# Room temperature ionic liquids based on cationic porphyrin derivatives and tetrakis(pentafluorophenyl)borate anion

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**Part. 1. $^{1}$H and $^{19}$F NMR spectra**



**Part. 2. MALDI-TOF mass spectra**

**Part. 3. Thermal analyses**

Differential Scanning Calorimetry (DSC) measurements were performed on a Perkin Elmer Diamond DSC instrument.

**Part. 1. $^{1}H$ and $^{19}F$ NMR spectra**

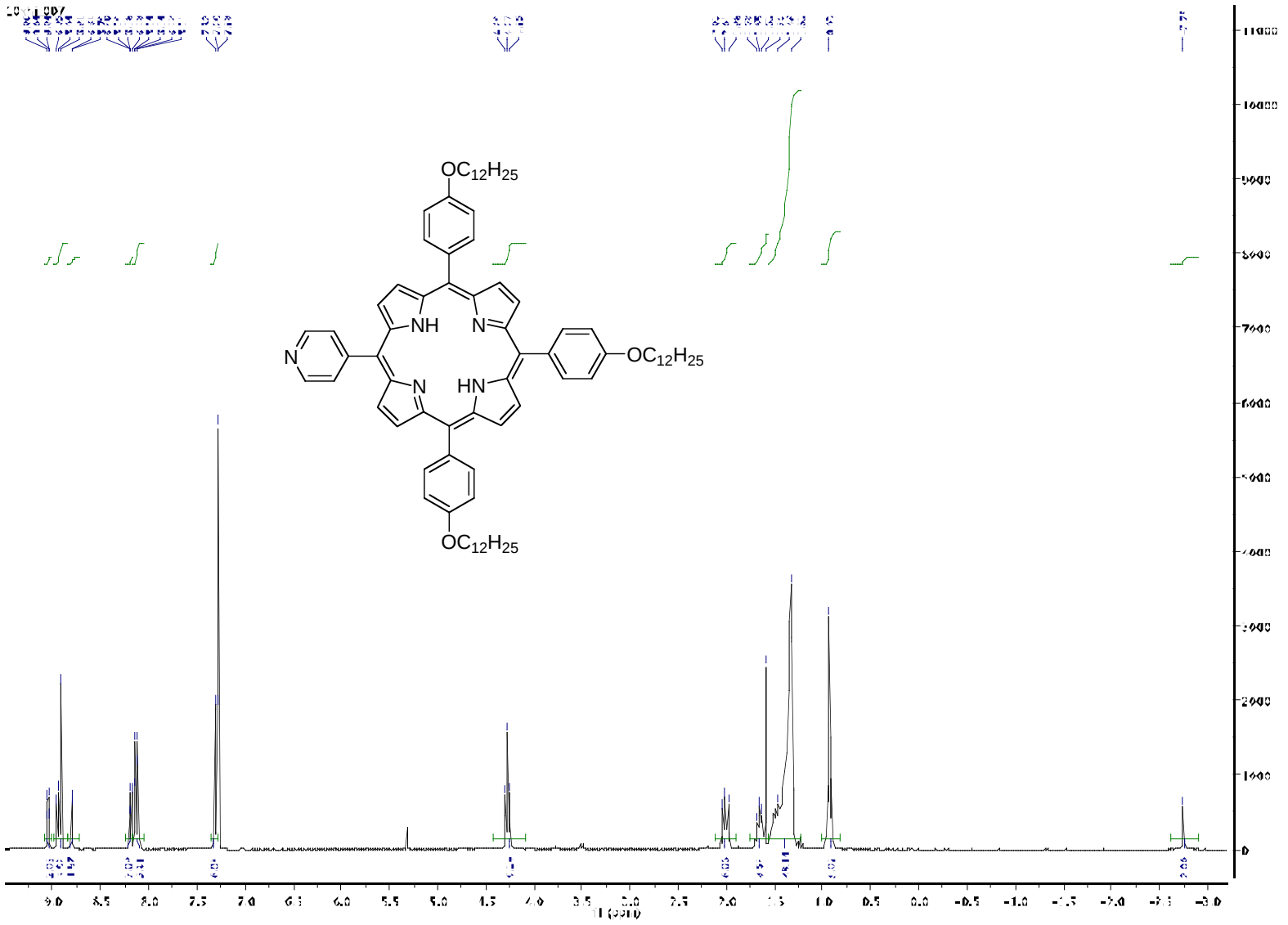


**Figure S1.** 300 MHz $^{1}H$ NMR spectrum of **3a** in $CDCl_3$

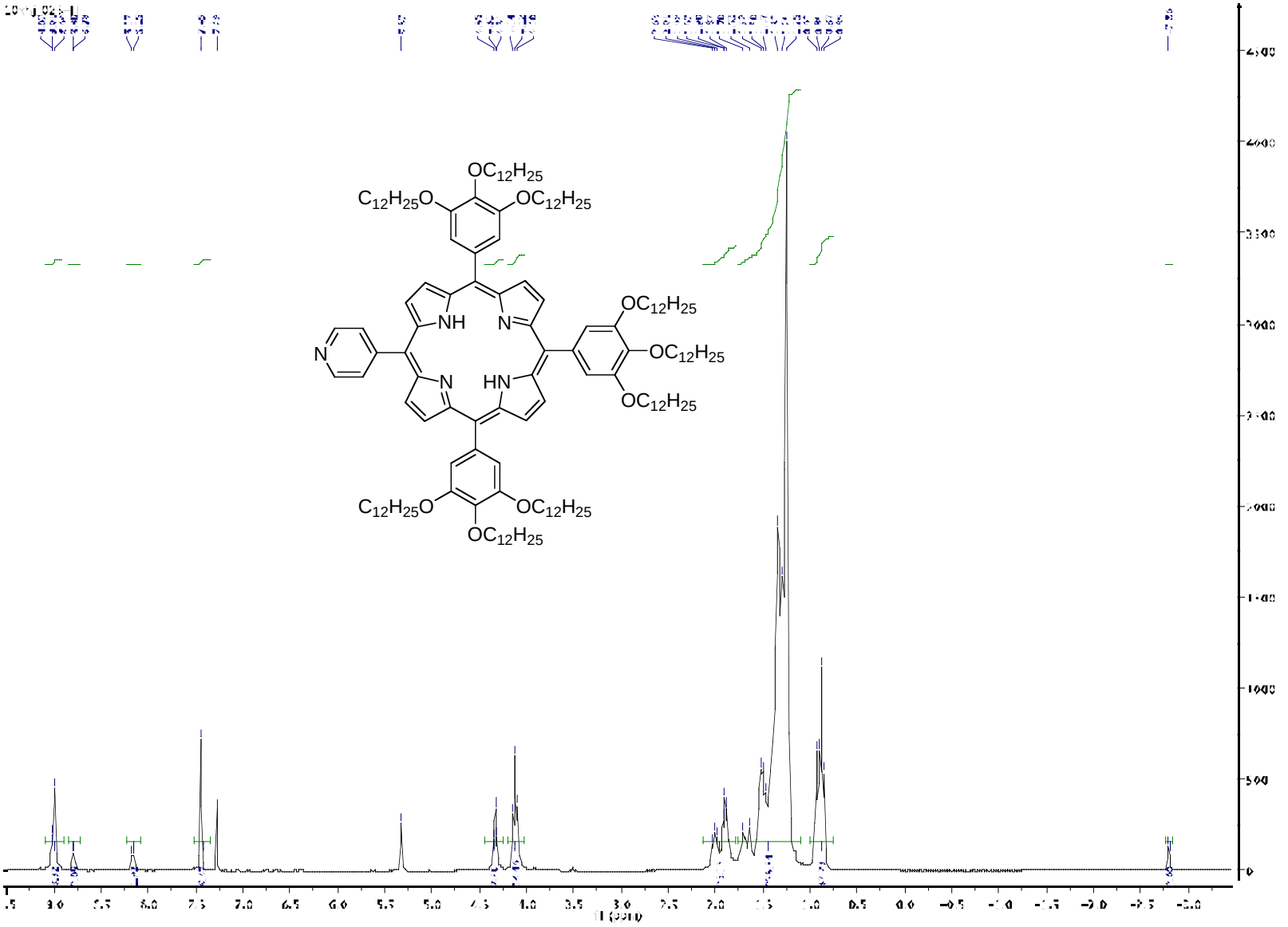


**Figure S2.** 300 MHz $^{1}H$ NMR spectrum of **3b** in $CDCl_3$

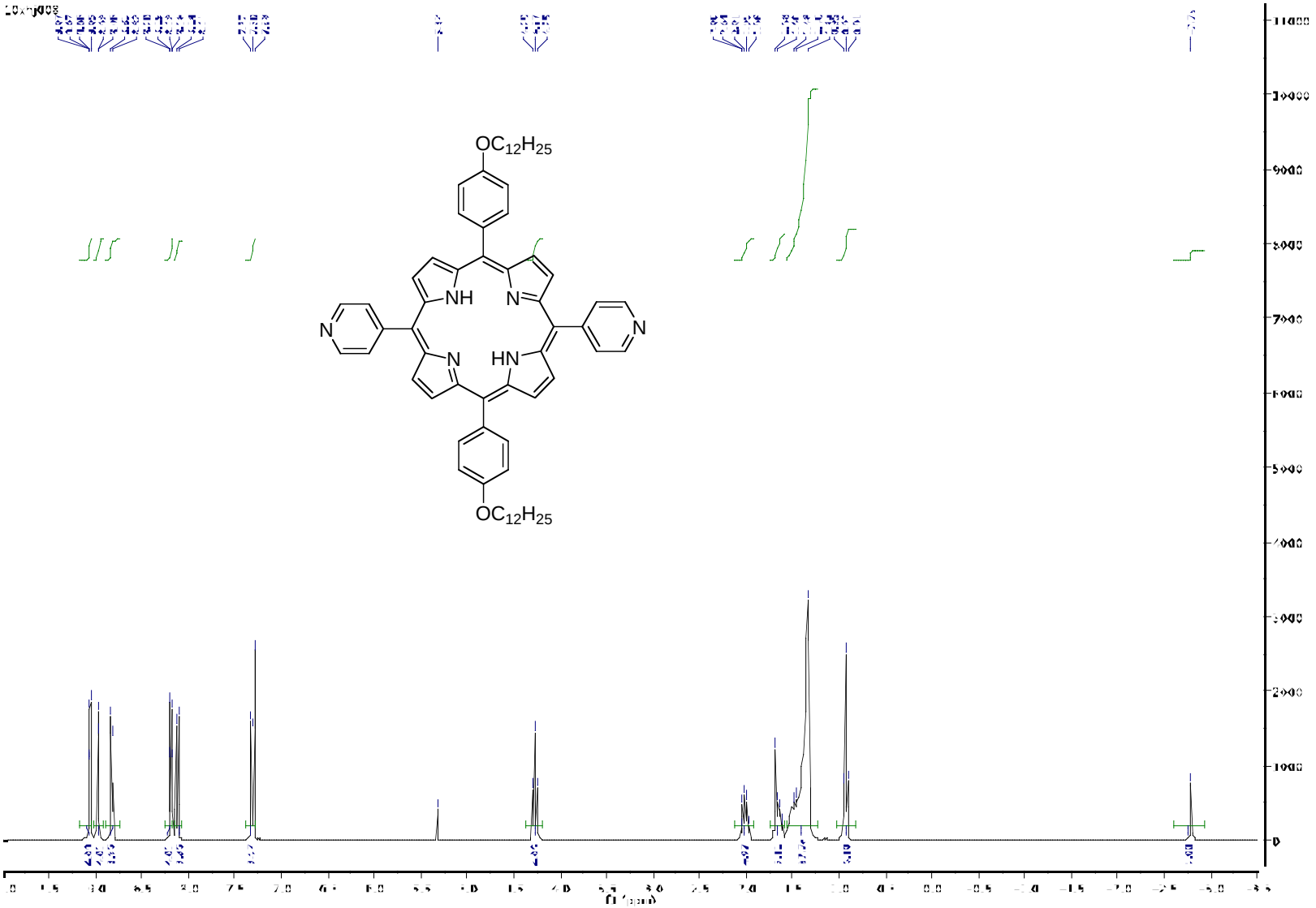


**Figure S3.** 300 MHz $^{1}$H NMR spectrum of **4a** in $CDCl_3$

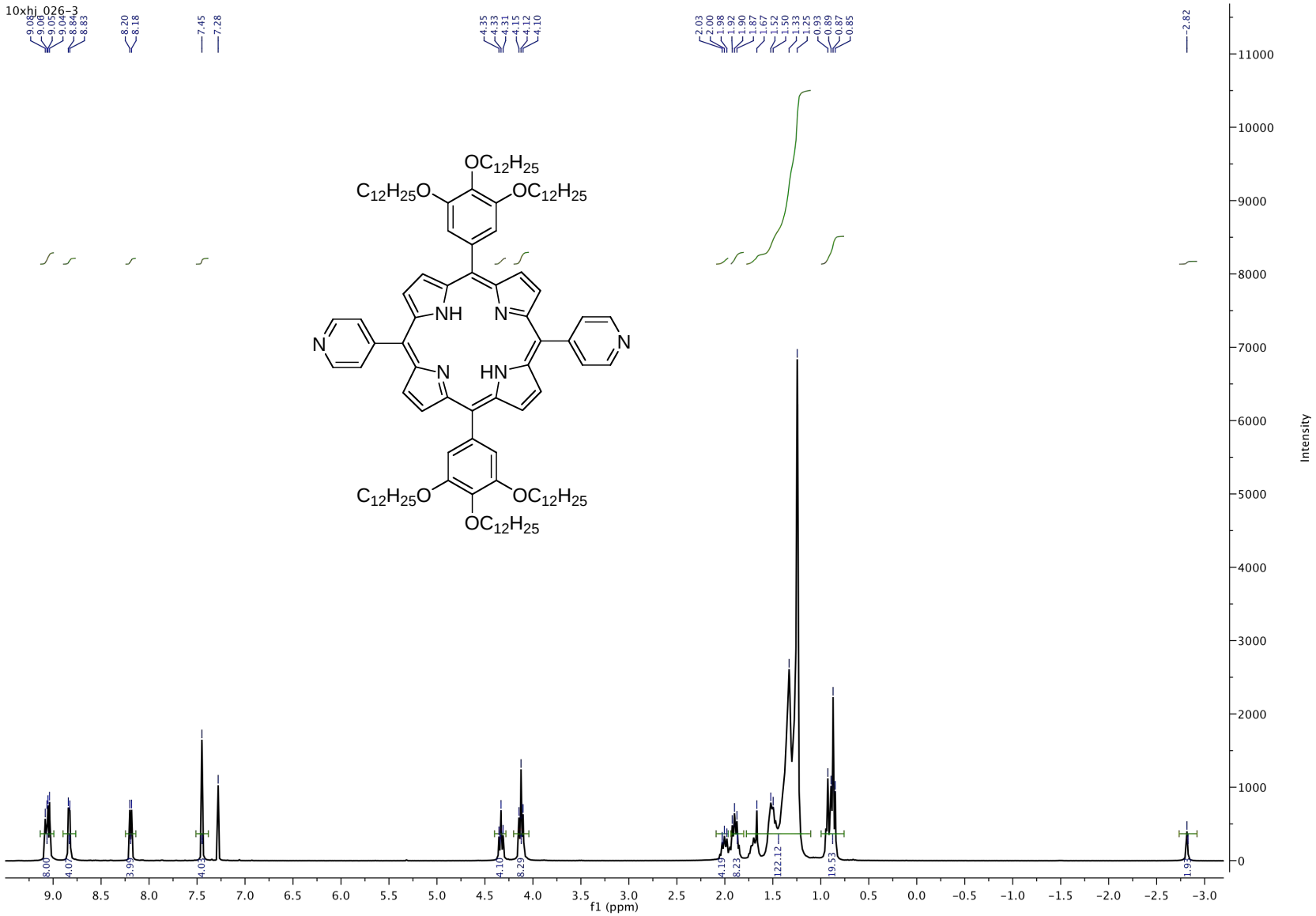


**Figure S4.** 300 MHz $^{1}$H NMR spectrum of **4b** in $CDCl_3$

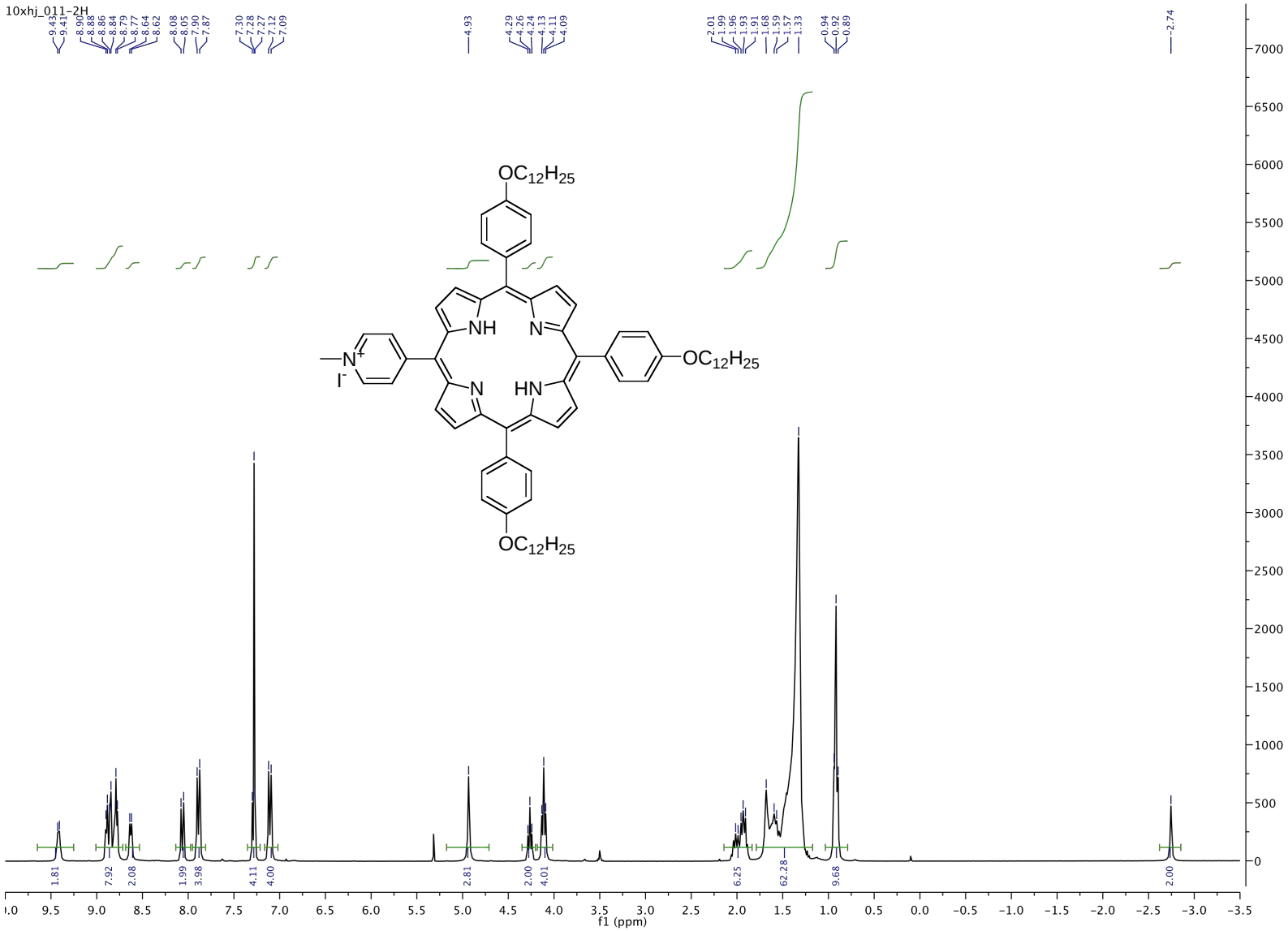


**Figure S5.** 300 MHz $^{1}$H NMR spectrum of **5a** in $CDCl_3$

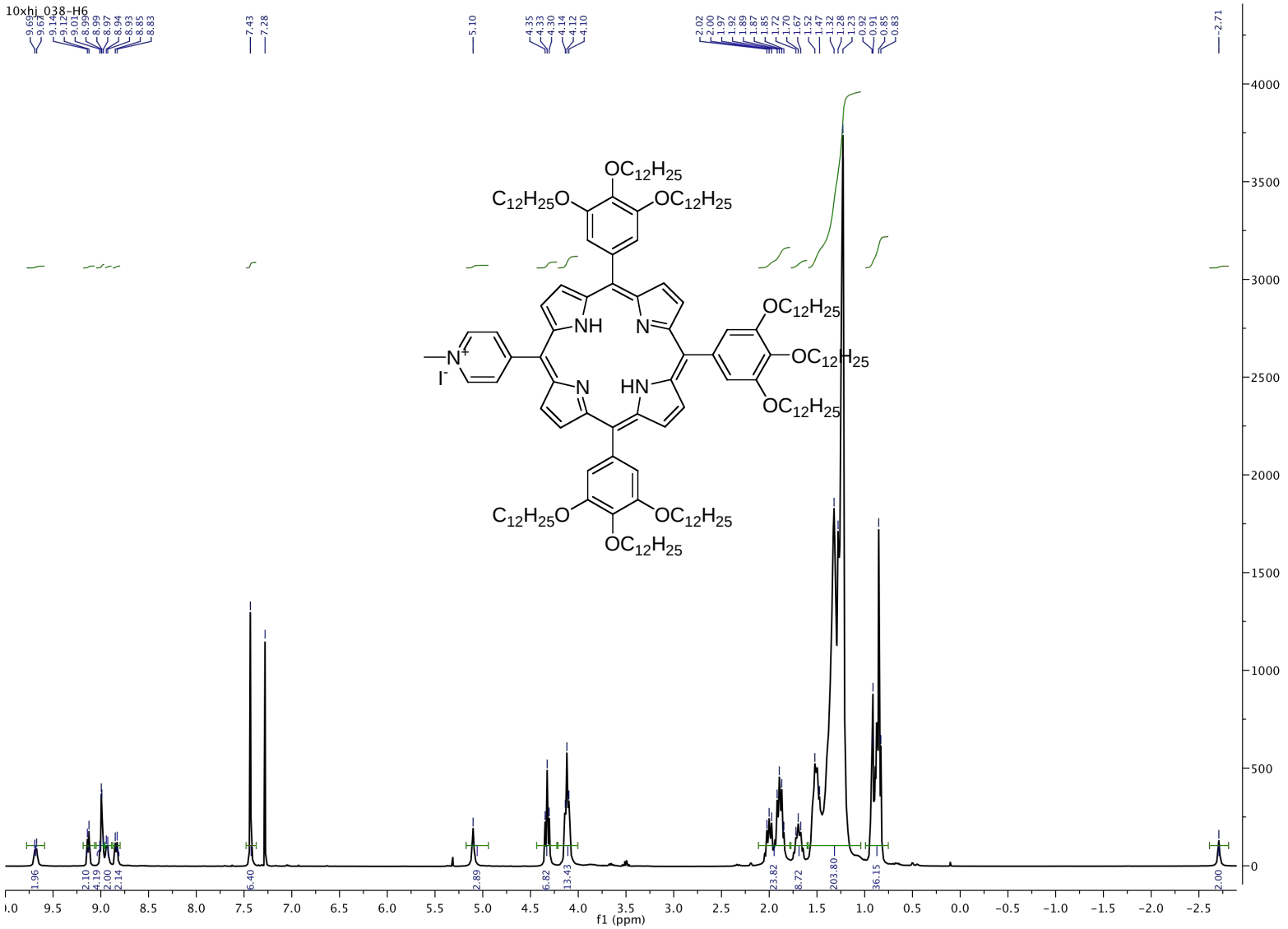


**Figure S6.** 300 MHz $^{1}$H NMR spectrum of **5b** in $CDCl_3$

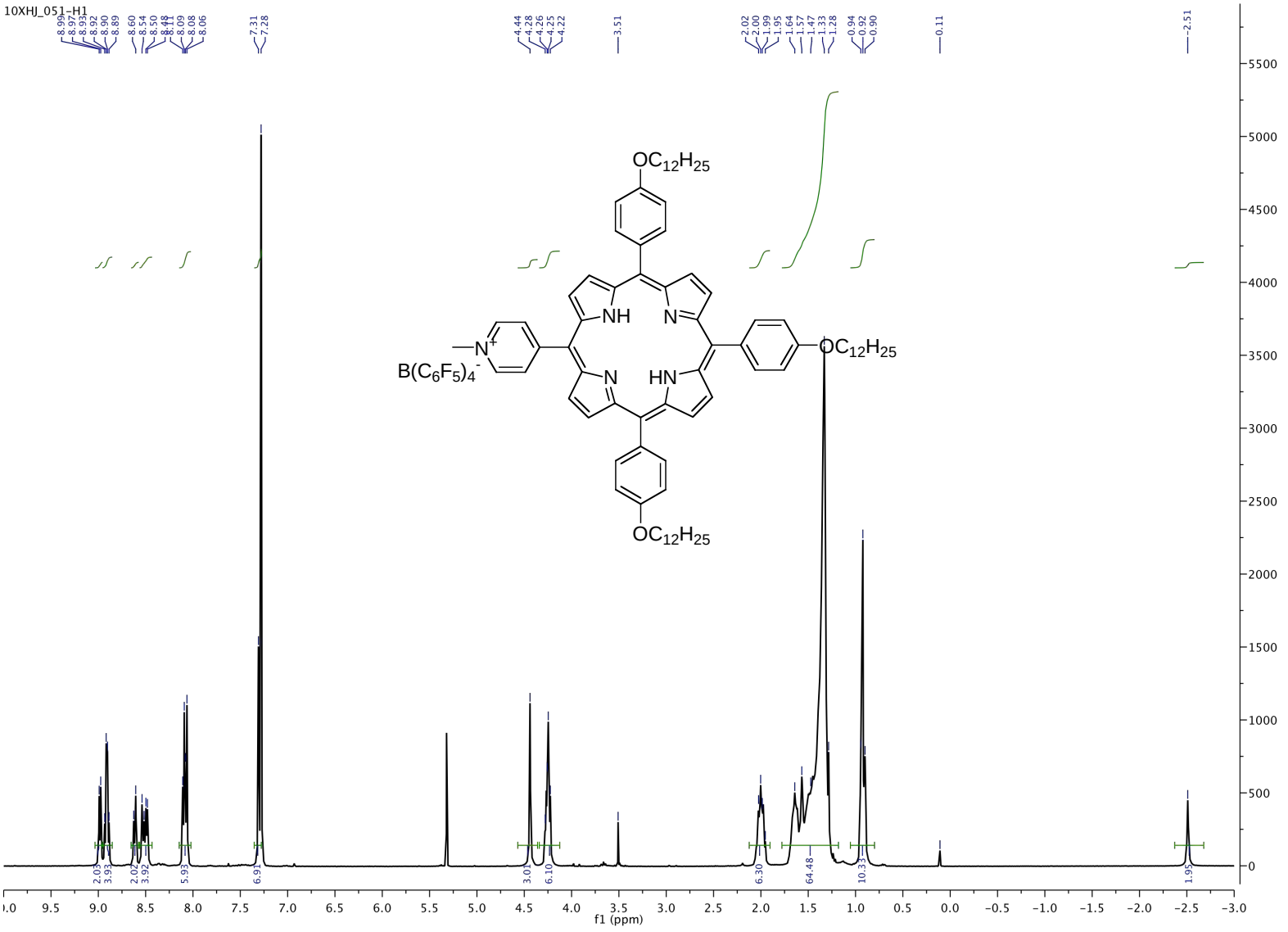


**Figure S7.** 300 MHz $^{1}$H NMR spectrum of **6a** in $CDCl_3$

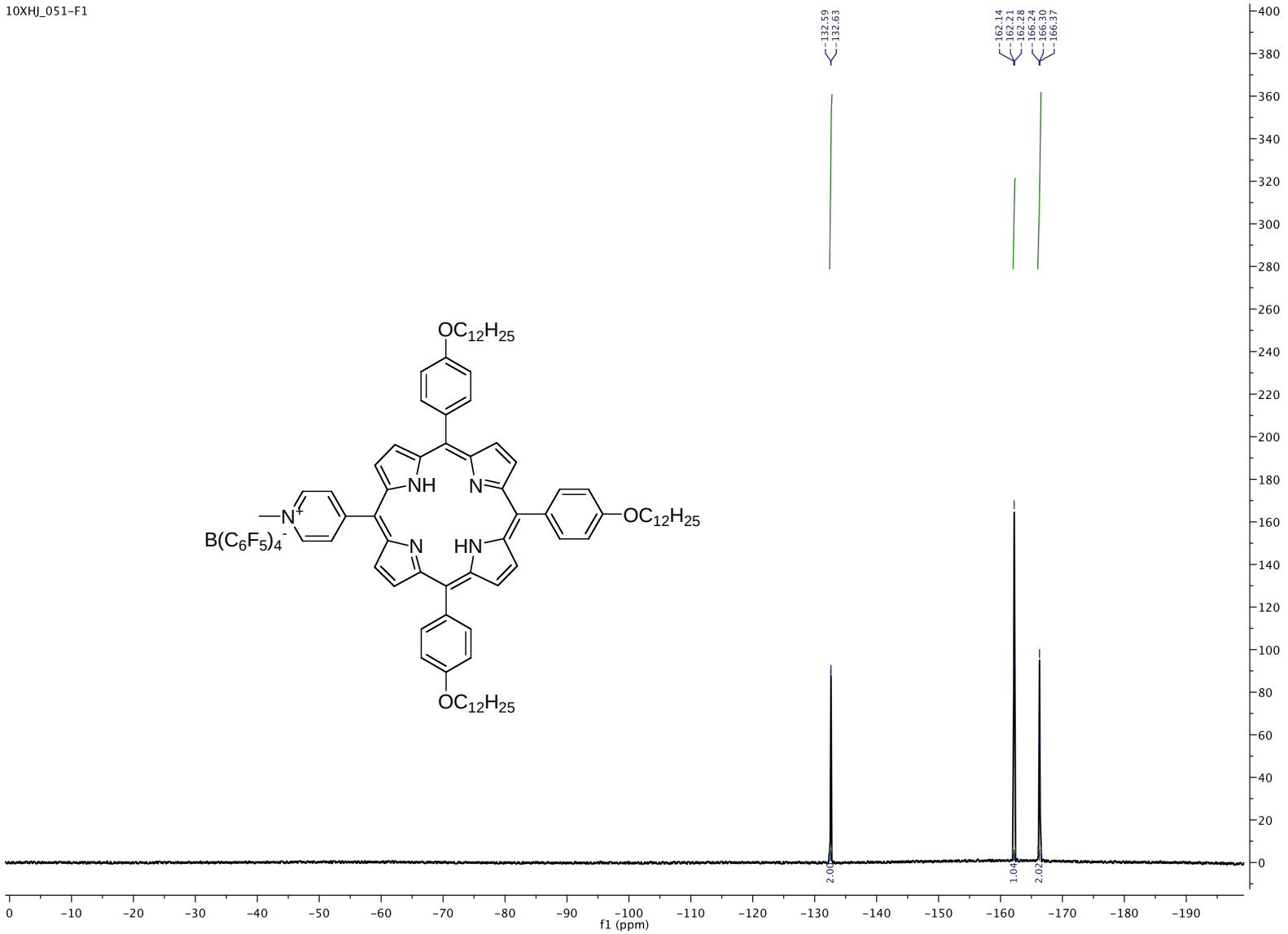


**Figure S8.** 300 MHz $^{19}F$ NMR spectra of **6a** in $CDCl_3$

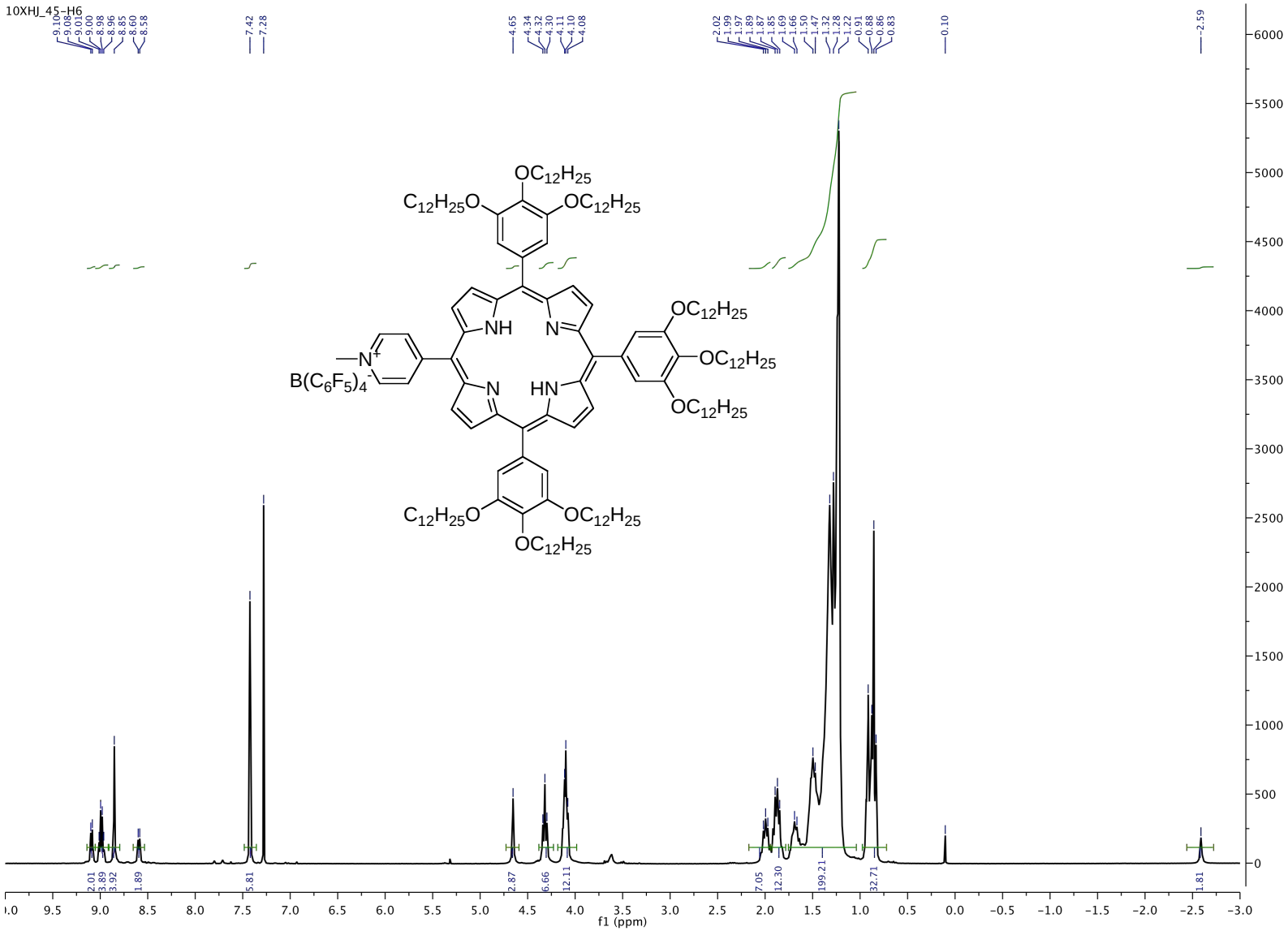


**Figure S9.** 300 MHz $^{1}$H NMR spectrum of **6b** in $CDCl_3$

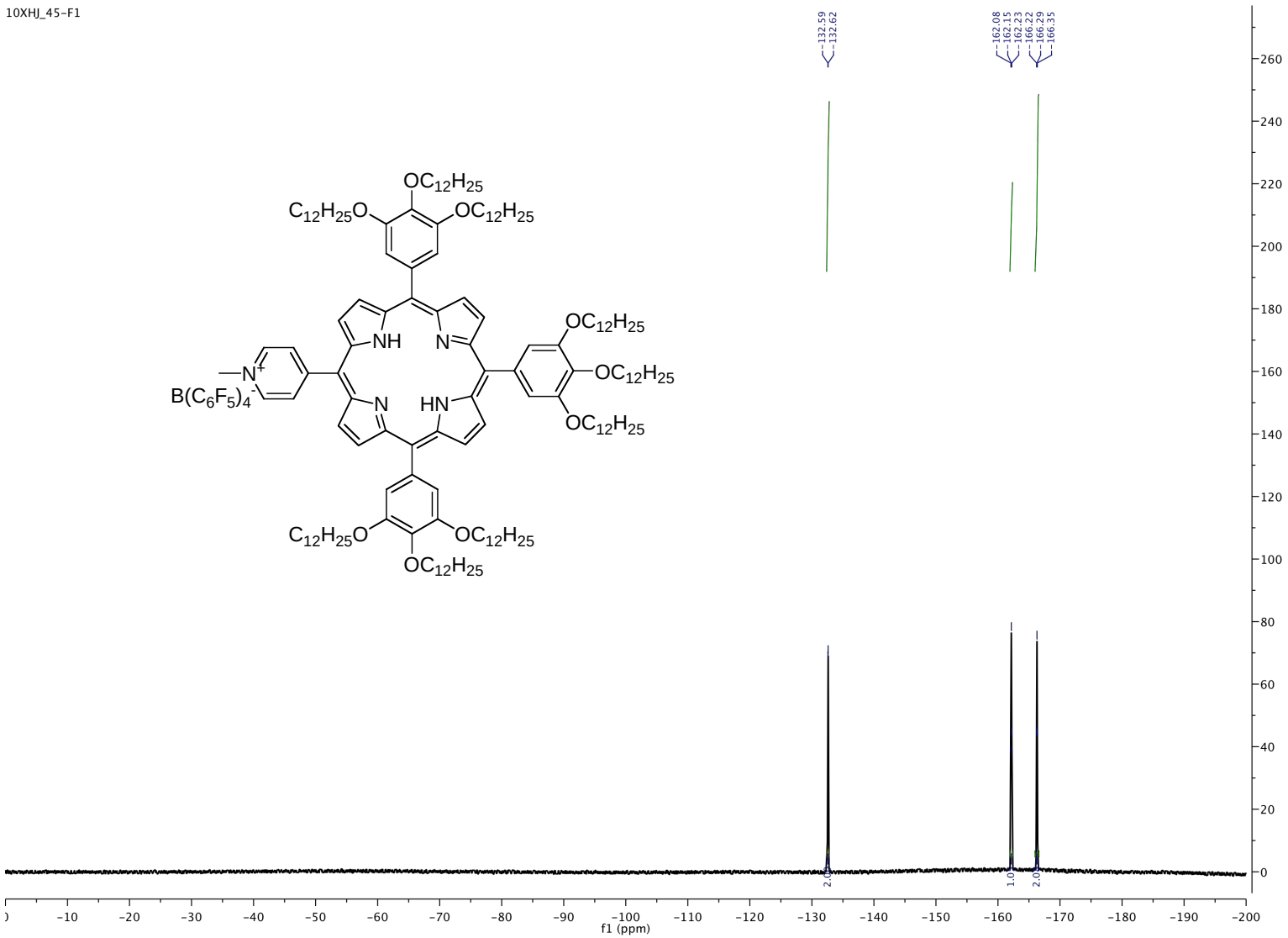


**Figure S10.** 300 MHz $^{19}F$ NMR spectrum of **6b** in $CDCl_3$

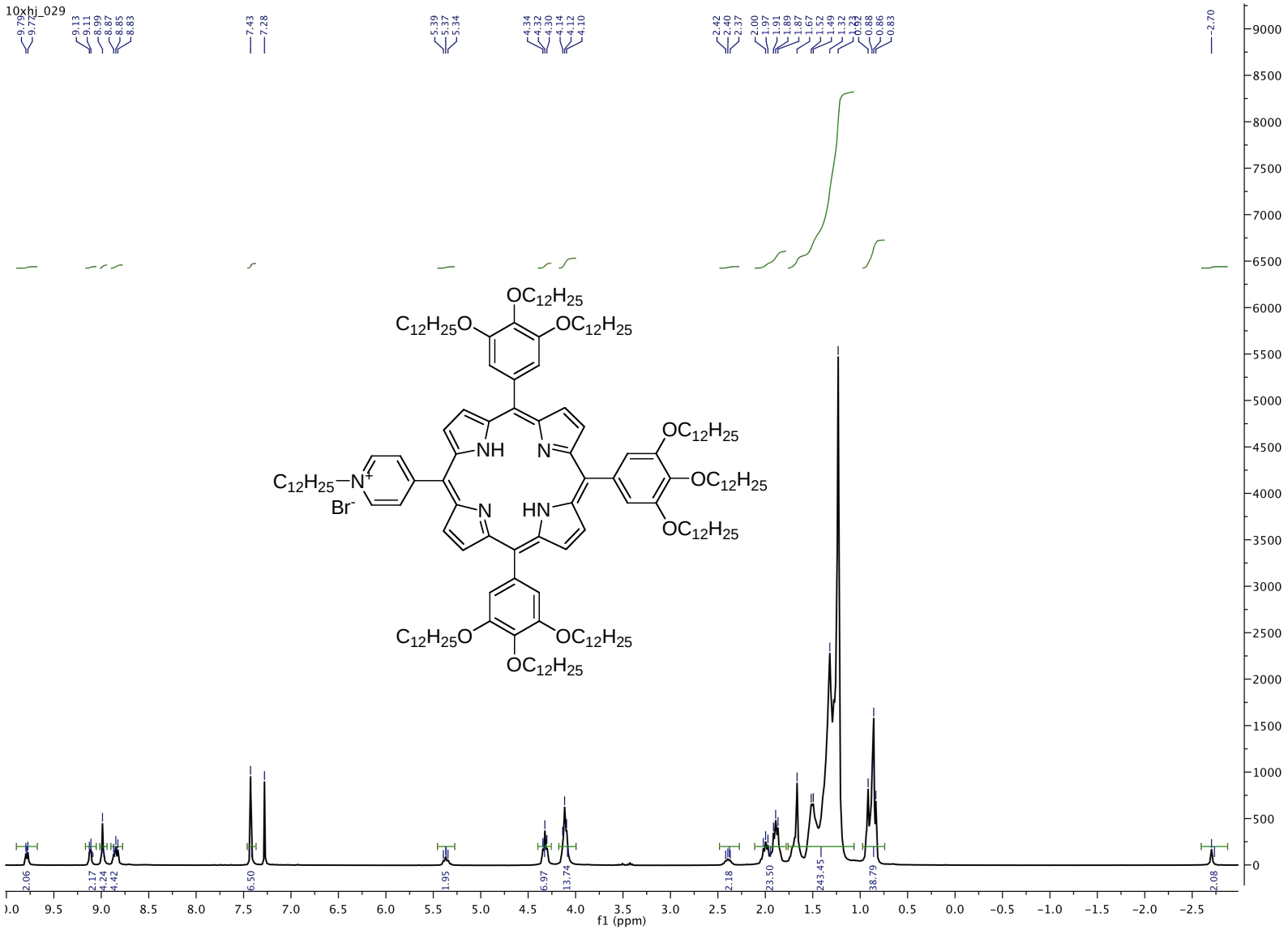


**Figure S11.** 300 MHz $^{1}H$ NMR spectrum of **7** in $CDCl_3$

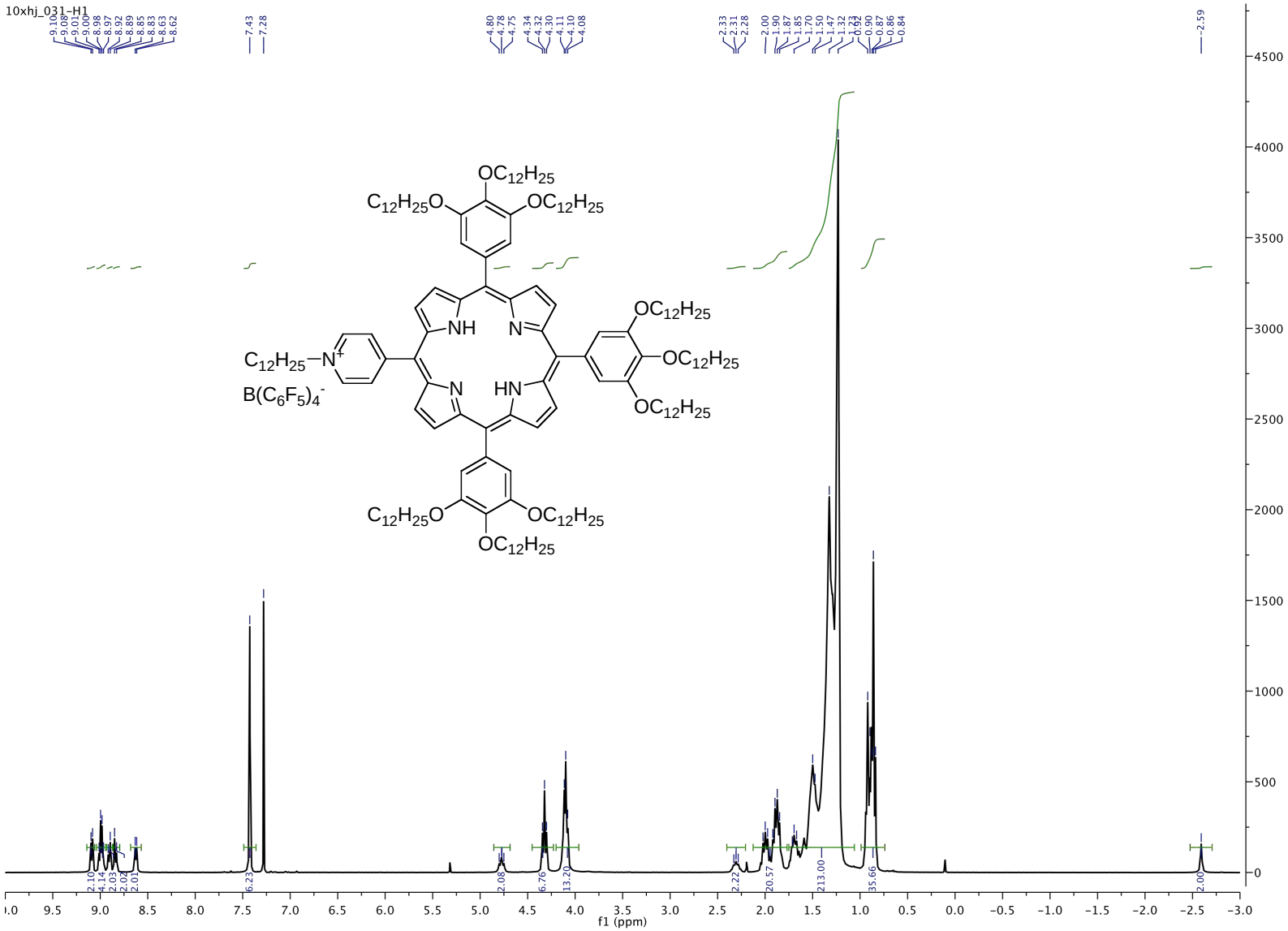


**Figure S12.** 300 MHz $^{1}$H NMR spectrum of **8** in $CDCl_3$

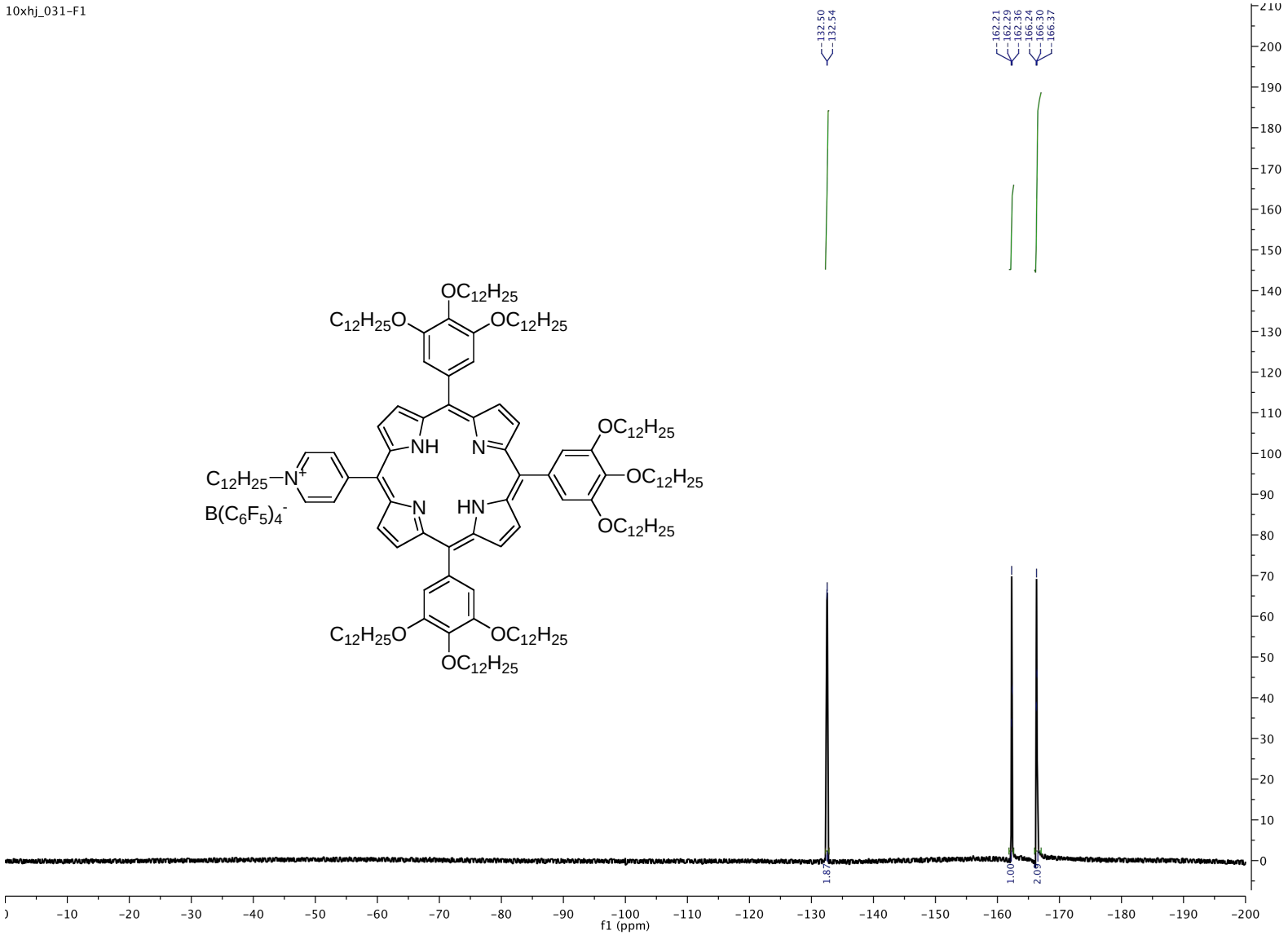


**Figure S13.** 300 MHz $^{19}F$ NMR spectrum of **8** in $CDCl_3$

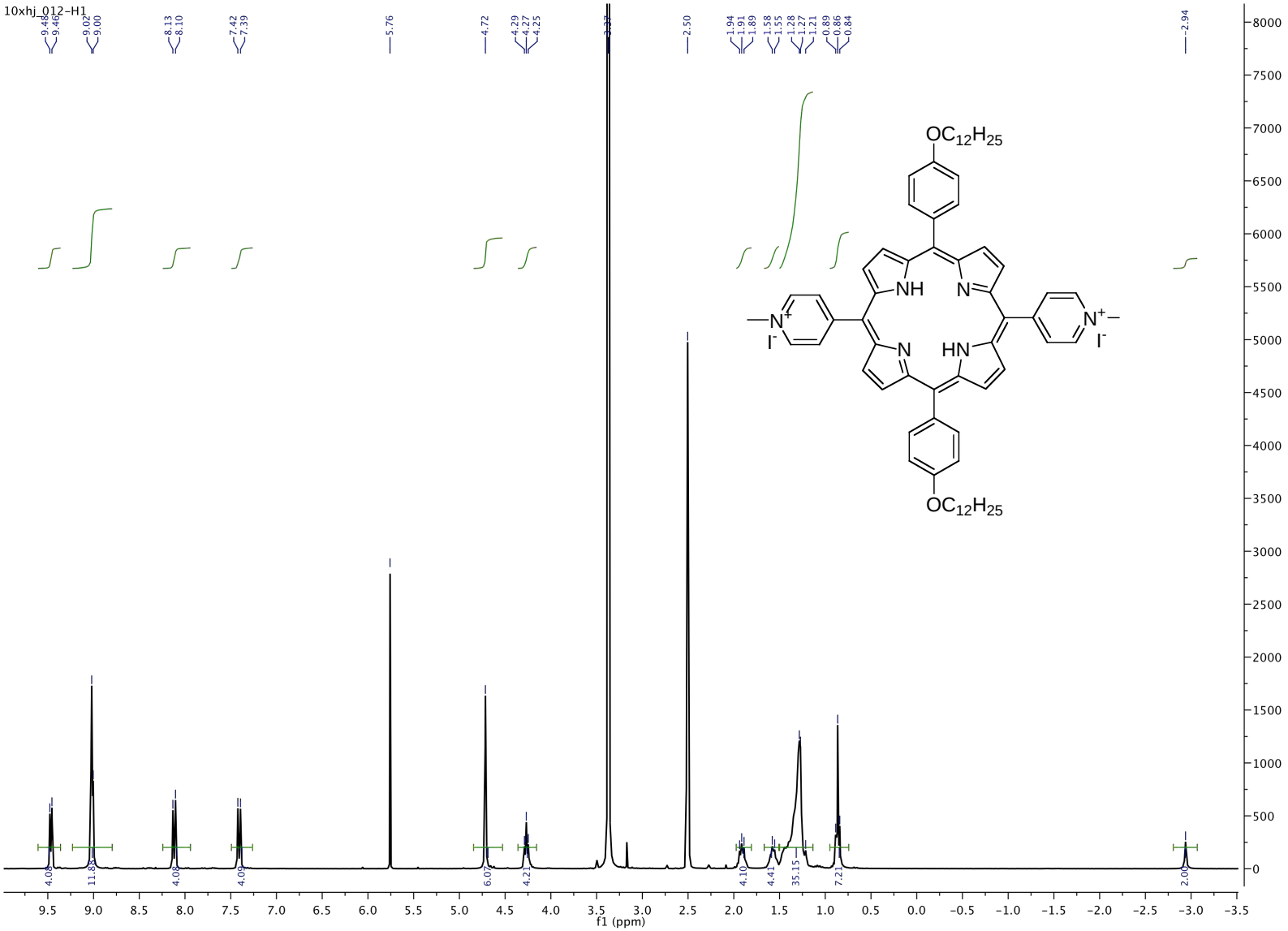


**Figure S14.** 300 MHz $^{1}$H NMR spectrum of **9a** in $d_6$-DMSO

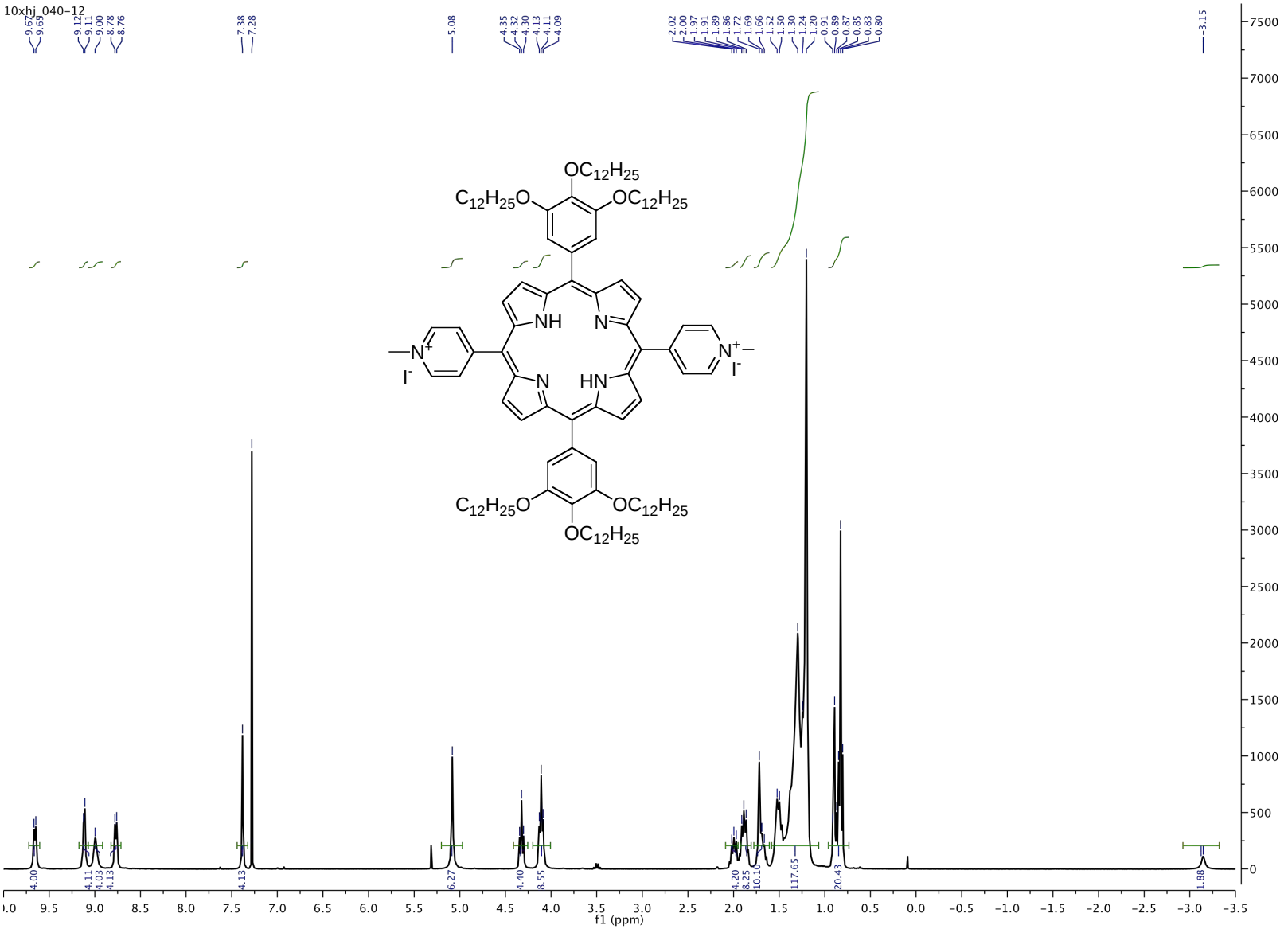


**Figure S15.** 300 MHz $^{1}$H NMR spectrum of **9b** in $CDCl_3$

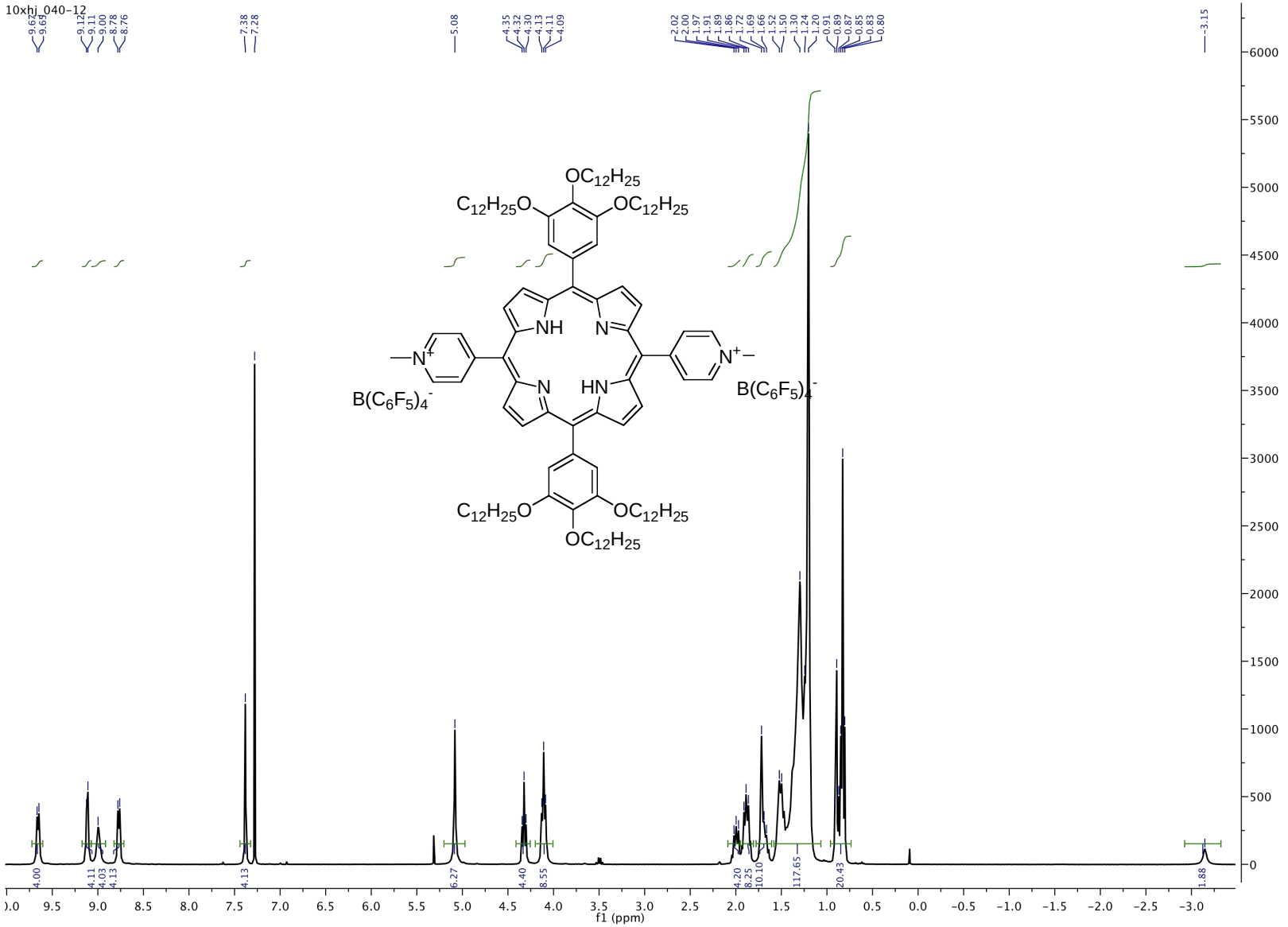


**Figure S16.** 300 MHz $^{1}$H NMR spectrum of **10** in $CDCl_3$

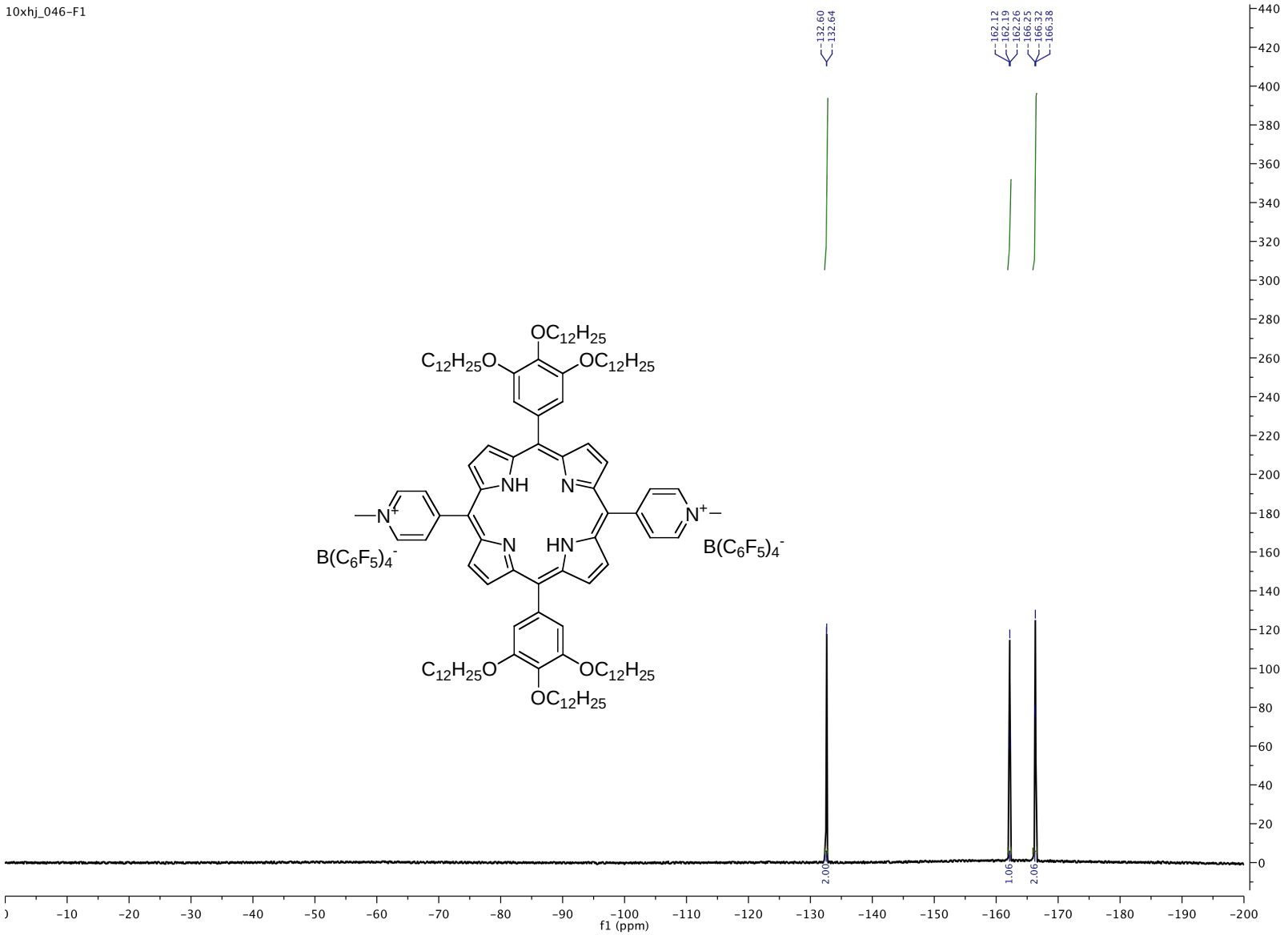


**Figure S17.** 300 MHz $^{19}F$ NMR spectrum of **10** in $CDCl_3$

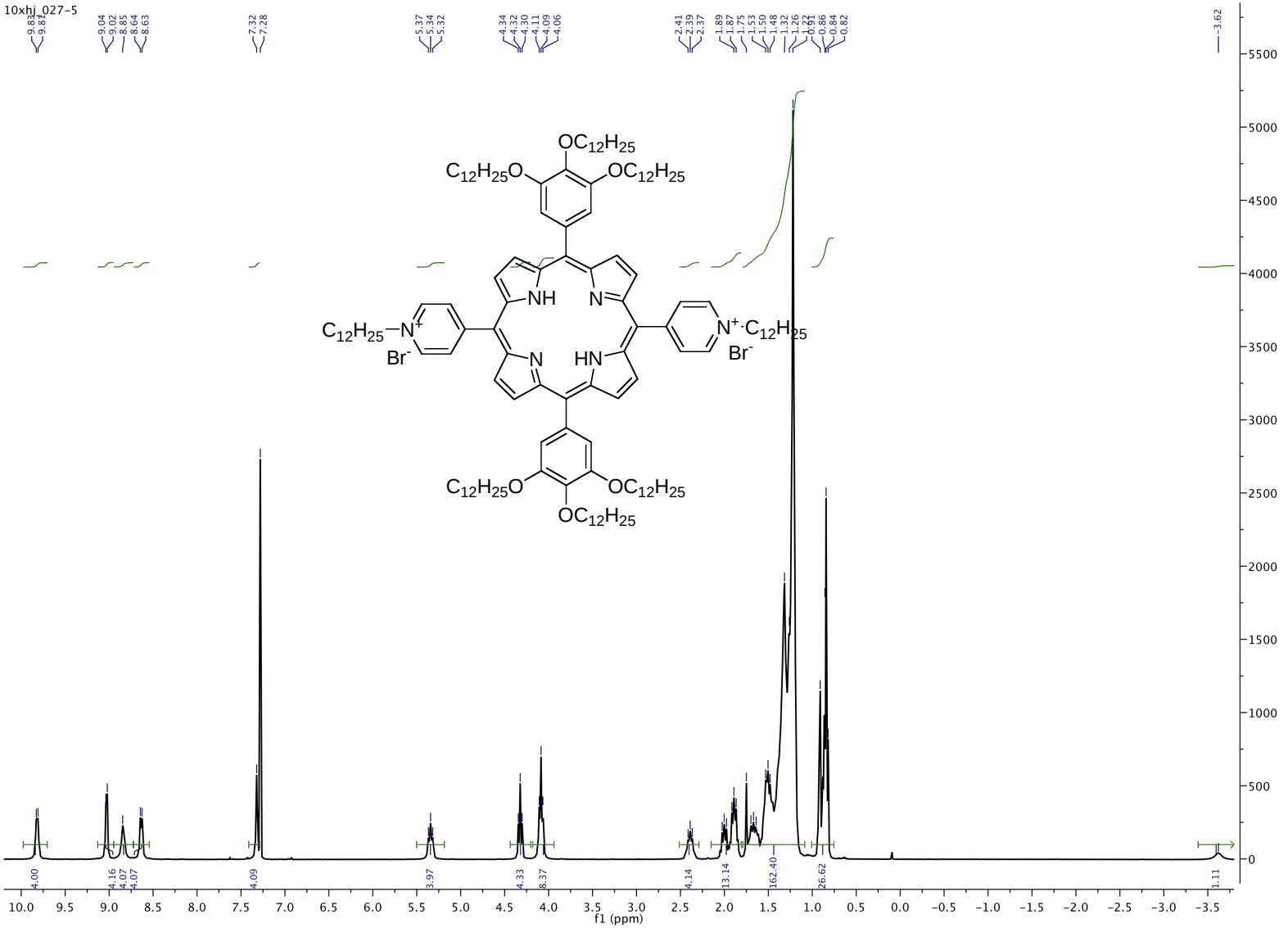


**Figure S18.** 300 MHz $^{1}H$ NMR spectrum of **11** in $CDCl_3$

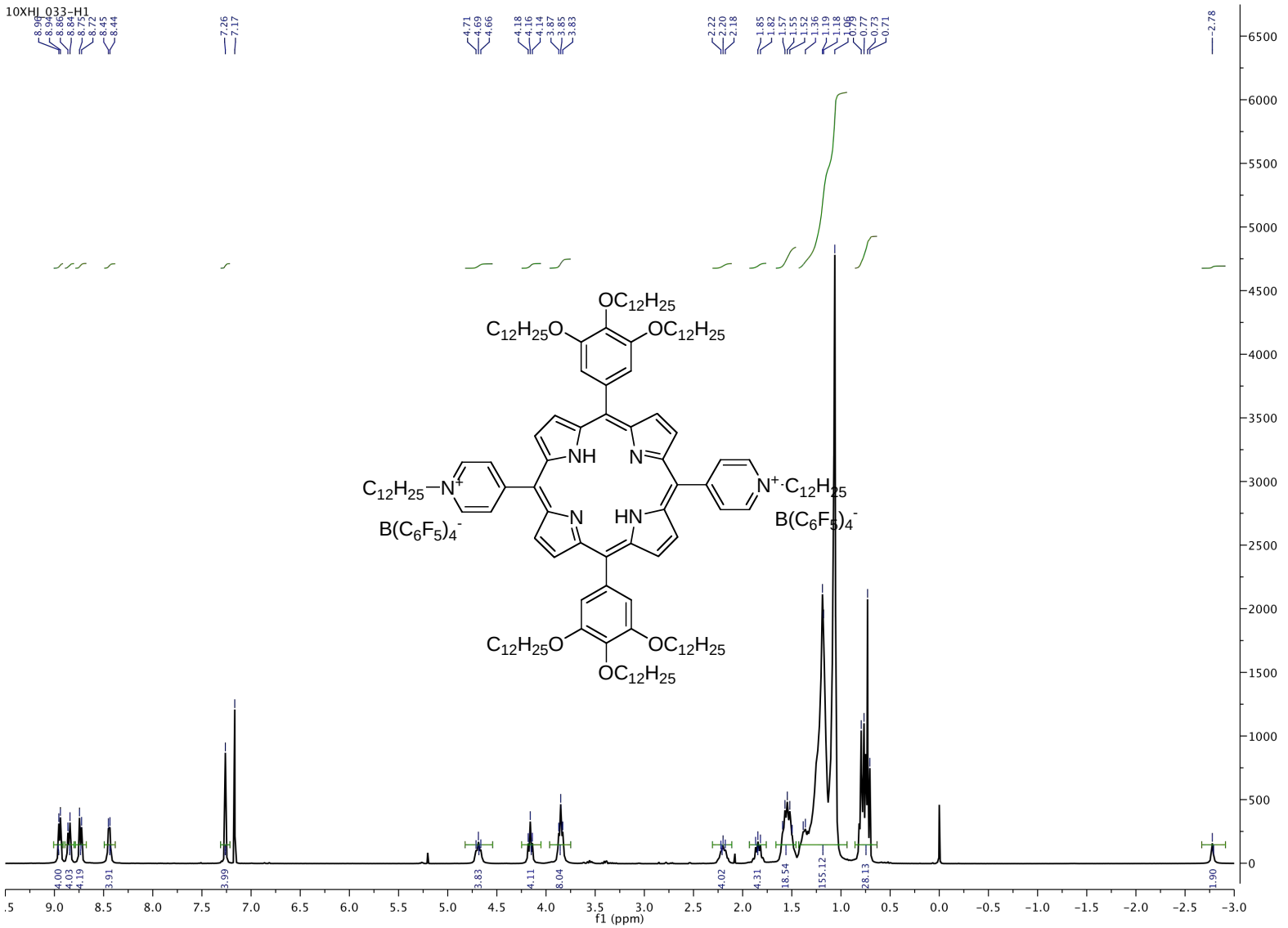


**Figure S19.** 300 MHz $^{1}$H NMR spectrum of **12** in $CDCl_3$

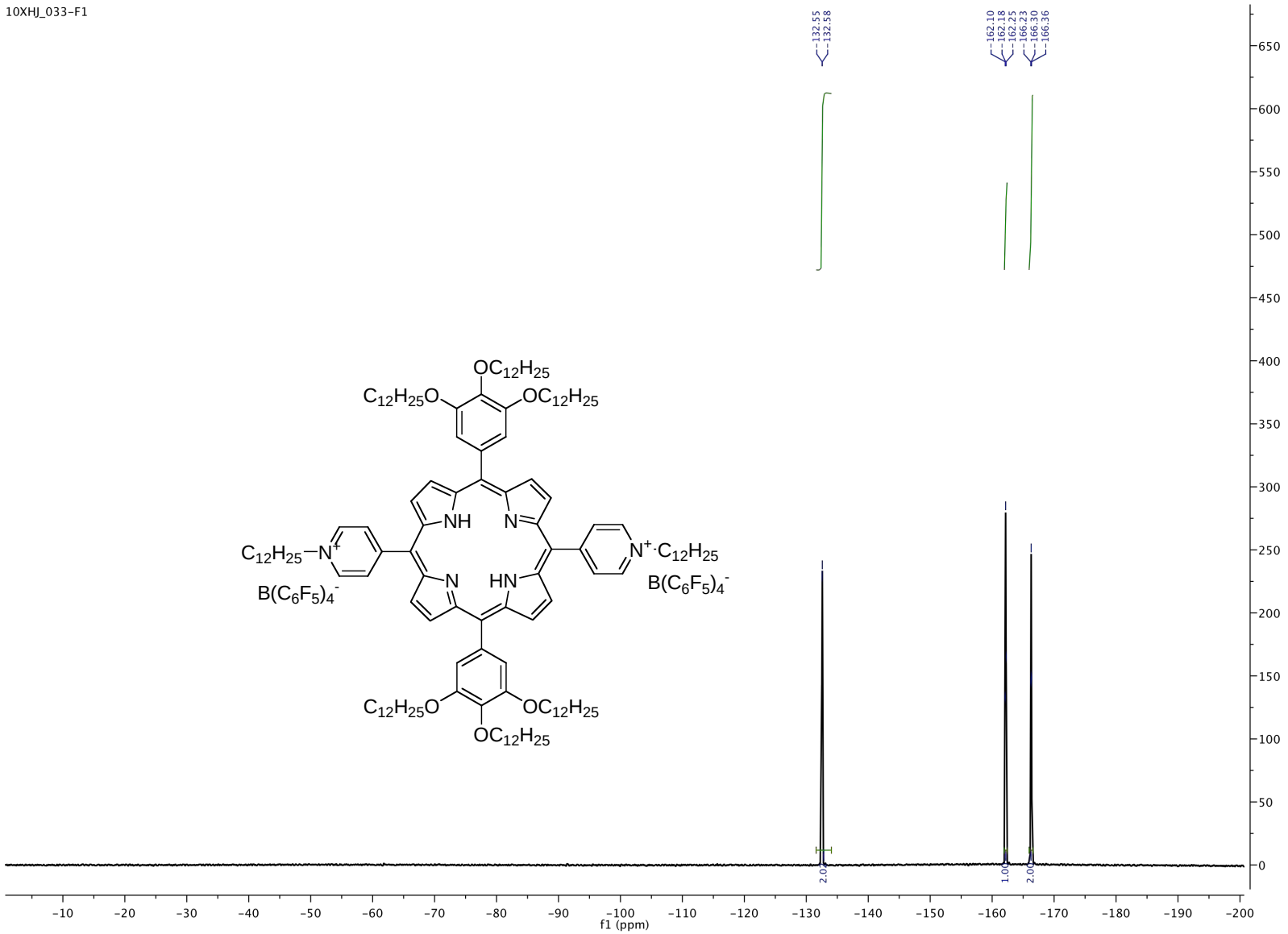


**Figure S20.** 300 MHz $^{19}F$ NMR spectrum of **12** in $CDCl_3$

**Part. 2. Mass spectra**

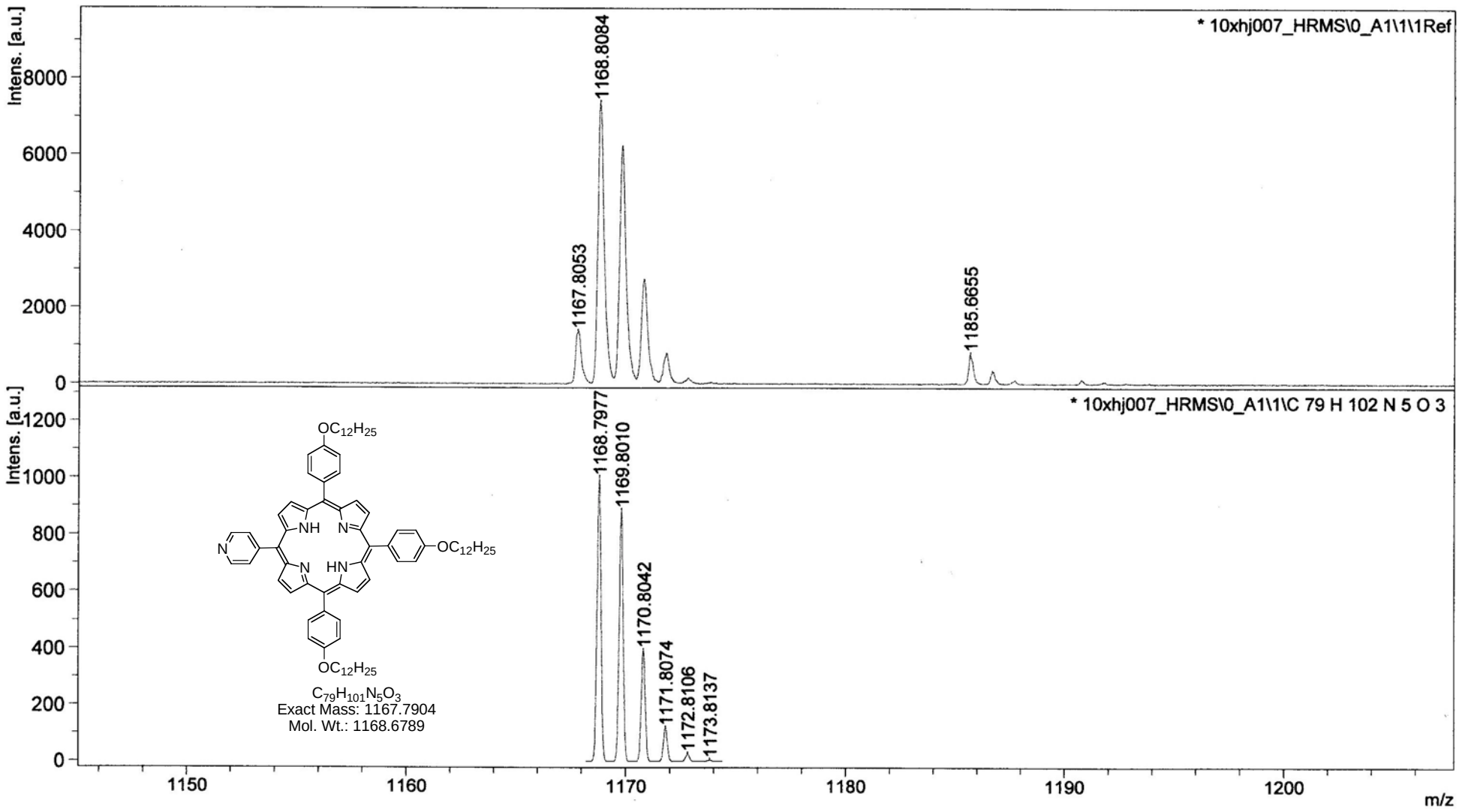


**Figure S21.** MALDI-TOF mass spectrum of **3a**

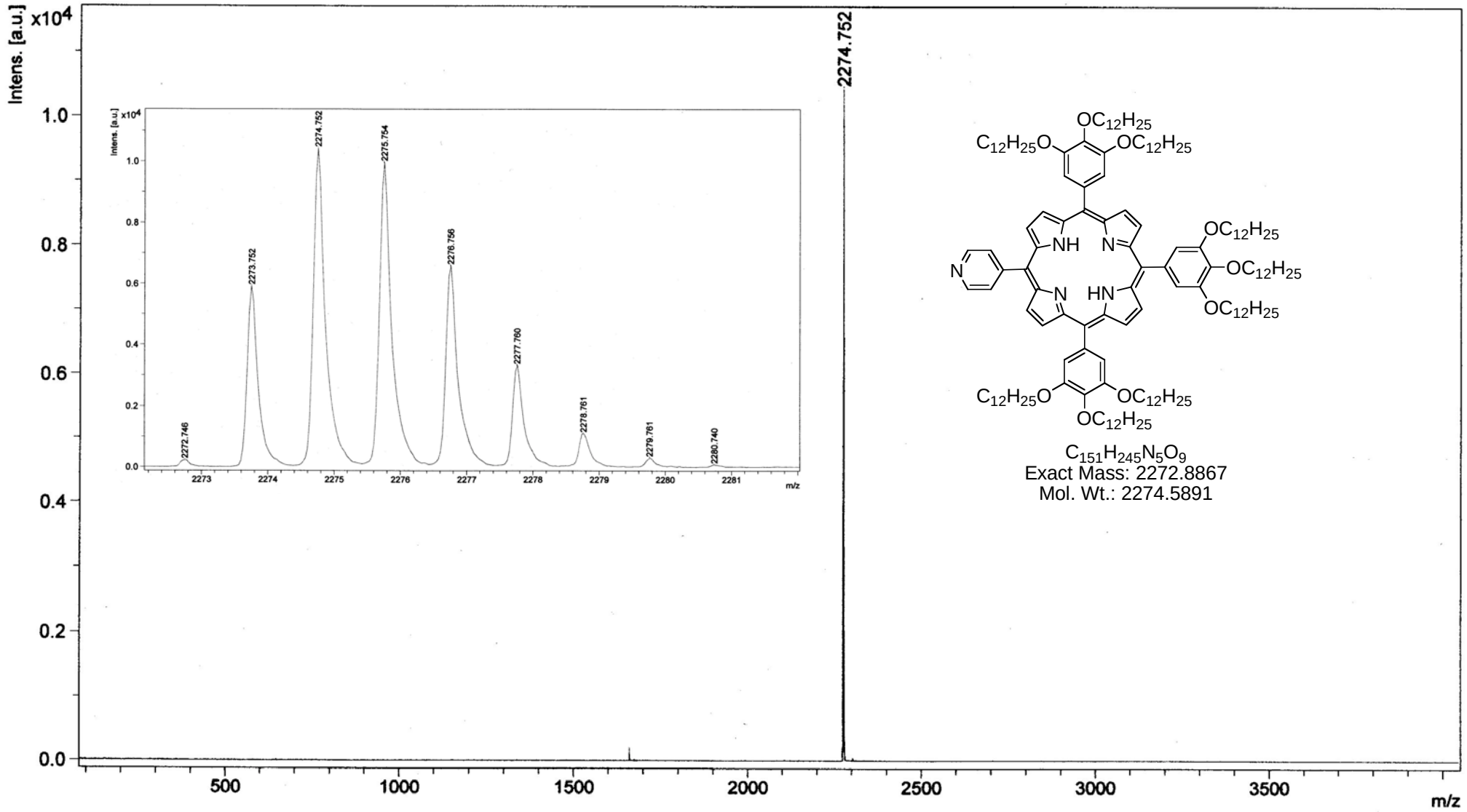


**Figure S22.** MALDI-TOF mass spectrum of **3b**

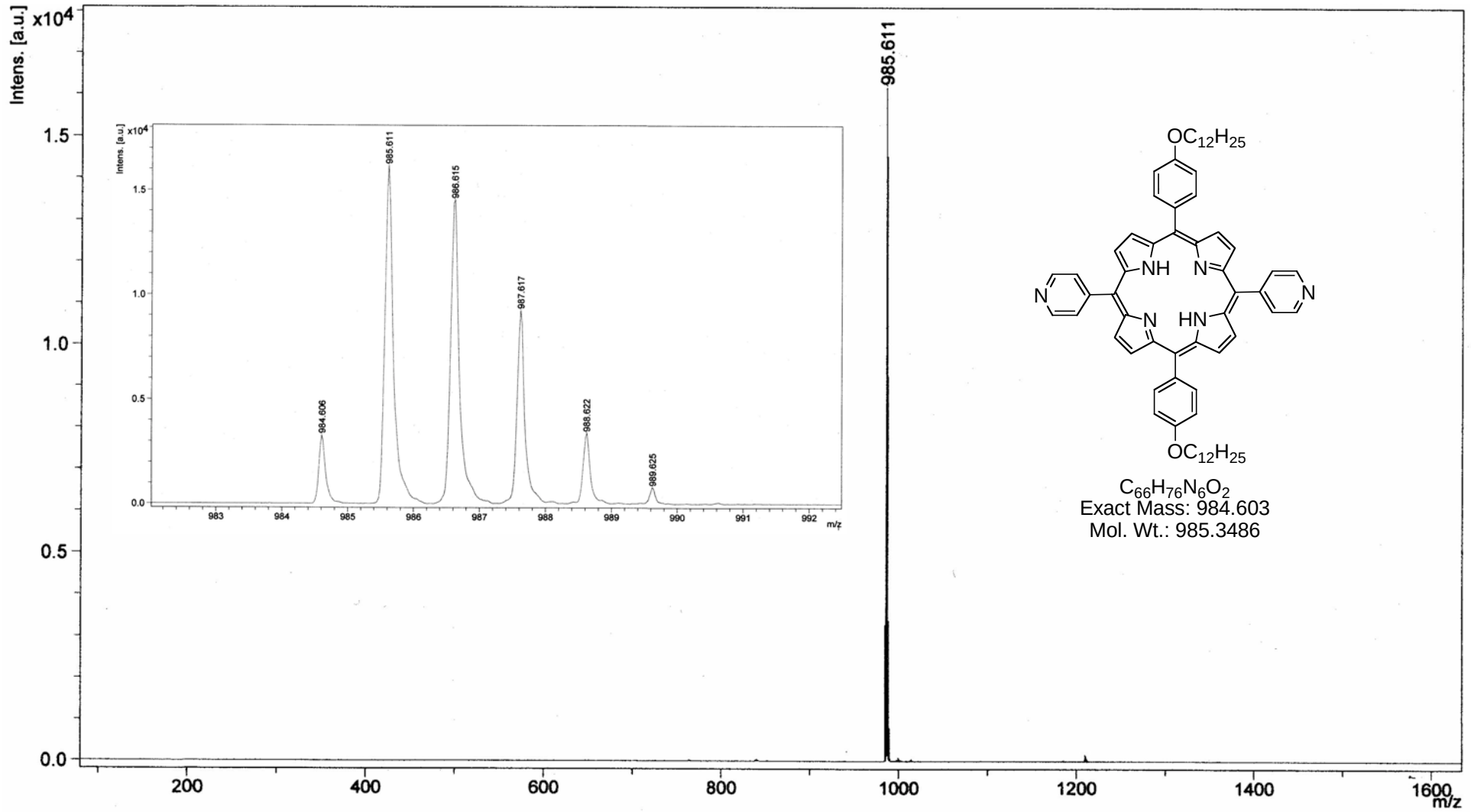


**Figure S23.** MALDI-TOF mass spectrum of **4a**

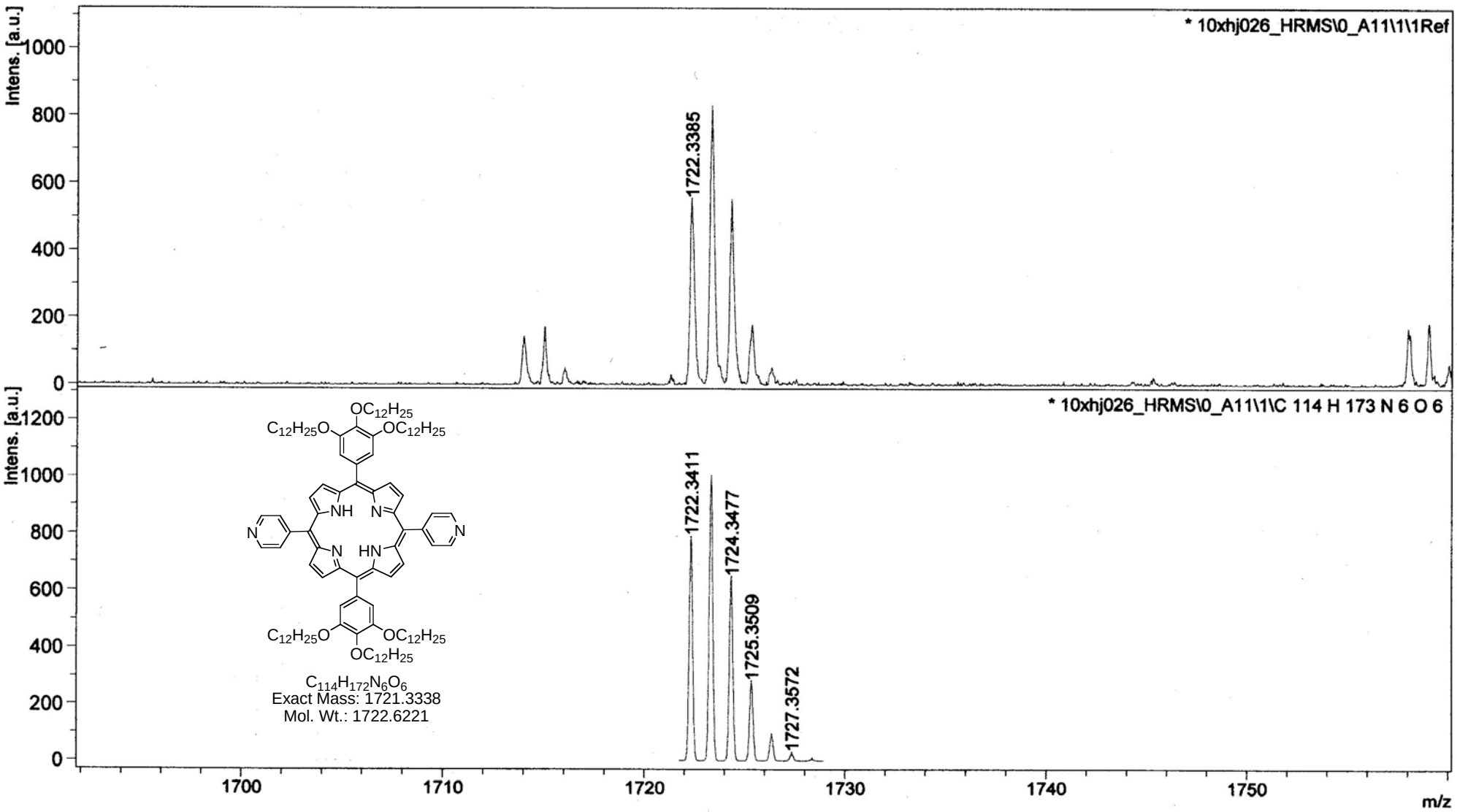


**Figure S24.** MALDI-TOF mass spectrum of **4b**

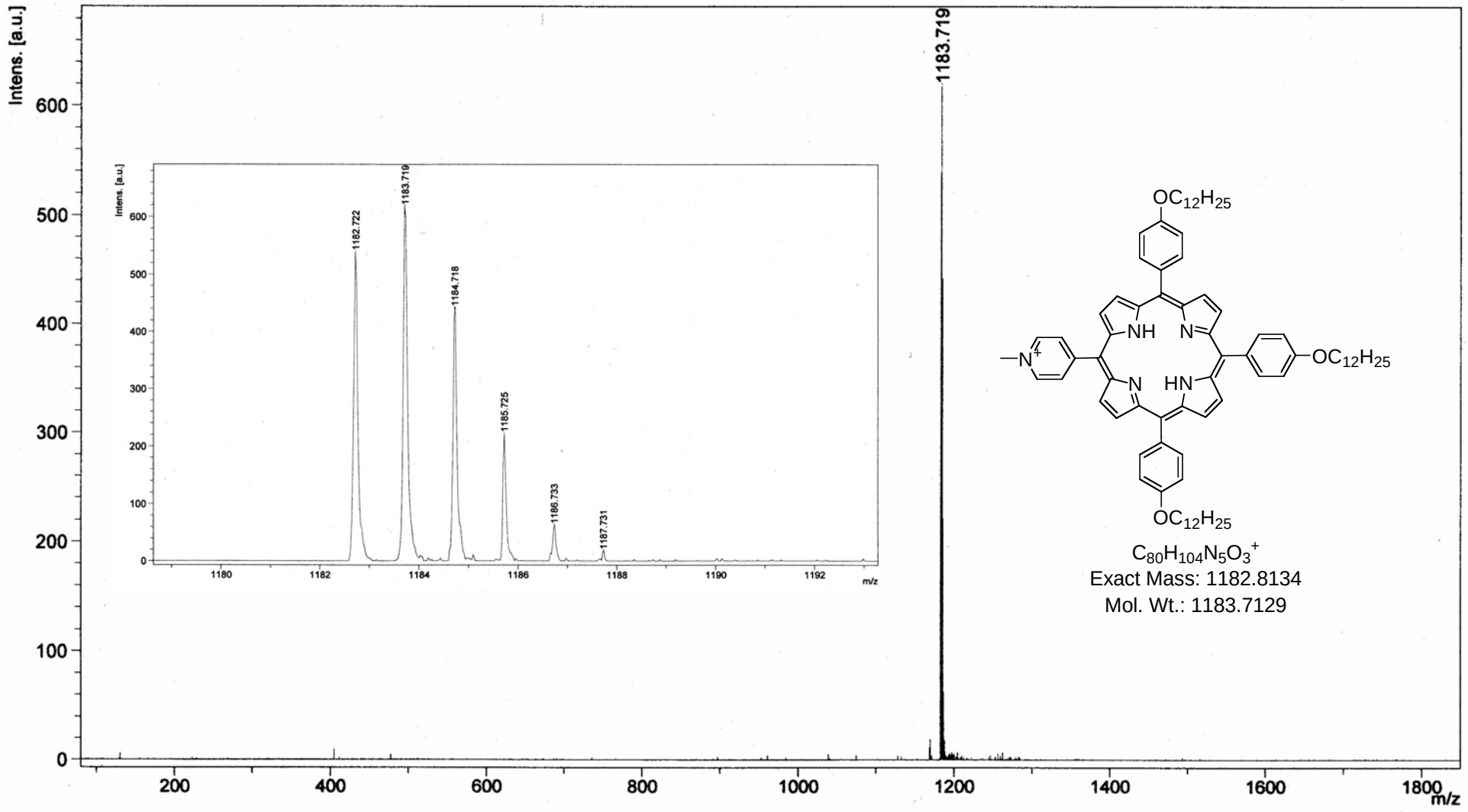


**Figure S25.** MALDI-TOF mass spectrum of **5a** (cationic part)

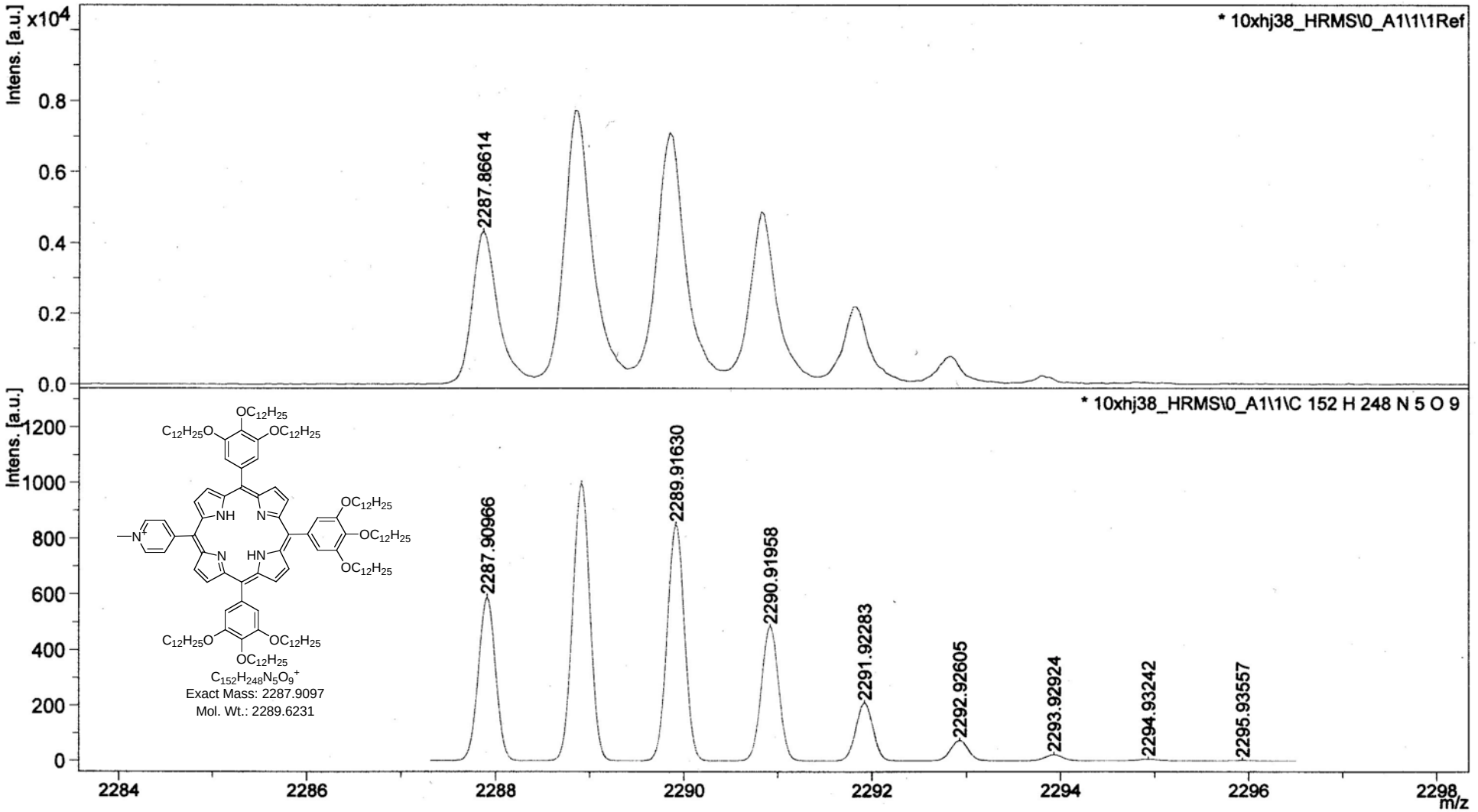


**Figure S26.** MALDI-TOF mass spectrum of **5b** (cationic part)

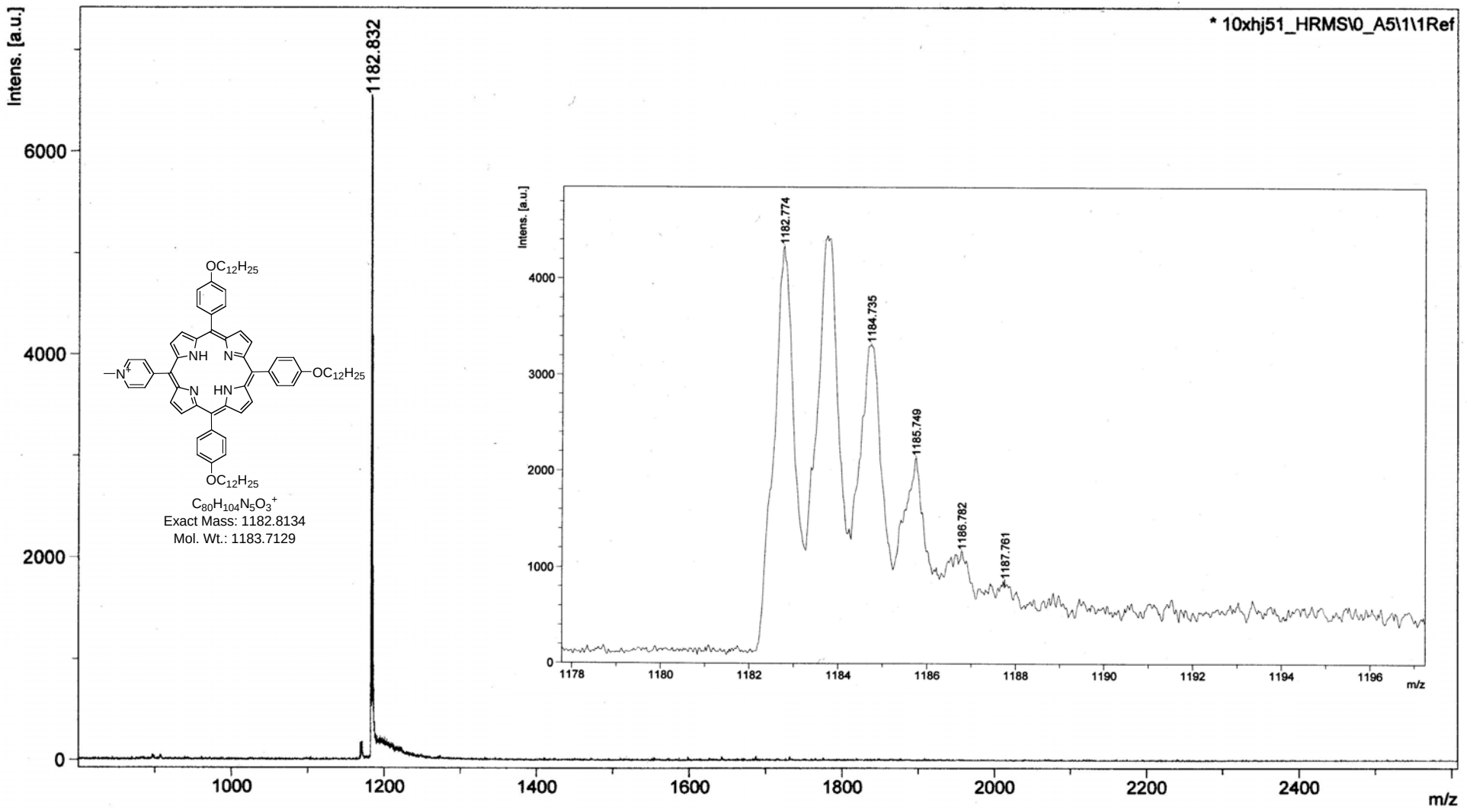


**Figure S27.** MALDI-TOF mass spectrum of **6a** (cationic part)

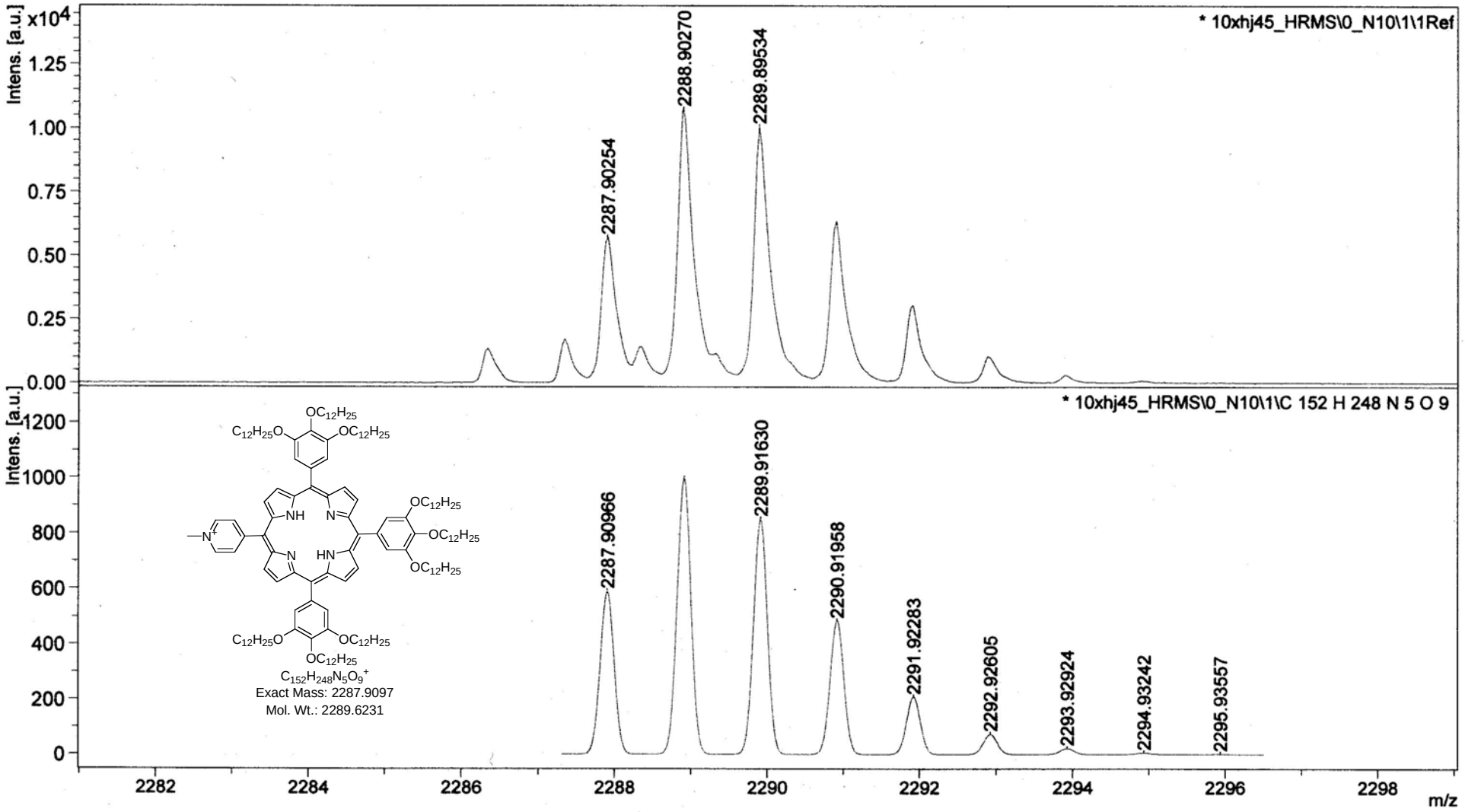


**Figure S28.** MALDI-TOF mass spectrum of **6b** (cationic part)

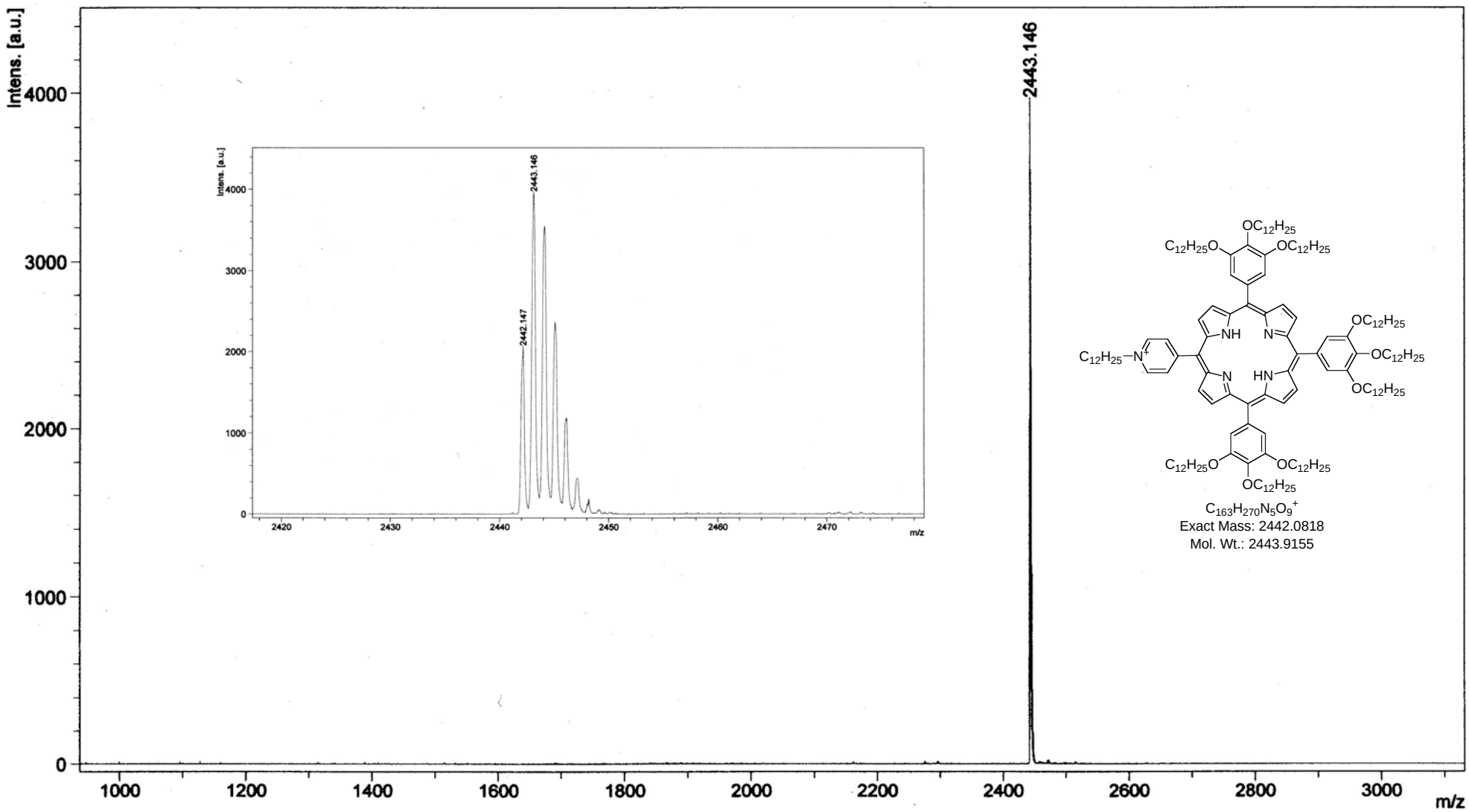


**Figure S29.** MALDI-TOF mass spectrum of **7** (cationic part)

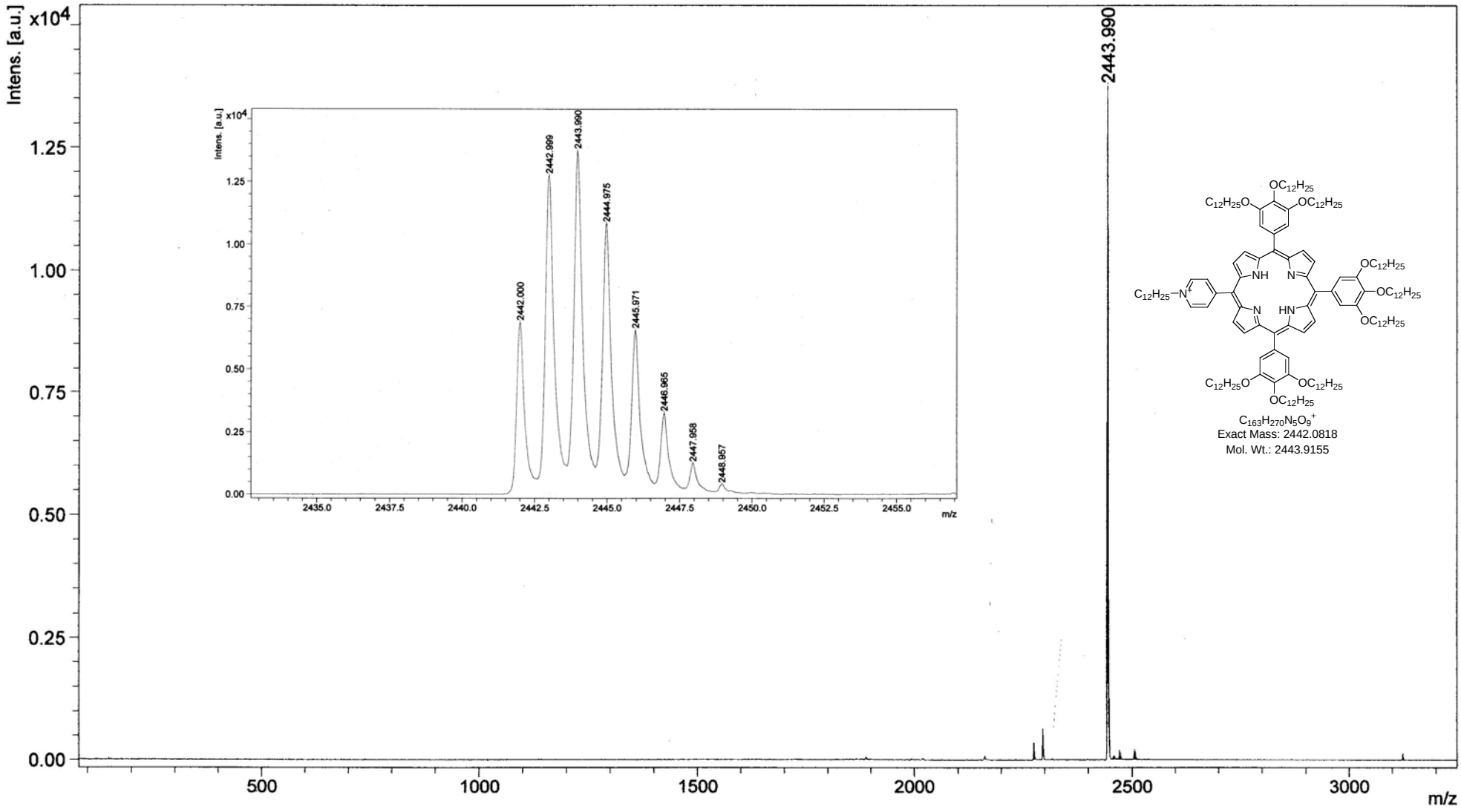


**Figure S30.** MALDI-TOF mass spectrum of **8** (cationic part)

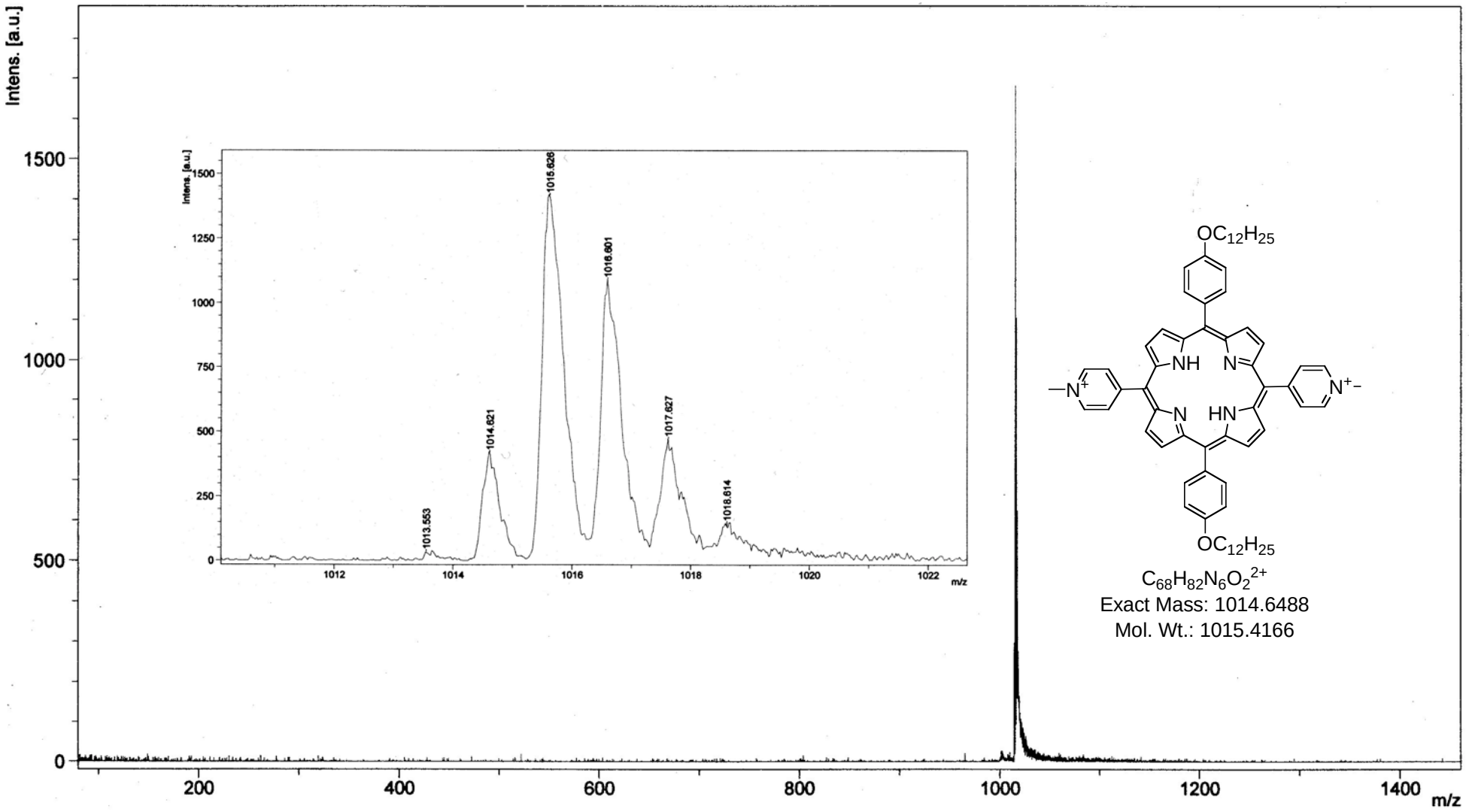


**Figure S31.** MALDI-TOF mass spectrum of **9a** (cationic part)

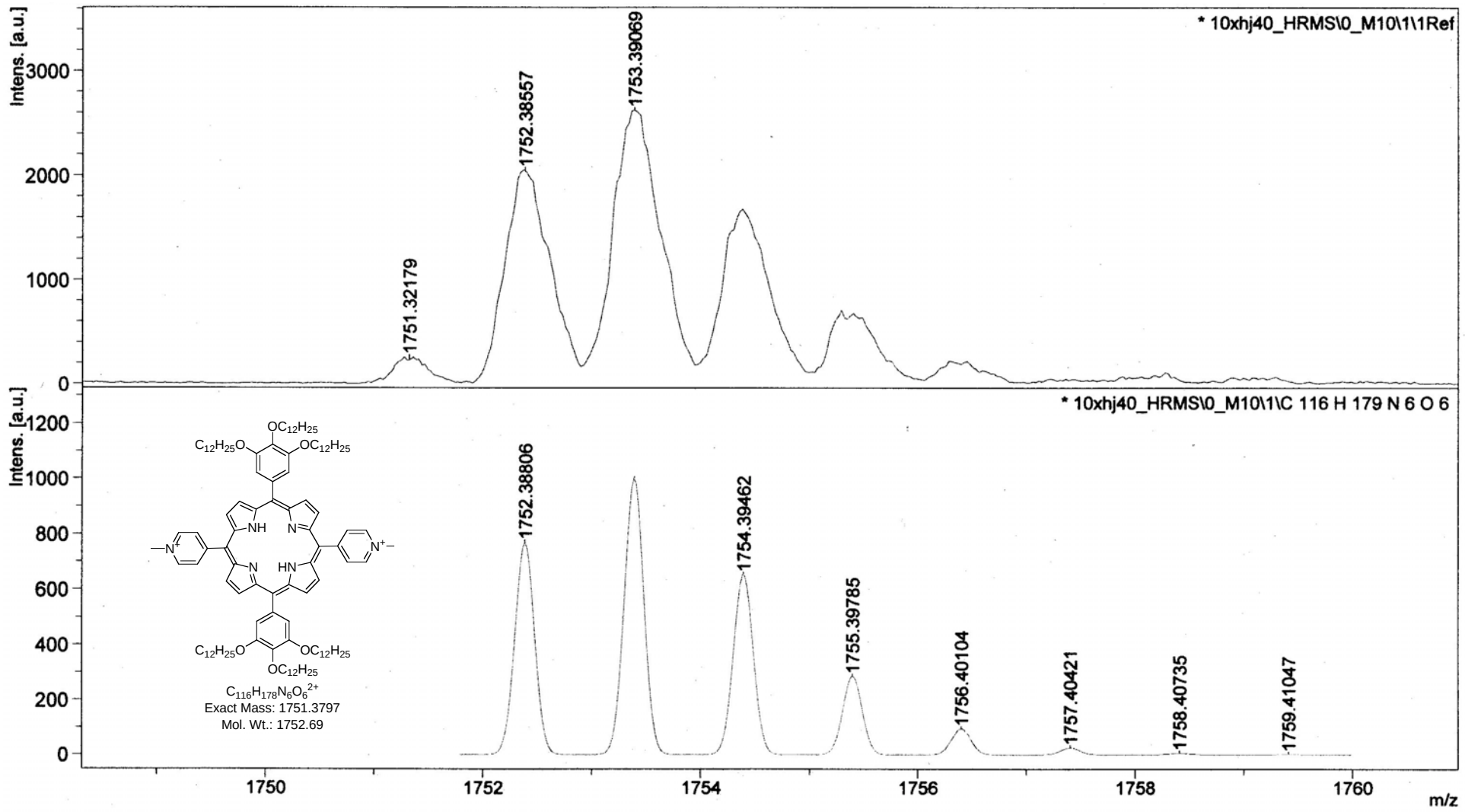


**Figure S32.** MALDI-TOF mass spectrum of **9b** (cationic part)

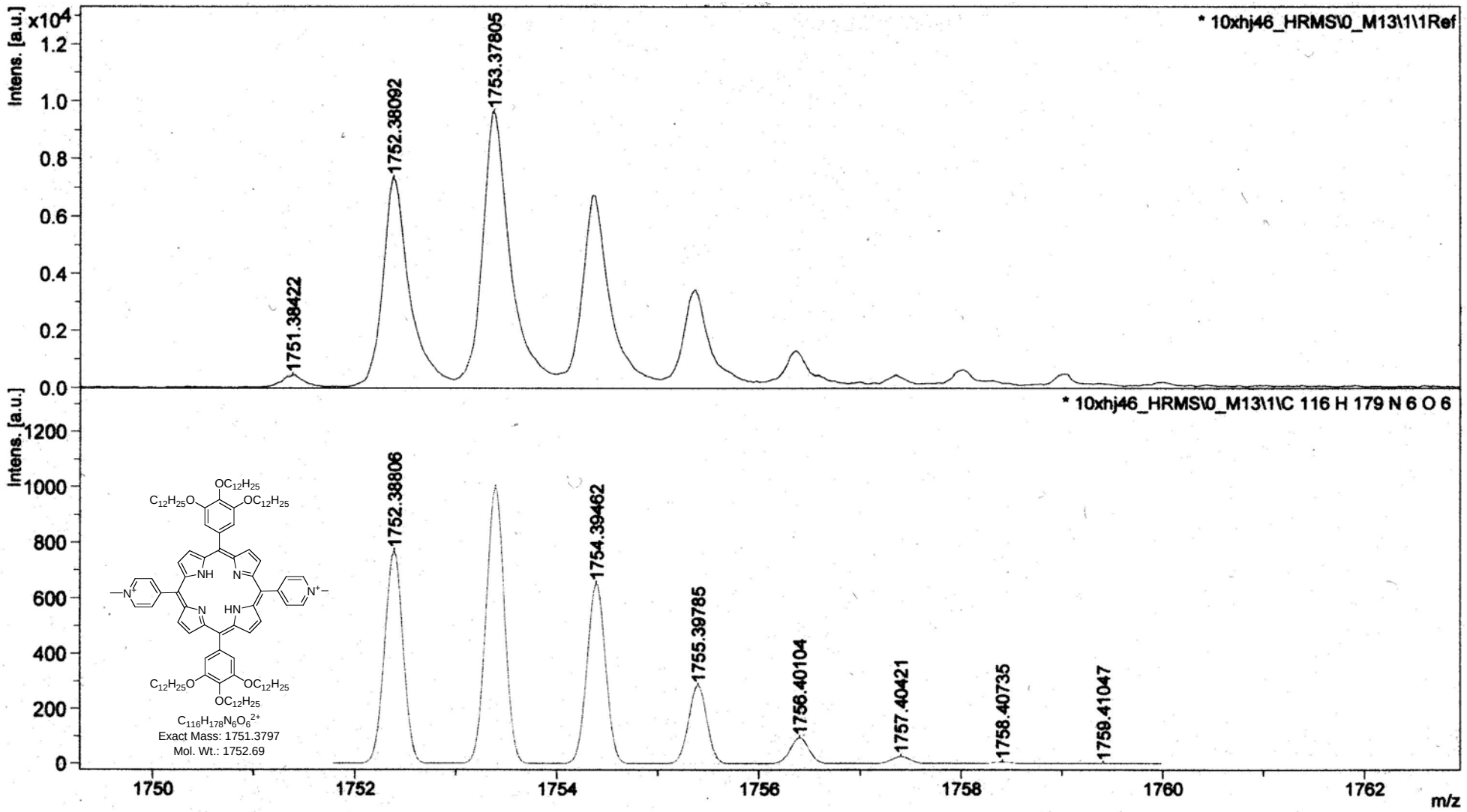


**Figure S33.** MALDI-TOF mass spectrum of **10** (cationic part)

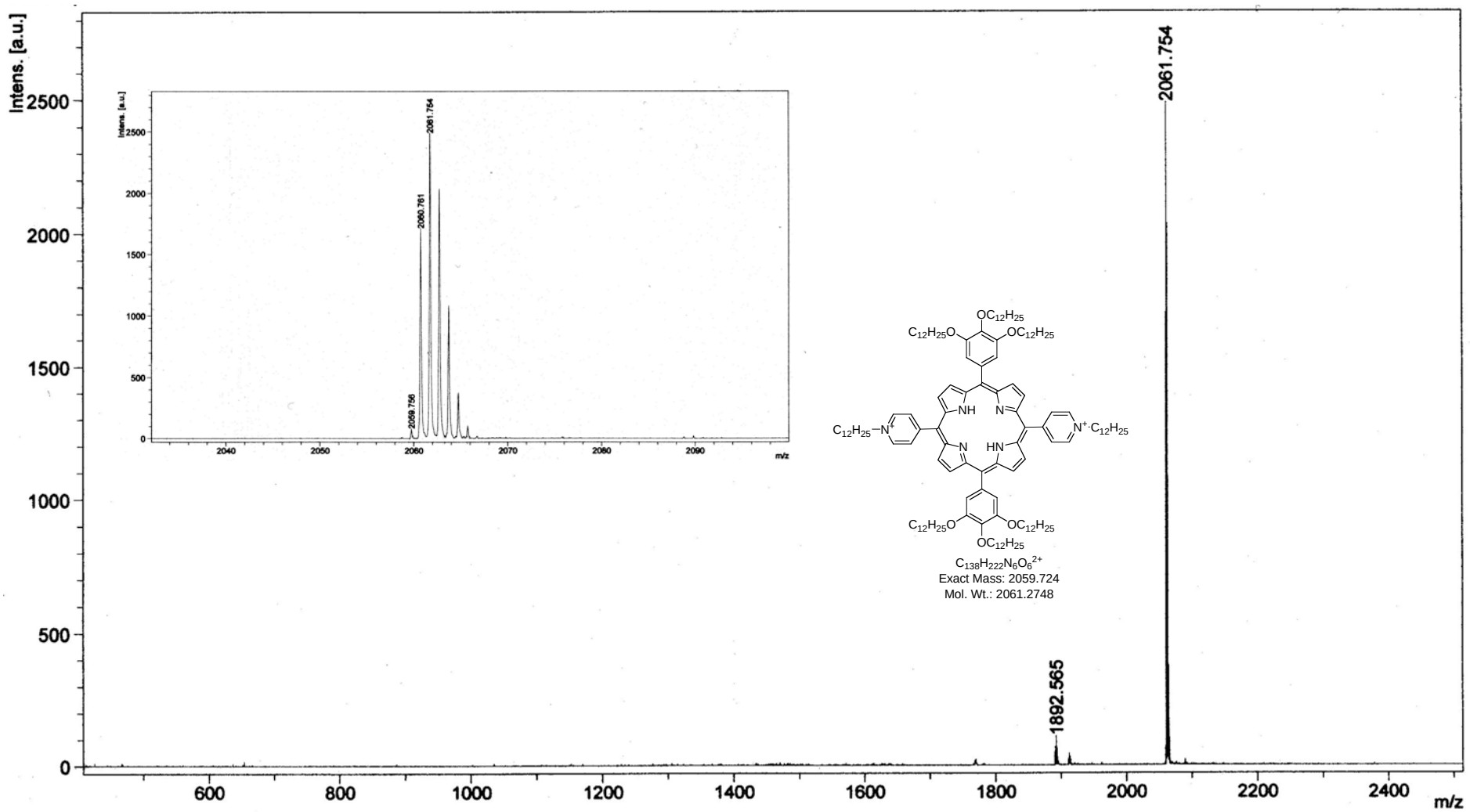


**Figure S34.** MALDI-TOF mass spectrum of **11** (cationic part)

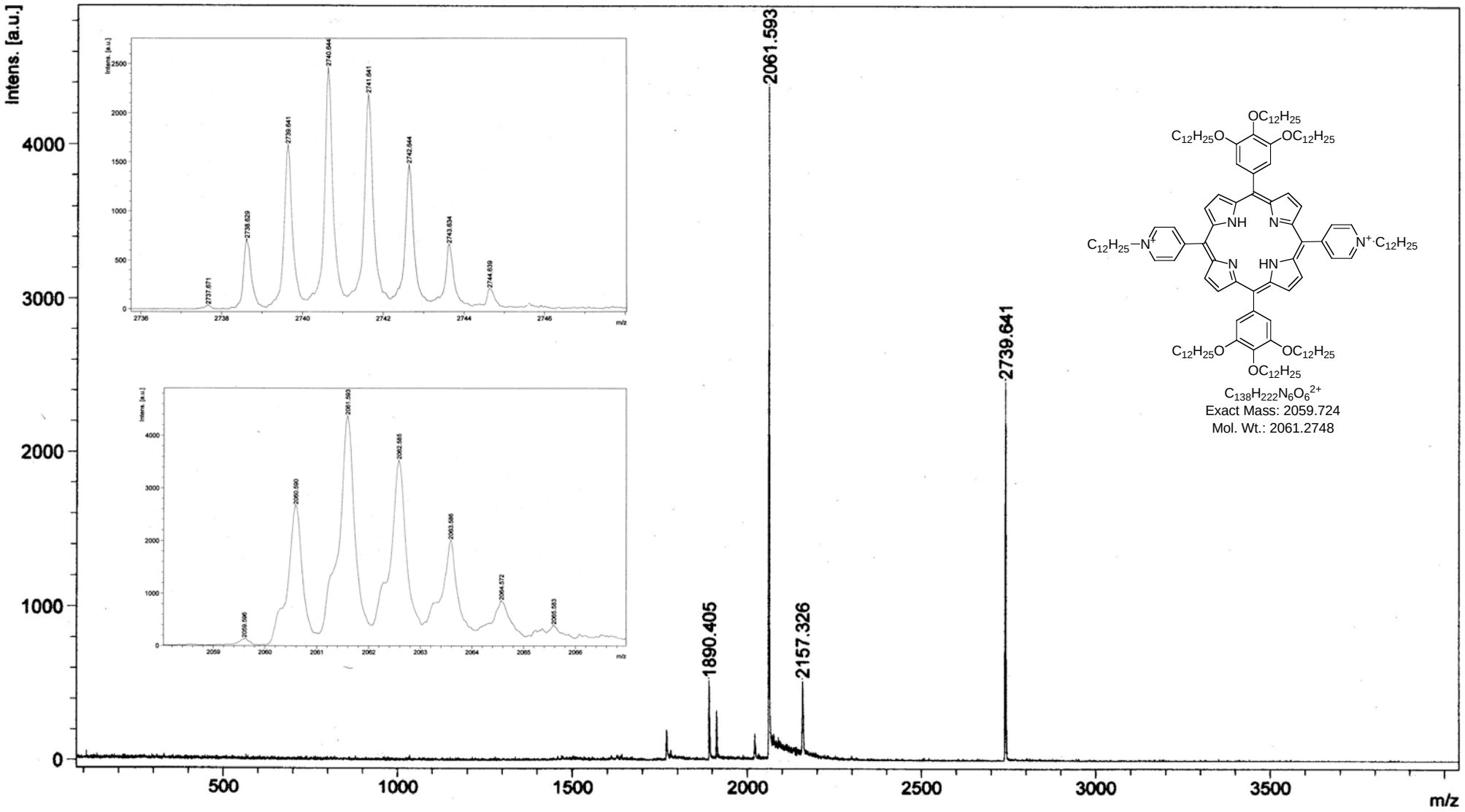


**Figure S35.** MALDI-TOF mass spectrum of **12** (cationic part)

## Part. 3. Thermal analyses

Differential Scanning Calorimetry (DSC) measurements were performed on a Perkin Elmer Diamond DSC instrument.

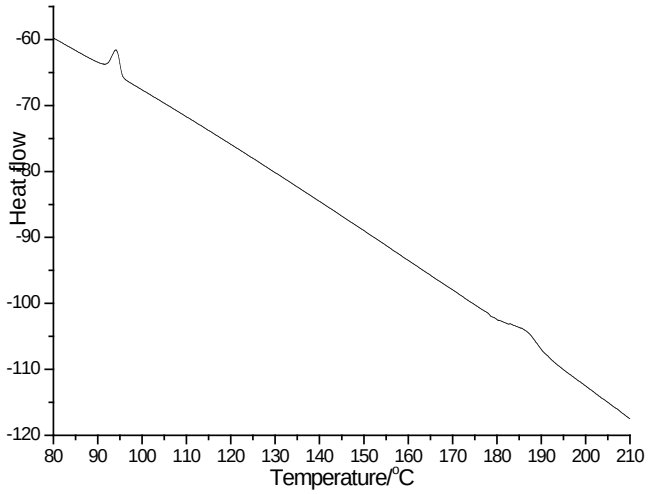


**Figure S36.** DSC traces on first heating for porphyrin **5a**

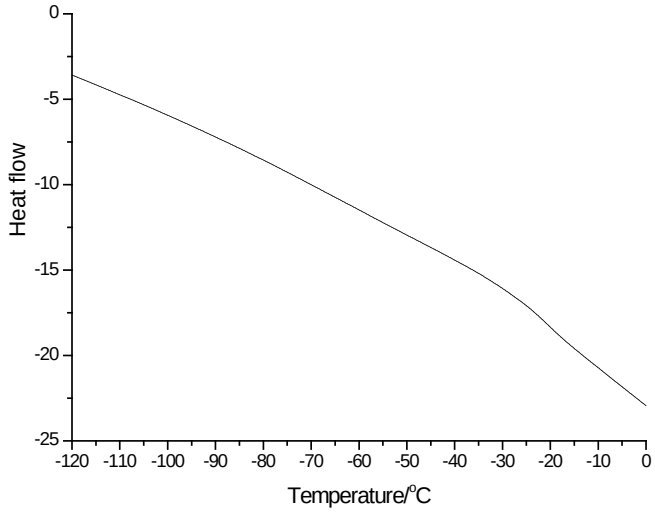


**Figure S37.** DSC traces on first heating for porphyrin **5b**

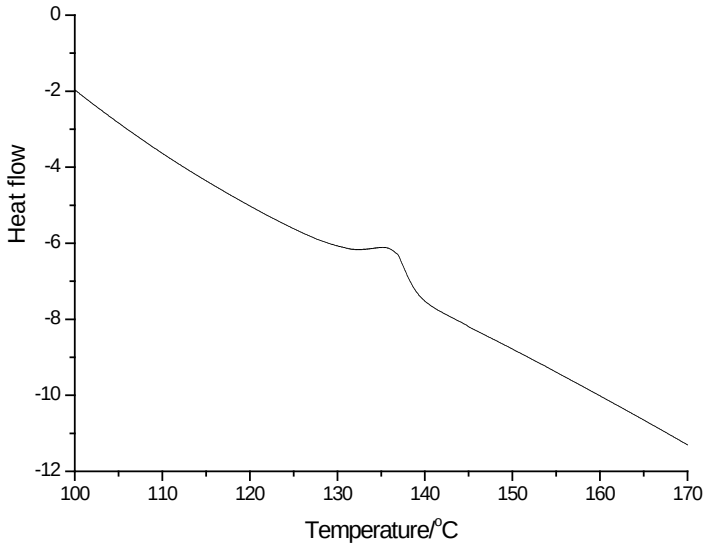


**Figure S38.** DSC traces on first heating for porphyrin **6a**

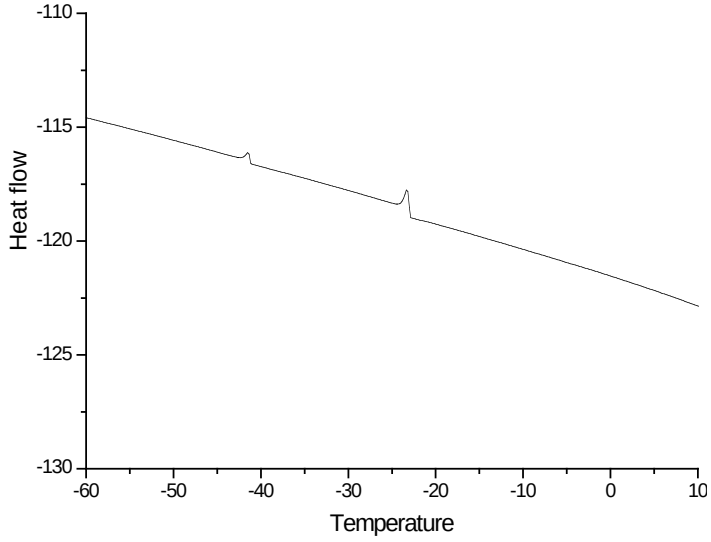


**Figure S39.** DSC traces on second cooling for porphyrin **6b**

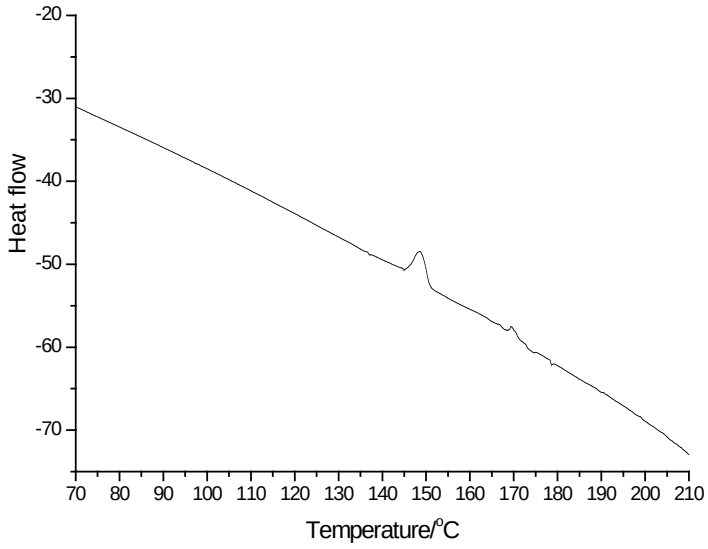

**Figure S40.** DSC traces on first heating for porphyrin **7**

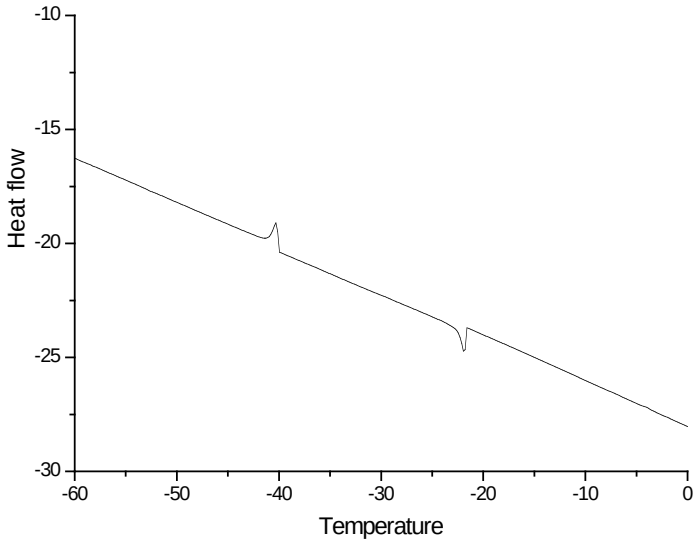


**Figure S41.** DSC traces on second cooling for porphyrin **8**

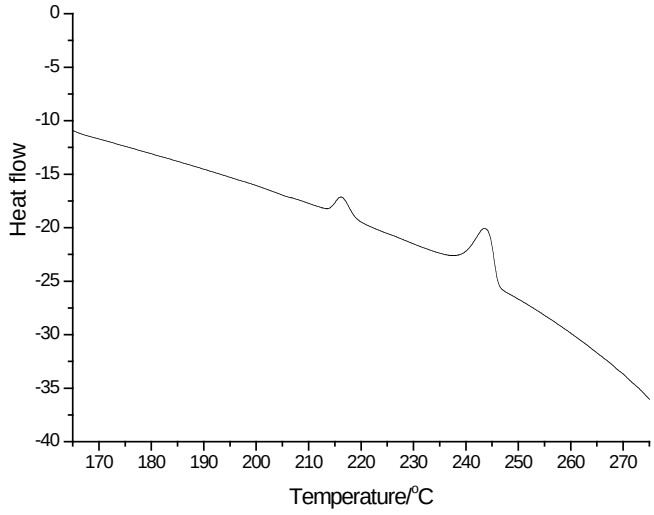


**Figure S42.** DSC traces on second heating for porphyrin **9a**

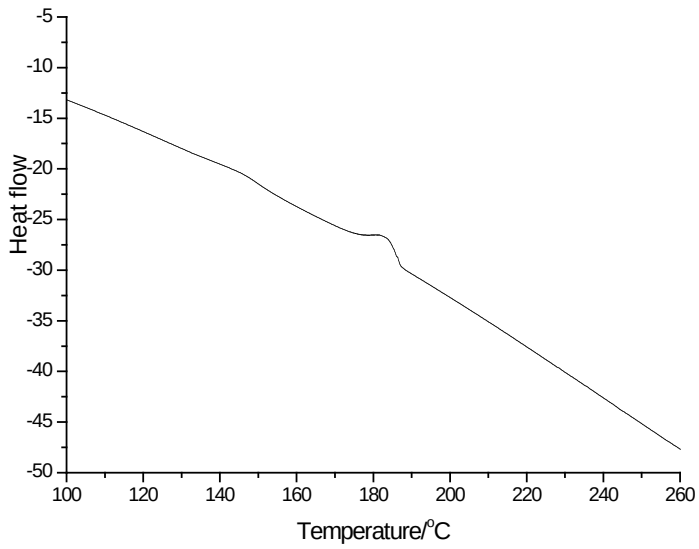


**Figure S43.** DSC traces on second heating for porphyrin **9b**

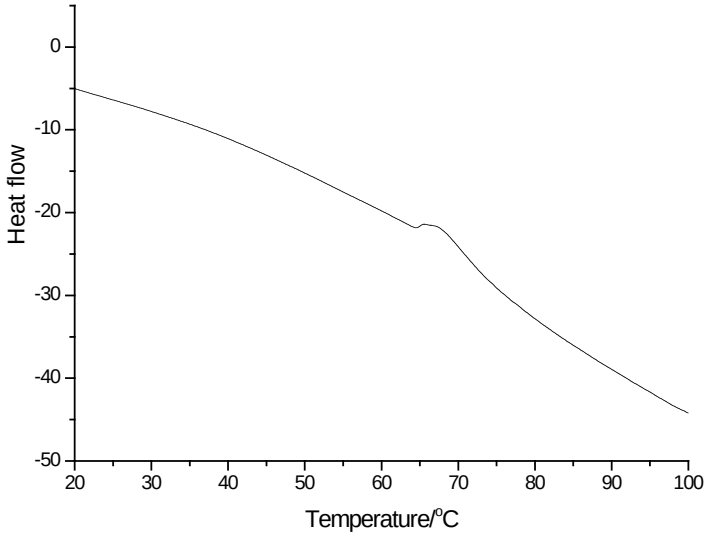


**Figure S44.** DSC traces on first heating for porphyrin **10**

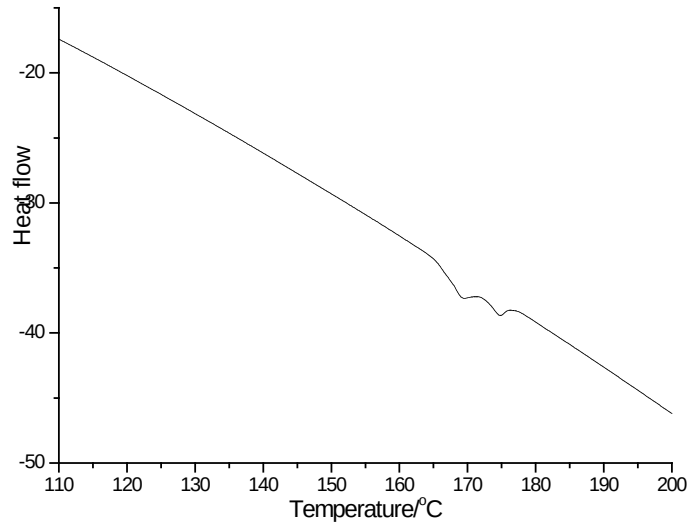


**Figure S45.** DSC traces on second cooling for porphyrin **11**

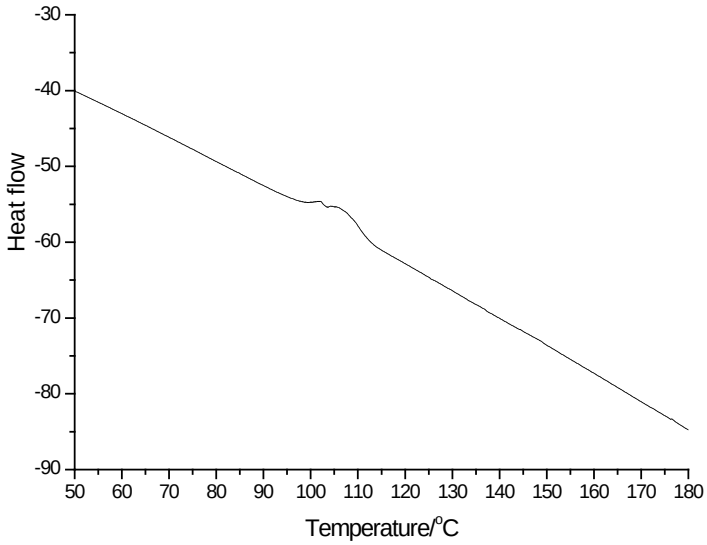


**Figure S46.** DSC traces on first heating for porphyrin **12**