

Supplementary Information

Unusual Anti-inflammatory Meroterpenoids from the Marine Sponge *Dactylospongia* sp.

Jing Li,^{‡a,b,c} Fan Yang,^{‡b} Zhus Wang,^{‡b} Wei Wu,^b Li Liu,^b Shu-Ping Wang,^b Bin-Xin Zhao,^a Wei-Hua Jiao,^{*b} Shi-Hai Xu,^{*a} and Hou-Wen Lin^{*b}

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Figure S101. ^{13}C NMR spectrum of Compound **10** in CDCl_3 .

Figure S102. DEPT135 spectrum of Compound **10** in CDCl_3 .

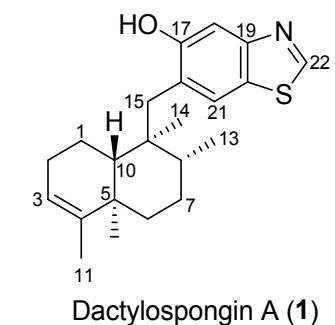
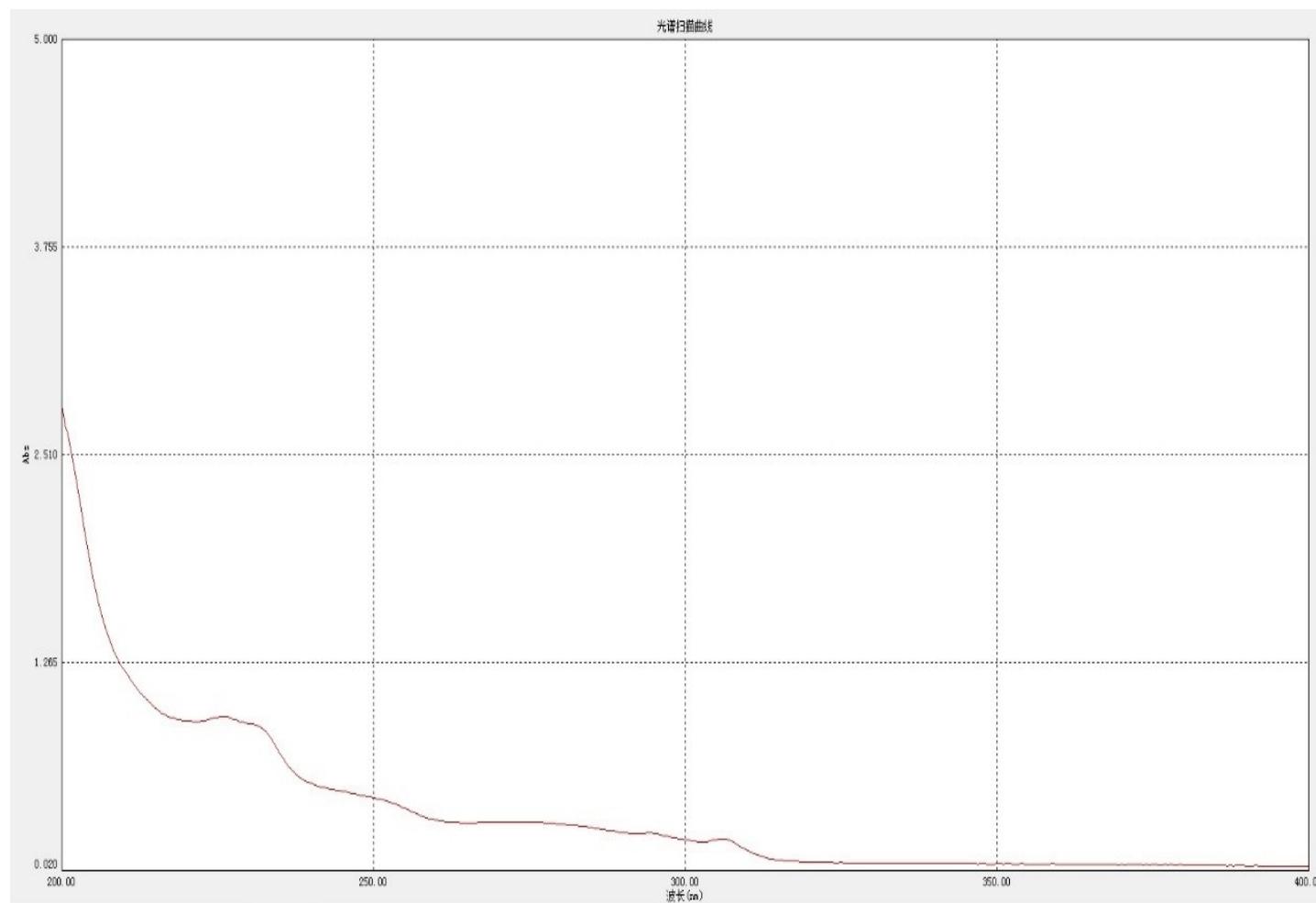
Figure S103. ^1H - ^1H COSY spectrum of Compound **10** in CDCl_3 .

Figure S104. HSQC spectrum of Compound **10** in CDCl_3 .

Figure S105. HSQC spectrum of Compound **10** in CDCl_3 .

Figure S106. NOESY spectrum of Compound **10** in CDCl_3 .

Figure S107. CD spectrum of Compound **10** in MeOH.



Dactylospongin A (**1**)

Figure S1. UV spectrum of Compound 1 in MeOH.

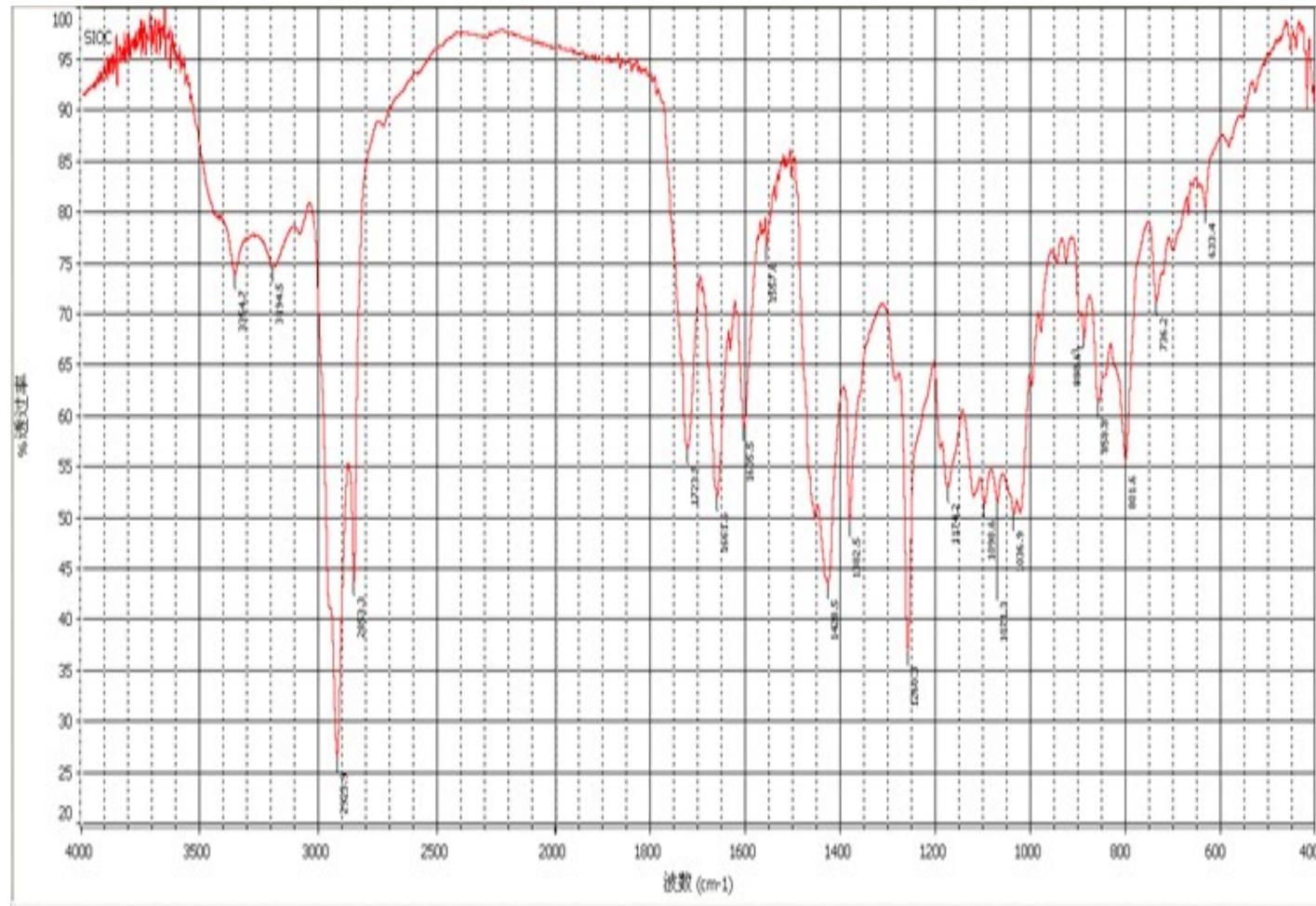
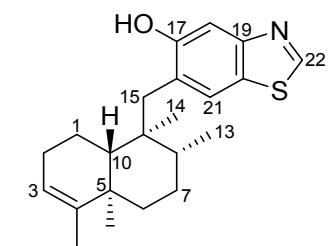


Figure S2. IR spectrum of Compound 1.



Dactylospongin A (1)

Single Mass Analysis

Tolerance = 10.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

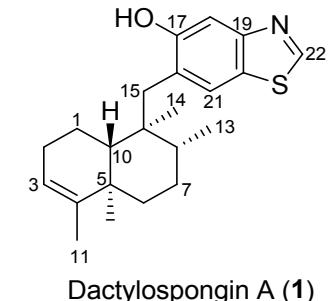
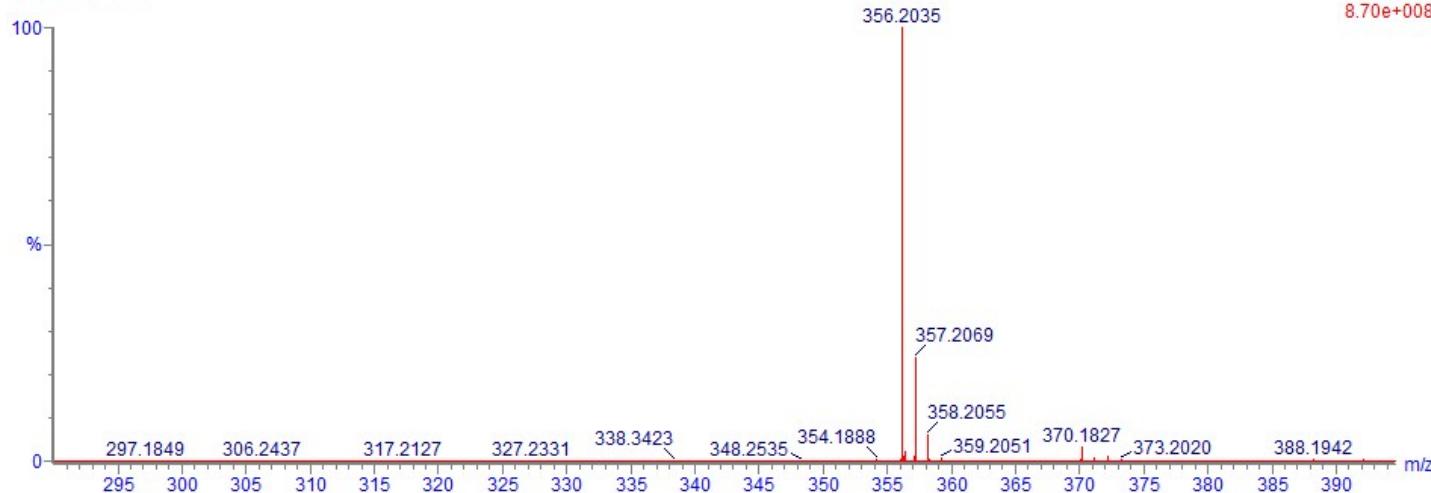
2613 formula(e) evaluated with 8 results within limits (up to 50 closest results for each mass)

Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	N	O	S	
356.2035	356.2048	-1.3	-3.6	8.5	C ₂₂ H ₃₀ N O S	3466.6	0.087	91.71	22	30	1	1	1	
	356.2008	2.7	7.6	4.5	C ₁₇ H ₃₀ N ₃ O ₃ S	3469.1	2.539	7.90	17	30	3	3	1	
	356.2014	2.1	5.9	13.5	C ₂₅ H ₂₆ N O	3472.9	6.352	0.17	25	26	1	1		
	356.2046	-1.1	-3.1	5.5	C ₁₄ H ₂₆ N ₇ O ₄	3473.5	6.964	0.09	14	26	7	4		
	356.2033	0.2	0.6	0.5	C ₁₃ H ₃₀ N ₃ O ₈	3473.8	7.226	0.07	13	30	3	8		
	356.2006	2.9	8.1	1.5	C ₉ H ₂₆ N ₉ O ₆	3474.7	8.189	0.03	9	26	9	6		
	356.2042	-0.7	-2.0	-0.5	C ₁₄ H ₃₄ N ₃ O ₃ S ₂	3475.2	8.697	0.02	14	34	3	3	2	
	356.2015	2.0	5.6	0.5	C ₁₀ H ₃₀ N ₃ O ₃ S ₂	3475.6	0.381	0.01	10	30	0	1	2	

20170321_DR-C6B 59 (0.272) Cm (31:83)

1: TOF MS ES+

**Figure S3.** HRESIMS spectrum of Compound 1.

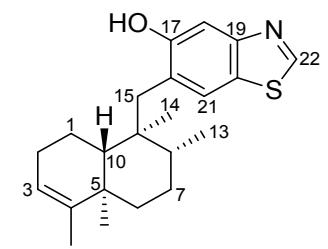
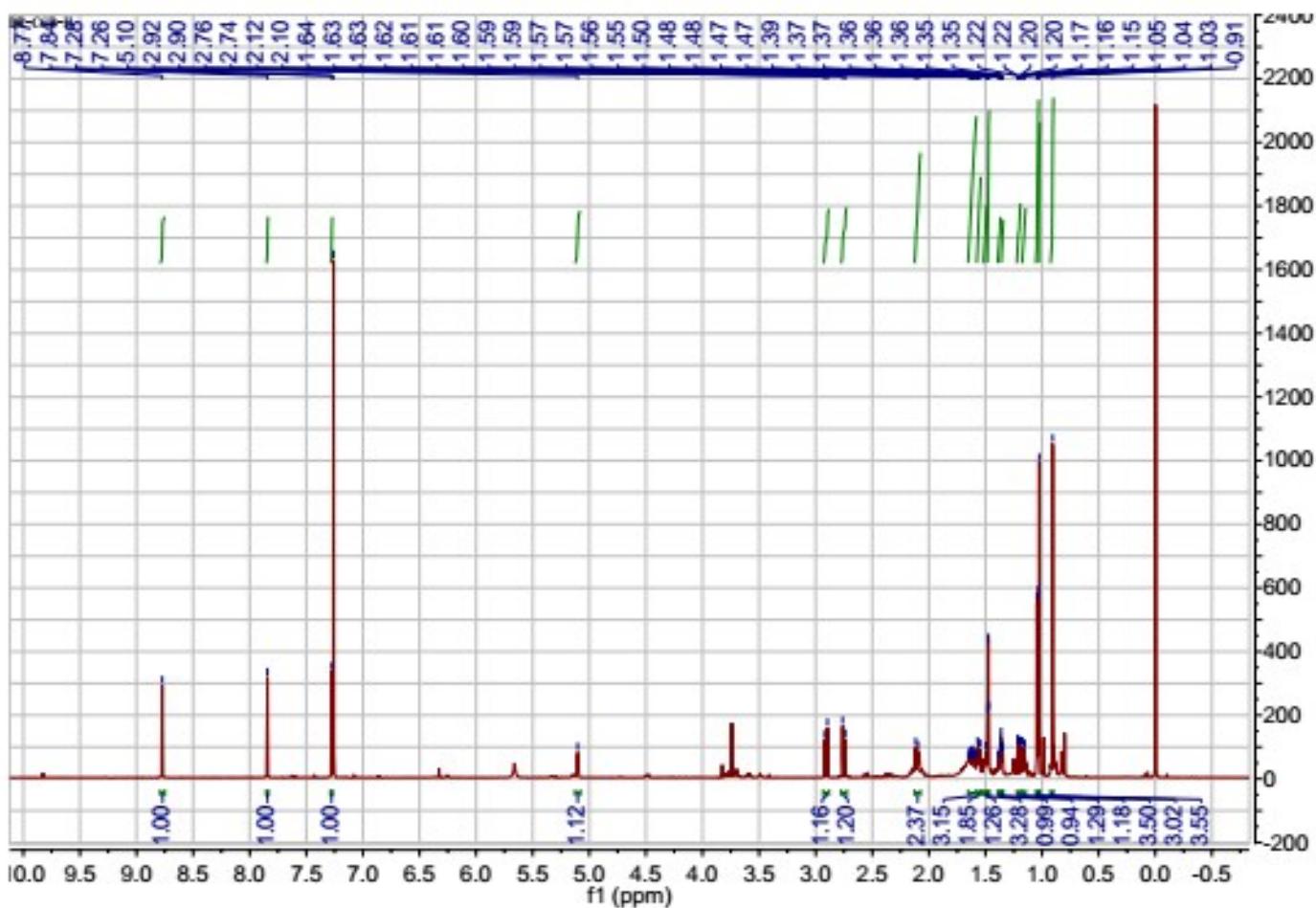


Figure S4. ^1H NMR spectrum of Compound 1 in CDCl_3 .

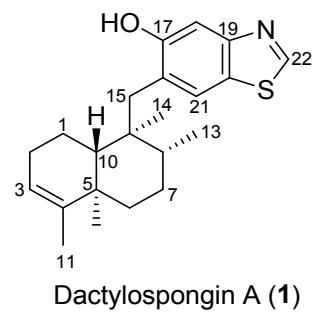
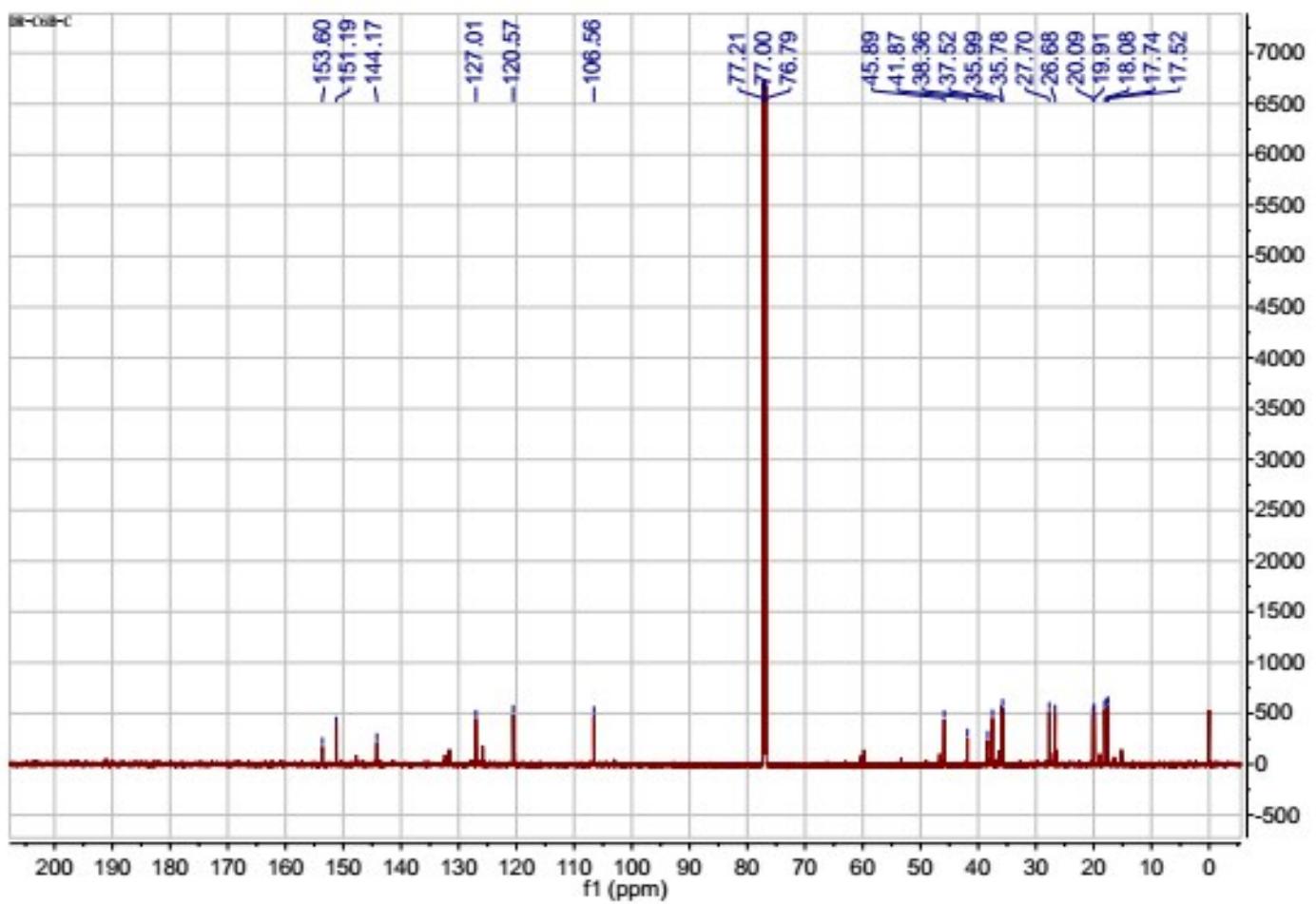


Figure S5. ^{13}C NMR spectrum of Compound **1** in CDCl_3 .

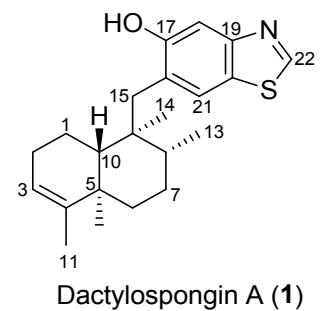
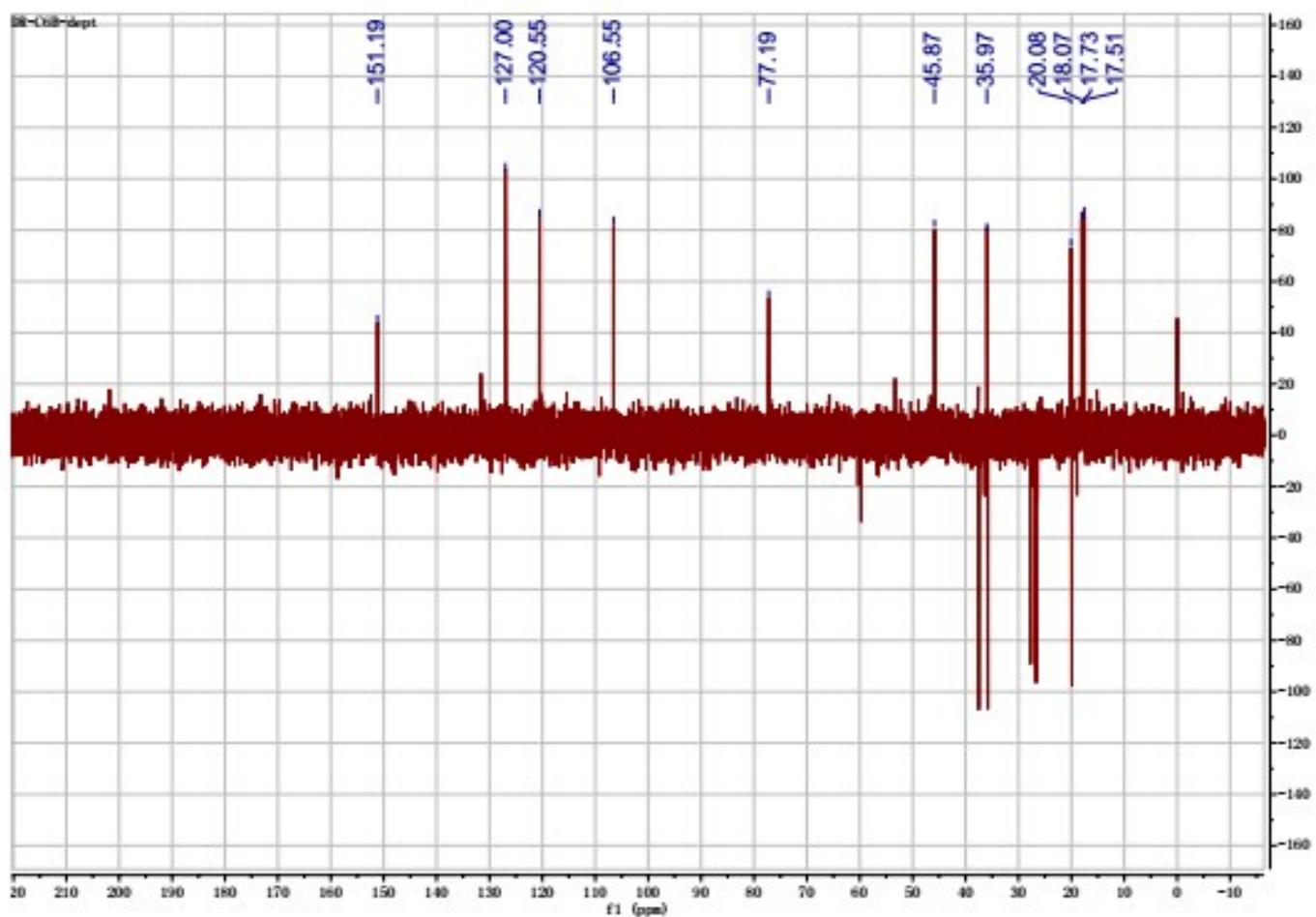


Figure S6. DEPT135 spectrum of Compound **1** in CDCl_3 .

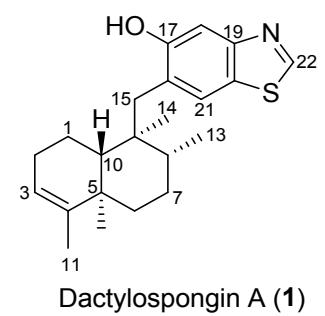
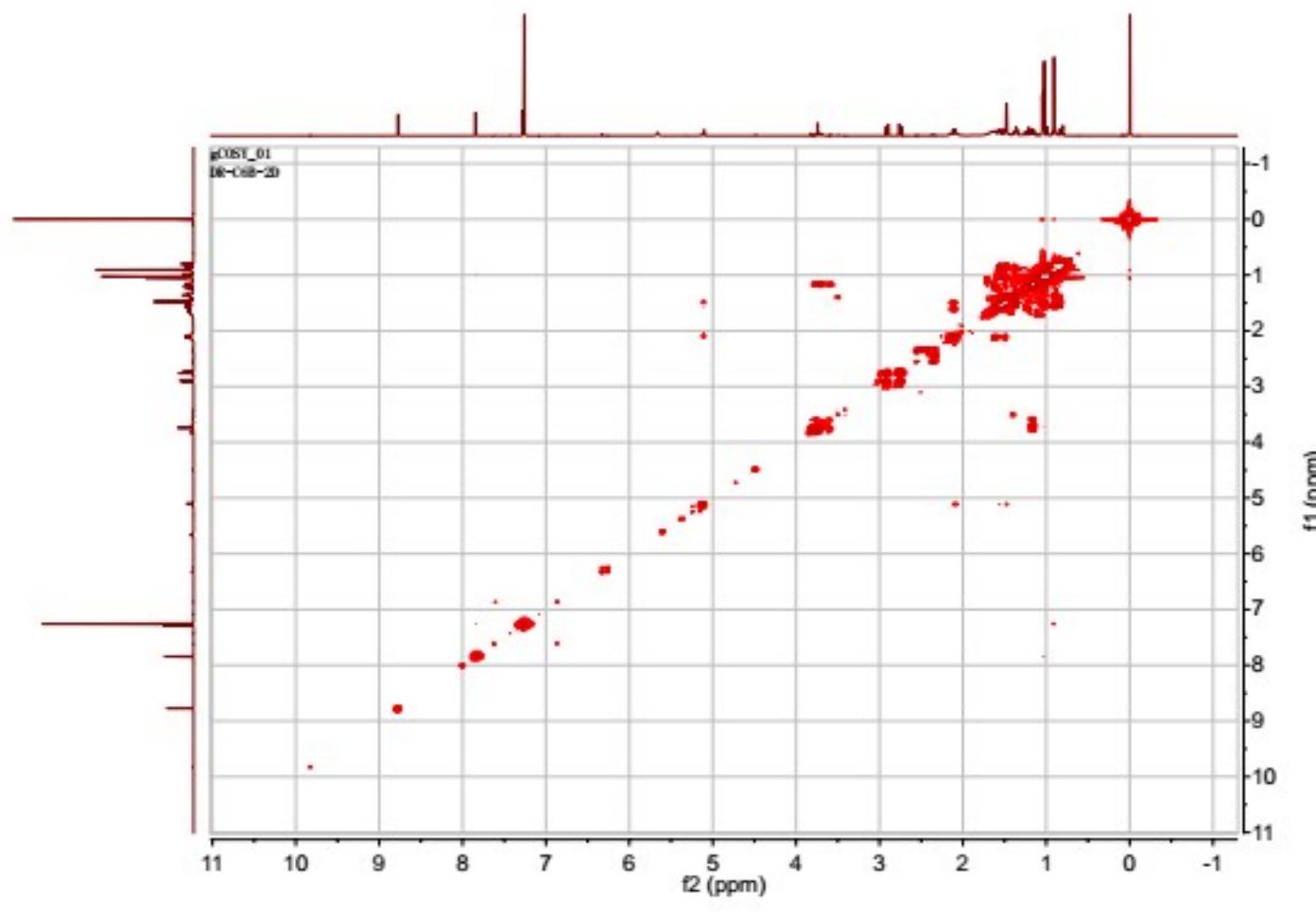


Figure S7. ¹H-¹H COSY spectrum of Compound **1** in CDCl₃.

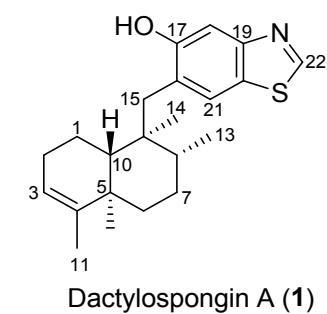
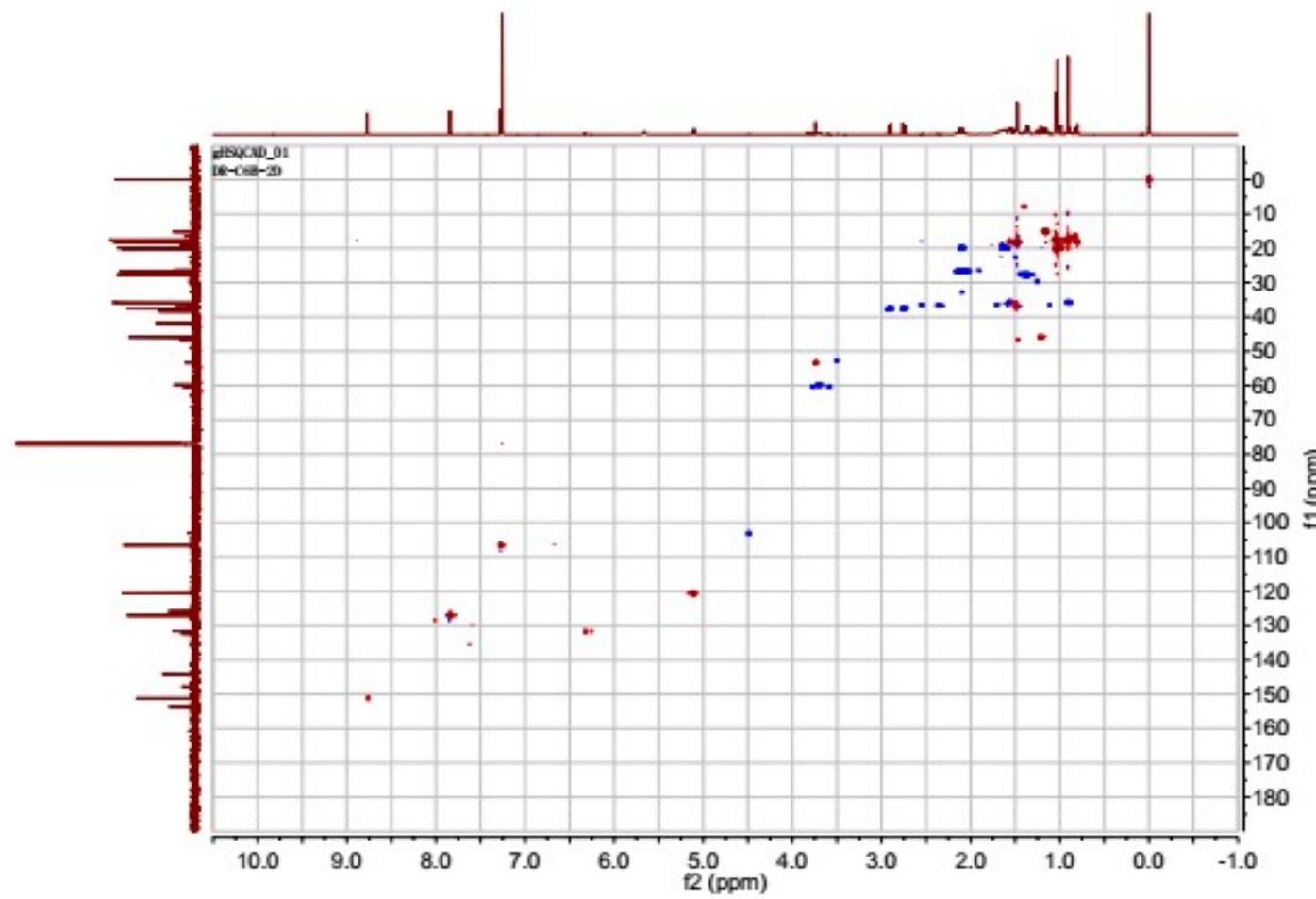


Figure S8. HSQC spectrum of Compound **1** in CDCl_3 .

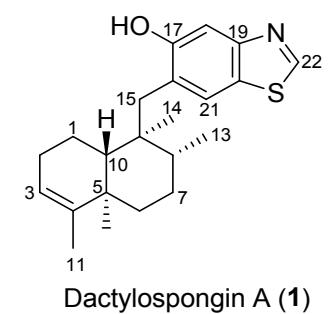
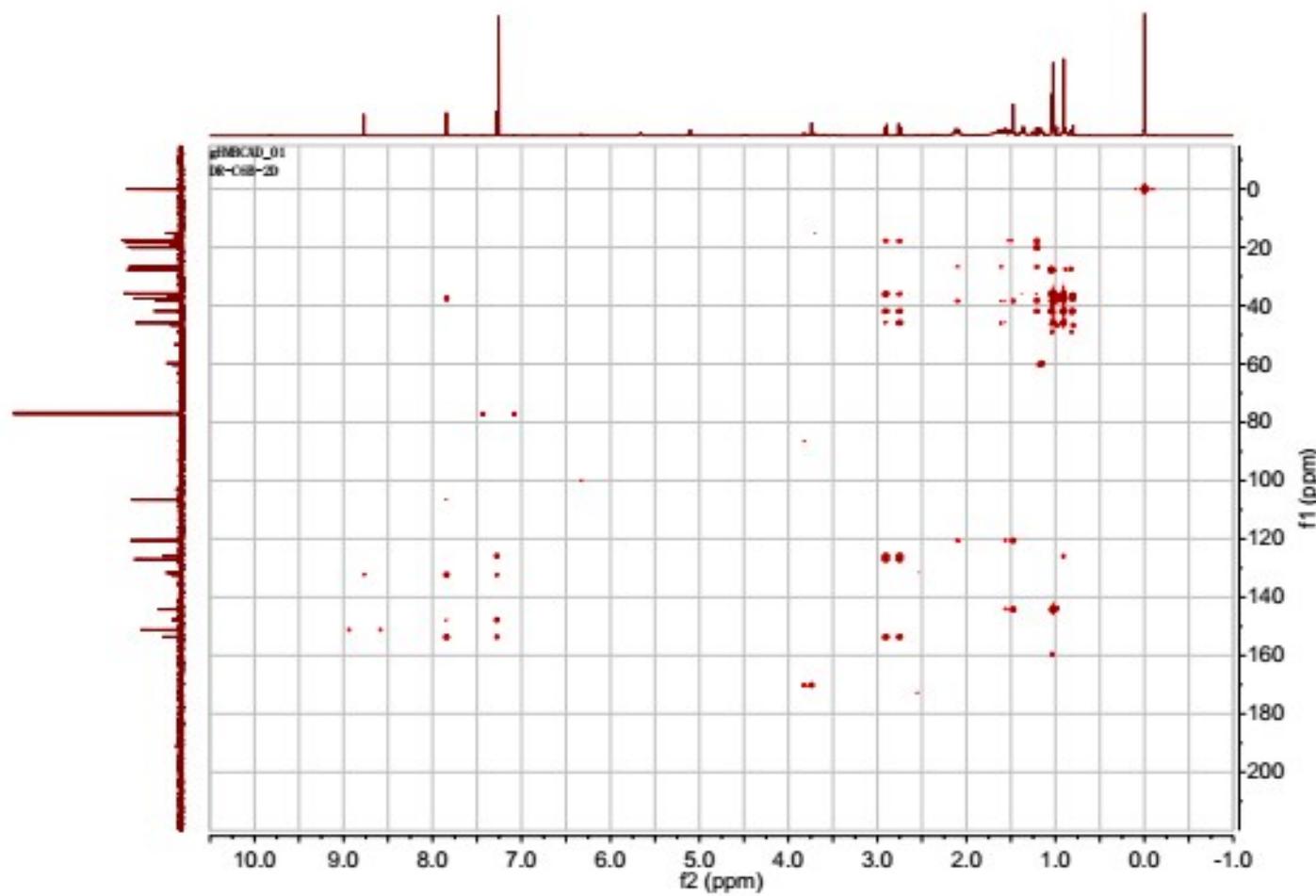


Figure S9. HMBC spectrum of Compound **1** in CDCl_3 .

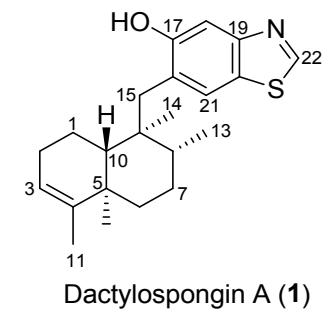
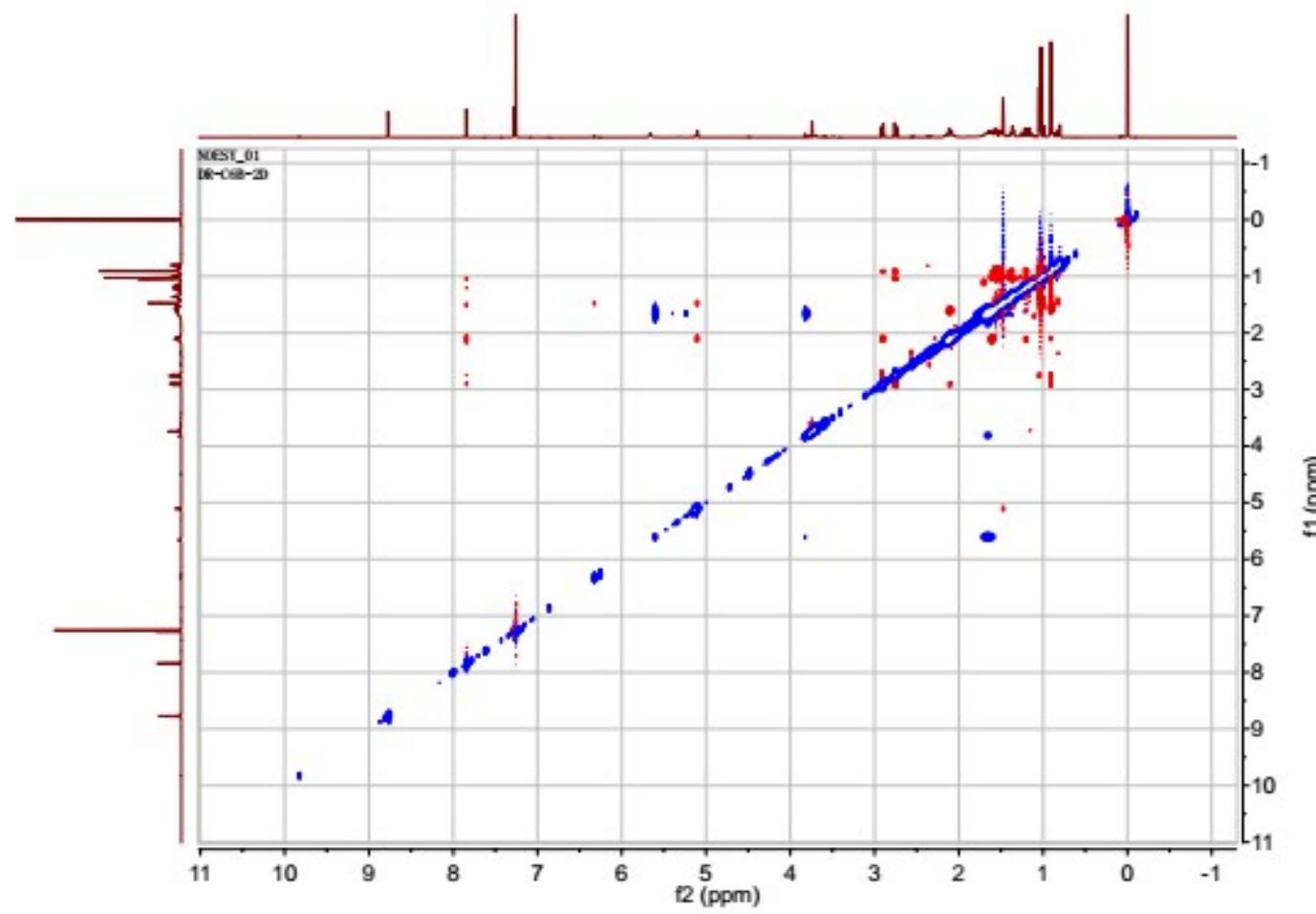


Figure S10. NOESY spectrum of Compound **1** in CDCl_3 .

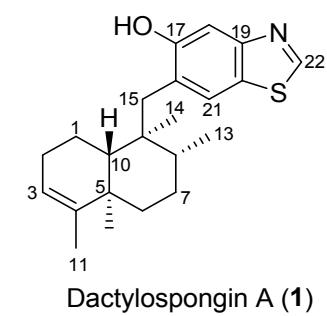
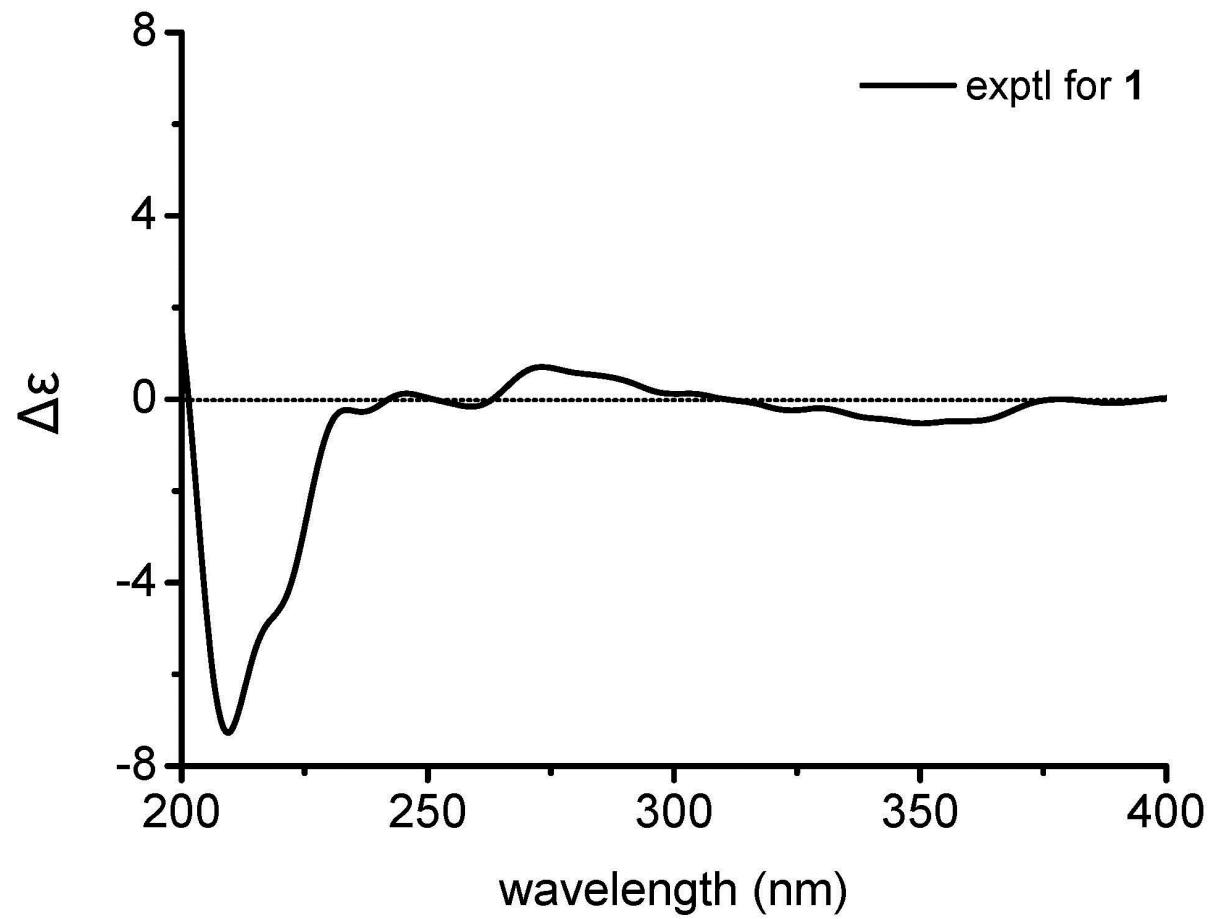


Figure S11. CD Spectrum of Compound **1** in MeOH.

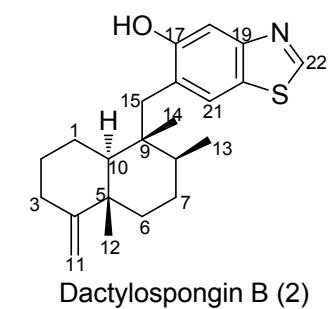
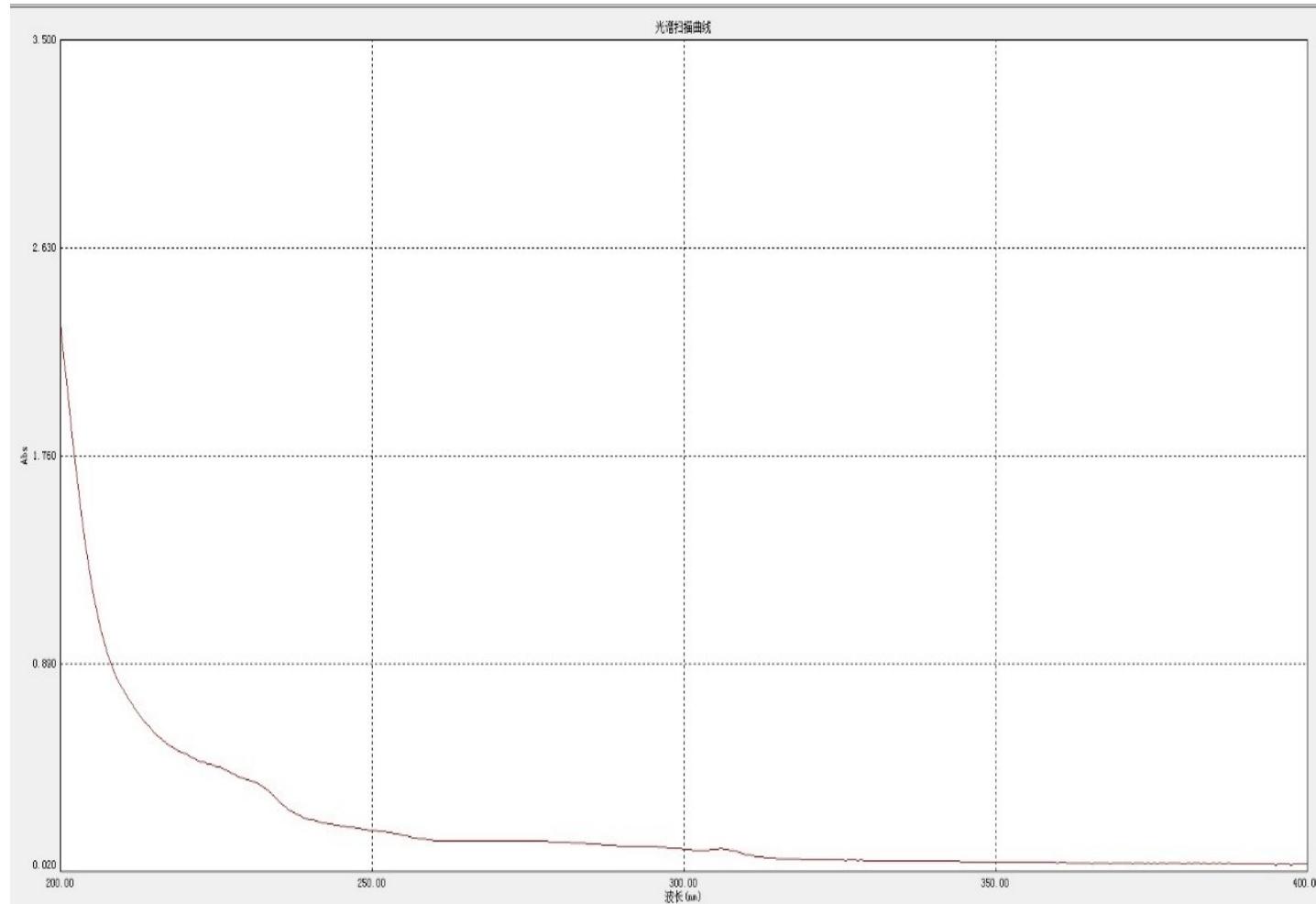


Figure S12. UV spectrum of Compound 2 in MeOH.

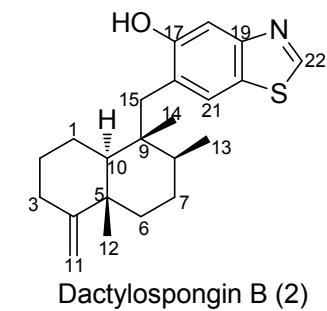
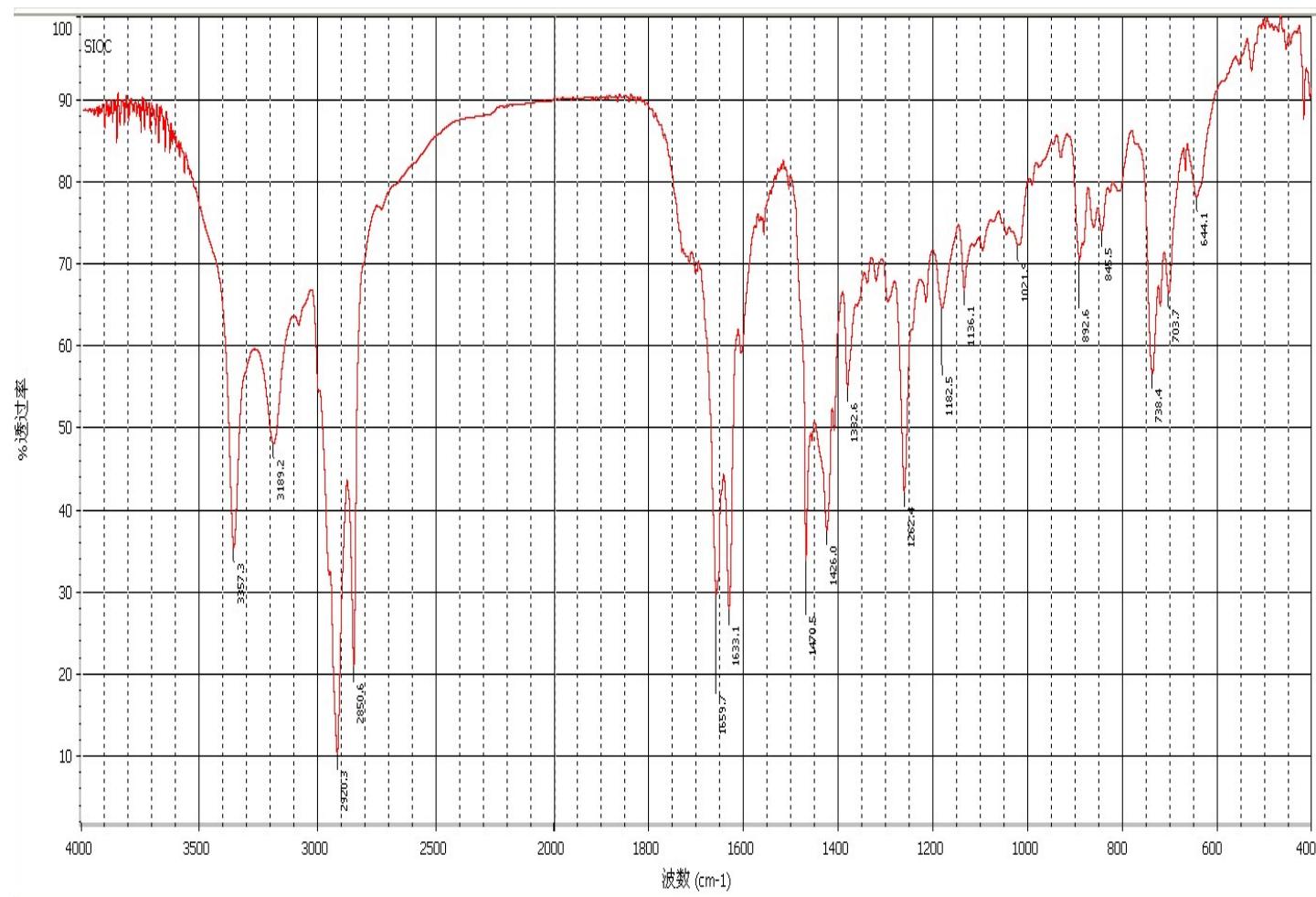


Figure S13. IR spectrum of Compound 2.

Single Mass Analysis

Tolerance = 5.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

4156 formula(e) evaluated with 7 results within limits (up to 50 closest results for each mass)

Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	N	O	Na	S
356.2050	356.2048	0.2	0.6	8.5	C ₂₂ H ₃₀ N ₁ O ₁ S	3159.0	0.000	99.98	22	30	1	1	1	1
	356.2058	-0.8	-2.2	0.5	C ₁₇ H ₃₅ N ₁ O ₁ Na ₂ S ₂	3168.8	9.785	0.01	17	35	1	1	1	2
	356.2062	-1.2	-3.4	6.5	C ₁₇ H ₂₇ N ₅ O ₂ Na	3169.4	10.408	0.00	17	27	5	2	1	
	356.2049	0.1	0.3	1.5	C ₁₆ H ₃₁ N ₁ O ₆ Na	3169.5	10.509	0.00	16	31	1	6	1	
	356.2042	0.8	2.2	-0.5	C ₁₄ H ₃₄ N ₃ O ₃ S ₂	3169.6	10.612	0.00	14	34	3	3		2
	356.2046	0.4	1.1	5.5	C ₁₄ H ₂₆ N ₇ O ₄	3169.4	10.426	0.00	14	26	7	4		
	356.2033	1.7	4.8	0.5	C ₁₃ H ₃₀ N ₃ O ₈	3169.8	10.808	0.00	13	30	3	8		

20170321_DR-C6A2 54 (0.250) Cm (47:68)

1: TOF MS ES+

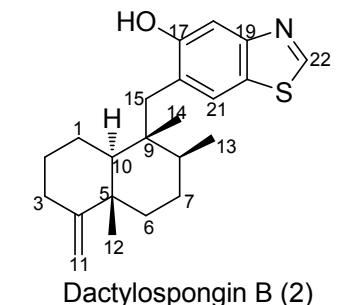
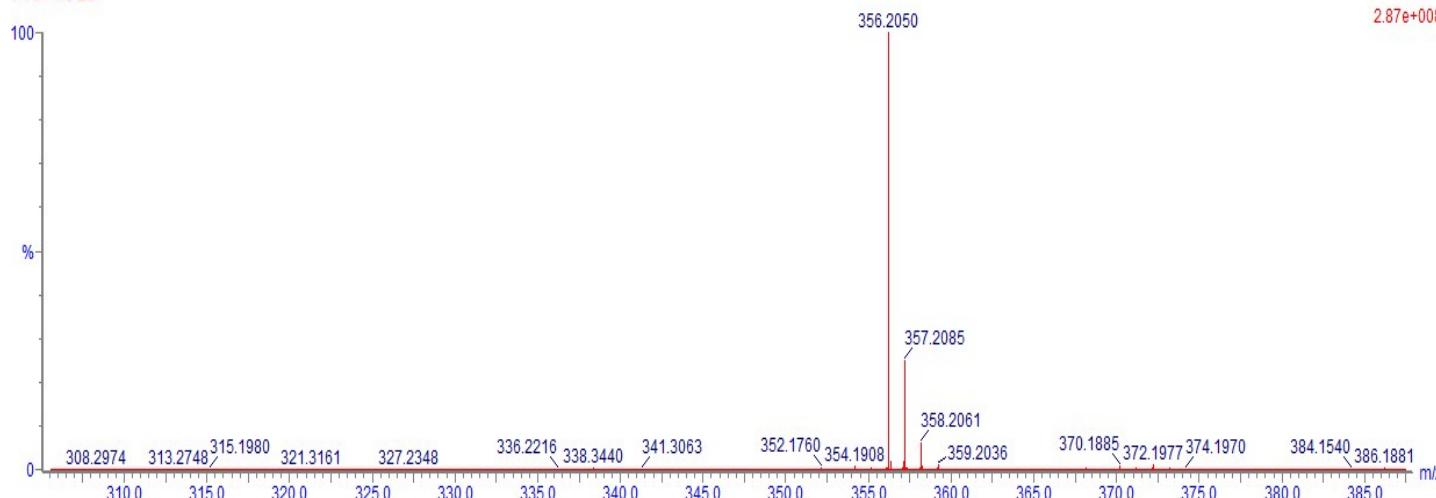


Figure S14. HRESIMS spectrum of Compound 2.

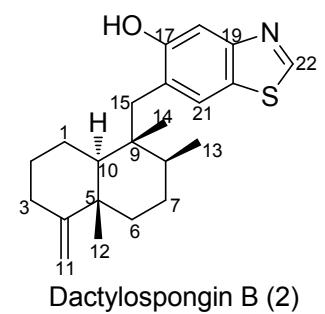
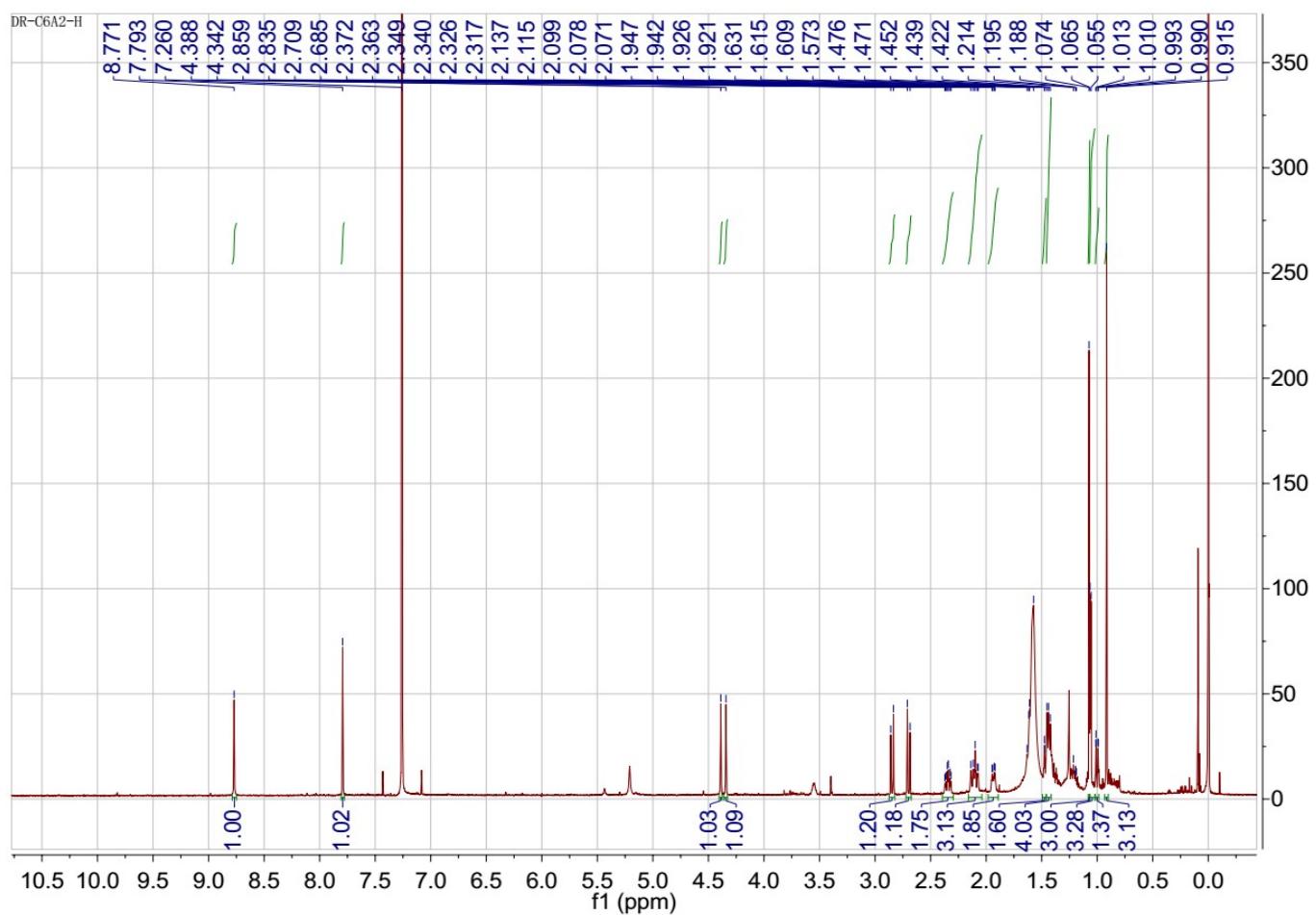


Figure S15. ^1H NMR spectrum of Compound 2 in CDCl_3 .

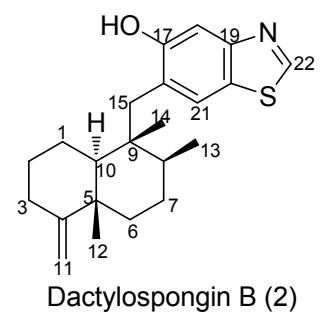
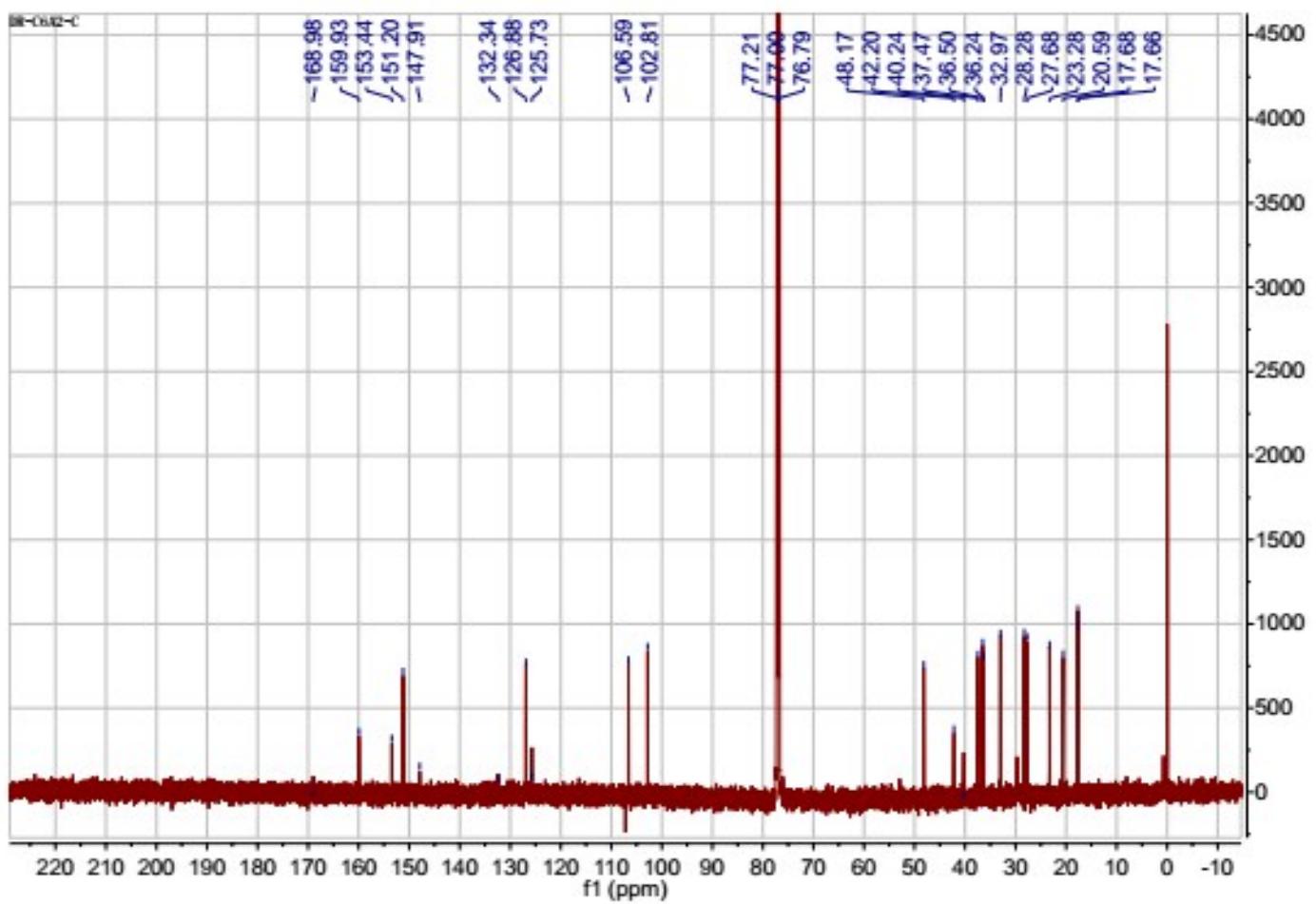
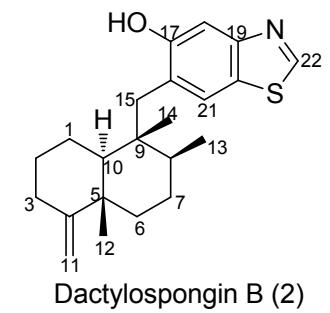
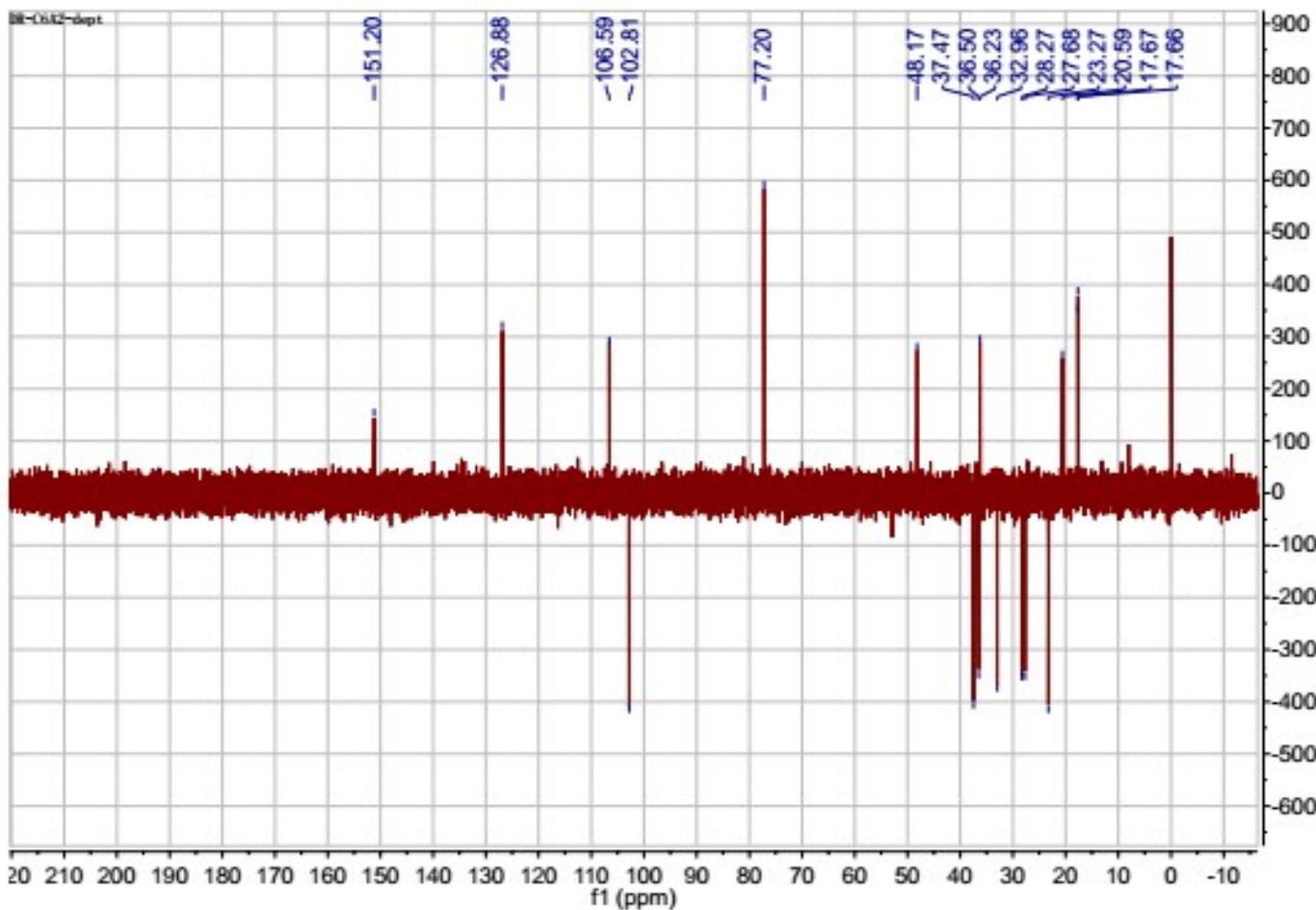


Figure S16. ^{13}C NMR spectrum of Compound 2 in CDCl_3 .



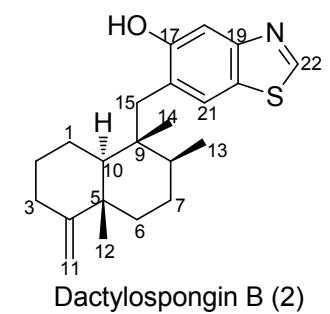
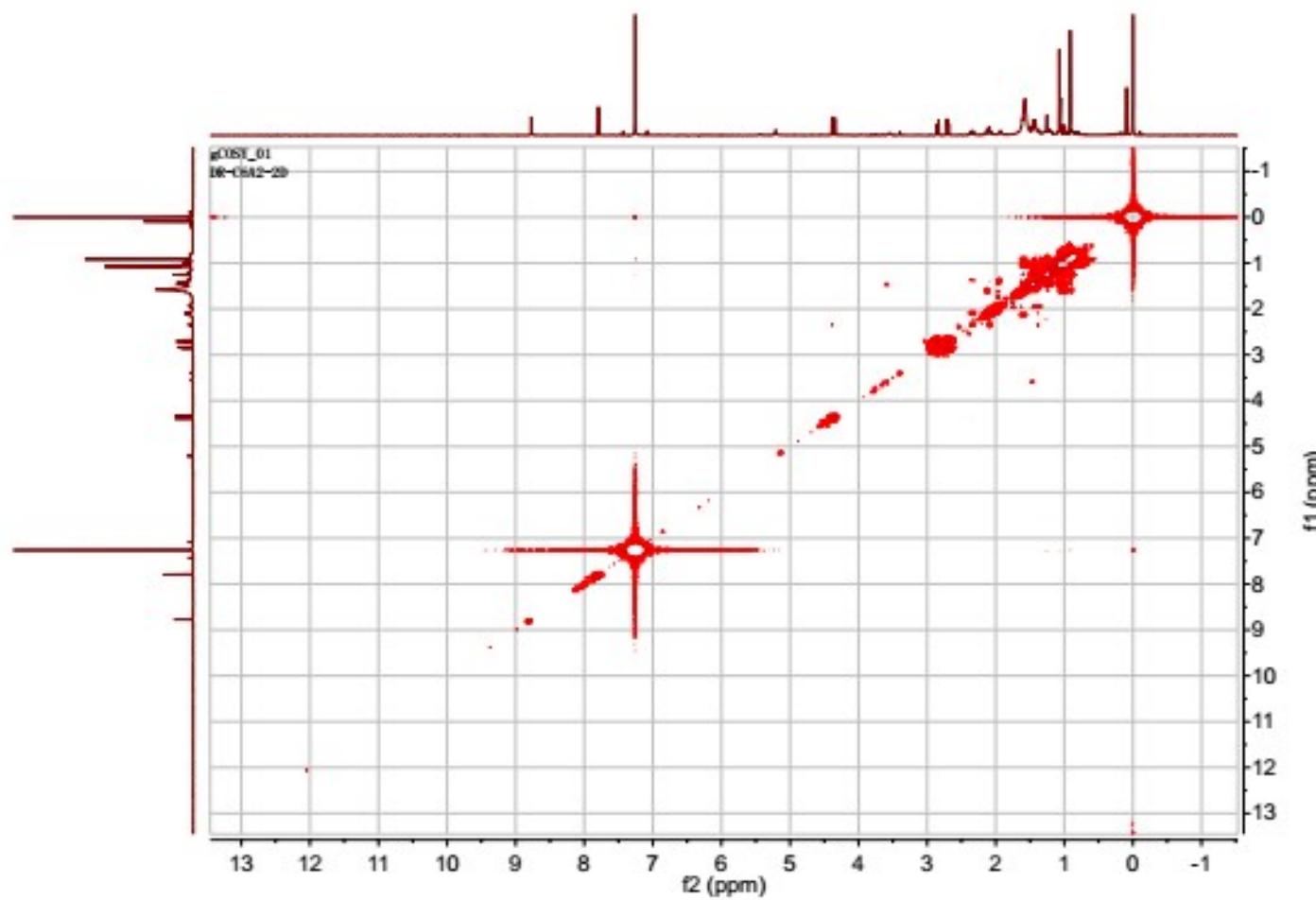


Figure S18. ^1H - ^1H COSY spectrum of Compound 2 in CDCl_3 .

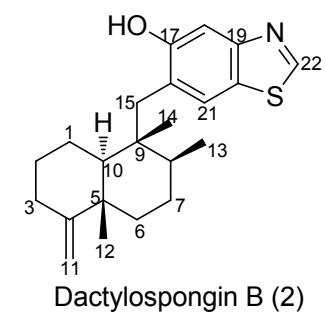
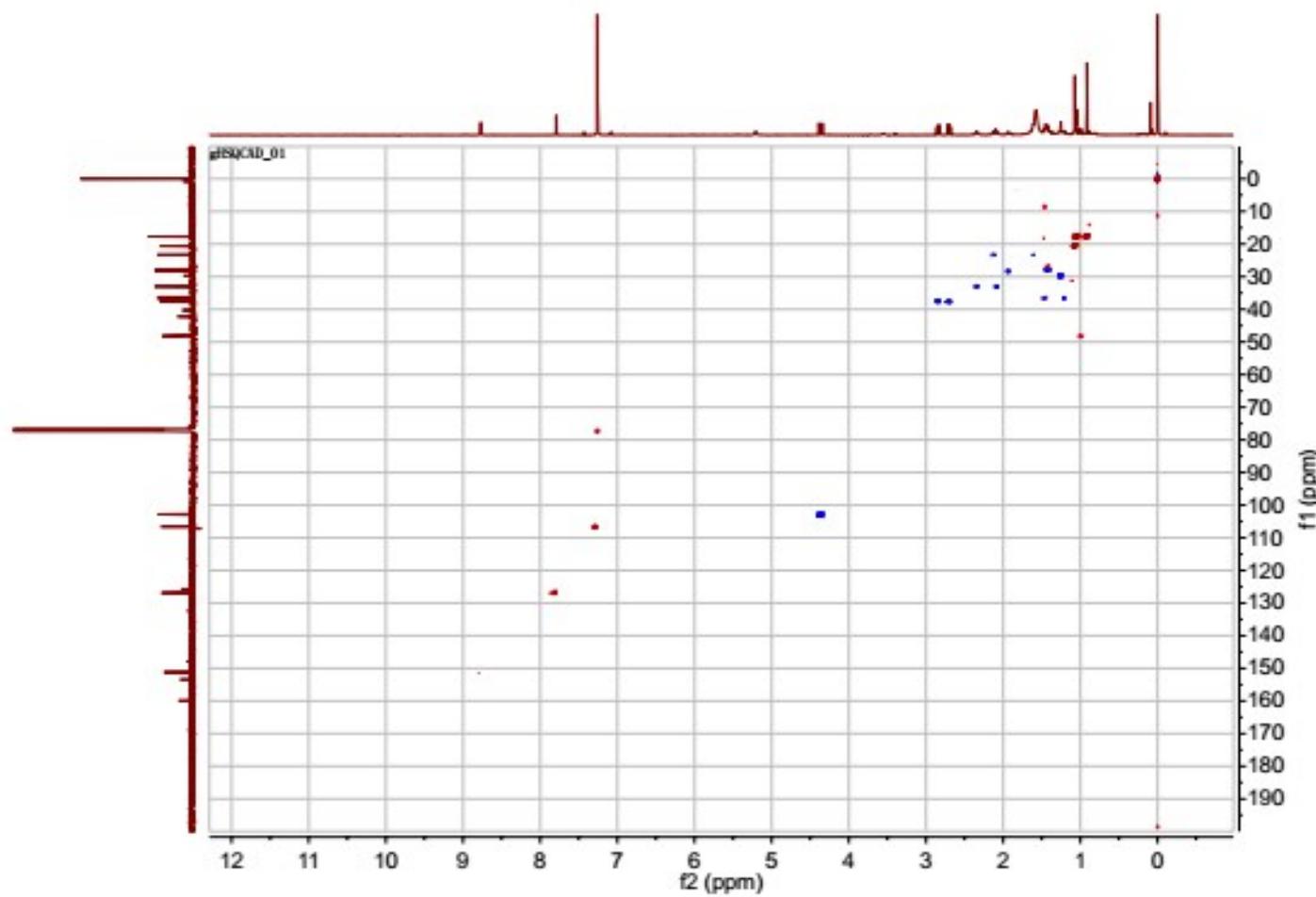


Figure S19. HSQC spectrum of Compound 2 in CDCl_3 .

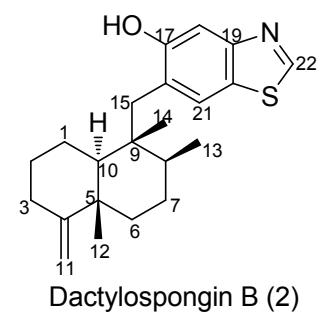
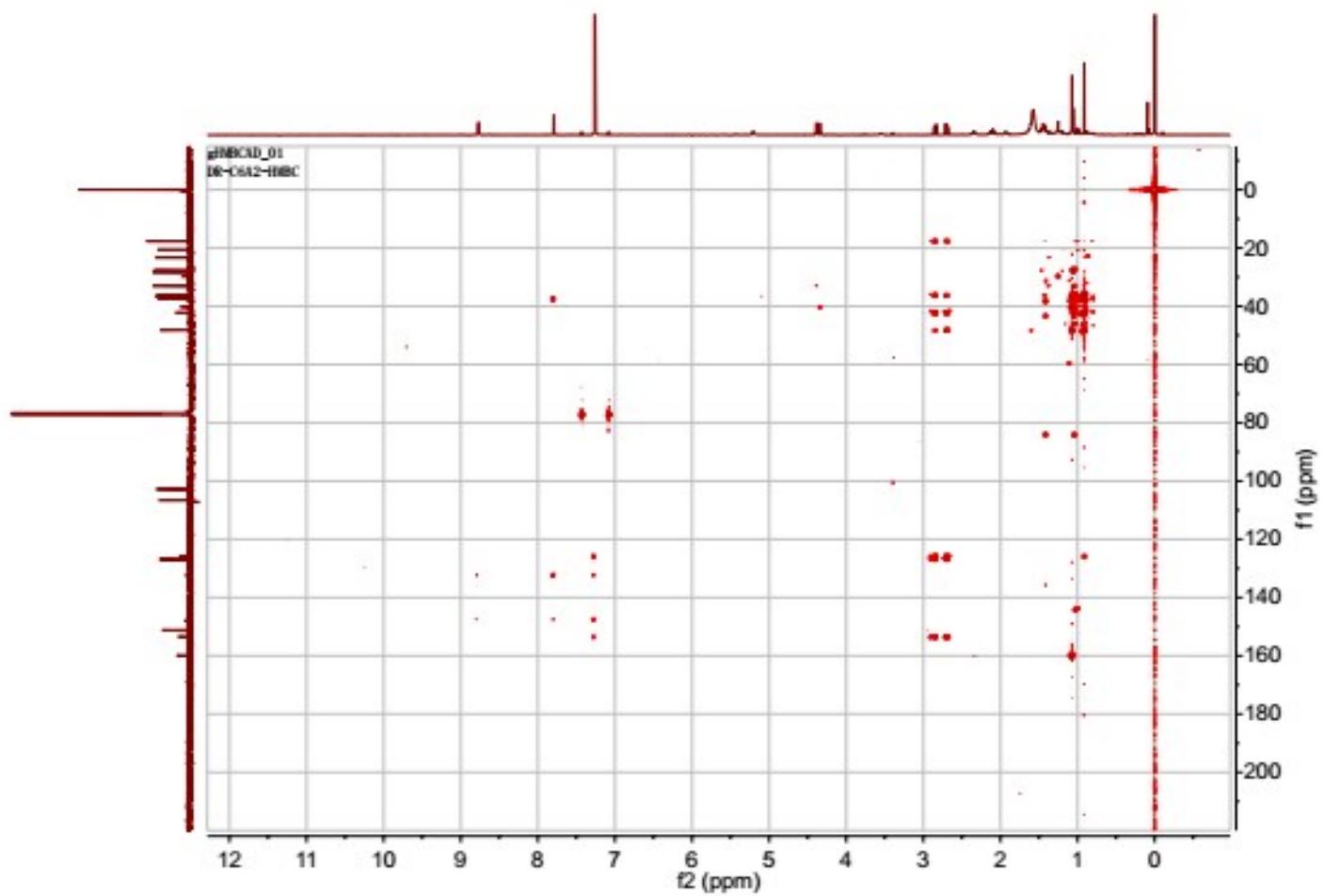


Figure S20. HMBC spectrum of Compound 2 in CDCl_3 .

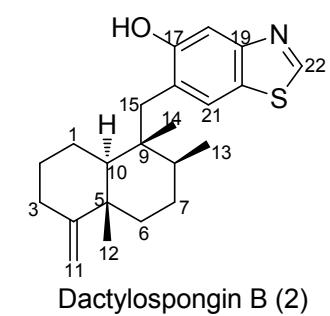
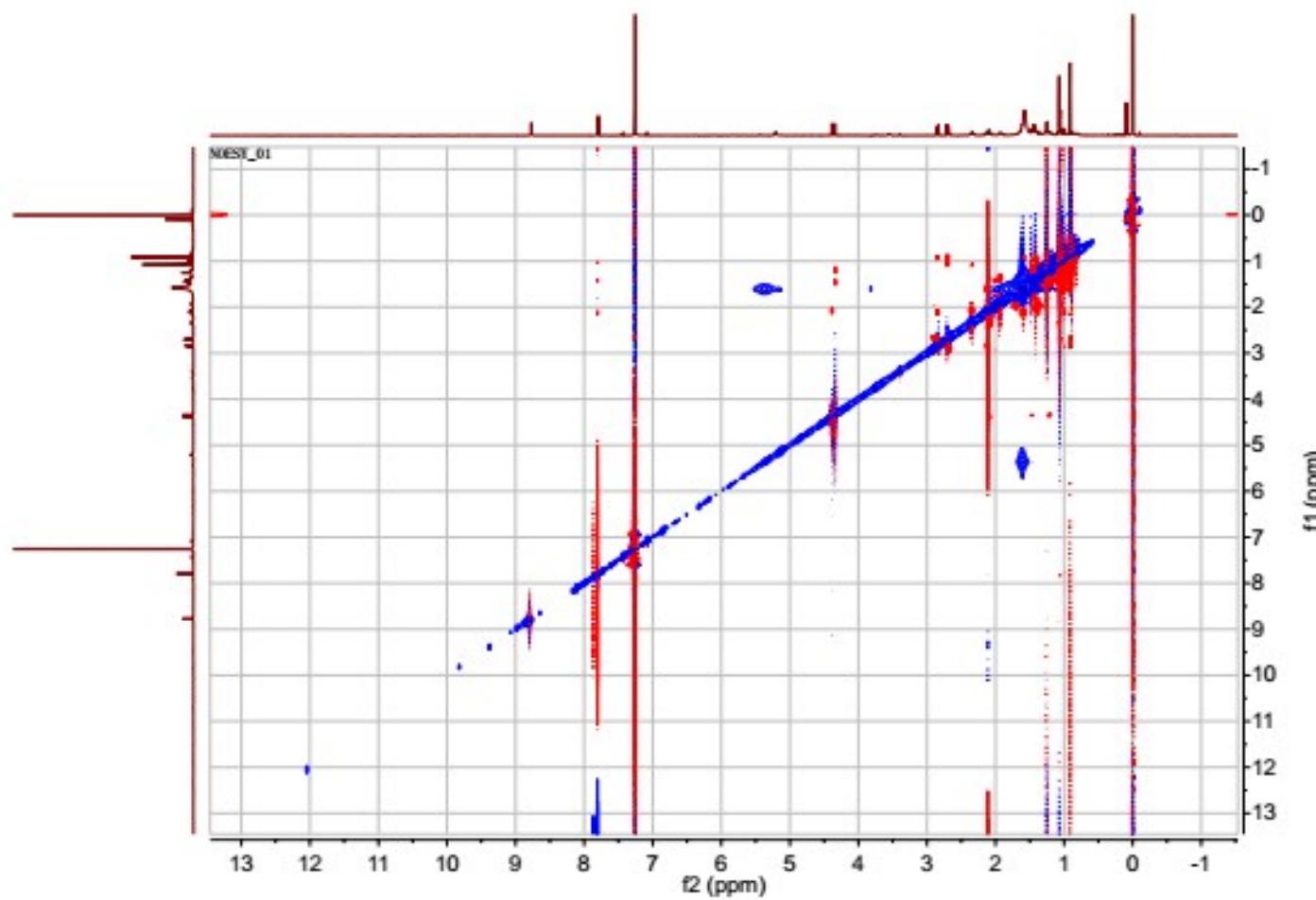


Figure S21. NOESY spectrum of Compound 2 in CDCl_3 .

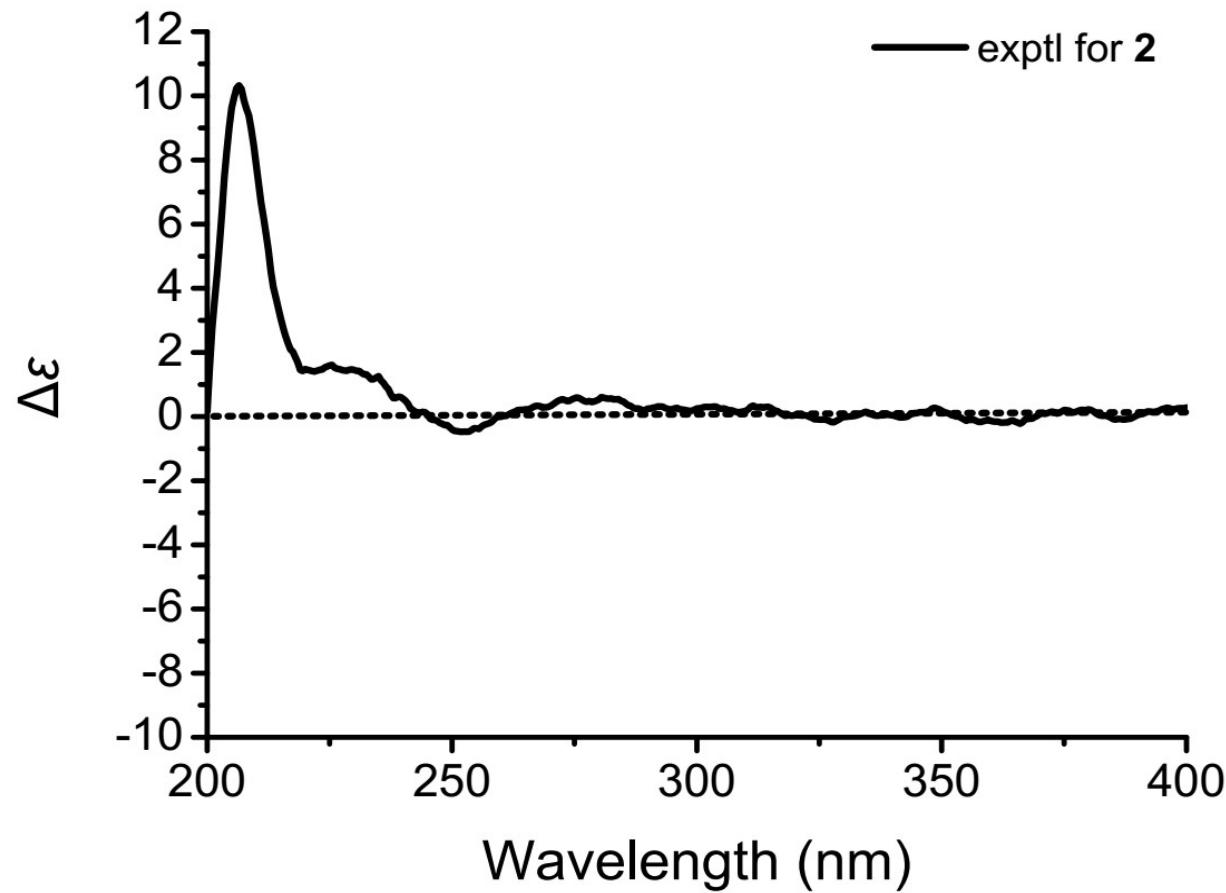
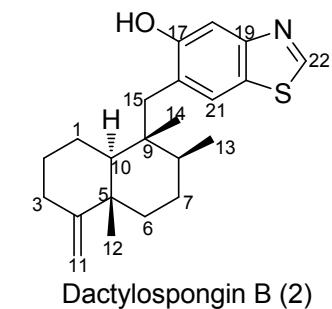
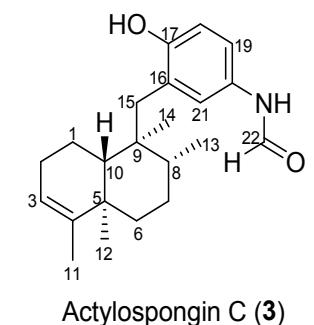
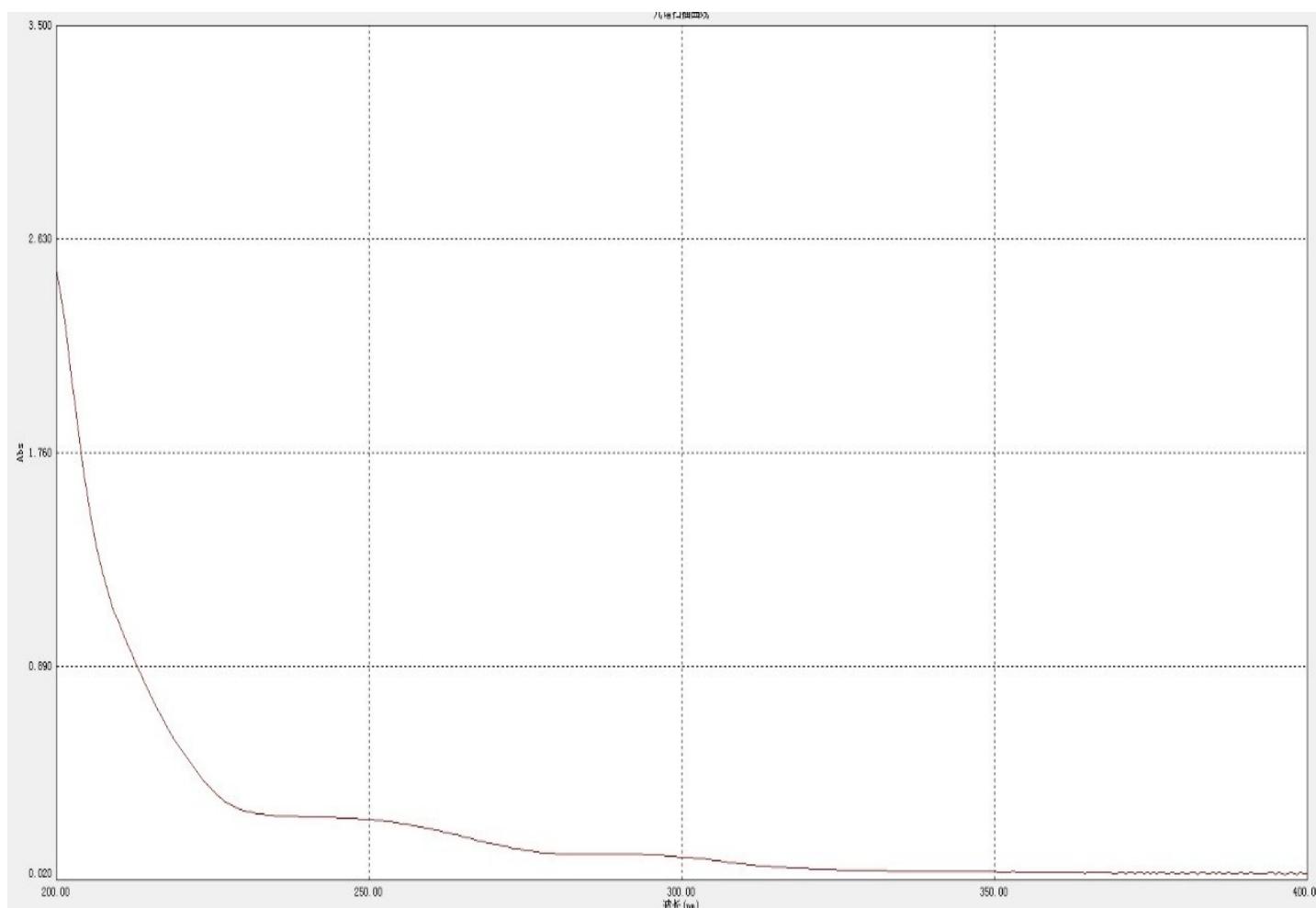


Figure S22. CD spectrum of Compound 2 in MeOH.





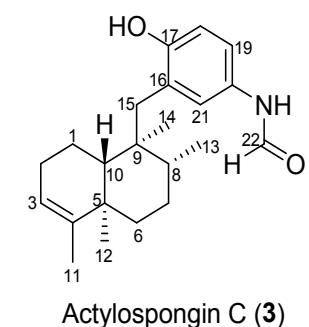
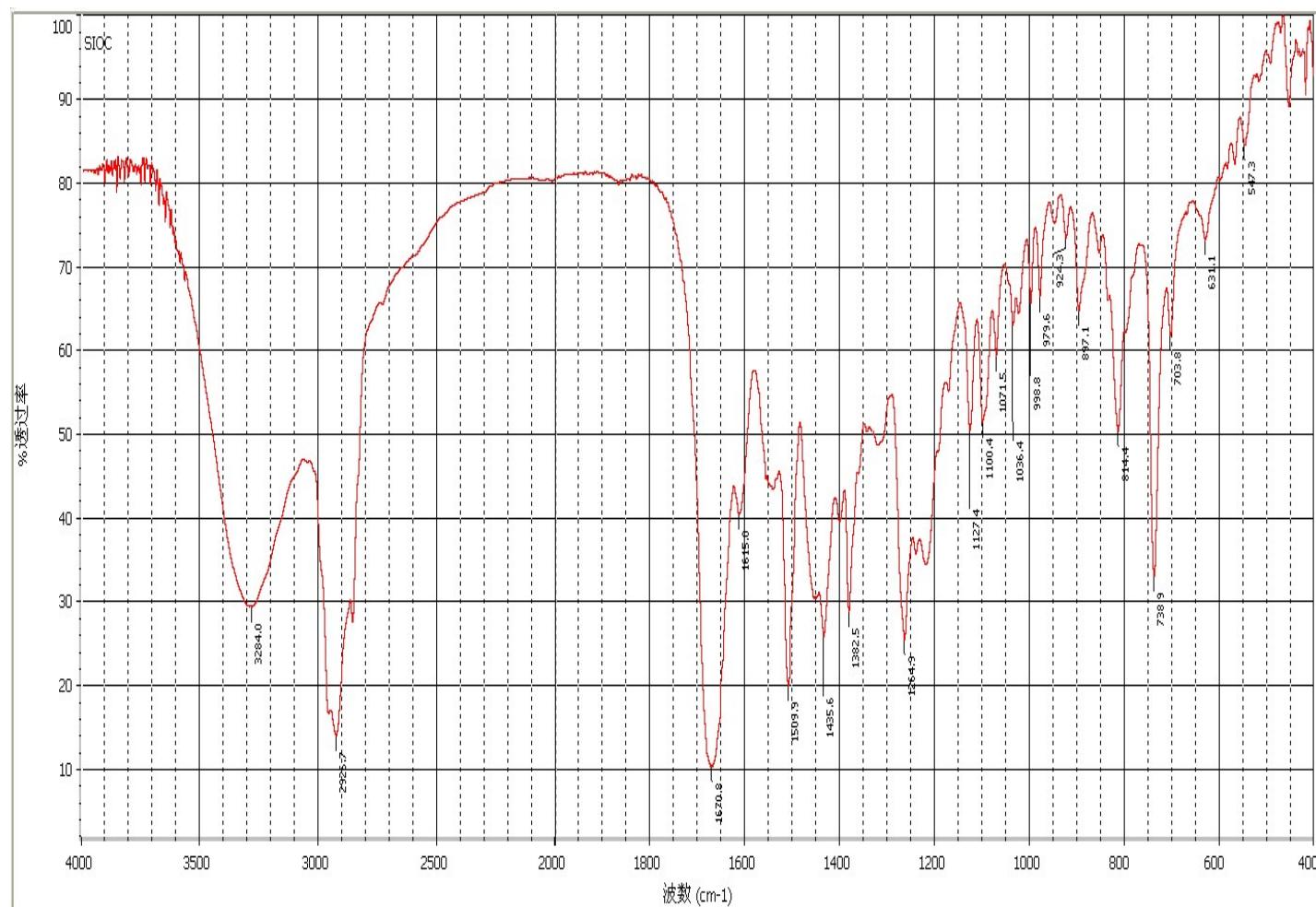
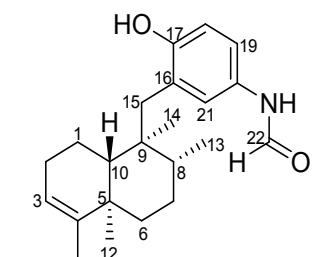
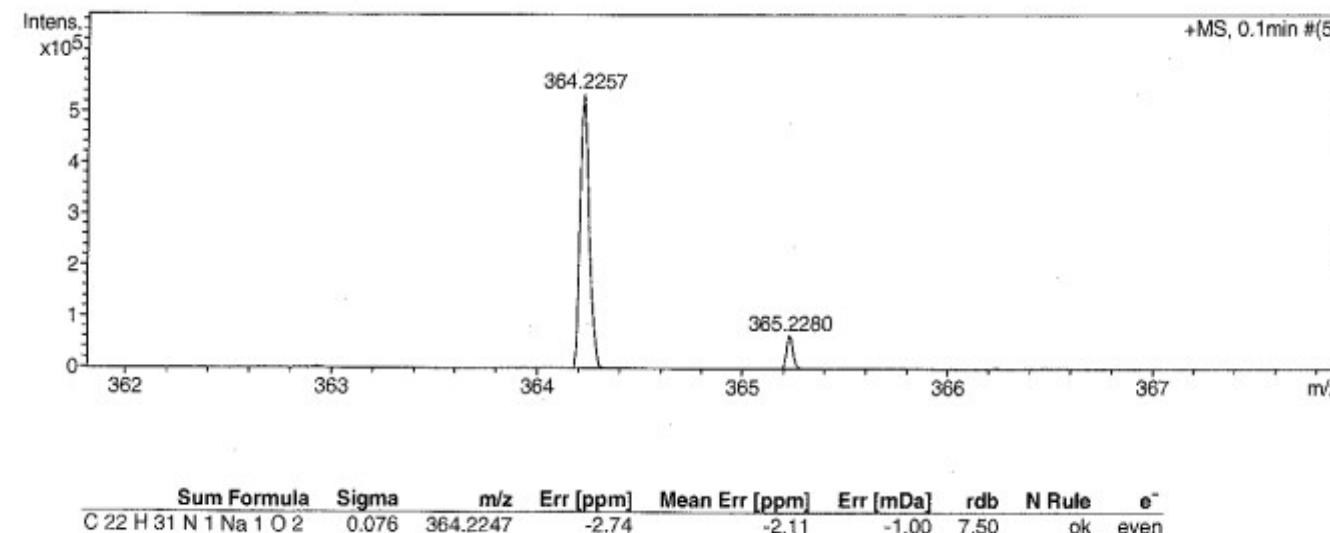
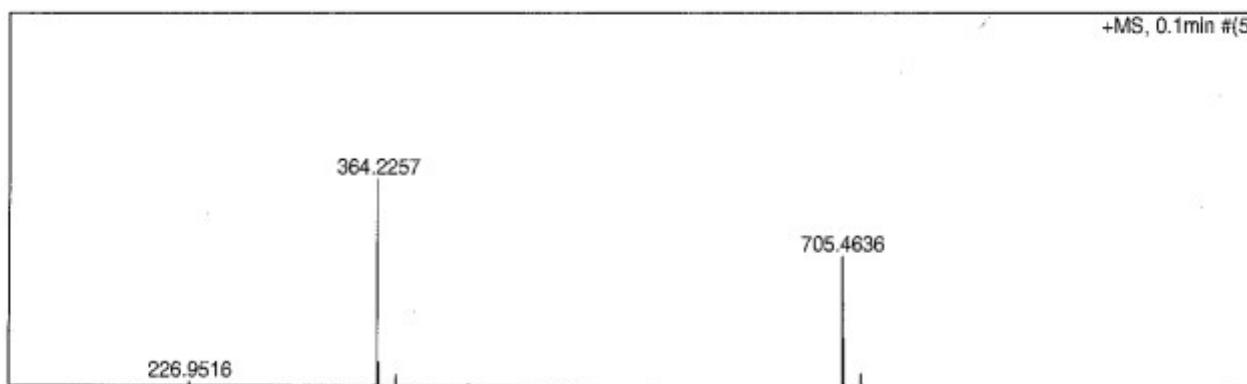


Figure S24. IR spectrum of Compound 3.



Actylospongin C (3)

Figure S25. HRESIMS spectrum of Compound 3.

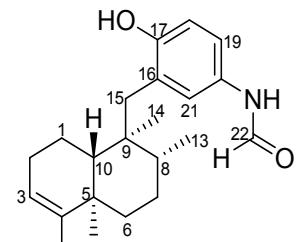
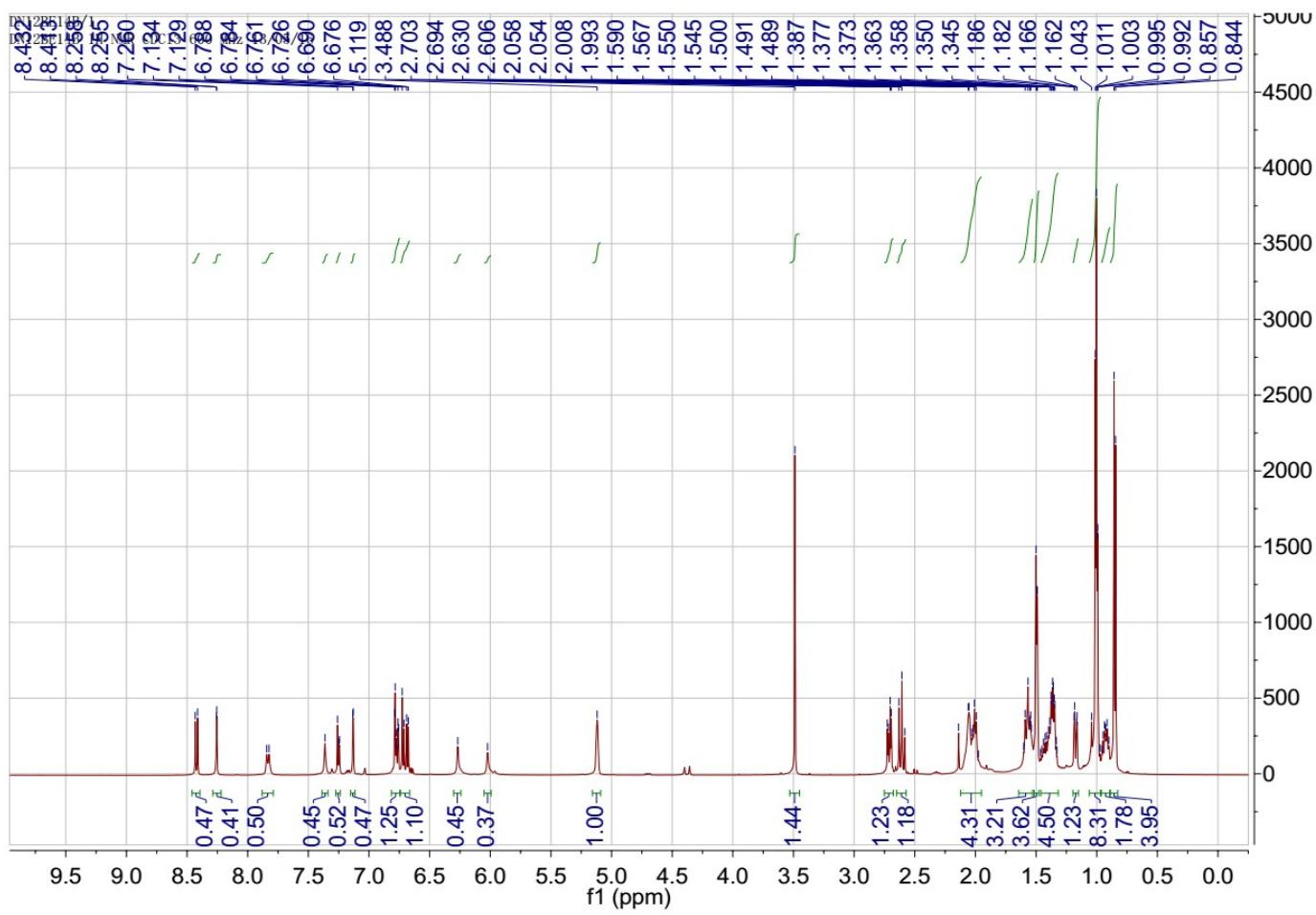


Figure S26. ^1H NMR spectrum of Compound 3 in CDCl_3 .

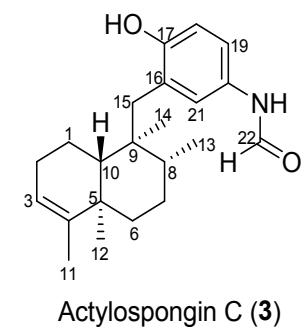
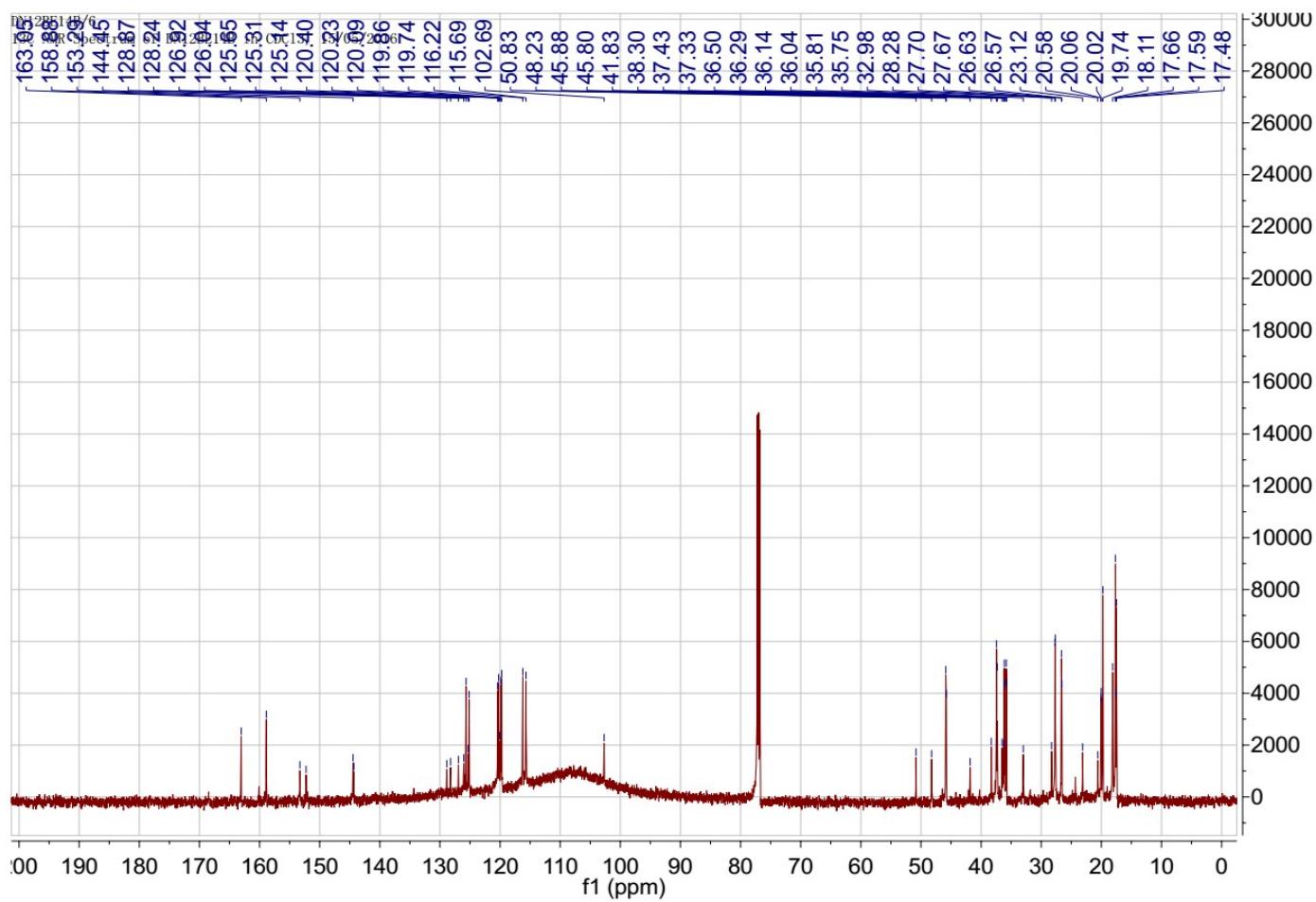


Figure S27. ¹³C NMR spectrum of Compound **3** in CDCl₃.

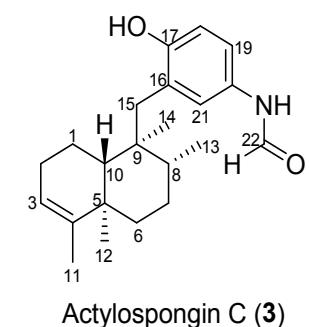
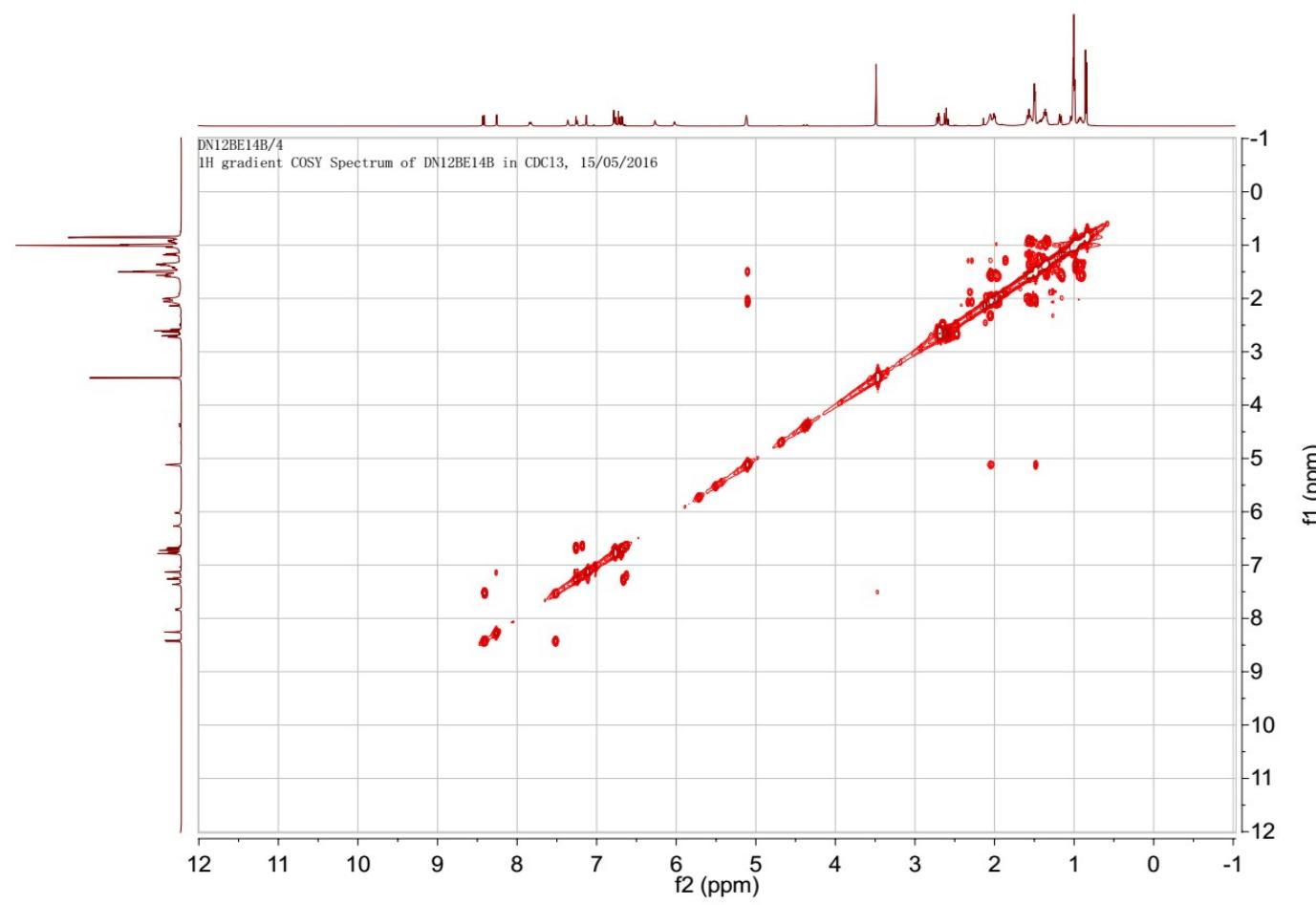
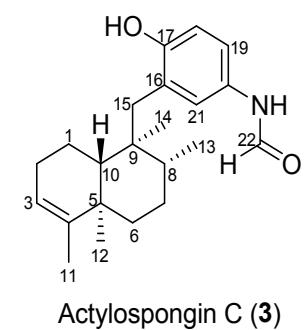
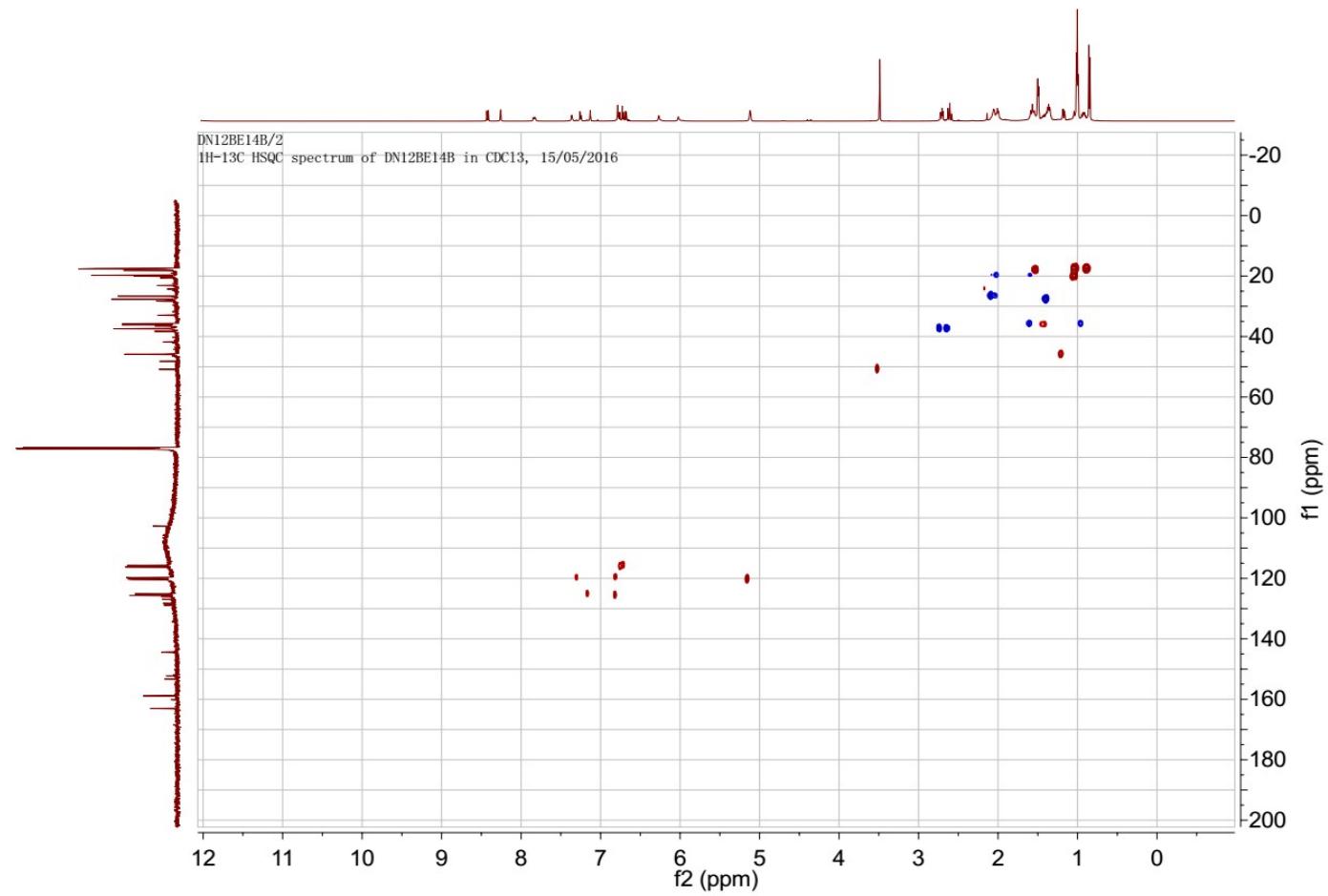


Figure S28. ¹H-¹H COSY spectrum of Compound 3 in CDCl₃.



Actylospongin C (**3**)

Figure S29. HSQC spectrum of Compound **3** in CDCl₃.

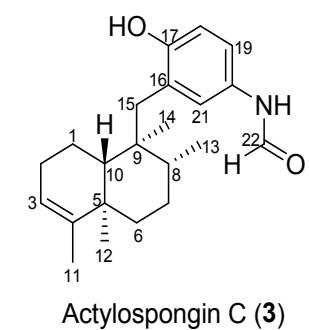
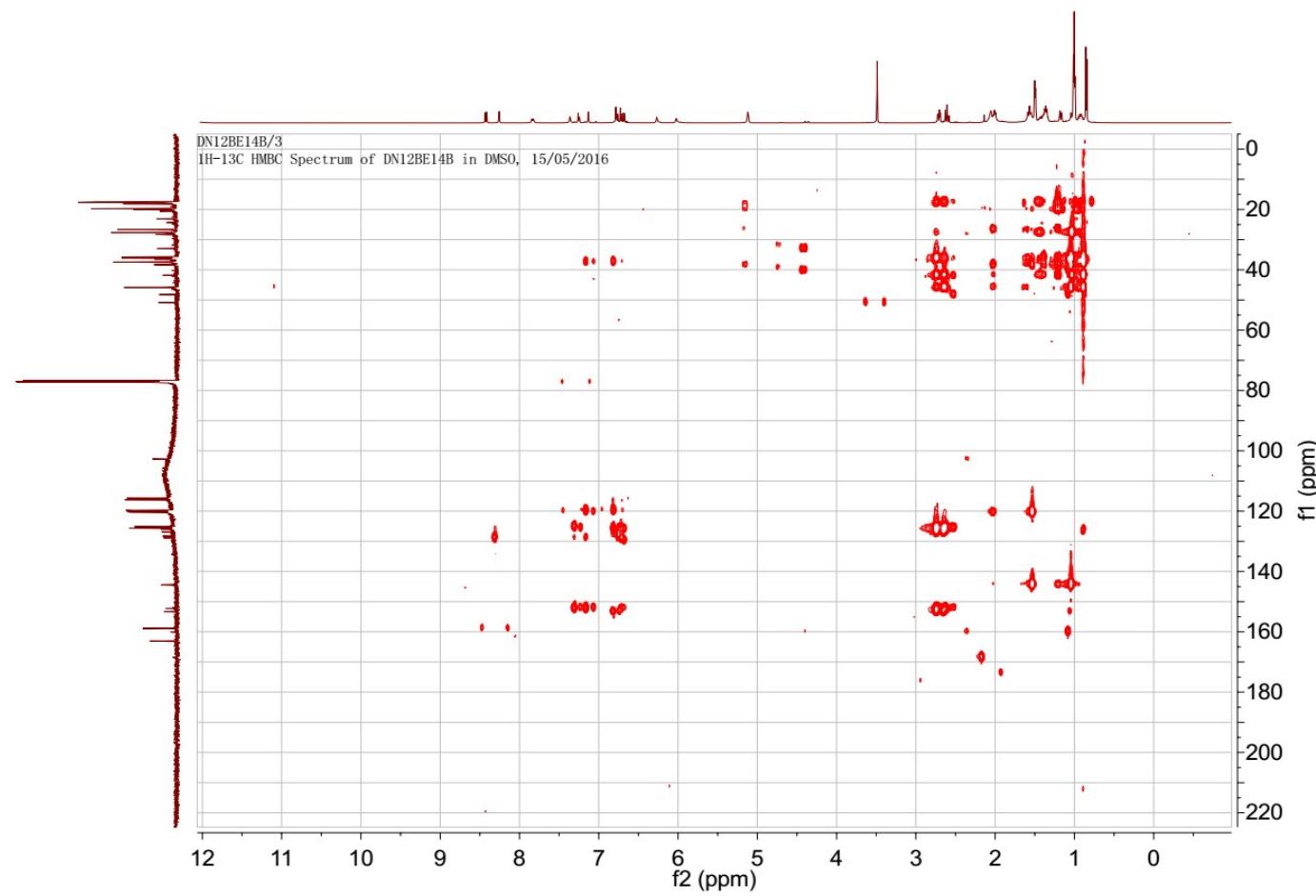


Figure S30. HMBC spectrum of Compound 3 in CDCl₃.

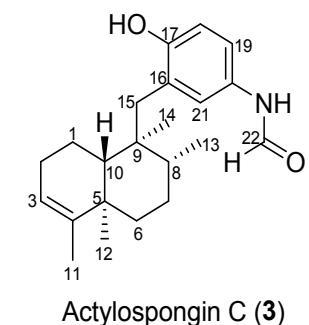
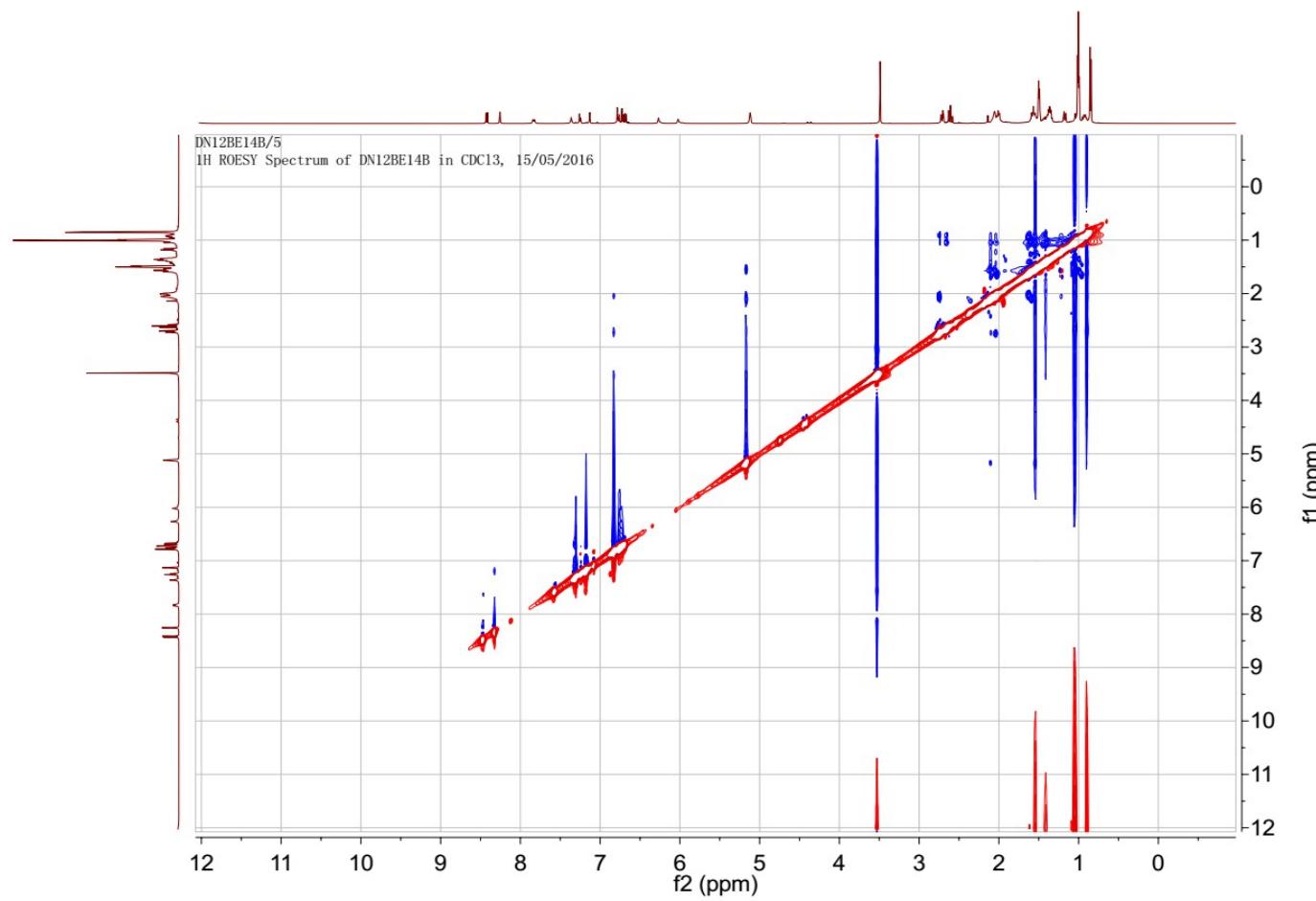


Figure S31. NOESY spectrum of Compound 3 in CDCl₃.

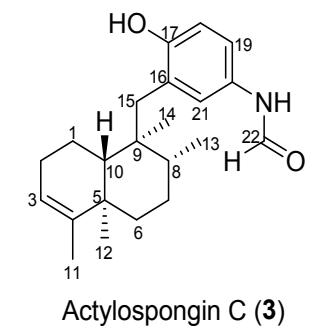
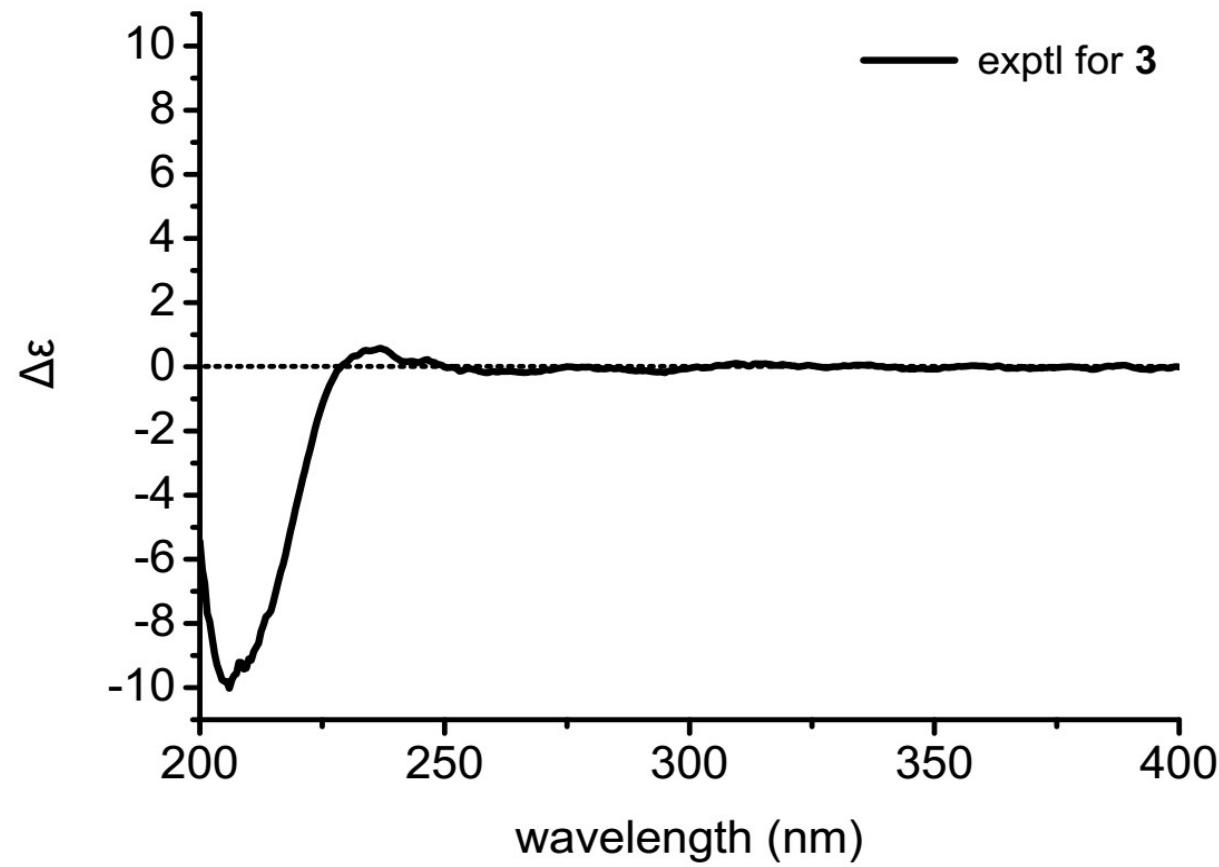


Figure S32. CD spectrum of Compound 3 in MeOH.

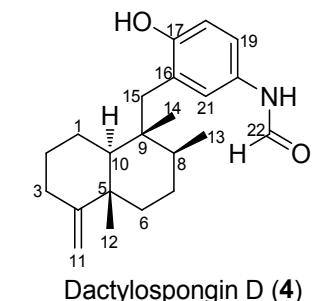
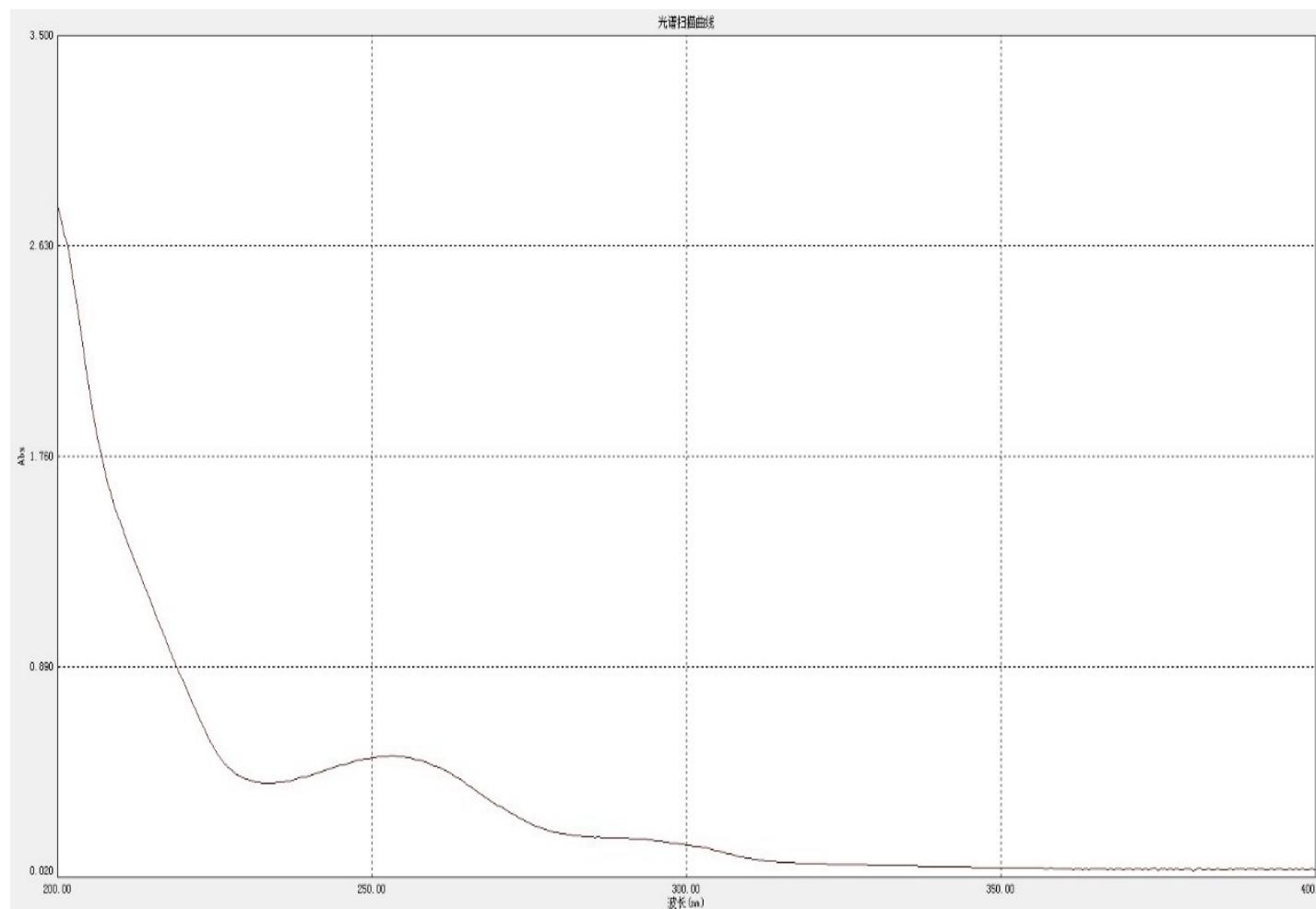


Figure S33. UV spectrum of Compound **4** in MeOH.

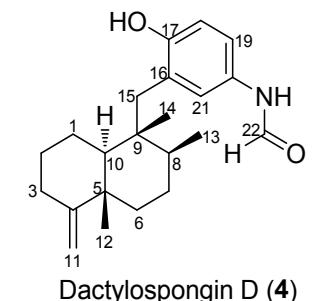
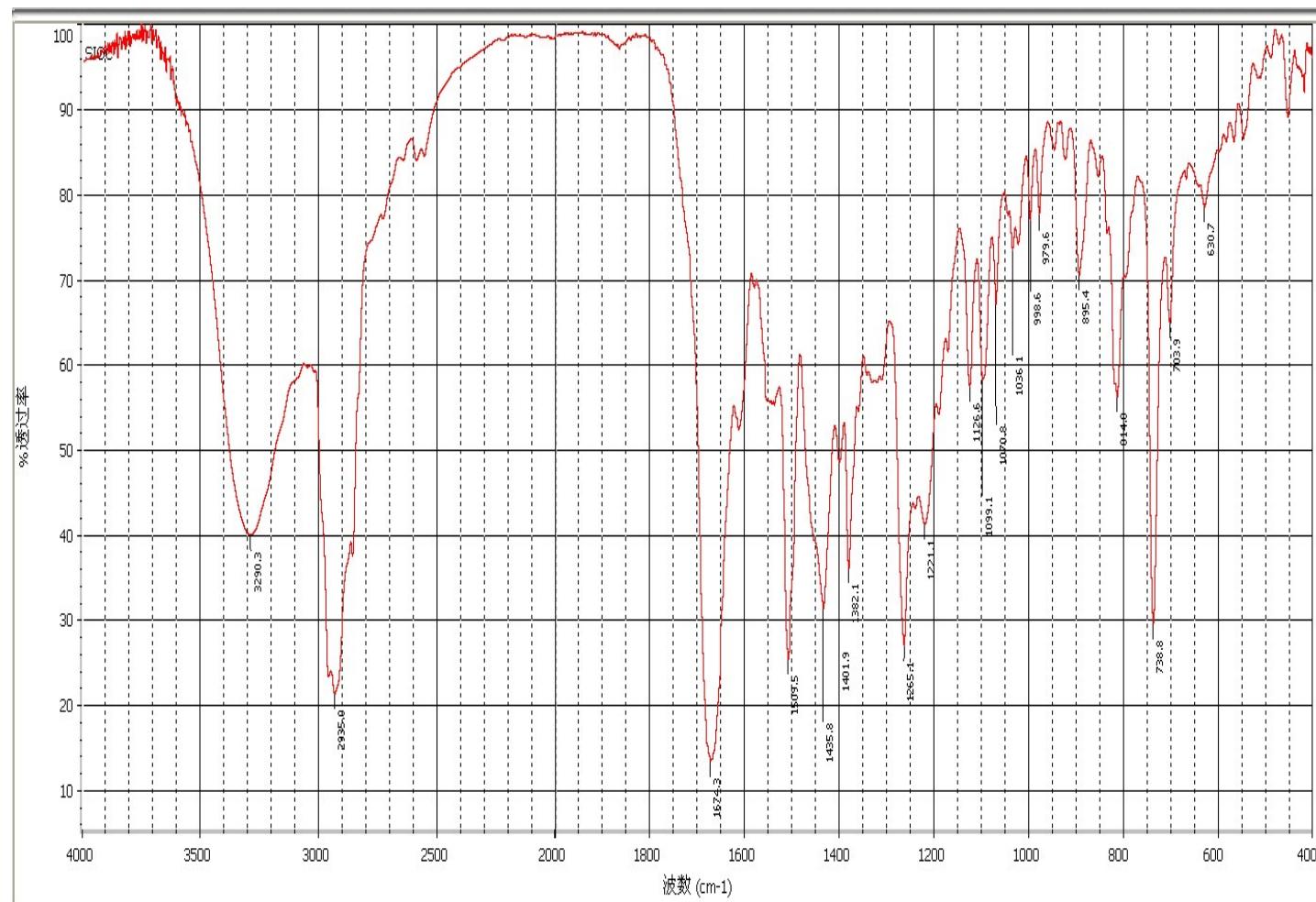


Figure S34. IR spectrum of Compound 4.

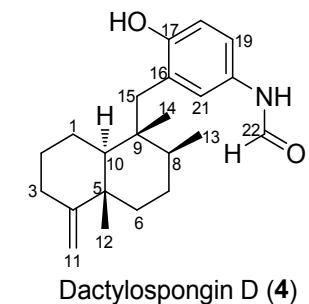
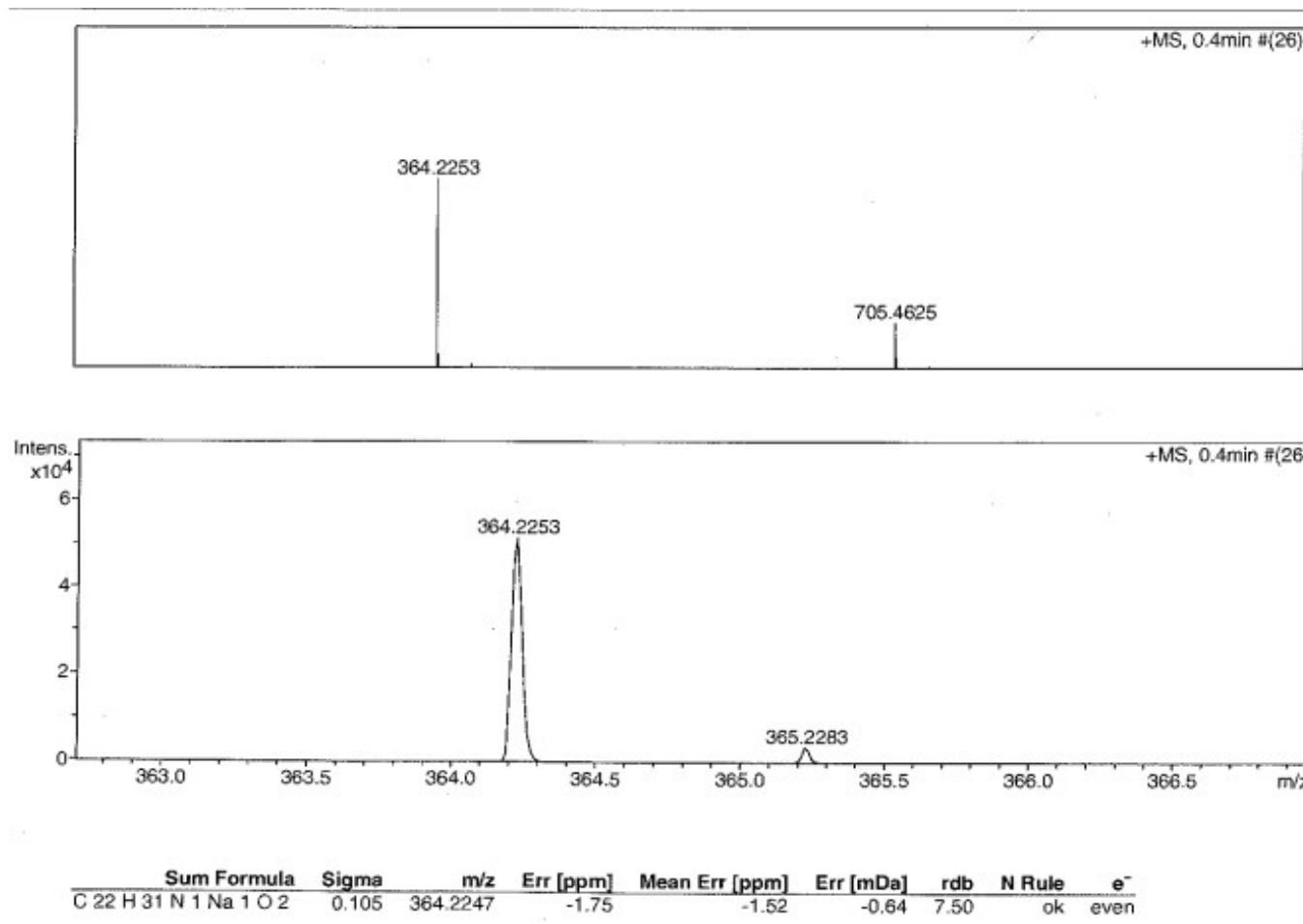
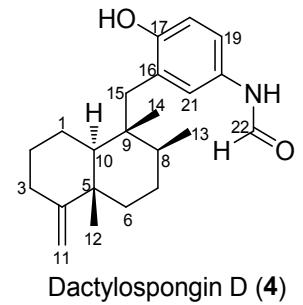
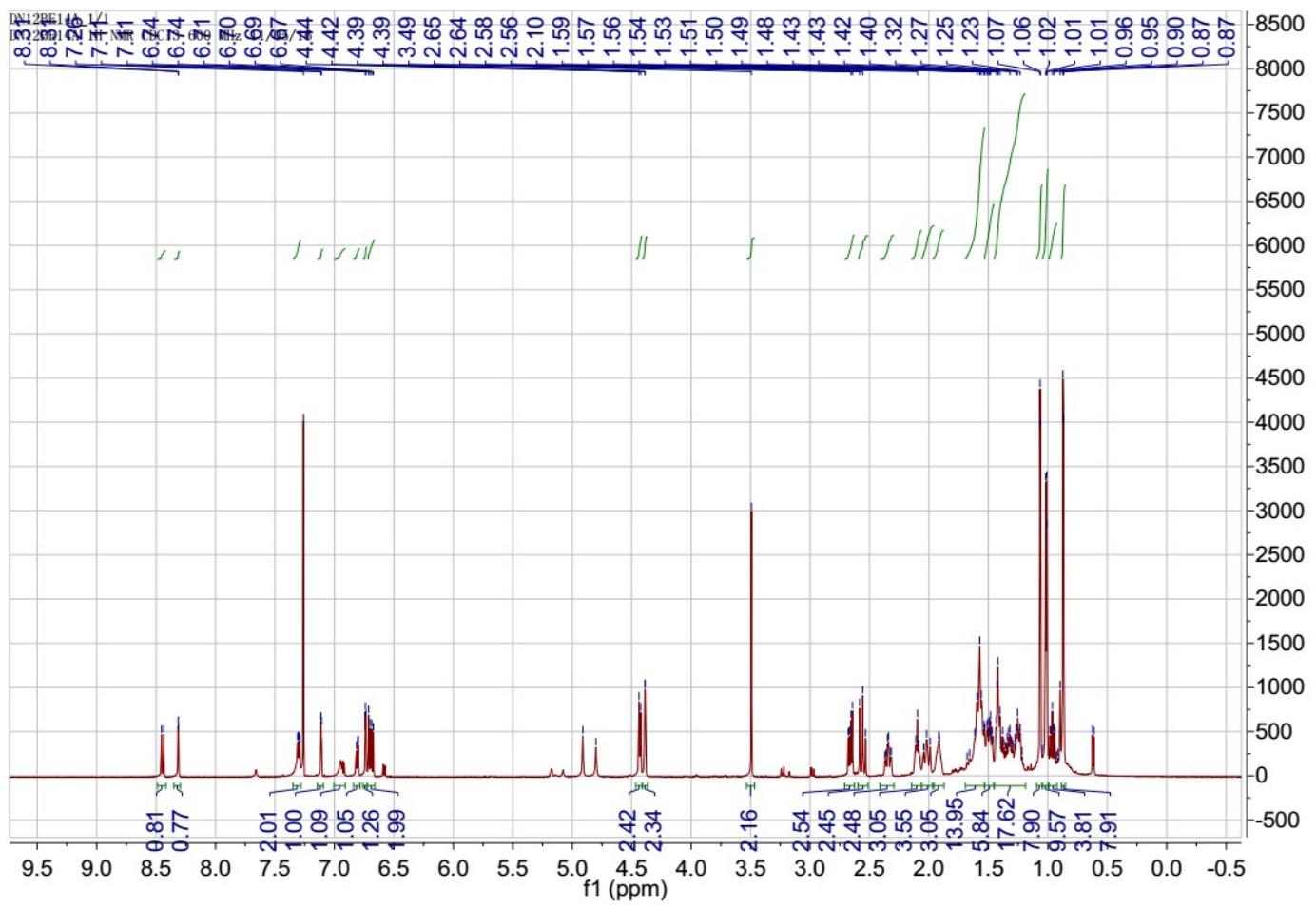


Figure S35. HRESIMS spectrum of Compound 4.



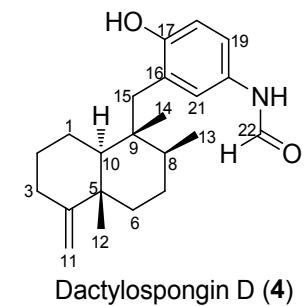
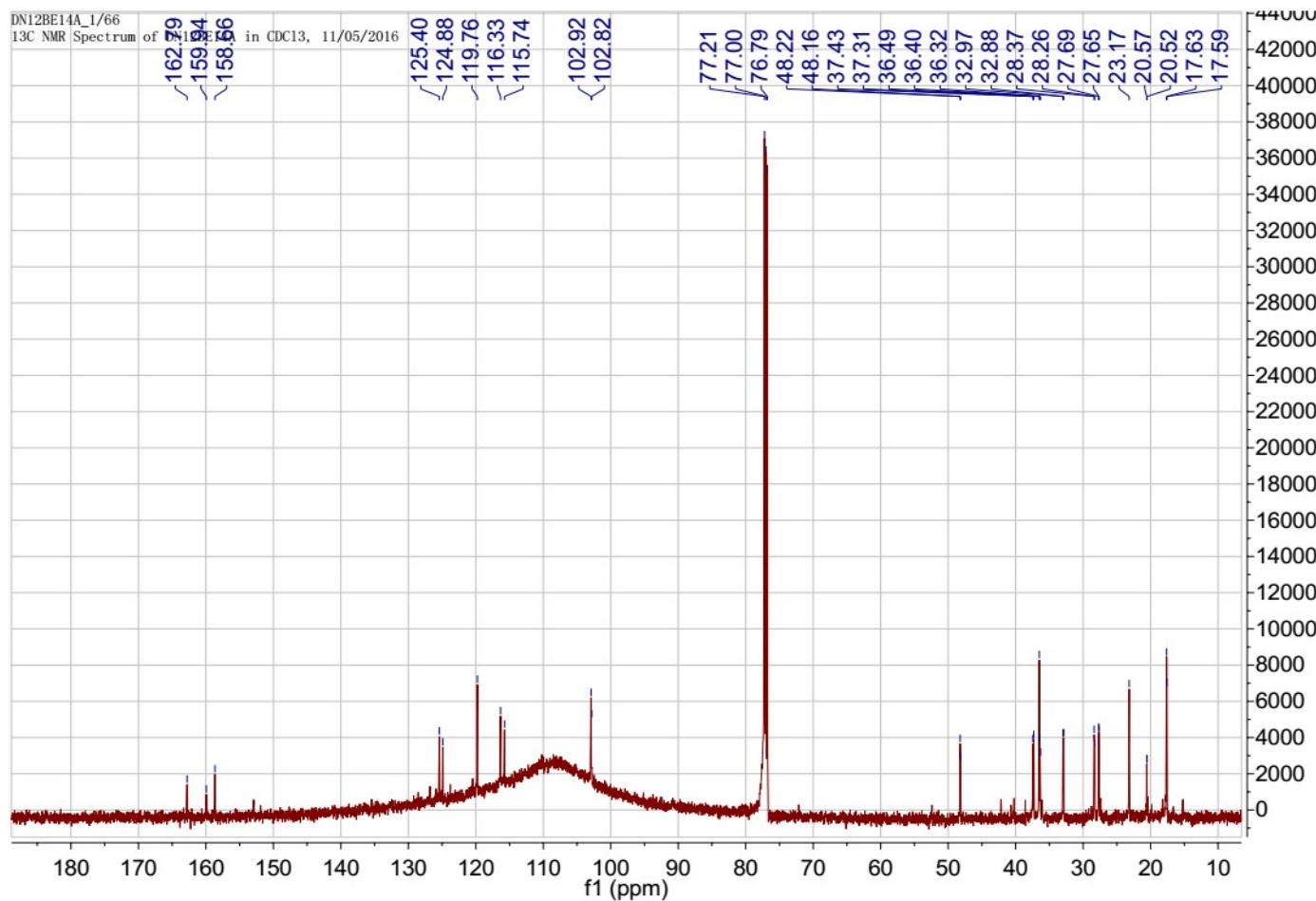


Figure S37. ¹³C NMR spectrum of Compound **4** in CDCl₃.

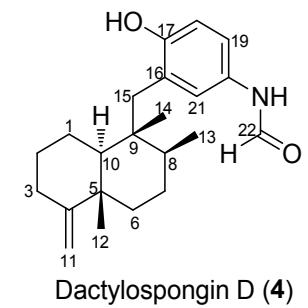
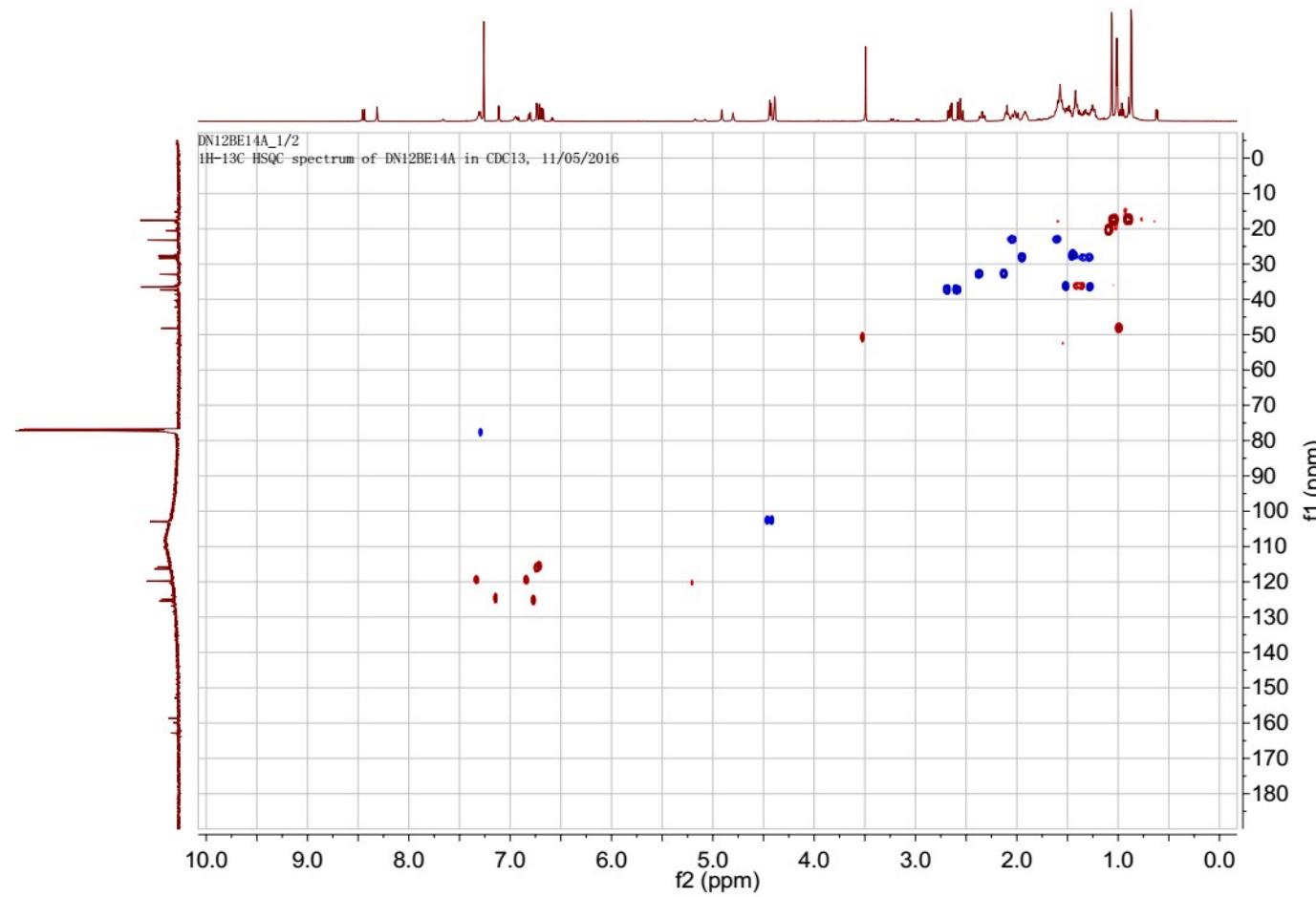


Figure S38. HSQC spectrum of Compound **4** in CDCl₃.

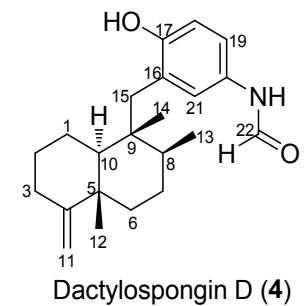
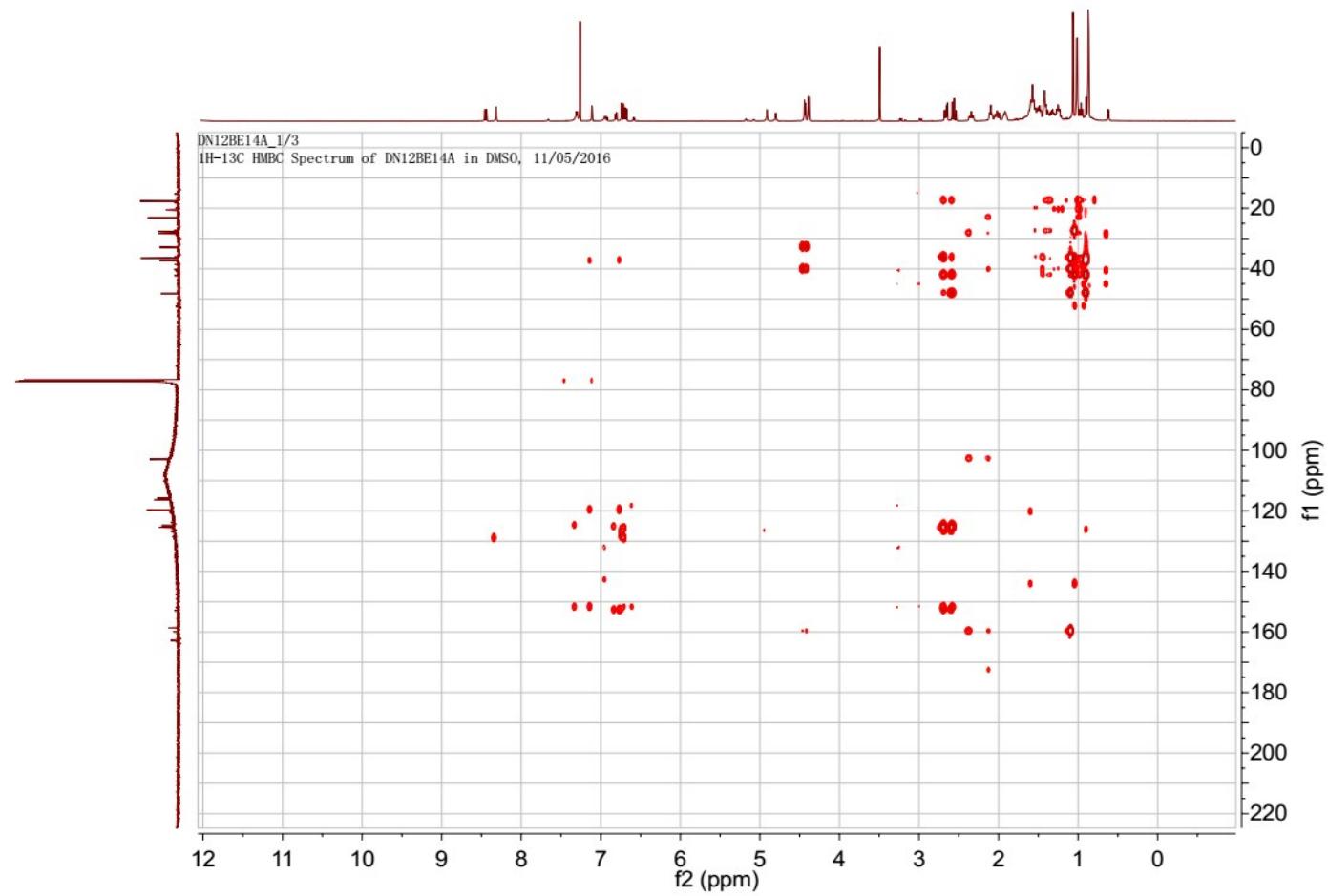


Figure S39. HMBC spectrum of Compound **4** in CDCl_3 .

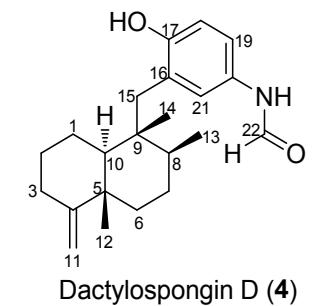
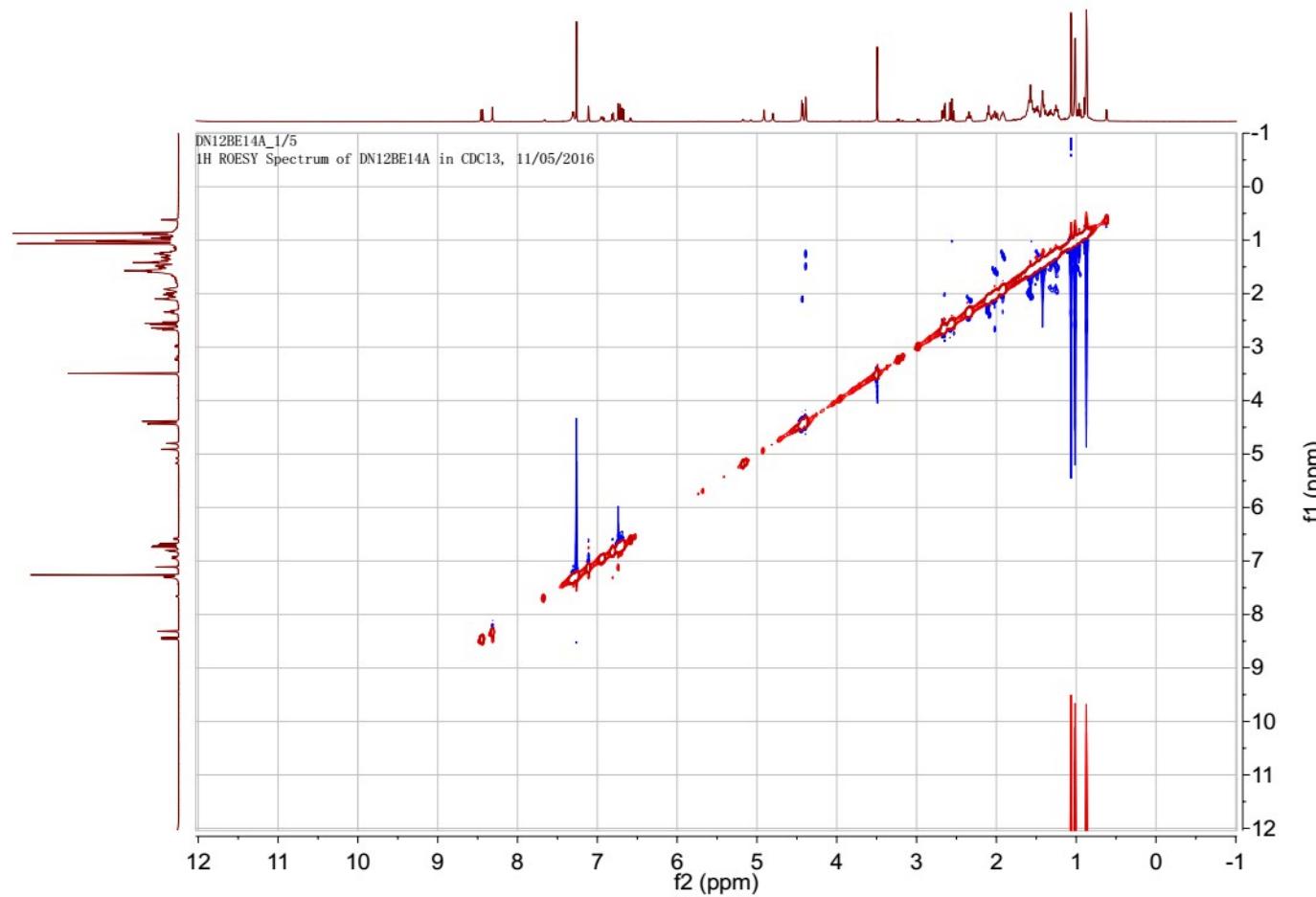


Figure S40. NOESY spectrum of Compound 4 in CDCl₃.

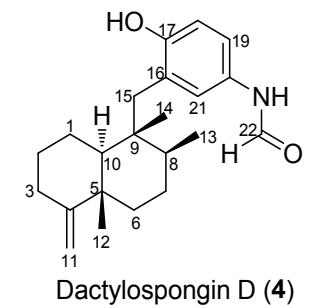
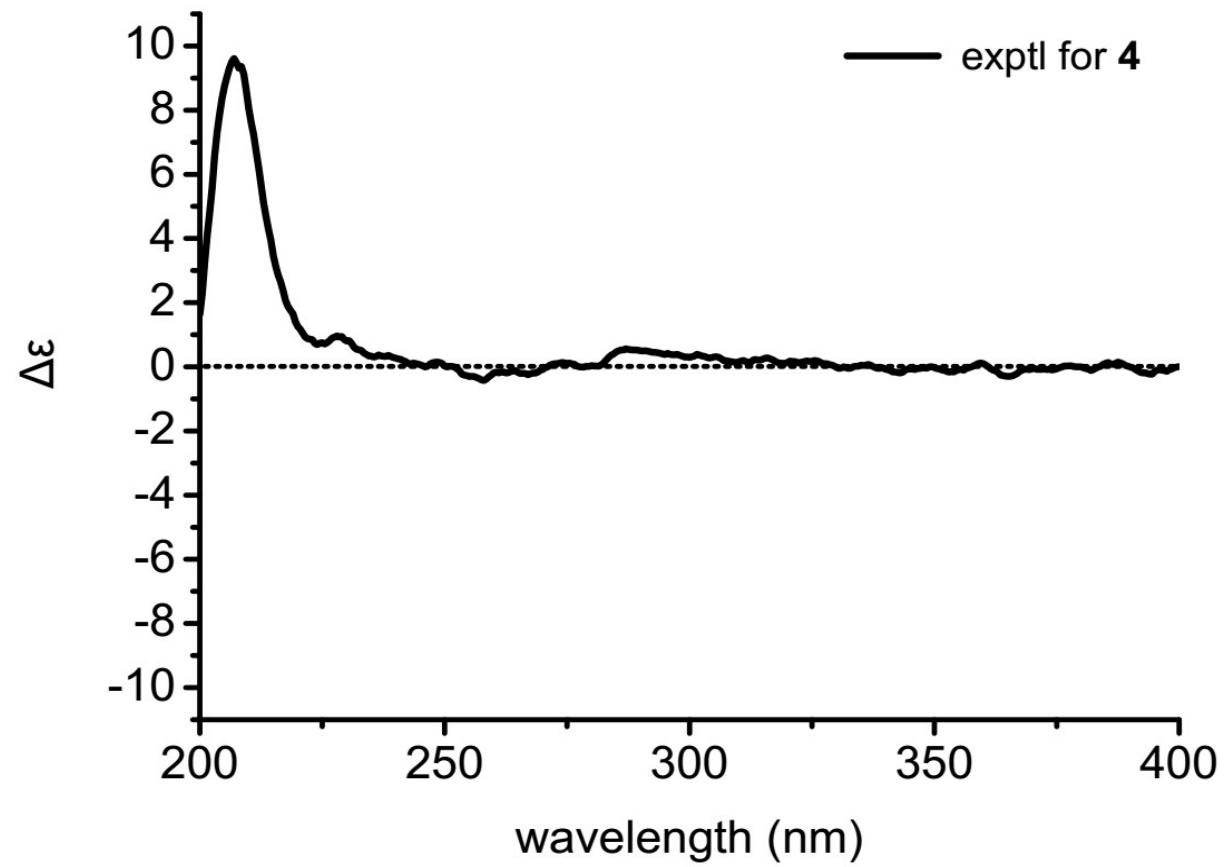


Figure S41. CD spectrum of Compound 4 in MeOH.

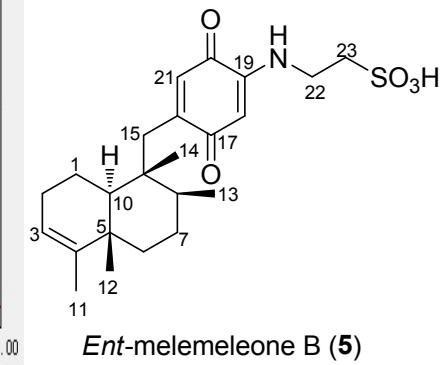
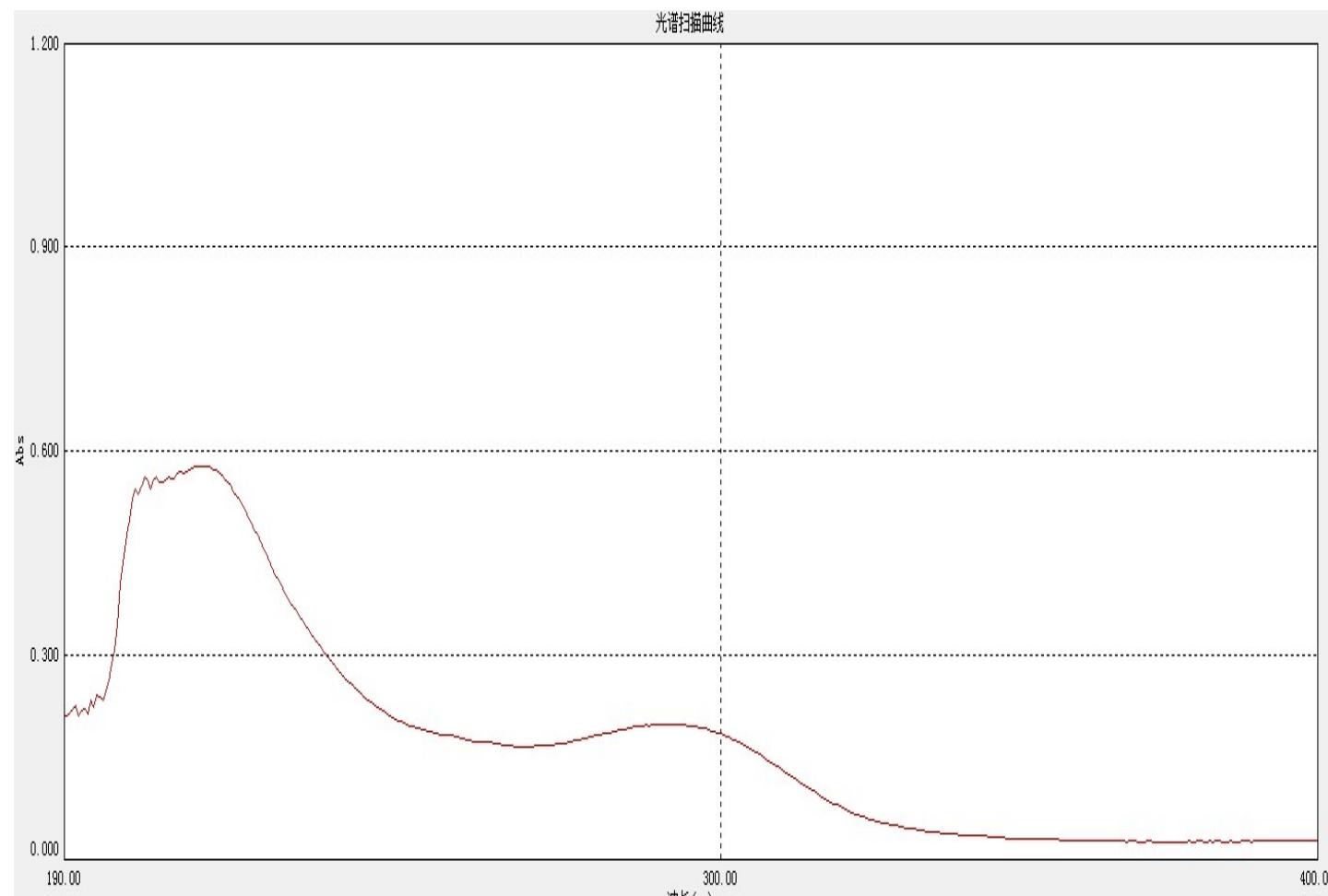


Figure S42. UV spectrum of Compound **5** in MeOH.

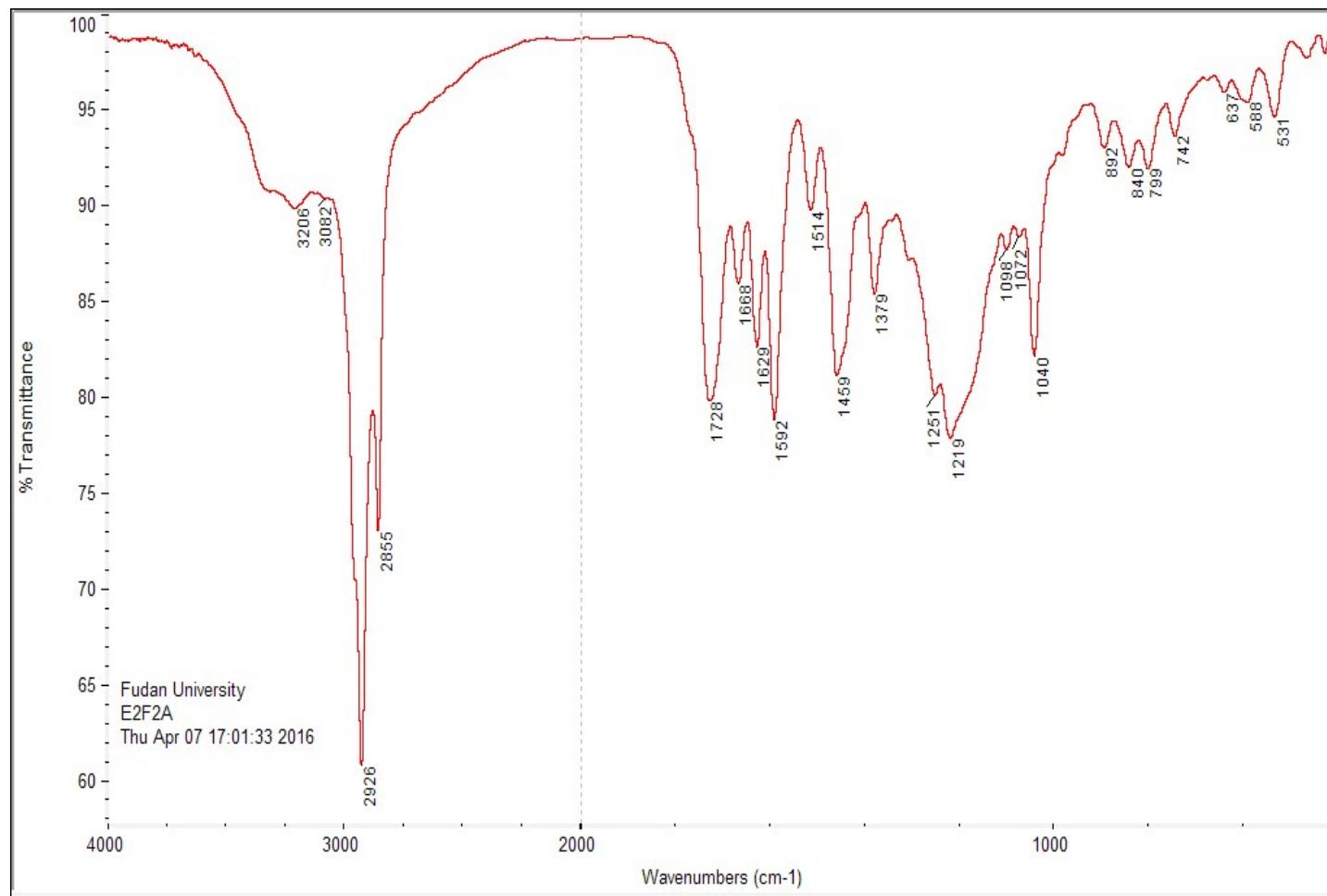


Figure S43. IR spectrum of Compound 5.

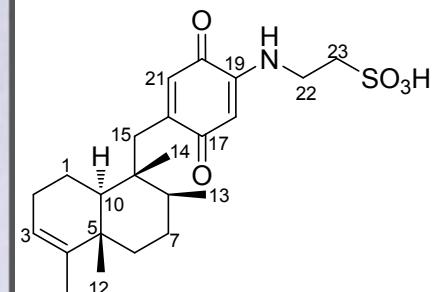
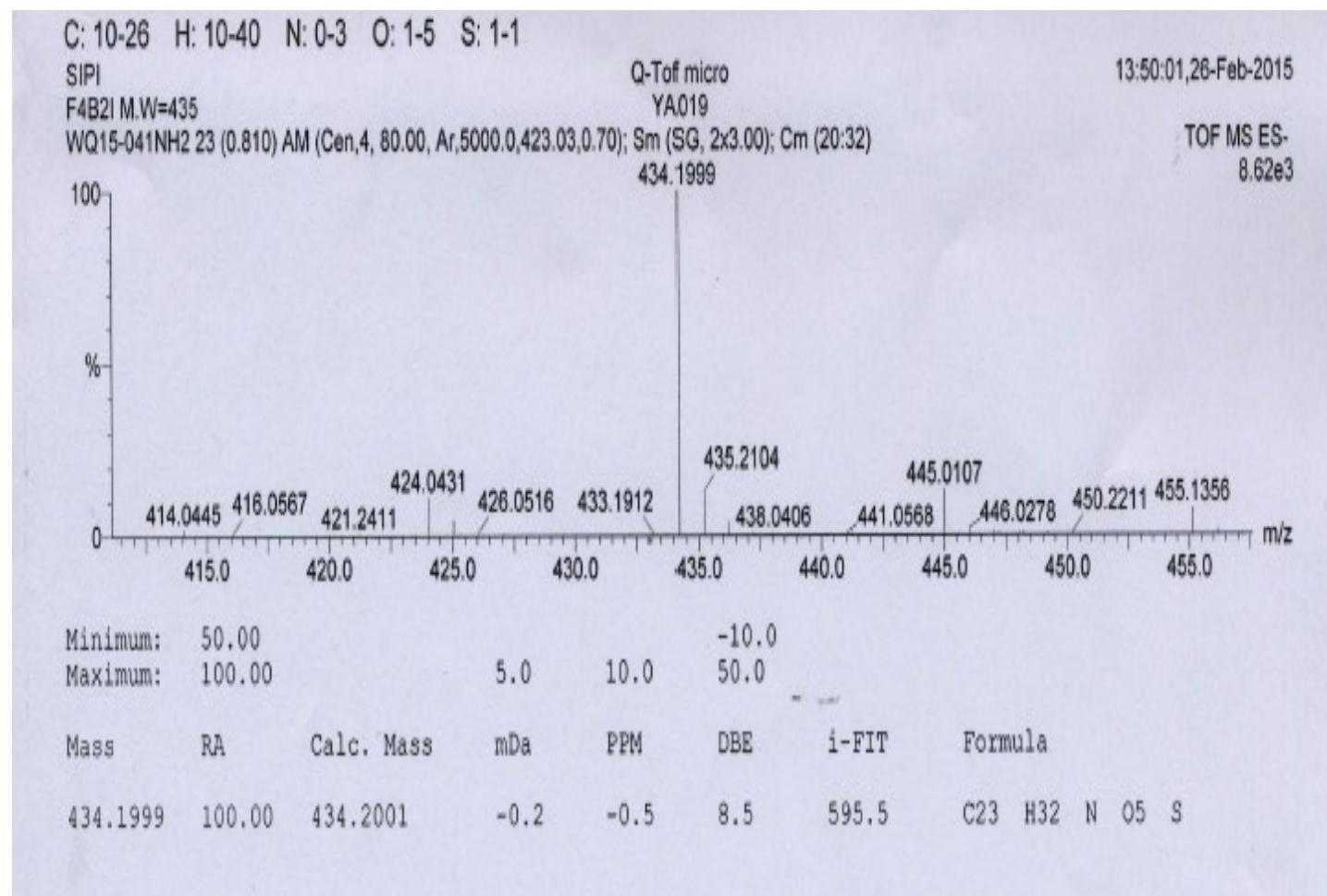


Figure S44. HRESIMS spectrum of Compound **5**.

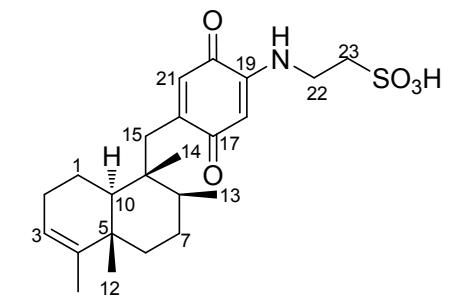
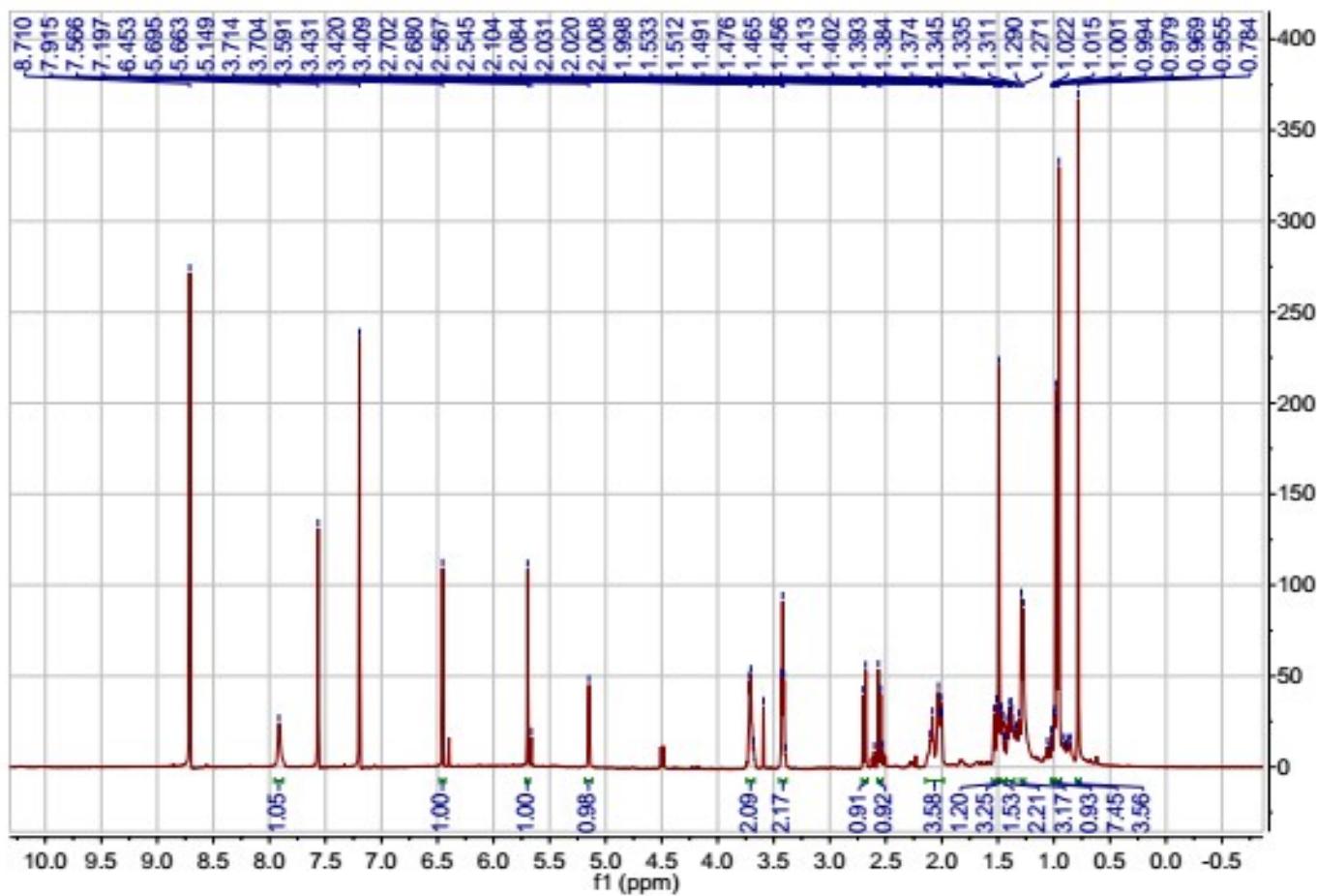


Figure S45. ^1H NMR spectrum of Compound **5** in Pyr- d_5 .

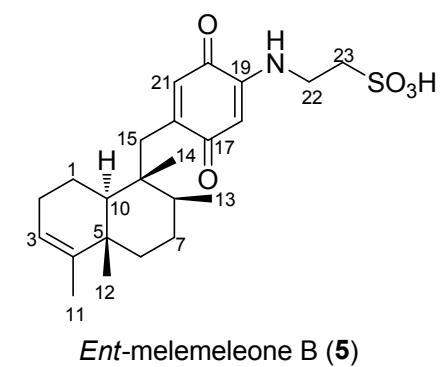
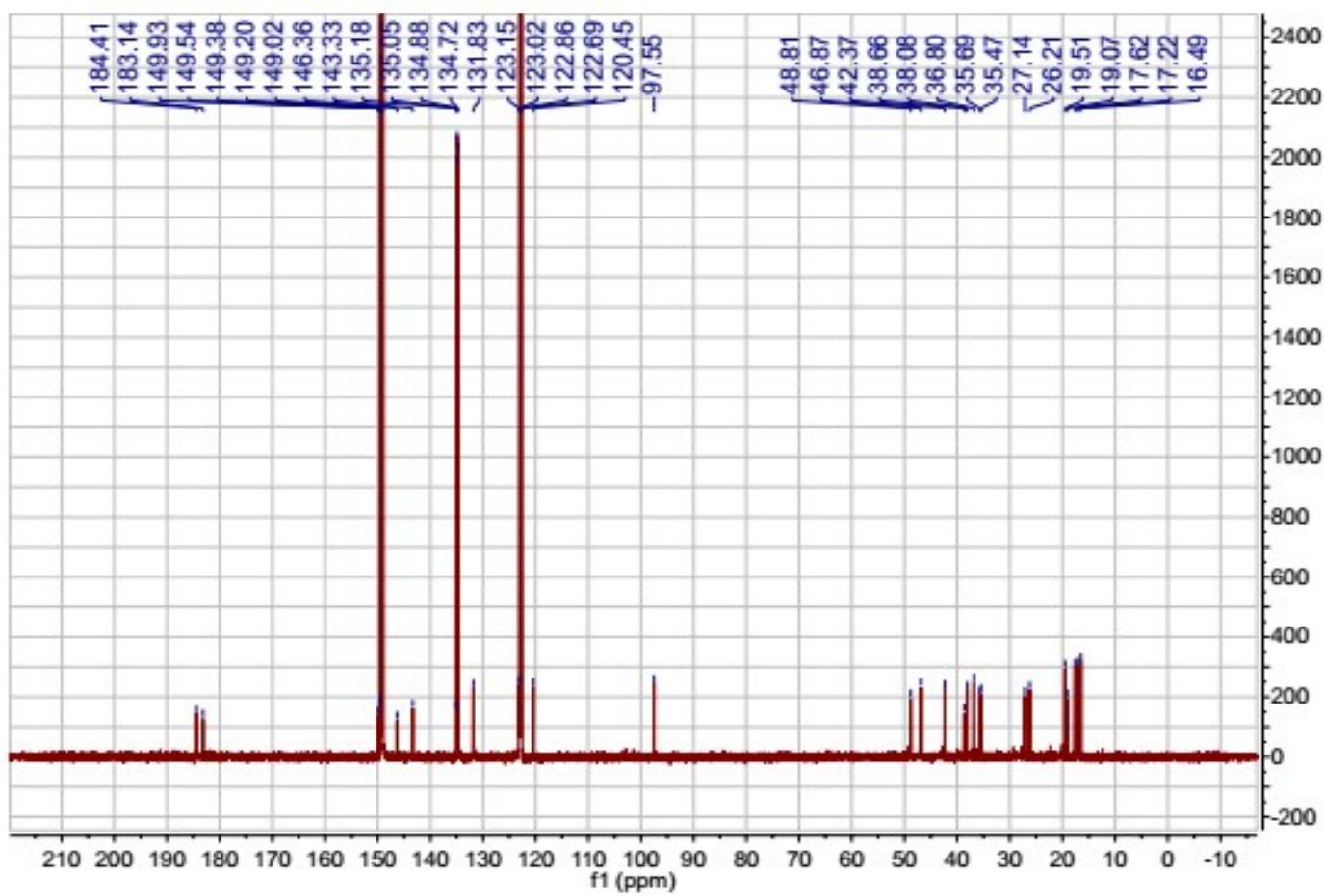


Figure S46. ^{13}C NMR spectrum of Compound **5** in $\text{Pyr}-d_5$.

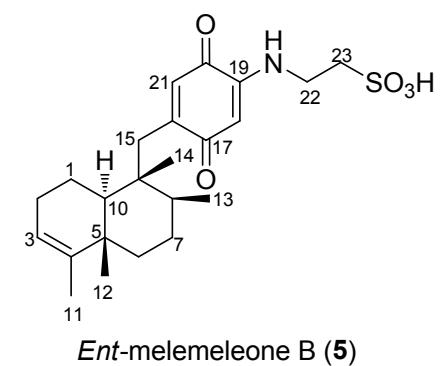
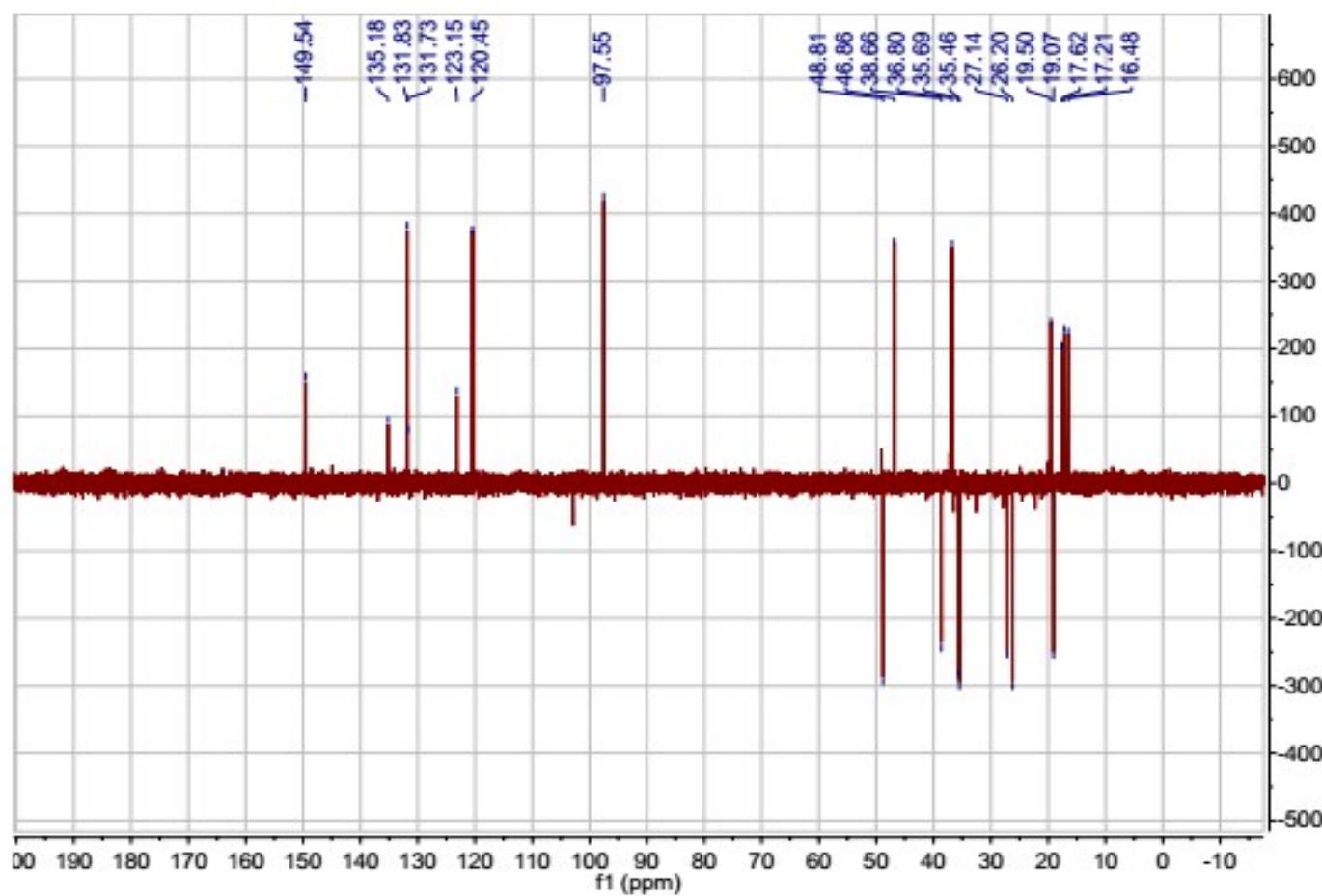


Figure S47. DEPT135 spectrum of Compound **5** in Pyr-*d*₅.

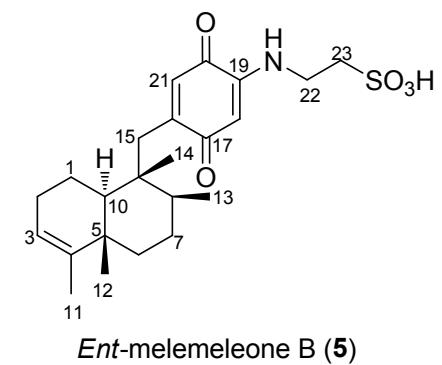
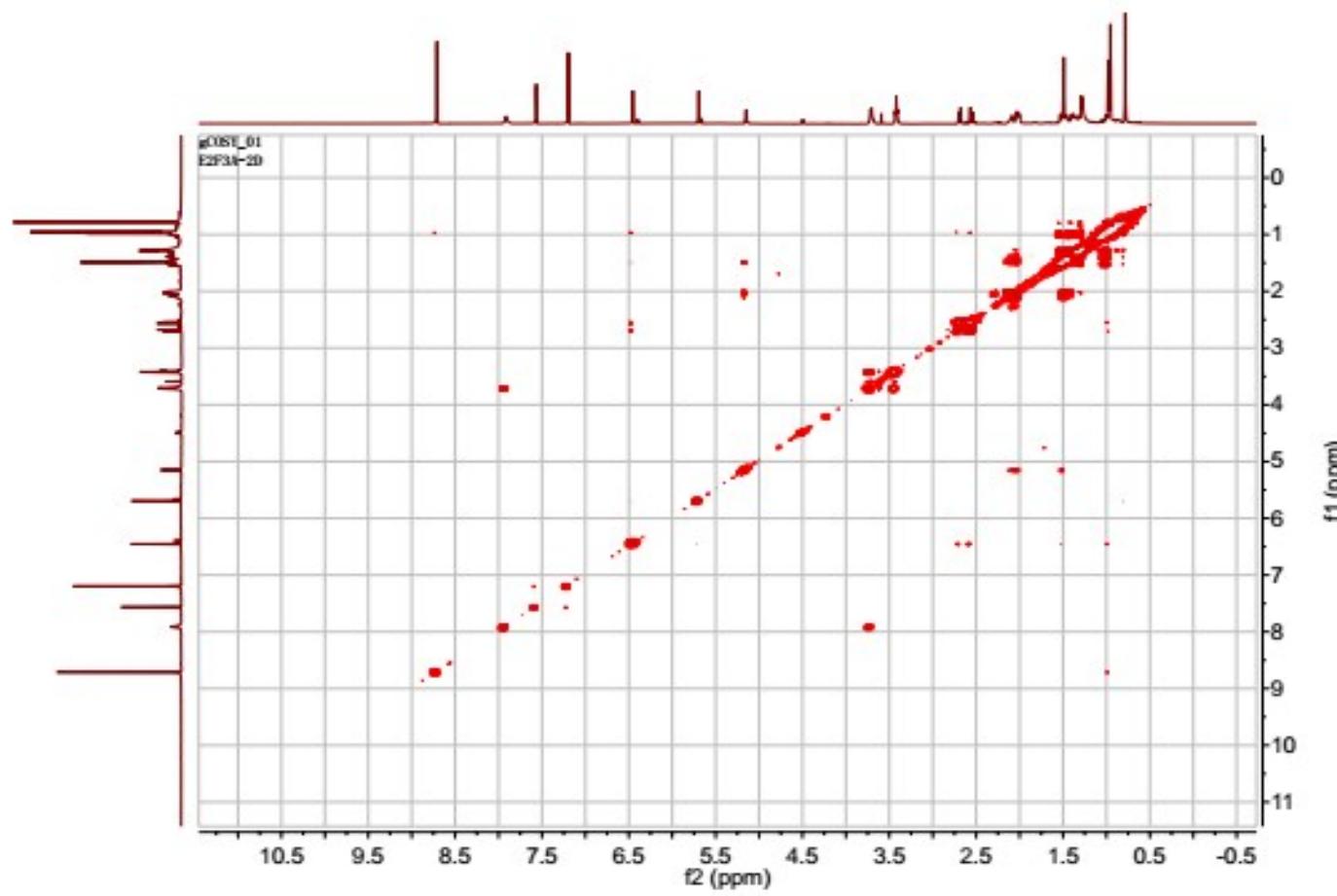


Figure S48. ^1H - ^1H COSY spectrum of Compound **5** in $\text{Pyr}-d_5$.

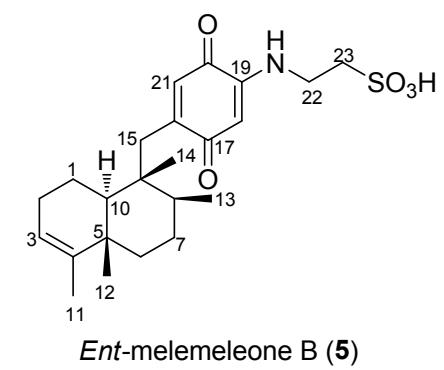
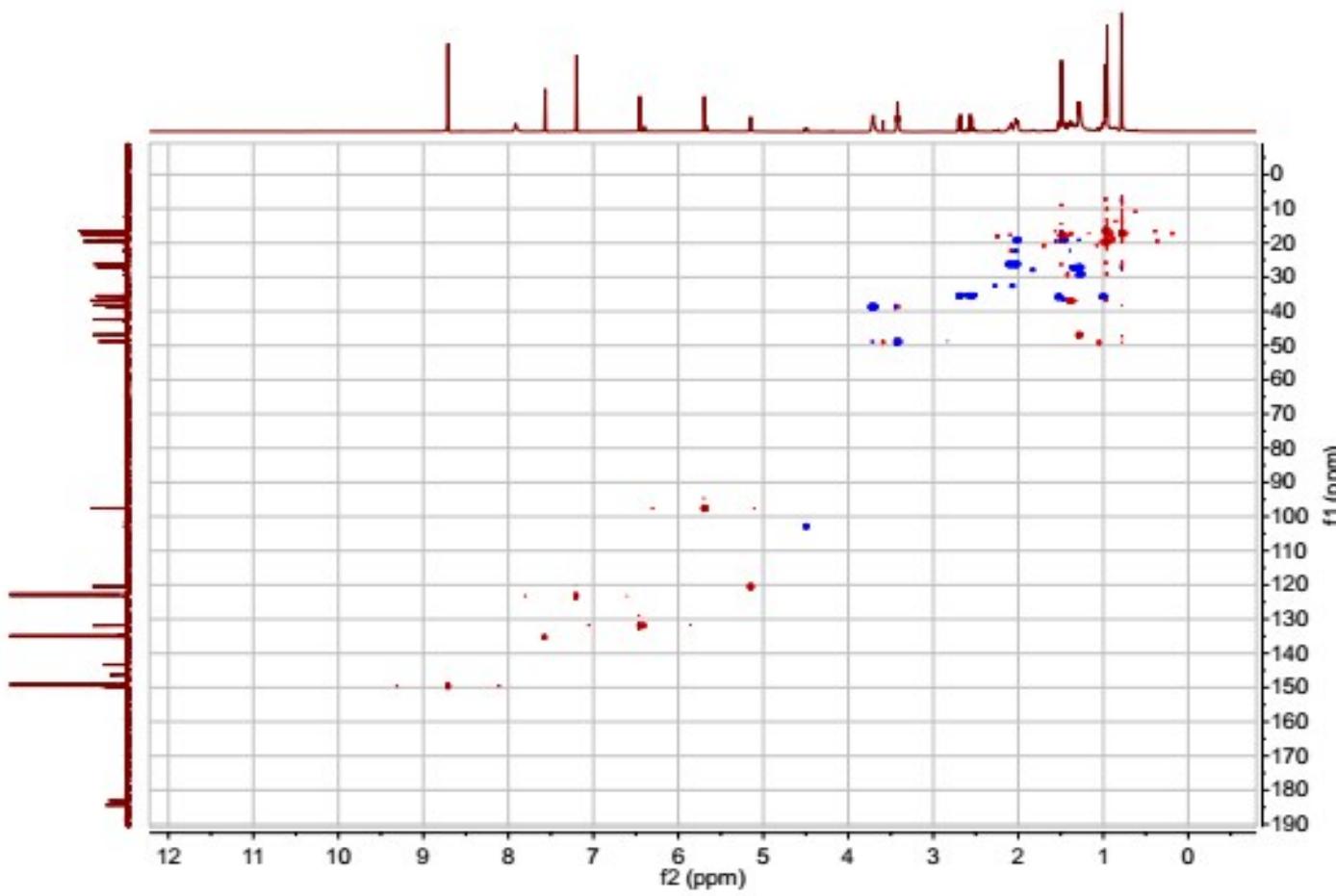


Figure S49. HSQC spectrum of Compound **5** in Pyr-*d*₅.

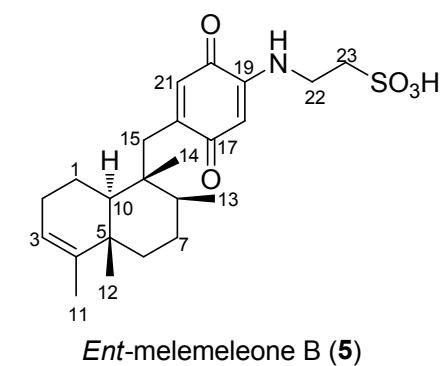
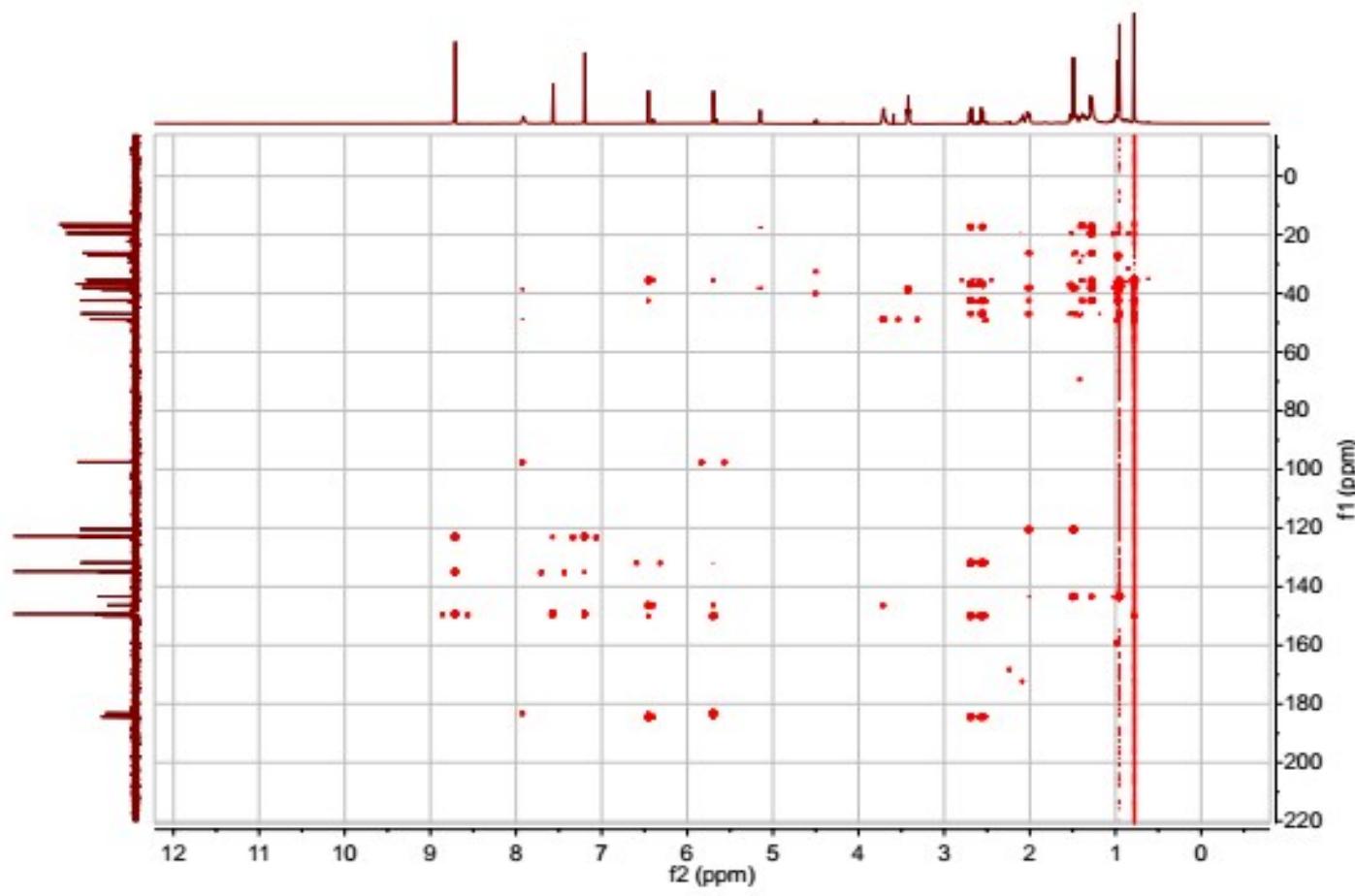


Figure S50. HMBC spectrum of Compound 5 in Pyr-*d*₅.

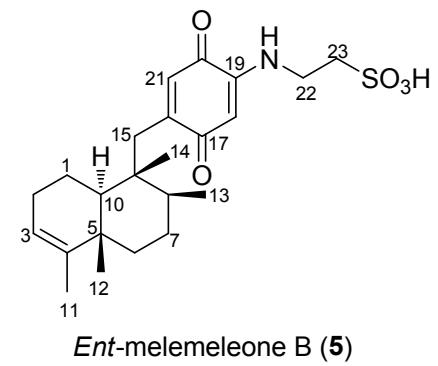
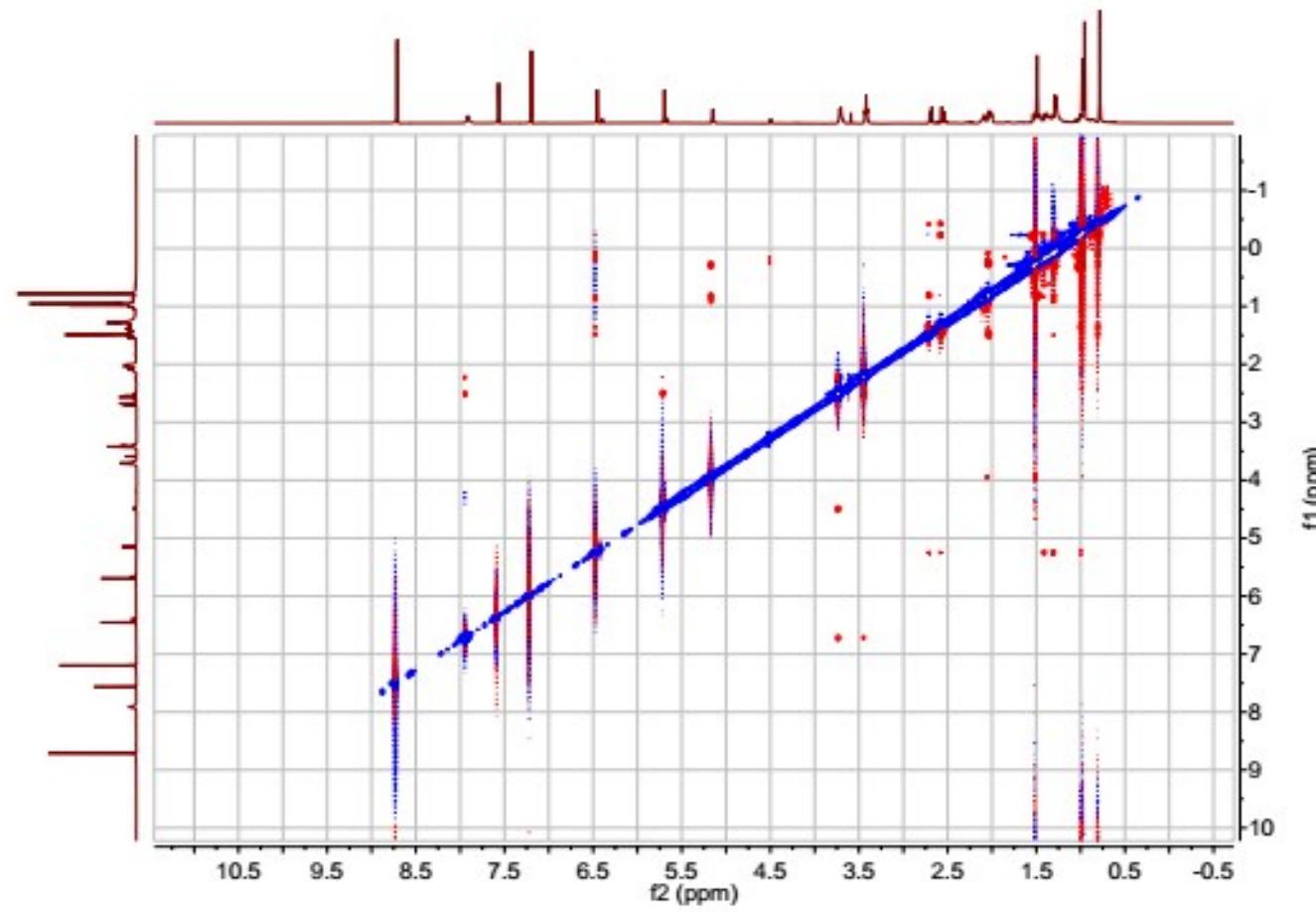


Figure S51. NOESY spectrum of Compound **5** in Pyr-*d*₅.

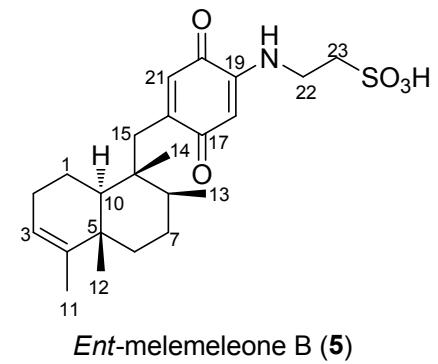
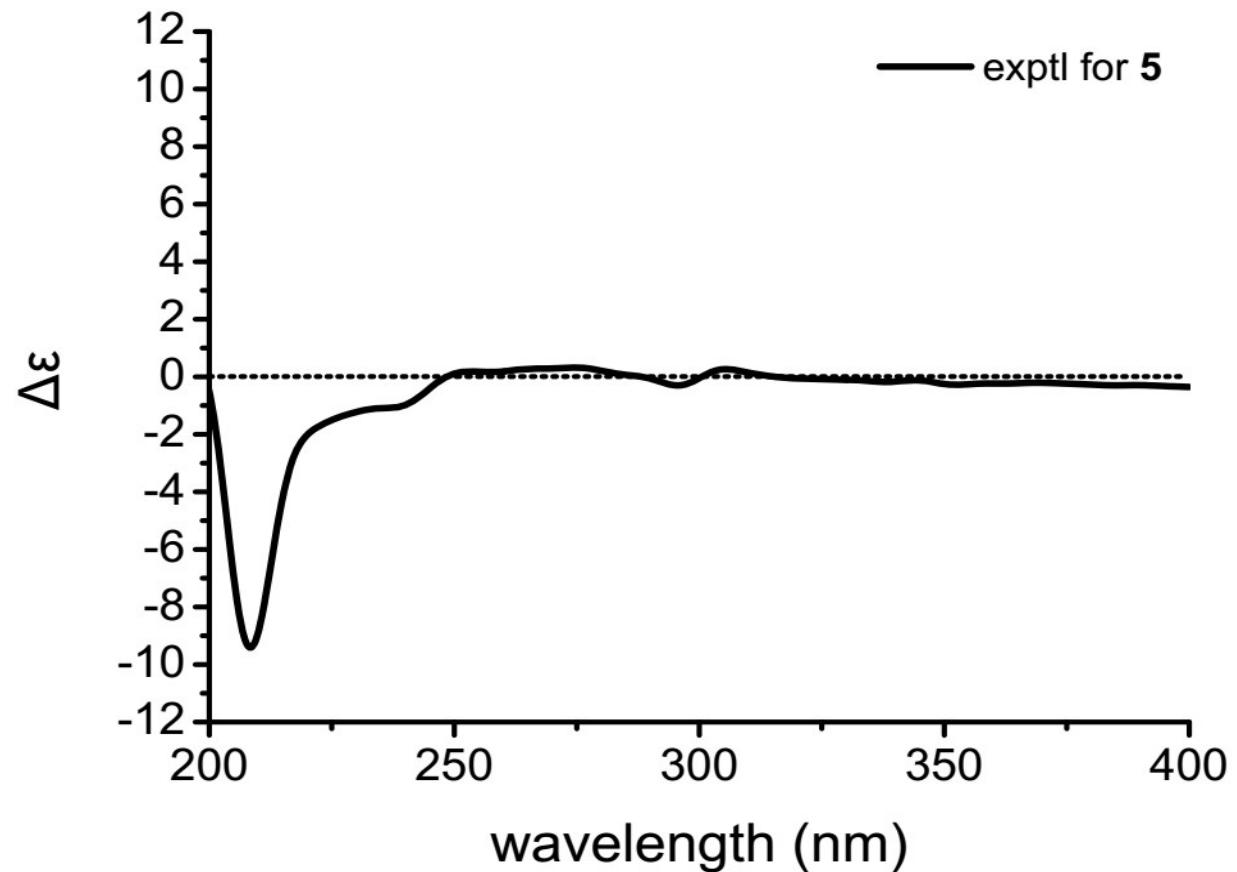


Figure S52. CD spectrum of Compound 5 in MeOH.

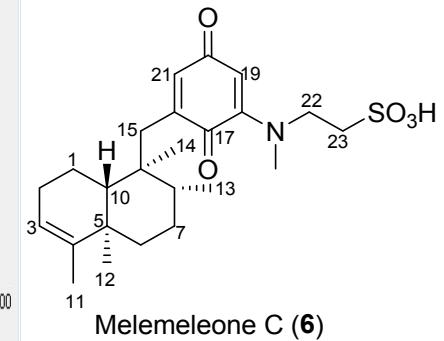
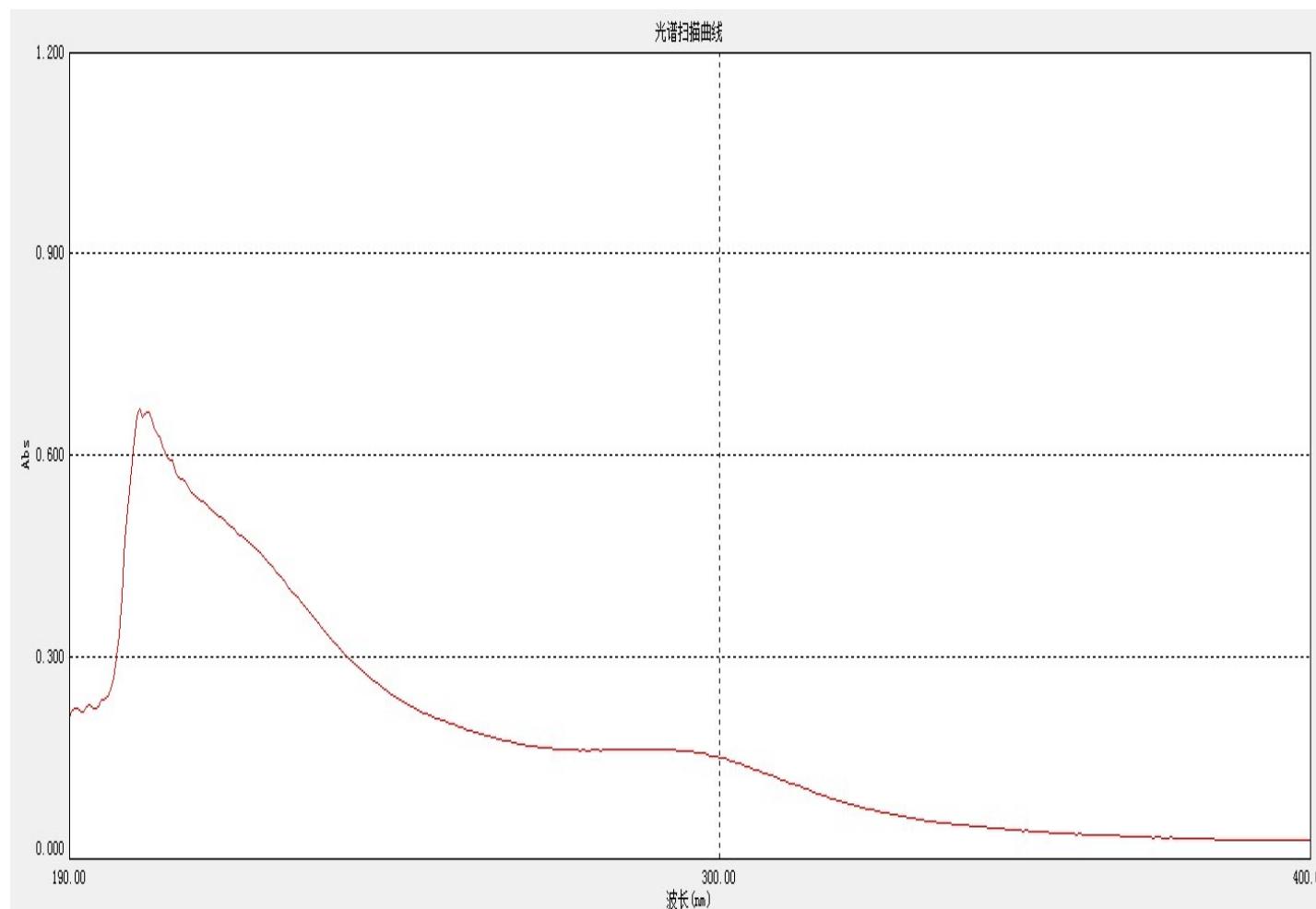


Figure S53. UV spectrum of Compound **6** in MeOH.

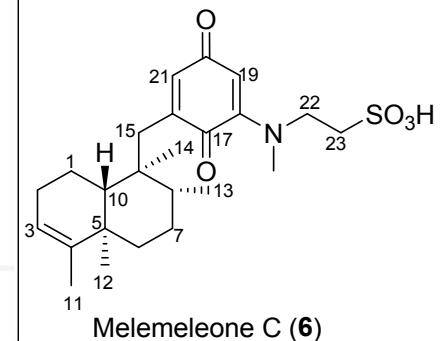
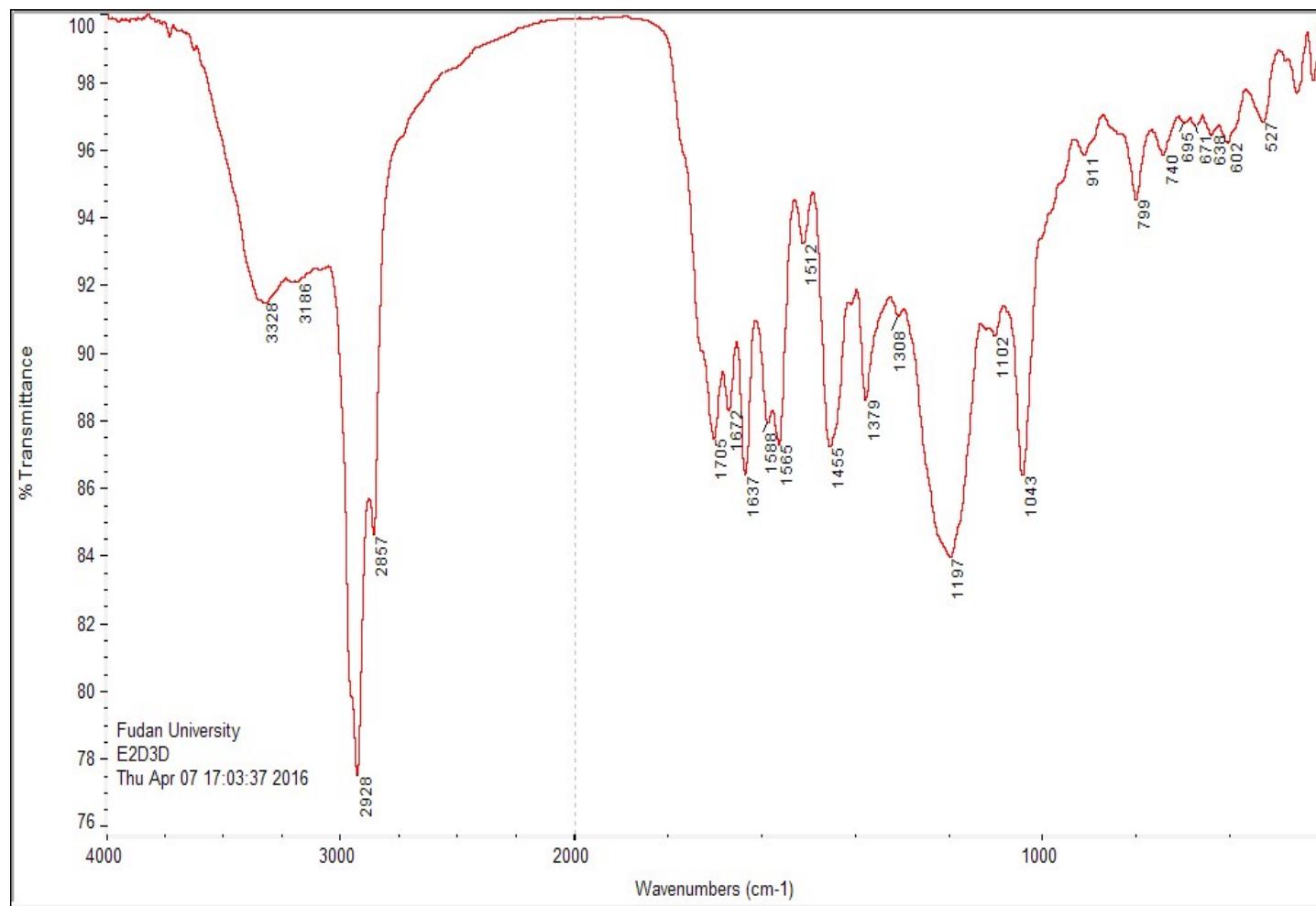


Figure S54. IR spectrum of Compound 6.

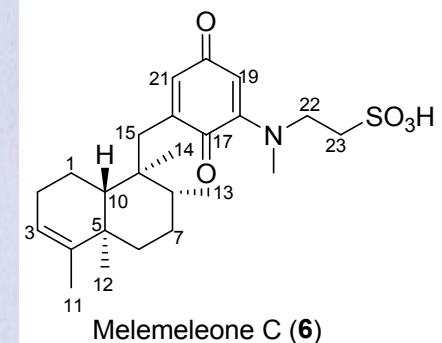
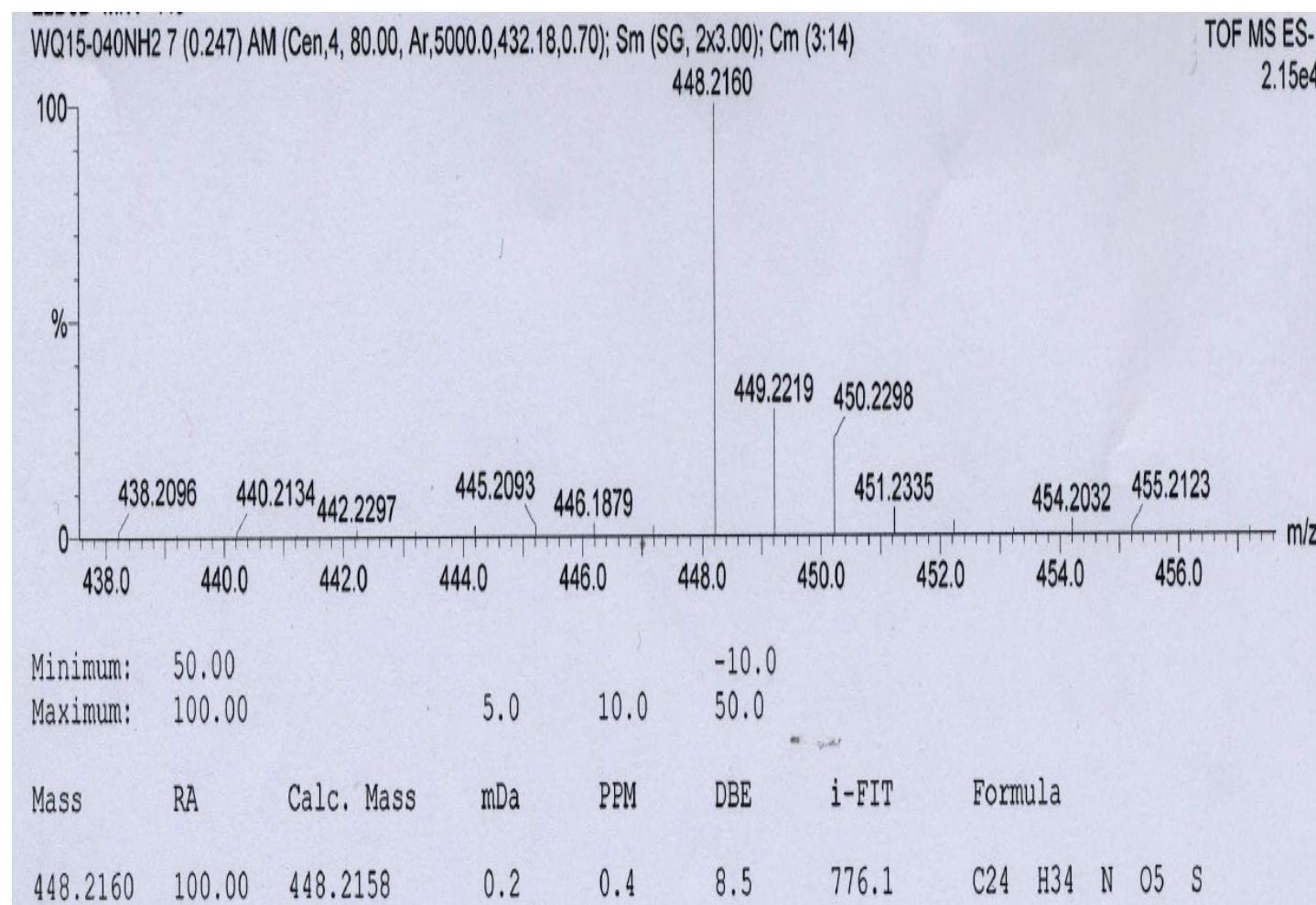


Figure S55. HRESIMS spectrum of Compound **6**.

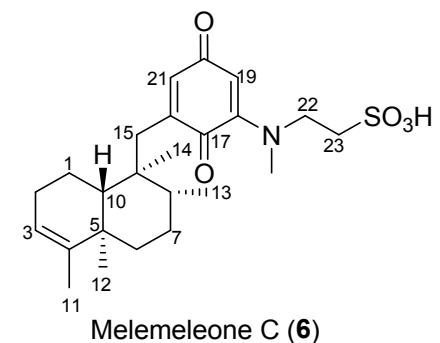
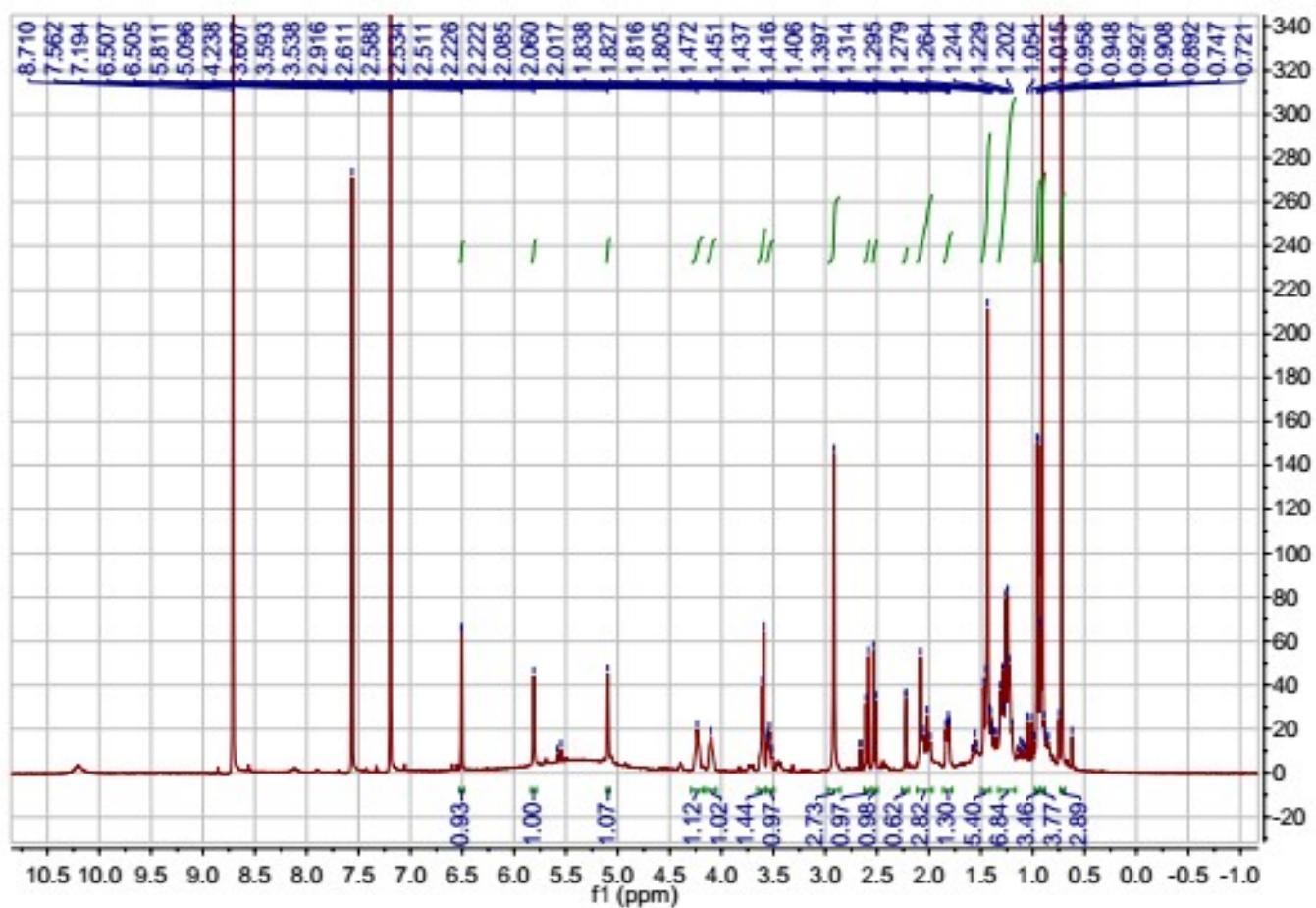


Figure S56. ^1H NMR spectrum of Compound **6** in $\text{Pyr}-d_5$.

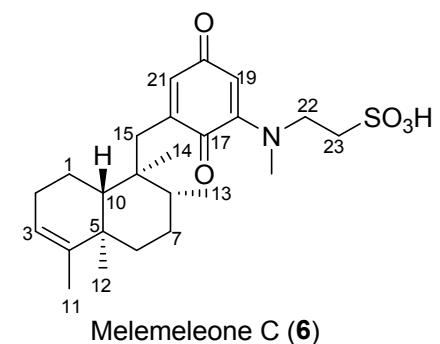
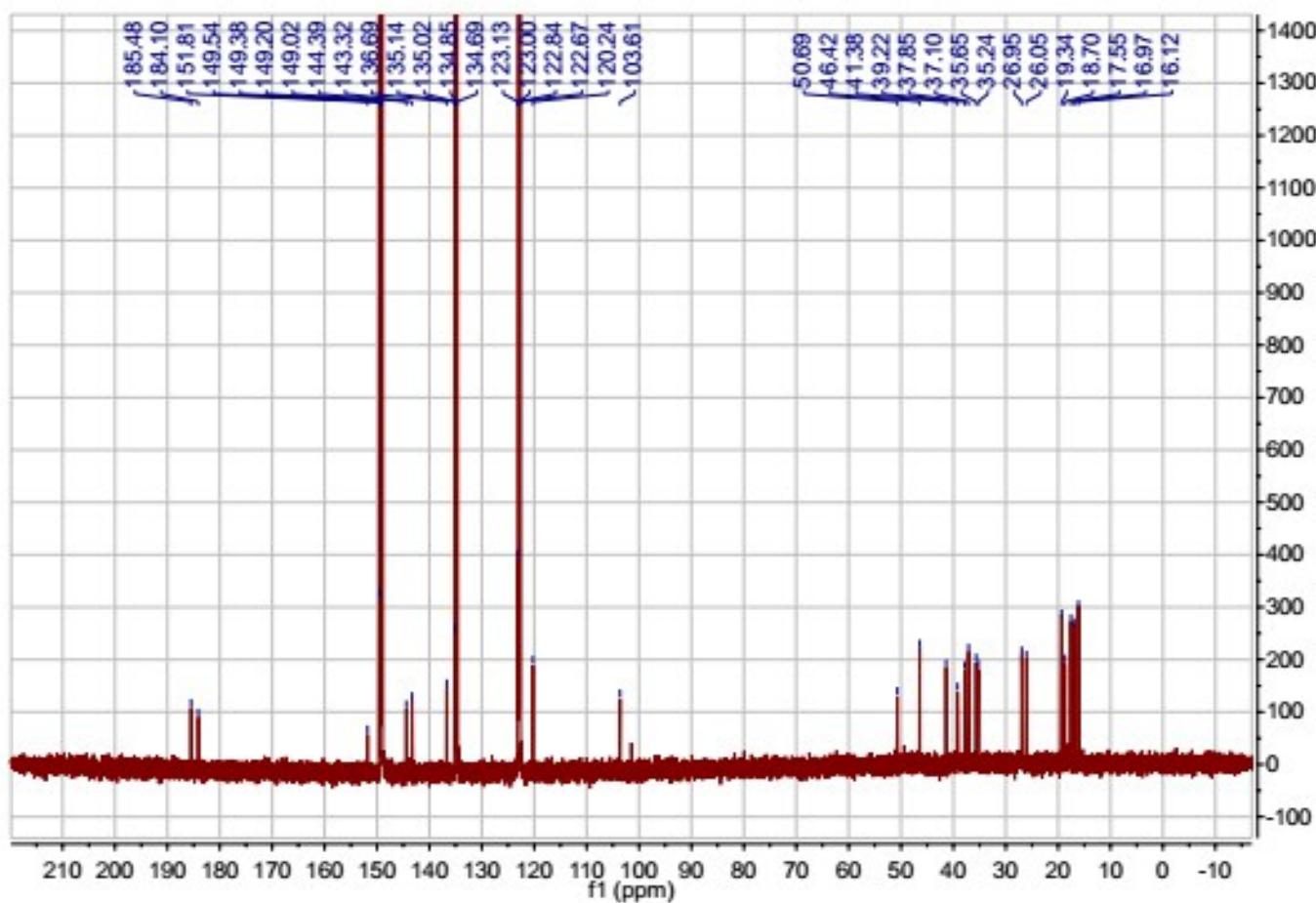


Figure S57. ^{13}C NMR spectrum of Compound **6** in $\text{Pyr}-d_5$.

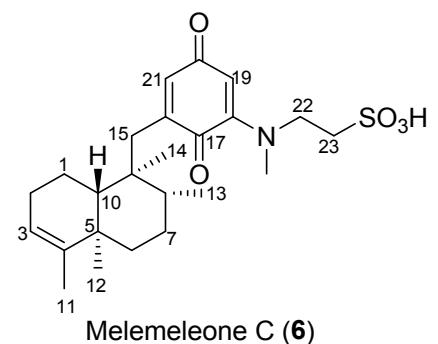
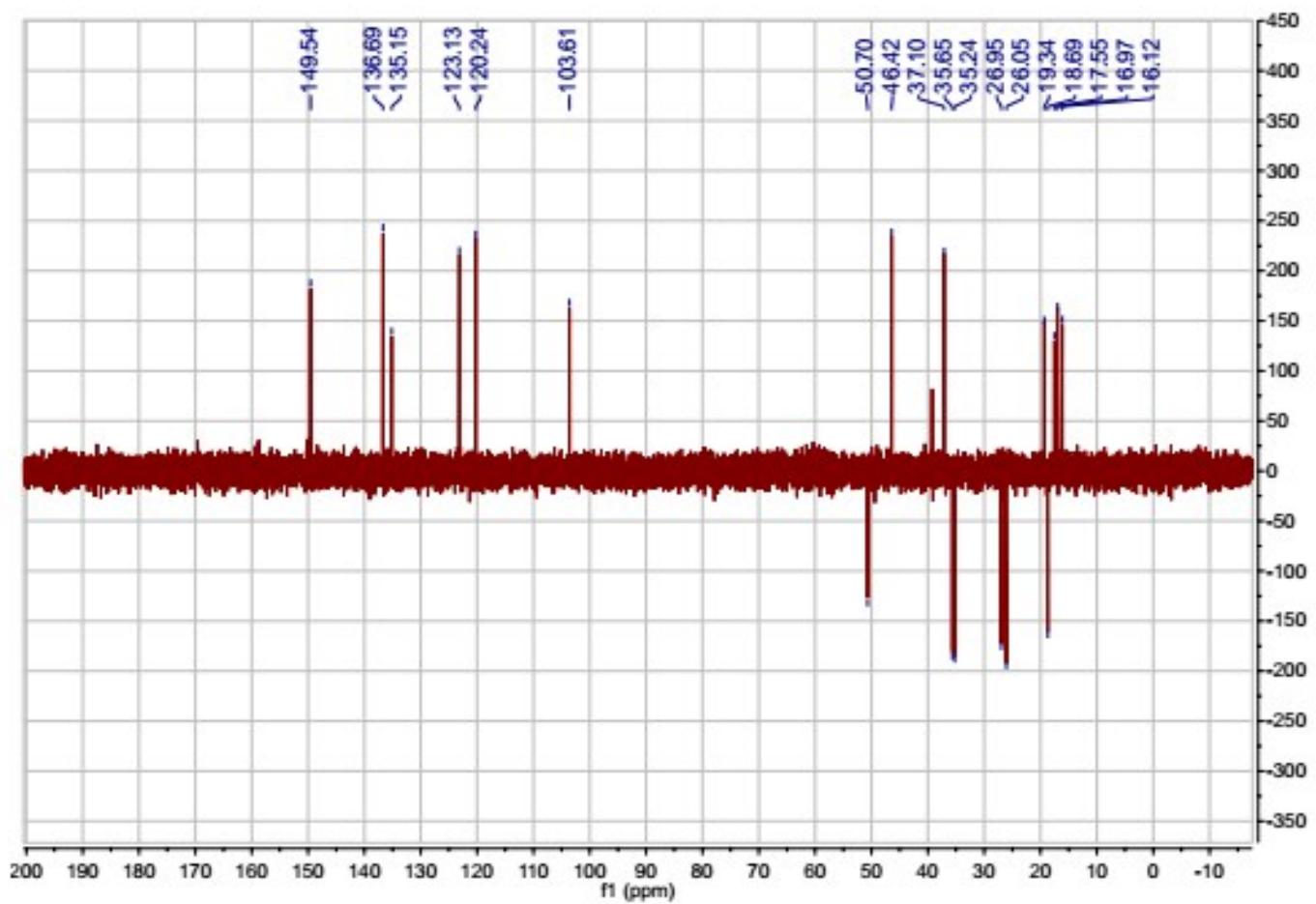


Figure S58. DEPT135 spectrum of Compound **6** in Pyr-*d*₅.

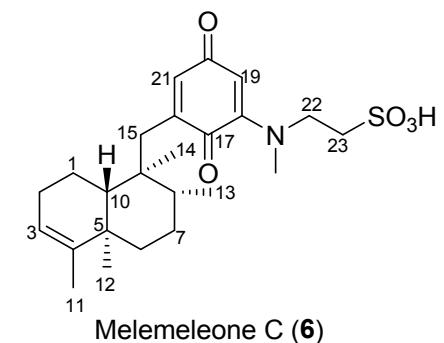
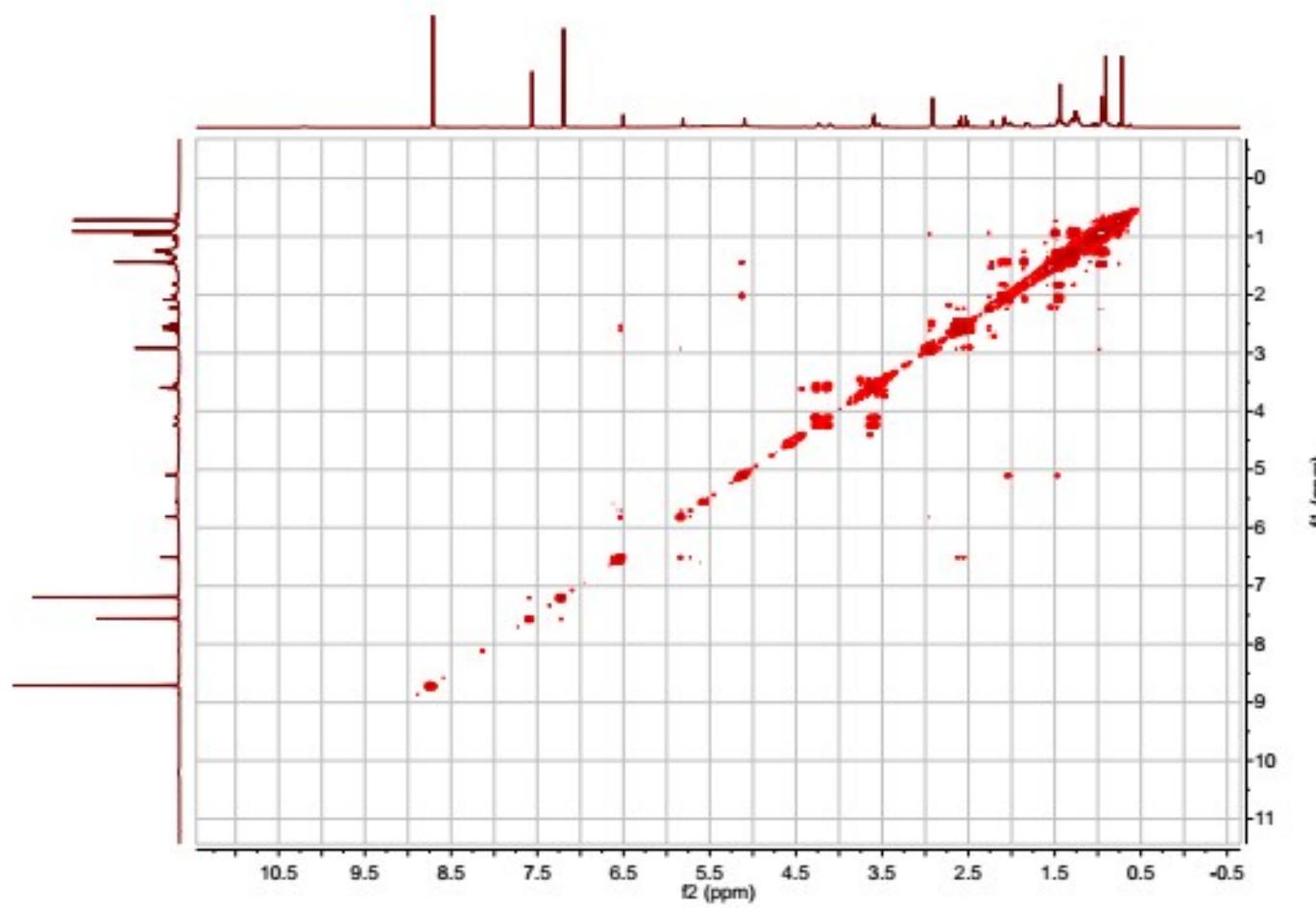


Figure S59. ^1H - ^1H COSY spectrum of Compound **6** in $\text{Pyr}-d_5$.

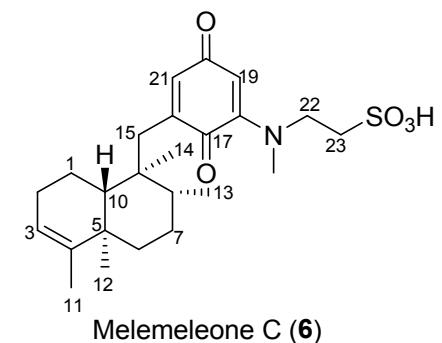
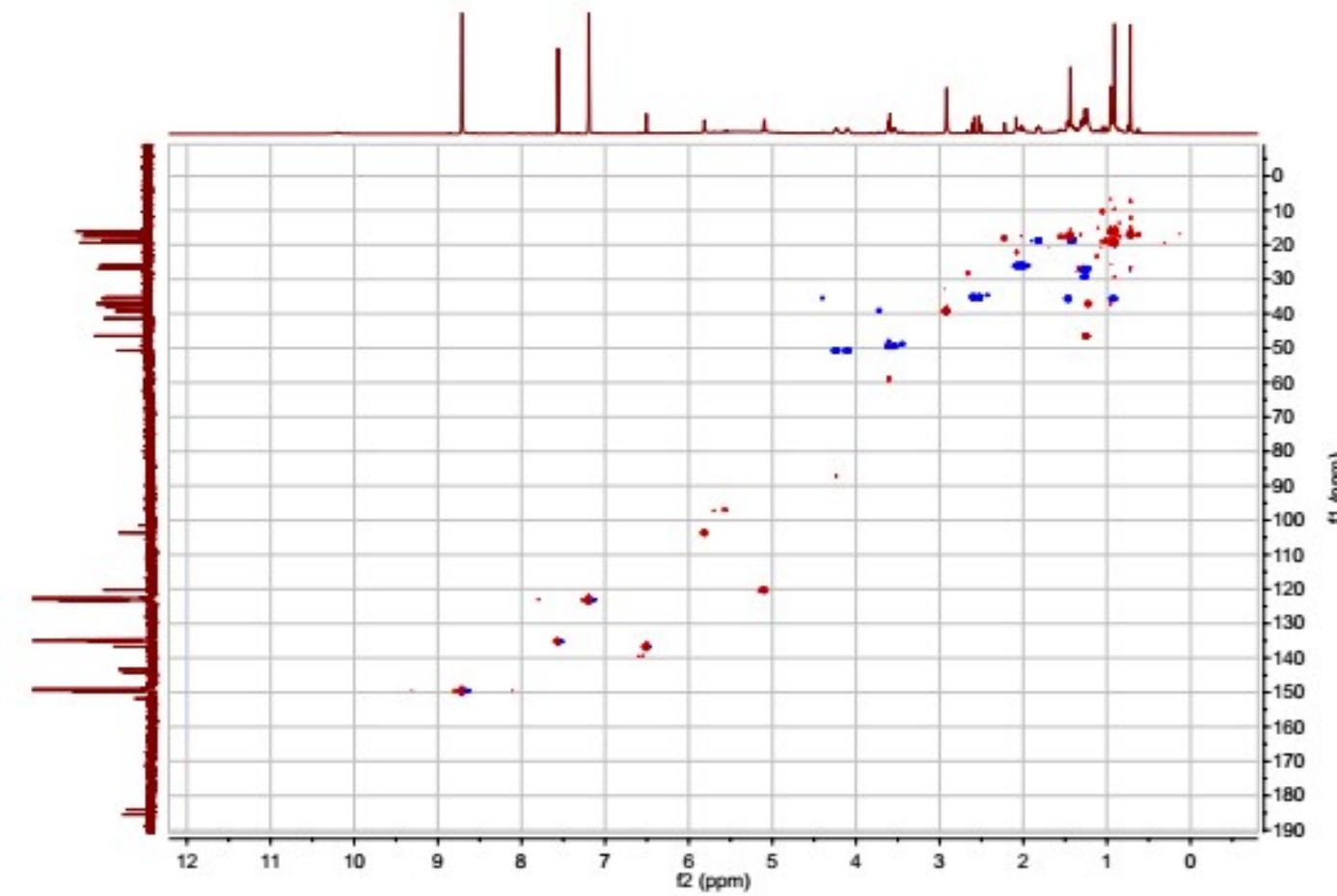


Figure S60. HSQC spectrum of Compound **6** in Pyr-*d*₅.

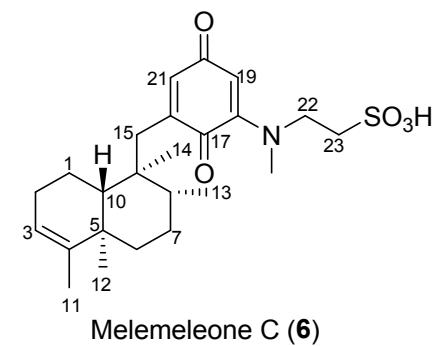
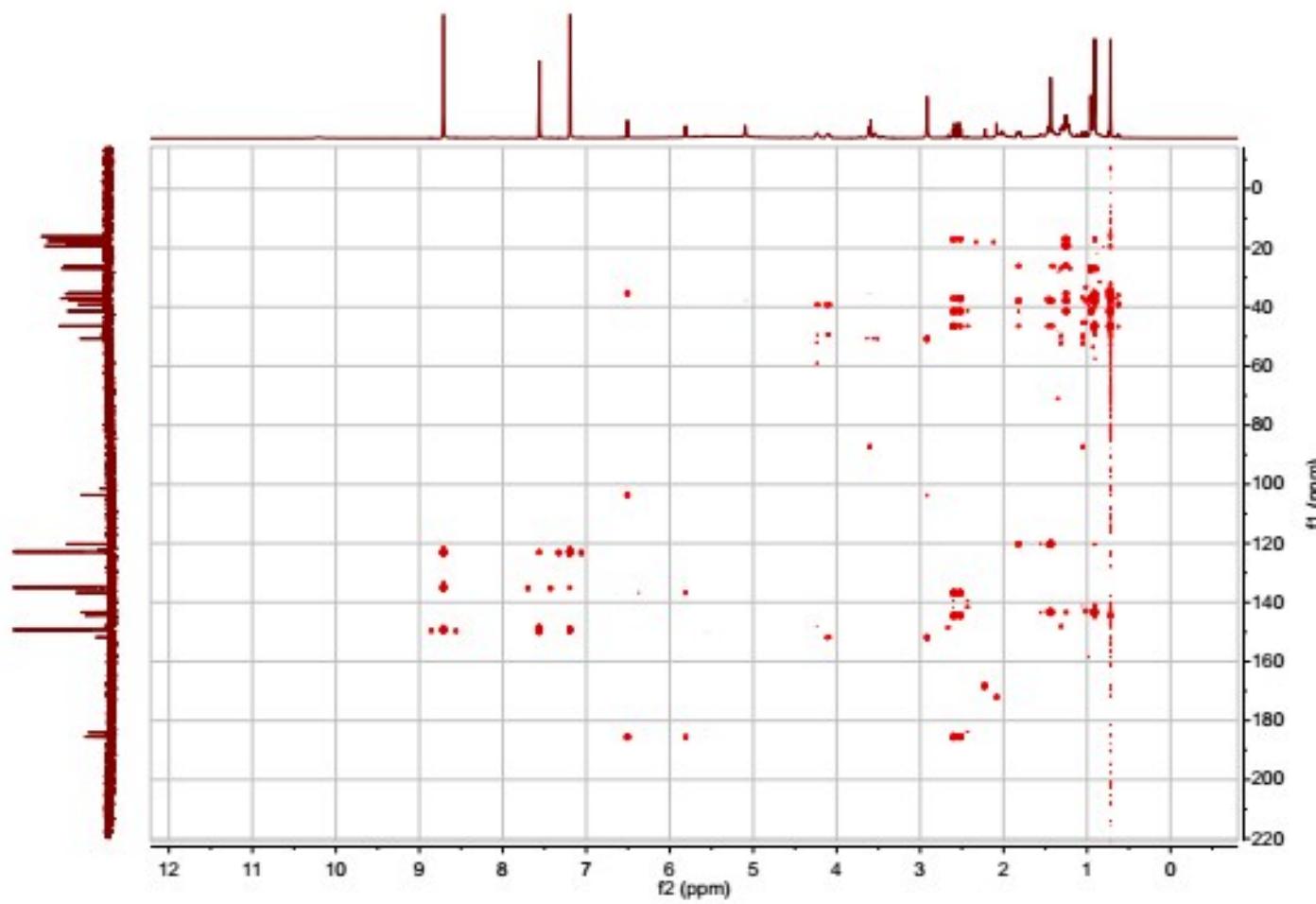


Figure S61. HMBC spectrum of Compound 6 in Pyr-*d*₅.

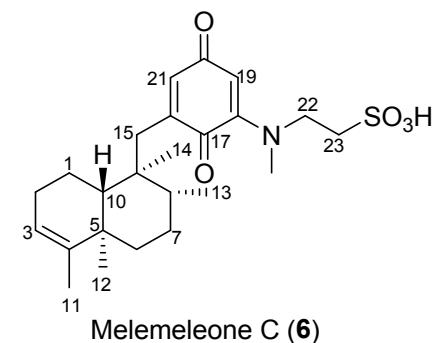
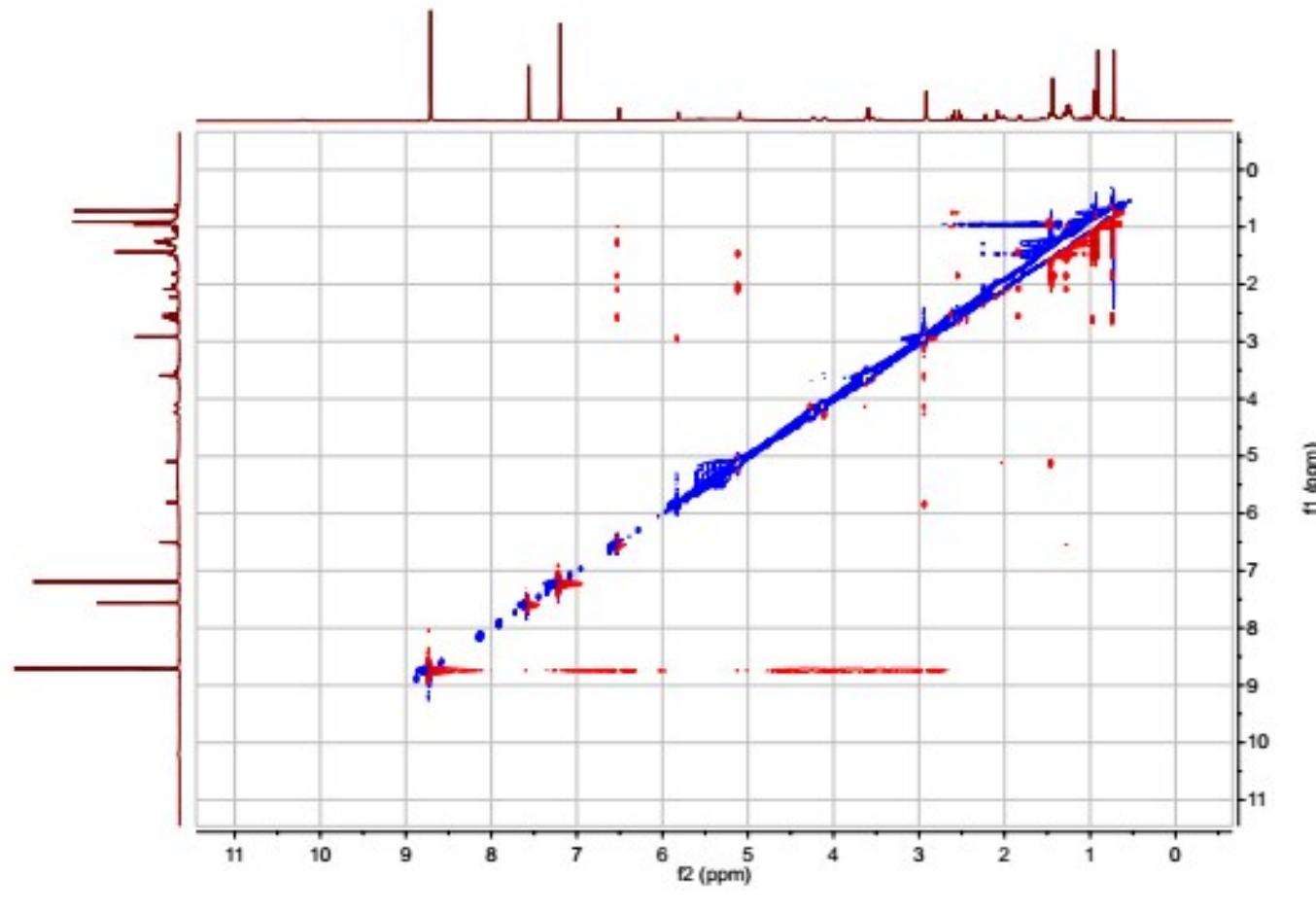


Figure S62. NOESY spectrum of Compound **6** in Pyr-*d*₅.

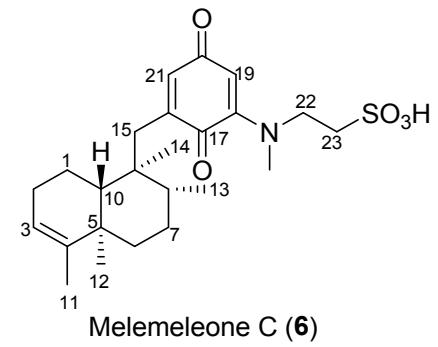
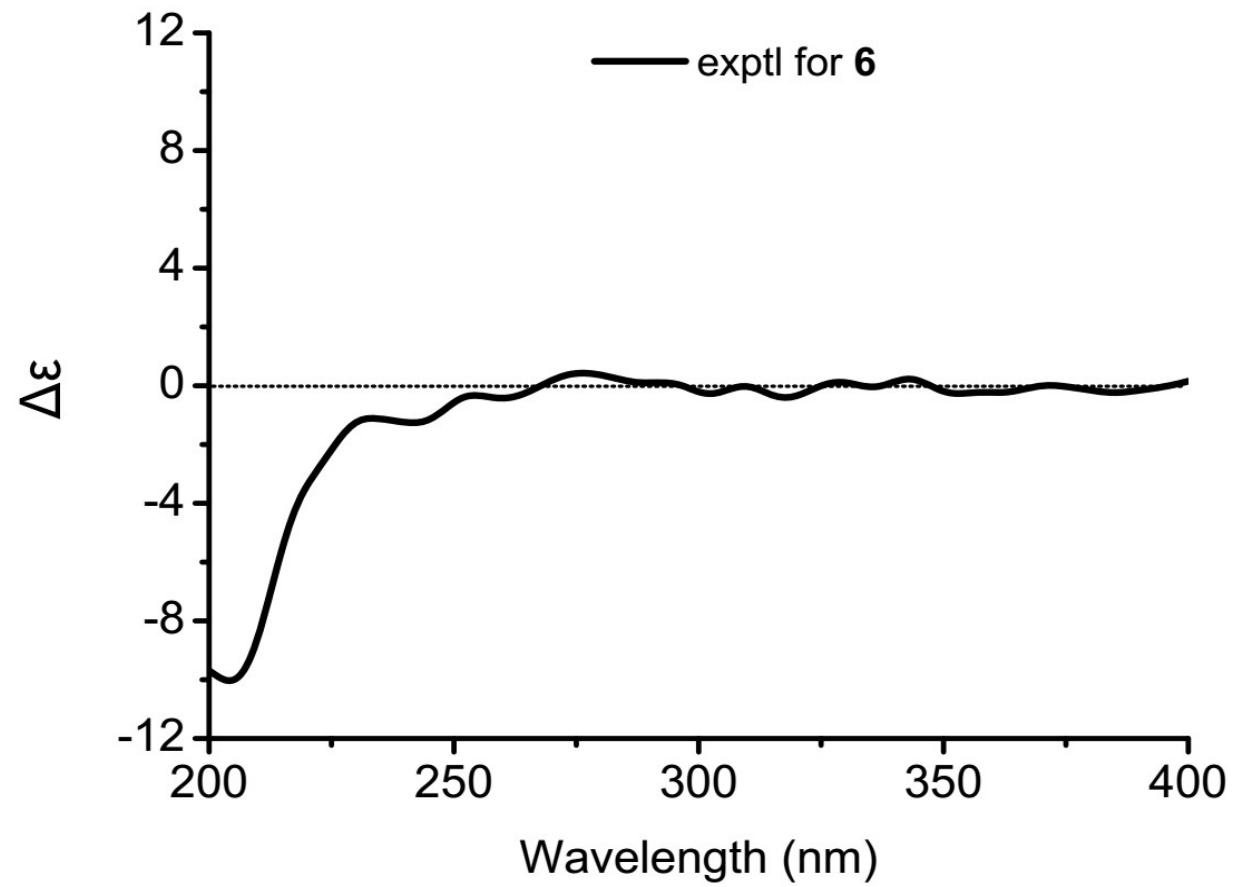


Figure S63. CD spectrum of Compound **6** in MeOH.

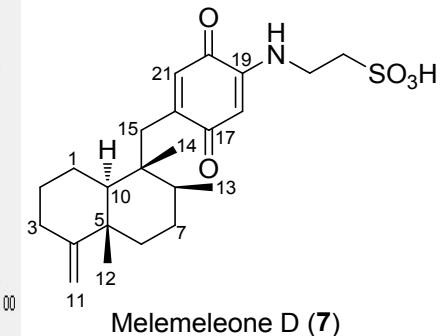
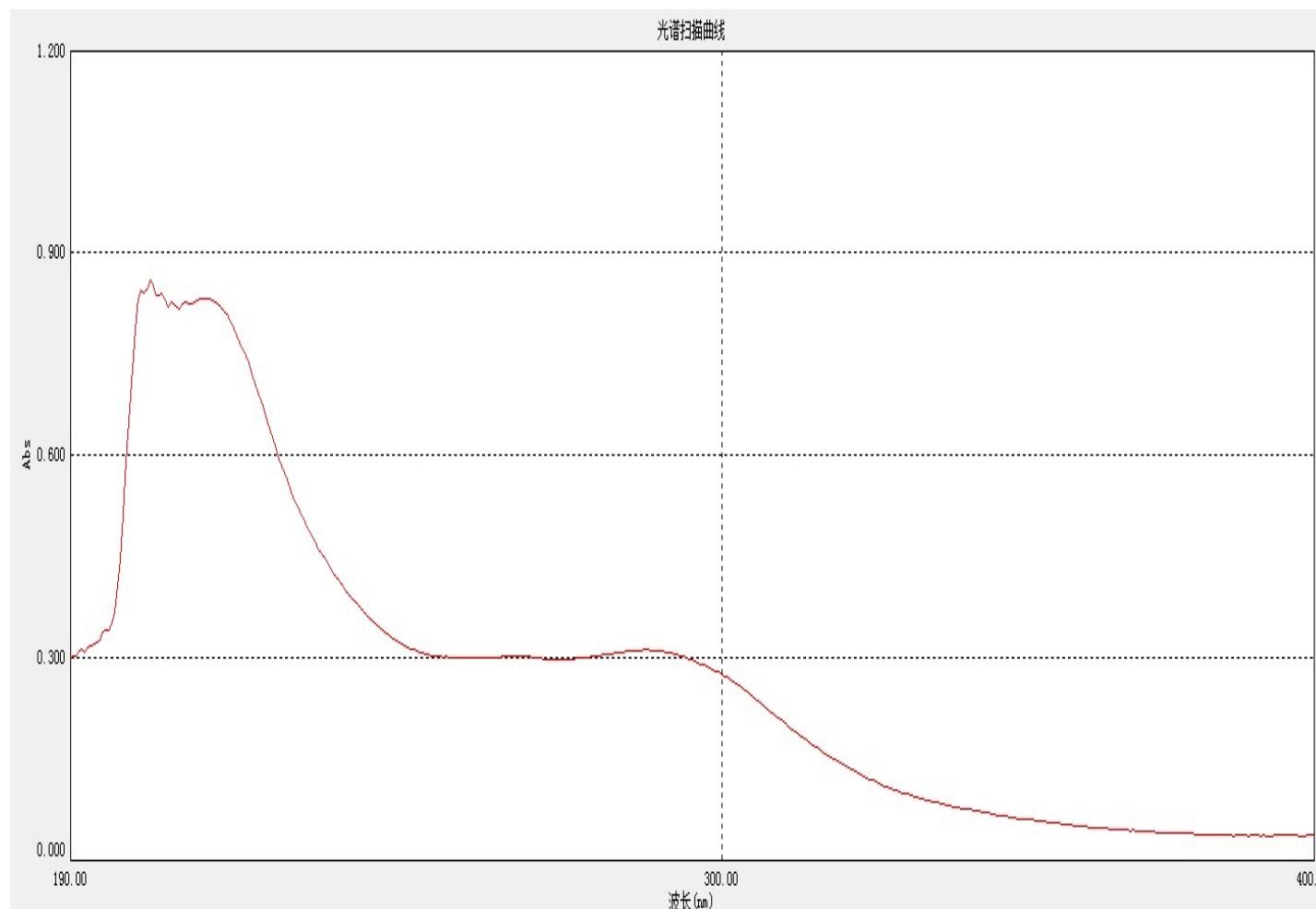


Figure S64. UV spectrum of Compound 7 in MeOH.

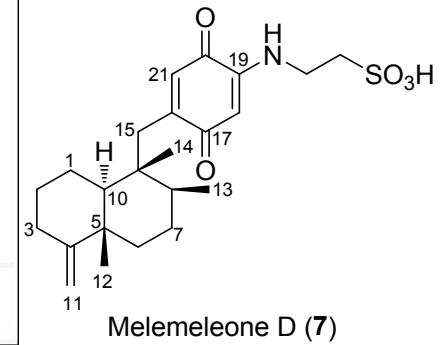
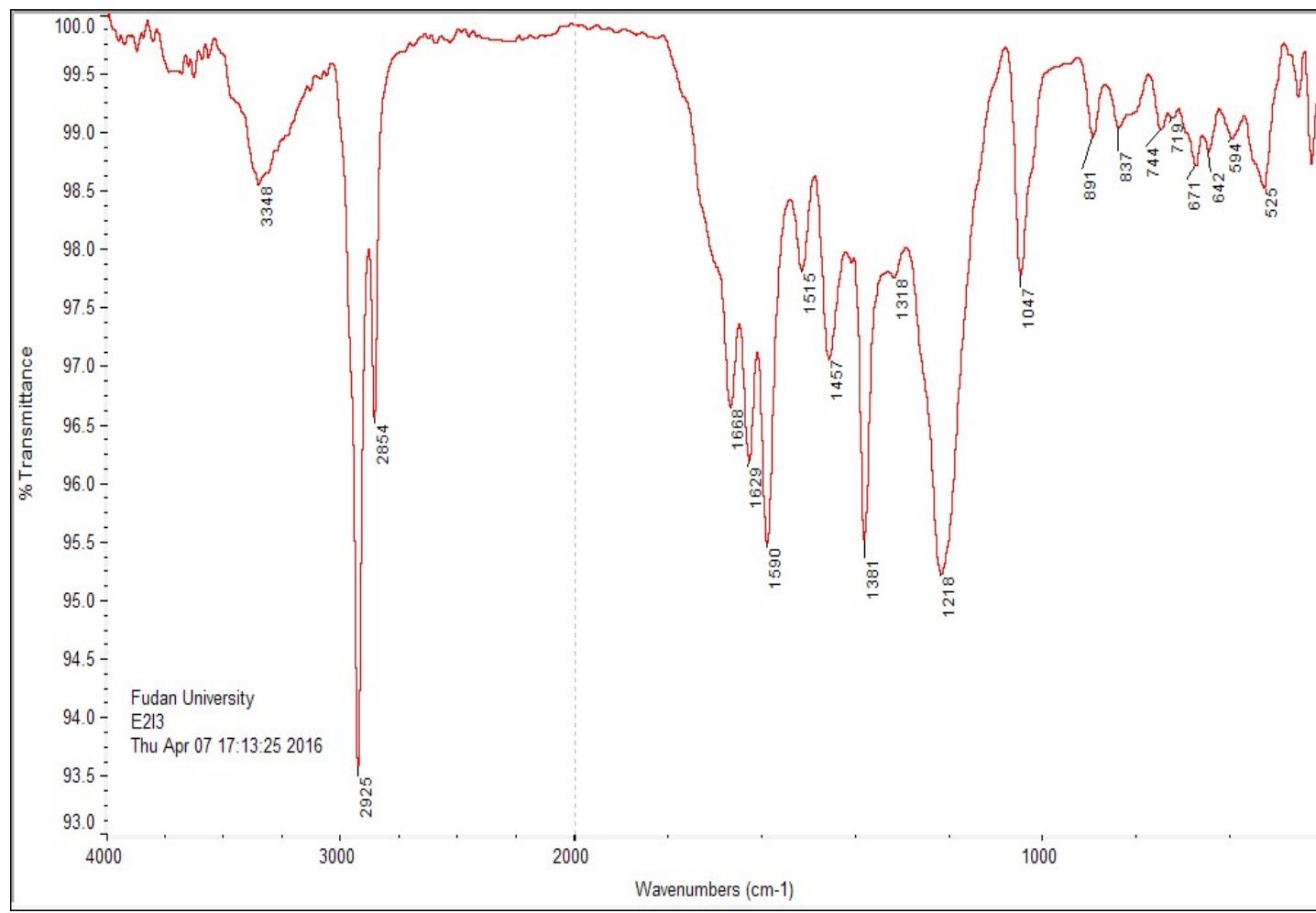


Figure S65. IR spectrum of Compound 7.

Single Mass Analysis

Tolerance = 5.0 mDa / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

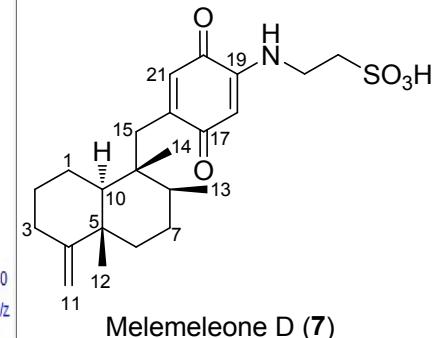
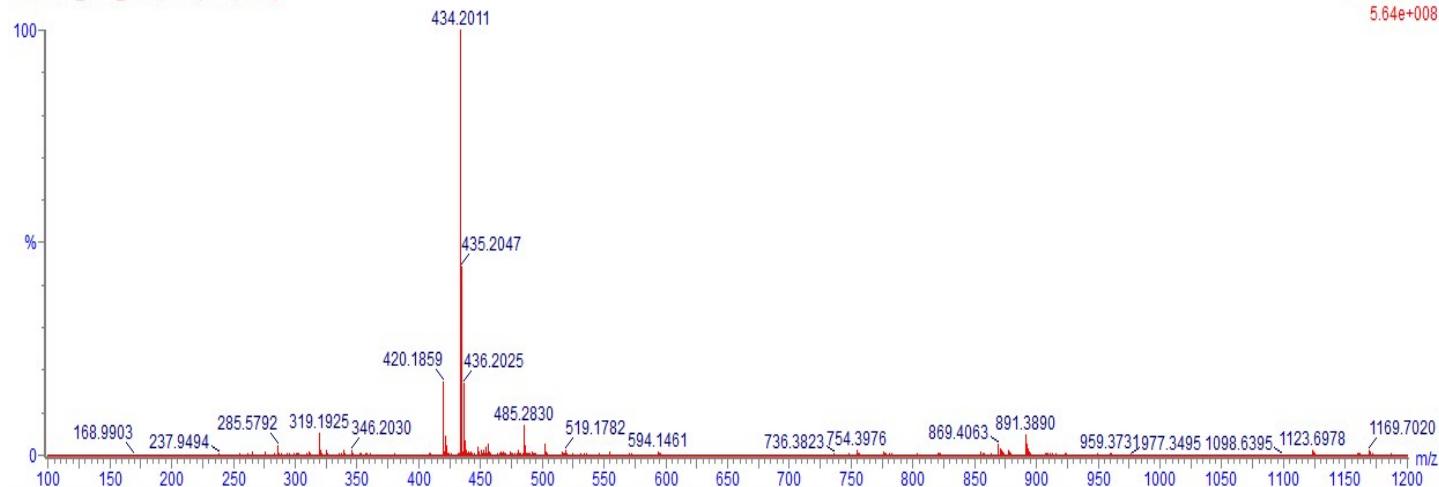
6588 formula(e) evaluated with 43 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	N	O	S
434.2011	434.2001	1.0	2.3	8.5	C ₂₃ H ₃₂ N ₀ S	2591.8	0.772	46.19	23	32	1	5	1
	434.2015	-0.4	-0.9	13.5	C ₂₄ H ₃₂ N ₀ S	2591.9	0.825	43.84	24	28	5	1	1
	434.1976	3.5	8.1	12.5	C ₂₇ H ₃₂ N ₂ S ₂	2593.9	2.837	5.86	27	32	1		2
	434.2010	0.1	0.2	7.5	C ₂₄ H ₃₆ N ₃ S ₃	2596.0	4.954	0.71	24	36	1		3
	434.1974	3.7	8.5	9.5	C ₁₉ H ₂₈ N ₇ O ₃ S	2596.0	4.973	0.69	19	28	7	3	1
	434.2060	-4.9	-11.3	-0.5	C ₁₆ H ₃₆ N ₀ O ₁₀ S	2596.2	5.148	0.58	16	36	1	10	1
	434.2048	-3.7	-8.5	8.5	C ₂₁ H ₃₂ N ₅ O ₂ S ₂	2596.3	5.204	0.55	21	32	5	1	2
	434.2035	-2.1	-5.5	2.5	C ₂₀ H ₃₆ N ₅ O ₅ S ₂	2596.5	5.403	0.45	20	36	1	5	2

20160408

20160407_E2J3_N 39 (0.317) Cm (22:58)

1: TOF MS ES-
5.64e+008**Figure S66.** HRESIMS spectrum of Compound 7.

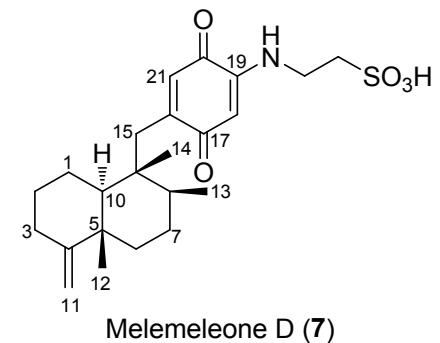
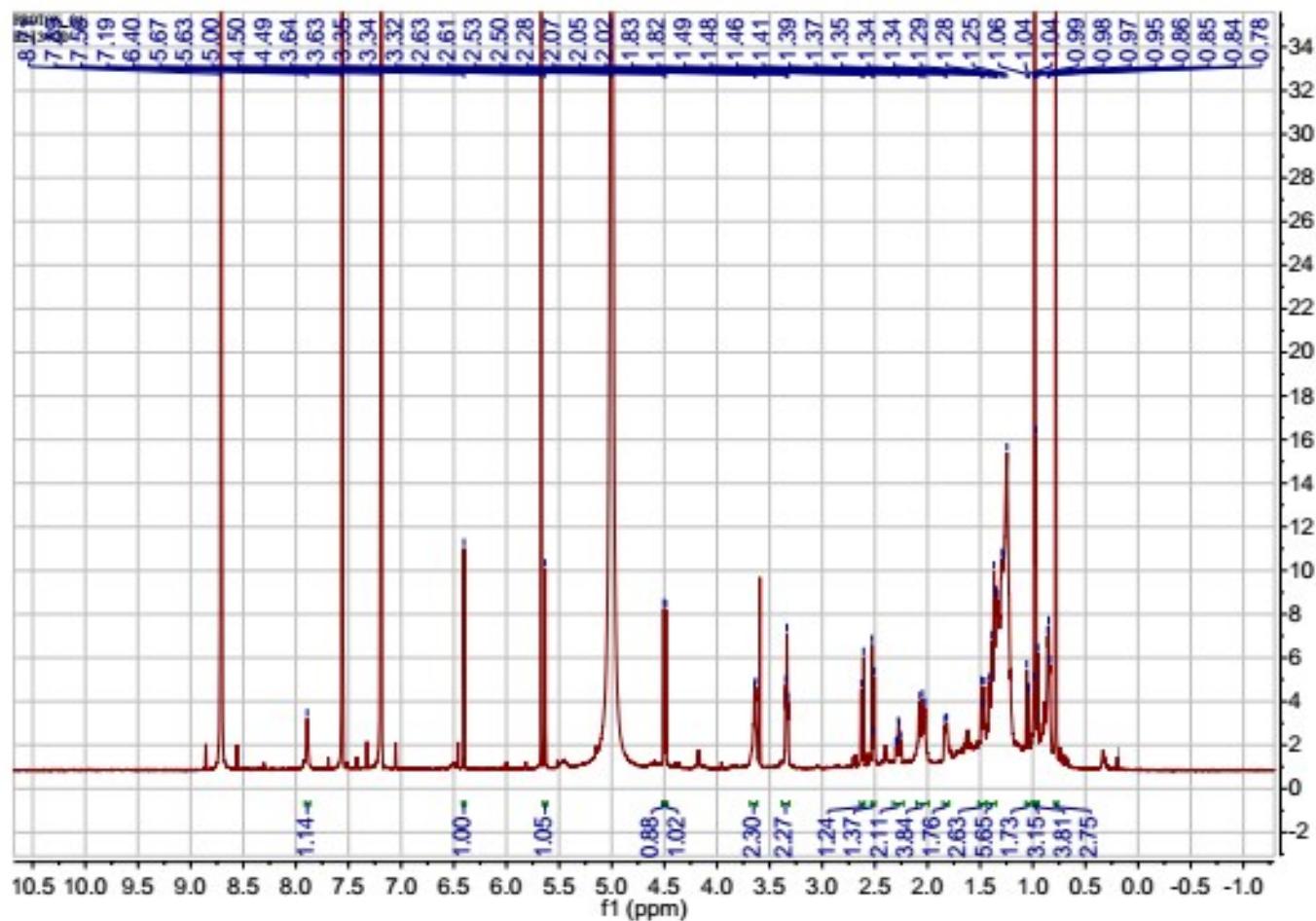


Figure S67. ^1H NMR spectrum of Compound 7 in $\text{Pyr}-d_5$.

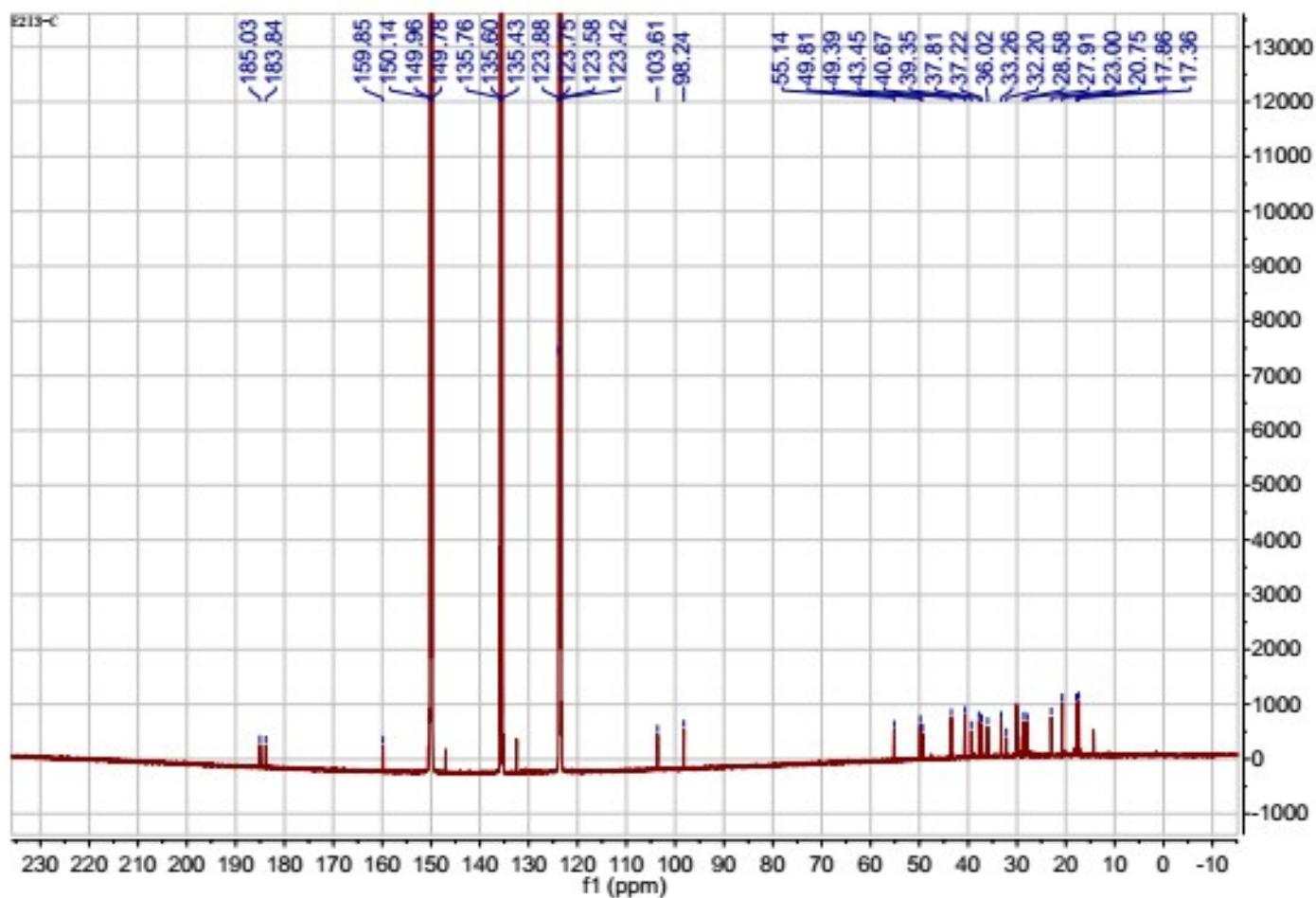


Figure S68. ¹³C NMR spectrum of Compound 7 in Pyr-d₅.

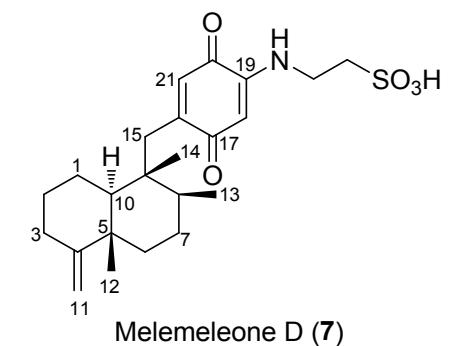
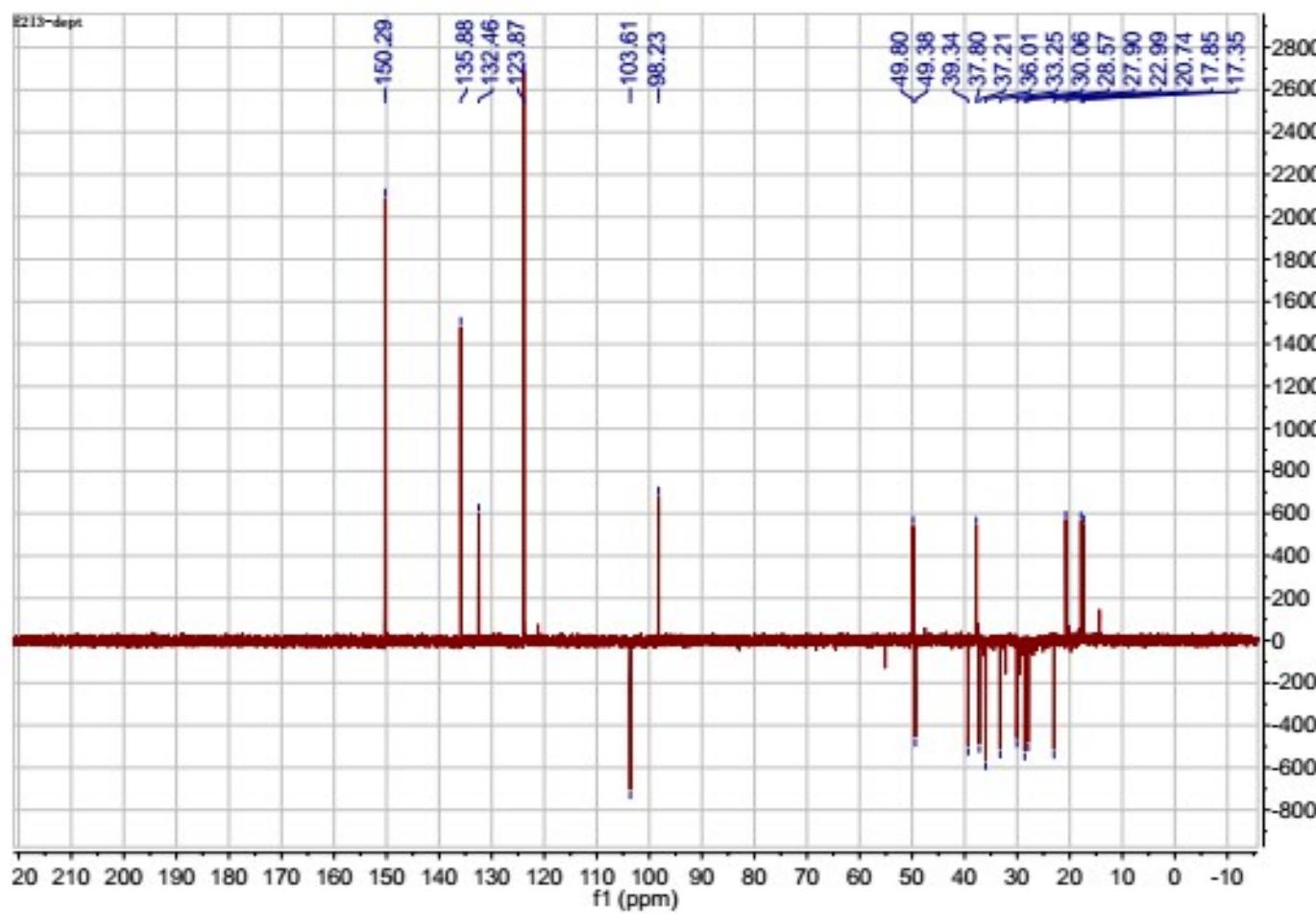
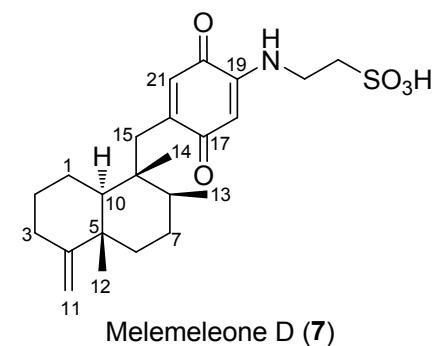
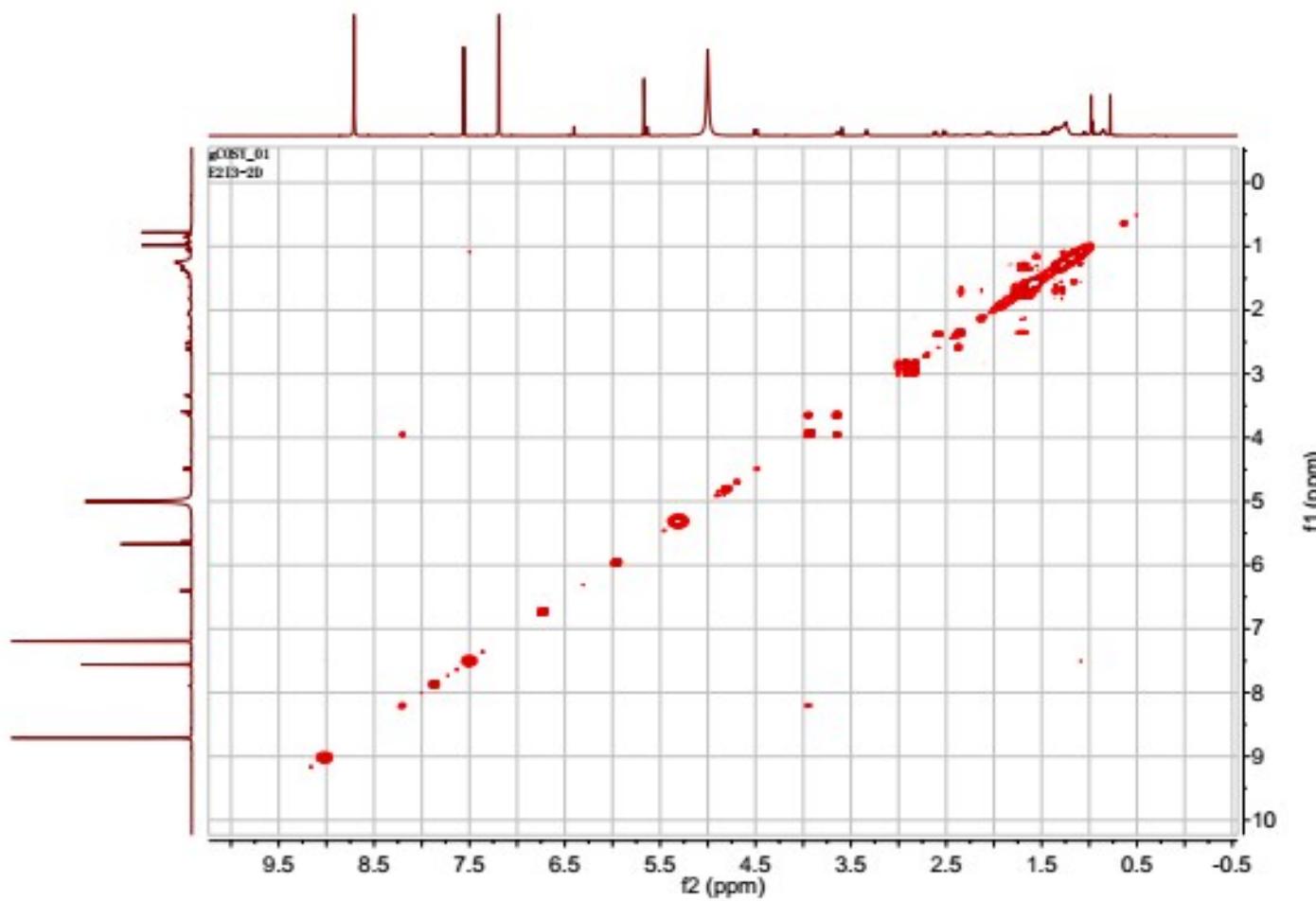


Figure S69. DEPT135 spectrum of Compound 7 in Pyr-*d*₅.



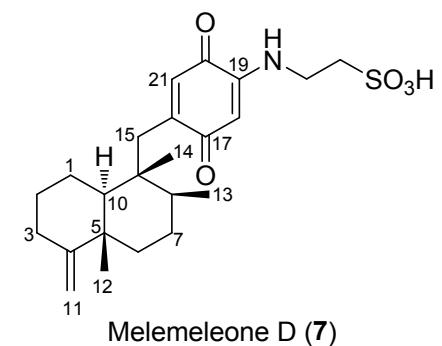
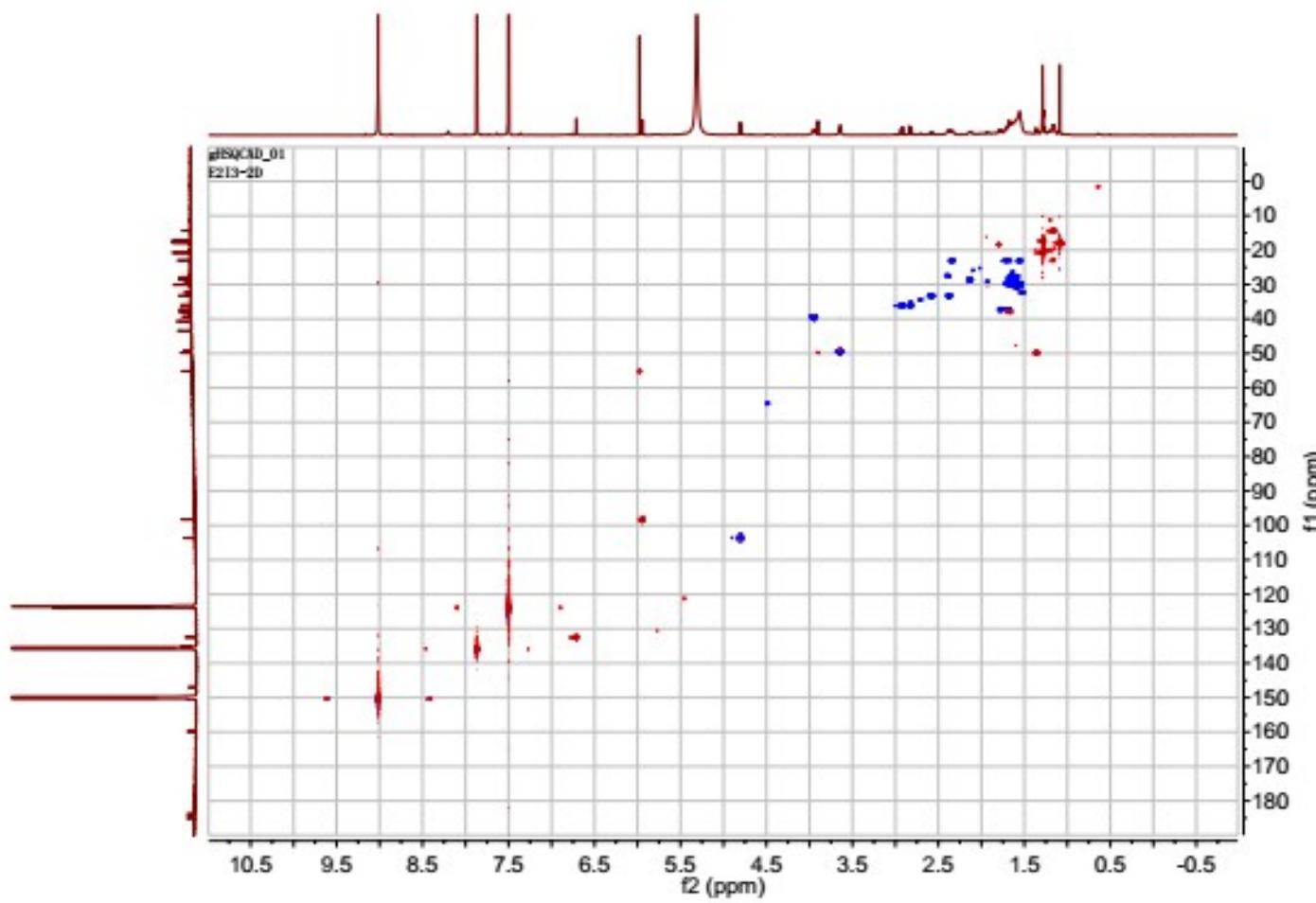


Figure S71. HSQC spectrum of Compound 7 in Pyr-*d*₅.

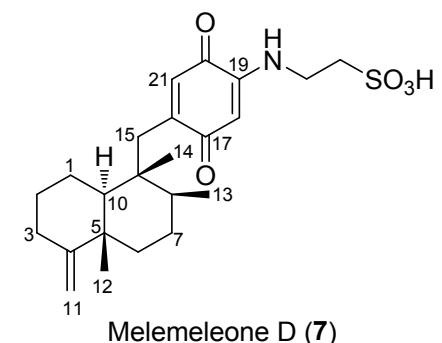
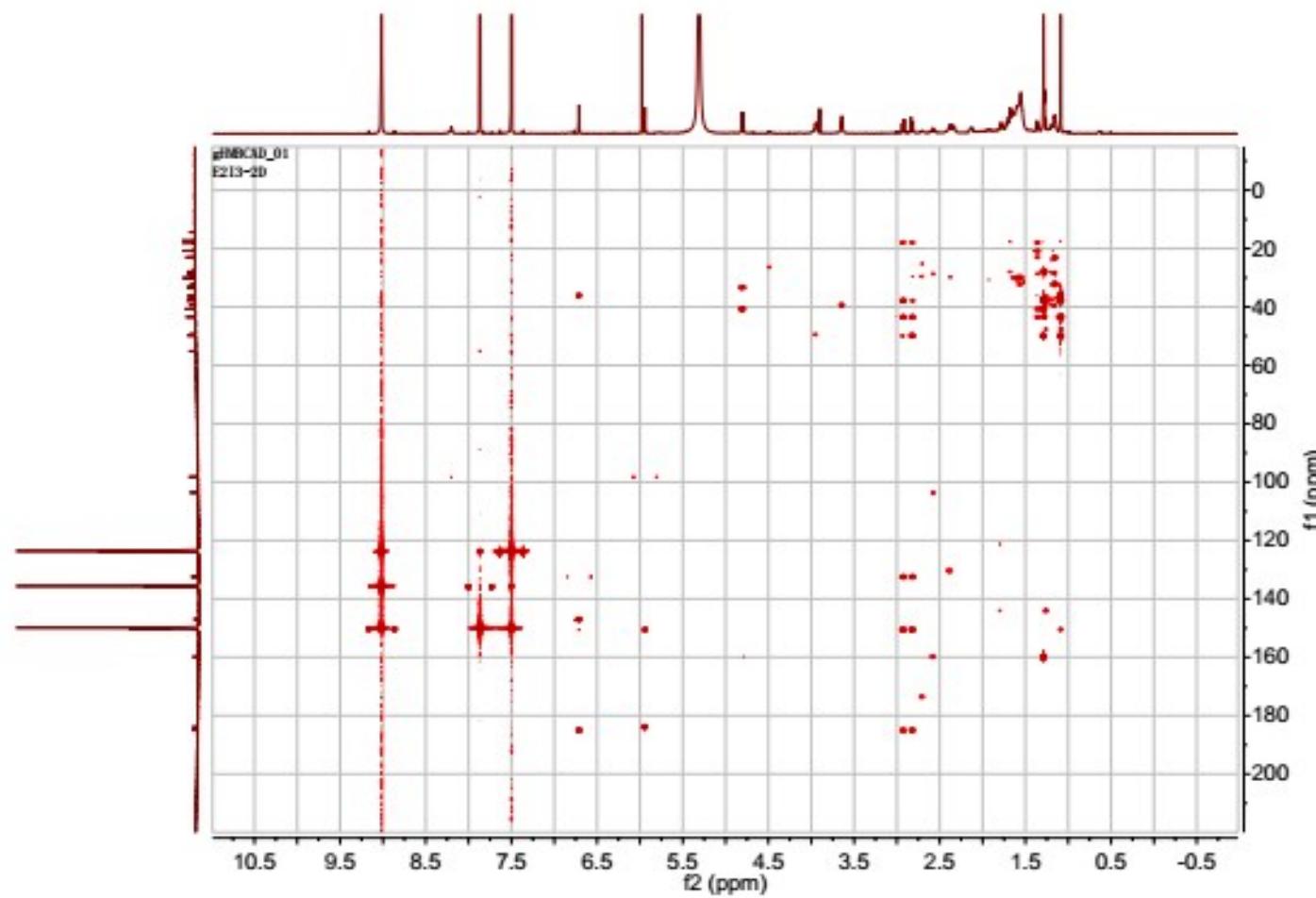


Figure S72. HMBC spectrum of Compound **7** in Pyr-*d*₅.

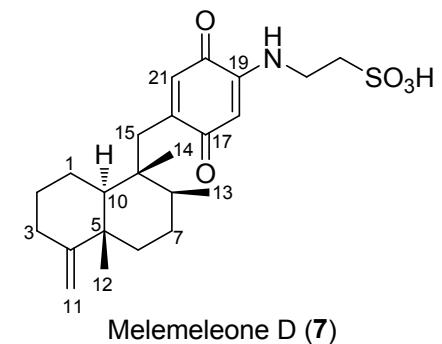
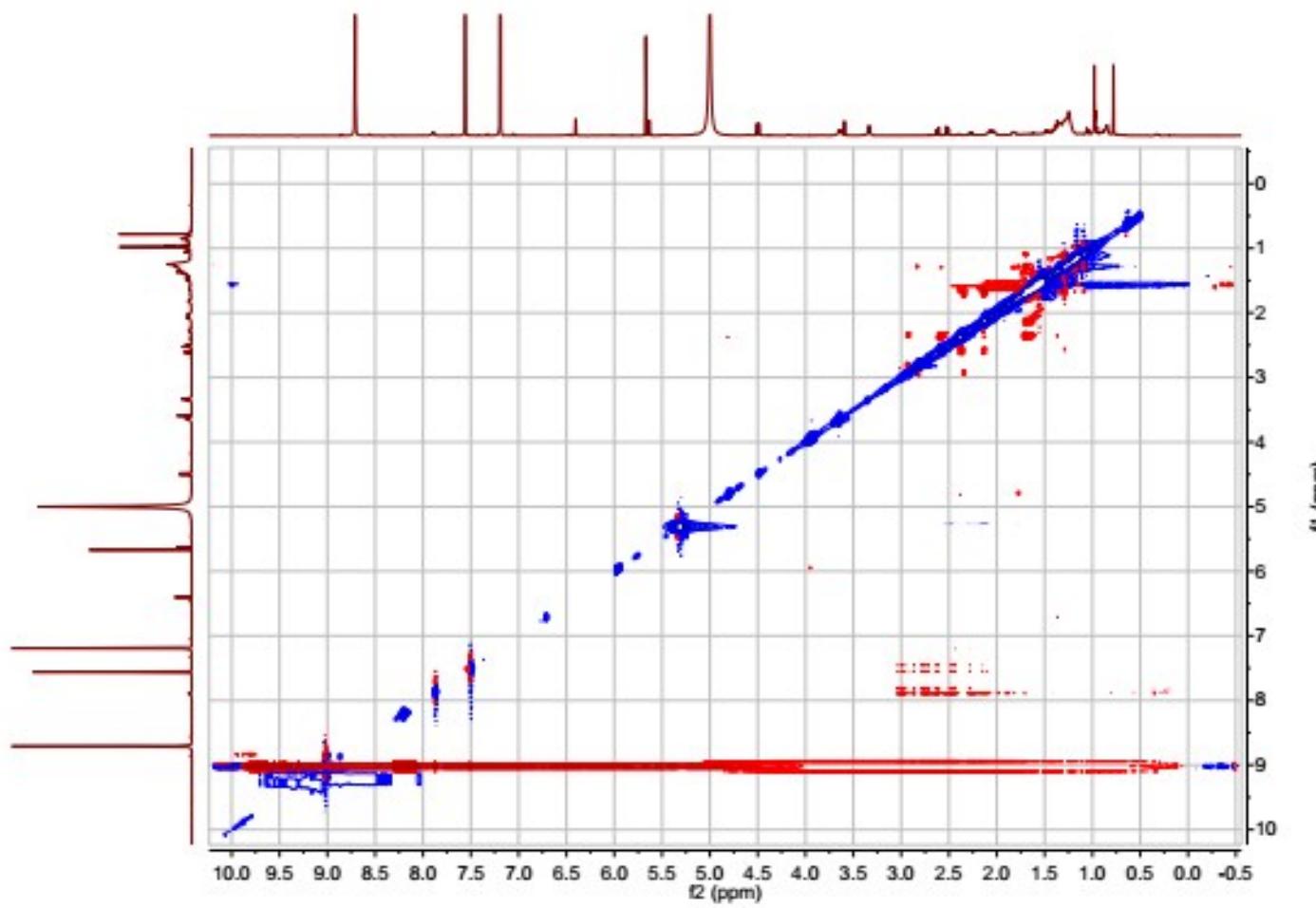


Figure S73. NOESY spectrum of Compound **7** in Pyr-*d*₅.

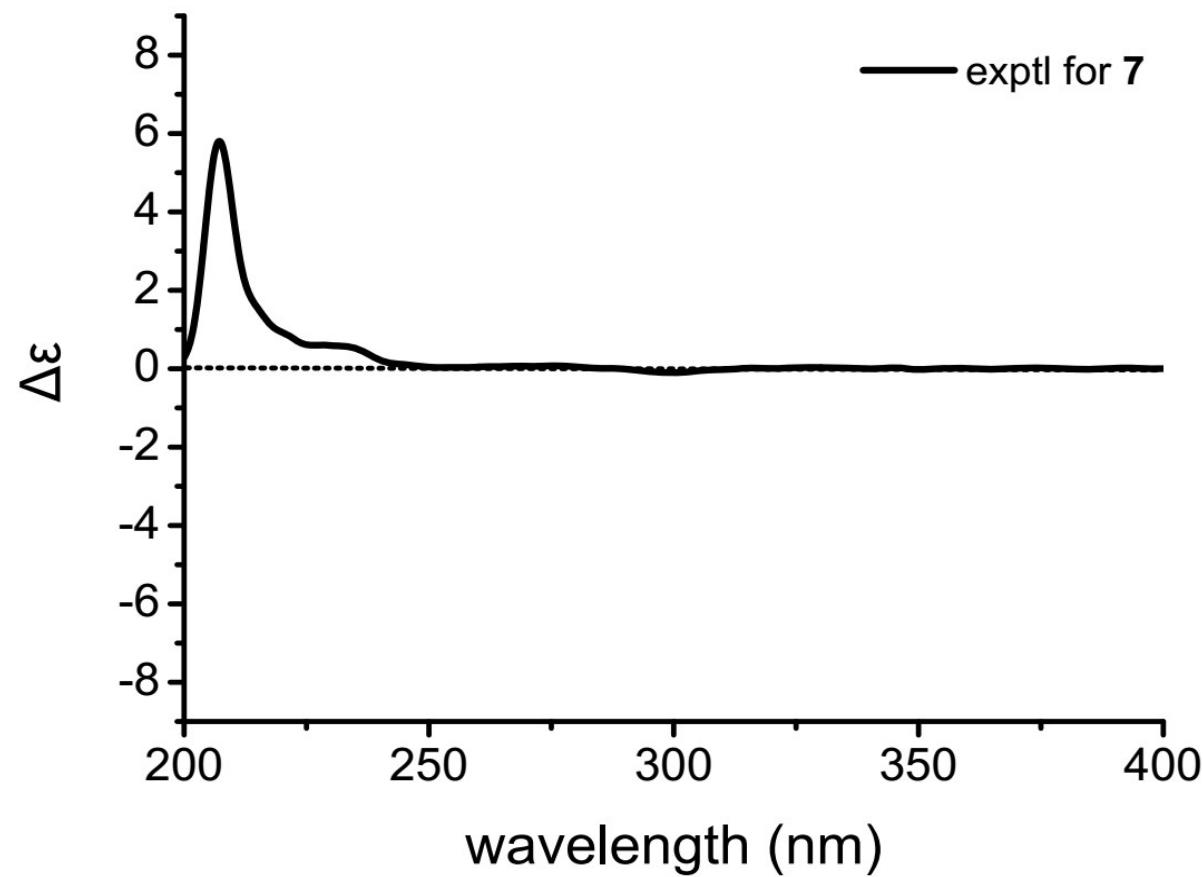
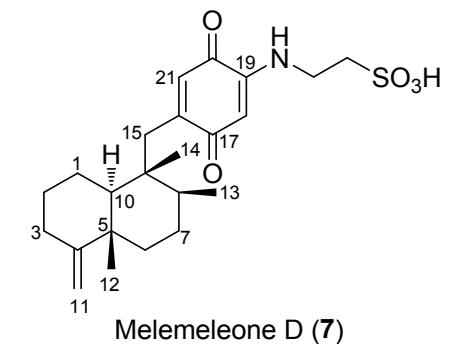


Figure S74. CD spectrum of Compound 7 in MeOH.



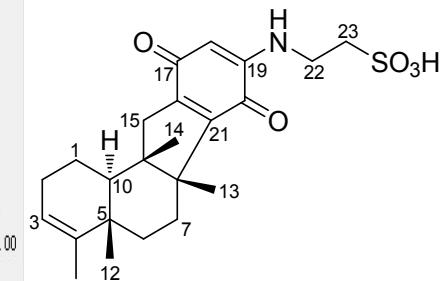
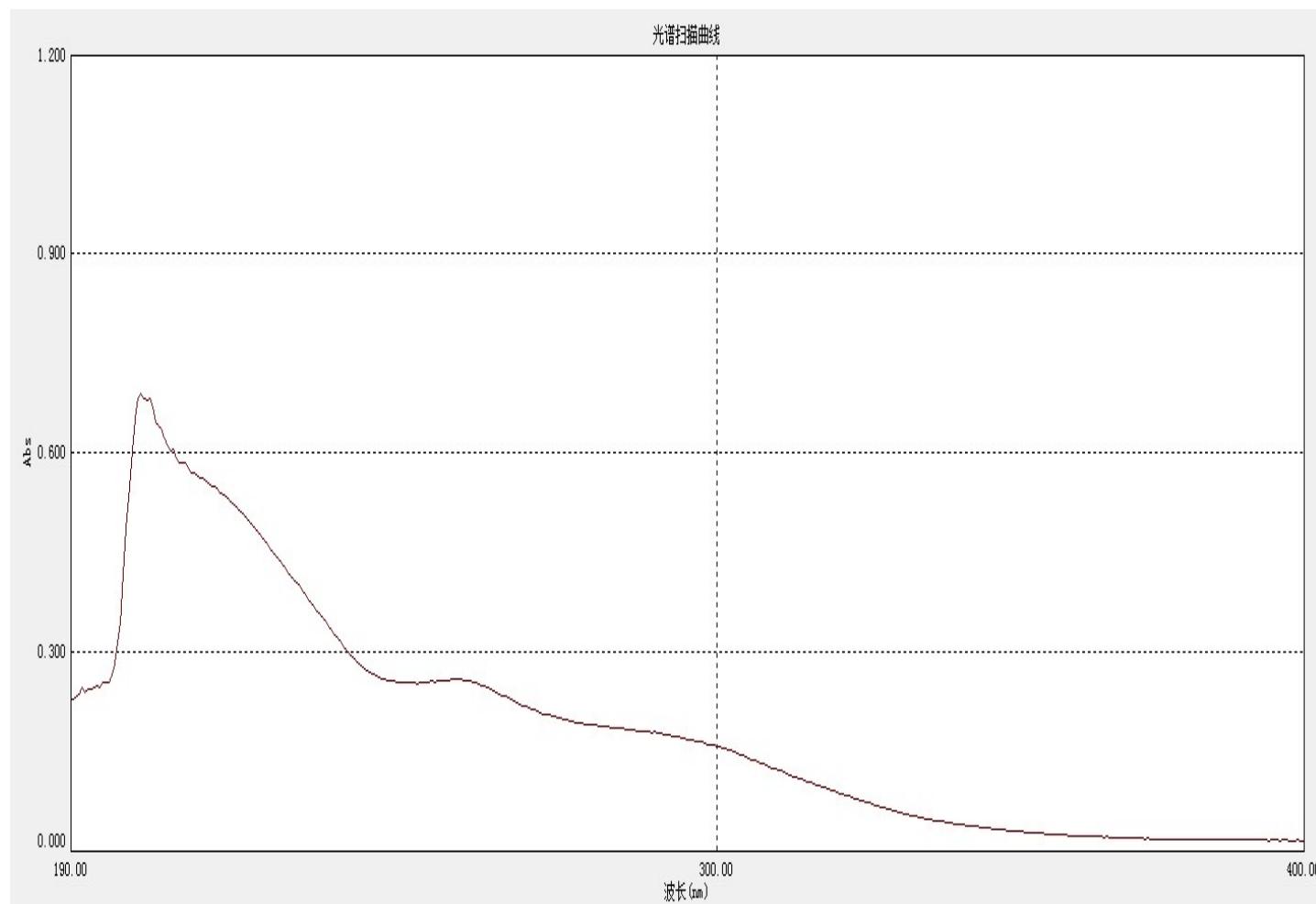


Figure S75. UV spectrum of Compound **8** in MeOH.

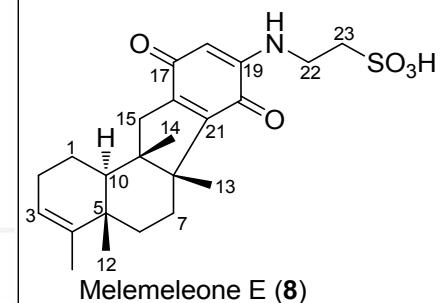
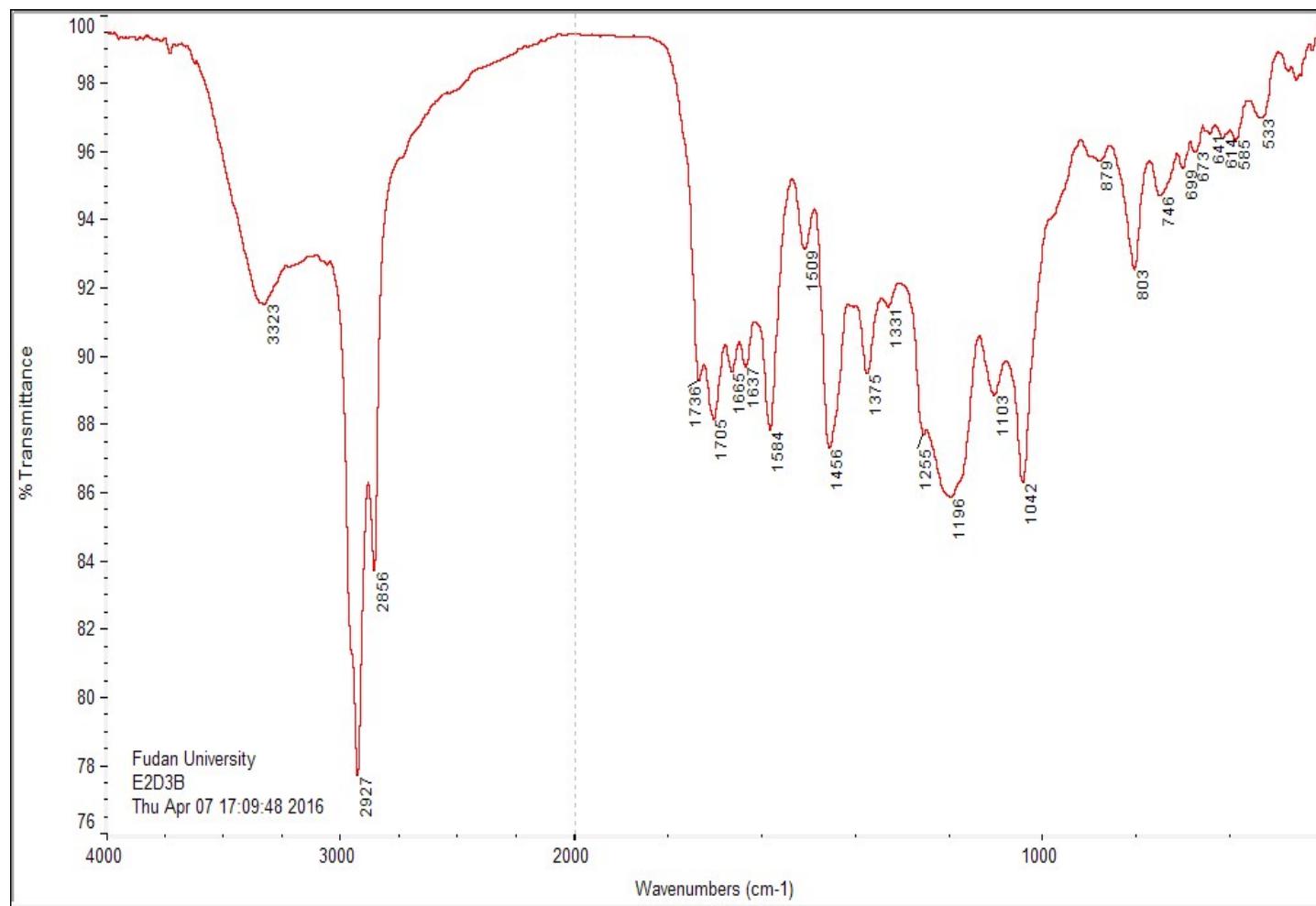


Figure S76. IR spectrum of Compound 8.

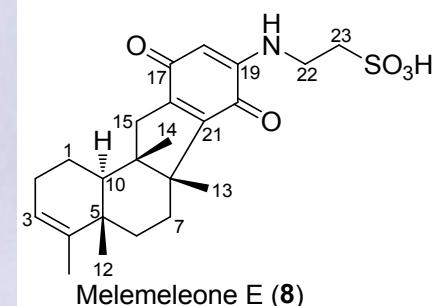
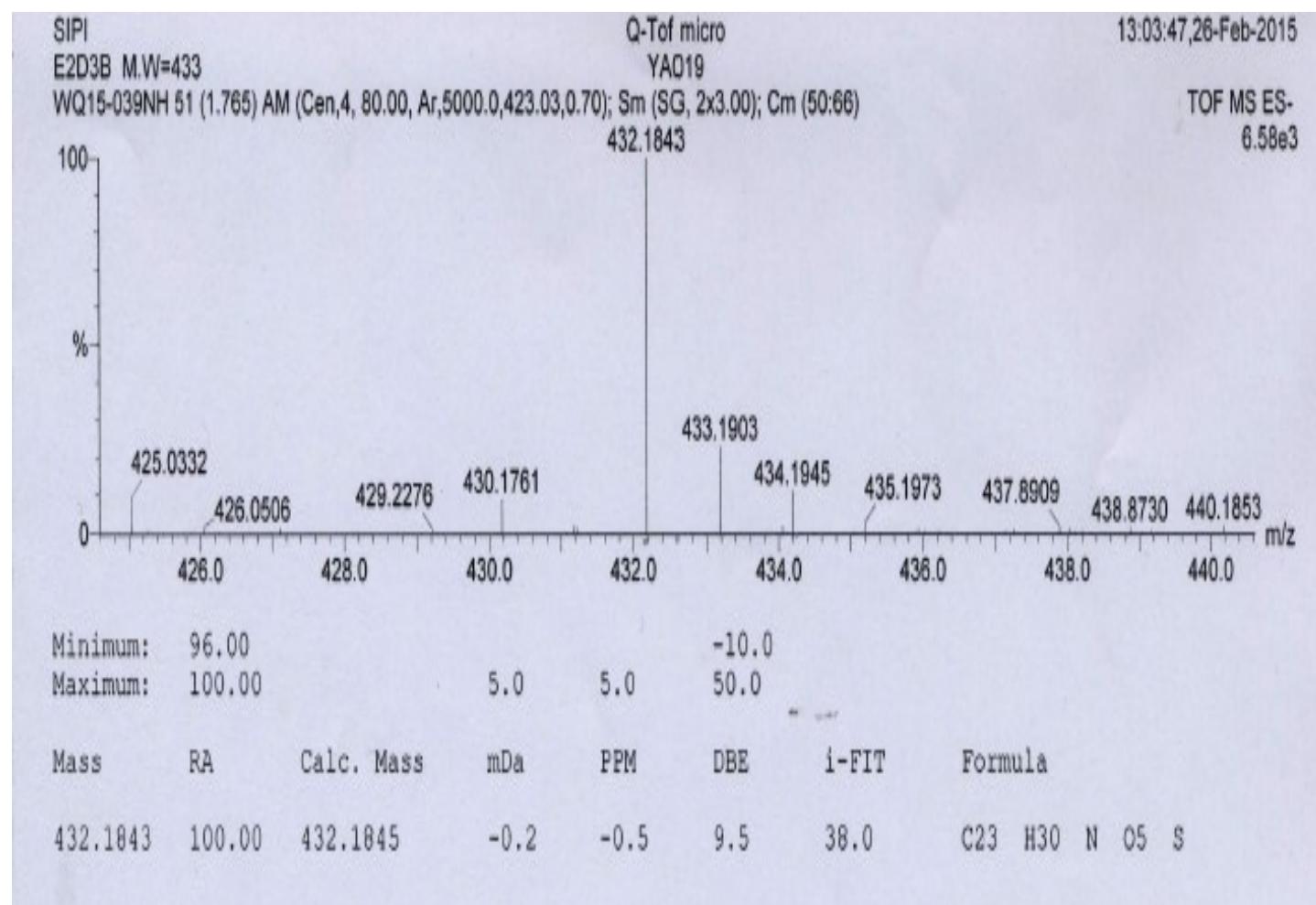


Figure S77. HRESIMS spectrum of Compound 8.

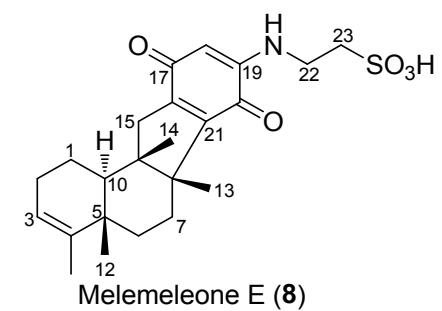
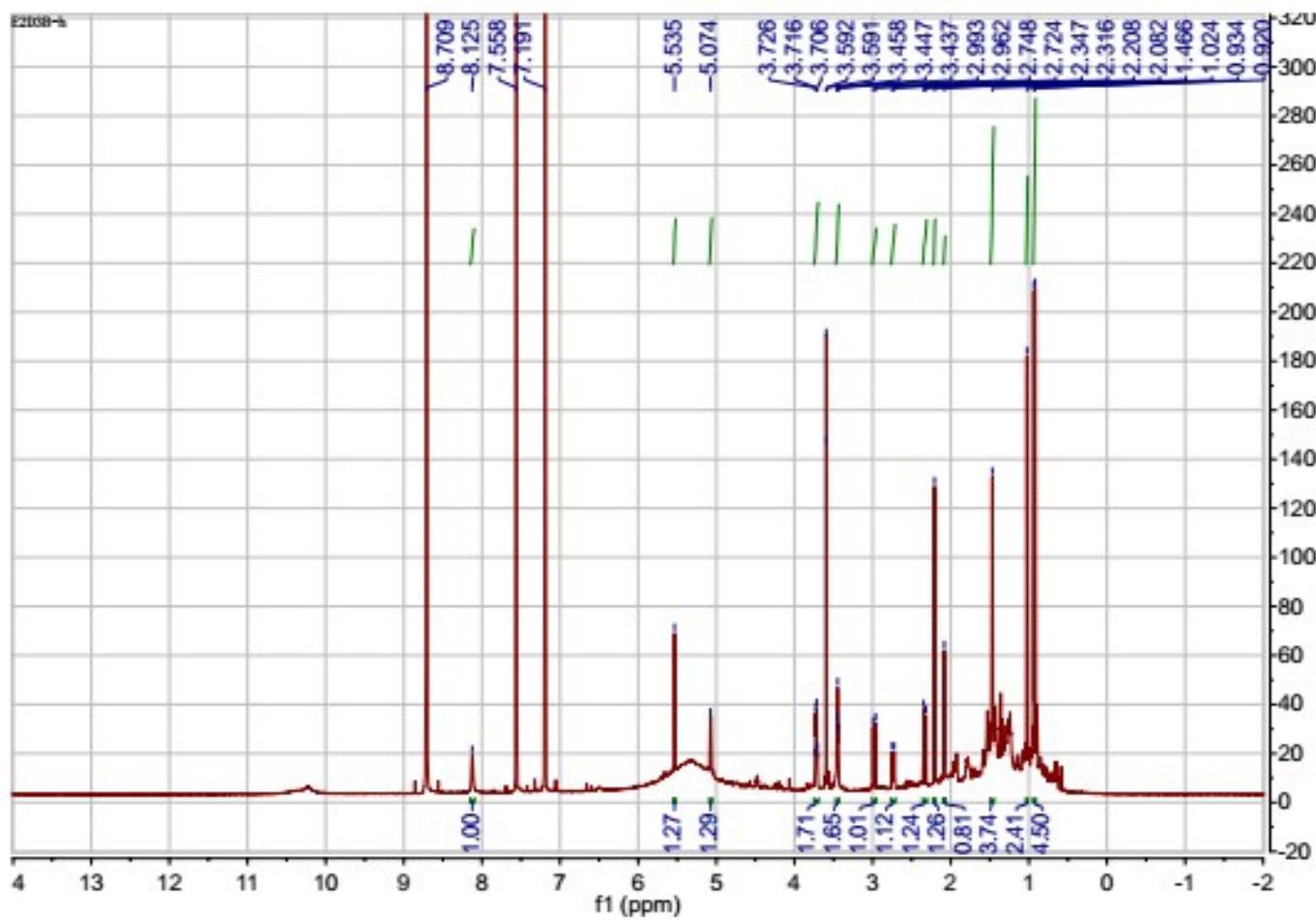


Figure S78. ^1H NMR spectrum of Compound **8** in $\text{Pyr}-d_5$.

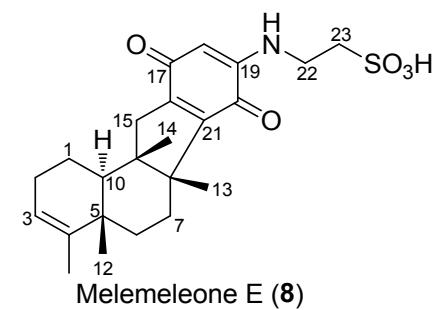
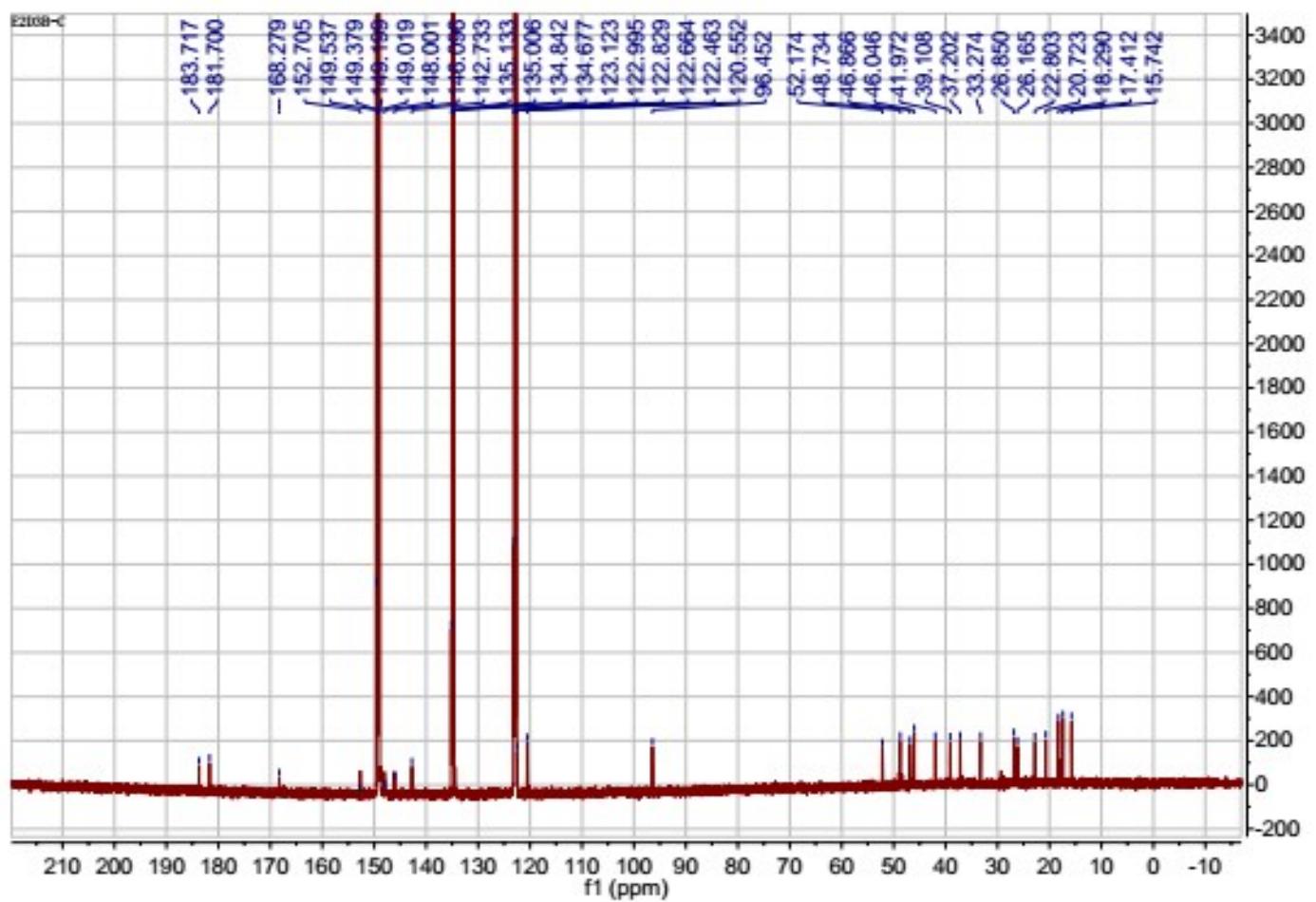


Figure S79. ^{13}C NMR spectrum of Compound 8 in Pyr- d_5 .

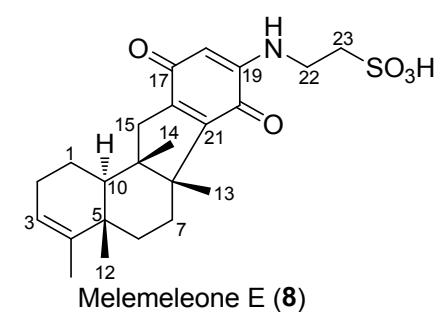
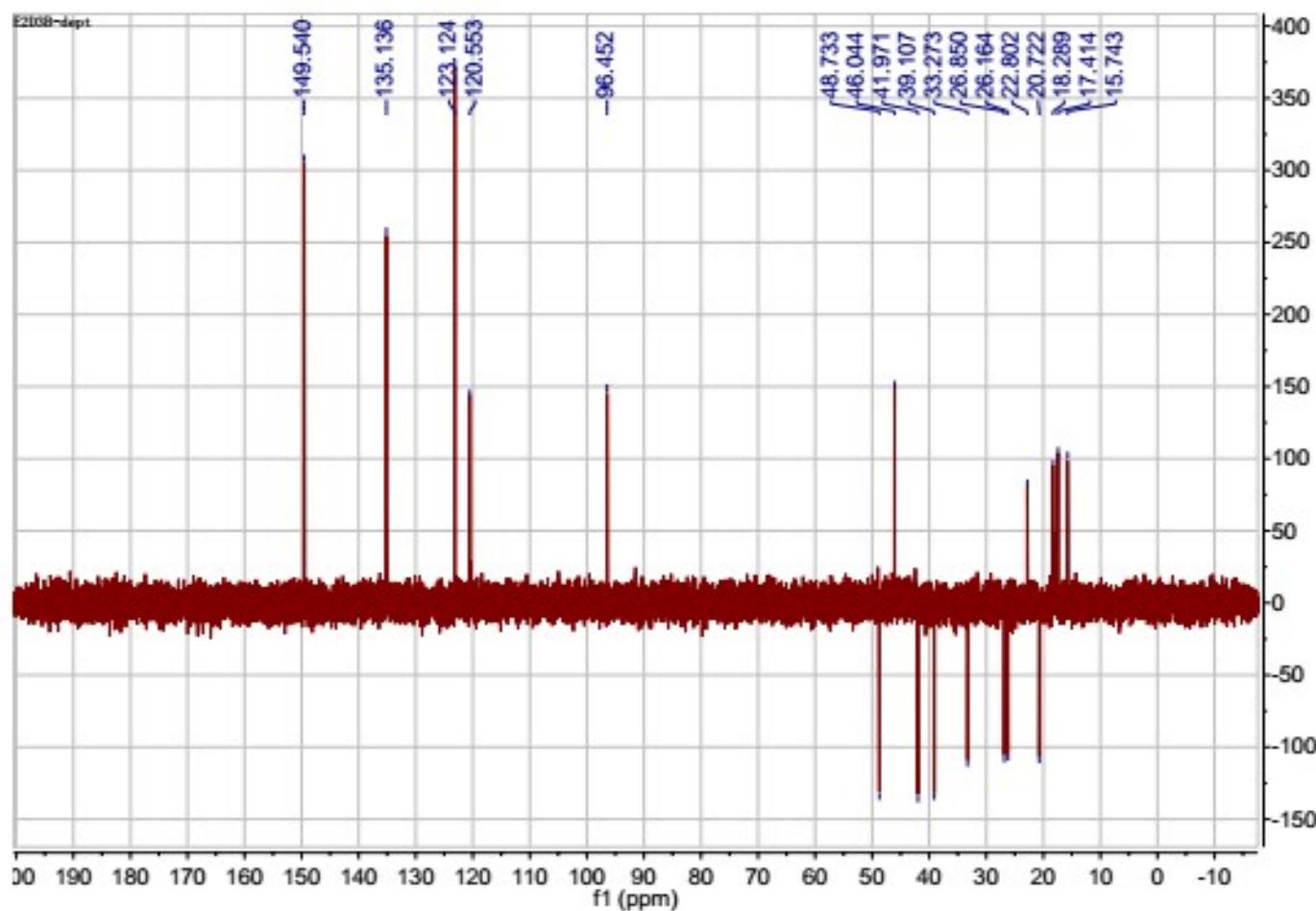


Figure S80. DEPT135 spectrum of Compound 8 in Pyr-d₅.

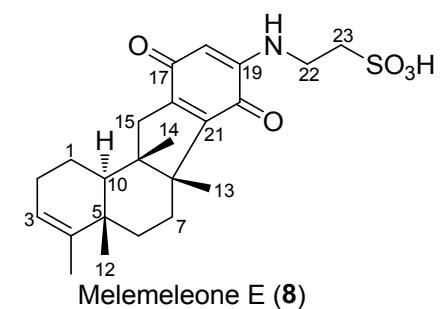
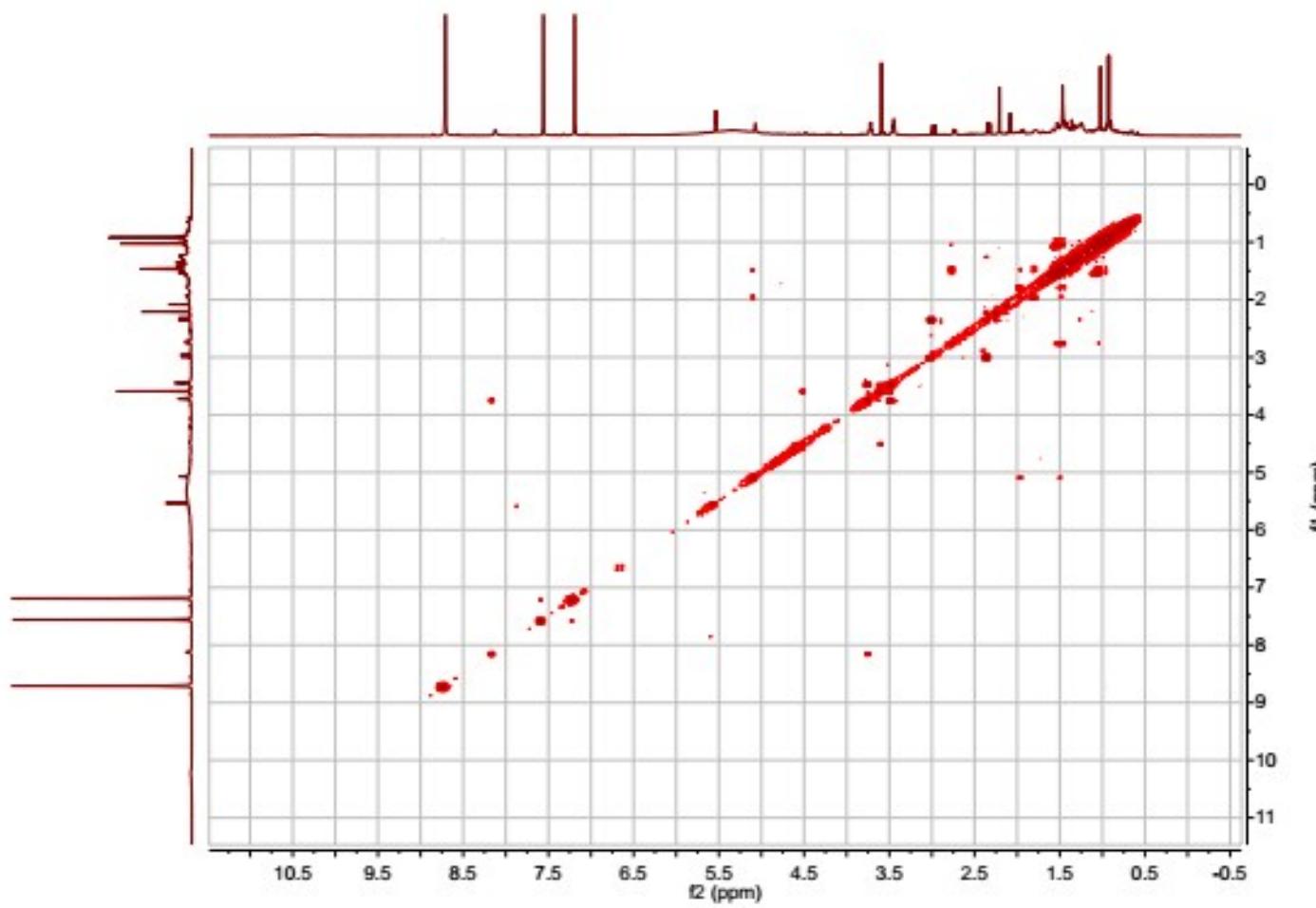


Figure S81. ^1H - ^1H COSY spectrum of Compound **8** in $\text{Pyr}-d_5$.

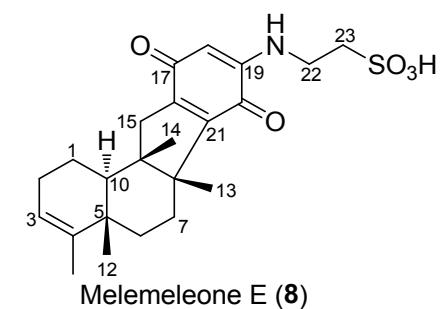
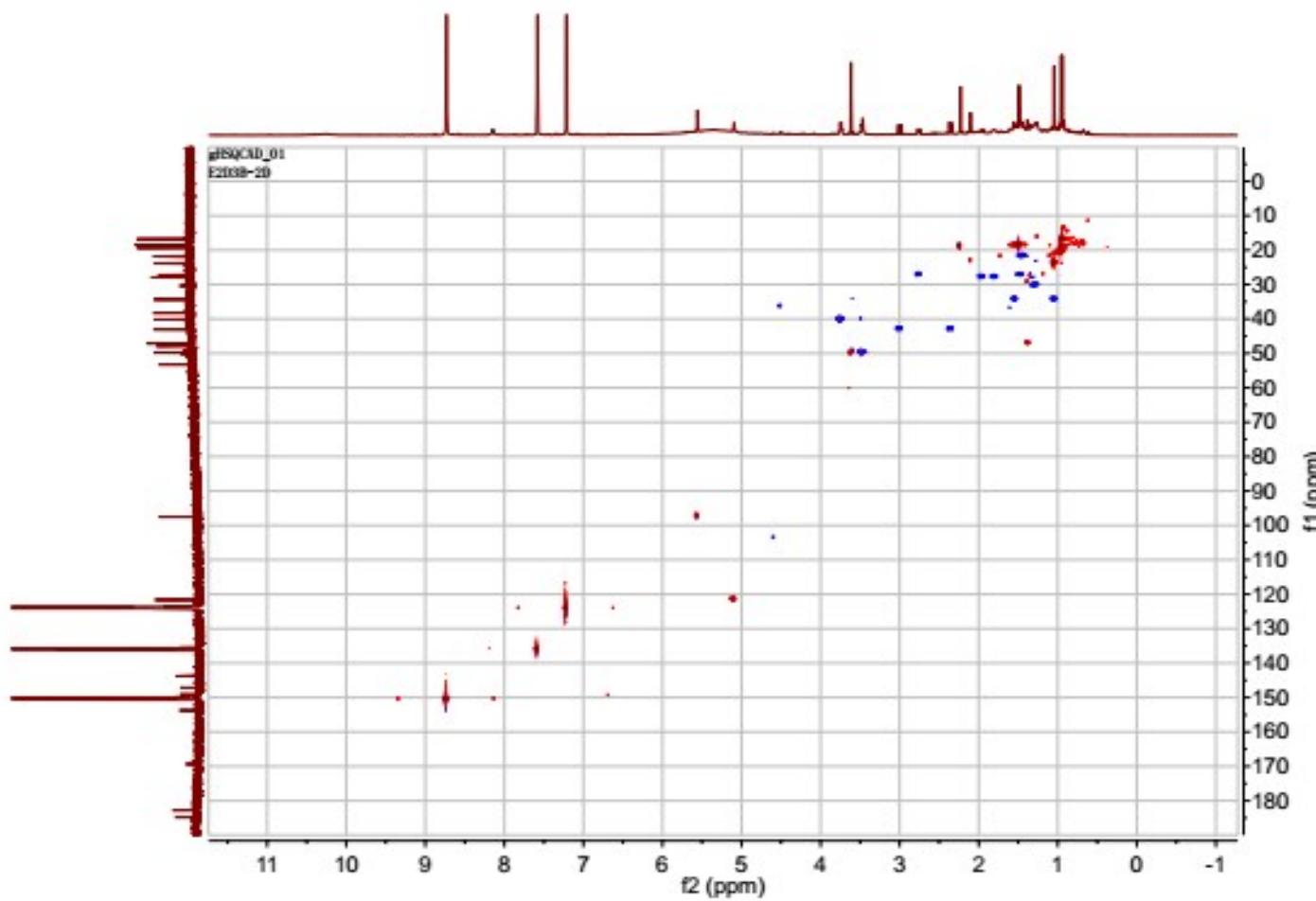


Figure S82. HSQC spectrum of Compound 8 in Pyr-*d*₅.

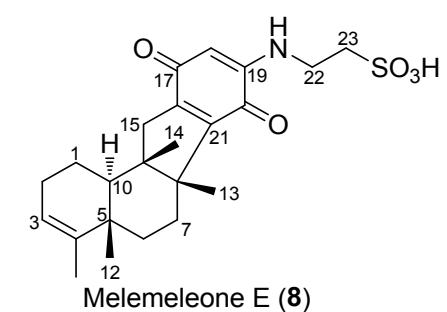
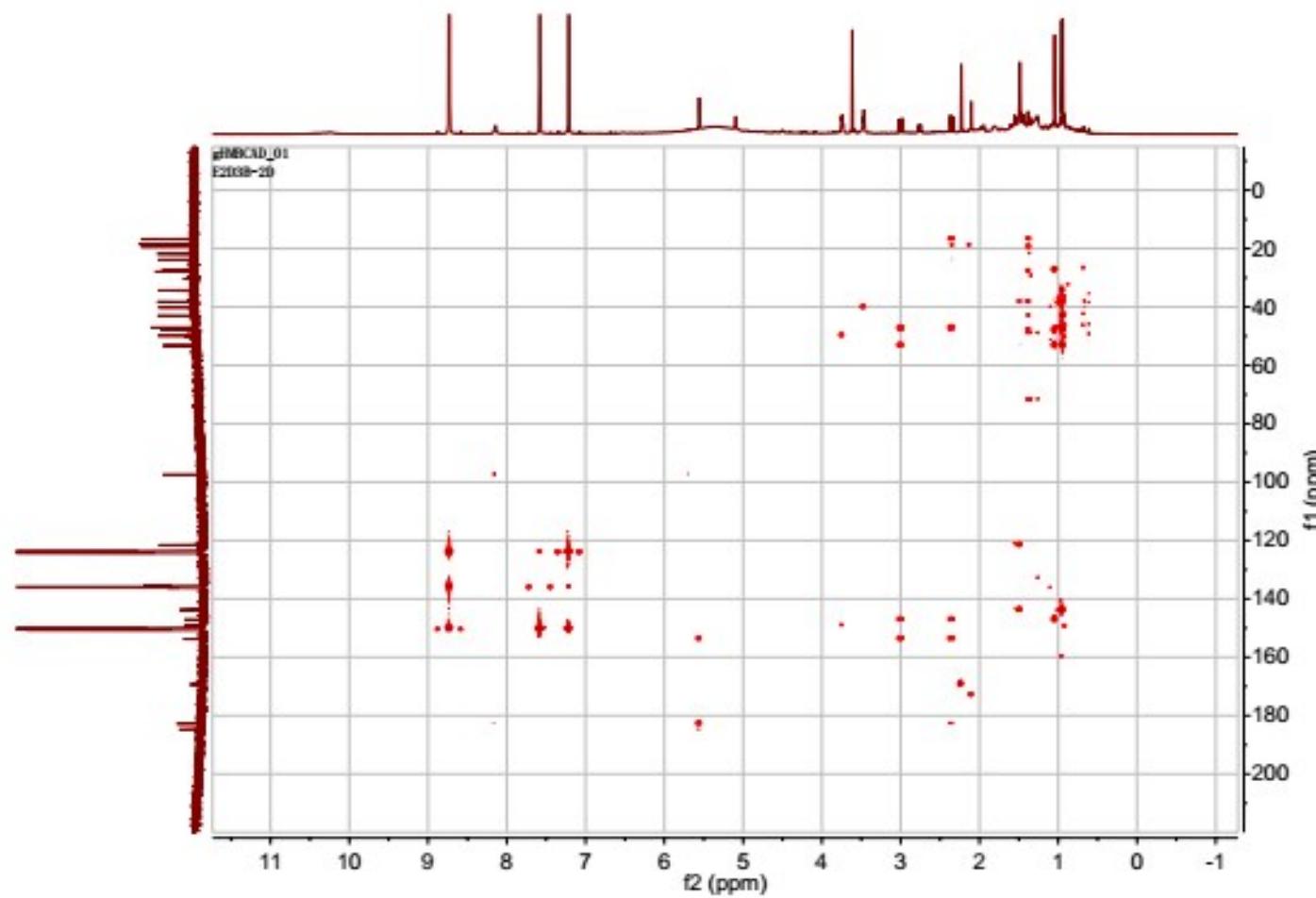


Figure S83. HMBC spectrum of Compound **8** in Pyr-*d*₅.

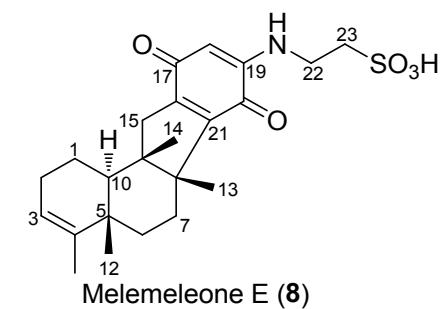
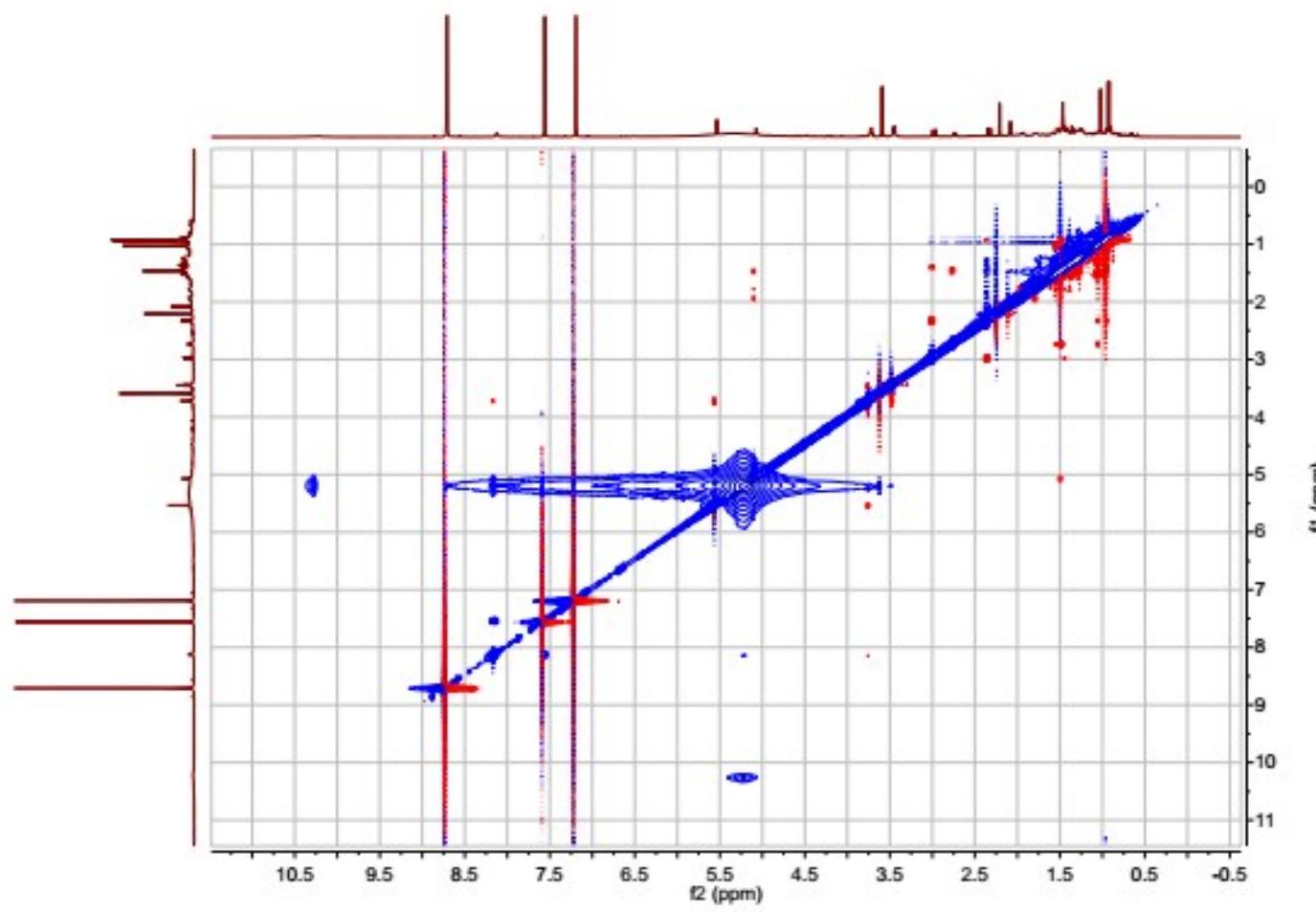


Figure S84. NOESY spectrum of Compound **8** in Pyr-*d*₅.

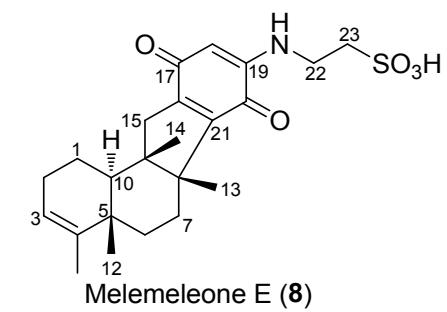
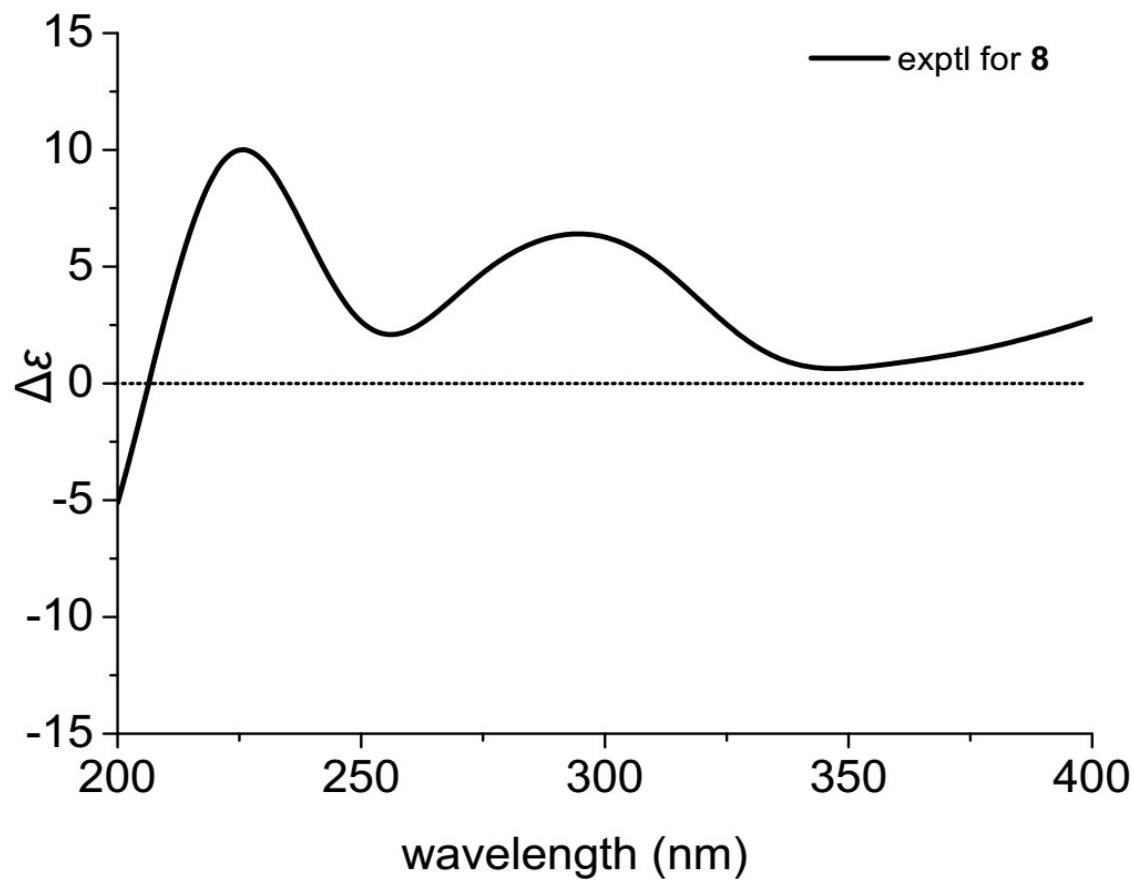


Figure S85. CD spectrum of Compound 8 in MeOH.

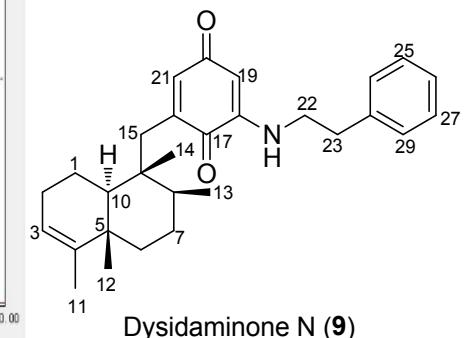
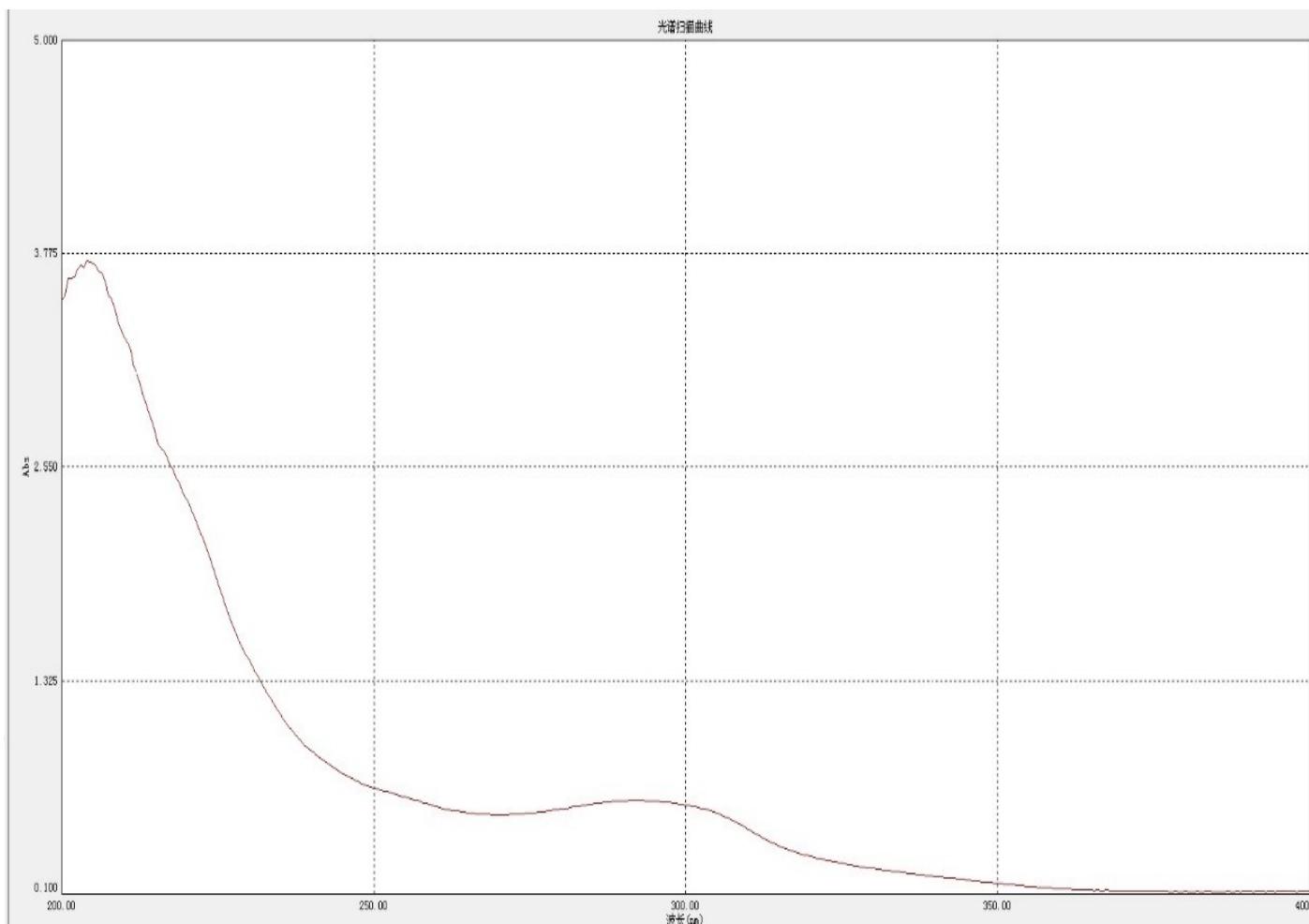


Figure S86. UV spectrum of Compound **9** in MeOH.

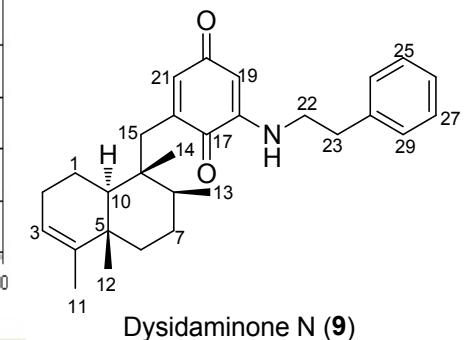
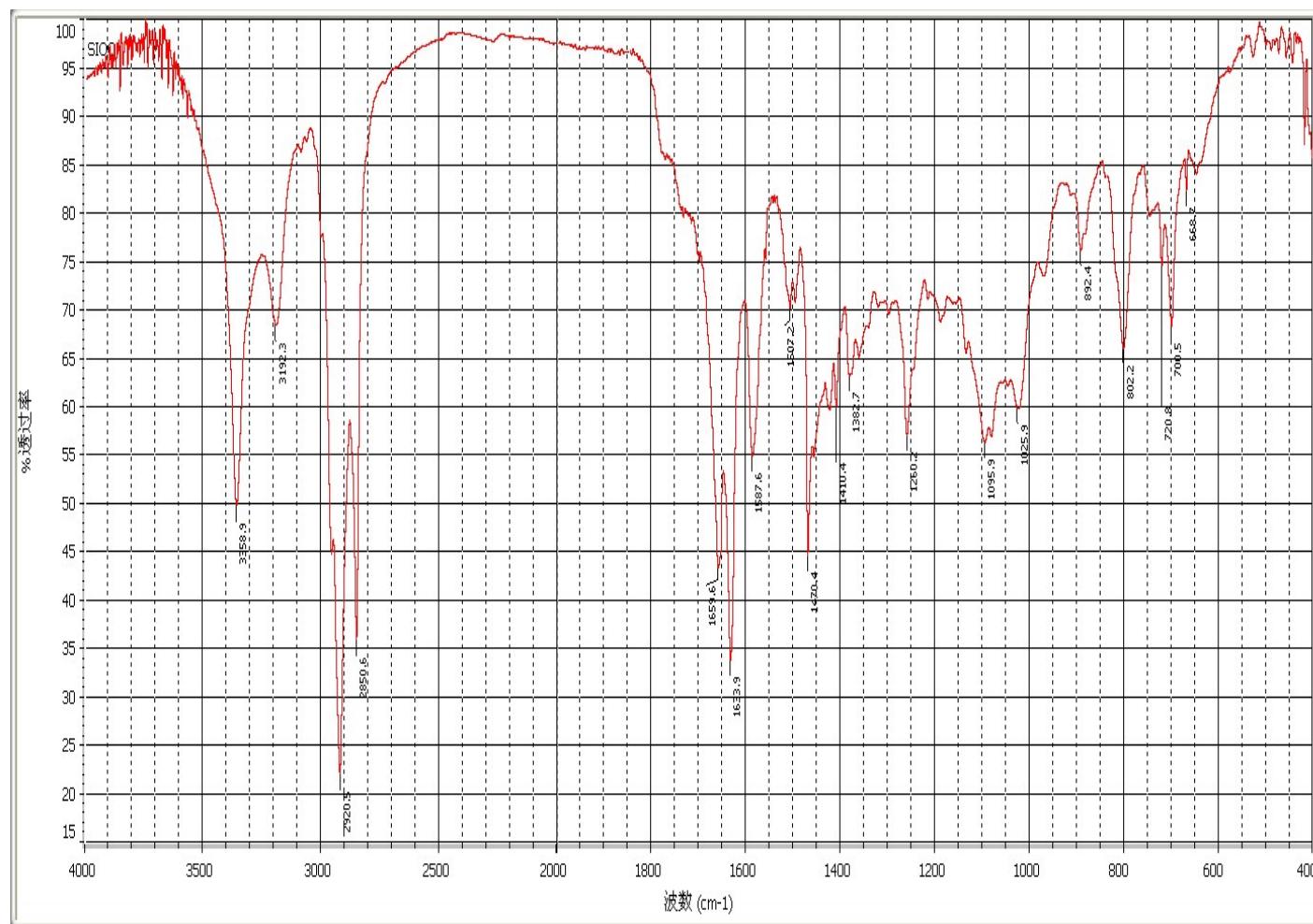


Figure S87. IR spectrum of Compound 9.

Single Mass Analysis

Tolerance = 10.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

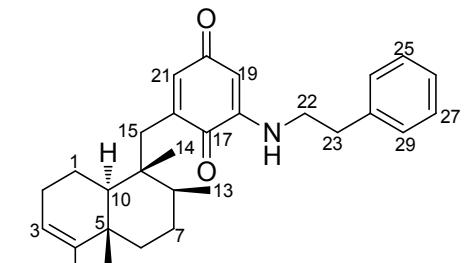
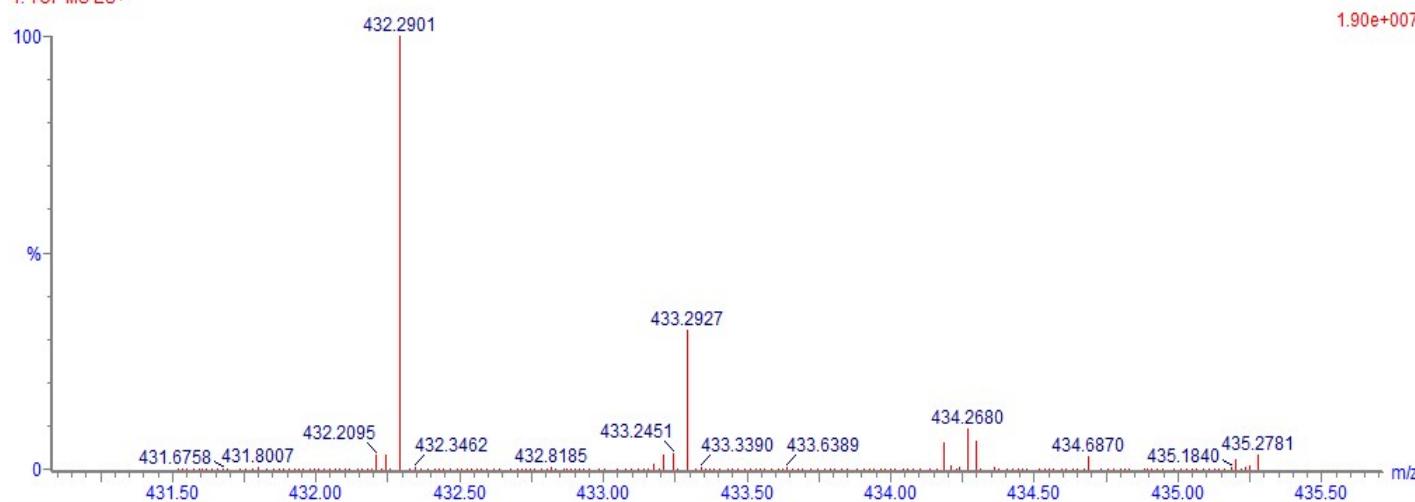
1020 formula(e) evaluated with 5 results within limits (up to 50 closest results for each mass)

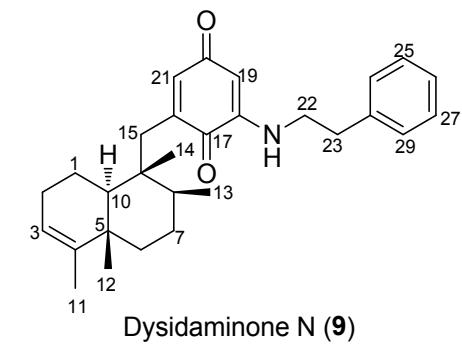
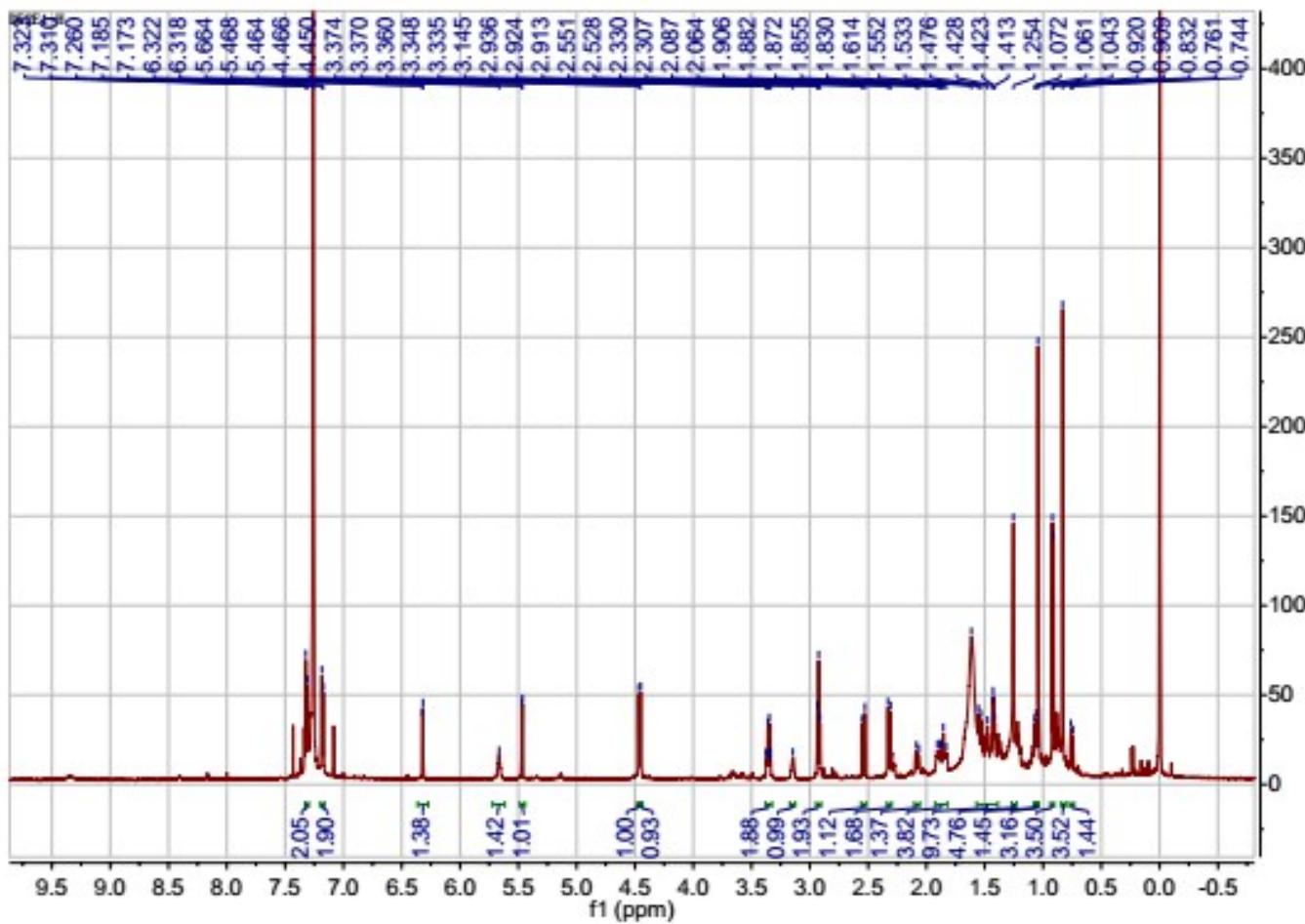
Elements Used:

Mass	Calc. Mass	mDa	PPM	DBE	Formula	i-FIT	i-FIT Norm	Fit Conf %	C	H	N	O	23Na	
432.2901	432.2903	-0.2	-0.5	11.5	C29 H38 N O2	2047.5	0.046	95.53	29	38	1	2		
	432.2921	-2.0	-4.6	-1.5	C17 H42 N3 O9	2057.3	9.819	0.01	17	42	3	9		
	432.2878	2.3	5.3	8.5	C27 H39 N O2 23Na	2050.7	3.165	4.22	27	39	1	2	1	
	432.2937	-3.6	-8.3	-0.5	C20 H43 N O7 23Na	2056.2	8.726	0.02	20	43	1	7	1	
	432.2862	3.9	9.0	7.5	C24 H38 N3 O4	2053.6	6.071	0.23	24	38	3	4		

20170823_DE2E1 45 (0.218) Cm (27:99)

1: TOF MS ES+

**Figure S88.** HRESIMS spectrum of Compound 9.



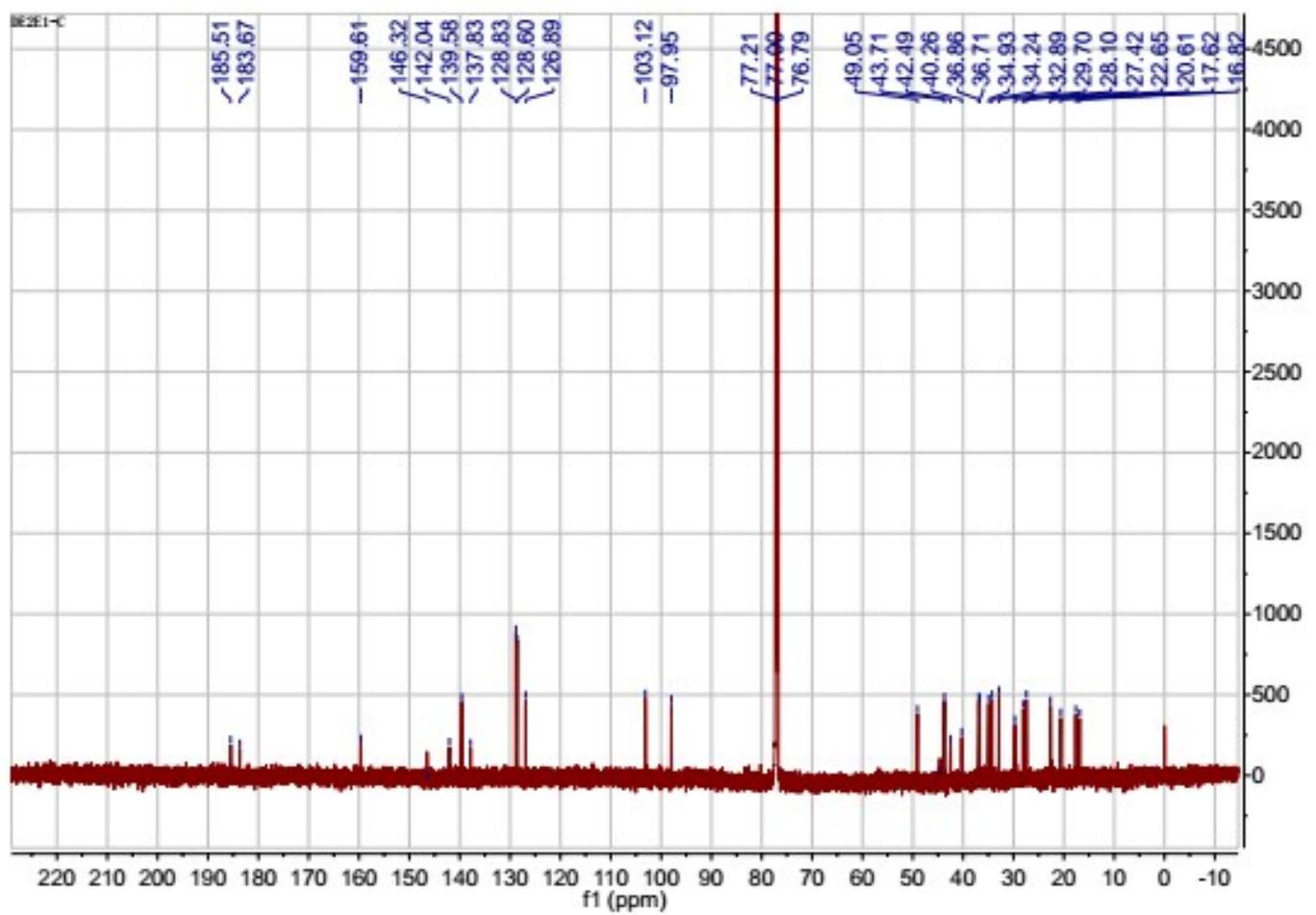


Figure S90. ^{13}C NMR spectrum of Compound **9** in CDCl_3 .

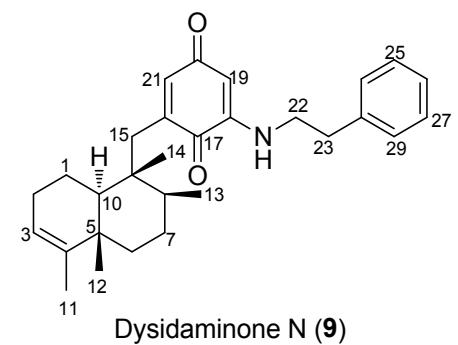
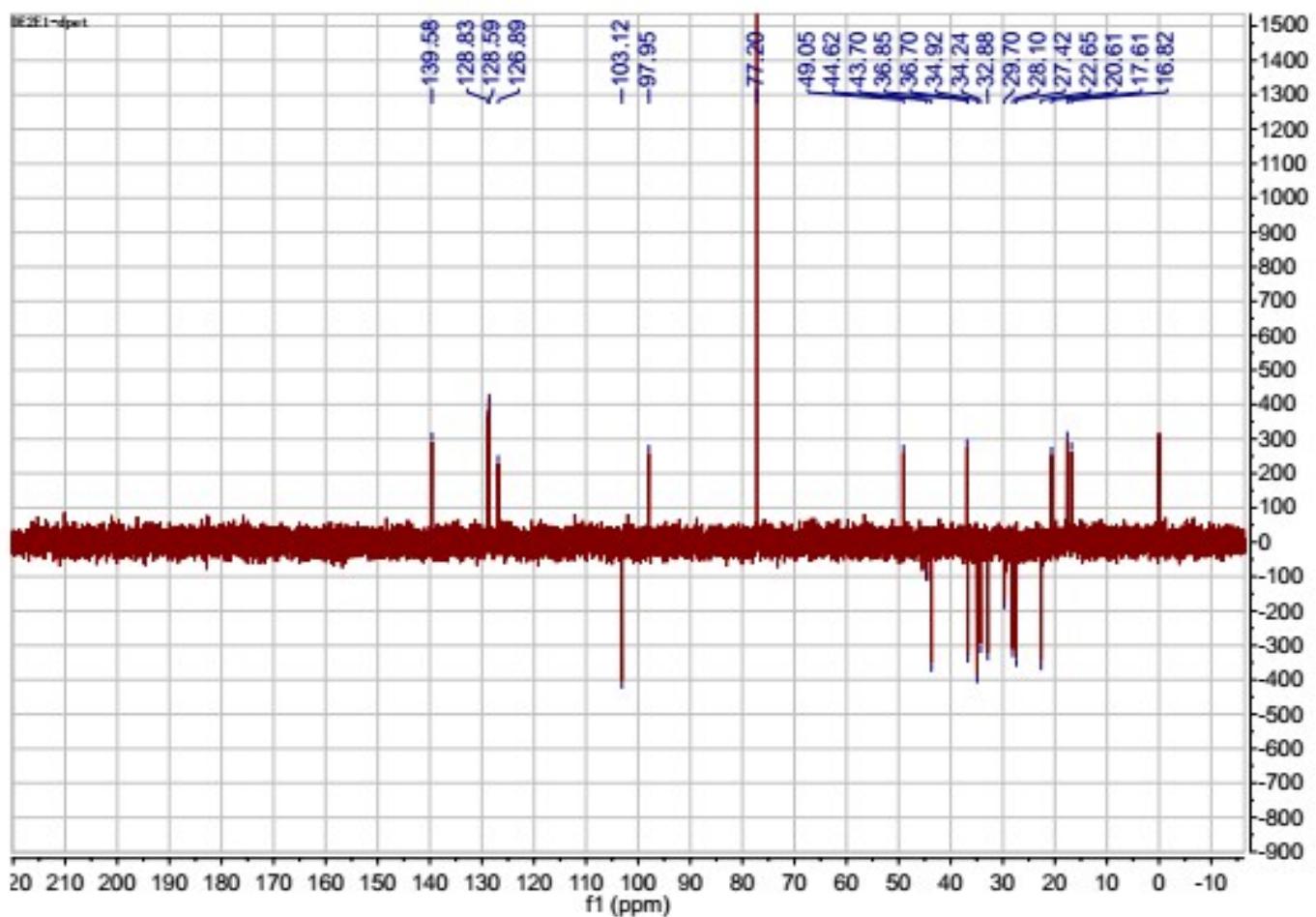


Figure S91. DEPT135 spectrum of Compound 9 in CDCl₃.

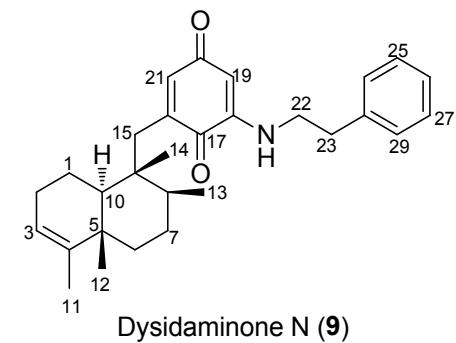
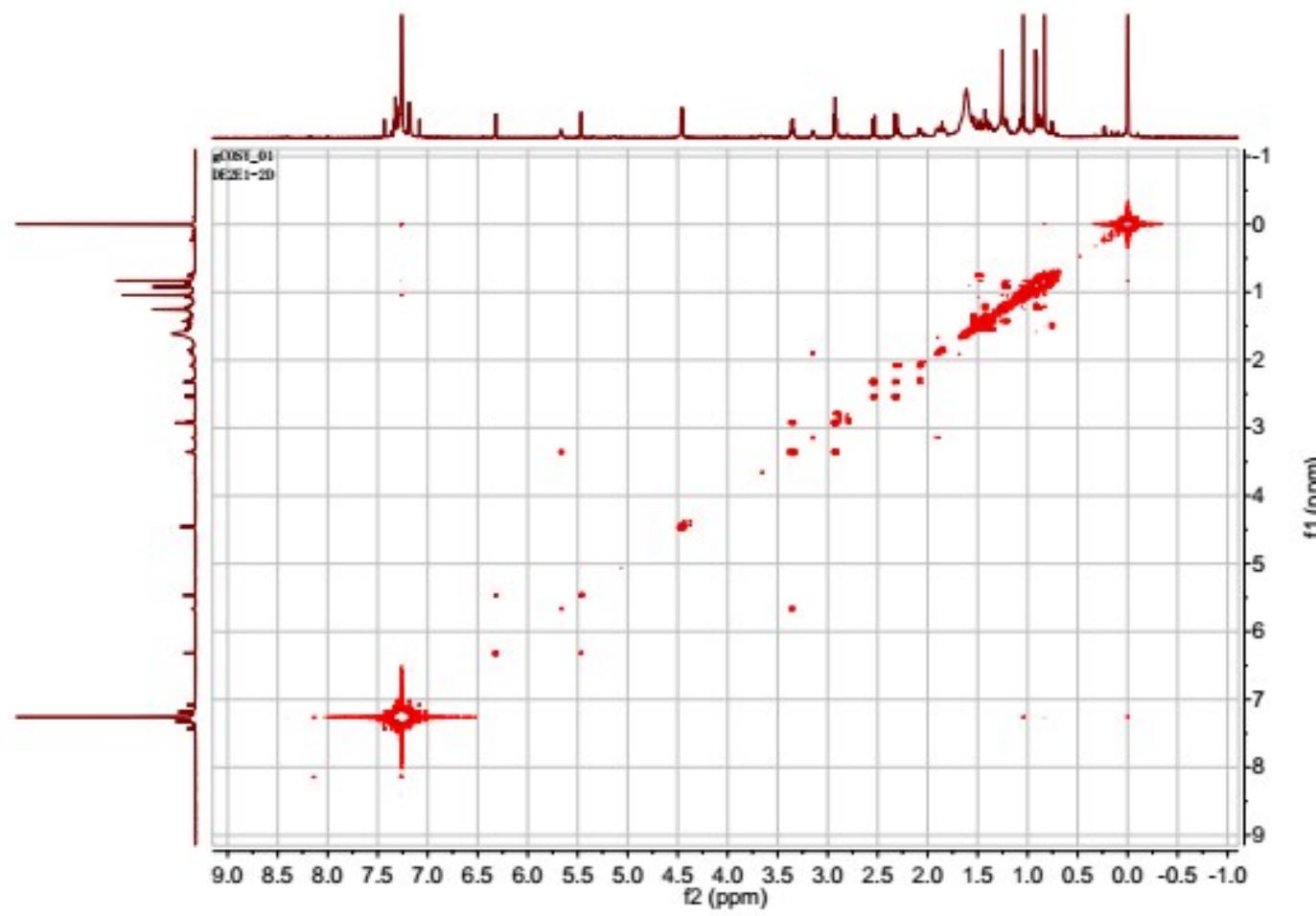


Figure S92. ^1H - ^1H COSY spectrum of Compound **9** in CDCl_3 .

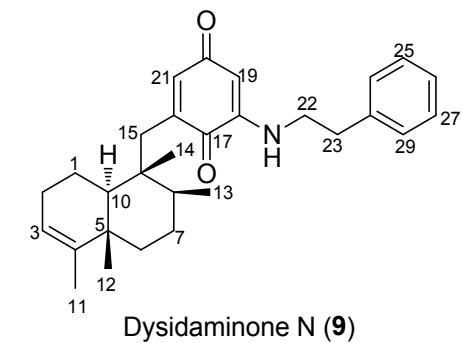
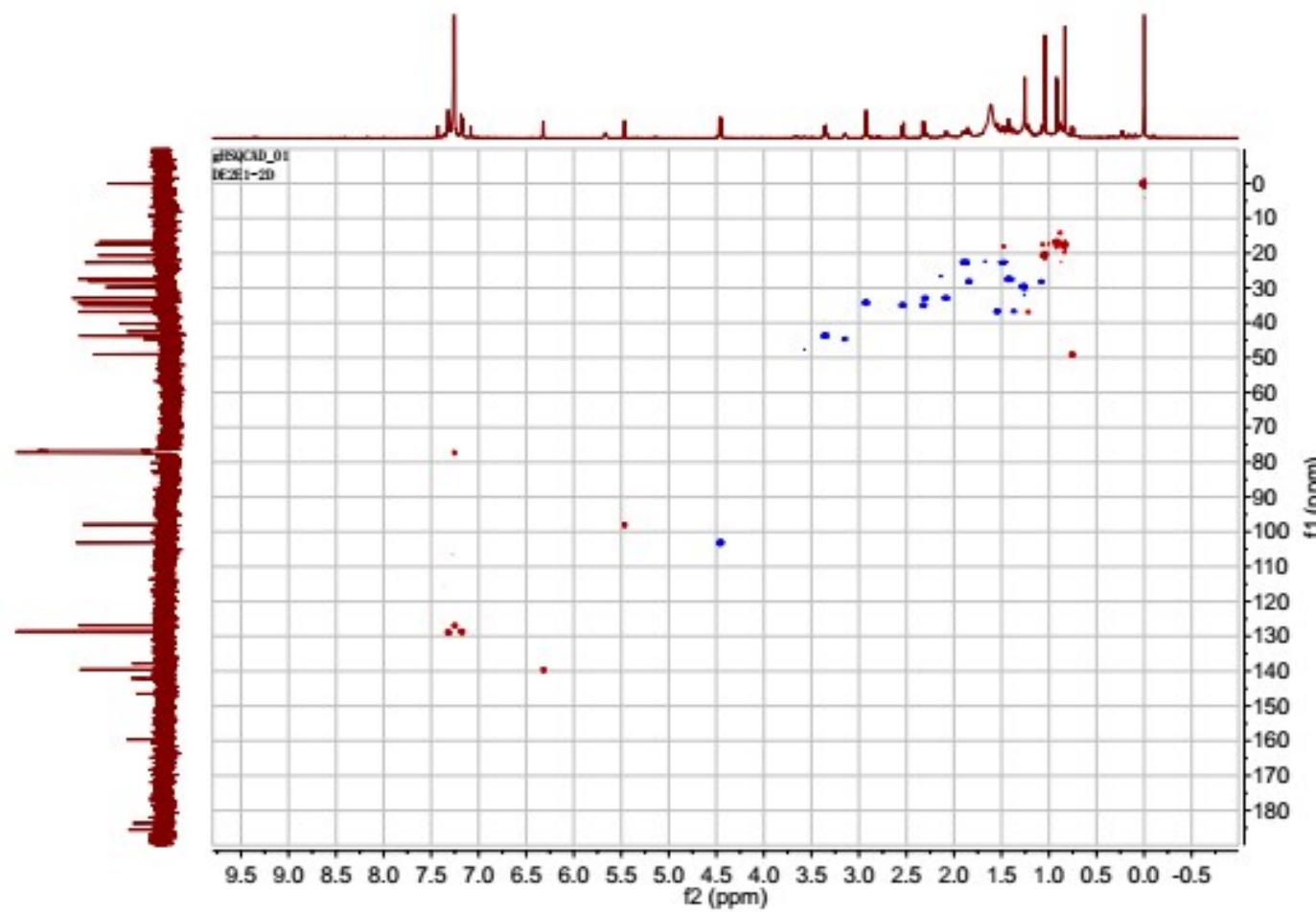


Figure S93. HSQC spectrum of Compound **9** in CDCl_3 .

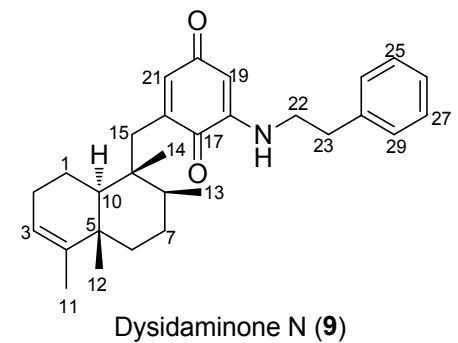
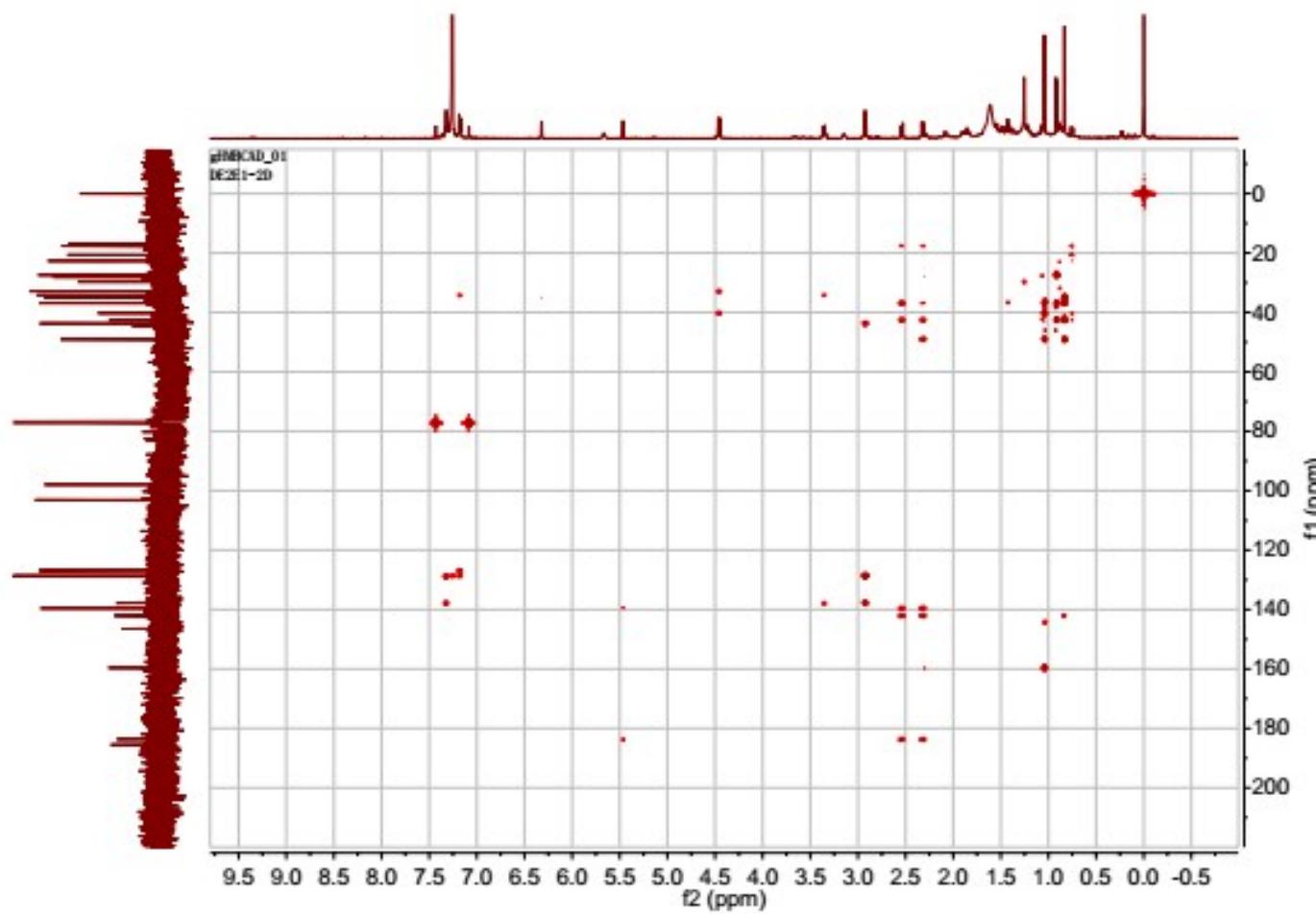


Figure S94. HMBC spectrum of Compound **9** in CDCl_3 .

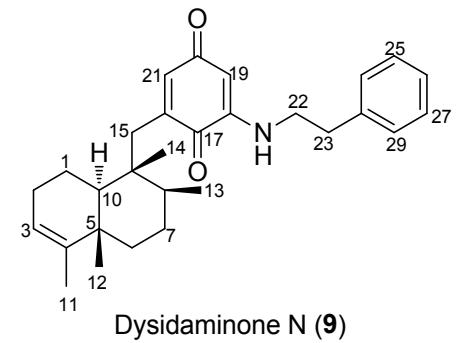
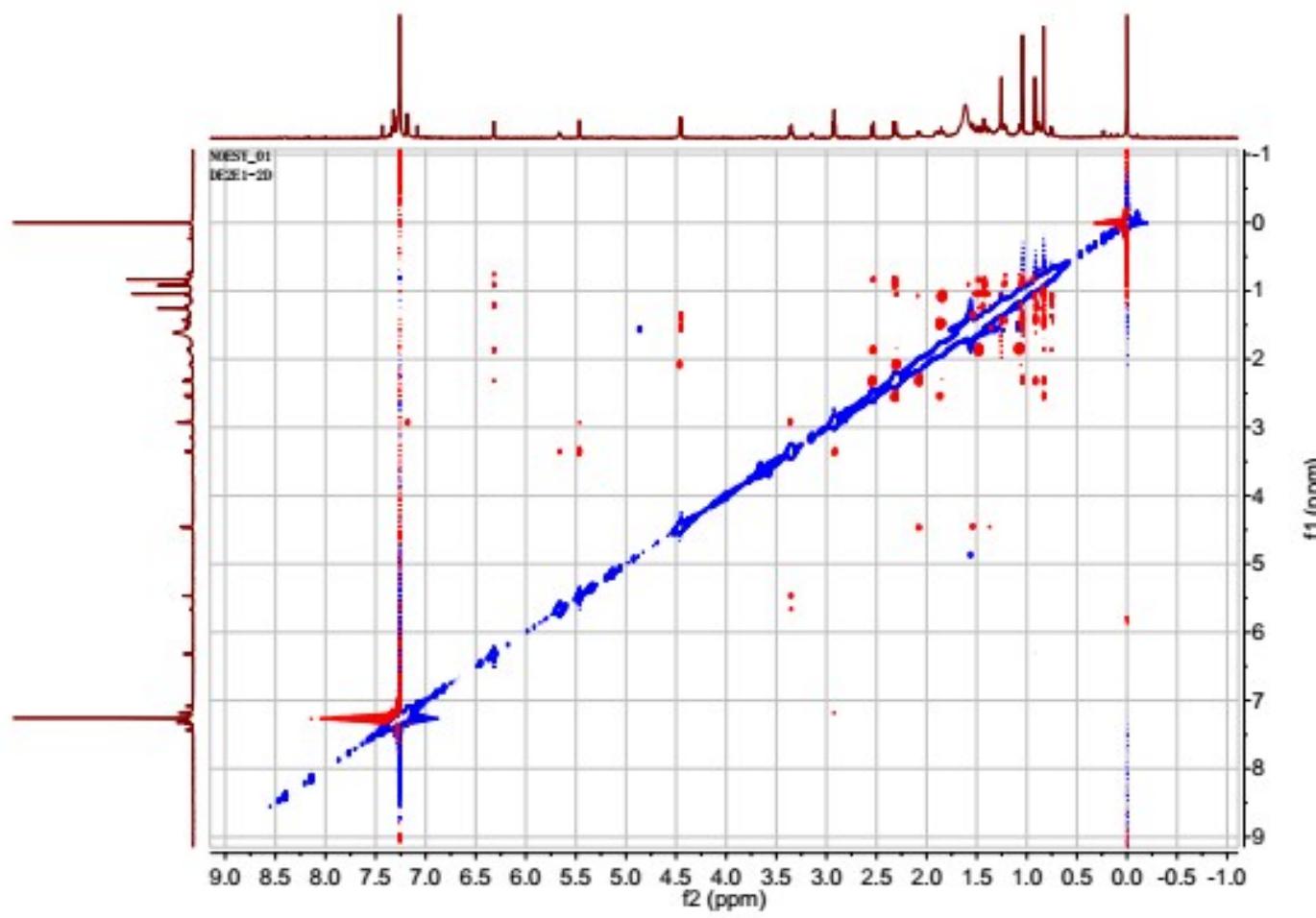


Figure S95. NOESY spectrum of Compound **9** in CDCl_3 .

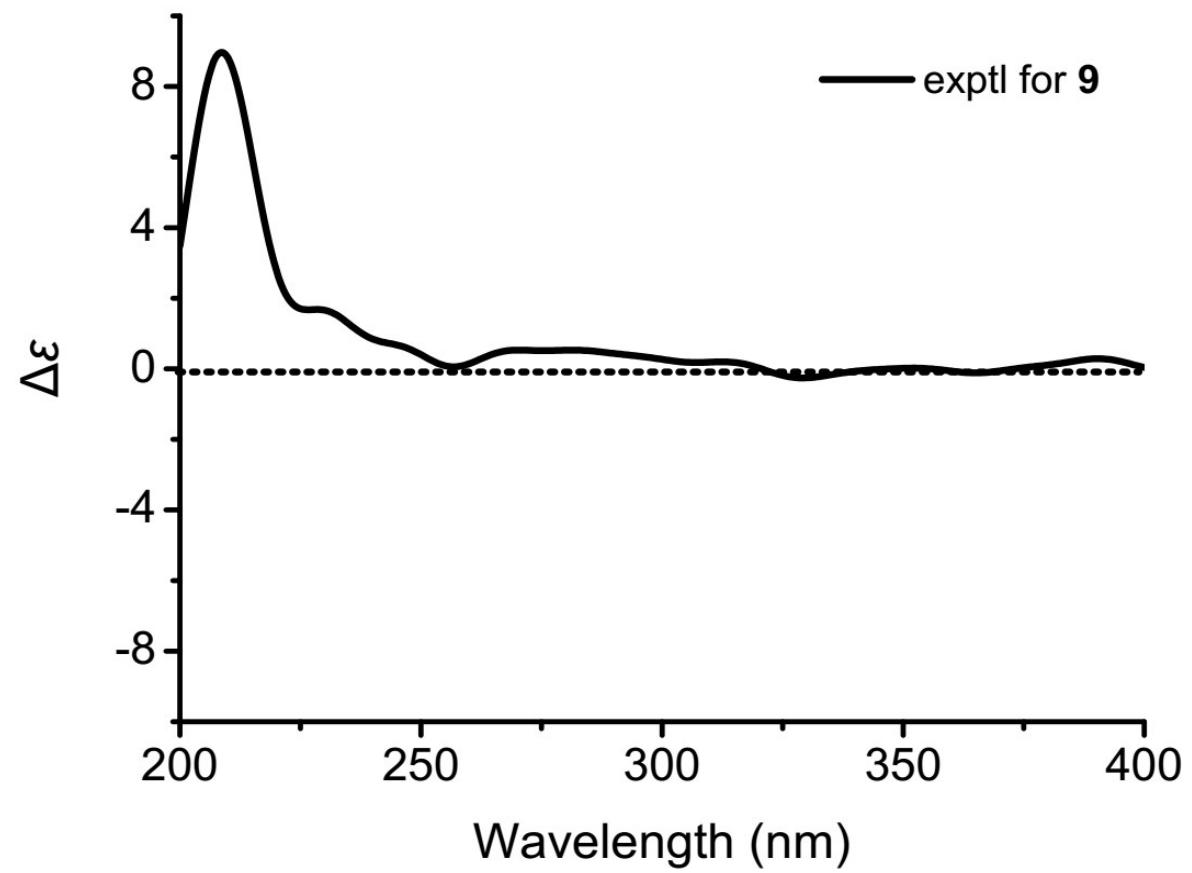
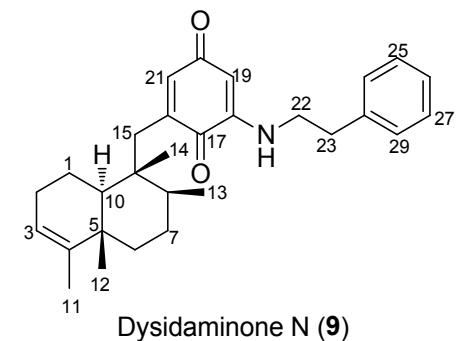


Figure S96. CD spectrum of Compound 9 in CDCl_3 .



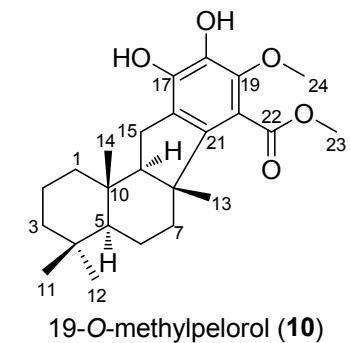
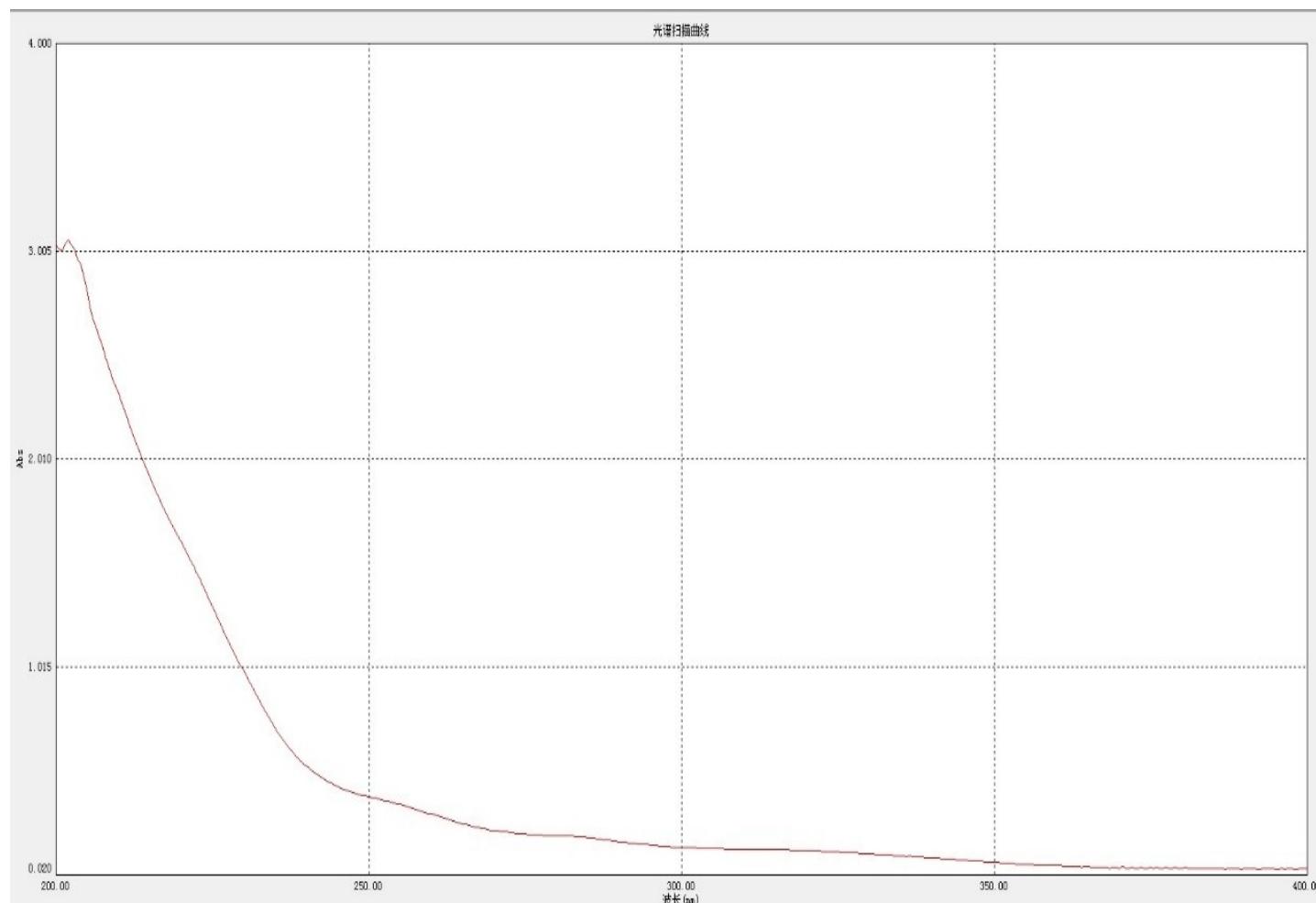
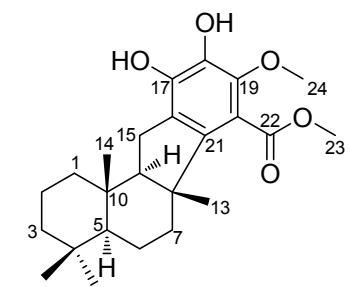
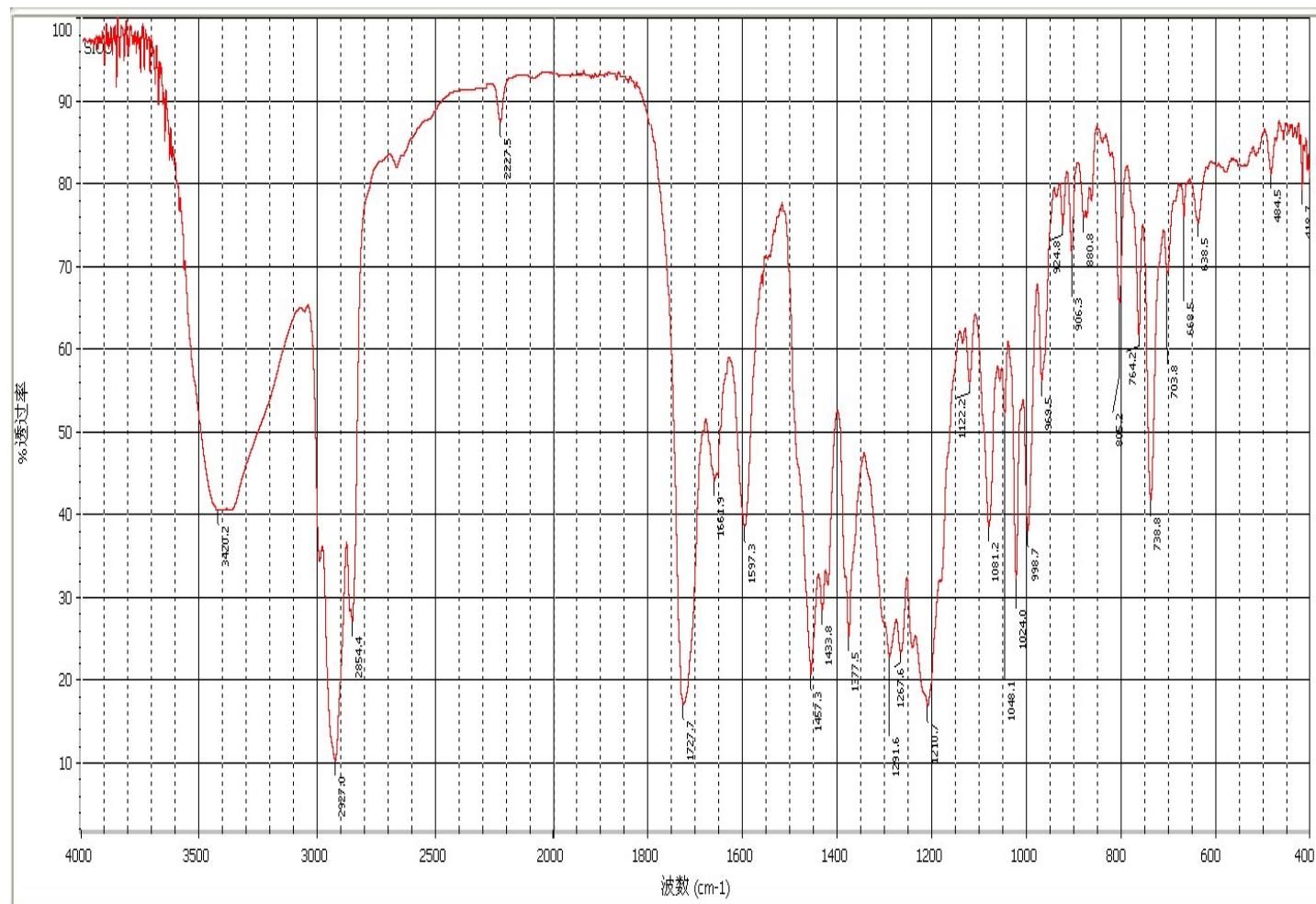


Figure S97. UV spectrum of Compound **10** in MeOH.



19-O-methylpelorol (**10**)

Figure S98. IR spectrum of Compound **10**.

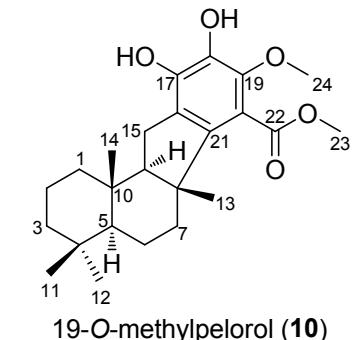
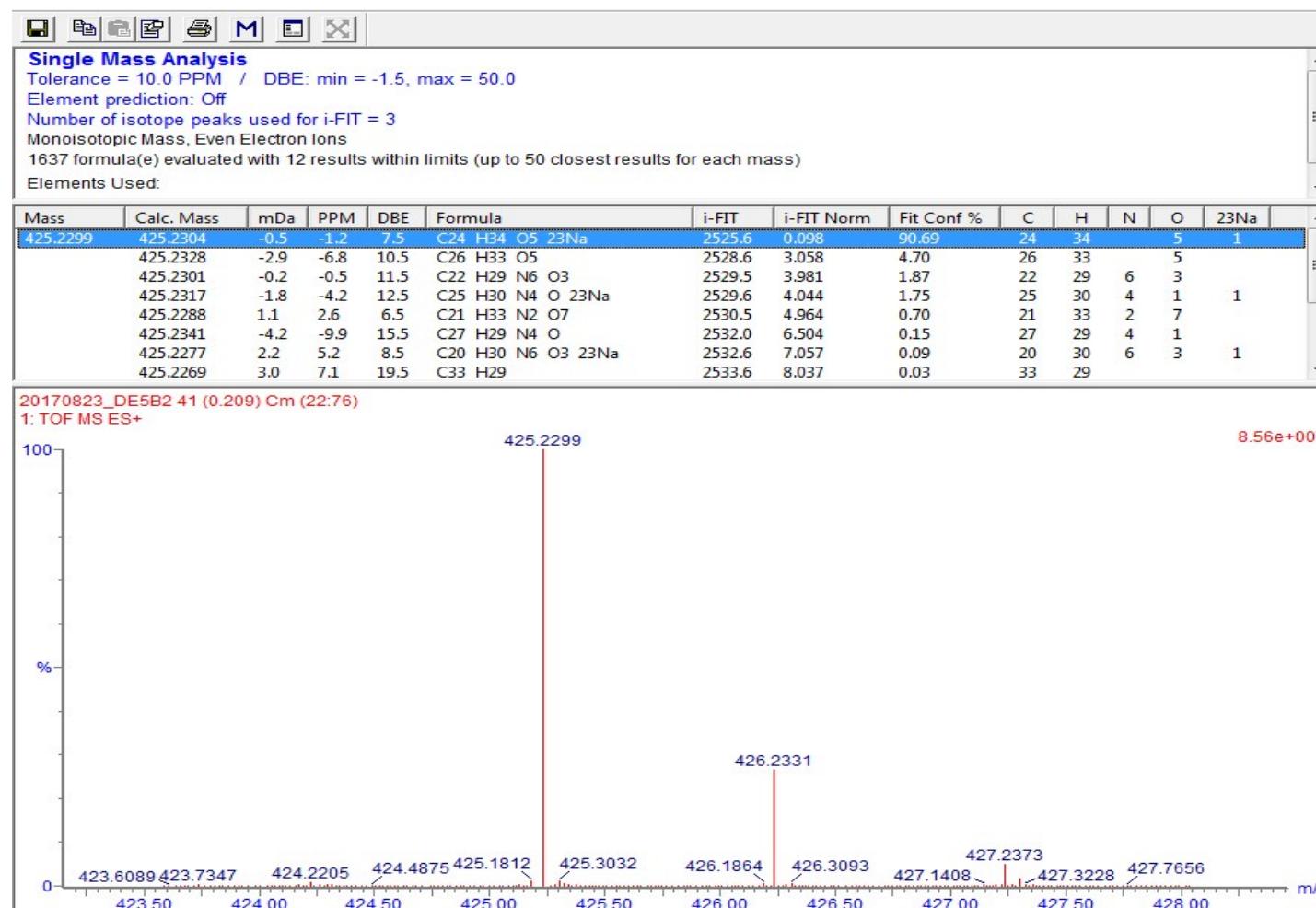


Figure S99. HRESIMS spectrum of Compound **10**.

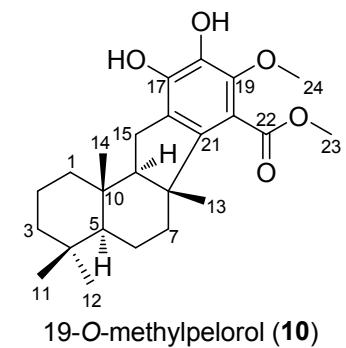
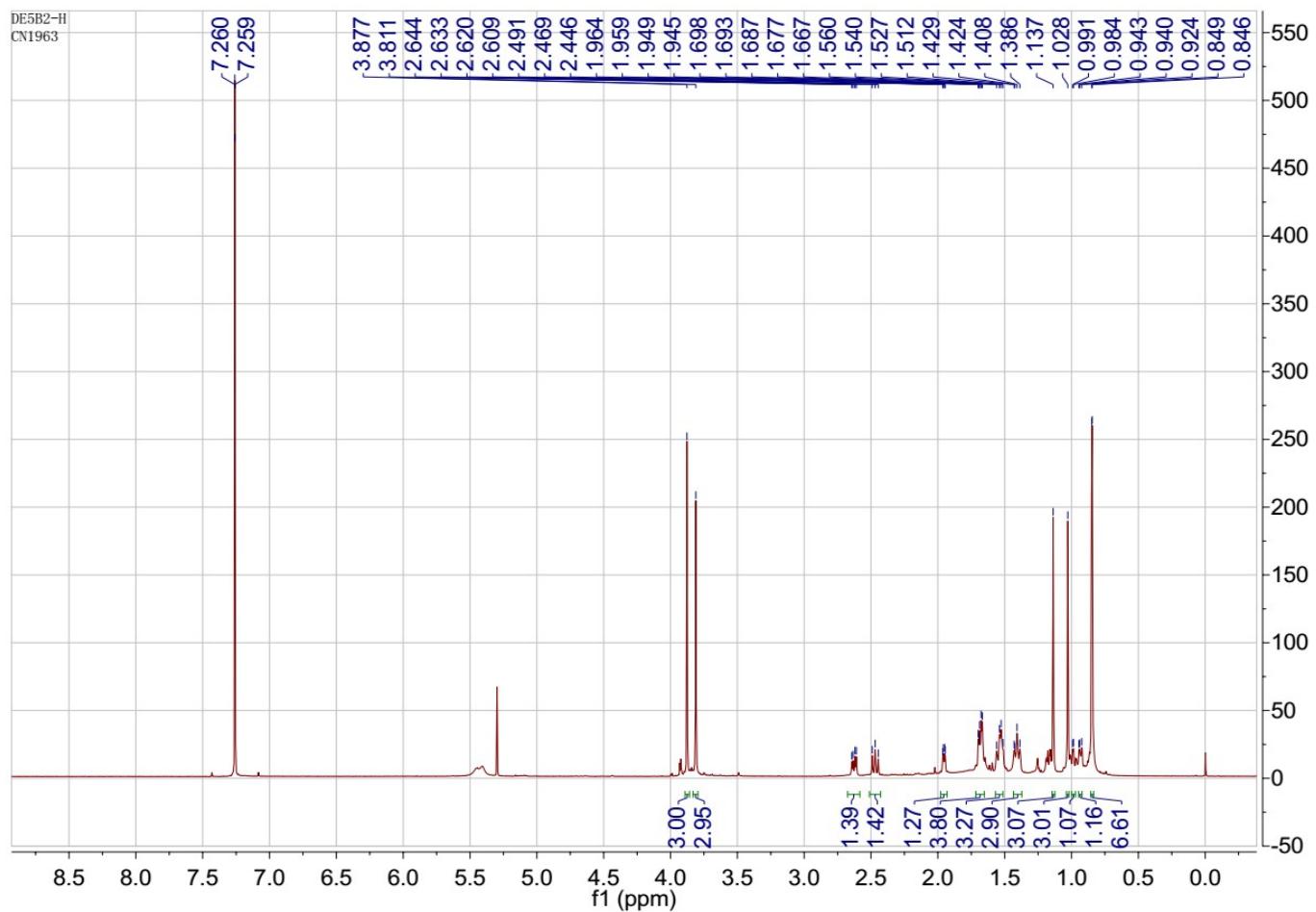


Figure S100. ^1H NMR spectrum of Compound **10** in CDCl_3 .

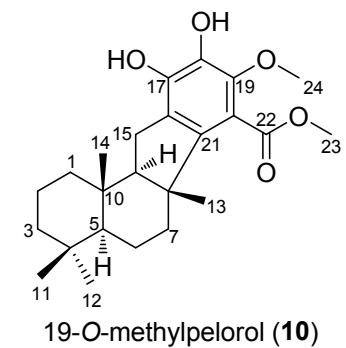
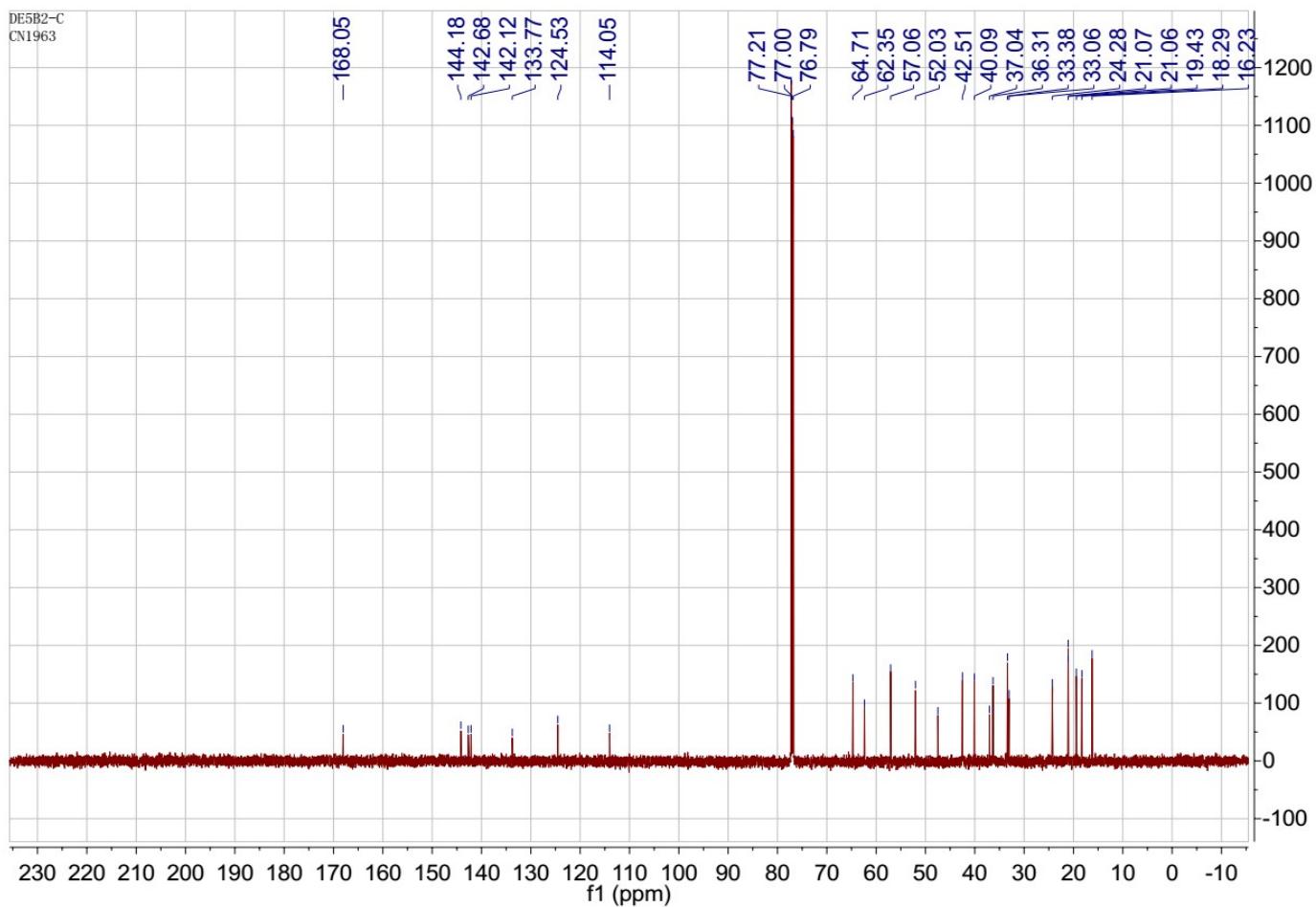
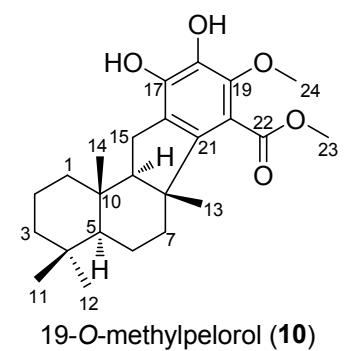
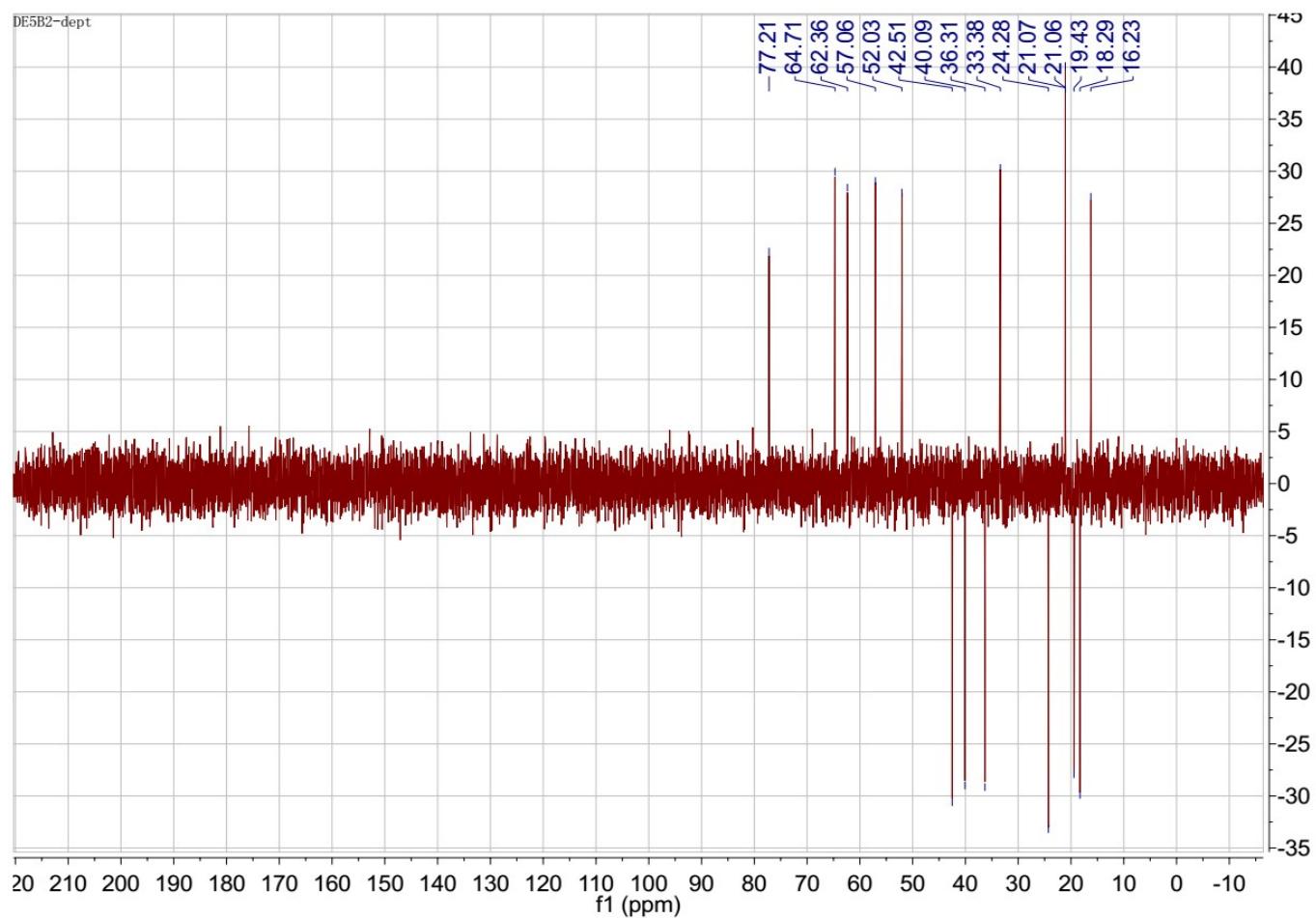


Figure S101. ^{13}C NMR spectrum of Compound **10** in CDCl_3 .



19-O-methylpelorol (**10**)

Figure S102. DEPT135 spectrum of Compound **10** in CDCl_3 .

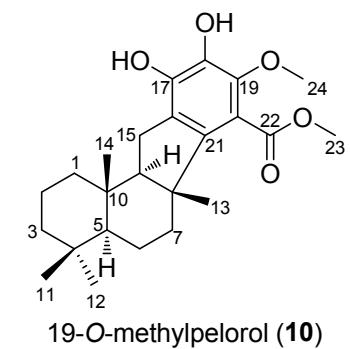
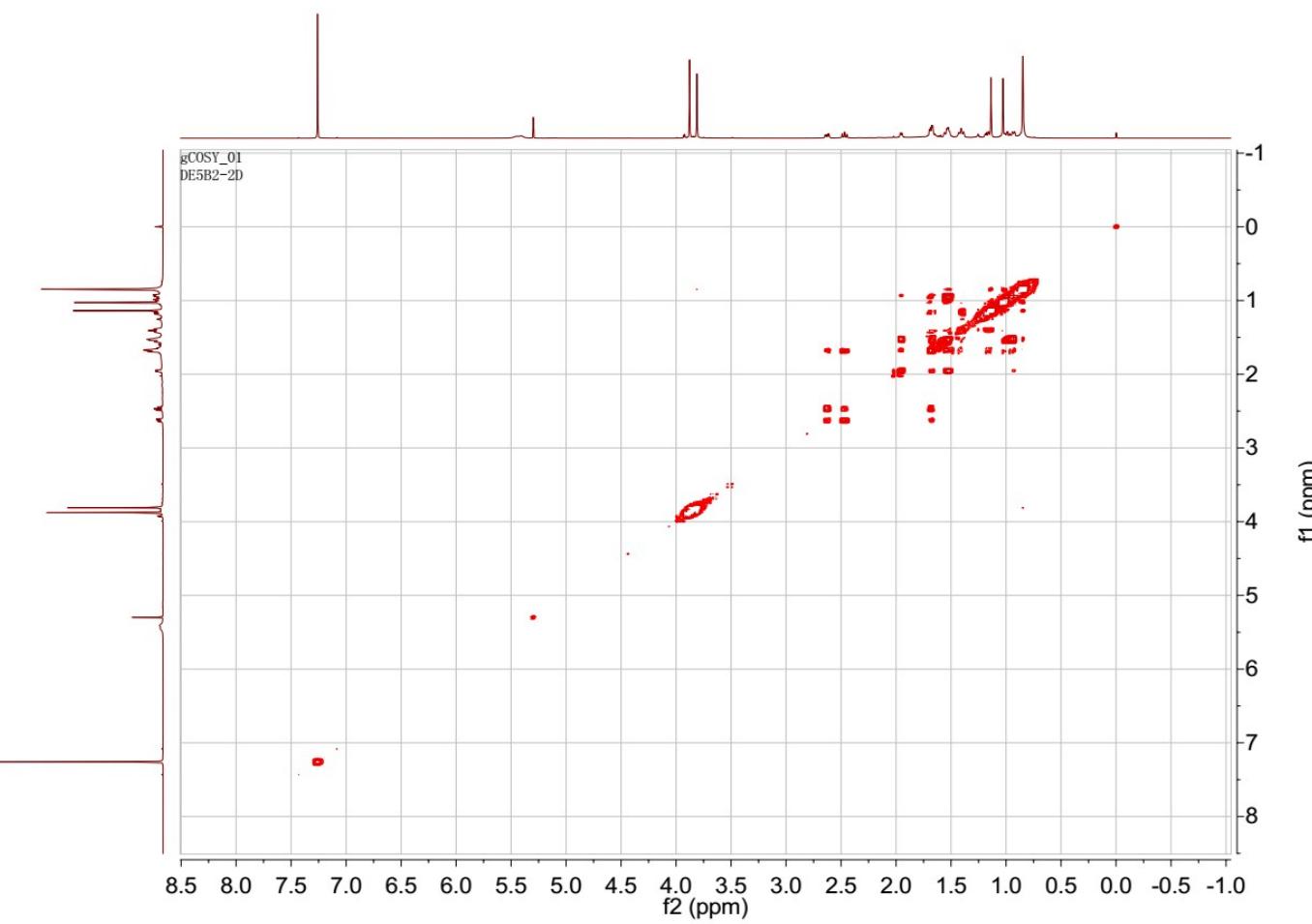


Figure S103. ^1H - ^1H COSY spectrum of Compound **10** in CDCl_3 .

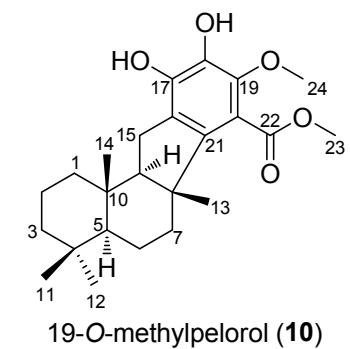
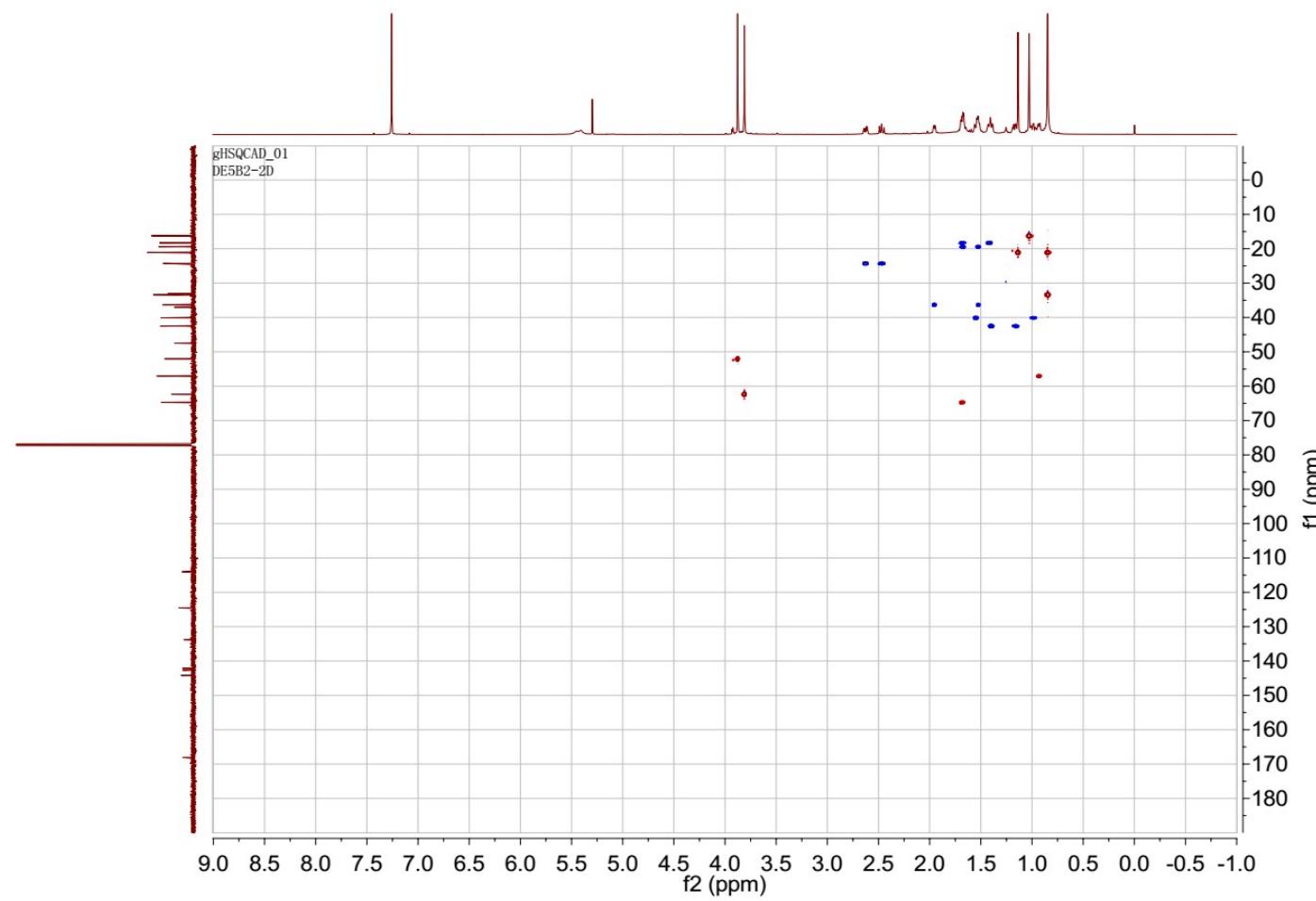


Figure S104. HSQC spectrum of Compound **10** in CDCl₃.

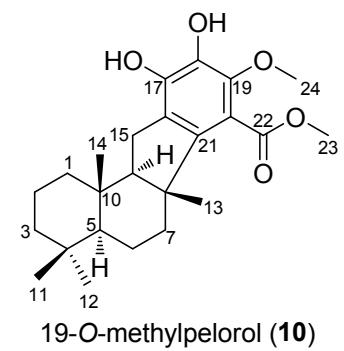
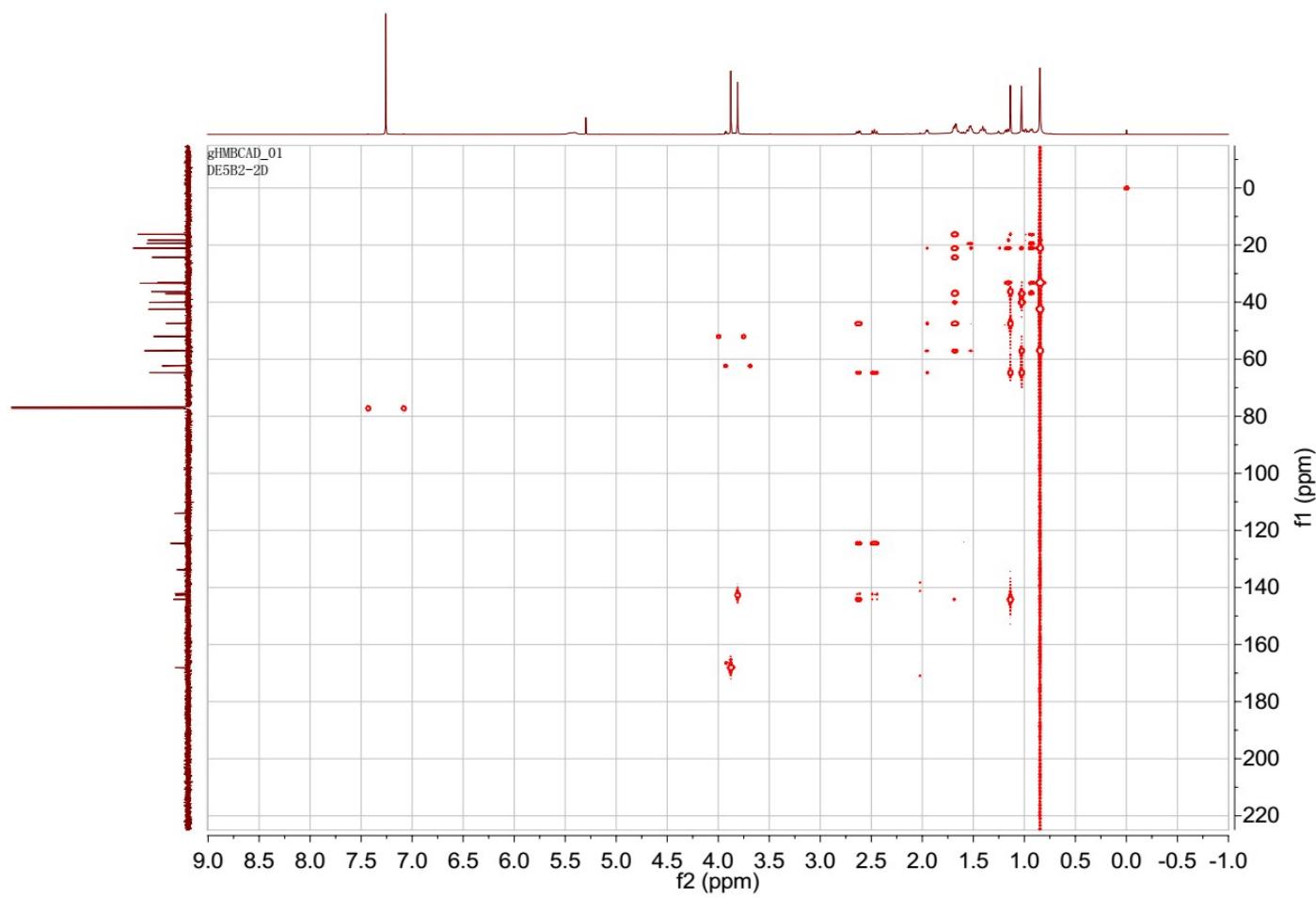


Figure S105. HSQC spectrum of Compound **10** in CDCl_3 .

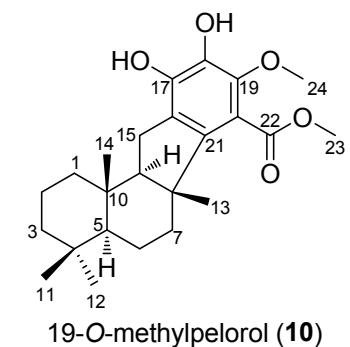
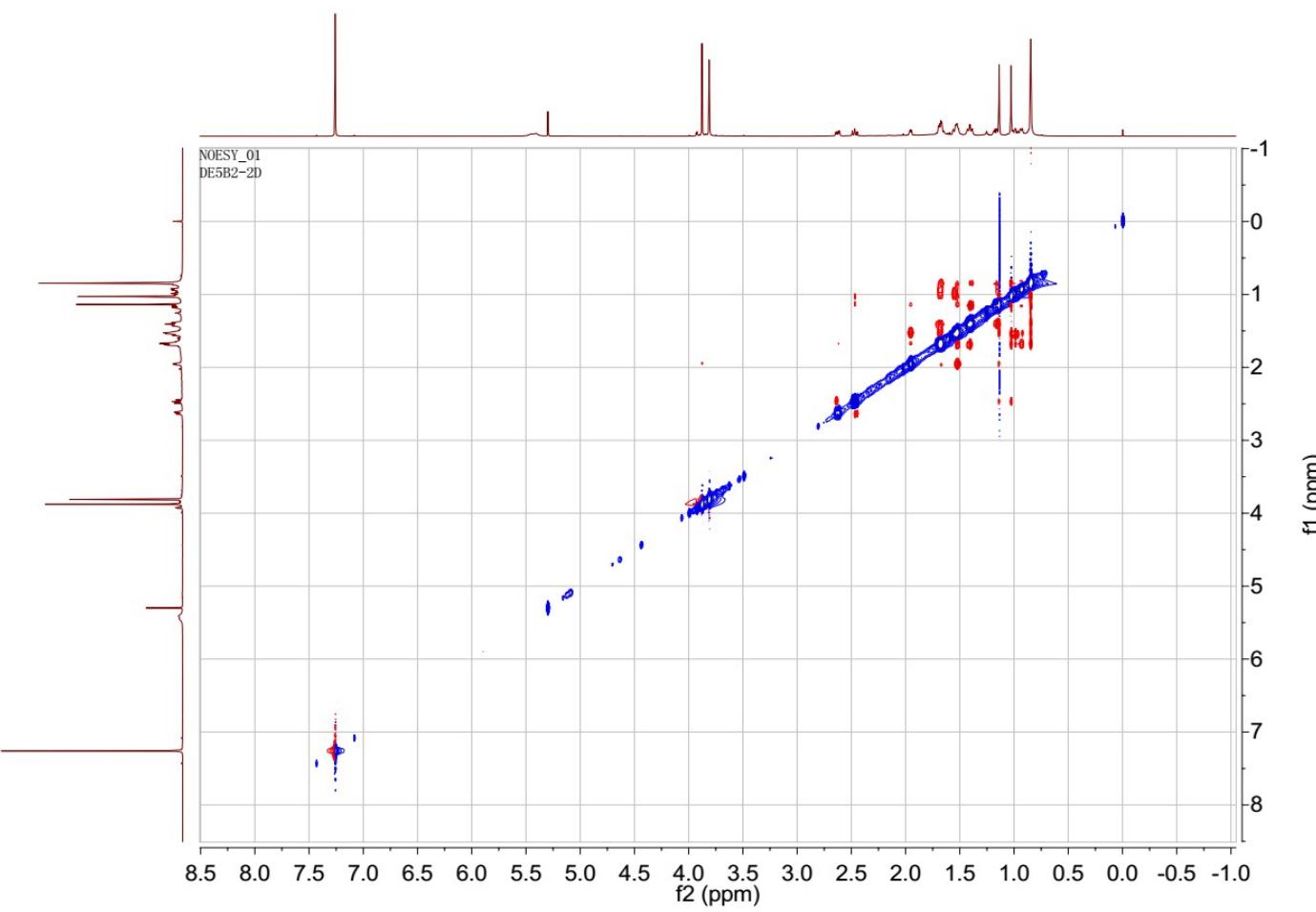


Figure S106. NOESY spectrum of Compound **10** in CDCl_3 .

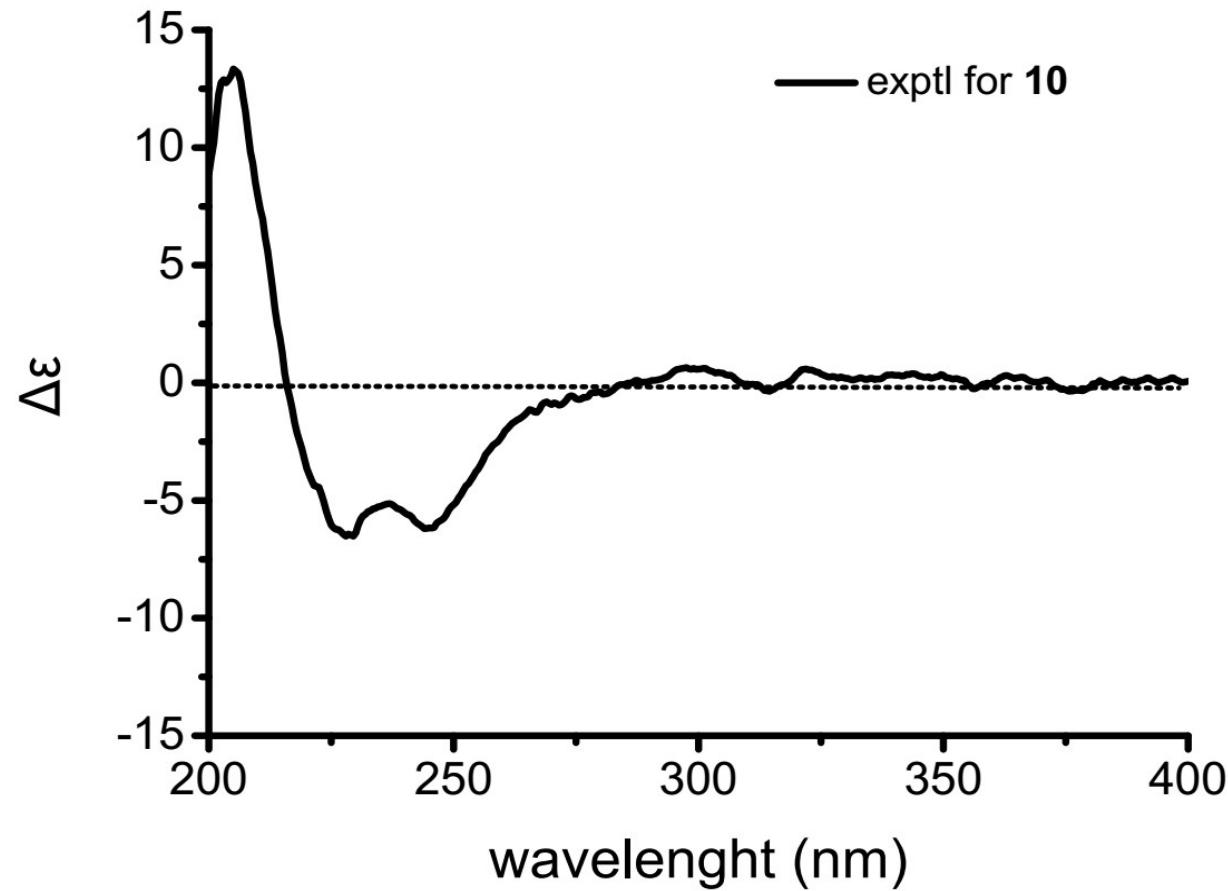


Figure S107. CD spectrum of Compound **10** in MeOH.

