

Supplementary material

Nine New Pregnane Glycosides from the Cultivated Medicinal Plant *Marsdenia tenacissima*

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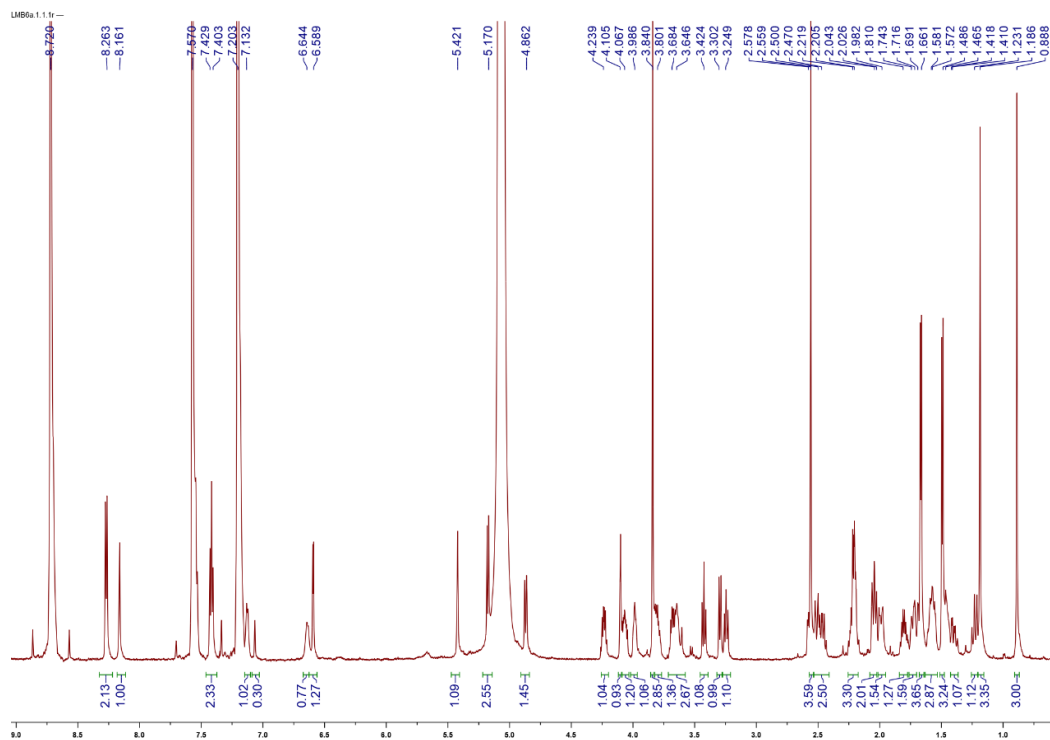


Figure S1. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside A (1).

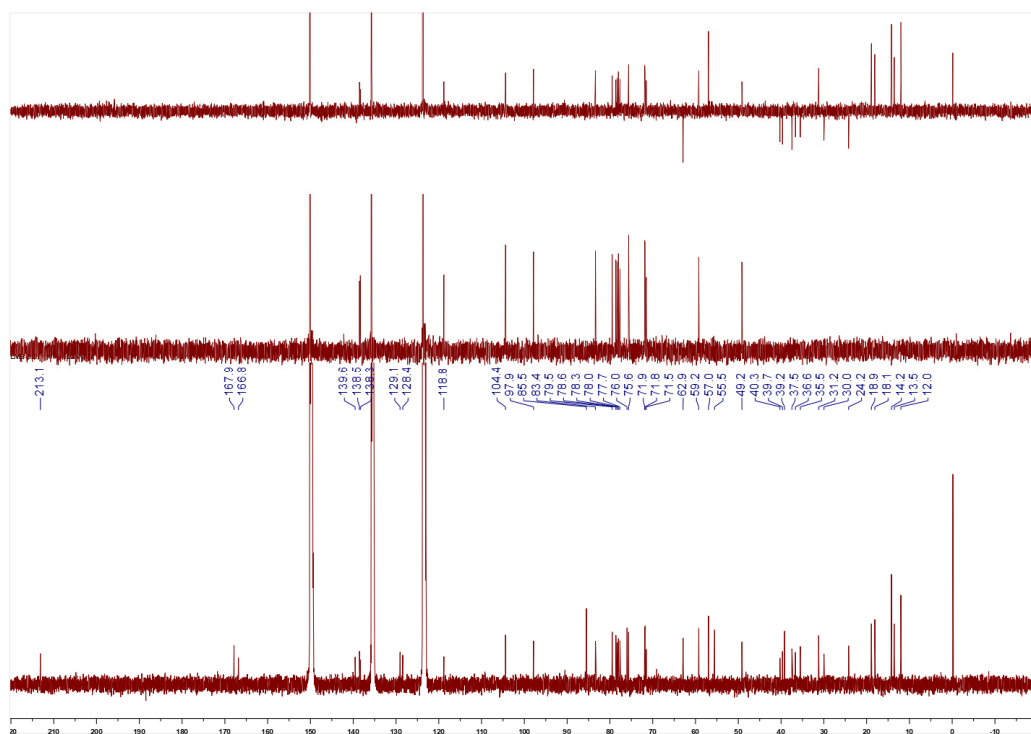


Figure S2. ^{13}C NMR (150 MHz, Pyridine- d_5) spectrum of Marsdeoside A (1).

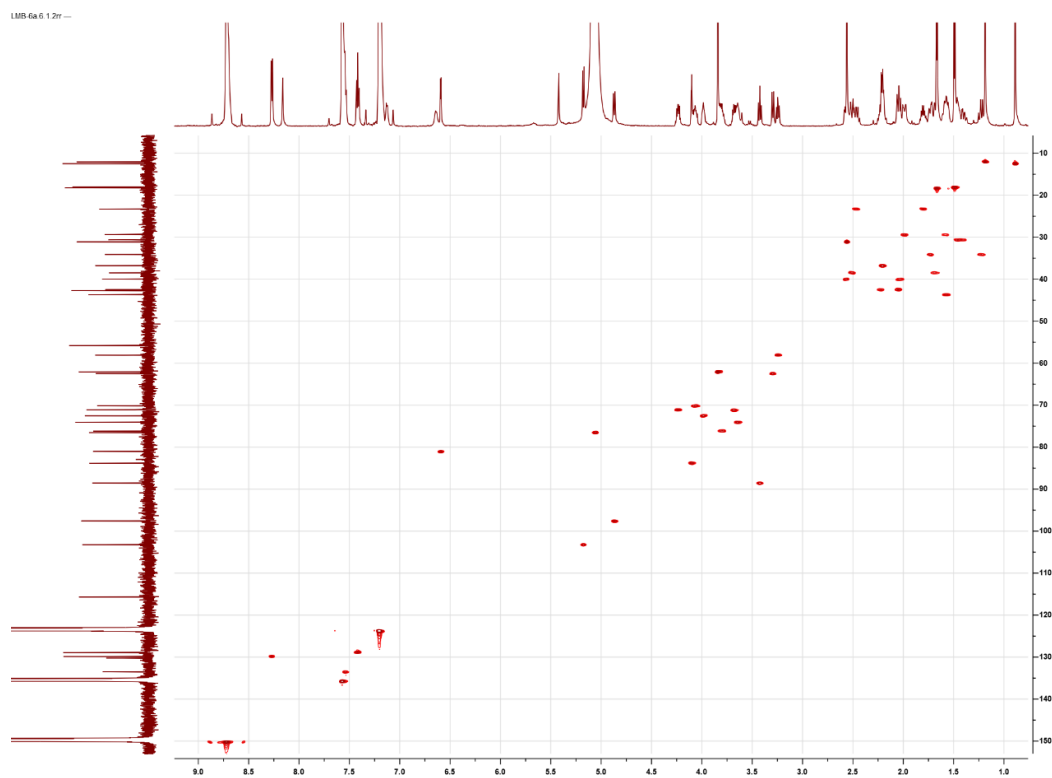


Figure S3. HSQC (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside A (1).

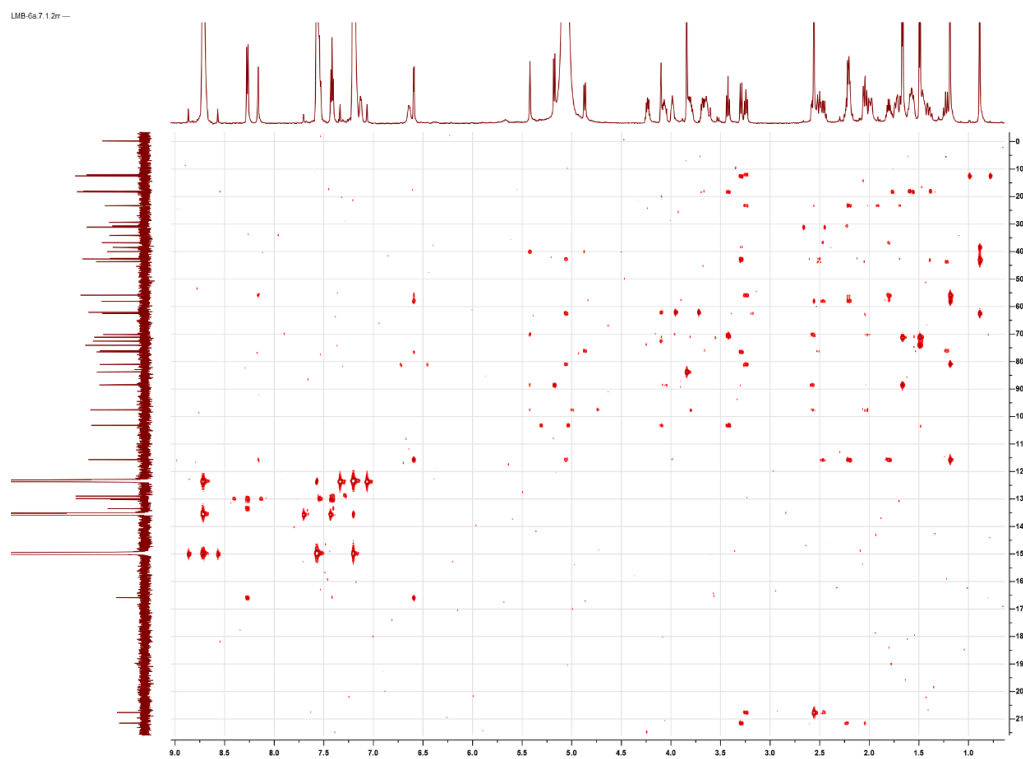


Figure S4. HMBC (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside A (**1**).

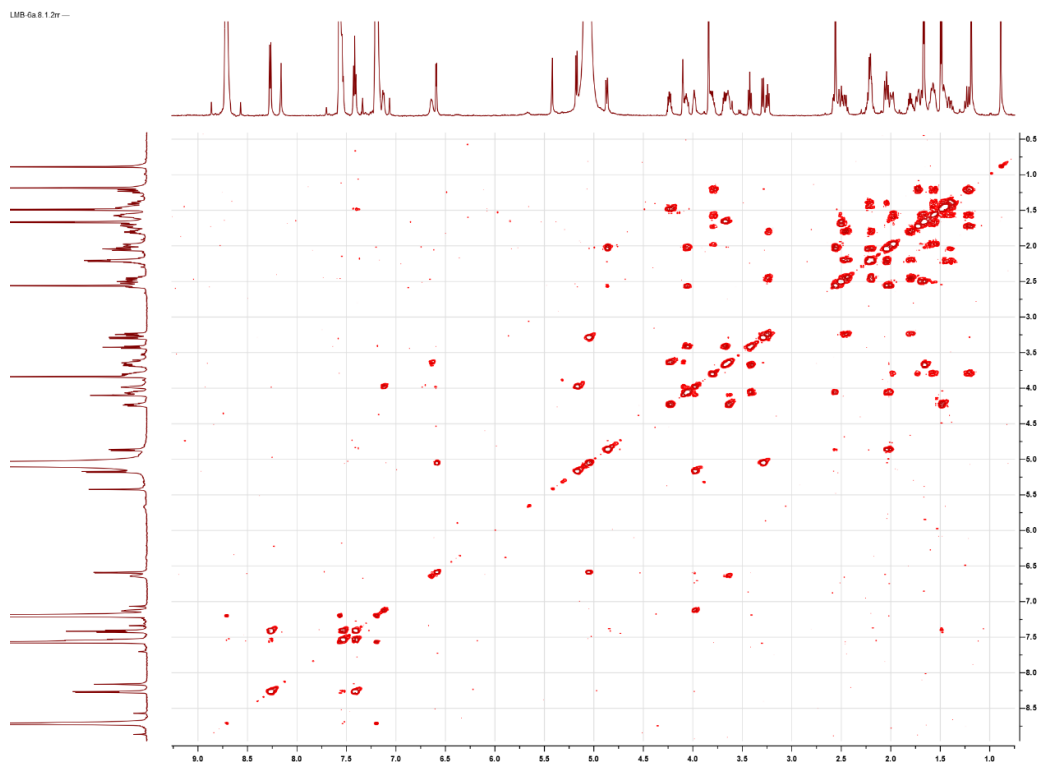


Figure S5. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside A (**1**).

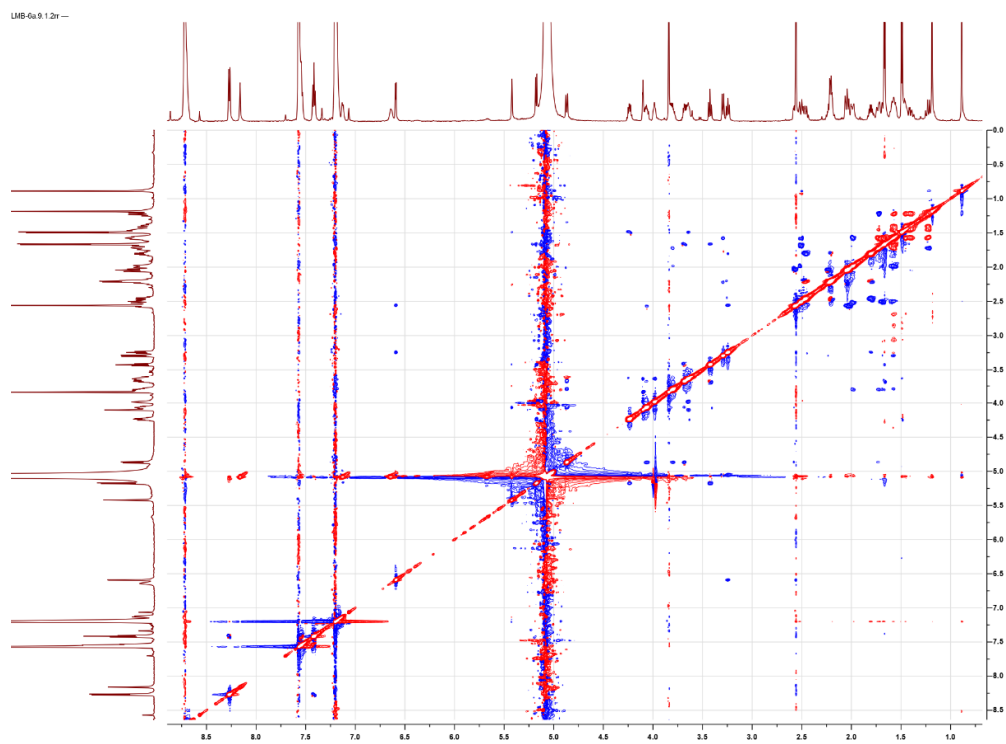


Figure S6. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside A (**1**).

T: FTMS + p ESI Full ms [400.0000-1000.0000]

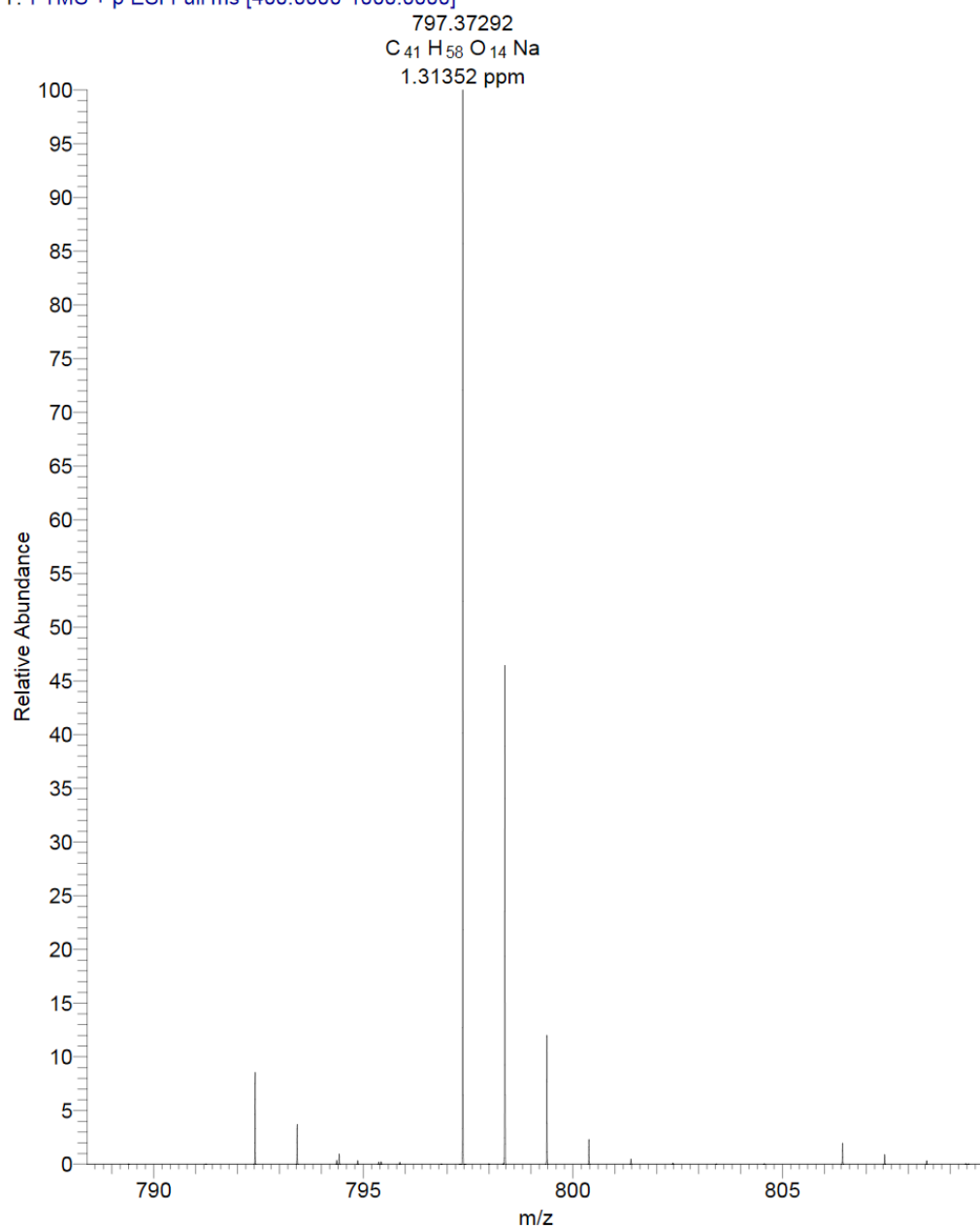


Figure S7. HRESIMS spectrum of Marsdeoside A (**1**).

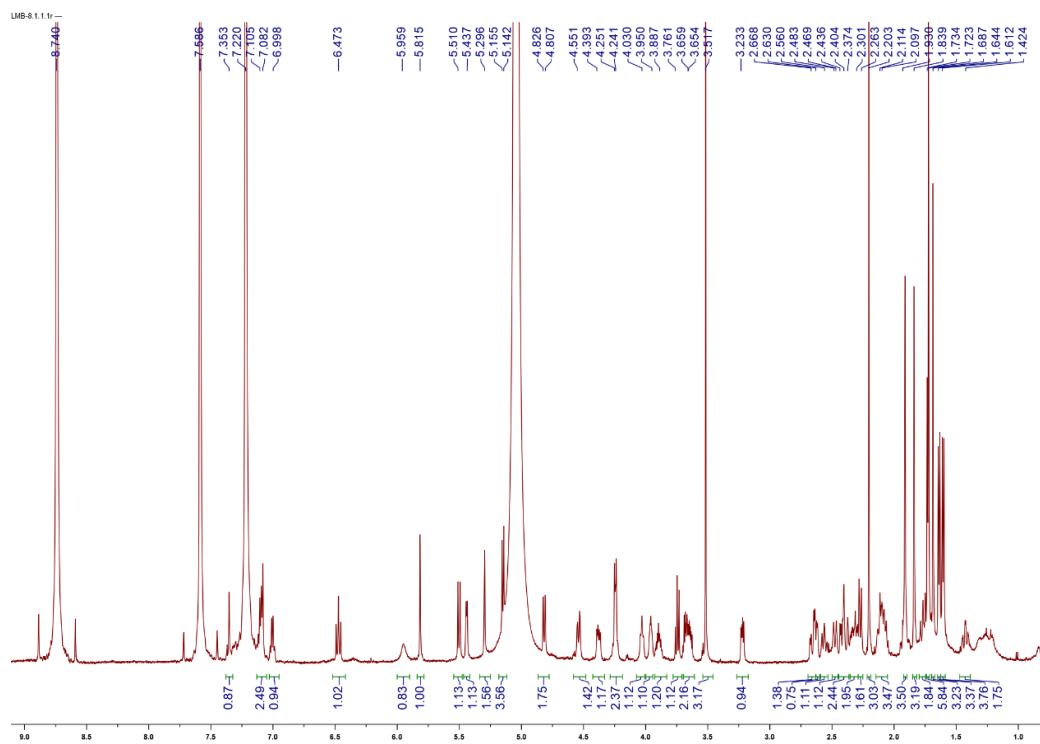


Figure S8. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside B (2).

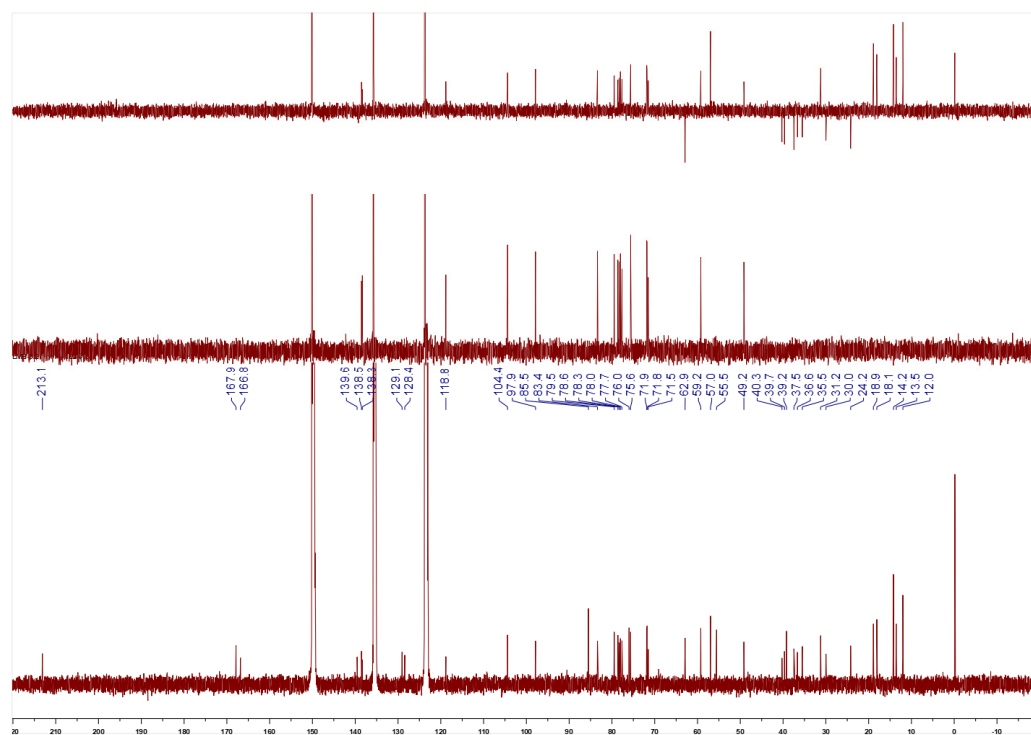


Figure S9. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside B (2).

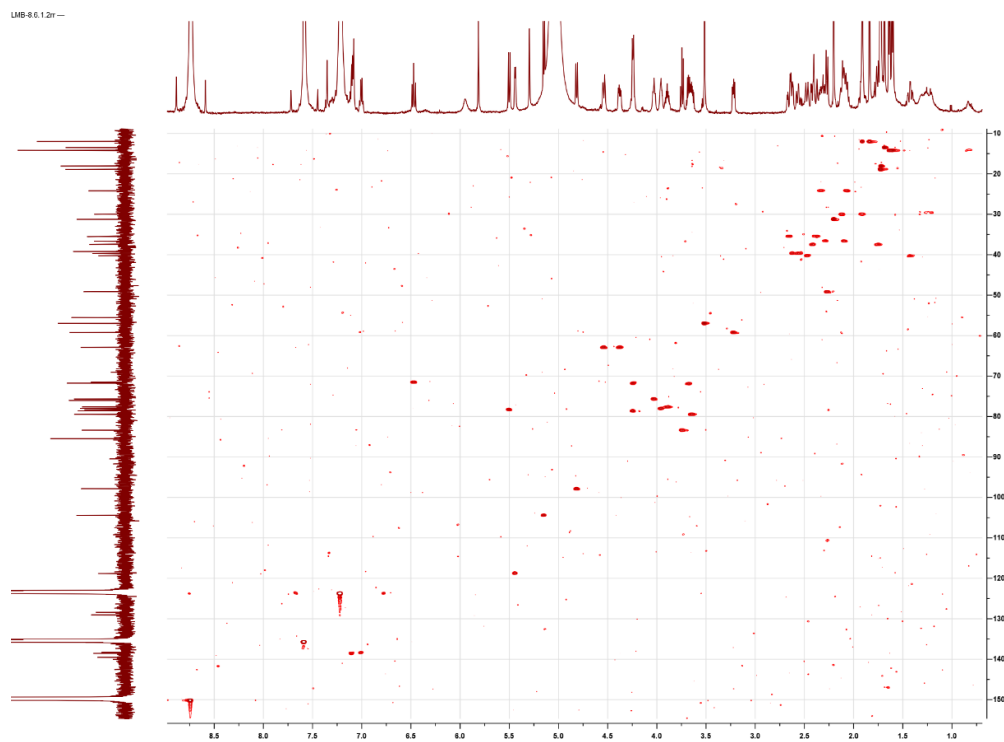


Figure S10. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside B (**2**).

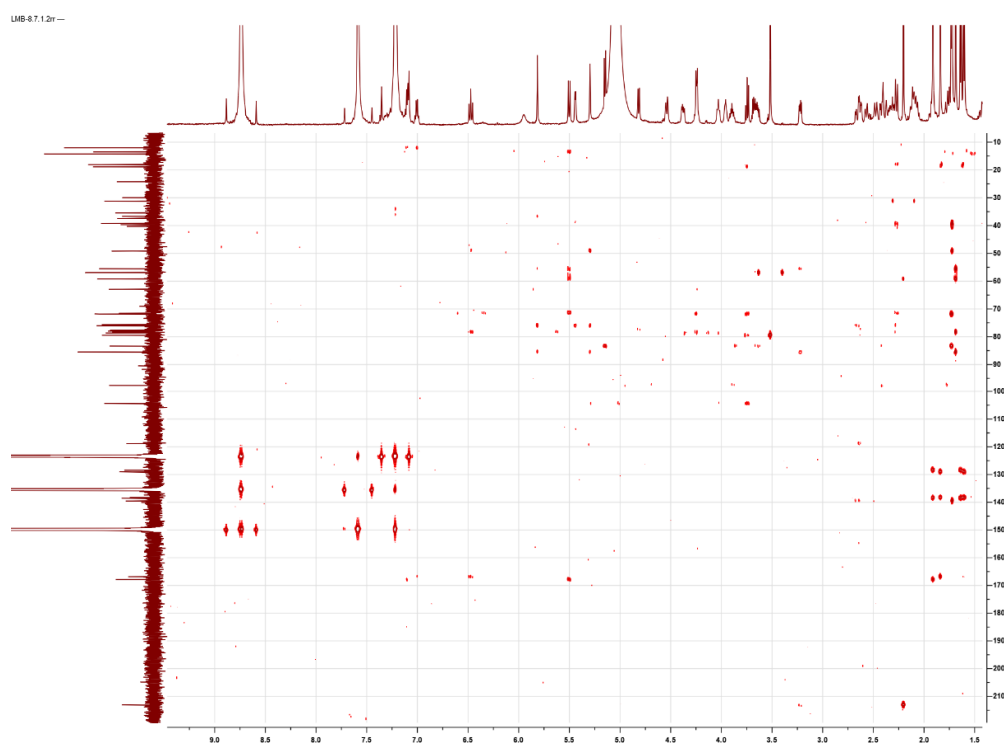


Figure S11. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside B (**2**).

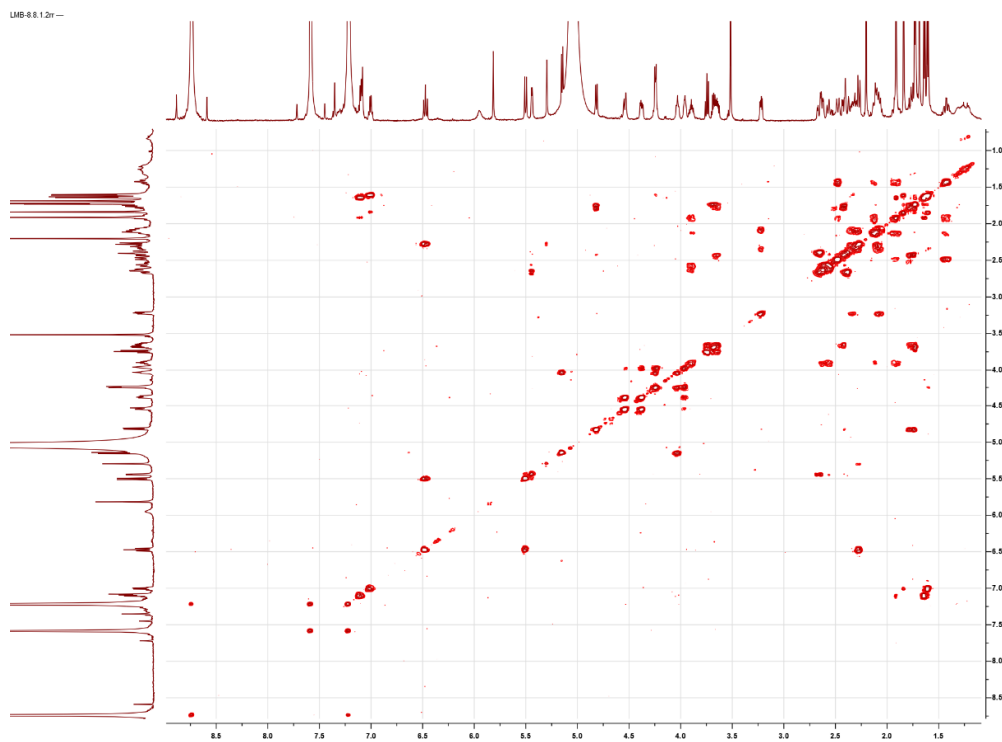


Figure S12. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside B (2).

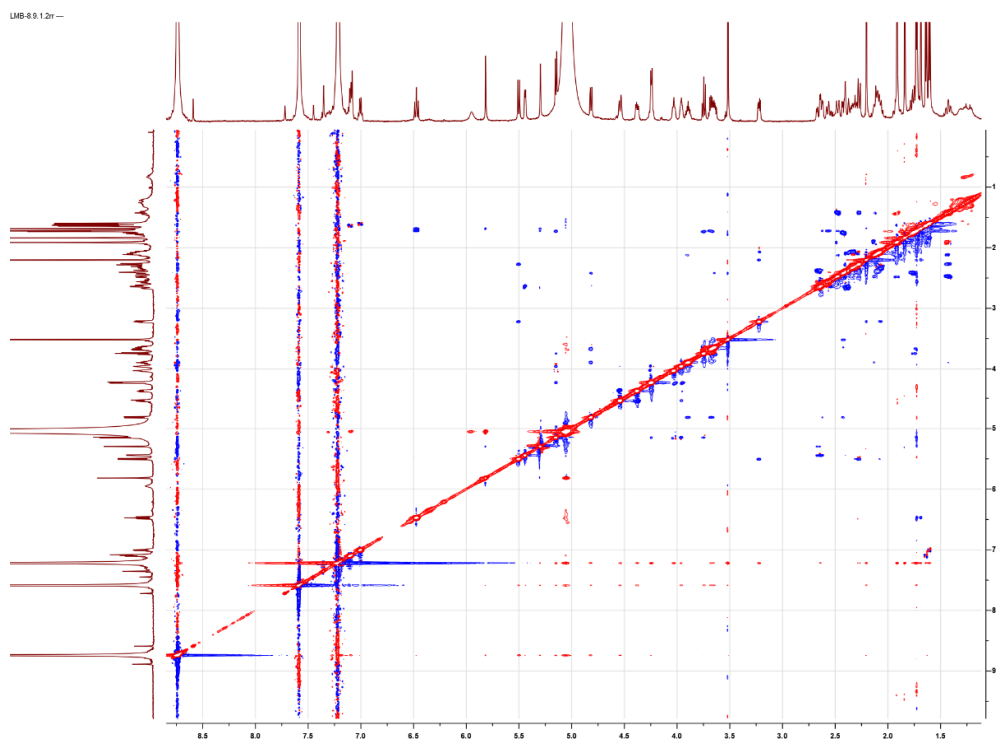


Figure S13. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside B (2).

LMB08 #13 RT: 0.17 AV: 1 NL: 1.38E7
T: FTMS + p ESI Full ms [600.0000-1000.0000]

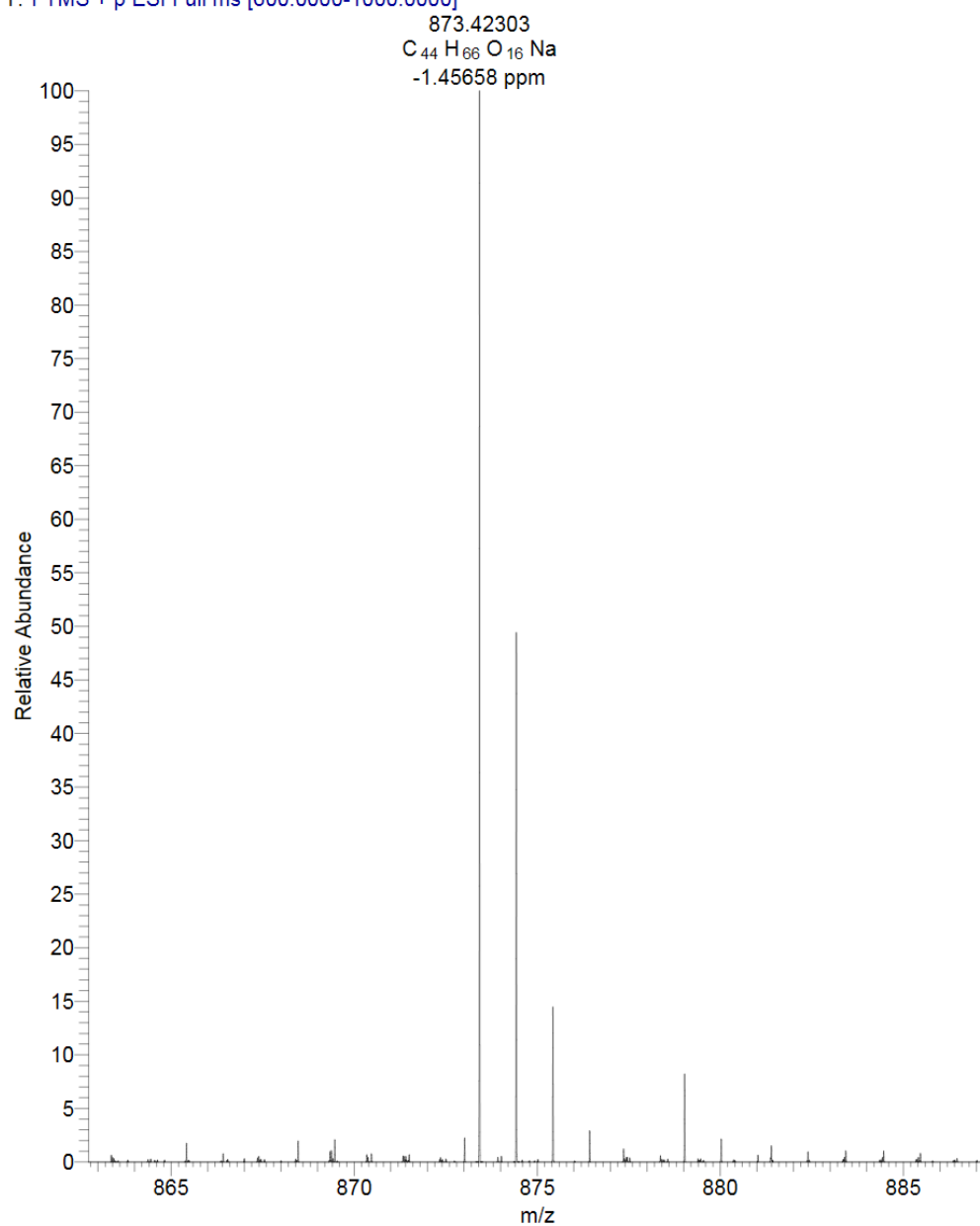


Figure S14. HRESIMS spectrum of Marsdeoside B (2).

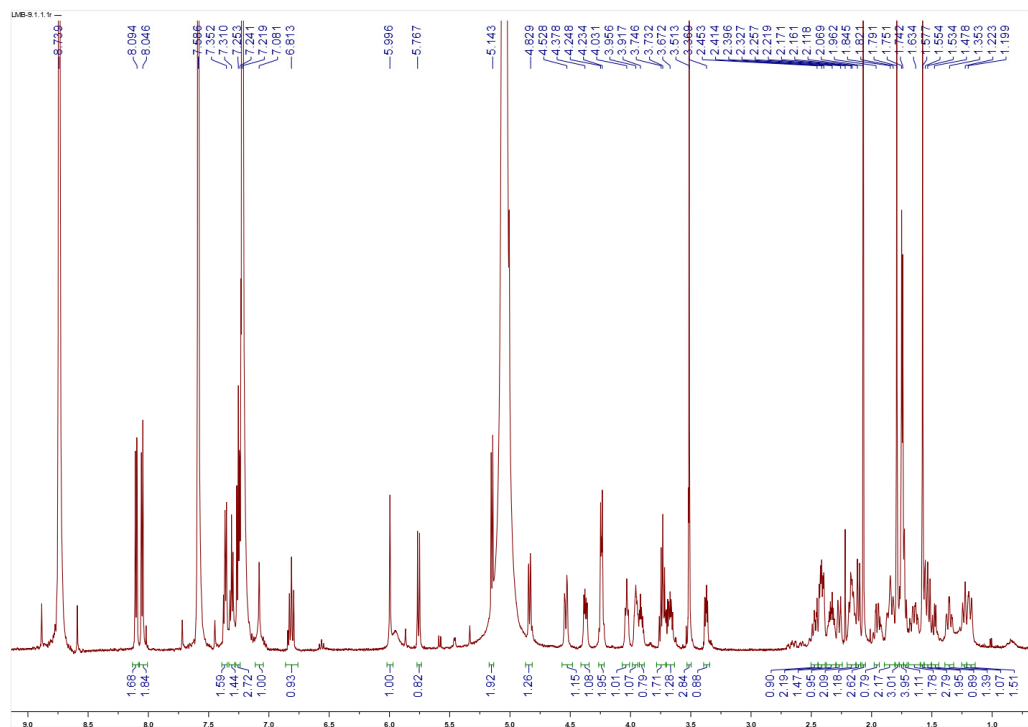


Figure S15. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside C (3).

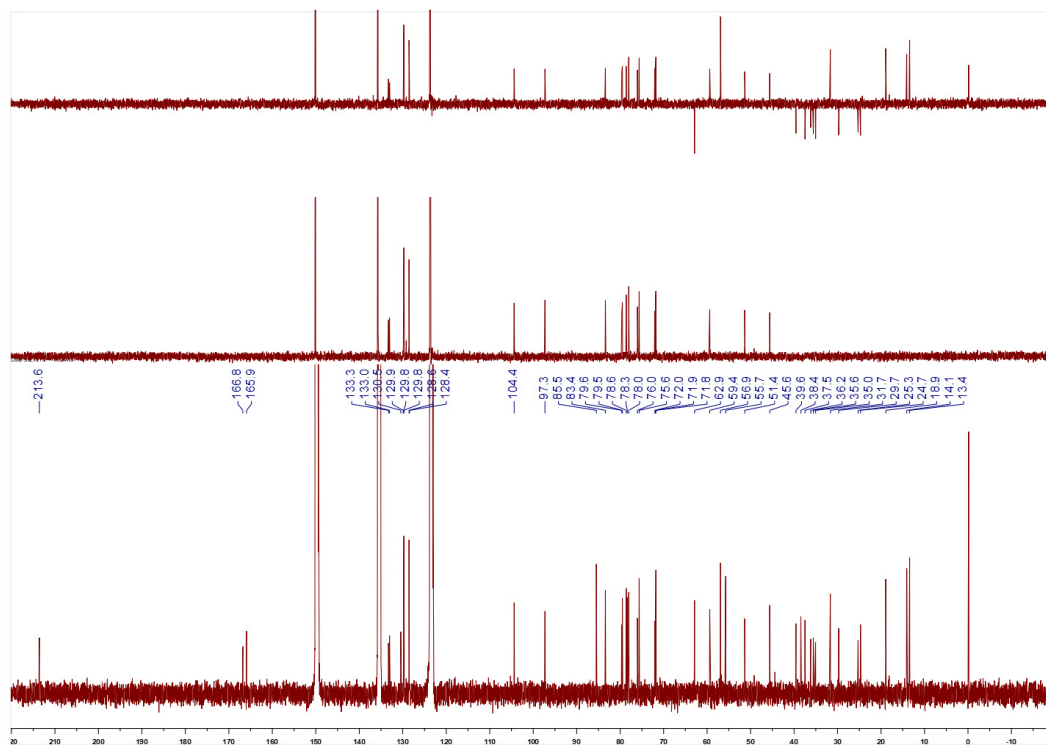


Figure S16. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside C (3).

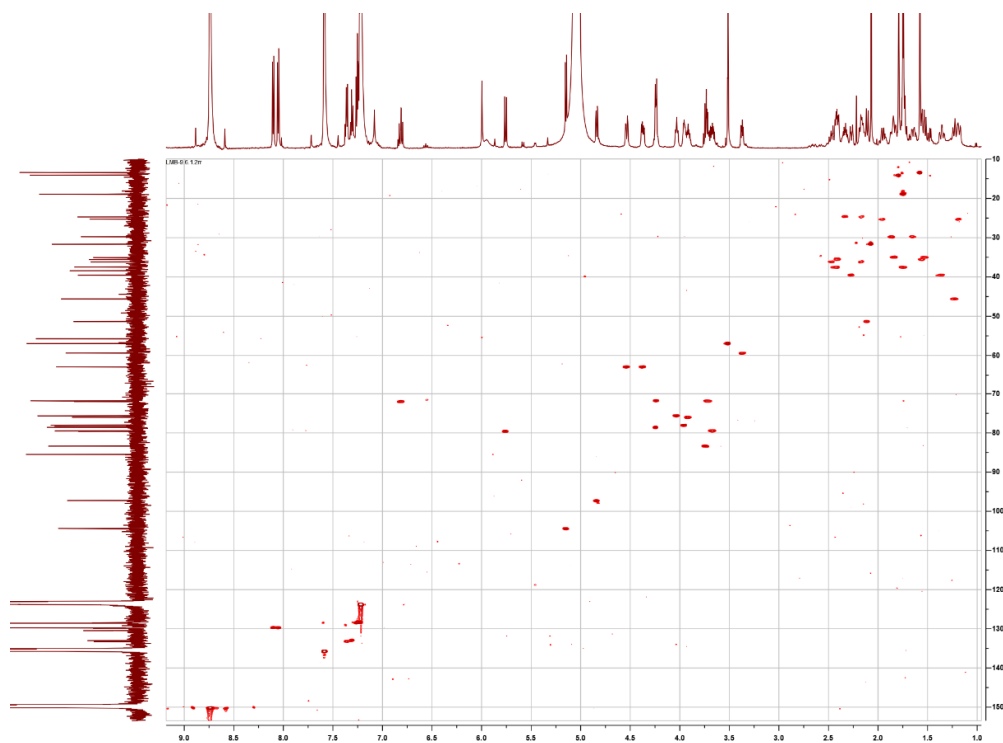


Figure S17. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside C (3).

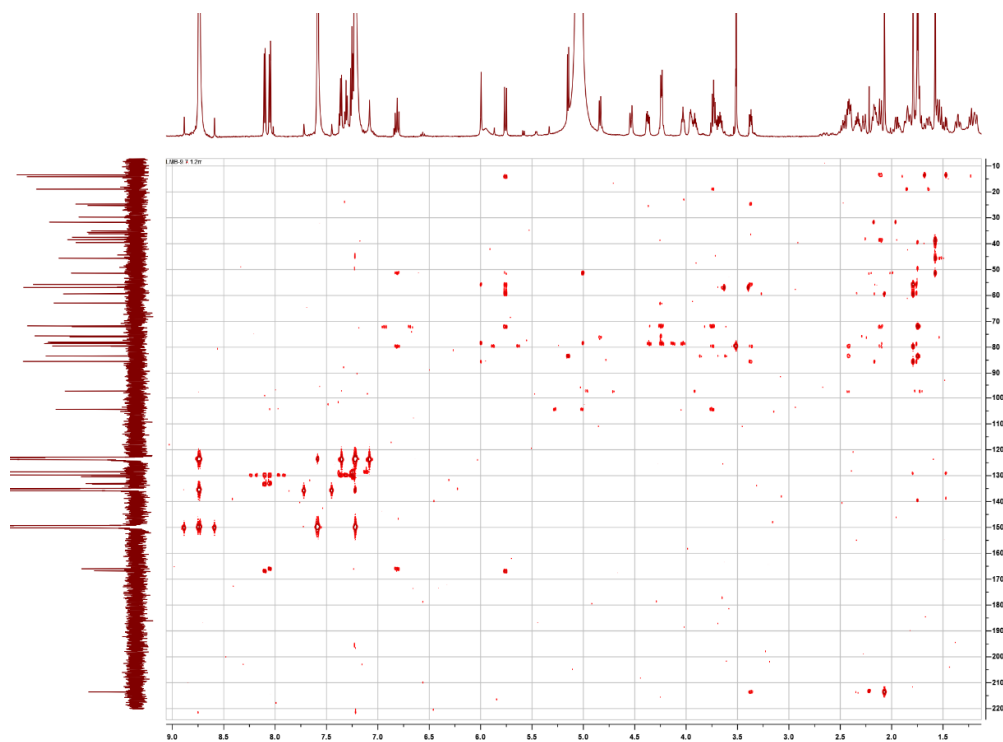


Figure S18. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside C (3).

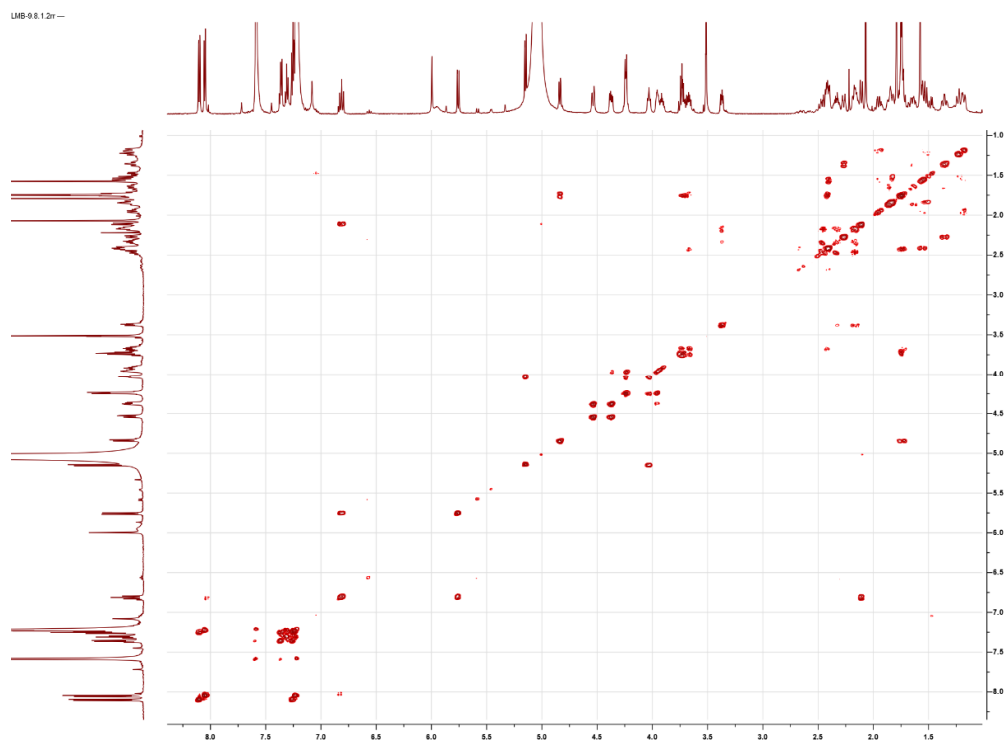


Figure S19. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside C (**3**).

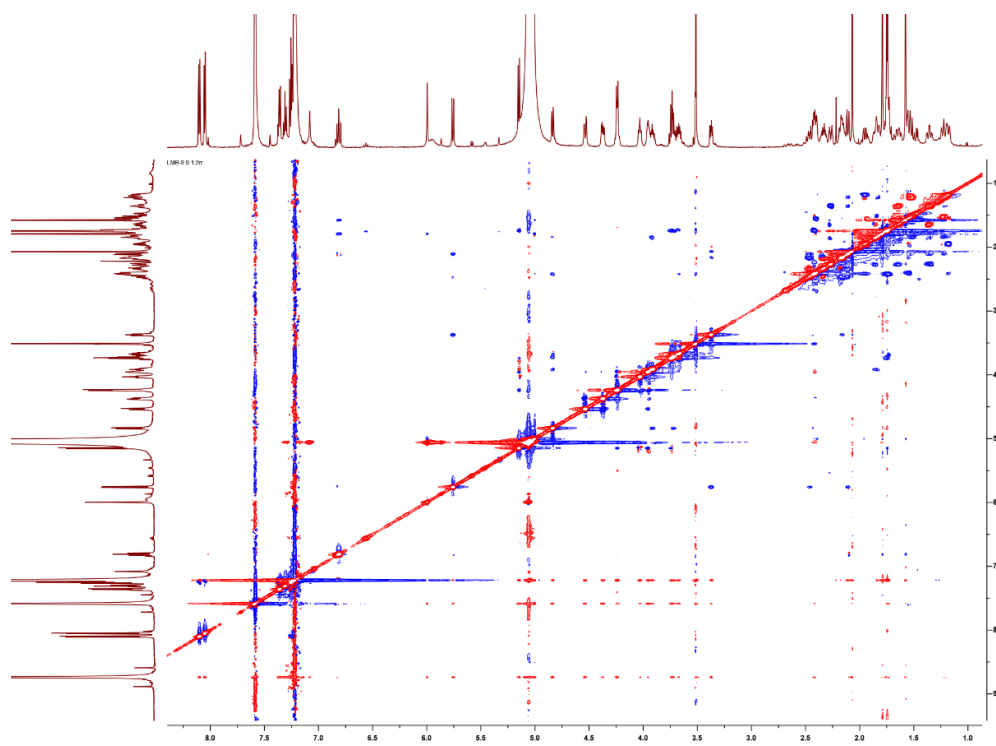


Figure S20. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside C (**3**).

LMB09 #13 RT: 0.17 AV: 1 NL: 4.79E7
T: FTMS + p ESI Full ms [600.0000-1000.0000]

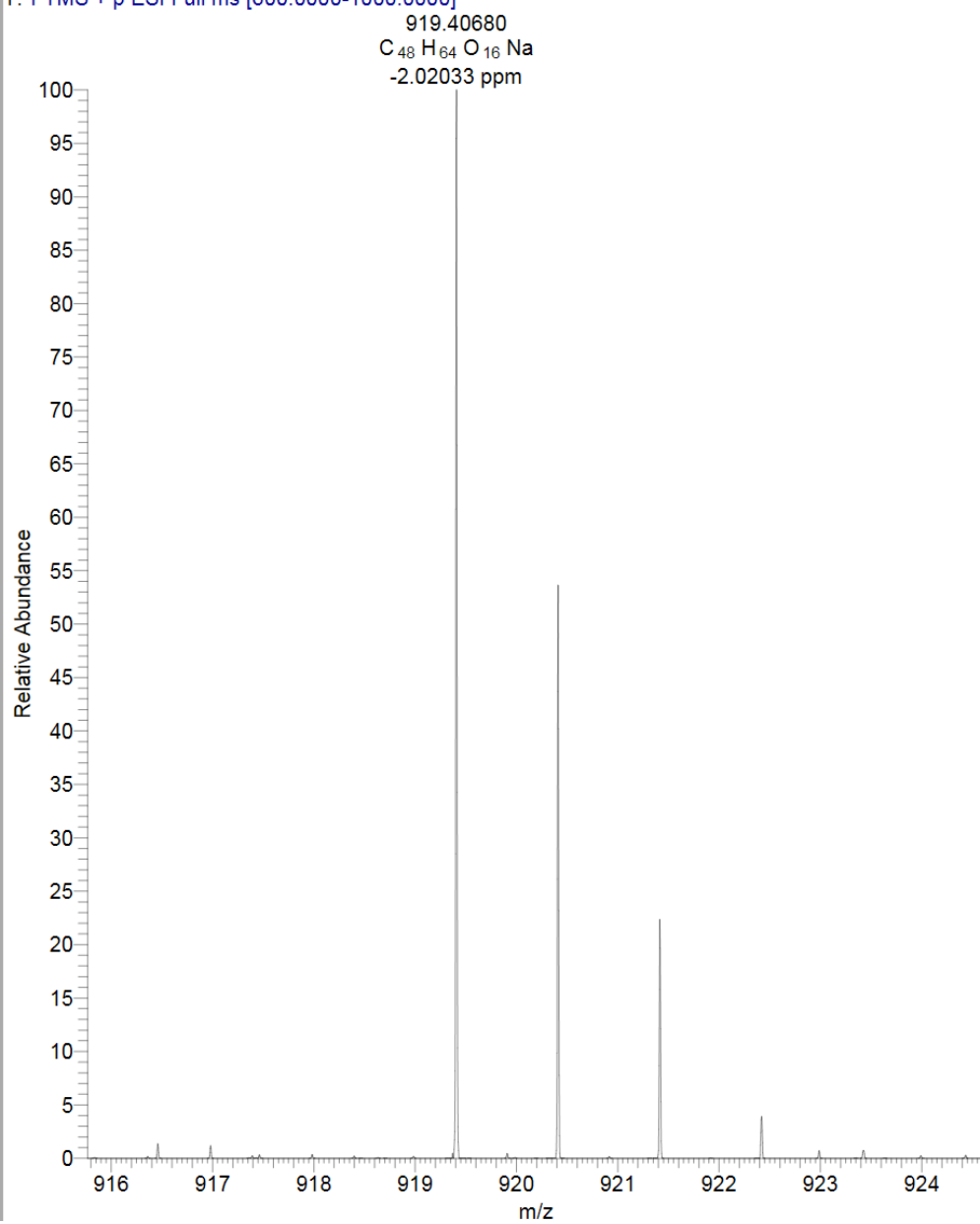


Figure S21. HRESIMS spectrum of Marsdeoside C (3).

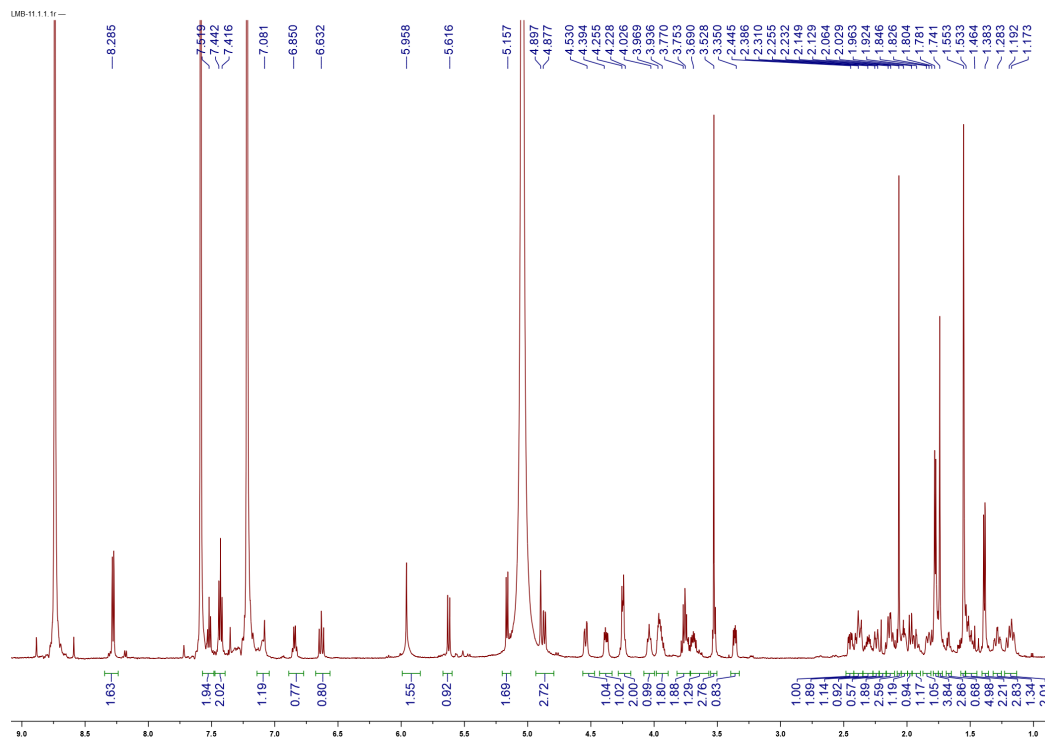


Figure S22. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside D (4).

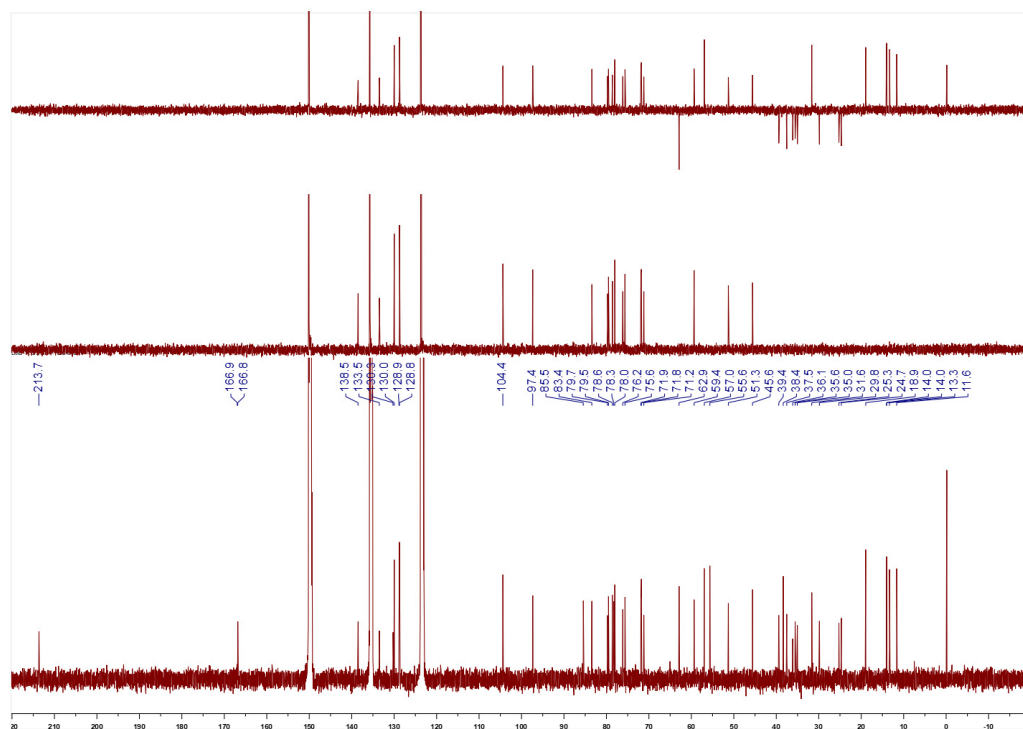


Figure S23. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside D (4).

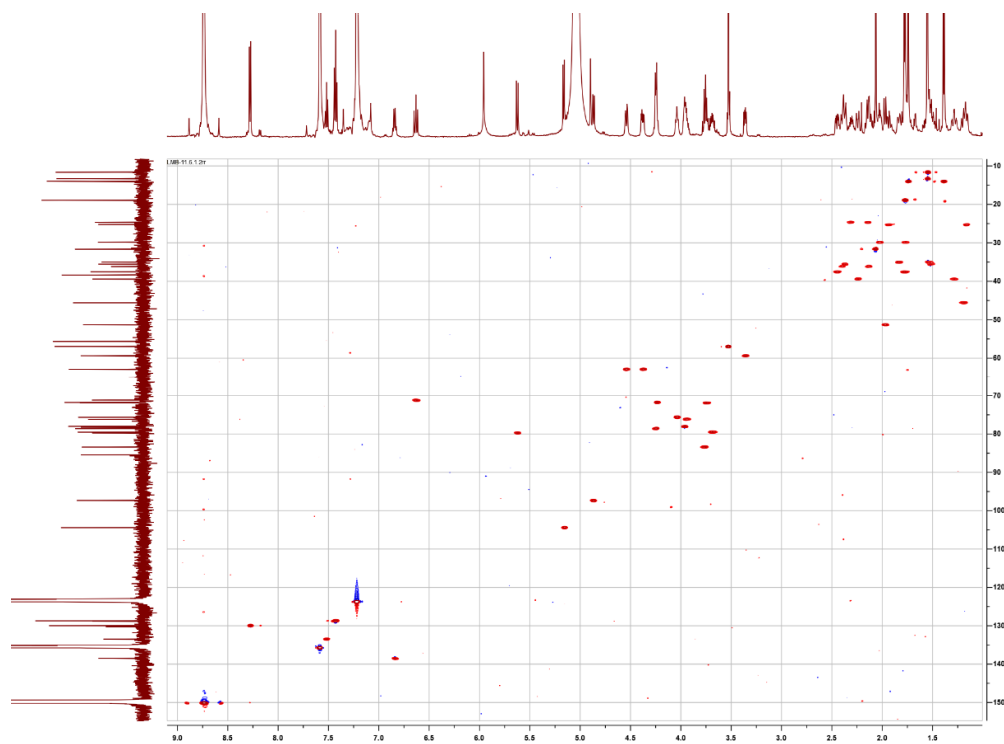


Figure S24. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside D (4).

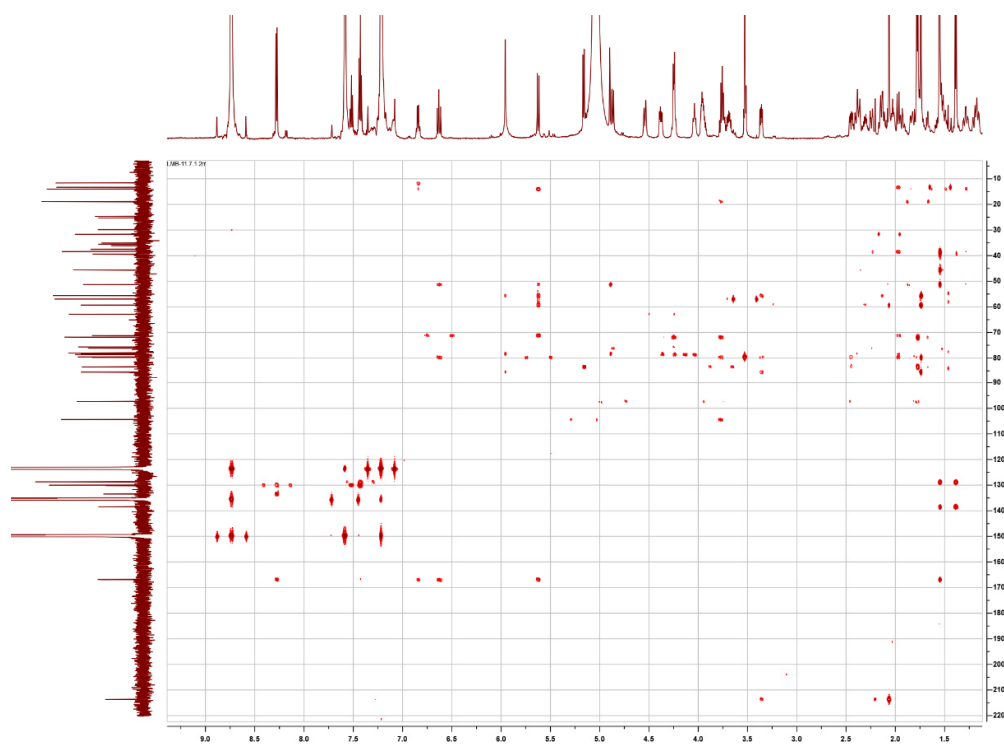


Figure S25. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside D (4).

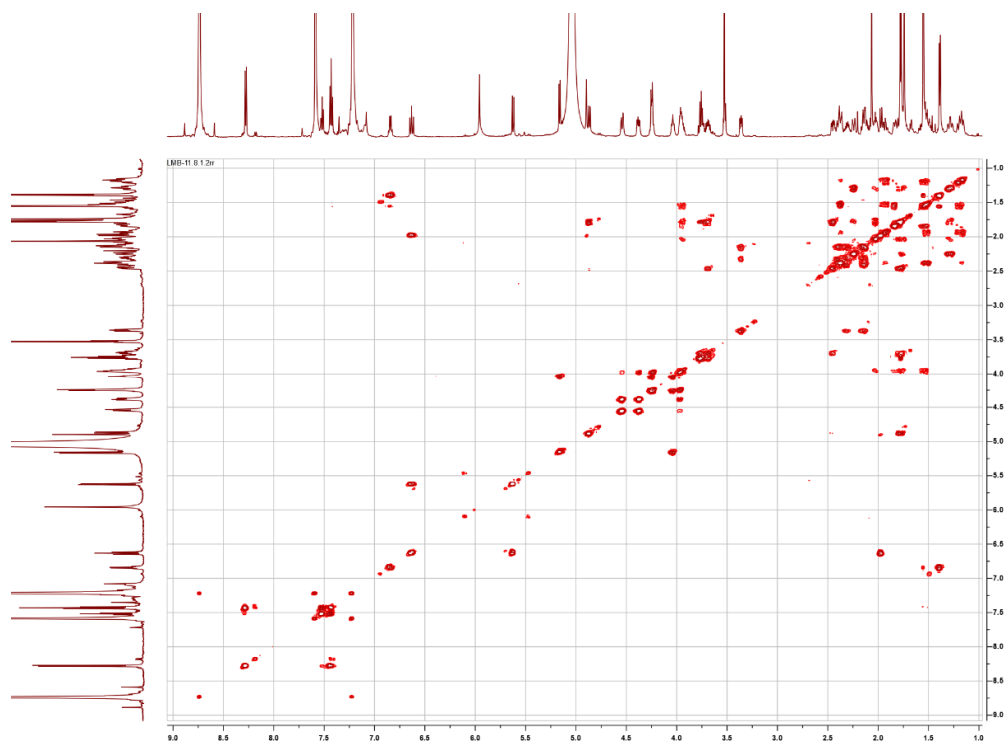


Figure S26. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside D (4).

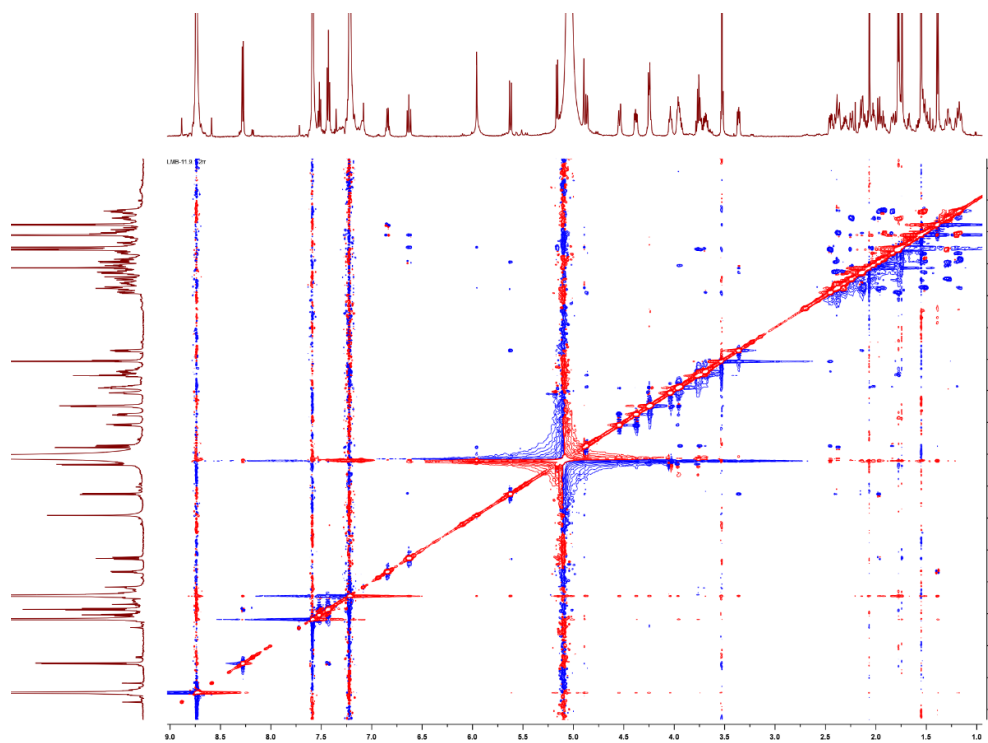


Figure S27. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside D (4).

LMB11 #13 RT: 0.17 AV: 1 NL: 2.93E7

T: FTMS + p ESI Full ms [600.0000-1000.0000]

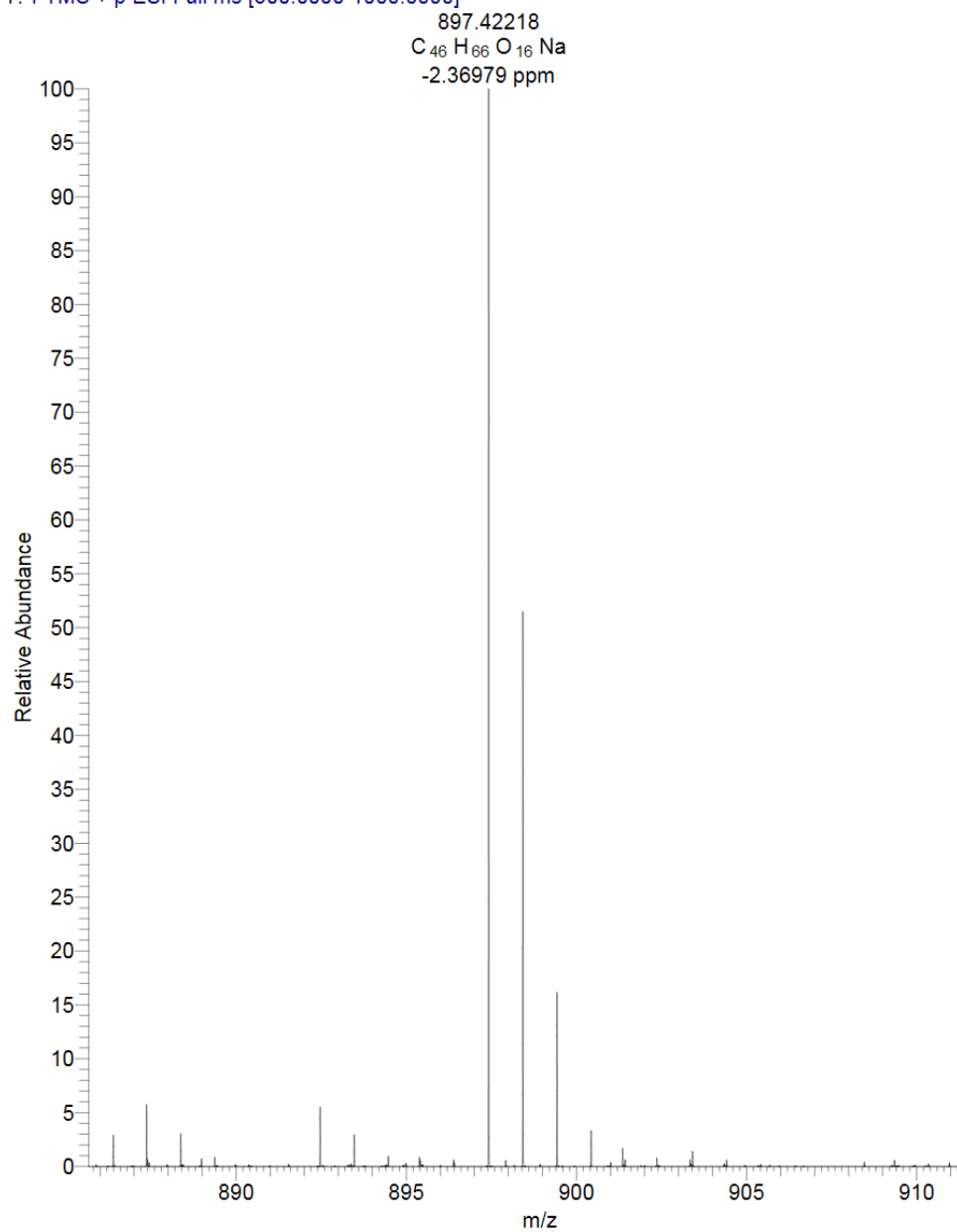


Figure S28. HRESIMS spectrum of Marsdeoside D (4).

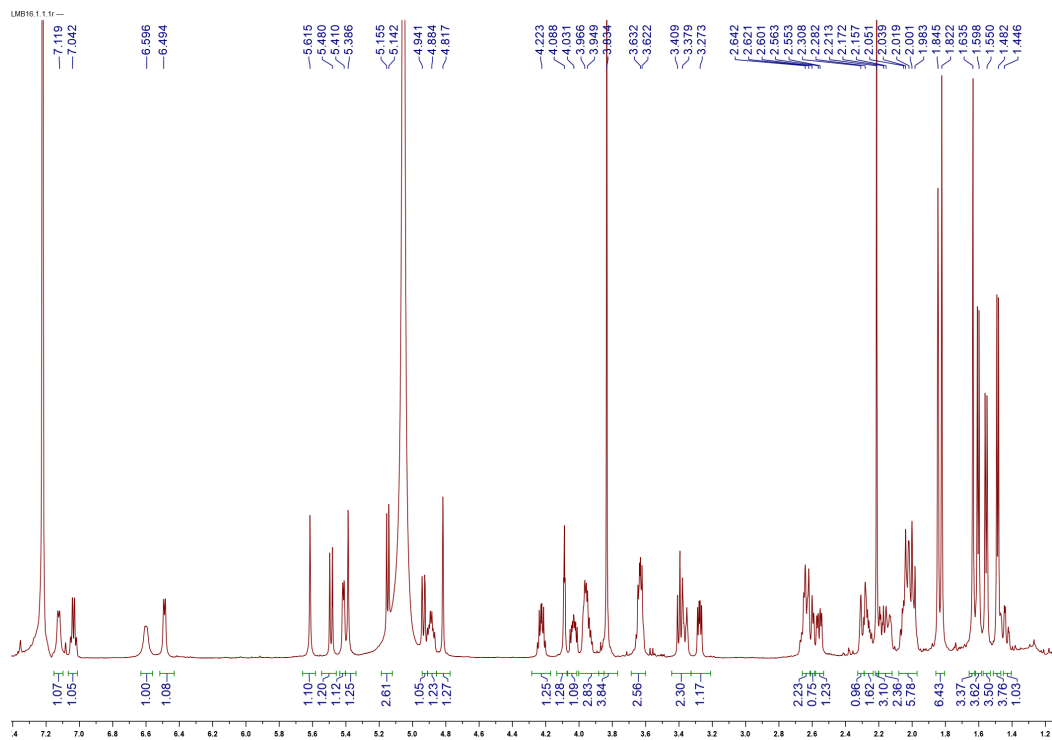


Figure S29. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside E (5).

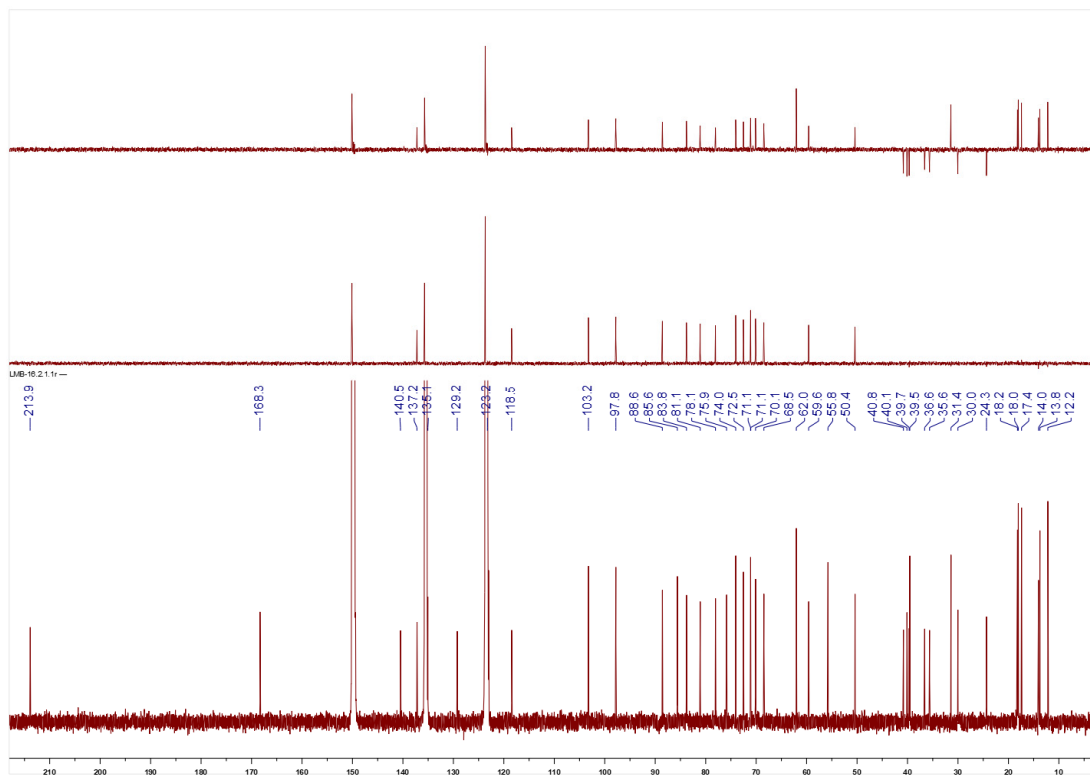


Figure S30. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside E (5).

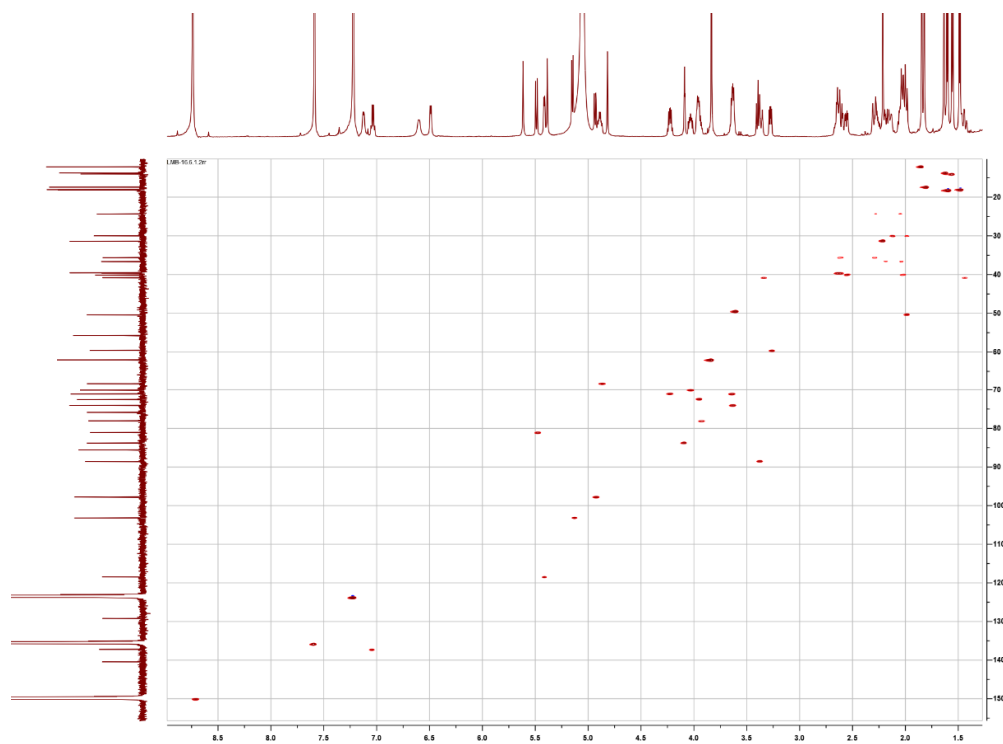


Figure S31. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside E (5).

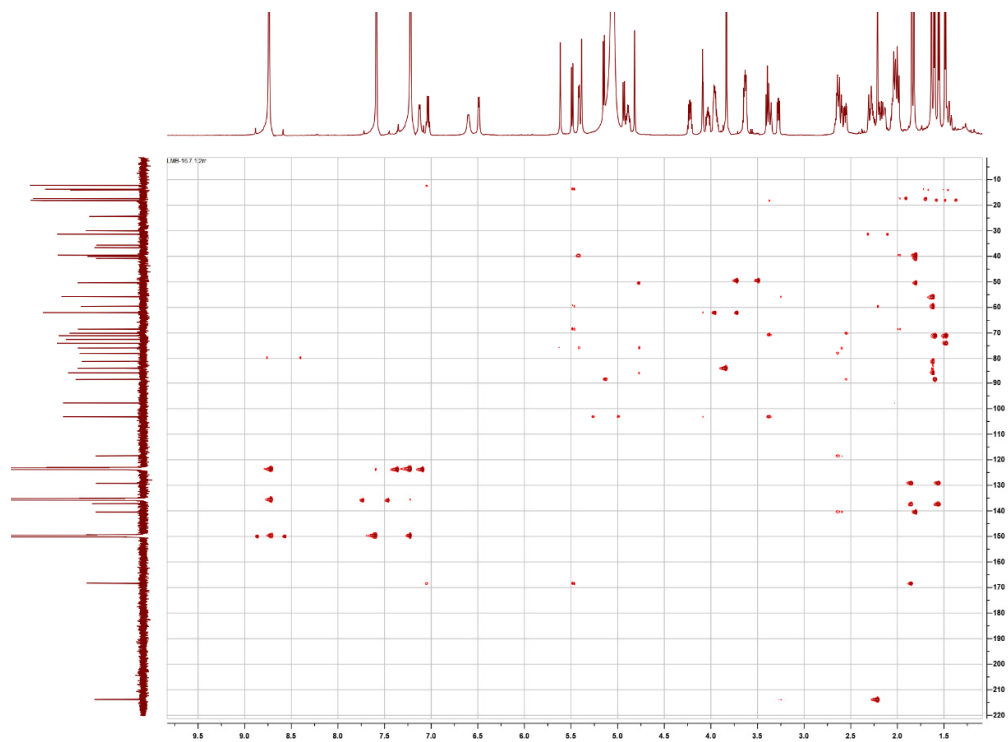


Figure S32. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside E (5).

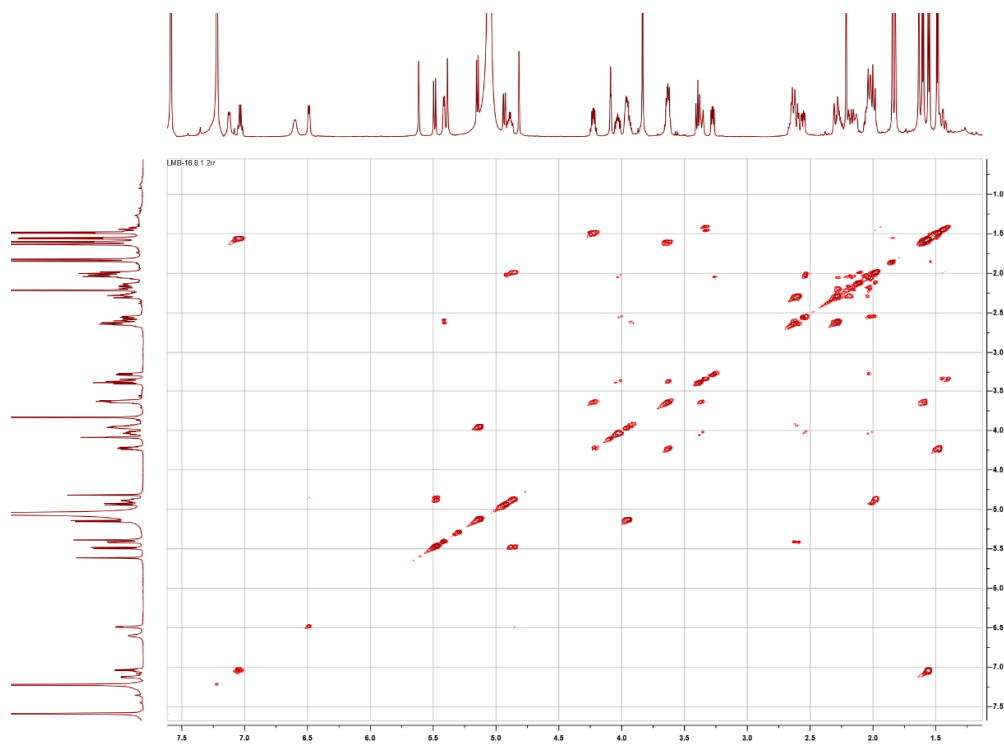


Figure S33. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside E (5).

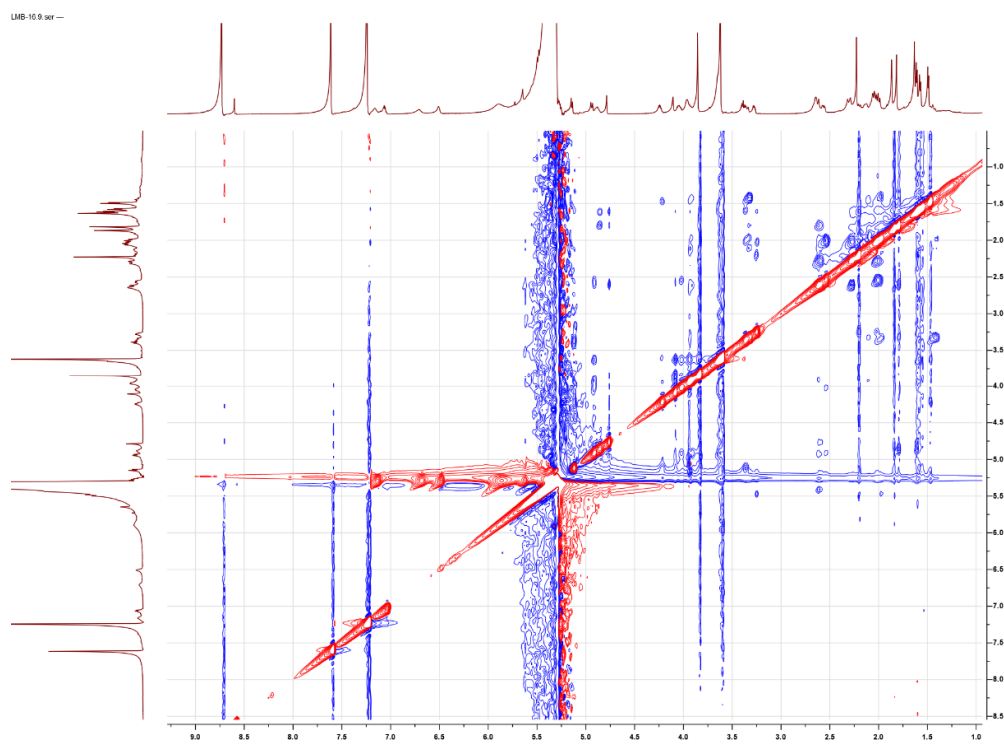


Figure S34. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside E (5).

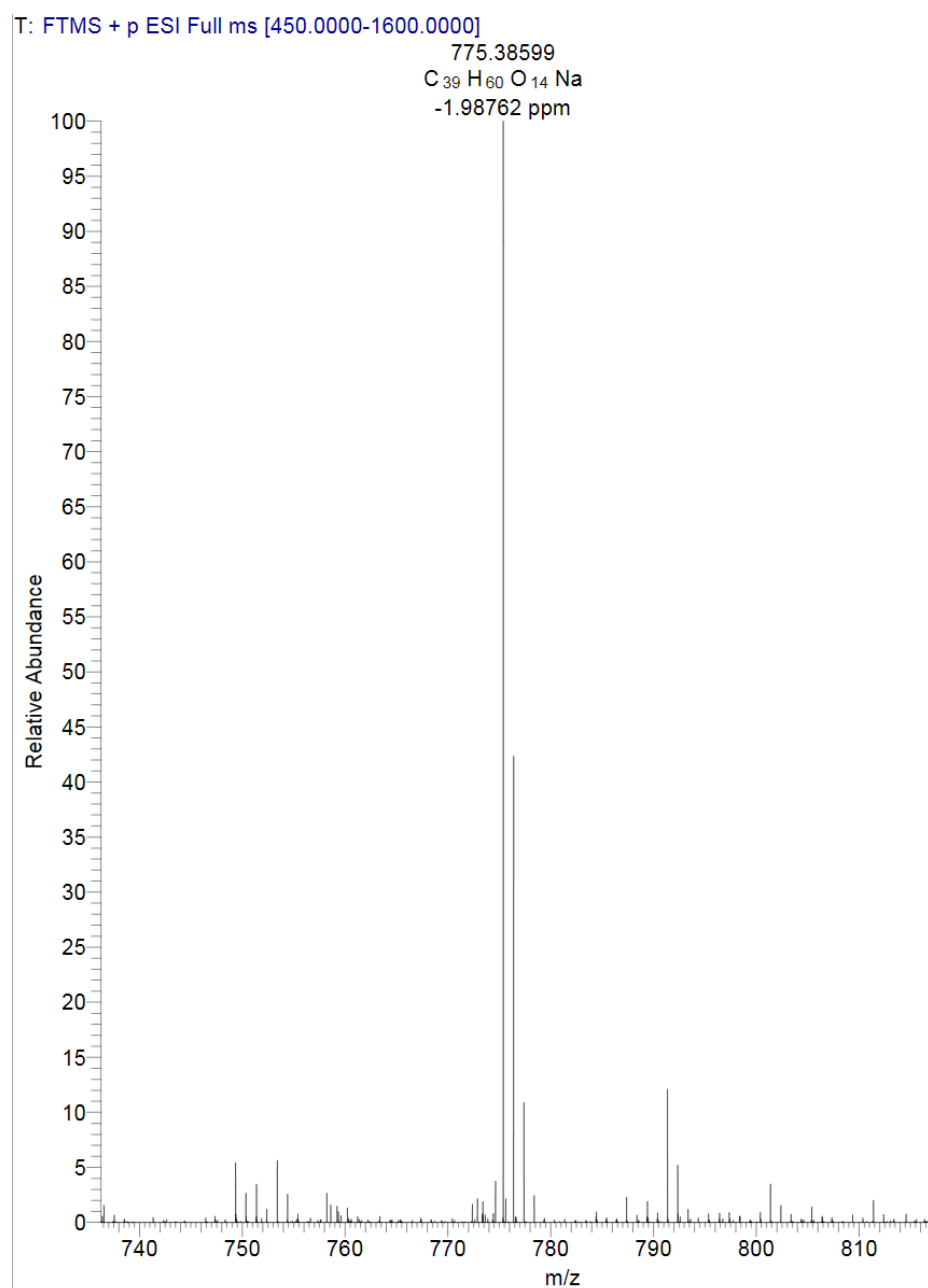


Figure S35. HRESIMS spectrum of Marsdeoside E (5).

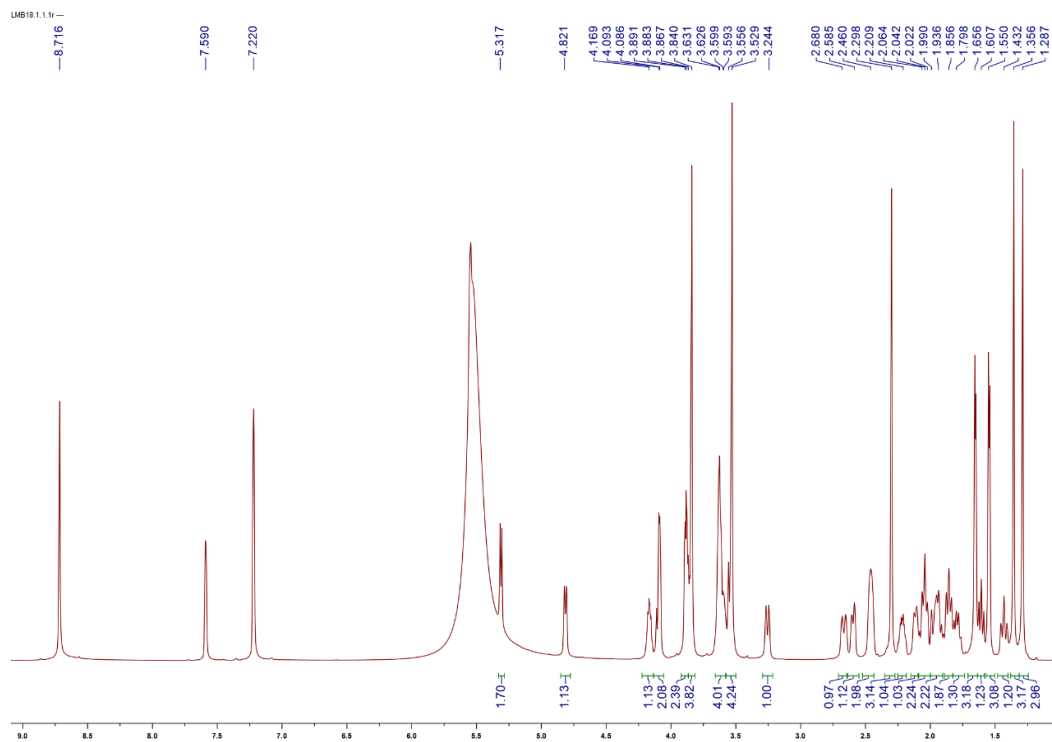


Figure S36. ^1H NMR (600 MHz, Pyridine- d_5) spectrum of Marsdeoside F (6).

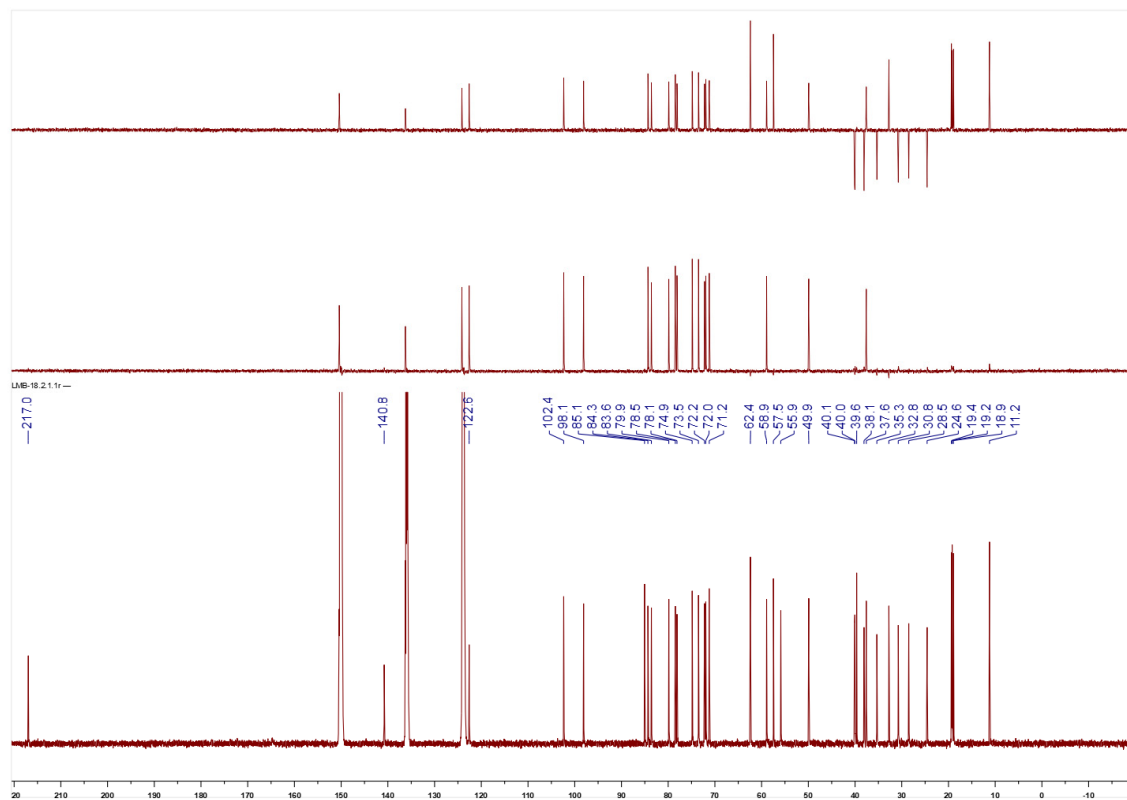


Figure S37. ^{13}C NMR (150 MHz, Pyridine- d_5) spectrum of Marsdeoside F (6).

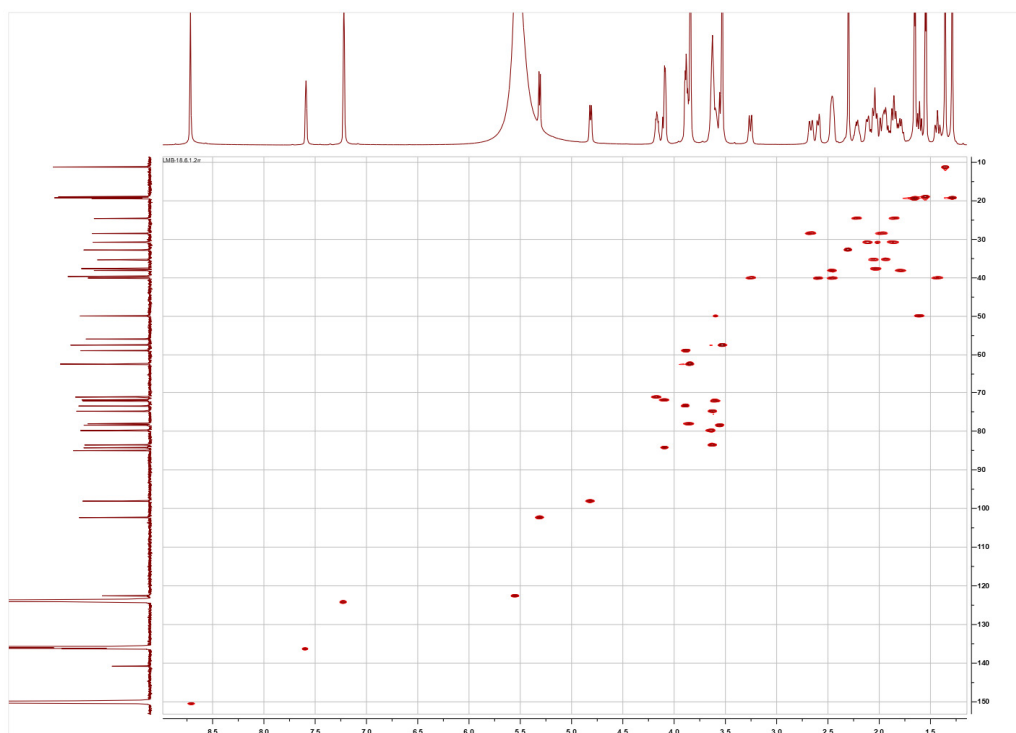


Figure S38. HSQC (600/150 MHz, Pyridine-*d*₅) spectrum of Marsdeoside F (6).

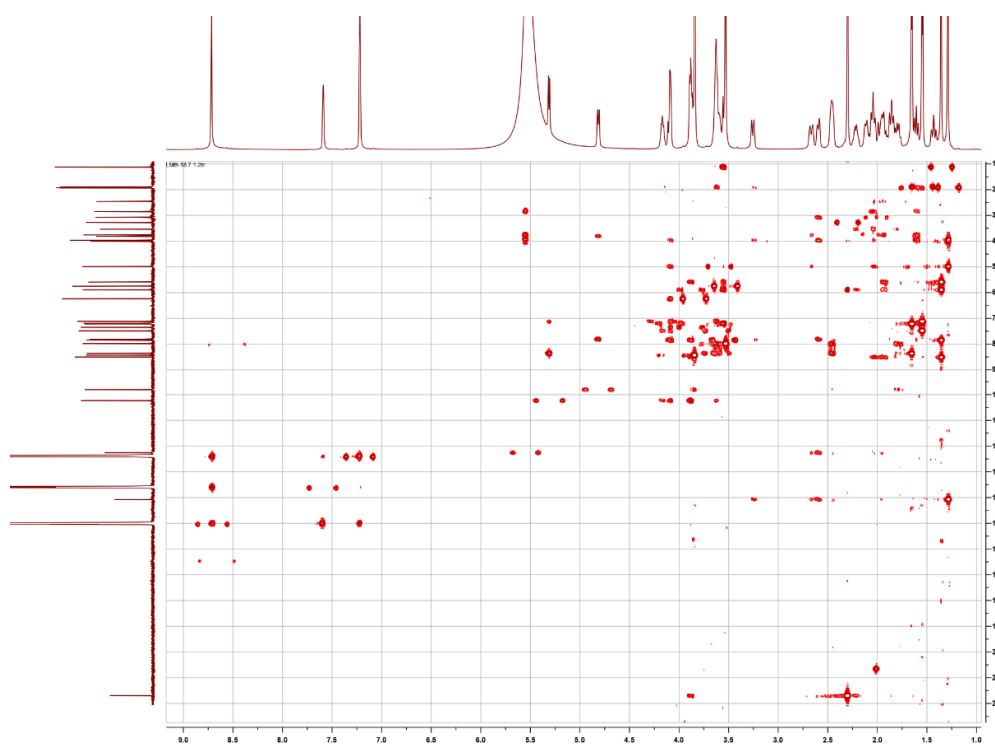


Figure S39. HMBC (600/150 MHz, Pyridine-*d*₅) spectrum of Marsdeoside F (6).

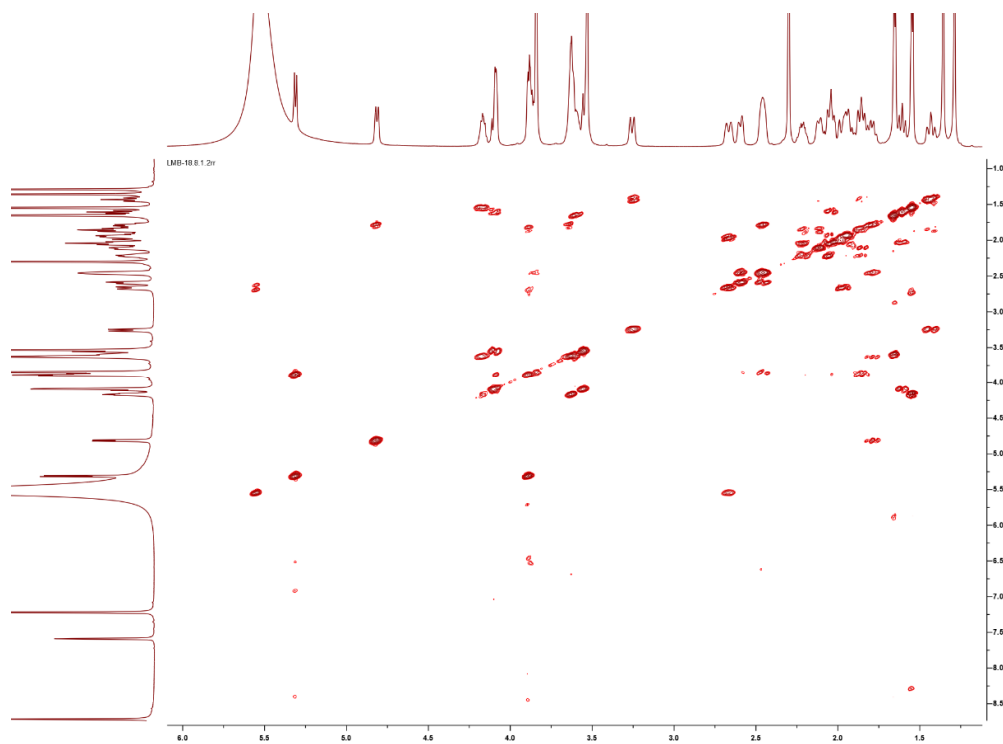


Figure S40. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside F (6).

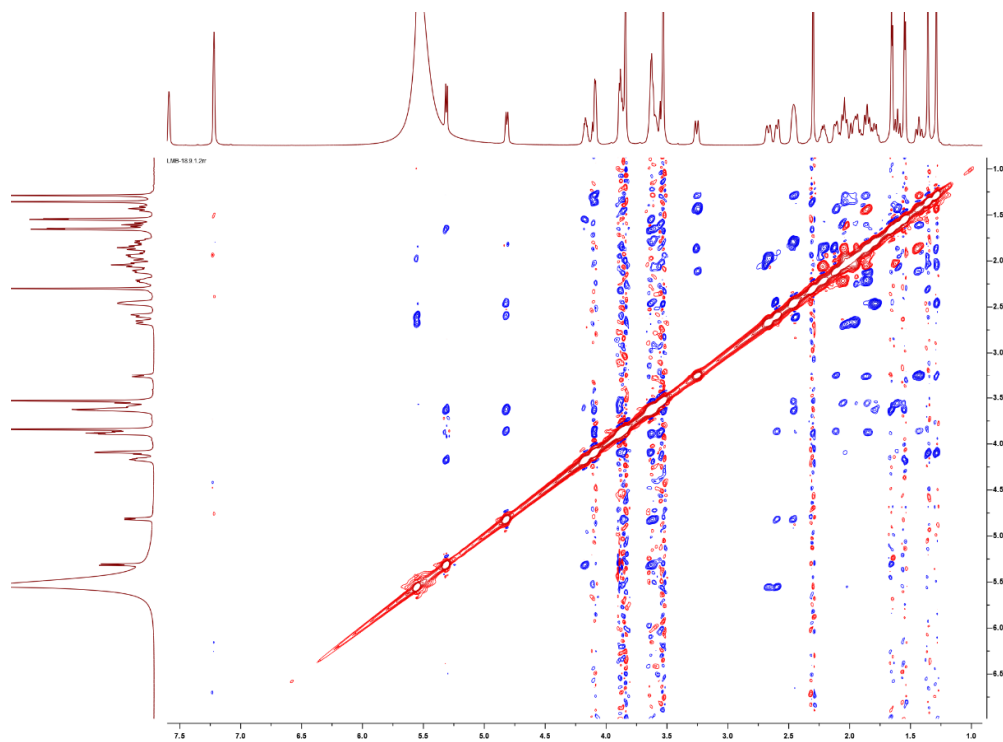


Figure S41. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside F (6).

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T: FTMS + p ESI Full ms [400.0000-1000.0000]

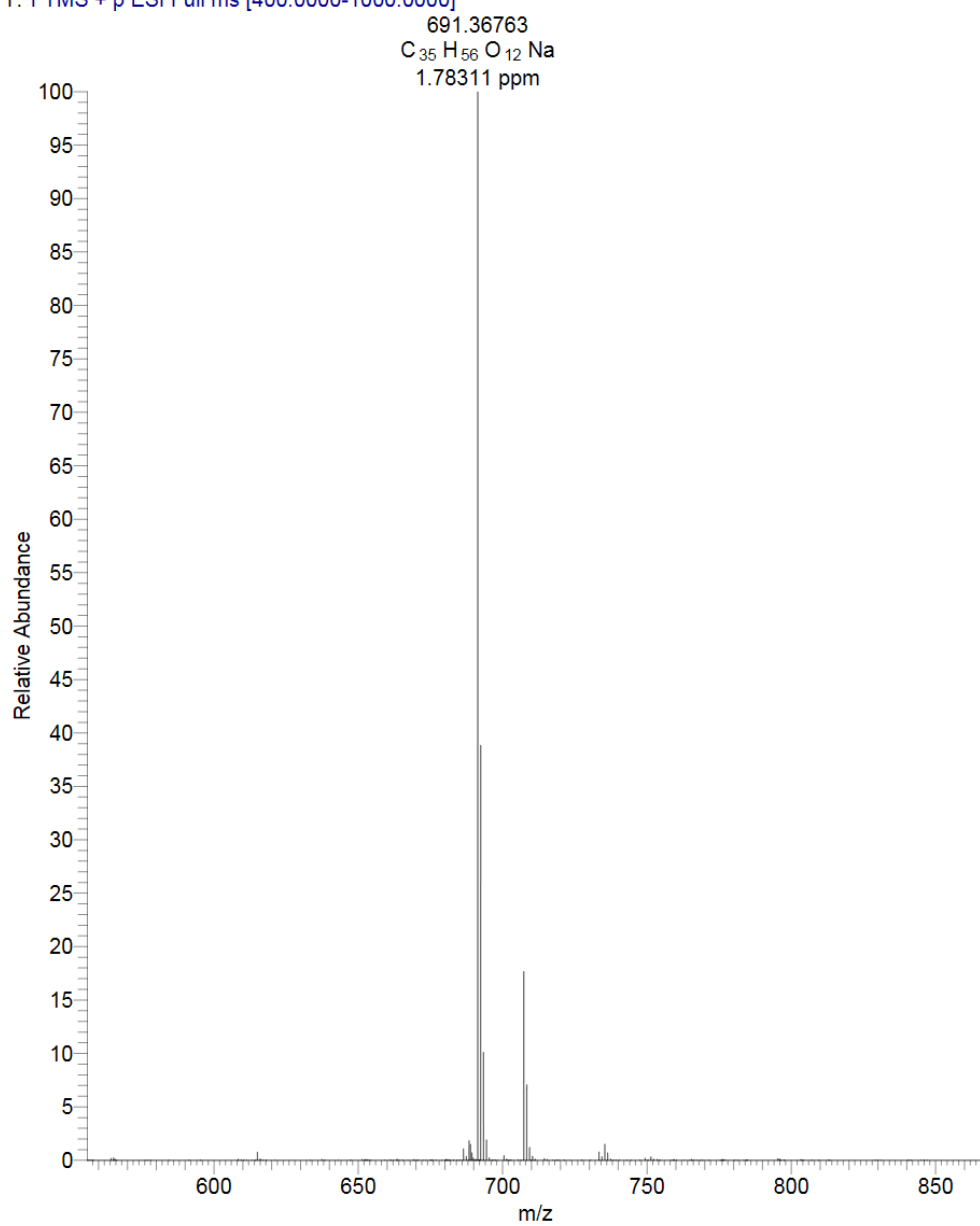


Figure S42. HRESIMS spectrum of Marsdeoside F (6).

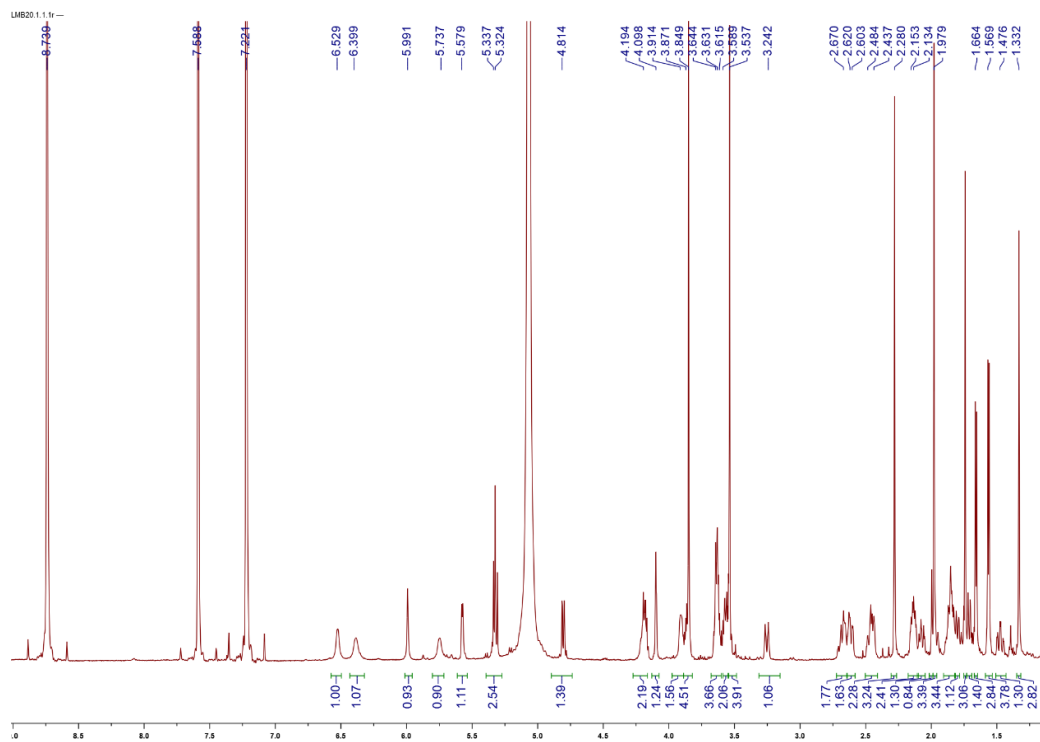


Figure S43. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside G (7).

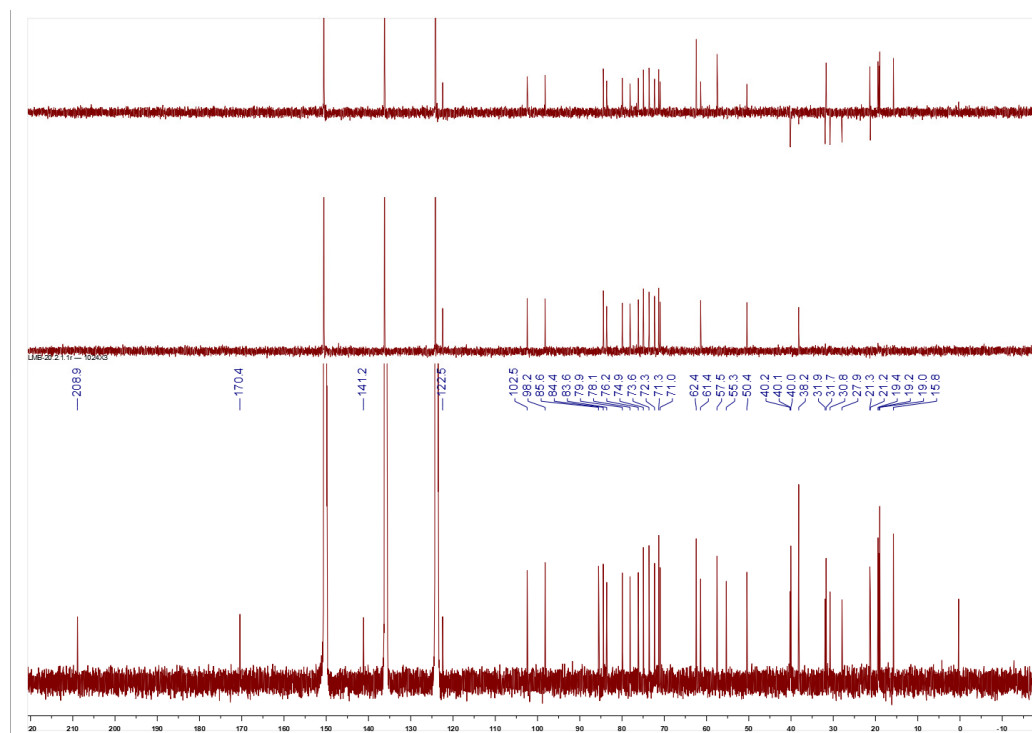


Figure S44. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside G (7).

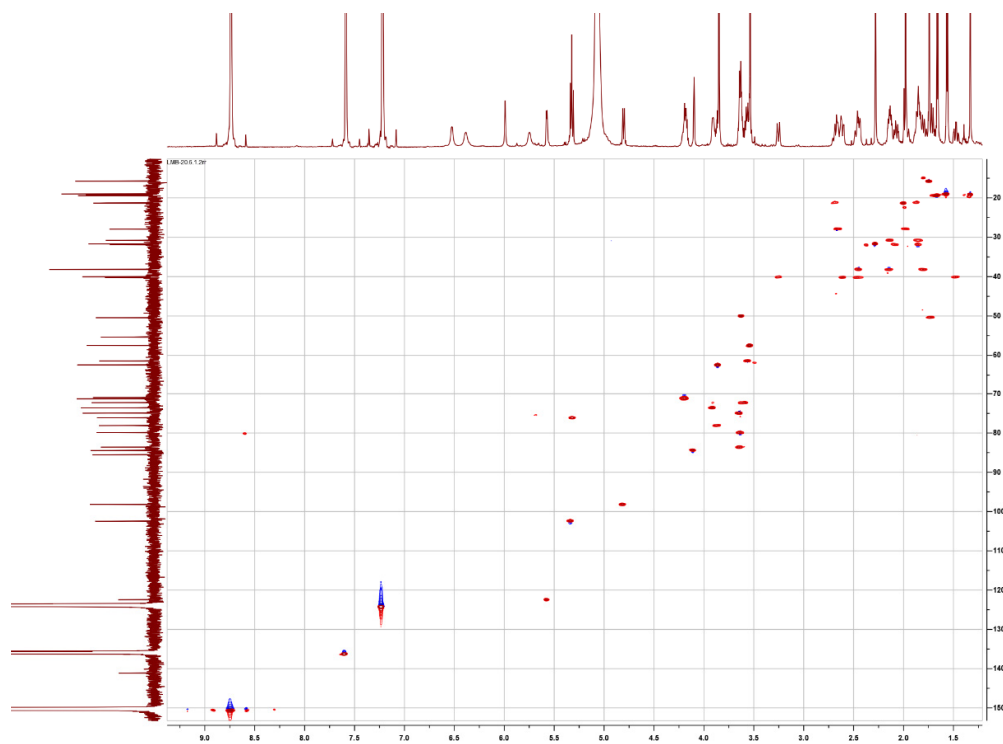


Figure S45. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside G (7).

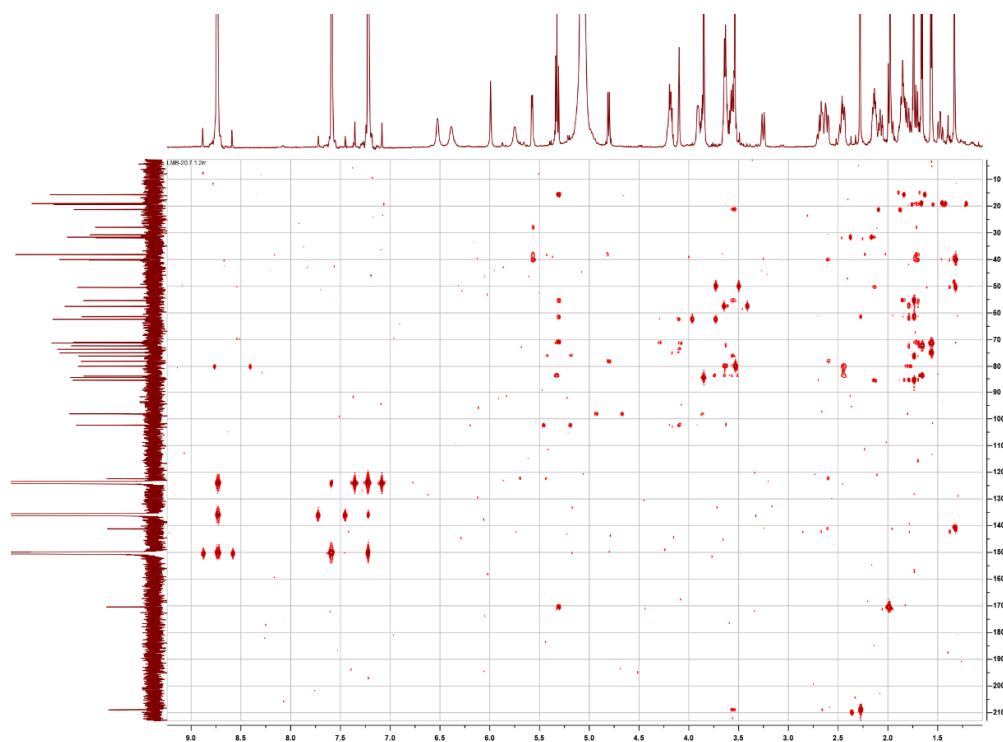


Figure S46. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside G (7).

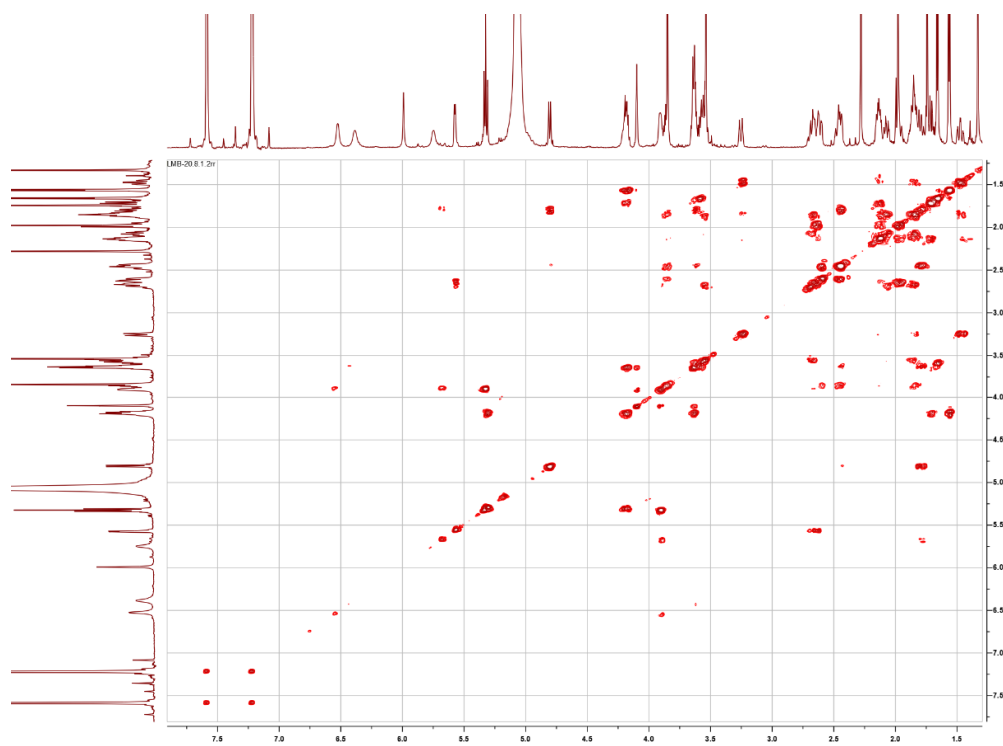


Figure S47. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside G (7).

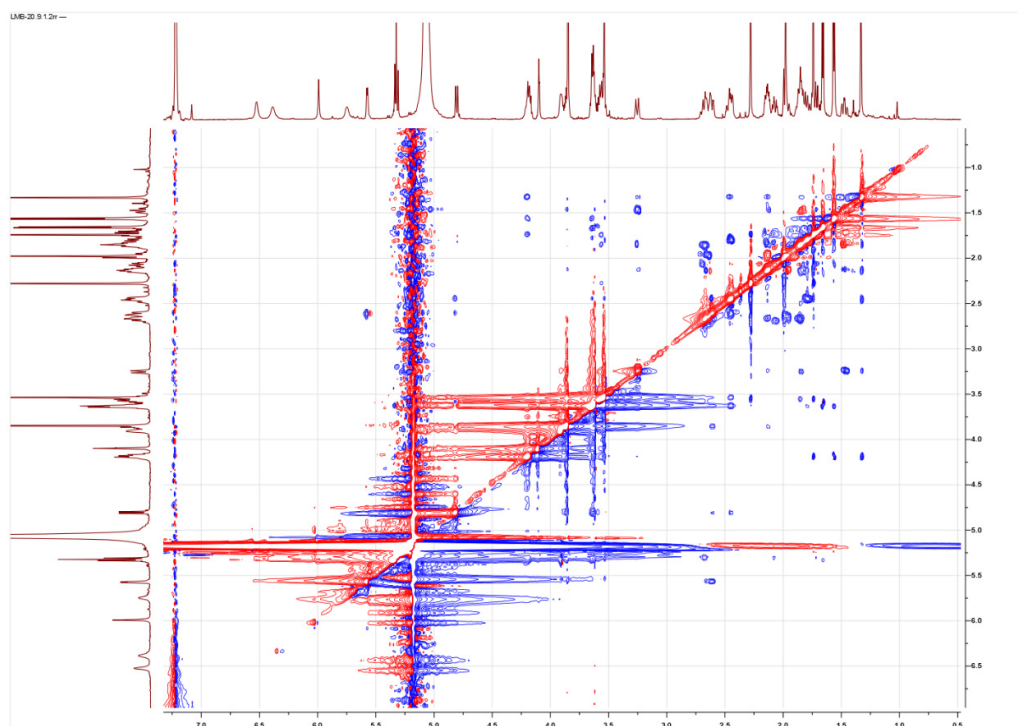


Figure S48. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside G (7).

LMB20 #13 RT: 0.17 AV: 1 SB: 10 1.47-1.72 NL: 1.85E8
T: FTMS + p ESI Full ms [450.0000-1600.0000]

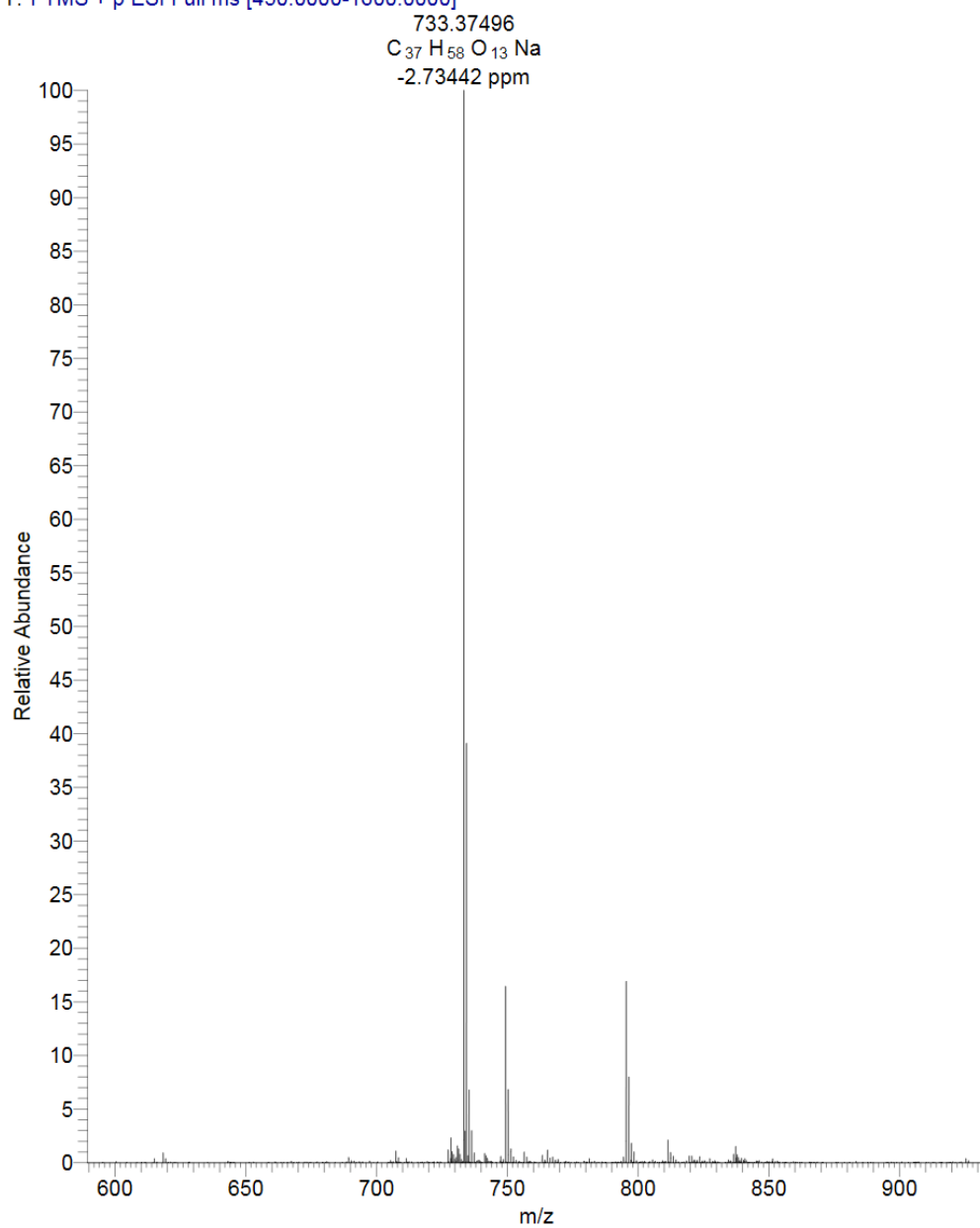


Figure S49. HRESIMS spectrum of Marsdeoside G (7).

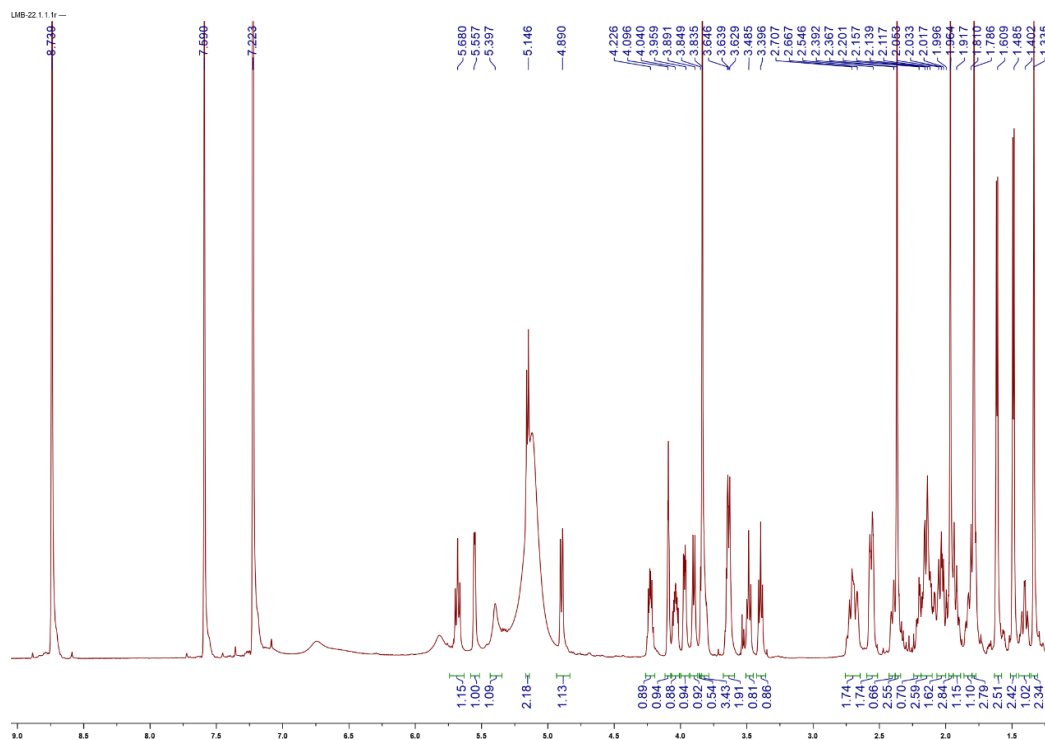


Figure S50. ¹H NMR (600 MHz, Pyridine-d₅) spectrum of Marsdeoside H (8).

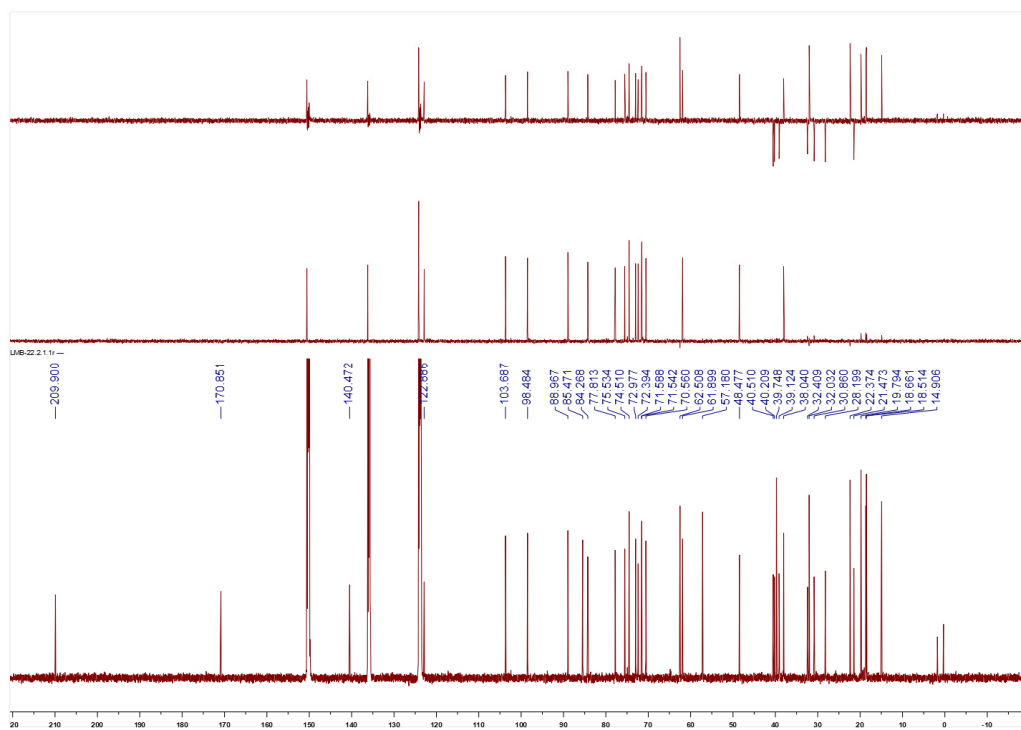


Figure S51. ¹³C NMR (150 MHz, Pyridine-d₅) spectrum of Marsdeoside H (8).

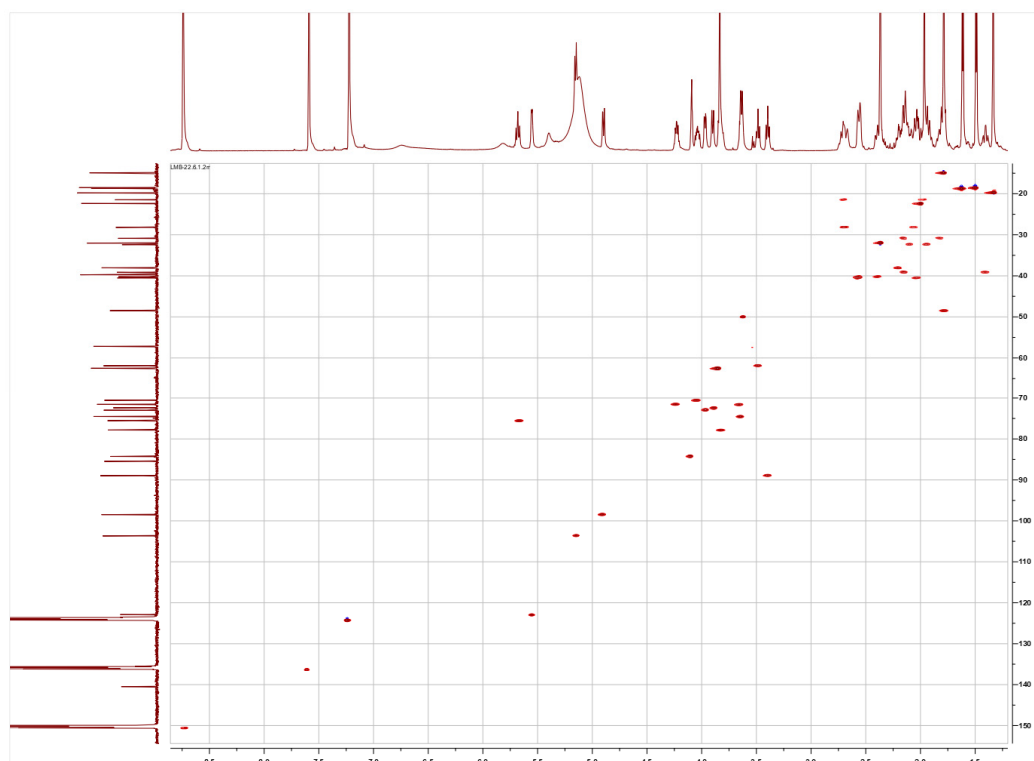


Figure S52. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside H (8).

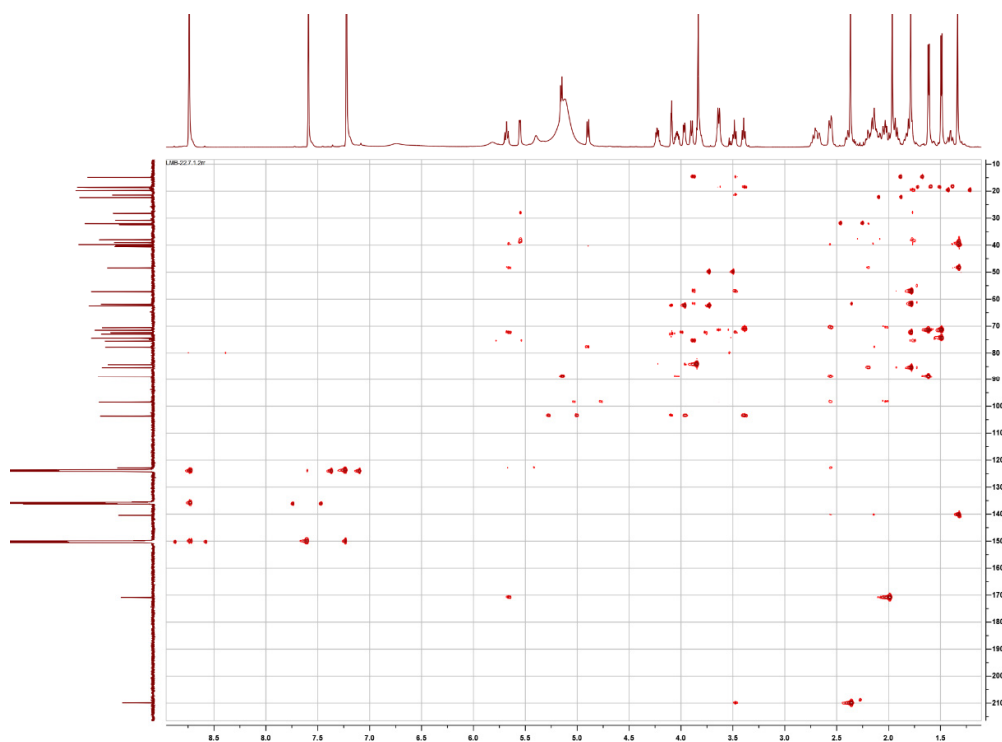


Figure S53. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside H (8).

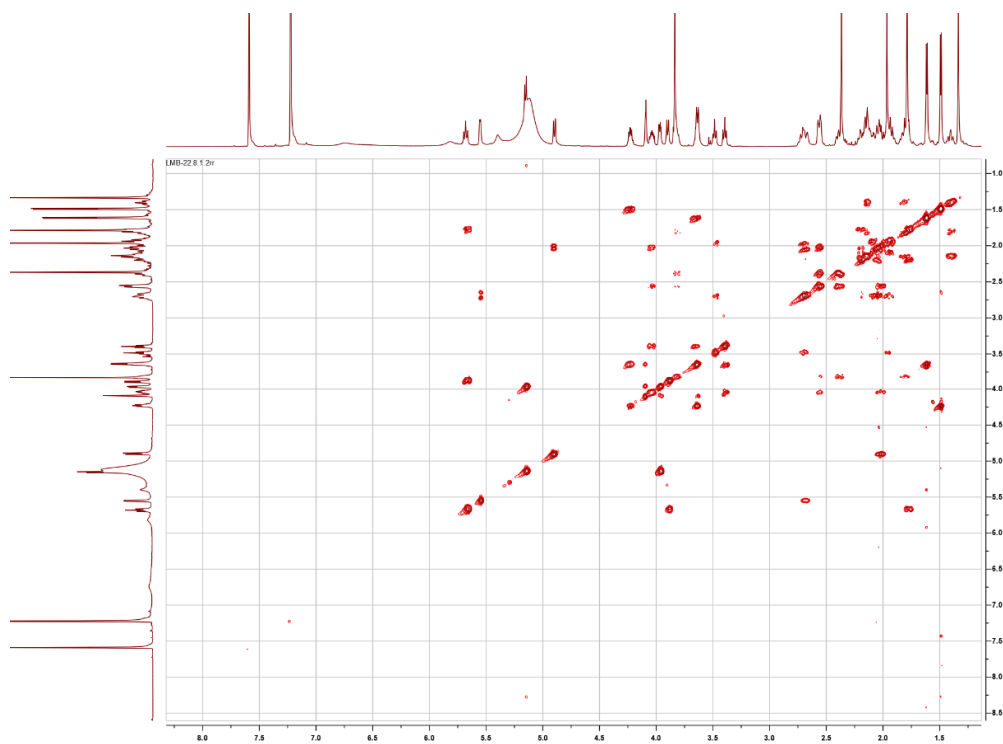


Figure S54. ^1H - ^1H COSY (600/150 MHz, Pyridine-d_5) spectrum of Marsdeoside H (8).

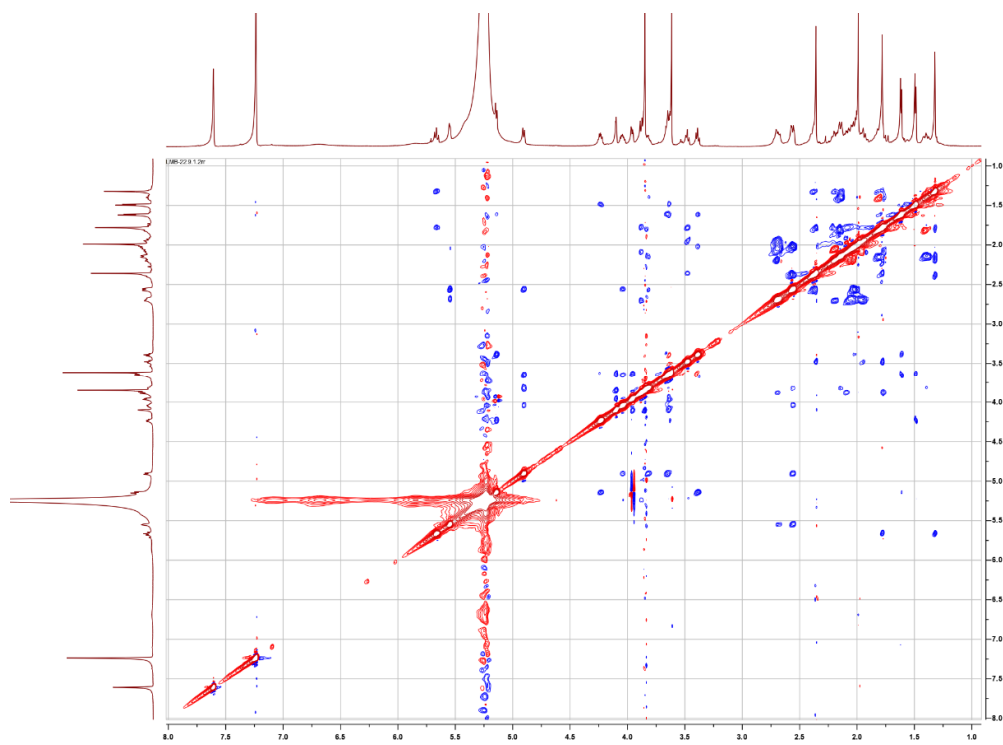


Figure S55. NOESY (600/150 MHz, Pyridine-d_5) spectrum of Marsdeoside H (8).

LMB22 #11 RT: 0.14 AV: 1 NL: 4.72E8
T: FTMS + p ESI Full ms [600.0000-1000.0000]



Figure S56. HRESIMS spectrum of Marsdeoside H (8).

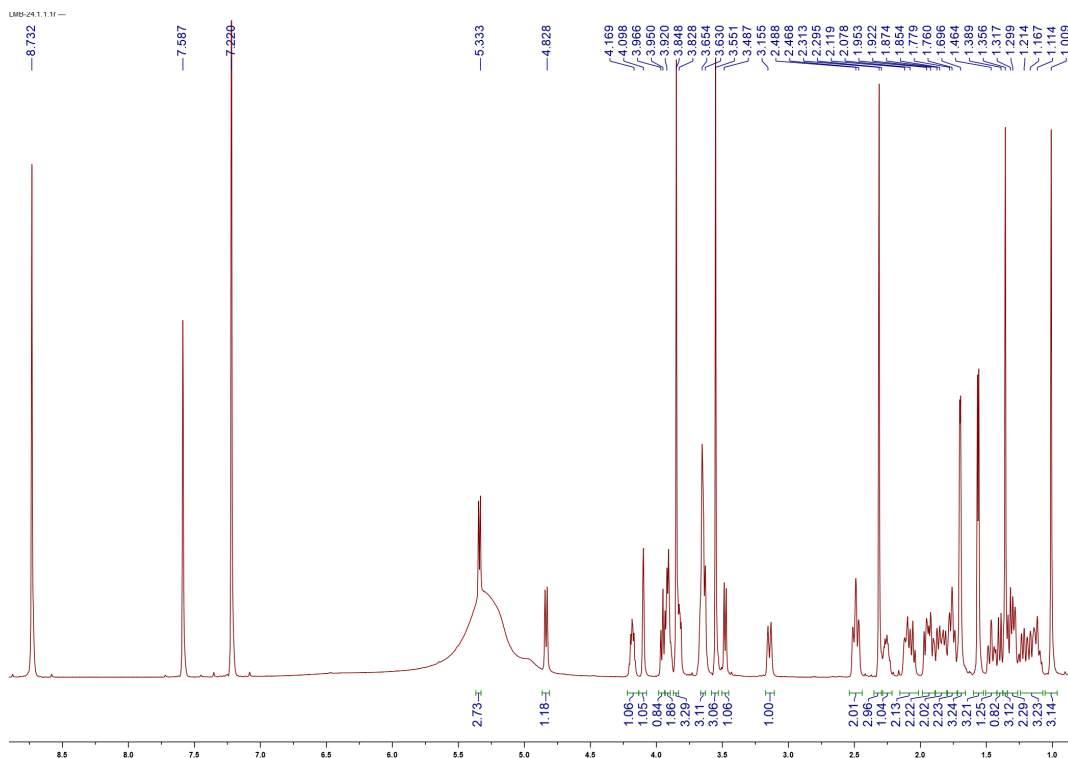


Figure S57. ^1H NMR (600 MHz, Pyridine- d_5) spectrum of Marsdeoside H (9).

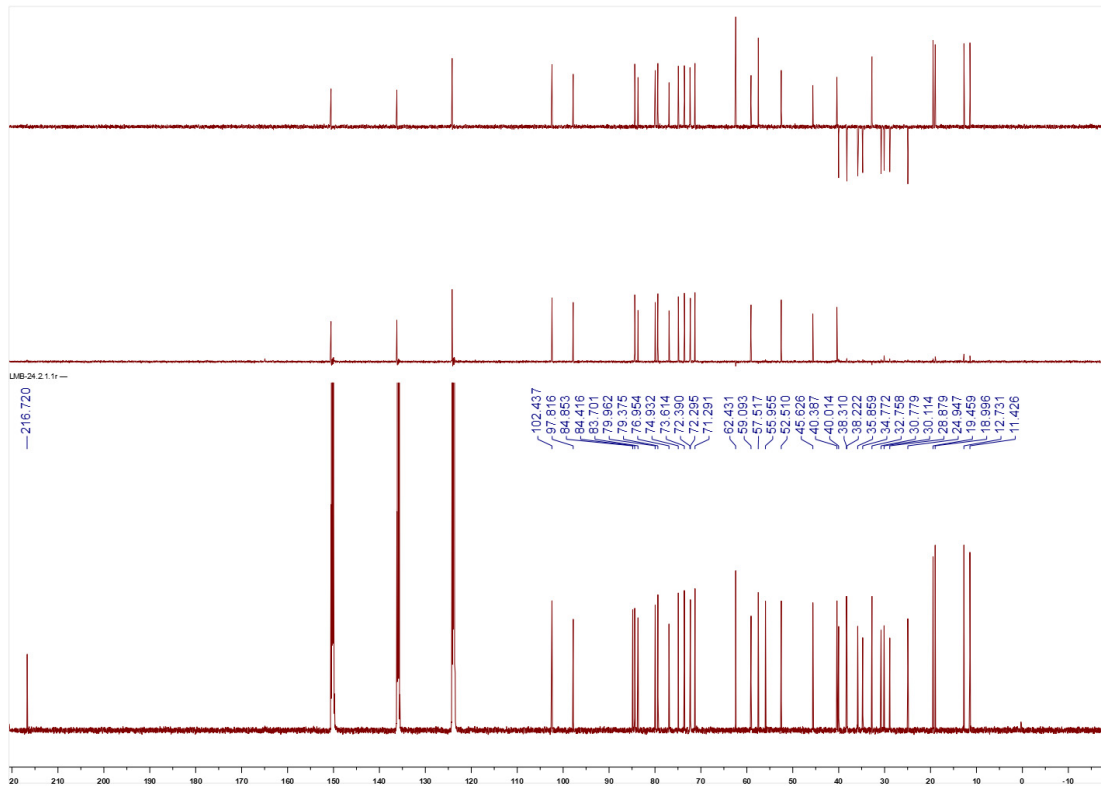


Figure S58. ^{13}C NMR (150 MHz, Pyridine- d_5) spectrum of Marsdeoside H (9).

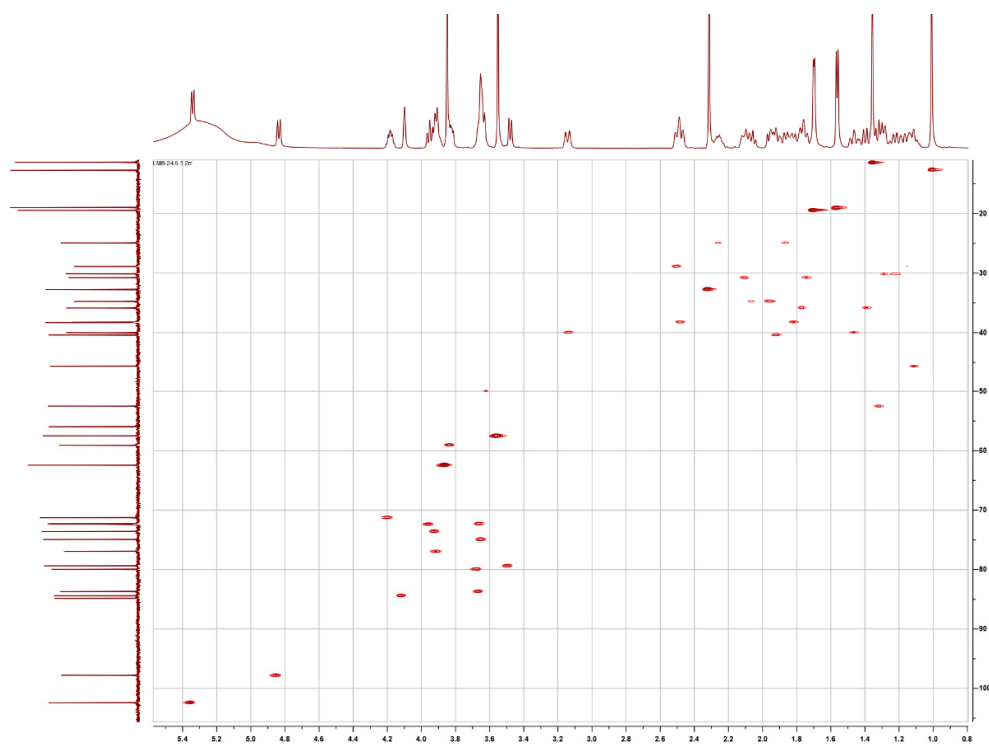


Figure S59. HSQC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside H (9).

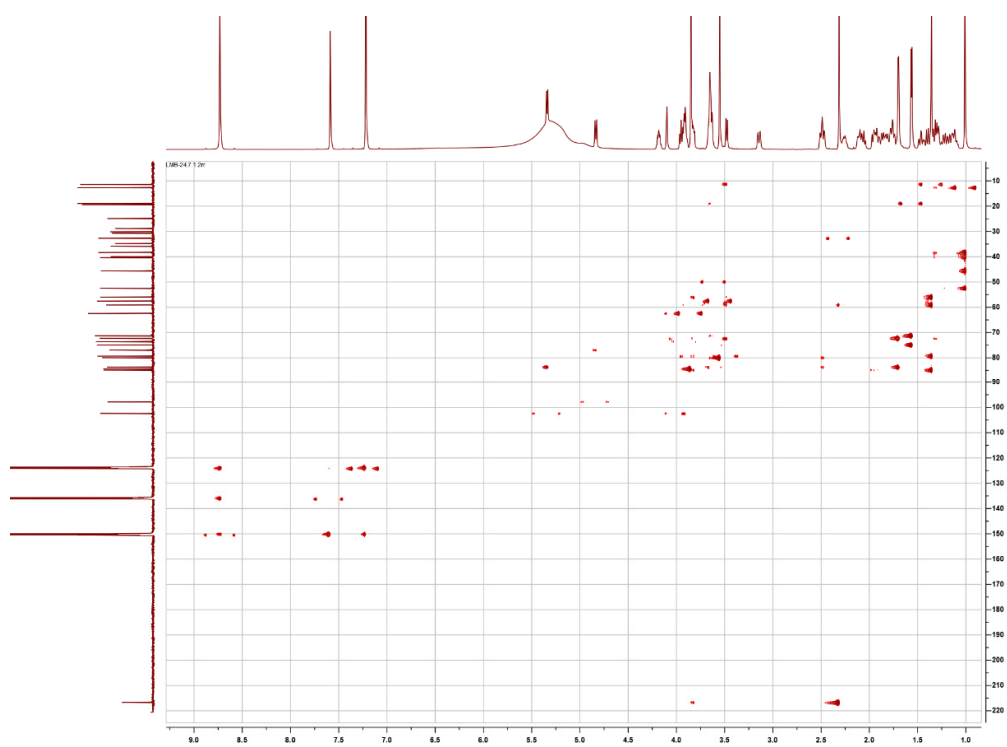


Figure S60. HMBC (600/150 MHz, Pyridine-d₅) spectrum of Marsdeoside H (9).

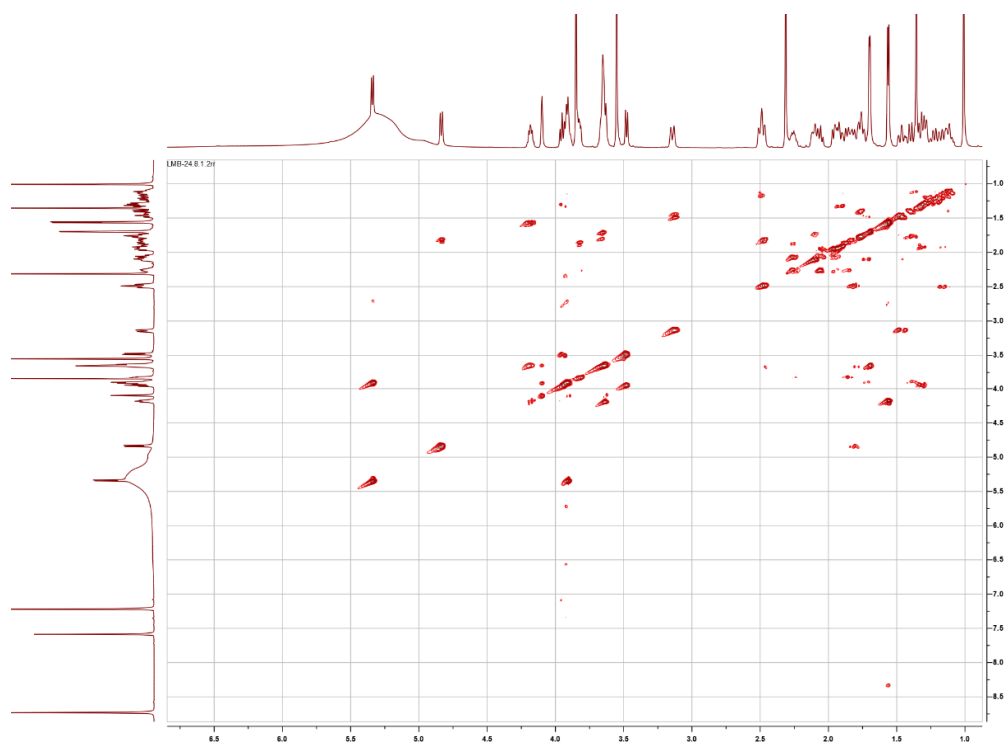


Figure S61. ^1H - ^1H COSY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside H (8).

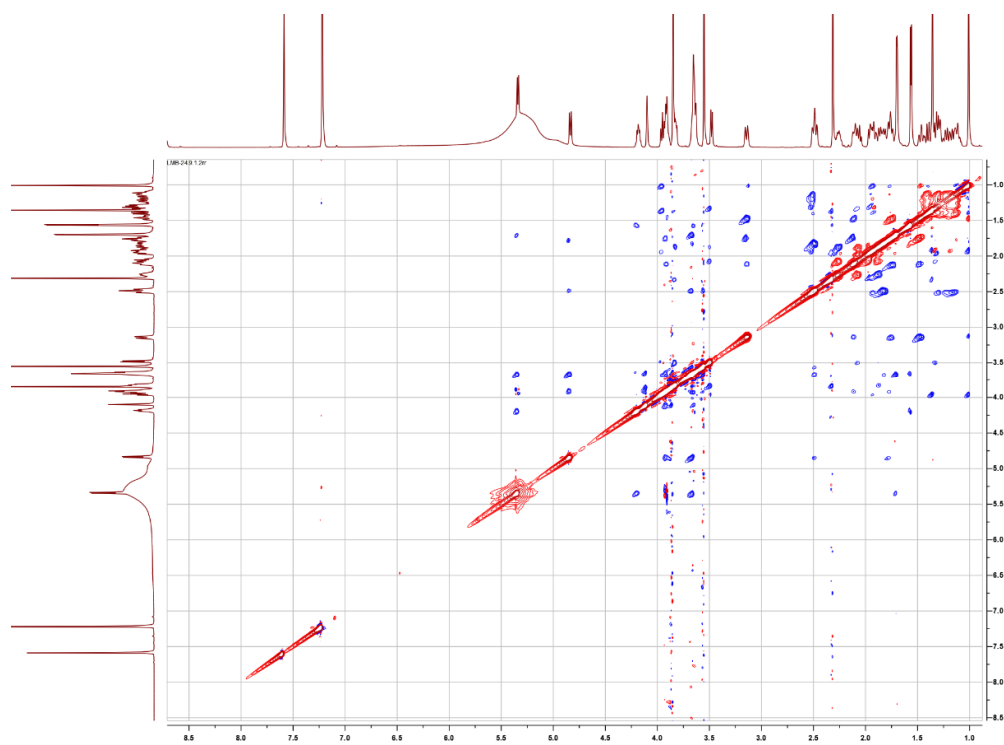


Figure S62. NOESY (600/150 MHz, Pyridine- d_5) spectrum of Marsdeoside H (9).

LMB24 #13 RT: 0.17 AV: 1 SB: 20 1.17-1.73 NL: 1.86E8
T: FTMS + p ESI Full ms [450.0000-1600.0000]

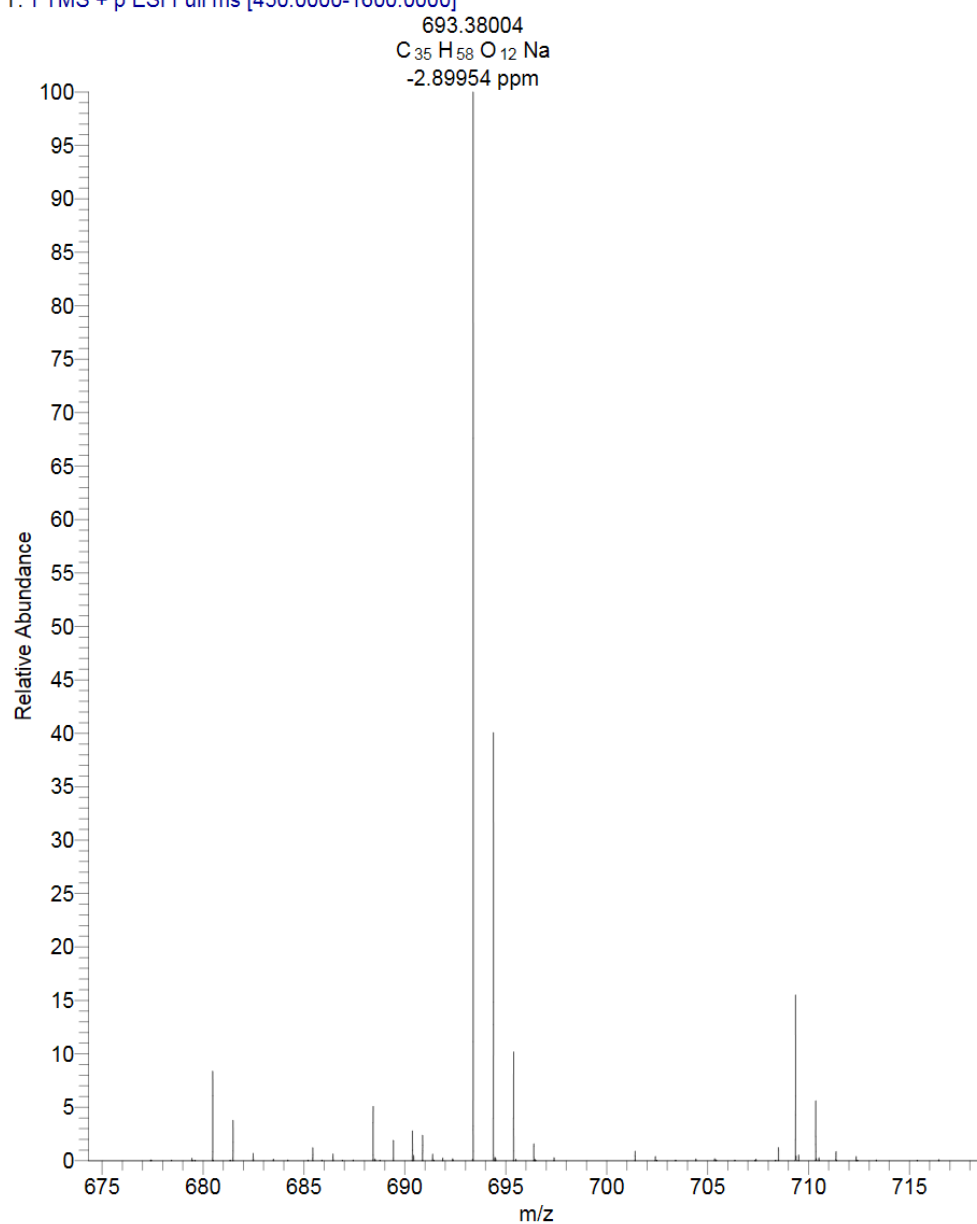


Figure S63. HRESIMS spectrum of Marsdeoside H (9).