

Rational Synthetic Design of Well-defined Pt(bisethynyl)/Zn(porphyrin) Oligomers for Potential Applications in Photonics

Guillaume Langlois,^{a,b} Shawkat M. Aly,^{a†} Claude P. Gros,^b
Jean-Michel Barbe,^{*b} and Pierre D. Harvey^{*a,b}

Contribution from the: ^aDépartement de Chimie, Université de Sherbrooke, Sherbrooke, Québec, Canada, ^bICMUB (UMR 5260), Université de Bourgogne, Dijon, France

SUPPORTING INFORMATION

List of Figures:

Figure S1: MALDI/TOF mass spectrum of the reaction mixture during the one-pot reaction of **1b** with PtCl₂(PBU₃)₂ showing formation of higher oligomers (trimer, tetramer).

Figures S2-13: ¹H and ³¹P NMR spectra of the different oligomers and precursors.

Figures S14-31: MALDI/TOF MS spectra of the different oligomers and precursors.

Figures S32-38: IR spectra (KBr) of the different oligomers (registered on a FT-IR, ABB Bomen, MB104 IR spectrometer).

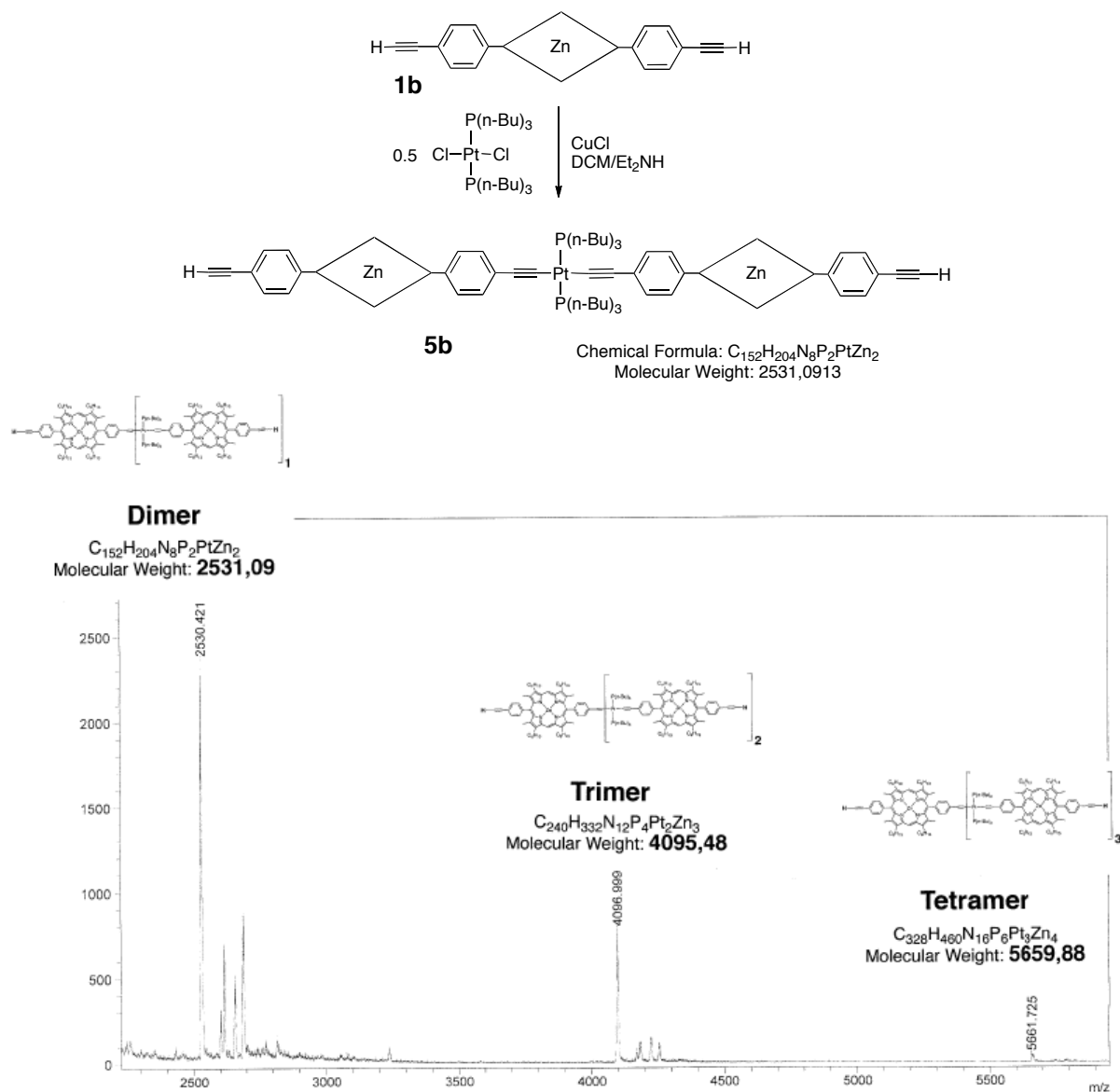


Figure S1: MALDI/TOF mass spectrum of the reaction mixture during the one-pot reaction of **1b** with $\text{PtCl}_2(\text{PBu}_3)_2$ showing formation of higher oligomers (*e.g.* trimer, tetramer).

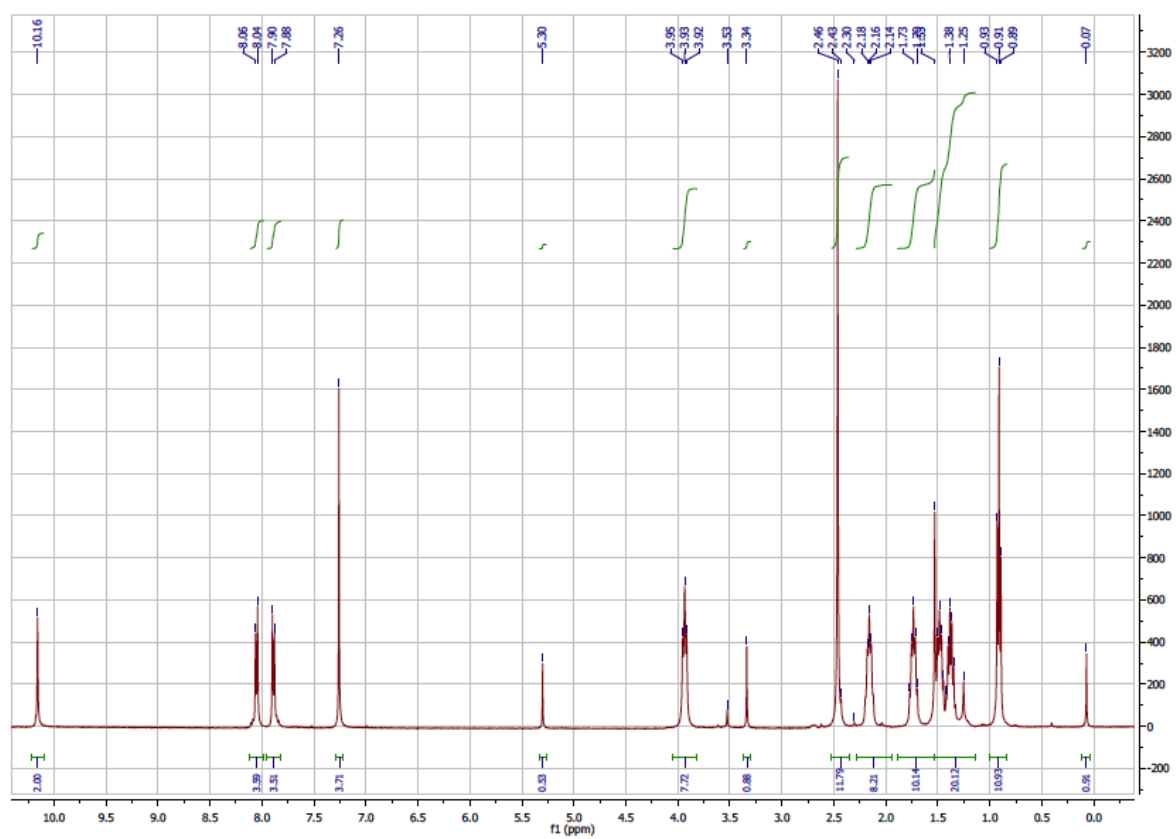


Figure S2: ¹H NMR spectrum of compound **1b**

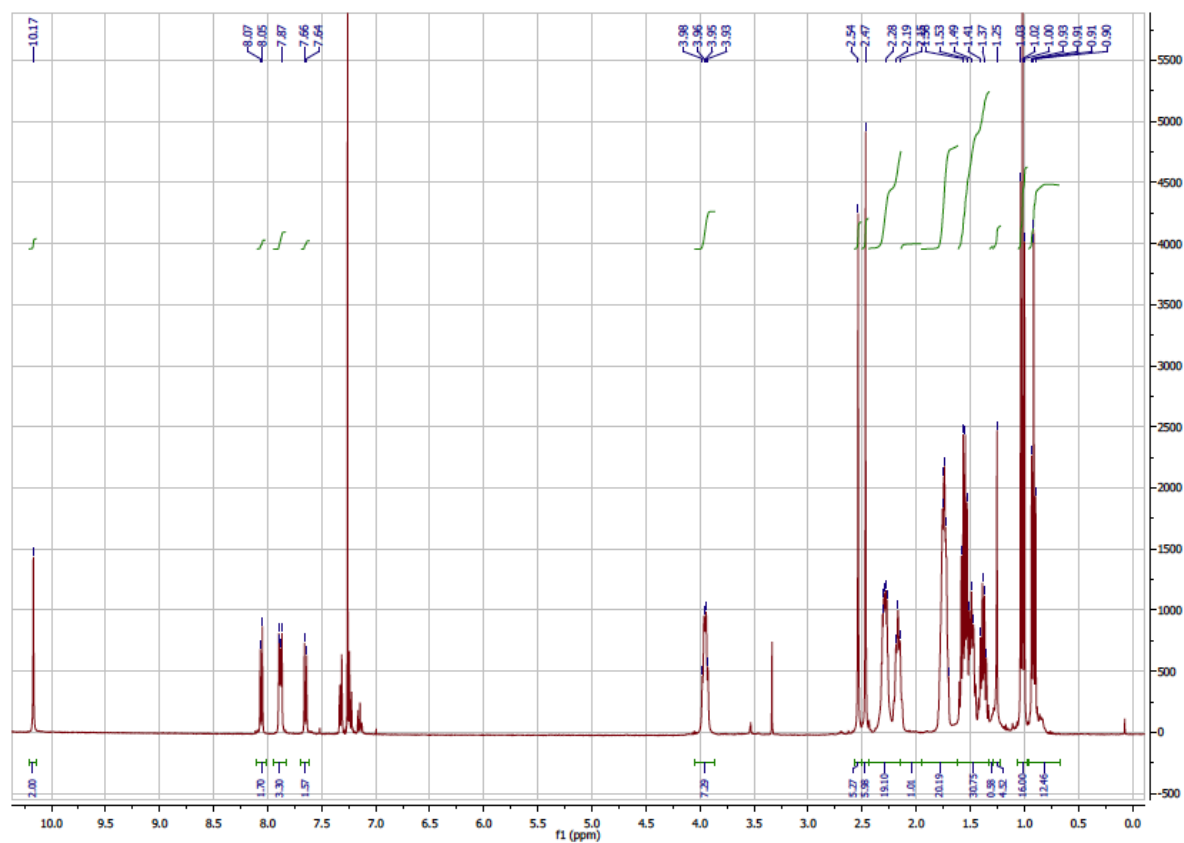


Figure S3a: ¹H NMR spectrum of compound **2b**

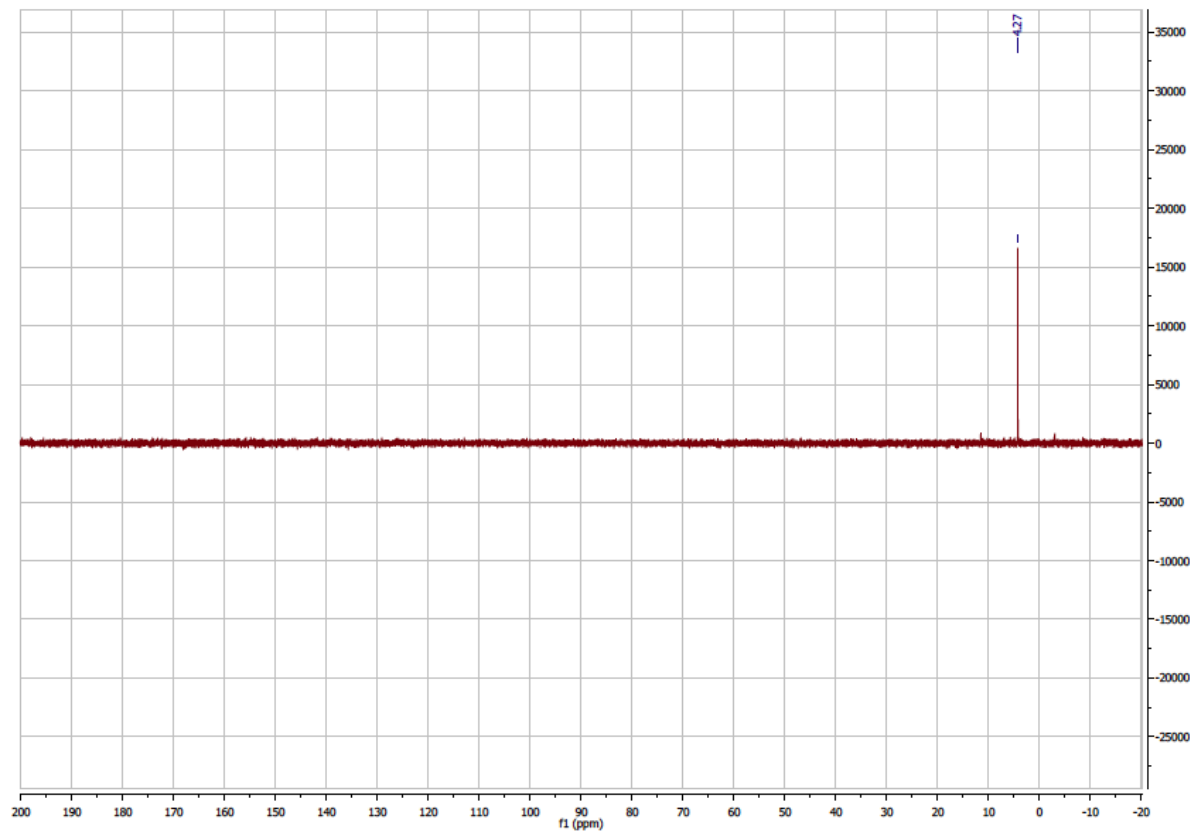


Figure S3b: ³¹P NMR spectrum of compound **2b**

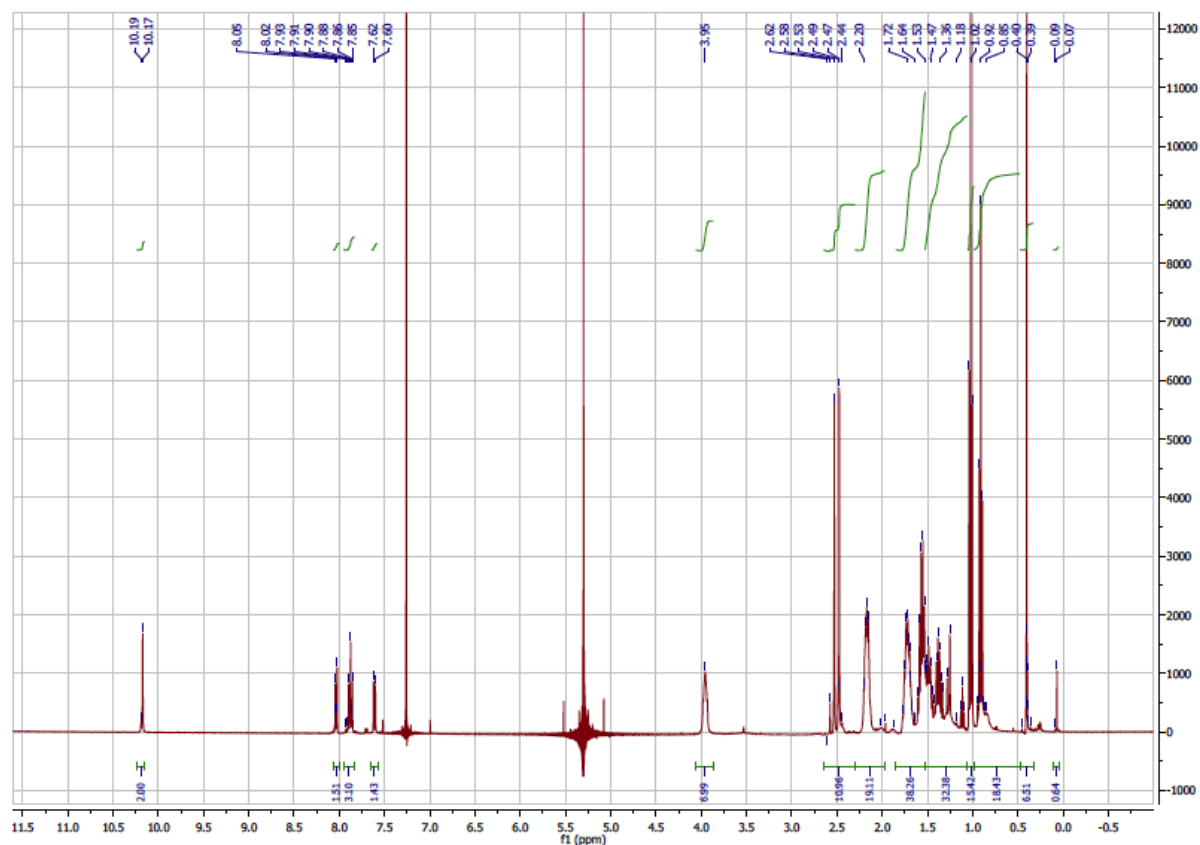


Figure S4a: ¹H NMR spectrum of compound **3a**

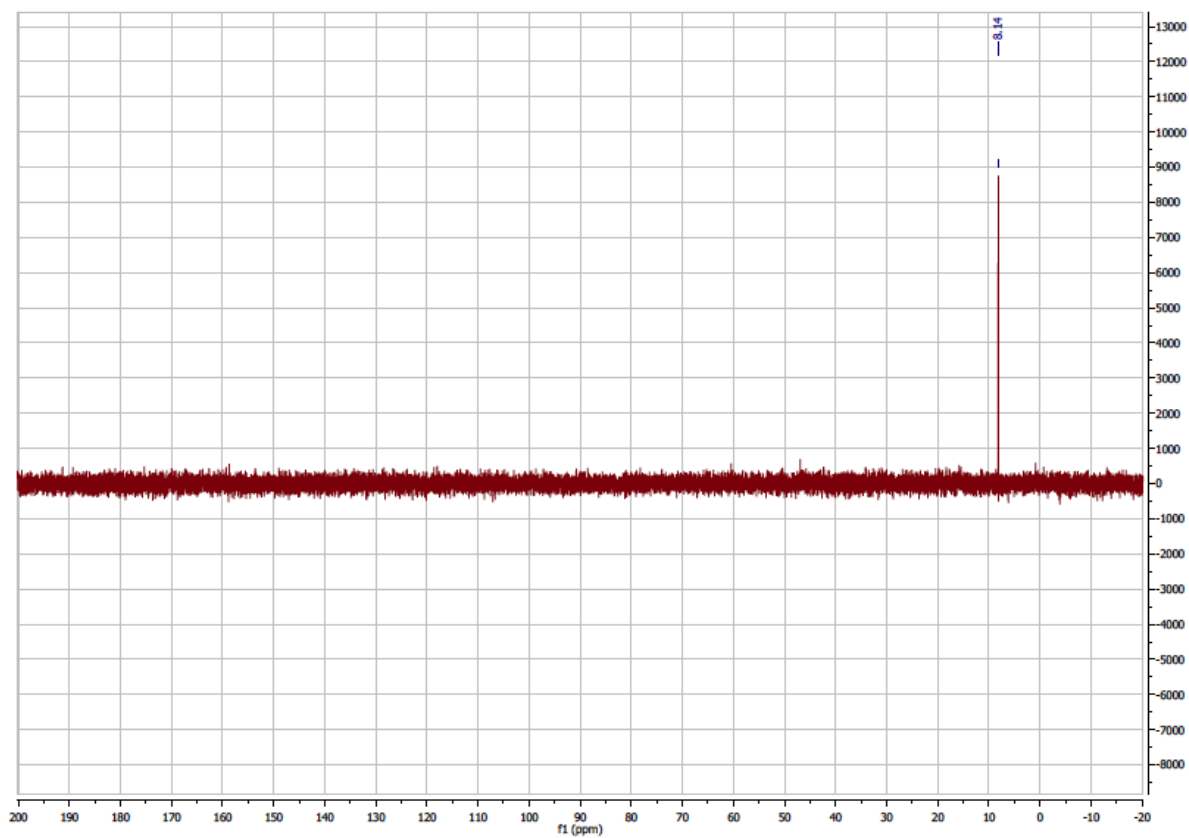


Figure S4b: ³¹P NMR spectrum of compound **3a**

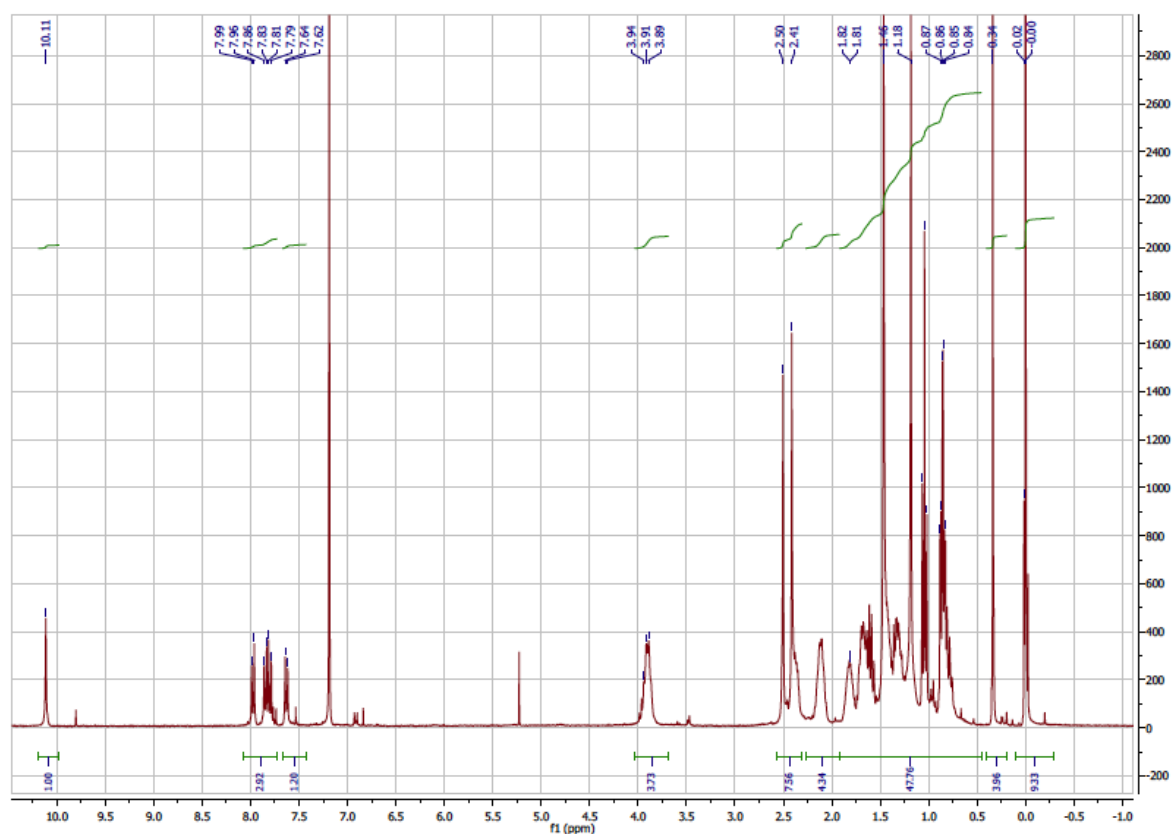


Figure S5a: ¹H NMR spectrum of compound **5a**

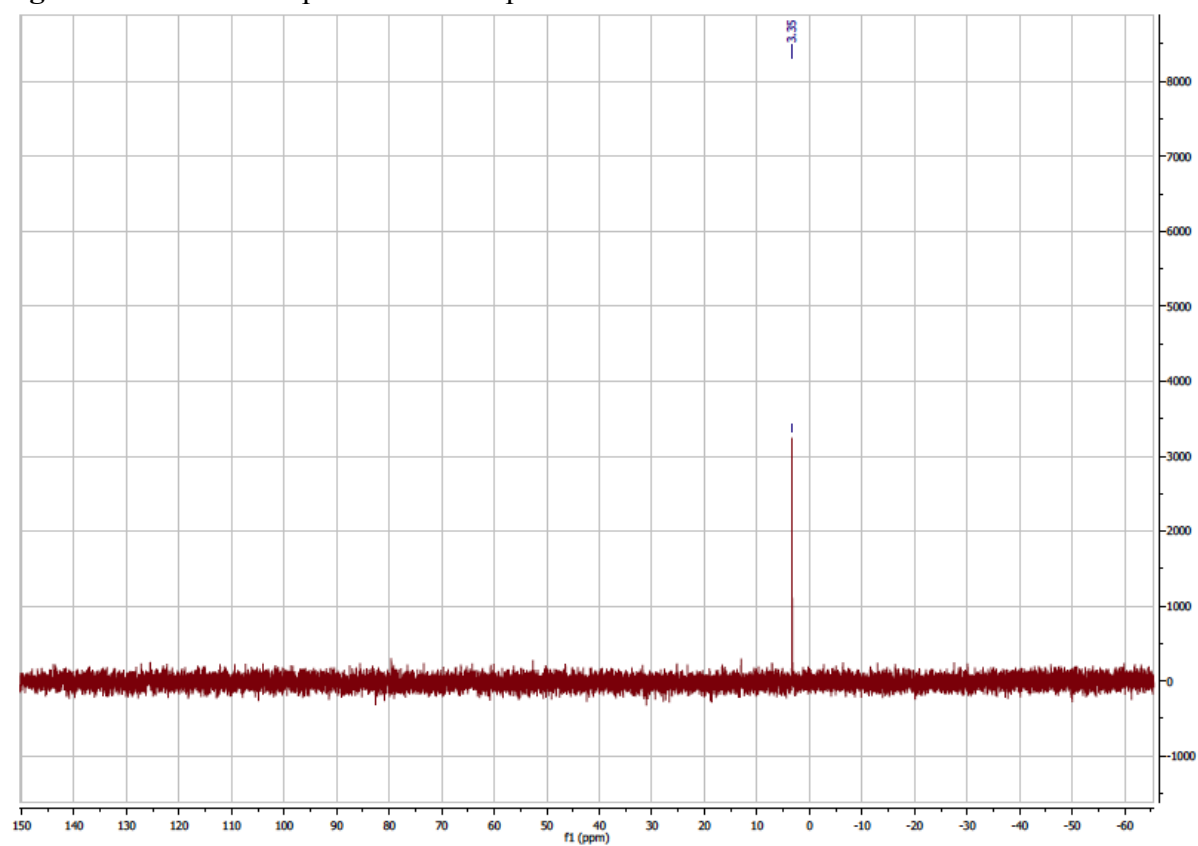


Figure S5b: ³¹P NMR spectrum of compound **5a**

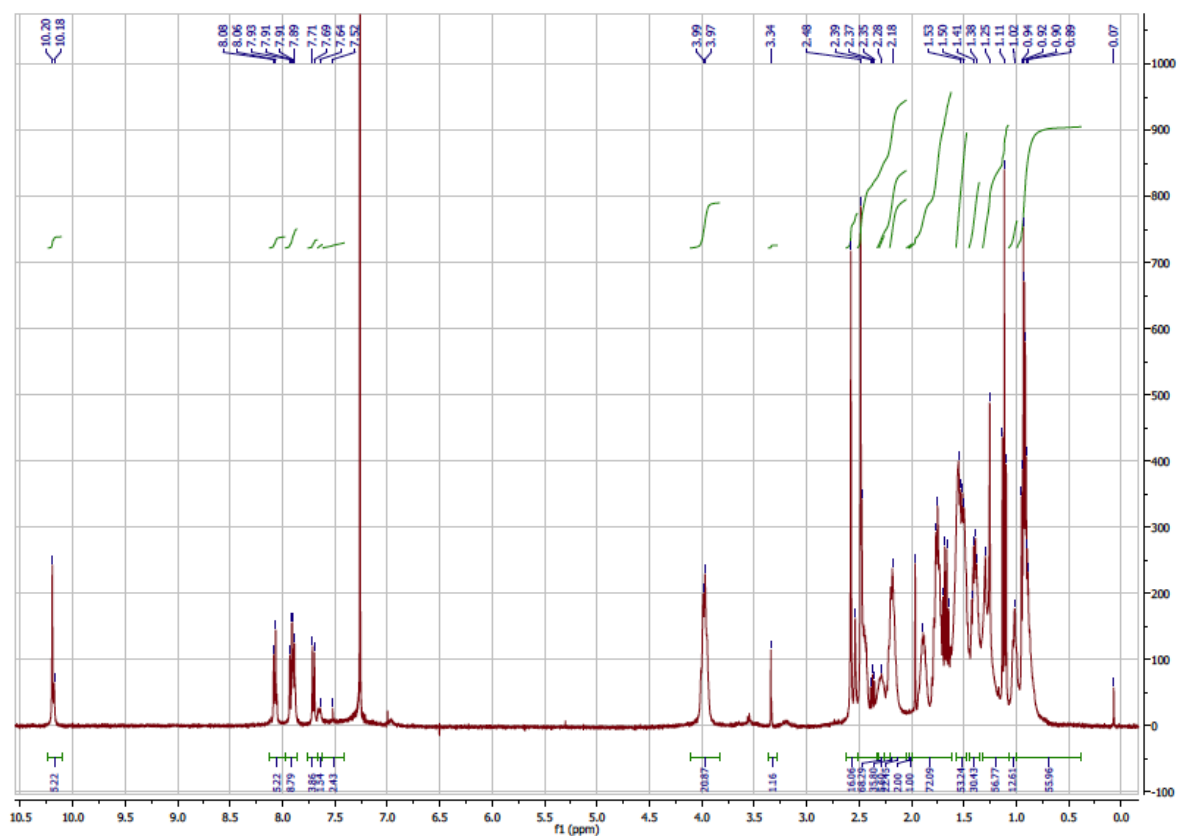


Figure S6a: ¹H NMR spectrum of compound **5b**

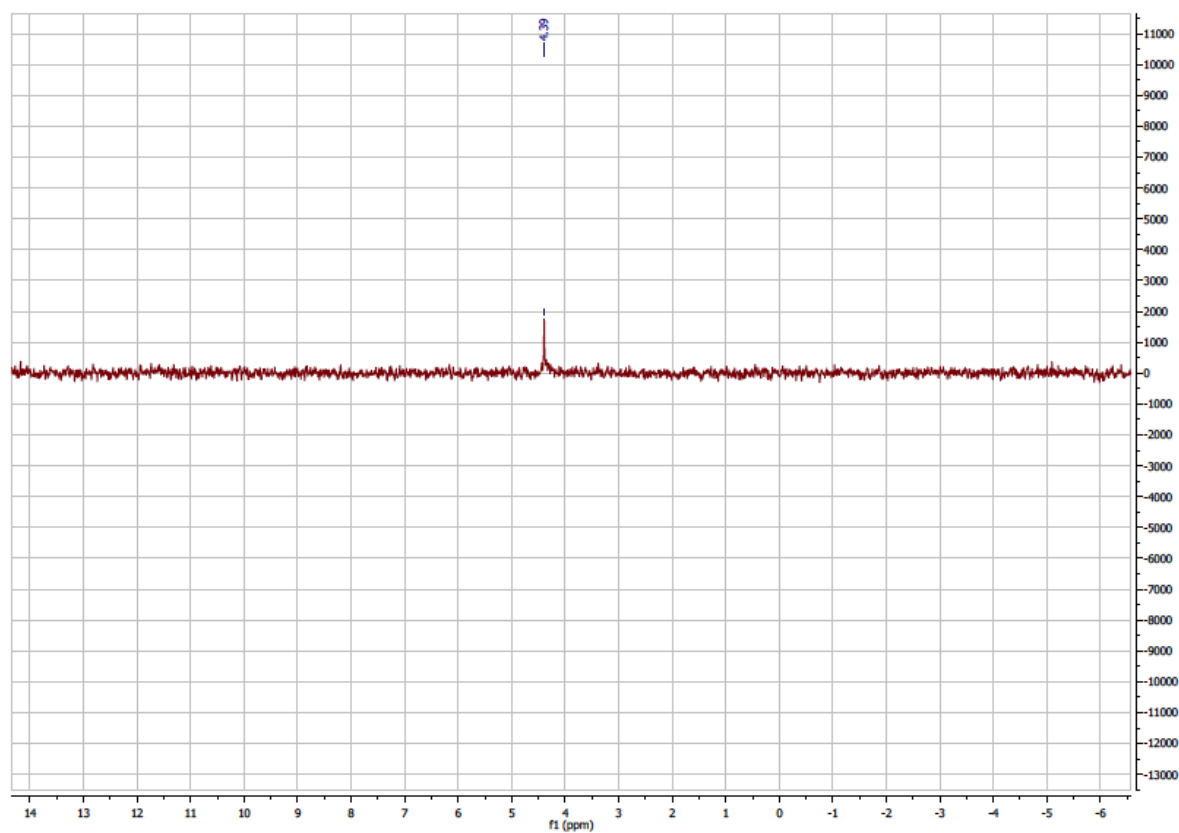


Figure S6b: ³¹P NMR spectrum of compound **5b**

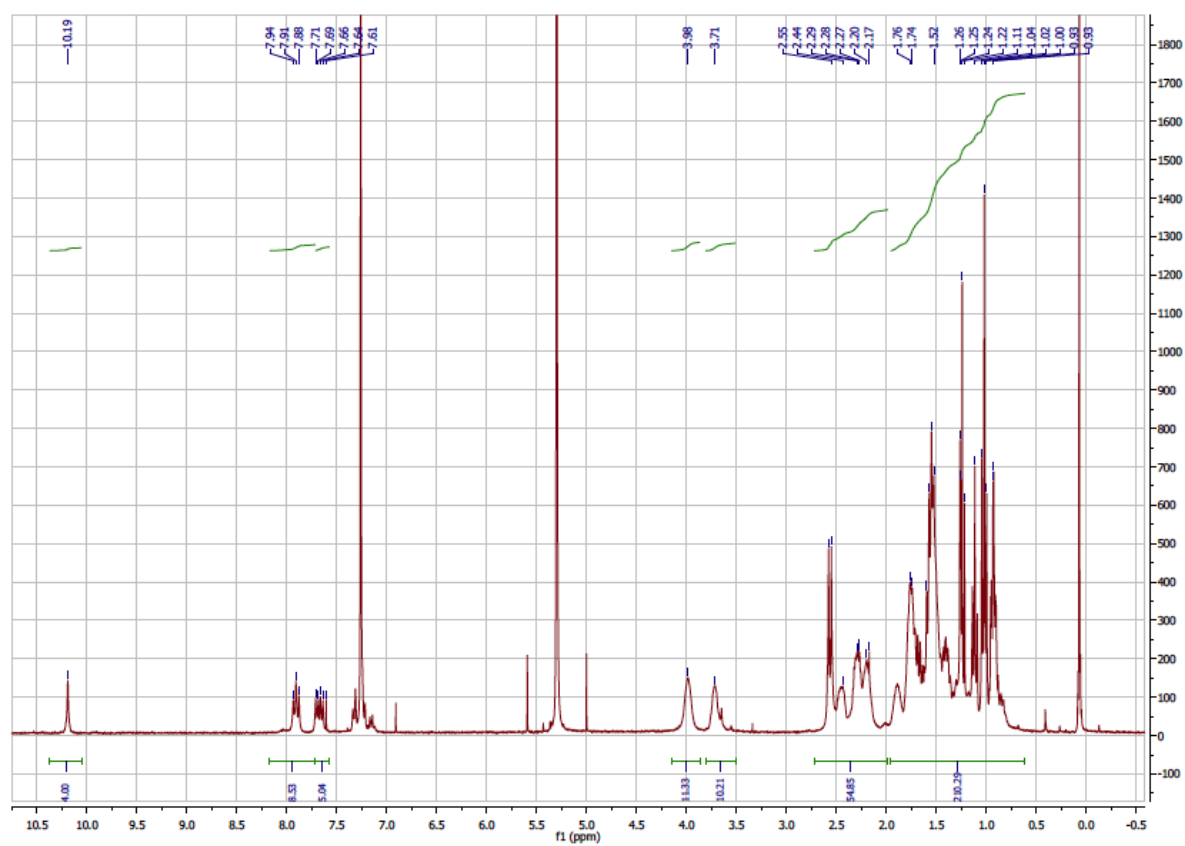


Figure S7a: ¹H NMR spectrum of compound **6**

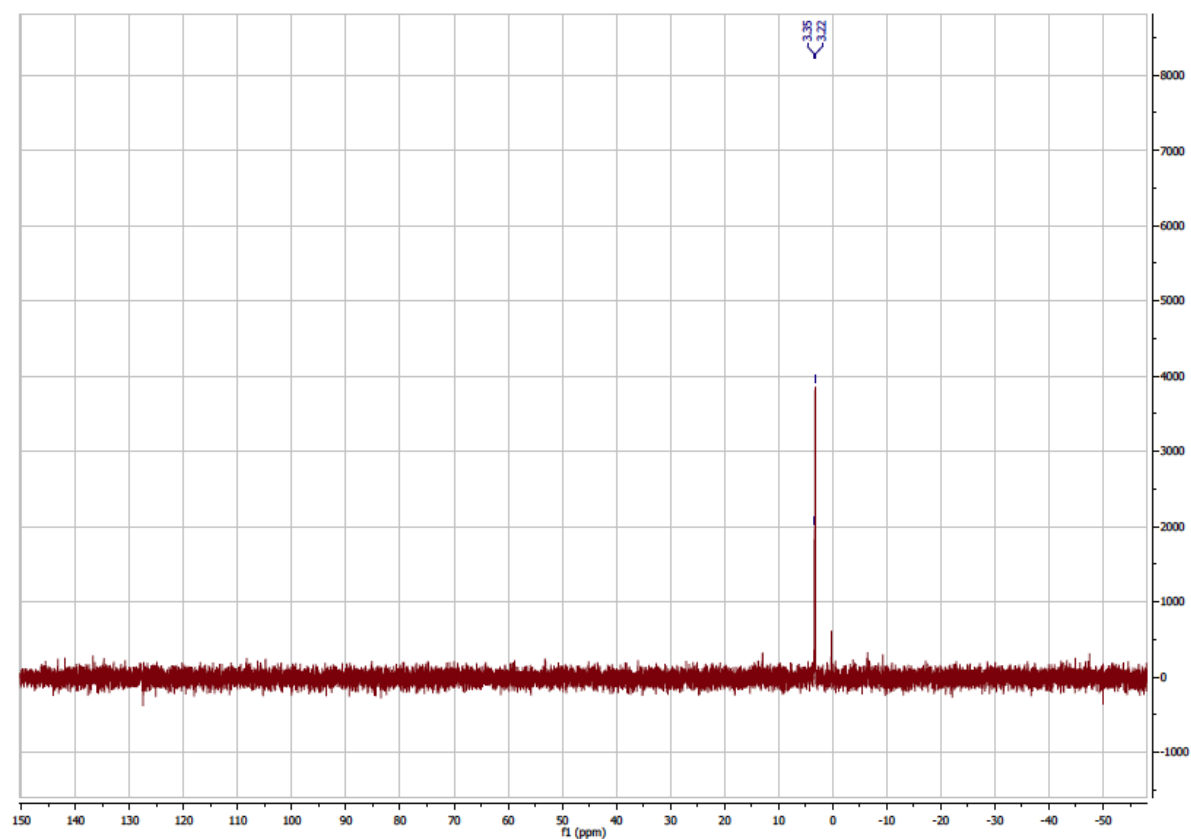


Figure S7b: ³¹P NMR spectrum of compound **6**

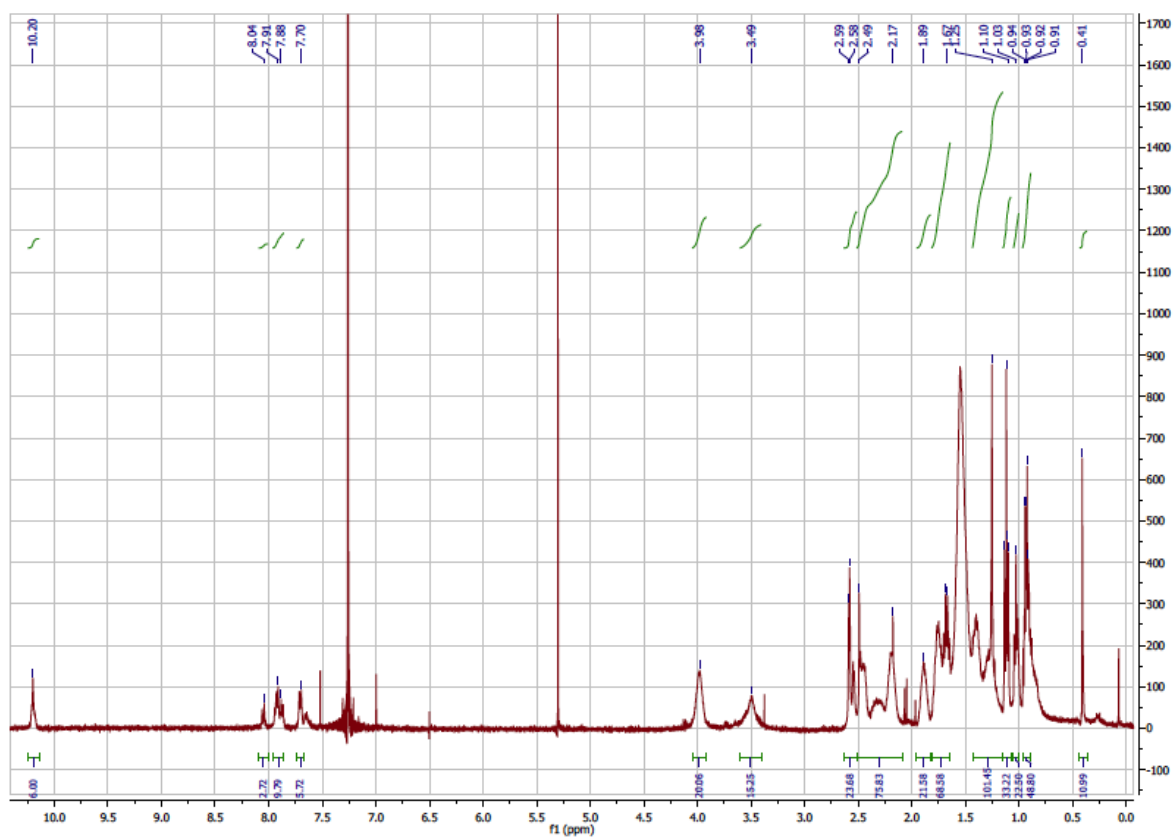


Figure S8a: ^1H NMR spectrum of compound **7a**

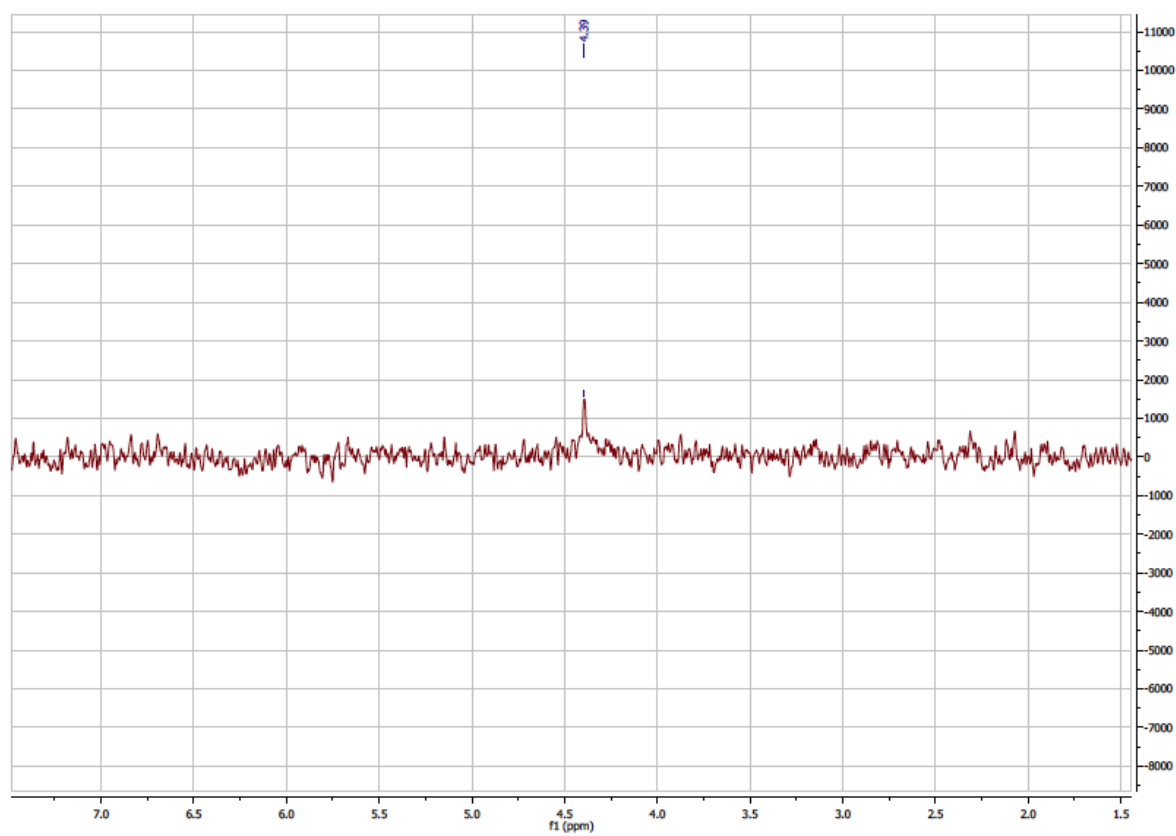


Figure S8b: ^{31}P NMR spectrum of compound **7a**

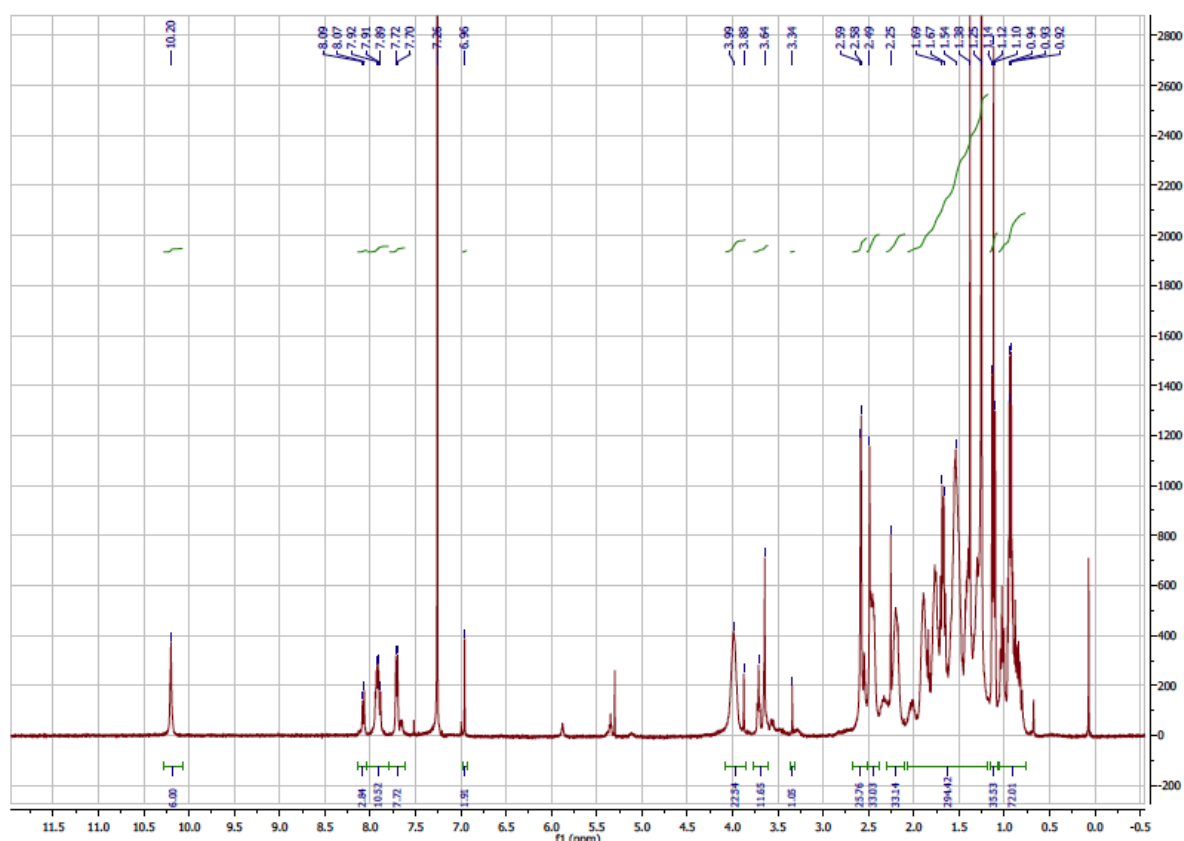


Figure S9a: ¹H NMR spectrum of compound **7b**

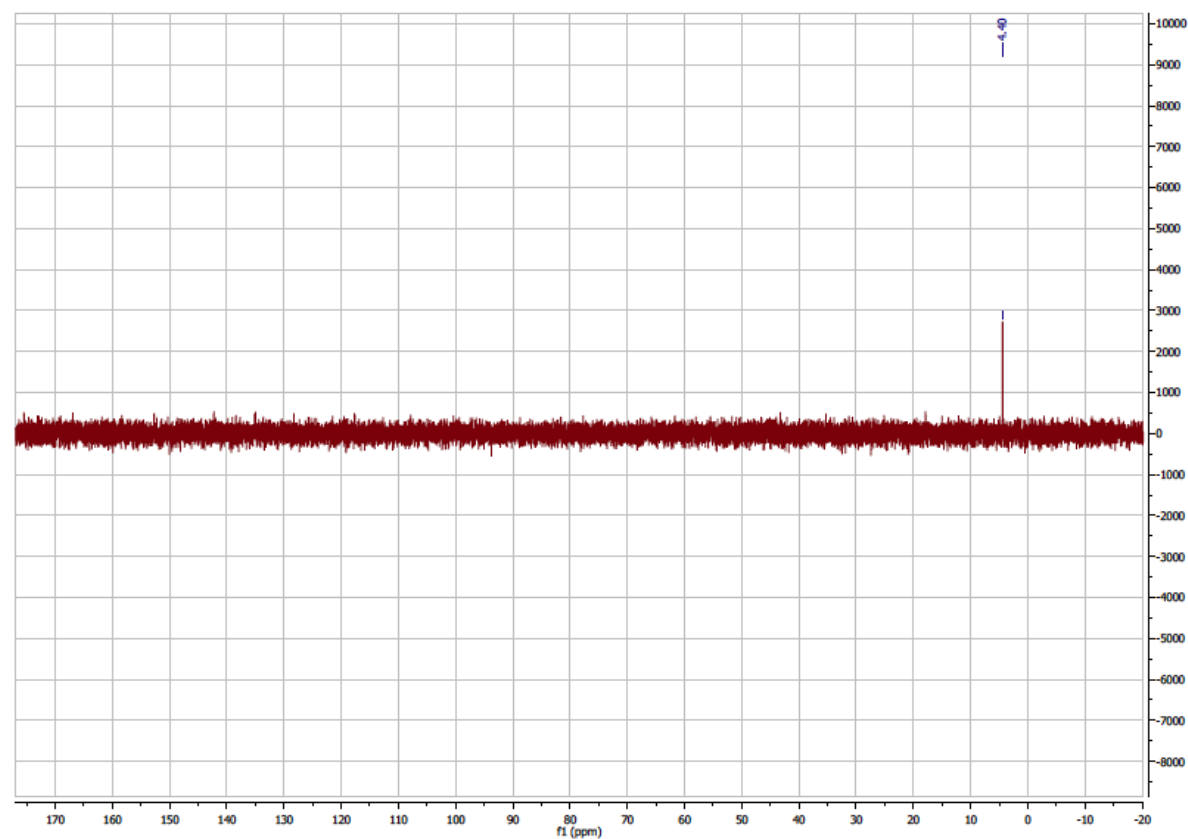


Figure S9b: ³¹P NMR spectrum of compound **7b**

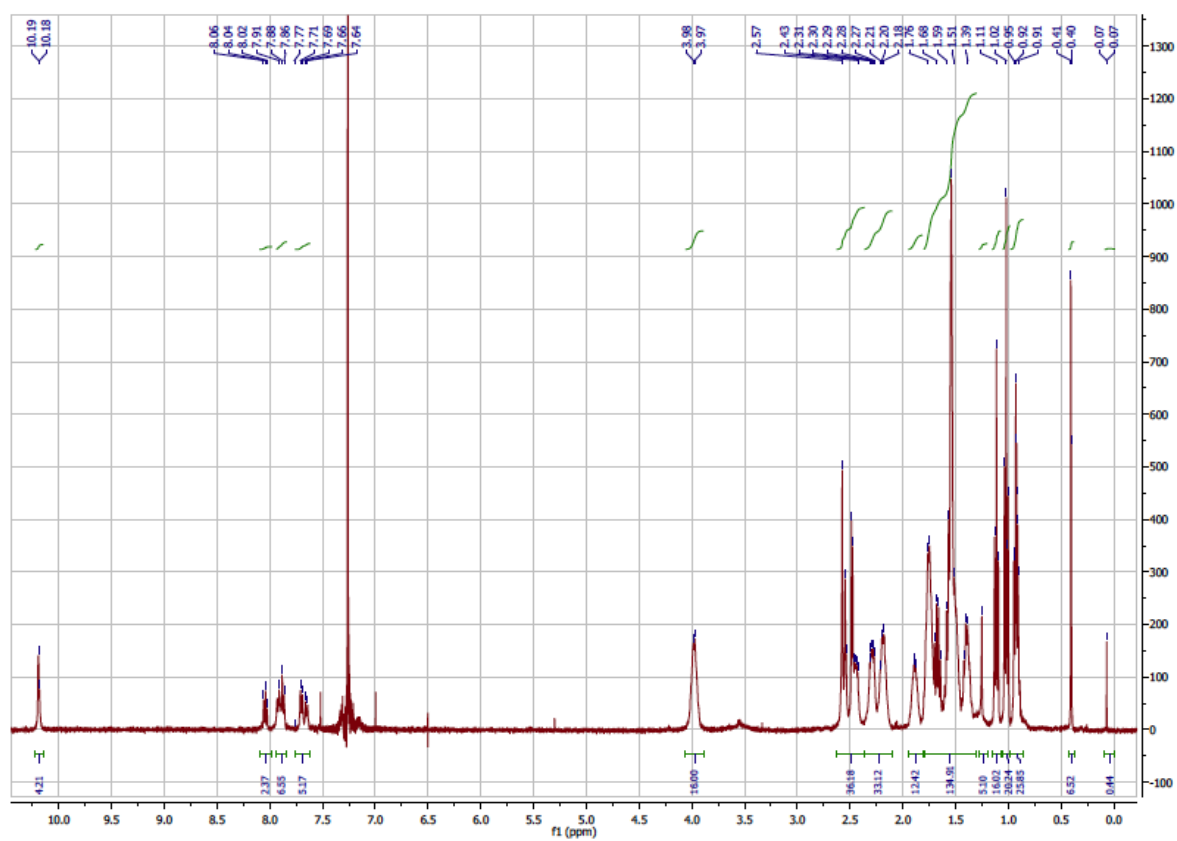


Figure S10a: ¹H NMR spectrum of compound **8a**

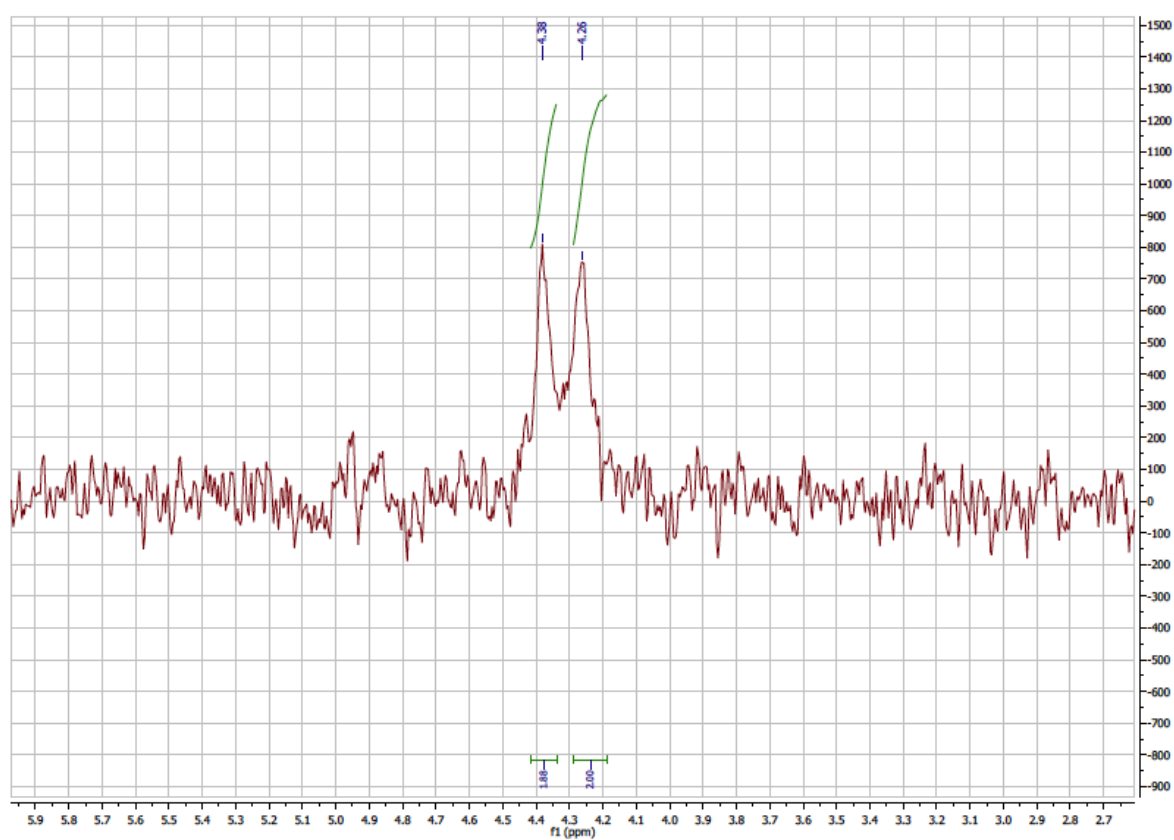


Figure S10b: ³¹P NMR spectrum of compound **8a**

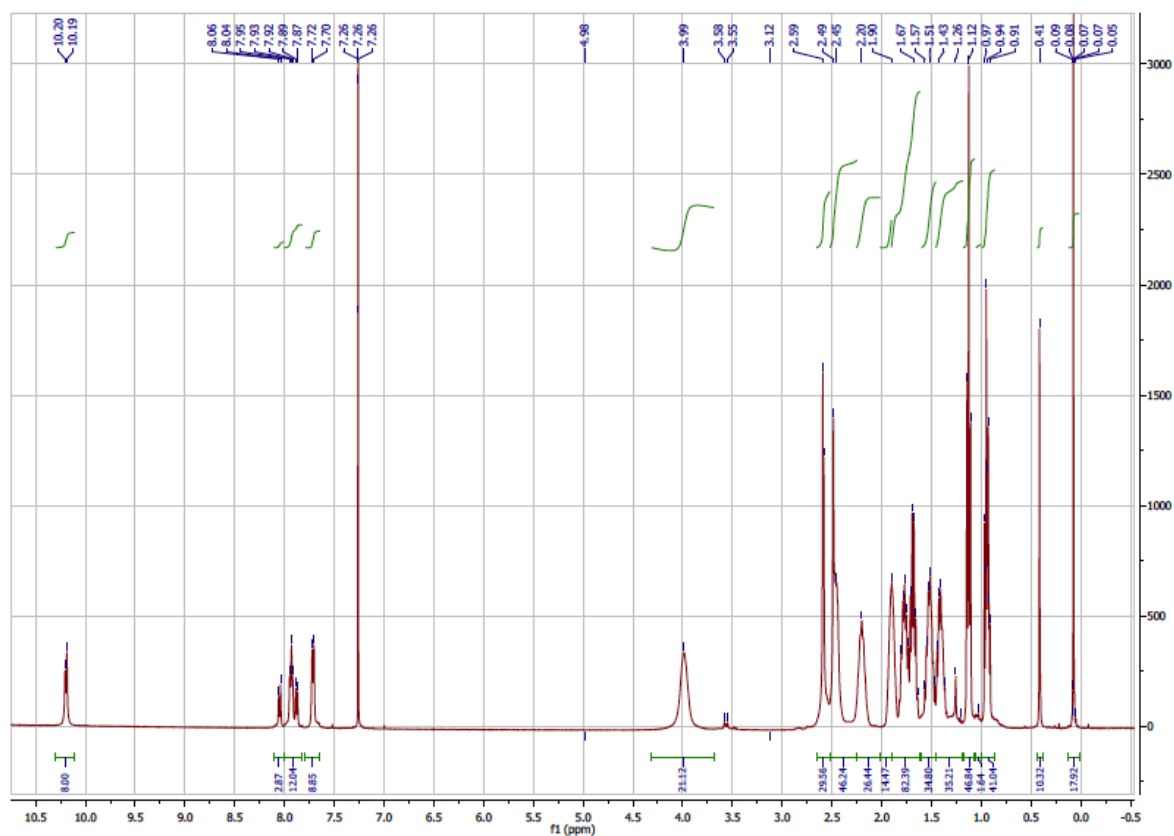


Figure S11a: ¹H NMR spectrum of compound 10a

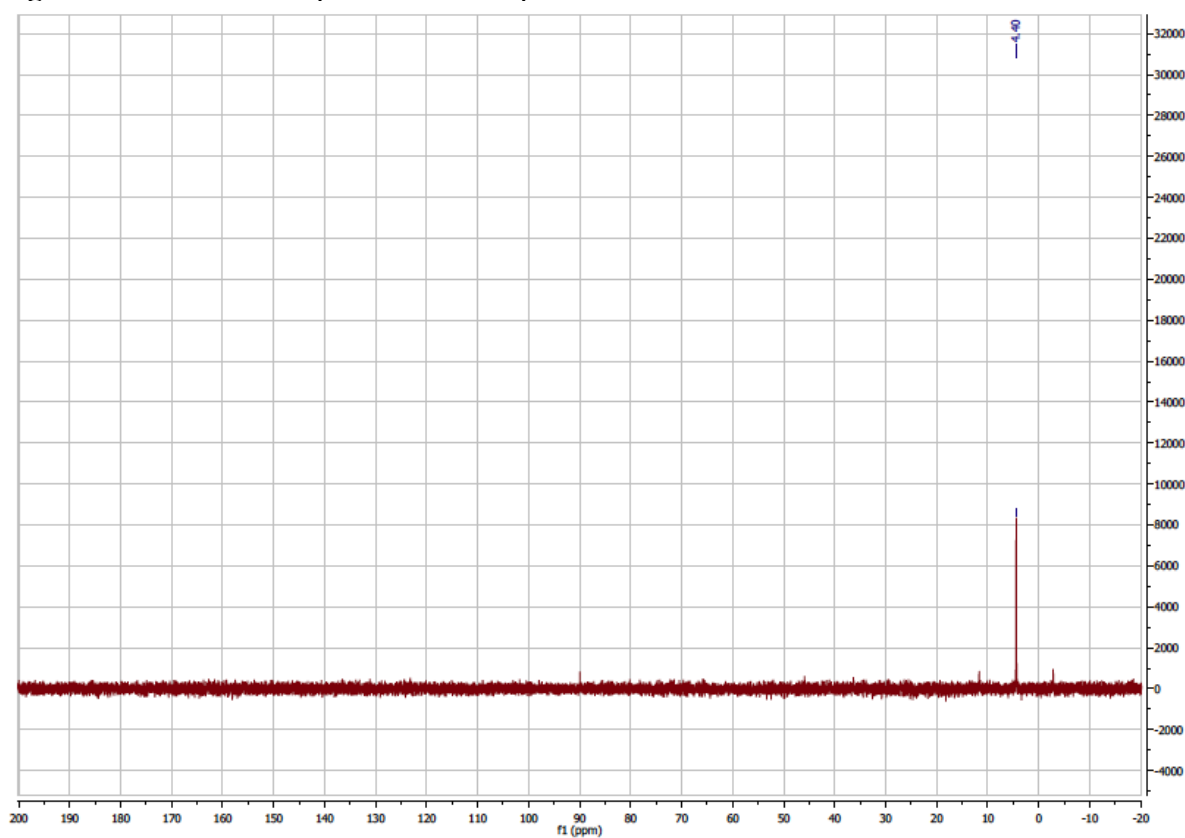


Figure S11b: ³¹P NMR spectrum of compound 10a

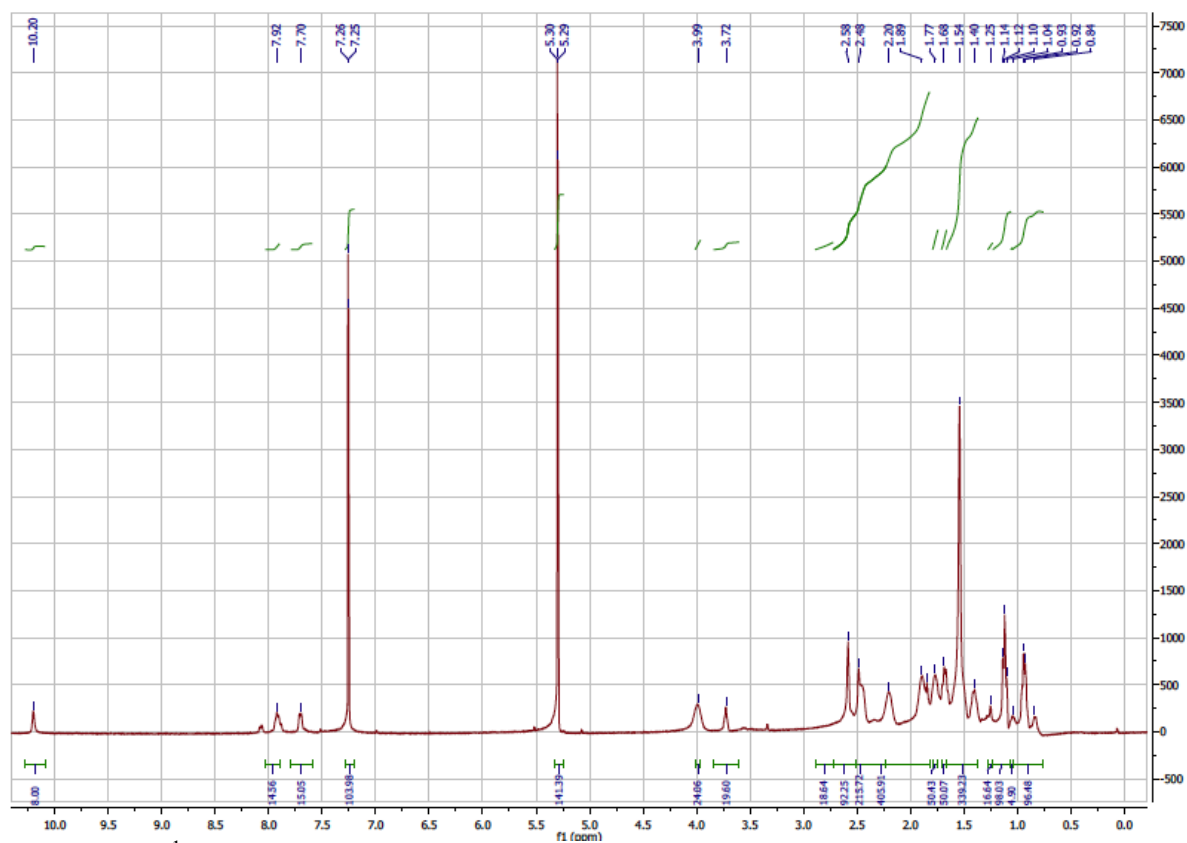


Figure S12a: ^1H NMR spectrum of compound 10b

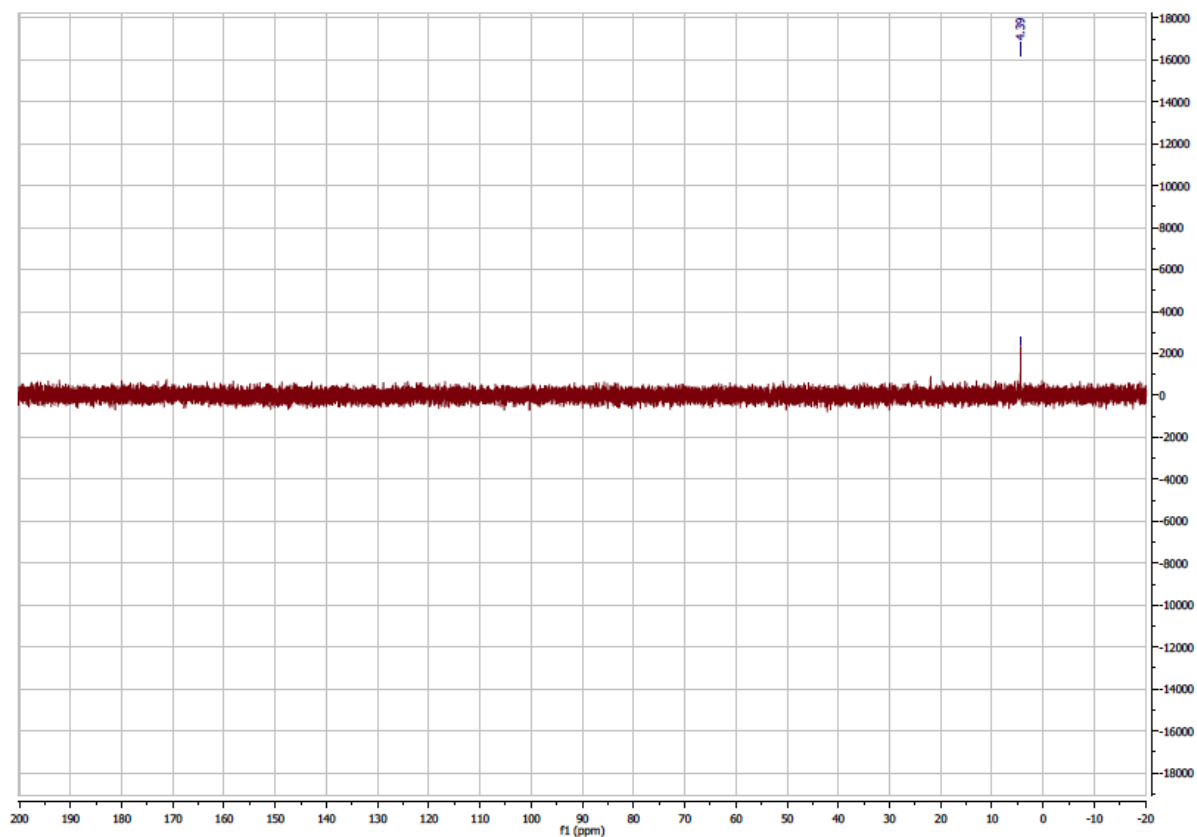


Figure S12b: ^{31}P NMR spectrum of compound 10b

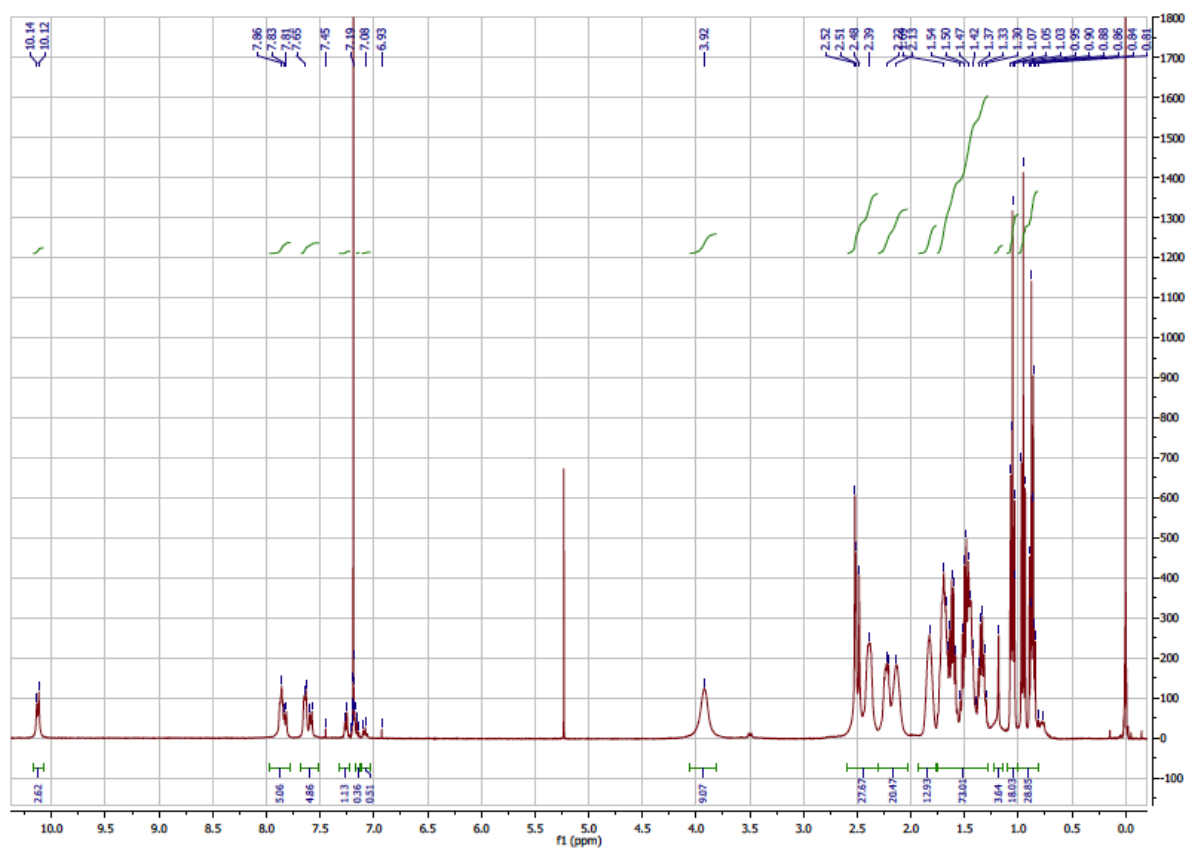


Figure S13a: ^1H NMR spectrum of compound **11**

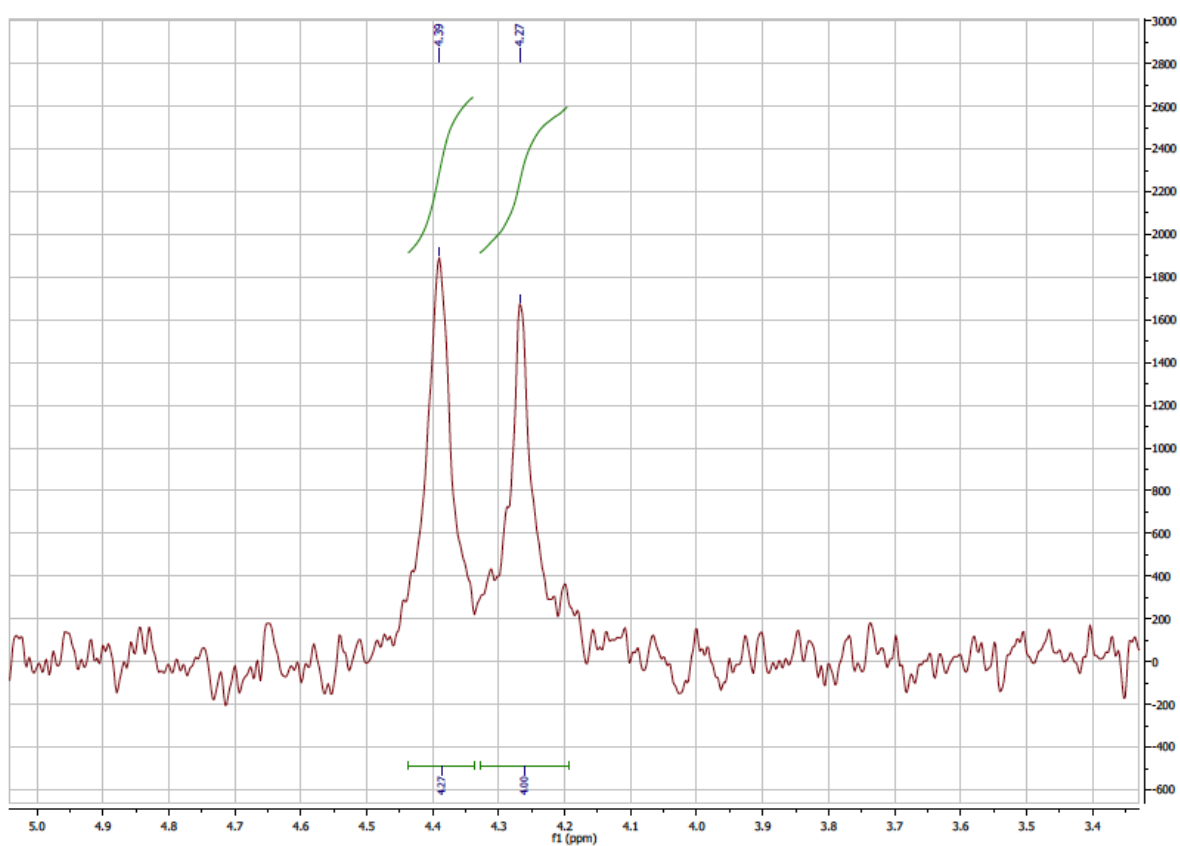


Figure S13b: ^{31}P NMR spectrum of compound **11**

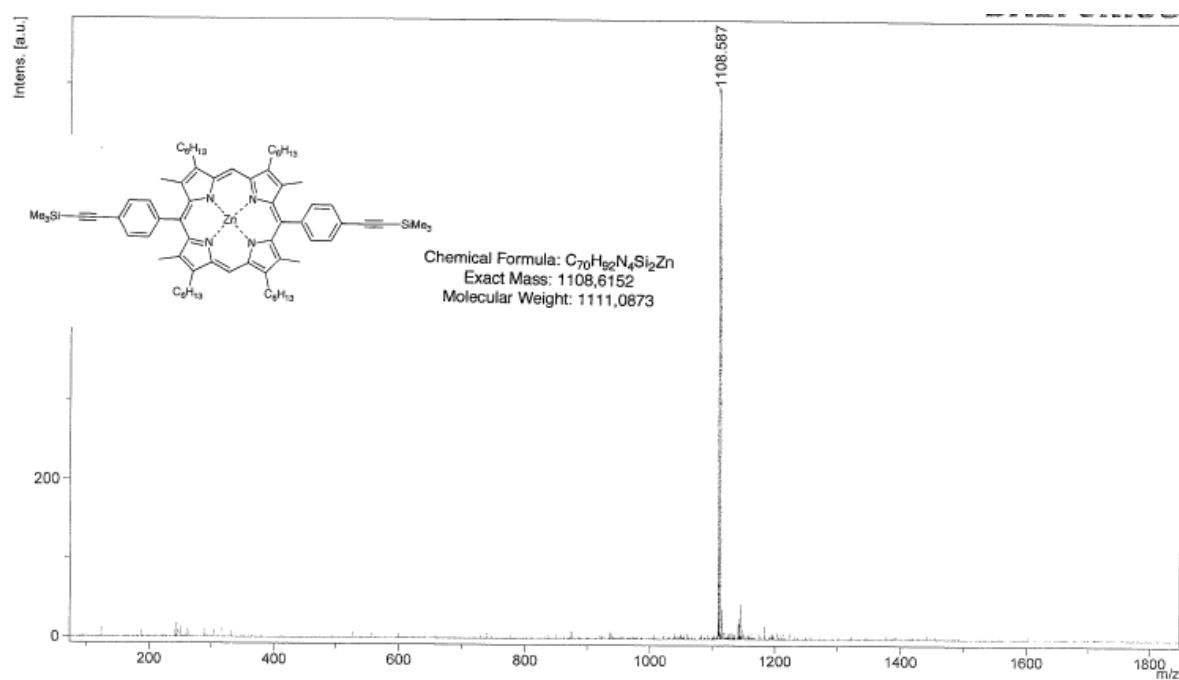


Figure S14: MALDI/TOF MS spectrum of compound **1a**

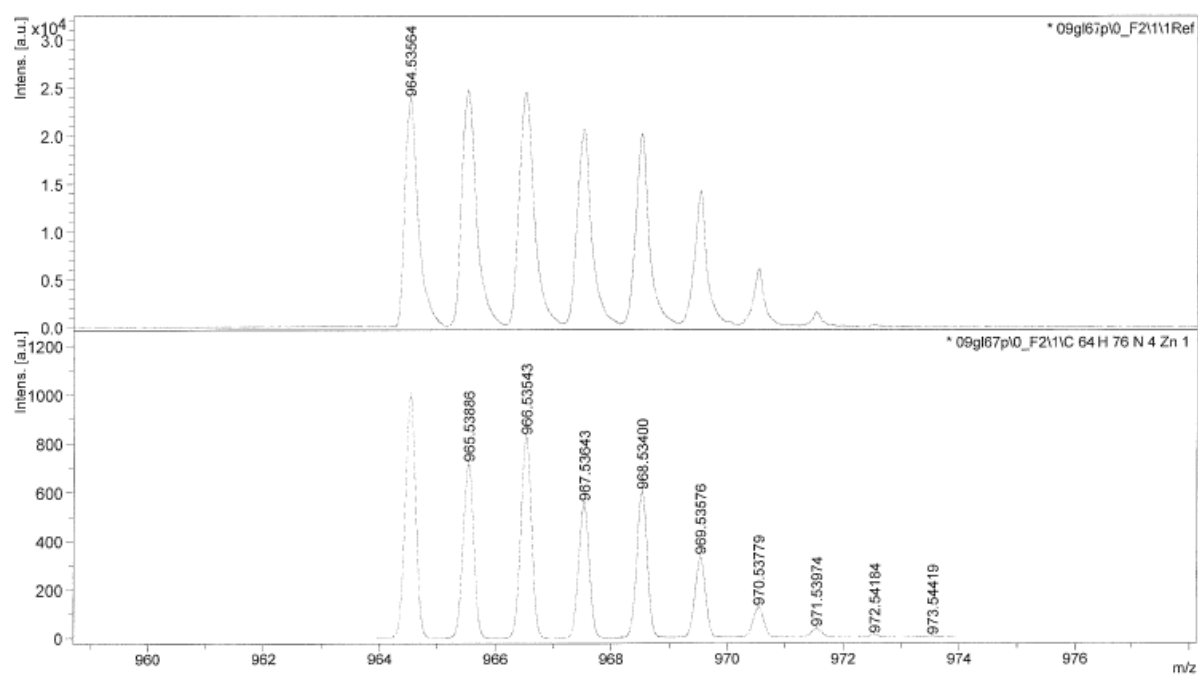


Figure S15: MALDI/TOF MS spectrum of compound **1b**

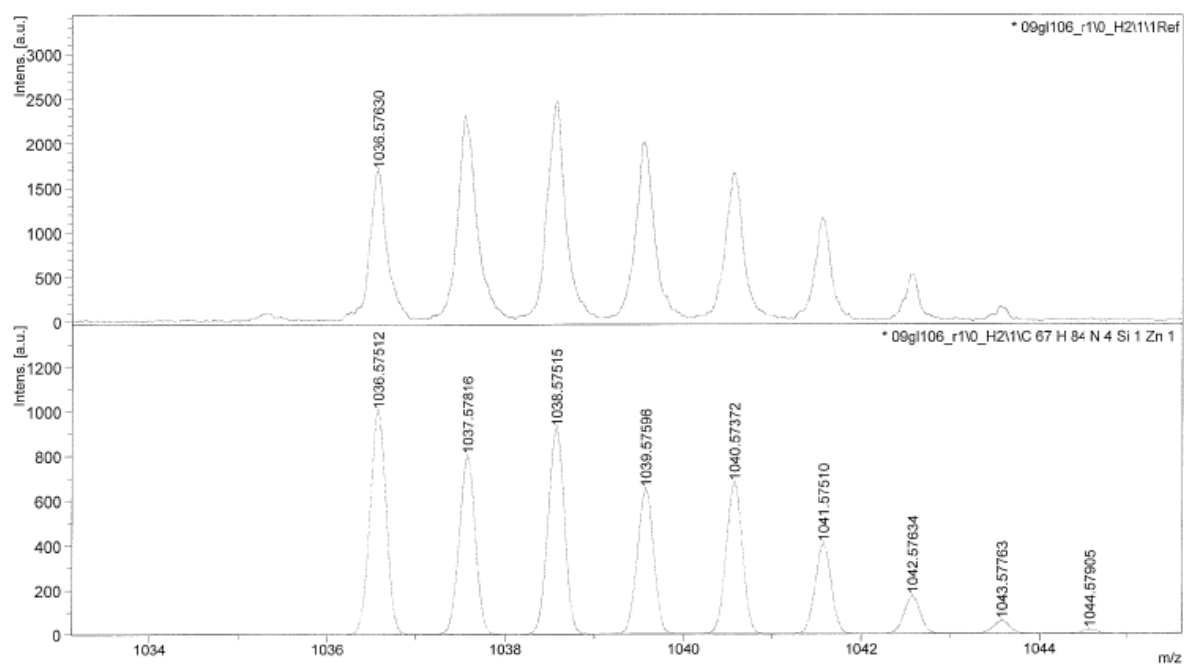


Figure S16: MALDI/TOF MS spectrum of compound **1c**

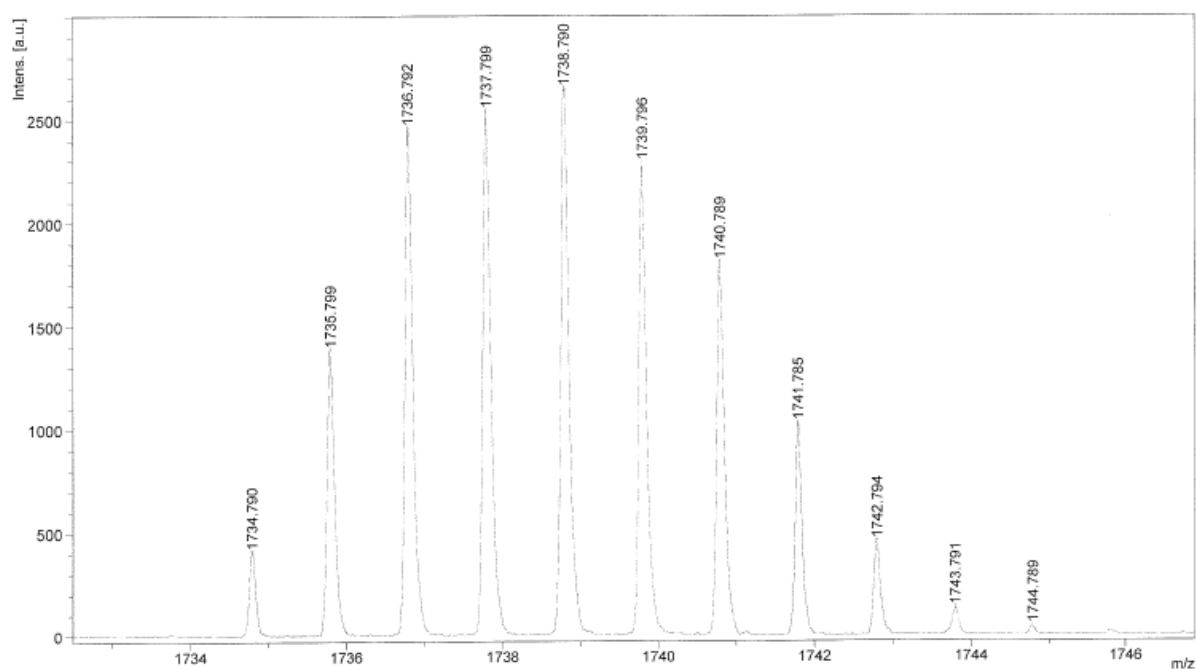
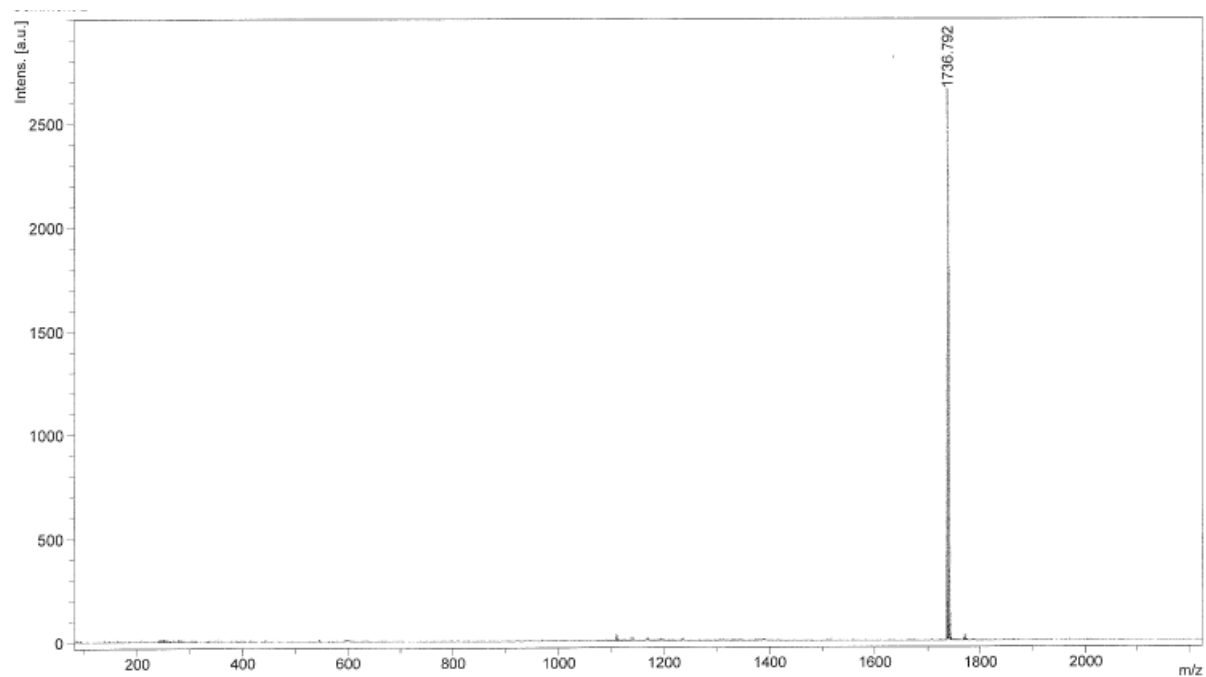


Figure S17: MALDI/TOF MS spectrum of compound 2a

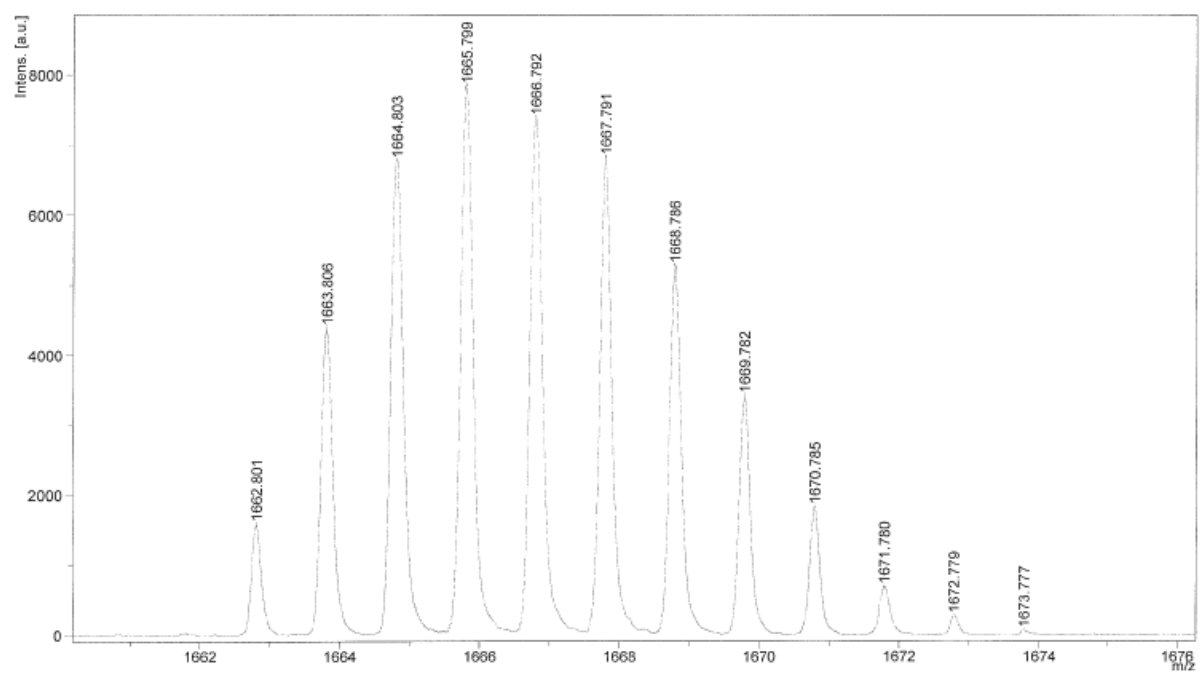
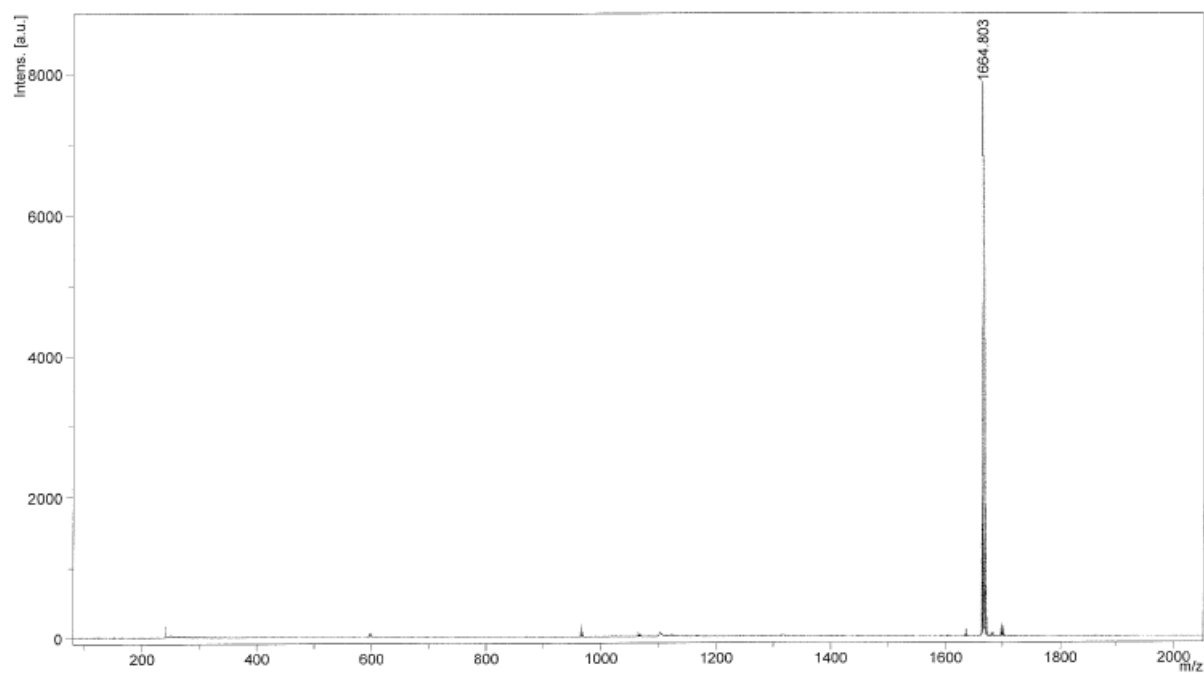


Figure S18: MALDI/TOF MS spectrum of compound **2b**

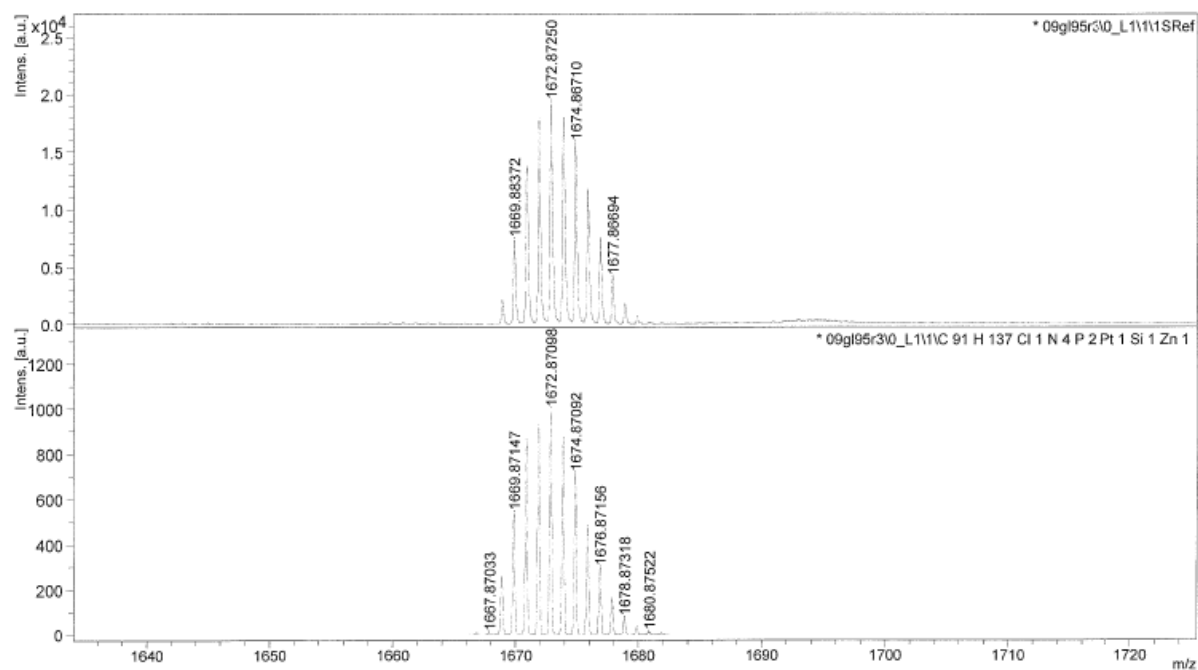


Figure S19: MALDI/TOF MS spectrum of compound **3a**

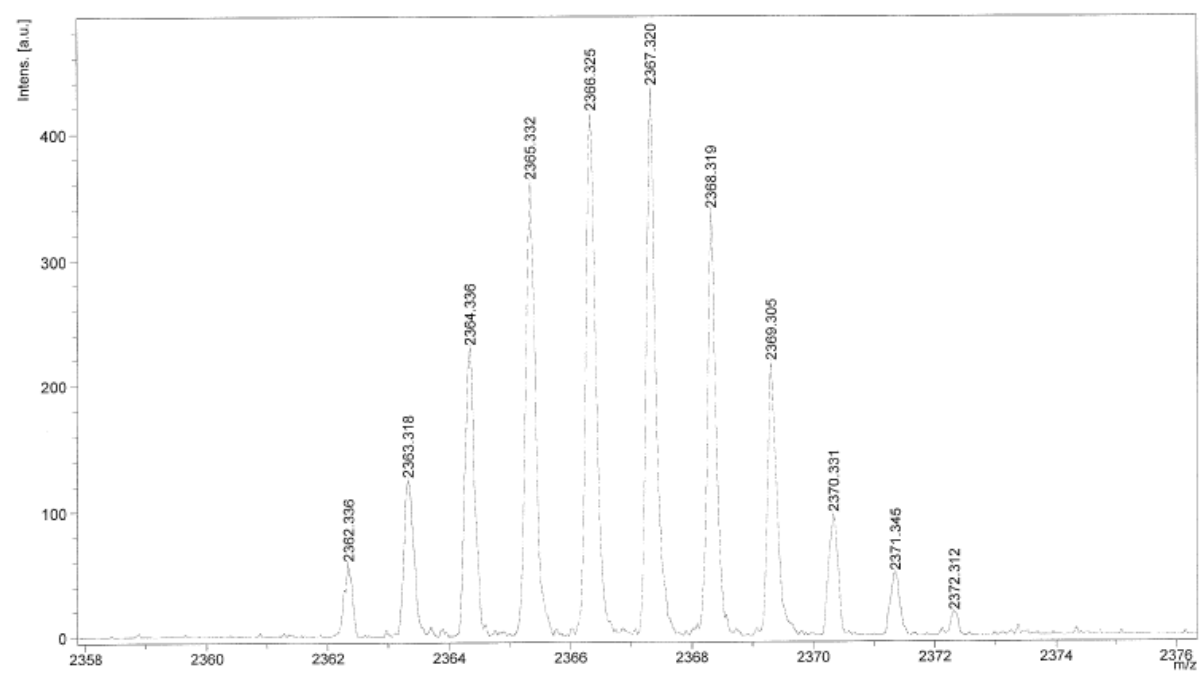
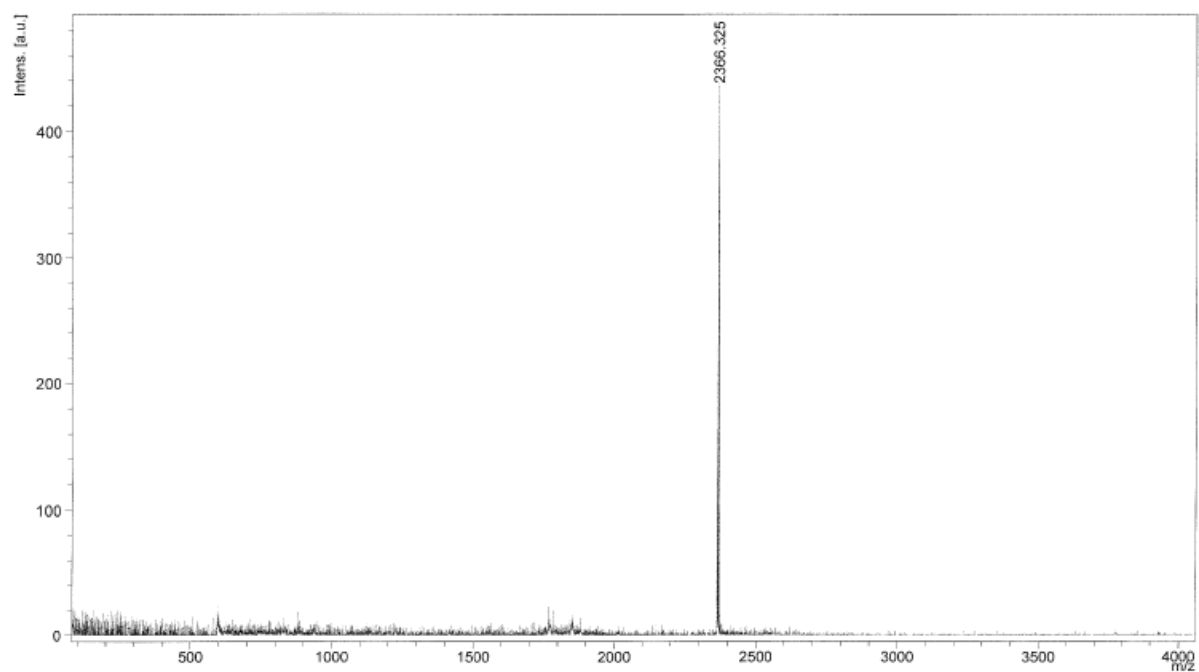


Figure S20: MALDI/TOF MS spectrum of compound 4

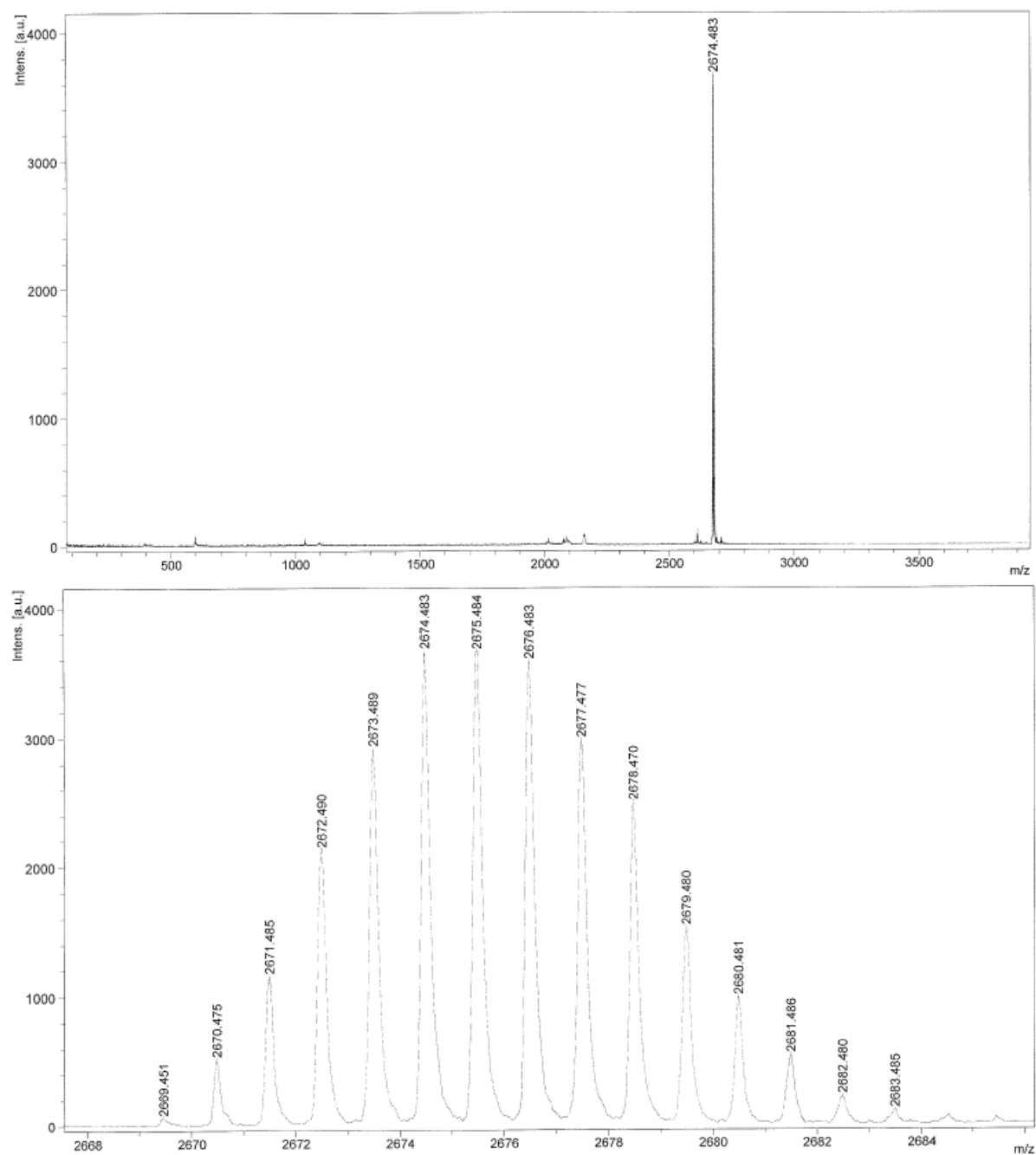


Figure S21: MALDI/TOF MS spectrum of compound **5a**

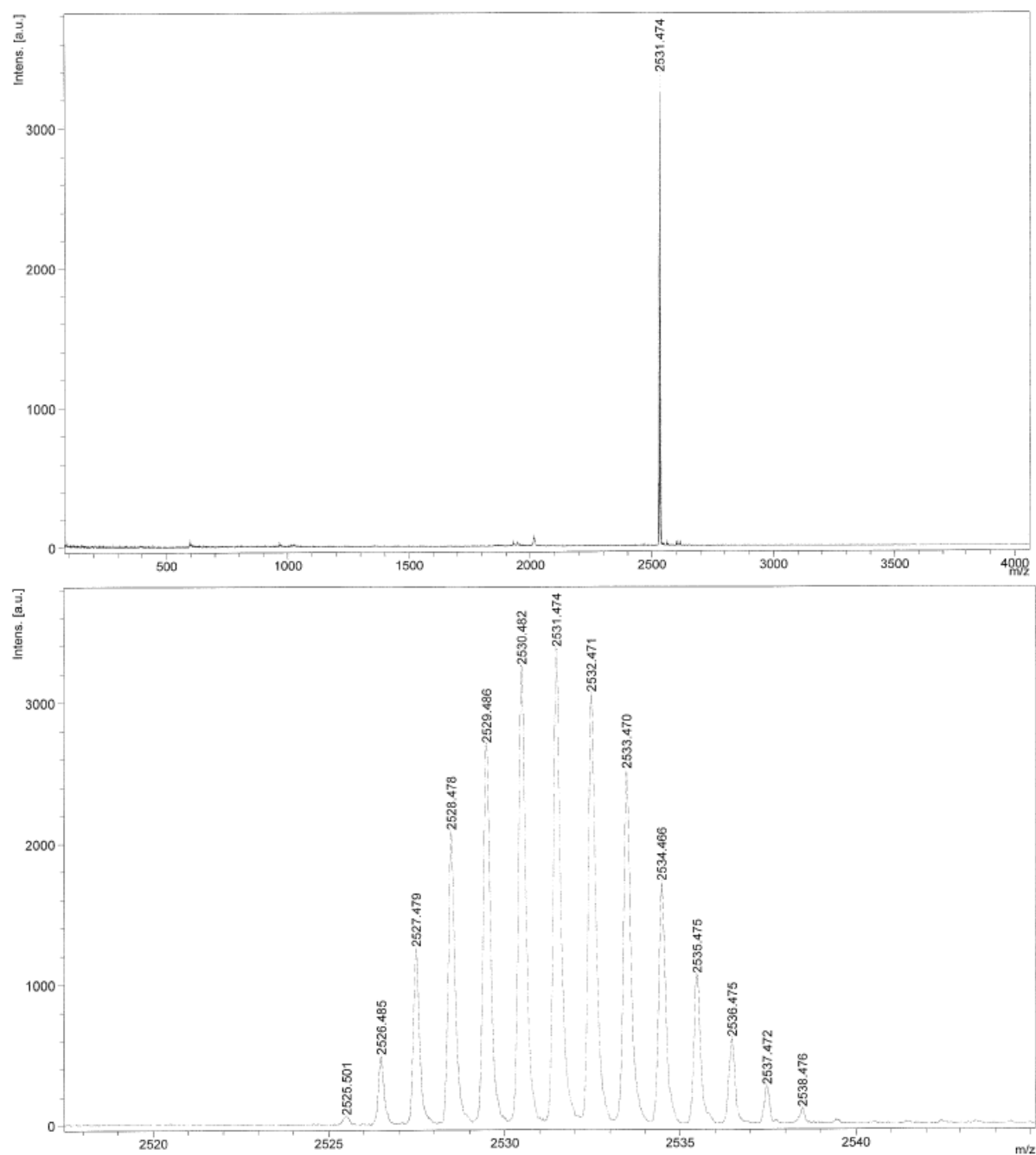


Figure S22: MALDI/TOF MS spectrum of compound **5b**

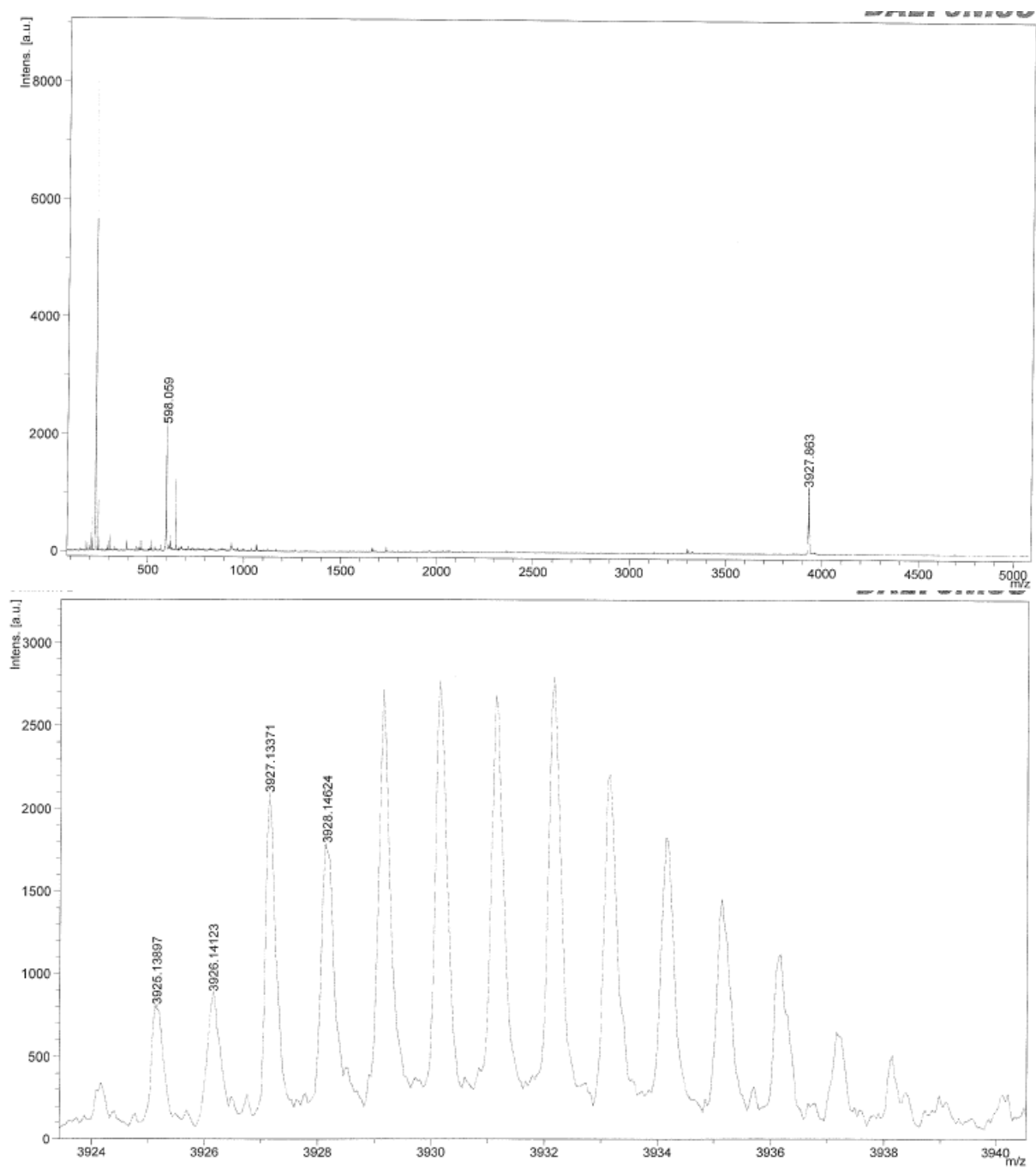


Figure S23: MALDI/TOF MS spectrum of compound 6

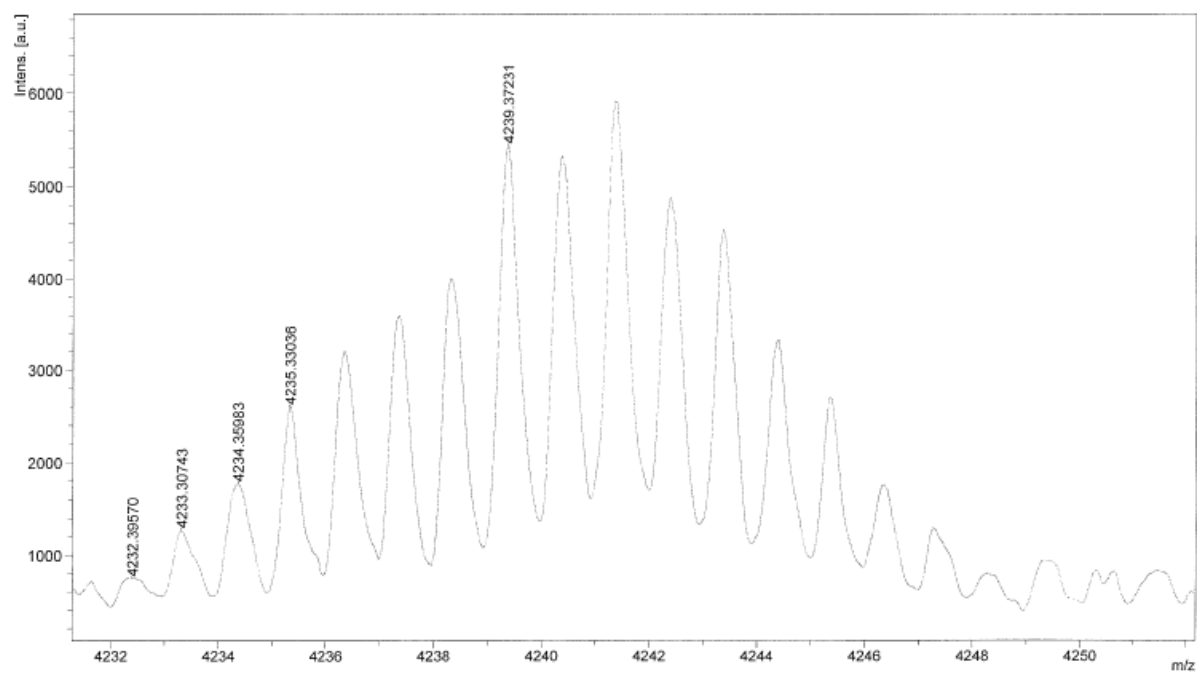


Figure S24: MALDI/TOF MS spectrum of compound **7a**

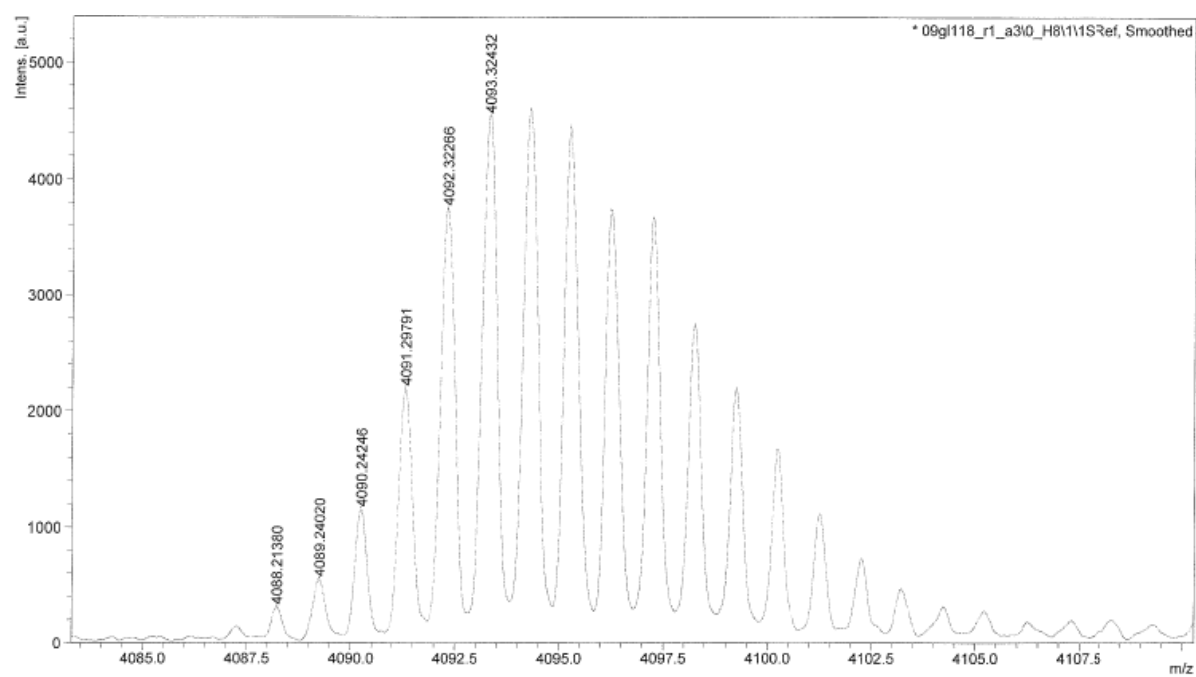


Figure S25: MALDI/TOF MS spectrum of compound **7b**

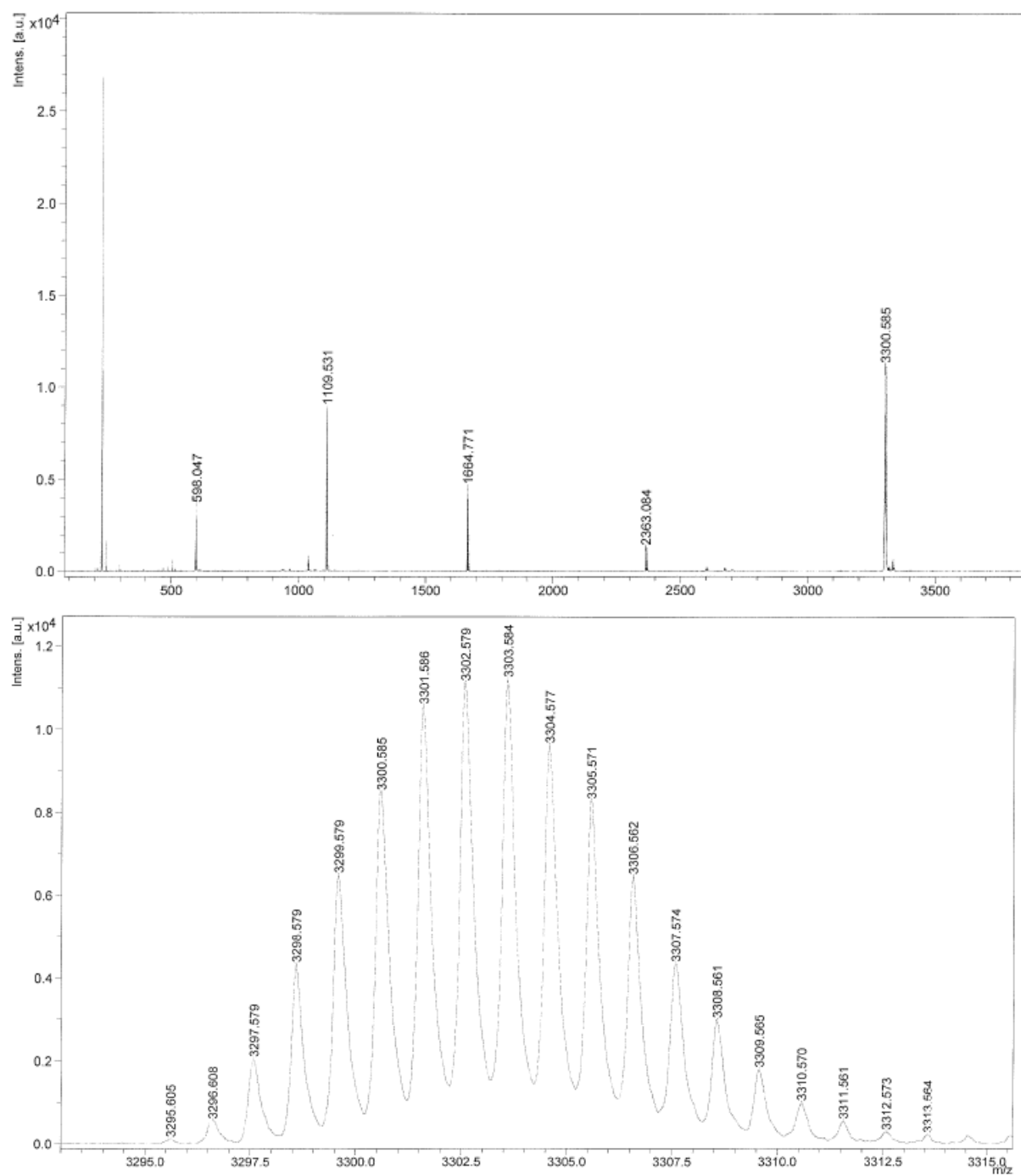


Figure S26: MALDI/TOF MS spectrum of compound **8a**

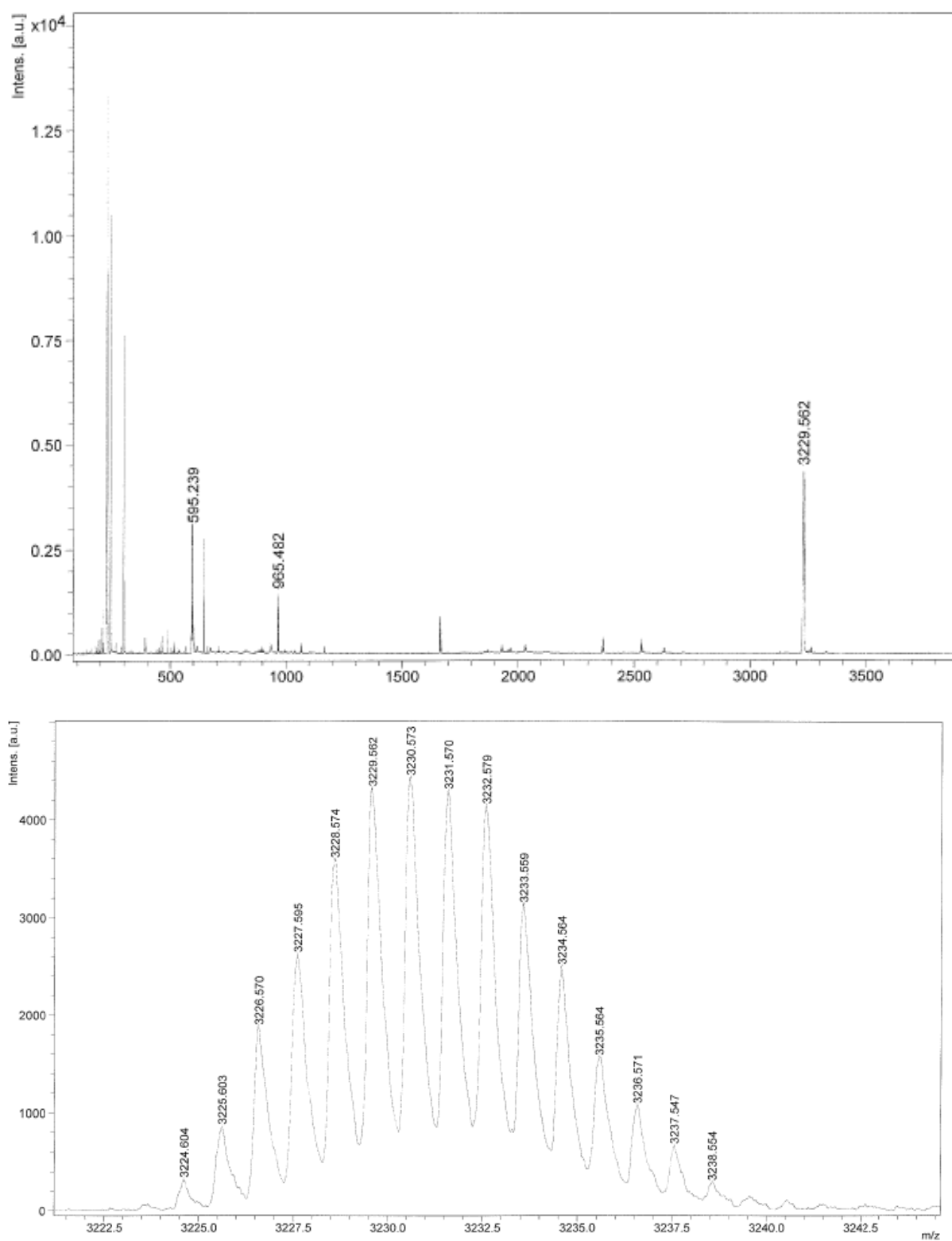


Figure S27: MALDI/TOF MS spectrum of compound **8b**

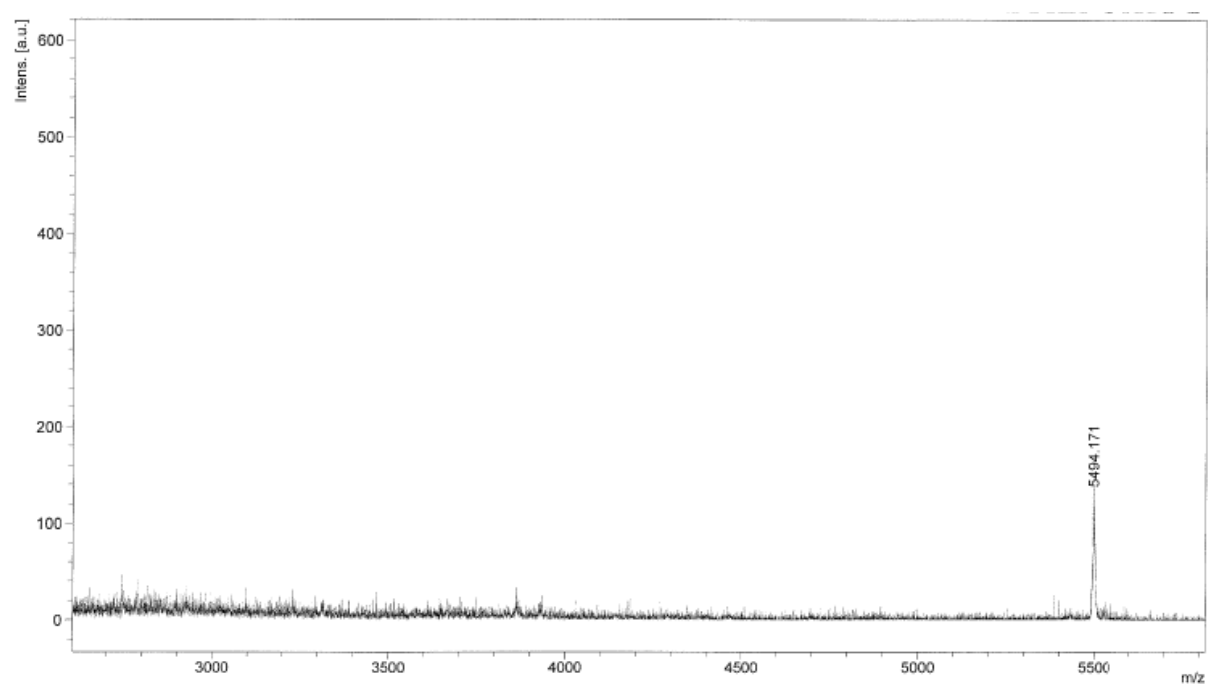


Figure S28: MALDI/TOF MS spectrum of compound **9**

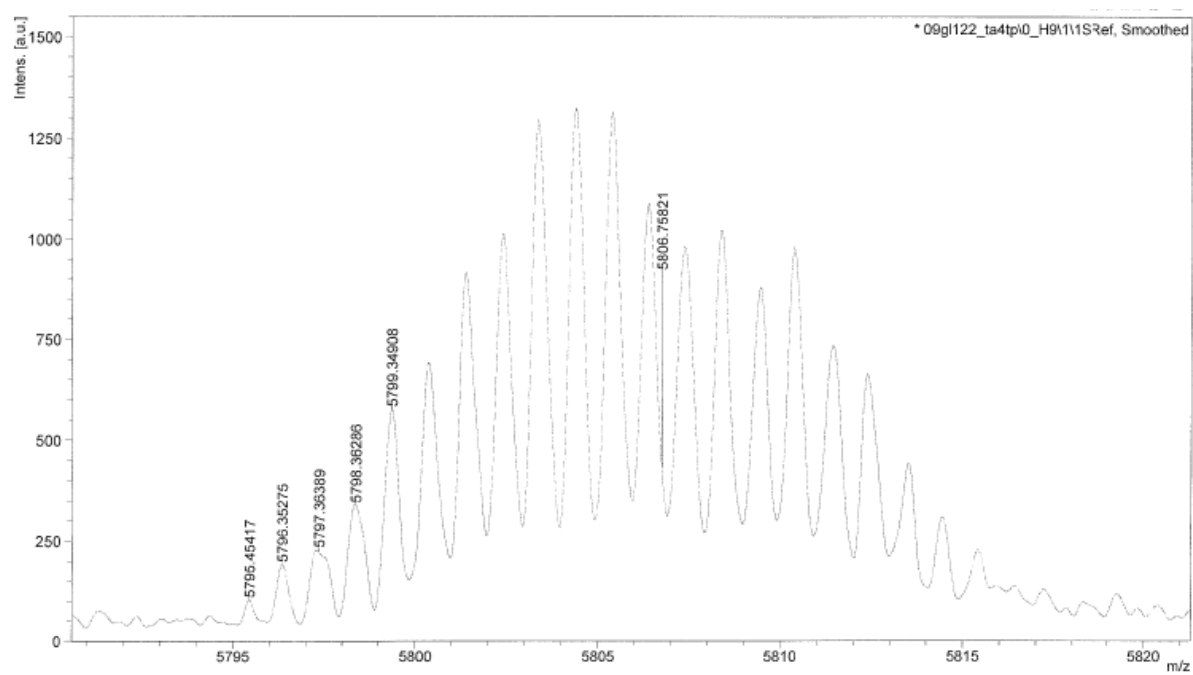


Figure S29: MALDI/TOF MS spectrum of compound **10a**

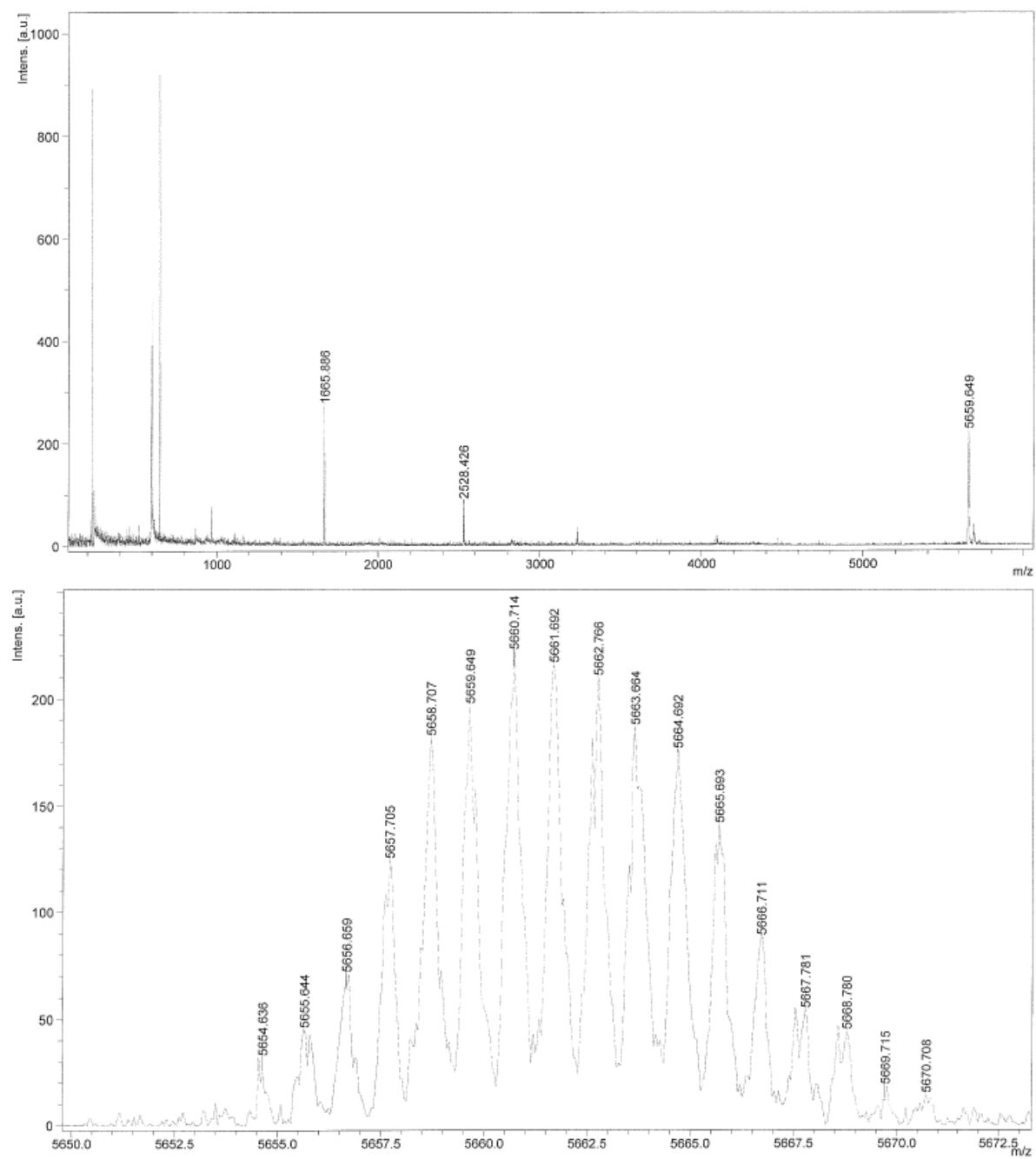


Figure S30: MALDI/TOF MS spectrum of compound **10b**

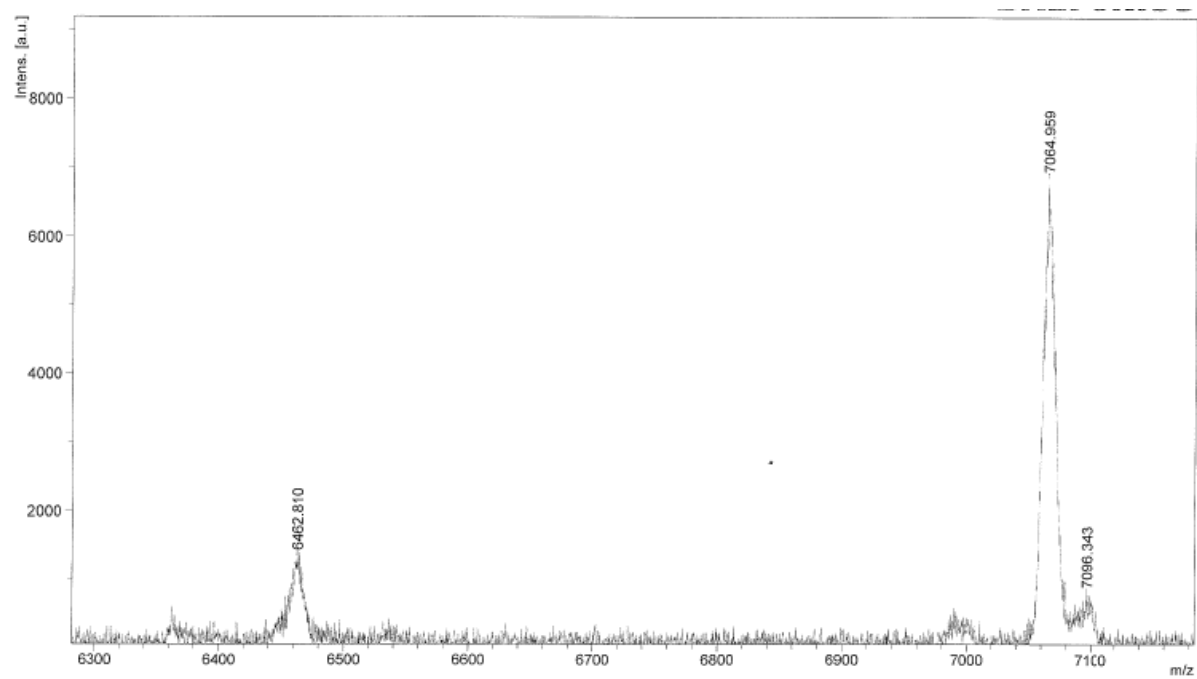
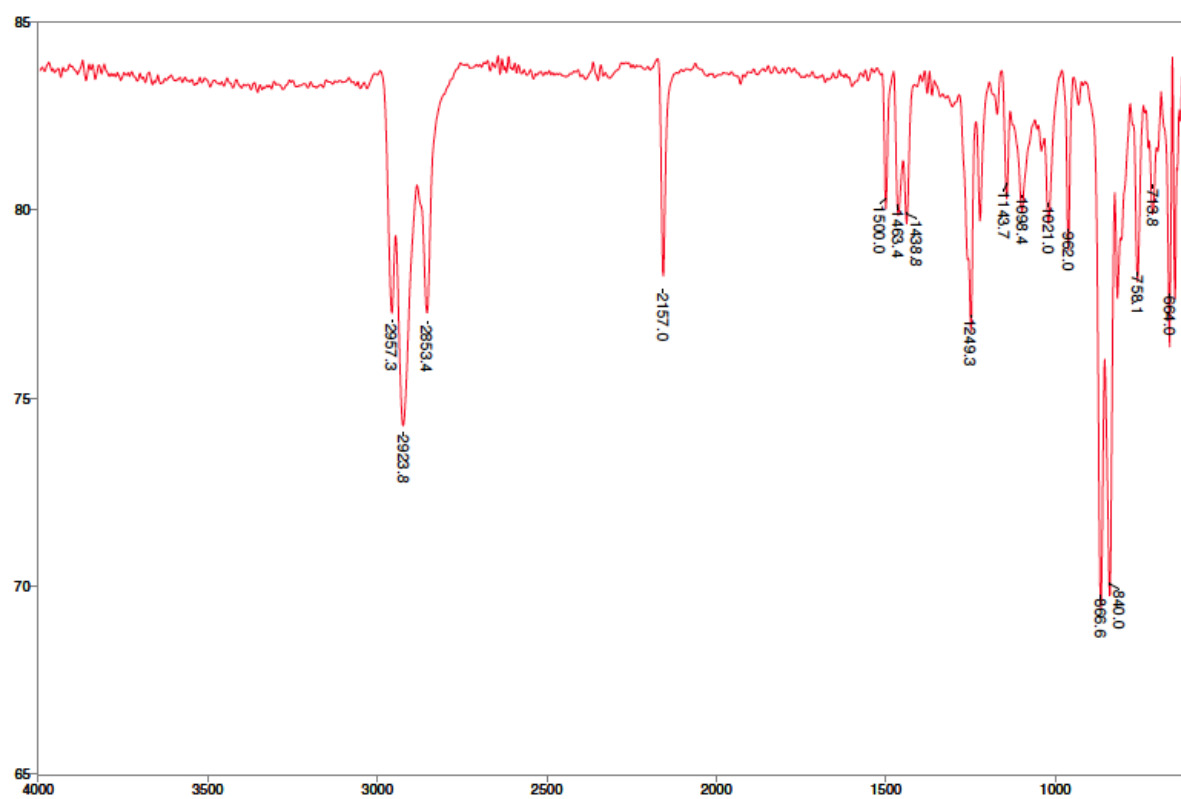
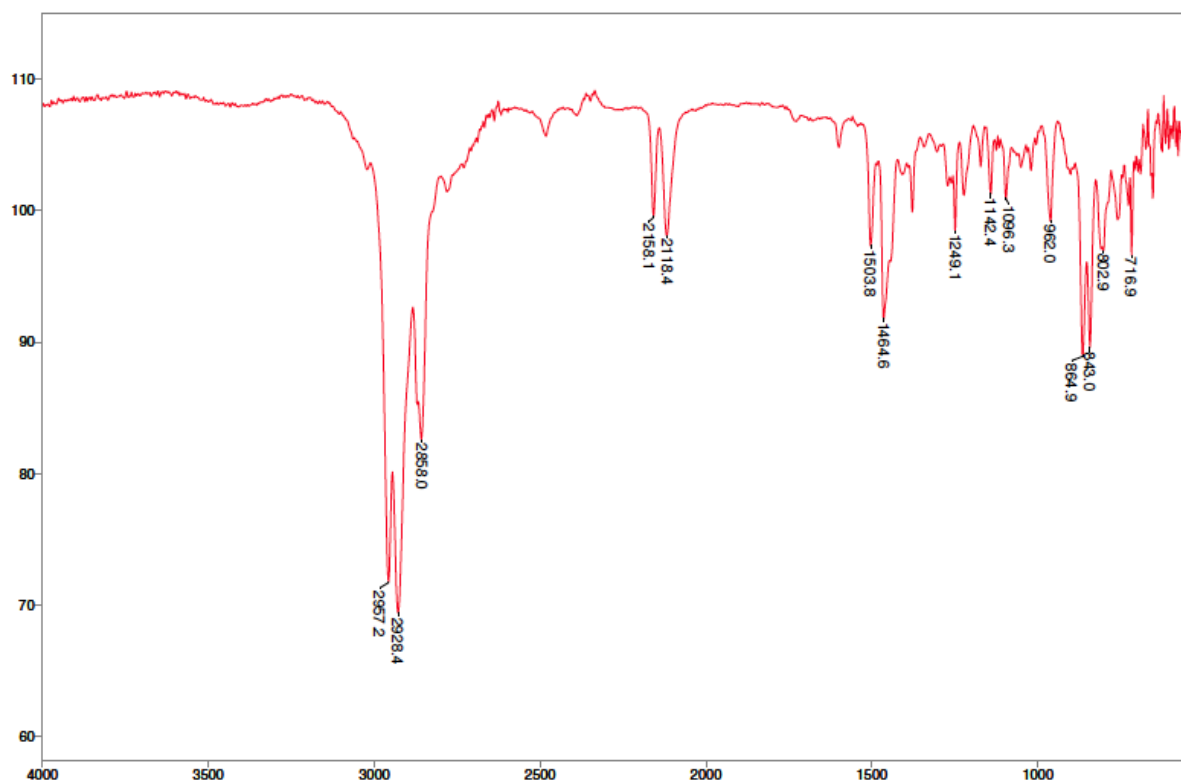


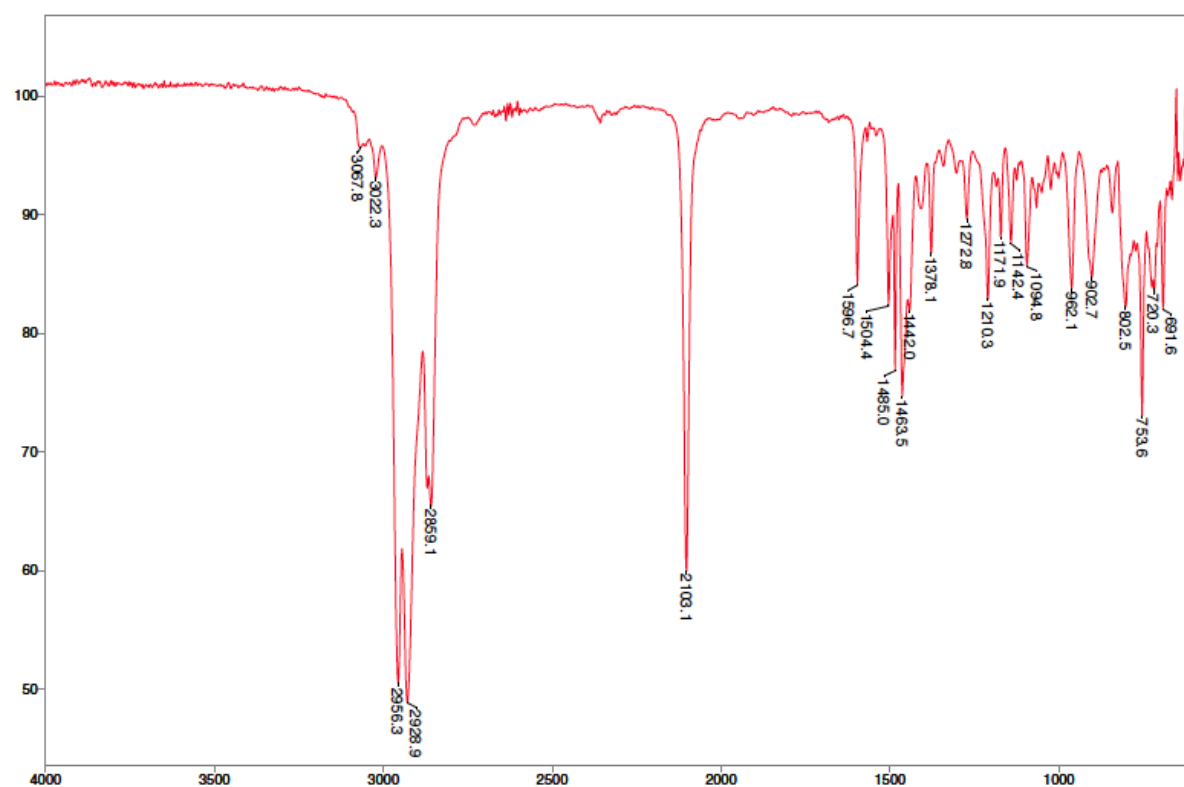
Figure S31: MALDI/TOF MS spectrum of compound **11**



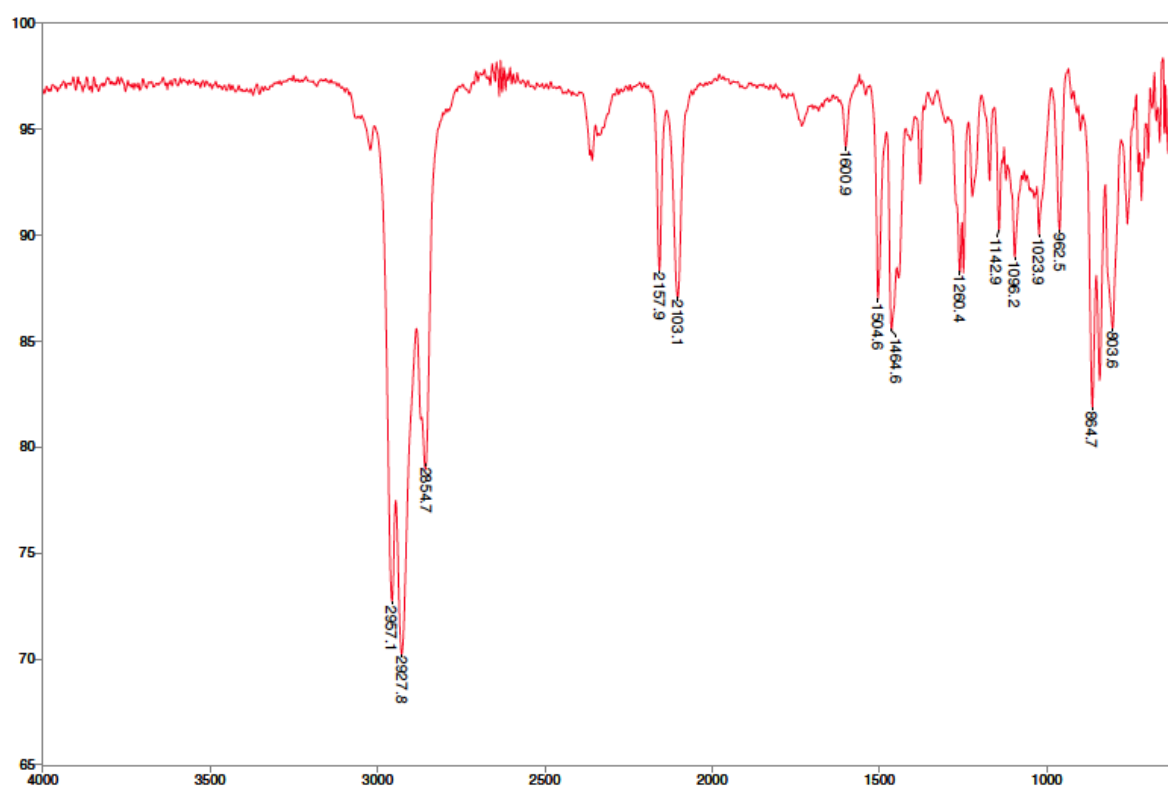
Figures S32: IR spectrum (KBr) of compound 1a.



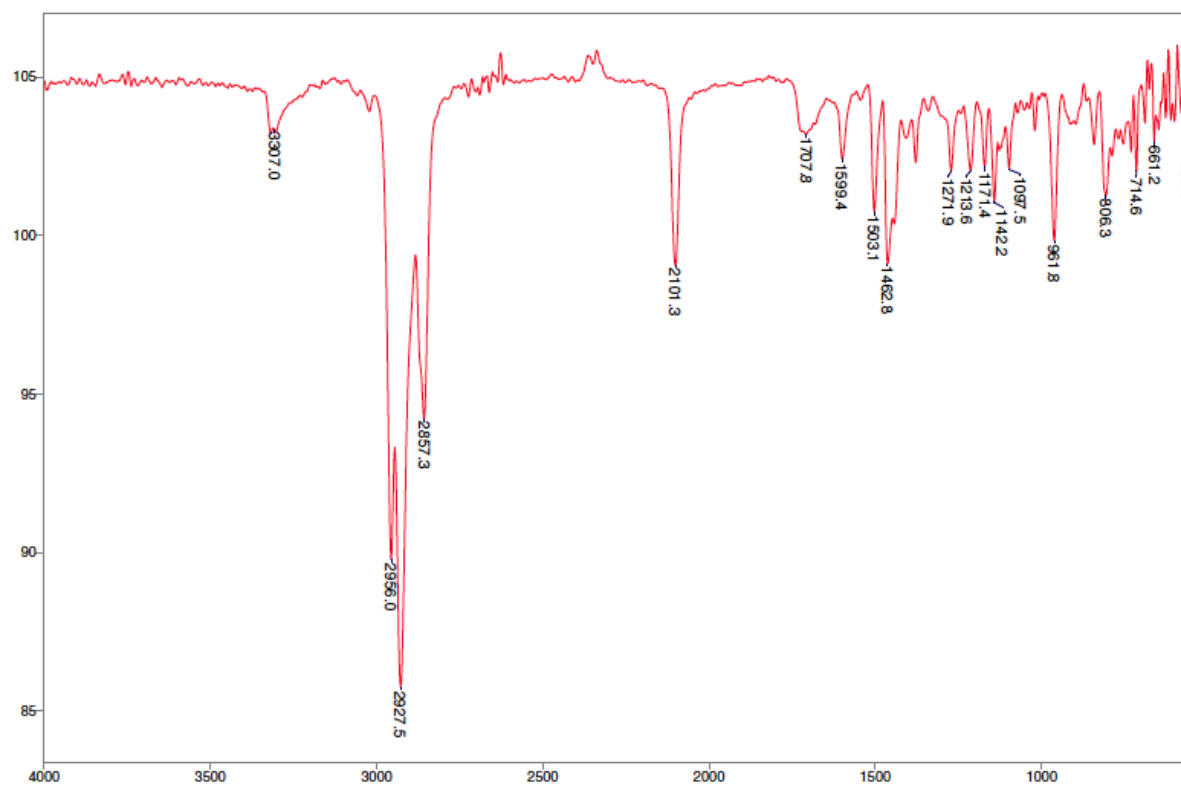
Figures S33: IR spectrum (KBr) of compound 3a.



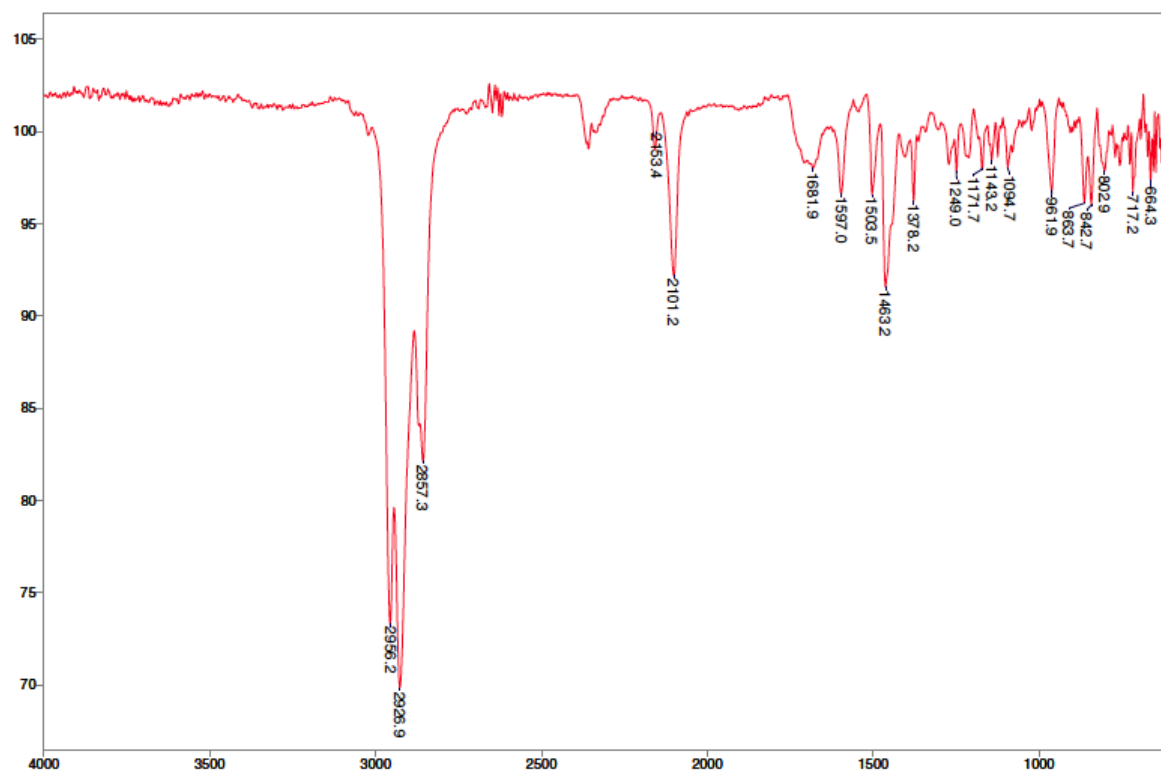
Figures S34: IR spectrum (KBr) of compound 4.



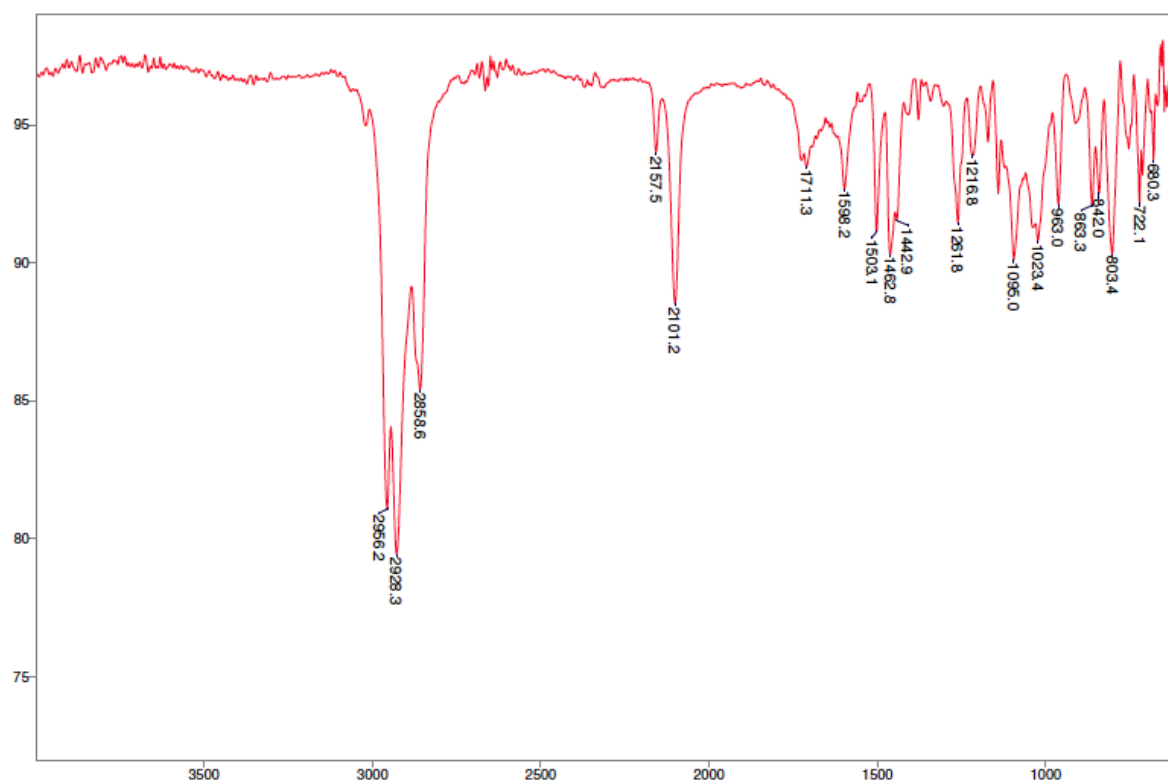
Figures S35: IR spectrum (KBr) of compound 5a.



Figures S36: IR spectrum (KBr pellets) of compound **5b**.



Figures S37: IR spectrum (KBr) of compound **7a**.



Figures S38: IR spectrum (KBr) of compound **10a**.