

Supplementary Information for

Reactions of Boron-Derived Radicals with Nucleophiles

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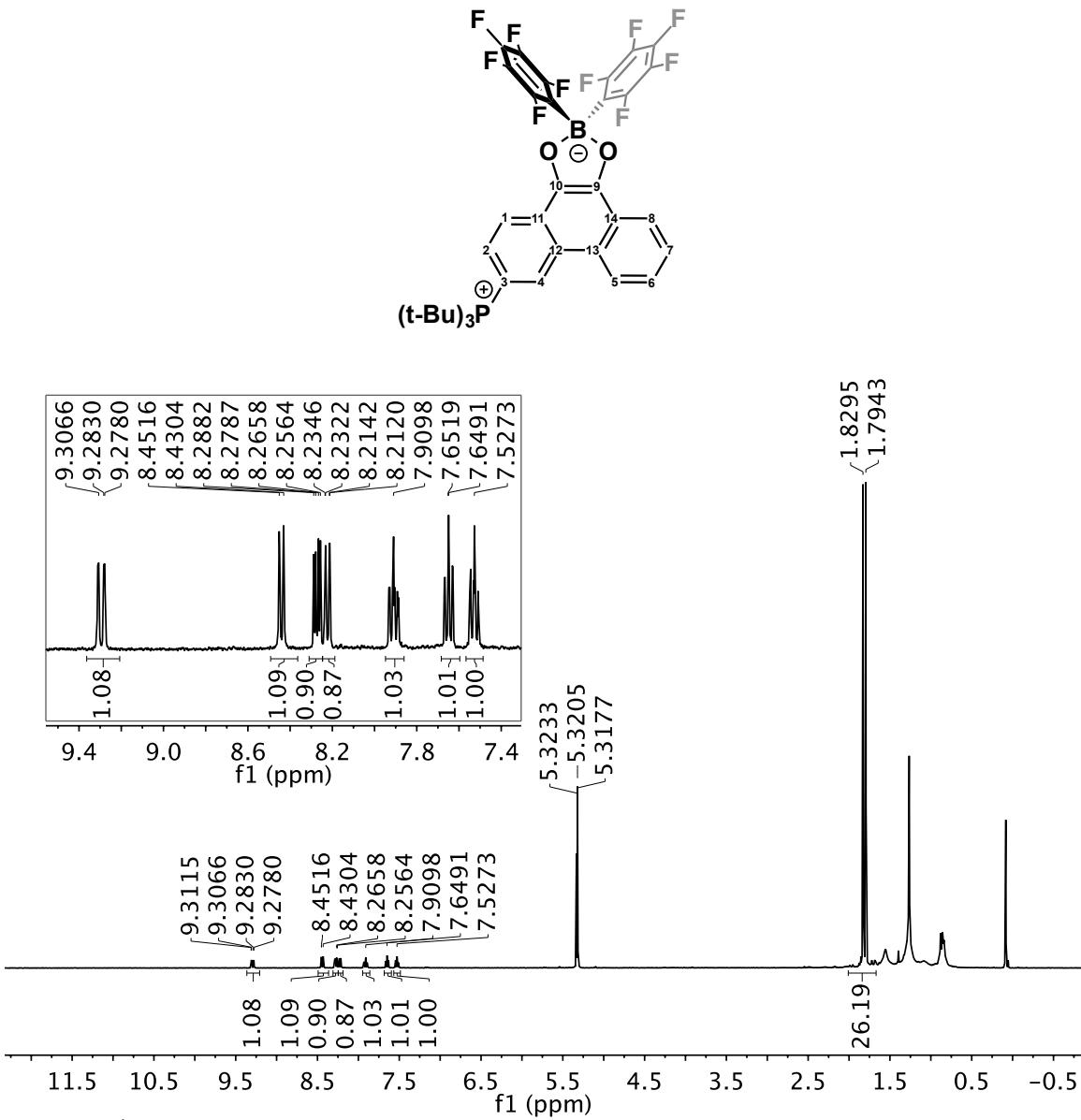


Figure 1 – ^1H NMR spectrum of **5 (400 MHz, 298 K, CD_2Cl_2).**

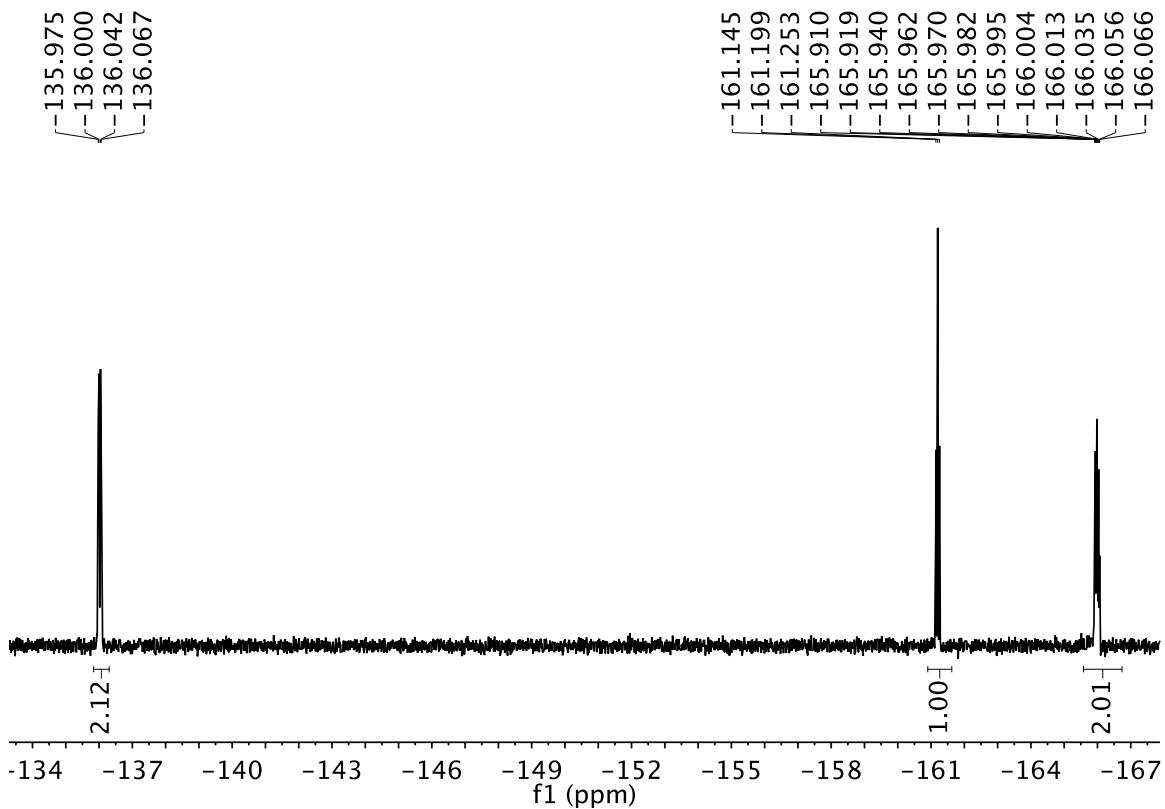


Figure 2 – ${}^{19}\text{F}$ NMR spectrum of **5** (377 MHz, 298 K, CD_2Cl_2).

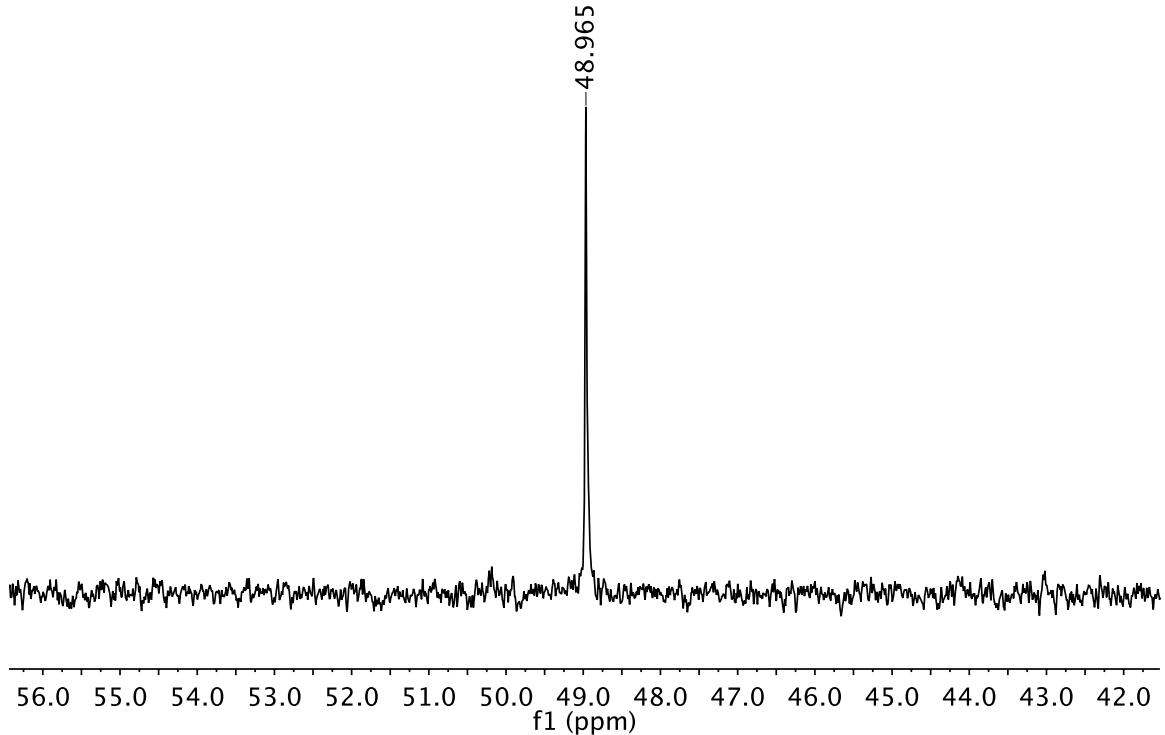


Figure 3 – ${}^{31}\text{P}\{{}^1\text{H}\}$ NMR spectrum of **5** (162 MHz, 298 K, CD_2Cl_2).

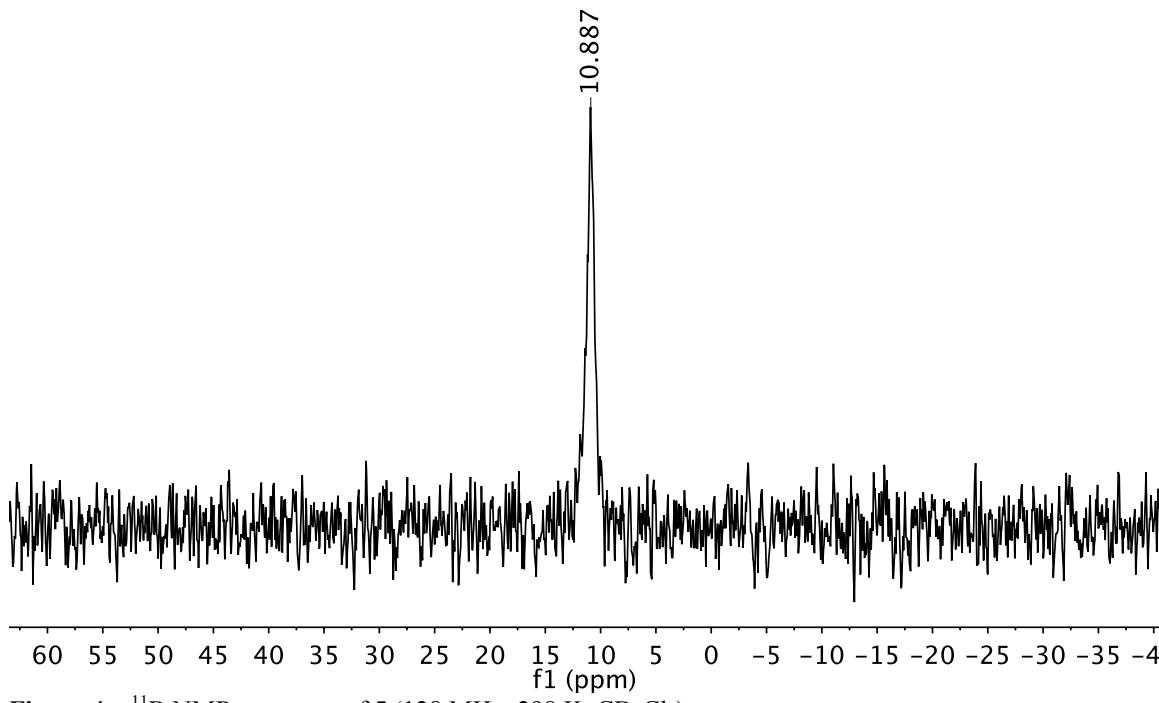


Figure 4 – ^{11}B NMR spectrum of **5** (128 MHz, 298 K, CD_2Cl_2).

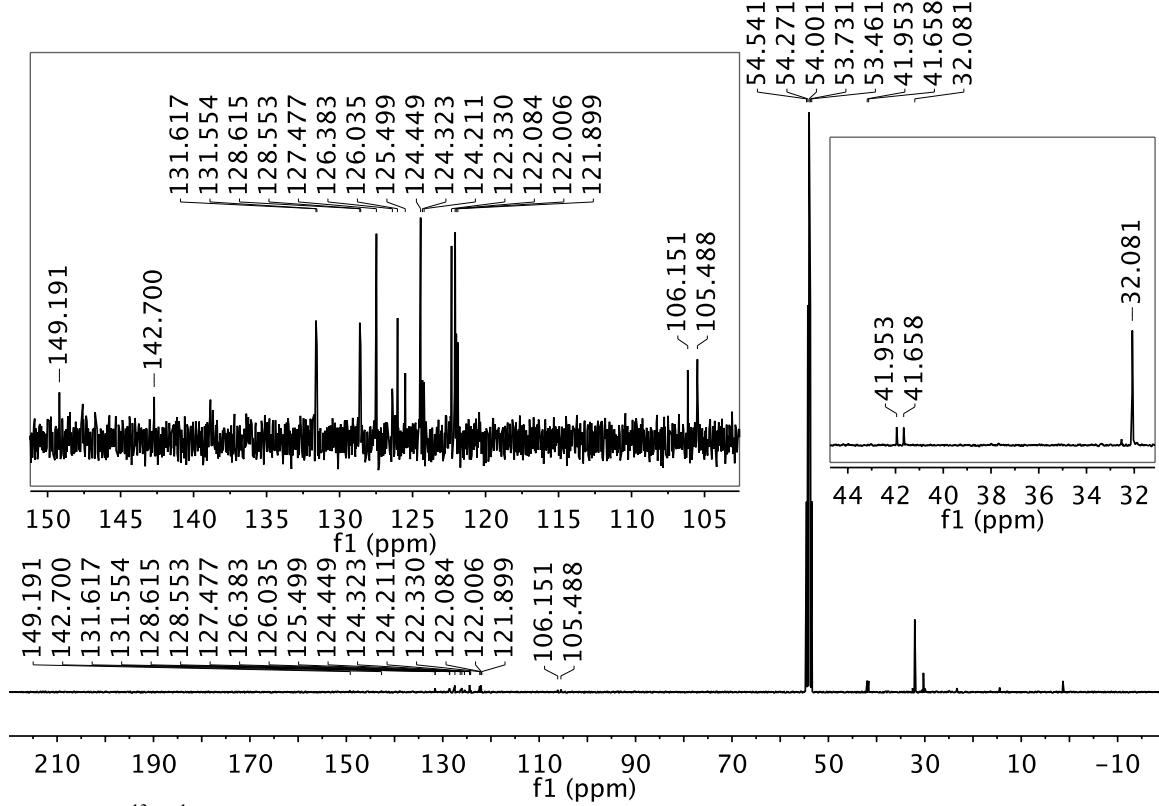


Figure 5 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **5** (101 MHz, 298 K, CD_2Cl_2).

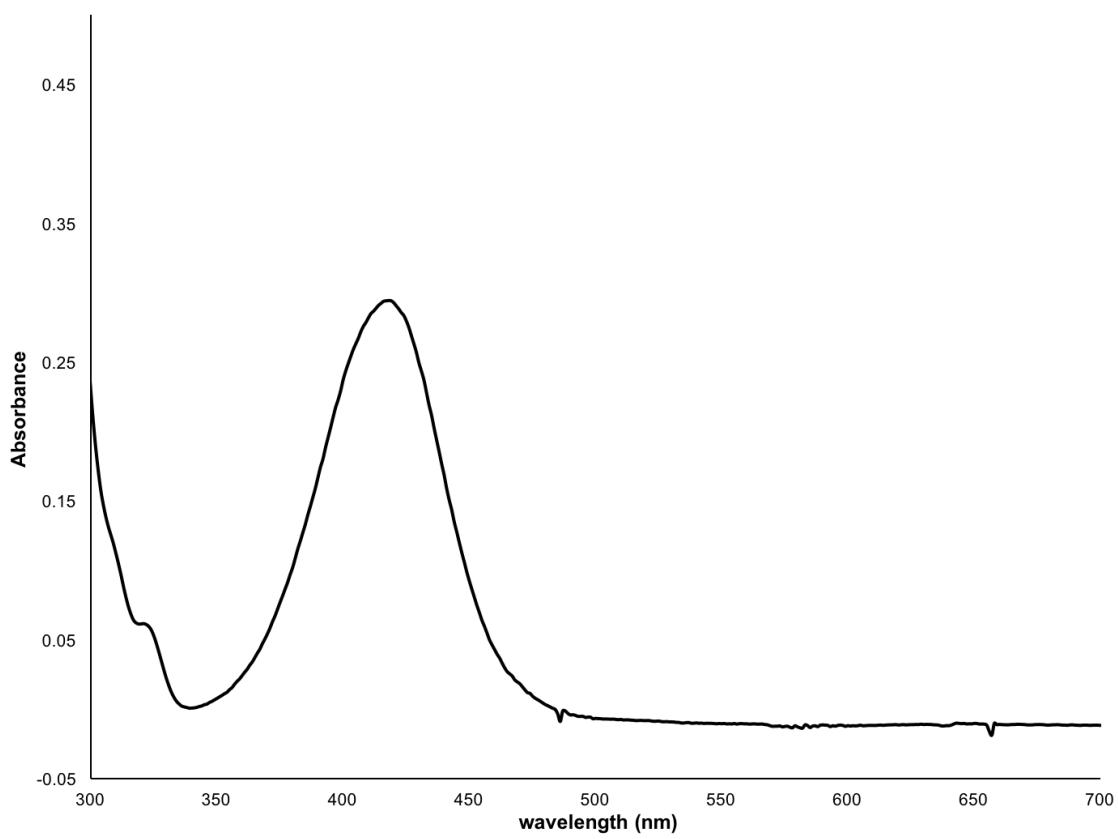


Figure 6 – UV-vis spectrum of **5** in DCM.

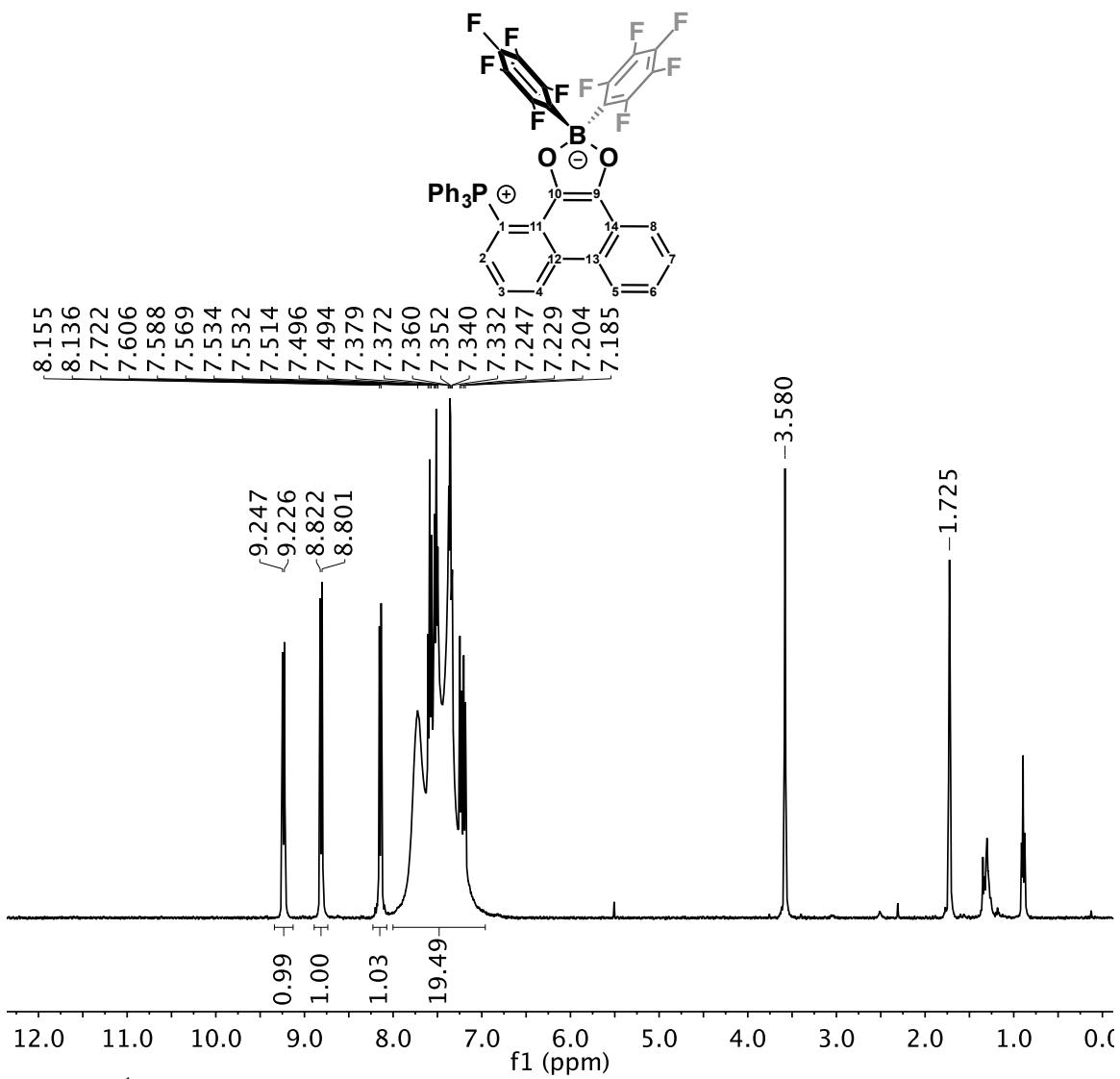


Figure 7 – ^1H NMR spectrum of **7a** (400 MHz, 298 K, $d_8\text{-THF}$).

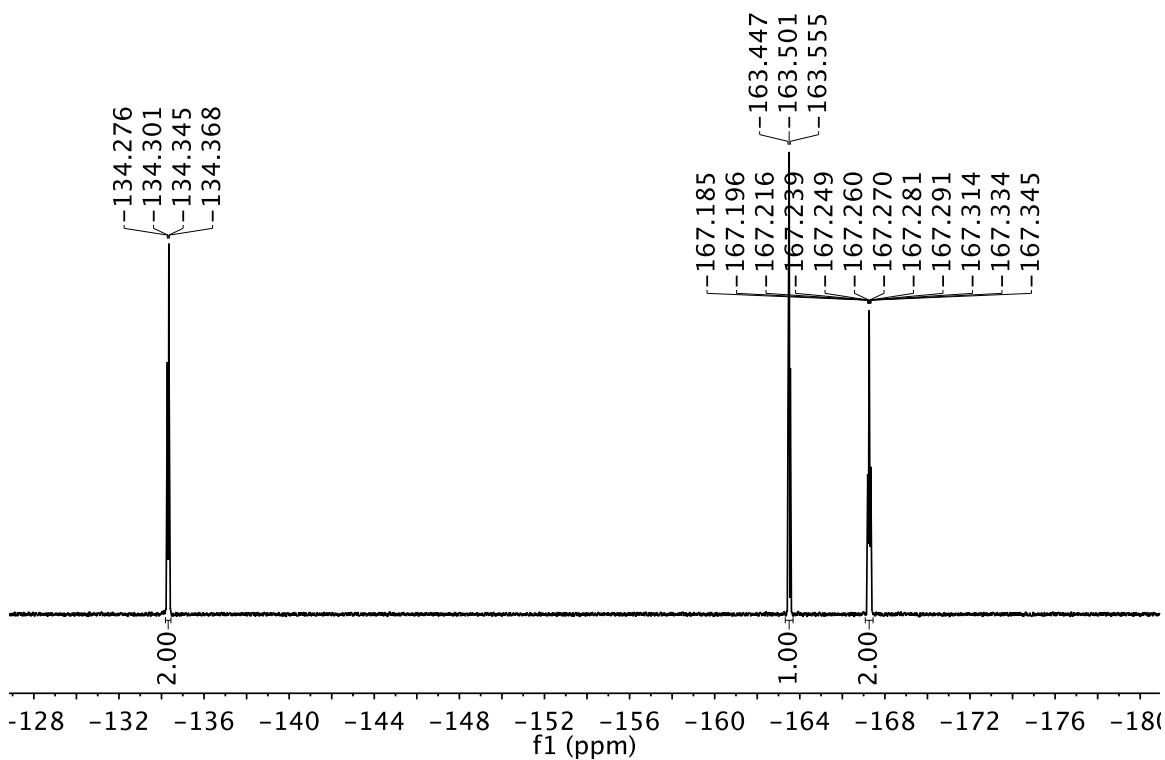


Figure 8 – ^{19}F NMR spectrum of **7a** (377 MHz, 298 K, d_8 -THF).

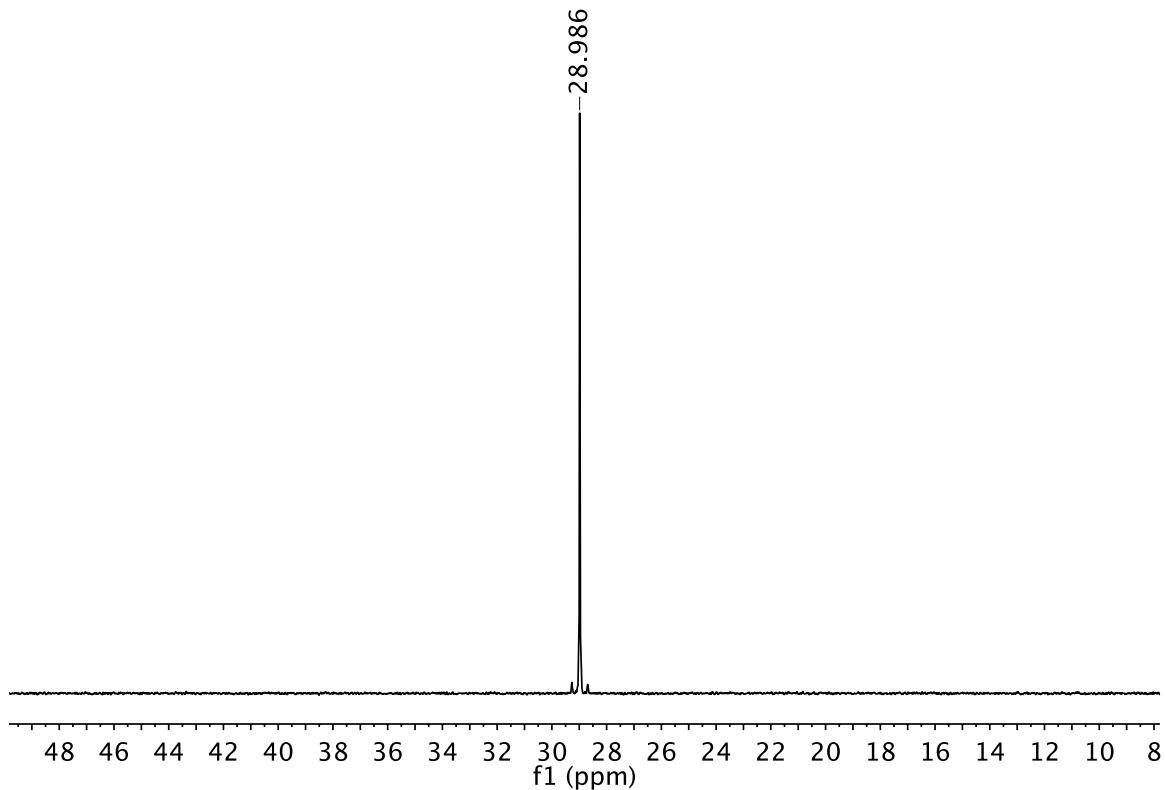


Figure 9 – $^{31}\text{P}\{^1\text{H}\}$ NMR spectrum of **7a** (162 MHz, 298 K, d_8 -THF).

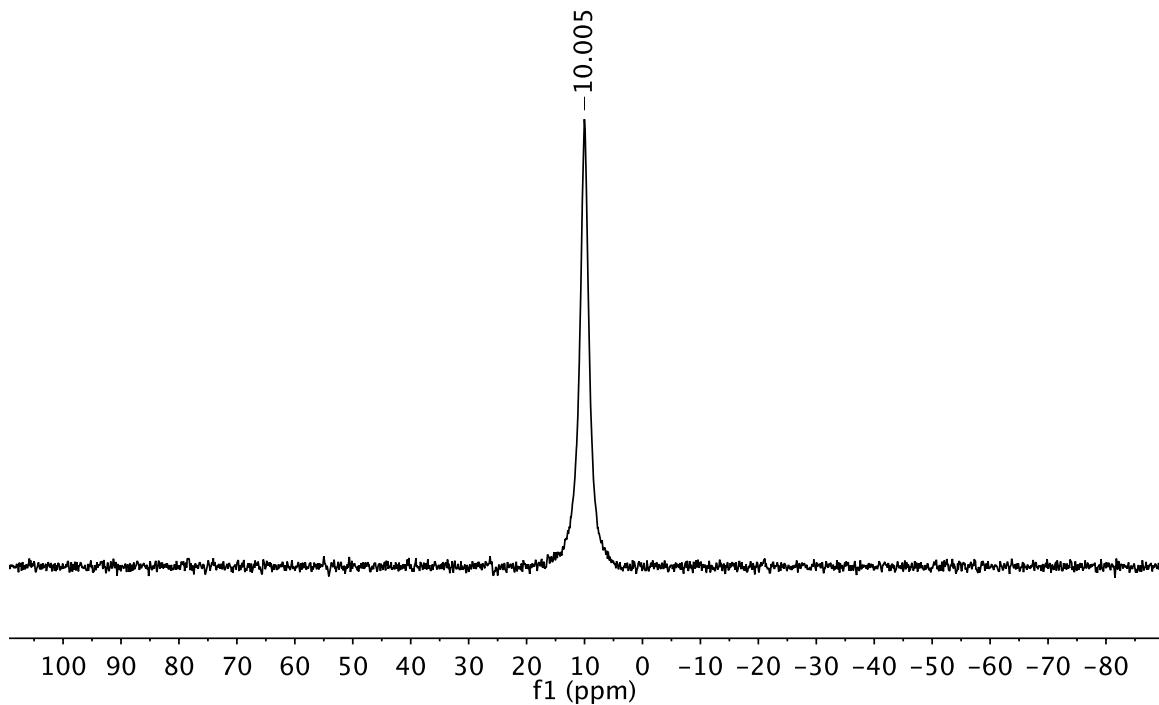


Figure 10 –¹¹B NMR spectrum of **7a** (128 MHz, 298 K, *d*₈-THF).

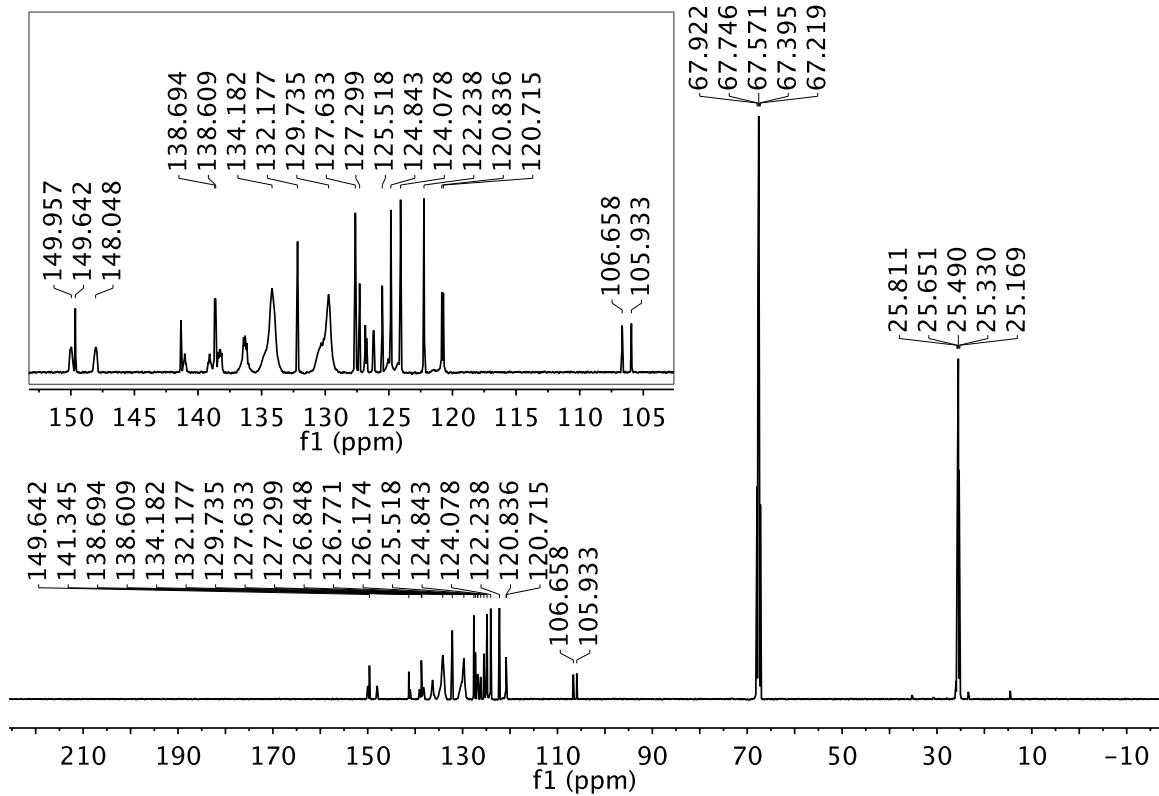


Figure 11 –¹³C{¹H} NMR spectrum of **7a** (126 MHz, 298 K, *d*₈-THF).

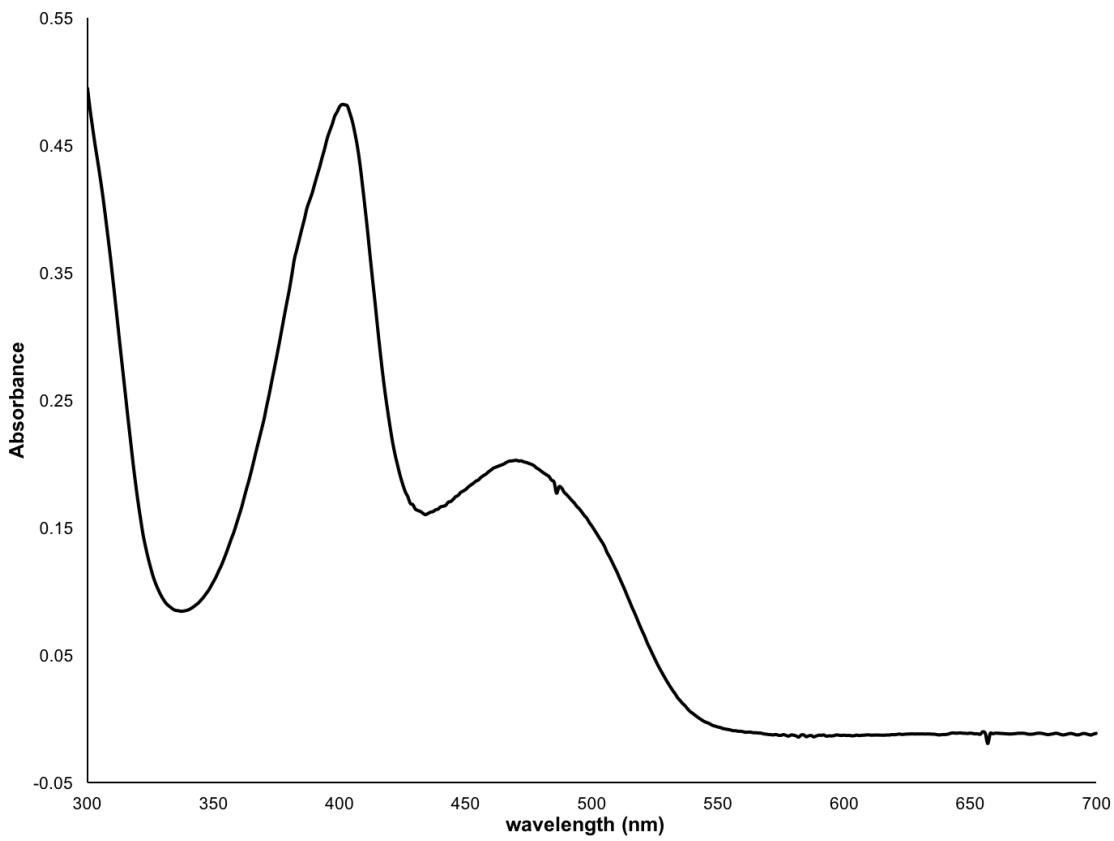


Figure 12 – UV-vis spectrum of **7a** in DCM.

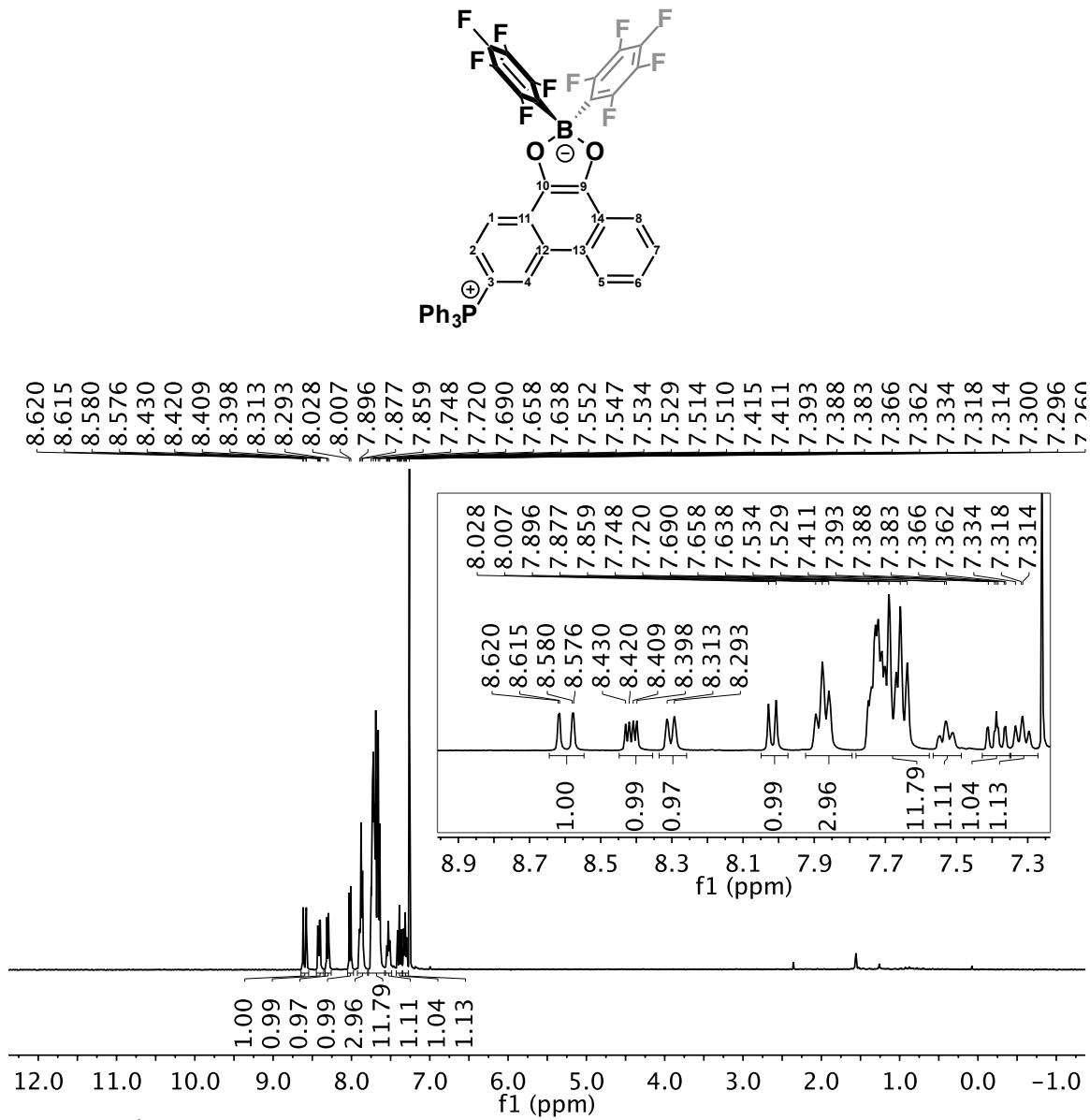


Figure 13 – ^1H NMR spectrum of **7b (400 MHz, 298 K, CDCl_3).**

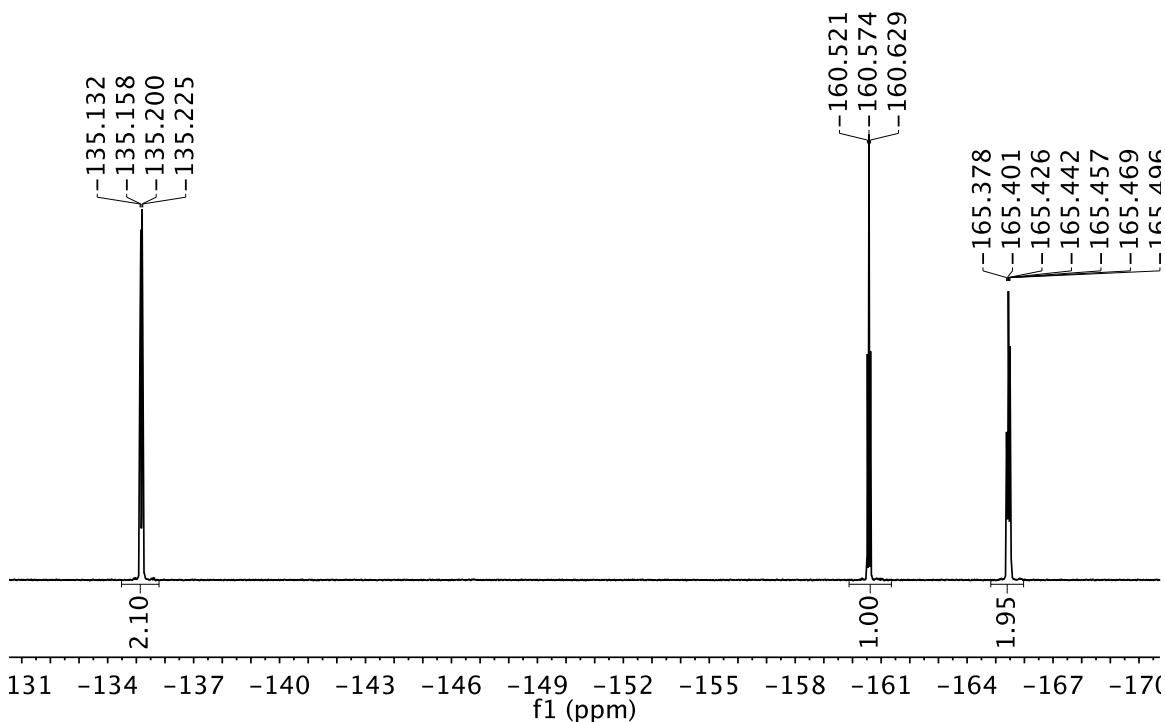


Figure 14 – ^{19}F NMR spectrum of **7b** (377 MHz, 298 K, CDCl_3).

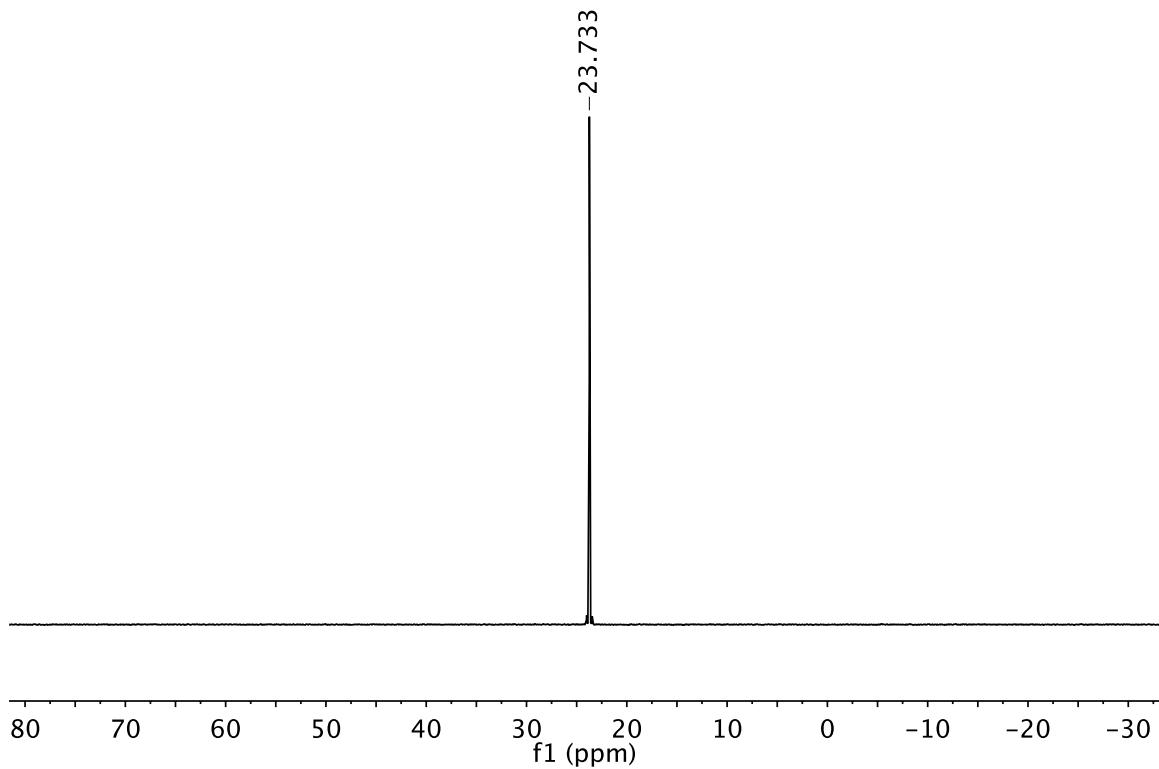


Figure 15 – $^{31}\text{P}\{\text{H}\}$ NMR spectrum of **7b** (162 MHz, 298 K, CDCl_3).

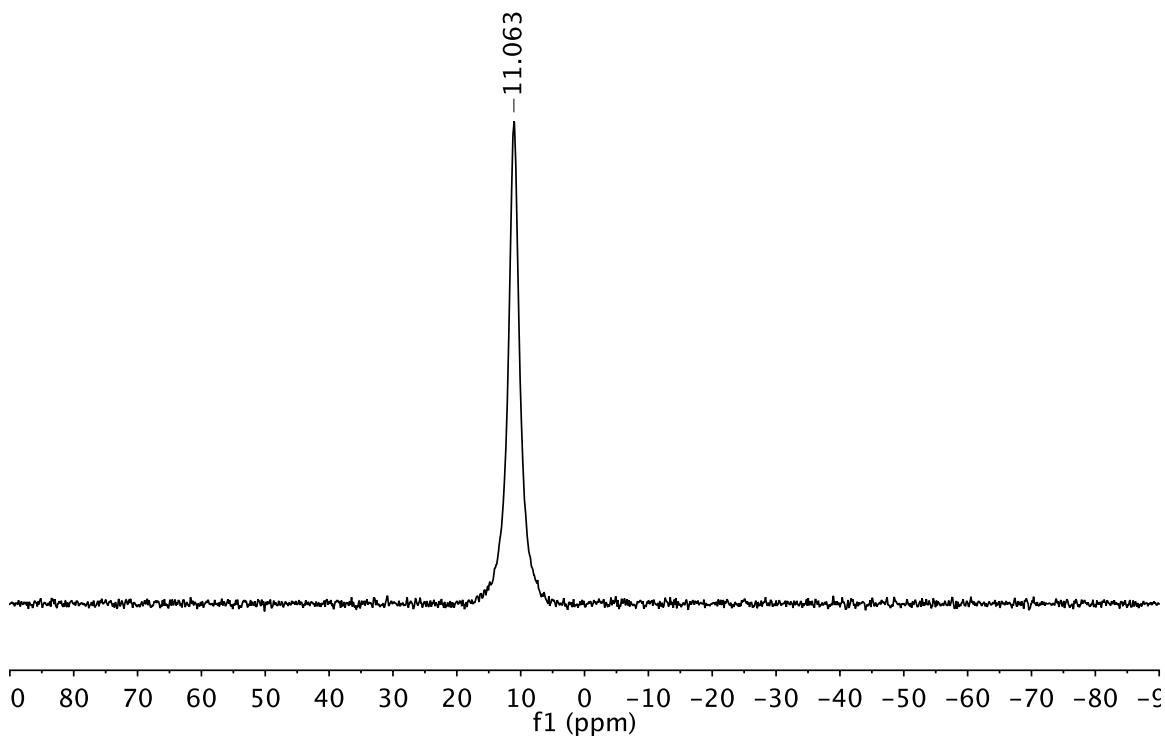


Figure 16 – ^{11}B NMR spectrum of **7b** (128 MHz, 298 K, CDCl_3).

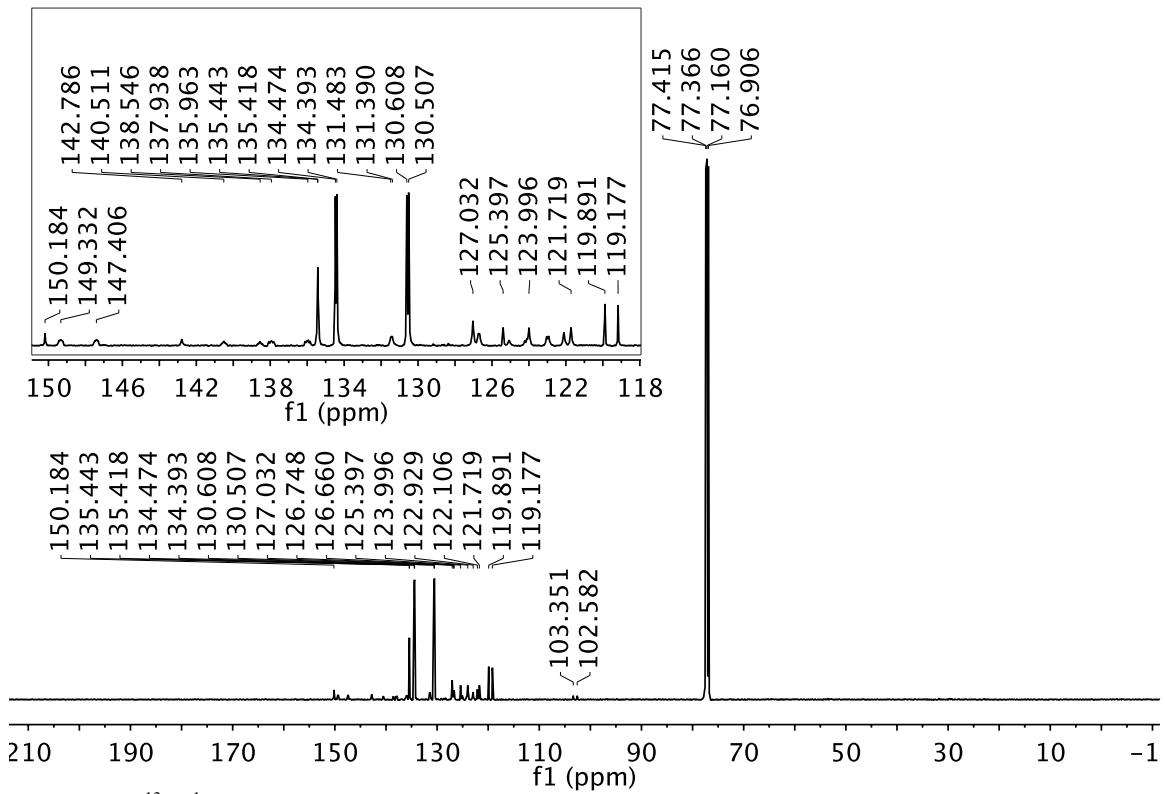


Figure 17 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **7b** (126 MHz, 298 K, CDCl_3).

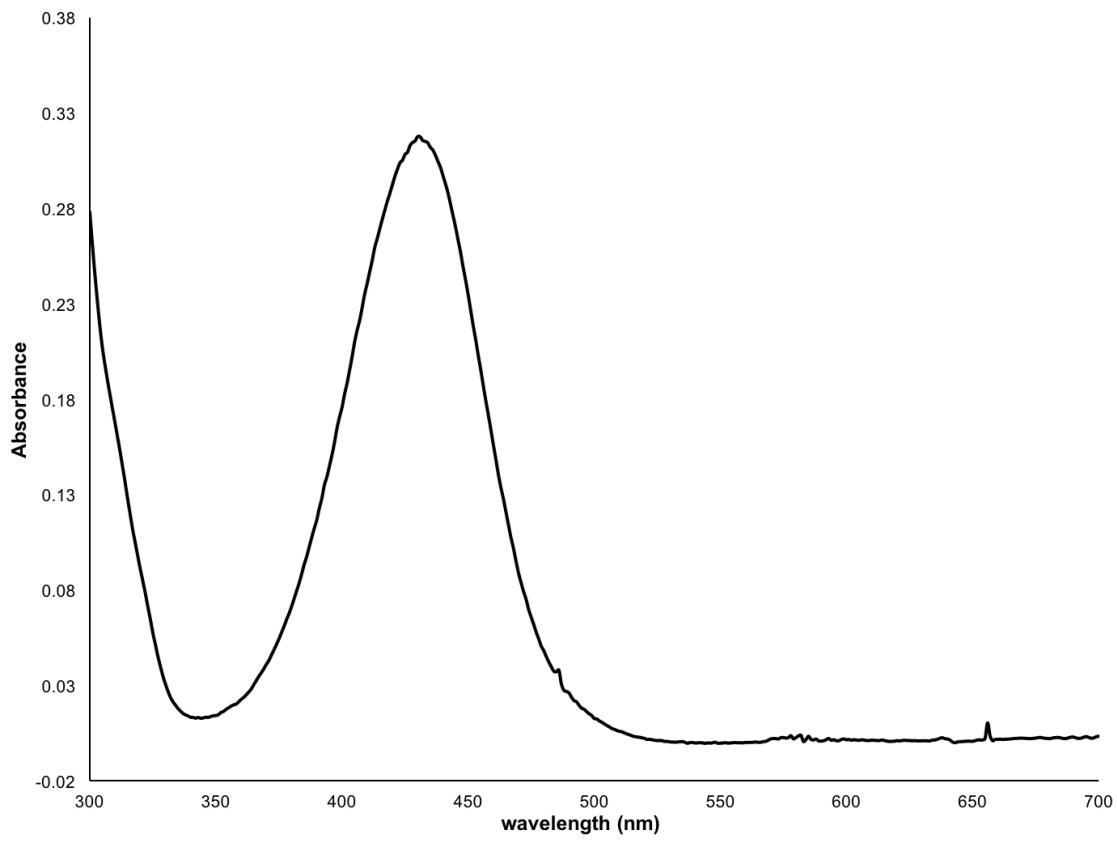


Figure 18 – UV-vis spectrum of **7b** in DCM.

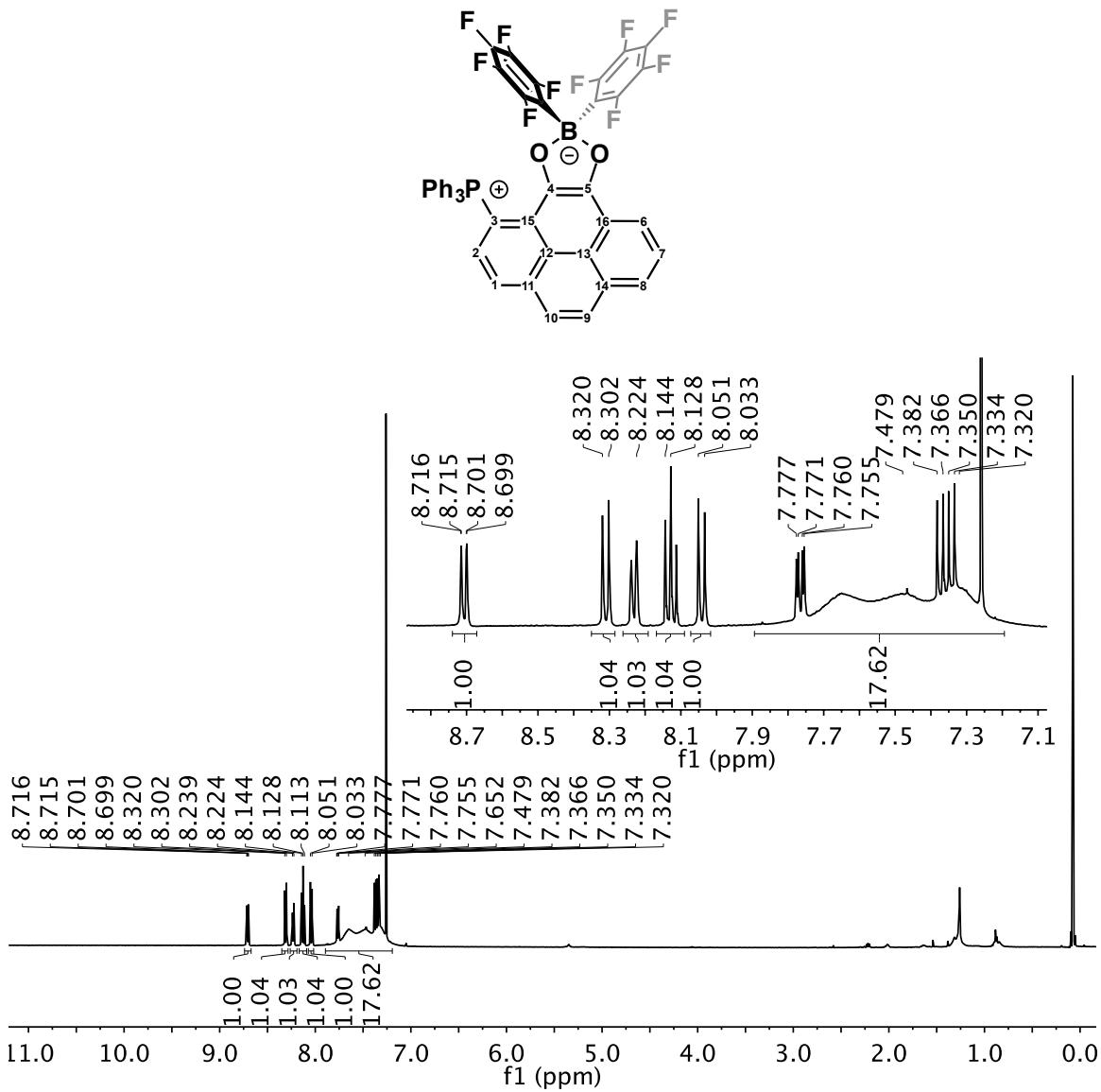


Figure 19 – ^1H NMR spectrum of **8a** (500 MHz, 298 K, CDCl_3).

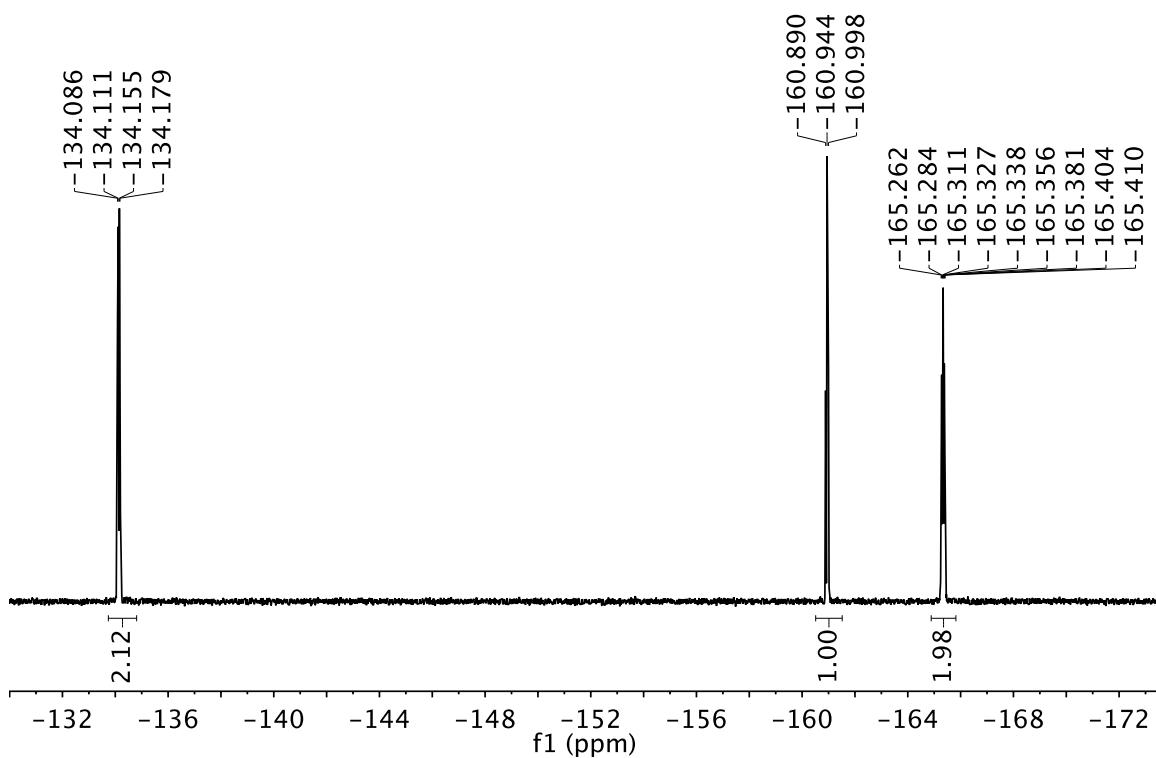


Figure 20 – ${}^{19}\text{F}$ NMR spectrum of **8a** (377 MHz, 298 K, CDCl_3).

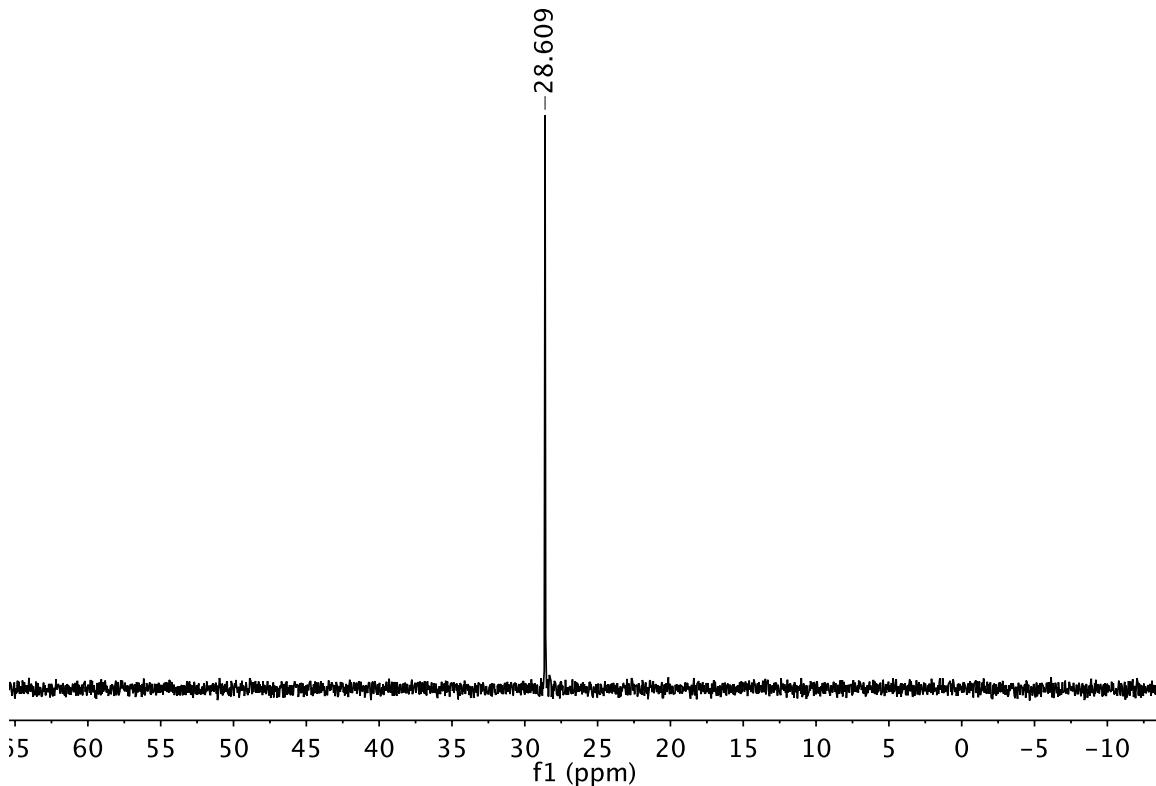


Figure 21 – ${}^{31}\text{P}\{{}^1\text{H}\}$ NMR spectrum of **8a** (162 MHz, 298 K, CDCl_3).

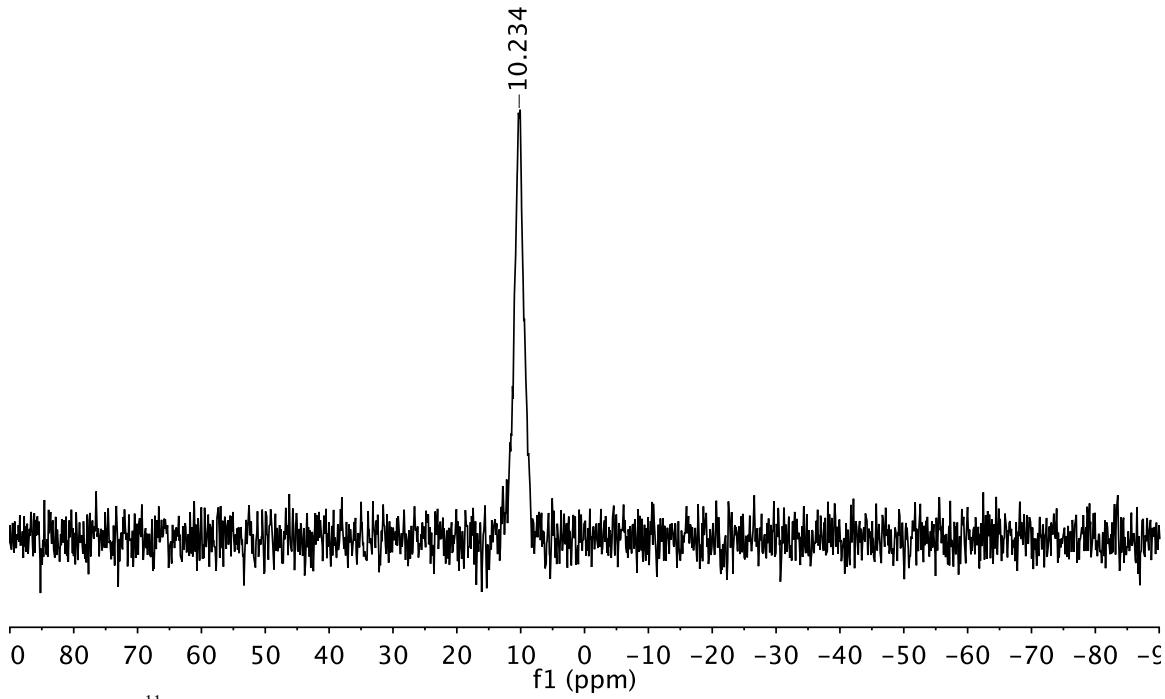


Figure 22 –¹¹B NMR spectrum of **8a** (128 MHz, 298 K, CDCl₃).

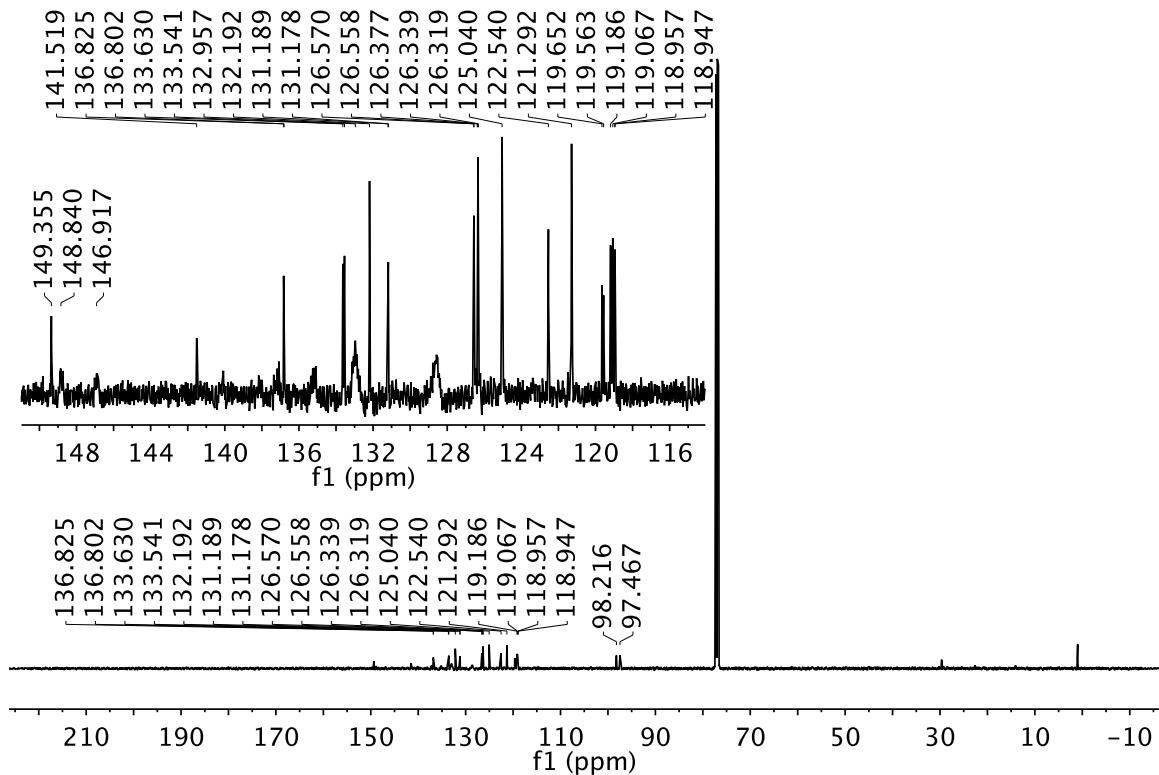


Figure 23 – $^{13}\text{C}\{\text{H}\}$ NMR spectrum of **8a** (126 MHz, 298 K, CDCl_3).

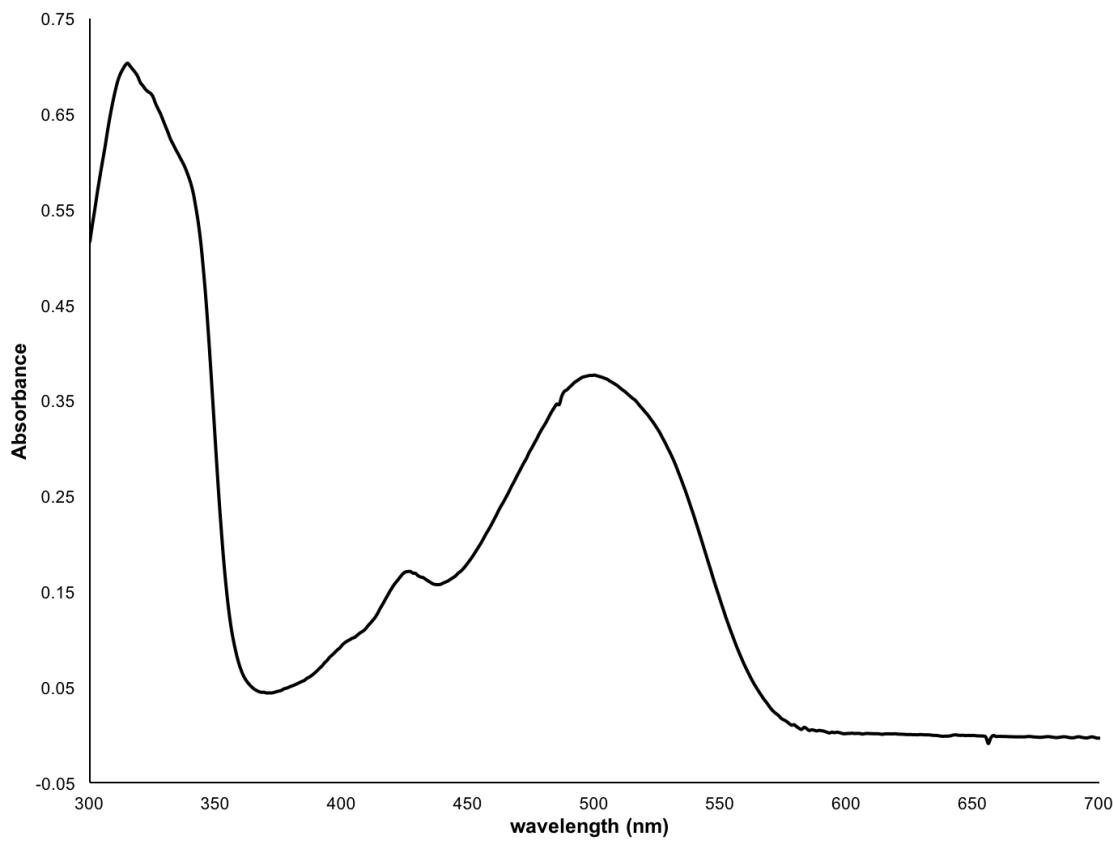


Figure 24 – UV-vis spectrum of **8a** in DCM.

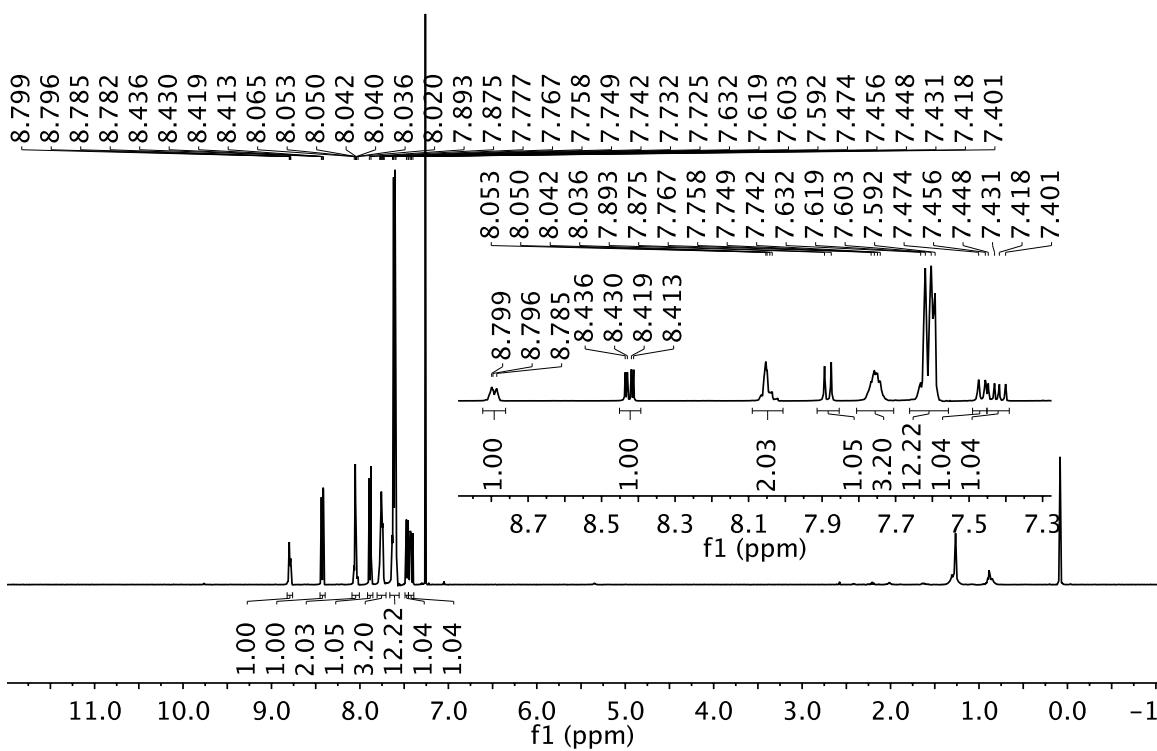
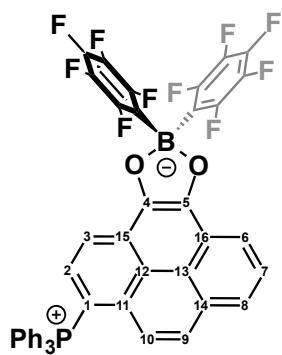


Figure 25 – ^1H NMR spectrum of **8b** (500 MHz, 298 K, CDCl_3).

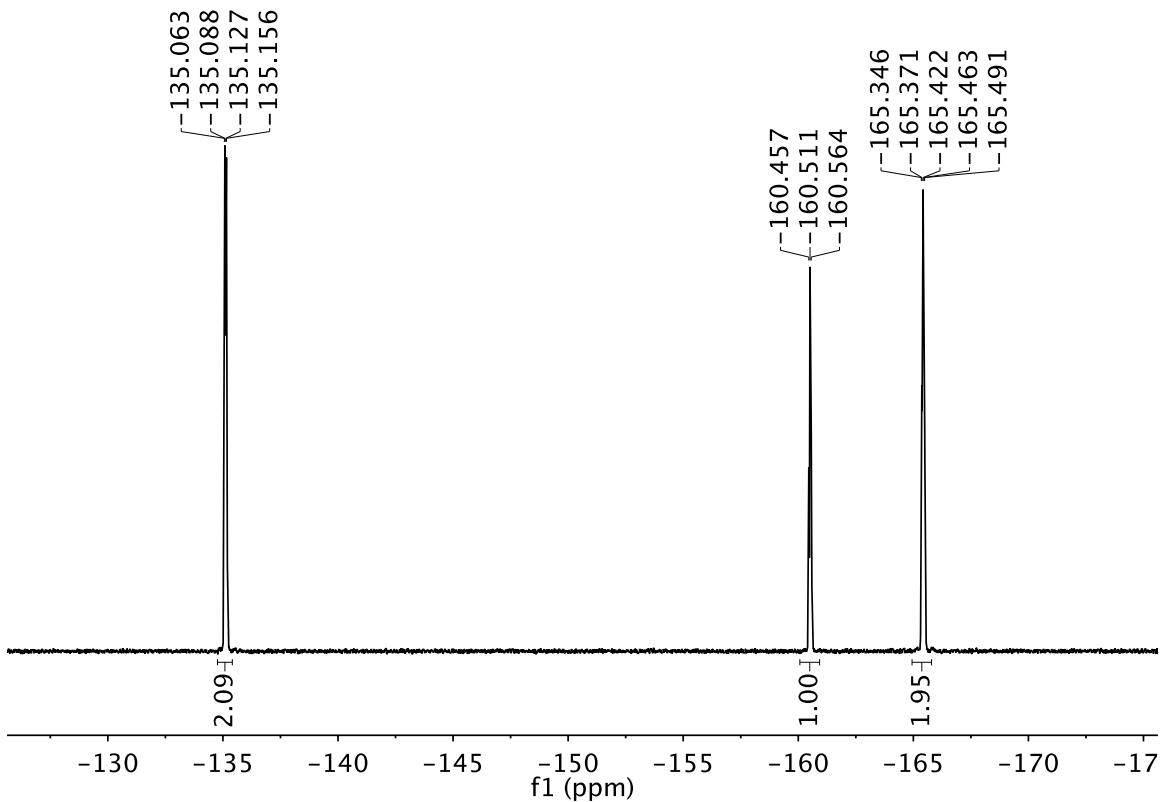


Figure 26 – ^{19}F NMR spectrum of **8b** (377 MHz, 298 K, CDCl_3).

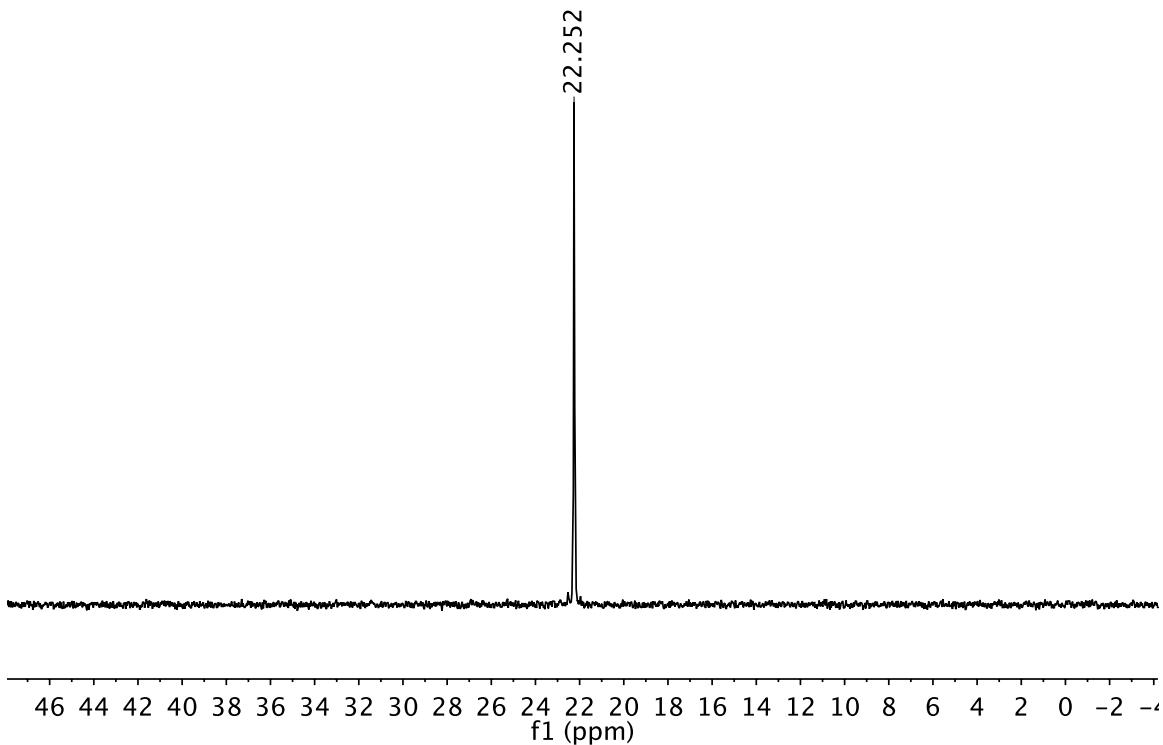


Figure 27 – $^{31}\text{P}\{\text{H}\}$ NMR spectrum of **8b** (162 MHz, 298 K, CDCl_3).

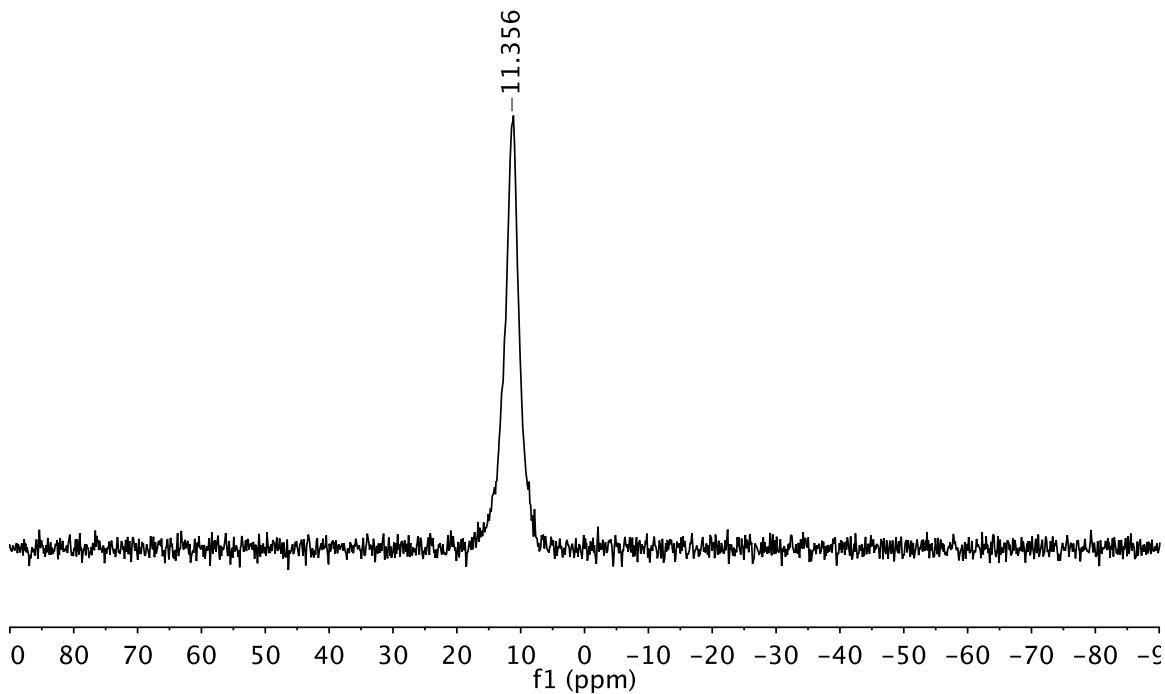


Figure 28 – ^{11}B NMR spectrum of **8b** (128 MHz, 298 K, CDCl_3).

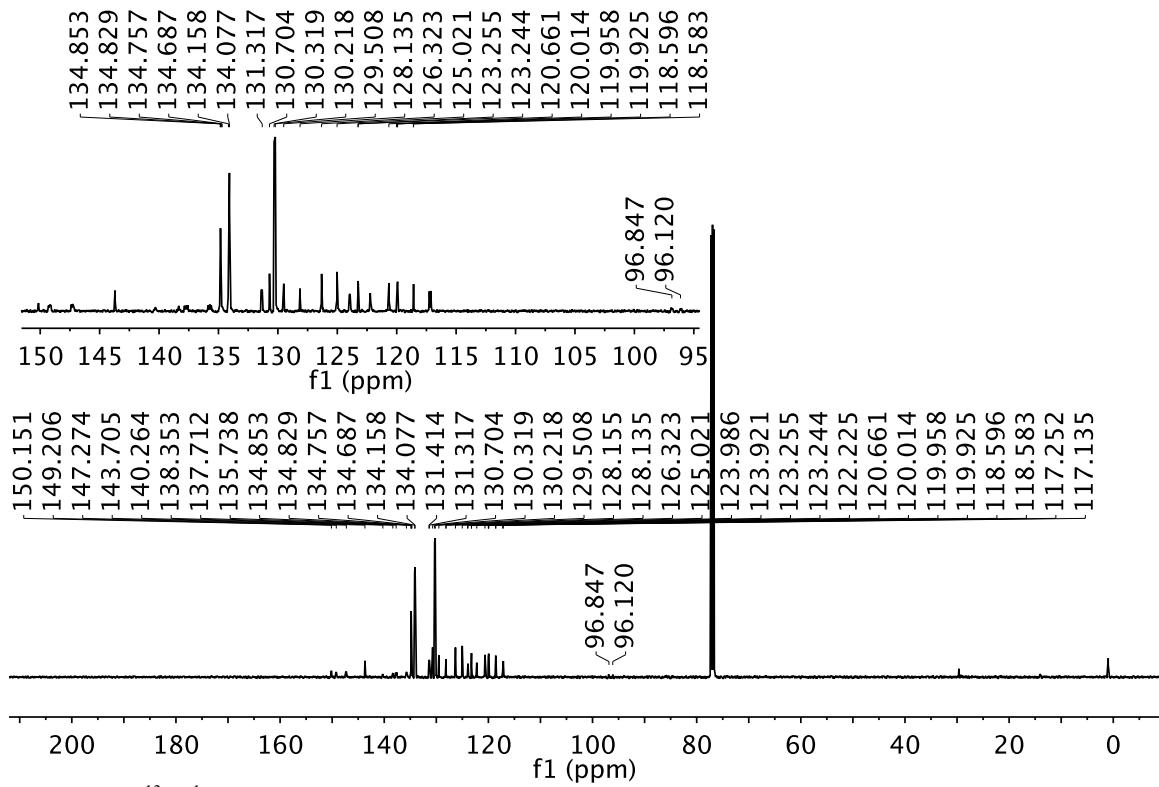


Figure 29 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **8b** (126 MHz, 298 K, CDCl_3).

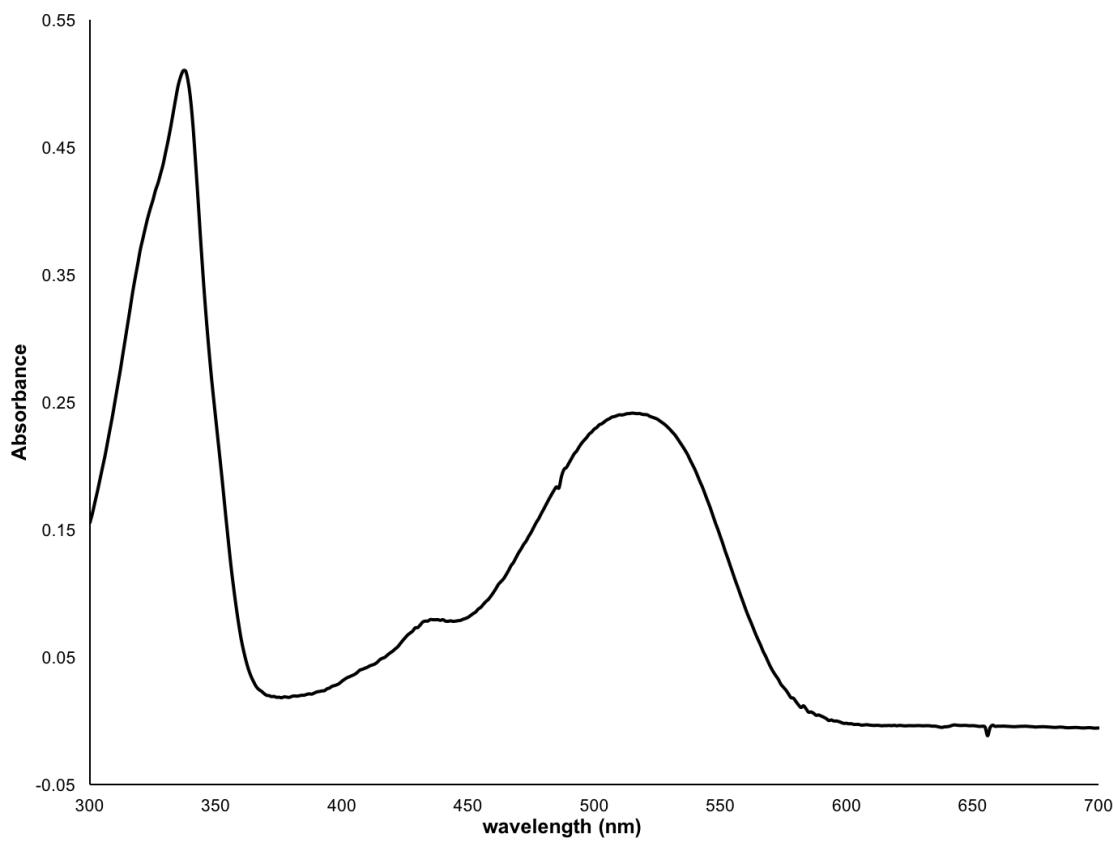


Figure 30 – UV-vis spectrum of **8b** in DCM.

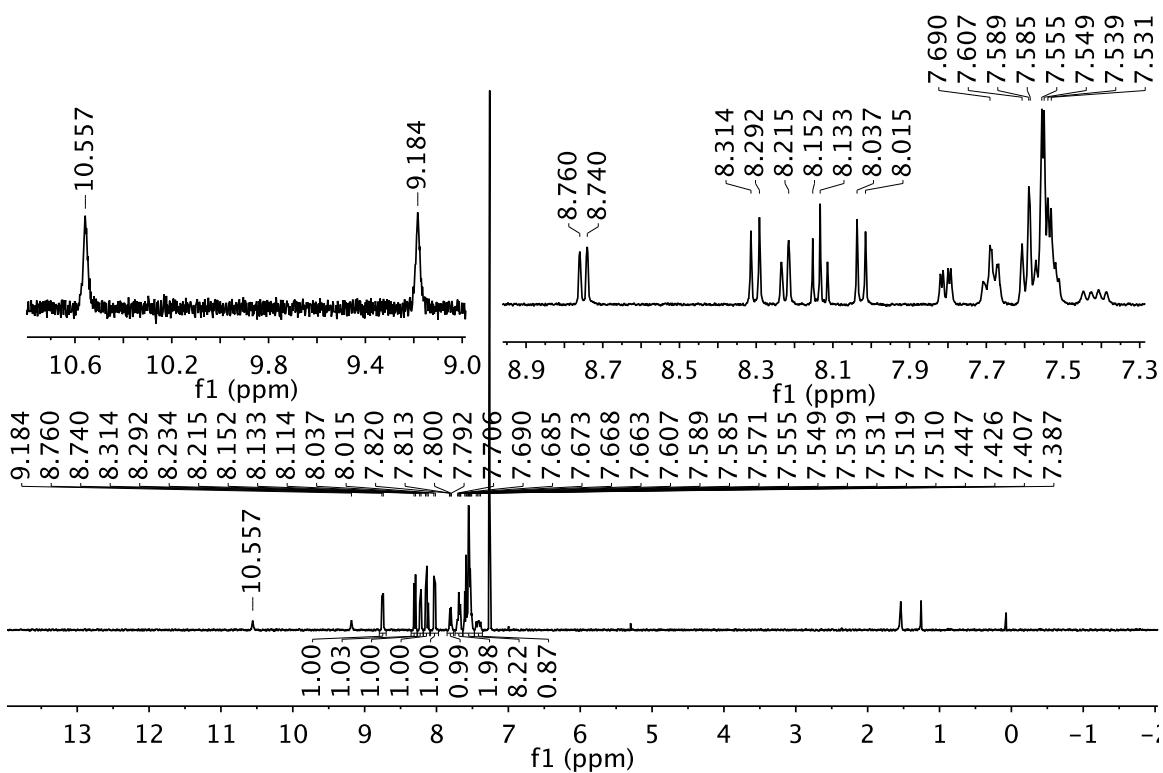
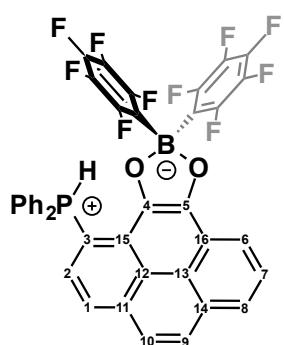


Figure 31 – ^1H NMR spectrum of **9** (400 MHz, 298 K, CDCl_3).

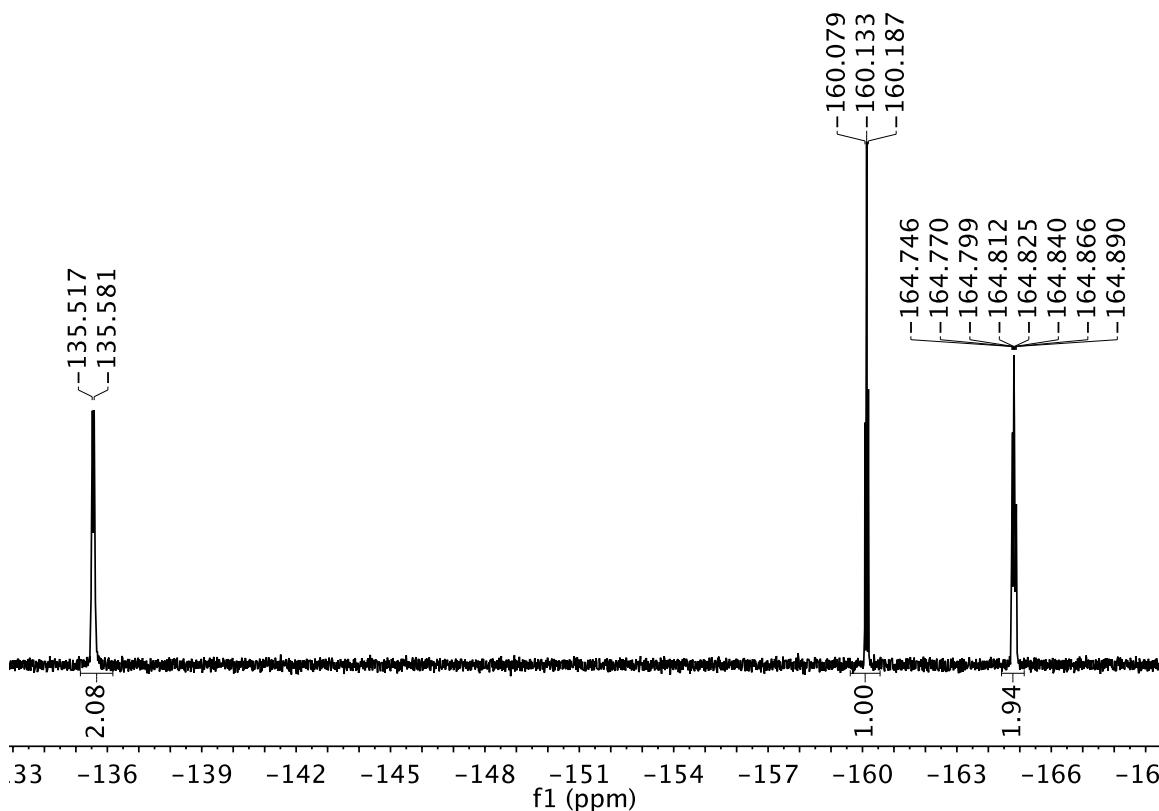


Figure 32 – ${}^{19}\text{F}$ NMR spectrum of **9** (377 MHz, 298 K, CDCl_3).

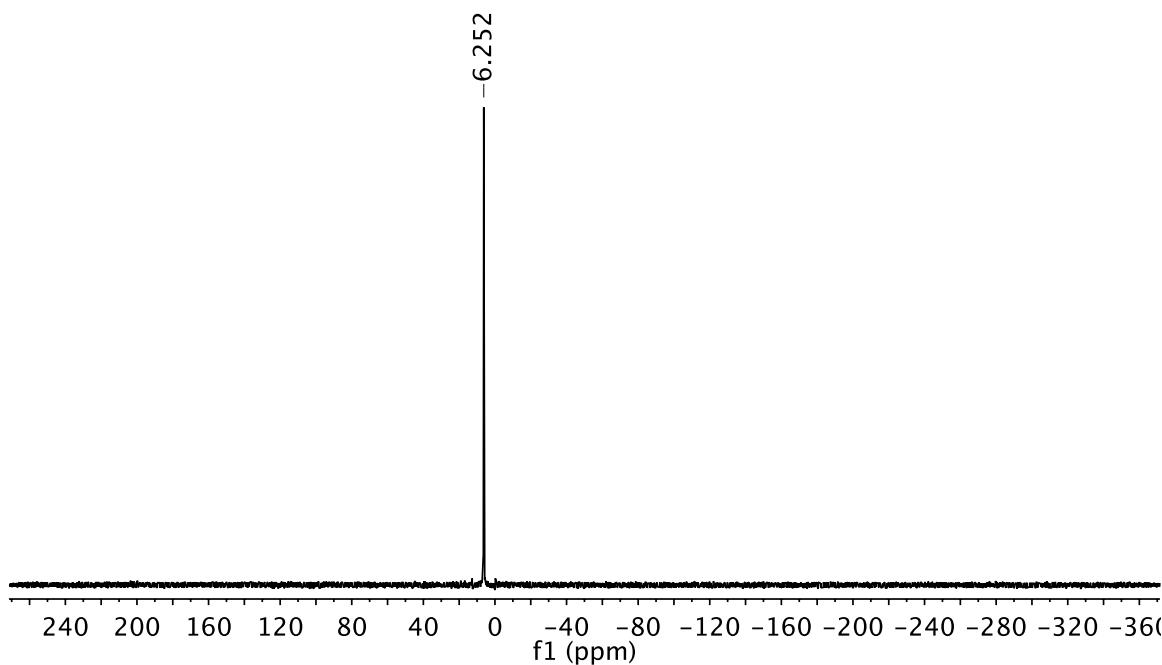


Figure 33 – ${}^{31}\text{P}\{{}^1\text{H}\}$ NMR spectrum of **9** (162 MHz, 298 K, CDCl_3).

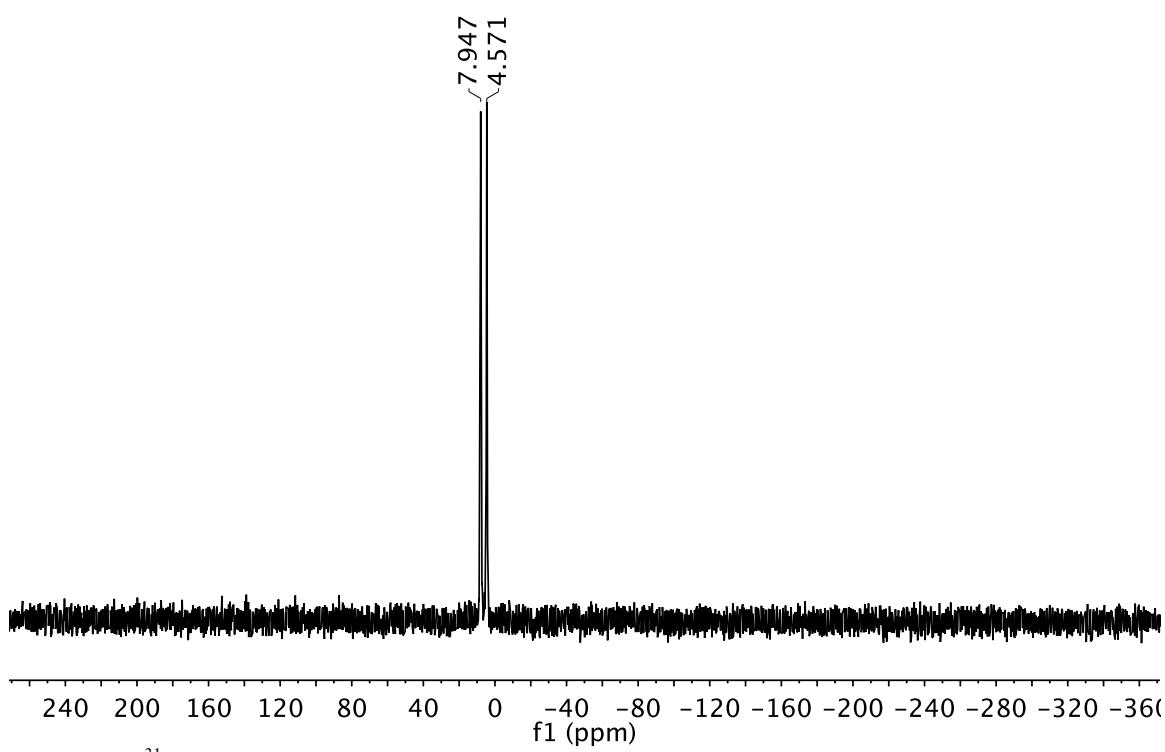


Figure 34 – ^{31}P NMR spectrum of **9** (162 MHz, 298 K, CDCl_3).

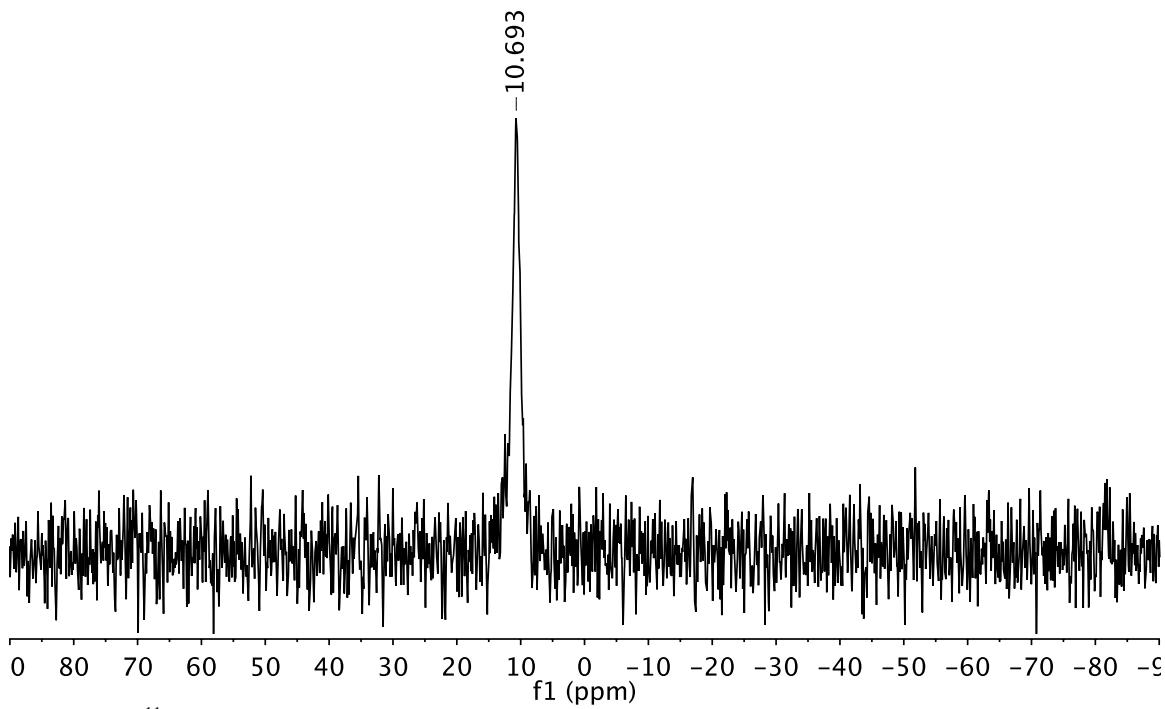


Figure 35 – ^{11}B NMR spectrum of **9** (128 MHz, 298 K, CDCl_3).

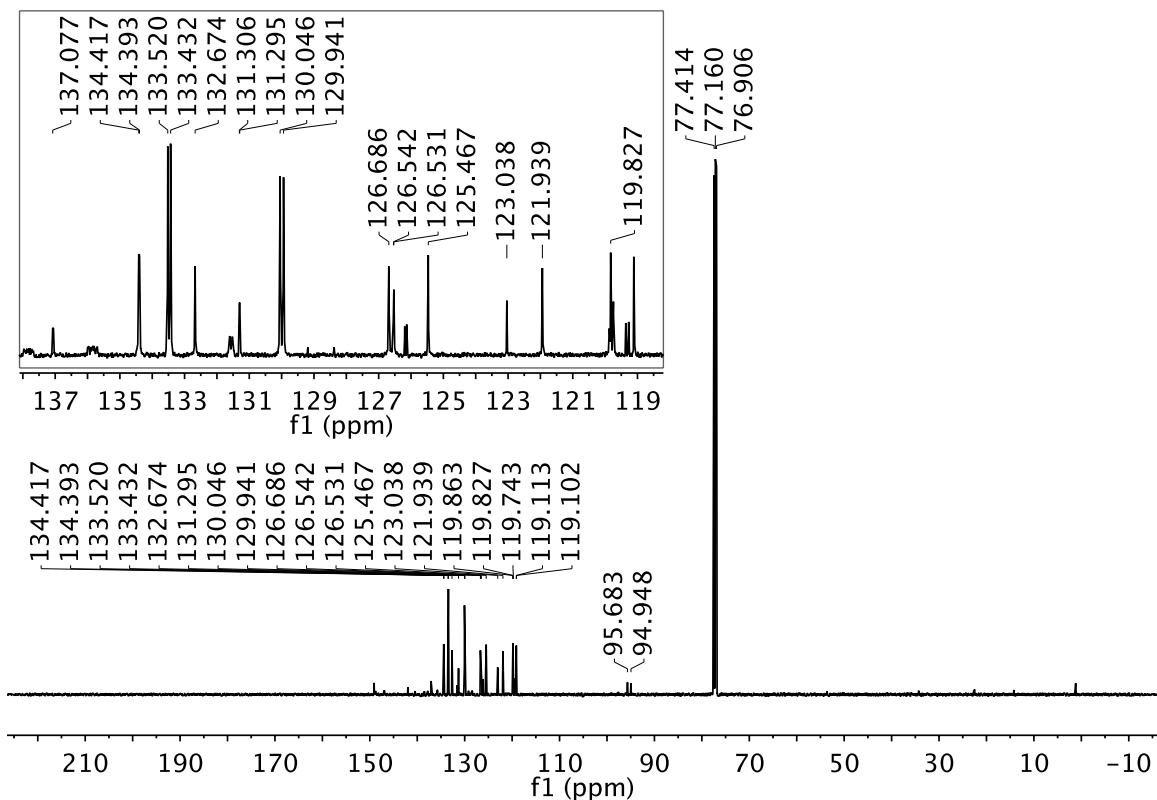


Figure 36 – $^{13}\text{C}\{\text{H}\}$ NMR spectrum of **9** (126 MHz, 298 K, CDCl_3).

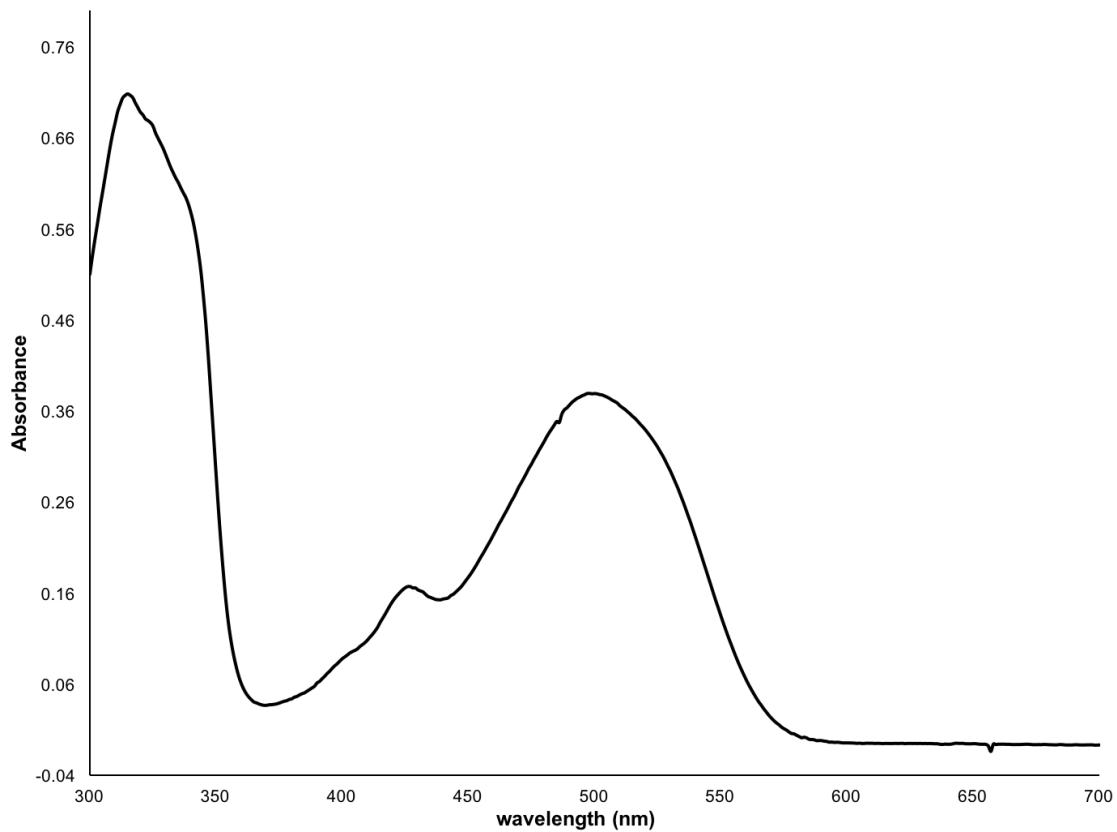


Figure 37 – UV-vis spectrum of **9** in DCM.

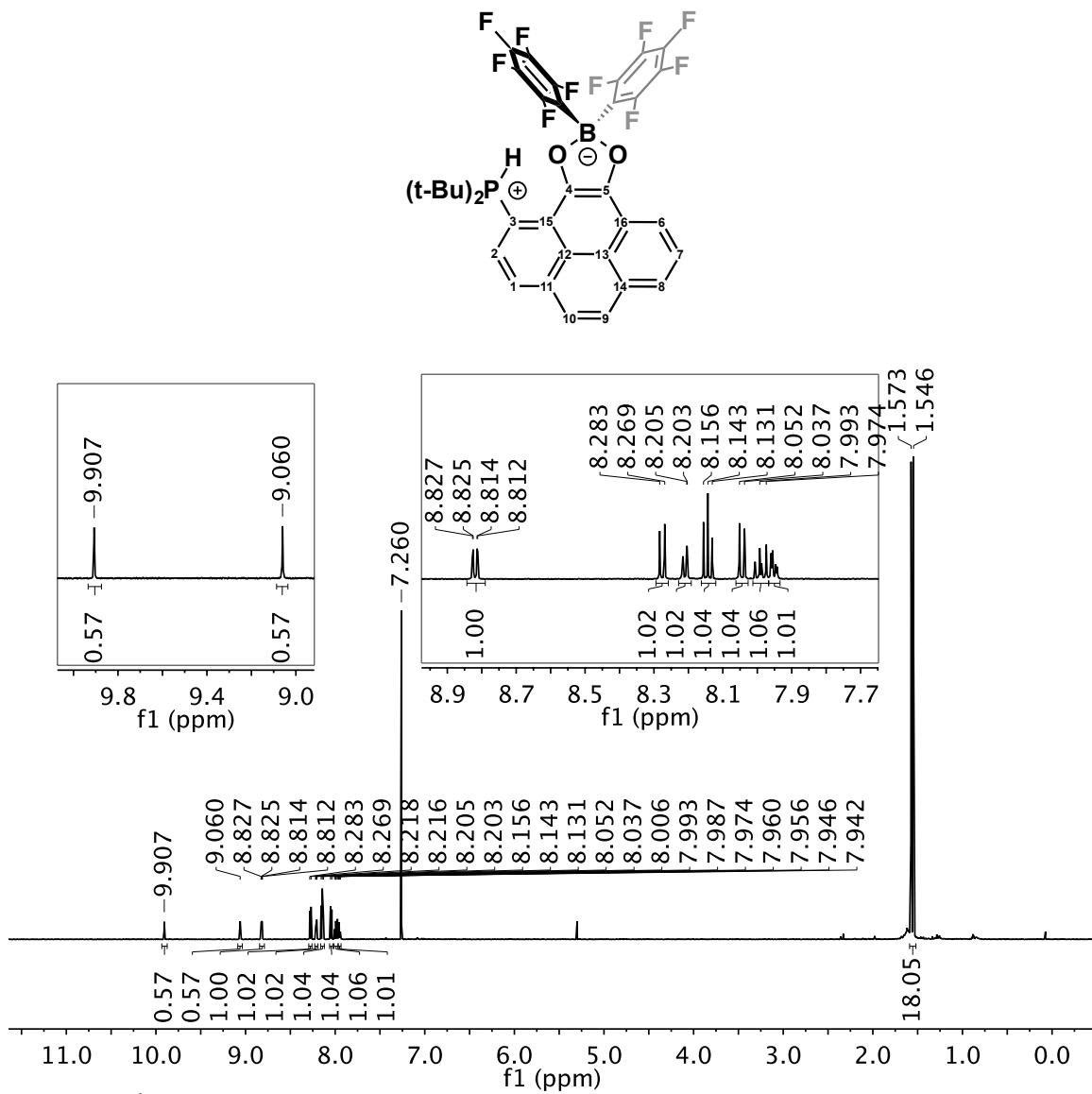


Figure 38 – ^1H NMR spectrum of **10** (600 MHz, 298 K, CDCl_3).

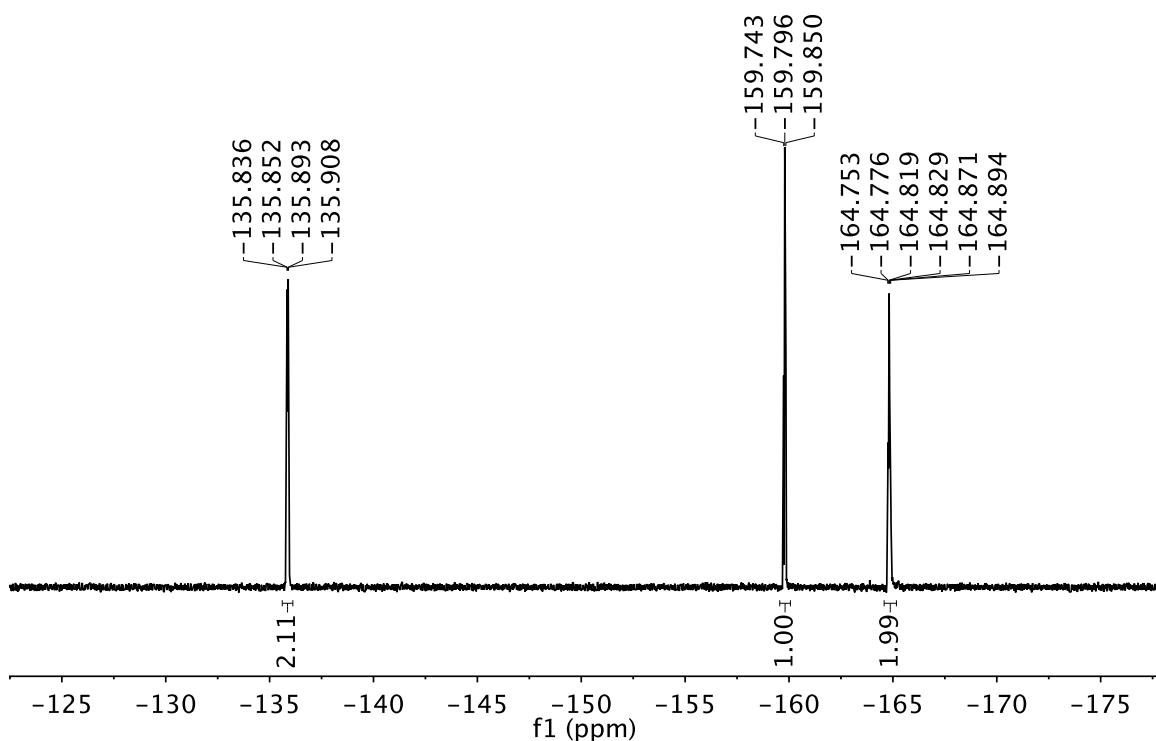


Figure 39 – ^{19}F NMR spectrum of **10** (377 MHz, 298 K, CDCl_3).

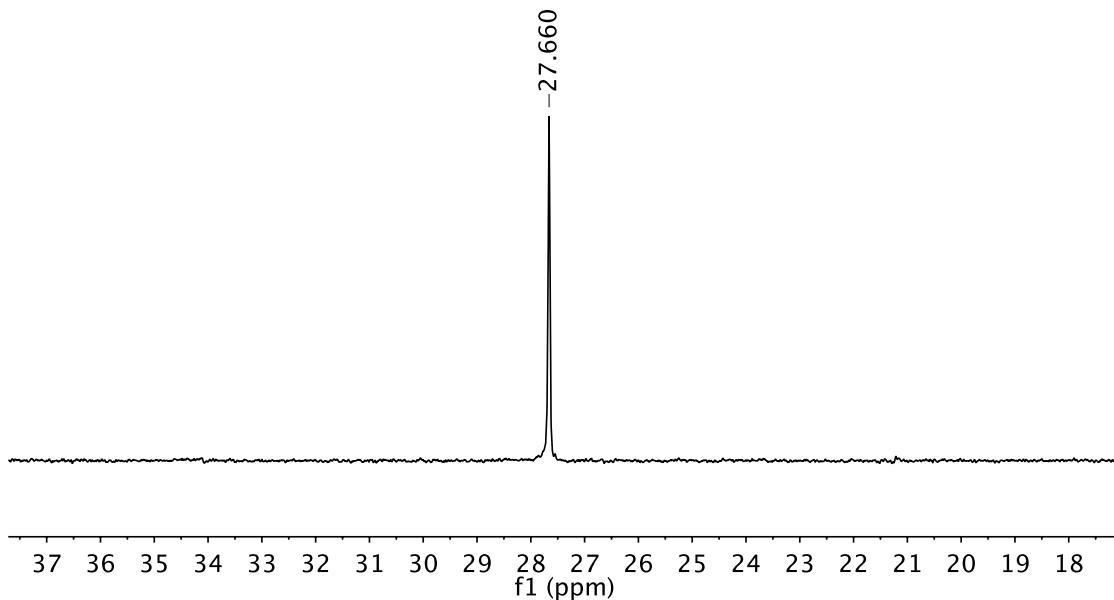


Figure 40 – $^{31}\text{P}\{\text{H}\}$ NMR spectrum of **10** (162 MHz, 298 K, CDCl_3).

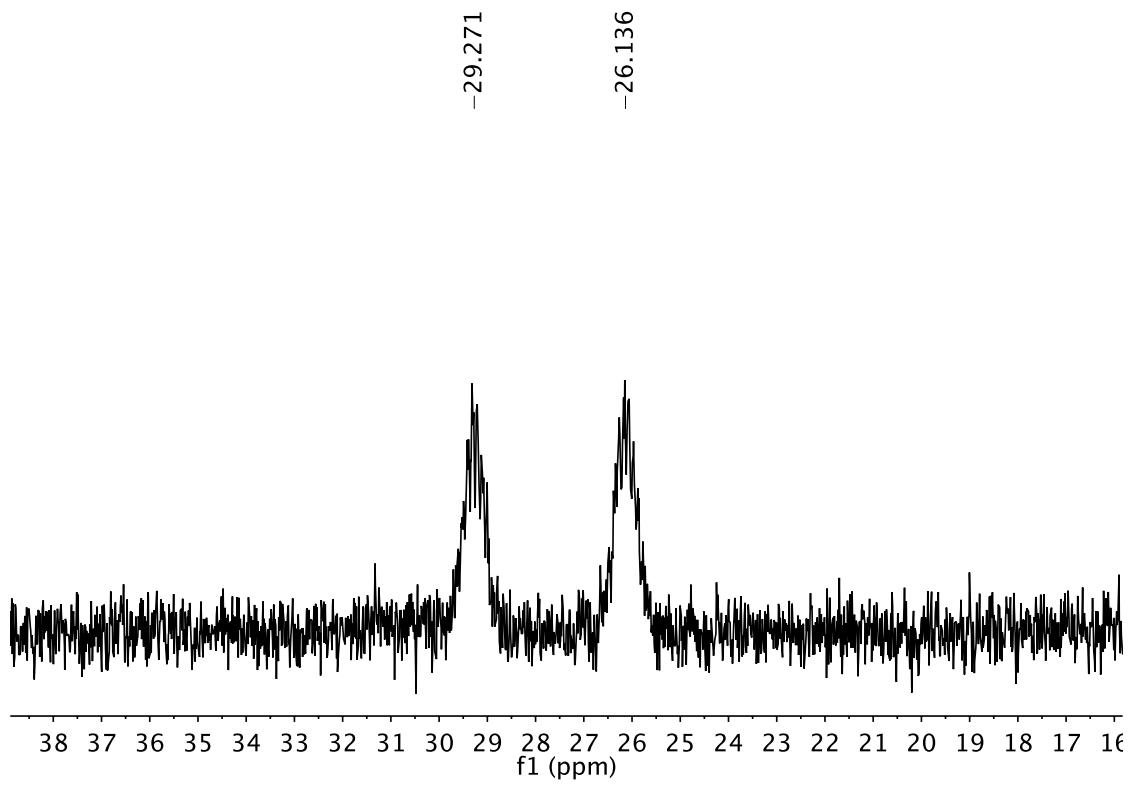


Figure 41 – ^{31}P NMR spectrum of **10** (162 MHz, 298 K, CDCl_3).

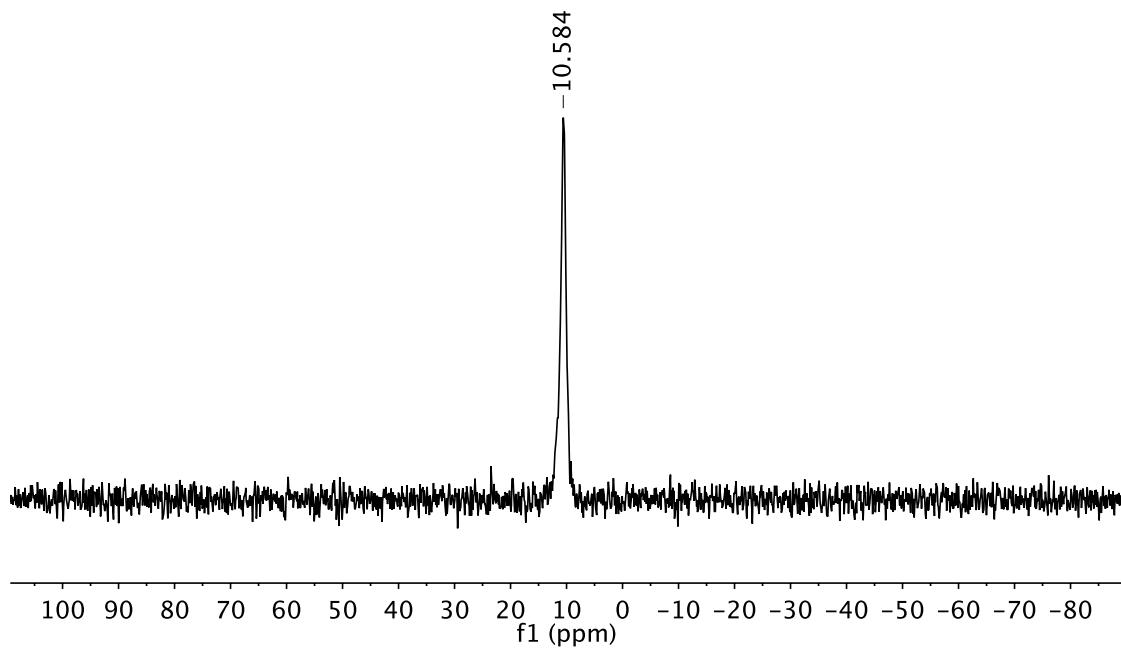


Figure 42 – ^{11}B NMR spectrum of **10** (128 MHz, 298 K, CDCl_3).

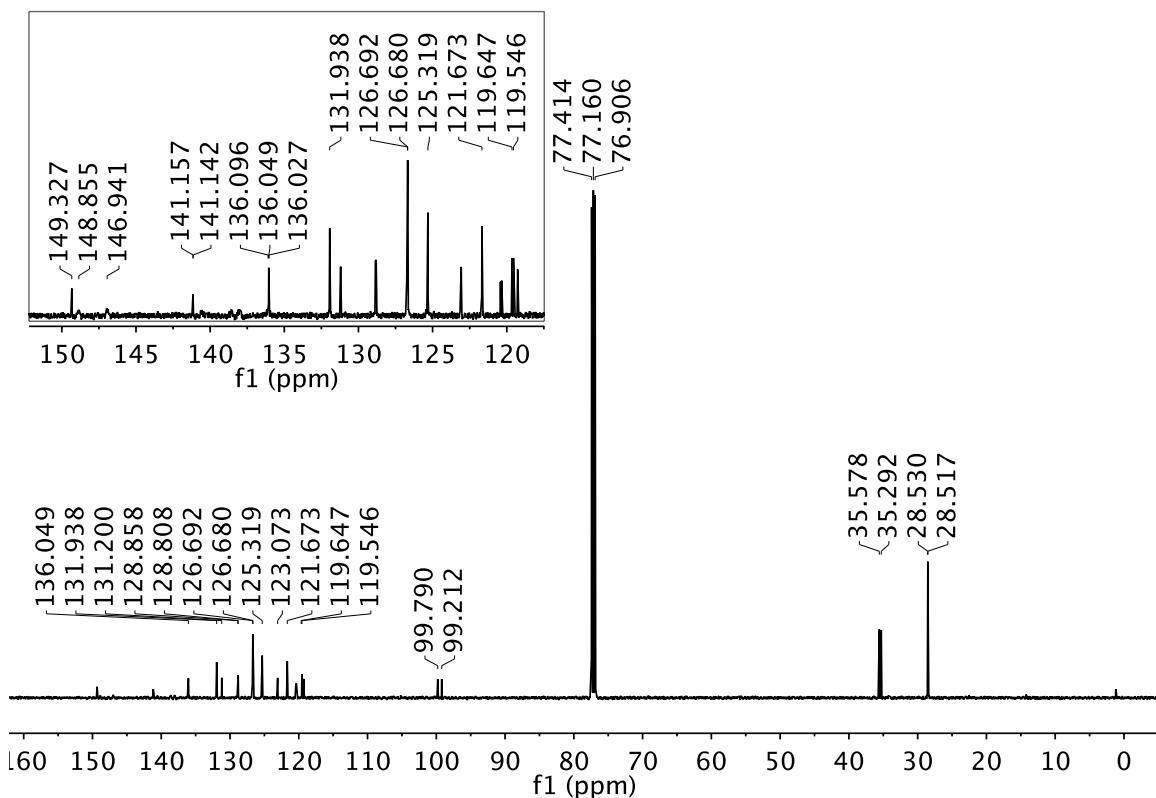


Figure 43 – $^{13}\text{C}\{\text{H}\}$ NMR spectrum of **10** (126 MHz, 298 K, CDCl_3).

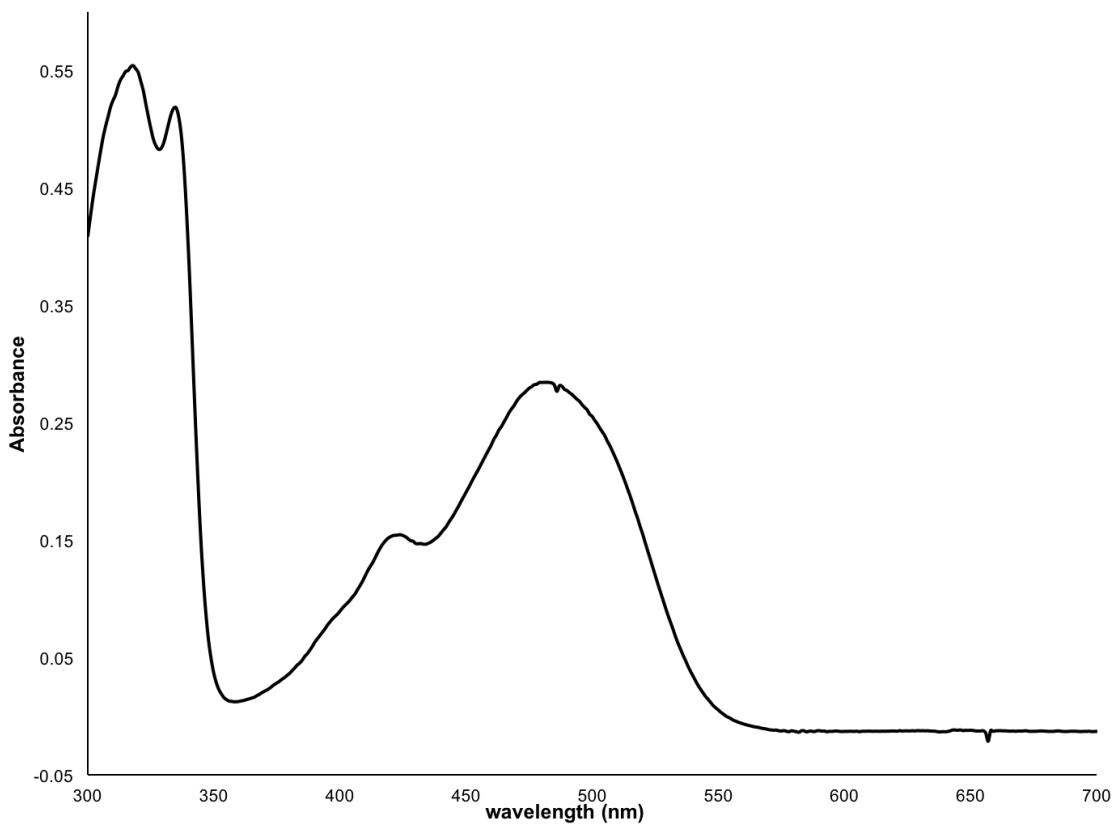


Figure 44 – UV-vis spectrum of **10** in DCM.

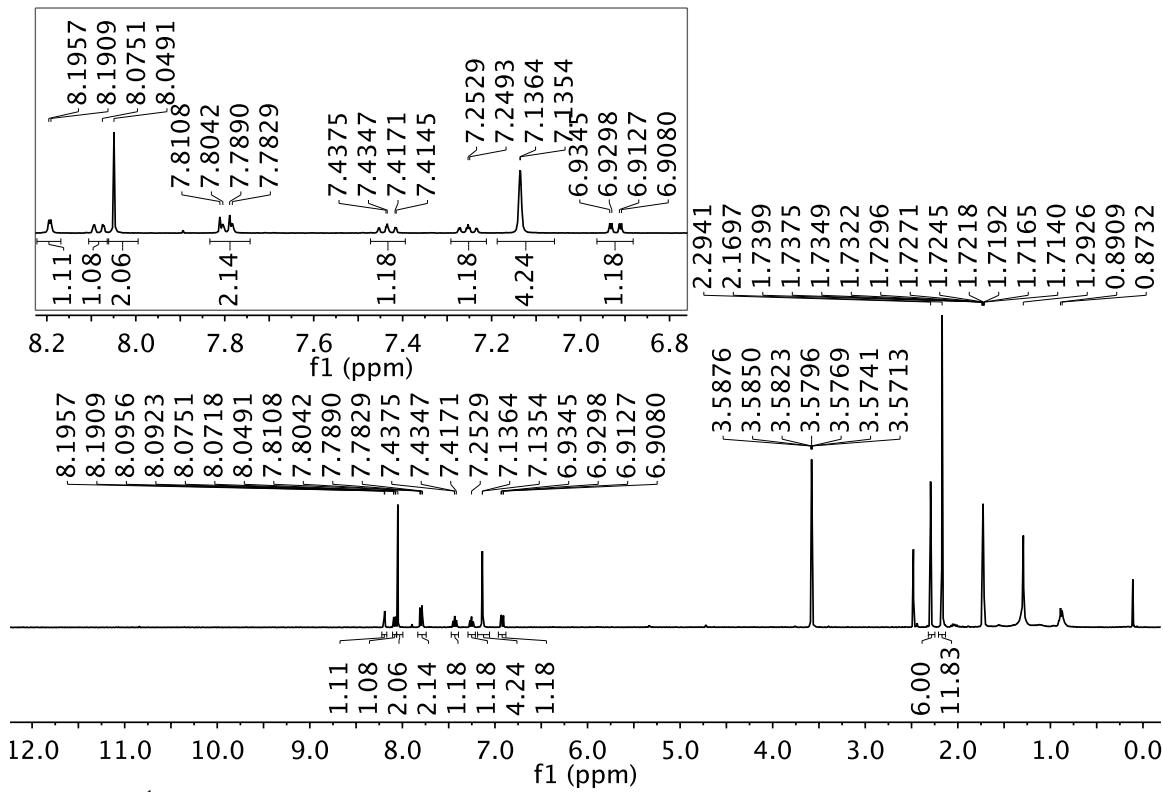
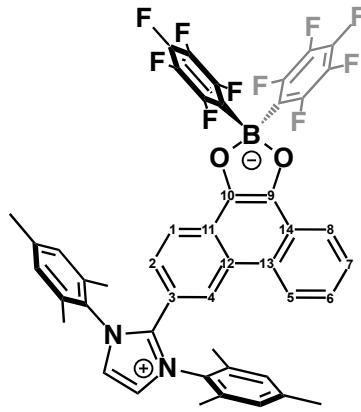


Figure 45 – ^1H NMR spectrum of **11** (400 MHz, 298 K, d_8 -THF).

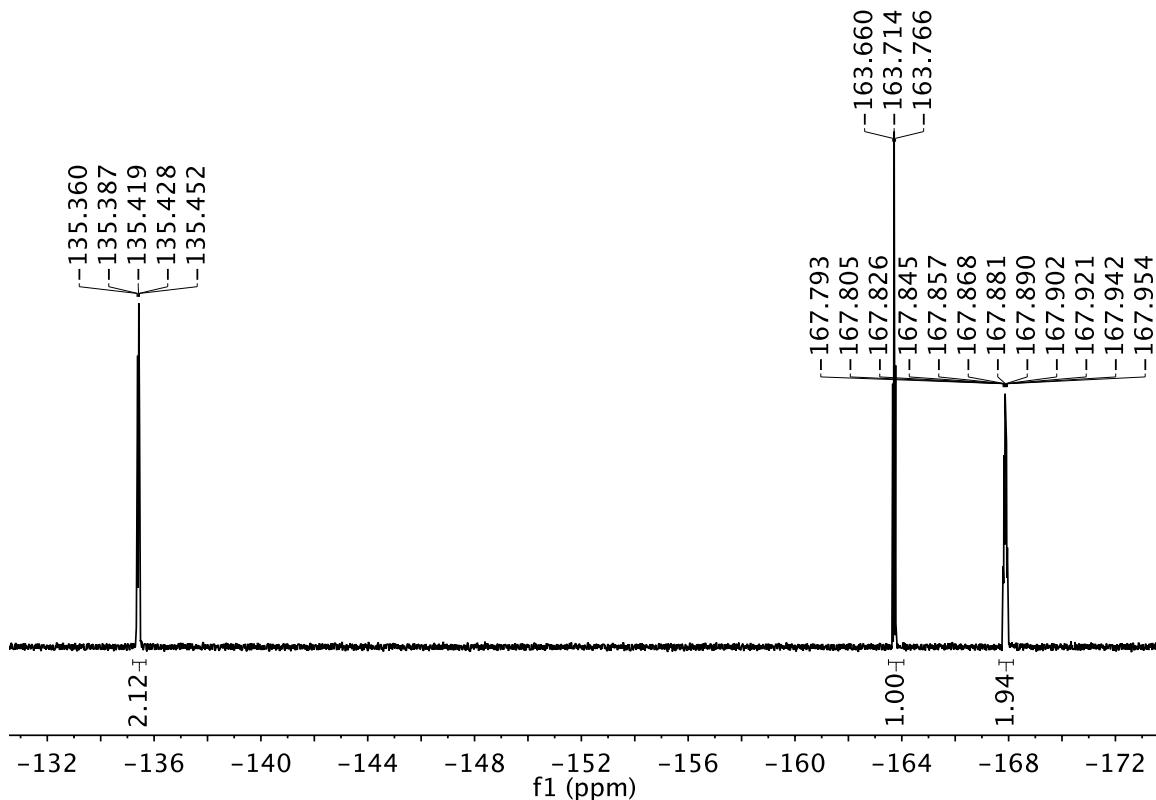


Figure 46 – ^{19}F NMR spectrum of **11** (377 MHz, 298 K, d_8 -THF).

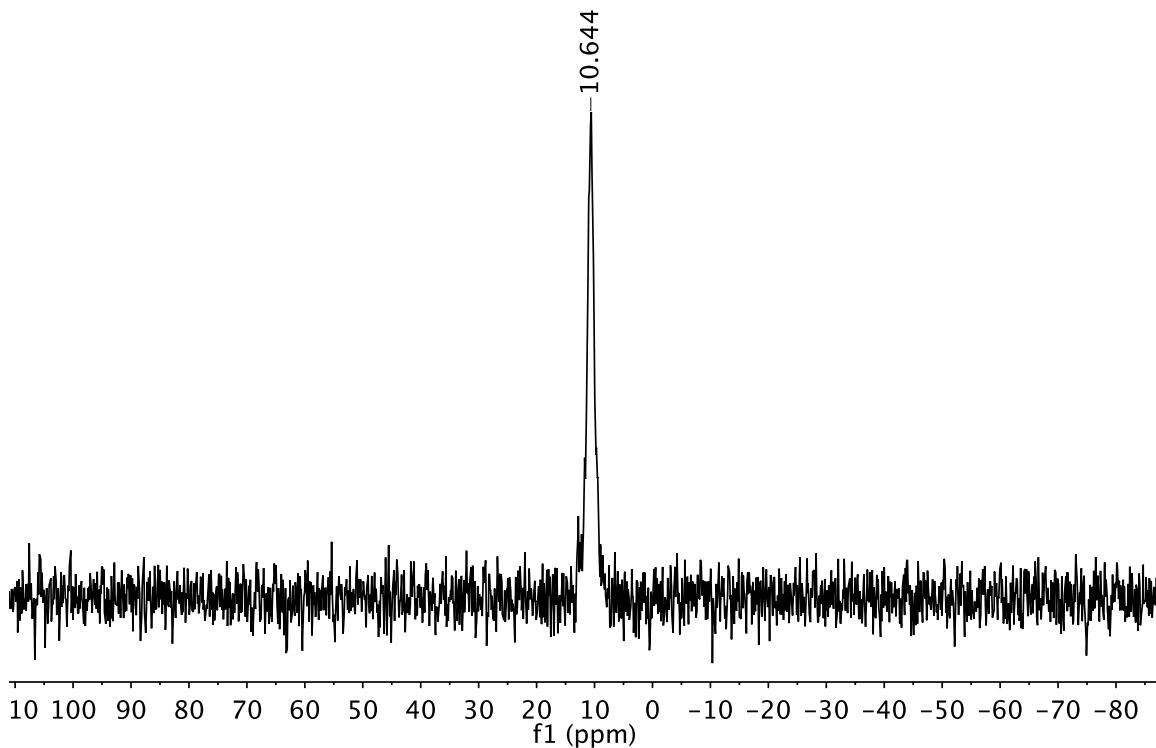


Figure 47 – ^{11}B NMR spectrum of **11** (128 MHz, 298 K, d_8 -THF).

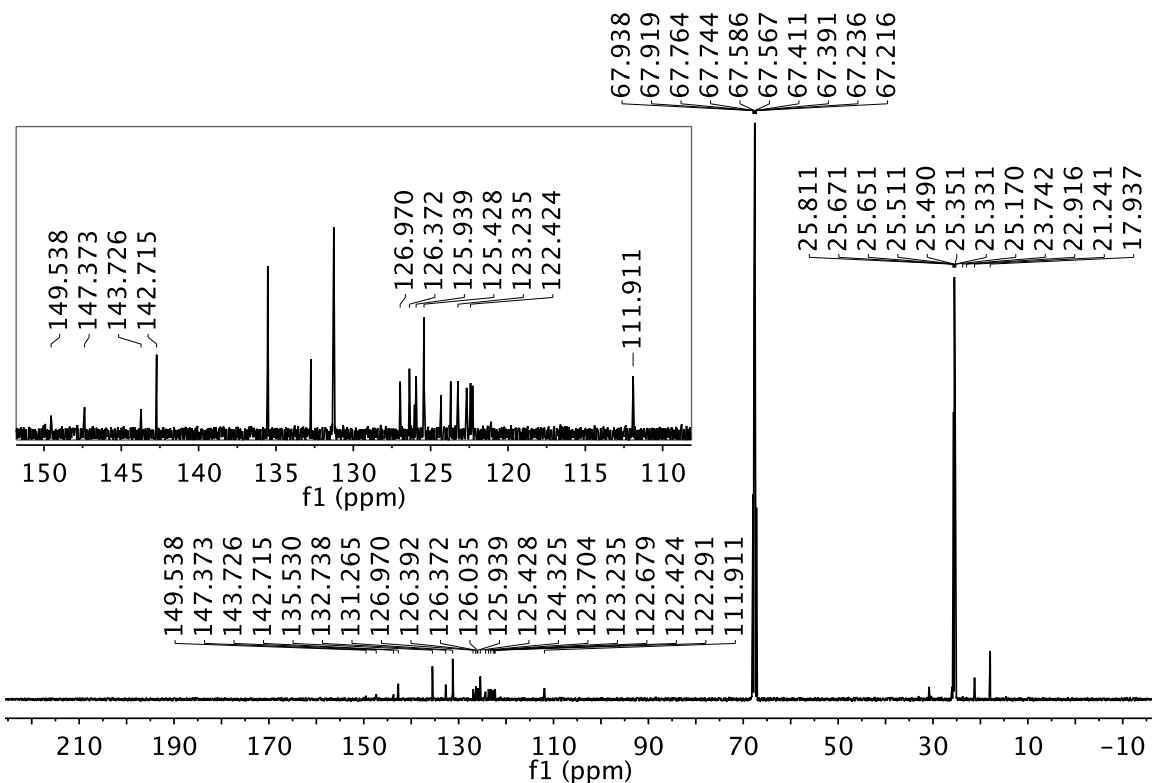


Figure 48 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **11** (126 MHz, 298 K, d_8 -THF).

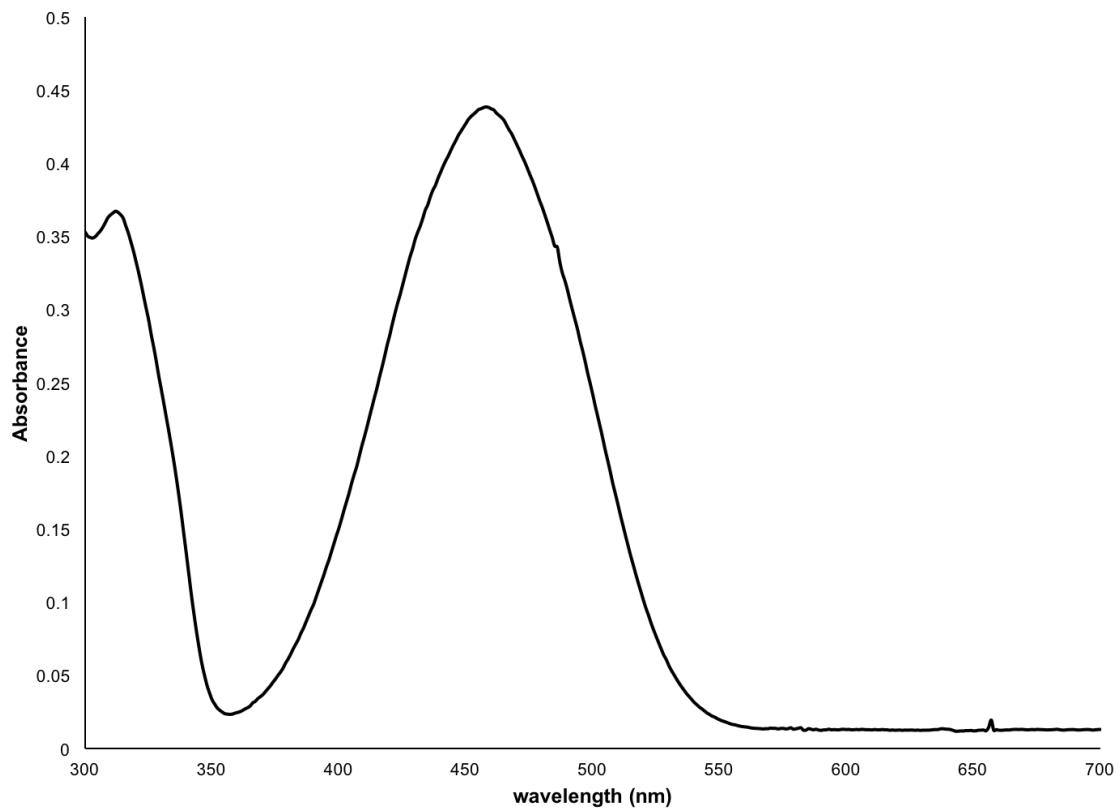


Figure 49 – UV-vis spectrum of **11** in DCM.

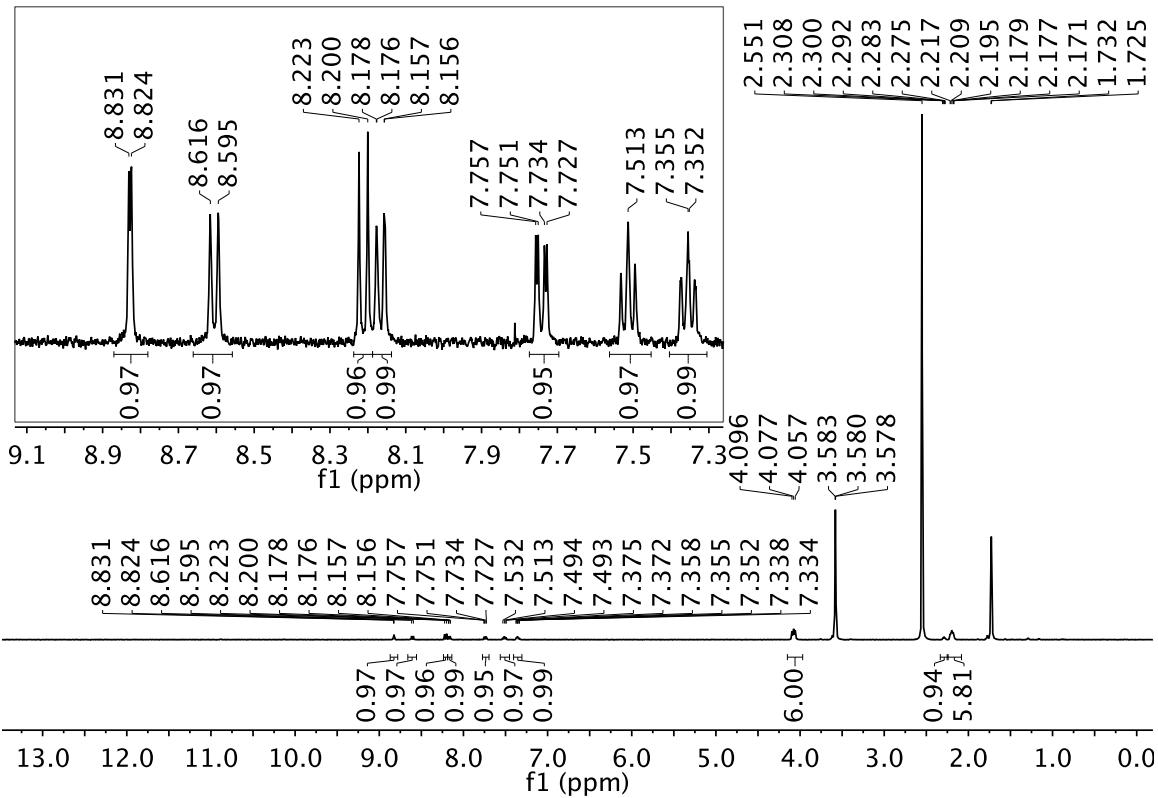
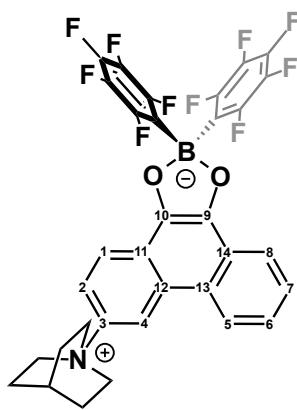


Figure 50 – ^1H NMR spectrum of **13** (400 MHz, 298 K, d_8 -THF).

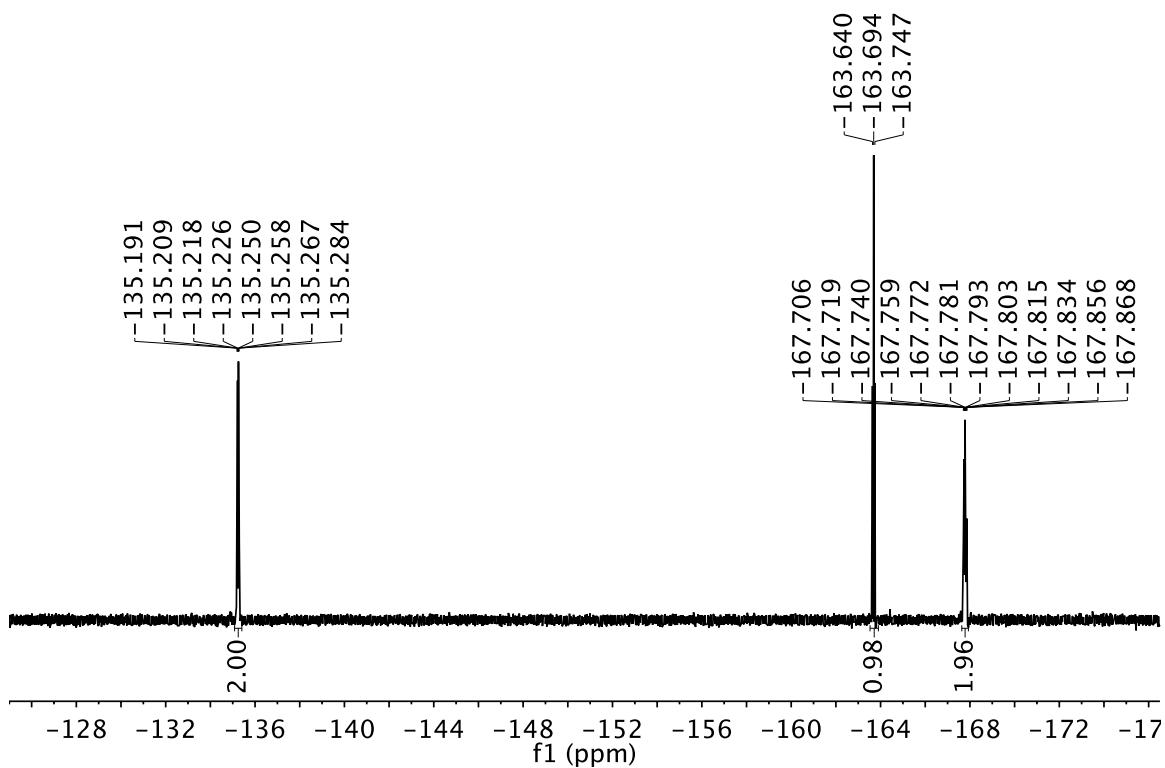


Figure 51 – ^{19}F NMR spectrum of **13** (377 MHz, 298 K, $d_8\text{-THF}$).

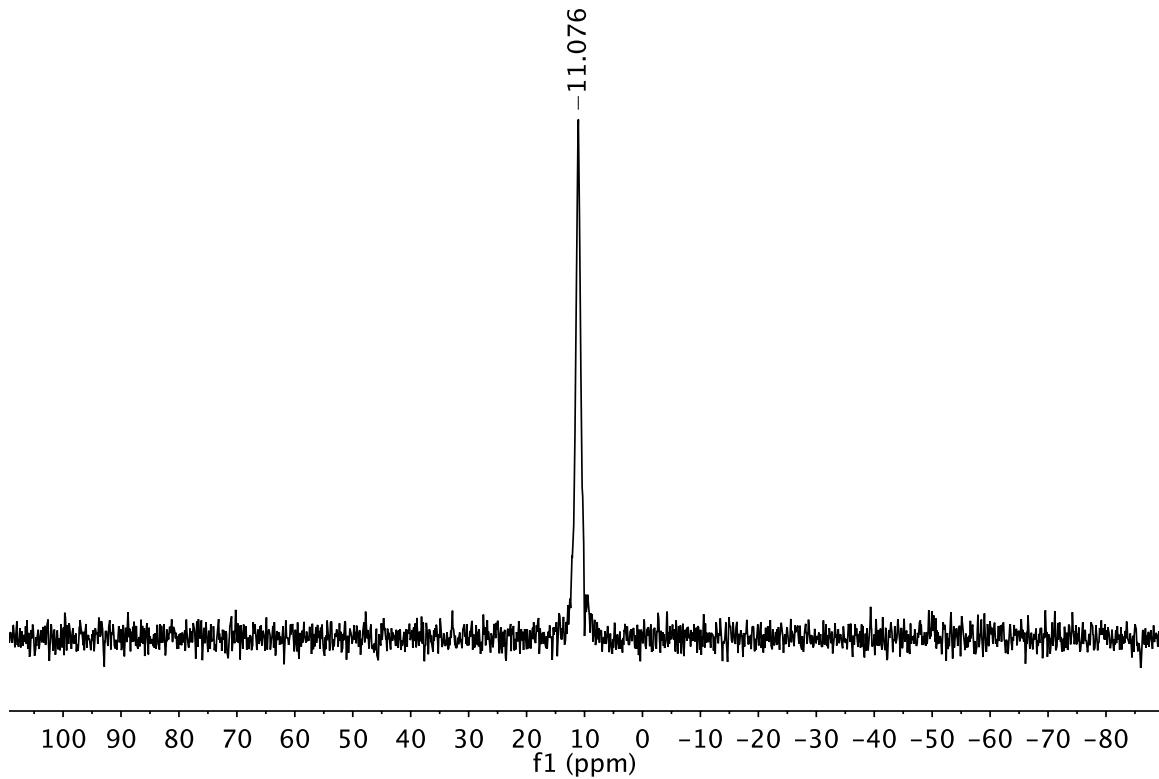


Figure 52 – ^{11}B NMR spectrum of **13** (128 MHz, 298 K, $d_8\text{-THF}$).

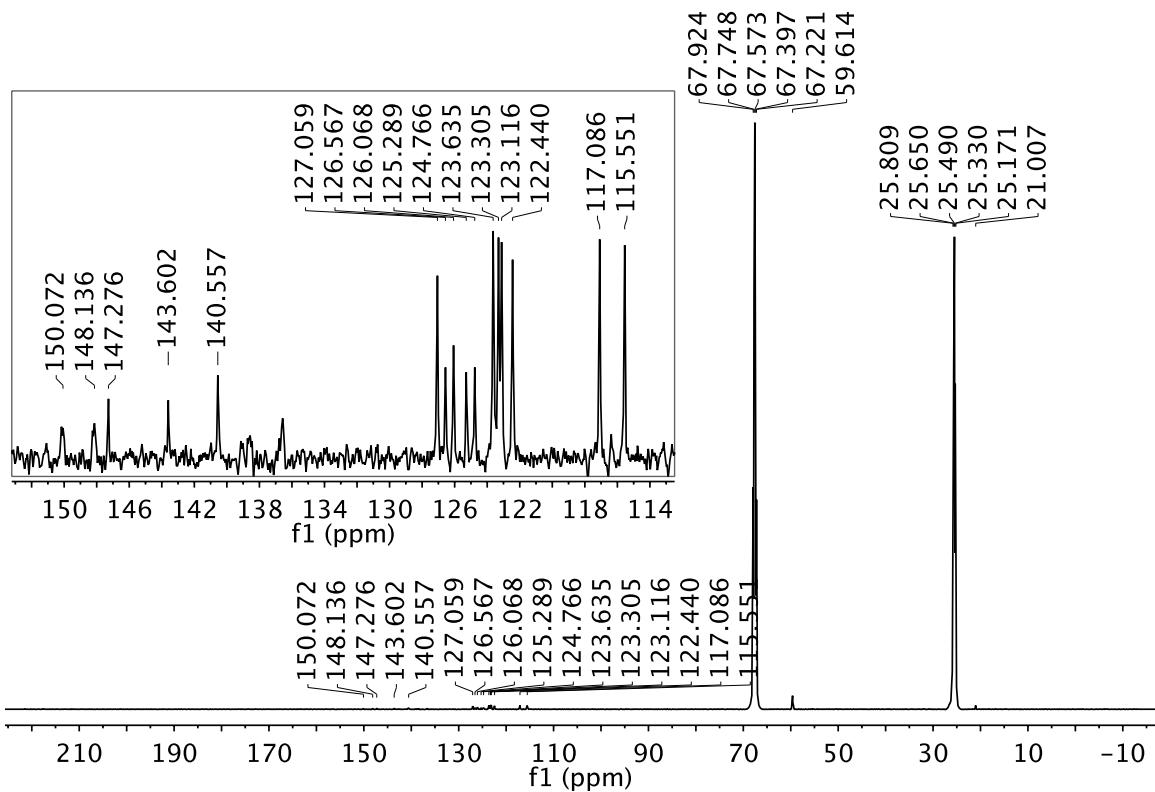


Figure 53 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **13** (126 MHz, 298 K, d_8 -THF).

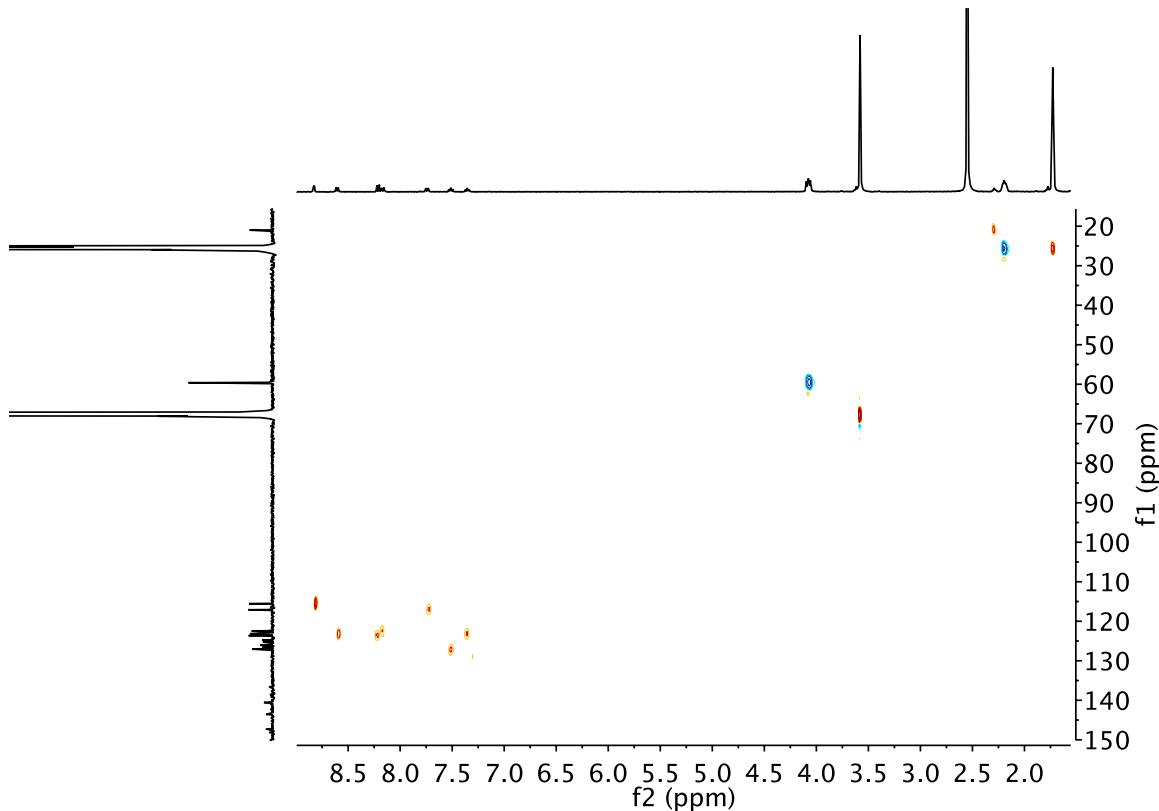


Figure 54 – HSQC NMR spectrum of **13** (600 MHz vs 151 MHz, 298 K, d_8 -THF).

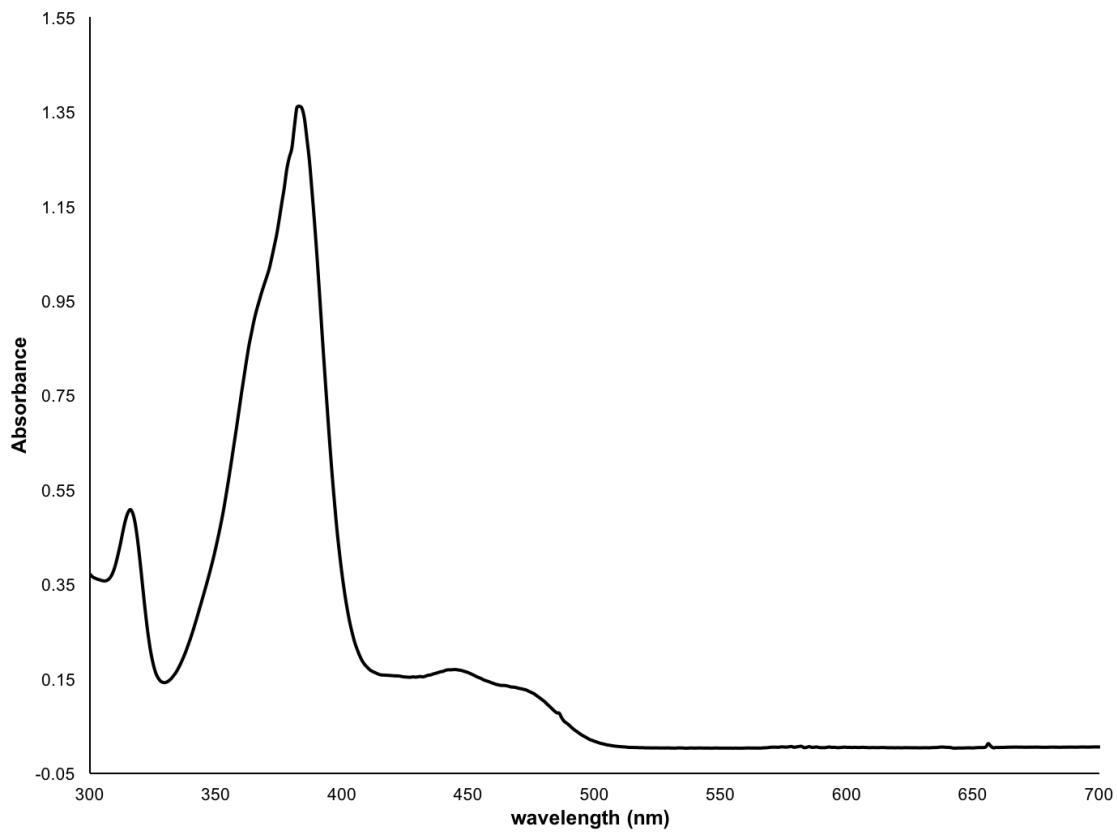


Figure 55 – UV-vis spectrum of **13** in THF.

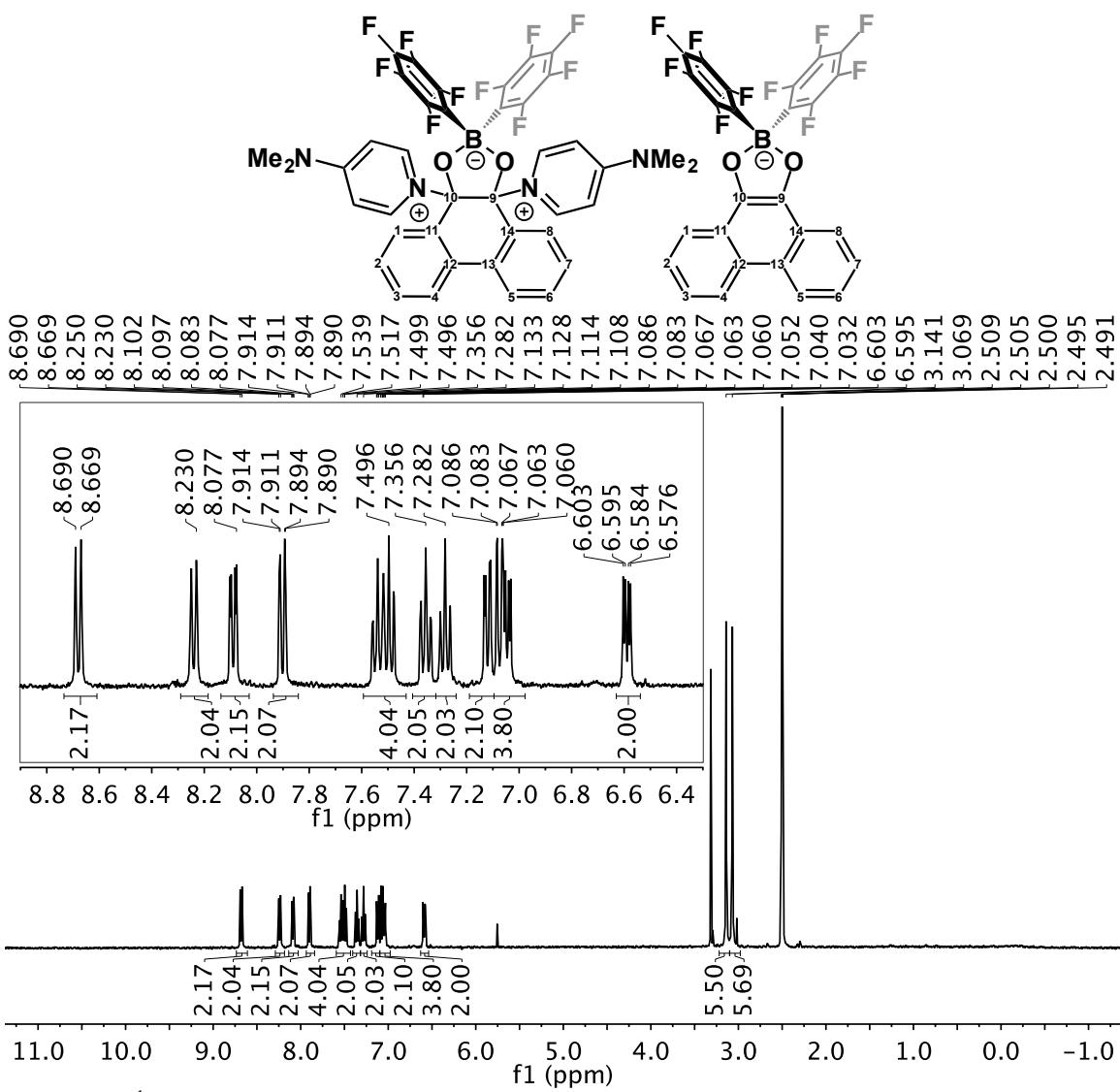
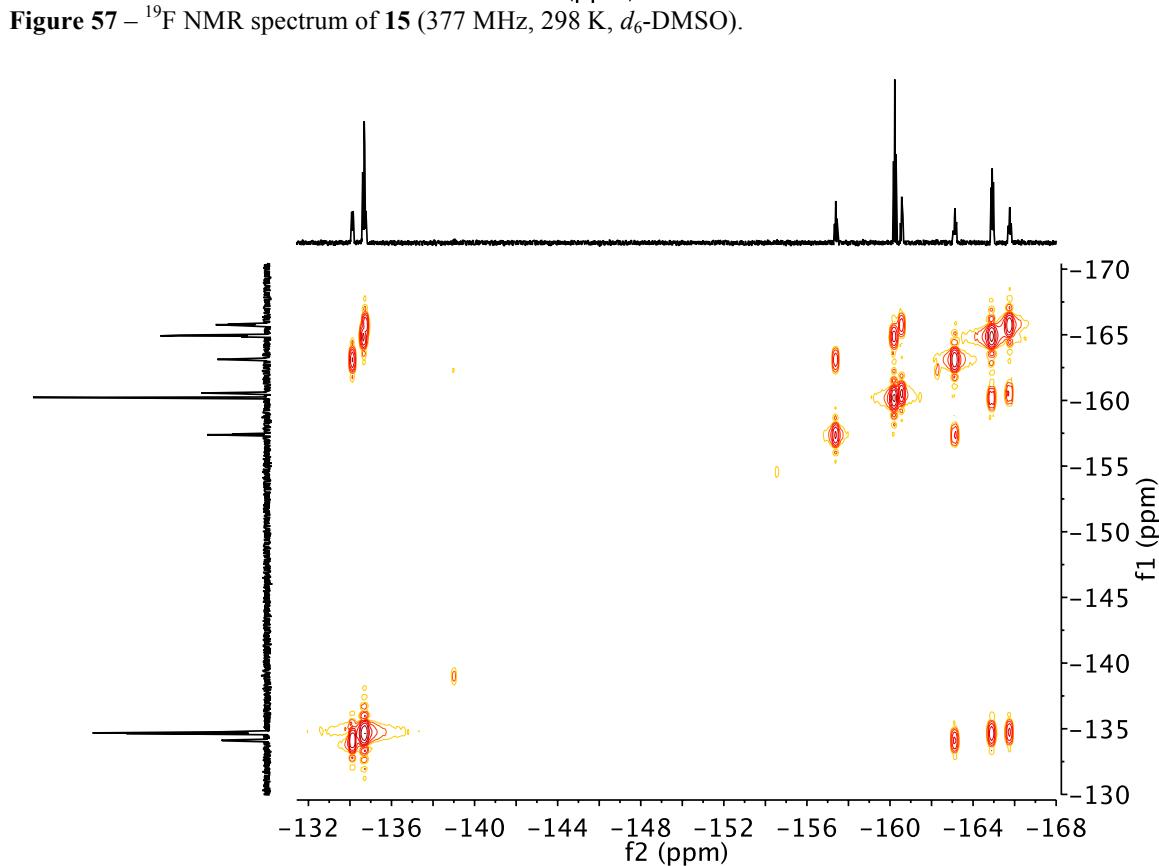
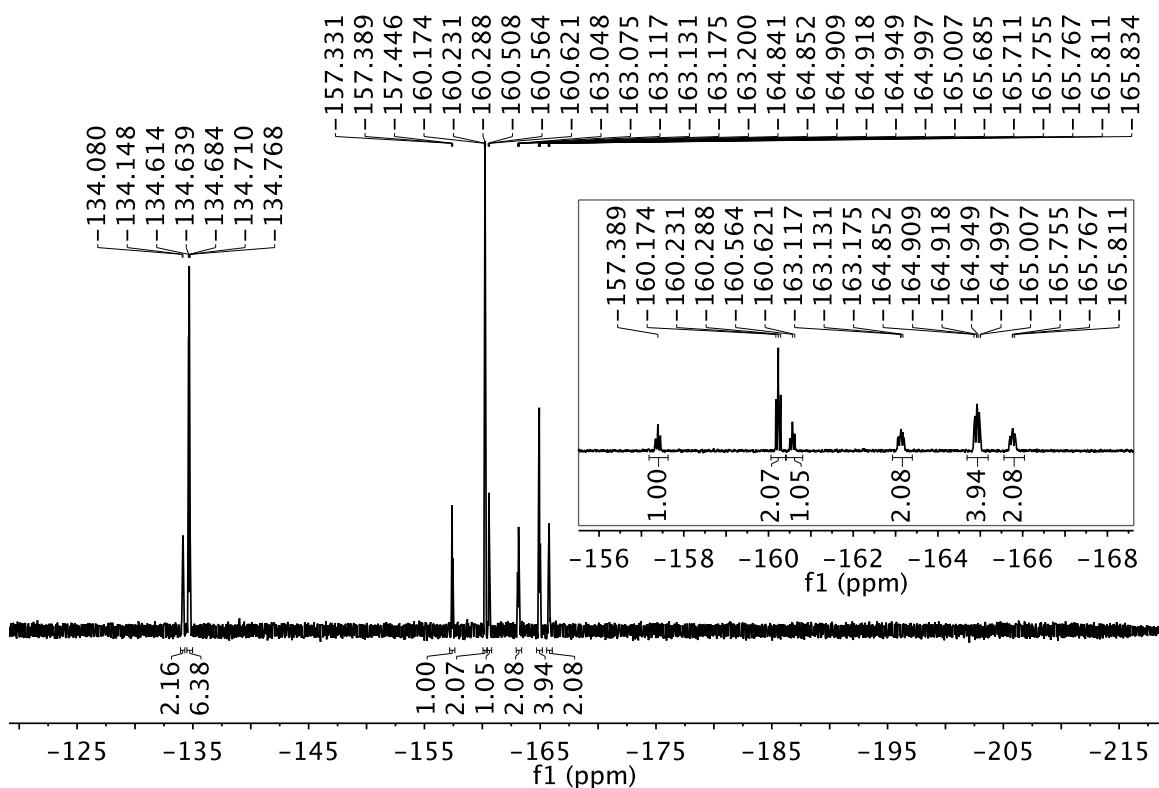


Figure 56 –¹H NMR spectrum of **15** (400 MHz, 298 K, *d*₆-DMSO).



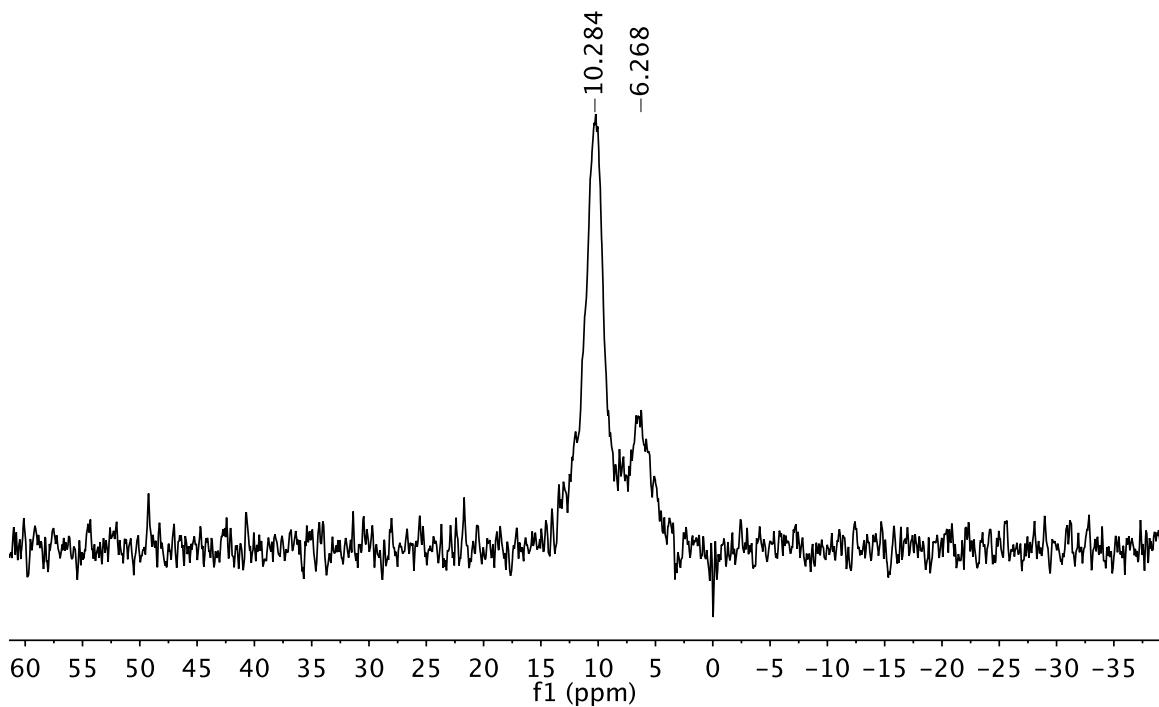


Figure 59 – ^{11}B NMR spectrum of **15** (128 MHz, 298 K, d_6 -DMSO).

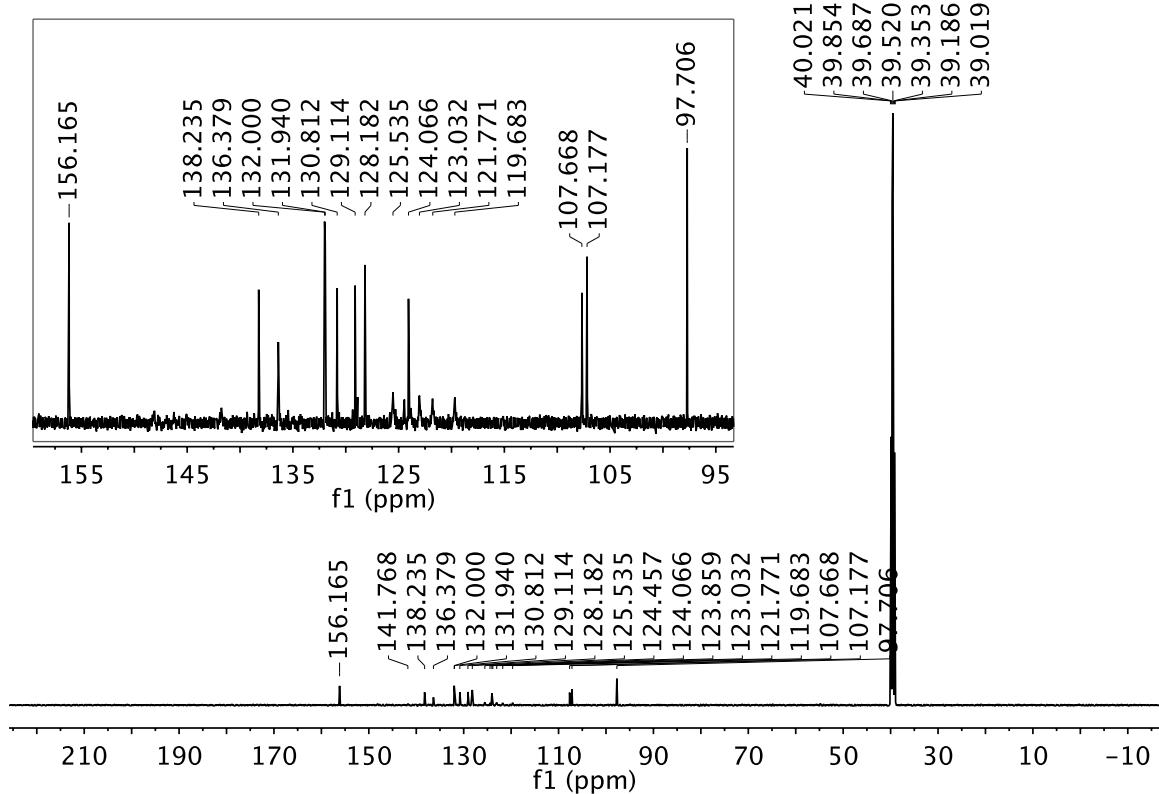


Figure 60 – $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of **15** (126 MHz, 298 K, d_6 -DMSO).

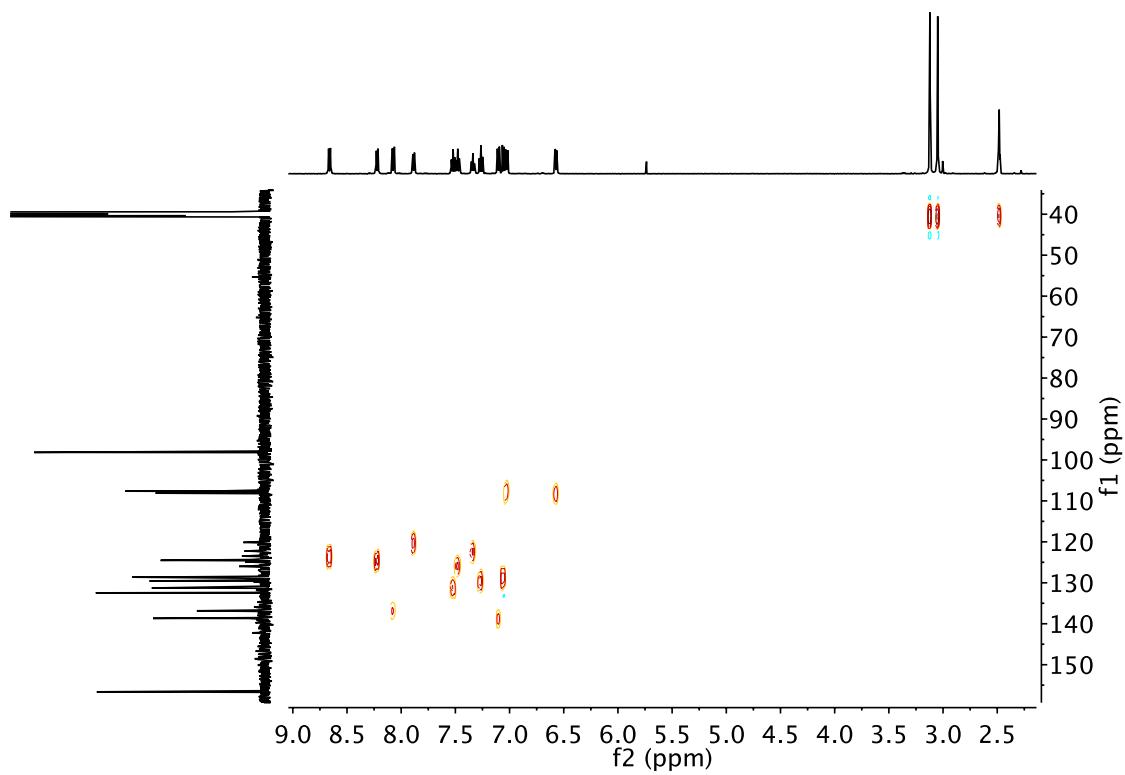


Figure 61 – HSQC NMR spectrum of **15** (600 MHz vs 151 MHz, 298 K, d_6 -DMSO).

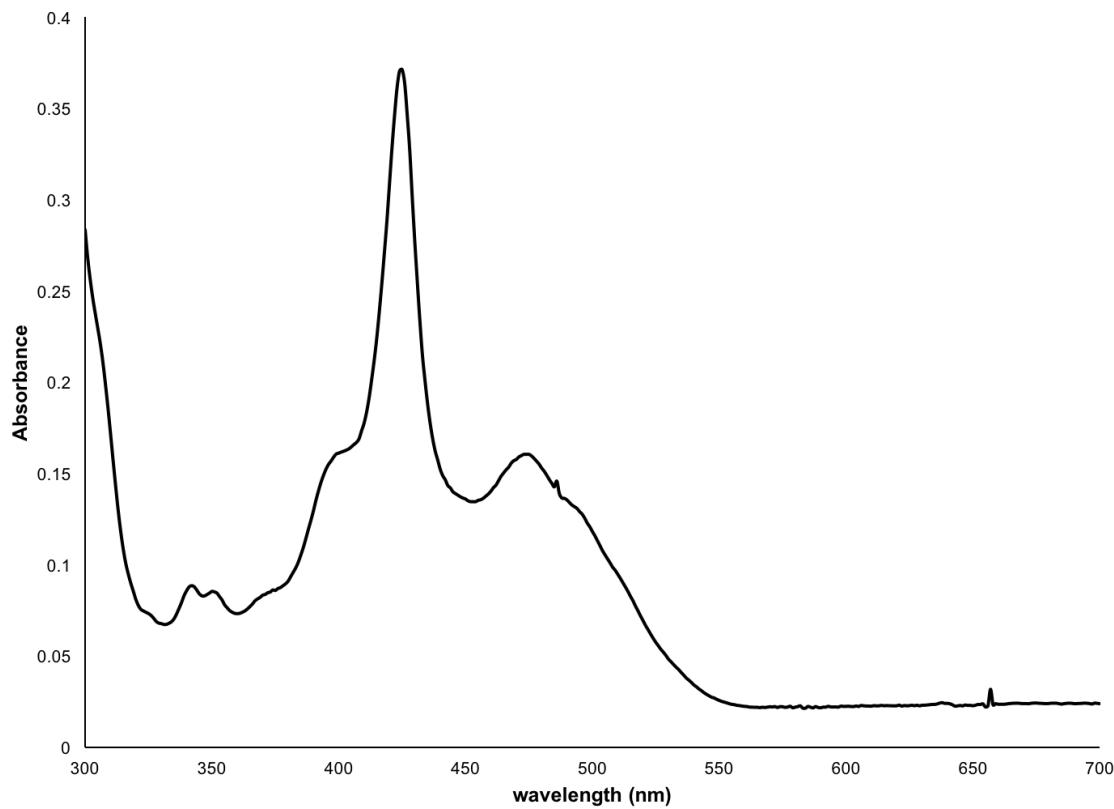


Figure 62 – UV-vis spectrum of **15** in DCM.

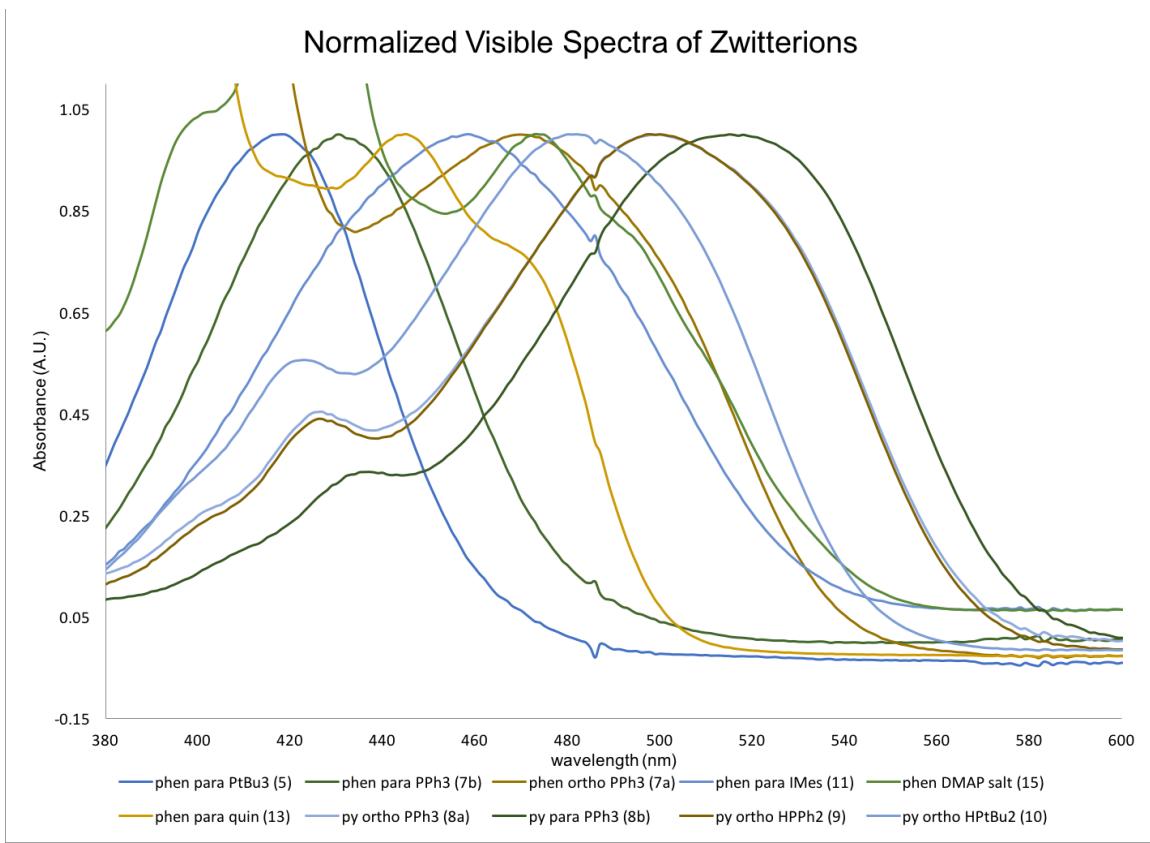


Figure 63 – normalized visible absorbance spectra of compounds **5 – 15** in DCM (spectrum of compound **13** was recorded in THF).