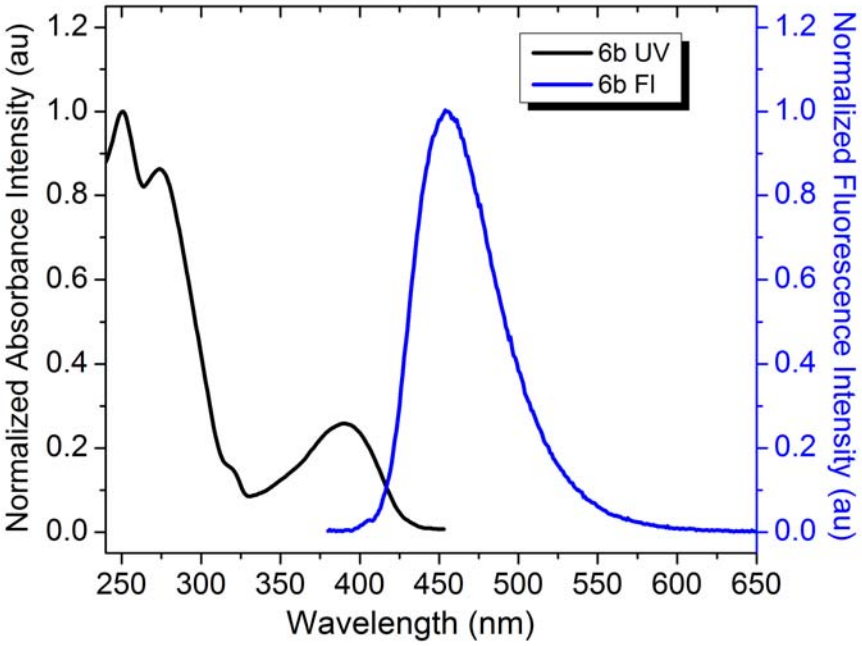
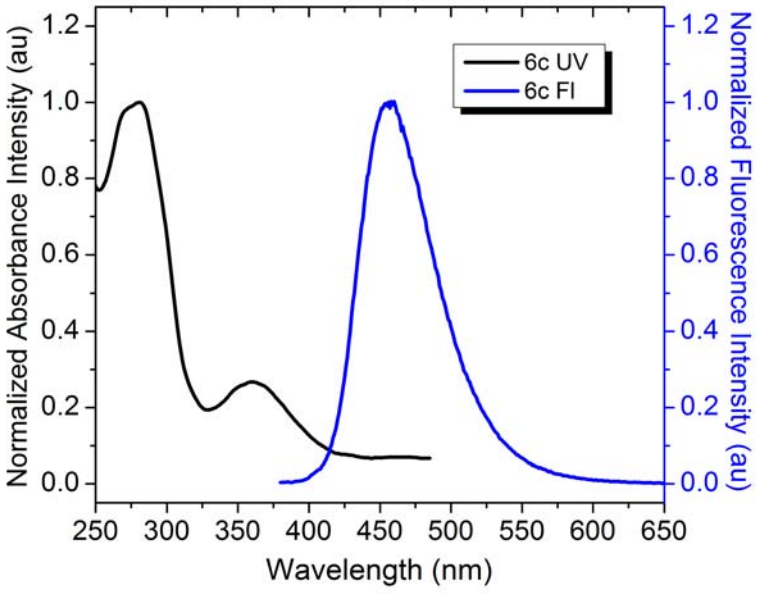
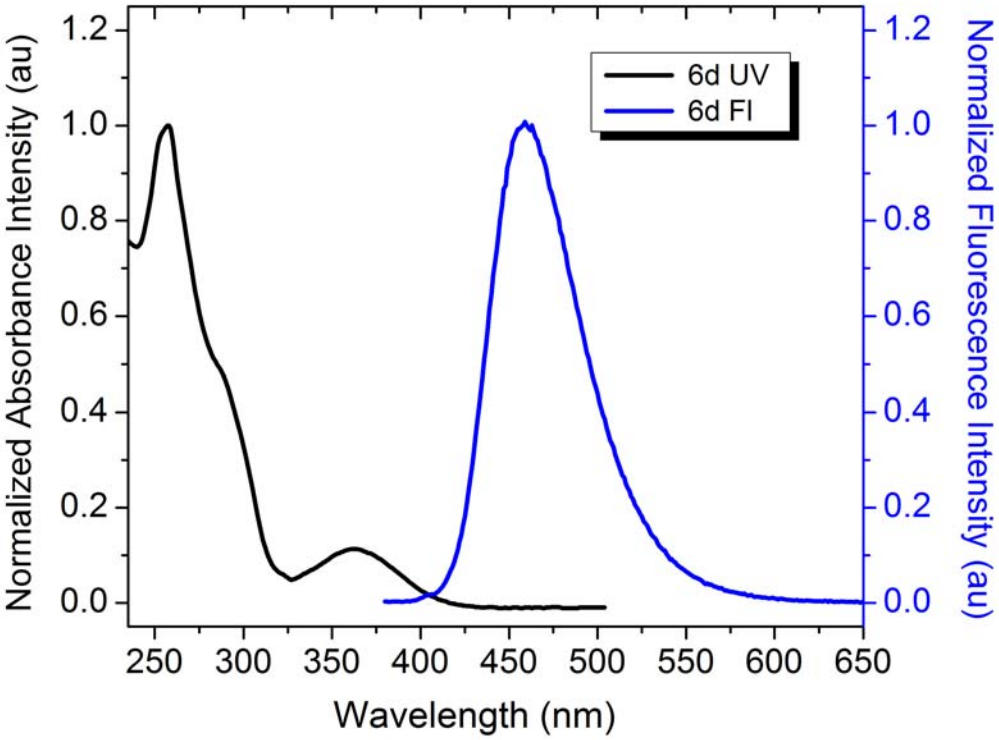
General: ^{1}H and ^{13}C NMR spectra were taken at 300 MHz. Chemical shift are reported in parts per million shift (δ-value) from Me_4Si (δ 0 ppm for ^{1}H) or based on the middle peak of the solvent ($CDCl_3$) (δ 75.00 ppm for ^{13}C NMR) as an internal standard. Signal pattern are indicate as s, singlet; d, doublet; dd, double doublet; t, triplet; m, multiplet. Coupling constant (*J*) is given in hertz. Infrared (IR) spectra were recorded in KBr disc and reported in wave number (cm^{-1}). The ESMS were recorded on MICROMASS Quadro-II LCMS system. The HRMS spectra were recorded as EI-HRMS on a JEOL system or as DART-HRMS (recorded as ES+) on a JEOL-AccuTOF JMS-T100LC Mass spectrometer having DART (Direct Analysis in Real Time) source. UV/Vis spectra were obtained using THF as solvent of choice having concentration is about 10^{-6} M. Fluorescence spectra were obtained using THF as solvent of choice, having concentration is about 10^{-6} M. Melting points were measured with melting point apparatus. Cyclic Voltammetry was done using Ag/AgCl as reference electrode. All the reactions were monitored by TLC and visualization was done with UV-light (254 nm).

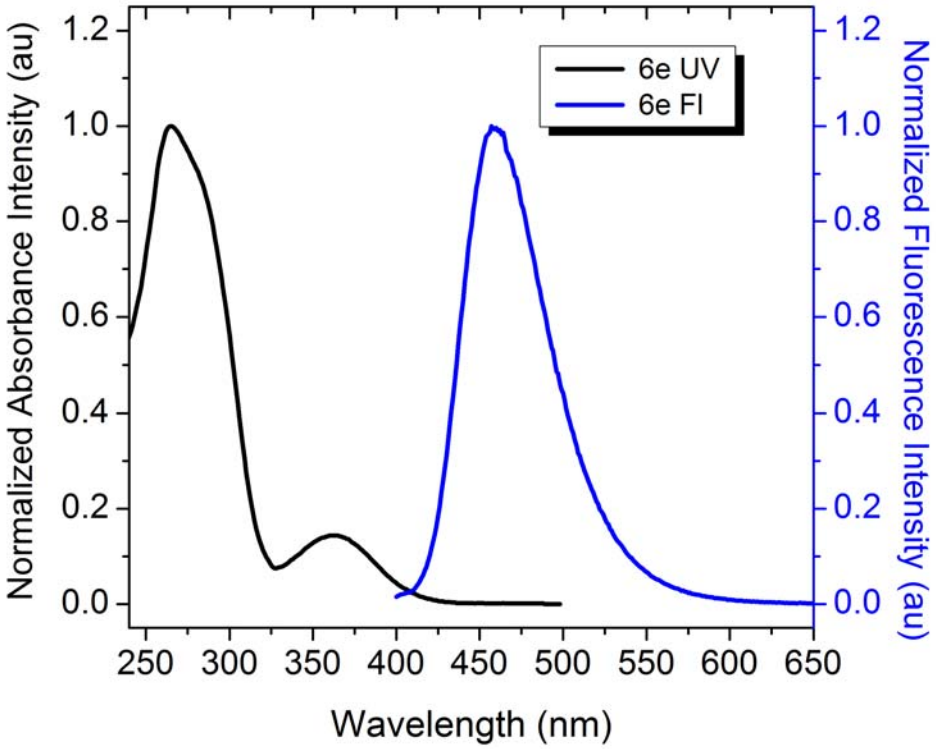
UV and PL spectra of (6b-f, 10 and 11)

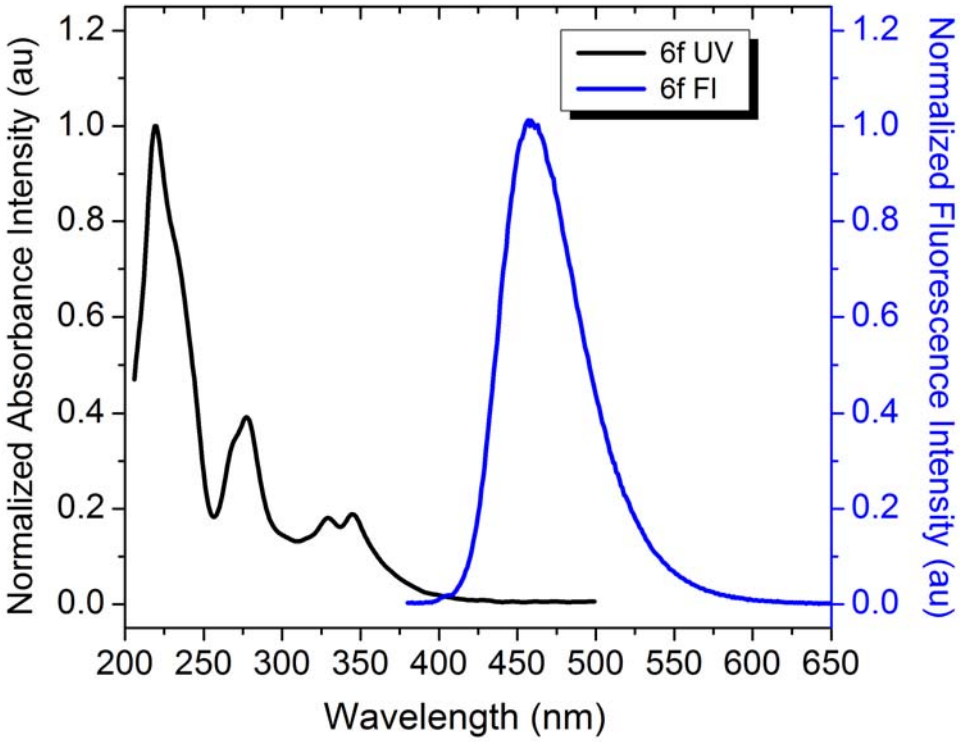
UV/Vis spectra were obtained with spectrometer with slit width of 1.5, using THF as solvent of choice having concentration 10^{-6} M. Photoluminescence spectra were obtained with slit width of 1.5, using THF as solvent of choice, having concentration 10^{-6} M.

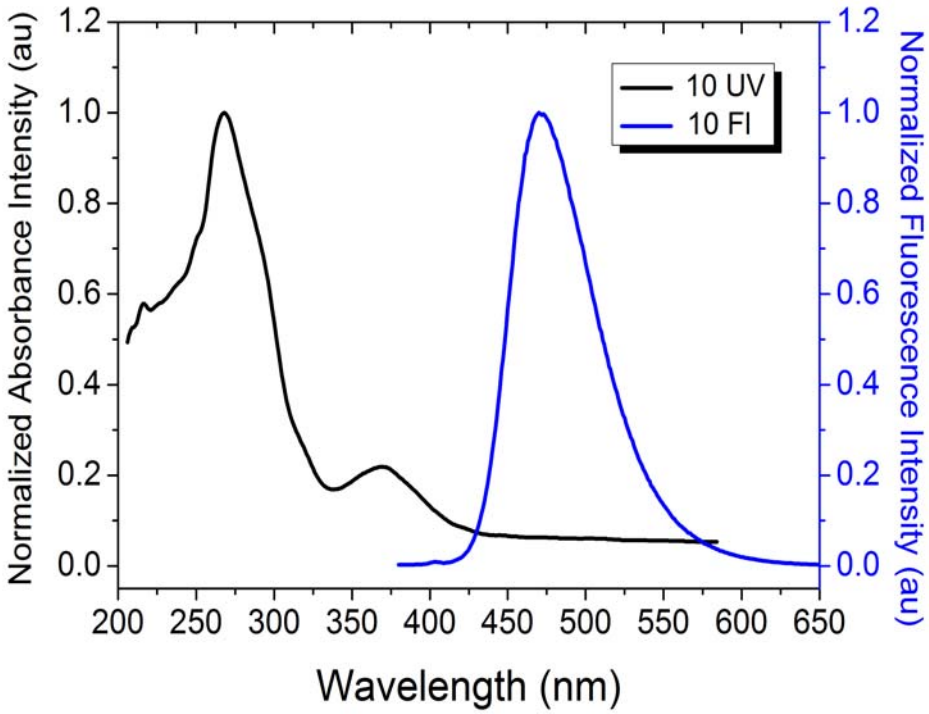












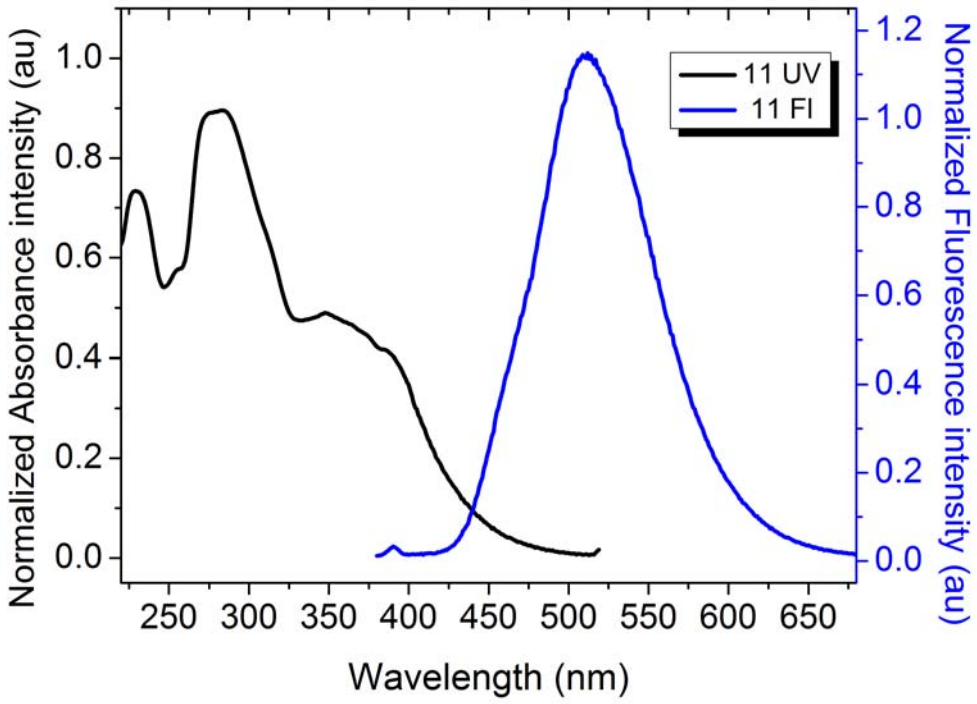


Figure S1. UV & Fl Graphs of **6b-f, 10** and **11** in THF

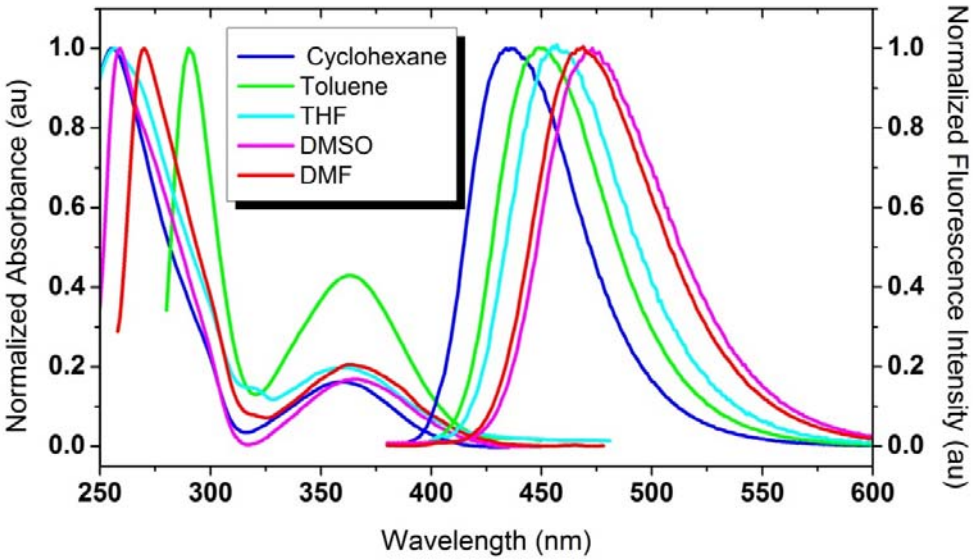


Figure S2. UV & Fl Graphs of **6a** in different solvents (Inset shows the fluorescence images of solvatofluorochromism upon irradiation of **6a** in different solvents, from left to right: Cyclohexane, Toluene, THF, DMSO, and DMF).

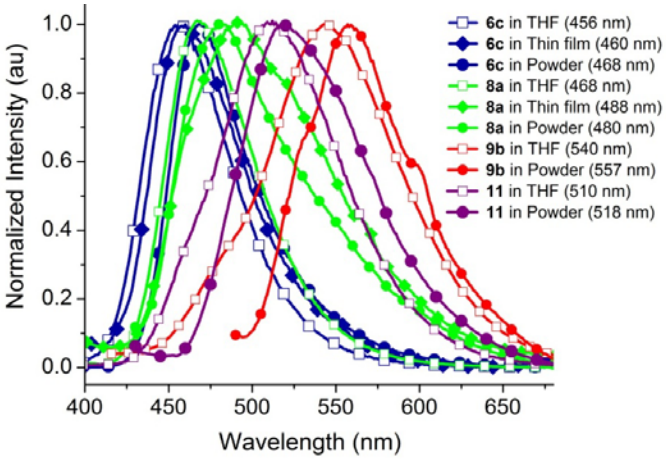
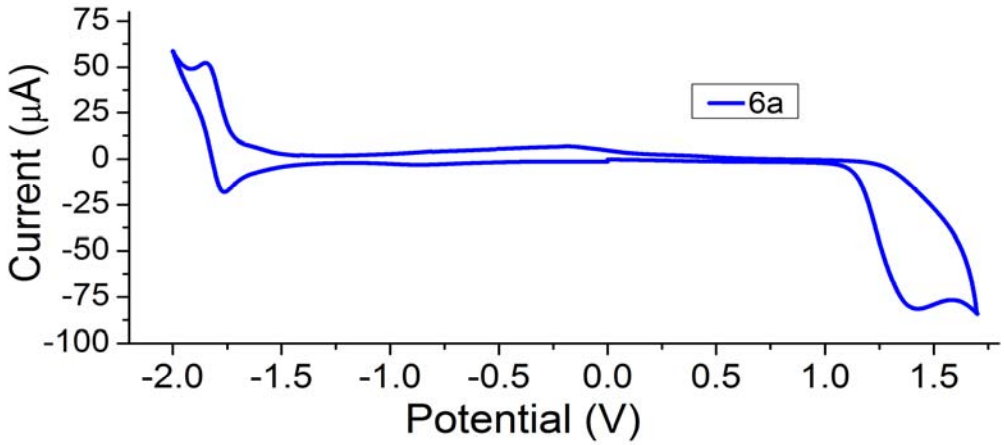
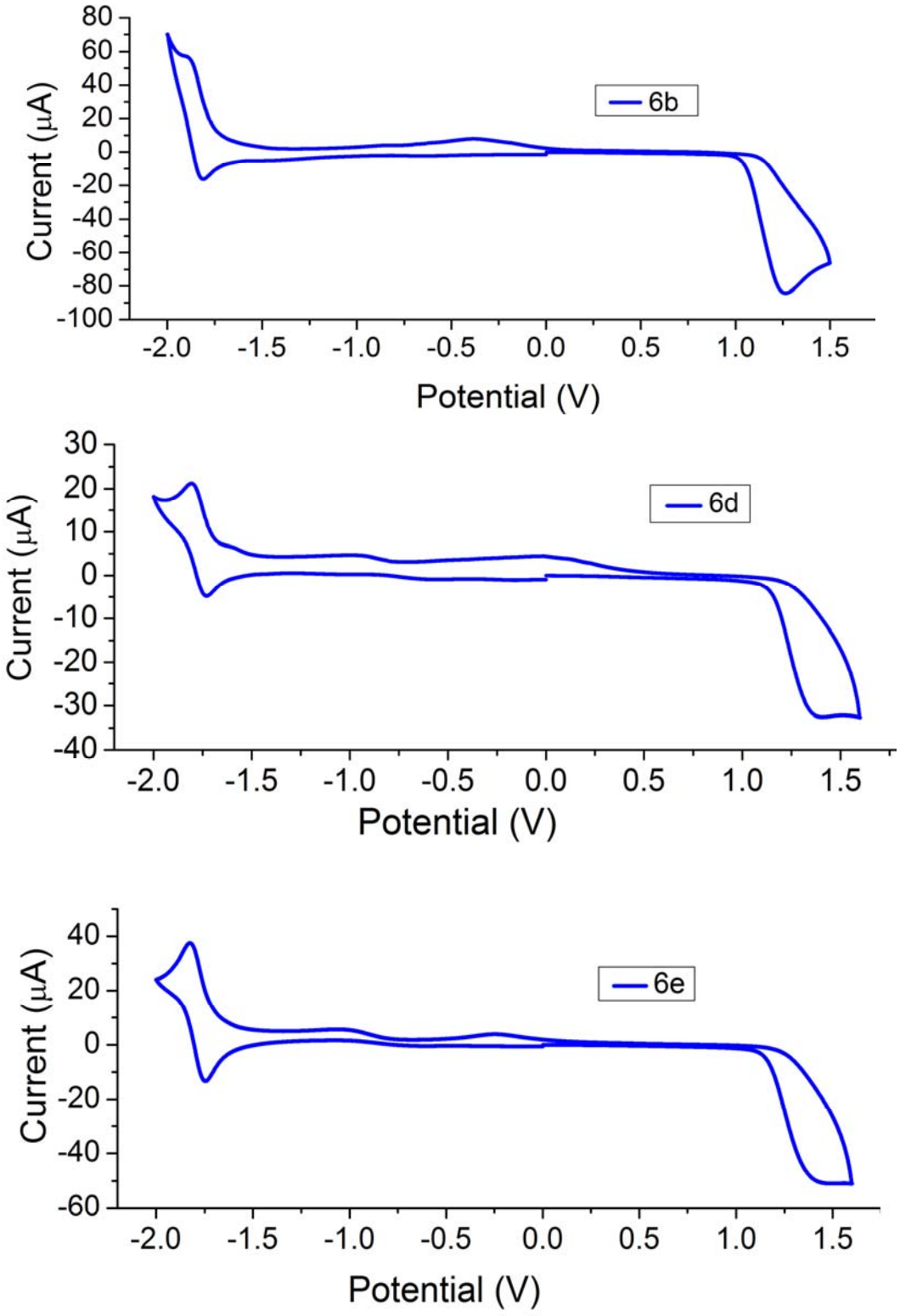


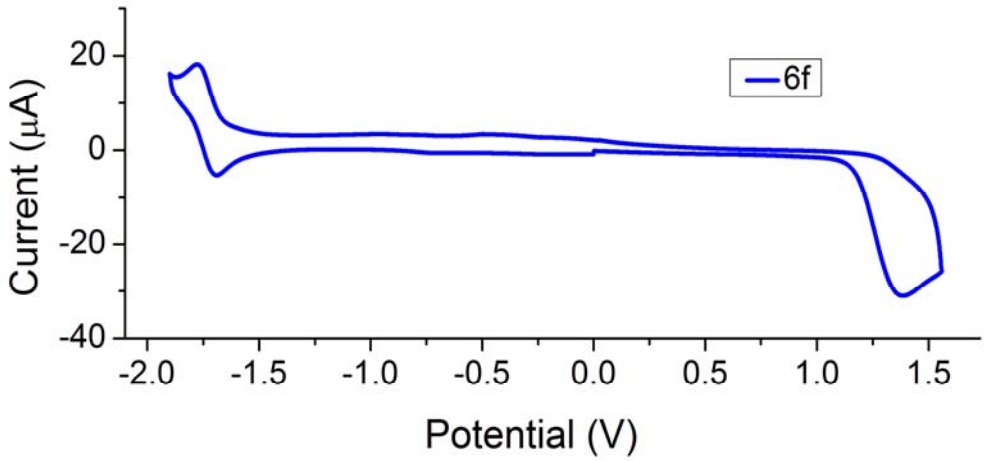
Fig. S3 Fluorescence spectra of **6c, 8a, 9b**, and **11** in powder form, **6c** and **8a** in the thin film

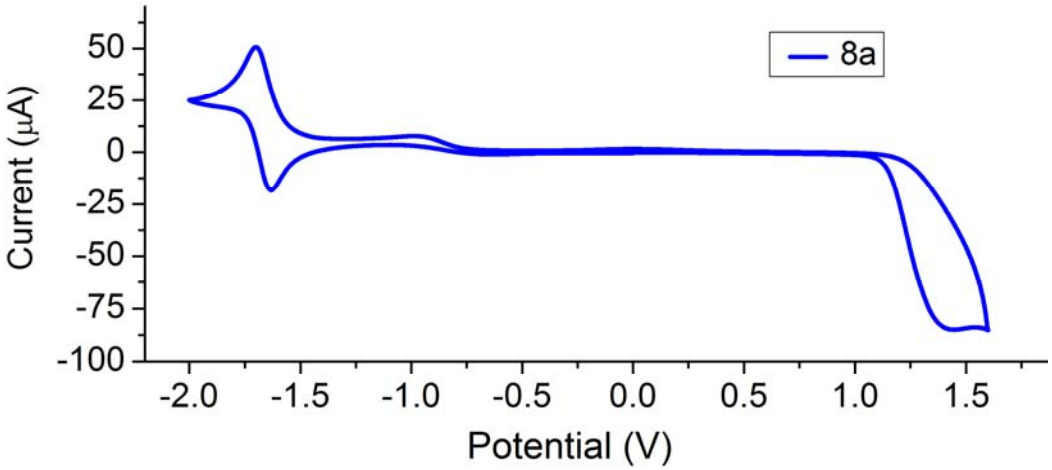
Electrochemical studies of **6a,b,d,e,f, 8a,b, 9a,** and **10**

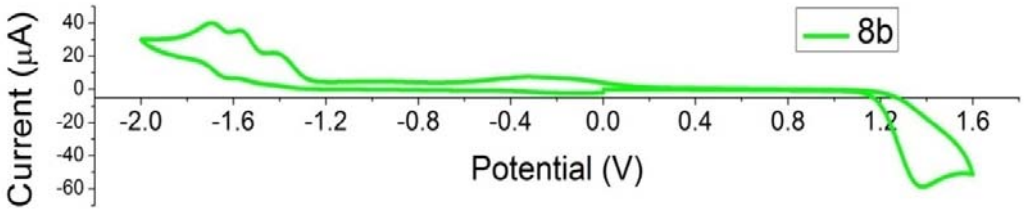
The electrochemical studies were carried out to ascertain the redox behavior and the HOMO, LUMO energy values of the benzo[*f*]quinolines and benzo[*a*]acridines. Cyclic voltammetric measurements were performed in a three-electrode cell setup using Ag/AgCl as standard electrode and Pt disc as the working electrode, 2mM of N-heterocyclic compounds, and 0.2M of electrolyte tetrabutylammonium hexafluorophosphate (Bu_4NPF_6) dissolved in N,N-dimethylformamide. All the potentials were calibrated with ferrocene (Fc/Fc^+).











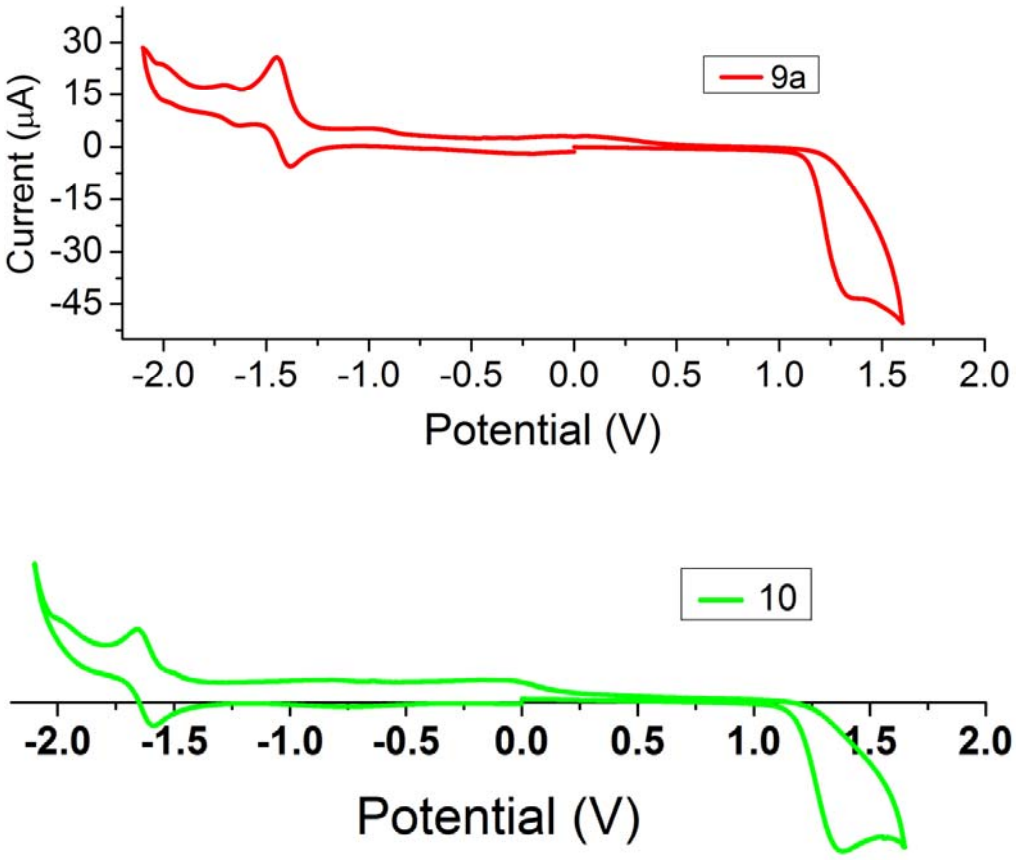


Figure S3. Cyclic Voltammograms of **6a,b,d,e,f, 8a,b, 9a,** and **10**

Single layer device characteristics of **6c** (Diode 2) with configuration ITO/PEDOT:PSS(40 nm)/**6c** (100 nm)/LiF (0.7 nm)/Al (200 nm)

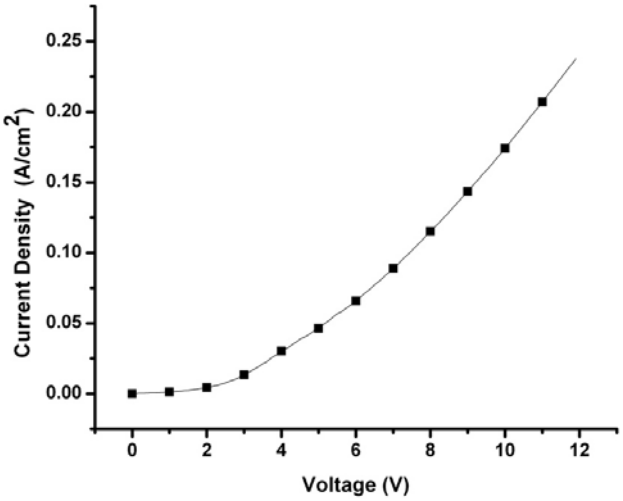


Figure S4. *I–V* characteristics of single layer device of **6c**

Device characteristics of of **8a**, **9b,** and **11**

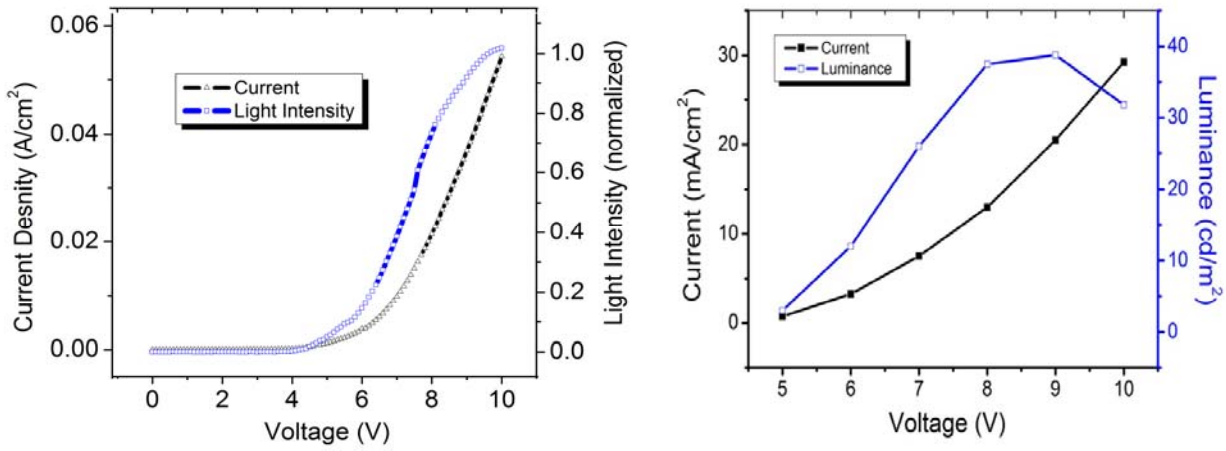


Figure S4. *I*– *L*–*V* characteristics of device of **8a**

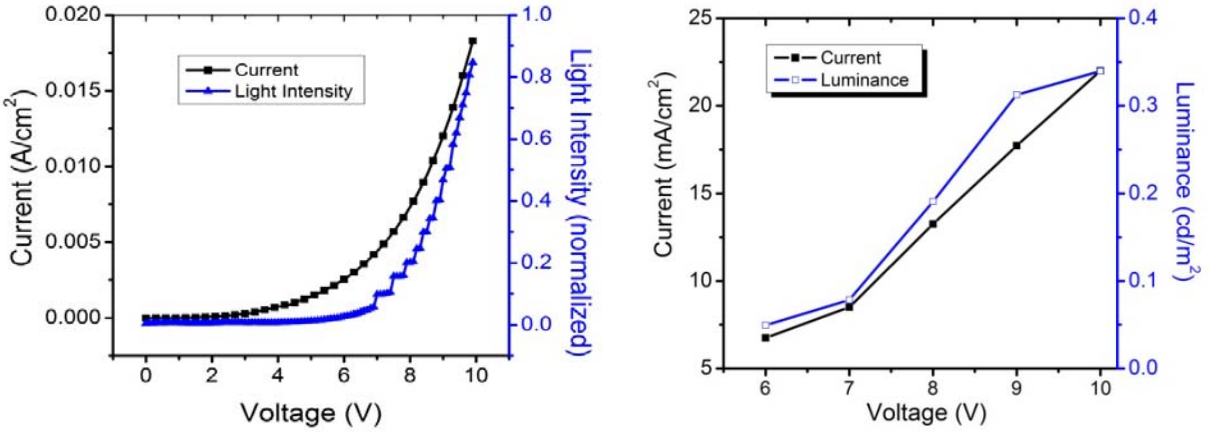


Figure S5. *I*– *L*–*V* characteristics of device of **9b**

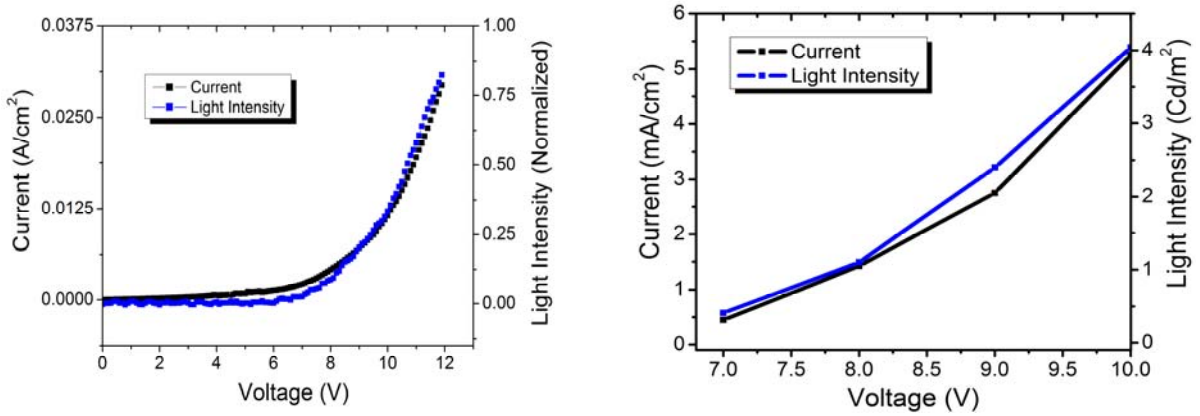


Figure S6. *I*– *L*–*V* characteristics of device of **11**

^{1}H and ^{13}C NMR Spectra of compounds

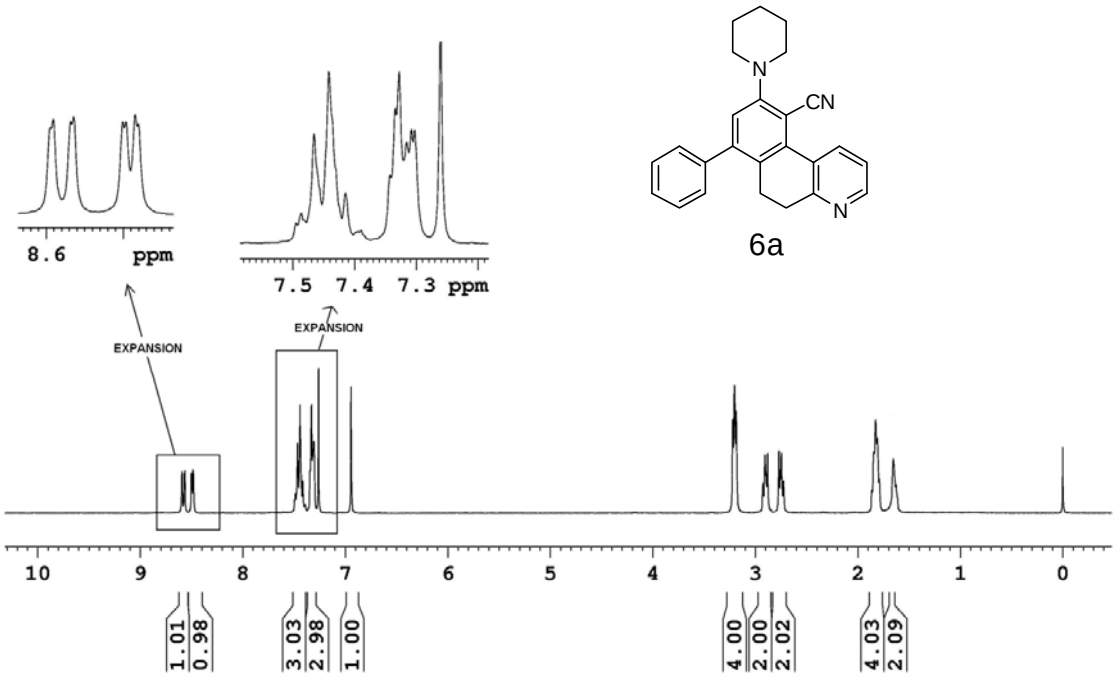


Figure S7. ^{1}H NMR spectrum of **6a** in $CDCl_3$

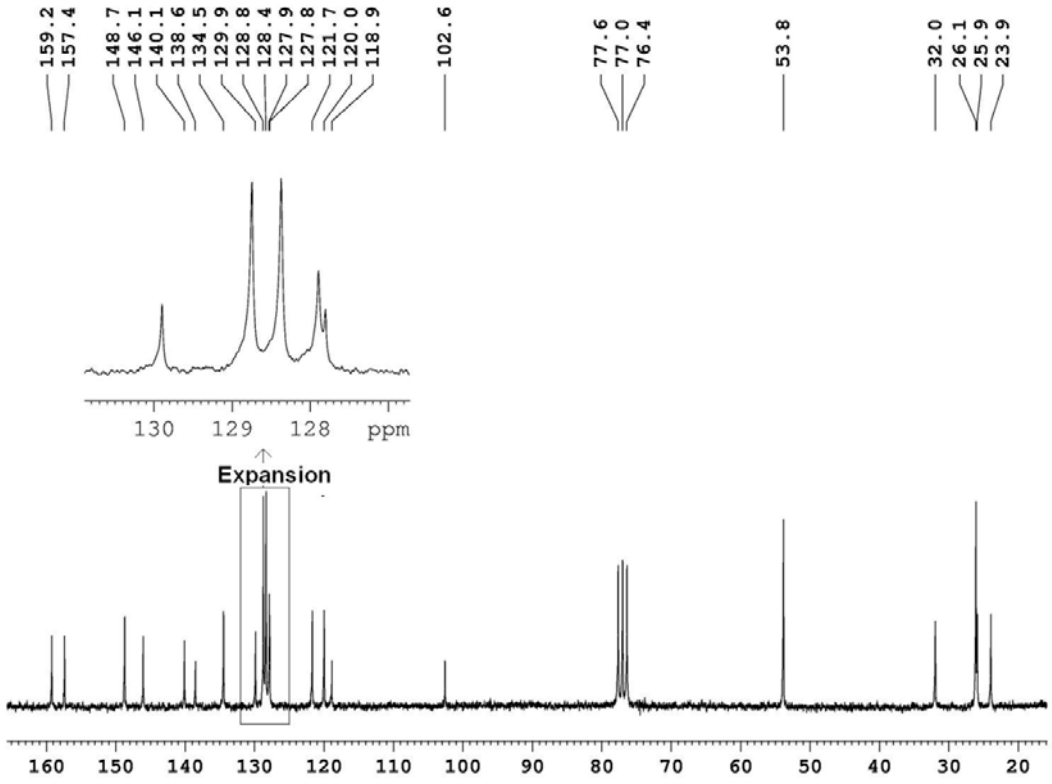


Figure S8. ^{13}C NMR spectrum of **6a** in $CDCl_3$

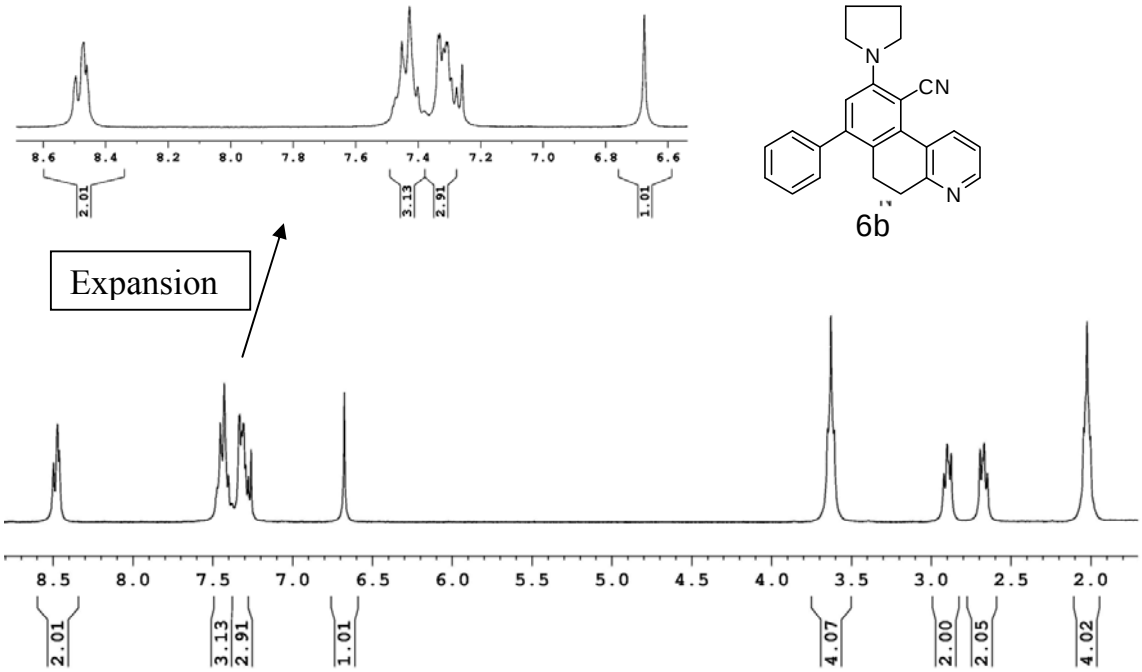


Figure S9. ^{1}H NMR spectrum of **6b** in $CDCl_3$

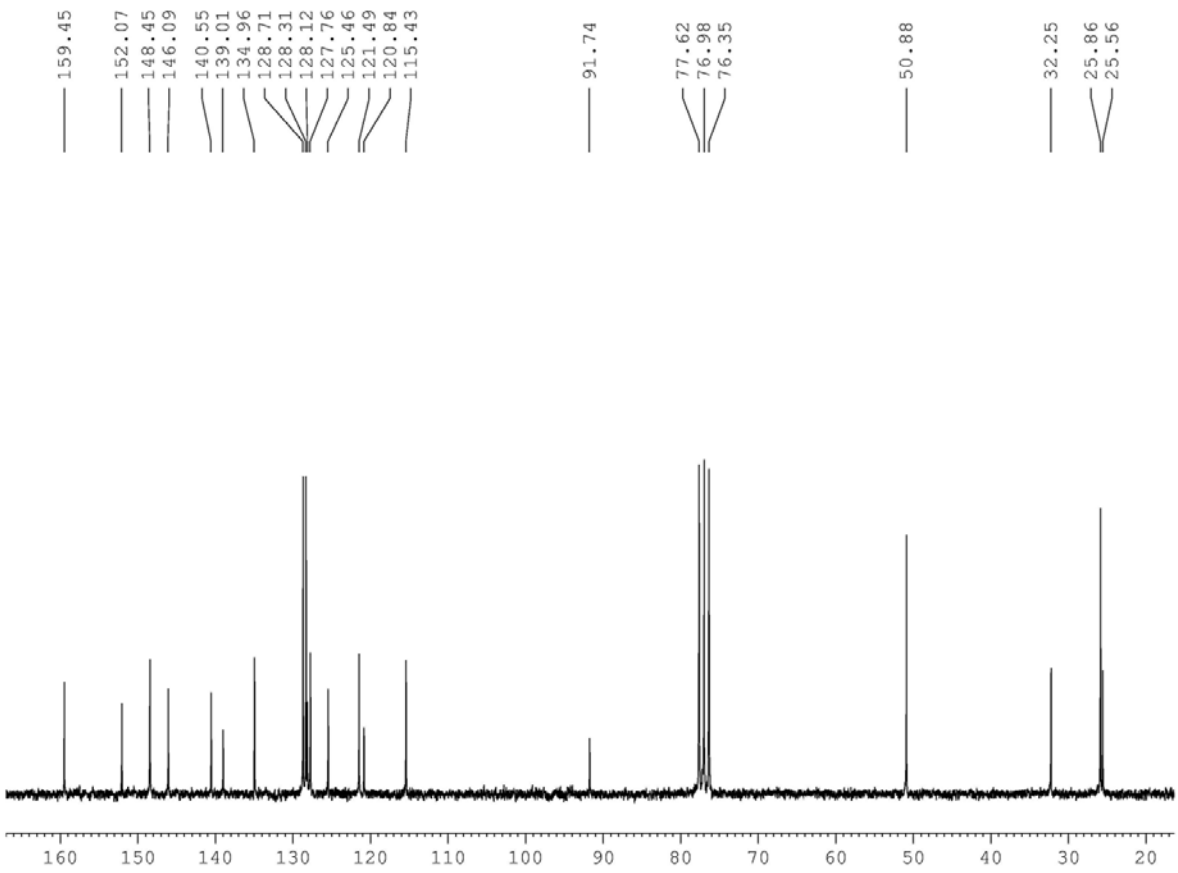


Figure S10. ^{13}C NMR spectrum of **6b** in $CDCl_3$

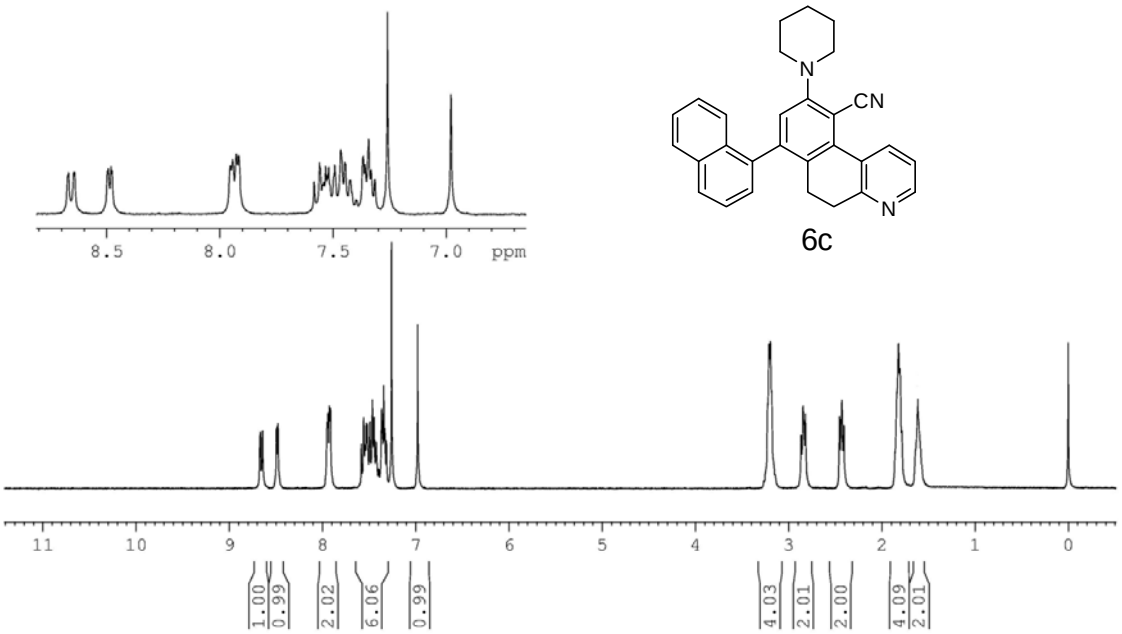


Figure S11. ^{1}H NMR spectrum of **6c** in $CDCl_3$

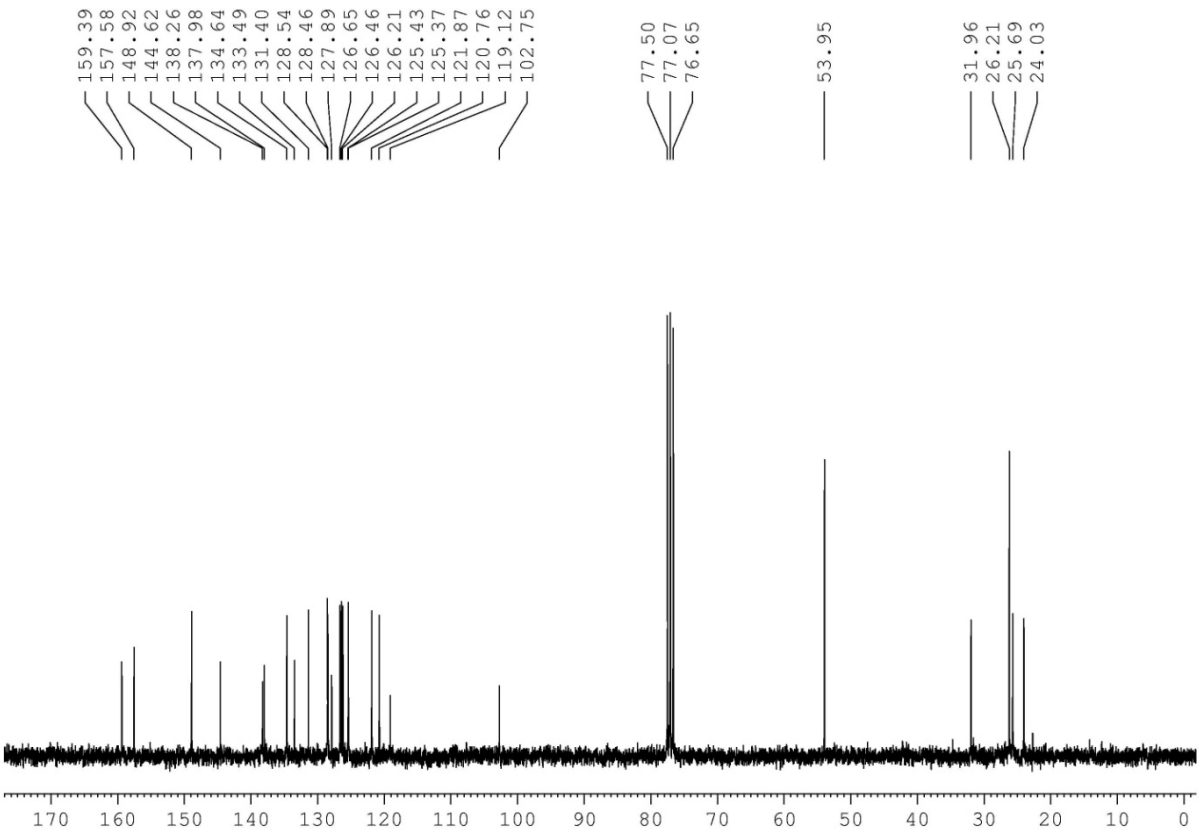


Figure S12. ^{13}C NMR spectrum of **6c** in $CDCl_3$

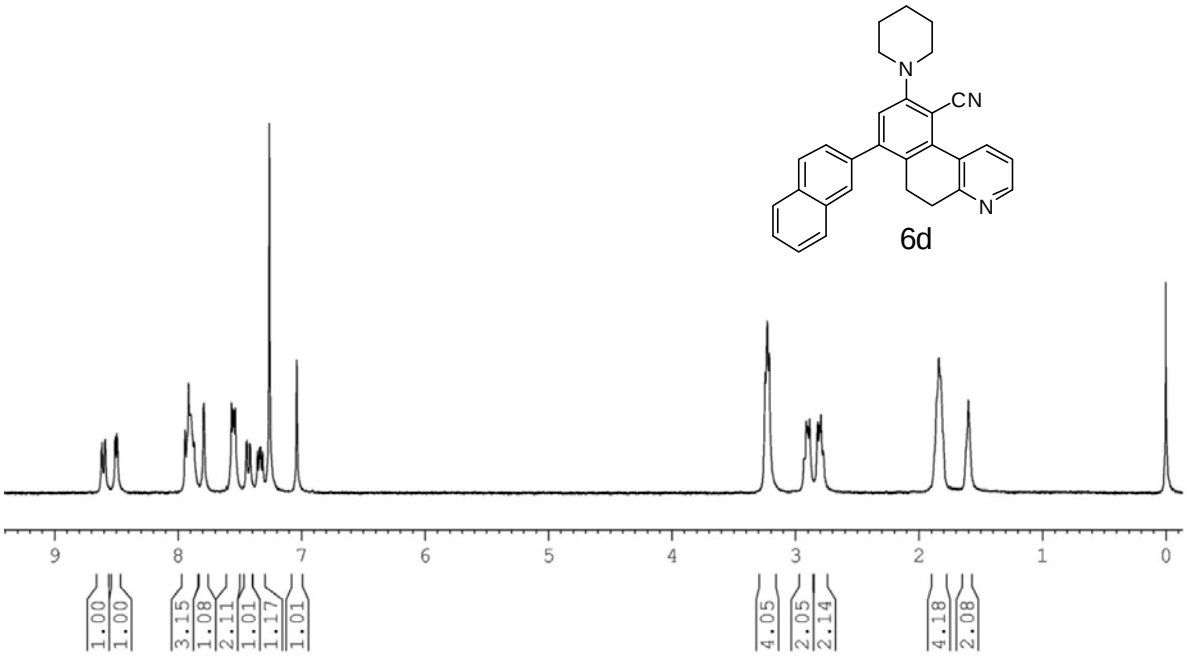


Figure S13. ^{1}H NMR spectrum of **6d** in $CDCl_3$

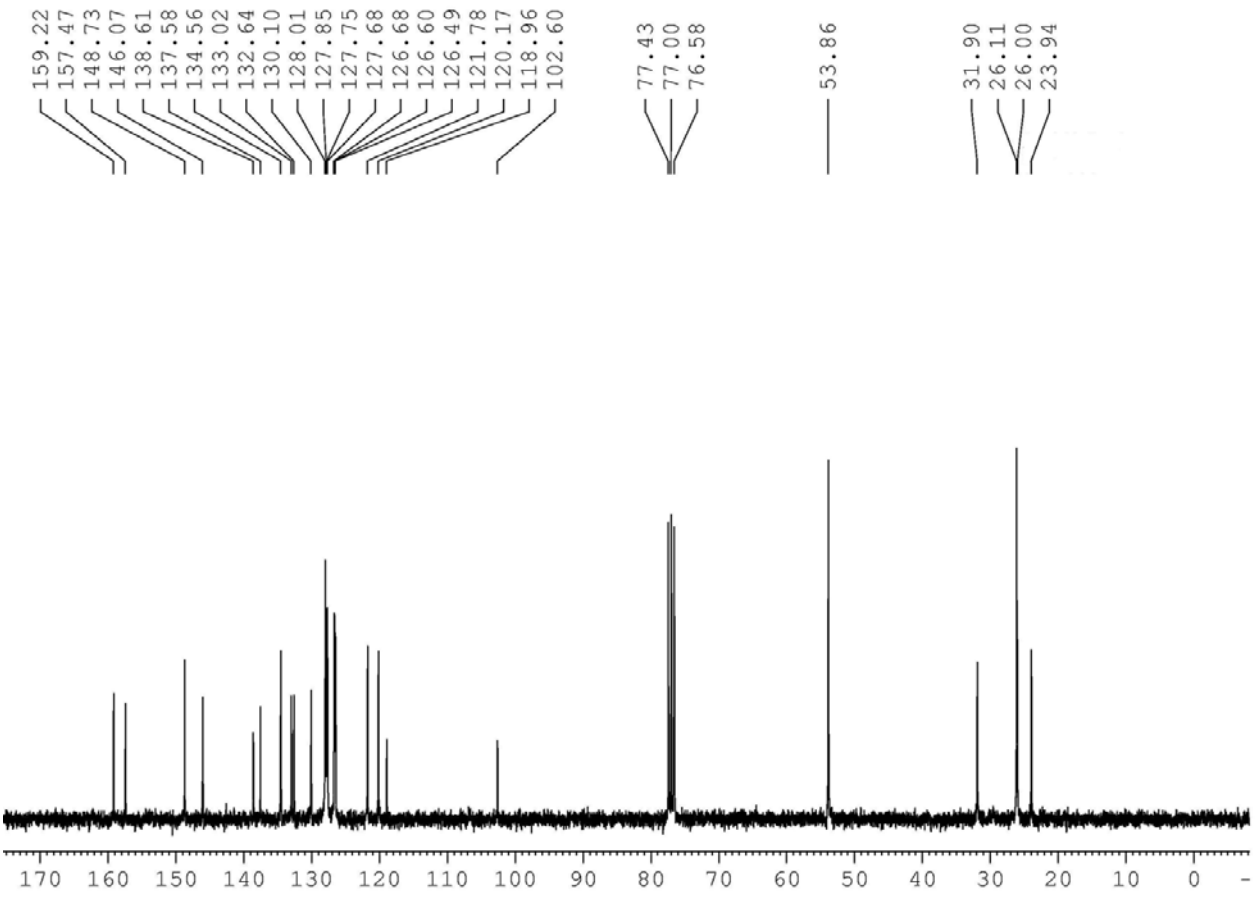


Figure S14. ^{13}C NMR spectrum of **6d** in $CDCl_3$

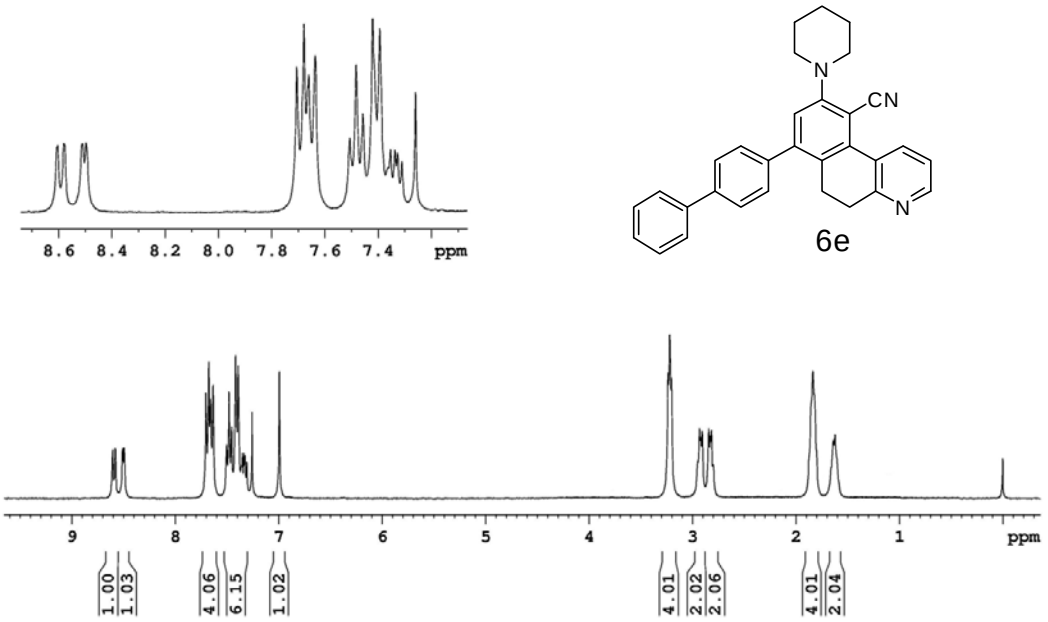


Figure S15. ^{1}H NMR spectrum of **6e** in $CDCl_3$

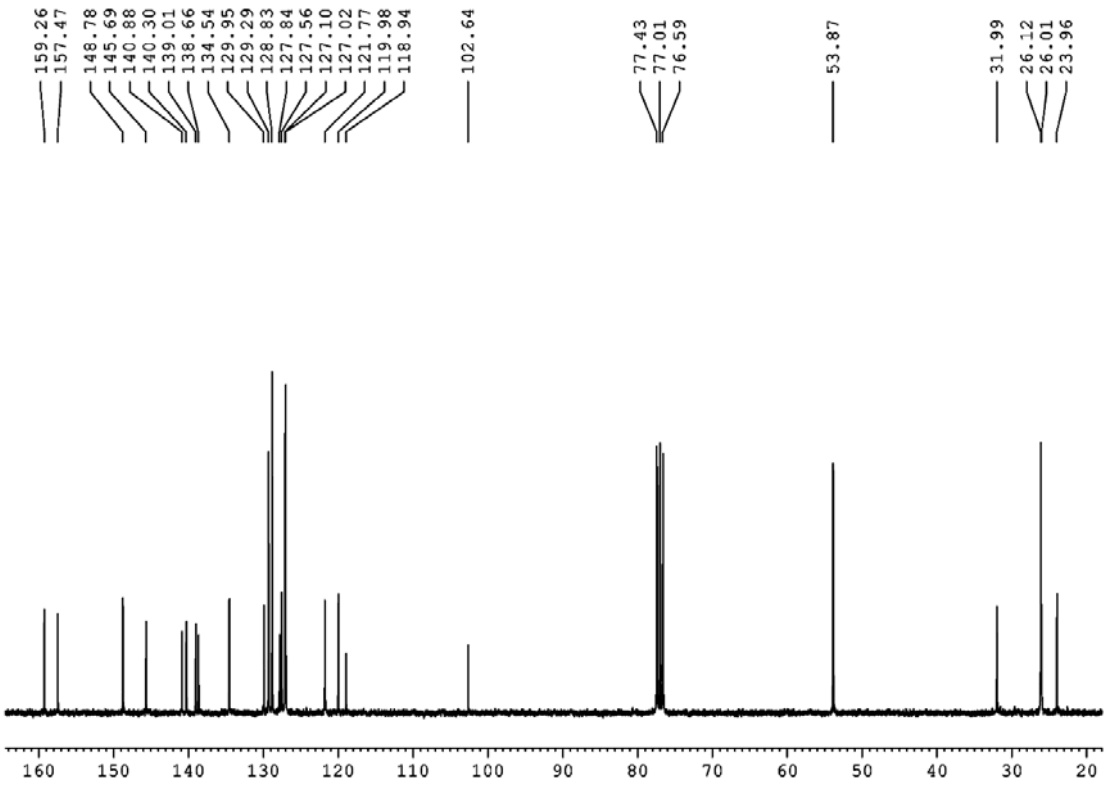


Figure S16. ^{13}C NMR spectrum of **6e** in $CDCl_3$

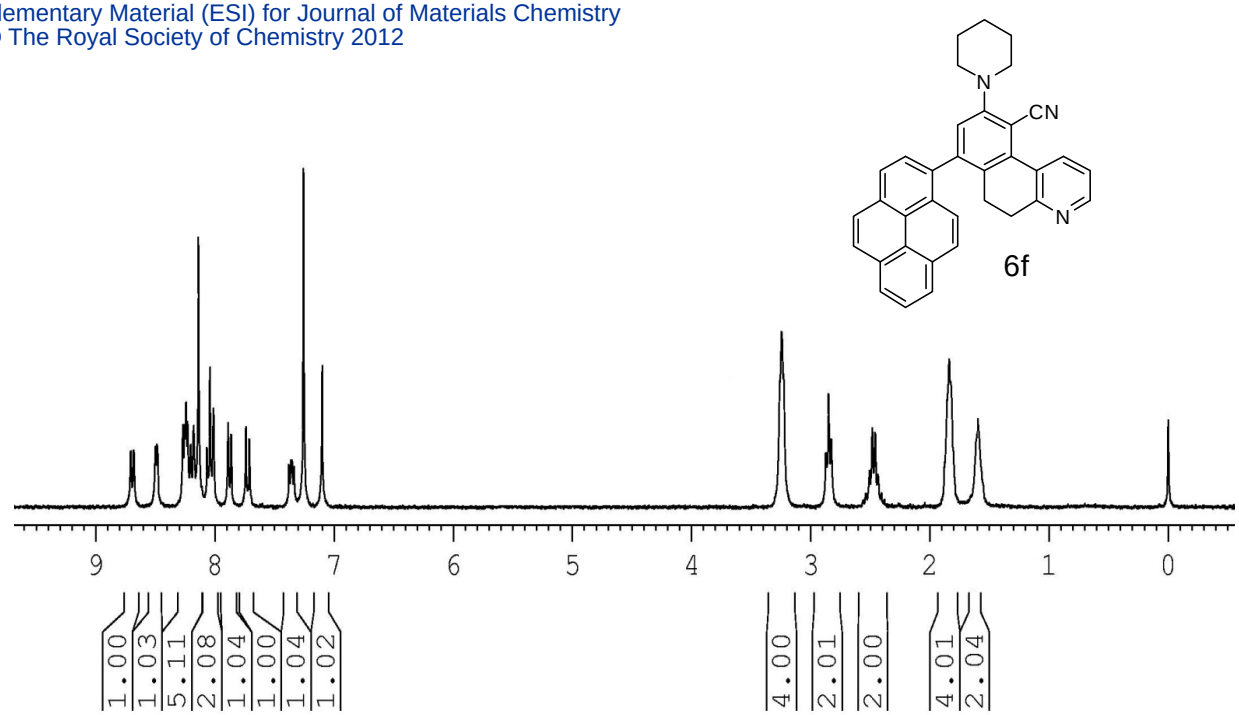


Figure S17. ^{1}H NMR spectrum of **6f** in $CDCl_3$

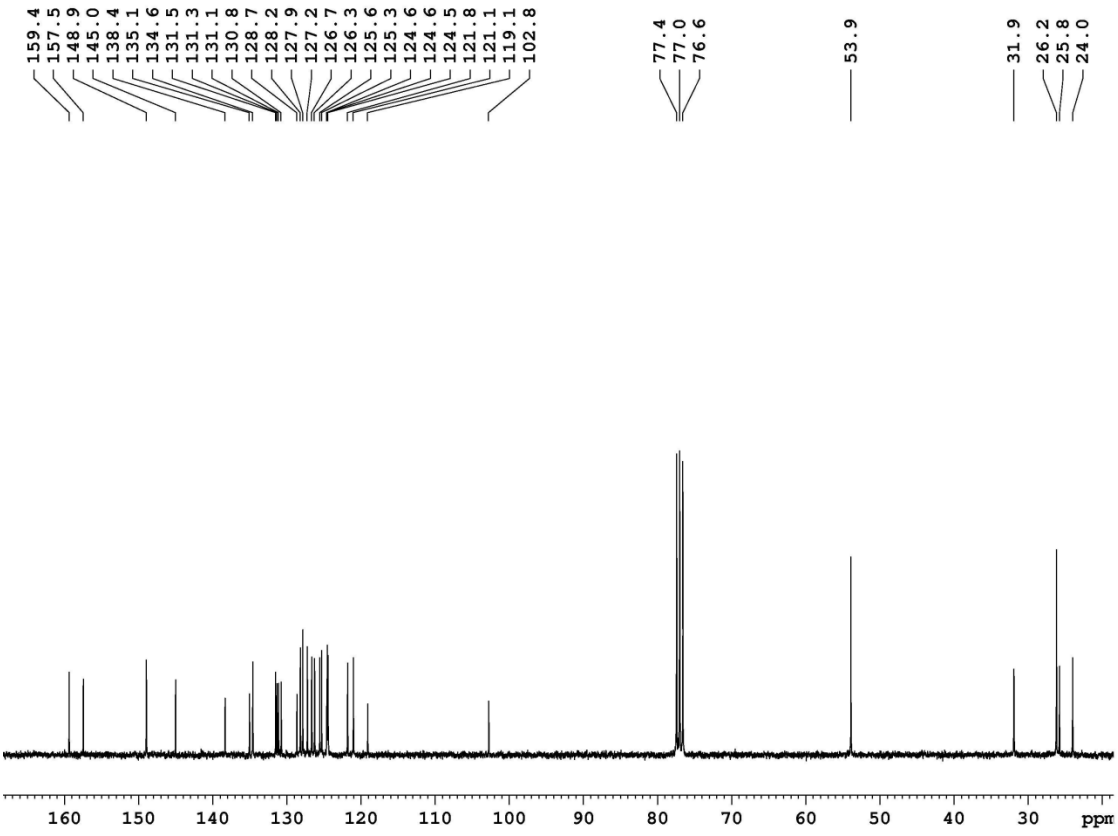
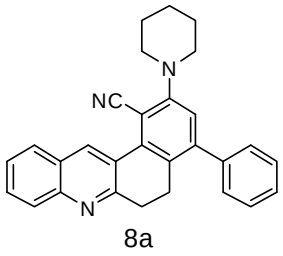


Figure S18. ^{13}C NMR spectrum of **6f** in $CDCl_3$



8a

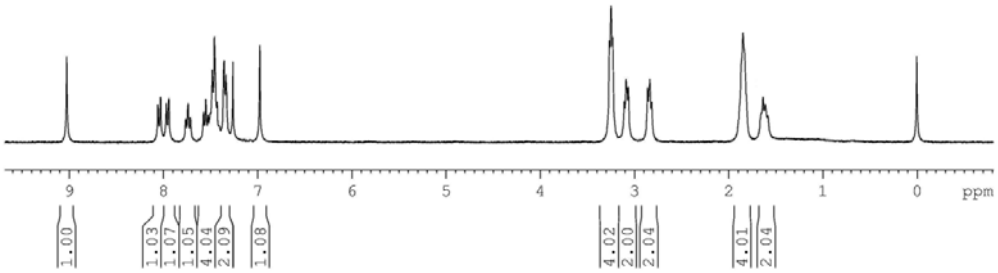


Figure S19. ^{1}H NMR spectrum of **8a** in $CDCl_3$

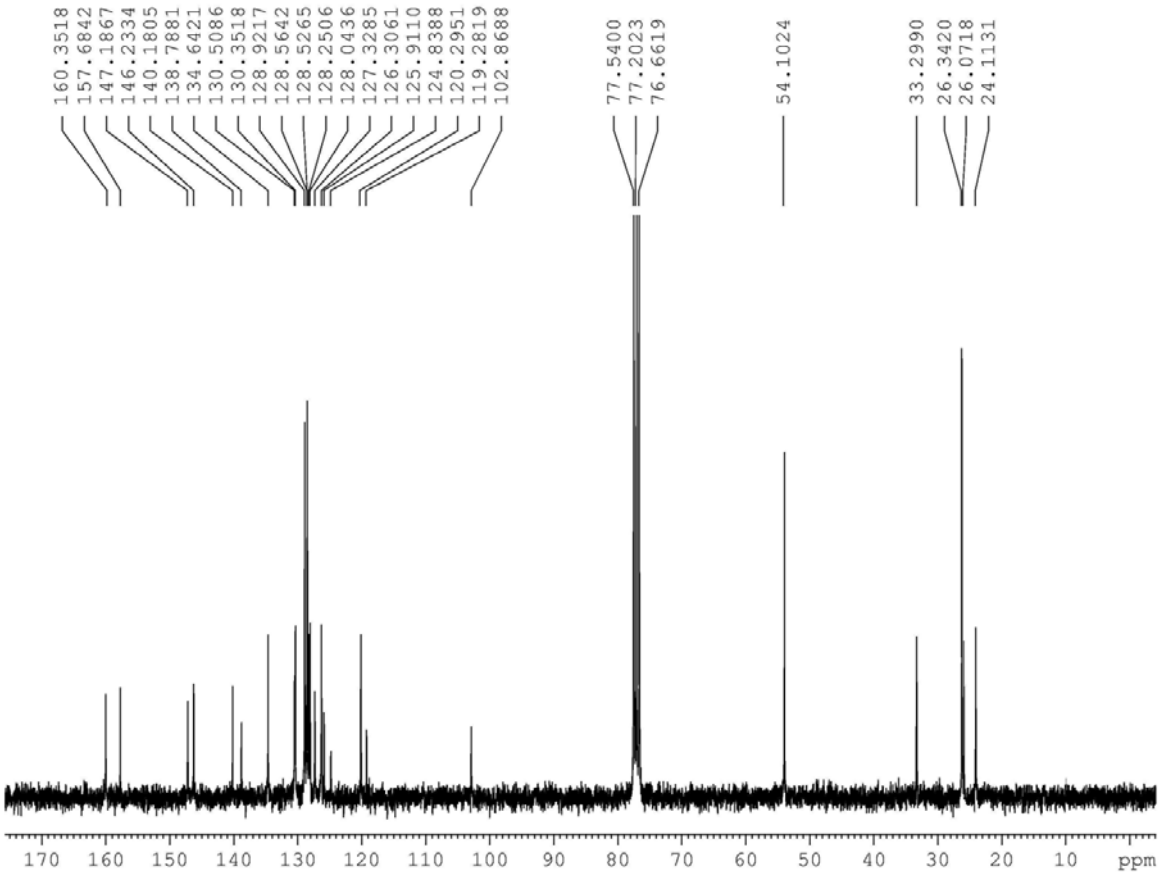


Figure S20. ^{13}C NMR spectrum of **8a** in $CDCl_3$

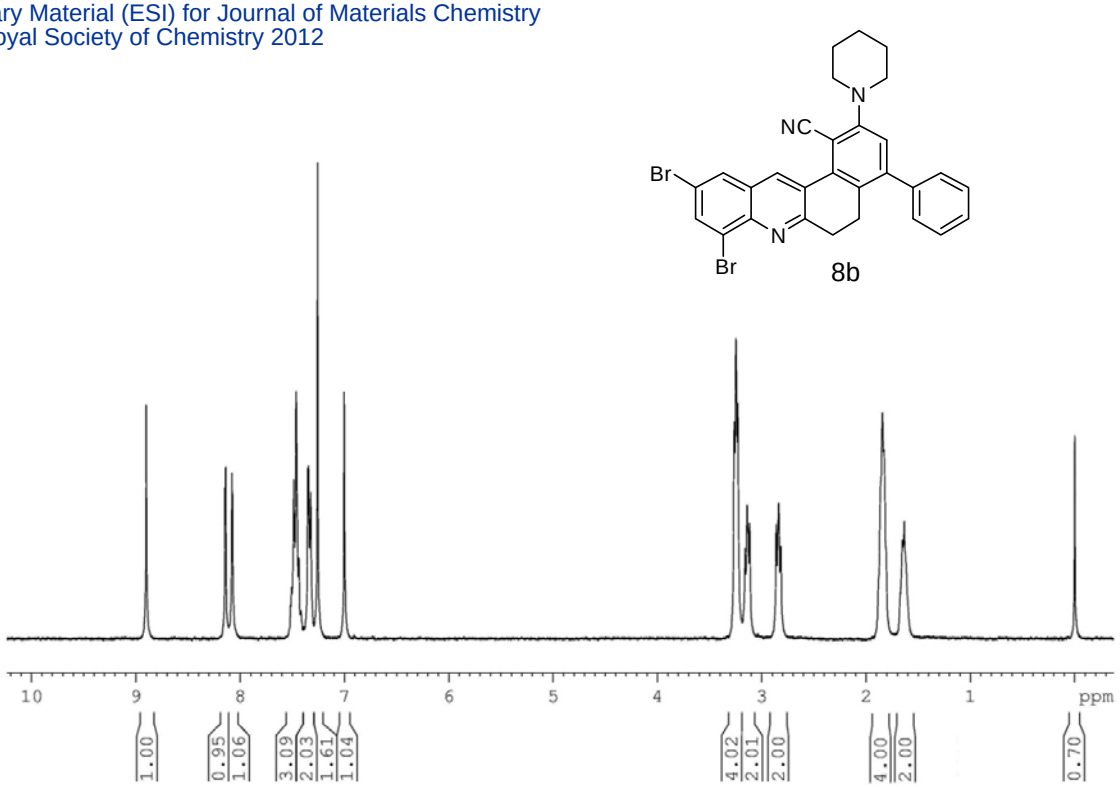


Figure S21. ^{1}H NMR spectrum of **8b** in $CDCl_3$

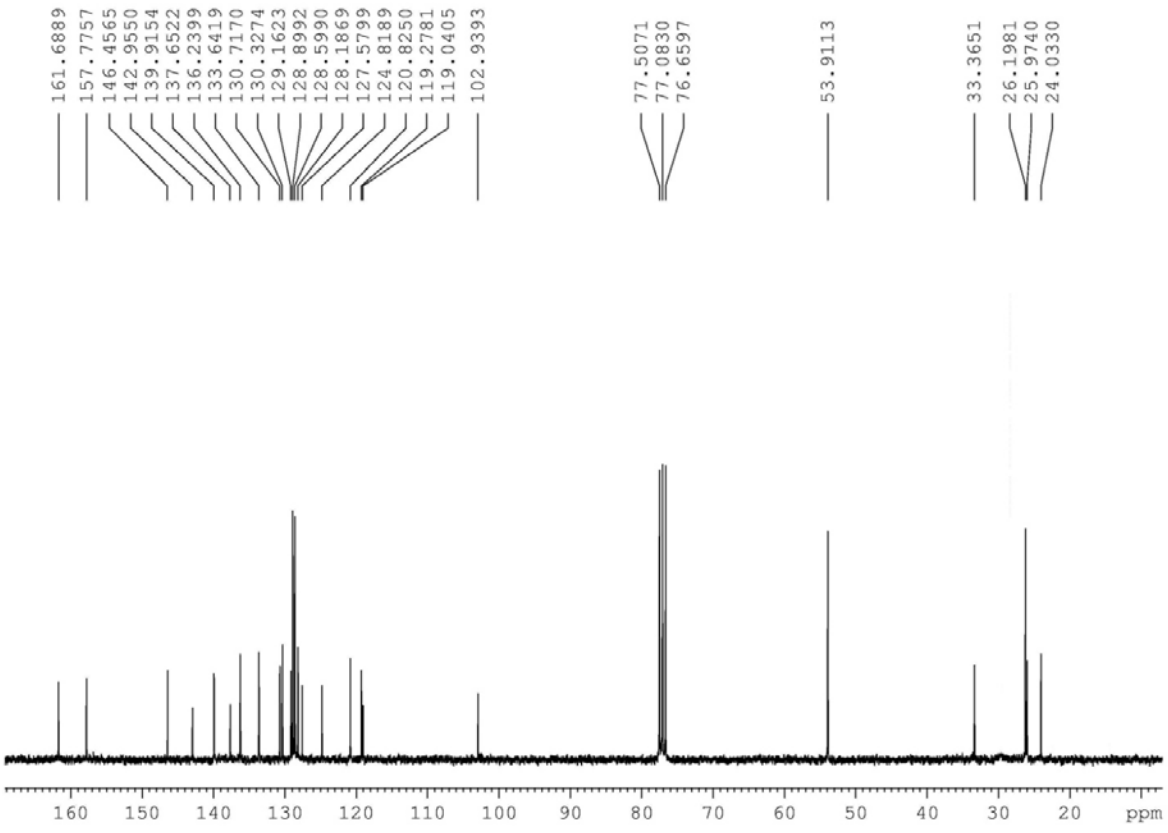


Figure S22. ^{13}C NMR spectrum of **8b** in $CDCl_3$

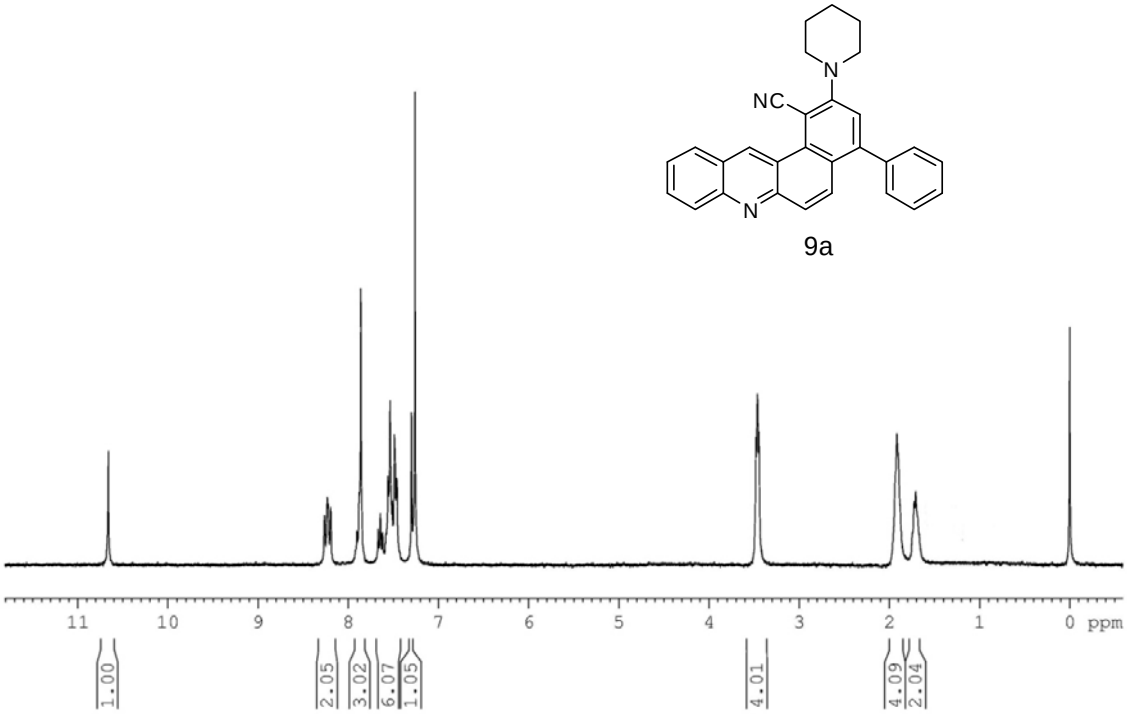


Figure S23. ^{1}H NMR spectrum of **9a** in $CDCl_3$

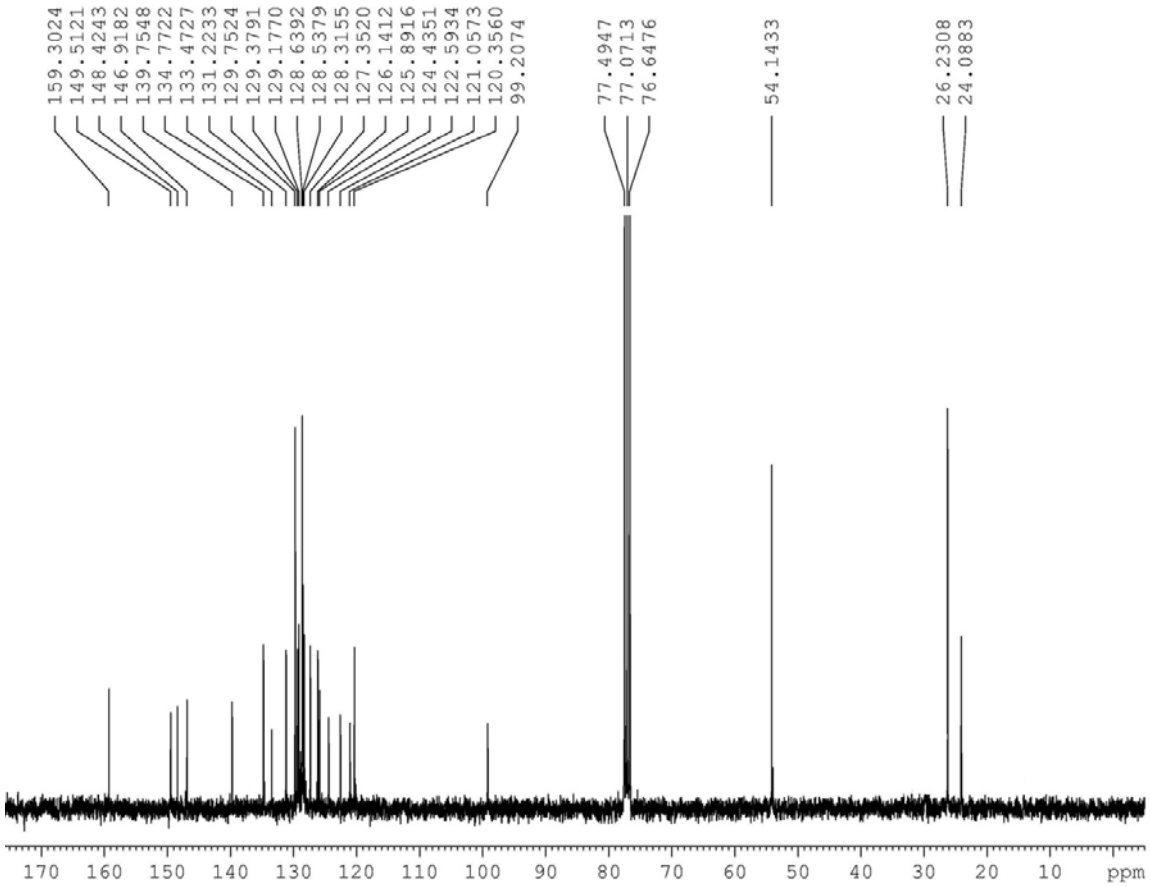


Figure S24. ^{13}C NMR spectrum of **9a** in $CDCl_3$

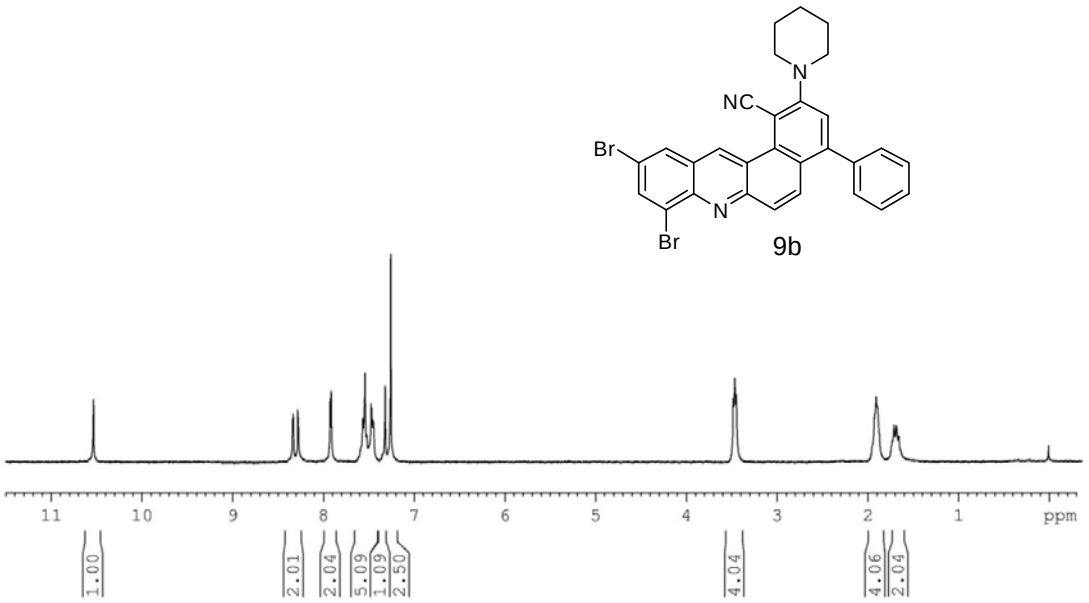


Figure S25. ^{1}H NMR spectrum of **9b** in $CDCl_3$

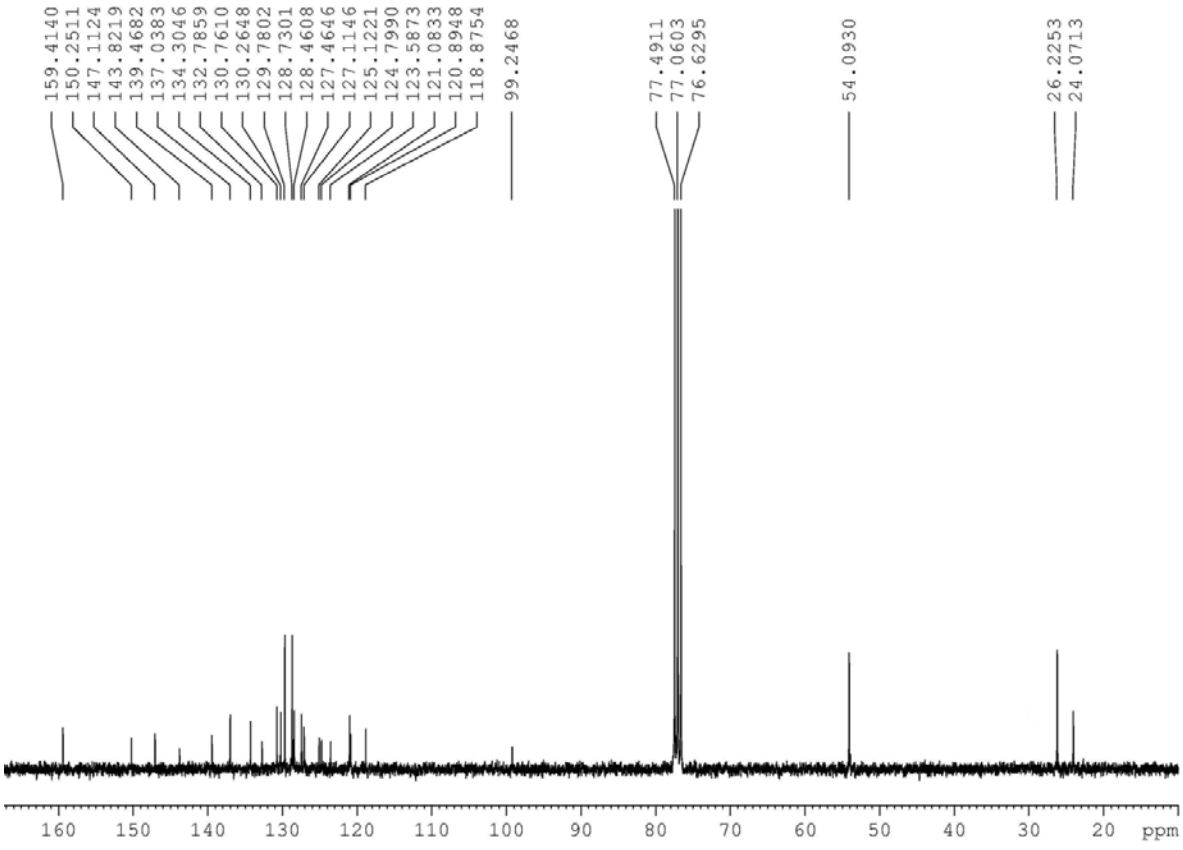


Figure S26. ^{13}C NMR spectrum of **9b** in $CDCl_3$

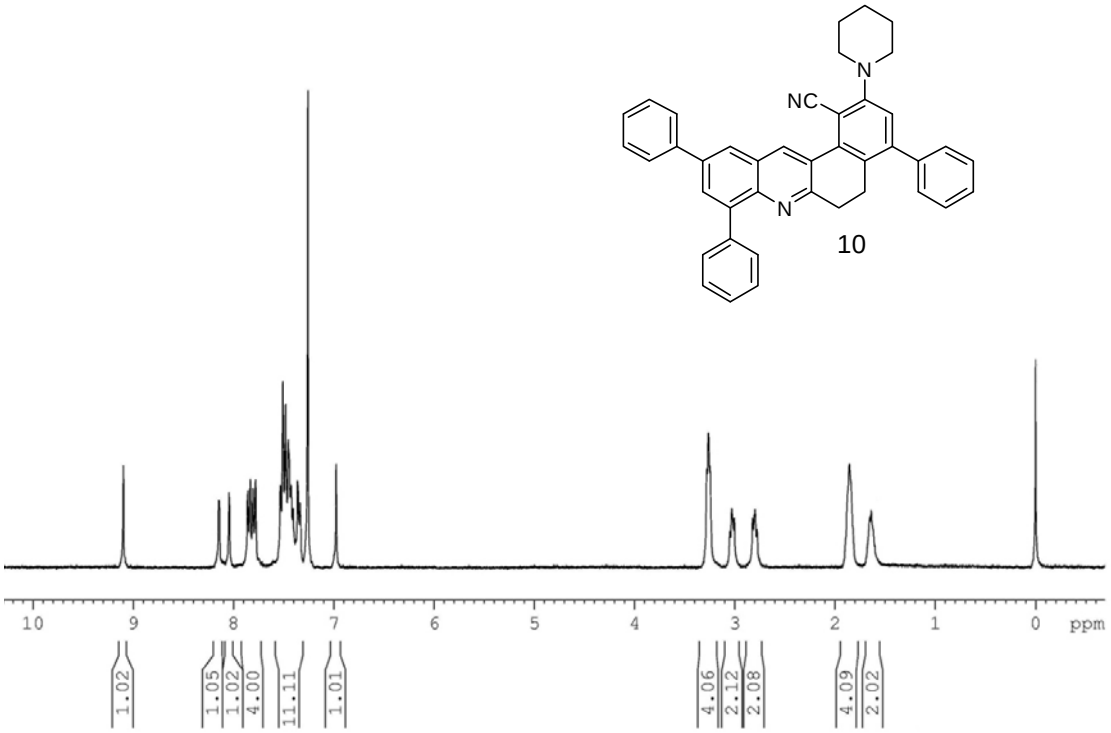


Figure 27. ^{1}H NMR spectrum of **10** in $CDCl_3$

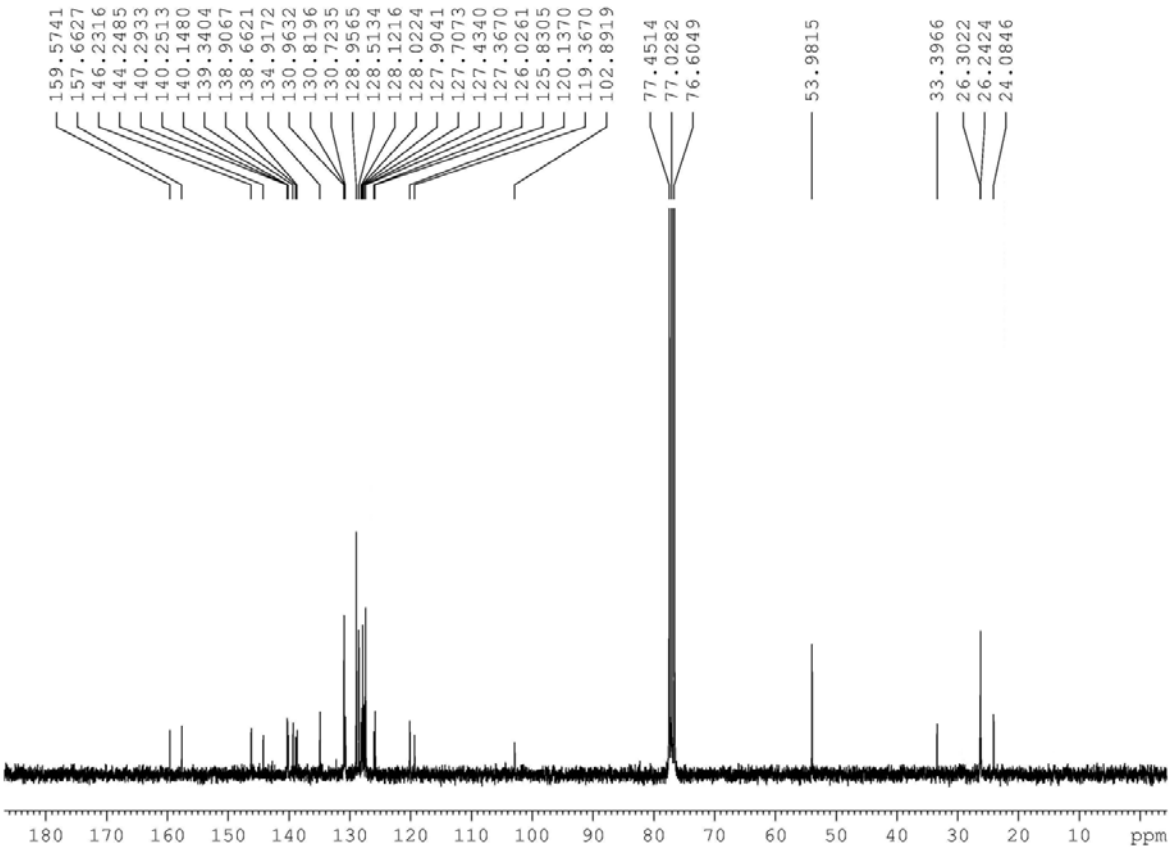


Figure S28. ^{13}C NMR spectrum of **10** in $CDCl_3$

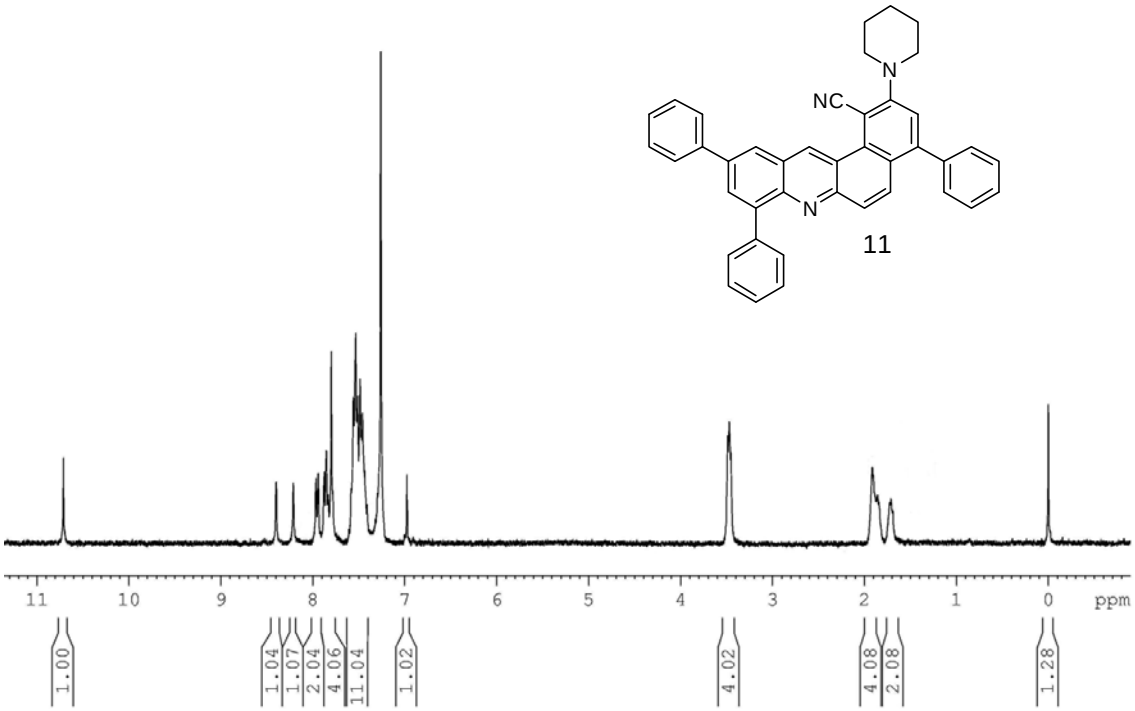


Figure 29. ^{1}H NMR spectrum of **11** in $CDCl_3$

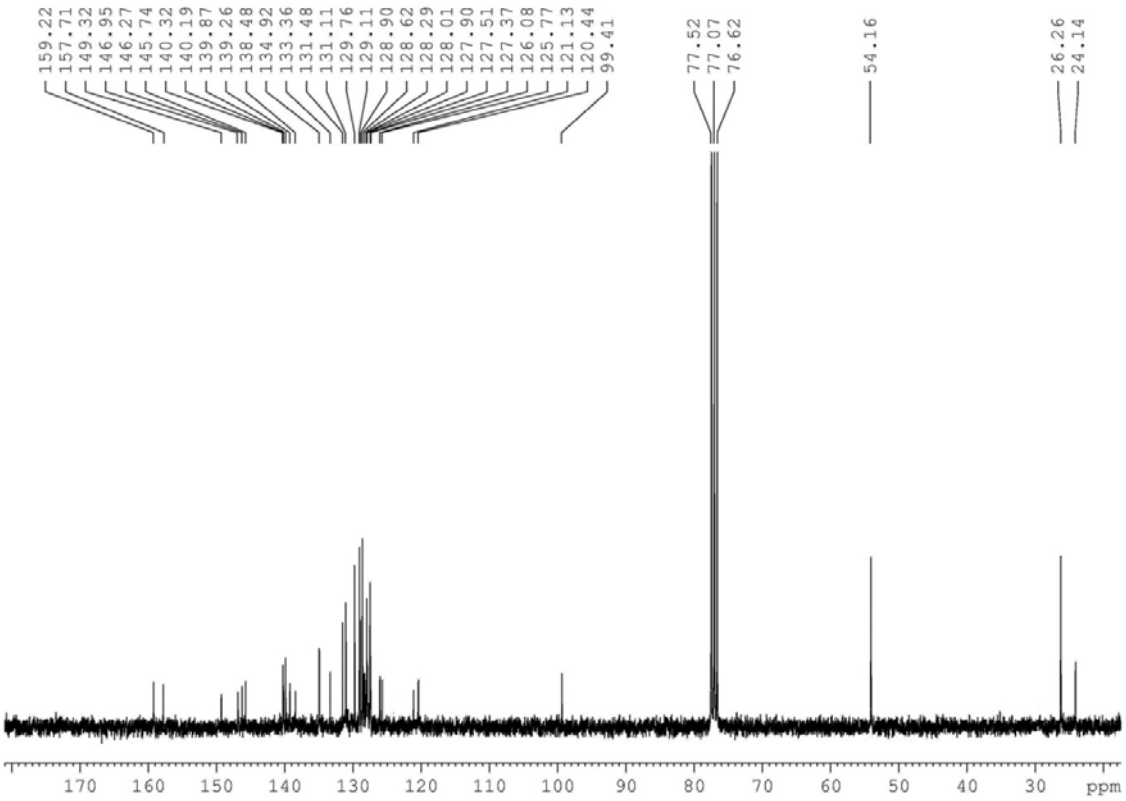


Figure S30. ^{13}C NMR spectrum of **11** in $CDCl_3$