

Supplementary Material

Oligoynes-bridged boron subphthalocyanine dimers – synthesis and redox properties

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NMR Spectroscopy

Compound 3

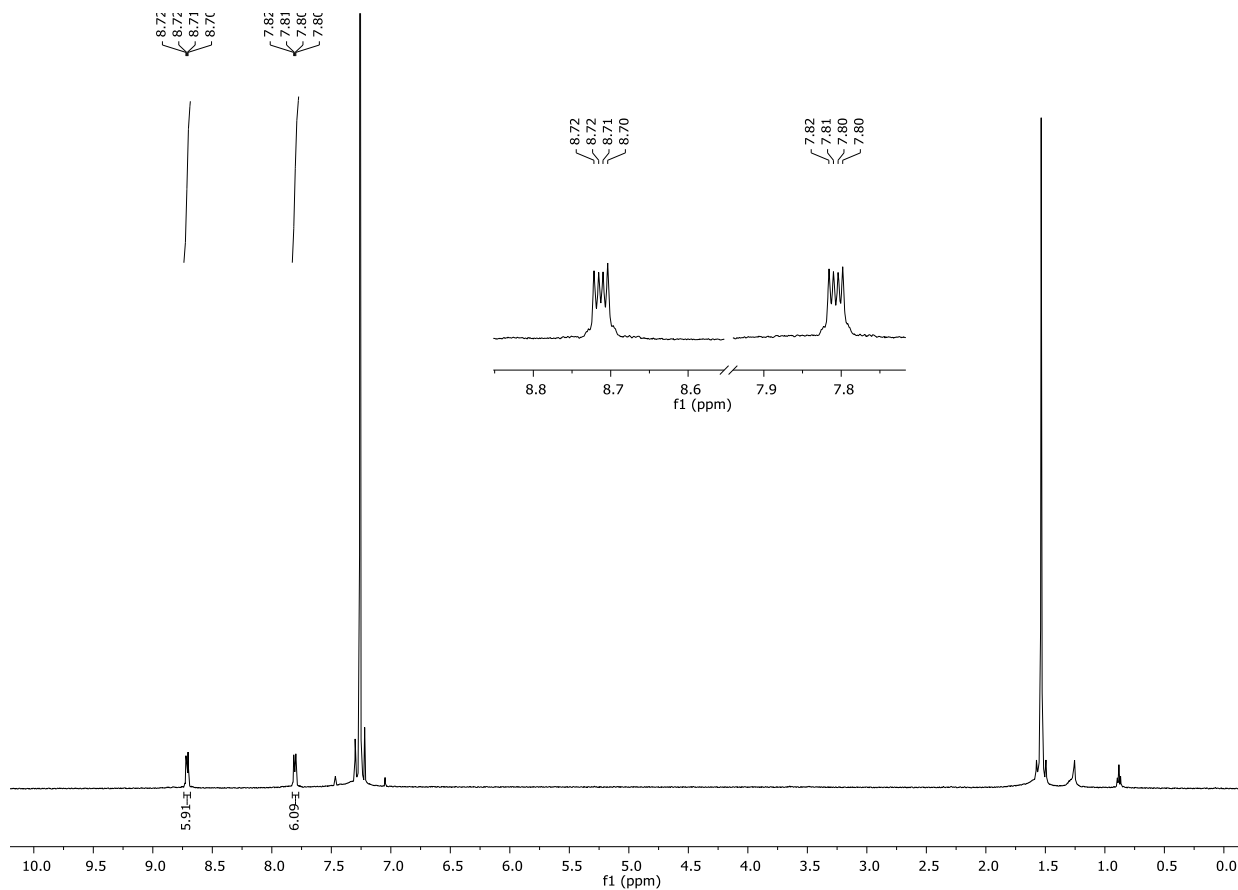
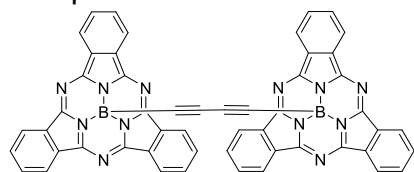
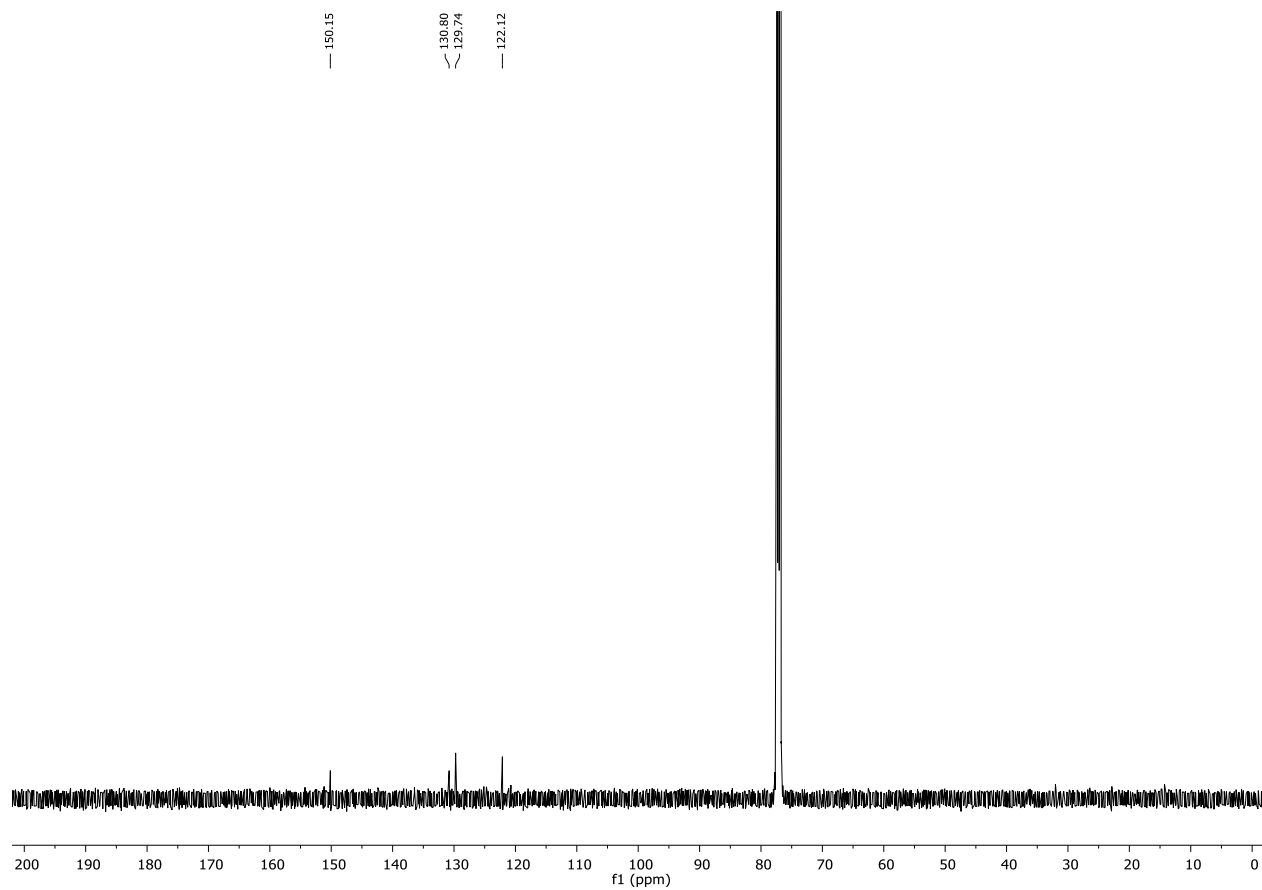
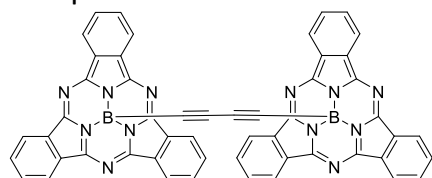
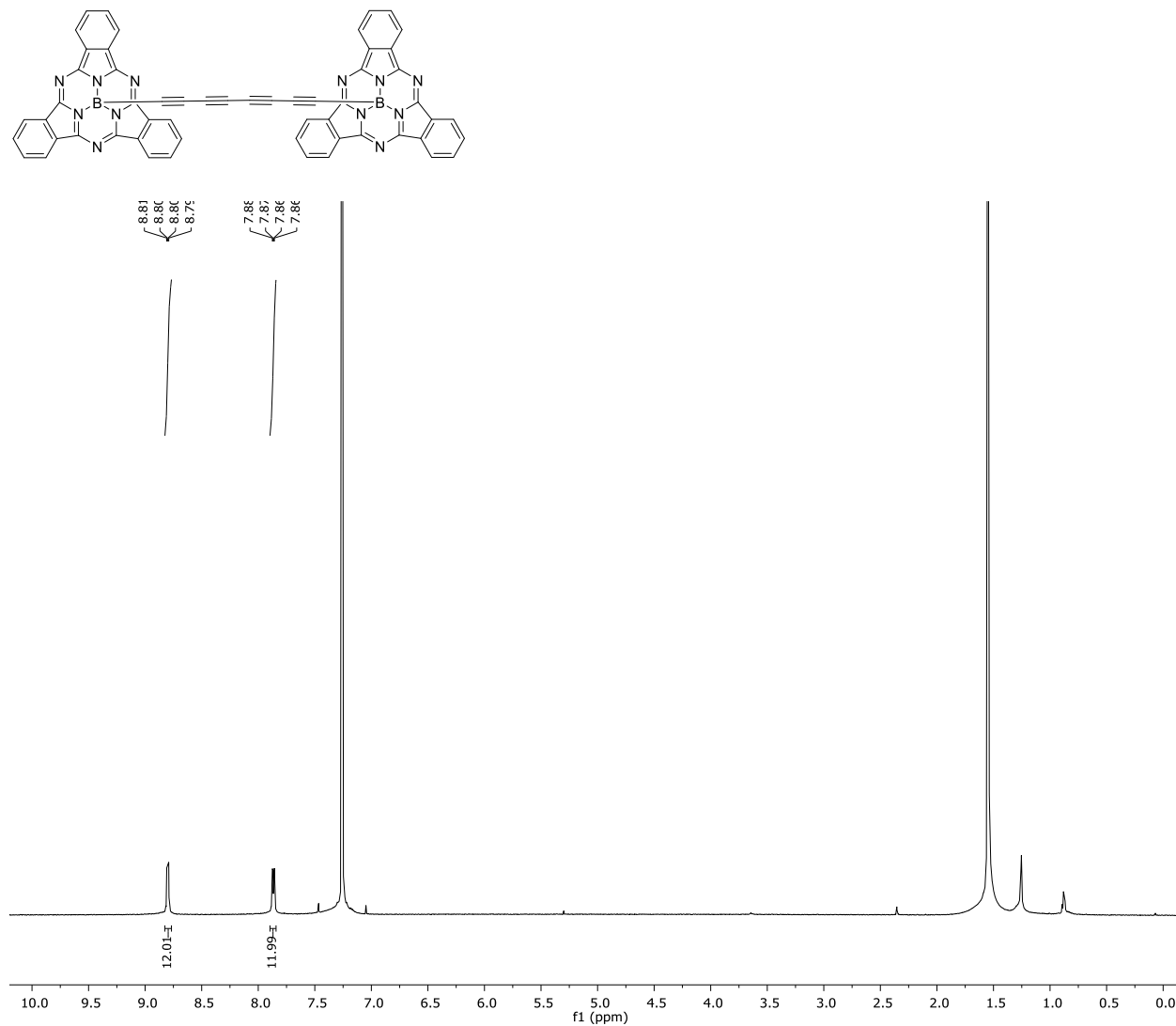


Figure S1. ¹H-NMR spectrum of compound 3 in CDCl₃.

Compound **3**Figure S2. ^{13}C -NMR spectrum of compound **3** in CDCl_3 .

Compound **4**Figure S3. ¹H-NMR spectrum of compound **4** in CDCl₃.

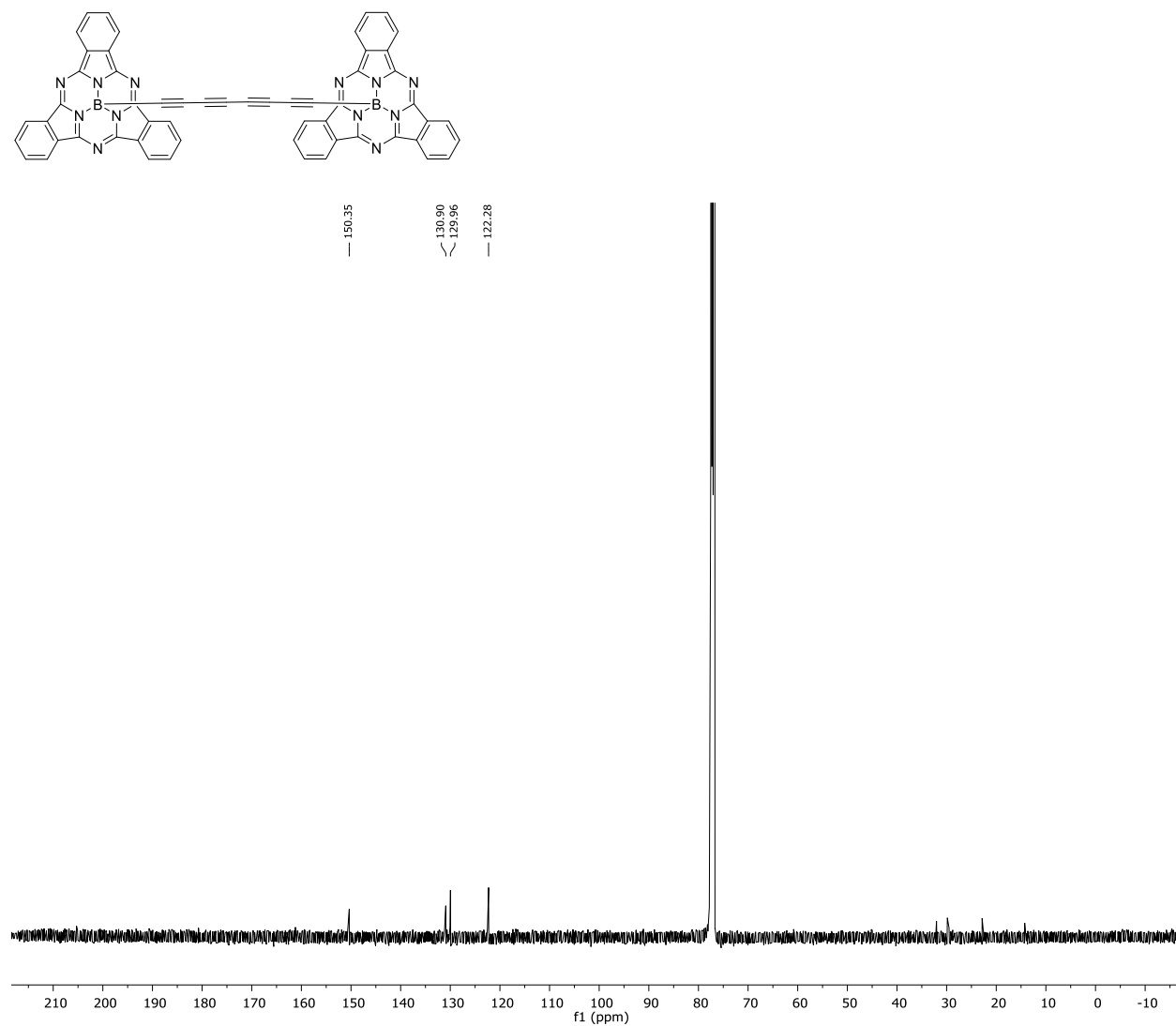
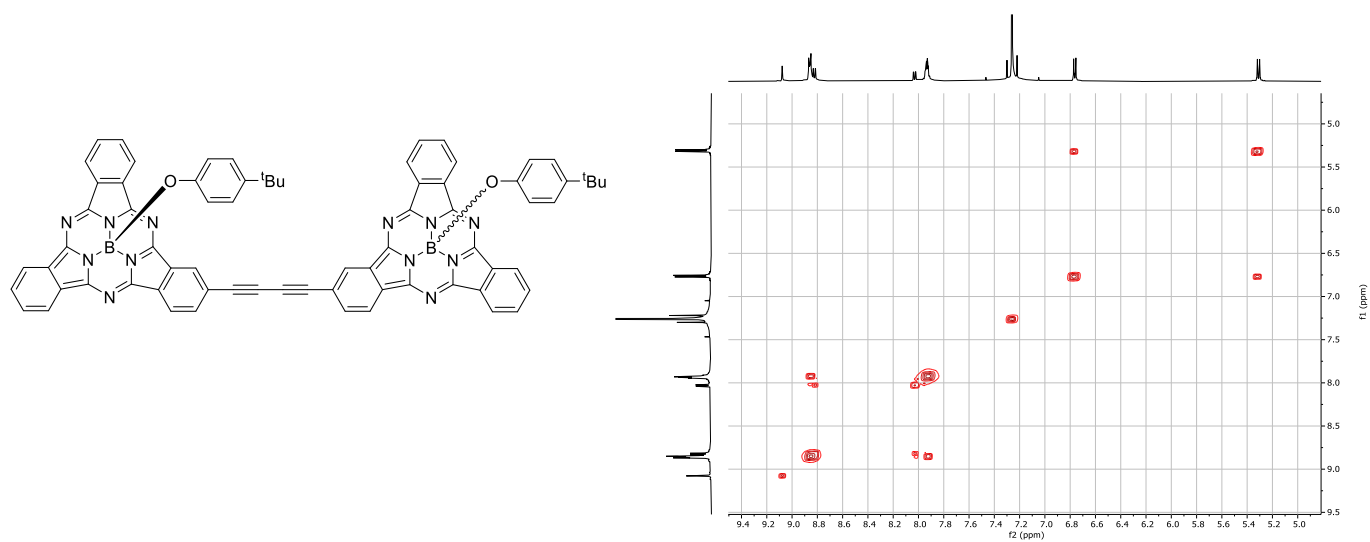
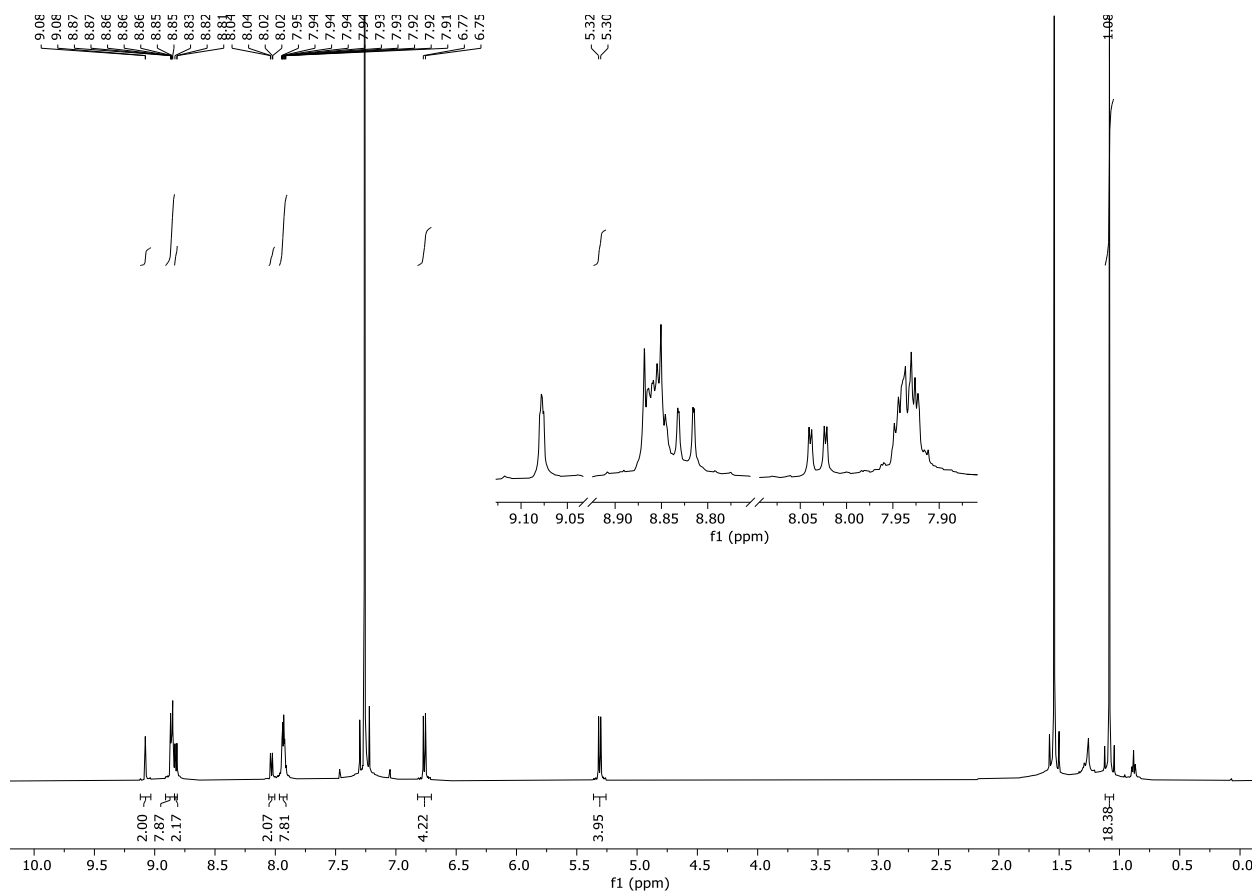
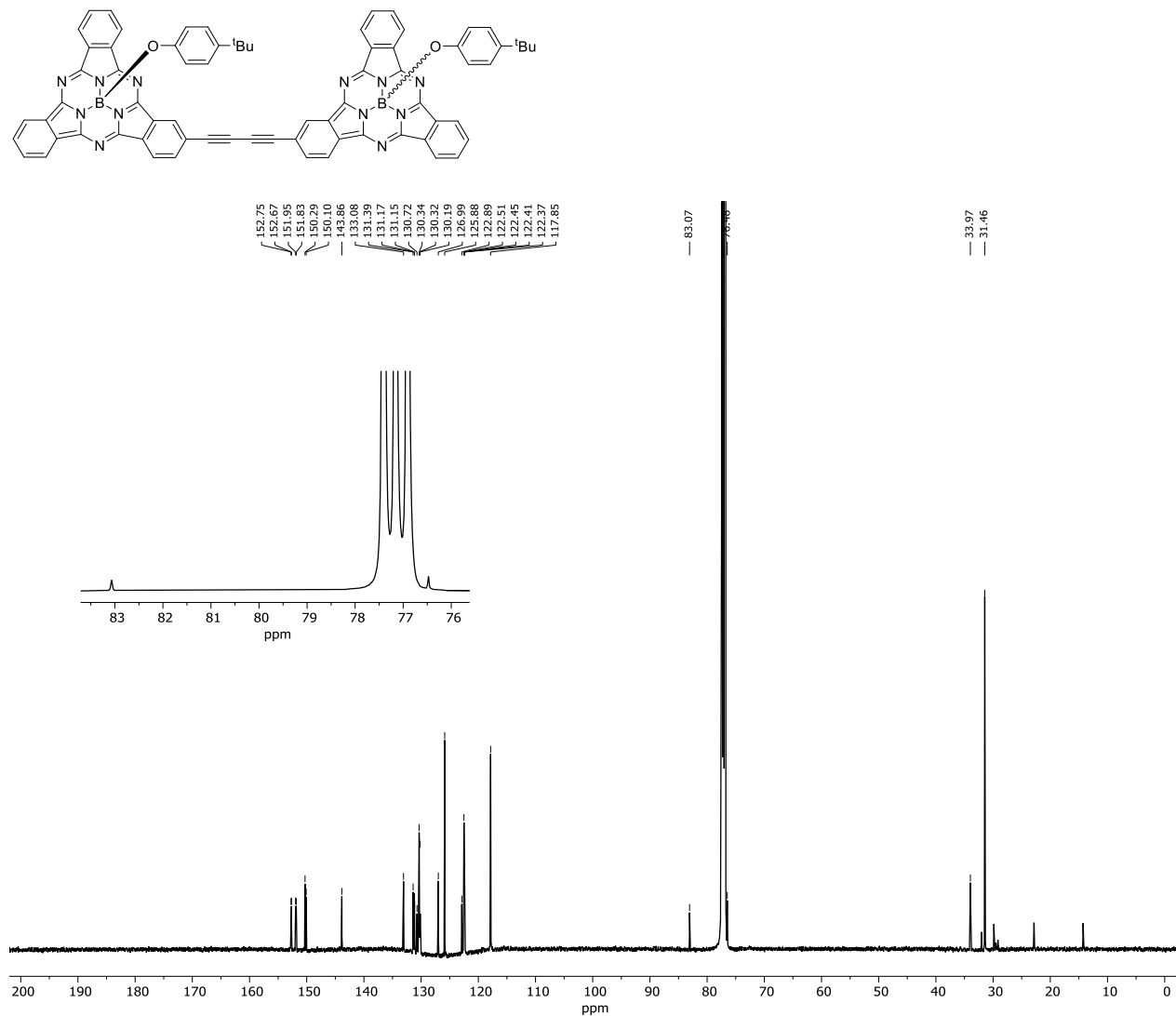
Compound **4**

Figure S4. ^{13}C -NMR spectrum of compound **4** in CDCl_3 .

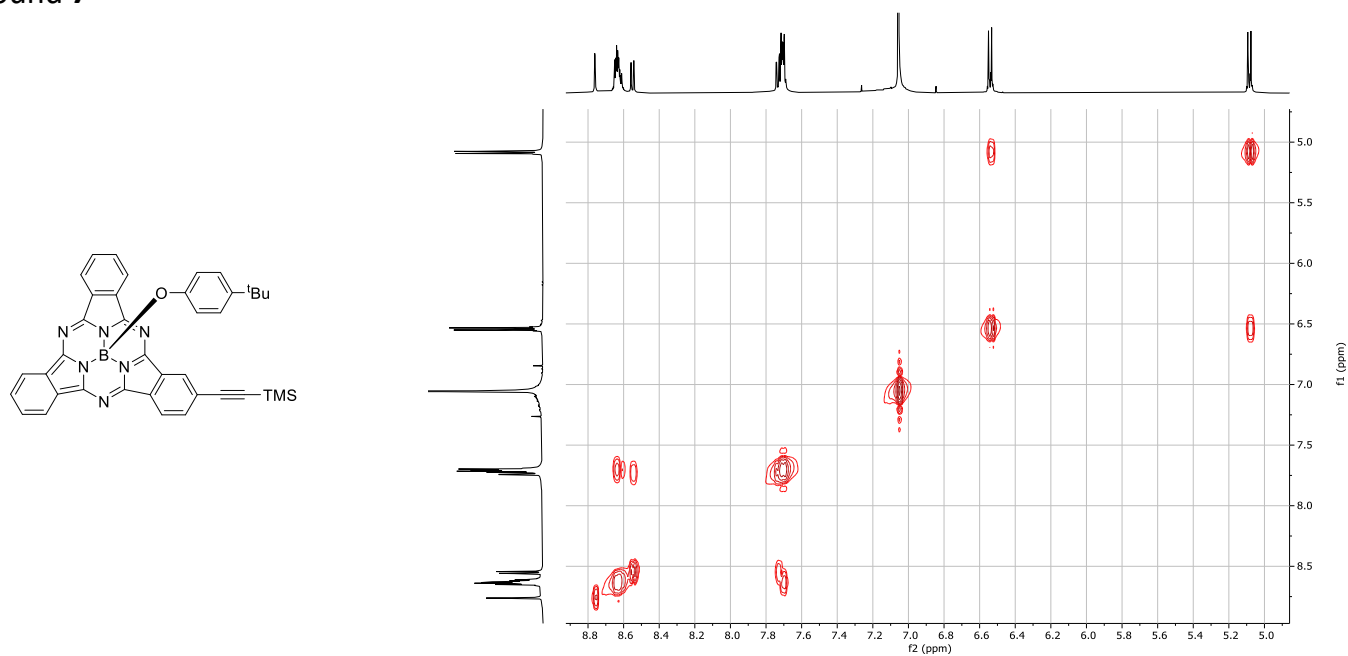
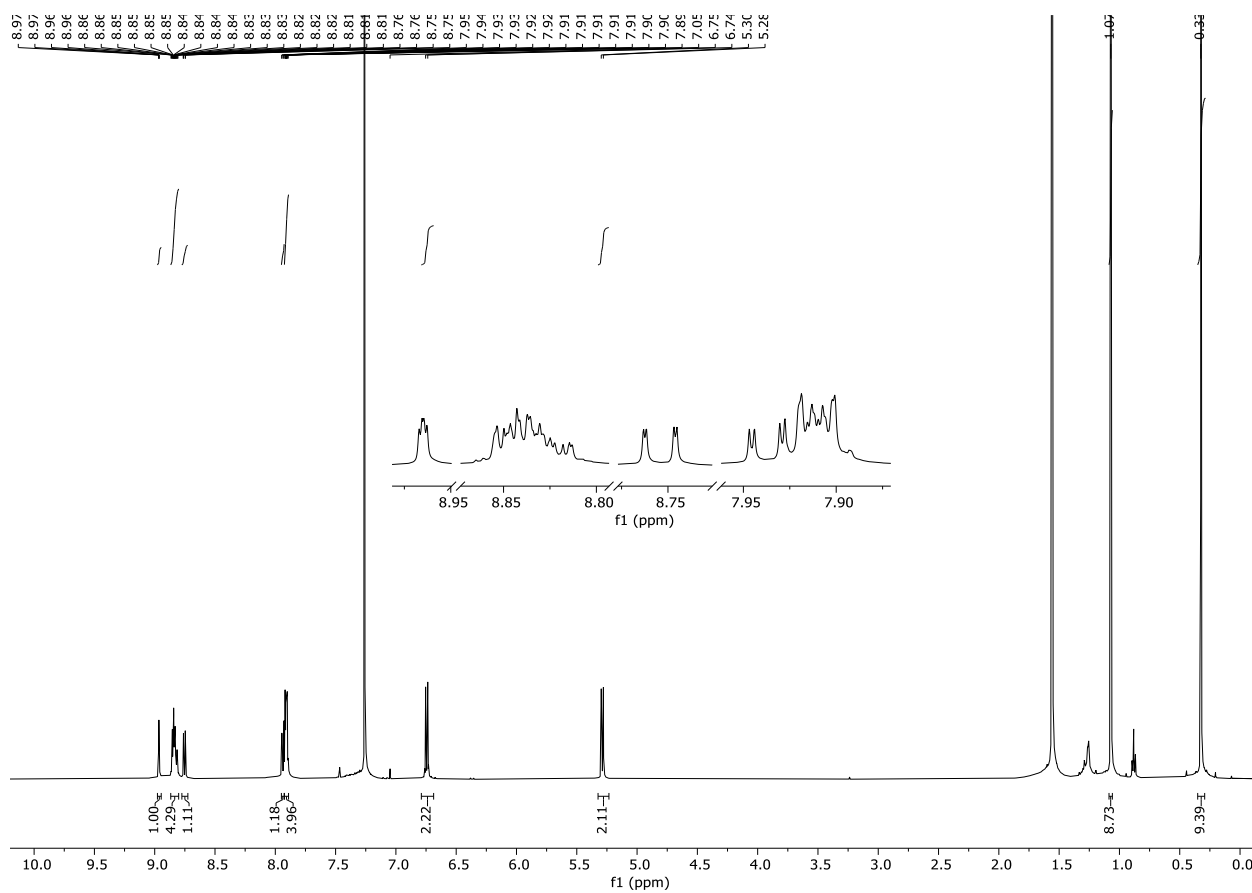
Compound 5

Figure S5. COSY spectrum of compound 5 in CDCl₃.Figure S6. ¹H-NMR spectrum of compound 5 in CDCl₃.

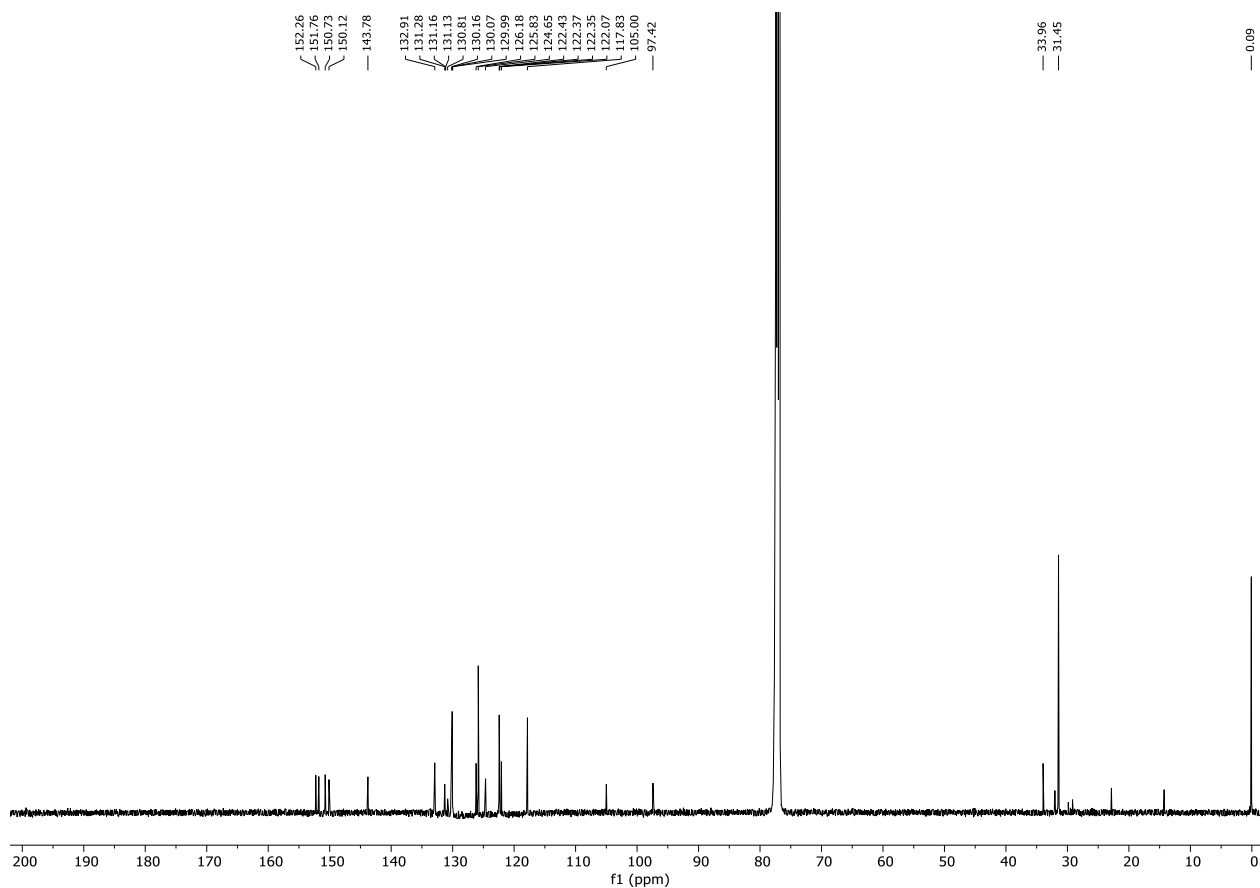
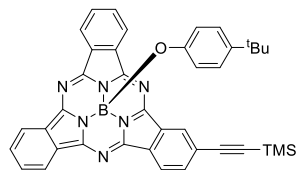
Compound 5

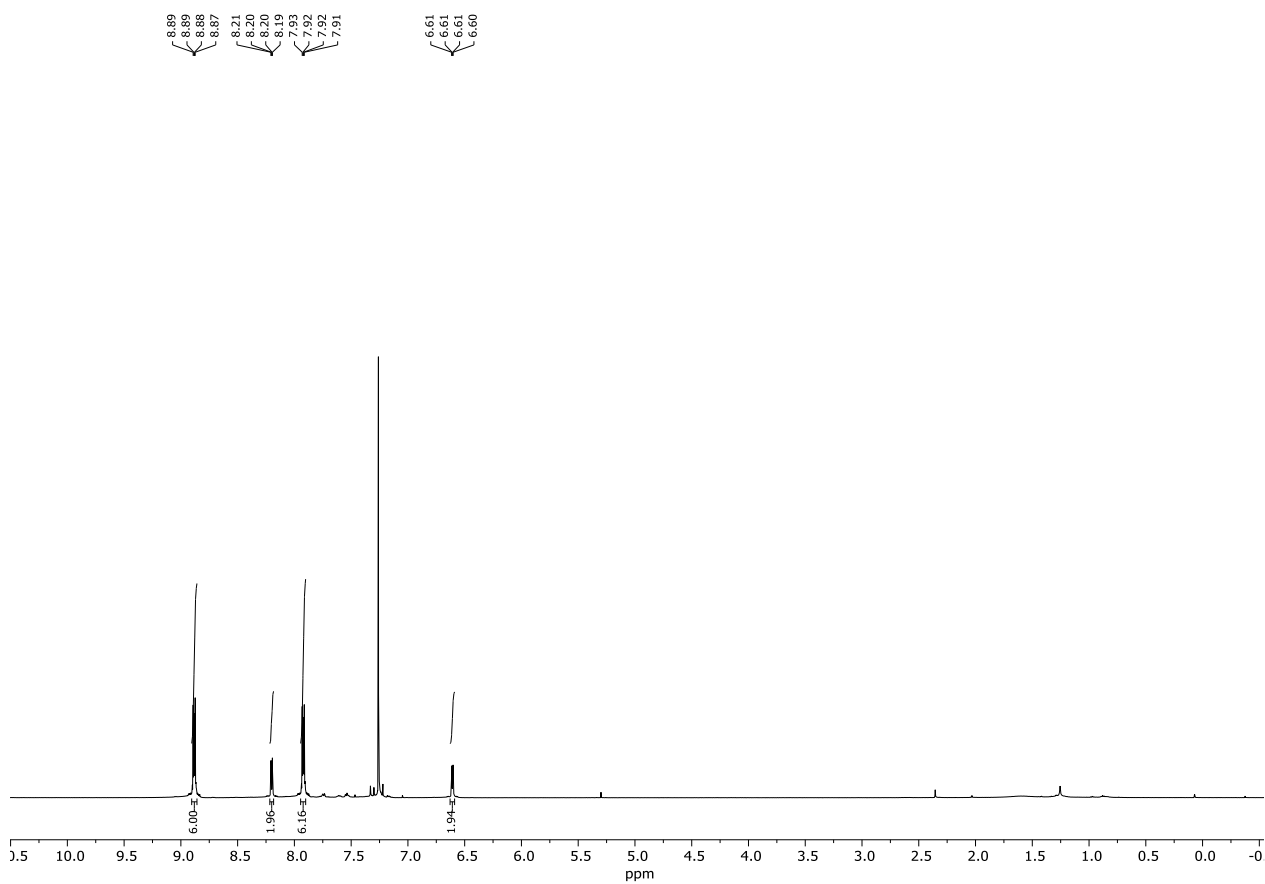
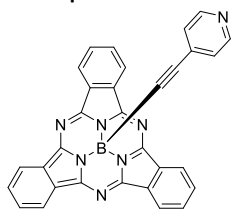
Figure S7. ^{13}C -NMR spectrum of compound 5 in CDCl_3 .

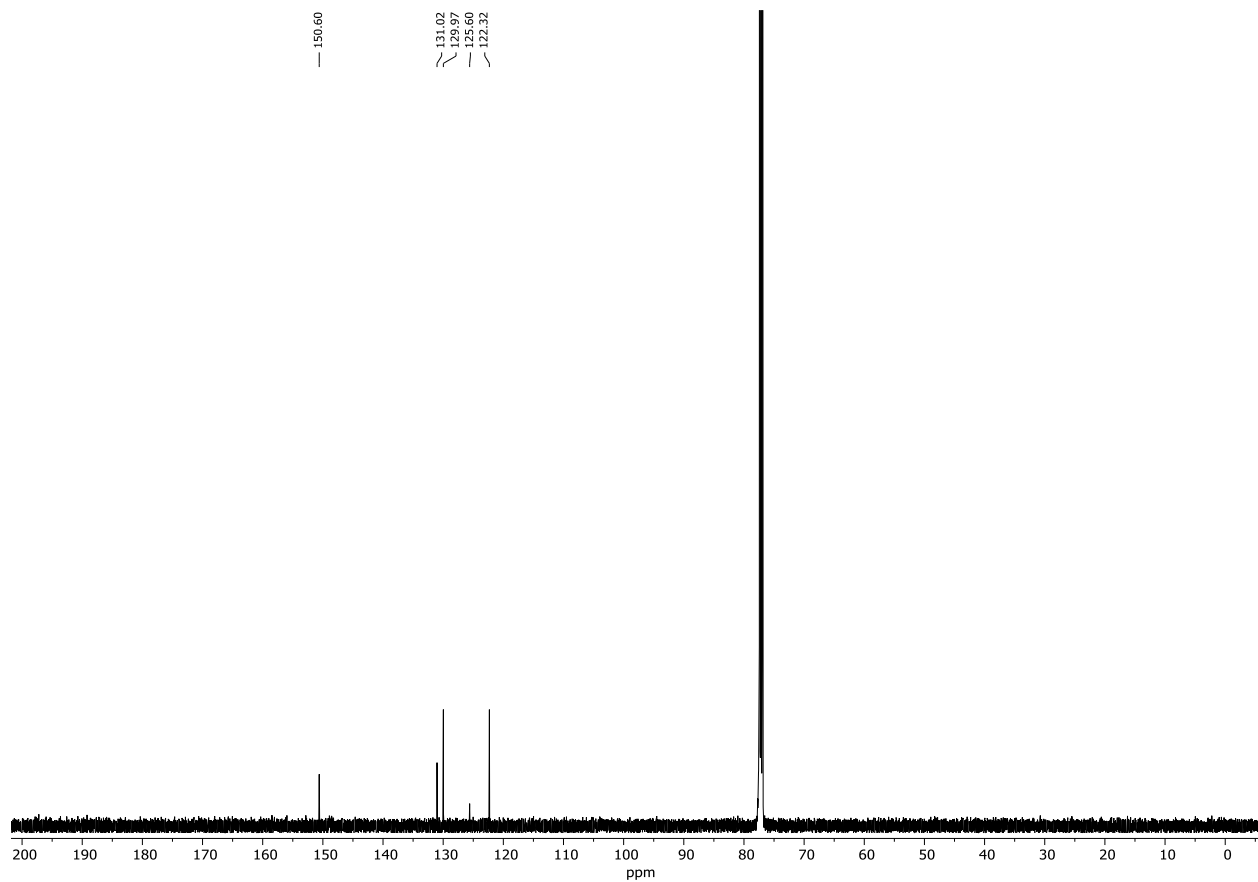
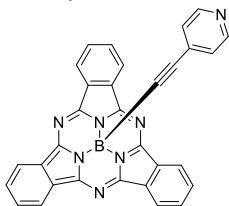
Compound 7

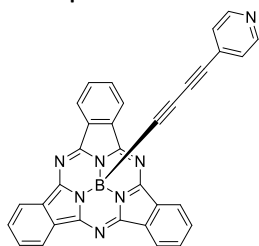
Figure S8. COSY spectrum of compound 7 in CDCl₃Figure S9. ¹H-NMR spectrum of compound 7 in CDCl₃.

Compound 7

Figure S10. ¹³C-NMR spectrum of compound 7 in CDCl₃.

Compound **8**Figure S11. ¹H-NMR spectrum of compound **8** in CDCl₃.

Compound **8**Figure S12. ^{13}C -NMR spectrum of compound **8** in CDCl_3 .

Compound **9**

8.88
8.87
8.87
8.86
— 8.40
7.92
7.91
7.91
7.90
6.98
6.97

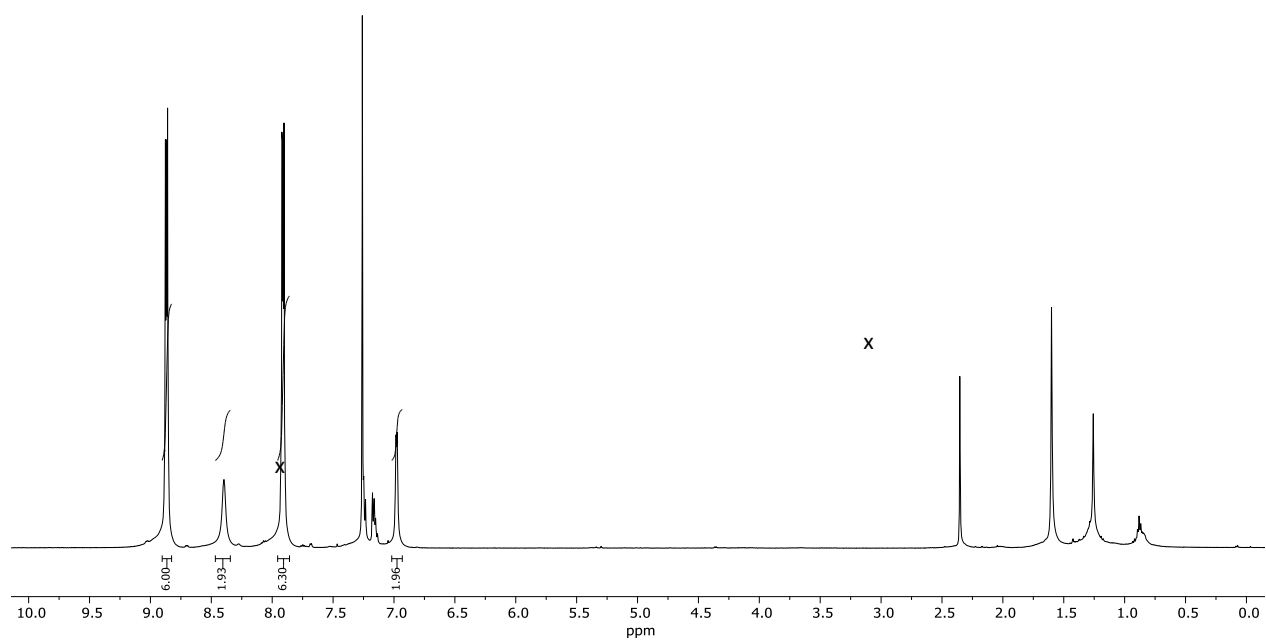


Figure S13. $^1\text{H-NMR}$ spectrum of compound **9** in CDCl_3 . Toluene residues marked with x.

Compound 9

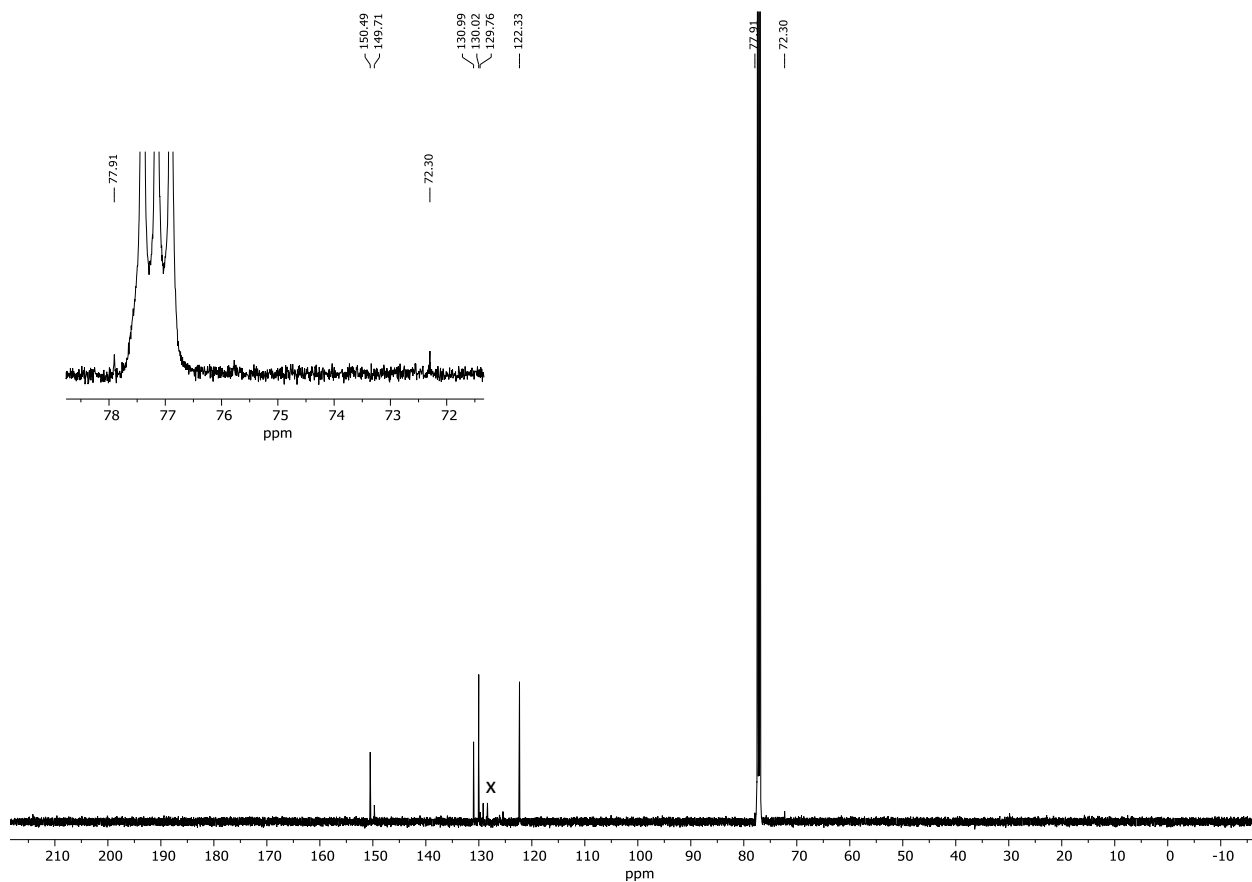
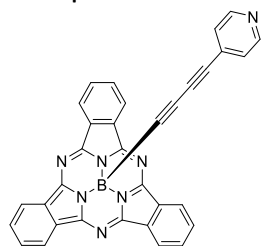
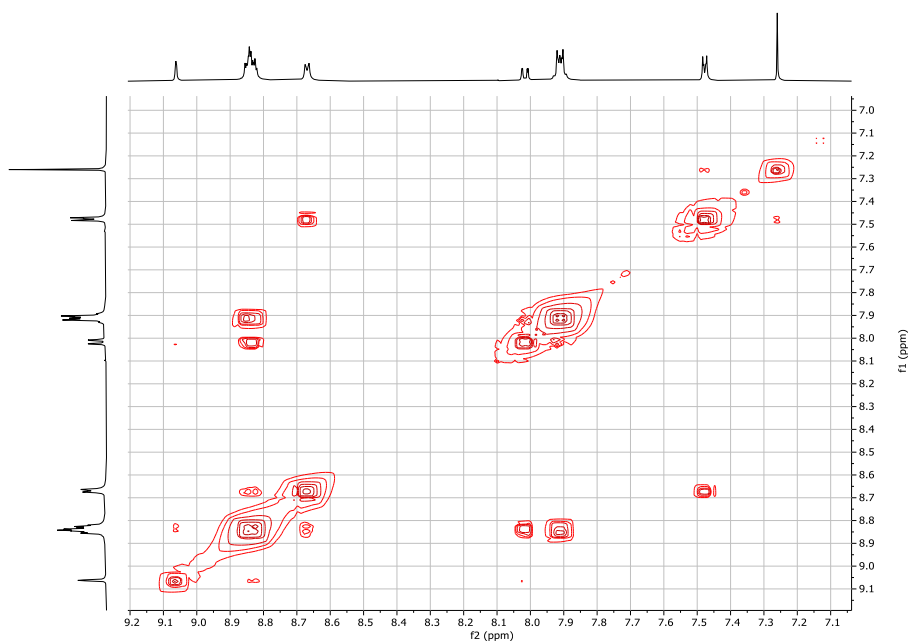
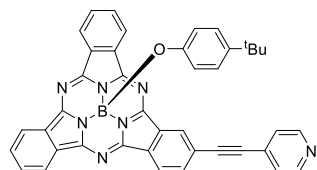
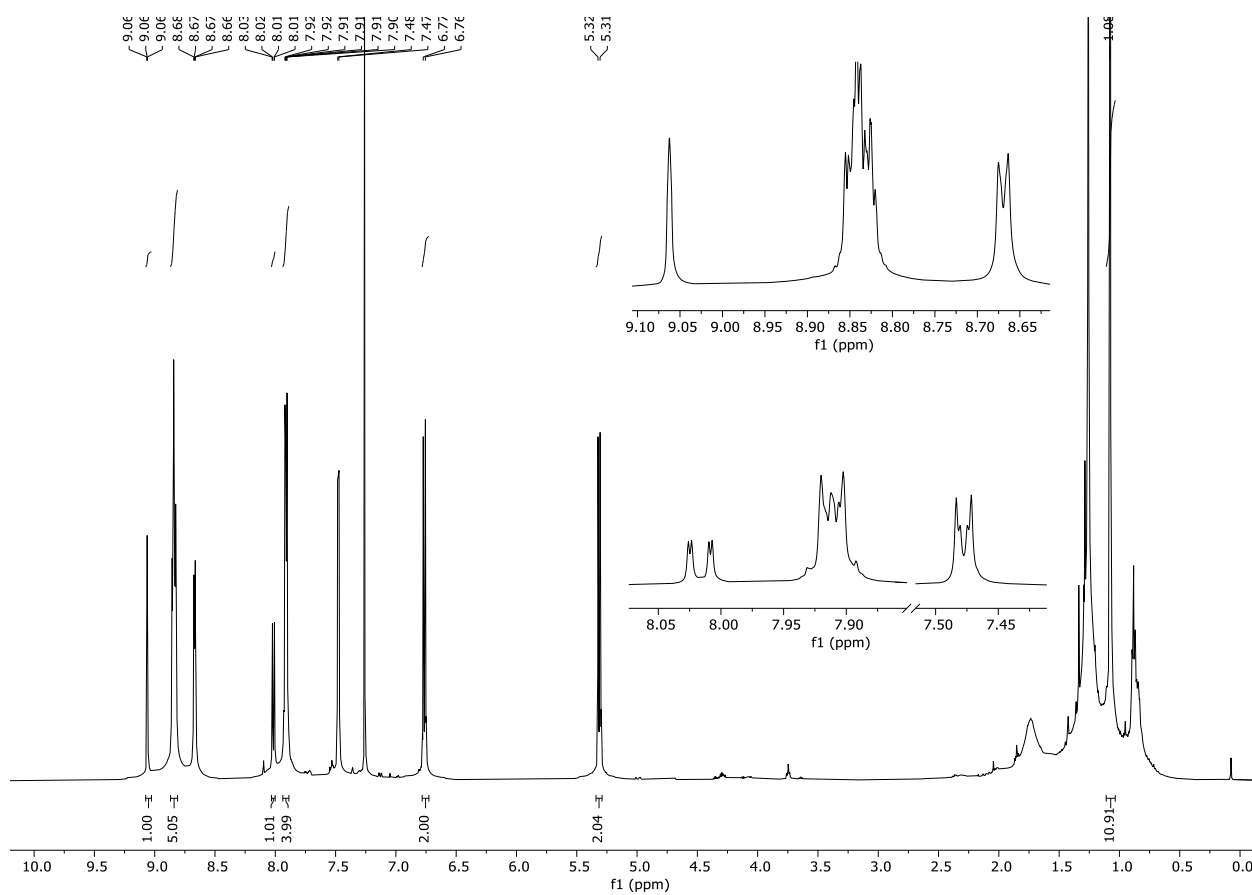
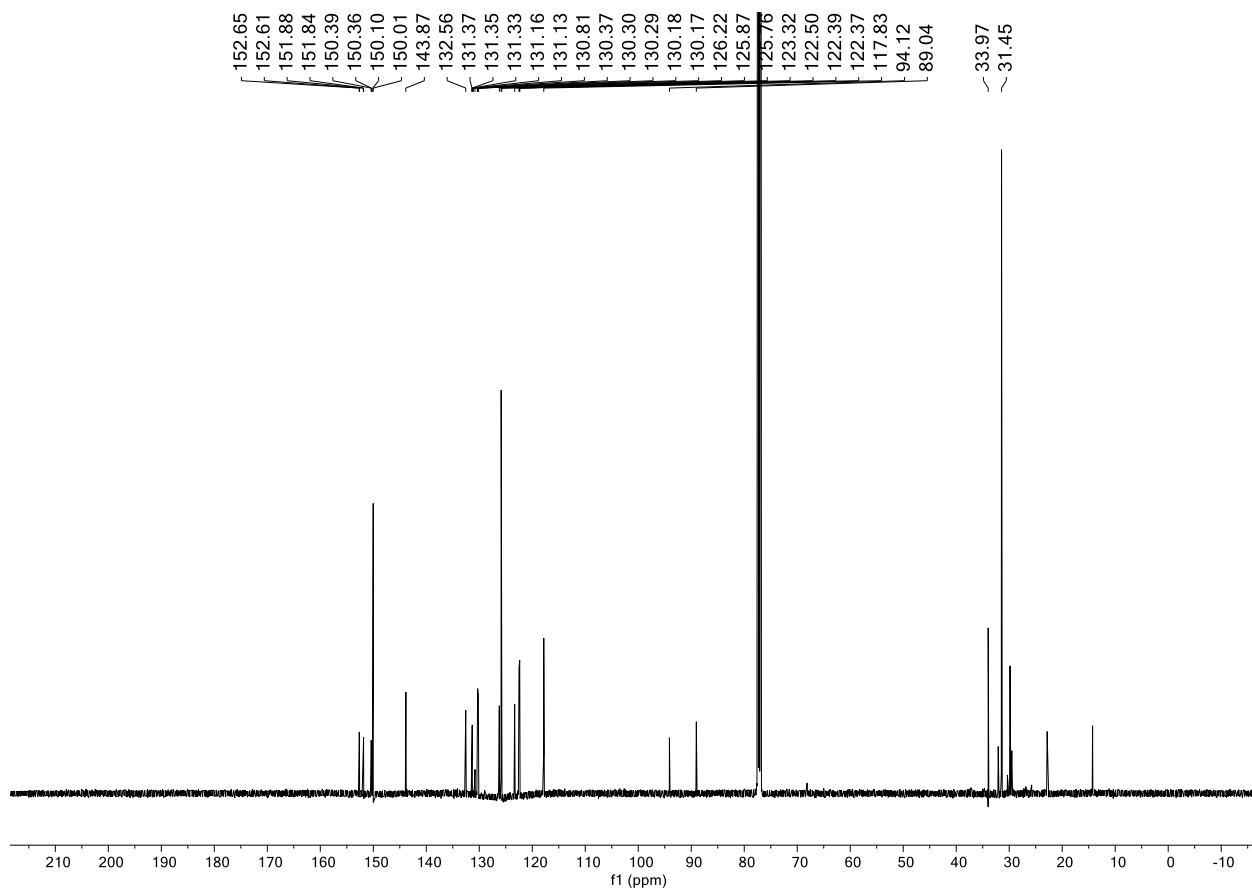
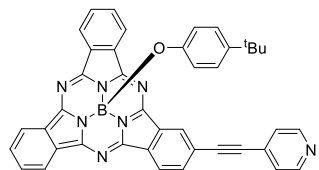


Figure S14. ^{13}C -NMR spectrum of compound 9 in CDCl_3 . Toluene residues marked with x.

Compound 10

Figure S15. COSY spectrum of compound 10 in CDCl₃Figure S16. ¹H-NMR spectrum of compound 10 in CDCl₃.

Compound **10**Figure S17. ^{13}C -NMR spectrum of compound **10** in CDCl_3 .

UV-Vis Absorption Spectroscopy

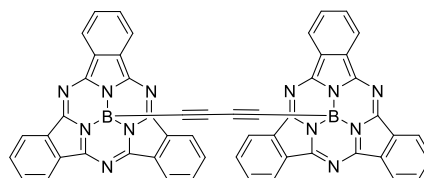
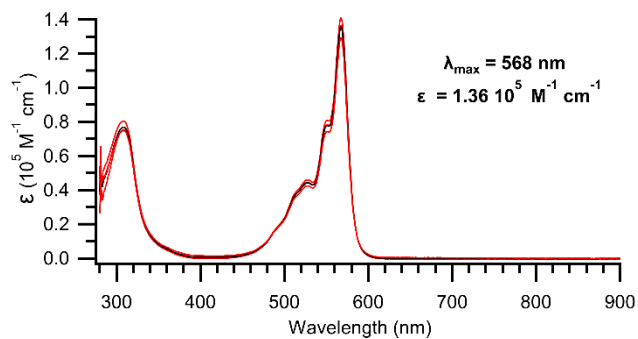


Figure S18. Absorption spectra of **3** in toluene, red lines showing the measured spectra and the black showing the average

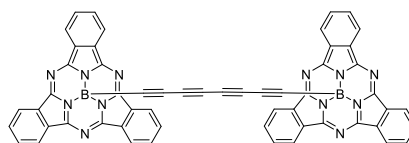
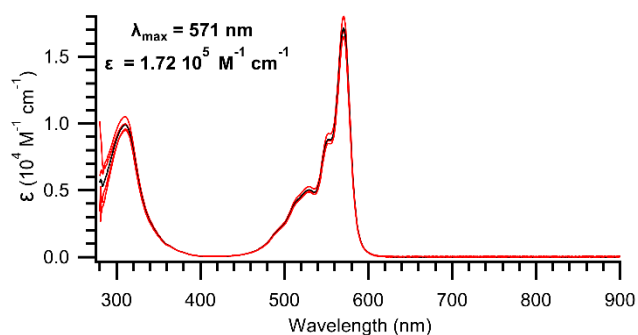


Figure S19. Absorption spectra of **4** in toluene, red lines showing the measured spectra and the black showing the average

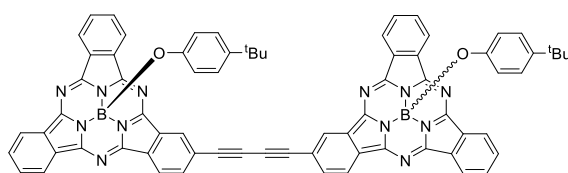
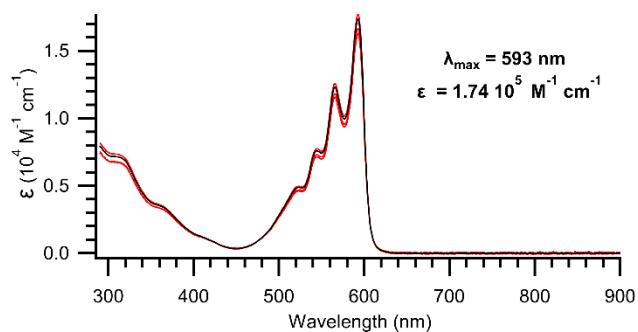
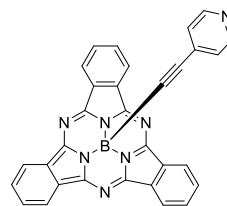
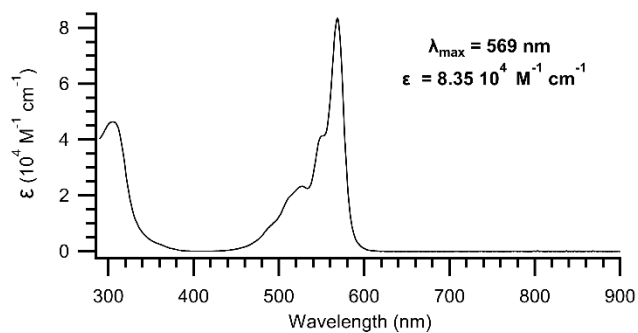
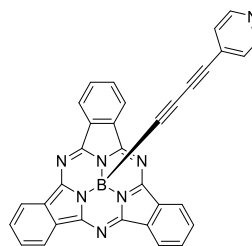
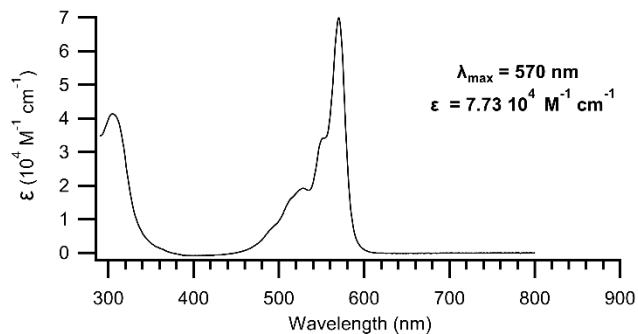
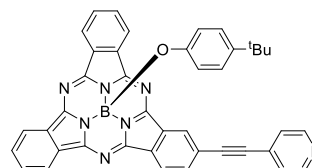
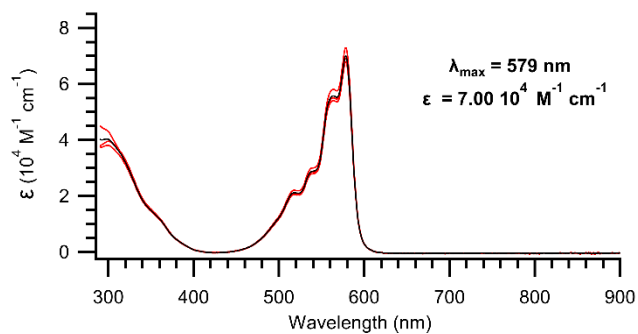


Figure S20. Absorption spectra of **5** in toluene, red lines showing the measured spectra and the black showing the average

**Figure S21.** Absorption spectrum of **8** in toluene.**Figure S22.** Absorption spectrum of **9** in toluene.**Figure S23.** Absorption spectra of **10** in toluene, red lines showing the measured spectra and the black showing the average

Electrochemistry

Compound 3

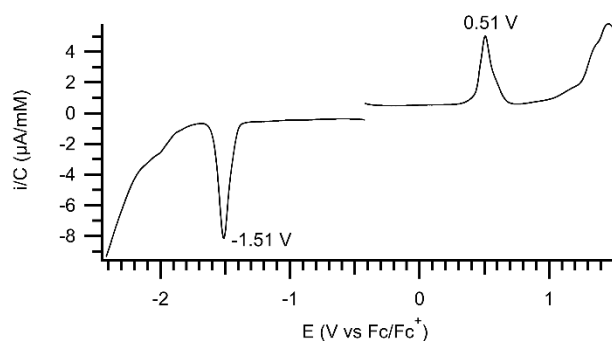
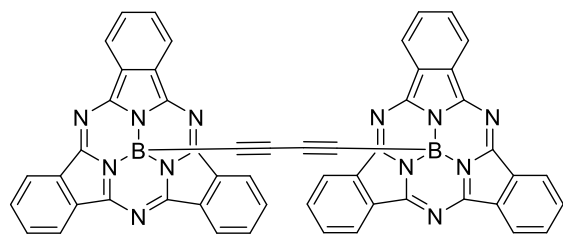


Figure S24. Differential pulse voltammogram of compound **3** (0.24 mM) in CH_2Cl_2 (+ Bu_4NPF_6). Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc^+) redox couple.

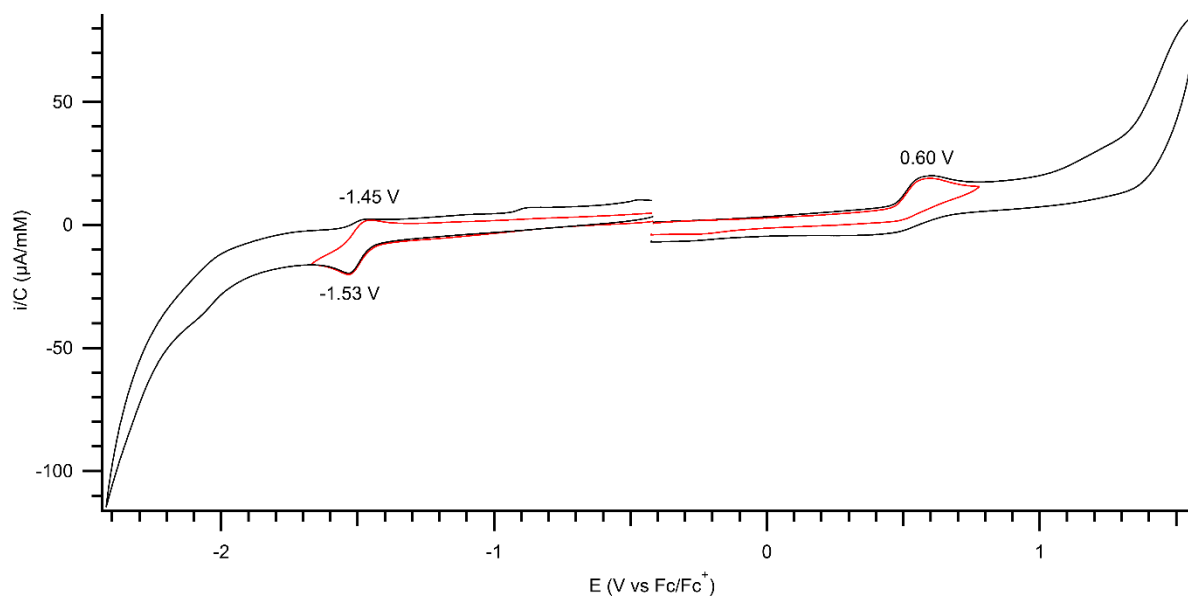


Figure S25. Cyclic voltammogram of compound **3** (0.24 mM) in CH_2Cl_2 (+ Bu_4NPF_6). Scan rate 0.1 V s^{-1} . Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc^+) redox couple.

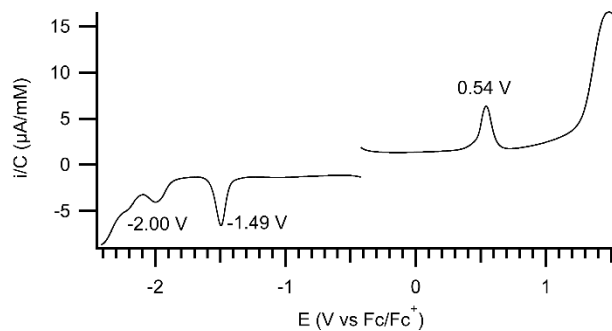
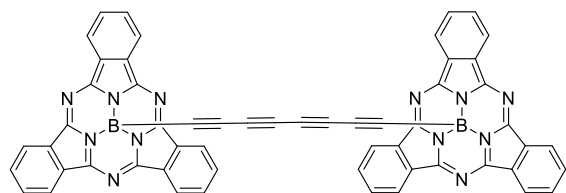
Compound **4**

Figure S26. Differential pulse voltammogram of compound **4** (0.094 mM) in CH₂Cl₂ (+ Bu₄NPF₆). Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc⁺) redox couple.

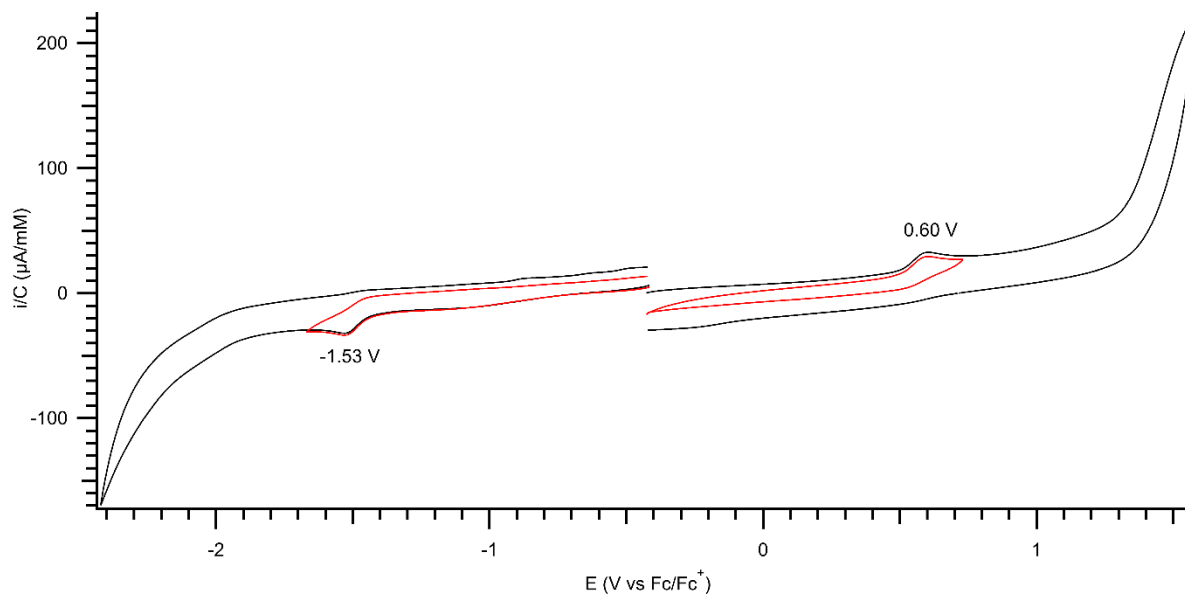


Figure S27. Cyclic voltammogram of compound **4** (0.094 mM) in CH₂Cl₂ (+ Bu₄NPF₆). Scan rate 0.1 V s⁻¹. Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc⁺) redox couple.

Compound 5

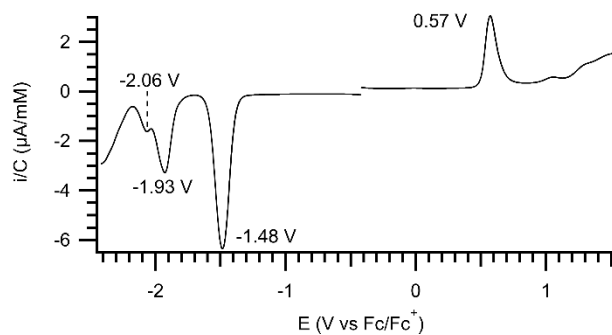
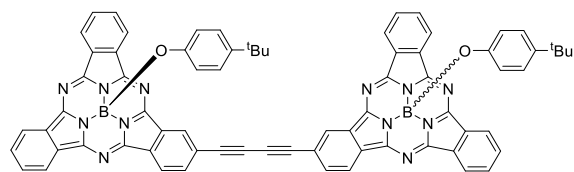


Figure S28. Differential pulse voltammogram of compound **5** (0.99 mM) in CH₂Cl₂ (+ Bu₄NPF₆). Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc⁺) redox couple.

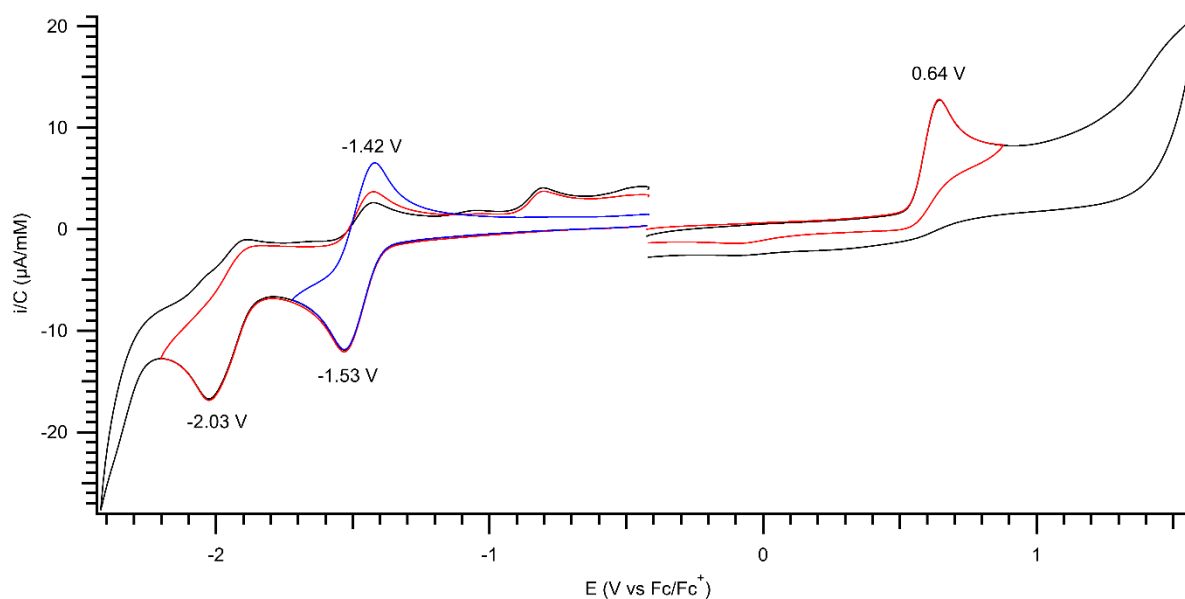


Figure S29. Cyclic voltammogram of compound **5** (0.99 mM) in CH₂Cl₂ (+ Bu₄NPF₆). Scan rate 0.1 V s⁻¹. Reference electrode: Ag/AgCl, counter electrode: Pt wire; working electrode: glassy-carbon disc electrode (diameter 3 mm). Potentials are referenced to the ferrocene/ferrocenium (Fc/Fc⁺) redox couple.