

Fragment Coupling and the Construction of Quaternary Carbons Using Tertiary Radicals Generated From *tert*-Alkyl *N*-Phthalimidoyl Oxalates By Visible-Light Photocatalysis

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SUPPORTING INFORMATION

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Image of typical photoredox-catalyzed reaction setup:



^1H NMR Spectra

¹H spectrum

```

Current Data Parameters
Name          GL4-44-35a
EXPNO        1
PROCNO       1

F2 - Acquisition Parameters
Date_        20140729
Time         20.35
INSTRUM      spect
PROBHD       5 mm TBI
PULPROG      zg30
TD           65536
SOLVENT      CDCl3
NS           8
DS           2
SWH          9615.365 Hz
AQ           0.068478 sec
RG           228
DW           52.000 usec
DE           14.54 usec
TE           298.1 K
D1           0.10000000 sec
TD0          1

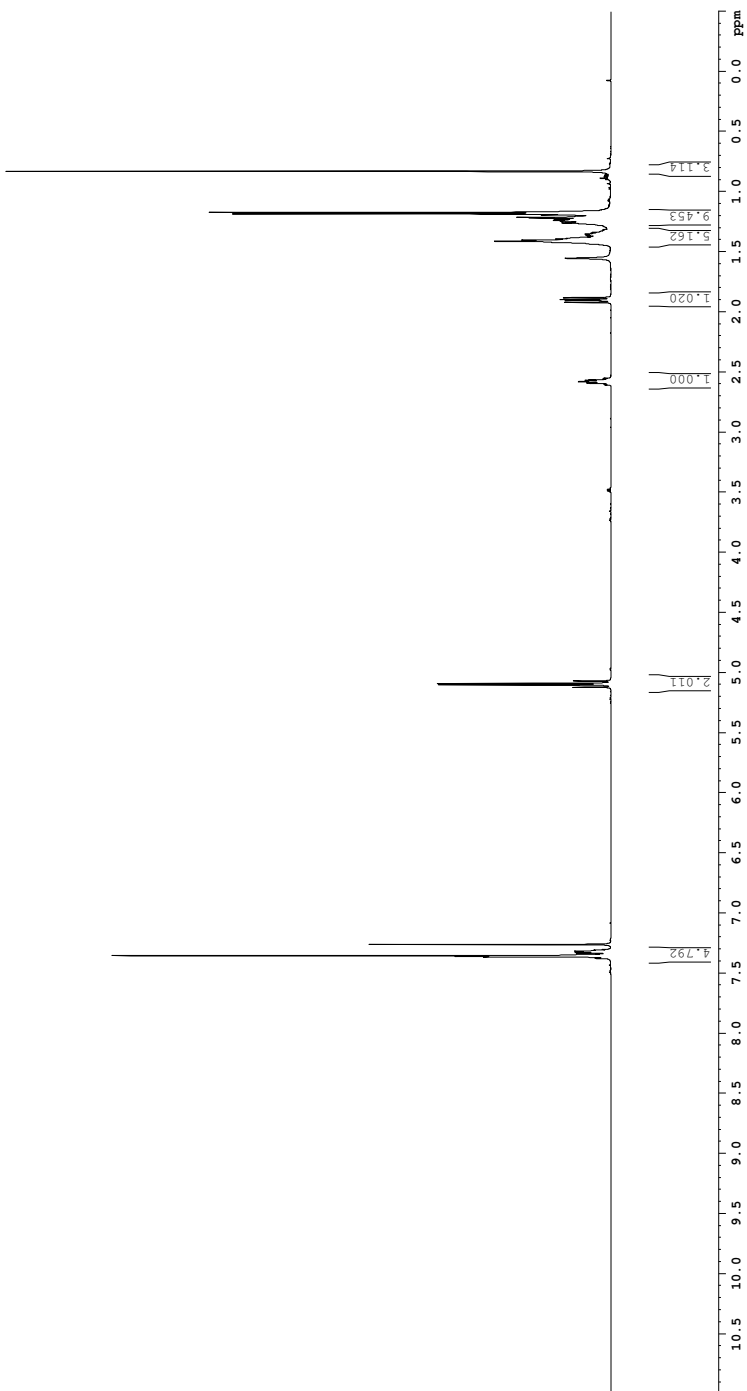
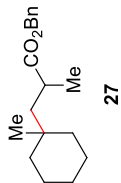
===== CHANNEL f1 =====
SFO1         600.1342009 MHz
NUC1         1H
P1           8.00 usec
PLW1        23.01441956 W

F2 - Processing Parameters
SI           65536
SF           600.1300343 MHz
WDW          EM
SSB          0
LB           0.30 Hz
GB           0
PC           1.00
  
```

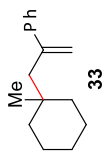
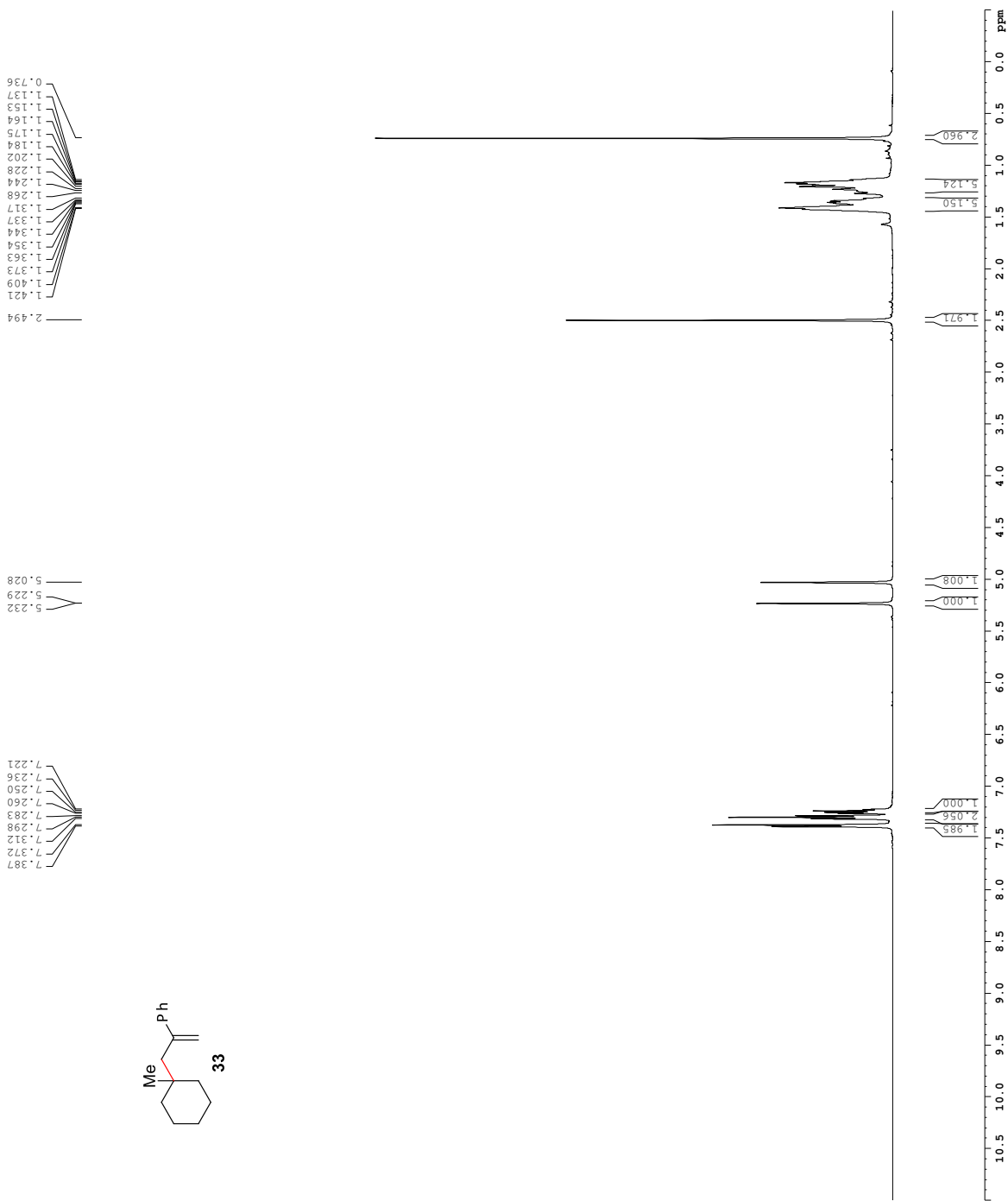
2.593
2.563
2.577
1.918
1.903
1.894
1.879
1.407
1.400
1.390
1.357
1.349
1.258
1.242
1.236
1.224
1.215
1.210
1.182
1.170
0.827

5.120
5.100
5.089
5.068

7.359
7.353
7.331
7.326
7.316
7.260



¹H spectrum



Current Data Parameters
 NAME GF-1150
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140423
 Time 11:09
 INSTRUM spect
 PROBRD 5 mm CPTCI 1H
 PULPROG zgpg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SS 8012.826 Hz
 FT2RES 0.098043 Hz
 AQ 5.0998273 sec
 RG 7.1
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 ME 0.10000000 sec
 MC 0.01500000 sec

===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0.00 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200324 MHz
 WDW EM
 GB 0
 PC 4.00

¹H spectrum

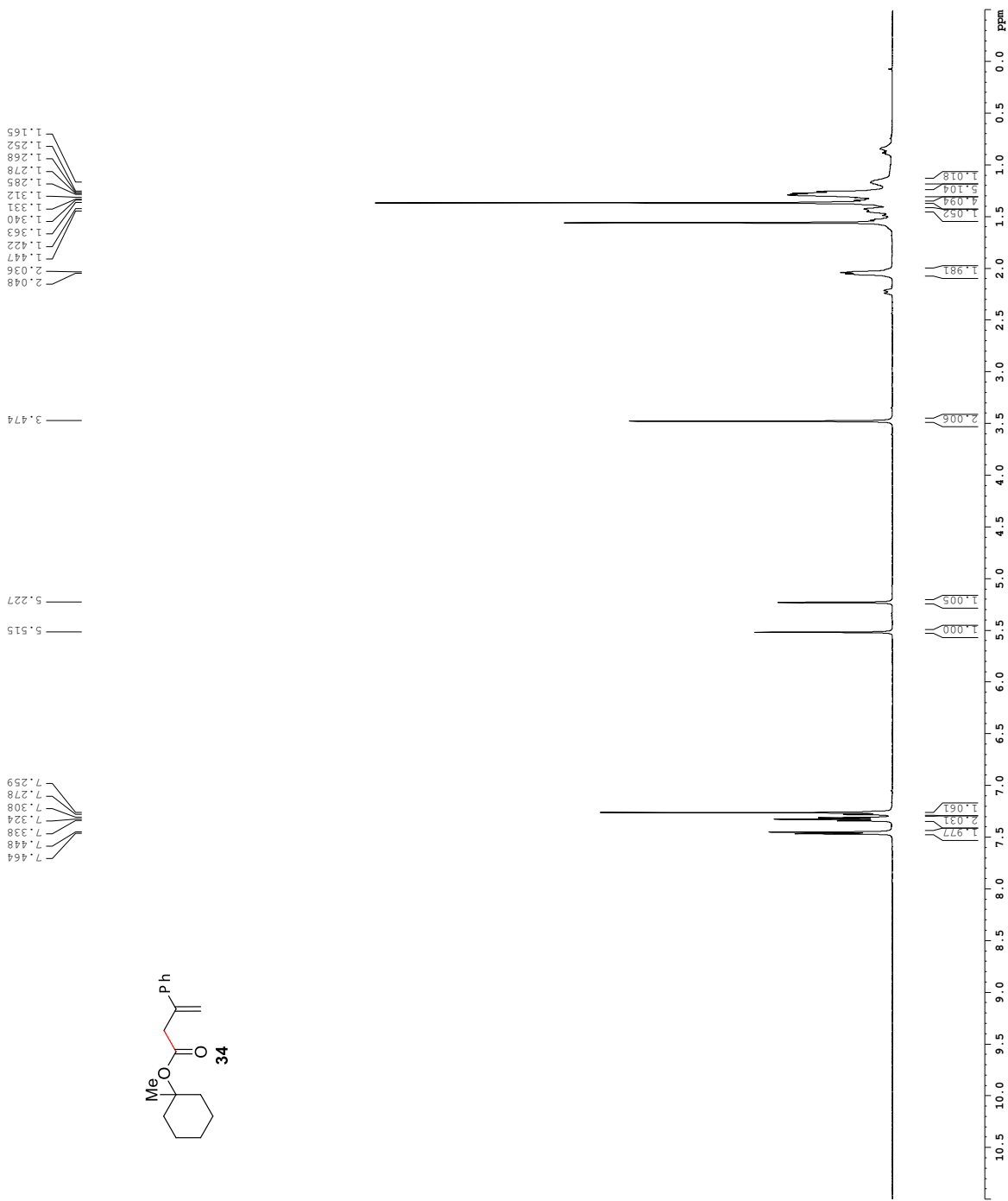
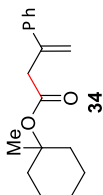
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Current Data Parameters
NAME      GF1-320
EXPNO     1
PROCNO    1

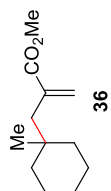
F2 - Acquisition Parameters
Date_     20140829
Time      8:13
INSTRUM   cryo
PROBHD    5 mm CPTCI 1H
PULPROG   zg30
TD         81728
SOLVENT   CDCl3
NS         16
DS         4
SWH        8012.826 Hz
FIDRES     0.098043 Hz
AQ         5.0998273 sec
RG         5
DW         62.400 usec
DE         6.00 usec
TE         298.0 K
MGREST    0 sec
MGREK     0.01500000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         7.50 usec
PL1        0 dB
SFO1       500.2235015 MHz

F2 - Processing parameters
SI         65536
WDW        EM
SS         0
LB         0.30 Hz
GB         0
PC         4.00
  
```



¹H spectrum

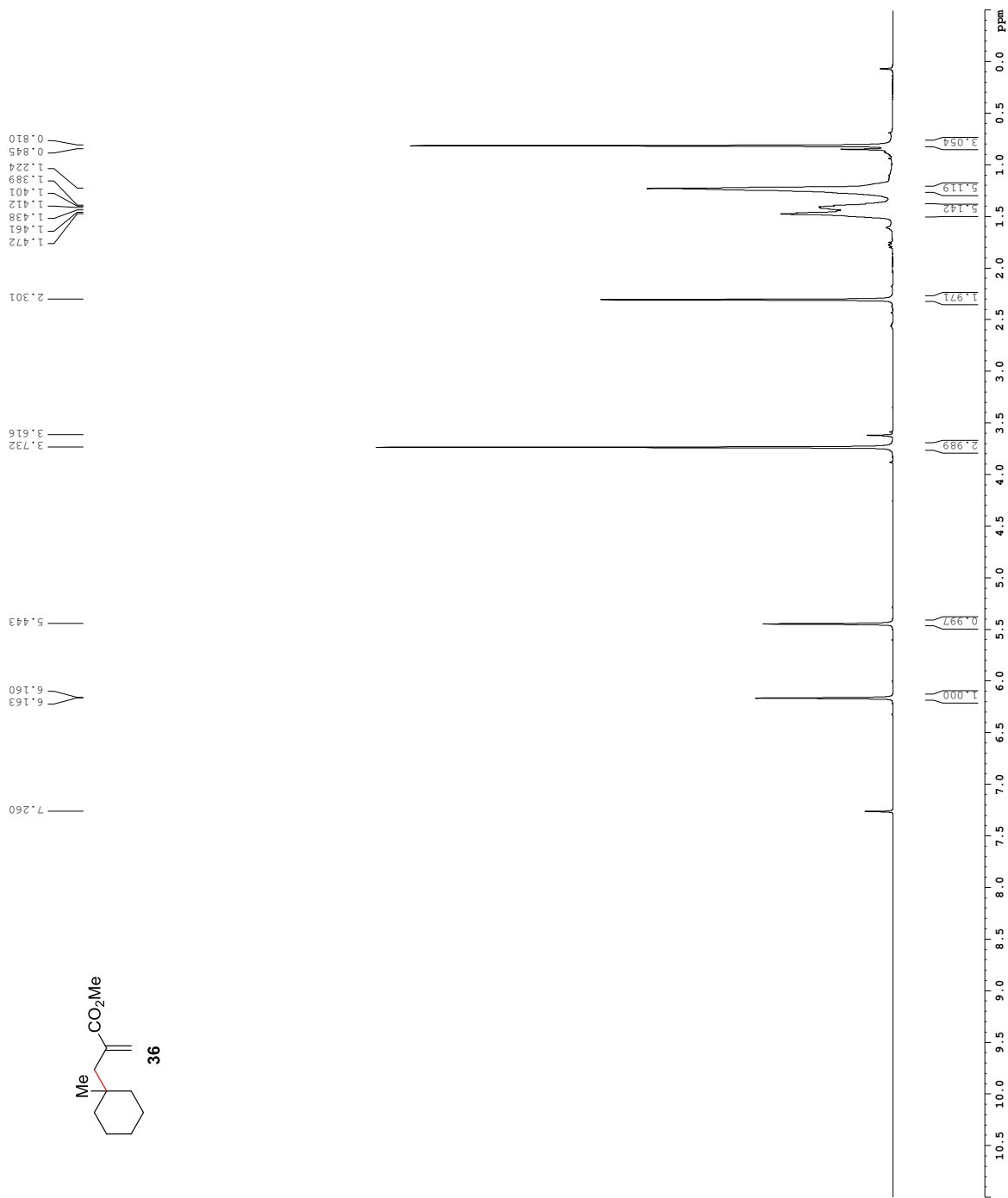


Current Data Parameters
 NAME GF1-157
 EXPNO 3
 PROCNO 1

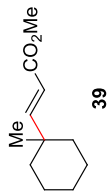
F2 - Acquisition Parameters
 Date_ 20140311
 Time 17:50
 INSTRUM spect
 PROBRD 5 mm CPTCI 1H
 PULPROG zgpg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SS 8012.826 Hz
 FT2DRES 0.098043 Hz
 AQ 5.0998273 sec
 RG 6.3
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 ME 0.10000000 sec
 MC 0.01500000 sec

===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0.00 dB
 SFO1 500.2235015 MHz

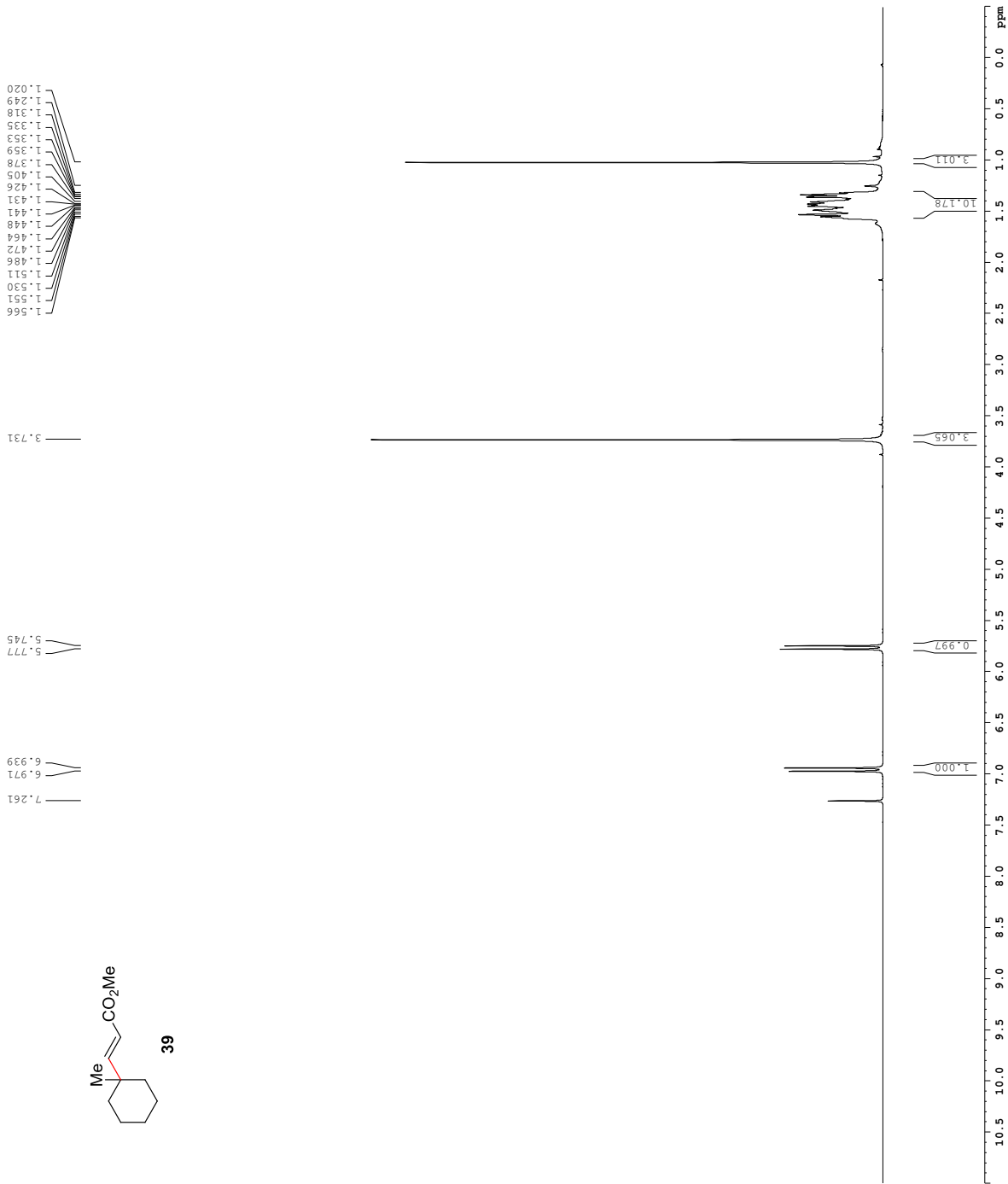
F2 - Processing parameters
 SI 65536
 SF 500.2200298 MHz
 WDW EM
 SS 0
 GB 0
 PC 4.00



1H spectrum



Current Data Parameters
 NAME GF1-244
 EXPNO 1
 PROCNO 1
 F2 - Acquisition Parameters
 Date_ 20140828
 Time 13:06
 INSTRUM spect
 PROBRD 5 mm CPTCI 1H
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SS 8012.826 Hz
 FT2RES 0.098043 Hz
 AQ 5.0998273 sec
 RG 5
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 ME 0.10000000 sec
 MC 0.01500000 sec
 ===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0.00 dB
 SFO1 500.2235015 MHz
 F2 - Processing parameters
 SI 65536
 SF 500.2200302 MHz
 WDW EM
 SS 0
 GB 0
 PC 4.00



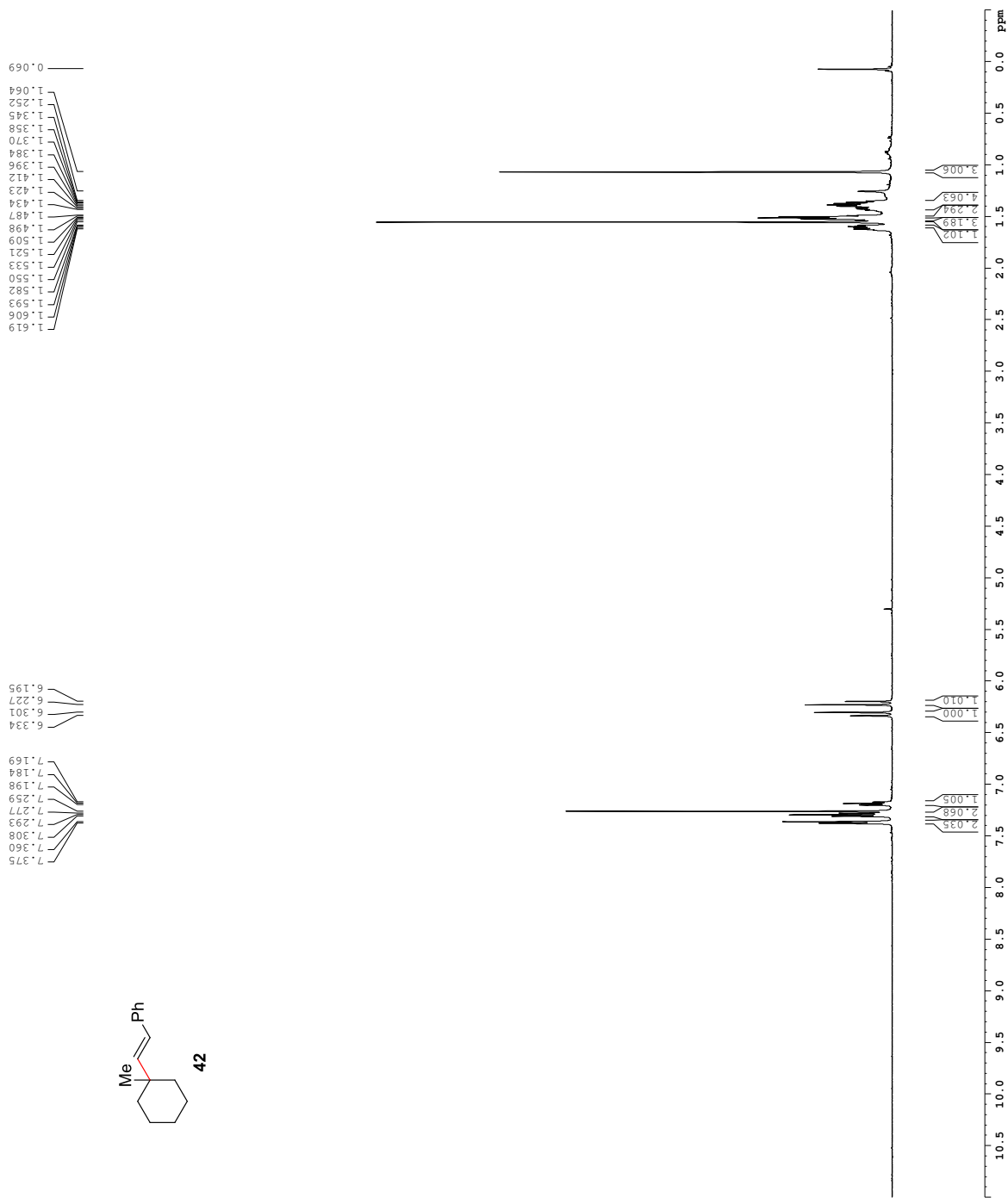
1H spectrum

Current Data Parameters
 NAME GF1-216
 EXPNO 1
 PROCNO 1

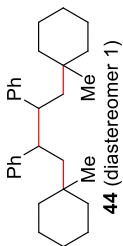
F2 - Acquisition Parameters
 Date_ 20140721
 Time 14:00
 INSTRUM spect
 PROBRD 5 mm CPTCI 1H
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SS 8012.826 Hz
 FT2DRES 0.098043 Hz
 AQ 5.0998273 sec
 RG 6.3
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 ME 0.10000000 sec
 MC 0.01500000 sec

===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0.00 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 MDW 0
 ZS 0
 GB 0
 PC 4.00



¹H spectrum



7.258
7.244
7.229
7.215
7.162
7.148
7.126
7.111

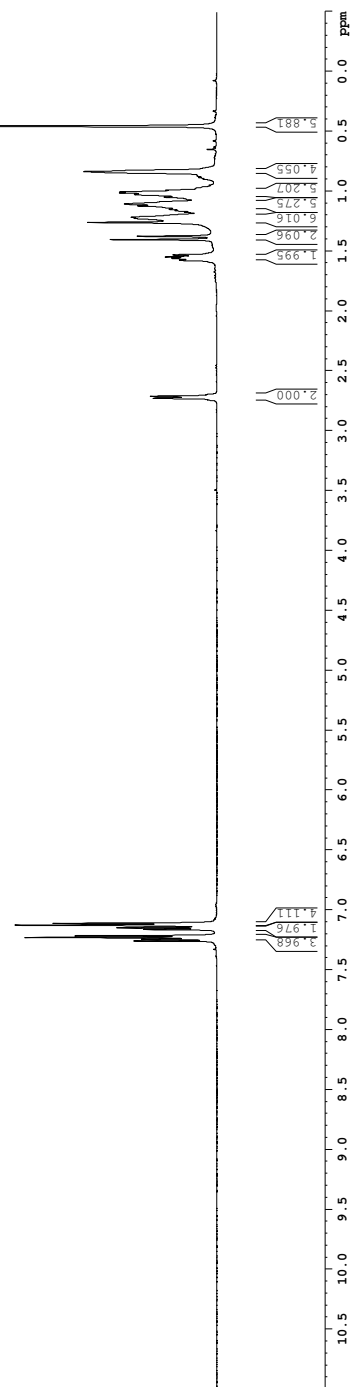
2.726
2.709
1.575
1.557
1.547
1.528
1.401
1.373
1.257
1.224
1.215
1.173
1.160
1.148
1.120
1.103
1.047
1.027
1.021
1.011
1.004
0.988
0.972
0.833
0.454

Current Data Parameters
NAME GF1-021
EXPNO 1
PROCNO 1

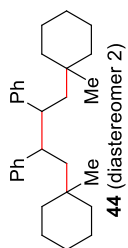
F2 - Acquisition Parameters
Date_ 20140423
Time 10:04
INSTRUM spect
PROBHD 5 mm CPTCI 1H
PULPROG zg30
TD 81728
SOLVENT CDCl3
NS 8
DS 2
F2 8012.826 Hz
FIDRES 0.098043 Hz
AQ 5.0998273 sec
RG 7.1
DW 62.400 usec
DE 6.00 usec
TE 298.0 K
RGREST 0 sec
MCNREK 0.01500000 sec

===== CHANNEL F1 =====
NUC1 1H
P1 7.50 usec
PL1 0.00 dB
SFO1 500.2235015 MHz

F2 - Processing parameters
SI 65536
SF 500.2200333 MHz
WDW EM
SS 0
LB 0.30 Hz
GB 0
PC 4.00



¹H spectrum



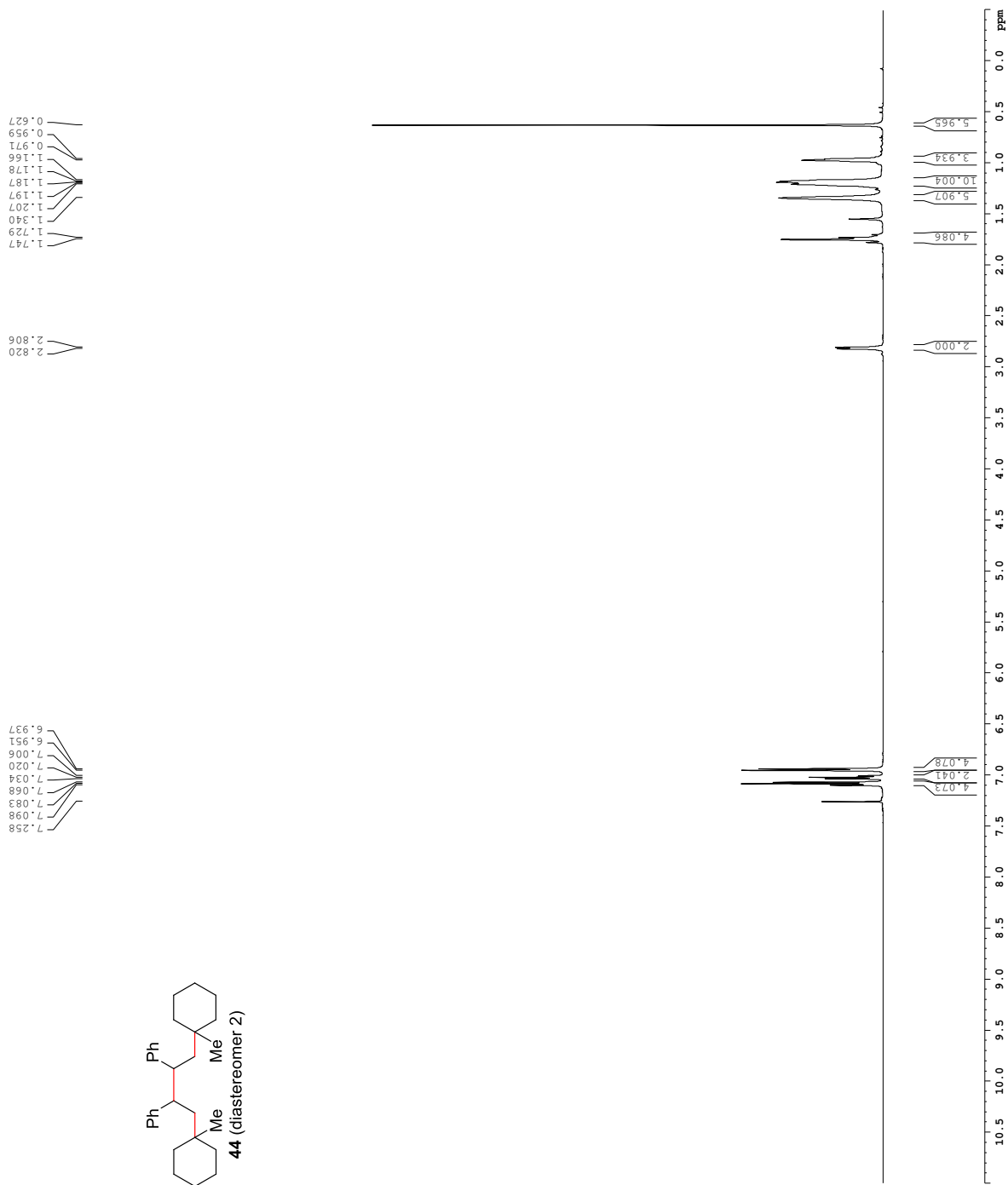
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Current Data Parameters
NAME      GF1-071
EXPNO     1
PROCNO    1

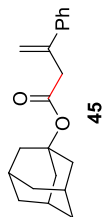
F2 - Acquisition Parameters
Date_     20140721
Time      13.06
INSTRUM   spect
PROBHD    5 mm CPTCI 1H
PULPROG   zg30
TD         81728
SOLVENT   CDCl3
NS         8
DS         2
AQ         8012.826 Hz
FIDRES    0.098043 Hz
RG         5.0998273 sec
RG         7.1
DE         62.400 usec
TE         298.0 K
MCREST    0 sec
MCNREK    0.01500000 sec

===== CHANNEL F1 =====
NUC1       1H
P1         7.50 usec
PL1        0.00 dB
SFO1       500.2235015 MHz

F2 - Processing parameters
SI         65536
WDW        EM
SS         0
LB         0.30 Hz
GB         0
PC         4.00
  
```



¹H spectrum



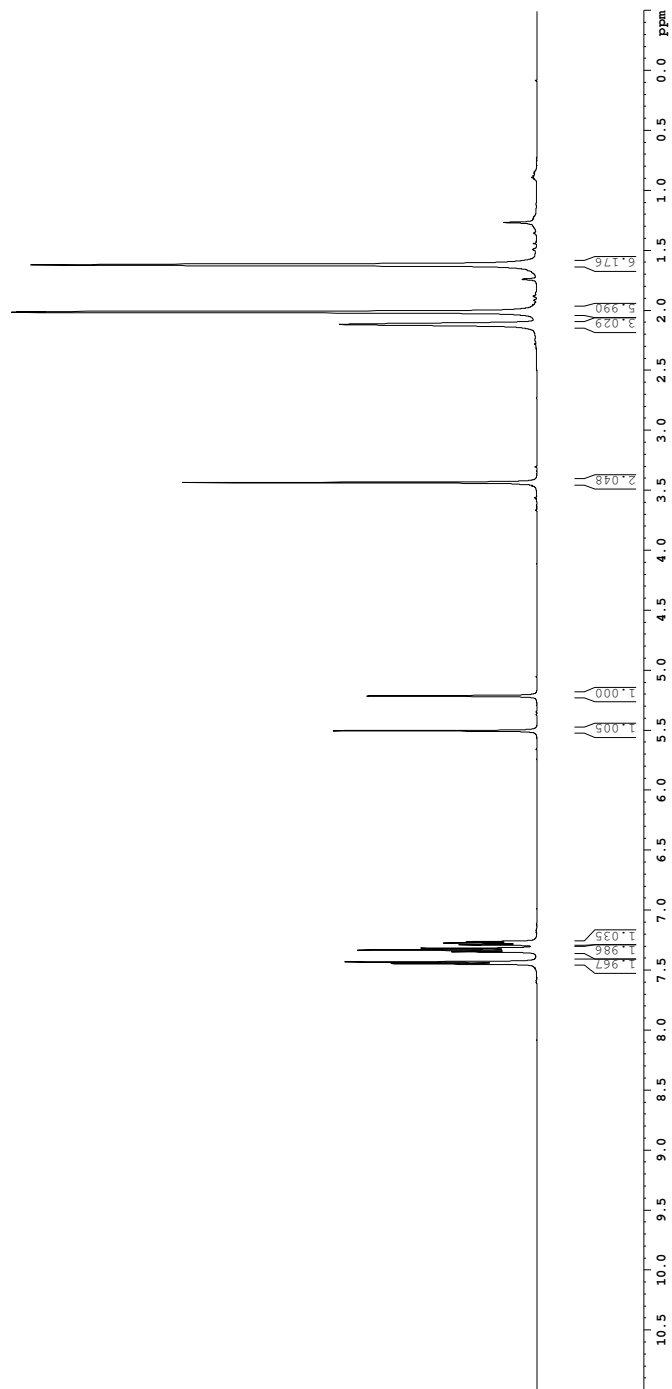
7.446
7.443
7.429
7.345
7.330
7.314
7.285
7.271
7.261

5.501
5.211

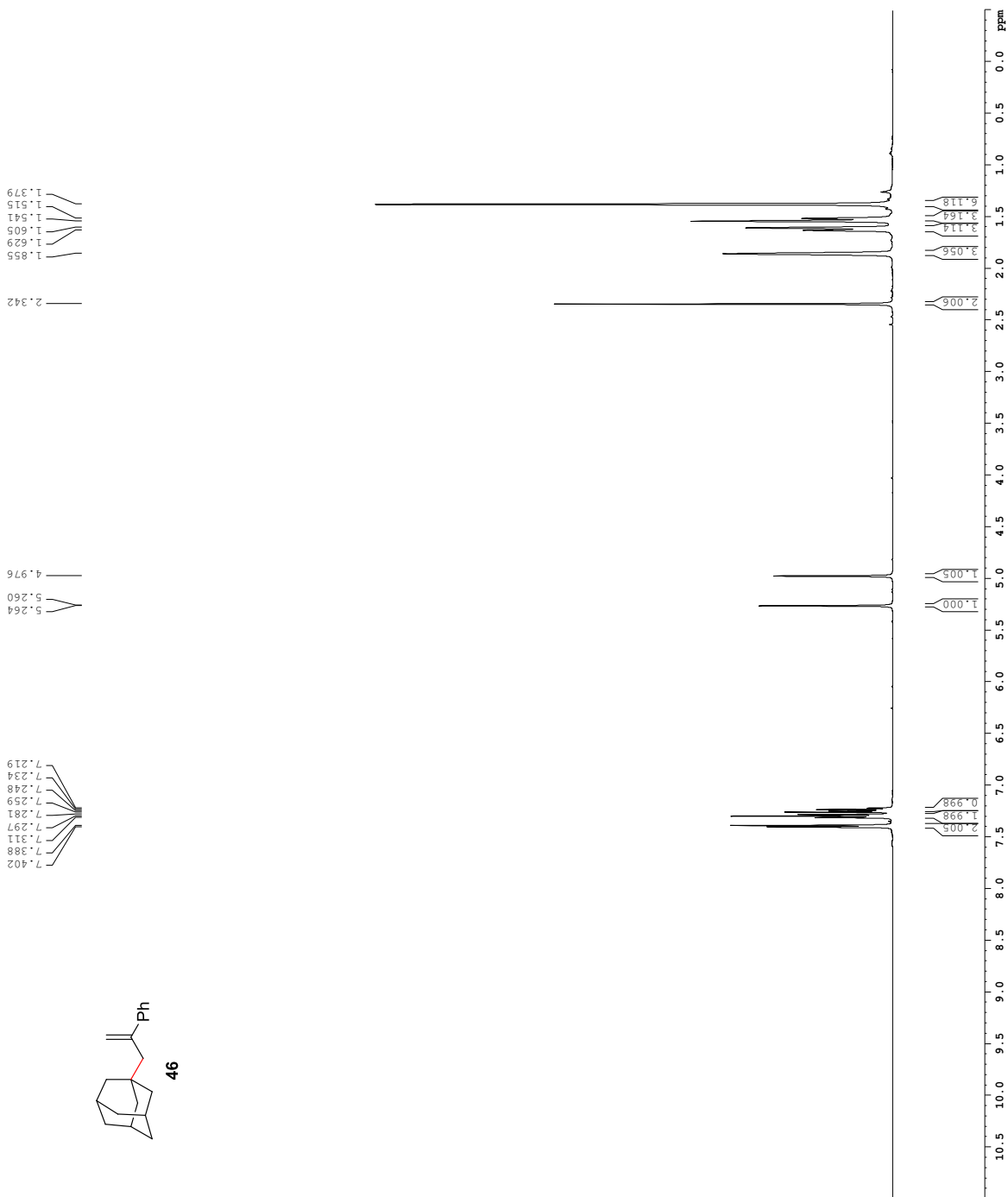
3.431

2.112
2.012
2.006
1.616
1.262

Current Data Parameters
 Name GF-11-013
 ExpNO 1
 ProcNO 1
 F2 - Acquisition Parameters
 Date_ 20140829
 Time 14:10
 InstrUM spect
 ProbdH 5 mm CPTCI 1H
 PULPROG zgpg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SWH 8012.826 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998273 sec
 RG 4.5
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 MCFEST 0 sec
 MCREK 0.01500000 sec
 ===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0 dB
 SFO1 500.2235015 MHz
 F2 - Processing Parameters
 SI 65536
 SF 500.2200302 MHz
 MDW 0
 SSB 0
 GB 0
 PC 4.00



¹H spectrum



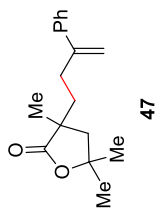
Current Data Parameters
 NAME GF1-281
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140728
 Time 18:00
 INSTRUM spect
 PROHD 5 mm CPTCI 1H
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 8
 SWH 8012.826 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998273 sec
 RG 4.5
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 MCREST 0 sec
 MCNREK 0.01500000 sec

===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 0.00 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200315 MHz
 WDW EM
 SS 0
 LB 0.30 Hz
 GB 0
 PC 4.00

¹H spectrum

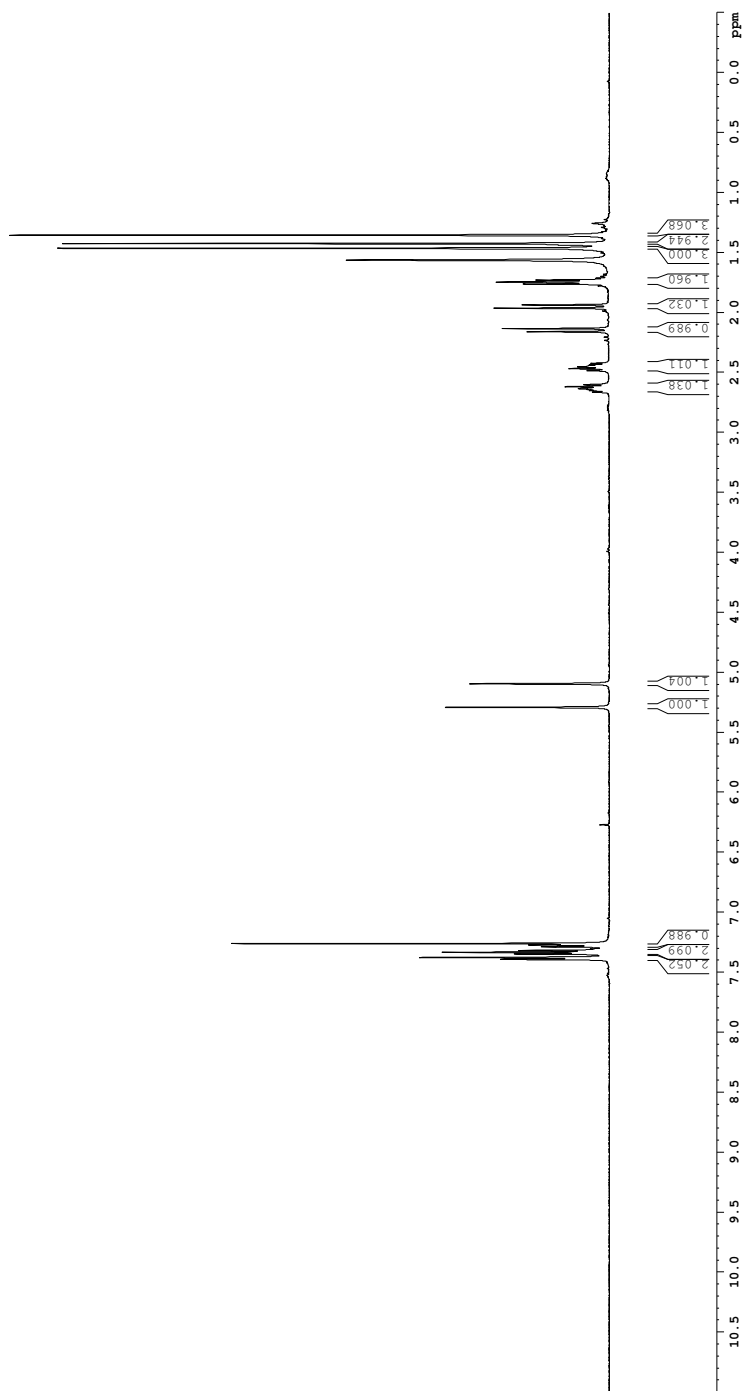


Current Data Parameters
 Name GF-11-022
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140827
 Time 14:38
 INSTRUM czi
 PROBRD 5 mm CPTCI 1H
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8012.872 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998273 sec
 RG 8
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 T2 0.10000000 sec
 MCREST 0
 MCRBK 0.01500000 sec

===== CHANNEL F1 =====
 NUC1 1H
 P1 7.50 usec
 PL 0 dB
 SFO1 500.235015 MHz

F2 - Processing Parameters
 SI 65536
 SF 500.2200311 MHz
 MDW 0 EM
 SB 0 0.30 Hz
 GB 0
 PC 4.00



¹H spectrum

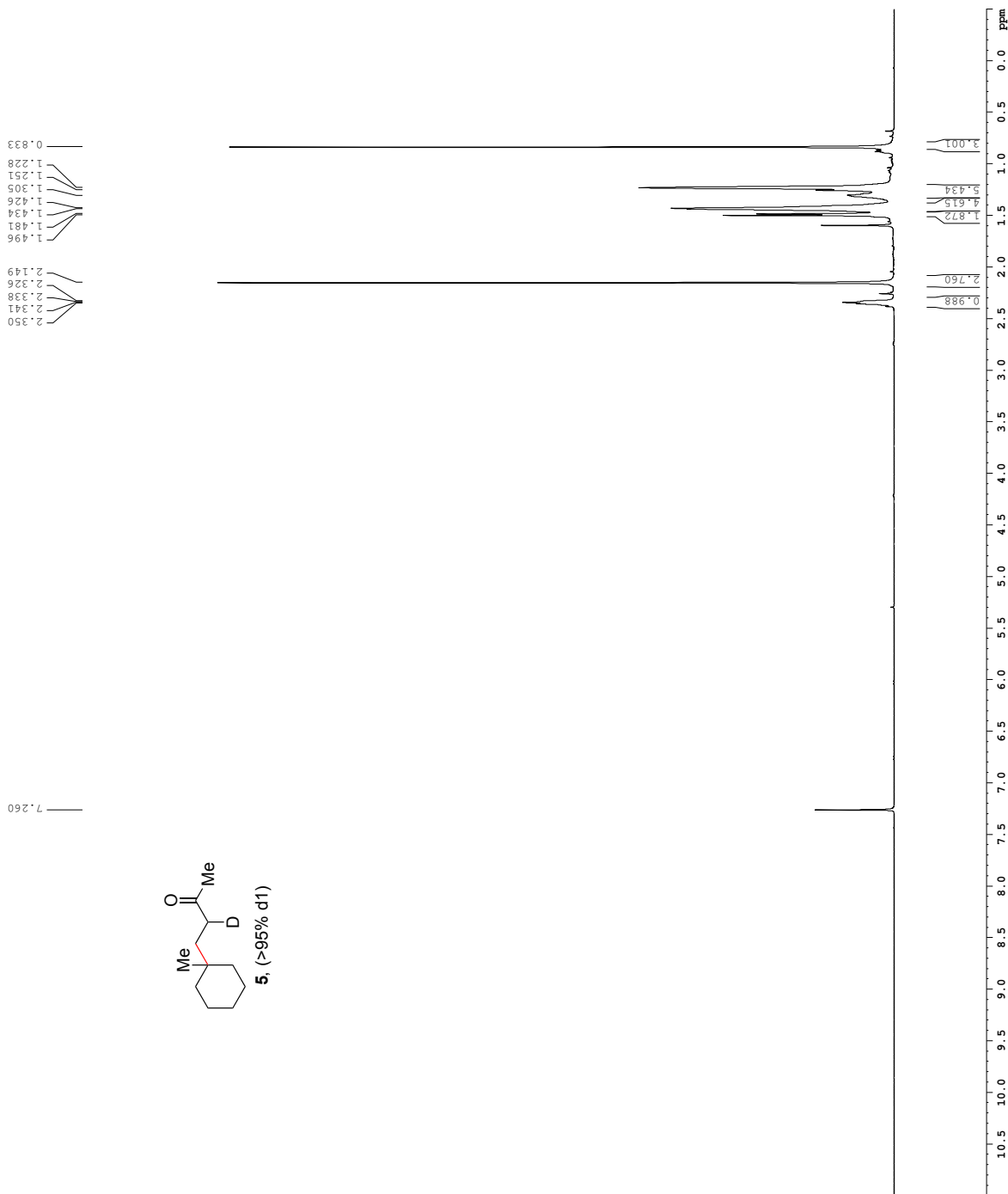
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Current Data Parameters
NAME      G5H-197
EXPNO     1
PROCNO    1

F2 - Acquisition Parameters
Date_     20140704
Time      12.15
INSTRUM   spect
PROBHD    5 mm TBI 1H/3
PULPROG   zgpg30
TD         98074
SOLVENT   CDCl3T
NS         8
DS         2
SWH        9615.35 Hz
AQ         0.09802 Hz
RG         645
DE         52.000 usec
TE         298.0 K
D1         0.10000000 sec
TD0        1

===== CHANNEL f1 =====
SFO1      600.1342009 MHz
NUC1      1H
P1         8.00 usec
PLW1      23.01441956 W

F2 - Processing Parameters
SI         65536
SF         600.1300345 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```



1H spectrum

Current Data Parameters
 NAME 6L3-272-3H
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140722
 Time 16:05
 INSTRUM spect
 PROBHD 5 mm TBI 1H/13
 PULPROG zg30
 TD 98074
 SOLVENT CDCl3T
 NS 8
 DS 2
 SWH 9615.385 Hz
 FIDRES 0.098042 Hz
 AQ 5.0998478 sec
 RG 101
 DW 52.000 usec
 DE 19.470 usec
 TE 298.0 K
 D1 0.10000000 sec
 TD0 1

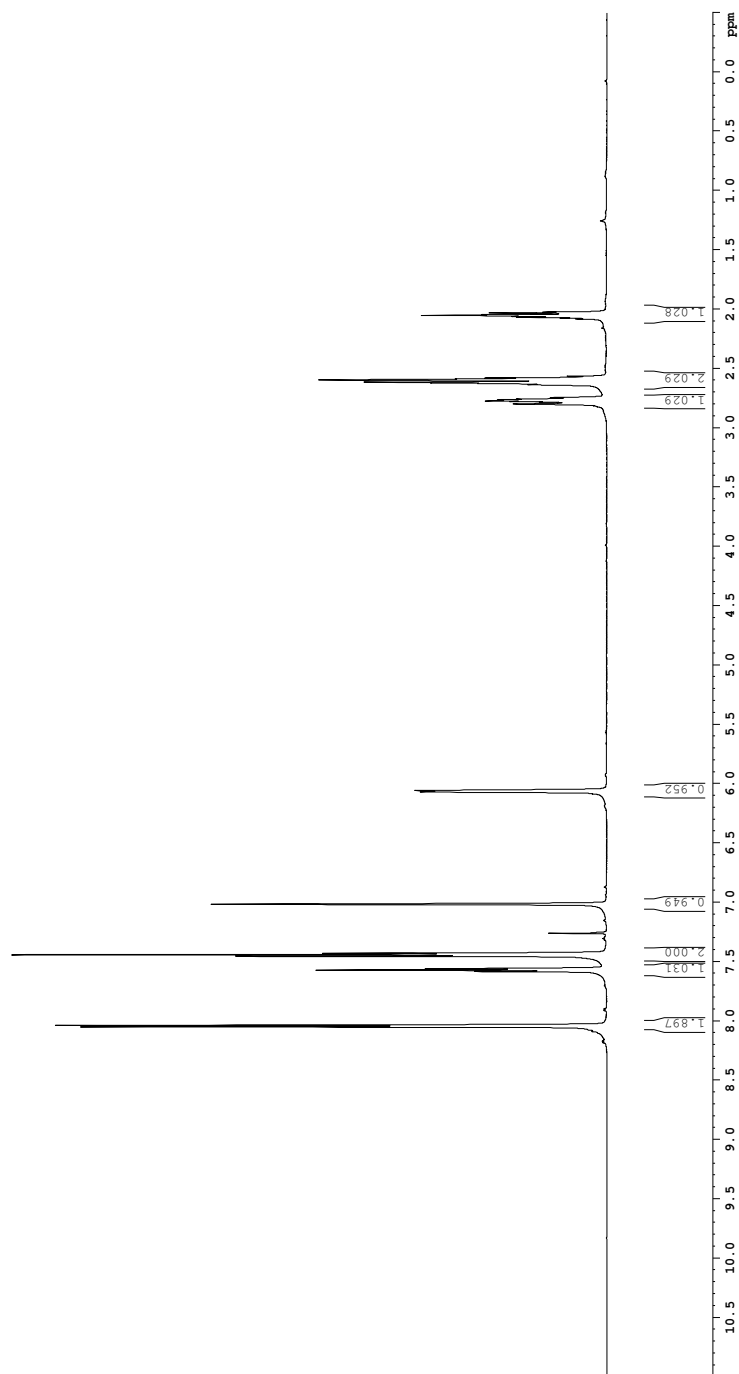
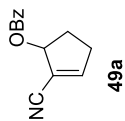
===== CHANNEL f1 =====
 SF01 600.1342009 MHz
 NU01 13
 PUL1 8.00 usec
 PLW1 23.01441956 W

F2 - Processing parameters
 SI 65536
 SF 600.1300343 MHz
 SW 13.000 MHz
 SSB 0 EM
 LB 0 0.30 Hz
 GB 0
 PC 1.00

2.798
2.771
2.745
2.635
2.613
2.594
2.577
2.080
2.066
2.051
2.029

6.056
6.069

8.049
8.037
7.583
7.571
7.558
7.454
7.441
7.428
7.259
7.016



¹H spectrum

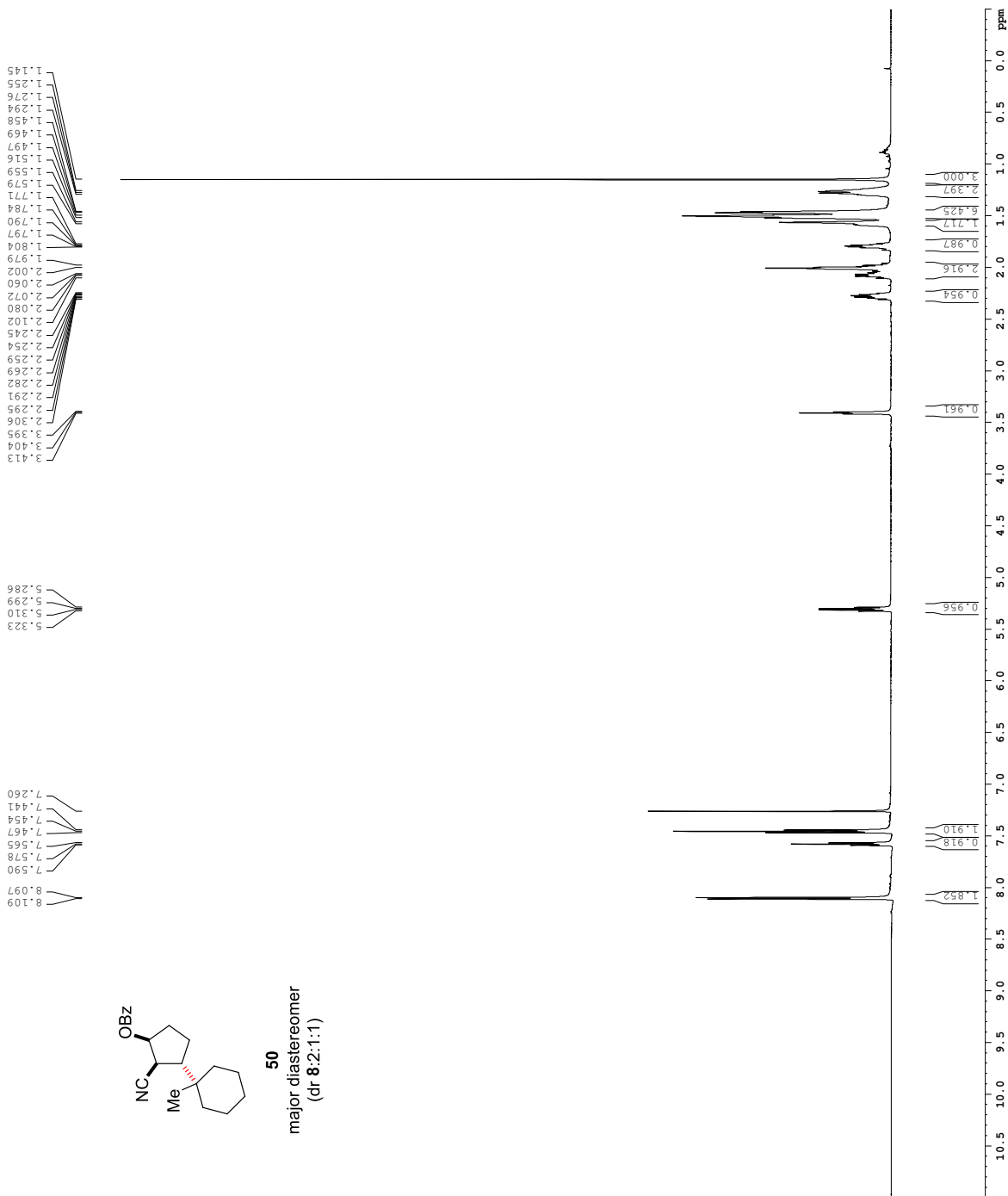
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Current Data Parameters
NAME          GLJ-274-33-mh
EXPNO         1
PROCNO        1

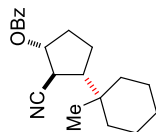
F2 - Acquisition Parameters
Date_         20140730
Time          14.25
Time_RUM      0.0
PROBHD        5 mm TBI 1H/13
PULPROG       zg30
TD            98074
SOLVENT       CDCl3T
NS            8
DS            8
SWH           9615.382 Hz
FIDRES        0.098082 Hz
AQ            5.0998478 sec
RG            203
DE            52.000 usec
TE            14.54 usec
TE           298.0 K
TD0           0.1000000 sec

===== CHANNEL f1 =====
SFO1          600.1342009 MHz
NUC1          1H
P1            8.00 usec
PL1          23.01441956 W

F2 - Processing Parameters
SI            65536
SF            600.1300343 MHz
WDW           EM
SSB           0
LB            0
GB            0
PC            1.00
  
```



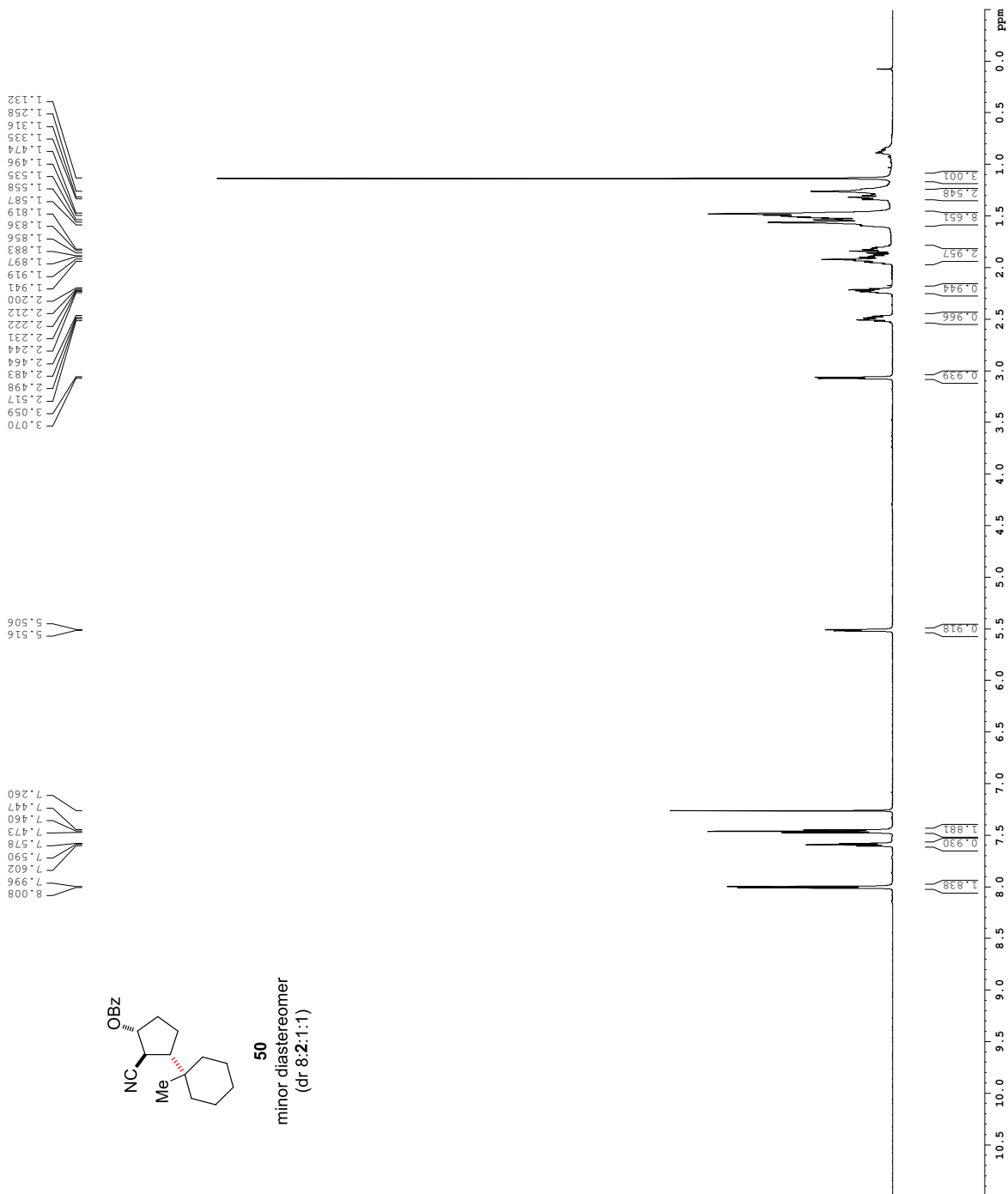
¹H spectrum



50
minor diastereomer
(dr 8:2:1:1)

```

Current Data Parameters
NAME          GLJ-2715-274-01-psp-3
EXPNO        1
PROCNO       1
F2 - Acquisition Parameters
Date_        20140730
Time        12.14
INSTRUM      spect
PROBHD       5 mm TBI 1H/13
PULPROG      zg30
TD           65536
SOLVENT      CDCl3T
NS           8
DS           8
SWH          9615.362 Hz
FIDRES       0.096082 Hz
AQ           5.0998478 sec
RG           287
DW           52.000 usec
DE           14.54 usec
TE           299.6 K
D1           0.10000000 sec
TD0          1
===== CHANNEL f1 =====
SFO1         600.1342009 MHz
NUC1         1H
P1           8.00 usec
PL1         23.01441956 W
F2 - Processing parameters
SI           65536
SF           600.1300343 MHz
WDW          EM
SSB          0
LB           0
GB           0
PC           1.00
  
```



¹H spectrum

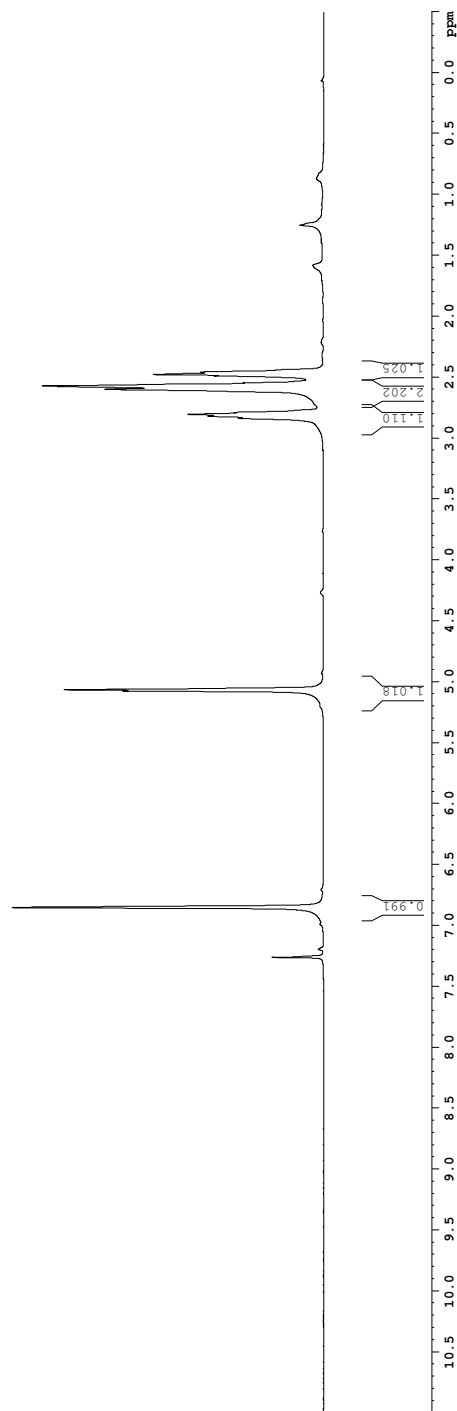
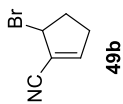
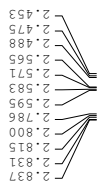
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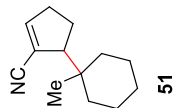
Current Data Parameters
Name      GLS-231-3
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20140722
Time     11.53
INSTRUM  av600
PROBHD   5 mm TBI 1H/13
PULPROG  zgpg30
TD       98074
SOLVENT  CDCl3
NS       8
DS       2
SWH      9615.385 Hz
AQ       0.098042 Hz
RG       5.099672 sec
RG2      228
WDW      52.000 usec
DE       14.54 usec
TE       298.0 K
D1       0.10000000 sec
TD0      1

===== CHANNEL f1 =====
SF01     600.1342009 MHz
NUC1     1H
P1       8.00 usec
PLM1     23.01441956 W

F2 - Processing Parameters
SI       32768
SF       600.1300341 MHz
WDW      EM
SSB      0
LB       2.00 Hz
GB       0
PC       1.00
  
```



¹H spectrum

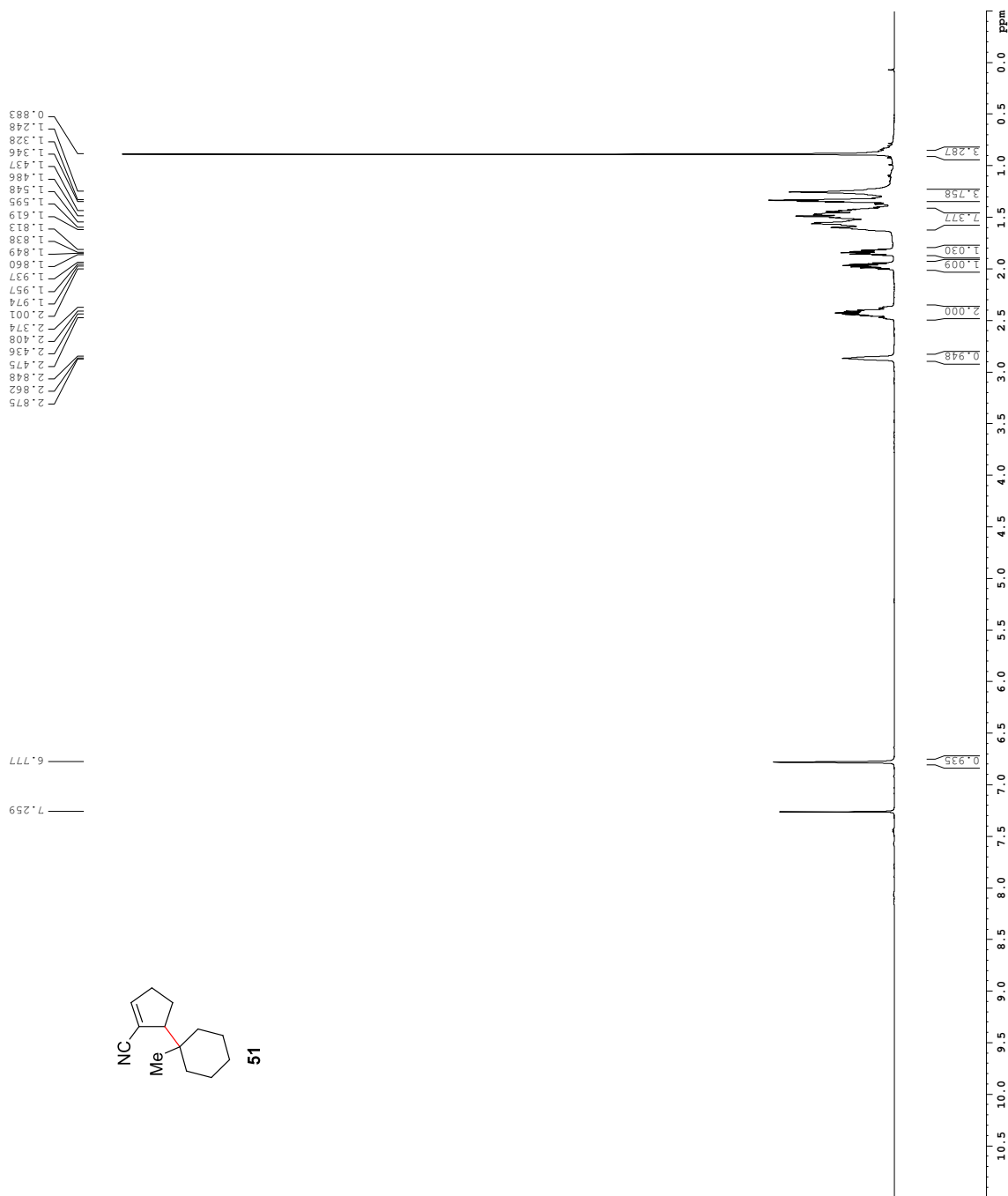
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Current Data Parameters
NAME      GL3-289-3a
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20110413
Time     16.43
INSTRUM  av600
PROBHD   5 mm TBI 1H/13
PULPROG  zg30
TD        98074
SOLVENT  CDCl3
NS        8
DS        2
SMH       9615.385 Hz
FIDRES    0.098042 Hz
AQ        5.0998478 sec
RG        176
DM        52.000 usec
DE        14.94 usec
TE        294.5 K
D1        0.1000000 sec
TD0       1

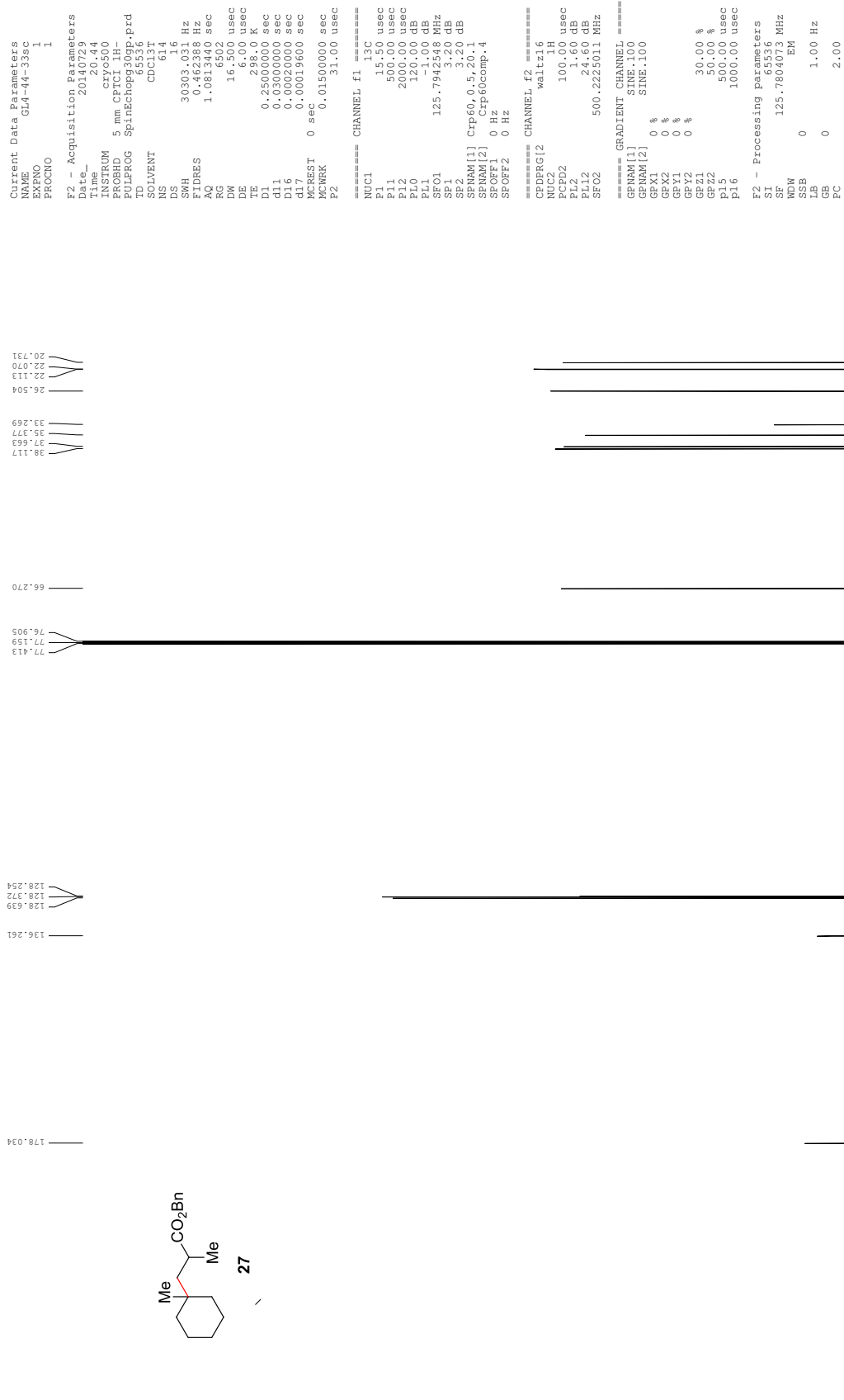
===== CHANNEL f1 =====
SFO1     600.1342009 MHz
NUC1     1H
P1       8.00 usec
PLW1     23.01441956 W

F2 - Processing Parameters
SI        65536
SF        600.1300357 MHz
WDW       EM
SSB       0
LB        0
GB        0
PC        1.00
  
```

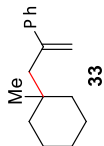


^{13}C NMR Spectra

Z-restored spin-echo 13C spectrum with 1H decoupling



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME      GP-I-150
EXPNO     1
PROCNO    1

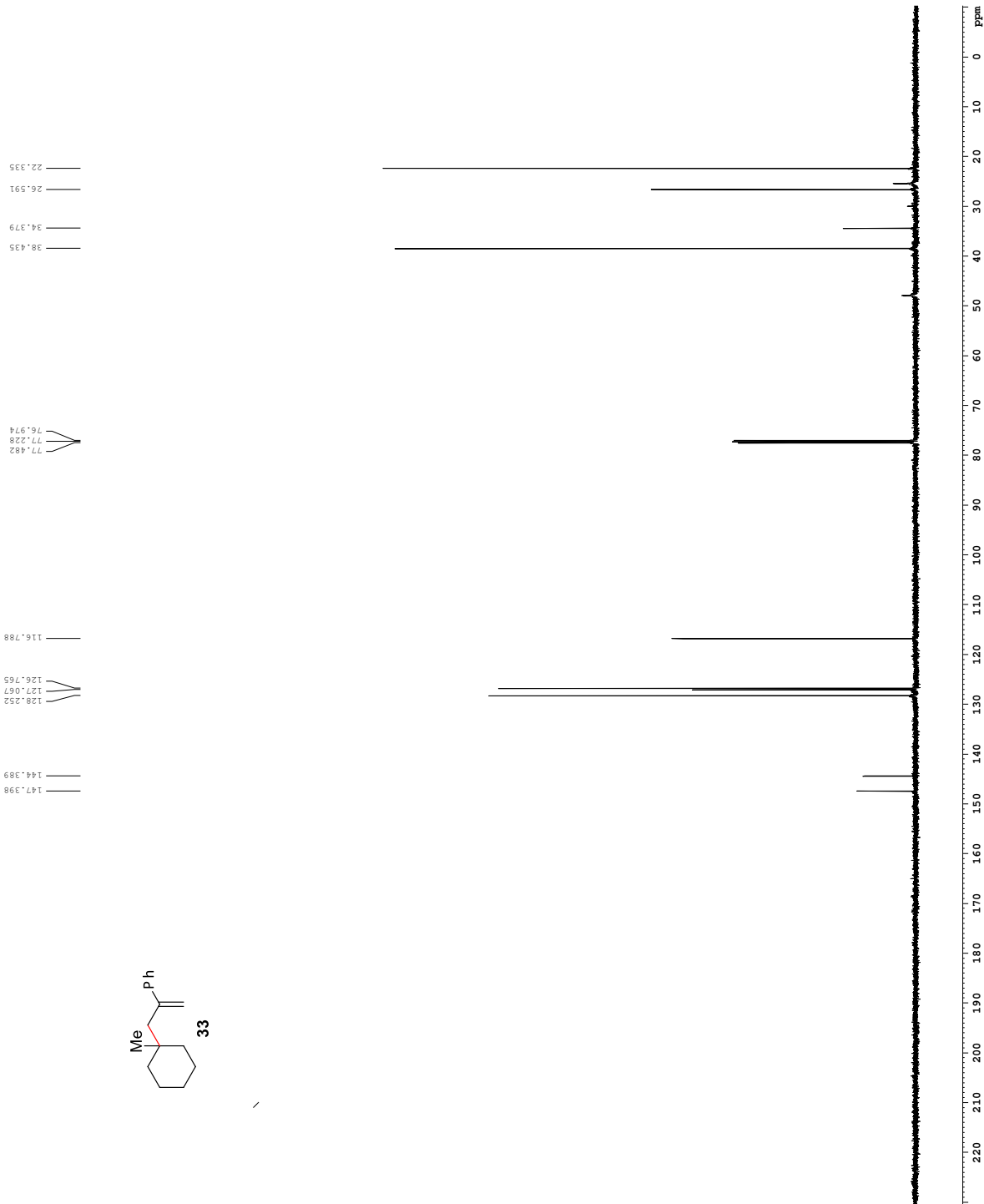
F2 - Acquisition Parameters
Date_     20140423
Time      08:25:00
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   SpinEcho30gp.prd
ID        65536
NS        16
DS        4
SWH        30303.031 Hz
FIDRES    0.462388 Hz
AQ         1.0813440 sec
RG         7298.2
DW         16.500 usec
DE         6.00 usec
TE         299.2 K
D1         0.25000000 sec
d11        0.03000000 sec
d16        0.00020000 sec
d17        0.00019600 sec
MCREST    0 sec
PCMRK     0.01500000 sec
PZ         31.00 usec

===== CHANNEL f1 =====
NUC1      13C
P1        15.50 usec
PL1       500.00 usec
PR1       2000.00 usec
RG1       1.00 dB
RF1       125.760000 MHz
SF01      125.7942548 MHz
SF1        3.20 dB
SF2        3.20 dB
SFO2       3.20 dB
SFO3       3.20 dB
SFO4       3.20 dB
SFO5       3.20 dB
SFO6       3.20 dB
SFO7       3.20 dB
SFO8       3.20 dB
SFO9       3.20 dB
SFO10      3.20 dB
SFO11      3.20 dB
SFO12      3.20 dB
SFO13      3.20 dB
SFO14      3.20 dB
SFO15      3.20 dB
SFO16      3.20 dB
SFO17      3.20 dB
SFO18      3.20 dB
SFO19      3.20 dB
SFO20      3.20 dB
SFO21      3.20 dB
SFO22      3.20 dB
SFO23      3.20 dB
SFO24      3.20 dB
SFO25      3.20 dB
SFO26      3.20 dB
SFO27      3.20 dB
SFO28      3.20 dB
SFO29      3.20 dB
SFO30      3.20 dB
SFO31      3.20 dB
SFO32      3.20 dB
SFO33      3.20 dB
SFO34      3.20 dB
SFO35      3.20 dB
SFO36      3.20 dB
SFO37      3.20 dB
SFO38      3.20 dB
SFO39      3.20 dB
SFO40      3.20 dB
SFO41      3.20 dB
SFO42      3.20 dB
SFO43      3.20 dB
SFO44      3.20 dB
SFO45      3.20 dB
SFO46      3.20 dB
SFO47      3.20 dB
SFO48      3.20 dB
SFO49      3.20 dB
SFO50      3.20 dB
SFO51      3.20 dB
SFO52      3.20 dB
SFO53      3.20 dB
SFO54      3.20 dB
SFO55      3.20 dB
SFO56      3.20 dB
SFO57      3.20 dB
SFO58      3.20 dB
SFO59      3.20 dB
SFO60      3.20 dB
SFO61      3.20 dB
SFO62      3.20 dB
SFO63      3.20 dB
SFO64      3.20 dB
SFO65      3.20 dB
SFO66      3.20 dB
SFO67      3.20 dB
SFO68      3.20 dB
SFO69      3.20 dB
SFO70      3.20 dB
SFO71      3.20 dB
SFO72      3.20 dB
SFO73      3.20 dB
SFO74      3.20 dB
SFO75      3.20 dB
SFO76      3.20 dB
SFO77      3.20 dB
SFO78      3.20 dB
SFO79      3.20 dB
SFO80      3.20 dB
SFO81      3.20 dB
SFO82      3.20 dB
SFO83      3.20 dB
SFO84      3.20 dB
SFO85      3.20 dB
SFO86      3.20 dB
SFO87      3.20 dB
SFO88      3.20 dB
SFO89      3.20 dB
SFO90      3.20 dB
SFO91      3.20 dB
SFO92      3.20 dB
SFO93      3.20 dB
SFO94      3.20 dB
SFO95      3.20 dB
SFO96      3.20 dB
SFO97      3.20 dB
SFO98      3.20 dB
SFO99      3.20 dB
SFO100     3.20 dB

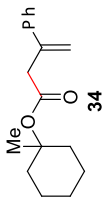
===== CHANNEL f2 =====
CFDPRG[2] waltz16
NUC2      1H
P2        100.00 usec
PR2       2000.00 usec
RG2       1.00 dB
RF2       400.146000 MHz
SF01      500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1] SINE.100
GPNAM[2] SINE.100
GPA[1]   0 %
GPA[2]   0 %
GPA[3]   0 %
GPA[4]   0 %
GPA[5]   0 %
GPA[6]   0 %
GPA[7]   0 %
GPA[8]   0 %
GPA[9]   0 %
GPA[10]  0 %
GPA[11]  0 %
GPA[12]  0 %
GPA[13]  0 %
GPA[14]  0 %
GPA[15]  0 %
GPA[16]  0 %
GPA[17]  0 %
GPA[18]  0 %
GPA[19]  0 %
GPA[20]  0 %
GPA[21]  0 %
GPA[22]  0 %
GPA[23]  0 %
GPA[24]  0 %
GPA[25]  0 %
GPA[26]  0 %
GPA[27]  0 %
GPA[28]  0 %
GPA[29]  0 %
GPA[30]  0 %
GPA[31]  0 %
GPA[32]  0 %
GPA[33]  0 %
GPA[34]  0 %
GPA[35]  0 %
GPA[36]  0 %
GPA[37]  0 %
GPA[38]  0 %
GPA[39]  0 %
GPA[40]  0 %
GPA[41]  0 %
GPA[42]  0 %
GPA[43]  0 %
GPA[44]  0 %
GPA[45]  0 %
GPA[46]  0 %
GPA[47]  0 %
GPA[48]  0 %
GPA[49]  0 %
GPA[50]  0 %
GPA[51]  0 %
GPA[52]  0 %
GPA[53]  0 %
GPA[54]  0 %
GPA[55]  0 %
GPA[56]  0 %
GPA[57]  0 %
GPA[58]  0 %
GPA[59]  0 %
GPA[60]  0 %
GPA[61]  0 %
GPA[62]  0 %
GPA[63]  0 %
GPA[64]  0 %
GPA[65]  0 %
GPA[66]  0 %
GPA[67]  0 %
GPA[68]  0 %
GPA[69]  0 %
GPA[70]  0 %
GPA[71]  0 %
GPA[72]  0 %
GPA[73]  0 %
GPA[74]  0 %
GPA[75]  0 %
GPA[76]  0 %
GPA[77]  0 %
GPA[78]  0 %
GPA[79]  0 %
GPA[80]  0 %
GPA[81]  0 %
GPA[82]  0 %
GPA[83]  0 %
GPA[84]  0 %
GPA[85]  0 %
GPA[86]  0 %
GPA[87]  0 %
GPA[88]  0 %
GPA[89]  0 %
GPA[90]  0 %
GPA[91]  0 %
GPA[92]  0 %
GPA[93]  0 %
GPA[94]  0 %
GPA[95]  0 %
GPA[96]  0 %
GPA[97]  0 %
GPA[98]  0 %
GPA[99]  0 %
GPA[100] 0 %

F2 - Processing parameters
SI        65536
SF        125.7804012 MHz
WDW       EM
SSB       0
GB        0
PC        2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



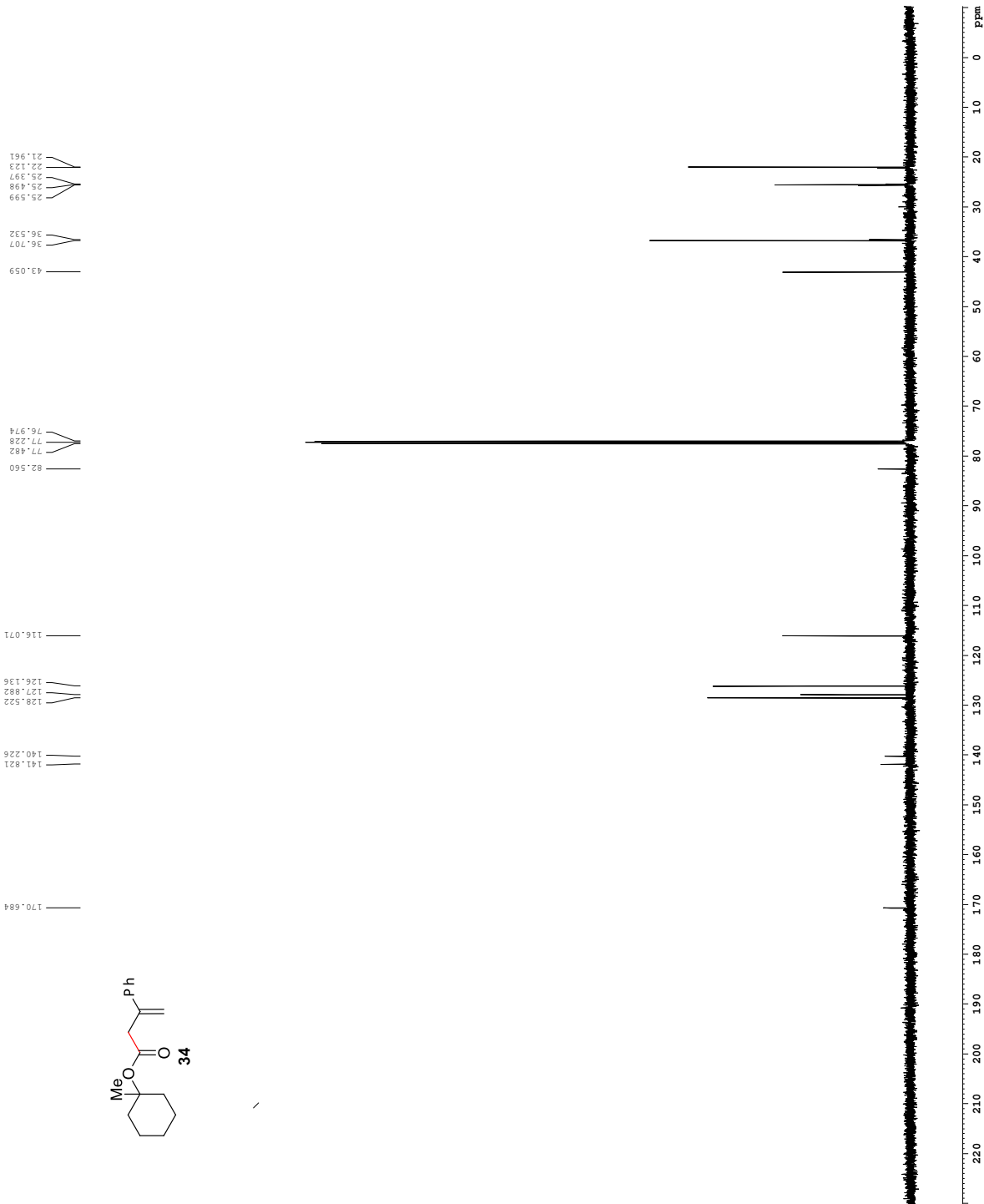
```

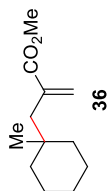
Current Data Parameters
NAME          GP-1-300
EXPNO         11
PROCNO        1
F2 - Acquisition Parameters
Date_         20140823
Time          11:00:00
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEcho309p.prd
TD            65536
SOLVENT       CDCl3
NS            360
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            4597.6
DM            16.500 usec
DE            6.00 usec
TE            300.2 K
D1            0.25000000 sec
d11           0.03000000 sec
D16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
F2            31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PL2           2000.00 usec
PL3           10.00 dB
PL4           1.00 dB
PL5           1.00 dB
SF01          125.7942548 MHz
SF2           3.20 dB
SPNAM[1]      Crf60, 0.5, 20.1
SPNAM[2]      Crf60comp.4
SFOFF1        0 Hz
SFOFF2        0 Hz

===== CHANNEL f2 =====
CPDPRG[2]     waltz16
NUC2          1H
P2            100.00 usec
PL2           4.60 dB
PL12          2.160 dB
SF02          500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]      SINE.100
GPNAM[2]      SINE.100
GPA1          0 %
GPA2          0 %
GPA3          0 %
GPA4          0 %
GPA5          0 %
GPA6          0 %
GPA7          0 %
GPA8          0 %
GPA9          0 %
GPA10         0 %
GPA11         0 %
GPA12         0 %
GPA13         0 %
GPA14         0 %
GPA15         0 %
GPA16         0 %
SF1           65536
SF2           125.7803986 MHz
WDW           EM
SSB           0
GB            0
PC            2.00
    
```



Z-restored spin-echo ¹³C spectrum with ¹H decoupling

```

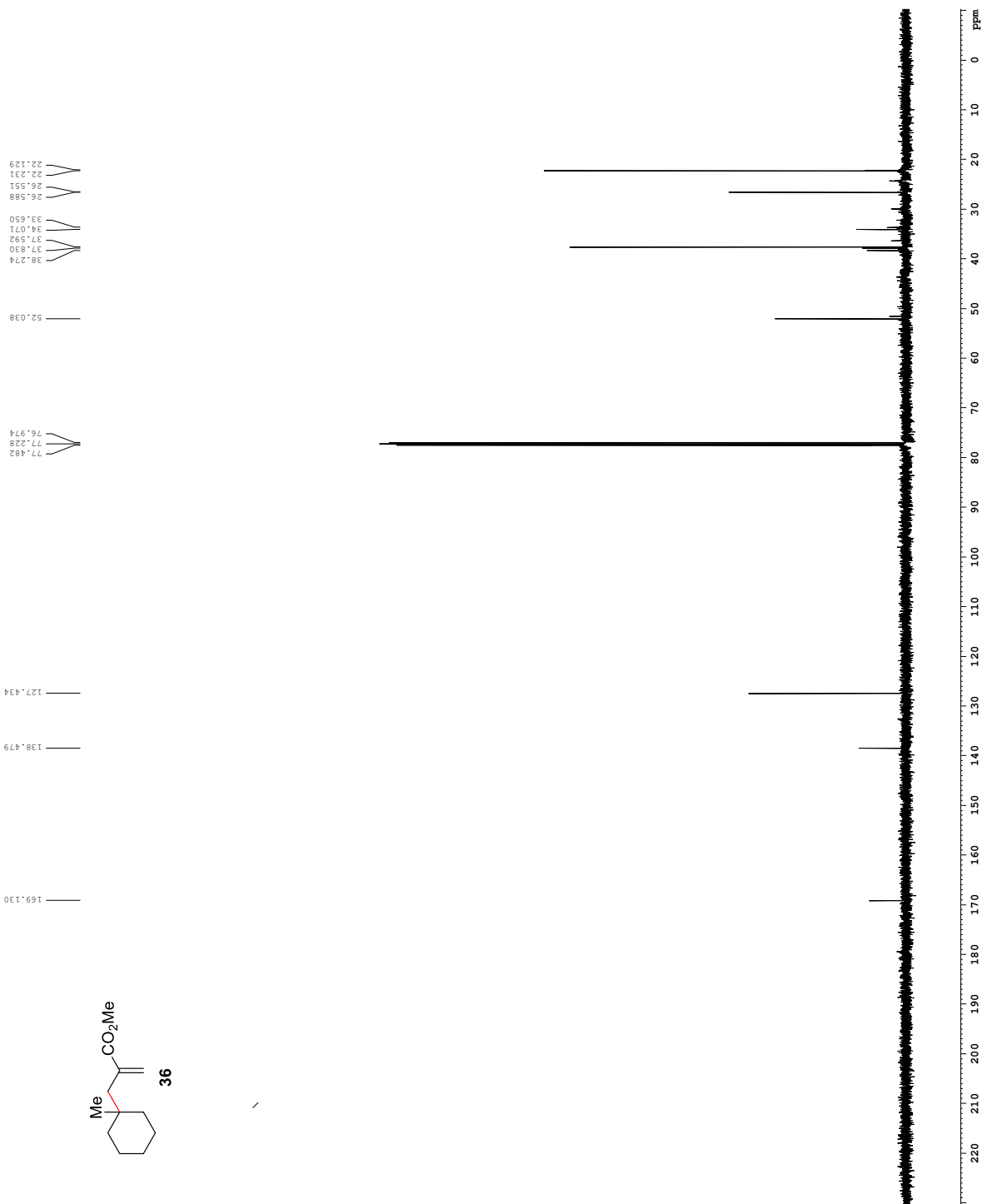
Current Data Parameters
NAME          GP-I-262
EXPNO         52
PROCNO        1

F2 - Acquisition Parameters
Date_         20140902
Time          11.00
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEchoq30gp.prd
TD            65536
SOLVENT       CDCl3
NS            160
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            7298.2
DW            16.500 usec
DE            6.00 usec
TE            29.500 K
D1            0.25000000 sec
d11           0.03000000 sec
d16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

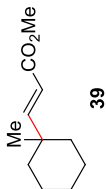
===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PR1           2000.00 usec
RG1           13.00 dB
RF1           125.760 MHz
SF01          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.1362500 MHz
===== CHANNEL f2 =====
NUC2          13C
P2            15.50 usec
PL2           500.00 usec
PR2           2000.00 usec
RG2           13.00 dB
RF2           125.760 MHz
SF01          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.1362500 MHz

===== GRADIENT CHANNEL =====
GPNAM [1]    SINE.100
GPNAM [2]    SINE.100
GP1          0 %
GP2          0 %
GPX1        0 %
GPY1        0 %
GPZ1        0 %
GPF1        30.00 %
GPF2        30.00 %
GPF3        50.00 %
GPF4        50.00 usec
P15         1000.00 usec
P16         1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7803984 MHz
WDW          EM
SSB          0
GB           0
PC           2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME          GP-I-291
EXPNO         45
PROCNO        1

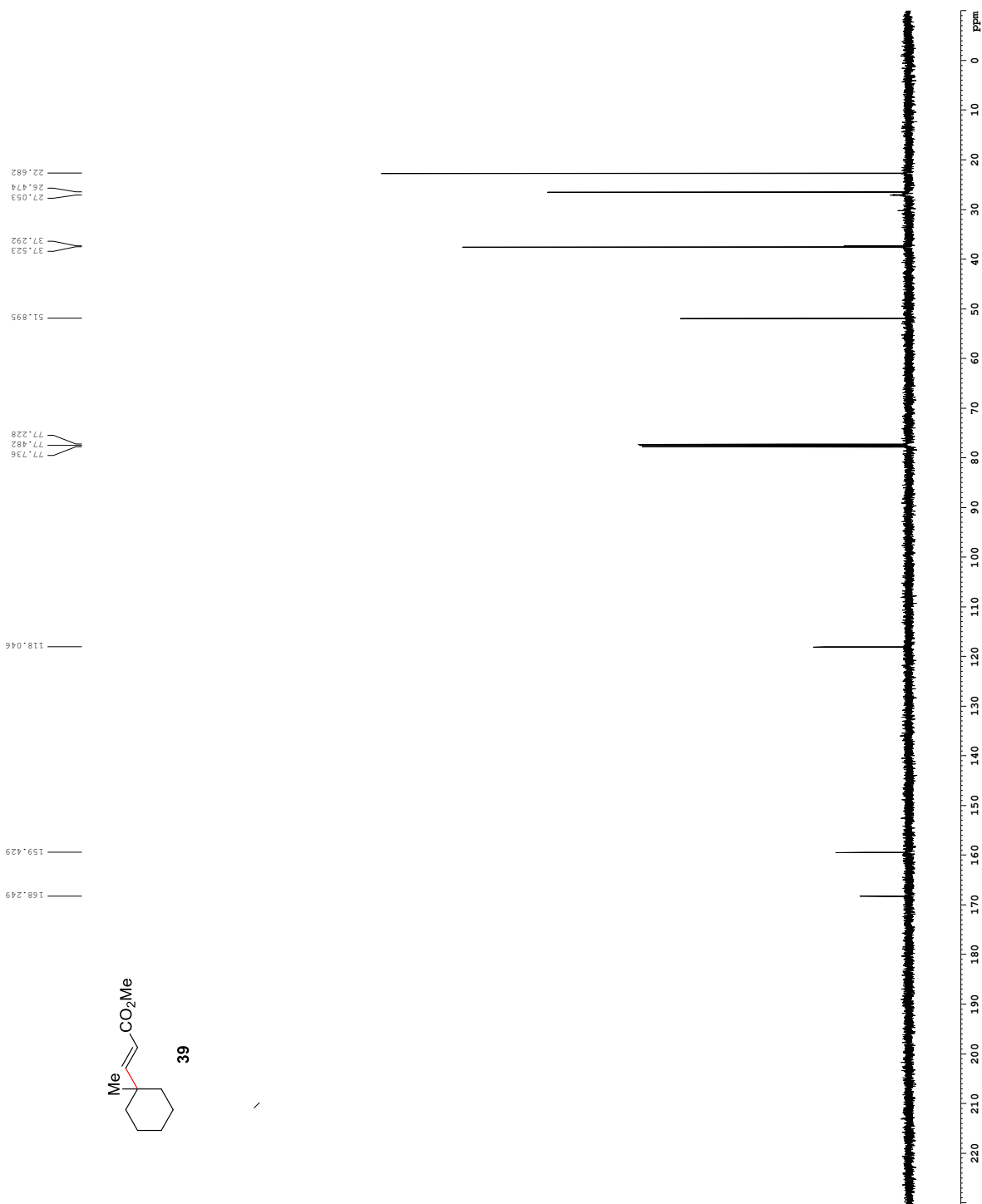
F2 - Acquisition Parameters
Date_         20190828
Time          12:05:00
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       Spinecho30gp.prd
ID            65536
SOLVENT       CDCl3
NS            12
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            4096
DW            16.500 usec
DE            6.00 usec
TE            299.2 K
D1            0.25000000 sec
d11           0.03000000 sec
d16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

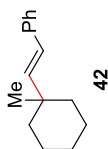
===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PR1           2000.00 usec
RG1           1.00000000 sec
RF1           125.76000000 MHz
SFO1          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.2225011 MHz

===== CHANNEL f2 =====
NUC2          13C
P2            15.50 usec
PL2           500.00 usec
PR2           2000.00 usec
RG2           1.00000000 sec
RF2           125.76000000 MHz
SFO1          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM [1]     SINE.100
GPNAM [2]     SINE.100
GPA1          0 %
GPA2          0 %
GFX1          0 %
GFX2          0 %
GPF1          0 %
GPF2          0 %
GPF3          30.00 %
GPF4          50.00 %
GPF5          500.00 usec
GPF6          1000.00 usec
P16

F2 - Processing parameters
SI            65536
SF            125.7803671 MHz
WDW           EM
SSB           0
GB            0
PC            2.00
    
```



Z-restored spin-echo ¹³C spectrum with ¹H decoupling

```

Current Data Parameters
NAME          GP-I-276
EXPNO         5
PROCNO        1

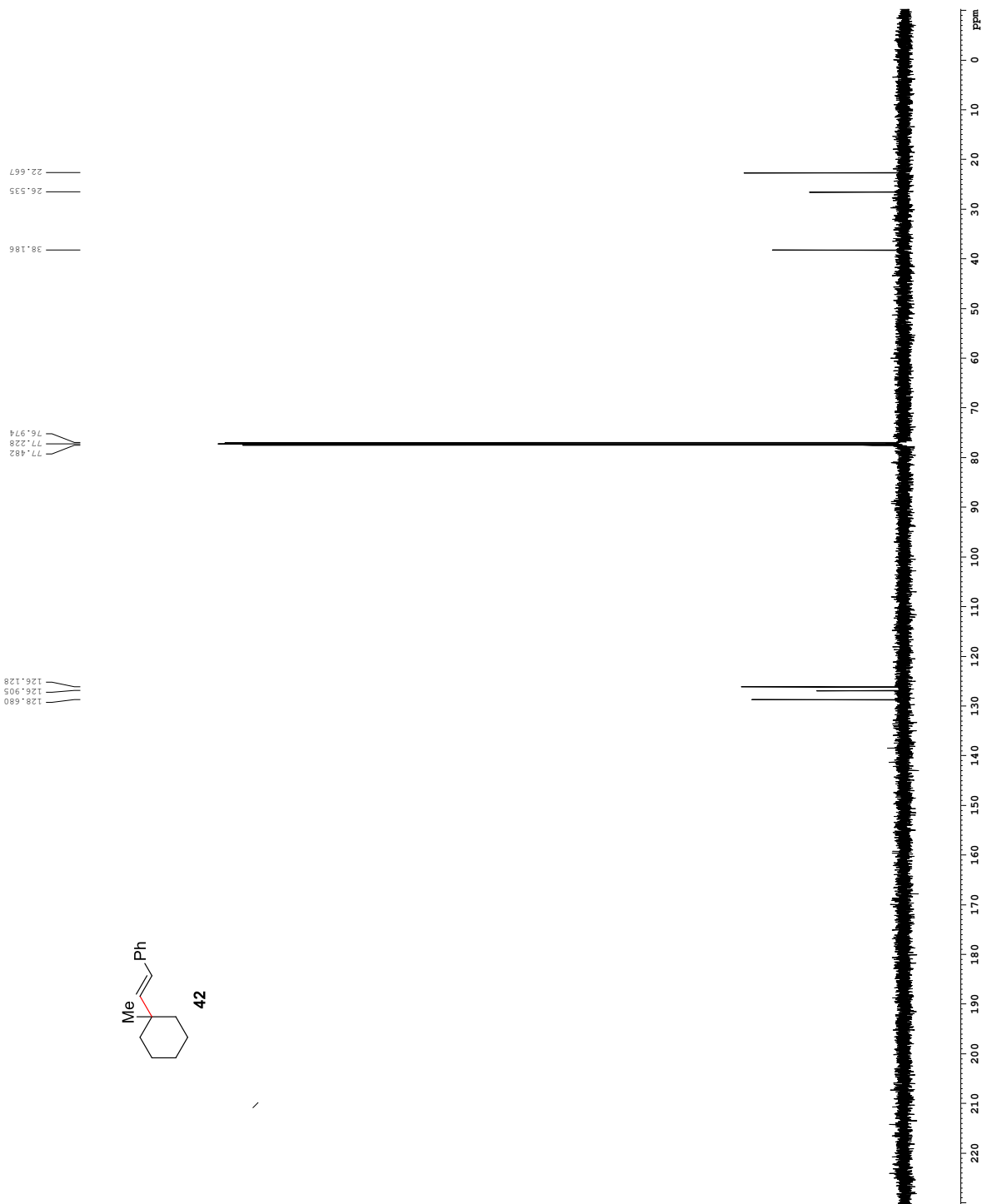
F2 - Acquisition Parameters
Date_         20140718
Time         06:50
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEcho30gp.prd
ID            65536
SOLVENT       CDCl3
NS            256
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            3649.1
DW            16.500 usec
DE            6.00 usec
TE            29.00 K
D1            0.25000000 sec
d11           0.03000000 sec
D16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
P12           2000.00 usec
PL2           19.00 dB
P13           1.00 dB
SF01          125.7942548 MHz
SF2           3.20 dB
SFO2          3.20 dB
SFO3          3.20 dB
SFO4          3.20 dB
SFO5          3.20 dB
SFO6          3.20 dB
SFO7          3.20 dB
SFO8          3.20 dB
SFO9          3.20 dB
SFO10         3.20 dB
SFO11         3.20 dB
SFO12         3.20 dB
SFO13         3.20 dB
SFO14         3.20 dB
SFO15         3.20 dB
SFO16         3.20 dB
SFO17         3.20 dB
SFO18         3.20 dB
SFO19         3.20 dB
SFO20         3.20 dB
SFO21         3.20 dB
SFO22         3.20 dB
SFO23         3.20 dB
SFO24         3.20 dB
SFO25         3.20 dB
SFO26         3.20 dB
SFO27         3.20 dB
SFO28         3.20 dB
SFO29         3.20 dB
SFO30         3.20 dB
SFO31         3.20 dB
SFO32         3.20 dB
SFO33         3.20 dB
SFO34         3.20 dB
SFO35         3.20 dB
SFO36         3.20 dB
SFO37         3.20 dB
SFO38         3.20 dB
SFO39         3.20 dB
SFO40         3.20 dB
SFO41         3.20 dB
SFO42         3.20 dB
SFO43         3.20 dB
SFO44         3.20 dB
SFO45         3.20 dB
SFO46         3.20 dB
SFO47         3.20 dB
SFO48         3.20 dB
SFO49         3.20 dB
SFO50         3.20 dB
SFO51         3.20 dB
SFO52         3.20 dB
SFO53         3.20 dB
SFO54         3.20 dB
SFO55         3.20 dB
SFO56         3.20 dB
SFO57         3.20 dB
SFO58         3.20 dB
SFO59         3.20 dB
SFO60         3.20 dB
SFO61         3.20 dB
SFO62         3.20 dB
SFO63         3.20 dB
SFO64         3.20 dB
SFO65         3.20 dB
SFO66         3.20 dB
SFO67         3.20 dB
SFO68         3.20 dB
SFO69         3.20 dB
SFO70         3.20 dB
SFO71         3.20 dB
SFO72         3.20 dB
SFO73         3.20 dB
SFO74         3.20 dB
SFO75         3.20 dB
SFO76         3.20 dB
SFO77         3.20 dB
SFO78         3.20 dB
SFO79         3.20 dB
SFO80         3.20 dB
SFO81         3.20 dB
SFO82         3.20 dB
SFO83         3.20 dB
SFO84         3.20 dB
SFO85         3.20 dB
SFO86         3.20 dB
SFO87         3.20 dB
SFO88         3.20 dB
SFO89         3.20 dB
SFO90         3.20 dB
SFO91         3.20 dB
SFO92         3.20 dB
SFO93         3.20 dB
SFO94         3.20 dB
SFO95         3.20 dB
SFO96         3.20 dB
SFO97         3.20 dB
SFO98         3.20 dB
SFO99         3.20 dB
SFO100        3.20 dB

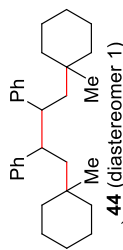
===== CHANNEL f2 =====
CFDPFG[2]    waltz16
NUC2          1H
PCPD2        100.00 usec
PL2          19.00 dB
PL12         24.60 dB
SF02         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]     SINE.100
GPNAM[2]     SINE.100
GPA1         0 %
GPA2         0 %
GPA3         0 %
GPA4         0 %
GPA5         0 %
GPA6         0 %
GPA7         0 %
GPA8         0 %
GPA9         0 %
GPA10        0 %
GPA11        0 %
GPA12        0 %
GPA13        0 %
GPA14        0 %
GPA15        0 %
GPA16        0 %
GPA17        0 %
GPA18        0 %
GPA19        0 %
GPA20        0 %
GPA21        0 %
GPA22        0 %
GPA23        0 %
GPA24        0 %
GPA25        0 %
GPA26        0 %
GPA27        0 %
GPA28        0 %
GPA29        0 %
GPA30        0 %
GPA31        0 %
GPA32        0 %
GPA33        0 %
GPA34        0 %
GPA35        0 %
GPA36        0 %
GPA37        0 %
GPA38        0 %
GPA39        0 %
GPA40        0 %
GPA41        0 %
GPA42        0 %
GPA43        0 %
GPA44        0 %
GPA45        0 %
GPA46        0 %
GPA47        0 %
GPA48        0 %
GPA49        0 %
GPA50        0 %
GPA51        0 %
GPA52        0 %
GPA53        0 %
GPA54        0 %
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GPA60        0 %
GPA61        0 %
GPA62        0 %
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GPA82        0 %
GPA83        0 %
GPA84        0 %
GPA85        0 %
GPA86        0 %
GPA87        0 %
GPA88        0 %
GPA89        0 %
GPA90        0 %
GPA91        0 %
GPA92        0 %
GPA93        0 %
GPA94        0 %
GPA95        0 %
GPA96        0 %
GPA97        0 %
GPA98        0 %
GPA99        0 %
GPA100       0 %

F2 - Processing parameters
SI            65536
SF            125.7803987 MHz
WDW           EM
SSB           0
GB            0
PC            2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME          GP-I-021
EXPNO         51
PROCNO        1

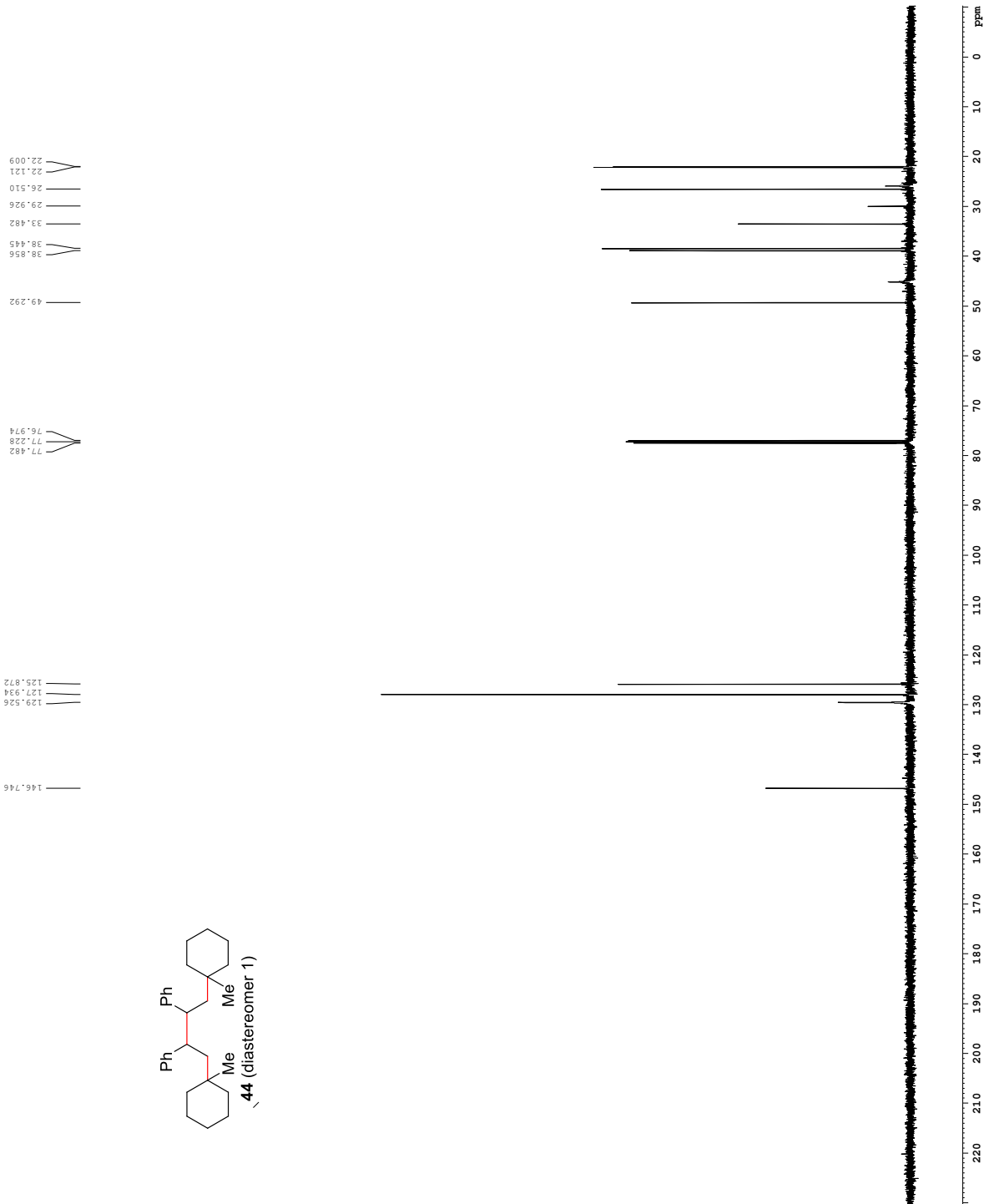
F2 - Acquisition Parameters
Date_         20101023
Time         11:02:00
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      SpinEchoPg30gp.prd
ID           65536
SOLVENT      CDC13
NS           128
DS           4
SWH          30303.031 Hz
FIDRES       0.462388 Hz
AQ           1.0813440 sec
RG           5792.6
DE          16.500 usec
TE           298.2 K
D1           0.25000000 sec
d11          0.03000000 sec
d16          0.00020000 sec
d17          0.00019600 sec
MCREST       0 sec
PCMRK        0.01500000 sec
PZ           31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1           15.50 usec
PL1          500.00 usec
PL2          2000.00 usec
PL3          10.00 dB
PL4          19.00 dB
PL5          19.00 dB
SFO1         125.7942548 MHz
SF1          3.20 dB
SF2          3.20 dB
SFO2         500.2225011 MHz

===== CHANNEL f2 =====
CFDPRG[2]    waltz16
NUC2          1H
PCPD2        100.00 usec
PL12         4.60 dB
PL13         4.60 dB
SFO2         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]     SINE.100
GPNAM[2]     SINE.100
GPA1         0 %
GPA2         0 %
GFX1         0 %
GFX2         0 %
GFY1         0 %
GFY2         0 %
GFZ1         30.00 %
GFZ2         50.00 %
P15          500.00 usec
P16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7803989 MHz
WDW          EM
SSB          0
GB           0
PC           2.00
    
```



Z-restored spin-echo 13C spectrum with 1H decoupling

```

Current Data Parameters
NAME          GP-I-021
EXPNO         71
PROCNO        1

F2 - Acquisition Parameters
Date_         20140724
Time          11:00:00
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEchoPrg30gp.prd
ID            65536
SOLVENT       CDCl3
NS            160
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            6502
DW            16.500 usec
DE            6.00 usec
TE            29.500 K
D1            0.25000000 sec
d11           0.03000000 sec
d16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

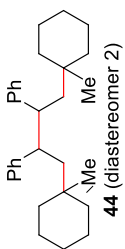
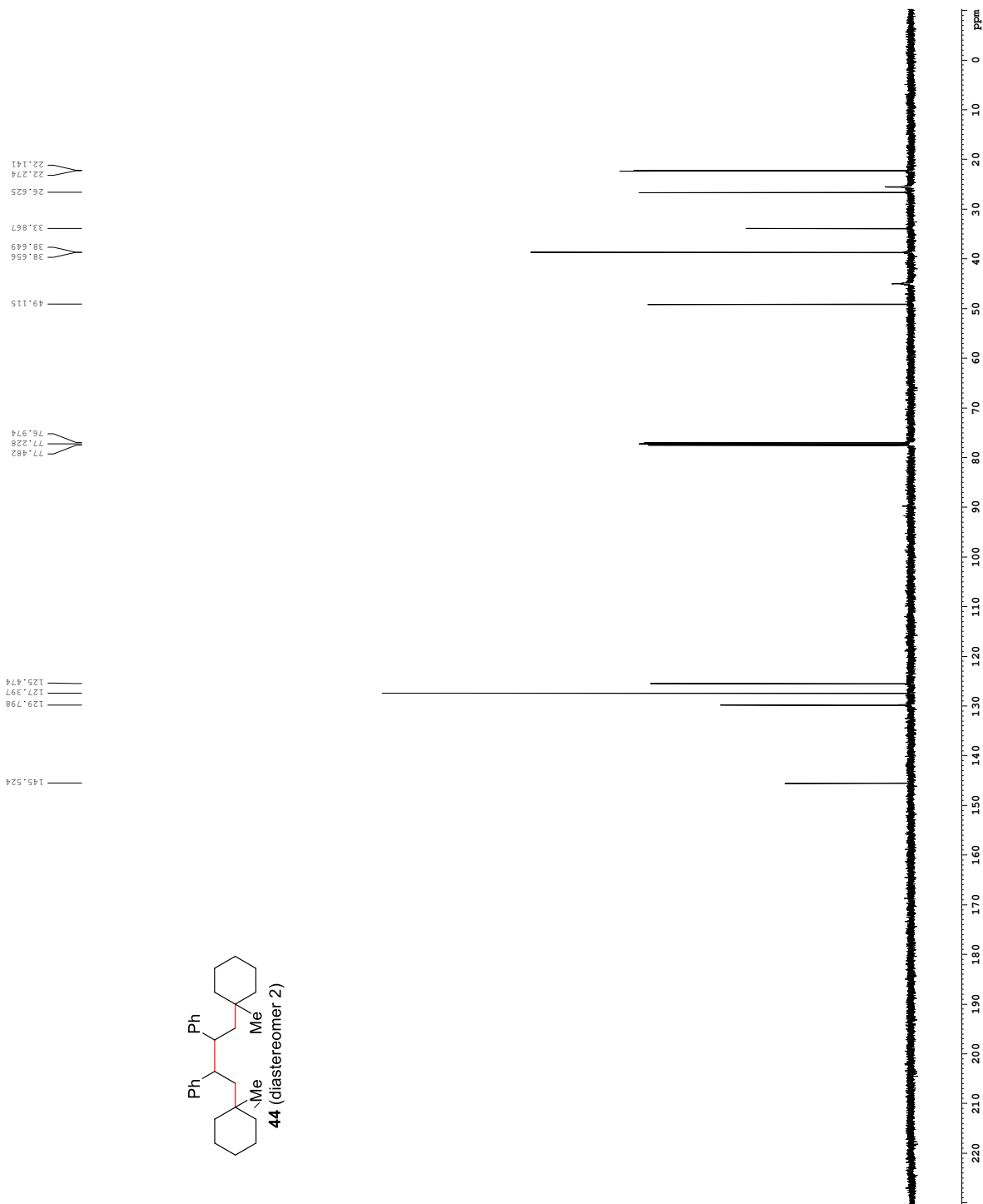
===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PR1           2000.00 usec
RG1           13.00 dB
RF1           13.00 dB
SF01         125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2         3.20 dB
SFO3         3.20 dB
SFO4         3.20 dB
SFO5         3.20 dB
SFO6         3.20 dB
SFO7         3.20 dB
SFO8         3.20 dB
SFO9         3.20 dB
SFO10        3.20 dB
SFO11        3.20 dB
SFO12        3.20 dB
SFO13        3.20 dB
SFO14        3.20 dB
SFO15        3.20 dB
SFO16        3.20 dB
SFO17        3.20 dB
SFO18        3.20 dB
SFO19        3.20 dB
SFO20        3.20 dB
SFO21        3.20 dB
SFO22        3.20 dB
SFO23        3.20 dB
SFO24        3.20 dB
SFO25        3.20 dB
SFO26        3.20 dB
SFO27        3.20 dB
SFO28        3.20 dB
SFO29        3.20 dB
SFO30        3.20 dB
SFO31        3.20 dB
SFO32        3.20 dB
SFO33        3.20 dB
SFO34        3.20 dB
SFO35        3.20 dB
SFO36        3.20 dB
SFO37        3.20 dB
SFO38        3.20 dB
SFO39        3.20 dB
SFO40        3.20 dB
SFO41        3.20 dB
SFO42        3.20 dB
SFO43        3.20 dB
SFO44        3.20 dB
SFO45        3.20 dB
SFO46        3.20 dB
SFO47        3.20 dB
SFO48        3.20 dB
SFO49        3.20 dB
SFO50        3.20 dB
SFO51        3.20 dB
SFO52        3.20 dB
SFO53        3.20 dB
SFO54        3.20 dB
SFO55        3.20 dB
SFO56        3.20 dB
SFO57        3.20 dB
SFO58        3.20 dB
SFO59        3.20 dB
SFO60        3.20 dB
SFO61        3.20 dB
SFO62        3.20 dB
SFO63        3.20 dB
SFO64        3.20 dB
SFO65        3.20 dB
SFO66        3.20 dB
SFO67        3.20 dB
SFO68        3.20 dB
SFO69        3.20 dB
SFO70        3.20 dB
SFO71        3.20 dB
SFO72        3.20 dB
SFO73        3.20 dB
SFO74        3.20 dB
SFO75        3.20 dB
SFO76        3.20 dB
SFO77        3.20 dB
SFO78        3.20 dB
SFO79        3.20 dB
SFO80        3.20 dB
SFO81        3.20 dB
SFO82        3.20 dB
SFO83        3.20 dB
SFO84        3.20 dB
SFO85        3.20 dB
SFO86        3.20 dB
SFO87        3.20 dB
SFO88        3.20 dB
SFO89        3.20 dB
SFO90        3.20 dB
SFO91        3.20 dB
SFO92        3.20 dB
SFO93        3.20 dB
SFO94        3.20 dB
SFO95        3.20 dB
SFO96        3.20 dB
SFO97        3.20 dB
SFO98        3.20 dB
SFO99        3.20 dB
SFO100       3.20 dB

===== CHANNEL f2 =====
CFDPRG[2]    waltz16
NUC2          1H
P2            100.00 usec
PL2           100.00 usec
PR2           24.60 dB
RF2           24.60 dB
SF01         500.2225011 MHz

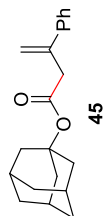
===== GRADIENT CHANNEL =====
GPNAM[1]     SINE.100
GPNAM[2]     SINE.100
GPA1         0 %
GPA2         0 %
GPA3         0 %
GPA4         0 %
GPA5         0 %
GPA6         0 %
GPA7         0 %
GPA8         0 %
GPA9         0 %
GPA10        0 %
GPA11        0 %
GPA12        0 %
GPA13        0 %
GPA14        0 %
GPA15        0 %
GPA16        0 %
GPA17        0 %
GPA18        0 %
GPA19        0 %
GPA20        0 %
GPA21        0 %
GPA22        0 %
GPA23        0 %
GPA24        0 %
GPA25        0 %
GPA26        0 %
GPA27        0 %
GPA28        0 %
GPA29        0 %
GPA30        0 %
GPA31        0 %
GPA32        0 %
GPA33        0 %
GPA34        0 %
GPA35        0 %
GPA36        0 %
GPA37        0 %
GPA38        0 %
GPA39        0 %
GPA40        0 %
GPA41        0 %
GPA42        0 %
GPA43        0 %
GPA44        0 %
GPA45        0 %
GPA46        0 %
GPA47        0 %
GPA48        0 %
GPA49        0 %
GPA50        0 %
GPA51        0 %
GPA52        0 %
GPA53        0 %
GPA54        0 %
GPA55        0 %
GPA56        0 %
GPA57        0 %
GPA58        0 %
GPA59        0 %
GPA60        0 %
GPA61        0 %
GPA62        0 %
GPA63        0 %
GPA64        0 %
GPA65        0 %
GPA66        0 %
GPA67        0 %
GPA68        0 %
GPA69        0 %
GPA70        0 %
GPA71        0 %
GPA72        0 %
GPA73        0 %
GPA74        0 %
GPA75        0 %
GPA76        0 %
GPA77        0 %
GPA78        0 %
GPA79        0 %
GPA80        0 %
GPA81        0 %
GPA82        0 %
GPA83        0 %
GPA84        0 %
GPA85        0 %
GPA86        0 %
GPA87        0 %
GPA88        0 %
GPA89        0 %
GPA90        0 %
GPA91        0 %
GPA92        0 %
GPA93        0 %
GPA94        0 %
GPA95        0 %
GPA96        0 %
GPA97        0 %
GPA98        0 %
GPA99        0 %
GPA100       0 %

F2 - Processing parameters
SI            65536
SF           125.7803995 MHz
WDW           EM
SSB           0
GB            0
PC            2.00

```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME      GP-II-013
EXPNO    22
PROCNO    1

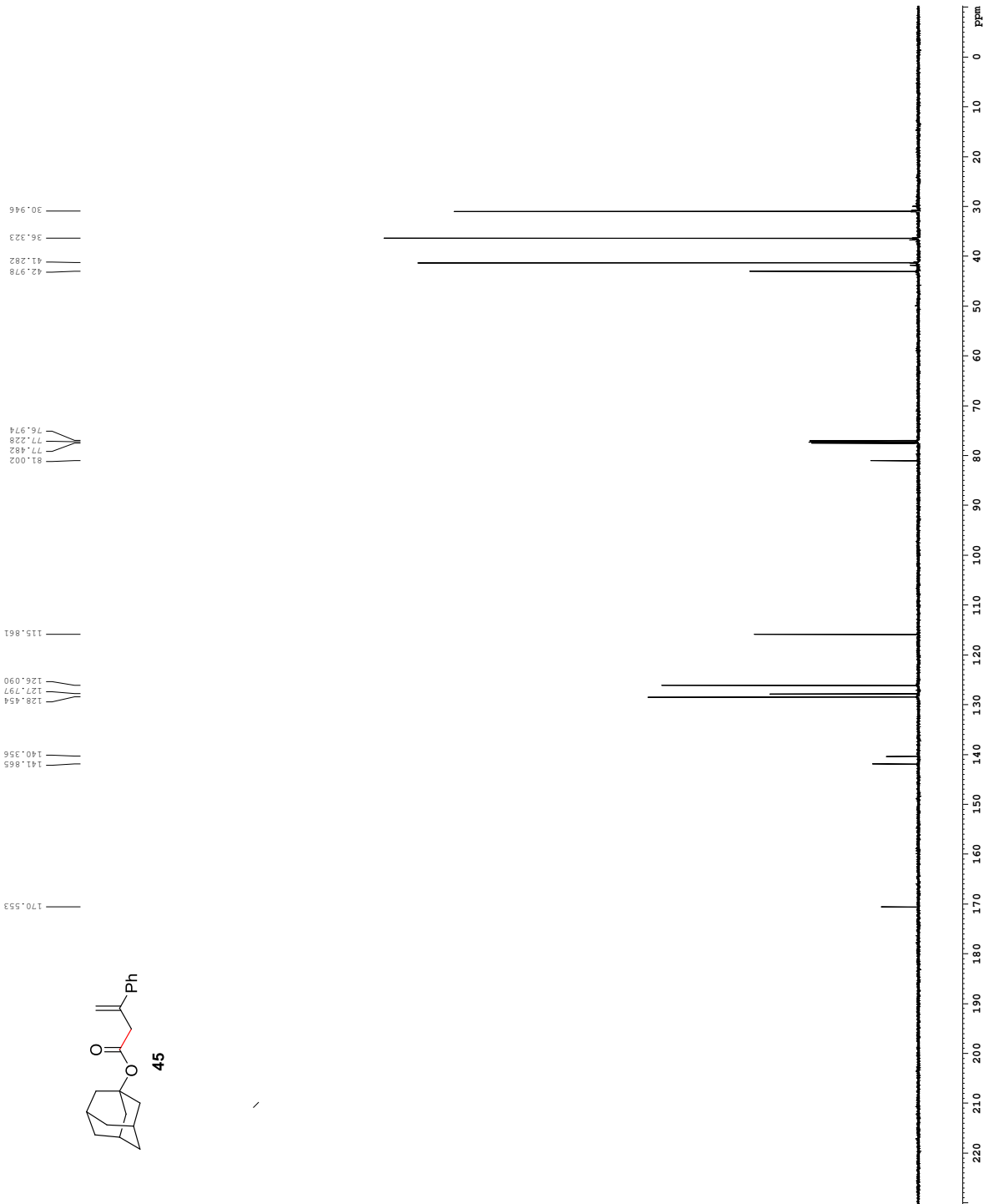
F2 - Acquisition Parameters
Date_     20100823
Time      11:00:00
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   Spinecho30gp.prd
TD         65536
SOLVENT   CDCl3
NS         160
DS         4
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0813440 sec
RG         3649.1
DW         16.500 usec
DE         6.00 usec
TE         29.00 K
D1         0.25000000 sec
d11        0.03000000 sec
D16        0.00020000 sec
d17        0.00019600 sec
MCREST    0 sec
PCMRK     0.01500000 sec
PZ         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
PL1        0.00 dB
P2         2000.00 usec
PL2        19.00 dB
P3         19.00 dB
P4         19.00 dB
SF01       125.7942548 MHz
SF2        3.20 dB
SFNAM[1]   Crf60,0.5,20.1
SFNAM[2]   Crf60comp.4
SFOFF2     0 Hz
SFOFFZ     0 Hz

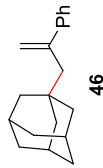
===== CHANNEL f2 =====
CFDPRG[2]  waltz16
NUC2       1H
P2D2       100.00 usec
PL2D2      19.00 dB
PL12       24.60 dB
SF02       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]   SINE.100
GPNAM[2]   SINE.100
GPA2       0 %
GPX2       0 %
GPY1       0 %
GPY2       0 %
GPF21     30.00 %
GPF22     50.00 %
P15        500.00 usec
P16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804020 MHz
WDW        EM
SSB        0
GB         0
PC         2.00
    
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME          GP-I-281
EXPNO         11
PROCNO        1

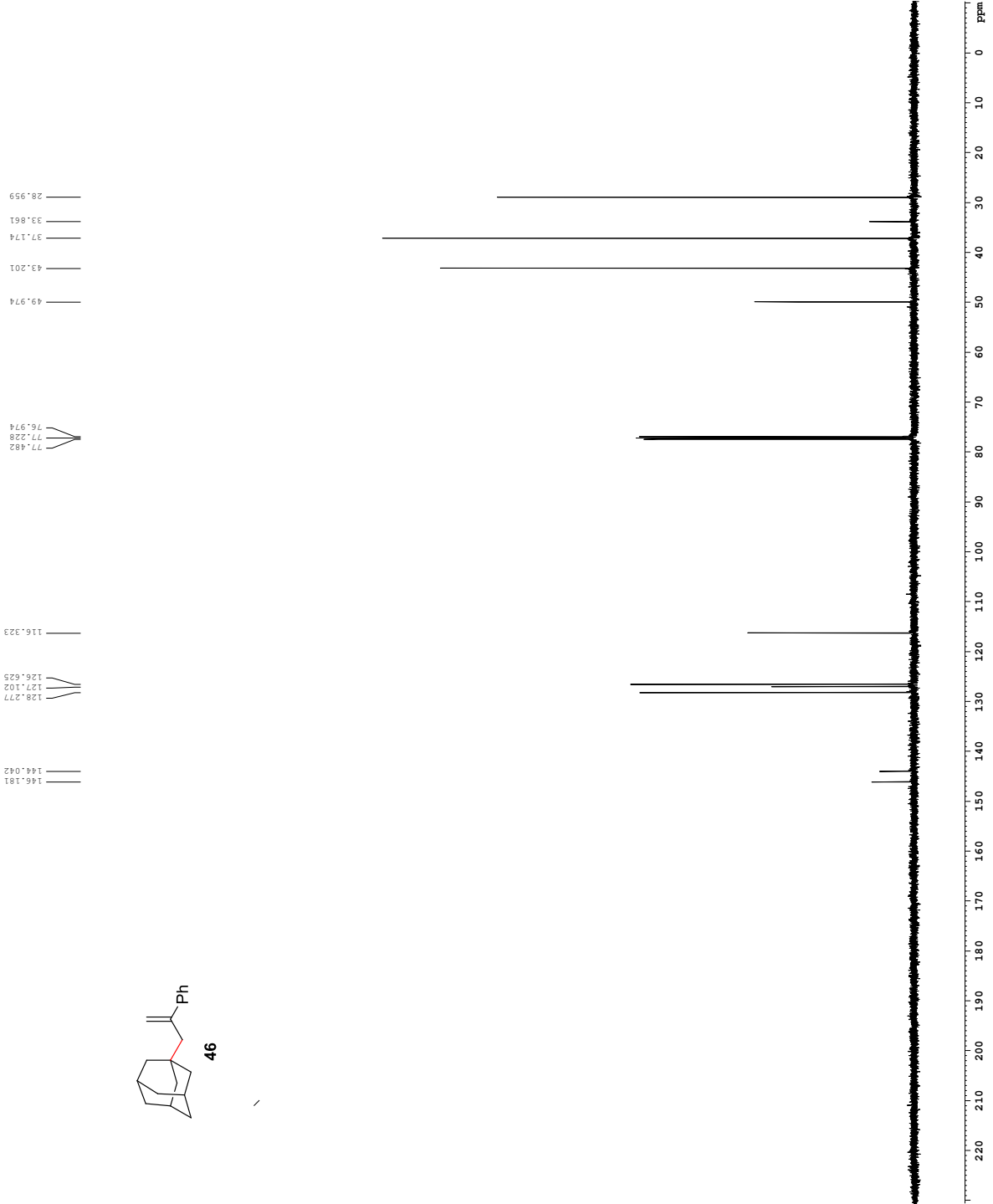
F2 - Acquisition Parameters
Date_         20100728
Time          065000
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEchoPrg30gp.prd
ID            65536
SOLVENT       CDCl3
NS            210
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            8192
DW            16.500 usec
DE            6.00 usec
TE            299.2 K
D1            0.25000000 sec
d11           0.03000000 sec
D16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
P2            2000.00 usec
PL2           19.00 dB
P3            15.50 usec
PL3           19.00 dB
SF01          125.7942548 MHz
SF2           3.20 dB
SF02          3.20 dB
SFO1          3.20 dB
SFO2          3.20 dB
SFO3          3.20 dB
SFO4          3.20 dB
SFO5          3.20 dB
SFO6          3.20 dB
SFO7          3.20 dB
SFO8          3.20 dB
SFO9          3.20 dB
SFO10         3.20 dB
SFO11         3.20 dB
SFO12         3.20 dB
SFO13         3.20 dB
SFO14         3.20 dB
SFO15         3.20 dB
SFO16         3.20 dB
SFO17         3.20 dB
SFO18         3.20 dB
SFO19         3.20 dB
SFO20         3.20 dB
SFO21         3.20 dB
SFO22         3.20 dB
SFO23         3.20 dB
SFO24         3.20 dB
SFO25         3.20 dB
SFO26         3.20 dB
SFO27         3.20 dB
SFO28         3.20 dB
SFO29         3.20 dB
SFO30         3.20 dB
SFO31         3.20 dB
SFO32         3.20 dB
SFO33         3.20 dB
SFO34         3.20 dB
SFO35         3.20 dB
SFO36         3.20 dB
SFO37         3.20 dB
SFO38         3.20 dB
SFO39         3.20 dB
SFO40         3.20 dB
SFO41         3.20 dB
SFO42         3.20 dB
SFO43         3.20 dB
SFO44         3.20 dB
SFO45         3.20 dB
SFO46         3.20 dB
SFO47         3.20 dB
SFO48         3.20 dB
SFO49         3.20 dB
SFO50         3.20 dB
SFO51         3.20 dB
SFO52         3.20 dB
SFO53         3.20 dB
SFO54         3.20 dB
SFO55         3.20 dB
SFO56         3.20 dB
SFO57         3.20 dB
SFO58         3.20 dB
SFO59         3.20 dB
SFO60         3.20 dB
SFO61         3.20 dB
SFO62         3.20 dB
SFO63         3.20 dB
SFO64         3.20 dB
SFO65         3.20 dB
SFO66         3.20 dB
SFO67         3.20 dB
SFO68         3.20 dB
SFO69         3.20 dB
SFO70         3.20 dB
SFO71         3.20 dB
SFO72         3.20 dB
SFO73         3.20 dB
SFO74         3.20 dB
SFO75         3.20 dB
SFO76         3.20 dB
SFO77         3.20 dB
SFO78         3.20 dB
SFO79         3.20 dB
SFO80         3.20 dB
SFO81         3.20 dB
SFO82         3.20 dB
SFO83         3.20 dB
SFO84         3.20 dB
SFO85         3.20 dB
SFO86         3.20 dB
SFO87         3.20 dB
SFO88         3.20 dB
SFO89         3.20 dB
SFO90         3.20 dB
SFO91         3.20 dB
SFO92         3.20 dB
SFO93         3.20 dB
SFO94         3.20 dB
SFO95         3.20 dB
SFO96         3.20 dB
SFO97         3.20 dB
SFO98         3.20 dB
SFO99         3.20 dB
SFO100        3.20 dB

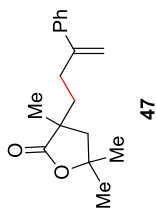
===== CHANNEL f2 =====
CFDPFG[2]     waltz16
NUC2          1H
PCPD2         100.00 usec
PL2           19.00 dB
PL12          24.60 dB
SF02         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]      SINE.100
GPNAM[2]      SINE.100
GPA1          0 %
GPA2          0 %
GPA3          0 %
GPA4          0 %
GPA5          0 %
GPA6          0 %
GPA7          0 %
GPA8          0 %
GPA9          0 %
GPA10         0 %
GPA11         0 %
GPA12         0 %
GPA13         0 %
GPA14         0 %
GPA15         0 %
GPA16         0 %
GPA17         0 %
GPA18         0 %
GPA19         0 %
GPA20         0 %
GPA21         0 %
GPA22         0 %
GPA23         0 %
GPA24         0 %
GPA25         0 %
GPA26         0 %
GPA27         0 %
GPA28         0 %
GPA29         0 %
GPA30         0 %
GPA31         0 %
GPA32         0 %
GPA33         0 %
GPA34         0 %
GPA35         0 %
GPA36         0 %
GPA37         0 %
GPA38         0 %
GPA39         0 %
GPA40         0 %
GPA41         0 %
GPA42         0 %
GPA43         0 %
GPA44         0 %
GPA45         0 %
GPA46         0 %
GPA47         0 %
GPA48         0 %
GPA49         0 %
GPA50         0 %
GPA51         0 %
GPA52         0 %
GPA53         0 %
GPA54         0 %
GPA55         0 %
GPA56         0 %
GPA57         0 %
GPA58         0 %
GPA59         0 %
GPA60         0 %
GPA61         0 %
GPA62         0 %
GPA63         0 %
GPA64         0 %
GPA65         0 %
GPA66         0 %
GPA67         0 %
GPA68         0 %
GPA69         0 %
GPA70         0 %
GPA71         0 %
GPA72         0 %
GPA73         0 %
GPA74         0 %
GPA75         0 %
GPA76         0 %
GPA77         0 %
GPA78         0 %
GPA79         0 %
GPA80         0 %
GPA81         0 %
GPA82         0 %
GPA83         0 %
GPA84         0 %
GPA85         0 %
GPA86         0 %
GPA87         0 %
GPA88         0 %
GPA89         0 %
GPA90         0 %
GPA91         0 %
GPA92         0 %
GPA93         0 %
GPA94         0 %
GPA95         0 %
GPA96         0 %
GPA97         0 %
GPA98         0 %
GPA99         0 %
GPA100        0 %

F2 - Processing parameters
SI            65536
SF            125.7803991 MHz
WDW           EM
SSB           0
GB            0
PC            2.00
    
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

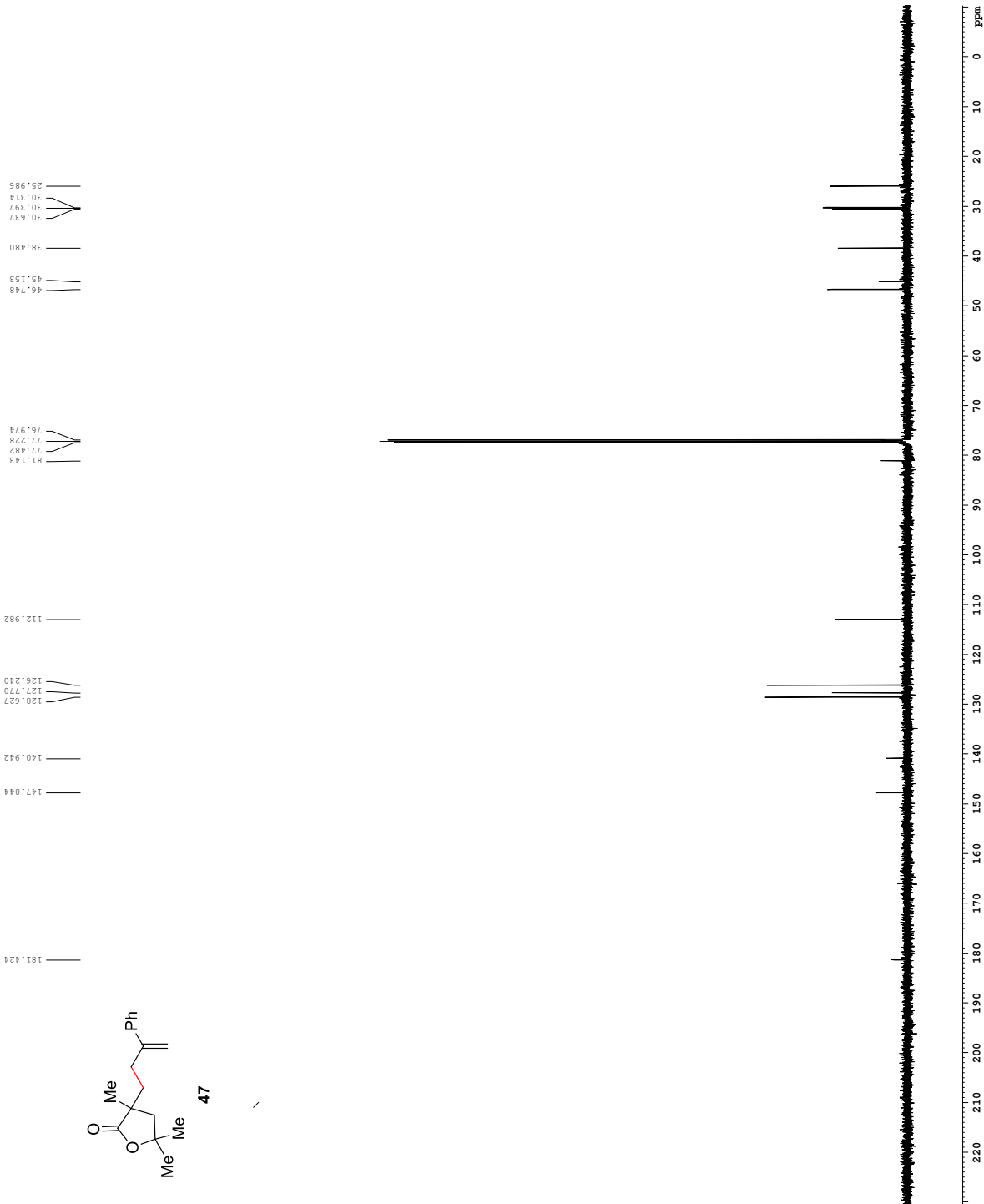
Current Data Parameters
NAME          GP-II-026
EXPNO         21
PROCNO        1

F2 - Acquisition Parameters
Date_         20100521
Time          11:05:21
INSTRUM       cryo500
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEchoPrg30gp.prd
ID            65536
SOLVENT       CDCl3
NS            410
DS            4
SWH           30303.031 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            6502
DW            16.500 usec
DE            6.00 usec
TE            29.500 K
D1            0.25000000 sec
d11           0.03000000 sec
D16           0.00020000 sec
d17           0.00019600 sec
MCREST        0 sec
PCMRK         0.01500000 sec
PZ            31.00 usec

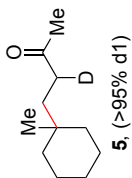
===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PR1           2000.00 usec
RG1           13.00 dB
RF1           125.760000 MHz
SF01          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.1360000 MHz
===== CHANNEL f2 =====
NUC2          13C
P2            15.50 usec
PL2           500.00 usec
PR2           2000.00 usec
RG2           13.00 dB
RF2           125.760000 MHz
SF01          125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SFO2          500.1360000 MHz

===== GRADIENT CHANNEL =====
GPNAM [1]     SINE.100
GPNAM [2]     SINE.100
GPA1          0 %
GPA2          0 %
GPF1          0 %
GPF2          0 %
GPF3          0 %
GPF4          0 %
GPF5          0 %
GPF6          0 %
GPF7          0 %
GPF8          0 %
GPF9          0 %
GPF10         0 %
GPF11         0 %
GPF12         0 %
GPF13         0 %
GPF14         0 %
GPF15         0 %
GPF16         0 %
GPF17         0 %
GPF18         0 %
GPF19         0 %
GPF20         0 %
GPF21         30.00 %
GPF22         50.00 %
GPF23         50.00 usec
GPF24         1000.00 usec
GPF25         1000.00 usec

F2 - Processing parameters
SI            65536
SF            125.7803987 MHz
WDW           EM
SSB           0
GB            0
PC            2.00
    
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME          GL449-33
EXPNO         1
PROCNO        1

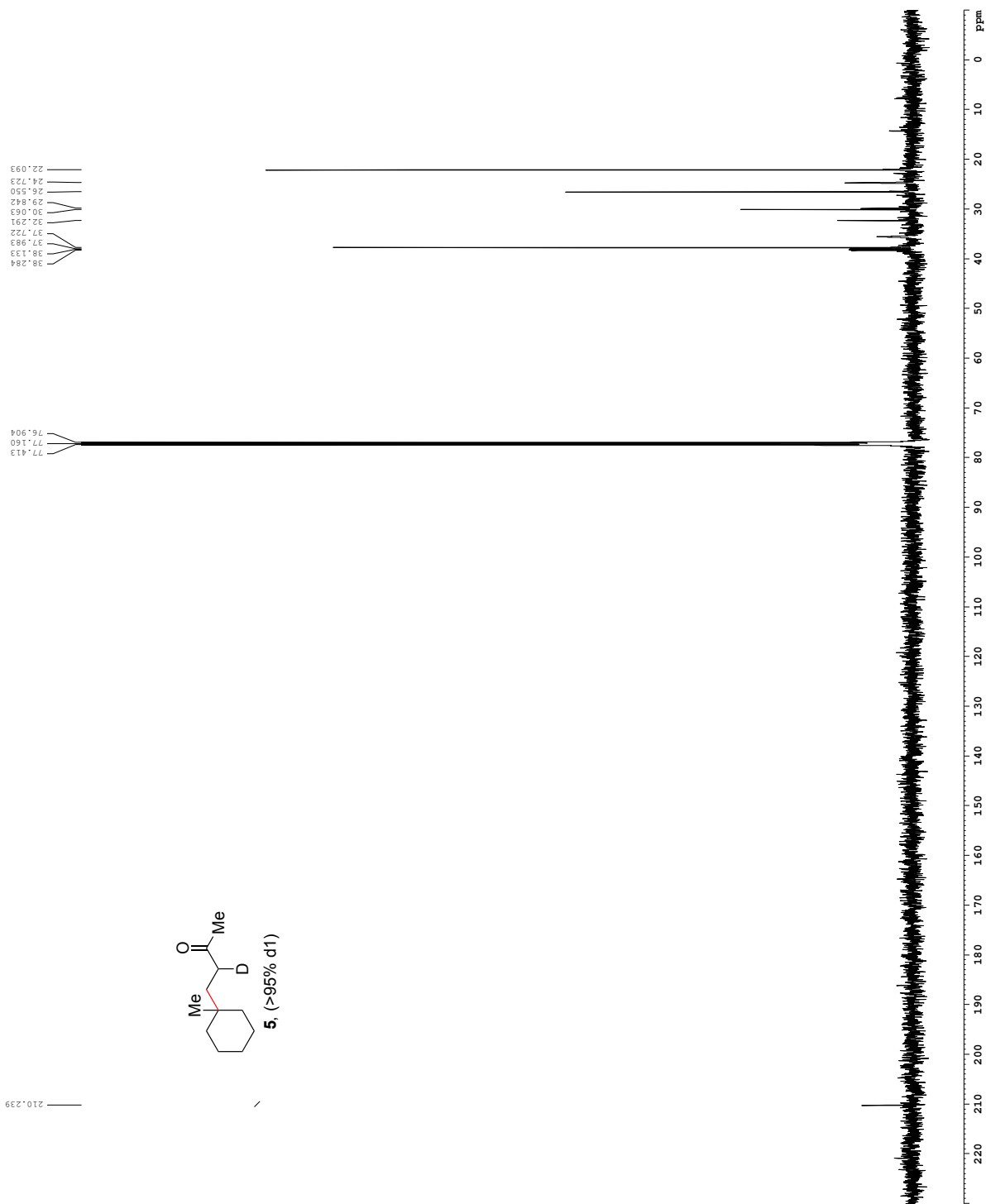
F2 - Acquisition Parameters
Date_         20140721
Time          18.04
INSTRUM       cryo
PROBHD        5 mm CPTCI 1H-
PULPROG       SpinEcho30qp.prd
TD            65536
SOLVENT       CDCl3
NS            255
DS            16
AQ            3030.01 Hz
FIDRES        0.462388 Hz
AQ            1.0813440 sec
RG            7298.2
DM            16.500 usec
DE            6.00 usec
TE            298.0 K
d1            0.2500000 sec
d11           0.0300000 sec
d16           0.0020000 sec
d17           0.00019600 sec
MCREST        0 sec
MCMRCK        0.01500000 sec
F2            31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
P11           500.00 usec
P12           2000.00 usec
PL0           120.00 dB
PL1           -1.00 dB
PL2           125.794250 MHz
SP1           3.20 dB
SP2           3.20 dB
SFOFF1        Crp60, 0.5, 20.1
SFOFF2        Crp60comp, 4

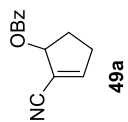
===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2        100.00 usec
PL2           1.60 dB
PL12         24.60 dB
SFO2         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]      SINE,100
GPNAM[2]      SINE,100
GFX1         0 %
GFX2         0 %
GFI1         0 %
GFI2         0 %
GPR2         30.00 %
GPR1         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing Parameters
SI            65536
SF            125.7604010 MHz
WDW           EM
SSB           0
LB            3.00 Hz
GB            0
PC            2.00
    
```



13C spectrum with 1H decoupling



```

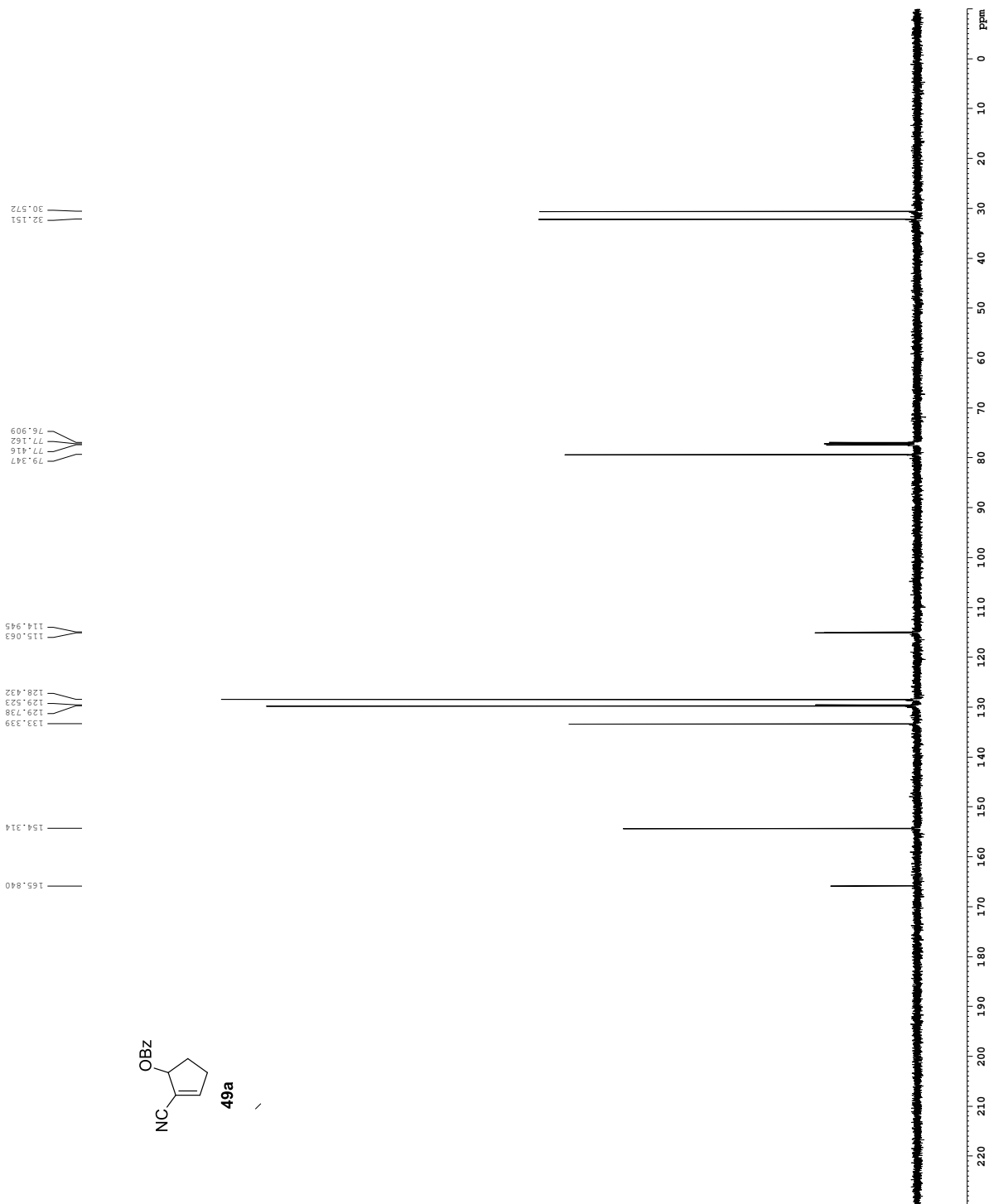
Current Data Parameters
NAME      GLP-E72-S
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20140721
Time     10.50
PULPROG  zgpg30
PROBHD   5 mm broadband
PULPROG  zgpg30
TD       65536
SOLVENT  CDCl3T
NS       43
DS       4
SH       30303.03 Hz
AQ       0.062388 Hz
FIDRES   1.0813440 sec
RG       13004
DM       16.500 usec
DE       4.50 usec
TE       298.0 K
D1       0.25000000 sec
d11      0.03000000 sec
MCHRG1   0
MCHRG2   0
MCHRG3   0
MCHRG4   0
MCHRG5   0
MCHRG6   0
MCHRG7   0
MCHRG8   0
MCHRG9   0
MCHRG10  0
MCHRG11  0
MCHRG12  0
MCHRG13  0
MCHRG14  0
MCHRG15  0
MCHRG16  0
MCHRG17  0
MCHRG18  0
MCHRG19  0
MCHRG20  0
MCHRG21  0
MCHRG22  0
MCHRG23  0
MCHRG24  0
MCHRG25  0
MCHRG26  0
MCHRG27  0
MCHRG28  0
MCHRG29  0
MCHRG30  0
MCHRG31  0
MCHRG32  0
MCHRG33  0
MCHRG34  0
MCHRG35  0
MCHRG36  0
MCHRG37  0
MCHRG38  0
MCHRG39  0
MCHRG40  0
MCHRG41  0
MCHRG42  0
MCHRG43  0
MCHRG44  0
MCHRG45  0
MCHRG46  0
MCHRG47  0
MCHRG48  0
MCHRG49  0
MCHRG50  0
MCHRG51  0
MCHRG52  0
MCHRG53  0
MCHRG54  0
MCHRG55  0
MCHRG56  0
MCHRG57  0
MCHRG58  0
MCHRG59  0
MCHRG60  0
MCHRG61  0
MCHRG62  0
MCHRG63  0
MCHRG64  0
MCHRG65  0
MCHRG66  0
MCHRG67  0
MCHRG68  0
MCHRG69  0
MCHRG70  0
MCHRG71  0
MCHRG72  0
MCHRG73  0
MCHRG74  0
MCHRG75  0
MCHRG76  0
MCHRG77  0
MCHRG78  0
MCHRG79  0
MCHRG80  0
MCHRG81  0
MCHRG82  0
MCHRG83  0
MCHRG84  0
MCHRG85  0
MCHRG86  0
MCHRG87  0
MCHRG88  0
MCHRG89  0
MCHRG90  0
MCHRG91  0
MCHRG92  0
MCHRG93  0
MCHRG94  0
MCHRG95  0
MCHRG96  0
MCHRG97  0
MCHRG98  0
MCHRG99  0
MCHRG100 0

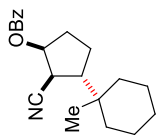
===== CHANNEL f1 =====
NUC1     13C
P1       9.00 usec
PL1     -3.00 dB
SFO1    125.5603601 MHz

===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
P2       80.00 usec
PL2     -3.00 dB
PL12    19.00 dB
SFO2    499.2924984 MHz

F2 - Processing parameters
SI       65536
SF       125.5465791 MHz
WDW      EM
SSB      0
GB       0
PC       1.00 Hz
  PC     2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



50
major diastereomer
(dr 8:2:1:1)

```

Current Data Parameters
NAME      GLS-274-33-mm-13C
EXPNO    1
PROCNO   1

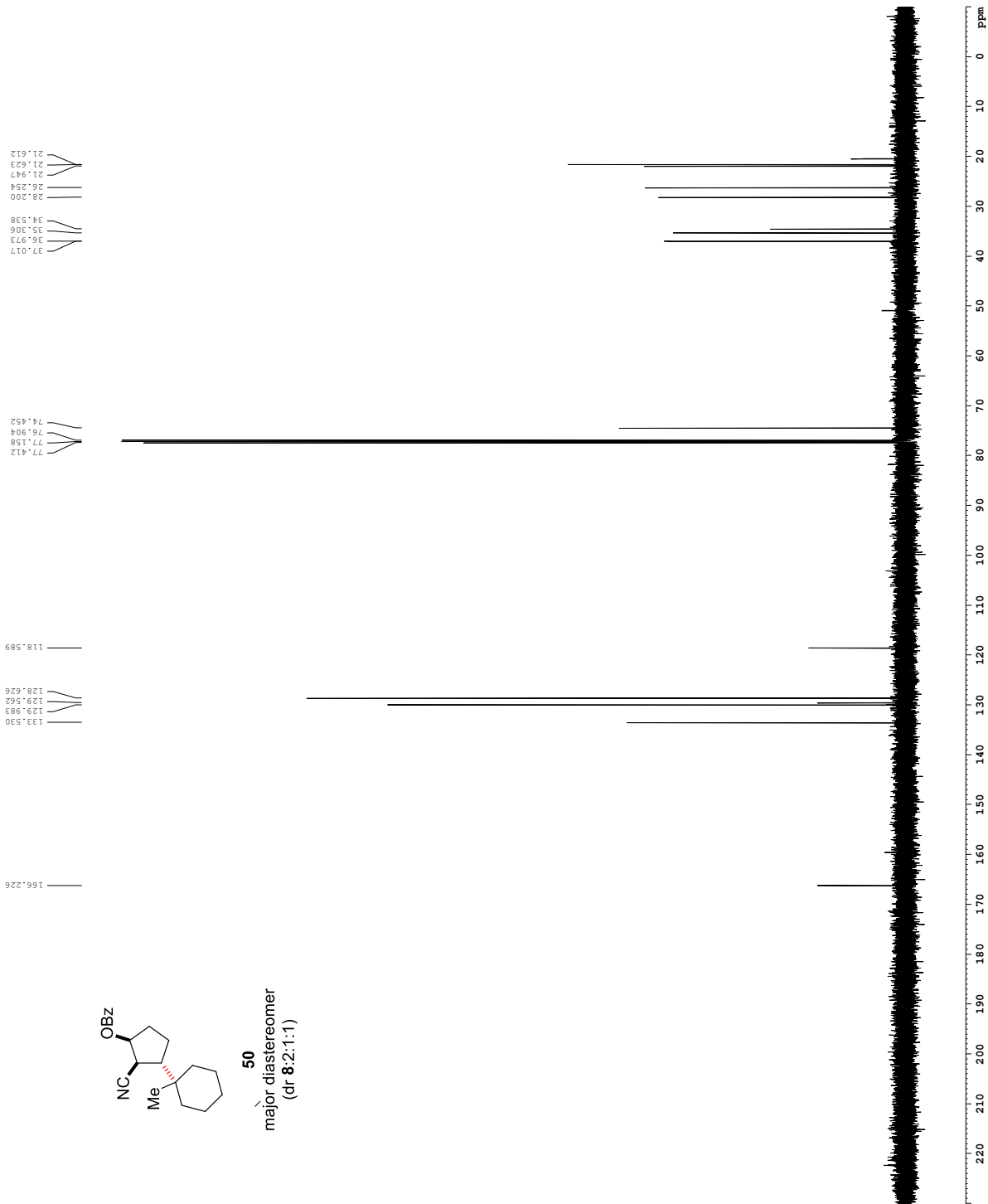
F2 - Acquisition Parameters
Date_    20140730
Time     14.04
INSTRUM  cryo
PROBHD   5 mm CPTCI 1H-
PULPROG  SpinEcho30cp-prd
TD       65536
SOLVENT  CDCl3
NS       215
DS       16
SS       3030.01 Hz
AQ       0.462388 Hz
FIDRES   1.0813440 sec
RG       2580.3
DM       16.500 usec
DE       6.00 usec
TE       298.0 K
D1       0.2500000 sec
d11      0.0300000 sec
d16      0.0002000 sec
d17      0.0001960 sec
MCREST   0 sec
MCMRK    0.01500000 sec
F2       31.00 usec

===== CHANNEL f1 =====
NUC1     13C
P1       15.50 usec
PL1     500.00 usec
P2       2000.00 usec
PL2     120.00 dB
PL3     1.00 dB
PL4     120.00 dB
PL5     -1.00 dB
PL6     125.7942500 MHz
SP1     3.20 dB
SP2     3.20 dB
SFOFF1   Crp60, 0.5, 20.1
SFOFF2   Crp60comp, 4
SFOFF3   0 Hz
SFOFF4   0 Hz

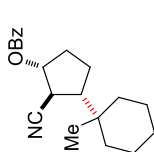
===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
P2       100.00 usec
PL2     1.60 dB
PL3     24.60 dB
PL4     500.2225011 MHz
SFOFF2   0 Hz

===== GRADIENT CHANNEL =====
GPNAM[1] SINE,100
GPNAM[2] SINE,100
GFX1     0 %
GFX2     0 %
GFI1     0 %
GFI2     0 %
GFI3     30.00 %
GFI4     50.00 %
GFI5     50.00 usec
GFI6     1000.00 usec

F2 - Processing Parameters
SI       65536
SF       125.7604082 MHz
WDW      EM
SSB      0
LB       0.10 Hz
GB       0
FC       2.00
    
```



Z-restored spin-echo 13C spectrum with 1H decoupling



50
minor diastereomer
(dr 8.2:1.1)

```

Current Data Parameters
NAME      GLS-273-274-13c
EXPNO    1
PROCNO   1

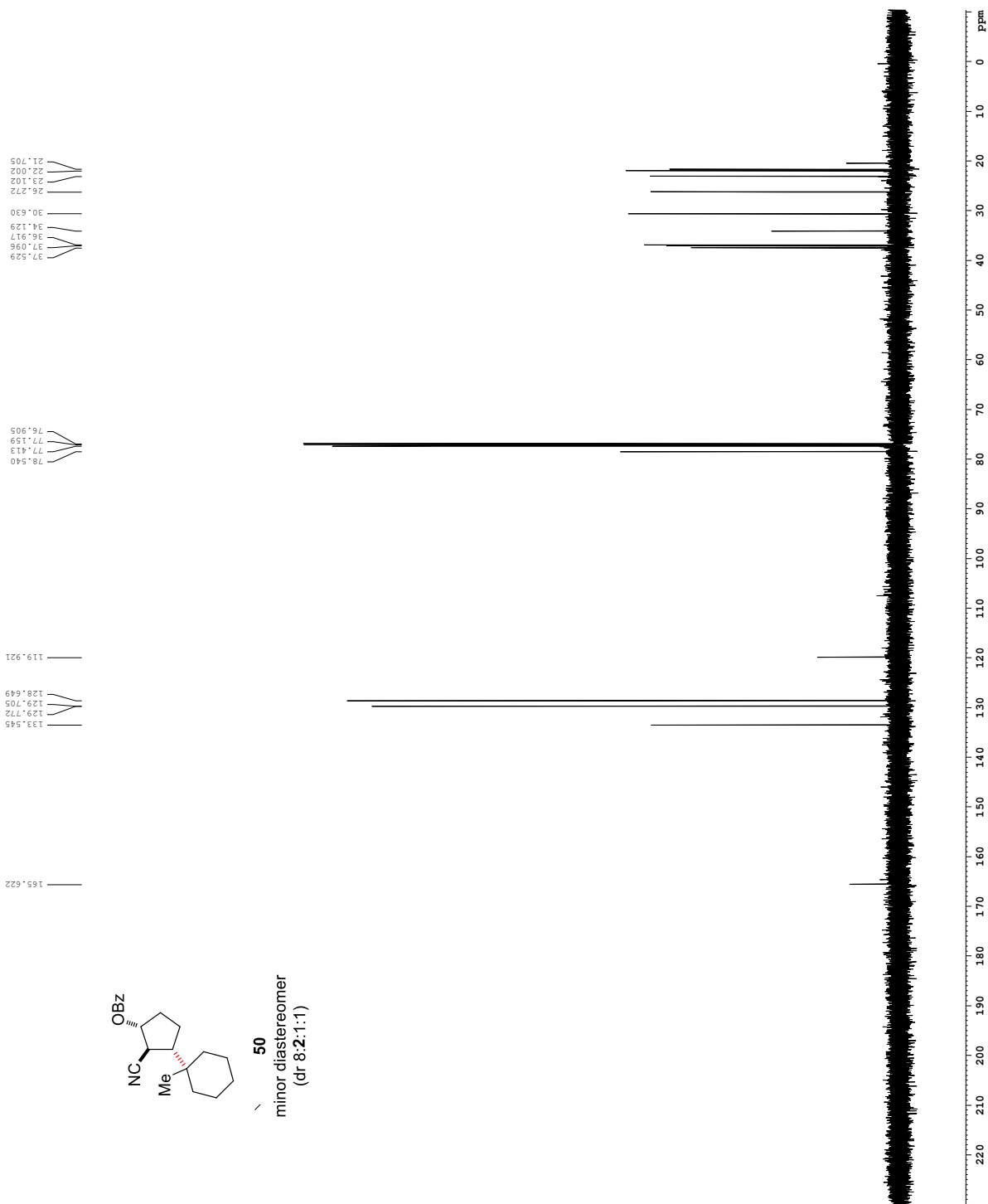
F2 - Acquisition Parameters
Date_    20140730
Time     14.42
INSTRUM  cryo4
PROBHD   5 mm CPTCI 1H-
PULPROG  SpinEcho30cp-prd
TD       65536
SOLVENT  CDCl3
NS       336
DS       16
AQ       30303.01 Hz
FIDRES   0.462388 Hz
AQRES    1.0813440 sec
RG       4096
DM       16.500 usec
DE       6.00 usec
TE       298.0 K
d1       0.2500000 sec
d11      0.0300000 sec
d16      0.0020000 sec
d17      0.00019600 sec
MCREST   0 sec
MCMRK    0.01500000 sec
F2       31.00 usec

===== CHANNEL f1 =====
NUC1     13C
P1       15.50 usec
P11      500.00 usec
P12      2000.00 usec
PL0      120.00 dB
PL1      -1.00 dB
SP01     125.7942500 MHz
SP1      3.20 dB
SP2      3.20 dB
SFOFF1   0 Hz
SFOFF2   0 Hz

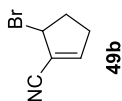
===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    100.00 usec
PL2      1.60 dB
PL12     24.60 dB
SFO2     500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1] SINE.100
GPNAM[2] SINE.100
GFX1     0 %
GFX2     0 %
GPI1     0 %
GPI2     0 %
GPI3     0 %
GPI4     0 %
GPI5     0 %
GPI6     0 %
GPI7     0 %
GPI8     0 %
GPI9     0 %
GPI10    0 %
GPI11    0 %
GPI12    0 %
GPI13    0 %
GPI14    0 %
GPI15    0 %
GPI16    0 %

F2 - Processing Parameters
SI       65536
SF       125.7604090 MHz
WDW      EM
SSB      0
LB       0.05 Hz
GB       0
FC       2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
NAME      GL3-291-33
EXPNO     1
PROCNO    1

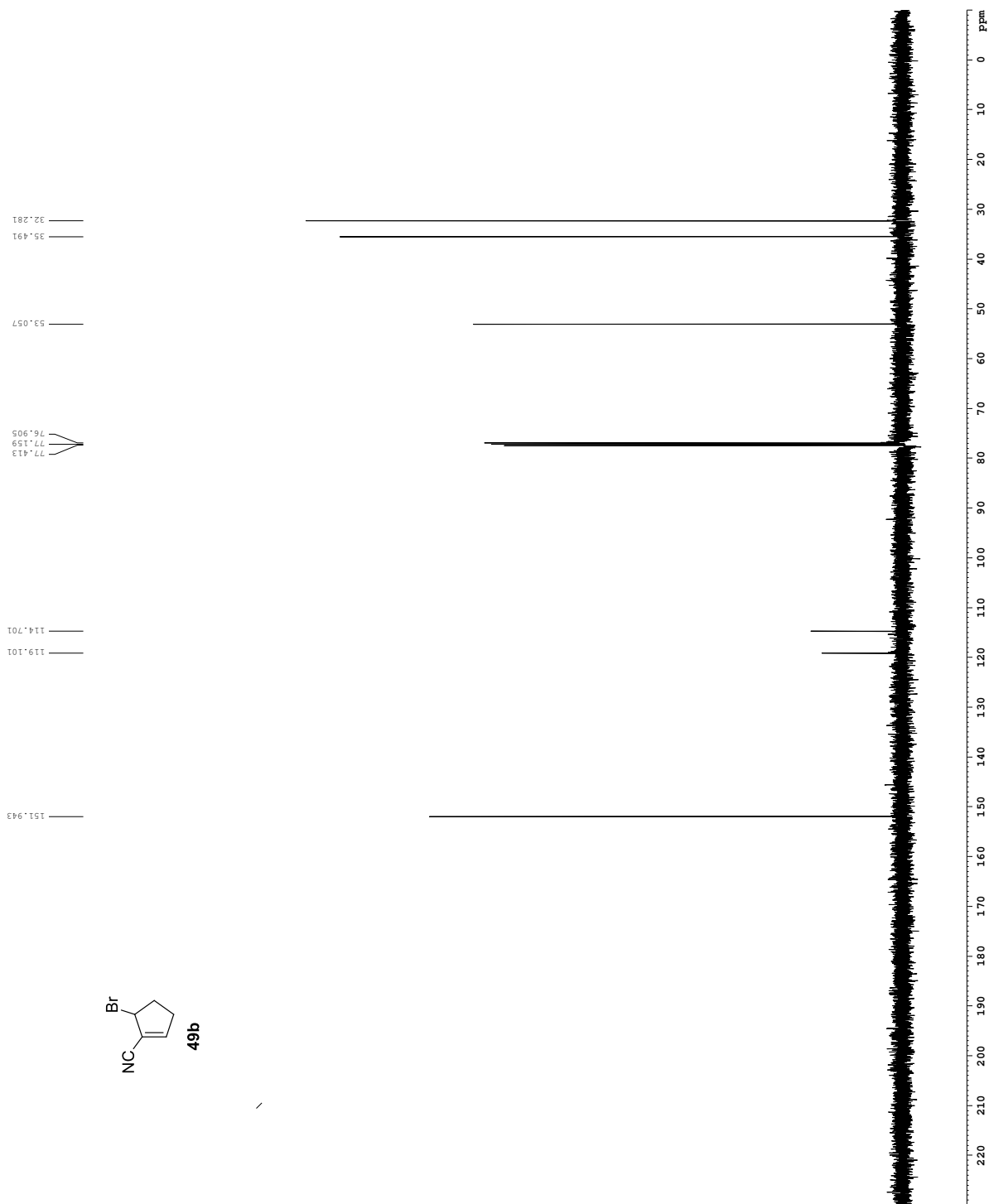
F2 - Acquisition Parameters
Date_     20140901
Time      10:02
INSTRUM   cryo
PROBHD    5 mm CPTCI 1H-
PULPROG   SpinEchoq30qp.prd
TD         65536
SOLVENT   CDCl3
NS         71
DS         16
AQ         30303.01 Hz
FIDRES    0.462388 Hz
AQRES     1.0813440 sec
RG         10321.3
DM         16.500 usec
DE         6.00 usec
TE         298.0 K
D1         0.2500000 sec
d11        0.0000000 sec
D16        0.0020000 sec
d17        0.00019600 sec
MCREST    0 sec
MCMRKR    0.01500000 sec
F2        31.00 usec

===== CHANNEL f1 =====
NUC1      13C
P1        15.50 usec
P11       500.00 usec
P12       2000.00 usec
PL0       120.00 dB
PL1       -1.00 dB
SP1       125.794250 MHz
SP2       3.20 dB
SFOFF1    Crp60, 0.5, 20.1
SFOFF2    Crp60comp, 4

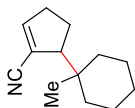
===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     100.00 usec
PL2       1.60 dB
PL12      24.60 dB
SFO2      500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]  SINE.100
GPNAM[2]  SINE.100
GFX1      0 %
GFX2      0 %
GFI1      0 %
GFI2      0 %
GPR1      30.00 %
GPR2      50.00 %
p15       500.00 usec
p16       1000.00 usec

F2 - Processing Parameters
SI         65536
RG         125.7604126 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
FC         2.00
  
```



Z-restored spin-echo 13C spectrum with 1H decoupling



51

```

Current Data Parameters
NAME          GL5-266-3
EXPNO        2
PROCNO       1

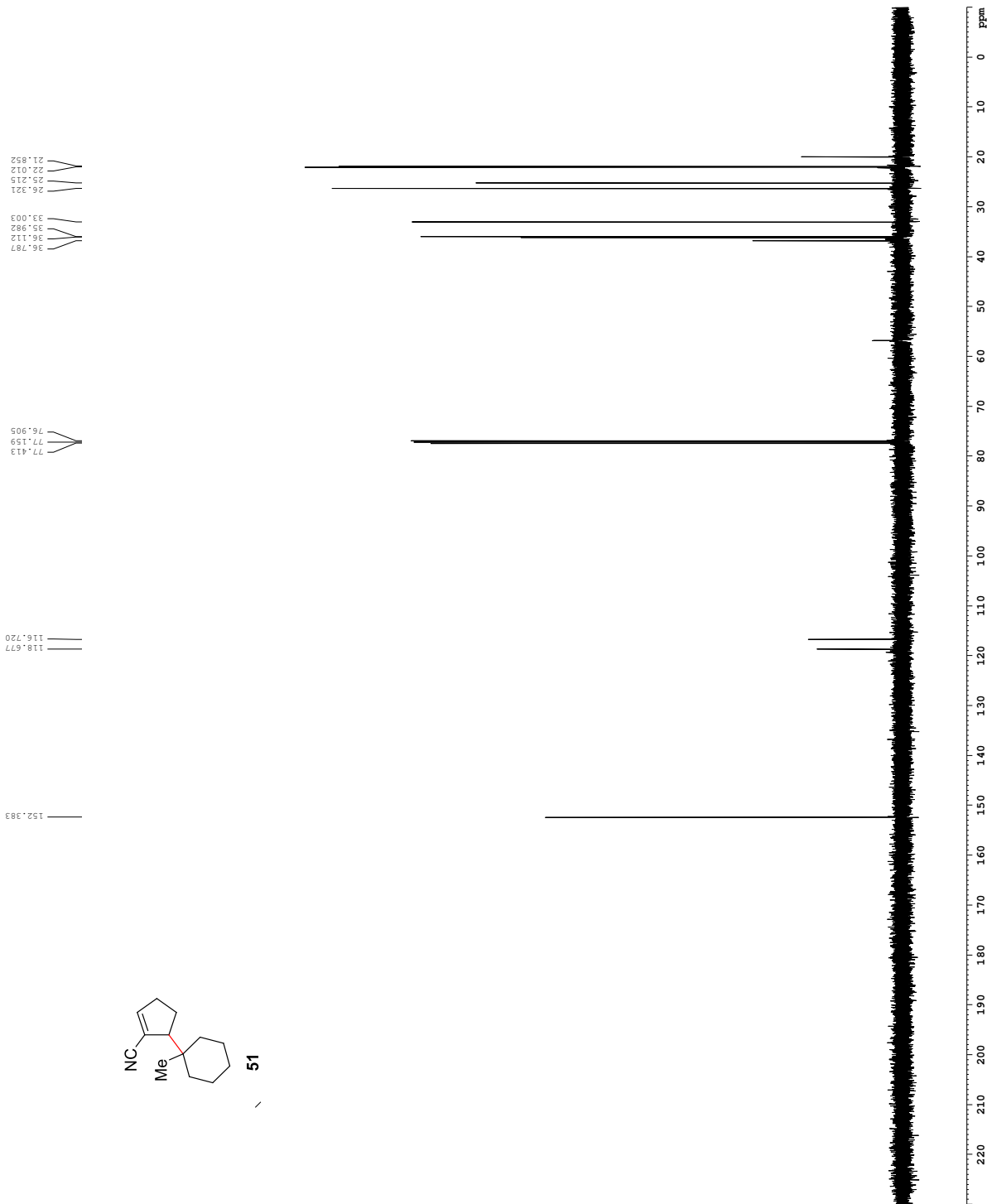
F2 - Acquisition Parameters
Date_        20140328
Time        5.56
PROBHD      cryo1h
PULPROG     5 mm CPFG1H-
TD          SpinEcho30gp.prd
SOLVENT     CDC13
NS          168
DS          16
AQ          3030.0 Hz
FIDRES      0.96238 Hz
AQRES       1.081340 sec
RG          3251
DM          16.500 usec
DE          6.00 usec
TE          298.0 K
D1          0.2500000 sec
d11         0.0020000 sec
D16         0.0020000 sec
d17         0.00019600 sec
MCREST      0 sec
MCWRK       0.01500000 sec
F2          31.00 usec

===== CHANNEL f1 =====
NUC1         13C
P1          15.50 usec
PL1         500.00 usec
P12         2000.00 usec
PL2         120.00 dB
PL0         -1.00 dB
SFO1        125.7942548 MHz
SF02        3.20 dB
SF2         3.20 dB
SFOFF1      C:rp60comp.4
SFOFF2      0 Hz

===== CHANNEL f2 =====
CPDPRG2     waltz16
NUC2         1H
PCPD2       100.00 usec
PL2         1.60 dB
PL12        24.60 dB
SFO2        500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM[1]    SINE.100
GPNAM[2]    SINE.100
GFX1        0 %
GFX2        0 %
GFX3        0 %
GFX4        0 %
GFX5        0 %
GFX6        0 %
GFX7        0 %
GFX8        0 %
GFX9        0 %
GFX10       0 %
GFX11       0 %
GFX12       0 %
GFX13       0 %
GFX14       0 %
GFX15       0 %
GFX16       0 %
GFX17       0 %
GFX18       0 %
GFX19       0 %
GFX20       0 %
GFX21       0 %
GFX22       0 %
GFX23       0 %
GFX24       0 %
GFX25       0 %
GFX26       0 %
GFX27       0 %
GFX28       0 %
GFX29       0 %
GFX30       0 %
GFX31       0 %
GFX32       0 %
GFX33       0 %
GFX34       0 %
GFX35       0 %
GFX36       0 %
GFX37       0 %
GFX38       0 %
GFX39       0 %
GFX40       0 %
GFX41       0 %
GFX42       0 %
GFX43       0 %
GFX44       0 %
GFX45       0 %
GFX46       0 %
GFX47       0 %
GFX48       0 %
GFX49       0 %
GFX50       0 %
GFX51       0 %
GFX52       0 %
GFX53       0 %
GFX54       0 %
GFX55       0 %
GFX56       0 %
GFX57       0 %
GFX58       0 %
GFX59       0 %
GFX60       0 %
GFX61       0 %
GFX62       0 %
GFX63       0 %
GFX64       0 %
GFX65       0 %
GFX66       0 %
GFX67       0 %
GFX68       0 %
GFX69       0 %
GFX70       0 %
GFX71       0 %
GFX72       0 %
GFX73       0 %
GFX74       0 %
GFX75       0 %
GFX76       0 %
GFX77       0 %
GFX78       0 %
GFX79       0 %
GFX80       0 %
GFX81       0 %
GFX82       0 %
GFX83       0 %
GFX84       0 %
GFX85       0 %
GFX86       0 %
GFX87       0 %
GFX88       0 %
GFX89       0 %
GFX90       0 %
GFX91       0 %
GFX92       0 %
GFX93       0 %
GFX94       0 %
GFX95       0 %
GFX96       0 %
GFX97       0 %
GFX98       0 %
GFX99       0 %
GFX100      0 %

F2 - Processing parameters
SI          65536
SF          125.7804096 MHz
WDW         EM
SSB         0
LB          0.10 Hz
GB          0
PC          2.00
    
```



nOe Correlations for compound 50

gnoe

```

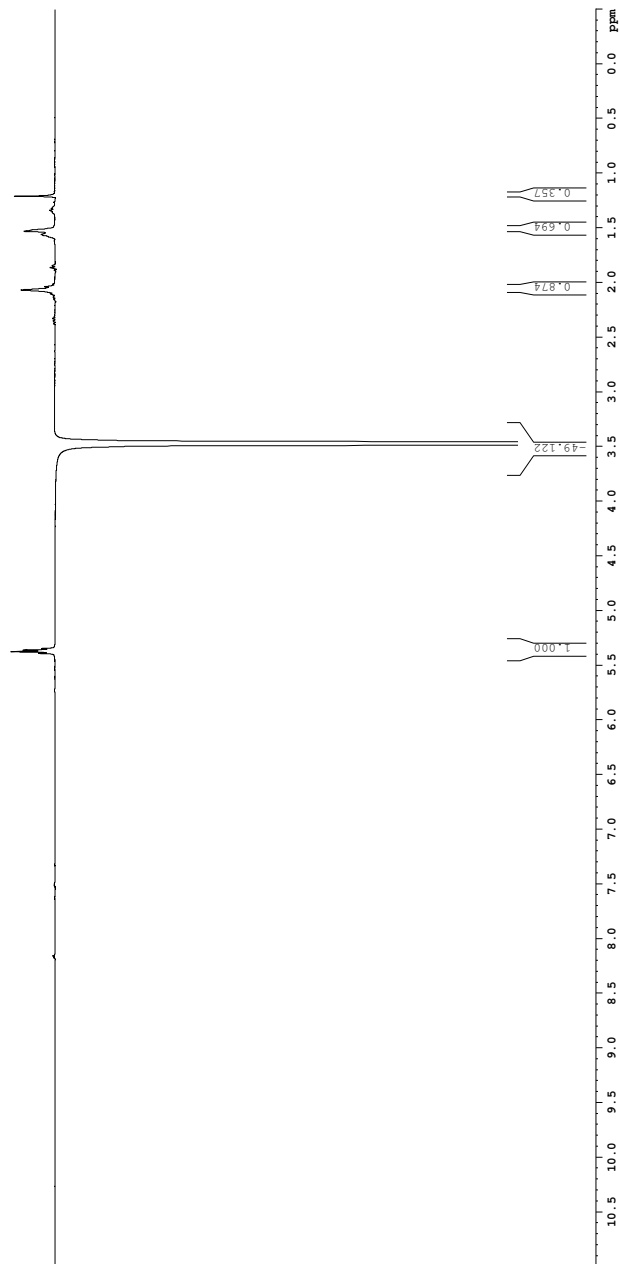
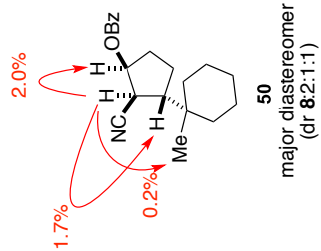
Current Data Parameters
NAME      GL3-294-3maj1n
EXPNO     1
PROCNO    2

F2 - Acquisition Parameters
Date_     20140514
Time      15.48
Operator  cly
PROBHD    5 mm CPDQ1H
PULPROG   gnoe1c1h1
TD        65536
SOLVENT   CDCl3
DS        160
SS        8
SNR       8012.820 Hz
FIDRES    0.122266 Hz
AQ        4.0839463 sec
RG         62.400 usec
DE        6.00 usec
TE        298.0 K
D8        1.00000000 sec
D9        0.50000000 sec
D16       0.00020000 sec
d21       0.33376500 sec
d22       0.16399699 sec
P2        13.00 usec

===== CHANNEL f1 =====
NUC1      1H
P1        7.50 usec
P2        22.50 usec
P4        30.00 usec
P5        20.00 usec
P12       40000.00 usec
P13       10000.00 usec
SFO1      500.221352 MHz
SF1        61.60 dB
SFOFF1    0 Hz

===== GRADIENT CHANNEL =====
GFNAM[1]  sine.100
GFNAM[2]  sine.100
GFNAM[3]  sine.100
GFNAM[4]  sine.100
GF1       0 %
GF2       0 %
GF3       0 %
GF4       0 %
GF5       0 %
GF6       0 %
GF7       0 %
GF8       0 %
GF9       0 %
GF10      0 %
GF11      0 %
GF12      0 %
GF13      0 %
GF14      0 %
GF15      0 %
GF16      0 %

F2 - Processing parameters
SI        65536
SF        500.2200000 MHz
RG        62.400
SSB       0
LB        1.00 Hz
GB        0
PC        1.00
  
```



gnoe

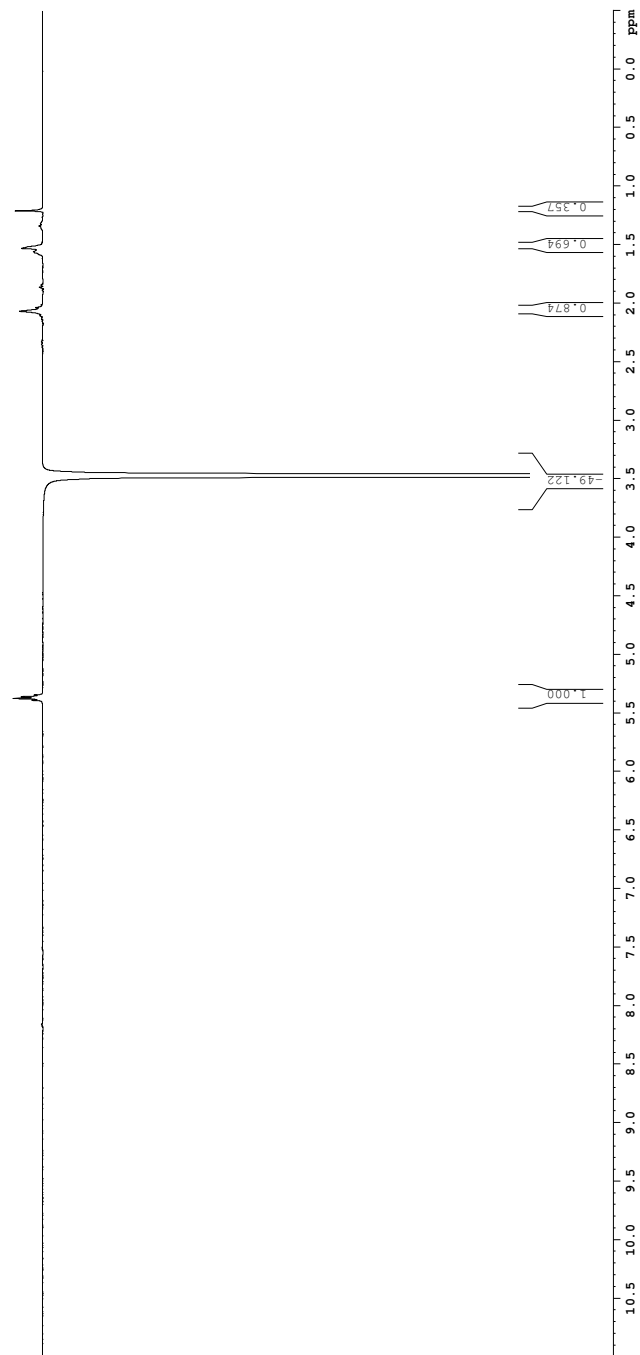
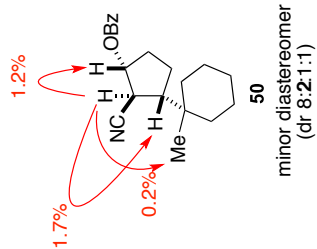
Current Data Parameters
 NAME GL3-294-3ma.jn
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20080815
 Time 15:48
 INSTRUM ctyo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG gnoelcc.wu
 D 65536
 SOLVENT CCl4
 NS 160
 DS 8
 SMH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 NRG 16
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 1.0000000 sec
 D8 0.5000000 sec
 D6 0.3750000 sec
 d21 0.3376500 sec
 d22 0.1639969 sec
 p2 15.00 usec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 P3 22.50 usec
 P4 30.00 usec
 P5 20.00 usec
 P12 40000.00 usec
 PL1 1.60 dB
 PL2 1.60 dB
 SP1 500.221320 MHz
 SP11 61.60 dB
 SPOFF1 0 Hz

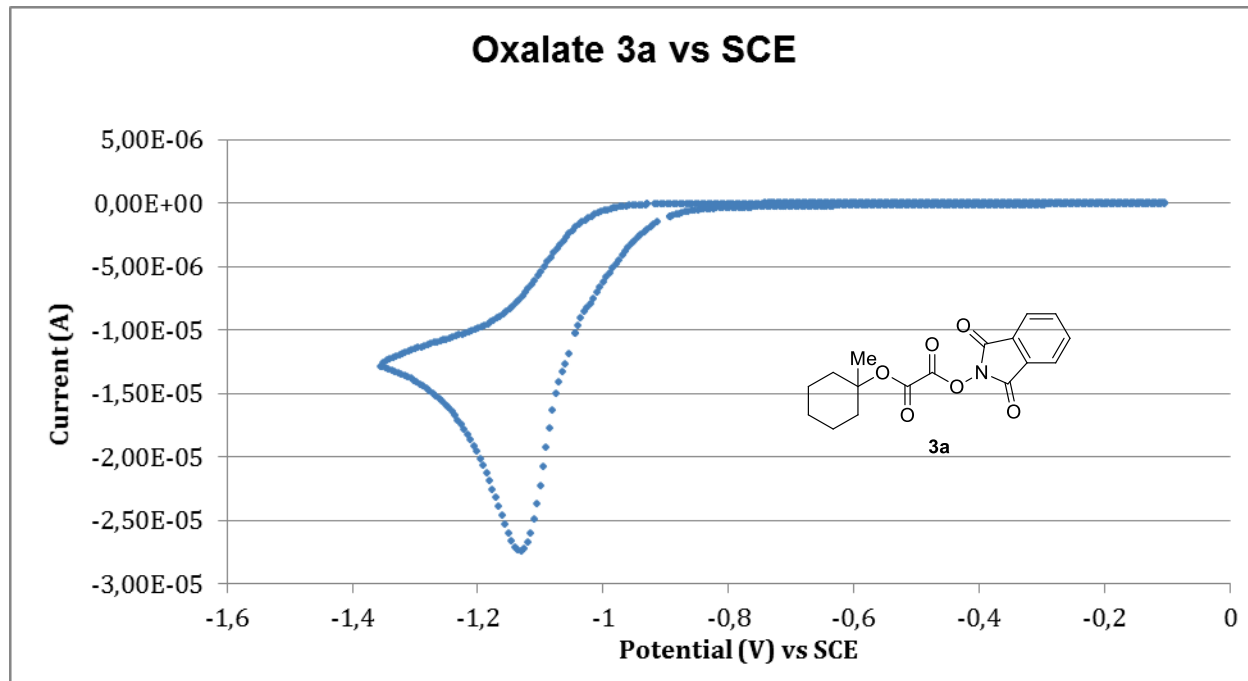
===== GRADIENT CHANNEL =====
 GSNAM1 sine.100
 GPNAM2 sine.100
 GPNAM3 sine.100
 GPNAM4 sine.100
 GPX1 0 %
 GPX2 0 %
 GPX3 0 %
 GPX4 0 %
 GPY1 0 %
 GPY2 0 %
 GPY3 0 %
 GPY4 0 %
 GPZ1 7.00 %
 GPZ2 3.00 %
 GPZ3 2.30 %
 GPZ4 -2.30 %
 P16 1000.00 usec

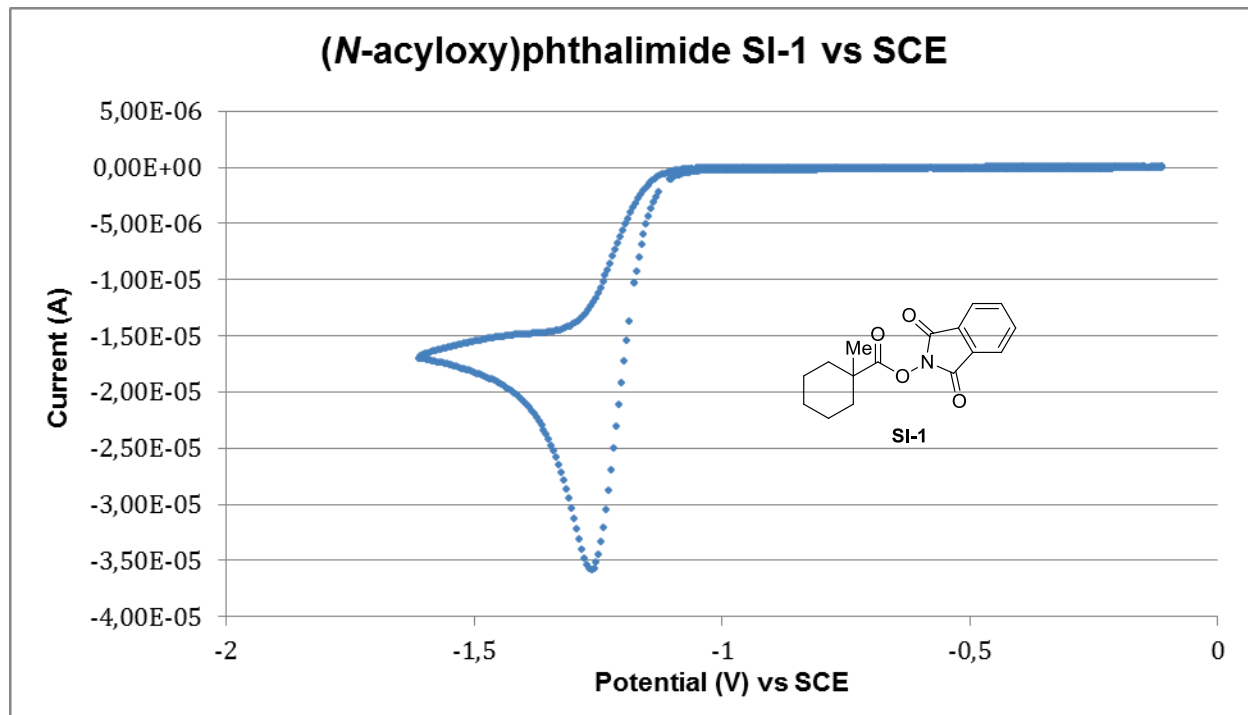
F2 - Processing parameters
 CPO 0
 SF 500.220000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 1.00



Cyclic Voltammetry Measurements

Cyclic Voltammetry was conducted using a Pine Research Instruments Wavedriver potentiostat, a glassy carbon disk working electrode, a glassy carbon rod counter electrode, and a Ag/Ag⁺ reference electrode (Vycor tip). Samples were prepared with a substrate concentration of 0.01 M in a 0.1 M tetrabutylammonium tetrafluoroborate in acetonitrile electrolyte solution. Data was collected with a sweep rate of 100 mV/s. Reduction potentials were measured in reference to ferrocene and were converted to reference the saturated calomel electrode (SCE) using the reported reduction potential of ferrocene ($E_{1/2} = +0.38$ V vs SCE, reported in the following publication: Zanello, P.; Cinquantini, A.; Mangiani, S.; Opromolla, G.; Pardi, L.; Janiak, C.; Rausch, M. D. *J. Organomet. Chem.* **1994**, 471, 171–177.).





$$E_{1/2} = -1.26 \text{ V vs SCE}$$