

Supplementary Information

of Aspidosperma-type alkaloid dimer as a candidate for inhibition of microglial activation

Yang Yu,^{ab} Si-Meng Zhao,^c Mei-Fen Bao^a and Xiang-Hai Cai^{*a}

^aState Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany,
Chinese Academy of Sciences, Kunming 650201, China

^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

^cHuman Institute, ShanghaiTech University, 200031, China

Table of Contents

Figures S1-S5: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 1	2-6
Figure S6: HRESIMS of compound 1	7
Figures S7-S11: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 2	8-12
Figure S12: HRESIMS of compound 2	13
Figures S13-S17: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 3	14-18
Figure S18: HRESIMS of compound 3	19
Figures S19-S23: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 4	20-24
Figure S24: HRESIMS of compound 4	25
Figures S25-S29: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 5	26-30
Figure S30: HRESIMS of compound 5	31
Figures S31-S35: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 6	32-36
Figure S36: HRESIMS of compound 6	37
Figures S37-S41: 1D and 2D NMR (500 MHz, acetone- <i>d</i> ₆) of compound 7	38-42
Figure S42: HRESIMS of compound 7	43
Figures S43-S47: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 8	44-48
Figure S48: HRESIMS of compound 8	49
Figures S49-S53: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 9	50-54
Figure S54: HRESIMS of compound 9	55
Figure S55-S59: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 10	56-60
Figure S60: HRESIMS of compound 10	61
Figures S61-S65: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 11	64-68
Figure S66: HRESIMS of compound 11	67
Figures S67-S71: 1D and 2D NMR (600 MHz, acetone- <i>d</i> ₆) of compound 12	68-72
Figure S72: HRESIMS of compound 12	73
Figure S73: ¹ H NMR spectrum of (-)-jerantinine B, lochnericine and pachysiphine	74
Figure S74: Screening of compounds 1–12 for their anti-inflammatory activity in BV2 microglia cells	75
Figure S75: Compounds 10 and 12 inhibits inflammatory genes expression.....	75
Figure S76: Immunoblotting of phosphorylated	76

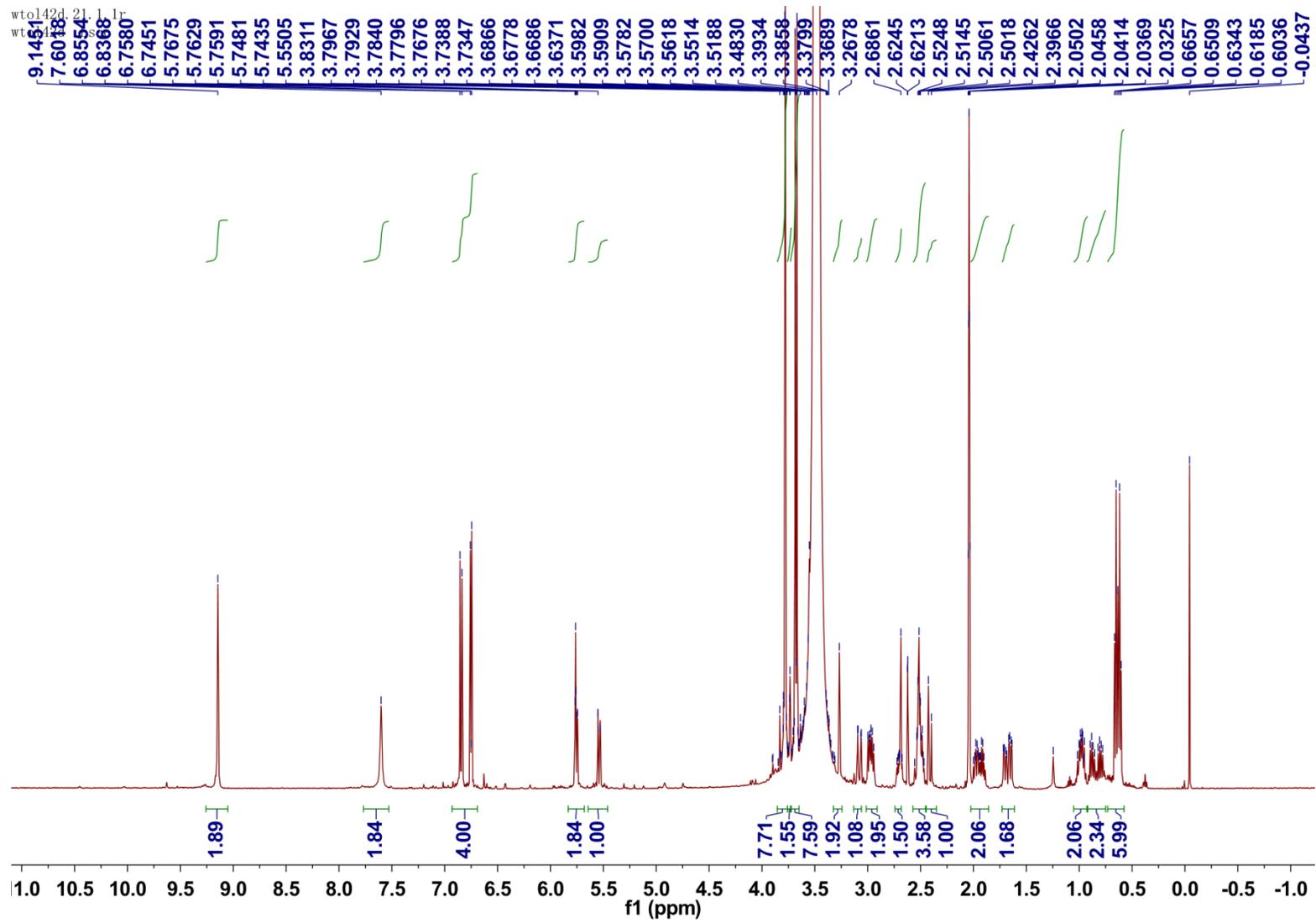
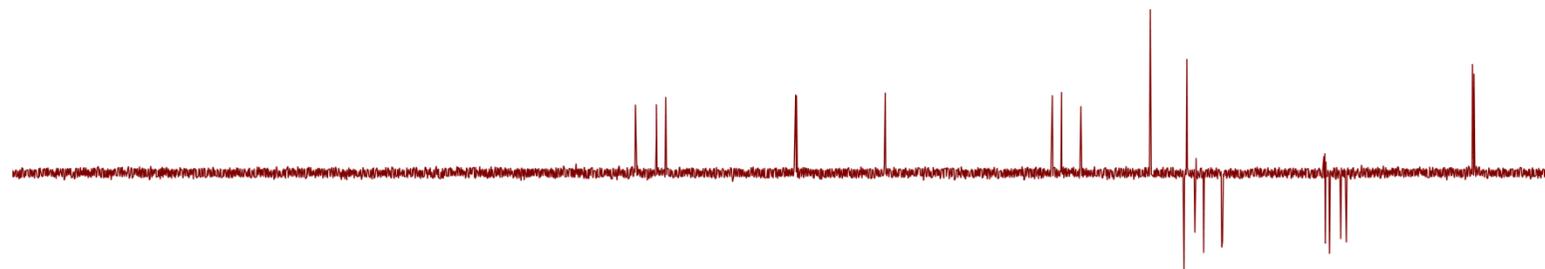
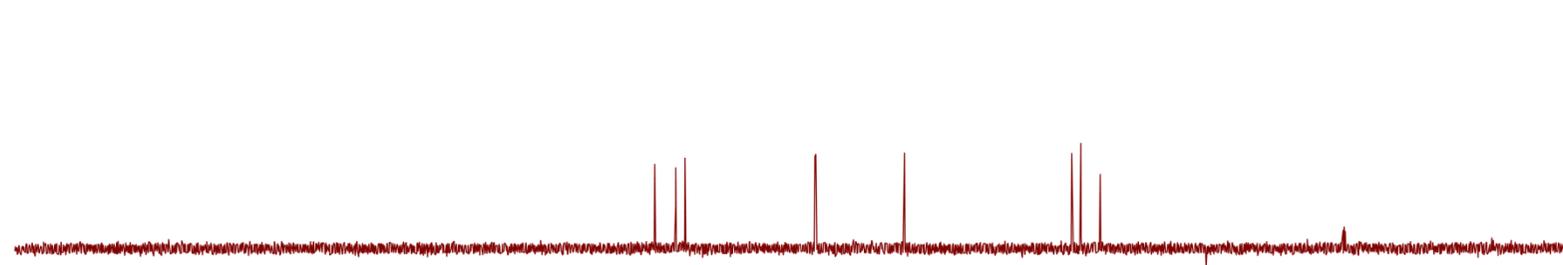


Figure S1. ^1H (500 MHz) NMR of compound **1** in acetone- d_6

ol42d.24.1.1r
ol42d c13 and dept



wtol42d.23.1.1r
wtol42d c13 and dept



wtol42d.22.1.1
wtol42d c13 and dept

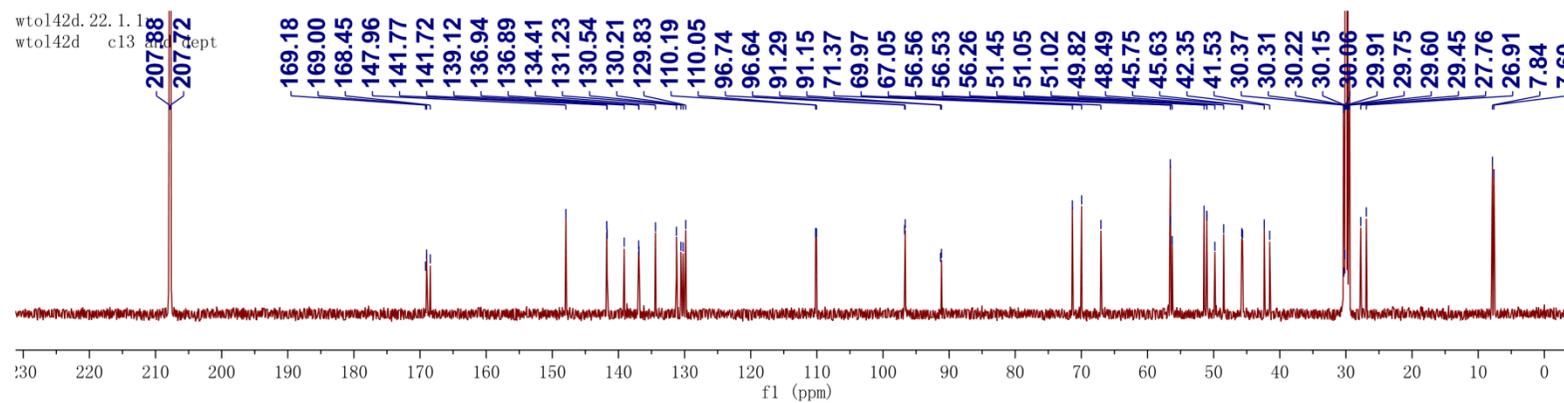


Figure S2. ^{13}C (125 MHz) NMR of compound **1** in acetone- d_6

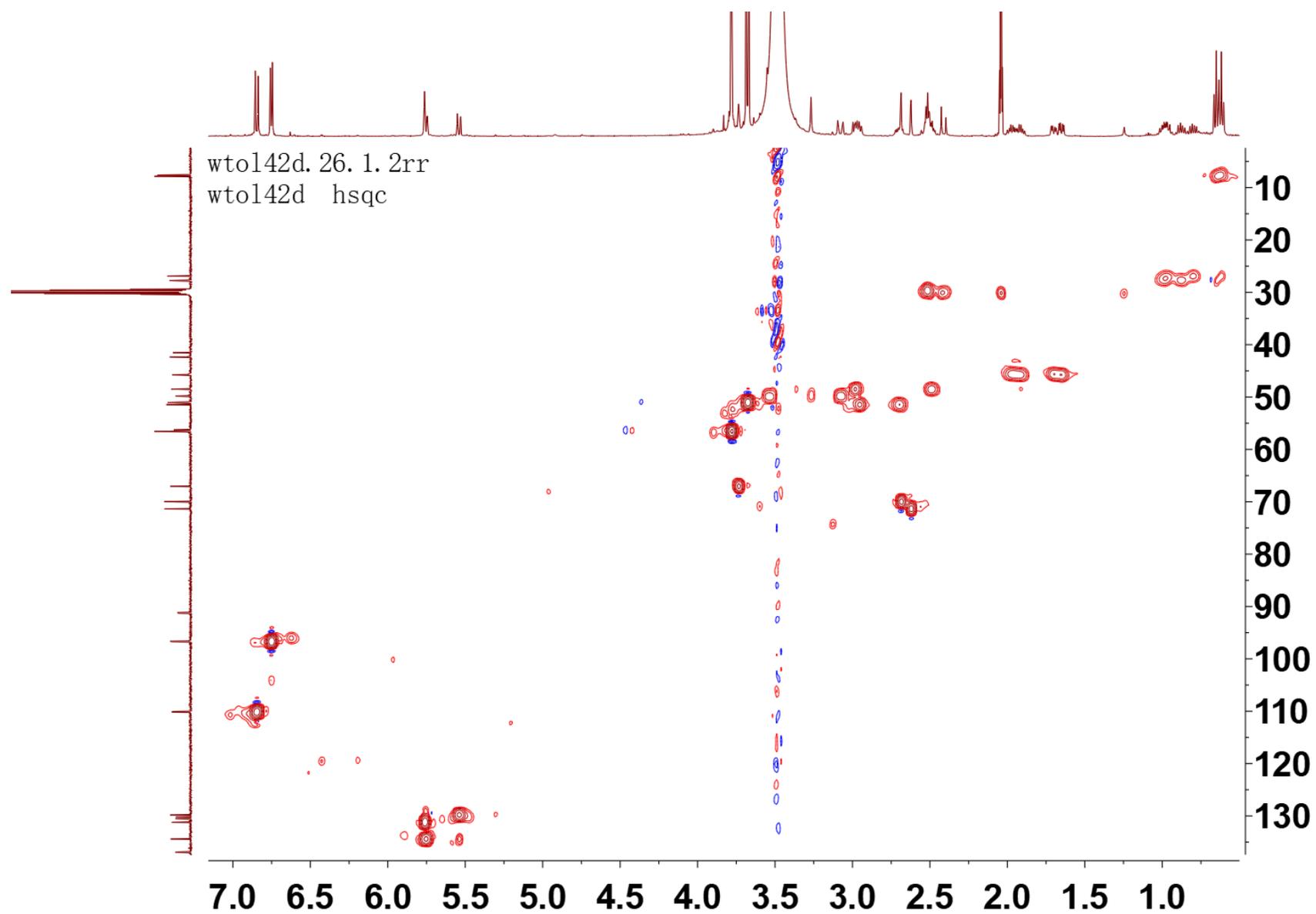


Figure S3. HSQC of compound 1 in acetone-*d*₆

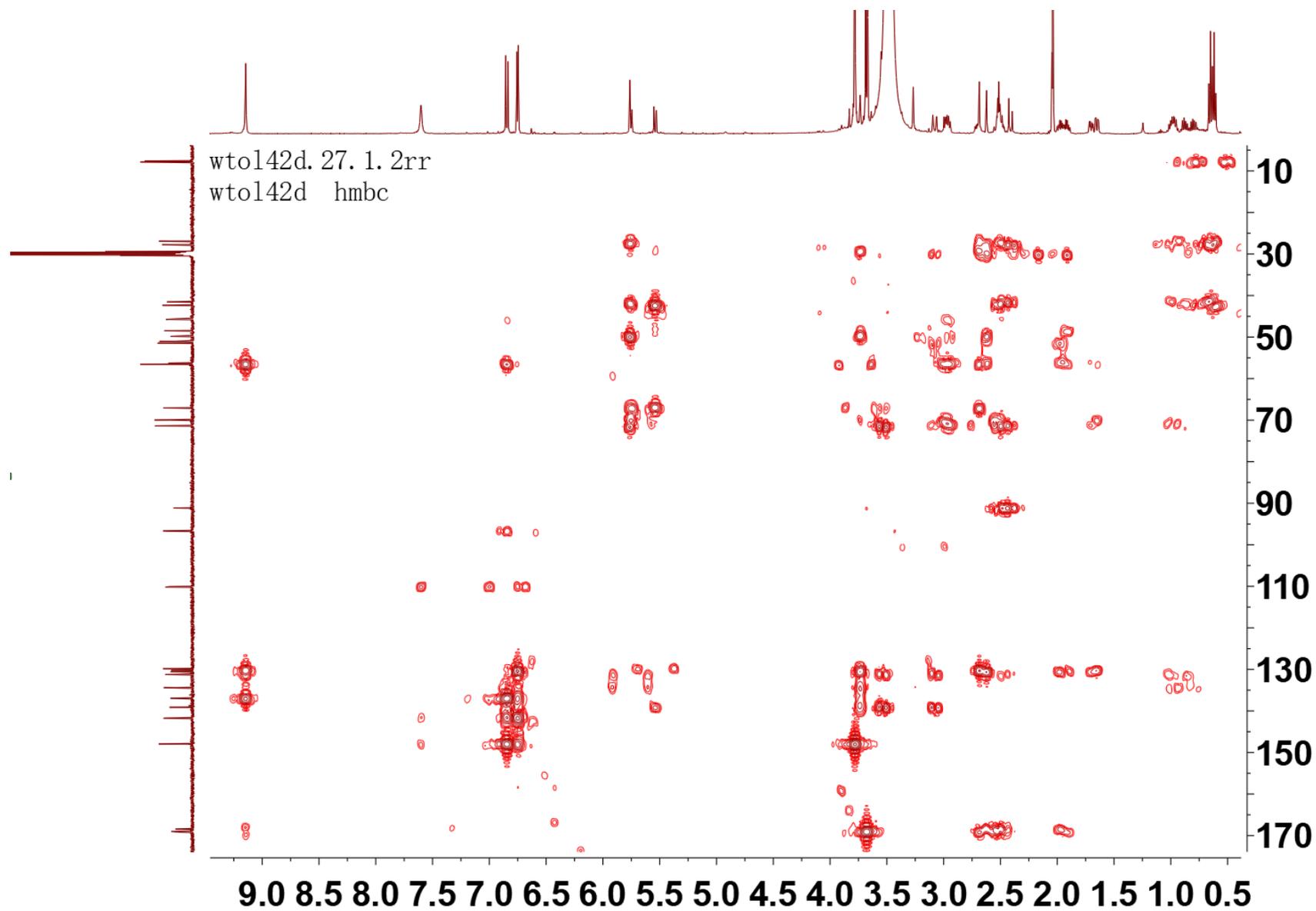


Figure S4. HMBC of compound 1 in acetone-*d*₆

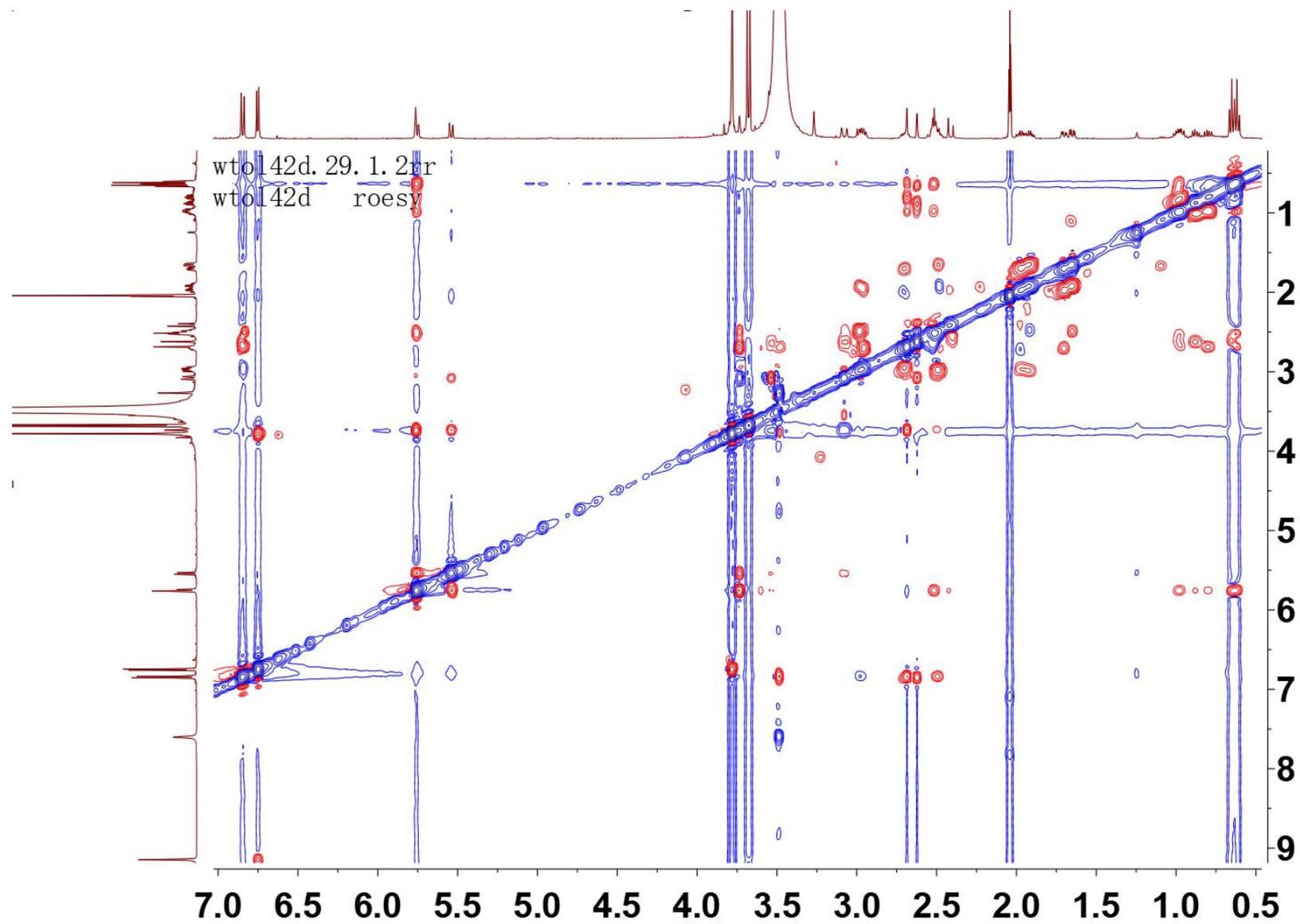


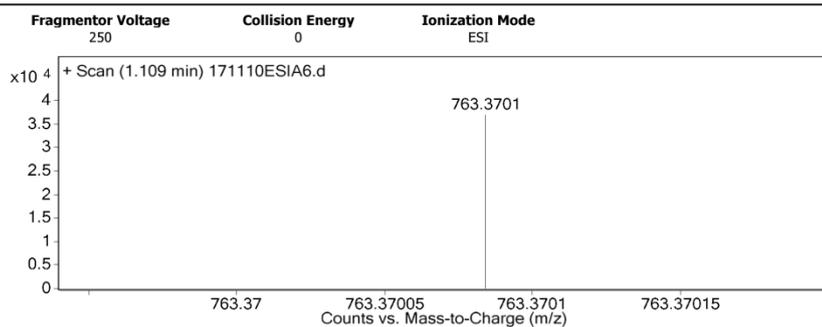
Figure S5. ROESY of compound 1 in acetone- d_6

Qualitative Analysis Report

Data Filename	171110ESIA6.d	Sample Name	wtol-42d
Sample Type	Sample	Position	
Instrument Name	Agilent G6230 TOF MS	User Name	KIB
Acq Method	ESI.m	Acquired Time	11/10/2017 11:12:18 AM
IRM Calibration Status	Success	DA Method	ESI.m
Comment			

Sample Group	Info.
Acquisition SW	6200 series TOF/6500 series
Version	Q-TOF B.05.01 (B5125.2)

User Spectra



Peak List

m/z	z	Abund	Formula	Ion
107.0608	1	110799.56		
108.0632	1	9722.35		
121.0509	1	10230.32		
122.5473		2486.47		
123.0915	1	14242.21		
763.3701	1	36990.8	C44 H51 N4 O8	M+
764.3721	1	15293.82	C44 H51 N4 O8	M+
765.3748	1	3049.42	C44 H51 N4 O8	M+
922.0098	1	44112.11		
923.0113	1	6367.2		

Formula Calculator Element Limits

Element	Min	Max
C	0	200
H	0	400
O	4	10
N	4	4

Formula Calculator Results

Formula	CalculatedMass	Mz	Diff. (mDa)	Diff. (ppm)	DBE
C44 H51 N4 O8	763.3707	763.3701	0.6	0.8	21.5

--- End Of Report ---

Figure S6. HRESIMS of compound 1

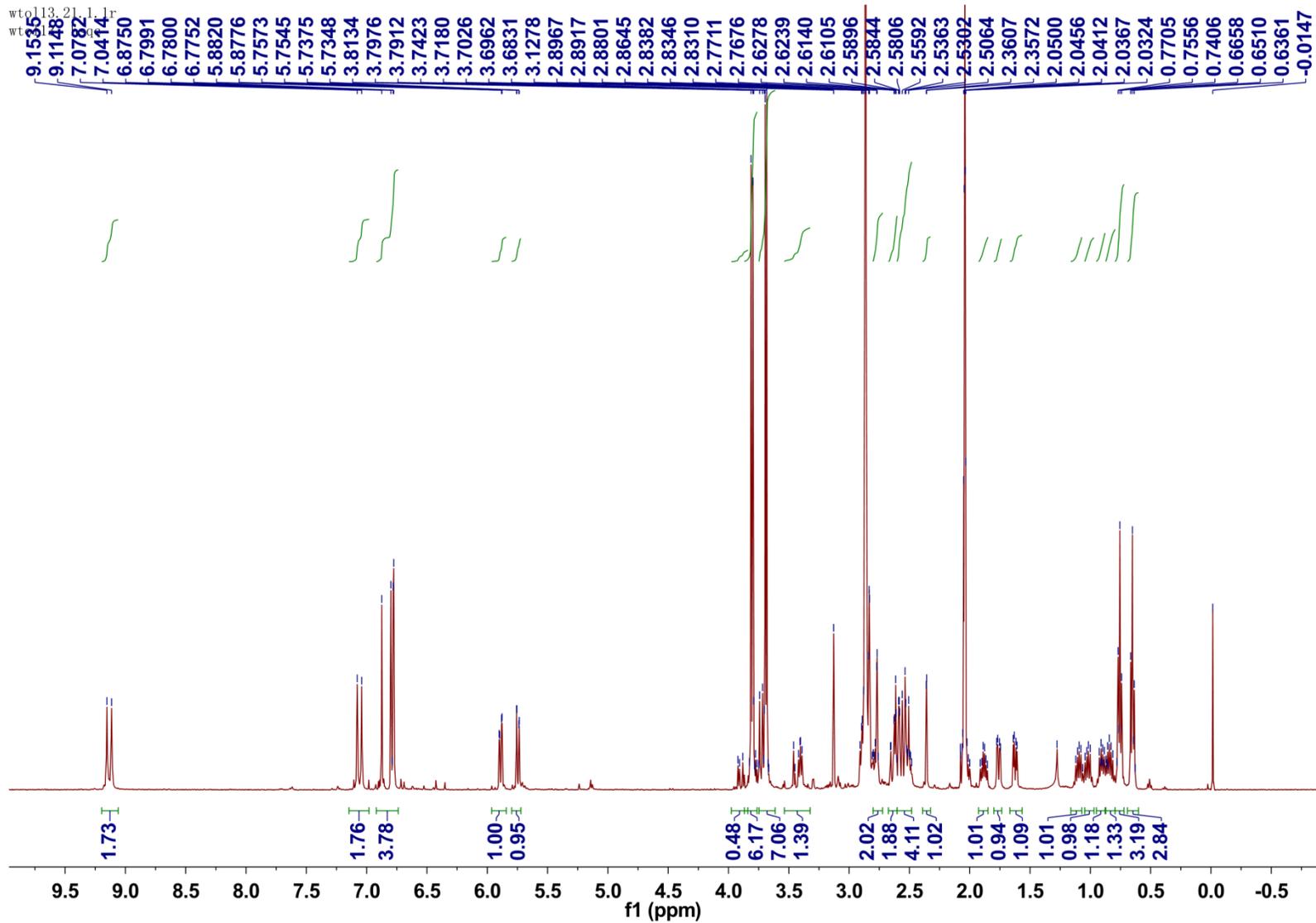


Figure S7 ^1H (500 MHz) NMR spectrum of compound **2** in acetone- d_6

t. 24. 1. 1r

. 23. 1. 1r

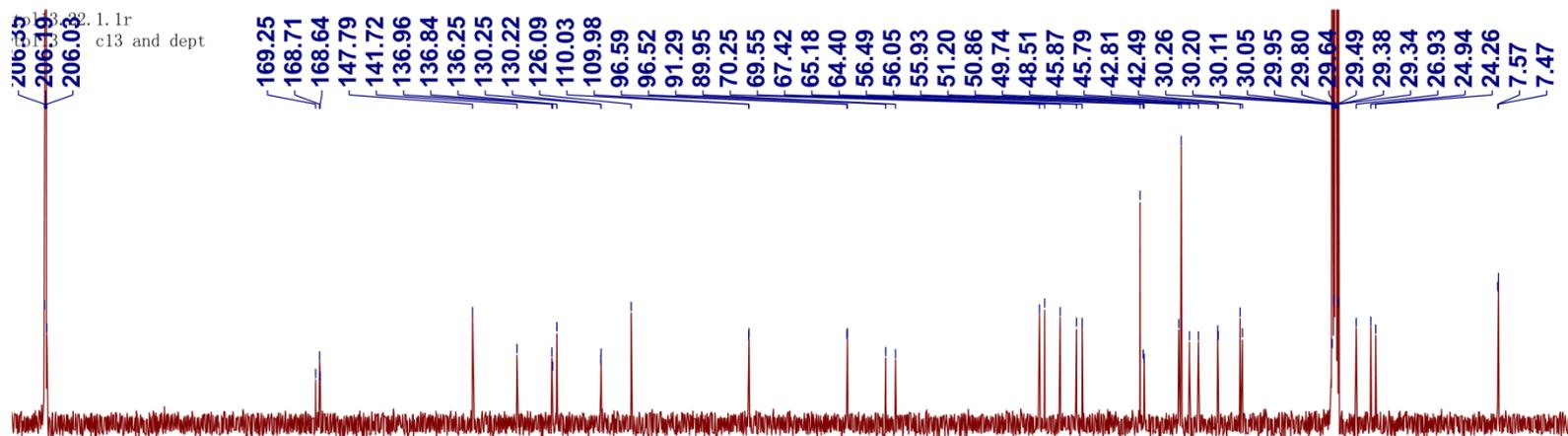


Figure S8 ^{13}C (125 MHz) NMR spectrum of compound **2** in acetone- d_6

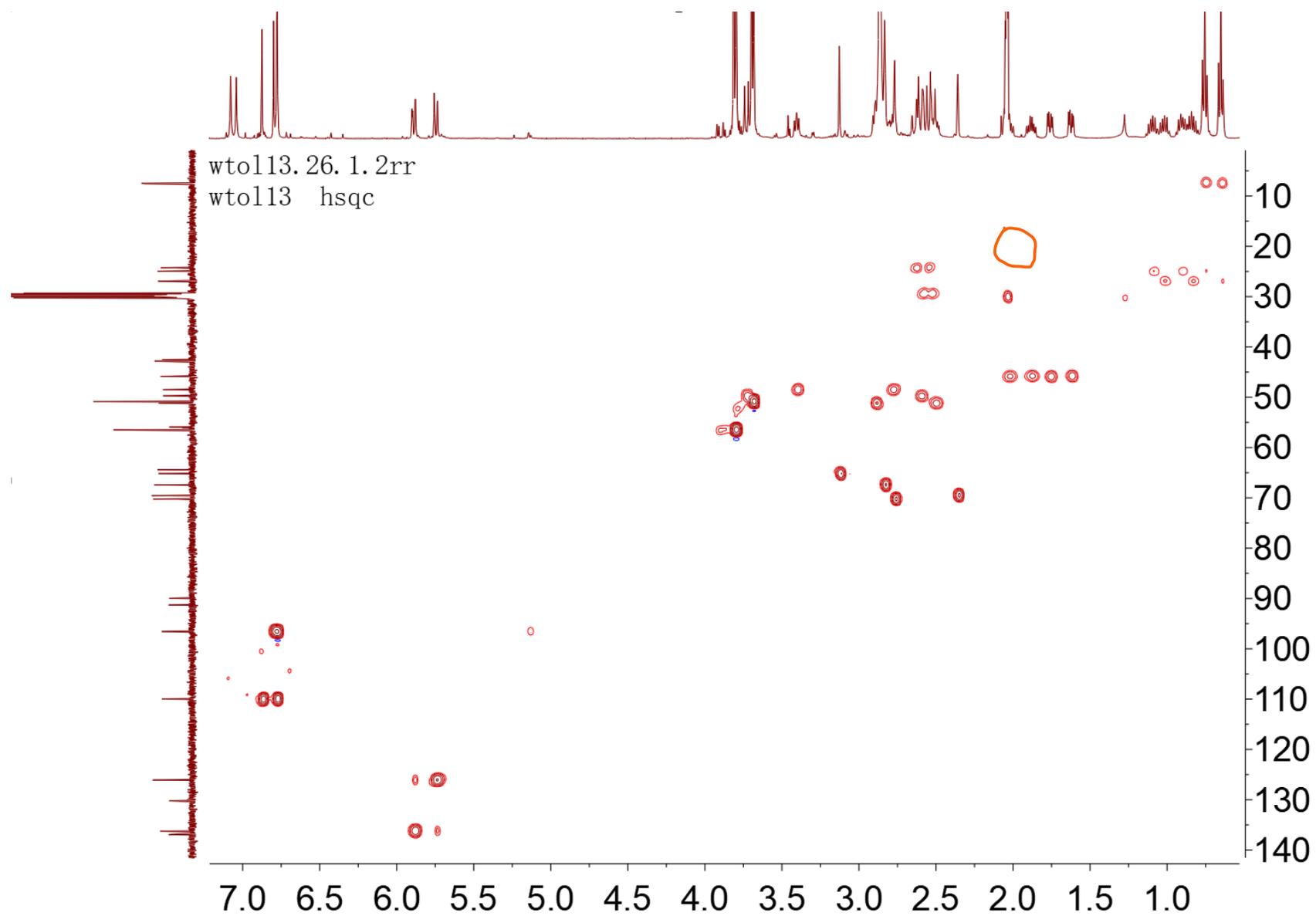


Figure S9 HSQC spectrum of compound 2 in acetone- d_6

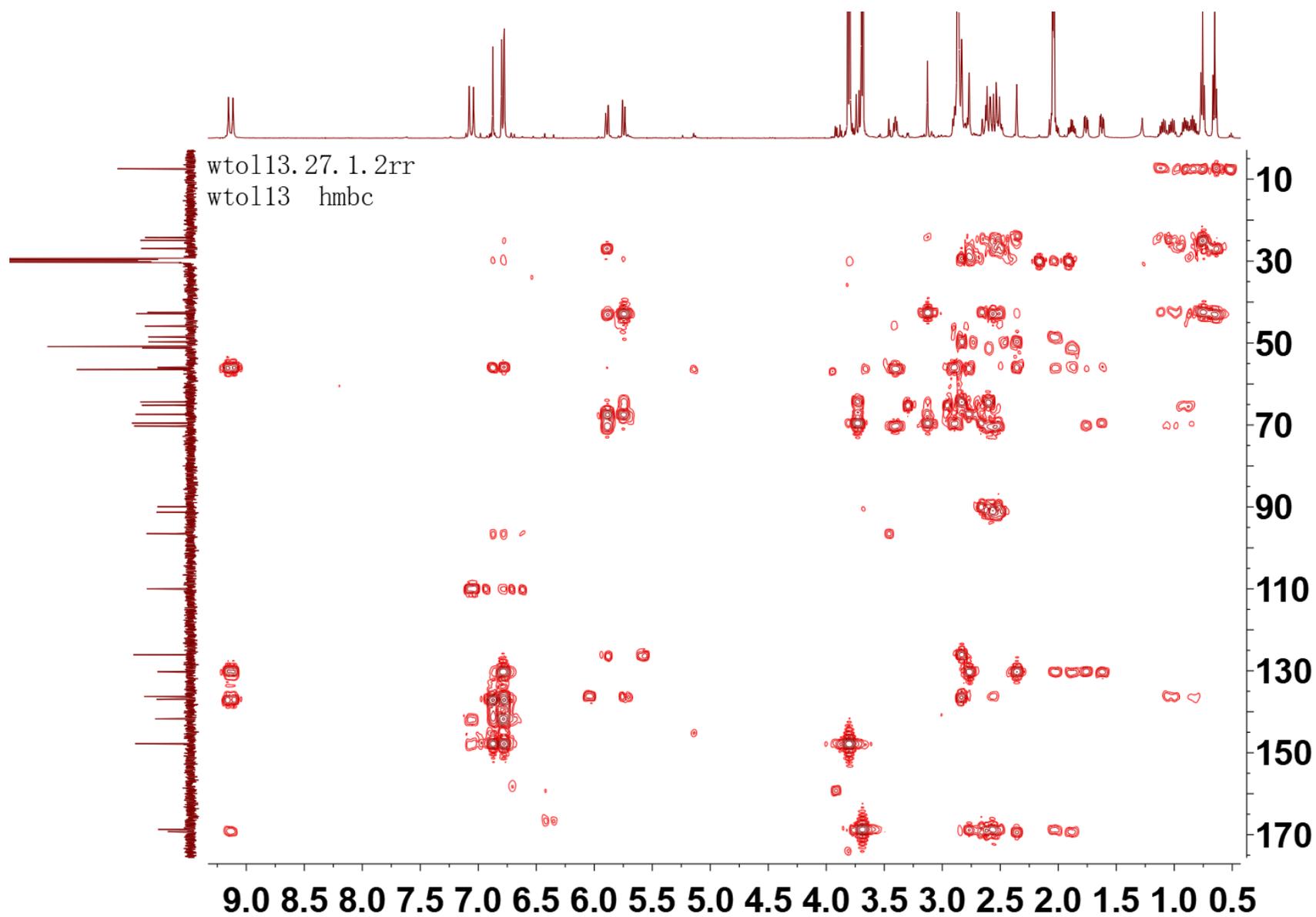


Figure S10 HMBC spectrum of compound 2 in acetone- d_6

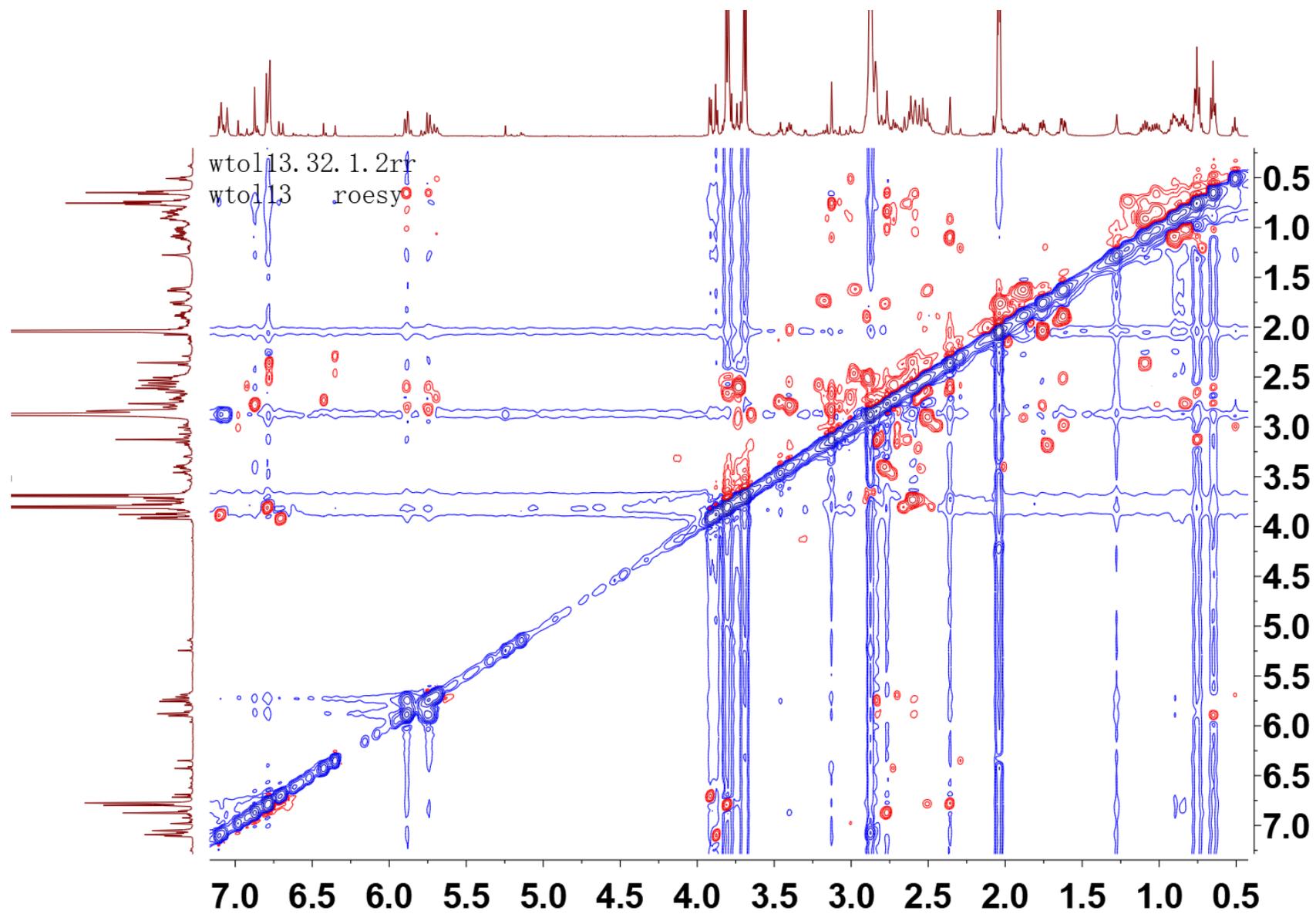


Figure S11 ROESY spectrum of compound 2 in acetone- d_6

Data File: E:\DATA\2017\0920\wtol13.lcd

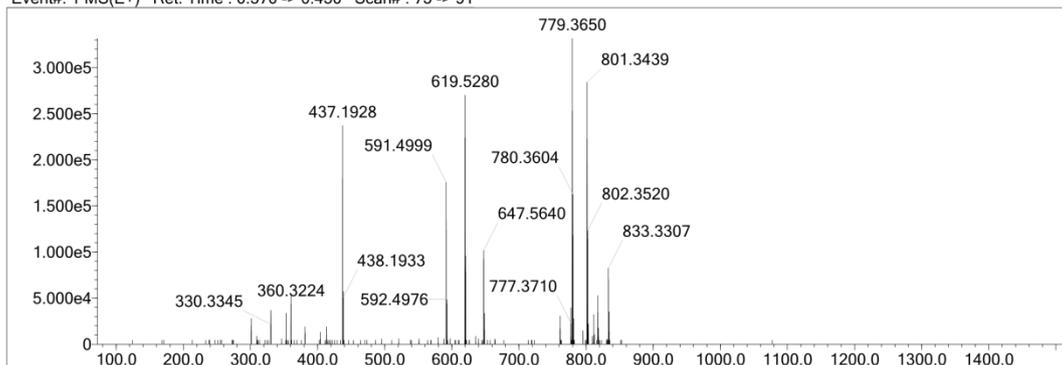
Elmt	Val.	Min	Max	Use Adduct												
H	1	0	100	N	3	0	50	Mg	2	0	0	Fe	2	0	0	H
2H	1	0	0	O	2	0	50	P	3	0	0	Br	1	0	0	
B	3	0	0	F	1	0	0	S	2	0	0	I	3	0	0	
C	4	0	100	Na	1	0	0	Cl	1	0	0	Pt	2	0	0	

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

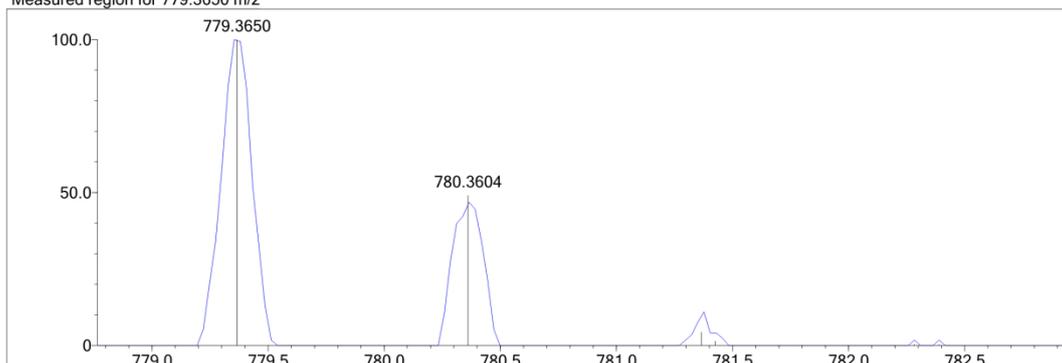
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

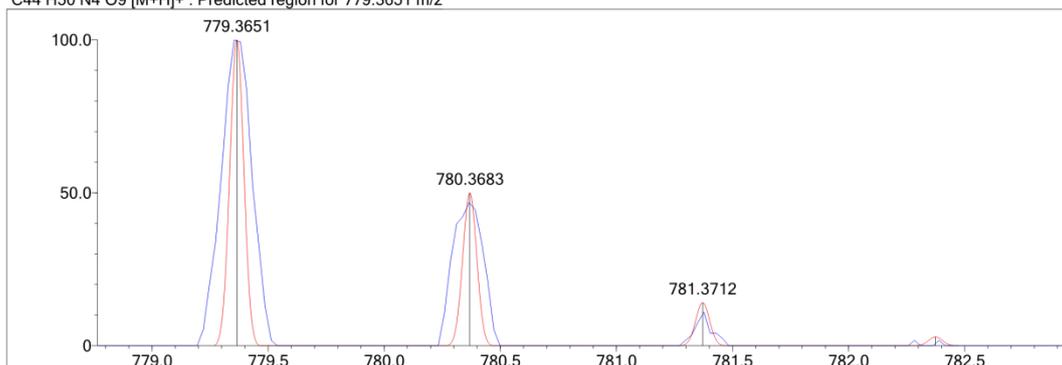
Event#: 1 MS(E+) Ret. Time : 0.370 -> 0.450 Scan# : 75 -> 91



Measured region for 779.3650 m/z



C44 H50 N4 O9 [M+H]⁺ : Predicted region for 779.3651 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H50 N4 O9	[M+H] ⁺	779.3650	779.3651	-0.1	-0.13	22.0

Figure S12 HRESIMS spectrum of acetone-*d*₆

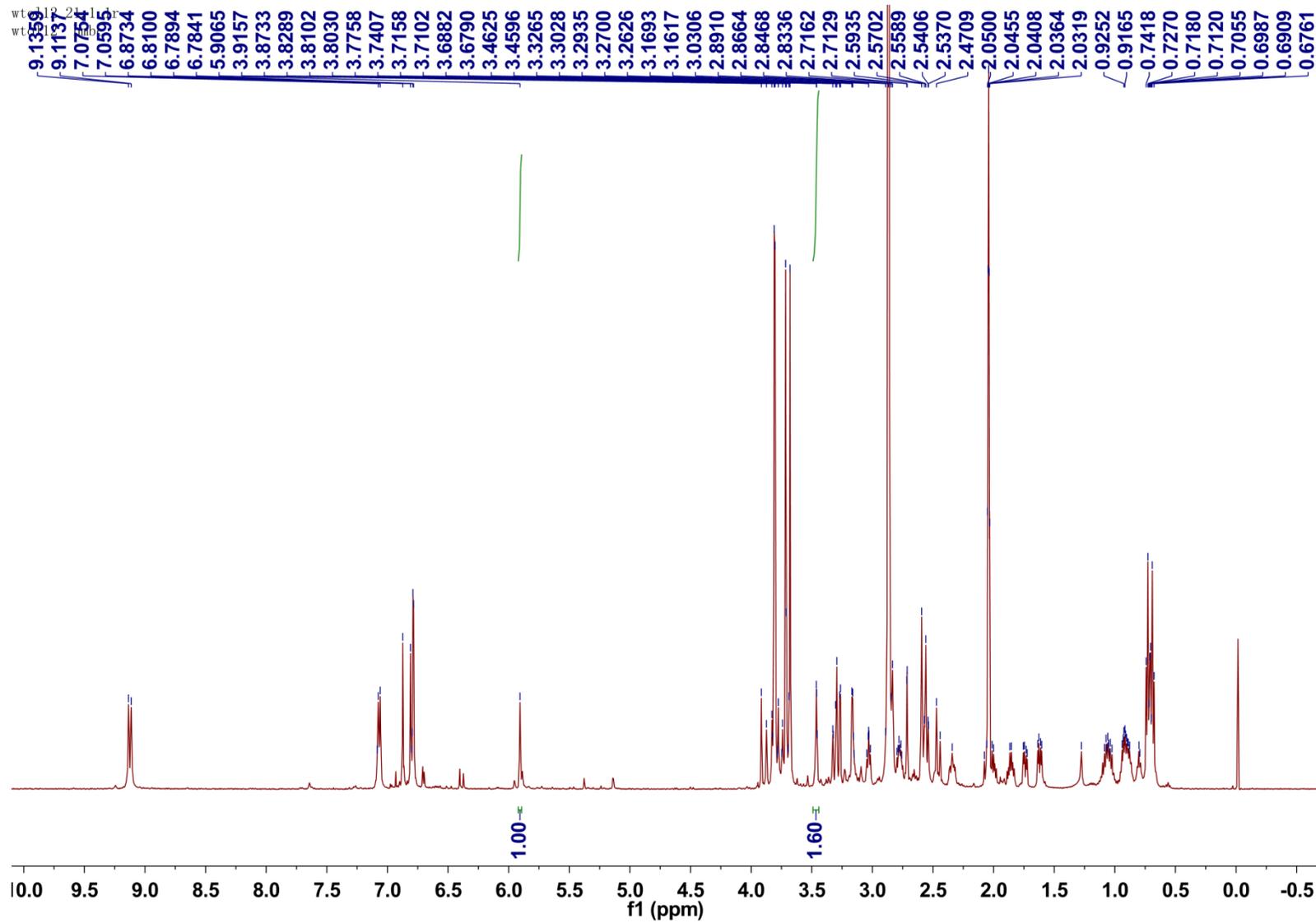
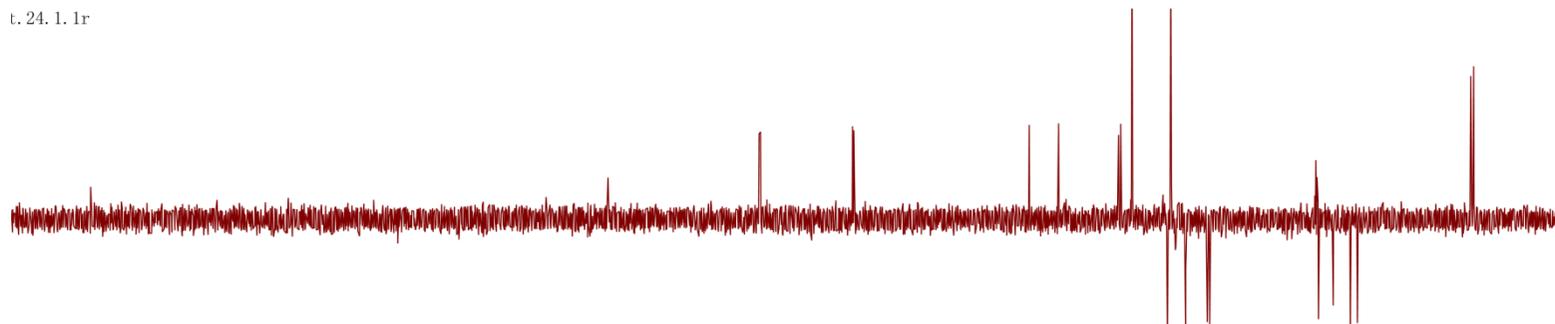


Figure S13 ^1H (500 MHz) NMR spectrum of compound **3** in acetone- d_6

t. 24. 1. 1r



t. 23. 1. 1r

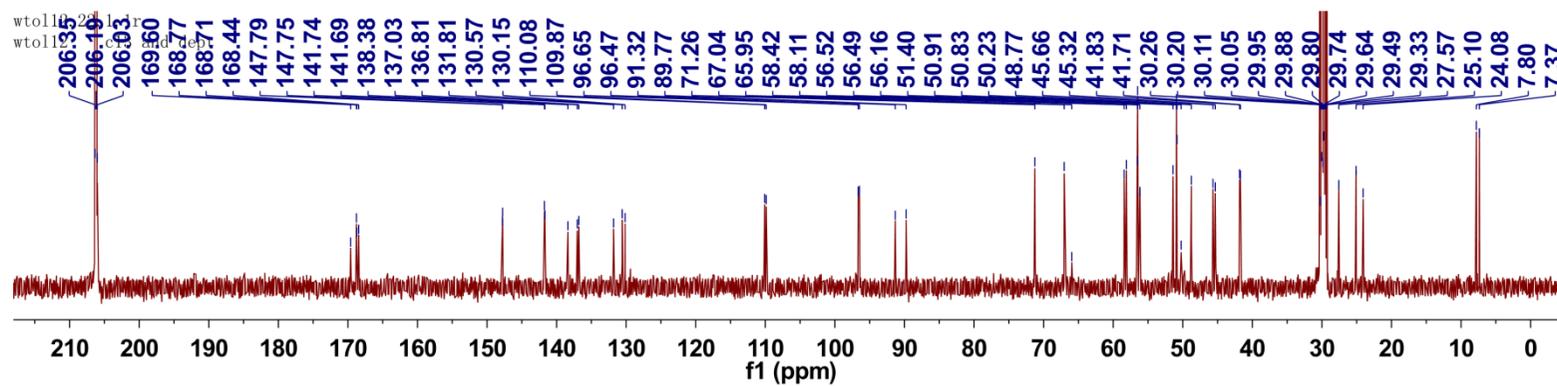
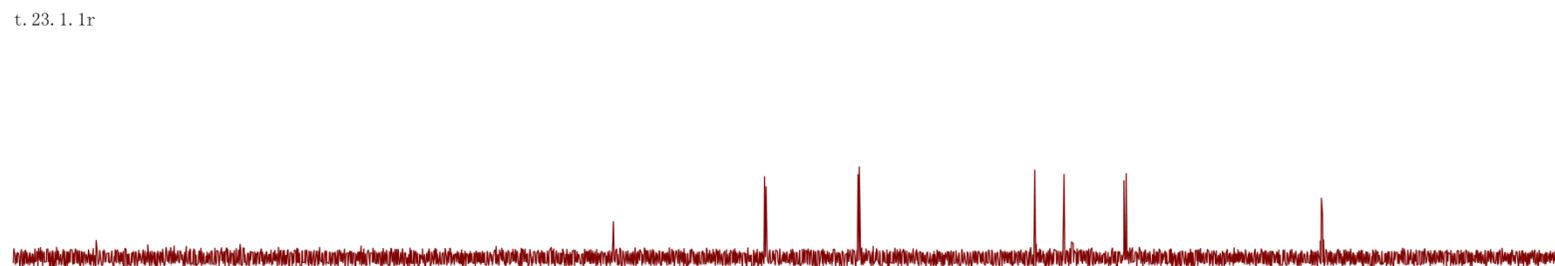
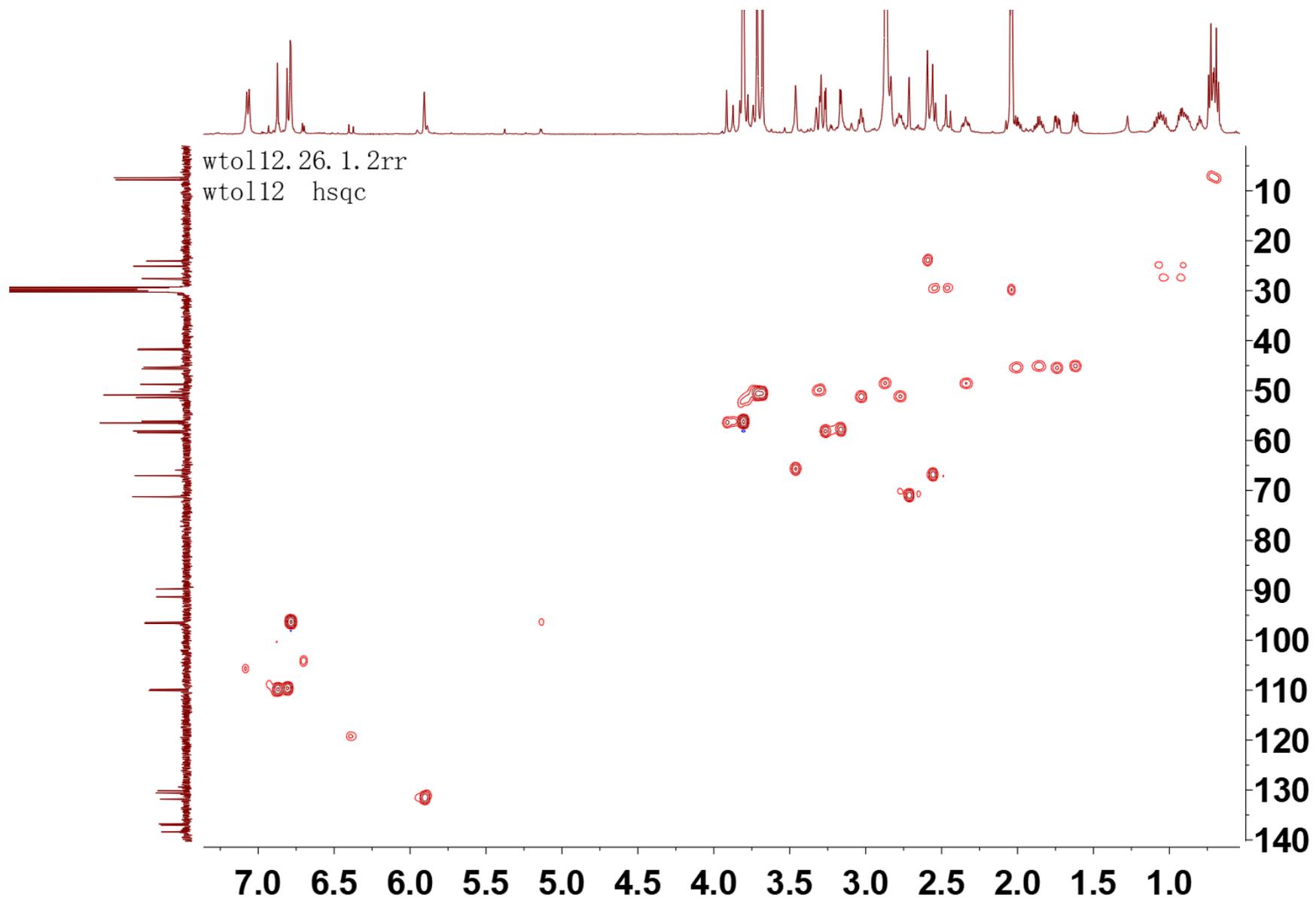


Figure S14 ^{13}C (125 MHz) NMR spectrum of compound **3** in acetone- d_6



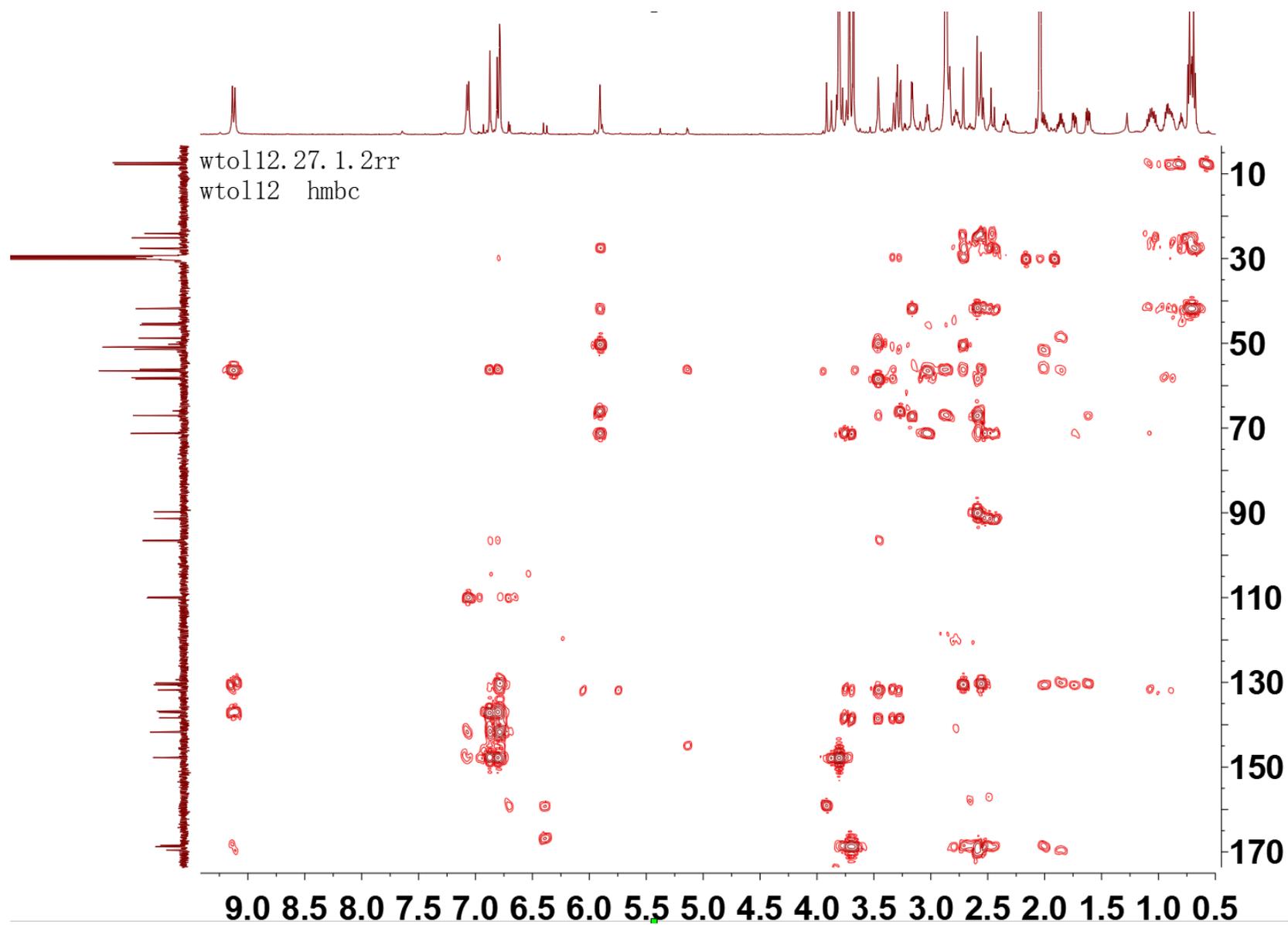


Figure S16 HMBC spectrum of compound 3 in acetone-*d*₆

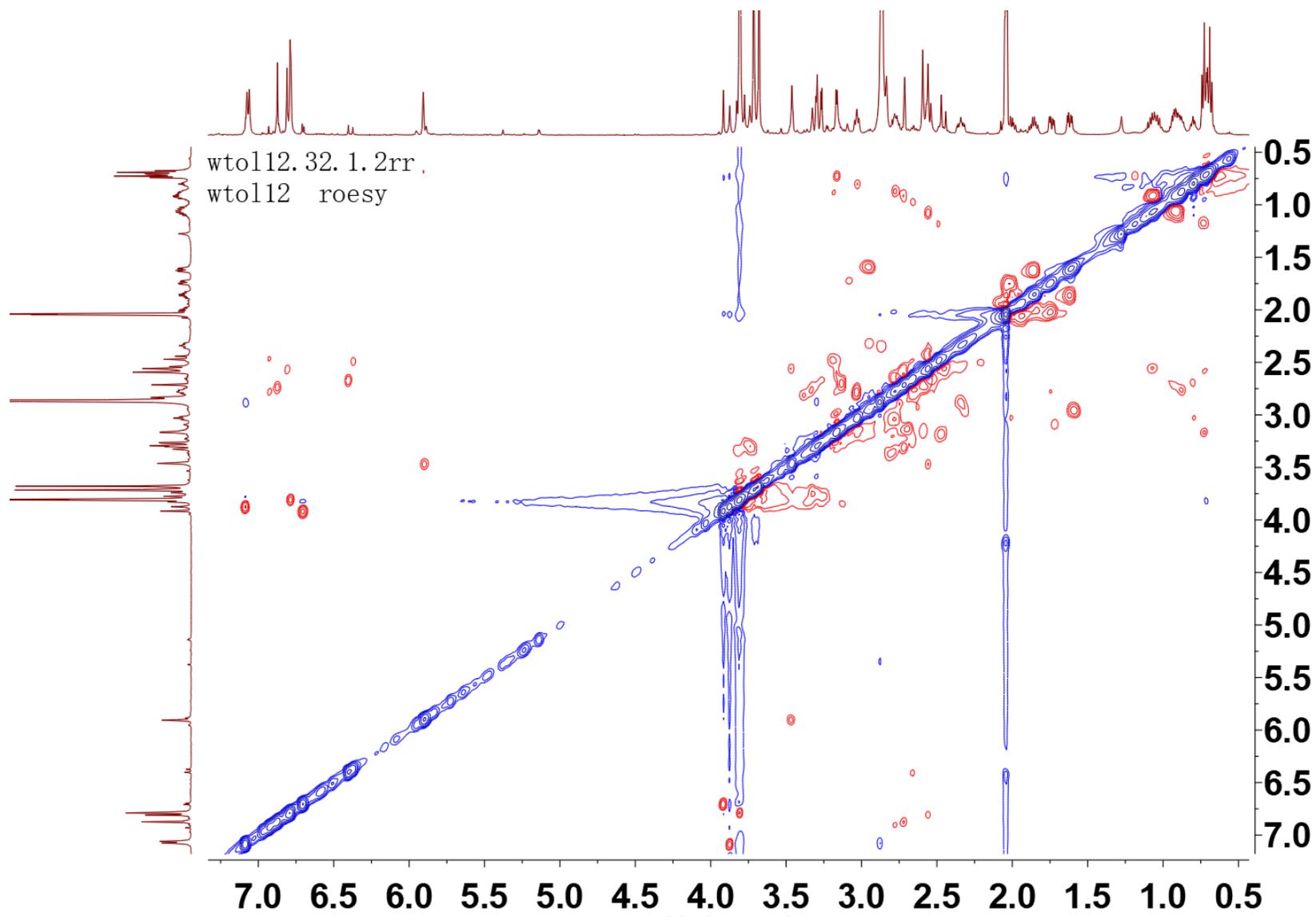


Figure S17 ROESY spectrum of compound 3 in acetone- d_6

Data File: E:\DATA\2017\0920\wtol12.lcd

Elmt	Val.	Min	Max	Use Adduct												
H	1	0	100	N	3	0	50	Mg	2	0	0	Fe	2	0	0	H
2H	1	0	0	O	2	0	50	P	3	0	0	Br	1	0	0	
B	3	0	0	F	1	0	0	S	2	0	0	I	3	0	0	
C	4	0	100	Na	1	0	0	Cl	1	0	0	Pt	2	0	0	

Error Margin (ppm): 5

HC Ratio: unlimited

Max Isotopes: all

MSn Iso RI (%): 75.00

DBE Range: -2.0 - 100.0

Apply N Rule: yes

Isotope RI (%): 1.00

MSn Logic Mode: AND

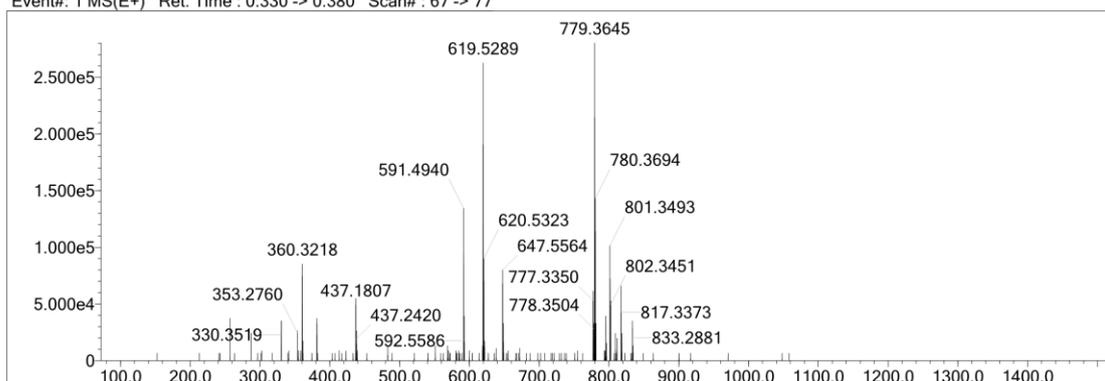
Electron Ions: both

Use MSn Info: yes

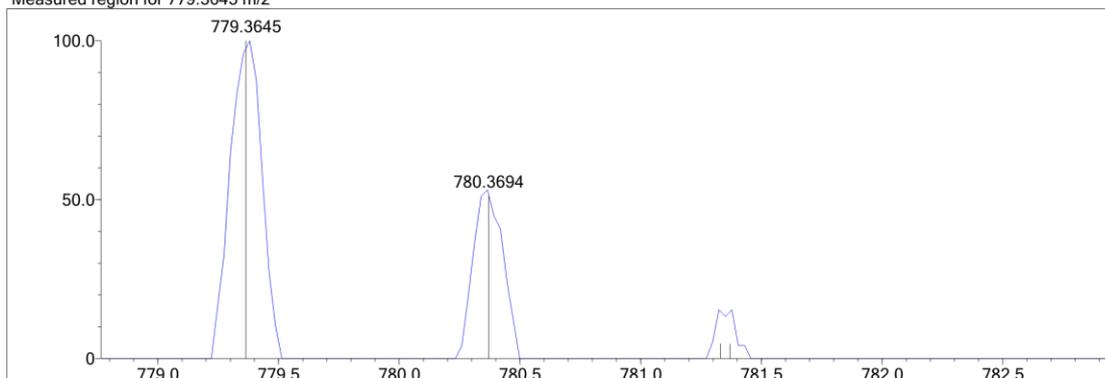
Isotope Res: 10000

Max Results: 10

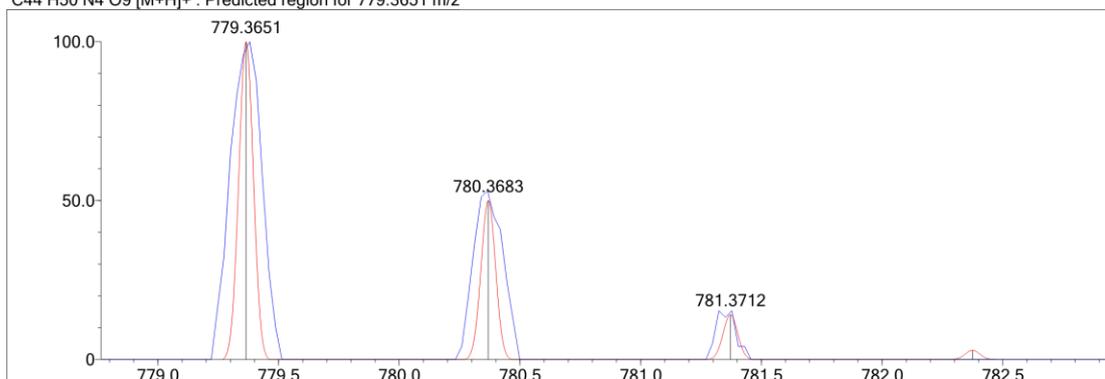
Event#: 1 MS(E+) Ret. Time : 0.330 -> 0.380 Scan#: 67 -> 77



Measured region for 779.3645 m/z



C44 H50 N4 O9 [M+H]+ : Predicted region for 779.3651 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H50 N4 O9	[M+H] ⁺	779.3645	779.3651	-0.6	-0.77	22.0

Figure S18 HRESIMS spectrum of compound 3

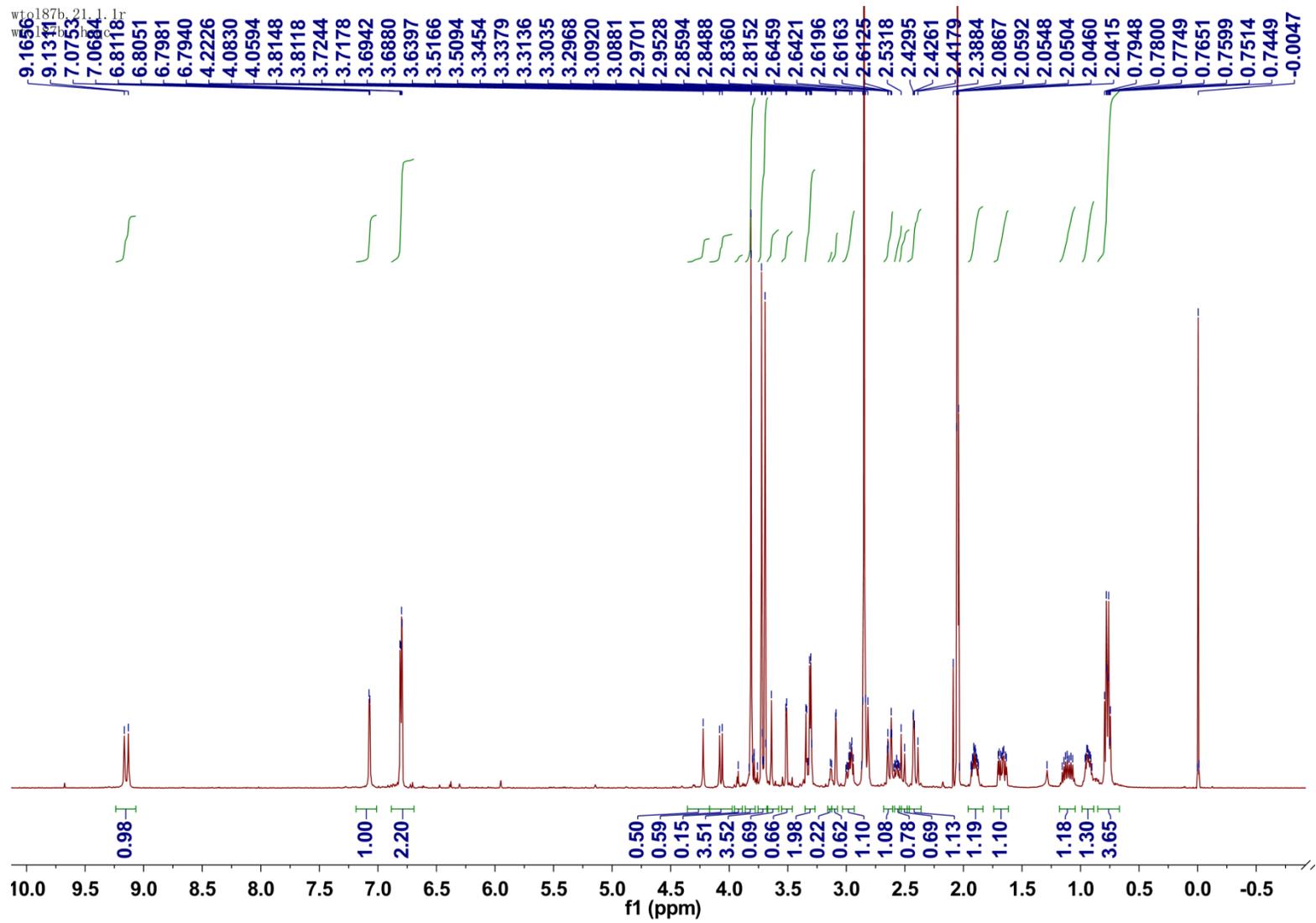
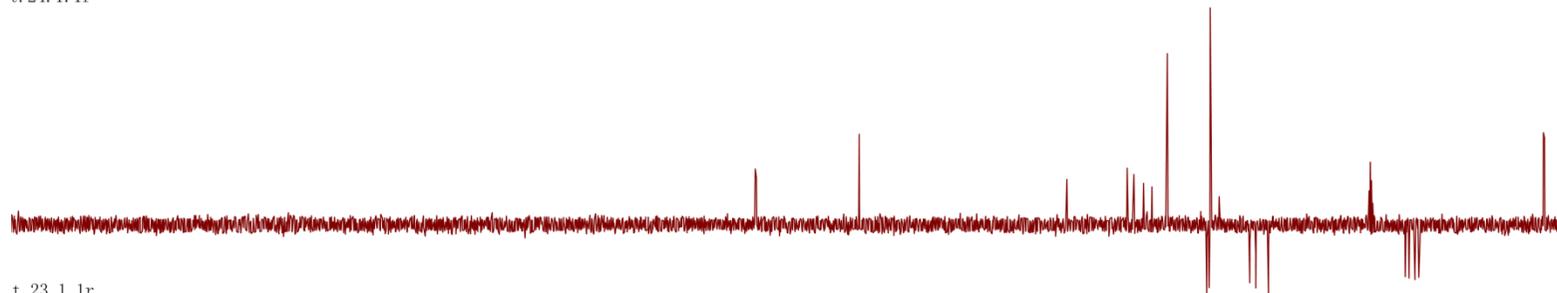


Figure S19 ^1H (125 MHz) NMR spectrum of compound **4** in acetone- d_6

t. 24. 1. 1r



t. 23. 1. 1r

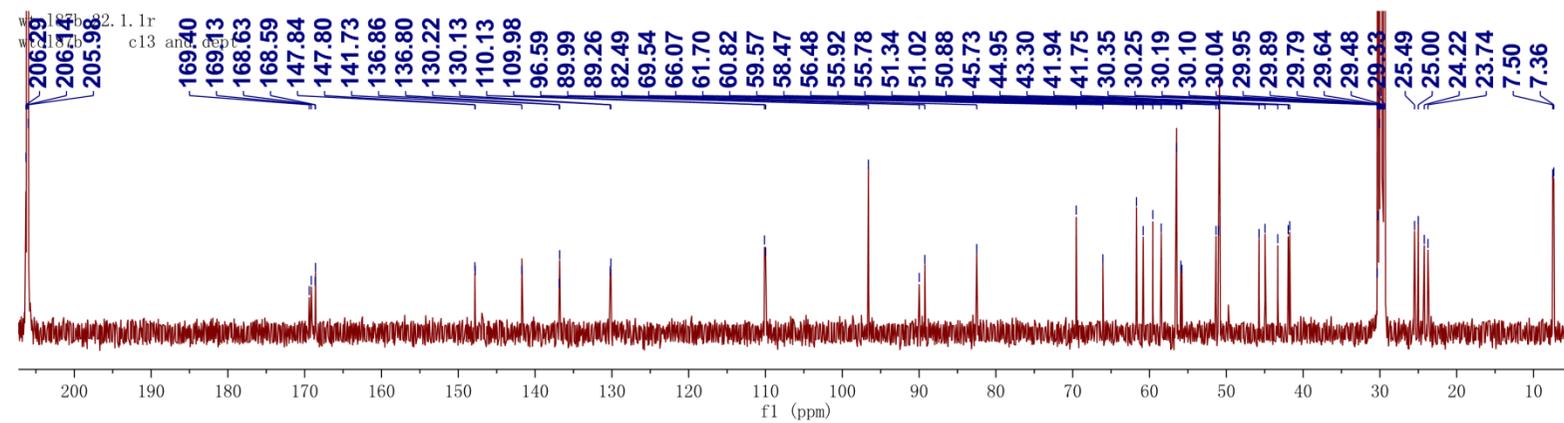
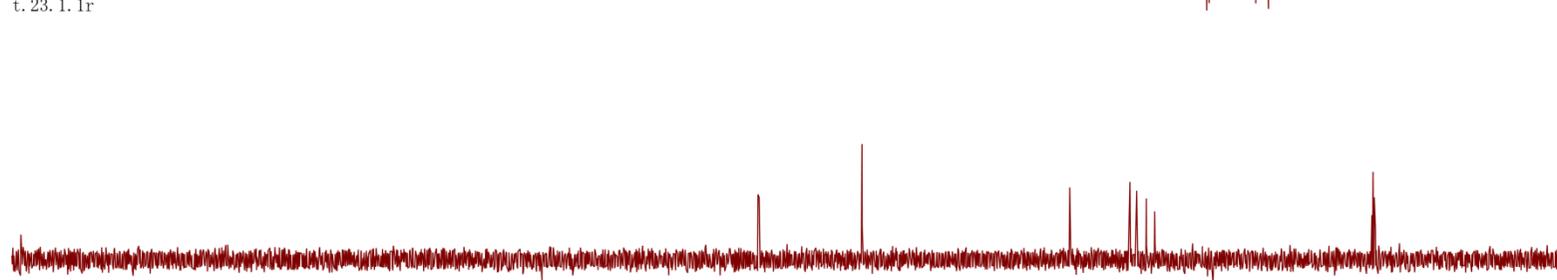


Figure S20 ^{13}C (125 MHz) NMR spectrum of compound 4 in acetone- d_6

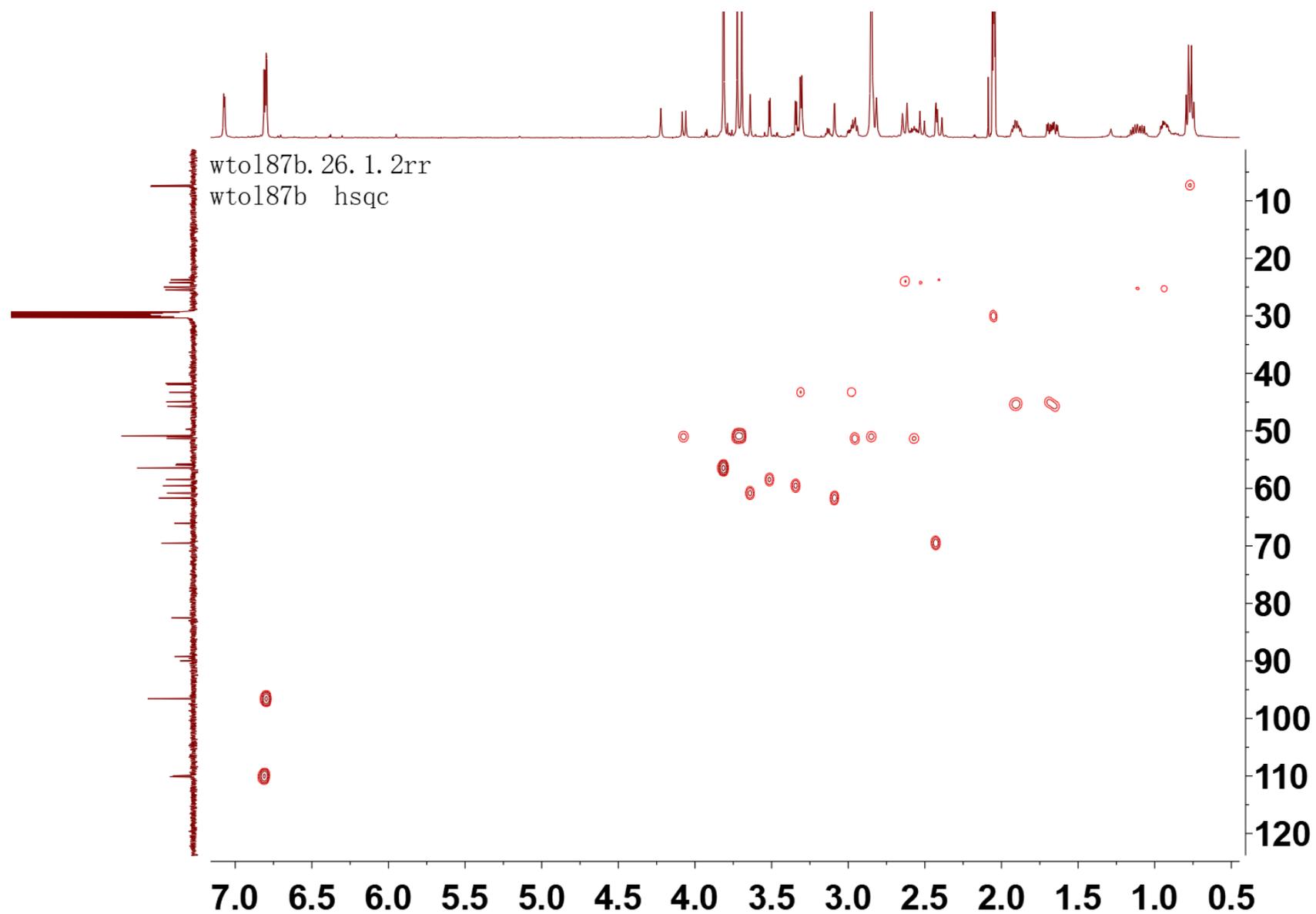


Figure S21 HSQC spectrum of compound 4 in acetone-*d*₆

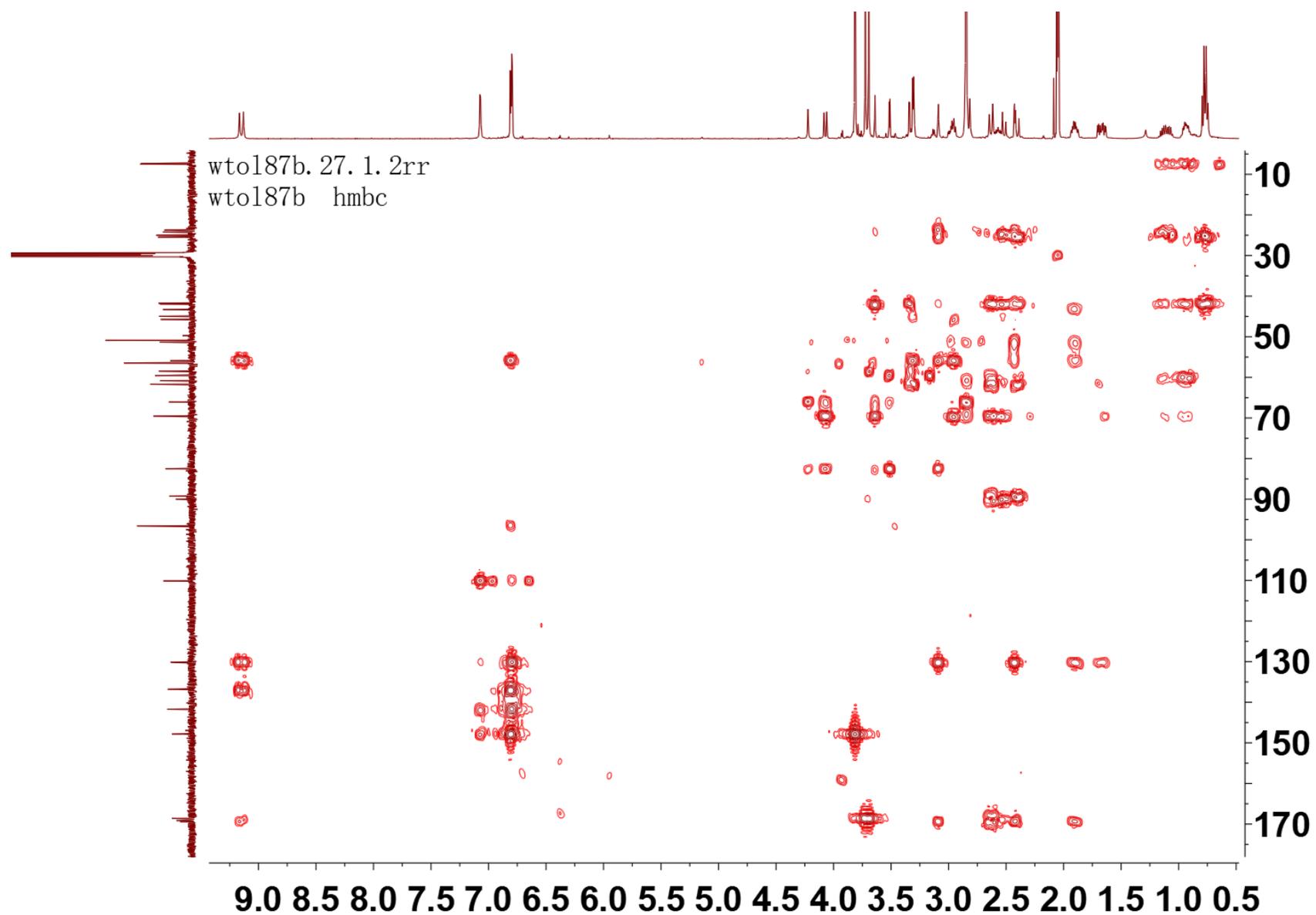


Figure S22 HMBC spectrum of compound 4 in acetone- d_6

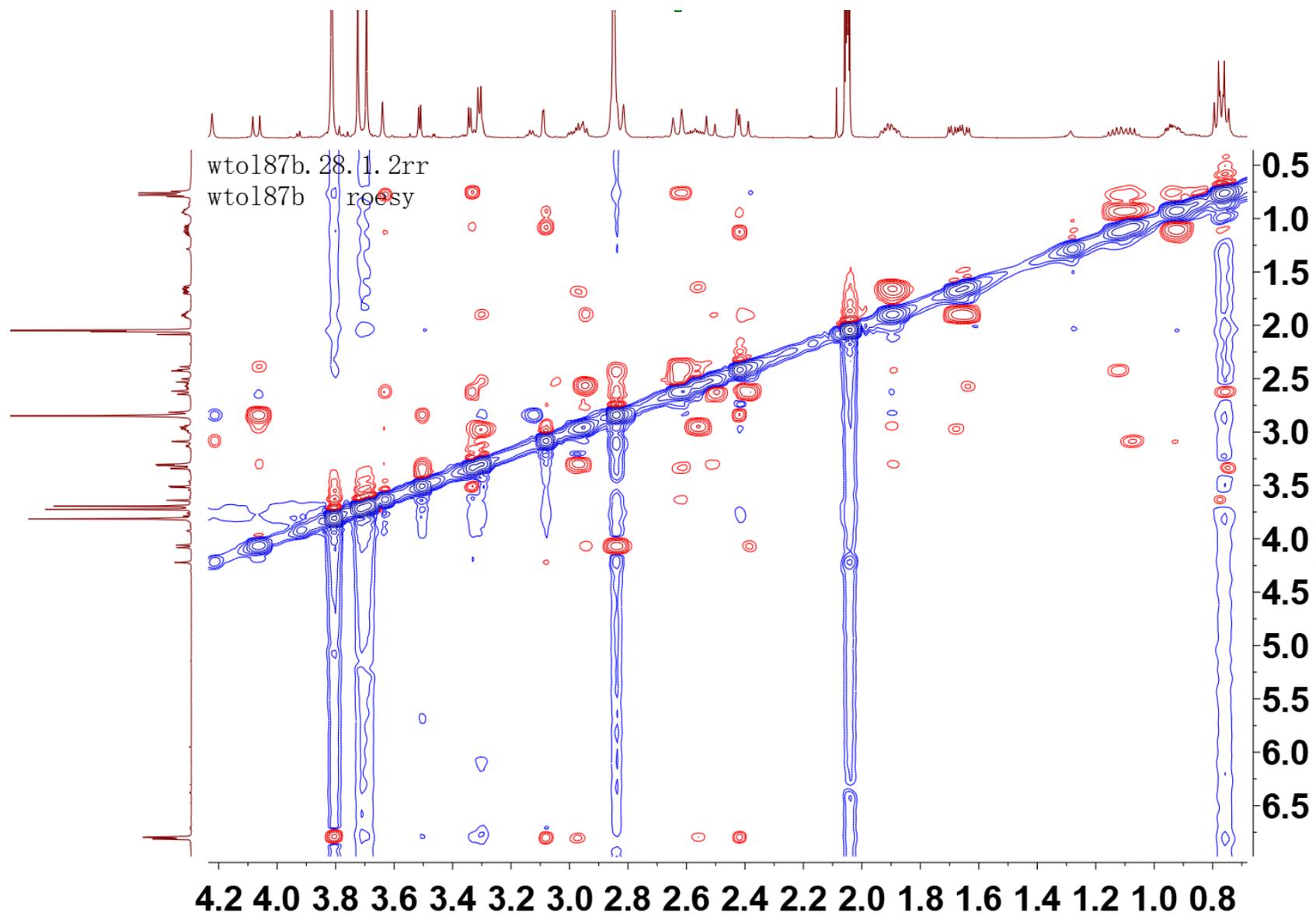


Figure S23 ROESY spectrum of compound 4 in acetone- d_6

Data File: E:\DATA\2018\0104\wtol-87b.lcd

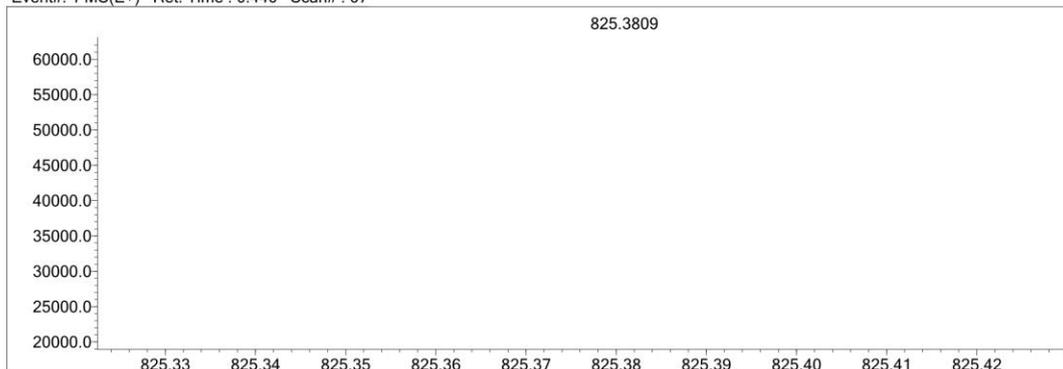
Elmt	Val.	Min	Max	Elmt	Val.	Min	Max	Elmt	Val.	Min	Max	Use Adduct
H	1	0	100	O	2	0	50	Cl	1	0	0	H
C	4	0	50	F	1	0	0	Br	1	0	0	
N	3	0	10	S	2	0	0	I	3	0	0	

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

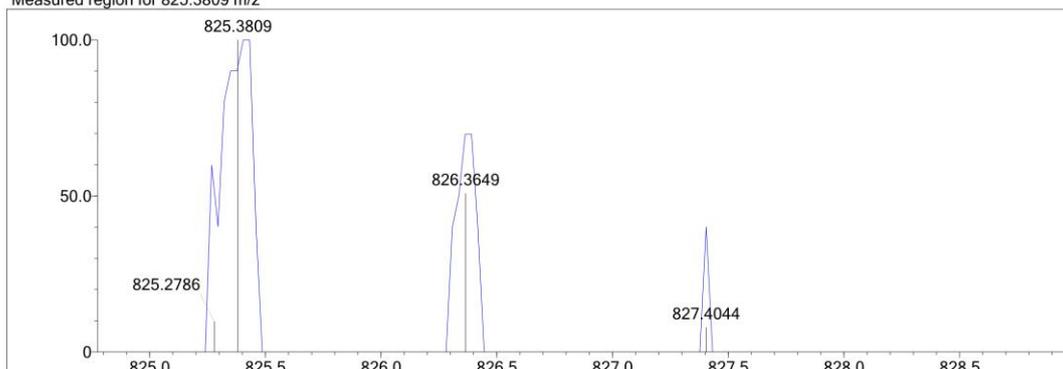
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

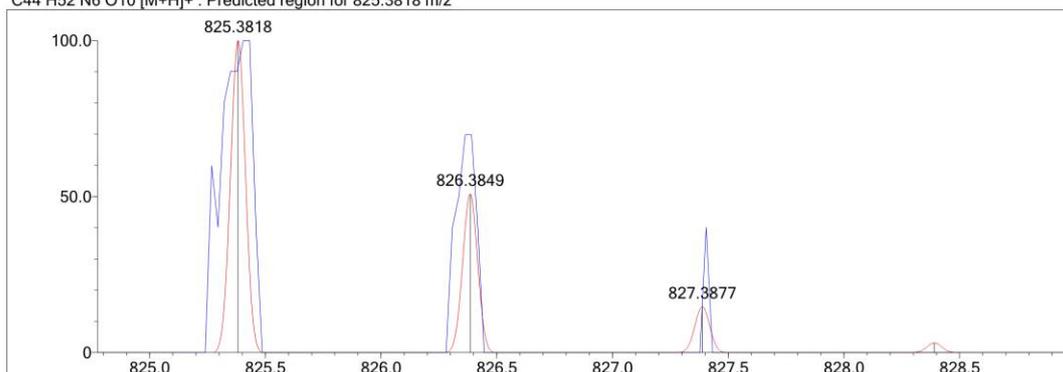
Event#: 1 MS(E+) Ret. Time : 0.440 Scan# : 67



Measured region for 825.3809 m/z



C44 H52 N6 O10 [M+H]⁺ : Predicted region for 825.3818 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H52 N6 O10	[M+H] ⁺	825.3809	825.3818	-0.9	-1.09	22.0

Figure S24 HRESIMS spectrum of compound 4

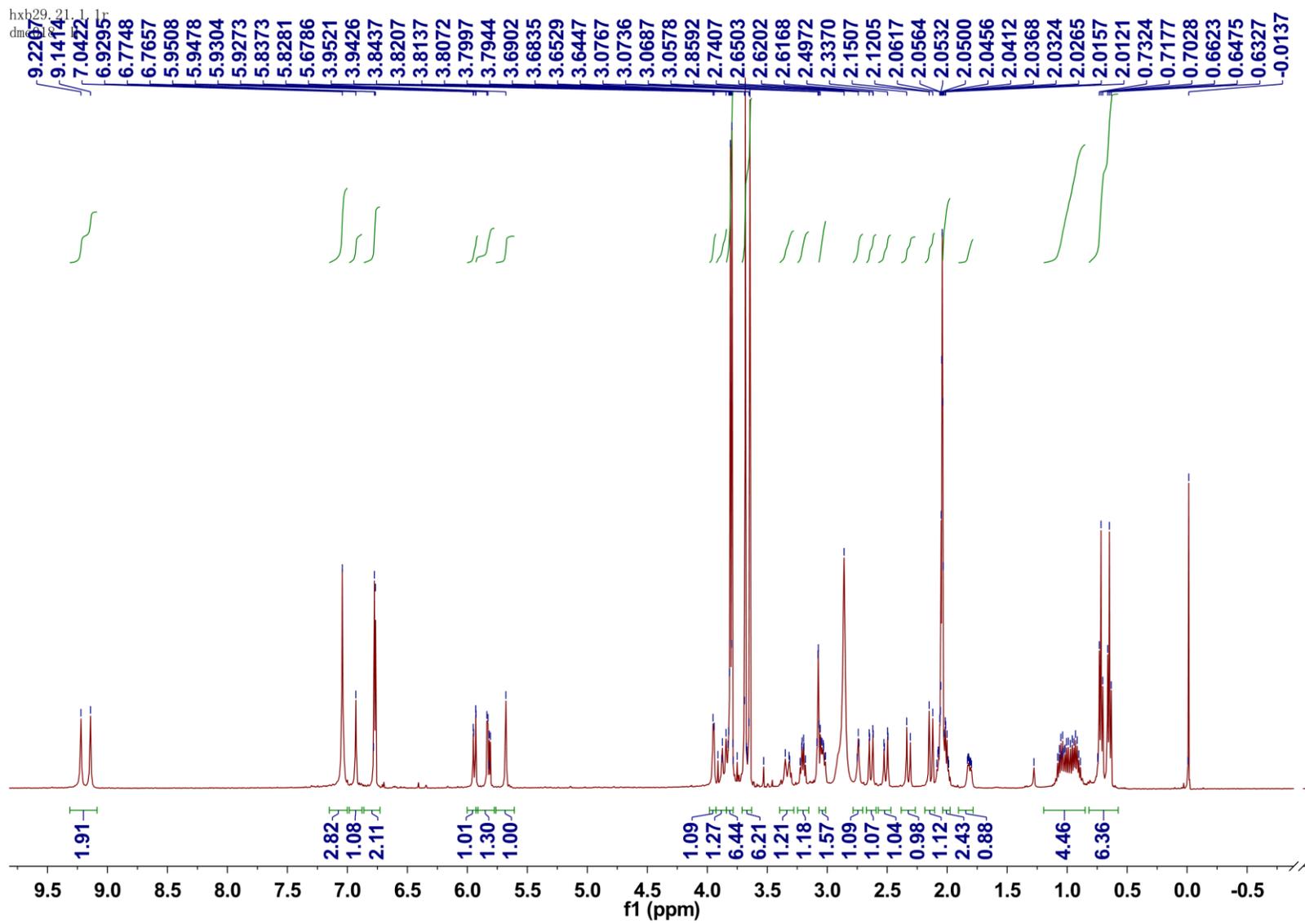
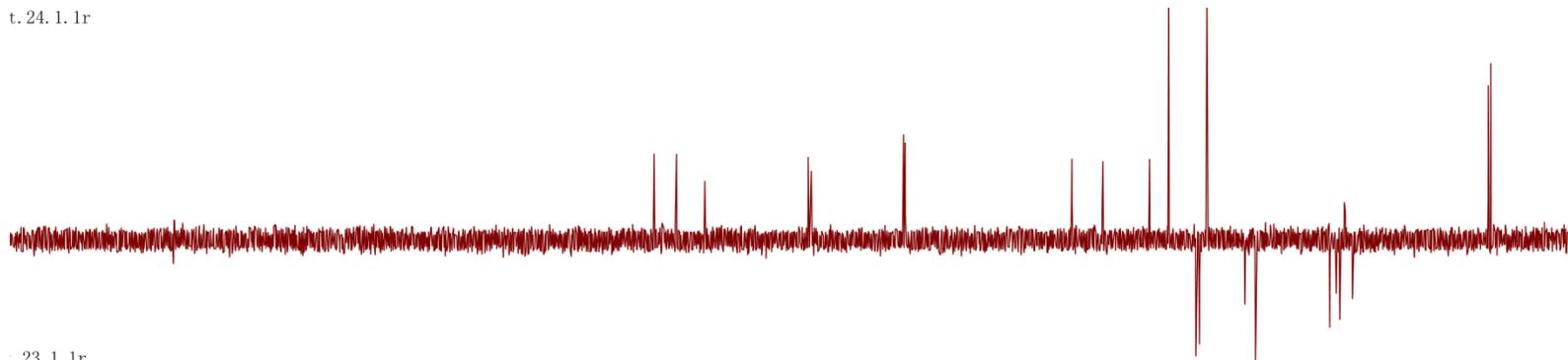
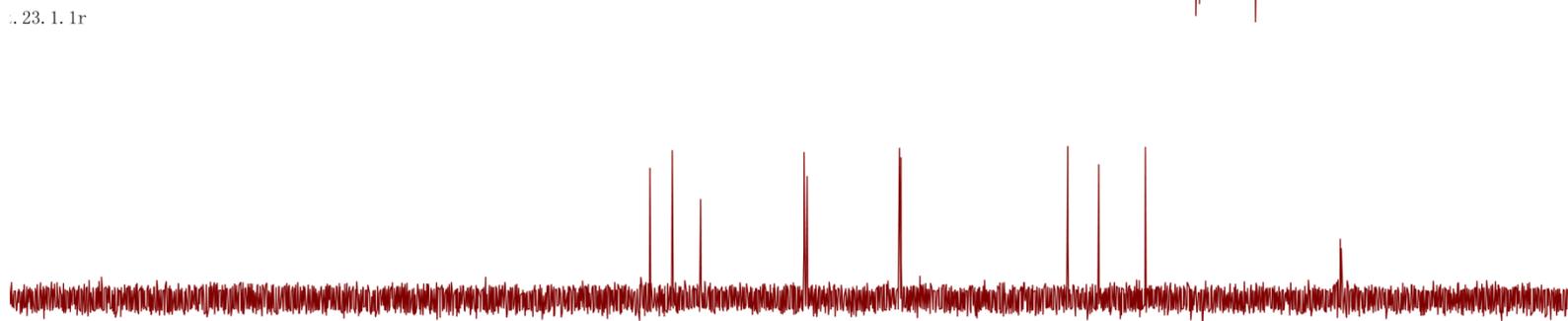


Figure S25 ^1H (500 MHz) NMR of compound **5** in acetone- d_6

t. 24. 1. 1r



. 23. 1. 1r



wtol42e. 22. 1. 1r
wtol42e c13 and dept.

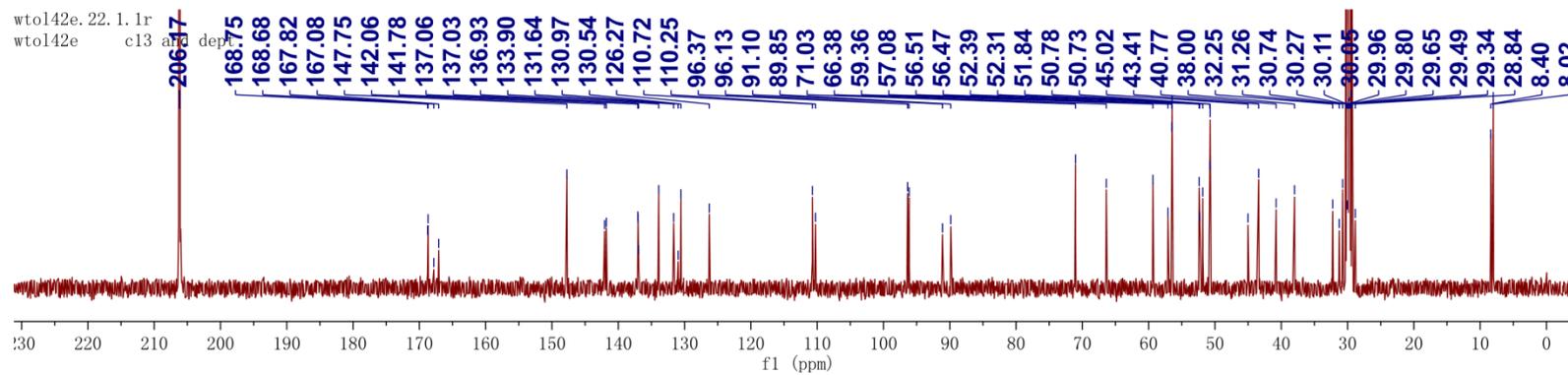
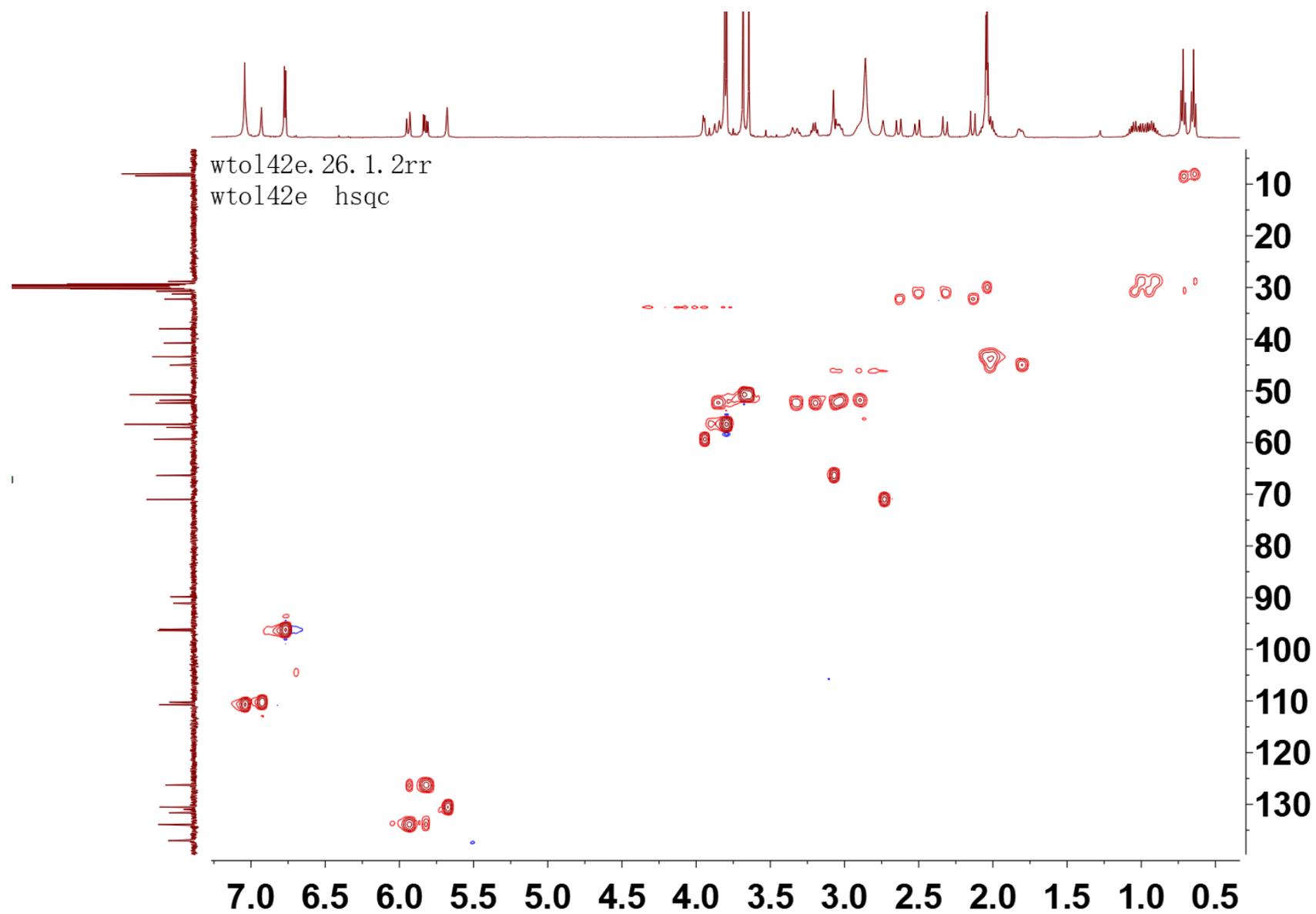


Figure S26 ^{13}C (125 MHz) NMR of compound 5 in acetone- d_6



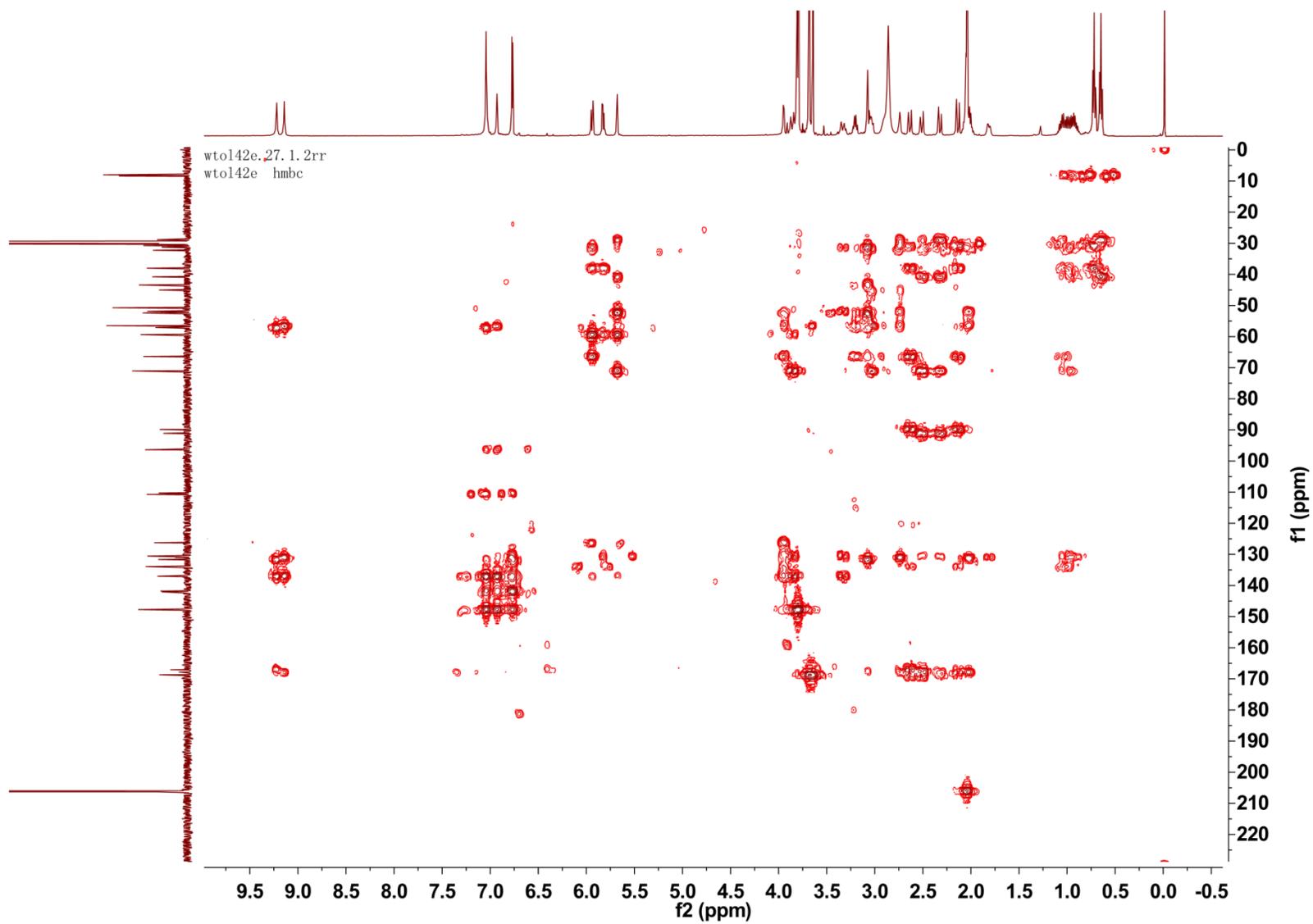


Figure S28 HMBC of compound **5** in acetone- d_6

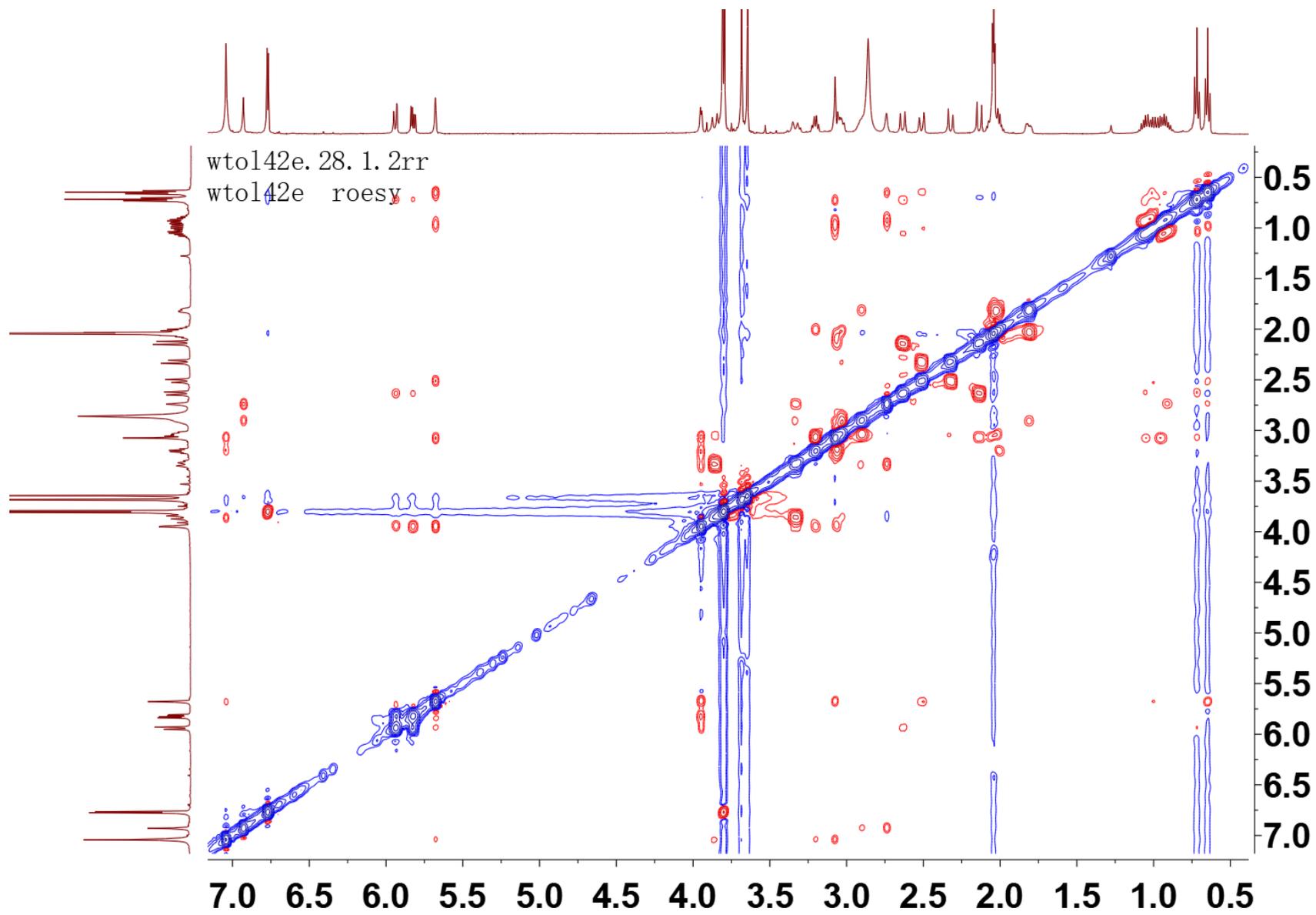


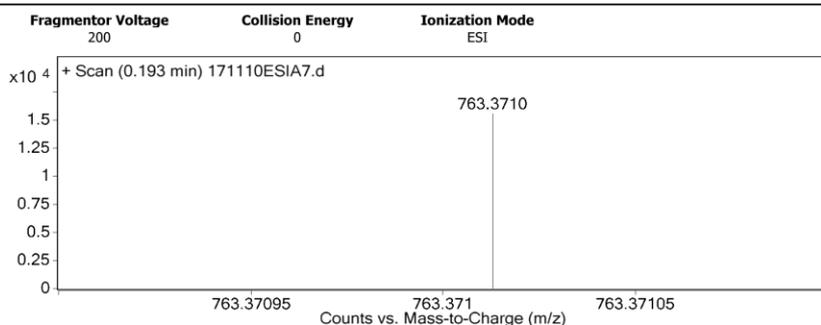
Figure S29 ROESY of compound **5** in acetone- d_6

Qualitative Analysis Report

Data Filename	171110ESIA7.d	Sample Name	wtol-42e
Sample Type	Sample	Position	
Instrument Name	Agilent G6230 TOF MS	User Name	KIB
Acq Method	ESI.m	Acquired Time	11/10/2017 11:13:56 AM
IRM Calibration Status	Success	DA Method	ESI.m
Comment			

Sample Group	Info.
Acquisition SW	6200 series TOF/6500 series
Version	Q-TOF B.05.01 (B5125.2)

User Spectra



Peak List

m/z	z	Abund	Formula	Ion
107.0607	1	82297.81		
108.0668	1	16606.79		
121.0509	1	48017.95		
123.092	1	310394.44		
124.0945	1	17780.07		
333.0384	1	6732.26		
343.1513	1	6297.69		
368.4244	1	7685.82		
763.371	1	15484.27	C44 H51 N4 O8	M+
922.0098	1	28324.18		

Formula Calculator Element Limits

Element	Min	Max
C	0	200
H	0	400
O	4	10
N	4	4

Formula Calculator Results

Formula	CalculatedMass	Mz	Diff.(mDa)	Diff. (ppm)	DBE
C44 H51 N4 O8	763.3707	763.3710	-0.3	0.4	21.5

--- End Of Report ---

Figure S30 HRESIMS spectrum of compound **5**

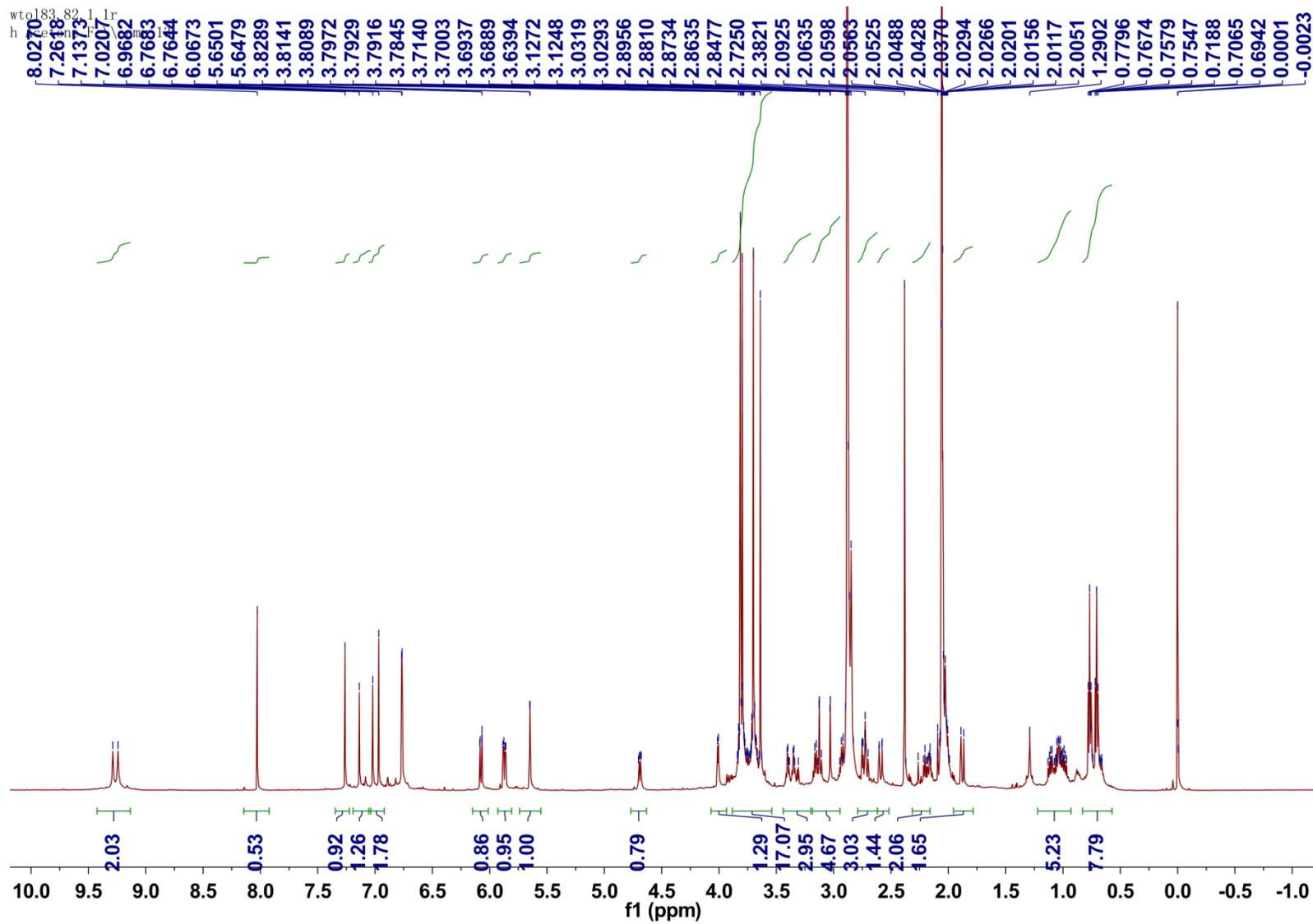
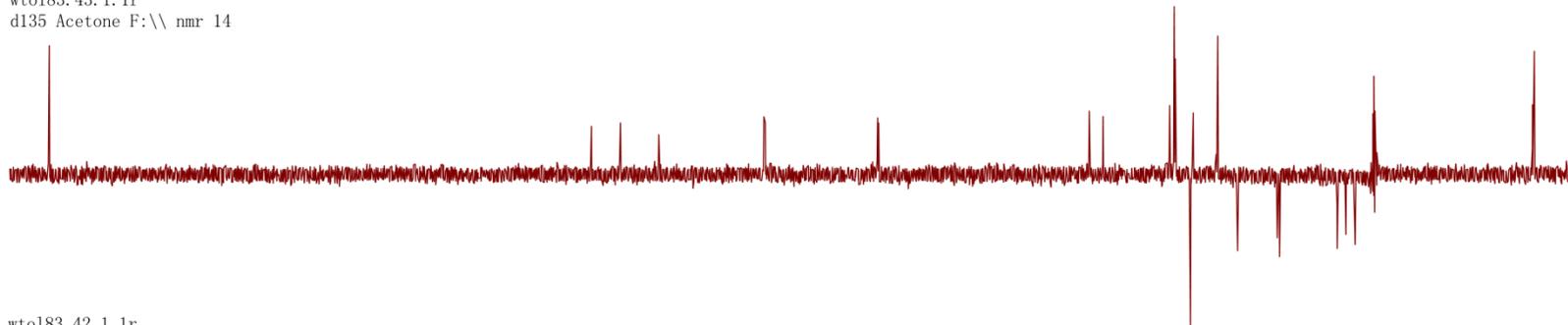


Figure S31 ^1H (600 MHz) NMR spectrum of compound **6** in acetone- d_6

wl183.43.1.1r
d135 Acetone F:\\ nmr 14



wl183.42.1.1r
dept90 Acetone F:\\ nmr 14

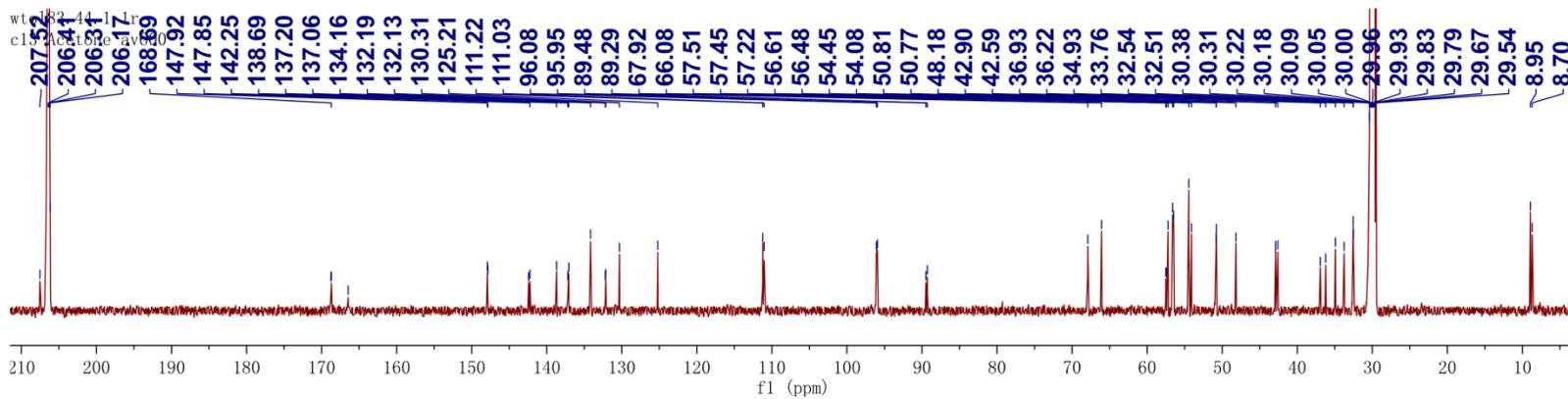
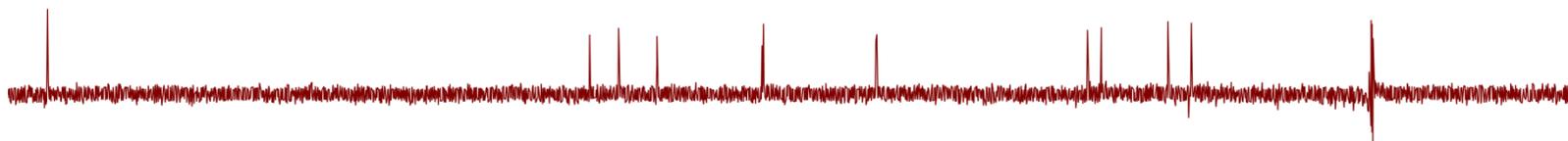


Figure S32 ¹³C (150 MHz) NMR spectrum of compound **6** in acetone-*d*₆

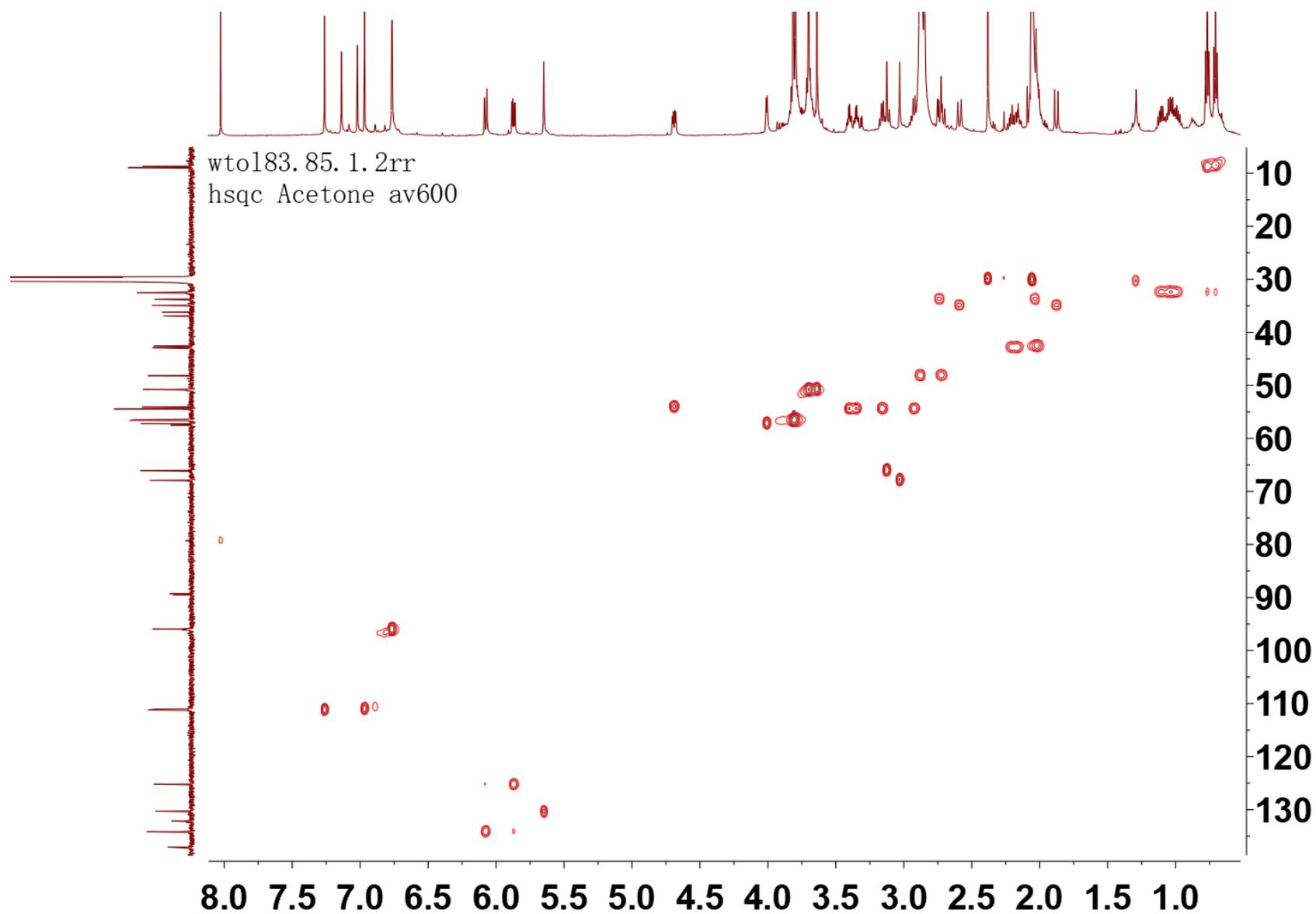


Figure S33 HSQC spectrum of compound 6 in acetone-*d*₆

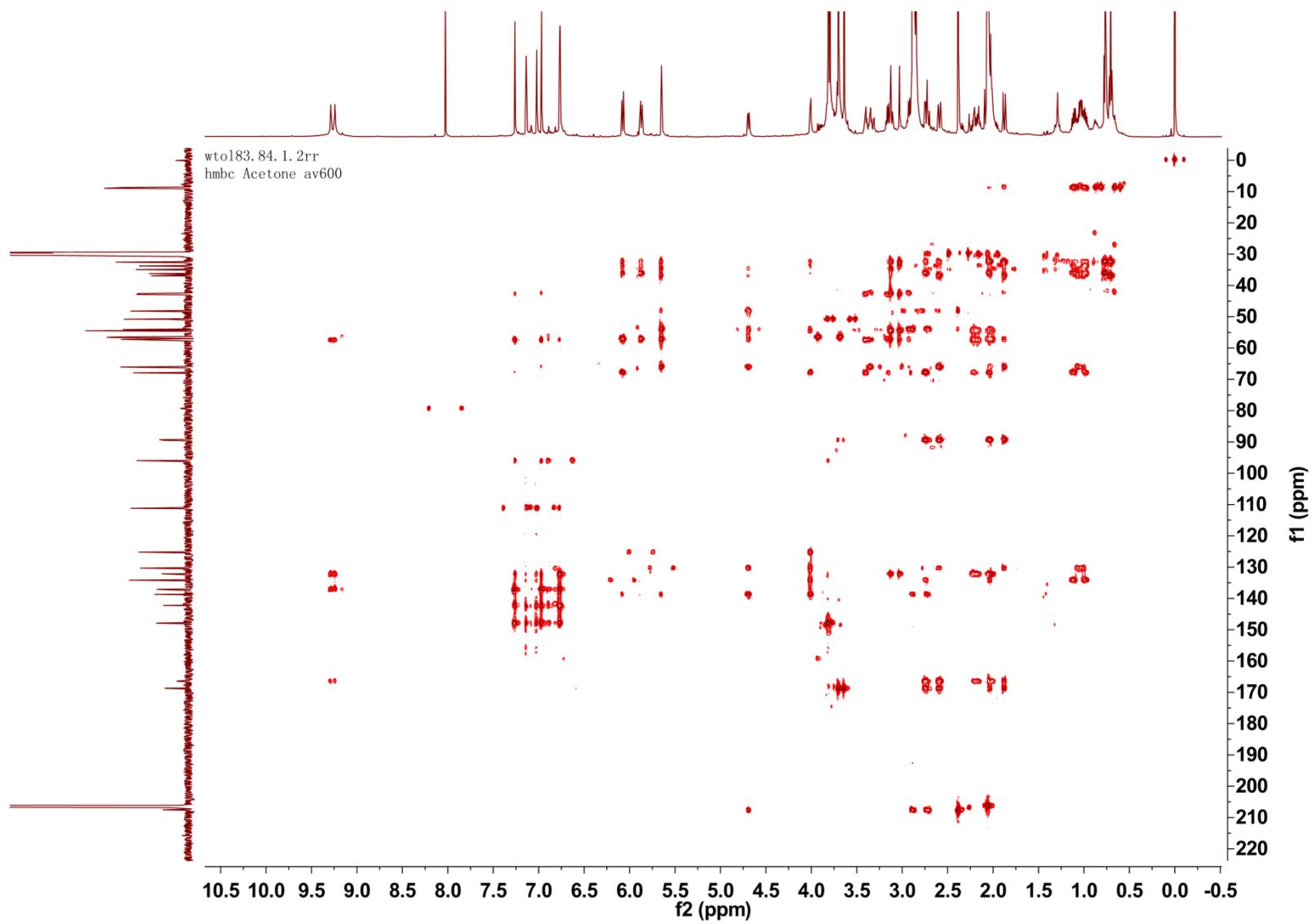


Figure S34 HMBC spectrum of compound 6 in acetone- d_6

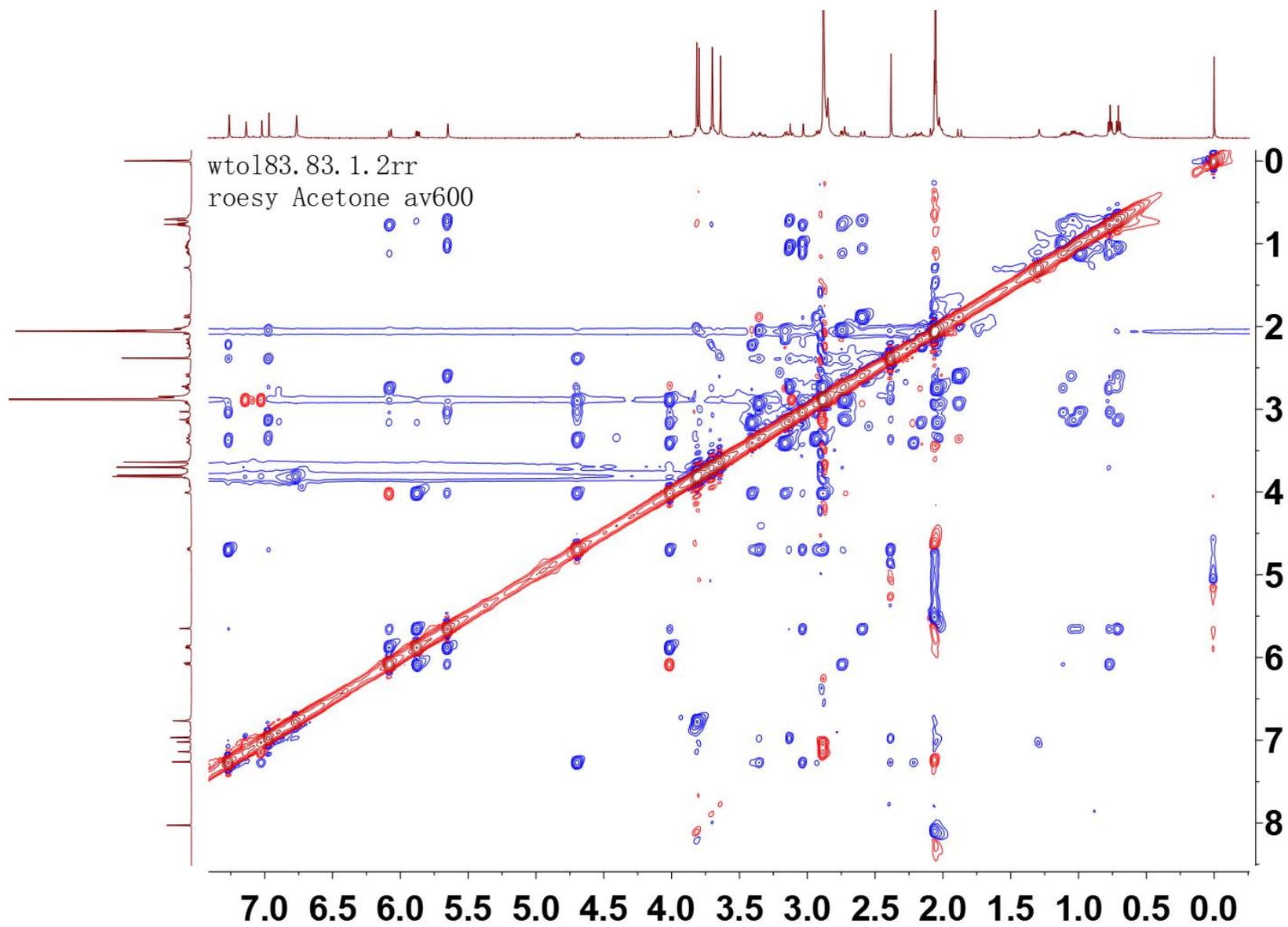


Figure S35 ROESY spectrum of compound **6** in acetone- d_6

Data File: E:\DATA\2018\0103\wtol-83.lcd

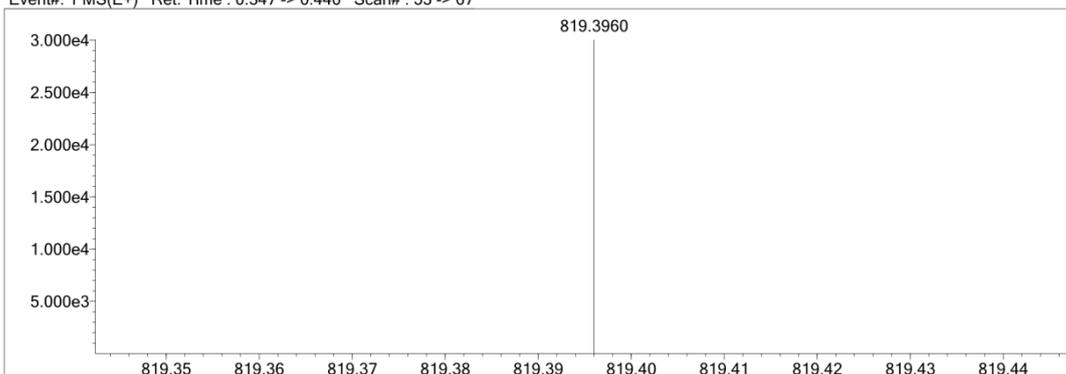
Elmt	Val.	Min	Max	Use Adduct												
H	1	20	100	O	2	1	20	Si	4	0	0	Br	1	0	0	H
C	4	20	50	F	1	0	0	S	2	0	0	I	3	0	0	
N	3	1	10	Na	1	0	0	Cl	1	0	0					

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

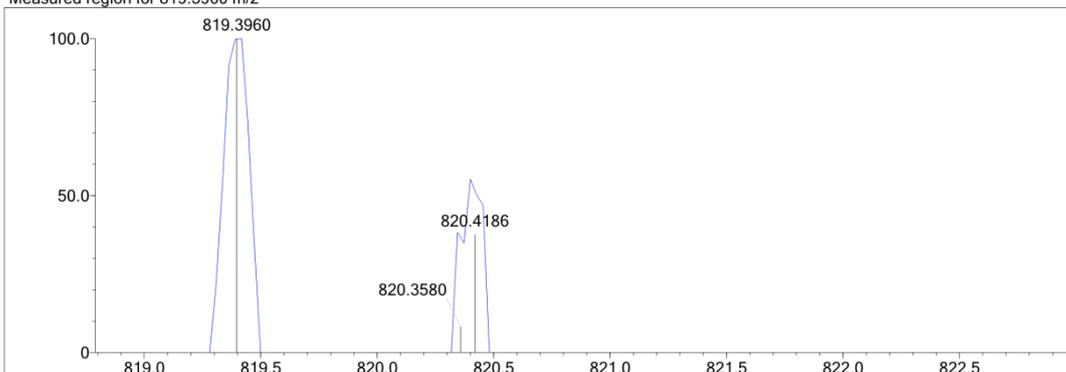
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

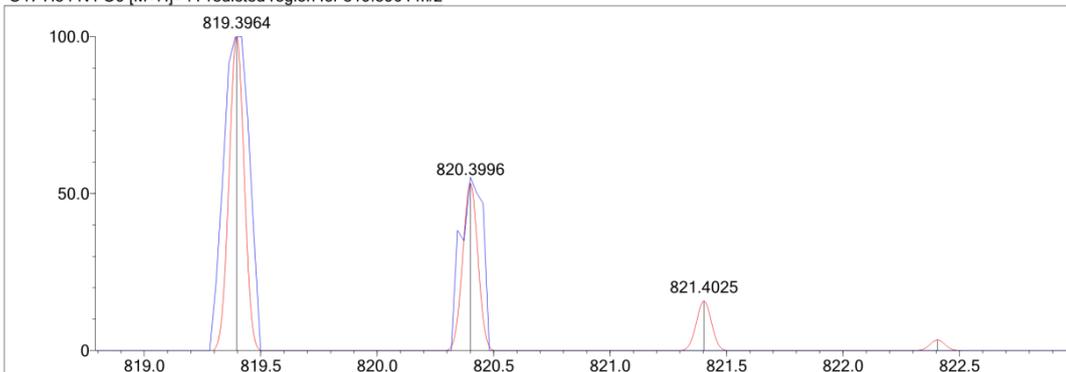
Event#: 1 MS(E+) Ret. Time : 0.347 -> 0.440 Scan# : 53 -> 67



Measured region for 819.3960 m/z



C47 H54 N4 O9 [M+H]⁺ : Predicted region for 819.3964 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C47 H54 N4 O9	[M+H] ⁺	819.3960	819.3964	-0.4	-0.49	23.0

Figure S36 HRESIMS spectrum of compound 6

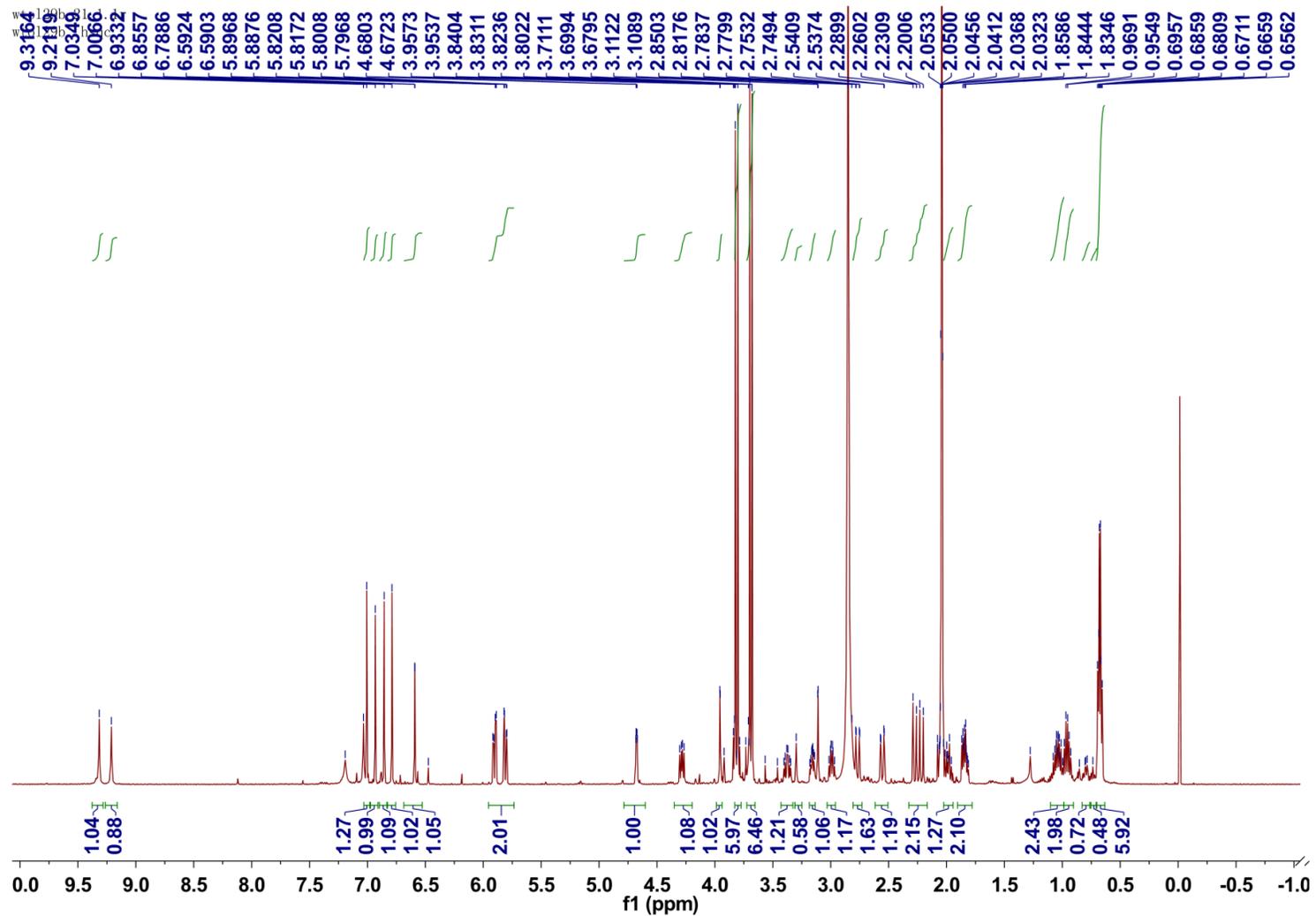
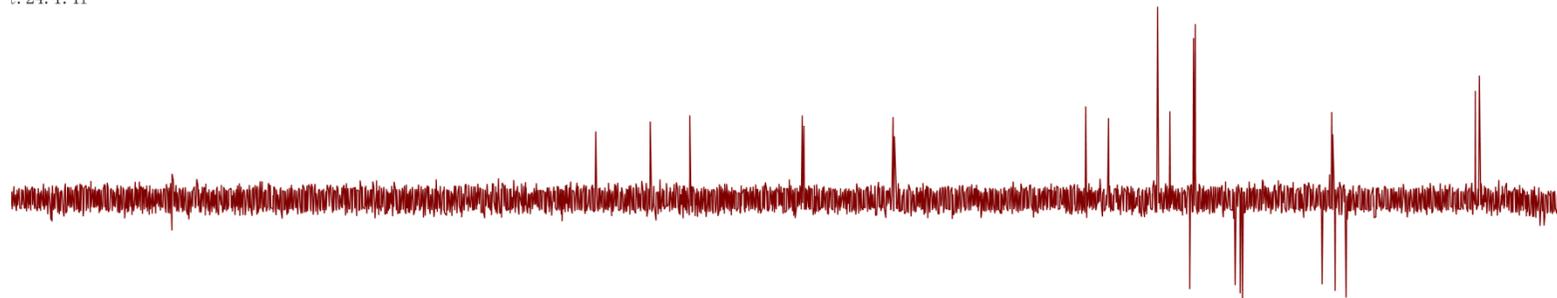


Figure S37 ^1H (500 MHz) NMR spectrum of compound **7** in acetone- d_6

t. 24. 1. 1r



t. 23. 1. 1r

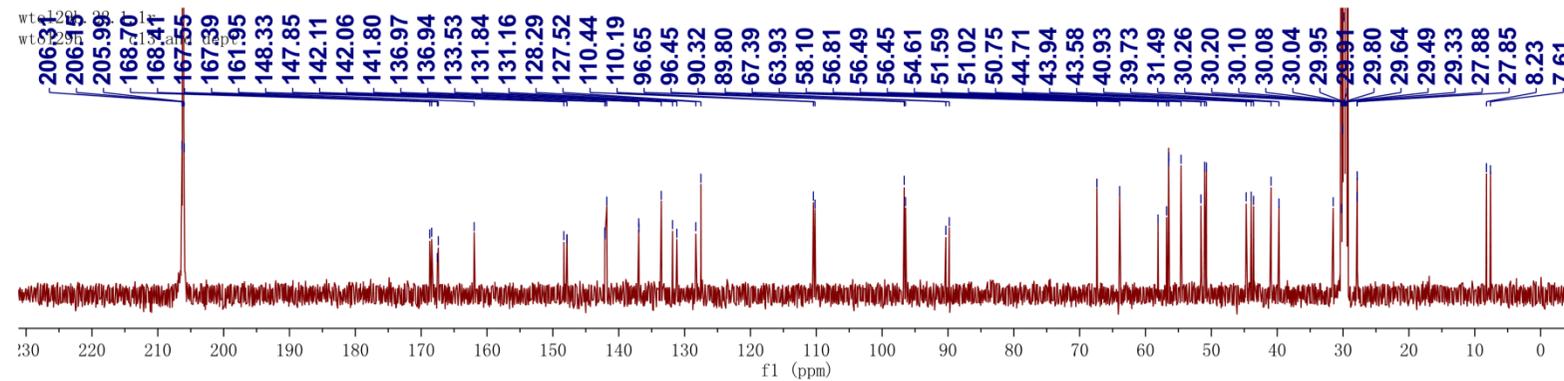
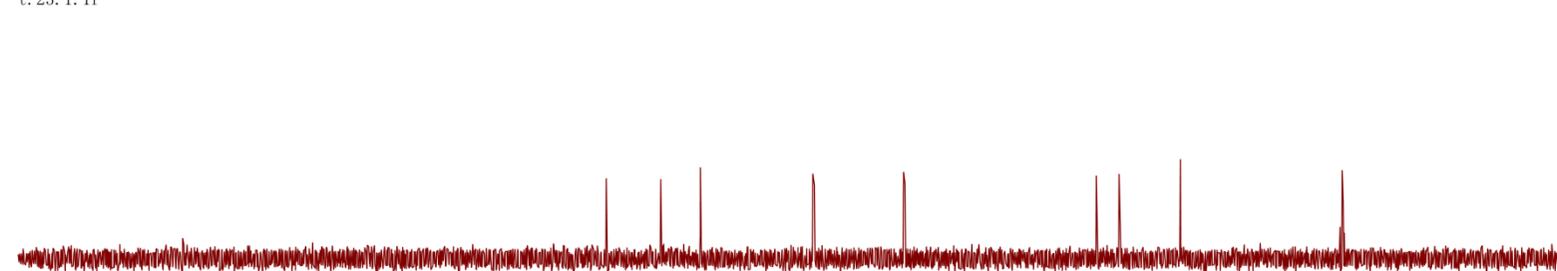


Figure S38 ^{13}C (125 MHz) NMR spectrum of compound 7 in CD_3ODCD_3

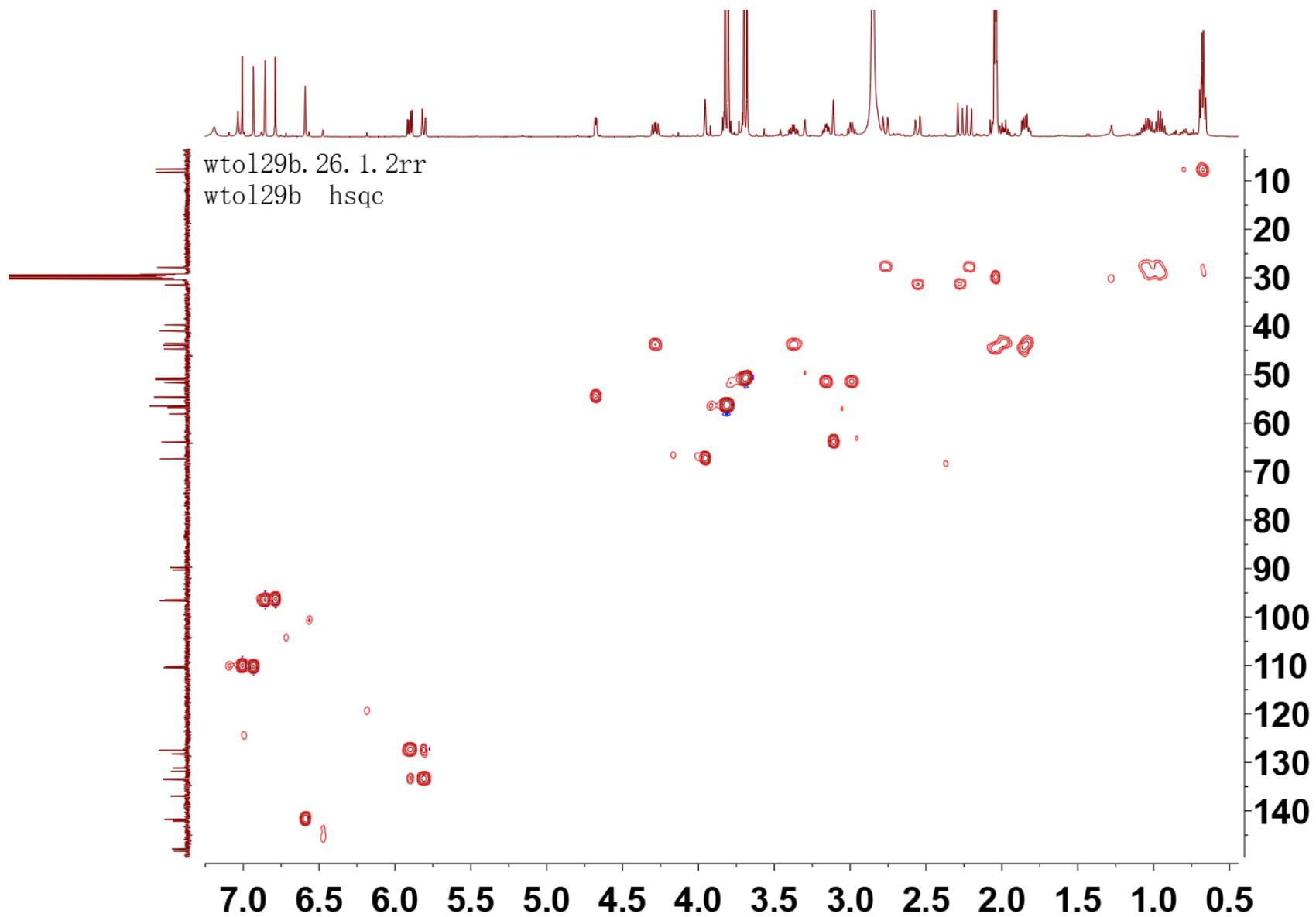


Figure S39 HSQC spectrum of compound 7 in acetone-*d*₆

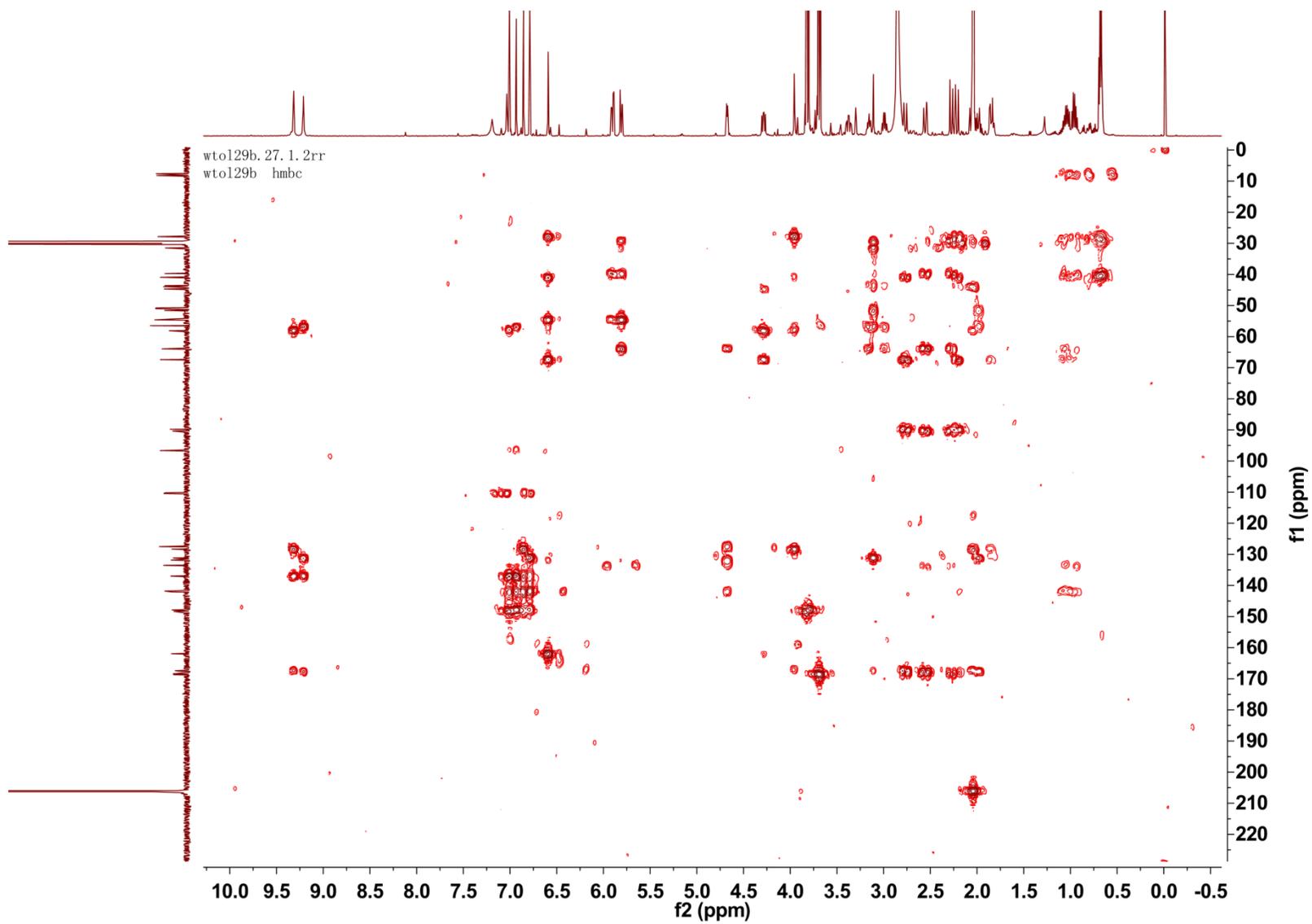


Figure S40 HMBC spectrum of **7** in acetone- d_6

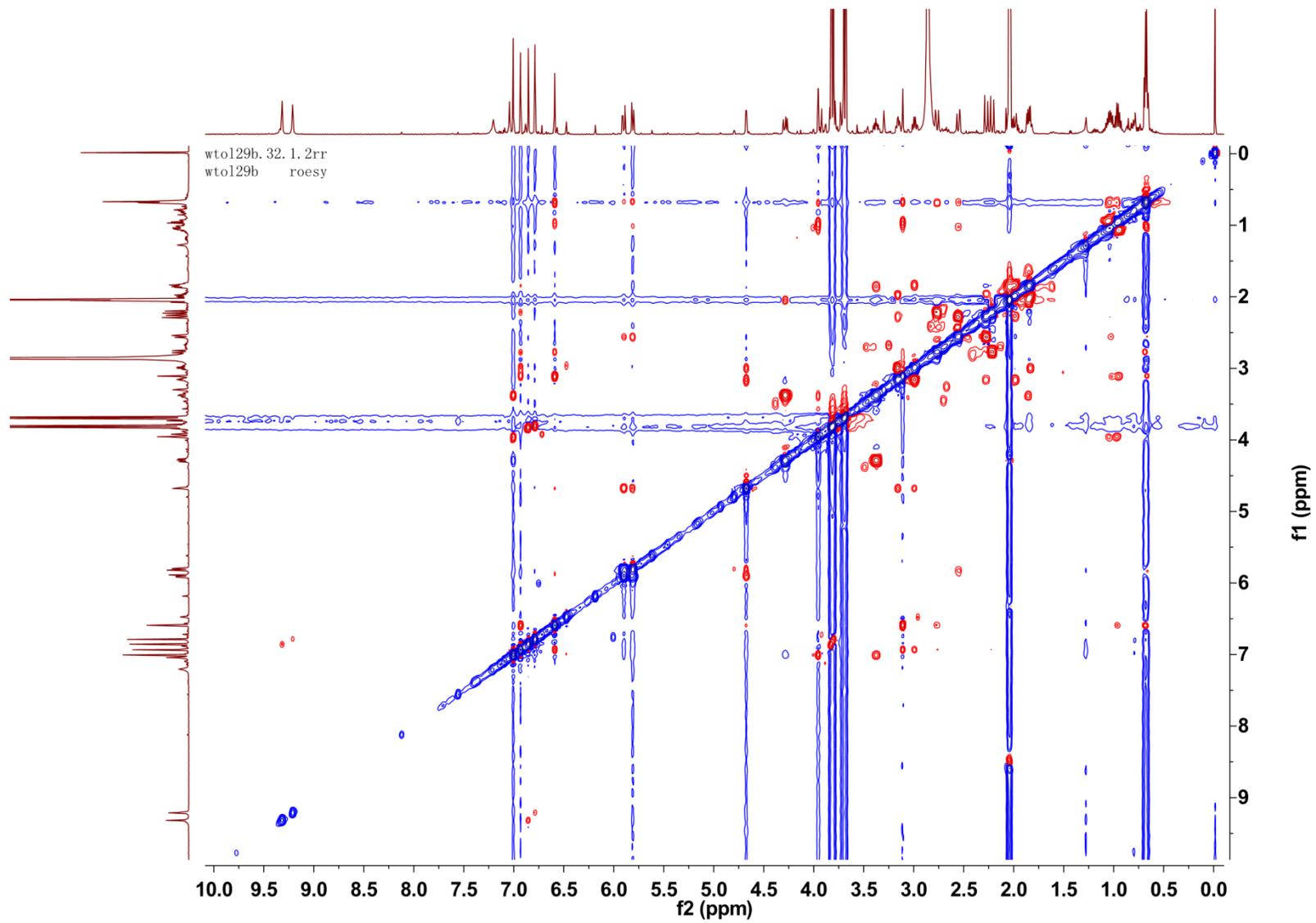


Figure S41 ROESY spectrum of **5** in acetone- d_6

Data File: E:\DATA\2017\0927\wtol-29b.lcd

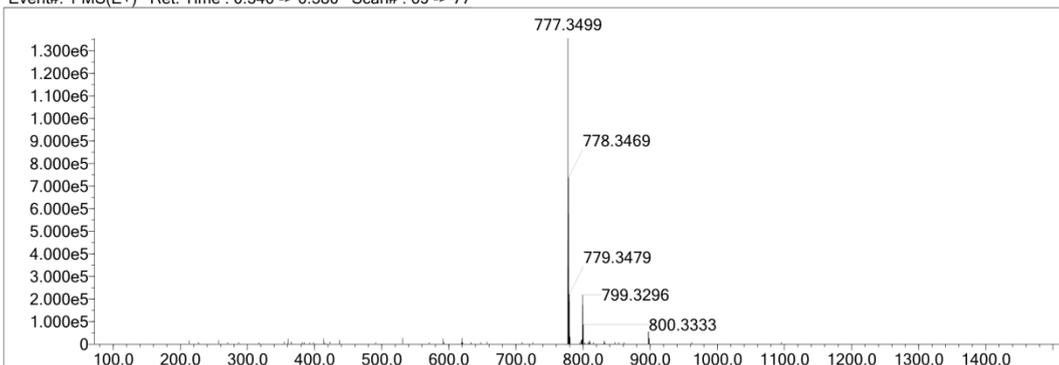
Elmt	Val.	Min	Max	Use Adduct												
H	1	40	100	N	3	0	50	Mg	2	0	0	Fe	2	0	0	H
2H	1	0	0	O	2	0	50	P	3	0	0	Br	1	0	0	
B	3	0	0	F	1	0	0	S	2	0	0	I	3	0	0	
C	4	40	100	Na	1	0	0	Cl	1	0	0	Pt	2	0	0	

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

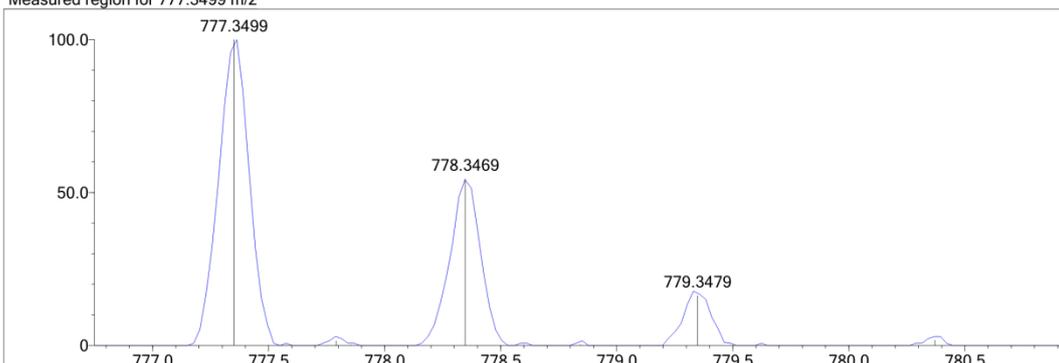
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

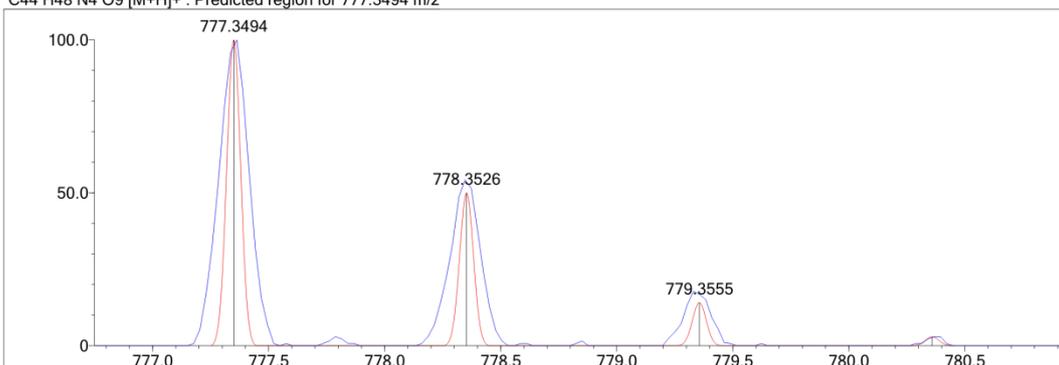
Event#: 1 MS(E+) Ret. Time : 0.340 -> 0.380 Scan#: 69 -> 77



Measured region for 777.3499 m/z



C44 H48 N4 O9 [M+H]⁺ : Predicted region for 777.3494 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H48 N4 O9	[M+H] ⁺	777.3499	777.3494	0.5	0.64	23.0

Figure S42 HRESIMS spectrum of compound 7

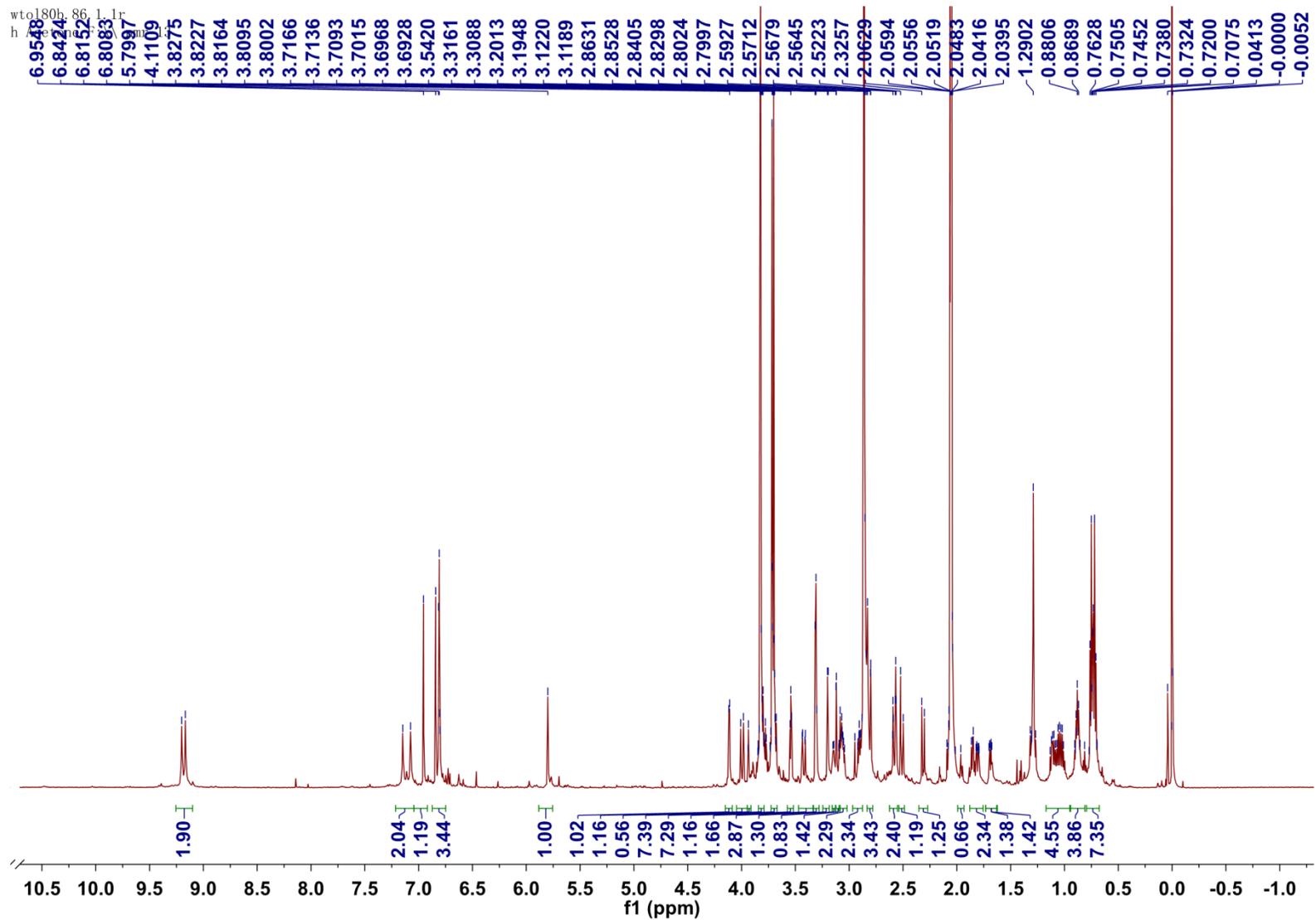
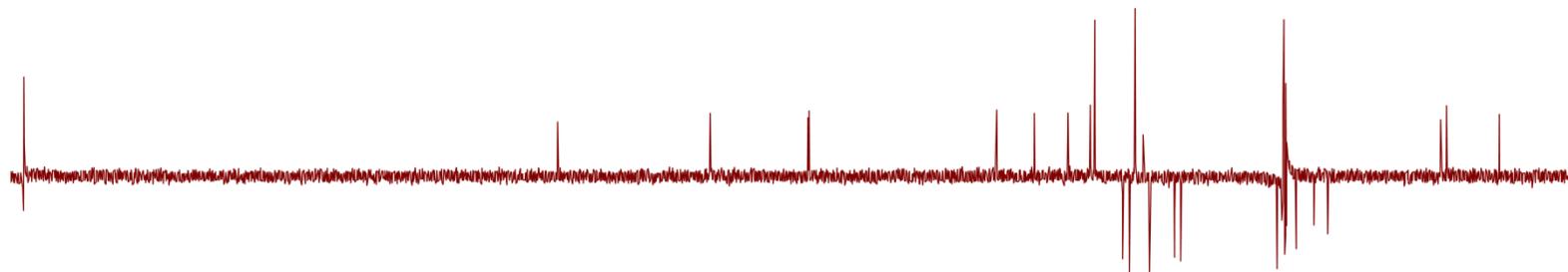


Figure S43 ^1H (600 MHz) NMR spectrum of compound **8** in acetone- d_6

wto180b.43.1.1r
d135 Acetone F:\ nmr 13



vto180b.42.1.1r
lept90 Acetone F:\ nmr 13

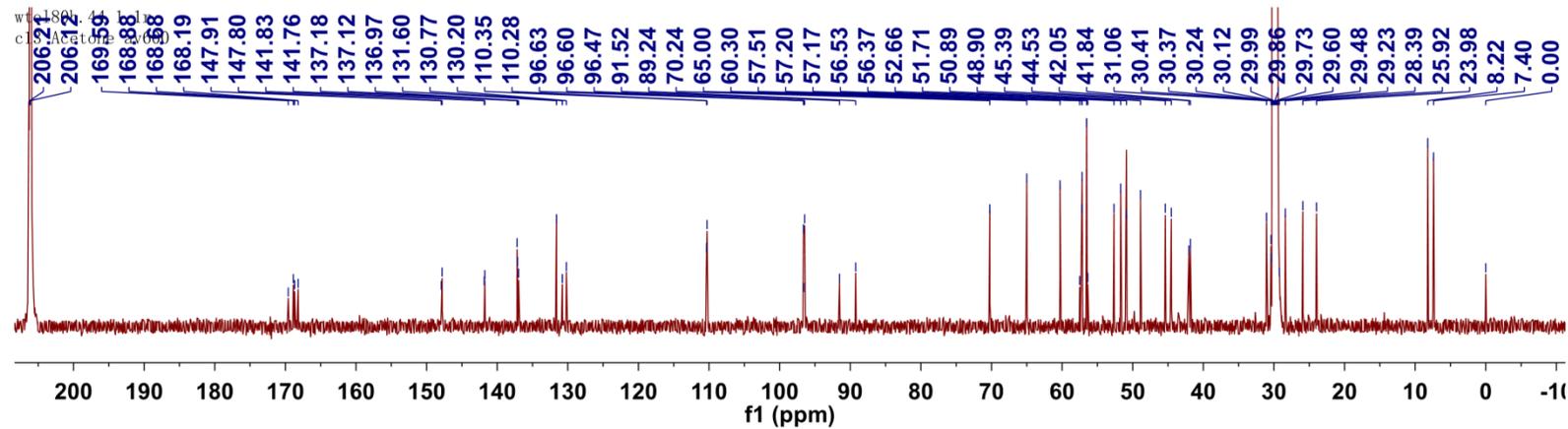
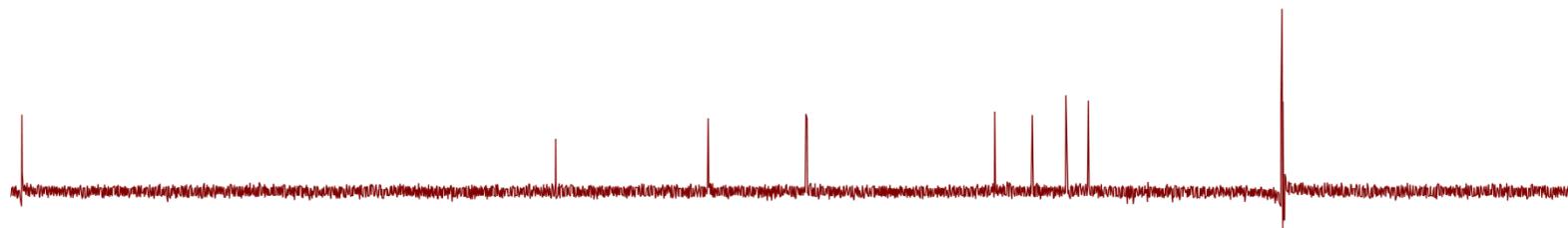


Figure S44 ¹³C (150 MHz) NMR spectrum of compound **8** in acetone-*d*₆

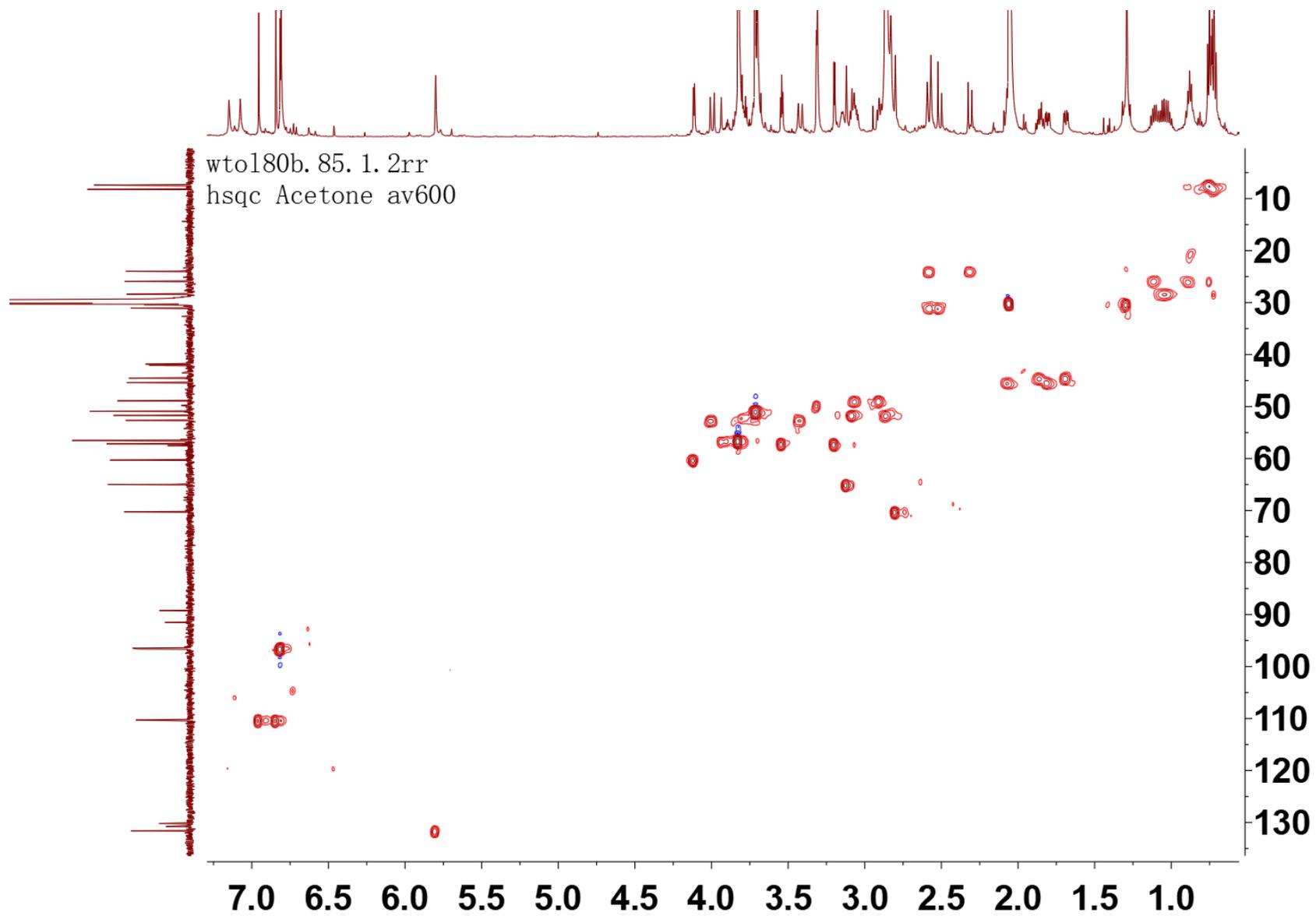


Figure S45 HSQC spectrum of compound **8** in acetone- d_6

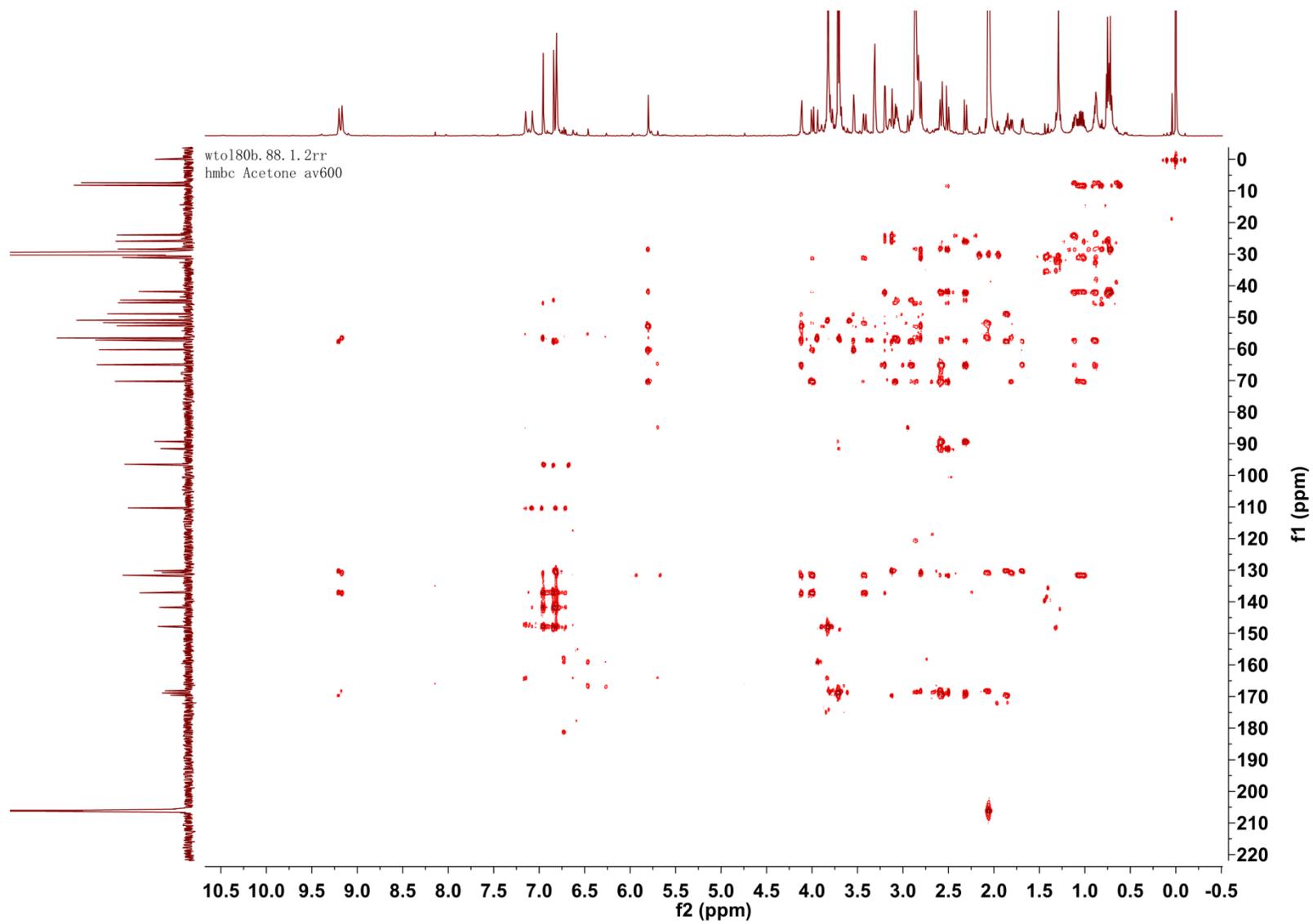


Figure S46 HMBC spectrum of compound **8** in acetone- d_6

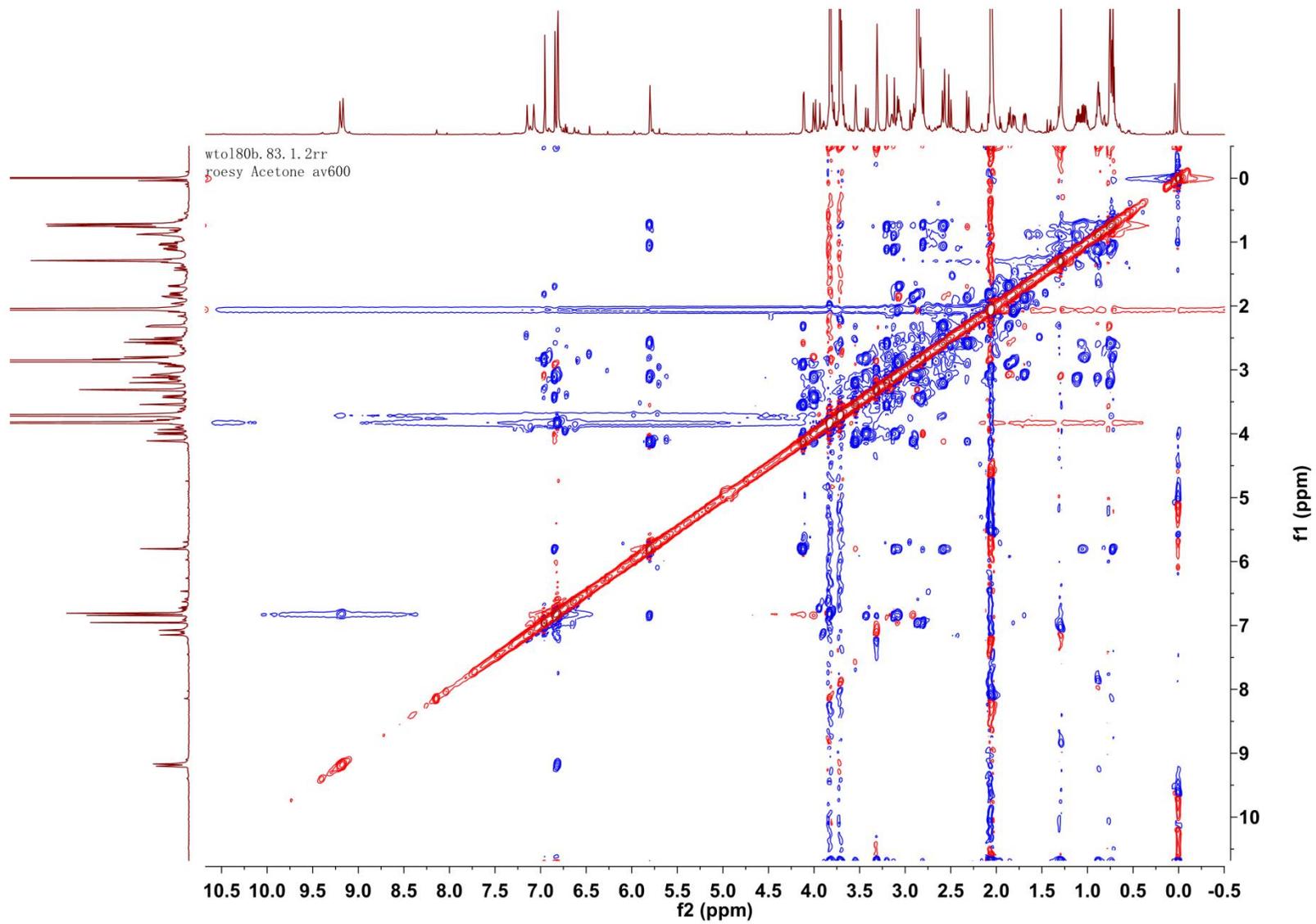


Figure S47 ROESY spectrum of compound **8** in acetone- d_6

Data File: E:\DATA\2017\1225\wtol-80b.lcd

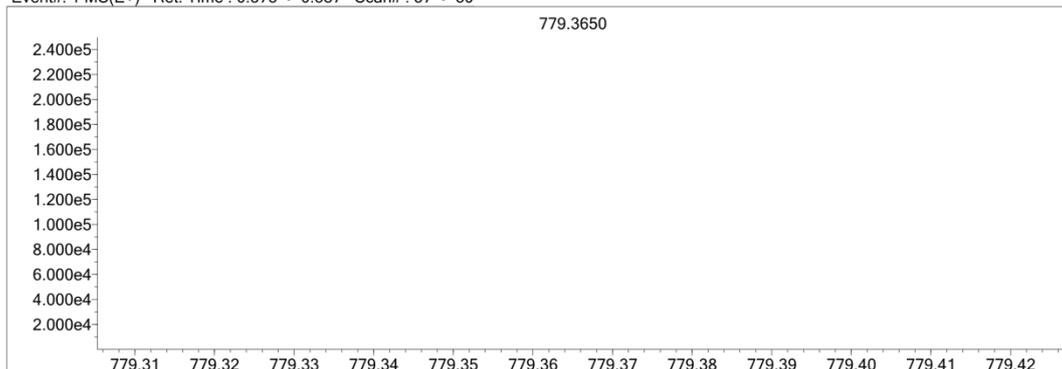
Elmt	Val.	Min	Max	Use Adduct												
H	1	20	100	O	2	1	20	Si	4	0	0	Br	1	0	0	H
C	4	20	50	F	1	0	0	S	2	0	0	I	3	0	0	
N	3	1	10	Na	1	0	0	Cl	1	0	0					

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

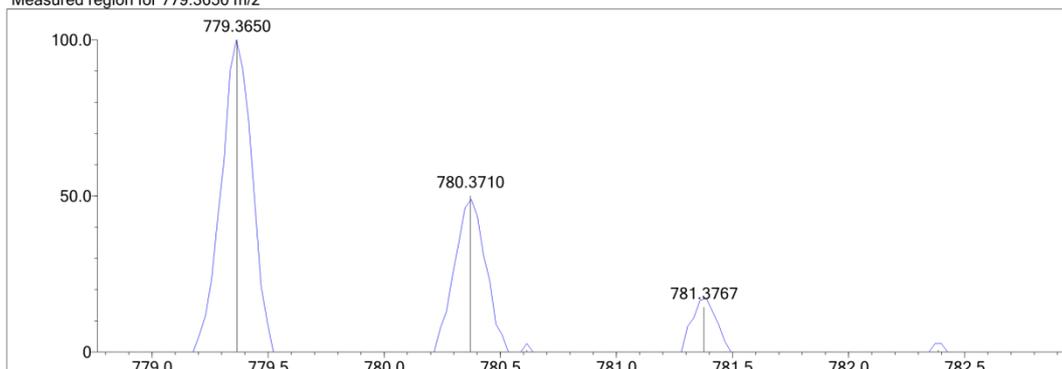
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

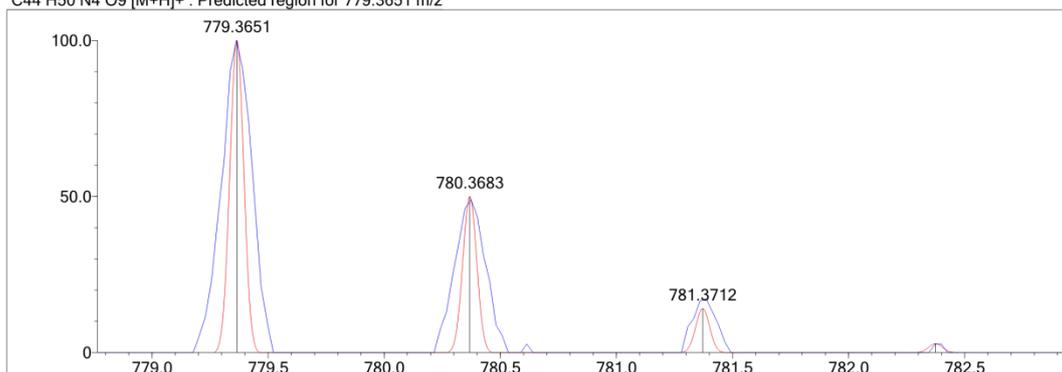
Event#: 1 MS(E+) Ret. Time : 0.373 -> 0.387 Scan# : 57 -> 59



Measured region for 779.3650 m/z



C44 H50 N4 O9 [M+H]⁺ : Predicted region for 779.3651 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H50 N4 O9	[M+H] ⁺	779.3650	779.3651	-0.1	-0.13	22.0

Figure S48 HRESIMS spectrum of compound 8

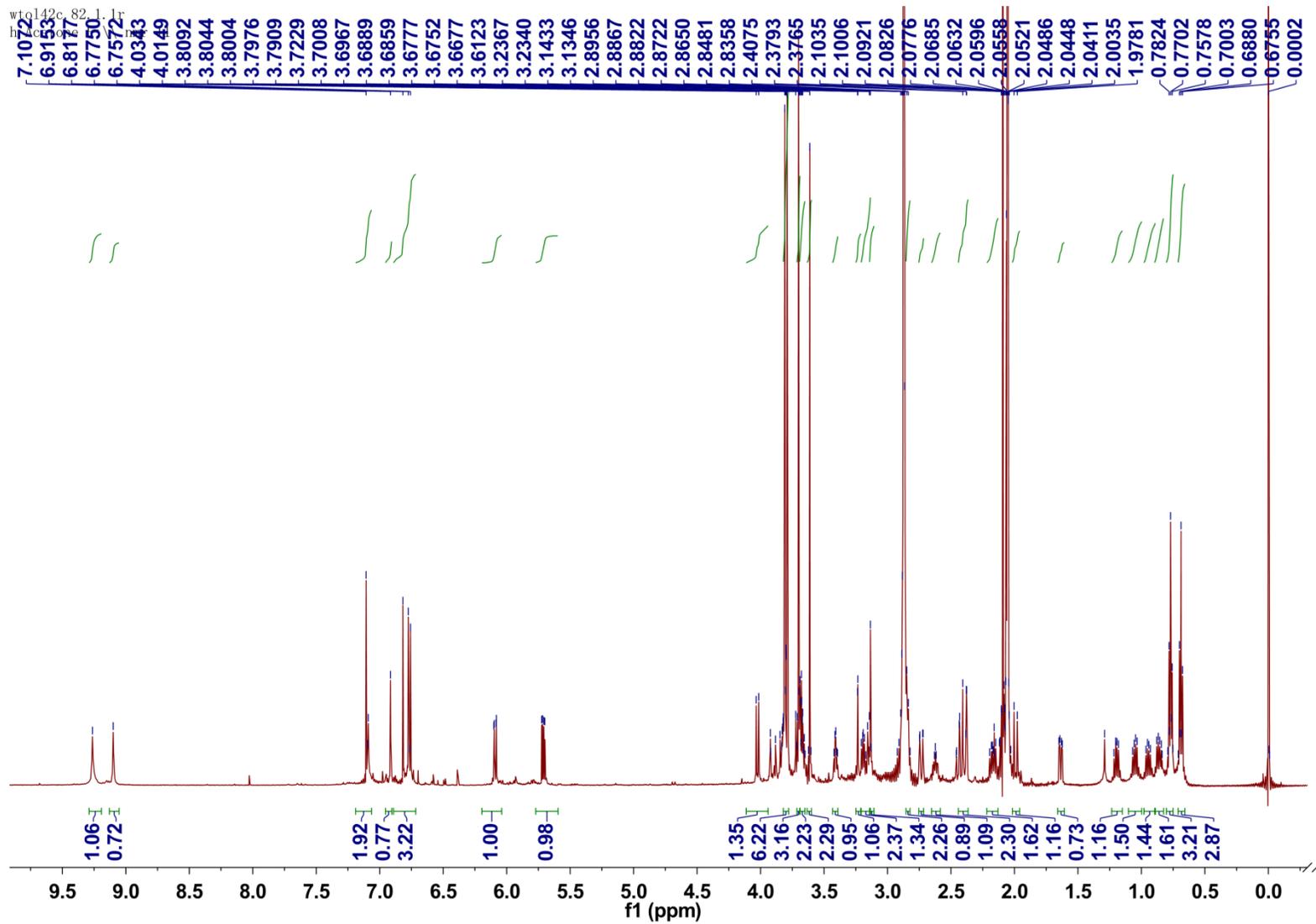
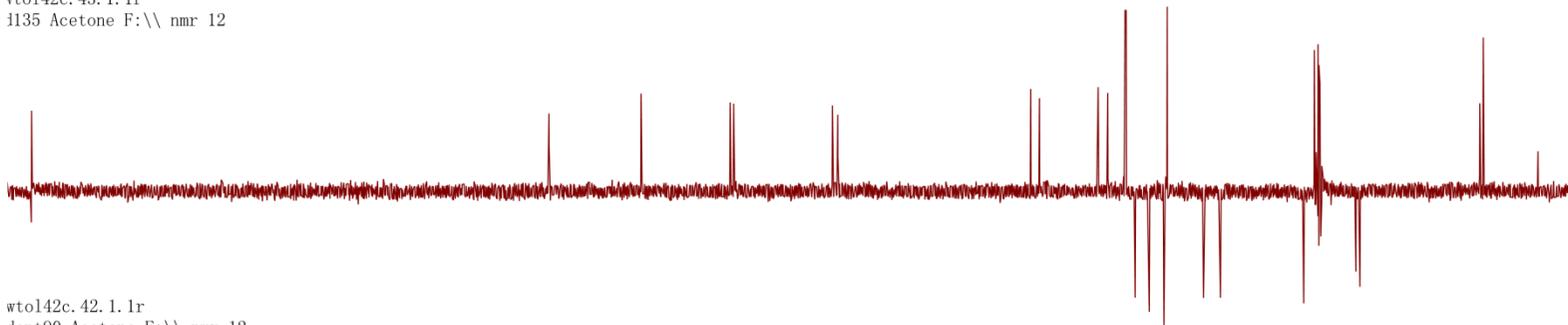


Figure S49 ¹H (600 MHz) NMR spectrum of compound **9** in acetone-*d*₆

vtol42c.43.1.1r
1135 Acetone F:\ nmr 12



wtol42c.42.1.1r
dept90 Acetone F:\ nmr 12

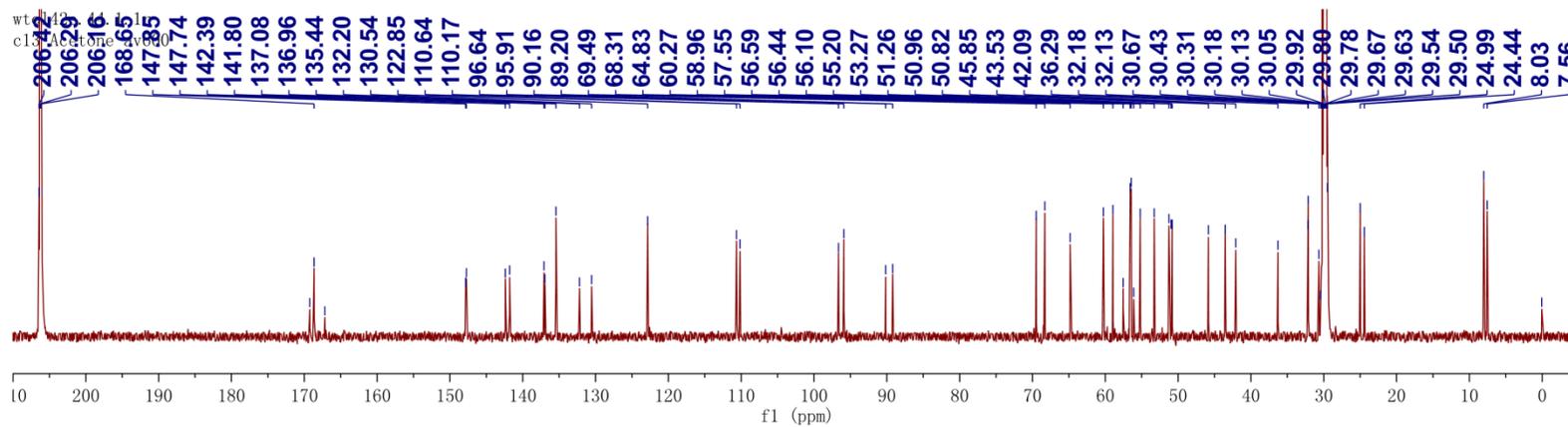
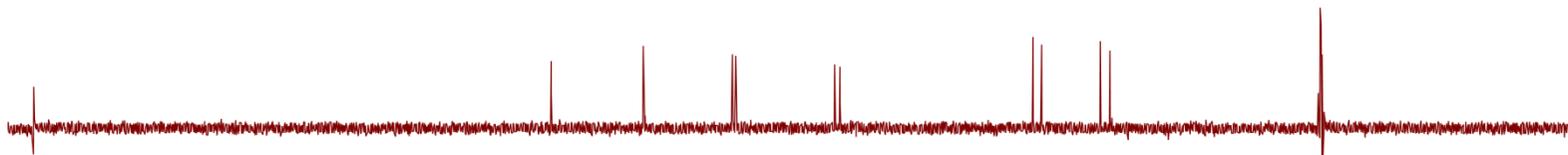


Figure S50 ^{13}C (150 MHz) NMR spectrum of compound **9** in acetone- d_6

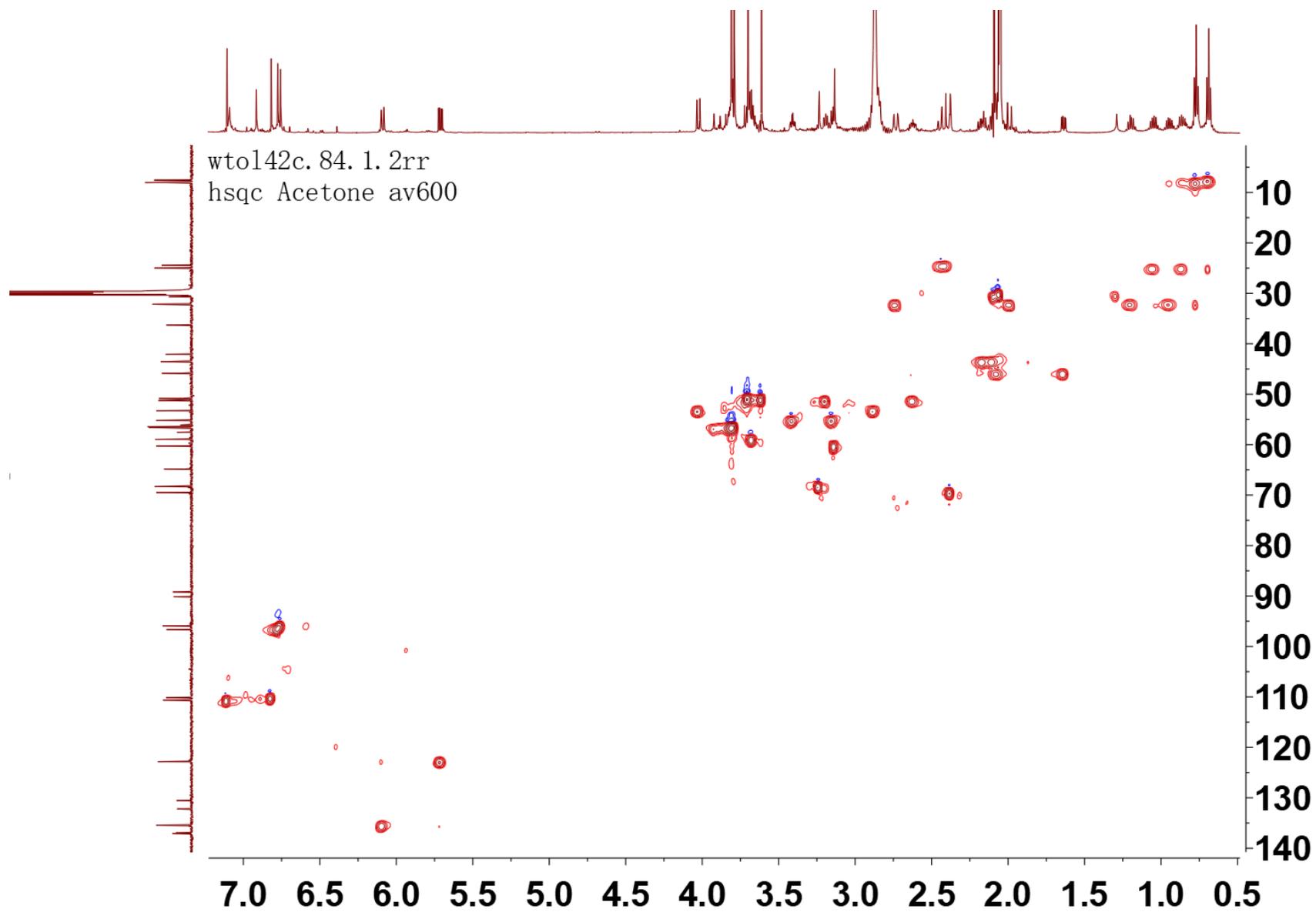


Figure S51 HSQC spectrum of compound **9** in acetone- d_6

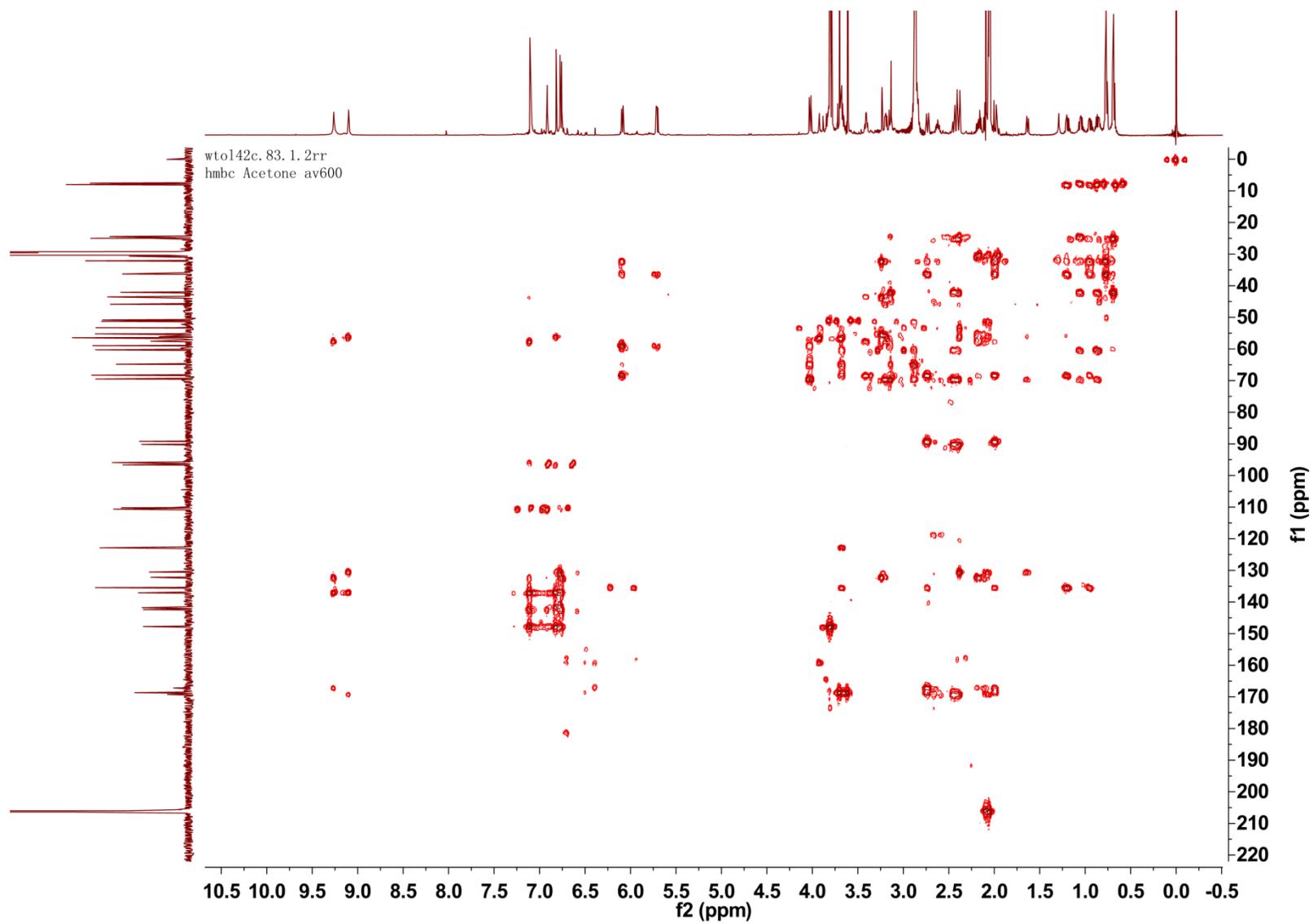


Figure S52 HMBC spectrum of **9** in acetone- d_6

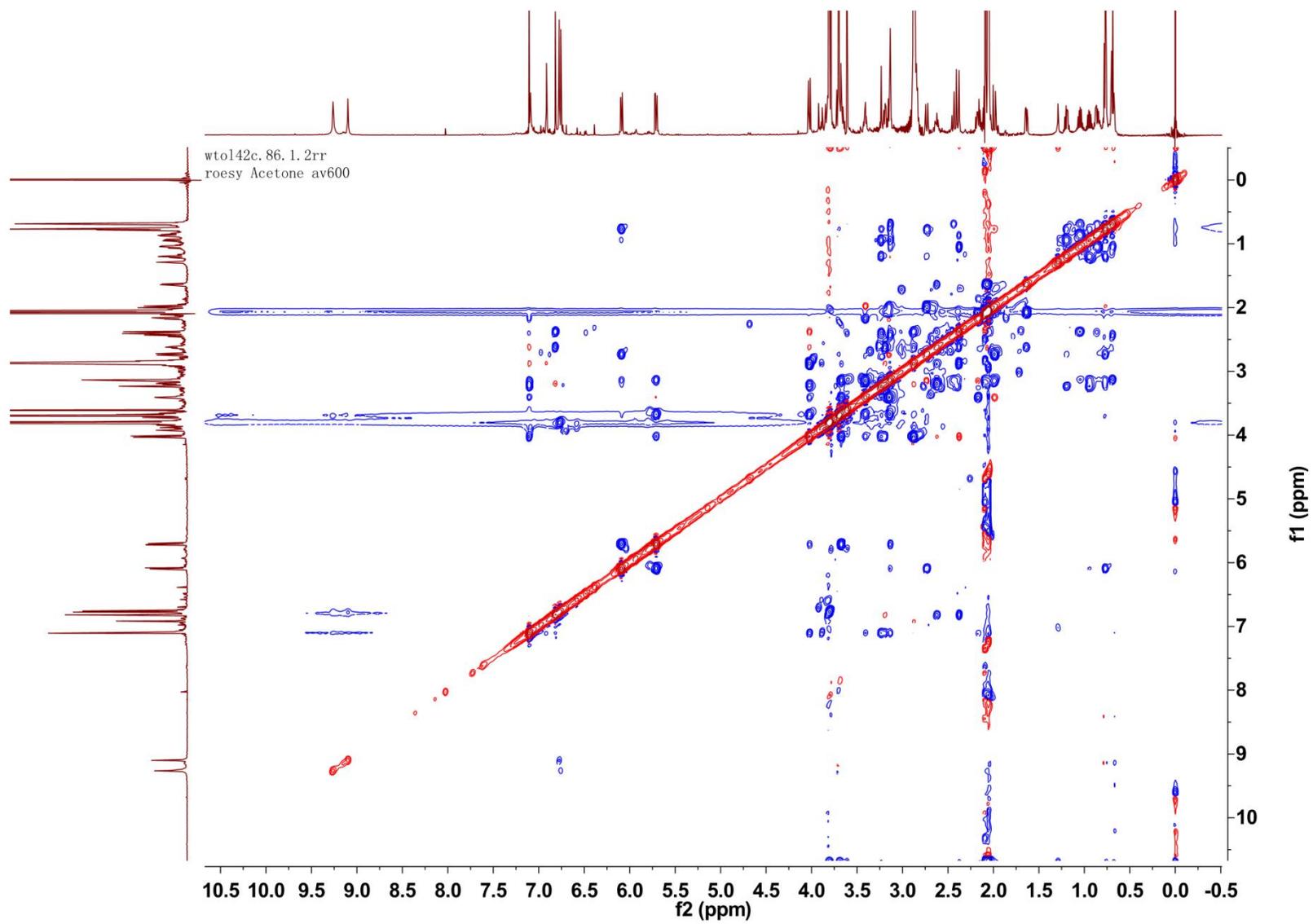


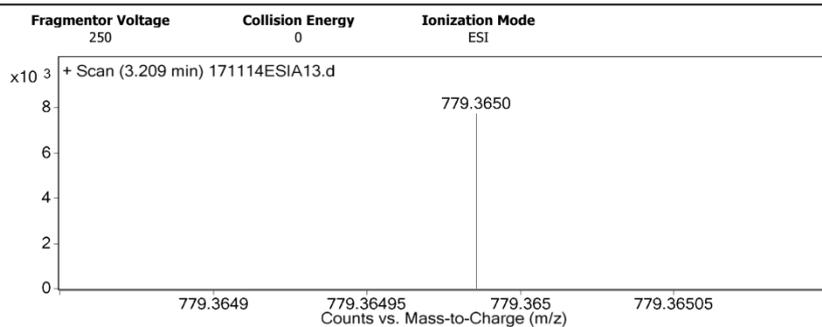
Figure S53 ROESY spectrum of **9** in acetone- d_6

Qualitative Analysis Report

Data Filename	171114ESIA13.d	Sample Name	wtol-42c
Sample Type	Sample	Position	
Instrument Name	Agilent G6230 TOF MS	User Name	KIB
Acq Method	ESI.m	Acquired Time	11/14/2017 8:16:22 AM
IRM Calibration Status	Success	DA Method	ESI.m
Comment			

Sample Group	Info.
Acquisition SW	6200 series TOF/6500 series
Version	Q-TOF B.05.01 (B5125.2)

User Spectra



Peak List

m/z	z	Abund	Formula	Ion
107.0608	1	47123.31		
108.0626	1	5383.18		
121.0509	1	12607.29		
123.0914	1	13160.61		
591.496	1	5479.41		
619.5269	1	8855.18		
779.365	1	7731.87	C44 H51 N4 O9	M+
833.3344	1	4690.06		
922.0098	1	49106.07		
923.0131	1	6869.29		

Formula Calculator Element Limits

Element	Min	Max
C	0	200
H	0	400
O	5	12
N	4	4

Formula Calculator Results

Formula	CalculatedMass	Mz	Diff. (mDa)	Diff. (ppm)	DBE
C44 H51 N4 O9	779.3656	779.3650	0.6	0.8	21.5

--- End Of Report ---

Figure S54 HRESIMS spectrum of acetone-*d*₆

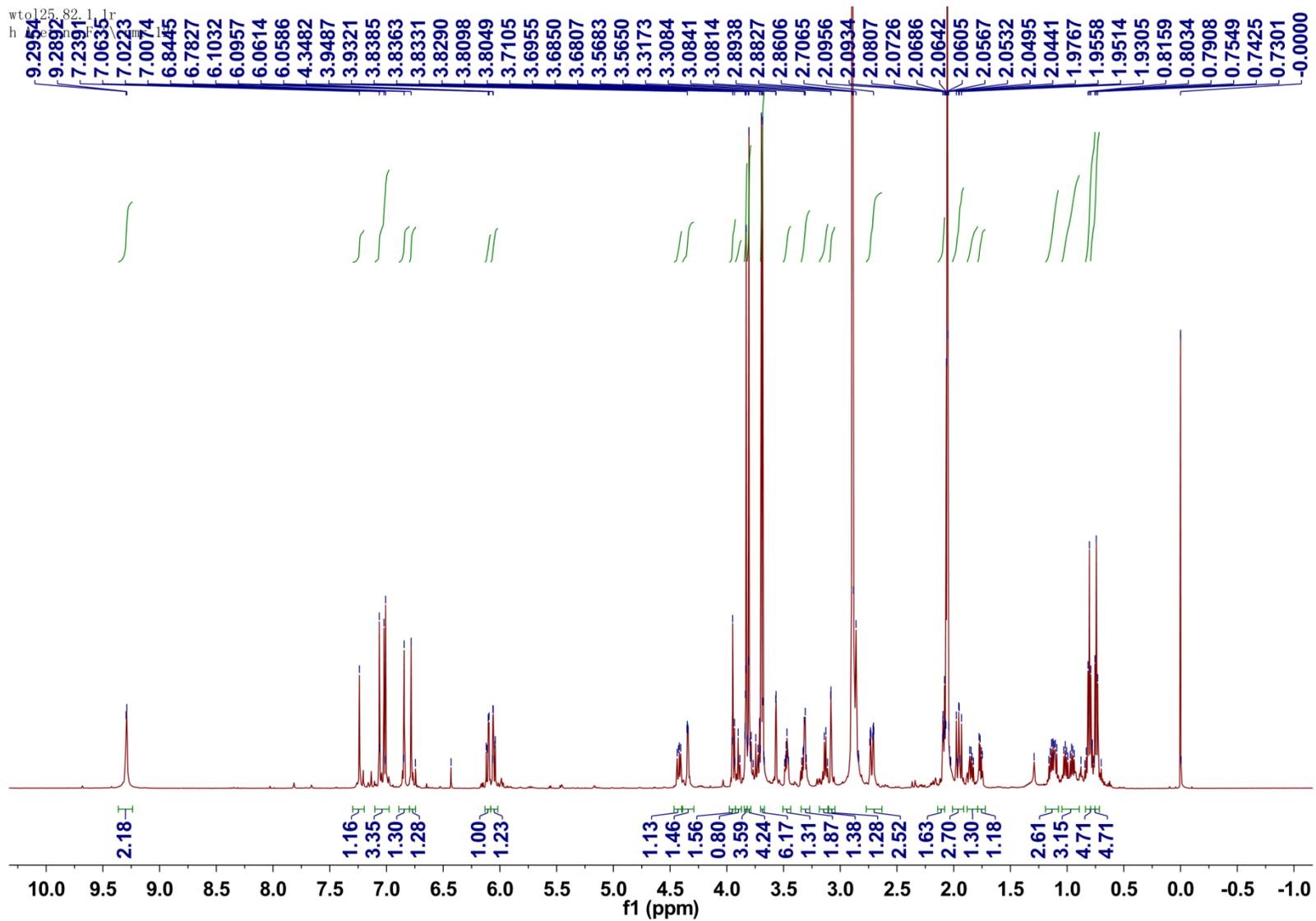
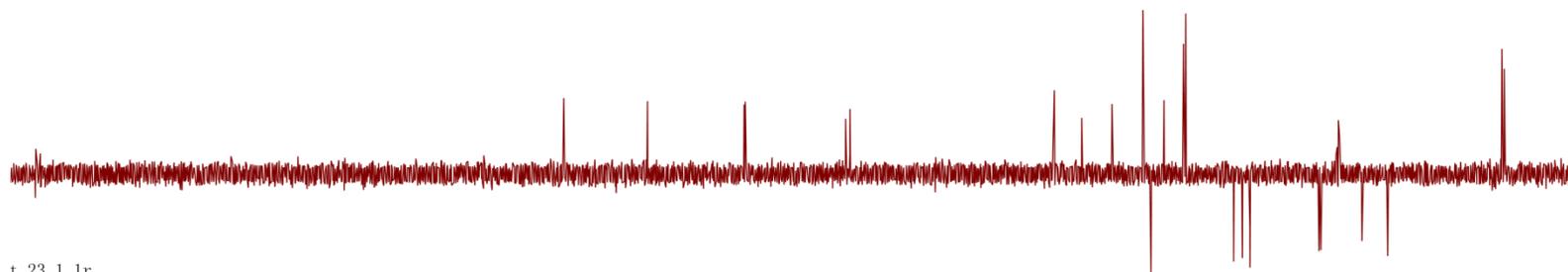


Figure S55 ^1H (600 MHz) NMR spectrum of compound **10** in acetone- d_6

t. 24. 1. 1r



t. 23. 1. 1r

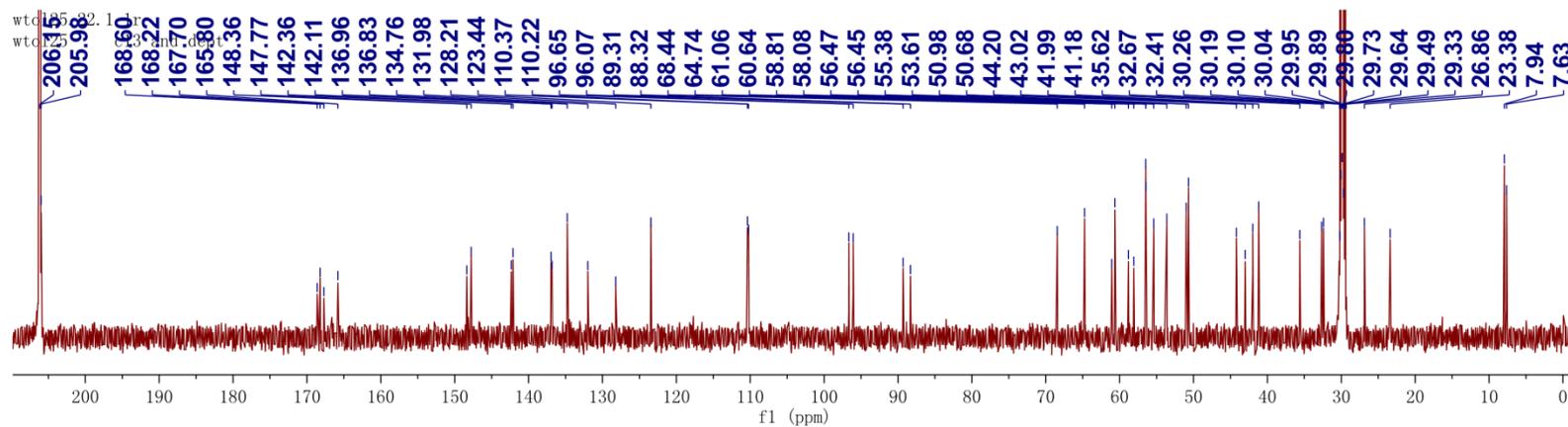
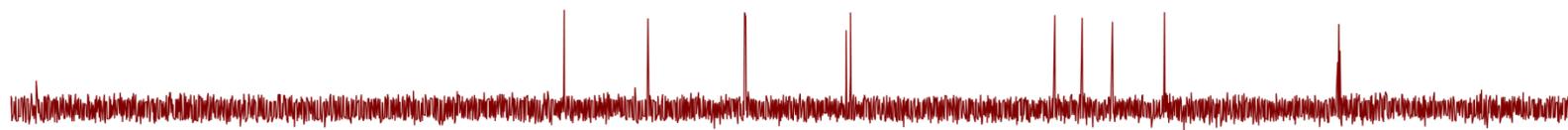


Figure S56 ^{13}C (150 MHz) NMR spectrum of compound **10** in acetone- d_6

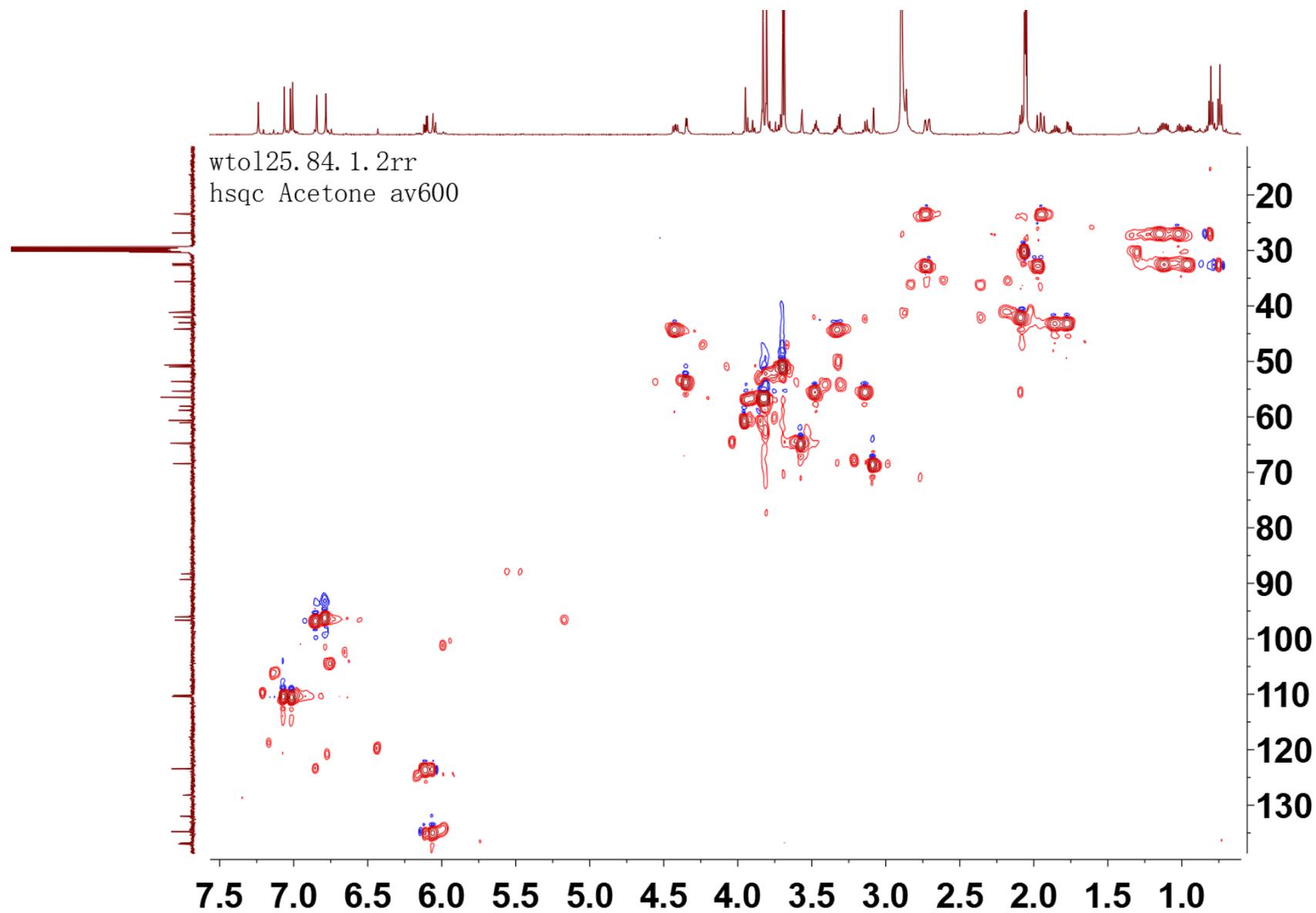


Figure S57 HSQC spectrum of compound **10** in acetone- d_6

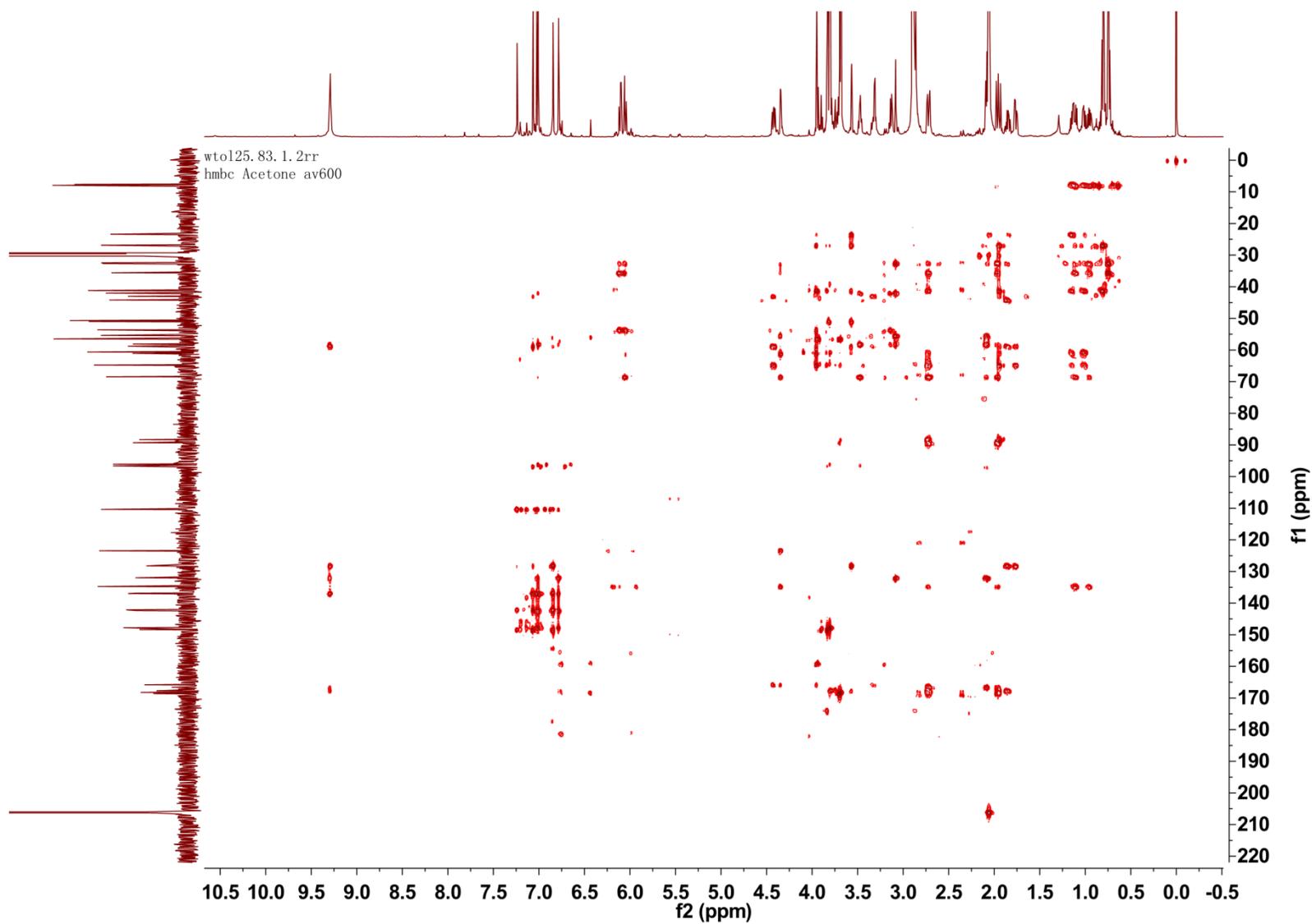


Figure S58 HMBC spectrum of compound **10** in acetone- d_6

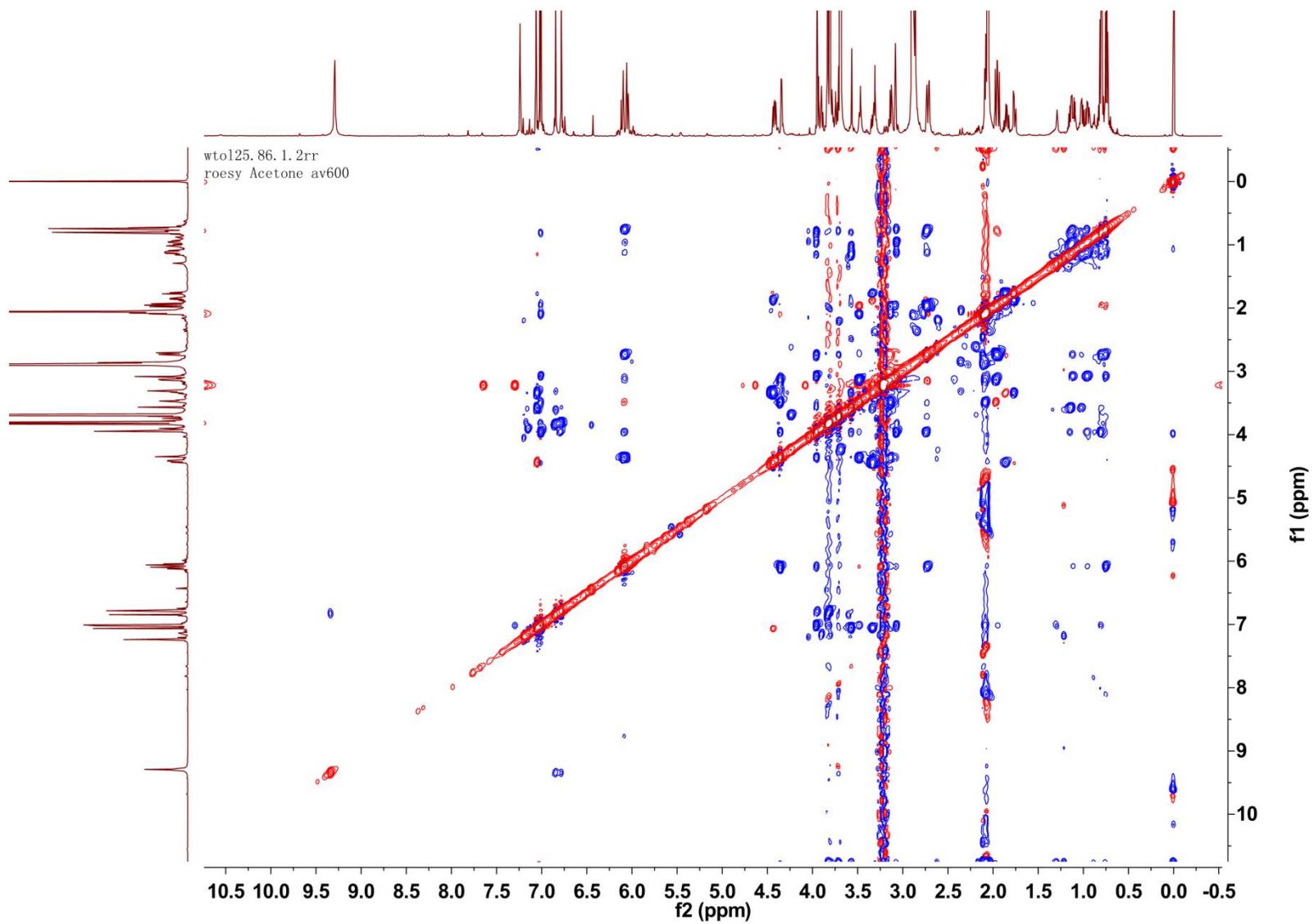


Figure S59 ROESY spectrum of compound **10** in acetone- d_6

Data File: E:\DATA\2017\0920\wtol25.lcd

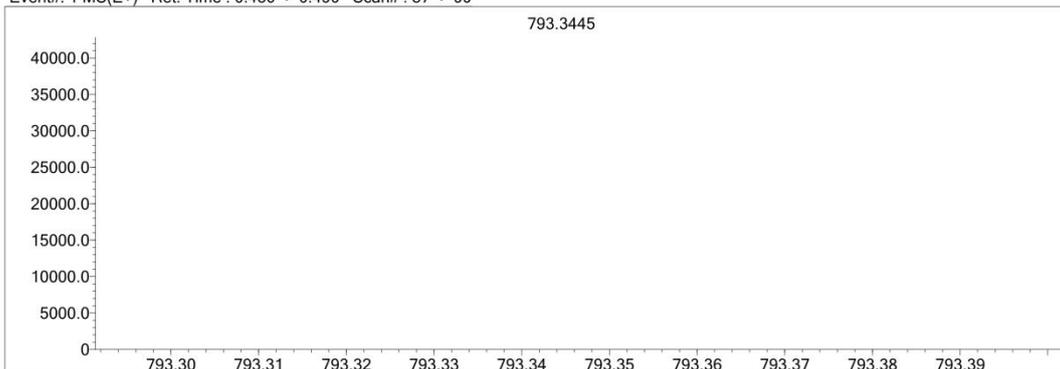
Elmt	Val.	Min	Max	Use Adduct												
H	1	20	100	O	2	1	20	Si	4	0	0	Br	1	0	0	H
C	4	20	50	F	1	0	0	S	2	0	0	I	3	0	0	
N	3	1	10	Na	1	0	0	Cl	1	0	0					

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

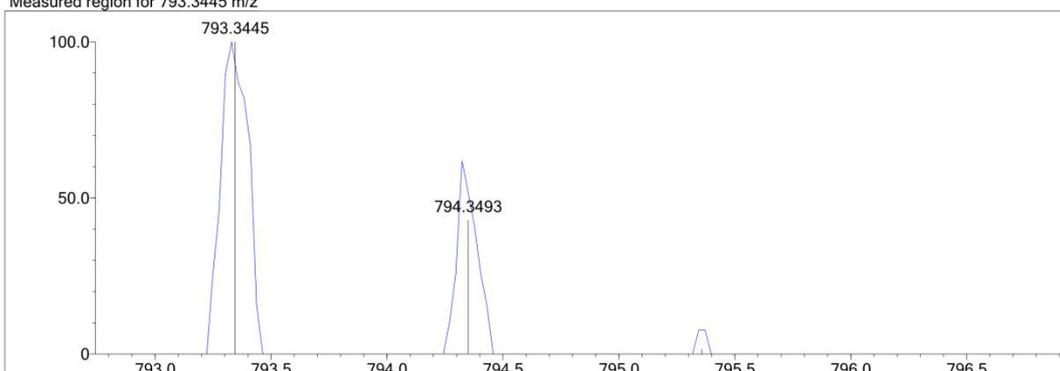
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

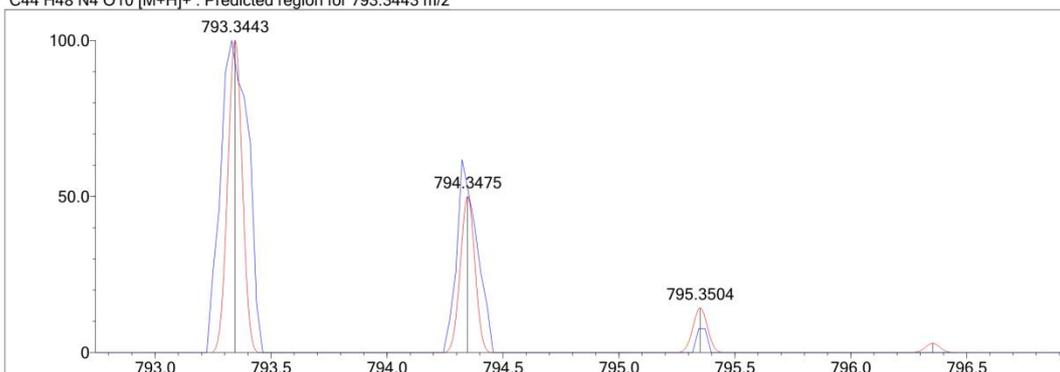
Event#: 1 MS(E+) Ret. Time : 0.430 -> 0.490 Scan# : 87 -> 99



Measured region for 793.3445 m/z



C44 H48 N4 O10 [M+H]⁺ : Predicted region for 793.3443 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H48 N4 O10	[M+H] ⁺	793.3445	793.3443	0.2	0.25	23.0

Figure S60 HRESIMS spectrum of compound 10

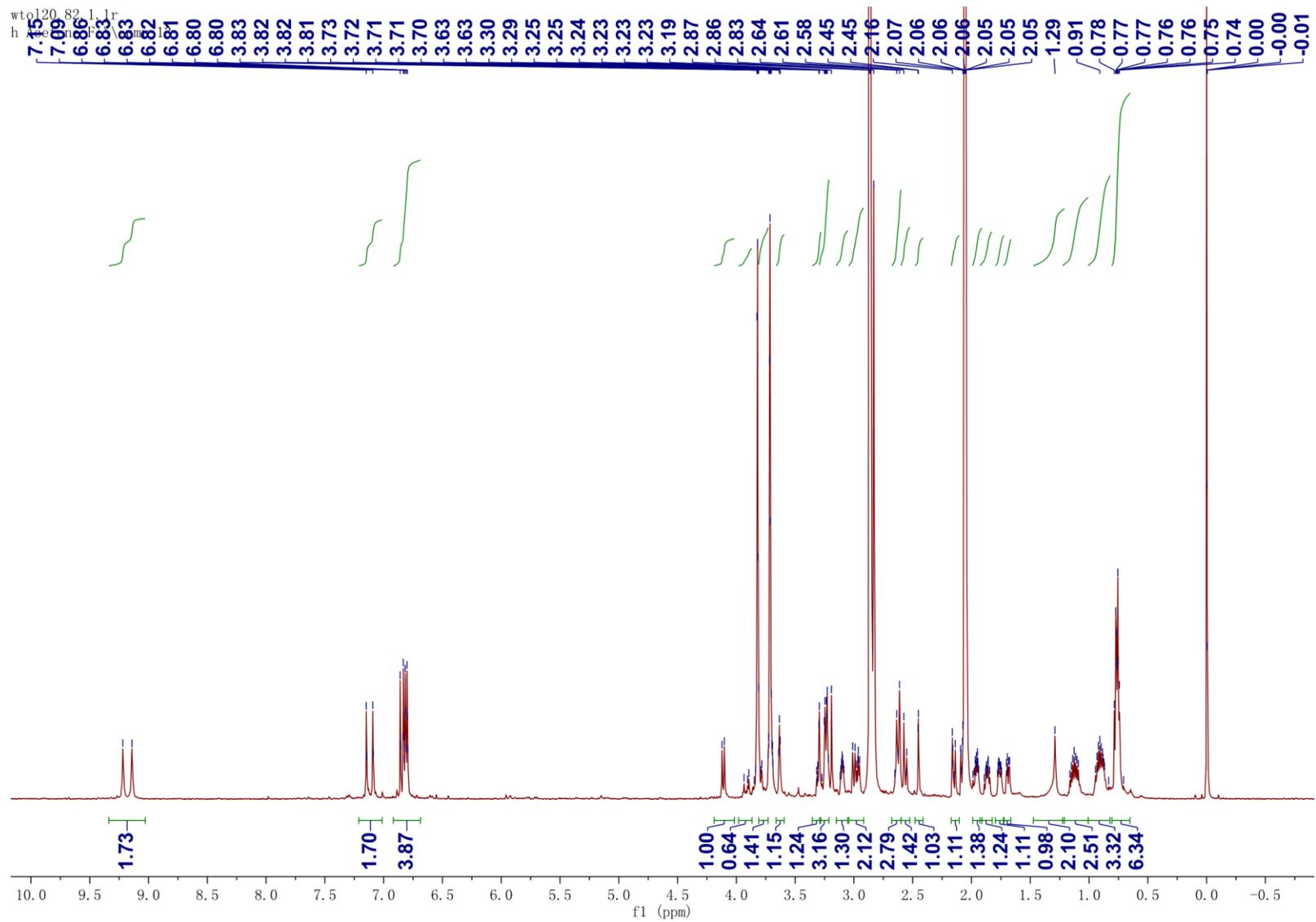
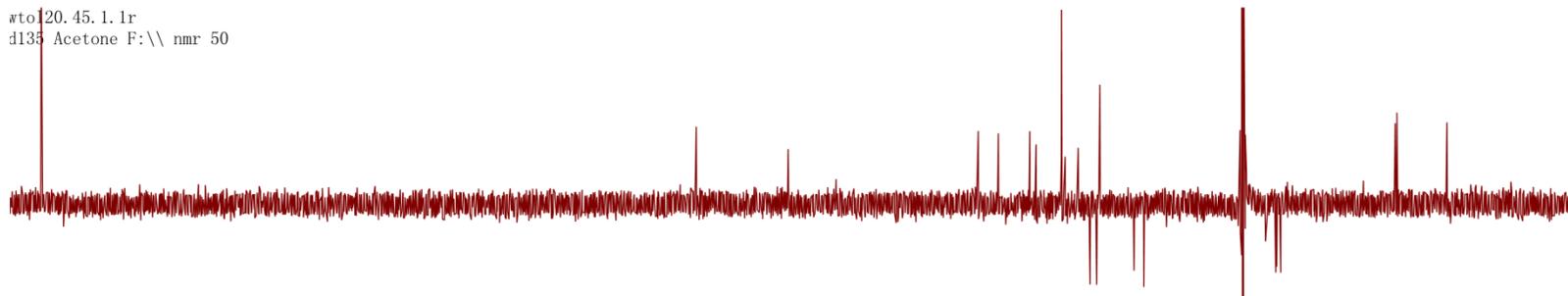


Figure S61 ^1H (600 MHz) NMR spectrum of compound **11** in acetone- d_6

wtol20.45.1.1r
d135 Acetone F:\\ nmr 50



vtol20.42.1.1r
lept90 Acetone F:\\ nmr 50

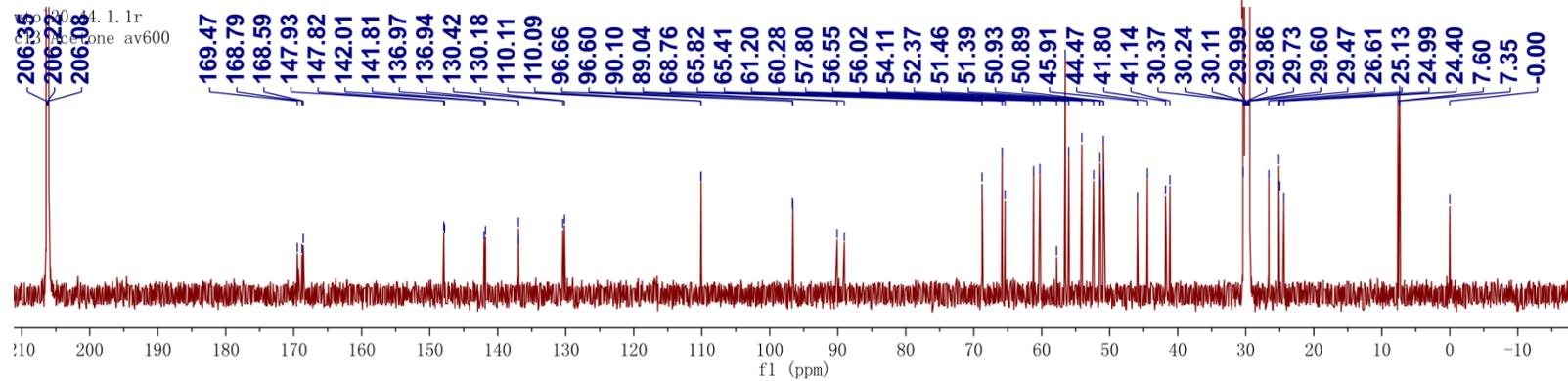
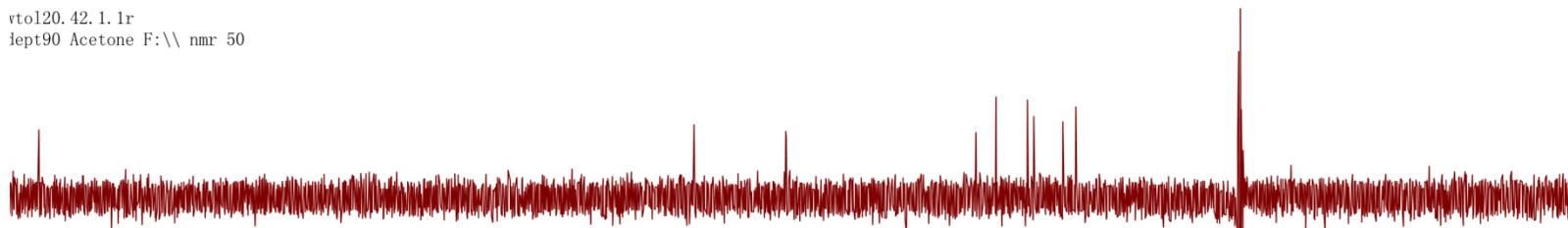


Figure S62 ¹³C (150 MHz) NMR spectrum of compound **11** in acetone-*d*₆

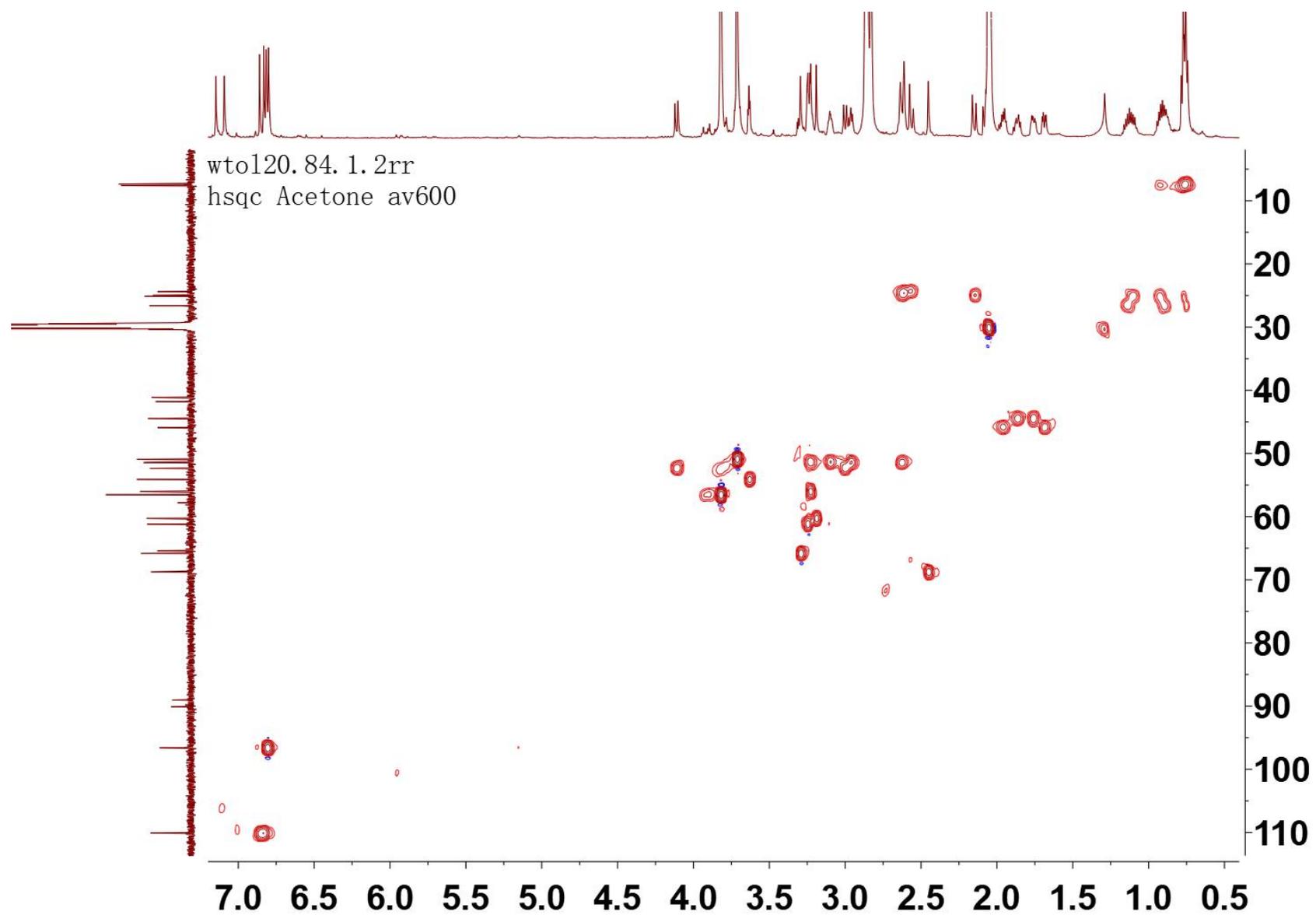


Figure S63 HSQC spectrum of compound 11 in acetone-*d*₆

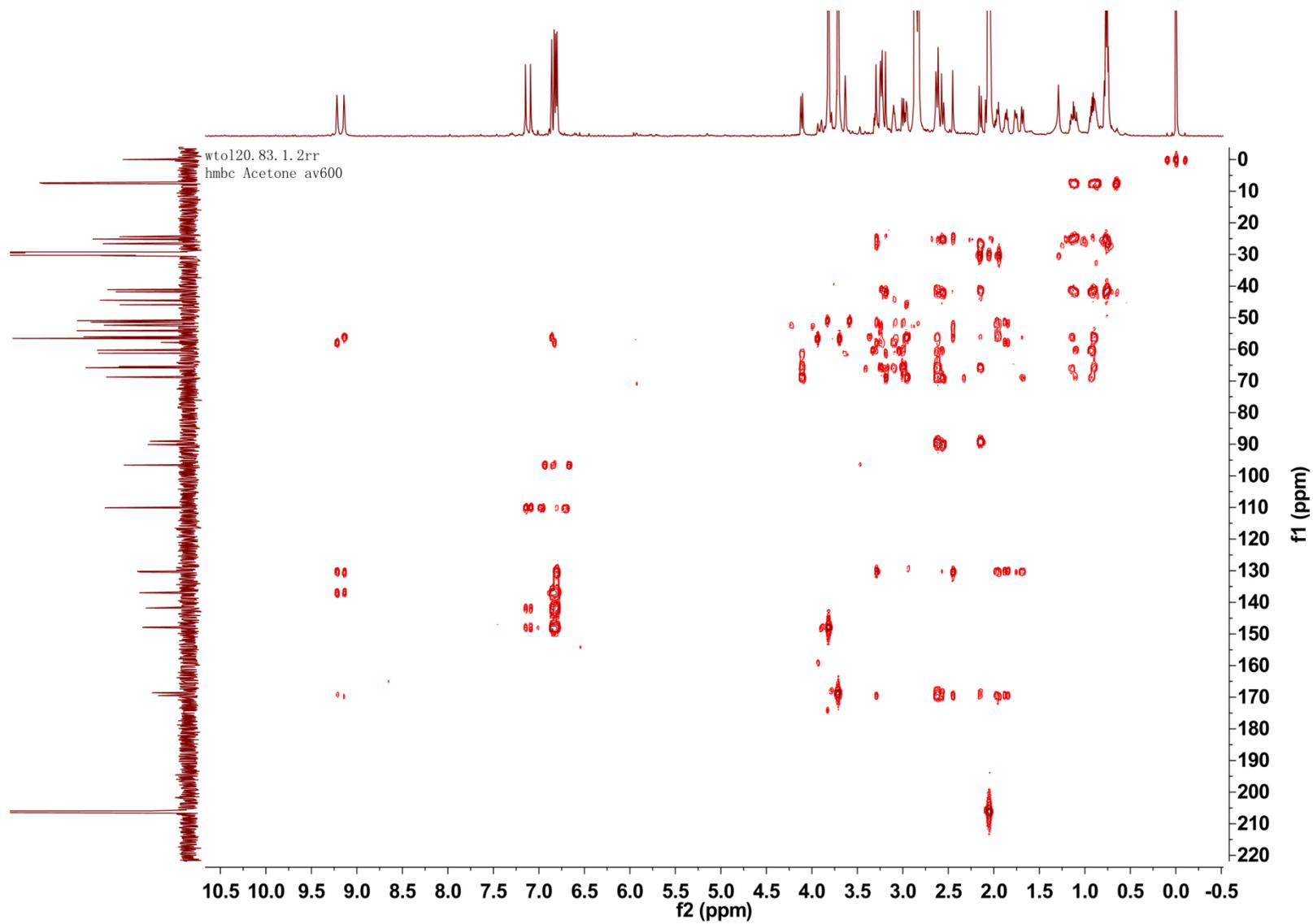


Figure S64 HMBC spectrum of compound **11** in acetone- d_6

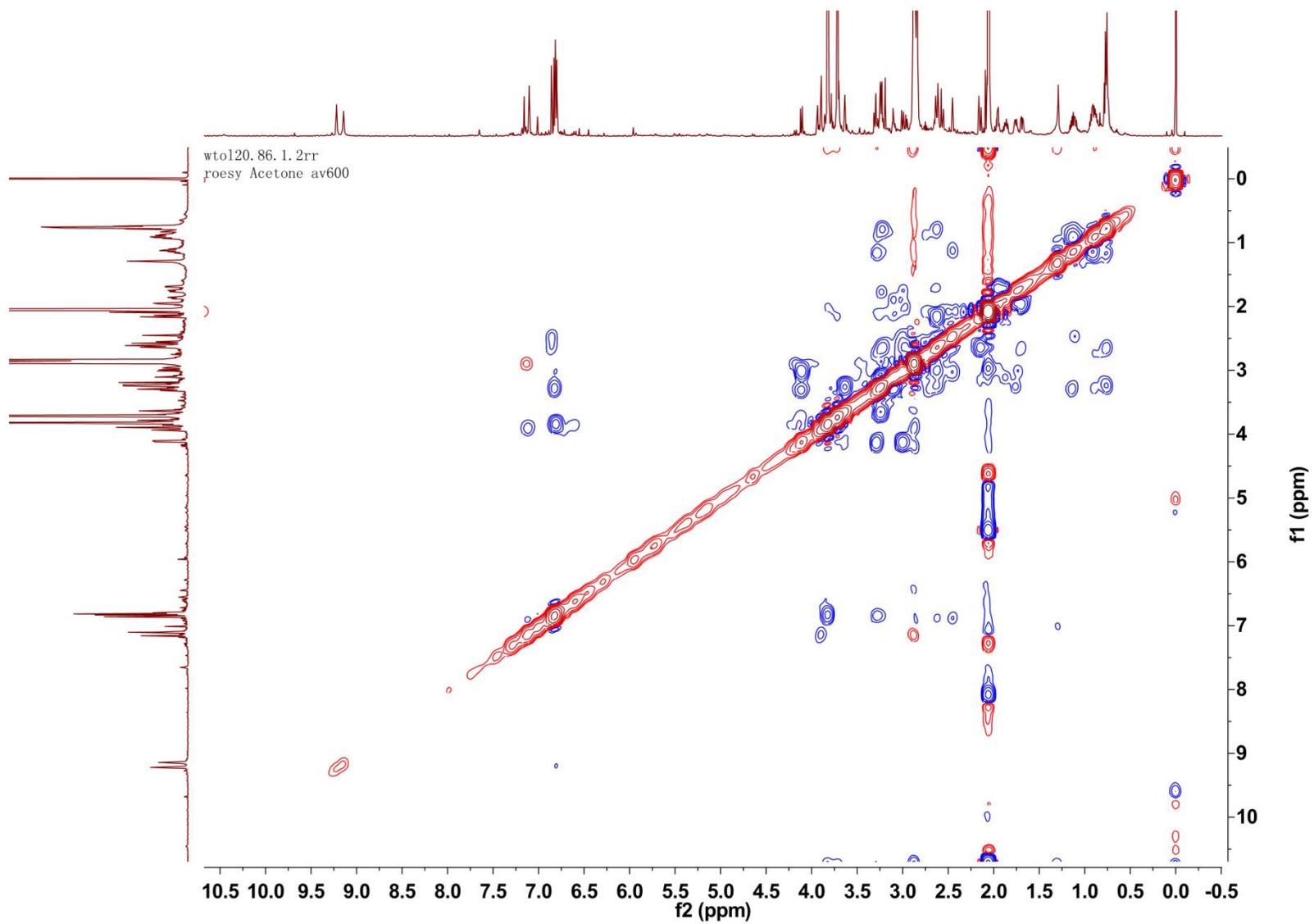


Figure S65 ROESY spectrum of compound **11** in acetone- d_6

Data File: E:\DATA\2017\0926\wtol-20.lcd

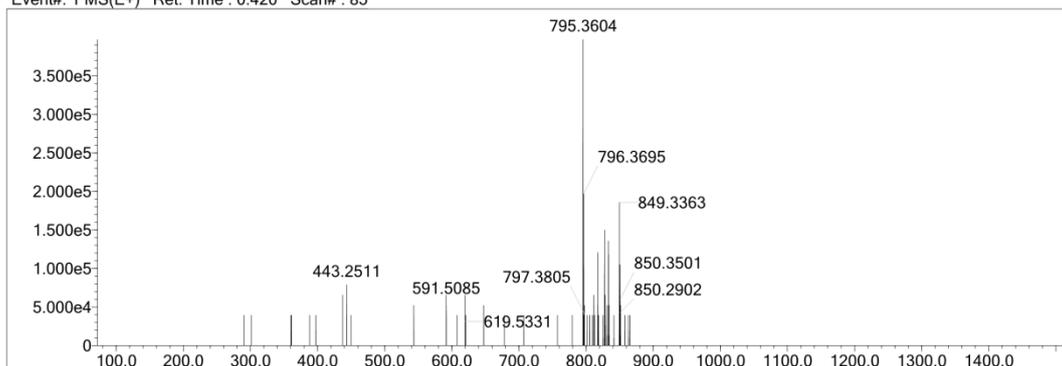
Elmt	Val.	Min	Max	Use Adduct												
H	1	40	100	N	3	0	50	Mg	2	0	0	Fe	2	0	0	H
2H	1	0	0	O	2	0	50	P	3	0	0	Br	1	0	0	
B	3	0	0	F	1	0	0	S	2	0	0	I	3	0	0	
C	4	40	100	Na	1	0	0	Cl	1	0	0	Pt	2	0	0	

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

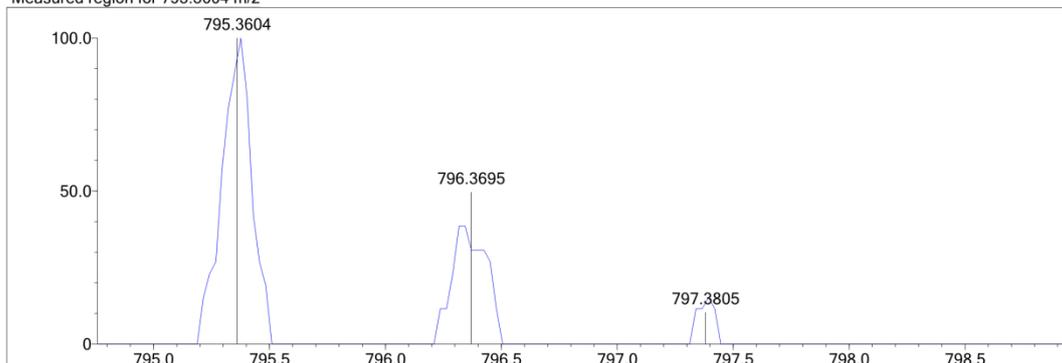
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: AND

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

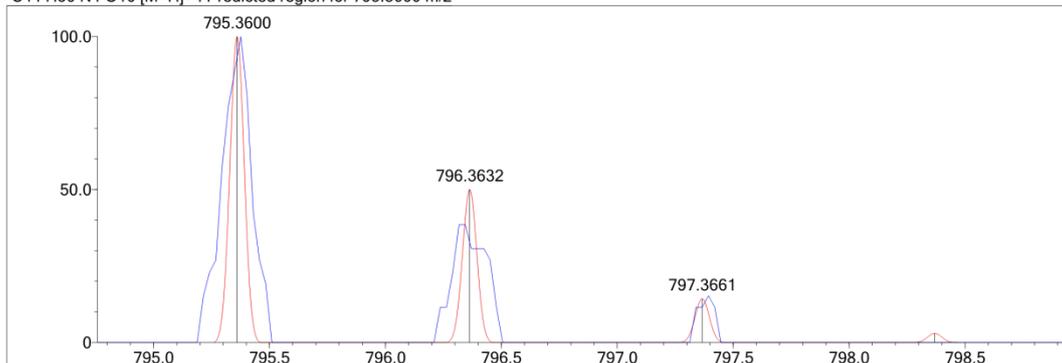
Event#: 1 MS(E+) Ret. Time : 0.420 Scan#: 85



Measured region for 795.3604 m/z



C44 H50 N4 O10 [M+H]⁺ : Predicted region for 795.3604 m/z



Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C44 H50 N4 O10	[M+H] ⁺	795.3604	795.3600	0.4	0.50	22.0

Figure S66 HRESIMS spectrum of compound 11

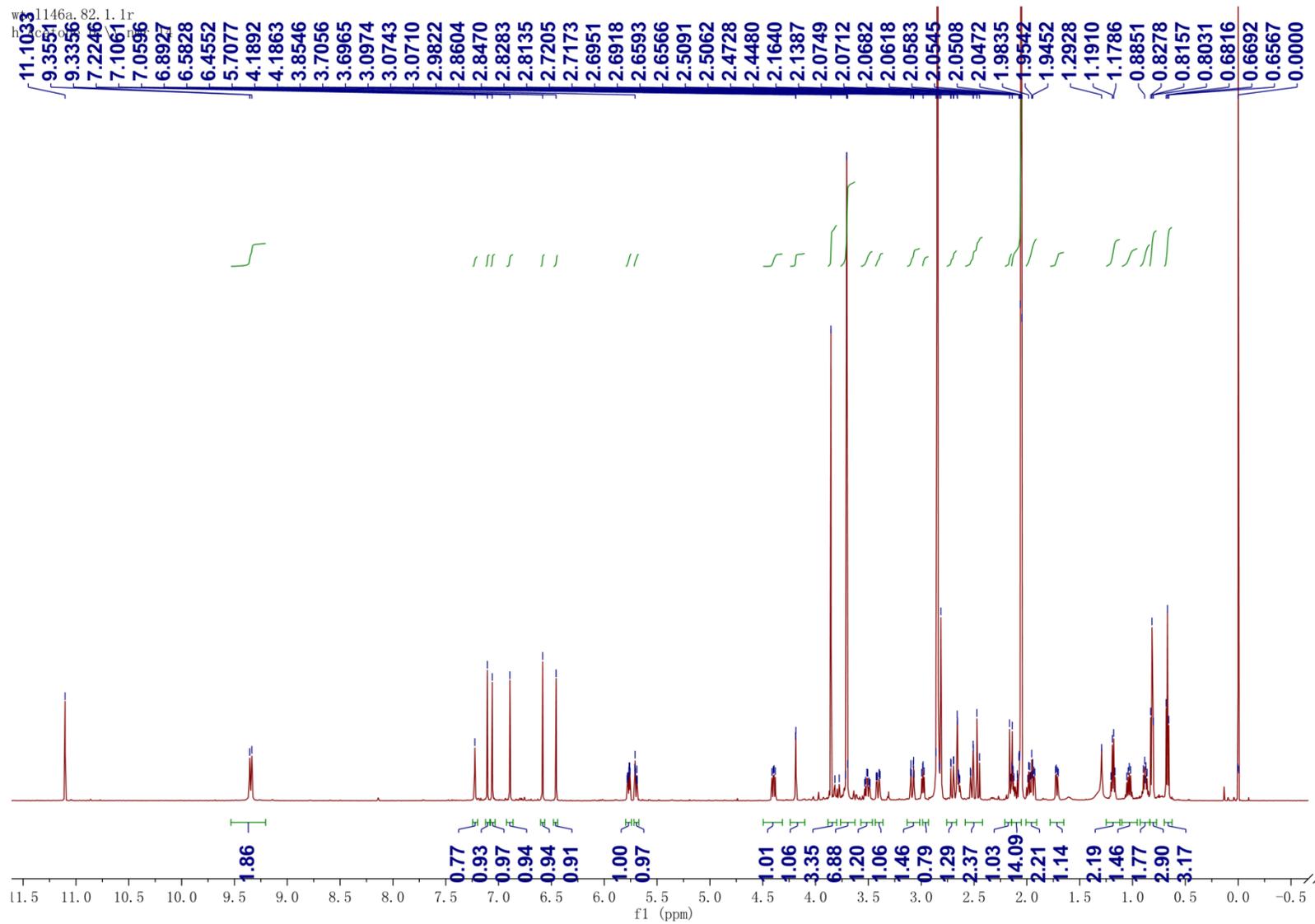
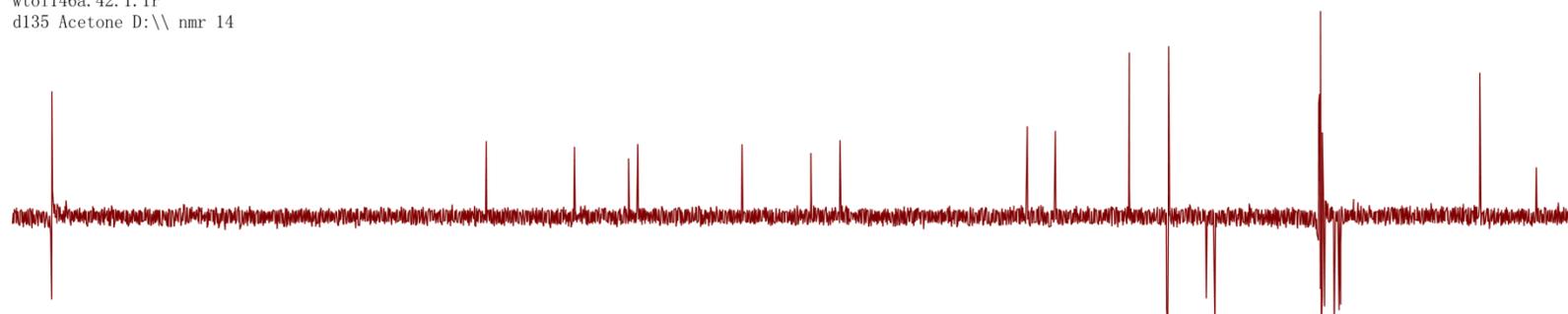


Figure S67 ^1H (600 MHz) NMR spectrum of compound **12** in acetone- d_6

wtoll146a.42.1.1r
d135 Acetone D:\\ nmr 14



wtoll146a.41.1.1r
dept90 Acetone D:\\ nmr 14

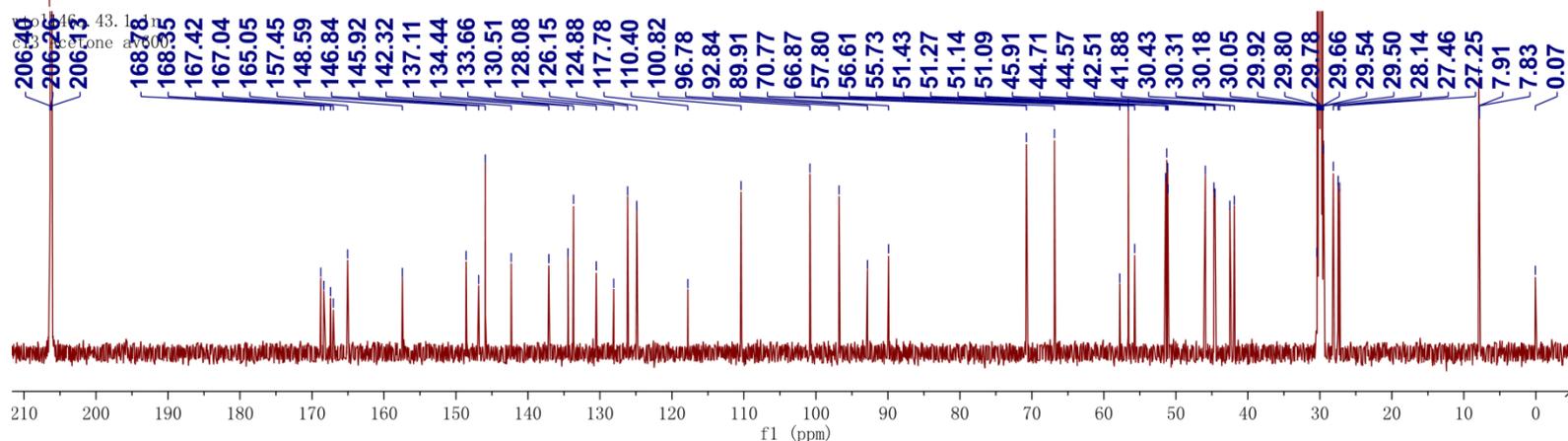
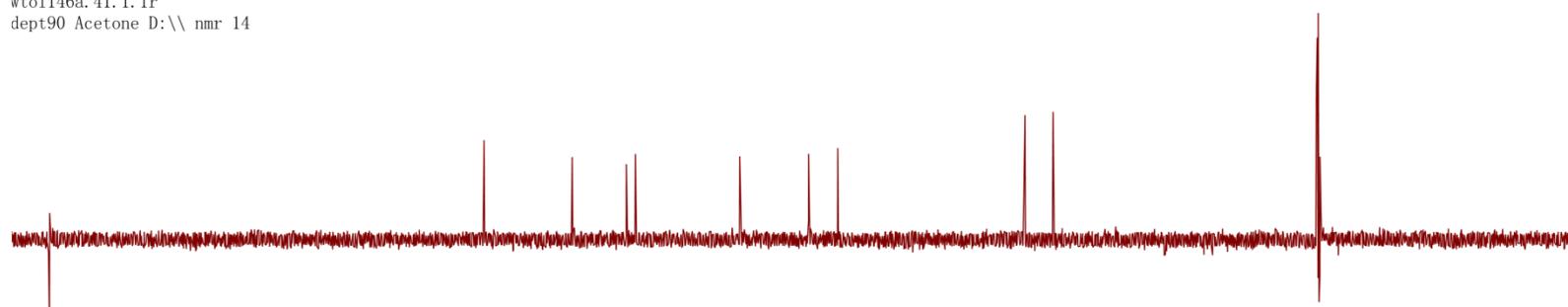


Figure S68. ^{13}C (150 MHz) NMR spectrum of compound **12** in acetone- d_6

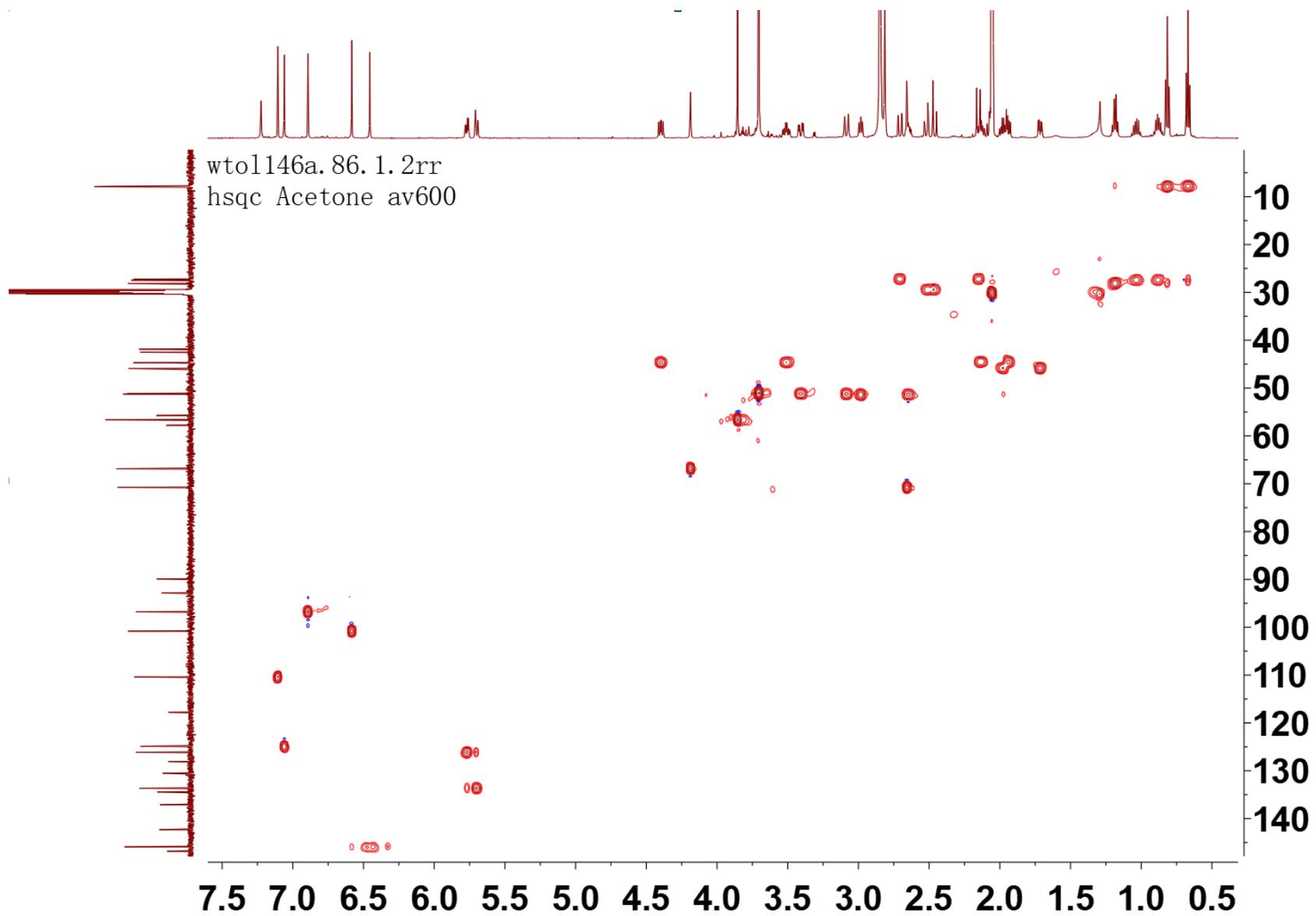


Figure S69. HSQC spectrum of compound 12 in acetone-*d*₆

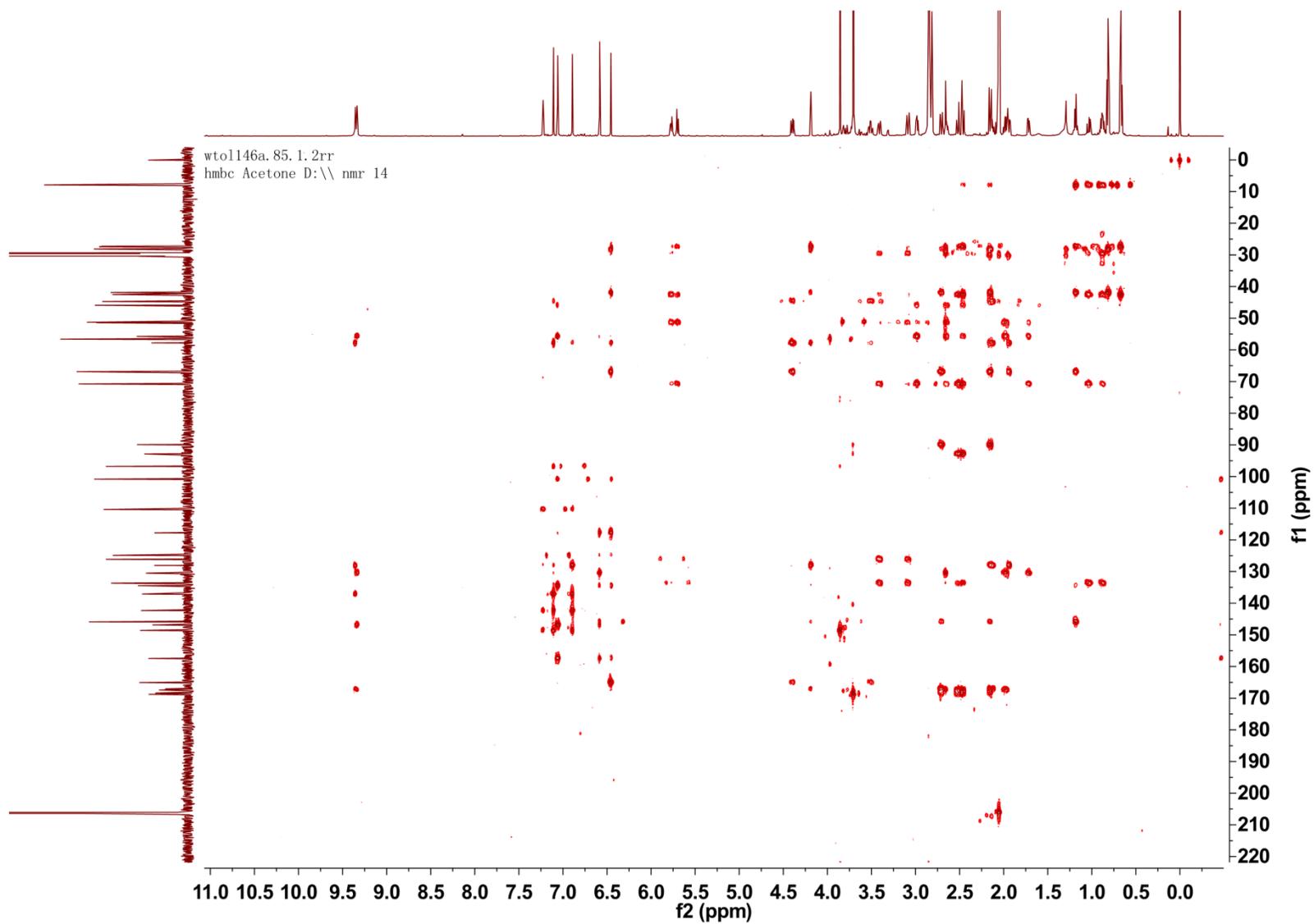


Figure S70 HMBC spectrum of compound **12** in acetone- d_6

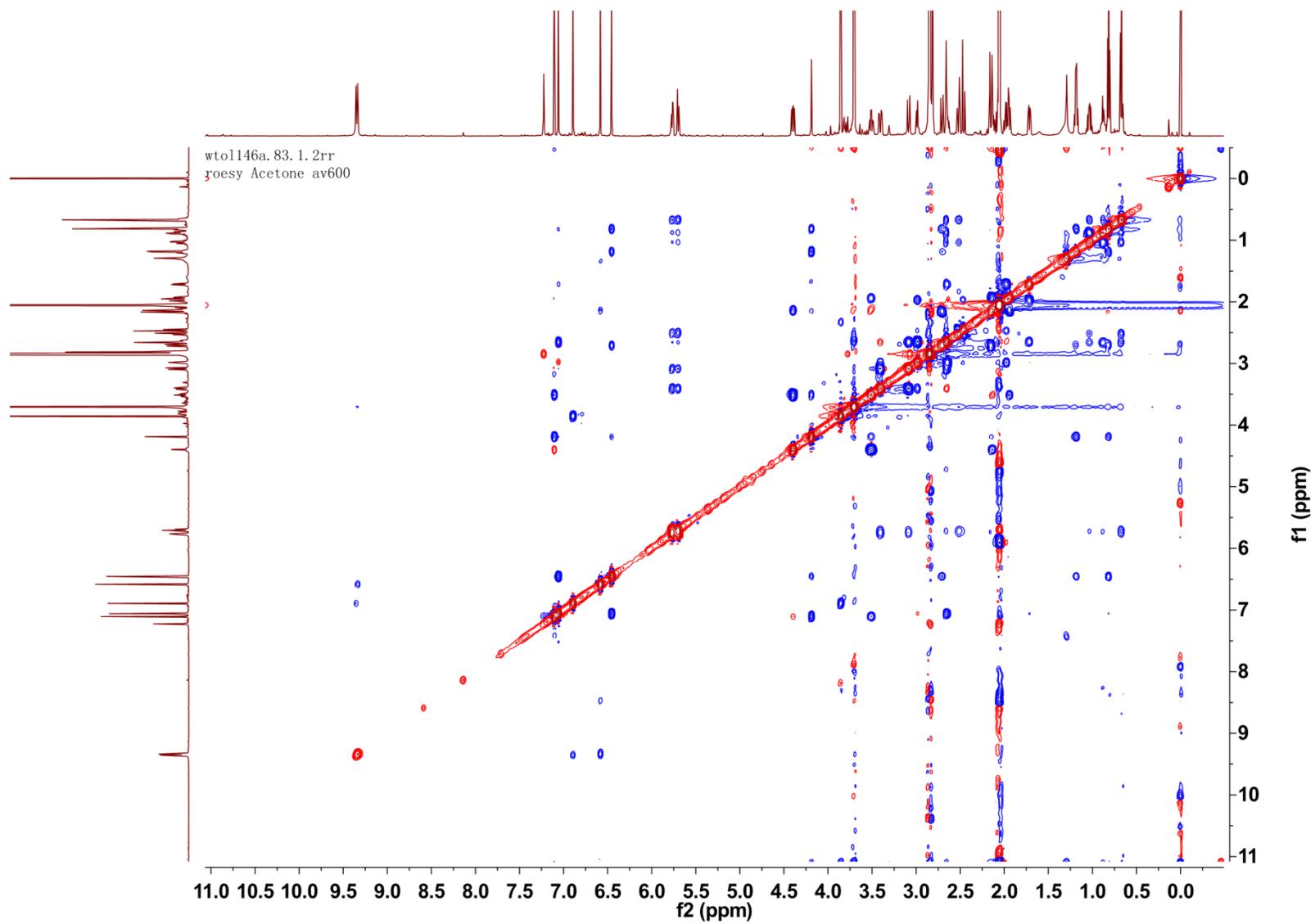


Figure S71 ROESY spectrum of compound **12** in acetone- d_6

Data File: E:\DATA\2018\0709\wtol-146a.lcd

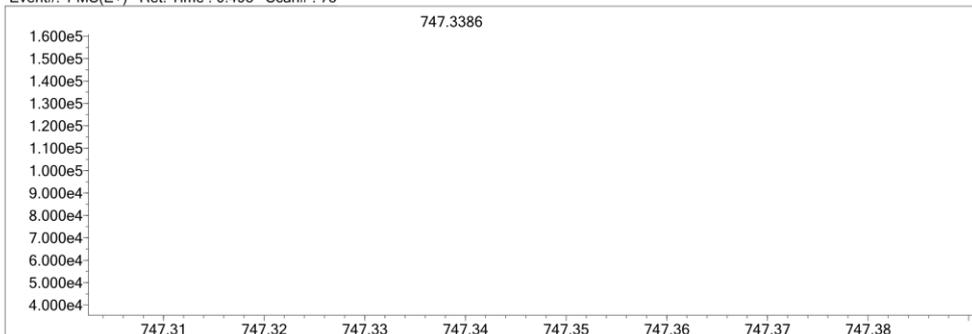
Elmt	Val.	Min	Max	Use Adduct												
H	1	5	100	F	1	0	0	S	2	0	0	Br	1	0	5	H
C	4	5	50	Na	1	0	0	Cl	1	0	5	Pd	2	0	0	Na
N	3	0	10	Mg	2	0	0	Cu	2	0	0	Ag	1	0	0	
O	2	0	10	Si	4	0	0	Se	2	0	0	I	3	0	0	

Error Margin (ppm): 5
 HC Ratio: unlimited
 Max Isotopes: all
 MSn Iso RI (%): 75.00

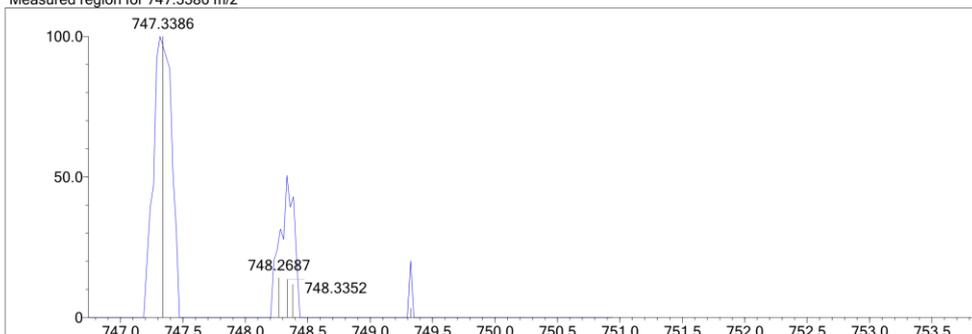
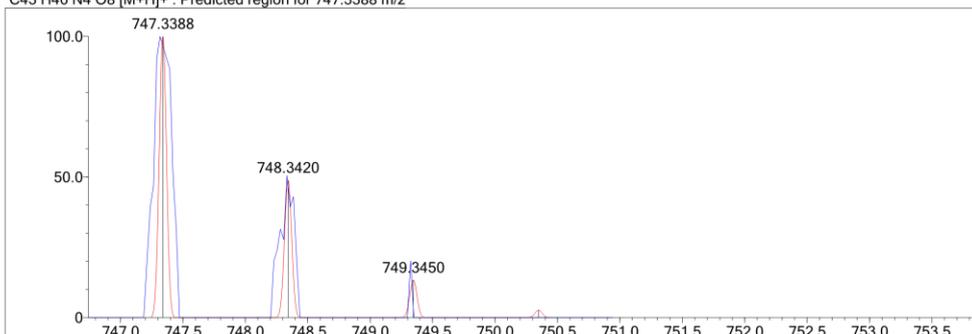
DBE Range: -2.0 - 100.0
 Apply N Rule: yes
 Isotope RI (%): 1.00
 MSn Logic Mode: OR

Electron Ions: both
 Use MSn Info: yes
 Isotope Res: 10000
 Max Results: 10

Event#: 1 MS(E+) Ret. Time : 0.493 Scan# : 75



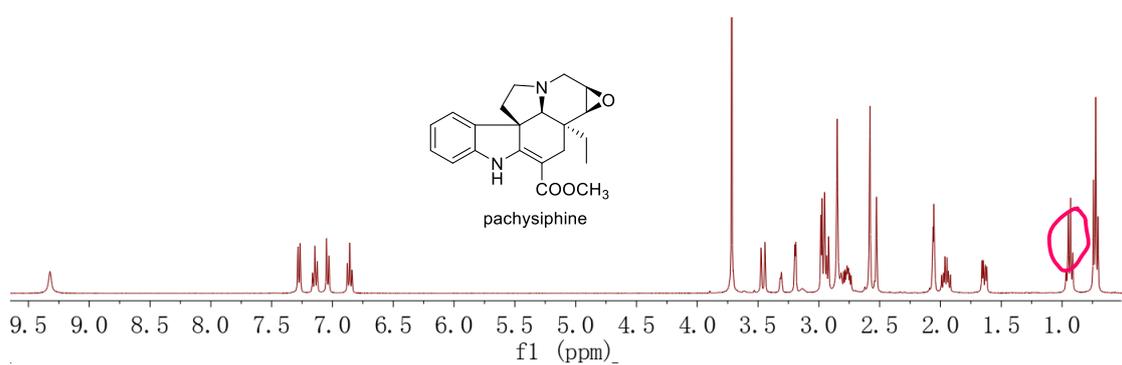
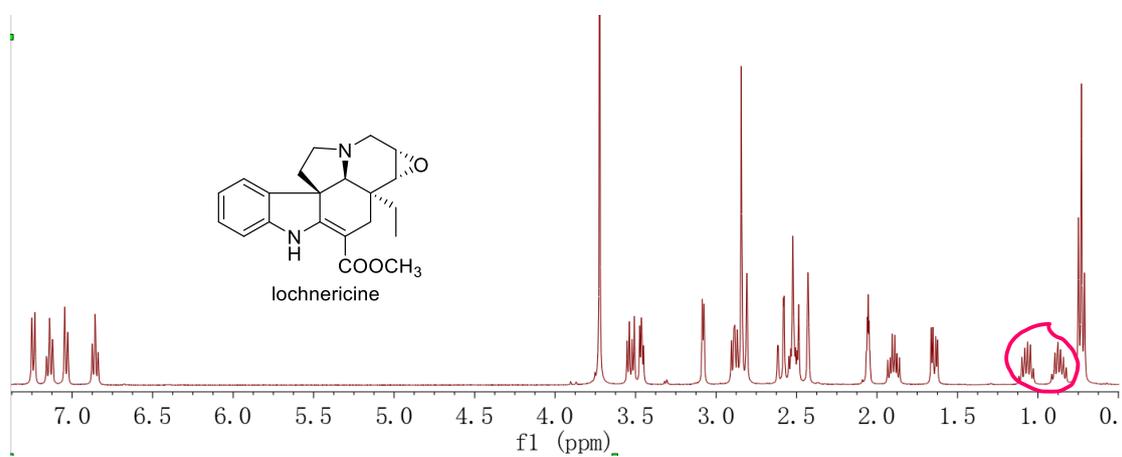
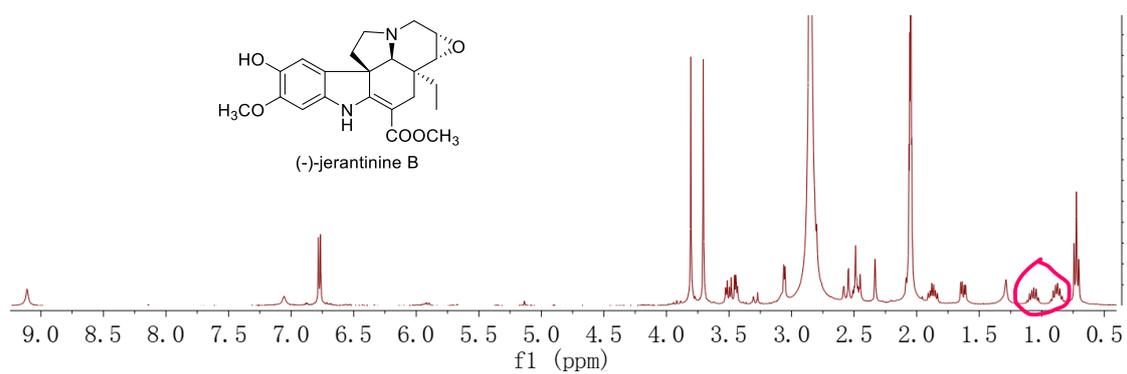
Measured region for 747.3386 m/z

C43 H46 N4 O8 [M+H]⁺ : Predicted region for 747.3388 m/z

Formula (M)	Ion	Meas. m/z	Pred. m/z	Df. (mDa)	Df. (ppm)	DBE
C43 H46 N4 O8	[M+H] ⁺	747.3386	747.3388	-0.2	-0.27	23.0

Figure S72 HRESIMS spectrum of compound 12

Figure S73 ^1H spectrum of (-)-jerantinine B, lochnericine and pachysipine



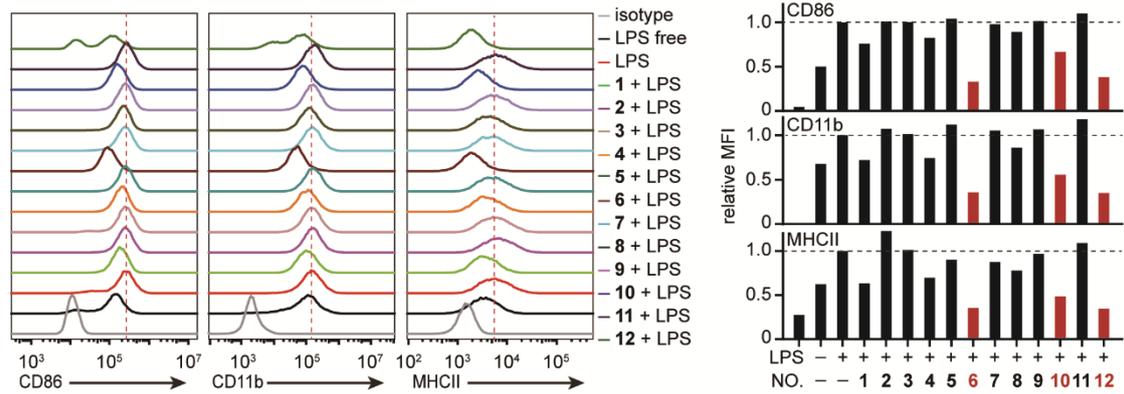


Figure S74. Screening of compounds **1** – **12** for their anti-inflammatory activity in BV2 microglia cells. FACS analysis of CD86, CD11b, MHCII expression (left) and statistical analysis of relative mean fluorescence intensity (MFI) (right). Compounds **6**, **10** and **12** show significant inhibitory activity. BV2 cells were pretreated with the compounds at the concentration of 10 μ M or vehicle (DMSO) for 4 h and then stimulated with LPS (500 ng/mL) for 12 h. The cells were stained using FITC-conjugated anti-CD86, APC-conjugated anti-CD11b, PE-conjugated anti-MHCII antibodies and further analyzed using FACS.

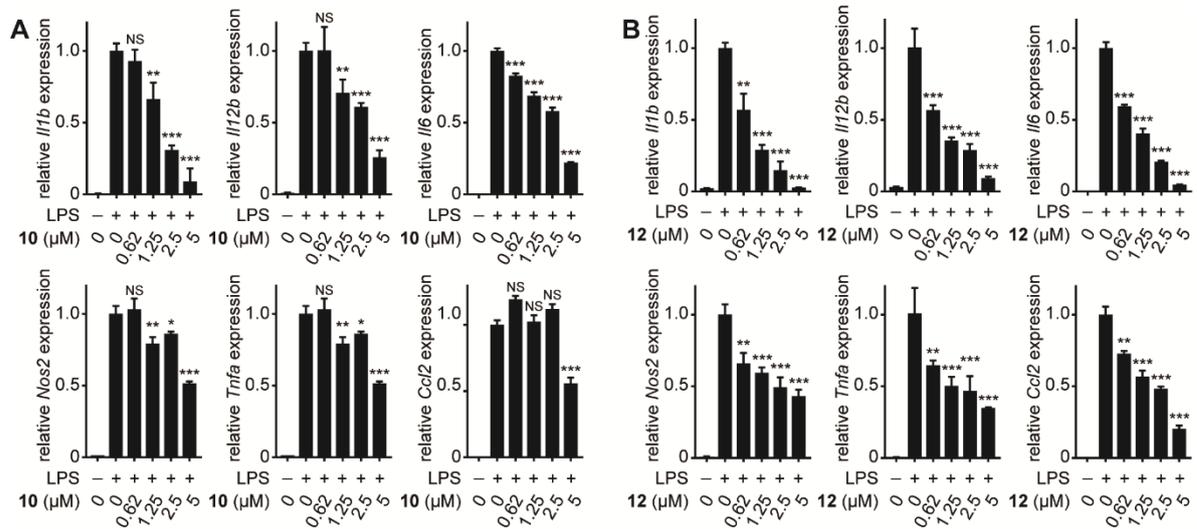


Figure S75. Compounds **10** (A) and **12** (B) inhibits inflammatory genes expression induced by LPS in BV2 cells. The cells were pretreated with the compounds at indicated concentrations for 4 h and then stimulated with LPS (500 ng/mL) for 12 h (n = 3). Data were presented as mean \pm SD. *p < 0.05, **p < 0.01, ***P < 0.001. NS, not significant.

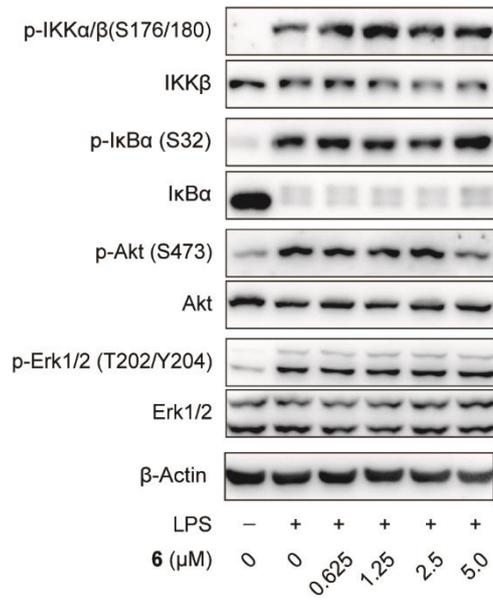


Figure S76. Immunoblotting of phosphorylated IKK α / β , I κ B α , Akt, Erk and total IKK α / β , I κ B α , Akt, Erk. BV2 cells were treated with **6** at indicated concentrations for 4 h and then stimulated with LPS (500 ng/mL) for 15 min.