

Catalytic Asymmetric Synthesis of Allylic Thiol Derivatives

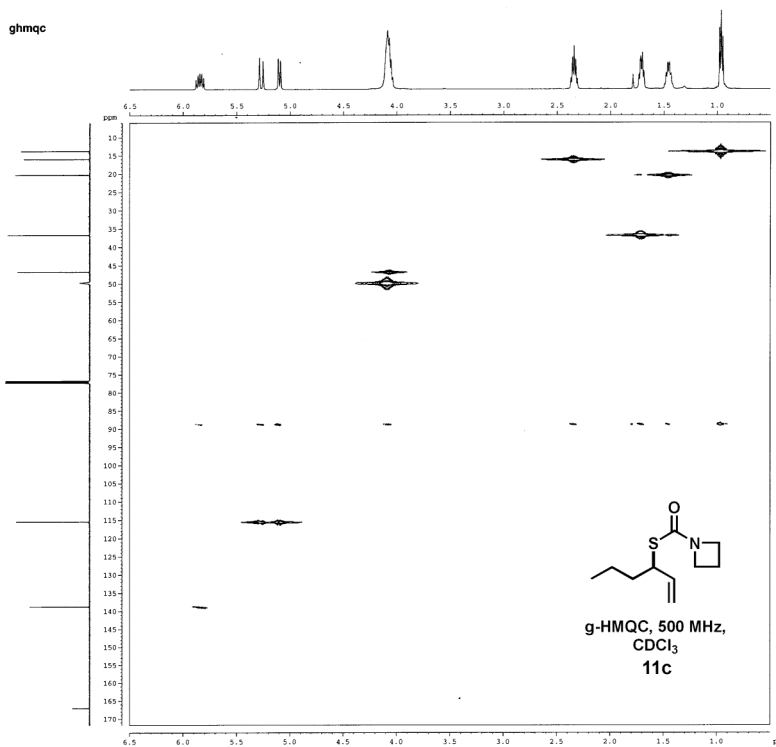
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ghmqc

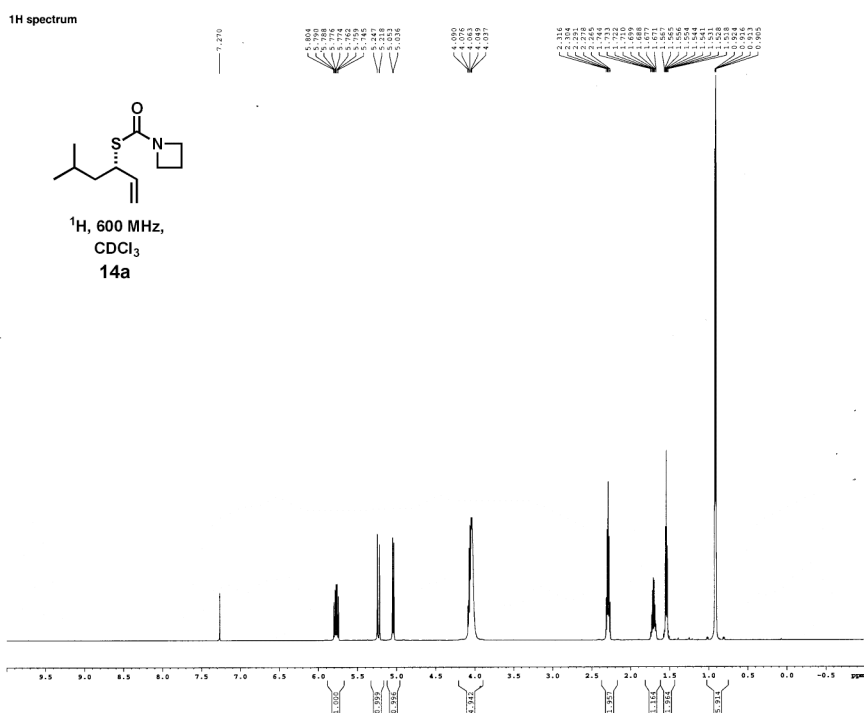


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Current Data Parameters
=====
USER          secdir
NAME          20070927
EXPNO        2
PROCNO        1
Date_         20070927
Time         14:21
INSTRUM      spect
PROBHD       5 mm CP131
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
DE           2
DS           2
SWH           1004.800 MHz
FIDRES       0.487193 MHz
AQ           0.1469372 sec
RG           1184.0
WDW           EM
SSB           0
LB           1.000000 Hz
GB           0
PC           1.00
===== CHANNEL f1 =====
NUC1          13C
P1            8.00 usec
PL1           -1.00 dB
SFO1          101.62540 MHz
===== CHANNEL f2 =====
NUC2          1H
P2            12.00 usec
PL2           -1.00 dB
SFO2          500.136099 MHz
===== GRABF2 CHANNEL =====
SFOGRAB2      500.136099 MHz
===== Acquisition Parameters =====
Date_         20070927
Time         14:21
INSTRUM      spect
PROBHD       5 mm TBI
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
DE           2
DS           2
SWH           9615.185 MHz
FIDRES       0.398179 MHz
AQ           0.0928259 sec
RG           1184.0
WDW           EM
SSB           0
LB           1.000000 Hz
GB           0
PC           1.00
===== Processing parameters =====
SI            32768
SF            600.1300267 MHz
WDW           EM
SSB           0
LB            0.30 Hz
GB            0
PC            1.00

```

¹H spectrum

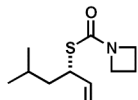


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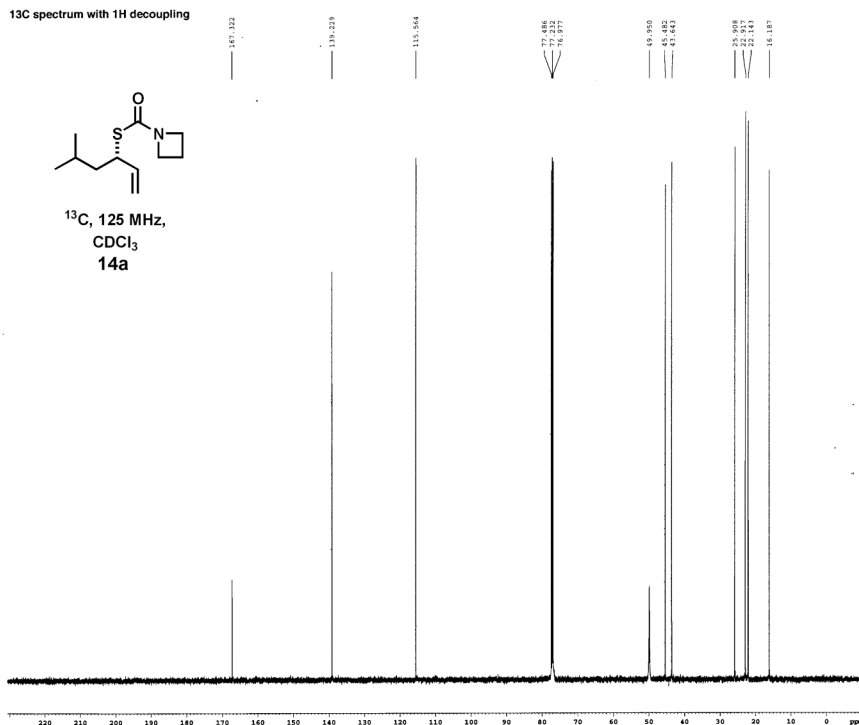
Current Data Parameters
=====
USER          secdir
NAME          20070927
EXPNO        4
PROCNO        1
Date_         20070927
Time         18:06
INSTRUM      spect
PROBHD       5 mm TBI
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
DE           2
DS           2
SWH           9615.185 MHz
FIDRES       0.398179 MHz
AQ           0.0928259 sec
RG           1184.0
WDW           EM
SSB           0
LB           1.000000 Hz
GB           0
PC           1.00
===== CHANNEL f1 =====
NUC1          1H
P1            8.00 usec
PL1           -1.00 dB
SFO1          600.1342009 MHz
===== Processing parameters =====
SI            32768
SF            600.1300267 MHz
WDW           EM
SSB           0
LB            0.30 Hz
GB            0
PC            1.00

```

¹³C spectrum with ¹H decoupling



¹³C, 125 MHz,
CDCl₃
14a



```

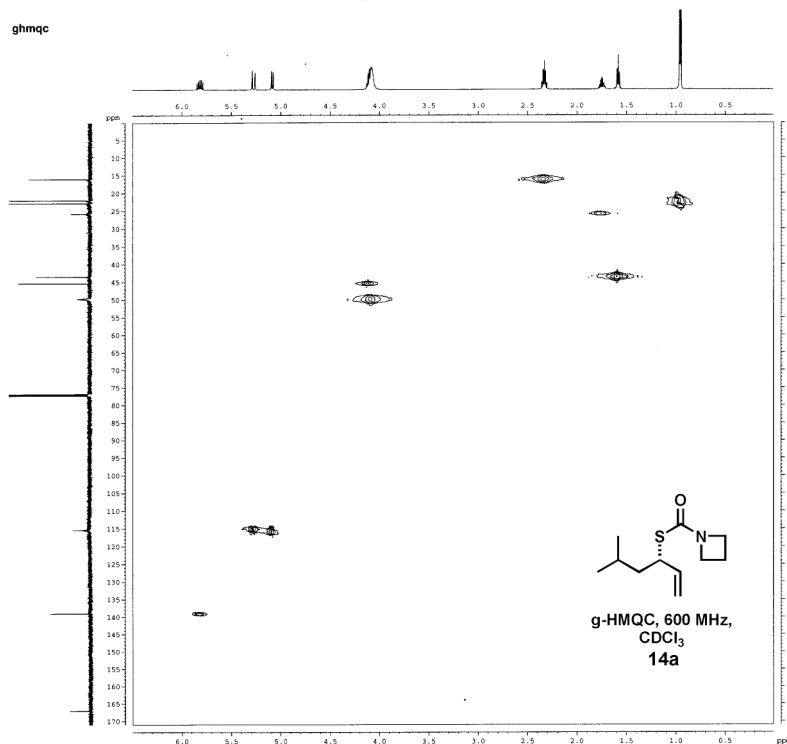
Current Data Parameters
=====
USER          scc072
NAME          20019921
EXPNO        7
PROCNO       1
F2 - Acquisition Parameters
=====
Date_         20070728
Time         8:16
INSTRUM      gms005
PROBHD       5 mm Broadband
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           1342
DS           4
SWH          30303.03 Hz
FIDRES      0.462388 Hz
AQ          1.0813480 sec
RG          3253
DM          16.500 usec
DE         4.50 usec
TE          298.2 K
D1         0.25000000 sec
d11        0.03000000 sec
d12        14.70 usec
MCHSET      0.03000000 sec
MCHWK       0.01500000 sec

===== CHANNEL f1 =====
NUC1         13C
P1           7.08 usec
PL1          0.00 dB
SFO1        125.6949209 MHz

===== CHANNEL f2 =====
CPCPRG2     waltz16
NUC2         1H
PCPD2       80.00 usec
PL2         -3.00 dB
PL12        14.70 usec
SFO2        499.8274951 MHz

F2 - Processing parameters
=====
SI           65536
SF          125.6210767 MHz
WDW         EM
SSB         0
LB          1.00 Hz
GB          0
PC          2.00
    
```

ghmqc



g-HMQC, 600 MHz,
CDCl₃
14a

```

Current Data Parameters
=====
USER          scc072
NAME          20019921
EXPNO        5
PROCNO       6
F2 - Acquisition Parameters
=====
Date_         20070921
Time         10:57
INSTRUM      spect
PROBHD       5 mm TBI 1H/13
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           2
DS           4
SWH          3898.125 Hz
FIDRES      4.389756 Hz
AQ          0.115001 sec
RG          3253
DM          126.202 usec
DE         6.00 usec
TE          298.2 K
D1         0.00000000 sec
d11        1.00000000 sec
d12        0.00000000 sec
d13        0.00000000 sec
d14        0.00000000 sec
d15        0.00000000 sec
d16        0.00000000 sec
d17        0.00000000 sec
d18        0.00000000 sec
d19        0.00000000 sec
d20        0.00000000 sec
===== CHANNEL f1 =====
NUC1         1H
P1           18.00 usec
PL1          0.00 dB
SFO1        400.1315000 MHz

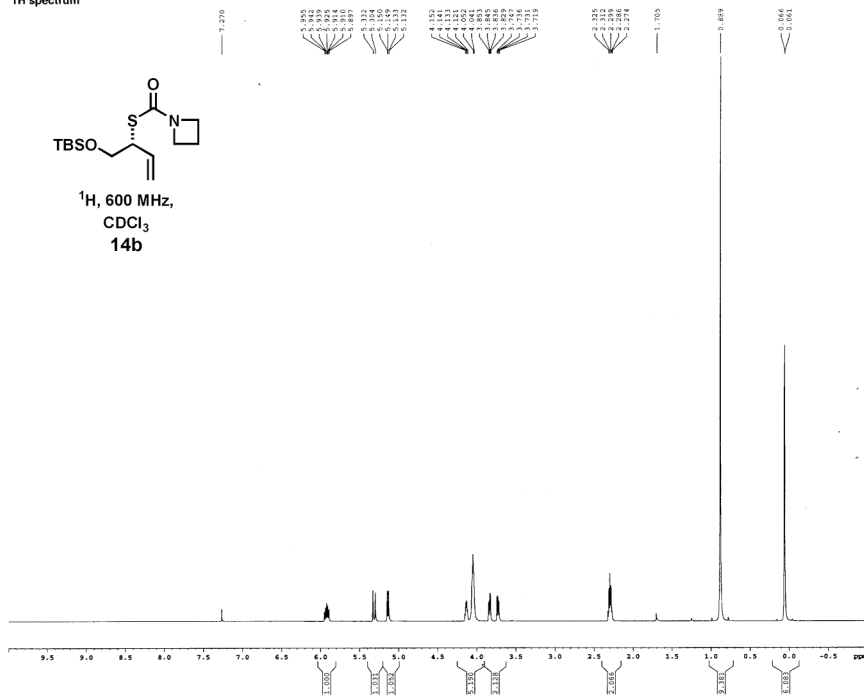
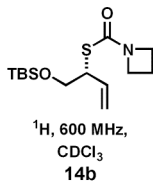
===== CHANNEL f2 =====
CPCPRG2     ghmqc
NUC2         13C
PCPD2       70.00 usec
PL2         12.50 dB
PL12        150.9178933 MHz

===== GRABF2 CHANNEL =====
CONNAME1    F2HM100
CONNAME2    F2HM100
CONNAME3    F2HM100
OFFF1       30.00 MHz
OFFF2       42.20 MHz
OFFF3       1000.00 usec

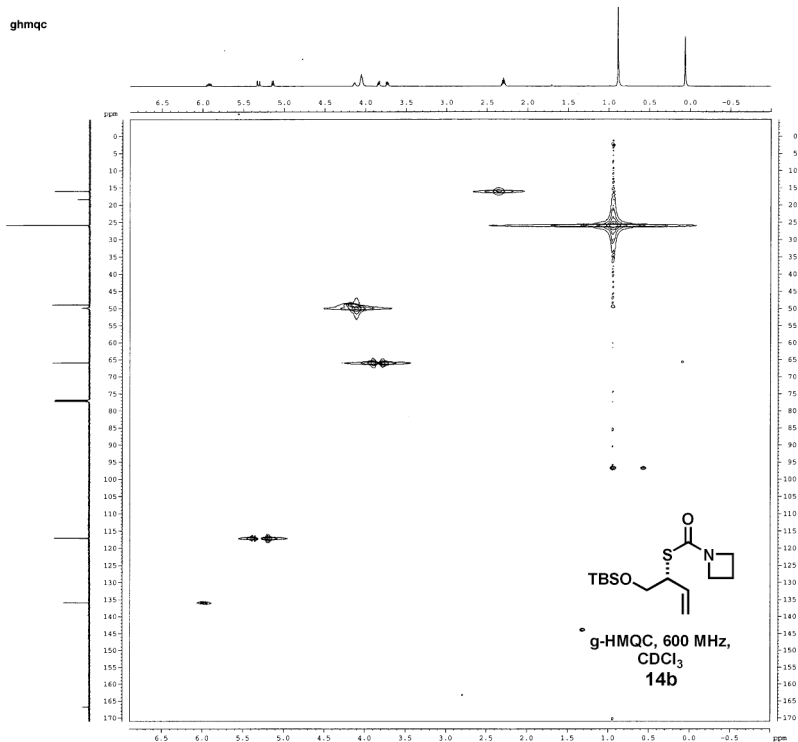
F1 - Acquisition parameters
=====
SI           65536
SF          150.8179 MHz
WDW         EM
SSB         0
LB          5.00 Hz
GB          0
PC          1.00

F2 - Processing parameters
=====
SI           65536
SF          600.1300000 MHz
WDW         EM
SSB         0
LB          5.00 Hz
GB          0
PC          1.00
    
```

¹H spectrum



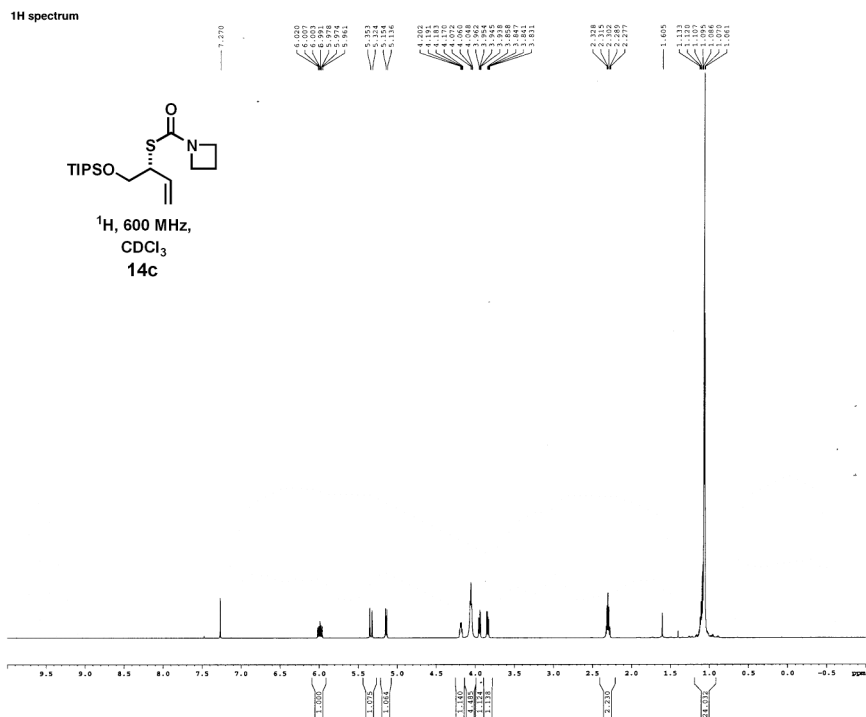
ghmqc



```

Current Data Parameters
NAME      60001
EXPNO    4
PROCNO   1
F2 - Acquisition Parameters
Date_    20070205
Time     19:20
INSTRUM  av600
PROBHD   5 mm TBI 14113
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        2
DS        4
SWH       4144.631 Hz
FIDRES   0.103868 Hz
AQ        0.1000000 sec
RG         327.500
IN       117.700 usec
DE        6.00 usec
TE        298.2 K
CMT2     145.000000 sec
G1        0.1000000 sec
G2        1.1000000 sec
G3        0.03144828 sec
d13       0.0000000 sec
d14       0.0000000 sec
DELTA1   0.00222428 sec
DM        0.0000000 sec
***** CHANNEL f1 *****
NUC1      13C
P1         8.00 usec
PL1       -1.00 dB
SFO1      600.1320413 MHz
***** CHANNEL f2 *****
NUC2      1H
P2         15.00 usec
PL2        0.00 dB
SFO2      500.1360512 MHz
SFO2      150.9174143 MHz
90 - GRABBER CHANNEL *****
GRAB1     SINE 100
GRAB2     SINE 100
GRAB3     SINE 100
GRAB4     SINE 100
GRAB5     SINE 100
GRAB6     SINE 100
GRAB7     SINE 100
GRAB8     SINE 100
GRAB9     SINE 100
GRAB10    SINE 100
F1 - Acquisition parameters
MCO       252
TD        131072
SOLVENT  150.9174 MHz
FIDRES   111.284177 Hz
DE        148.770 ppm
PC        0.0
F2 - Processing parameters
SI        1024
SF        600.1320413 MHz
WDW       EM
SSB       0
LB        0.00 Hz
GB        0.00 Hz
PC        1.40
F1 - Processing parameters
SI        1024
SF        150.908000 MHz
WDW       EM
SSB       0
LB        0.00 Hz
GB        0.00 Hz
PC        1.40
    
```

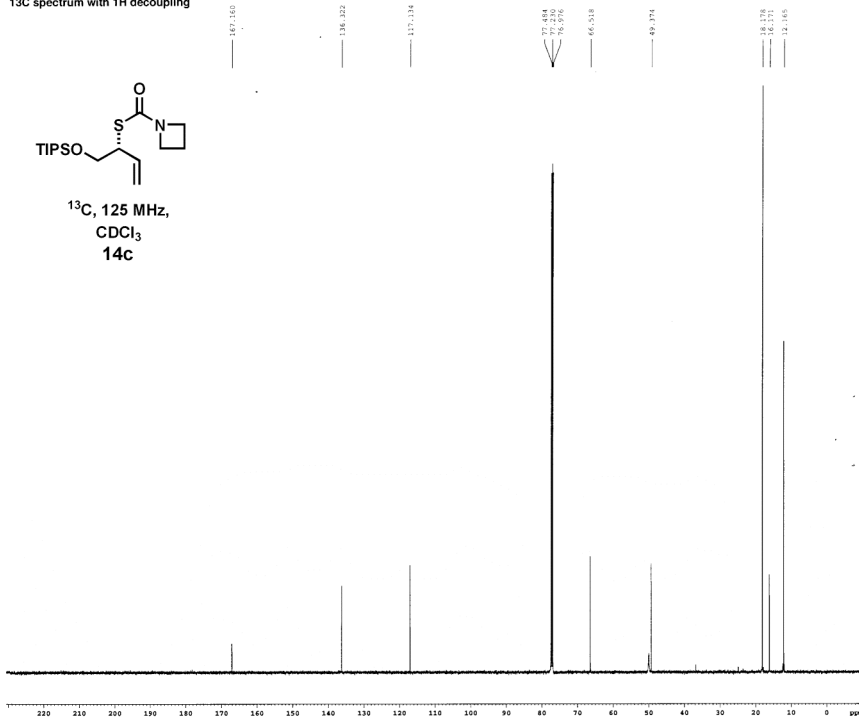
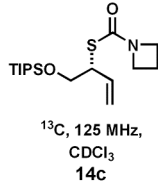
1H spectrum



```

Current Data Parameters
NAME      6001
EXPNO    4
PROCNO   1
F2 - Acquisition Parameters
Date_    20070206
Time     17:11
INSTRUM  av600
PROBHD   5 mm TBI 14113
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        2
DS        4
SWH       9615.185 Hz
FIDRES   0.098042 Hz
AQ        0.098879 sec
RG         327.500
IN       117.700 usec
DE        6.00 usec
TE        297.2 K
CMT2     0.1000000 sec
d13       0.0000000 sec
d14       0.0000000 sec
DELTA1   0.00222428 sec
DM        0.0000000 sec
***** CHANNEL f1 *****
NUC1      1H
P1         8.00 usec
PL1        0.00 dB
SFO1      600.1320413 MHz
***** CHANNEL f2 *****
SI        60016
SF        600.1320413 MHz
WDW       EM
SSB       0
LB        0.00 Hz
GB        0.00 Hz
PC        1.40
    
```

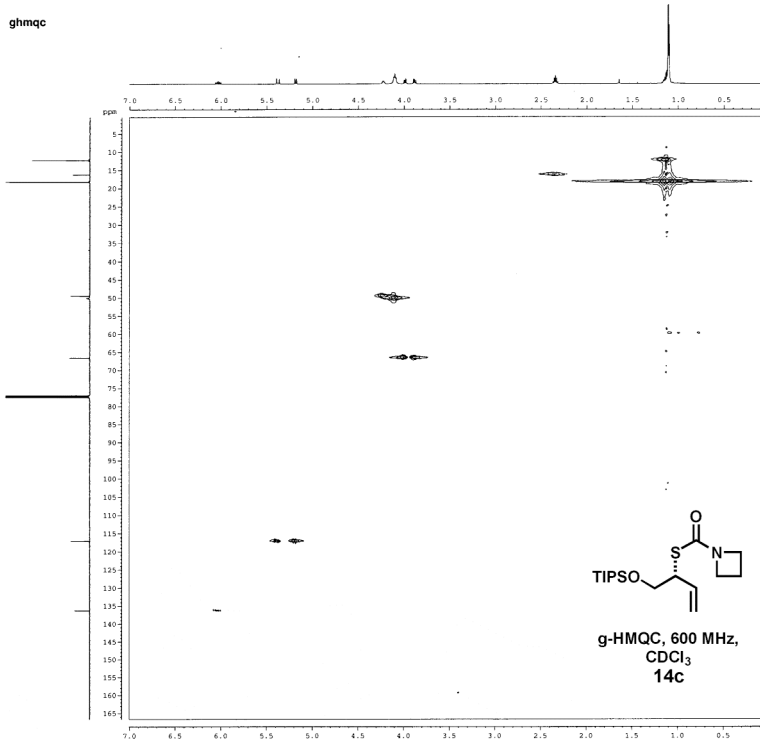
swr-1-60-2
13C spectrum with 1H decoupling



```

Current Data Parameters
NAME swr-1-60-2
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20070719
Time 16.16
INSTRUM cryo100
PROBHD 5 mm CPY1 14c
PULPROG zgpg30
TD 65416
SOLVENT cdc13
NS 42
DS 4
SWH 30303.031 Hz
FIDRES 0.461222 Hz
AQ 1.074470 sec
RG 81.2
DM 16.500 us
DE 6.00 us
TE 298.0 K
SI 0.2500000 sec
SFO 125.7603500 MHz
AQ 1.074470 sec
PC 1.00
===== CHANNEL F1 =====
NUC1 13C
P1 15.00 um
PL1 1.00 dB
SFO1 125.7603500 MHz
===== CHANNEL F2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 us
PL2 1.00 dB
PL12 23.54 dB
SFO2 500.1360000 MHz
F2 - Processing parameters
SI 65536
SF 125.7603500 MHz
DM 81.2
SFO 125.7603500 MHz
LB 1.00 Hz
GB 0
PC 1.00
    
```

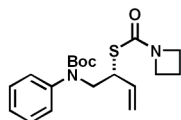
ghmqc



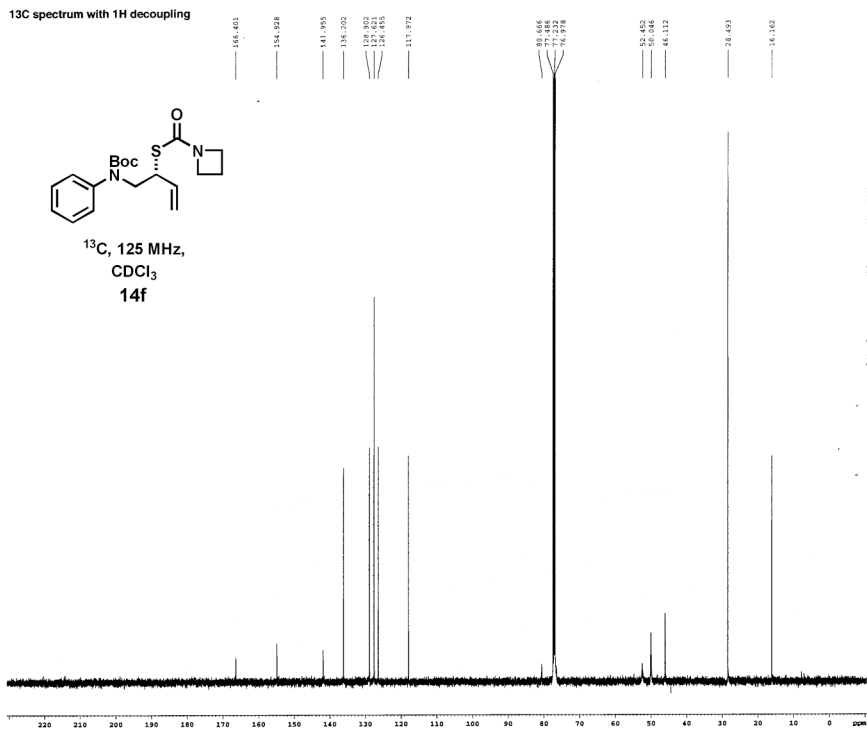
```

Current Data Parameters
NAME ghmqc
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20070726
Time 16.40
INSTRUM spect
PROBHD 5 mm TBI 1H/13
PULPROG zgpg30
TD 65536
SOLVENT cdc13
NS 42
DS 4
SWH 4201.642 Hz
FIDRES 4.718222 Hz
AQ 0.302220 sec
RG 81.2
DM 19.000 us
DE 6.00 us
TE 298.0 K
SI 0.2500000 sec
SFO 125.7603500 MHz
AQ 0.302220 sec
PC 1.00
===== CHANNEL F1 =====
NUC1 13C
P1 15.00 um
PL1 1.00 dB
SFO1 125.7603500 MHz
===== CHANNEL F2 =====
CPDPRG2 ghmqc
NUC2 1H
PCPD2 70.00 us
PL2 1.00 dB
PL12 12.50 dB
SFO2 500.1360000 MHz
F2 - GRADIENT CHANNEL =====
GPRG1 SINE100
GPRG2 SINE100
GPRG3 SINE100
GPRG4 SINE100
GPRG5 SINE100
GPRG6 SINE100
GPRG7 SINE100
GPRG8 SINE100
GPRG9 SINE100
GPRG10 SINE100
GPRG11 SINE100
GPRG12 SINE100
GPRG13 SINE100
GPRG14 SINE100
GPRG15 SINE100
GPRG16 SINE100
GPRG17 SINE100
GPRG18 SINE100
GPRG19 SINE100
GPRG20 SINE100
GPRG21 SINE100
GPRG22 SINE100
GPRG23 SINE100
GPRG24 SINE100
GPRG25 SINE100
GPRG26 SINE100
GPRG27 SINE100
GPRG28 SINE100
GPRG29 SINE100
GPRG30 SINE100
GPRG31 SINE100
GPRG32 SINE100
GPRG33 SINE100
GPRG34 SINE100
GPRG35 SINE100
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GPRG37 SINE100
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GPRG93 SINE100
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GPRG95 SINE100
GPRG96 SINE100
GPRG97 SINE100
GPRG98 SINE100
GPRG99 SINE100
GPRG100 SINE100
F1 - Acquisition parameters
NAME ghmqc
TD 65536
SFO 125.7603500 MHz
PC 1.00
===== CHANNEL F1 =====
NUC1 13C
P1 15.00 um
PL1 1.00 dB
SFO1 125.7603500 MHz
===== CHANNEL F2 =====
CPDPRG2 ghmqc
NUC2 1H
PCPD2 70.00 us
PL2 1.00 dB
PL12 12.50 dB
SFO2 500.1360000 MHz
F2 - GRADIENT CHANNEL =====
GPRG1 SINE100
GPRG2 SINE100
GPRG3 SINE100
GPRG4 SINE100
GPRG5 SINE100
GPRG6 SINE100
GPRG7 SINE100
GPRG8 SINE100
GPRG9 SINE100
GPRG10 SINE100
GPRG11 SINE100
GPRG12 SINE100
GPRG13 SINE100
GPRG14 SINE100
GPRG15 SINE100
GPRG16 SINE100
GPRG17 SINE100
GPRG18 SINE100
GPRG19 SINE100
GPRG20 SINE100
GPRG21 SINE100
GPRG22 SINE100
GPRG23 SINE100
GPRG24 SINE100
GPRG25 SINE100
GPRG26 SINE100
GPRG27 SINE100
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GPRG29 SINE100
GPRG30 SINE100
GPRG31 SINE100
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GPRG76 SINE100
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GPRG78 SINE100
GPRG79 SINE100
GPRG80 SINE100
GPRG81 SINE100
GPRG82 SINE100
GPRG83 SINE100
GPRG84 SINE100
GPRG85 SINE100
GPRG86 SINE100
GPRG87 SINE100
GPRG88 SINE100
GPRG89 SINE100
GPRG90 SINE100
GPRG91 SINE100
GPRG92 SINE100
GPRG93 SINE100
GPRG94 SINE100
GPRG95 SINE100
GPRG96 SINE100
GPRG97 SINE100
GPRG98 SINE100
GPRG99 SINE100
GPRG100 SINE100
F1 - Processing parameters
SI 65536
SF 125.7603500 MHz
DM 81.2
SFO 125.7603500 MHz
LB 1.00 Hz
GB 0
PC 1.00
    
```


¹³C spectrum with 1H decoupling



¹³C, 125 MHz,
CDCl₃
14f



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Current Data Parameters
USER          ecottir
NAME          SWH-1-132-5
PROCNO       2
PROCCHG      1

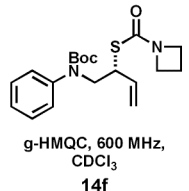
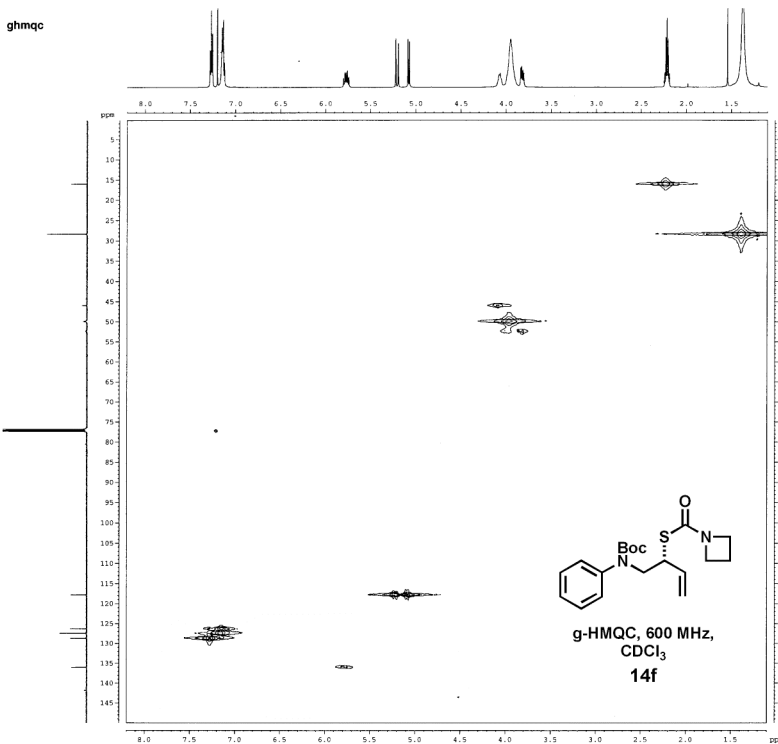
F2 - Acquisition Parameters
Date_        20070726
Time         8:17
INSTRUM      aw400
PROBHD       5 mm TBI 1613
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           2048
DS           4
SWH           30393.0 Hz
FIDRES       0.462388 Hz
AQ           1.0813740 sec
RG           5160.6
BW           16.500 MHz
DE           4.50 usec
TE           298.2 K
SI           0.20000000 sec
SFO1         0.03000000 MHz
SFO2         0.00000000 MHz
SFO3         0.00000000 MHz
SFO4         0.01500000 MHz

***** CHANNEL F1 *****
NUC1         13C
P1           7.08 usec
PL1         -0.00 dB
SFO1        125.6984209 MHz

***** CHANNEL F2 *****
CPDPRG2      waltz16
NUC2         1H
SFO2         500.136439 MHz
PL2         -1.00 dB
PL12        14.70 dB
SFO2        499.8274991 MHz

F2 - Processing parameters
SI           65536
SF           125.6810700 MHz
WDW         EM
SSB         0
LB          1.00 MHz
GB          0
PC          2.00
    
```

ghmqc



g-HMQC, 600 MHz,
CDCl₃
14f

```

Current Data Parameters
USER          ecottir
NAME          SWH-1-132-2
PROCNO       2
PROCCHG      1

F2 - Acquisition Parameters
Date_        20070723
Time         8:17
INSTRUM      aw400
PROBHD       5 mm TBI 1613
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           2048
DS           4
SWH           5411.255 Hz
FIDRES       9.284459 Hz
AQ           0.0948676 sec
RG           2050
BW           92.400 MHz
DE           4.50 usec
TE           298.2 K
SI           0.00000000 sec
SFO1         0.00000000 MHz
SFO2         0.10000002 MHz
SFO3         0.00000000 MHz
SFO4         0.00000000 MHz
SFO5         0.00000000 MHz
SFO6         0.00000000 MHz
SFO7         0.00222228 MHz
SFO8         0.00000000 MHz

***** CHANNEL F1 *****
NUC1         1H
P1           8.00 usec
PL1         -1.00 dB
SFO1        600.1370717 MHz

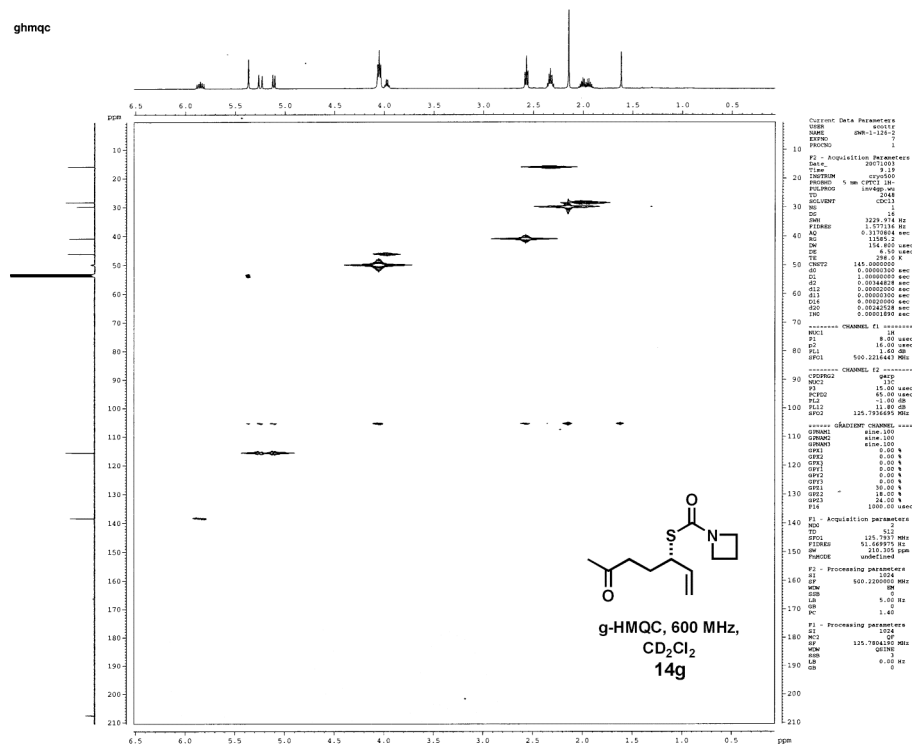
***** CHANNEL F2 *****
CPDPRG2      waltz16
NUC2         13C
P2           15.00 usec
PL2         70.00 usec
PL12        12.00 dB
SFO2        150.9142064 MHz

***** GRADIENT CHANNEL *****
GRAD1      150.9142064 MHz
GRAD2      150.9142064 MHz
GRAD3      150.9142064 MHz
GRAD4      150.9142064 MHz
GRAD5      150.9142064 MHz
GRAD6      150.9142064 MHz
GRAD7      150.9142064 MHz
GRAD8      150.9142064 MHz
GRAD9      150.9142064 MHz
GRAD10     150.9142064 MHz
GRAD11     150.9142064 MHz
GRAD12     150.9142064 MHz
GRAD13     150.9142064 MHz
GRAD14     150.9142064 MHz
GRAD15     150.9142064 MHz
GRAD16     150.9142064 MHz
GRAD17     150.9142064 MHz
GRAD18     150.9142064 MHz
GRAD19     150.9142064 MHz
GRAD20     150.9142064 MHz

F2 - Acquisition parameters
SI           65536
SF           600.1300000 MHz
WDW         EM
SSB         0
LB          5.00 Hz
GB          0
PC          2.00

F2 - Processing parameters
SI           65536
SF           600.1300000 MHz
WDW         EM
SSB         0
LB          5.00 Hz
GB          0
PC          2.00
    
```


ghmqc

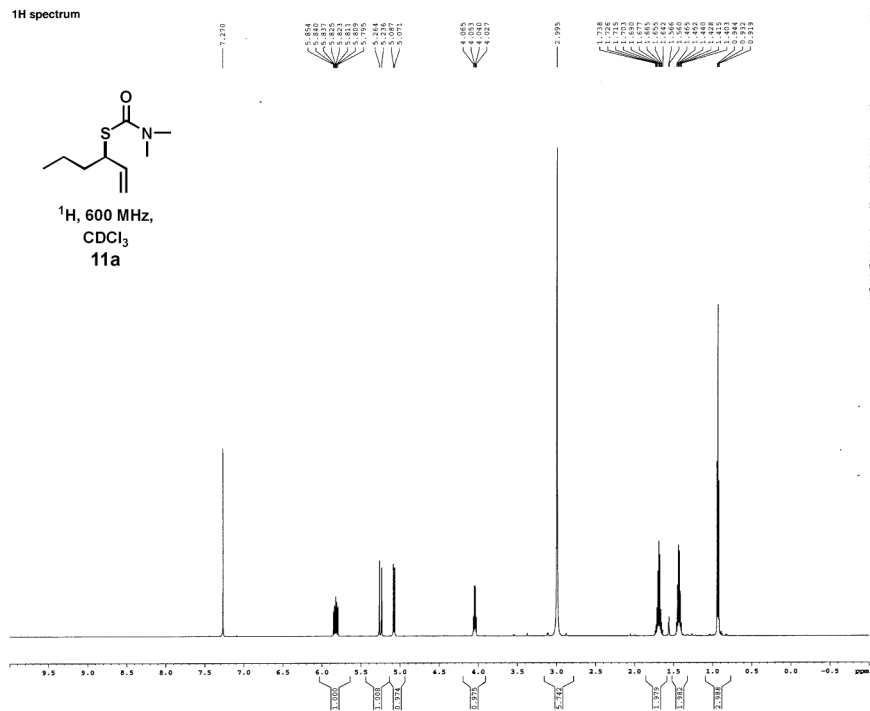


```

Current Data Parameters
NAME ghmqc
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20071001
Time 11:17
INSTRUM spect
PROBHD 5 mm CPXI 1H-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 2
SWH 9615.185 Hz
F2FRES 0.098178 Hz
AQ 5.0928259 sec
RG 327
DM 32.000 usec
DE 6.00 usec
TE 300.0 K
D1 0.10000000 sec
TD0 1
***** CHANNEL f1 *****
NUC1 13C
P1 8.00 usec
PL1 -1.00 dB
SFO1 600.1342000 MHz
F2 - Processing parameters
SI 65536
SF 600.130384 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
***** CHANNEL f2 *****
NUC2 1H
P2 12.00 usec
PL2 0.00 dB
SFO2 500.2216441 MHz
F2 - Acquisition Parameters
Date_ 20071001
Time 11:17
INSTRUM spect
PROBHD 5 mm TBI 1H/13
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 2
SWH 9615.185 Hz
F2FRES 0.098178 Hz
AQ 5.0928259 sec
RG 327
DM 32.000 usec
DE 6.00 usec
TE 300.0 K
D1 0.10000000 sec
TD0 1
***** CHANNEL f3 *****
NUC3 13C
P3 8.00 usec
PL3 -1.00 dB
SFO3 600.1342000 MHz
F3 - Processing parameters
SI 65536
SF 600.130384 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

```

1H spectrum

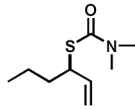


```

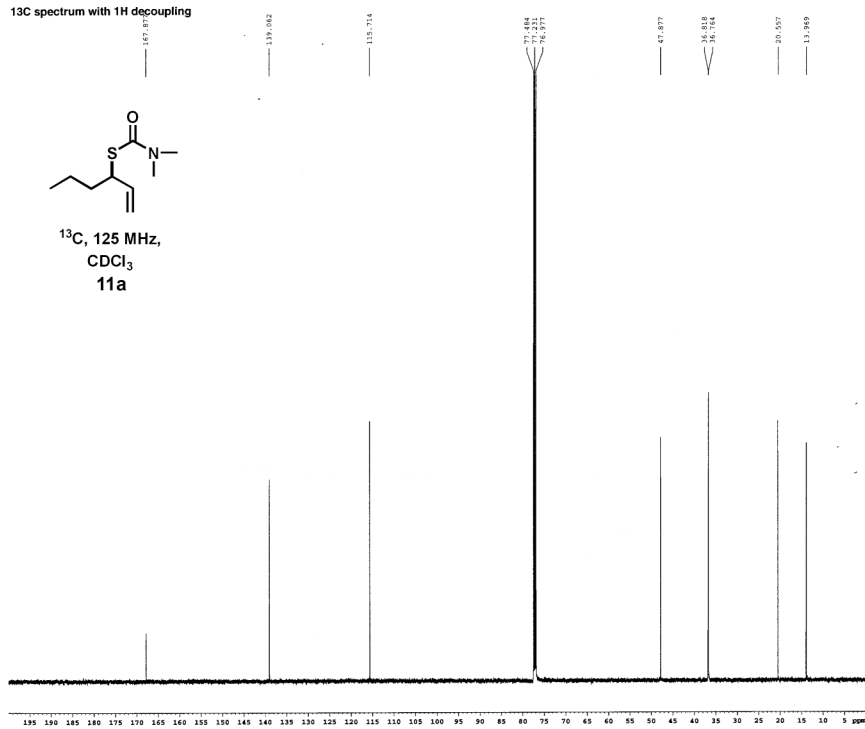
Current Data Parameters
NAME 11a-1
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20071001
Time 11:17
INSTRUM spect
PROBHD 5 mm TBI 1H/13
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 2
SWH 9615.185 Hz
F2FRES 0.098178 Hz
AQ 5.0928259 sec
RG 327
DM 32.000 usec
DE 6.00 usec
TE 300.0 K
D1 0.10000000 sec
TD0 1
***** CHANNEL f1 *****
NUC1 1H
P1 8.00 usec
PL1 -1.00 dB
SFO1 600.1342000 MHz
F2 - Processing parameters
SI 65536
SF 600.130384 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

```

¹³C spectrum with ¹H decoupling



¹³C, 125 MHz,
CDCl₃
11a



```

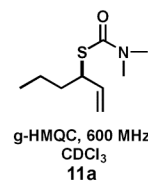
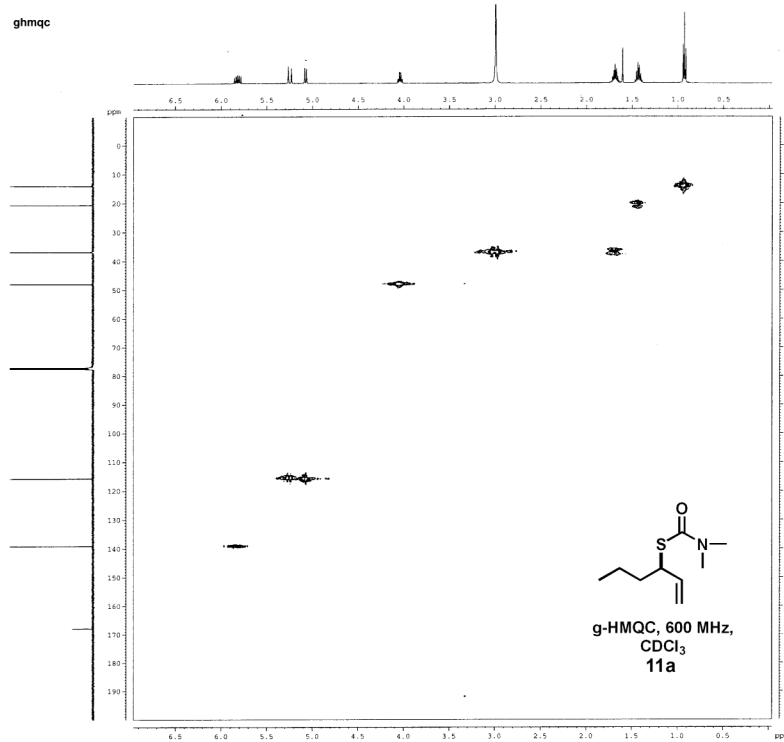
Current Data Parameters
USER          hve11a
NAME          SWR-1-135-2
EXPNO        4
PROCNO       1
F2 - Acquisition Parameters
Date_        20071010
Time         16.09
INSTRUM      crys500
PROBHD       5 mm CPXI 1H-
PULPROG      zgpg30
TE           300.2 K
SOLVENT      CDCl3
NS           655
DS           4
SWH          30303.937 Hz
FIDRES       0.461222 Hz
AQ           1.0794702 sec
RG           13004
SM           16.5000 us
DE           6.00 us
TE           298.0 K
D1           0.25000000 sec
d11          0.23000000 sec
MCKEST       0.00000000 sec
MCHYST       0.03000000 sec

***** CHANNEL f1 *****
NUC1          13C
P1           15.00 us
PL1          -1.00 dB
SFO1         125.7842548 MHz

***** CHANNEL f2 *****
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 us
PL2          1.40 dB
PL12         23.54 dB
SFO2         500.225011 MHz

F2 - Processing parameters
SI           65536
SF           125.7839392 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00
    
```

ghmqc



g-HMQC, 600 MHz,
CDCl₃
11a

```

Current Data Parameters
USER          hve11a
NAME          SWR-1-135-2
EXPNO        4
PROCNO       1
F2 - Acquisition Parameters
Date_        20071010
Time         16.44
INSTRUM      crys500
PROBHD       5 mm TBI BBO 1H
PULPROG      zgpg30
TE           300.2 K
SOLVENT      CDCl3
NS           655
DS           4
SWH          4201.481 Hz
FIDRES       4.721422 Hz
AQ           0.1957020 sec
RG           2000
SM           17.5000 usec
DE           2.00 usec
TE           298.0 K
CHFT2        145.000000
AQ F2        0.0000100 sec
d1           1.0000000 sec
d11          0.0034400 sec
d12          0.0000000 sec
d13          0.0000000 sec
d14          0.0000000 sec
d15          0.0022400 sec
d16          0.0001455 sec

***** CHANNEL f1 *****
NUC1          1H
P1           8.10 usec
PL1          14.00 dB
PL12         -1.00 dB
SFO1         600.1322055 MHz

***** CHANNEL f2 *****
CPDPRG2      ghmqc
NUC2          13C
PCPD2        15.00 usec
PCPD3        70.00 usec
PL2          1.00 dB
PL12         12.00 dB
SFO2         150.9176555 MHz

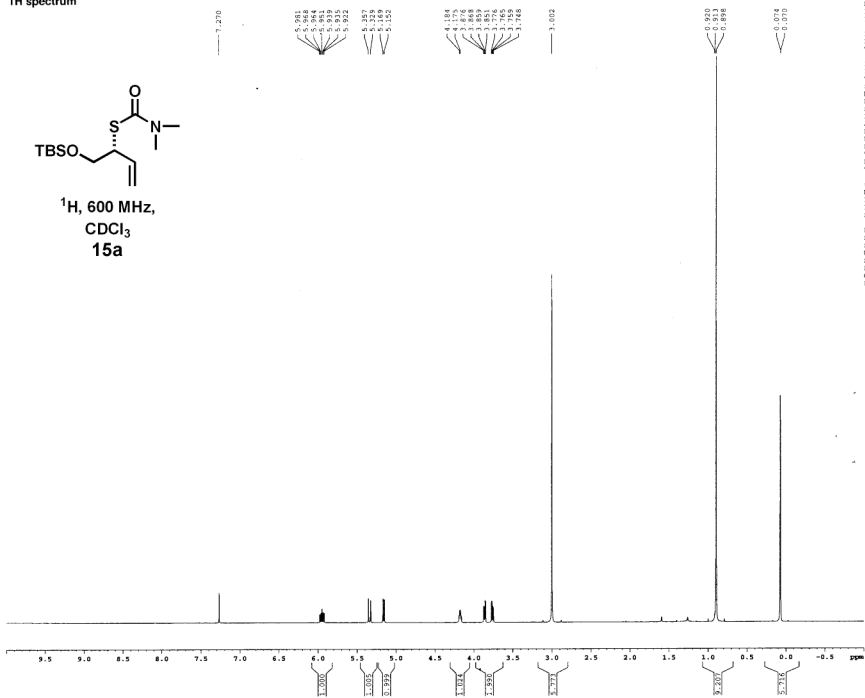
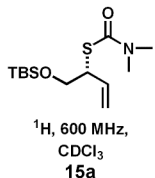
***** GRADIENT CHANNEL *****
OPRAM1       SINE 100
OPRAM2       SINE 100
OPRAM3       0
GPR1         50.00 V
GPR2         30.00 V
GPR3         40.00 V
GPR4         1000.00 usec

F1 - Acquisition parameters
NUC1          1H
P1           15.00 usec
PL1          14.00 dB
SFO1         600.1322055 MHz

F2 - Processing parameters
SI           65536
SF           600.1302612 MHz
WDW          EM
SSB          0
LB           5.00 Hz
GB           0
PC           2.00

F1 - Processing parameters
SI           65536
SF           150.9176555 MHz
WDW          EM
SSB          0
LB           0.00 Hz
PC           1.00
    
```

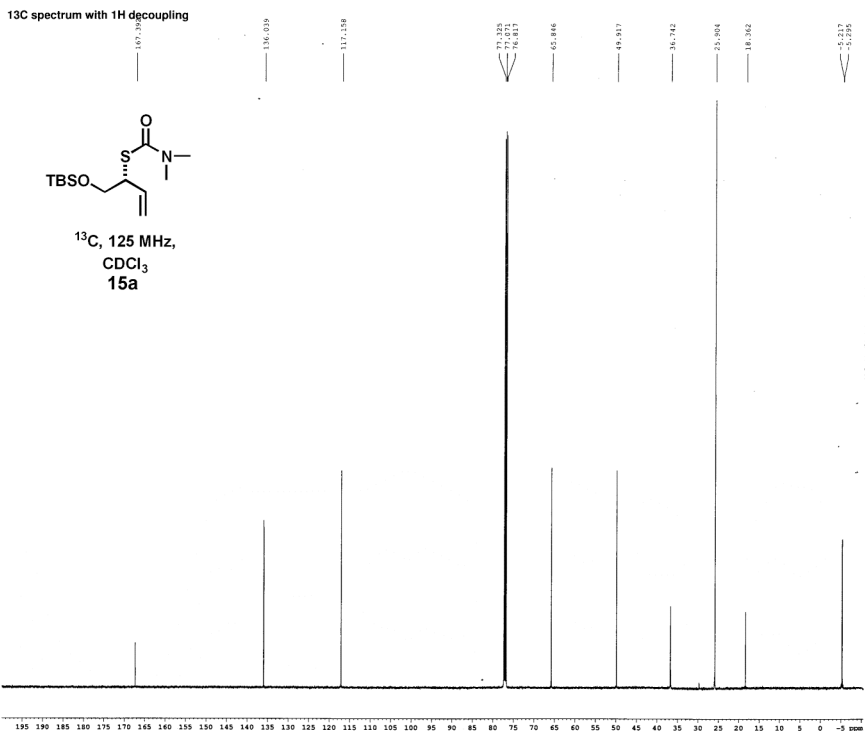
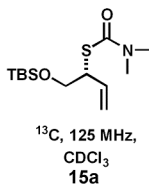
¹H spectrum



```

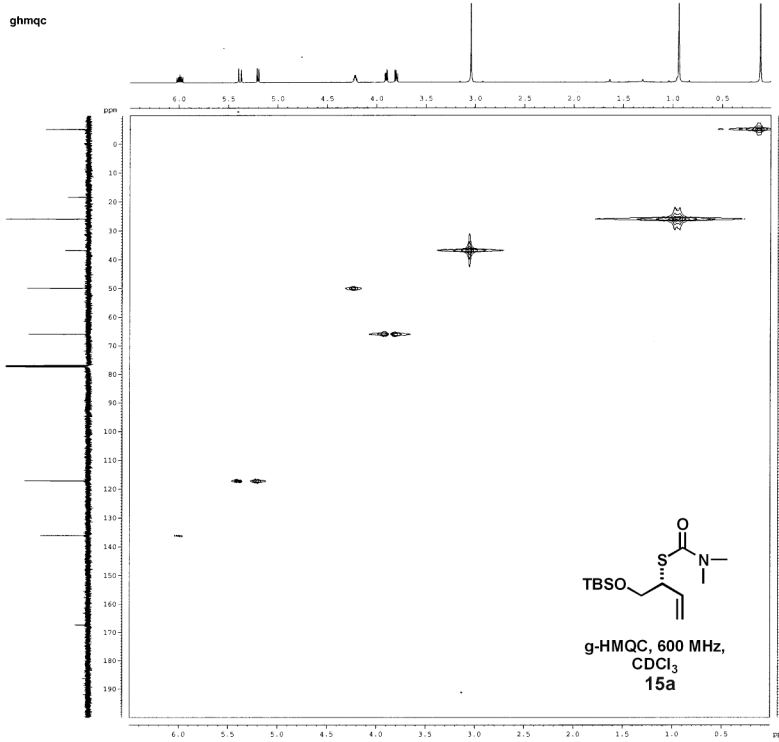
Current Data Parameters
USER          scottt
NAME          SWH-1-151-2
EXPNO        4
PROCNO       1
F2 - Acquisition Parameters
Date_         20070319
Time          15.09
INSTRUM      av600
PROBHD       5 mm TBI 1H/13
PULPROG      zgpg30
TD            65536
SOLVENT      CDCl3
NS            2
DS            2
SWH           9615.842 Hz
FIDRES       0.098178 Hz
AQ           0.0028000 sec
RG            60.6
RW           0.000000 sec
DE           6.00 usec
TE           298.0 K
D1           0.10000000 sec
TDO          1
***** CHANNEL f1 *****
NUC1          13C
P1            8.00 usec
PL1          -1.00 dB
SFO1         600.1342009 MHz
F2 - Processing parameters
SI            65536
SF           600.1300288 MHz
WDW           DM
SSB           0
LB            0.30 Hz
GB            0
PC            1.00
    
```

¹³C spectrum with ¹H decoupling



```

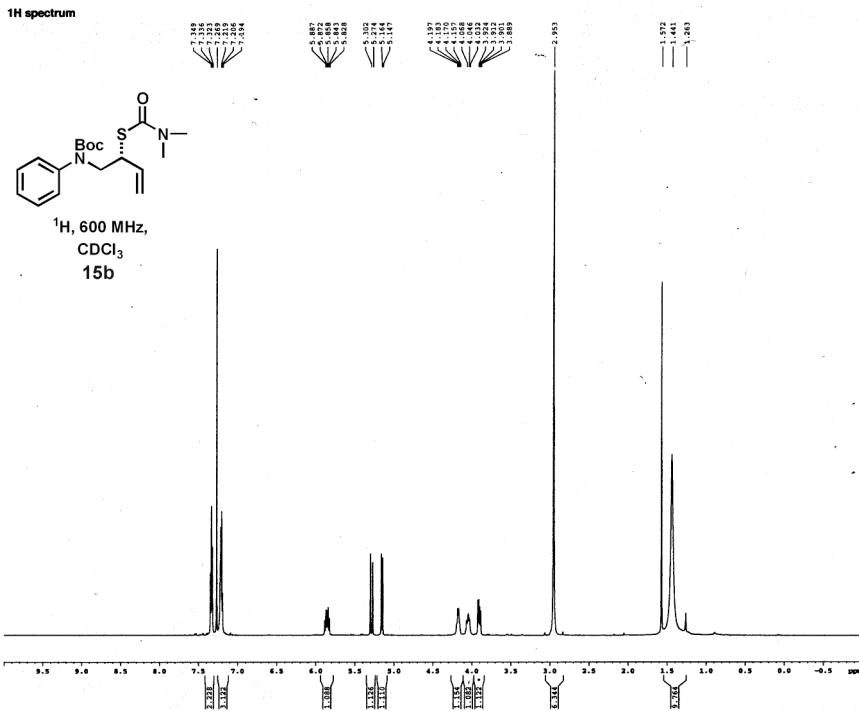
Current Data Parameters
USER          scottt
NAME          SWH-1-151-2
EXPNO        12
PROCNO       1
F2 - Acquisition Parameters
Date_         20070323
Time          8.15
INSTRUM      av600
PROBHD       5 mm CPTCI 1H-
PULPROG      zgpg30
TD            65536
SOLVENT      CDCl3
NS            1774
DS            2
SWH           30500.14 Hz
FIDRES       0.463222 Hz
AQ           1.0794830 sec
RG            1590.2
RW           16.5000 usec
DE           6.00 usec
TE           298.0 K
D1           0.25000000 sec
d11          0.00000000 sec
d12          0.00000000 sec
d13          0.00000000 sec
d14          0.00000000 sec
d15          0.00000000 sec
d16          0.00000000 sec
d17          0.00000000 sec
d18          0.00000000 sec
d19          0.00000000 sec
d20          0.00000000 sec
***** CHANNEL f1 *****
NUC1          13C
P1           15.00 usec
PL1          -1.00 dB
SFO1         125.7942588 MHz
***** CHANNEL f2 *****
CPDPRG2      waltz16
NUC2          1H
PCPD2         100.00 usec
PL2           1.40 dB
PL12          21.14 dB
SFO2         500.2225011 MHz
F2 - Processing parameters
SI            65536
SF           125.7804190 MHz
WDW           DM
SSB           0
LB            1.00 Hz
GB            0
PC            4.00
    
```



```

Current Data Parameters
=====
NAME      scott1
EXPNO    2
PROCNO    1
F2 - Acquisition Parameters
Date_    20071019
Time     15.12
INSTRUM  spect
PROBHD   5 mm TR
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
DS        4
SWH       3894.129 Hz
FIDRES    4.10970 Hz
AQ         0.133708 sec
RG         2500
DM         128.267 usec
DE         6.00 usec
TE         298.2 K
===== CHANNEL f1 =====
NUC1      13C
P1         8.00 usec
PL1        -1.00 dB
SFO1      101.626130 MHz
===== CHANNEL f2 =====
CPDPRG2  zgpg30
NUC2      1H
P2         15.00 usec
PL2        -1.00 dB
SFO2      500.136493 MHz
===== GRADIENT CHANNEL =====
GPM1      GPM1
SFO1      500.136493 MHz
GPM2      GPM2
SFO2      500.136493 MHz
G1         1000.00 usec
G2         1000.00 usec
===== Acquisition parameters =====
SI         65536
SF          600.136493 MHz
WDW         EM
SSB         0
LB          0.30 Hz
GB          0
PC          1.00
===== Processing parameters =====
SI         65536
SF          600.136493 MHz
WDW         EM
SSB         0
LB          0.30 Hz
GB          0
PC          1.00
===== Acquisition parameters =====
NAME      scott1
EXPNO    2
PROCNO    1
F2 - Acquisition Parameters
Date_    20071029
Time     15.57
INSTRUM  spect
PROBHD   5 mm TR
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
DS        4
SWH       8415.185 Hz
FIDRES    0.098178 Hz
AQ         5.0928159 sec
RG         322
DM         52.000 usec
DE         6.00 usec
TE         298.0 K
===== CHANNEL f1 =====
NUC1      1H
P1         8.00 usec
PL1        -1.00 dB
SFO1      400.1342009 MHz
===== CHANNEL f2 =====
CPDPRG2  zgpg30
NUC2      13C
P2         15.00 usec
PL2        -1.00 dB
SFO2      101.626130 MHz
===== GRADIENT CHANNEL =====
GPM1      GPM1
SFO1      400.1342009 MHz
GPM2      GPM2
SFO2      400.1342009 MHz
G1         1000.00 usec
G2         1000.00 usec
===== Acquisition parameters =====
SI         65536
SF          400.1342009 MHz
WDW         EM
SSB         0
LB          0.30 Hz
GB          0
PC          1.00

```

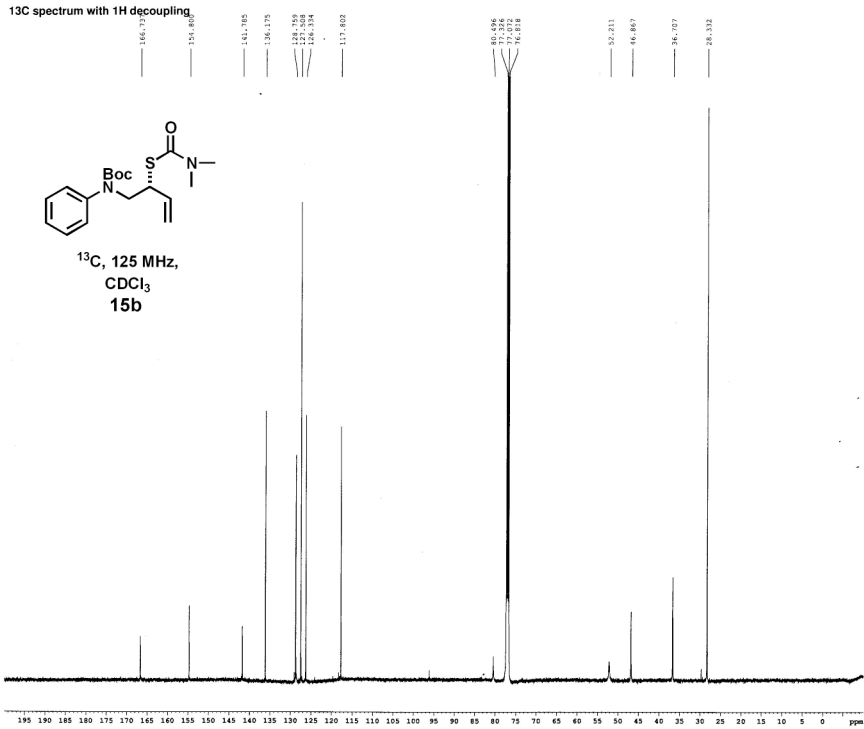


```

Current Data Parameters
=====
NAME      scott1
EXPNO    2
PROCNO    1
F2 - Acquisition Parameters
Date_    20071029
Time     15.57
INSTRUM  spect
PROBHD   5 mm TR
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
DS        4
SWH       8415.185 Hz
FIDRES    0.098178 Hz
AQ         5.0928159 sec
RG         322
DM         52.000 usec
DE         6.00 usec
TE         298.0 K
===== CHANNEL f1 =====
NUC1      1H
P1         8.00 usec
PL1        -1.00 dB
SFO1      400.1342009 MHz
===== CHANNEL f2 =====
CPDPRG2  zgpg30
NUC2      13C
P2         15.00 usec
PL2        -1.00 dB
SFO2      101.626130 MHz
===== GRADIENT CHANNEL =====
GPM1      GPM1
SFO1      400.1342009 MHz
GPM2      GPM2
SFO2      400.1342009 MHz
G1         1000.00 usec
G2         1000.00 usec
===== Acquisition parameters =====
SI         65536
SF          400.1342009 MHz
WDW         EM
SSB         0
LB          0.30 Hz
GB          0
PC          1.00

```


¹³C spectrum with ¹H decoupling



```

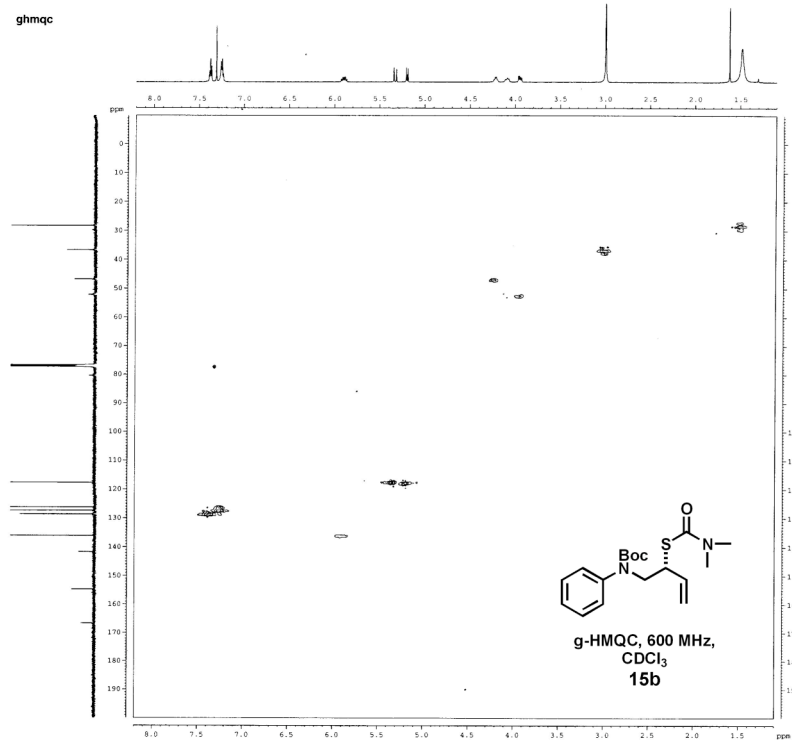
Current Data Parameters
NAME      15b
EXPNO    1
PROCNO   1
F2 - Acquisition Parameters
Date_    20071011
Time     22:11
INSTRUM  cryo500
PROBHD   5 mm CPT1 1H-
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        13462
DS        32393.01 Hz
FIDRES   0.463222 Hz
AQ        1.0738603 sec
RG        5195.2
AW        16.500 usec
DE        6.00 usec
TE        298.2 K
D1        2.0000000 sec
d11       0.0300000 sec
DELTA    0.0000000 sec
MCHSET   0.0150000 sec
MCWRR    0.0150000 sec

***** CHANNEL f1 *****
NUC1      13C
P1        15.00 usec
PL1       -1.00 dB
SFO1     125.7942548 MHz

***** CHANNEL f2 *****
CPDPRG2  waltz16
NUC2      1H
PCPD2    100.00 usec
PL2       1.50 dB
PL12     23.54 dB
SFO2     500.2225013 MHz

F2 - Processing parameters
SI        65536
SF        125.7604790 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        2.00
    
```

ghmqc



```

Current Data Parameters
NAME      15b
EXPNO    2
PROCNO   1
F2 - Acquisition Parameters
Date_    20071010
Time     15:56
INSTRUM  spect
PROBHD   5 mm TBI 1H/13
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        4
DS        4
SWH       5411.500 Hz
FIDRES   6.392756 Hz
AQ        0.2621212 sec
RG        5195.2
AW        16.500 usec
DE        6.00 usec
TE        298.2 K
D1        2.0000000 sec
d11       0.0000000 sec
d12       0.0000000 sec
d13       0.0000000 sec
d14       0.0000000 sec
d15       0.0000000 sec
DELTA    0.0022419 sec
IN0       0.0001655 sec

***** CHANNEL f1 *****
NUC1      13C
P1        15.00 usec
PL1       -1.00 dB
SFO1     125.7604790 MHz

***** CHANNEL f2 *****
CPDPRG2  zgpg30
NUC2      1H
PCPD2    70.00 usec
PL2       1.00 dB
PL12     12.50 dB
SFO2     500.1379504 MHz

***** GRADIENT CHANNEL *****
SPRAME1  SINE:100
SPRAME2  SINE:100
SPRAME3  SINE:100
SPR1     50.00 A
SPR2     30.00 A
SPR3     40.10 A
SPR4     1000.00 usec

F1 - Acquisition parameters
SI        65536
SF        150.91718 MHz
WDW       EM
SSB       0
LB        5.00 Hz
GB        0
PC        1.00

F1 - Processing parameters
SI        65536
SF        600.1300500 MHz
WDW       EM
SSB       0
LB        5.00 Hz
GB        0
PC        1.00
    
```