

Supporting Information

NMR Spectra

Isolation of Scalarane-type Sesterterpenoids from the Marine Sponge *Dysidea* sp. and Stereochemical Reassignment of 12-*epi*-phyllactone D/E

A-Young Shin,^{1,2} Arang Son,³ Changhoon Choi,³

*and Jihoon Lee^{*1,2}*

¹Korea Institute of Ocean Science and Technology (KIOST), Busan 49111, Republic of Korea

²Department of Marine Biotechnology, University of Science and Technology (UST), Daejeon 34113,
Republic of Korea

³Department of Radiation Oncology, Samsung Medical Center, Seoul 06351, Republic of Korea

Table of contents

Figure S-1. ^1H NMR spectrum of compound 1 (CDCl_3 , 600 MHz).....	6
Figure S-2. ^{13}C NMR spectrum of compound 1 (CDCl_3 , 150 MHz).....	6
Figure S-3. HSQC spectrum of compound 1 (CDCl_3 , 600 MHz).	7
Figure S-4. ^1H - ^1H COSY spectrum of compound 1 (CDCl_3 , 600 MHz).....	7
Figure S-5. HMBC spectrum of compound 1 (CDCl_3 , 600 MHz).....	8
Figure S-6. NOESY spectrum of compound 1 (CDCl_3 , 600 MHz).....	8
Figure S-7. HRMS spectrum of compound 1	8
Figure S-8. ^1H NMR spectrum of compound 2 (CDCl_3 , 600 MHz).....	9
Figure S-9. ^{13}C NMR spectrum of compound 2 (CDCl_3 , 150 MHz).....	9
Figure S-10. HSQC spectrum of compound 2 (CDCl_3 , 600 MHz).	10
Figure S-11. ^1H - ^1H COSY spectrum of compound 2 (CDCl_3 , 600 MHz).....	10
Figure S-12. HMBC spectrum of compound 2 (CDCl_3 , 600 MHz).....	11
Figure S-13. NOESY spectrum of compound 2 (CDCl_3 , 600 MHz).....	11
Figure S-14. HRMS spectrum of compound 2	11
Figure S-15. ^1H NMR spectrum of compound 3 (CDCl_3 , 600 MHz).....	12
Figure S-16. ^{13}C NMR spectrum of compound 3 (CDCl_3 , 150 MHz).....	12
Figure S-17. HSQC spectrum of compound 3 (CDCl_3 , 600 MHz).	13
Figure S-18. ^1H - ^1H COSY spectrum of compound 3 (CDCl_3 , 600 MHz).....	13
Figure S-19. HMBC spectrum of compound 3 (CDCl_3 , 600 MHz).....	14
Figure S-20. NOESY spectrum of compound 3 (CDCl_3 , 600 MHz).....	14
Figure S-21. HRMS spectrum of compound 3	14
Figure S-22. ^1H NMR spectrum of compound 4 (CDCl_3 , 600 MHz).....	15
Figure S-23. ^{13}C NMR spectrum of compound 4 (CDCl_3 , 150 MHz).....	15
Figure S-24. HSQC spectrum of compound 4 (CDCl_3 , 600 MHz).	16
Figure S-25. ^1H - ^1H COSY spectrum of compound 4 (CDCl_3 , 600 MHz).....	16
Figure S-26. HMBC spectrum of compound 4 (CDCl_3 , 600 MHz).....	17
Figure S-27. NOESY spectrum of compound 4 (CDCl_3 , 600 MHz).....	17
Figure S-28. HRMS spectrum of compound 4	17
Figure S-29. ^1H NMR spectrum of compound 5 (CDCl_3 , 600 MHz).....	18
Figure S-30. ^{13}C NMR spectrum of compound 5 (CDCl_3 , 150 MHz).....	18
Figure S-31. HSQC spectrum of compound 5 (CDCl_3 , 600 MHz).	19
Figure S-32. ^1H - ^1H COSY spectrum of compound 5 (CDCl_3 , 600 MHz).....	19
Figure S-33. HMBC spectrum of compound 5 (CDCl_3 , 600 MHz).....	20
Figure S-34. NOESY spectrum of compound 5 (CDCl_3 , 600 MHz).....	20
Figure S-35. HRMS spectrum of compound 5	20

Figure S-36. ^1H NMR spectrum of compound 6 (CDCl_3 , 600 MHz).....	21
Figure S-37. ^{13}C NMR spectrum of compound 6 (CDCl_3 , 150 MHz).....	21
Figure S-38. HSQC spectrum of compound 6 (CDCl_3 , 600 MHz).....	22
Figure S-39. ^1H - ^1H COSY spectrum of compound 6 (CDCl_3 , 600 MHz).....	22
Figure S-40. HMBC spectrum of compound 6 (CDCl_3 , 600 MHz).....	23
Figure S-41. NOESY spectrum of compound 6 (CDCl_3 , 600 MHz).....	23
Figure S-42. HRMS spectrum of compound 6	23
Figure S-43. ^1H NMR spectrum of compound 7 (CDCl_3 , 600 MHz).....	24
Figure S-44. ^{13}C NMR spectrum of compound 7 (CDCl_3 , 150 MHz).....	24
Figure S-45. HSQC spectrum of compound 7 (CDCl_3 , 600 MHz).....	25
Figure S-46. ^1H - ^1H COSY spectrum of compound 7 (CDCl_3 , 600 MHz).....	25
Figure S-47. HMBC spectrum of compound 7 (CDCl_3 , 600 MHz).....	26
Figure S-48. NOESY spectrum of compound 7 (CDCl_3 , 600 MHz).....	26
Figure S-49. HRMS spectrum of compound 7	26
Figure S-50. ^1H NMR spectrum of compound 8 (CDCl_3 , 600 MHz).....	27
Figure S-51. ^{13}C NMR spectrum of compound 8 (CDCl_3 , 150 MHz).....	27
Figure S-52. HSQC spectrum of compound 8 (CDCl_3 , 600 MHz).....	28
Figure S-53. ^1H - ^1H COSY spectrum of compound 8 (CDCl_3 , 600 MHz).....	28
Figure S-54. HMBC spectrum of compound 8 (CDCl_3 , 600 MHz).....	29
Figure S-55. NOESY spectrum of compound 8 (CDCl_3 , 600 MHz).....	29
Figure S-56. HRMS of compound 8	29
Figure S-57. ^1H NMR spectrum of compound 9 (CDCl_3 , 600 MHz).....	30
Figure S-58. ^{13}C NMR spectrum of compound 9 (CDCl_3 , 150 MHz).....	30
Figure S-59. HSQC spectrum of compound 9 (CDCl_3 , 600 MHz).....	31
Figure S-60. ^1H - ^1H COSY spectrum of compound 9 (CDCl_3 , 600 MHz).....	31
Figure S-61. HMBC spectrum of compound 9 (CDCl_3 , 600 MHz).....	32
Figure S-62. NOESY spectrum of compound 9 (CDCl_3 , 600 MHz).....	32
Figure S-63. HRMS spectrum of compound 9	32
Figure S-64. ^1H NMR spectrum of compound 10 (CDCl_3 , 600 MHz).....	33
Figure S-65. ^{13}C NMR spectrum of compound 10 (CDCl_3 , 150 MHz).....	33
Figure S-66. HSQC spectrum of compound 10 (CDCl_3 , 600 MHz).....	34
Figure S-67. ^1H - ^1H COSY spectrum of compound 10 (CDCl_3 , 600 MHz).....	34
Figure S-68. HMBC spectrum of compound 10 (CDCl_3 , 600 MHz)	35
Figure S-69. NOESY spectrum of compound 10 (CDCl_3 , 600 MHz).....	35
Figure S-70. HRMS spectrum of compound 10	35
Figure S-71. ^1H NMR spectrum of compound 11 (CDCl_3 , 600 MHz).....	36
Figure S-72. ^{13}C NMR spectrum of compound 11 (CDCl_3 , 150 MHz).....	36

Figure S-73. HSQC spectrum of compound 11 (CDCl_3 , 600 MHz).....	37
Figure S-74. ^1H - ^1H COSY spectrum of compound 11 (CDCl_3 , 600 MHz).....	37
Figure S-75. HMBC spectrum of compound 11 (CDCl_3 , 600 MHz).....	38
Figure S-76. NOESY spectrum of compound 11 (CDCl_3 , 600 MHz).....	38
Figure S-77. HRMS spectrum of compound 11	38
Figure S-78. ^1H NMR spectrum of compound 12 (CDCl_3 , 600 MHz).....	39
Figure S-79. ^{13}C NMR spectrum of compound 12 (CDCl_3 , 150 MHz).....	39
Figure S-80. HSQC spectrum of compound 12 (CDCl_3 , 600 MHz).....	40
Figure S-81. ^1H - ^1H COSY spectrum of compound 12 (CDCl_3 , 600 MHz).....	40
Figure S-82. HMBC spectrum of compound 12 (CDCl_3 , 600 MHz).....	41
Figure S-83. NOESY spectrum of compound 12 (CDCl_3 , 600 MHz).....	41
Figure S-84. HRMS spectrum of compound 12	41
Figure S-85. ^1H NMR spectrum of compound 13 (CDCl_3 , 600 MHz).....	42
Figure S-86. ^{13}C NMR spectrum of compound 13 (CDCl_3 , 150 MHz).....	42
Figure S-87. HSQC spectrum of compound 13 (CDCl_3 , 600 MHz).....	43
Figure S-88. ^1H - ^1H COSY spectrum of compound 13 (CDCl_3 , 600 MHz).....	43
Figure S-89. HMBC spectrum of compound 13 (CDCl_3 , 600 MHz).....	44
Figure S-90. NOESY spectrum of compound 13 (CDCl_3 , 600 MHz).....	44
Figure S-91. HRMS spectrum of compound 13	44
Figure S-92. ^1H NMR spectrum of compound 14 (CDCl_3 , 600 MHz).....	45
Figure S-93. ^{13}C NMR spectrum of compound 14 (CDCl_3 , 150 MHz).....	45
Figure S-94. HSQC spectrum of compound 14 (CDCl_3 , 600 MHz).....	46
Figure S-95. ^1H - ^1H COSY spectrum of compound 14 (CDCl_3 , 600 MHz).....	46
Figure S-96. HMBC spectrum of compound 14 (CDCl_3 , 600 MHz).....	47
Figure S-97. NOESY spectrum of compound 14 (CDCl_3 , 600 MHz).....	47
Figure S-98. HRMS spectrum of compound 14	47
Figure S-99. ^1H NMR spectrum of compound 15 (CDCl_3 , 600 MHz).....	48
Figure S-100. ^{13}C NMR spectrum of compound 15 (CDCl_3 , 150 MHz).....	48
Figure S-101. HSQC spectrum of compound 15 (CDCl_3 , 600 MHz).....	49
Figure S-102. ^1H - ^1H COSY spectrum of compound 15 (CDCl_3 , 600 MHz).....	49
Figure S-103. HMBC spectrum of compound 15 (CDCl_3 , 600 MHz).....	50
Figure S-104. NOESY spectrum of compound 15 (CDCl_3 , 600 MHz).....	50
Figure S-105. HRMS spectrum of compound 15	50
Figure S-106. ^1H NMR spectrum of compound 16 (CDCl_3 , 600 MHz).....	51
Figure S-107. ^{13}C NMR spectrum of compound 16 (CDCl_3 , 150 MHz).....	51
Figure S-108. HSQC spectrum of compound 16 (CDCl_3 , 600 MHz).....	52
Figure S-109. ^1H - ^1H COSY spectrum of compound 16 (CDCl_3 , 600 MHz).....	52

Figure S-110. HMBC spectrum of compound 16 (CDCl_3 , 600 MHz).....	53
Figure S-111. NOESY spectrum of compound 16 (CDCl_3 , 600 MHz).....	53
Figure S-112. HRMS spectrum of compound 16	53

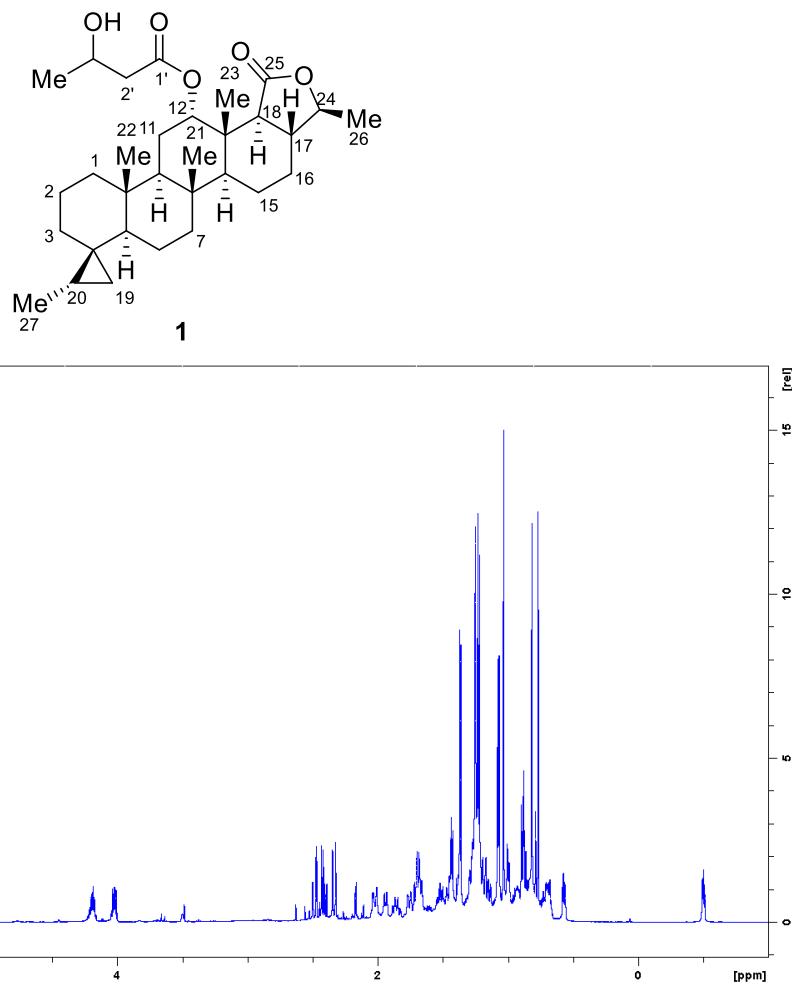


Figure S-1. ¹H NMR spectrum of compound **1** (CDCl₃, 600 MHz).

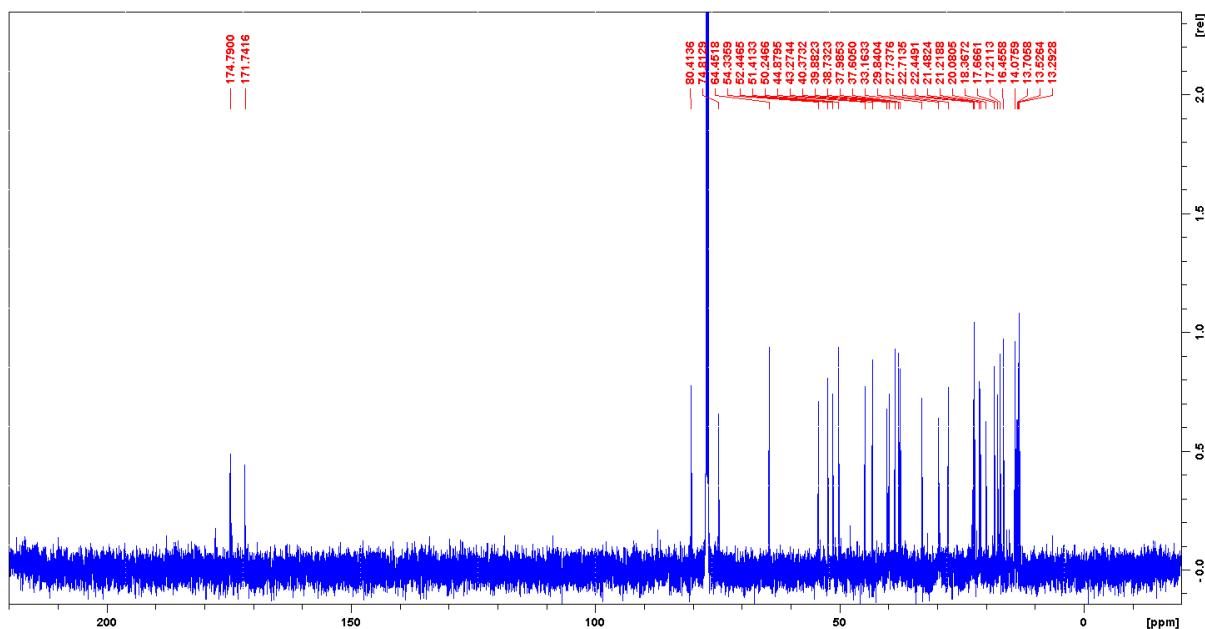


Figure S-2. ¹³C NMR spectrum of compound **1** (CDCl₃, 150 MHz).

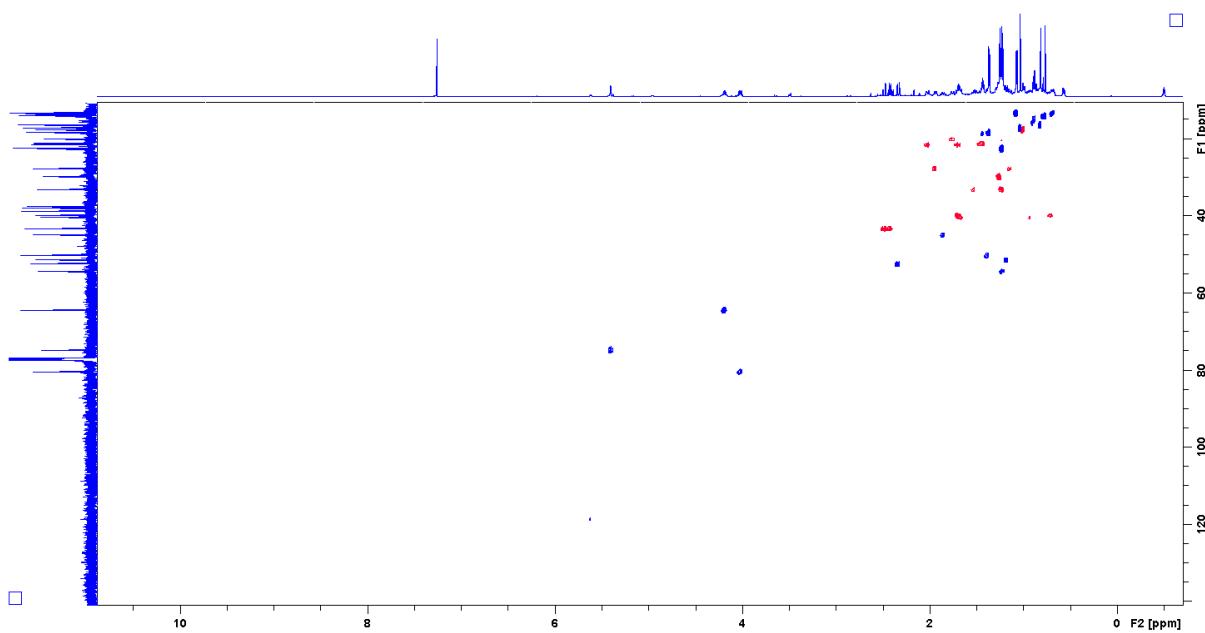


Figure S-3. HSQC spectrum of compound 1 (CDCl_3 , 600 MHz).

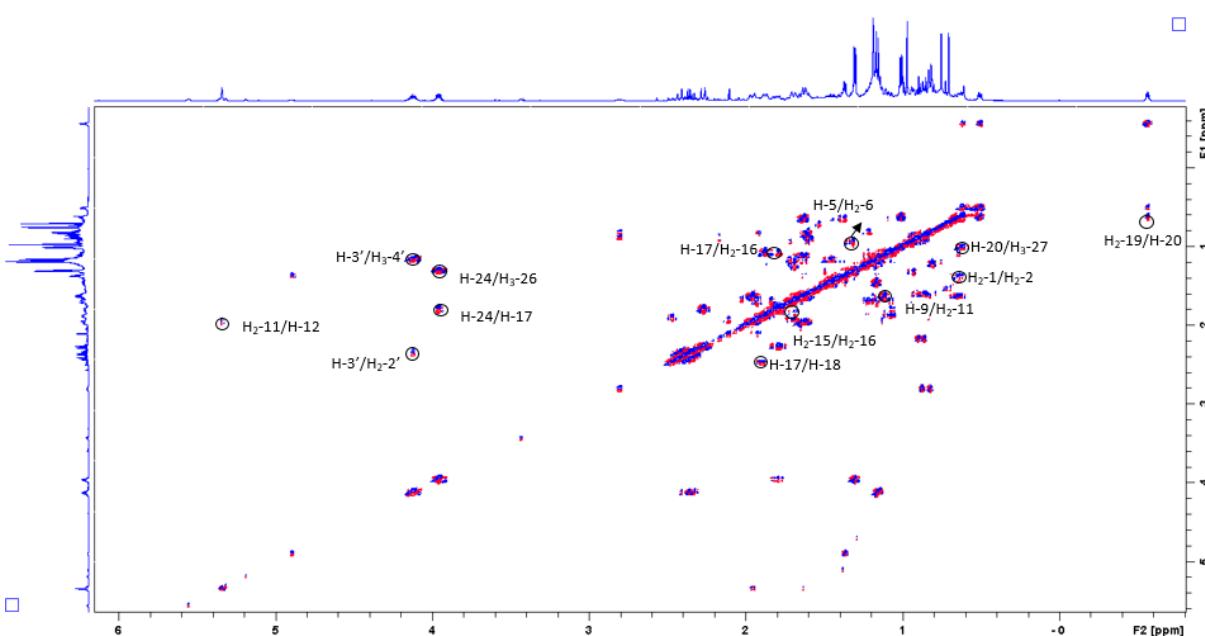


Figure S-4. ^1H - ^1H COSY spectrum of compound 1 (CDCl_3 , 600 MHz).

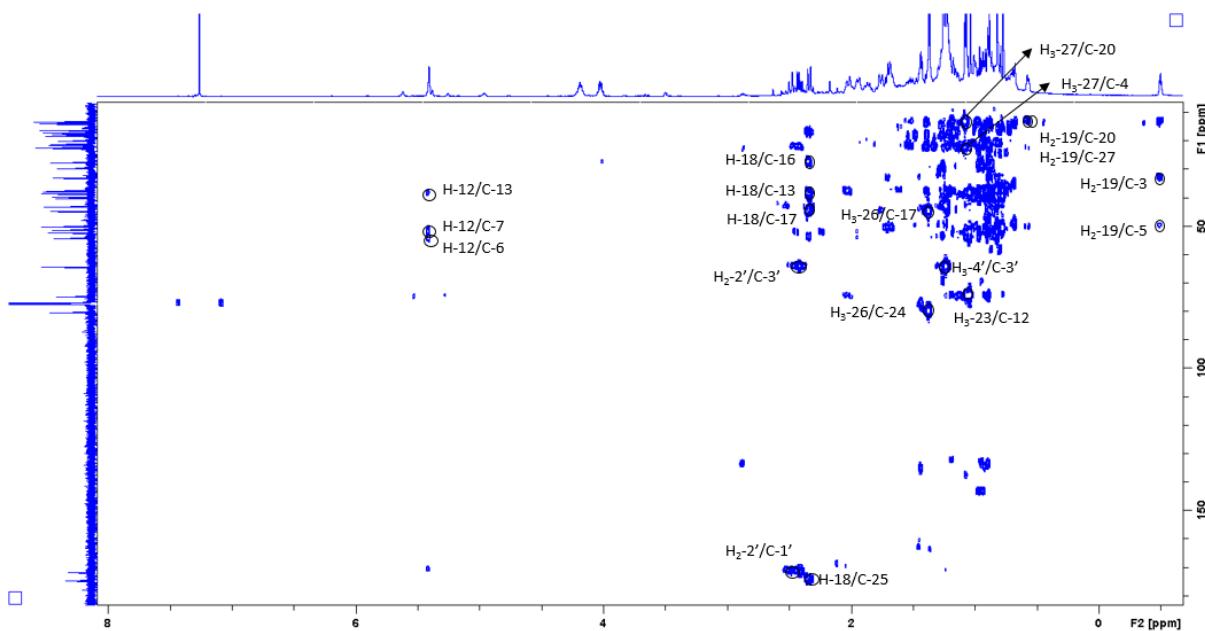


Figure S-5. HMBC spectrum of compound **1** (CDCl_3 , 600 MHz).

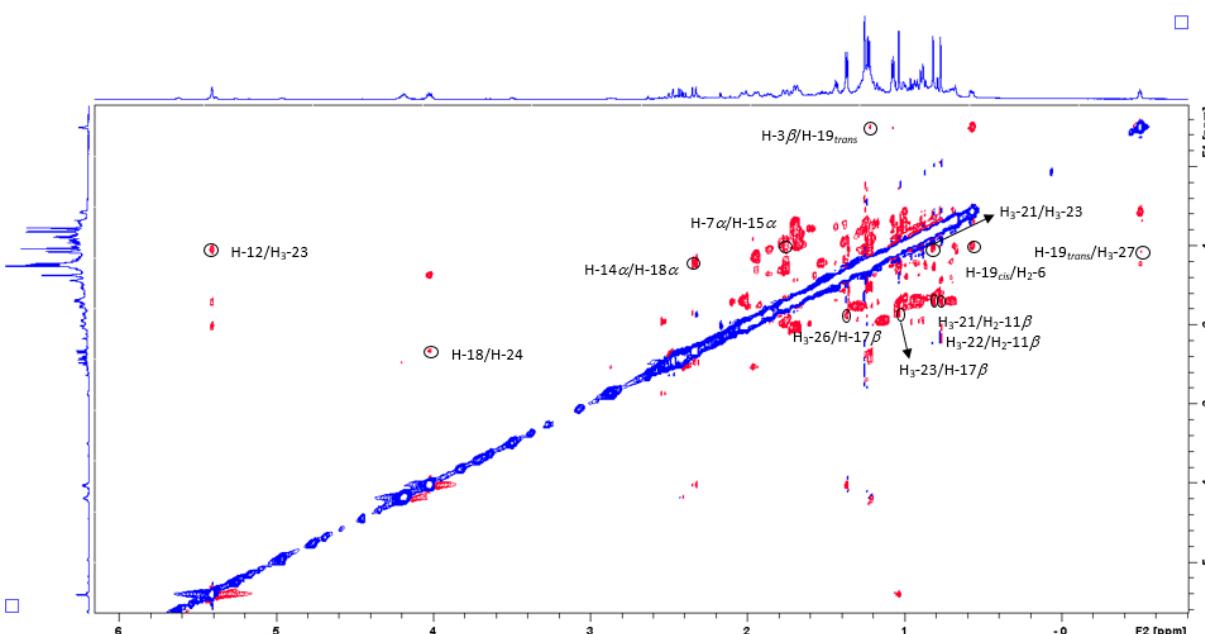


Figure S-6. NOESY spectrum of compound **1** (CDCl_3 , 600 MHz).

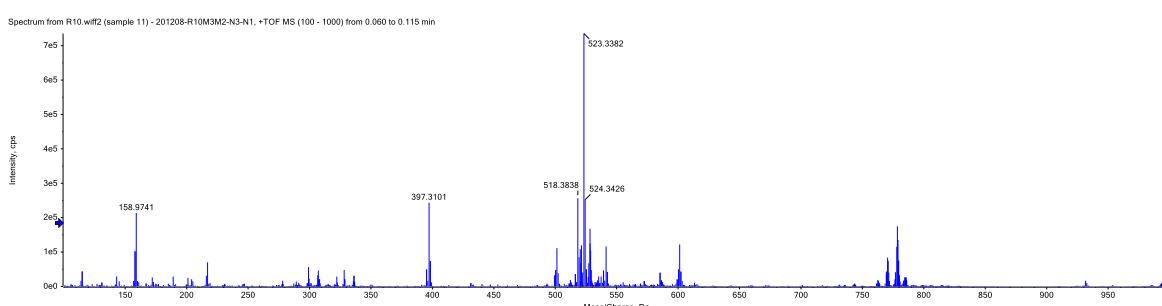


Figure S-7. HRMS spectrum of compound **1**.

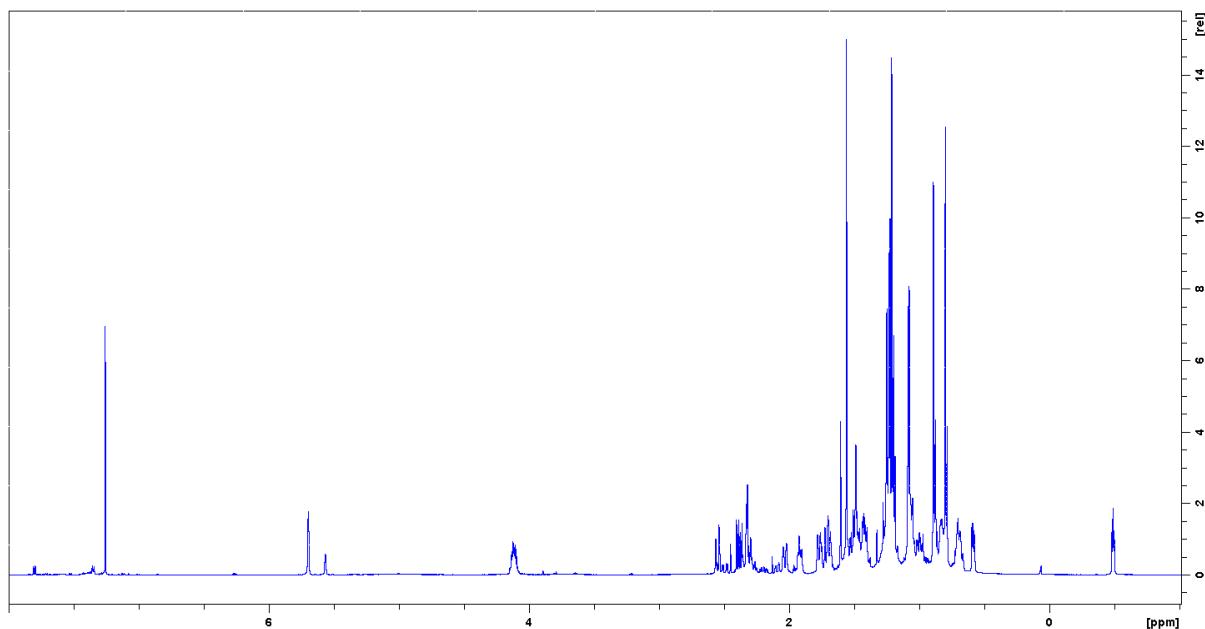
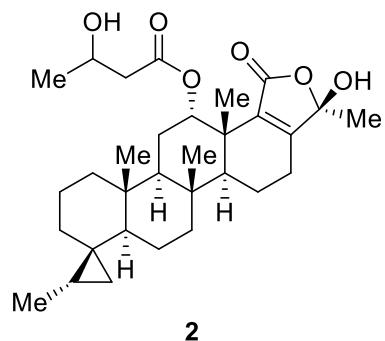


Figure S-8. ^1H NMR spectrum of compound **2** (CDCl_3 , 600 MHz).

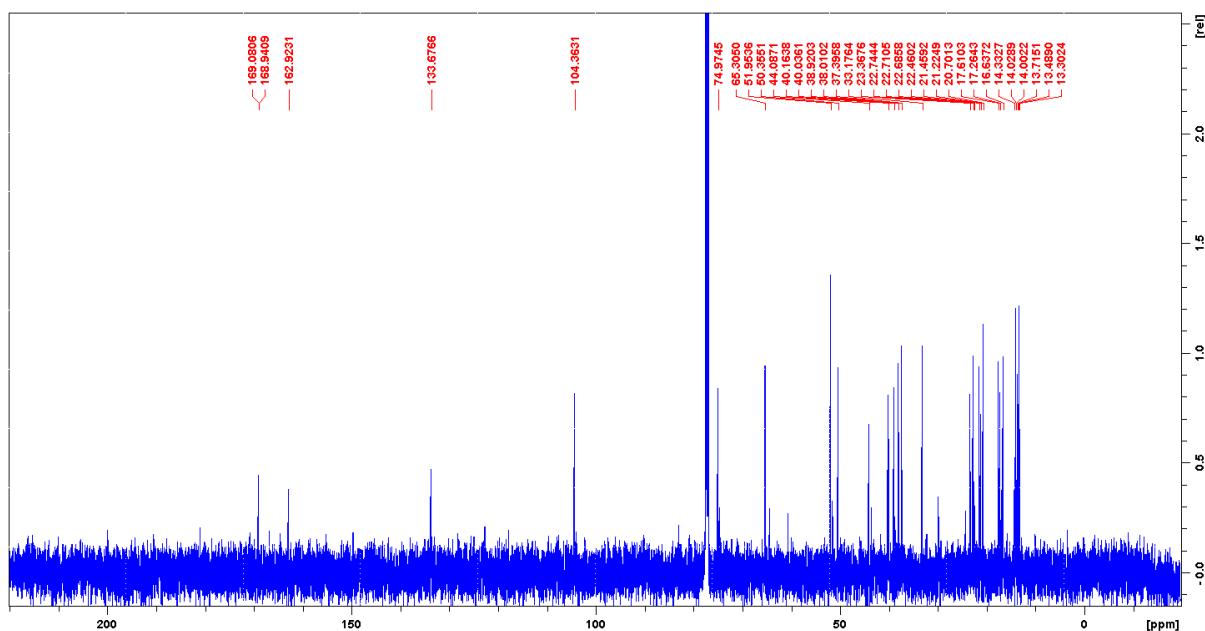


Figure S-9. ^{13}C NMR spectrum of compound **2** (CDCl_3 , 150 MHz).

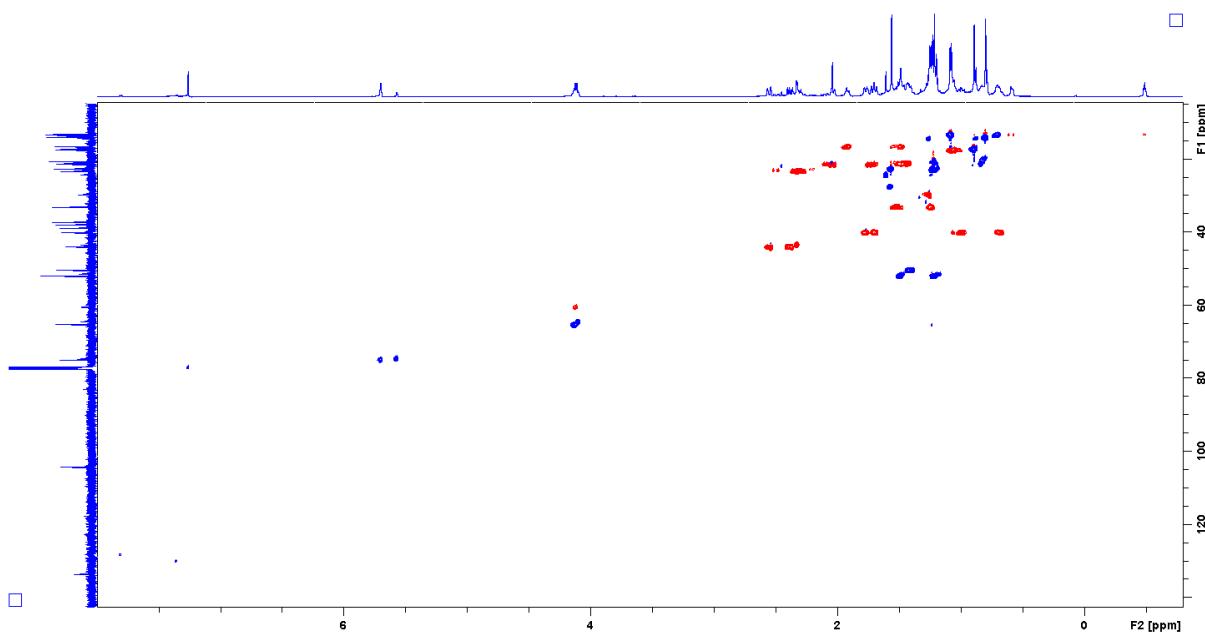


Figure S-10. HSQC spectrum of compound **2** (CDCl_3 , 600 MHz).

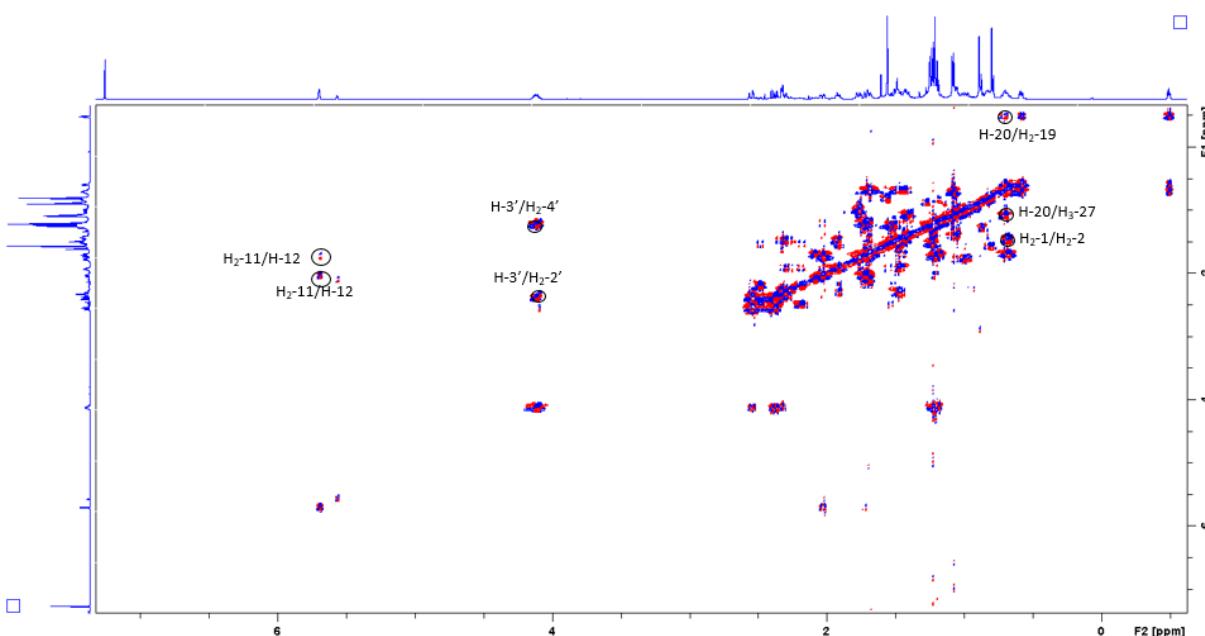


Figure S-11. ^1H - ^1H COSY spectrum of compound **2** (CDCl_3 , 600 MHz).

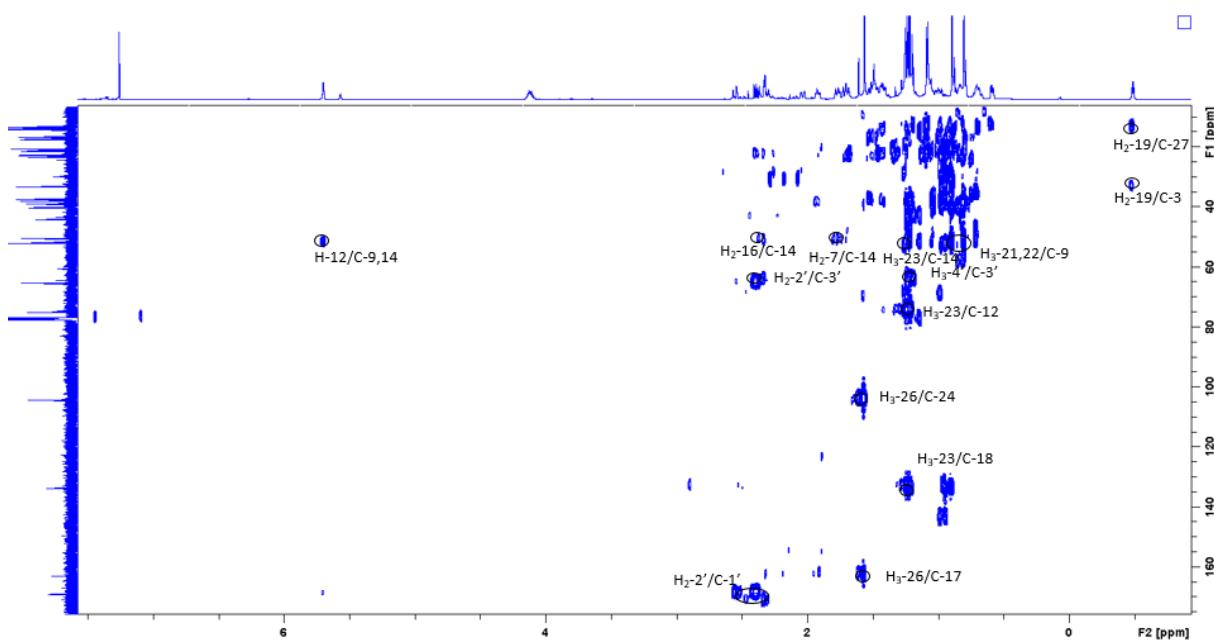


Figure S-12. HMBC spectrum of compound **2** (CDCl_3 , 600 MHz).

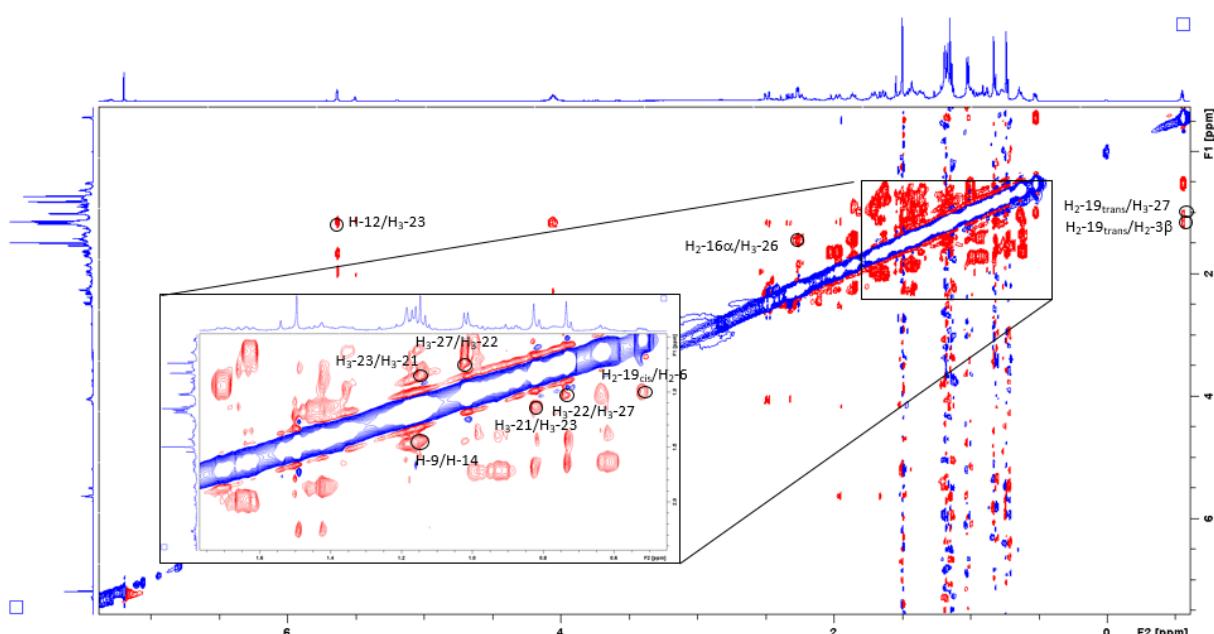


Figure S-13. NOESY spectrum of compound **2** (CDCl_3 , 600 MHz).

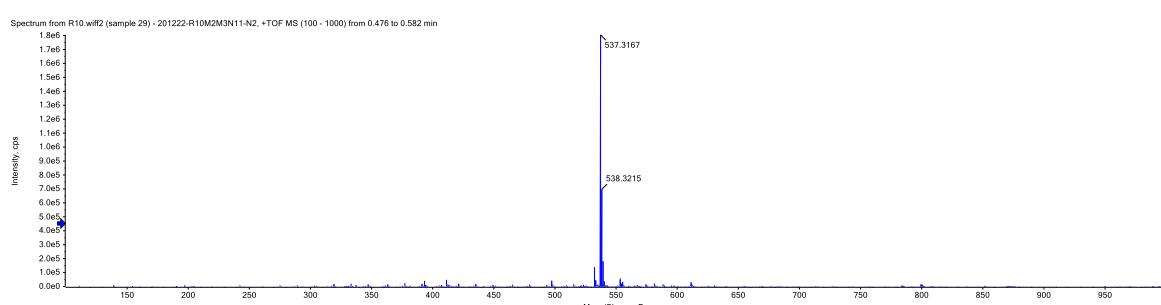


Figure S-14. HRMS spectrum of compound **2**.

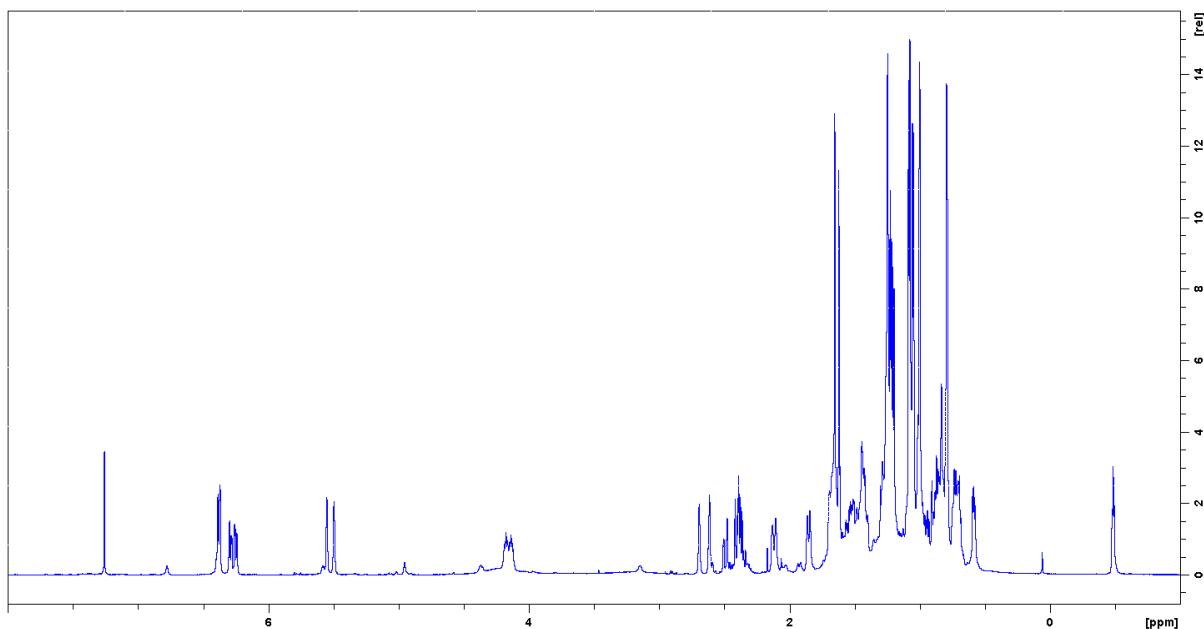
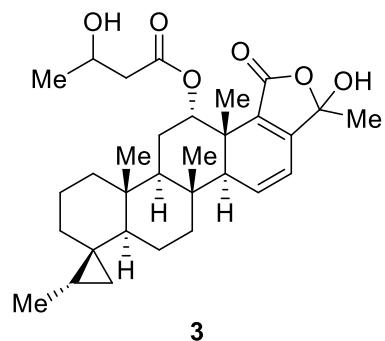


Figure S-15. ^1H NMR spectrum of compound **3** (CDCl_3 , 600 MHz).

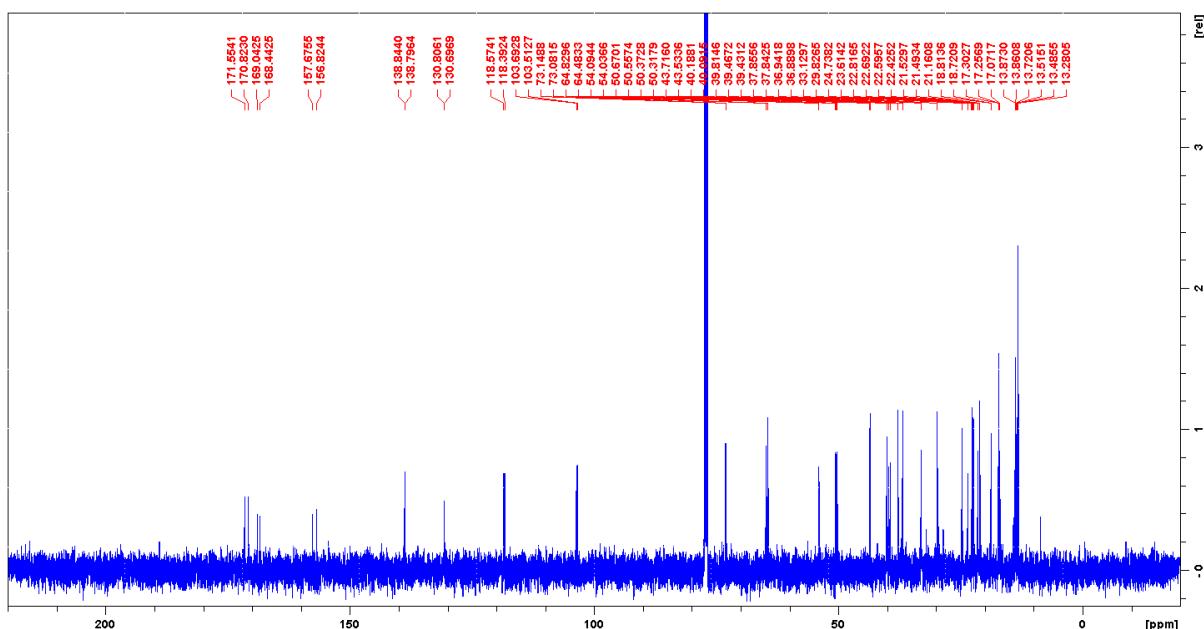


Figure S-16. ^{13}C NMR spectrum of compound **3** (CDCl_3 , 150 MHz).

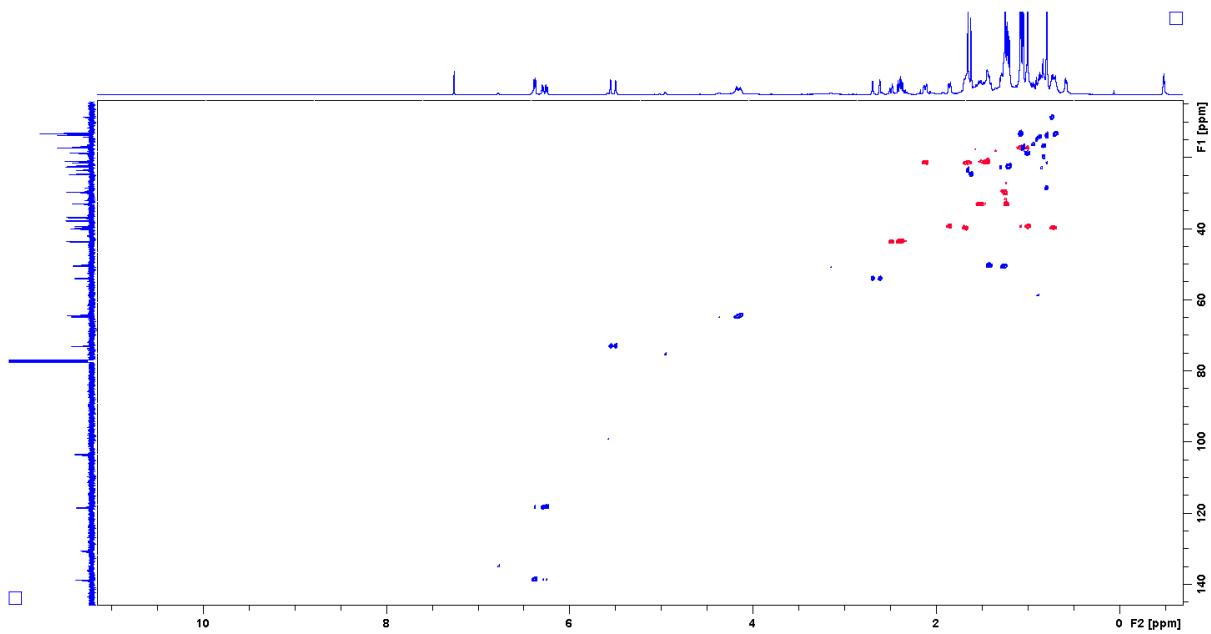


Figure S-17. HSQC spectrum of compound 3 (CDCl_3 , 600 MHz).

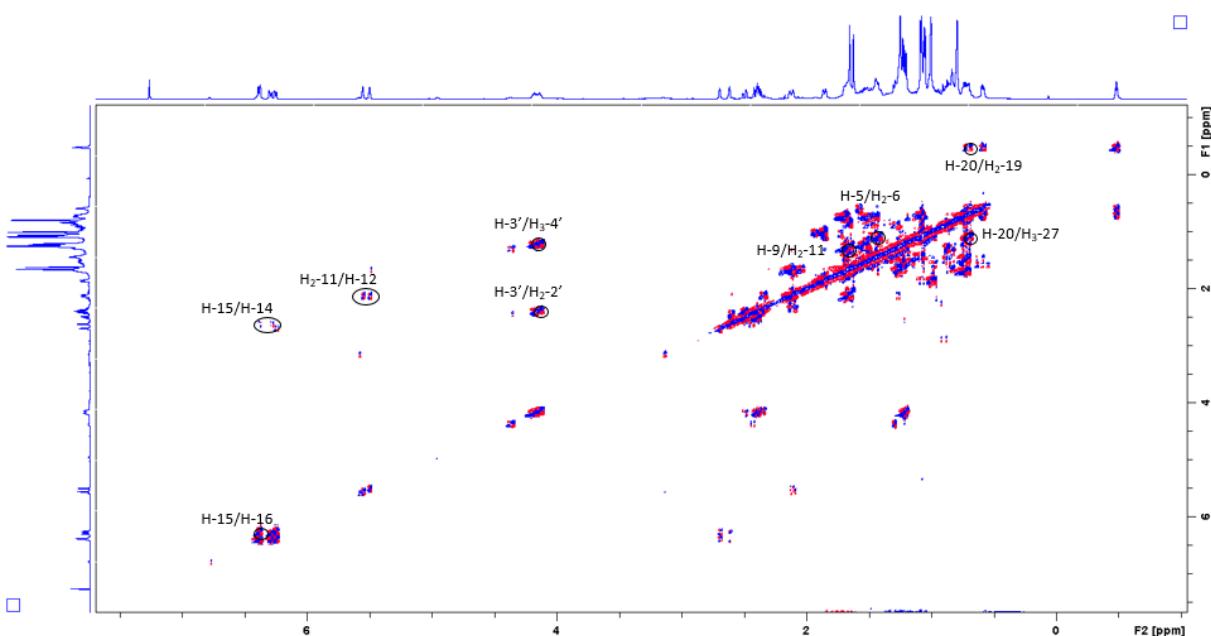


Figure S-18. ^1H - ^1H COSY spectrum of compound 3 (CDCl_3 , 600 MHz).

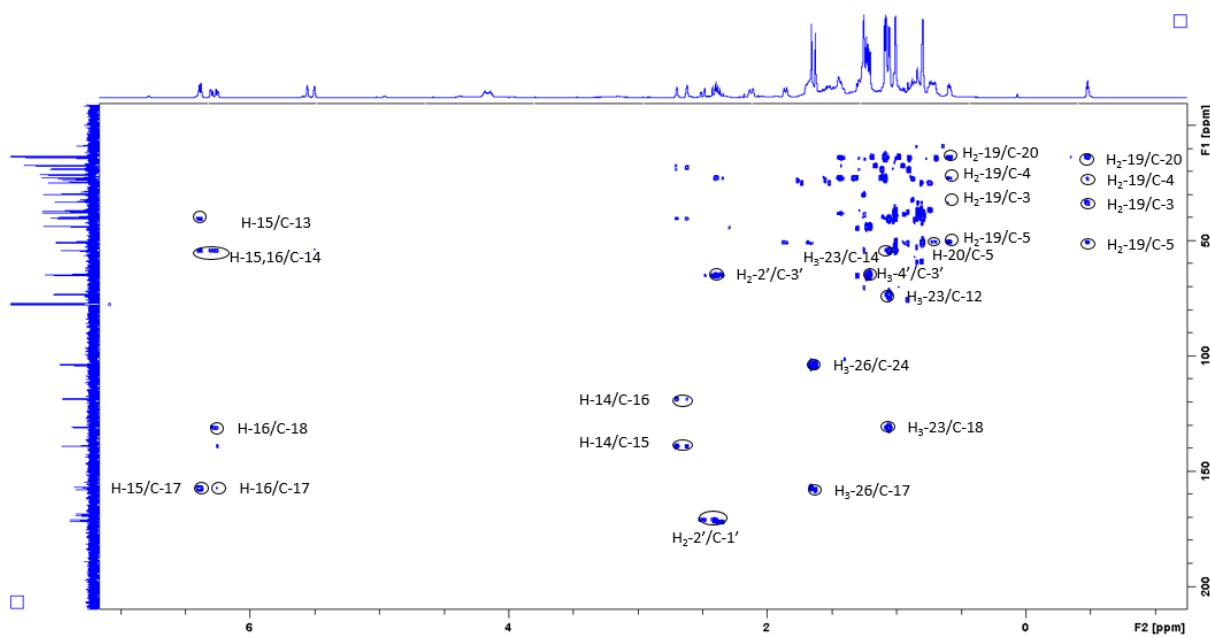


Figure S-19. HMBC spectrum of compound 3 (CDCl_3 , 600 MHz).

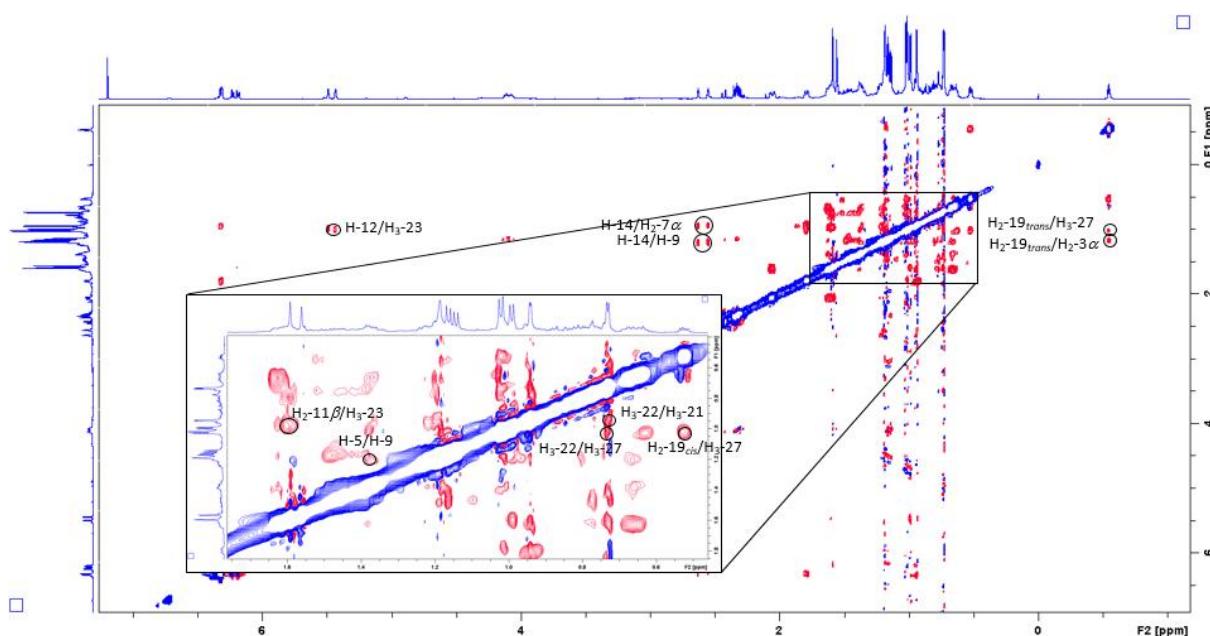


Figure S-20. NOESY spectrum of compound 3 (CDCl_3 , 600 MHz).

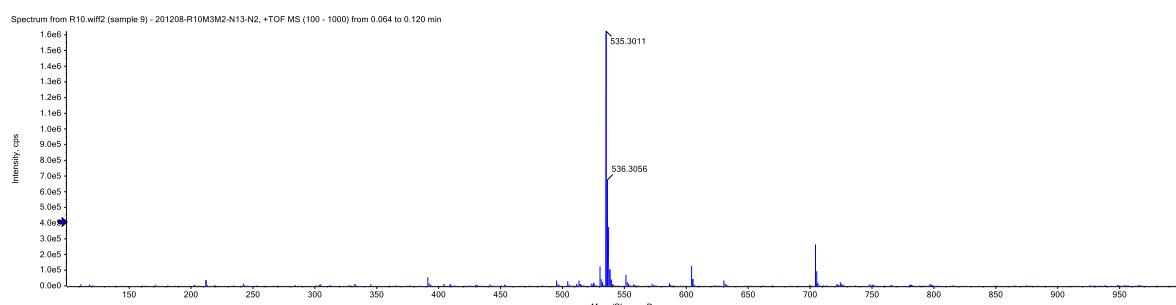


Figure S-21. HRMS spectrum of compound 3.

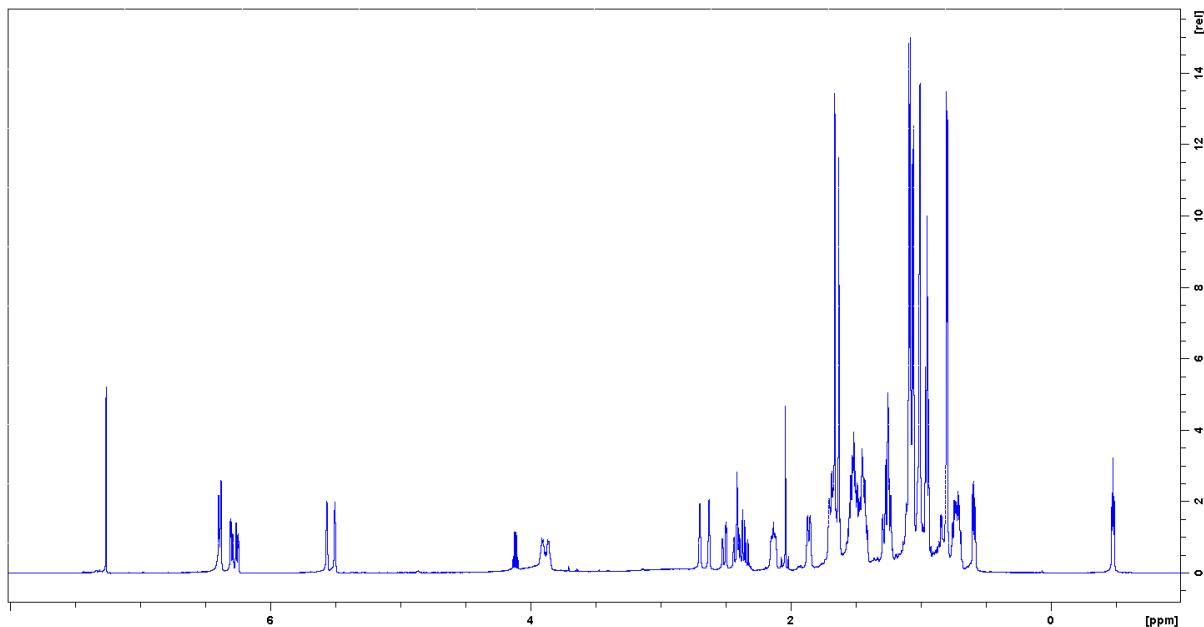
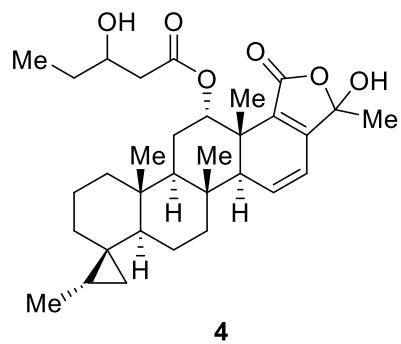


Figure S-22. ^1H NMR spectrum of compound **4** (CDCl_3 , 600 MHz).

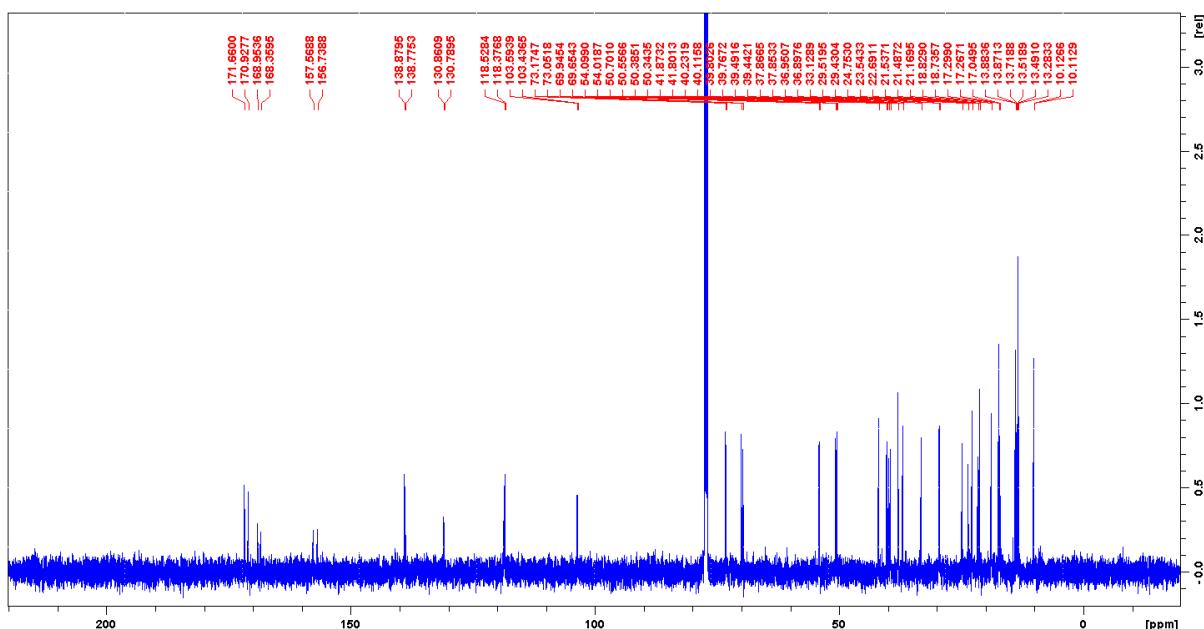


Figure S-23. ^{13}C NMR spectrum of compound **4** (CDCl_3 , 150 MHz).

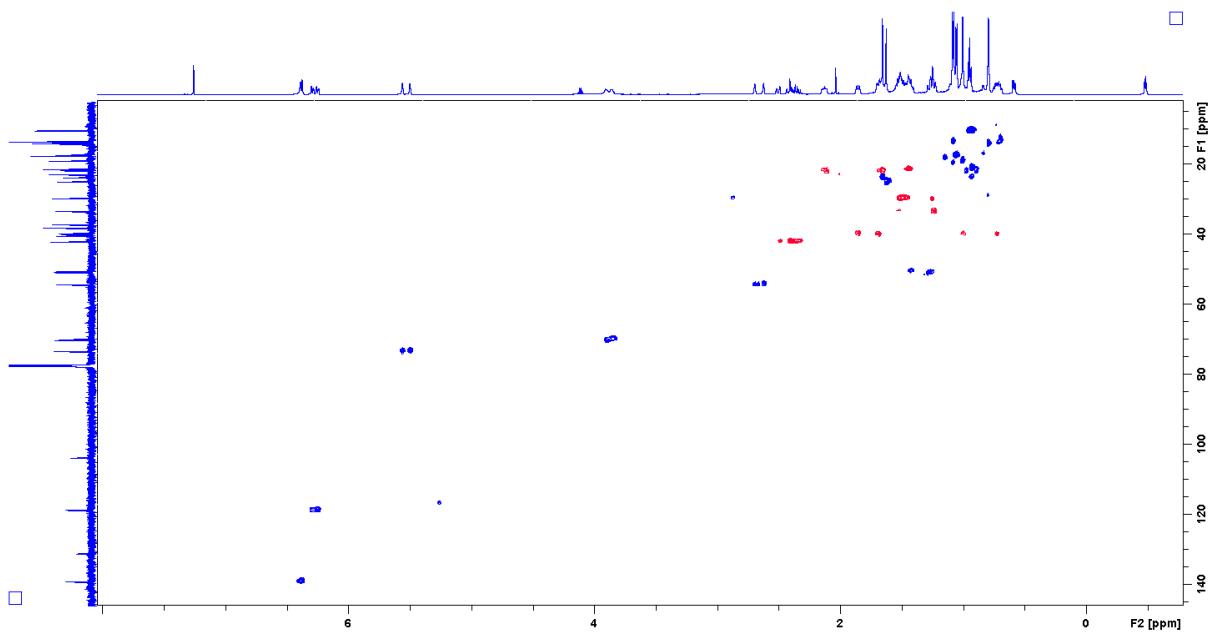


Figure S-24. HSQC spectrum of compound 4 (CDCl_3 , 600 MHz).

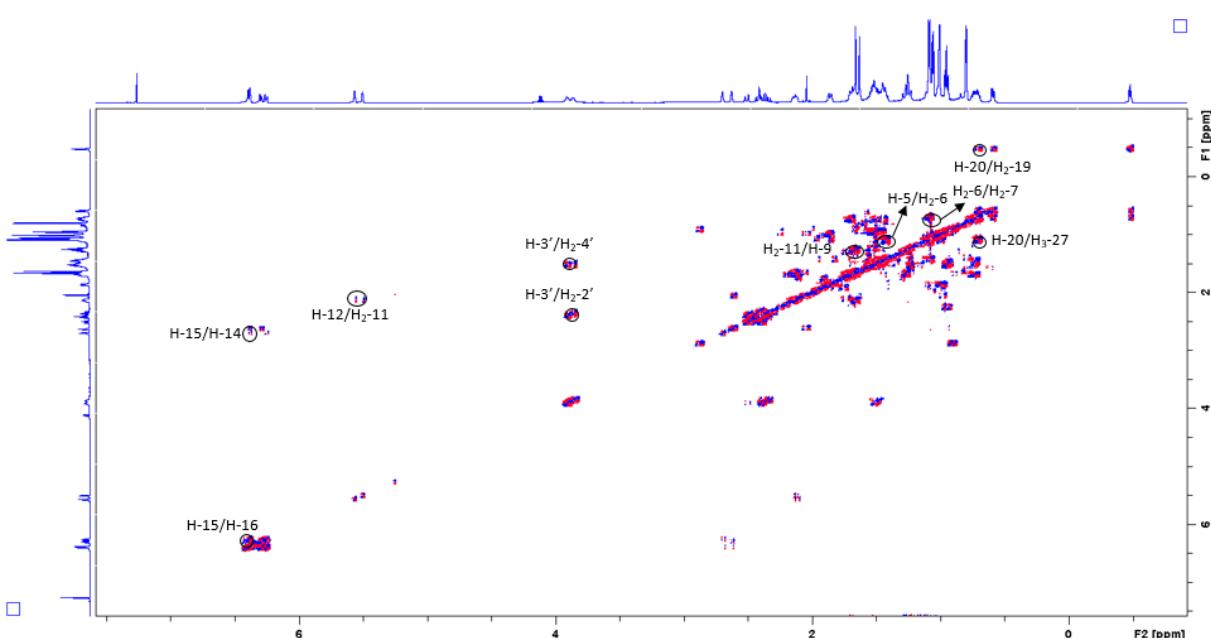


Figure S-25. ^1H - ^1H COSY spectrum of compound 4 (CDCl_3 , 600 MHz).

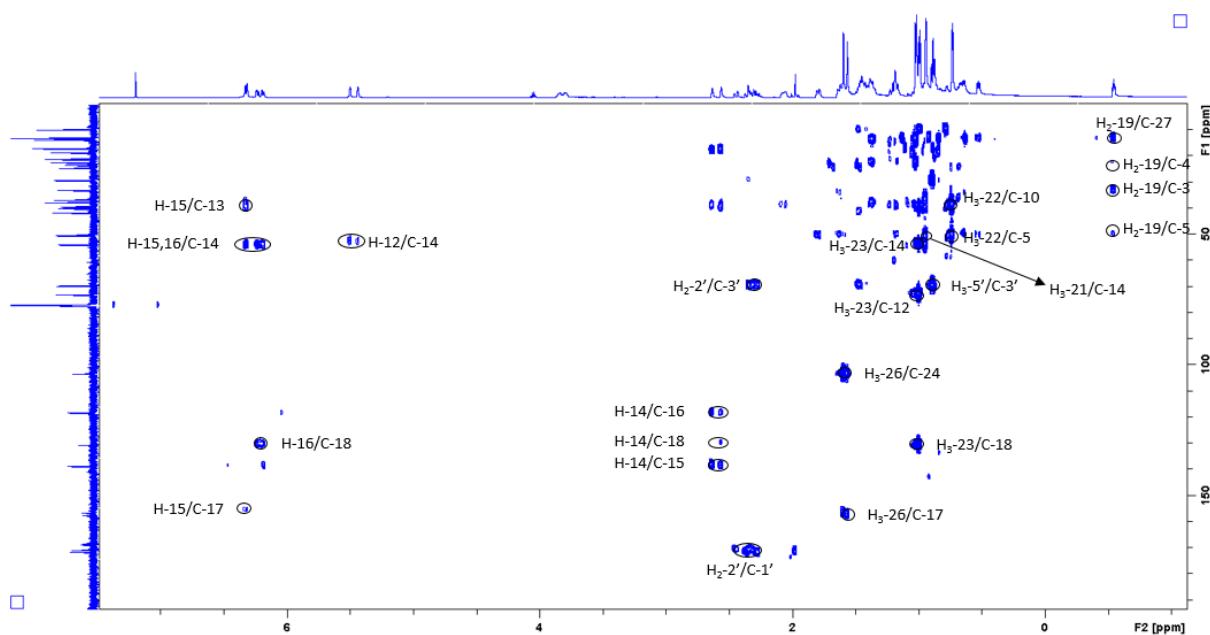


Figure S-26. HMBC spectrum of compound 4 (CDCl_3 , 600 MHz).

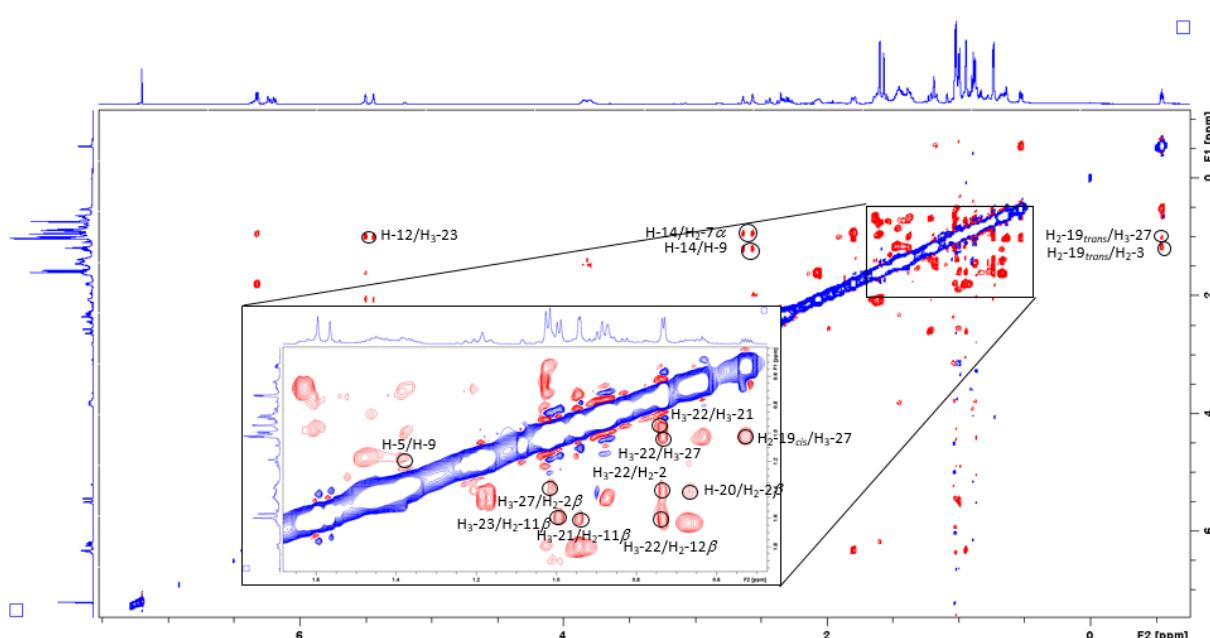


Figure S-27. NOESY spectrum of compound 4 (CDCl_3 , 600 MHz).

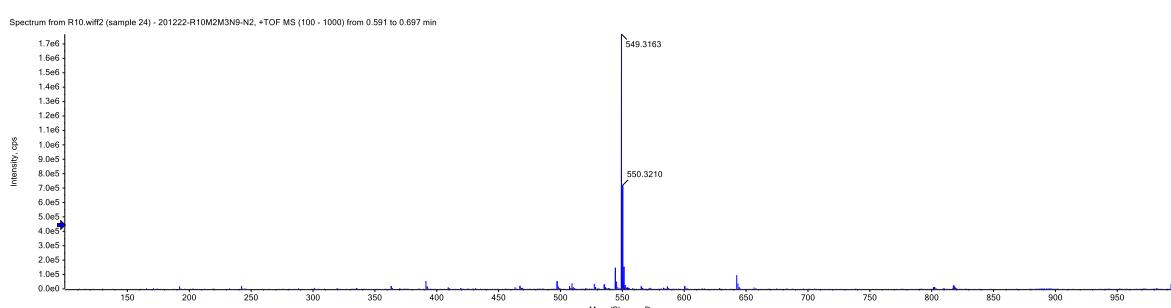


Figure S-28. HRMS spectrum of compound 4.

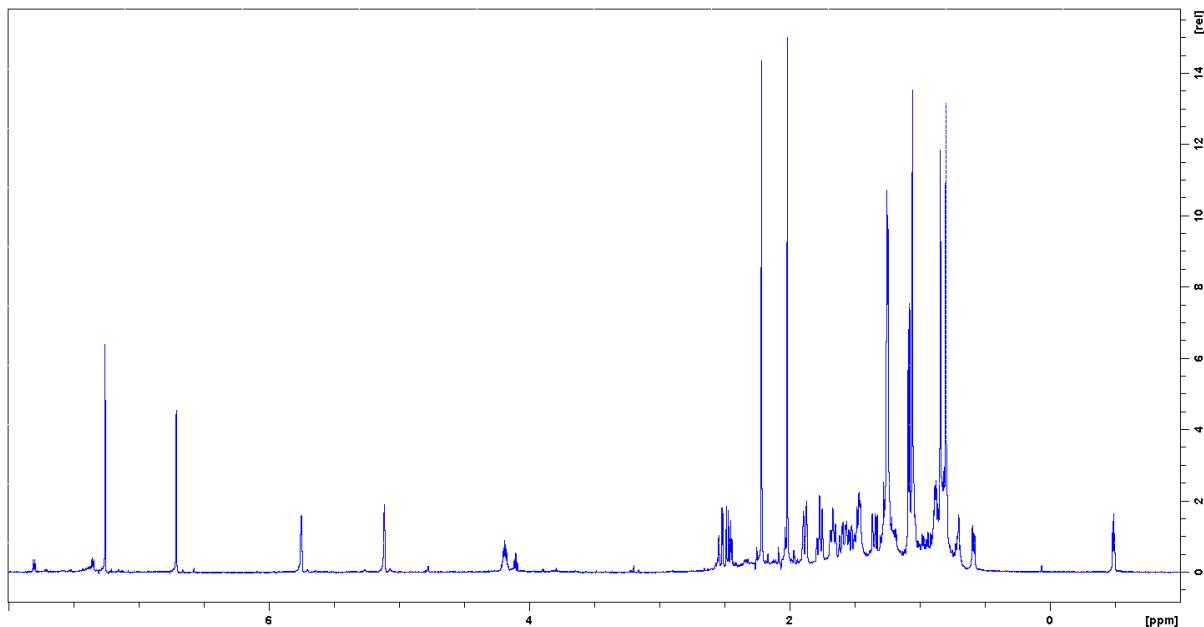
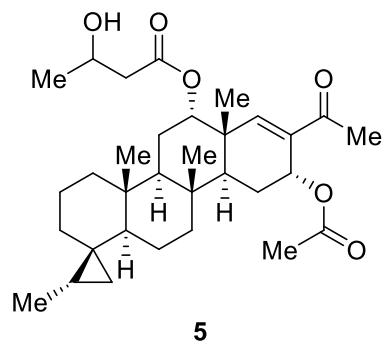


Figure S-29. ^1H NMR spectrum of compound **5** (CDCl_3 , 600 MHz).

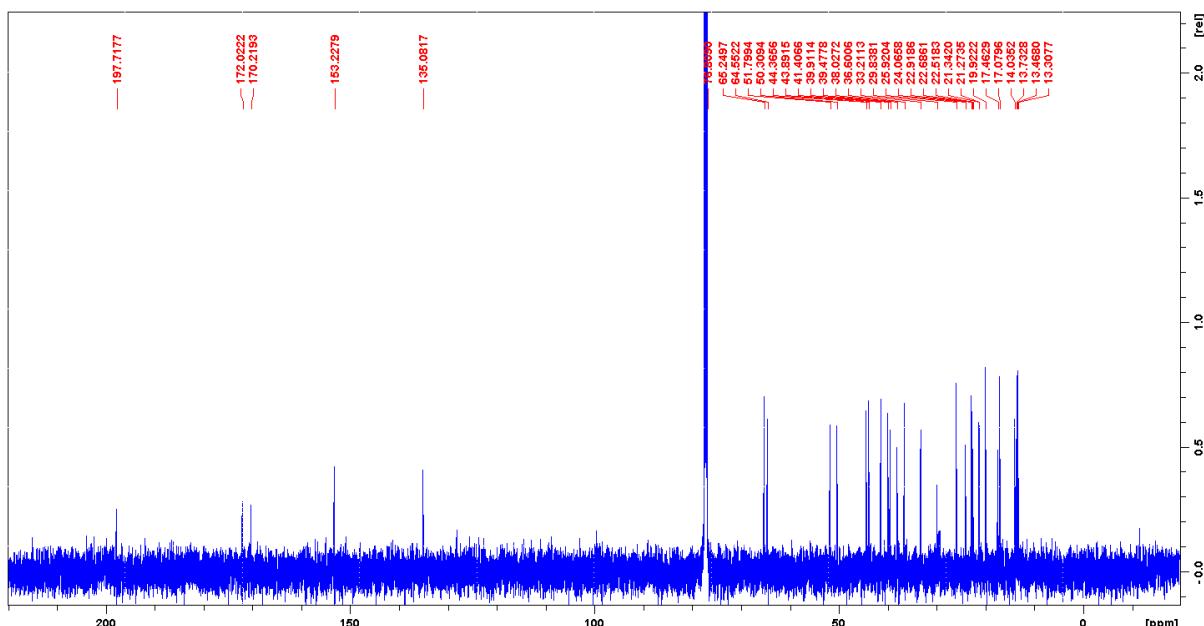


Figure S-30. ^{13}C NMR spectrum of compound **5** (CDCl_3 , 150 MHz).

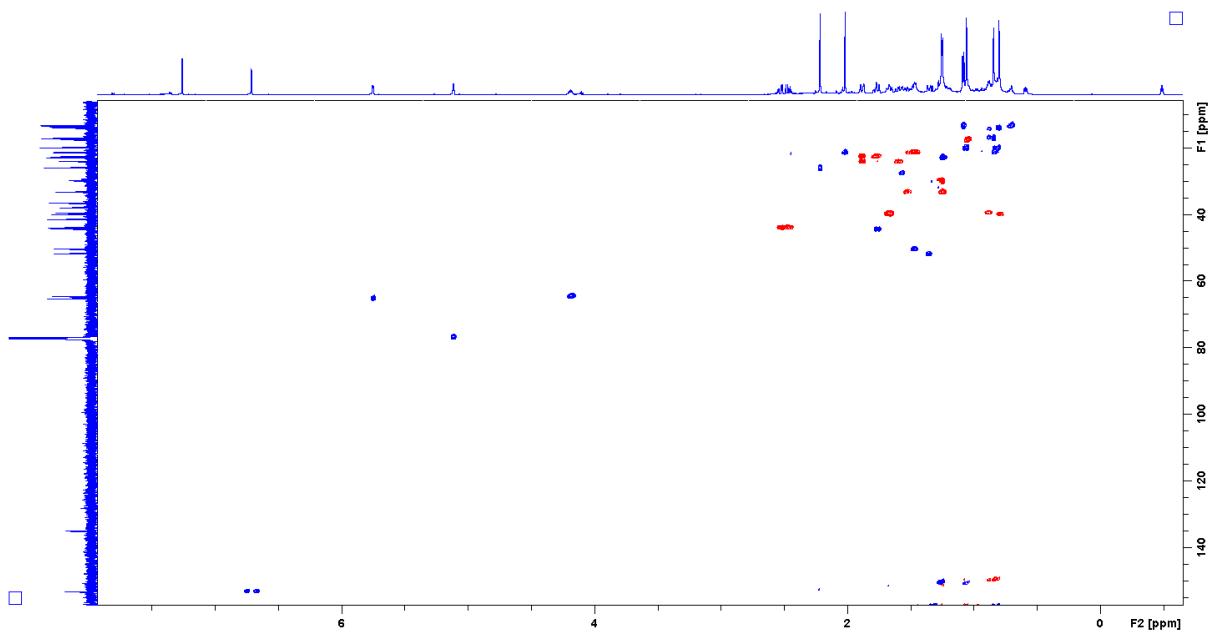


Figure S-31. HSQC spectrum of compound **5** ($CDCl_3$, 600 MHz).

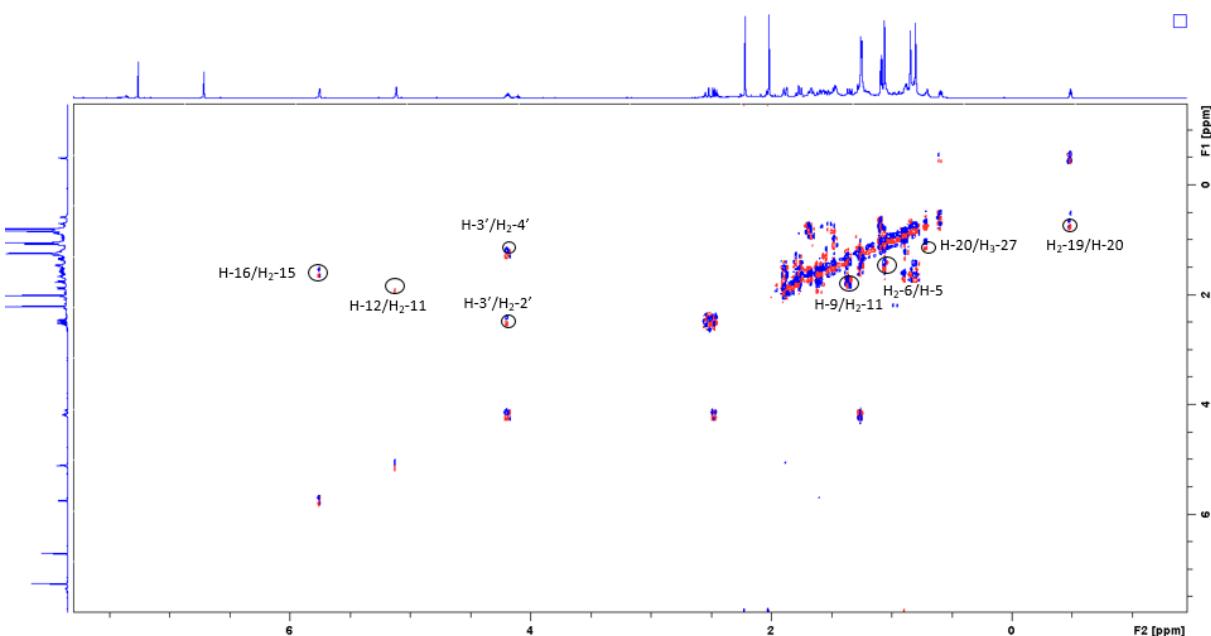


Figure S-32. 1H - 1H COSY spectrum of compound **5** ($CDCl_3$, 600 MHz).

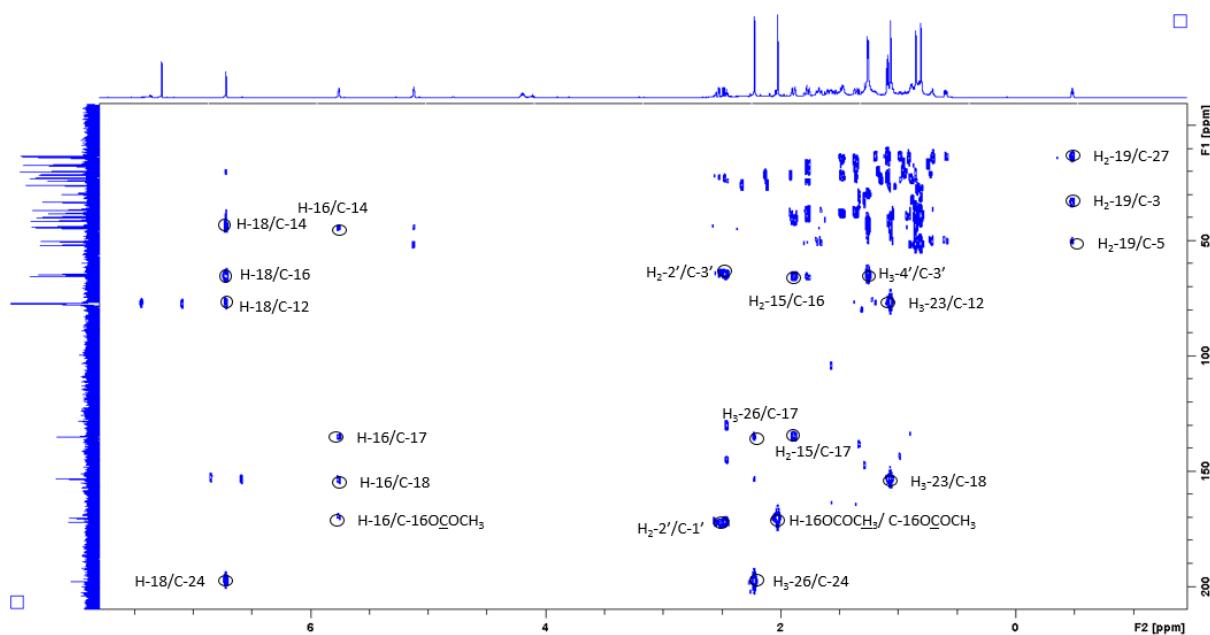


Figure S-33. HMBC spectrum of compound **5** (CDCl_3 , 600 MHz).

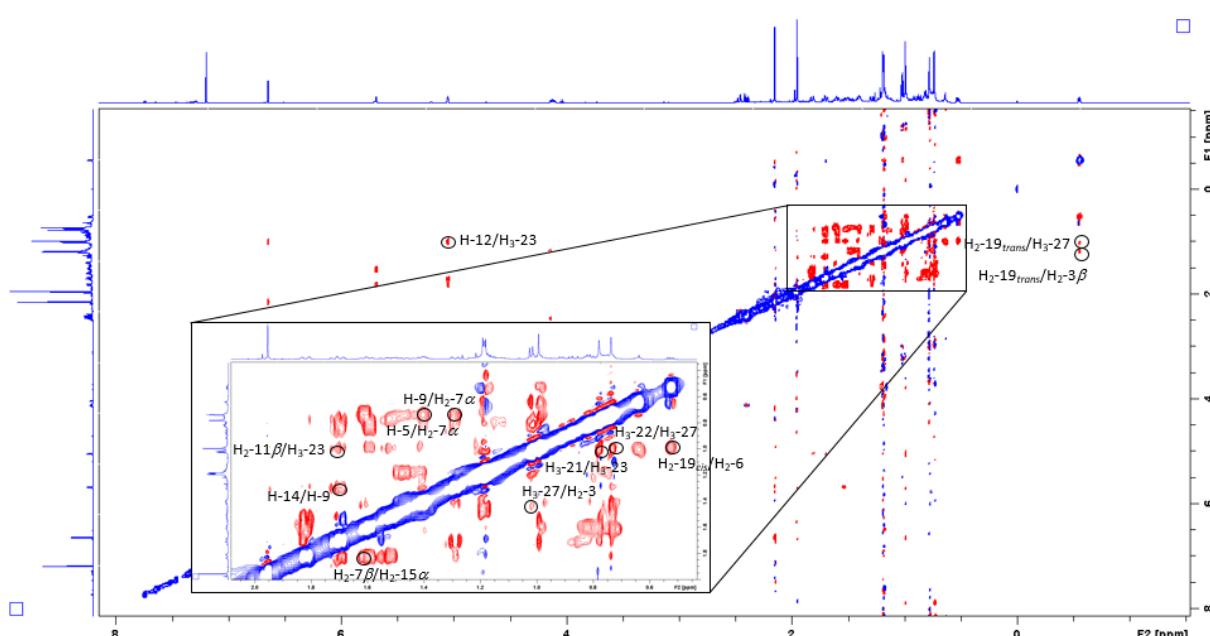


Figure S-34. NOESY spectrum of compound **5** (CDCl_3 , 600 MHz).

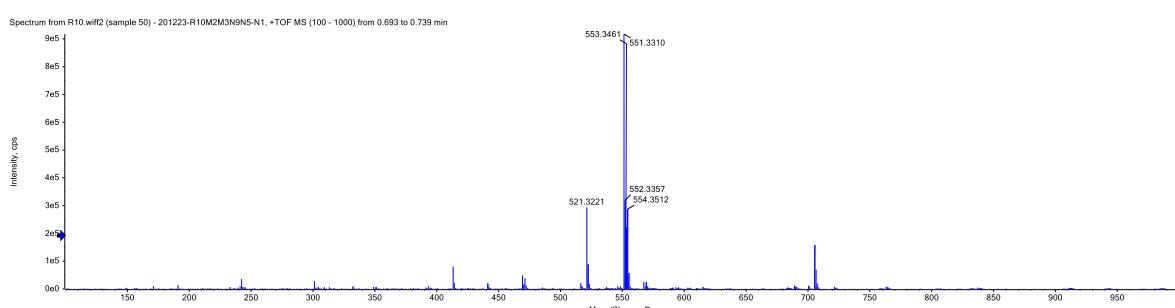


Figure S-35. HRMS spectrum of compound **5**.

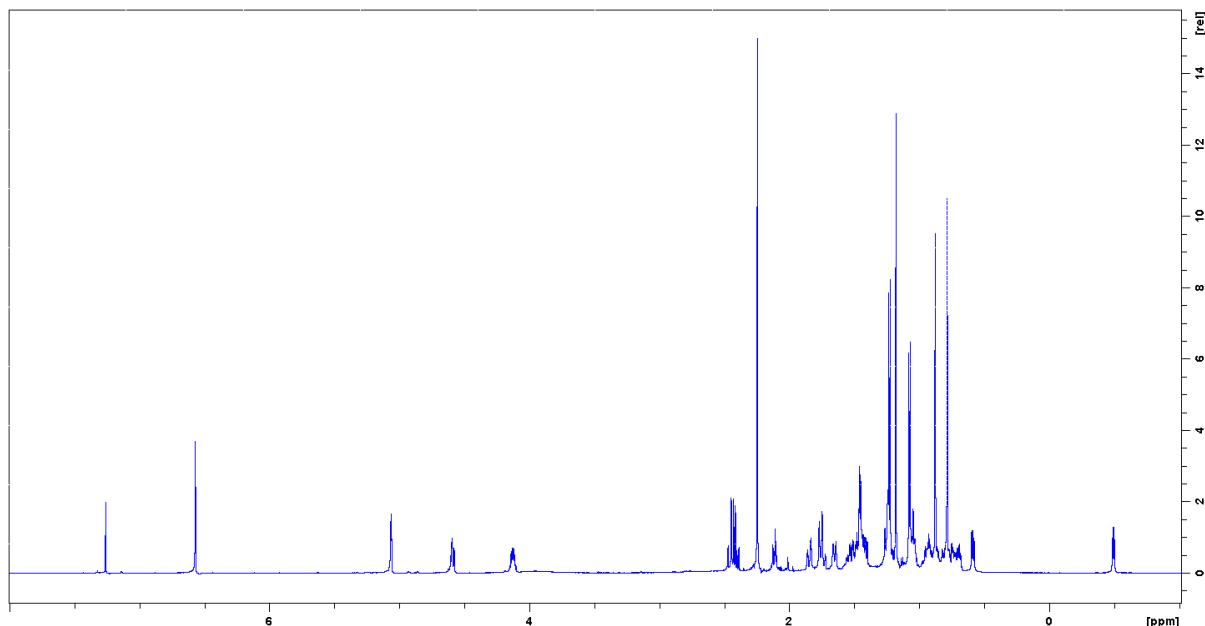
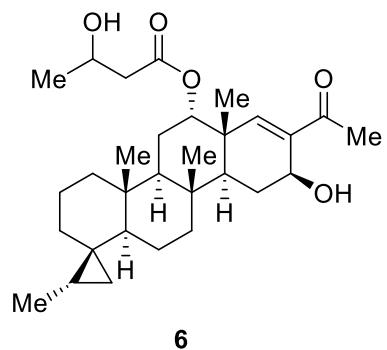


Figure S-36. ^1H NMR spectrum of compound **6** (CDCl_3 , 600 MHz).

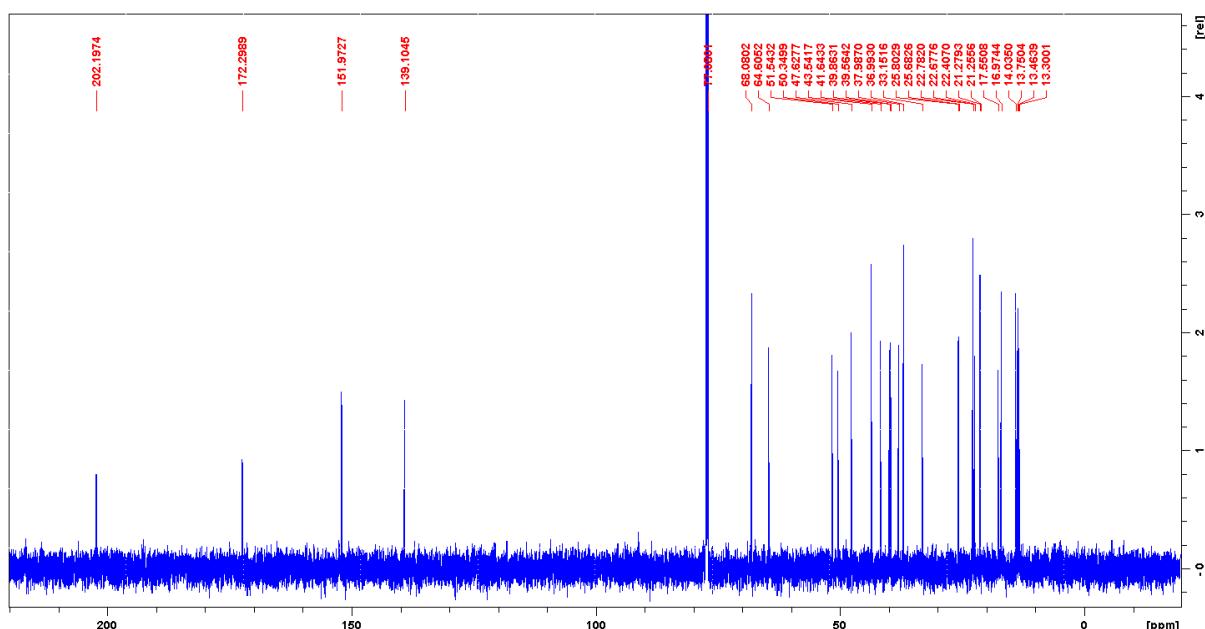


Figure S-37. ^{13}C NMR spectrum of compound **6** (CDCl_3 , 150 MHz).

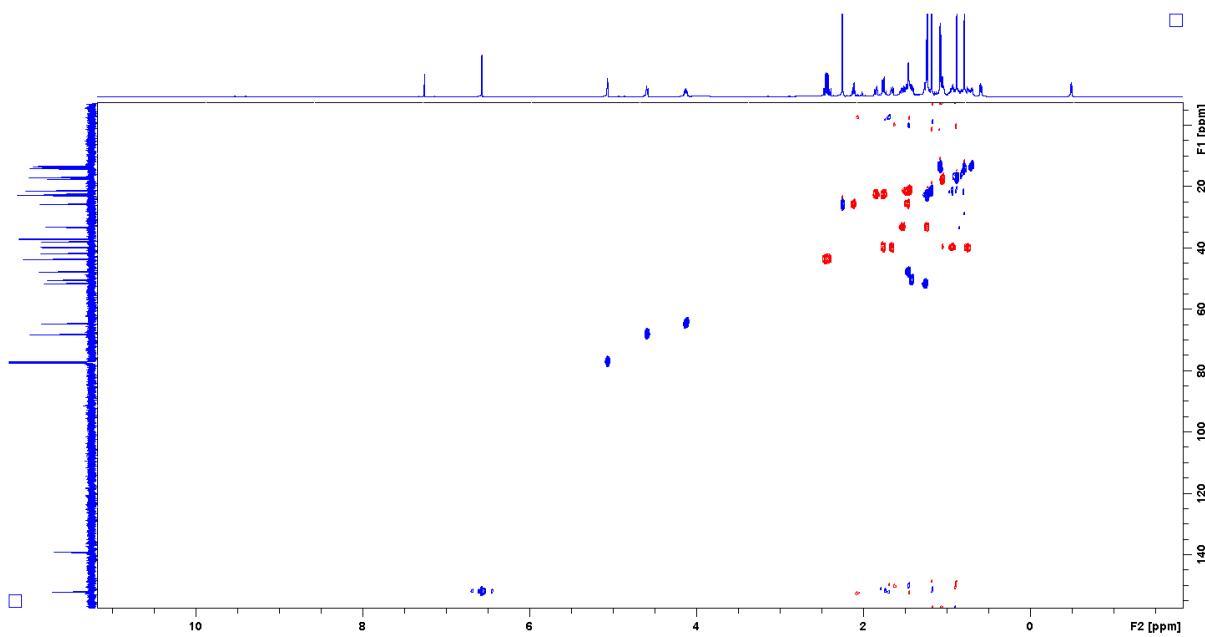


Figure S-38. HSQC spectrum of compound **6** (CDCl_3 , 600 MHz).

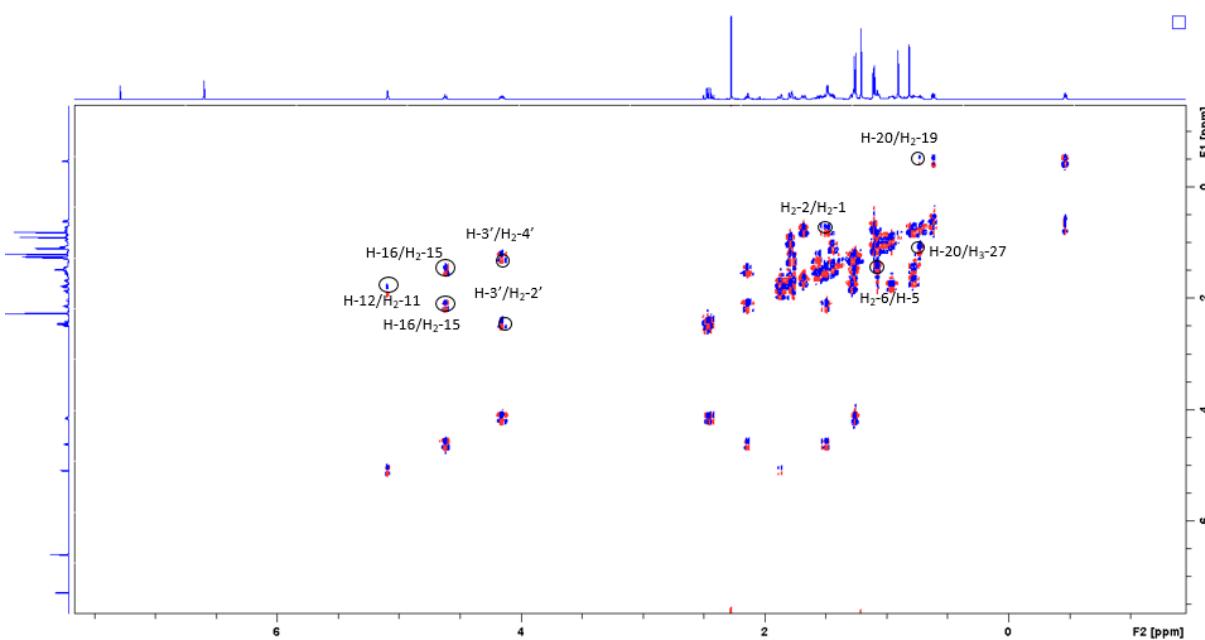


Figure S-39. ^1H - ^1H COSY spectrum of compound **6** (CDCl_3 , 600 MHz).

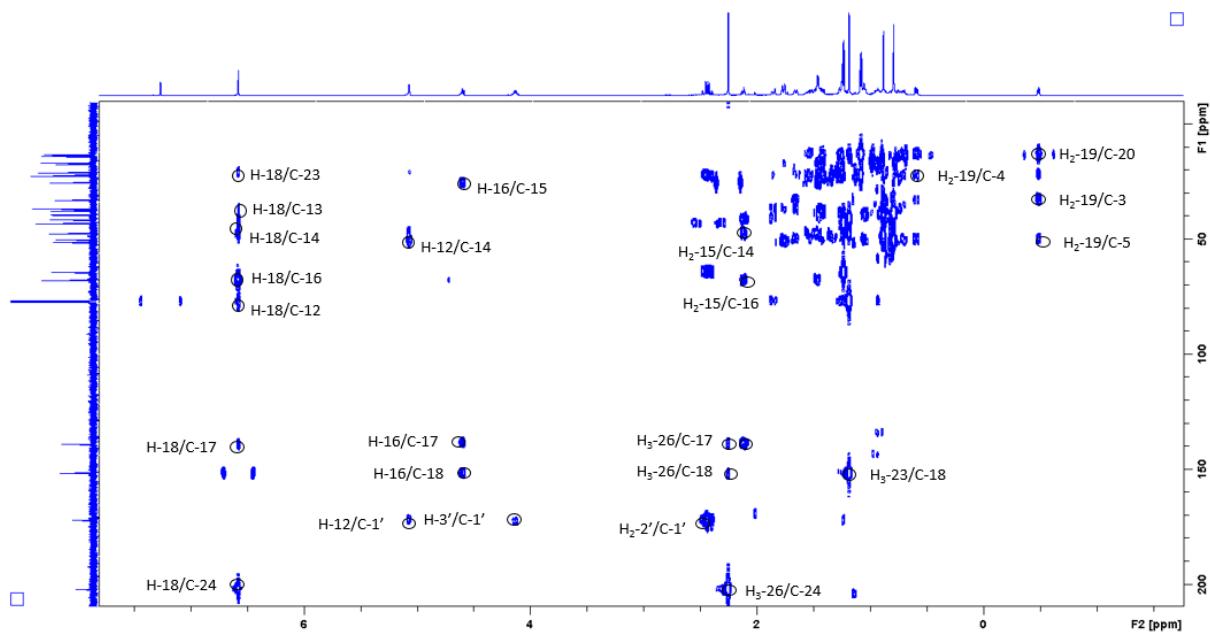


Figure S-40. HMBC spectrum of compound **6** (CDCl_3 , 600 MHz).

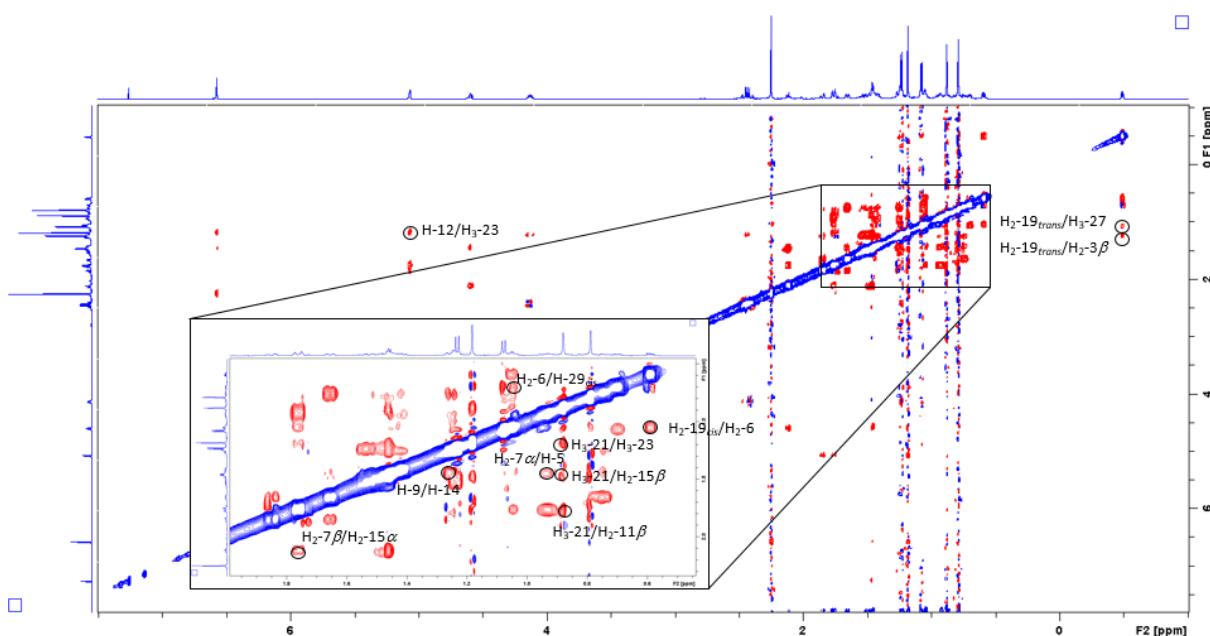


Figure S-41. NOESY spectrum of compound **6** (CDCl_3 , 600 MHz).

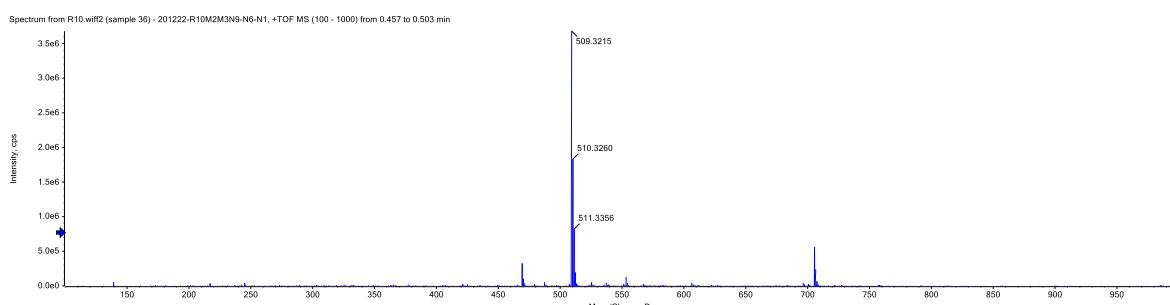


Figure S-42. HRMS spectrum of compound **6**.

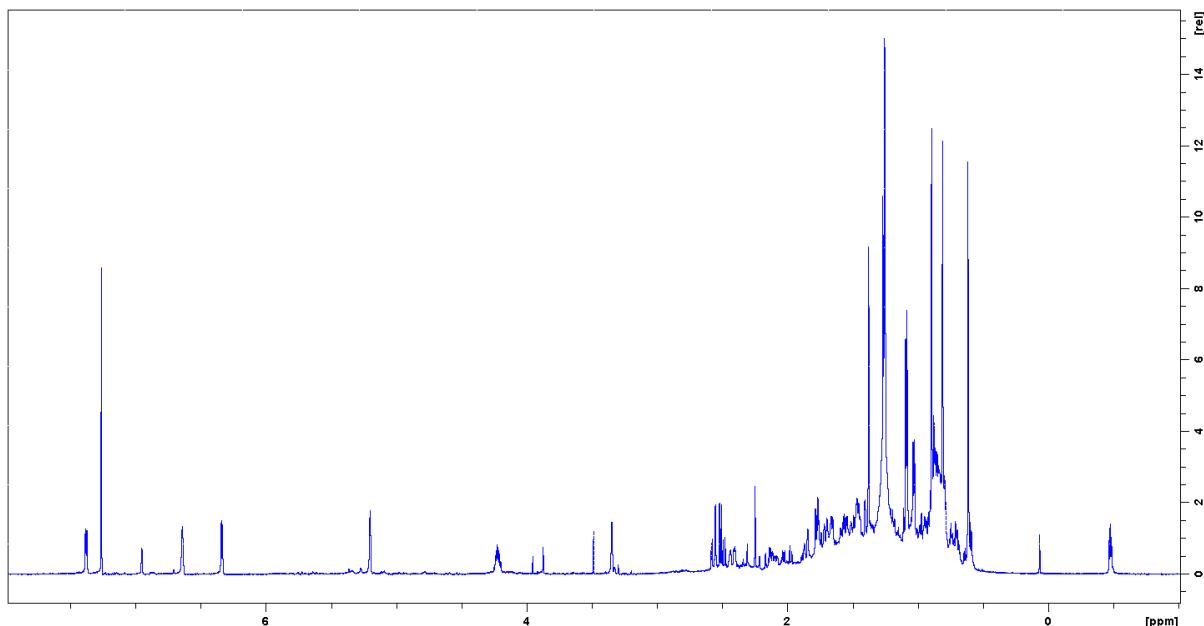
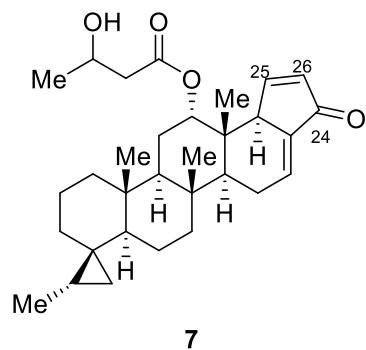


Figure S-43. ^1H NMR spectrum of compound 7 (CDCl_3 , 600 MHz).

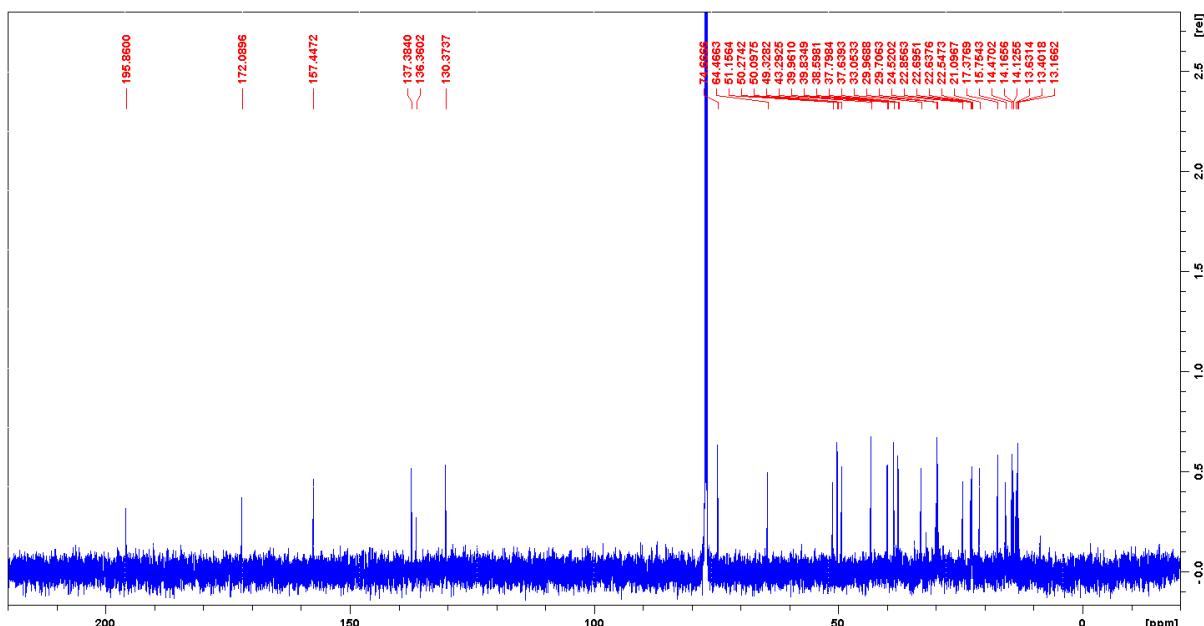


Figure S-44. ^{13}C NMR spectrum of compound 7 (CDCl_3 , 150 MHz).

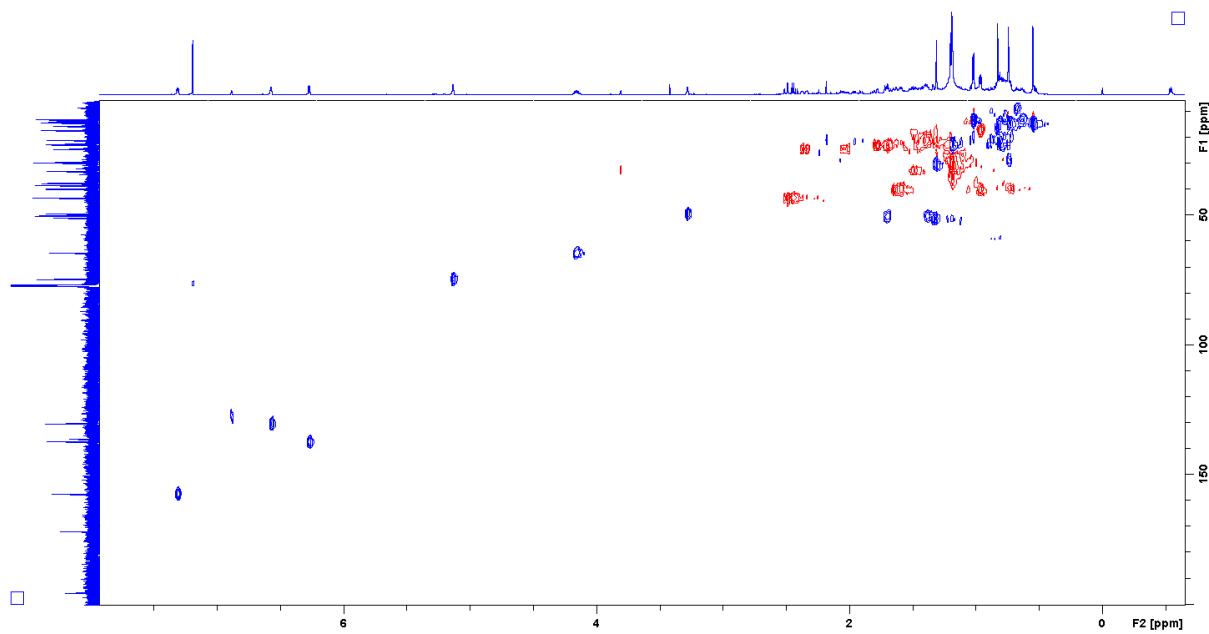


Figure S-45. HSQC spectrum of compound 7 (CDCl_3 , 600 MHz).

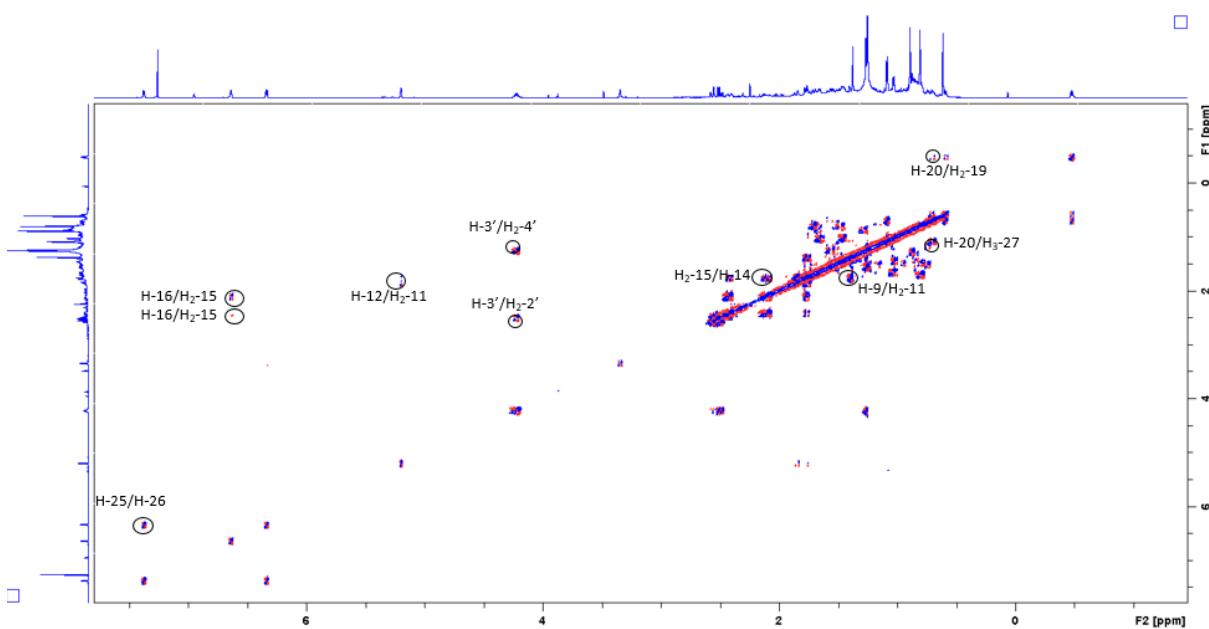


Figure S-46. ^1H - ^1H COSY spectrum of compound 7 (CDCl_3 , 600 MHz).

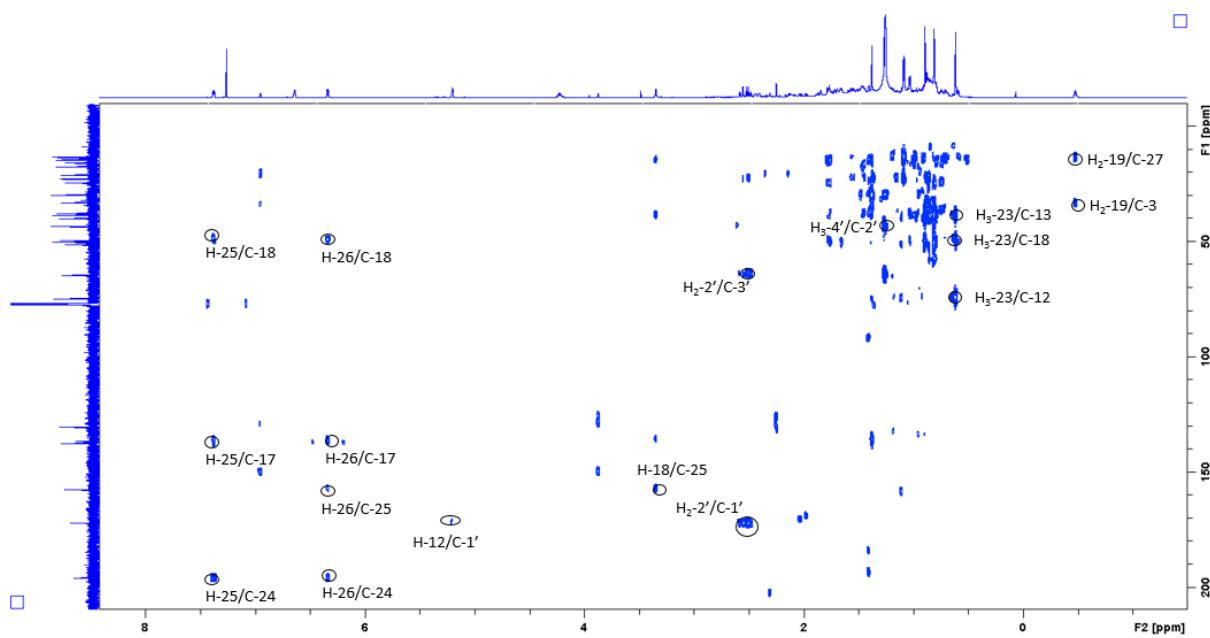


Figure S-47. HMBC spectrum of compound 7 (CDCl_3 , 600 MHz).

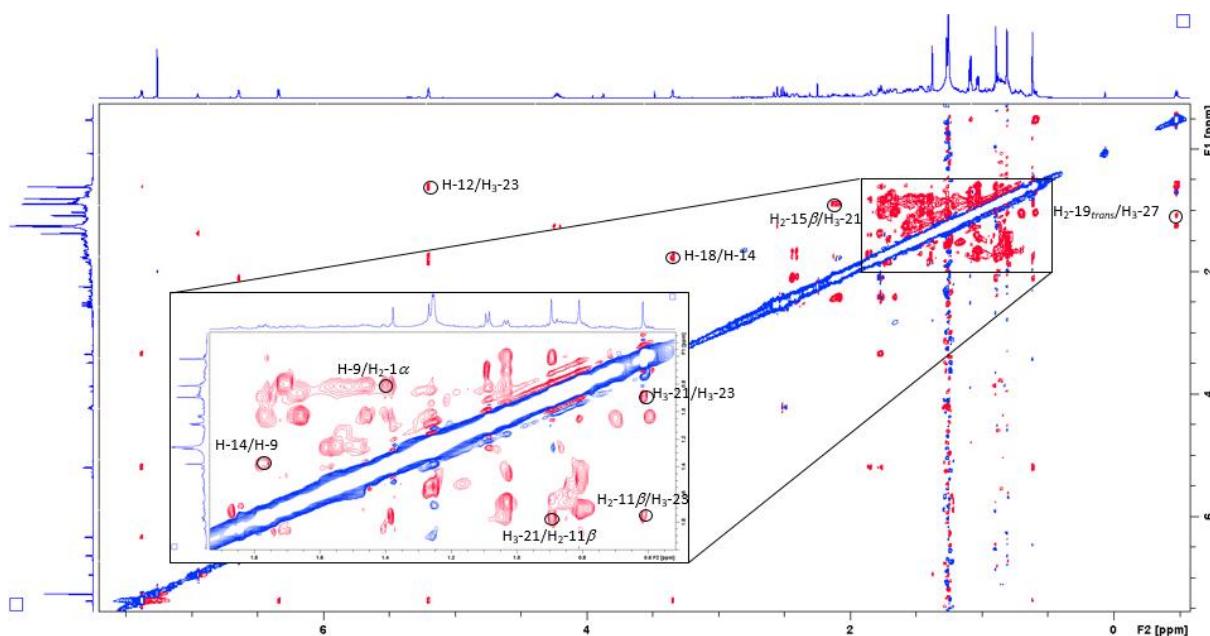


Figure S-48. NOESY spectrum of compound 7 (CDCl_3 , 600 MHz).

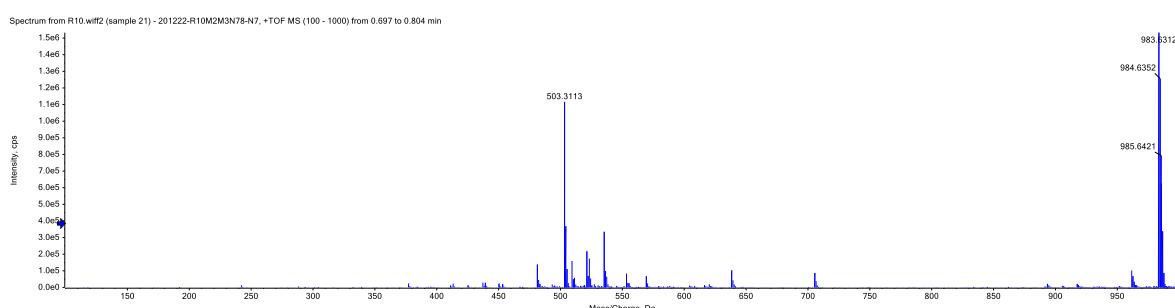


Figure S-49. HRMS spectrum of compound 7.

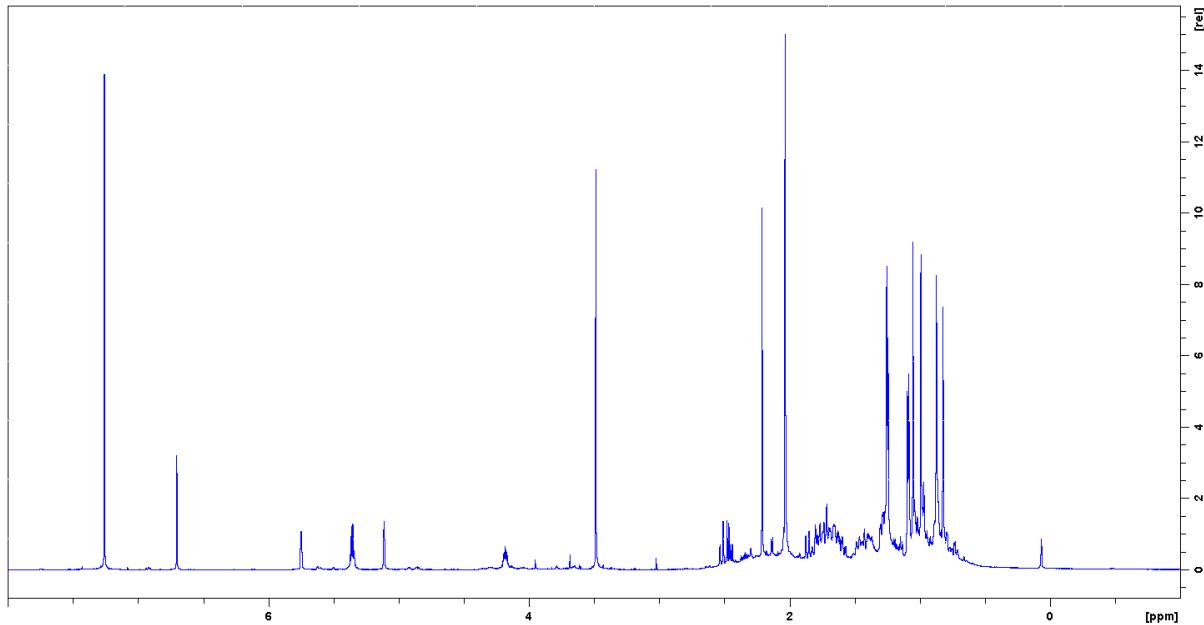
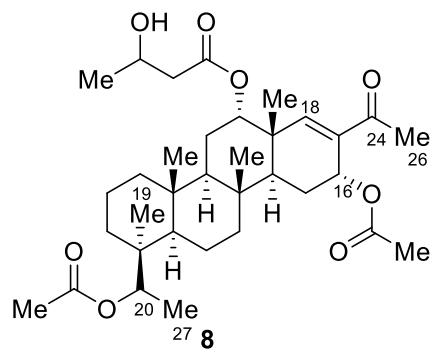


Figure S-50. ^1H NMR spectrum of compound **8** (CDCl_3 , 600 MHz).

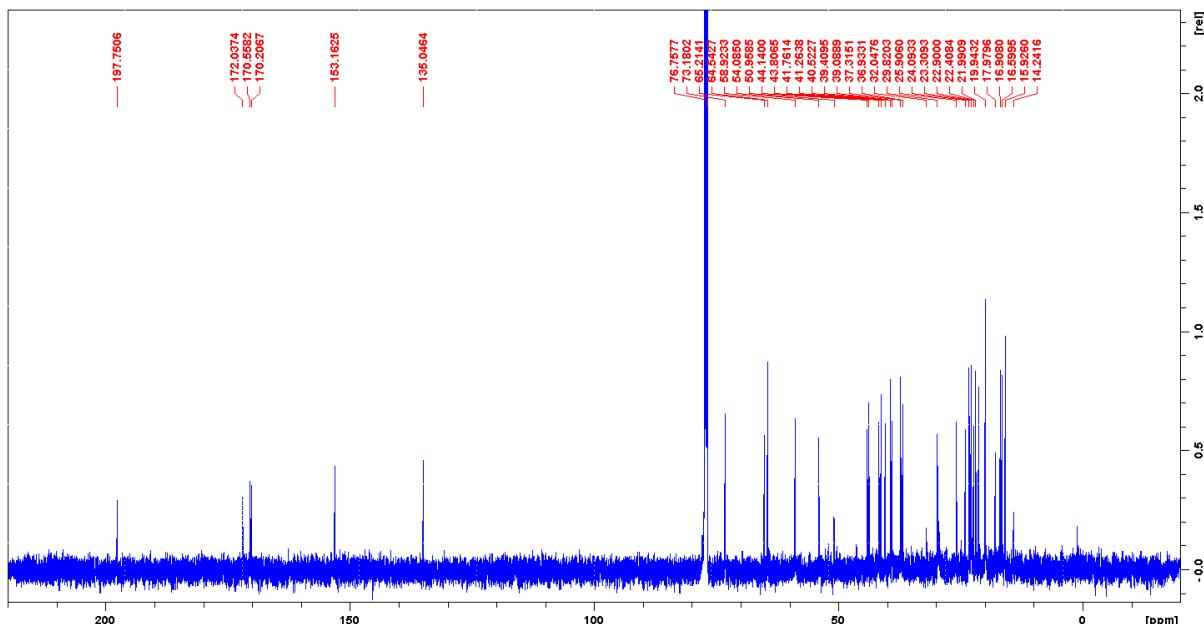


Figure S-51. ^{13}C NMR spectrum of compound **8** (CDCl_3 , 150 MHz).

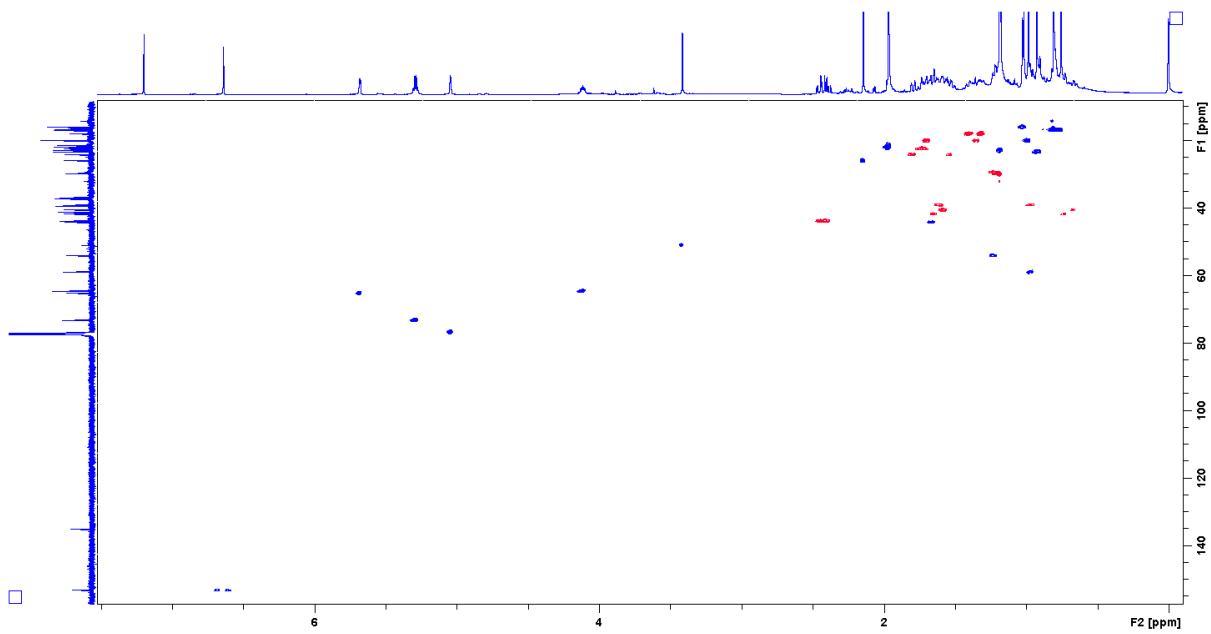


Figure S-52. HSQC spectrum of compound **8** (CDCl_3 , 600 MHz).

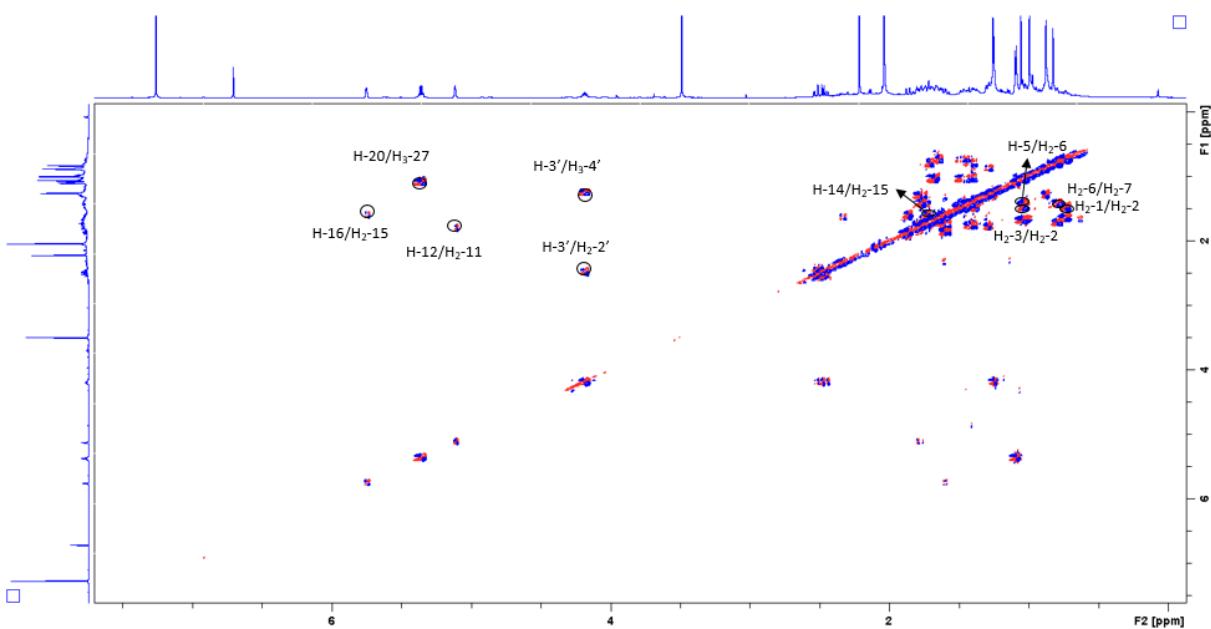


Figure S-53. ^1H - ^1H COSY spectrum of compound **8** (CDCl_3 , 600 MHz).

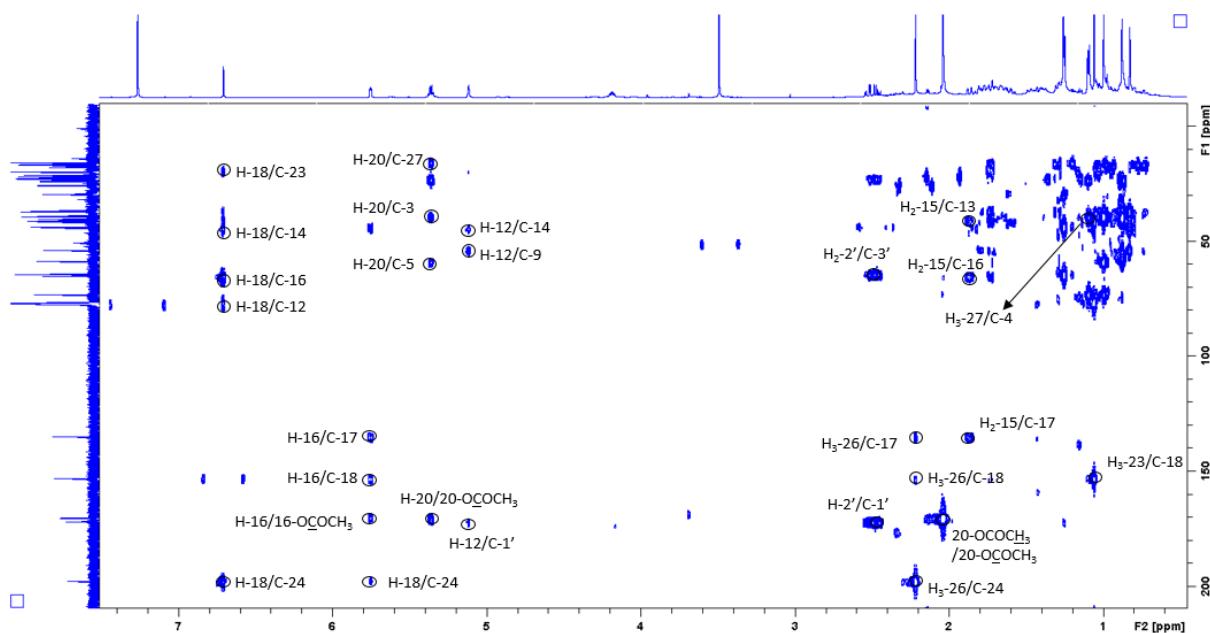


Figure S-54. HMBC spectrum of compound **8** (CDCl_3 , 600 MHz).

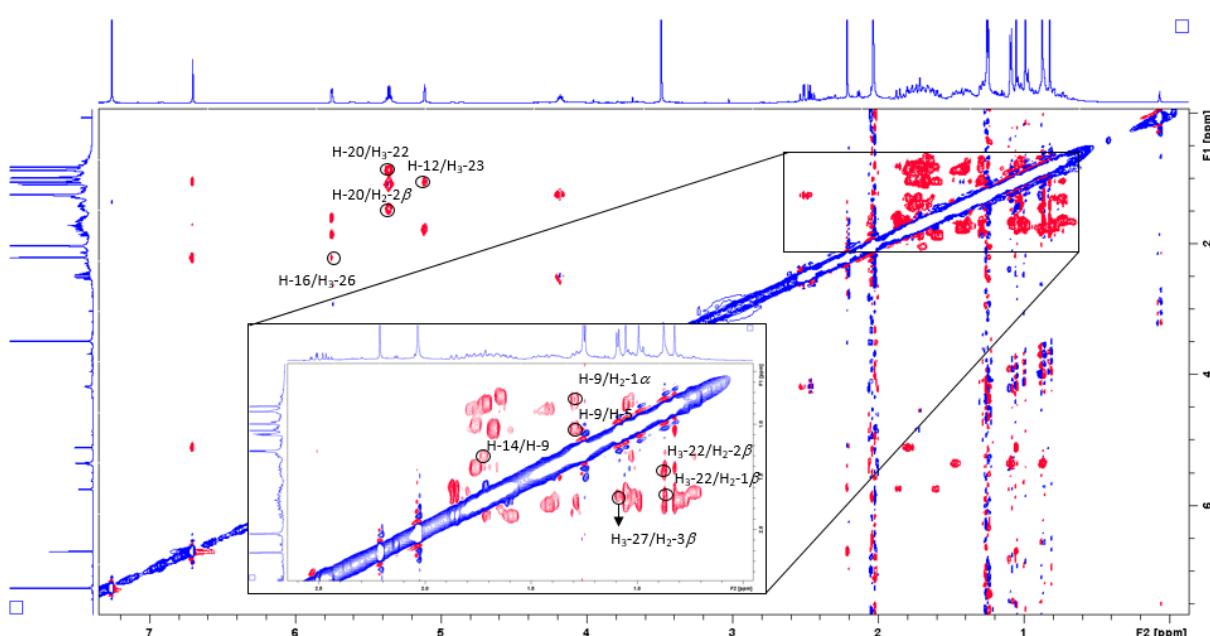


Figure S-55. NOESY spectrum of compound **8** (CDCl_3 , 600 MHz).

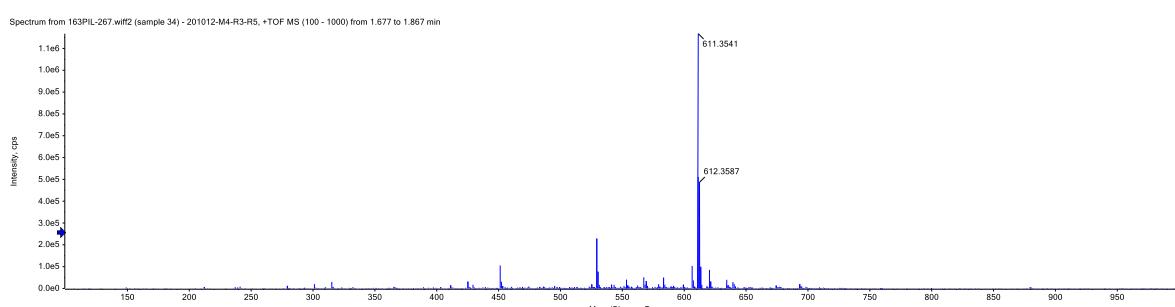


Figure S-56. HRMS of compound **8**.

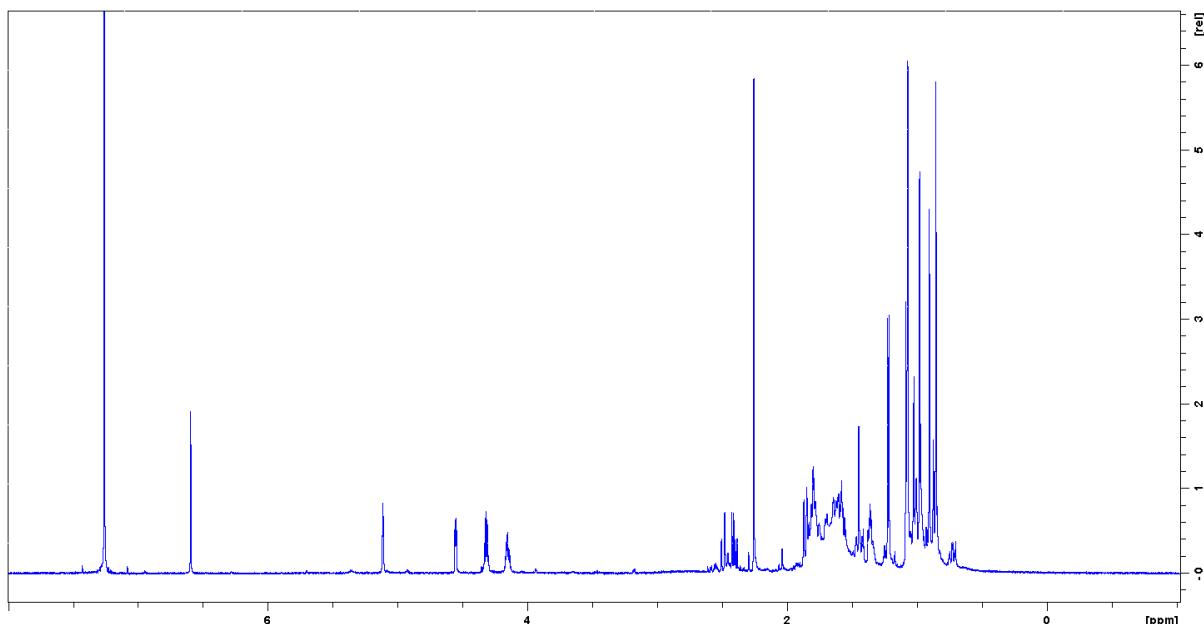
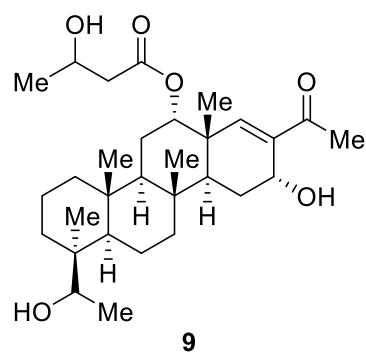


Figure S-57. ^1H NMR spectrum of compound **9** (CDCl_3 , 600 MHz).

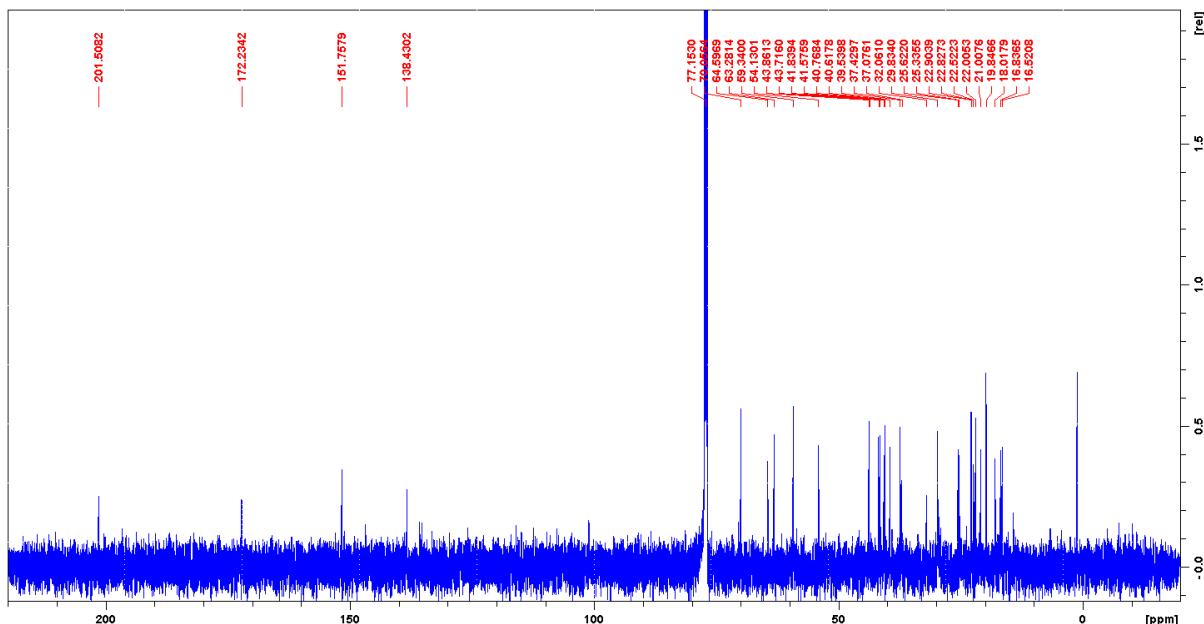


Figure S-58. ^{13}C NMR spectrum of compound **9** (CDCl_3 , 150 MHz).

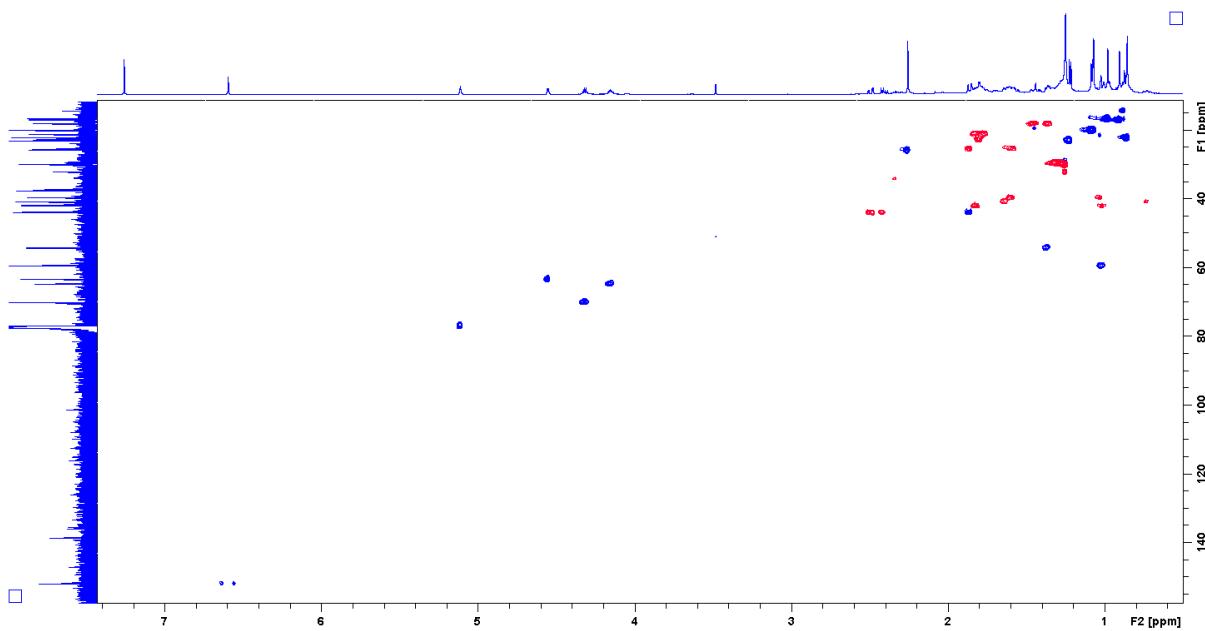


Figure S-59. HSQC spectrum of compound **9** (CDCl_3 , 600 MHz).

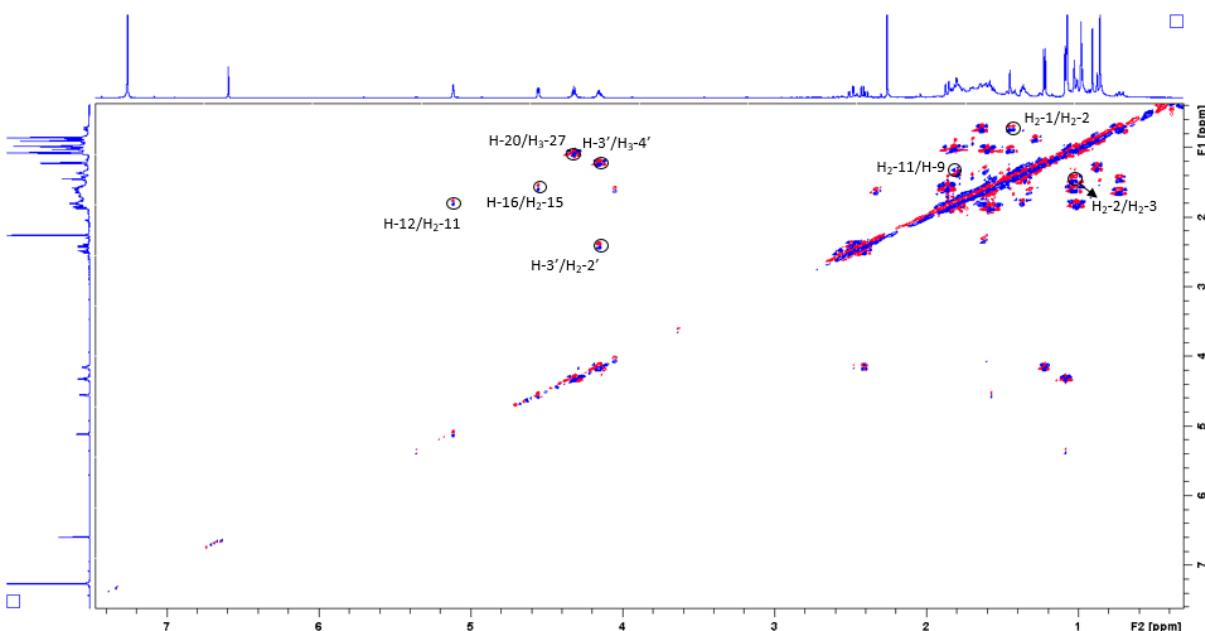


Figure S-60. ^1H - ^1H COSY spectrum of compound **9** (CDCl_3 , 600 MHz).

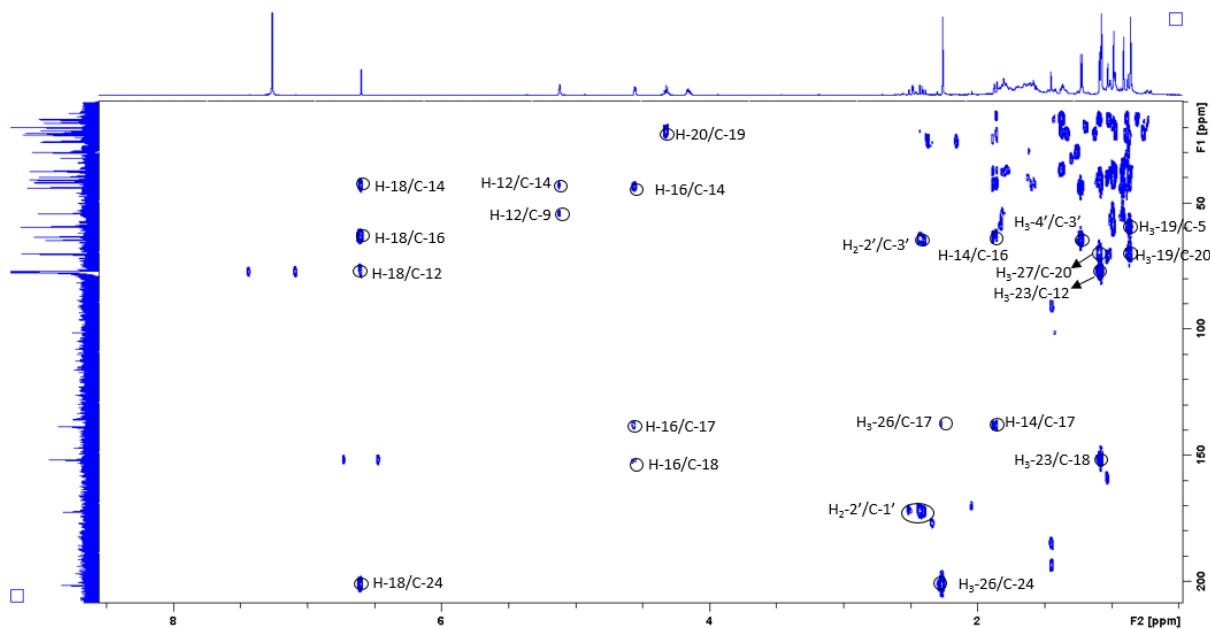


Figure S-61. HMBC spectrum of compound **9** (CDCl_3 , 600 MHz).

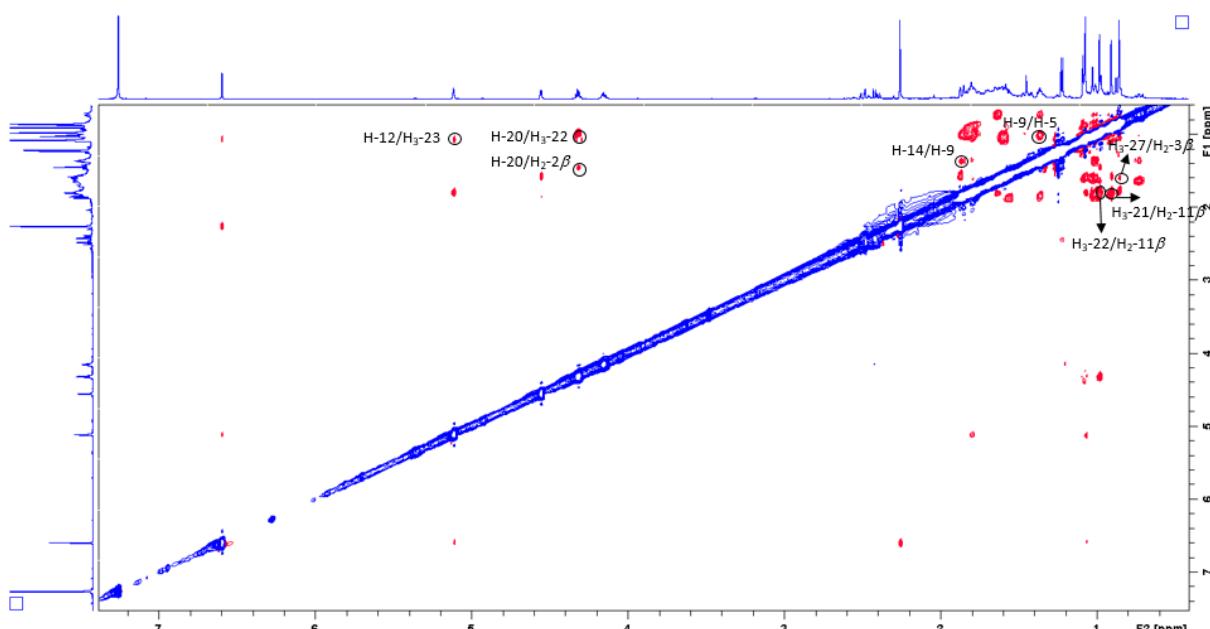


Figure S-62. NOESY spectrum of compound **9** (CDCl_3 , 600 MHz).

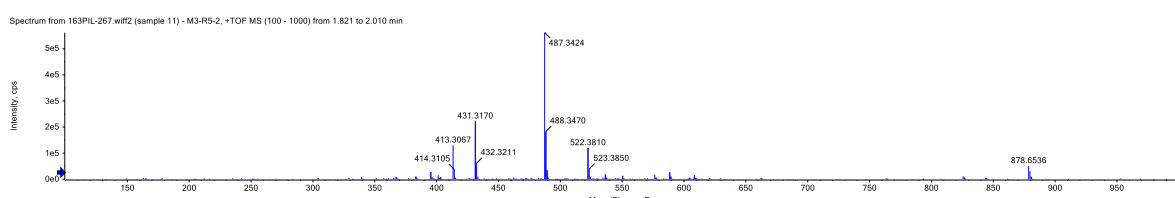


Figure S-63. HRMS spectrum of compound **9**.

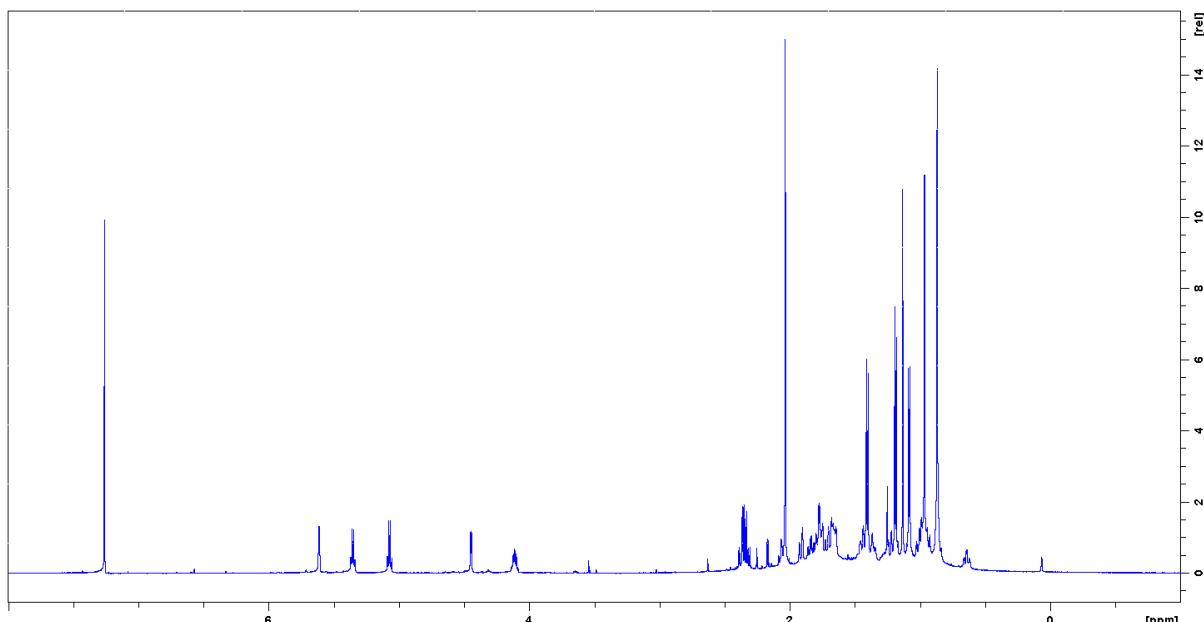
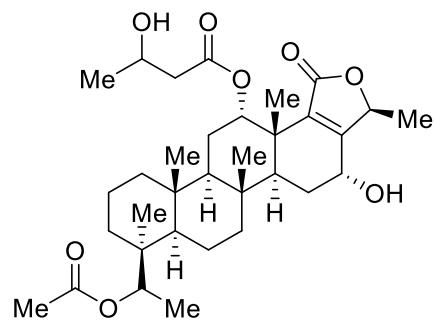


Figure S-64. ^1H NMR spectrum of compound **10** (CDCl_3 , 600 MHz).

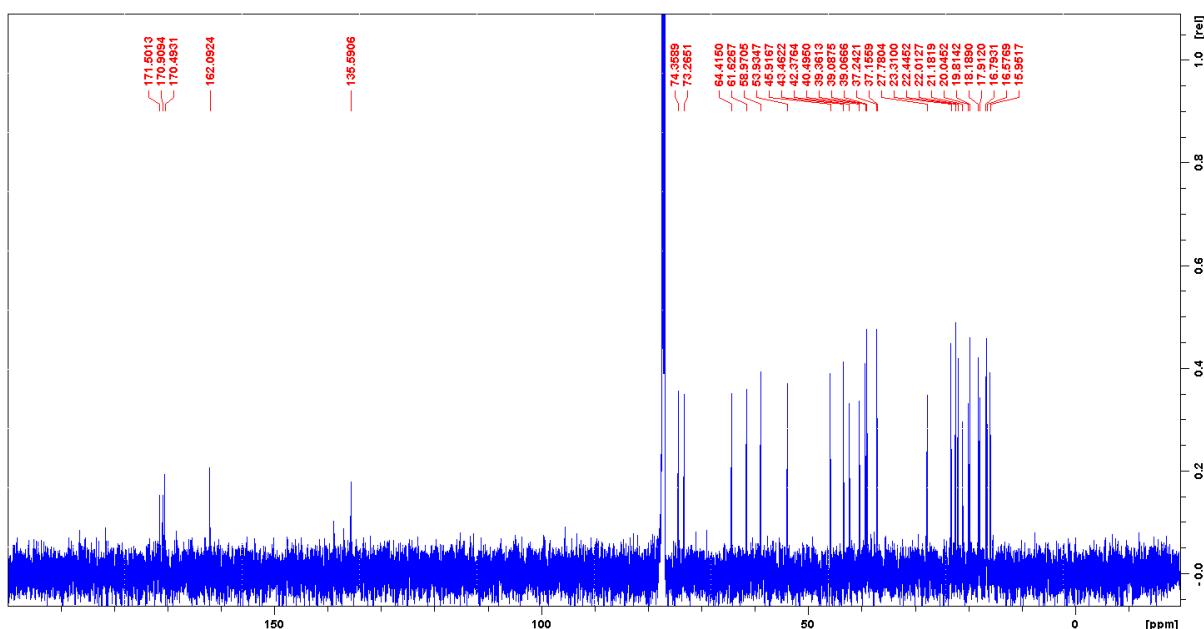


Figure S-65. ^{13}C NMR spectrum of compound **10** (CDCl_3 , 150 MHz).

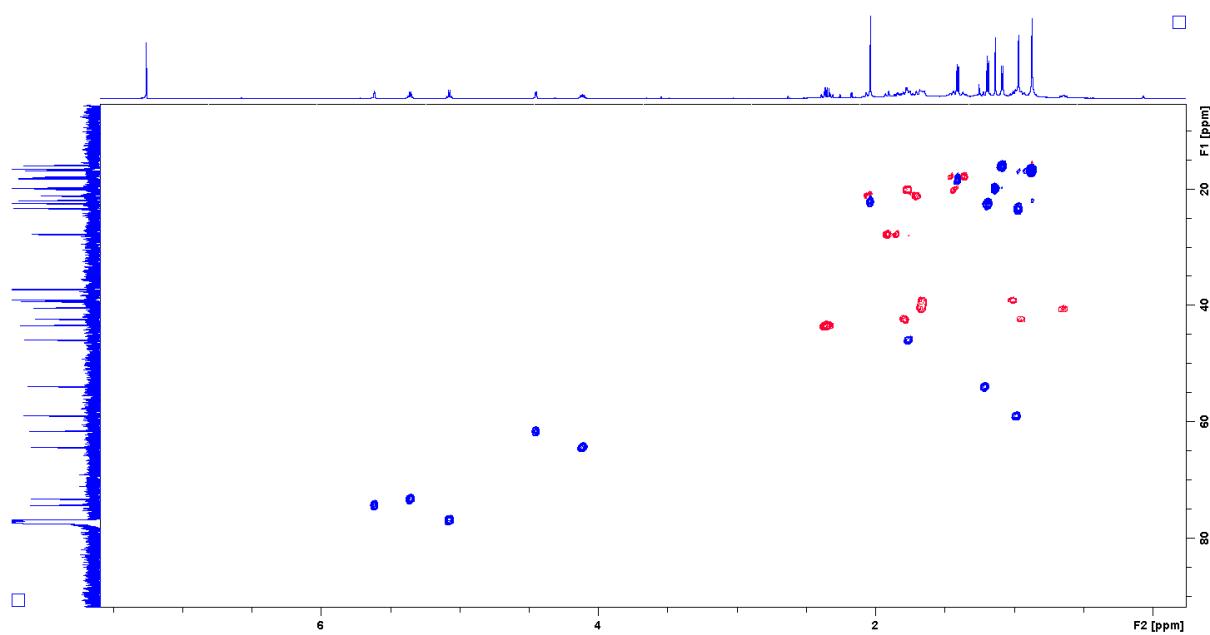


Figure S-66. HSQC spectrum of compound **10** (CDCl_3 , 600 MHz).

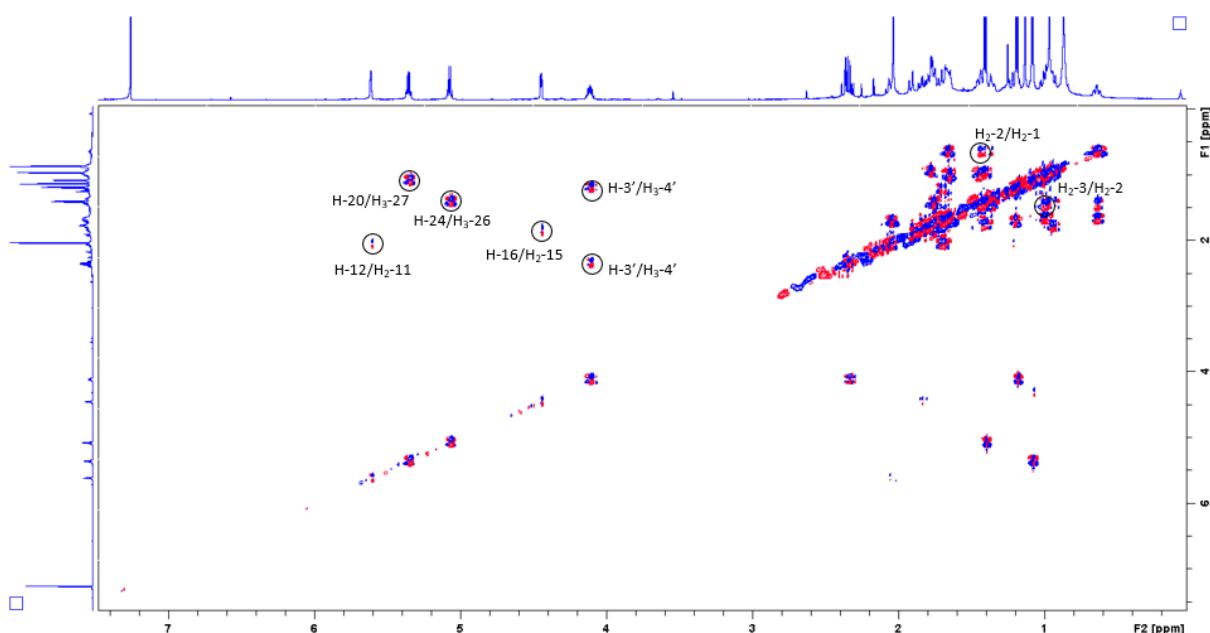


Figure S-67. ^1H - ^1H COSY spectrum of compound **10** (CDCl_3 , 600 MHz).

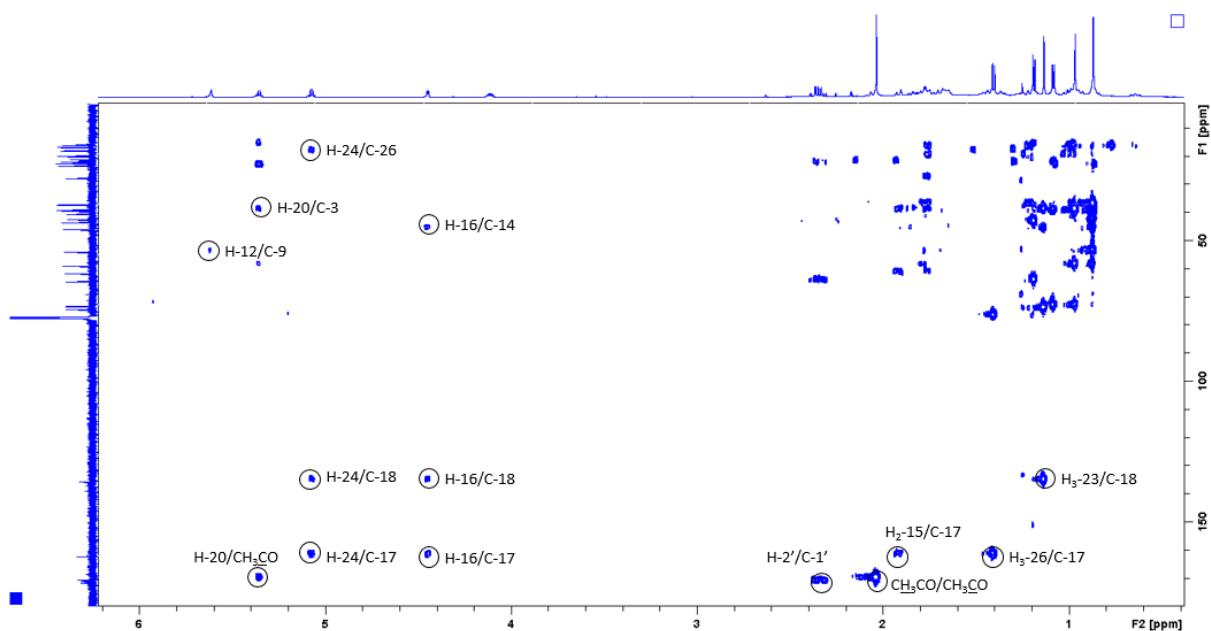


Figure S-68. HMBC spectrum of compound **10** (CDCl_3 , 600 MHz).

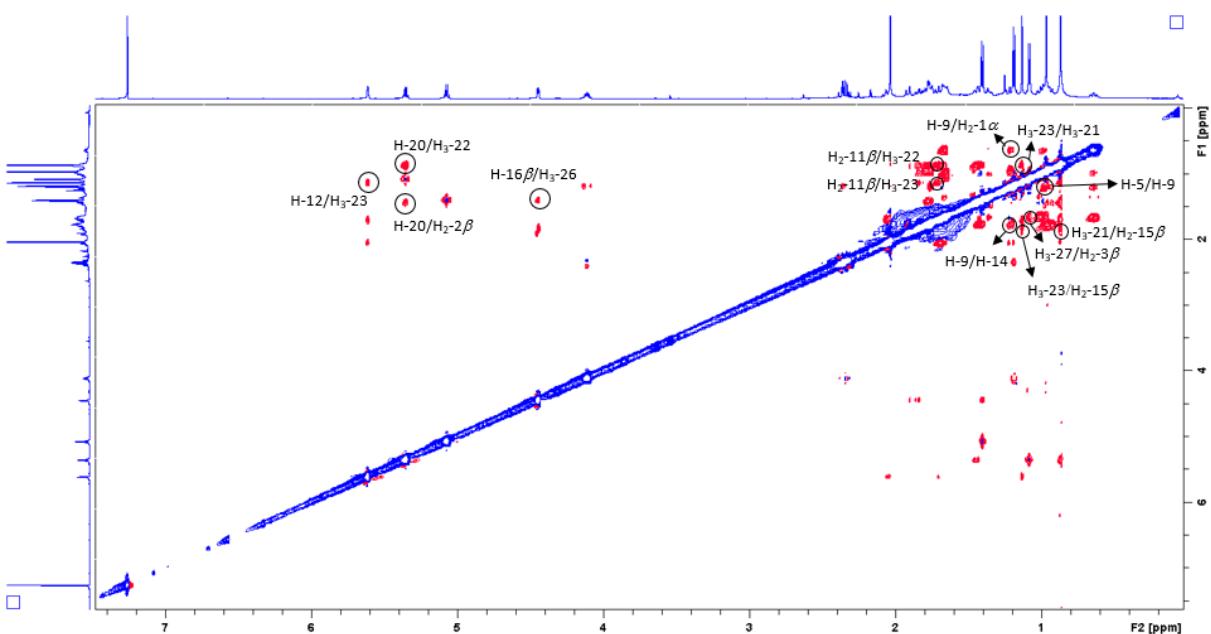


Figure S-69. NOESY spectrum of compound **10** (CDCl_3 , 600 MHz).

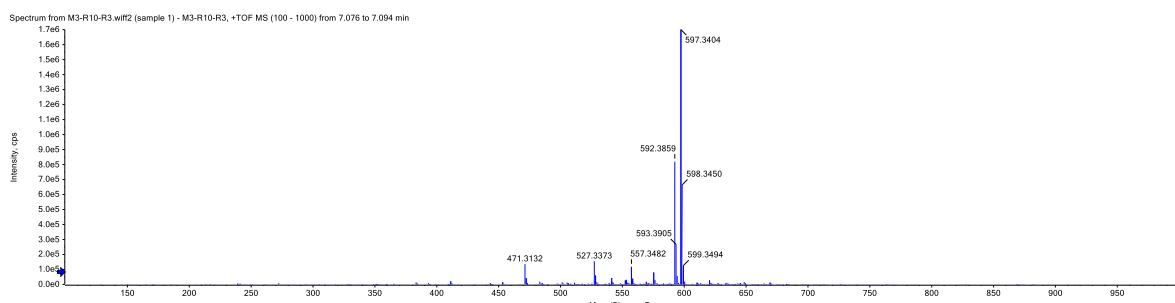


Figure S-70. HRMS spectrum of compound **10**.

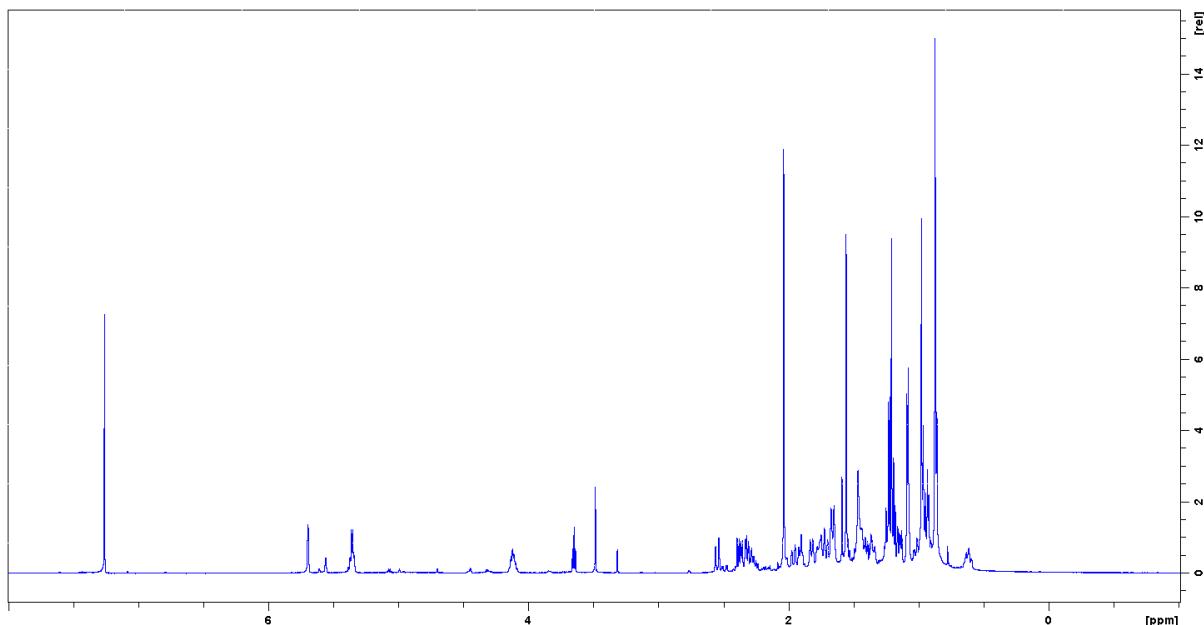
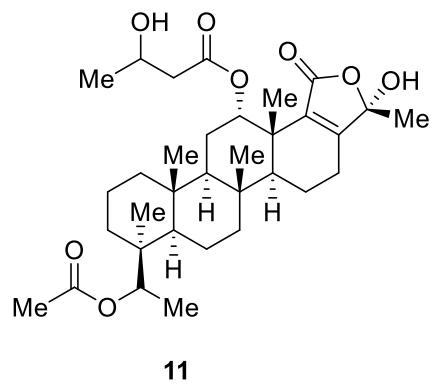


Figure S-71. ^1H NMR spectrum of compound **11** (CDCl_3 , 600 MHz).

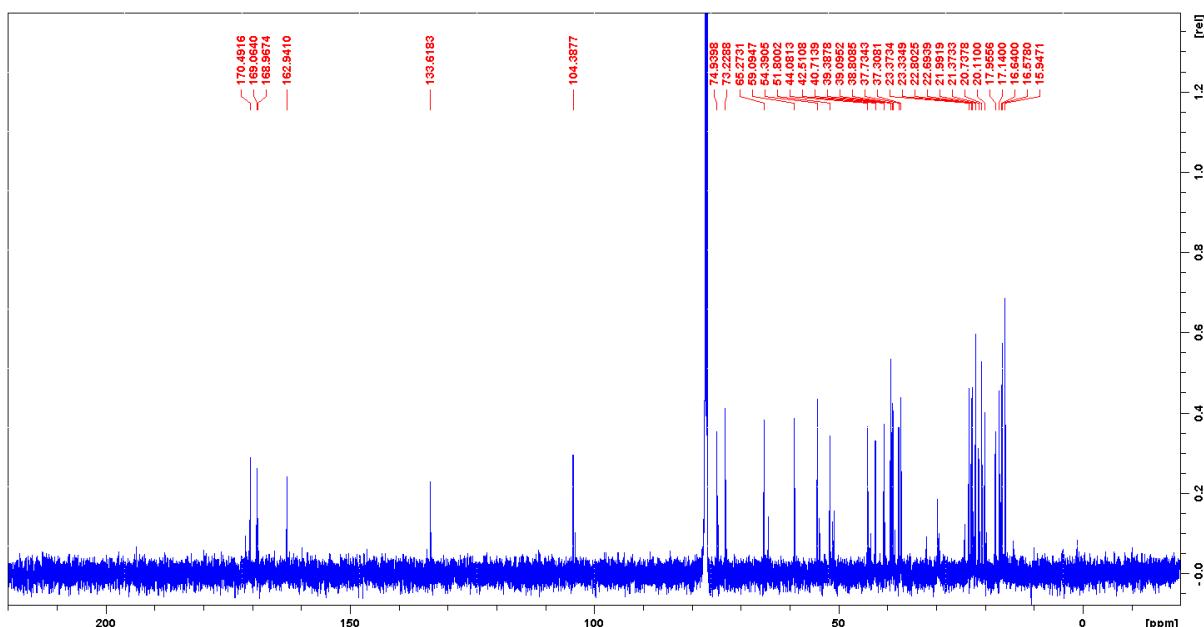


Figure S-72. ^{13}C NMR spectrum of compound **11** (CDCl_3 , 150 MHz).

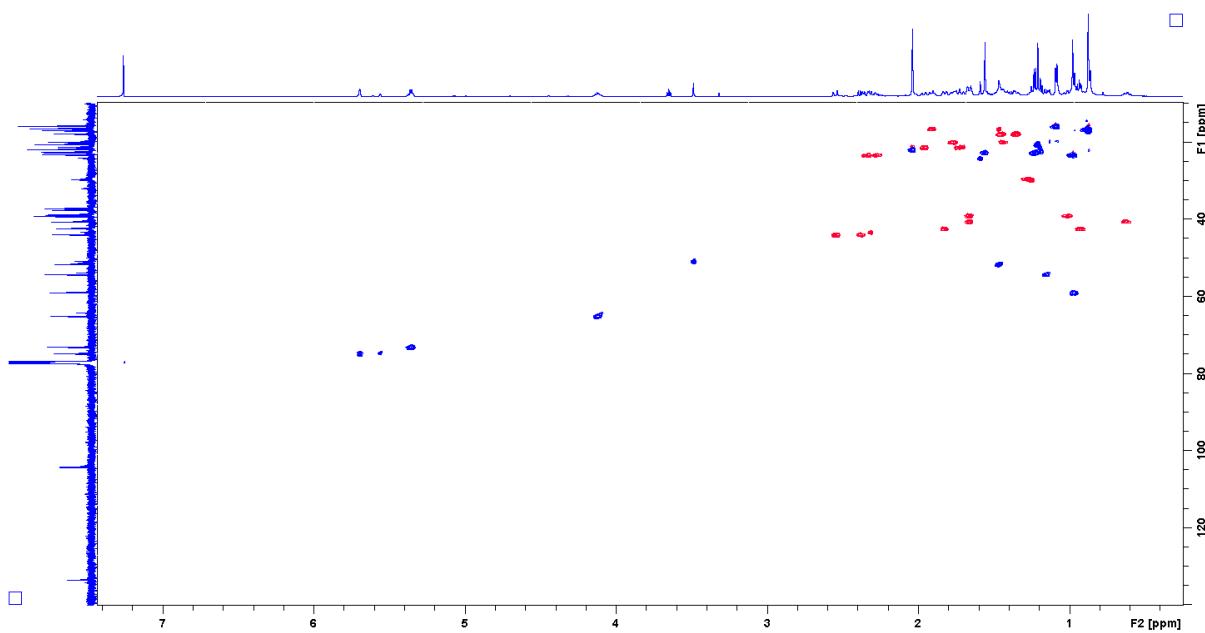


Figure S-73. HSQC spectrum of compound 11 (CDCl_3 , 600 MHz).

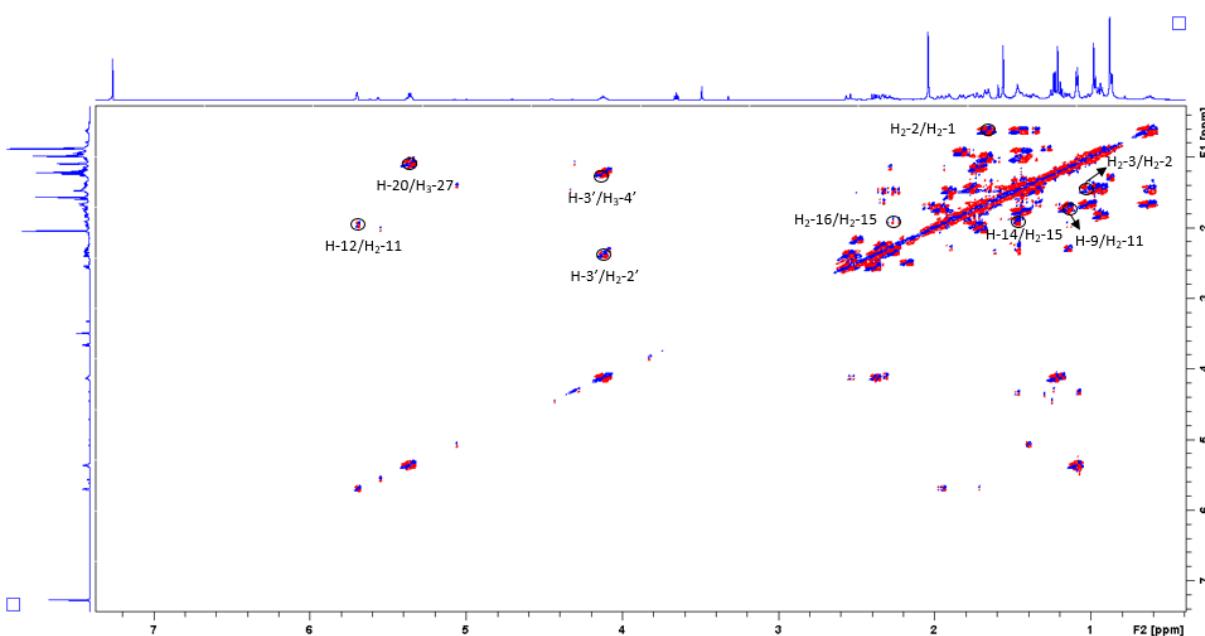


Figure S-74. ^1H - ^1H COSY spectrum of compound 11 (CDCl_3 , 600 MHz).

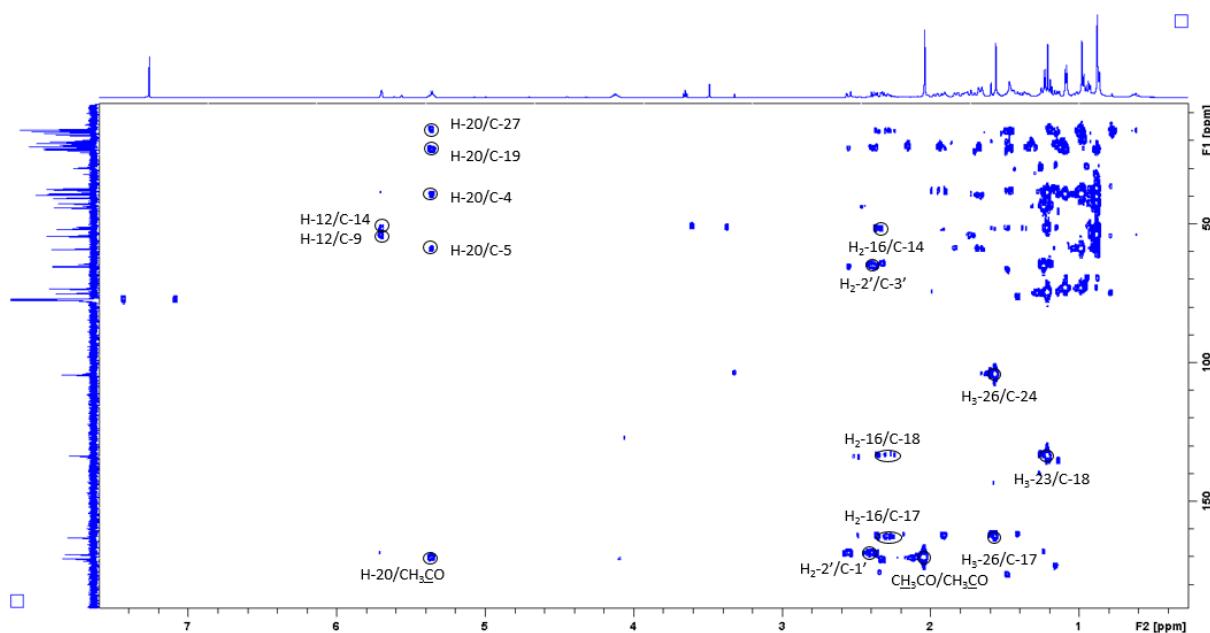


Figure S-75. HMBC spectrum of compound **11** (CDCl_3 , 600 MHz).

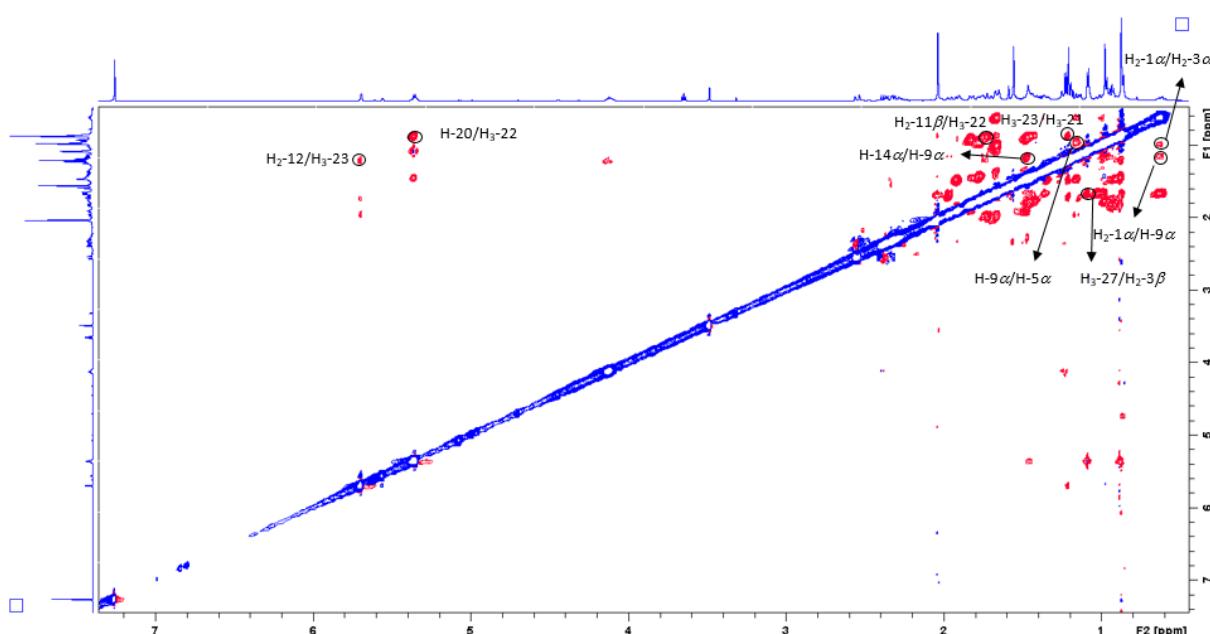


Figure S-76. NOESY spectrum of compound **11** (CDCl_3 , 600 MHz).

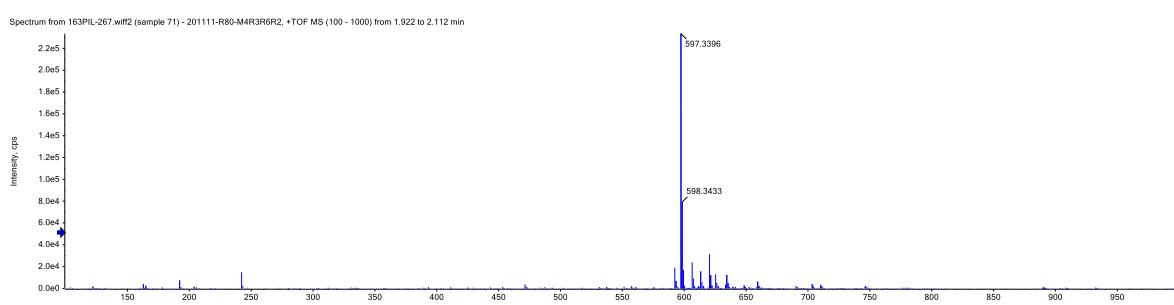


Figure S-77. HRMS spectrum of compound **11**.

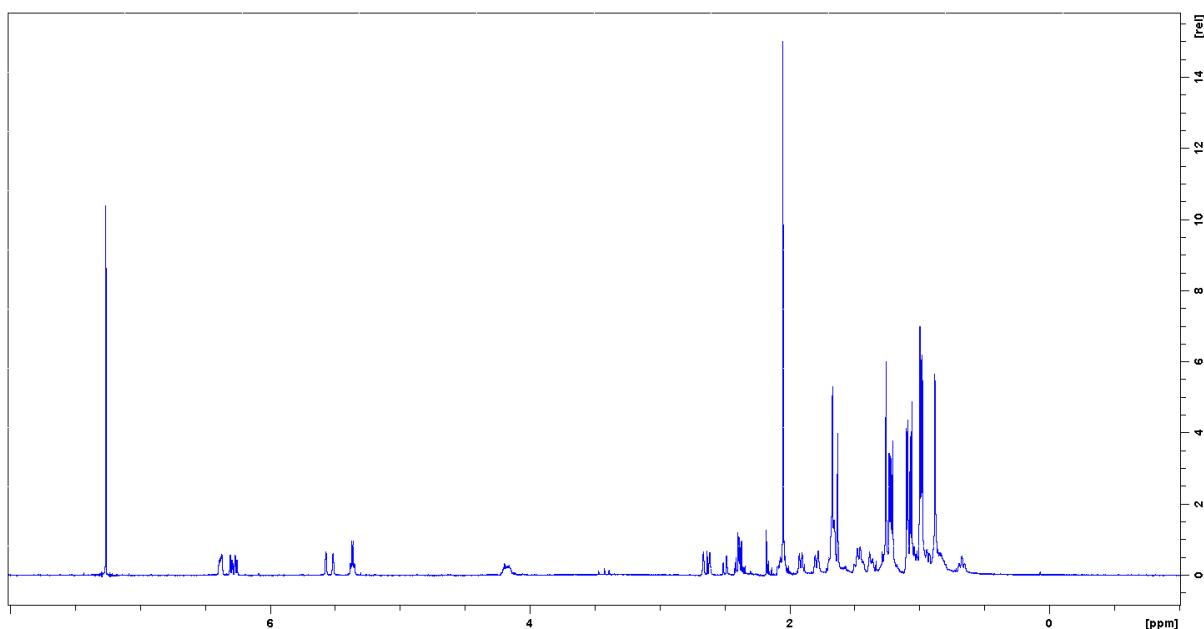
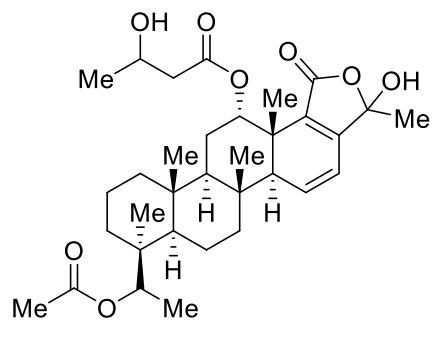


Figure S-78. ^1H NMR spectrum of compound **12** (CDCl_3 , 600 MHz).

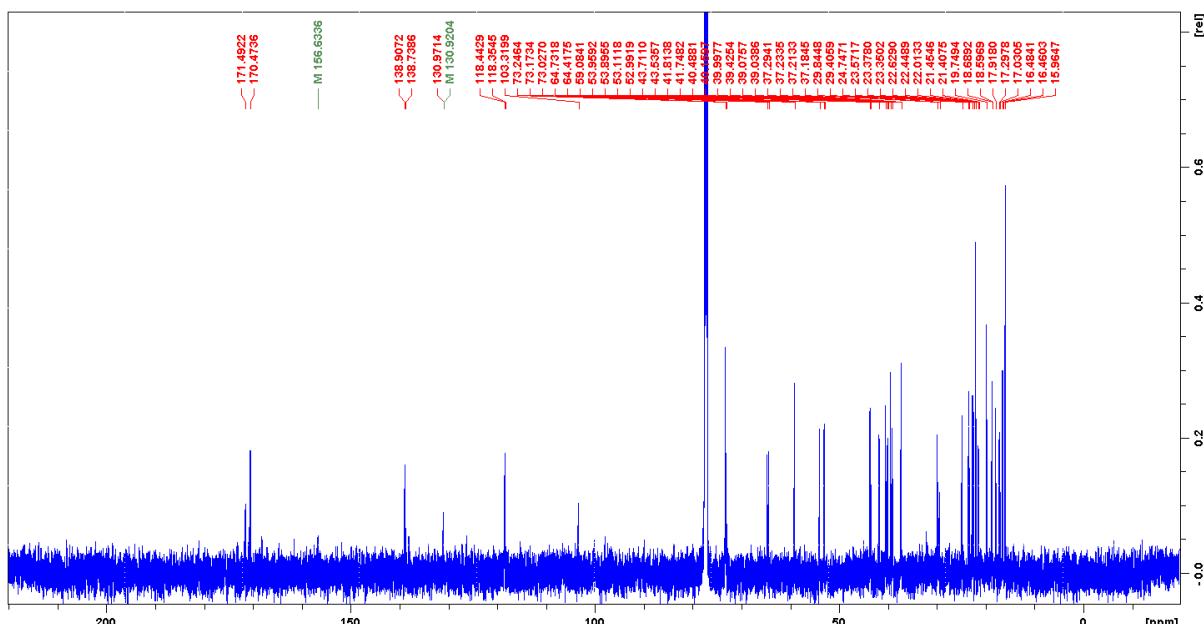


Figure S-79. ^{13}C NMR spectrum of compound **12** (CDCl_3 , 150 MHz).

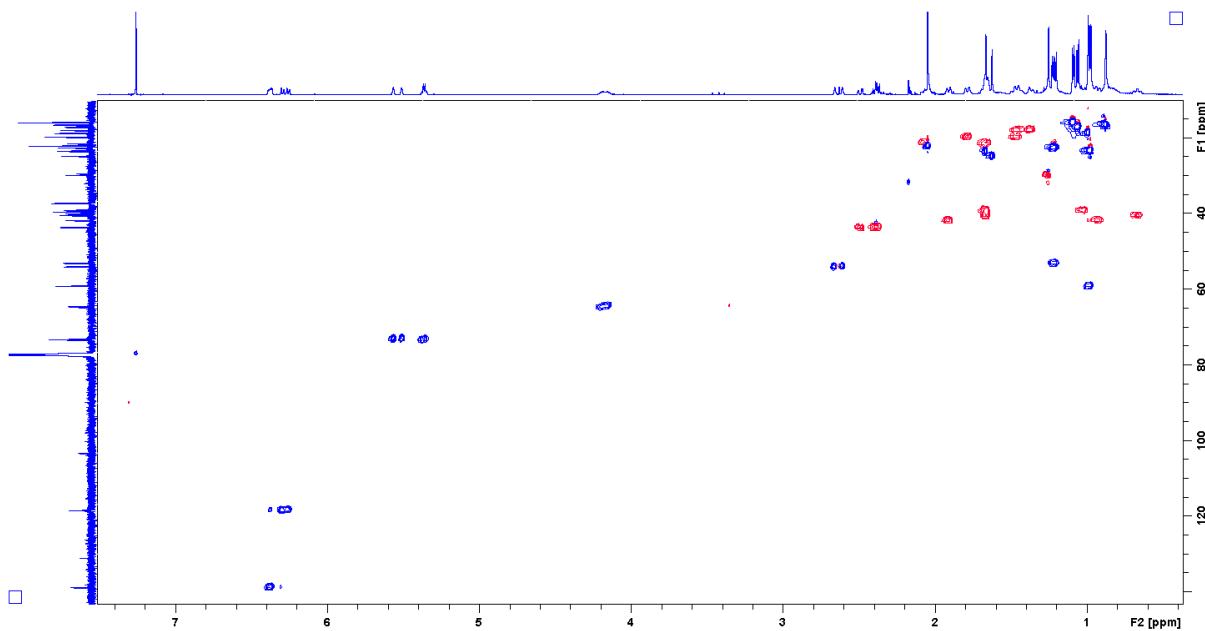


Figure S-80. HSQC spectrum of compound **12** (CDCl_3 , 600 MHz).

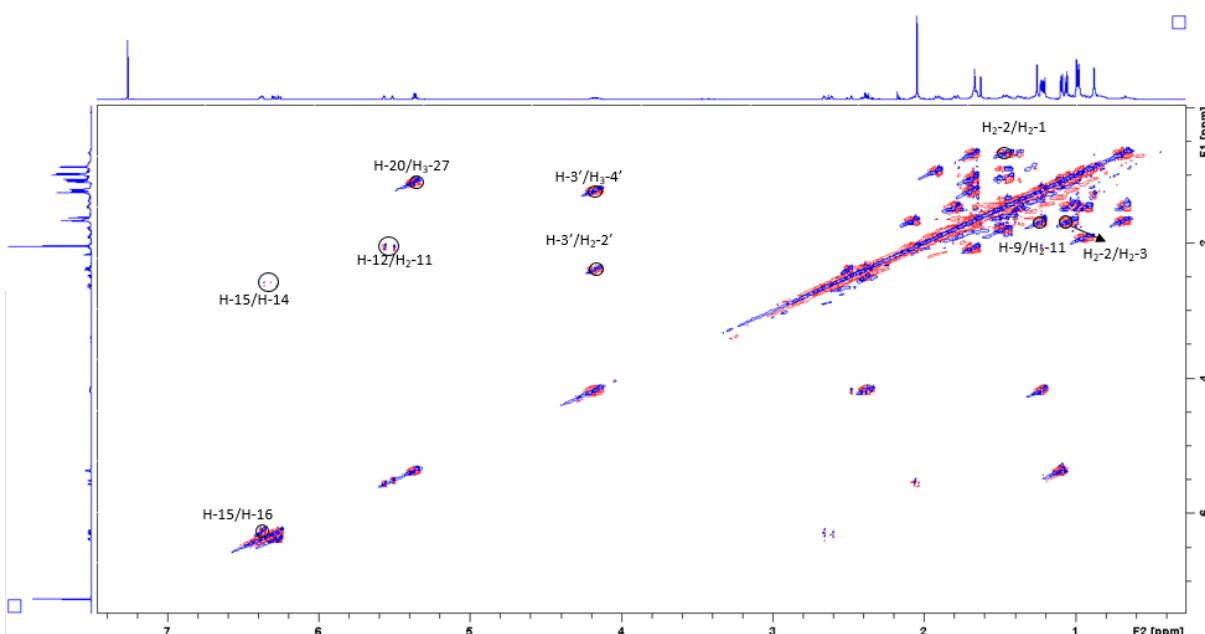


Figure S-81. ^1H - ^1H COSY spectrum of compound **12** (CDCl_3 , 600 MHz).

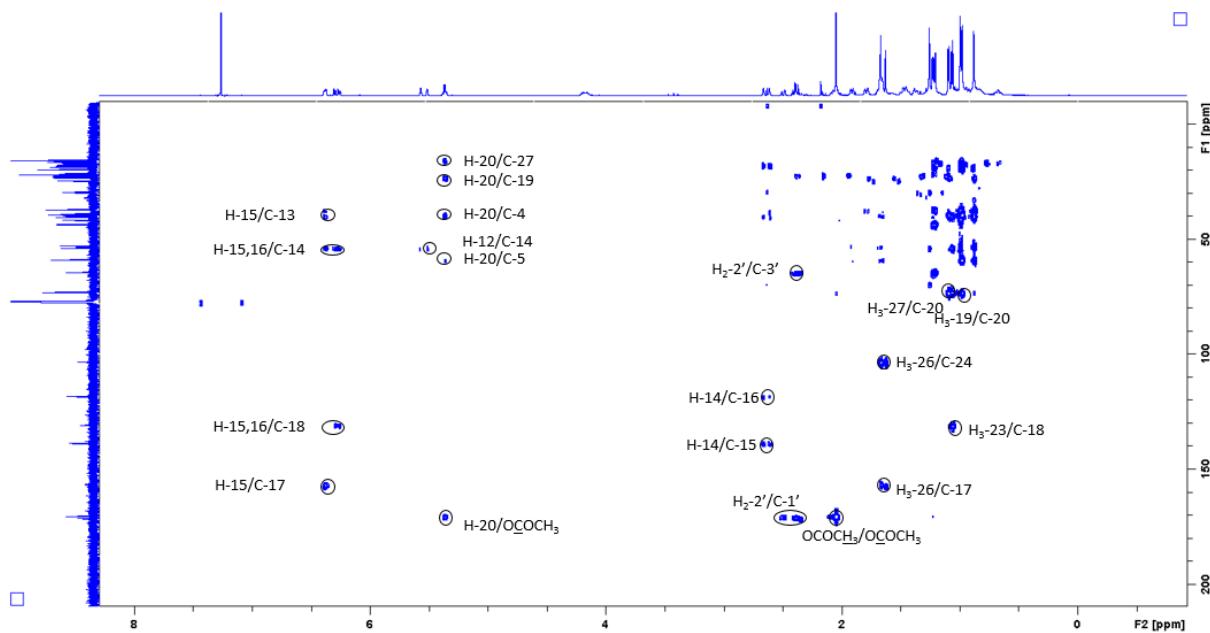


Figure S-82. HMBC spectrum of compound **12** (CDCl_3 , 600 MHz).

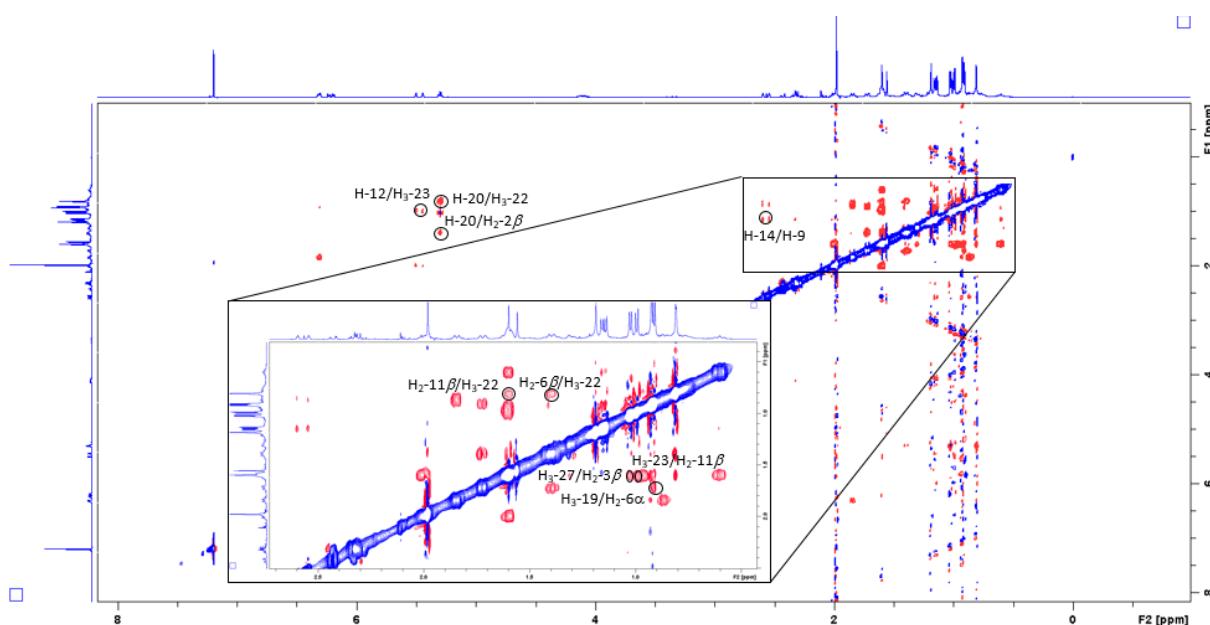


Figure S-83. NOESY spectrum of compound **12** (CDCl_3 , 600 MHz).

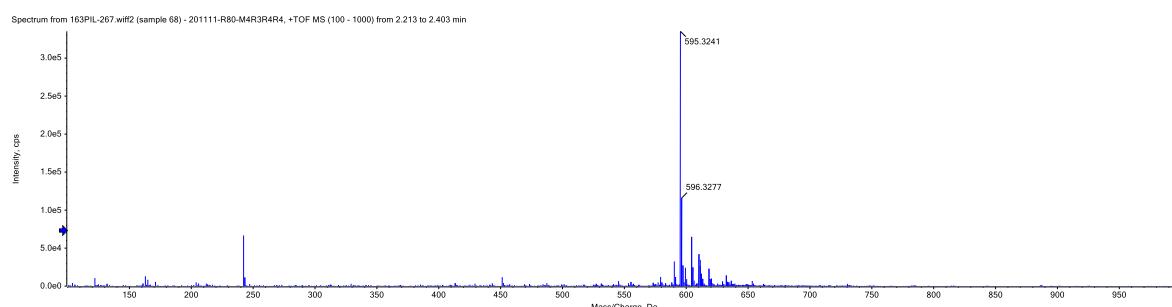
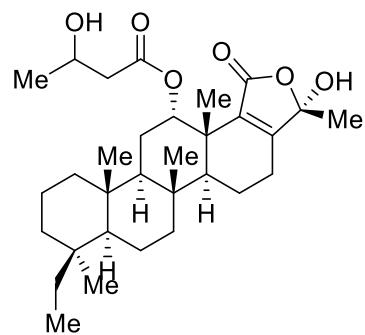


Figure S-84. HRMS spectrum of compound **12**.



13

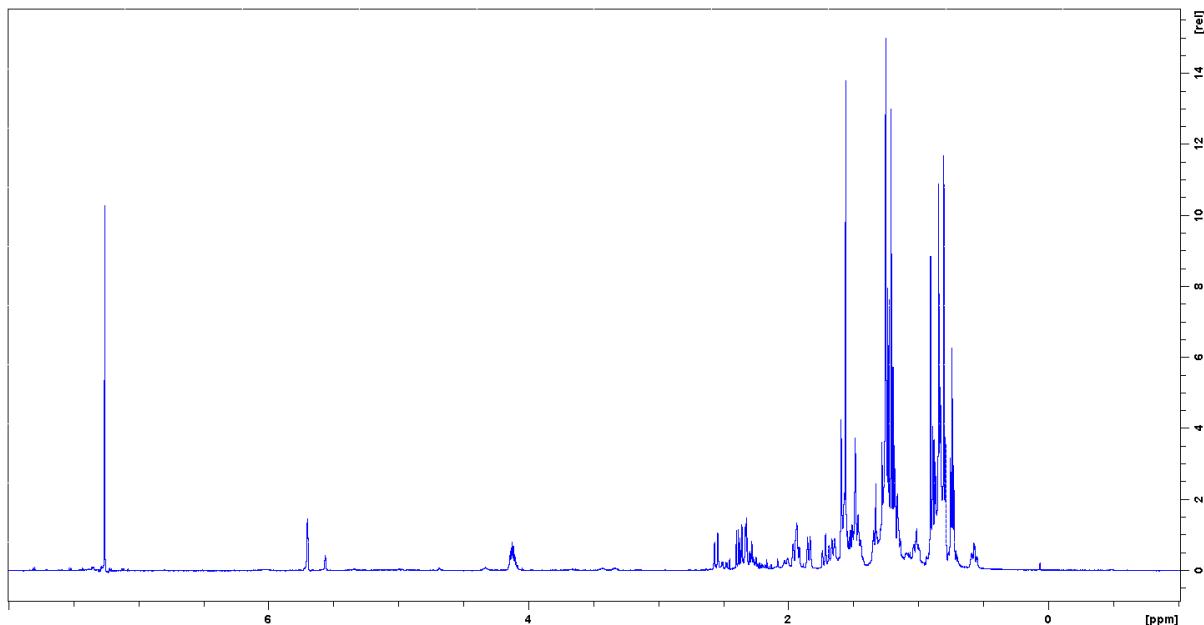


Figure S-85. ^1H NMR spectrum of compound **13** (CDCl_3 , 600 MHz).

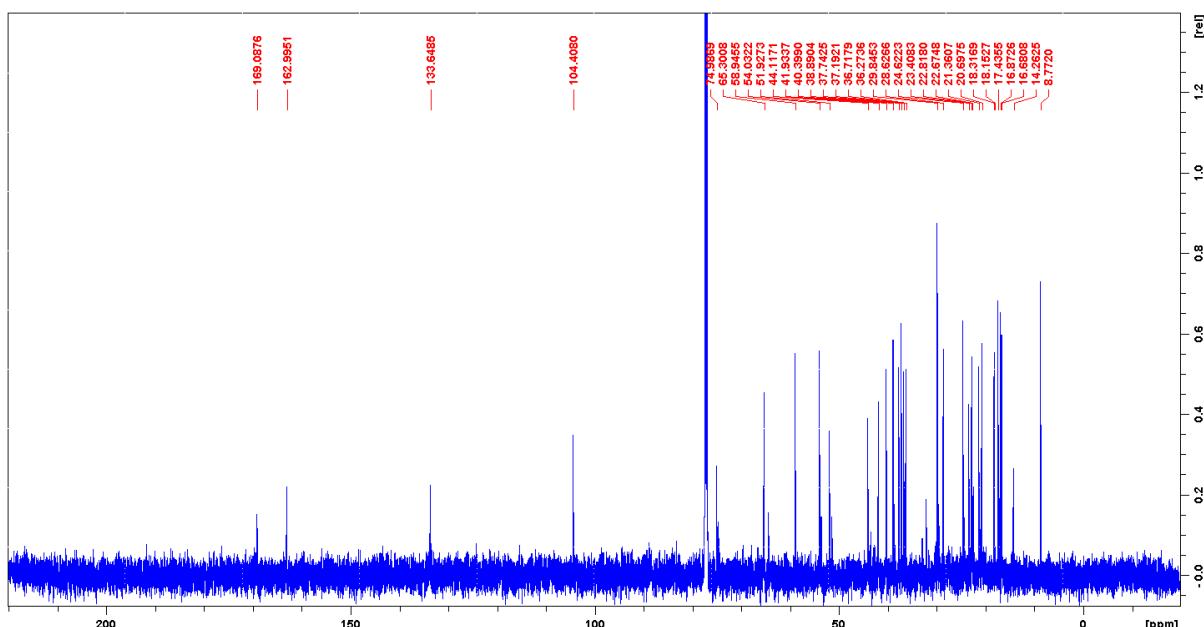


Figure S-86. ^{13}C NMR spectrum of compound **13** (CDCl_3 , 150 MHz).

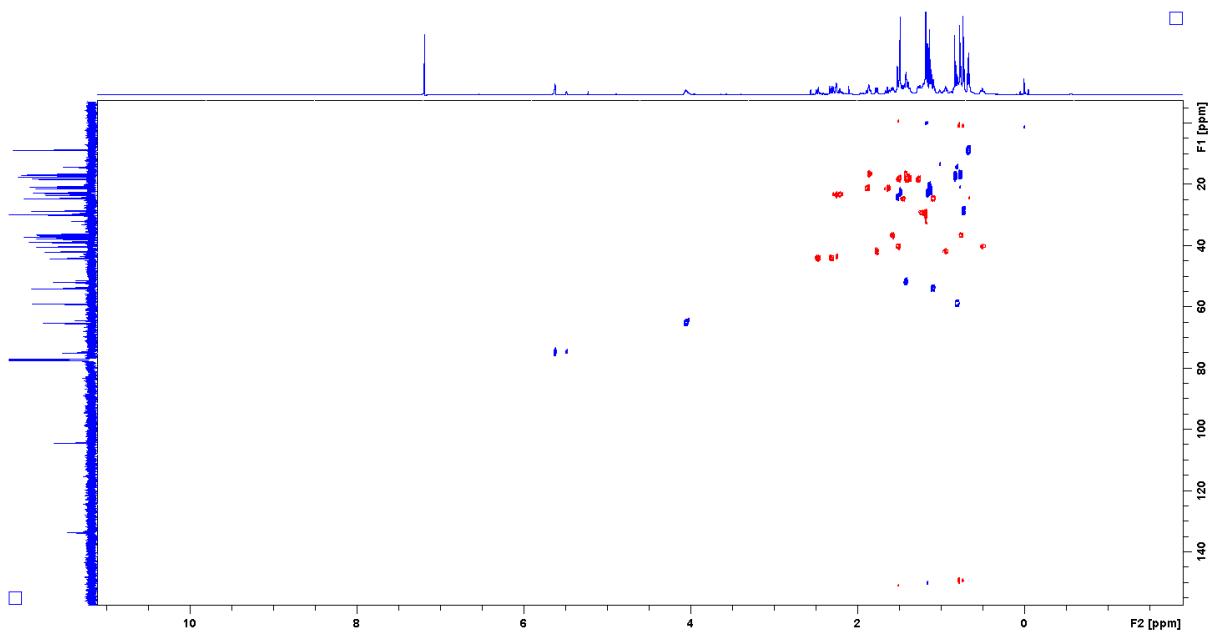


Figure S-87. HSQC spectrum of compound **13** (CDCl_3 , 600 MHz).

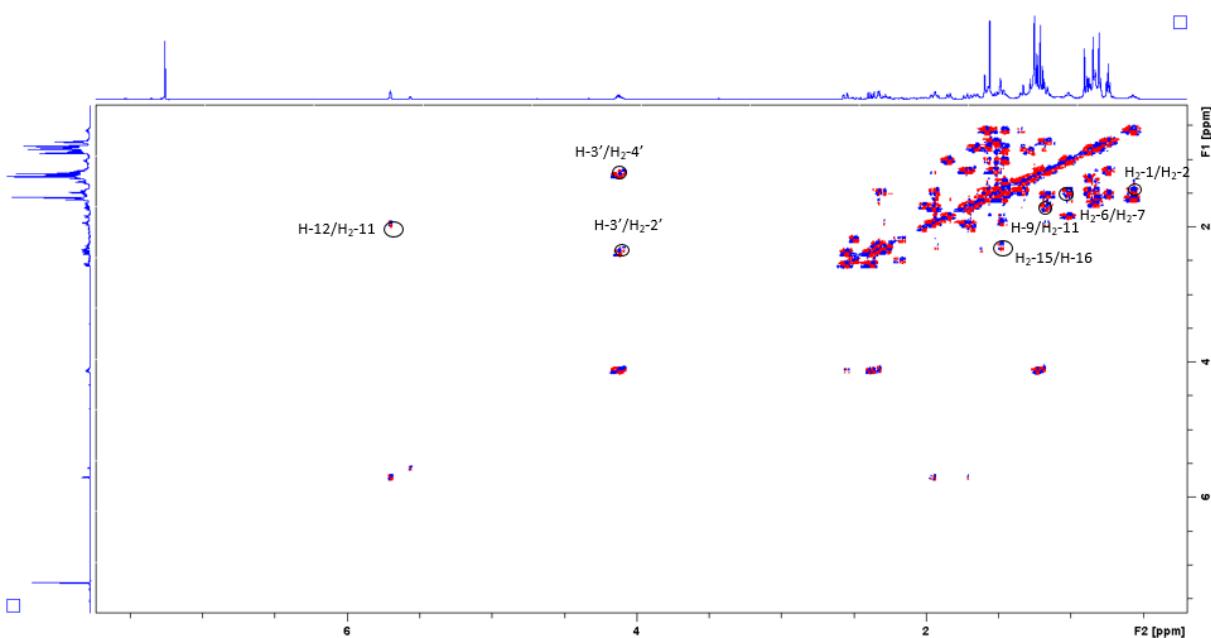


Figure S-88. ^1H - ^1H COSY spectrum of compound **13** (CDCl_3 , 600 MHz).

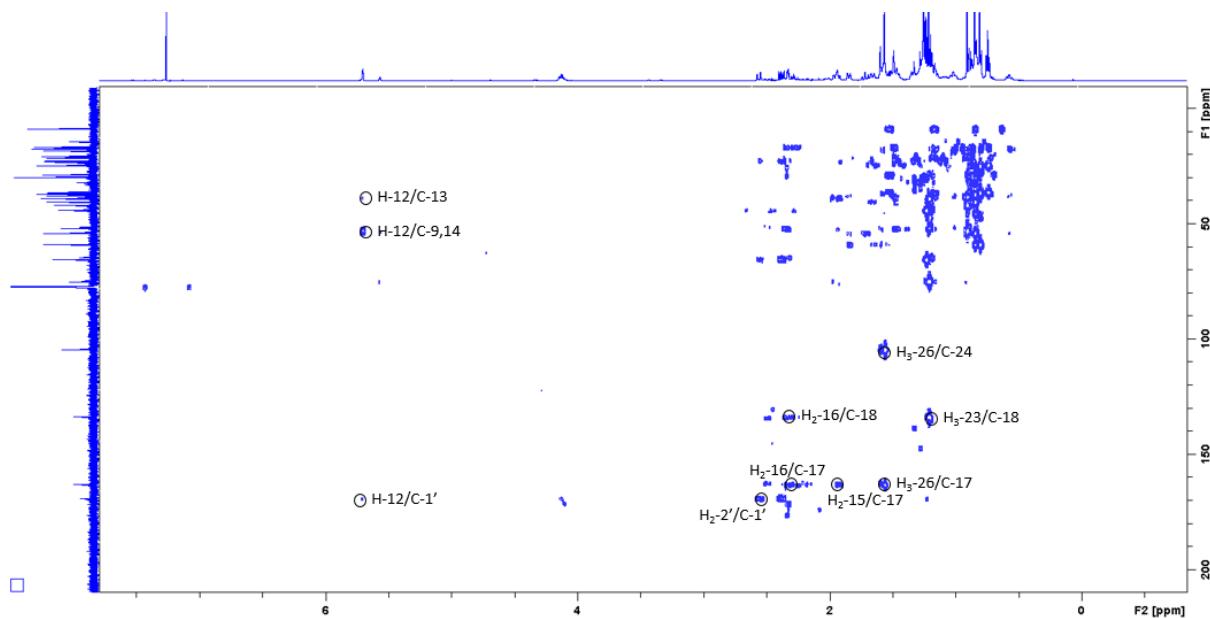


Figure S-89. HMBC spectrum of compound **13** (CDCl_3 , 600 MHz).

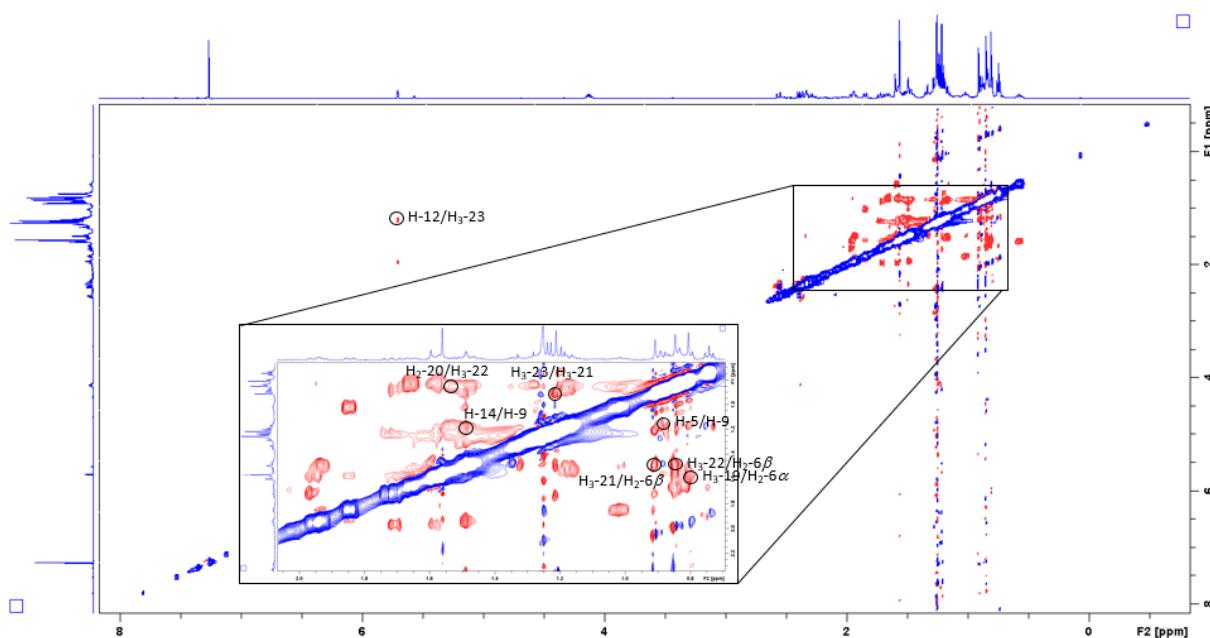


Figure S-90. NOESY spectrum of compound **13** (CDCl_3 , 600 MHz).

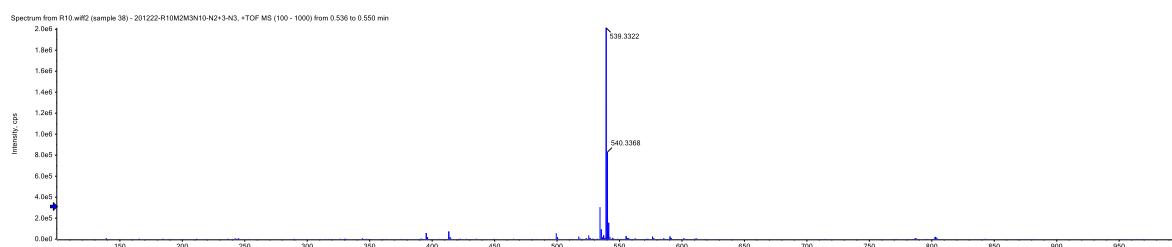


Figure S-91. HRMS spectrum of compound **13**.

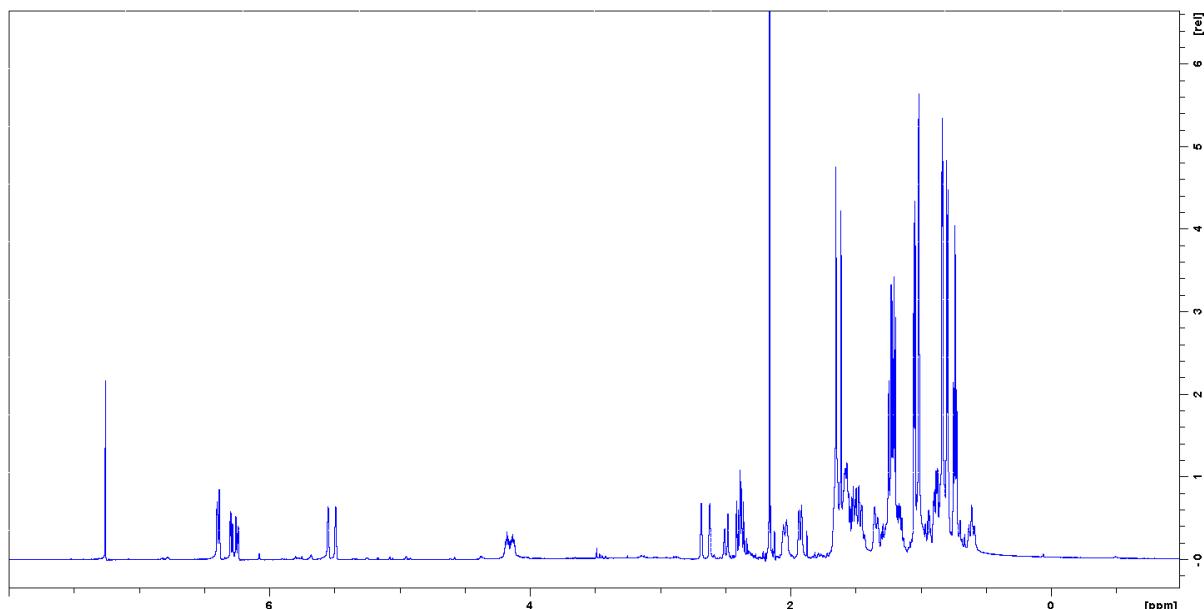
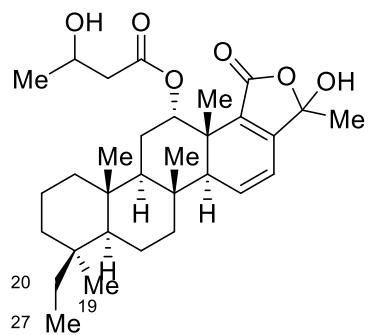


Figure S-92. ^1H NMR spectrum of compound **14** (CDCl_3 , 600 MHz).

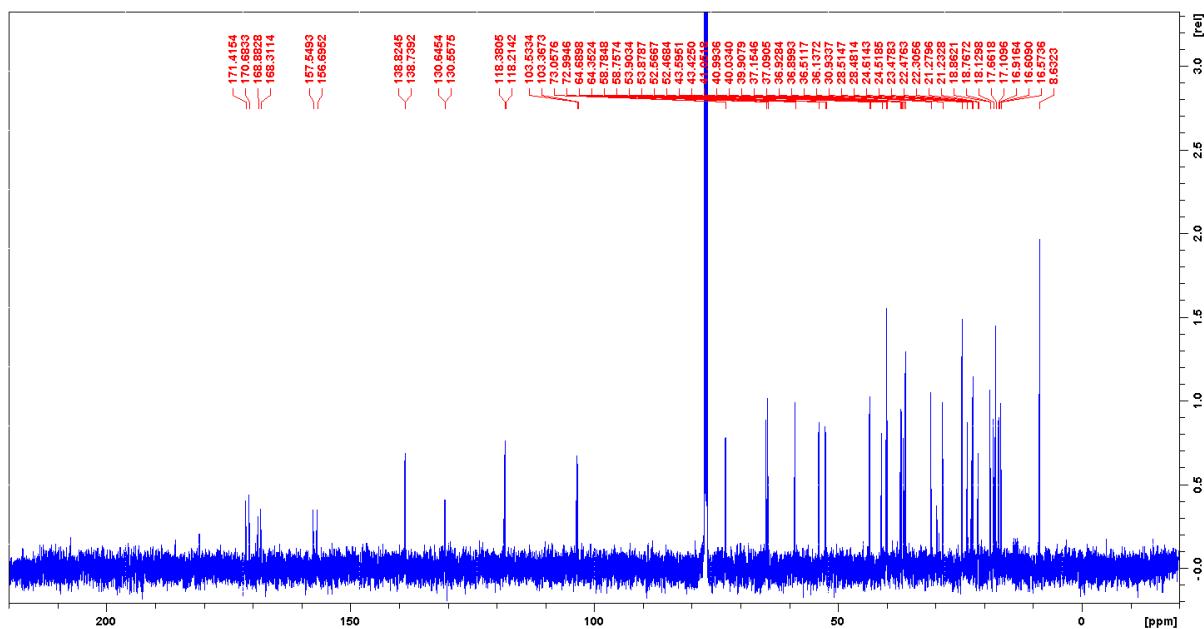


Figure S-93. ^{13}C NMR spectrum of compound **14** (CDCl_3 , 150 MHz).

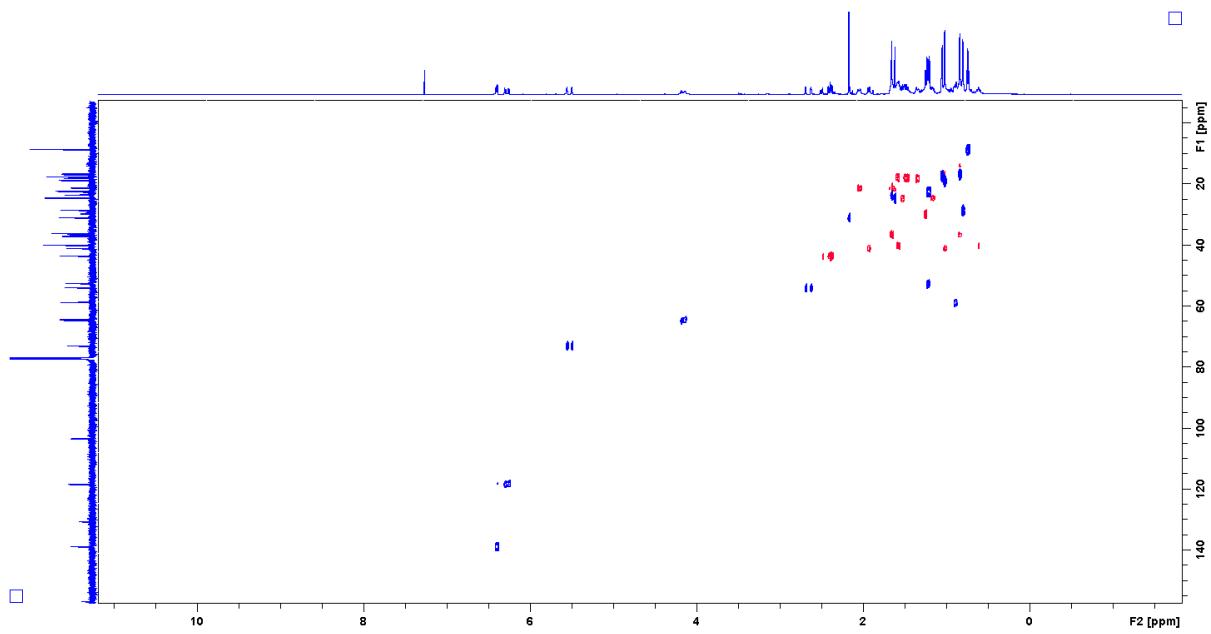


Figure S-94. HSQC spectrum of compound 14 (CDCl_3 , 600 MHz).

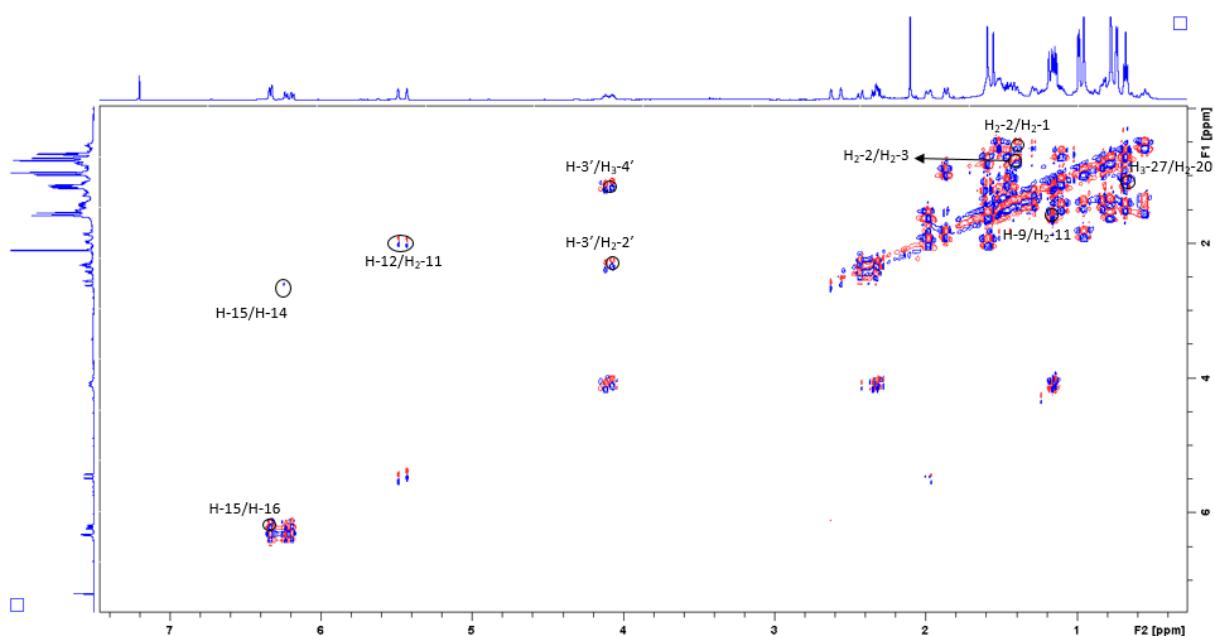


Figure S-95. ^1H - ^1H COSY spectrum of compound 14 (CDCl_3 , 600 MHz).

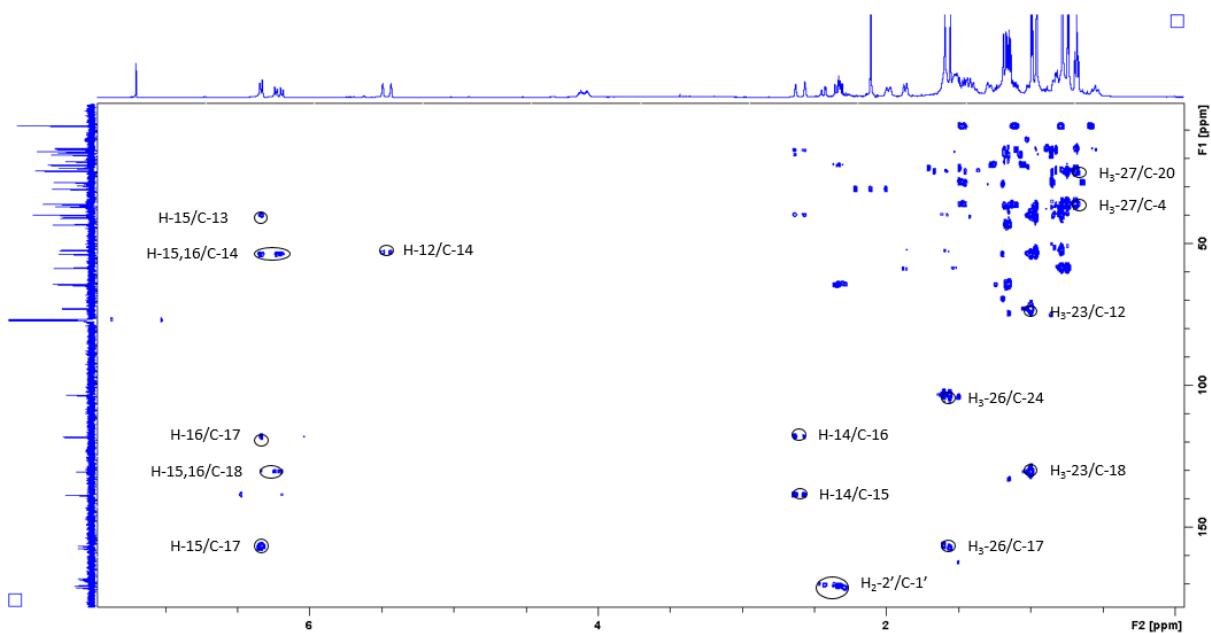


Figure S-96. HMBC spectrum of compound 14 (CDCl_3 , 600 MHz).

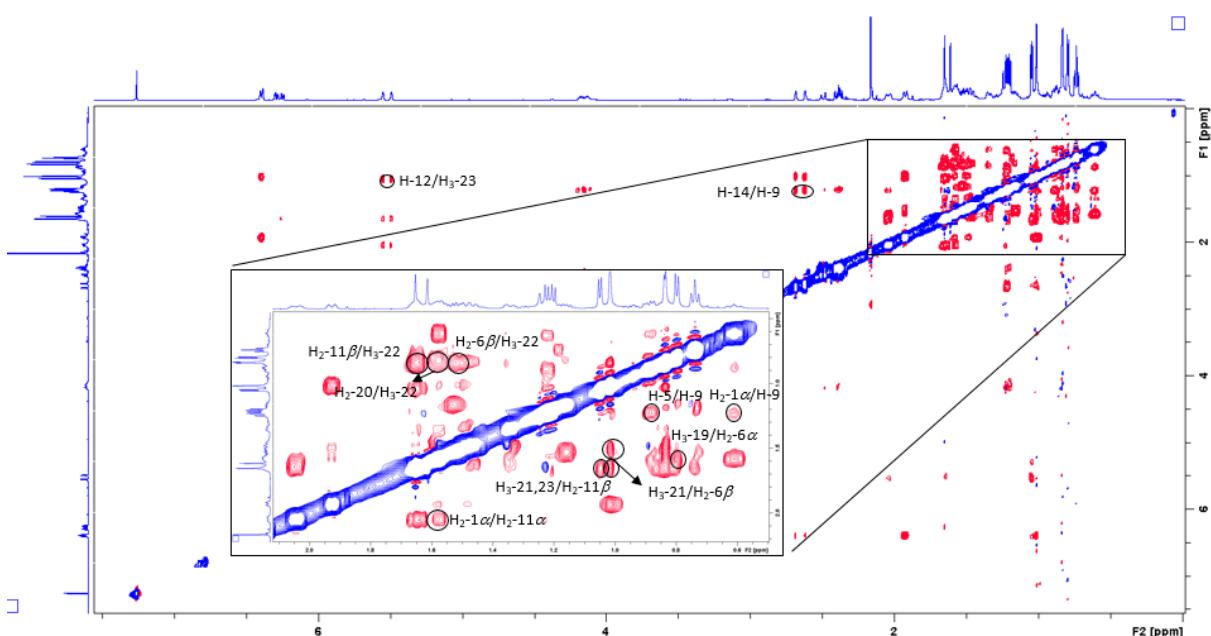


Figure S-97. NOESY spectrum of compound 14 (CDCl_3 , 600 MHz).

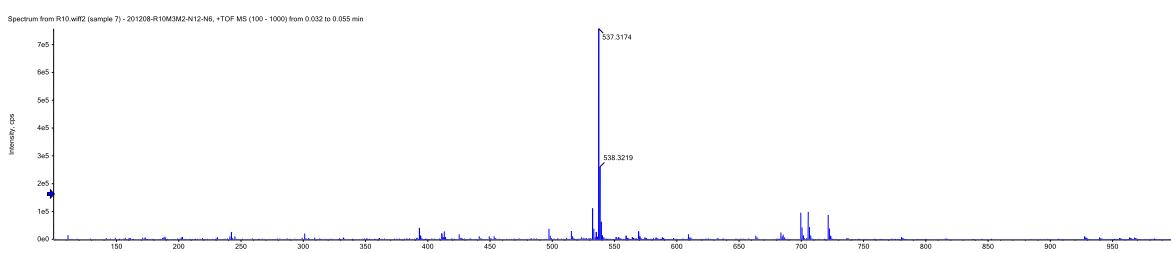
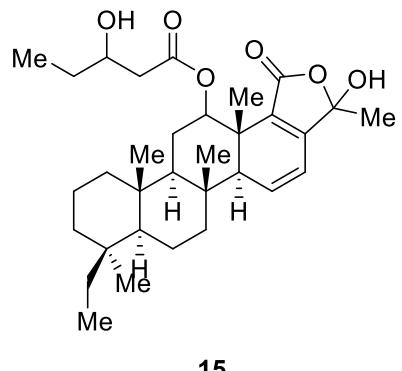


Figure S-98. HRMS spectrum of compound 14.



15

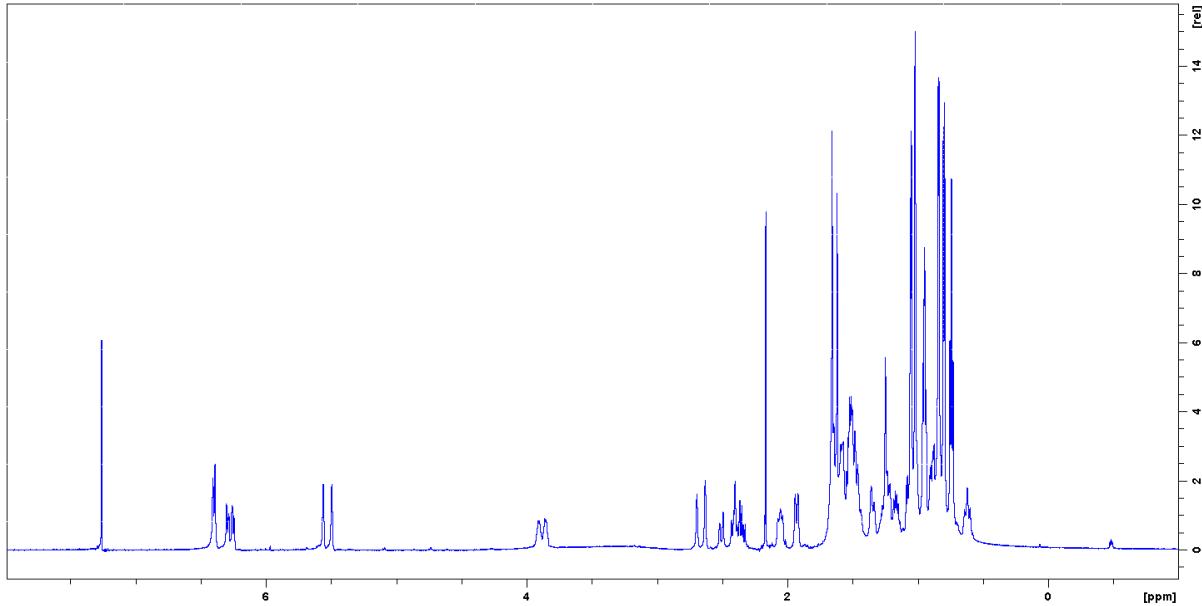


Figure S-99. ^1H NMR spectrum of compound **15** (CDCl_3 , 600 MHz).

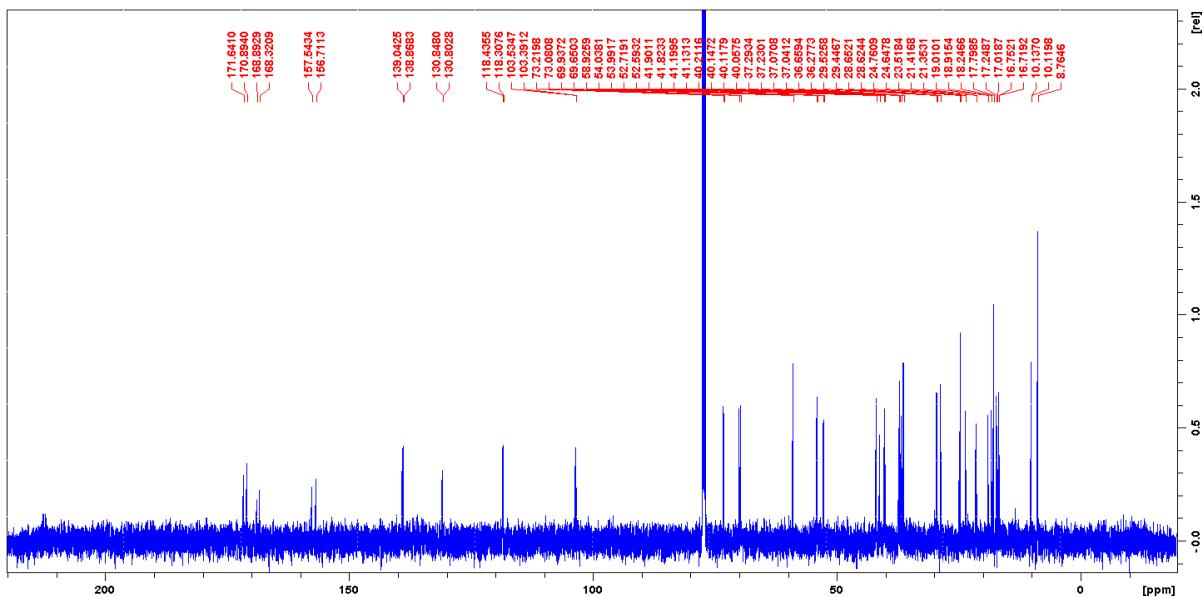


Figure S-100. ^{13}C NMR spectrum of compound **15** (CDCl_3 , 150 MHz).

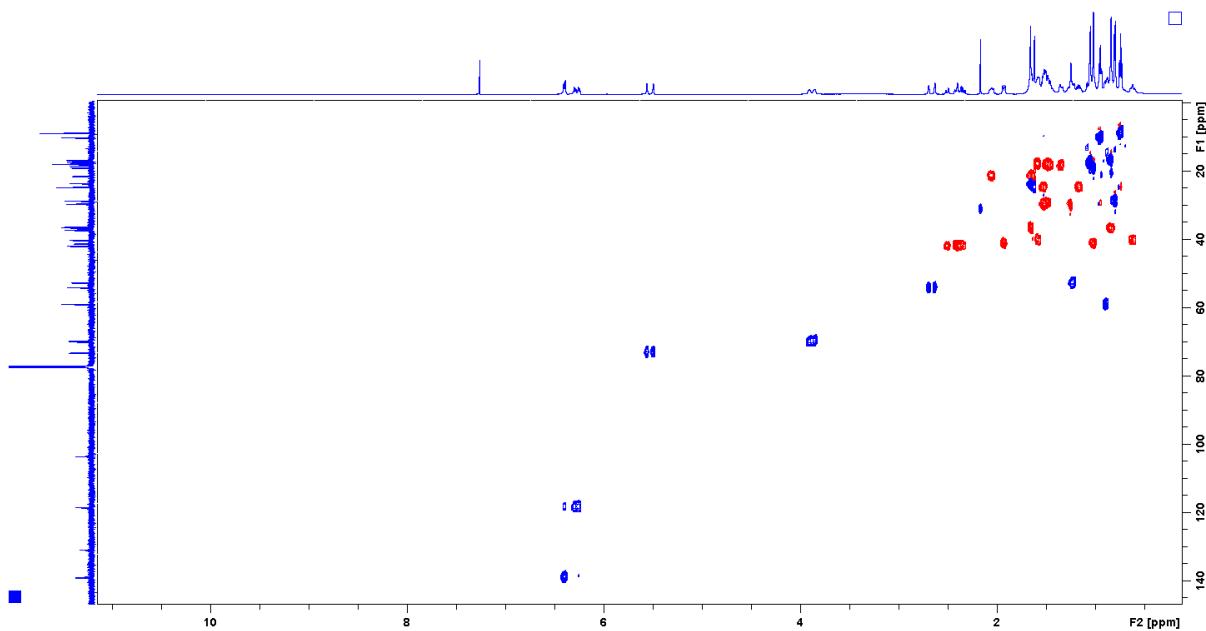


Figure S-101. HSQC spectrum of compound **15** (CDCl_3 , 600 MHz).

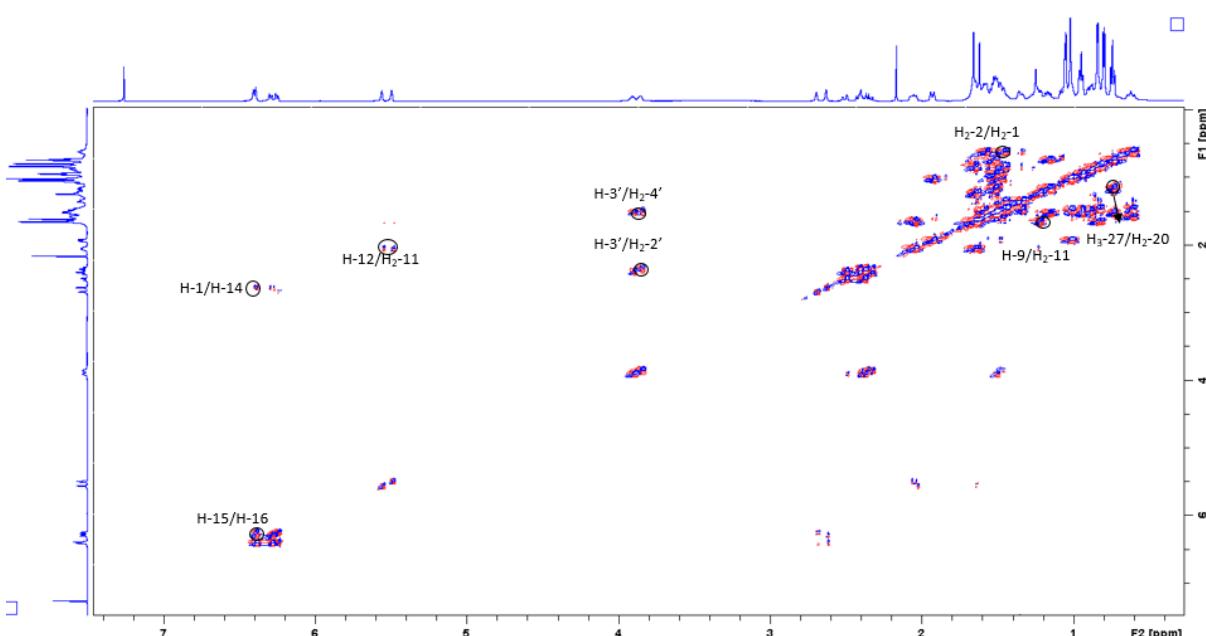


Figure S-102. ^1H - ^1H COSY spectrum of compound **15** (CDCl_3 , 600 MHz).

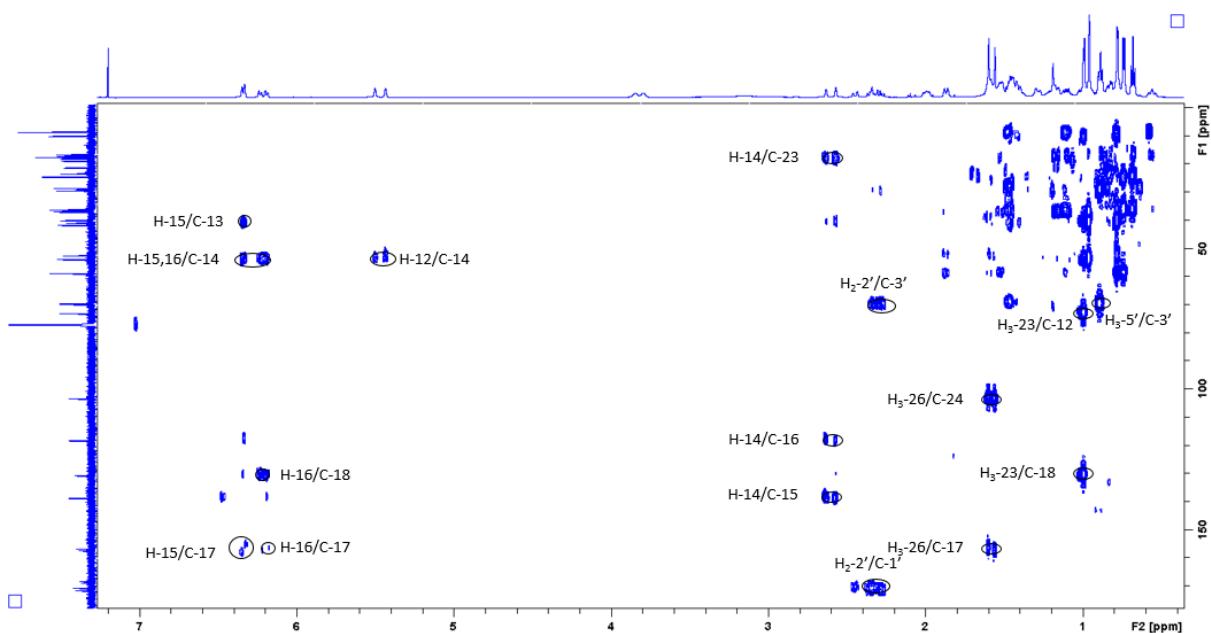


Figure S-103. HMBC spectrum of compound **15** (CDCl_3 , 600 MHz).

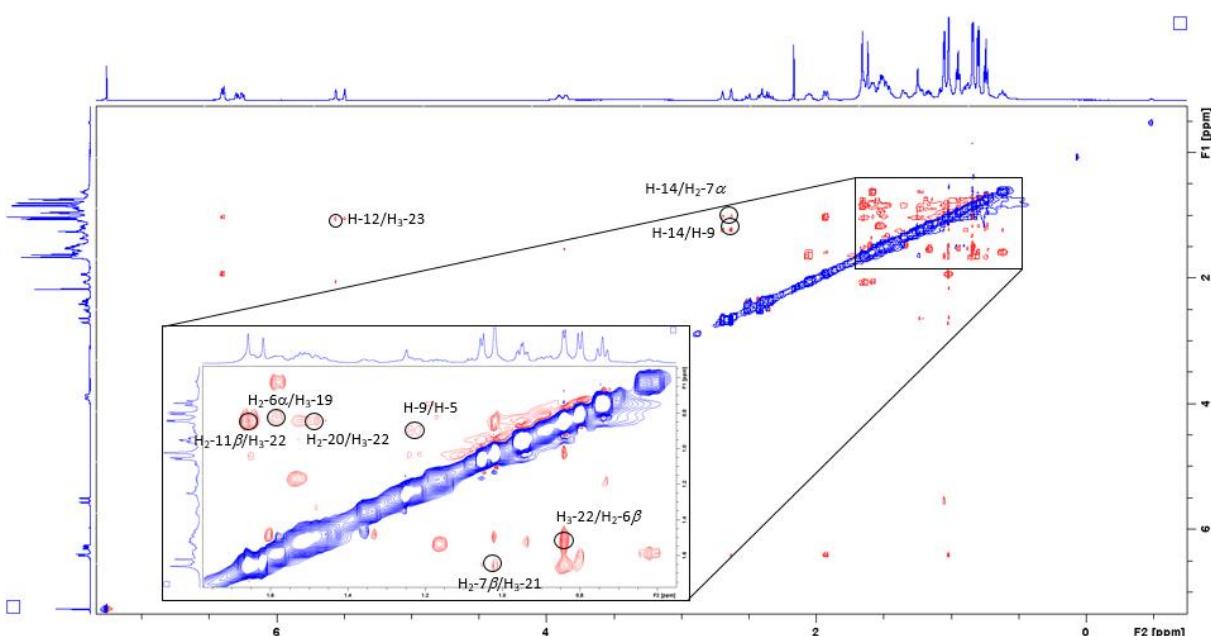


Figure S-104. NOESY spectrum of compound **15** (CDCl_3 , 600 MHz).

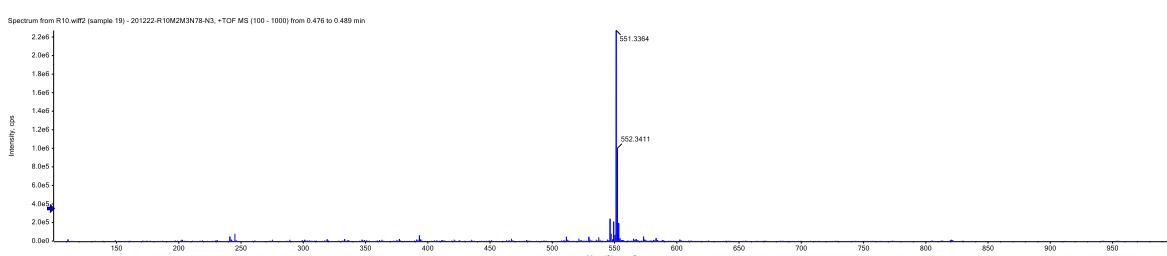


Figure S-105. HRMS spectrum of compound **15**.

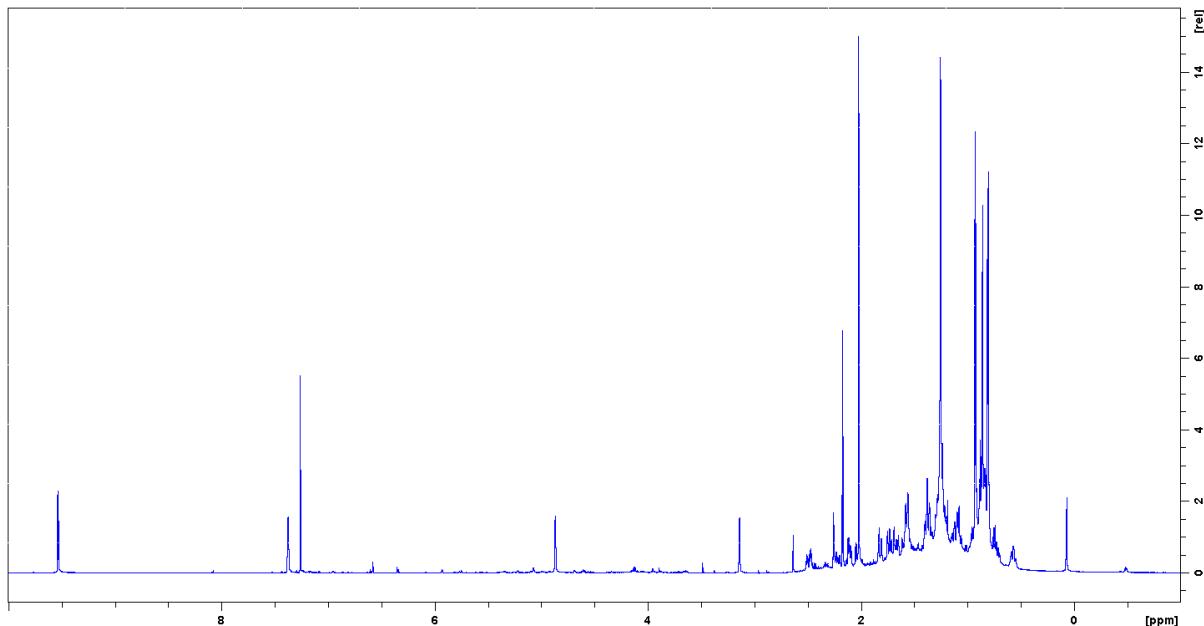
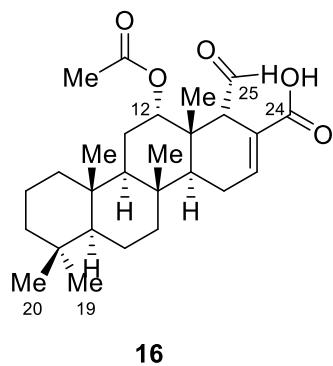


Figure S-106. ^1H NMR spectrum of compound **16** (CDCl_3 , 600 MHz).

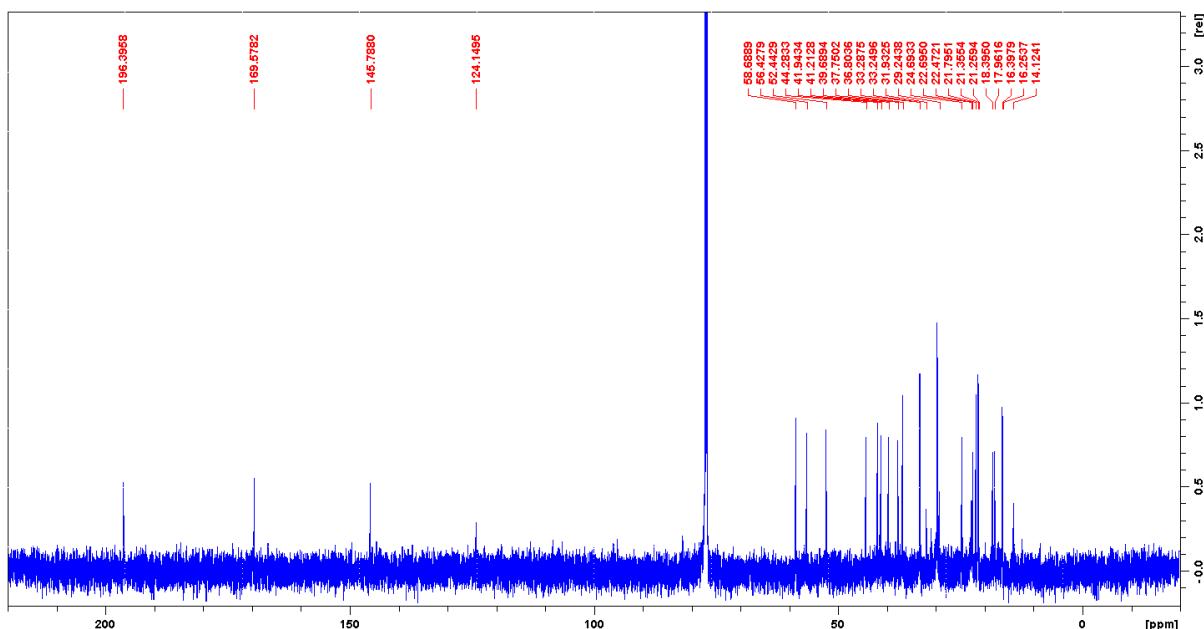


Figure S-107. ^{13}C NMR spectrum of compound **16** (CDCl_3 , 150 MHz).

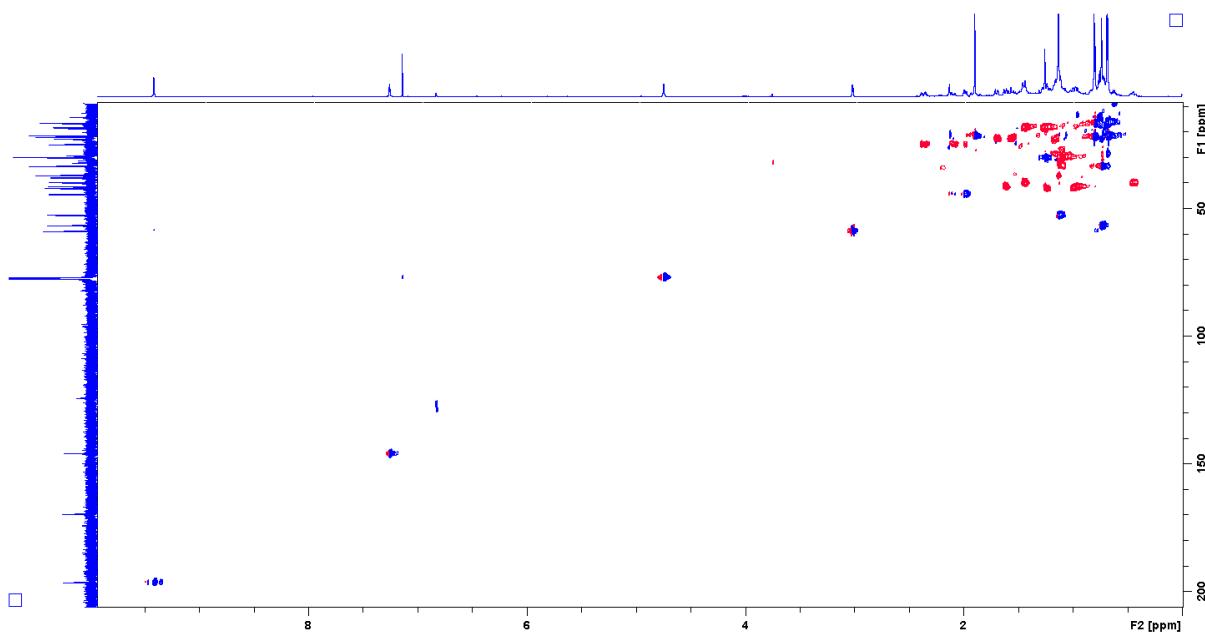


Figure S-108. HSQC spectrum of compound **16** ($CDCl_3$, 600 MHz).

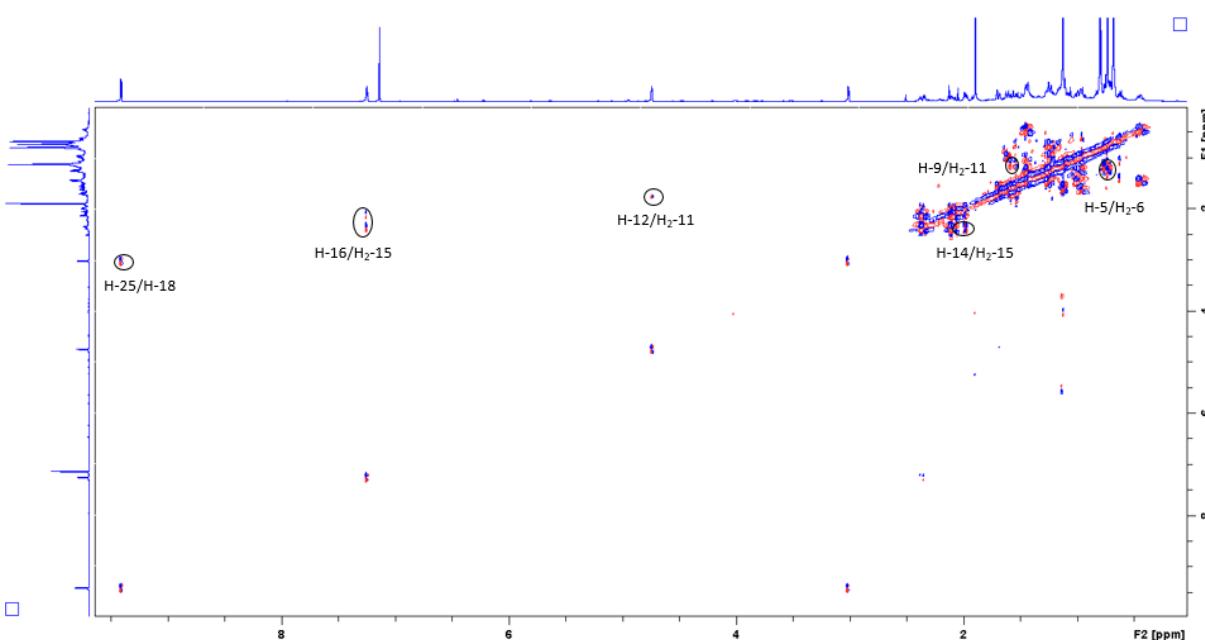


Figure S-109. 1H - 1H COSY spectrum of compound **16** ($CDCl_3$, 600 MHz).

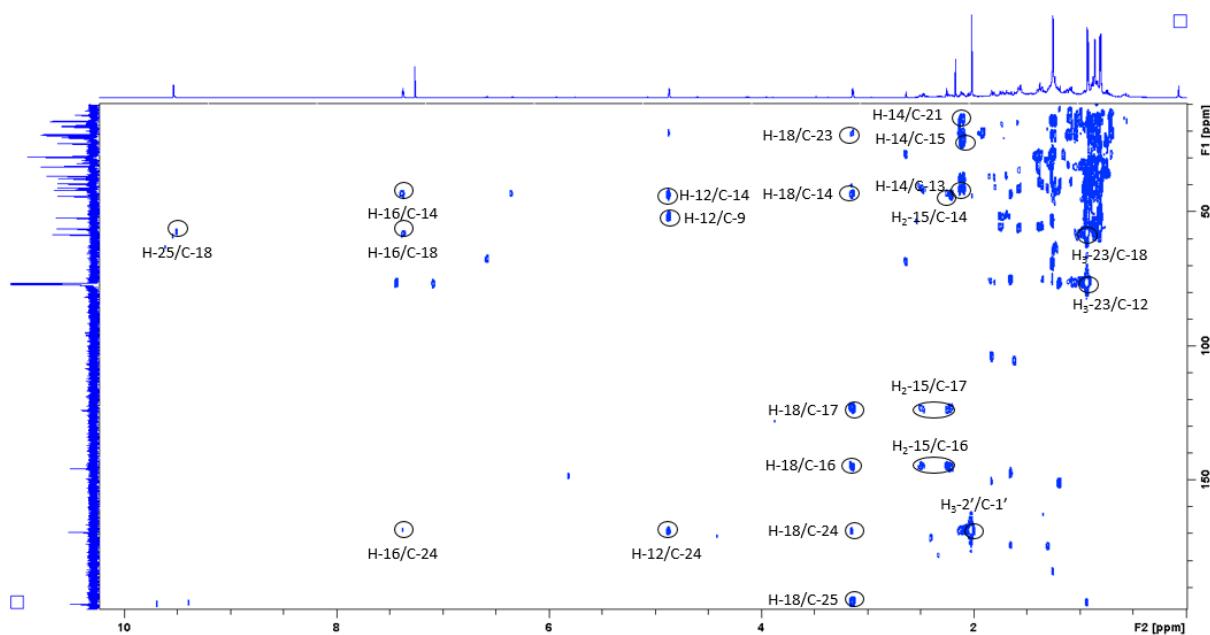


Figure S-110. HMBC spectrum of compound **16** (CDCl_3 , 600 MHz).

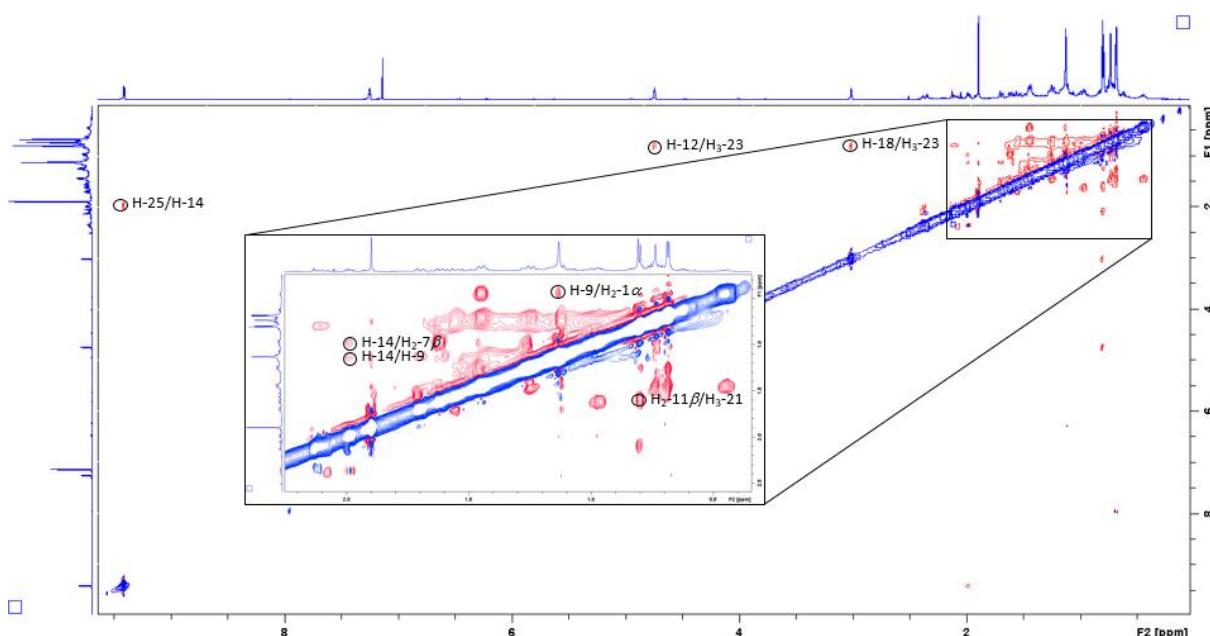


Figure S-111. NOESY spectrum of compound **16** (CDCl_3 , 600 MHz).

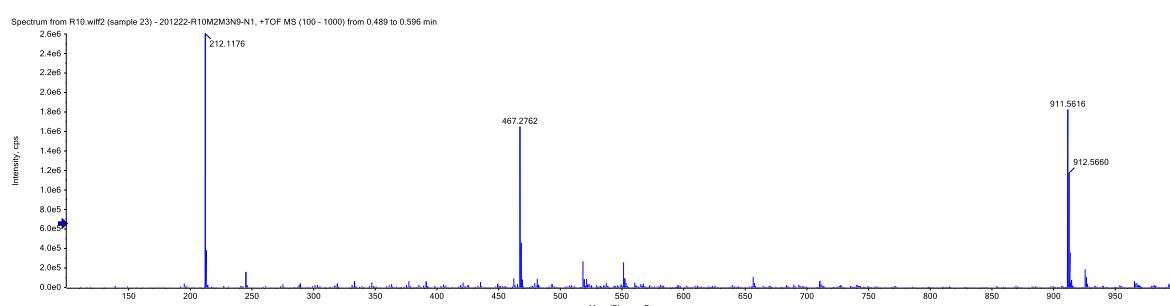


Figure S-112. HRMS spectrum of compound **16**.