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SUPPORTING INFORMATION

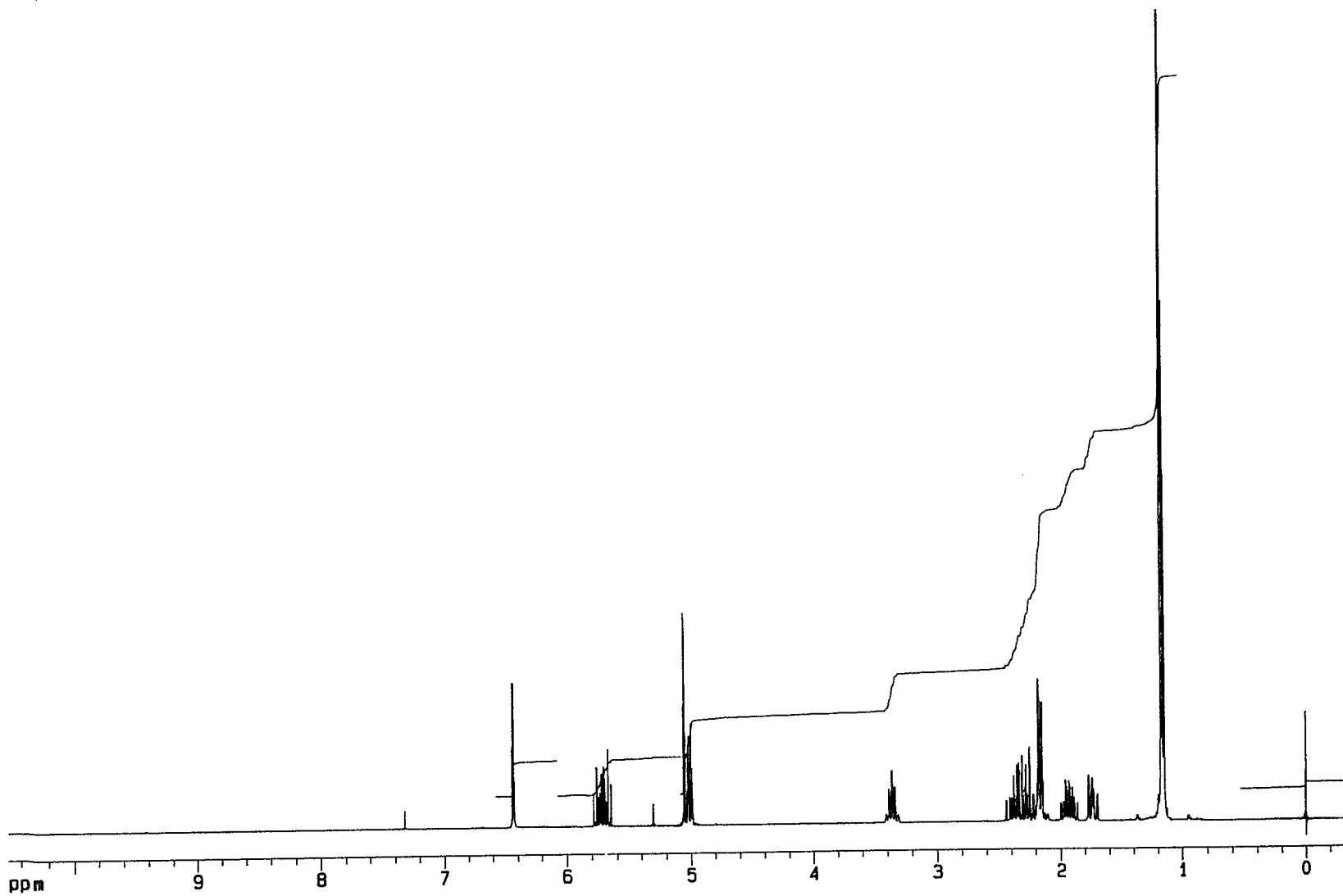
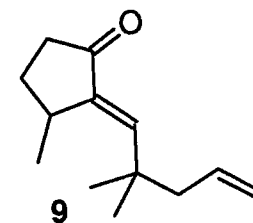
A Concise Total Synthesis of Dactylol via Ring Closing Metathesis

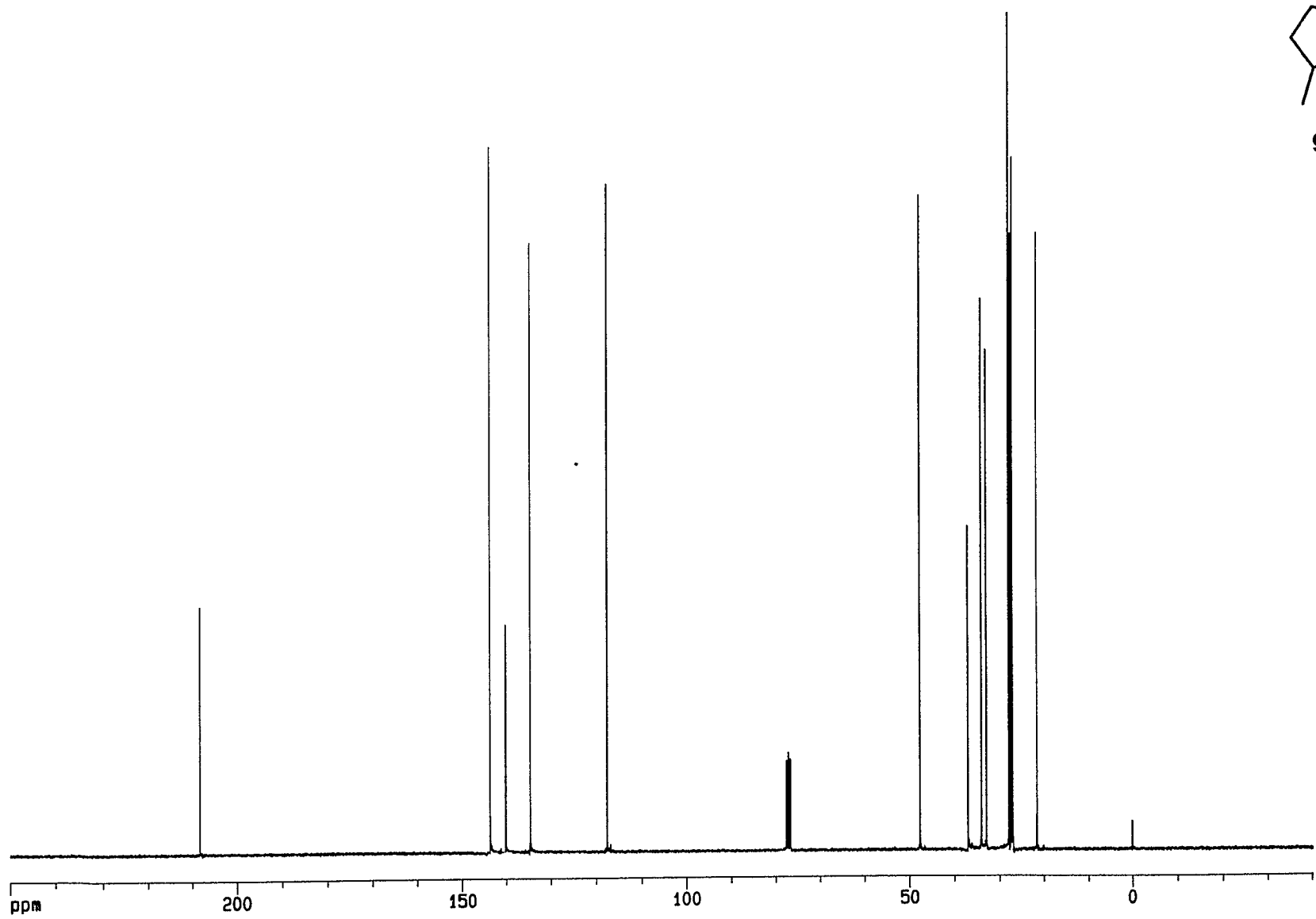
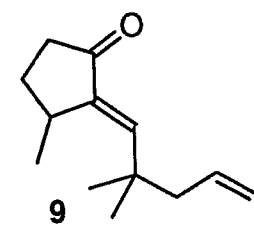
Alois Fürstner* and Klaus Langemann

Max-Planck-Institut für Kohlenforschung

Kaiser-Wilhelm-Platz 1, D-45470 Mülheim/Ruhr, Germany

Instrumentation and Spectra Formats. NMR: Spectra were recorded on a Bruker AC 200, AMX 300, AMX 400 or DMX 600 spectrometer in CDCl₃ unless stated otherwise. Chemical shifts (δ) are given in ppm relative to TMS, coupling constants (J) in Hz. The multiplicity in the ¹³C NMR spectra refers to the geminal protons (DEPT). IR: Nicolet FT-7199, wavenumbers in cm⁻¹. MS: Varian CH-5 (70 eV); HR-MS: Finnigan MAT SSQ 7000 (70eV). UV: Varian Cary 2300, wavelength in nm. Melting points were recorded on a Gallenkamp melting point apparatus and are uncorrected. Flash chromatography: Merck silica gel 60 (230-400 mesh) using *n*-hexane/ethyl acetate in various proportions as eluents unless stated otherwise. Elemental analyses: Dornis & Kolbe, Mülheim.



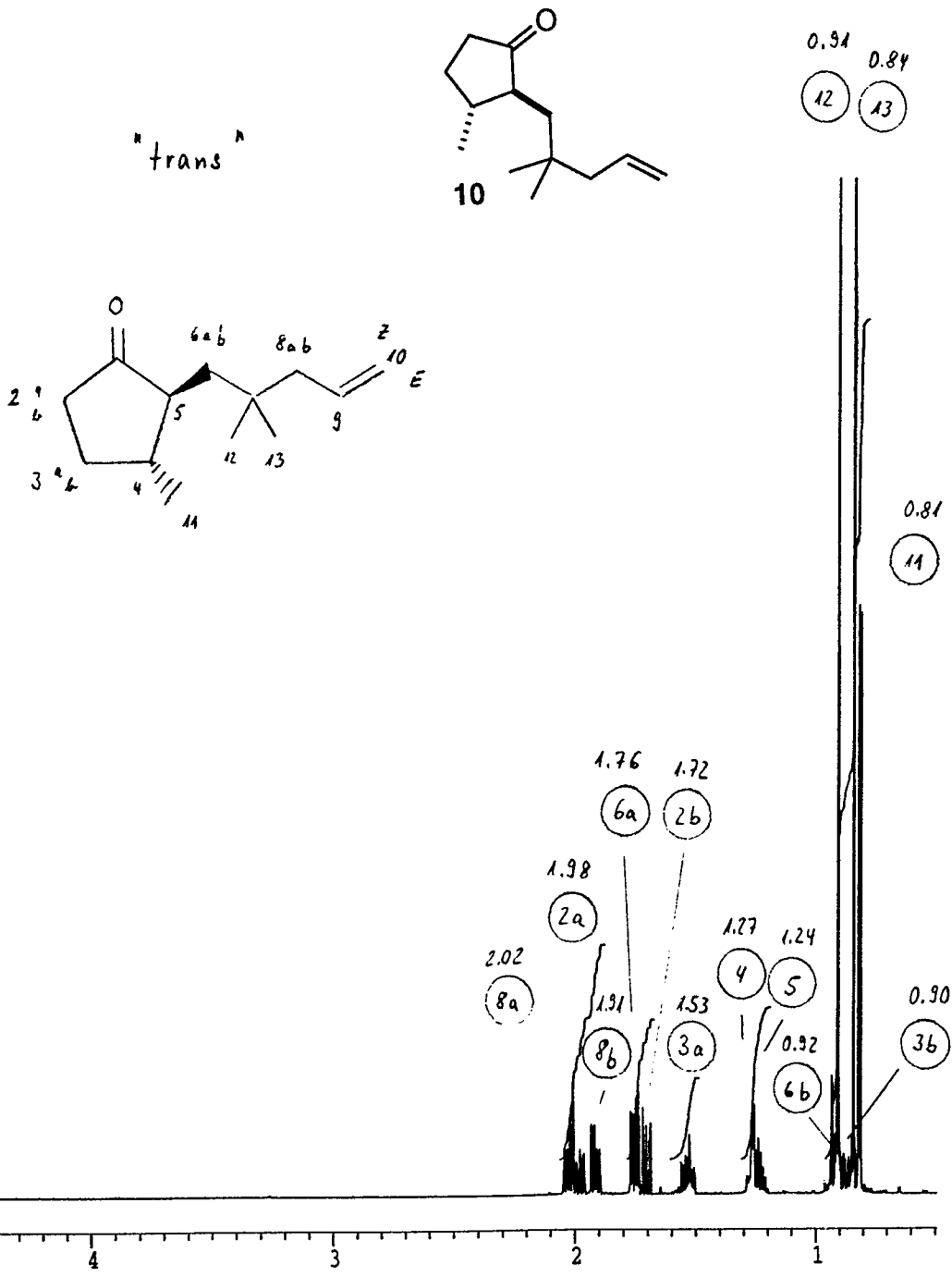


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 PROCNO 1
 DU v
 USER wir

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 PULPROG zg30
 TD 65536
 SOLVENT C6D6
 NS 32
 DS 2
 SWH 12019.230 Hz
 AQ 2.7263477 sec
 RG 64
 DW 41.600 usec
 DE 4.50 usec
 TE 303.0 K
 D1 1.00000000 sec
 P1 10.30 usec
 DE 4.50 usec
 SFO1 600.2242403 MHz
 NUC1 1H
 PL1 0.00 dB

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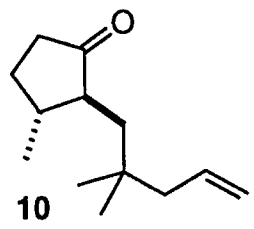
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 CY 15.00 cm
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 F2 296.88 Hz
 PPMCM 0.28533 ppm/cm
 HZCM 171.26208 Hz/cm



LGM-LA-124-01

ppm

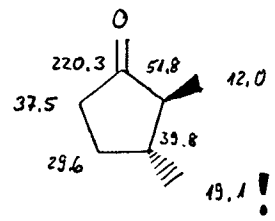
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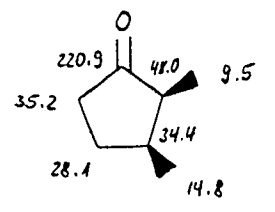
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128.161
128.000
127.840
117.036

52.780
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36.961
33.488
29.245
26.964
26.841
19.288

Vergleiche aus Datenbank
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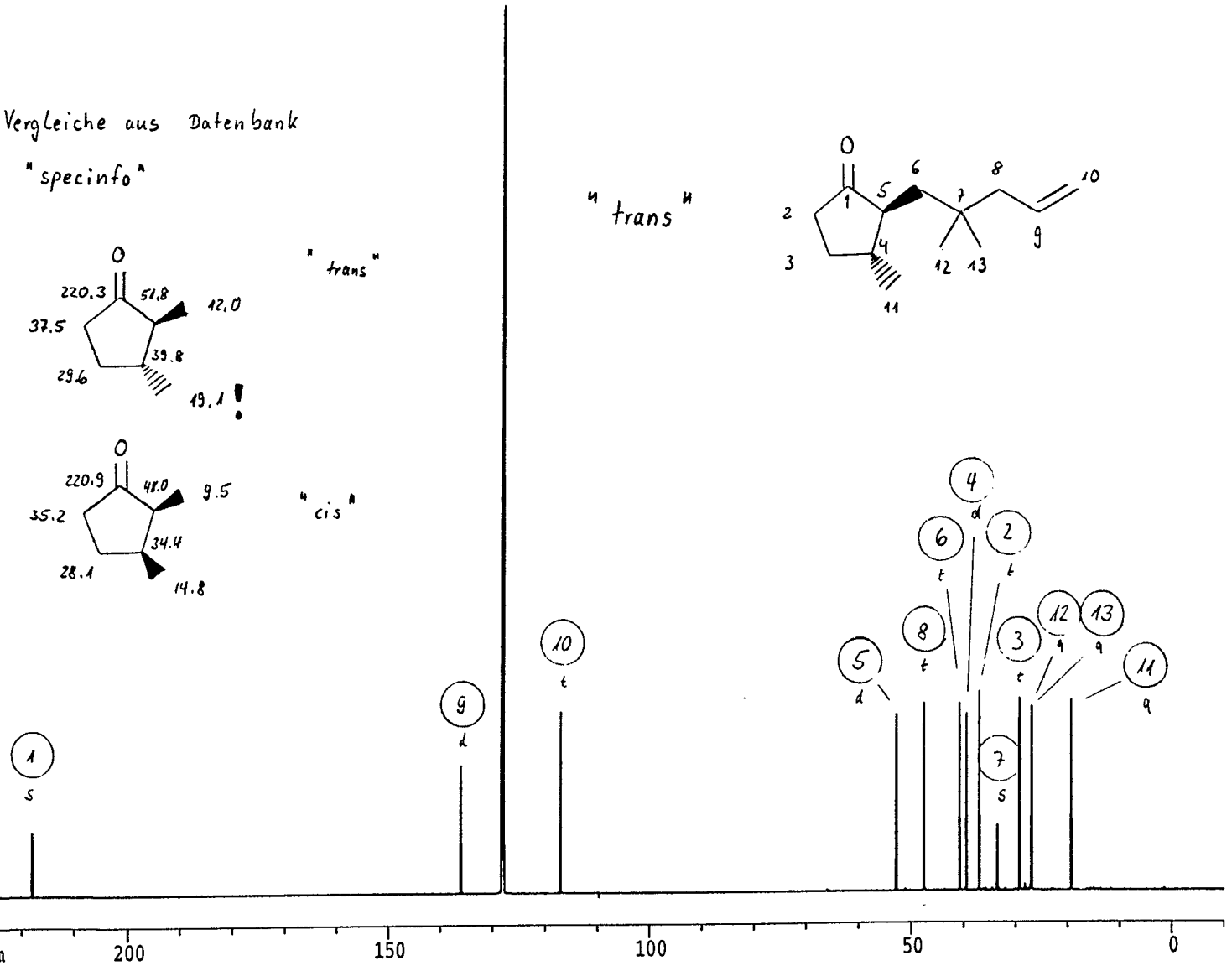
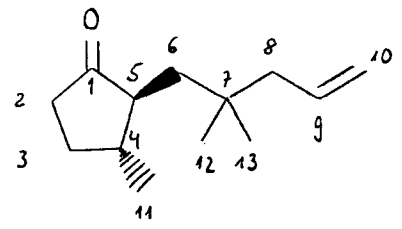


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"cis"

"trans"



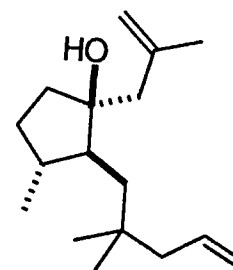
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USER wir

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SOLVENT C6D6
NS 50000
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SWH 37593.984 Hz
AQ 0.8716788 sec
RG 8192
DW 13.300 usec
DE 4.50 usec
TE 303.0 K
D11 0.03000000 sec
PL12 18.00 dB
CPDPRG2 waltz16
P31 75.00 usec
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NUC2 1H
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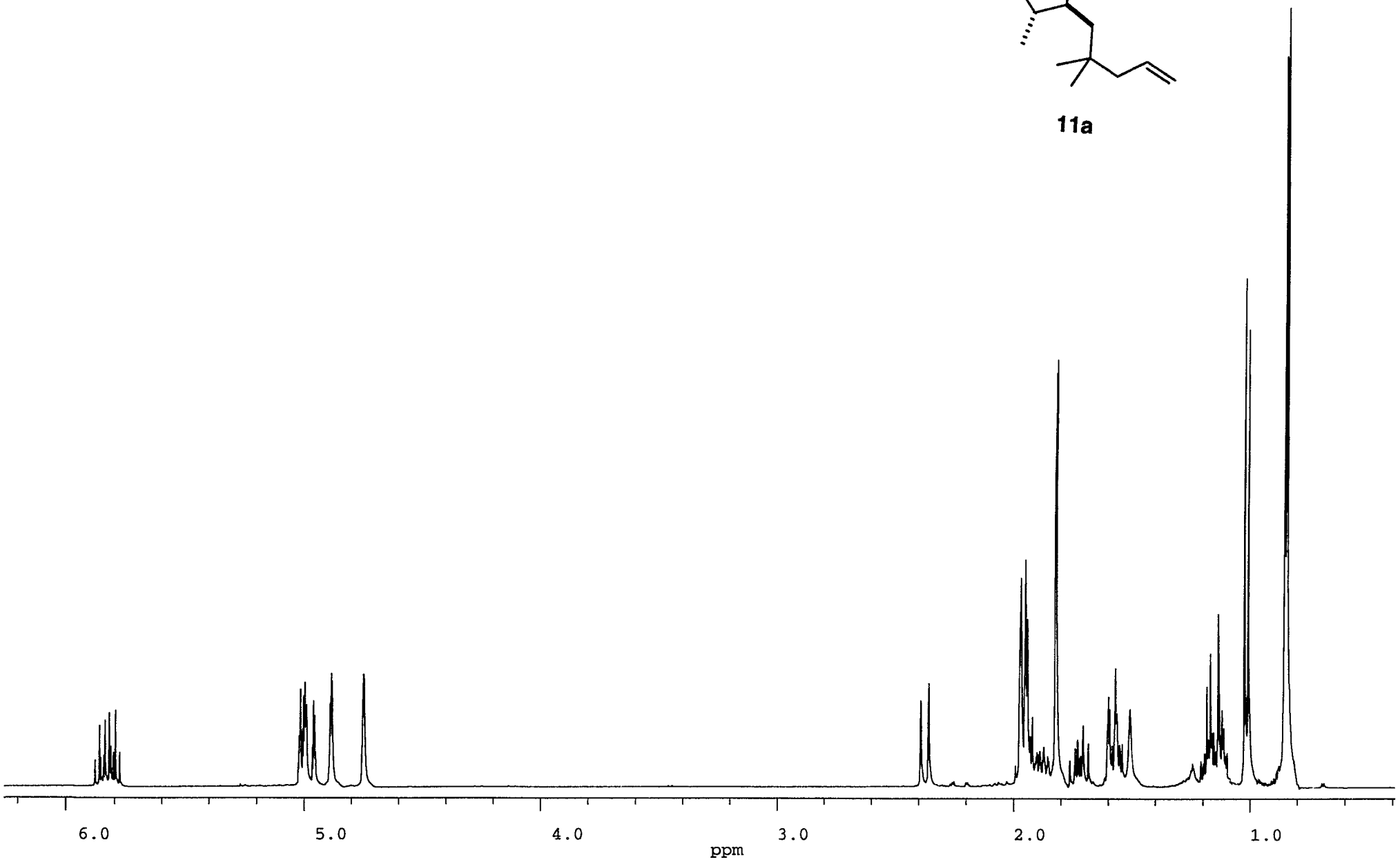
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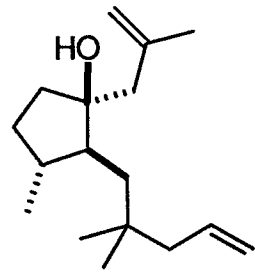
1D NMR plot parameters
CX 20.00 cm
CY 14.00 cm
F1P 230.000 ppm
F1 34712.84 Hz
F2P -10.000 ppm
F2 -1509.26 Hz
PPMCM 12.00000 ppm/cm
HZCM 1811.10461 Hz/cm

LGM-LA-124-01

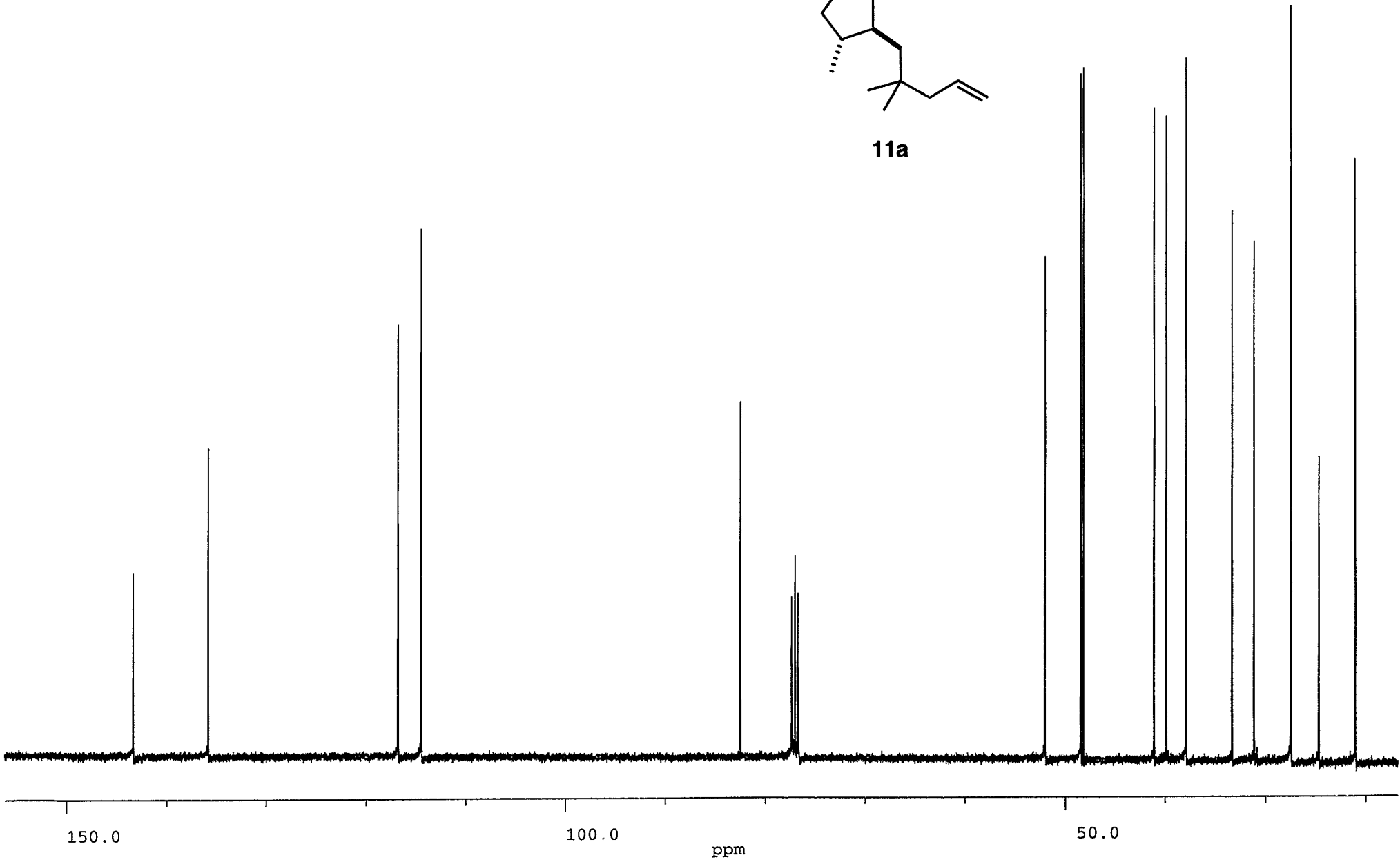


11a

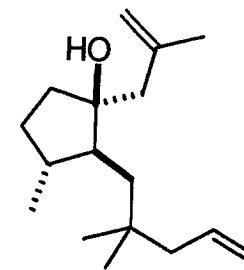




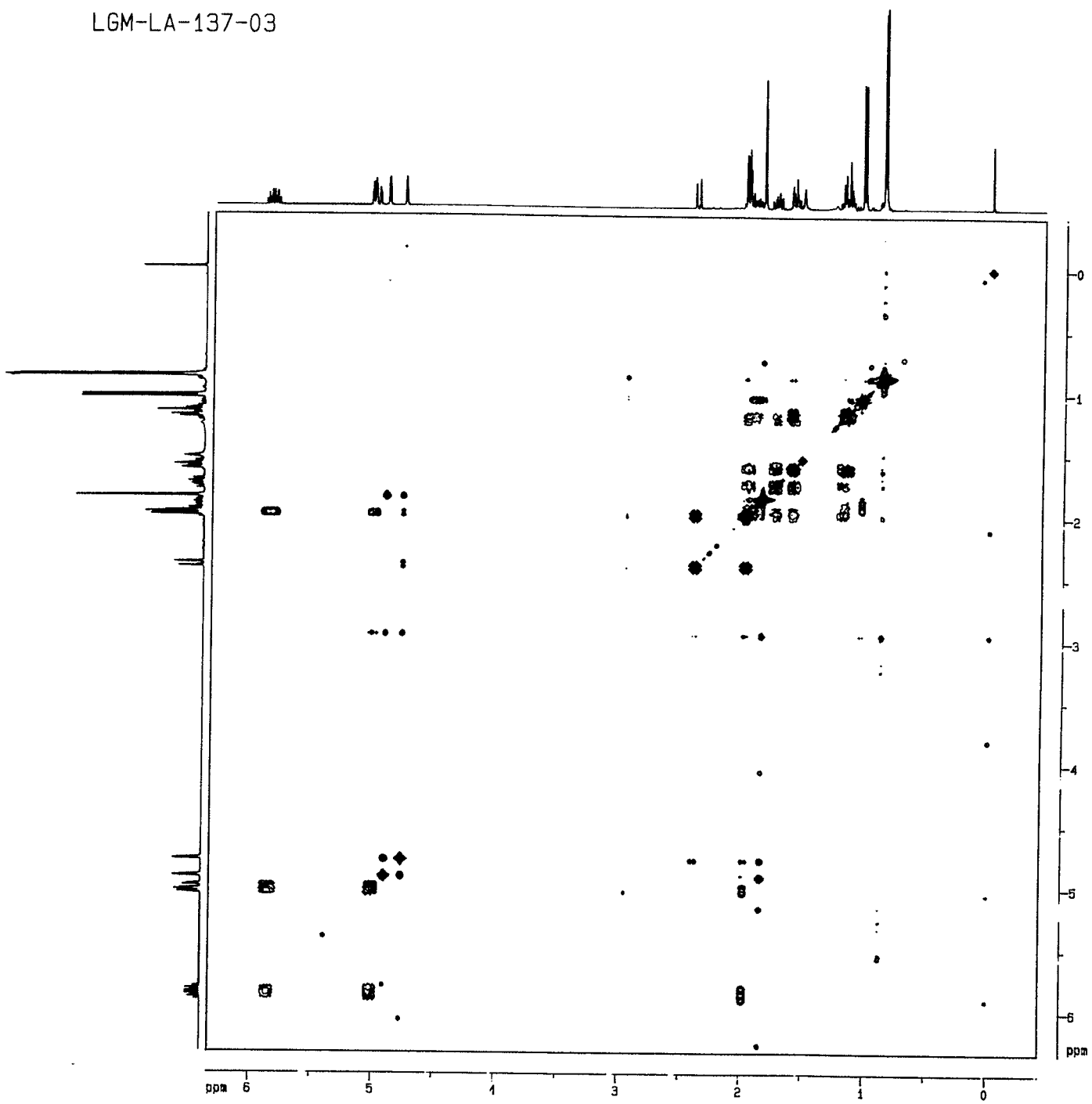
11a



LGM-LA-137-03



11a



Current Data Parameters

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EXPNO	31
PROCNO	1
DU	MD1
USER	WJW

F2 - Acquisition Parameters

Date_	960424
Time	22 04
INSTRUM	smx400
PROBHD	5 mm Multinu
PULPROG	zgpg30
TD	2048
SOLVENT	CDCl3
NS	8
DS	4
SWH	2702.703 Hz
FIDRES	1.119679 Hz
AQ	0.3789300 sec
RG	32
DW	185.000 usec
DE	152.50 usec
TE	300.0 K
O1	5573.64 Hz
O2	5573.64 Hz
HL1	1.00
D1	1.80097704 sec
P1	5.80 usec
D0	0.00000000 sec
DE	152.50 usec
SFO1	400.135736 MHz
NUCLEUS	1H
INO	0.00000000 sec

F1 - Acquisition Parameters

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TD	1024
SFO1	400.1356 MHz
FIDRES	2.619358 Hz
SN	6.754 ppm

F2 - Processing Parameters

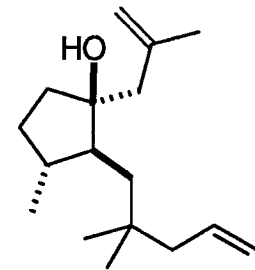
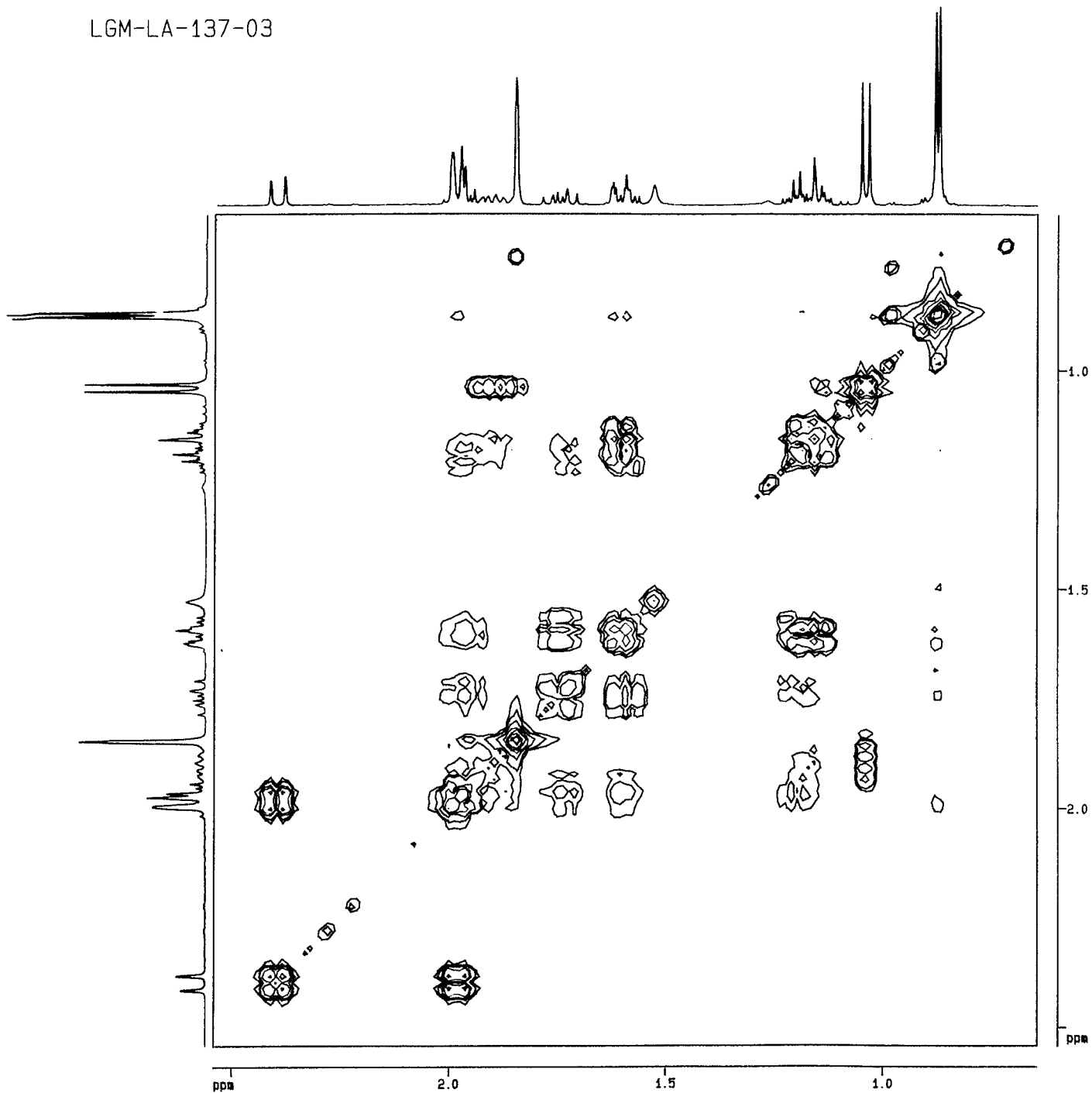
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SF	400.1343911 MHz
HZQPT	5.278716 Hz
SR	439.200 Hz
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SSB	0
LB	0.00 Hz
GB	0
PC	8.00

F1 - Processing Parameters

SI	512
MC2	WF
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LB	0.00 Hz
GB	0

2D NMR plot parameters

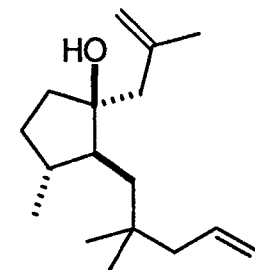
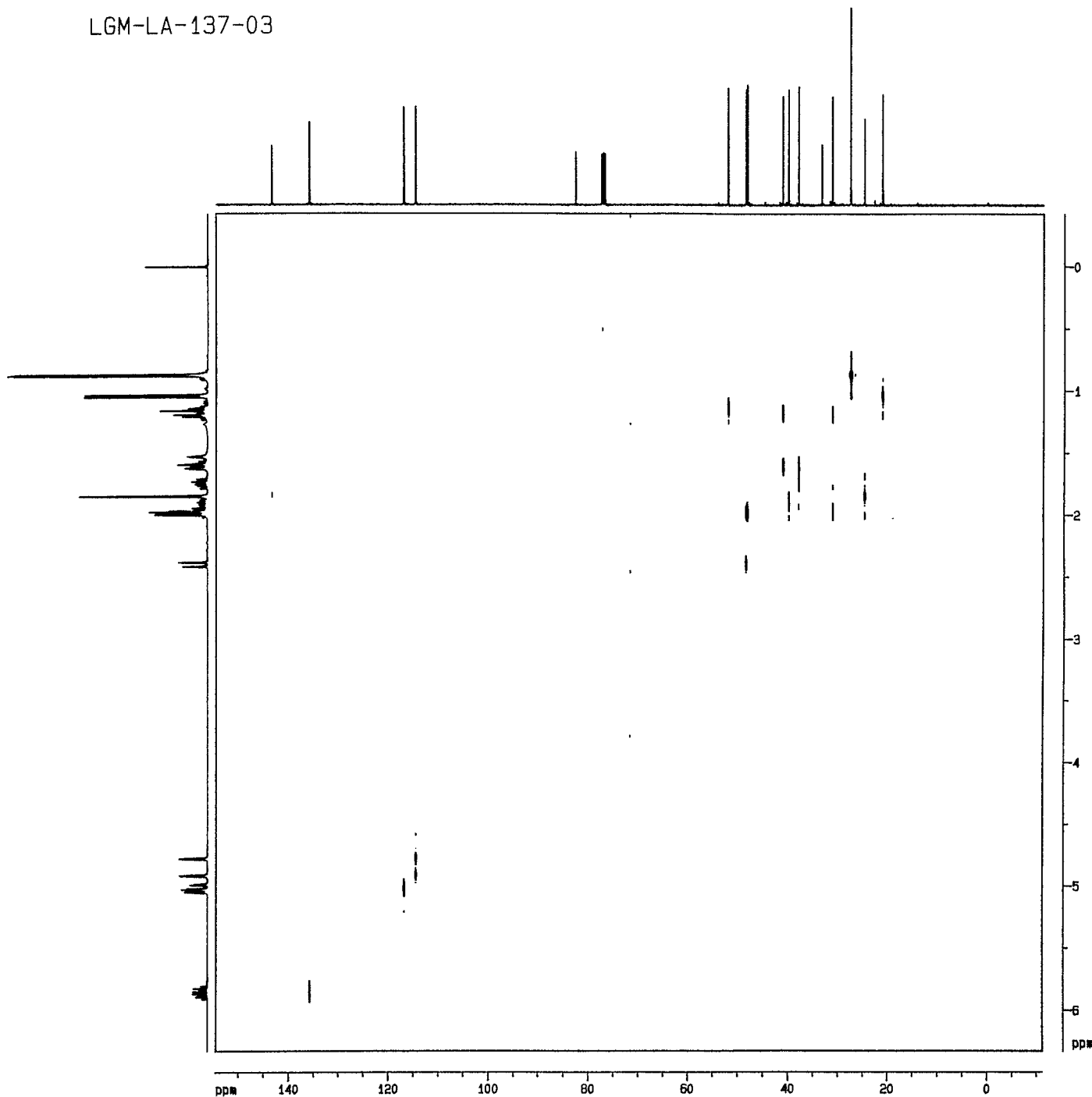
CX2	20.00 cm
CX1	20.00 cm
F2PLO	6.328 ppm
F2LO	2531.91 Hz
F2PHI	-0.427 ppm
F2HI	-170.79 Hz
F1PLO	6.328 ppm
F1LO	2531.91 Hz
F1PHI	-0.427 ppm
F1HI	-170.79 Hz
F2PPMCM	0.3372 ppm/cm
F2HZCM	135.13515 Hz/cm
F1PPMCM	0.3372 ppm/cm
F1HZCM	135.13515 Hz/cm



11a

Current Data Parameters	
NAME	LGM13703
EXPNO	31
PROBHD	1
DU	MP1
USER	wiswo
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Date_	960424
Time	22.04
INSTRUM	amx400
PROBHD	5 mm Multinu
PULPROG	zgpg30
TD	2048
SOLVENT	CDCl3
NS	8
DS	4
SWH	2702.703 Hz
FIDRES	1.19679 Hz
AQ	0.2789300 sec
RG	32
DM	185.000 usec
DE	152.50 usec
TE	300.0 K
O1	557.64 Hz
O2	557.64 Hz
HL1	1 dB
D1	1.8707704 sec
P1	5.00 usec
D2	0.0000000 sec
DE	152.50 usec
SFO1	400.145576 MHz
MULF2S	1H
INQ	0.0007000 sec
F1 - Acquisition Parameters	
NUC1	1
TD	1024
SFO1	400.14556 MHz
FIDRES	2.019458 Hz
SW	6.754 ppm
F2 - Processing Parameters	
SI	512
SF	400.1449911 MHz
HZNP1	51.74716 Hz
SR	4293.00 Hz
WDW	SINE
SSB	0
LB	0.00 Hz
GB	0
PC	8.00
F1 - Processing Parameters	
SI	512
SF	400.1449911 MHz
WDW	SINE
SSB	0
LB	0.00 Hz
GB	0
2D NMR plot parameters	
EX1	20.00 cm
EX2	20.00 cm
F2P10	2.541 ppm
F2P11	1016.92 Hz
F2P12	0.642 ppm
F2P13	256.89 Hz
F2P14	2.541 ppm
F2P15	1016.92 Hz
F2P16	0.642 ppm
F2P17	256.89 Hz
F2P18	0.09497 ppm/cm
F2P19	38.00161 Hz/cm
F2P20	0.09497 ppm/cm
F2P21	38.00161 Hz/cm

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11a

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Current Data Parameters
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EXPNO     41
PROCNO    1
DU        mp
USER      m1w0

F2 - Acquisition Parameters
Date_     960427
Time      4.57
INSTRUM   msc400
PROBHD    5 mm Msc170
PULPROG   zgpg30
TD         4096
SOLVENT   CDCl3
NS         64
DS         4
SWH        15066.666 Hz
FIDRES     4.069410 Hz
AQ         0.1228400 sec
RG         42768
DM         70.000 usec
DE         38.75 usec
TE         300.2 K
O1         1077.05 Hz
O2         5573.64 Hz
HL1        1.00
D11        0.0000000 sec
D1         3.0040907 sec
S1         1.00
P3         5.40 usec
SFO2       400.145776 MHz
DECNUG     1H
D0         0.0000000 sec
P2         28.00 usec
D2         0.0000000 sec
P1         14.40 usec
D3         0.0000000 sec
S2         29.00
DE         38.75 usec
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NUCLEUS1   13C
CPDPRG6   waltz16
P31        100.00 usec
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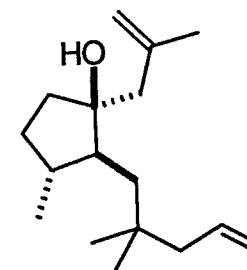
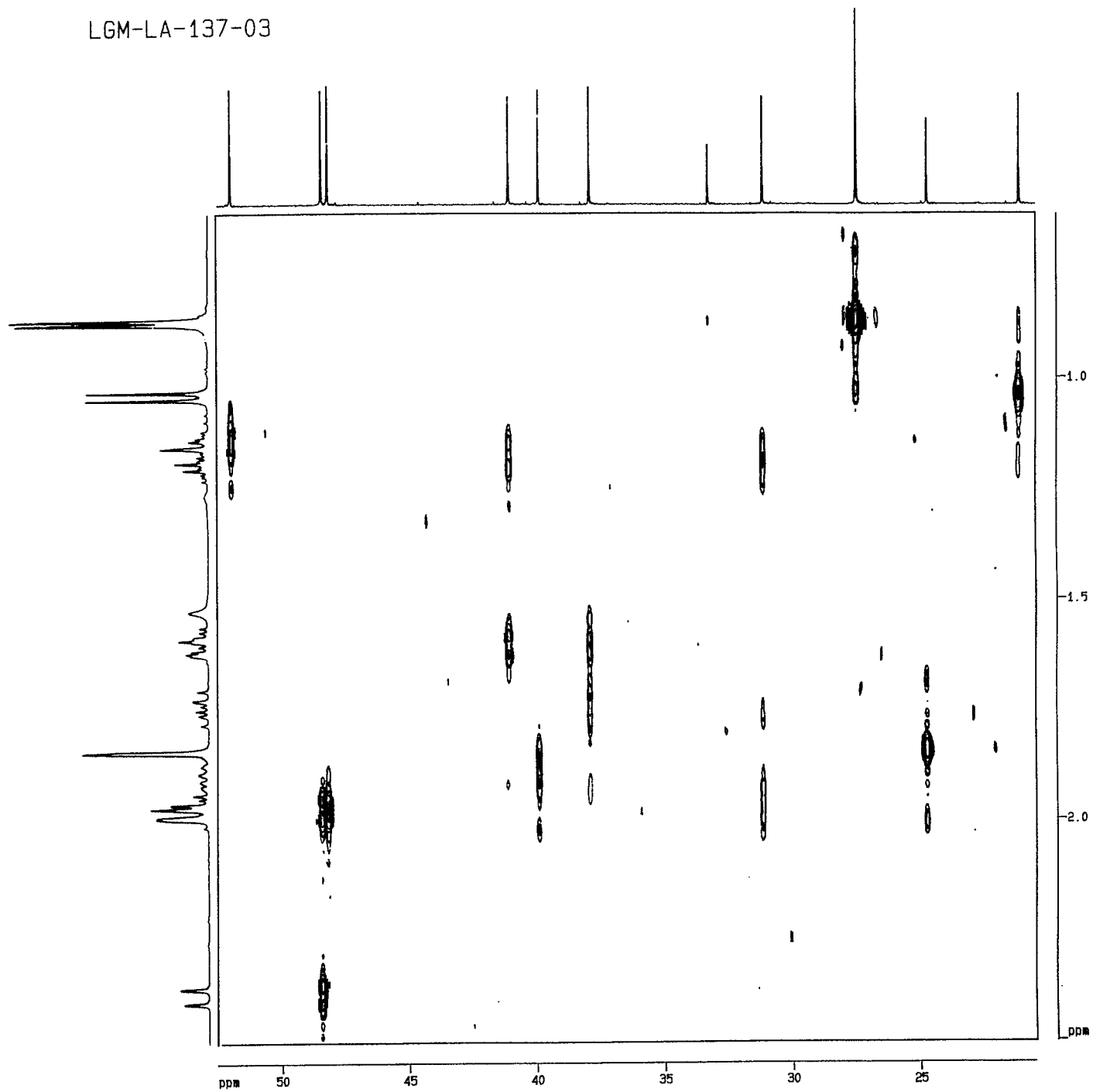
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SFO1       400.1458 MHz
FIDRES     10.557412 Hz
SK         6.754 ppm

F2 - Processing Parameters
SI         4096
SF         100.6136679 MHz
HZQPT      4.069410 Hz
SR         -8132.09 Hz
MVM        SINE
SFB        0
LB         0.00 Hz
GB         0
PC         1.00

F1 - Processing Parameters
SI         512
MC2        0
SF         400.1343931 MHz
MVM        SINE
SFB        0
LB         0.00 Hz
GB         0

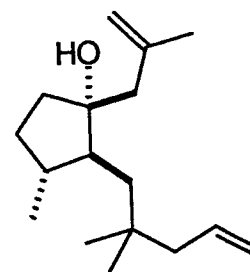
2D NMR plot parameters
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CX1        20.00 um
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F2LO       15541.88 Hz
F2PHI      -11.187 ppm
F2HI       -1123.78 Hz
F1PLO      6.328 ppm
F1LO       2531.91 Hz
F1PHI      -0.427 ppm
F1HI       -170.79 Hz
F2PPMCM    8.28190 ppm/cm
F2HZCM     833.2368 Hz/cm
F1PPMCM    0.34772 ppm/cm
F1HZCM     135.17474 Hz/cm
    
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LGM-LA-137-03

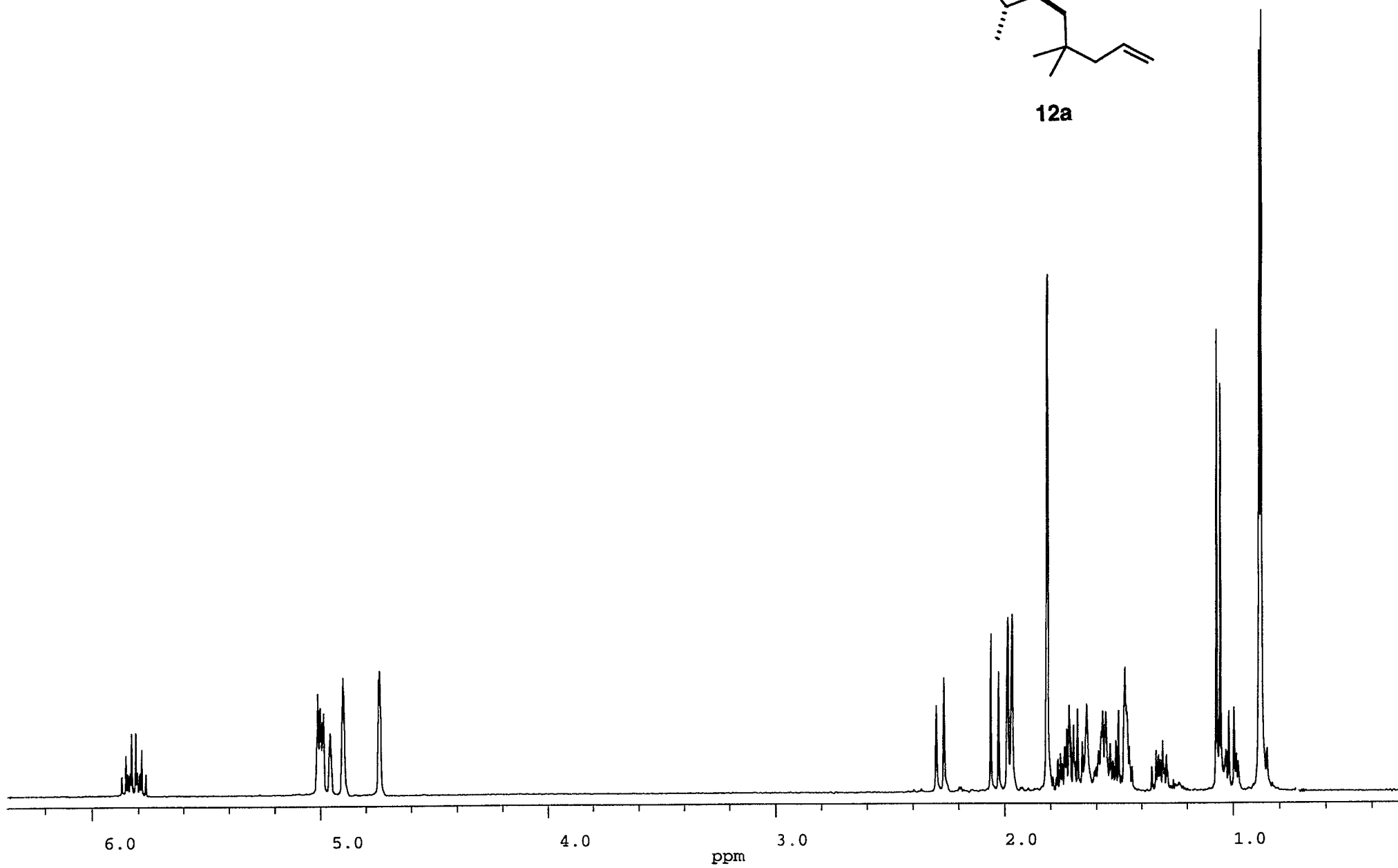


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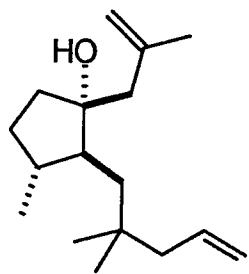
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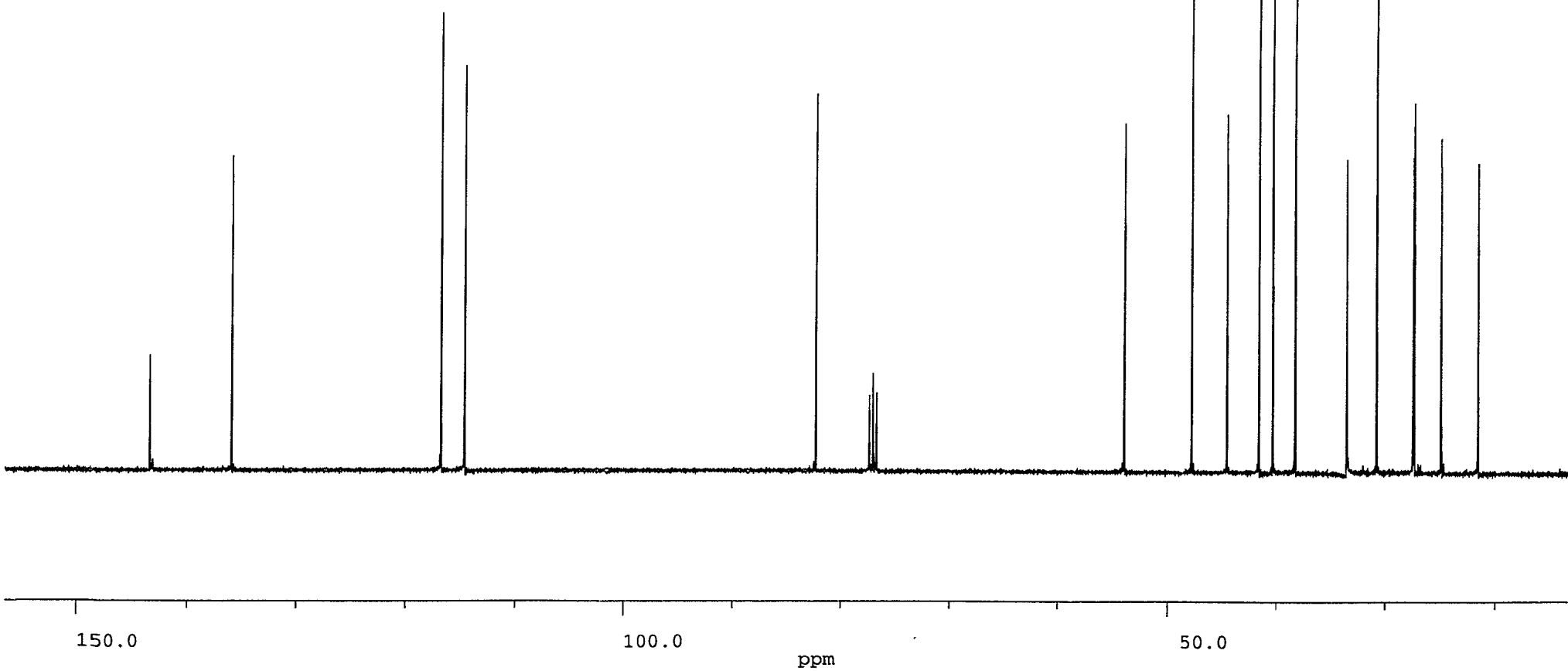
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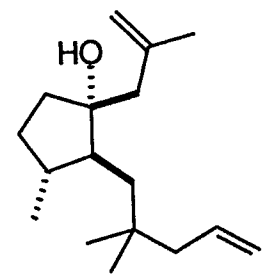
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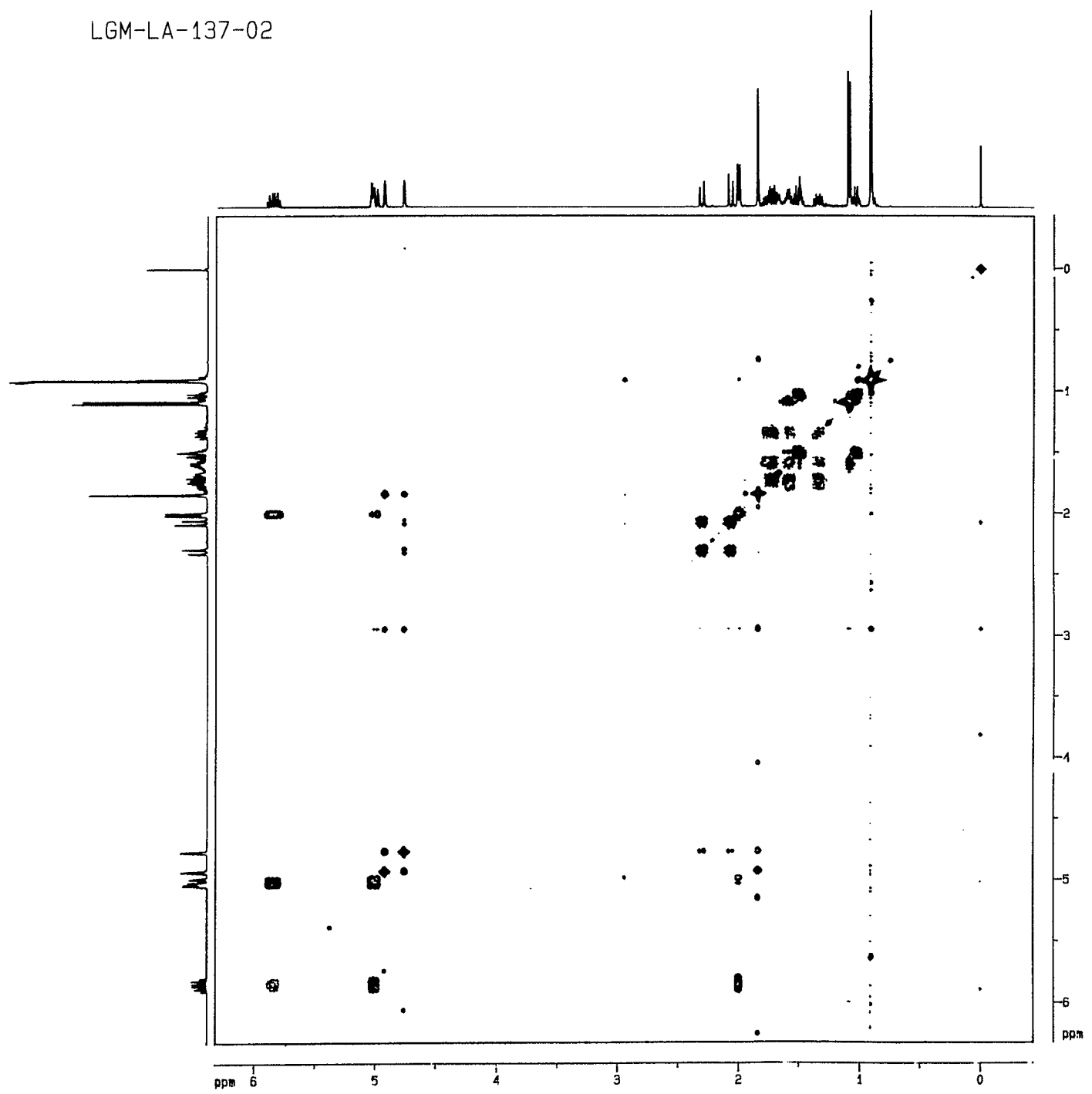
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LGM-LA-137-02



12a



Current Data Parameters

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EXPNO	31
PROCNO	1
DJ	mp1
USER	wiswo

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Date_	960424
Time	16.19
INSTRUM	axc400
PROBHD	5 mm Multinu
PULPROG	cosy90
TD	2048
SOLVENT	CDCl3
NS	8
DS	4
SWH	2702.703 Hz
FIDRES	1.319679 Hz
AQ	0.3789300 sec
RG	32
DW	185.000 usec
DE	172.86 usec
TE	300.0 K
O1	5569.95 Hz
O2	5569.95 Hz
H1.1	1 dB
D1	1.86892903 sec
P1	5.80 usec
DO	0.00000300 sec
DE	172.86 usec
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NUCLEUS	1H
IN0	0.00037000 sec

F1 - Acquisition parameters

ND0	1
TD	1024
SFO1	400.1356 MHz
FIDRES	2.639358 Hz
SW	6.754 ppm

F2 - Processing parameters

SI	512
SF	400.1343925 MHz
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SSB	0
LB	0.00 Hz
GB	0
PC	8.00

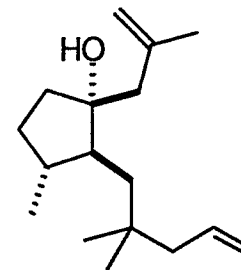
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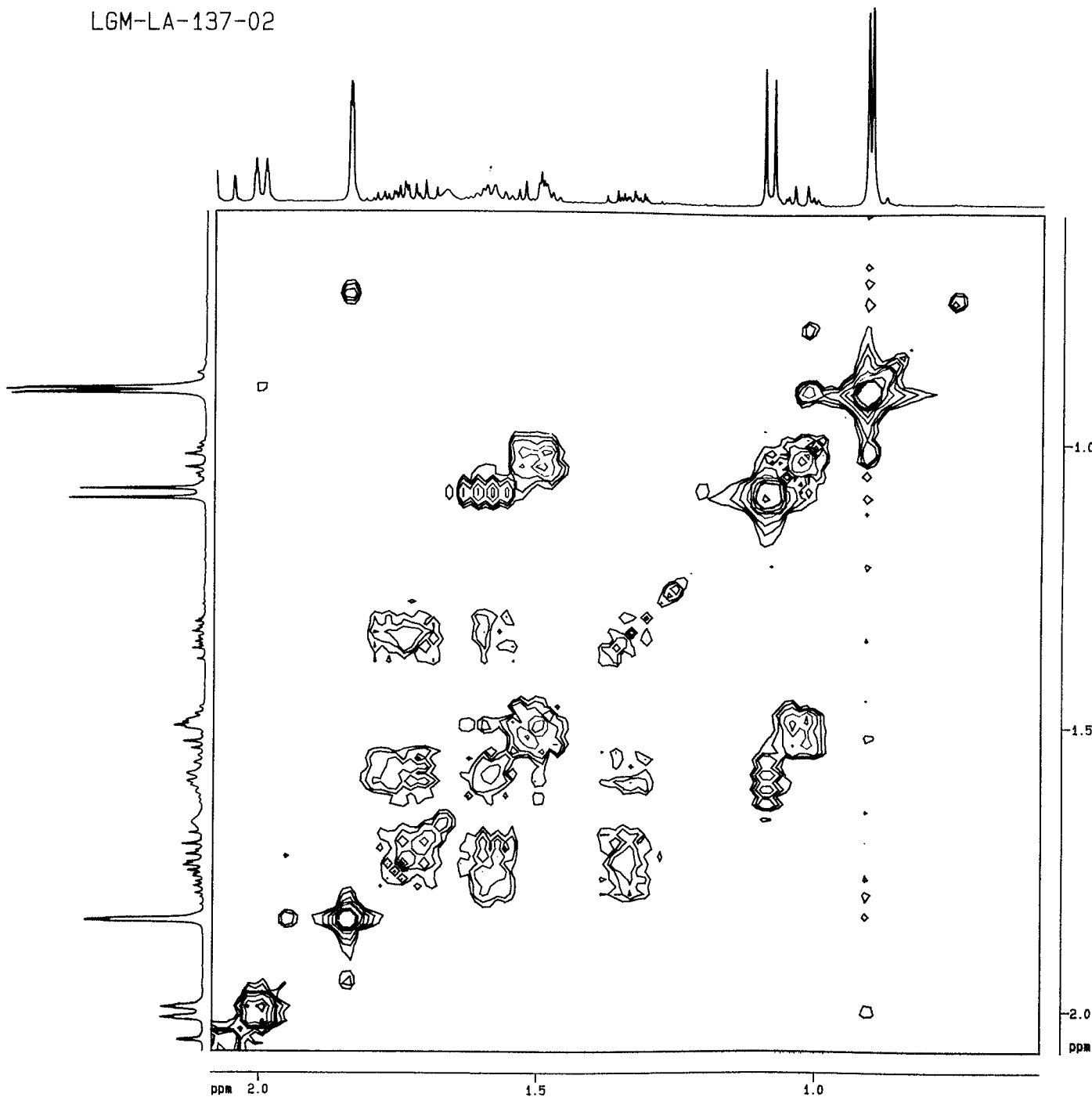
2D NMR plot parameters

LX2	20.00 cm
CX1	20.00 cm
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F2PHI	-0.435 ppm
F2HI	-173.94 Hz
F1PLO	6.320 ppm
F1LO	2528.76 Hz
F1PHI	-0.435 ppm
F1HI	-173.94 Hz
F2PPMCM	0.33772 ppm/cm
F2HZCM	135.13515 Hz/cm
F1PPMCM	0.33772 ppm/cm
F1HZCM	135.13515 Hz/cm

LGM-LA-137-02



12a



Current Data Parameters

NAME	LGM1702
EXPNO	1
PROBHD	1
DU	0.0
USER	WJW

F2 - Acquisition Parameters

Date_	20040416
Time	16:19
INSTRUM	acq400
PROBHD	5 mm Nucleo
PULPROG	zgpg30
TD	65536
SOLVENT	DMS-d6
NS	4
DS	4
SWH	270.130 MHz
FIDRES	1.119070 Hz
AQ	0.77000000
RG	512
DW	10.00000000
DE	17.00000000
TE	300.2 K
O1	550.095 MHz
O2	550.095 MHz
H1	1.00
D1	1.00000000 sec
P1	5.00000000
DO	0.00000000 sec
DE	17.00000000
SFO1	400.145900 MHz
NUCLEUS	1H
INQ	0.00000000

F1 - Acquisition parameters

NOE	1
TD	1024
SFO1	400.145900 MHz
FIDRES	0.604500 Hz
SW	6.754 ppm

F2 - Processing parameters

SI	512
SF	400.145905 MHz
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SQB	0
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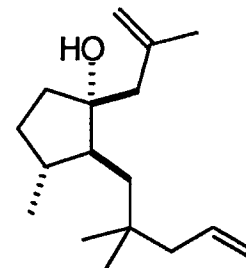
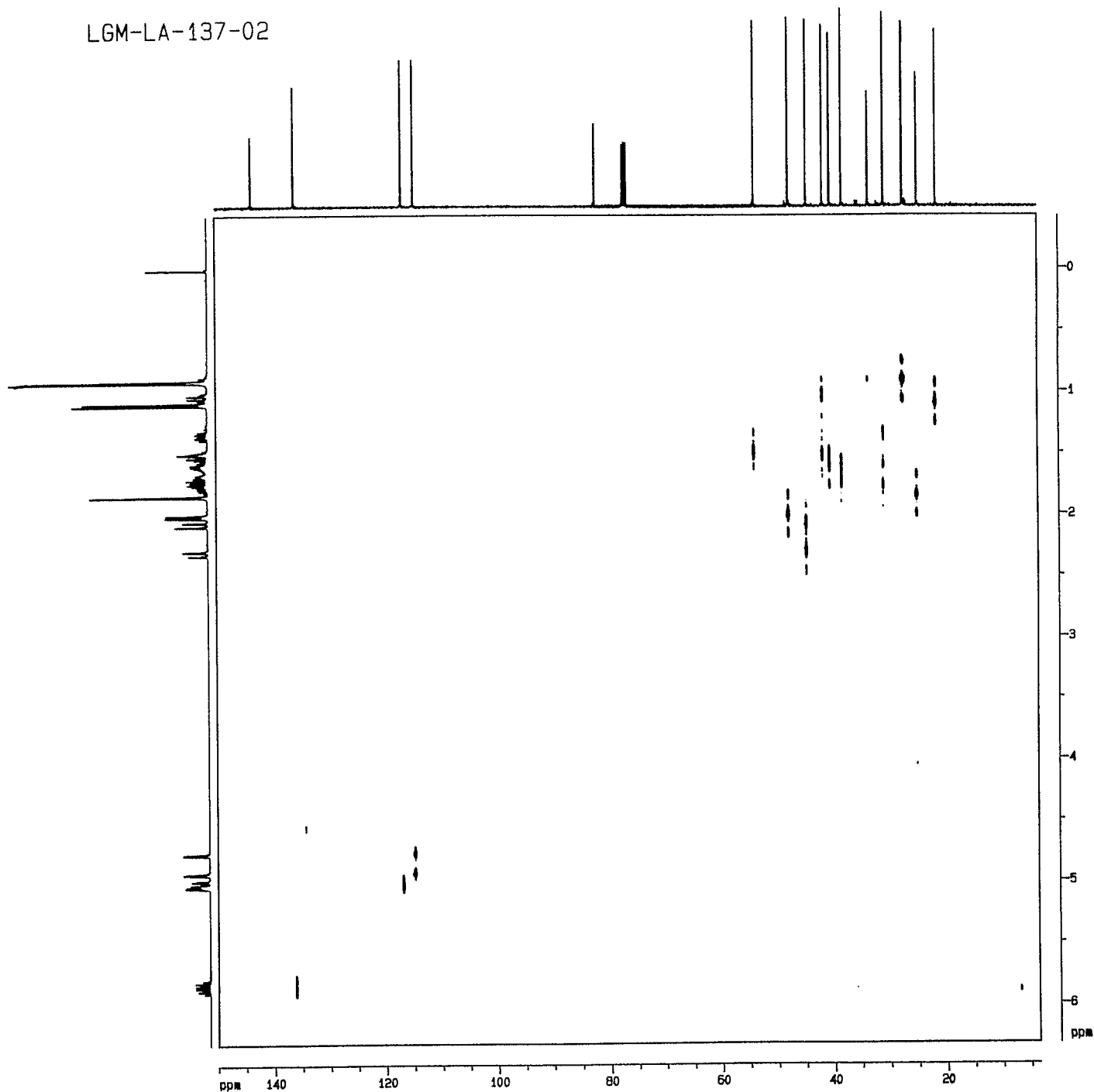
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SQB	0
LB	0.00 Hz
GB	0

2D NMR plot parameters

CX2	20.00 %
CX1	20.00 %
F2PLO	2.000 ppm
F2LO	0.000 Hz
F2PHI	0.594 ppm
F2HI	257.00 Hz
F1PLO	2.076 ppm
F1LO	0.290 Hz
F1PHI	0.594 ppm
F1HI	257.00 Hz
F2PPMCM	0.07454 ppm/cm
F2HZCM	0.00475 Hz/cm
F1PPMCM	0.07496 ppm/cm
F1HZCM	0.00491 Hz/cm

LGM-LA-137-02



12a

Current Data Parameters
 NAME LGM13702
 EXPNO 41
 PROCNO 1
 DU 80
 USER wiswo

F2 - Acquisition Parameters
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 Time 15.09
 INSTRUM nm400
 PROBRD 5 mm MSL400
 PULPROG zgpg30
 ID 409b
 SOLVENT cdcl3
 NS 64
 DS 4
 SWH 2515.709 Hz
 FIDRES 0.424753 Hz
 AQ 0.077740 sec
 RG 12768
 DM 19.000 usec
 DE 38.75 usec
 TE 300.0 K
 O1 7463.50 Hz
 O2 556.905 Hz
 HL1 1.00
 D11 0.0100000 sec
 D1 1.04914594 sec
 S1 1.00
 F2 5.40 usec
 SF02 400.1355699 MHz
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 D0 0.0000000 sec
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 D2 0.0000000 sec
 P1 14.40 usec
 D3 0.00200000 sec
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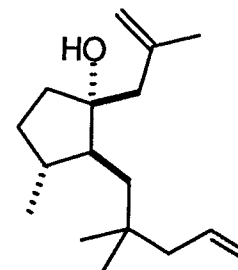
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 SW 6.754 ppm

F2 - Processing Parameters
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 SR -0.15735 Hz
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 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

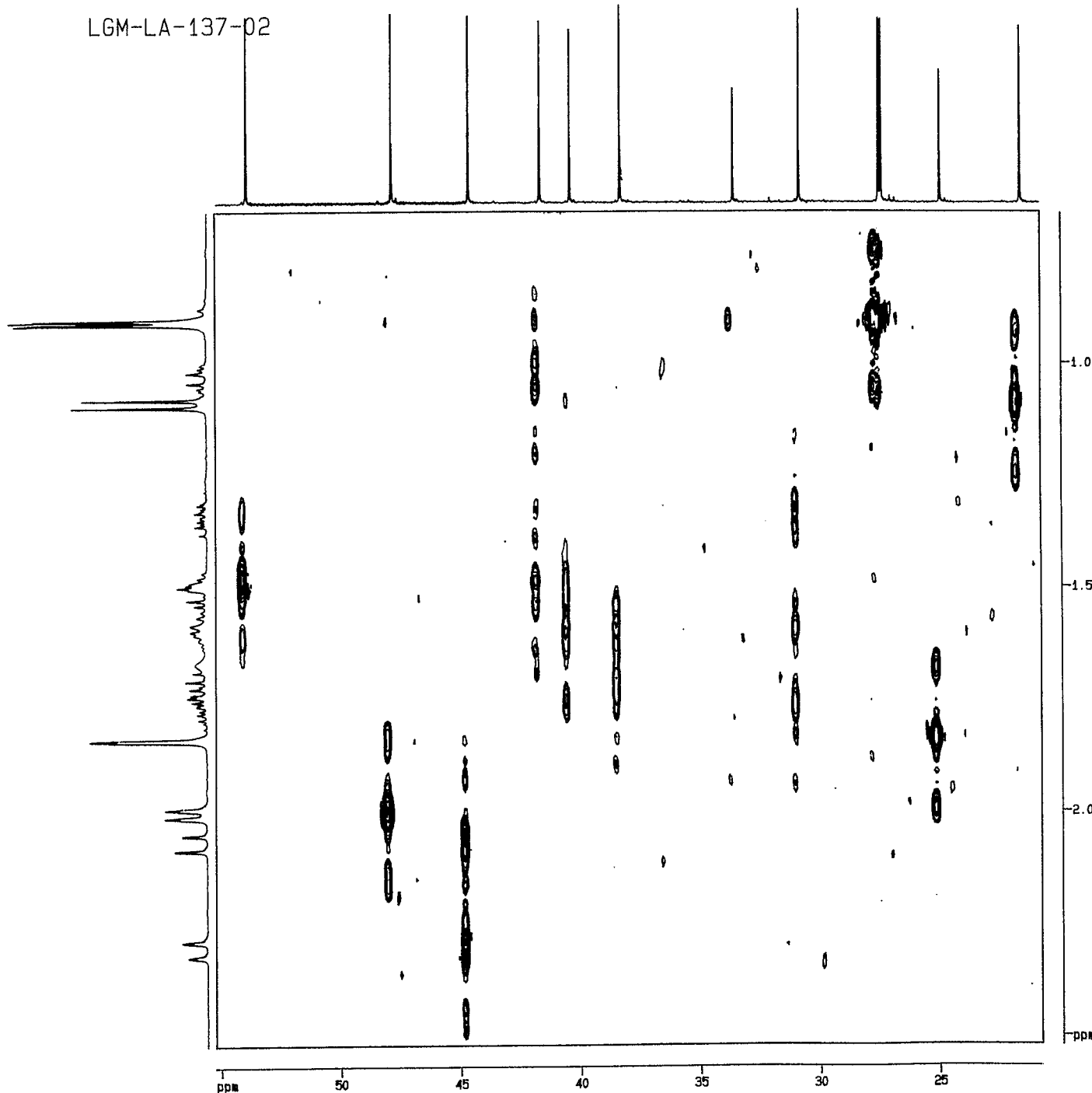
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 SF 400.1343423 MHz
 MDM SINE
 SSB 0
 LB 0.00 Hz
 GB 0

2D NMR Plot Parameters
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 LX1 20.00 cm
 F2PLO 150.000 ppm
 F2LO 15092.08 Hz
 F2PHI 3.568 ppm
 F2HI 398.95 Hz
 F1PLO 6.320 ppm
 F1LO 2528.76 Hz
 F1PHI -0.437 ppm
 F1HI -173.94 Hz
 F2PPMCH 7.42162 ppm/cm
 F2HZCH 736.67619 Hz/cm
 F1PPMCH 0.11772 ppm/cm
 F1HZCH 119.17911 Hz/cm

LGM-LA-137-02



12a



Current Data Parameters

NAME LGM13702
 EXPNO 41
 PROCNO 1
 DU mp1
 USER wisno

F2 - Acquisition Parameters

Date_ 960426
 Time 15.09
 INSTRUM sax400
 PROBR05 5 mm Multinu
 PULPROG hxcg
 TD 4096
 SOLVENT CDCl3
 NS 64
 DS 4
 SWH 26315.789 Hz
 FIDRES 6.424753 Hz
 AQ 0.0774740 sec
 Rb 32768
 DW 19.000 usec
 DE 38.75 usec
 TE 300.0 K
 O1 7363.50 Hz
 O2 5569.95 Hz
 HL1 1.00
 D11 0.0400000 sec
 D1 3.04914594 sec
 SI 1.00
 P3 5.40 usec
 SFO2 400.147699 MHz
 DECNM1 1H
 D0 0.0000000 sec
 P2 28.80 usec
 D2 0.00360000 sec
 P1 14.40 usec
 D3 0.00280000 sec
 S2 28.00
 DE 38.75 usec
 SFO1 100.6274645 MHz
 NUCLEUS1 13C
 JMODPRG waitz16
 P11 100.00 usec
 TNO 0.00018500 sec

F1 - Acquisition Parameters

ND0 2
 TD 256
 SFO1 400.147699 MHz
 FIDRES 10.957412 Hz
 SW 6.784 ppm

F2 - Processing Parameters

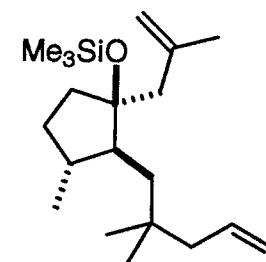
SI 4096
 SF 100.618467 MHz
 HZPDT 6.424753 Hz
 SR -6157.45 Hz
 WDM SINE
 SFR 0
 LB 0.00 Hz
 GB 0
 PC 1.00

F1 - Processing Parameters

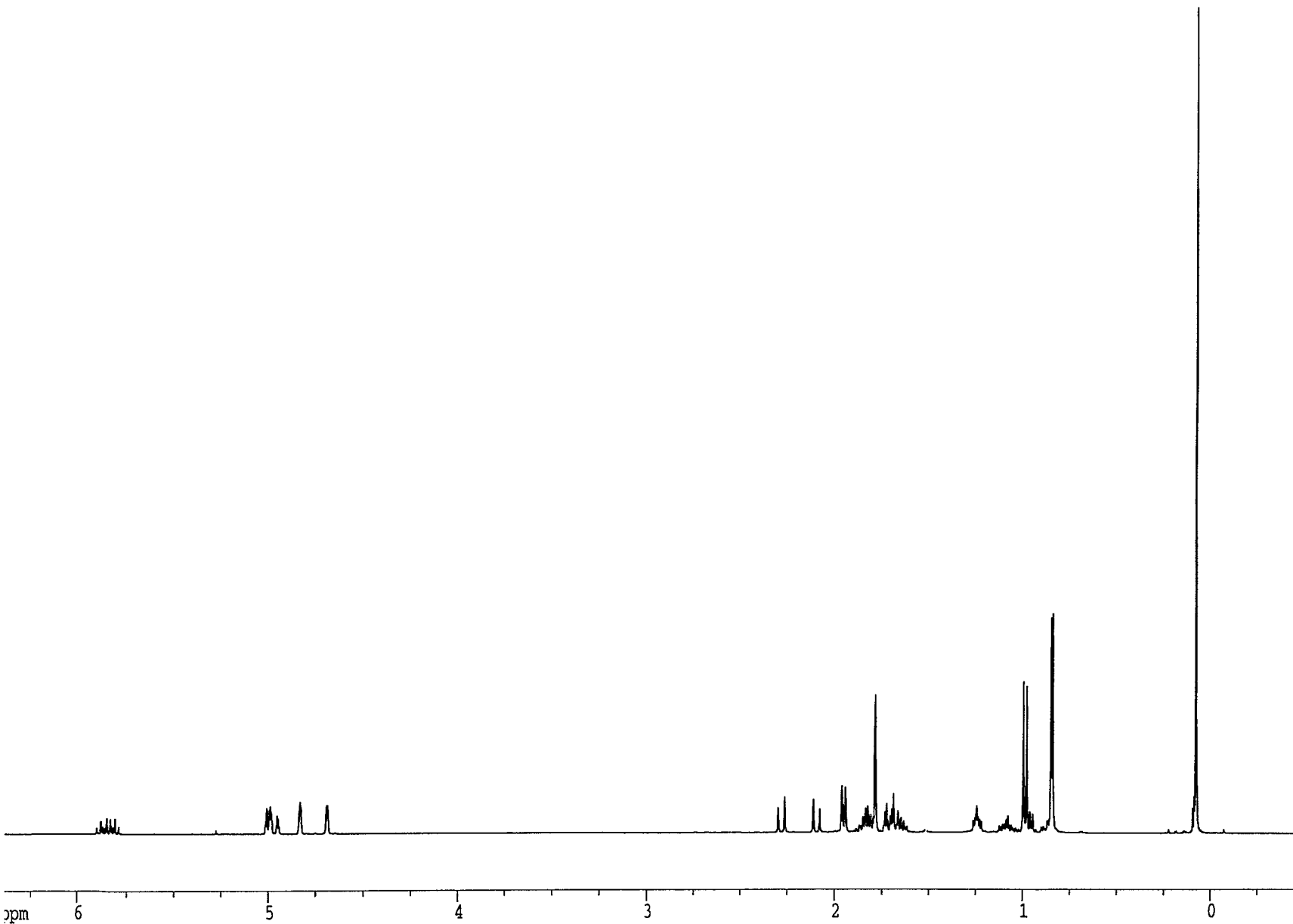
SI 512
 WC 0F
 SF 400.147699 MHz
 SFR 0
 LB 0.00 Hz
 GB 0

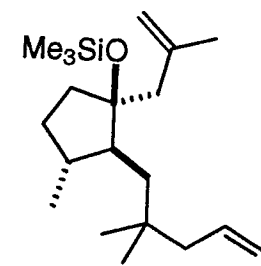
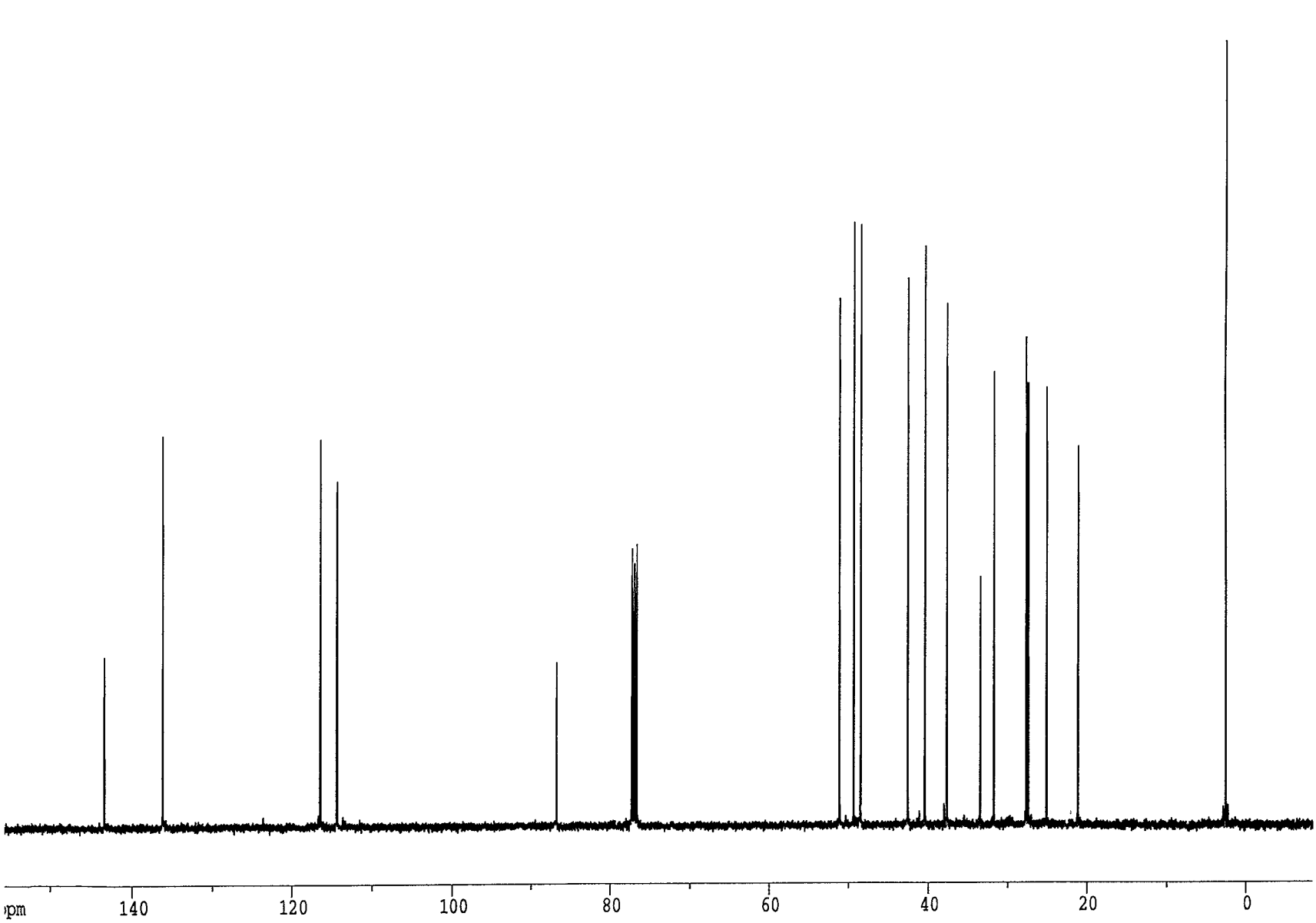
2D NMR Plot Parameters

UXC 20.00 cm
 UX1 20.00 cm
 F2PLO 55.227 ppm
 F2LO 5556.58 Hz
 F2PHI 20.745 ppm
 F2HI 2047.41 Hz
 F1PLO 2.520 ppm
 F1LO 1000.48 Hz
 F1PHI 0.660 ppm
 F1HI 284.19 Hz
 F2PMCM 1.72410 ppm/cm
 F2HZCM 173.46834 Hz/cm
 F1PMCM 0.09301 ppm/cm
 F1HZCM 37.21489 Hz/cm

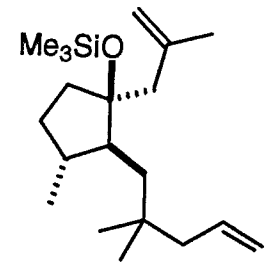
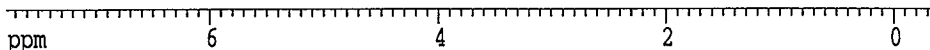
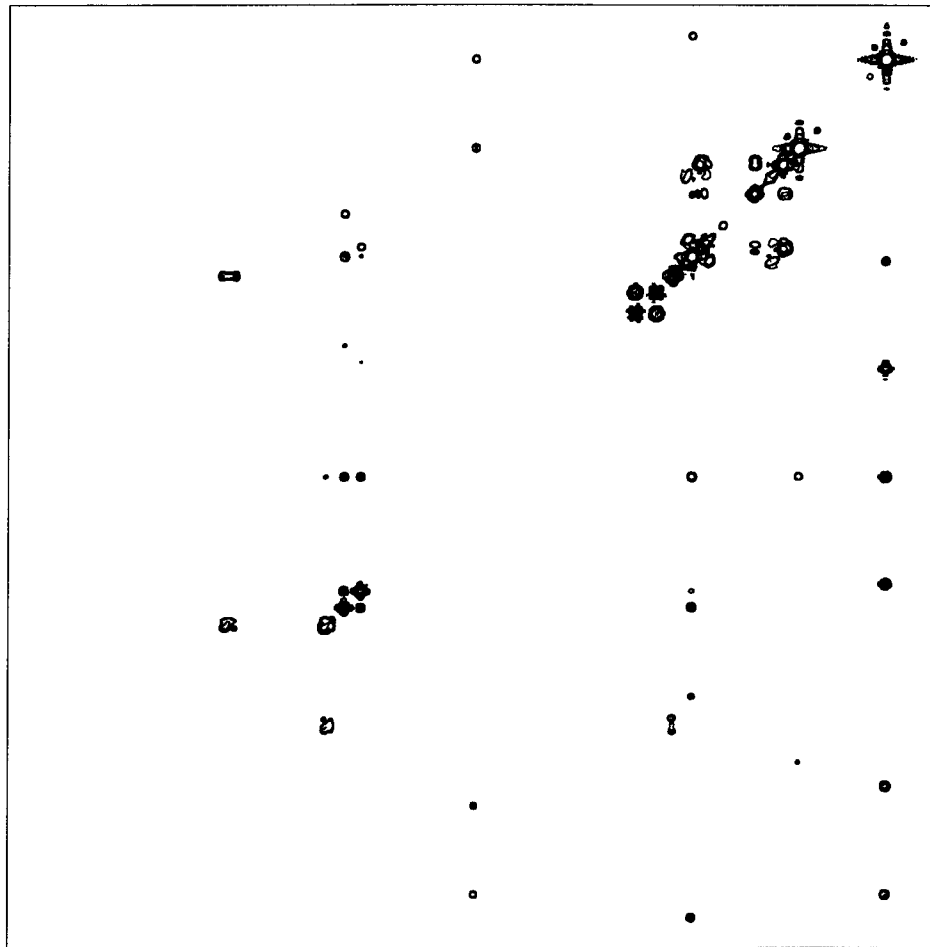
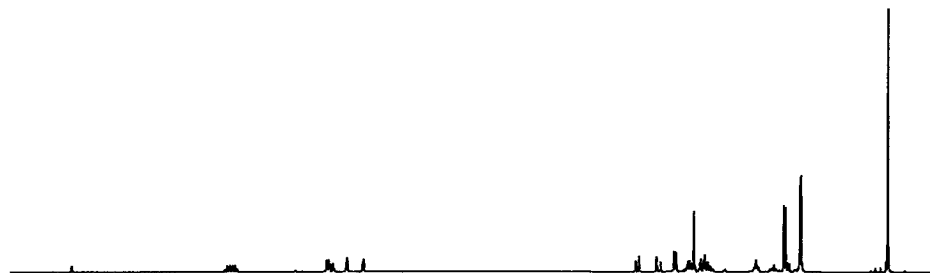


11b





11b



11b

Current Data Parameters
 NAME 1gml86
 EXPNO 12
 PROCNO 1
 DU mpi
 USER kl

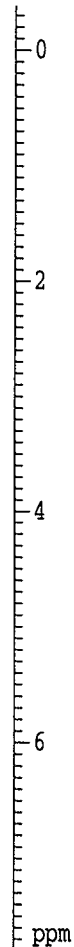
F2 - Acquisition Parameters
 Date_ 960723
 Time 13.00
 INSTRUM amx400
 PROBRD 5 mm Multinu
 PULPROG cosy90
 TD 512
 SOLVENT CDC13
 NS 8
 DS 4
 SWH 3267.974 Hz
 FIDRES 6.382761 Hz
 AQ 0.0783860 sec
 RG 64
 DW 153.000 usec
 DE 152.50 usec
 TE 300.0 K
 HL1 1 dB
 D1 2.49078393 sec
 P1 5.60 usec
 D0 0.00000300 sec
 DE 152.50 usec
 SFO1 400.1358781 MHz
 NUCLEUS 1H
 IN0 0.00030600 sec

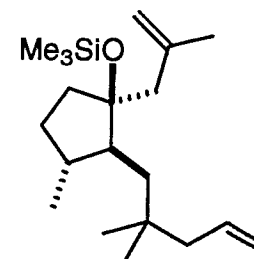
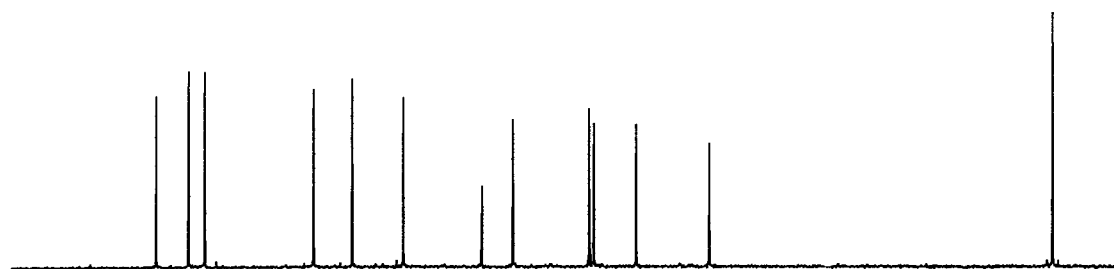
F1 - Acquisition parameters
 NDO 1
 TD 256
 SFO1 400.1359 MHz
 FIDRES 12.765523 Hz
 SW 8.167 ppm

F2 - Processing parameters
 SI 512
 SF 400.1343973 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 8.00

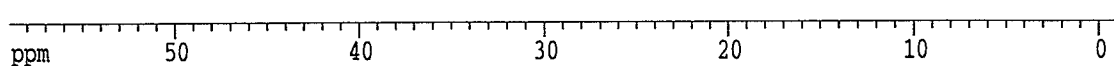
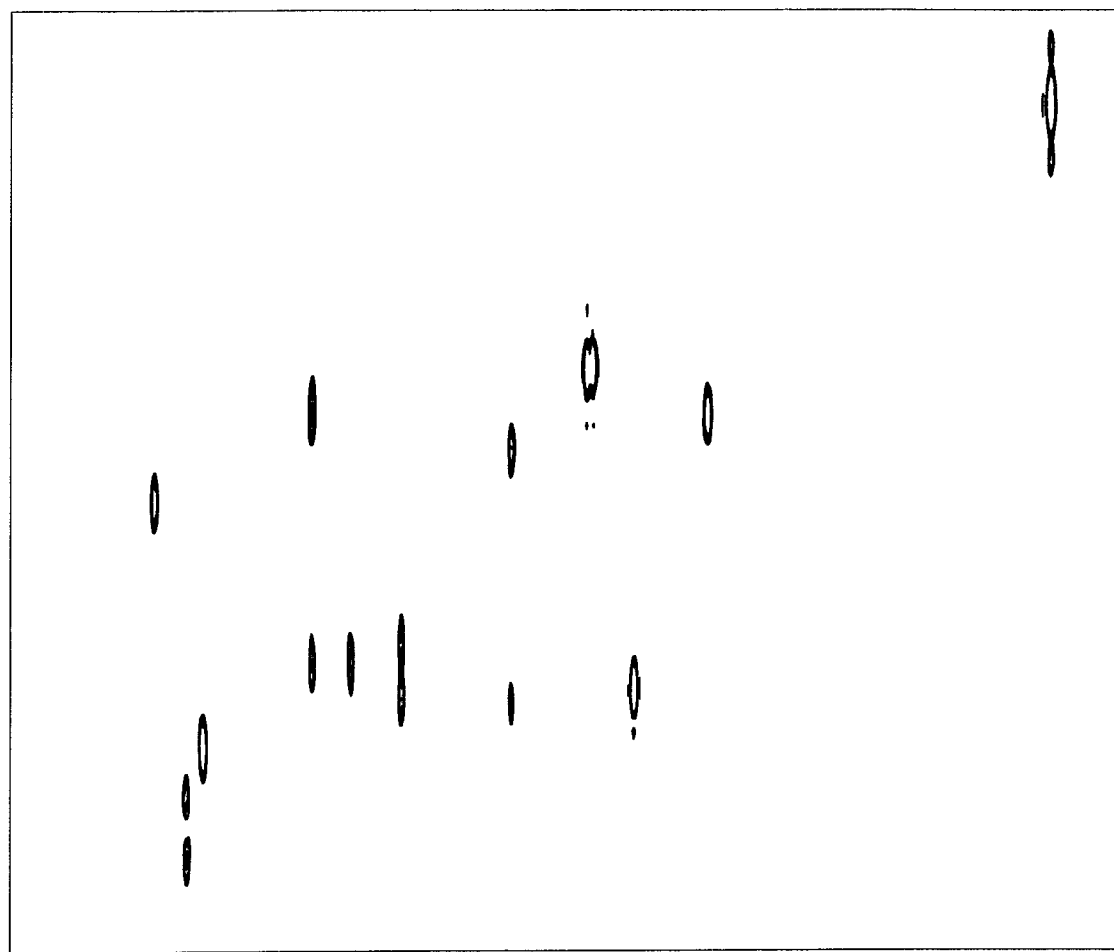
F1 - Processing parameters
 SI 512
 MC2 QF
 SF 400.1343979 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0

2D NMR plot parameters
 CX2 12.50 cm
 CX1 12.50 cm
 F2PFO 7.784 ppm
 F2FLO 3114.79 Hz
 F2PHI -0.383 ppm
 F2HI -153.18 Hz
 F1PFO 7.783 ppm
 F1FLO 3114.13 Hz
 F1PHI -0.384 ppm
 F1HI -153.84 Hz
 F2PPMCM 0.65338 ppm/cm
 F2HZCM 261.43790 Hz/cm
 F1PPMCM 0.65338 ppm/cm
 F1HZCM 261.43790 Hz/cm





11b



Current Data Parameters
 NAME lgm186
 EXPNO 13
 PROCNO 1
 DU mpi
 USER kl

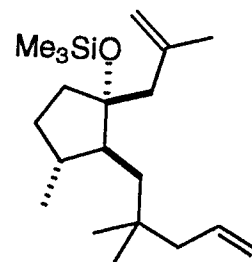
F2 - Acquisition Parameters
 Date_ 960723
 Time 14 31
 INSTRUM amx400
 PROBED 5 mm Multinu
 PULPROG hxcg
 TD 2048
 SOLVENT CDCl3
 NS 40
 DS 4
 SWH 16129.032 Hz
 FIDRES 7.875504 Hz
 AQ 0.0635380 sec
 RG 32768
 DW 31.000 usec
 DE 48.57 usec
 TE 300.0 K
 HL1 1 dB
 D11 0.0300000 sec
 D1 3.03685808 sec
 S1 1 dB
 P3 5.40 usec
 SFO2 400.1358781 MHz
 DECNOC 1H
 D0 0.0000300 sec
 F2 28.80 usec
 D2 0.00333300 sec
 P1 14.40 usec
 D3 0.00166670 sec
 S2 29 dB
 DE 48.57 usec
 SFO1 100.6212093 MHz
 NUCLEUS 13C
 CPDPRG waltz16
 P31 100.00 usec
 IN0 0.00015300 sec

F1 - Acquisition parameters
 ND0 2
 TD 128
 SFO1 400.1359 MHz
 FIDRES 25.531046 Hz
 SW 8.167 ppm

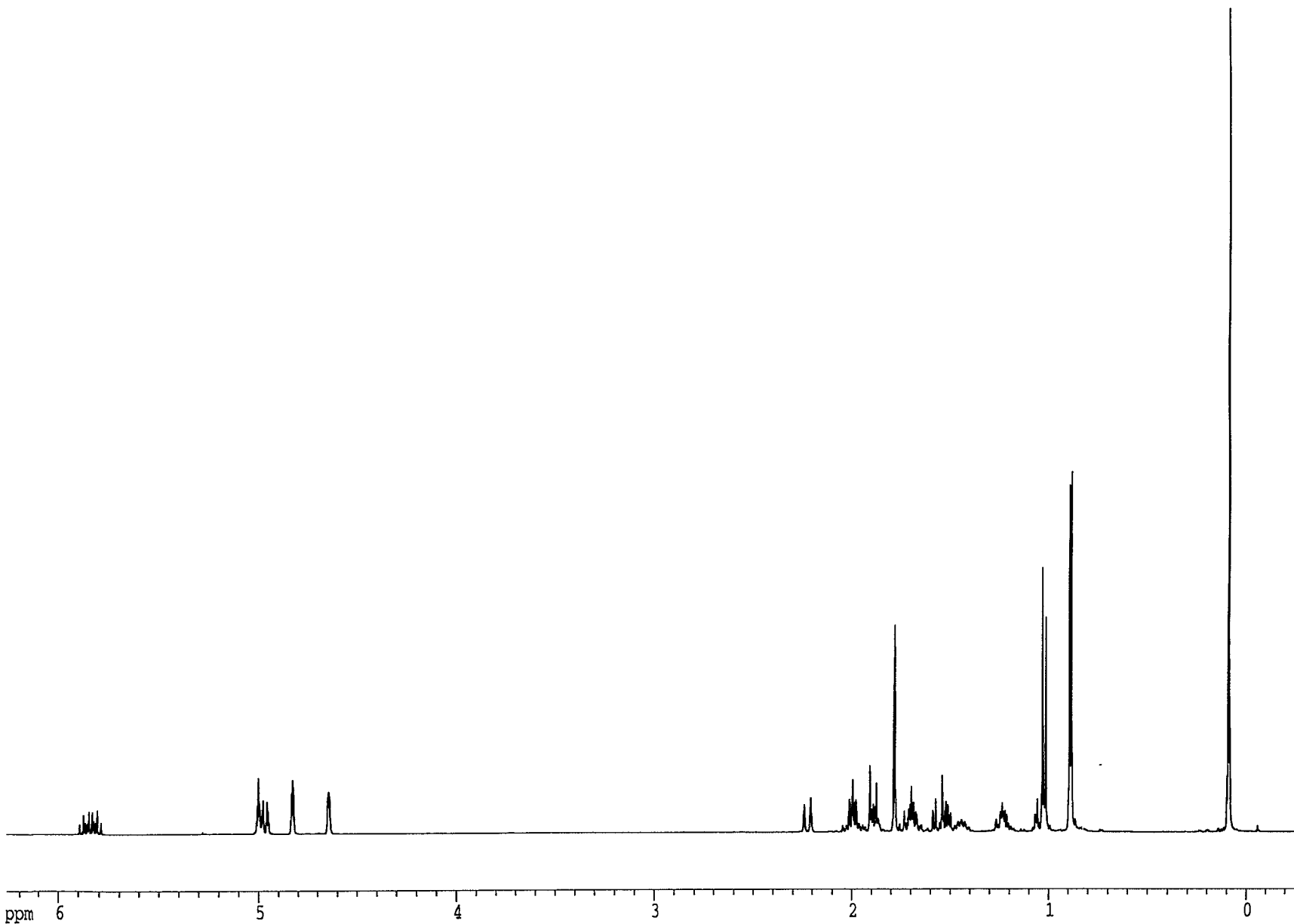
F2 - Processing parameters
 SI 2048
 SF 100.6138660 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

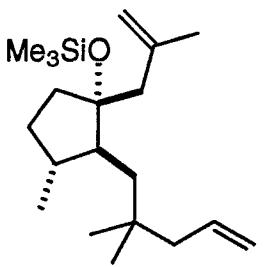
F1 - Processing parameters
 SI 256
 MC2 QF
 SF 400.1343918 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0

2D NMR plot parameters
 CX2 15.00 cm
 CX1 12.50 cm
 F2PLO 58.973 ppm
 F2LO 5933.54 Hz
 F2PHI -1.455 ppm
 F2HI -146.35 Hz
 F1PLO 2.566 ppm
 F1LO 1026.72 Hz
 F1PHI -0.178 ppm
 F1HI -71.12 Hz
 F2PPMCM 4.02853 ppm/cm
 F2HZCM 405.32599 Hz/cm
 F1PPMCM 0.21949 ppm/cm
 F1HZCM 87.82681 Hz/cm

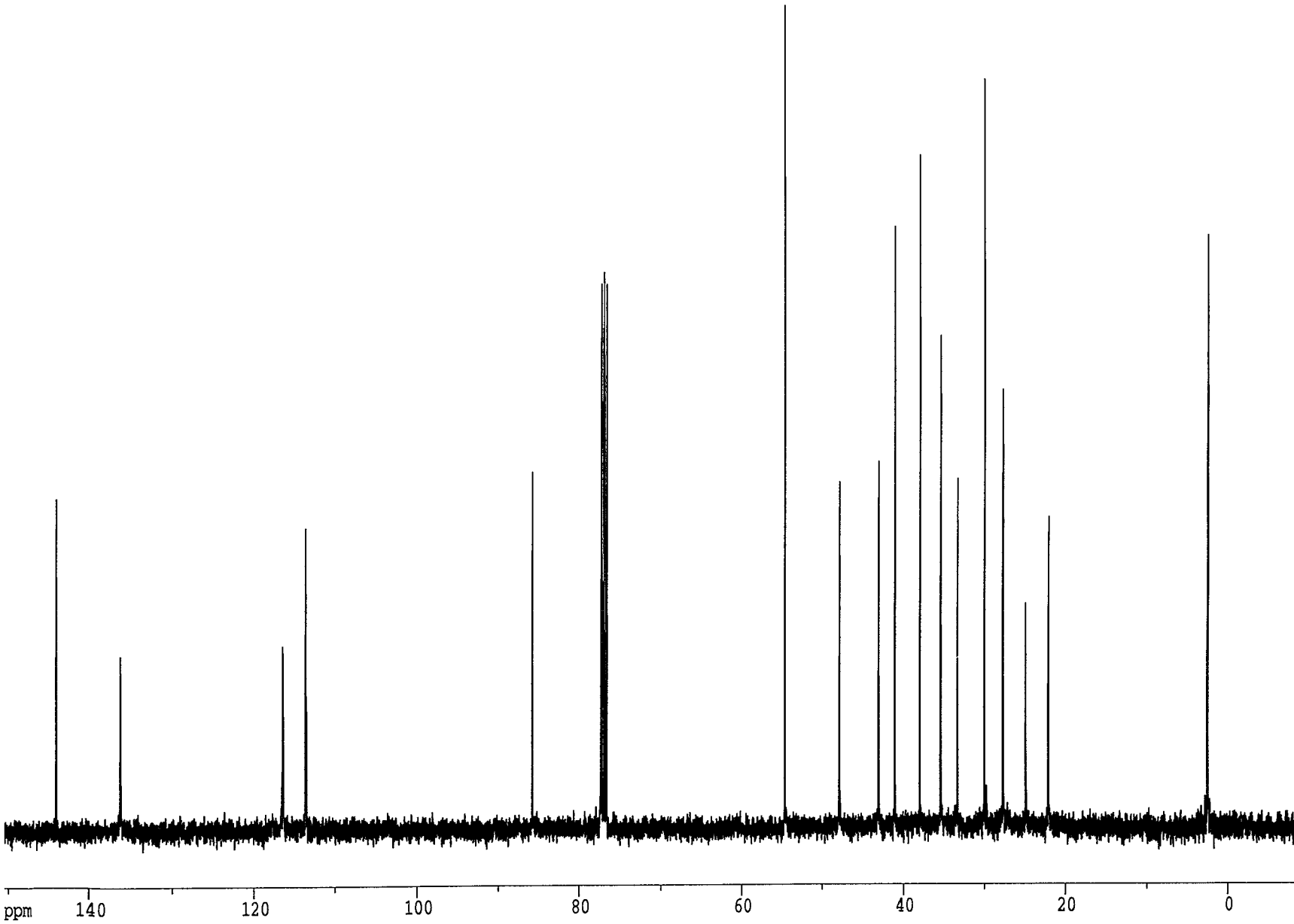


12b





12b



Current Data Parameters
 NAME lgm17601
 EXPNO 14
 PROCNO 1
 DU mpi
 USER kl

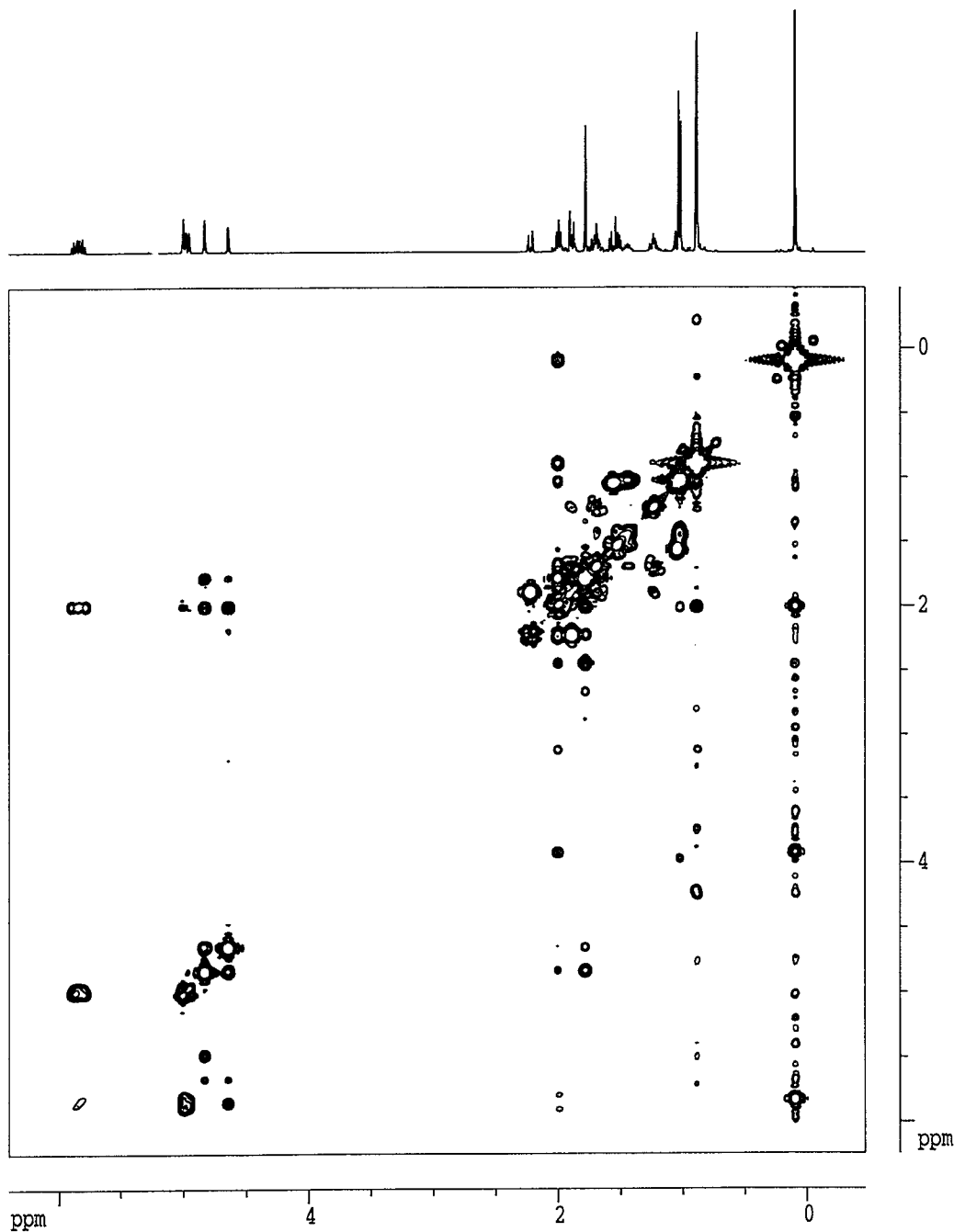
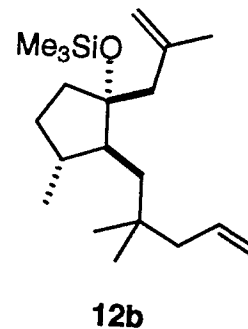
F2 - Acquisition Parameters
 Date 960703
 Time 1.26
 INSTRUM amx400
 PROBRD 5 mm Multinu
 PULPROG cosy90
 TD 512
 SOLVENT CDCl3
 NS 8
 DS 4
 SWH 3649.635 Hz
 FIDRES 7.128193 Hz
 AQ 0.0701940 sec
 RG 32
 DW 137.000 usec
 DE 152.50 usec
 TE 300.0 K
 HL1 1 dB
 D1 2.49897599 sec
 P1 5.60 usec
 D0 0.00000300 sec
 DE 152.50 usec
 SF01 400.1352048 MHz
 NUCLEUS 1H
 INO 0.00027400 sec

F1 - Acquisition parameters
 ND0 1
 TD 256
 SF01 400.1352 MHz
 FIDRES 14.256387 Hz
 SW 9.121 ppm

F2 - Processing parameters
 SI 512
 SF 400.1344023 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 8.00

F1 - Processing parameters
 SI 512
 MC2 QF
 SF 400.1344023 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0

2D NMR plot parameters
 CX2 12.50 cm
 CK1 12.50 cm
 F2PLO 6.406 ppm
 F2LO 2563.15 Hz
 F2PHI -0.471 ppm
 F2HI -188.34 Hz
 F1PLO 6.245 ppm
 F1LO 2498.99 Hz
 F1PHI -0.471 ppm
 F1HI -188.34 Hz
 F2PPMCM 0.55011 ppm/cm
 F2HZCM 220.11861 Hz/cm
 F1PPMCM 0.53729 ppm/cm
 F1HZCM 214.98631 Hz/cm



Current Data Parameters

NAME 1gml7601
 EXPNO 14
 PROCNO 1
 DU mpi
 USER kl

F2 - Acquisition Parameters

Date_ 960703
 Time 1.26
 INSTRUM amx400
 PROBHD 5 mm Multinu
 PULPROG cosy90
 TD 512
 SOLVENT CDCl3
 NS 8
 DS 4
 SWH 3649.635 Hz
 FIDRES 7.128193 Hz
 AQ 0.0701940 sec
 RG 32
 DW 137.000 usec
 DE 152.50 usec
 TE 300.0 K
 HL1 1 dB
 D1 2.49897599 sec
 P1 5.60 usec
 D0 0.0000300 sec
 DE 152.50 usec
 SFO1 400.1352048 MHz
 NUCLEUS 1H
 IN0 0.00027400 sec

F1 - Acquisition parameters

ND0 1
 TD 256
 SFO1 400.1352 MHz
 FIDRES 14.256387 Hz
 SN 9.121 ppm

F2 - Processing parameters

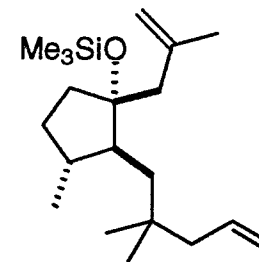
SI 512
 SF 400.1344023 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 8.00

F1 - Processing parameters

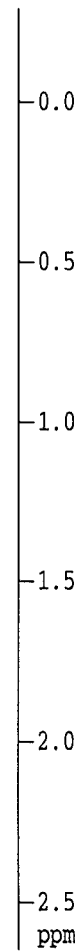
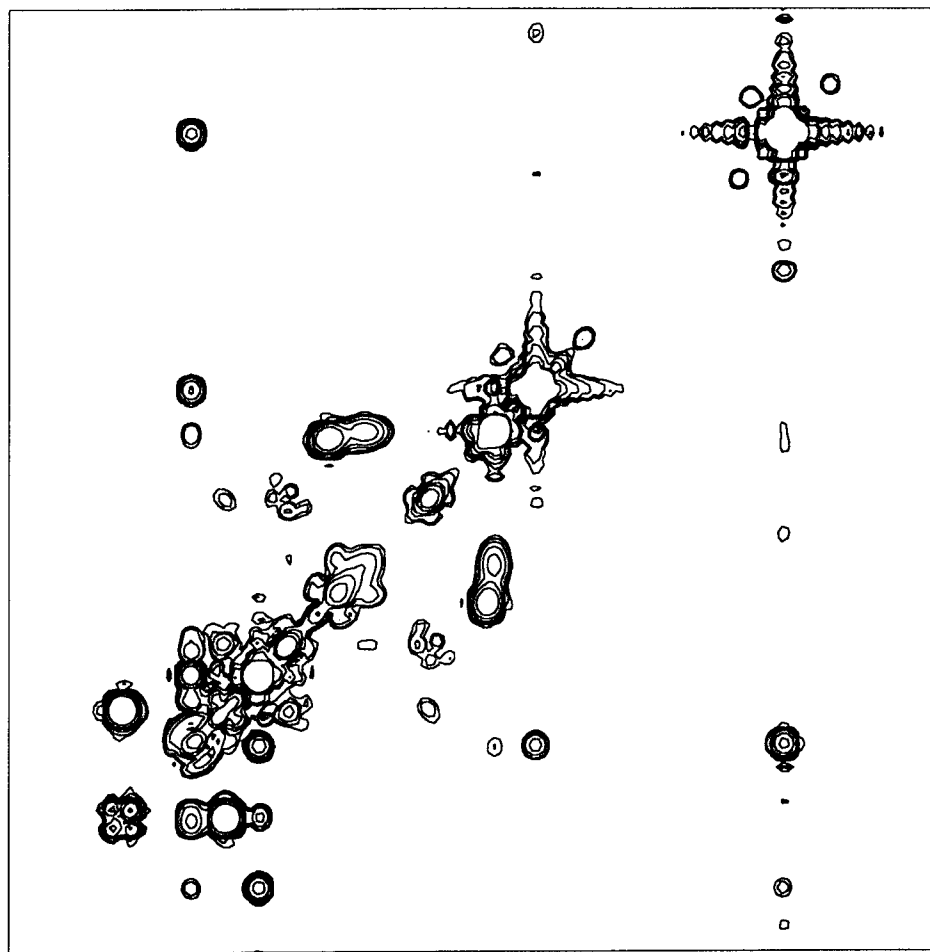
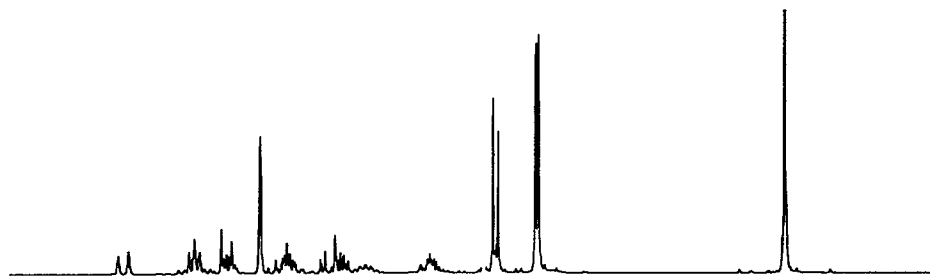
SI 512
 MC2 OF
 SF 400.1344023 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0

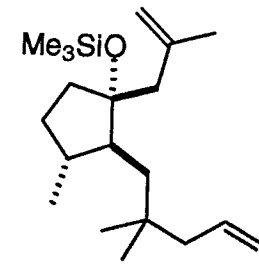
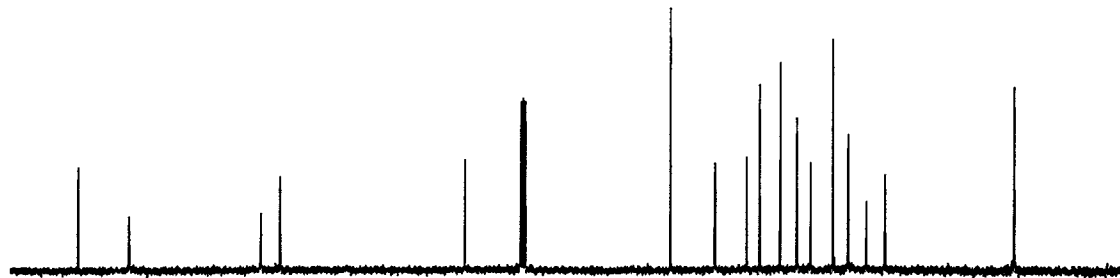
2D NMR plot parameters

CX2 12.50 cm
 CX1 12.50 cm
 F2PLO 2.593 ppm
 F2L0 1037.71 Hz
 F2PHI -0.417 ppm
 F2HI -166.95 Hz
 F1PLO 2.647 ppm
 F1L0 1059.10 Hz
 F1PHI -0.293 ppm
 F1HI -117.06 Hz
 F2PPMCM 0.24085 ppm/cm
 F2HZCM 96.37318 Hz/cm
 F1PPMCM 0.23515 ppm/cm
 F1HZCM 94.09216 Hz/cm

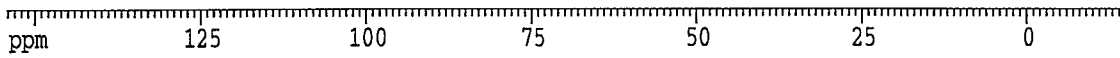
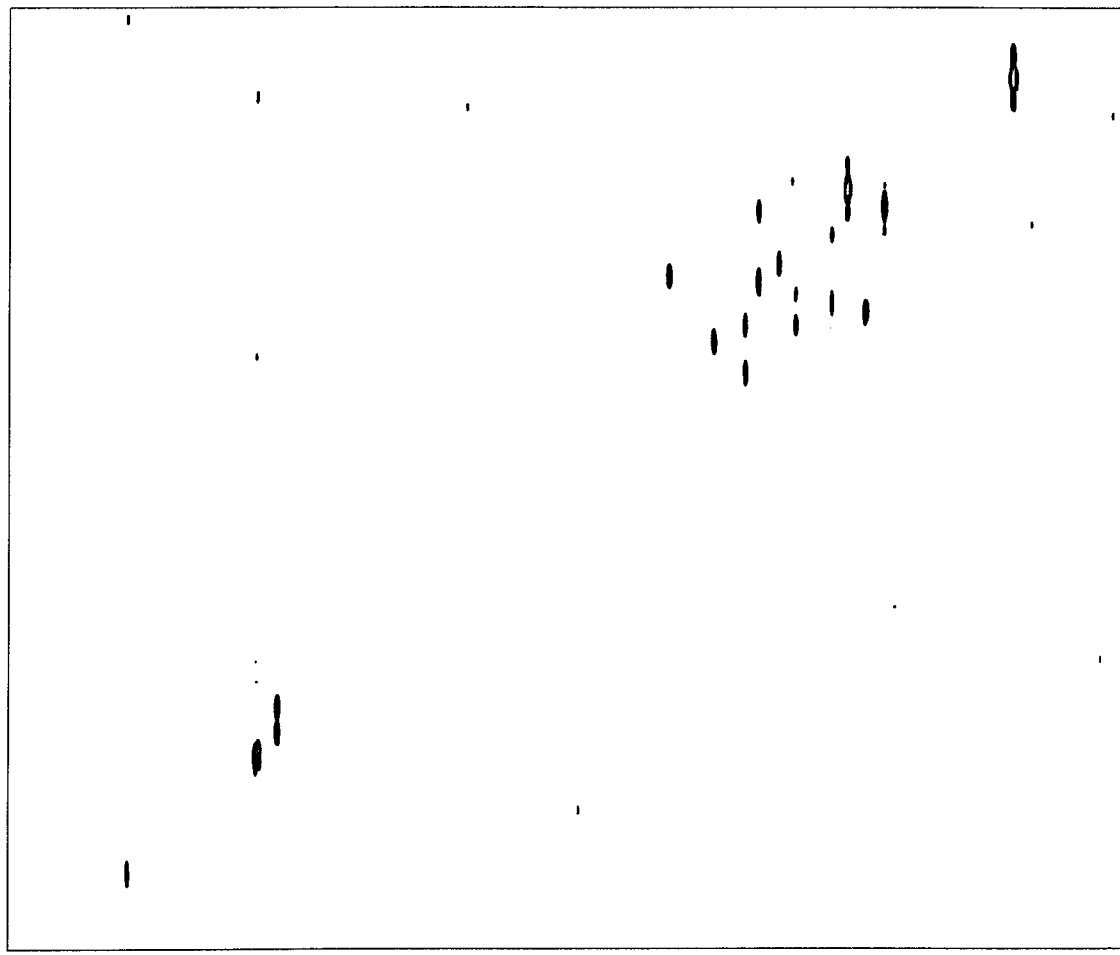


12b





12b



Current Data Parameters

NAME	lqm17601
EXPNO	15
PROCNO	1
DU	mpi
USER	kl

F2 - Acquisition Parameters

Date_	960703
Time	2.56
INSTRUM	amx400
PROBHD	5 mm Multinu
PULPROG	hxco
TD	2048
SOLVENT	CDCl3
NS	32
DS	4
SWH	31250.000 Hz
FIDRES	15.258789 Hz
AQ	0.0328180 sec
RG	32768
DW	16.000 usec
DE	48.57 usec
TE	300.0 K
HL1	1 dB
D11	0.03000000 sec
D1	3.01638389 sec
S1	1 dB
P3	5.40 usec
SFO2	400.1352048 MHz
DECNUC	1H
D0	0.00000300 sec
P2	28.80 usec
D2	0.00333330 sec
P1	14.40 usec
D3	0.00166670 sec
S2	29 dB
DE	48.57 usec
SFO1	100.6256314 MHz
NUCLEUS	13C
CPDPRG	waltz16
P31	100.00 usec
IN0	0.00013700 sec

F1 - Acquisition parameters

ND0	2
TD	128
SFO1	400.1352 MHz
FIDRES	28.512774 Hz
SW	9.121 ppm

F2 - Processing parameters

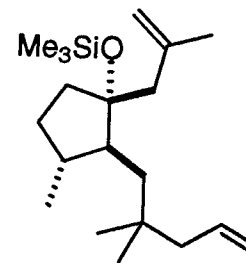
SI	2048
SF	100.6138708 MHz
WDW	SINE
SSB	0
LB	0.00 Hz
GB	0
PC	1.00

F1 - Processing parameters

SI	256
MC2	QF
SF	400.1344023 MHz
WDW	SINE
SSB	0
LB	0.00 Hz
GB	0

2D NMR plot parameters

CX2	15.00 cm
CX1	12.50 cm
F2PLO	154.196 ppm
F2LO	15514.30 Hz
F2PHI	-15.053 ppm
F2HI	-1514.51 Hz
F1PLO	6.388 ppm
F1LO	2556.02 Hz
F1PHI	-0.417 ppm
F1HI	-166.95 Hz
F2PPMCM	11.28327 ppm/cm
F2HZCM	1135.25391 Hz/cm
F1PPMCM	0.54441 ppm/cm
F1HZCM	217.83759 Hz/cm



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Current Data Parameters

NAME lgm17601
 EXPNO 15
 PROCNO 1
 DU mpi
 USER kl

F2 - Acquisition Parameters

Date_ 960703
 Time 2.56
 INSTRUM amx400
 PROBHD 5 mm Multinu
 PULPROG hxcg
 TD 2048
 SOLVENT CDCl₃
 NS 32
 DS 4
 SWH 31250.000 Hz
 FIDRES 15.258789 Hz
 AQ 0.0328180 sec
 RG 32768
 DW 16.000 usec
 DE 48.57 usec
 TE 300.0 K
 HL1 1 db
 D11 0.03000000 sec
 D1 3.01638389 sec
 S1 1 db
 P3 5.40 usec
 SFO2 400.1352048 MHz
 DECNUC 1H
 D0 0.00000300 sec
 P2 28.80 usec
 D2 0.00333330 sec
 P1 14.40 usec
 D3 0.00166670 sec
 S2 29 dB
 DE 48.57 usec
 SFO1 100.6256314 MHz
 NUCLEUS 13C
 CPDPRG waltz16
 P11 100.00 usec
 IN0 0.00013700 sec

F1 - Acquisition parameters

NDO 2
 TD 128
 SFO1 400.1352 MHz
 FIDRES 28.512774 Hz
 SW 9.121 ppm

F2 - Processing parameters

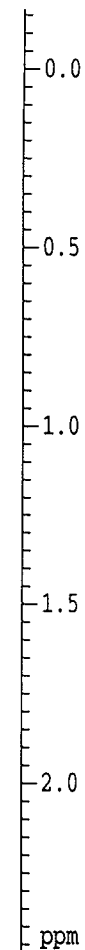
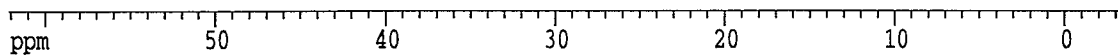
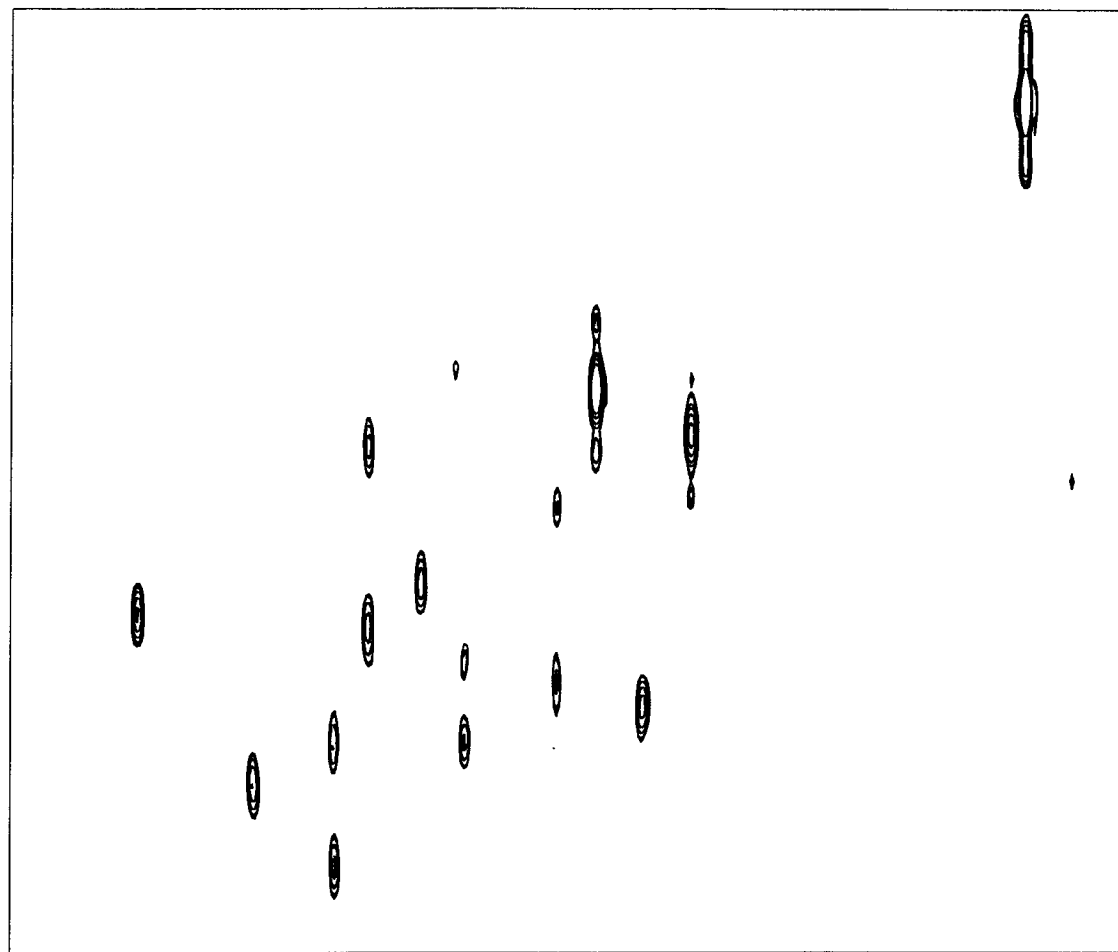
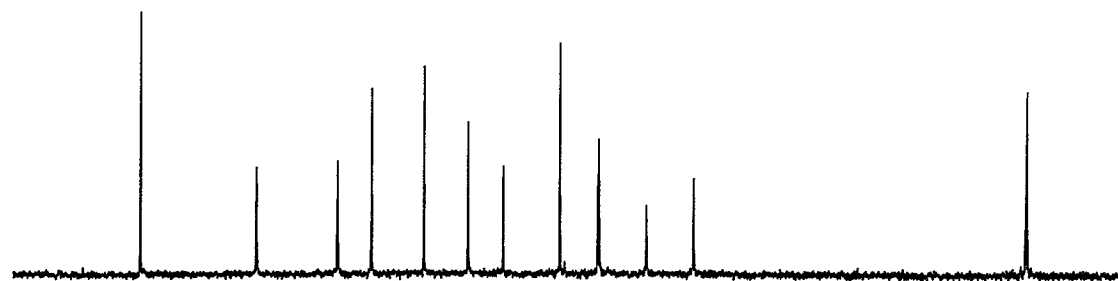
SI 2048
 SF 100.6138708 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

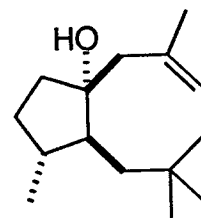
F1 - Processing parameters

SI 256
 MC2 QF
 SF 400.1344023 MHz
 WDW SINE
 SSB 0
 LB 0.00 Hz
 GB 0

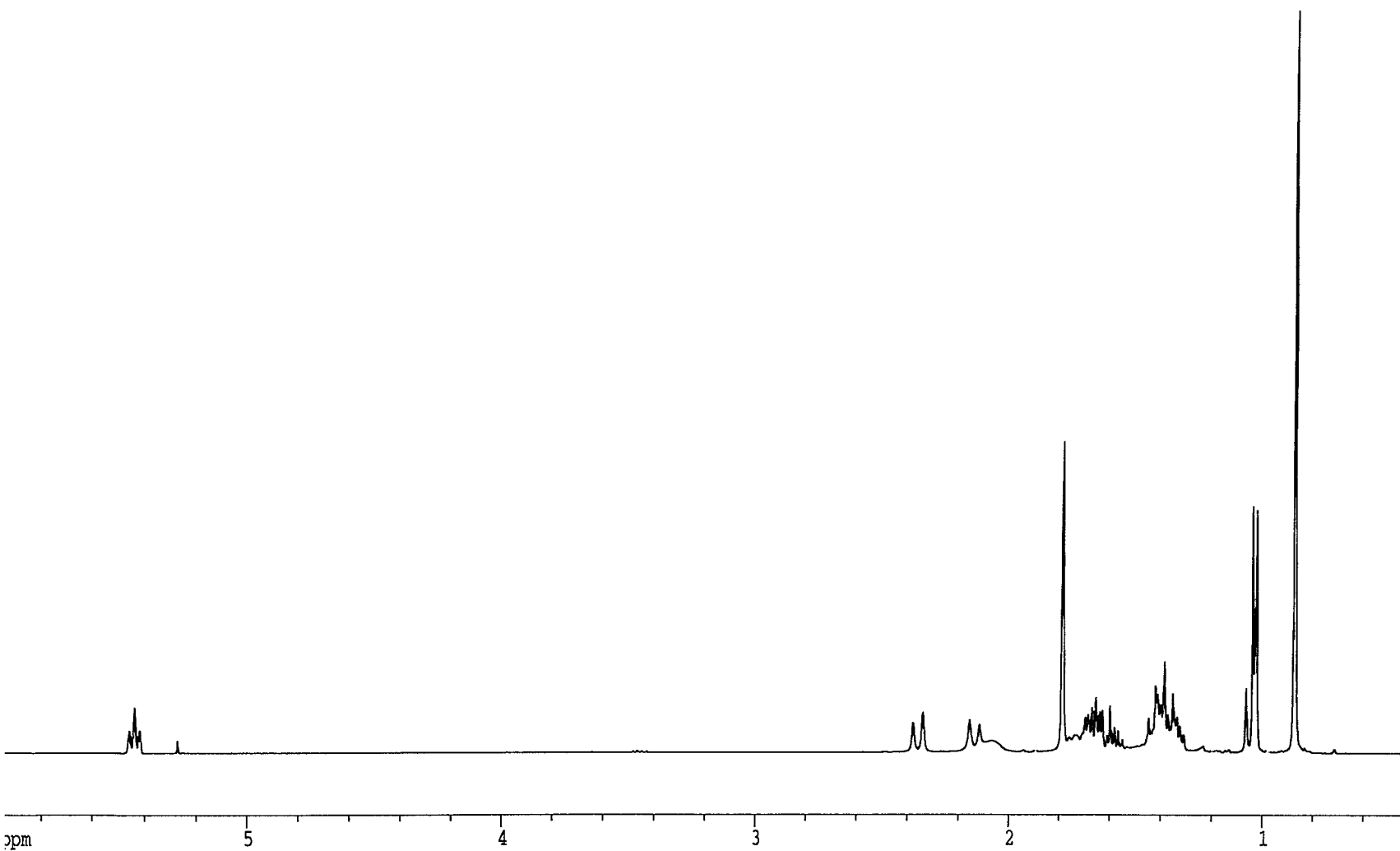
2D NMR plot parameters

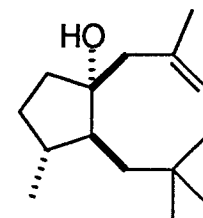
CX2 15.00 cm
 CX1 12.50 cm
 F2PLO 62.141 ppm
 F2LO 6252.21 Hz
 F2PHI -3.678 ppm
 F2HI -370.10 Hz
 F1PLO 2.469 ppm
 F1LO 987.81 Hz
 F1PHI -0.168 ppm
 F1HI -67.16 Hz
 F2PPMCM 4.38794 ppm/cm
 F2HZCM 441.48761 Hz/cm
 F1PPMCM 0.21092 ppm/cm
 F1HZCM 84.39781 Hz/cm



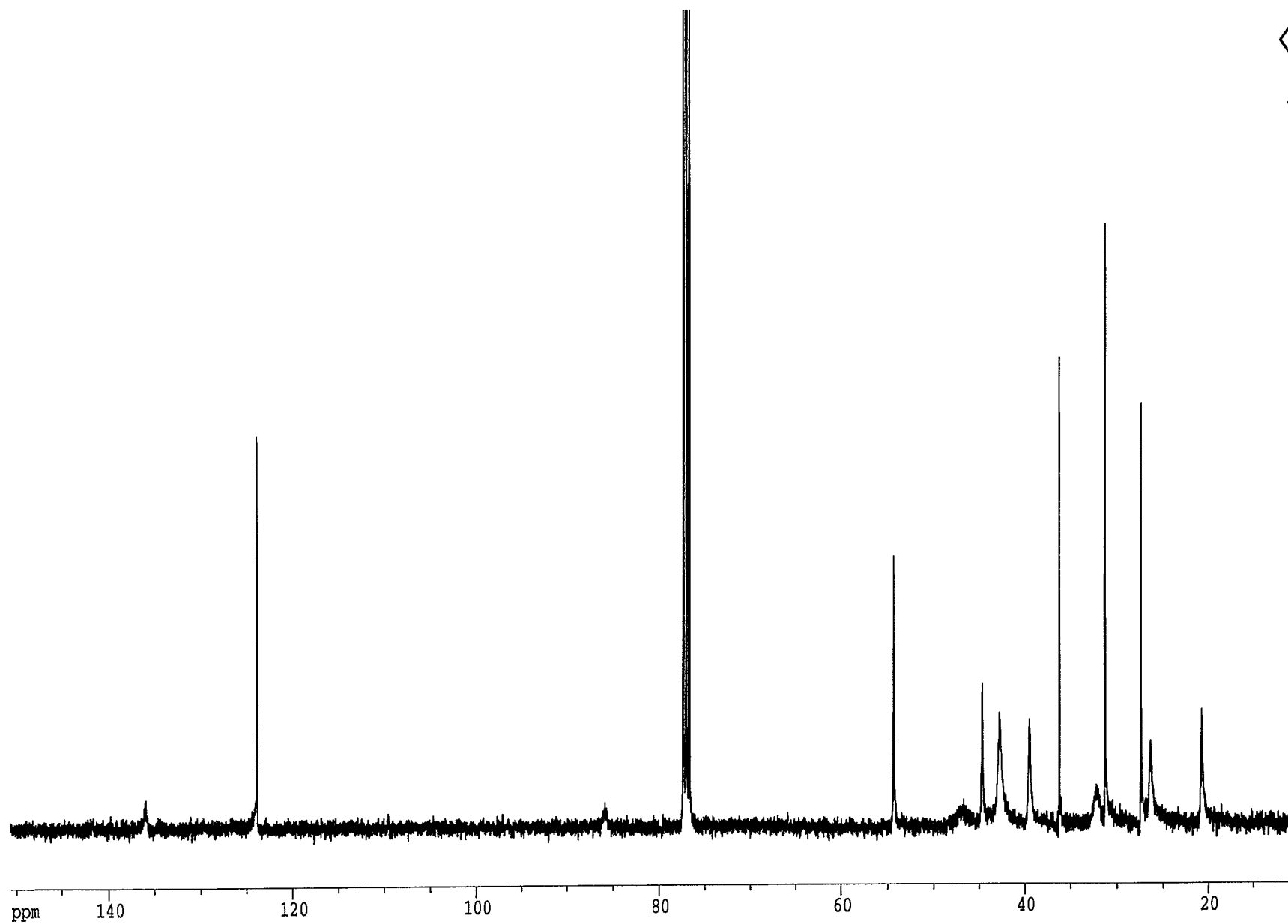


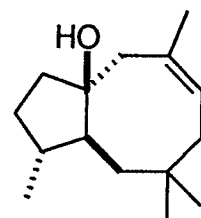
13



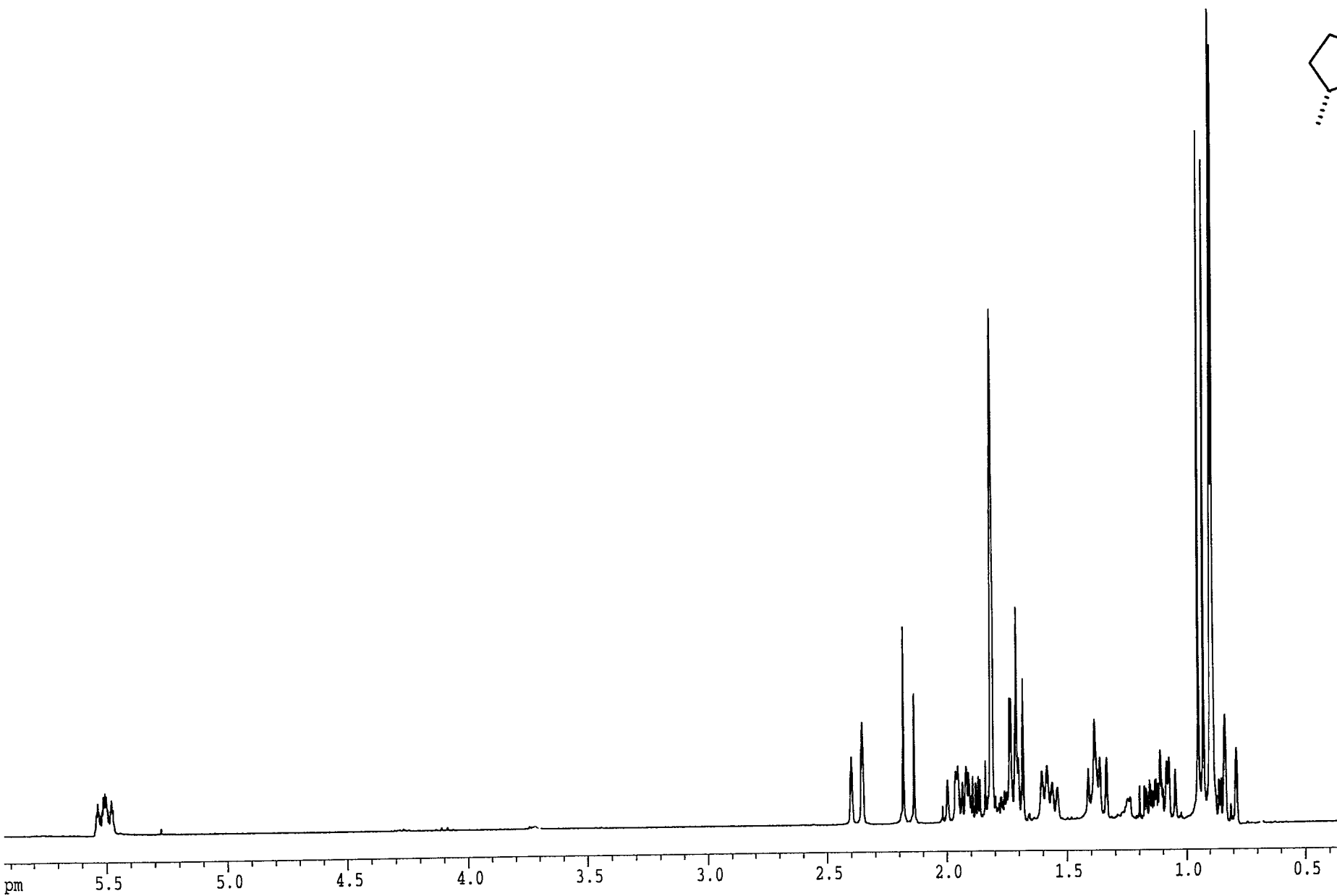


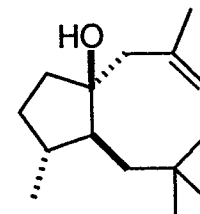
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1





1

