

Supporting Information

Cationic pyrrolidine/pyrroline-substituted porphyrins as efficient photosensitizers against *E. coli*

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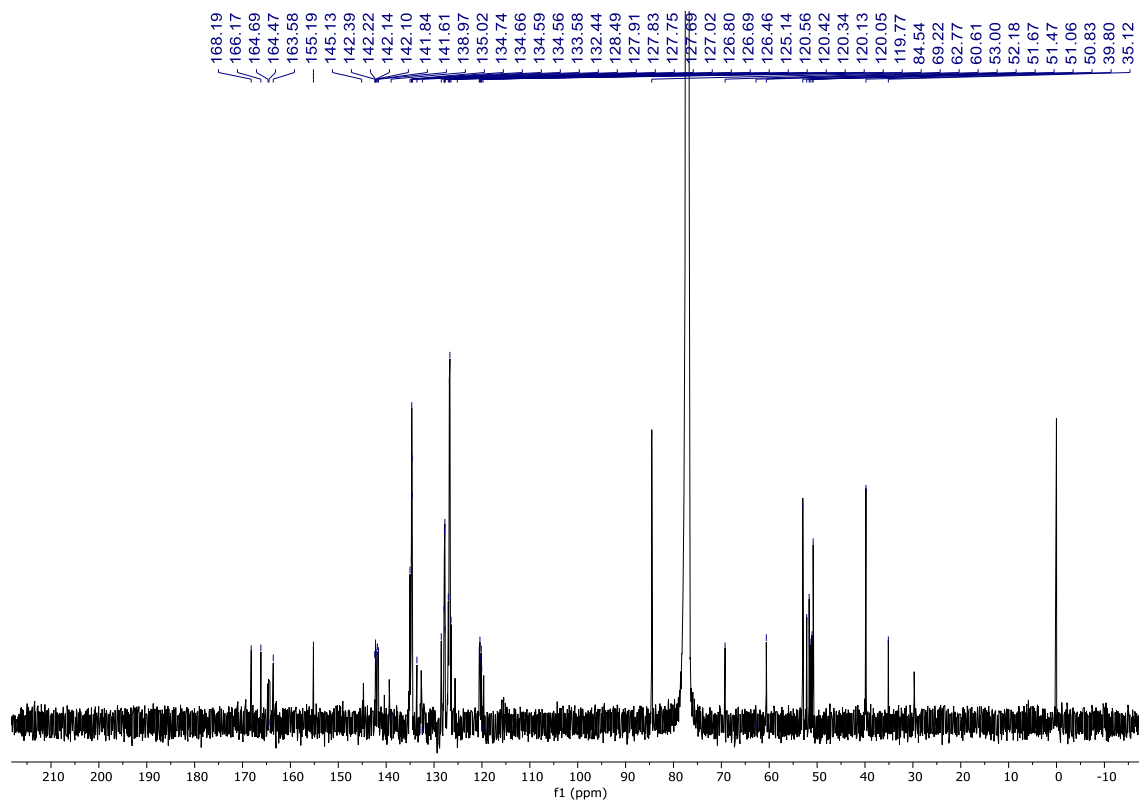
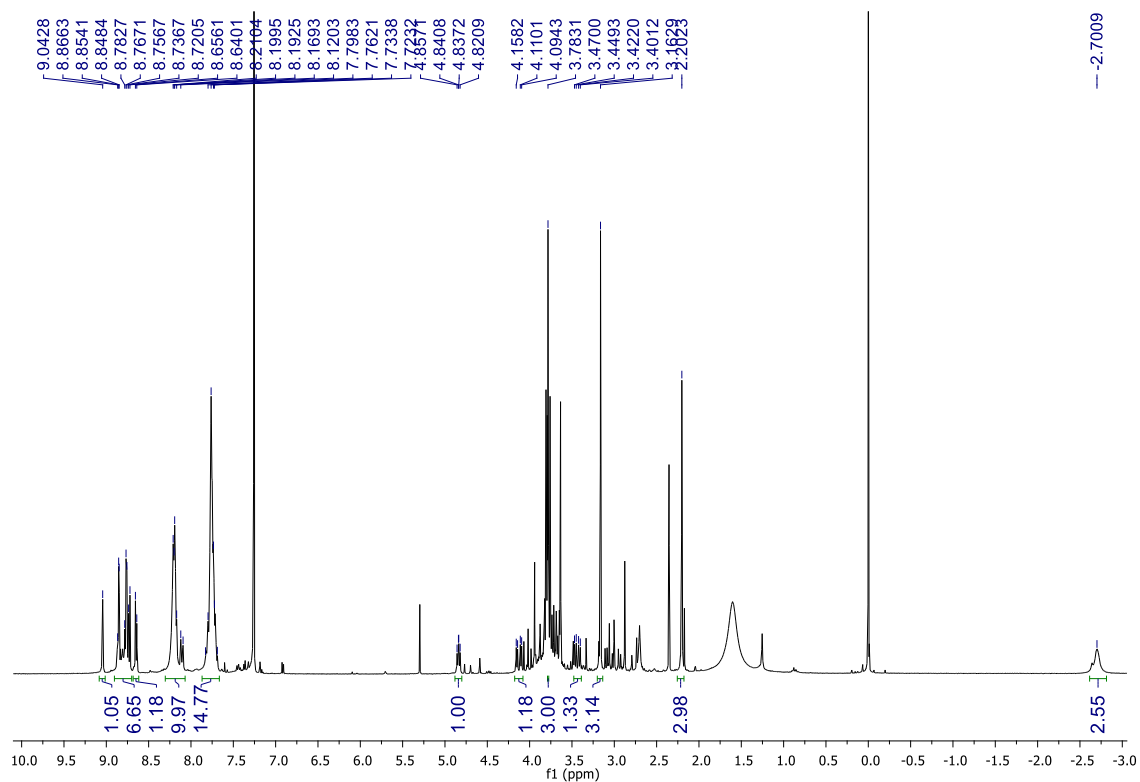
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T: FTMS + p ESI Full ms [400.0000-900.0000]

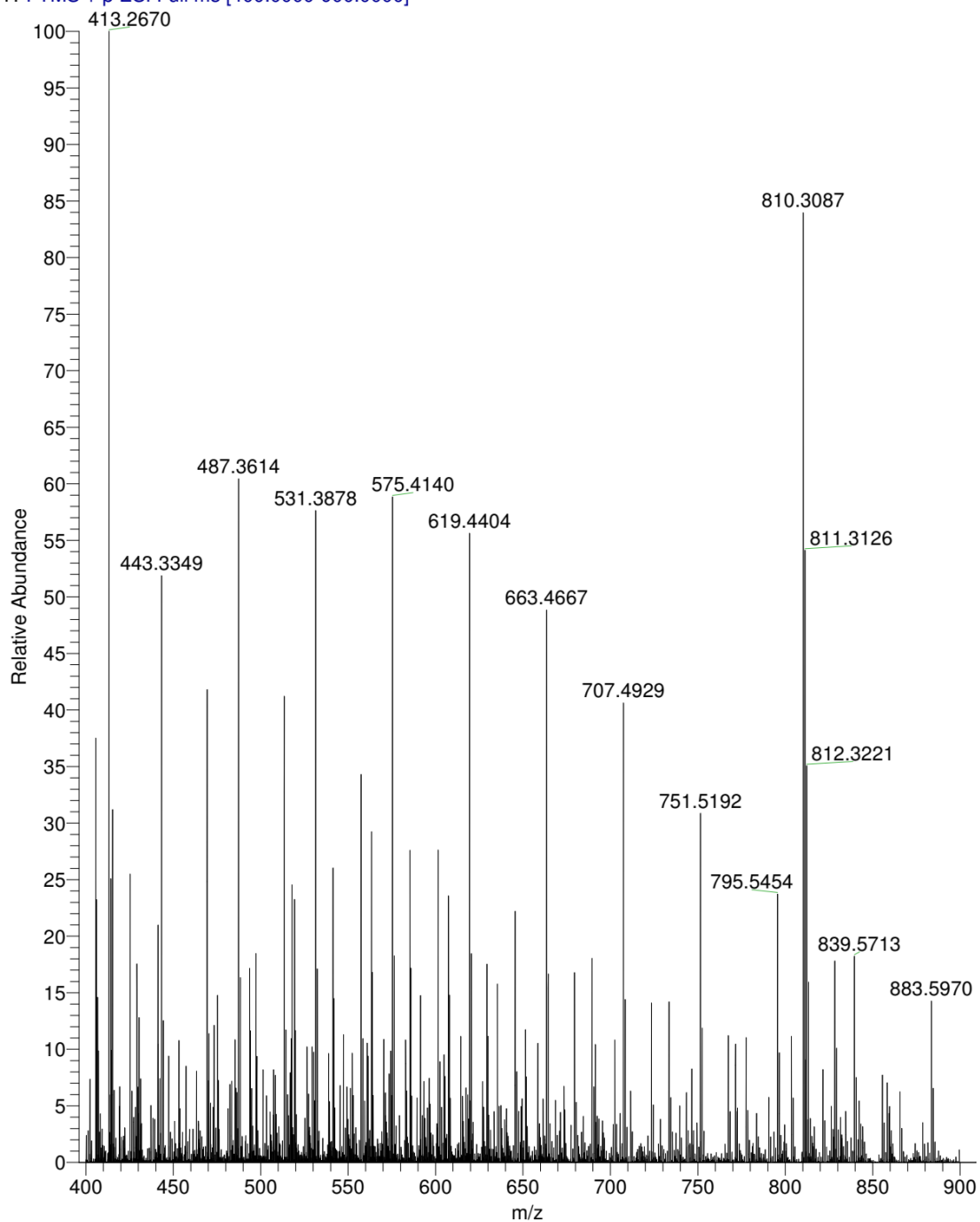


Figure S3. HRMS-ESI(+) spectrum of compound 2.

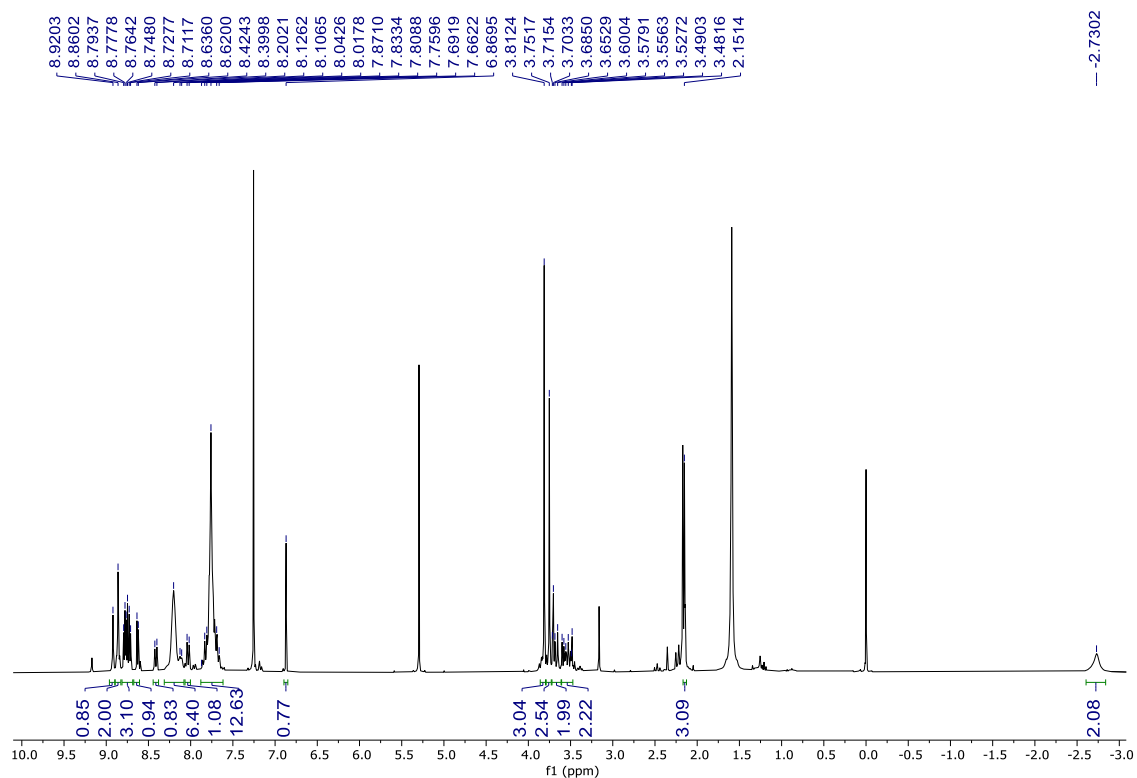


Figure S4. ¹H NMR spectrum of compound **3** in CDCl₃.

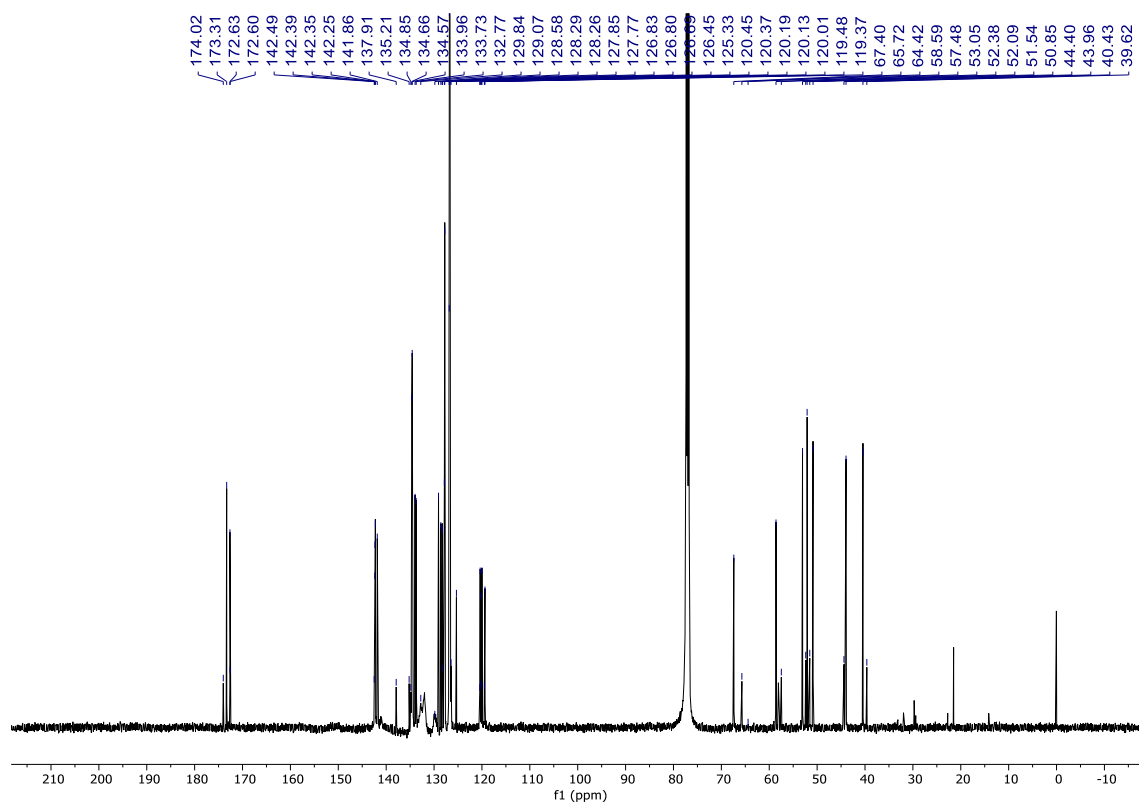


Figure S5. ¹³C NMR spectrum of compound **3** in CDCl₃.

T: FTMS + p ESI Full ms [400.0000-900.0000]

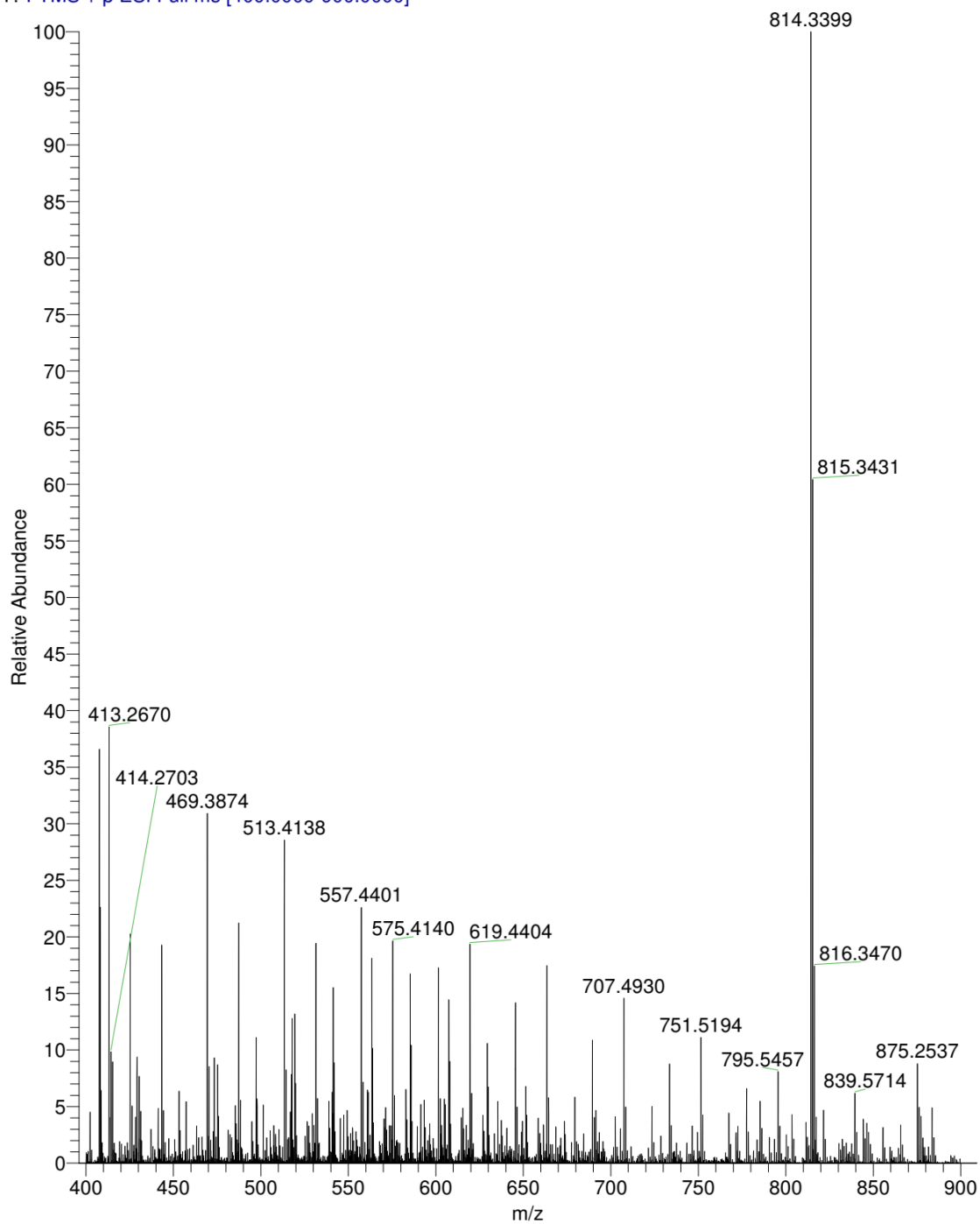


Figure S6. HRMS-ESI(+) spectrum of compound **3**.

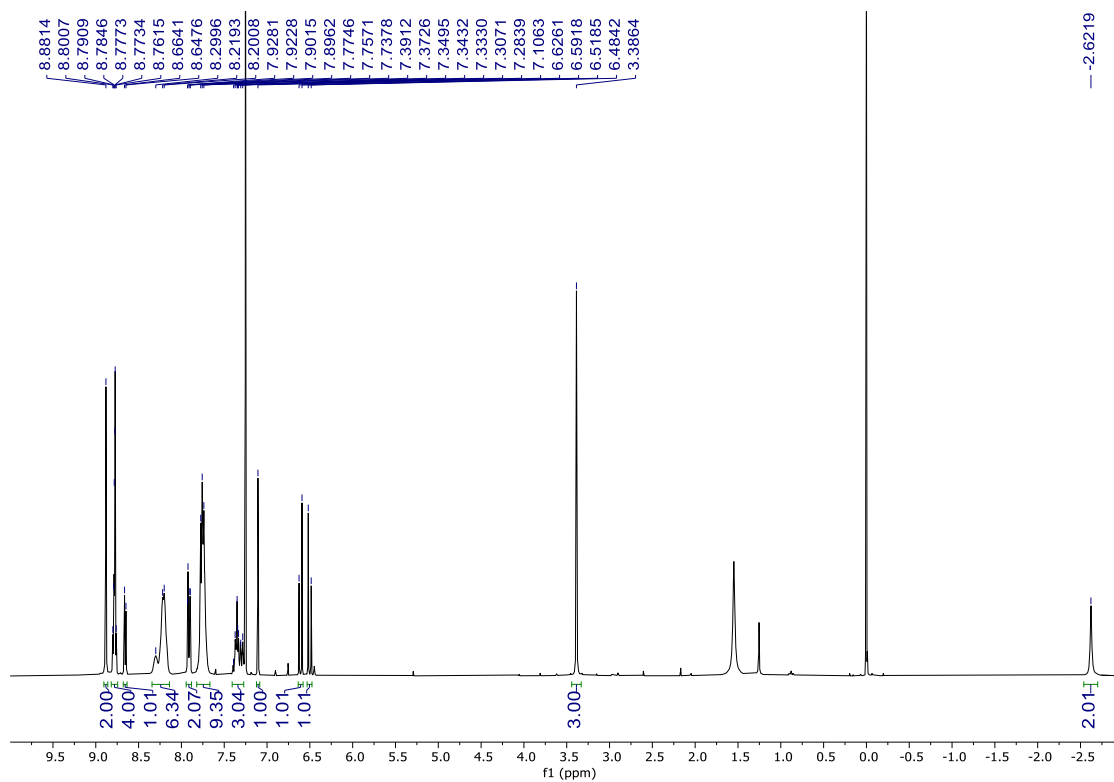


Figure S7. ¹H NMR spectrum of compound **4** in CDCl₃.

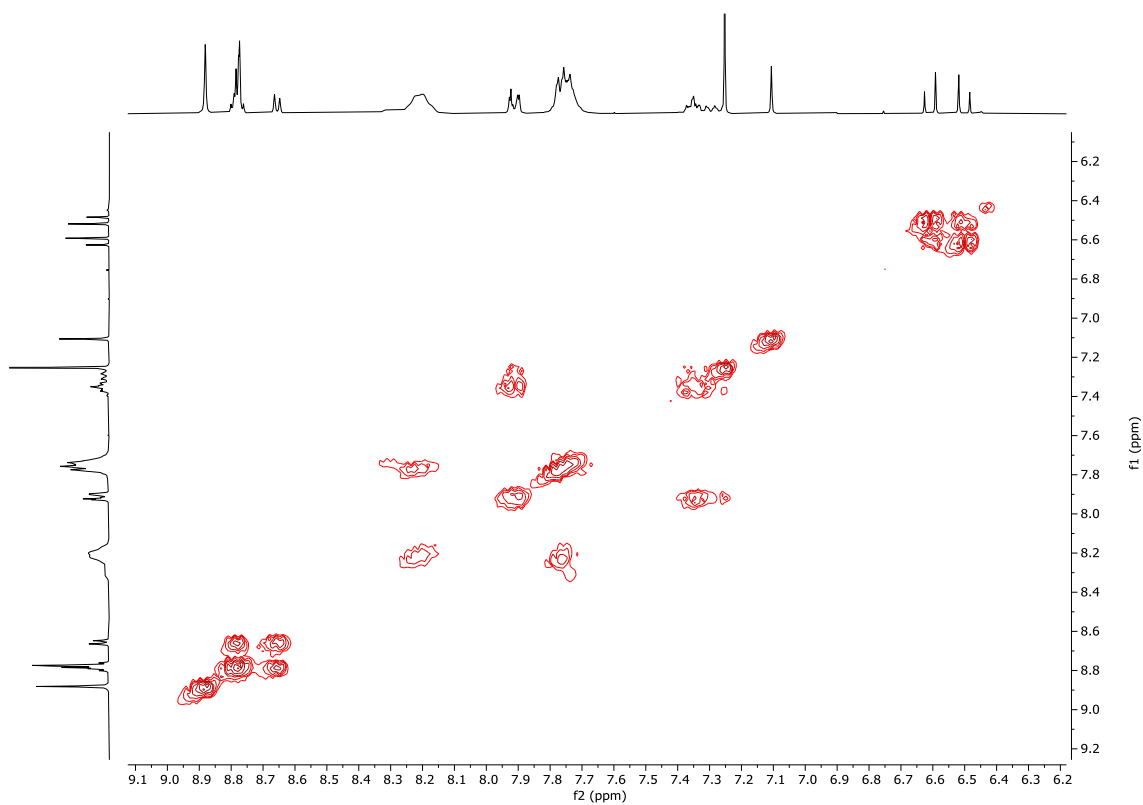


Figure S8. Partial COSY ¹H/¹H NMR spectrum of compound **4** in CDCl₃.

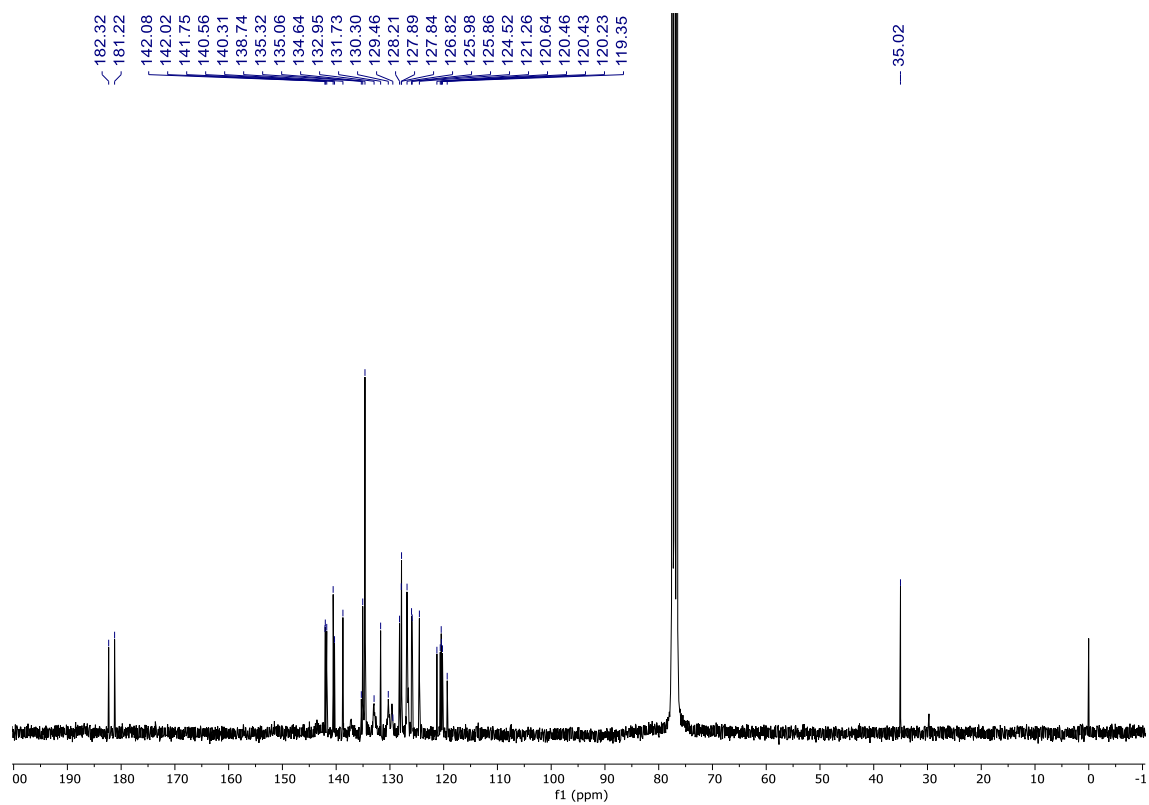


Figure S9. ¹³C NMR spectrum of compound **4** in CDCl₃.

T: FTMS + p ESI Full ms [400.0000-900.0000]

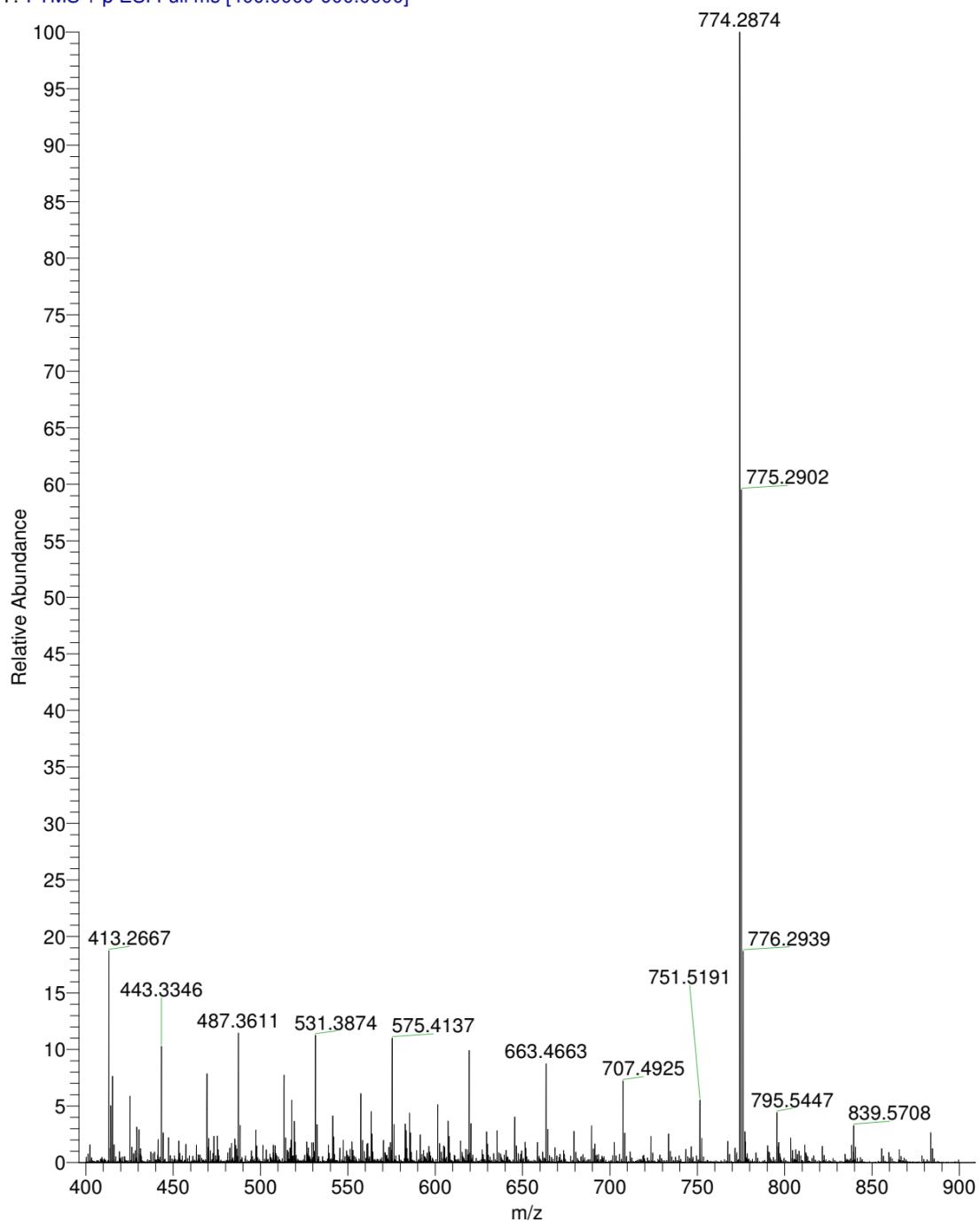


Figure S10. HRMS-ESI(+) spectrum of compound **4**.

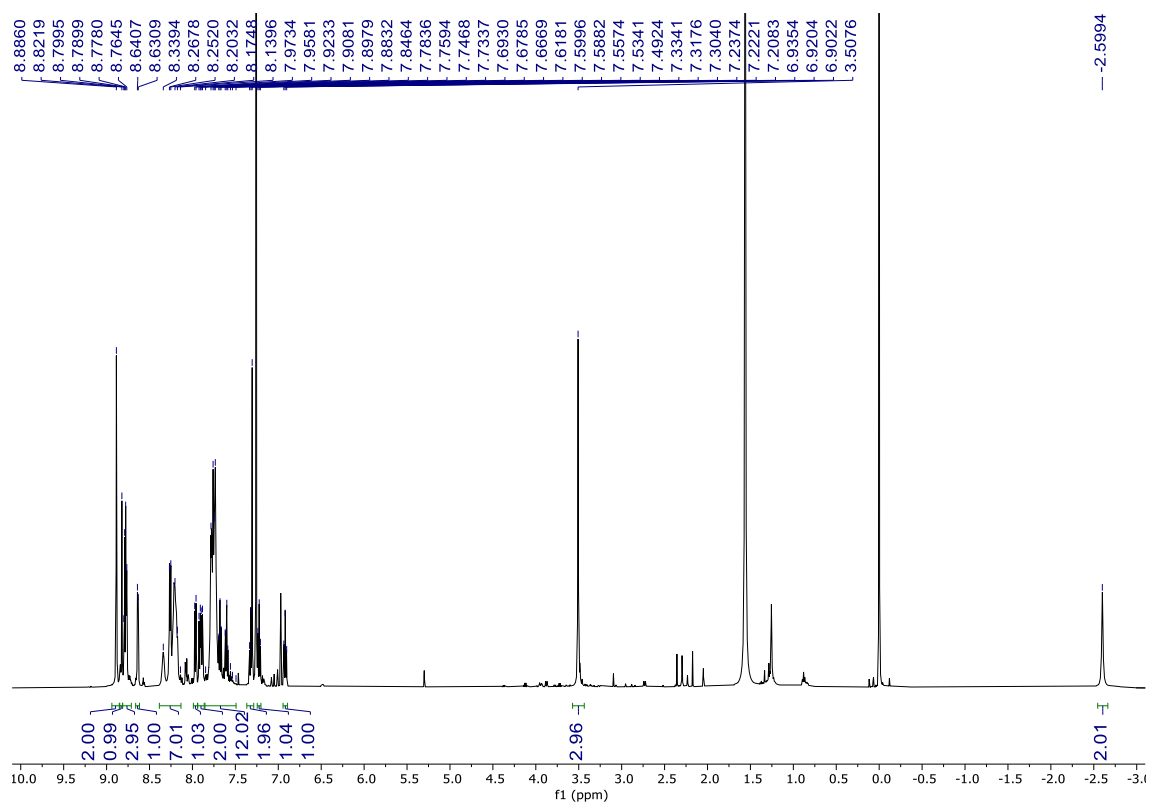


Figure S11. ^1H NMR spectrum of compound **5a** in CDCl_3 .

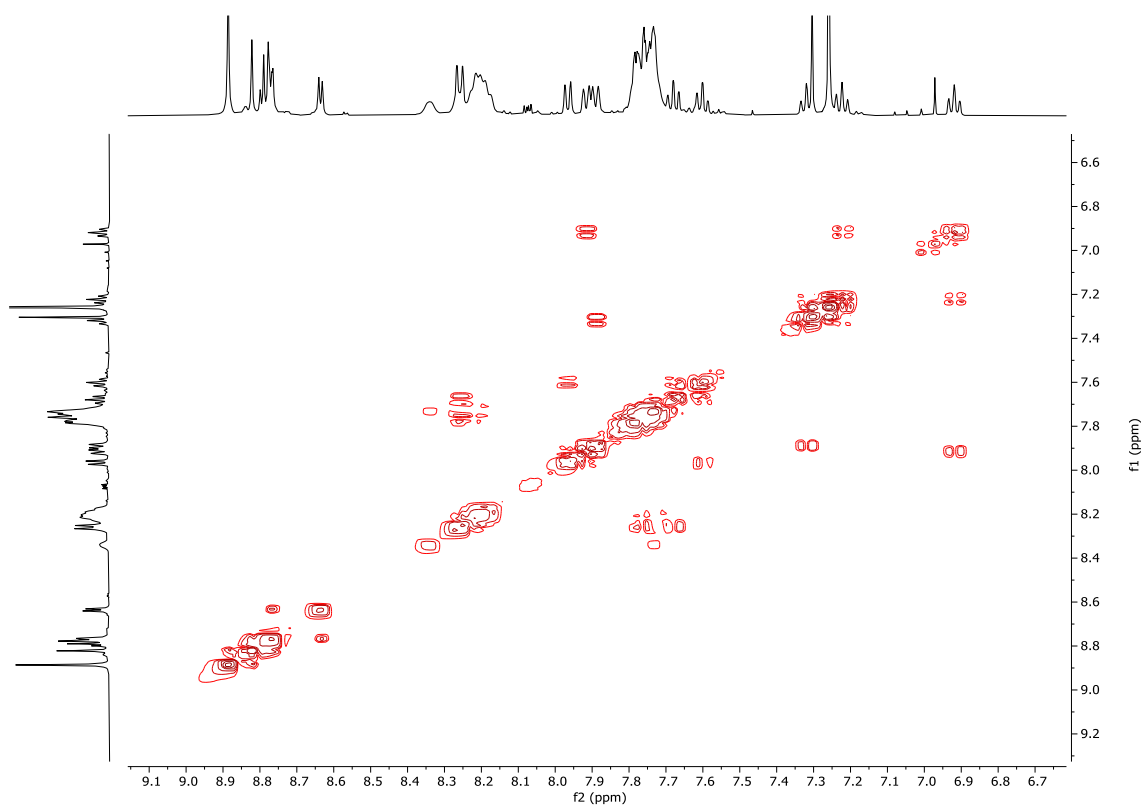


Figure S12. Partial COSY $^1\text{H}/^1\text{H}$ NMR spectrum of compound **5a** in CDCl_3 .

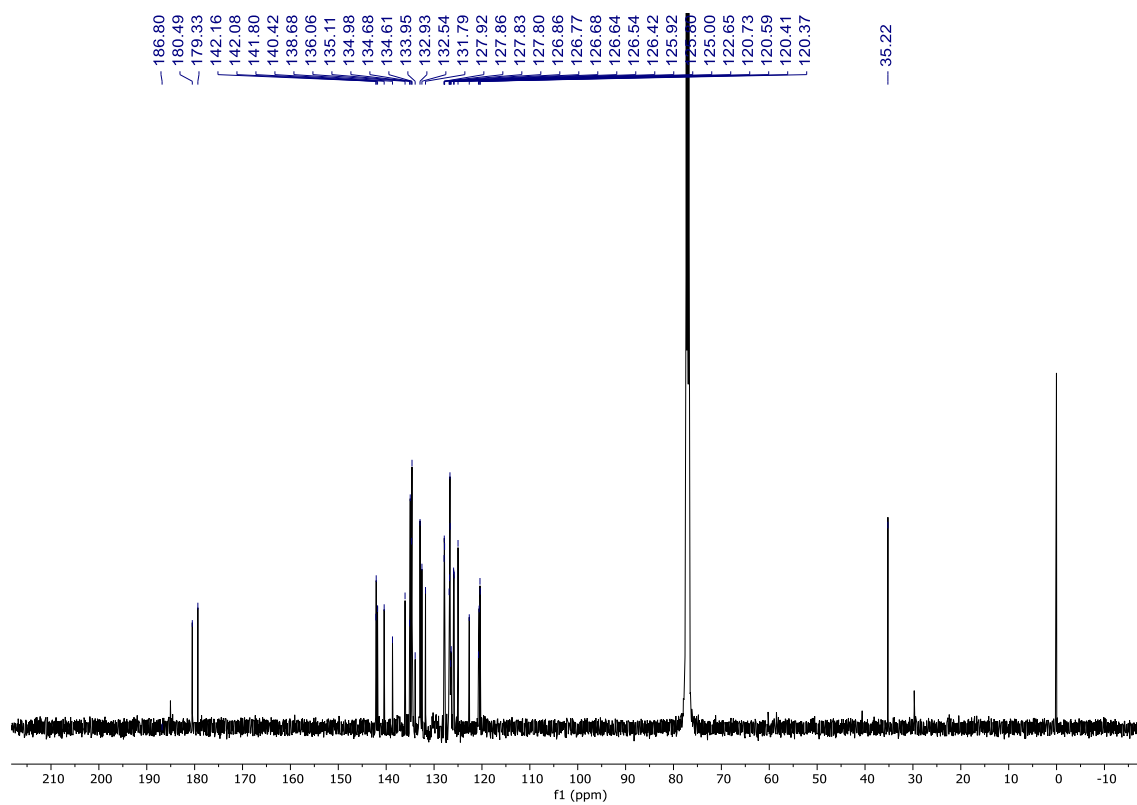


Figure S13. ¹³C NMR spectrum of compound **5a** in CDCl₃.

T: FTMS + p ESI Full ms [400.0000-900.0000]

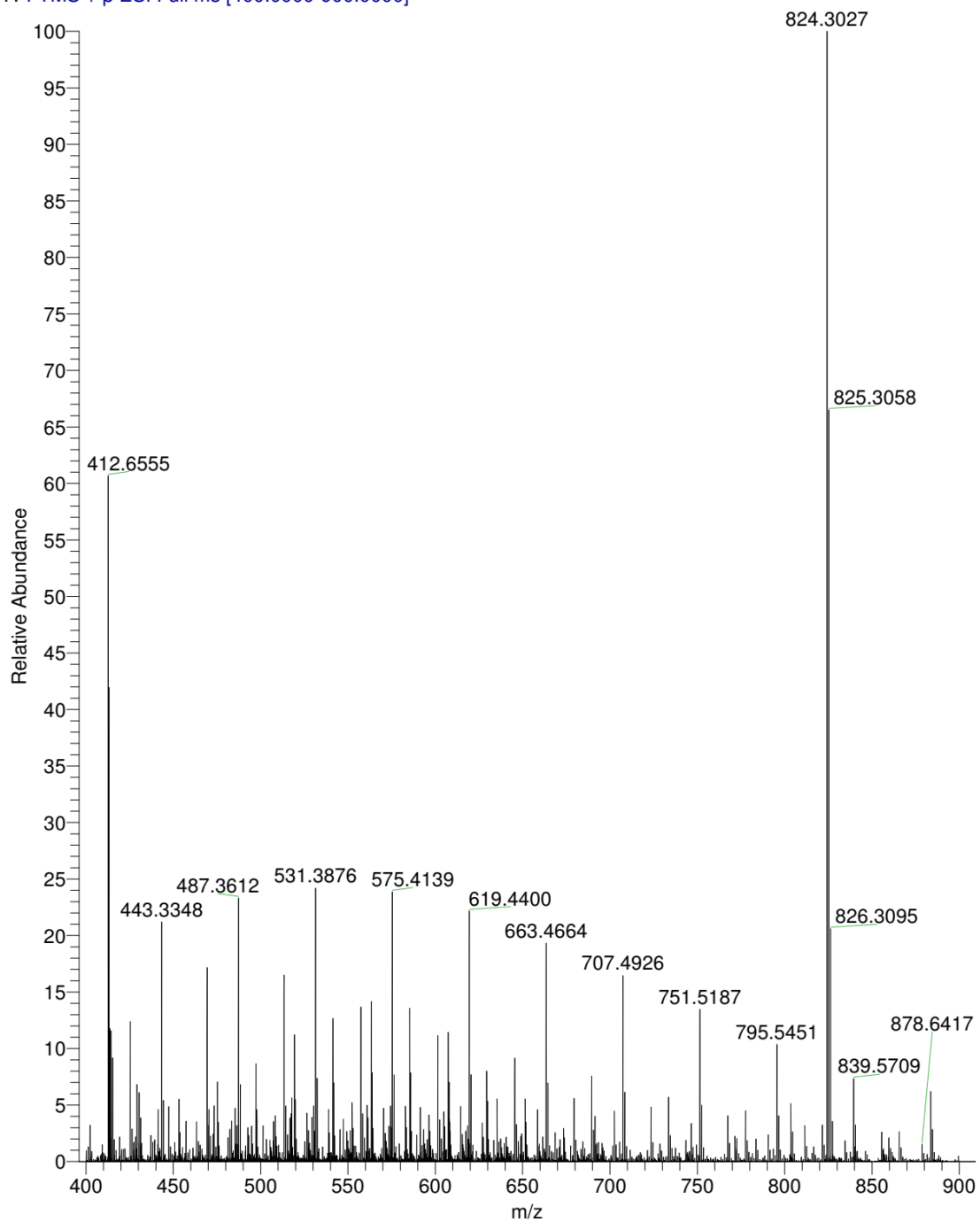


Figure S14. HRMS-ESI(+) spectrum of compound **5a**.

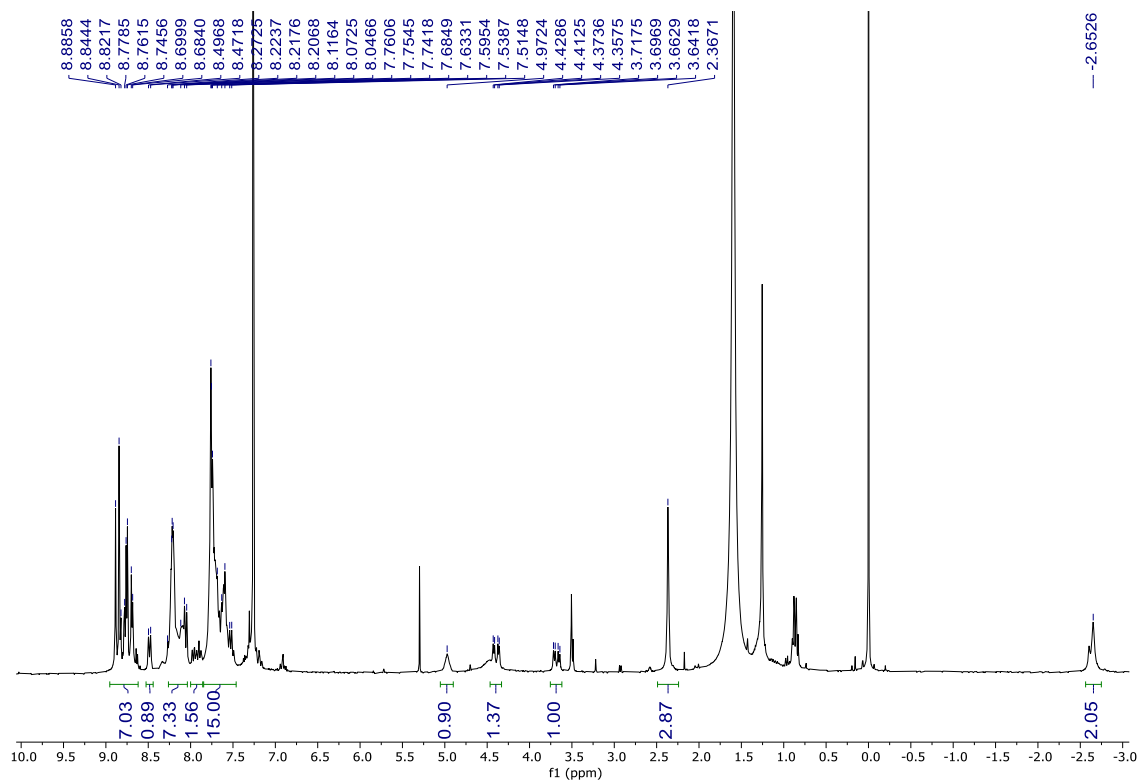


Figure S15. ^1H NMR spectrum of compound **5b** in CDCl_3 .

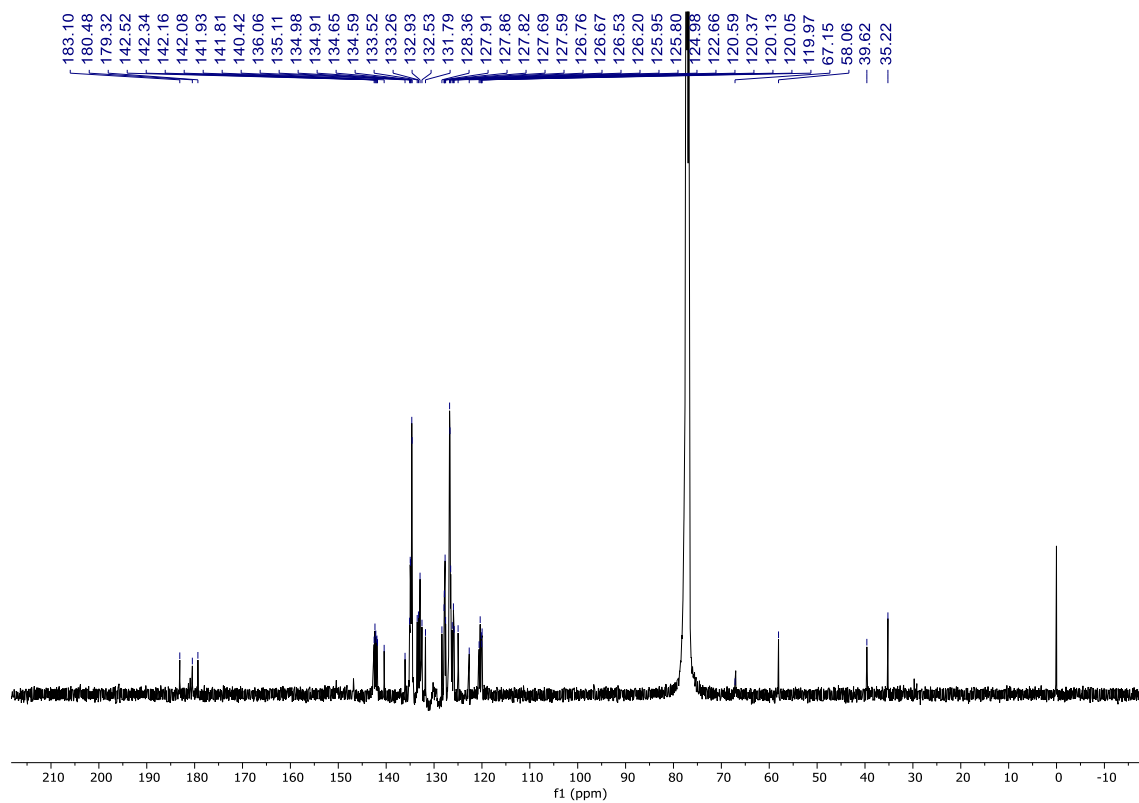


Figure S16. ^{13}C NMR spectrum of compound **5b** in CDCl_3 .

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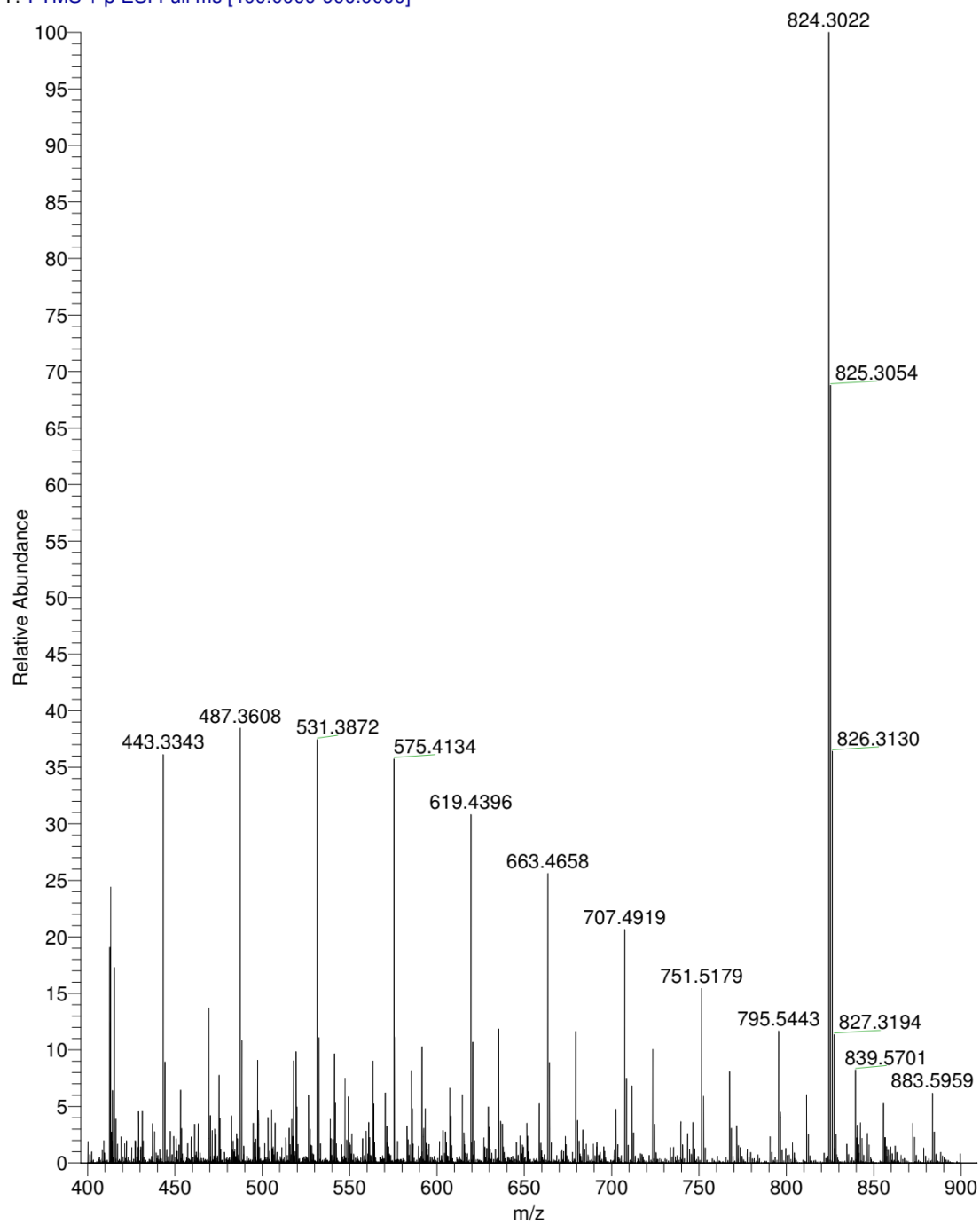


Figure S17. MS-ESI(+) spectrum of compound **5b**.

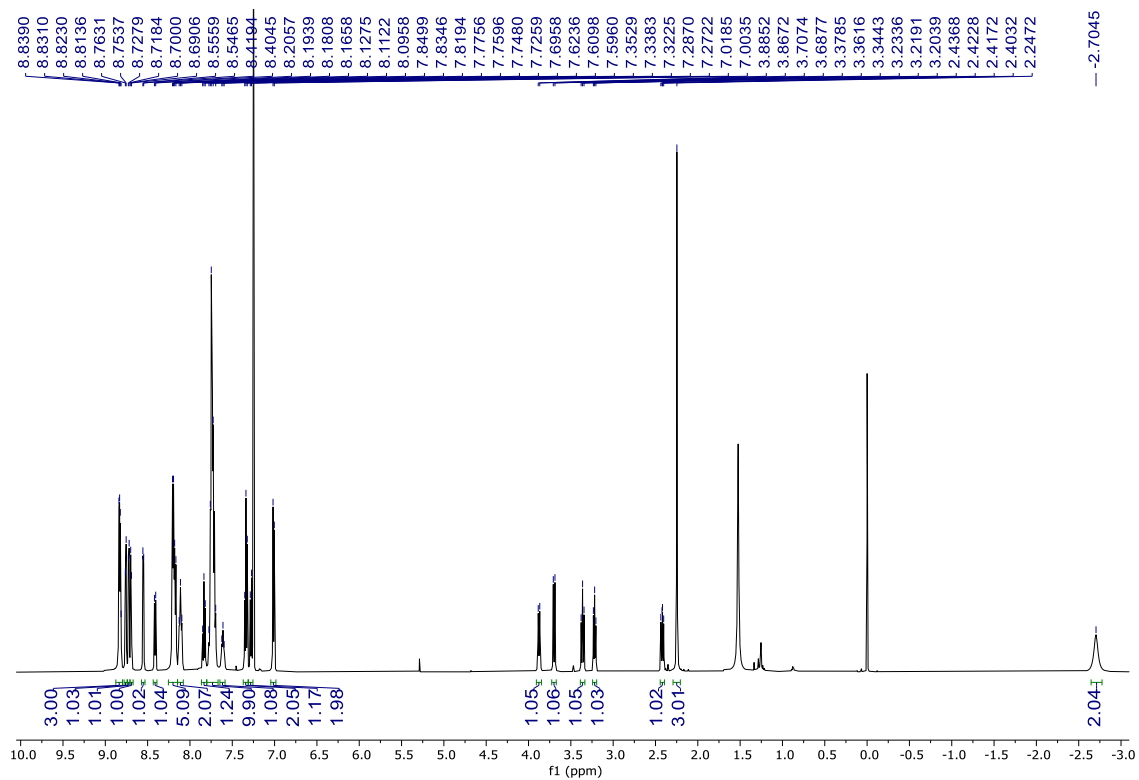


Figure S18. ¹H NMR spectrum of compound **6a** in CDCl₃.

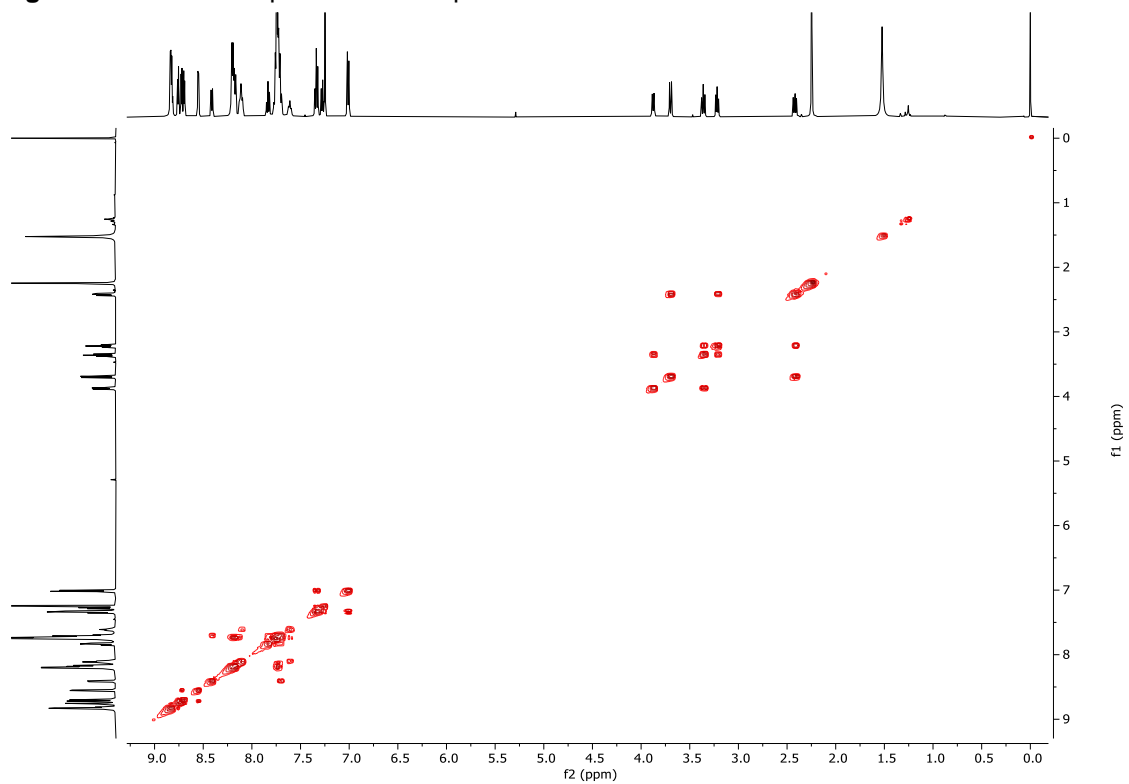


Figure S19. Partial COSY ¹H/¹H NMR spectrum of compound **6a** in CDCl₃.

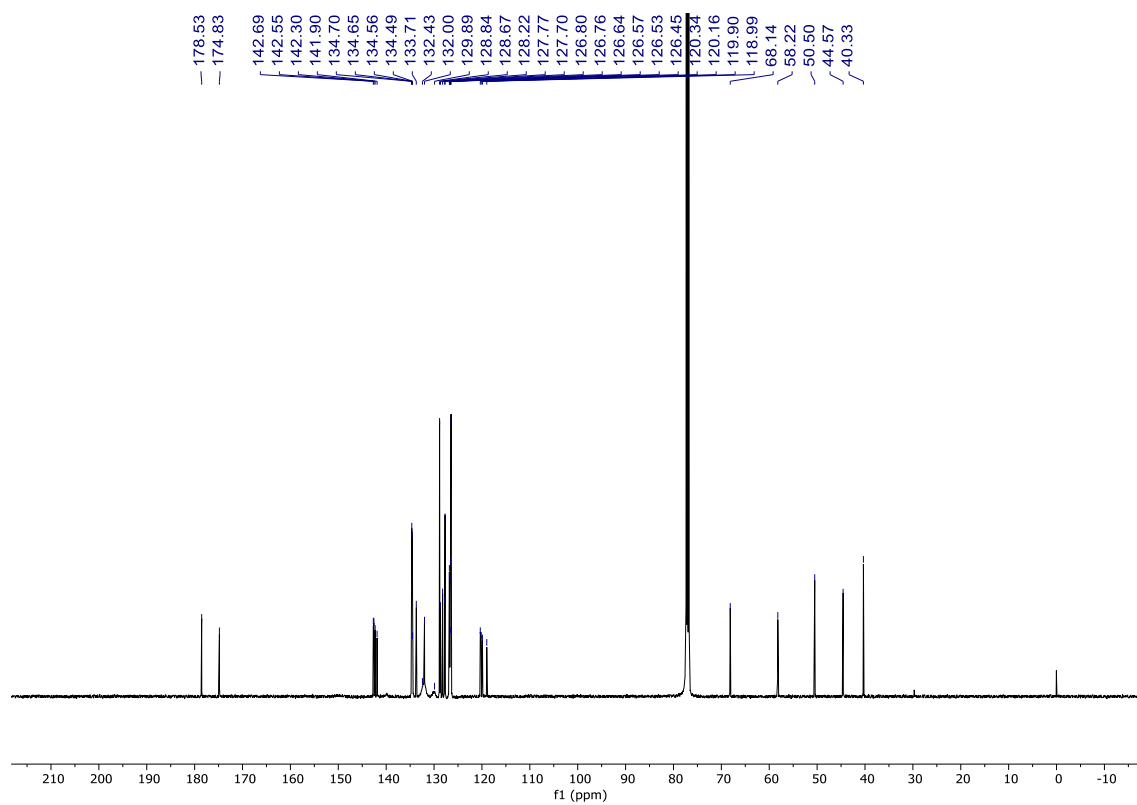


Figure S20. ¹³C NMR spectrum of compound **6a** in CDCl₃.

T: FTMS + p ESI Full ms [400.0000-900.0000]

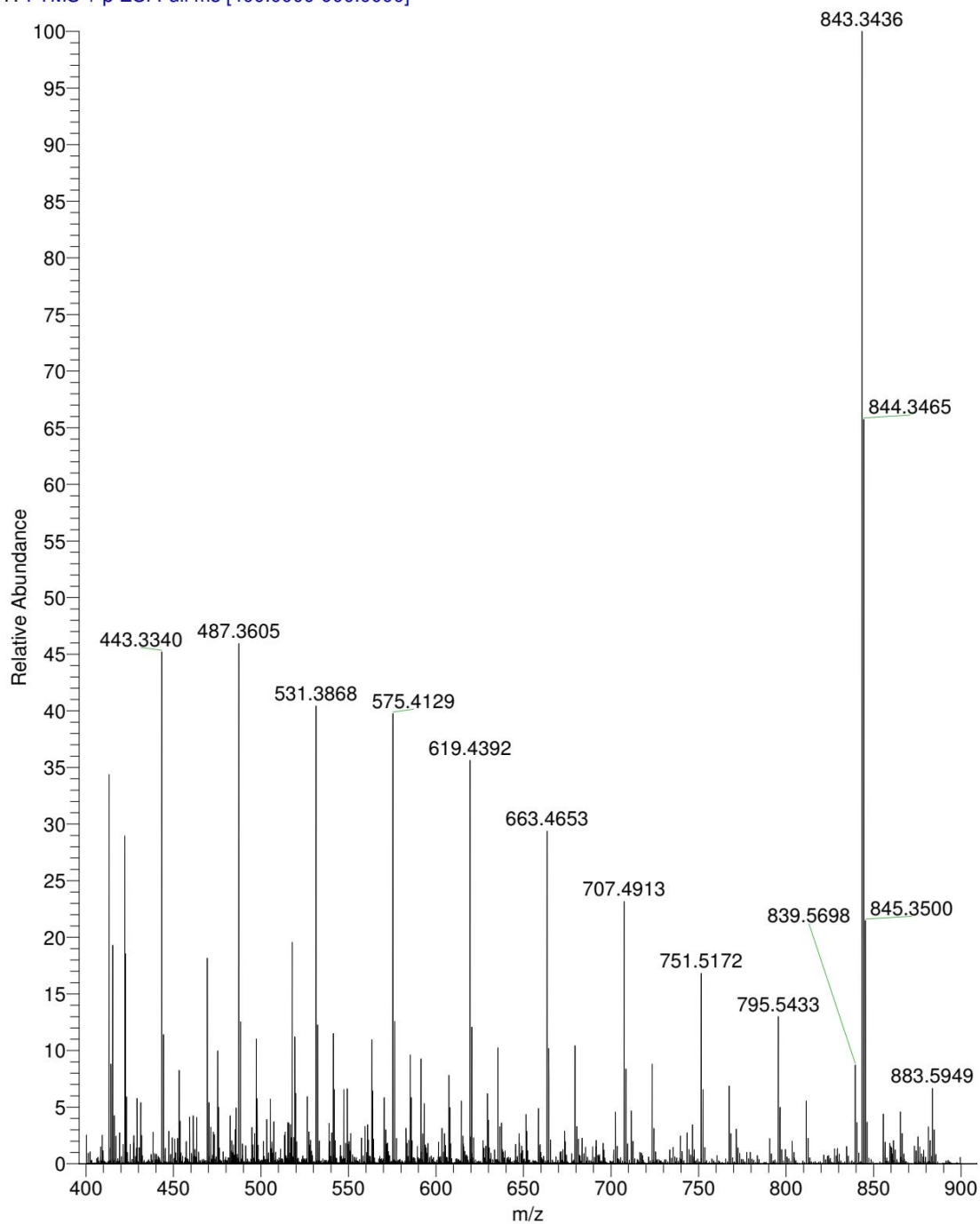


Figure S21. HRMS-ESI(+) spectrum of compound **6a**.

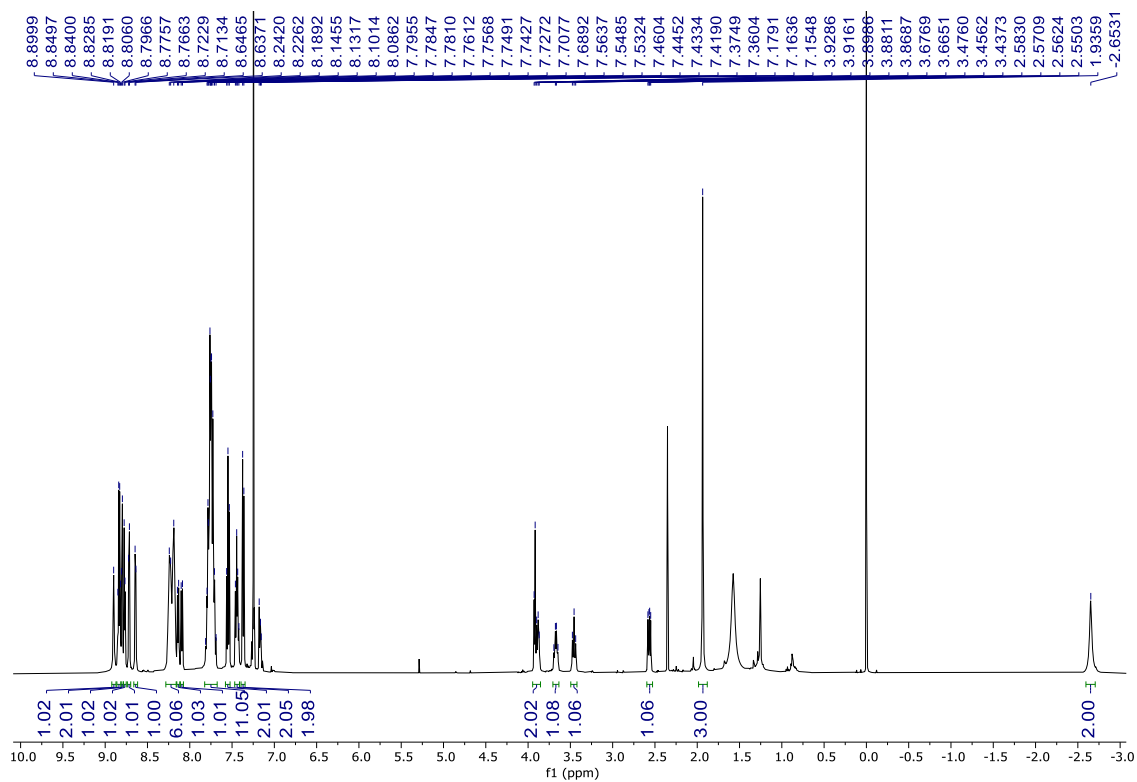


Figure S22. ¹H NMR spectrum of compound **6b** in CDCl₃.

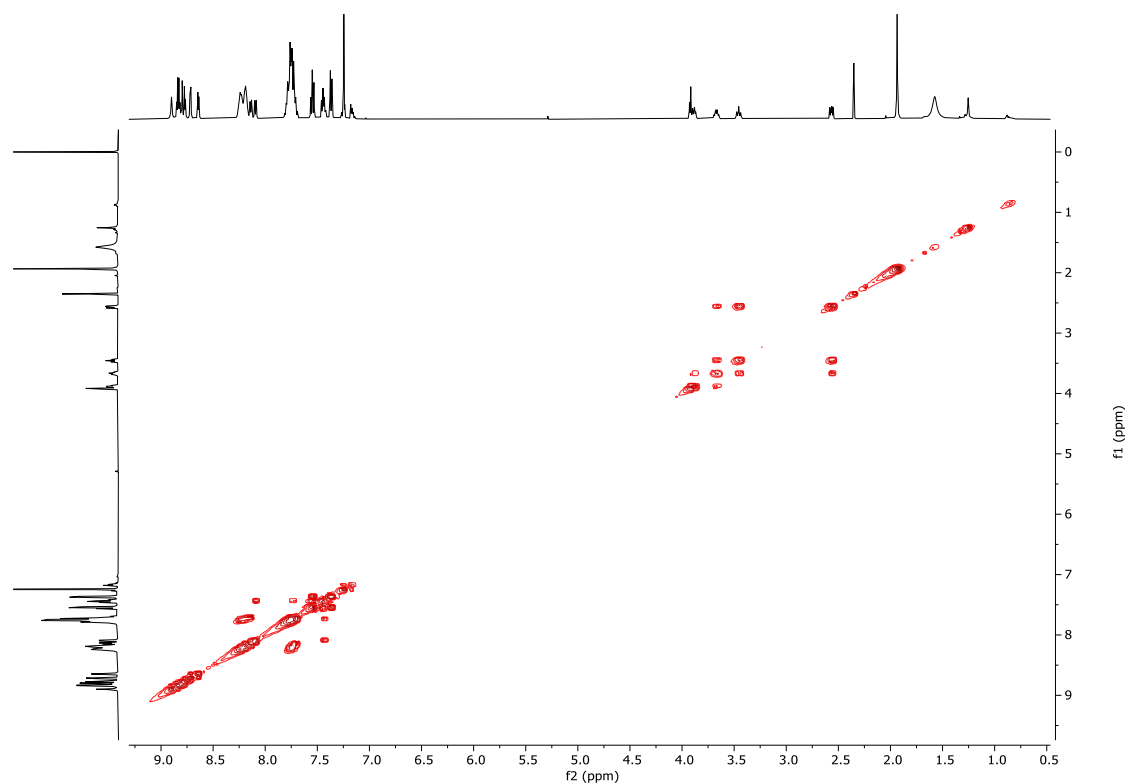


Figure S23. Partial COSY ¹H/¹H NMR spectrum of compound **6b** in CDCl₃.

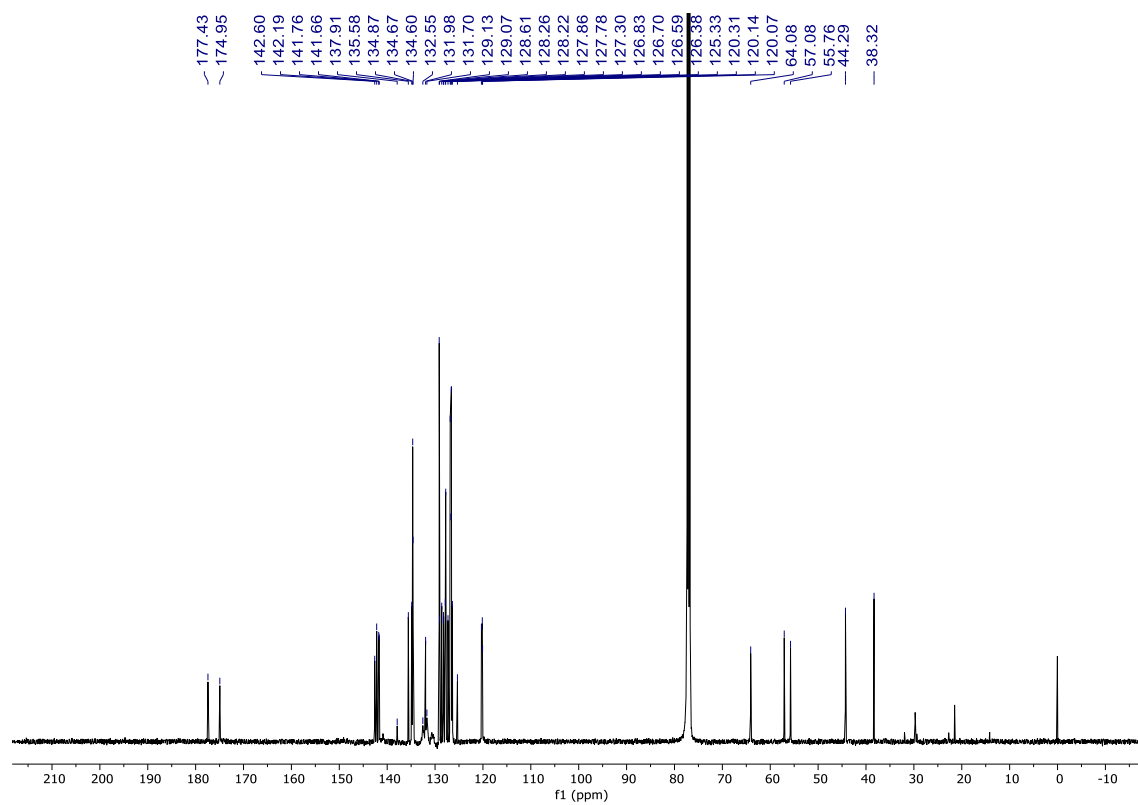


Figure S24. ¹³C NMR spectrum of compound **6b** in CDCl₃.

T: FTMS + p ESI Full ms [400.0000-900.0000]

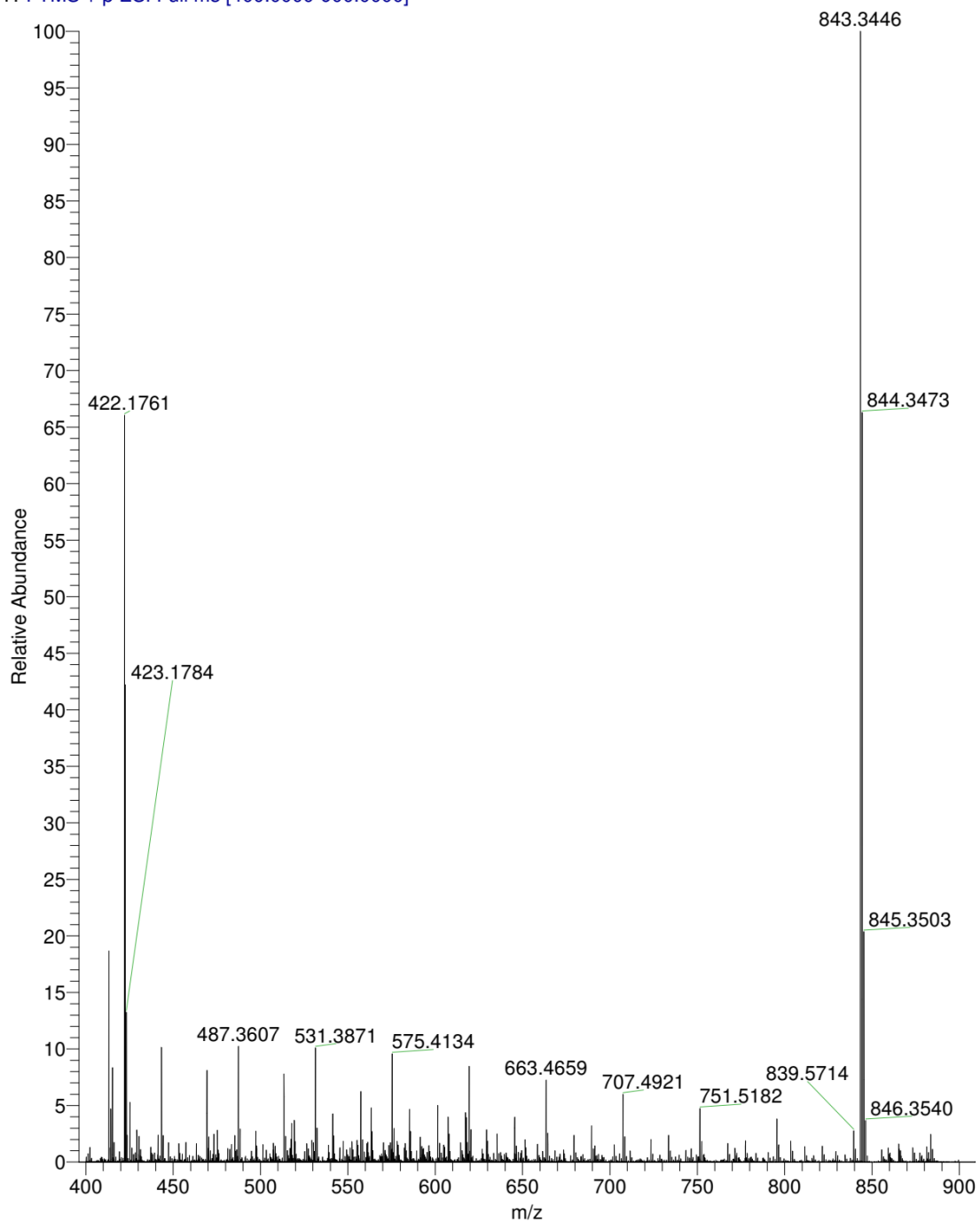


Figure S25. HRMS-ESI(+) spectrum of compound 6b.

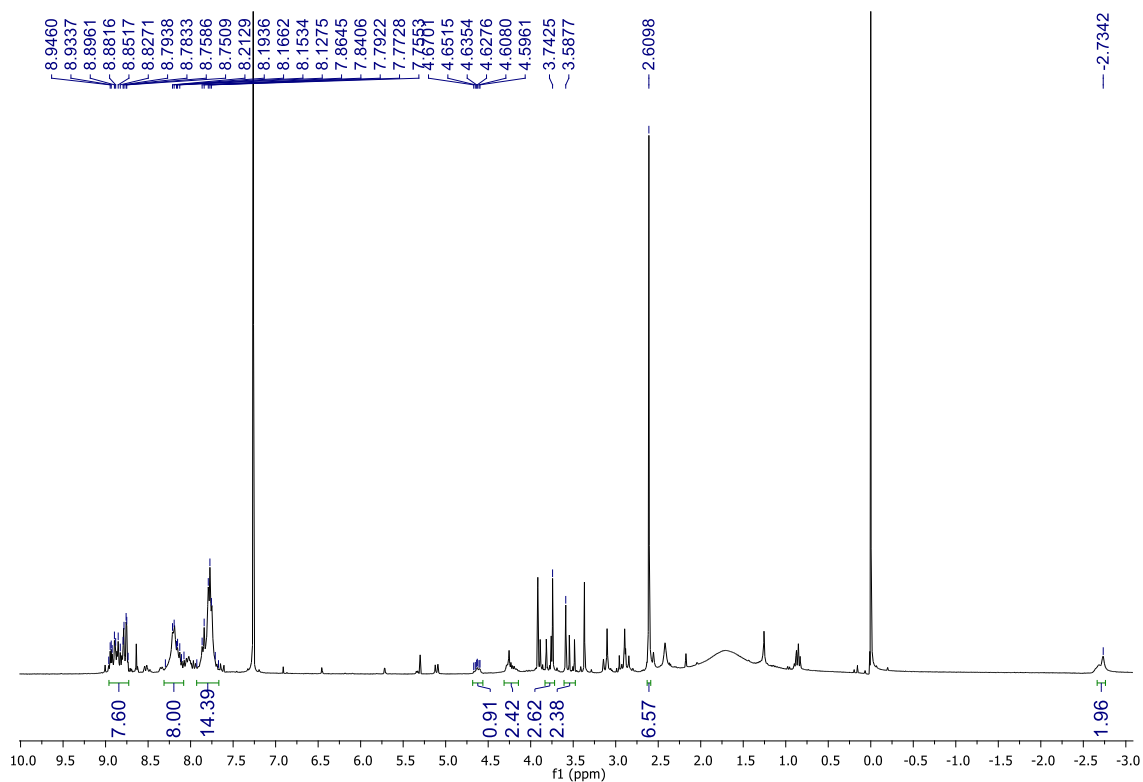


Figure S26. ¹H NMR spectrum of compound **7a** in CDCl₃.

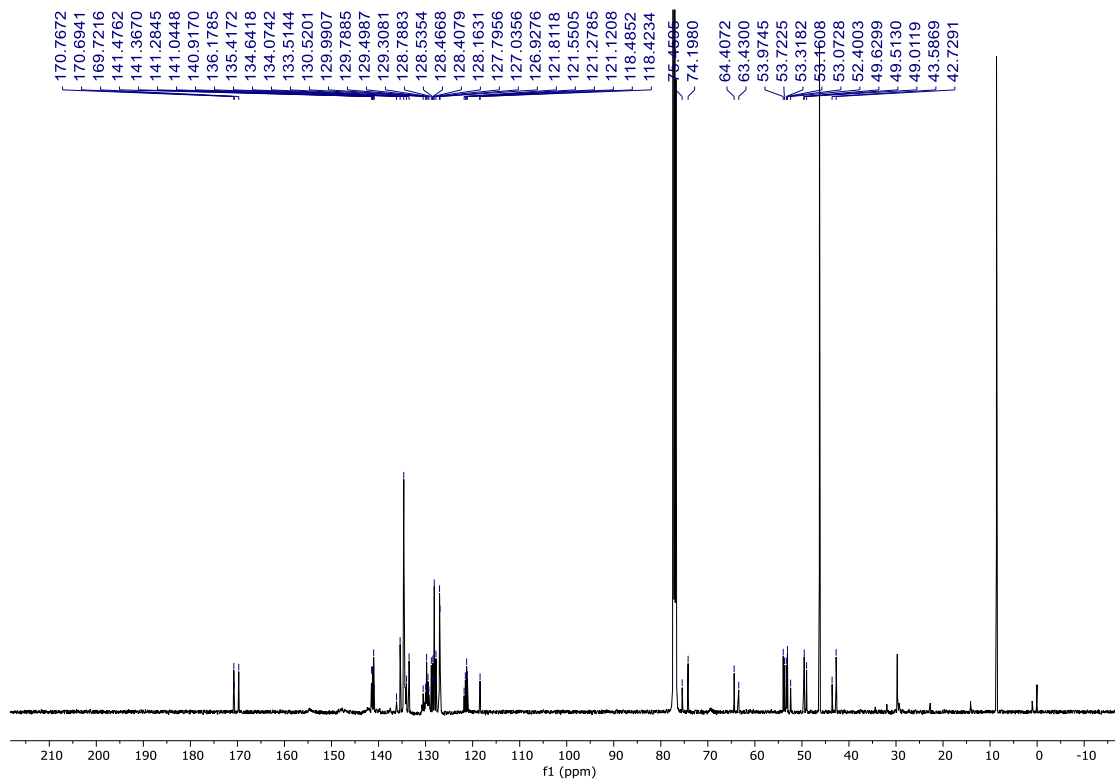


Figure S27. ¹³C NMR spectrum of compound **7a** in CDCl₃.

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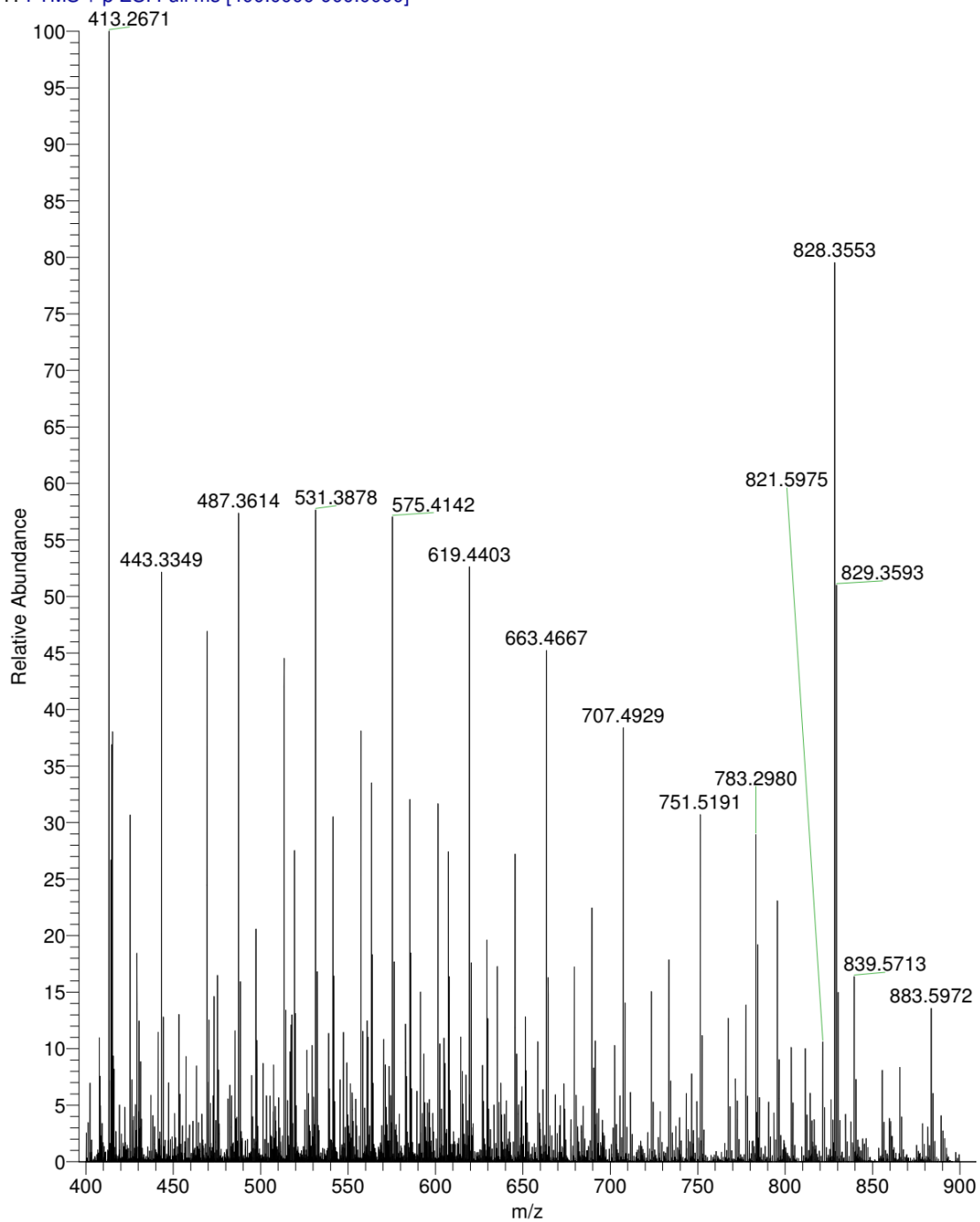


Figure S28. HRMS-ESI(+) spectrum of compound **7a**.

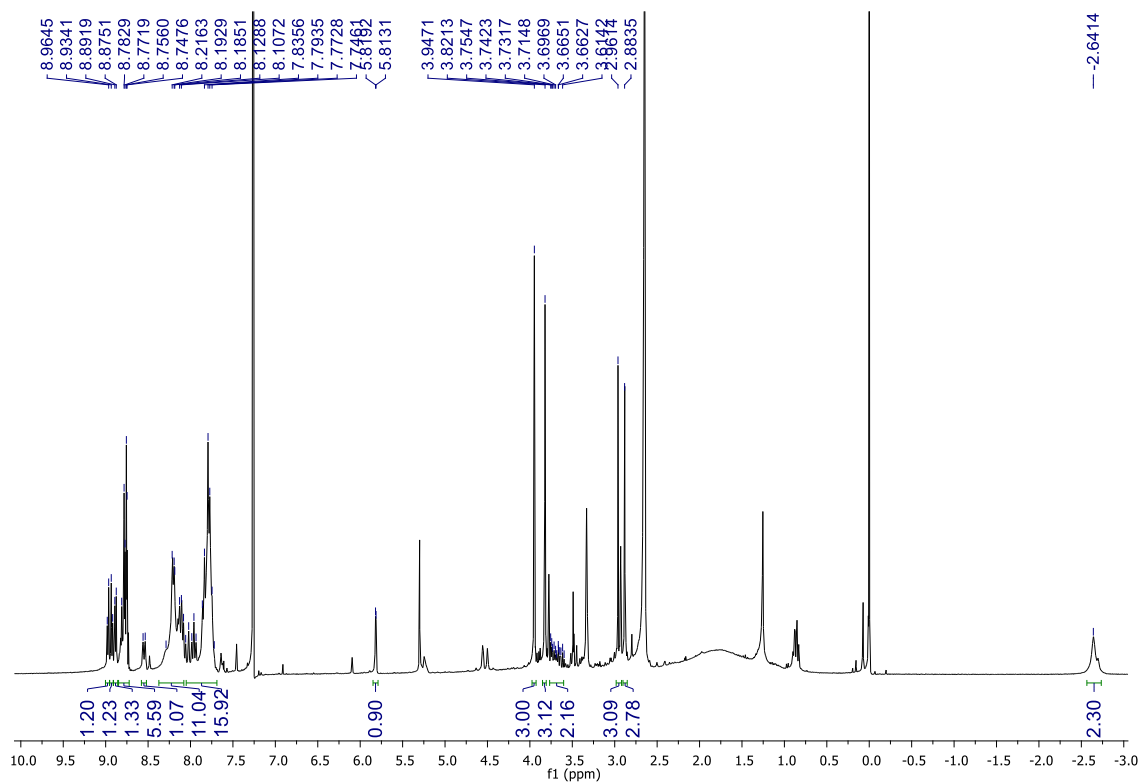


Figure S29. ¹H NMR spectrum of compound **7b** in CDCl₃.

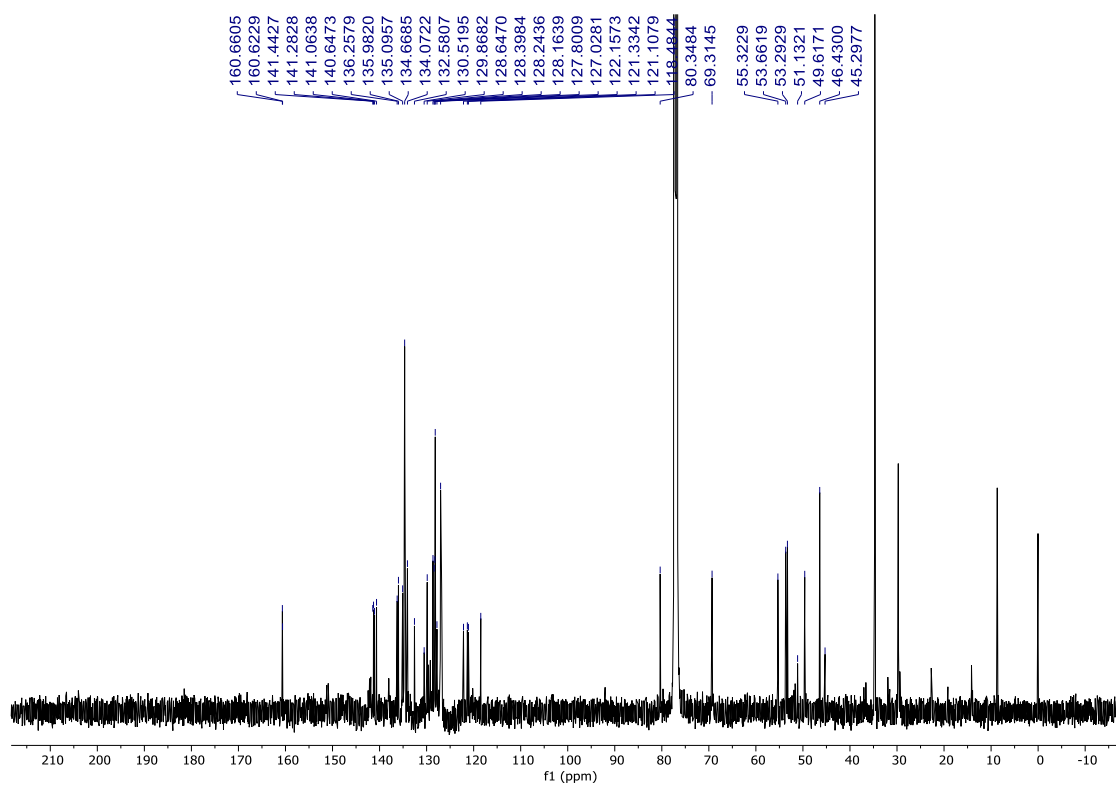


Figure S30. ¹³C NMR spectrum of compound **7b** in CDCl₃.

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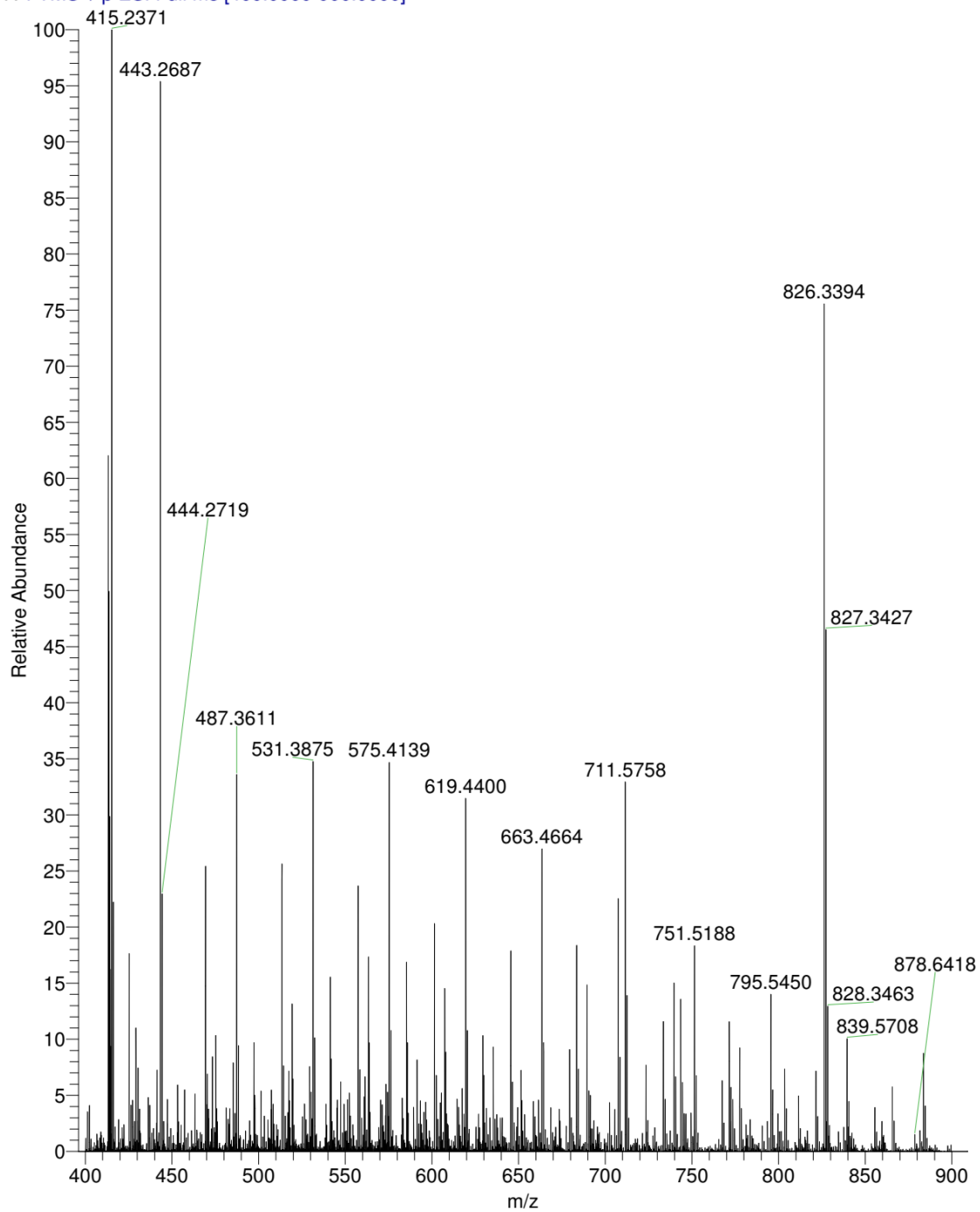


Figure S31. HRMS-ESI(+) spectrum of compound **7b**.

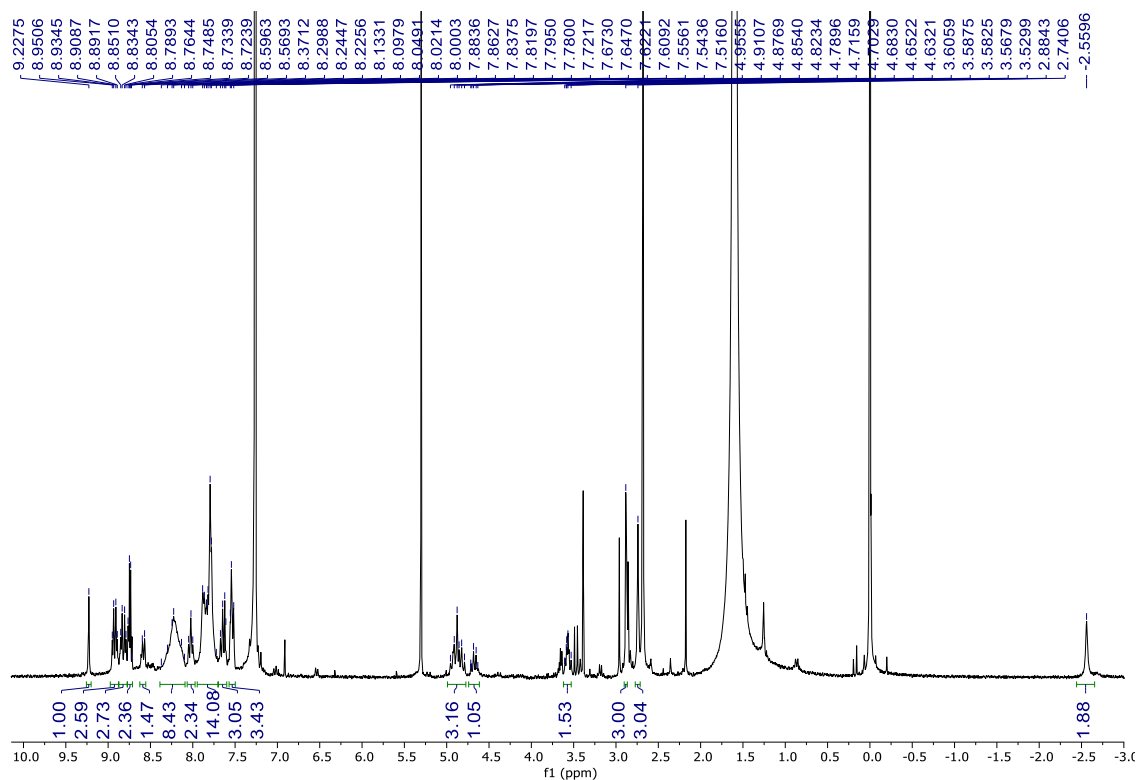


Figure S32. ^1H NMR spectrum of compound **7c** in CDCl_3 .

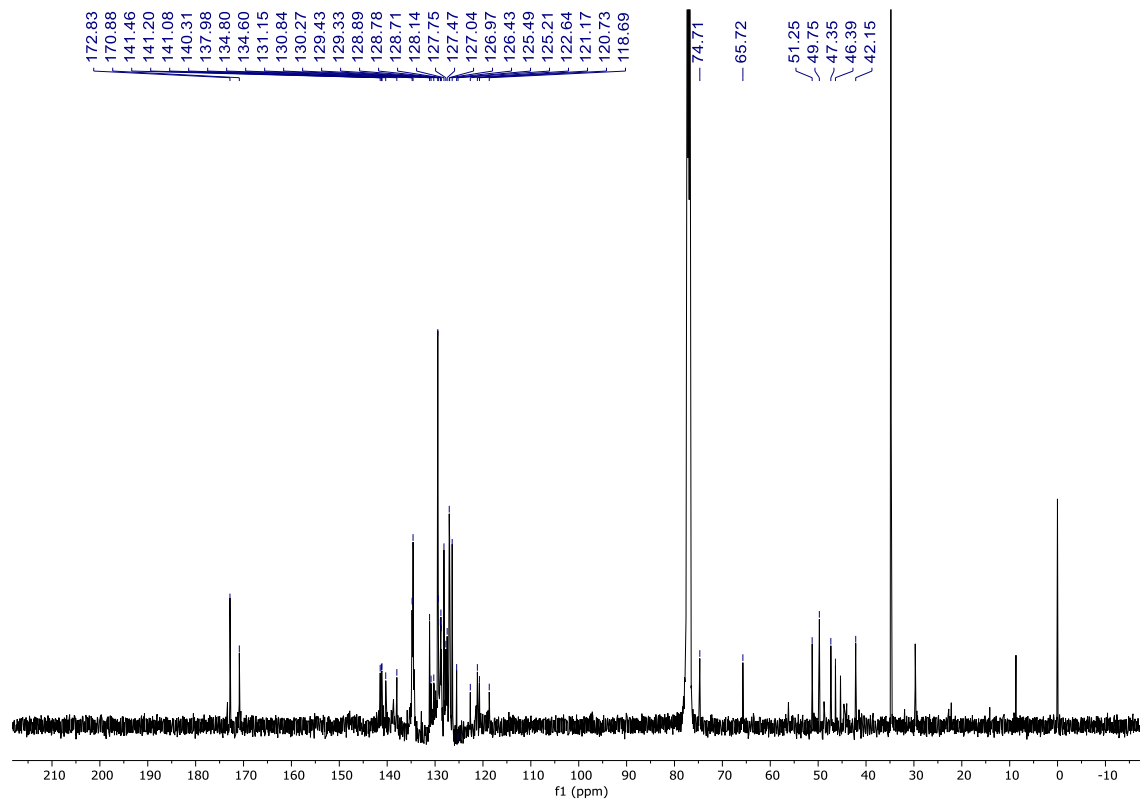


Figure S33. ^{13}C NMR spectrum of compound **7c** in CDCl_3 .

T: FTMS + p ESI Full ms [400.0000-900.0000]

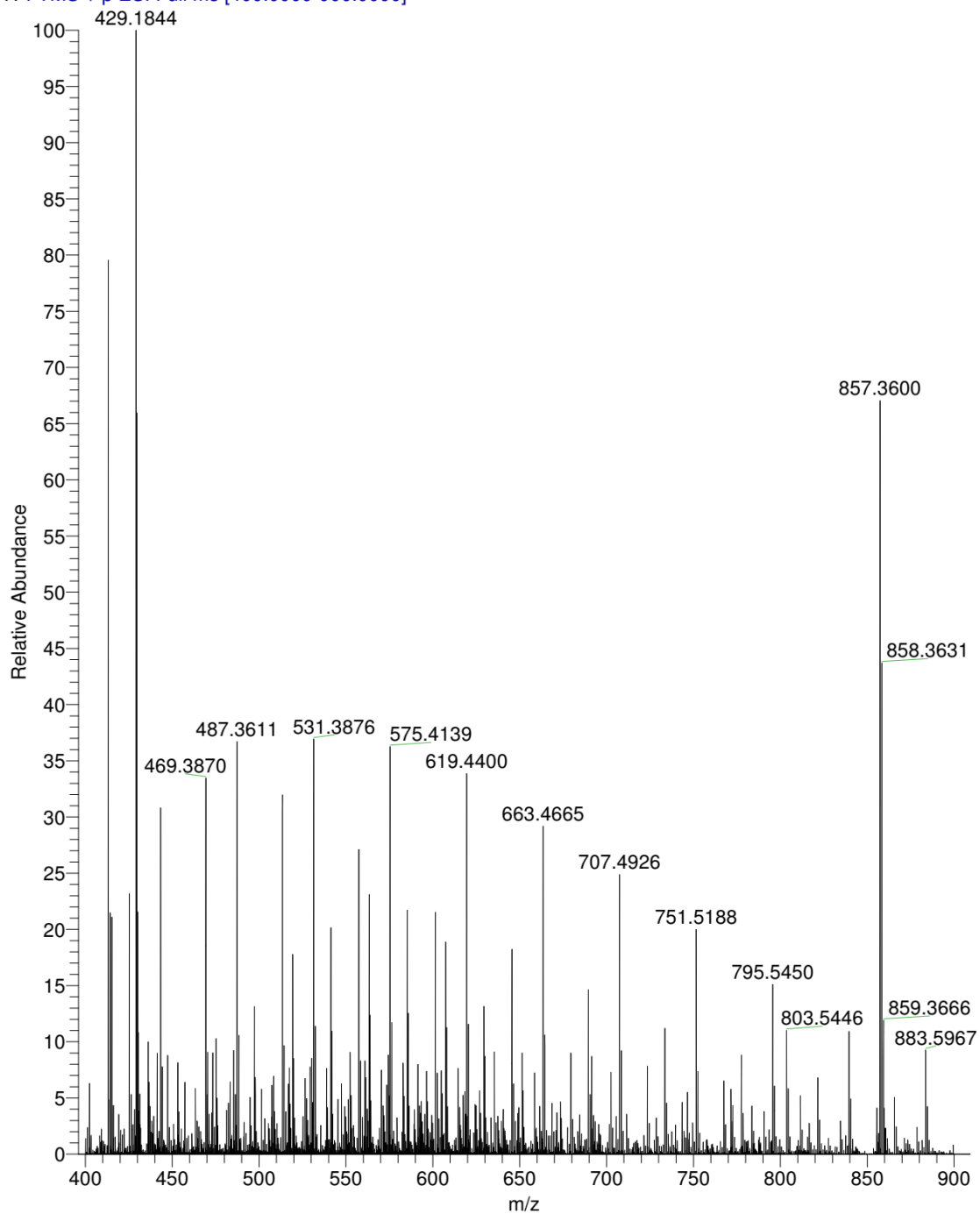


Figure S34. HRMS-ESI(+) spectrum of compound **7c**.

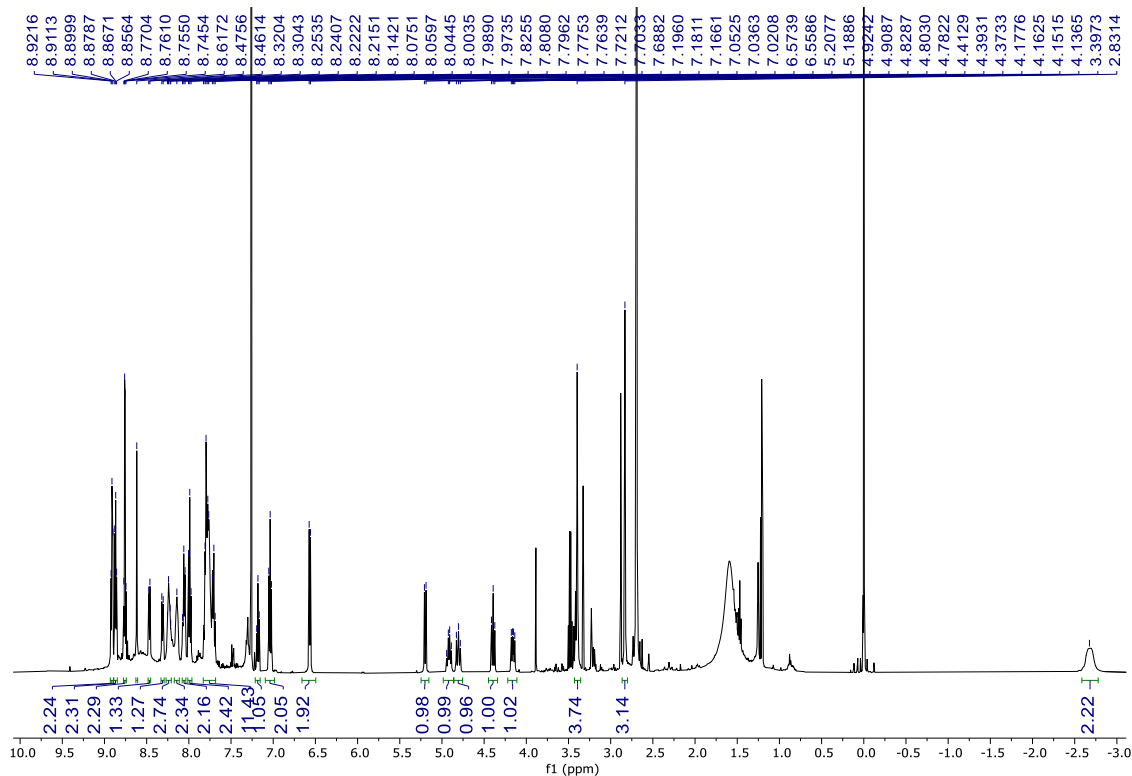


Figure S35. ¹H NMR spectrum of compound **7d** in CDCl₃.

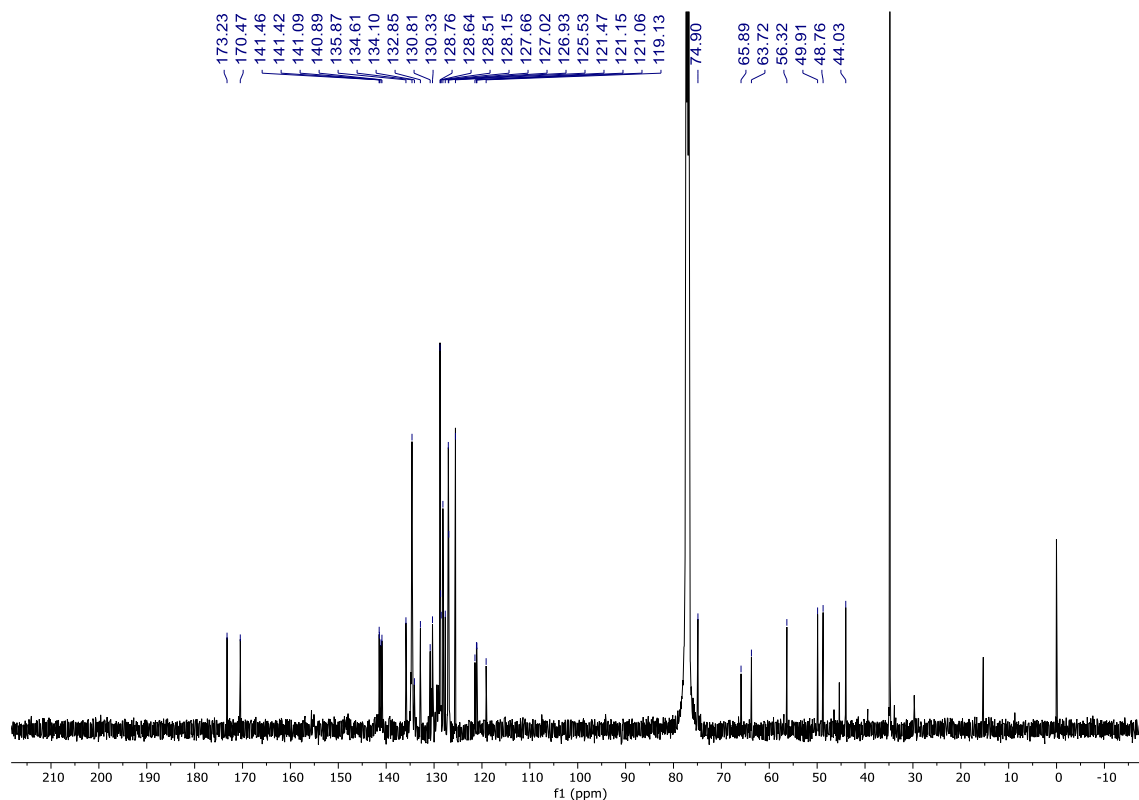


Figure S36. ¹³C NMR spectrum of compound **7d** in CDCl₃.

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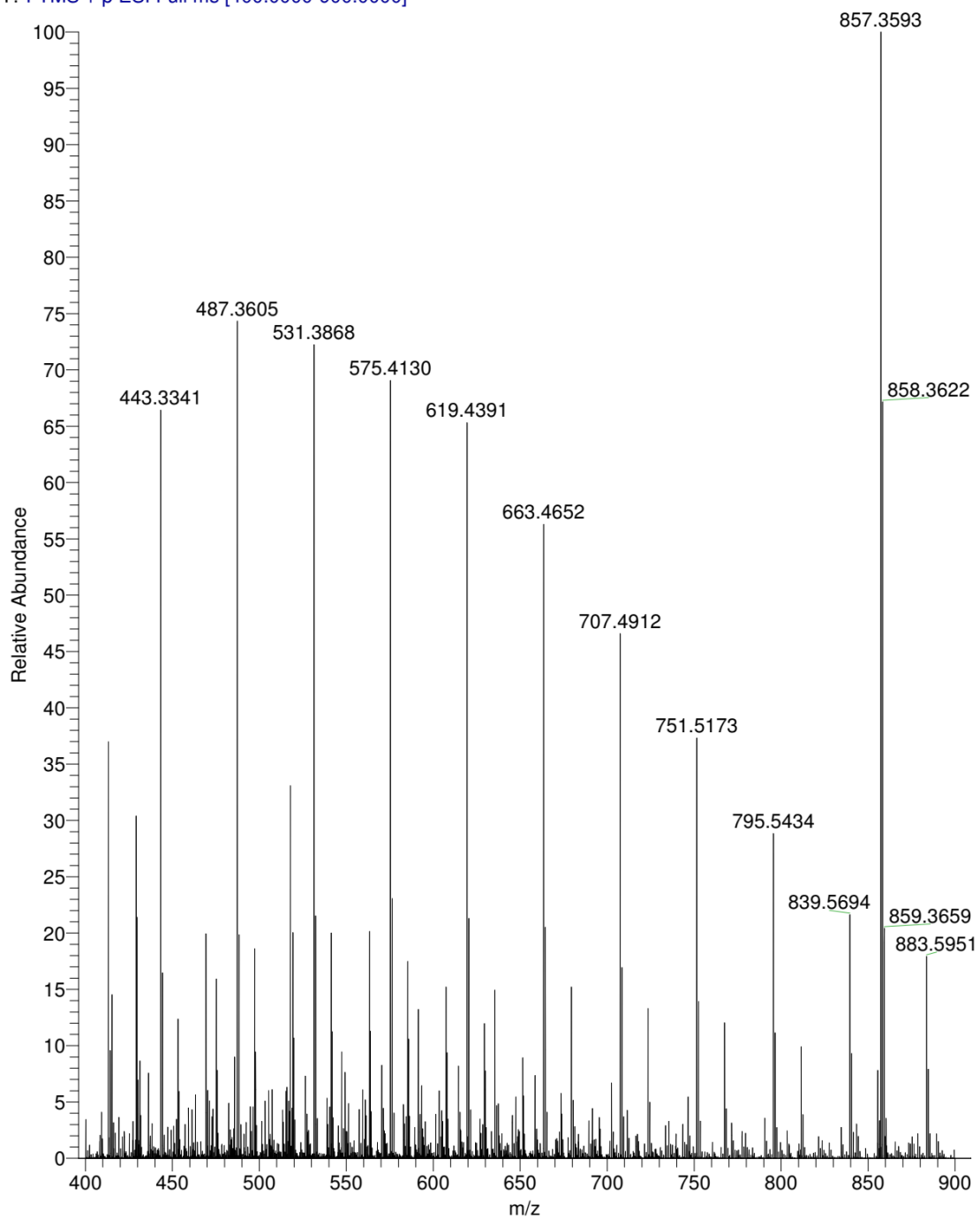


Figure S37. HRMS-ESI(+) spectrum of compound **7d**.

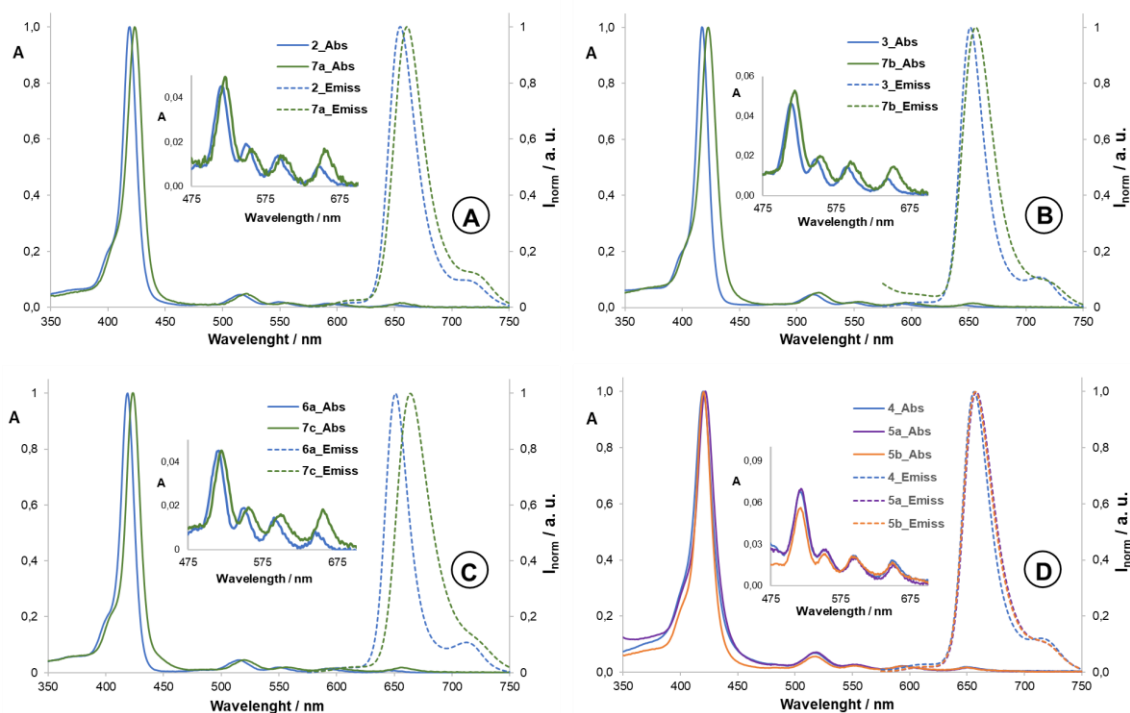


Figure S38. Absorption and normalized emission spectra of compounds **2** and **7a** (A), **3** and **7b** (B), **6a** and **7c** (C) and **4**, **5a** and **5b** in DMF at 298 K ($[\mathbf{2}] = [\mathbf{3}] = [\mathbf{4}] = [\mathbf{5a}] = [\mathbf{5b}] = [\mathbf{6a}] = [\mathbf{6b}] = [\mathbf{7a}] = [\mathbf{7b}] = [\mathbf{7c}] = 2.5\mu\text{M}$; $\lambda_{\text{exc}2} = 419\text{ nm}$; $\lambda_{\text{exc}7a} = 423\text{ nm}$; $\lambda_{\text{exc}3} = 417\text{ nm}$; $\lambda_{\text{exc}7b} = 423\text{ nm}$; $\lambda_{\text{exc}6a} = 419\text{ nm}$; $\lambda_{\text{exc}7c} = 424\text{ nm}$; $\lambda_{\text{exc}4} = 420\text{ nm}$; $\lambda_{\text{exc}5a} = 422\text{ nm}$; $\lambda_{\text{exc}5b} = 420\text{ nm}$). in DMF at 298 K. The inset shows the absorption at the Q bands region.