Supporting Information

Thienopyrrolo[3,2,1-*jk*]carbazoles: Building Blocks for Functional Organic Materials.

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1. ^{1}H and ^{13}C NMR Spectra of the Products

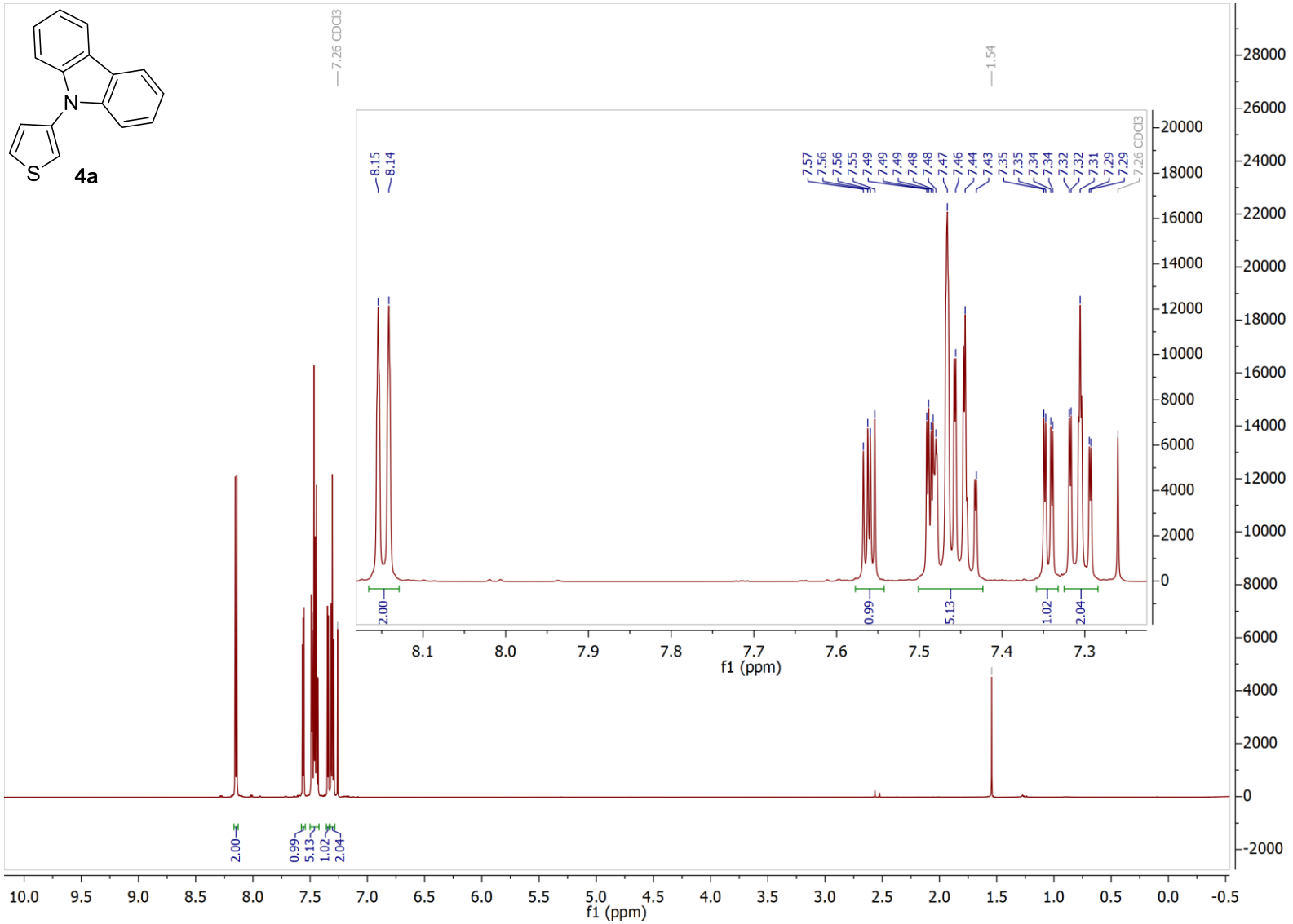

Figure S 1: ^{1}H NMR spectrum of **4a**

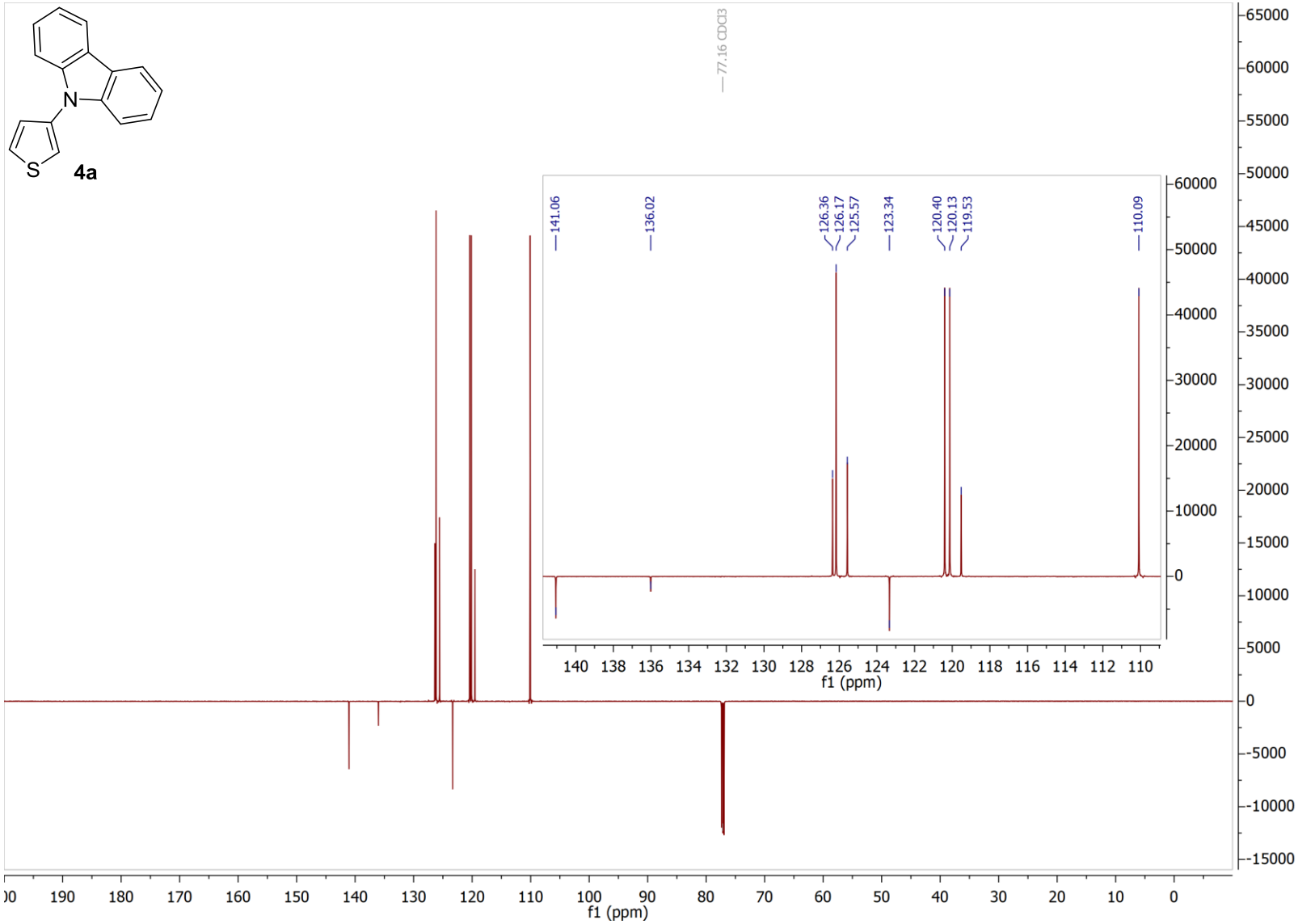

Figure S 2: ^{13}C NMR spectrum of **4a**

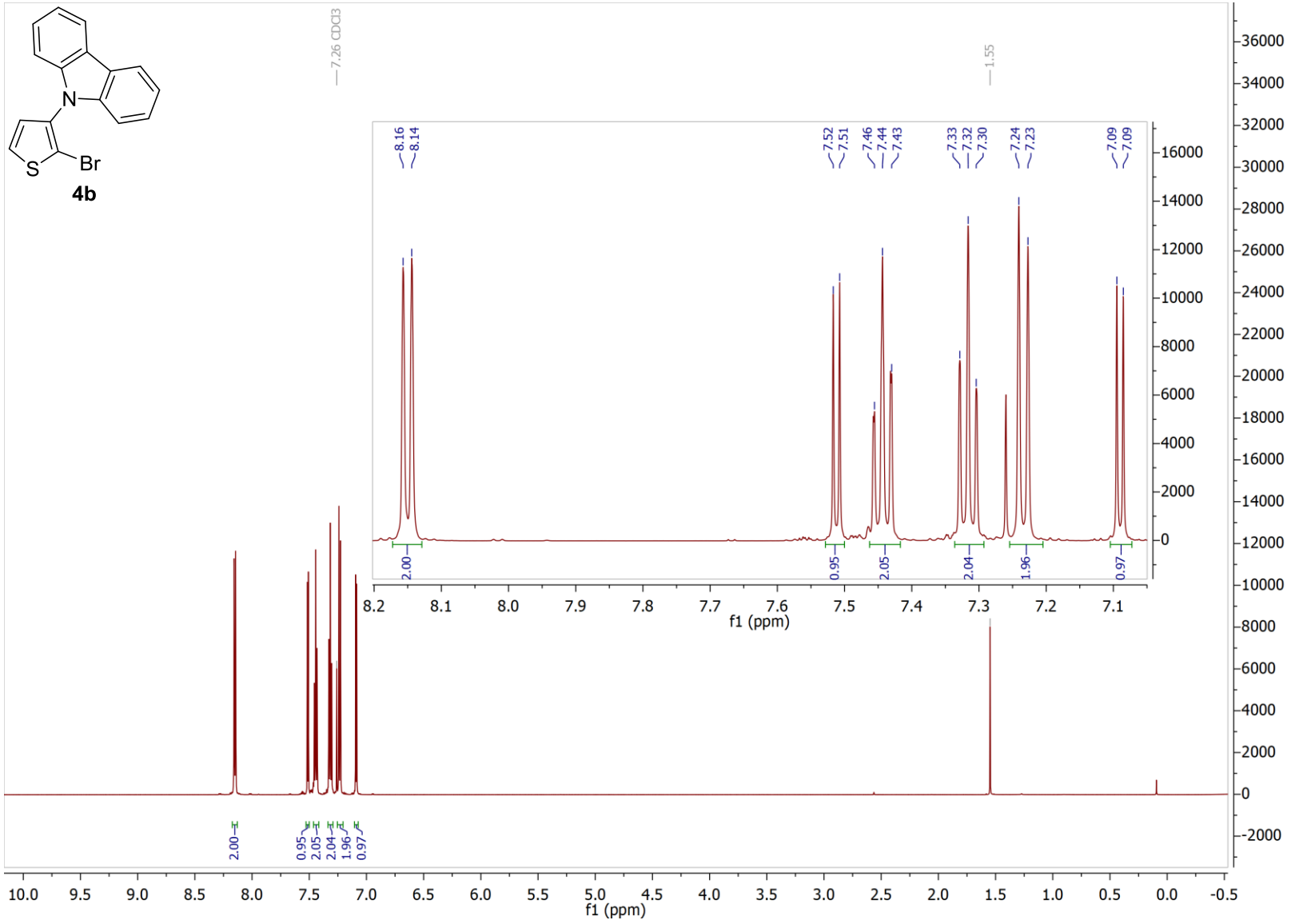

Figure S 3: ^{1}H NMR spectrum of **4b**

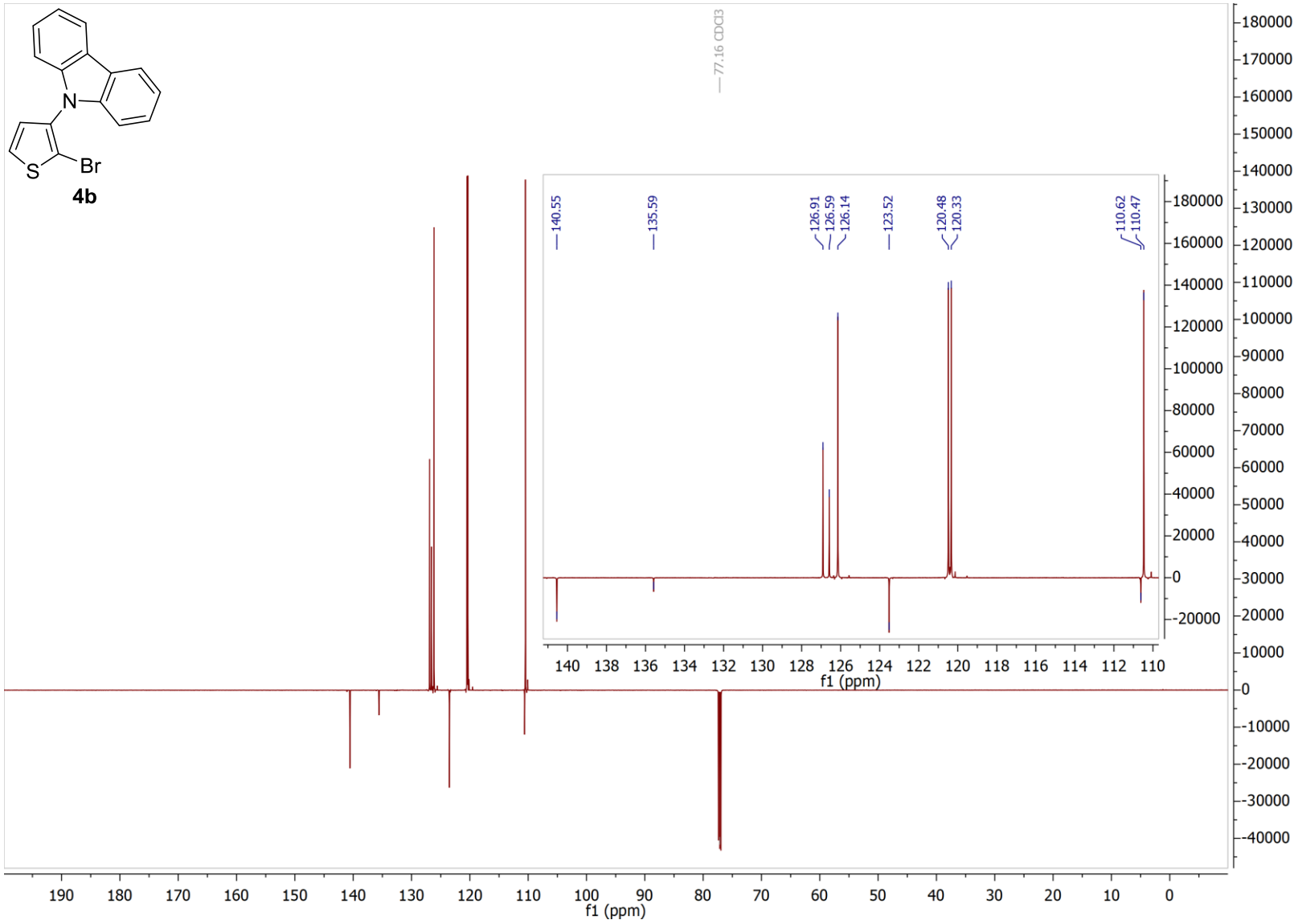

Figure S 4: ^{13}C NMR spectrum of **4b**

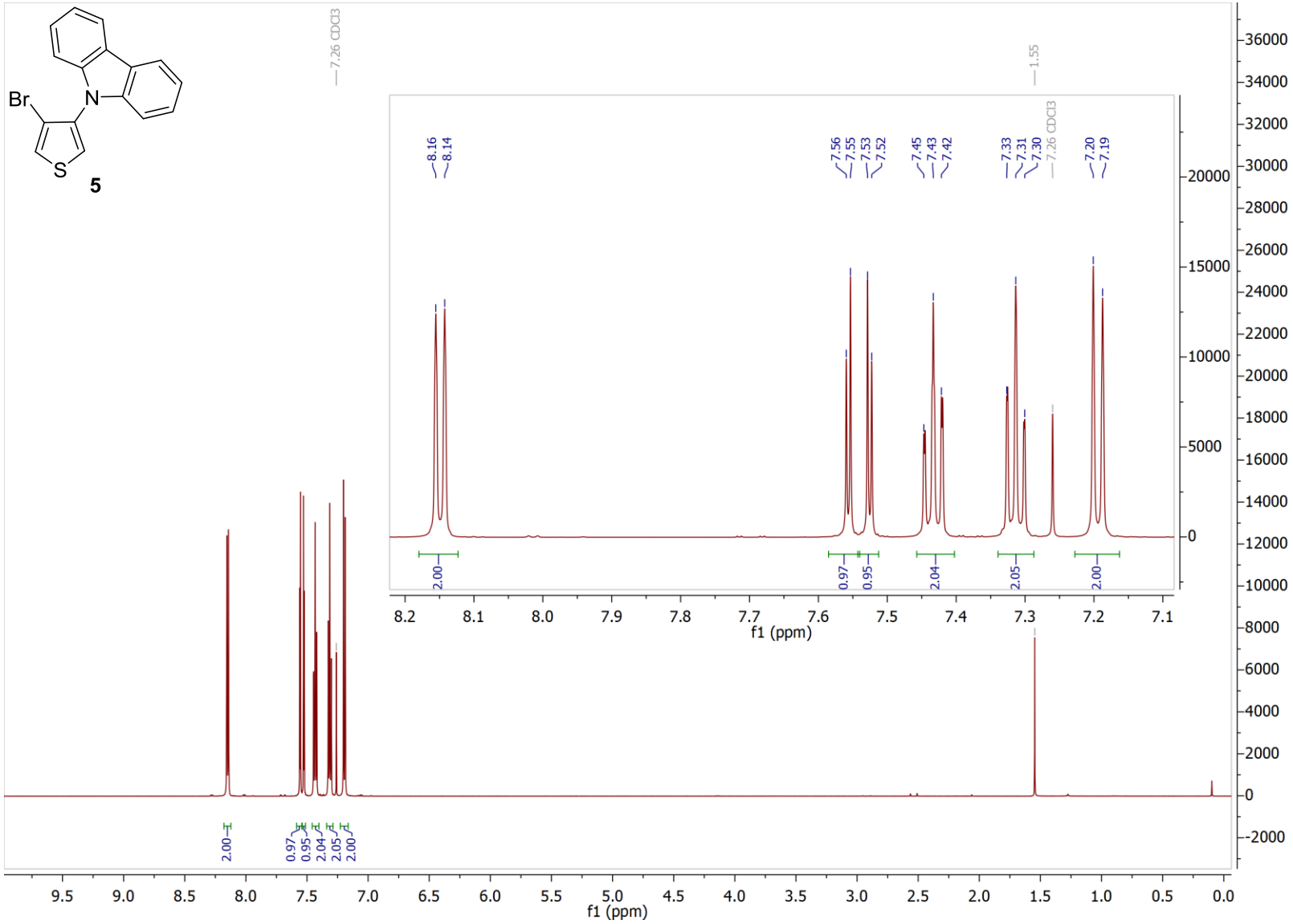

Figure S 5: ^{1}H NMR spectrum of **5**

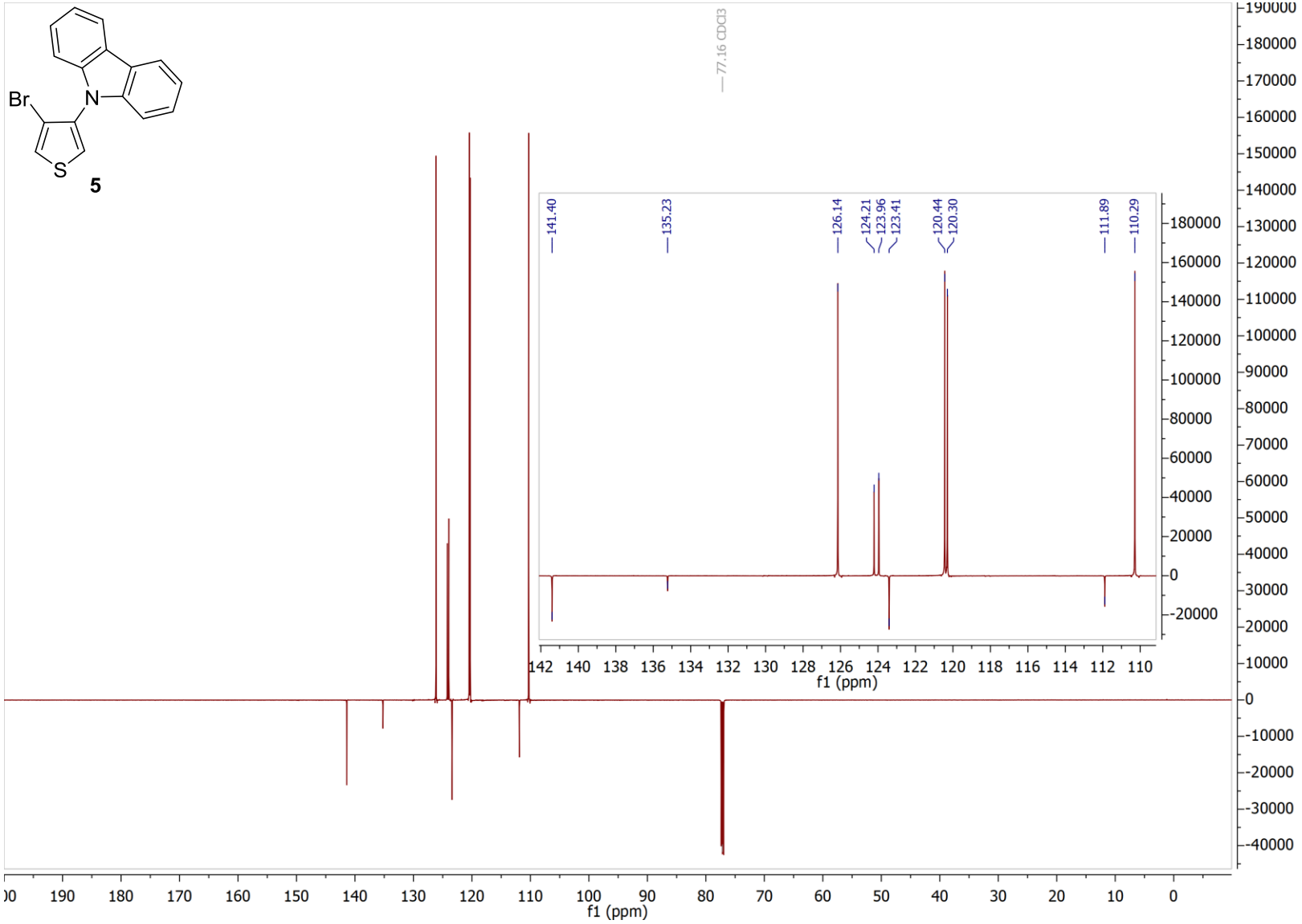

Figure S 6: ^{13}C NMR spectrum of **5**

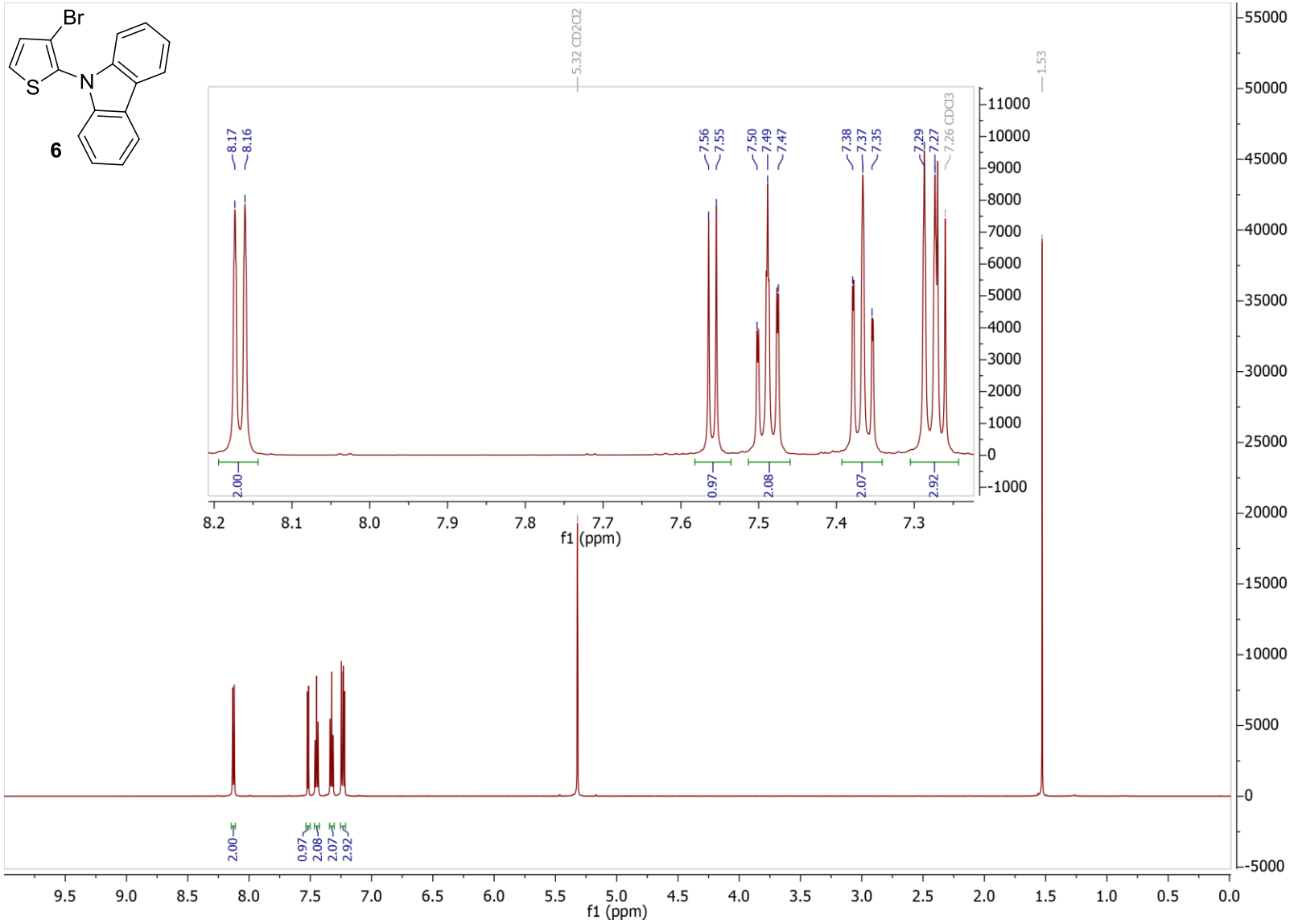

Figure S 7: ^{1}H NMR spectrum of **6**

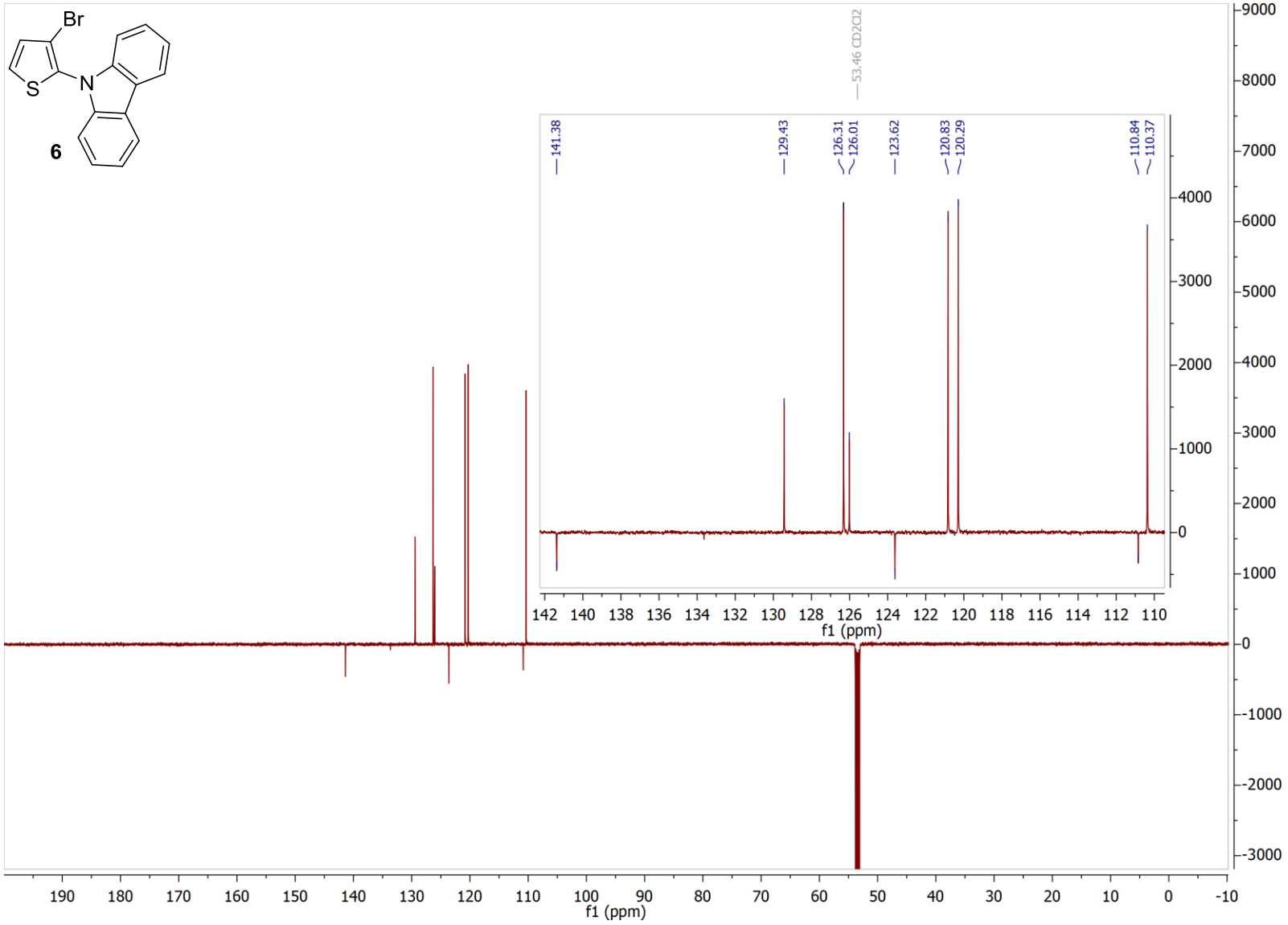

Figure S 8: ^{13}C NMR spectrum of **6**

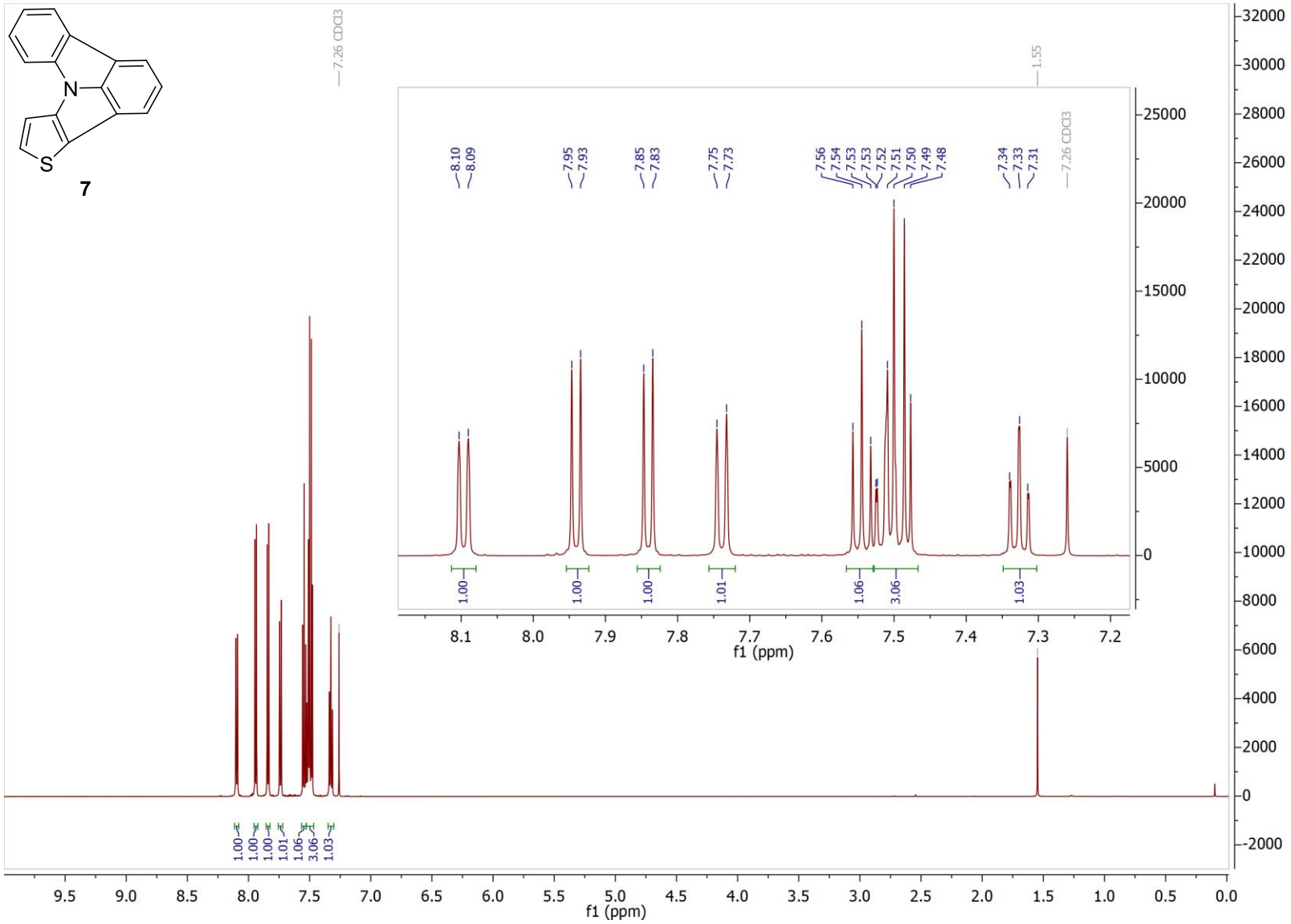

Figure S 9: ^{1}H NMR spectrum of **7**

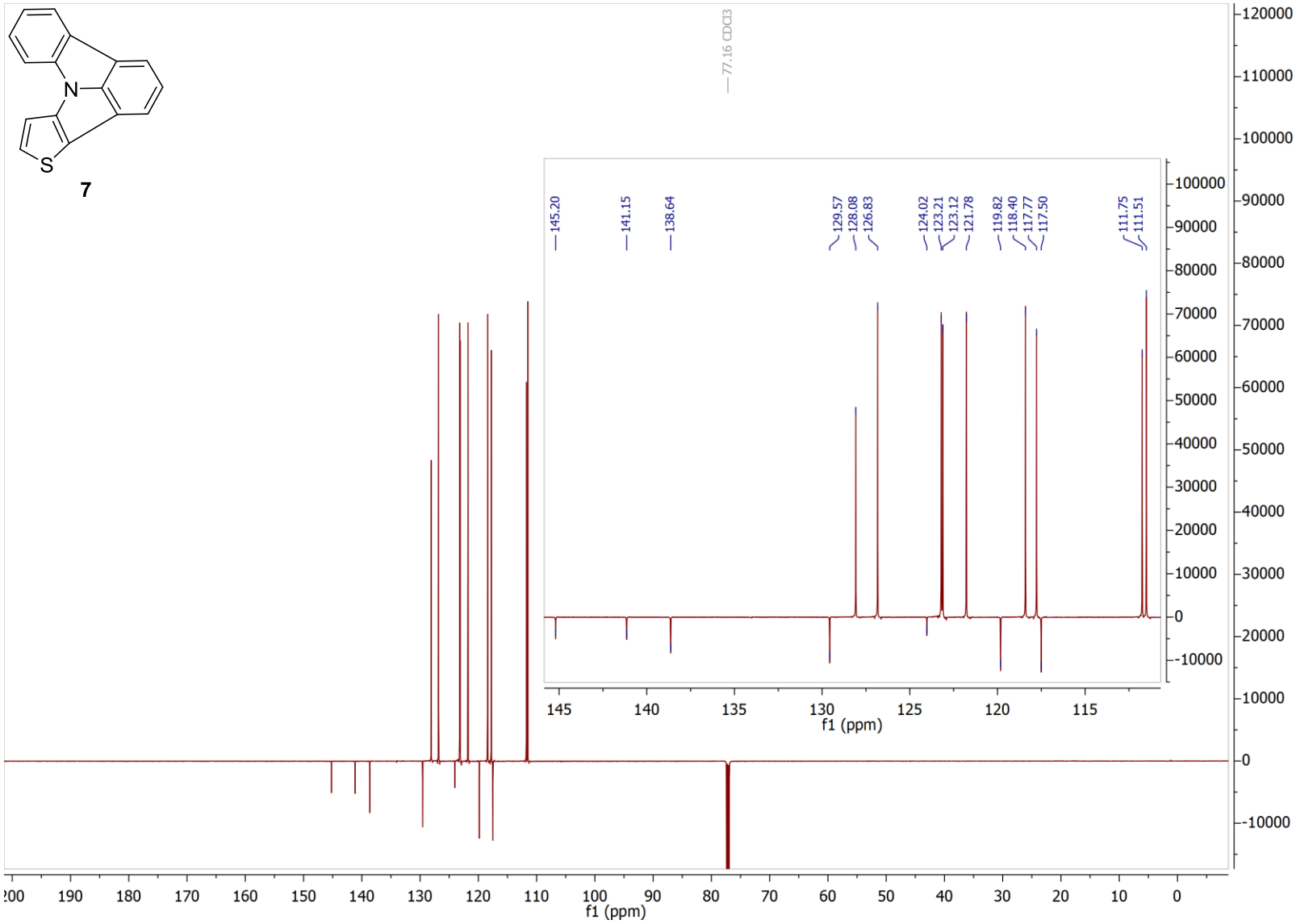

Figure S 10: ^{13}C NMR spectrum of **7**

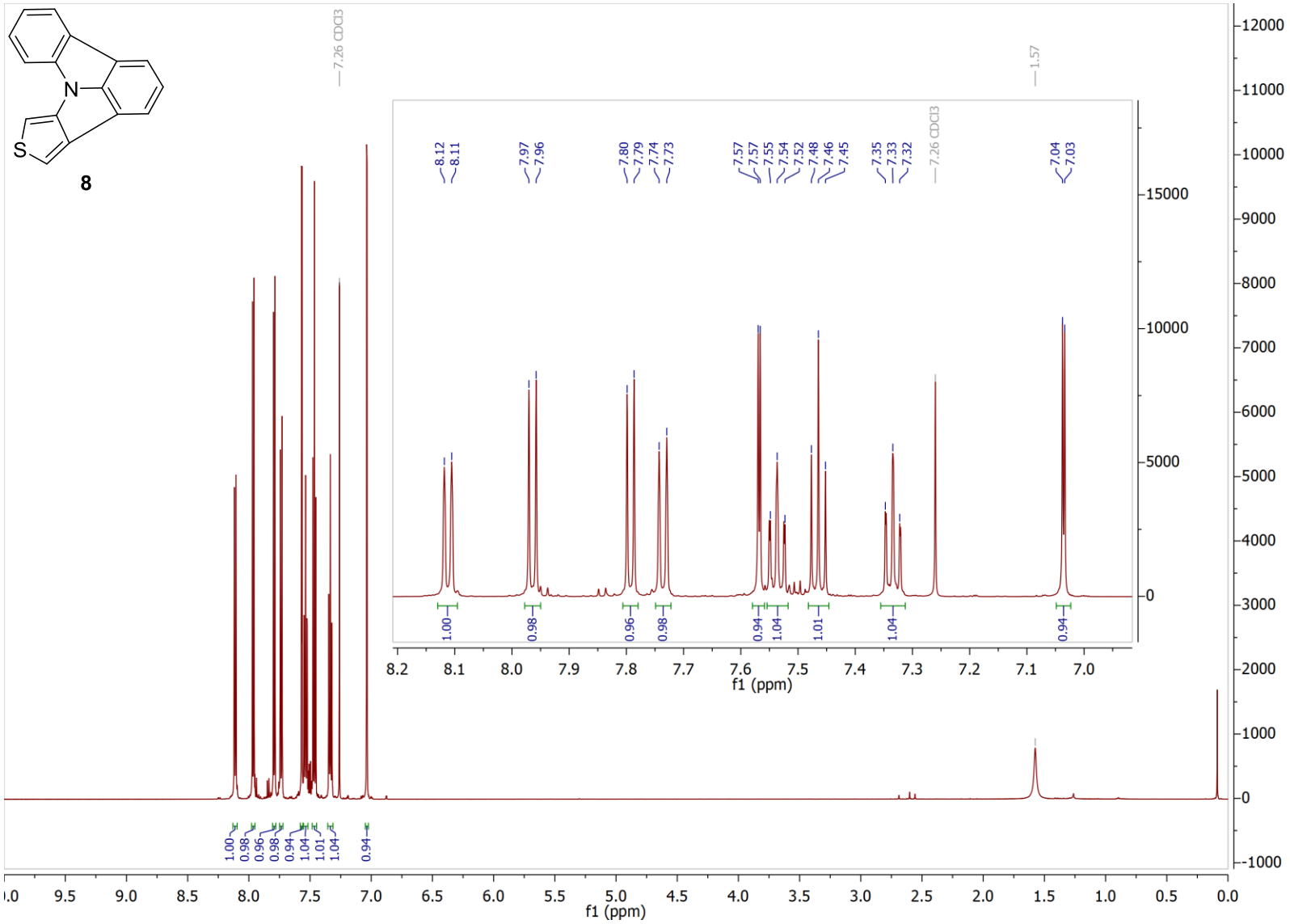

Figure S 11: ^{1}H NMR spectrum of **8**

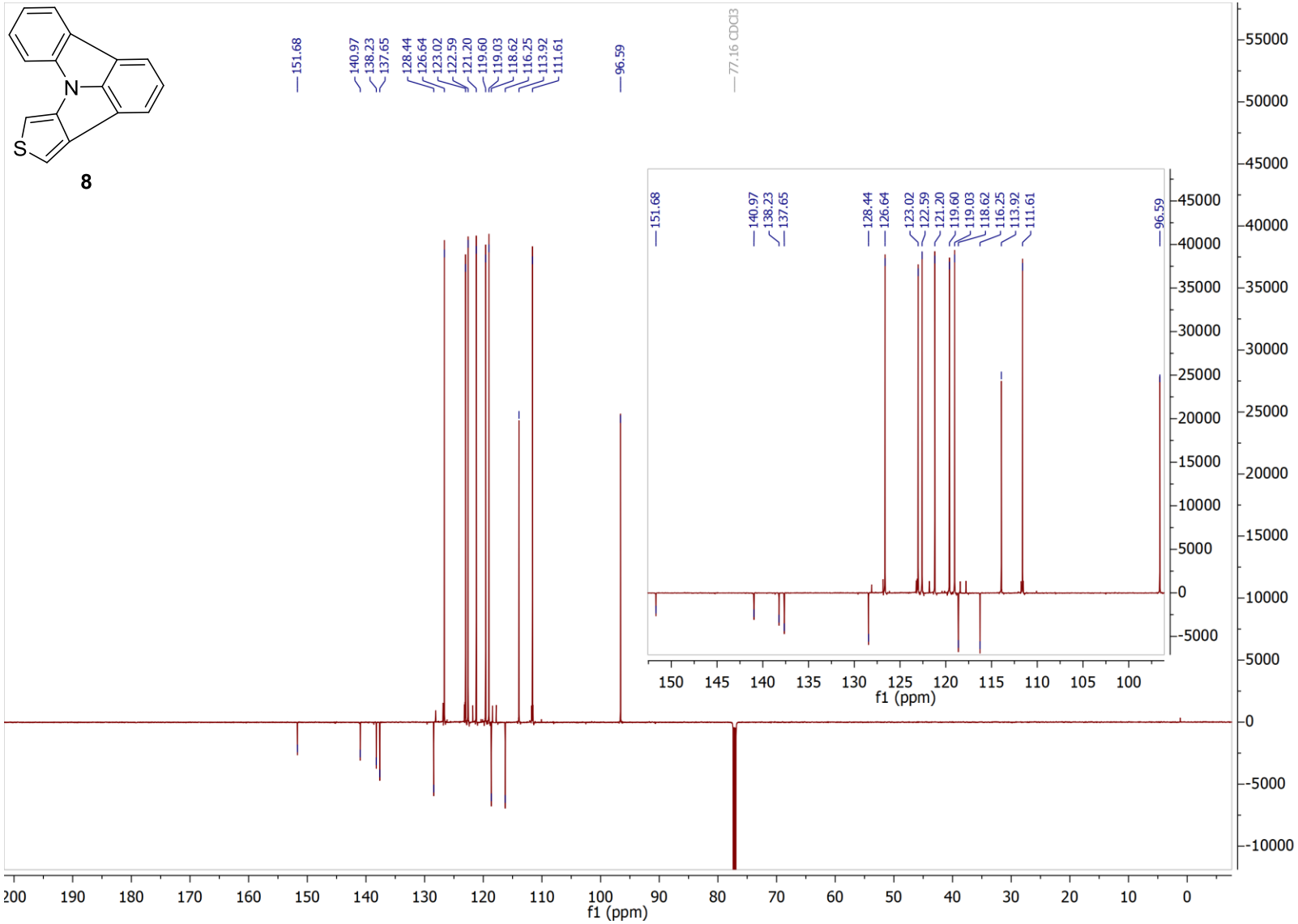

Figure S 12: ^{13}C NMR spectrum of **8**

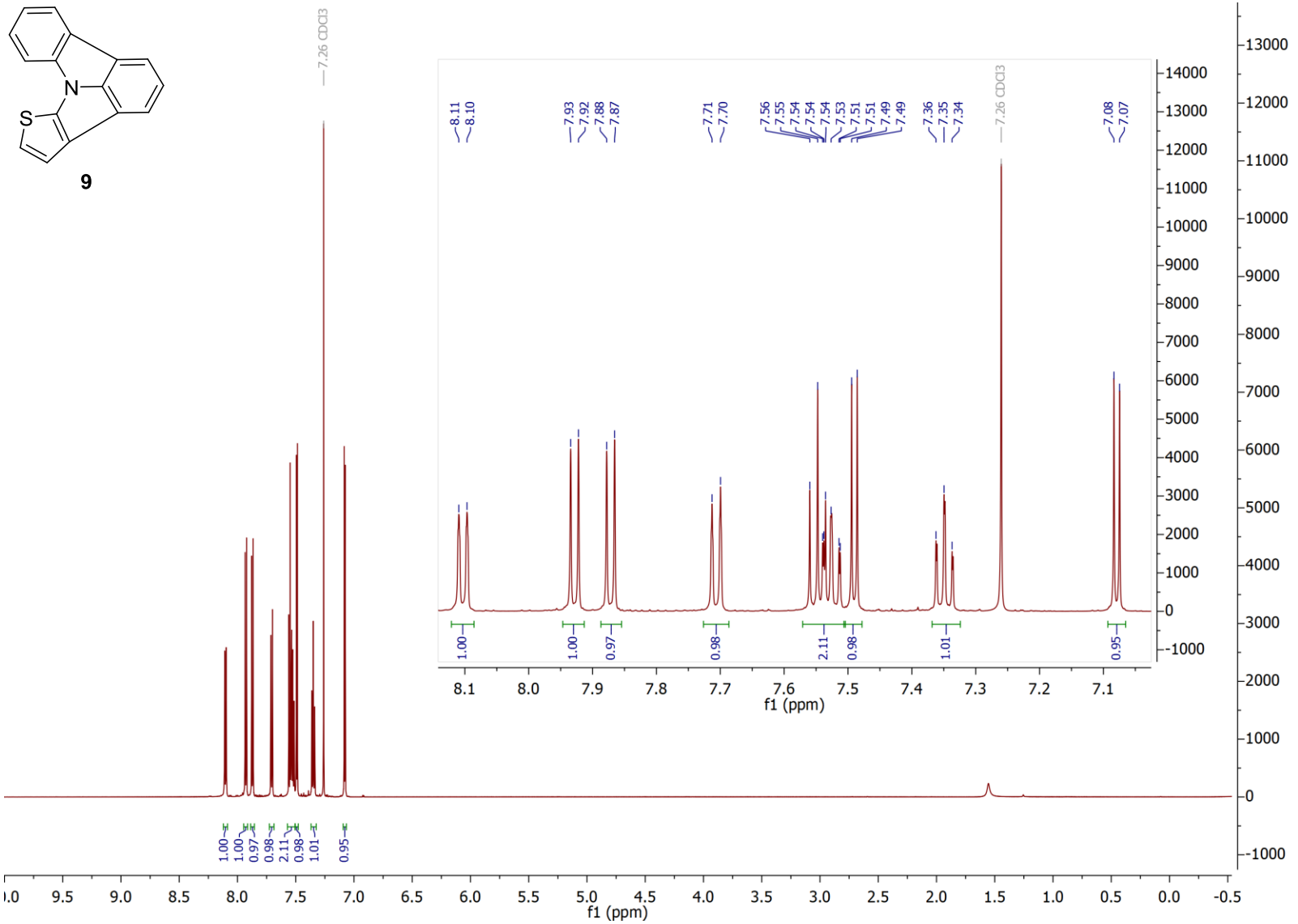

Figure S 13: ^{1}H NMR spectrum of **9**

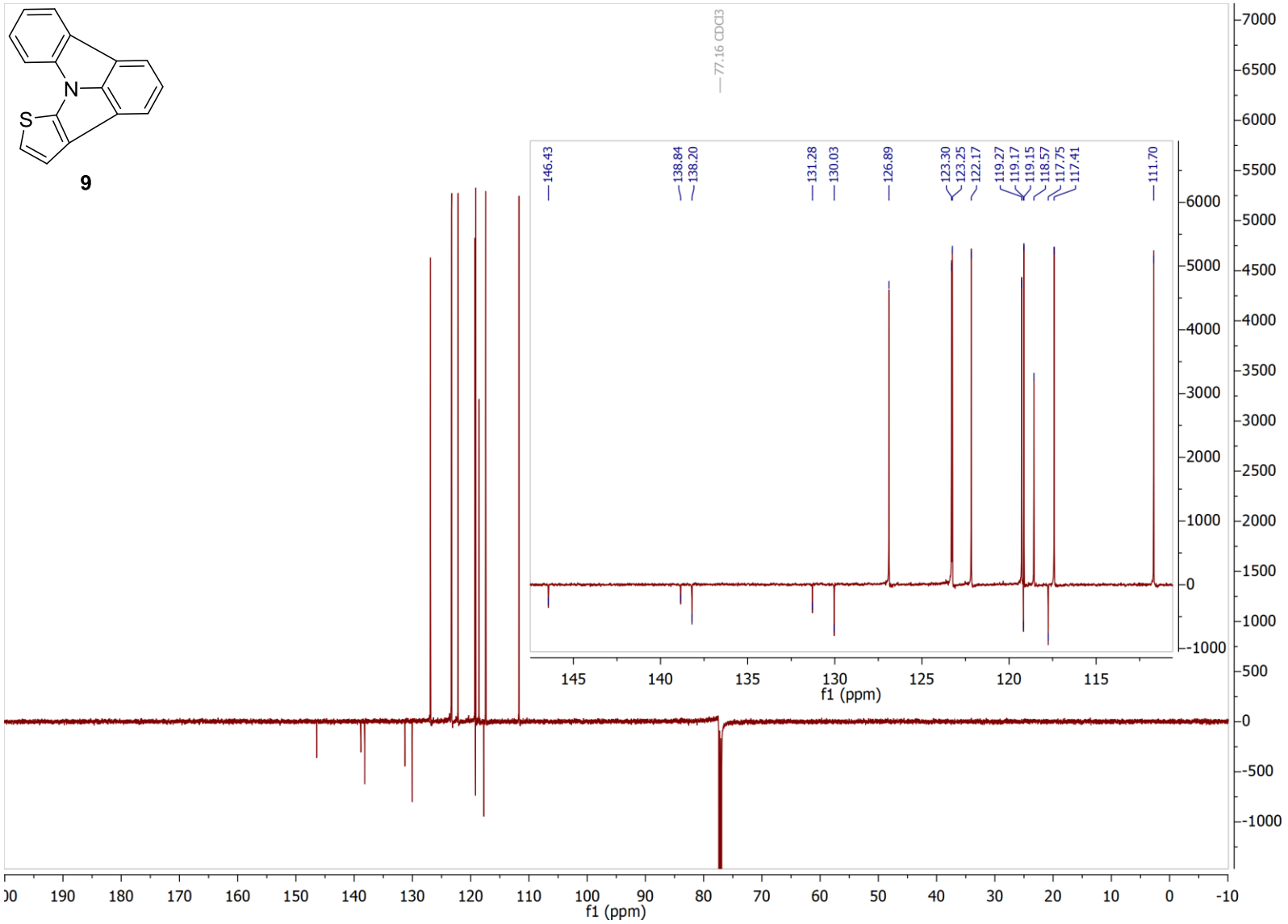

Figure S 14: ^{13}C NMR spectrum of **9**

2. Cyclic Voltammetry

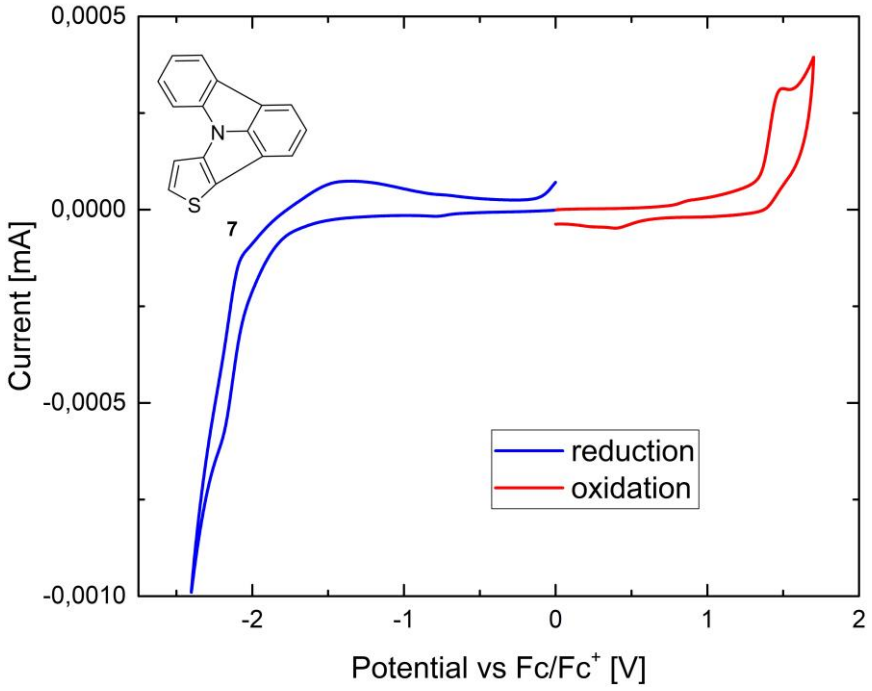

Figure S 15: Cyclovoltamogram of **7**

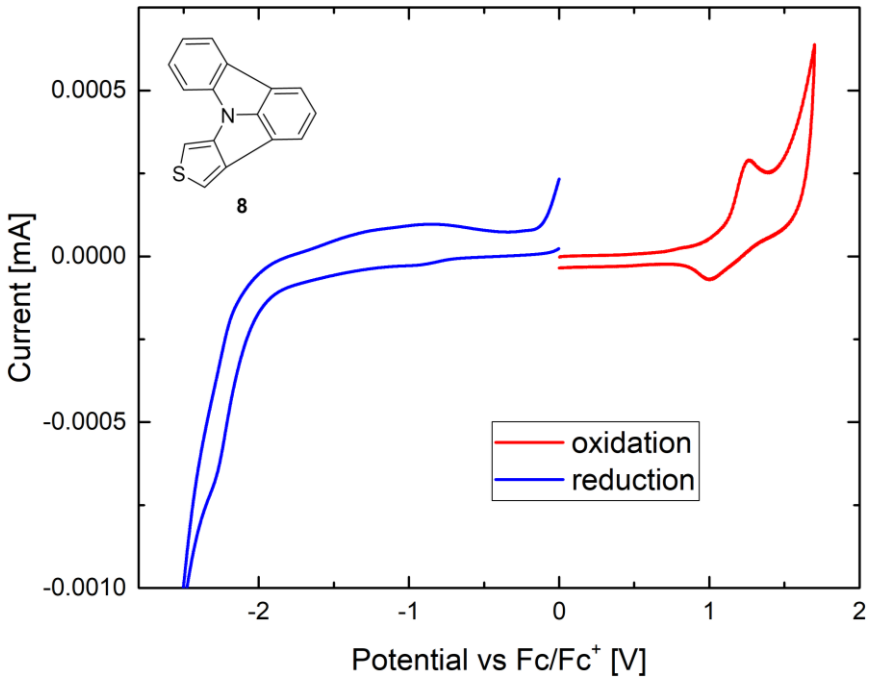

Figure S 16: Cyclovoltamogram of **8**

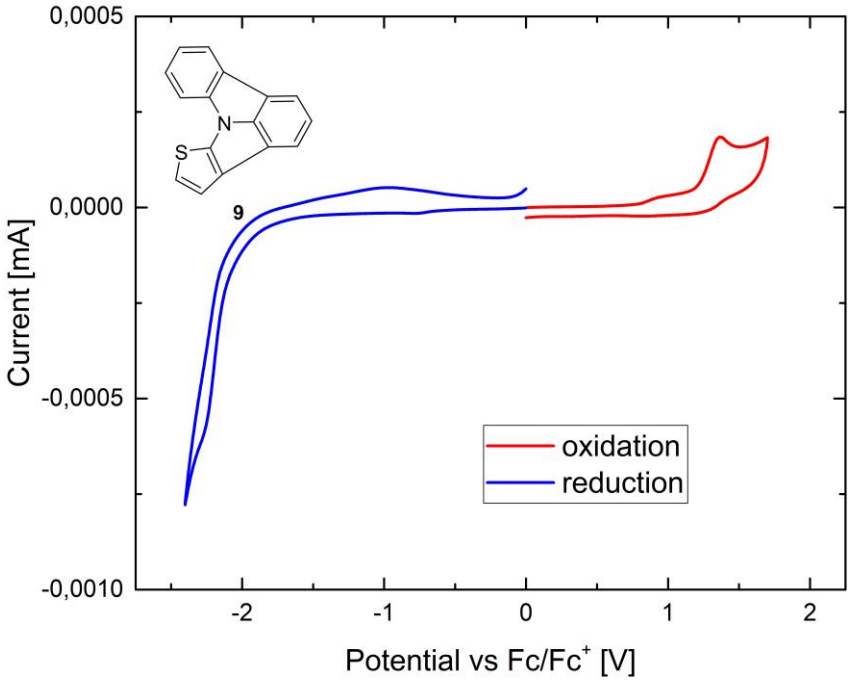

Figure S 17: Cyclovoltamogram of **9**

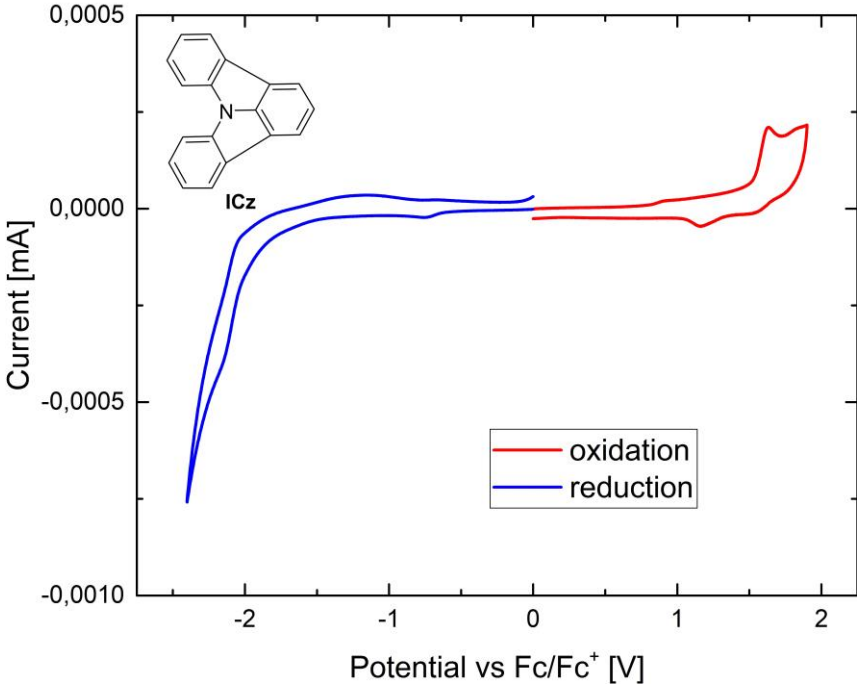

Figure S 18: Cyclovoltamogram of **ICz**

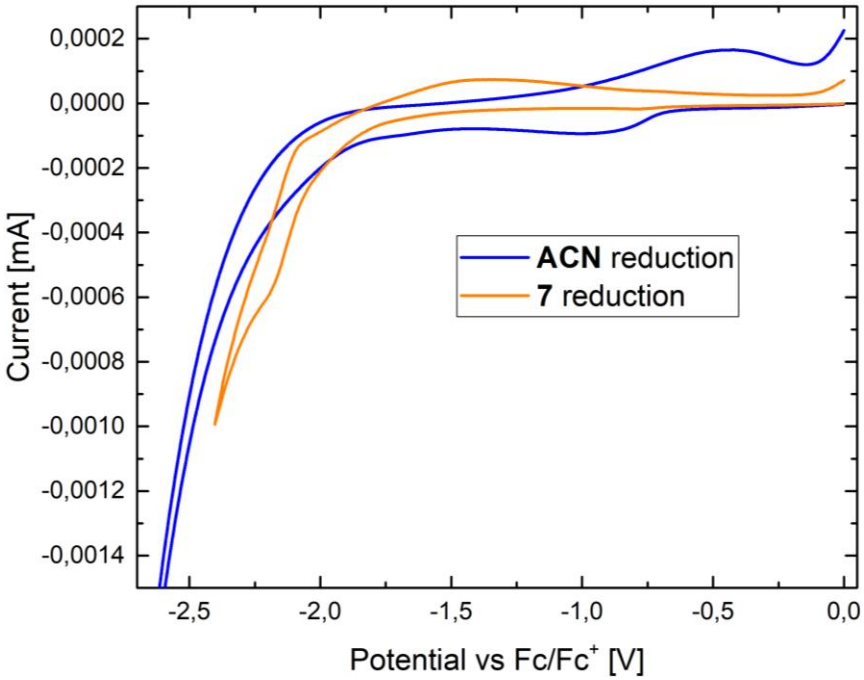

Figure S 19: Cyclovoltamogram of ACN reduction compared to **7**

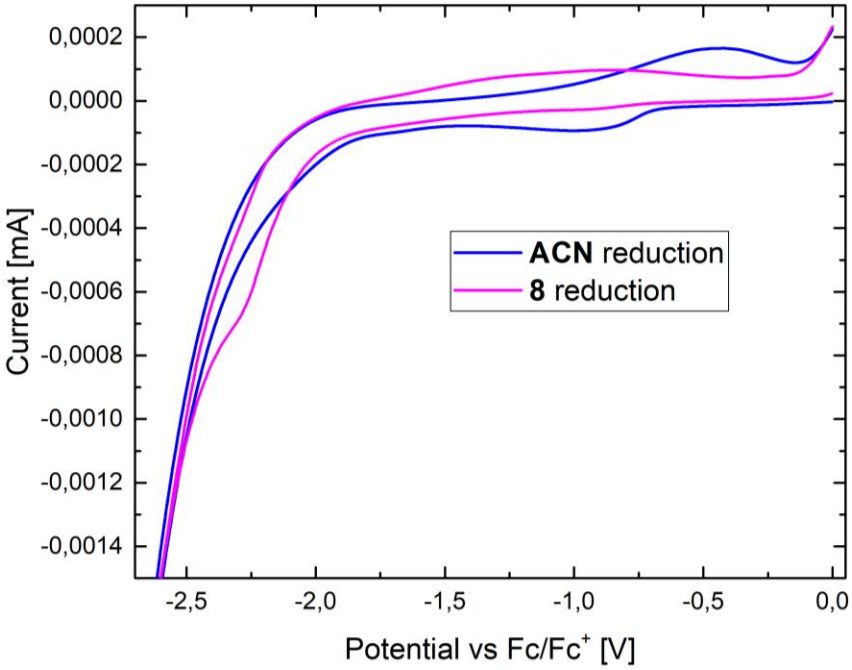

Figure S 20: Cyclovoltamogram of ACN reduction compared to **8**

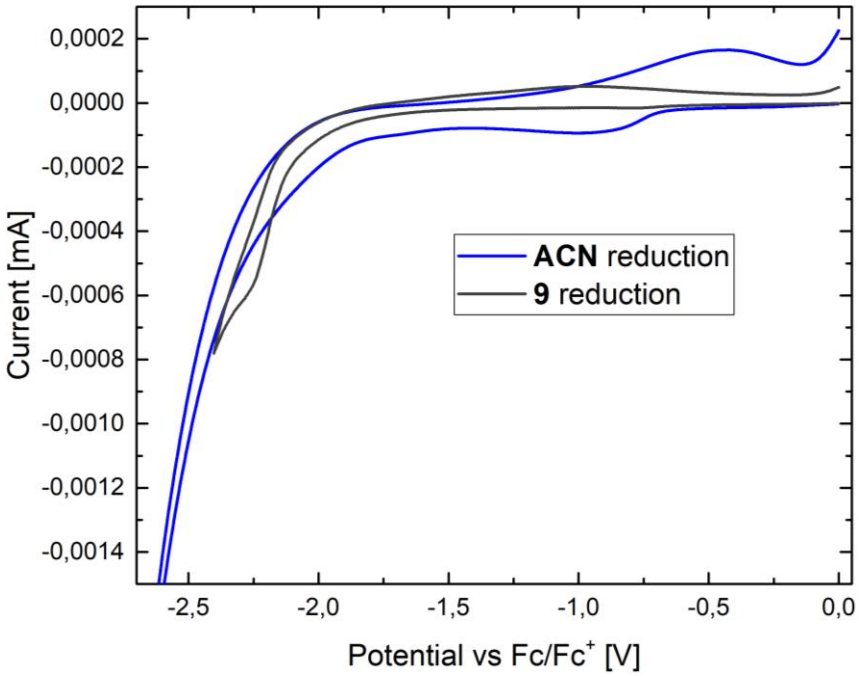

Figure S 21: Cyclovoltamogram of ACN reduction compared to **9**

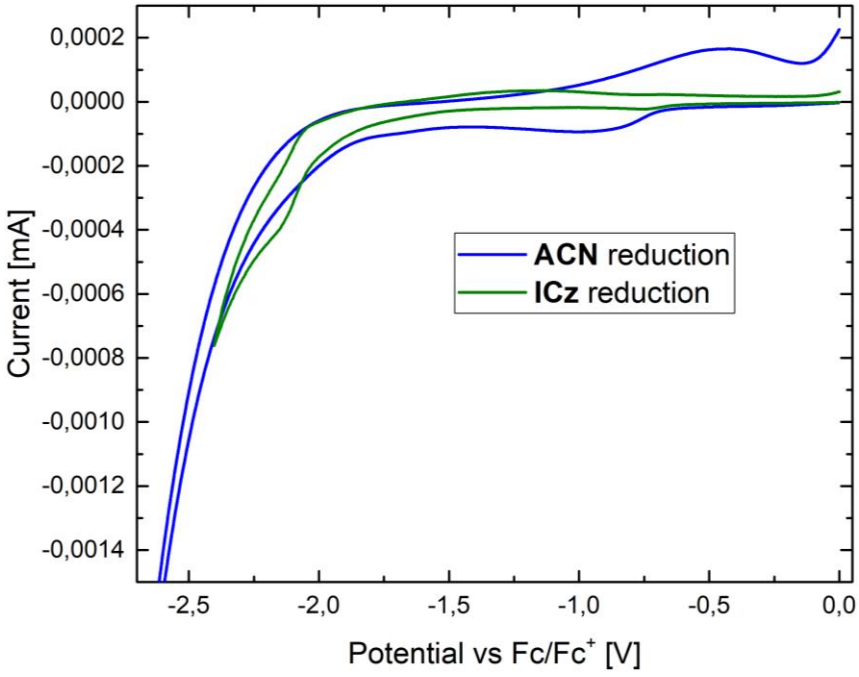

Figure S 22: Cyclovoltamogram of ACN reduction compared to **ICz**

3. HRMS – Spectra

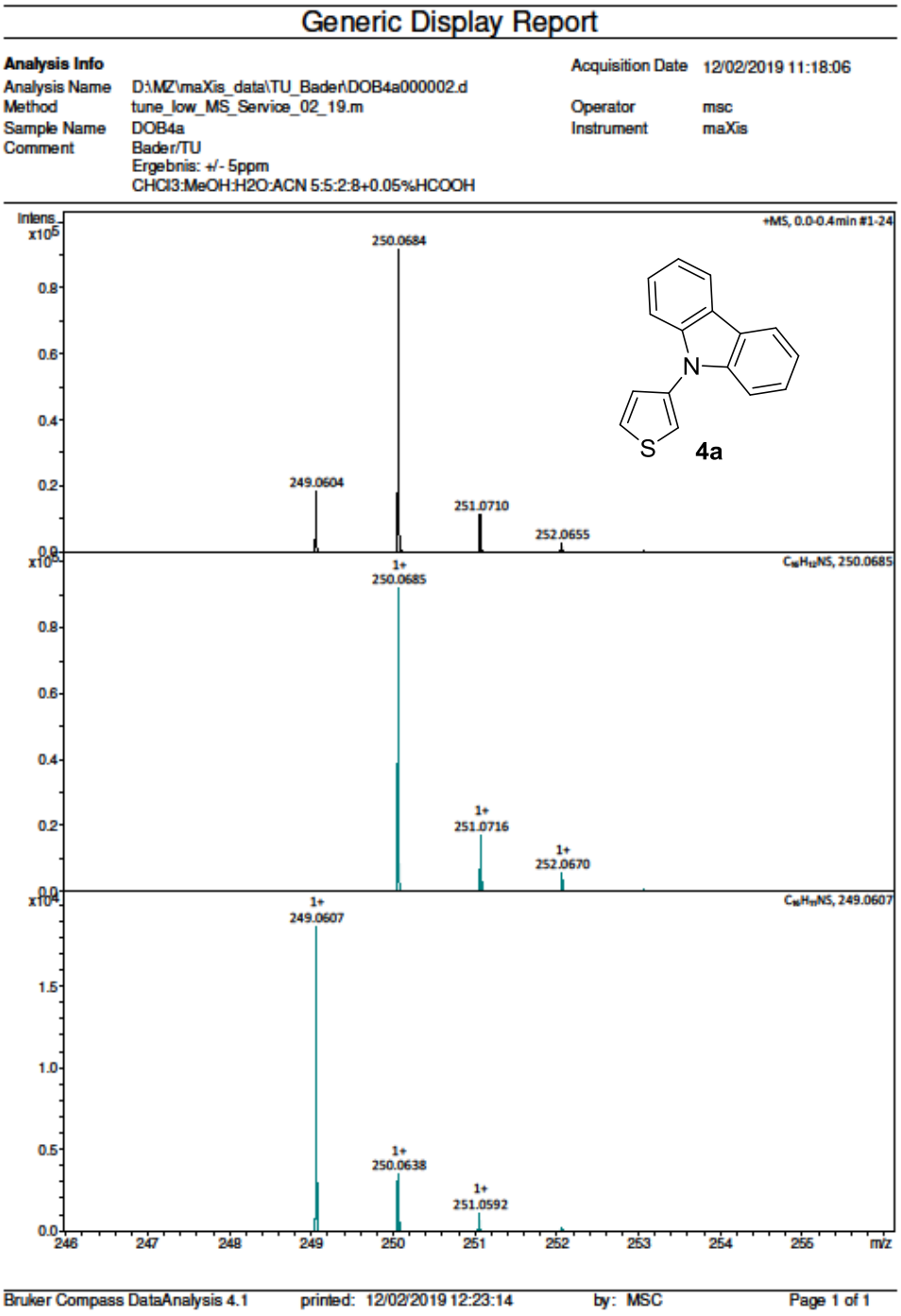

Figure S 23: HRMS spectrum of **4a**

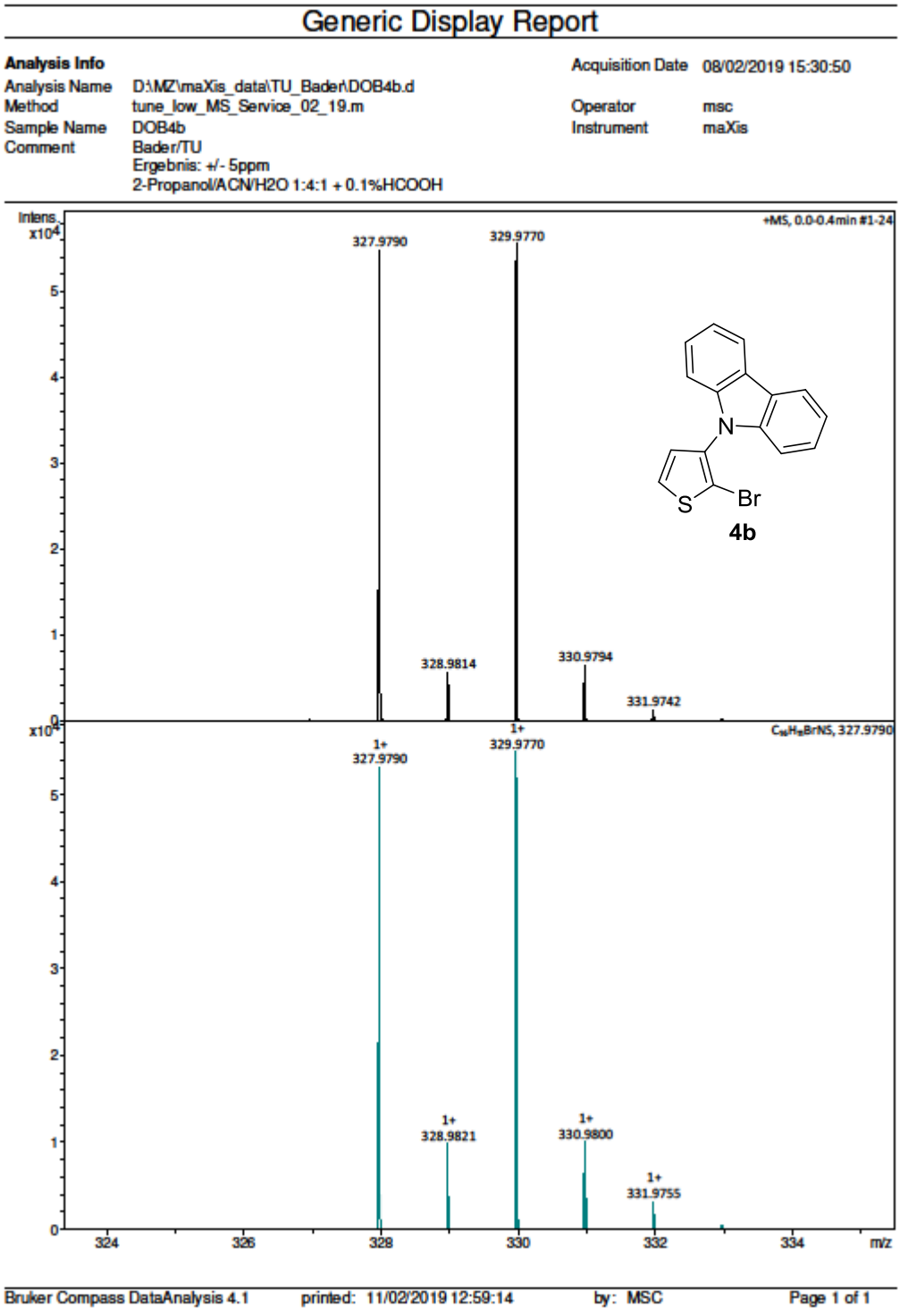

Figure S 24: HRMS spectrum of **4b**

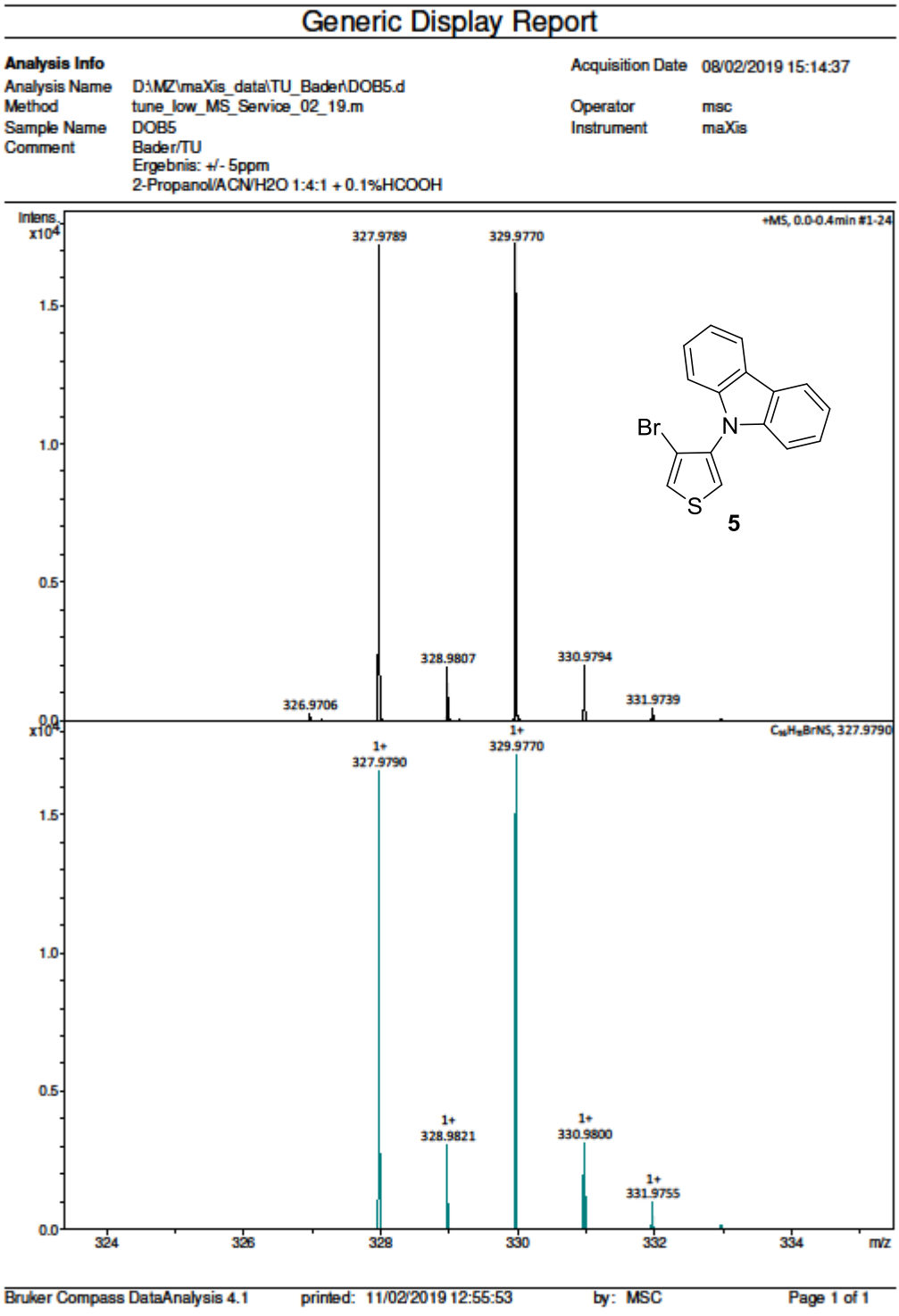

Figure S 25: HRMS spectrum of **5**

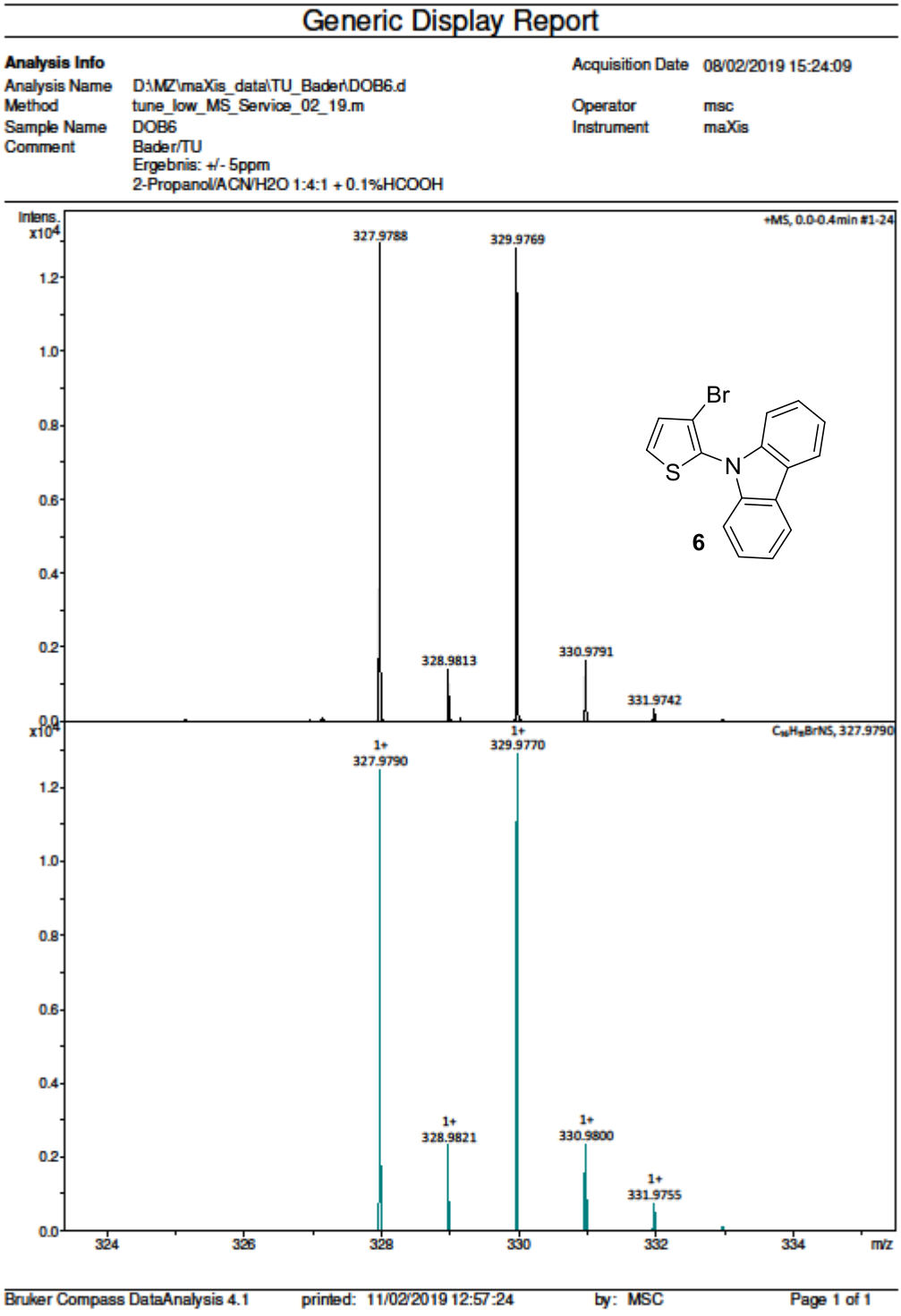

Figure S 26: HRMS spectrum of **6**

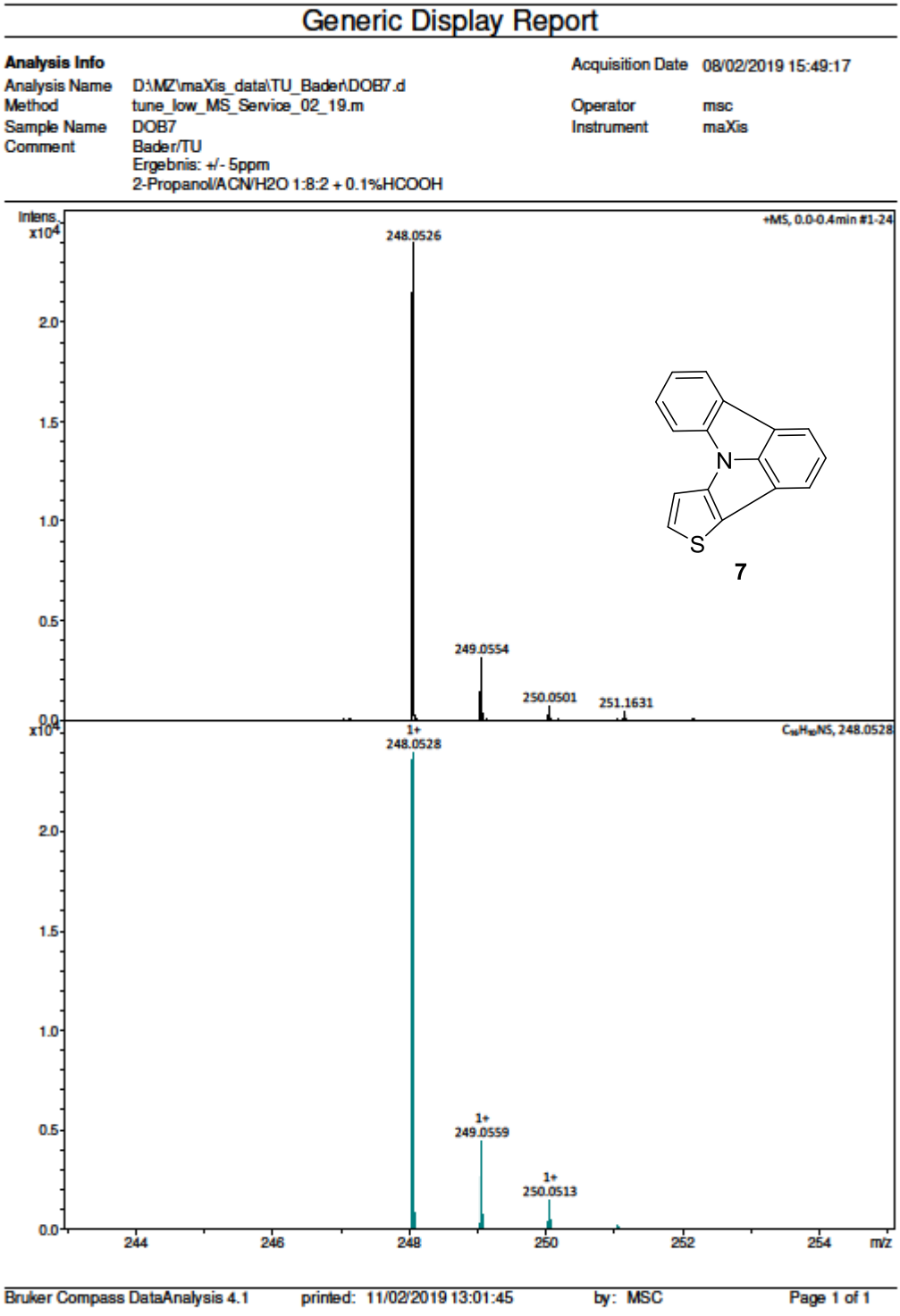

Figure S 27: HRMS spectrum of **7**

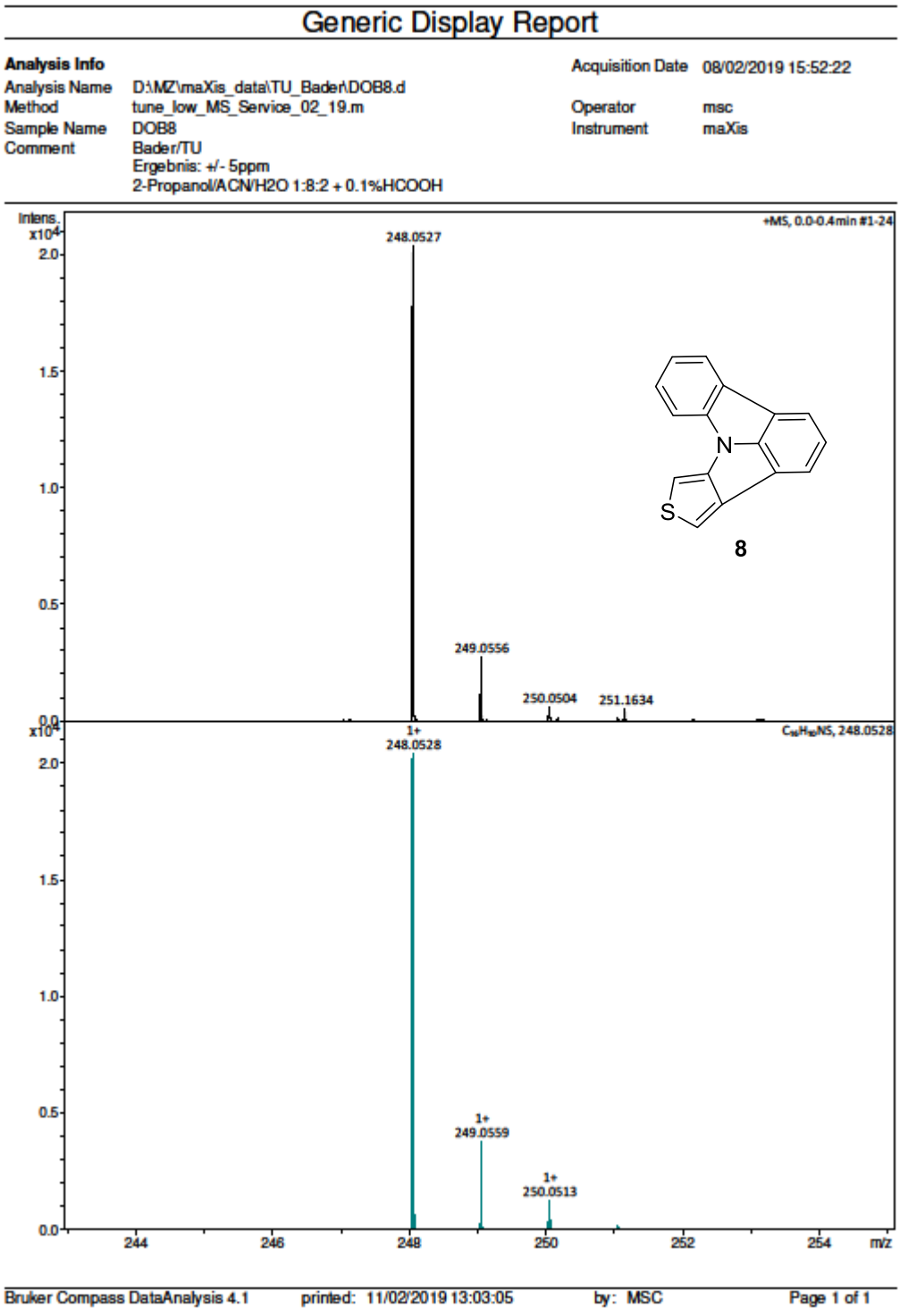

Figure S 28: HRMS spectrum of **8**

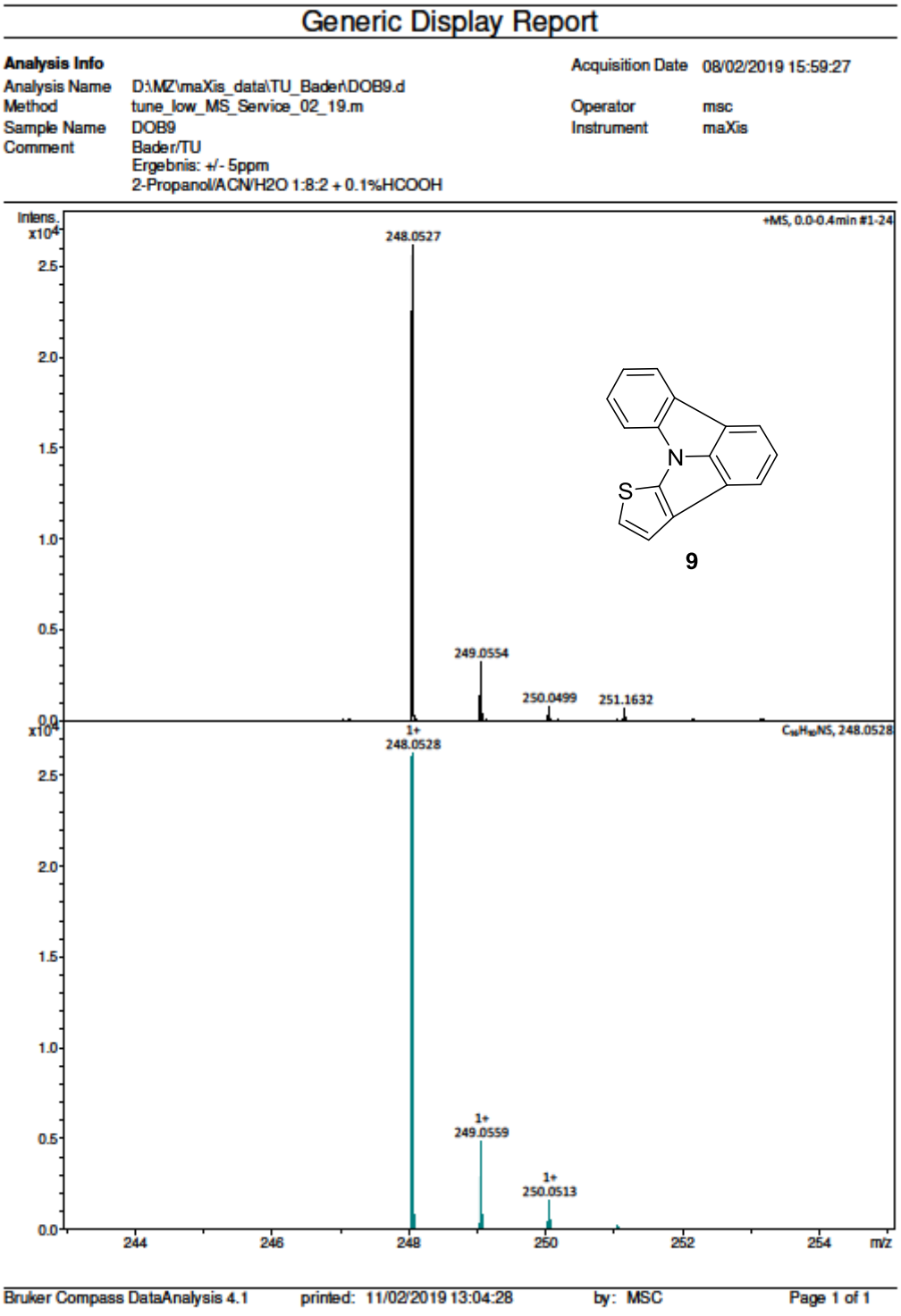

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Figure S 29: HRMS spectrum of **9**

4. Electrochemical and photophysical data

Table S1. Electrochemical and photophysical data of ICz and the developed thienopyrrolo[3,2,1-*jk*]carbazoles 7-9.

	opt. BG[a,b] [eV]	λ_{max}[b,c] [nm]	E_T[d] [eV]	HOMO[e] [eV]	LUMO[e] [eV]	λ_{max}[b,f] [nm]	ε_{max}[f,h] [L*mol^{-1}*cm^{-1}]	λ_{low}[b,g] [nm]	ε_{low}[g,h] [L*mol^{-1}*cm^{-1}]
ICz	3.30	375	2.84	-5.78	-2.27	285	37720	363	11100
7	3.25	390	2.57	-5.68	-2.38	280	29500	347	15140
8	3.30	380	2.71	-5.56	-2.28	284	27760	369	5880
9	3.22	410	2.79	-5.53	-2.30	283	42900	345	4720

[a] HOMO-LUMO energy gaps, determined from the absorption onset. [b]measured in DCM solutions (5 µM) at room temperature; [c]emission maximum; [d]determined from the highest vibronic transition in solid solutions of toluene/iPrOH (10:1; 1 mg/ml) at 77 K; [e]calculated from the onset of the oxidation and reduction peak observed during cyclic voltammetry relative to ferrocene/ferrocene$^+$ (4.8 eV); [f]absorption maximum (only peaks > 270 nm considered due to possible solvent interference); [g]lowest energy absorption peak; [h]molar attenuation coefficient, calculated from absorption.