Supporting Information

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NMR and MS spectra for all new compounds

Figure S1. ^{1}H NMR of compound **4** (500 MHz, $CDCl_3$)

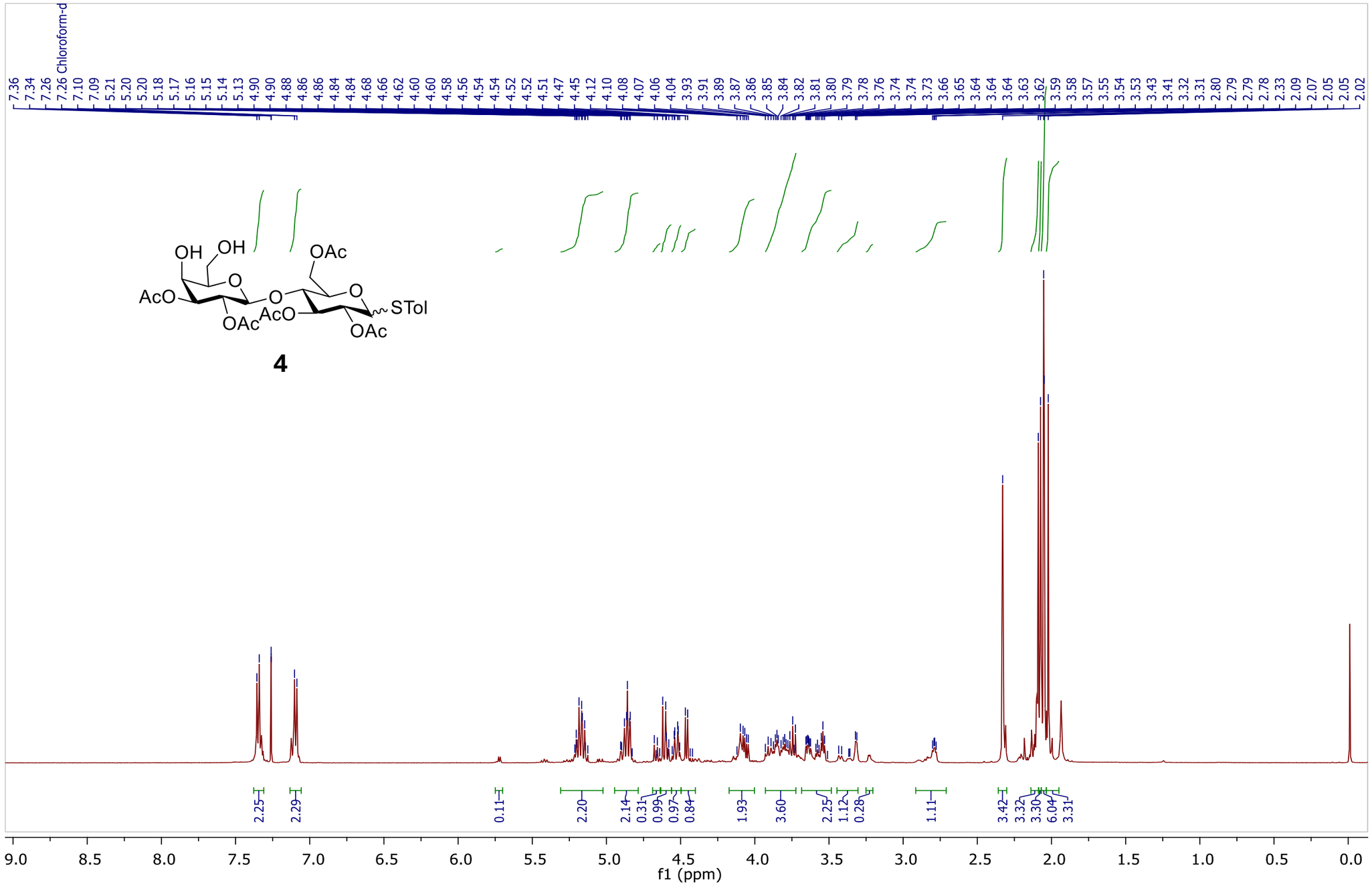
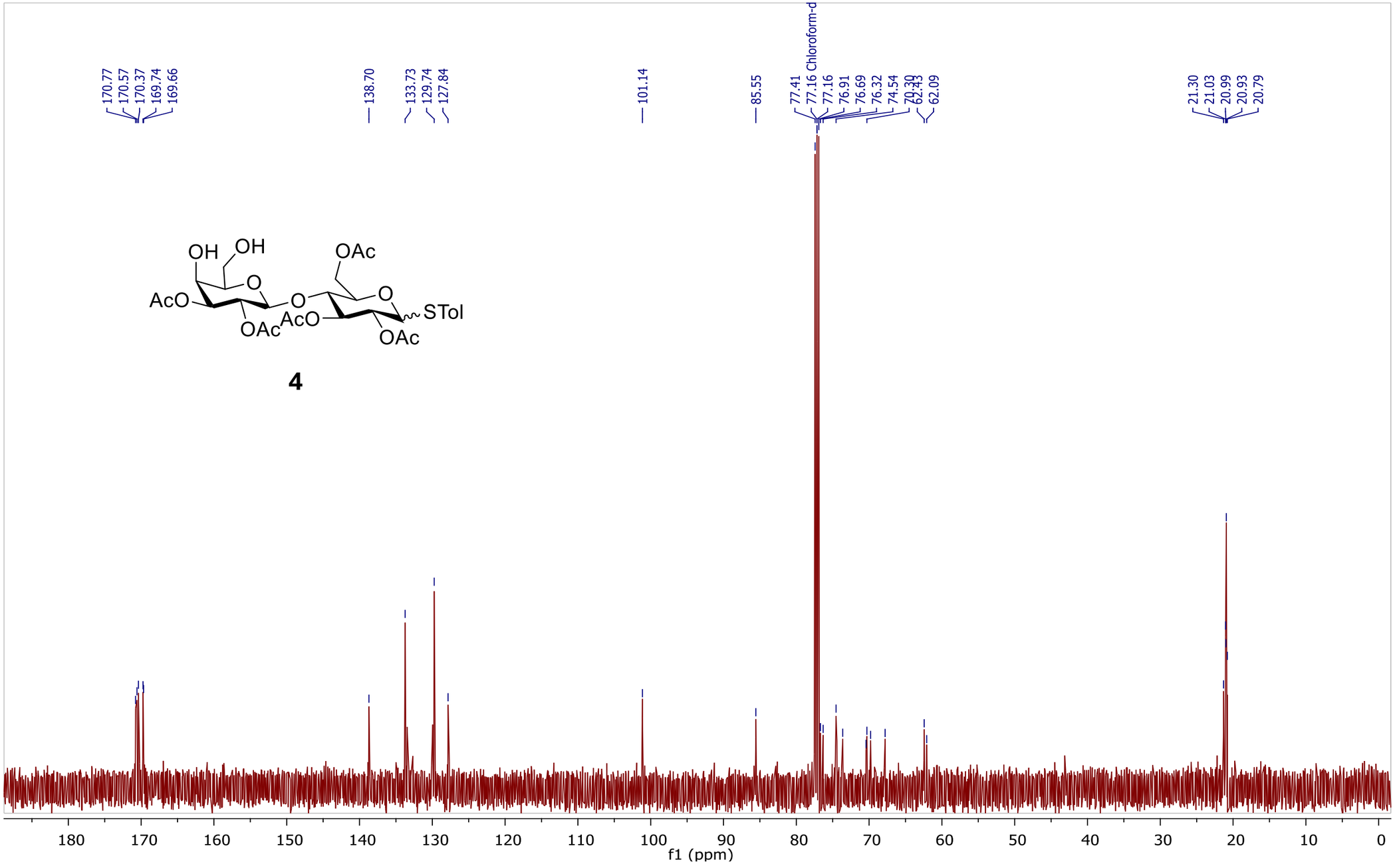
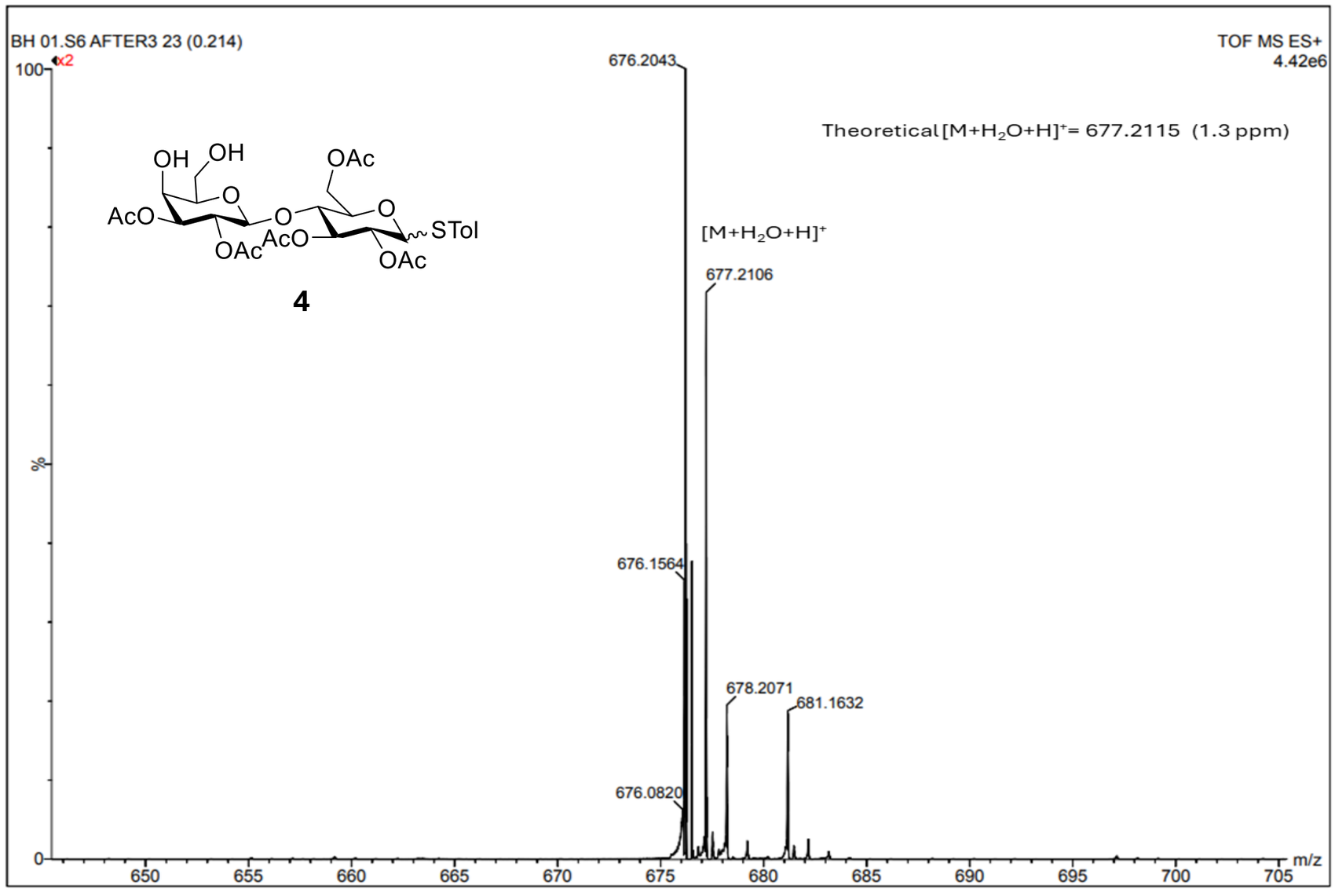


Figure S2. ^{13}C NMR of compound **4** (126 MHz, $CDCl_3$)



4

Figure S3. HR ESI-TOF-MS of compound **4**



4

Figure S4. ^{1}H NMR of compound **5** (400 MHz, $CDCl_3$)

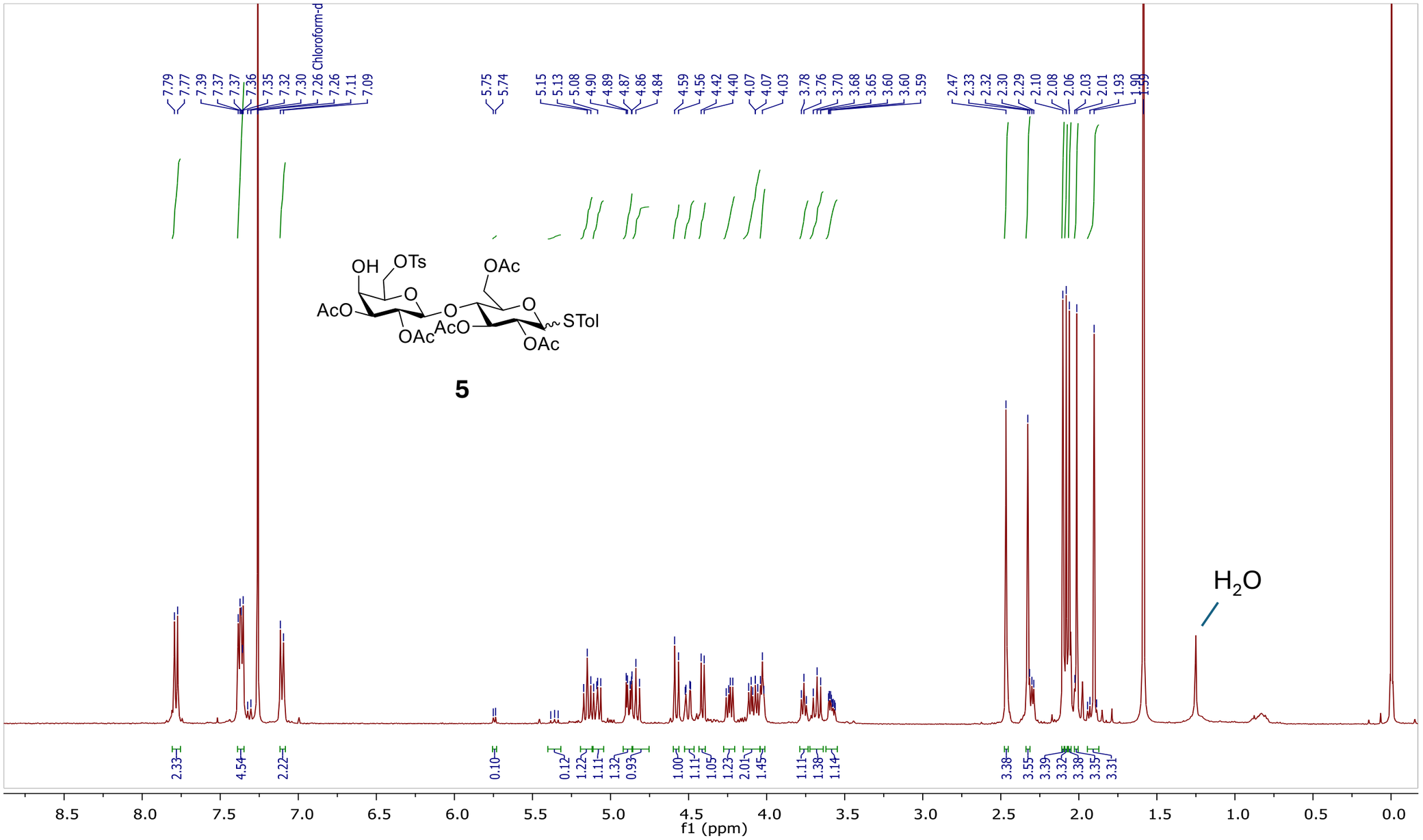


Figure S5. ^{13}C NMR of compound **5** (101 MHz, $CDCl_3$)

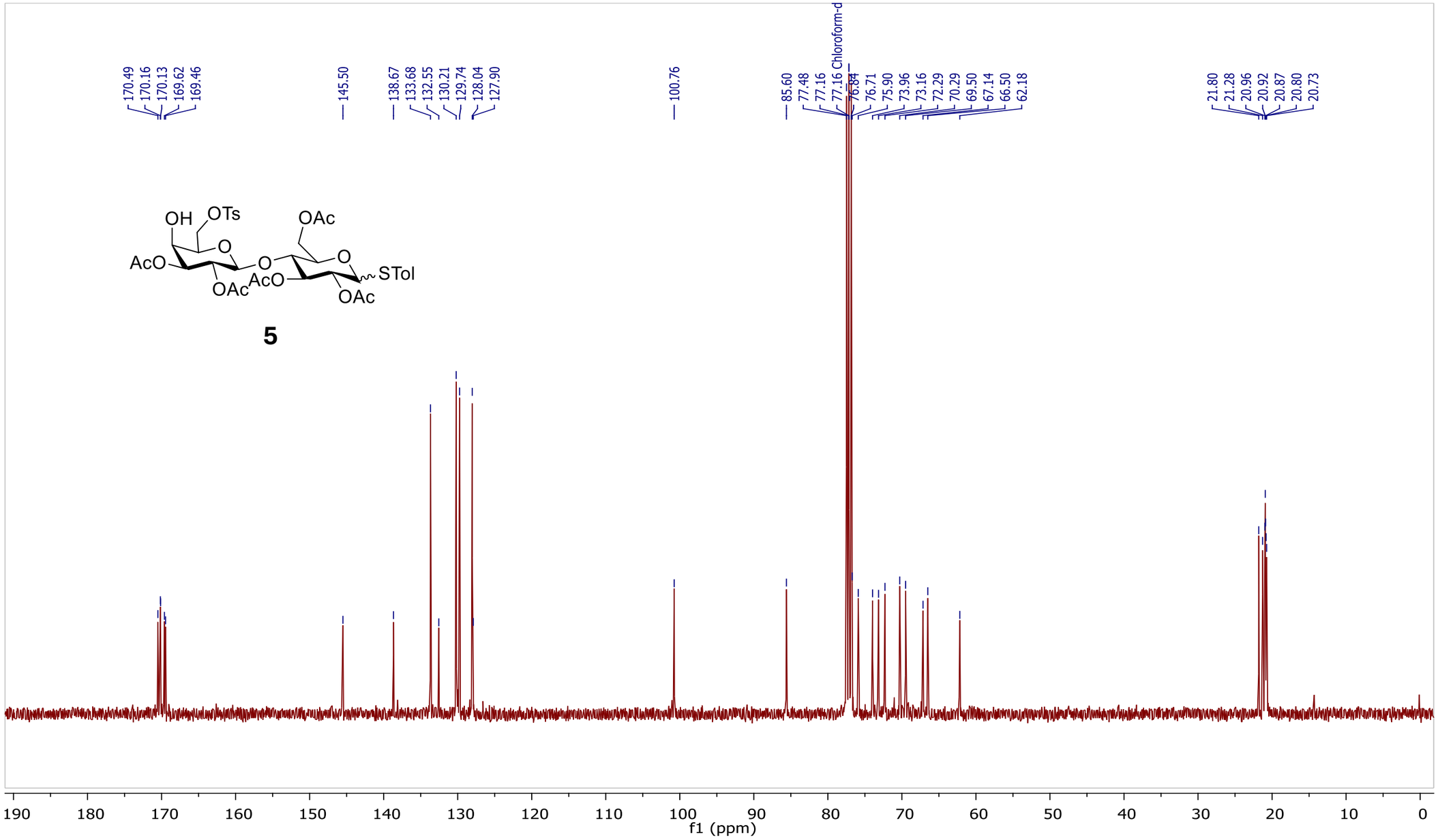


Figure S6. HR ESI-TOF-MS of compound **5**

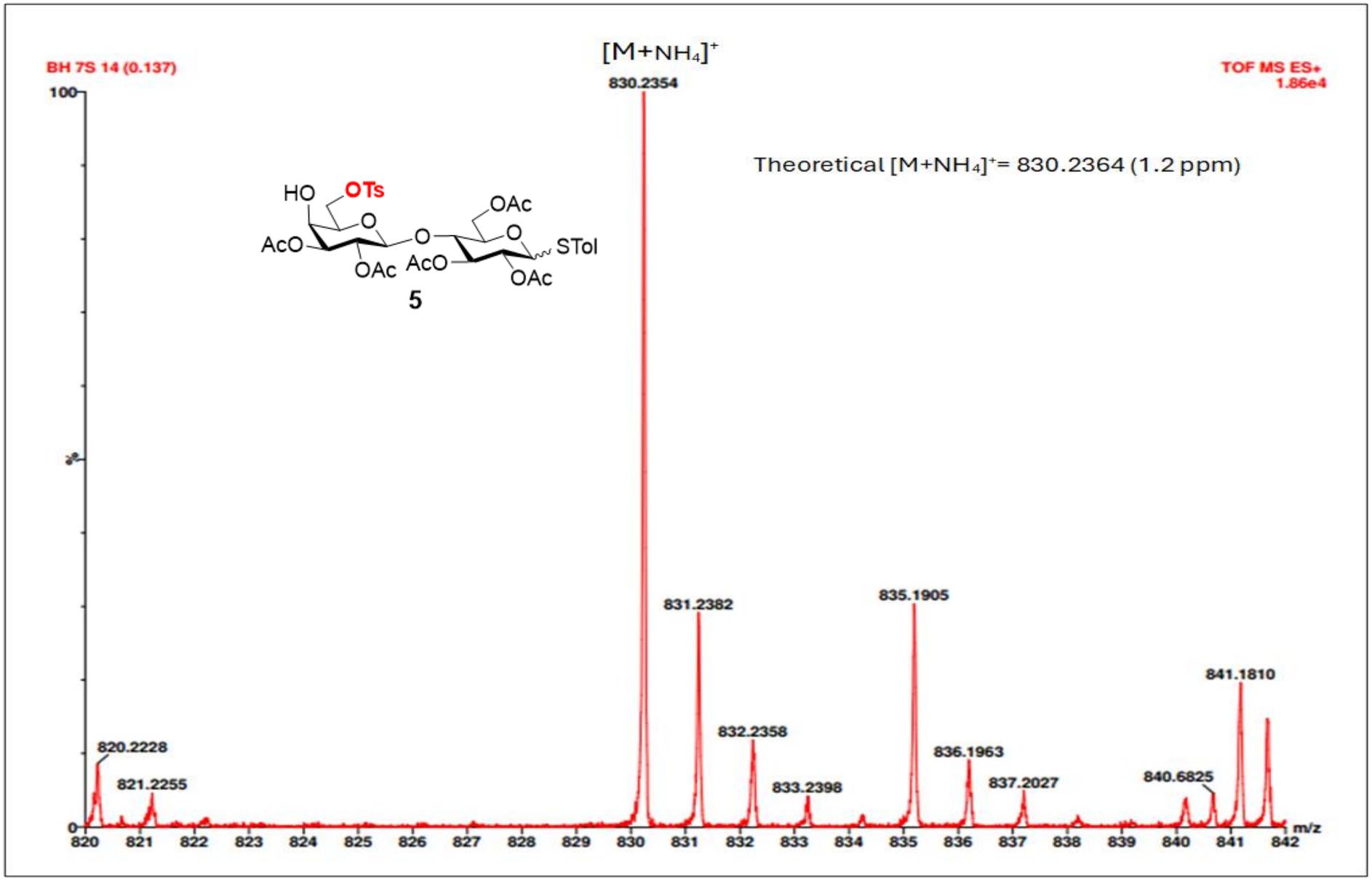


Figure S7. ^{1}H NMR of compound **6** (400 MHz, $CDCl_3$)

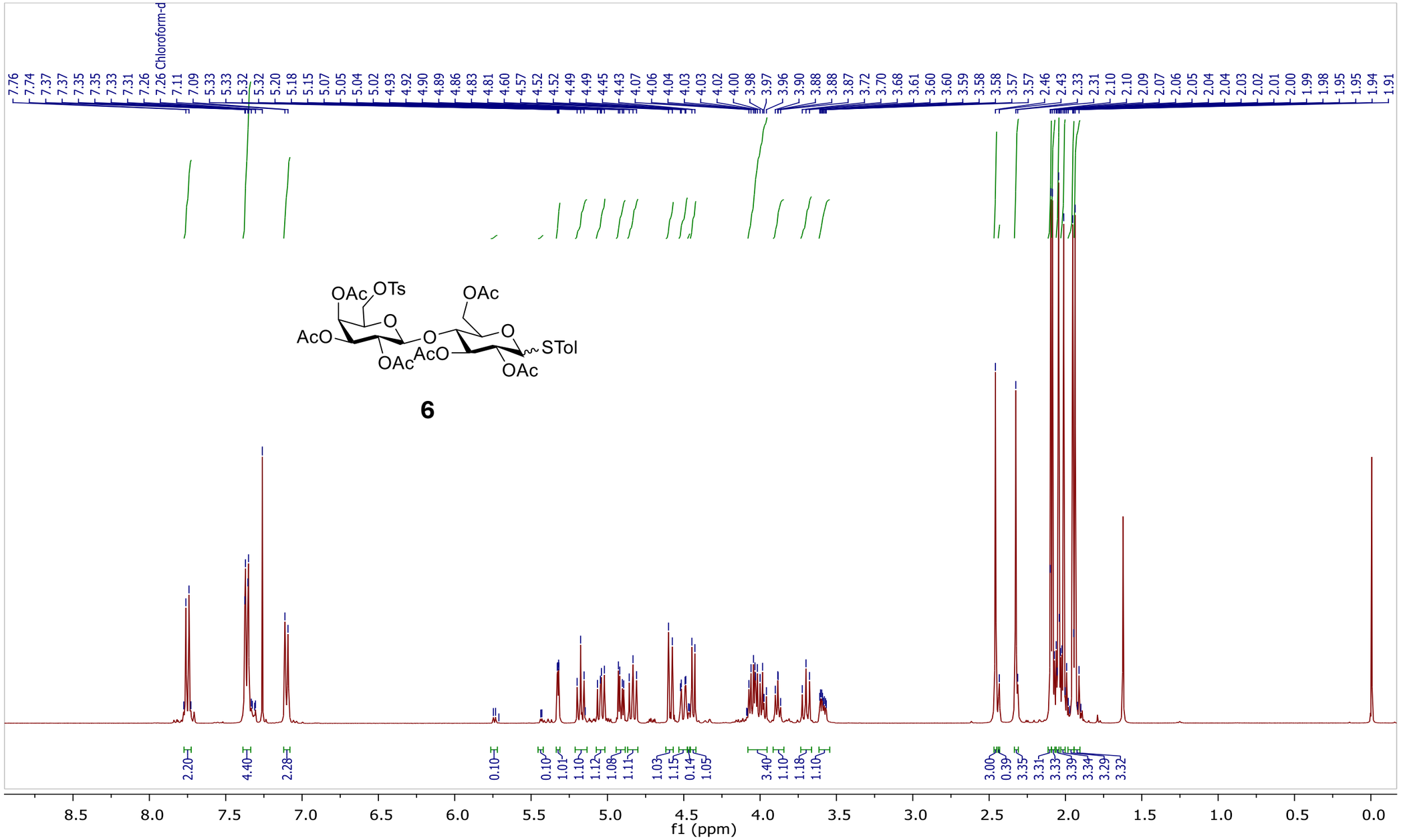


Figure S8. ^{13}C NMR of Compound **6** (101 MHz, $CDCl_3$)

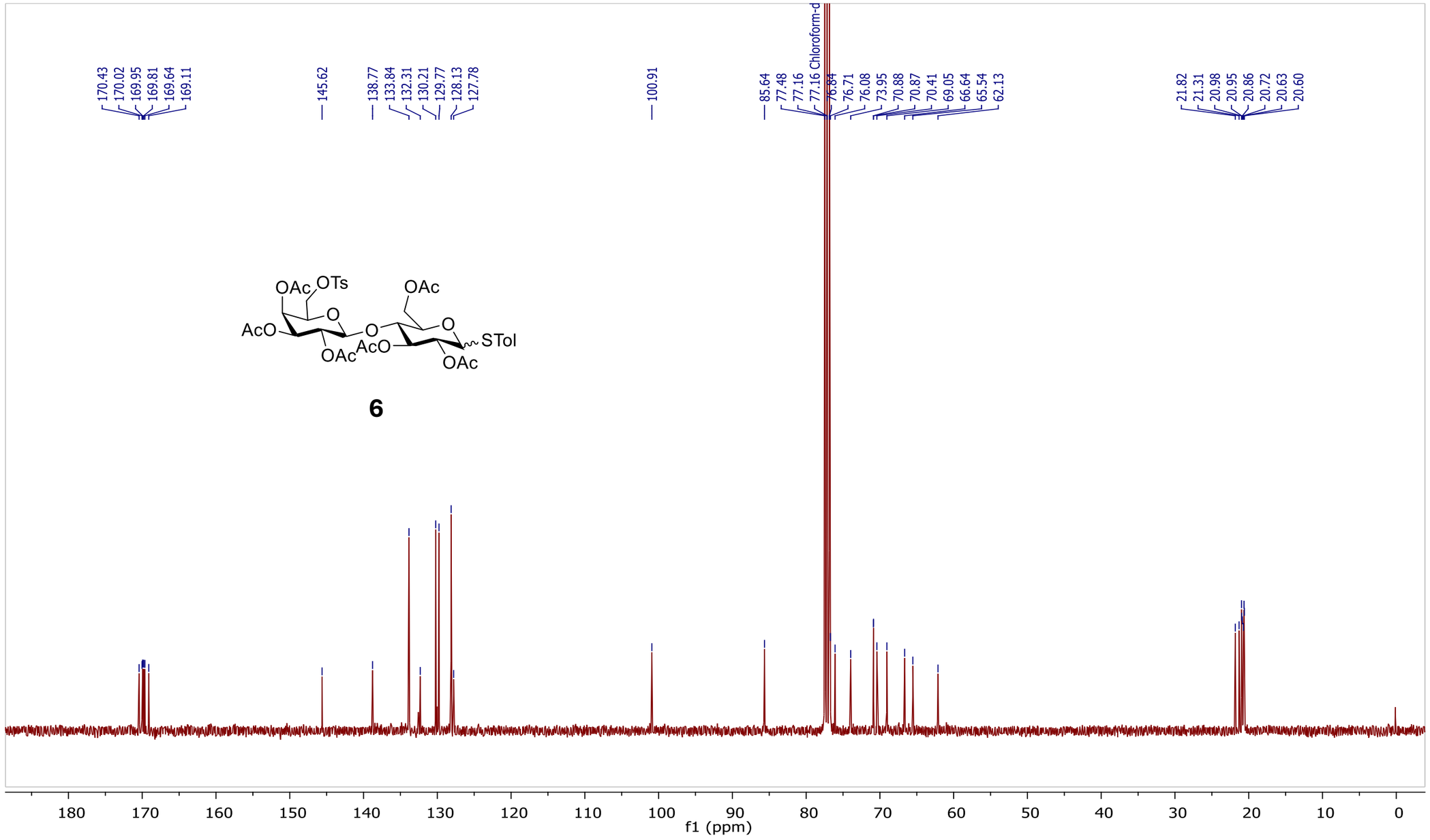


Figure S9. HR ESI-TOF-MS of compound **6**

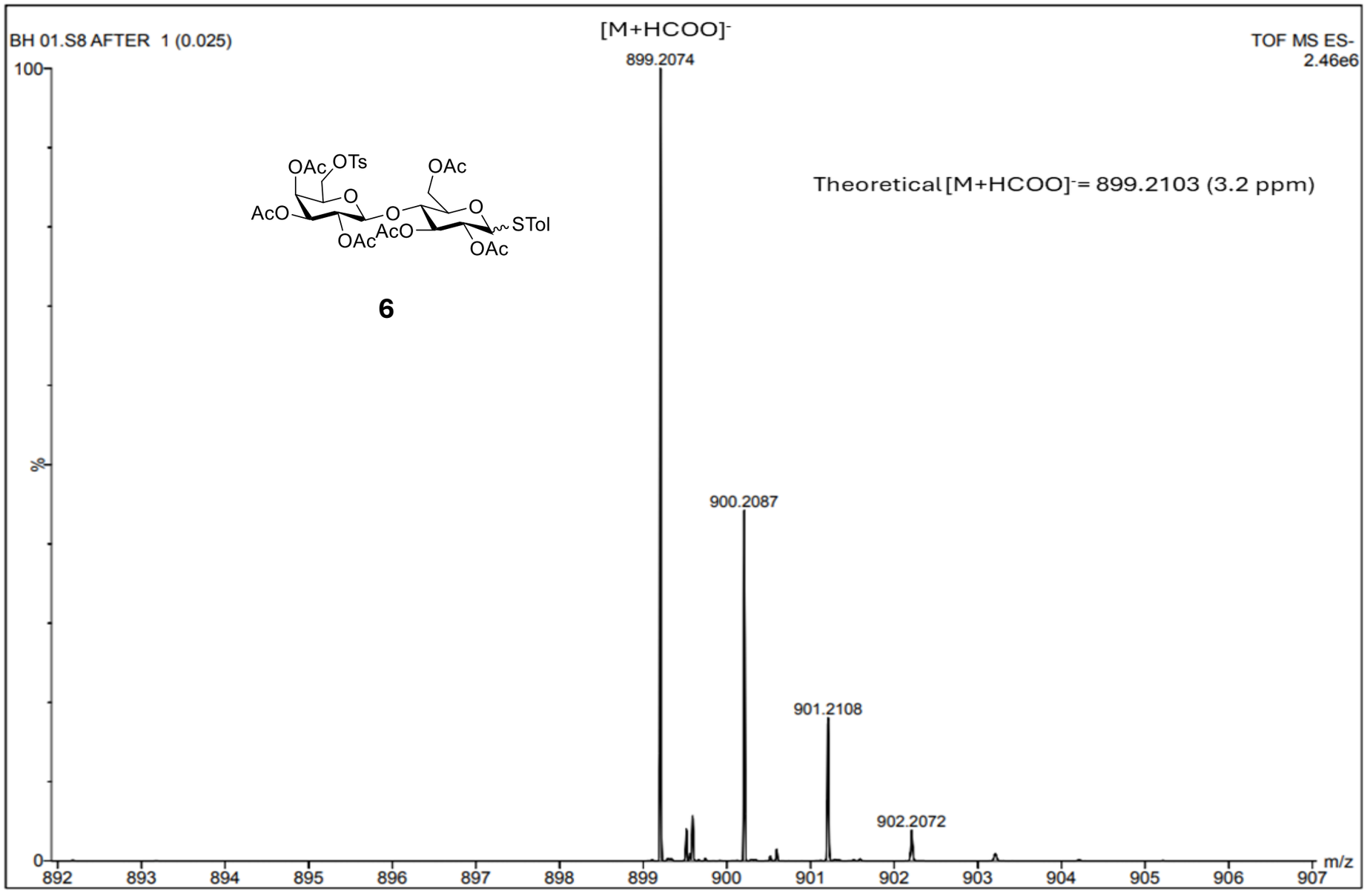


Figure S10. ^{1}H NMR of compound **7** (400 MHz, $CDCl_3$)

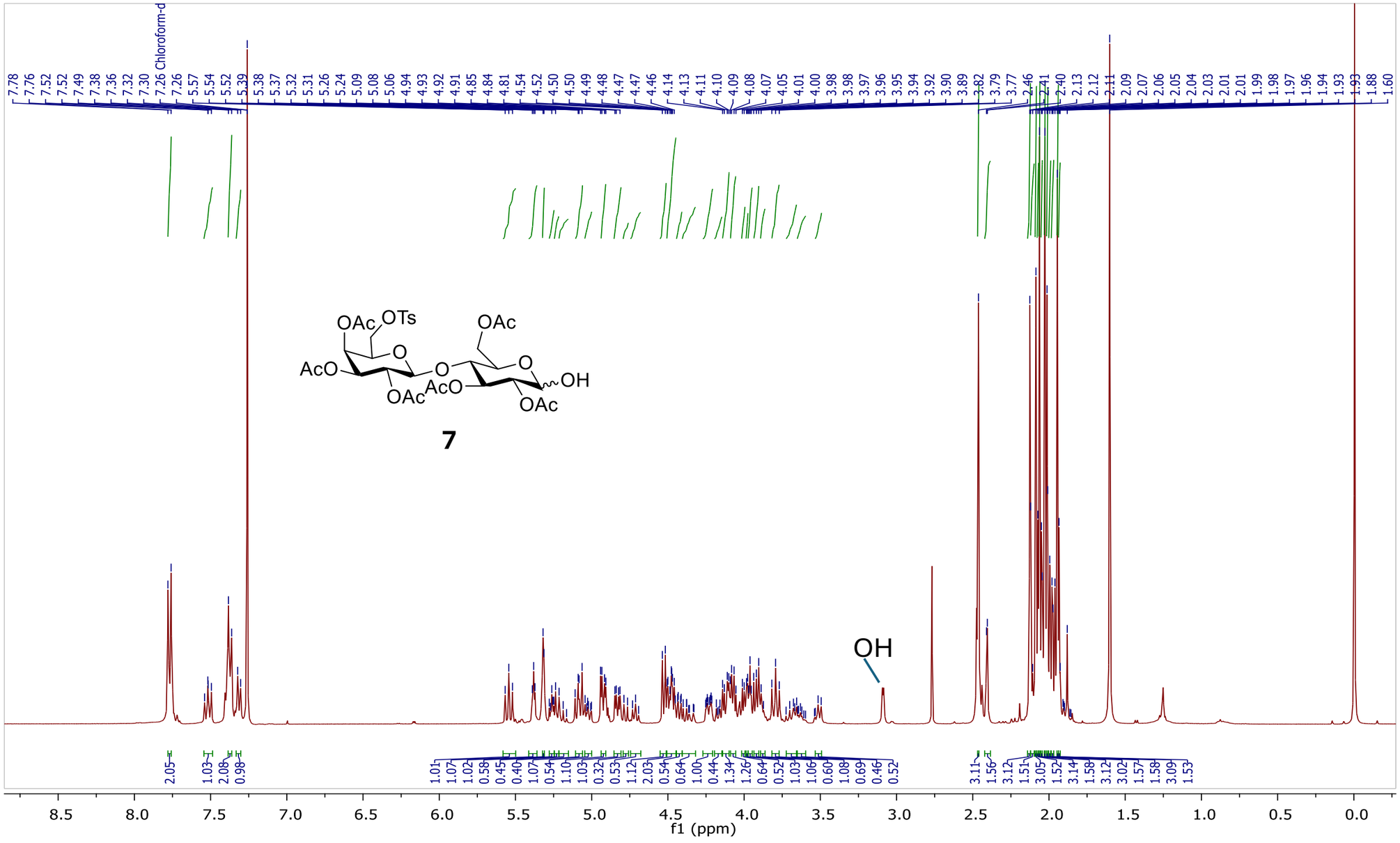


Figure S11. ^{13}C NMR of compound **7** (101 MHz, $CDCl_3$)

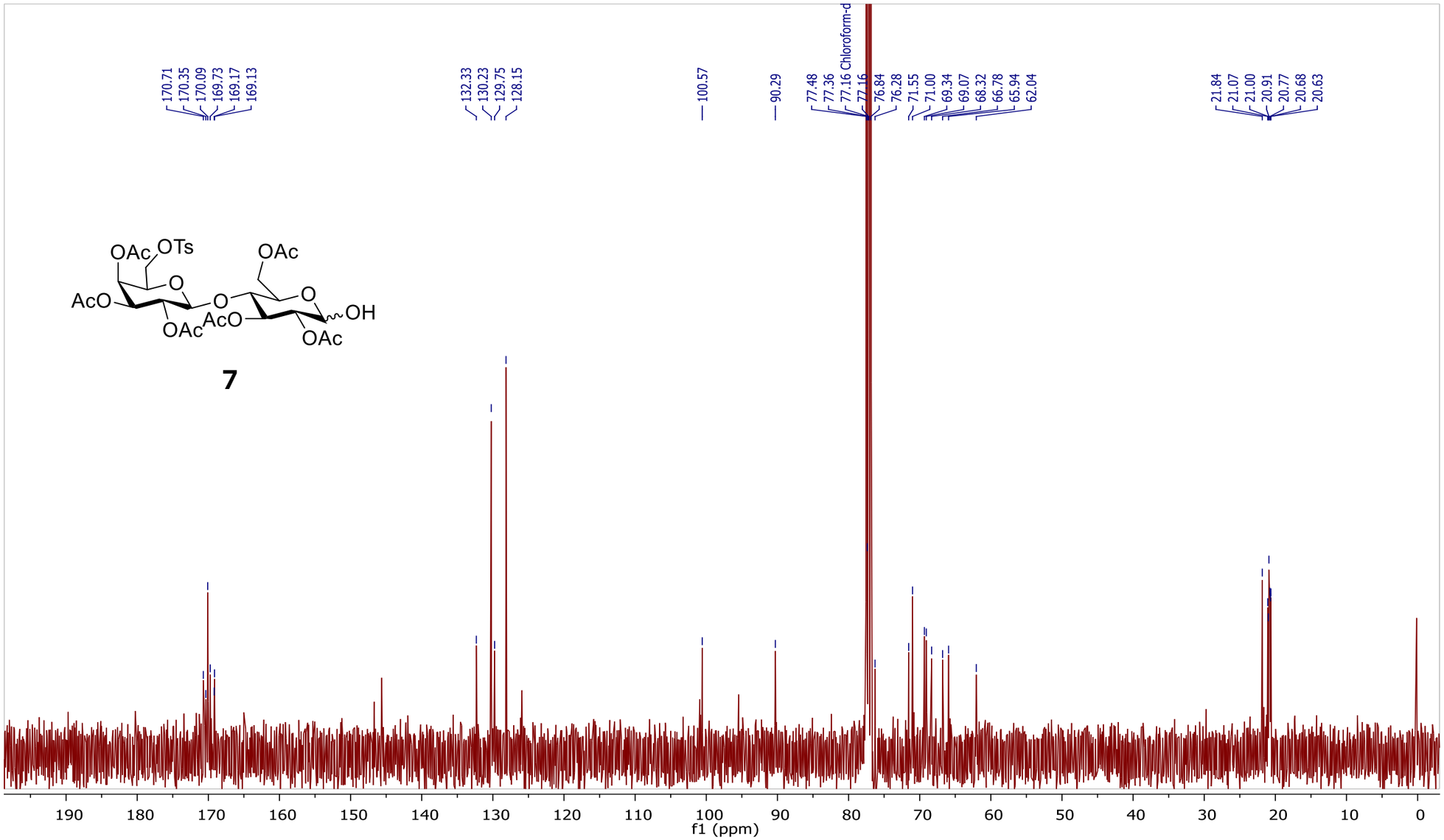


Figure S12. HR ESI-TOF-MS of compound **7**

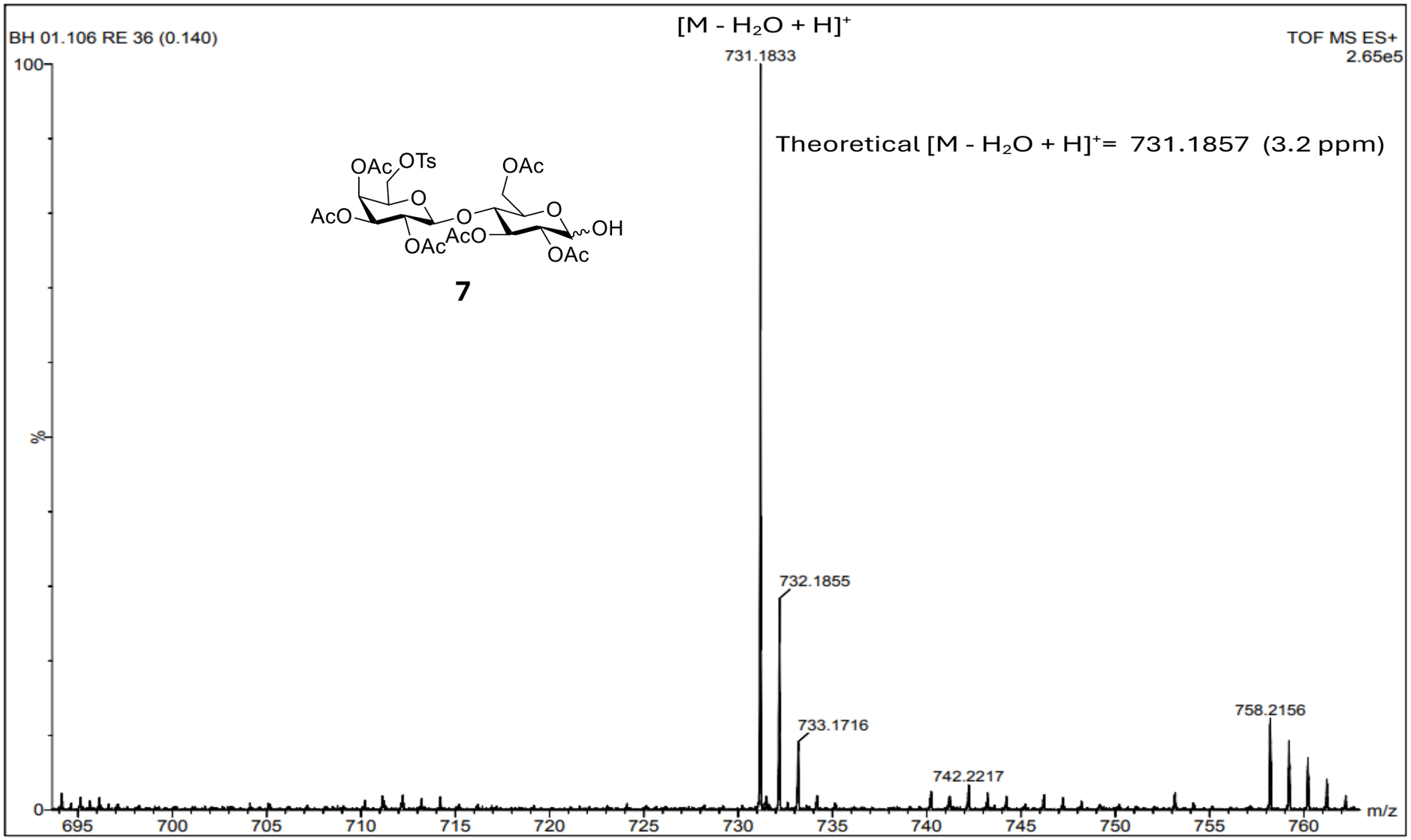


Figure S13. ^{1}H NMR of compound **8** (400 MHz, $CDCl_3$)

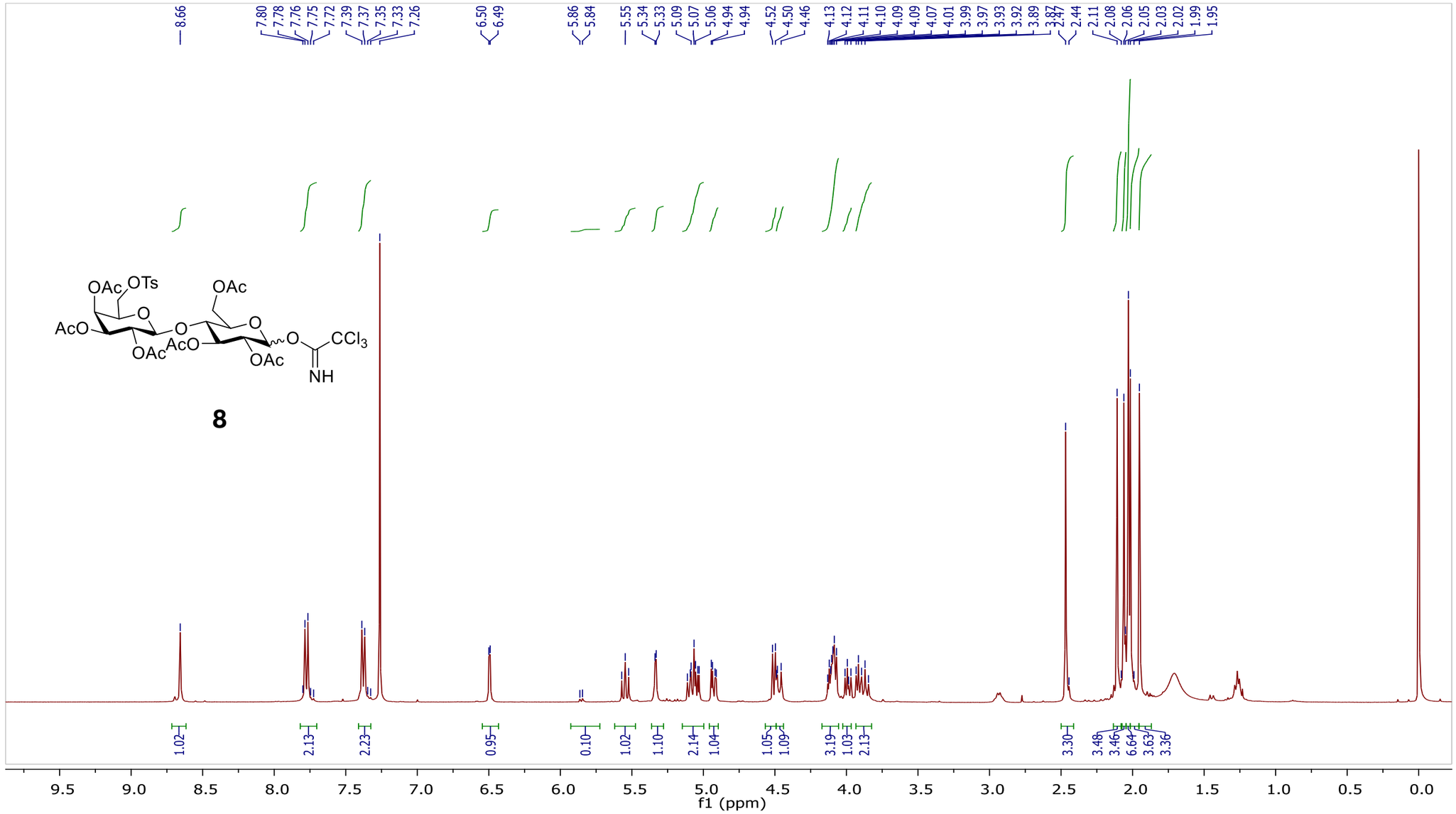


Figure S14. ^{13}C NMR of compound **8** (101 MHz, $CDCl_3$)

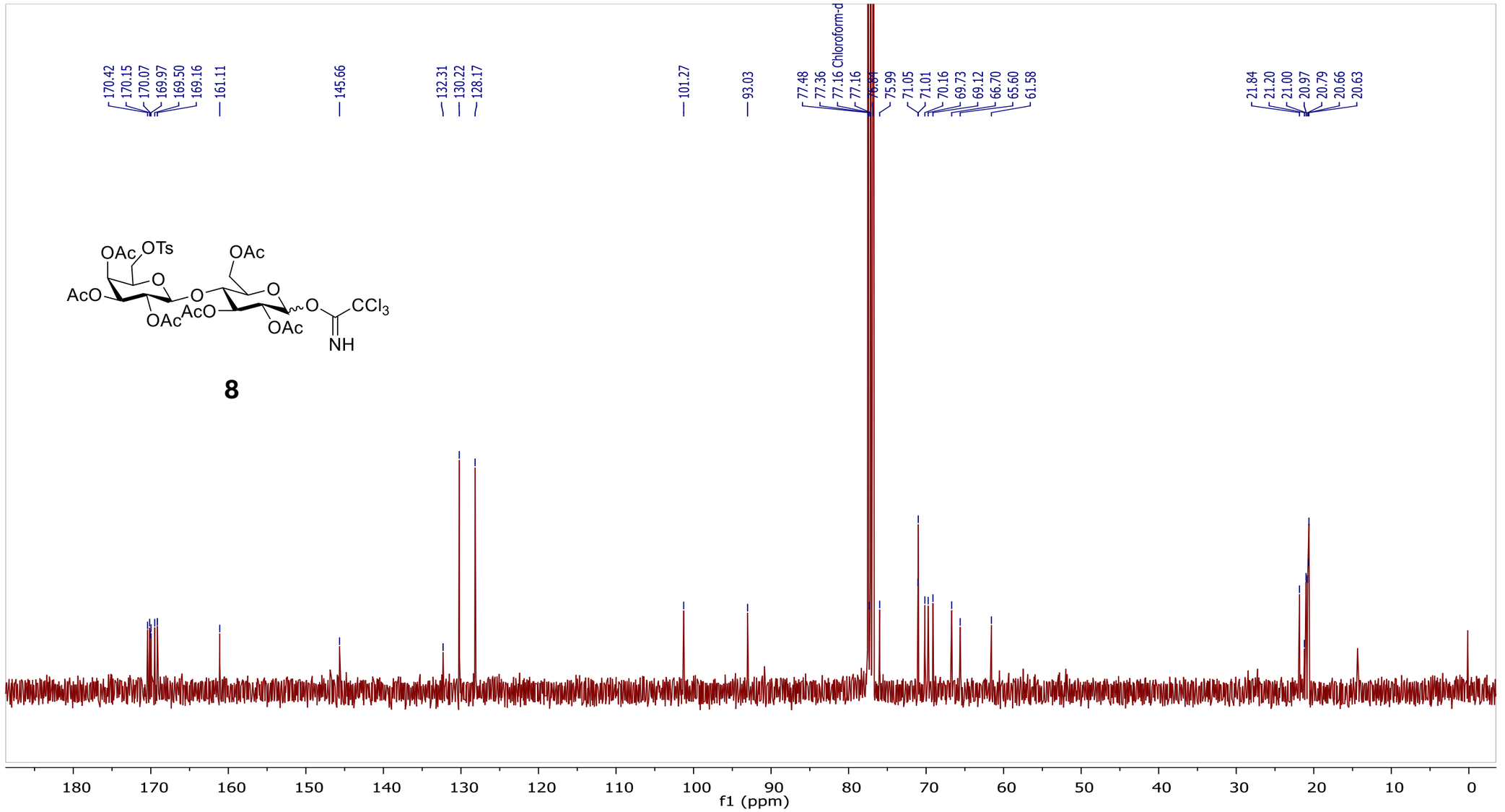


Figure S15. ^{1}H NMR of compound **10** (600 MHz, $CDCl_3$)

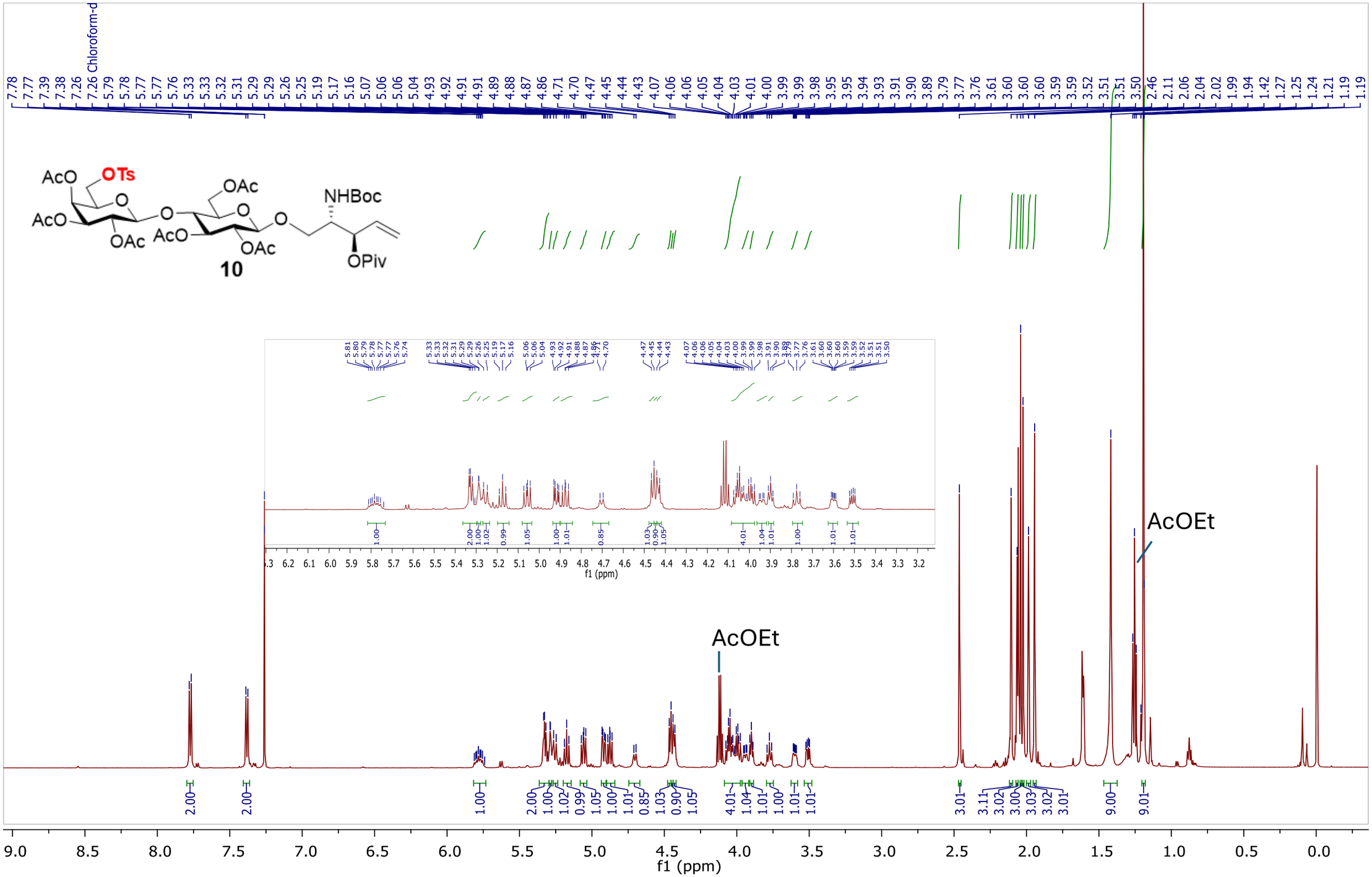


Figure S16. ^{13}C NMR of compound **10** (151 MHz, $CDCl_3$)

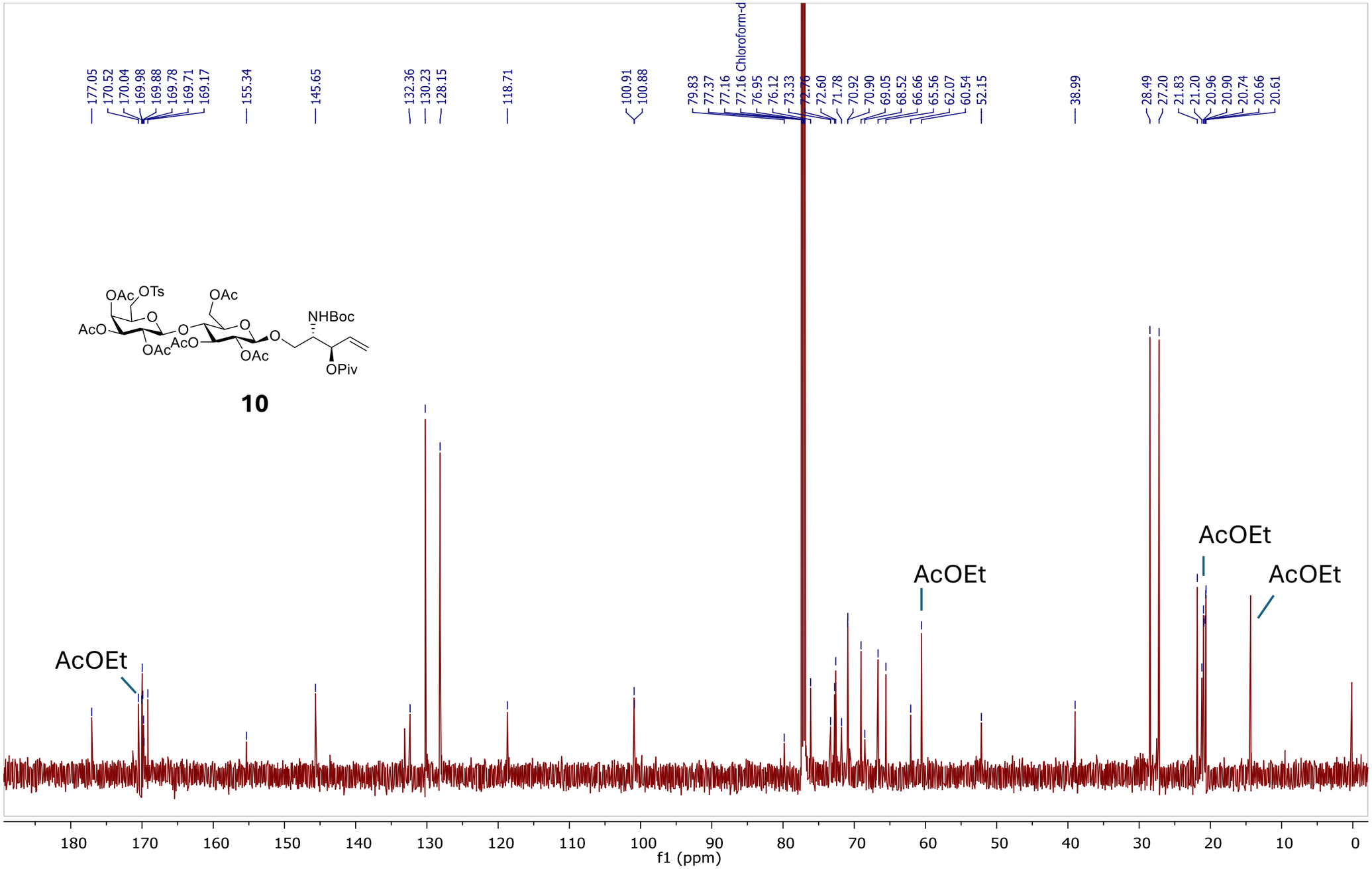


Figure S17. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **10**

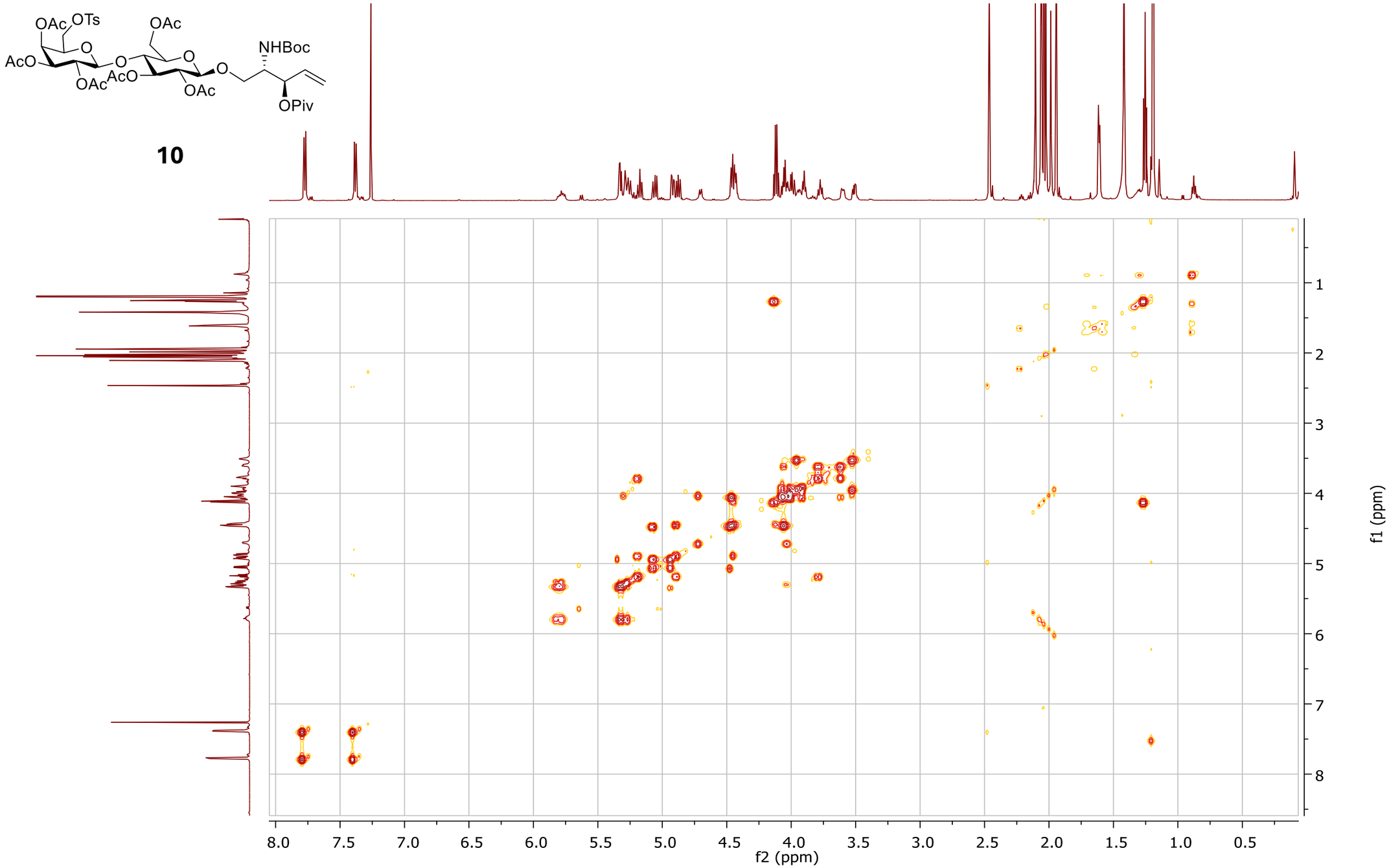


Figure S18. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **10**

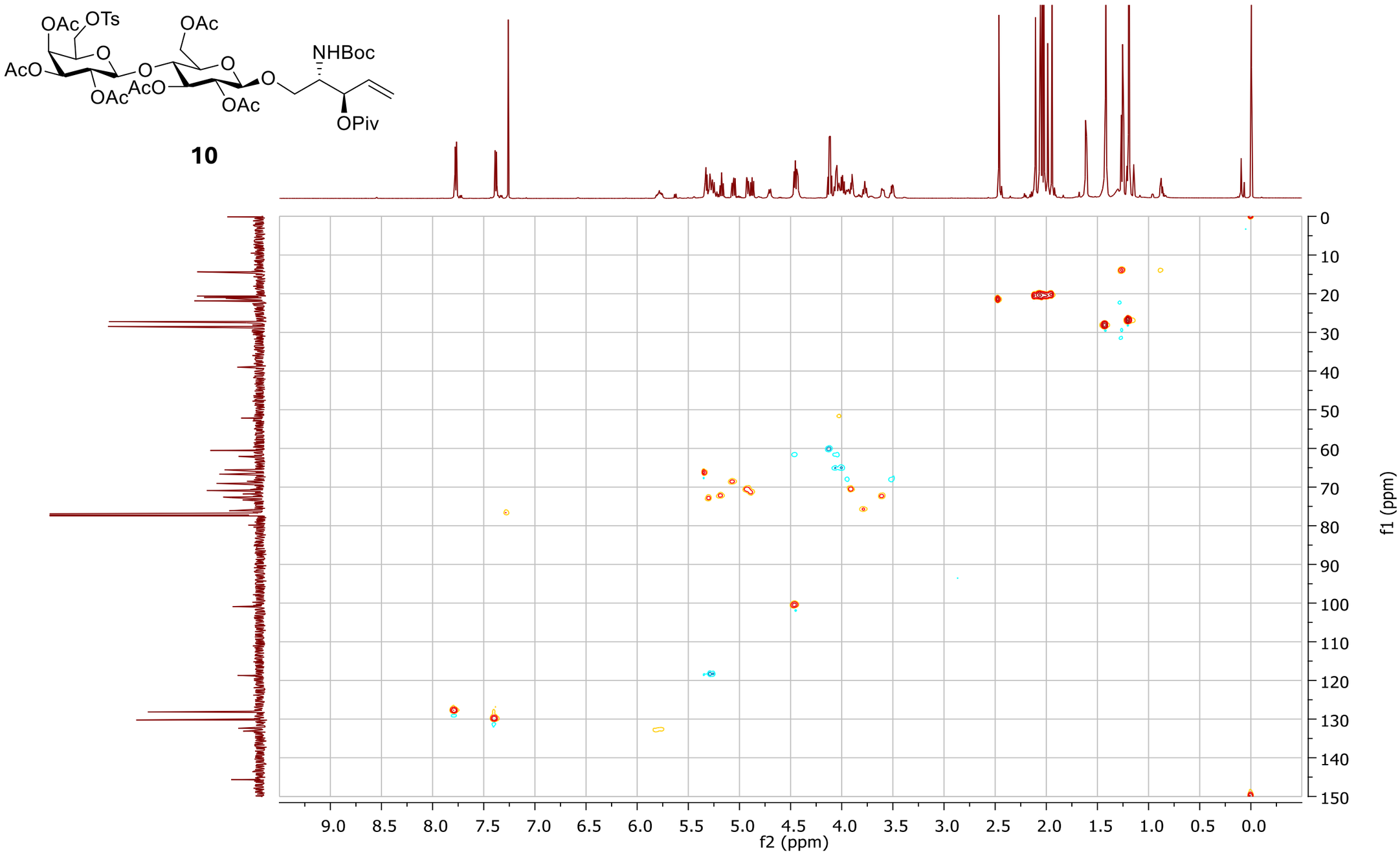


Figure S19. HR ESI-TOF-MS of compound **10**

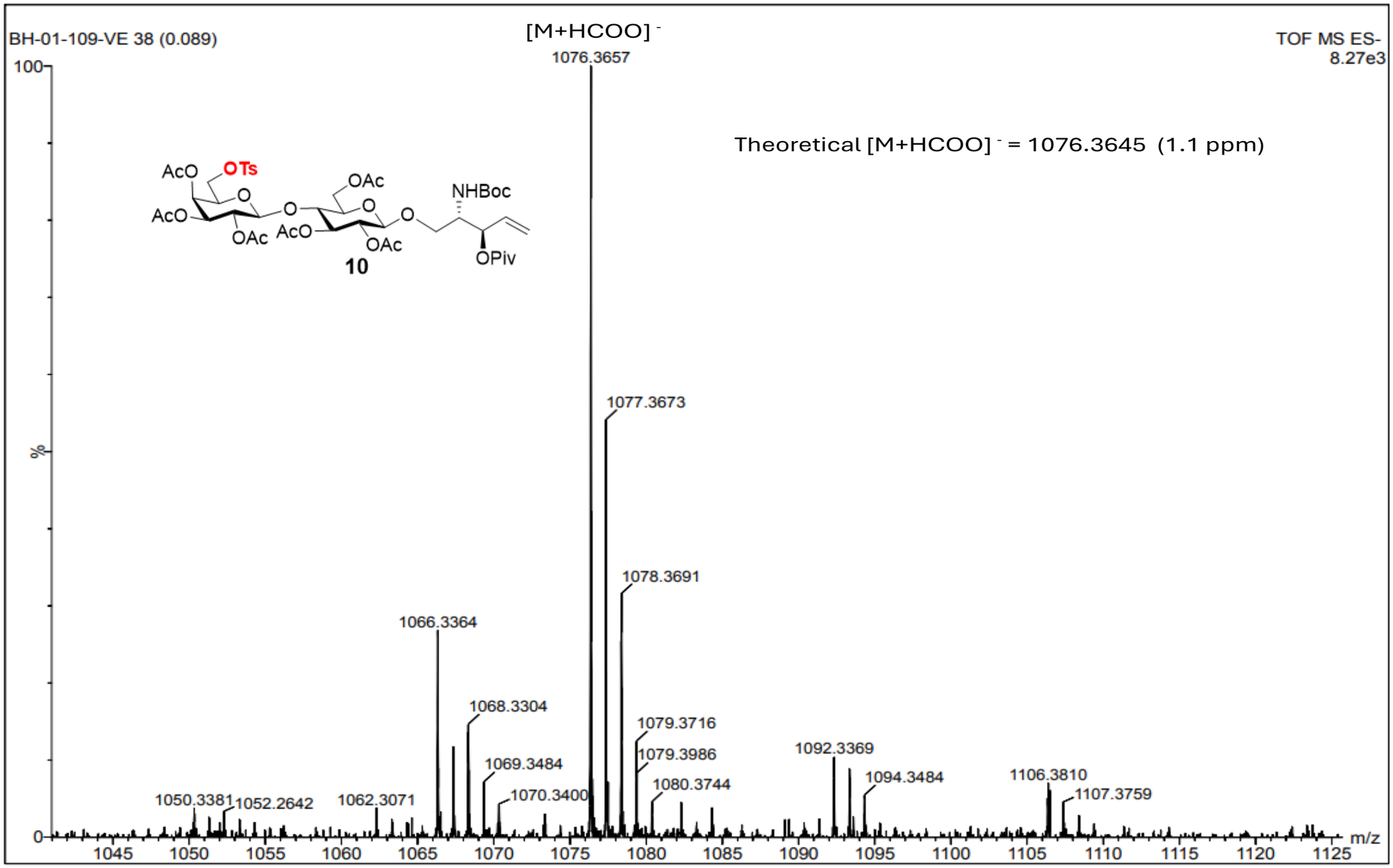


Figure S20. ^{1}H NMR of compound **12a** (400 MHz, $CDCl_3$)

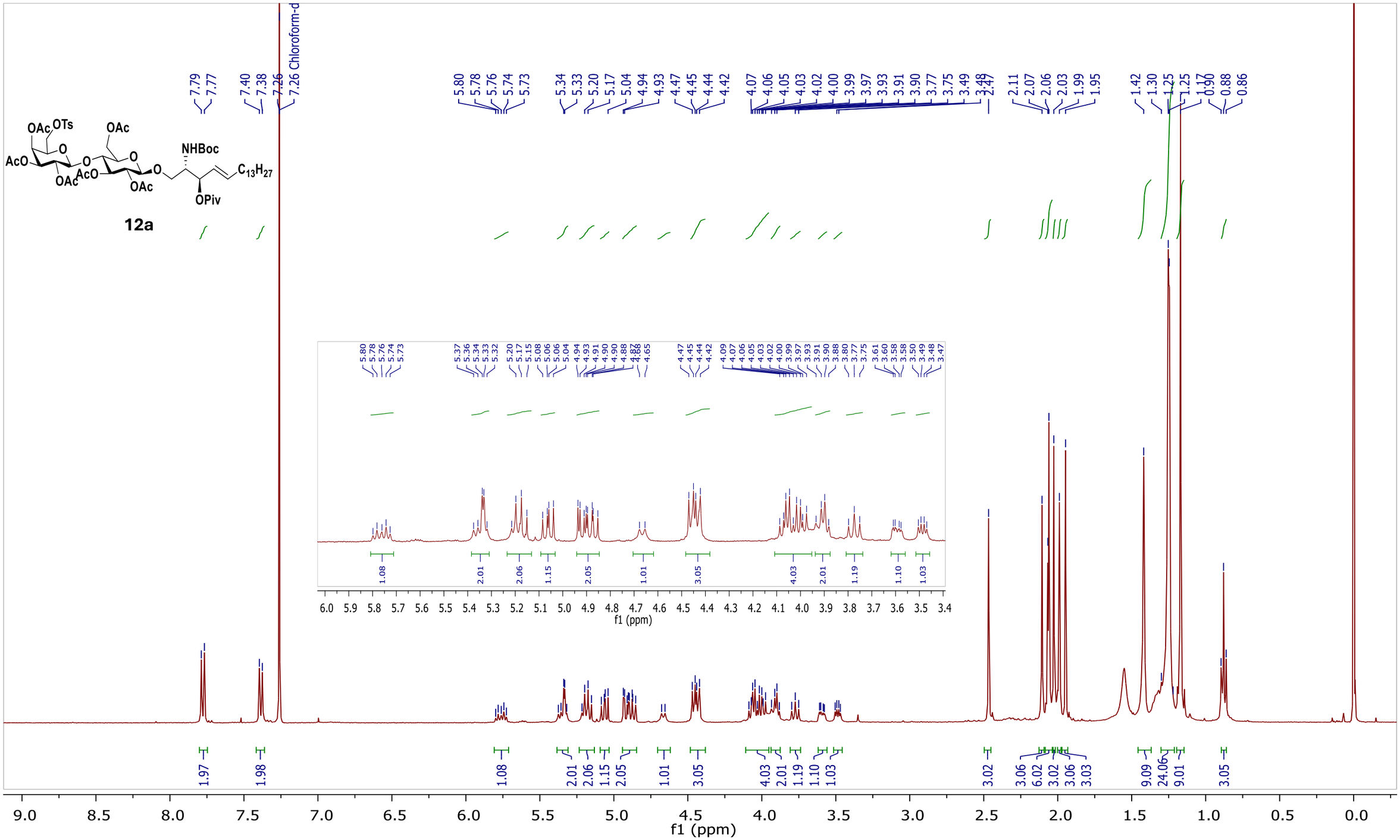


Figure S21. ^{13}C NMR of compound **12a** (101 MHz, $CDCl_3$)

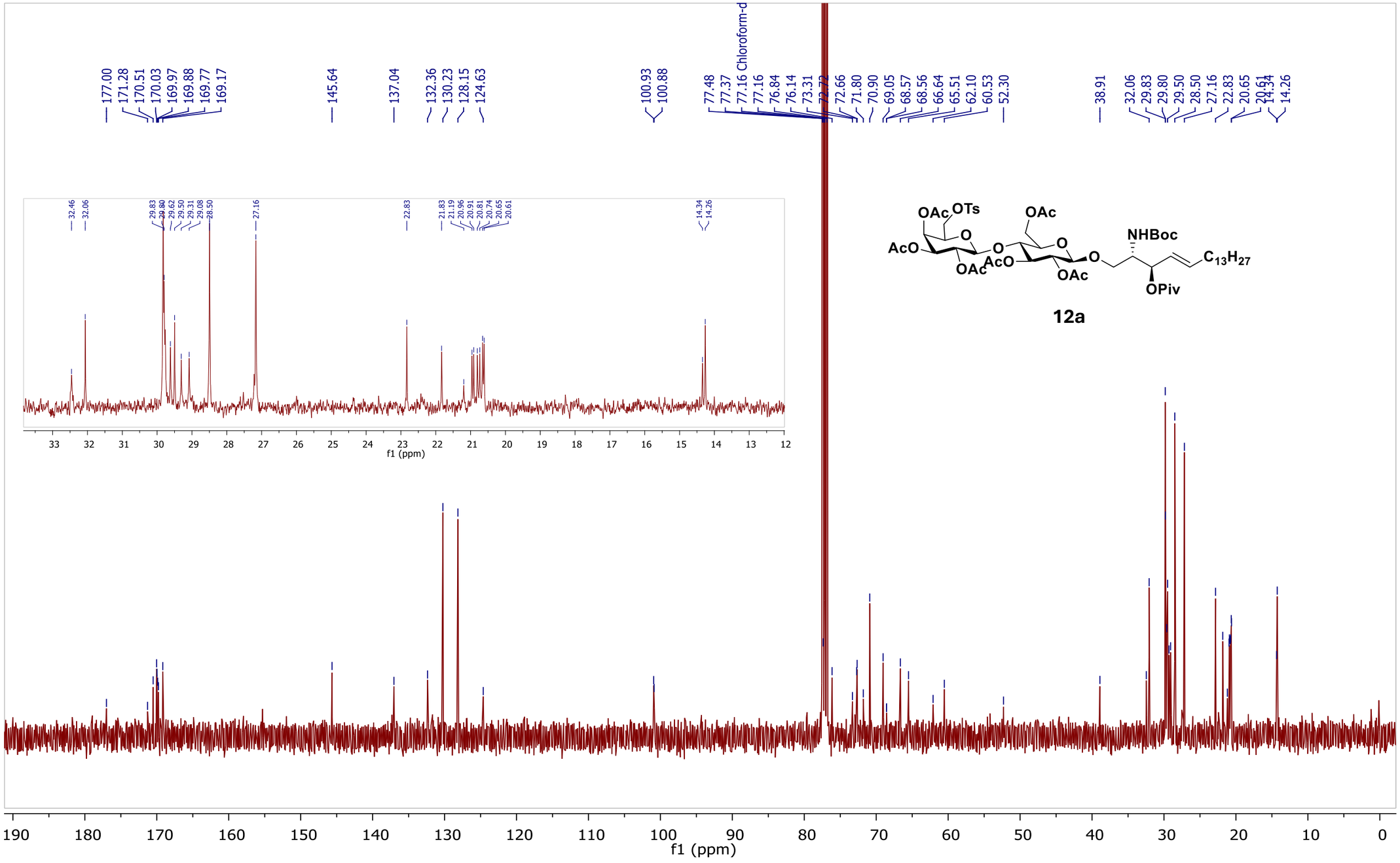


Figure S22. ^{1}H-^{1}H COSY NMR (400 MHz, $CDCl_3$) of compound **12a**

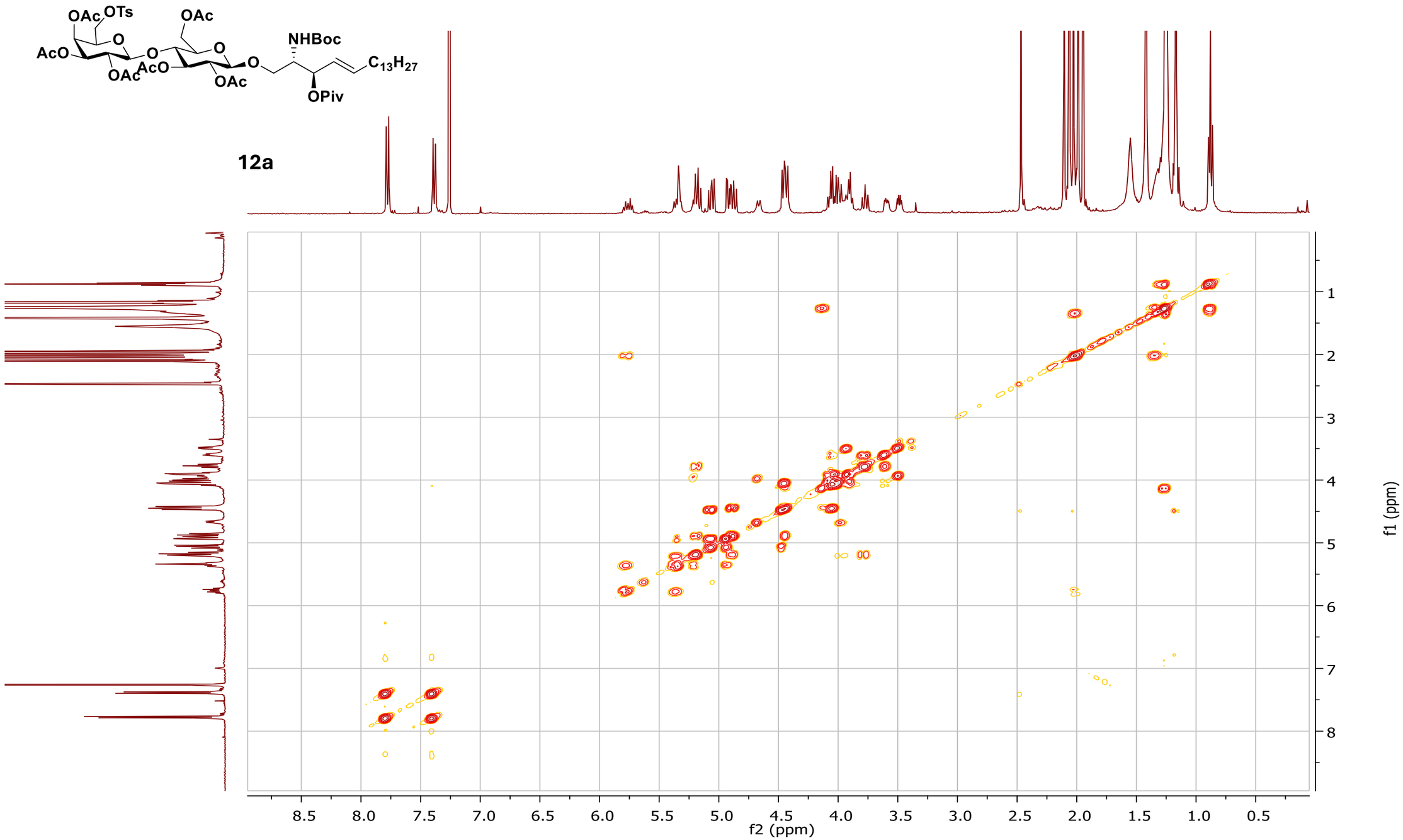


Figure S23. ^{1}H-^{13}C HSQC NMR (400/101 MHz, $CDCl_3$) of compound **12a**

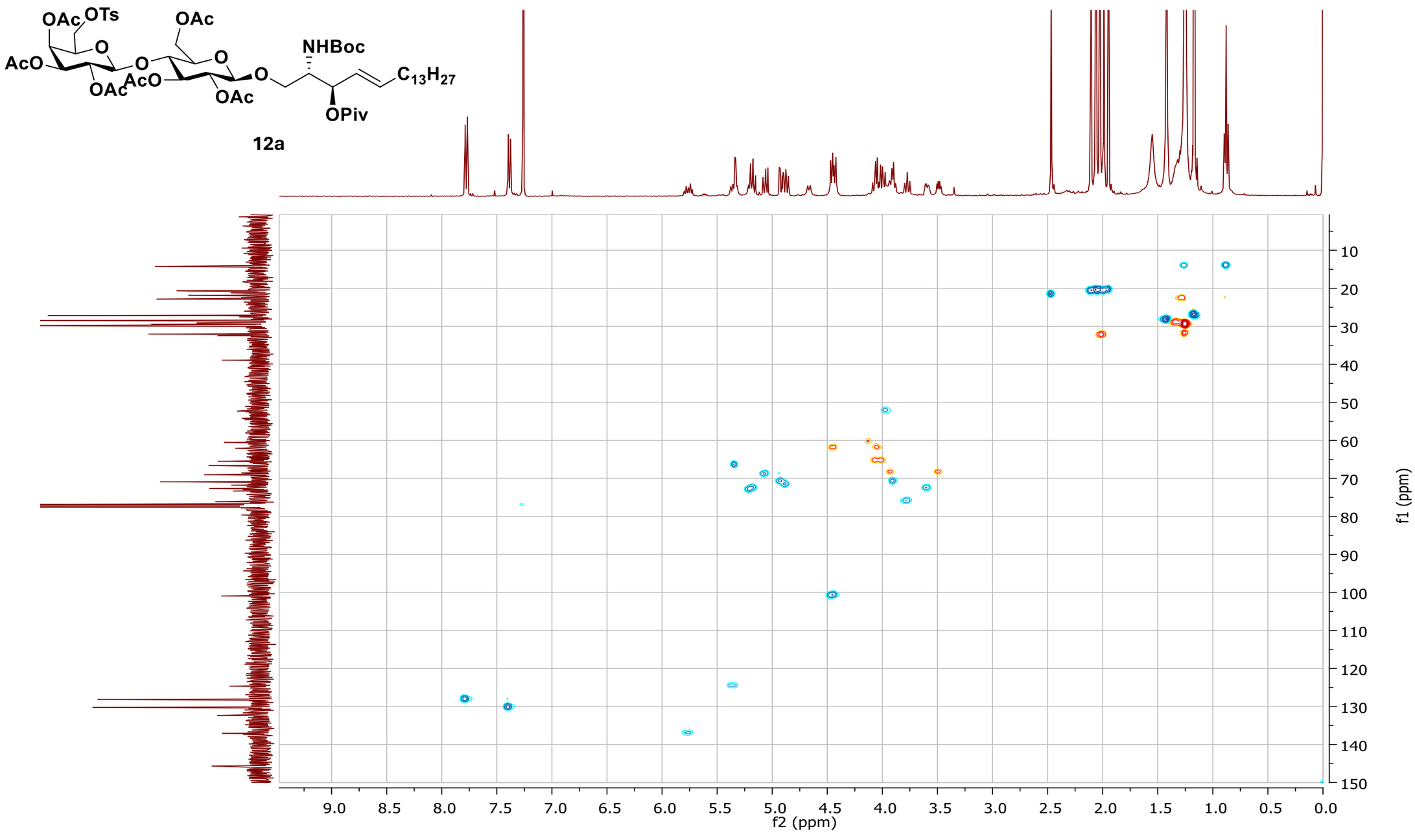


Figure S24. HR ESI-TOF-MS of compound **12a**

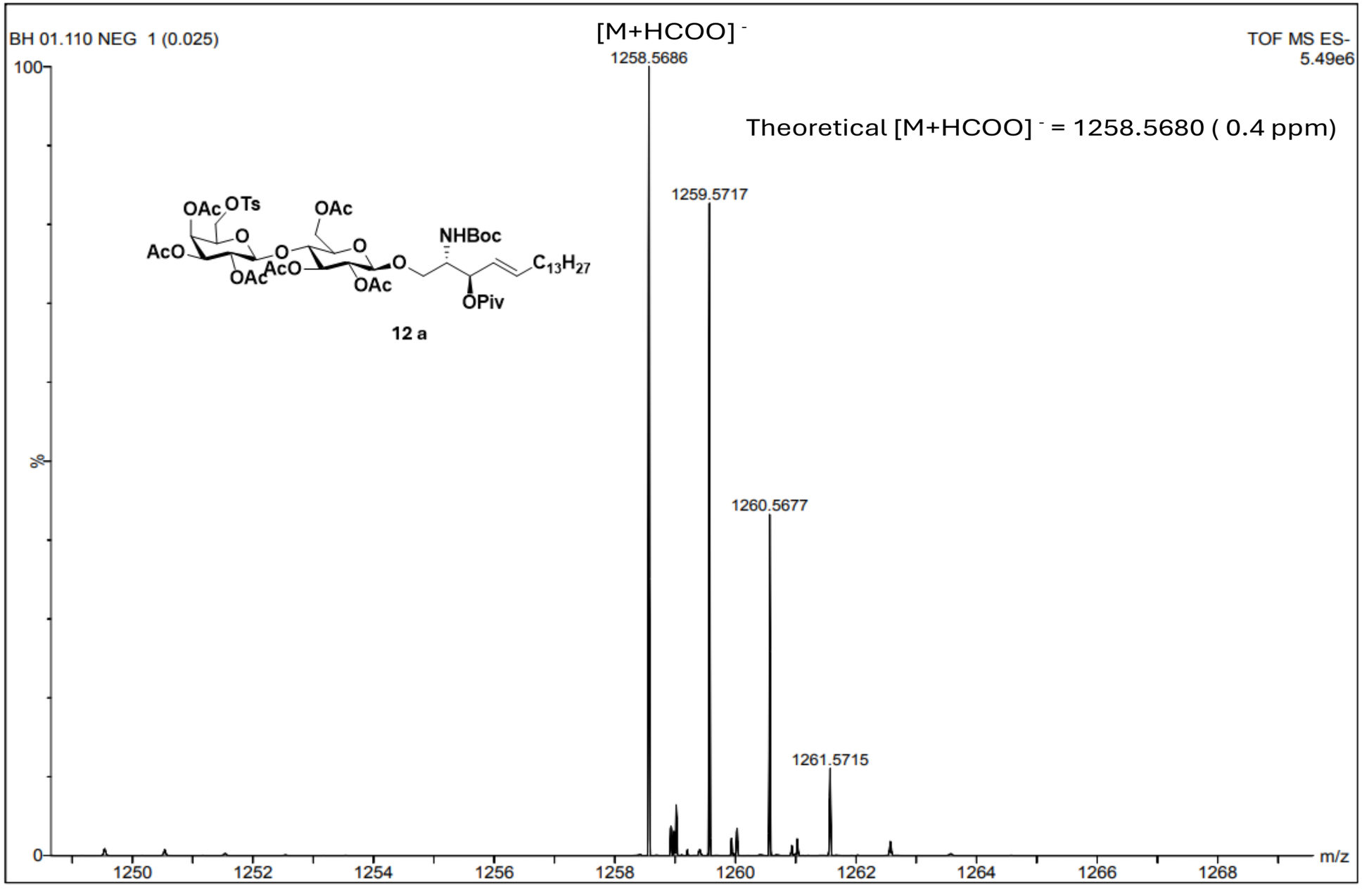


Figure S25. ^{1}H NMR of compound **12b** (600 MHz, $CDCl_3$)

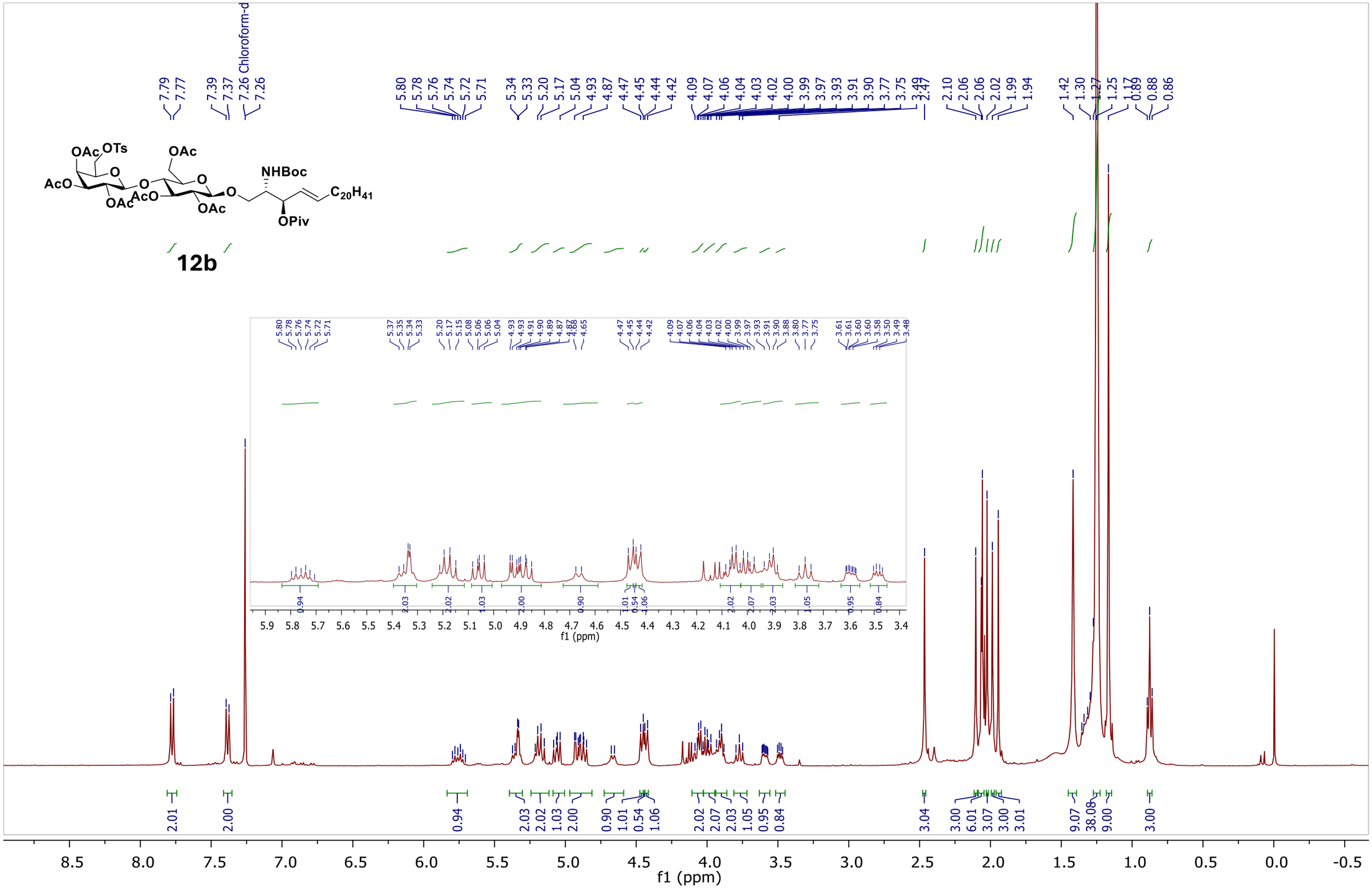


Figure S26. ^{13}C NMR of compound **12b** (151 MHz, $CDCl_3$)

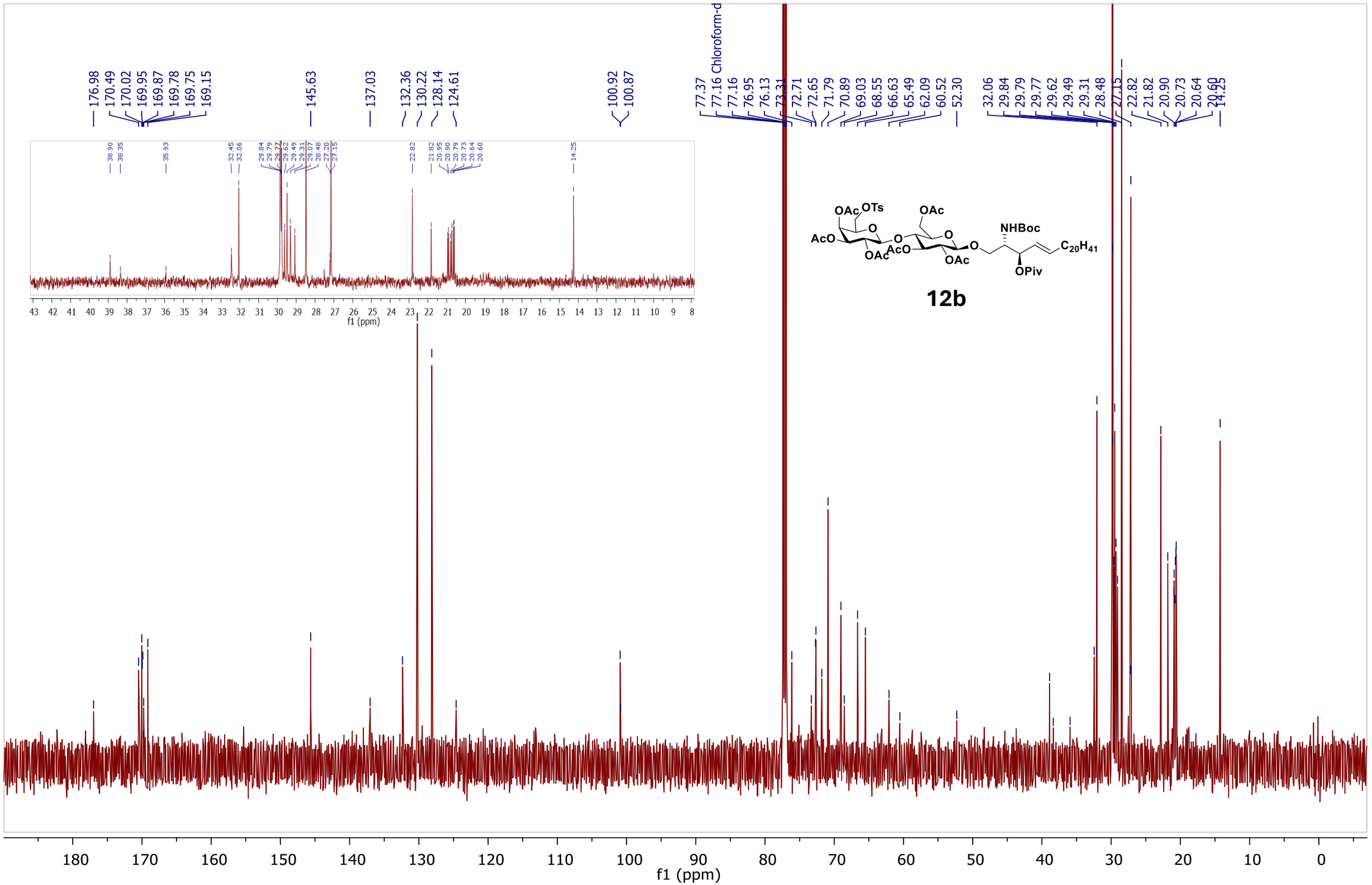
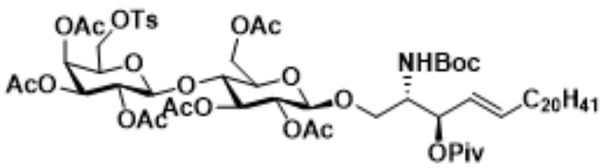


Figure S27. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **12b**



12b

Figure S28. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **12b**

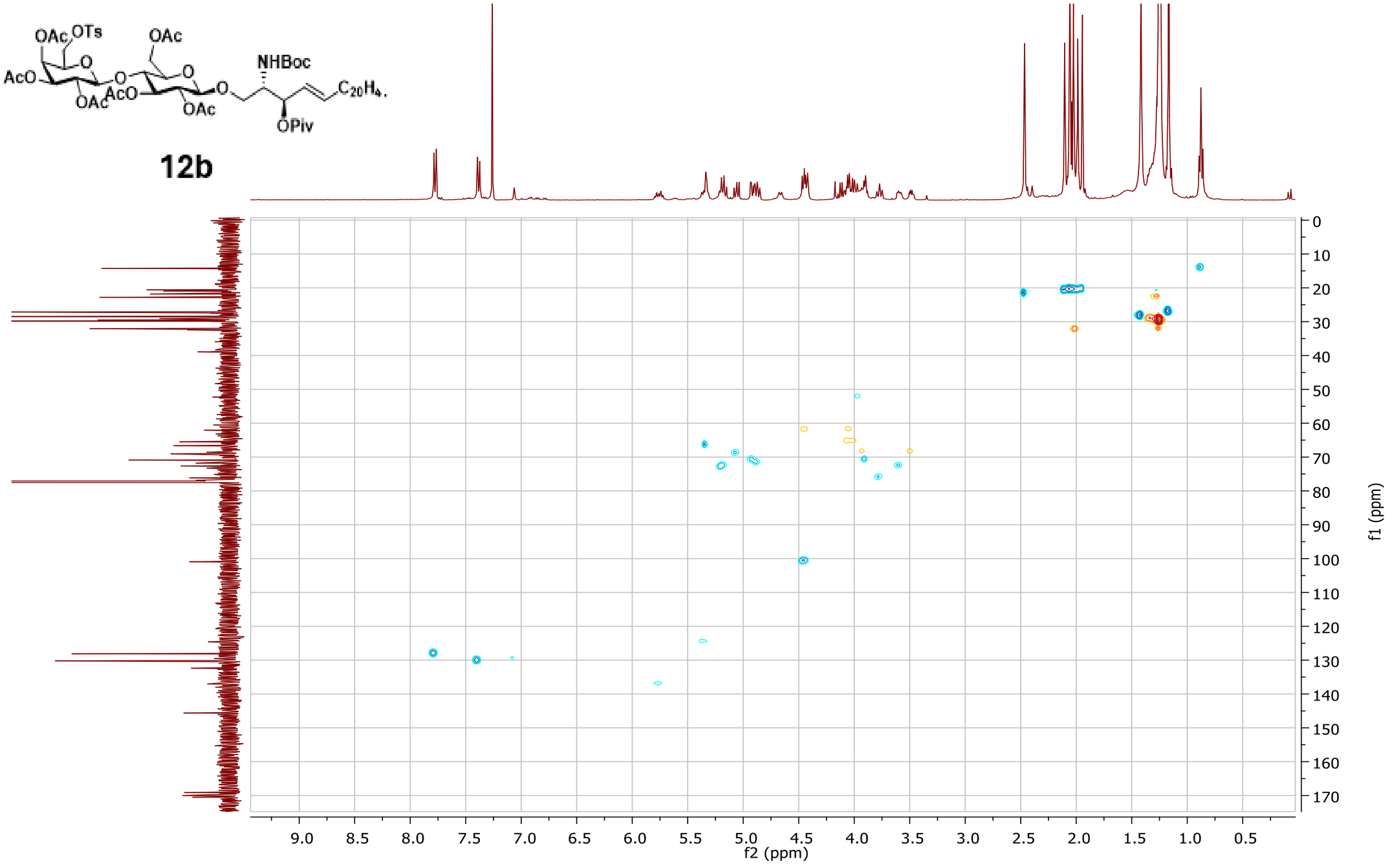
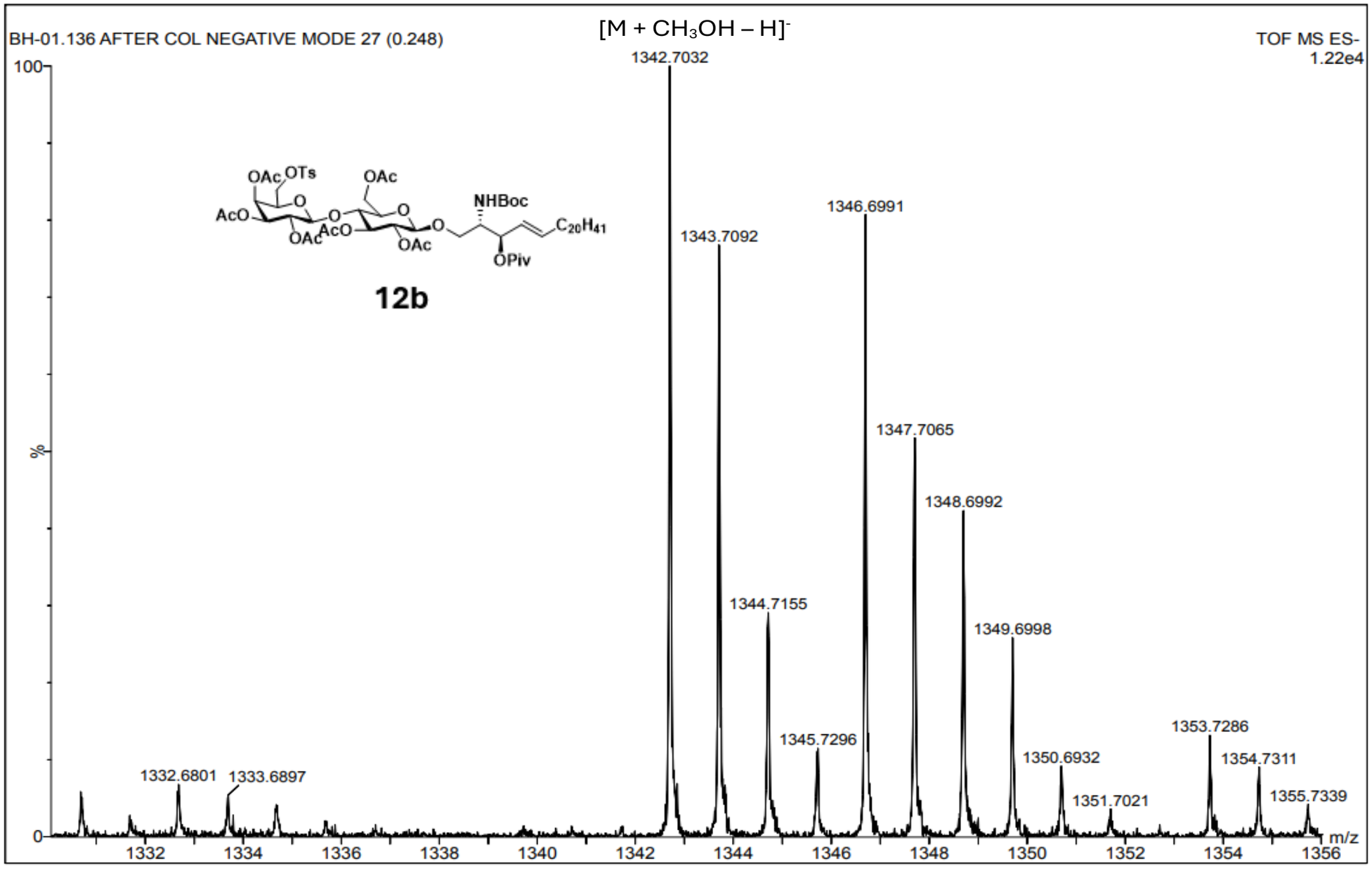


Figure S29. HR ESI-TOF-MS of compound **12b**



12b

Figure S30. ^{1}H NMR of compound **13a** (600 MHz, $CDCl_3$)

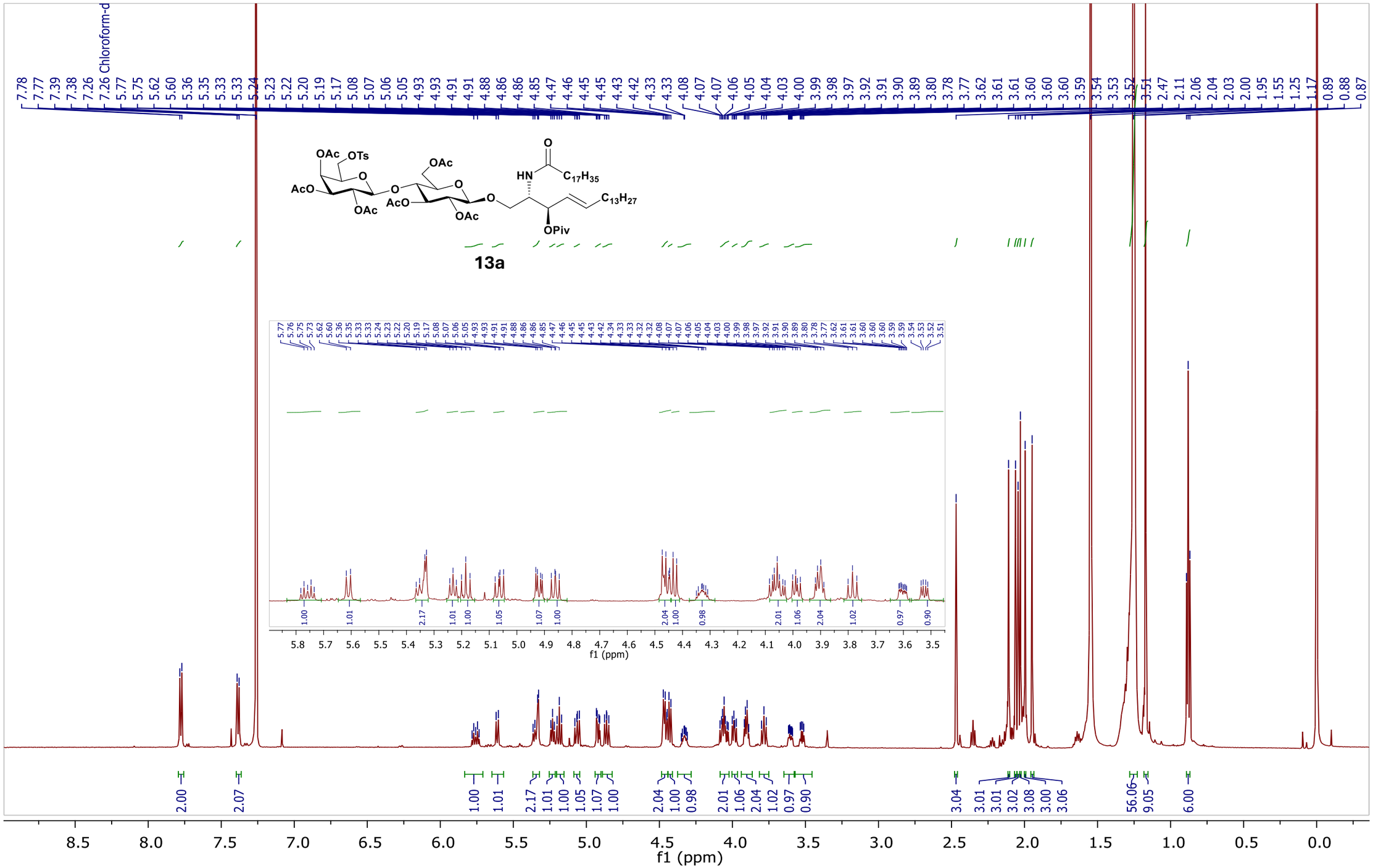


Figure S31. ^{13}C NMR of compound **13a** (151 MHz, $CDCl_3$)

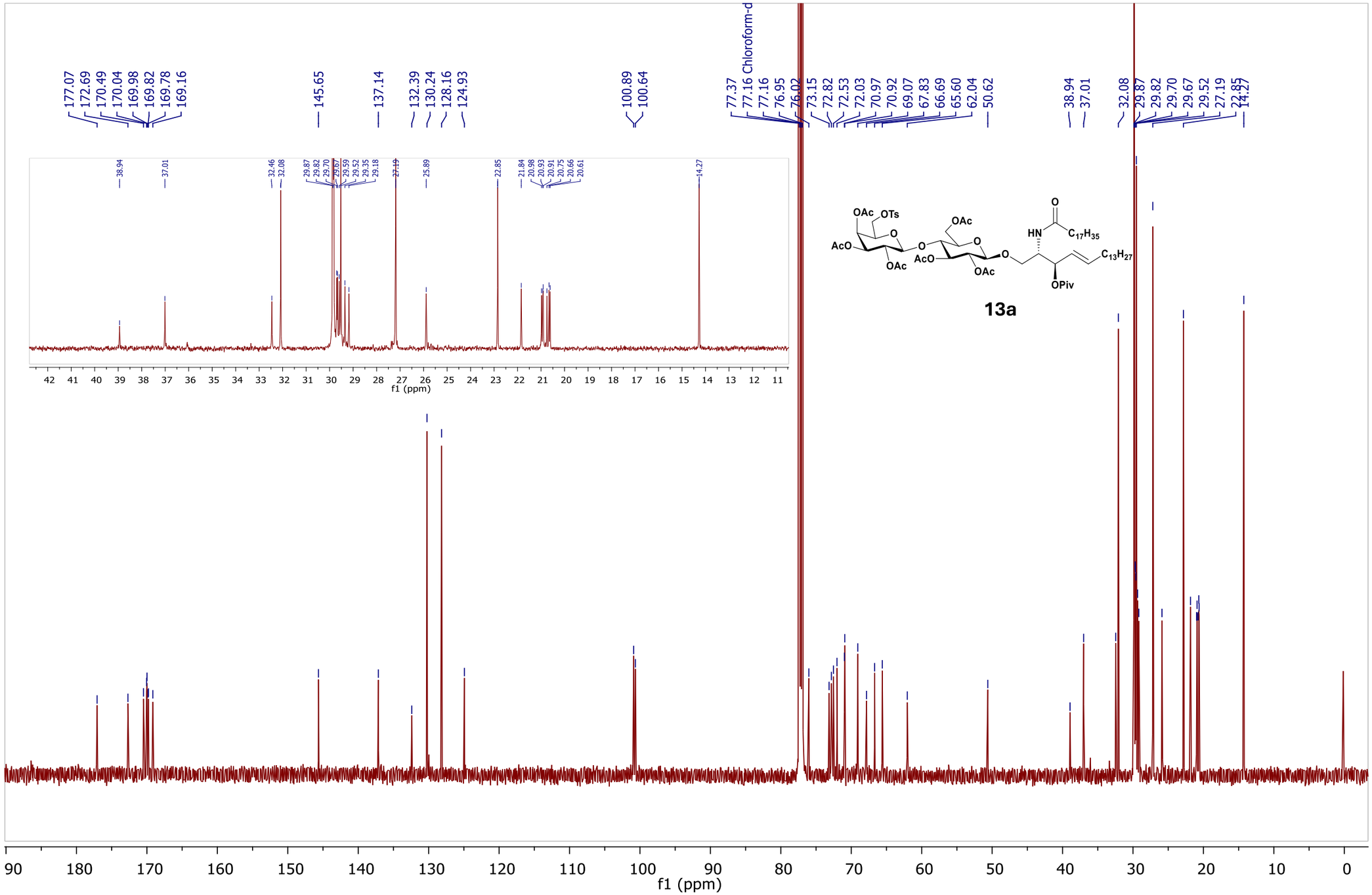


Figure S32. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **13a**

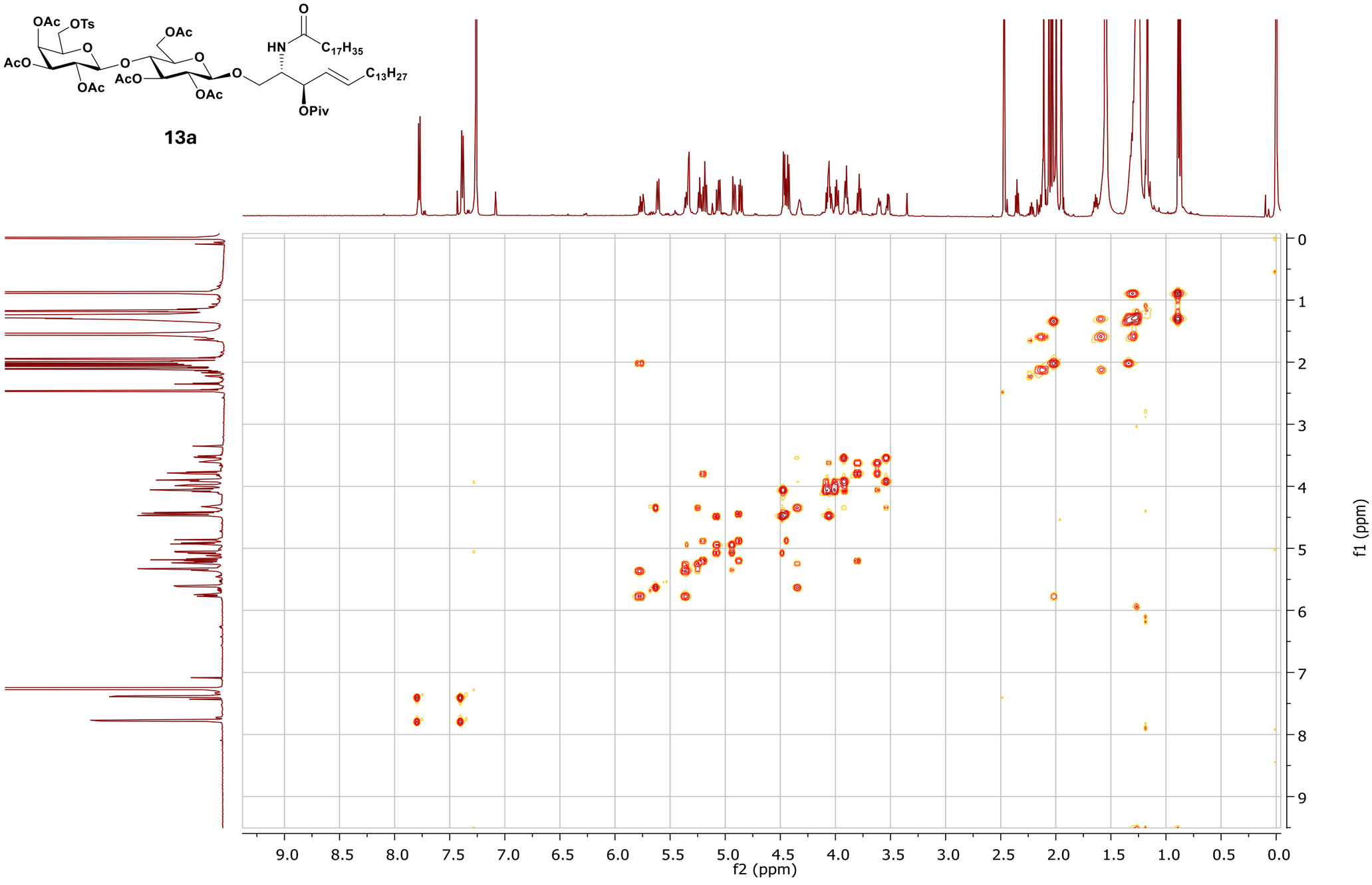


Figure S33. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **13a**

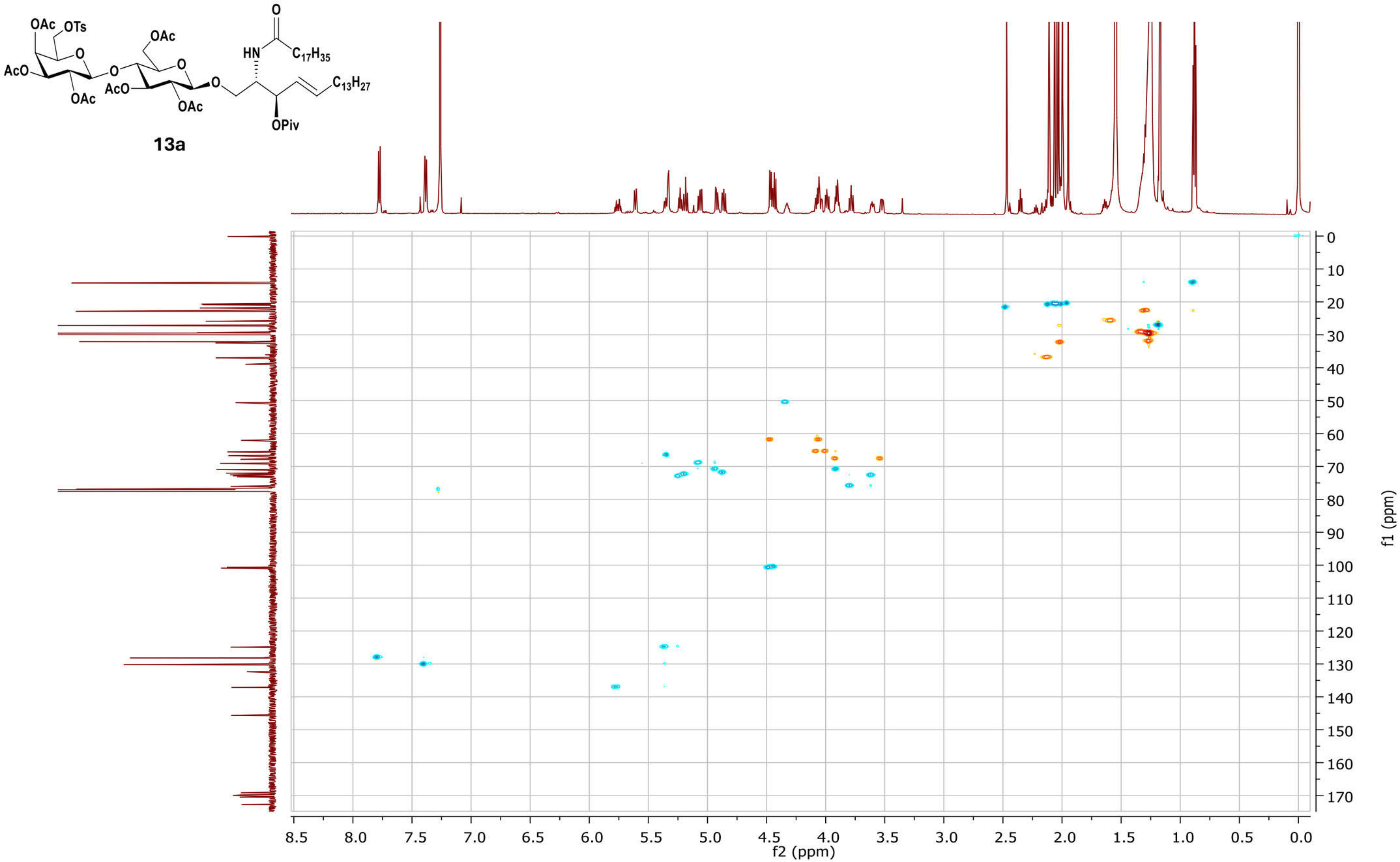


Figure S34. HR ESI-TOF-MS of compound **13a**

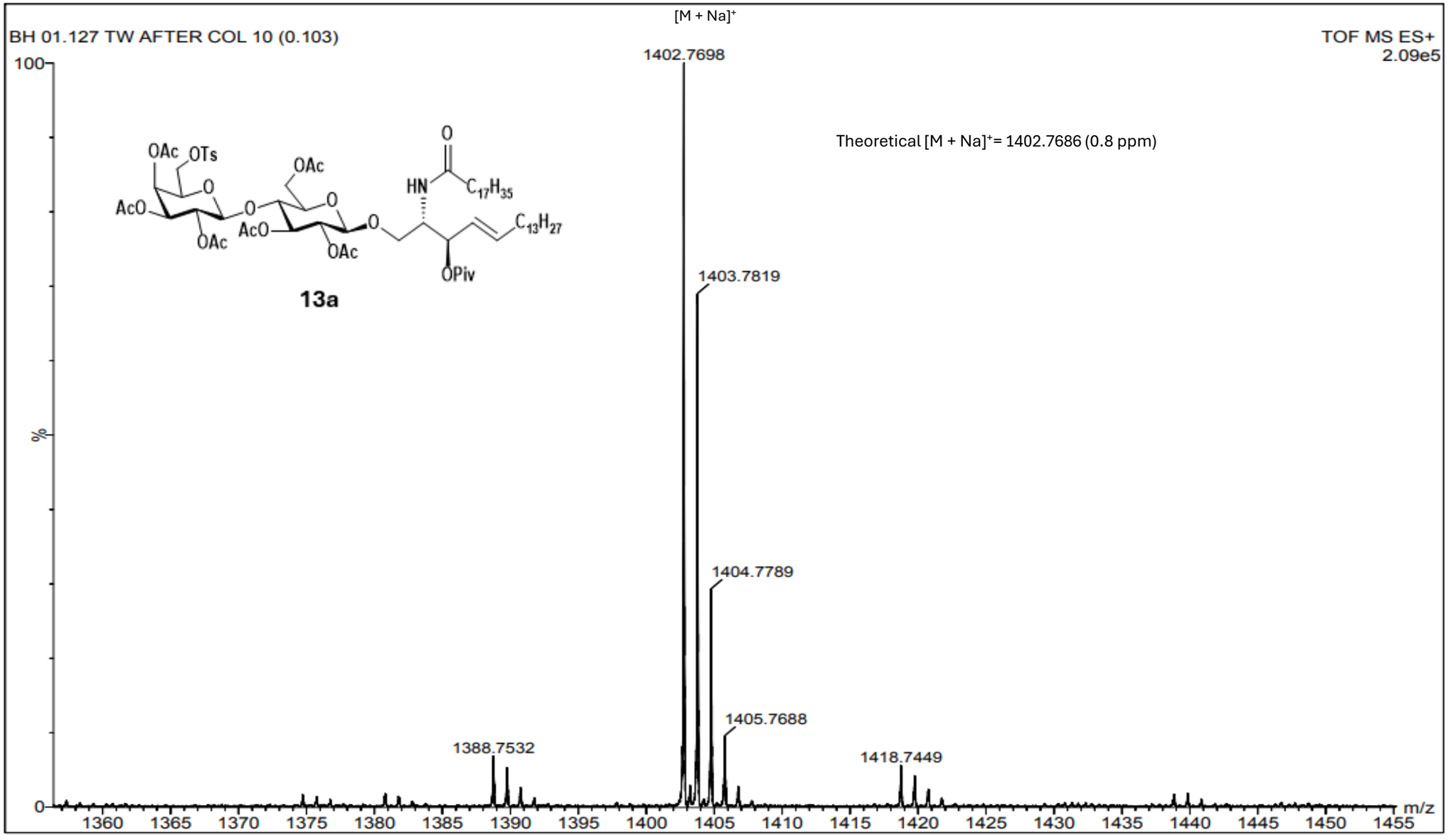


Figure S35. ^{1}H NMR of compound **13b** (600 MHz, $CDCl_3$)

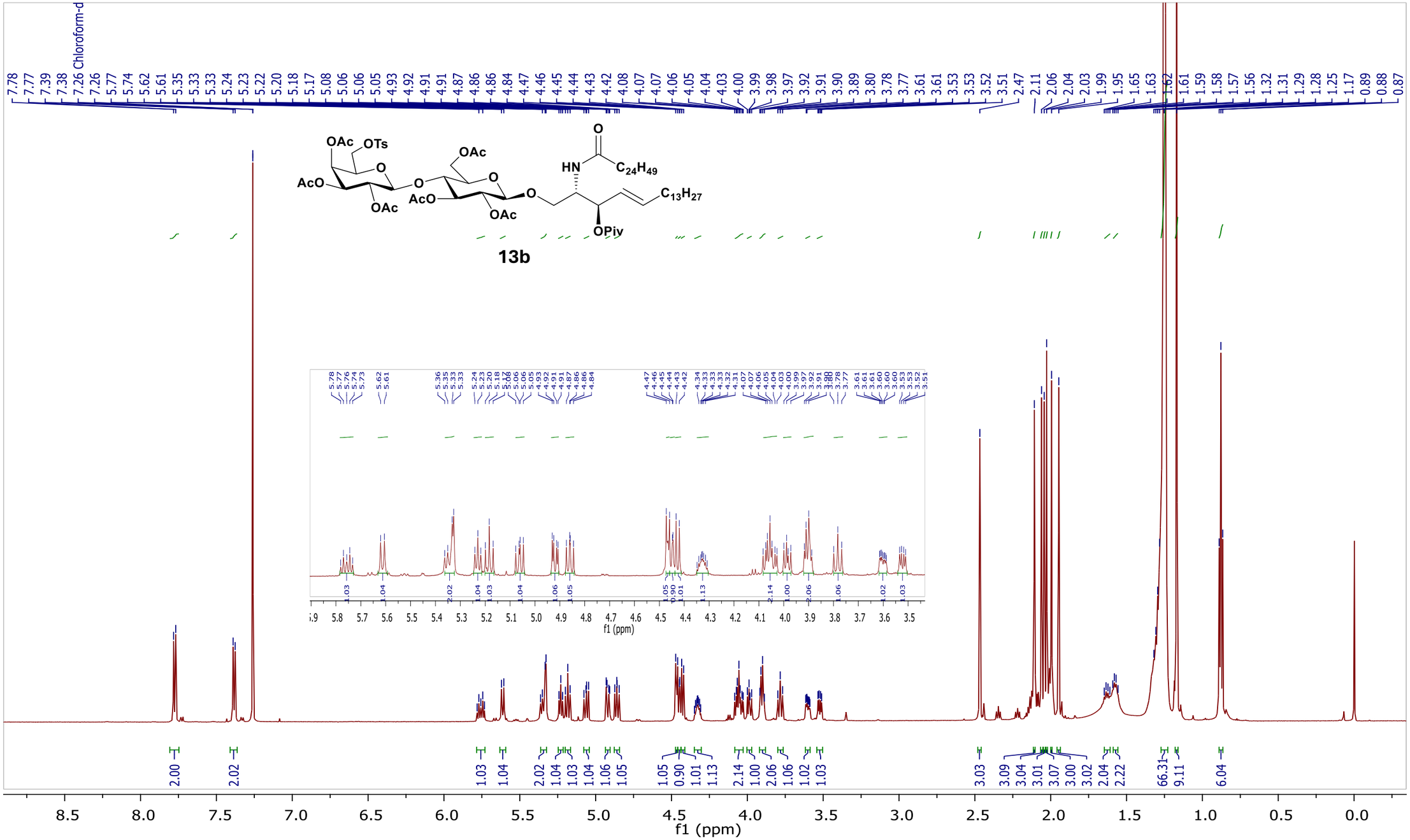


Figure S36. ^{13}C NMR of compound **13b** (151 MHz, $CDCl_3$)

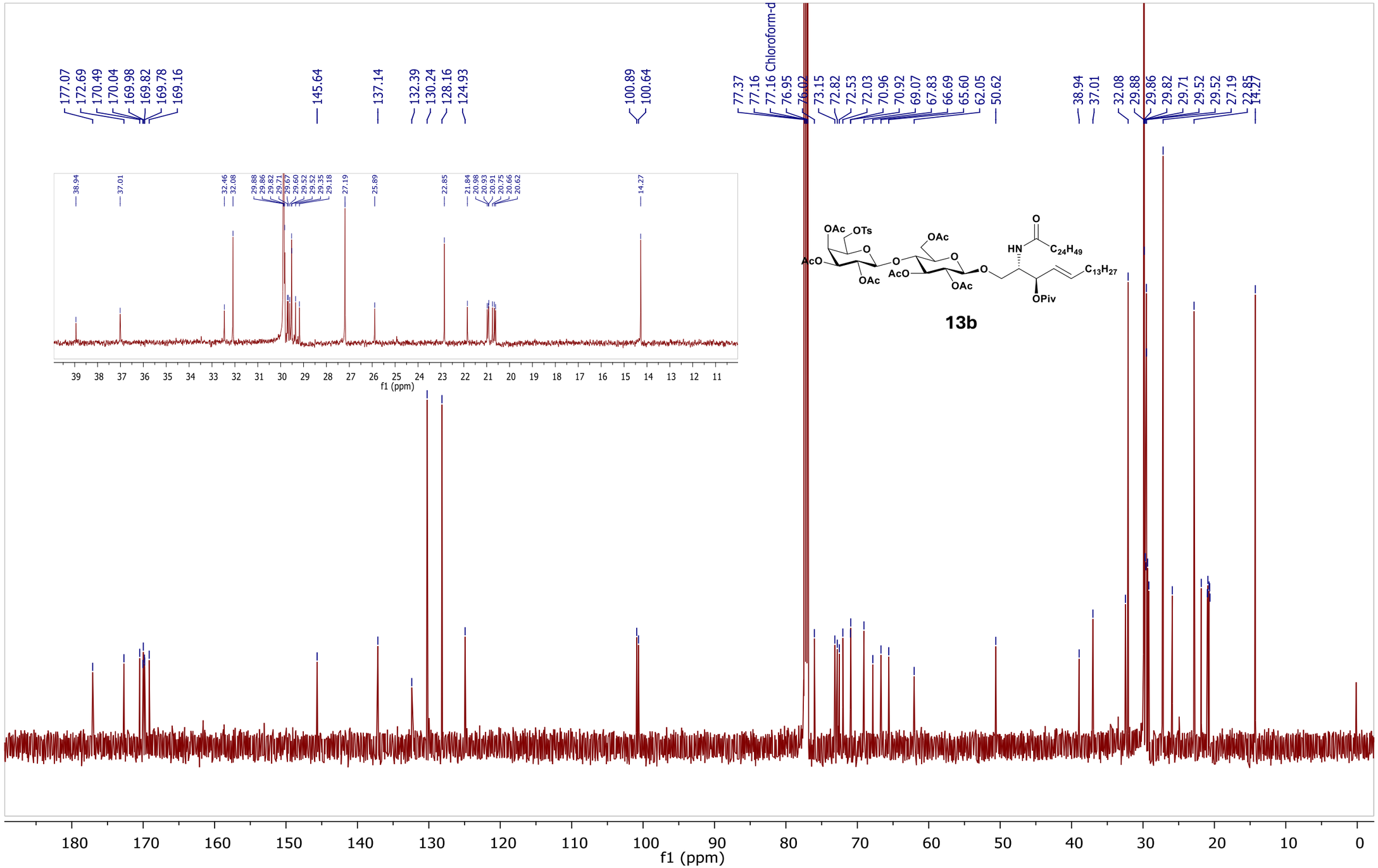


Figure 37. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **13b**

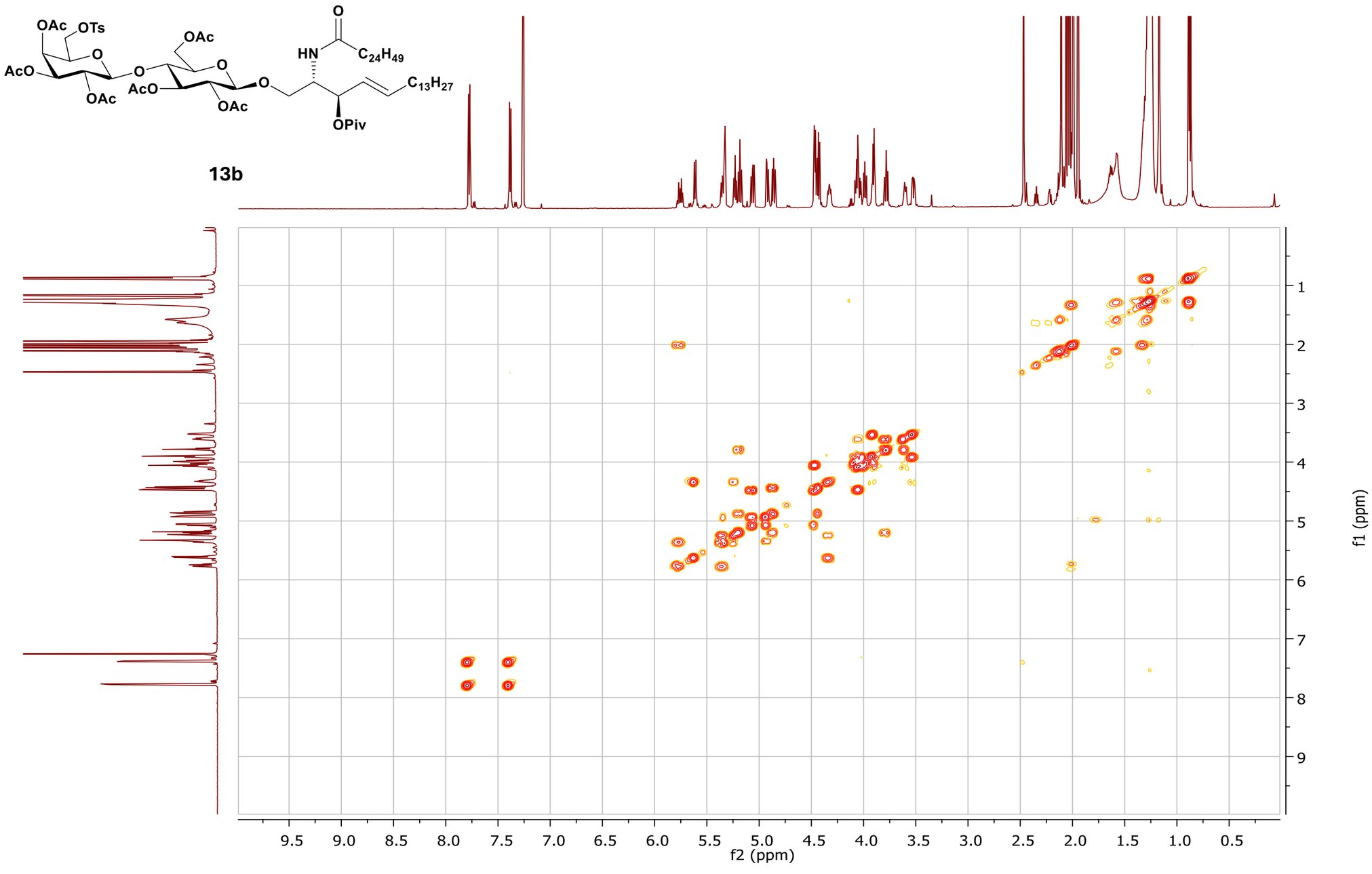
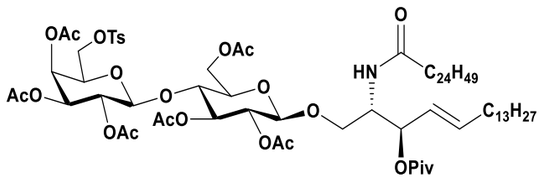


Figure S38. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **13b**



13b

Figure S39. HR ESI-TOF-MS of compound **13b**

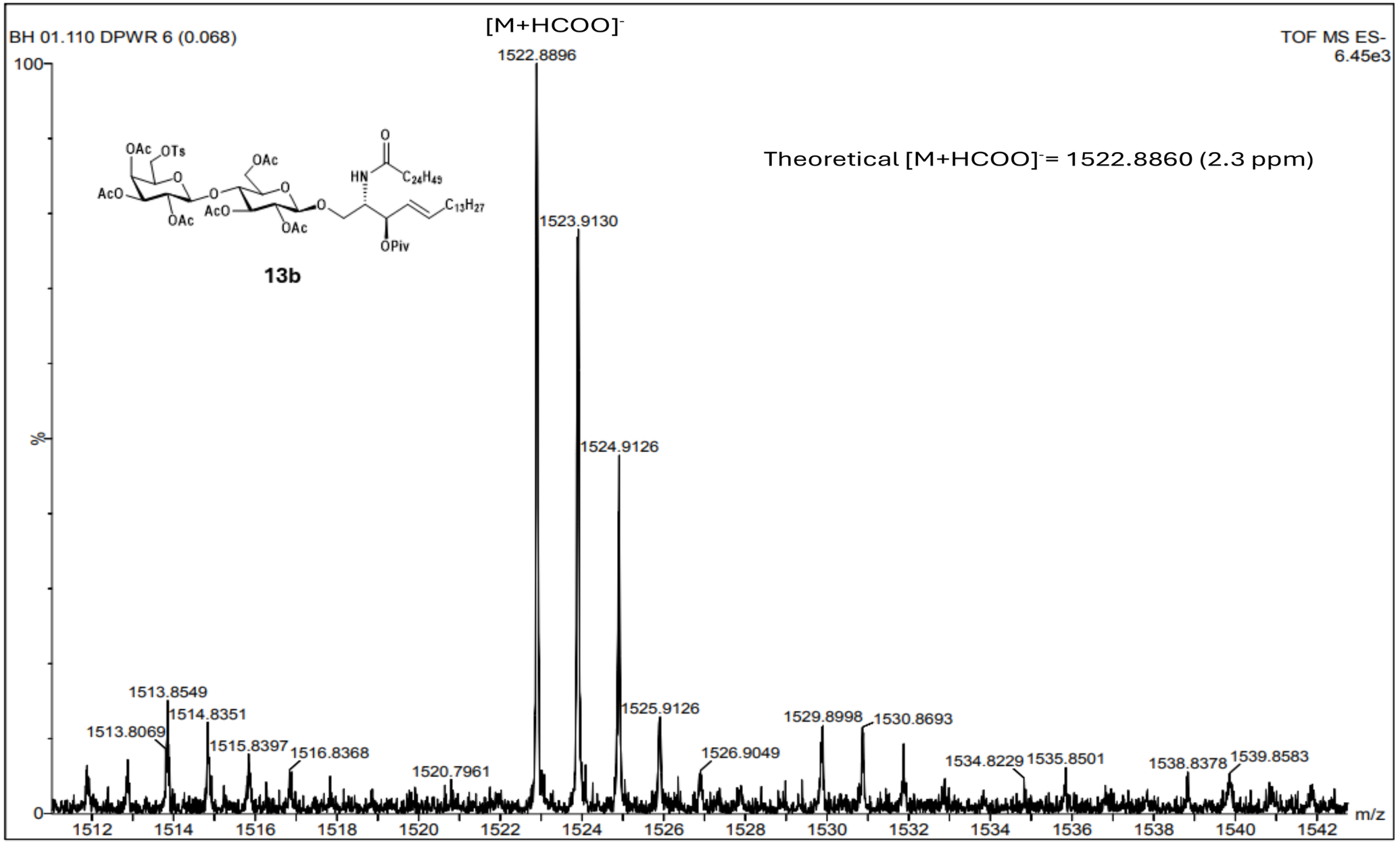


Figure S40. ^{1}H NMR of compound **13c** (600 MHz, $CDCl_3$)

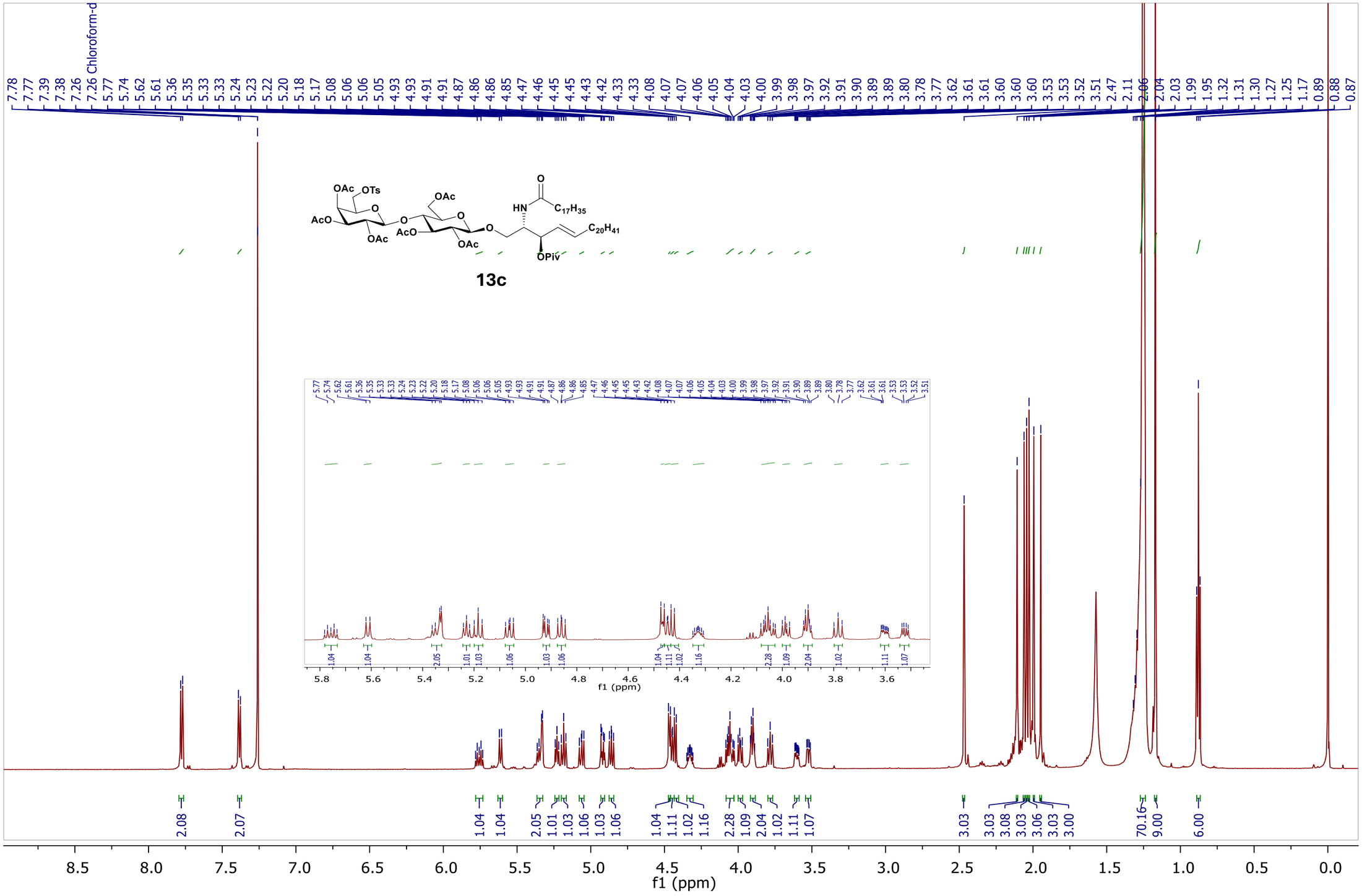


Figure S41. ^{13}C NMR of compound **13c** (151 MHz, $CDCl_3$)

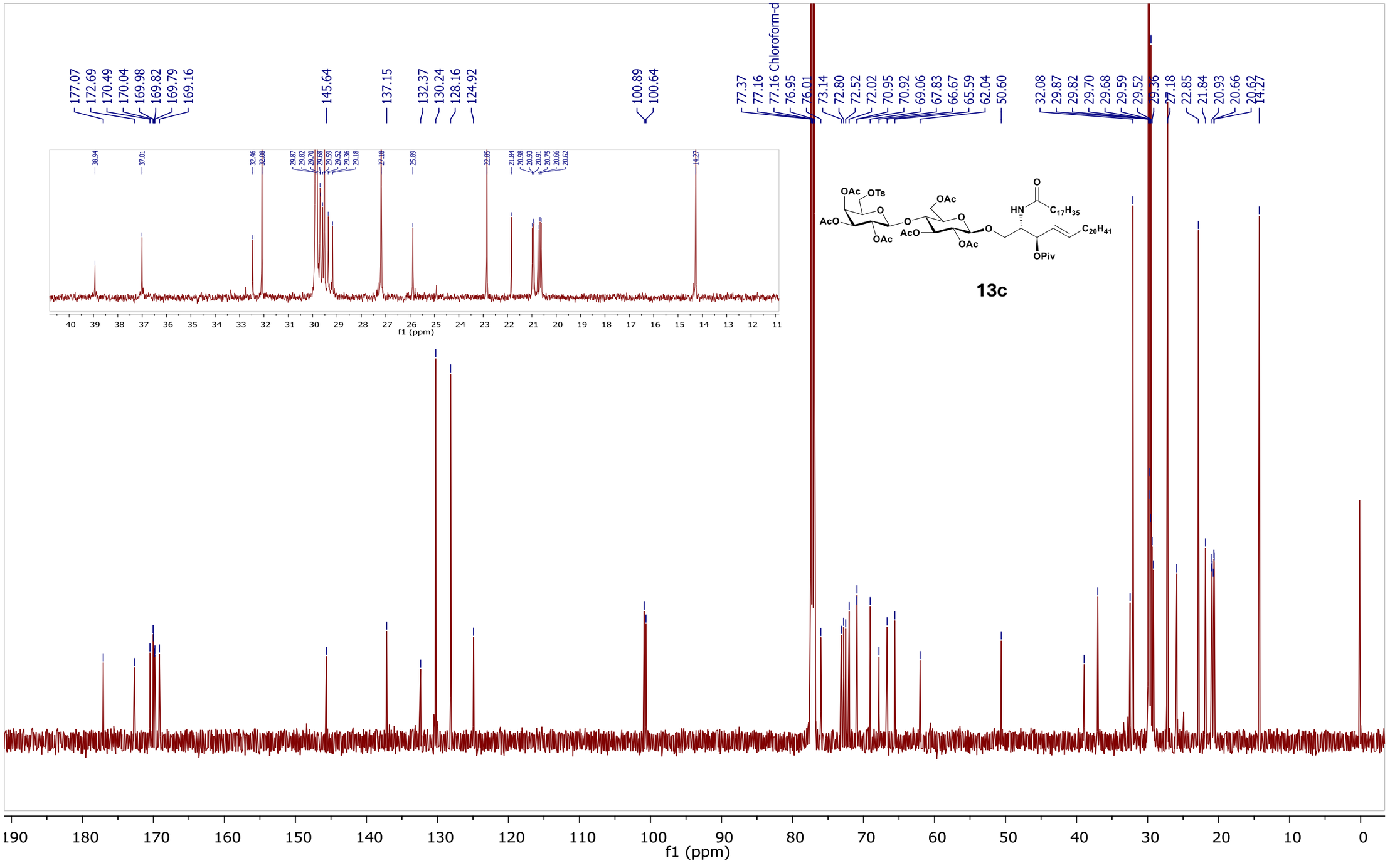


Figure 42. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **13c**

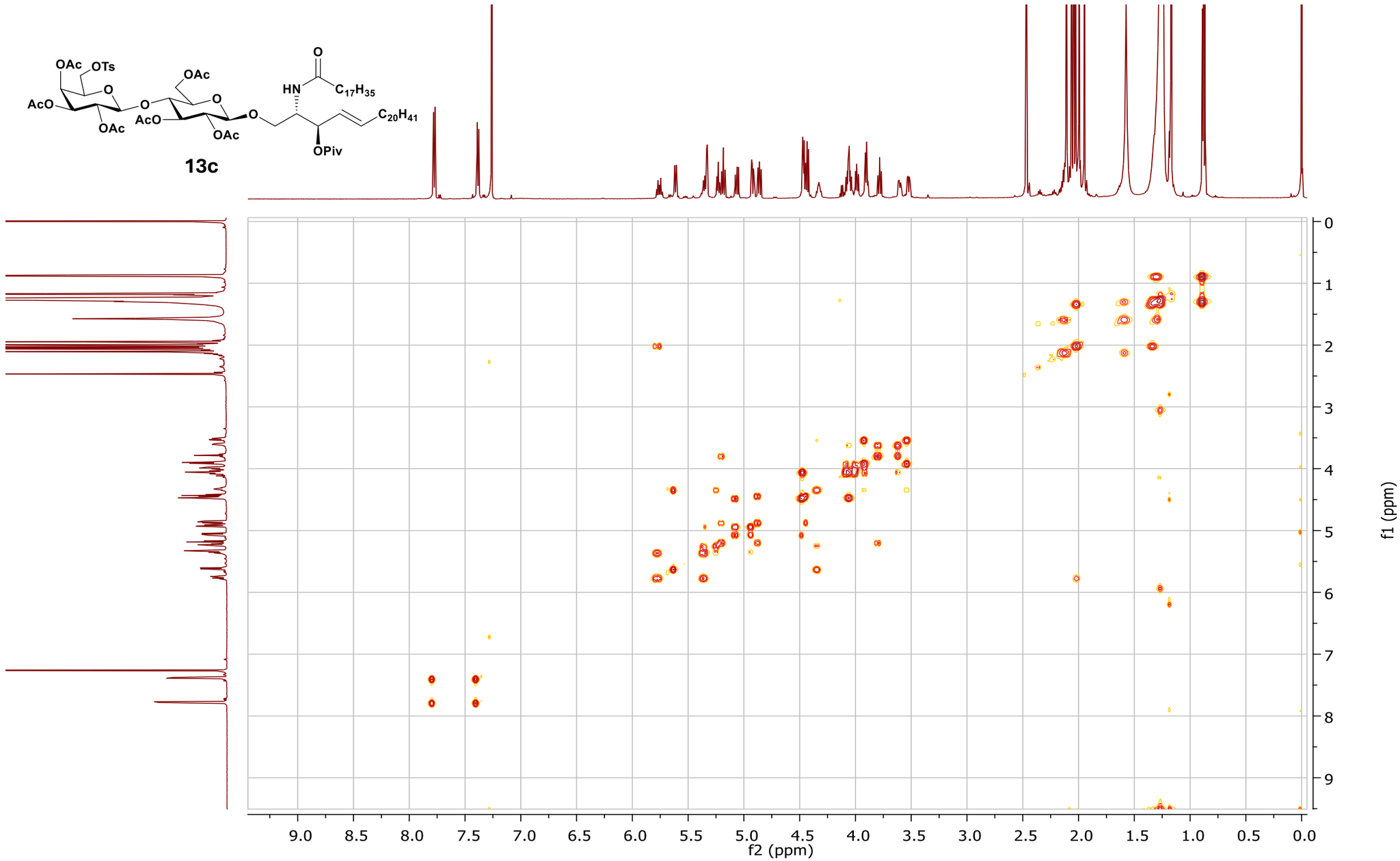


Figure S43. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **13c**

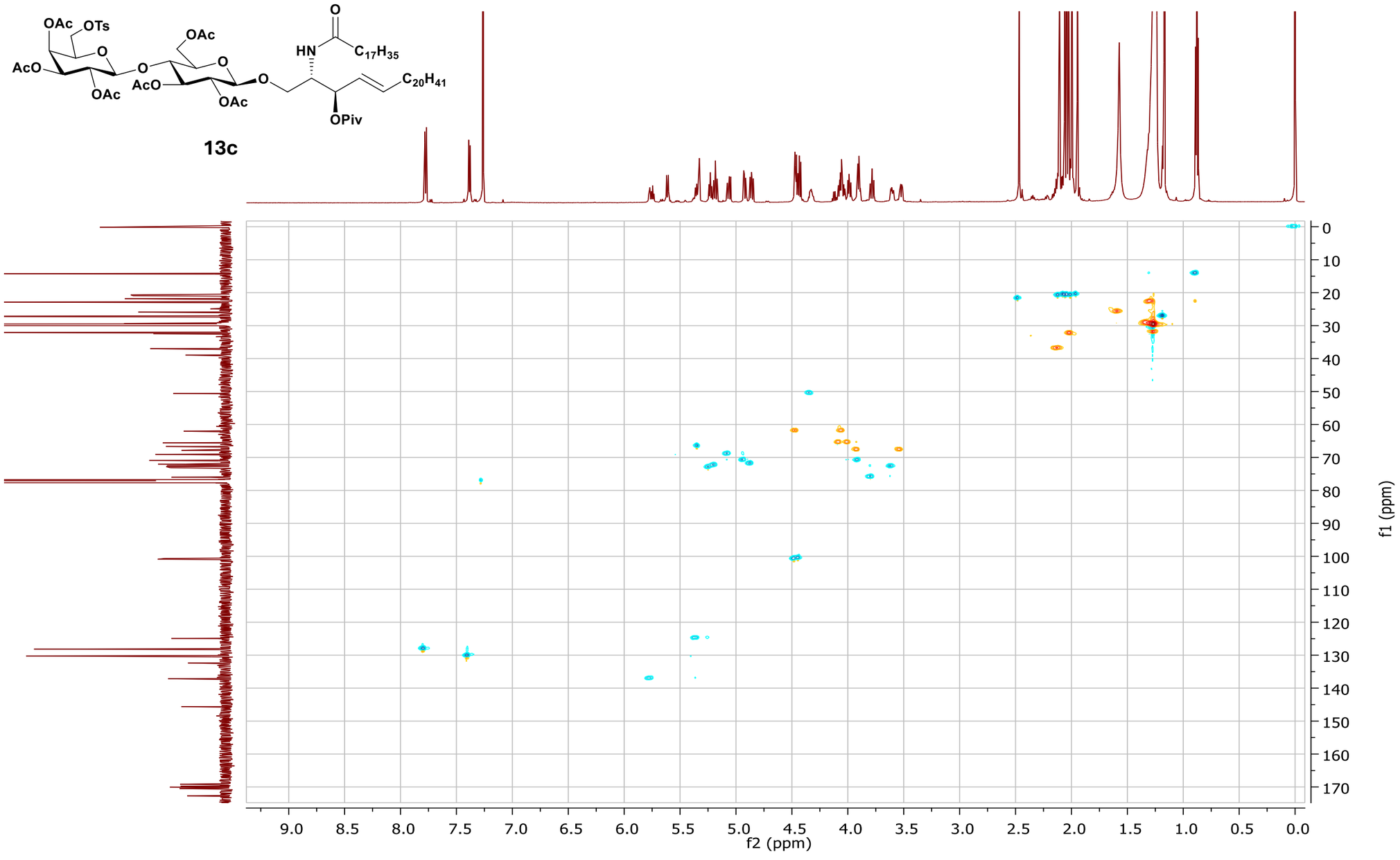
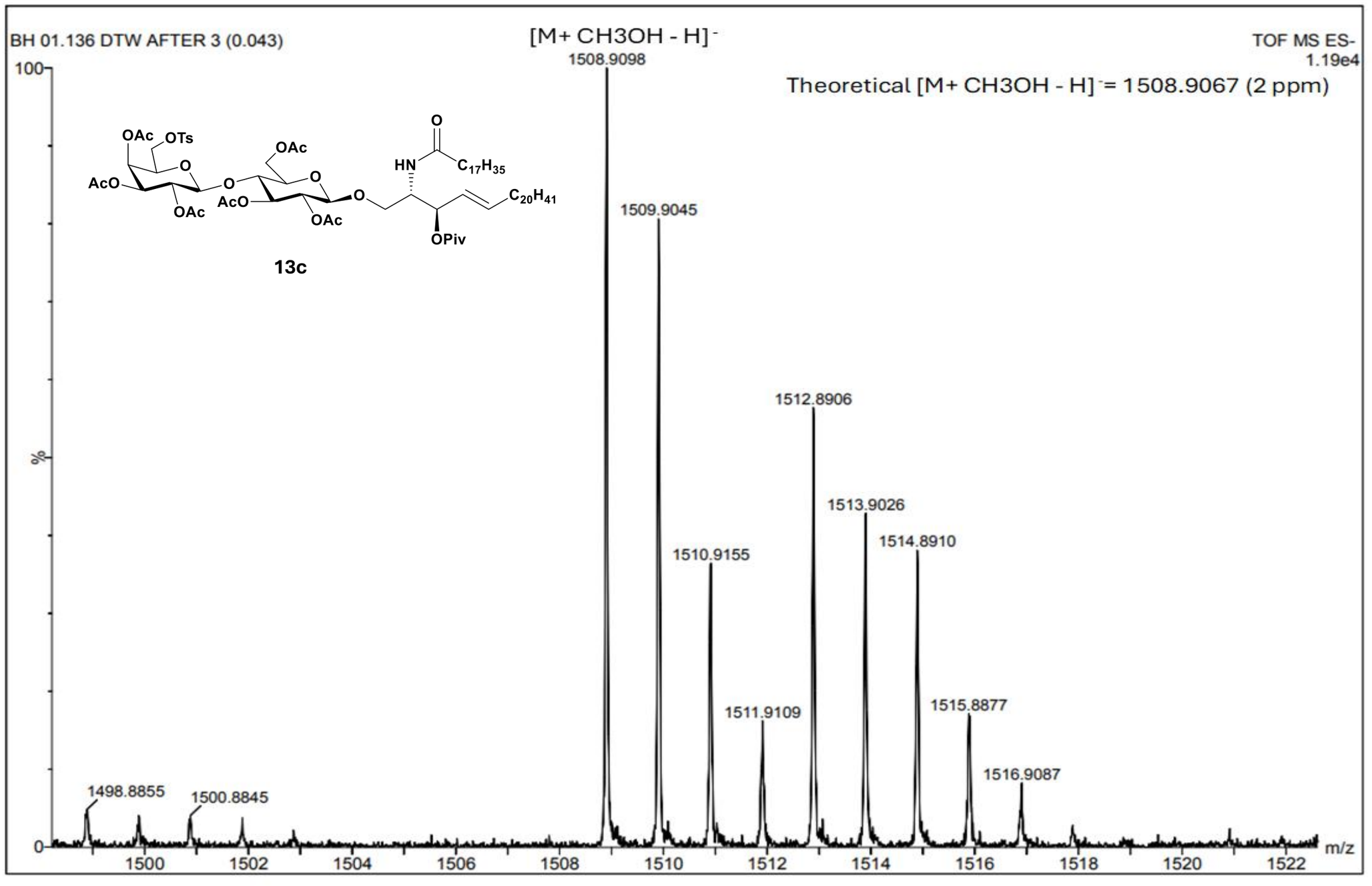


Figure S44. HR ESI-TOF-MS of compound **13c**



13c

Figure S45. ^{1}H NMR of compound **13d** (600 MHz, $CDCl_3$)

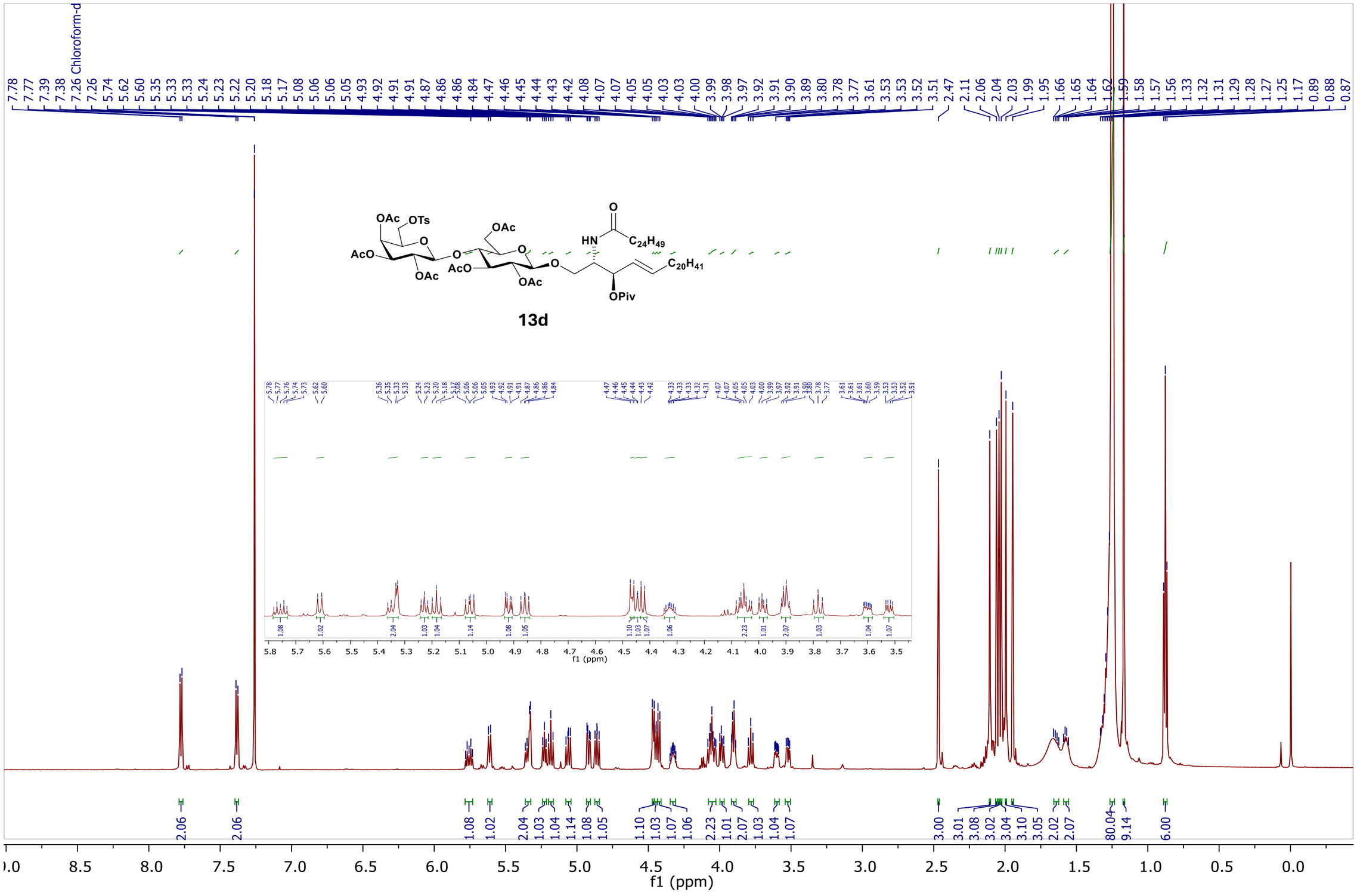


Figure S46. ^{13}C NMR of compound **13d** (151 MHz, $CDCl_3$)

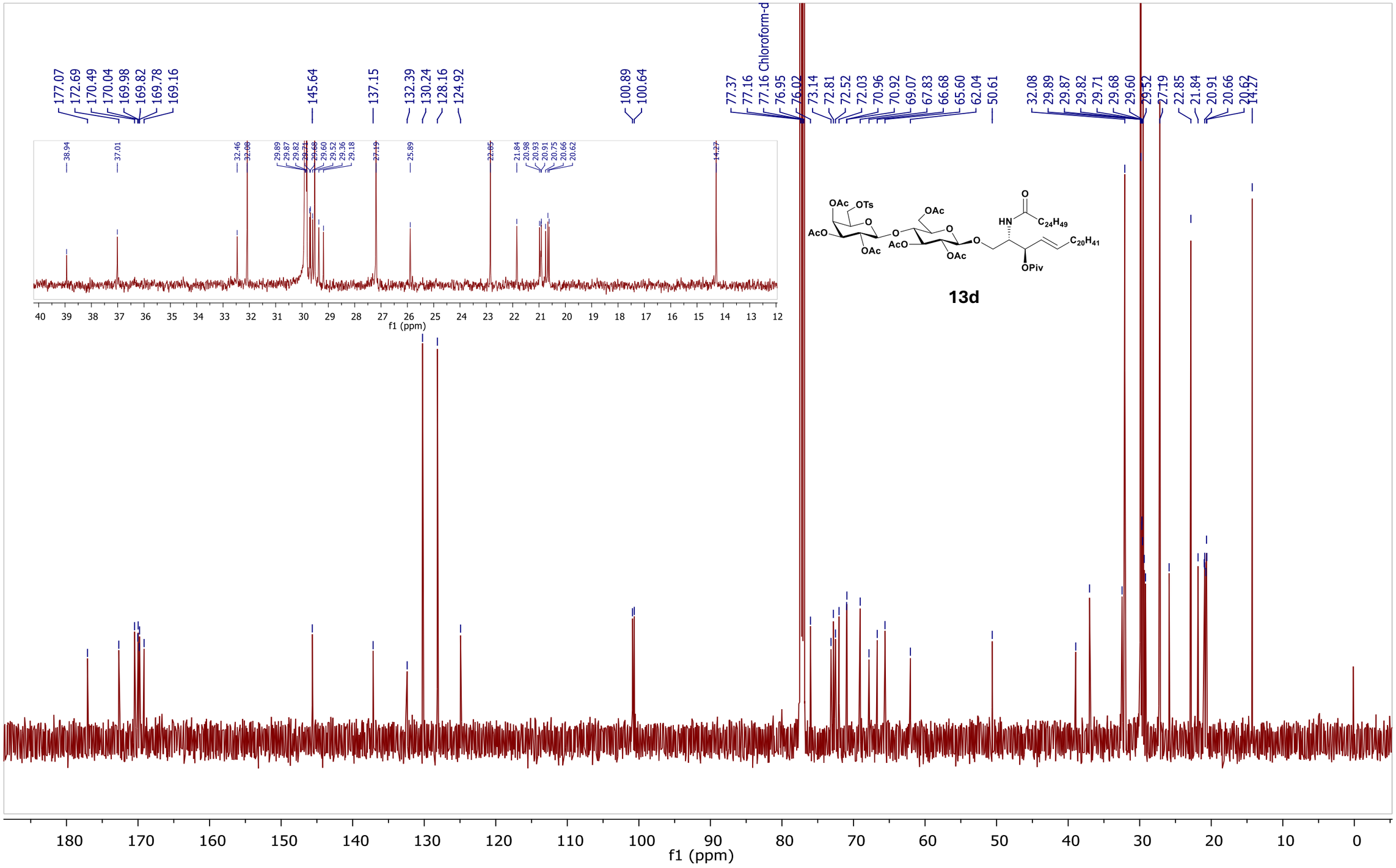


Figure S47. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **13d**

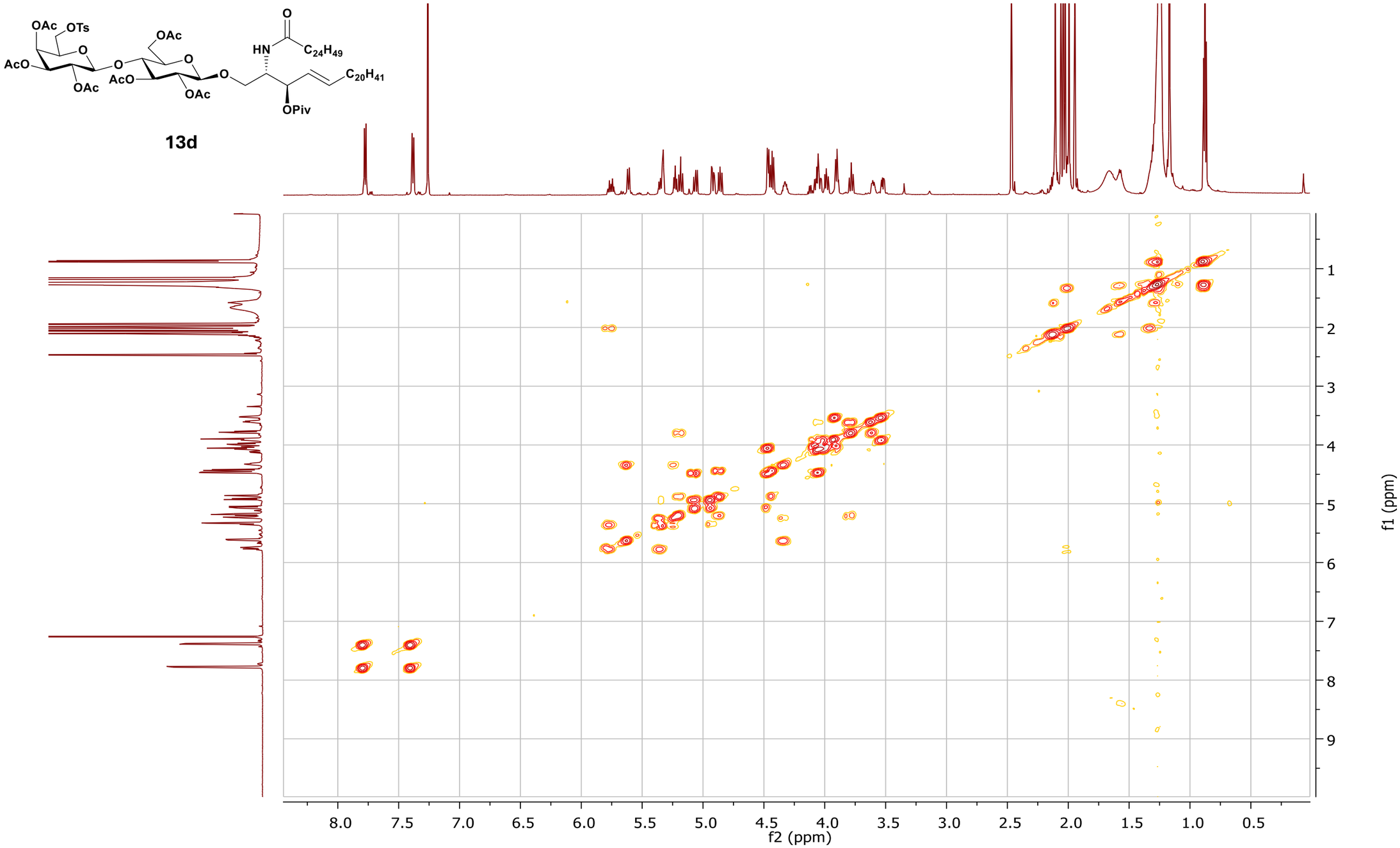


Figure S48. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **13d**

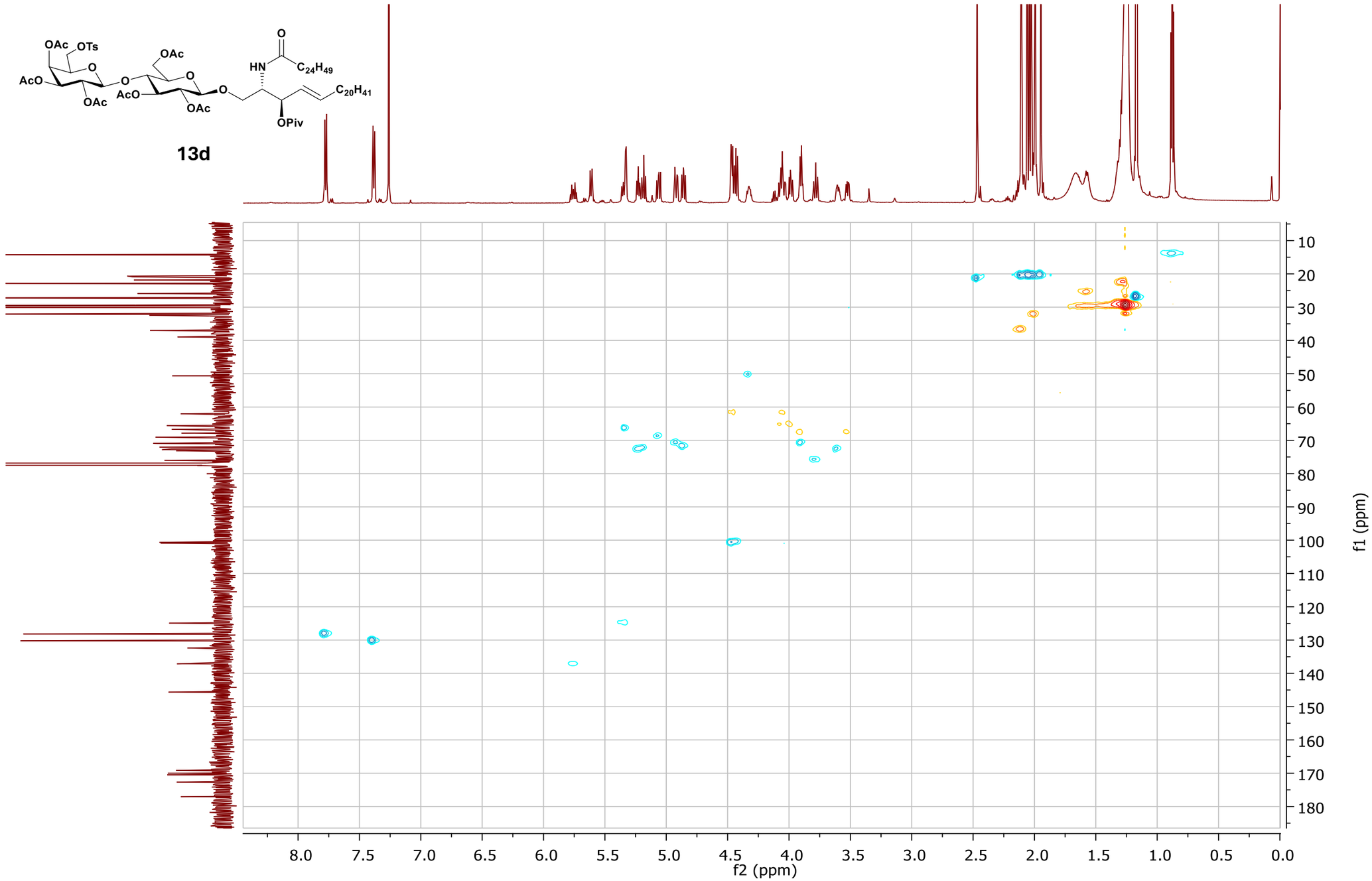


Figure S49. HR ESI-TOF-MS of compound **13d**

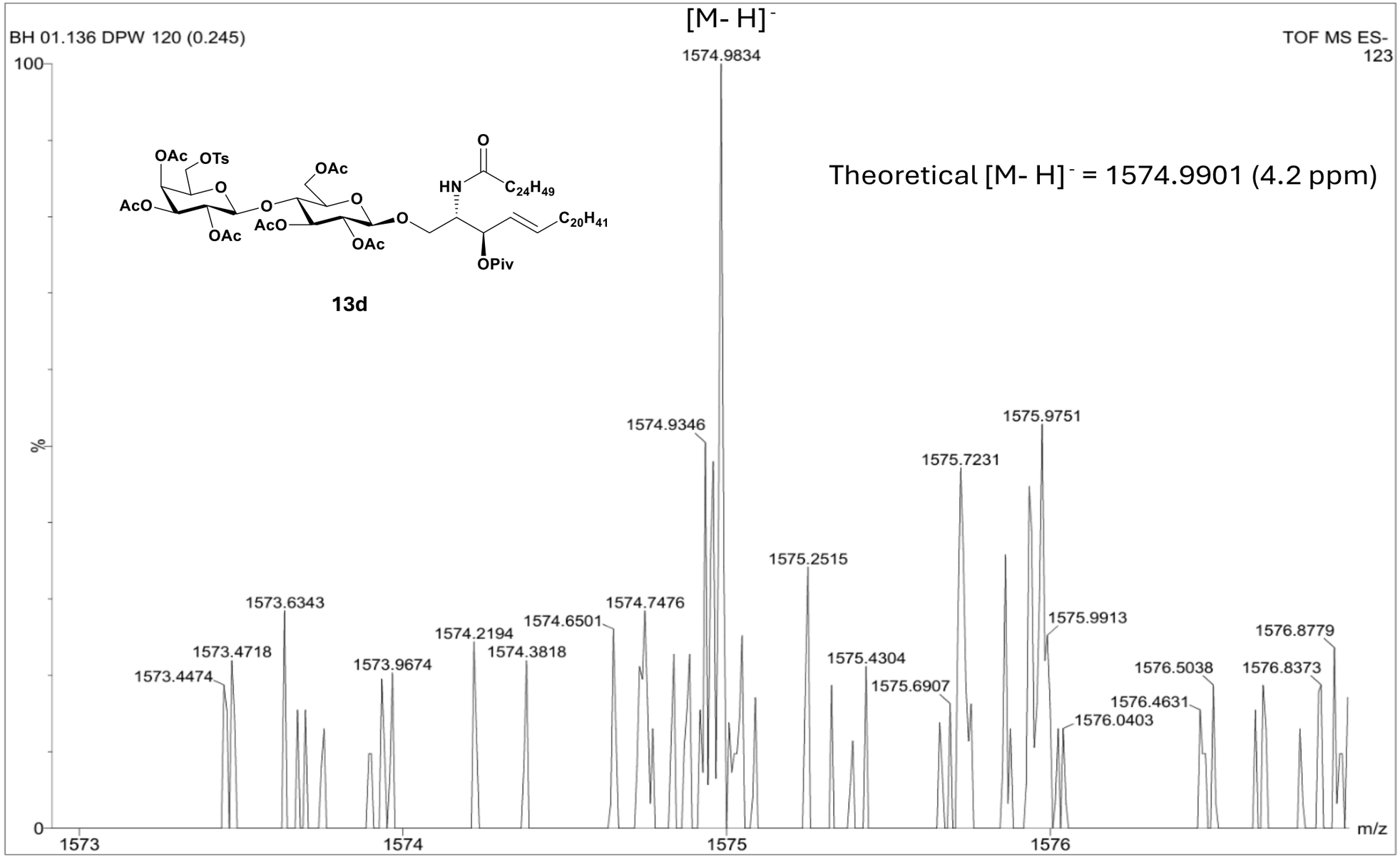


Figure S50. ^{1}H NMR of compound **14a** (600 MHz, $CDCl_3$)

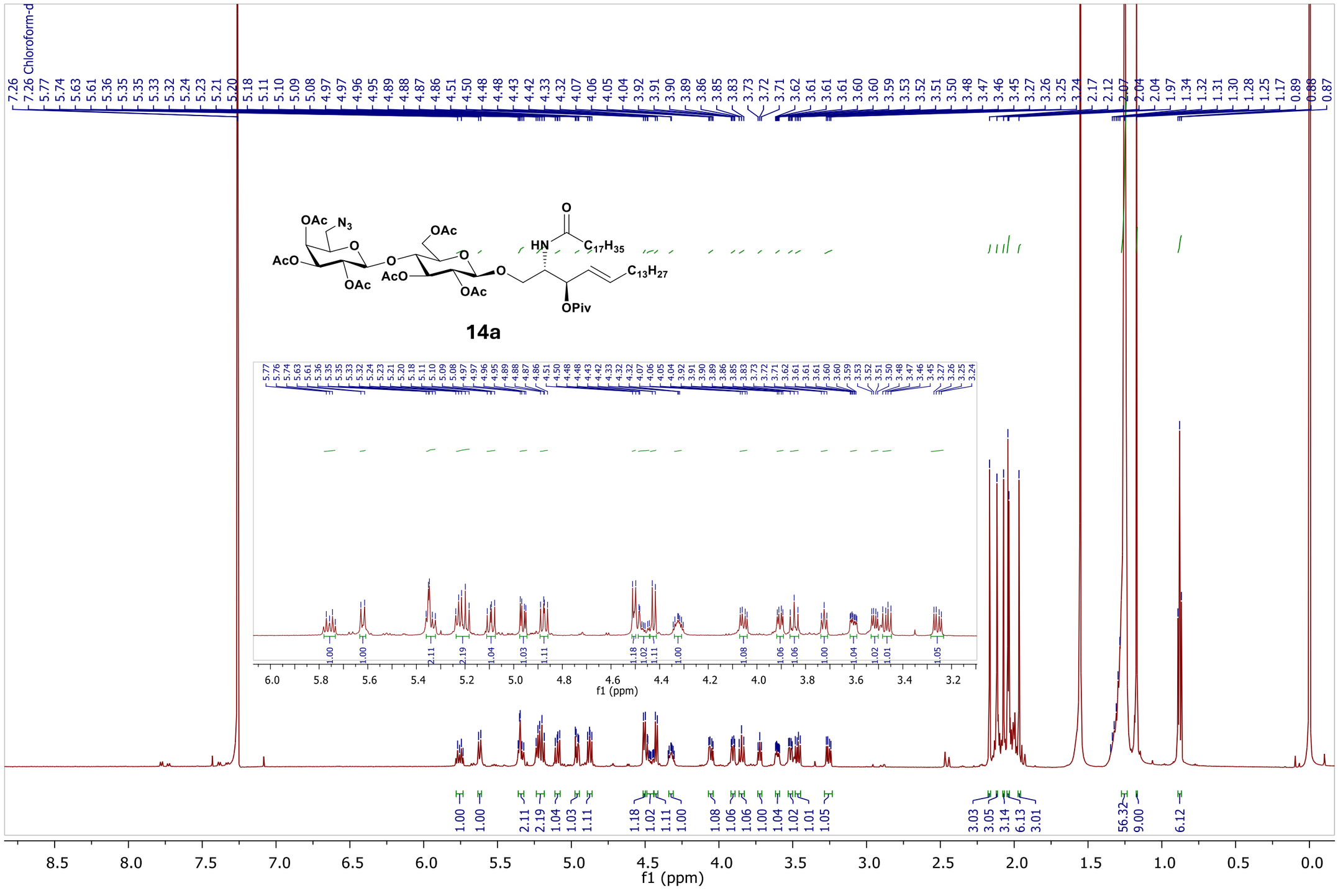


Figure S51. ^{13}C NMR of compound **14a** (151 MHz, $CDCl_3$)

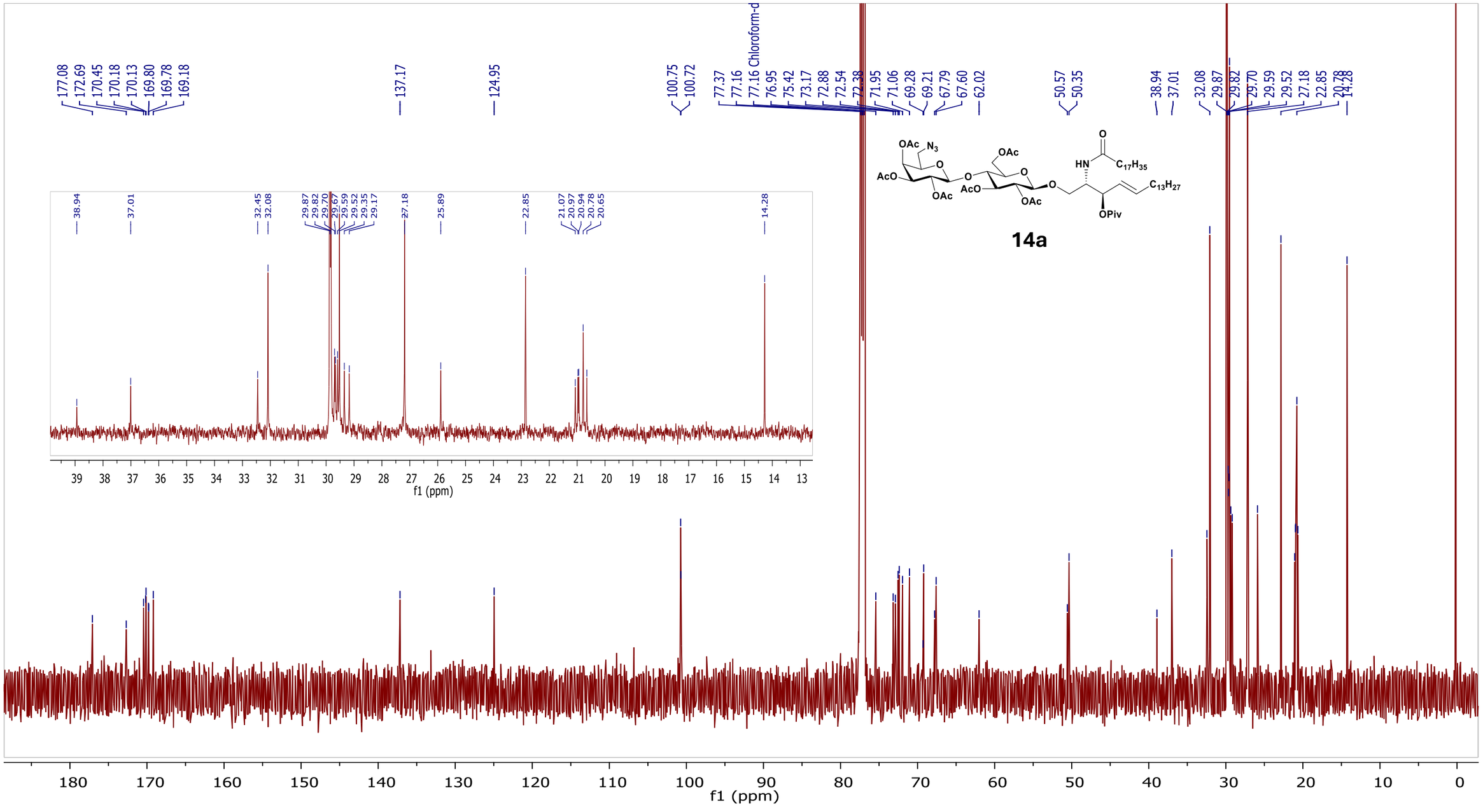


Figure 52. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **14a**

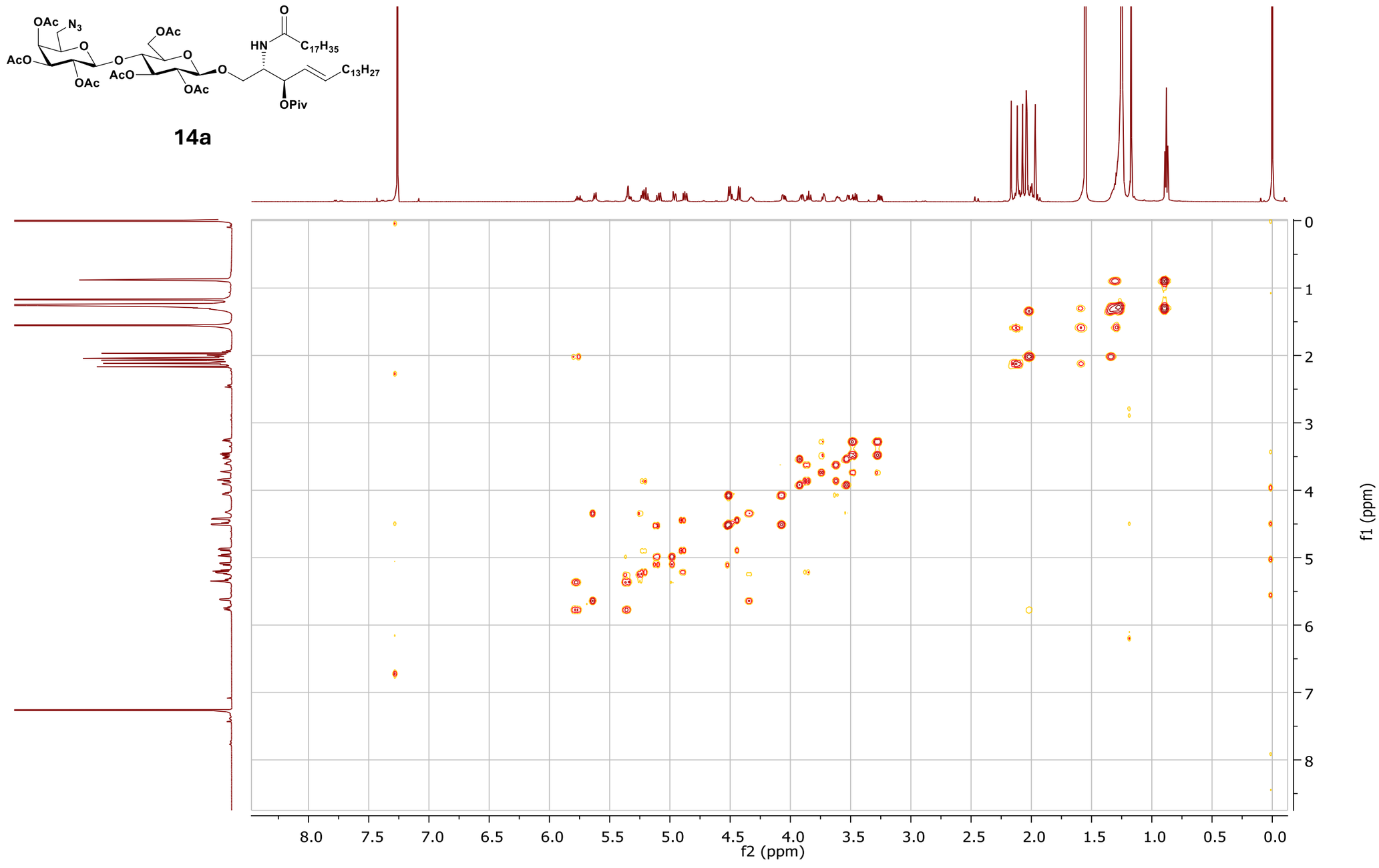


Figure S53. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **14a**

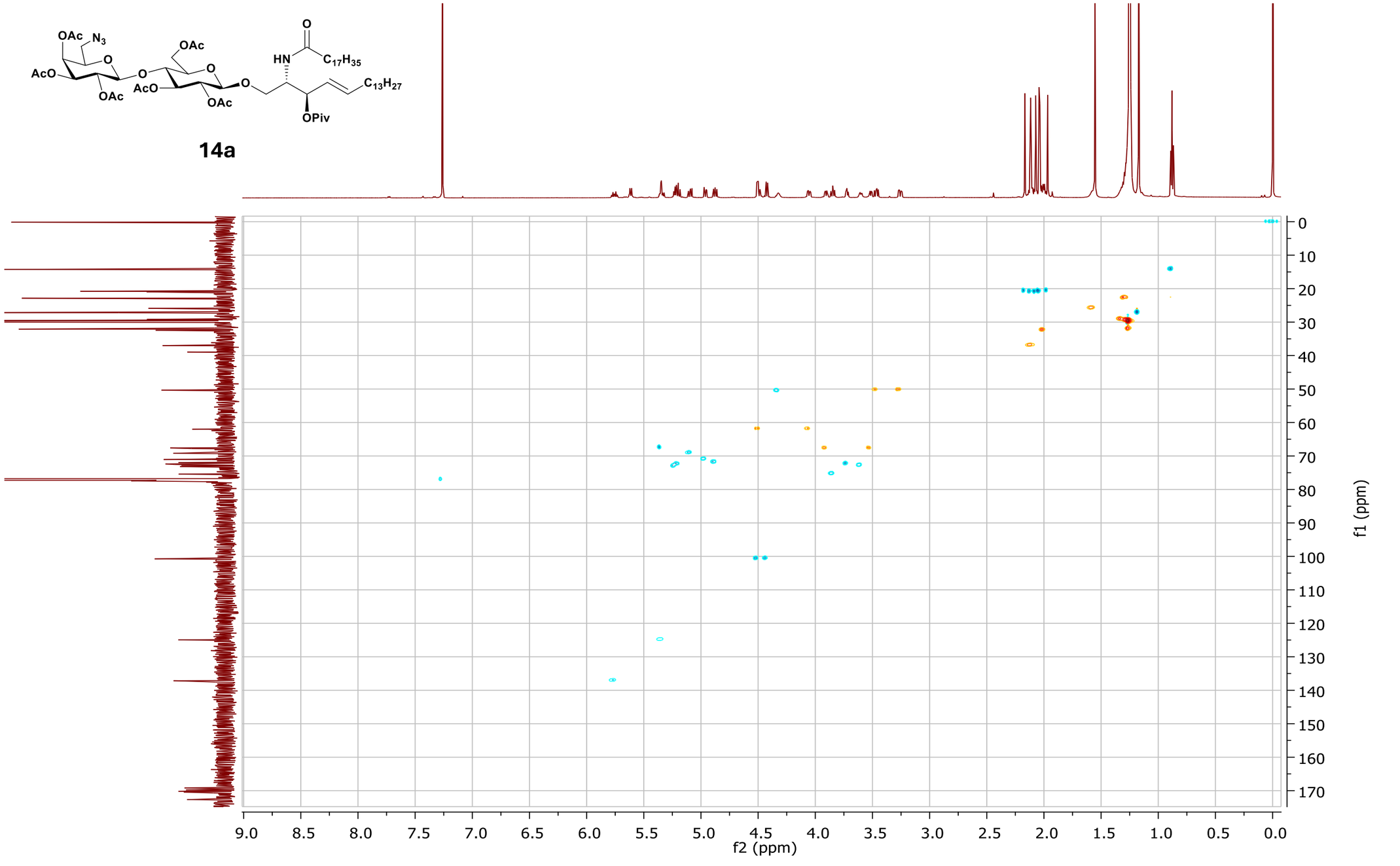


Figure S54. HR ESI-TOF-MS of compound **14a**

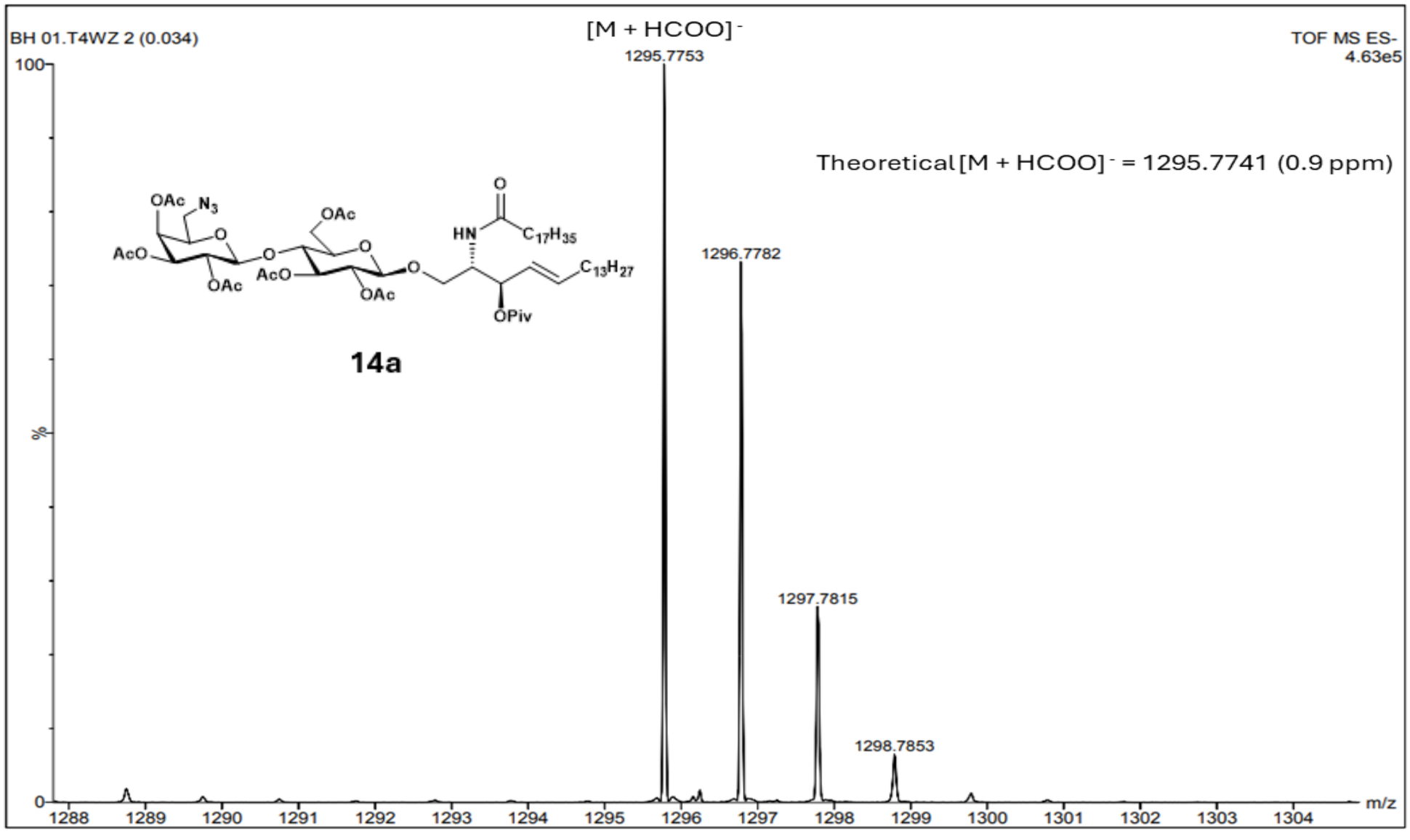


Figure S55. ^{1}H NMR of compound **14b** (600 MHz, $CDCl_3$)

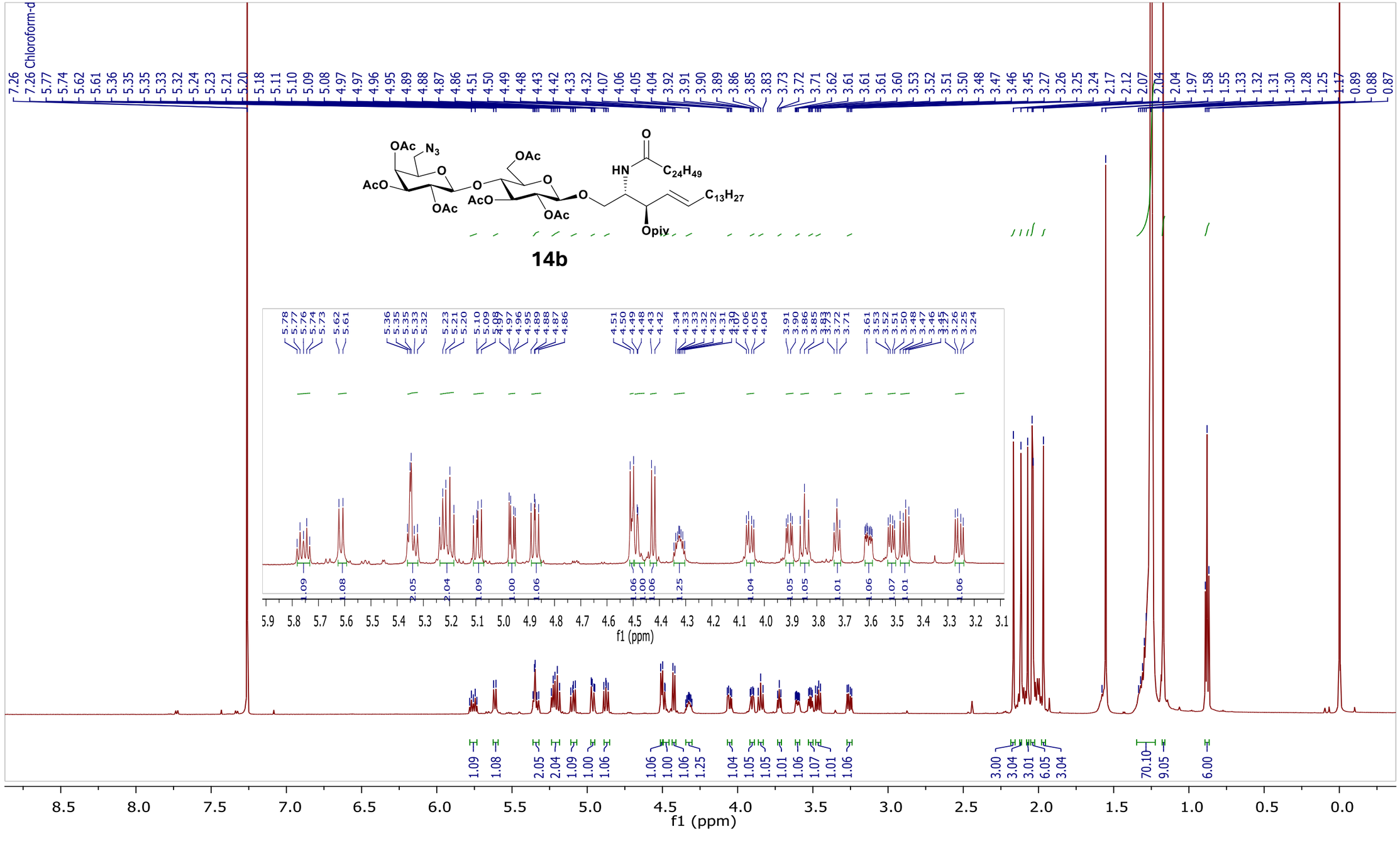


Figure S56. ^{13}C NMR of Compound **14b** (151 MHz, $CDCl_3$)

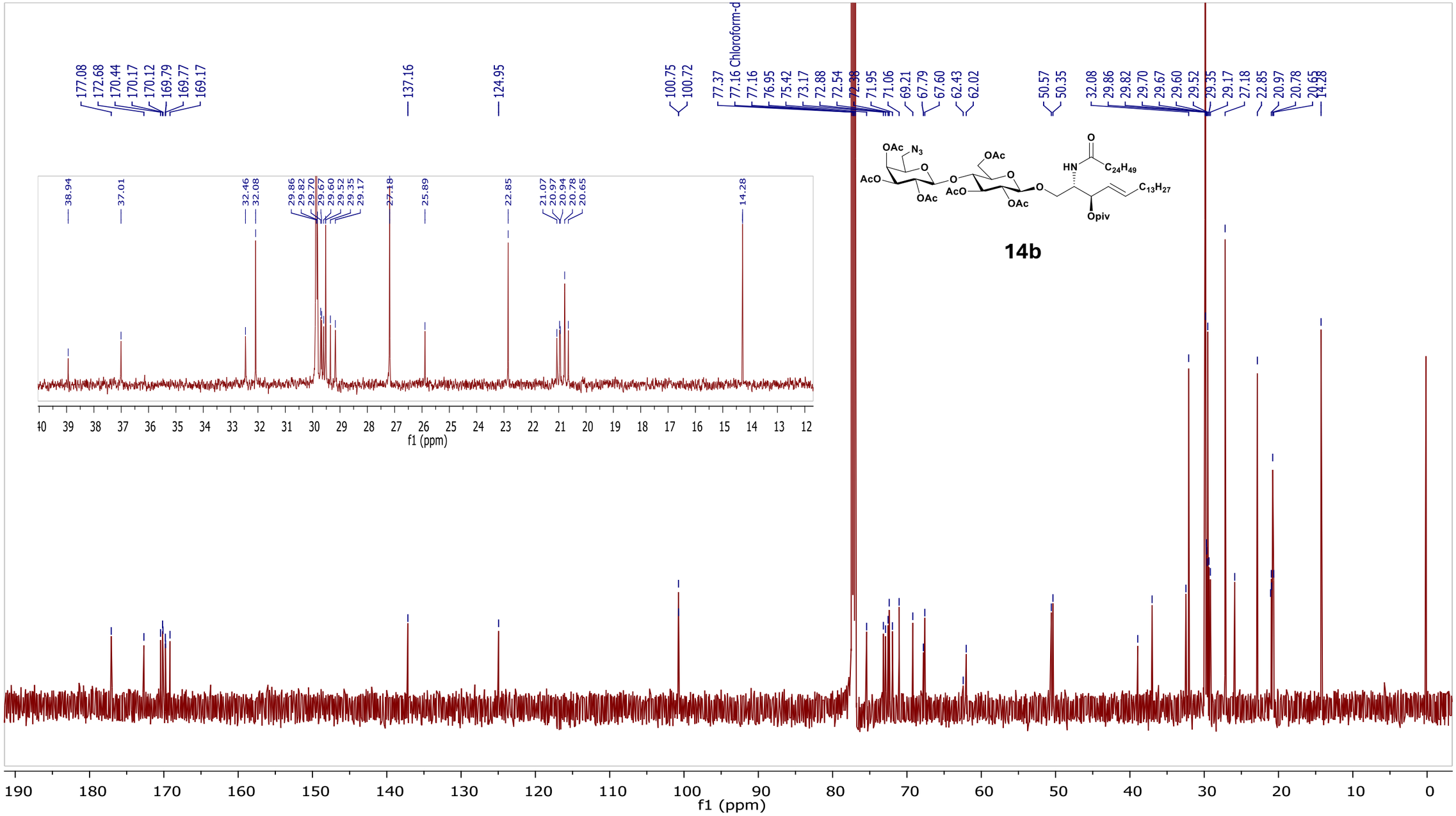
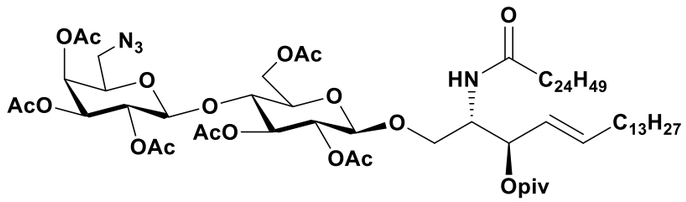


Figure S57. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **14b**



14b

Figure S58. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **14b**

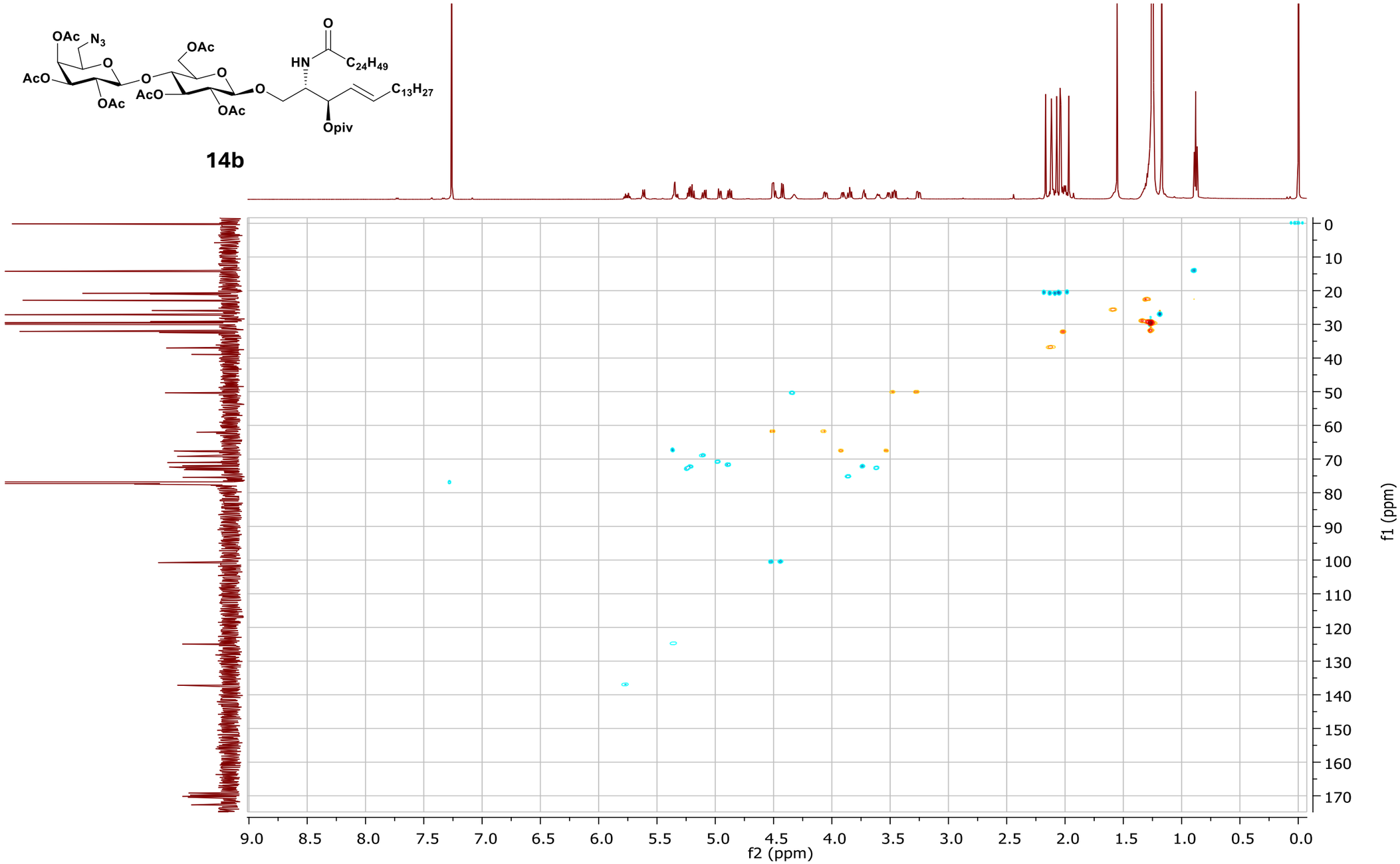


Figure S59. HR ESI-TOF-MS of compound **14b**

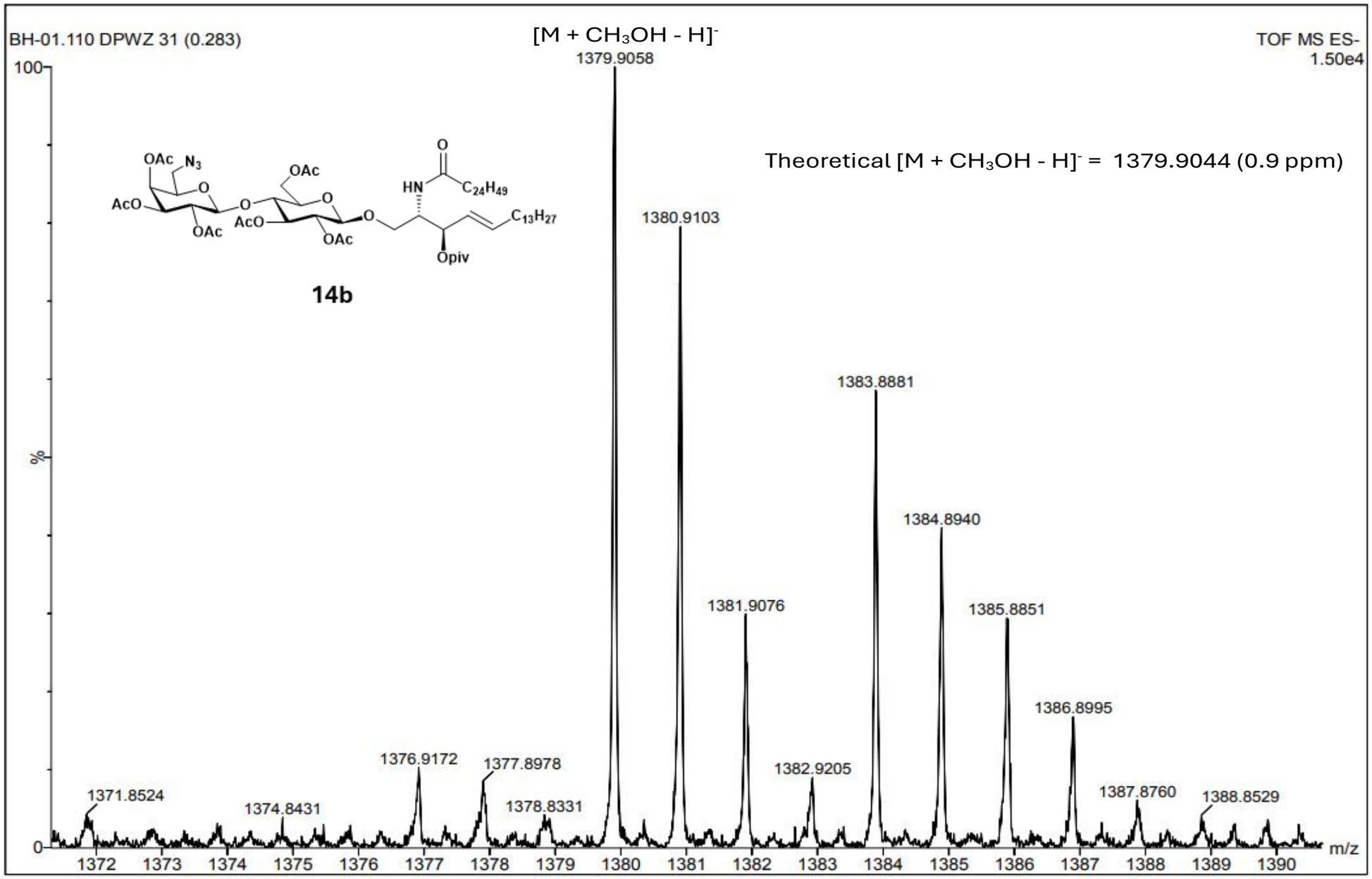


Figure S60. ^{1}H NMR of compound **14c** (600 MHz, $CDCl_3$)

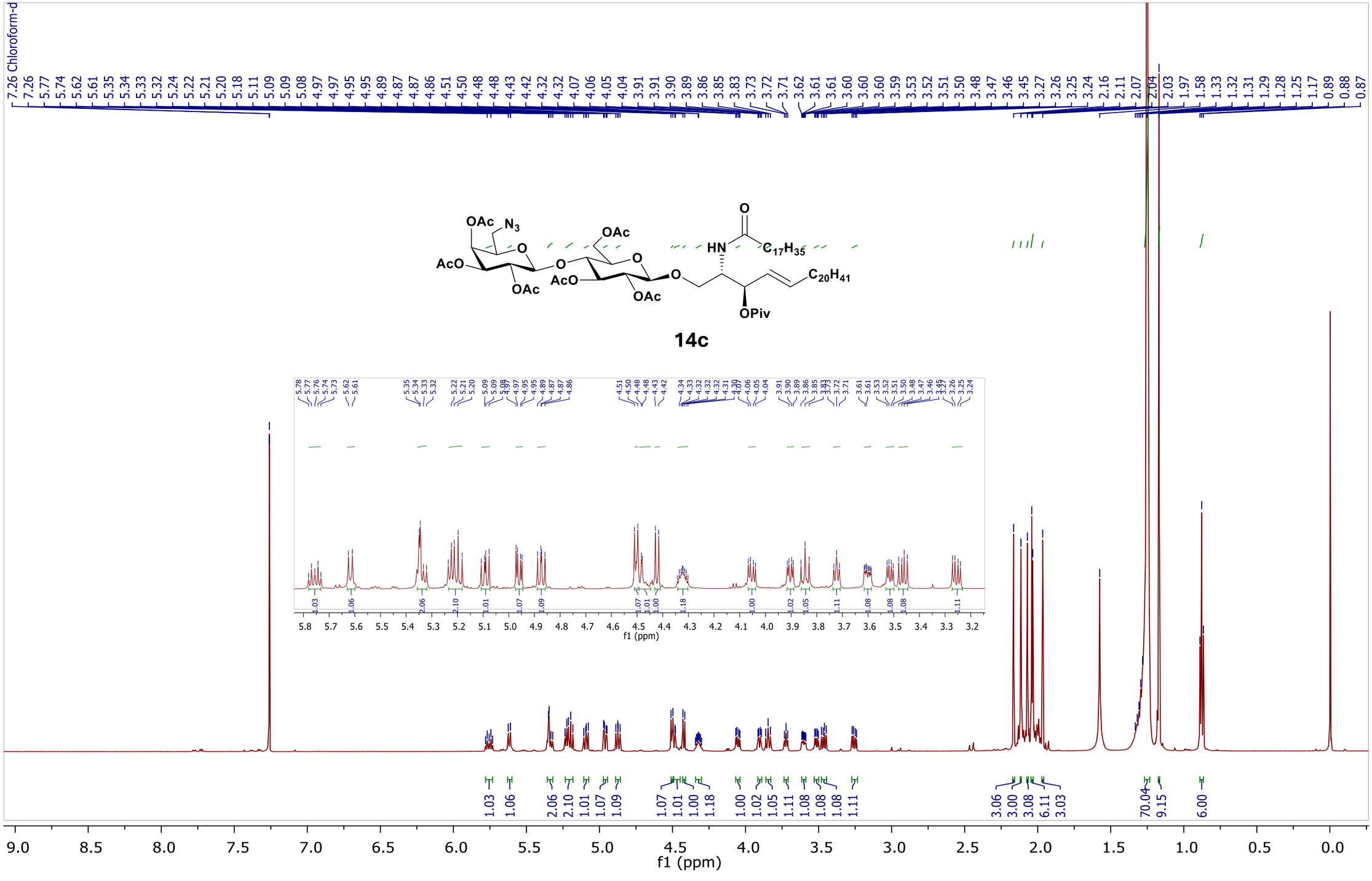
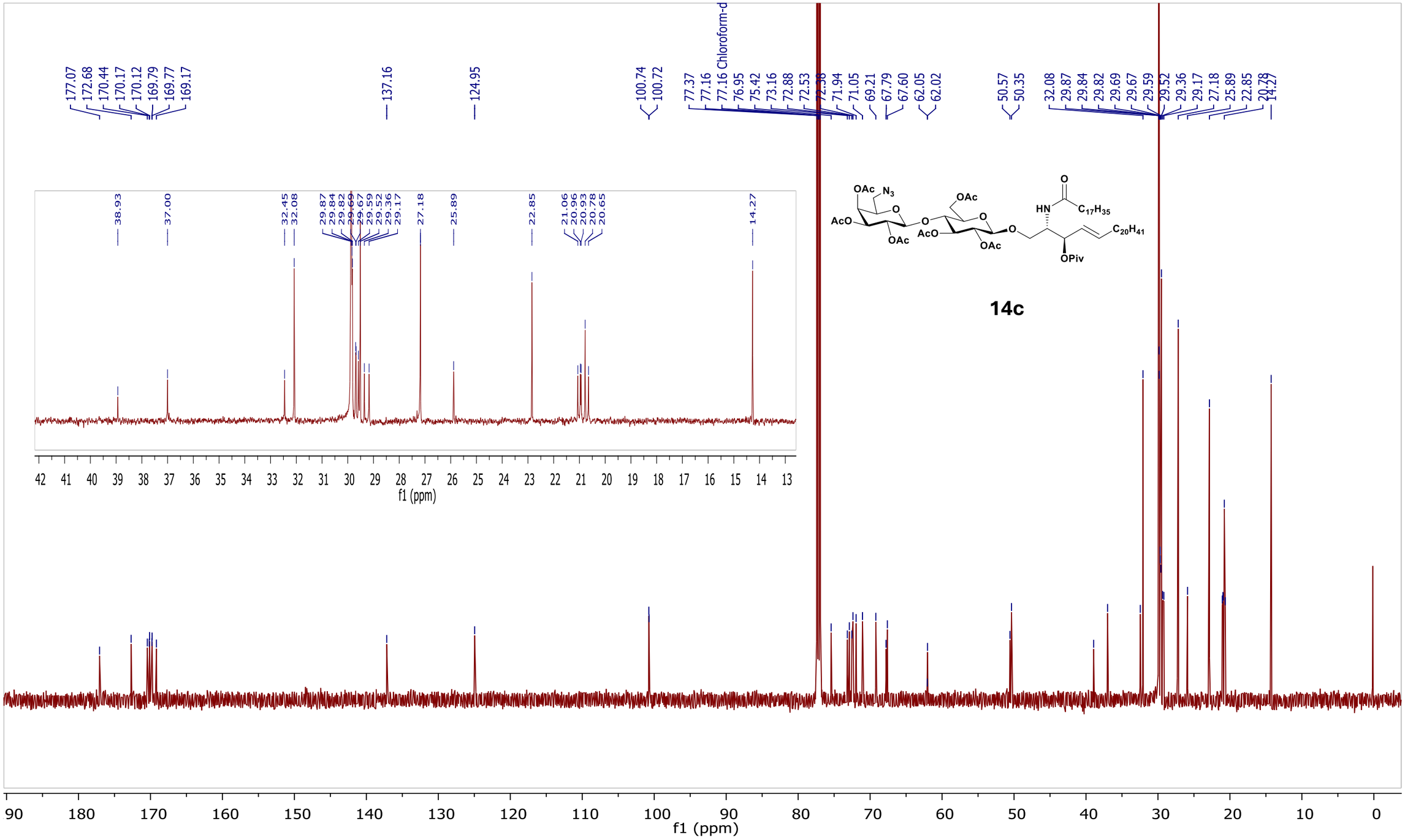


Figure S61. ^{13}C NMR of compound **14c** (151 MHz, $CDCl_3$)



14c

Figure S62. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **14c**

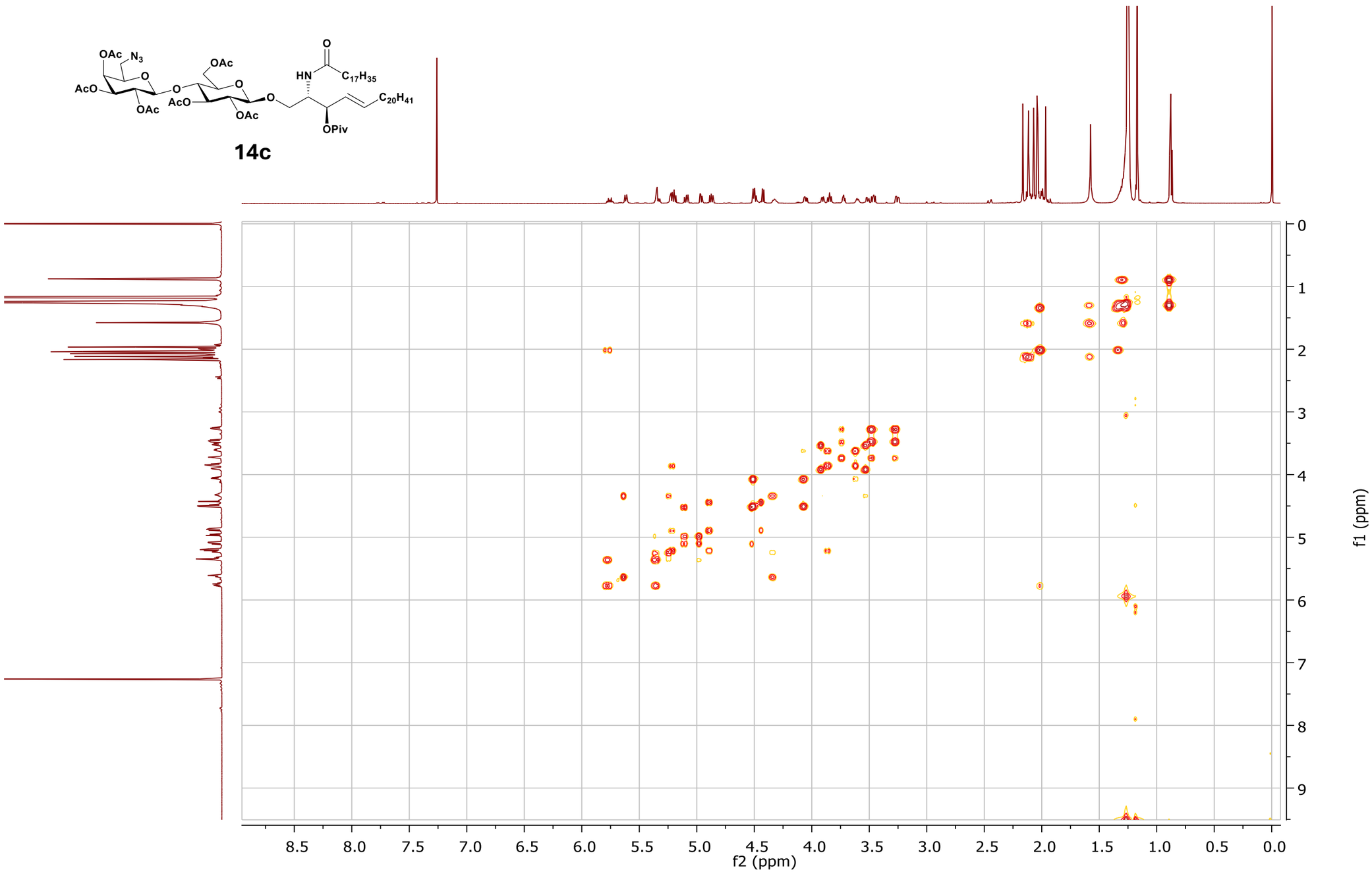


Figure S63. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **14c**

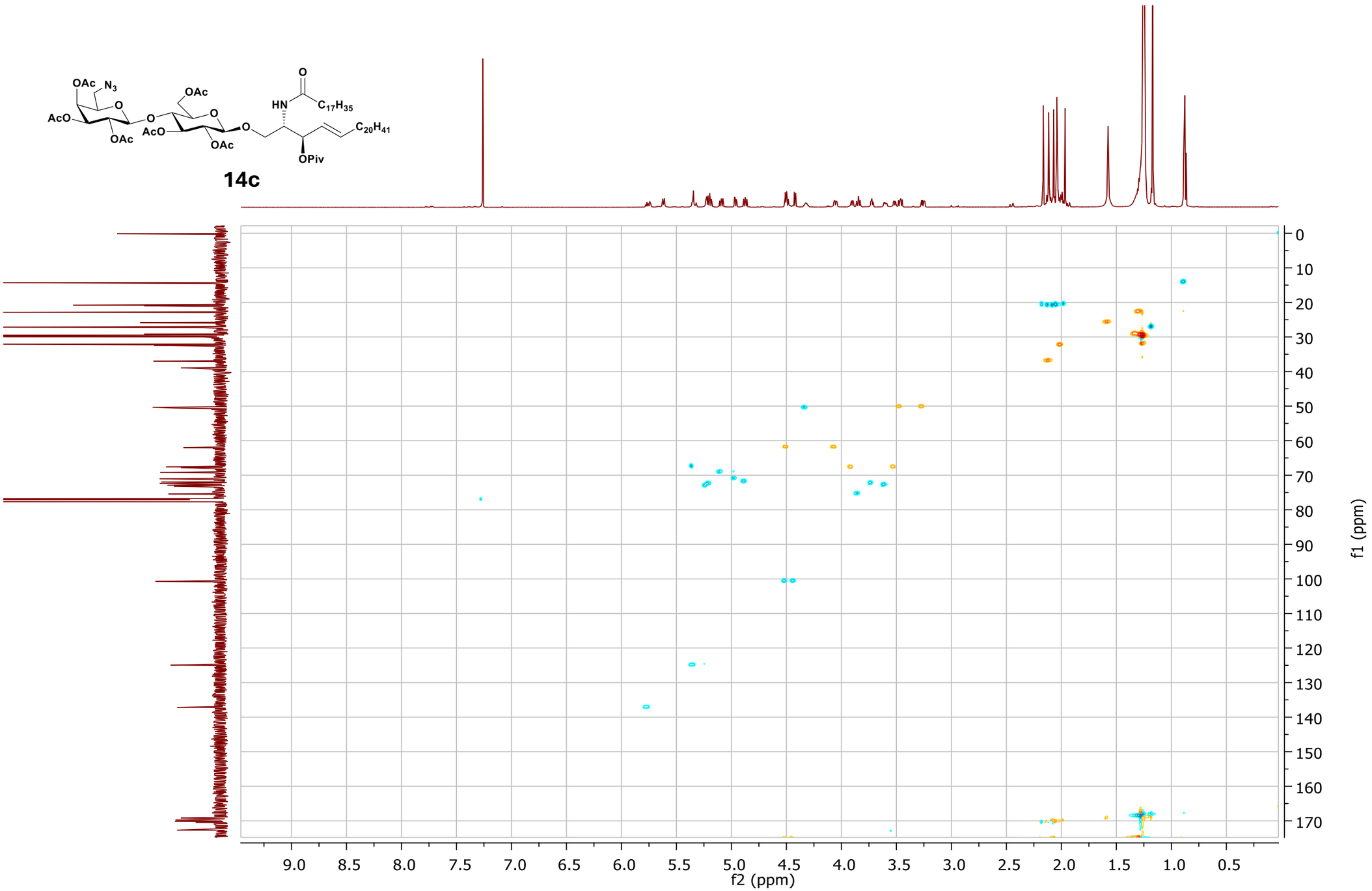


Figure S64. HR ESI-TOF-MS of compound **14c**

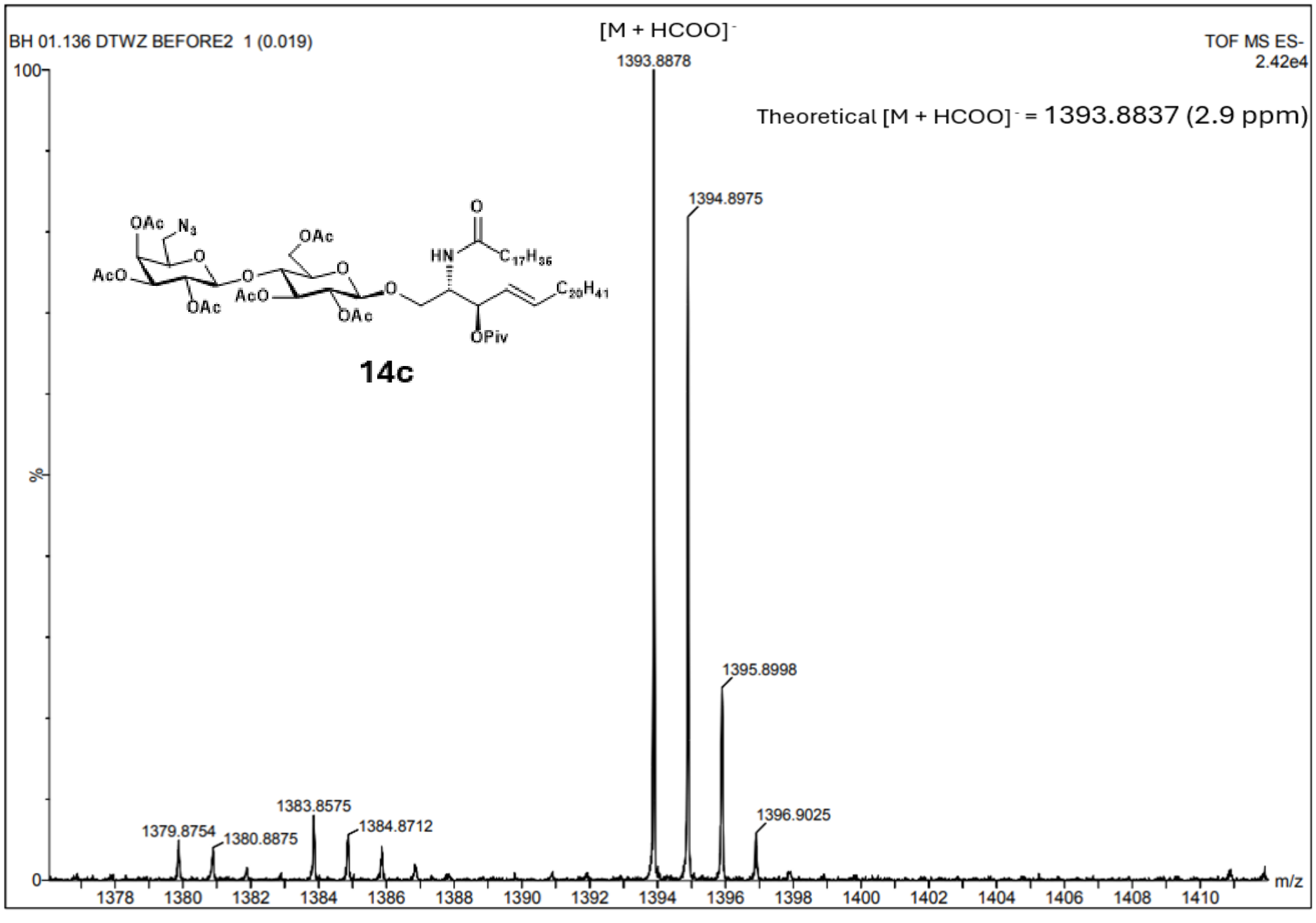


Figure S65. ^{1}H NMR of compound **14d** (600 MHz, $CDCl_3$)

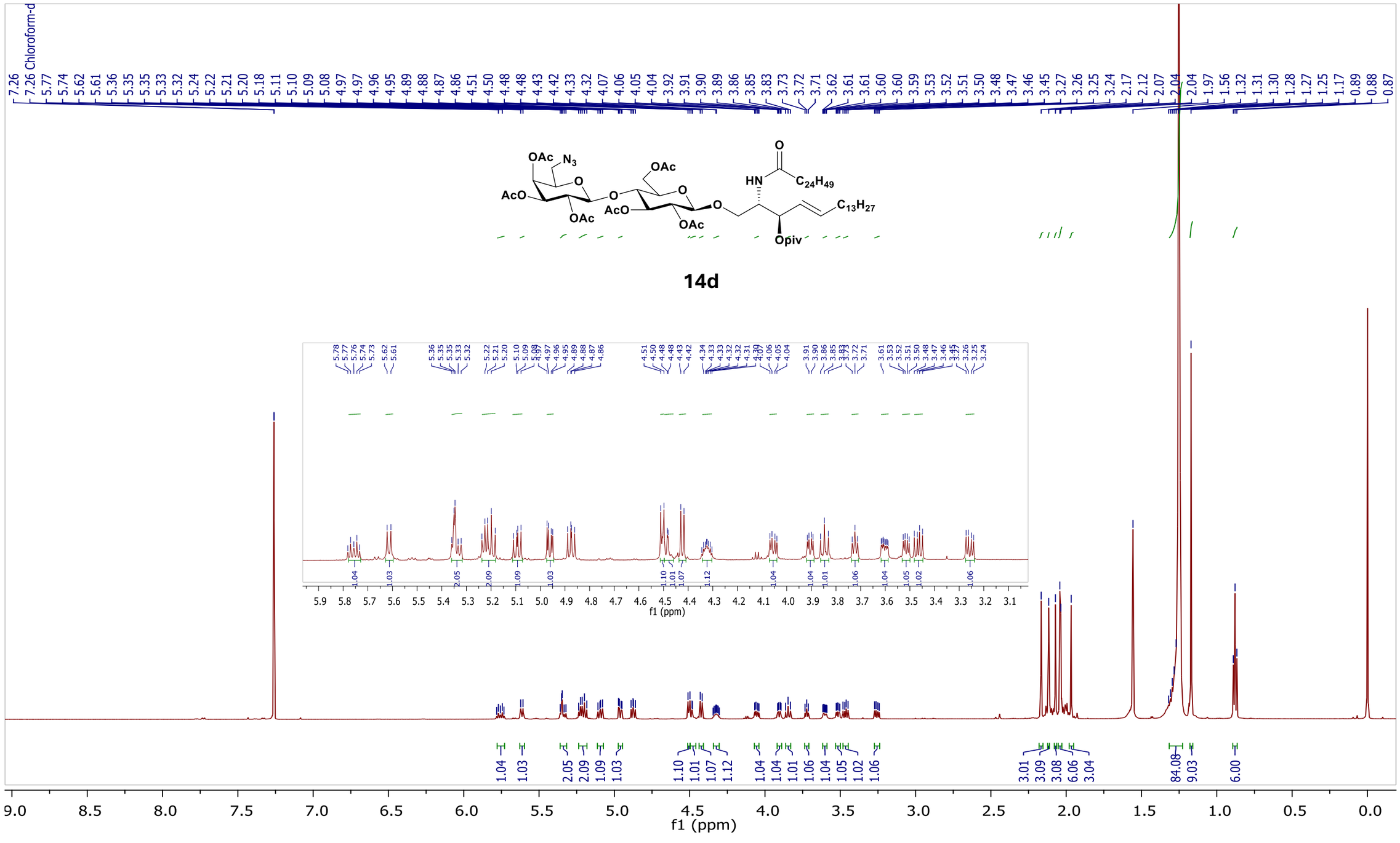


Figure S66. ^{13}C NMR of compound **14d** (151 MHz, $CDCl_3$)

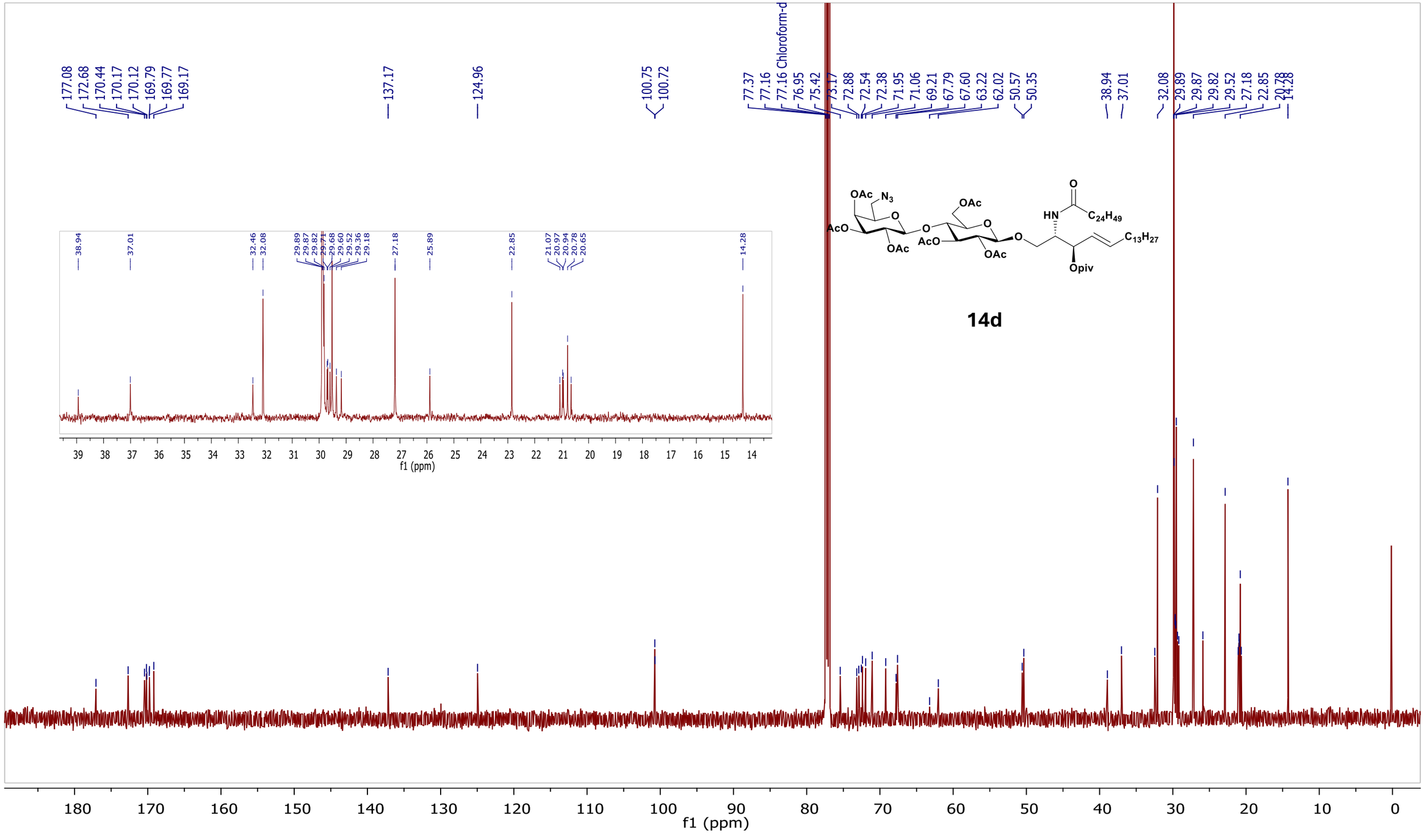


Figure S67. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3$) of compound **14d**

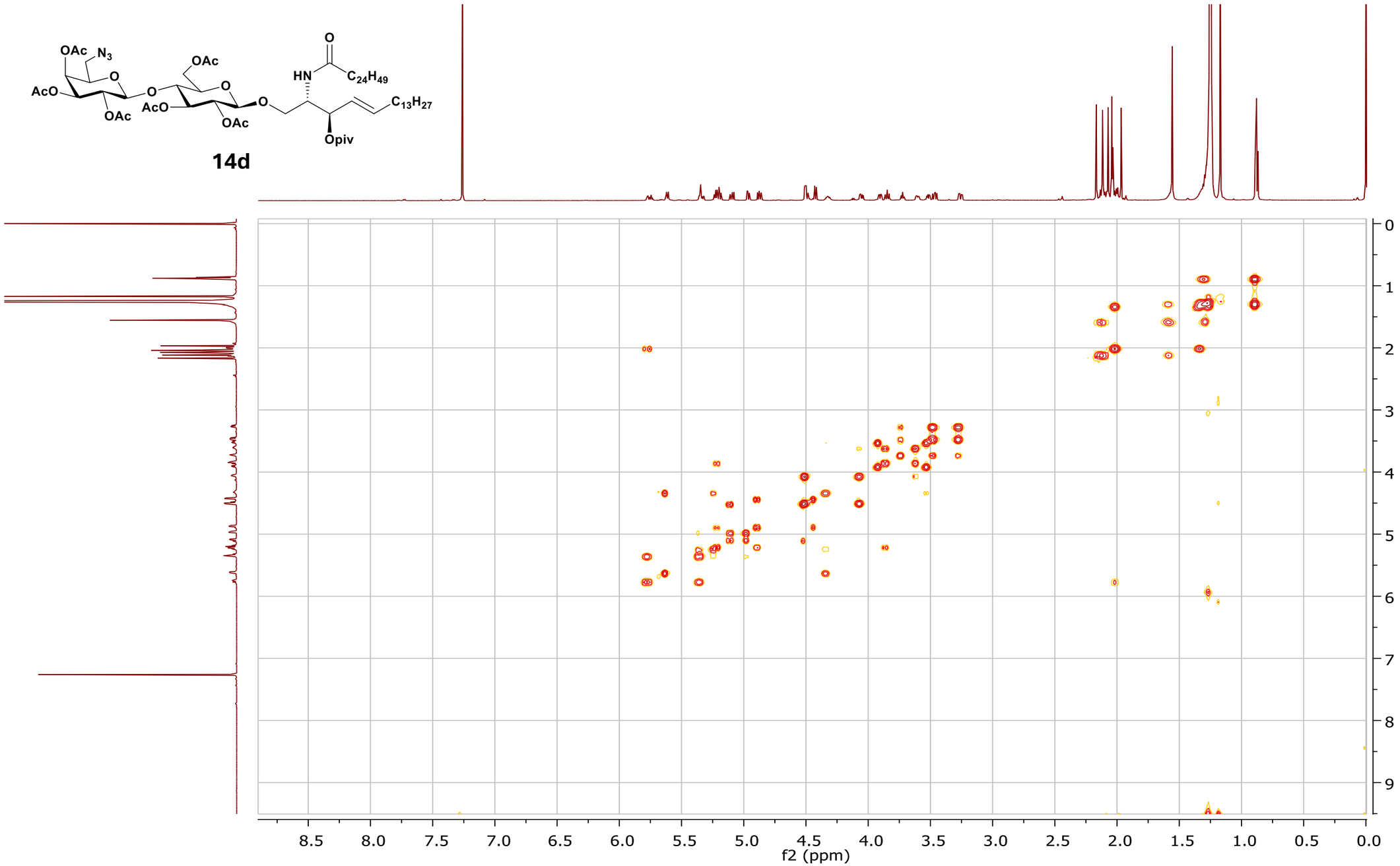


Figure S68. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3$) of compound **14d**

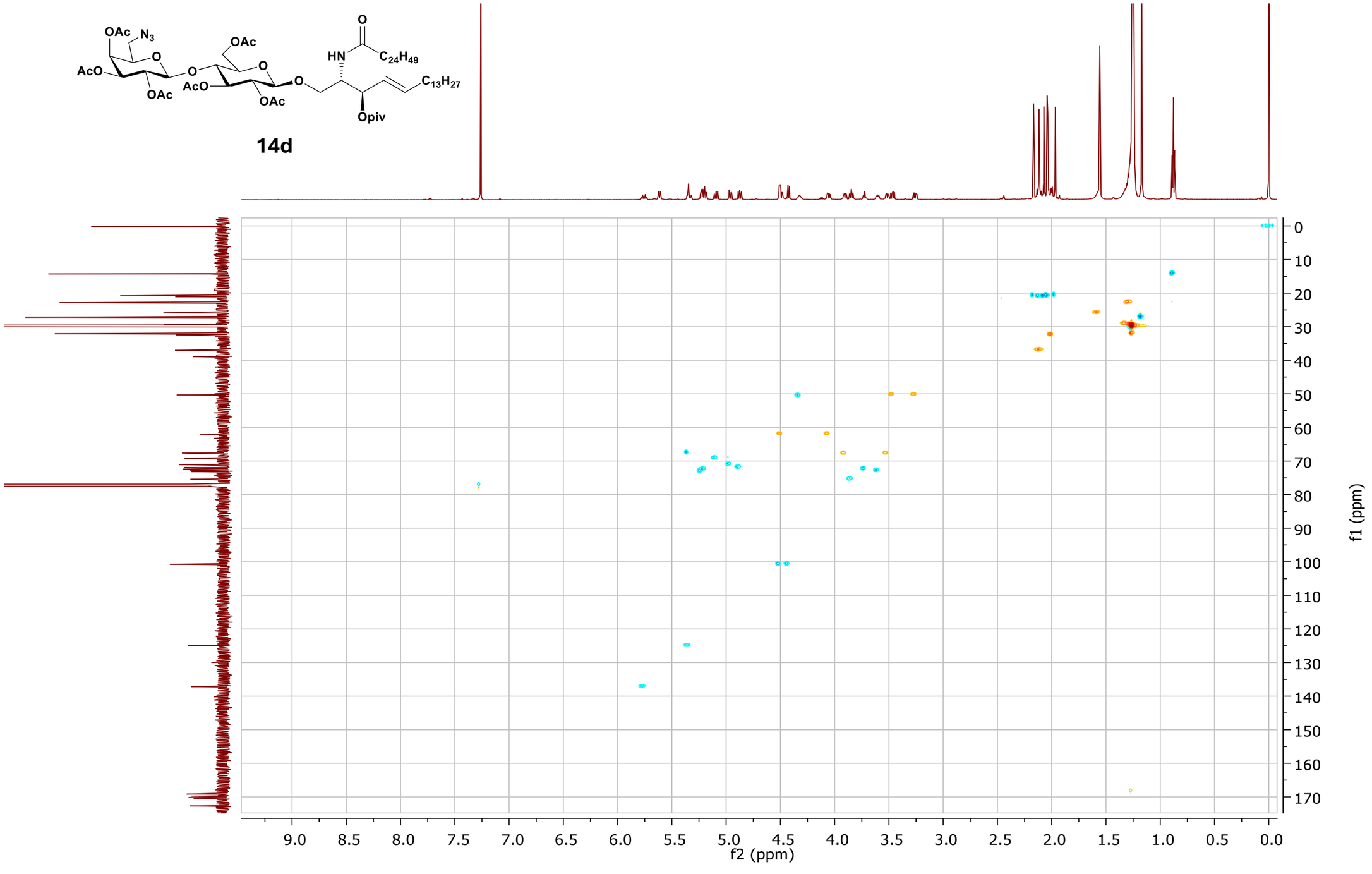


Figure S69. HR ESI-TOF-MS of compound **14d**

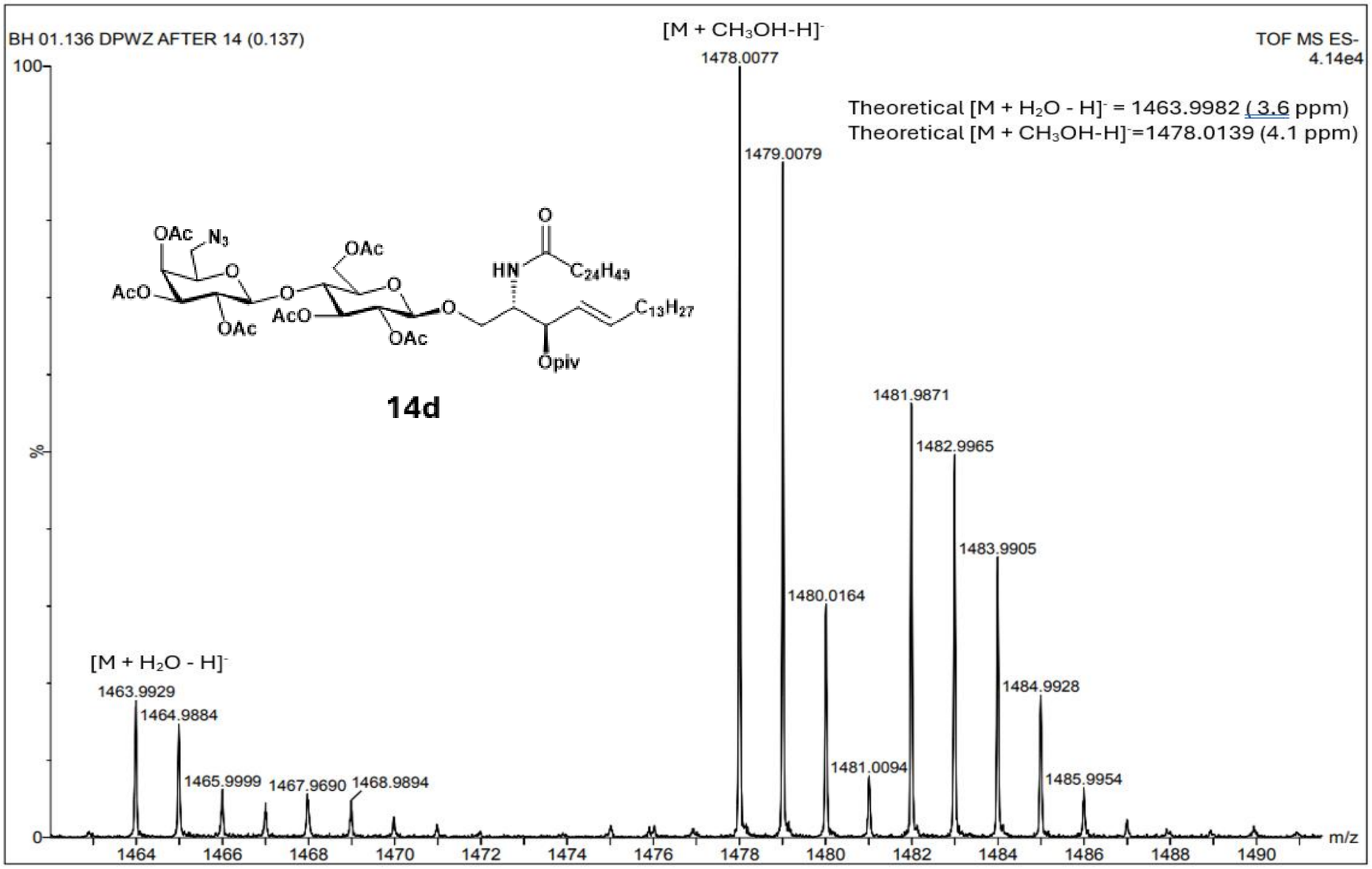


Figure S70. ^{1}H NMR of compound **1a** (600 MHz, $CDCl_3/CD_3OD$ 2:1)

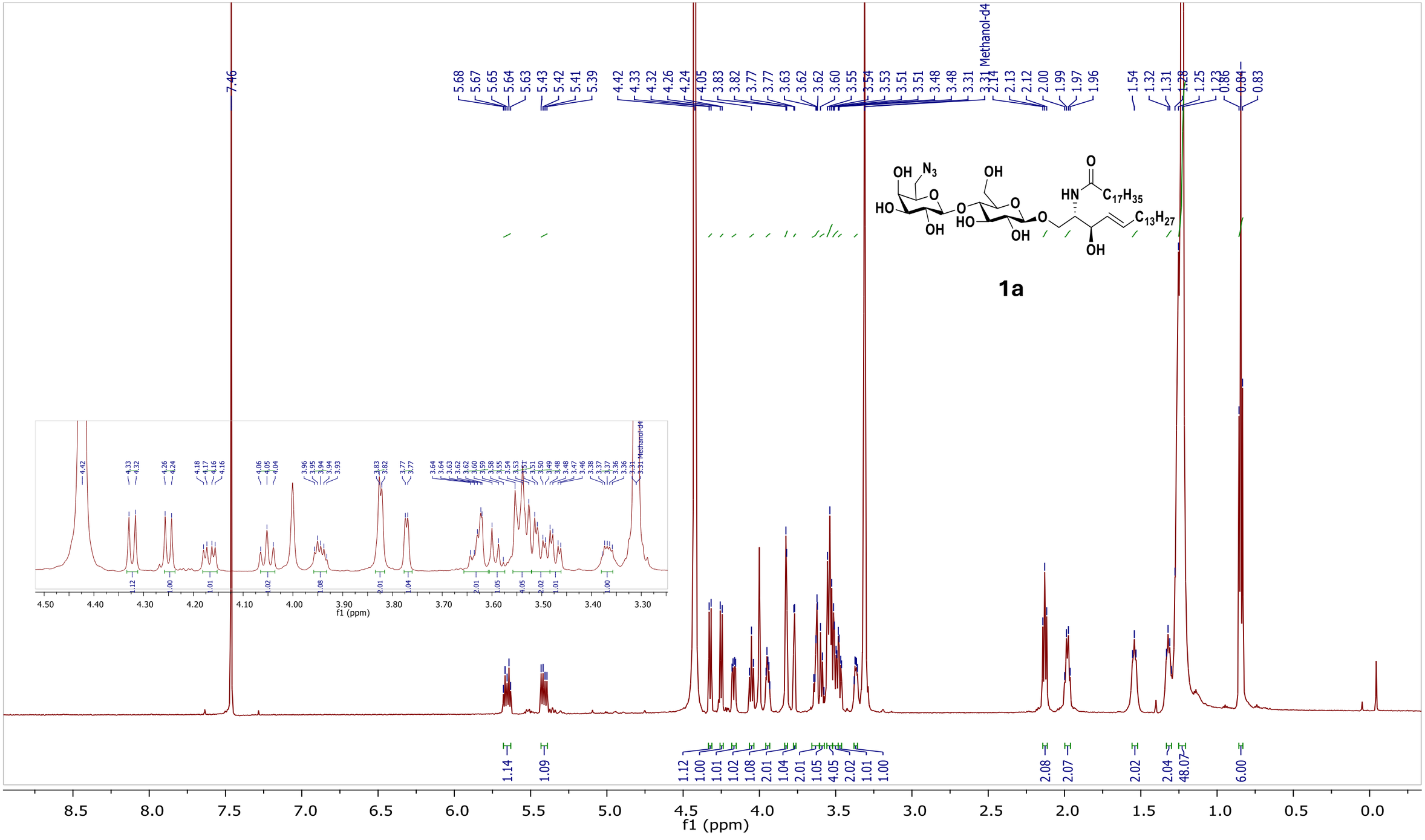


Figure S71. ^{13}C NMR of compound **1a** (151 MHz, $CDCl_3/CD_3OD$ 2:1)

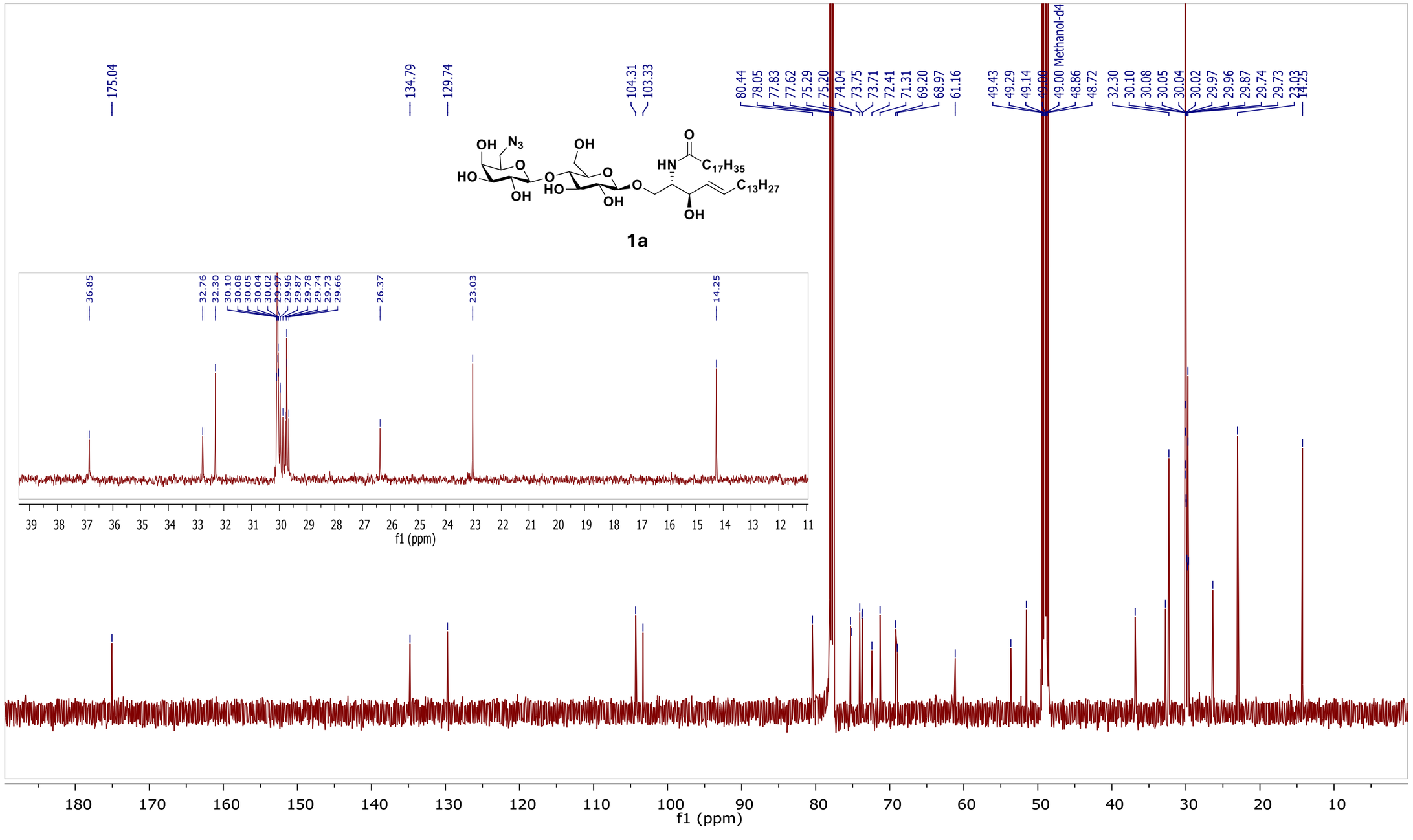


Figure S72. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1a**

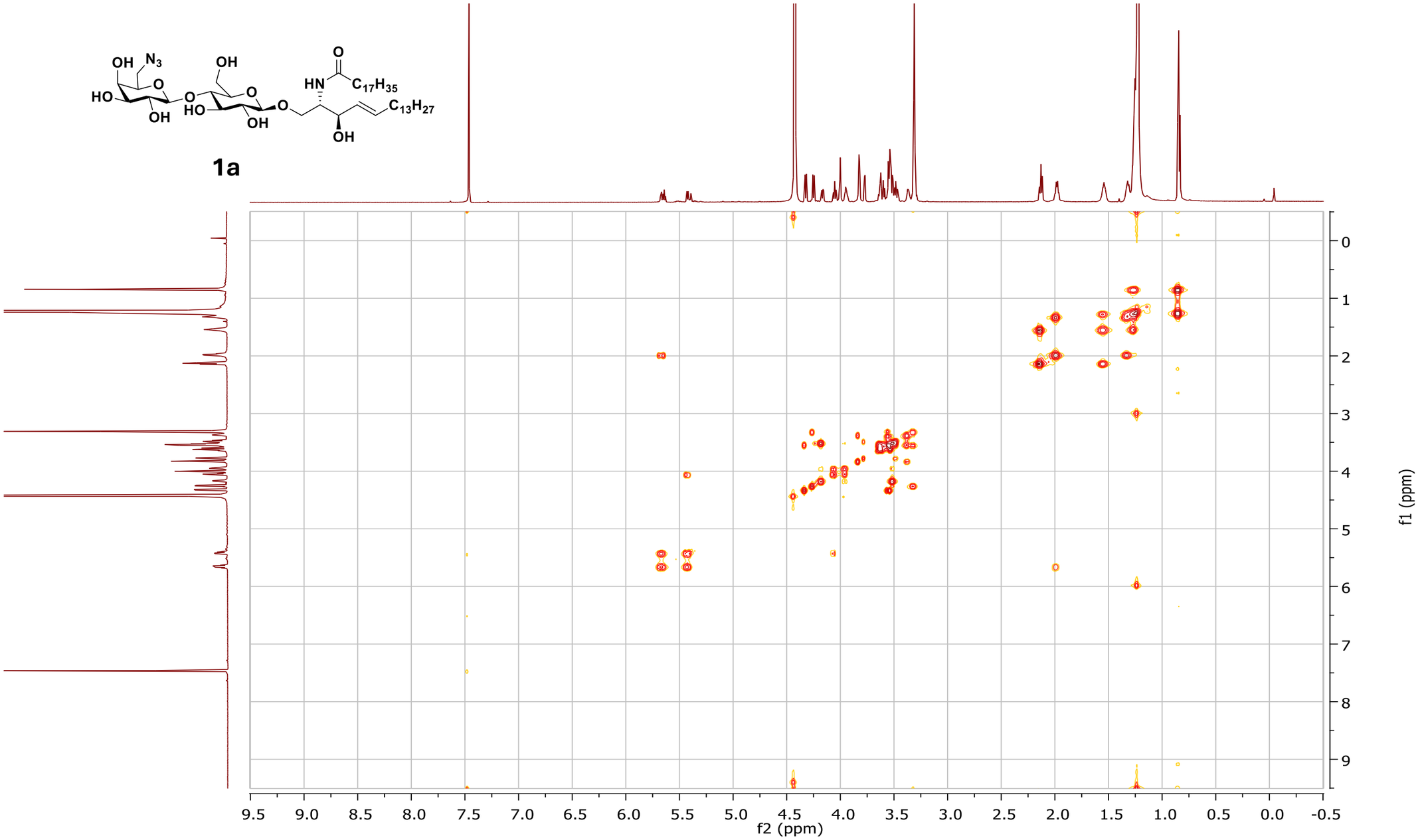


Figure S73. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1a**

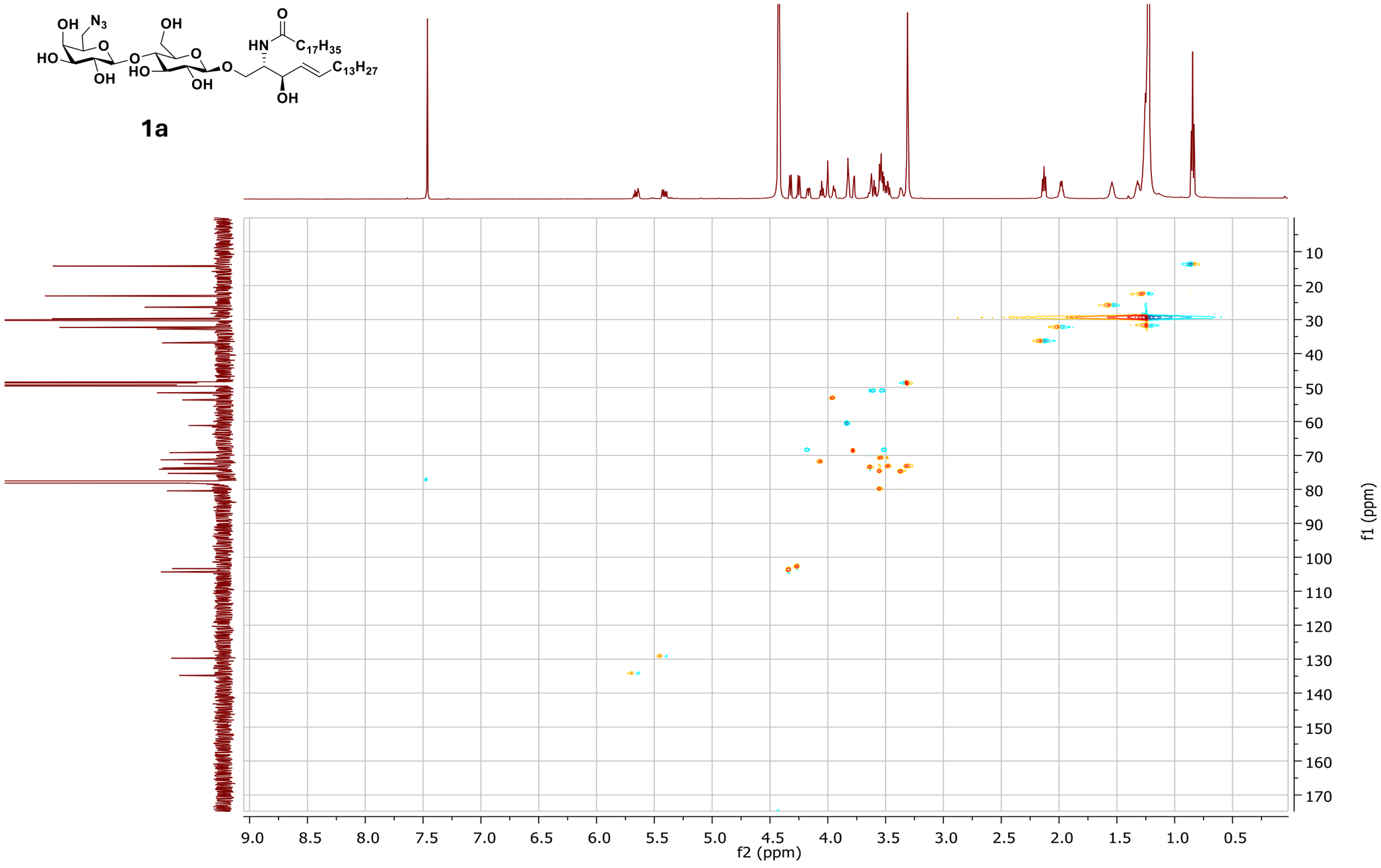


Figure S74. HR ESI-TOF-MS of compound **1a**

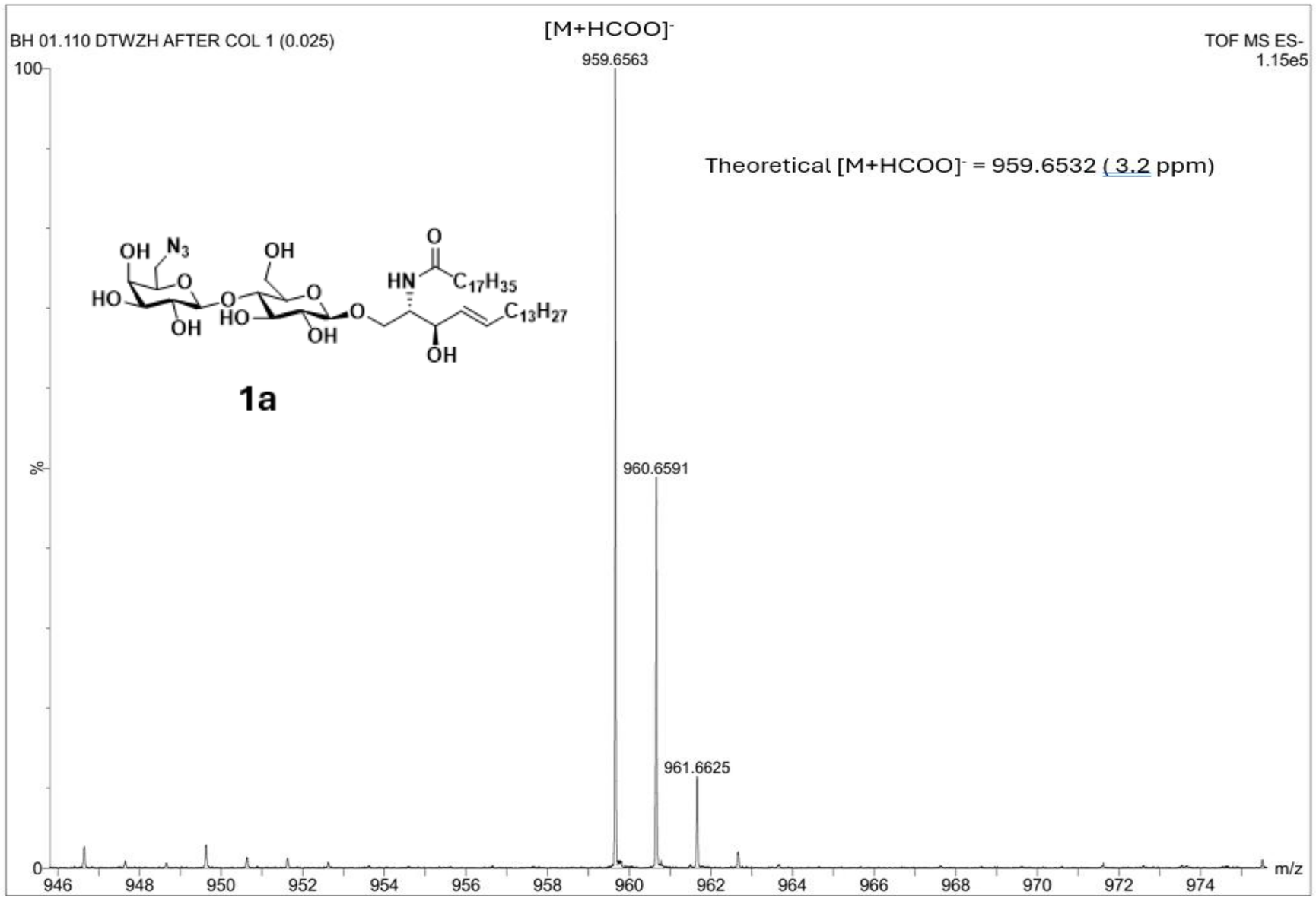


Figure S75. ^{1}H NMR of compound **1b** (600 MHz, $CDCl_3/CD_3OD$ 2:1)

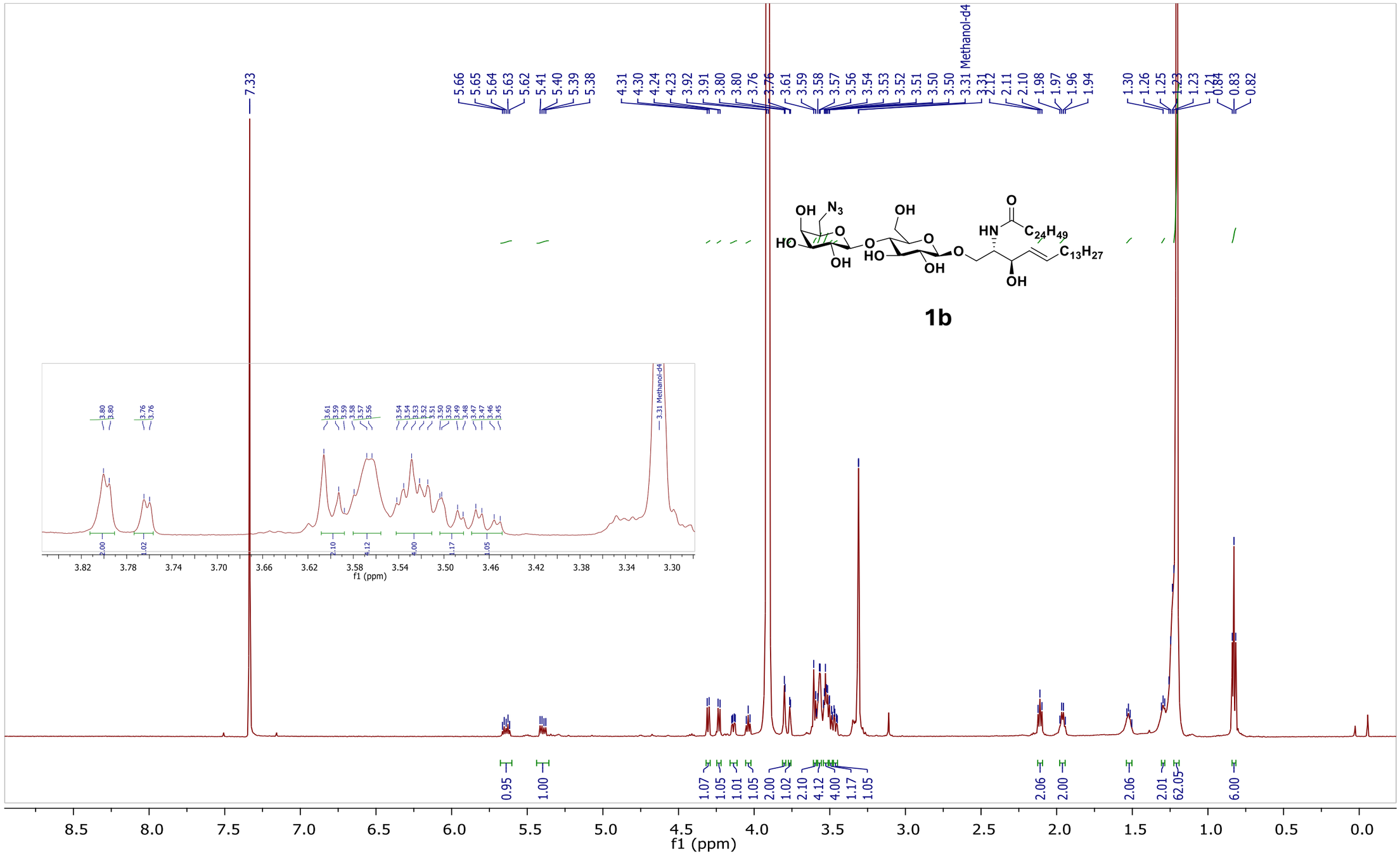


Figure S76. ^{13}C NMR of compound **1b** (151 MHz, $CDCl_3/CD_3OD$ 2:1)

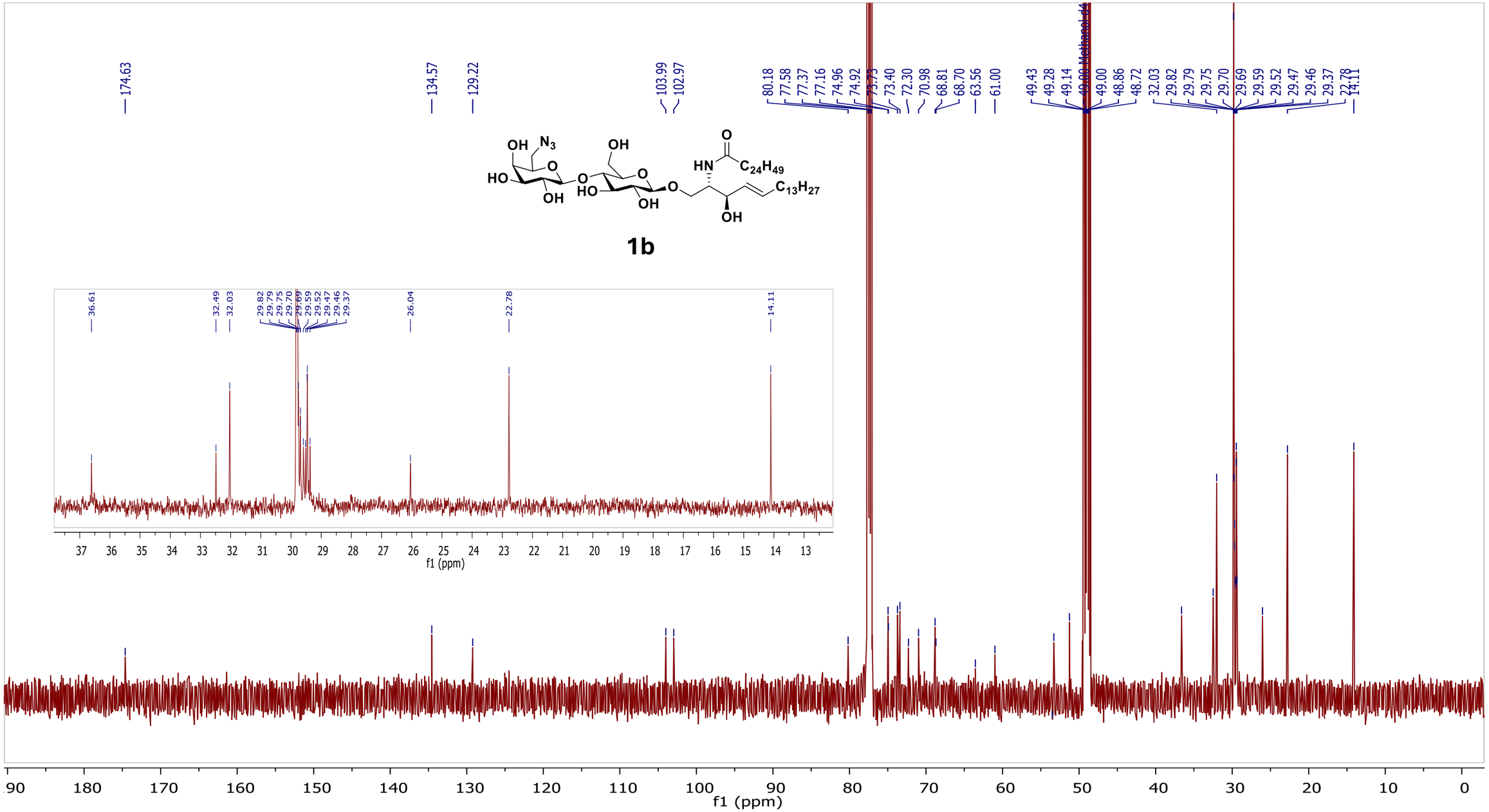


Figure S77. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1b**

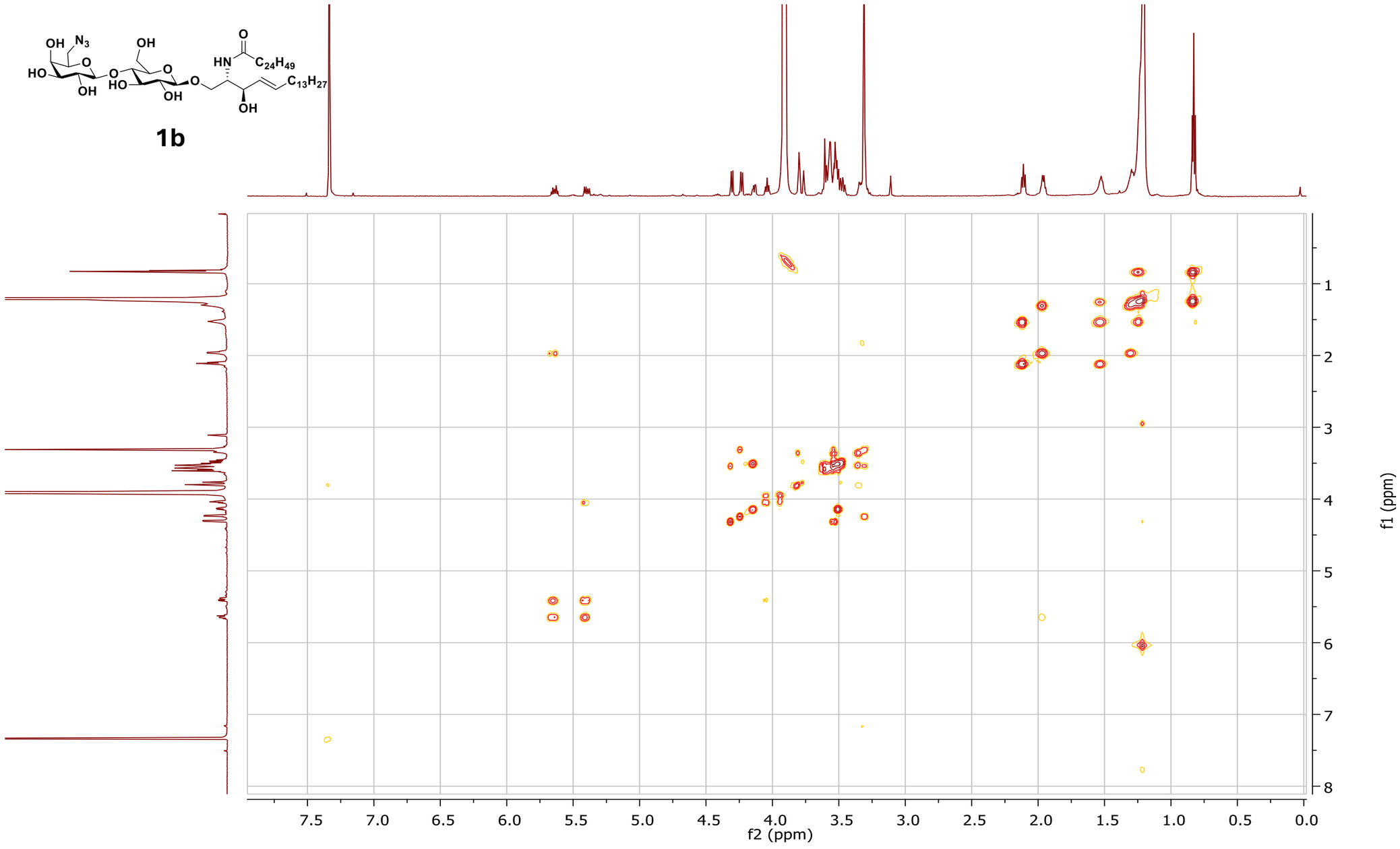


Figure S78. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1b**

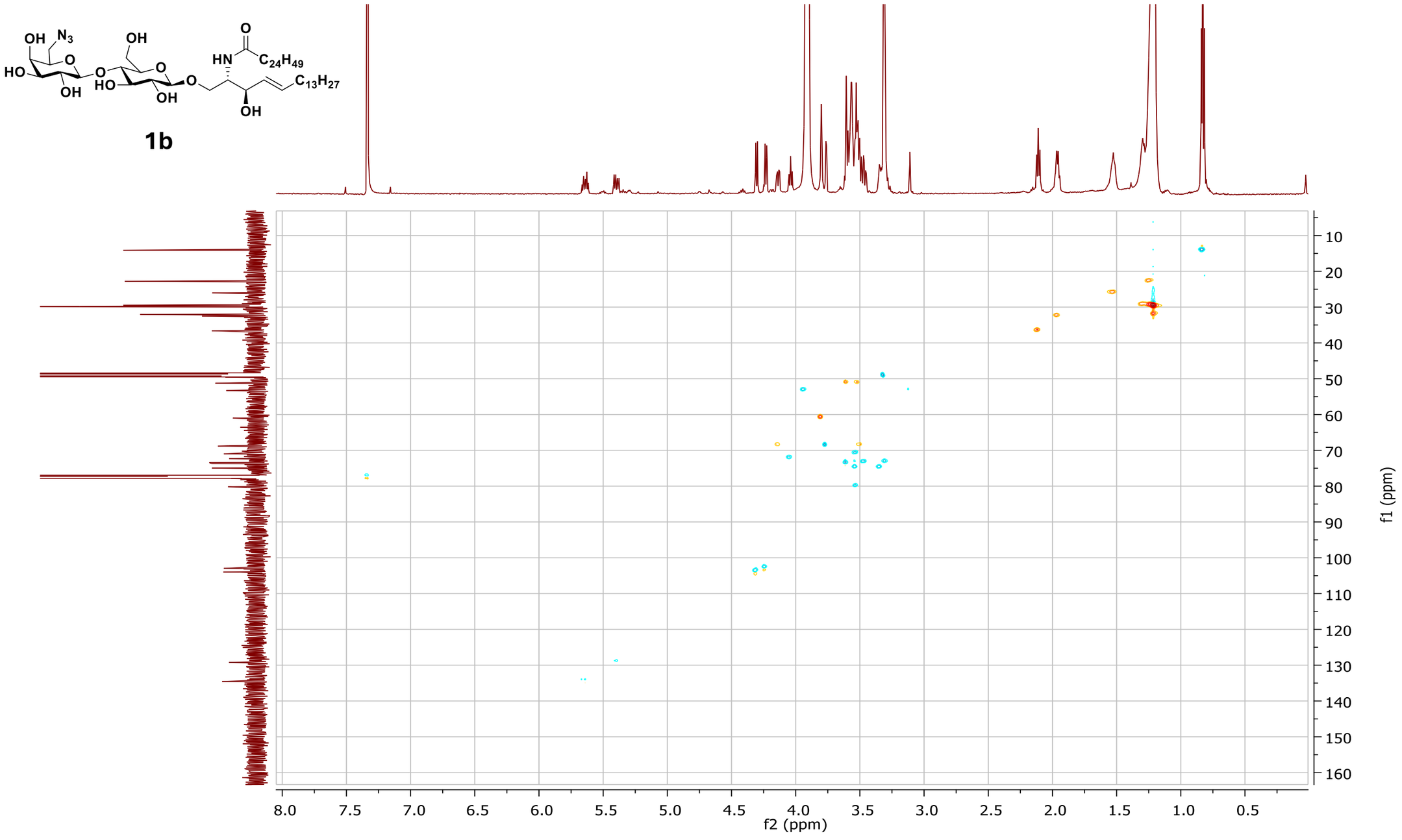


Figure S79. HR ESI-TOF-MS of compound **1b**

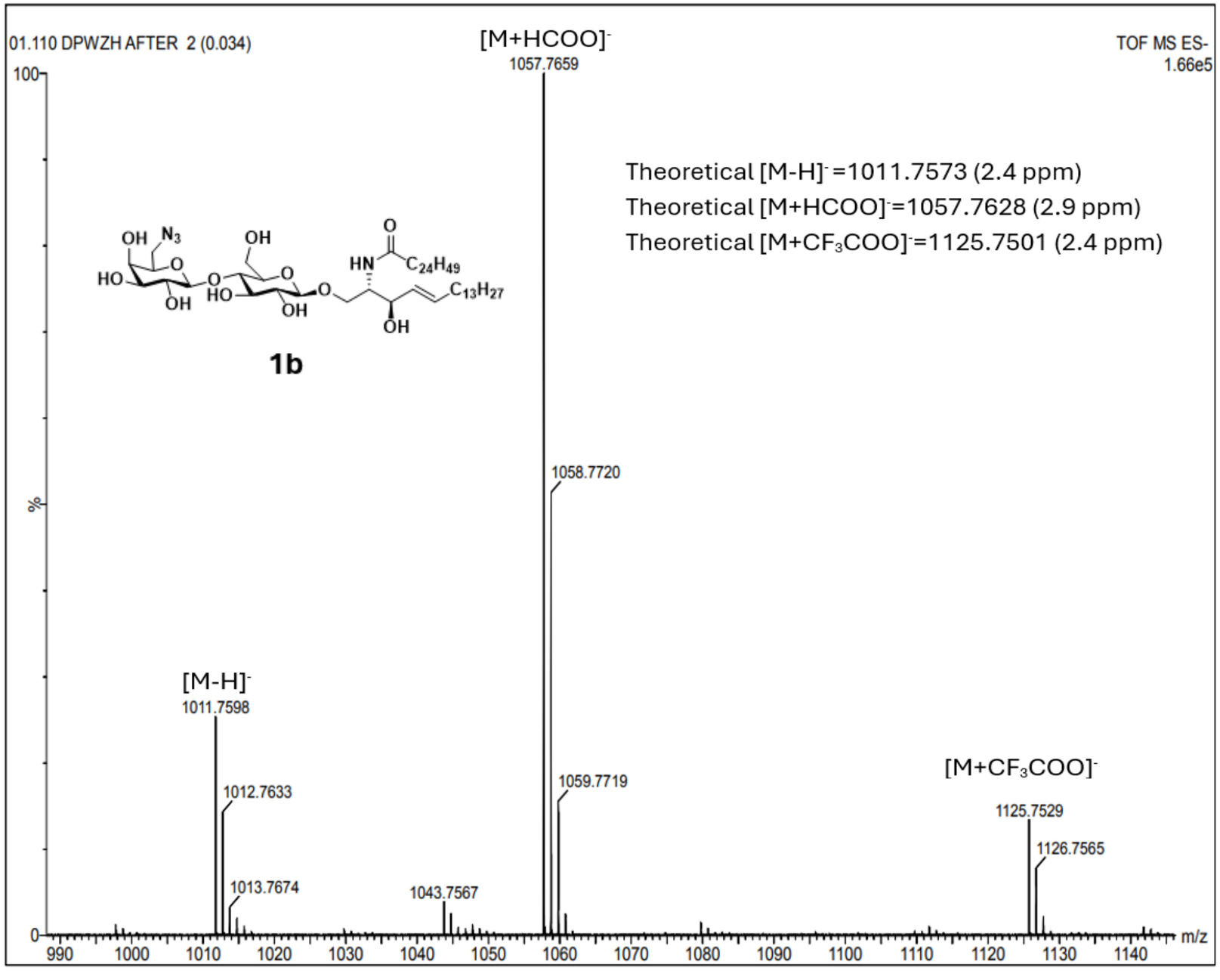


Figure S80. ^{1}H NMR of compound **1c** (600 MHz, $CDCl_3/CD_3OD$ 2:1)

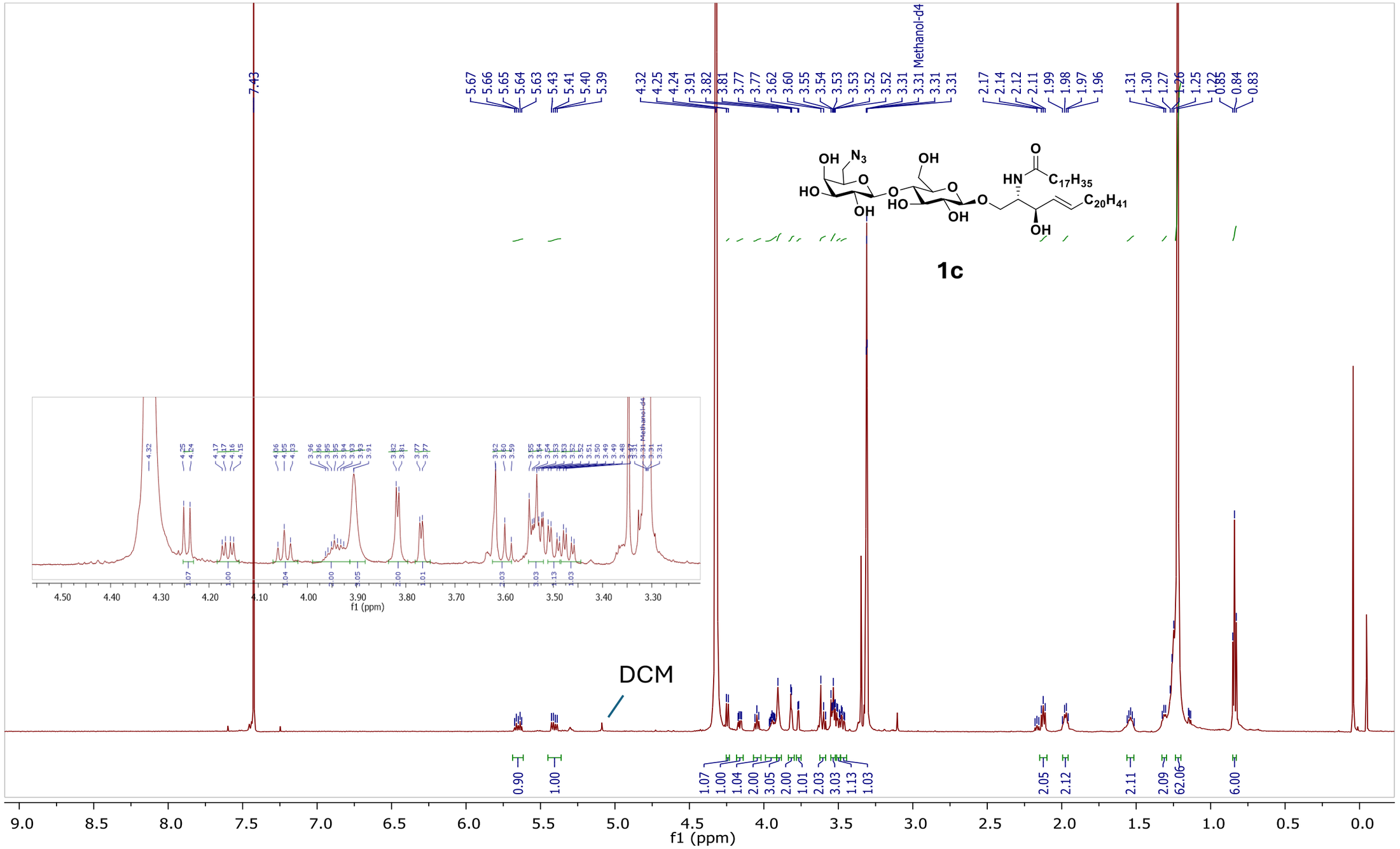


Figure S81. ^{13}C NMR of compound **1c** (151 MHz, $CDCl_3/CD_3OD$ 2:1)

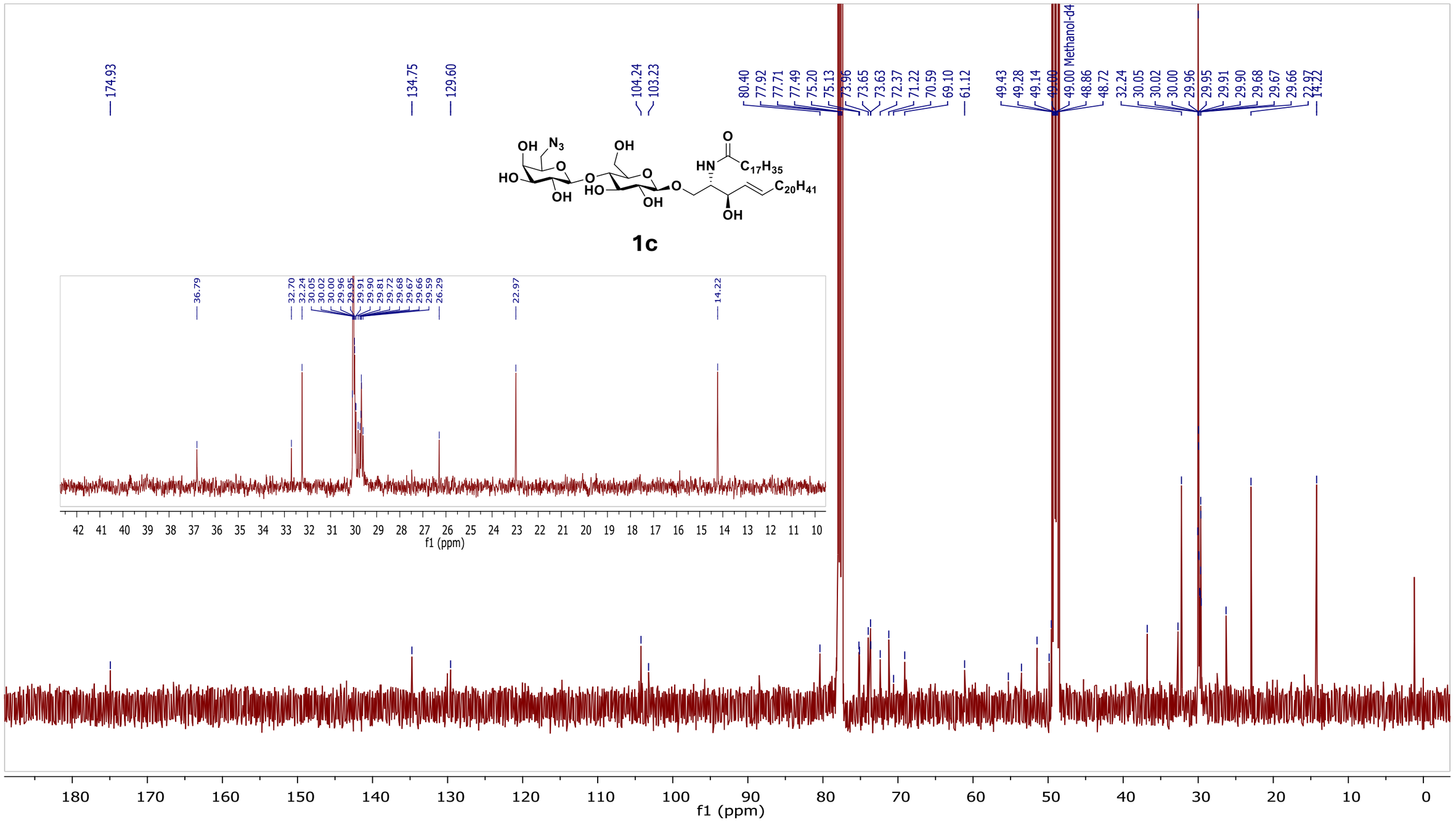


Figure S82. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1c**

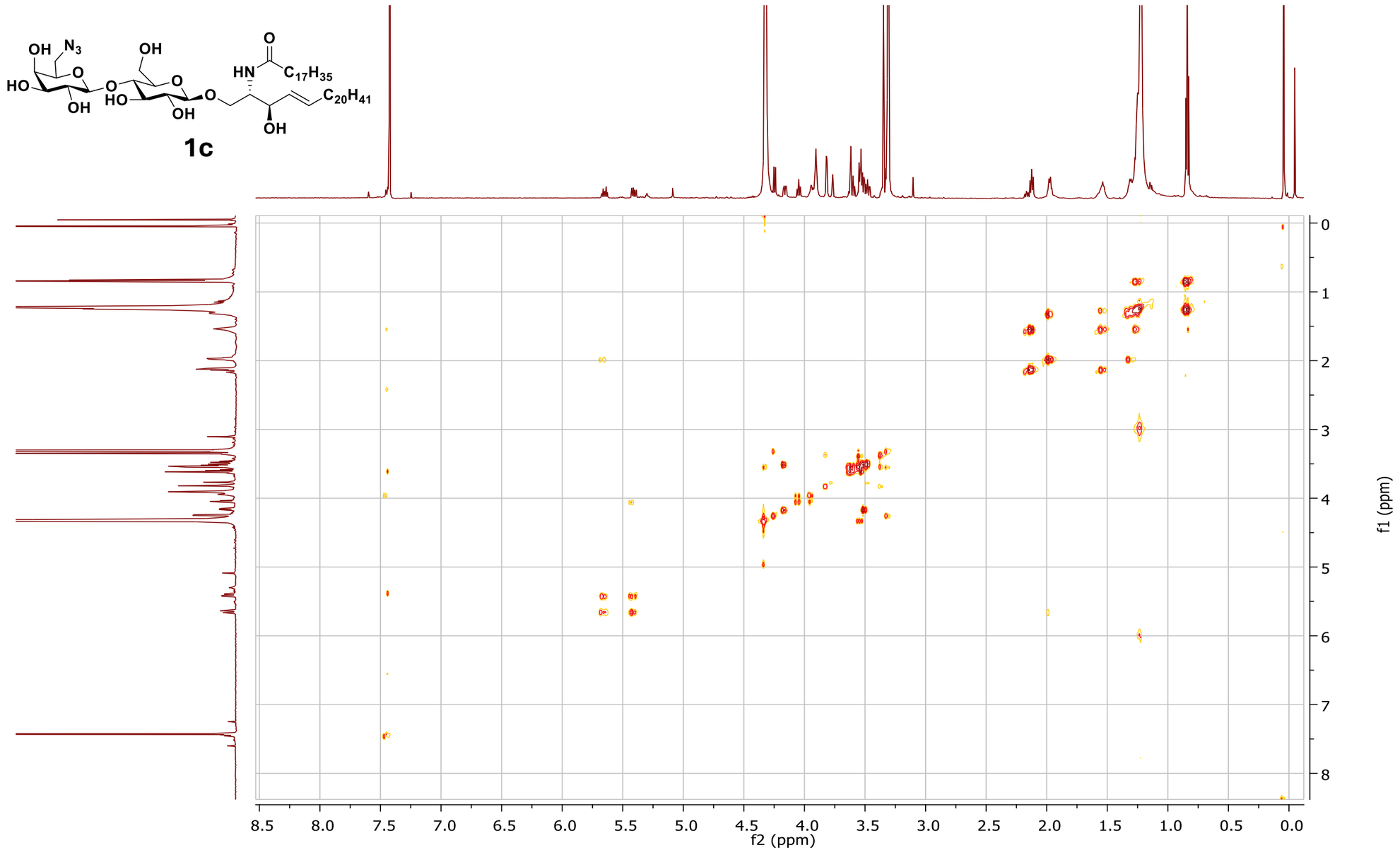


Figure S83. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1c**

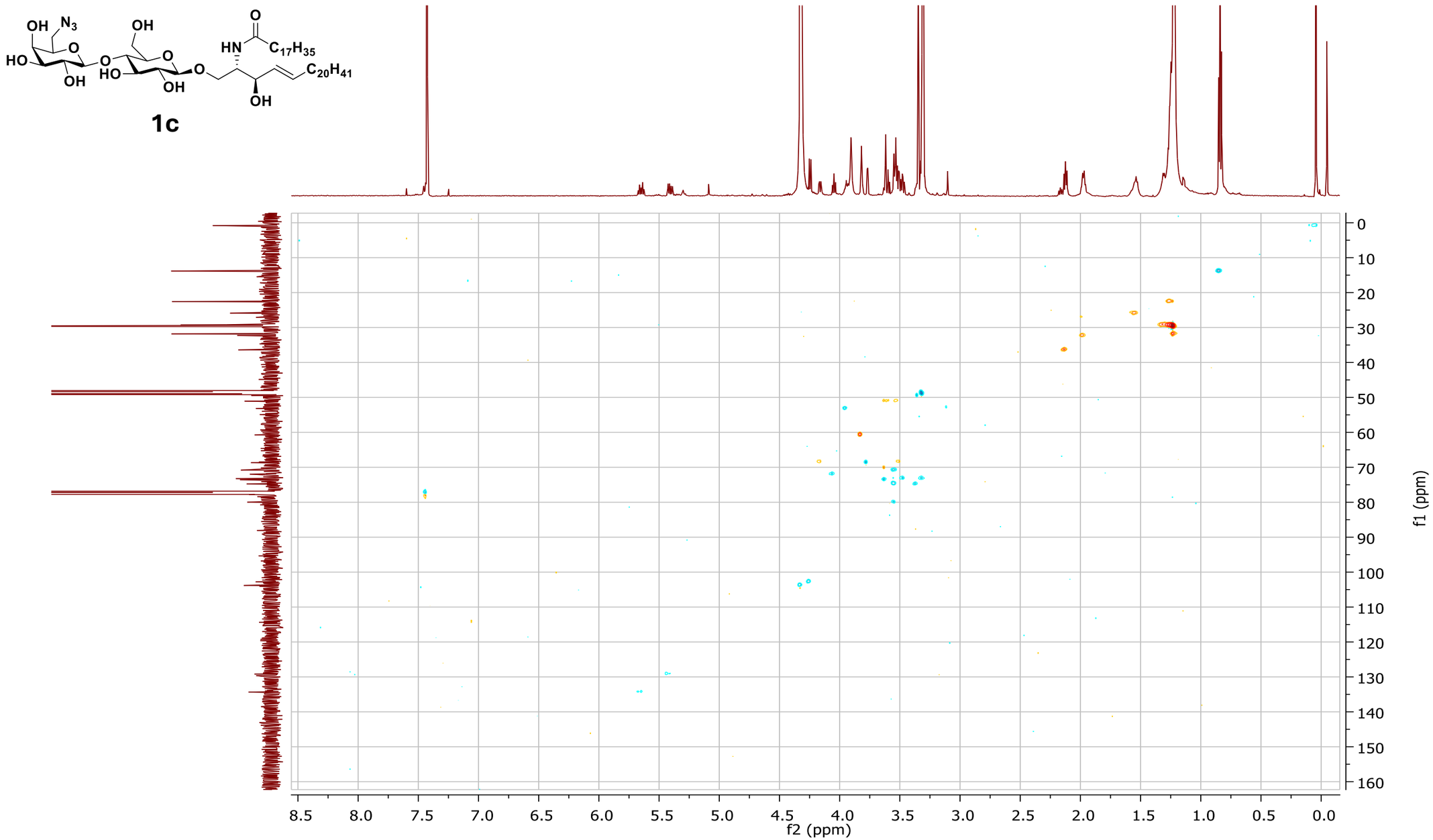


Figure S84. HR ESI-TOF-MS of compound **1c**

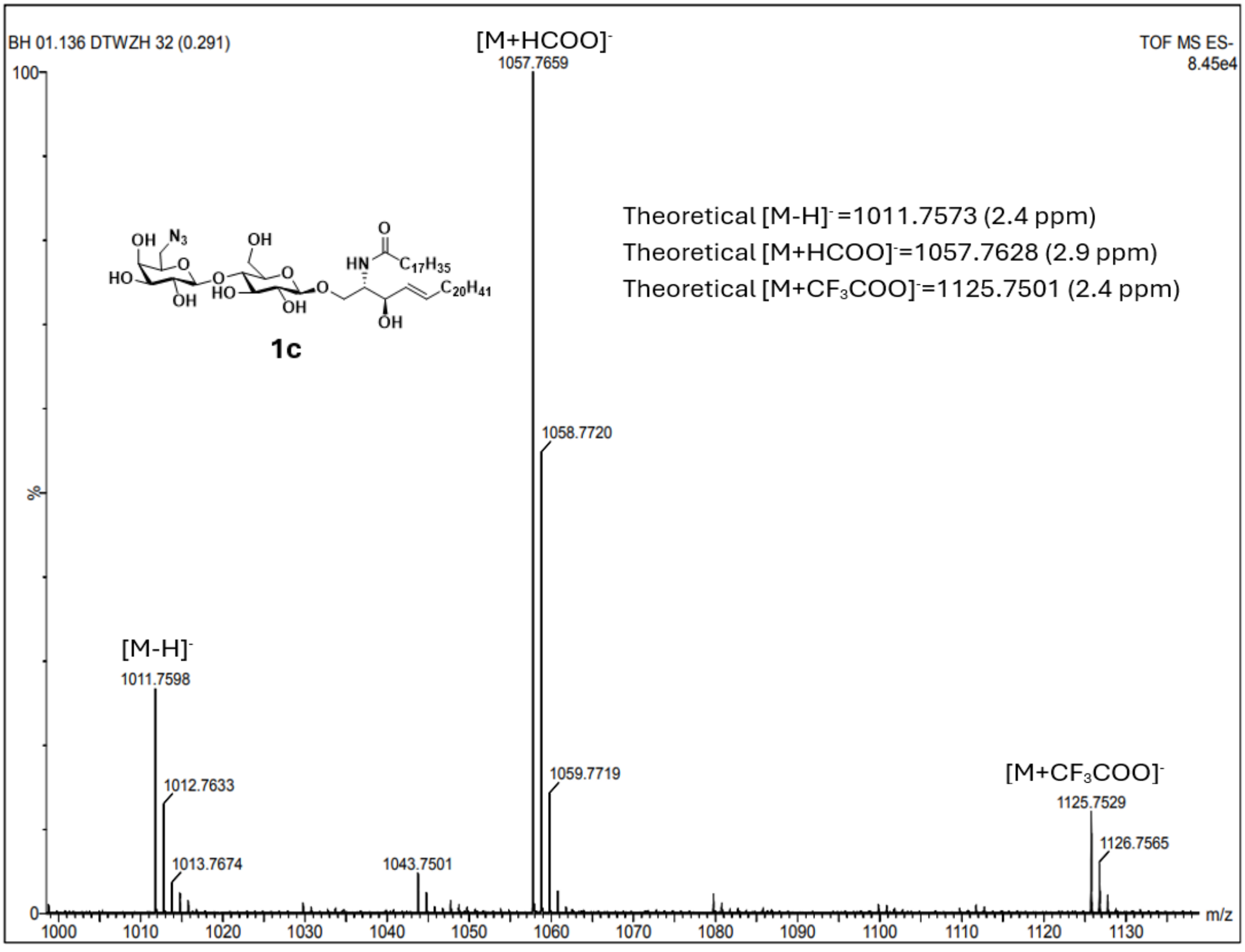


Figure S85. ^{1}H NMR of compound **1d** (600 MHz, $CDCl_3/CD_3OD$ 2:1)

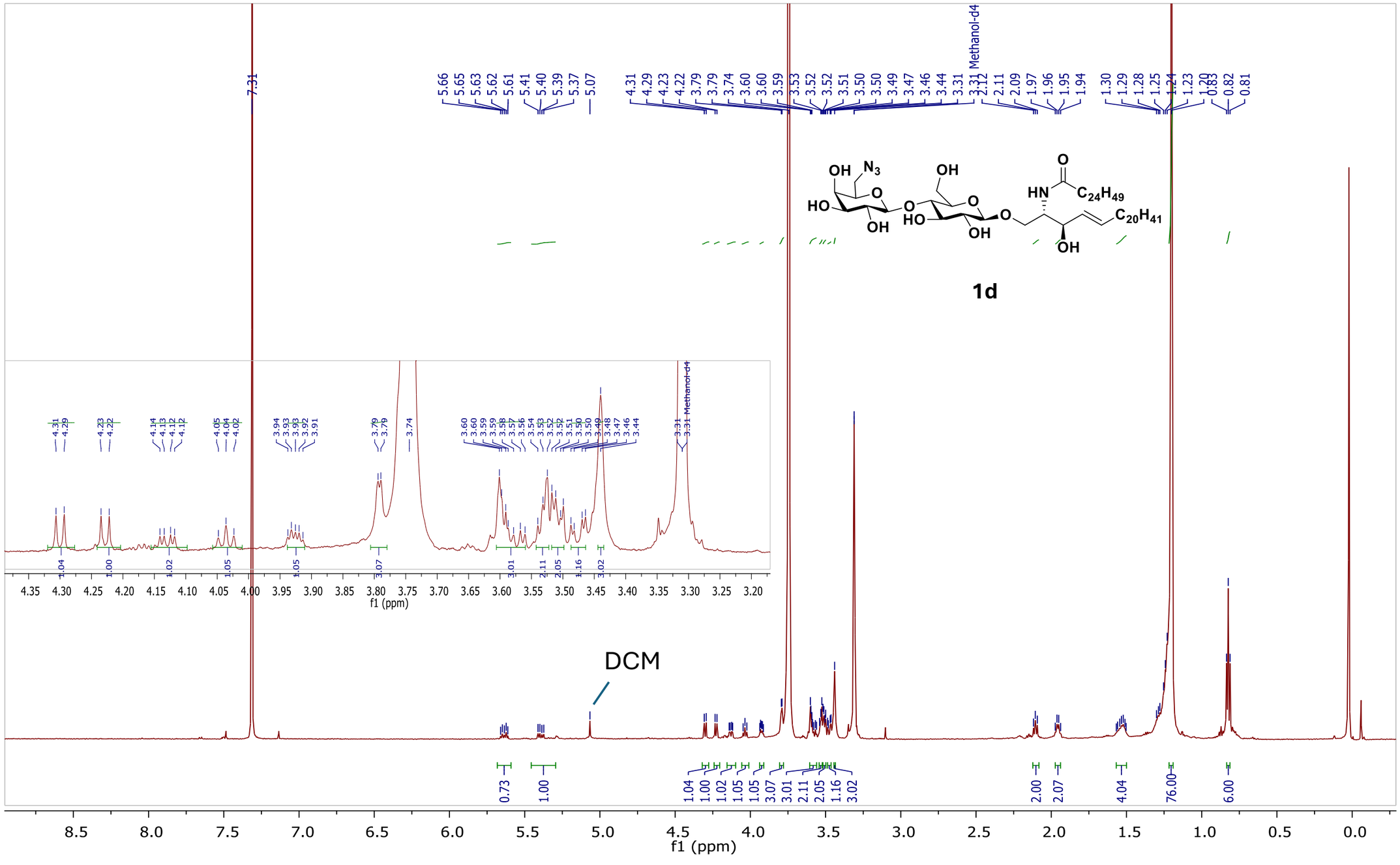


Figure S86. ^{13}C NMR of compound **1d** (151 MHz, $CDCl_3/CD_3OD$ 2:1)

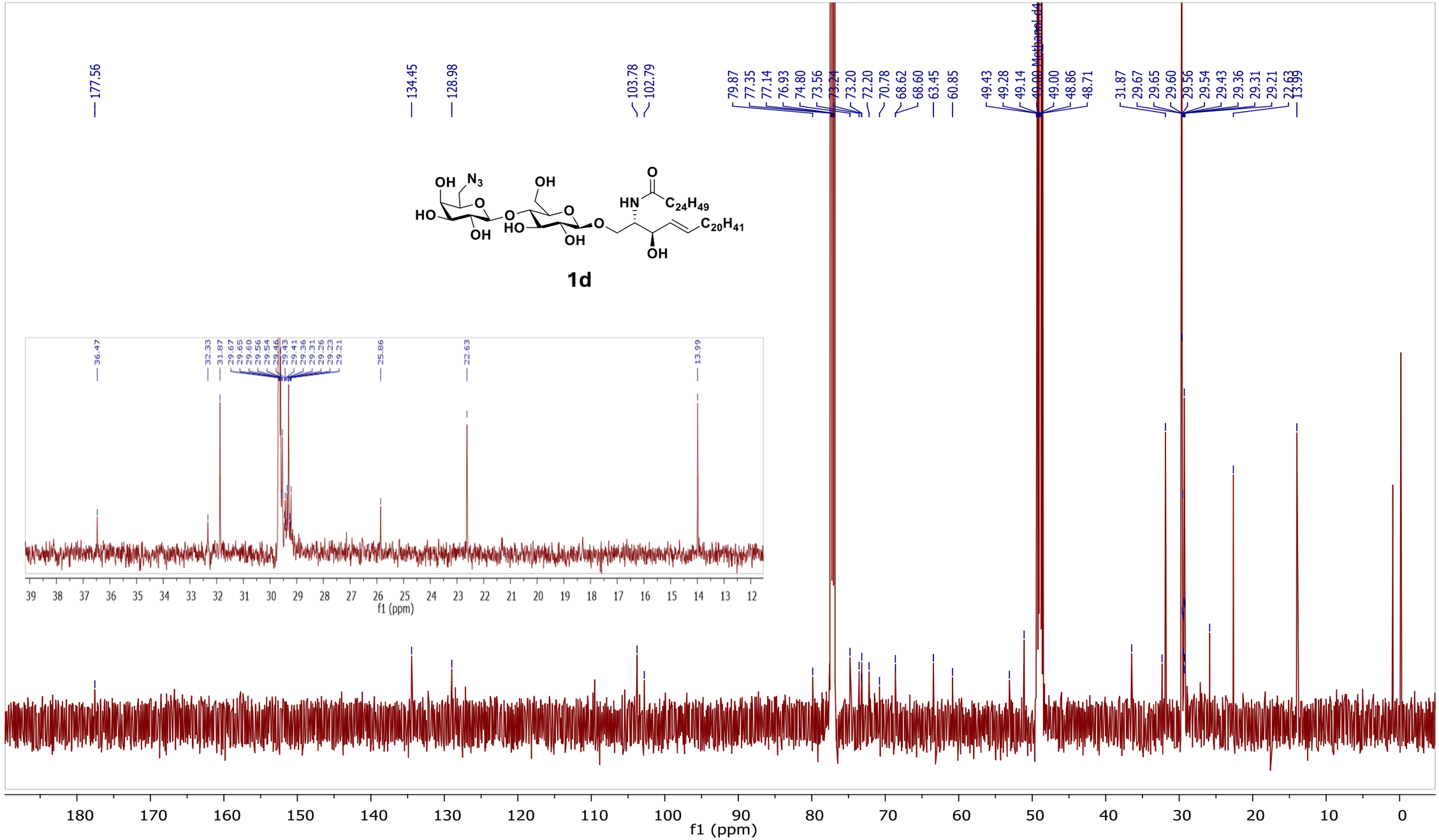


Figure S87. ^{1}H-^{1}H COSY NMR (600 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1d**

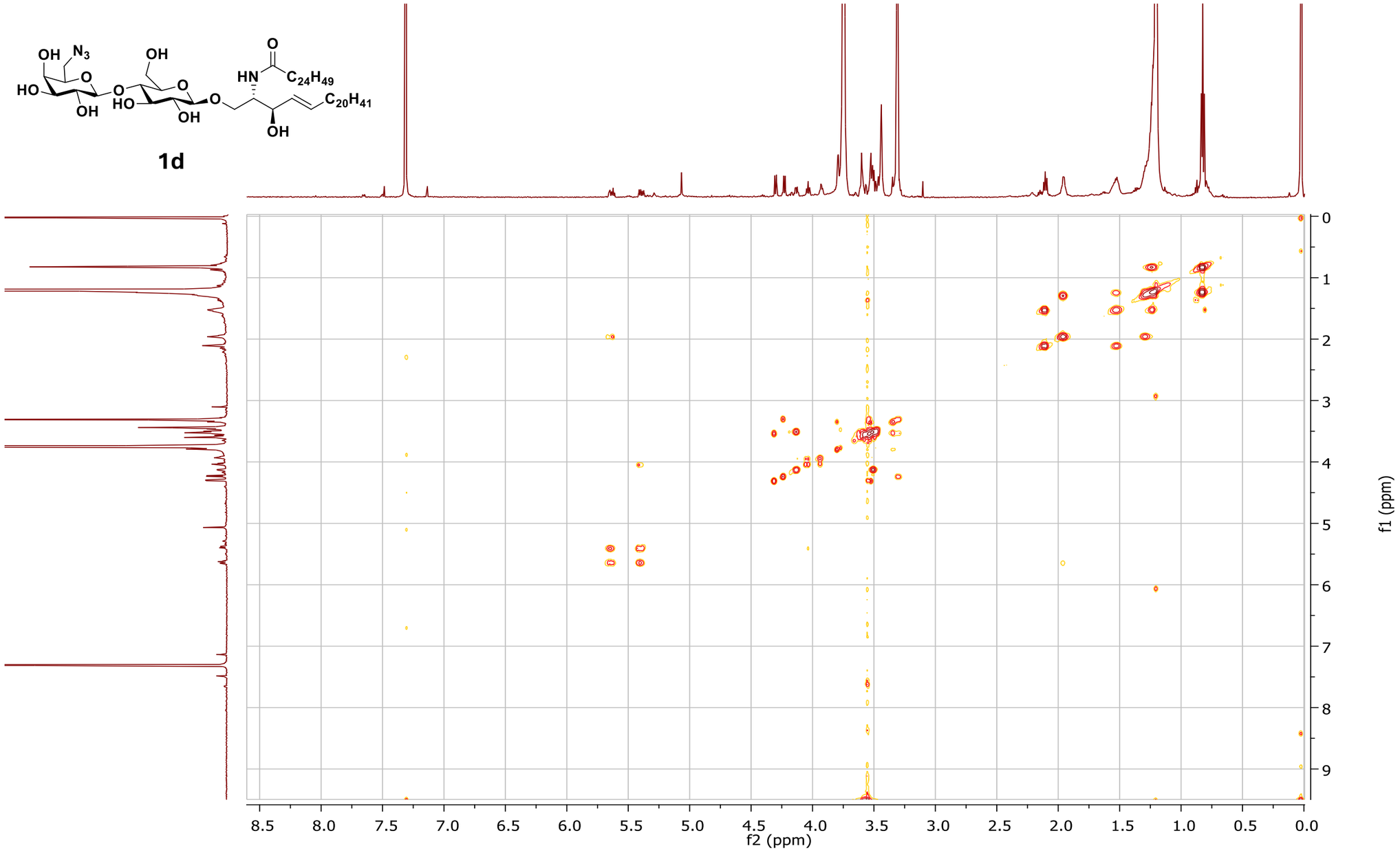


Figure S88. ^{1}H-^{13}C HSQC NMR (600/151 MHz, $CDCl_3/CD_3OD$ 2:1) of compound **1d**

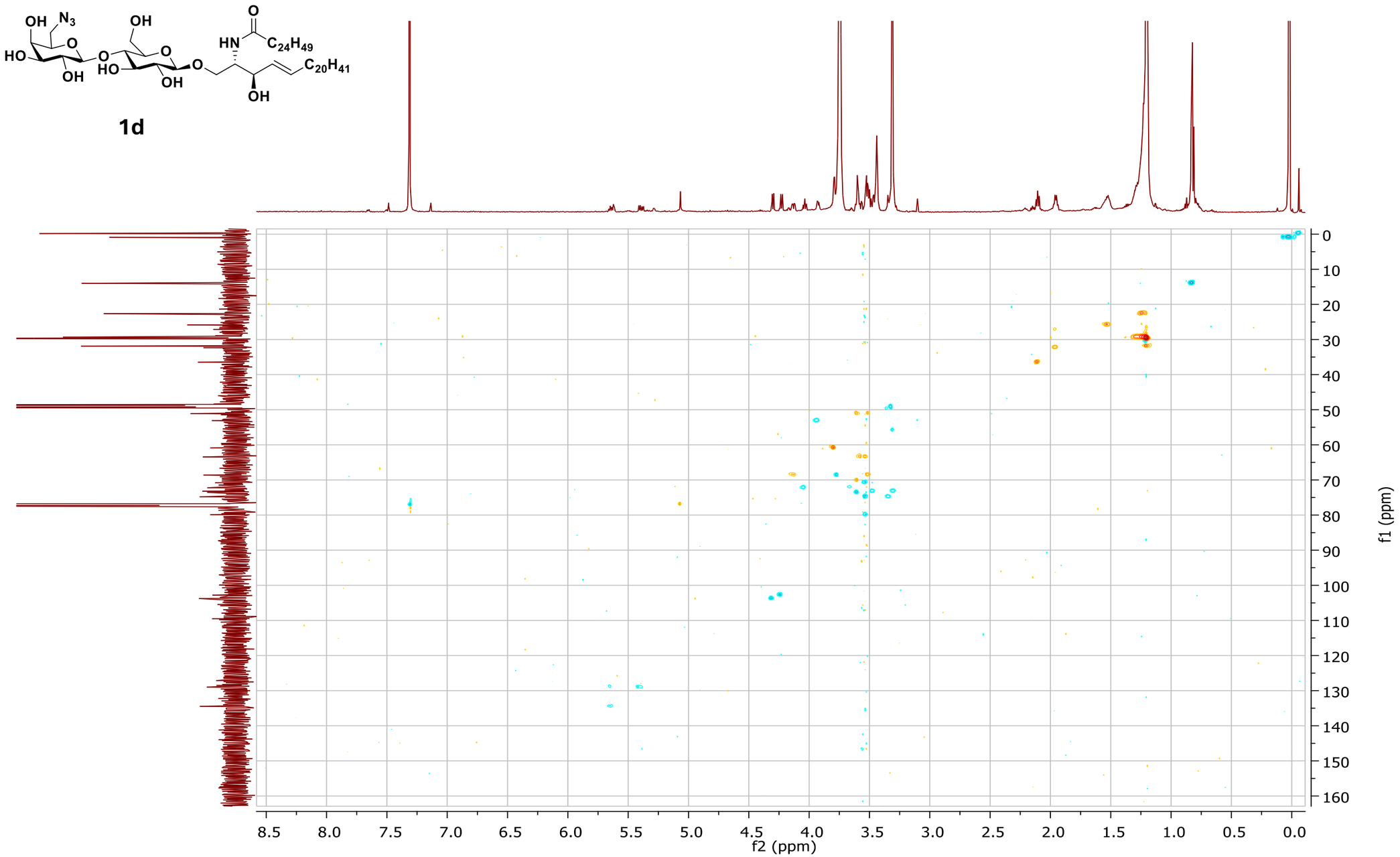


Figure S89. HR ESI-TOF-MS of compound **1d**

