Supporting Information

Two cyanopyridinone-capped 9,9′-bifluorenylidene derivatives as non-fullerene acceptors for organic photovoltaic cells

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IR spectra of A1 and A2
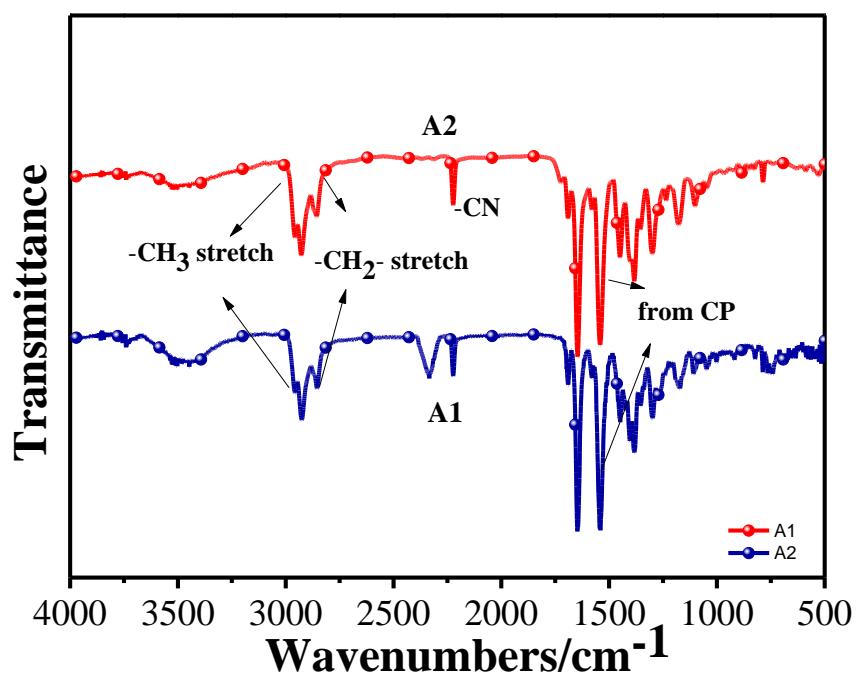
Fig. S1. IR spectra of **A1** and **A2**.

^{1}H NMR and ^{13}C NMR spectra of compounds
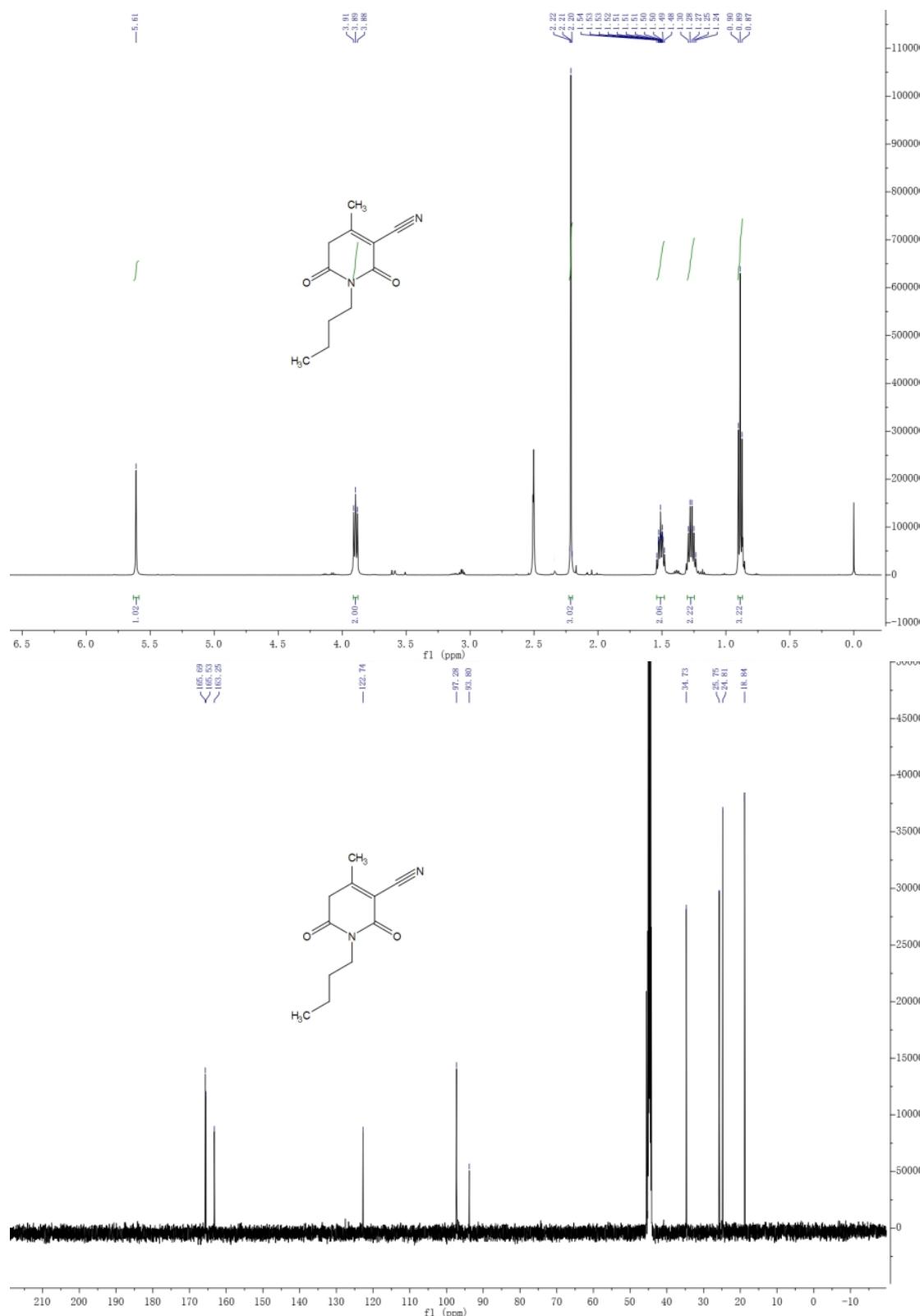
Fig. S2. ^{1}H NMR and ^{13}C NMR spectrum of the compound **I**
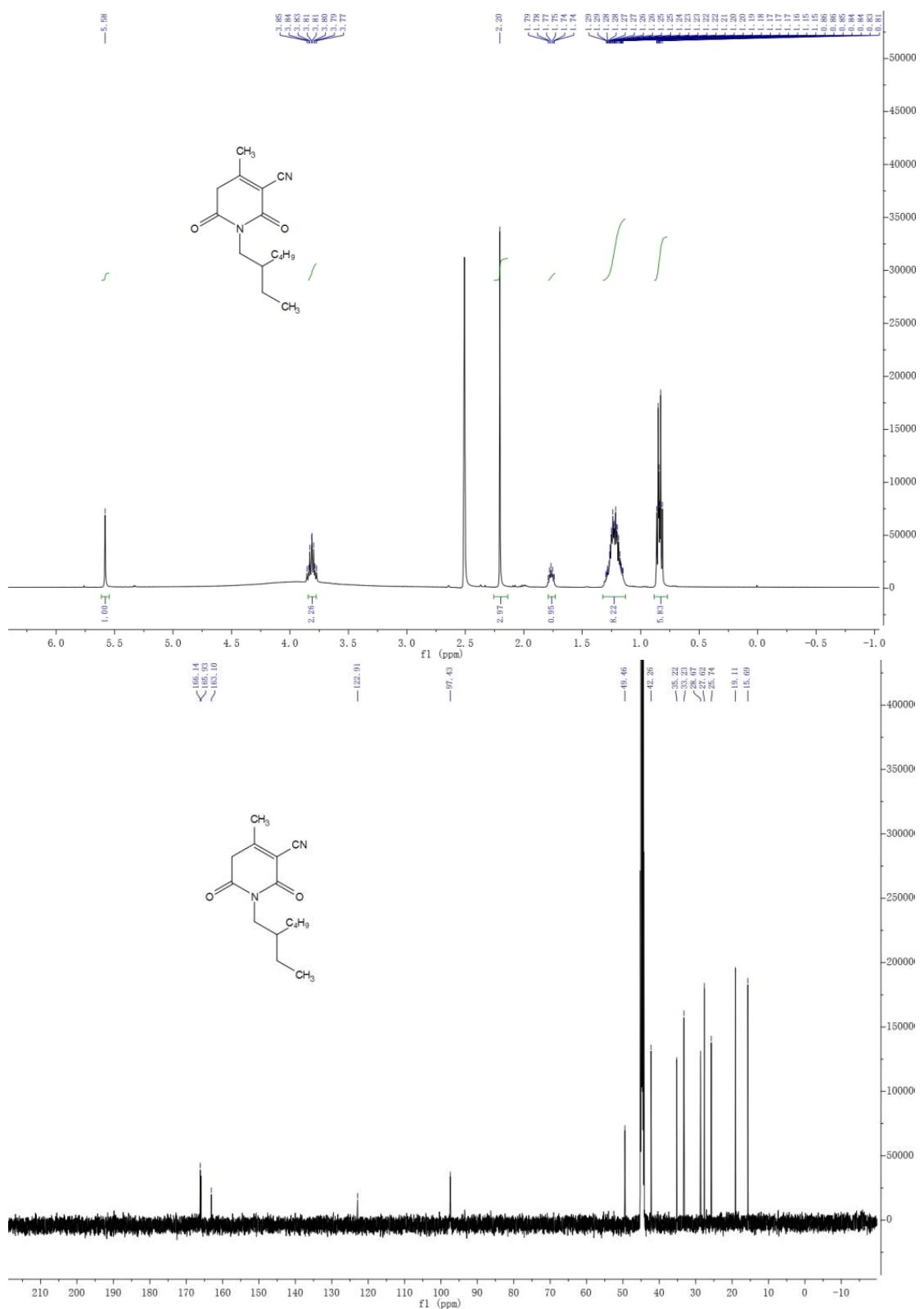
Fig. S3. ^{1}H NMR and ^{13}C NMR spectrum of the compound **II**
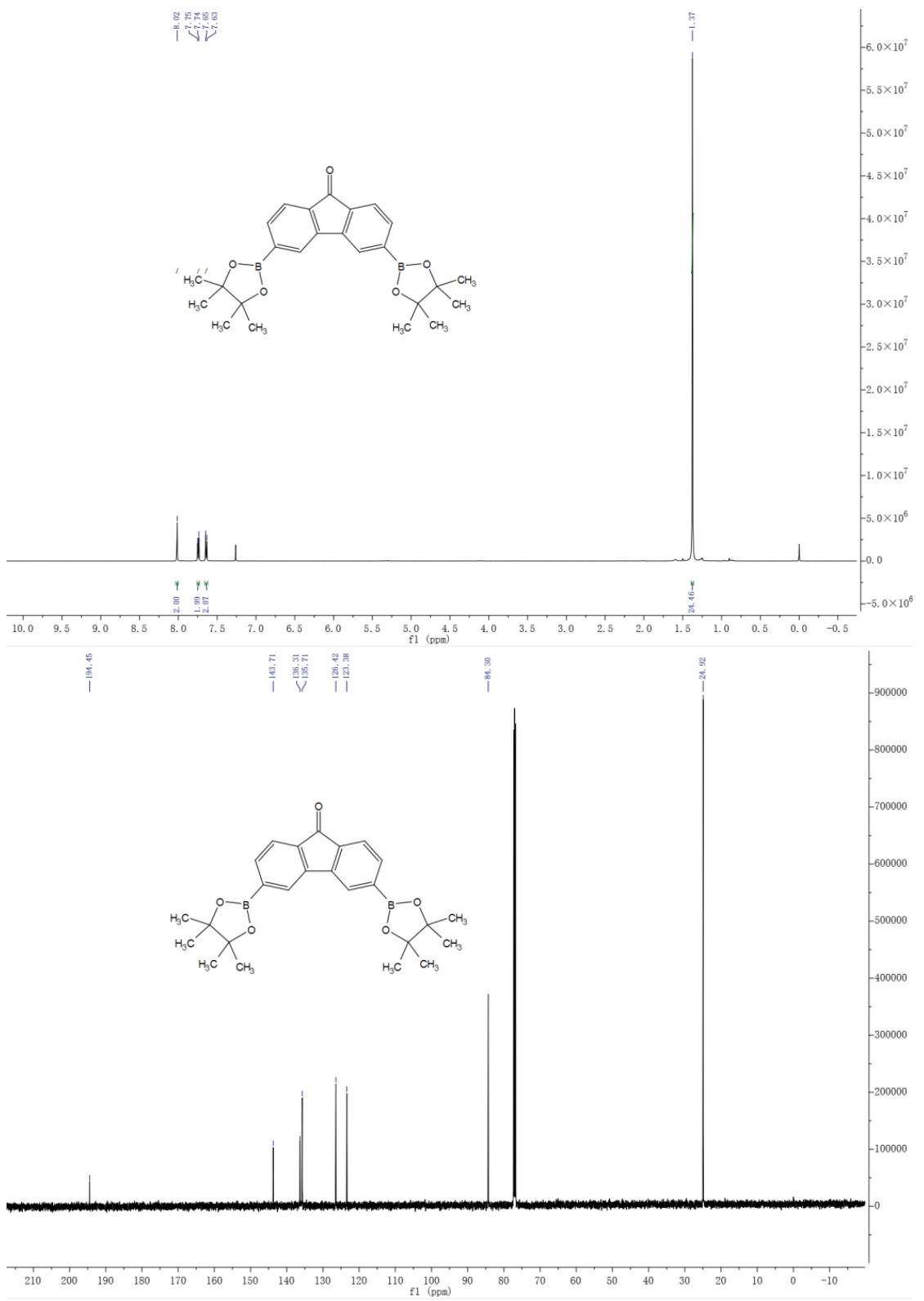
Fig. S4. ^{1}H NMR and ^{13}C NMR spectrum of the compound **III**
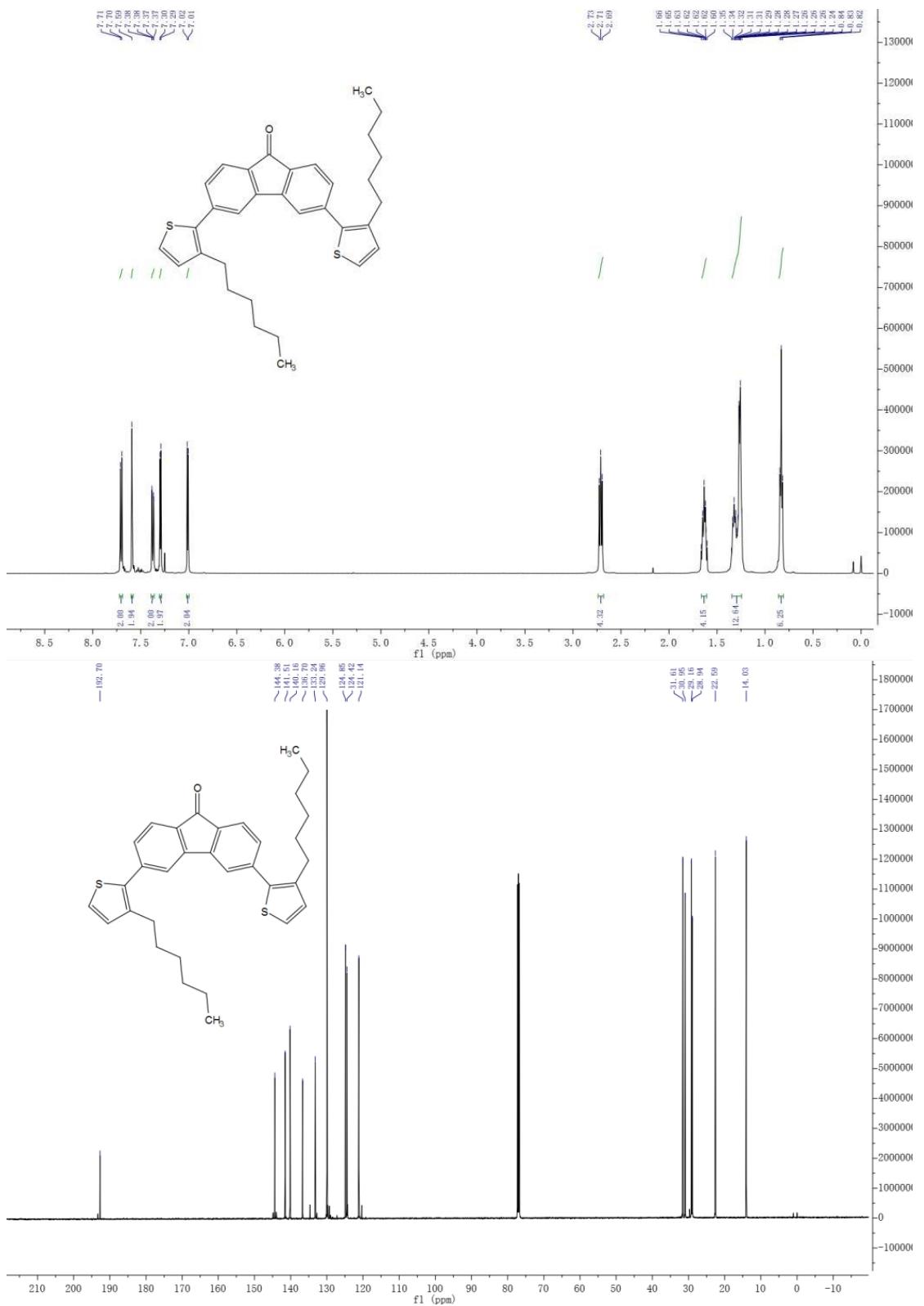
Fig. S5. ^{1}H NMR and ^{13}C NMR spectrum of the compound **IV**
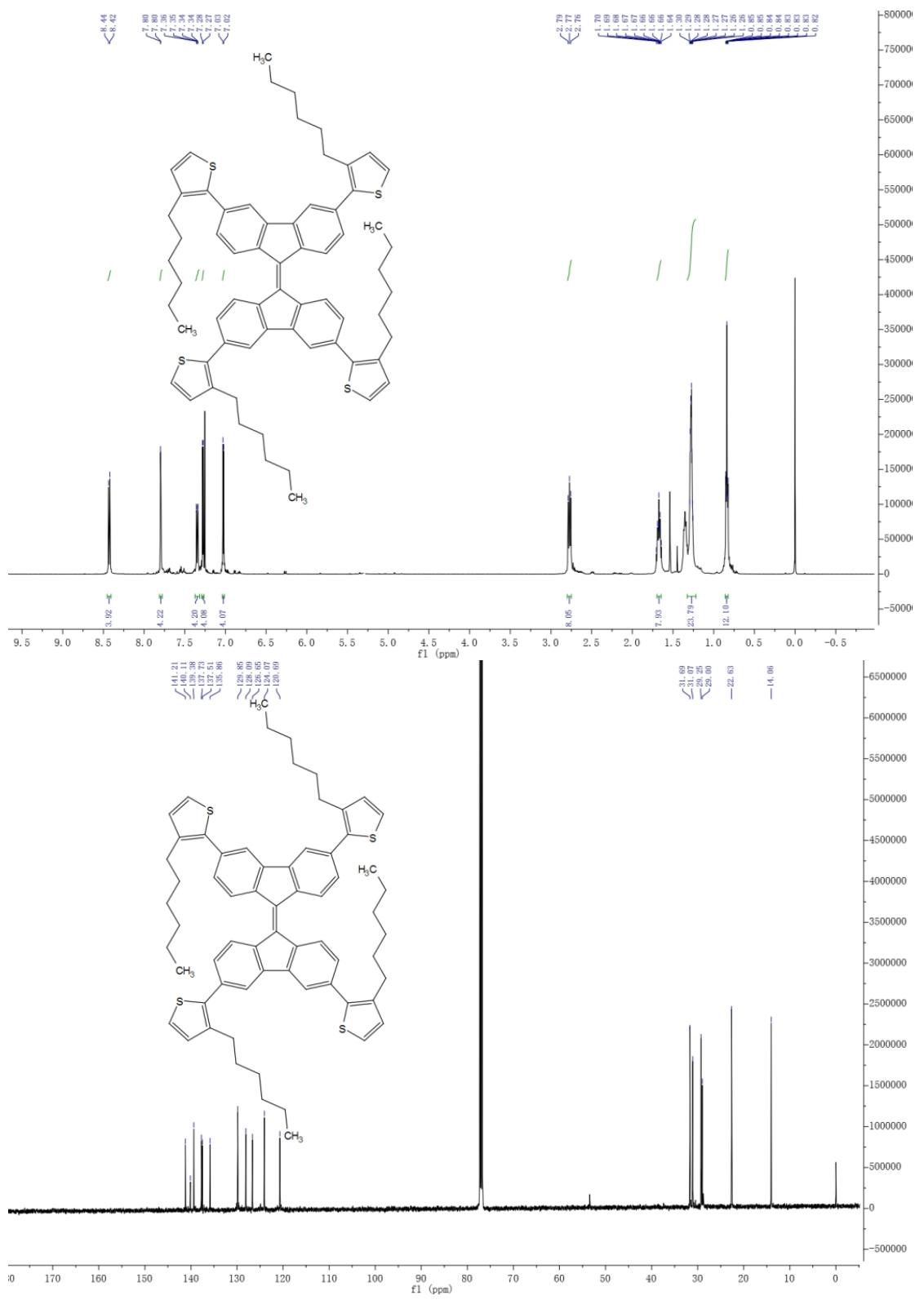
Fig. S6. ^{1}H NMR and ^{13}C NMR spectrum of the compound **V**
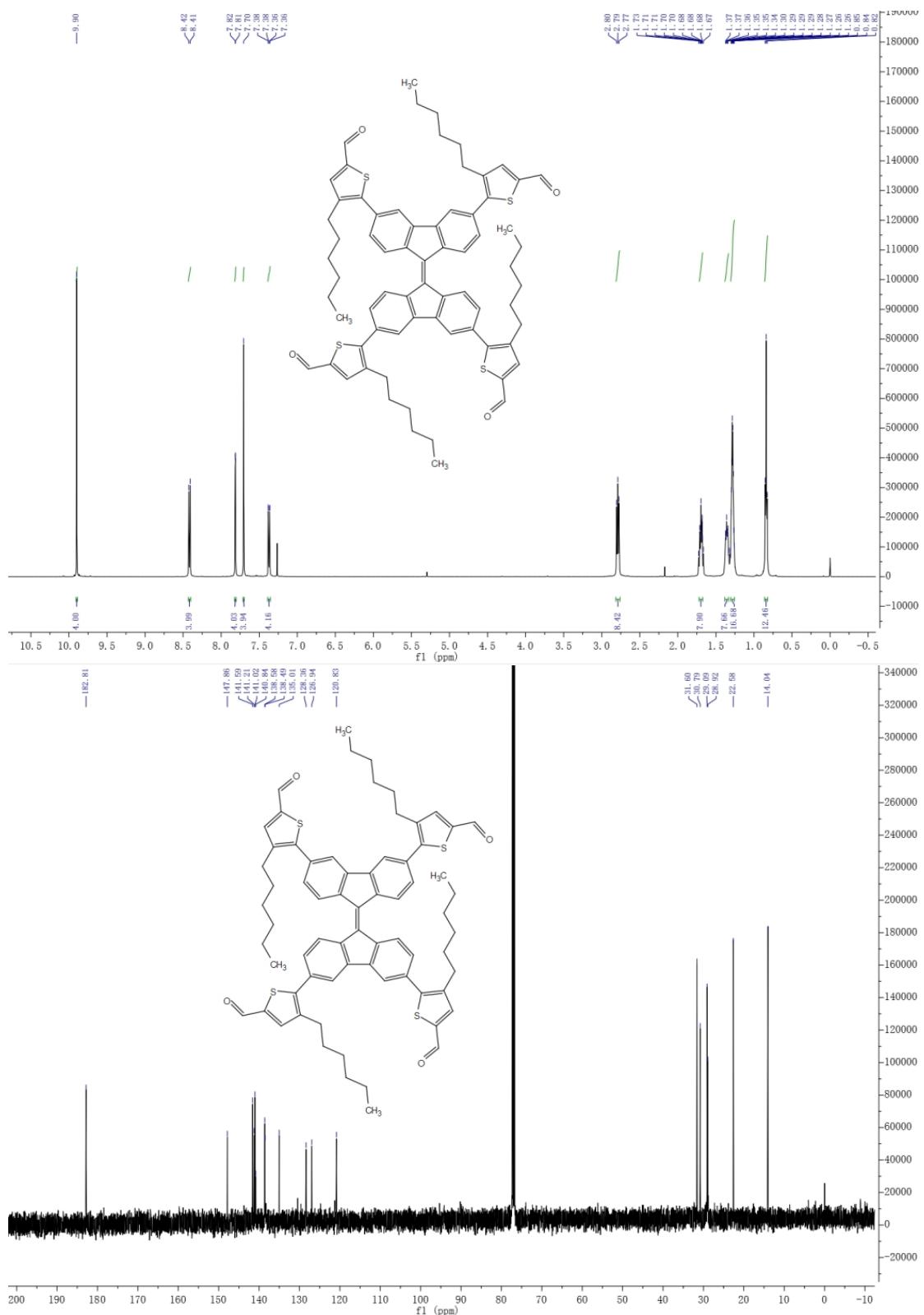
Fig. S7. ¹H NMR and ¹³C NMR spectrum of the compound **VI**
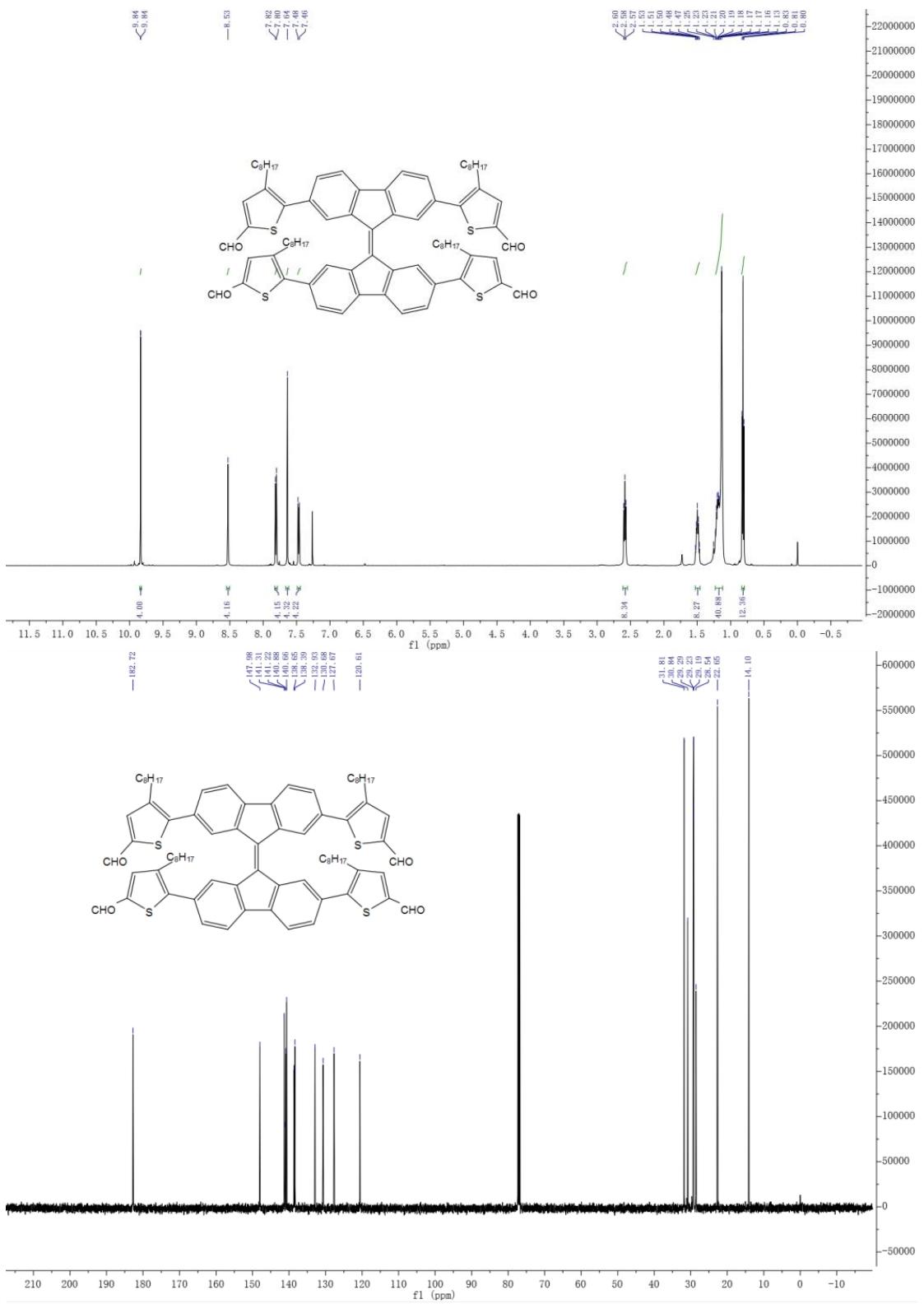
Fig. S8. ^{1}H NMR and ^{13}C NMR spectrum of the compound **VII**
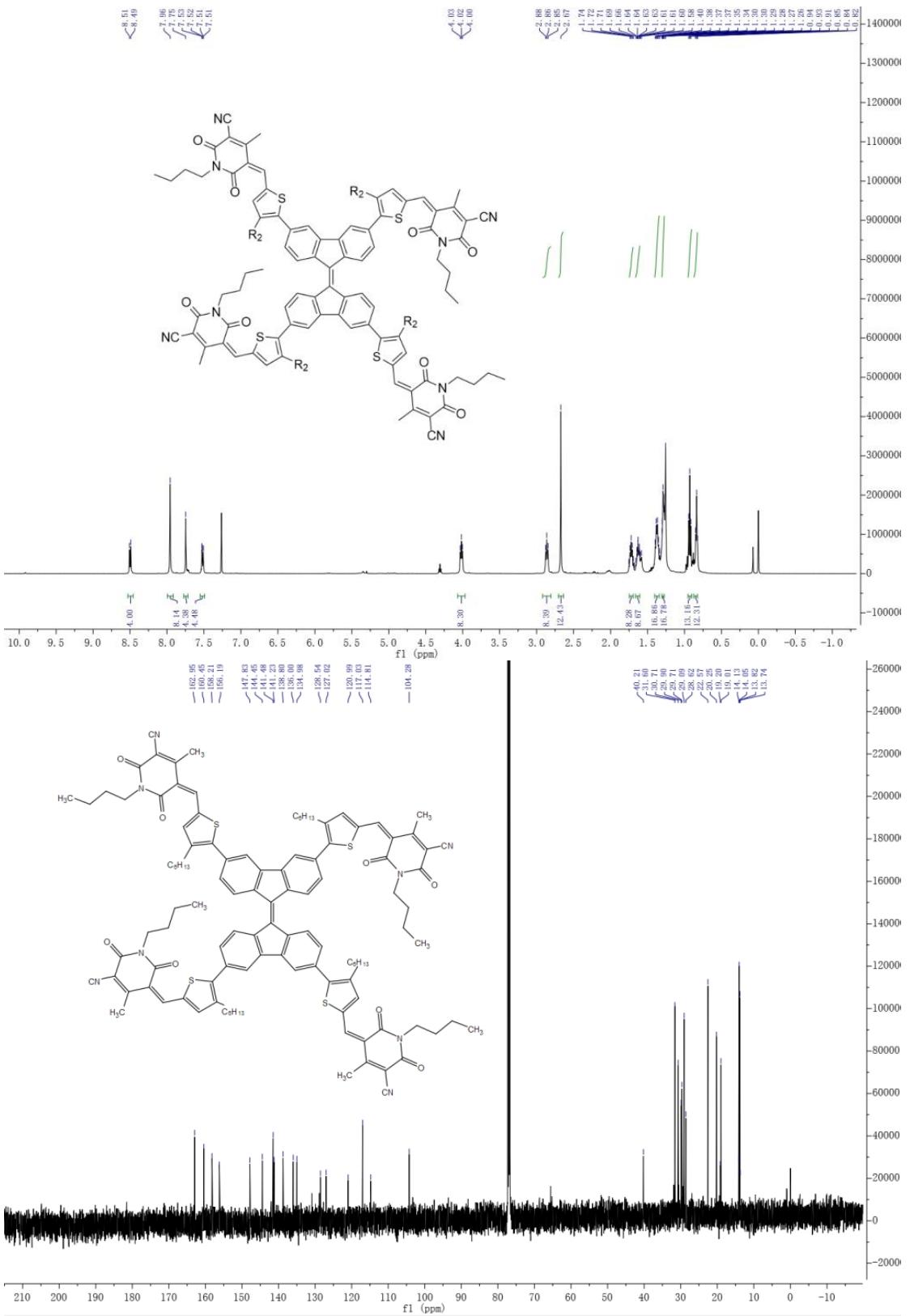
Fig. S9. ^{1}H NMR and ^{13}C NMR spectrum of the compound **A1**
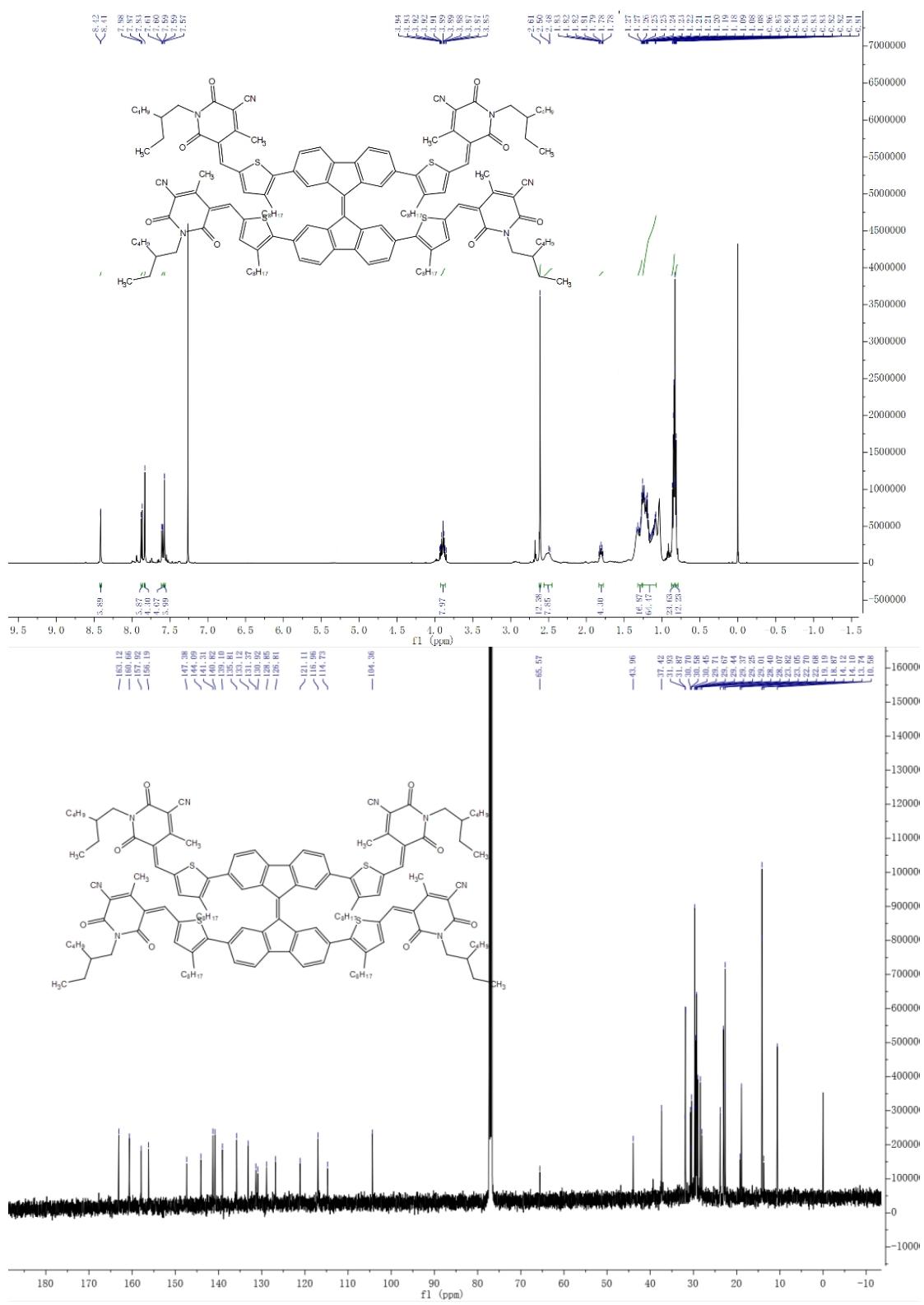
Fig. S10. ^{1}H NMR and ^{13}C NMR spectrum of the compound **A2**

# Mass spectrometry data of A1 and A2
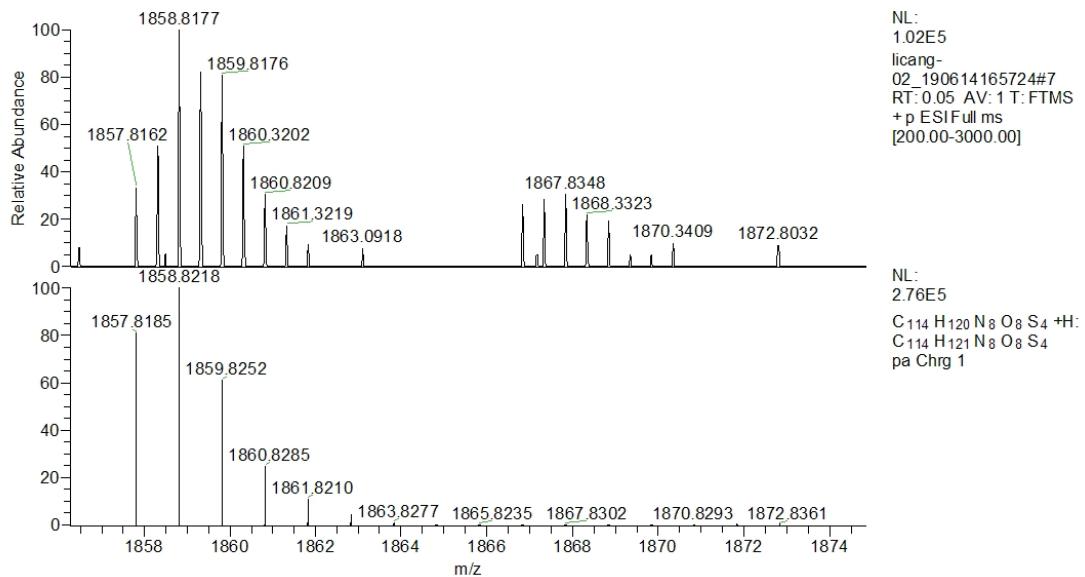
Fig. S11. Mass spectrometry data of **A1**
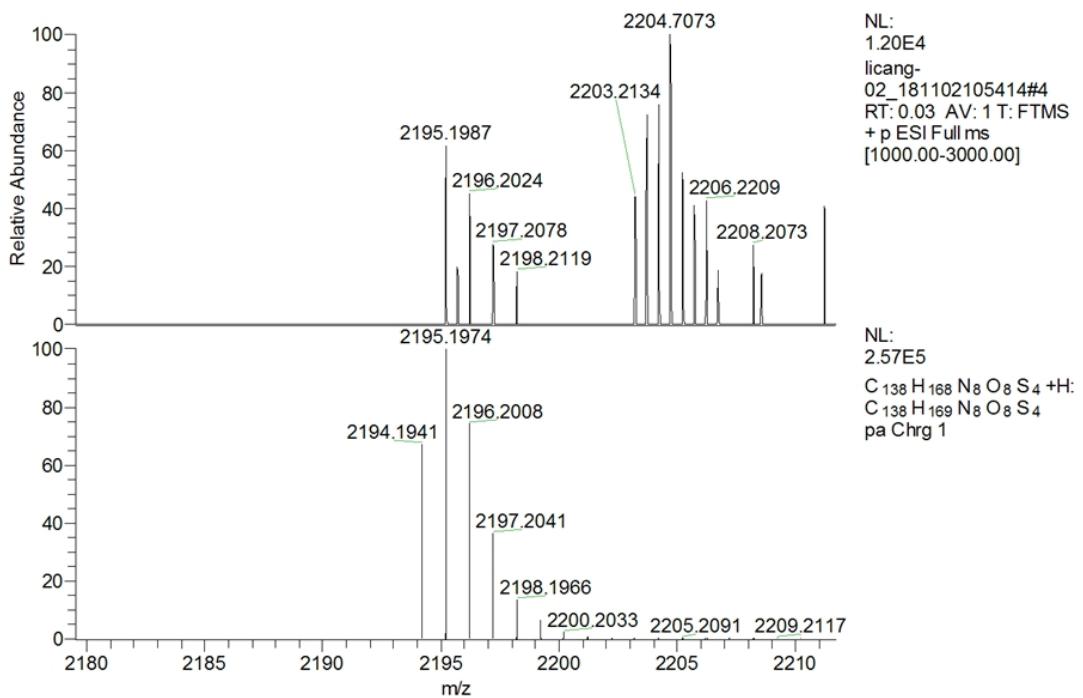
Fig. S12. Mass spectrometry data of **A2**