

Supplementary Information

Dammarane Triterpenoids from Carnauba, *Copernicia prunifera* (Miller) H. E. Moore (Arecaceae), Wax

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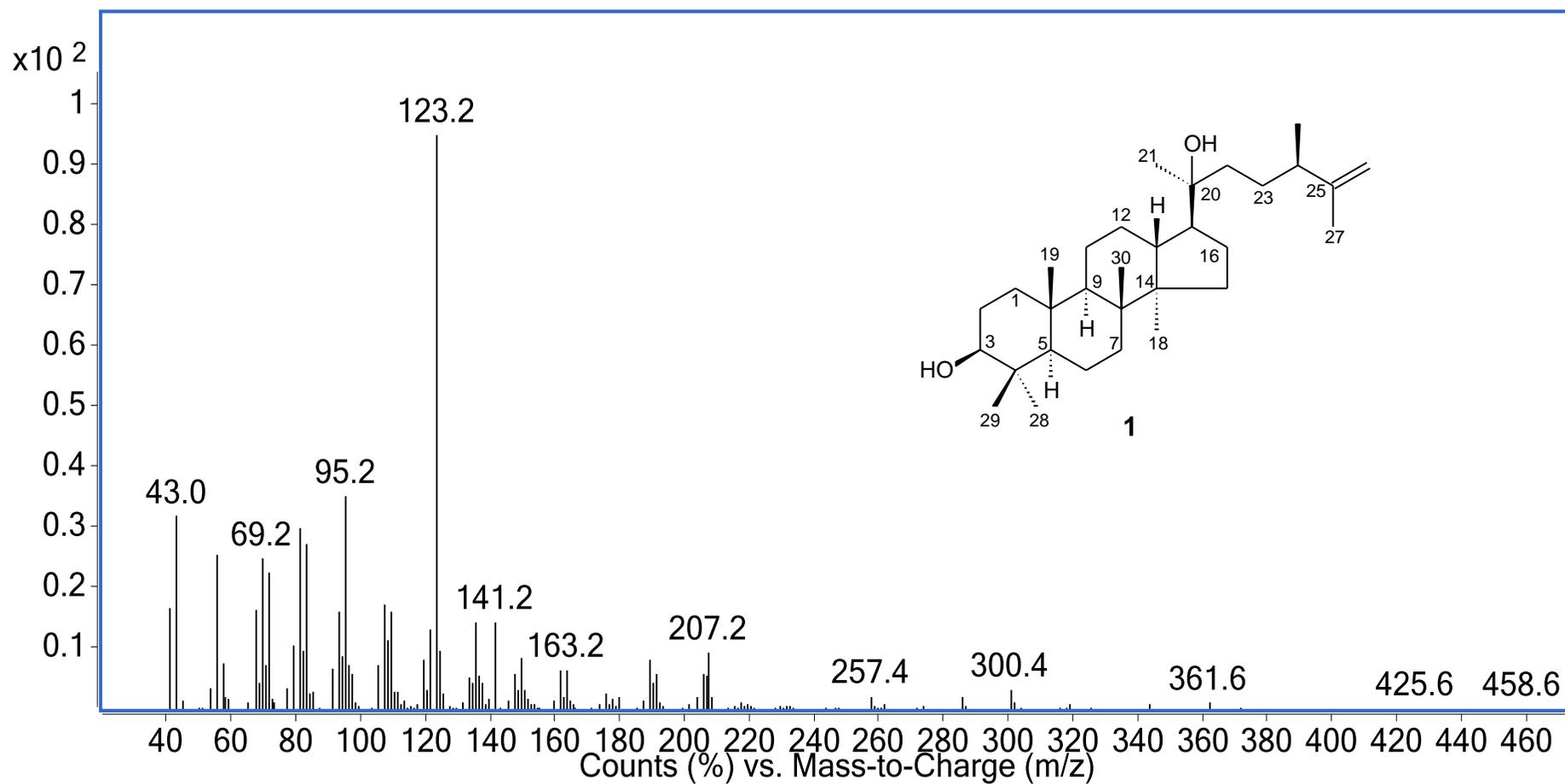


Figure S1. LREIMS spectrum of compound 1.

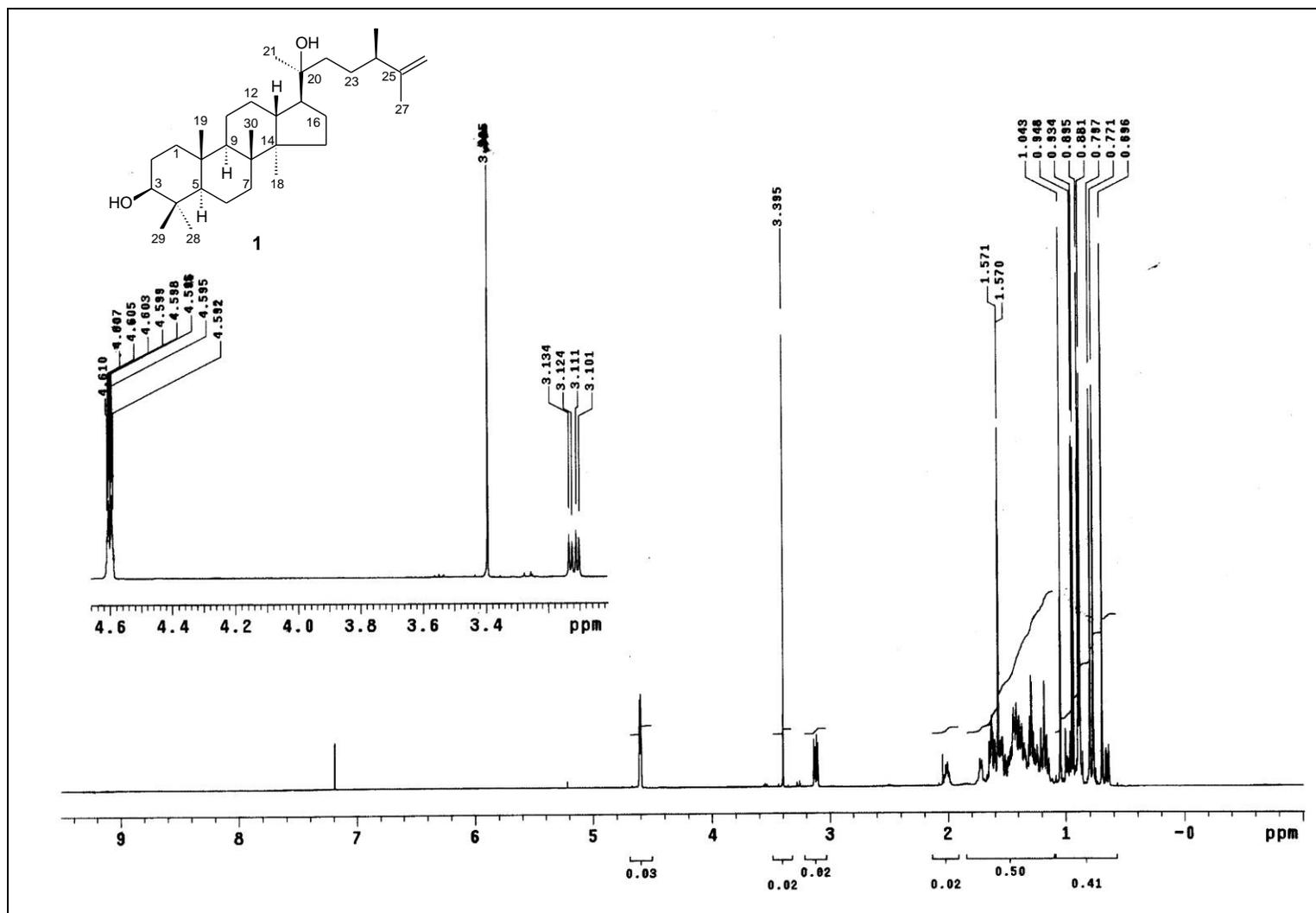


Figure S2. ¹H NMR (500 MHz, CDCl₃) spectrum of compound 1.

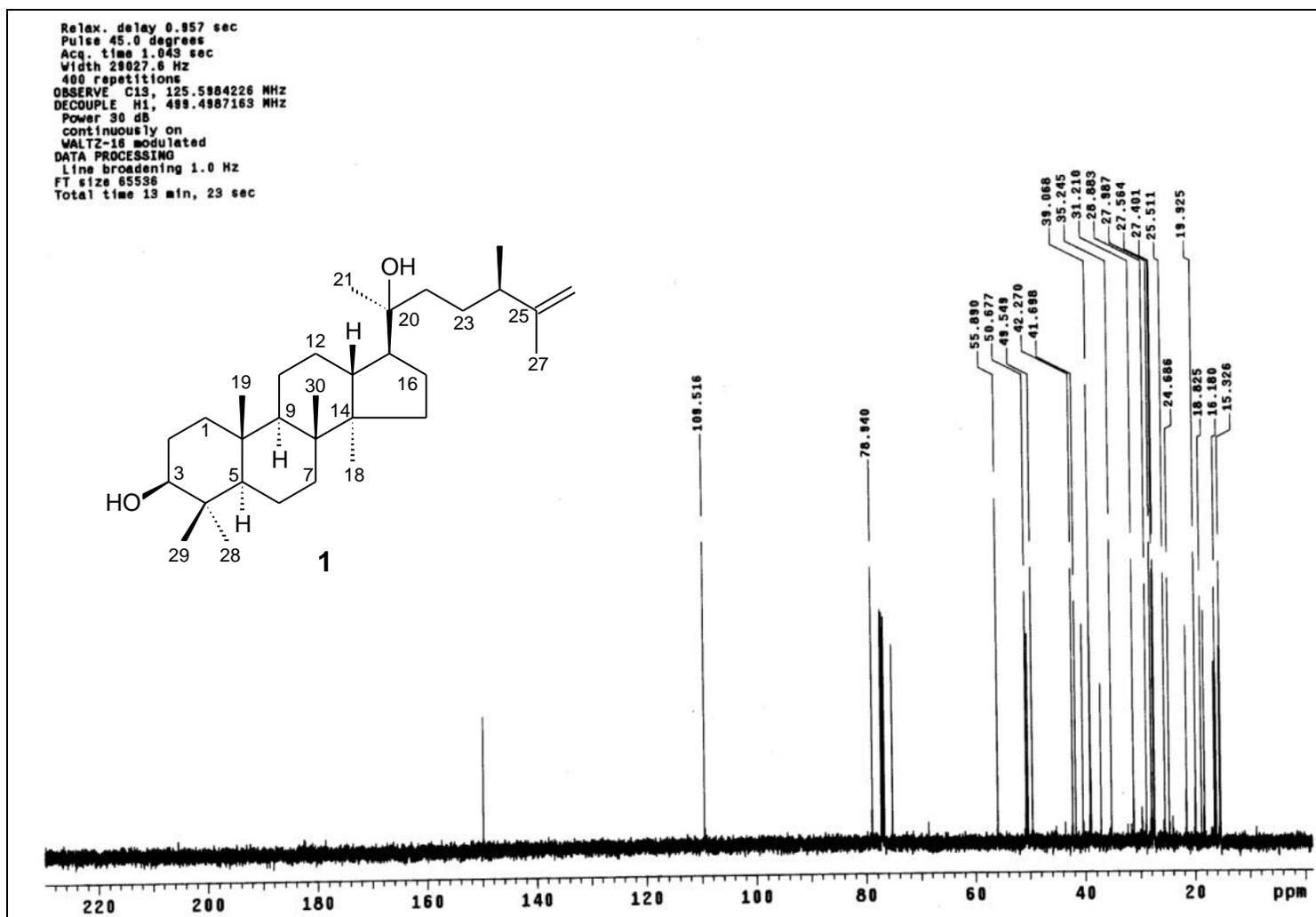


Figure S3. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound 1.

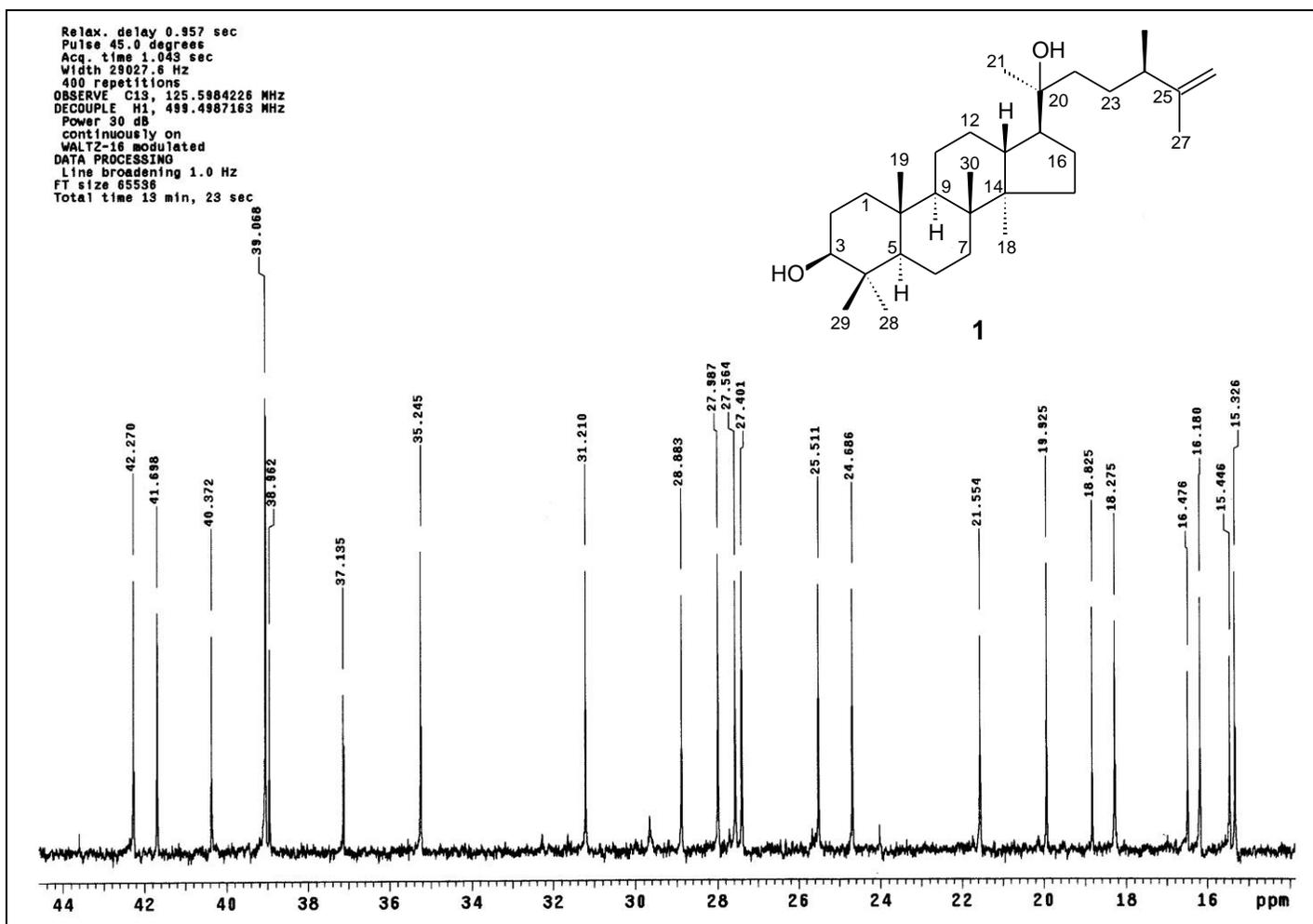


Figure S4. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **1**, expansion of the region δ 15-44.

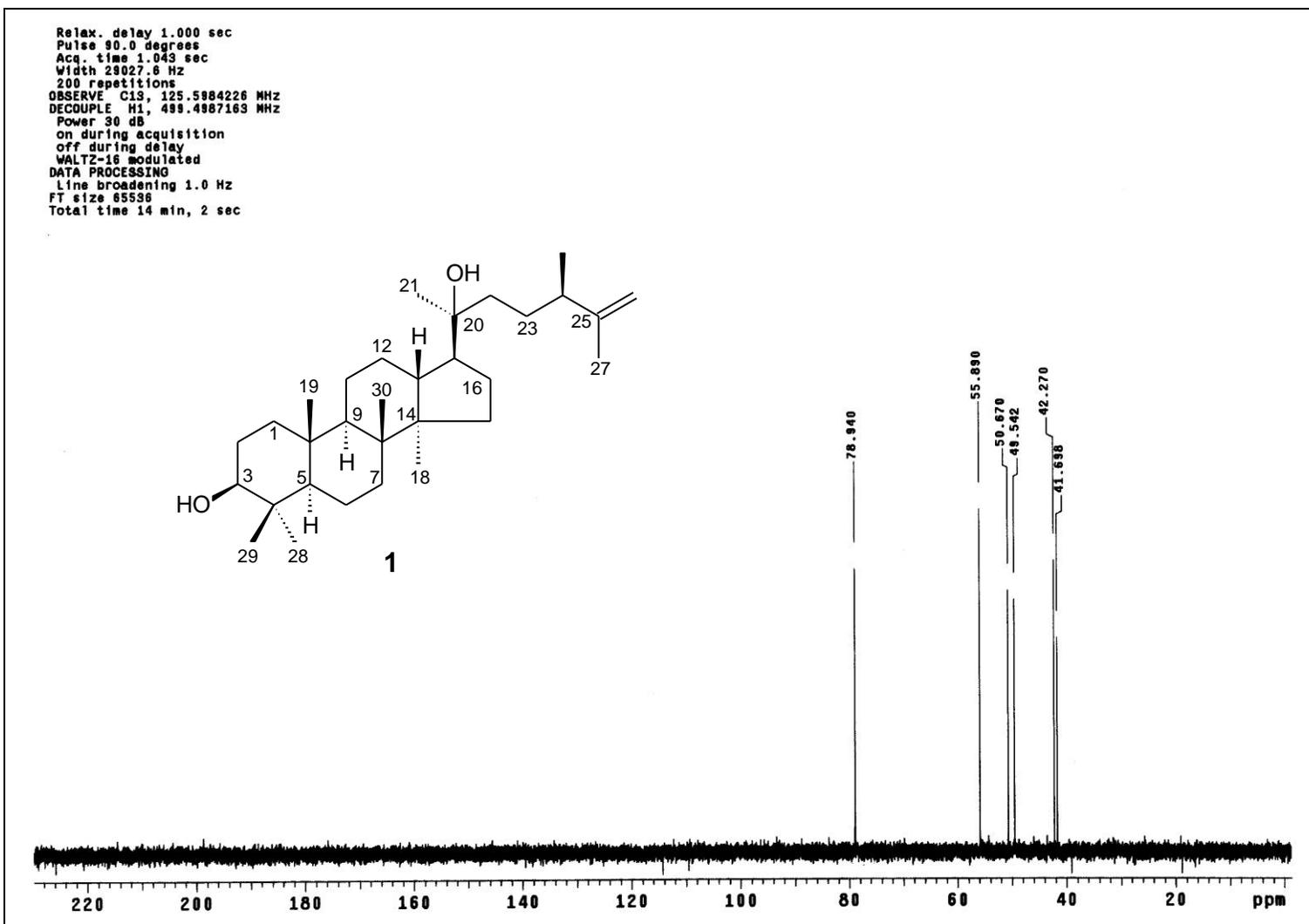


Figure S5. DEPT-90 (125 MHz, CDCl₃) spectrum of compound **1**.

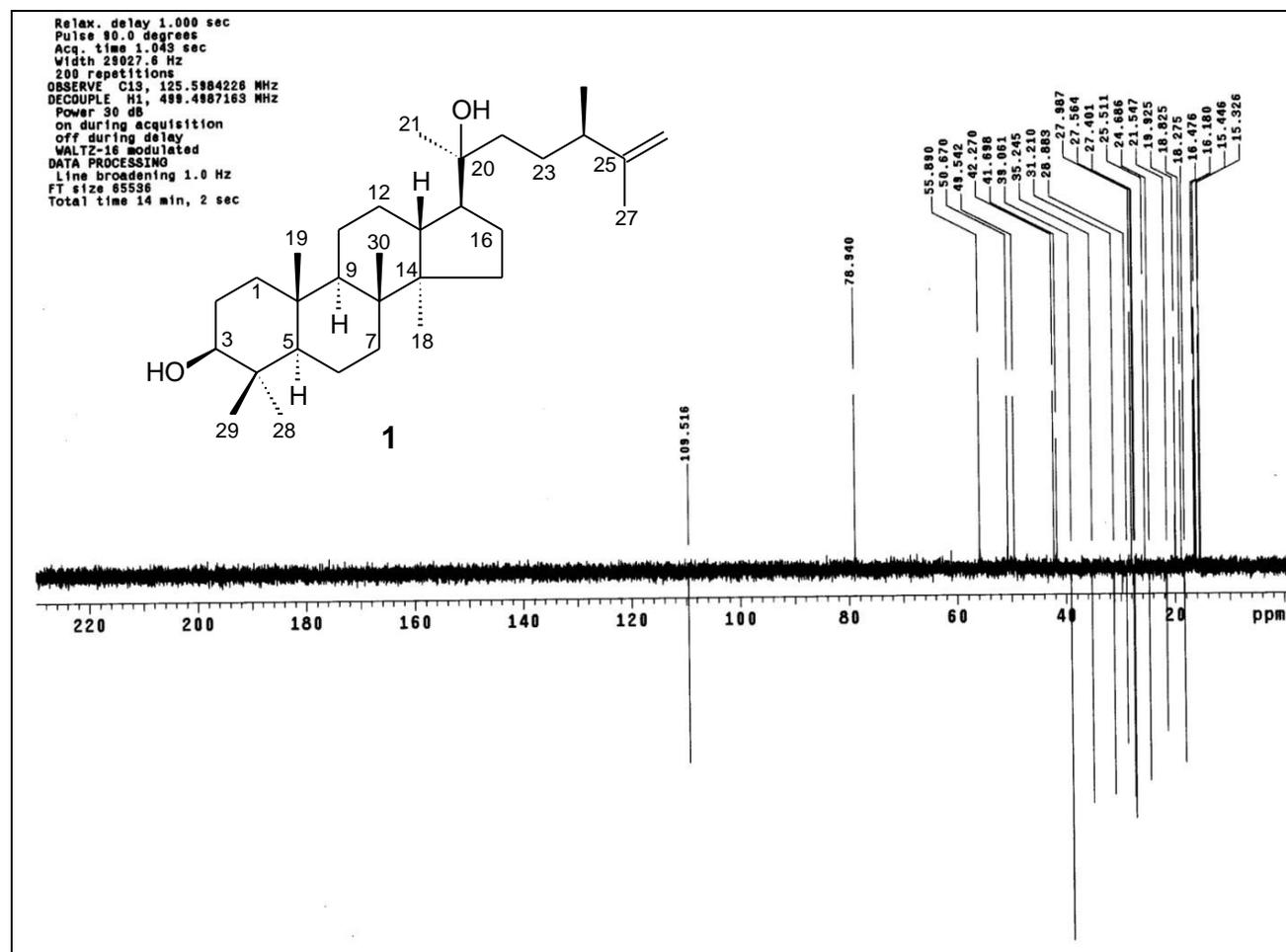


Figure S6. DEPT-135 (125 MHz, CDCl_3) spectrum of compound **1**.

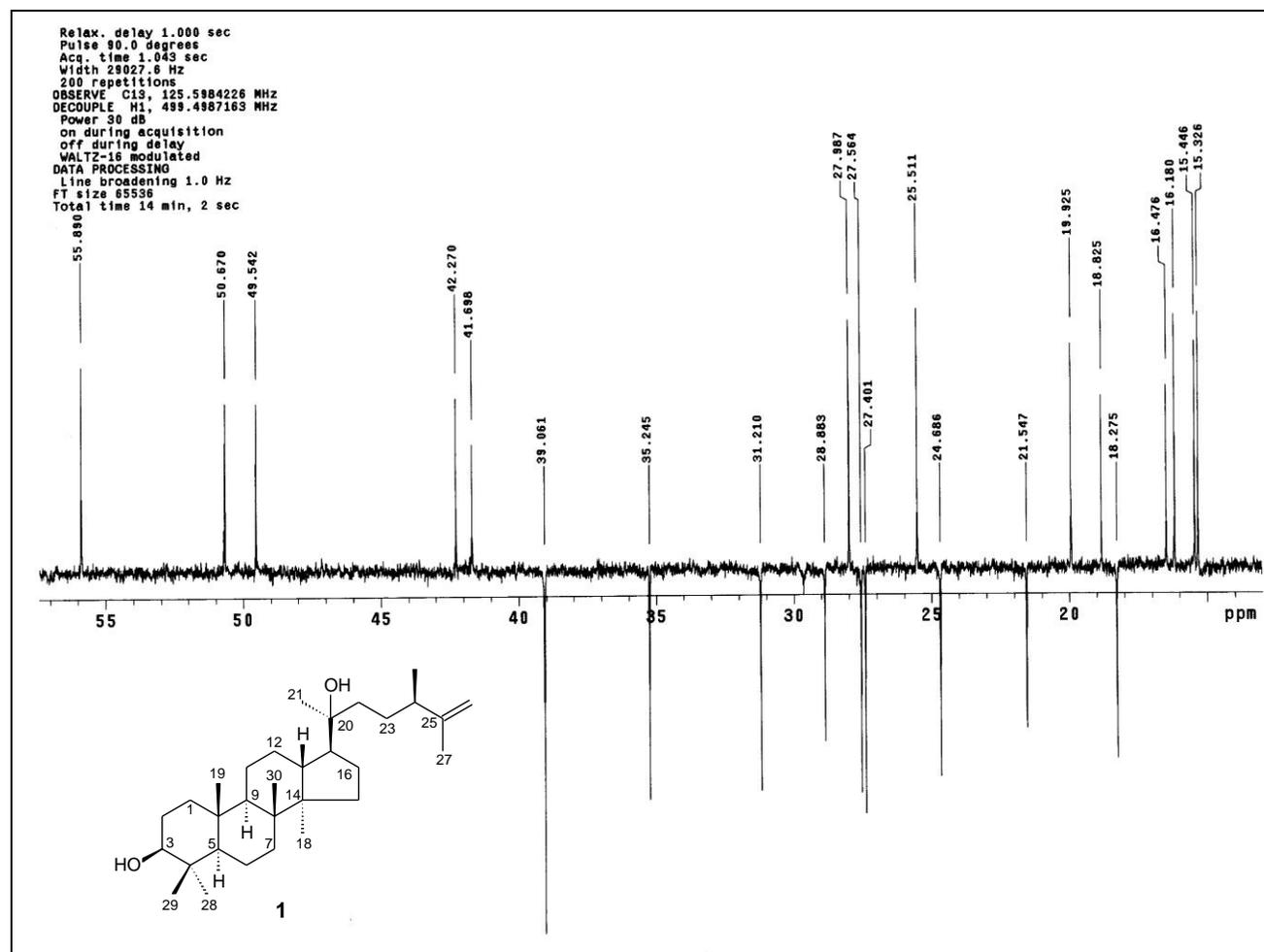


Figure S7. DEPT-135 (125 MHz, CDCl₃) spectrum of compound **1**, expansion of the region δ 15-55.

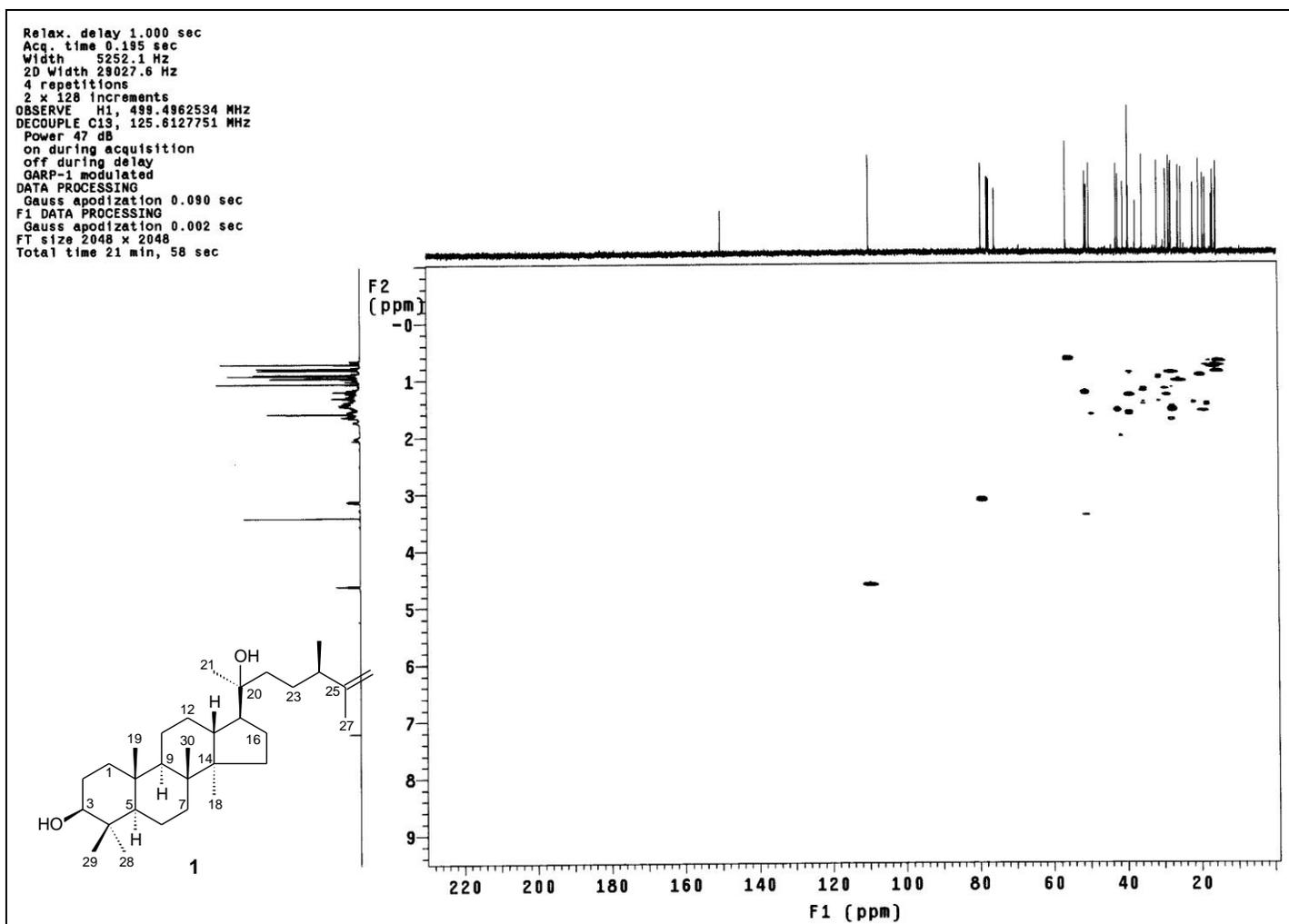


Figure S8. HMQC (500 and 125 MHz, CDCl₃) spectrum of compound 1.

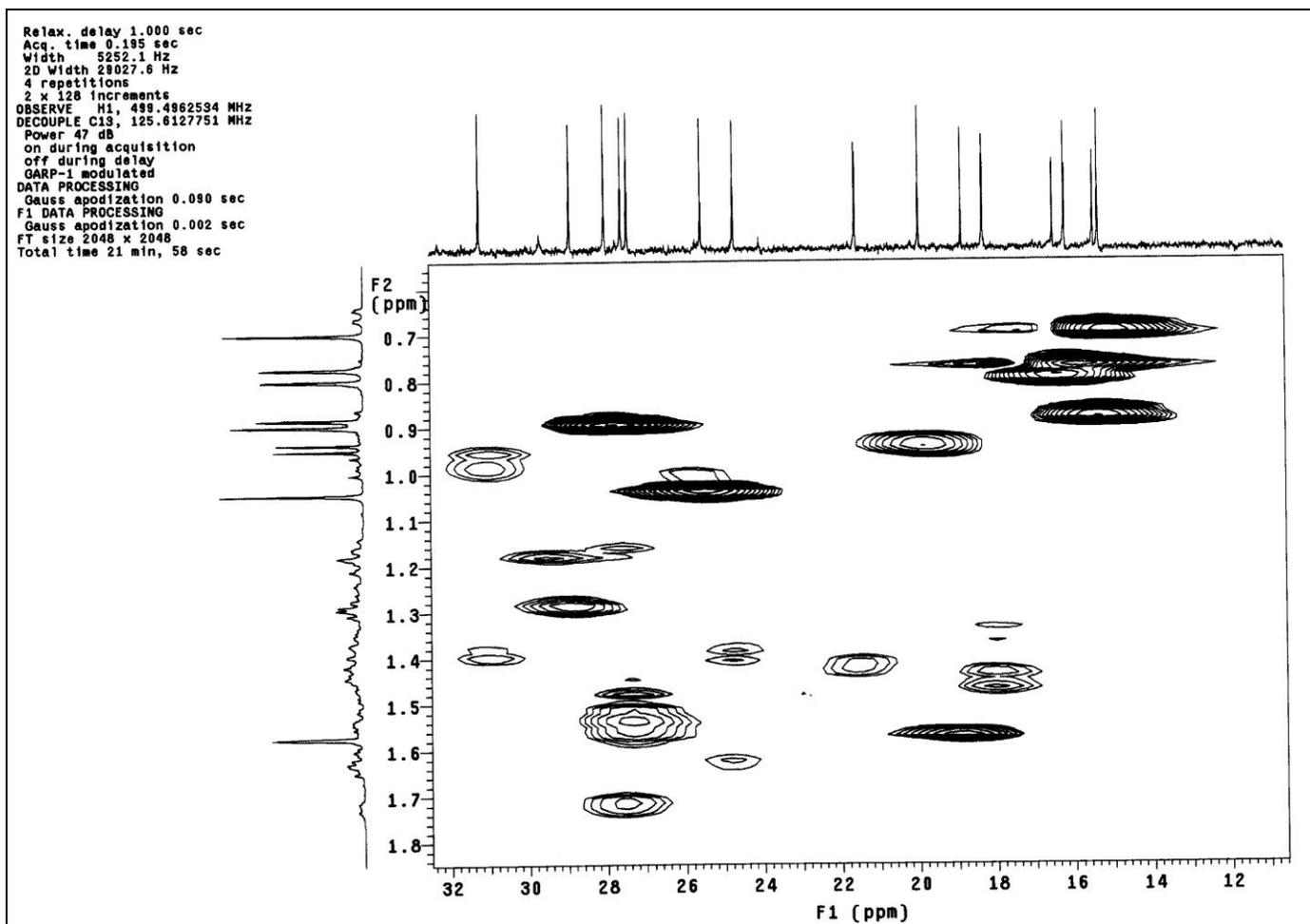
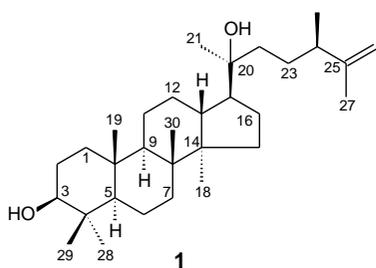


Figure S9. HMQC (500 and 125 MHz, CDCl_3) spectrum of compound 1, expansion of regions δ 0.7-1.8 and 12-32.

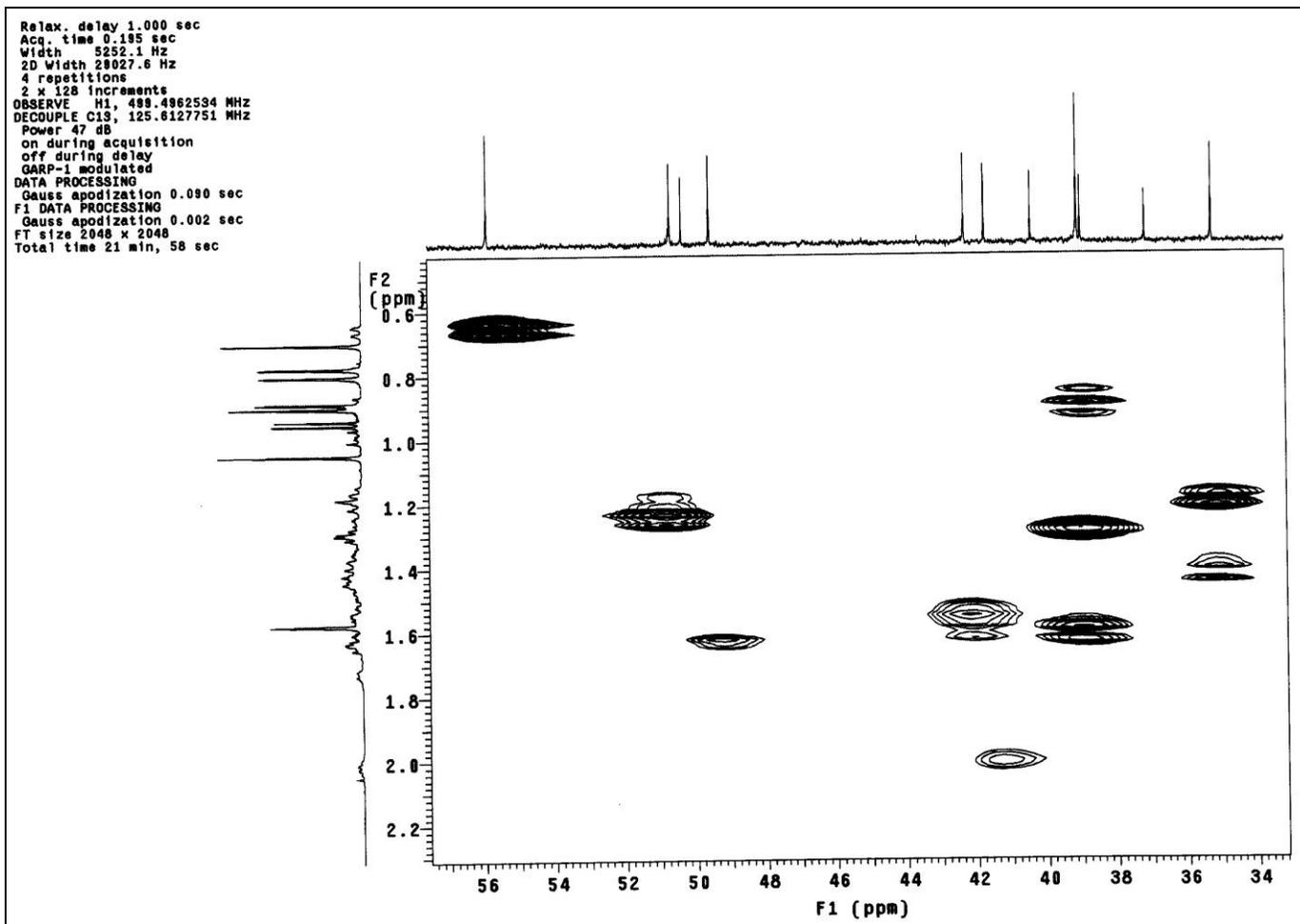
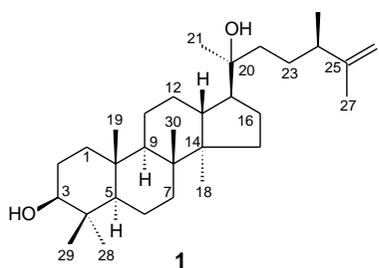


Figure S10. HMQC (500 and 125 MHz, CDCl₃) spectrum of compound **1**, expansion of regions δ 0.6-2.2 and 34-56.

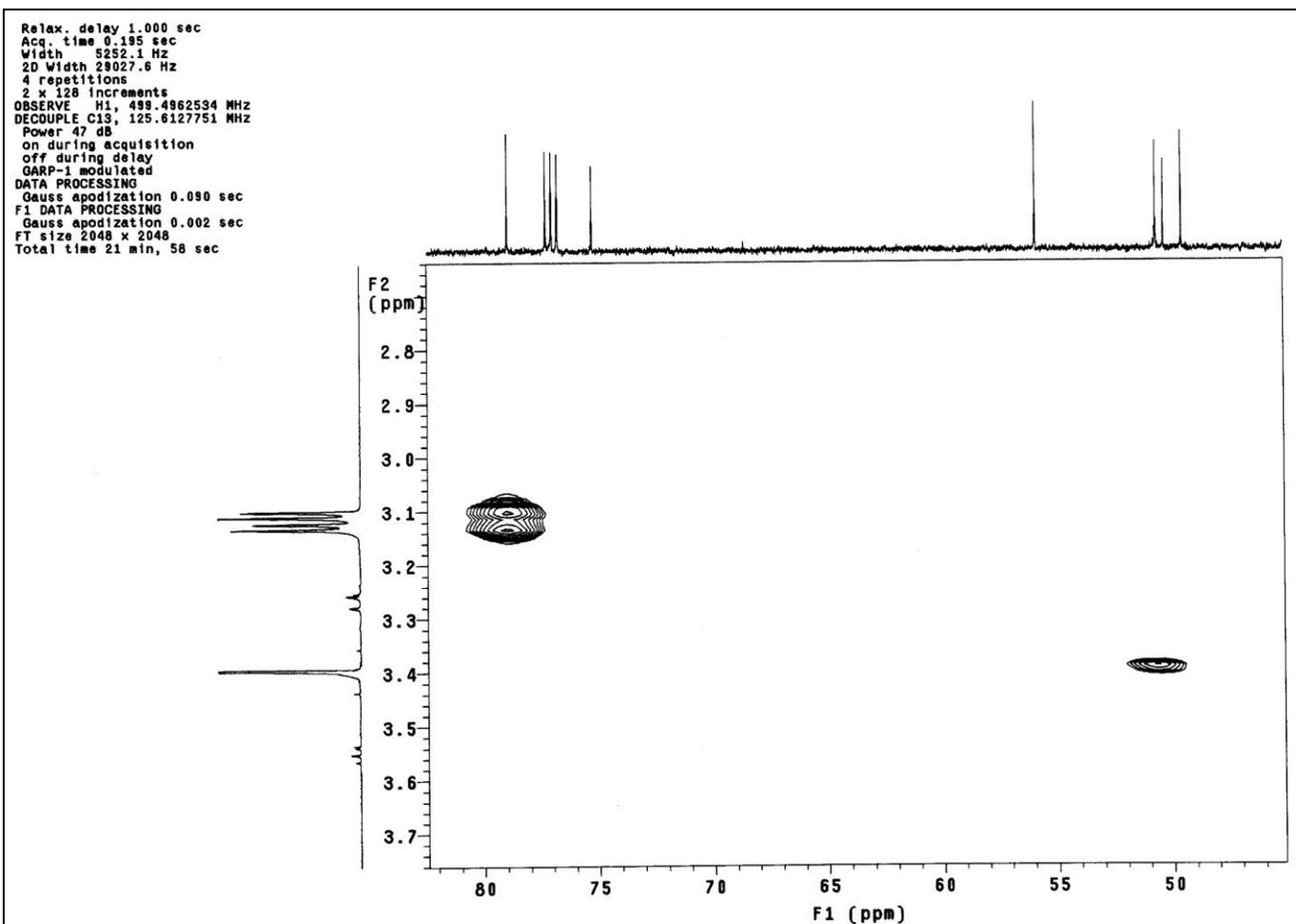
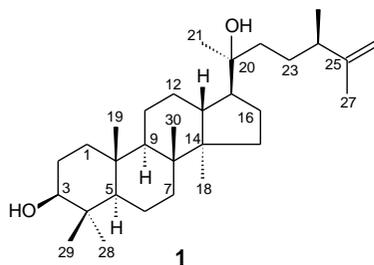


Figure S11. HMOC (500 and 125 MHz, CDCl_3) spectrum of compound **1**, expansion of regions δ 2.8-3.7 and 50-80.

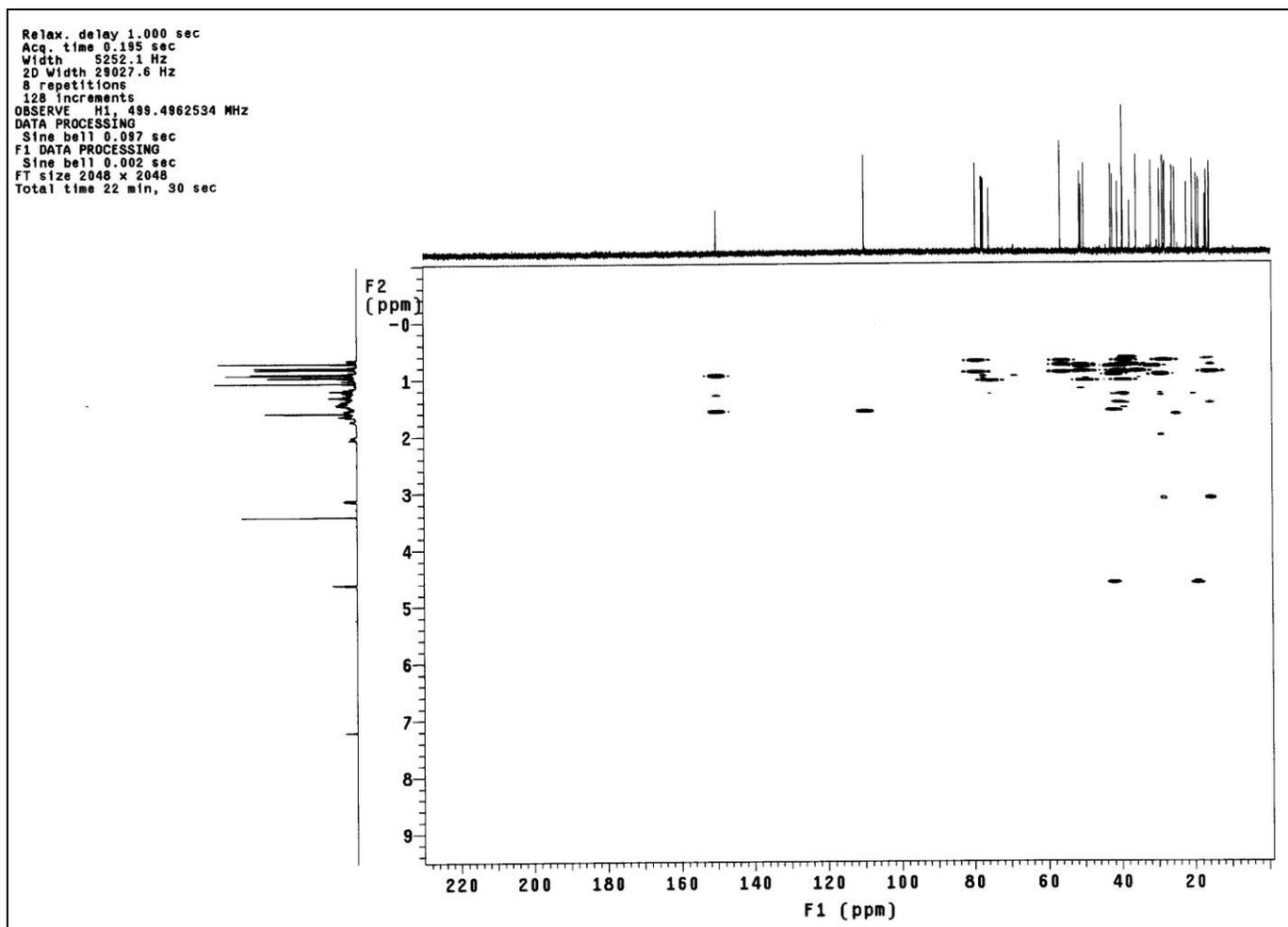
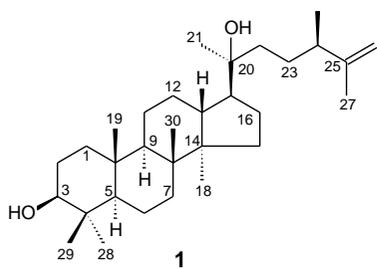


Figure S12. HMBC (500 and 125 MHz, CDCl₃) spectrum of compound 1.

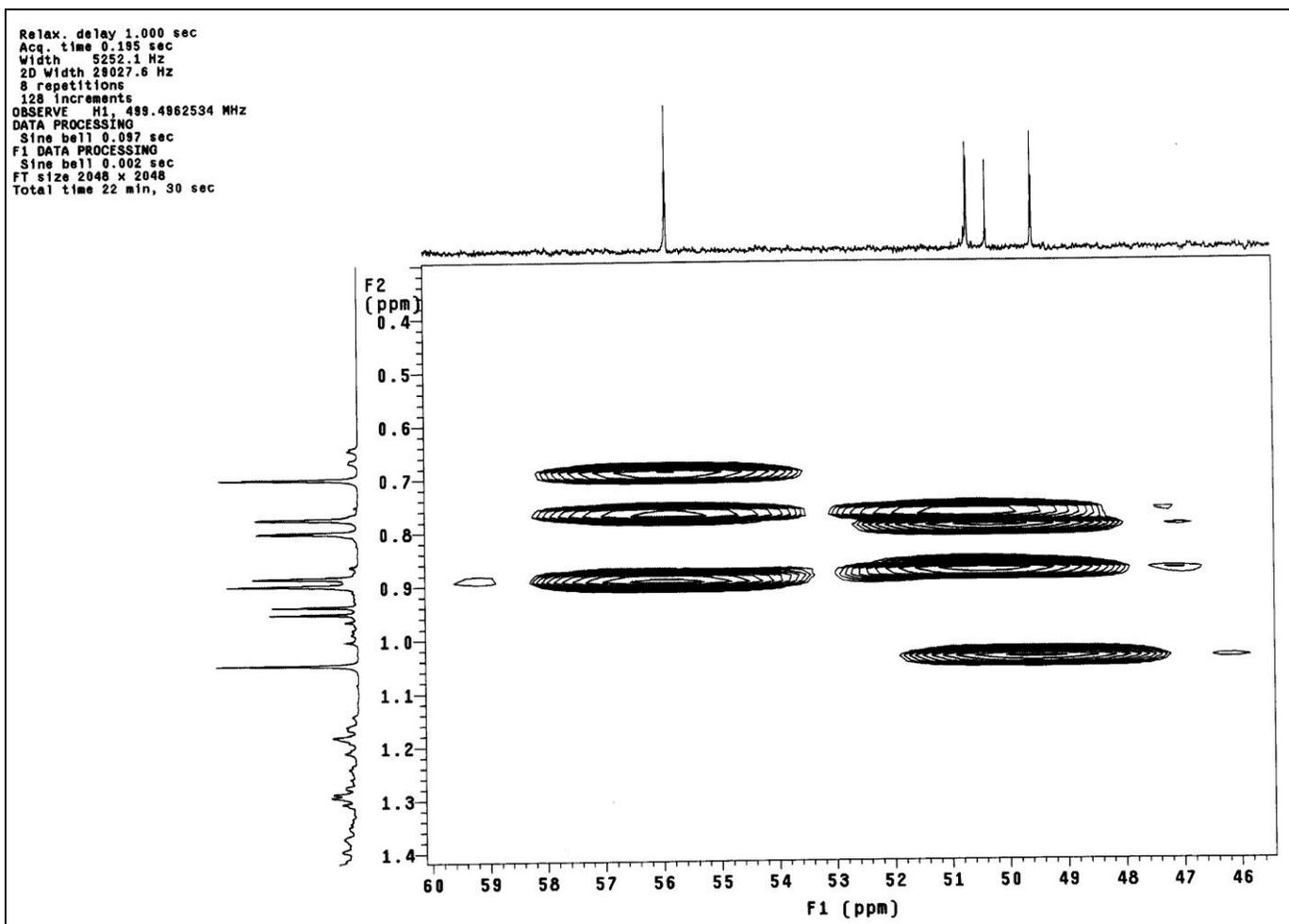
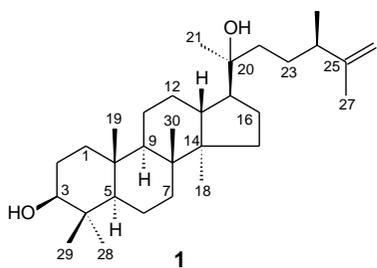


Figure S13. HMBC (500 and 125 MHz, CDCl_3) spectrum of compound **1**, expansion of the regions δ 0.4-1.4 and 46-60.

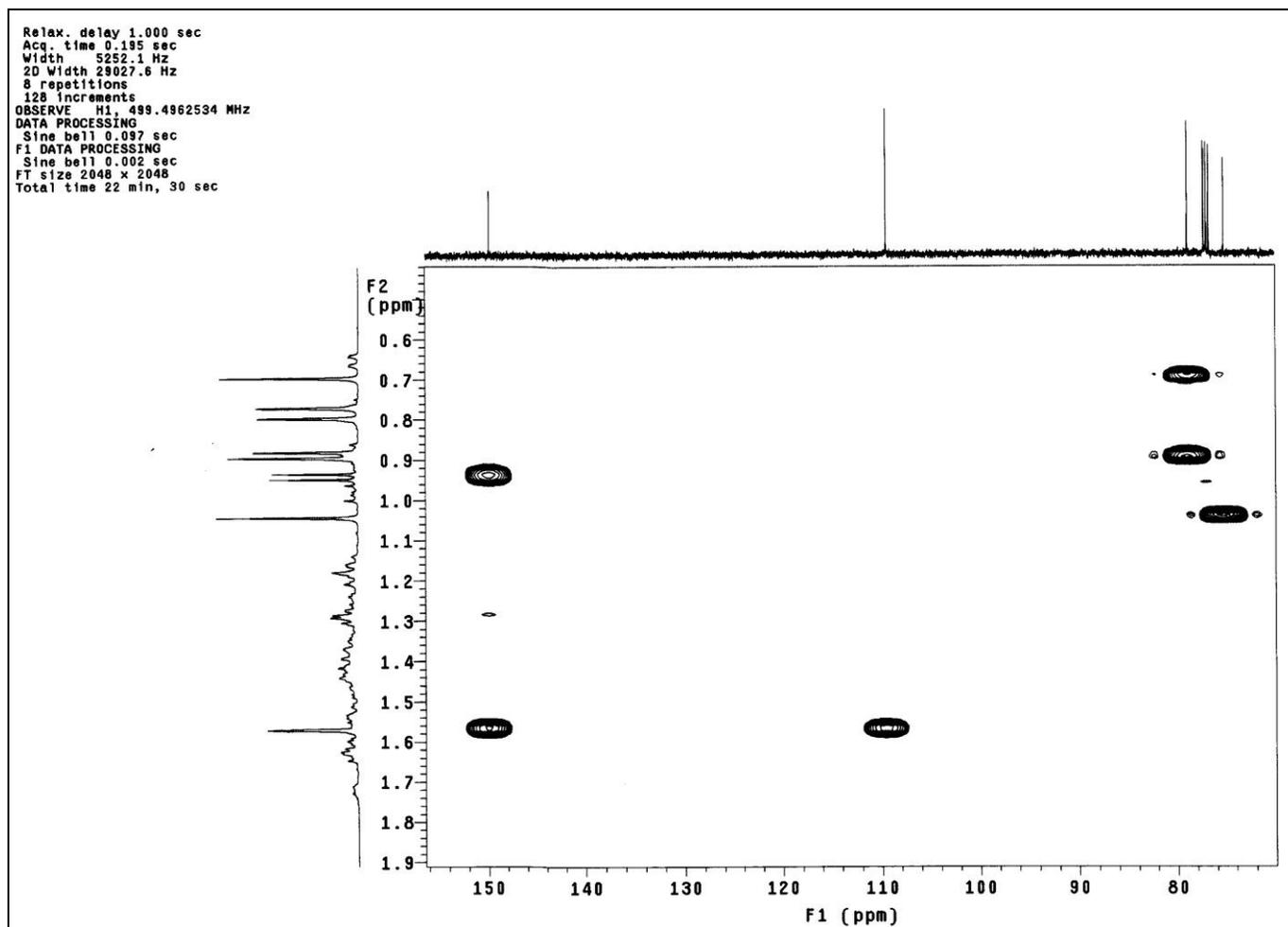
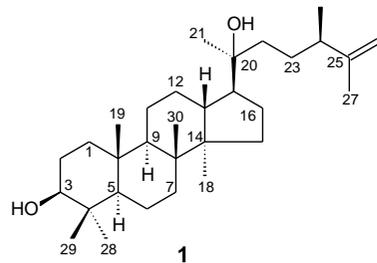


Figure S14. HMBC (500 and 125 MHz, CDCl_3) spectrum of compound **1**, expansion of the regions δ 0.6-1.9 and 70-150.

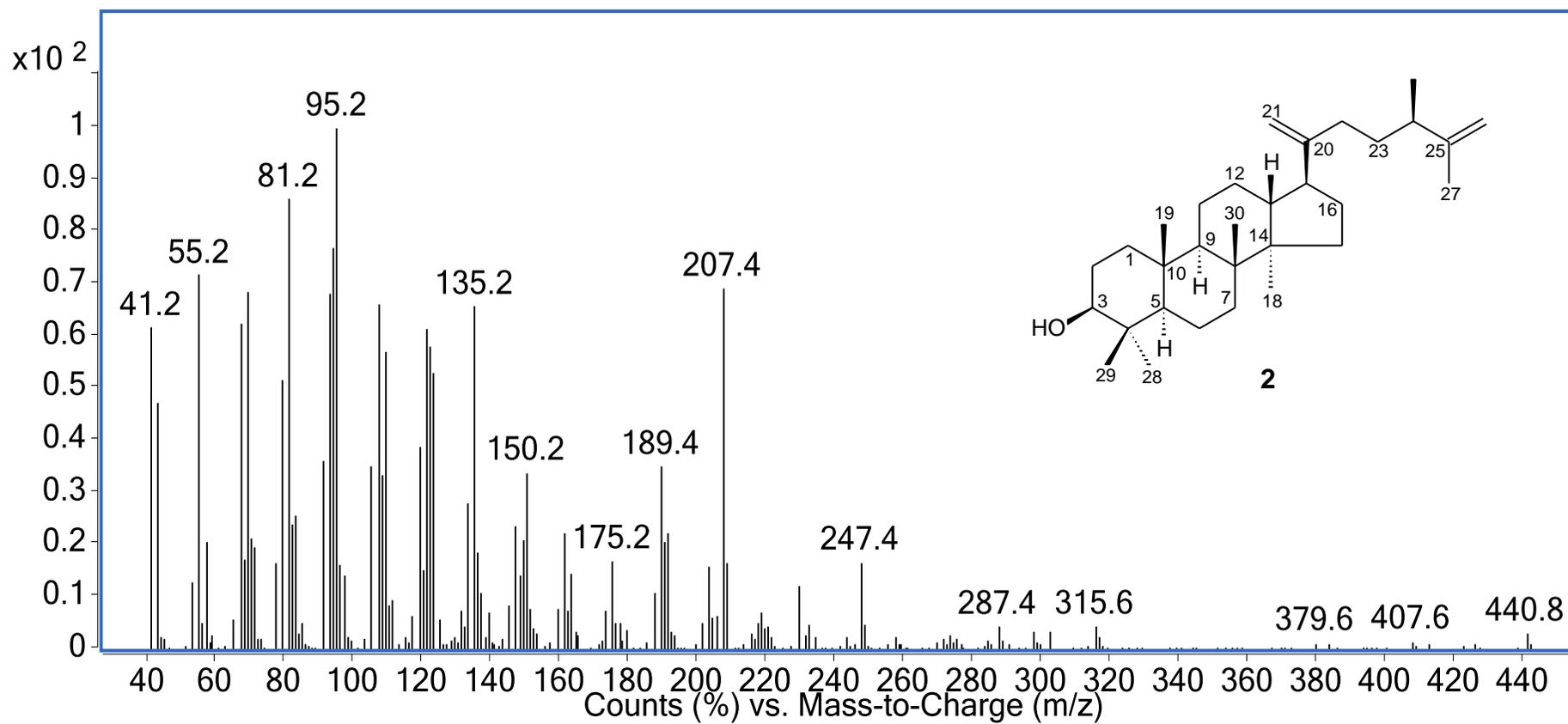


Figure S15. LREIMS spectrum of compound 2.

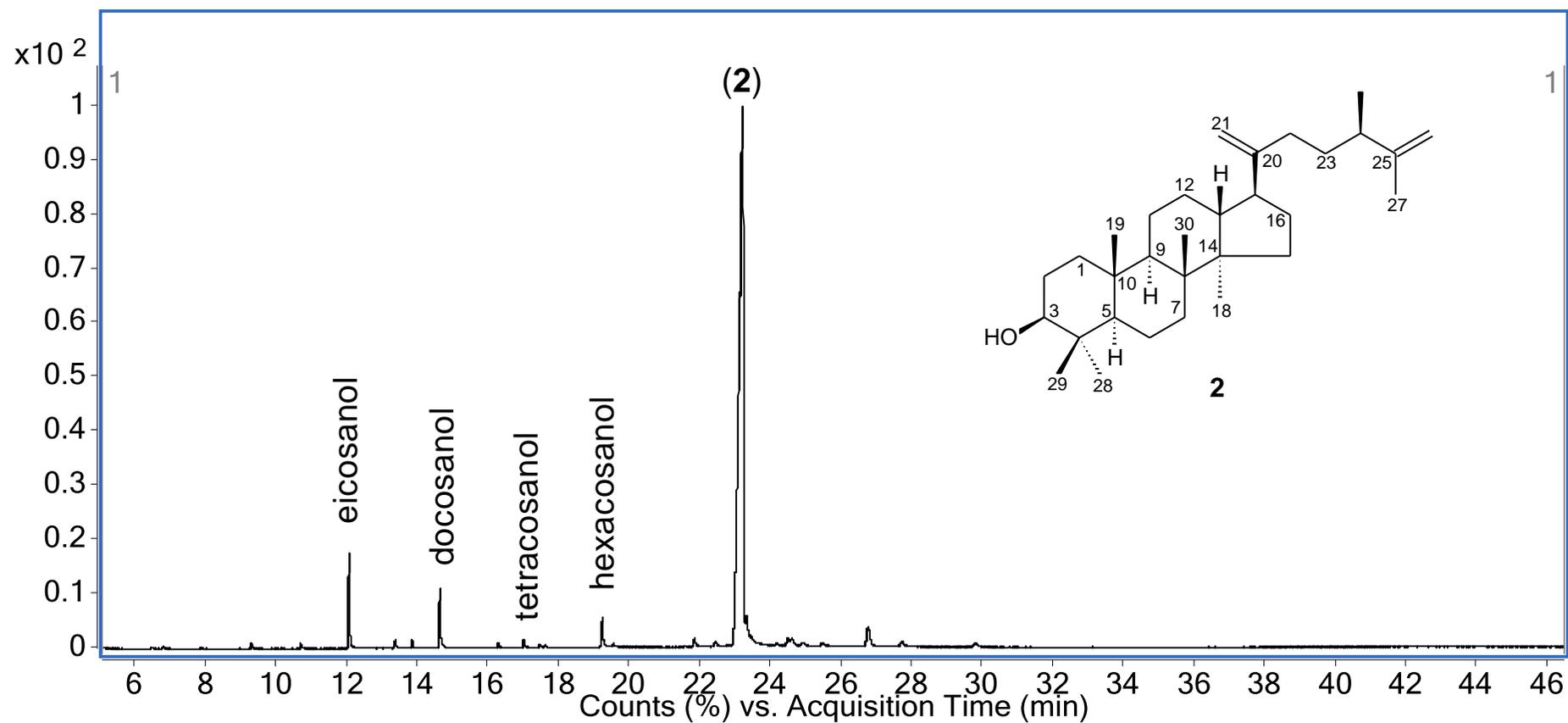


Figure S16. Total ion chromatogram (TIC) of compound **2** and fatty alcohols [eicosanol (**6**), docosanol (**7**), tetracosanol (**8**) and hexacosanol (**9**)].

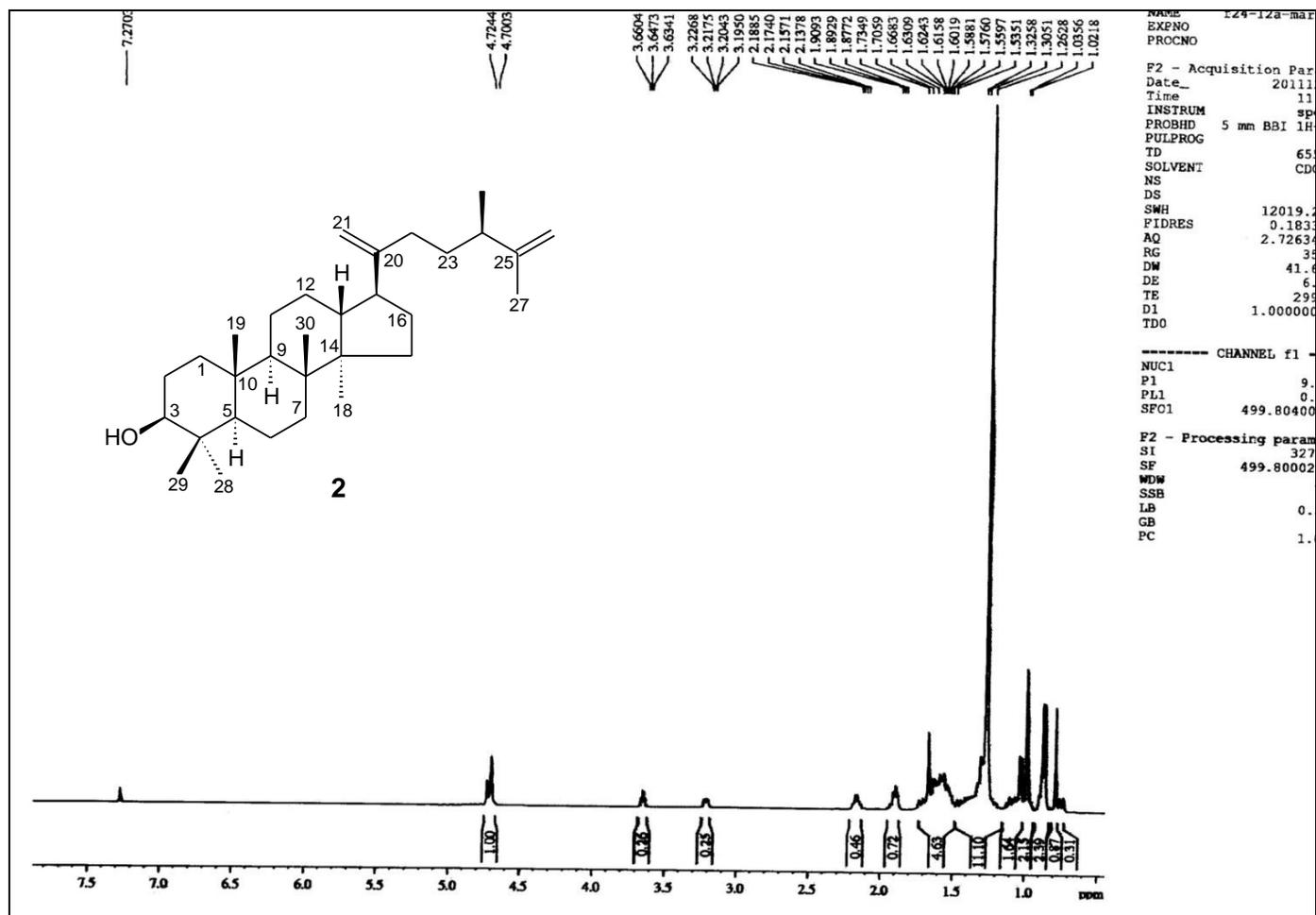


Figure S17. ¹H NMR (500 MHz, CDCl₃) spectrum of compounds 2 and 6-9.

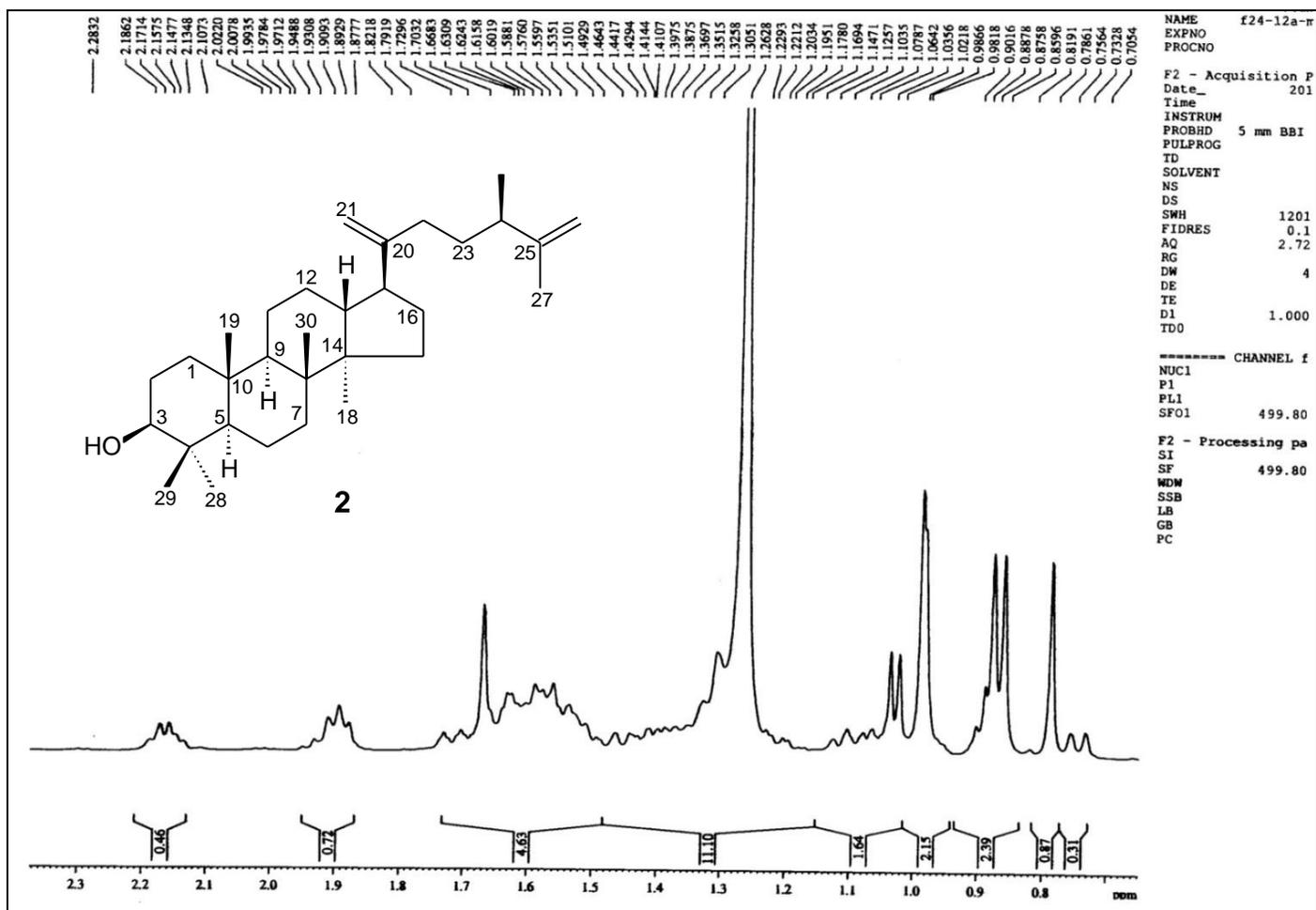


Figure S18. ¹H NMR (CDCl₃, 500 MHz) spectrum of compounds **2** and **6-9**, expansion of region δ 0.70-2.30.

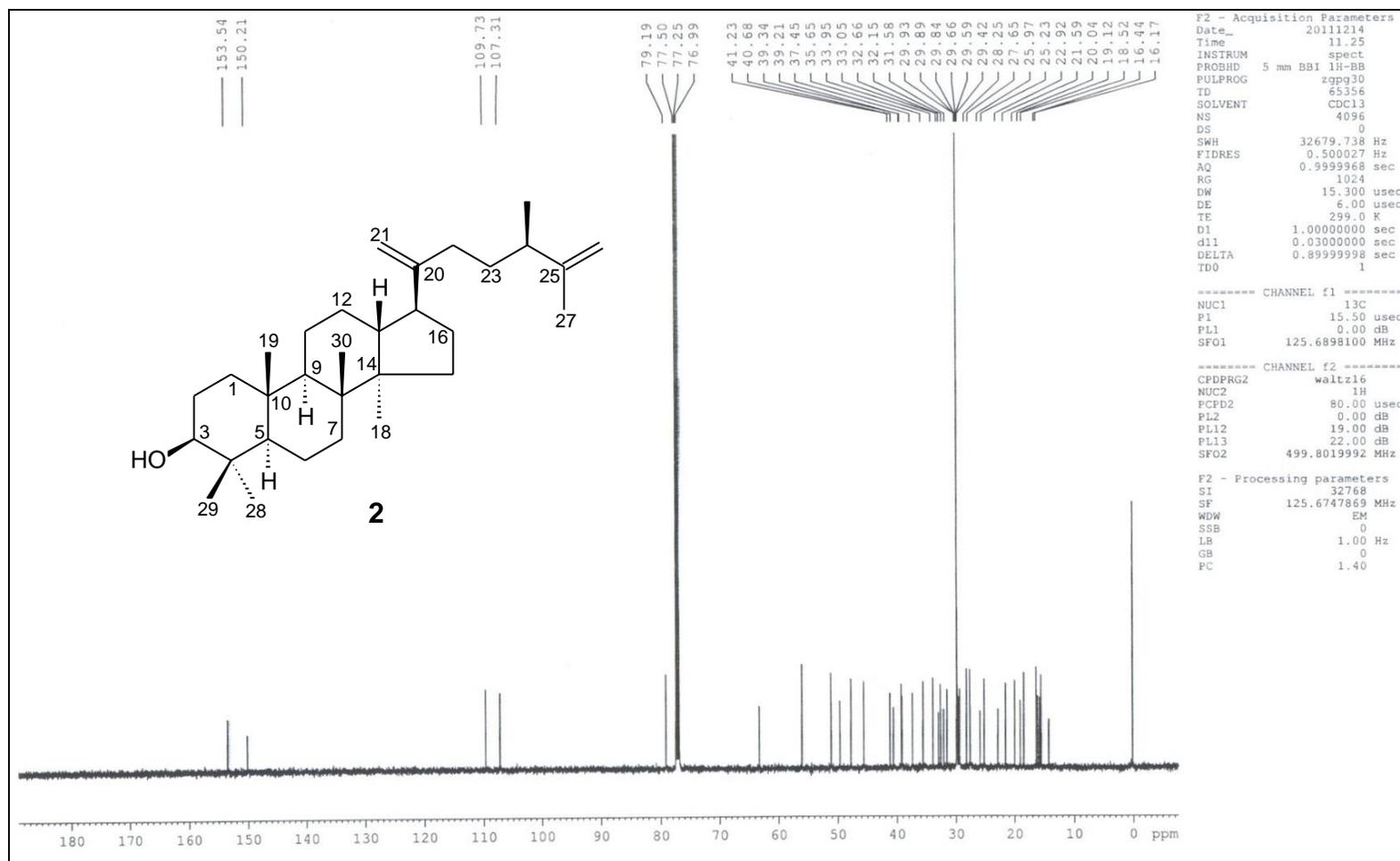


Figure S19. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compounds **2** and **6-9**.

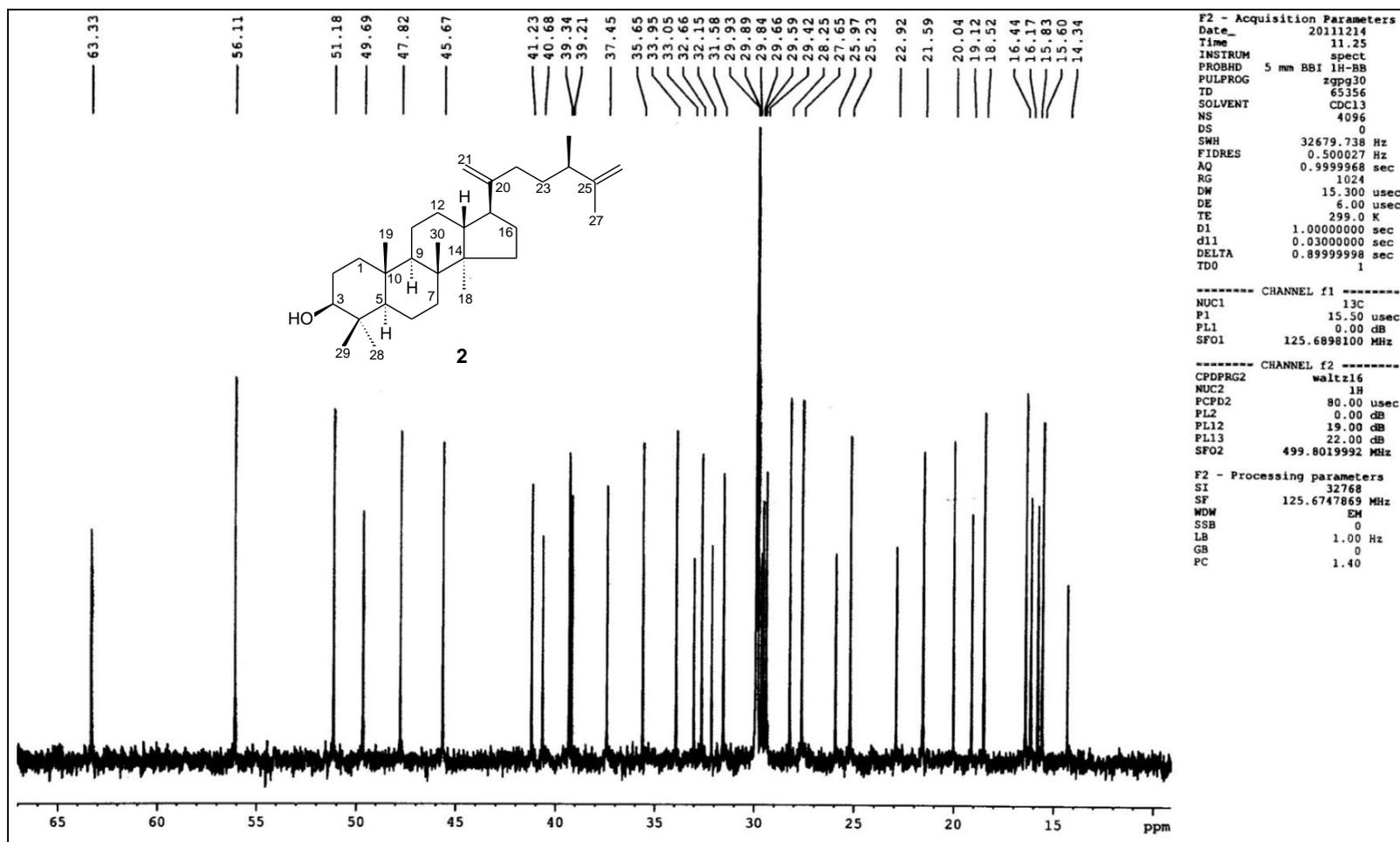


Figure S20. ¹³C NMR (125 MHz, CDCl₃) spectrum of compounds 2 and 6-9, expansion of region δ 14-65.

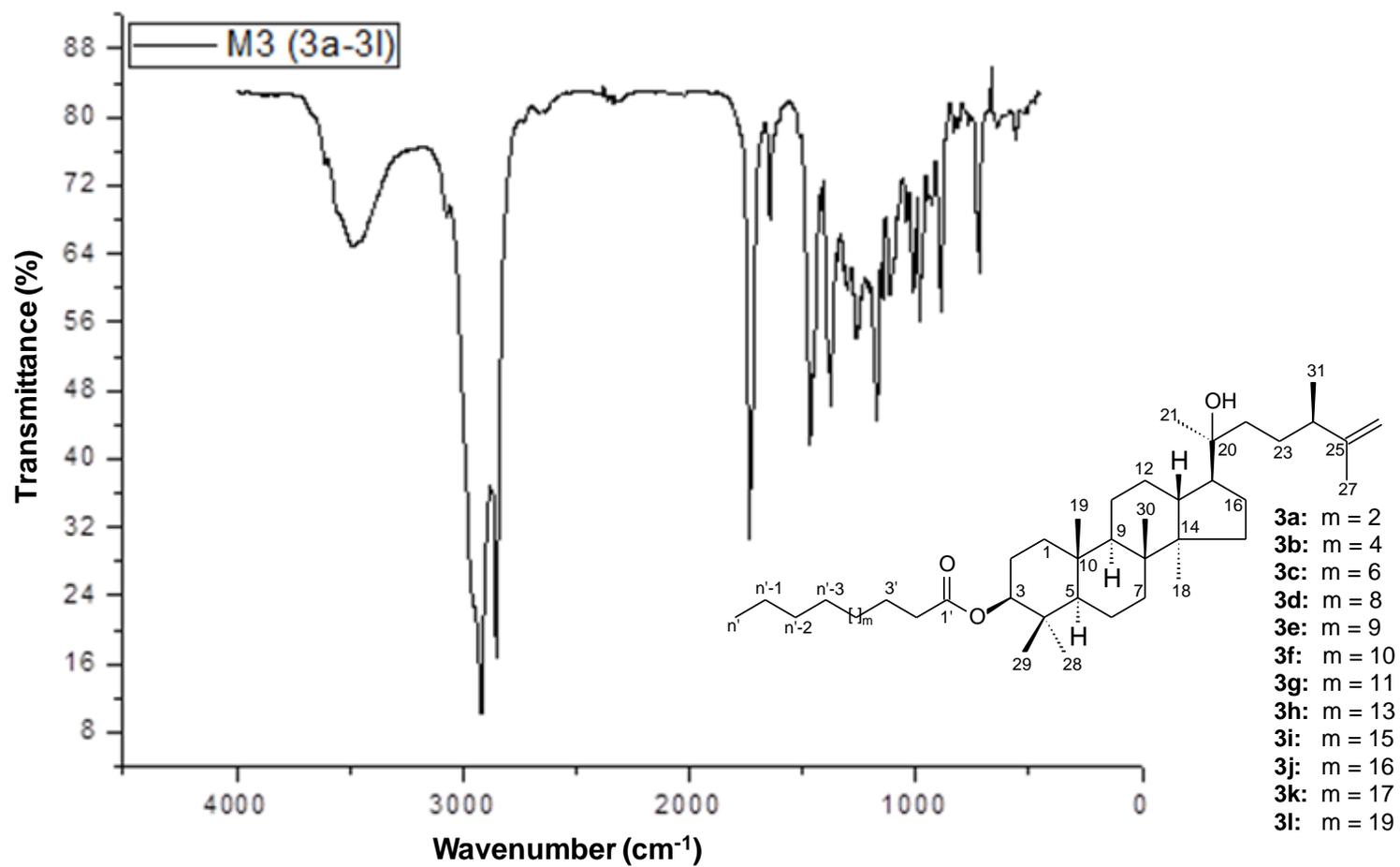


Figure S21. IR spectrum of compounds 3a-3l (mixture M3).

F21_1a_FT#1 RT:0.02 AV:1 NL:1.30E6
T:FTMS - p APCI corona Full ms [470.00-1100.00]

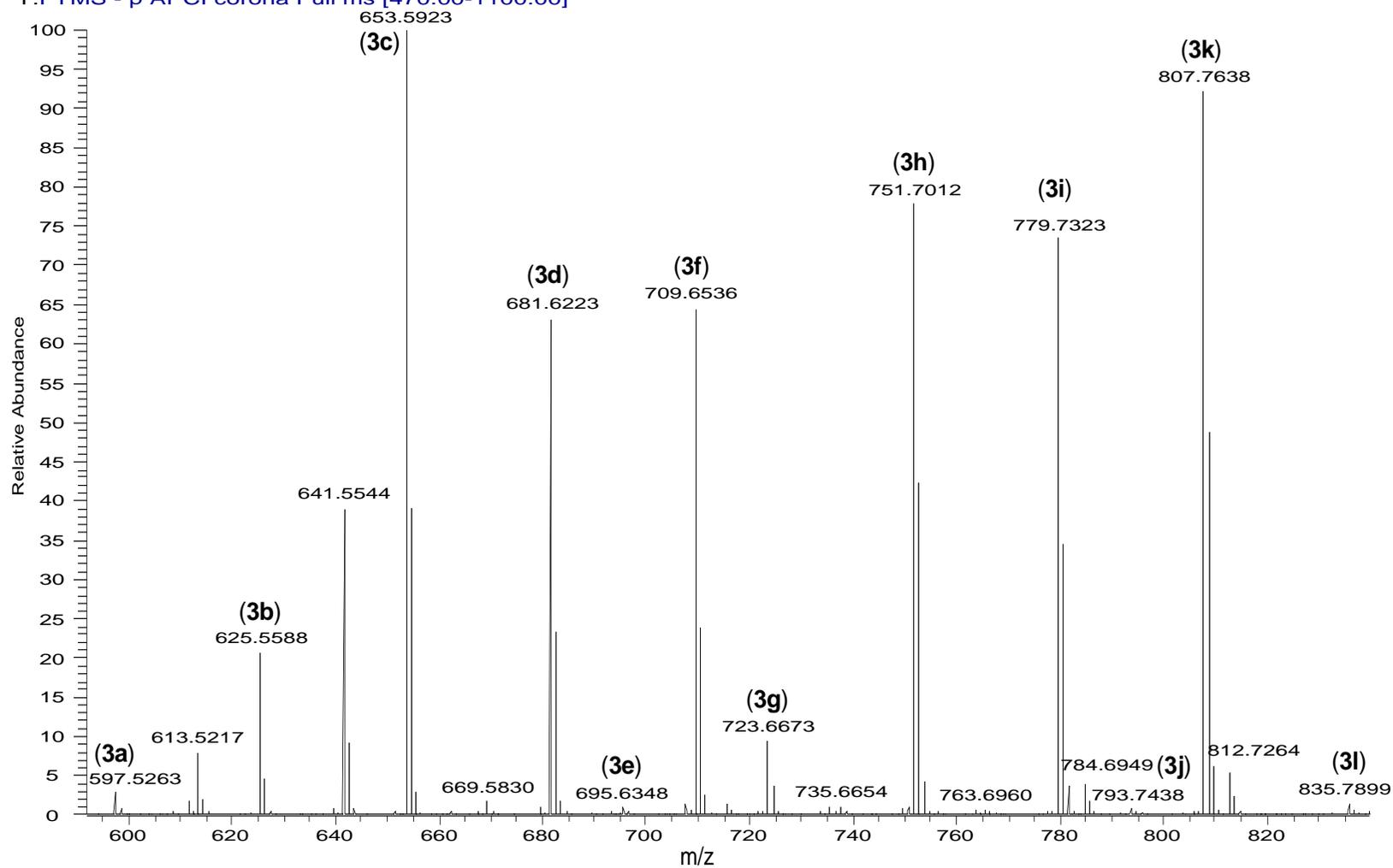


Figure S22. HRAPCI(-)MS spectrum of compounds 3a-3l.

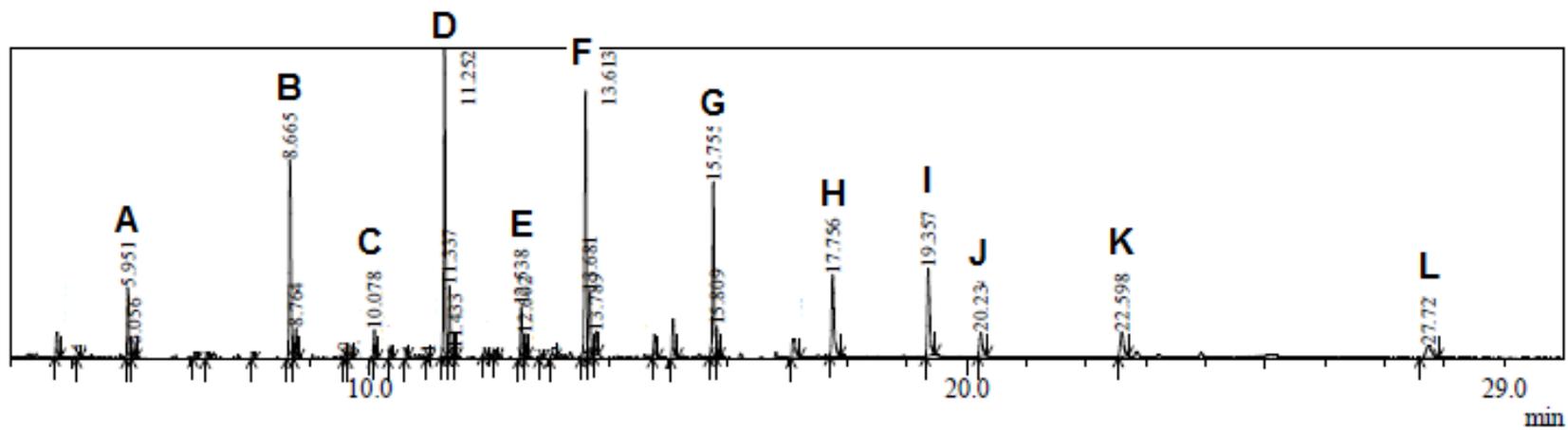


Figure S23. Chromatogram obtained by GC-FID analysis of transesterified mixture of acyl triterpenoids **3a-3l** (A to L correspond to methyl ester derivatives of fatty acids).

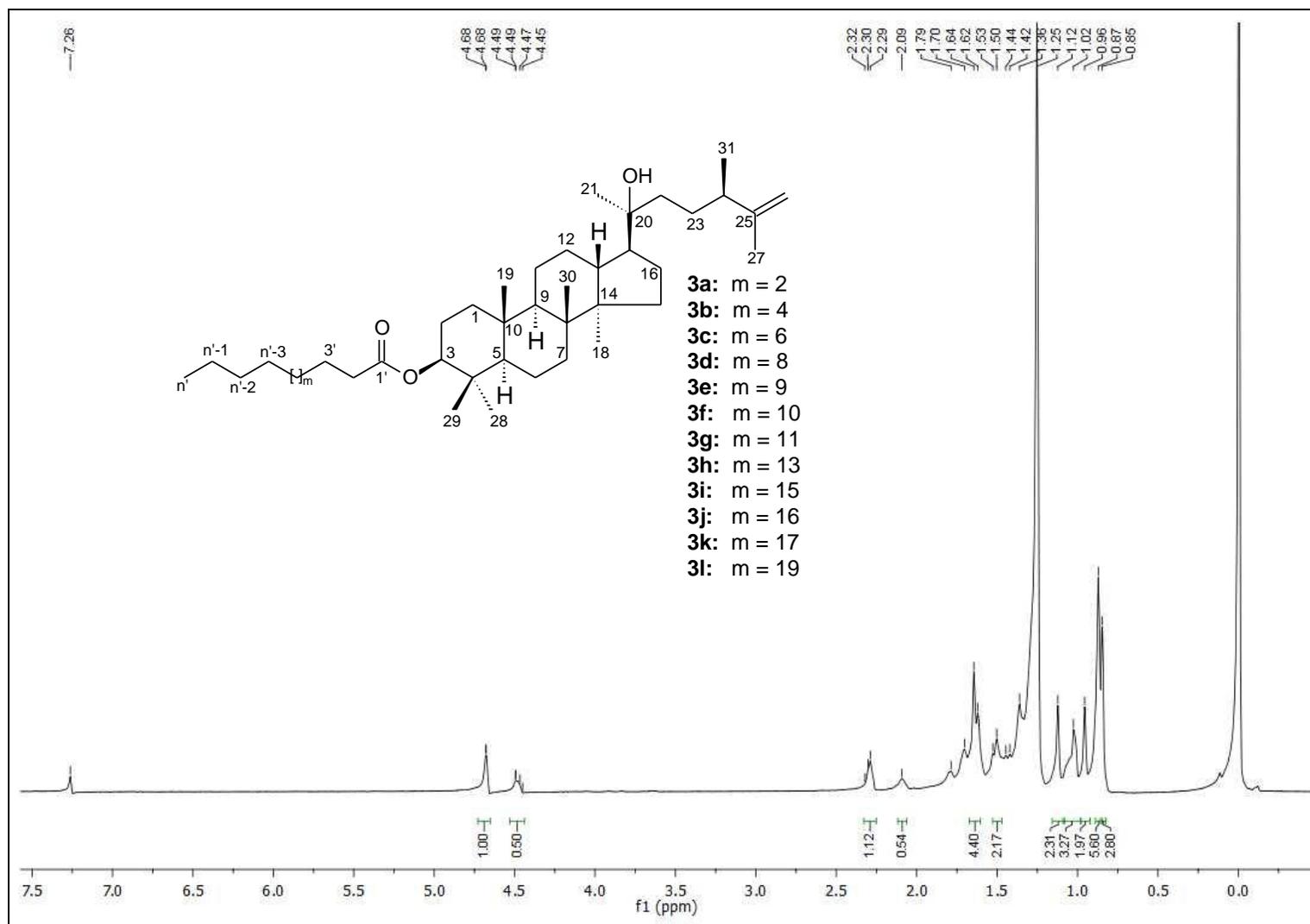


Figure S24. ^1H NMR (500 MHz, CDCl_3) spectrum of compounds **3a-3l**.

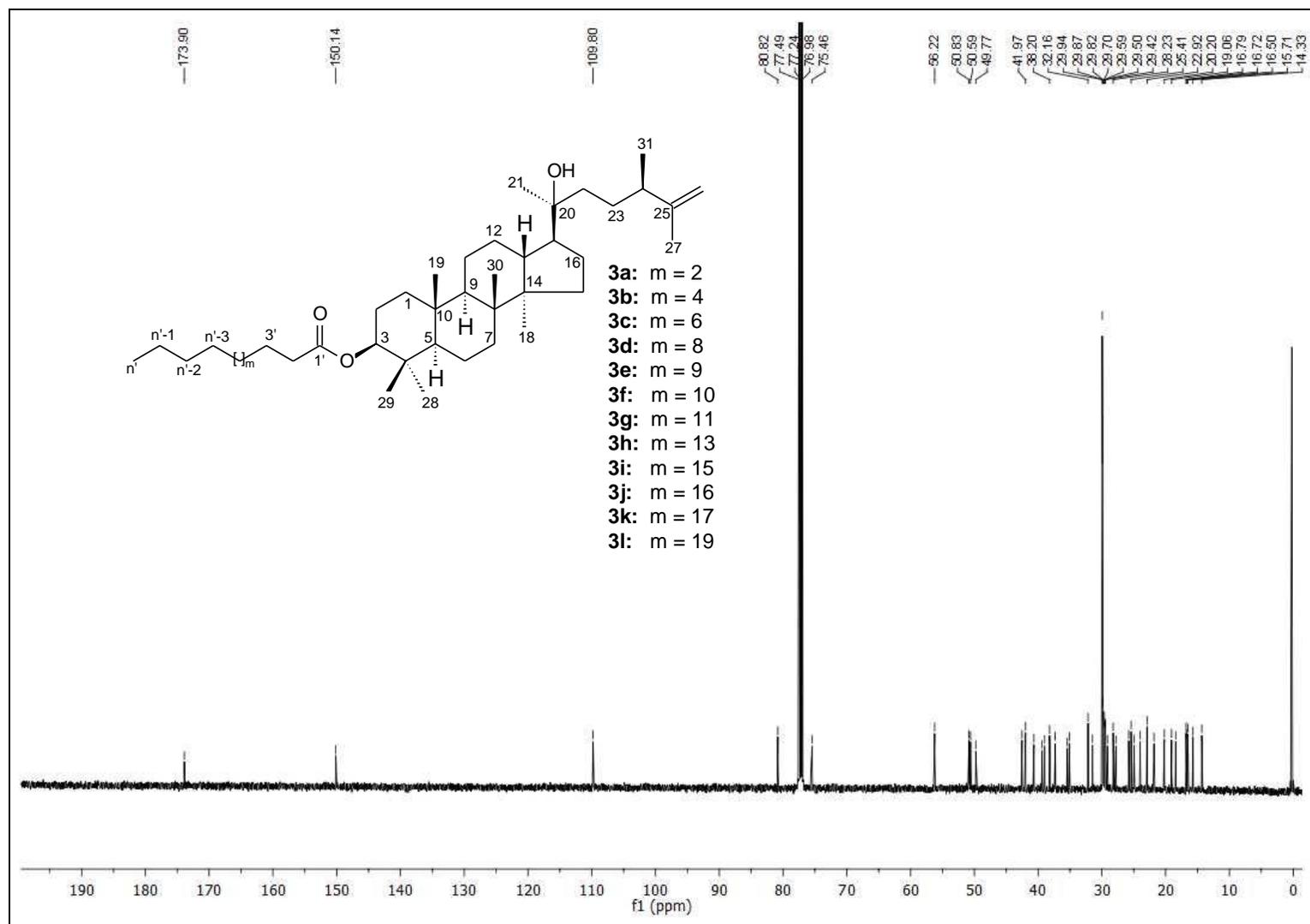


Figure S25. ¹³C NMR (125 MHz, CDCl₃) spectrum of compounds **3a-3l**.

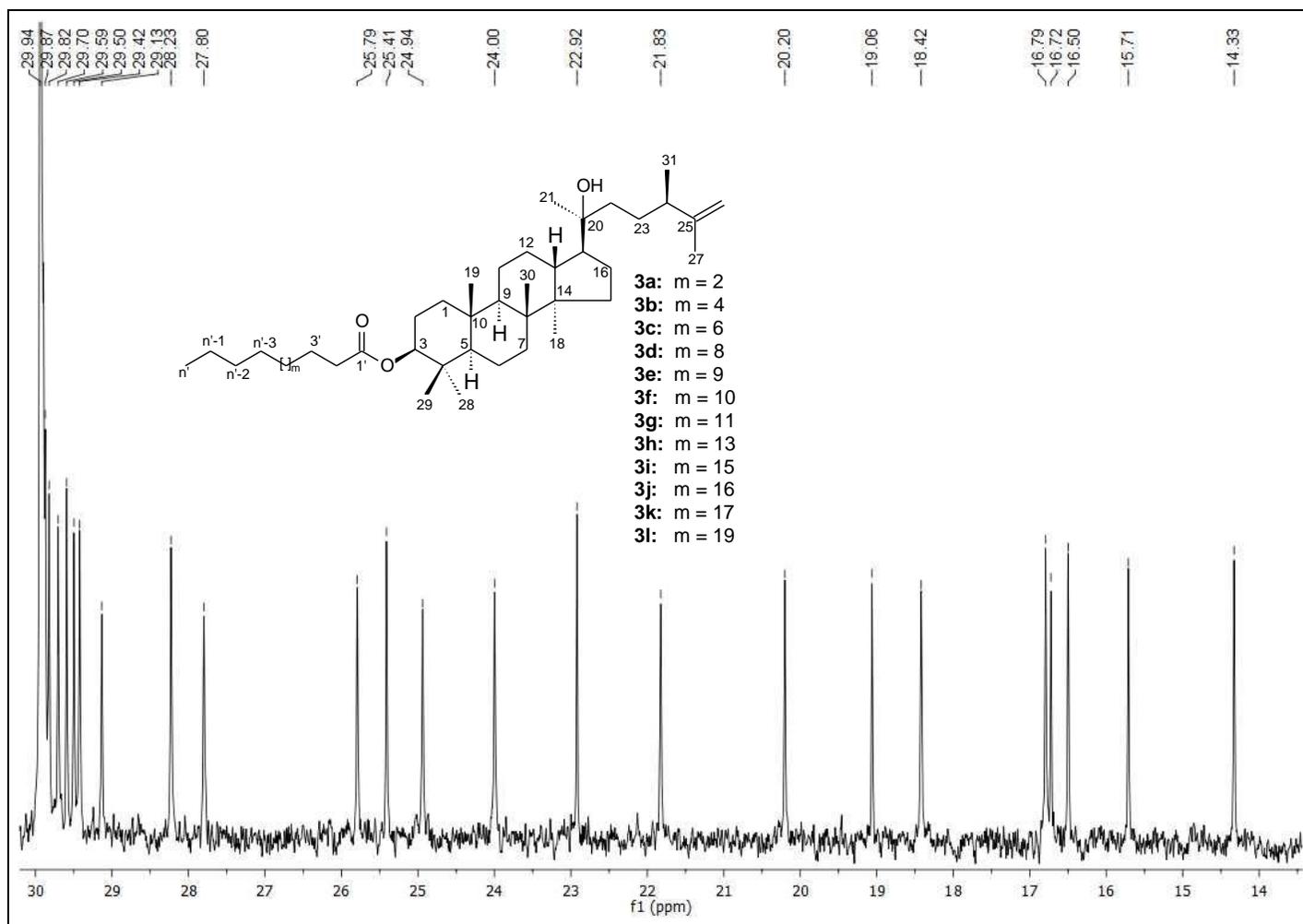


Figure S26. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compounds **3a-3l**, expansion of region δ 14-30.

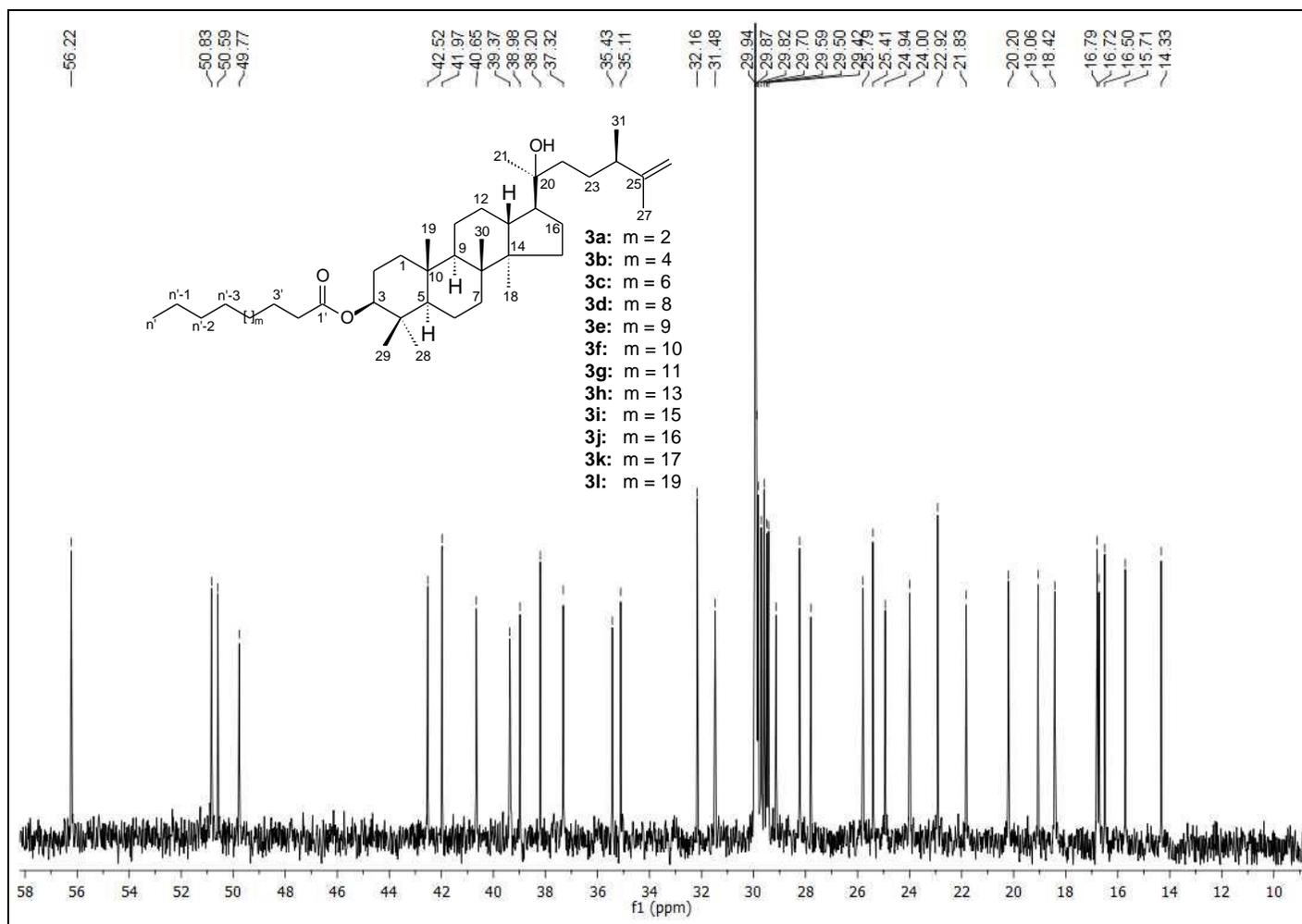


Figure S27. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compounds **3a-3l**, expansion of region δ 10-58.

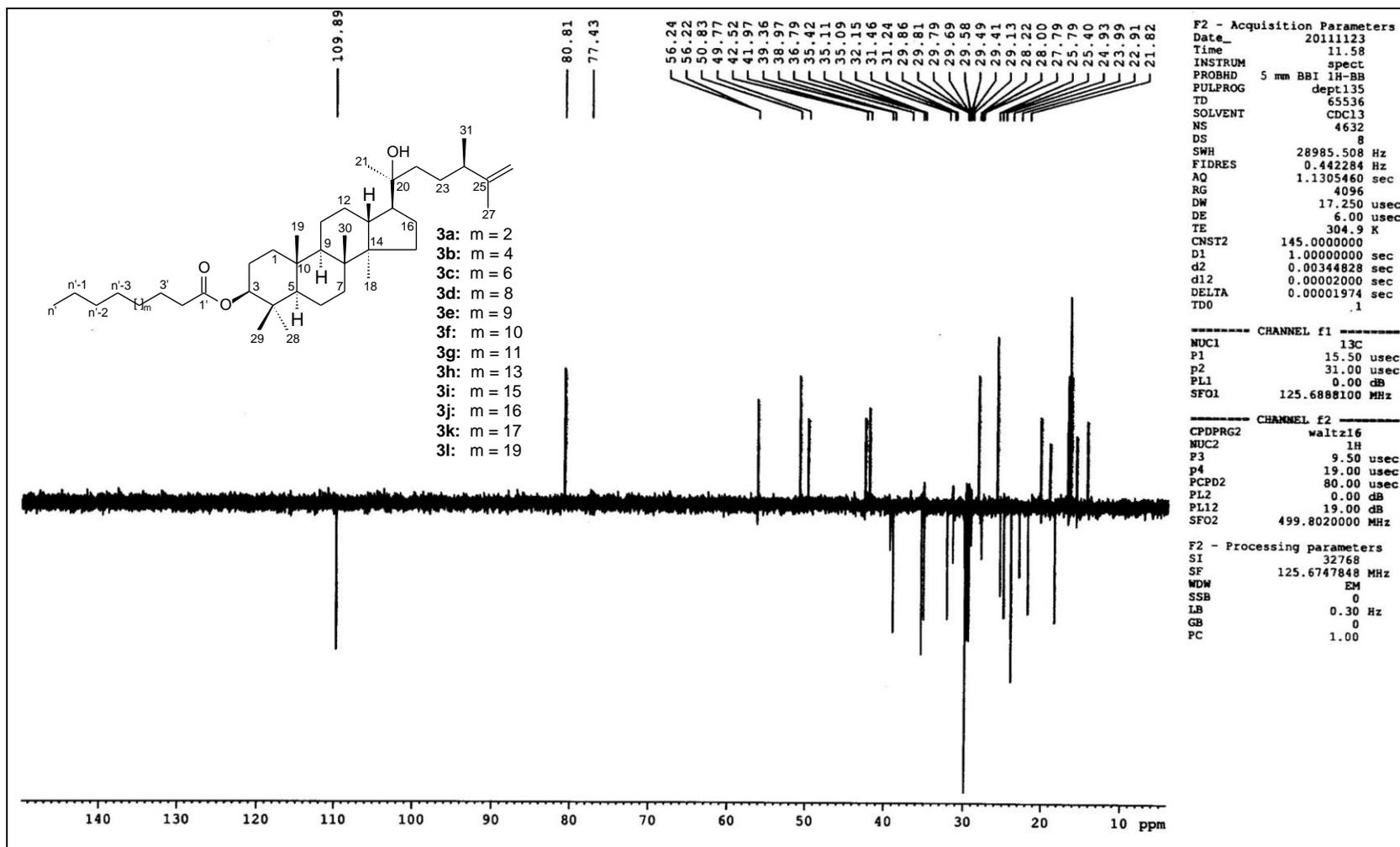


Figure S28. DEPT-135 (125 MHz, CDCl₃) spectrum of compounds **3a-3l**.

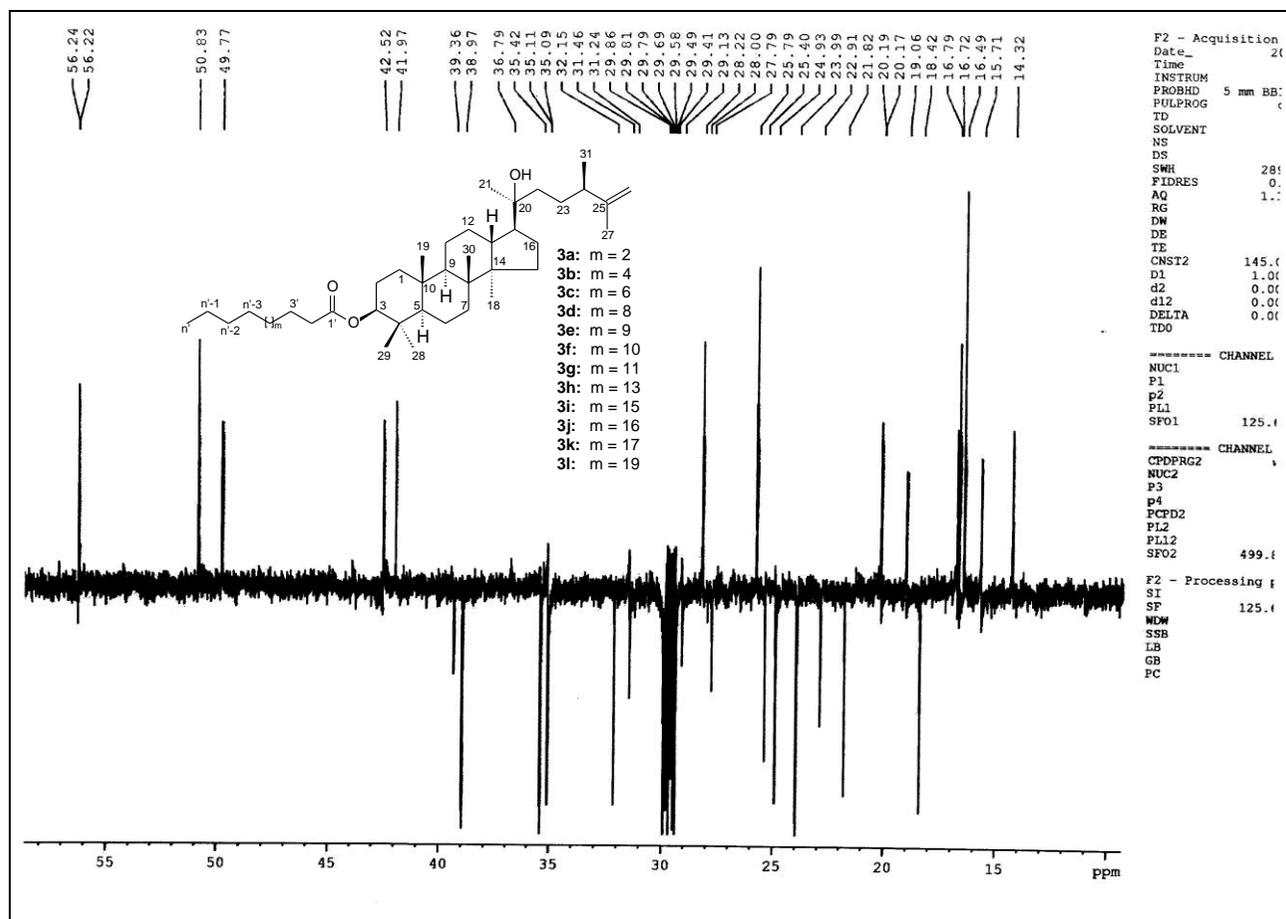


Figure S29. DEPT-135 (125 MHz, CDCl₃) spectrum of compounds **3a-3l**, expansion of region δ 14-56.

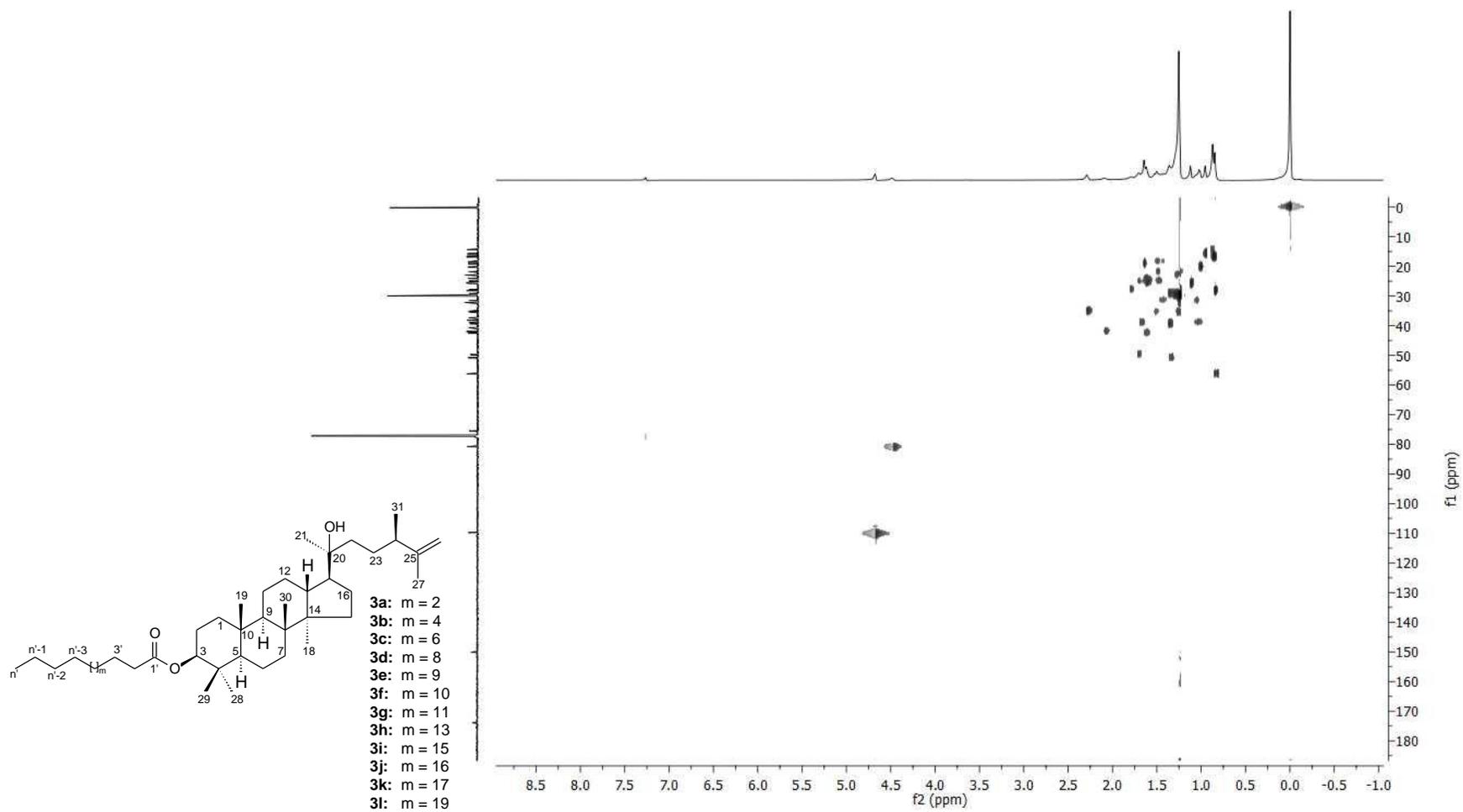


Figure S30. HMQC (500 and 125 MHz, CDCl_3) spectrum of compounds **3a-3l**.

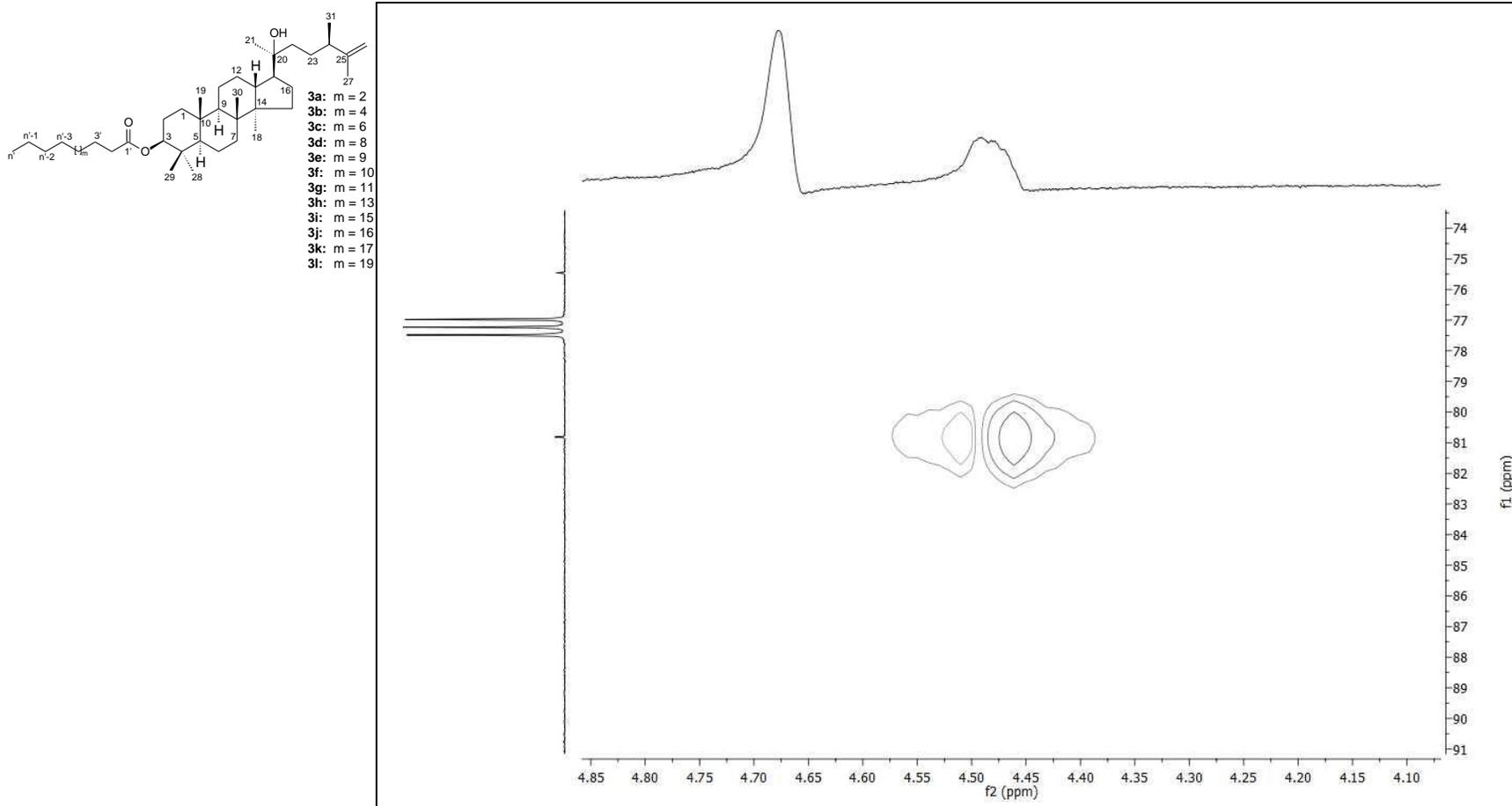


Figure S31. HMQC (500 and 125 MHz, CDCl_3) spectrum of compounds **3a-3l**, expansion of regions δ 4.10-4.85 and 74-91.

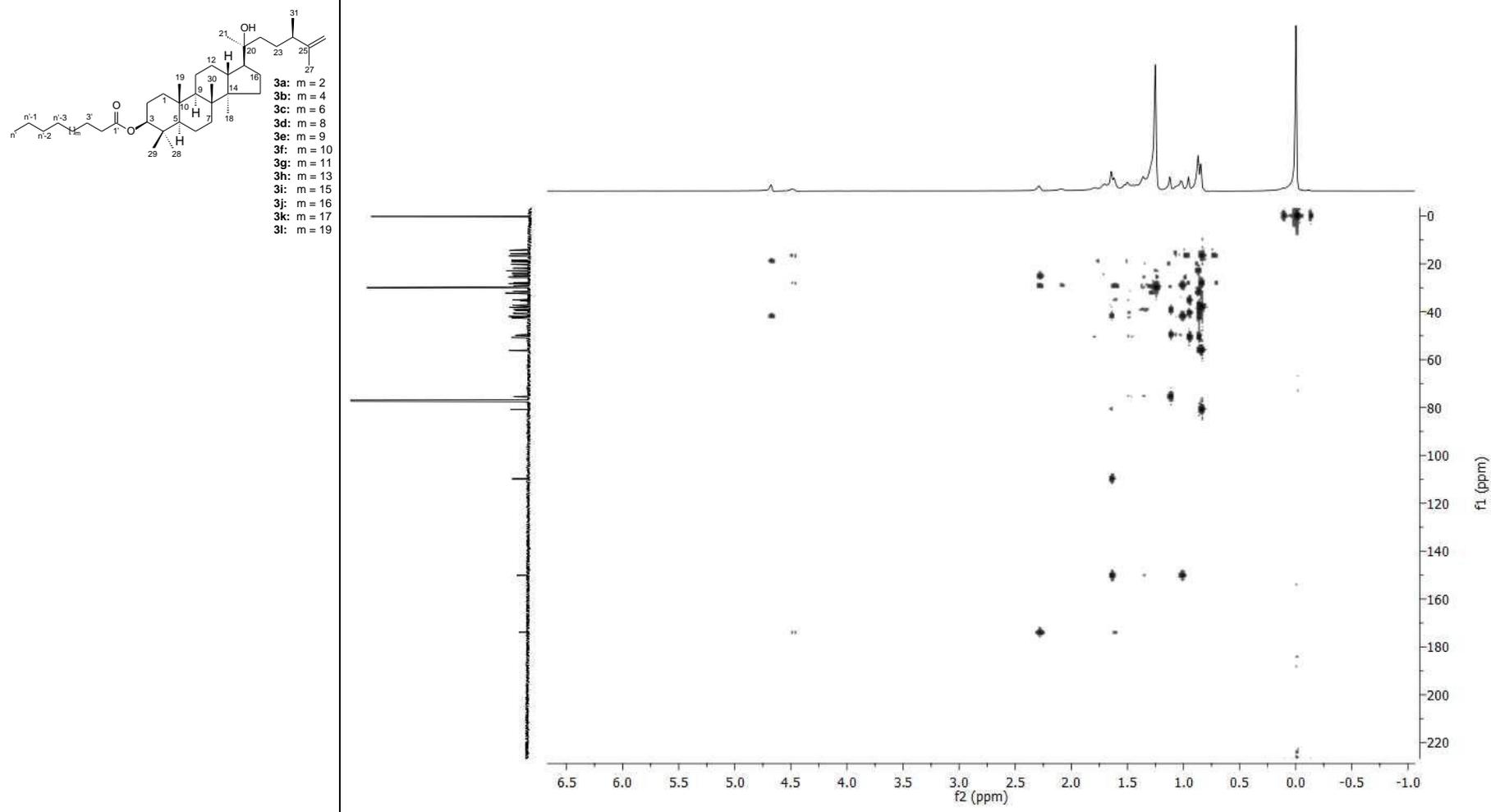


Figure S32. HMBC (500 and 125 MHz, CDCl_3) spectrum of compounds **3a-3l**.

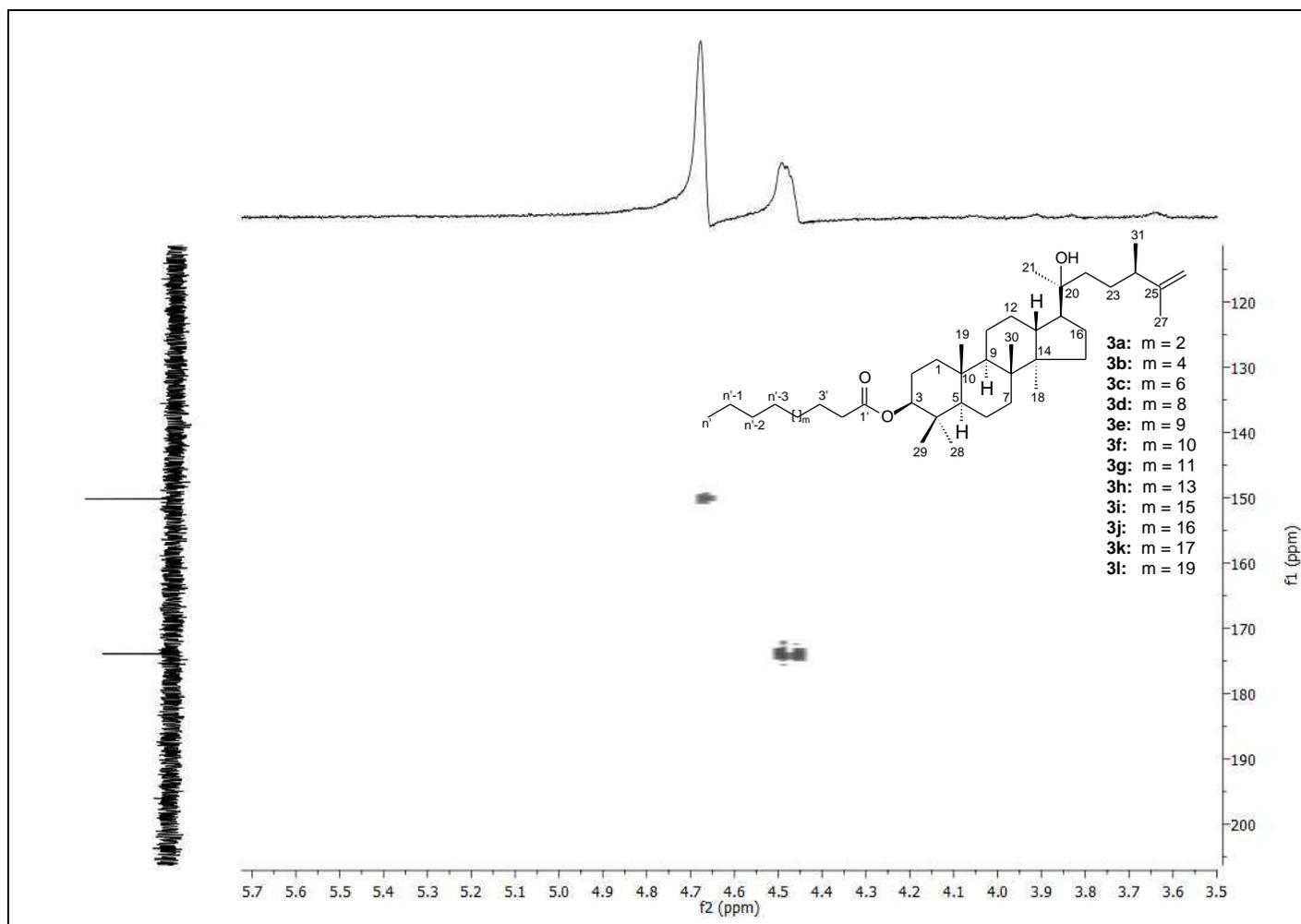


Figure S33. HMBC (500 and 125 MHz, CDCl₃) spectrum of compounds **3a-3l**, expansion of regions δ 3.5-5.7 and 120-200.

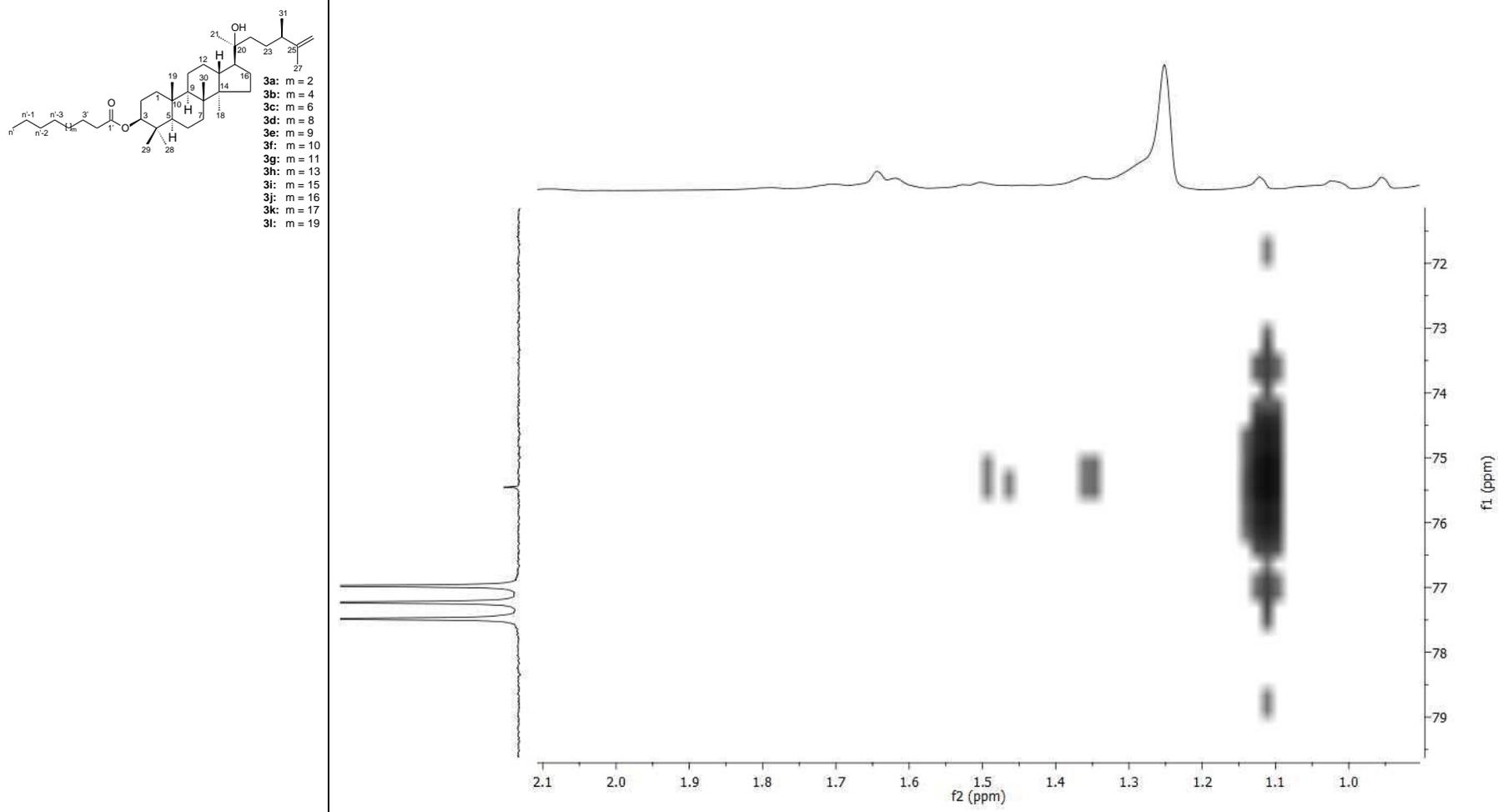


Figure S34. HMBC (500 and 125 MHz, CDCl_3) spectrum of compounds **3a-3l**, expansion of regions δ 1.0-2.1 and 72-79.

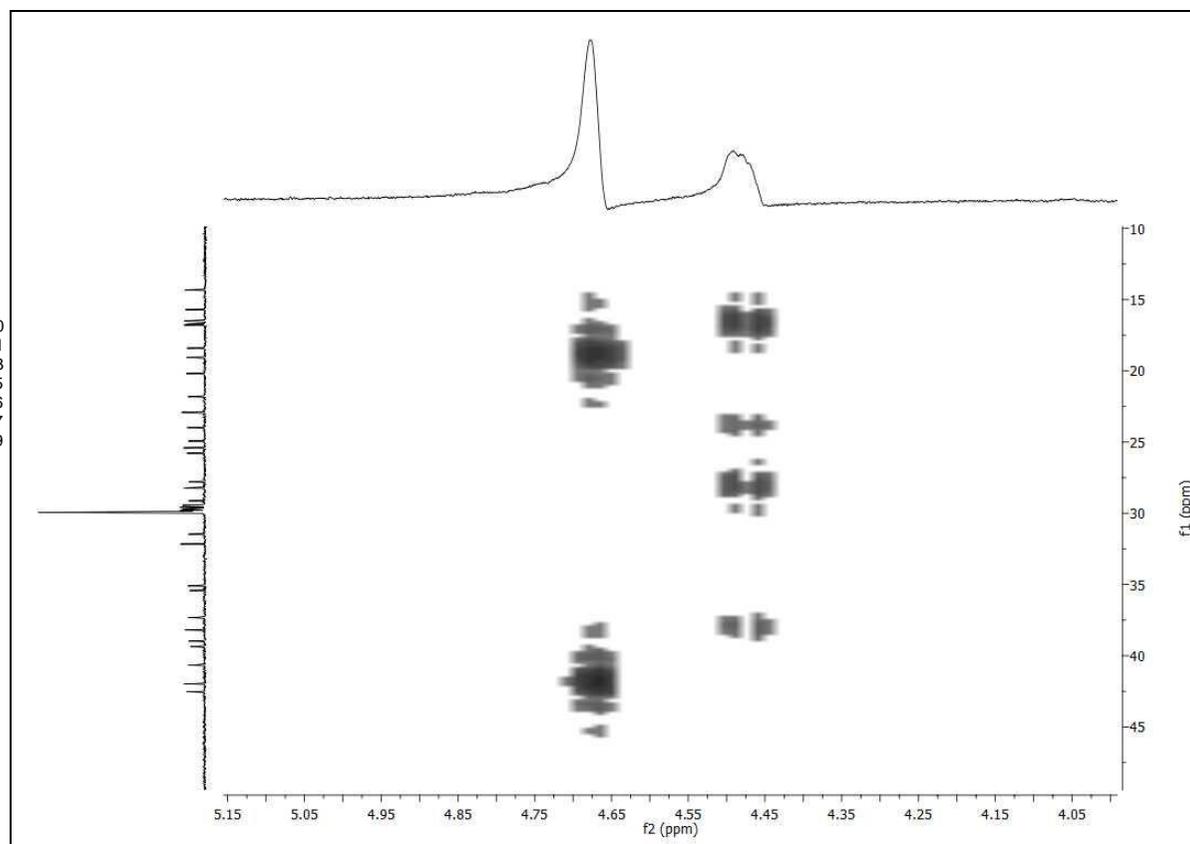
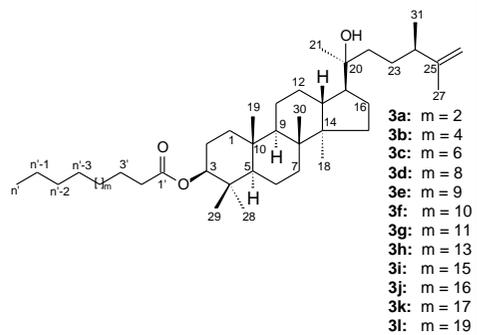


Figure S35. HMBC (500 and 125 MHz, CDCl_3) spectrum of compounds **3a-3l**, expansion of regions δ 4.05-5.15 and 10-45.

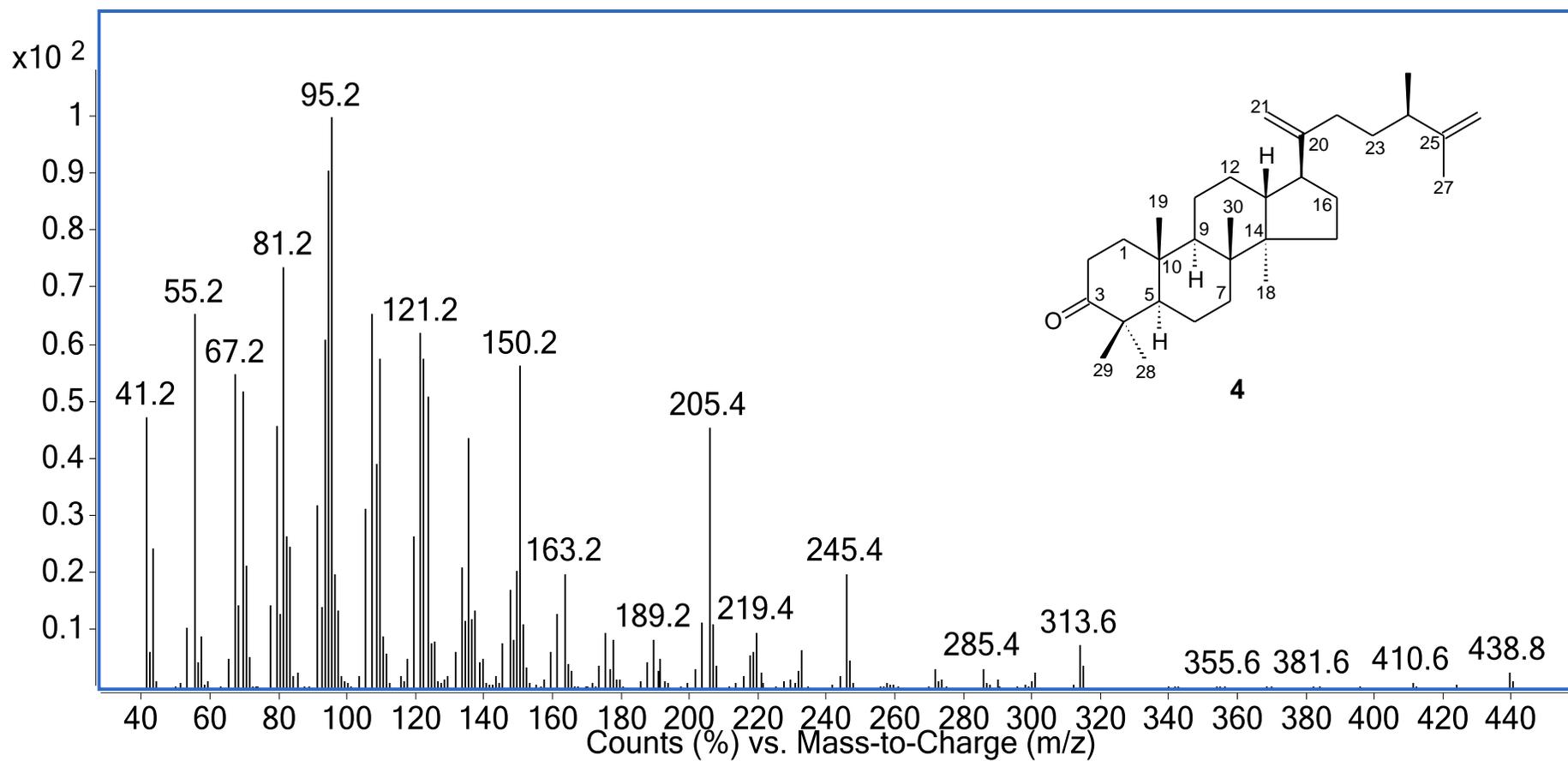


Figure S36. LREIMS spectrum of compound 4.

437_FT_neg #2 RT: 0.02 AV: 1 NL: 1.70E7
T: FTMS - c APCI corona Full ms2 437.30@cid0.00 [1:

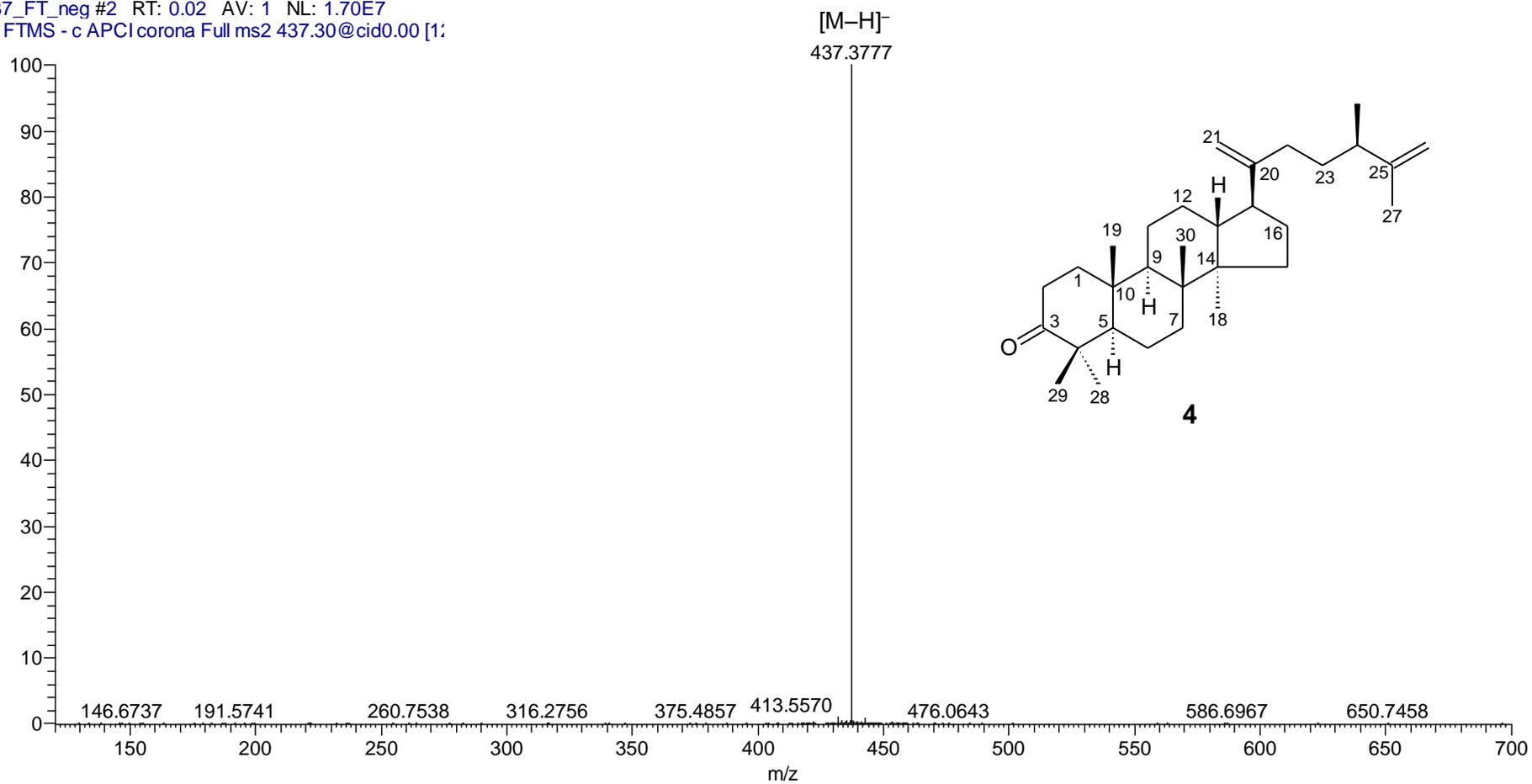


Figure S37. HRAPCI(-)MS spectrum of compound 4.

437_FT_neg #10 RT: 0.14 AV: 1 NL: 1.31E5
T: ITMS - c APCI corona Full ms2 437.30@cid25.00 [1]

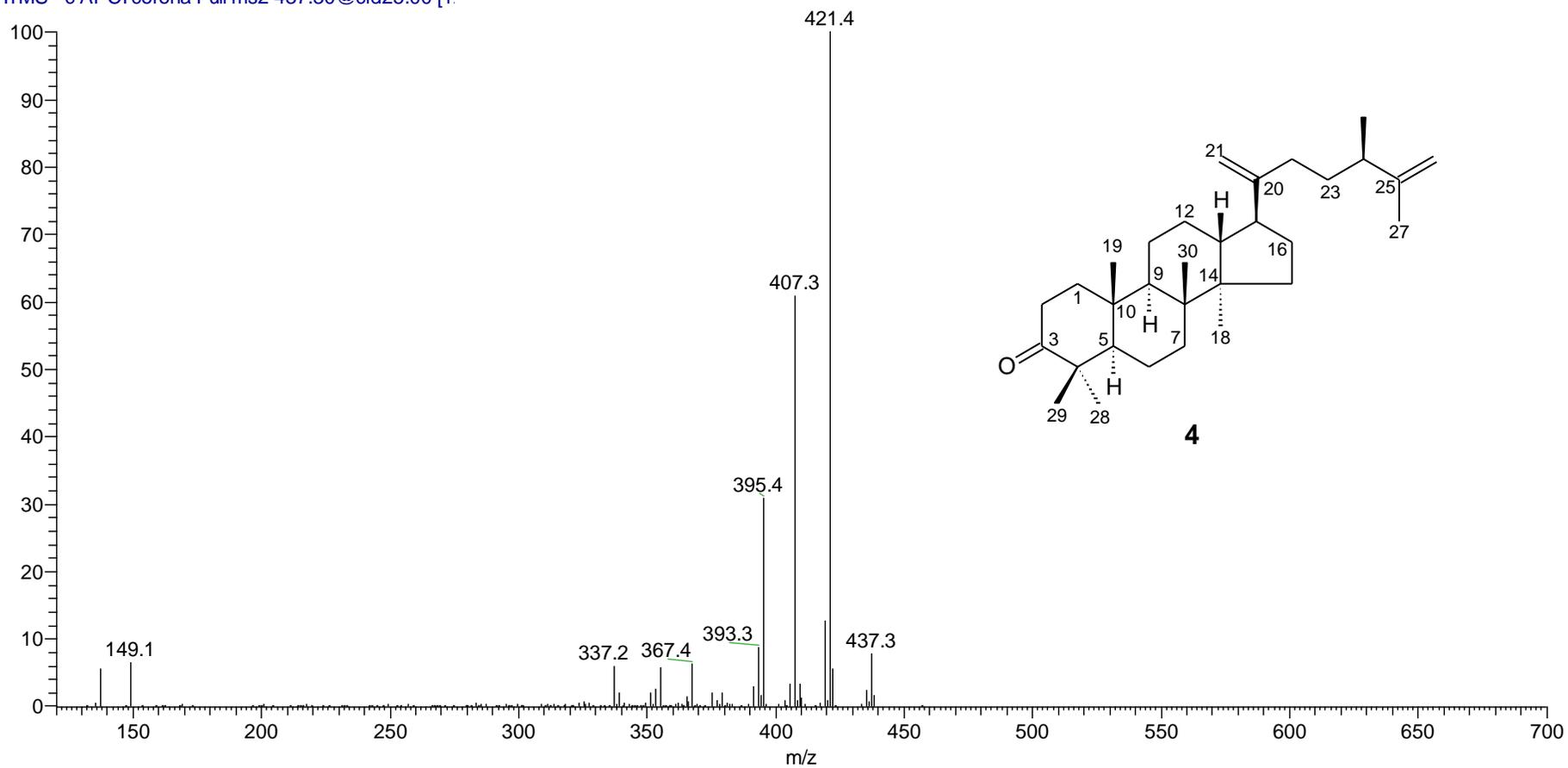


Figure S38. HRAPCI(-)MS/MS² (CID 25) spectrum of compound 4.

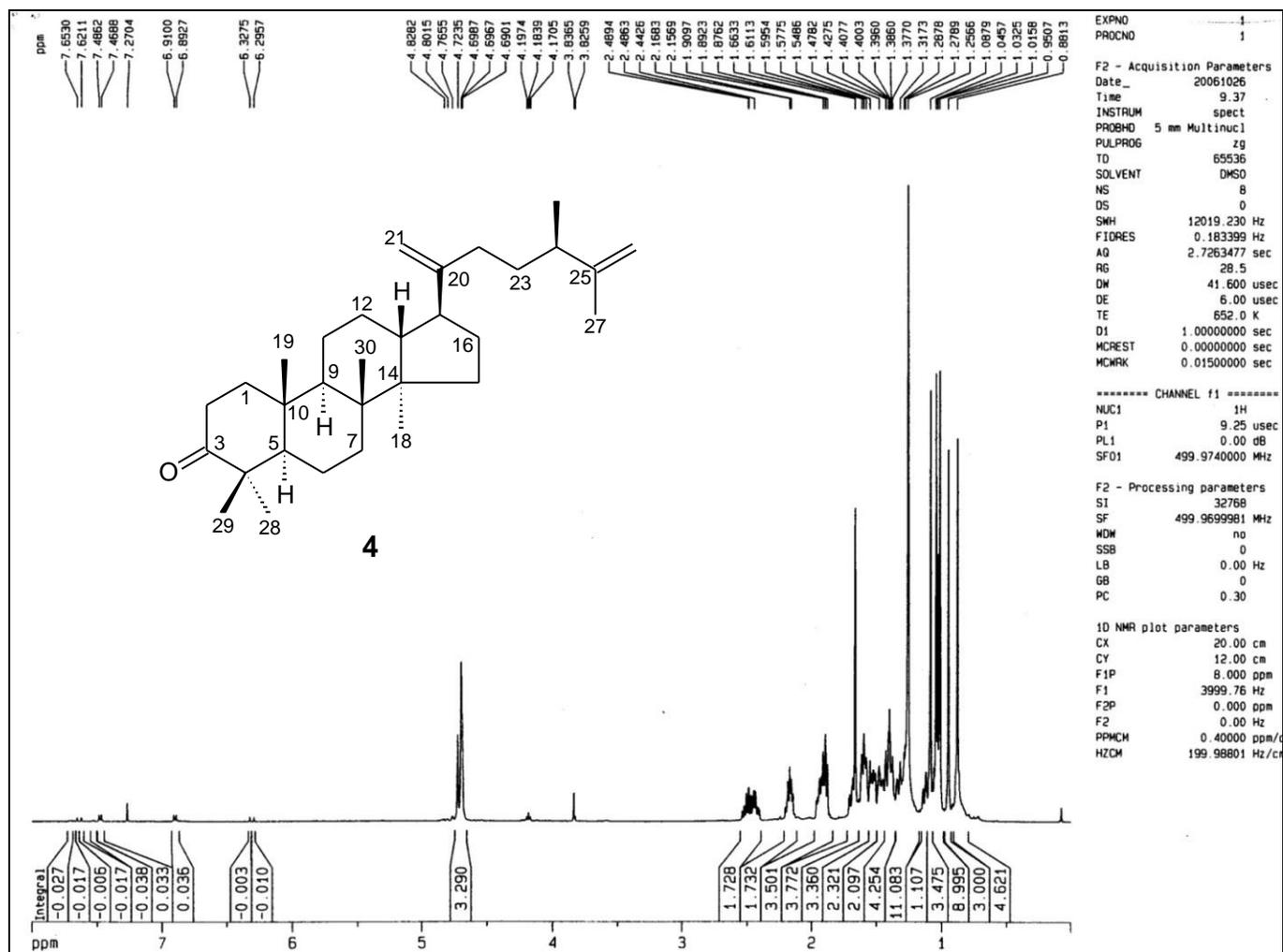


Figure S39. ¹H NMR (500 MHz, CDCl₃) spectrum of compound 4.

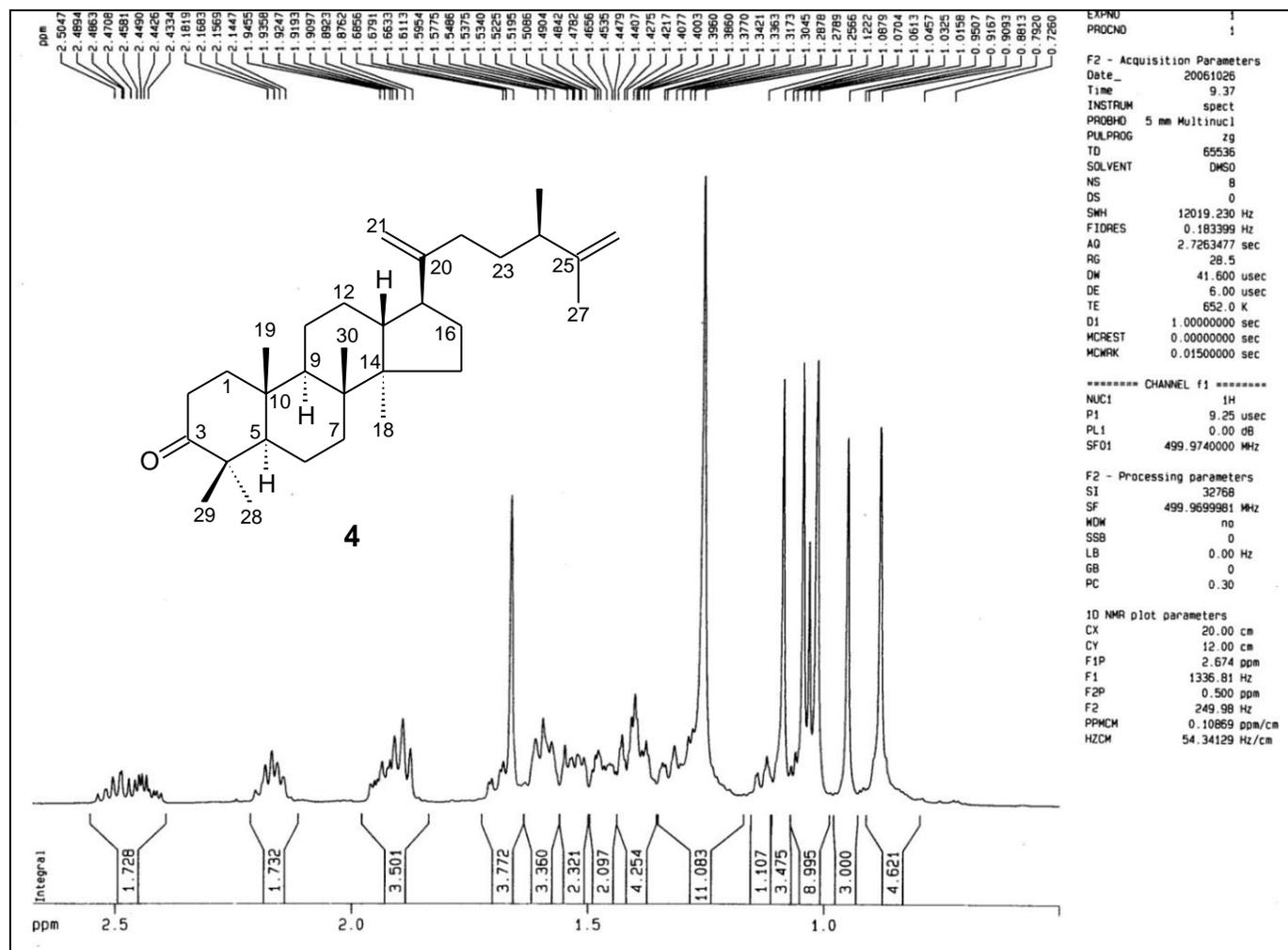


Figure S40. ¹H NMR (500 MHz, CDCl₃) spectrum of compound **4**, expansion of region δ 0.72-2.50.

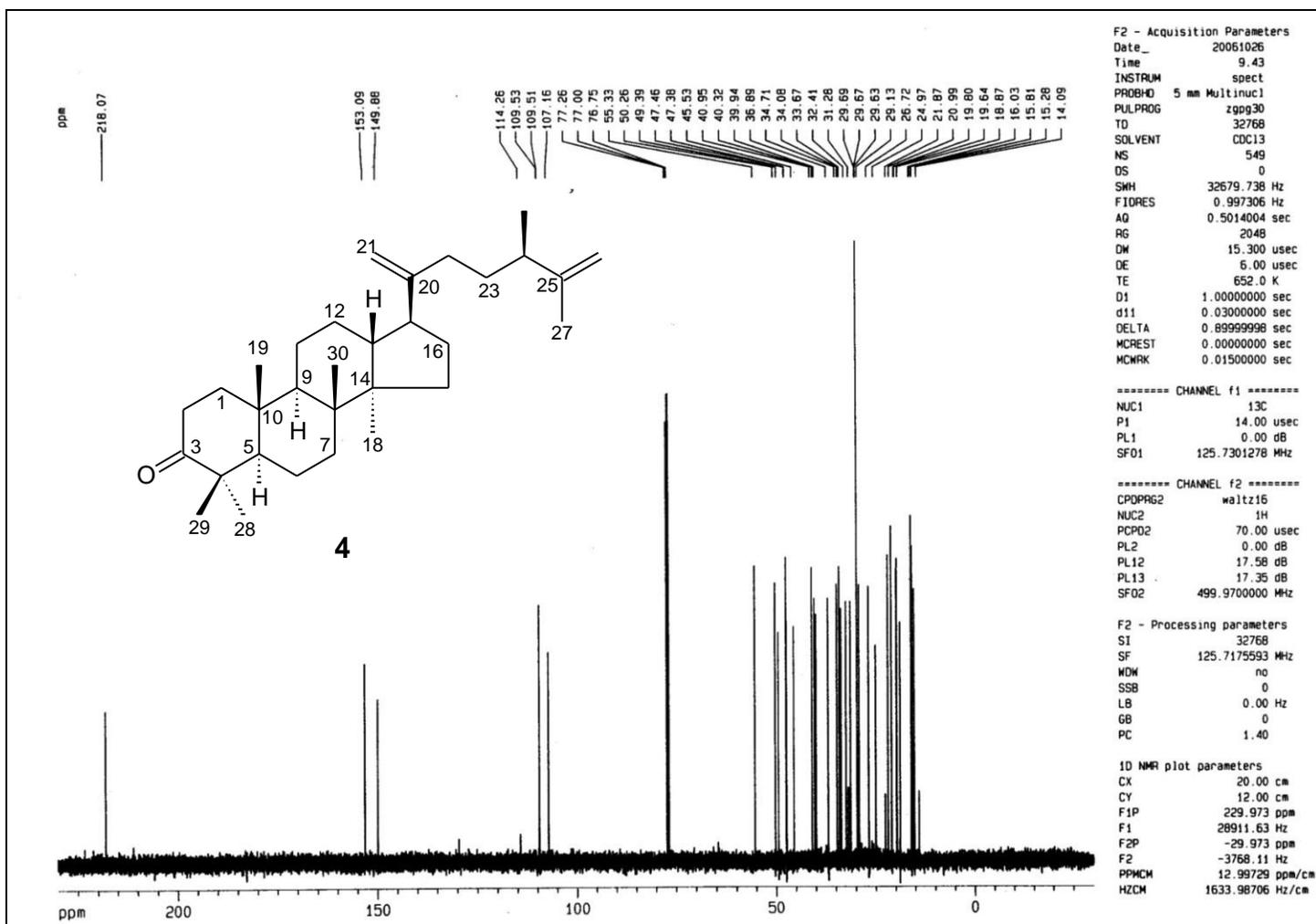


Figure S41. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound 4.

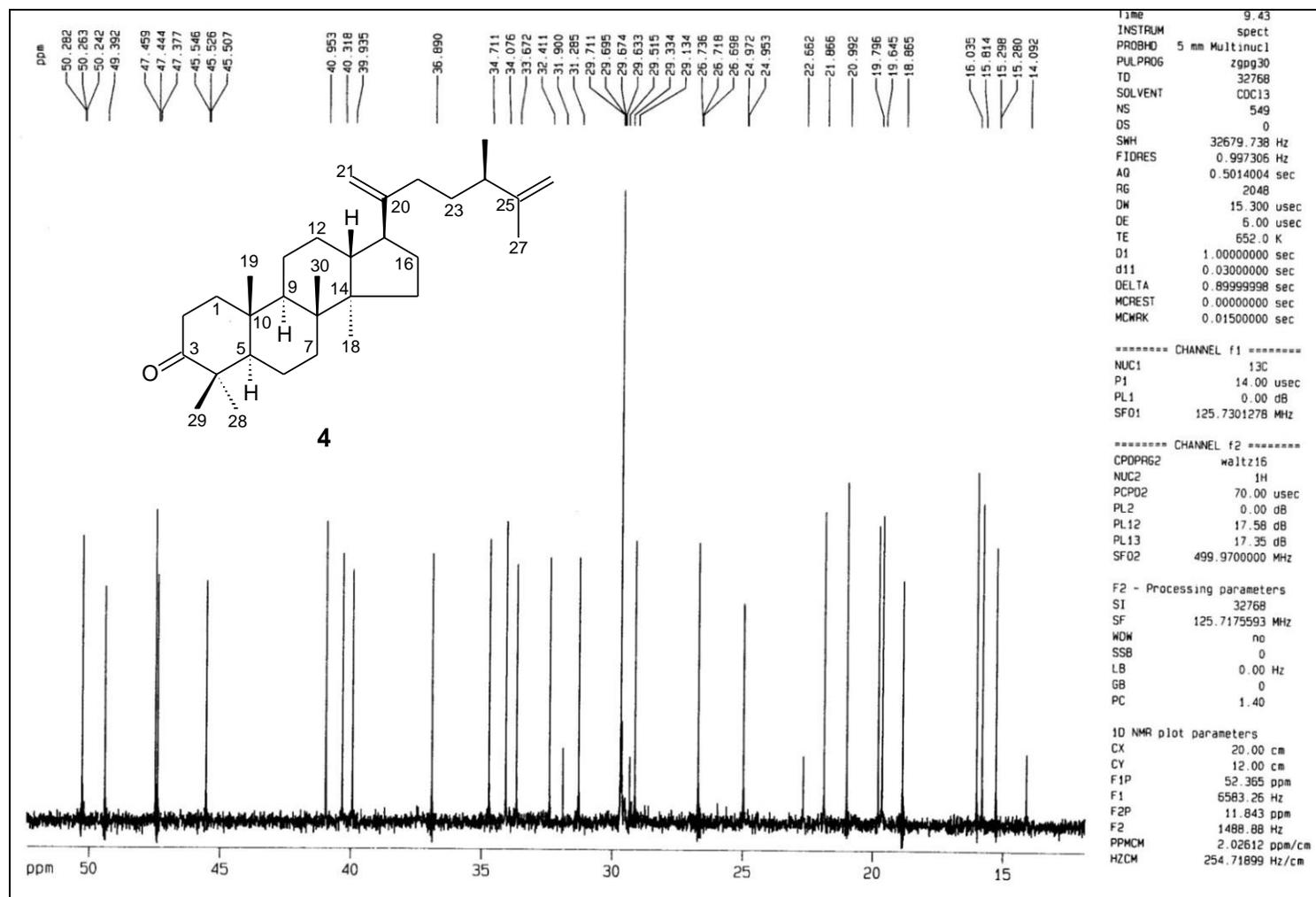


Figure S42. ¹³C NMR (125 MHz, CDCl₃) spectrum of compound 4, expansion of region δ 14-50.

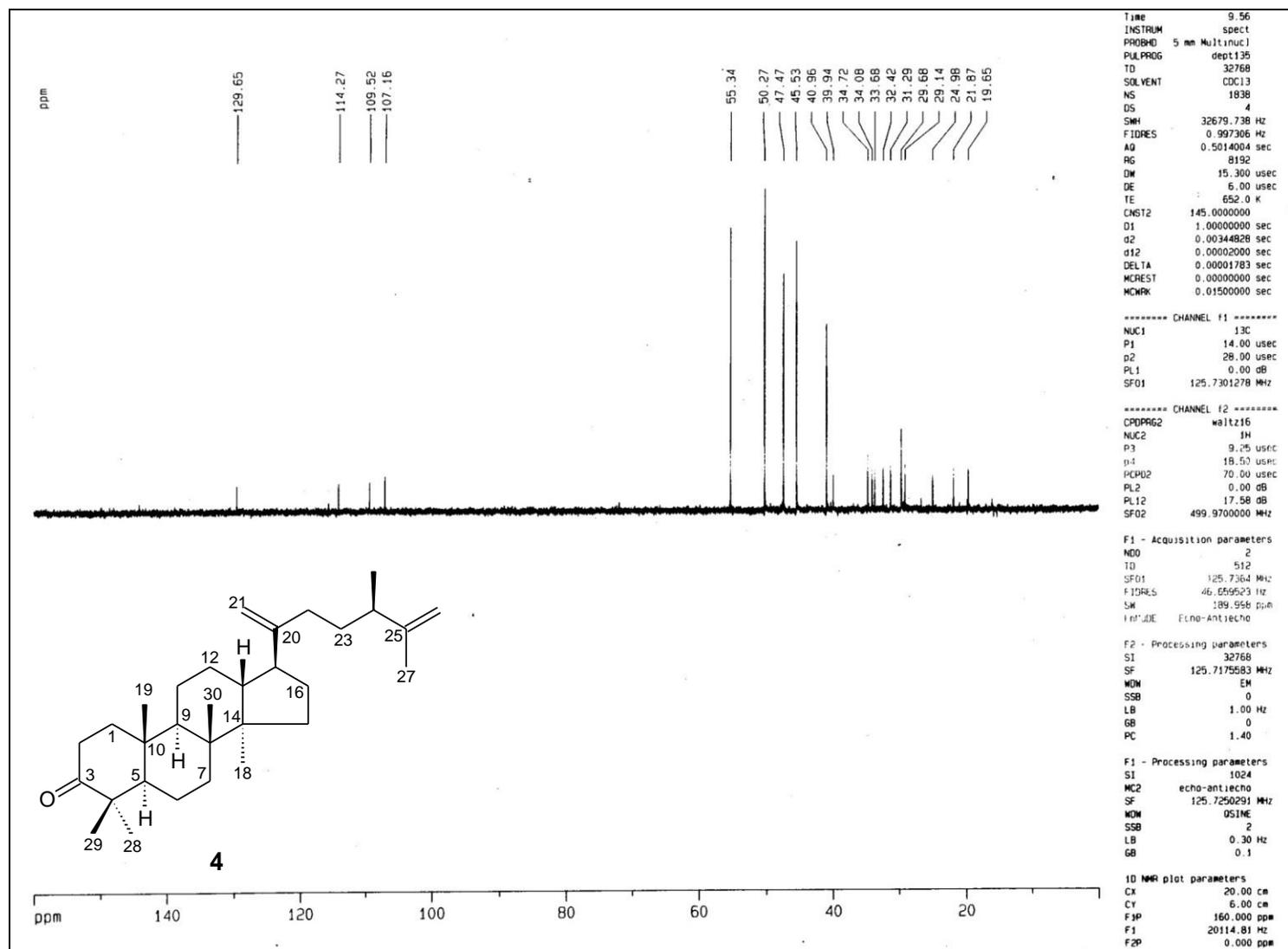


Figure S43. DEPT-90 (125 MHz, CDCl₃) spectrum of compound 4.

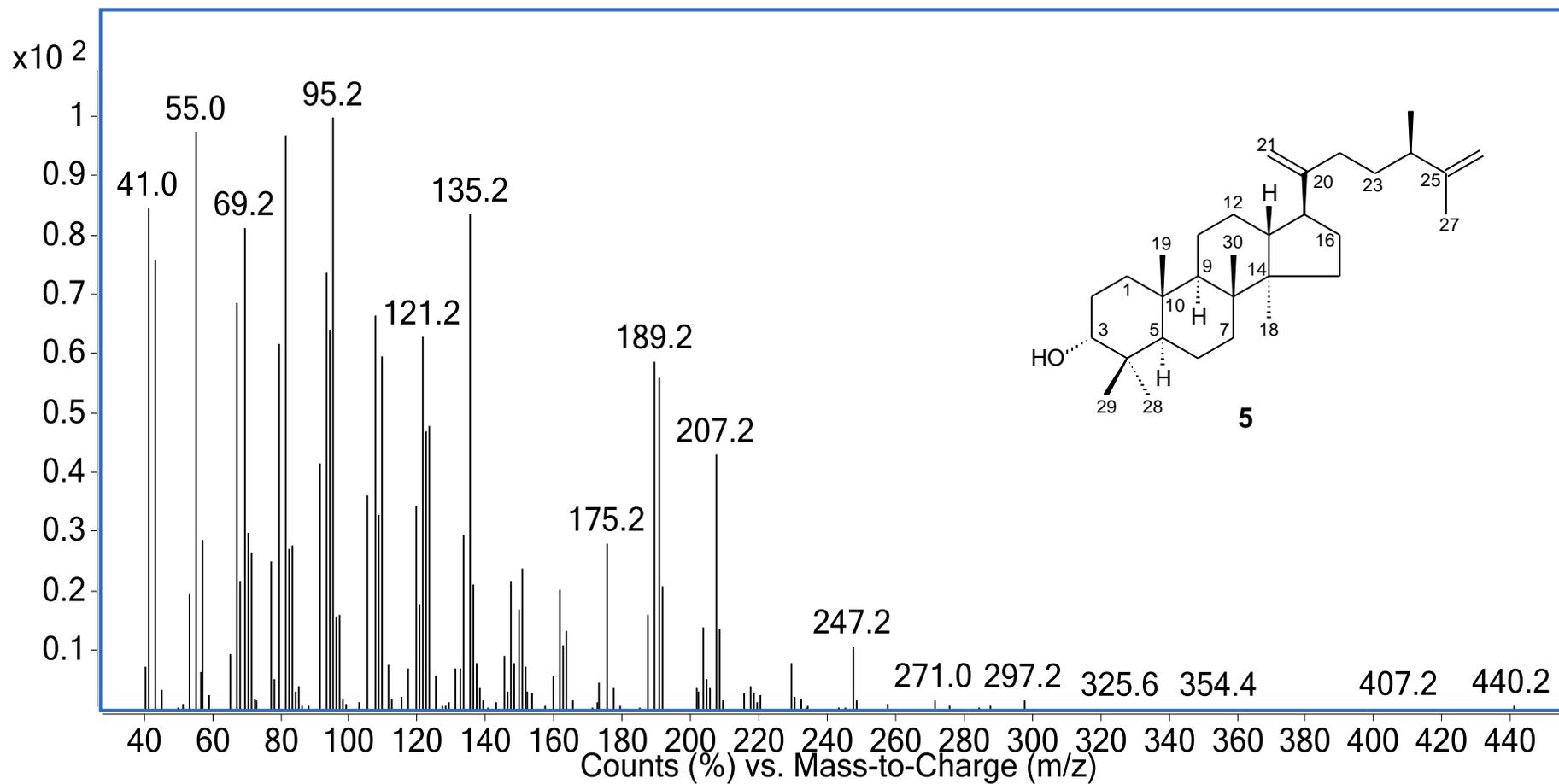


Figure S44. LREIMS spectrum of compound 5.

441_FT_pos #1 RT: 0.01 AV: 1 NL: 2.68E5
T: FTMS + c APCI corona Full ms2 441.40@cid0.00 [120.00-700.00]

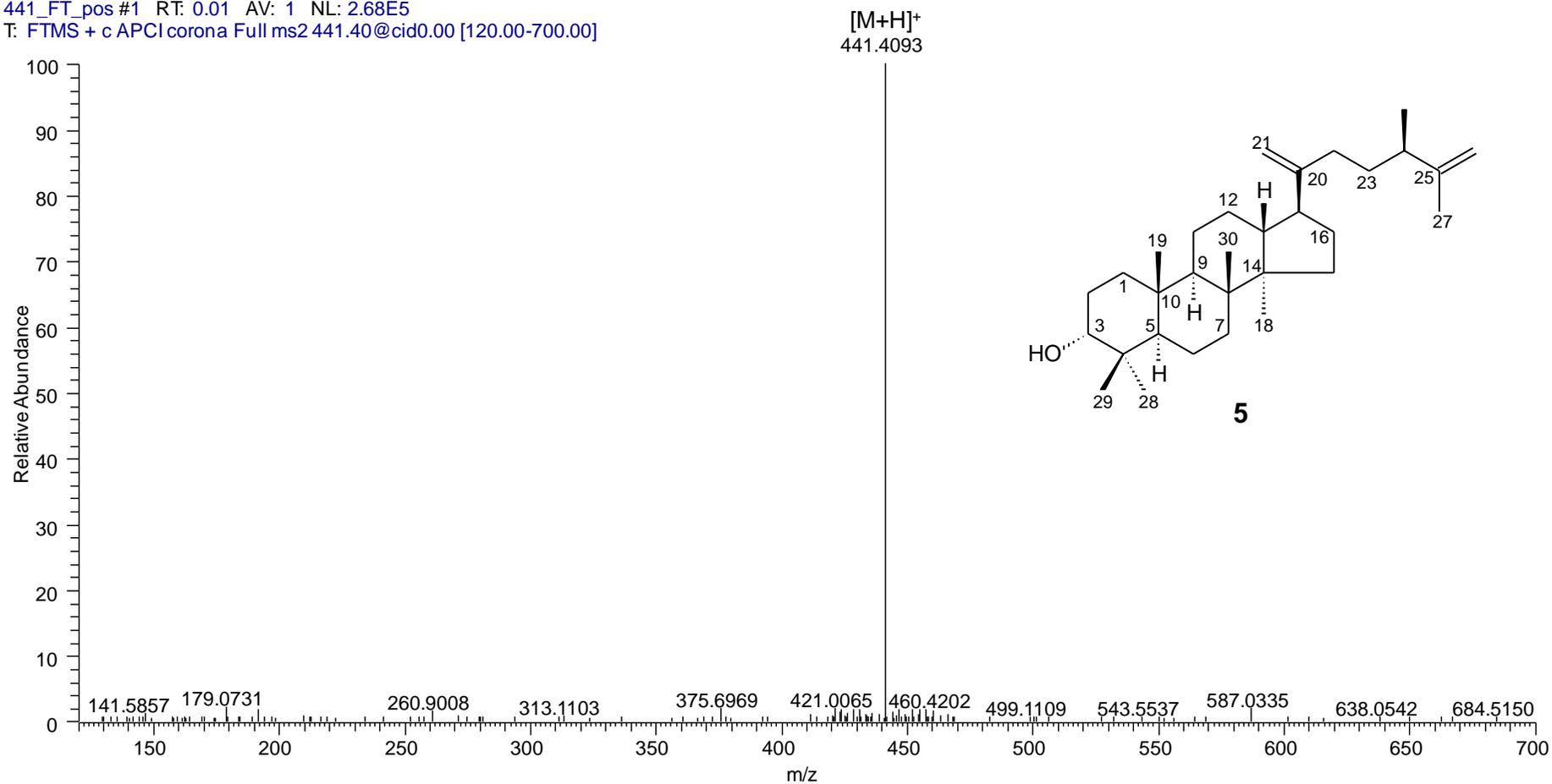


Figure S45. HRAPCI(+)-MS spectrum of compound 5.

441_FT_pos #17 RT: 0.18 AV: 1 NL: 1.17E4
T: ITMS + c APCI corona Full ms2 441.40@cid25.00 [1]

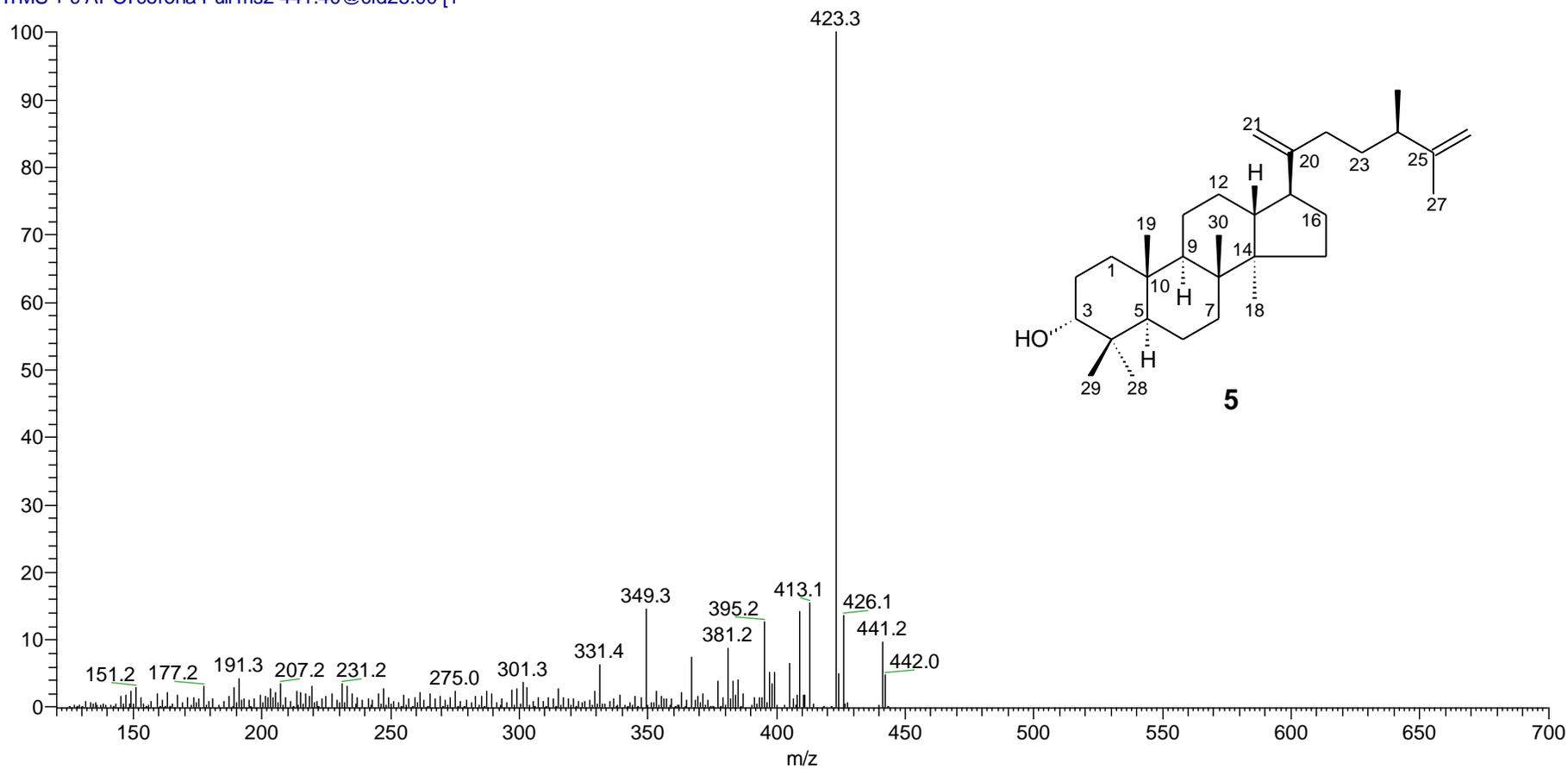


Figure S46. HRAPCI(+)-MS/MS² (CID 25) spectrum of compound 5.

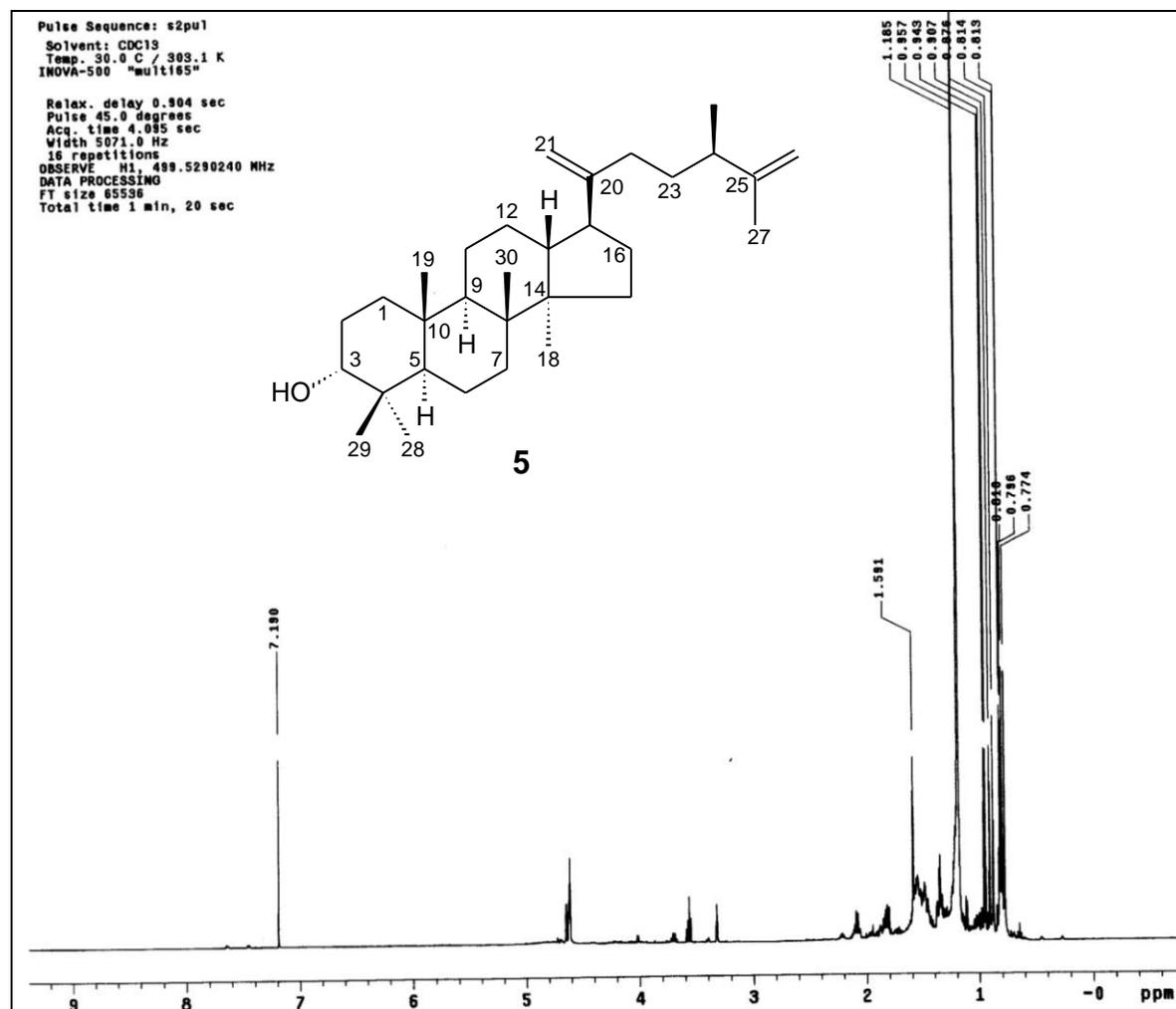


Figure S47. ¹H NMR (500 MHz, CDCl₃) spectrum of compound **5**.

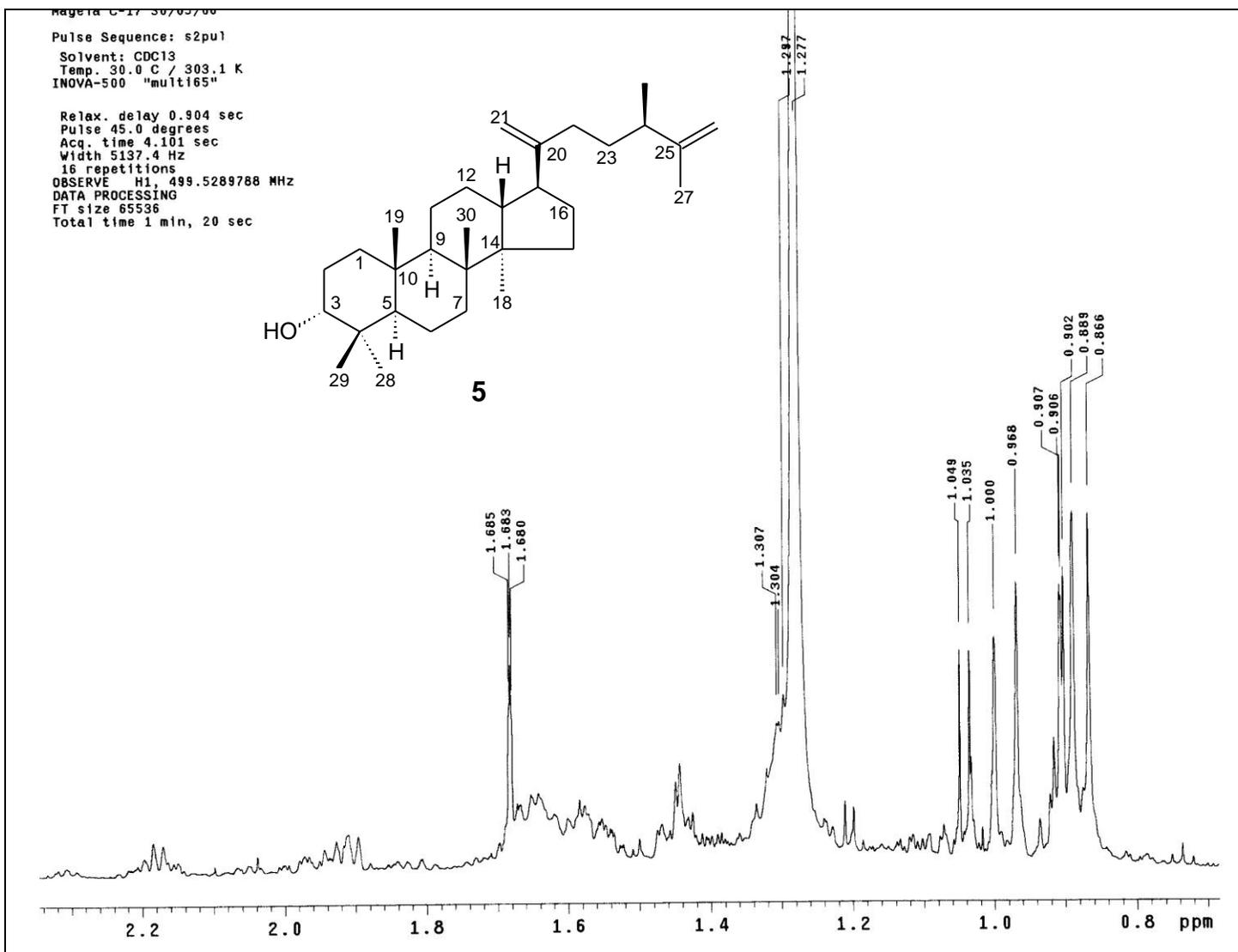


Figure S48. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **5**, expansion of region δ 0.8-2.2.

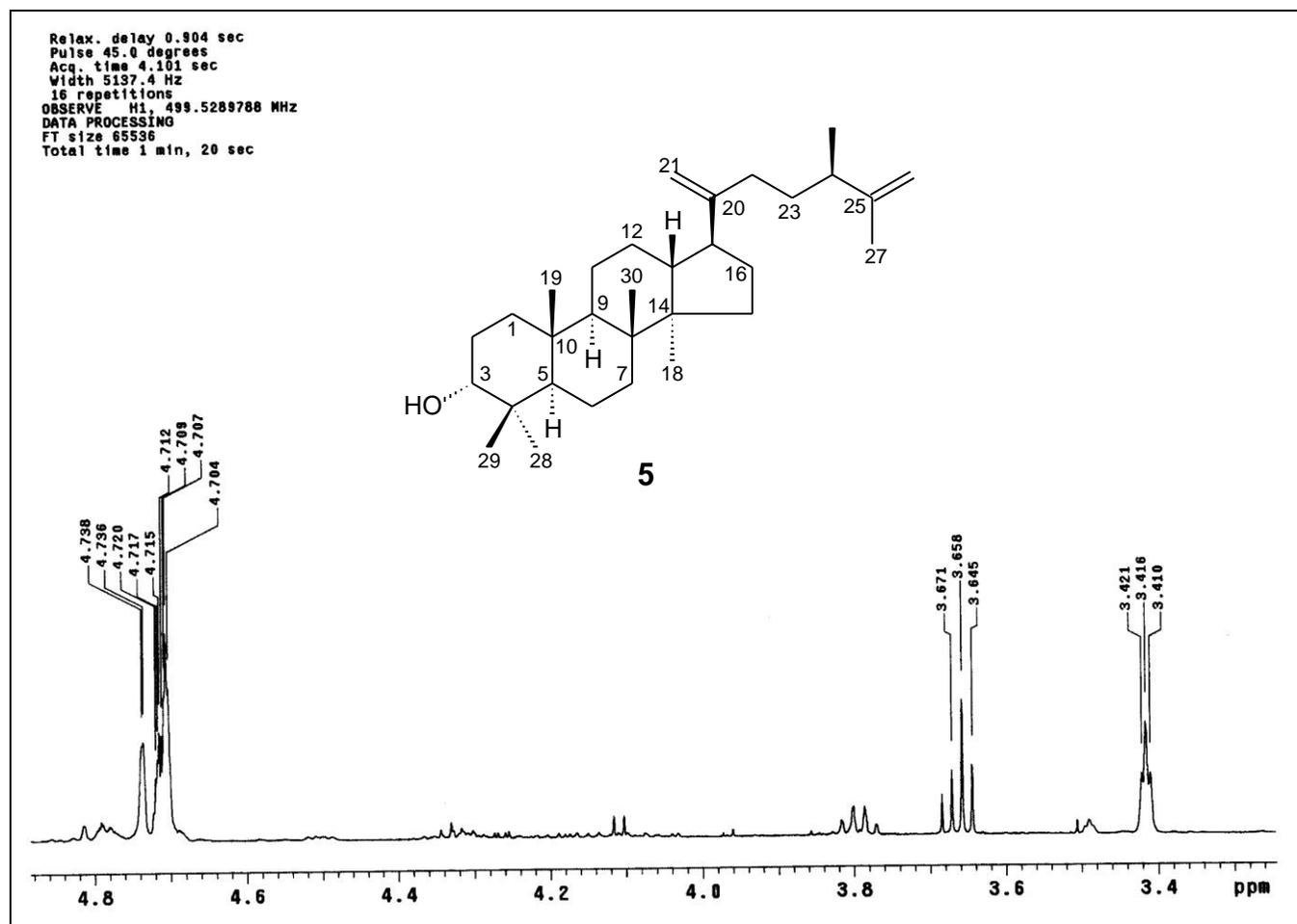


Figure S49. ^1H NMR (500 MHz, CDCl_3) spectrum of compound 5, expansion of region δ 3.4-4.8.

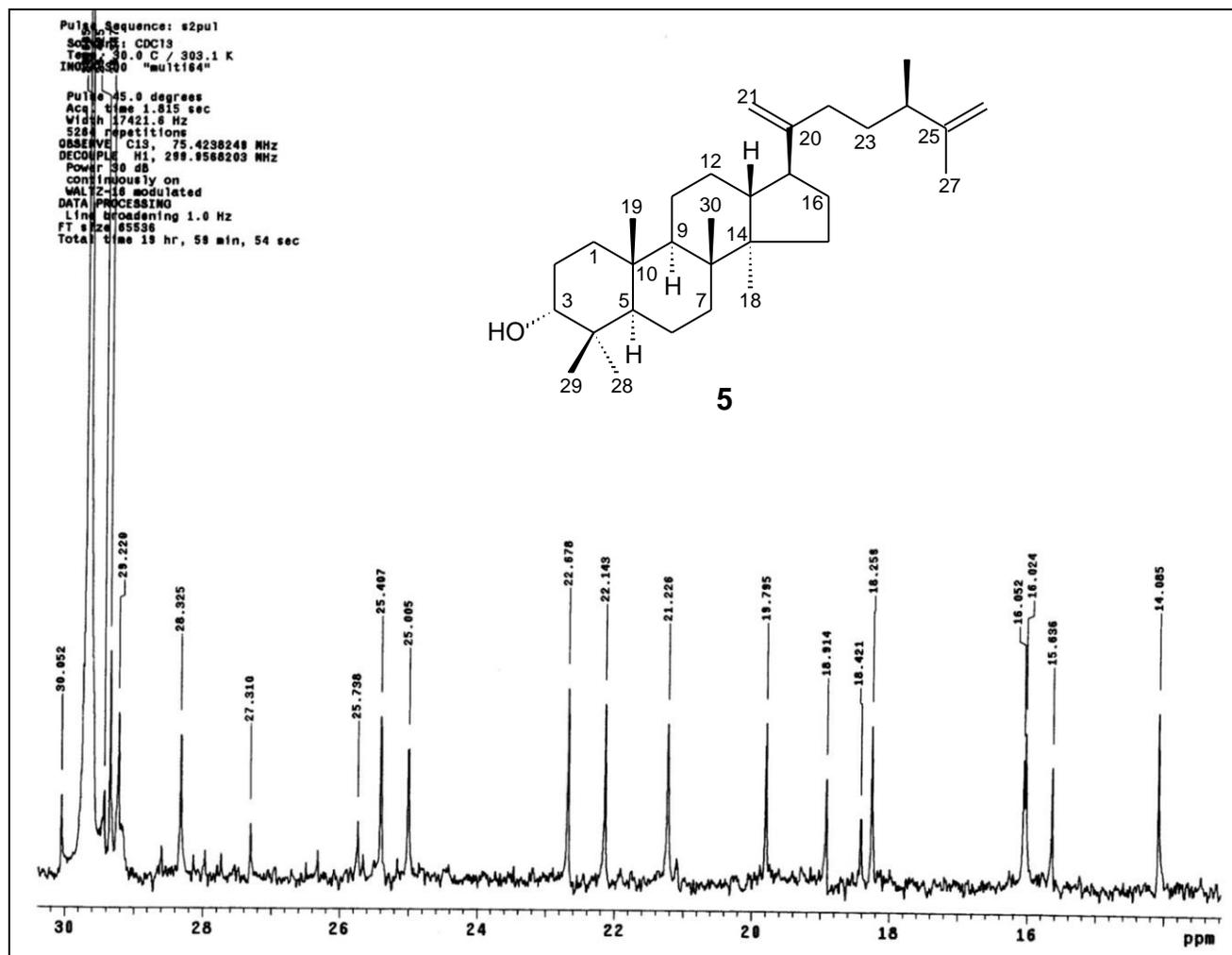


Figure S51. ^{13}C NMR (500 MHz, CDCl_3) spectrum of compound **5**, expansion of region δ 14-30.

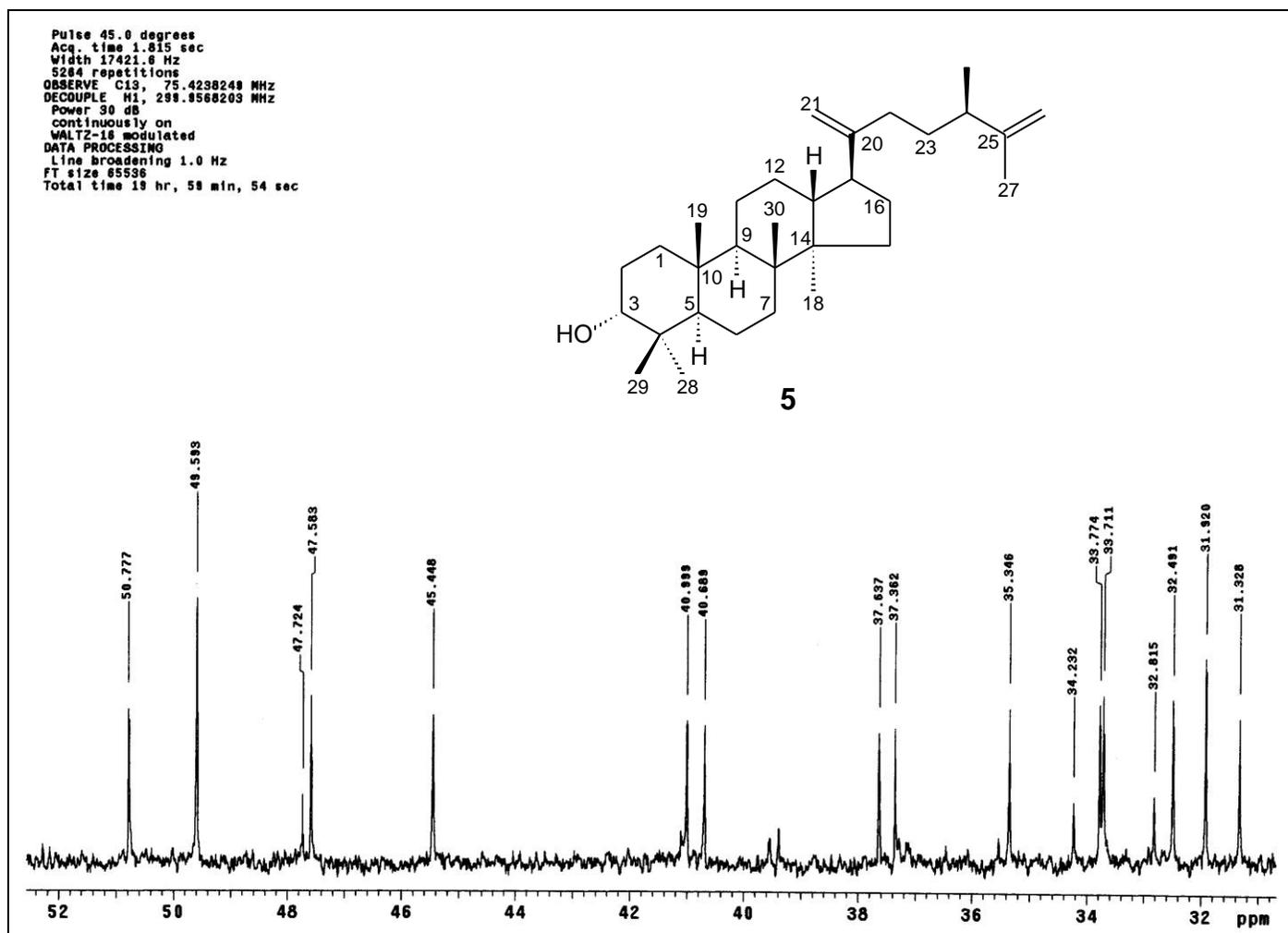


Figure S52. ^{13}C NMR (500 MHz, CDCl_3) spectrum of compound **5**, expansion of region δ 31-52.

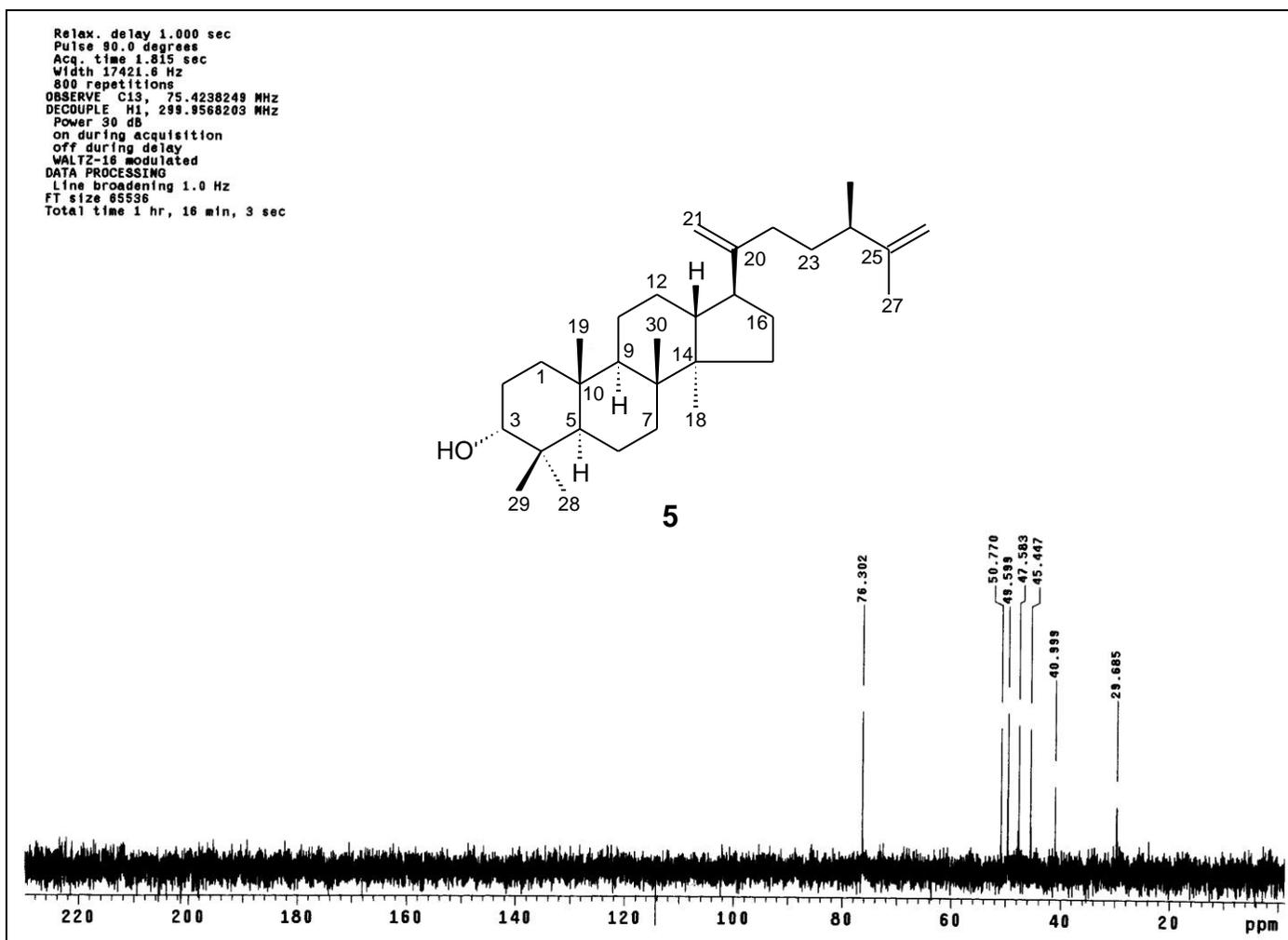


Figure S53. DEPT-90 (125 MHz, CDCl_3) spectrum of compound 5.

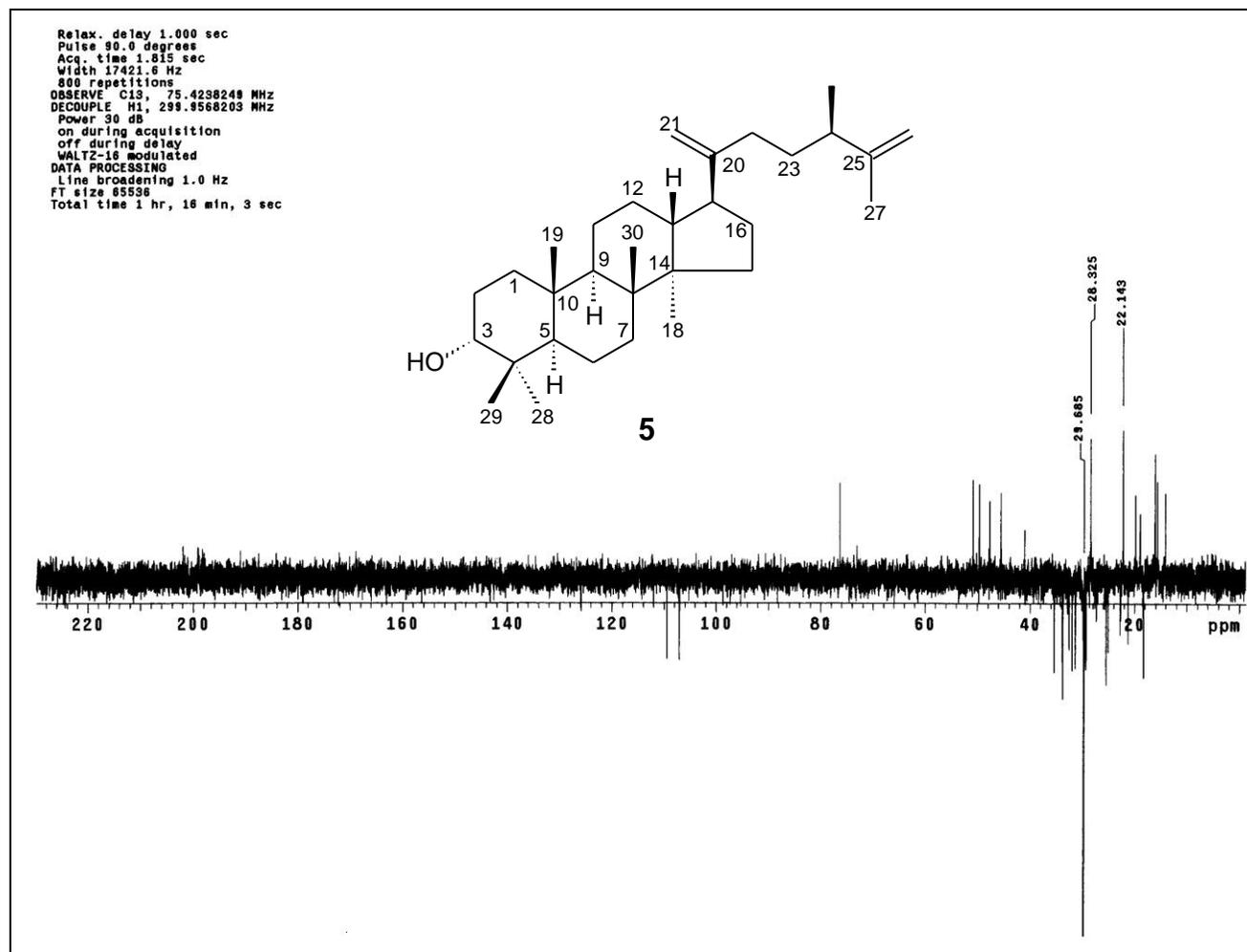


Figure S54. DEPT-135 (125 MHz, CDCl₃) spectrum of compound **5**.

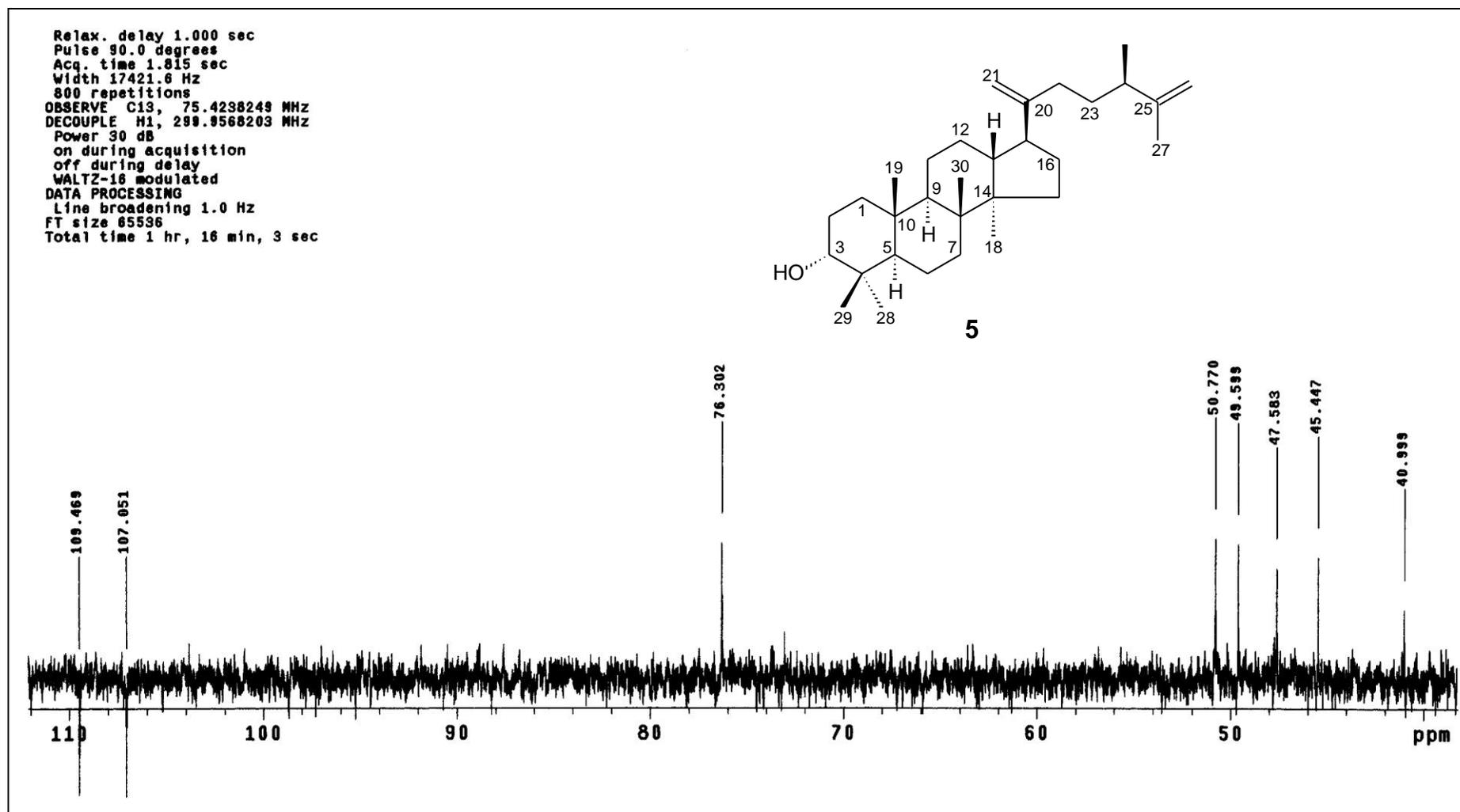


Figure S55. DEPT-135 (125 MHz, CDCl₃) spectrum of compound **5** - expansion of region δ 40-110.

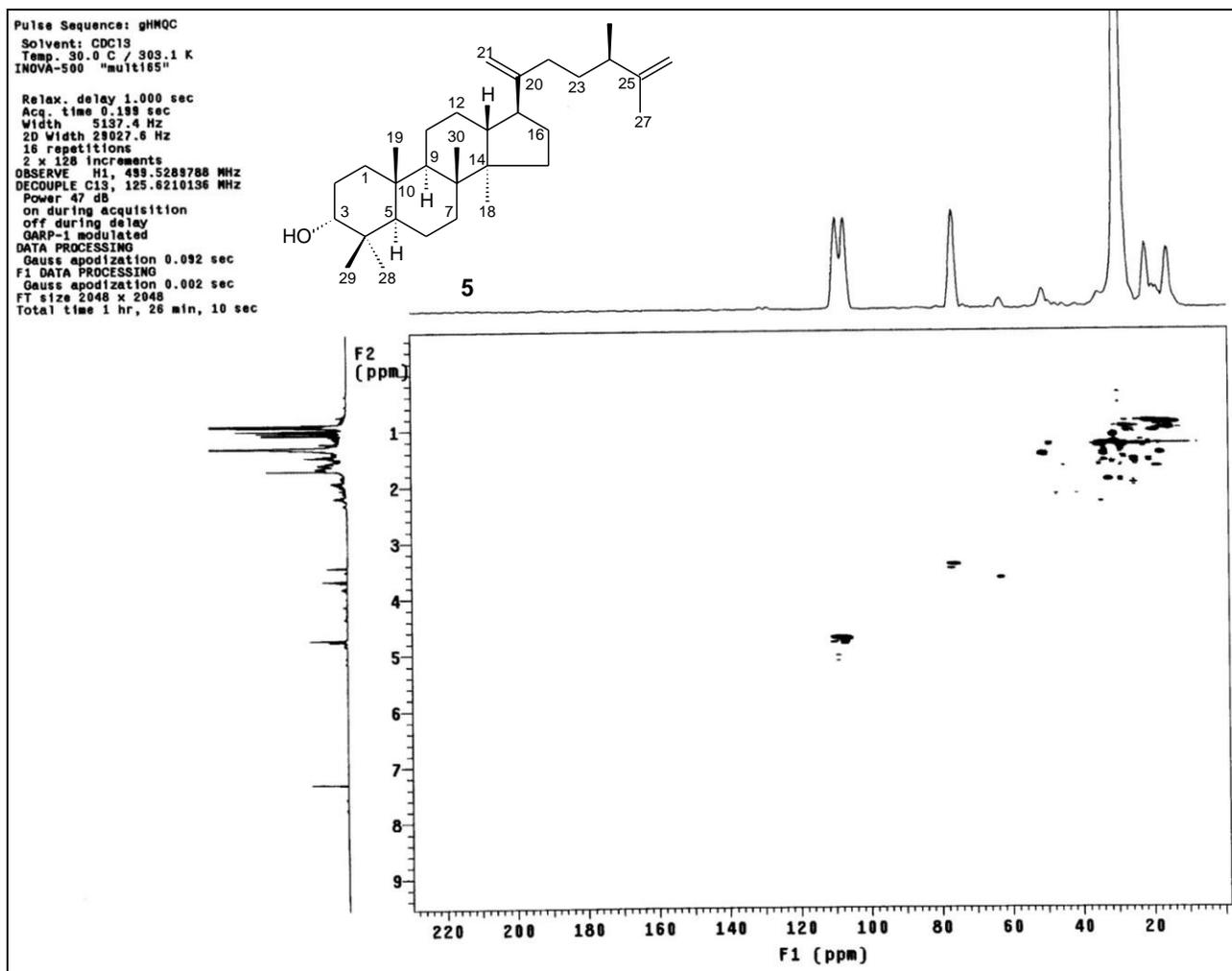


Figure S56. HMQC (500 and 125 MHz, CDCl₃) spectrum of compound 5.