

Electronic Supplementary Information for

New Rearranged Limonoids from *Walsura cochinchinensis*

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Table S1. X-ray crystallographic data for walsucochinoid C (**1**)

Table S2. X-ray crystallographic data for walsucochinoid L (**10**)

Figure S1. ^1H NMR spectrum of walsucochinoid C (**1**) in CDCl_3

Figure S2. ^{13}C NMR spectrum of walsucochinoid C (**1**) in CDCl_3

Figure S3. HSQC spectrum of walsucochinoid C (**1**) in CDCl_3

Figure S4. HMBC spectrum of walsucochinoid C (**1**) in CDCl_3

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Figure S21. ESI(+)MS spectrum of walsucochinoid E (**3**)

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Figure S24. ^1H NMR spectrum of walsucochinoid F (**4**) in CDCl_3

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Figure S26. ROESY spectrum of walsucochinoid F (**4**) in CDCl₃

Figure S27. ESI(+)MS spectrum of walsucochinoid F (**4**)

Figure S28. ESI(–)MS spectrum of walsucochinoid F (**4**)

Figure S29. HRESI(–)MS spectrum of walsucochinoid F (**4**)

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Figure S31. ¹H NMR spectrum of walsucochinoid G (**5**) in CDCl₃

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Figure S33. HSQC spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S34. HMBC spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S35. ROESY spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S36. ESI(+)MS spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S37. ESI(–)MS spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S38. HRESI(–)MS spectrum of walsucochinoid G (**5**) in CDCl₃

Figure S39. IR spectrum of walsucochinoid G (**5**)

Figure S40. ¹H NMR spectrum of walsucochinoid H (**6**) in CDCl₃

Figure S41. ¹³C NMR spectrum of walsucochinoid H (**6**) in CDCl₃

Figure S42. HSQC spectrum of walsucochinoid H (**6**) in CDCl₃

Figure S43. HMBC spectrum of walsucochinoid H (**6**) in CDCl₃

Figure S44. NOESY spectrum of walsucochinoid H (**6**) in CDCl₃

Figure S45. ESI(+)MS spectrum of walsucochinoid H (**6**)

Figure S46. ESI(–)MS spectrum of walsucochinoid H (**6**)

Figure S47. HRESI(–)MS spectrum of walsucochinoid H (**6**)

Figure S48. IR spectrum of walsucochinoid H (**6**)

Figure S49. ¹H NMR spectrum of walsucochinoid I (**7**) in CDCl₃

Figure S50. ¹³C NMR spectrum of walsucochinoid I (**7**) in CDCl₃

Figure S51. HSQC spectrum of walsucochinoid I (**7**) in CDCl₃

Figure S52. HMBC spectrum of walsucochinoid I (**7**) in CDCl₃

Figure S53. ROESY spectrum of walsucochinoid I (**7**) in CDCl₃

Figure S54. ESI(+)MS spectrum of walsucochinoid I (**7**)

Figure S55. ESI(–)MS spectrum of walsucochinoid I (**7**)

Figure S56. HRESI(–)MS spectrum of walsucochinoid I (**7**)

Figure S57. IR spectrum of walsucochinoid I (**7**)

Figure S58. ¹H NMR spectrum of walsucochinoid J (**8**) in CDCl₃

Figure S59. ¹³C NMR spectrum of walsucochinoid J (**8**) in CDCl₃

Figure S60. HSQC spectrum of walsucochinoid J (**8**) in CDCl₃

Figure S61. HMBC spectrum of walsucochinoid J (**8**) in CDCl₃

Figure S62. ROESY spectrum of walsucochinoid J (**8**) in CDCl₃

Figure S63. ESI(+)MS spectrum of walsucochinoid J (**8**)

Figure S64. ESI(–)MS spectrum of walsucochinoid J (**8**)

Figure S65. HRESI(–)MS spectrum of walsucochinoid J (**8**)

Figure S66. IR spectrum of walsucochinoid J (**8**)

Figure S67. ^1H NMR spectrum of walsucochinoid K (**9**) in CDCl_3

Figure S68. ^{13}C NMR spectrum of walsucochinoid K (**9**) in CDCl_3

Figure S69. HSQC spectrum of walsucochinoid K (**9**) in CDCl_3

Figure S70. HMBC spectrum of walsucochinoid K (**9**) in CDCl_3

Figure S71. ROESY spectrum of walsucochinoid K (**9**) in CDCl_3

Figure S72. ESI(+)MS spectrum of walsucochinoid K (**9**)

Figure S73. ESI(–)MS spectrum of walsucochinoid K (**9**)

Figure S74. HRESI(–)MS spectrum of walsucochinoid K (**9**)

Figure S75. IR spectrum of walsucochinoid K (**9**)

Figure S76. ^1H NMR spectrum of walsucochinoid L (**10**) in CDCl_3

Figure S77. ^{13}C NMR spectrum of walsucochinoid L (**10**) in CDCl_3

Figure S78. HSQC spectrum of walsucochinoid L (**10**) in CDCl_3

Figure S79. HMBC spectrum of walsucochinoid L (**10**) in CDCl_3

Figure S80. ROESY spectrum of walsucochinoid L (**10**) in CDCl_3

Figure S81. ESI(+)MS spectrum of walsucochinoid L (**10**)

Figure S82. ESI(–)MS spectrum of walsucochinoid L (**10**)

Figure S83. HRESI(–)MS spectrum of walsucochinoid L (**10**)

Figure S84. IR spectrum of walsucochinoid L (**10**)

Figure S85. ^1H NMR spectrum of walsucochinoid M (**11**) in CDCl_3

Figure S86. ^{13}C NMR spectrum of walsucochinoid M (**11**) in CDCl_3

Figure S87. HSQC spectrum of walsucochinoid M (**11**) in CDCl_3

Figure S88. HMBC spectrum of walsucochinoid M (**11**) in CDCl_3

Figure S89. ROESY spectrum of walsucochinoid M (**11**) in CDCl_3

Figure S90. ESI(+)MS spectrum of walsucochinoid M (**11**)

Figure S91. HRESI(+)MS spectrum of walsucochinoid M (**11**)

Figure S92. IR spectrum of walsucochinoid M (**11**)

Figure S93. ^1H NMR spectrum of walsucochinoid N (**12**) in CDCl_3

Figure S94. ^{13}C NMR spectrum of walsucochinoid N (**12**) in CDCl_3

Figure S95. HSQC spectrum of walsucochinoid N (**12**) in CDCl_3

Figure S96. HMBC spectrum of walsucochinoid N (**12**) in CDCl_3

Figure S97. ROESY spectrum of walsucochinoid N (**12**) in CDCl_3

Figure S98. ESI(+)MS spectrum of walsucochinoid N (**12**)

Figure S99. HRESI(+)MS spectrum of walsucochinoid N (**12**)

Figure S100. IR spectrum of walsucochinoid N (**12**)

Figure S101. ^1H NMR spectrum of walsucochinoid O (**13**) in CDCl_3

Figure S102. ^{13}C NMR spectrum of walsucochinoid O (**13**) in CDCl_3

Figure S103. HSQC spectrum of walsucochinoid O (**13**) in CDCl_3

Figure S104. HMBC spectrum of walsucochinoid O (**13**) in CDCl_3

Figure S105. ROESY spectrum of walsucochinoid O (**13**) in CDCl₃

Figure S106. ESI(+)MS spectrum of walsucochinoid O (**13**)

Figure S107. ESI(–)MS spectrum of walsucochinoid O (**13**)

Figure S108. HRESI(+)MS spectrum of walsucochinoid O (**13**)

Figure S109. IR spectrum of walsucochinoid O (**13**)

Figure S110. ¹H NMR spectrum of walsucochinoid P (**14**) in CDCl₃

Figure S111. ¹³C NMR spectrum of walsucochinoid P (**14**) in CDCl₃

Figure S112. HSQC spectrum of walsucochinoid P (**14**) in CDCl₃

Figure S113. ROESY spectrum of walsucochinoid P (**14**) in CDCl₃

Figure S114. ESI(+)MS spectrum of walsucochinoid P (**14**)

Figure S115. ESI(–)MS spectrum of walsucochinoid P (**14**)

Figure S116. HRESI(+)MS spectrum of walsucochinoid P (**14**)

Figure S117. IR spectrum of walsucochinoid P (**14**)

Figure S118. ¹H NMR spectrum of walsucochinoid Q (**15**) in CDCl₃

Figure S119. ¹³C NMR spectrum of walsucochinoid Q (**15**) in CDCl₃

Figure S120. HSQC spectrum of walsucochinoid Q (**15**) in CDCl₃

Figure S121. HMBC spectrum of walsucochinoid Q (**15**) in CDCl₃

Figure S122. ROESY spectrum of walsucochinoid Q (**15**) in CDCl₃

Figure S123. ESI(+)MS spectrum of walsucochinoid Q (**15**)

Figure S124. ESI(–)MS spectrum of walsucochinoid Q (**15**)

Figure S125. HRESI(+)MS spectrum of walsucochinoid Q (**15**)

Figure S126. IR spectrum of walsucochinoid Q (**15**)

Figure S127. ¹H NMR spectrum of walsucochinoid R (**16**) in CDCl₃

Figure S128. ¹³C NMR spectrum of walsucochinoid R (**16**) in CDCl₃

Figure S129. HSQC spectrum of walsucochinoid R (**16**) in CDCl₃

Figure S130. HMBC spectrum of walsucochinoid R (**16**) in CDCl₃

Figure S131. ROESY spectrum of walsucochinoid R (**16**) in CDCl₃

Figure S132. ESI(+)MS spectrum of walsucochinoid R (**16**)

Figure S133. HRESI(+)MS spectrum of walsucochinoid R (**16**)

Figure S134. IR spectrum of walsucochinoid R (**16**)

Table S1. X-ray crystallographic data for walsucochinoid C (**1**).^a

Empirical formula	C ₂₇ H ₃₂ O ₄
Formula weight	420.53
Temperature	133(2) K
Wavelength	1.54178 Å
Crystal system	Orthorhombic
Space group	P2(1)2(1)2(1)
Unit cell dimensions	$a = 5.96350 (10) \text{ Å}, \alpha = 90^\circ$ $b = 13.7471 (3) \text{ Å}, \beta = 90^\circ$ $c = 28.1129 (6) \text{ Å}, \gamma = 90^\circ$
Volume	2304.72(8) Å ³
Z	4
Calculated density	1.212 Mg/m ³
Absorption coefficient	0.636 mm ⁻¹
F(000)	904
Crystal size	0.499 × 0.226 × 0.152 mm ³
Theta range for data collection	3.14 to 64.98°
Index ranges	-6 ≤ h ≤ 6, -16 ≤ k ≤ 16, -32 ≤ l ≤ 33
Reflections collected	17561
Independent collections	3887 [R(int) = 0.0362]
Completeness to theta = 66.32°	99.8 %
Absorption correction	Semi-empirical
Max. and min. transmission	0.7535 and 0.5818
Refinement method	Full-matrix least-squares on F ²
Data / restraints / parameters	3887 / 0 / 287
Goodness-of-fit on F ²	1.086
Final R indices [I > 2σ(I)]	R1 = 0.0419, wR2 = 0.1162
R indices (all data)	R1 = 0.0420, wR2 = 0.1163
Absolute structure parameter	0.0(2)
Largest diff. peak and hole	0.416 and -0.424 e. Å ⁻³

^a **1** was crystallized from MeOH/H₂O (50:1)

Table S2. X-ray crystallographic data for walsucochinoid L (**10**).^a

Empirical formula	C ₂₇ H ₃₆ O ₄
Formula weight	424.56
Temperature	133(2) K
Wavelength	1.54178 Å
Crystal system	Orthorhombic
Space group	P2(1)2(1)2(1)
Unit cell dimensions	$a = 8.2016 (5) \text{ Å}, \alpha = 90^\circ$ $b = 10.1084 (6) \text{ Å}, \beta = 90^\circ$ $c = 13.3847 (8) \text{ Å}, \gamma = 90^\circ$
Volume	1109.36(12) Å ³
Z	2
Calculated density	1.271 Mg/m ³
Absorption coefficient	0.661 mm ⁻¹
F(000)	460
Crystal size	0.15 × 0.12 × 0.10 mm ³
Theta range for data collection	3.30 to 64.98°
Index ranges	-8 ≤ h ≤ 9, -11 ≤ k ≤ 11, -15 ≤ l ≤ 15
Reflections collected	6271
Independent collections	3273 [R(int) = 0.0622]
Completeness to theta = 66.32°	94.4 %
Absorption correction	Semi-empirical
Max. and min. transmission	0.9368 and 0.9073
Refinement method	Full-matrix least-squares on F ²
Data / restraints / parameters	3273 / 1 / 289
Goodness-of-fit on F ²	1.069
Final R indices [I > 2σ(I)]	R1 = 0.0704, wR2 = 0.1858
R indices (all data)	R1 = 0.0725, wR2 = 0.1884
Absolute structure parameter	0.0(4)
Largest diff. peak and hole	0.395 and -0.319 e. Å ⁻³

^a **10** was crystallized from MeOH/H₂O (100:1)

Figure S1. ^1H NMR spectrum of walsucochinoid C (**1**) in CDCl_3

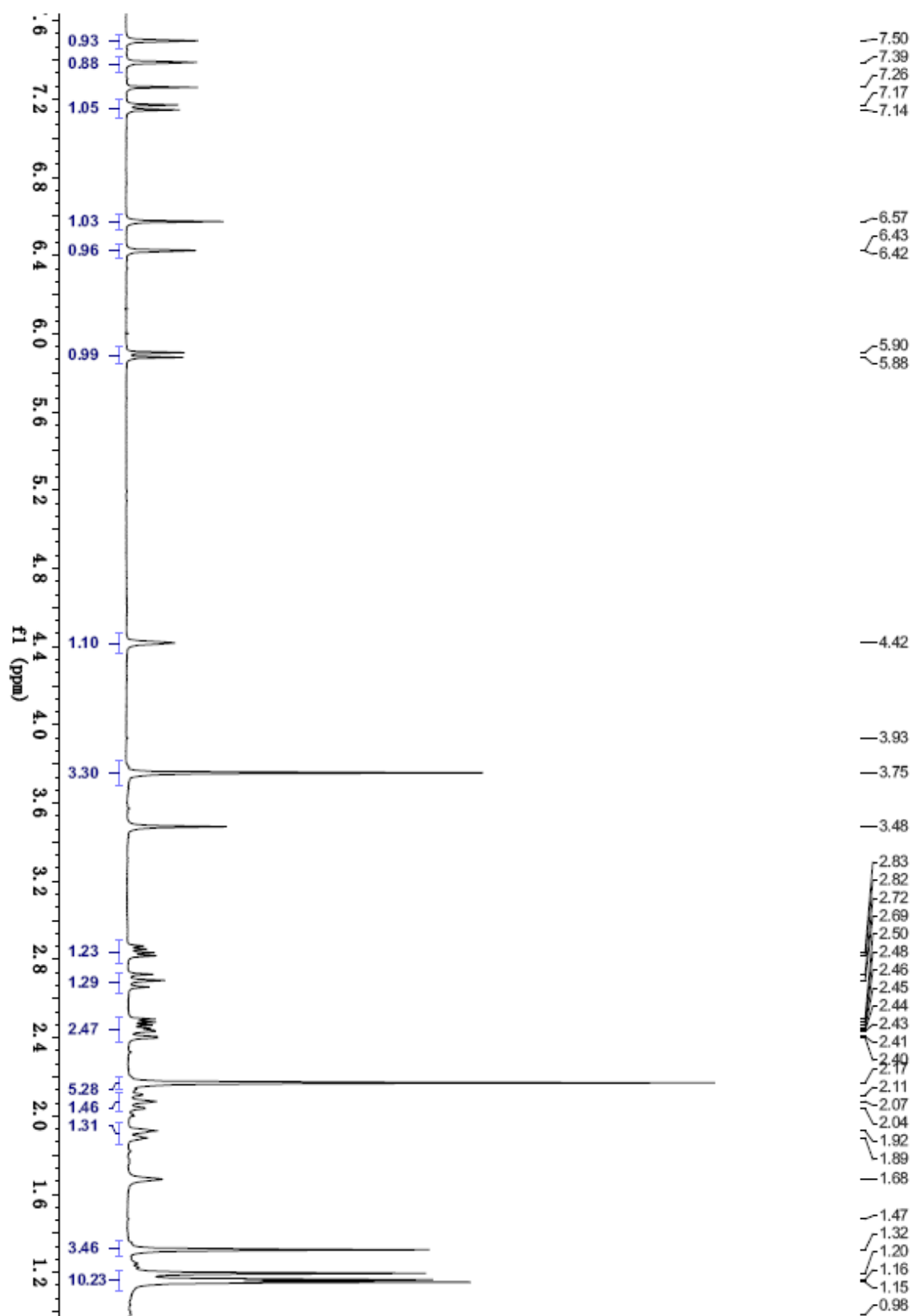


Figure S2. ^{13}C NMR spectrum of walsucochinoid C (**1**) in CDCl_3

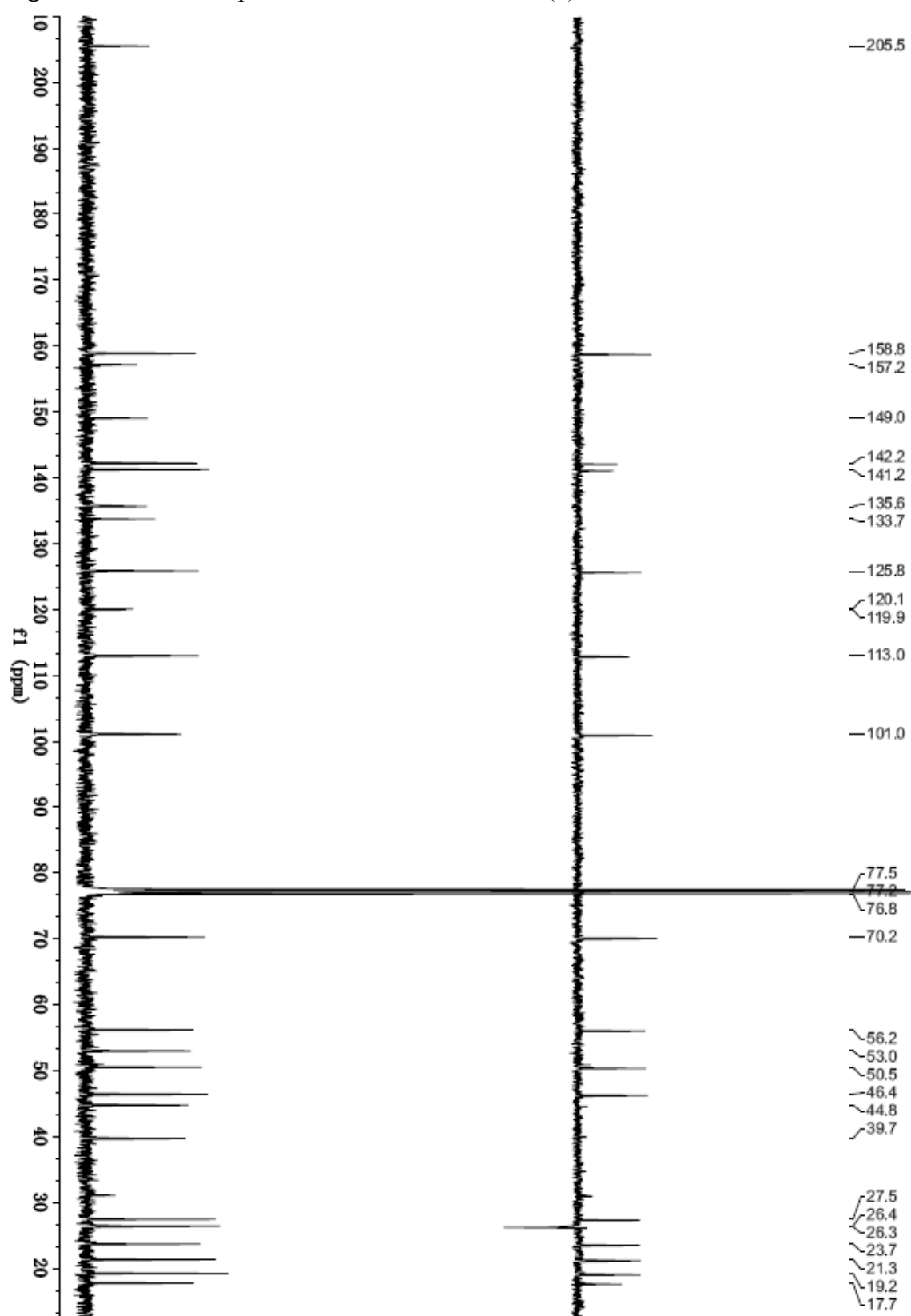


Figure S3. HSQC spectrum of walsucochinoid C (**1**) in CDCl_3

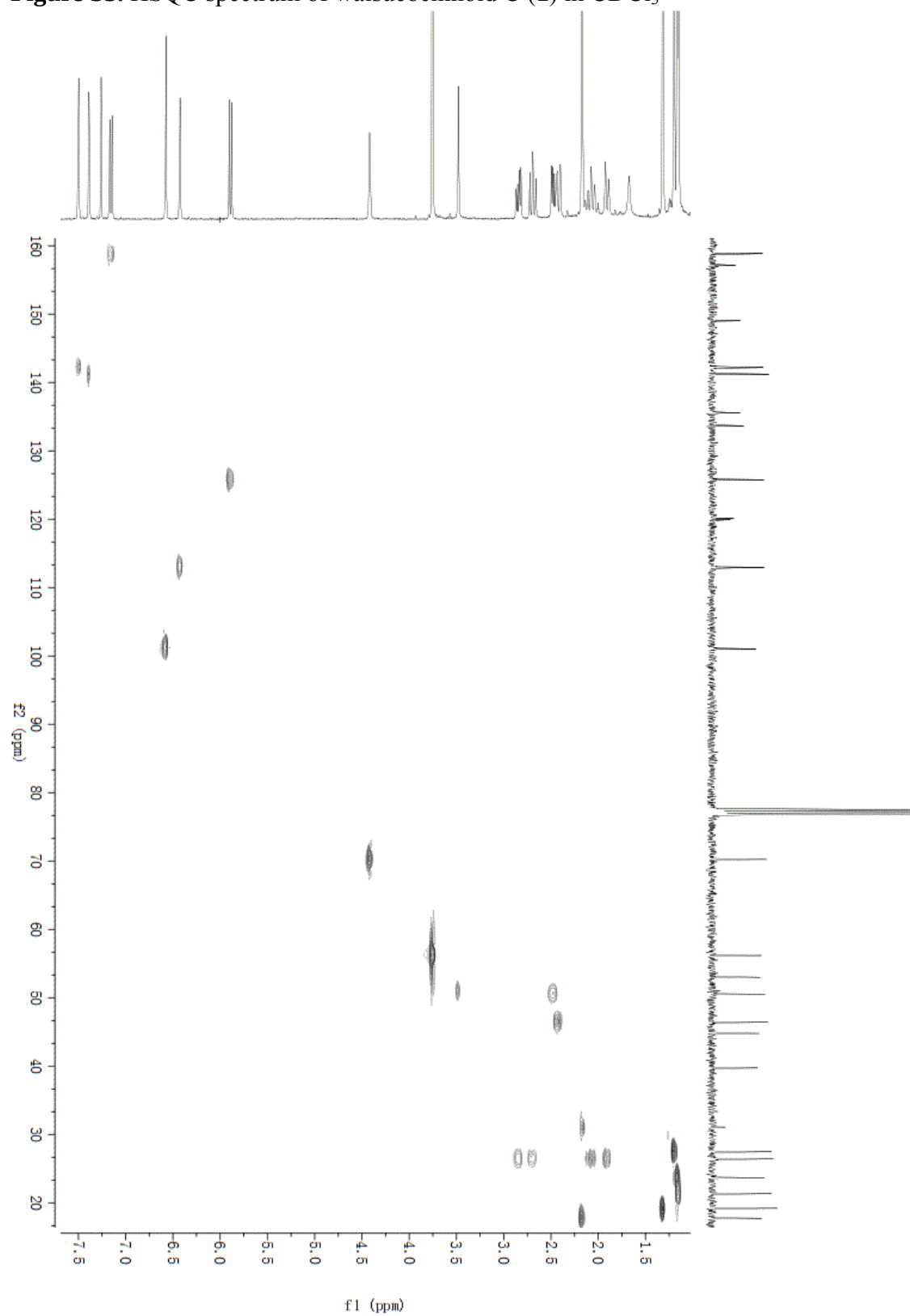


Figure S4. HMBC spectrum of walsucochinoid C (**1**) in CDCl₃

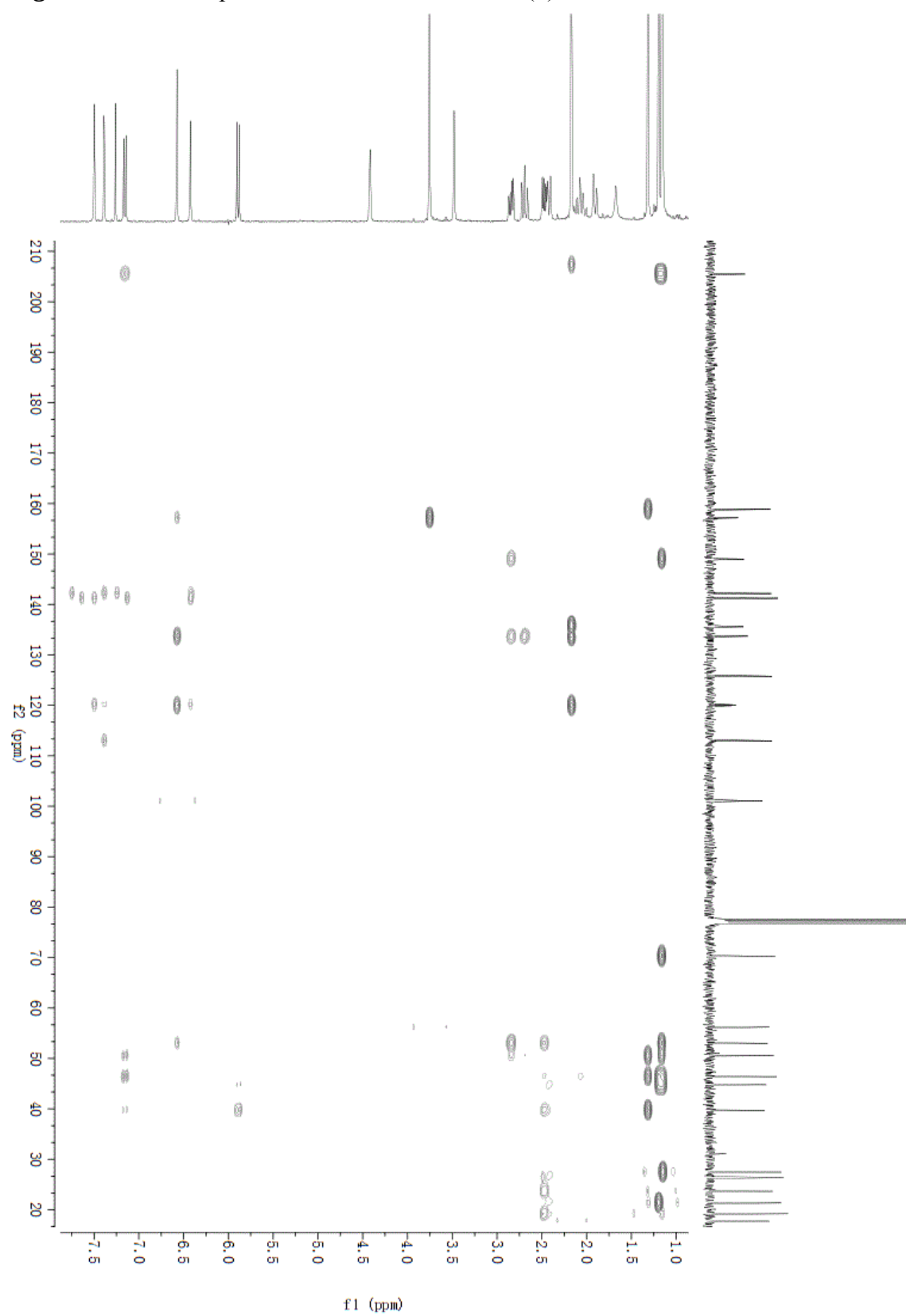


Figure S5. NOESY spectrum of walsucochinoid C (1) in CDCl₃

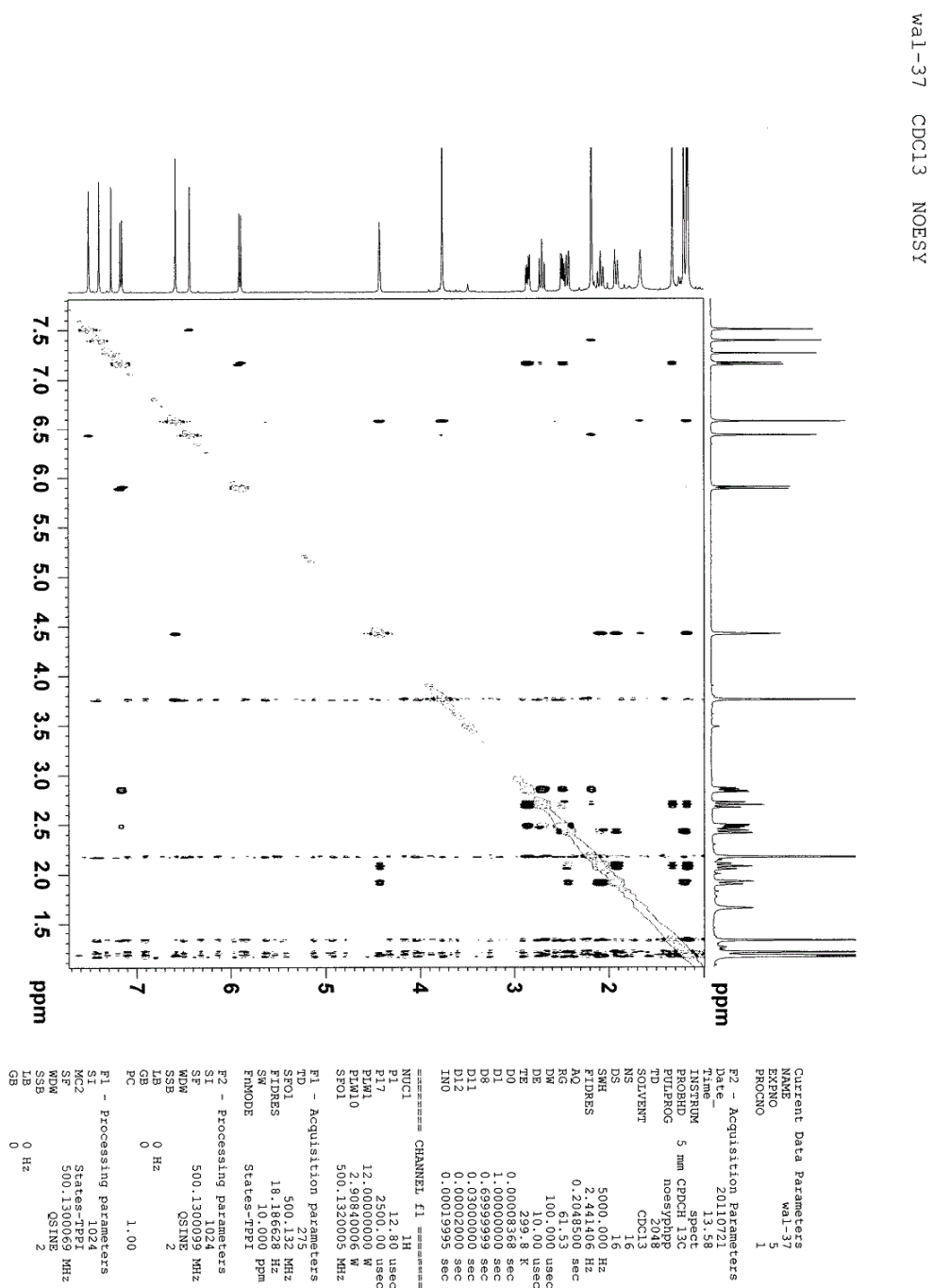


Figure S6. ESI(+)MS spectrum of walsucochinoid C (**1**)

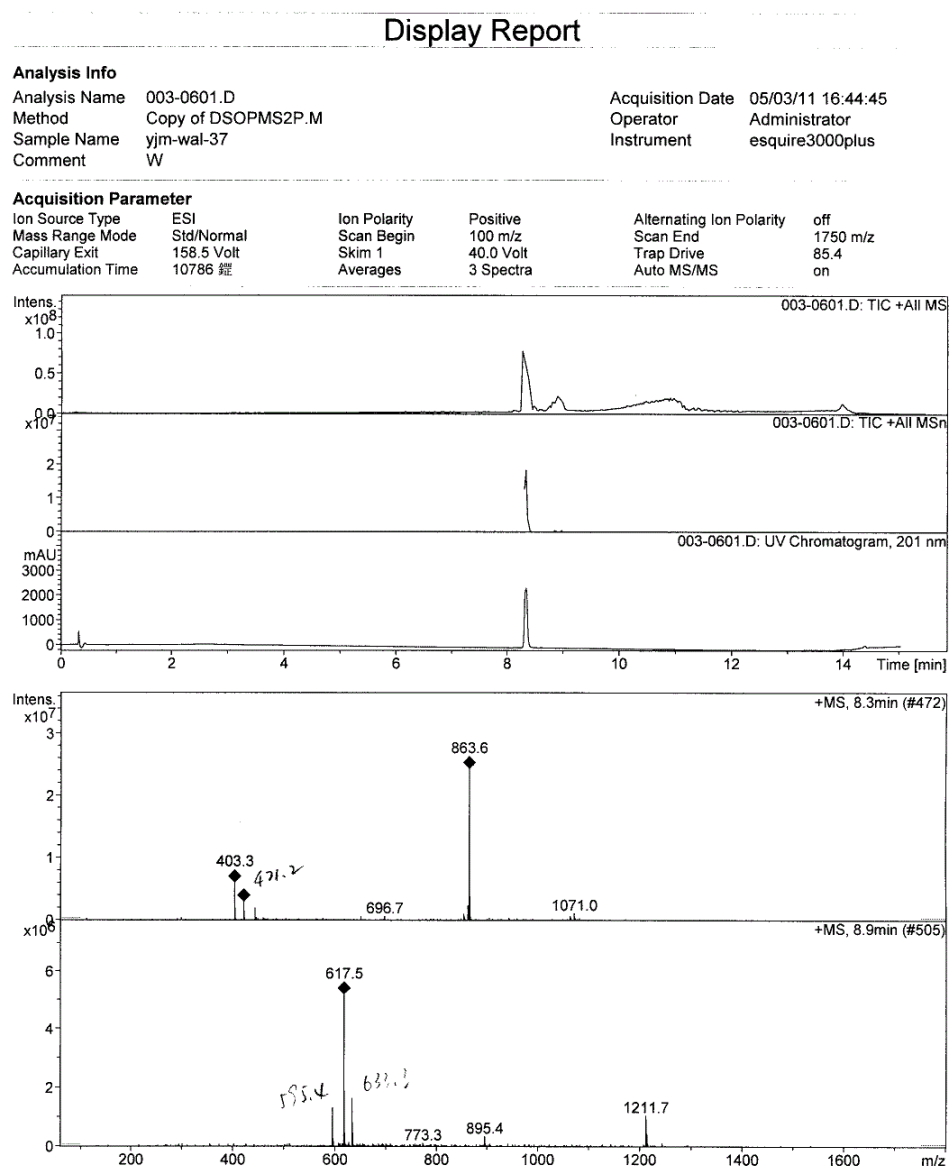


Figure S7. ESI(–)MS spectrum of walsucochinoid C (**1**)

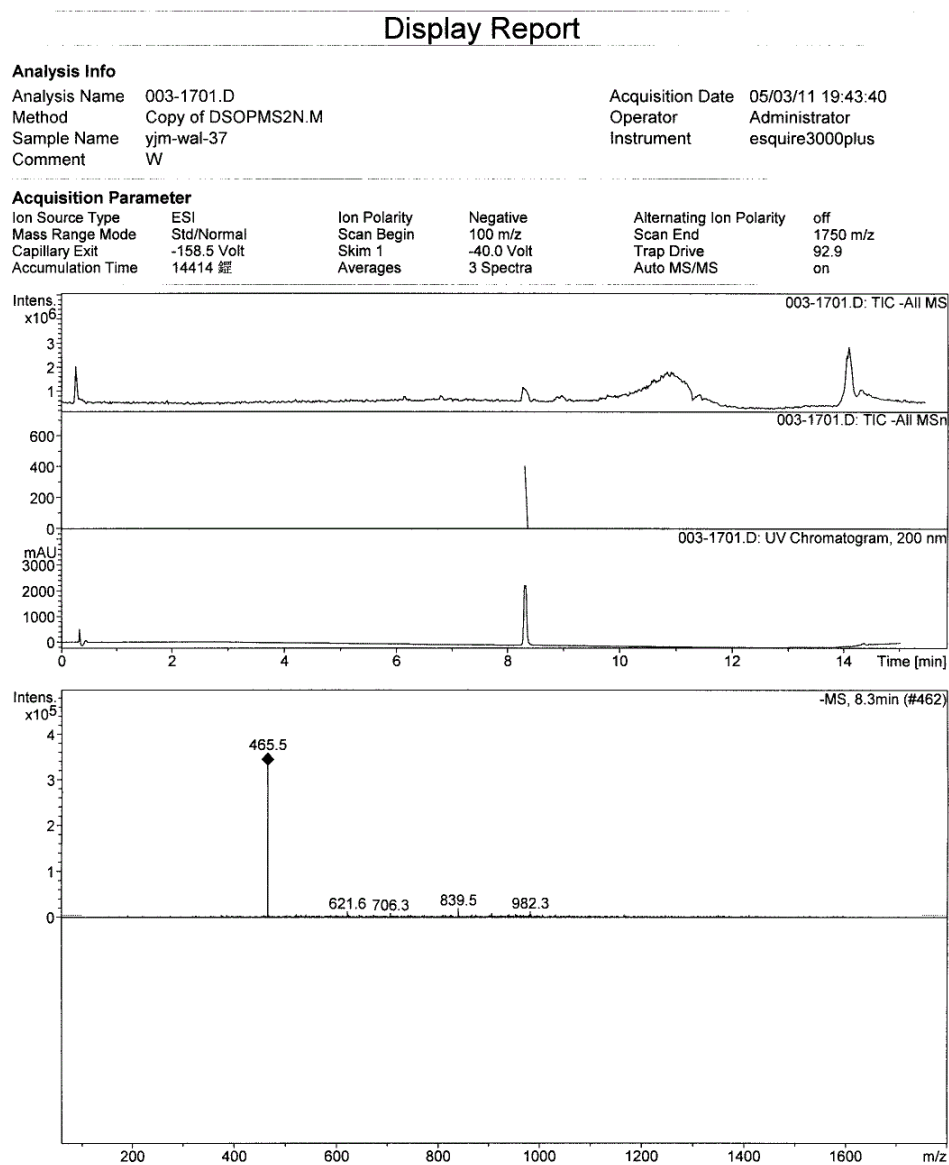


Figure S8. HRESI(–)MS spectrum of walsucochinoid C (**1**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

105 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30

WAL-37

LCT PXE KE324

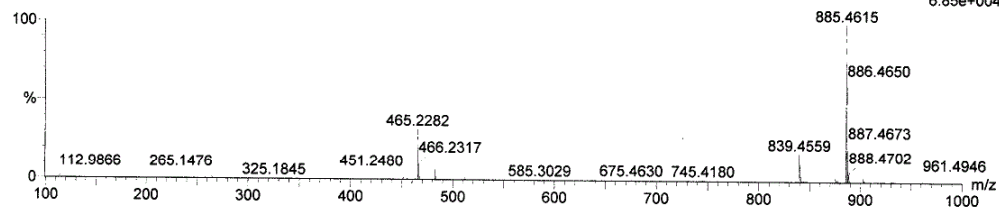
04-Nov-2011

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6.85e+004

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Minimum:

Maximum:

Mass

Calc. Mass

mDa

PPM

DBE

i-FIT

i-FIT (Norm)

Formula

465.2282

465.2277

0.5

1.1

12.5

117.3

0.0

C28 H33 O6

Figure S9. IR spectrum of walsucochinoid C (**1**)

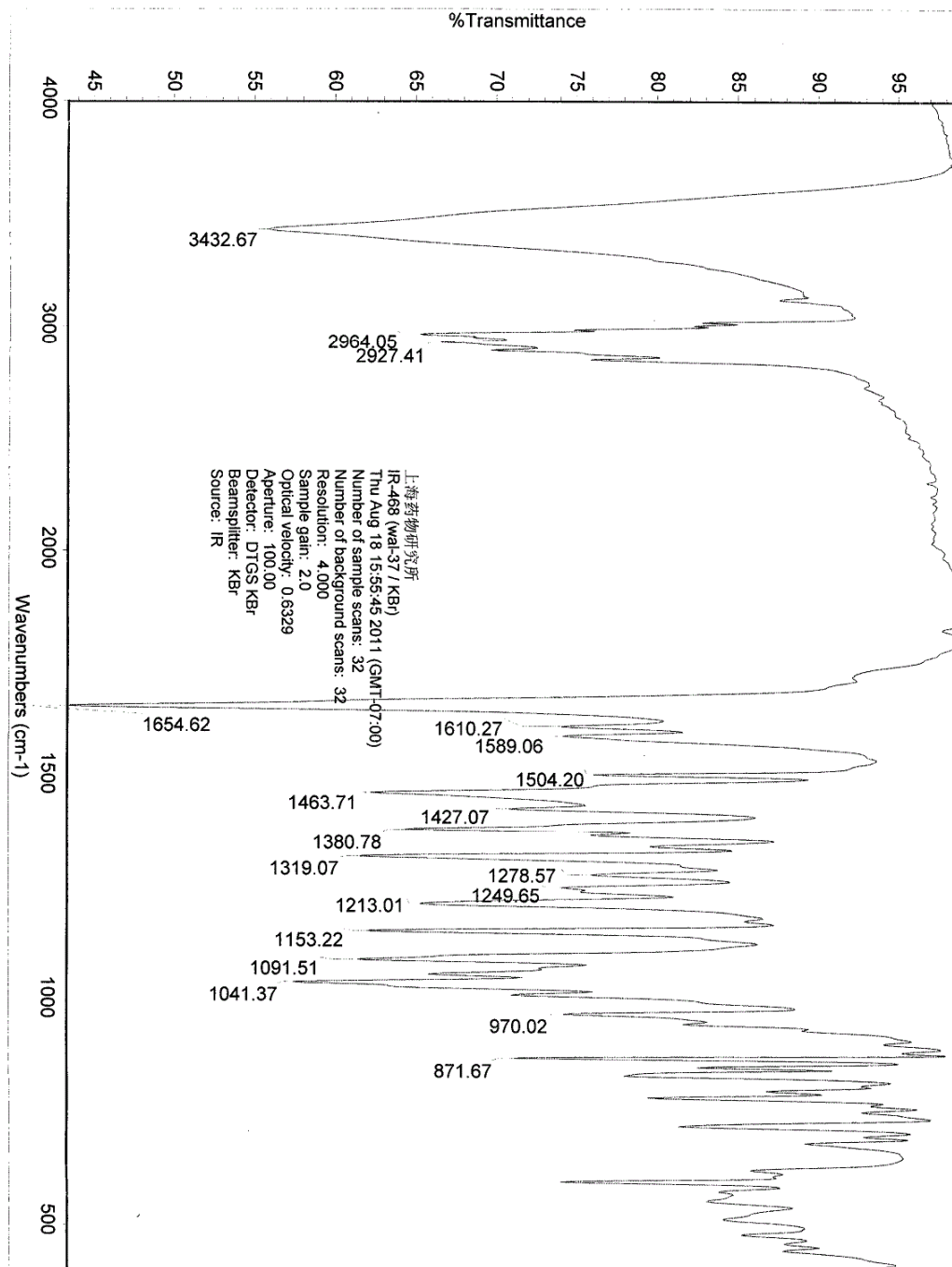


Figure S10. ^1H NMR spectrum of walsucochinoid D (**2**) in CDCl_3

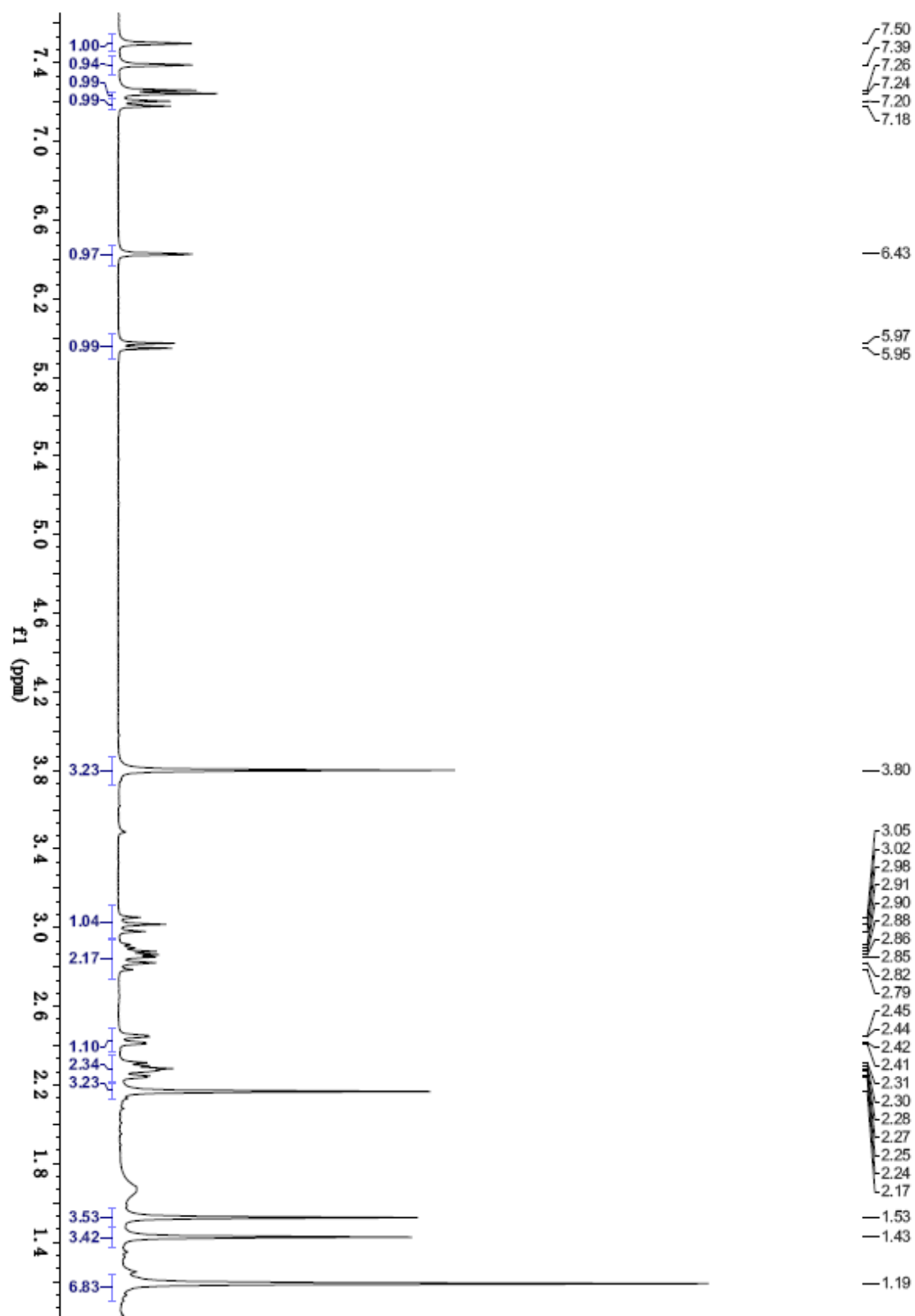


Figure S11. ^{13}C NMR spectrum of walsucochinoid D (2) in CDCl_3

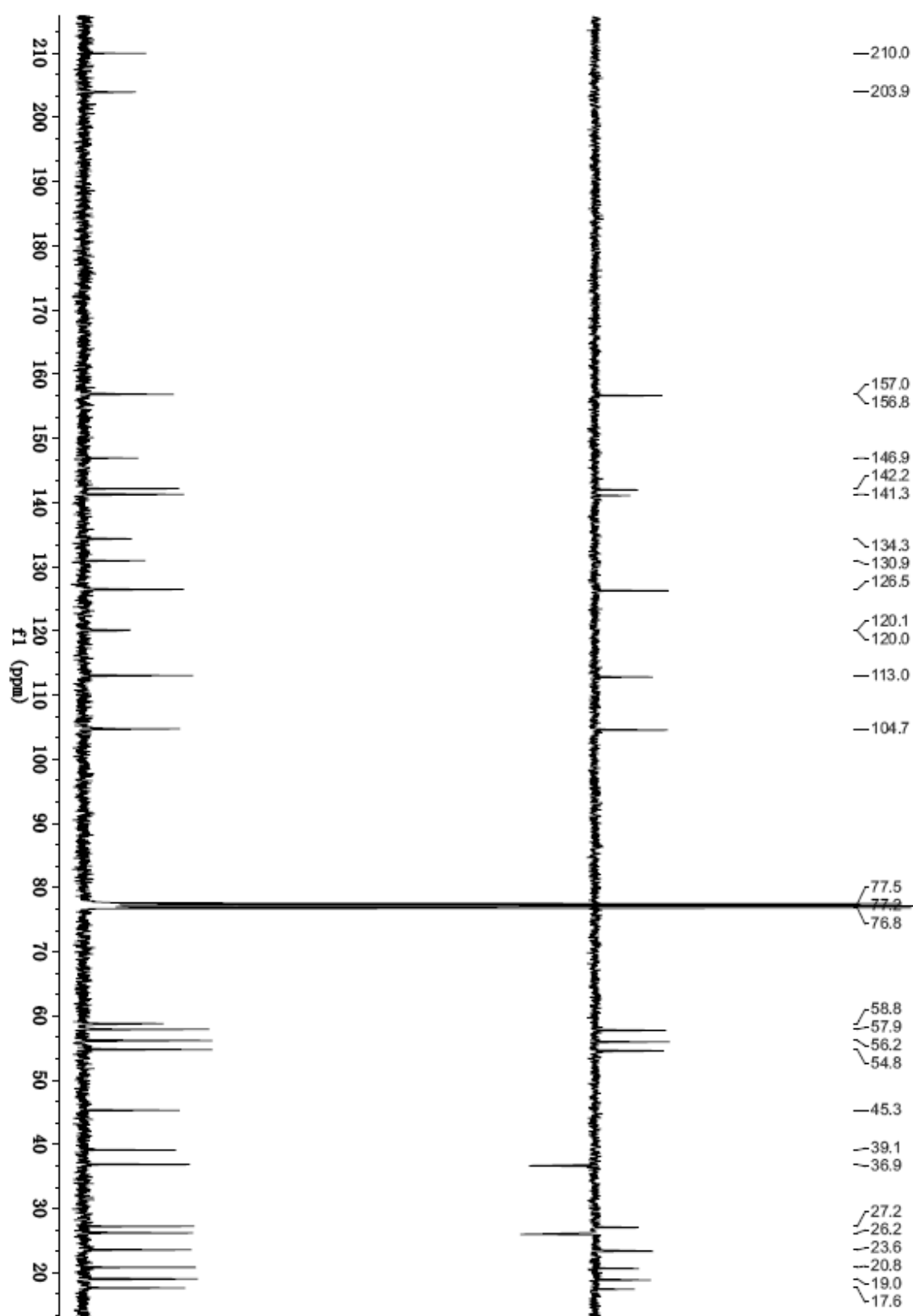


Figure S12. HMBC spectrum of walsucochinoid D (**2**) in CDCl₃

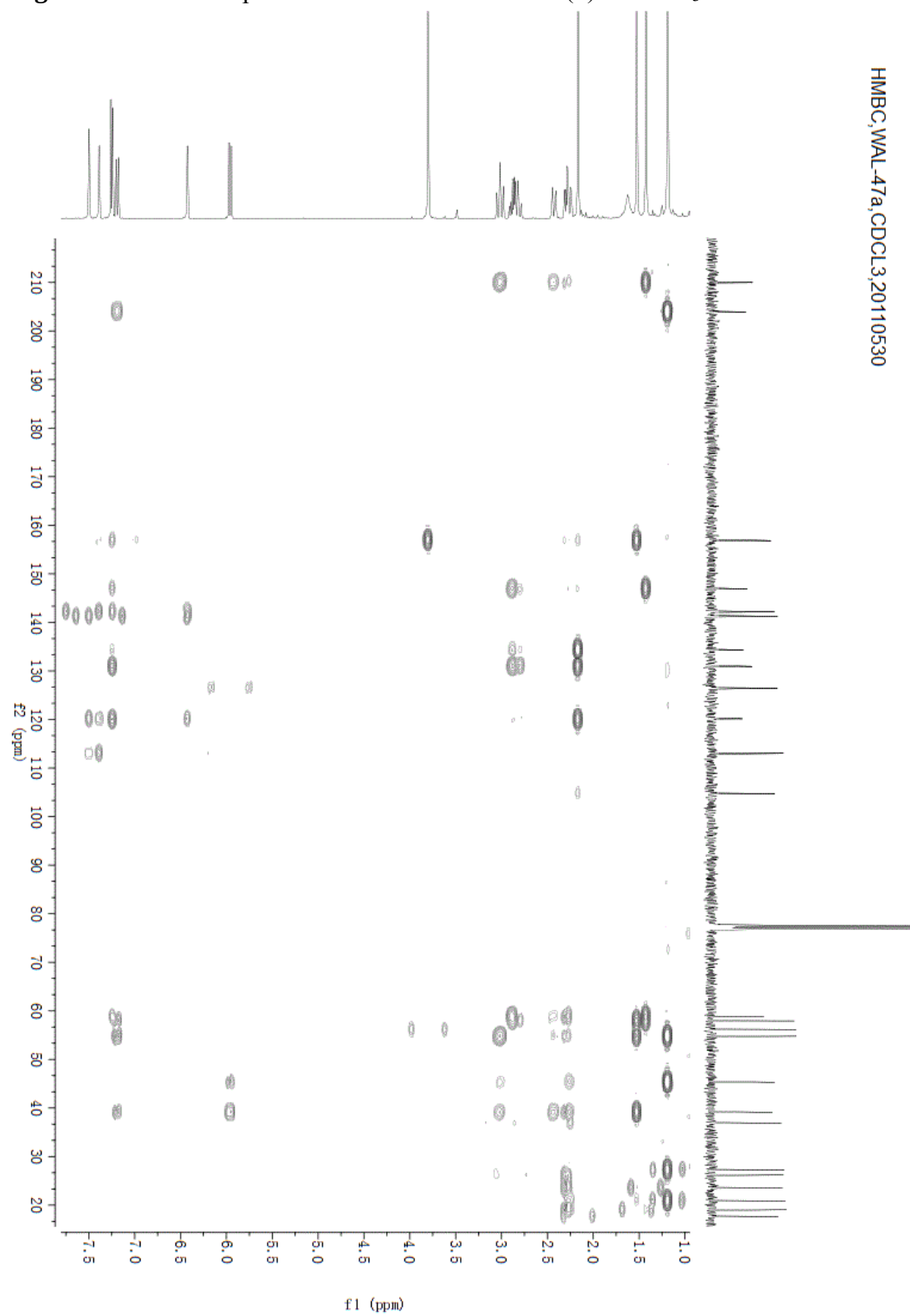


Figure S13. ROESY spectrum of walsucochinoid D (**2**) in CDCl₃

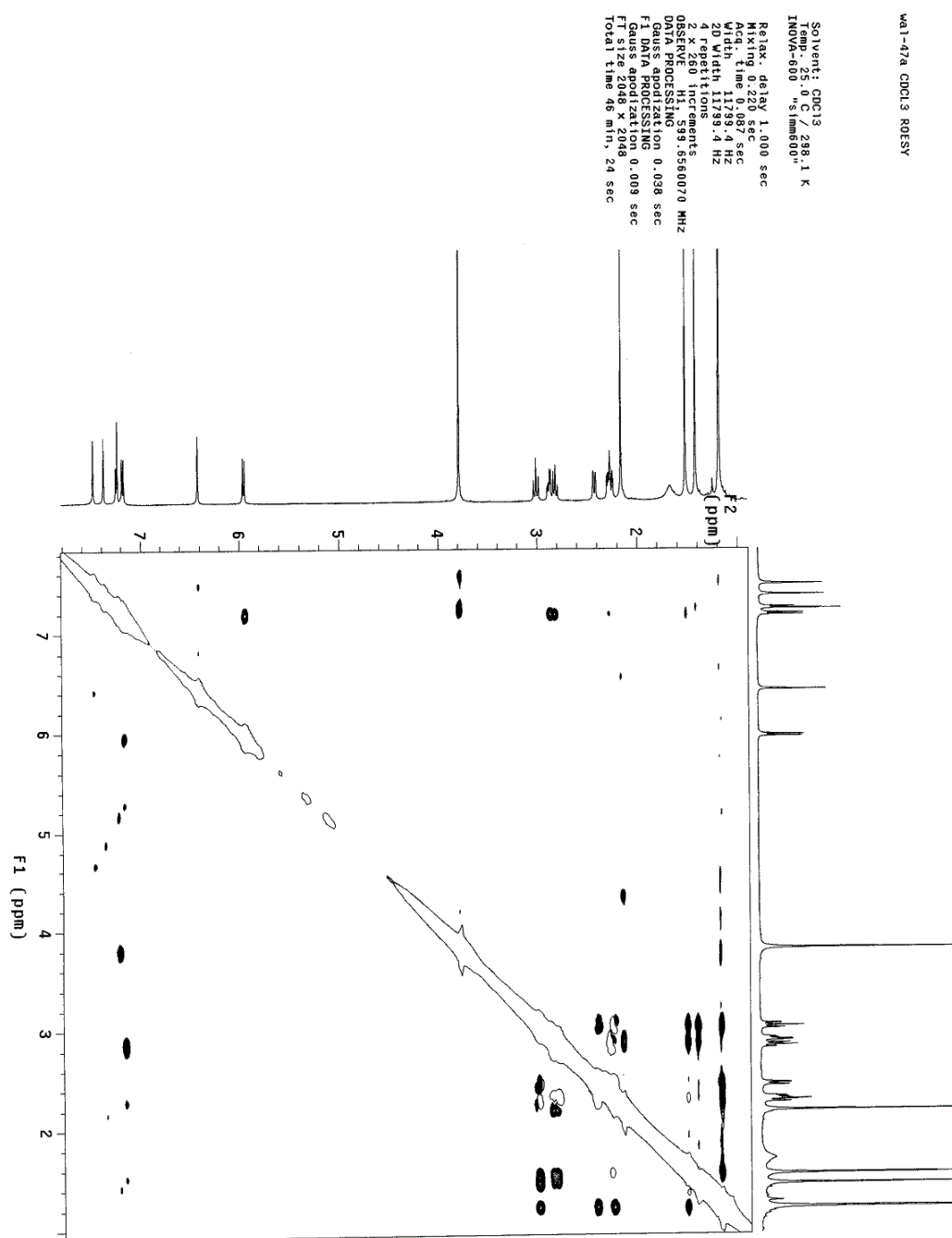


Figure S14. ESI(+)MS spectrum of walsucochinoid D (2)

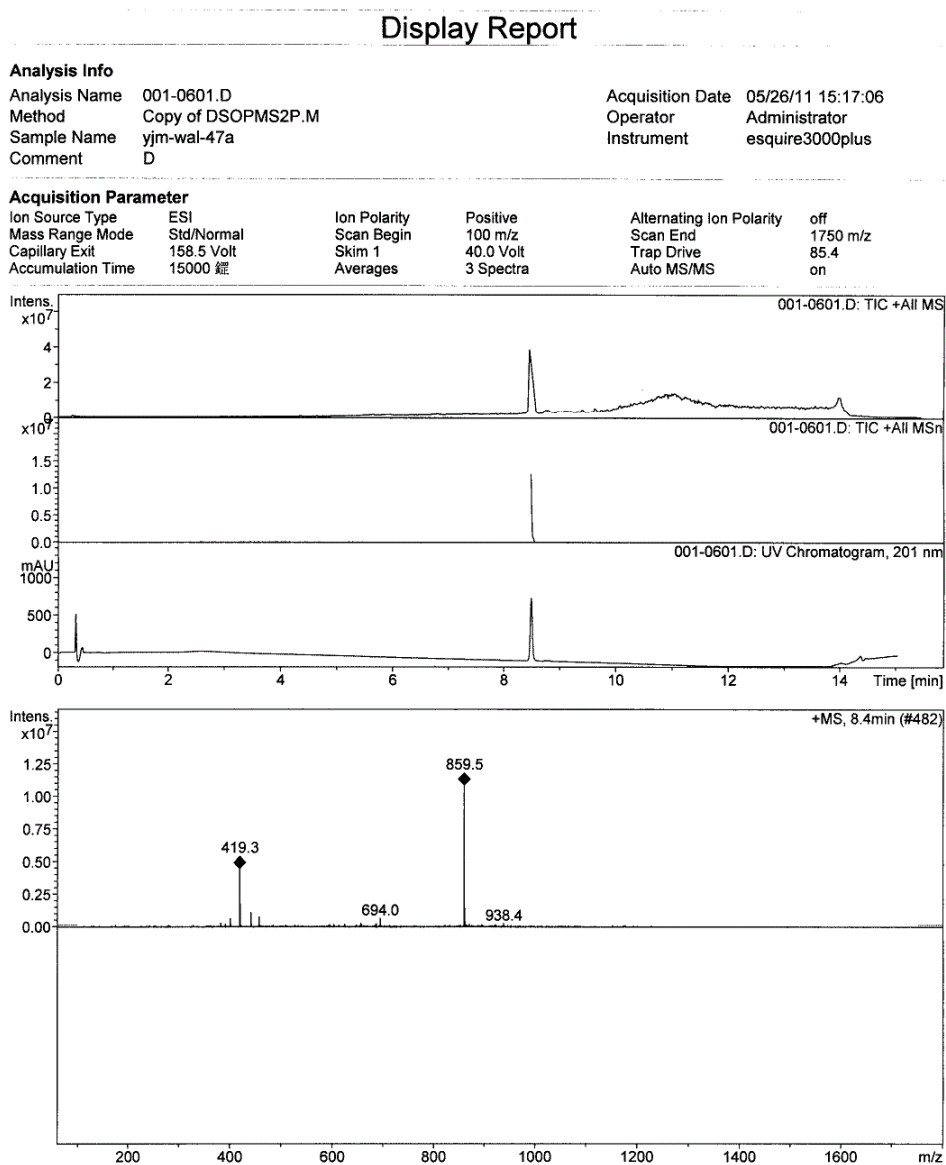


Figure S15. HRESI(+)MS spectrum of walsucochinoid D (2)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

418 formula(e) evaluated with 2 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-47a

LCT PXE KE324

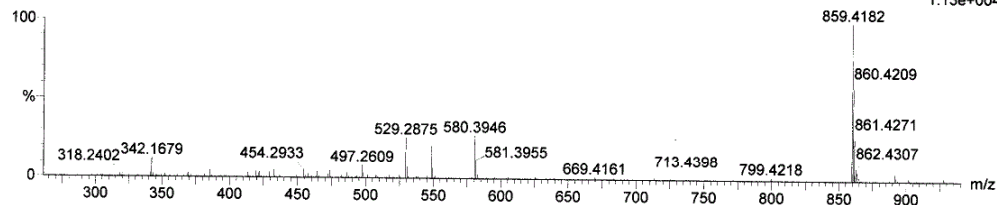
04-Nov-2011

16:36:39

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1.13e+004

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Minimum:

Maximum:

-1.5

50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
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859.4182	859.4186	-0.4	-0.5	24.5	60.4	0.0	C54 H60 O8 Na
	859.4175	0.7	0.8	5.5	64.5	4.1	C38 H67 O21

Figure S16. IR spectrum of walsucochinoid D (2)

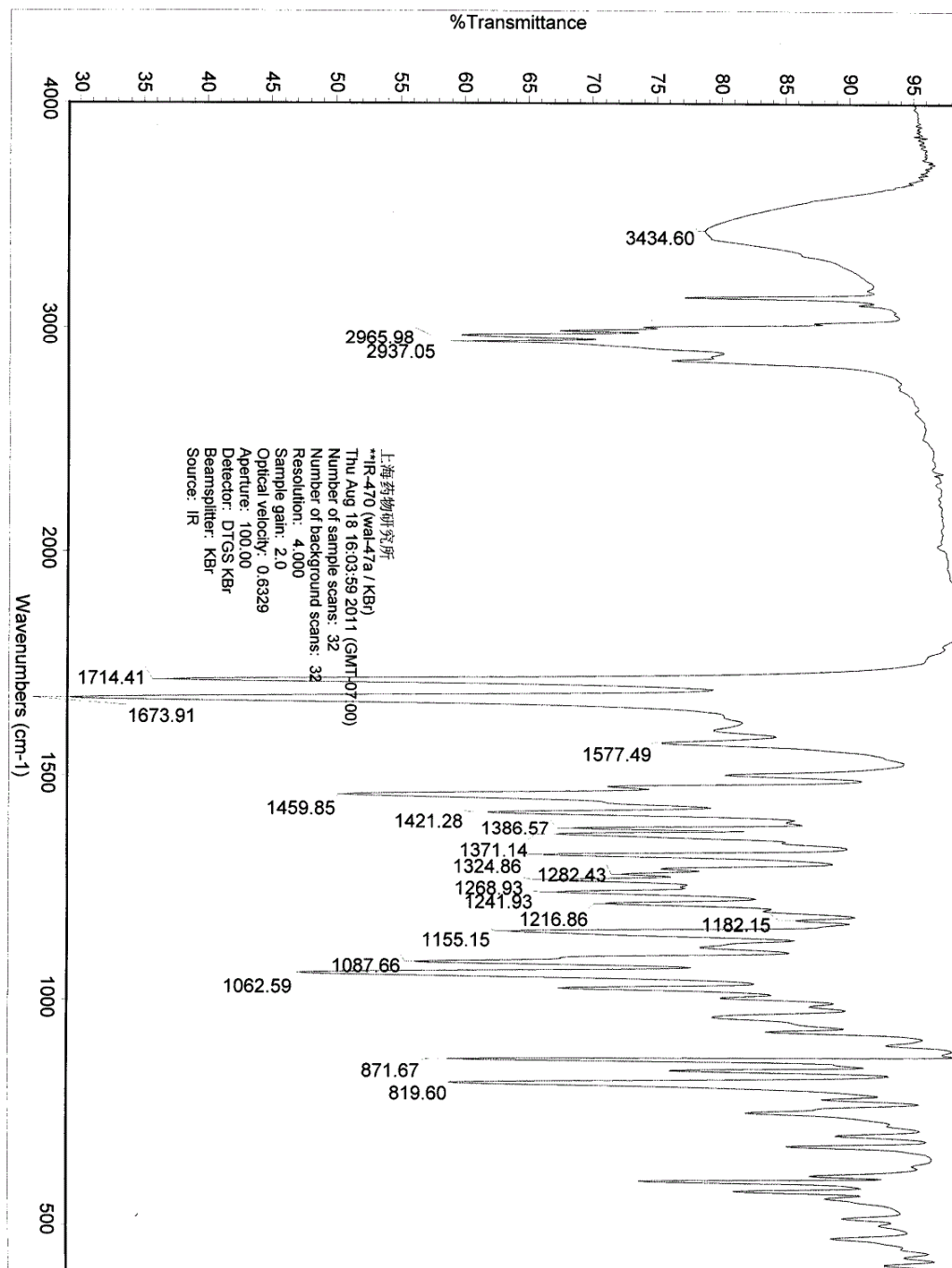


Figure S17. ^1H NMR spectrum of walsucochinoid E (**3**) in CDCl_3

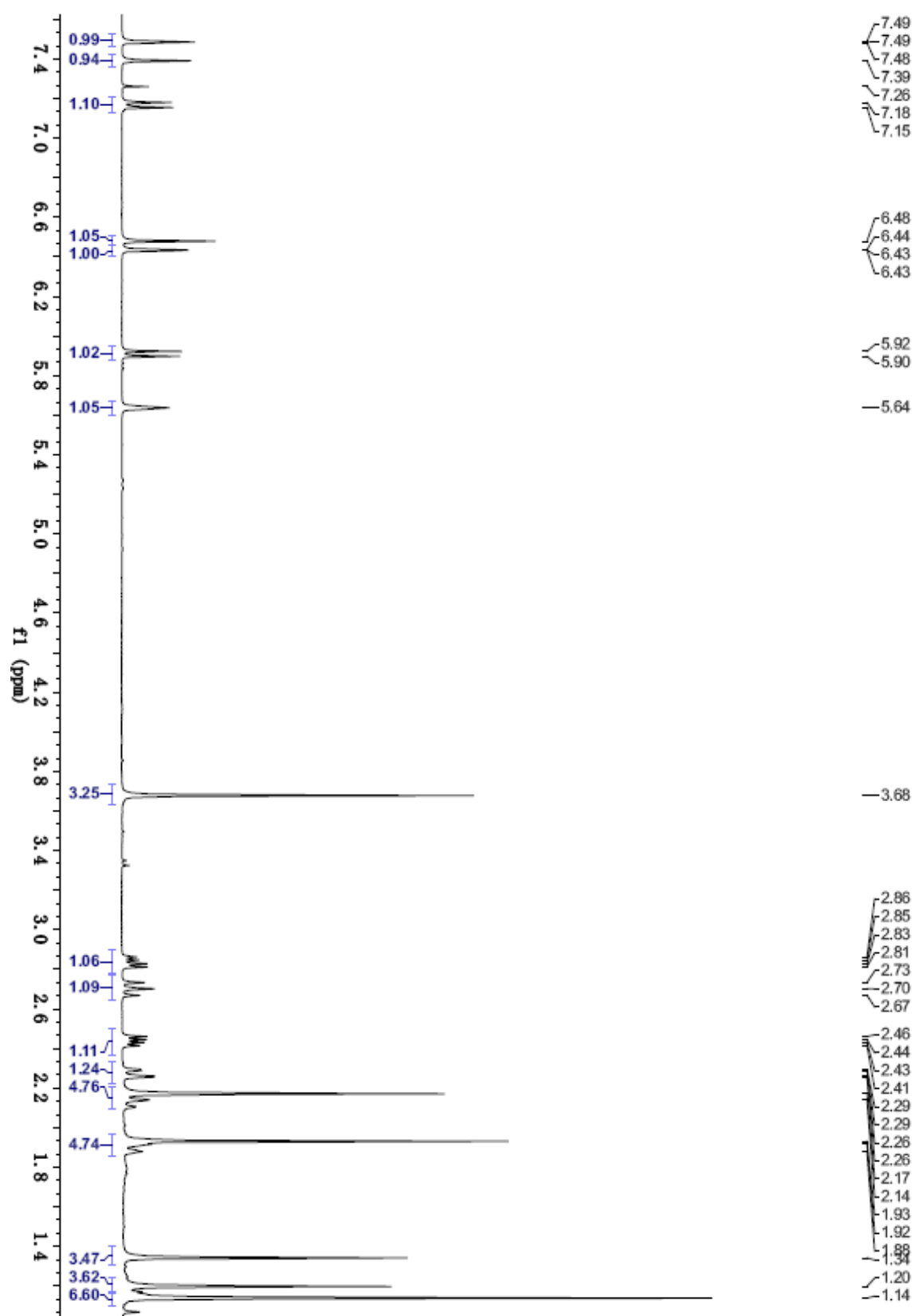


Figure S18. ^{13}C NMR spectrum of walsucochinoid E (**3**) in CDCl_3

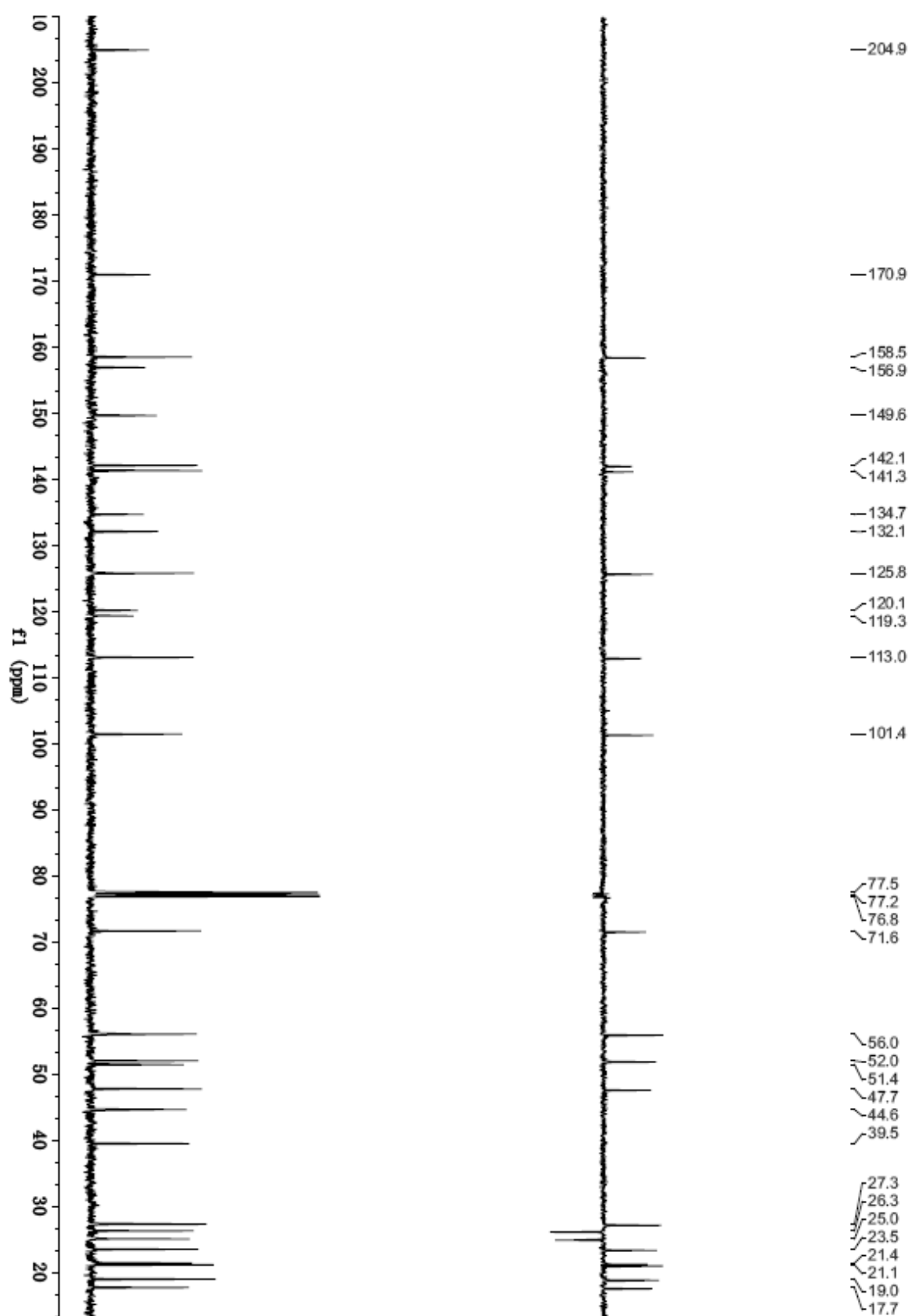


Figure S19. HMBC spectrum of walsucochinoid E (**3**) in CDCl₃

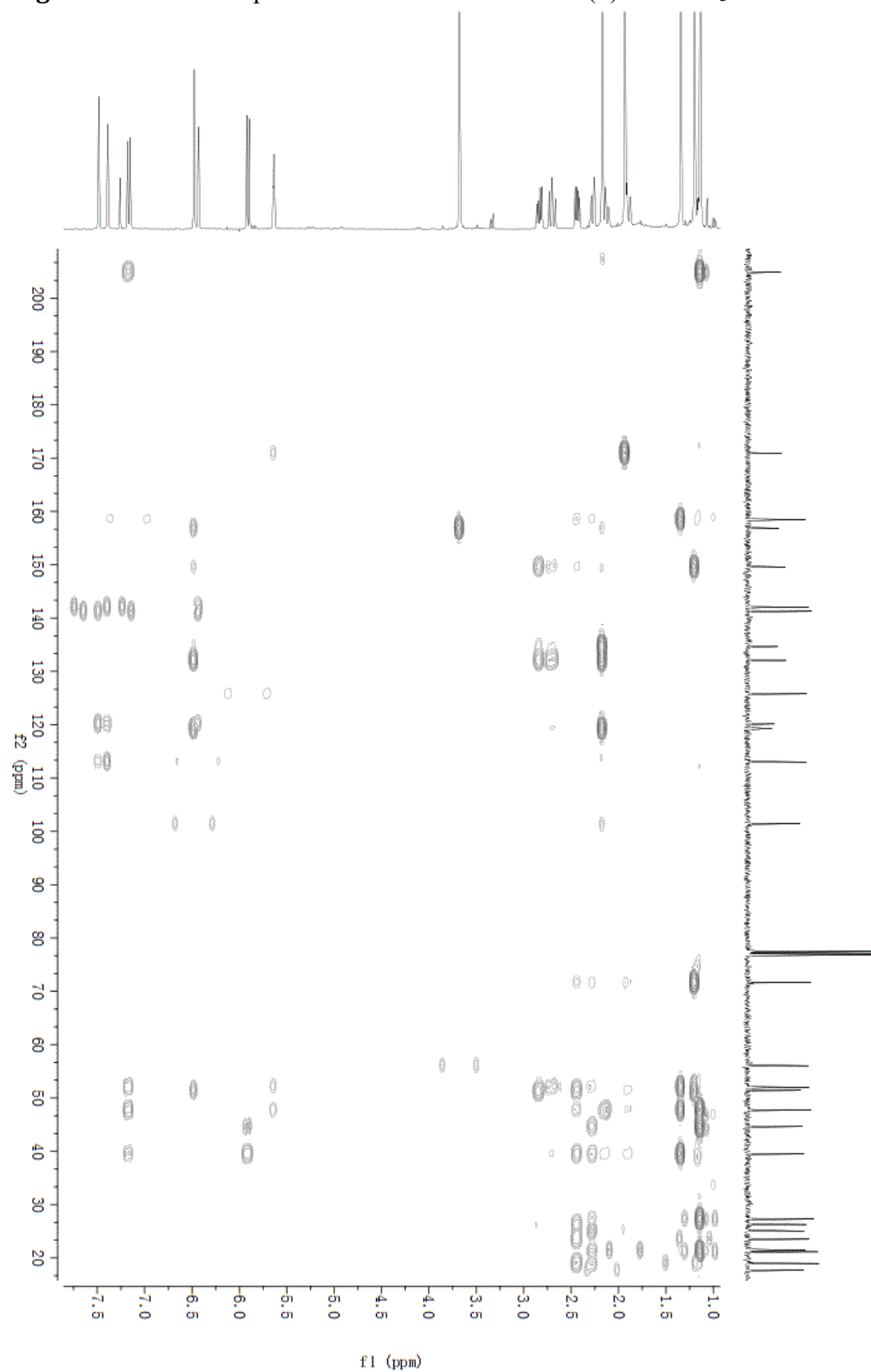


Figure S20. ROESY spectrum of walsucochinoid E (**3**) in CDCl₃

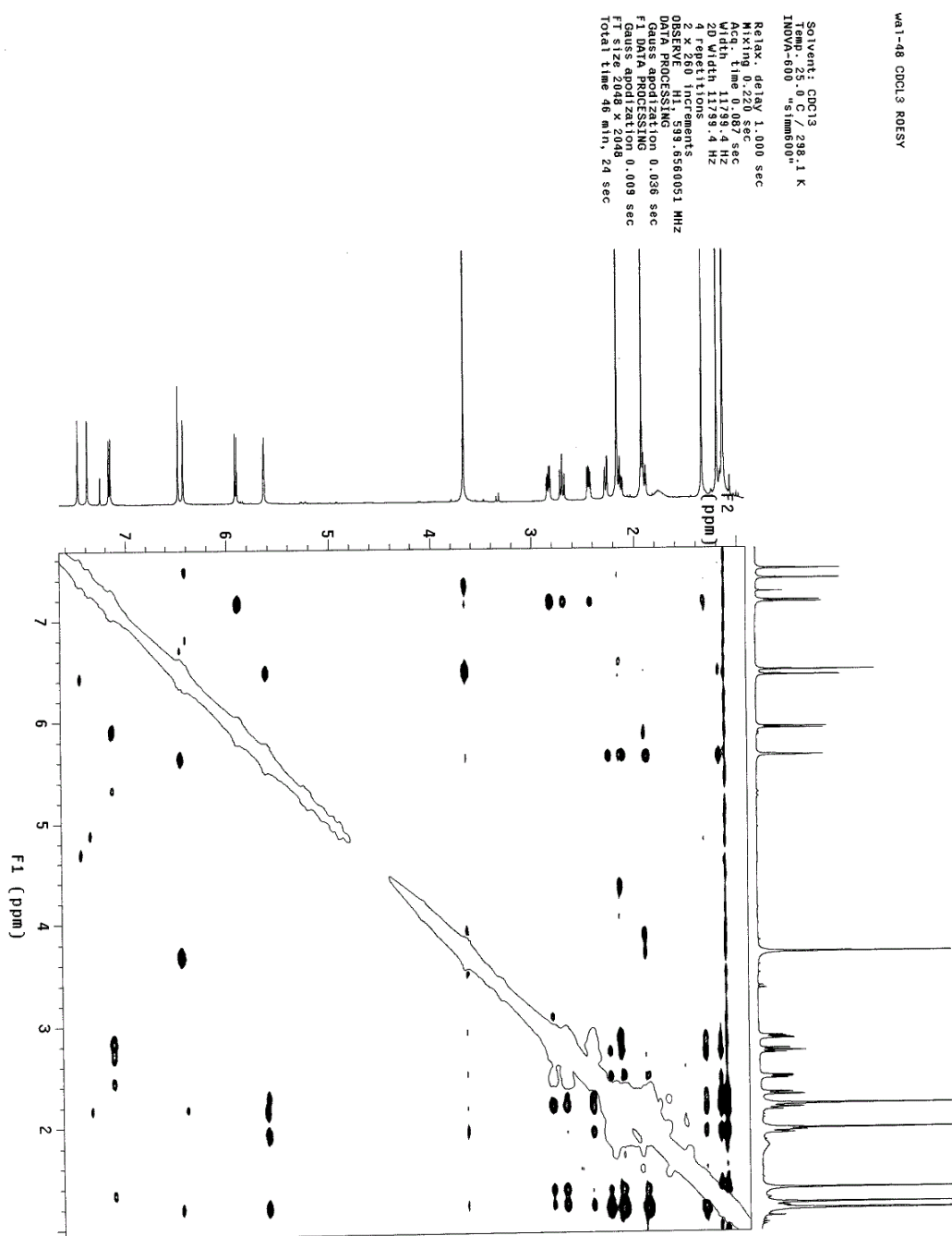


Figure S21. ESI(+)MS spectrum of walsucochinoid E (3)

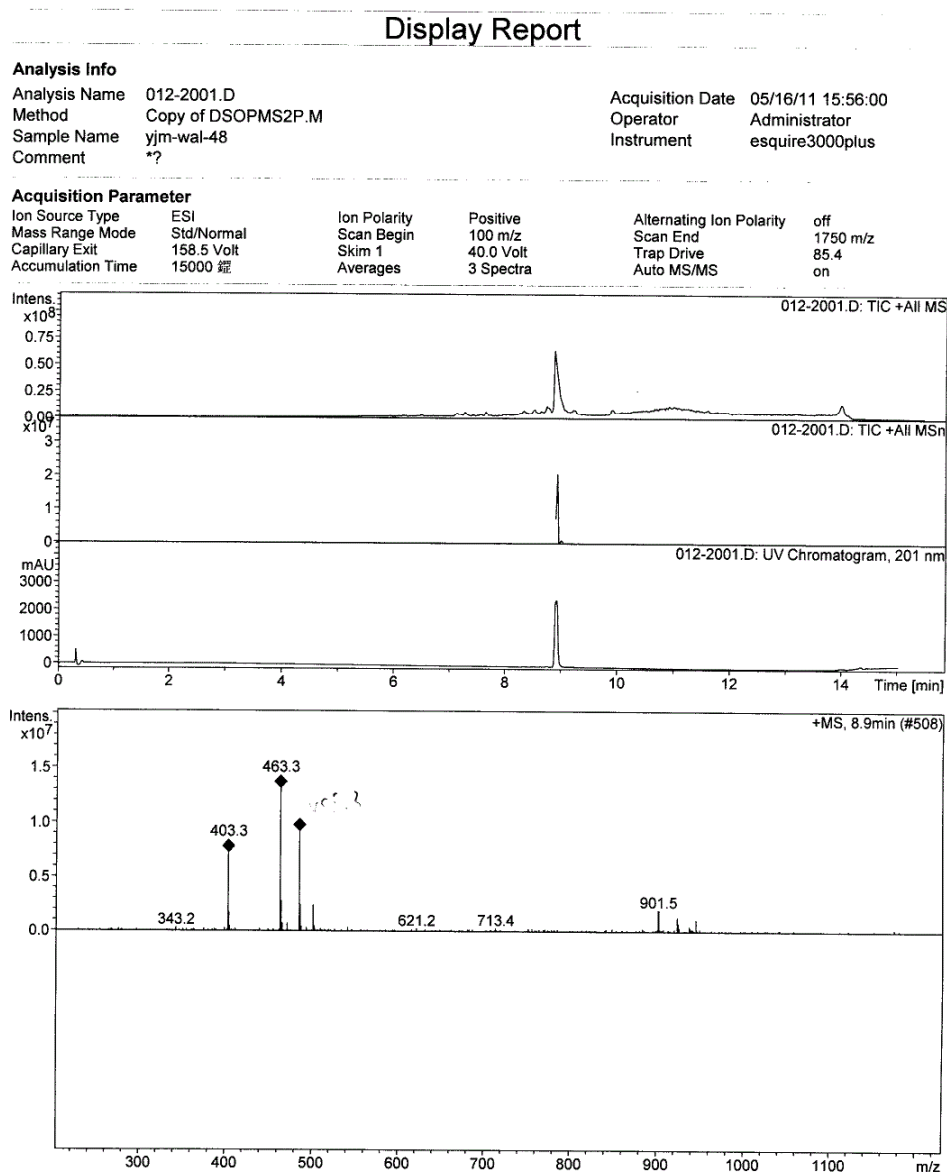


Figure S22. HRESI(+)MS spectrum of walsucochinoid E (**3**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 3.0 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

381 formula(e) evaluated with 3 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-48

LCT PXE KE324

WAL-48_1109 56 (1.218) AM2 (Ar,10000.0,0.00,1.00); ABS: Cm (46:65)

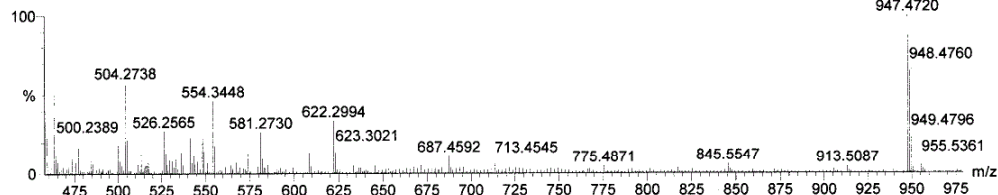
09-Nov-2011

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2.02e+004

947.4720



Minimum: -1.5
Maximum: 5.0 3.0 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula			
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	947.4734	-1.4	-1.5	27.5	46.1	3.2	C60	H67	O10	
	947.4699	2.1	2.2	5.5	53.9	11.1	C42	H75	O23	

Figure S23. IR spectrum of walsucochinoid E (3)

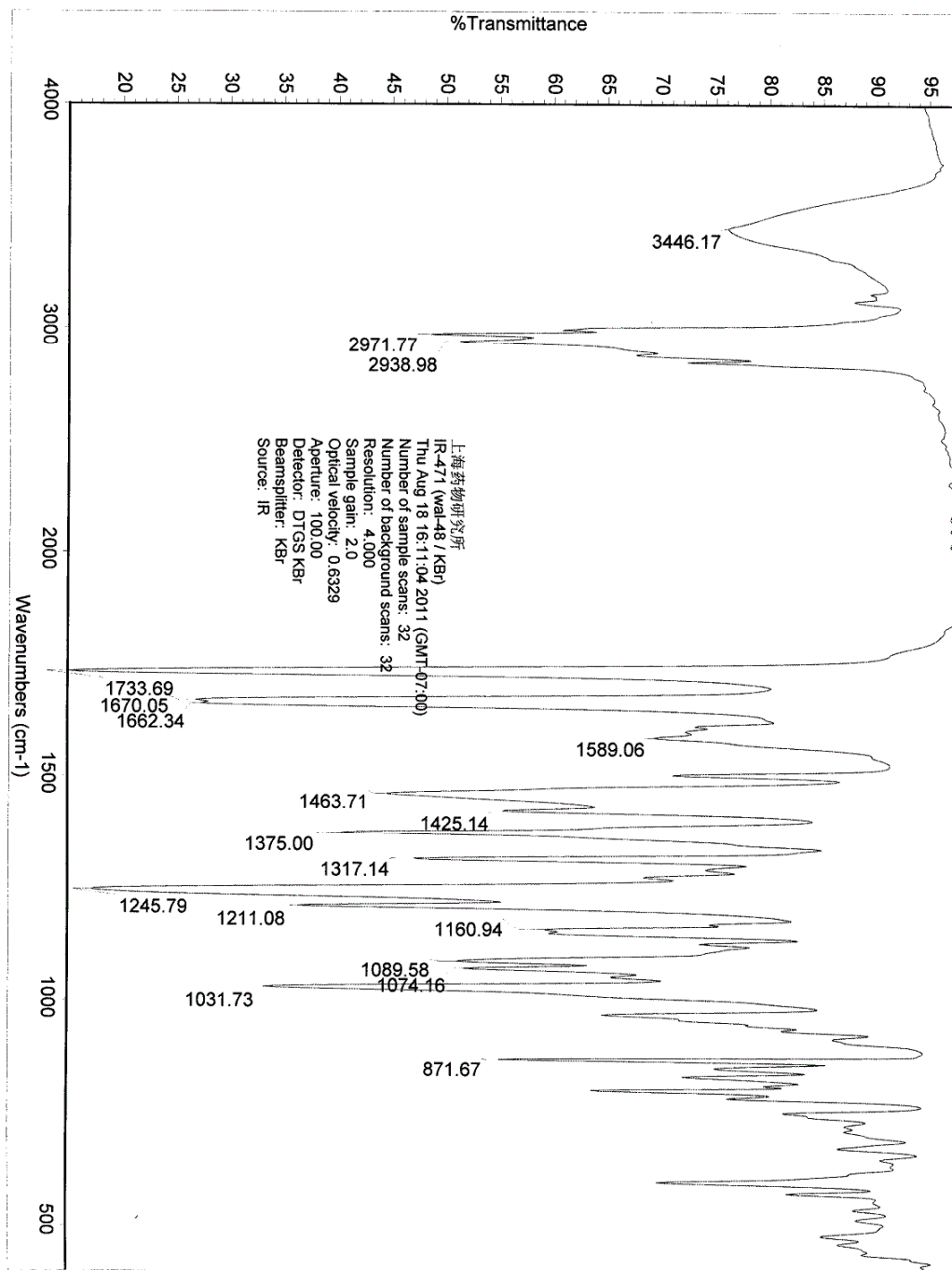


Figure S24. ^1H NMR spectrum of walsucochinoid F (**4**) in CDCl_3

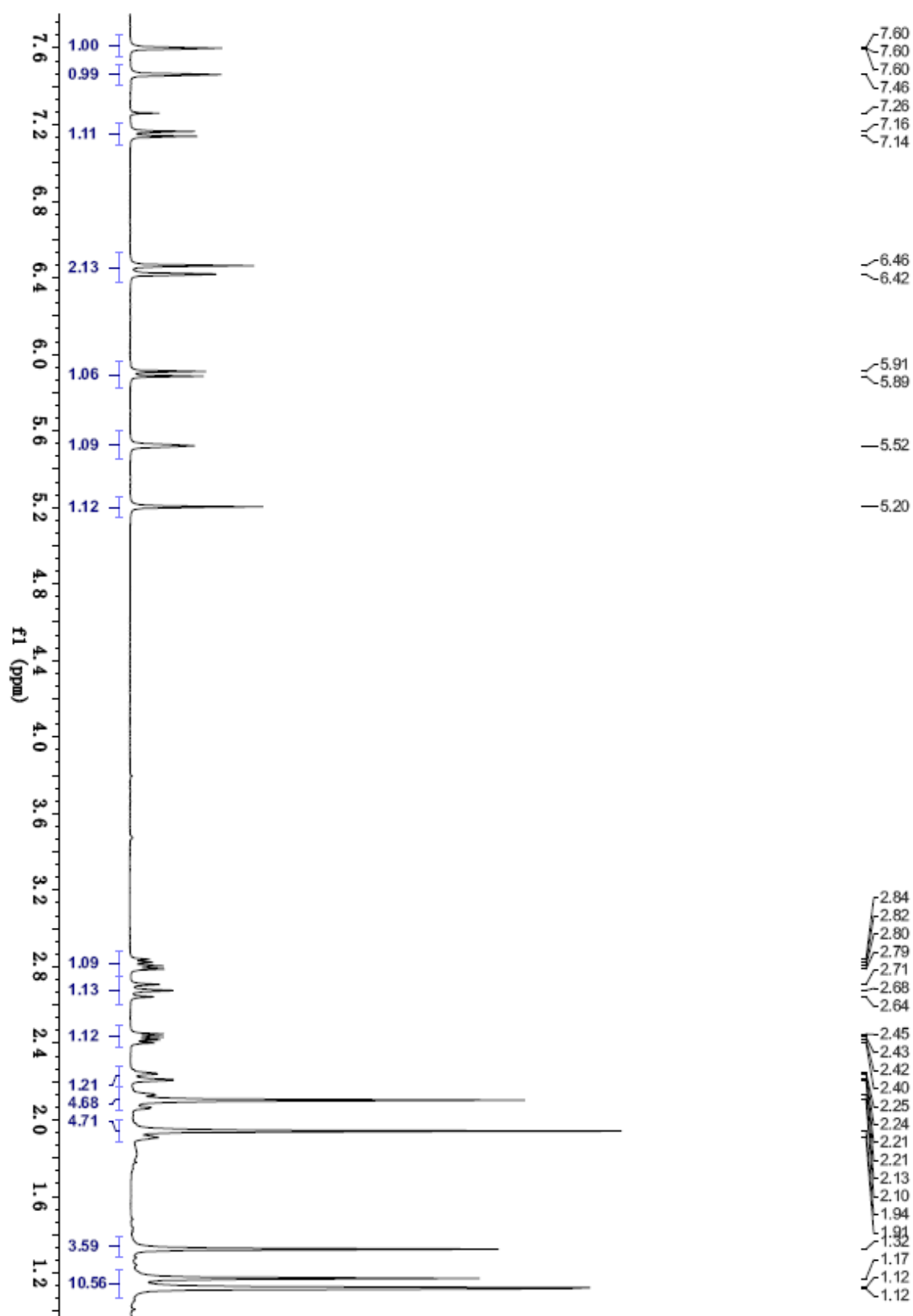


Figure S25. ^{13}C NMR spectrum of walsucochinoid F (**4**) in CDCl_3

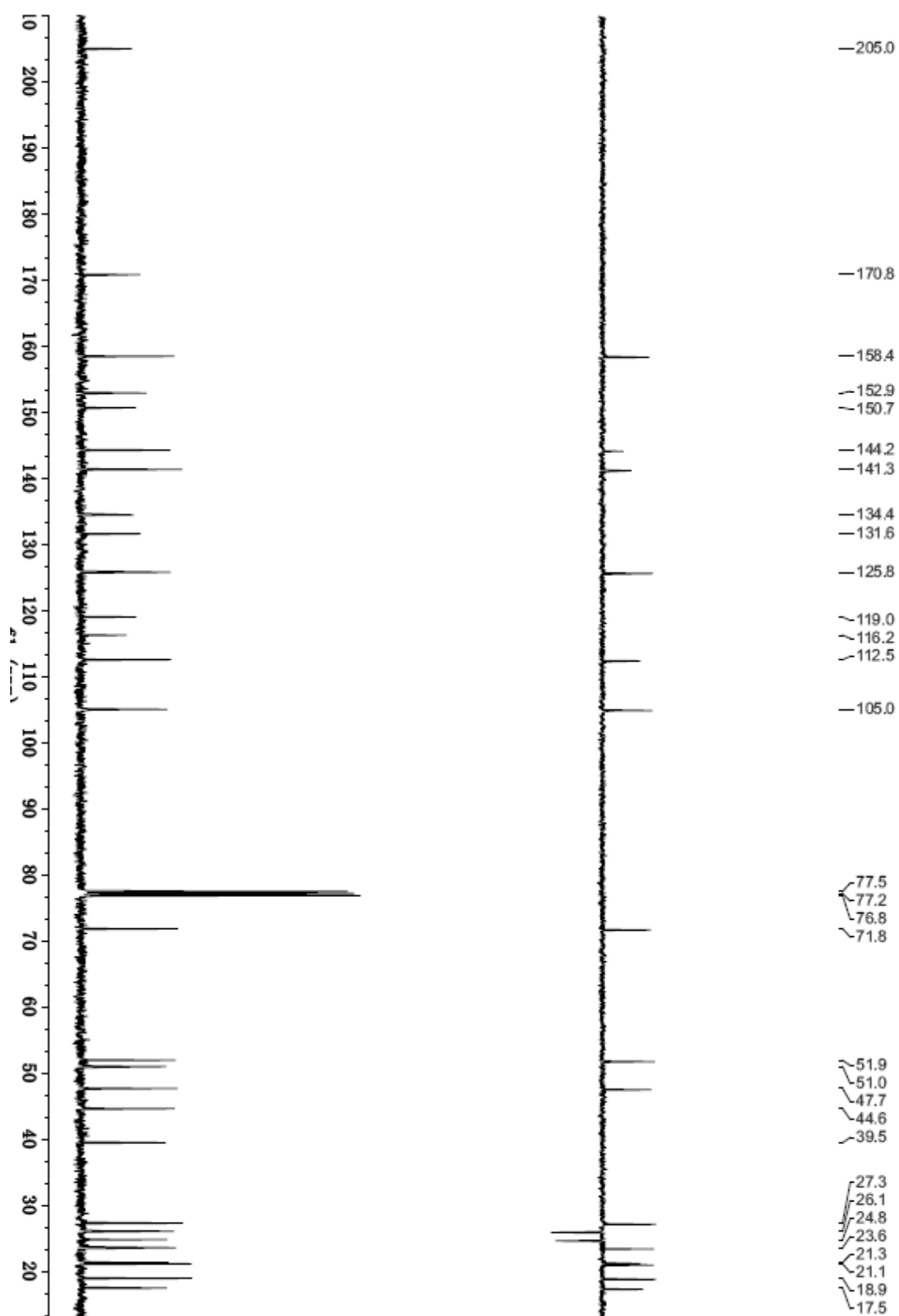


Figure S26. ROESY spectrum of walsucochinoid F (**4**) in CDCl₃

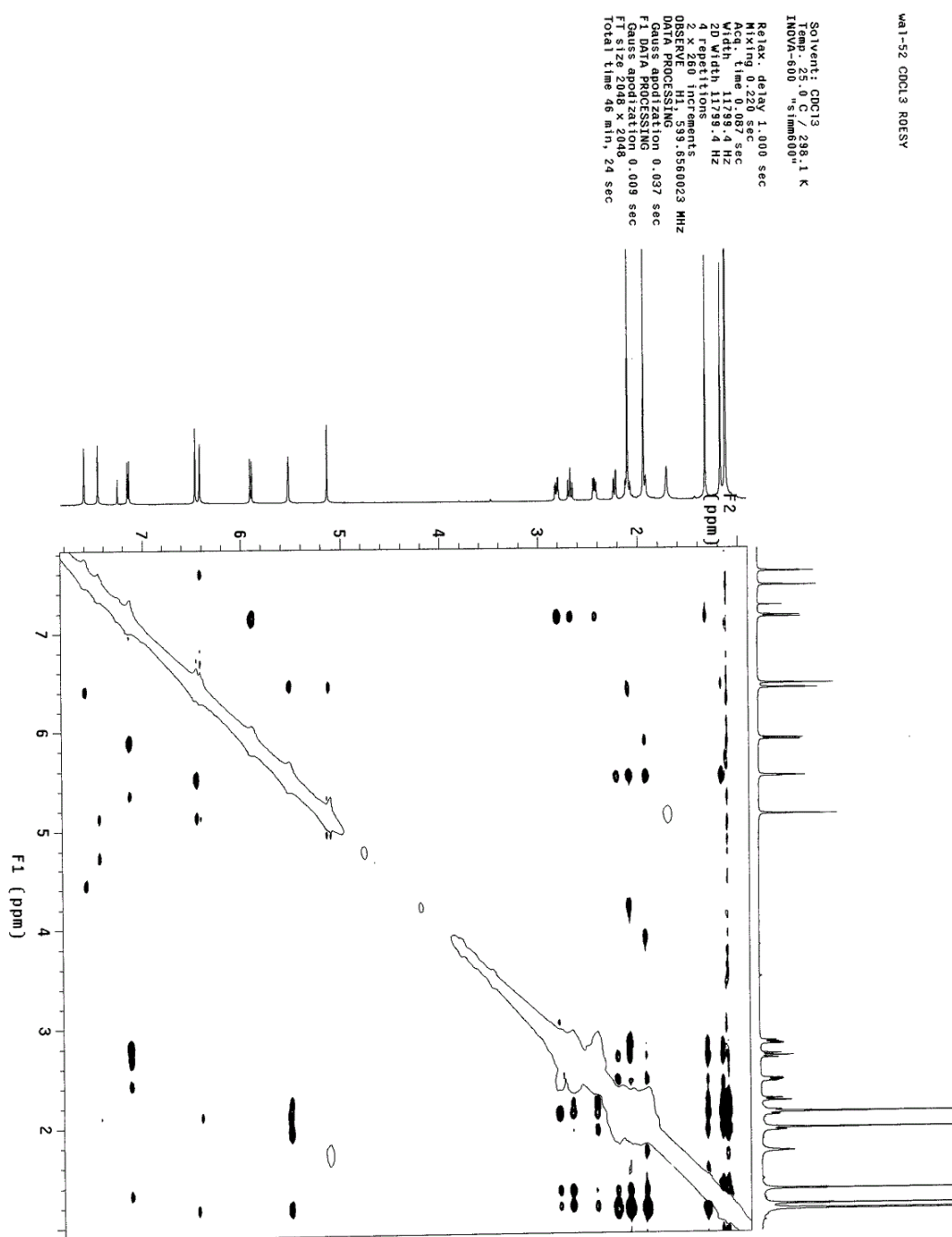


Figure S27. ESI(+)MS spectrum of walsucochinoid F (4)

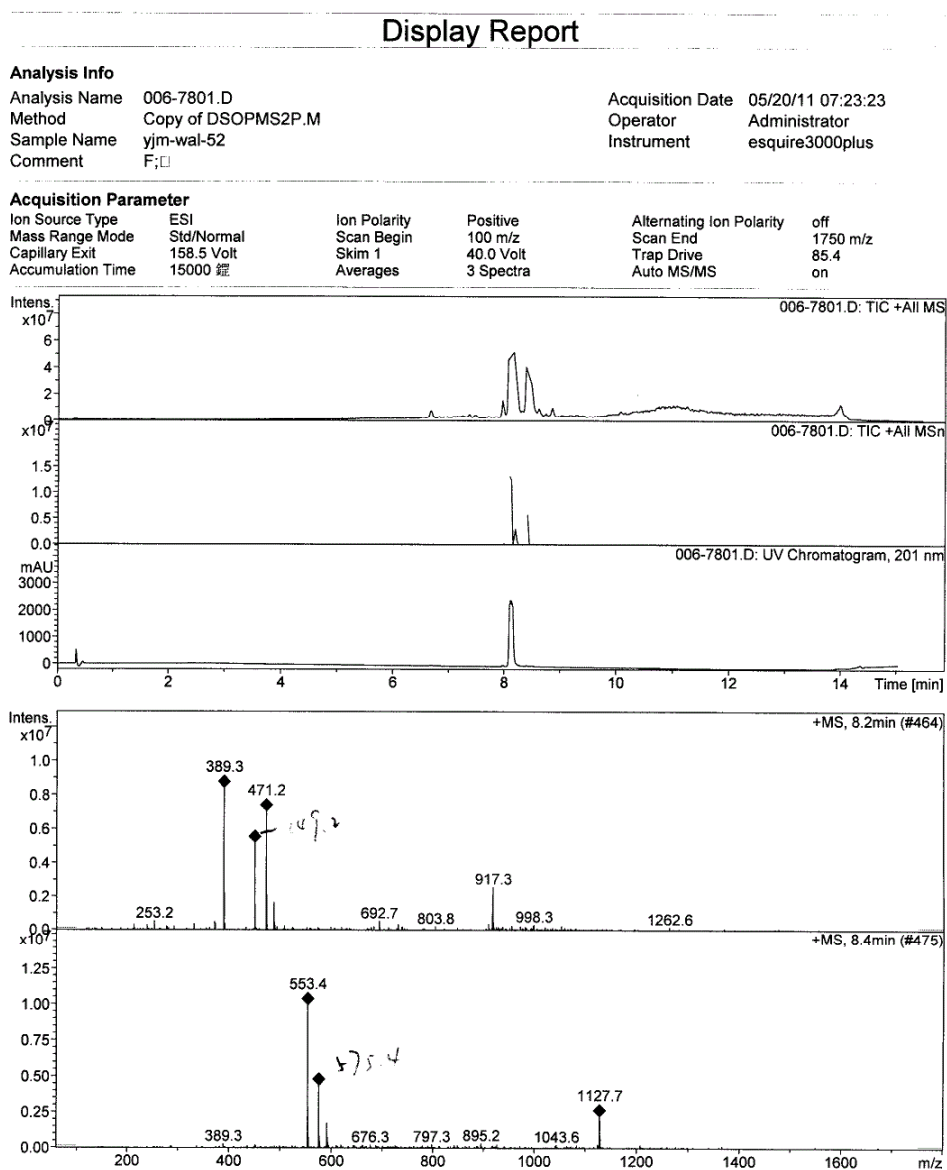


Figure S28. ESI(-)MS spectrum of walsucochinoid F (**4**)

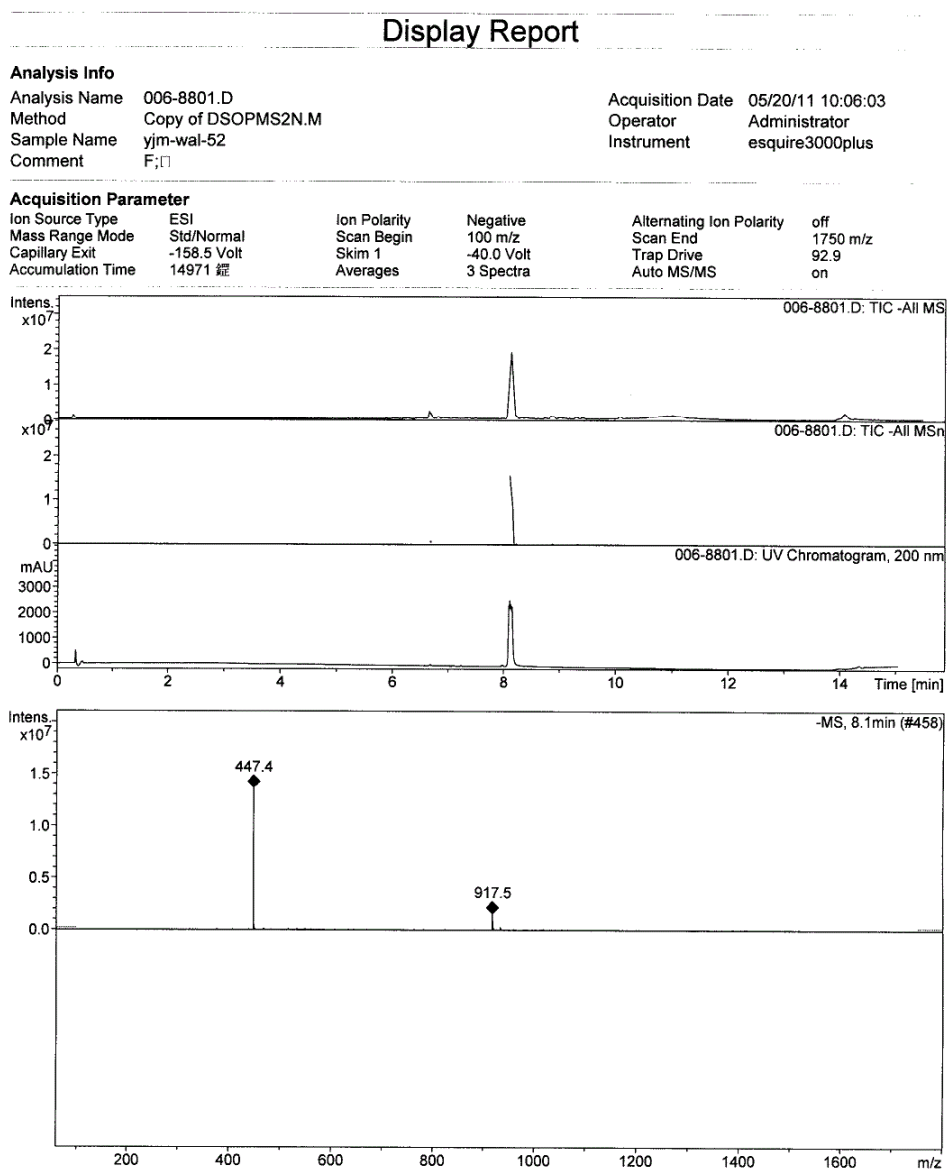


Figure S29. HRESI(–)MS spectrum of walsucochinoid F (**4**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 3.0 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

116 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30

WAL-52

LCT PXE KE324

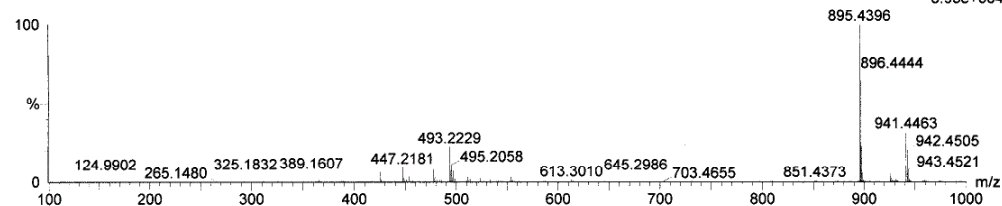
09-Nov-2011

15:54:40

1: TOF MS ES-

8.93e+004

WAL-52_1109 35 (0.742) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (26:46)



Minimum:

Maximum:

				-1.5			
		5.0	3.0	50.0			
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
493.2229	493.2226	0.3	0.6	13.5	156.3	0.0	C29 H33 O7

Figure S30. IR spectrum of walsucochinoid F (**4**)

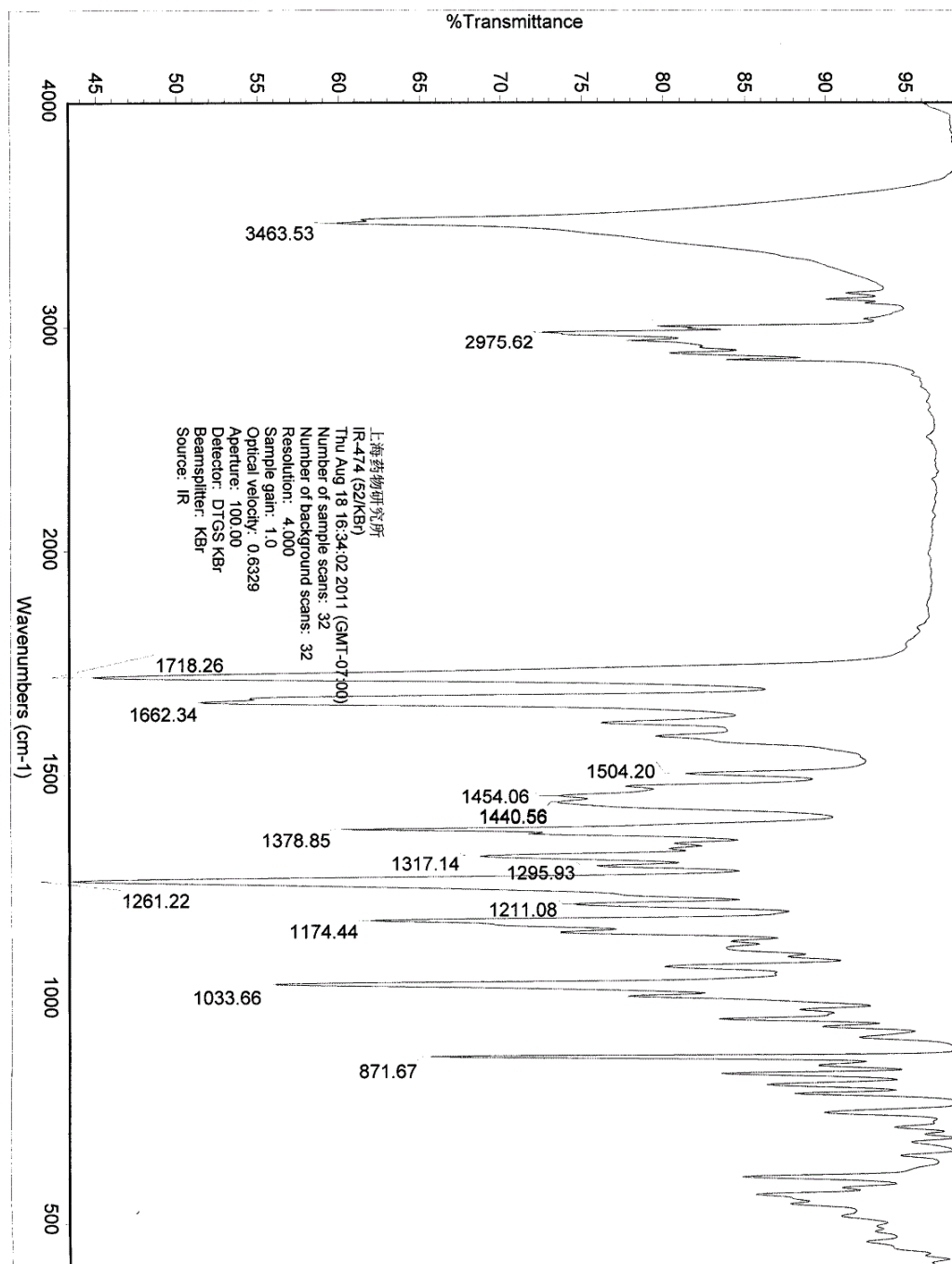


Figure S31. ^1H NMR spectrum of walsucochinoid G (5) in CDCl_3

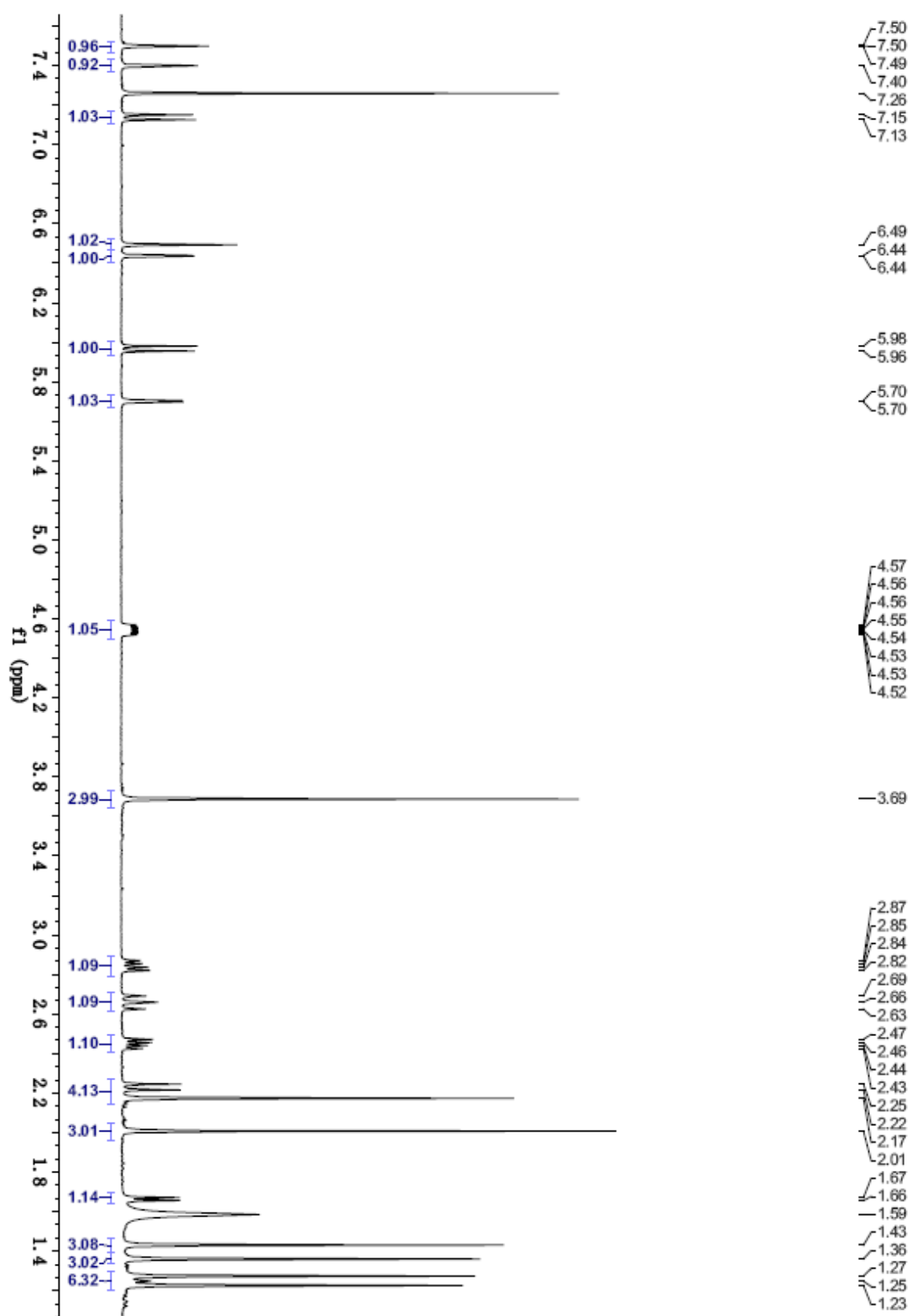


Figure S32. ^{13}C NMR spectrum of walsucochinoid G (5) in CDCl_3

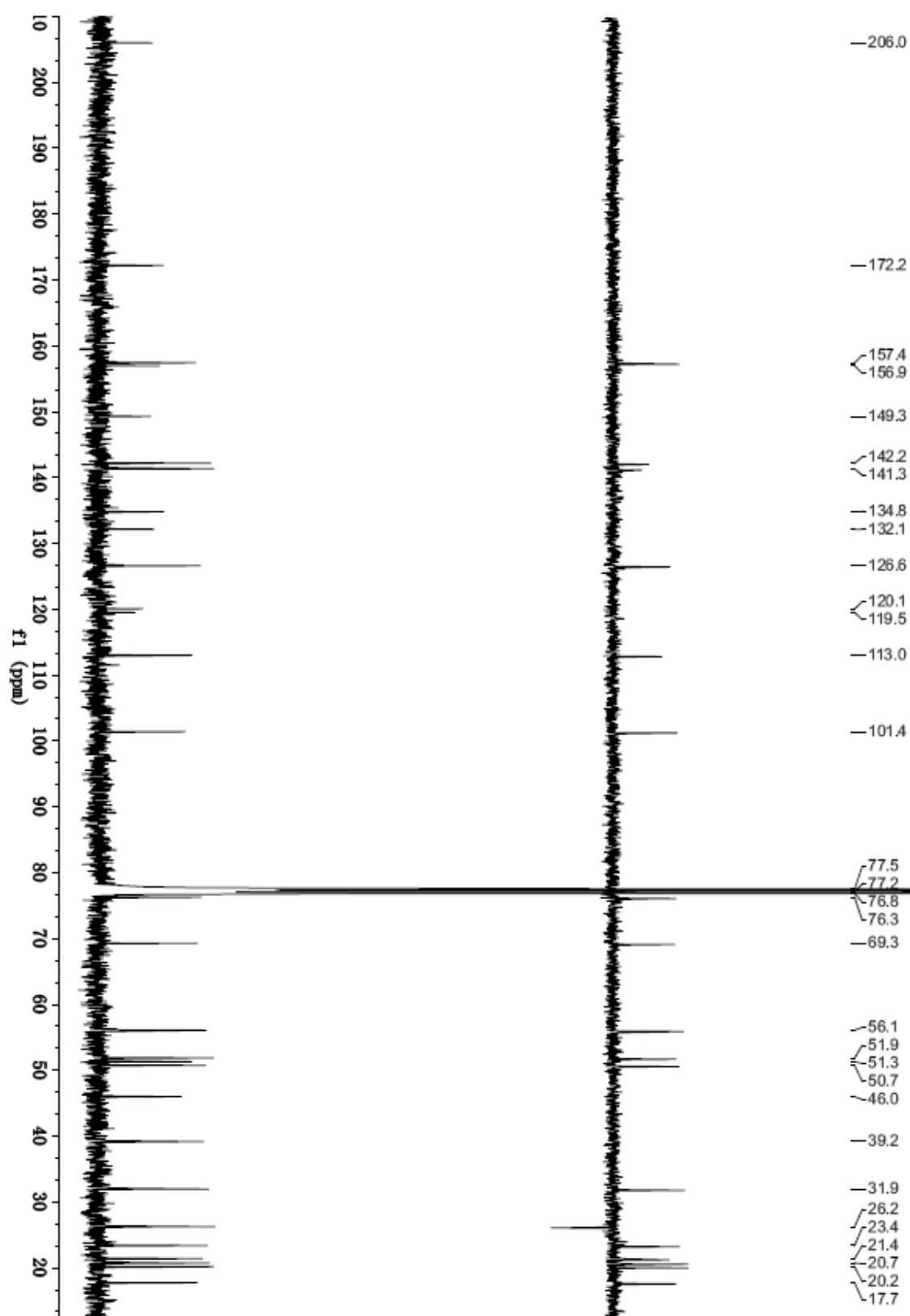


Figure S33. HSQC spectrum of walsucochinoid G (**5**) in CDCl₃

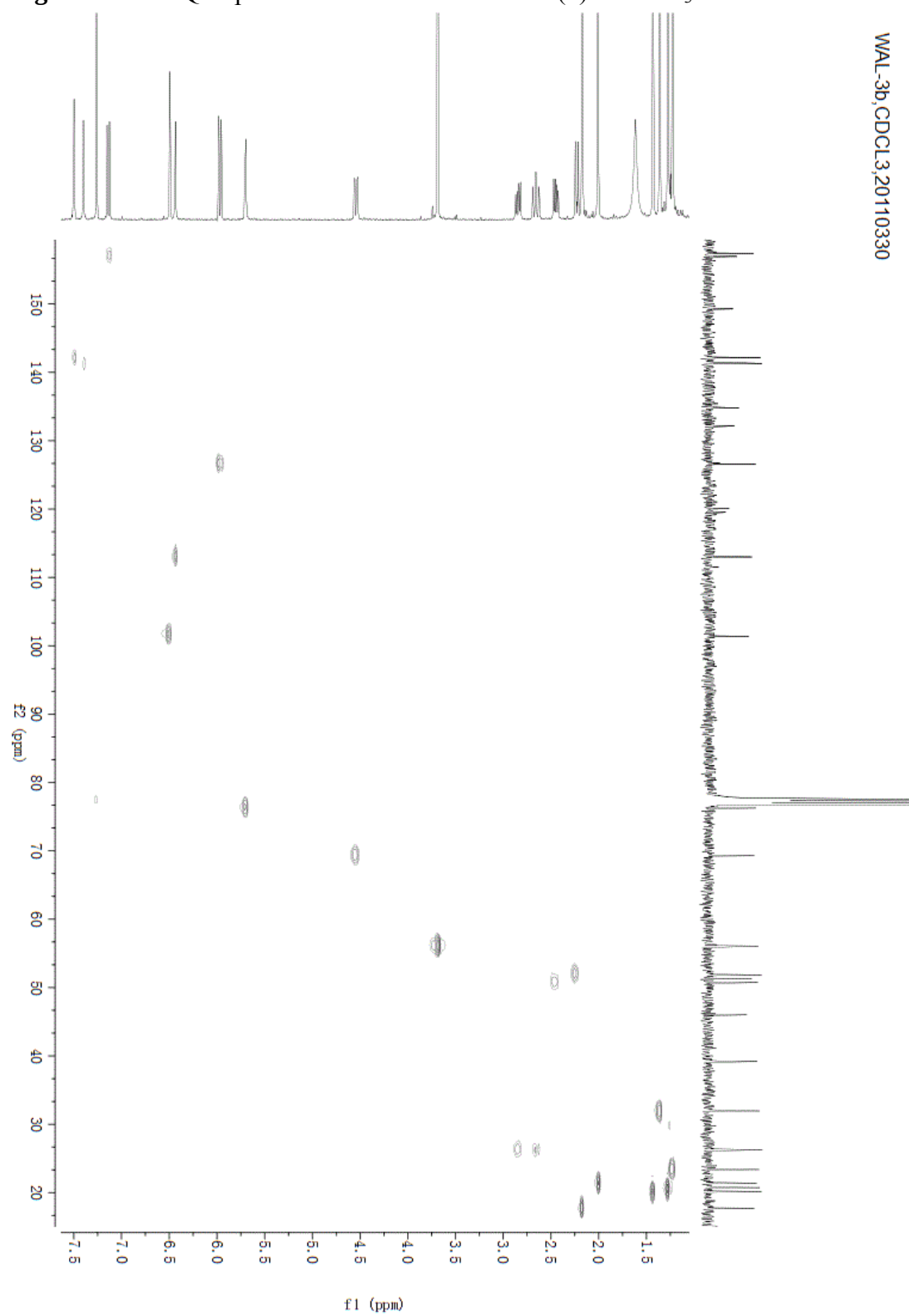


Figure S34. HMBC spectrum of walsucochinoid G (**5**) in CDCl₃

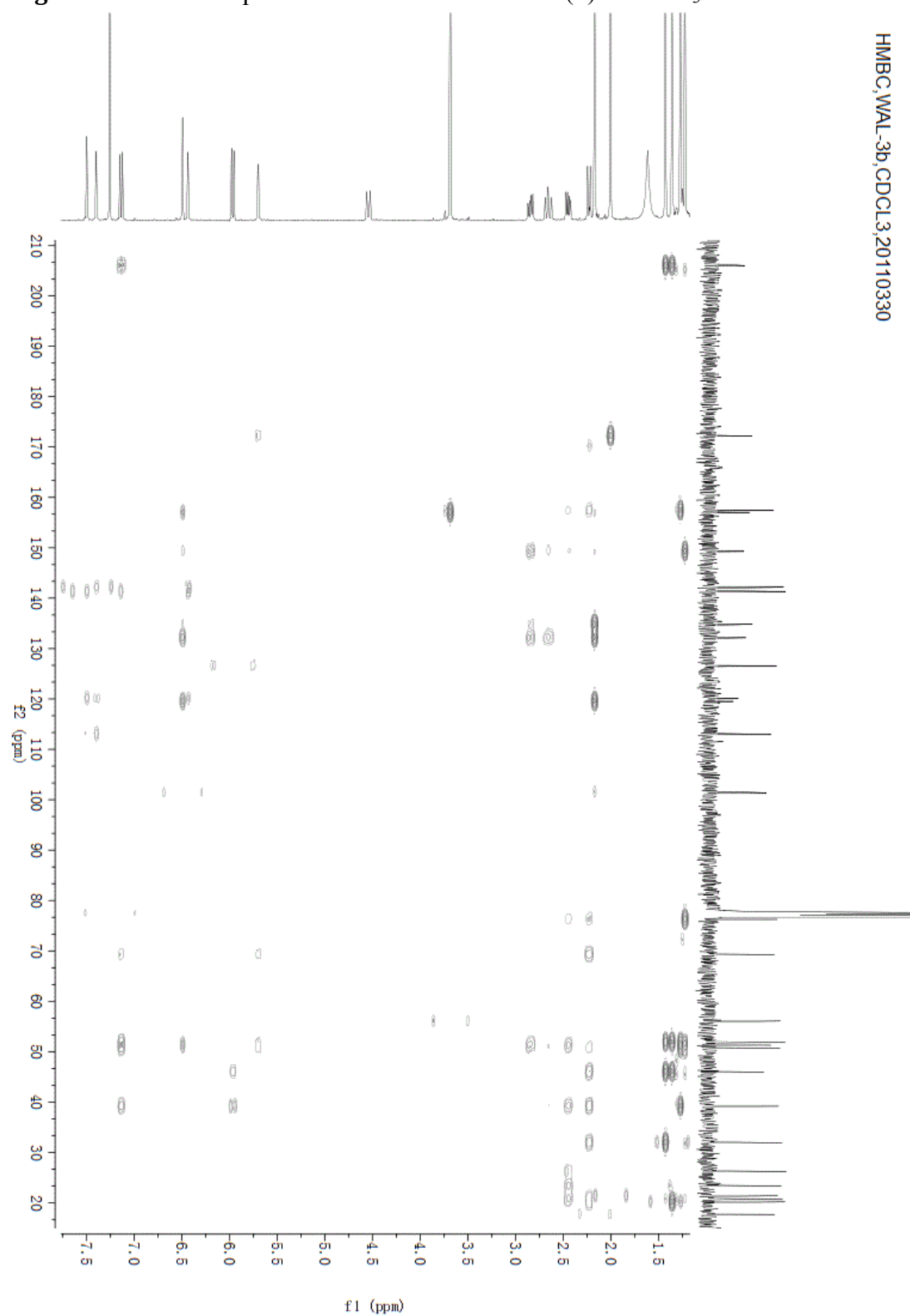


Figure S35. ROESY spectrum of walsucochinoid G (5) in CDCl₃

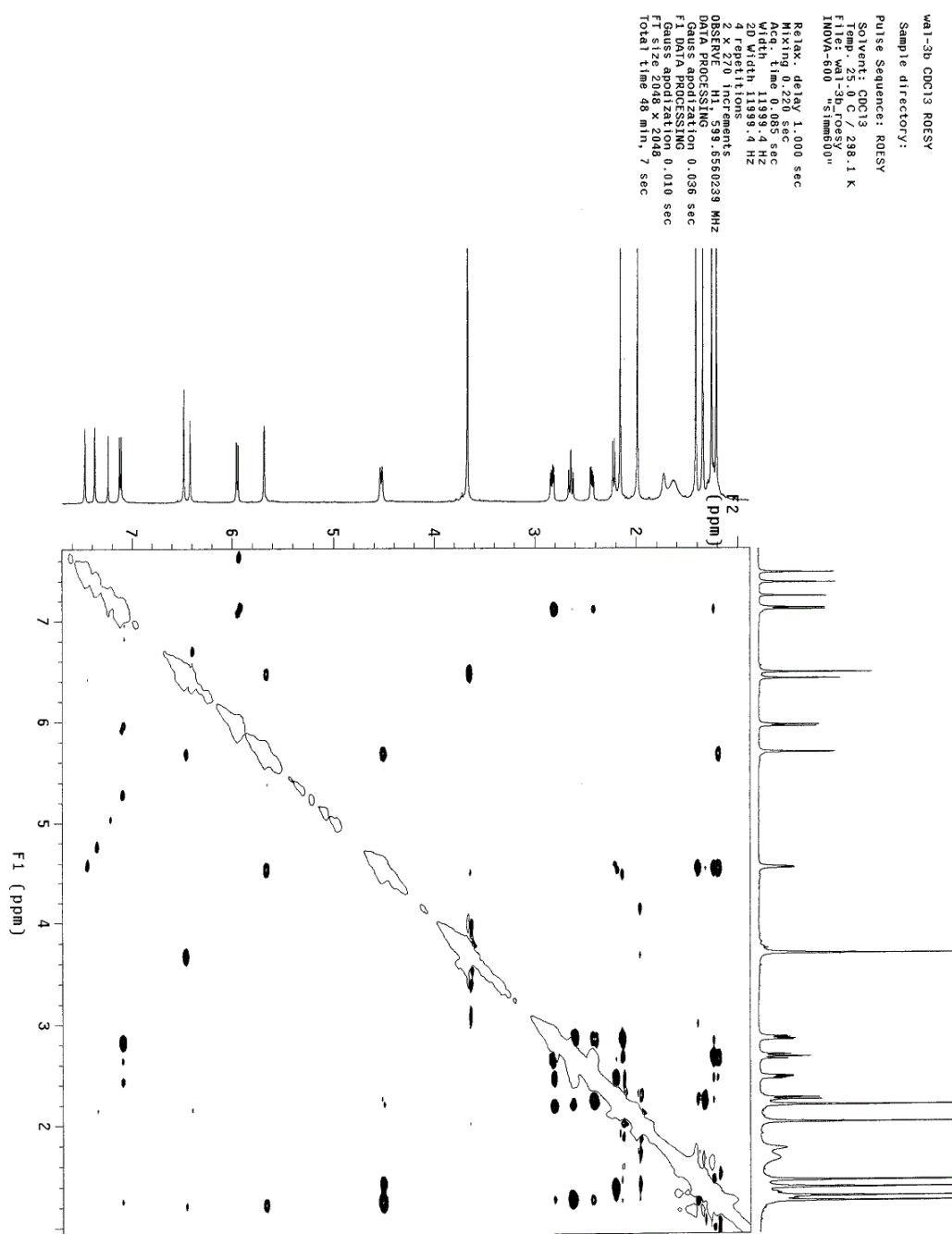


Figure S36. ESI(+)MS spectrum of walsucochinoid G (5)

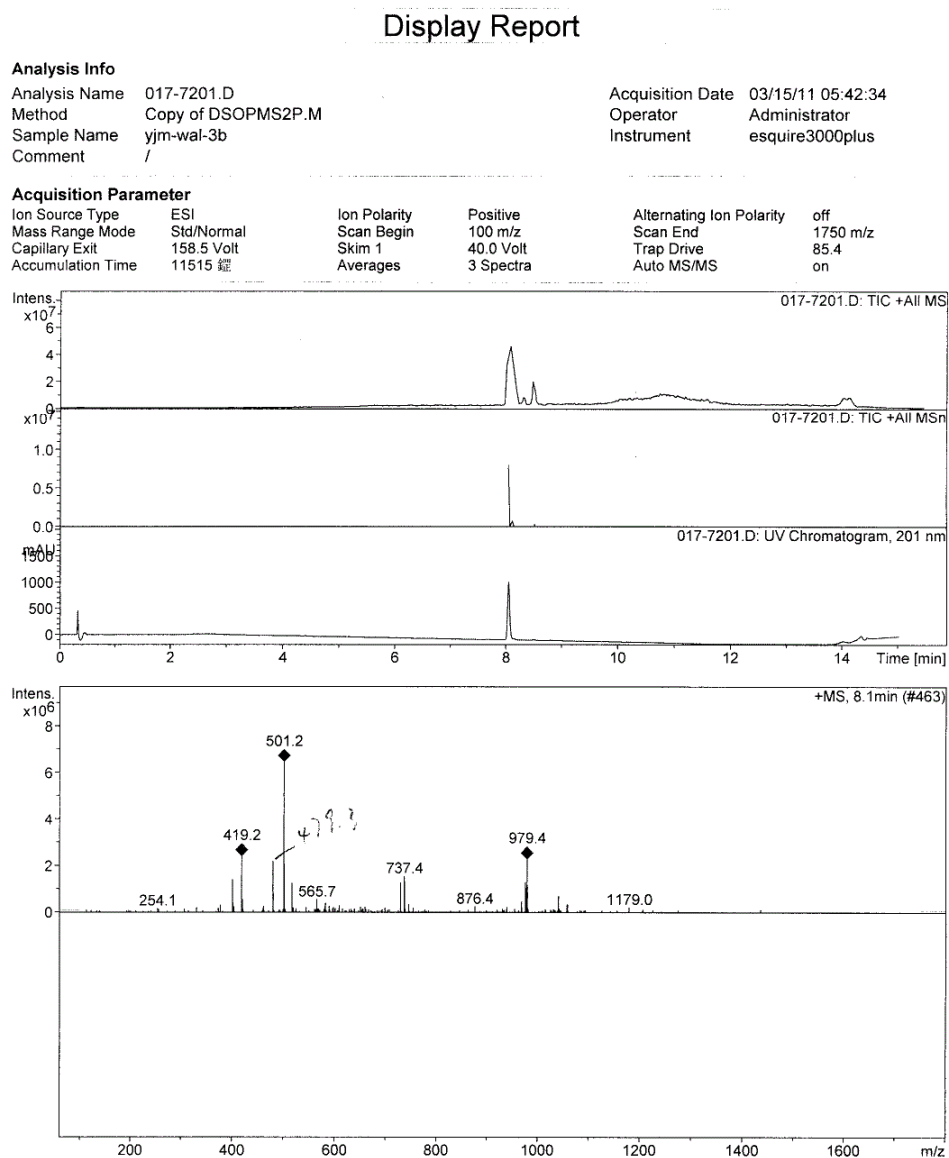


Figure S37. ESI(-)MS spectrum of walsucochinoid G (5)

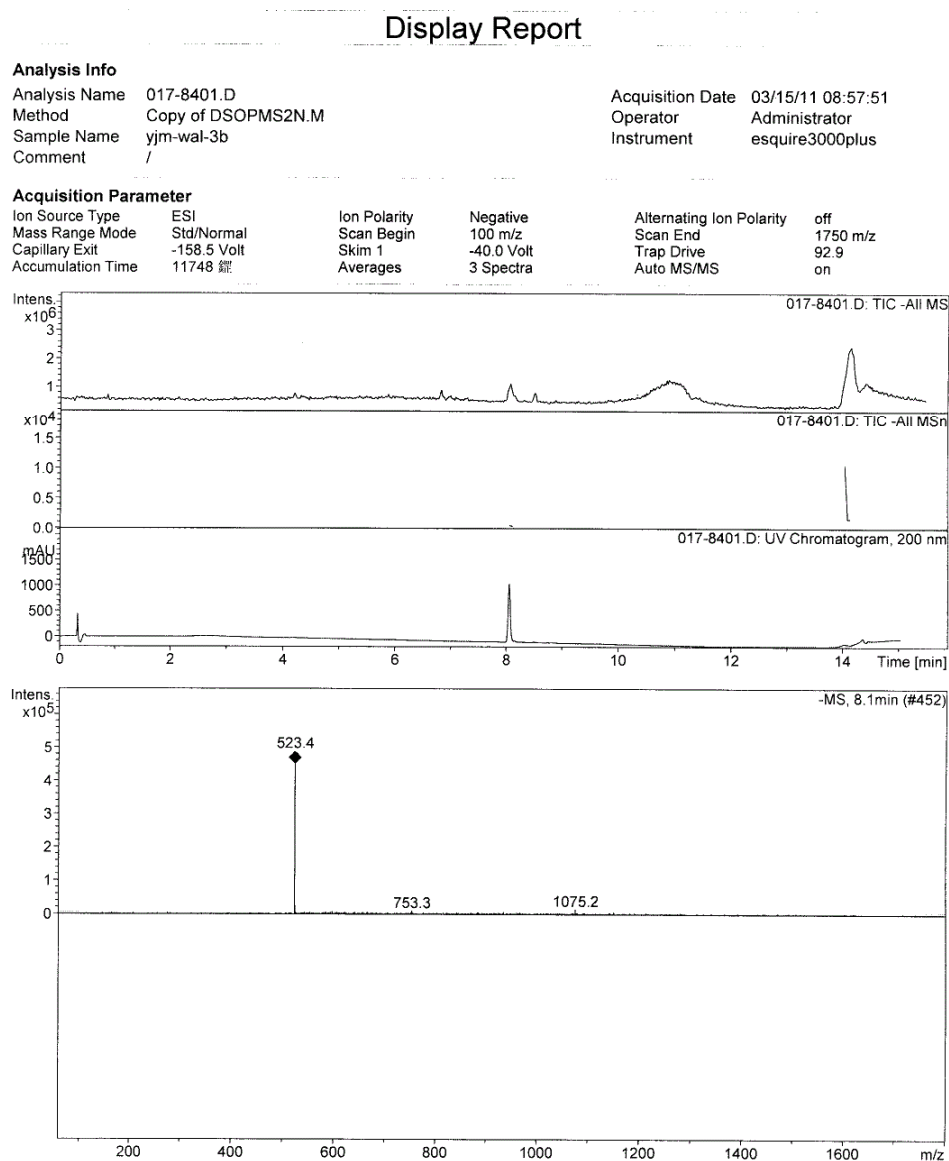


Figure S38. HRESI(–)MS spectrum of walsucochinoid G (5)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

131 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30

WAL-3b

LCT PXE KE324

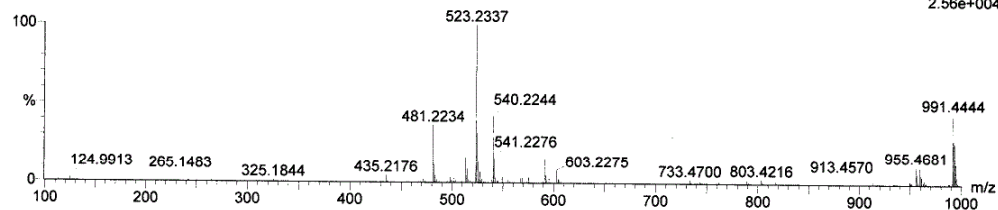
04-Nov-2011

14:33:22

WAL-3b_1104 12 (0.247) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (6:21)

1: TOF MS ES-

2.56e+004



Minimum:

Maximum:

2.0

2.0

-1.5

50.0

Mass

Calc. Mass

mDa

PPM

DBE

i-FIT

i-FIT (Norm)

Formula

523.2337

523.2332

0.5

1.0

13.5

137.8

0.0

C30 H35 O8

Figure S39. IR spectrum of walsucochinoid G (5)

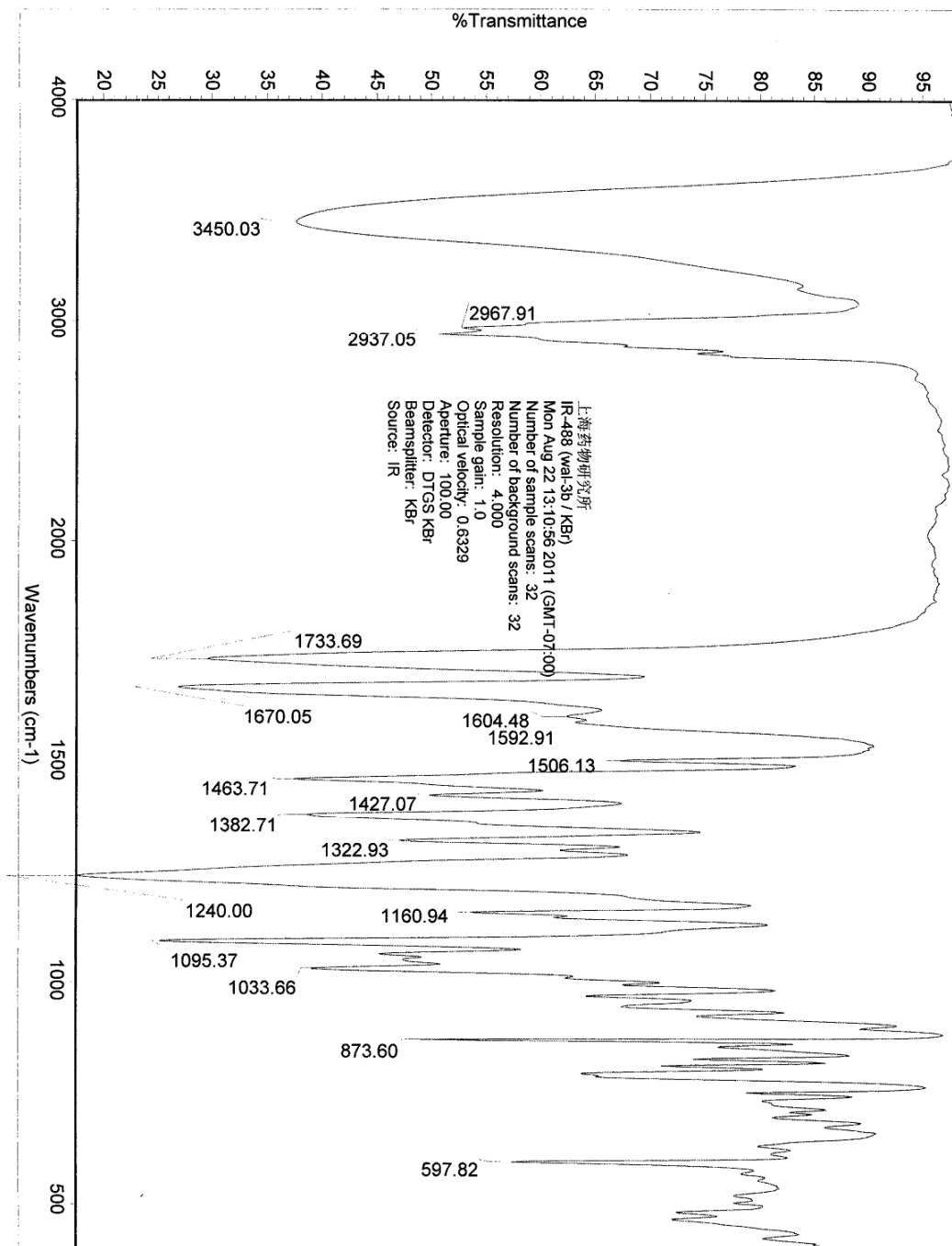


Figure S40. ^1H NMR spectrum of walsucochinoid H (**6**) in CDCl_3

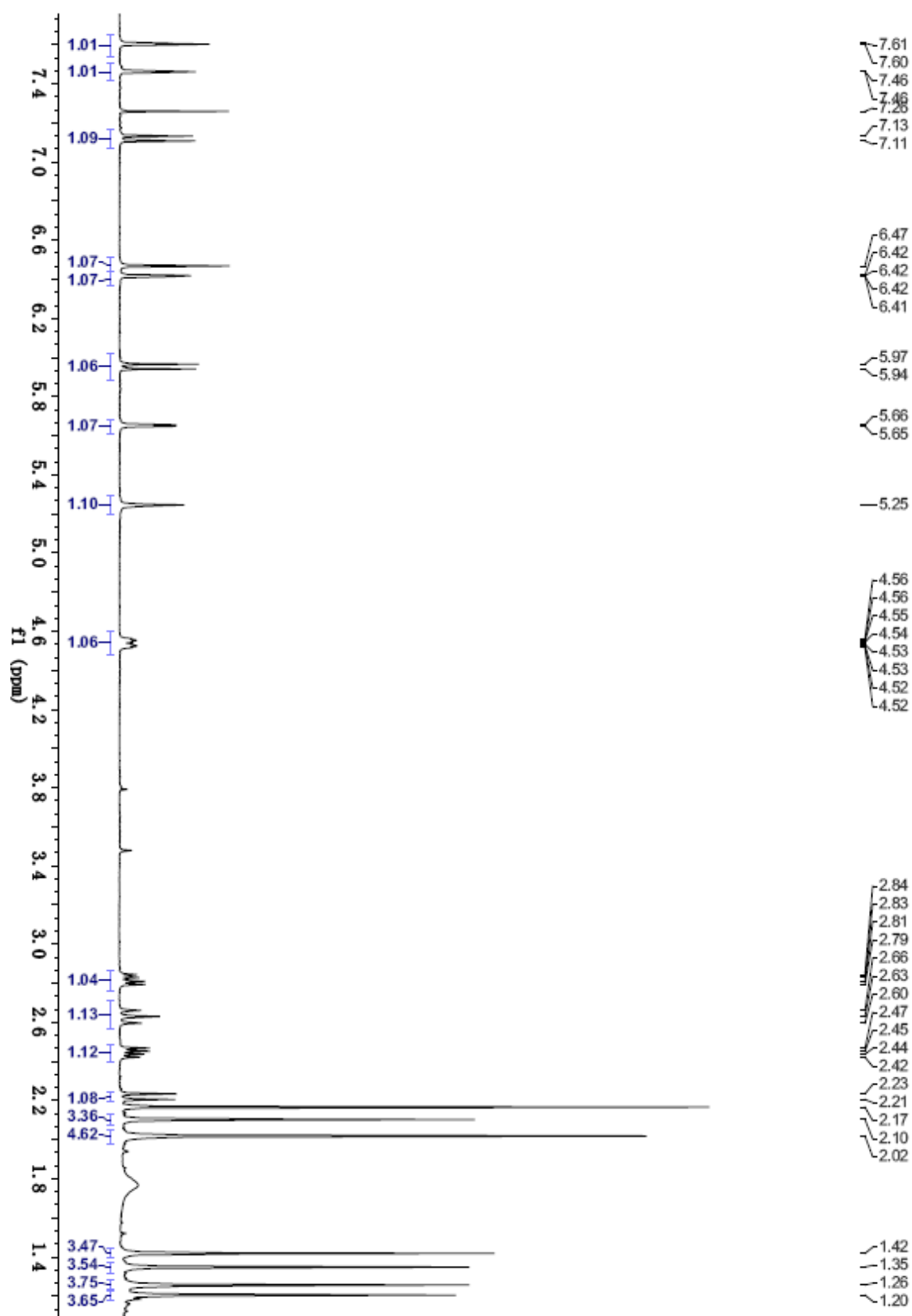


Figure S41. ^{13}C NMR spectrum of walsucochinoid H (**6**) in CDCl_3

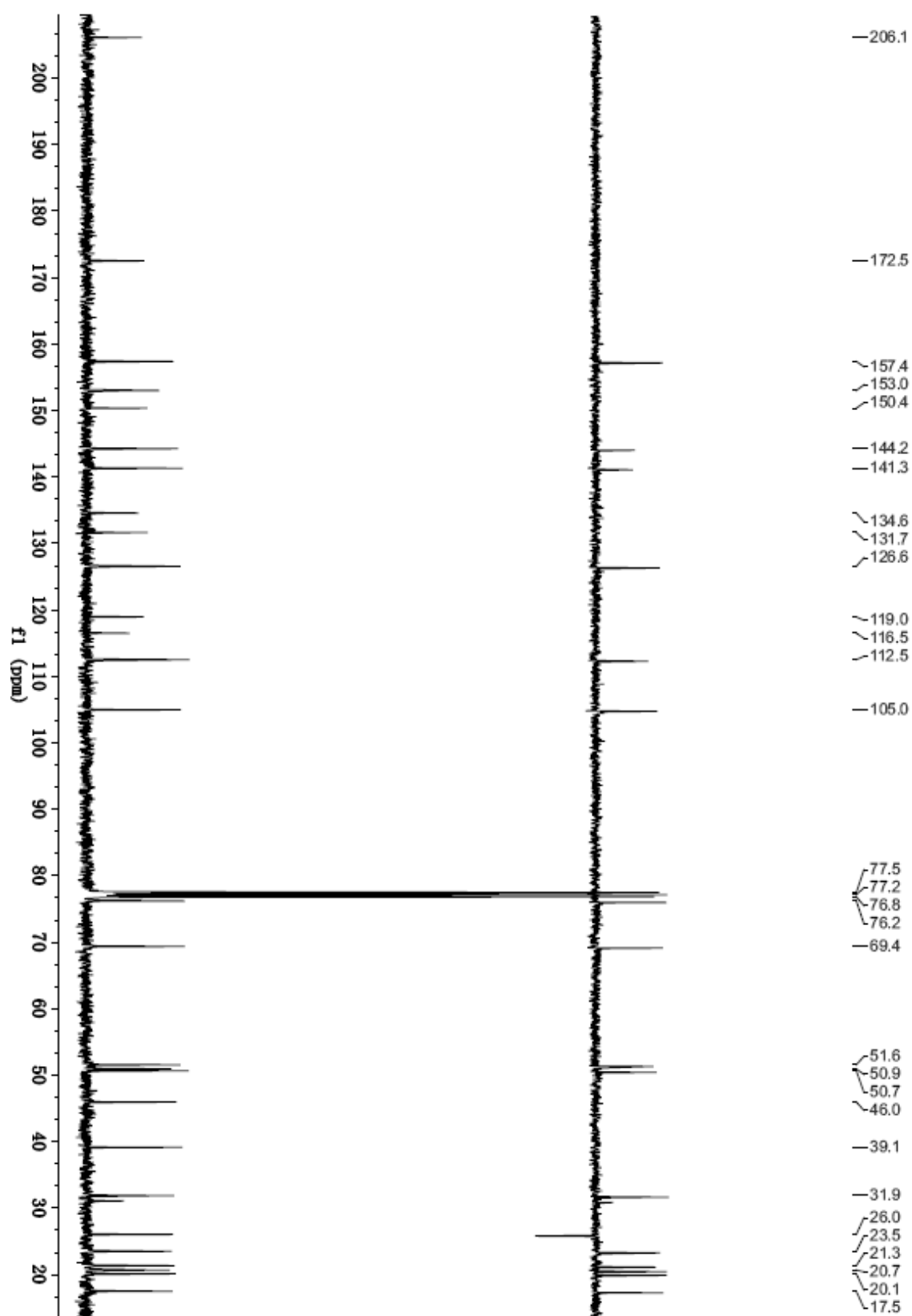


Figure S42. HSQC spectrum of walsucochinoid H (**6**) in CDCl₃

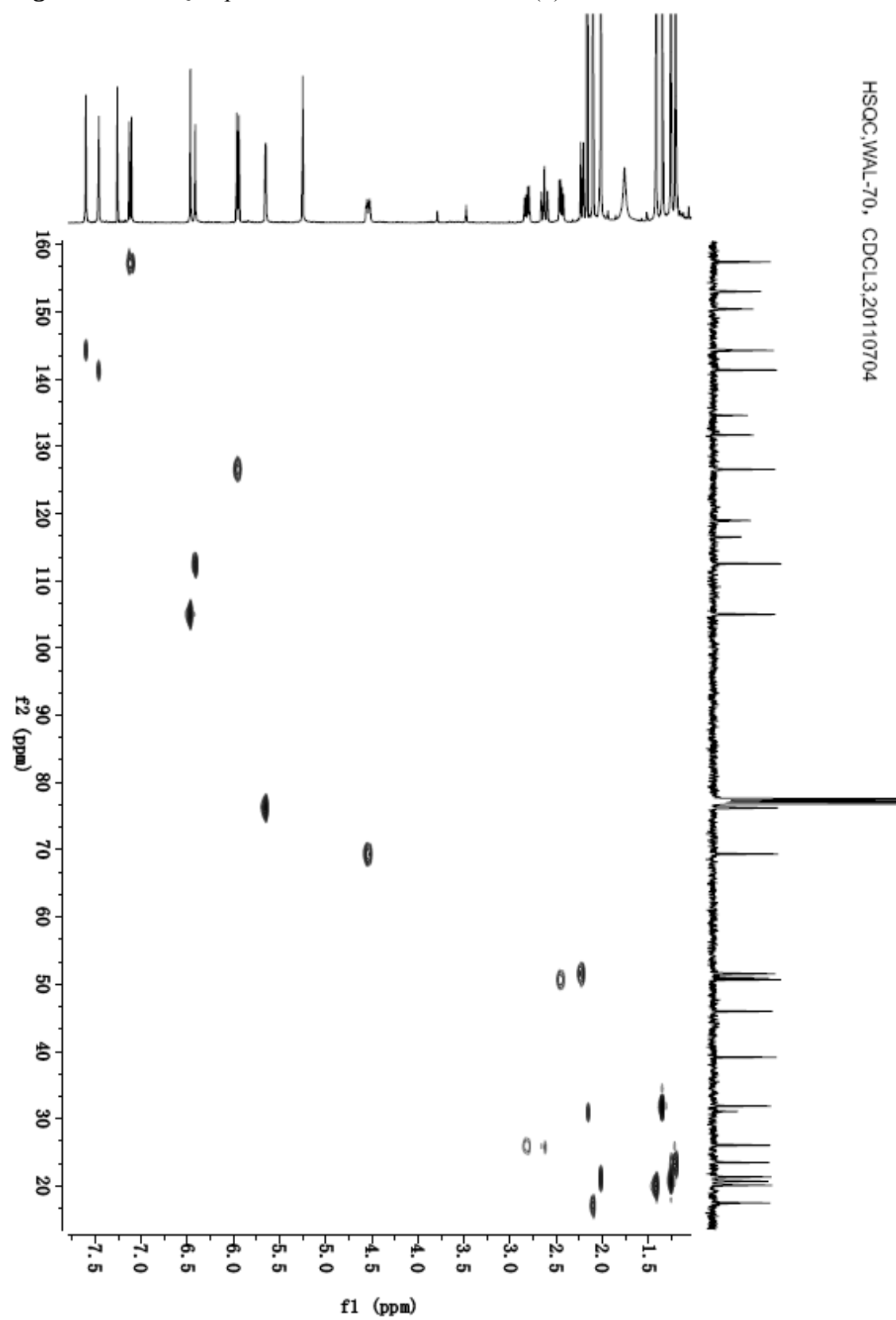


Figure S43. HMBC spectrum of walsucochinoid H (**6**) in CDCl₃

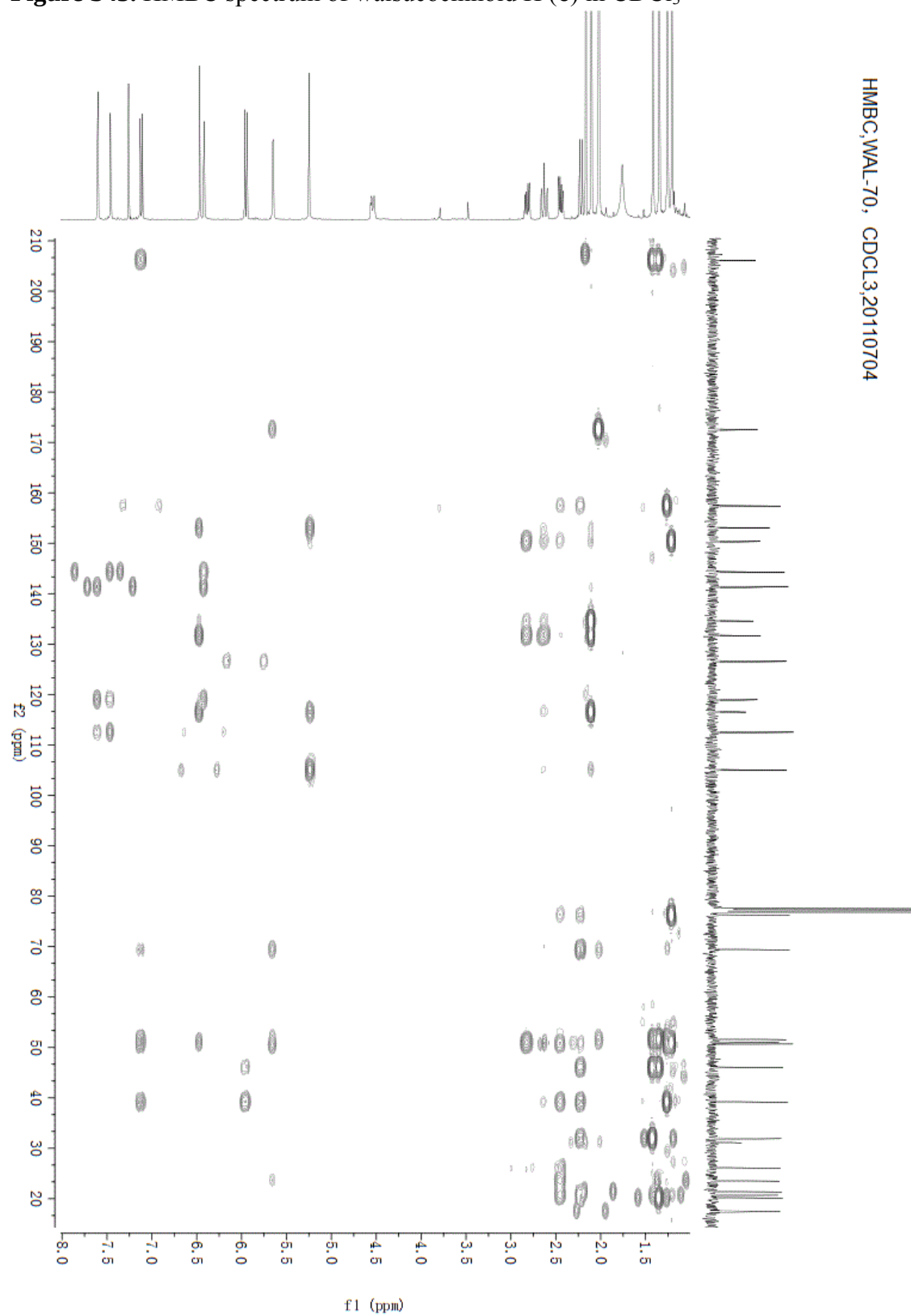
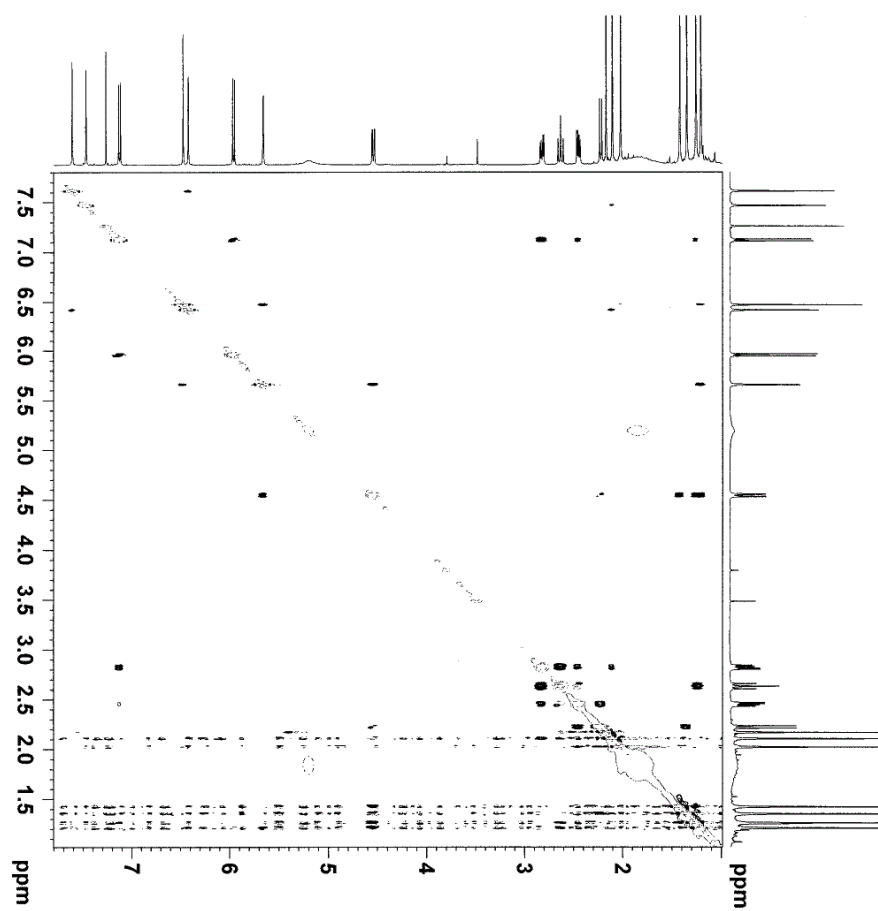


Figure S44. NOESY spectrum of walsucochinoid H (**6**) in CDCl₃

wal-70 CDCl₃ NOESY



```

Current Data Parameters
NAME      wal-70
EXPNO     5
PROCNO    1

F2 - Acquisition Parameters
Date_     20110722
Time      10.18
INSTRUM   spect
PROBHD    5 mm CPDCH 13C
PULPROG   noesypppp
TD         2048
SOLVENT   CDCl3
NS         16
DS         2
SWH        5000.000 Hz
FIDRES     2.441406 Hz
AQ         0.2048500 sec
RG          3.87
RW         100.000 usec
DE         10.000 usec
TE         299.8 K
D0         0.00008368 sec
D1         1.00000000 sec
D8         0.69999999 sec
D11        0.03000000 sec
D12        0.00000000 sec
IN0        0.00015995 sec

===== CHANNEL f1 =====
NUC1       1H
P1         12.80 usec
PL1        2.000 Hz
PT1        12.00000000 sec
PT10       2.90840005 M
SF01       500.1320005 MHz

F1 - Acquisition Parameters
TD         320
SF01       500.132 MHz
SFO1       15.622334 Hz
SFOBS      14.0000 Ppm
PULPROG    States-TPPI
F2 - Processing Parameters
SI         1024
SF         500.1300099 MHz
WDW         SINE
SSB         2
LB          0 Hz
GB          0
PC          1.00

F1 - Processing parameters
SI         32768
MC2        States-TPPI
SF         500.1300069 MHz
WDW         SINE
SSB         2
LB          0 Hz
GB          0

```

Figure S45. ESI(+)MS spectrum of walsucochinoid H (6)

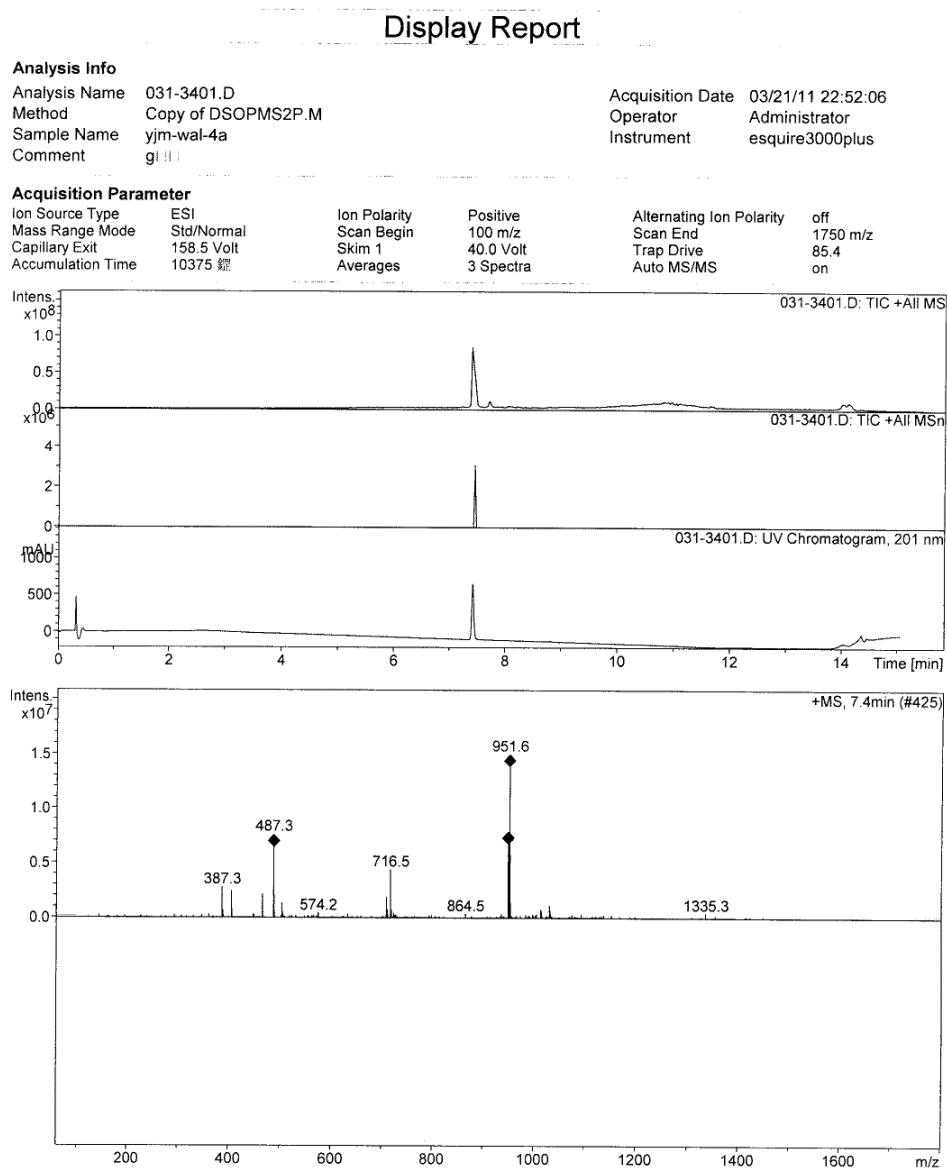


Figure S46. ESI(-)MS spectrum of walsucochinoid H (6)

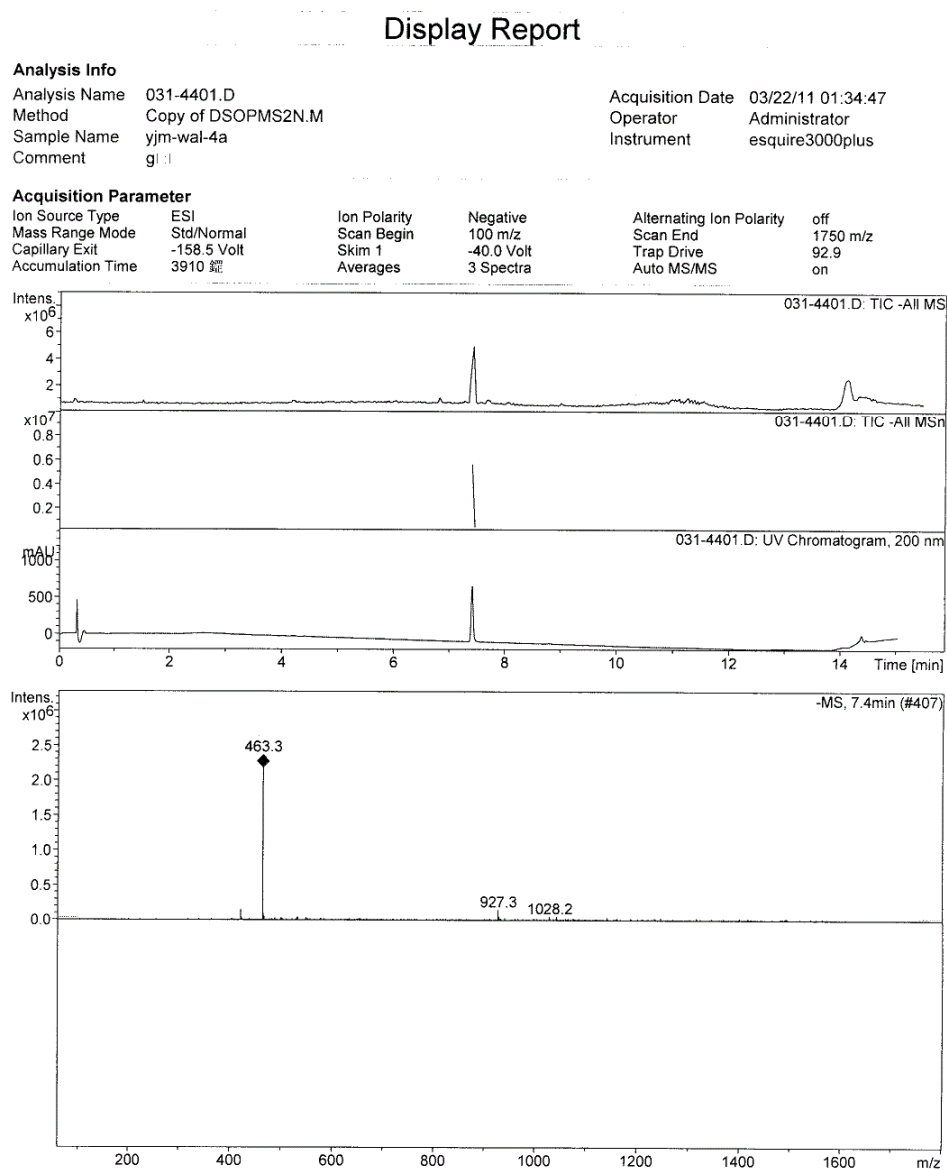


Figure S47. HRESI(–)MS spectrum of walsucochinoid H (6)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

232 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-4a

LCT PXE KE324

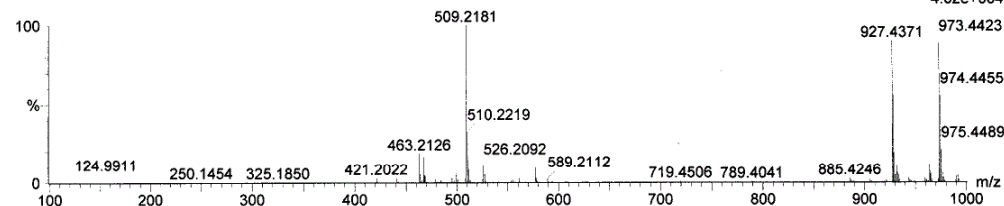
04-Nov-2011

15:09:16

1: TOF MS ES-

4.02e+004

WAL-4a_1104 24 (0.528) AM2 (Ar,12000.0,0.00,0.70); ABS; Cm (22:36)



Minimum: -1.5
Maximum: 2.0 2.0 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
509.2181	509.2175	0.6	1.2	13.5	178.7	0.0	C29 H33 O8

Figure S48. IR spectrum of walsucochinoid H (6)

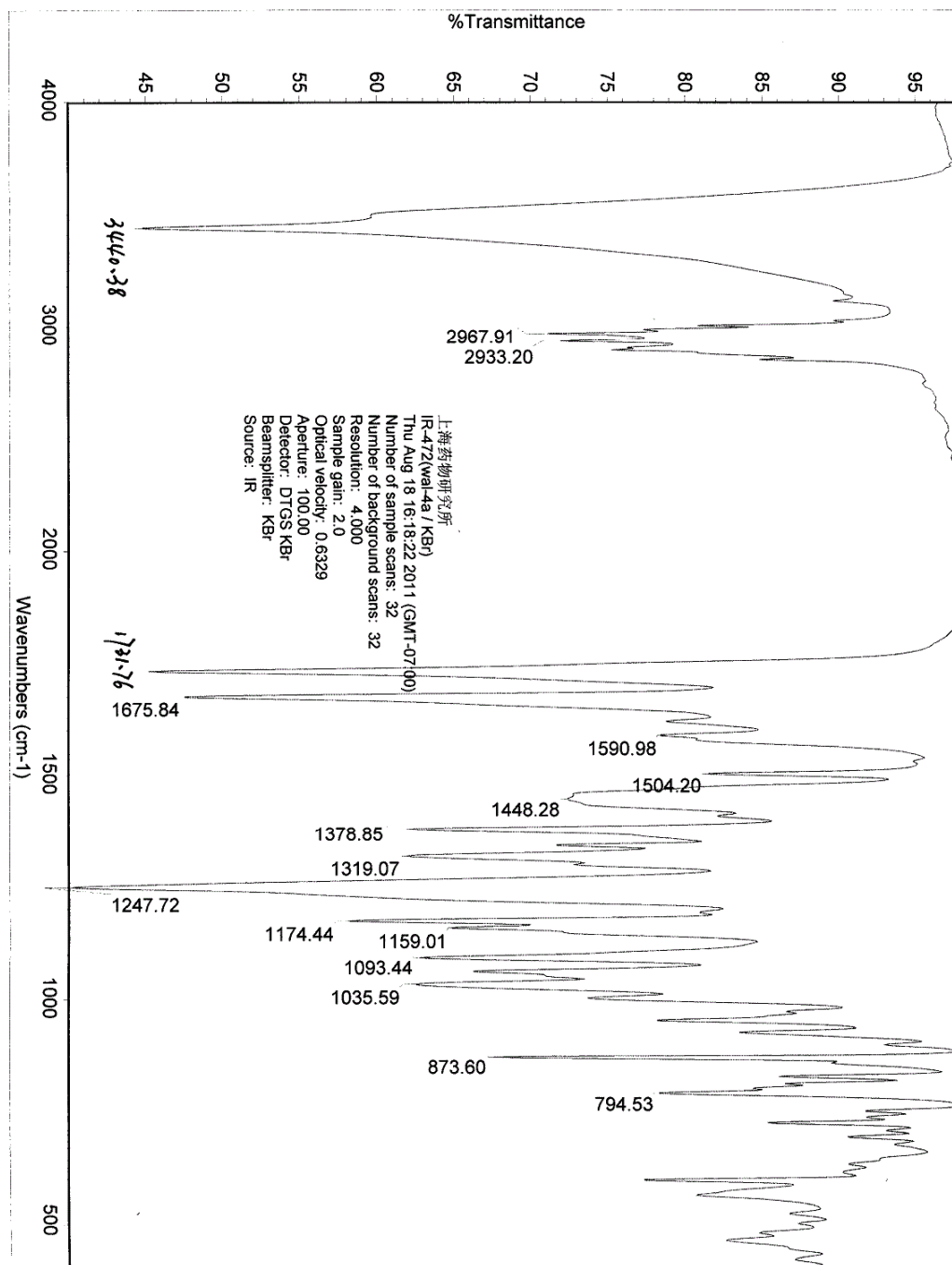


Figure S49. ^1H NMR spectrum of walsucochinoid I (7) in CDCl_3

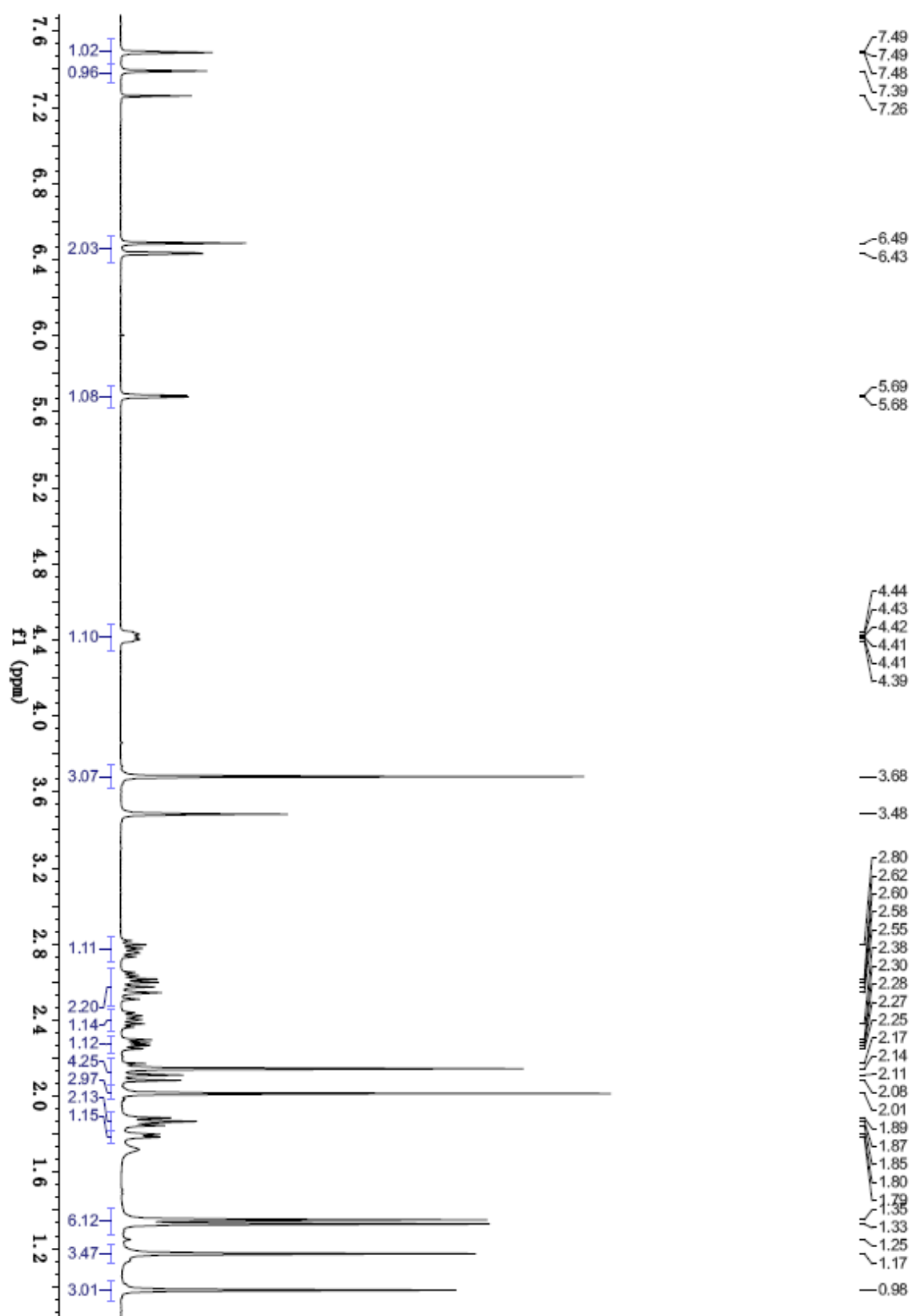


Figure S50. ^{13}C NMR spectrum of walsucochinoid I (7) in CDCl_3

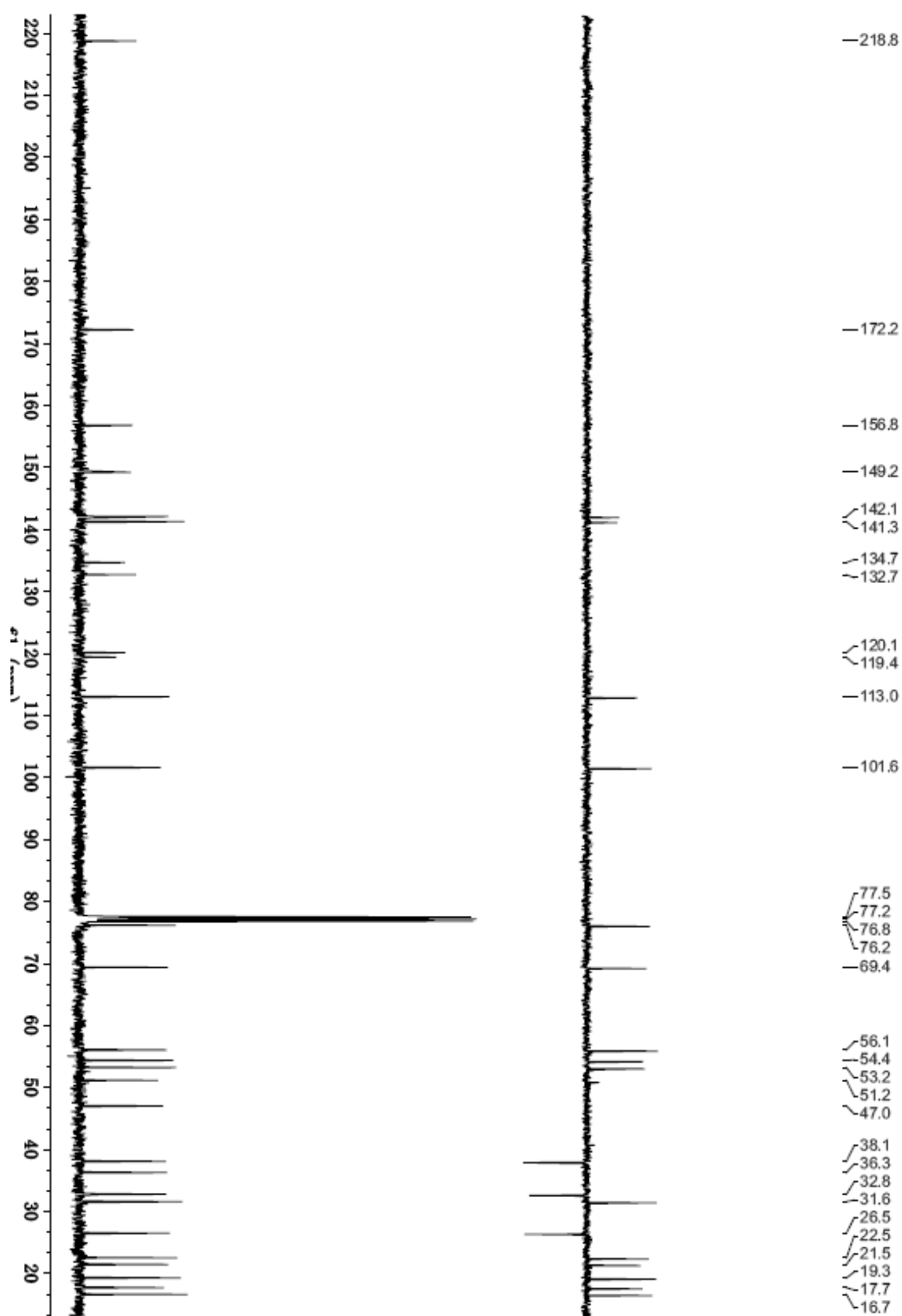


Figure S51. HSQC spectrum of walsucochinoid I (**7**) in CDCl₃

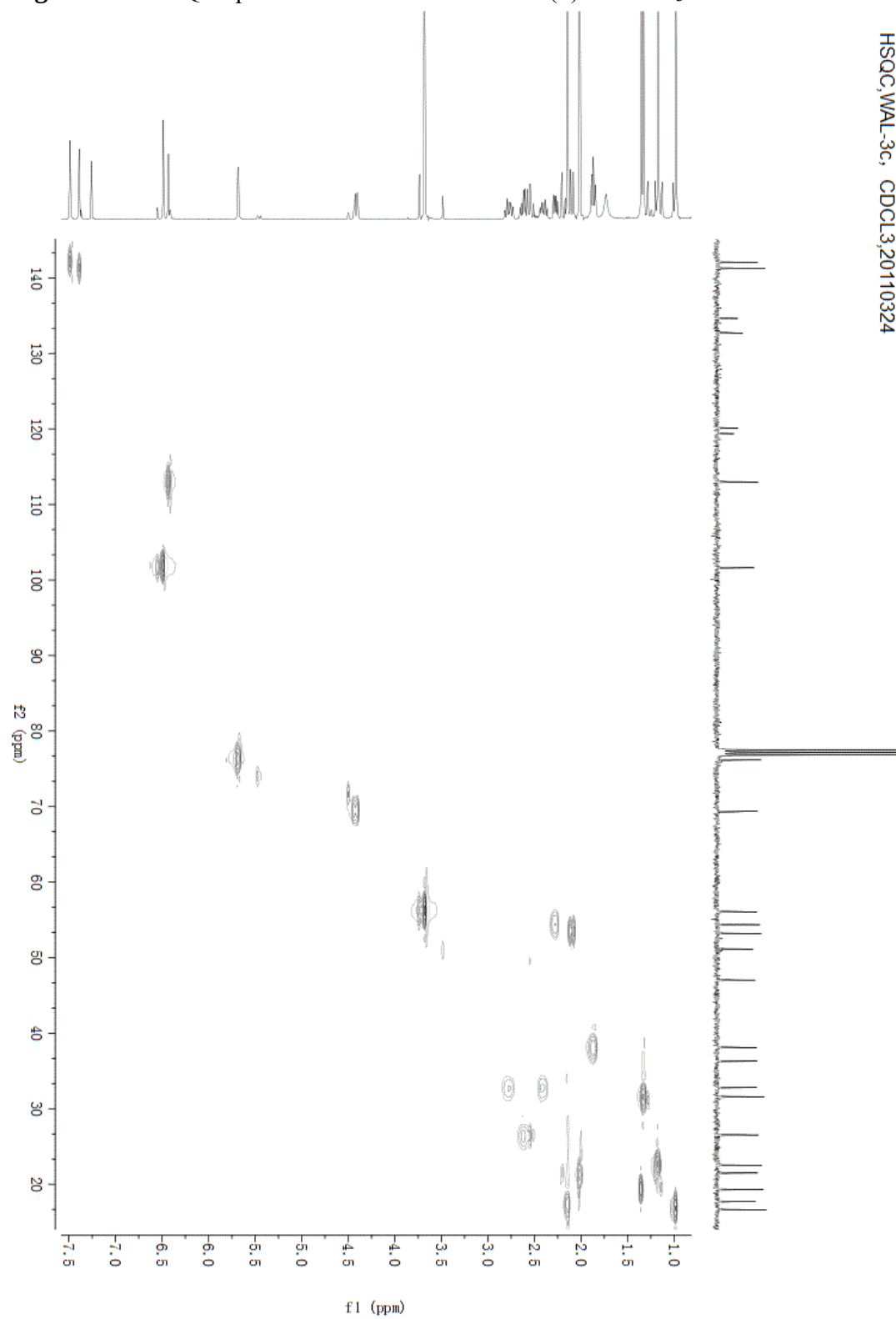


Figure S52. HMBC spectrum of walsucochinoid I (7) in CDCl₃

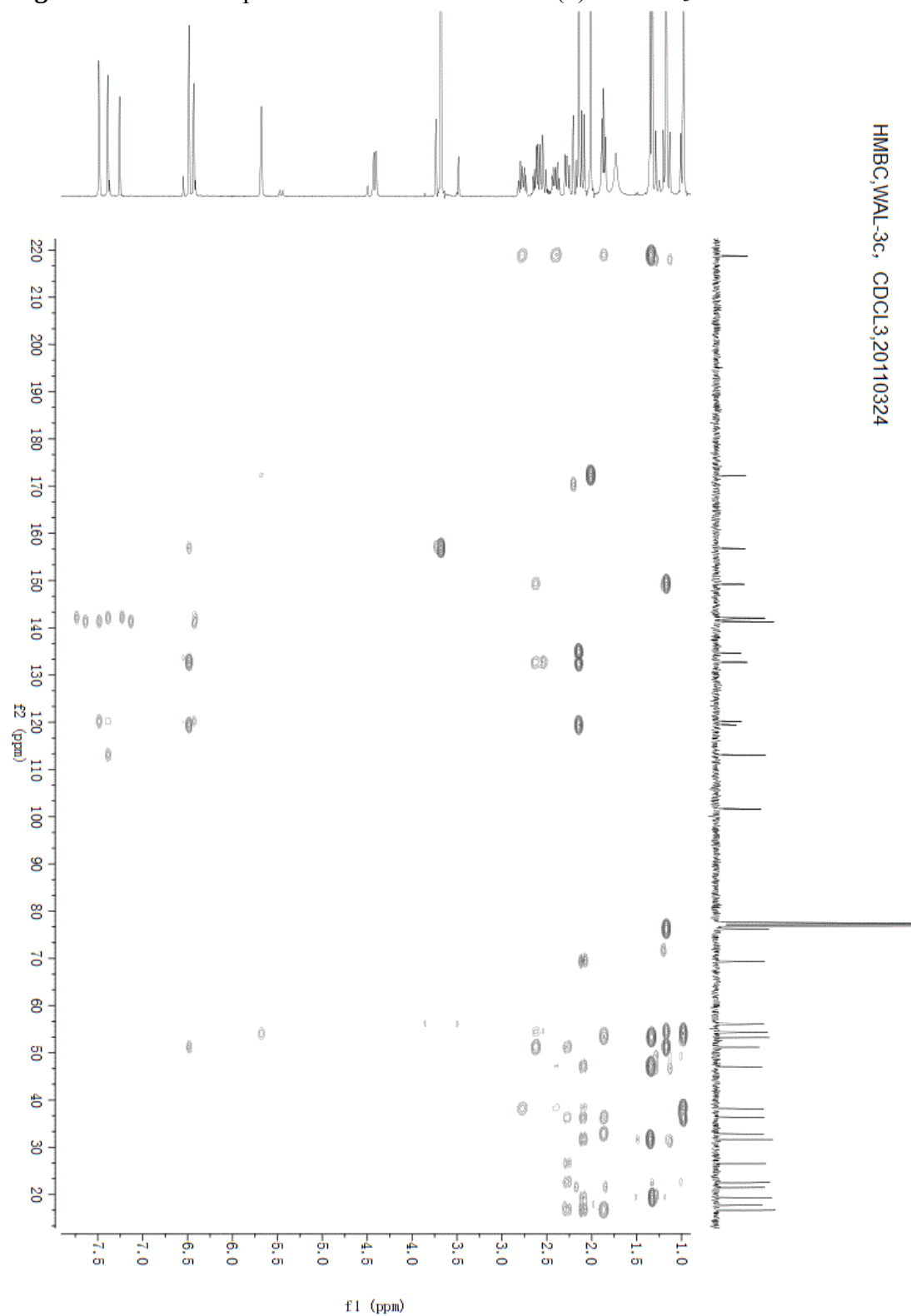


Figure S53. ROESY spectrum of walsucochinoid I (**7**) in CDCl₃

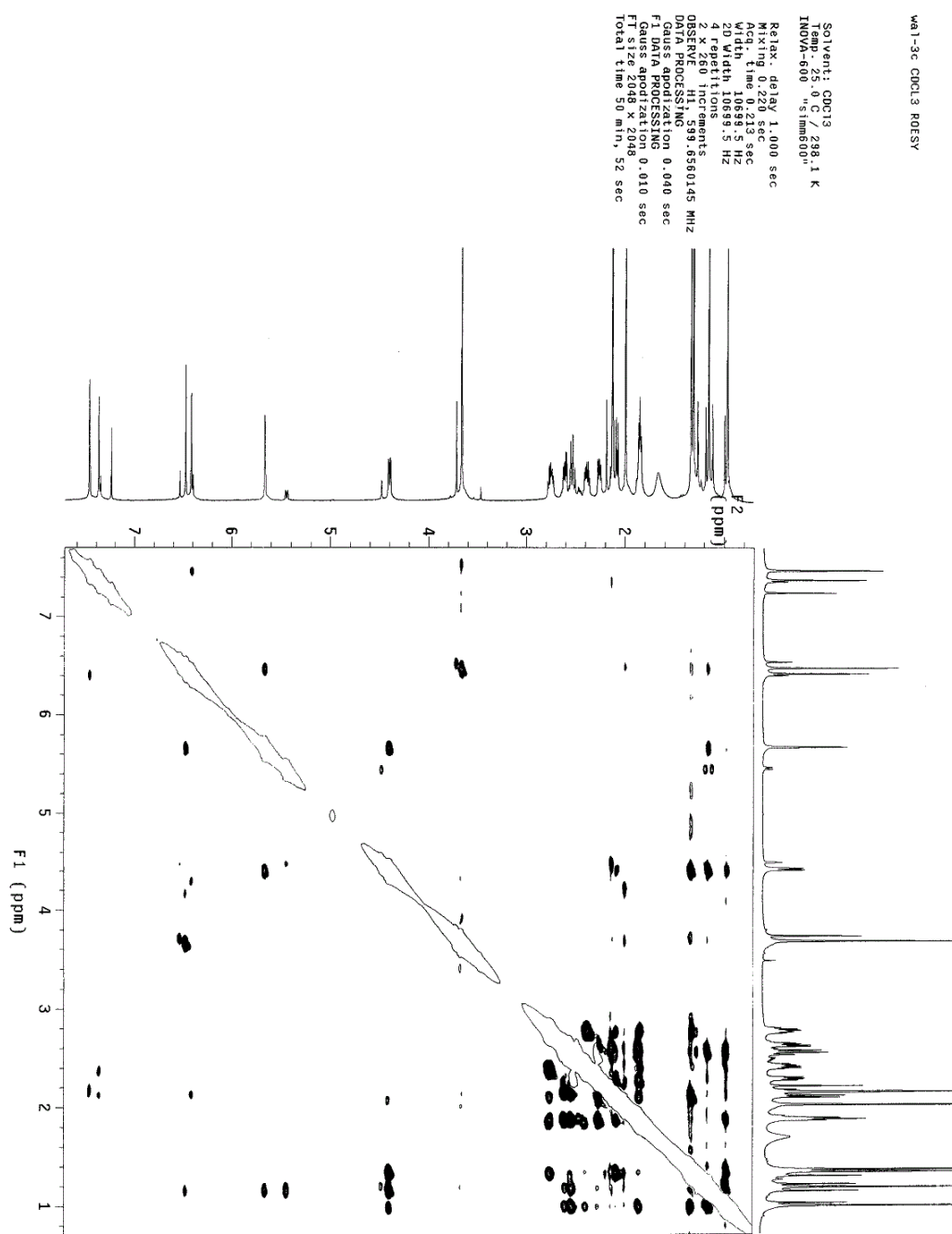


Figure S54. ESI(+)MS spectrum of walsucochinoid I (7)

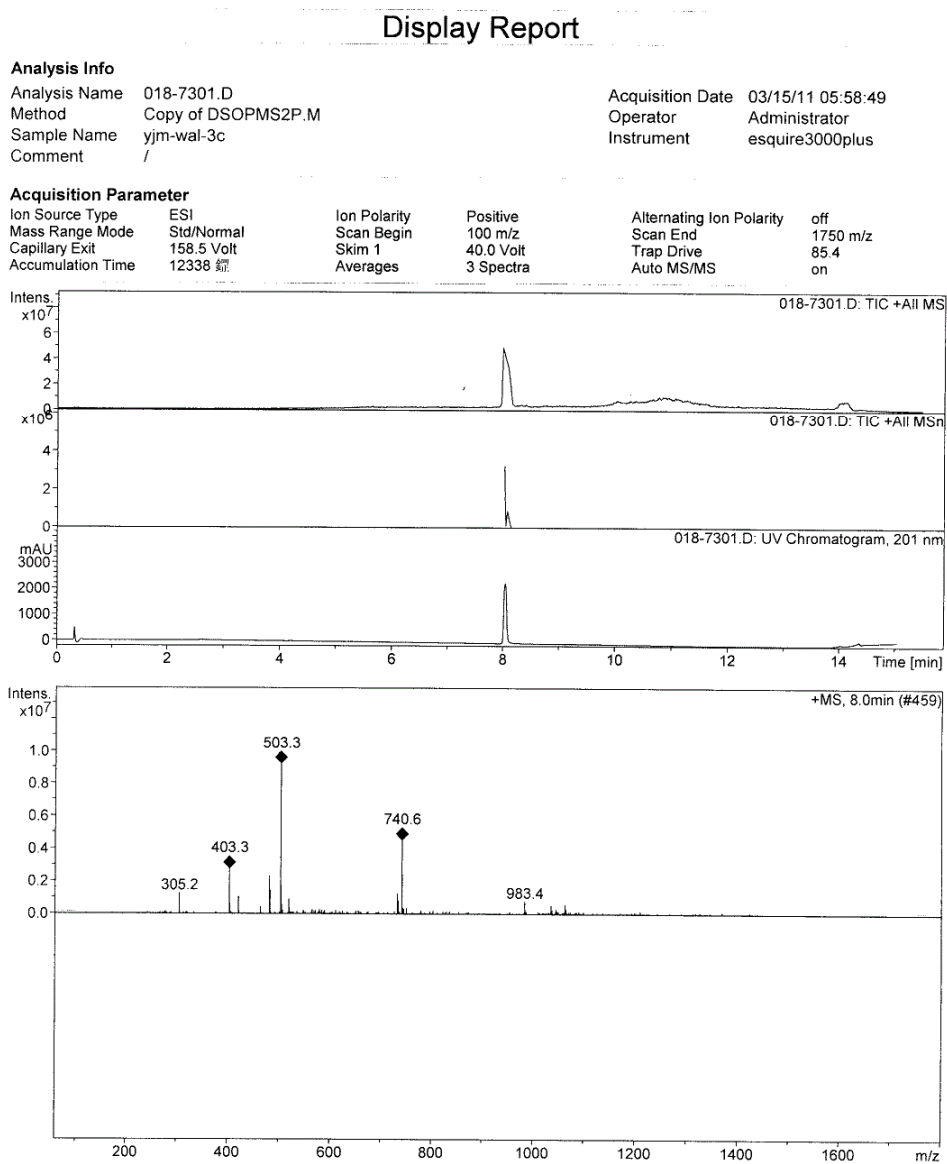


Figure S55. ESI(-)MS spectrum of walsucochinoid I (7)

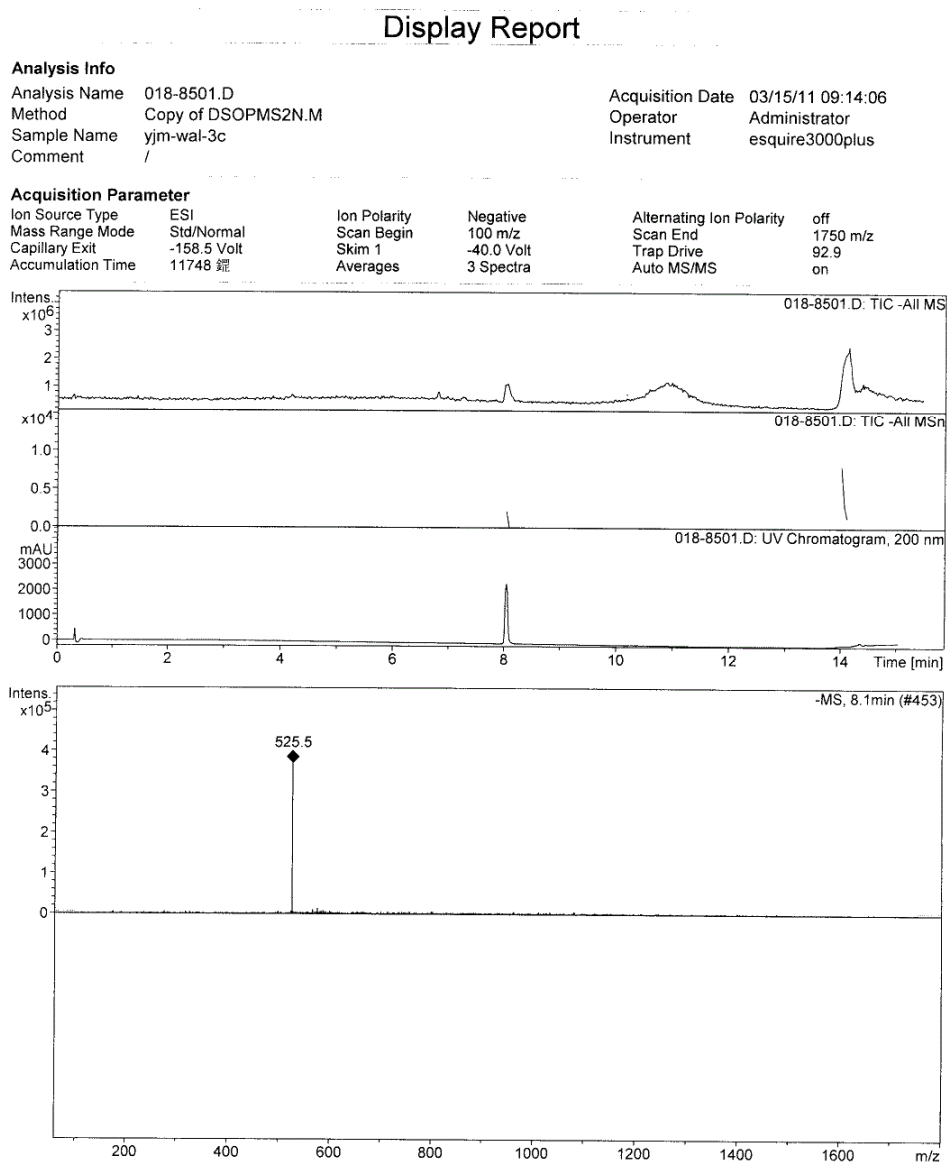


Figure S56. HRESI(–)MS spectrum of walsucochinoid I (7)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

242 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-3c

LCT PXE KE324

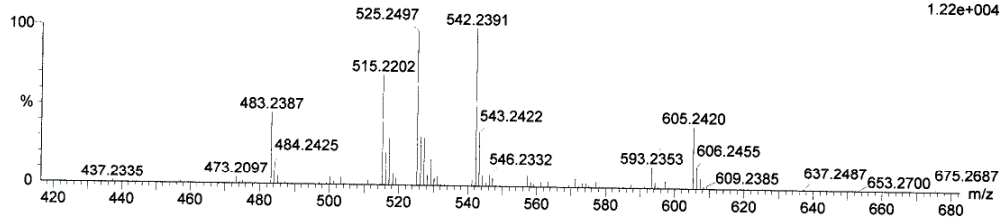
04-Nov-2011

14:08:01

1: TOF MS ES-

1.22e+004

WAL-3c_1104 23 (0.494) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (5:24)



Minimum:

Maximum:

2.0

2.0

-1.5

50.0

Mass

Calc. Mass

mDa

PPM

DBE

i-FIT

i-FIT (Norm)

Formula

525.2497

525.2488

0.9

1.7

12.5

106.8

0.0

C30 H37 O8

Figure S57. IR spectrum of walsucochinoid I (7)

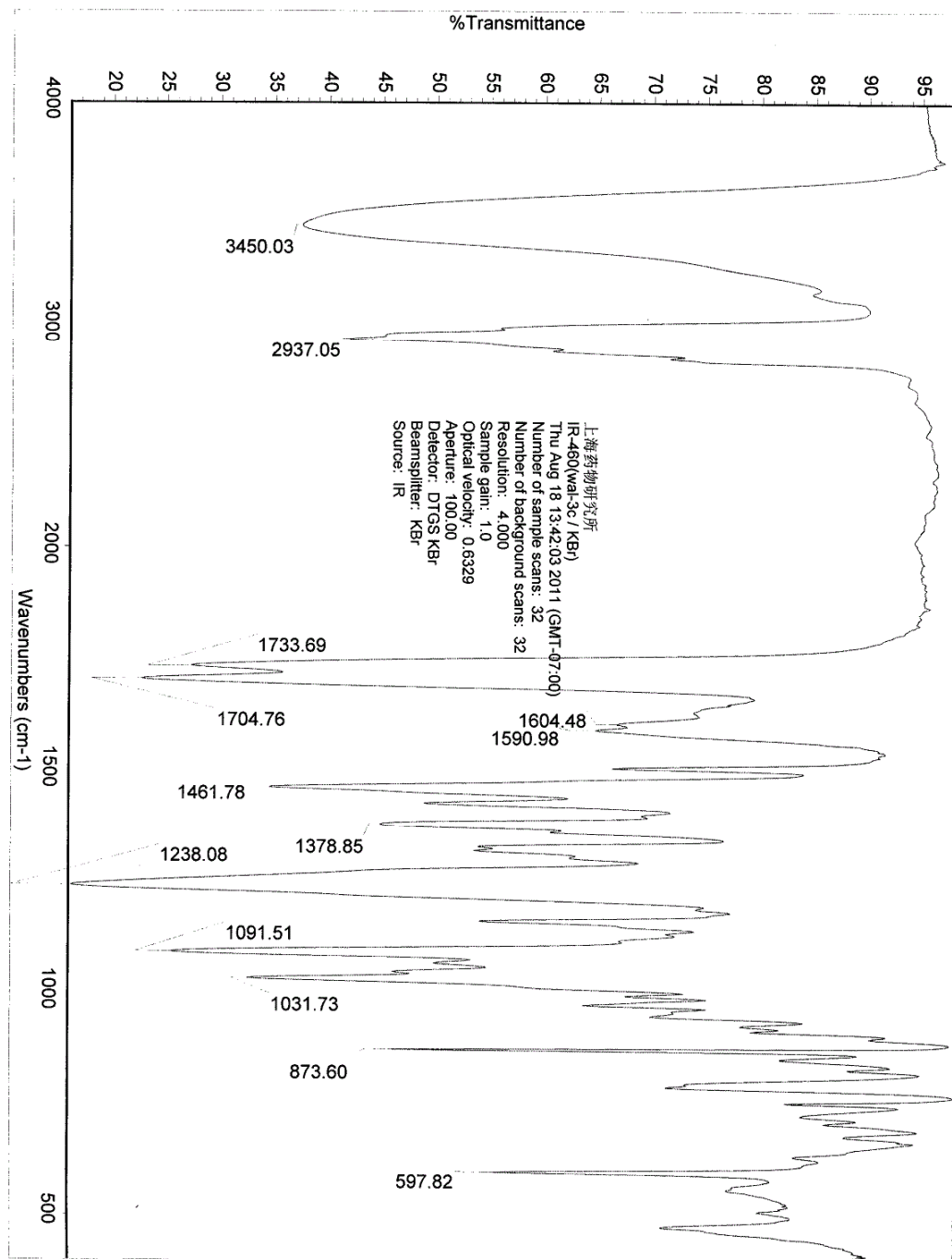


Figure S58. ^1H NMR spectrum of walsucochinoid J (**8**) in CDCl_3

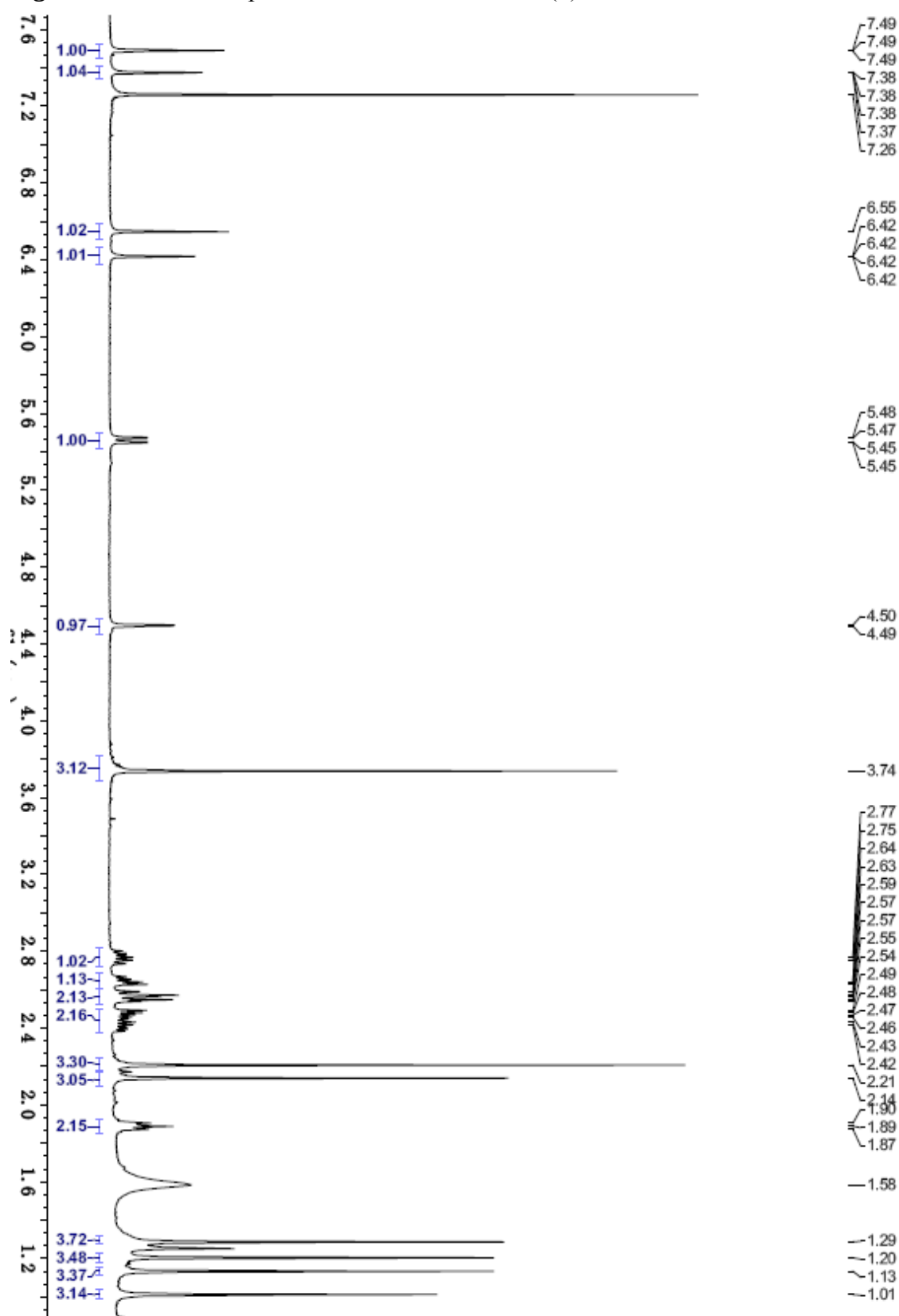


Figure S59. ^{13}C NMR spectrum of walsucochinoid J (**8**) in CDCl_3

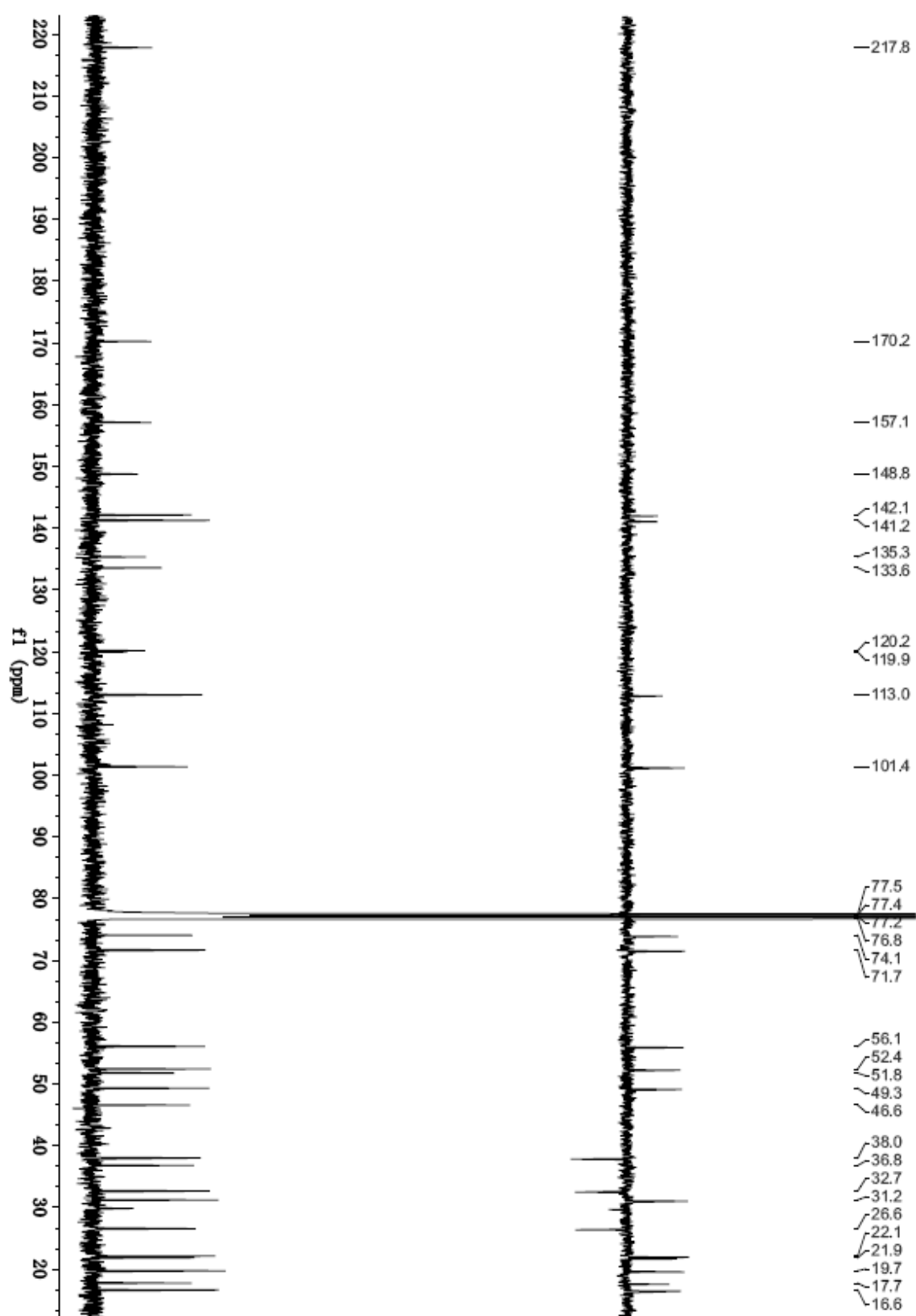


Figure S60. HSQC spectrum of walsucochinoid J (**8**) in CDCl₃

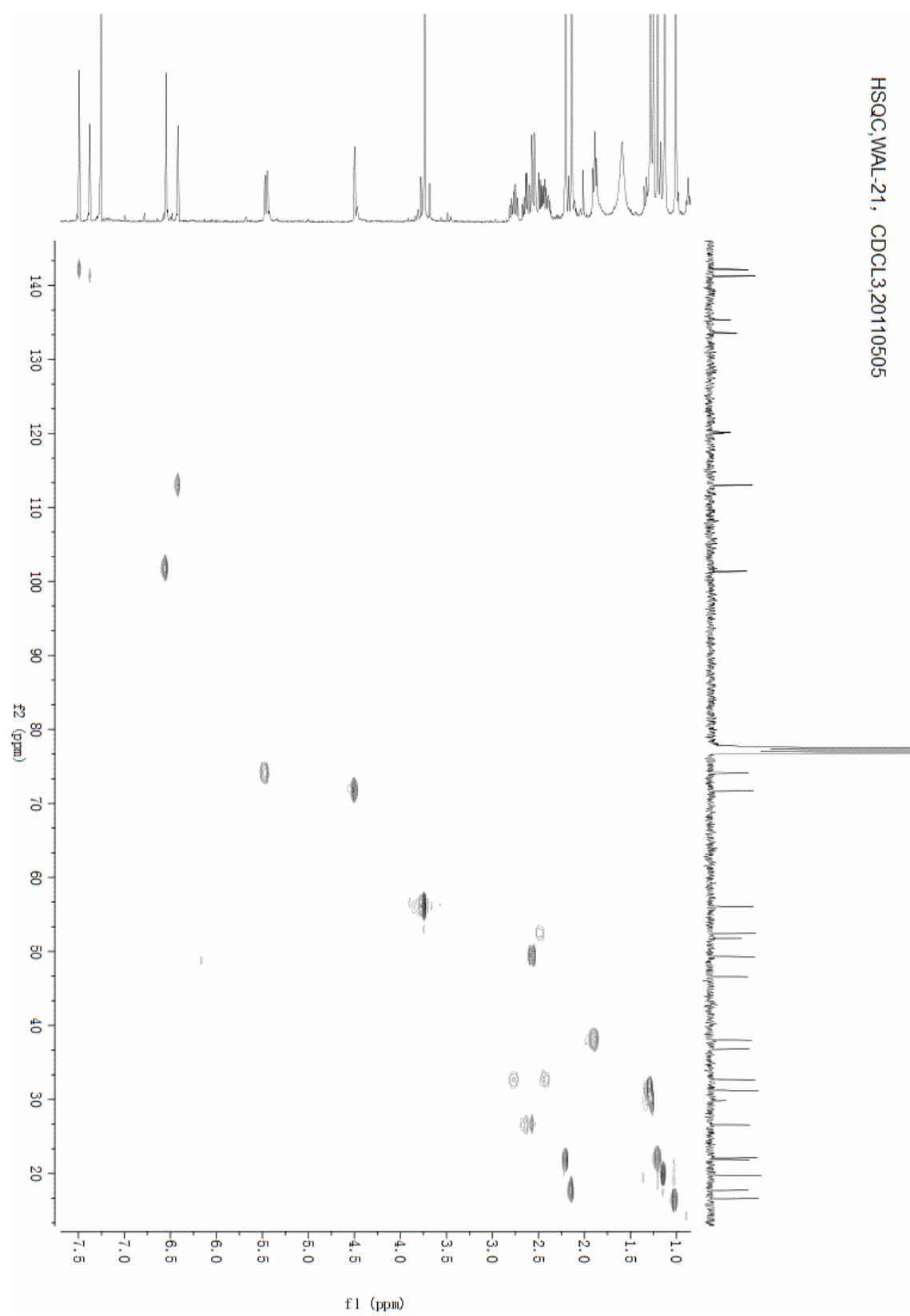


Figure S61.HMBC spectrum of walsucochinoid J (**8**) in CDCl₃

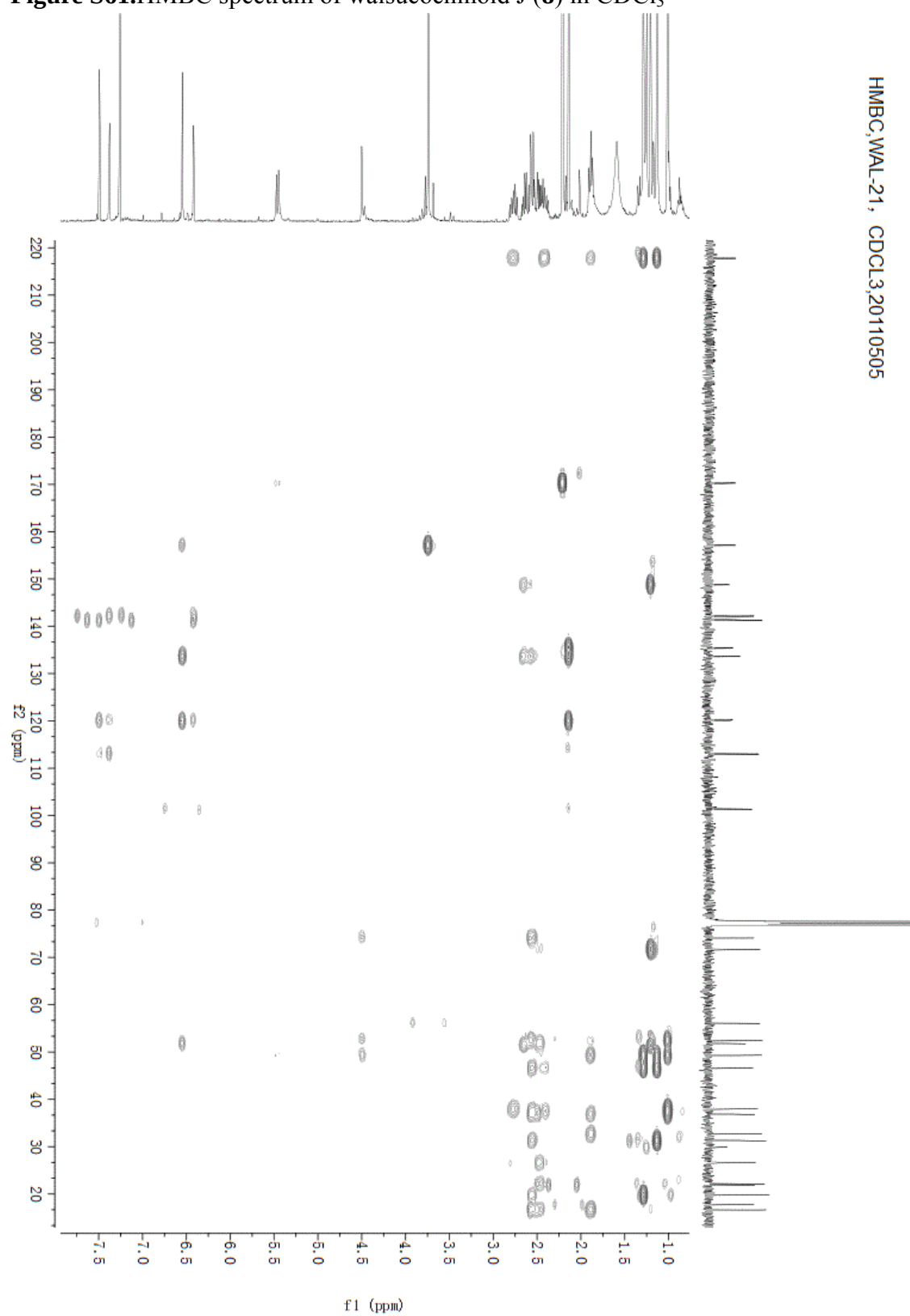


Figure S62. ROESY spectrum of walsucochinoid J (**8**) in CDCl₃

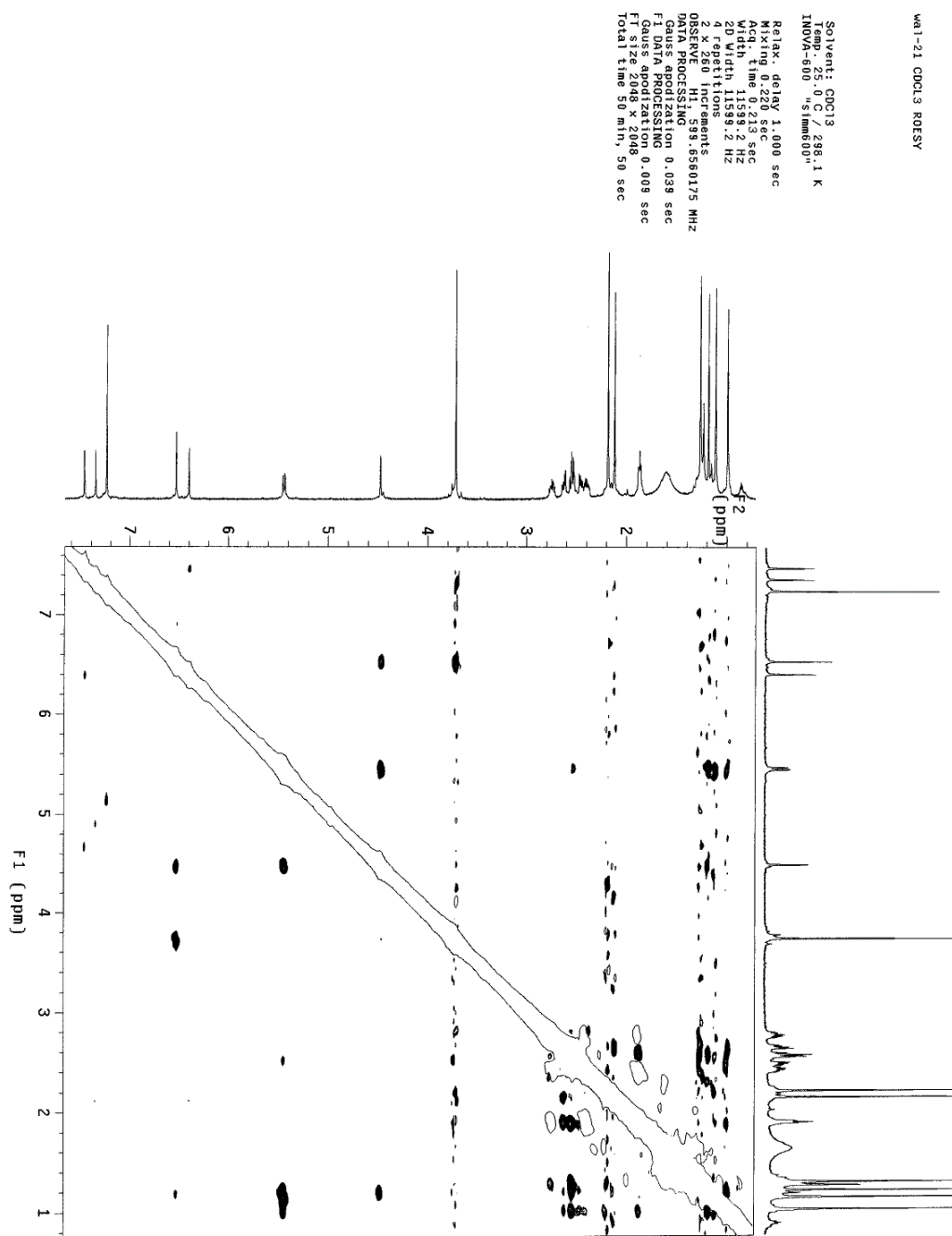


Figure S63. ESI(+)MS spectrum of walsucochinoid J (**8**)

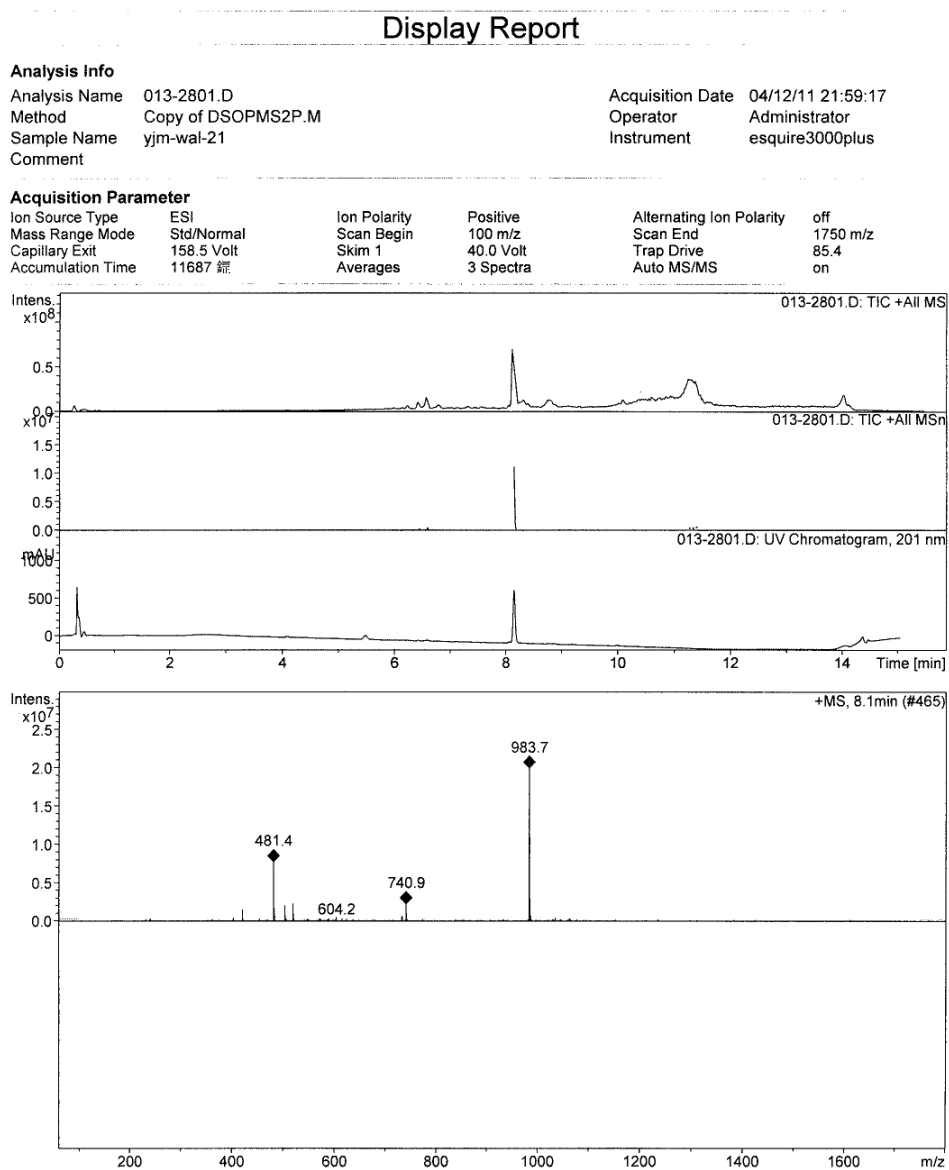


Figure S64. ESI(-)MS spectrum of walsucochinoid J (**8**)

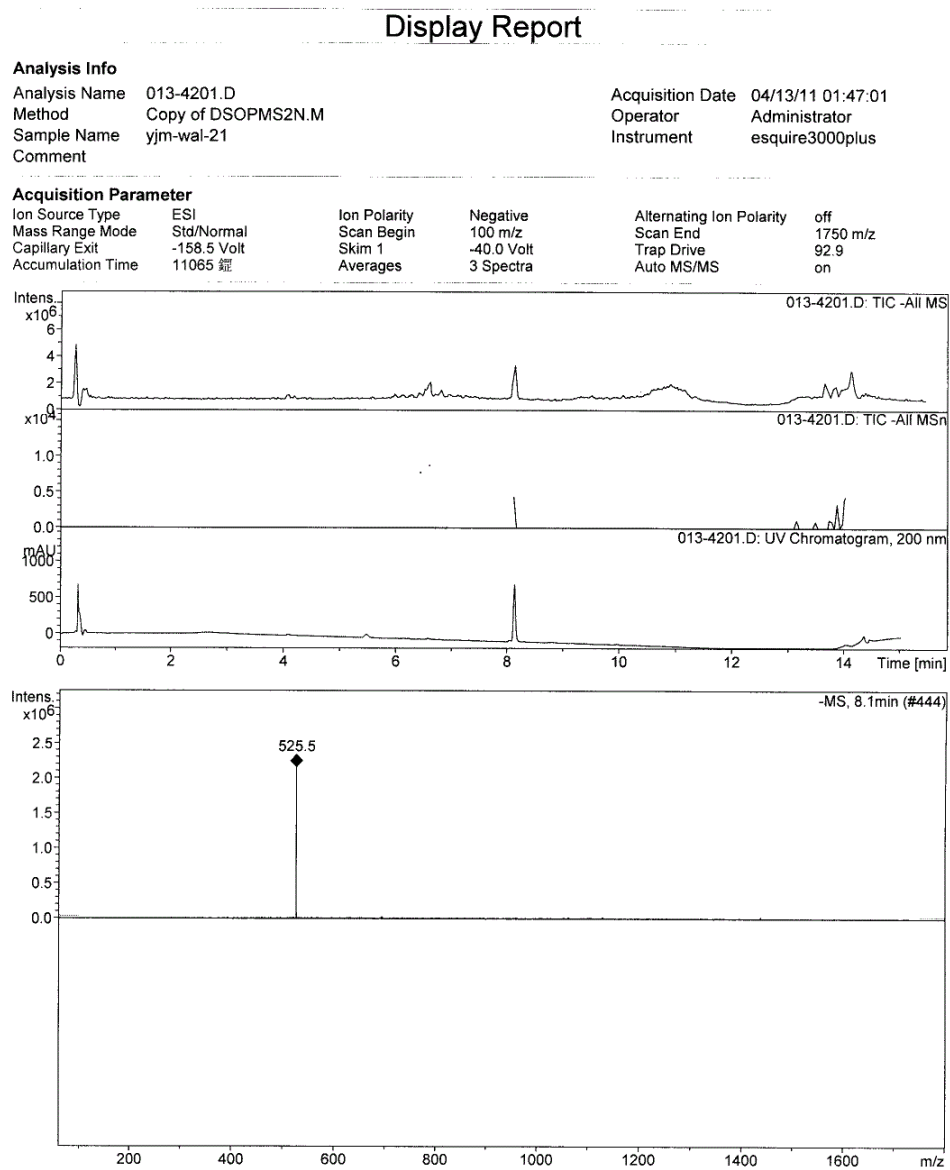


Figure S65. HRESI(–)MS spectrum of walsucochinoid J (**8**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

242 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-21

LCT PXE KE324

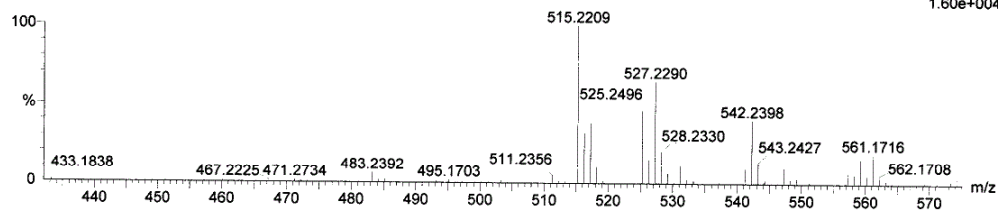
04-Nov-2011

16:02:56

1: TOF MS ES-

1.60e+004

WAL-21_1104 7 (0.124) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (6:18)



Minimum: -1.5
Maximum: 2.0 2.0 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
525.2496	525.2488	0.8	1.5	12.5	125.7	0.0	C30 H37 O8

Figure S66. IR spectrum of walsucochinoid J (**8**)

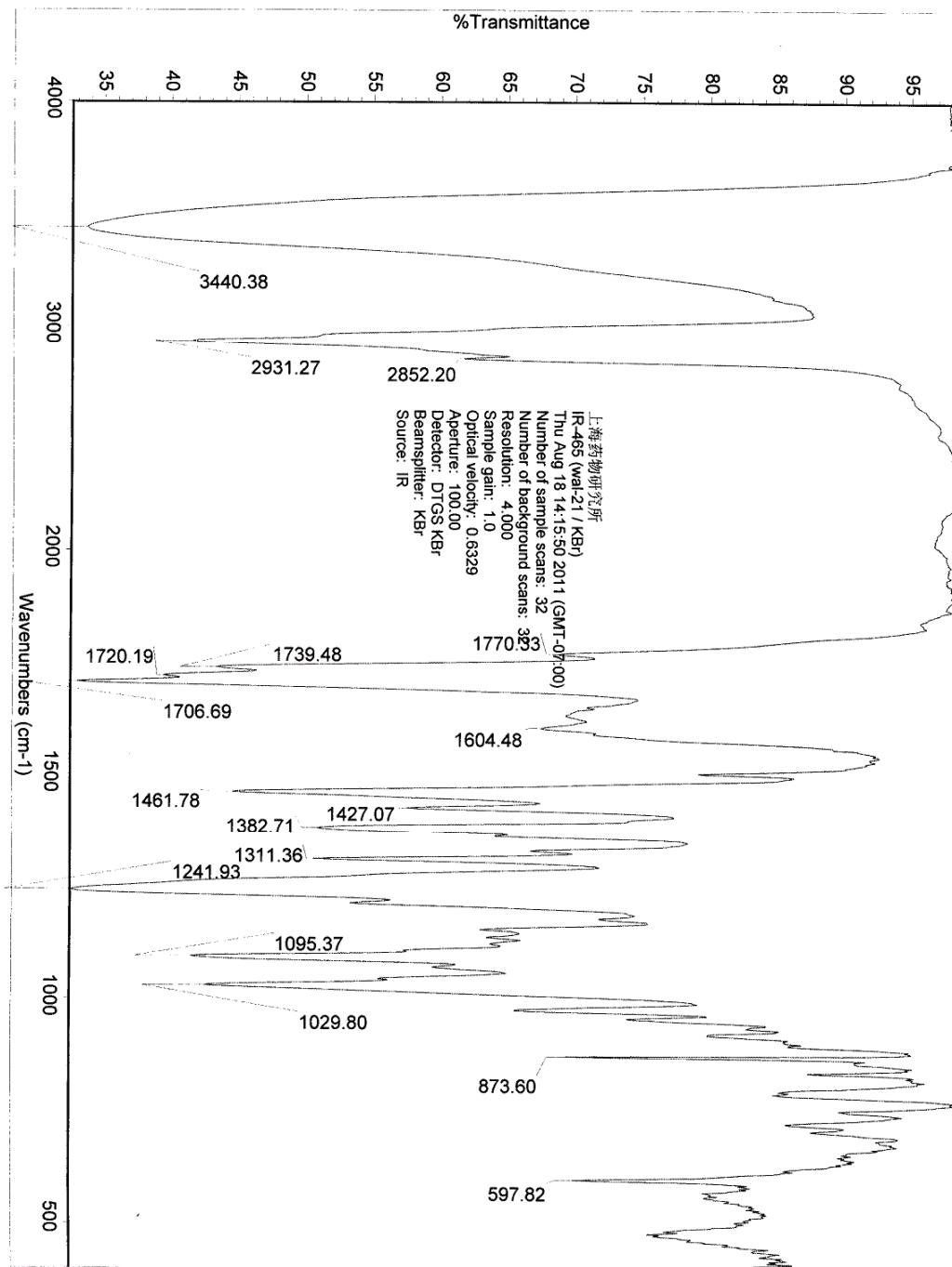


Figure S67. ^1H NMR spectrum of walsucochinoid K (**9**) in CDCl_3

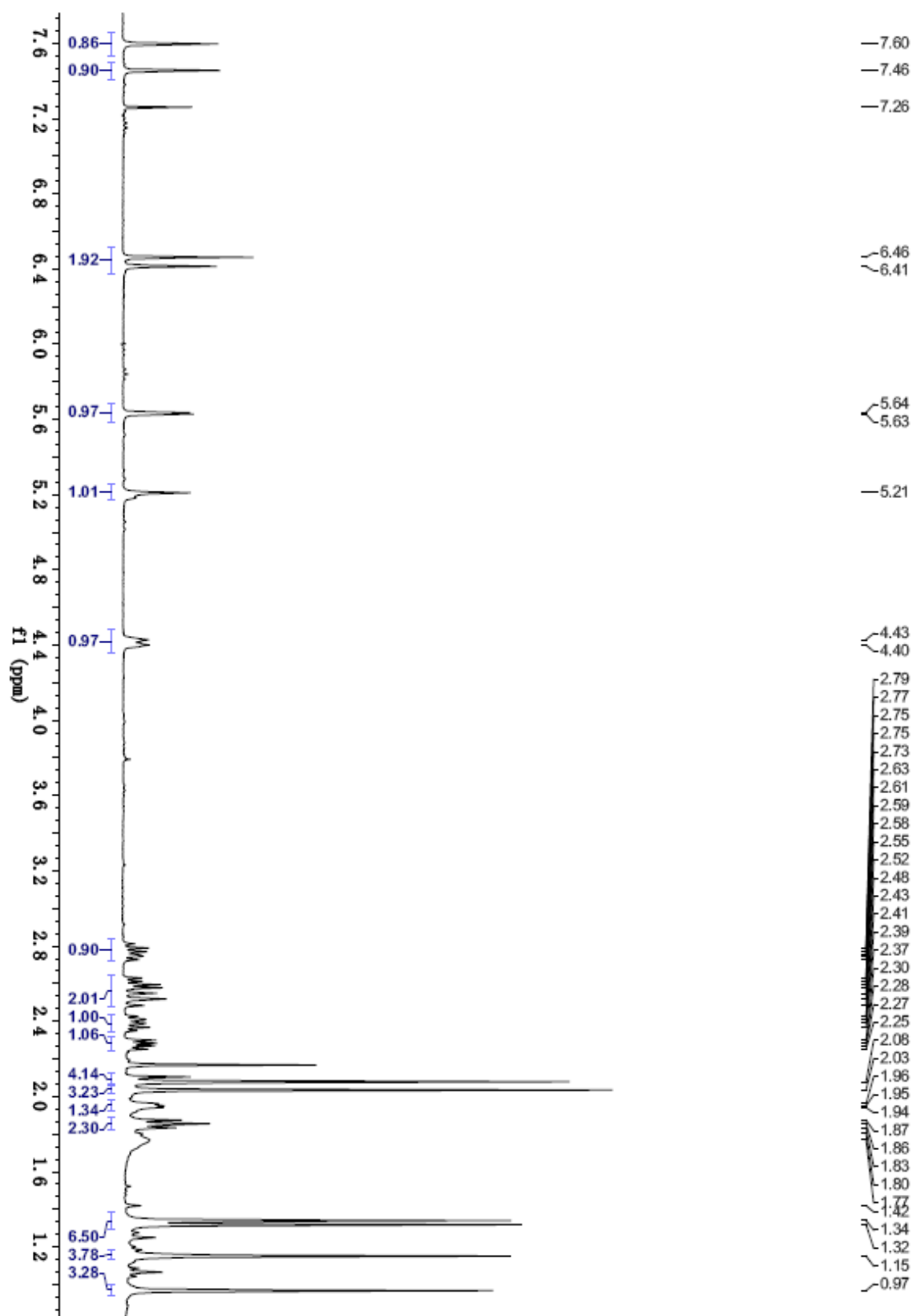


Figure S68. ^{13}C NMR spectrum of walsucochinoid K (9) in CDCl_3

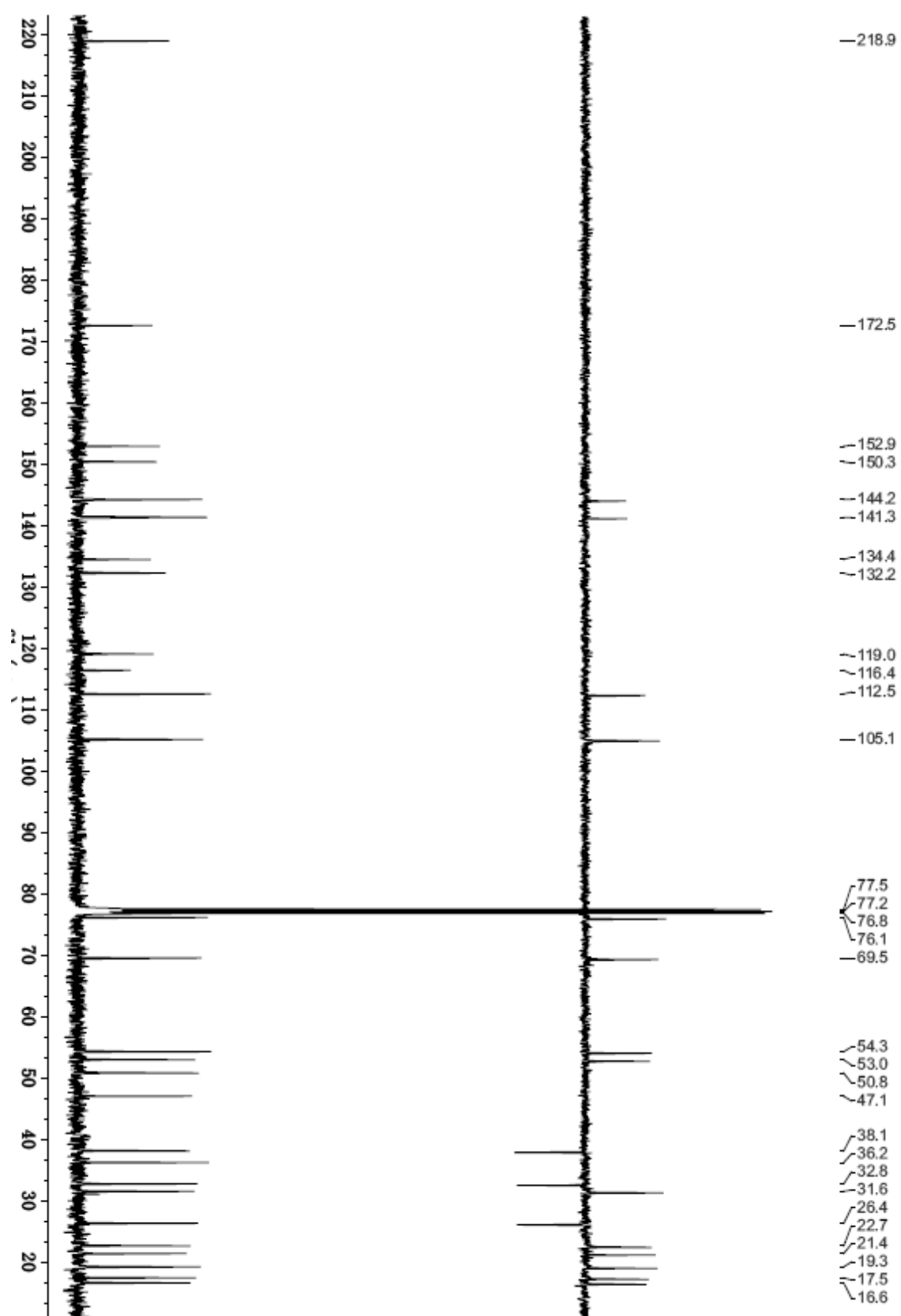


Figure S69. HSQC spectrum of walsucochinoid K (**9**) in CDCl₃

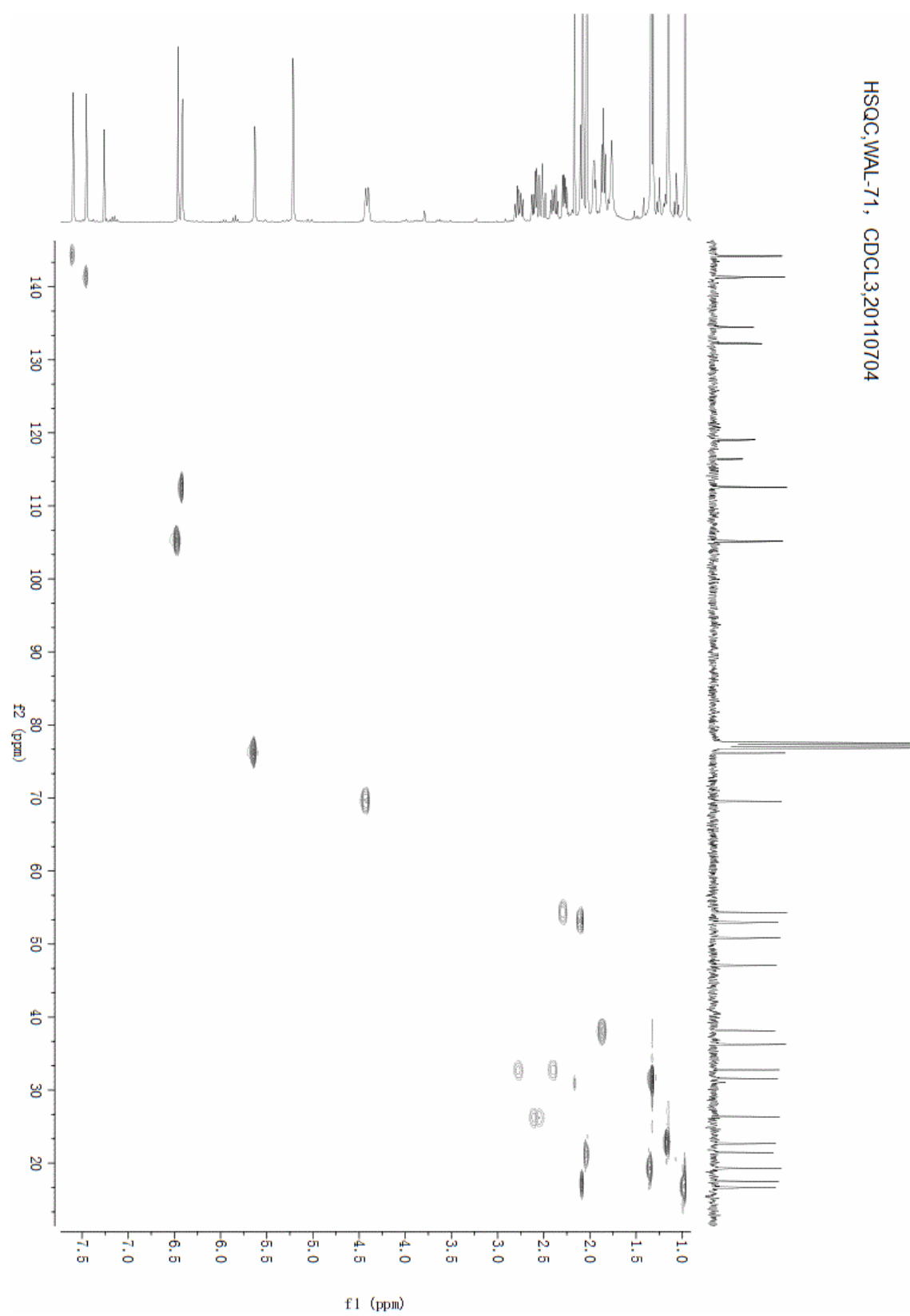


Figure S70. HMBC spectrum of walsucochinoid K (**9**) in CDCl₃

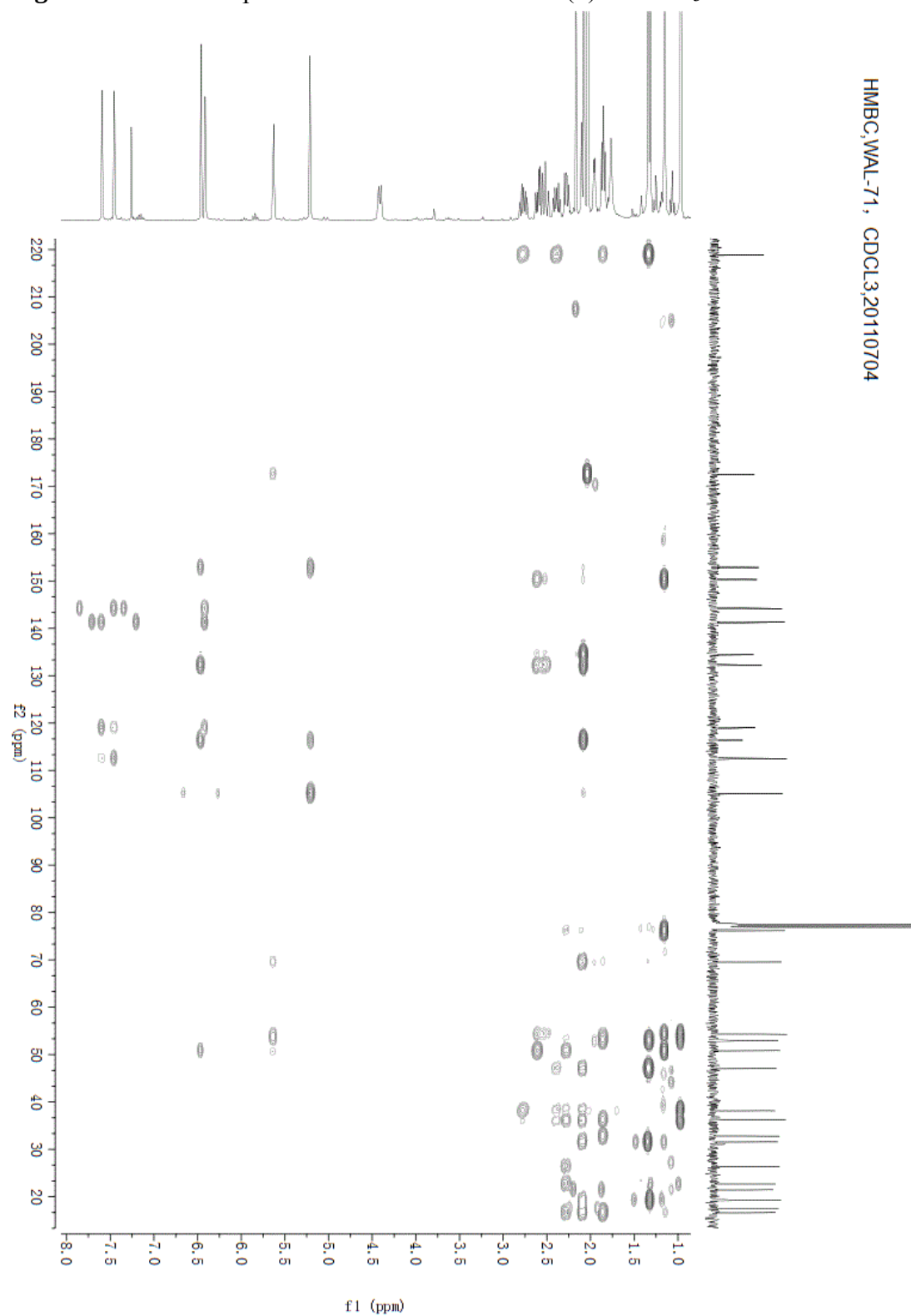


Figure S71. ROESY spectrum of walsucochinoid K (**9**) in CDCl₃

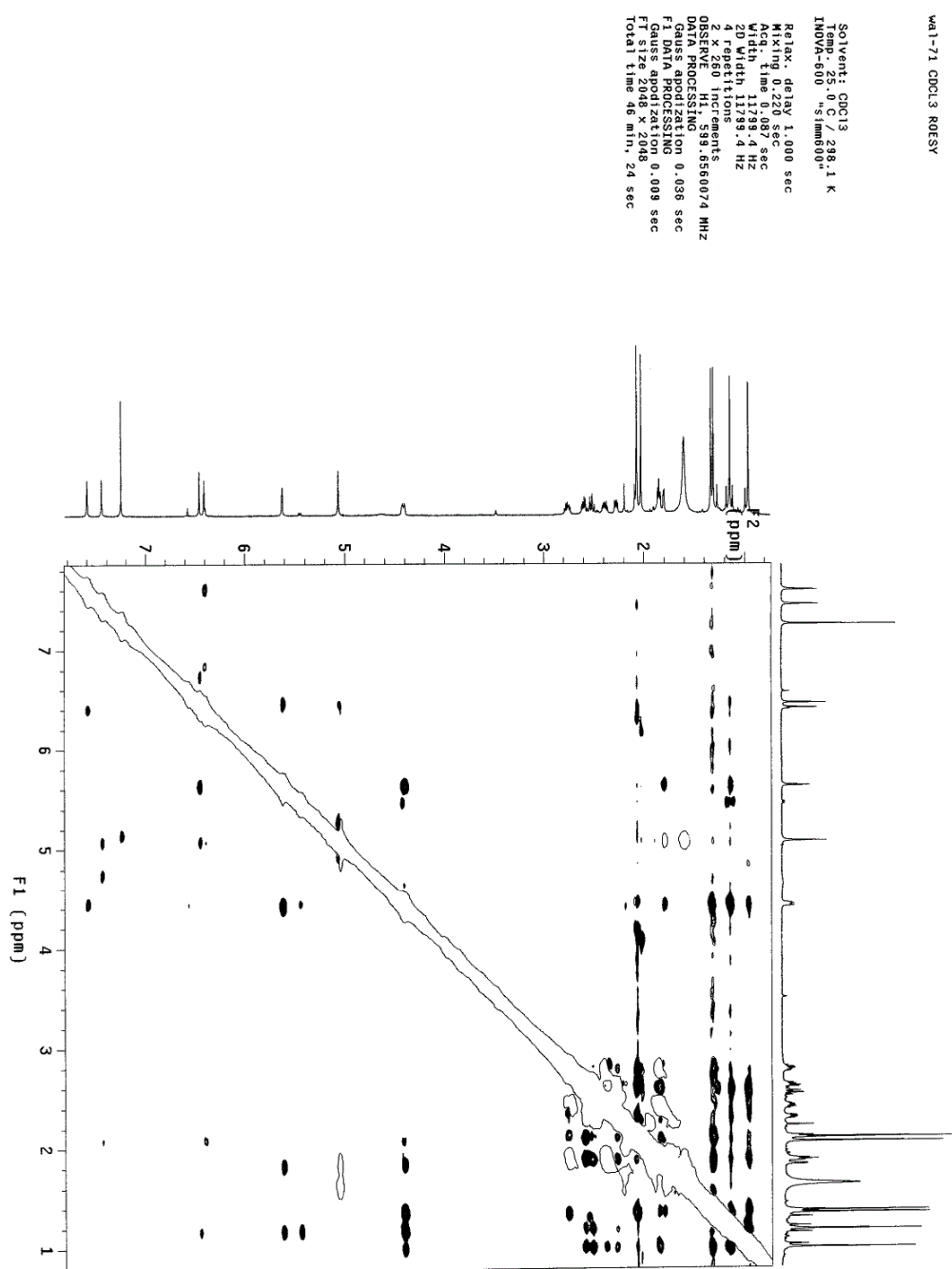


Figure S72. ESI(+)MS spectrum of walsucochinoid K (9)

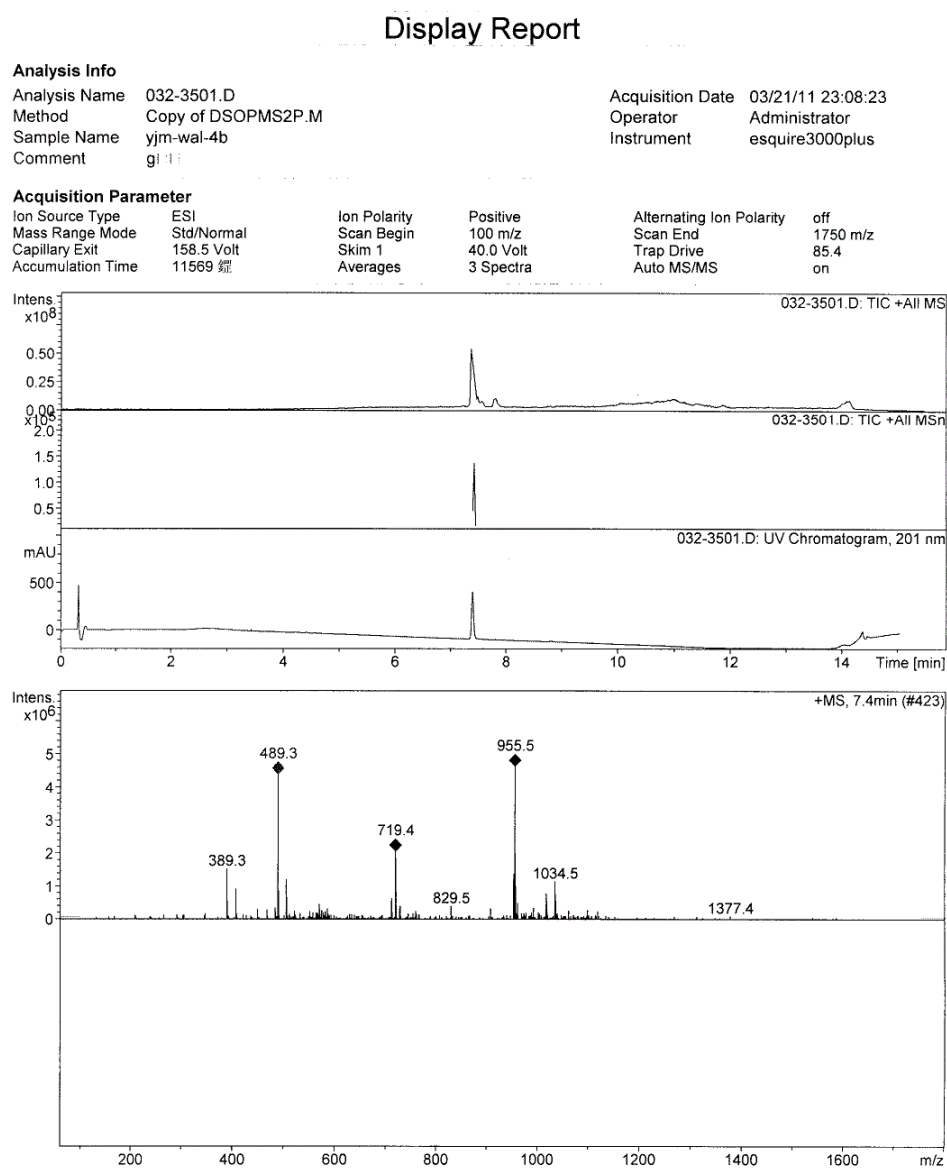


Figure S73. ESI(-)MS spectrum of walsucochinoid K (9)

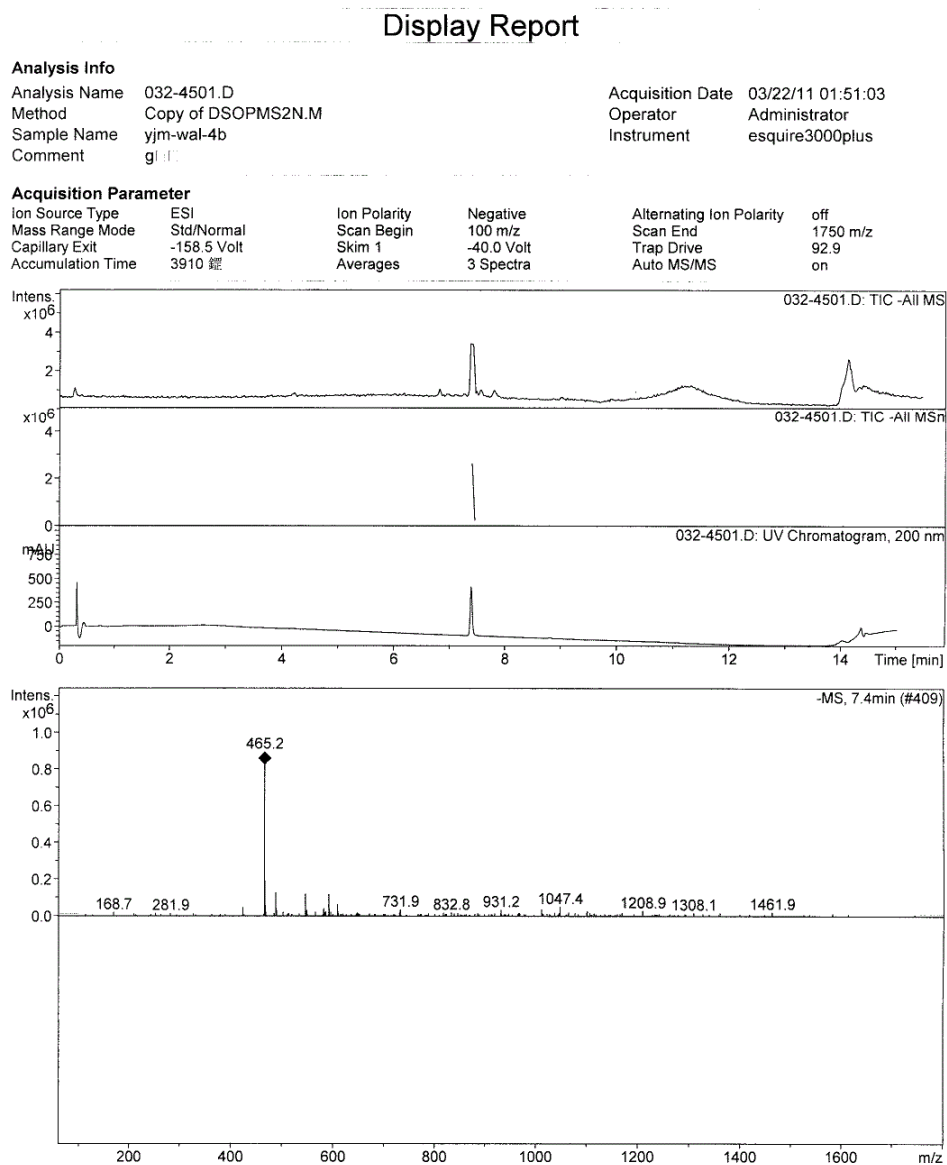


Figure S74. HRESI(–)MS spectrum of walsucochinoid K (**9**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

241 formula(e) evaluated with 2 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

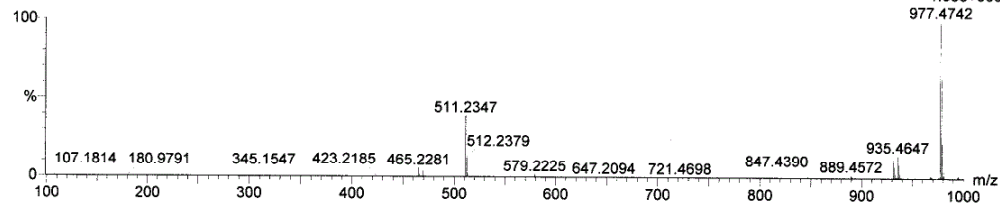
C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-4b

LCT PXE KE324

WAL-4b_1104 25 (0.548) AM2 (Ar,12000.0,0.00,0.70); ABS; Cm (9:41)

04-Nov-2011
15:16:49
1: TOF MS ES-
1.08e+005
977.4742



Minimum:

Maximum:

Mass

Calc. Mass

mDa

PPM

DBE

i-FIT

i-FIT (Norm)

Formula

511.2347

511.2332

1.5

2.9

12.5

143.9

0.0

C29 H35 O8

511.2367

-2.0

-3.9

0.5

152.3

8.4

C20 H40 O13 Na

Figure S75. IR spectrum of walsucochinoid K (**9**)

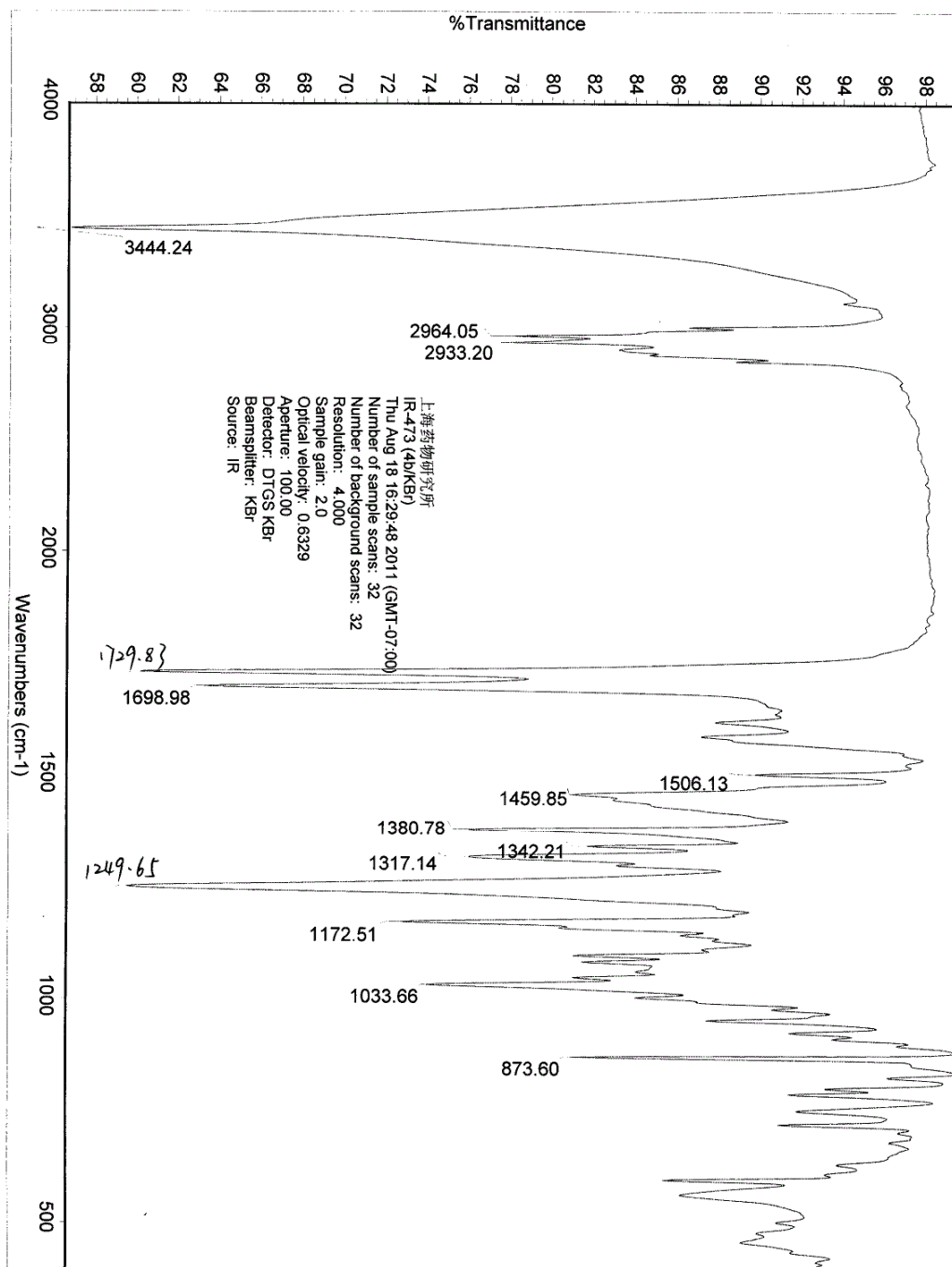


Figure S76. ^1H NMR spectrum of walsucochinoid L (**10**) in CDCl_3

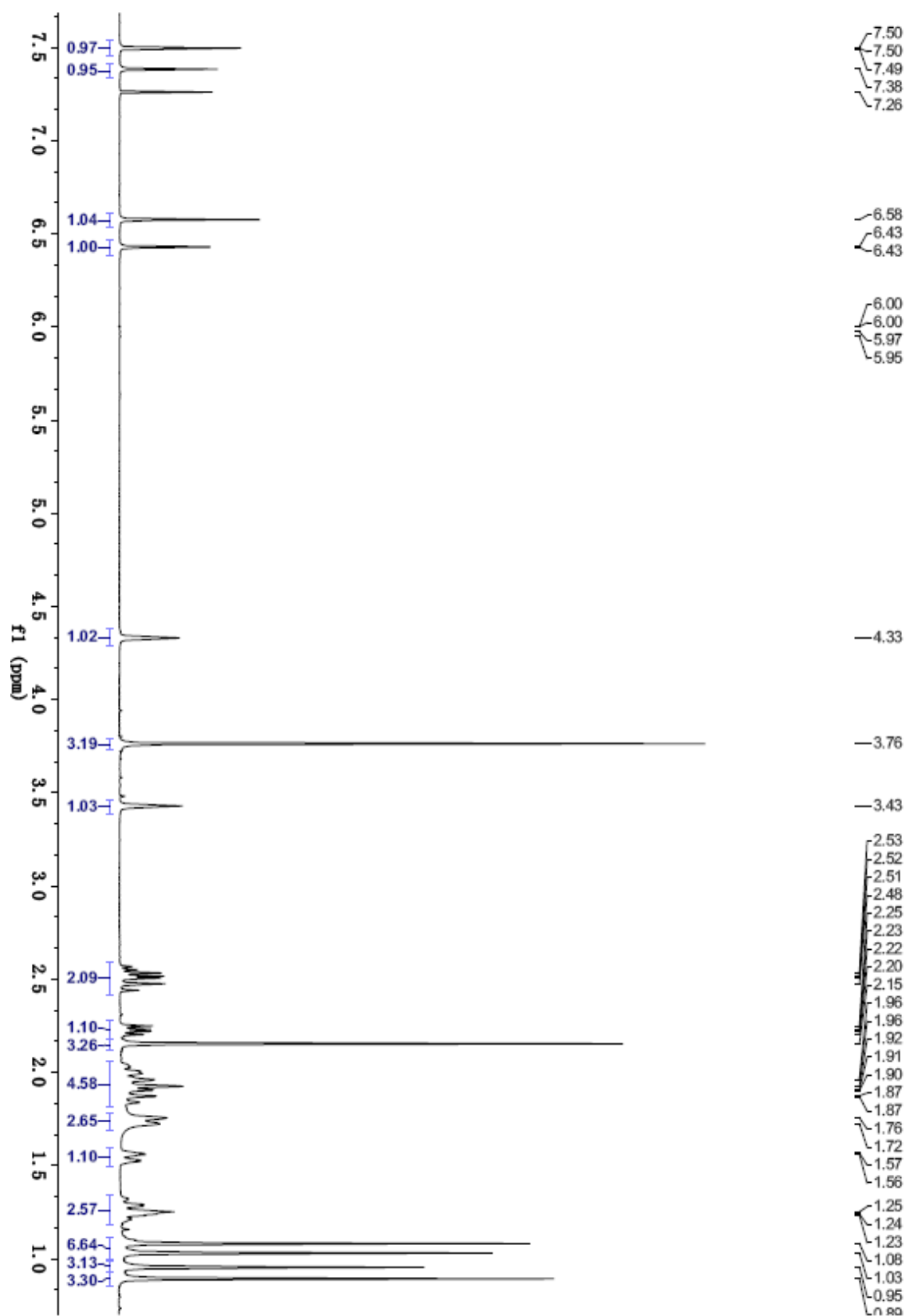
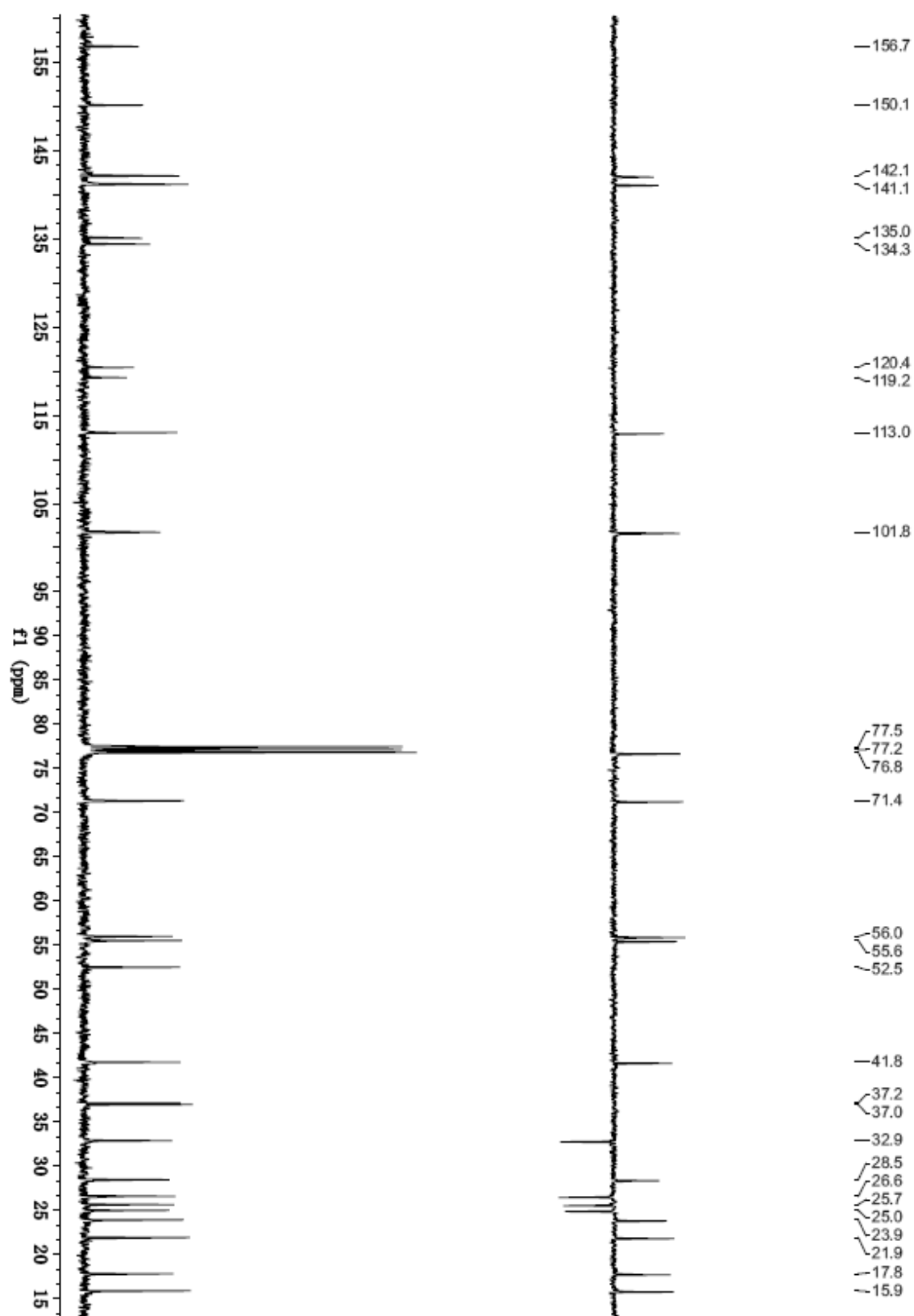
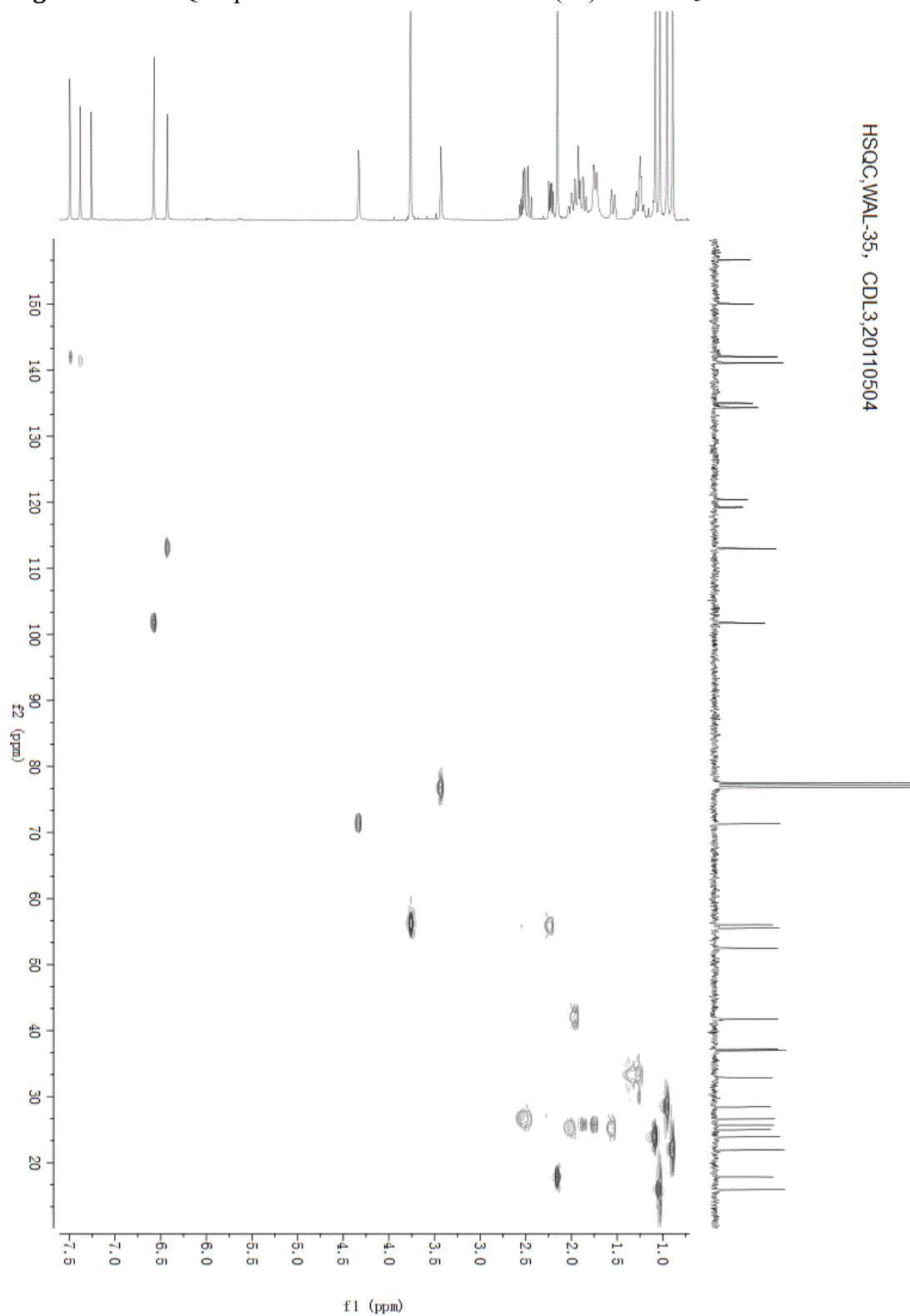


Figure S77. ^{13}C NMR spectrum of walsucochinoid L (**10**) in CDCl_3



HSQC,WAL-35, CDL3,20110504



HMBC, WAL-35, CDCl₃, 20110504

Figure S79. HMBC spectrum of walsucochinoid L (**10**) in CDCl₃

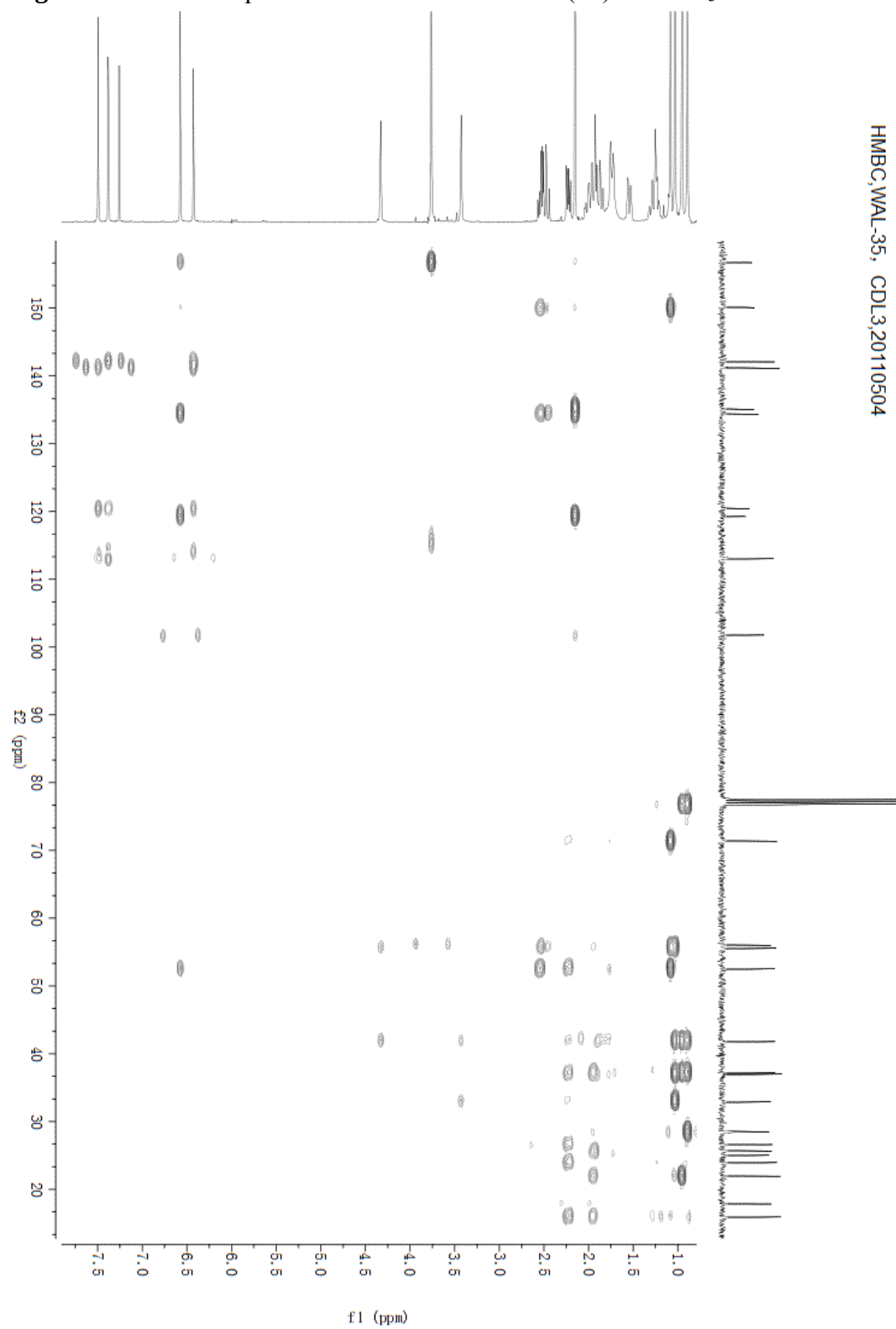


Figure S80. ROESY spectrum of walsucochinoid L (**10**) in CDCl₃

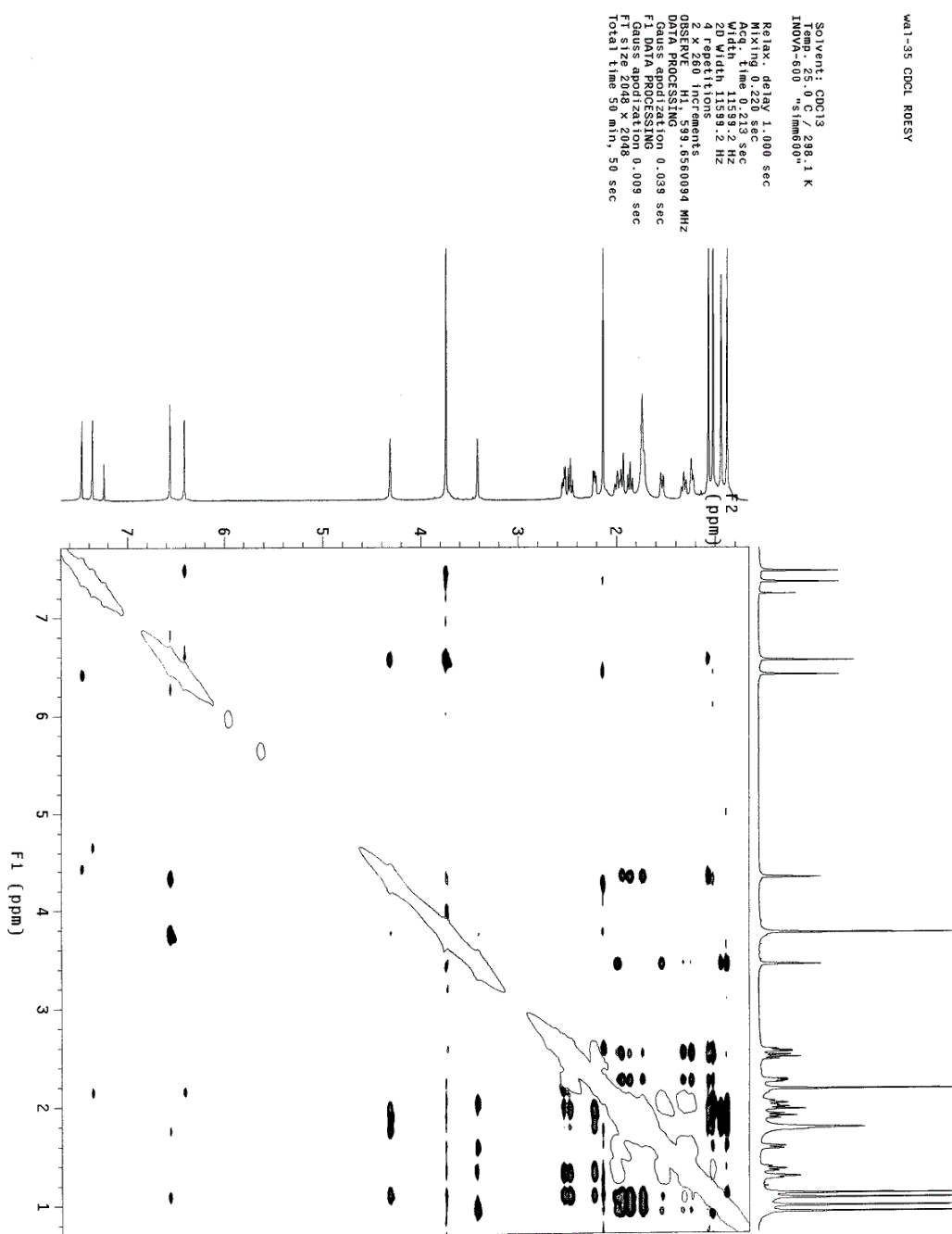


Figure S81. ESI(+)-MS spectrum of walsucochinoid L (**10**)

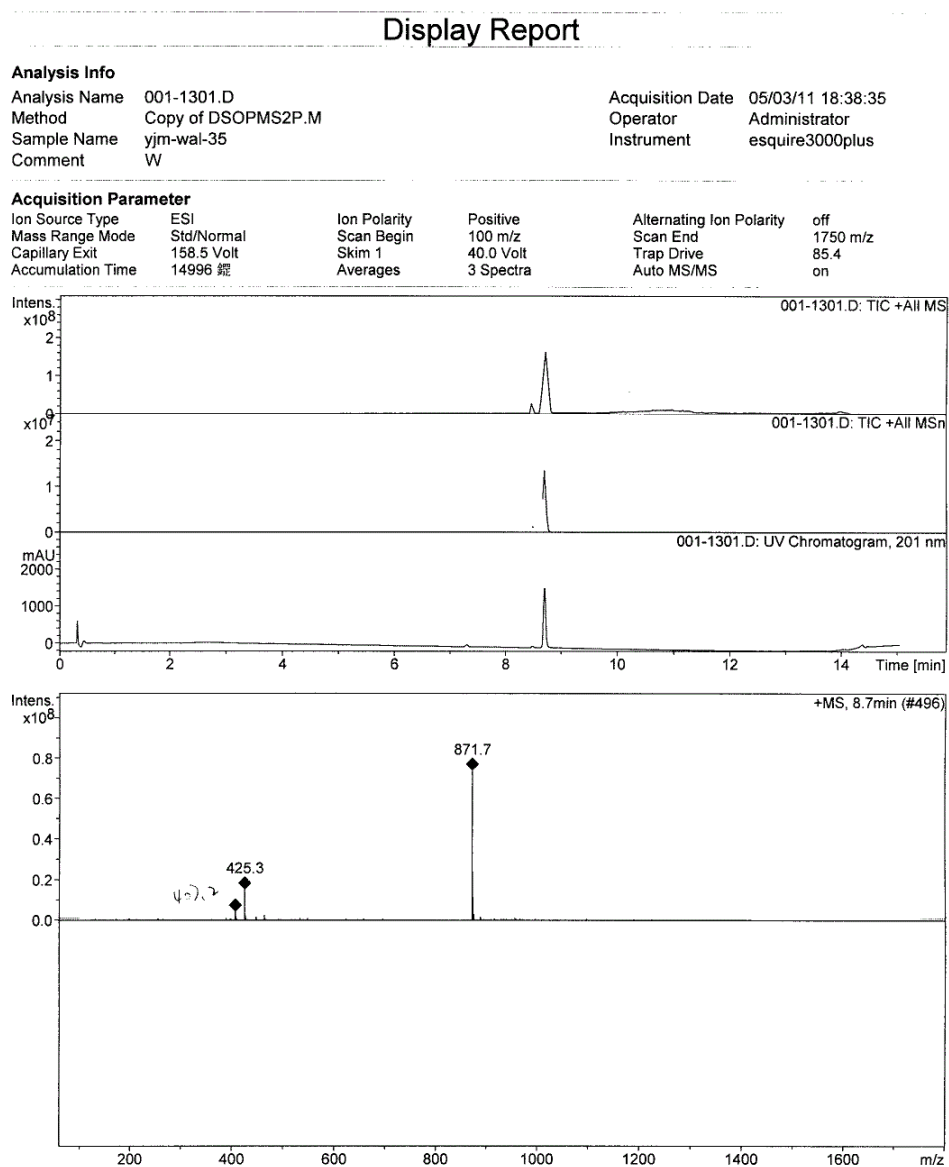


Figure S82. ESI(–)MS spectrum of walsucochinoid L (**10**)

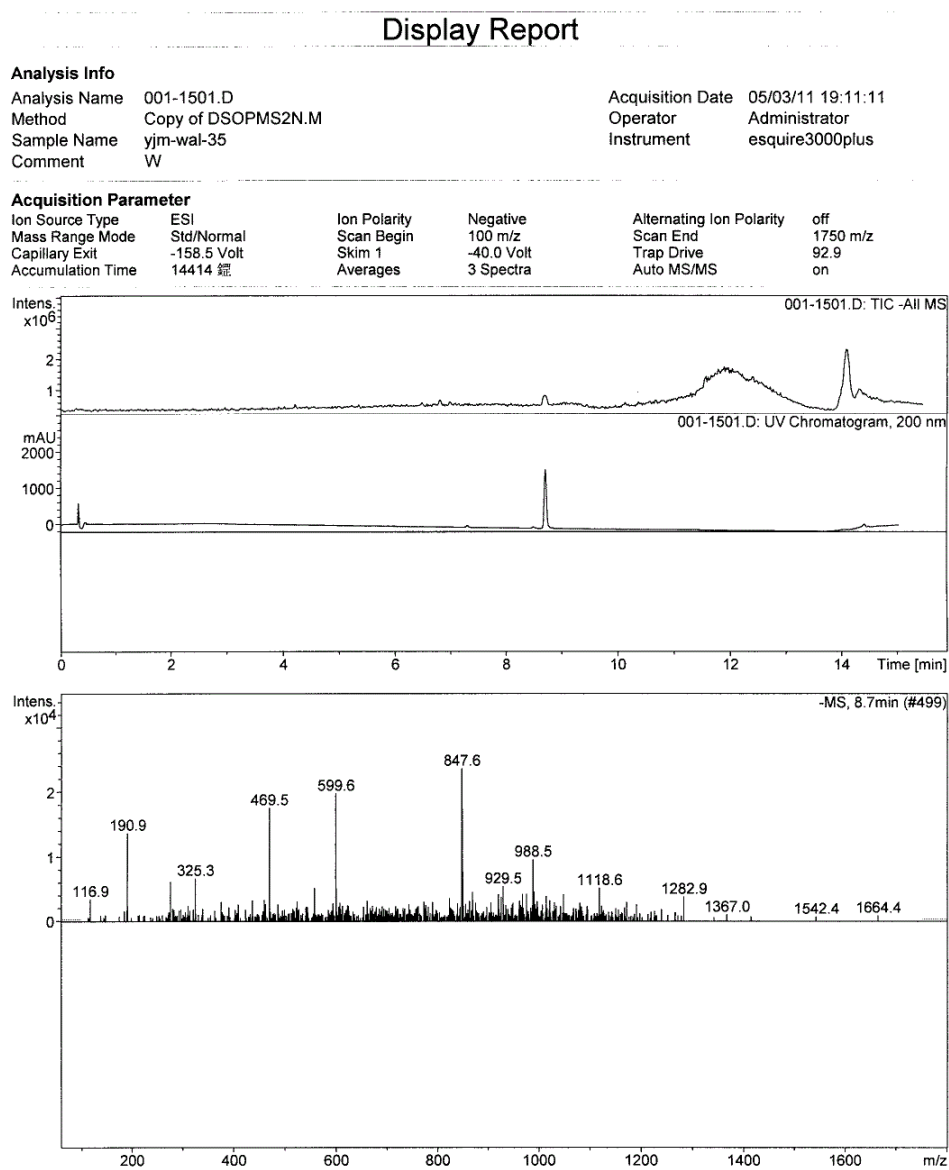


Figure S83. HRESI(–)MS spectrum of walsucochinoid L (**10**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

106 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30

WAL-35n

LCT PXE KE324

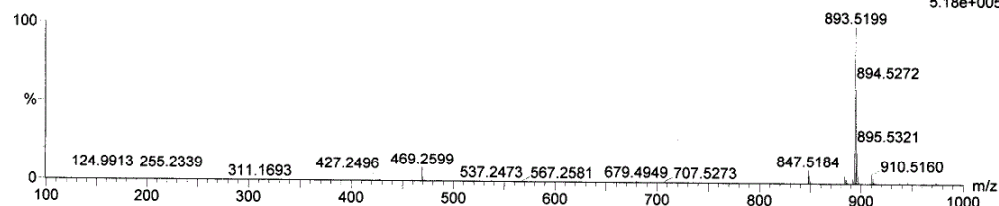
04-Nov-2011

16:13:45

1: TOF MS ES-

5.18e+005

WAL-35n_1104 27 (0.583) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (9:34)



Minimum: -1.5
Maximum: 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
469.2599	469.2590	0.9	1.9	10.5	155.3	0.0	C28 H37 O6

Figure S84. IR spectrum of walsucochinoid L (**10**)

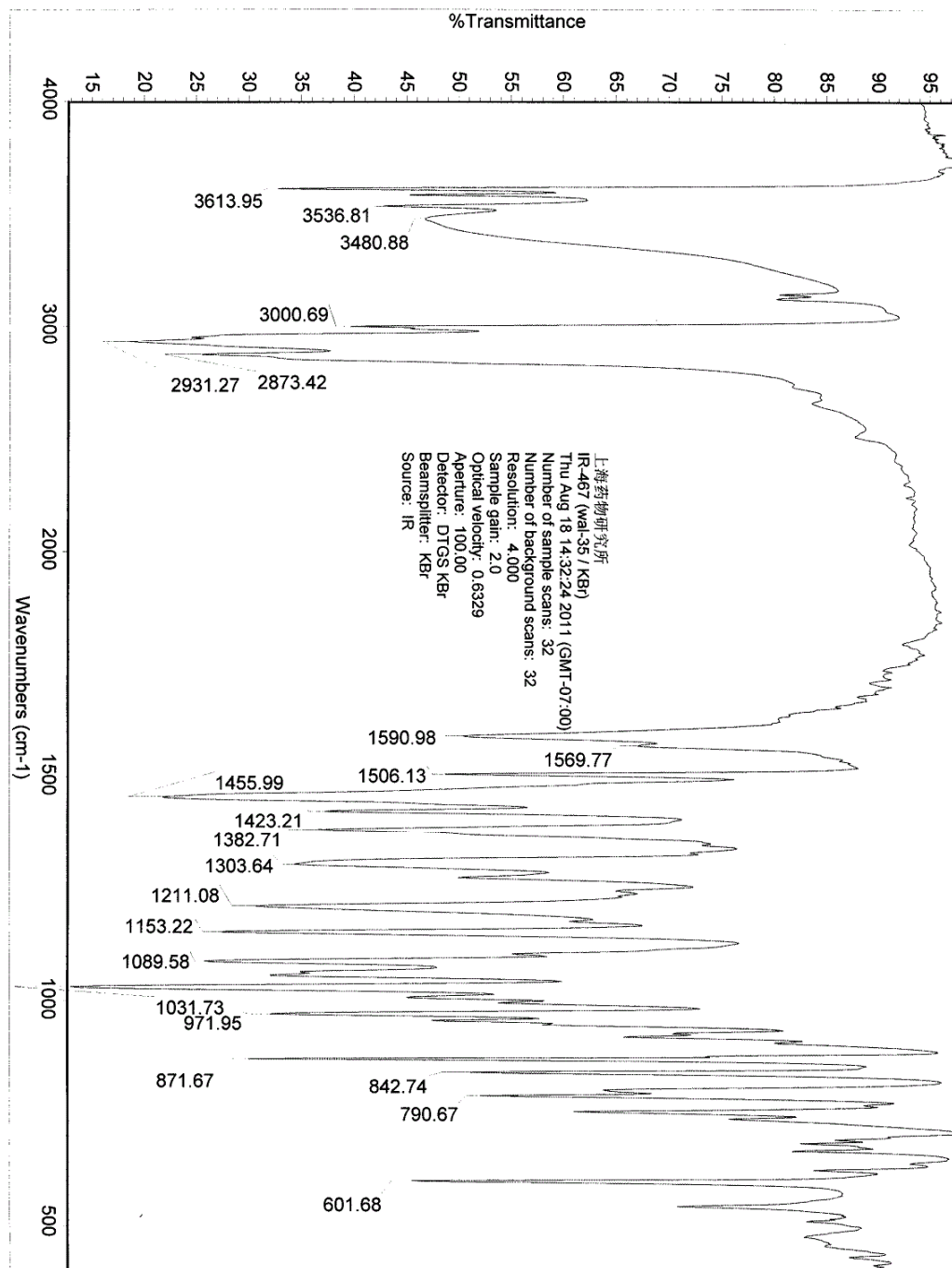


Figure S85. ^1H NMR spectrum of walsucochinoid M (**11**) in CDCl_3

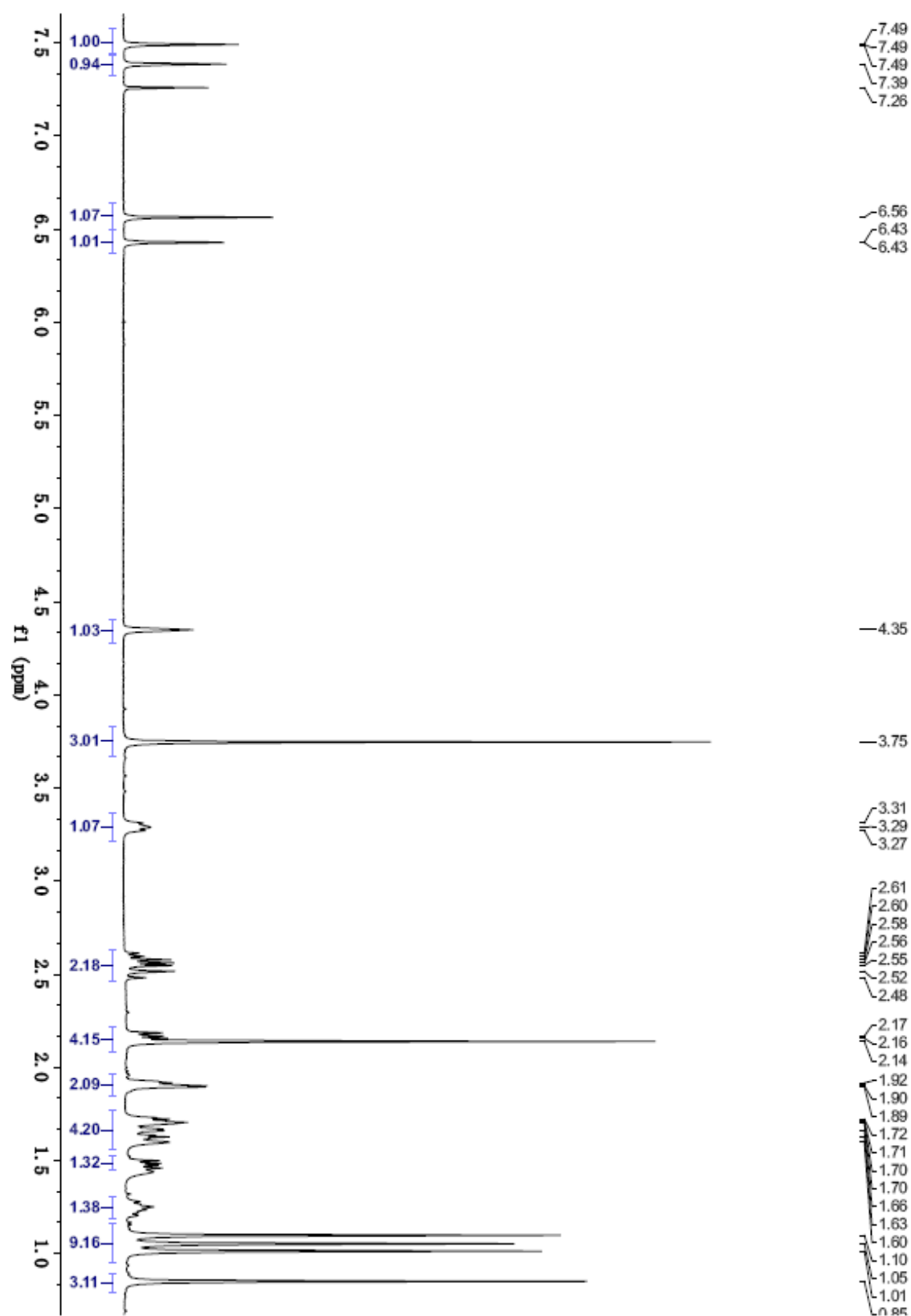


Figure S86. ^{13}C NMR spectrum of walsucochinoid M (**11**) in CDCl_3

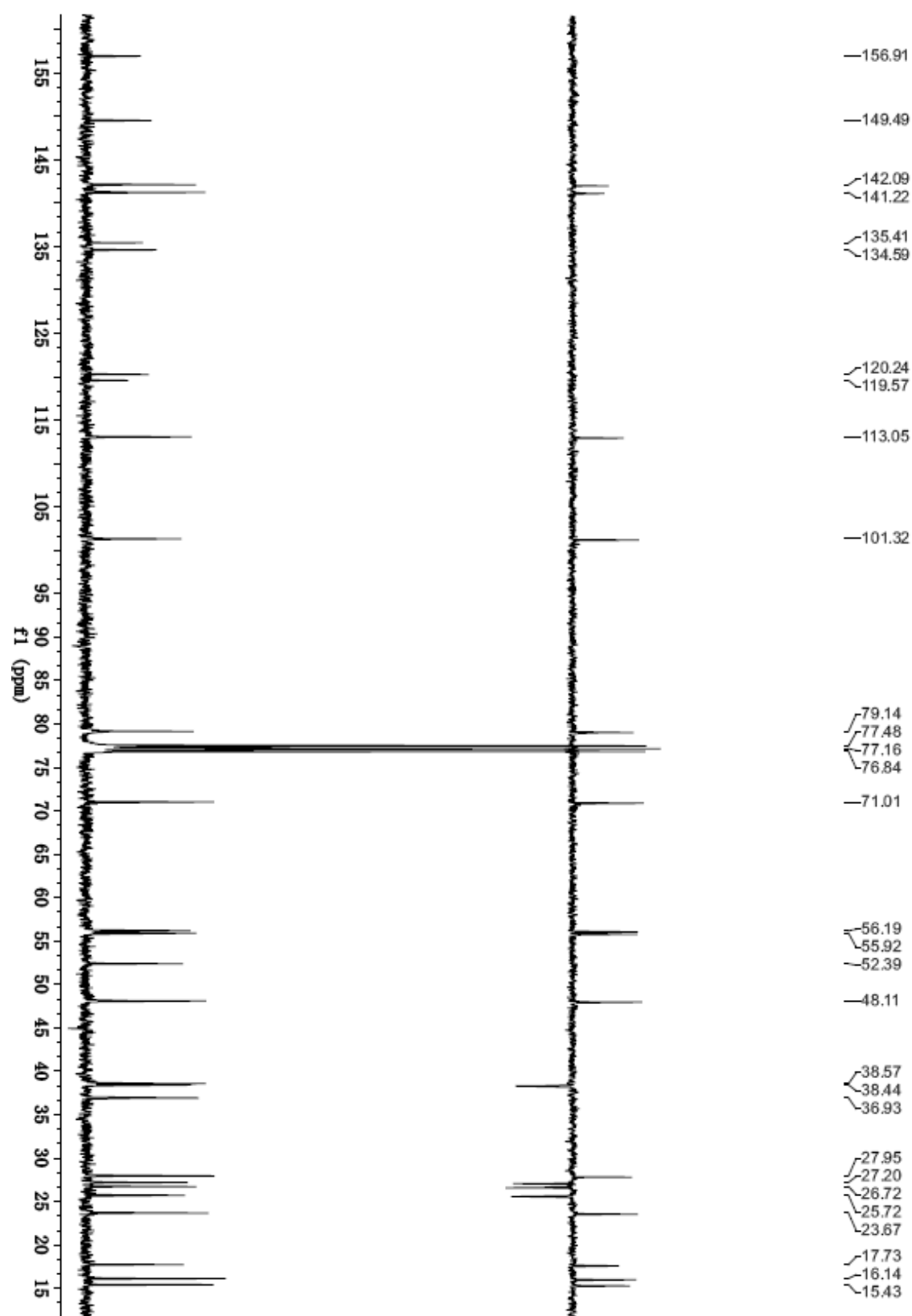


Figure S87. HSQC spectrum of walsucochinoid M (**11**) in CDCl₃

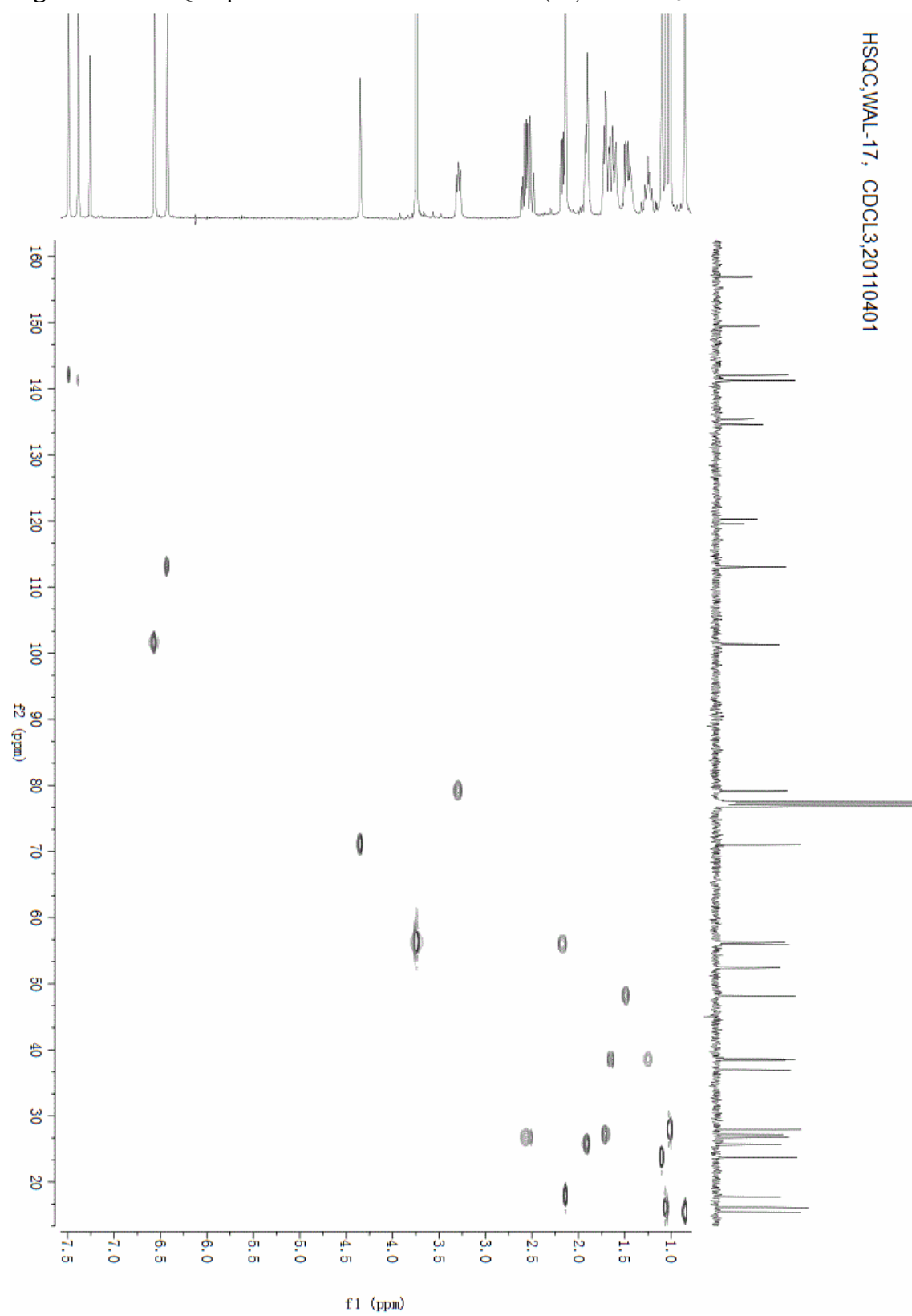


Figure S88. HMBC spectrum of walsucochinoid M (**11**) in CDCl₃

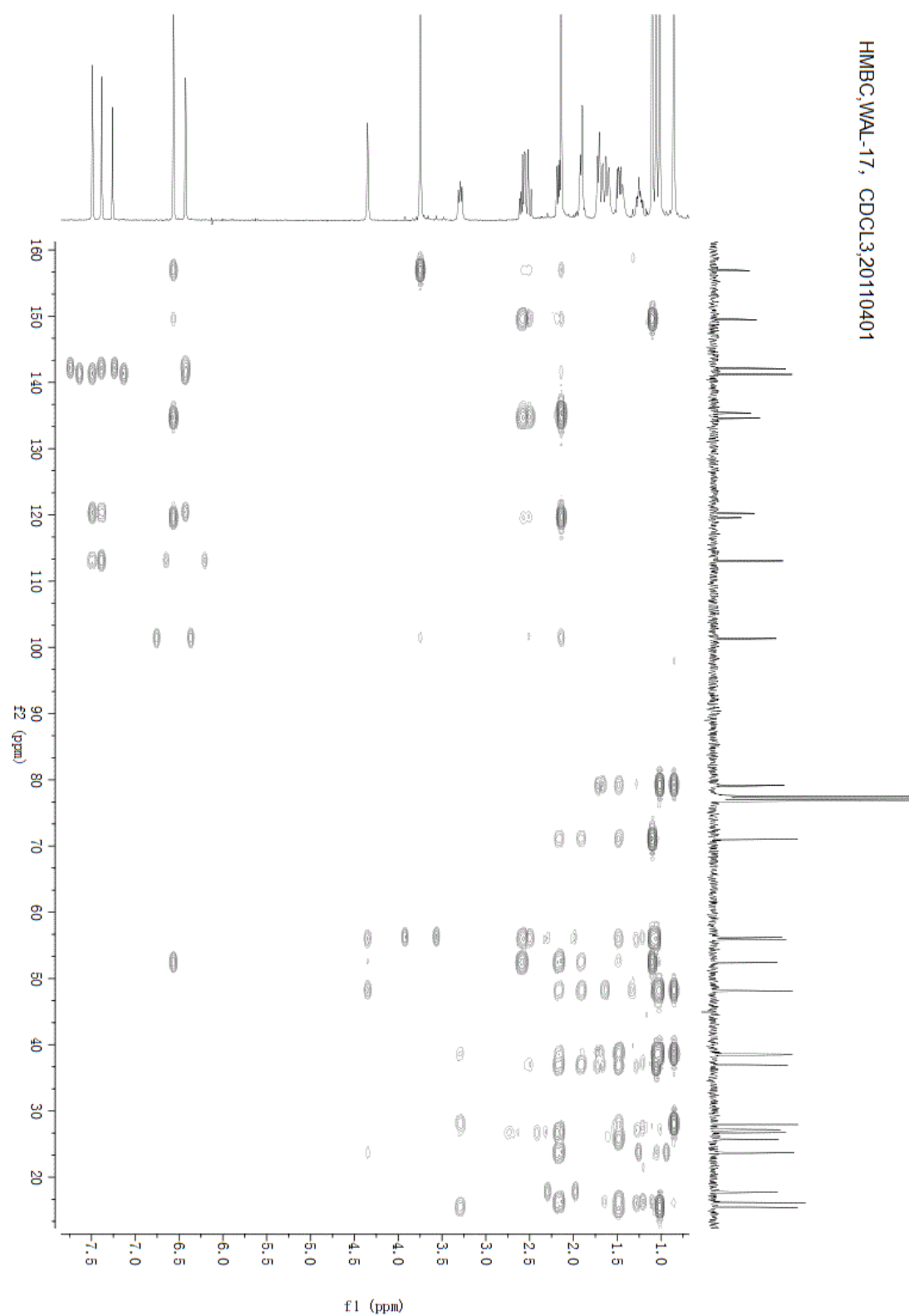


Figure S89. ROESY spectrum of walsucochinoid M (**11**) in CDCl₃

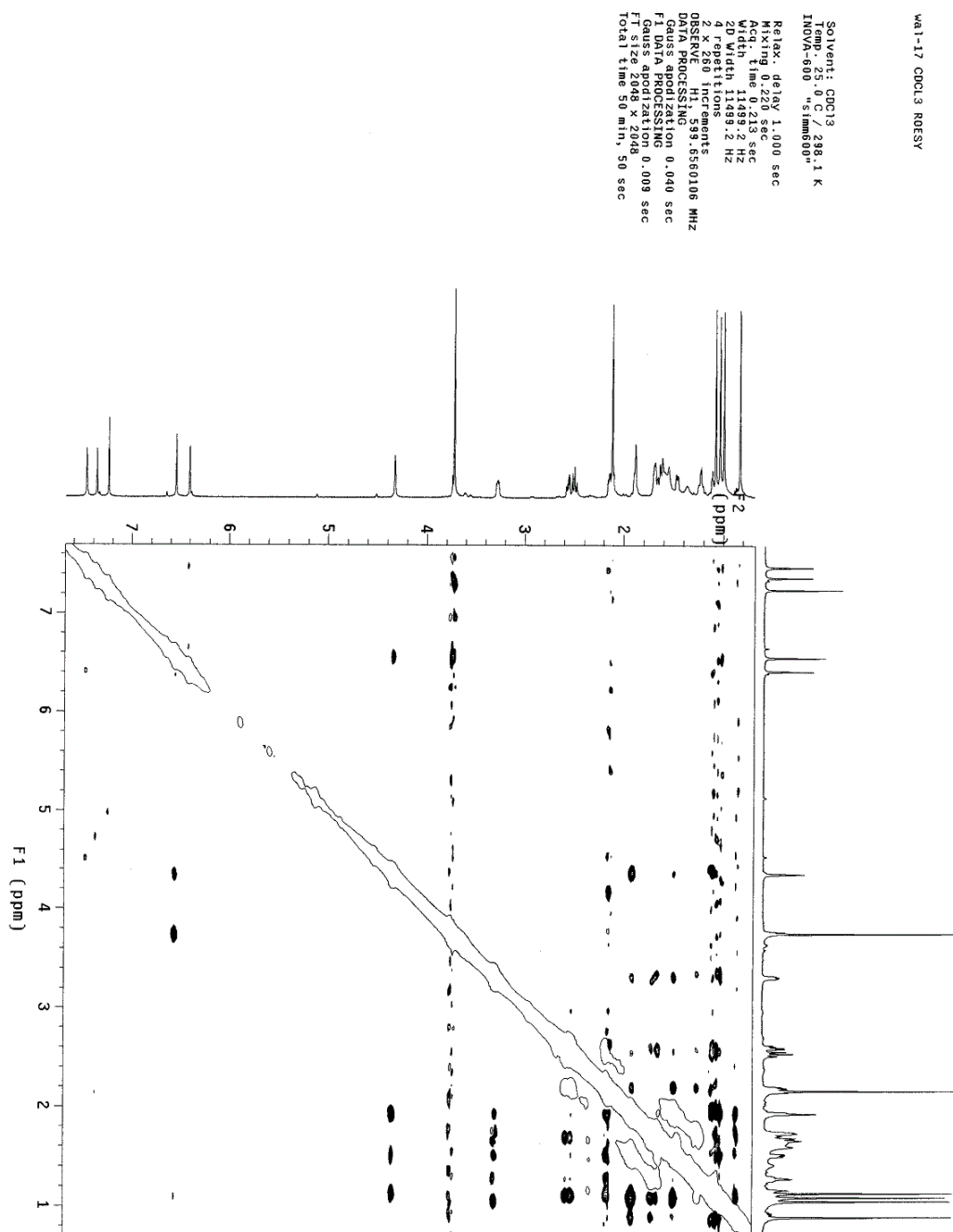


Figure S90. ESI(+)MS spectrum of walsucochinoid M (**11**)

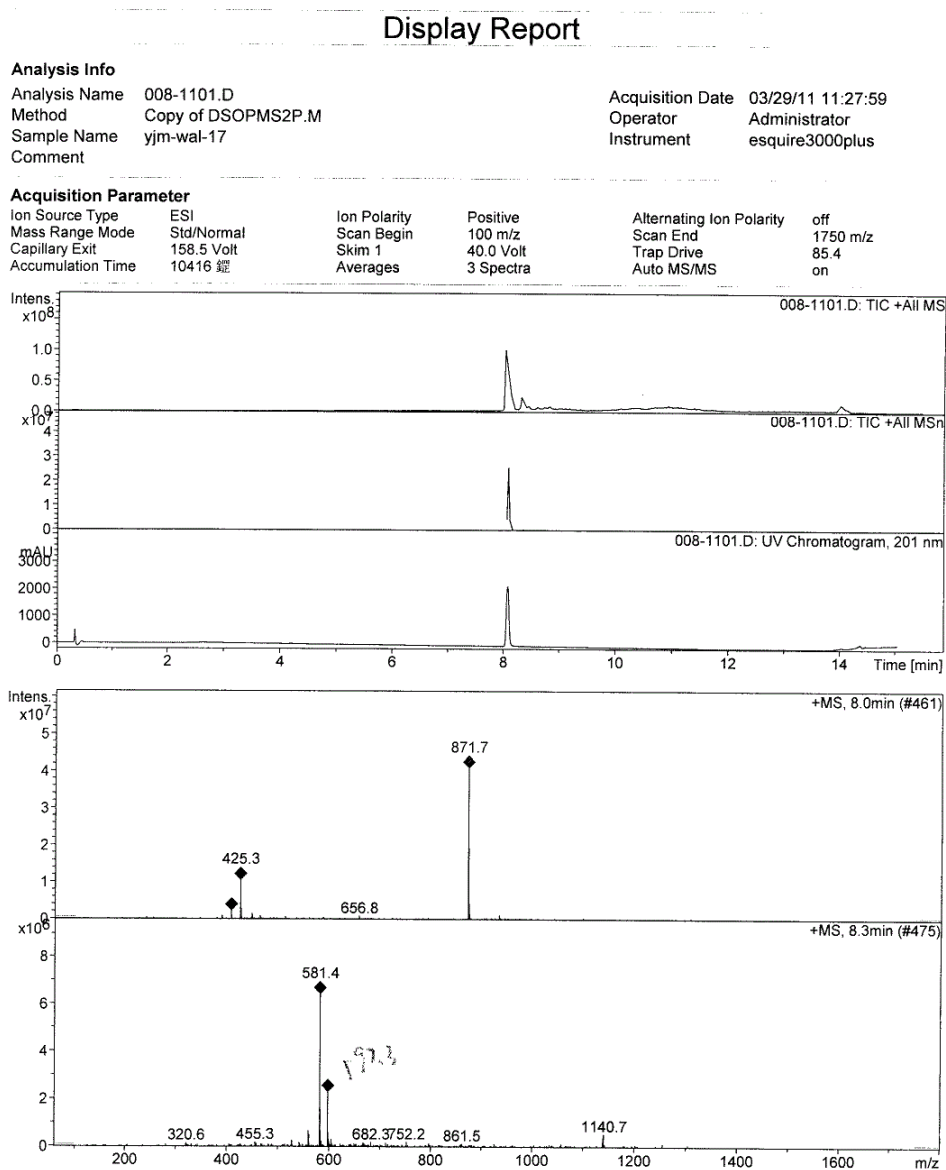


Figure S91. HRESI(+)MS spectrum of walsucochinoid M (**11**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

418 formula(e) evaluated with 3 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-17

LCT PXE KE324

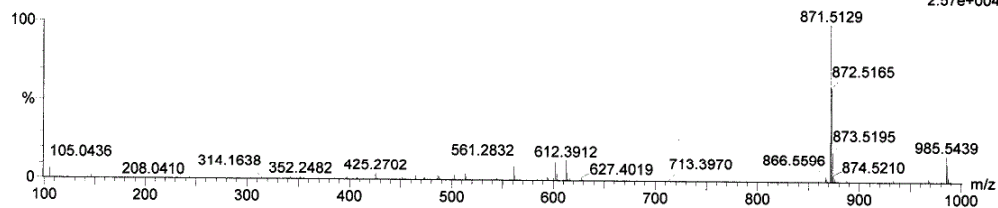
04-Nov-2011

15:34:38

1: TOF MS ES+

2.57e+004

WAL-17_1104 23 (0.494) AM2 (Ar,13000.0,0.00,0.70); ABS; Cm (9:26)



Minimum:

Maximum:

Mass

Calc. Mass

mDa

PPM

DBE

i-FIT

i-FIT (Norm)

Formula

871.5129

871.5125

0.4

0.5

18.5

80.7

0.0

C54 H72 O8 Na

871.5149

-2.0

-2.3

21.5

85.9

5.2

C56 H71 O8

871.5114

1.5

1.7

-0.5

90.4

9.7

C38 H79 O21

Figure S92. IR spectrum of walsucochinoid M (**11**)

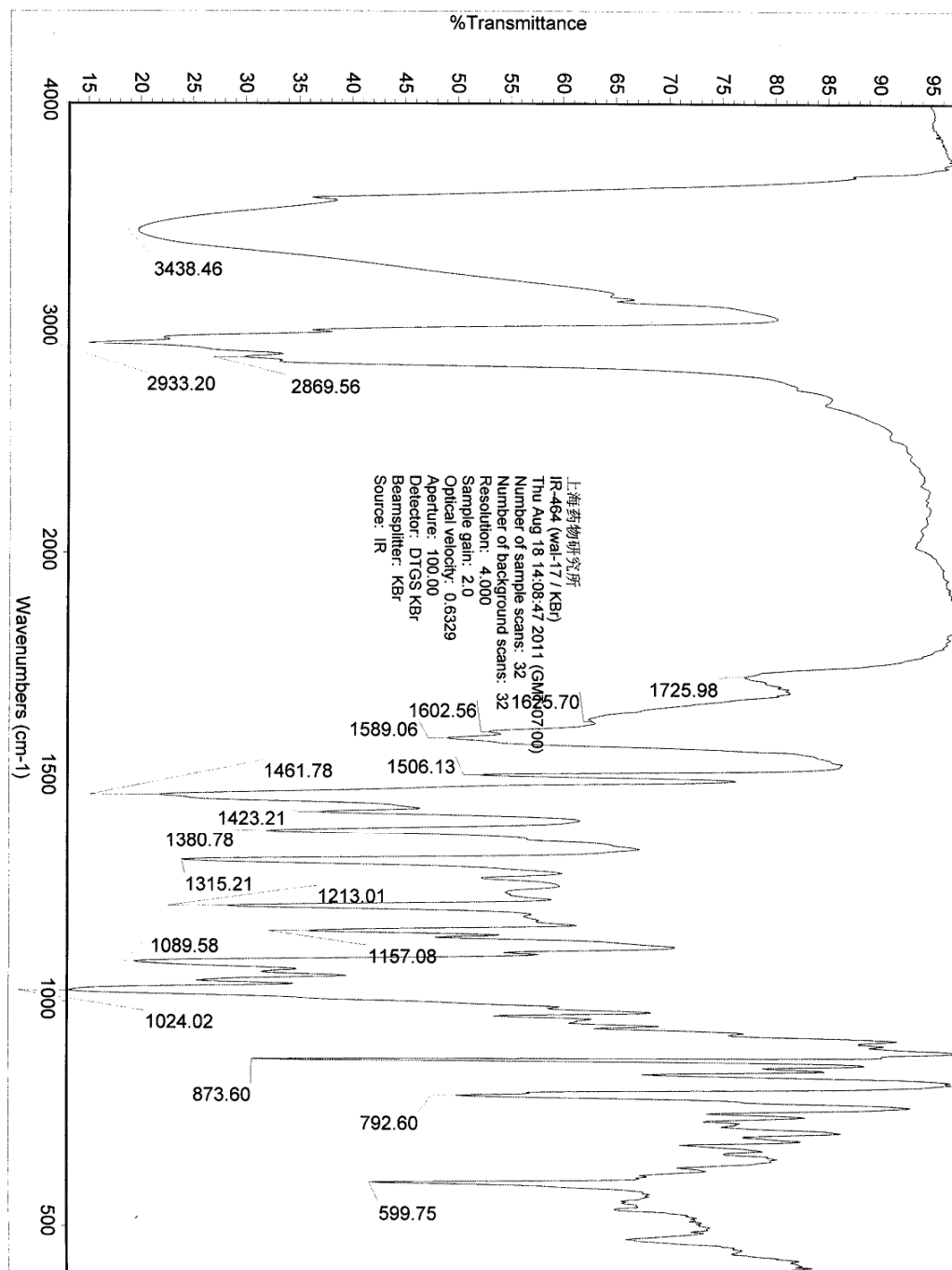


Figure S93. ^1H NMR spectrum of walsucochinoid N (**12**) in CDCl_3

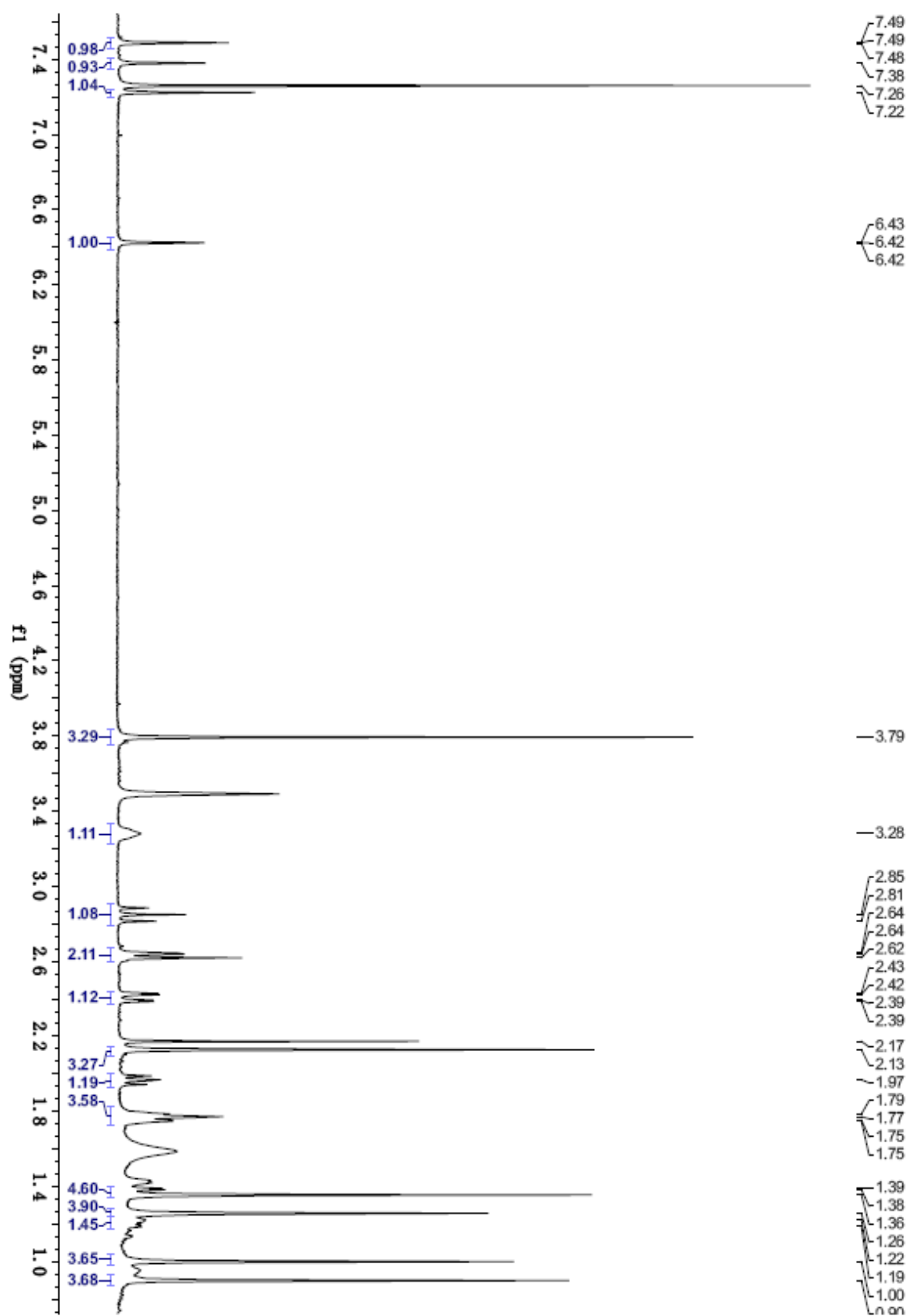


Figure S94. ^{13}C NMR spectrum of walsucochinoid N (12) in CDCl_3

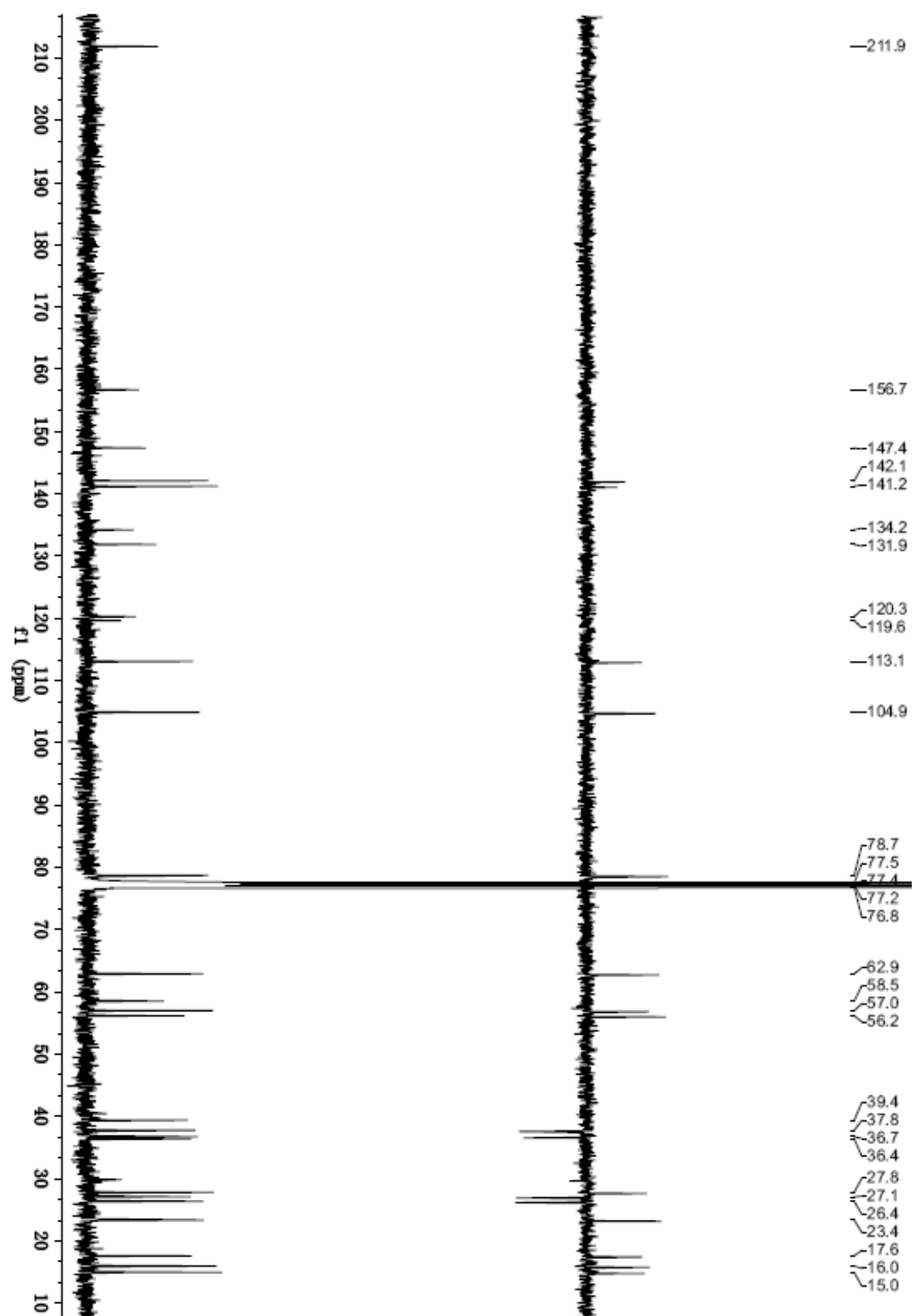


Figure S95. HSQC spectrum of walsucochinoid N (**12**) in CDCl₃

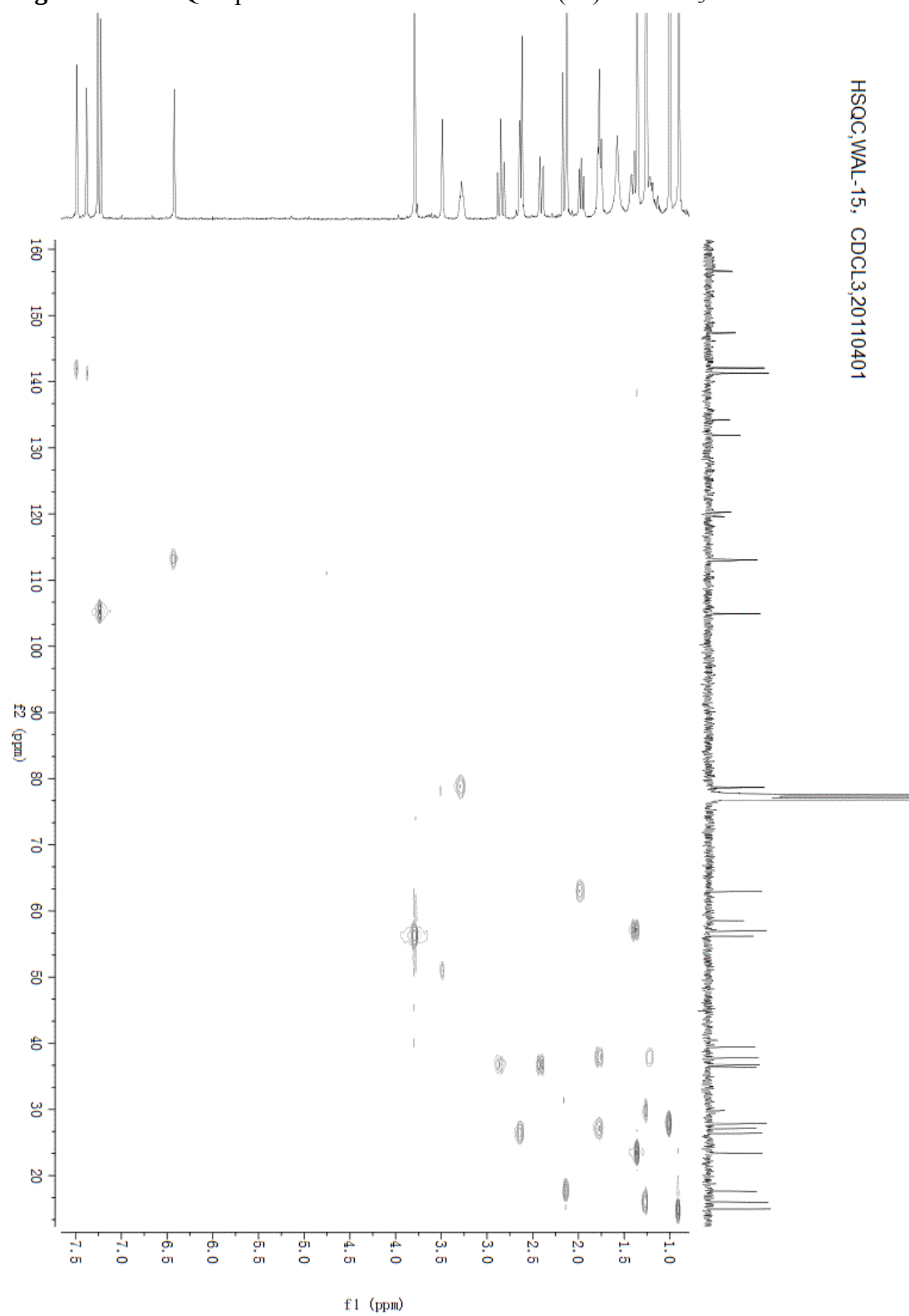


Figure S96. HMBC spectrum of walsucochinoid N (**12**) in CDCl₃

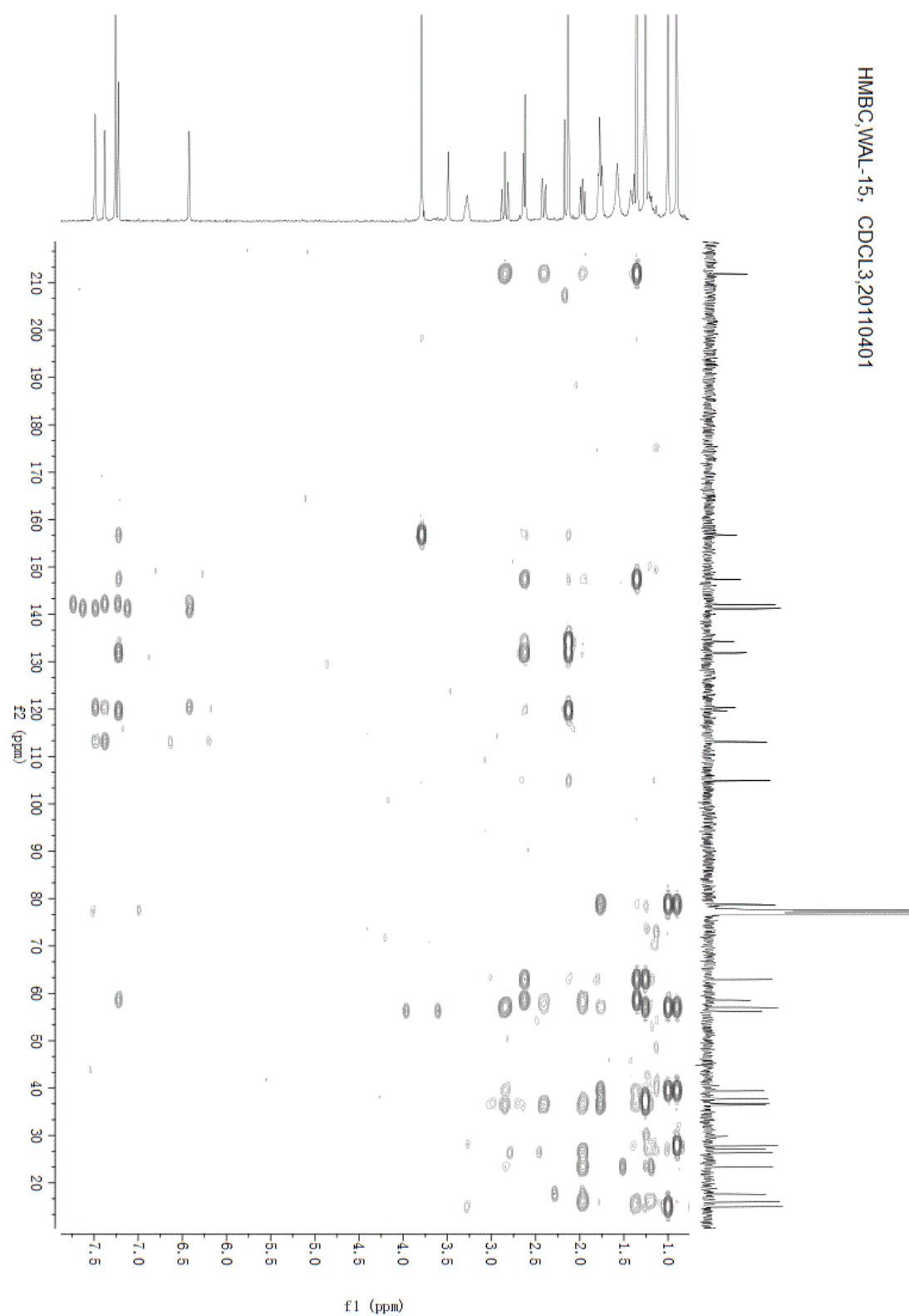


Figure S97. ROESY spectrum of walsucochinoid N (**12**) in CDCl₃

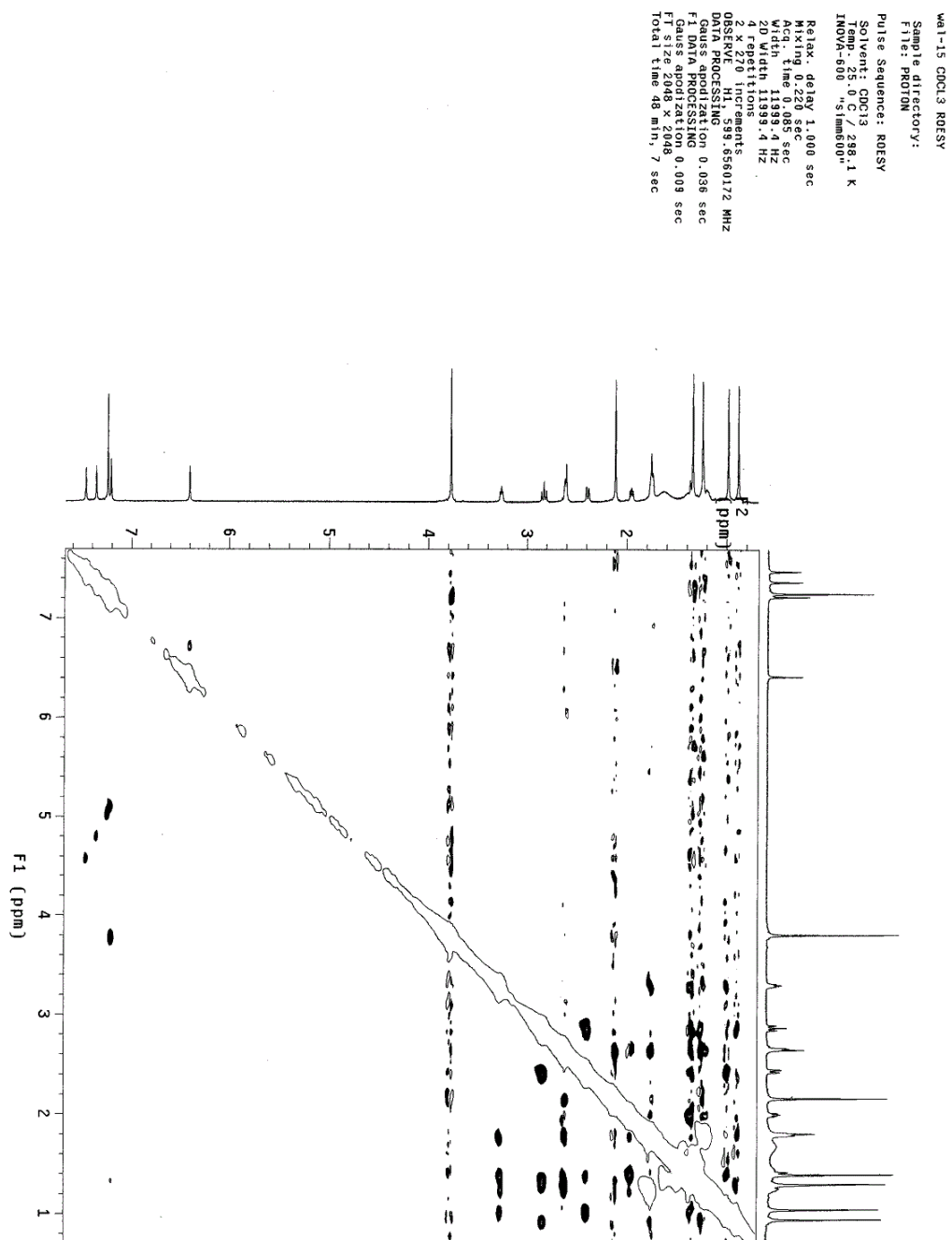


Figure S98. ESI(+)MS spectrum of walsucochinoid N (**12**)

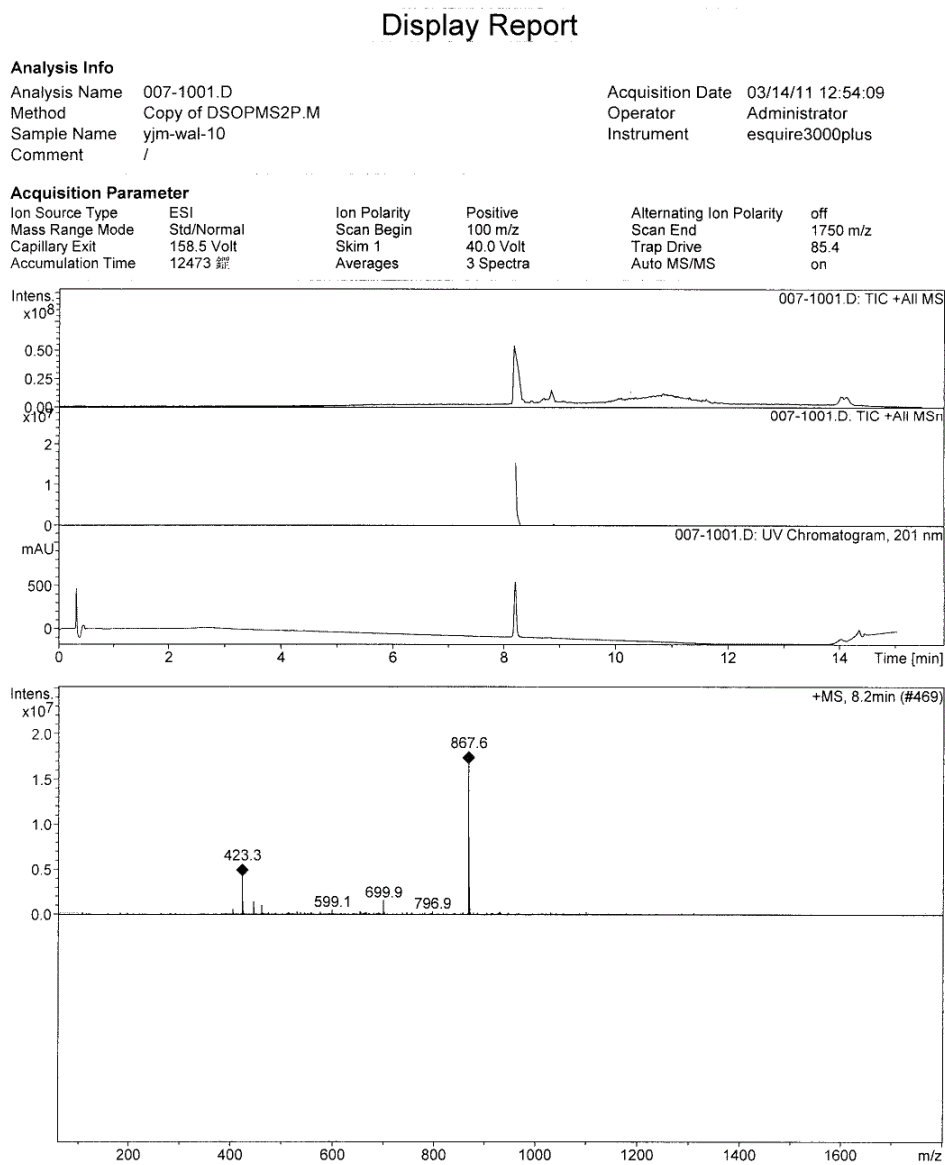


Figure S99. HRESI(+)MS spectrum of walsucochinoid N (**12**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

417 formula(e) evaluated with 2 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-15

LCT PXE KE324

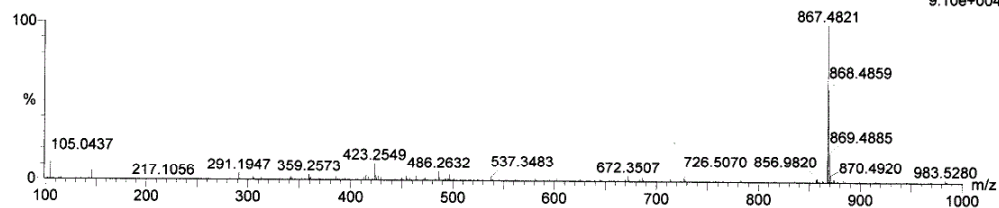
04-Nov-2011

15:00:17

1: TOF MS ES+

9.10e+004

WAL-15_1104 30 (0.654) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (17:53)



Minimum:

Maximum: 2.0 2.0 -1.5

Mass Calc. Mass mDa PPM DBE i-FIT i-FIT (Norm) Formula

867.4821	867.4812	0.9	1.0	20.5	74.4	0.0	C54 H68 O8 Na
	867.4836	-1.5	-1.7	23.5	77.7	3.3	C56 H67 O8

Figure S100. IR spectrum of walsucochinoid N (**12**)

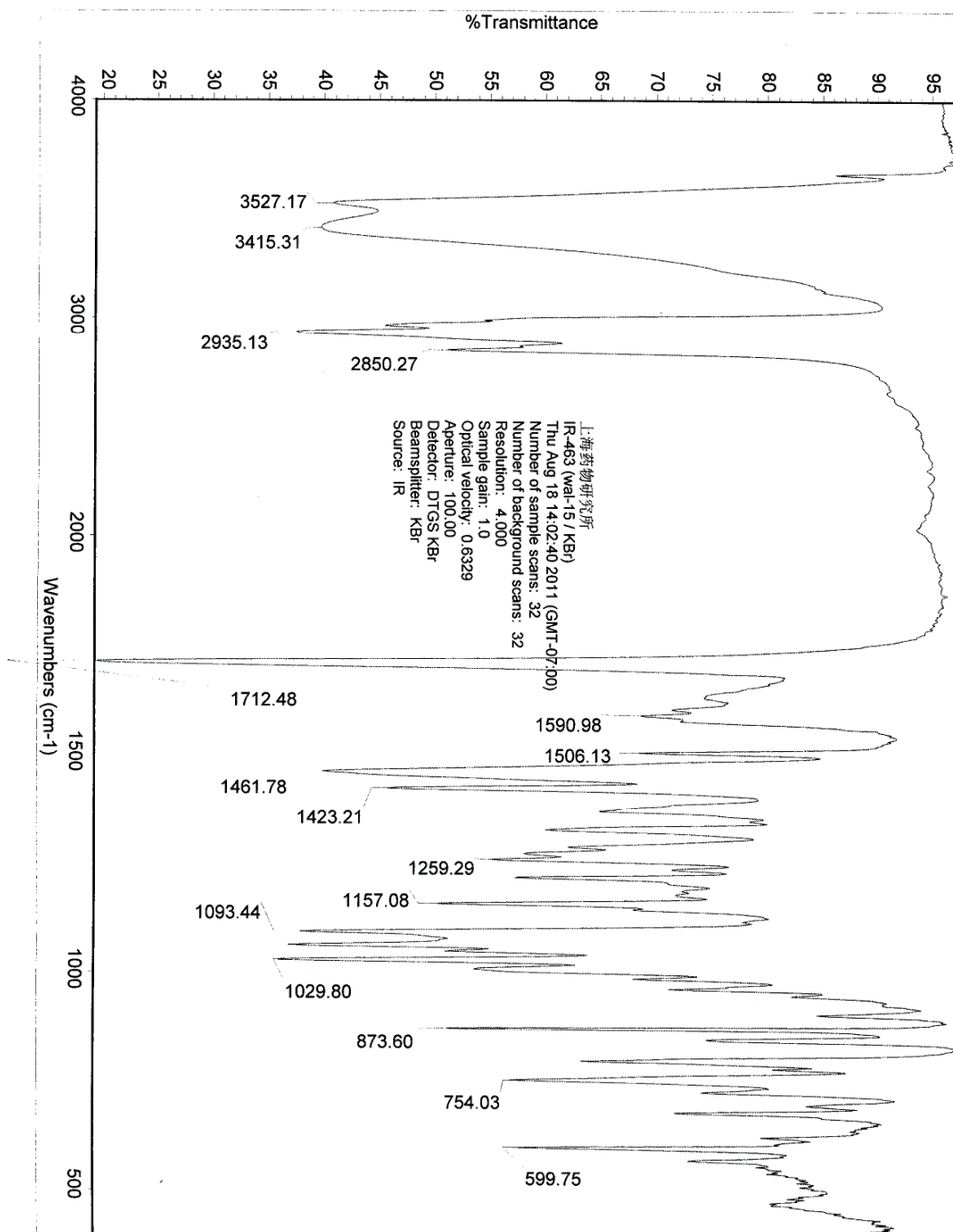


Figure S101. ^1H NMR spectrum of walsucochinoid O (**13**) in CDCl_3

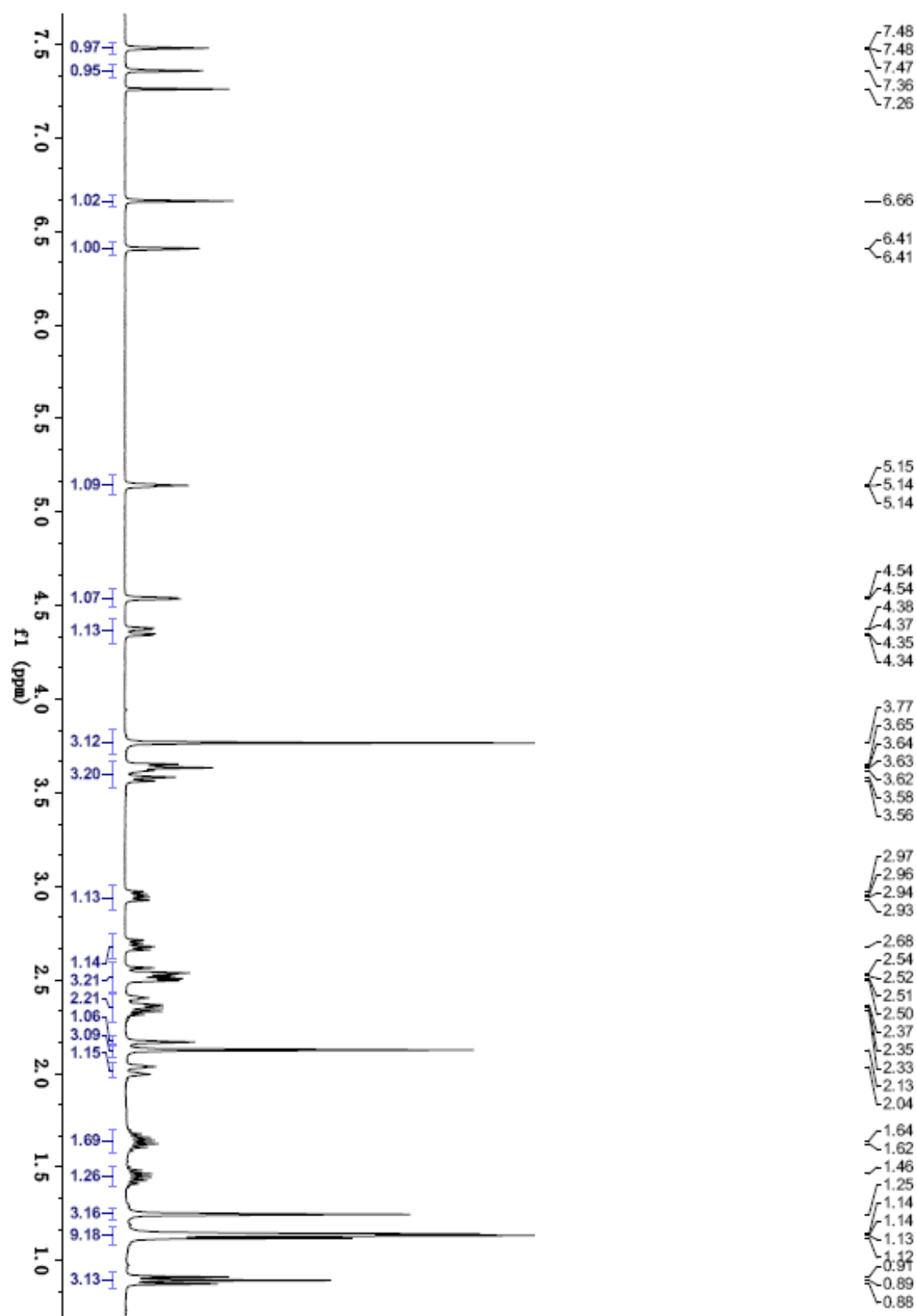


Figure S102. ^{13}C NMR spectrum of walsucochinoid O (**13**) in CDCl_3

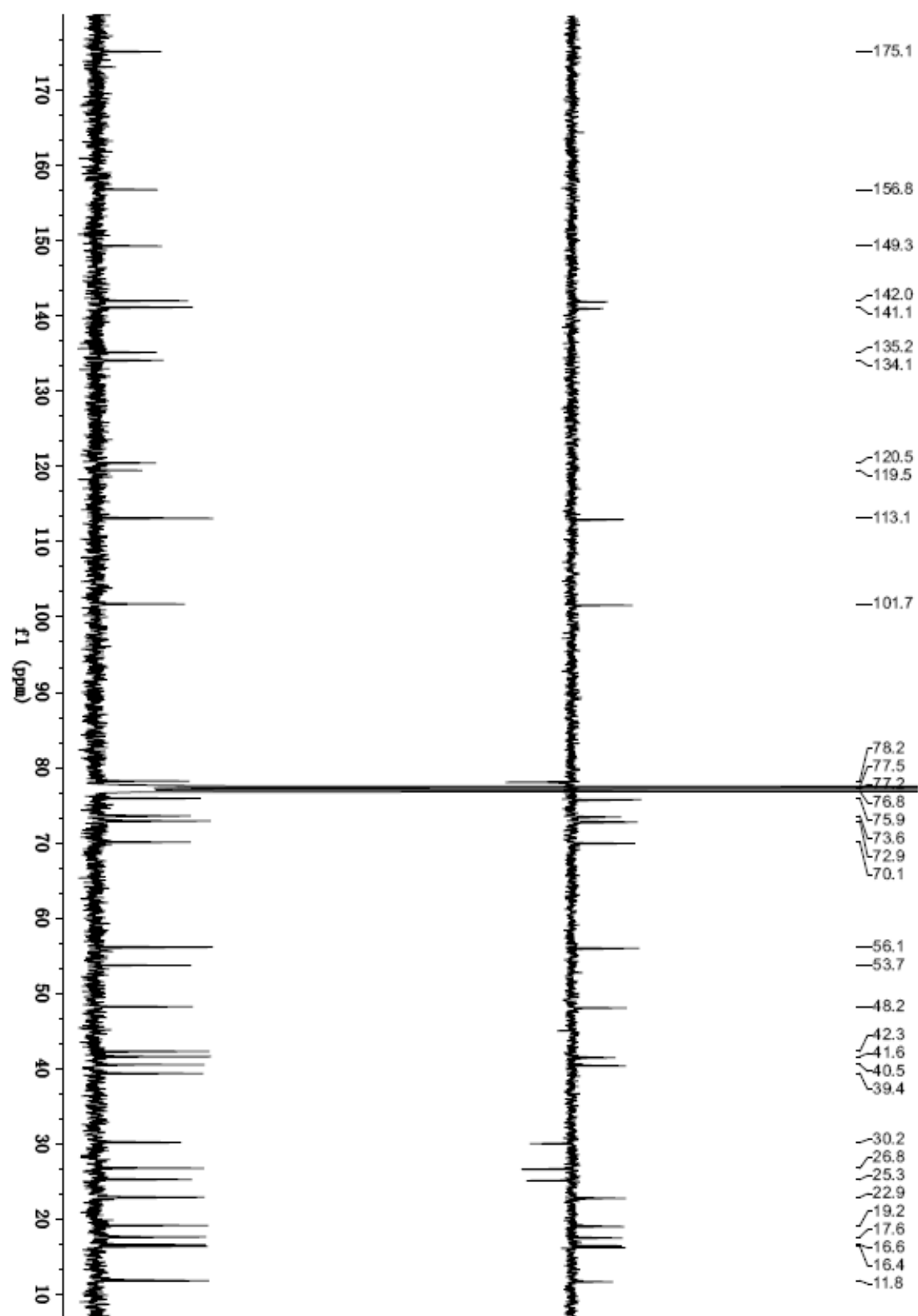


Figure S103. HSQC spectrum of walsucochinoid O (**13**) in CDCl₃

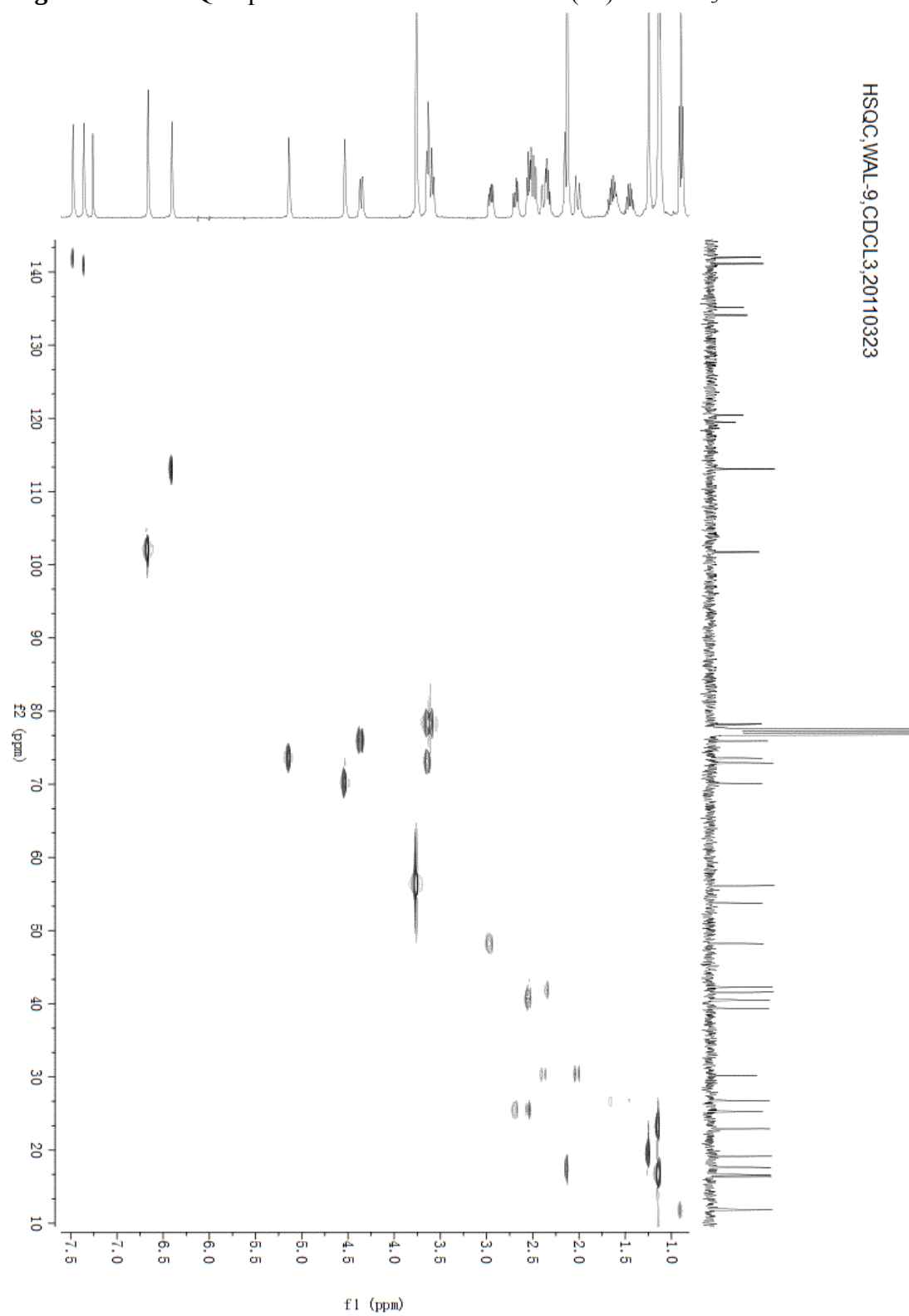


Figure S104. HMBC spectrum of walsucochinoid O (**13**) in CDCl₃

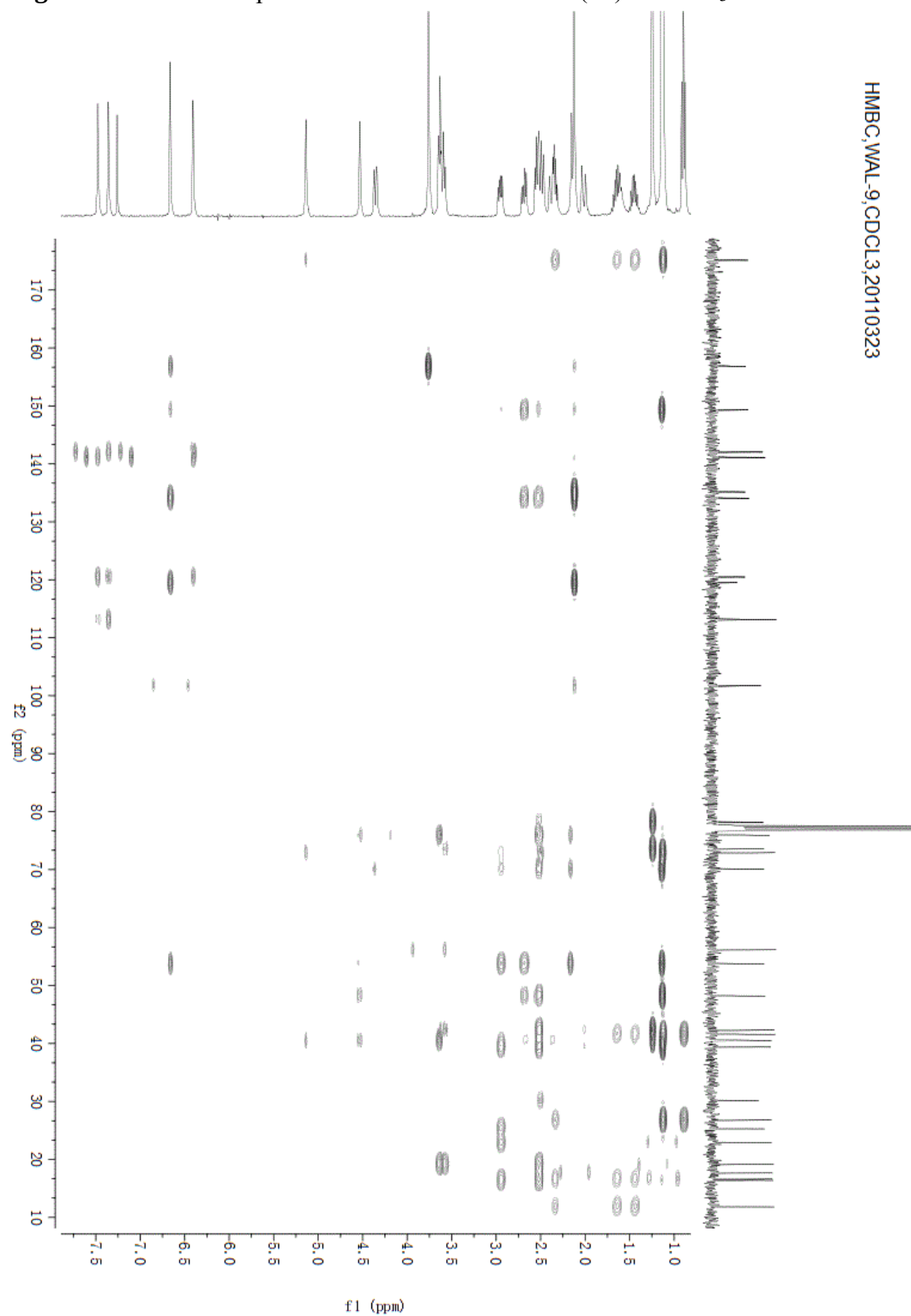


Figure S105. ROESY spectrum of walsucochinoid O (**13**) in CDCl₃

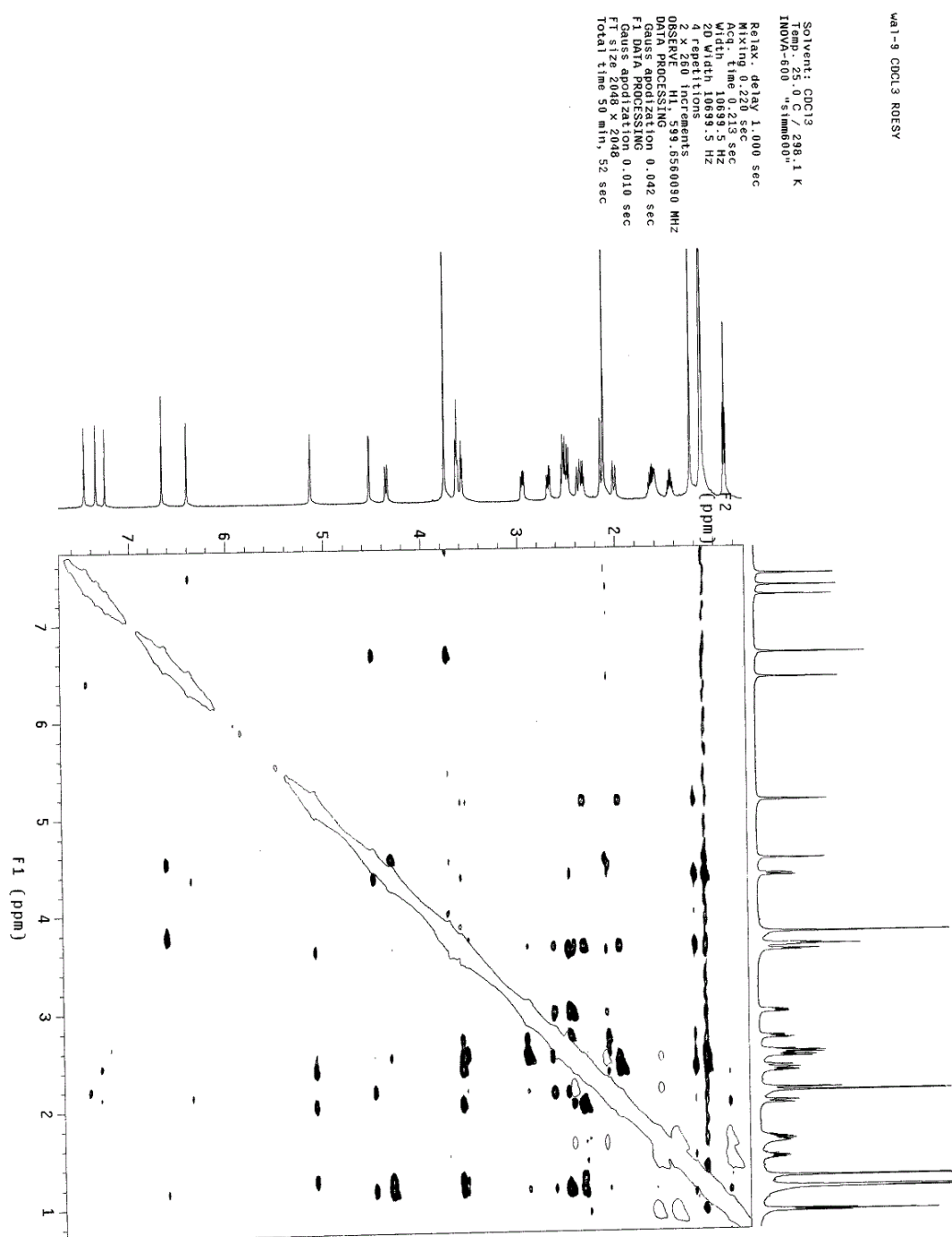


Figure S106. ESI(+)MS spectrum of walsucochinoid O (13)

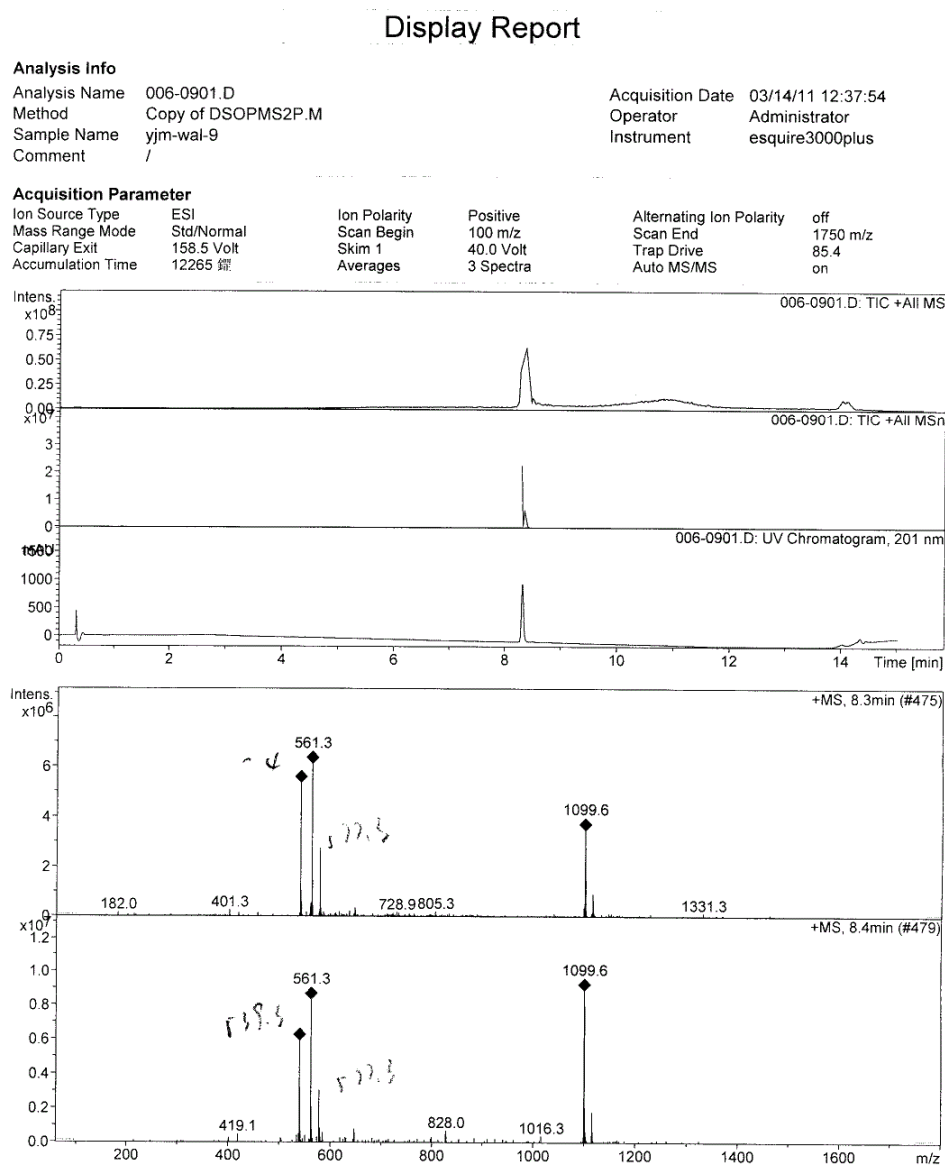


Figure S107. ESI(-)MS spectrum of walsucochinoid O (13)

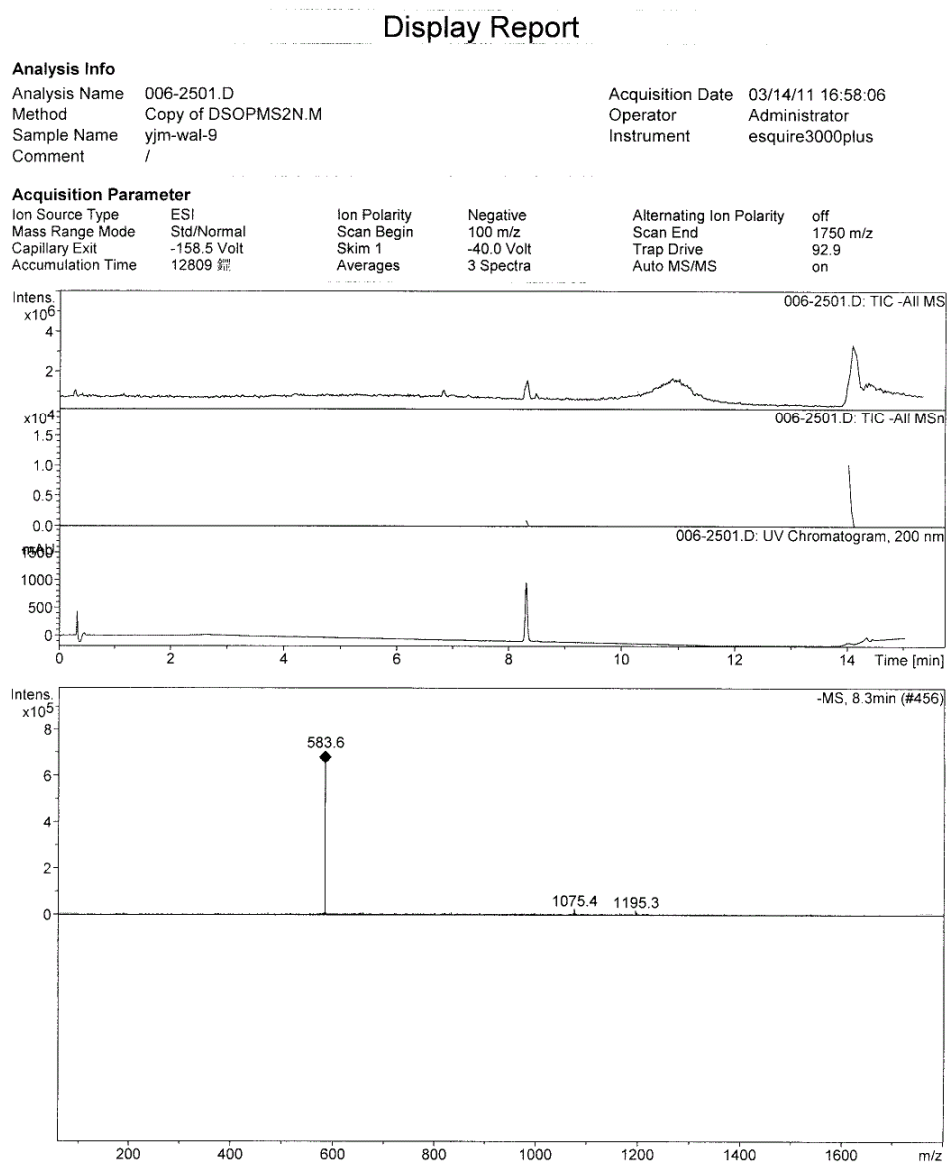


Figure S108. HRESI(+)MS spectrum of walsucochinoid O (13)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

268 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-9

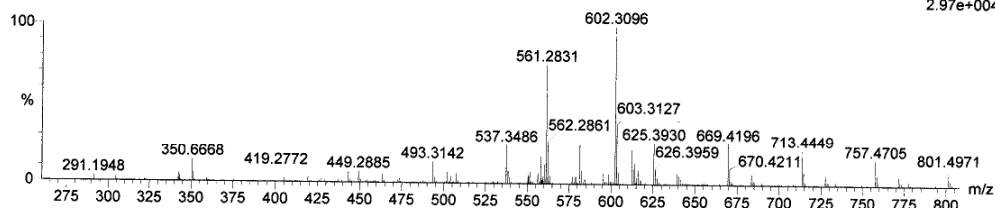
LCT PXE KE324

04-Nov-2011

14:51:22

WAL-9_1104 39 (0.847) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (9:41)

1: TOF MS ES+
2.97e+004



Minimum:

Maximum:

Mass Calc. Mass mDa PPM DBE i-FIT i-FIT (Norm) Formula

561.2831 561.2828 0.3 0.5 11.5 114.1 0.0 C32 H42 O7 Na

Figure S109. IR spectrum of walsucochinoid O (13)

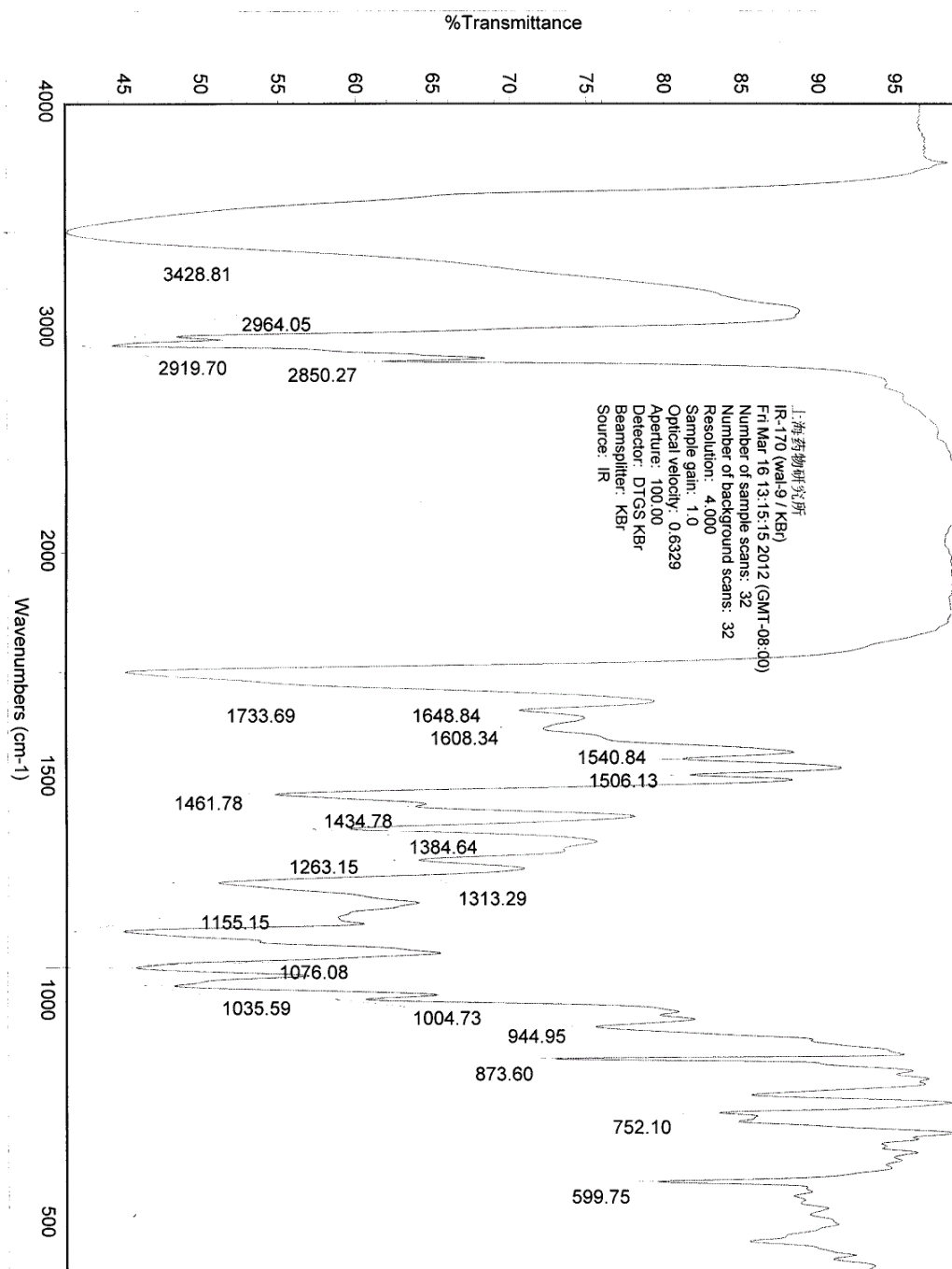


Figure S110. ^1H NMR spectrum of walsucochinoid P (**14**) in CDCl_3

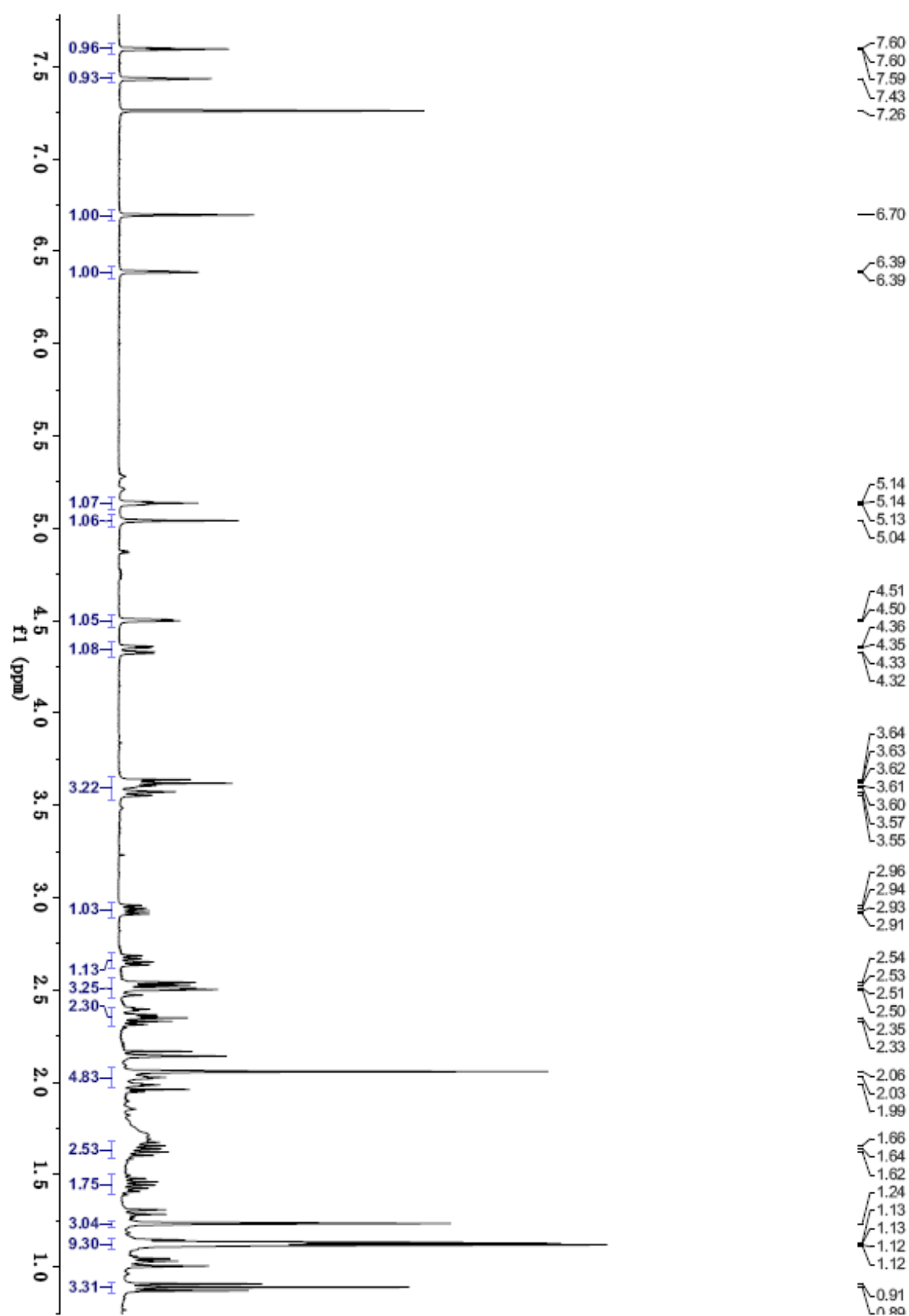


Figure S111. ^{13}C NMR spectrum of walsucochinoid P (**14**) in CDCl_3

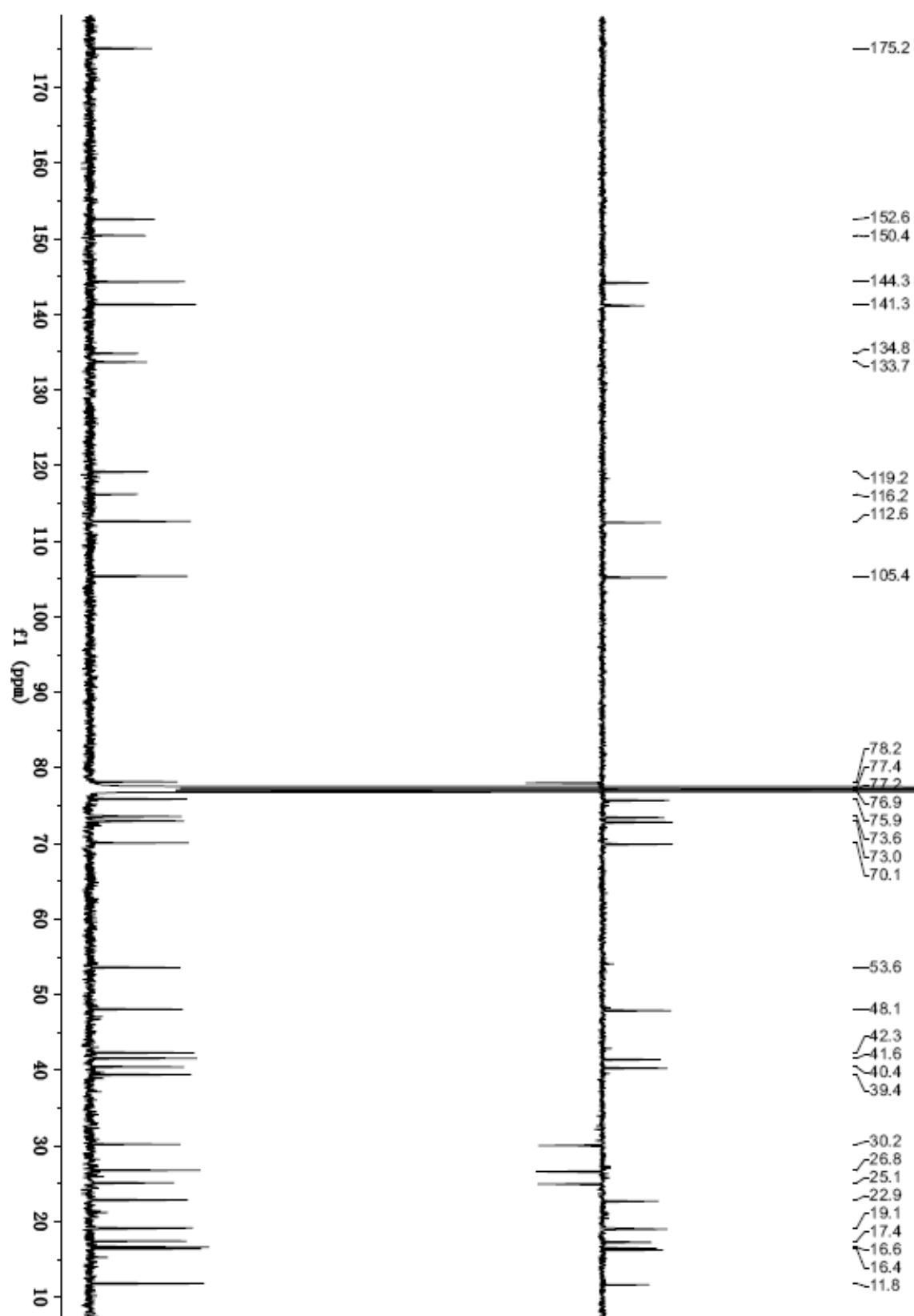


Figure S112. HSQC spectrum of walsucochinoid P (**14**) in CDCl₃

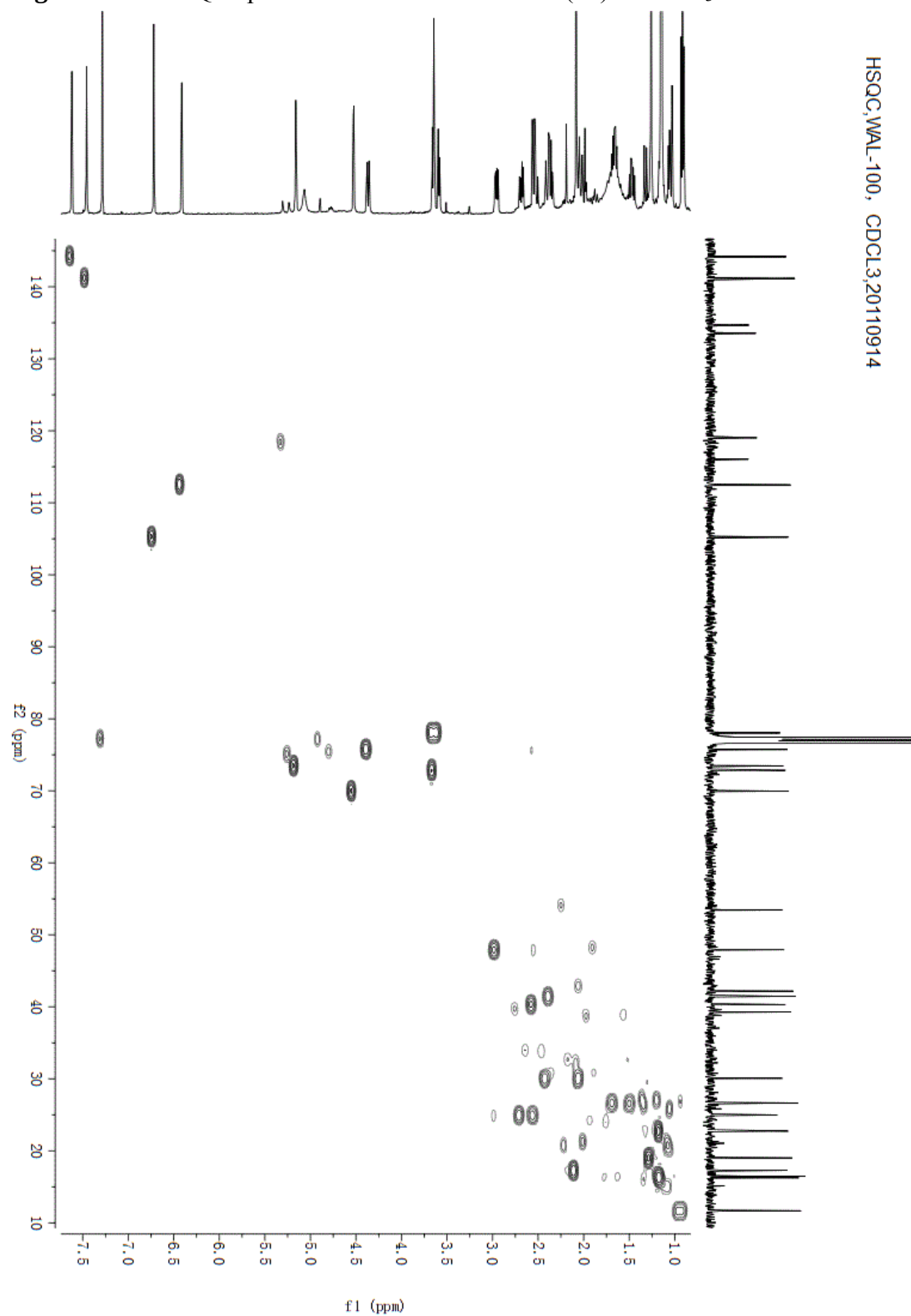


Figure S113. ROESY spectrum of walsucochinoid P (**14**) in CDCl₃

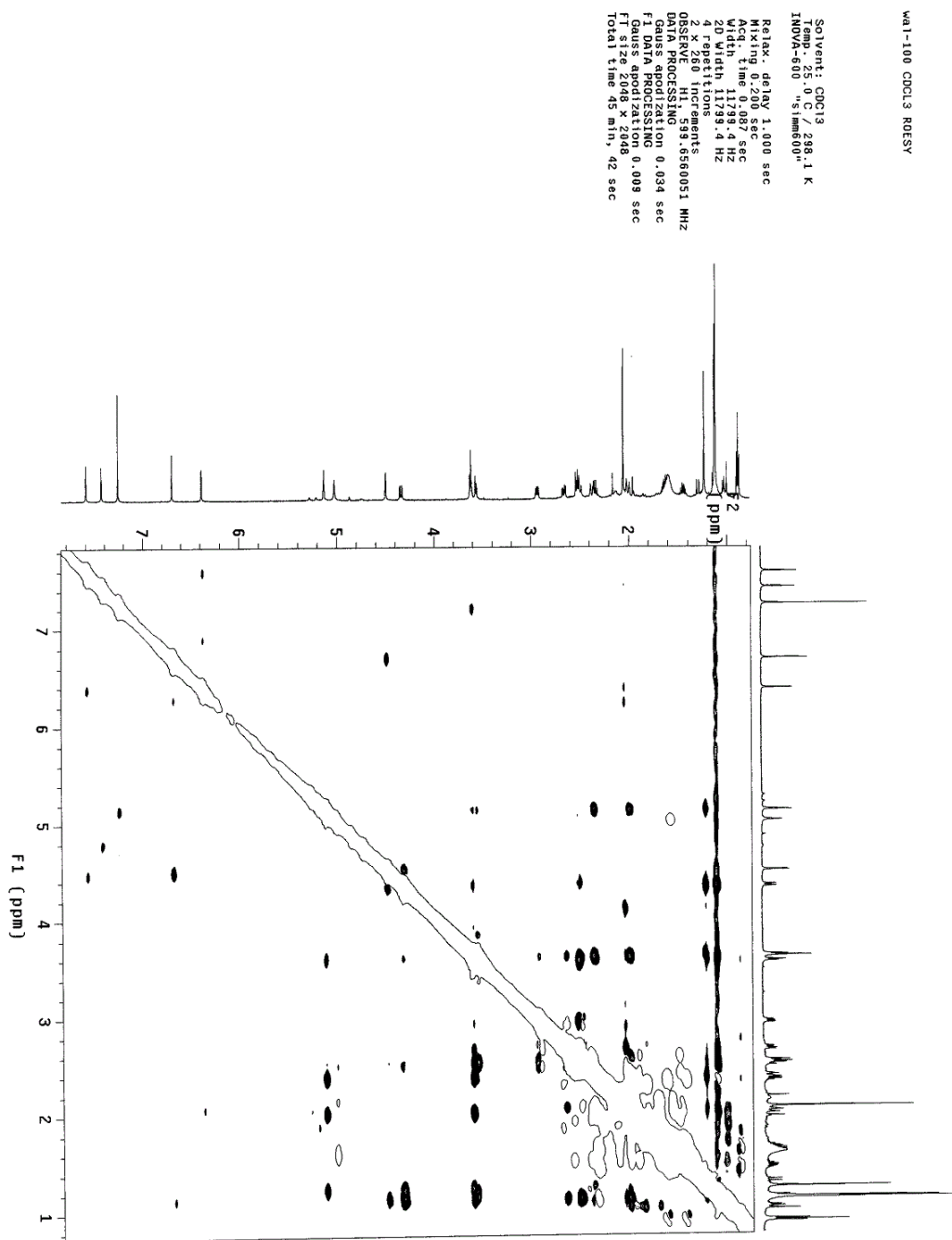


Figure S114. ESI(+)MS spectrum of walsucochinoid P (**14**)

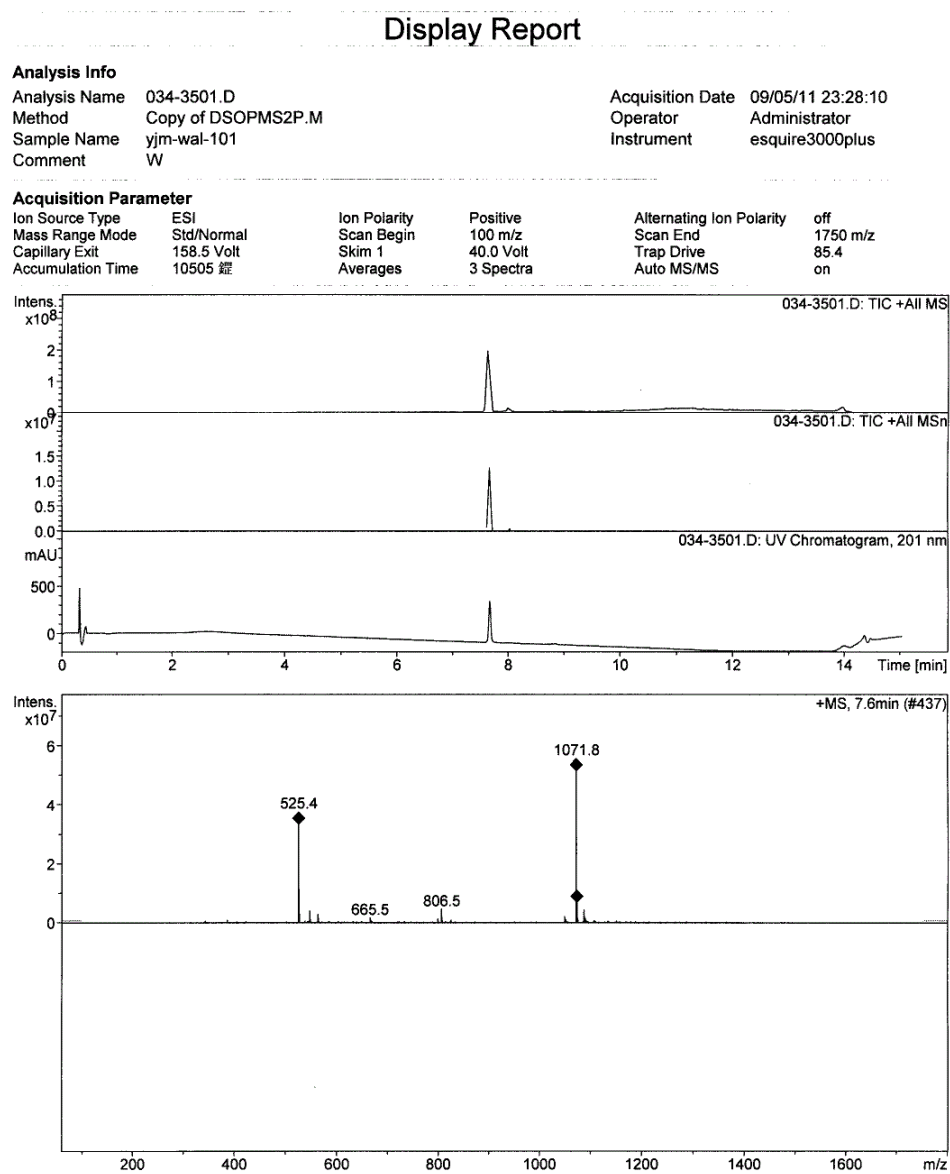


Figure S115. ESI(-)MS spectrum of walsucochinoid P (**14**)

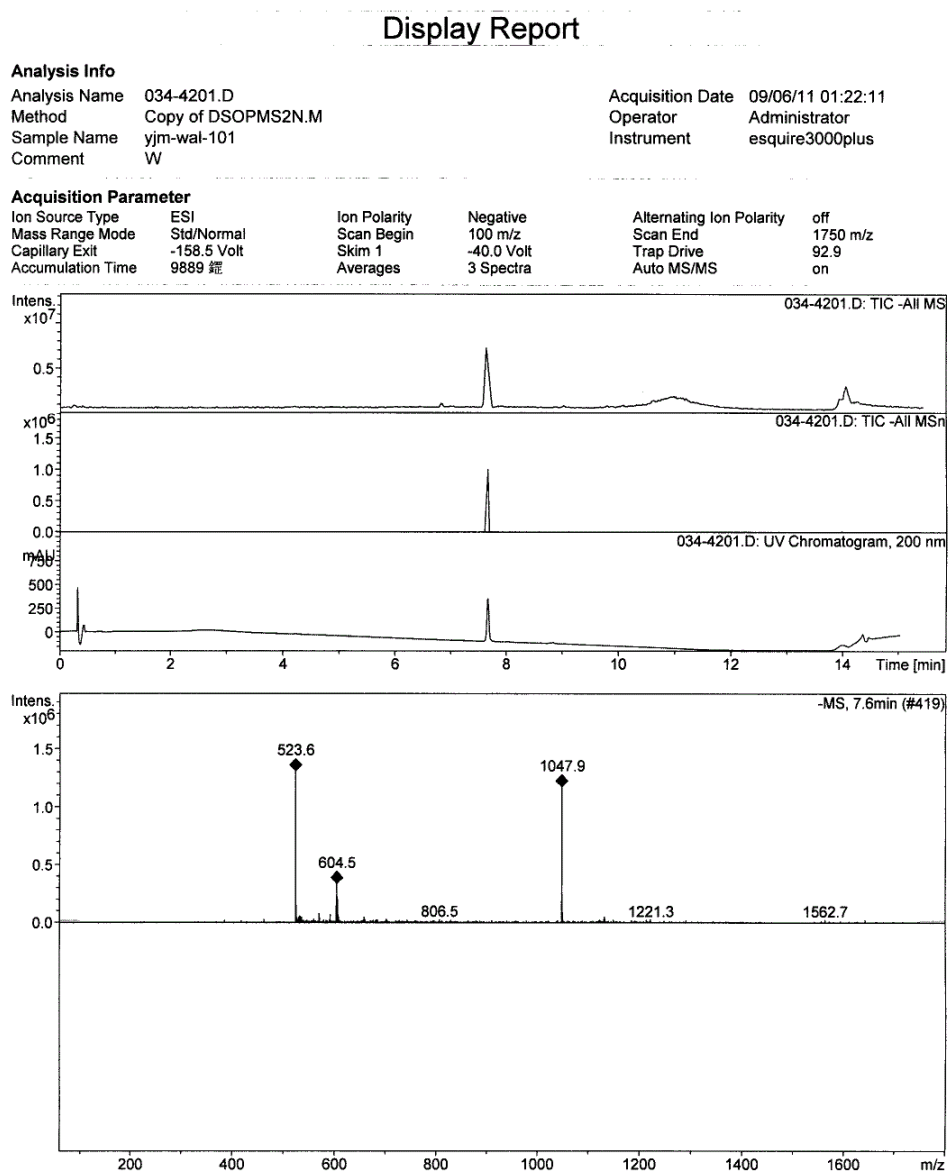


Figure S116. HRESI(+)MS spectrum of walsucochinoid P (**14**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 3.0 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

268 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-100

LCT PXE KE324

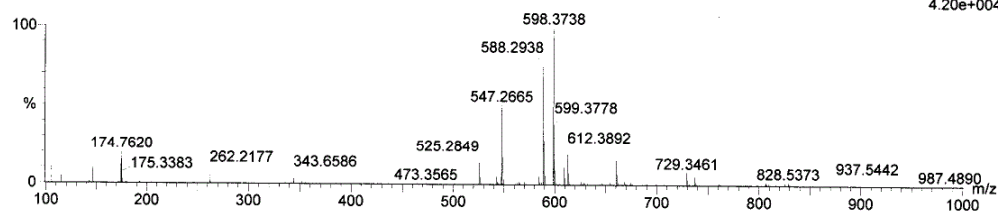
09-Nov-2011

14:39:04

WAL-100_1109 28 (0.600) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (17:45)

1: TOF MS ES+

4.20e+004



Minimum:

Maximum:

5.0 3.0 -1.5

50.0

Mass Calc. Mass mDa PPM DBE i-FIT i-FIT (Norm) Formula

547.2665 547.2672 -0.7 -1.3 11.5 97.0 0.0 C31 H40 O7 Na

Figure S117. IR spectrum of walsucochinoid P (**14**)

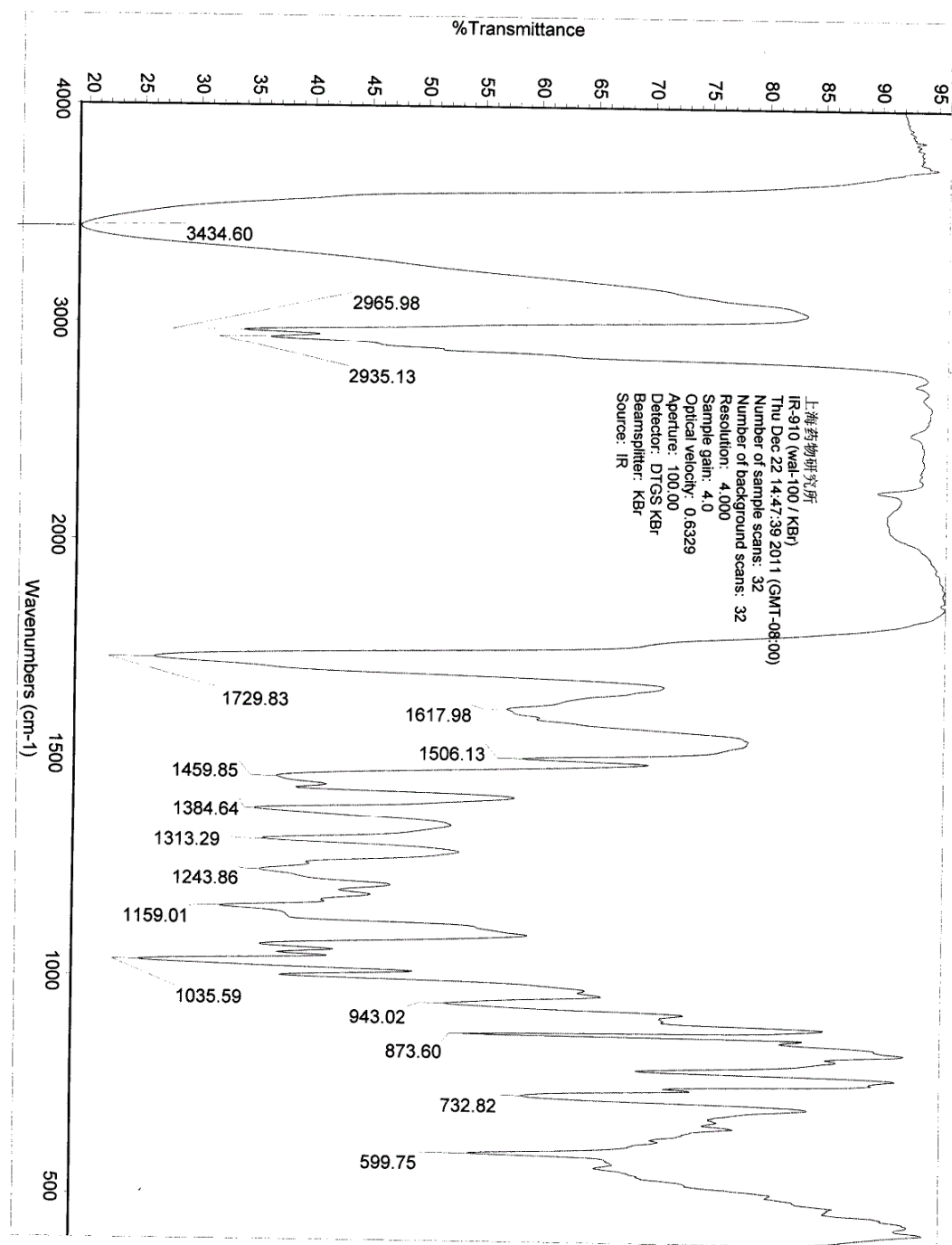


Figure S118. ^1H NMR spectrum of walsucochinoid Q (15) in CDCl_3

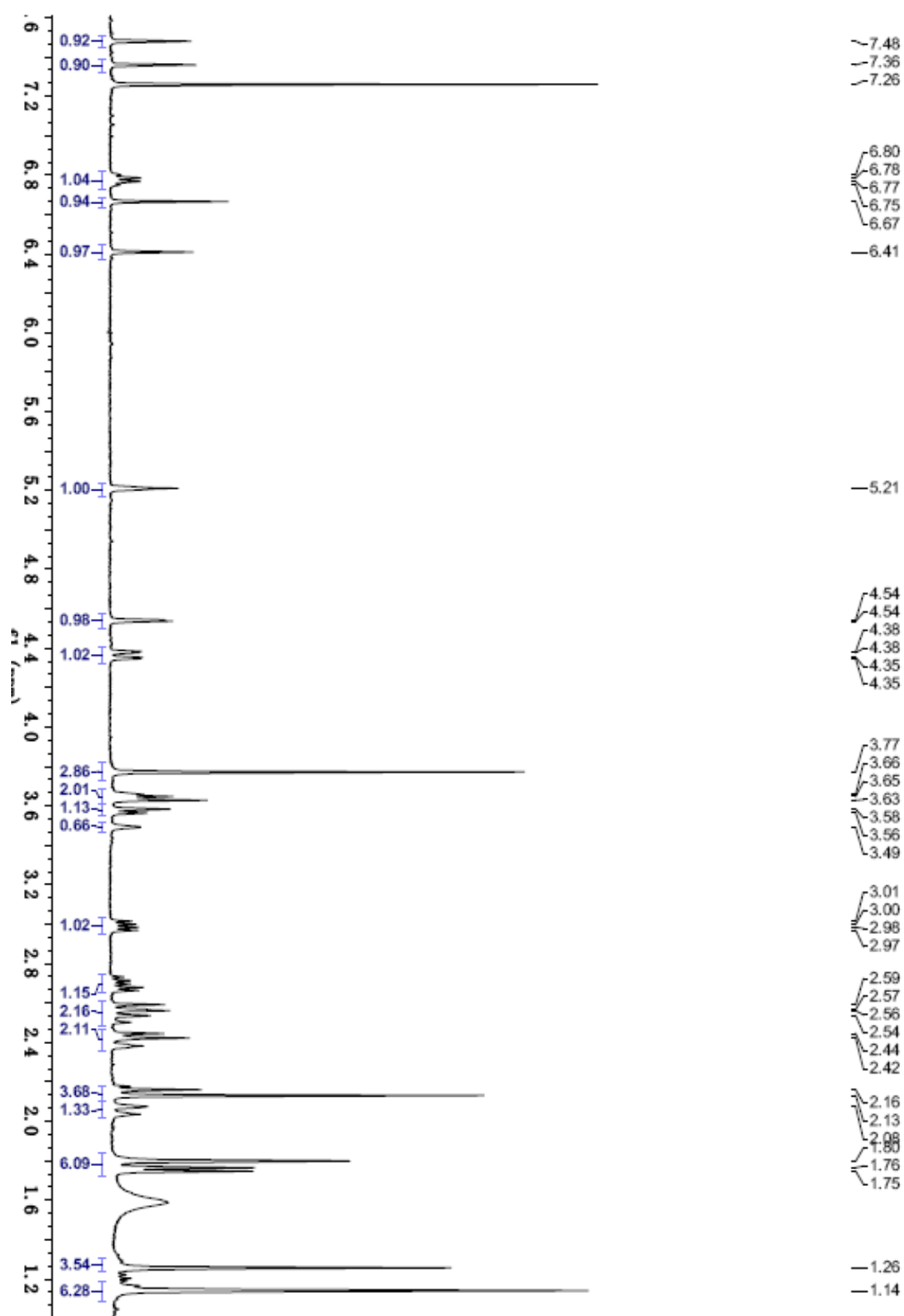


Figure S119. ^{13}C NMR spectrum of walsucochinoid Q (15) in CDCl_3

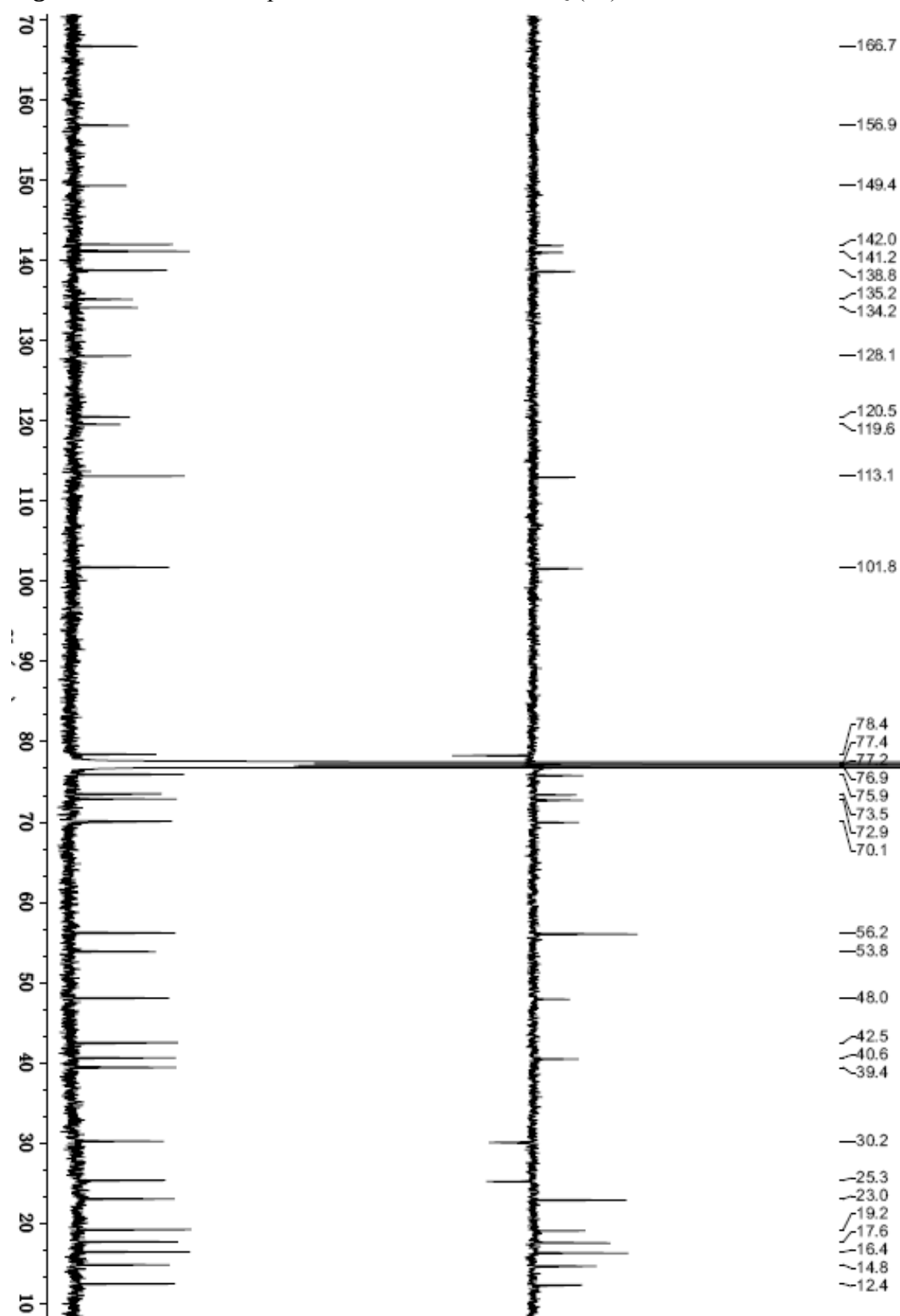


Figure S120. HSQC spectrum of walsucochinoid Q (**15**) in CDCl₃

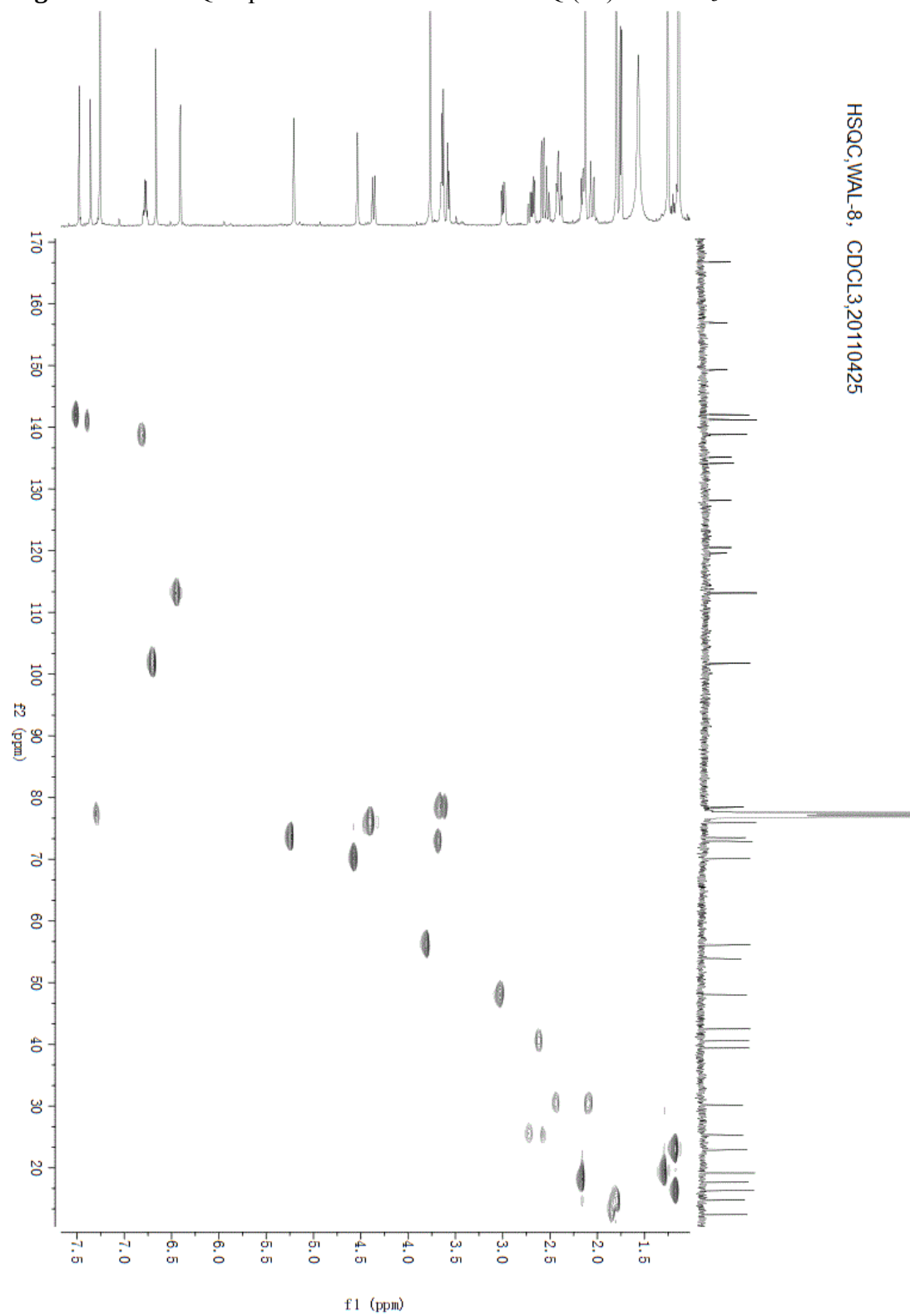


Figure S121. HMBC spectrum of walsucochinoid Q (**15**) in CDCl₃

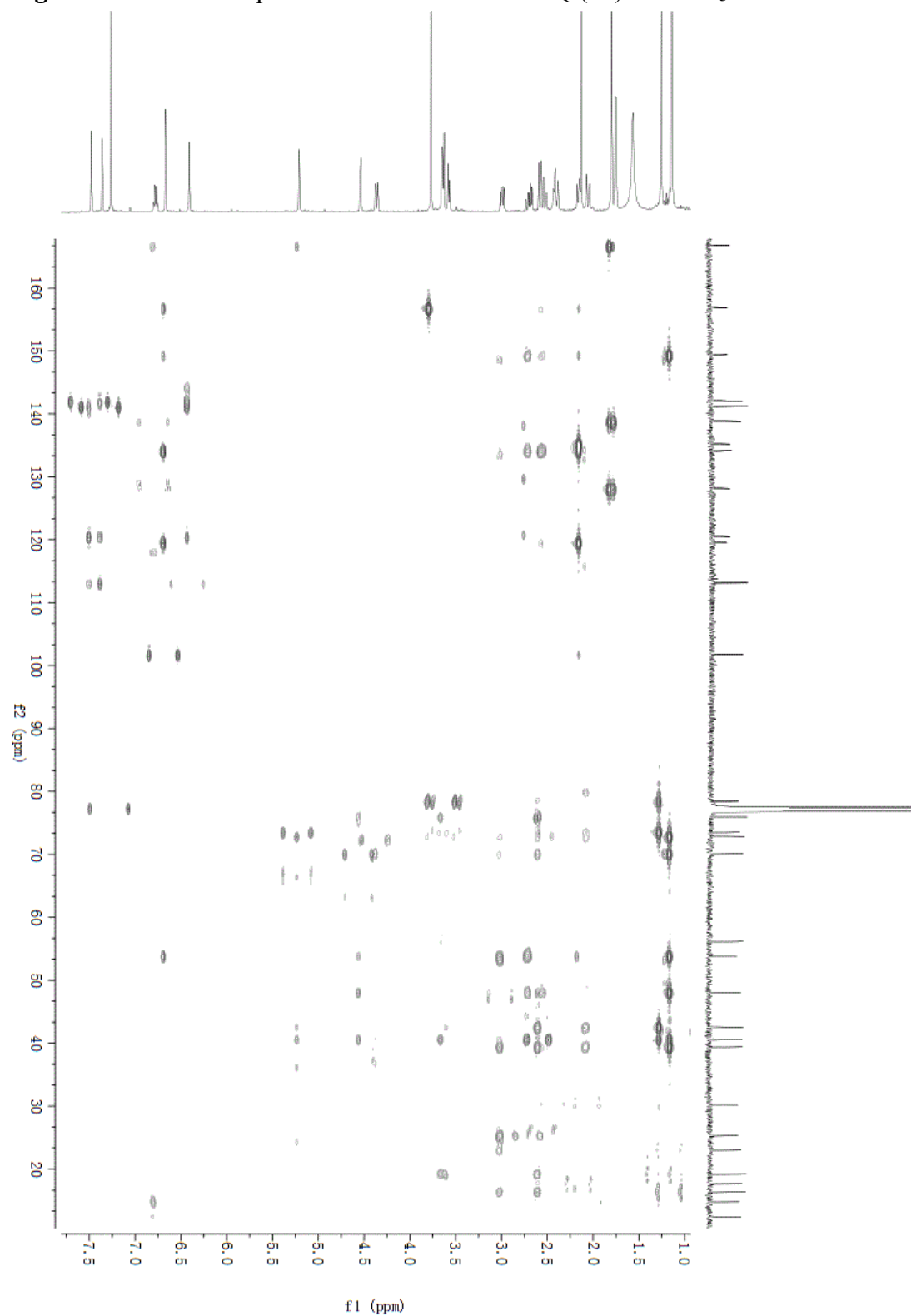


Figure S122. ROESY spectrum of walsucochinoid Q (15) in CDCl₃

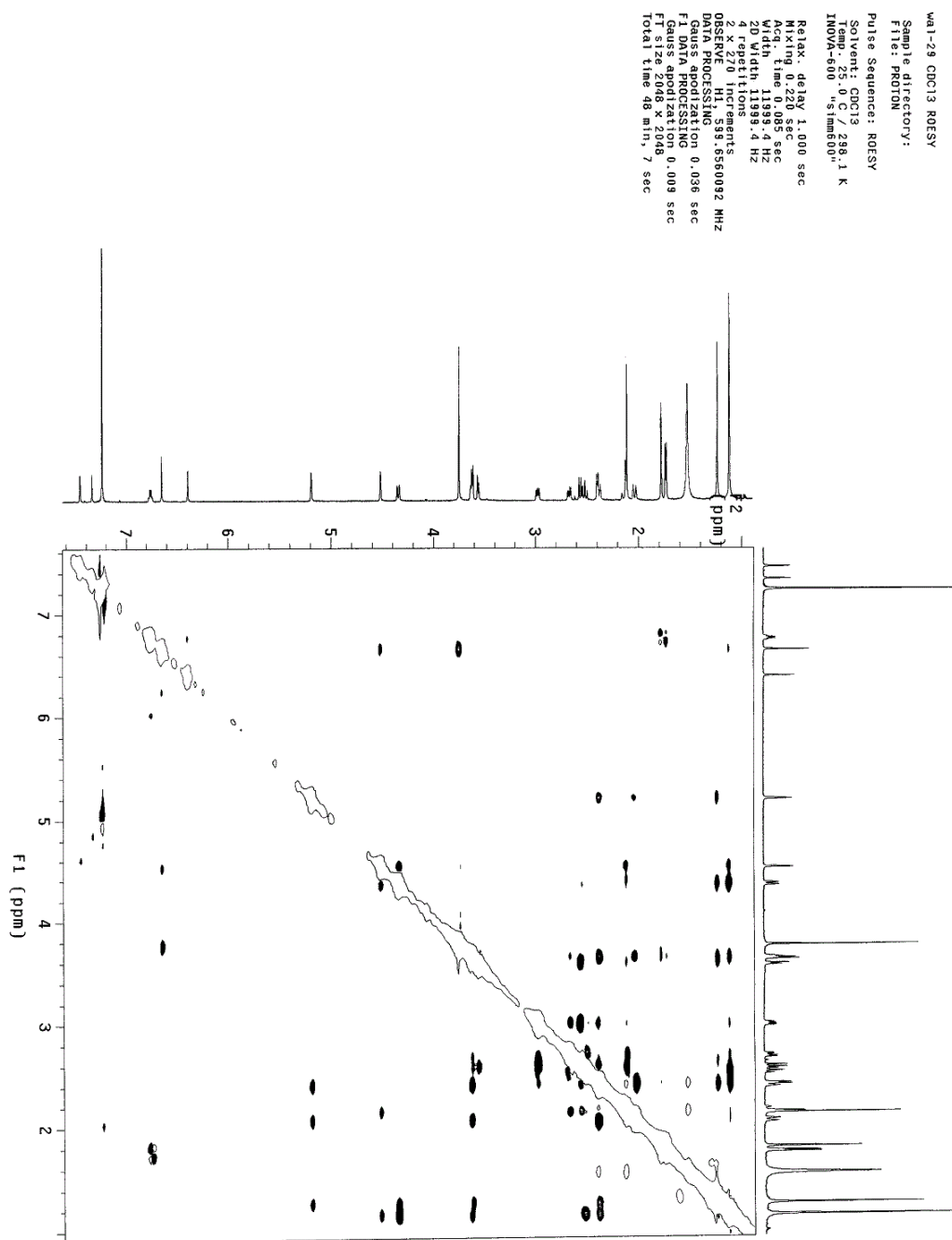


Figure S123. ESI(+)MS spectrum of walsucochinoid Q (15)

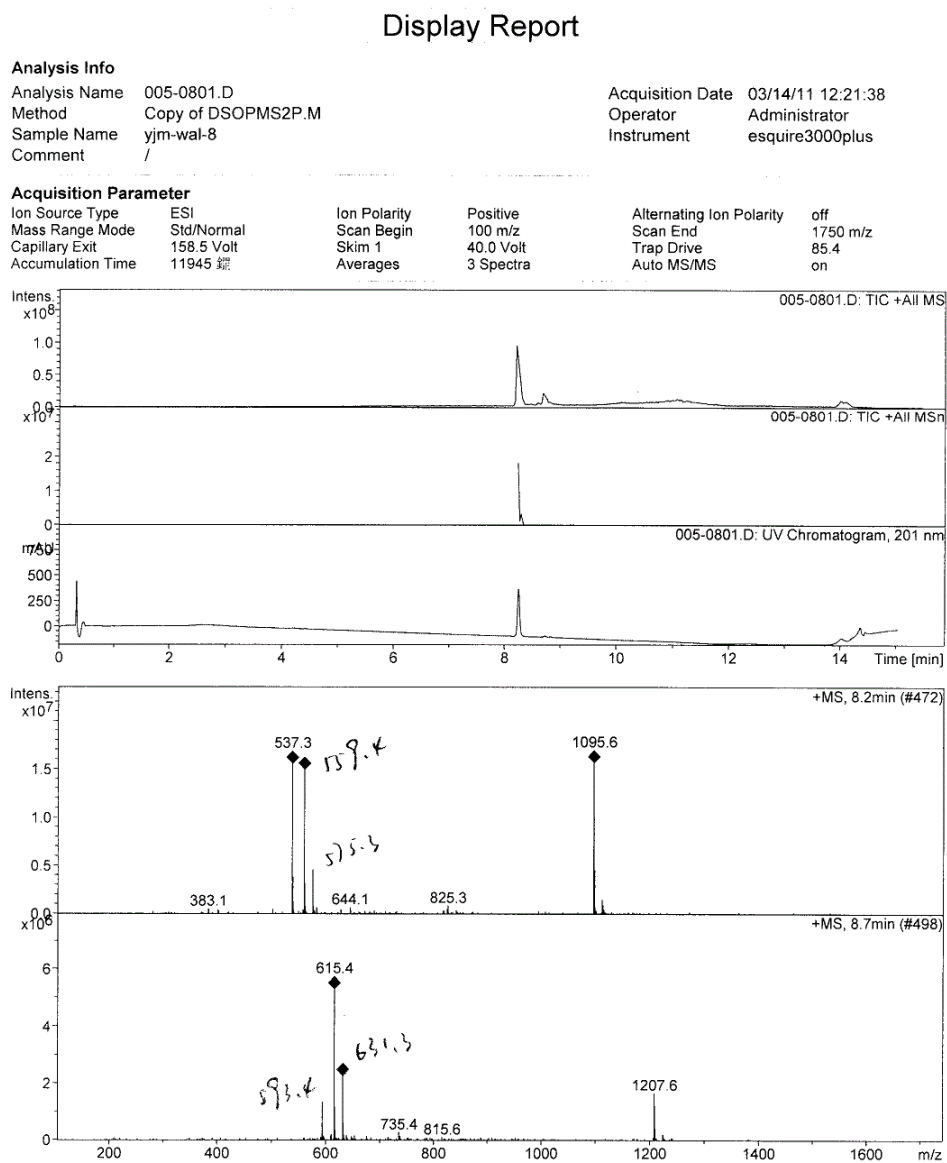


Figure S124. ESI(-)MS spectrum of walsucochinoid Q (15)

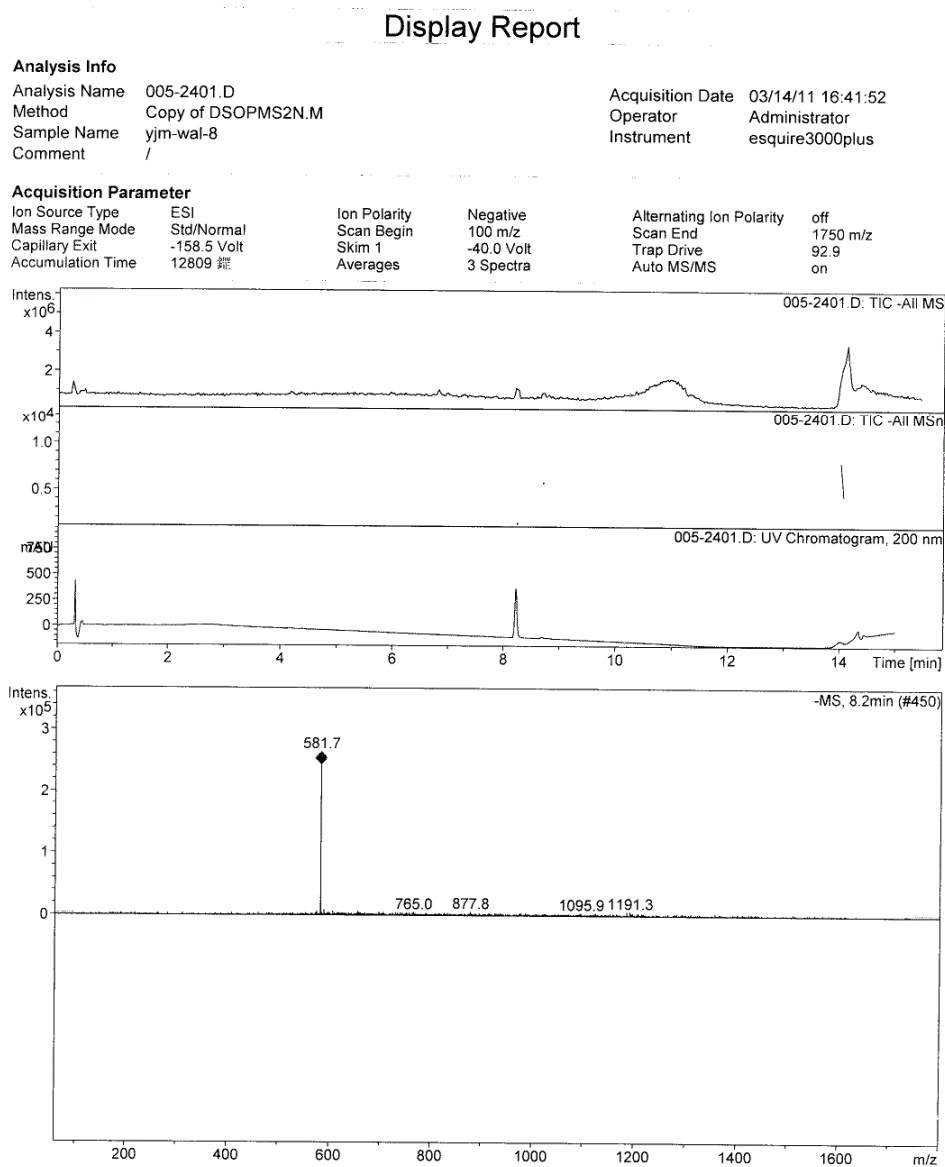


Figure S125. HRESI(+)MS spectrum of walsucochinoid Q (15)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

277 formula(e) evaluated with 2 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-8

LCT PXE KE324

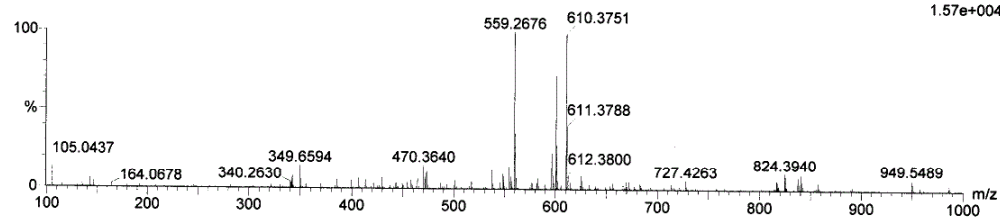
04-Nov-2011

15:27:30

1: TOF MS ES+

1.57e+004

WAL-8_1104 19 (0.405) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (5:28)



Minimum:

Maximum:

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
559.2676	559.2672	0.4	0.7	12.5	113.3	0.0	C32 H40 O7 Na
	559.2696	-2.0	-3.6	15.5	118.1	4.8	C34 H39 O7

Figure S126. IR spectrum of walsucochinoid Q (15)

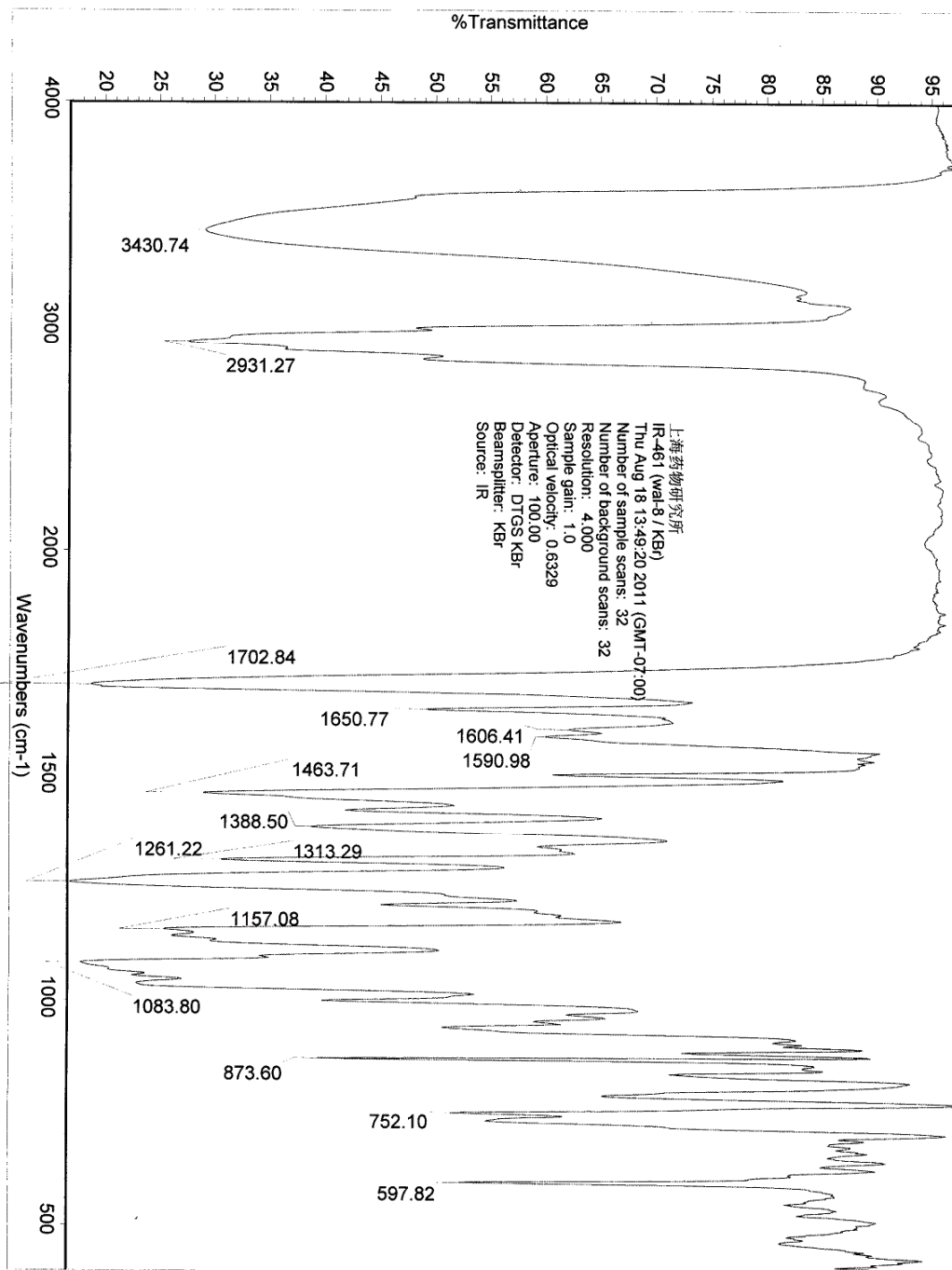


Figure S127. ^1H NMR spectrum of walsucochinoid R (**16**) in CDCl_3

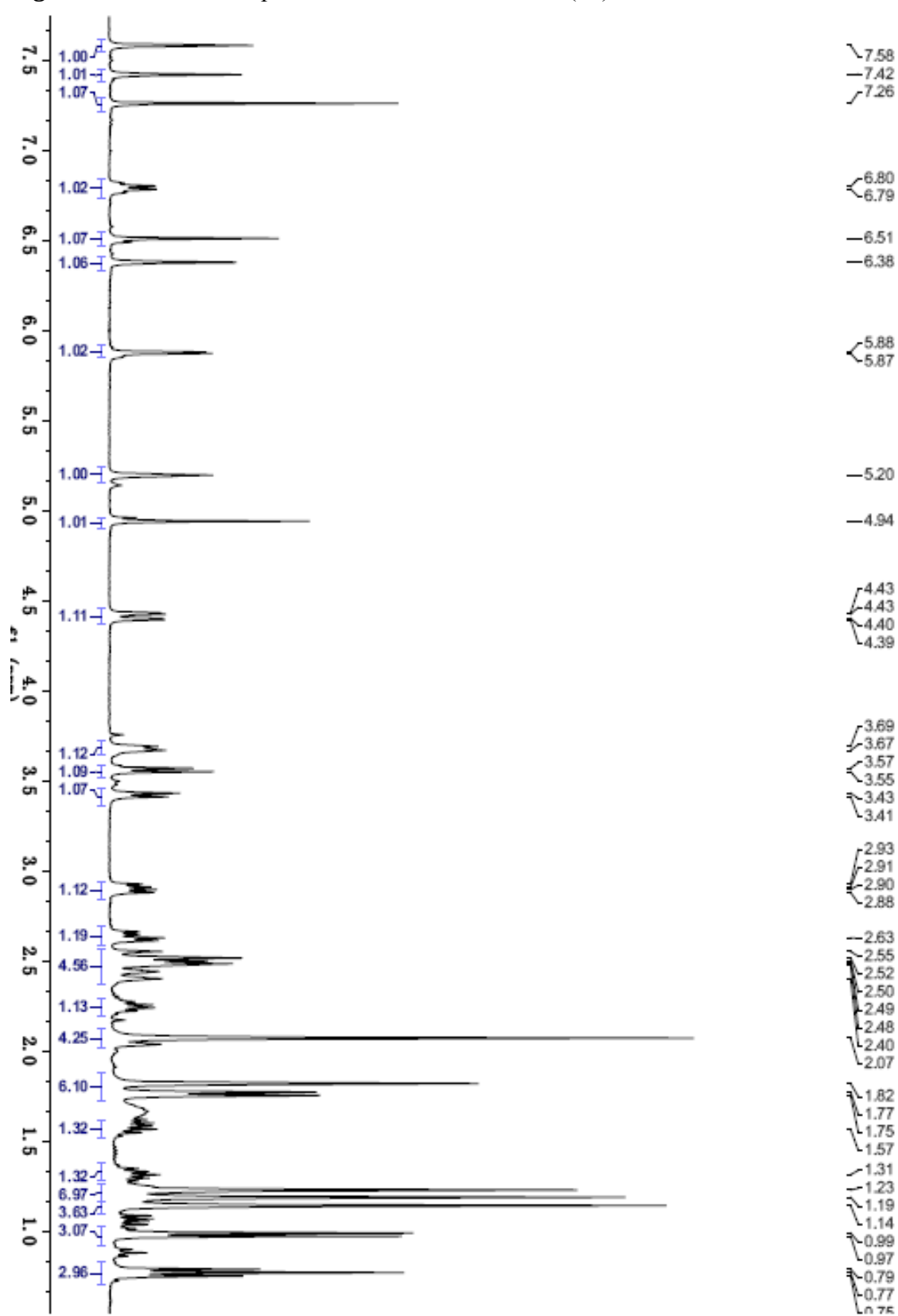


Figure S128. ^{13}C NMR spectrum of walsucochinoid R (**16**) in CDCl_3

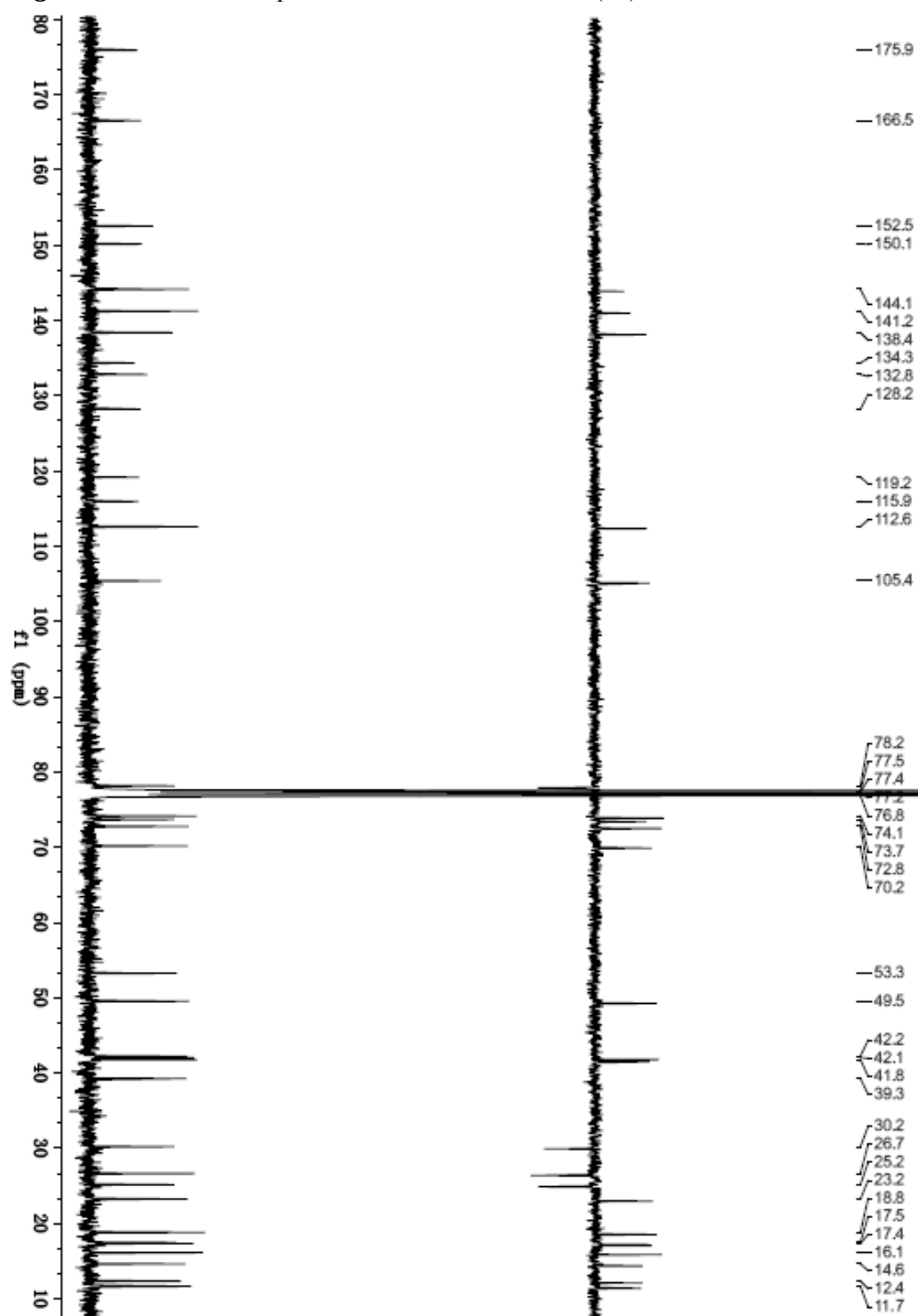


Figure S129. HSQC spectrum of walsucochinoid R (**16**) in CDCl₃

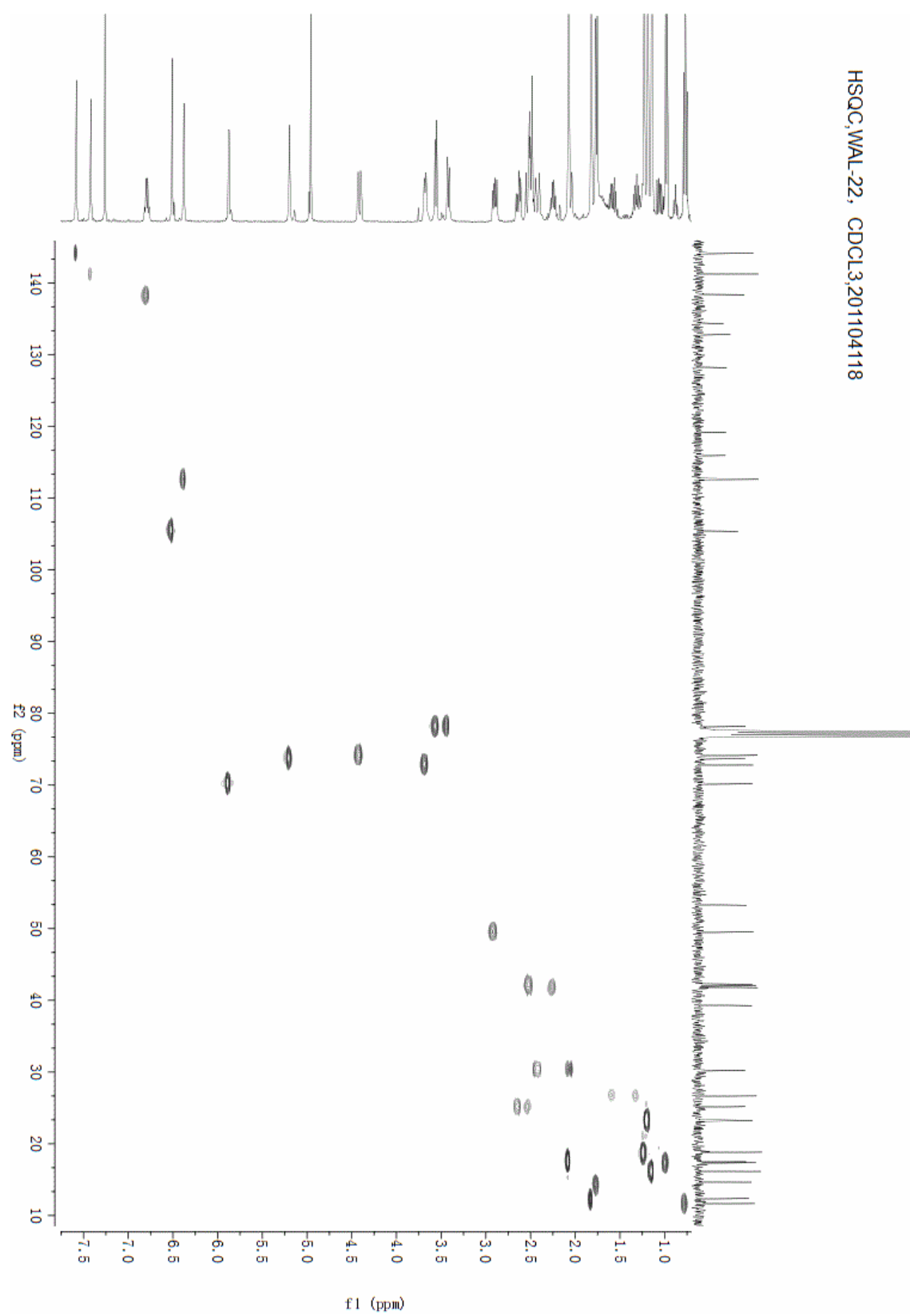


Figure S130. HMBC spectrum of walsucochinoid R (**16**) in CDCl₃

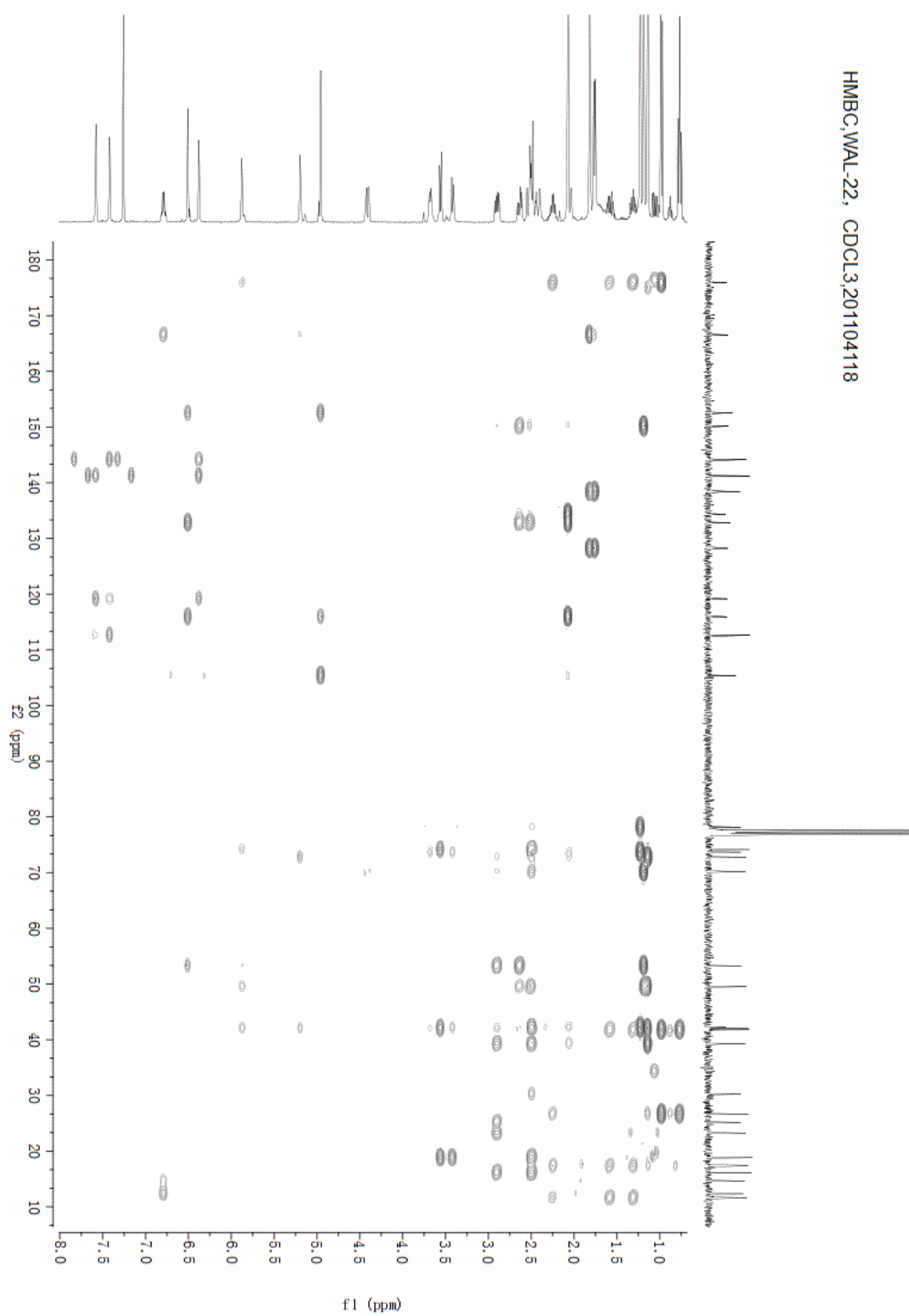


Figure S131. ROESY spectrum of walsucochinoid R (**16**) in CDCl₃

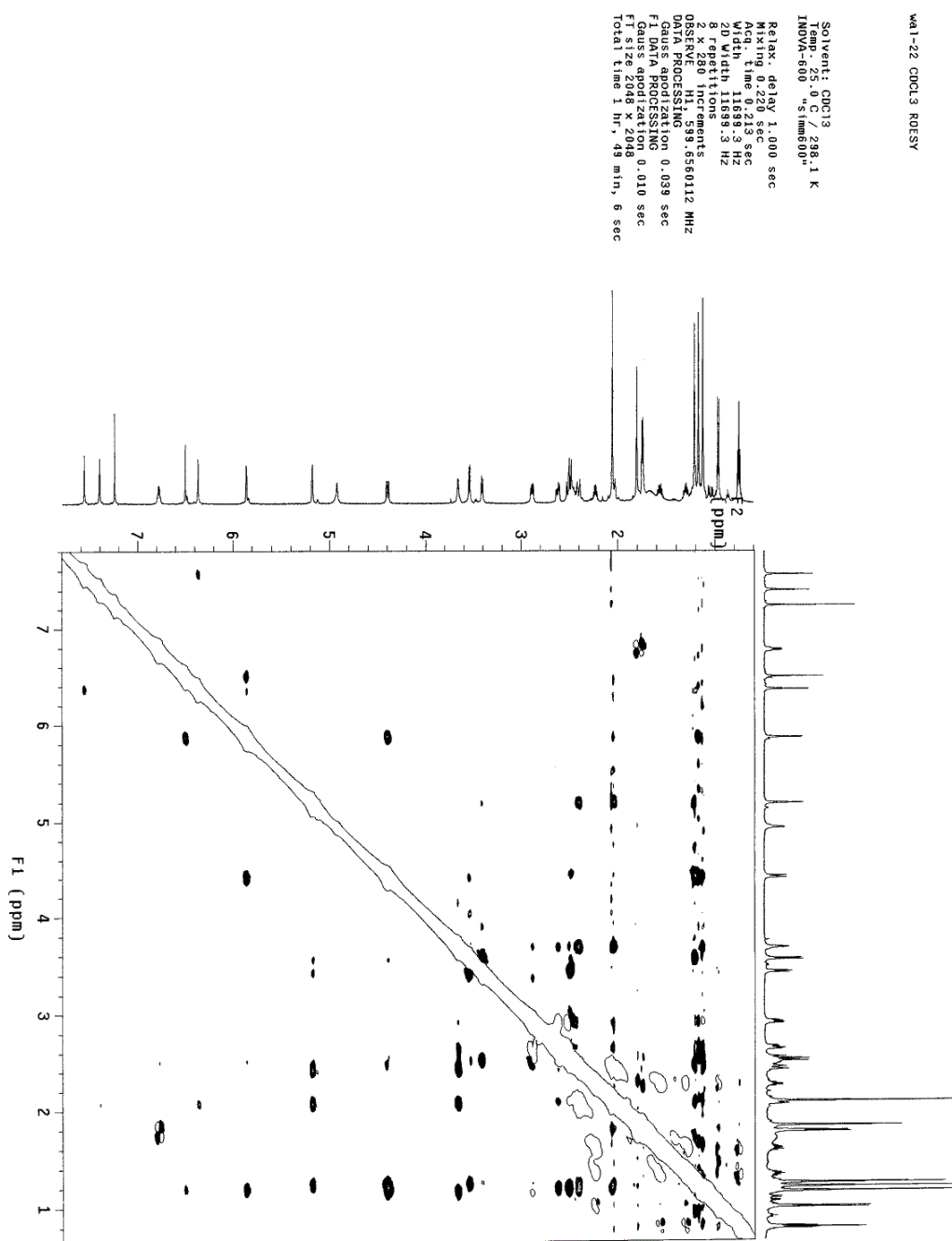


Figure S132. ESI(+)MS spectrum of walsucochinoid R (16)

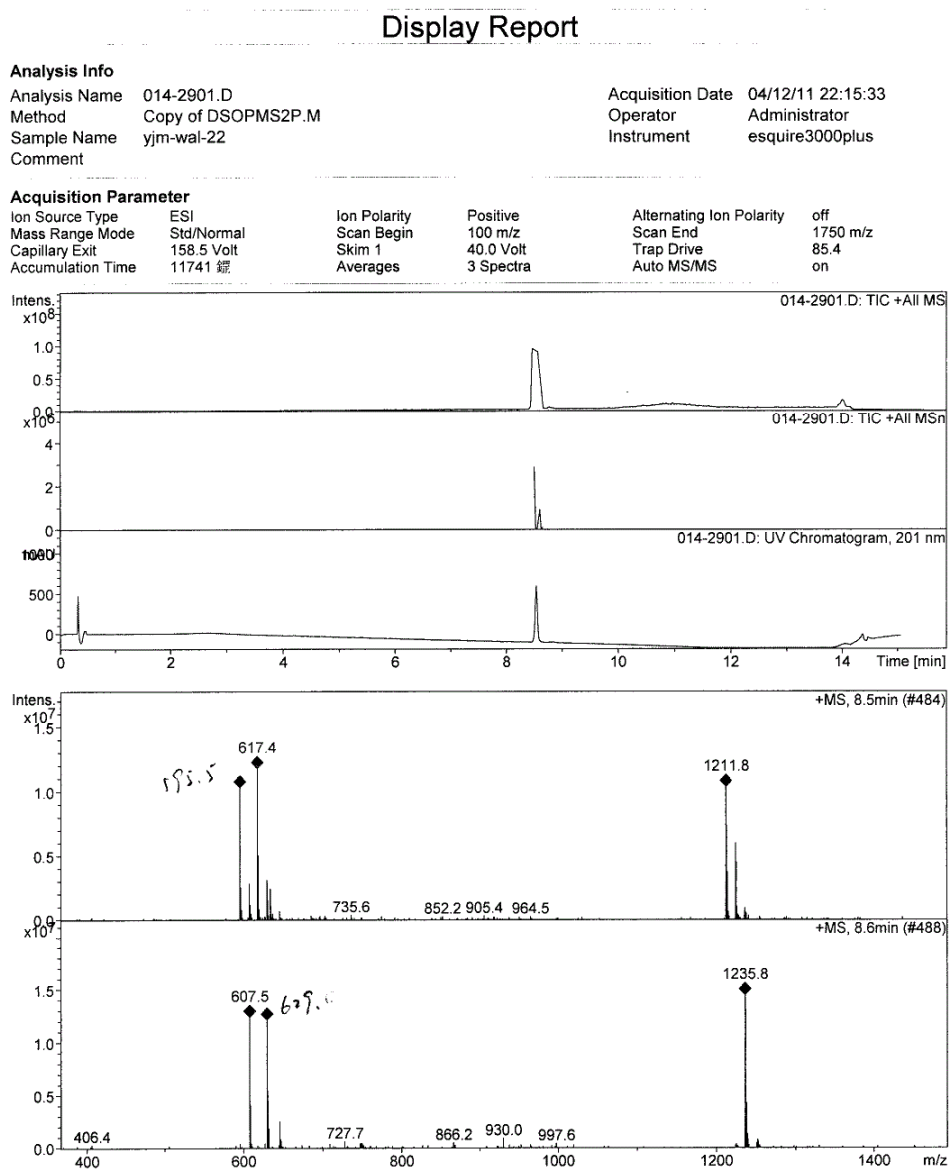


Figure S133. HRESI(+)MS spectrum of walsucochinoid R (**16**)

Elemental Composition Report

Page 1

Single Mass Analysis

Tolerance = 2.0 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

313 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 10-70 H: 0-80 O: 0-30 Na: 0-1

WAL-22

LCT PXE KE324

WAL-22_1228 11 (0.229) AM2 (Ar,10000.0,0.00,1.00); ABS; Cm (11:30)

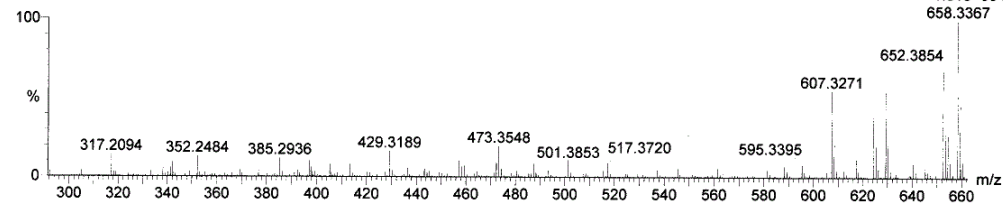
28-Dec-2011

14:25:43

1: TOF MS ES+

1.81e+004

658.3367



Minimum:

Maximum:

-1.5

50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
607.3271	607.3271	0.0	0.0	13.5	66.1	0.0	C36 H47 O8

Figure S134. IR spectrum of walsucochinoid R (**16**)

