

Highly Stereocontrolled Total Synthesis of β -D-Mannosyl Phosphomycoketide: A Natural Product from *Mycobacterium Tuberculosis*

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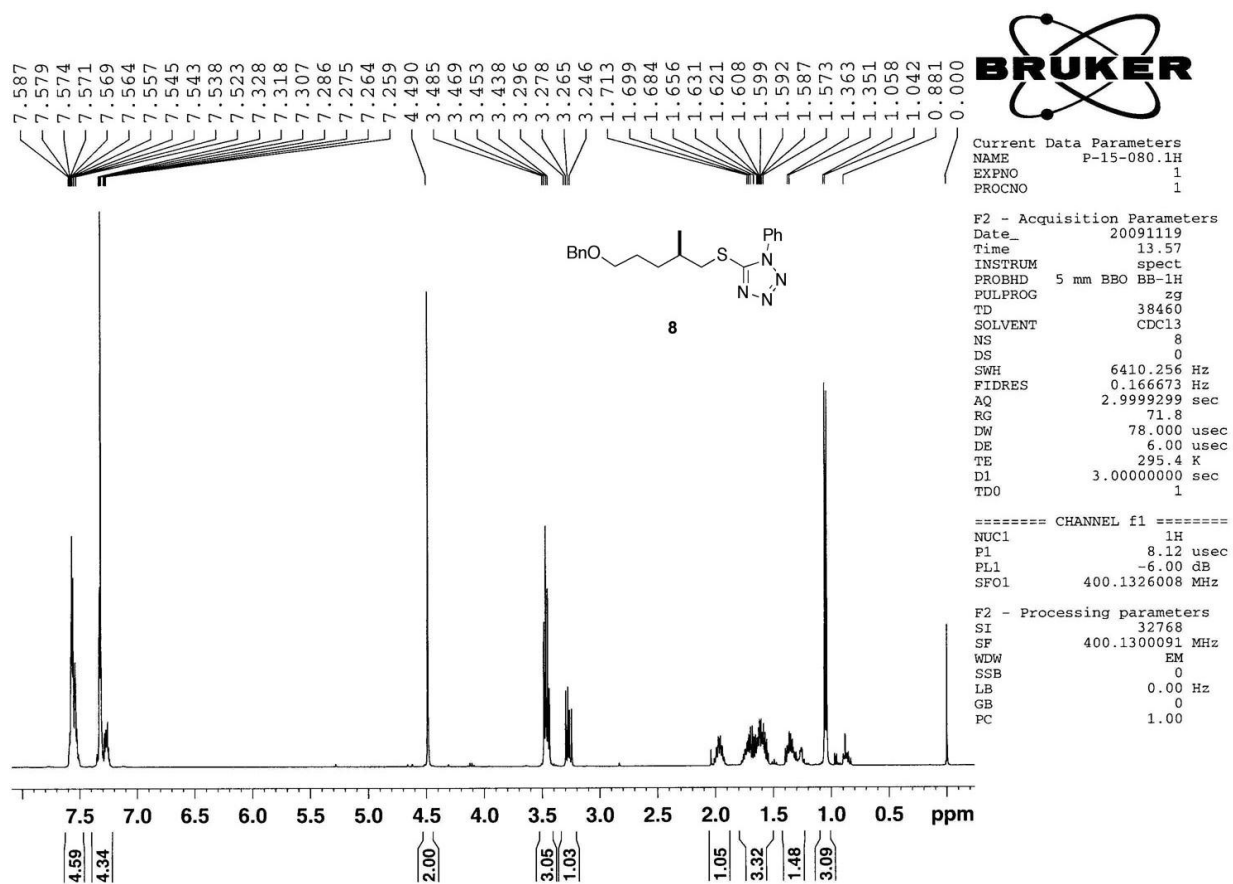
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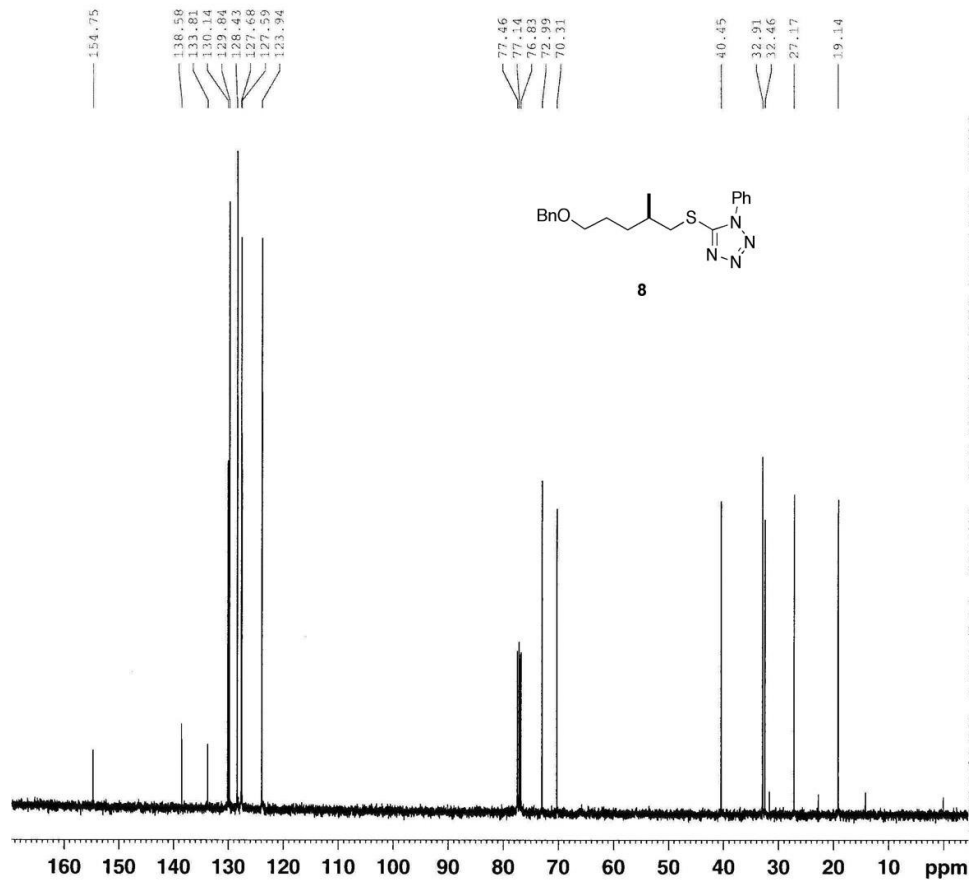
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¹³ C NMR of 40	S65
¹ H NMR of 41	S66
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¹ H NMR of 42	S68
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¹ H NMR of 43	S70
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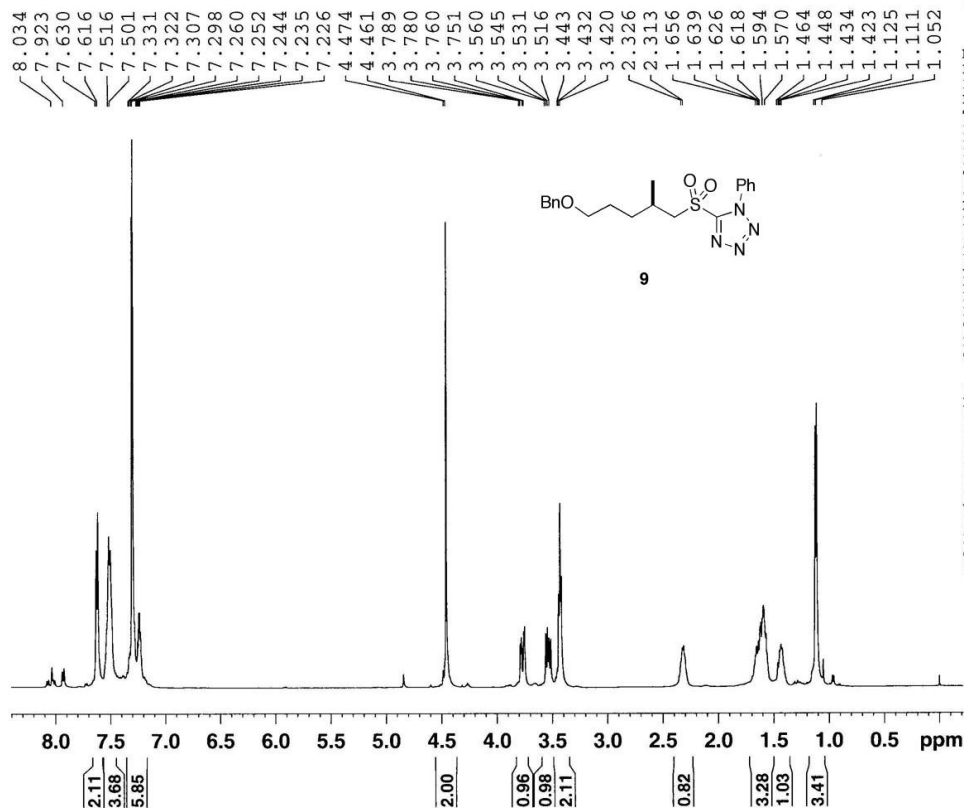
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 PULPROG zgdc
 TD 144228
 SOLVENT CDCl3
 NS 56
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 574.7
 DW 20.800 usec
 DE 6.00 usec
 TE 295.7 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

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 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

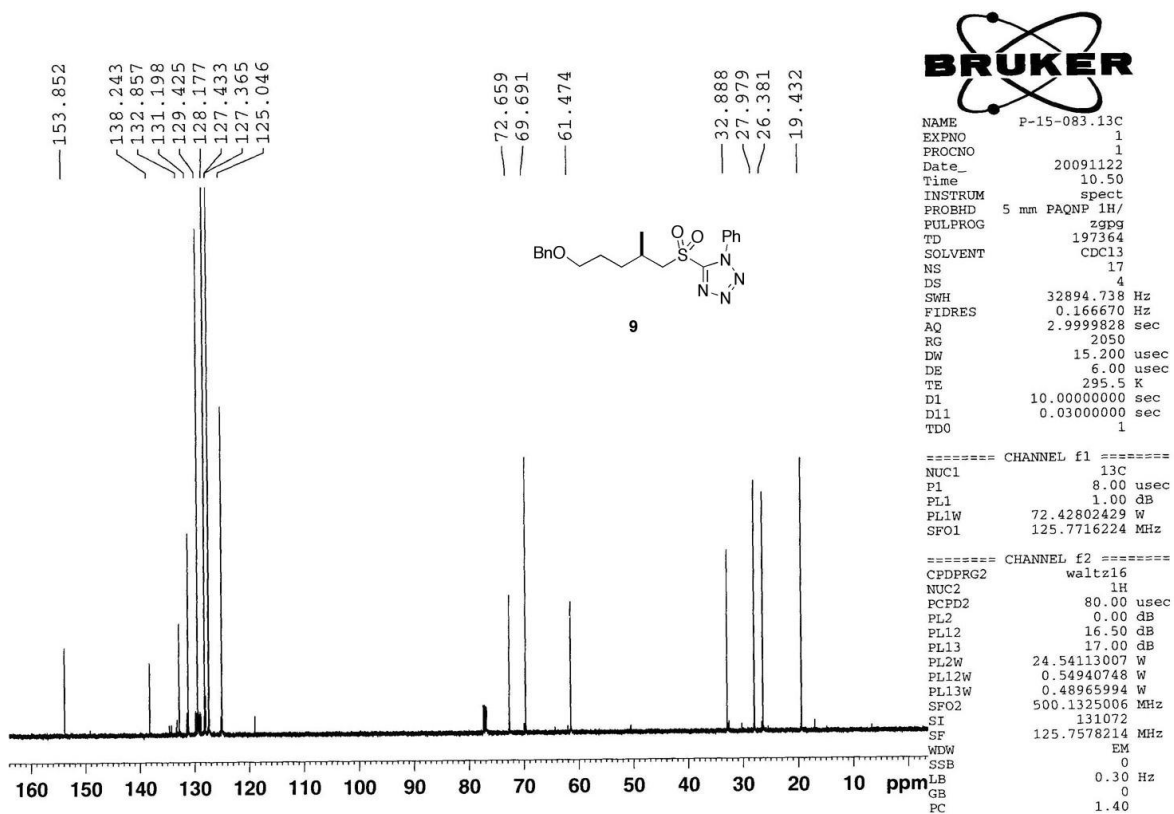
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 NUC2 1H
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 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

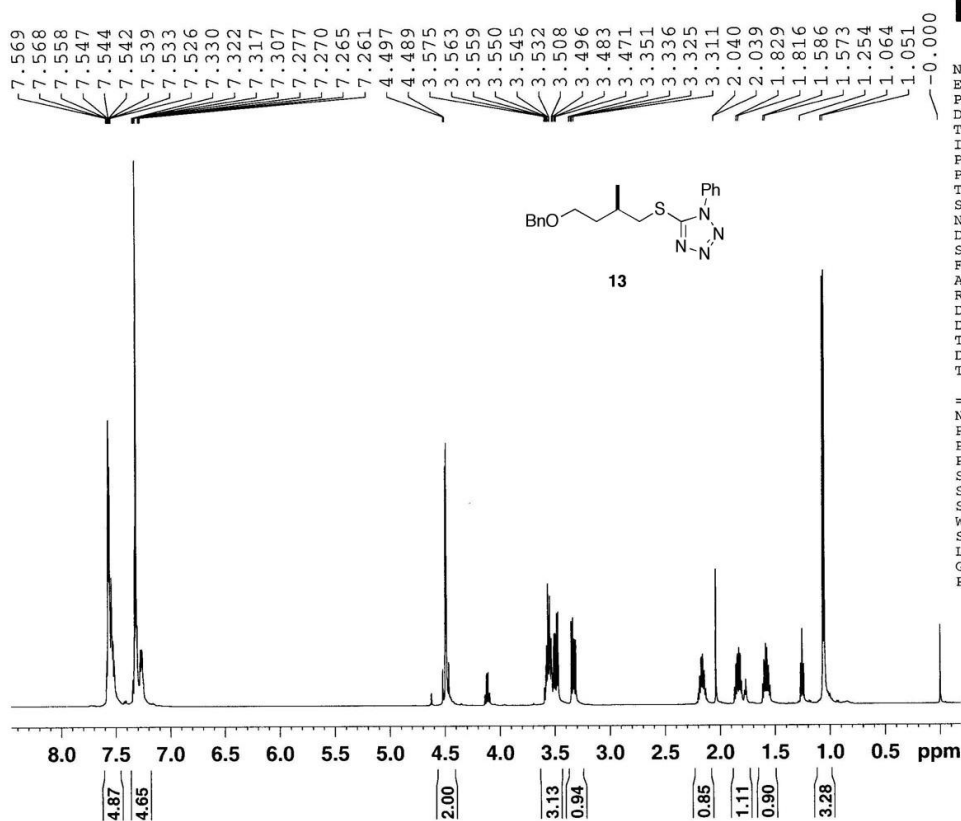
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 GB 0
 PC 1.40



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PROCNO 1
Date_ 20091122
Time 10.43
INSTRUM spect
PROBHD 5 mm PAQNP 1H/
PULPROG zg
TD 44998
SOLVENT CDCl3
NS 8
DS 0
SWH 7500.000 Hz
FIDRES 0.166674 Hz
AQ 2.9999166 sec
RG 8
DW 66.667 usec
DE 71.43 usec
TE 294.6 K
D1 3.00000000 sec
TDO 1

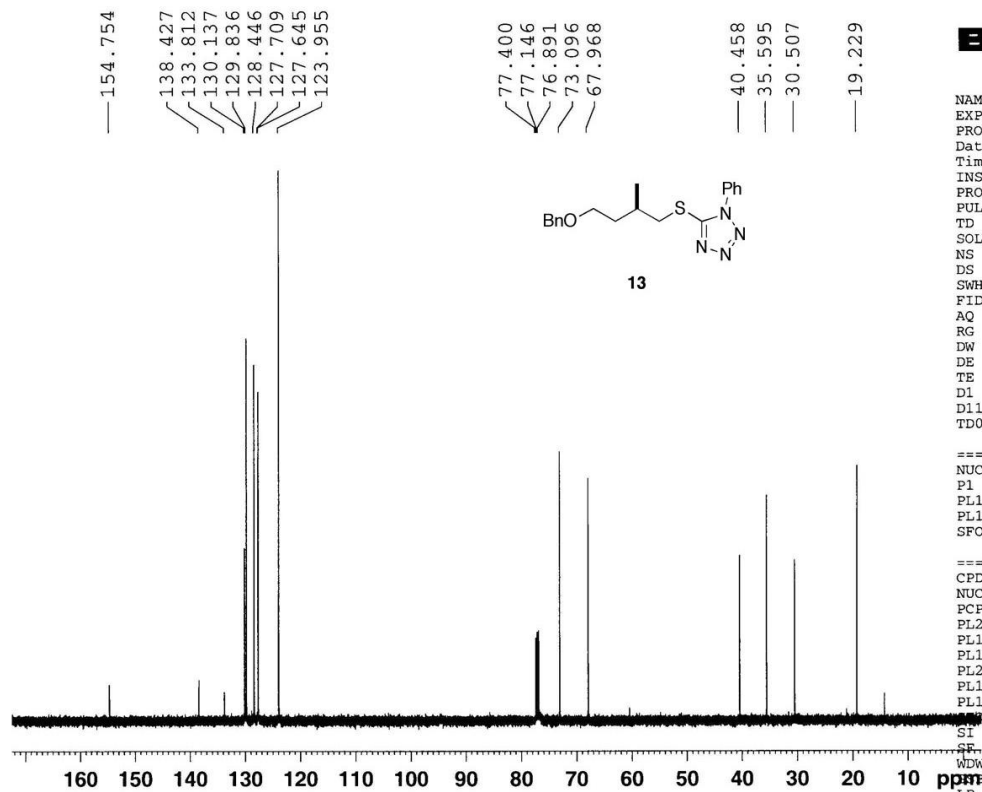
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NUC1 1H
P1 12.00 usec
PL1 0.00 dB
PL1W 24.54113007 W
SFO1 500.1330008 MHz
SI 16384
SF 500.1300246 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00





NAME P-15-096.1H
 EXPNO 1
 PROCNO 1
 Date_ 20091209
 Time 9.01
 INSTRUM spect
 PROBHD 5 mm PAQNP 1H/
 PULPROG zg
 TD 44998
 SOLVENT CDCl₃
 NS 8
 DS 0
 SWH 7500.000 Hz
 FIDRES 0.166674 Hz
 AQ 2.9999166 sec
 RG 45.2
 DW 66.667 usec
 DE 71.43 usec
 TE 294.8 K
 D1 3.00000000 sec
 TD0 1

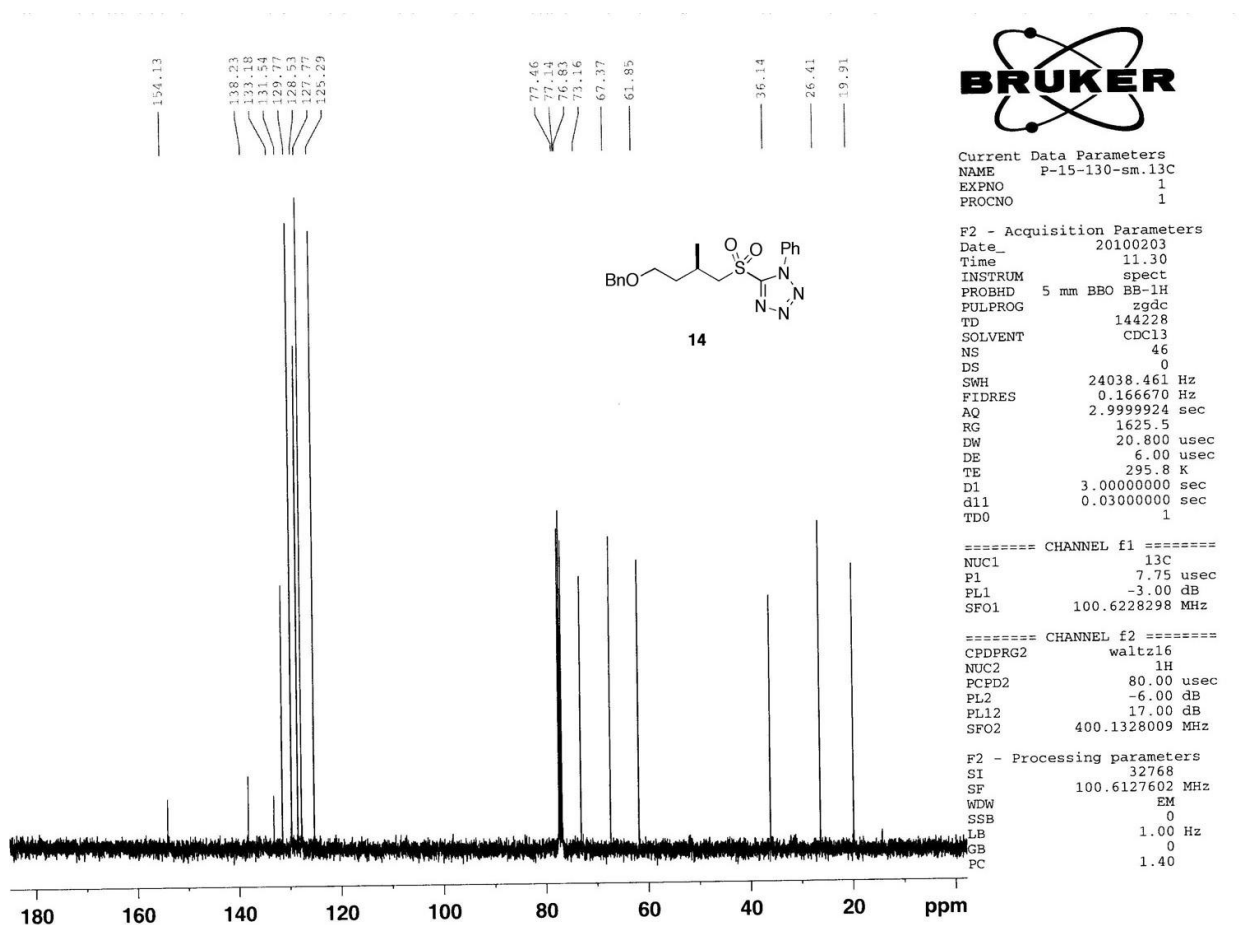
===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 0.00 dB
 PL1W 24.54113007 W
 SFO1 500.1330008 MHz
 SI 16384
 SF 500.1300076 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



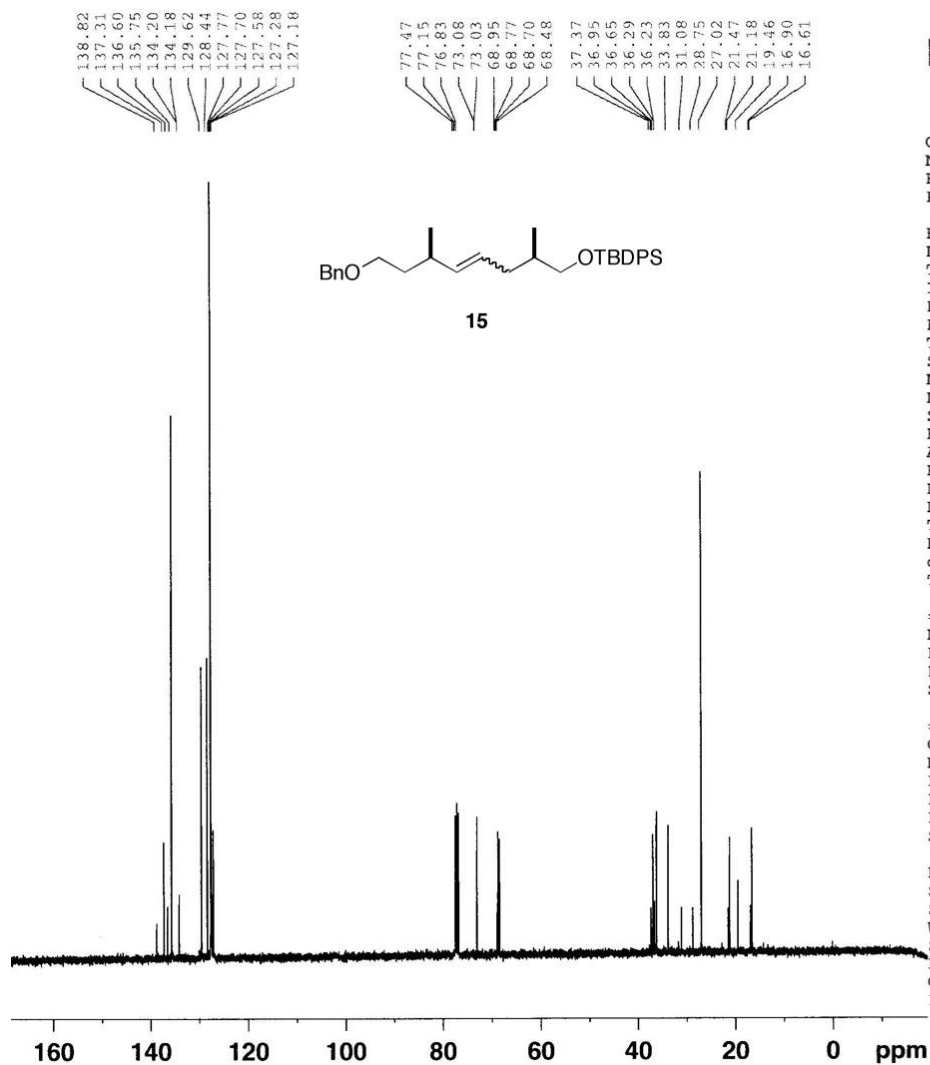
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 PULPROG zgpg
 TD 197364
 SOLVENT CDCl3
 NS 39
 DS 4
 SWH 32894.738 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999828 sec
 RG 2050
 DW 15.200 usec
 DE 6.00 usec
 TE 295.7 K
 D1 3.00000000 sec
 D11 0.03000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.00 usec
 PL1 1.00 dB
 PL1W 72.42802429 W
 SFO1 125.7716224 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 FCPD2 80.00 usec
 PL2 0.00 dB
 PL12 16.50 dB
 PL13 17.00 dB
 PL2W 24.54113007 W
 PL12W 0.54940748 W
 PL13W 0.48965994 W
 SFO2 500.1325006 MHz
 ST 131072
 SE 125.7577812 MHz
 WDW EM
 LB 0.30 Hz
 GB 0
 PC 1.40







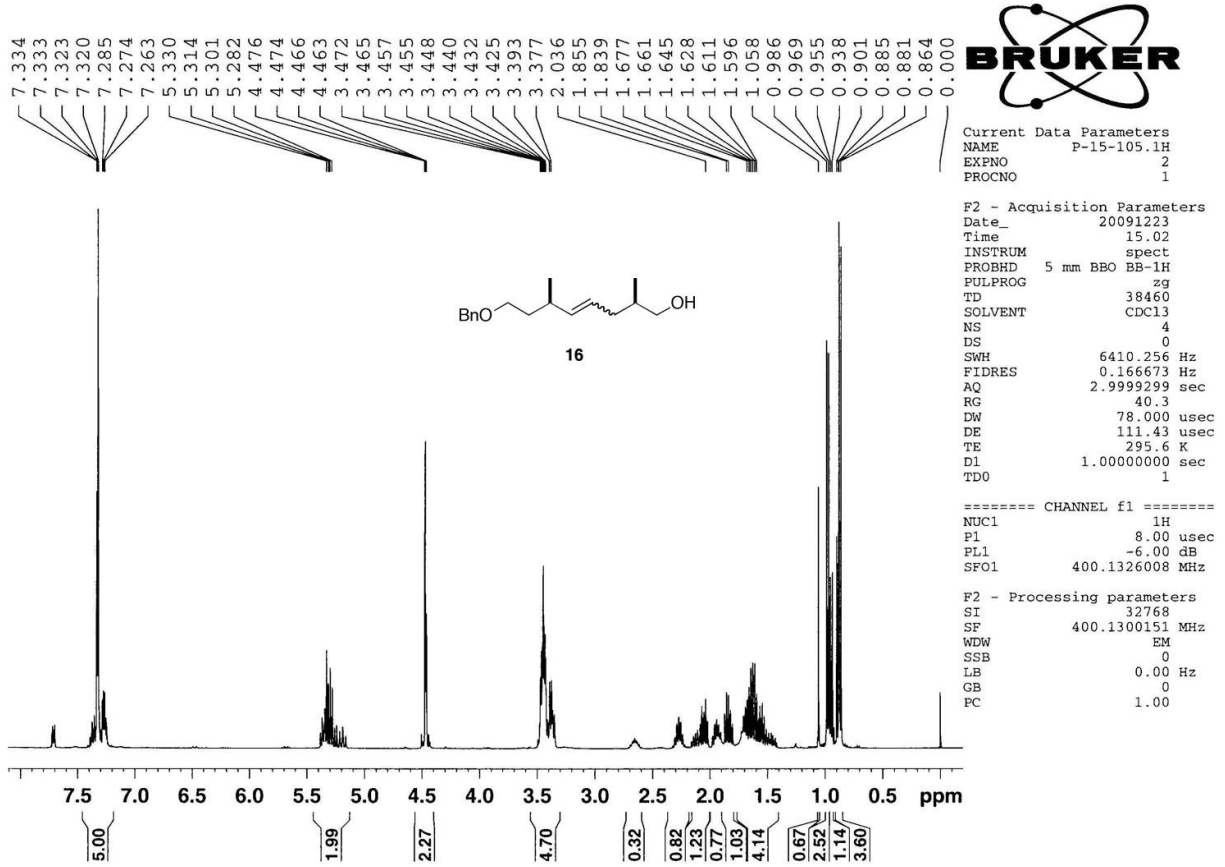
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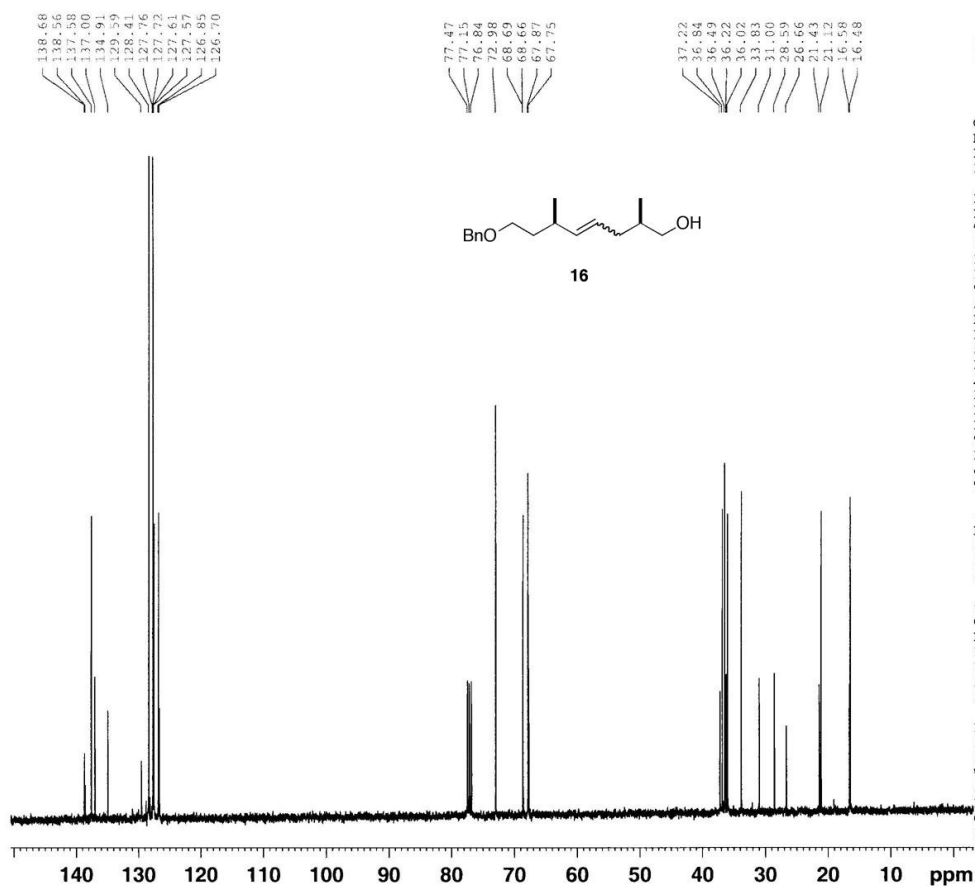
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 PULPROG zgdc
 TD 144228
 SOLVENT CDCl3
 NS 54
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 574.7
 DW 20.800 usec
 DE 6.00 usec
 TE 295.9 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127597 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40





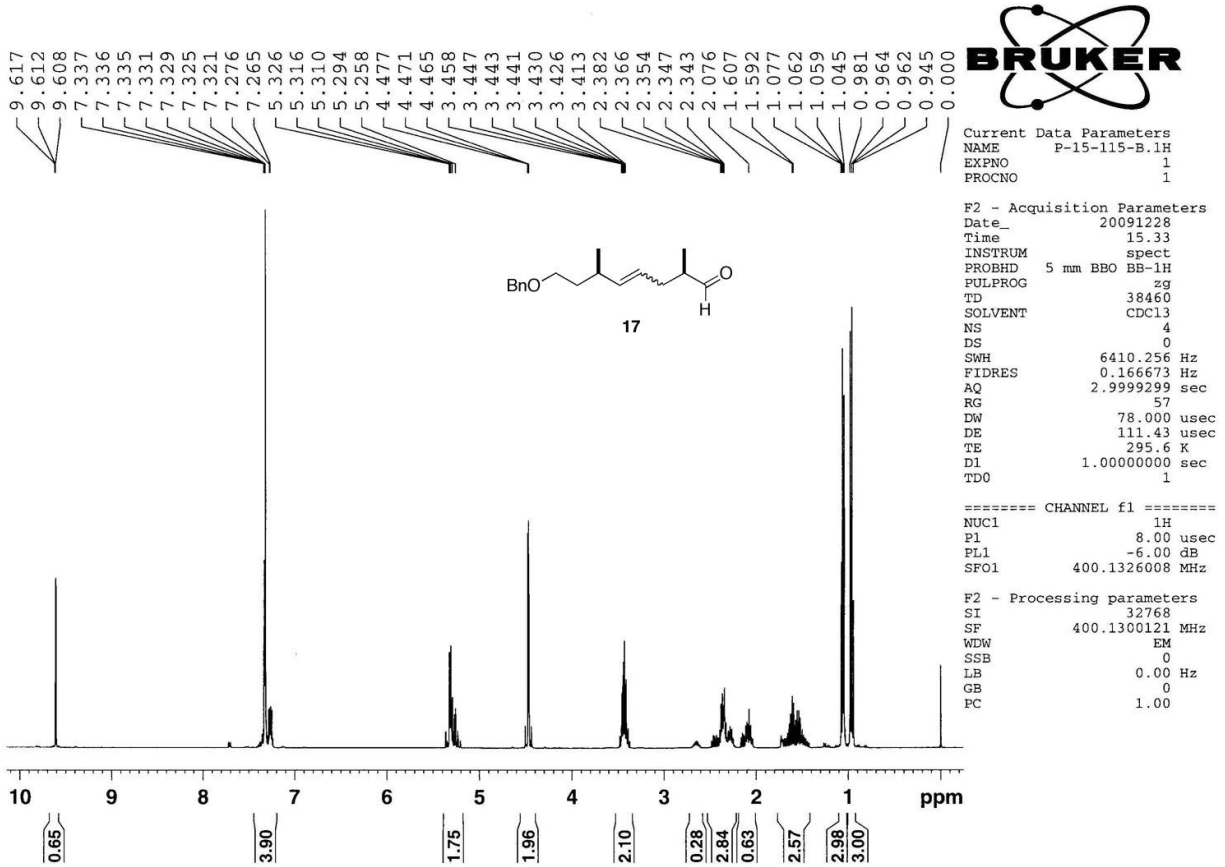
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EXPNO 2
PROCNO 1

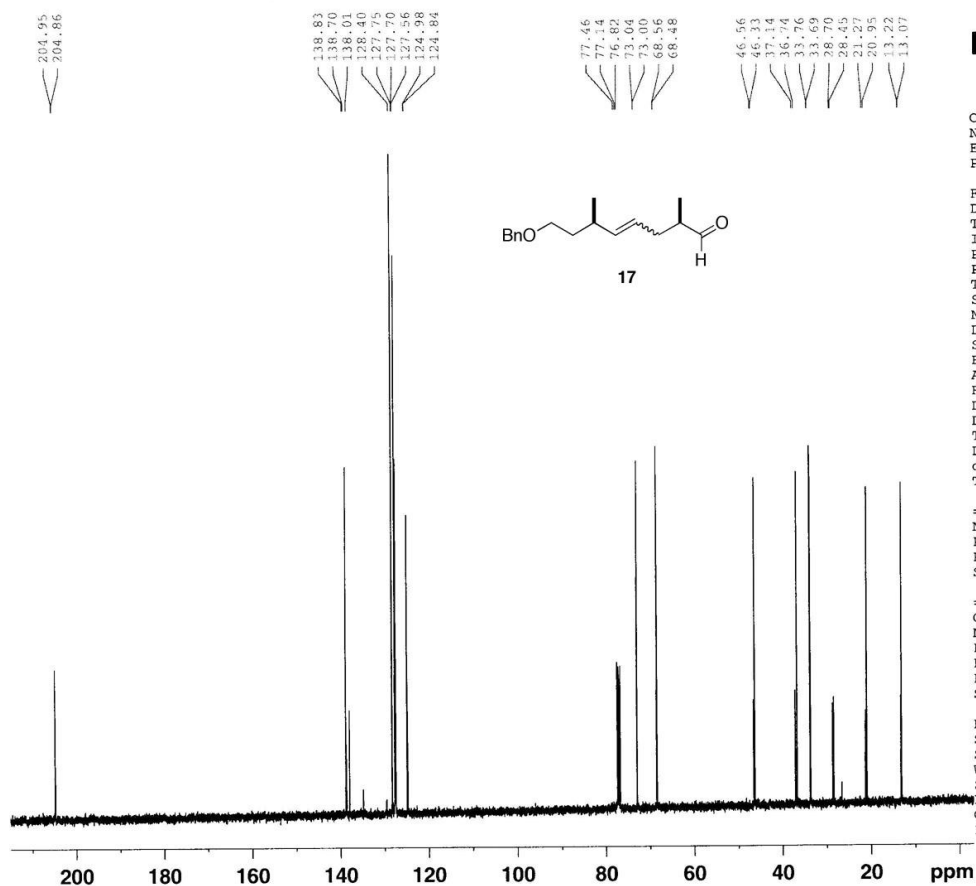
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Date_ 20091223
Time 15.07
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 42
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 574.7
DW 20.800 usec
DE 6.00 usec
TE 296.0 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127641 MHz
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SSB 0
LB 1.00 Hz
GB 0
PC 1.40





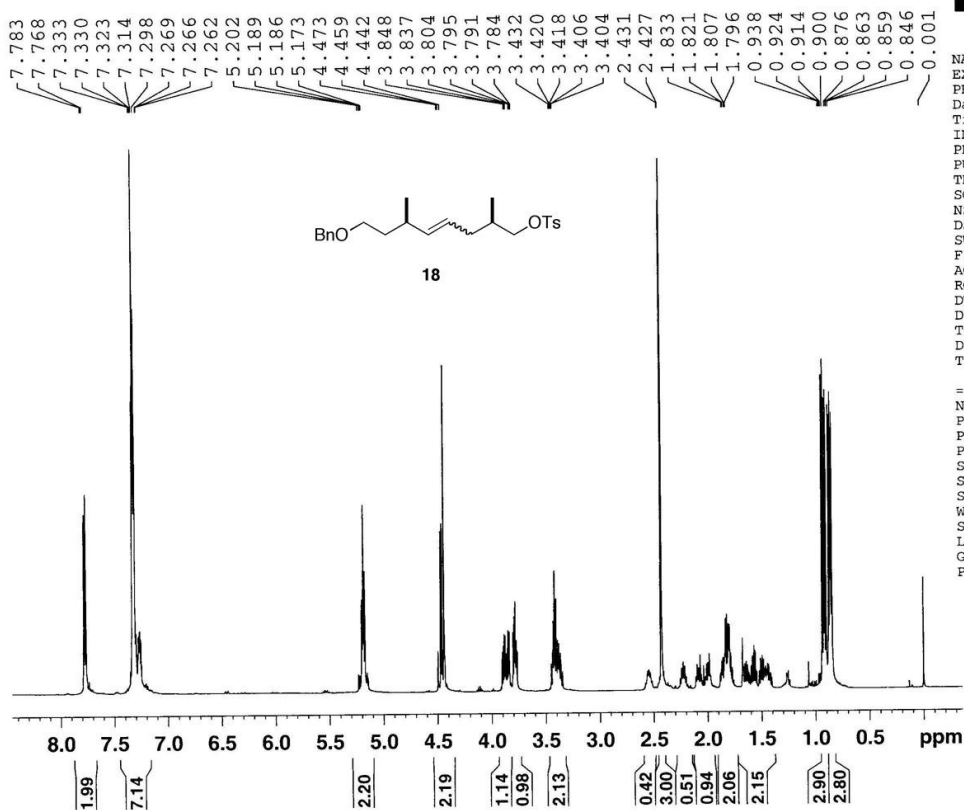
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 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091228
 Time 15.39
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgdc
 TD 144228
 SOLVENT CDCl3
 NS 50
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 645.1
 DW 20.800 usec
 DE 6.00 usec
 TE 296.0 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
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 SF 100.6127638 MHz
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 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

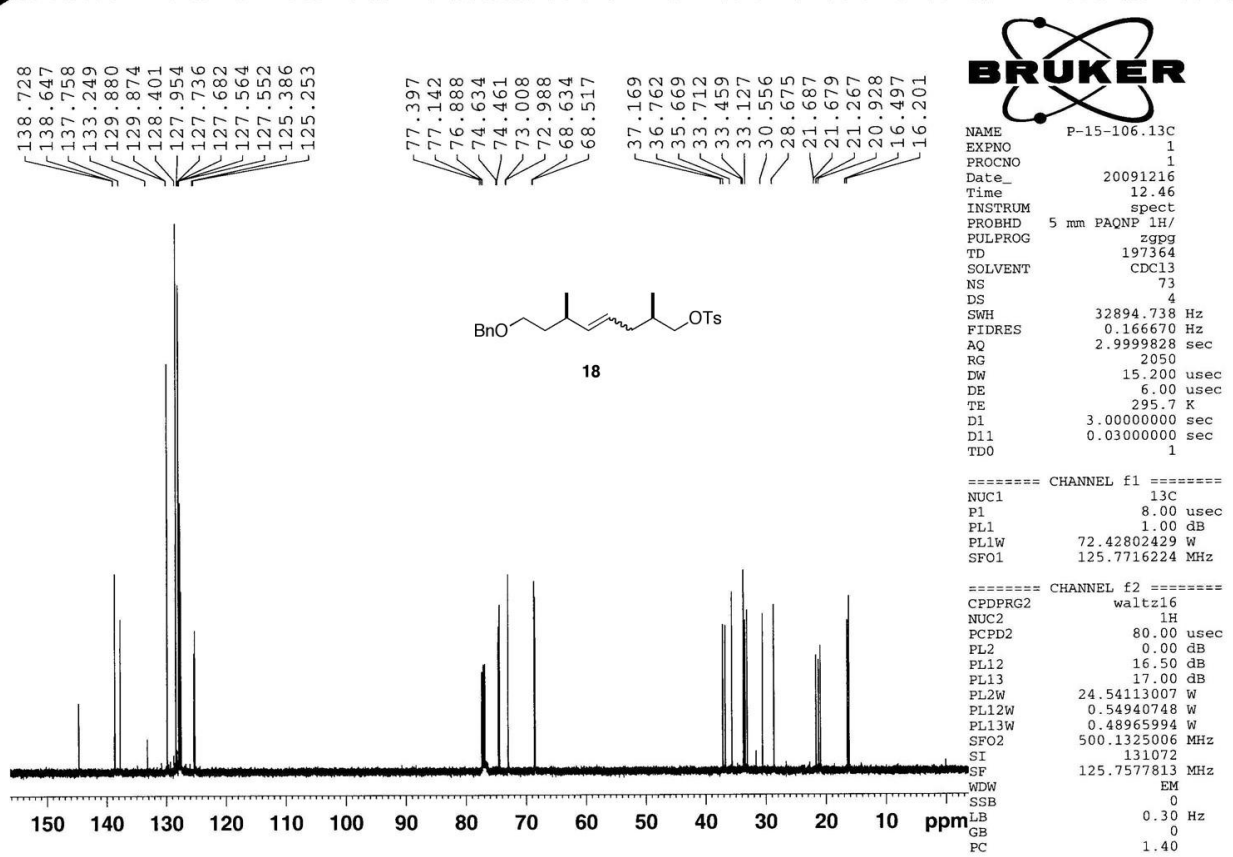


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NAME      P-15-106.1H
EXPNO     1
PROCNO    1
Date_     20091216
Time      12.37
INSTRUM   spect
PROBHD    5 mm PAQNP 1H/
PULPROG   zg
TD         44998
SOLVENT   CDC13
NS         8
DS         0
SWH        7500.000 Hz
FIDRES     0.166674 Hz
AQ         2.9999166 sec
RG         32
DW         66.667 usec
DE         71.43 usec
TE         295.1 K
D1         3.00000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1       1H
P1         12.00 usec
PL1        0.00 dB
PL1W       24.54113007 W
SFO1       500.1330008 MHz
SI         16384
SF         500.1300110 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00

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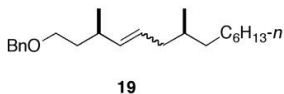
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EXPNO          1
PROCNO         1
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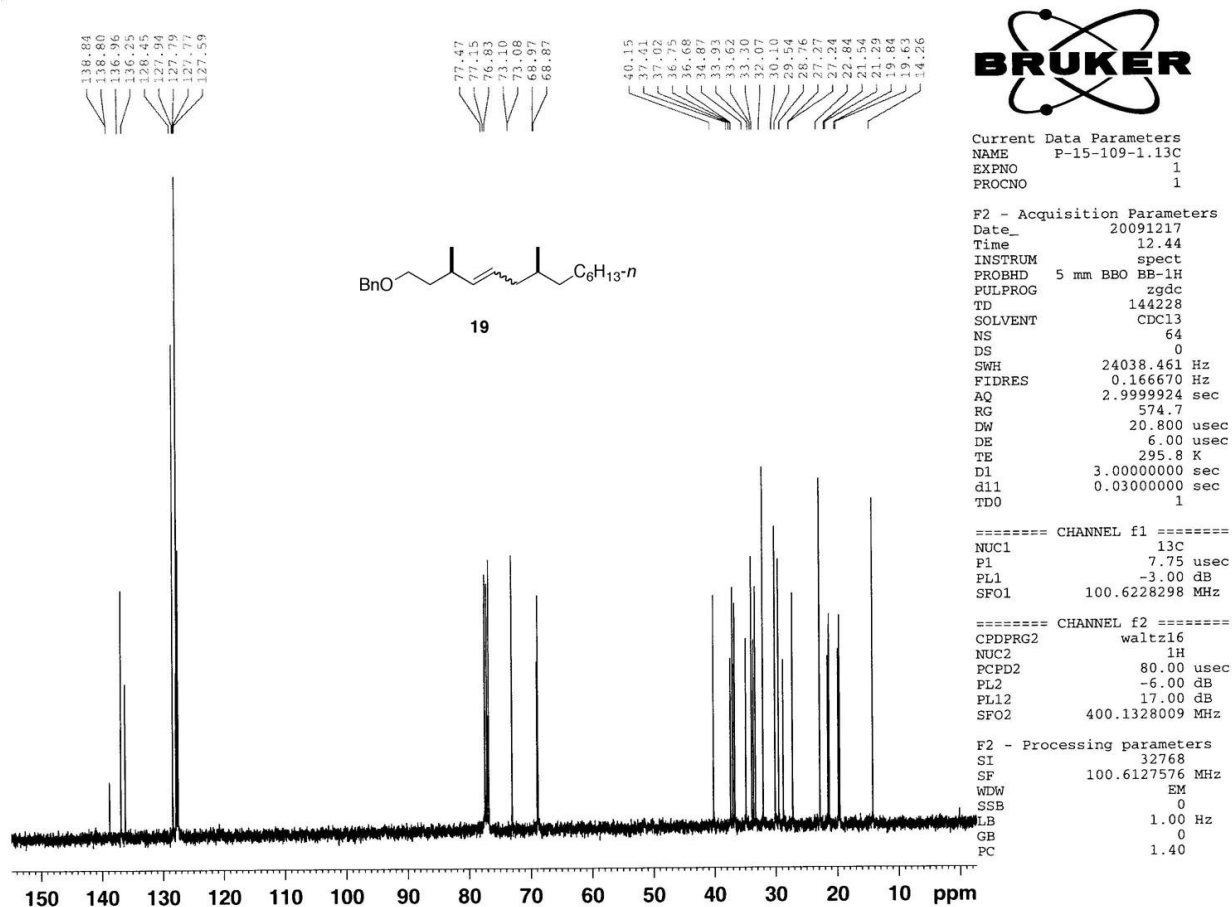
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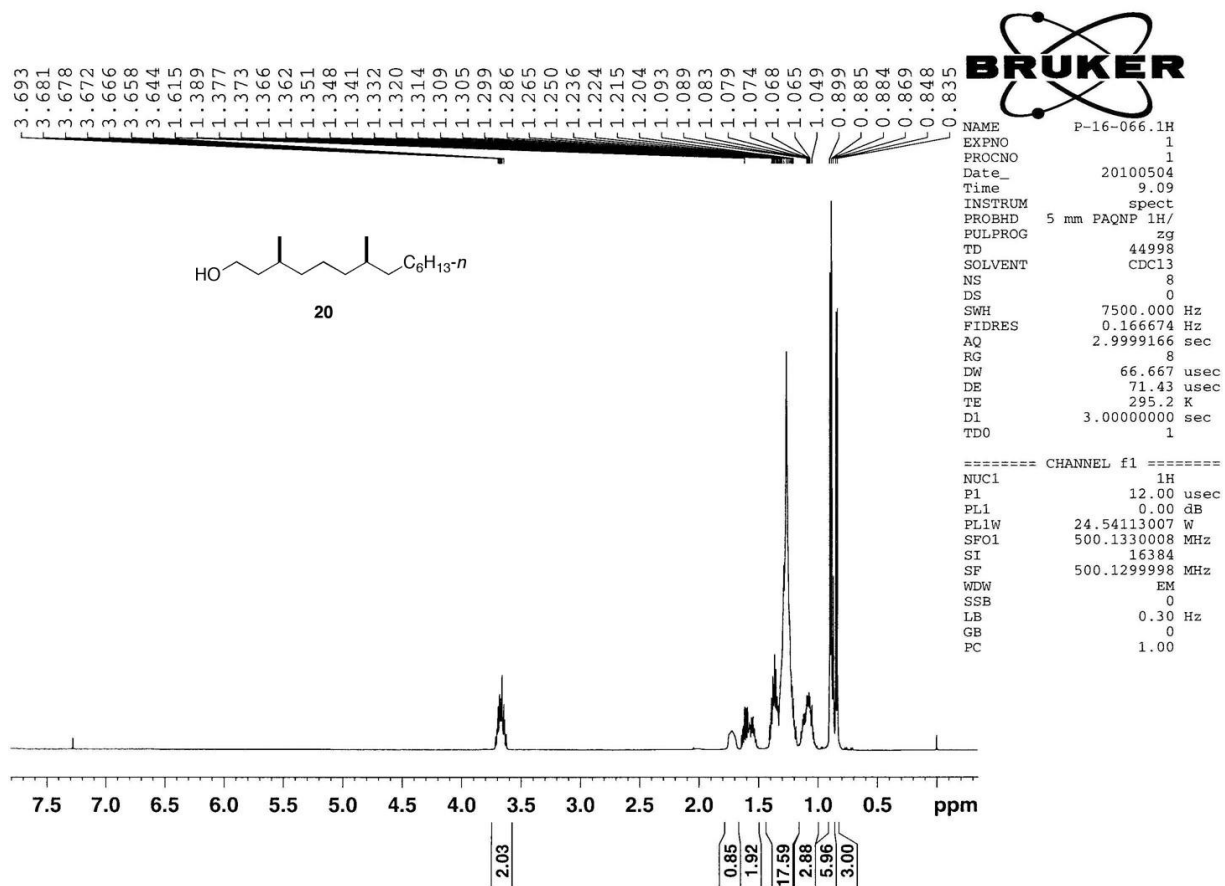
Date_	20091217
Time	12.43
INSTRUM	spect
PROBHD	5 mm BBO BB-1H
PULPROG	zg
TD	38460
SOLVENT	CDCl3
NS	8
DS	0
SWH	6410.256 Hz
FIDRES	0.166673 Hz
AQ	2.9999299 sec
RG	57
DW	78.000 usec
DE	111.43 usec
TE	295.7 K
D1	1.00000000 sec
TD0	1

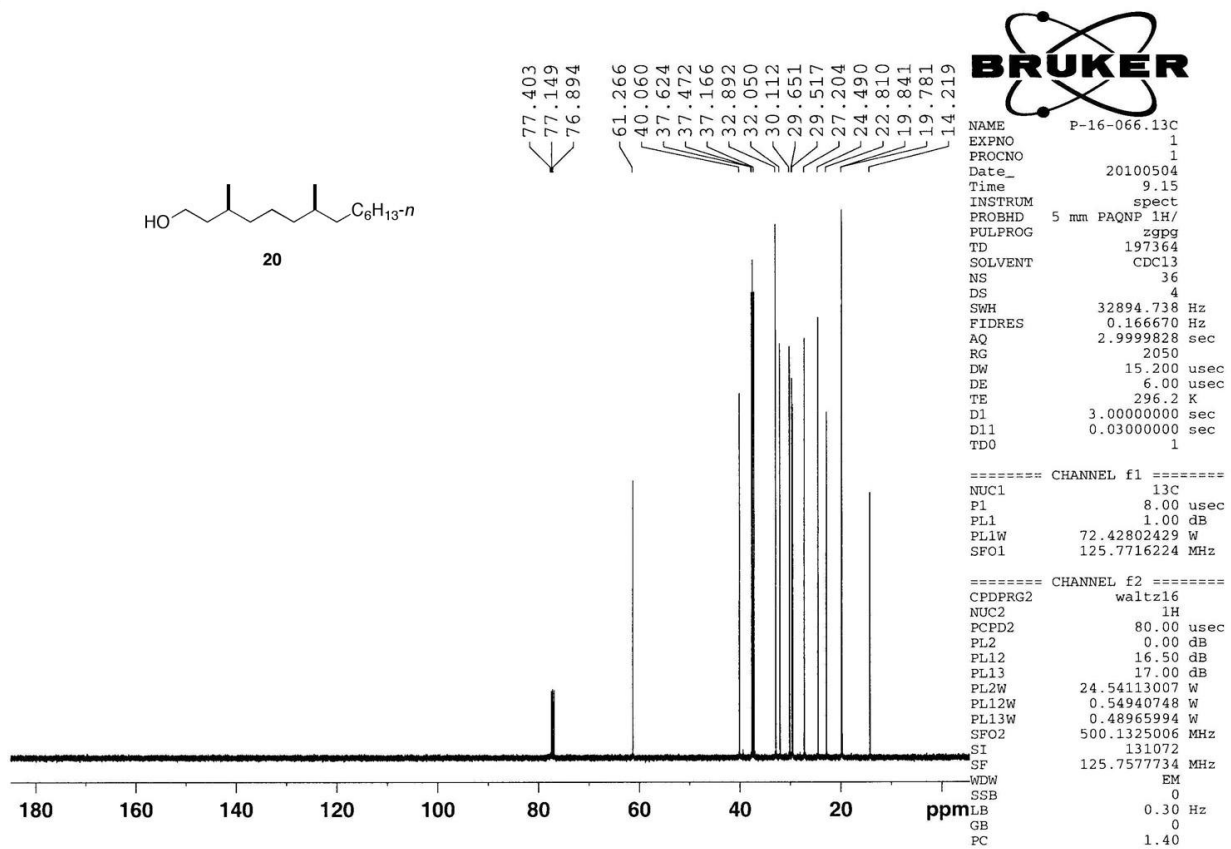
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===== CHANNEL f1 =====
NUC1                1H
P1                  8.00 usec
PL1                 -6.00 dB
SFO1               400.1326008 MHz
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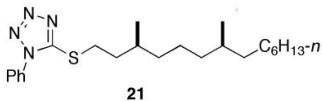
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SF                400.1300150 MHz
WDW               EM
SSB               0
LB                0.00 Hz
GB                0
PC                1.00
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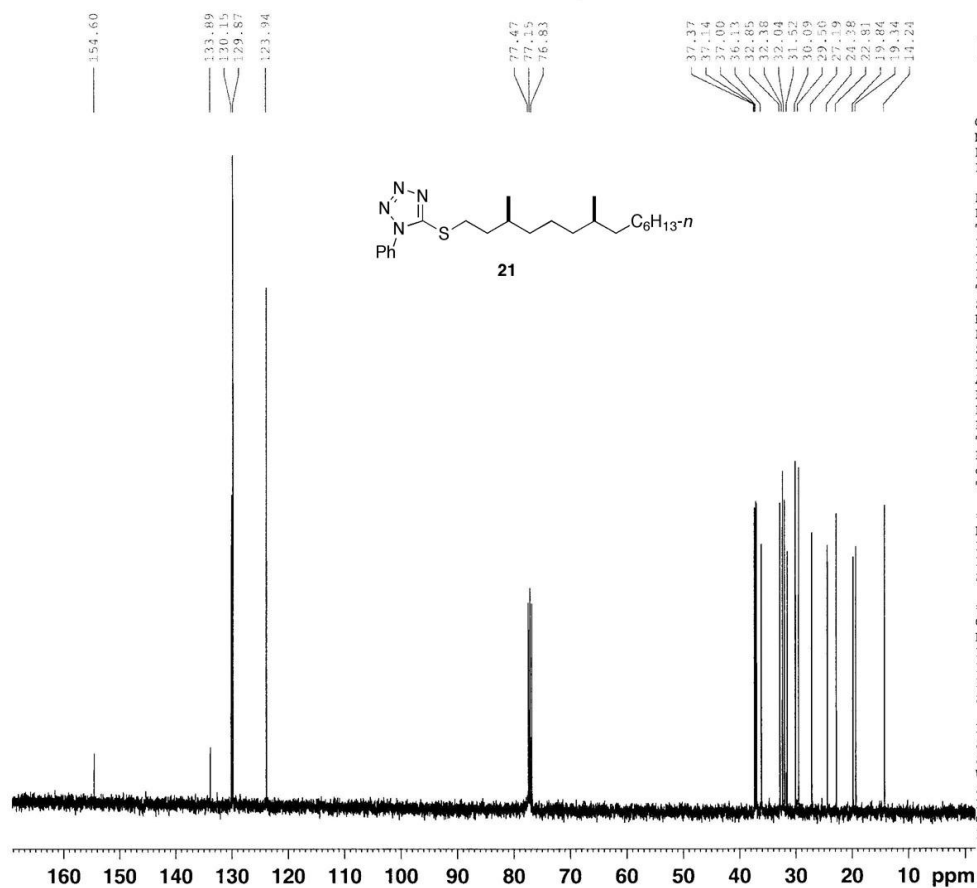








```
F2 - Processing parameters
SI                32768
SF                400.1300053 MHz
WDW               EM
SSB               0
LB                0.00 Hz
GB               0
PC               1.00
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Current Data Parameters
 NAME P-16-071.13C
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 PROCNO 1

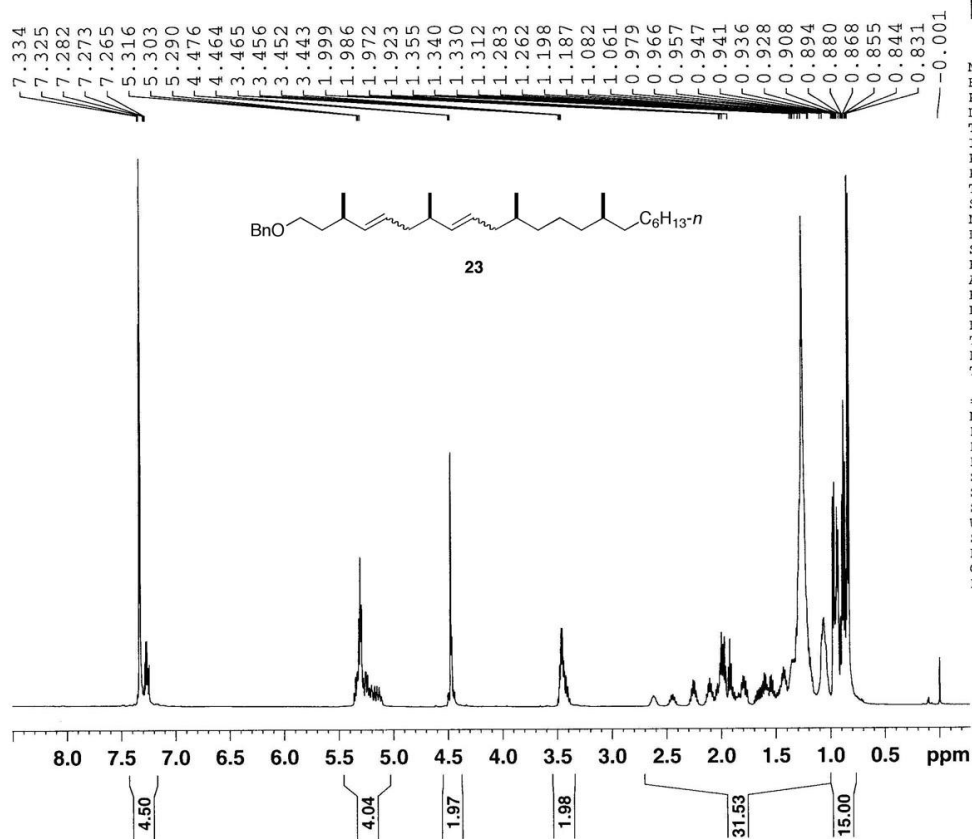
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 Time 15.46
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgpg
 TD 144228
 SOLVENT CDCl3
 NS 33
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.999924 sec
 RG 512
 DW 20.800 usec
 DE 6.00 usec
 TE 296.8 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127580 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

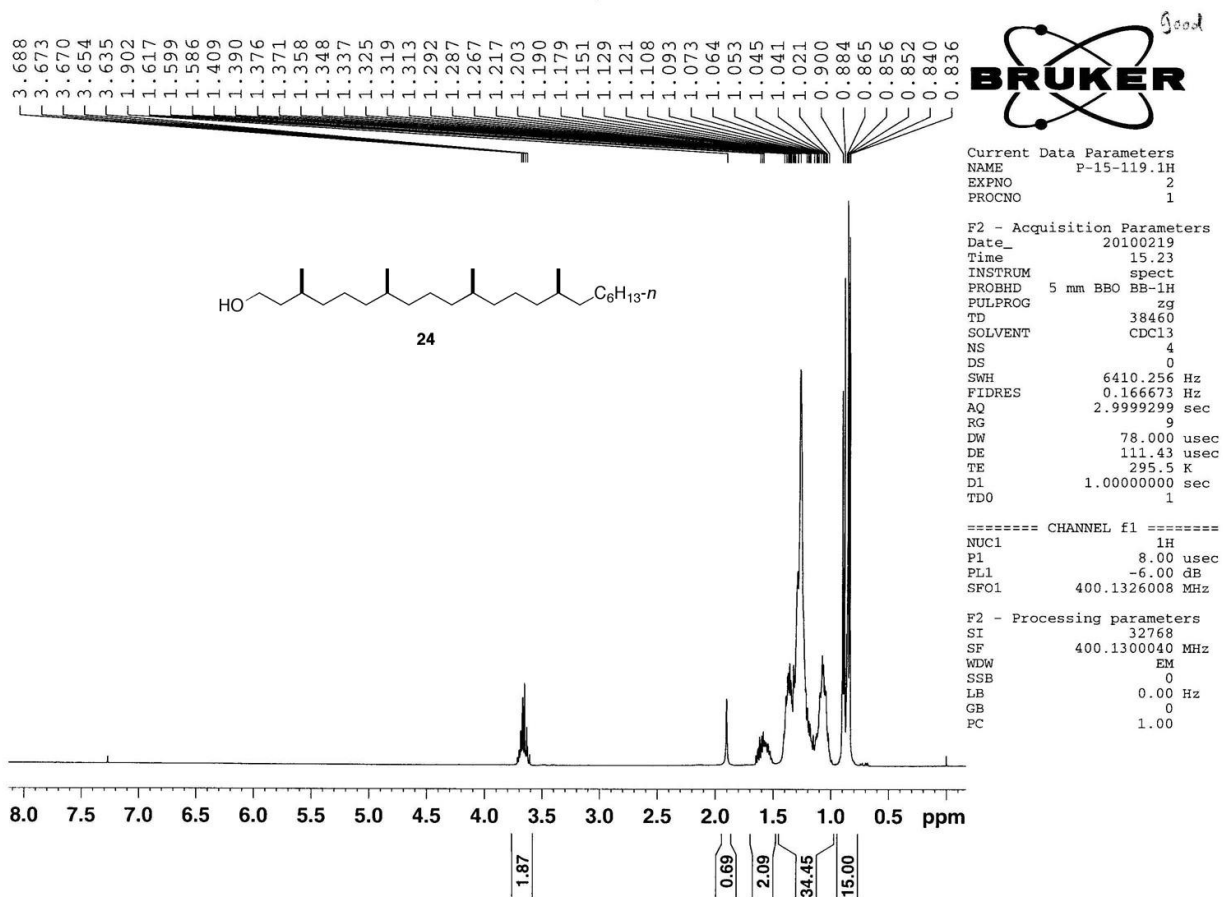


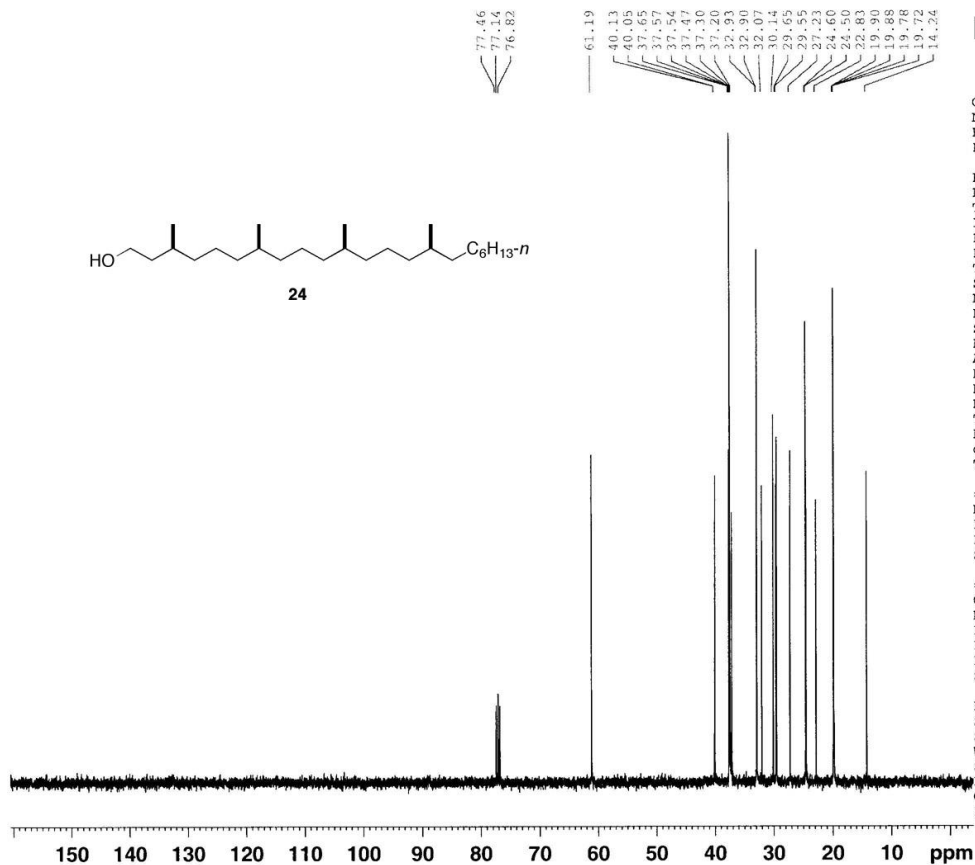


NAME P-15-118.1H
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 PROCNO 1
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 Time 12.28
 INSTRUM spect
 PROBHD 5 mm PAQNP 1H/
 PULPROG zg
 TD 44998
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 7500.000 Hz
 FIDRES 0.166674 Hz
 AQ 2.9999166 sec
 RG 32
 DW 66.667 usec
 DE 71.43 usec
 TE 294.6 K
 D1 3.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 0.00 dB
 PL1W 24.54113007 W
 SF01 500.1330008 MHz
 SI 16384
 SF 500.1300161 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00







```
Current Data Parameters
NAME          P-15-119.13C
EXPNO          2
PROCNO         1
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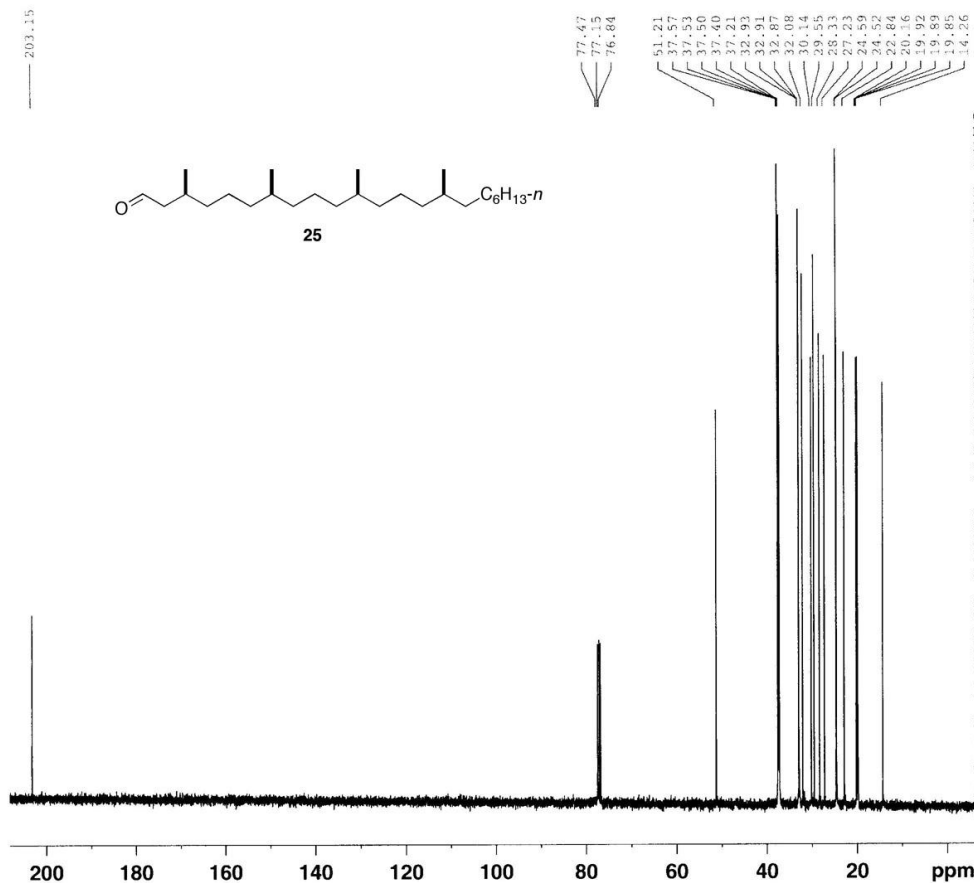
F2 - Acquisition Parameters
Date_      20100219
Time       15.25
INSTRUM    spect
PROBHD     5 mm BBO BB-H1
PULPROG    zgdc
TD          144228
SOLVENT    CDCl3
NS          5
DS          0
SWH         24038.461 Hz
FIDRES      0.166670 Hz
AQ          2.9999924 sec
RG          1024
DW          20.800 usec
DE          6.00 usec
TE          295.6 K
D1          3.00000000 sec
d11         0.03000000 sec
TD0         1

```

```
===== CHANNEL f1 =====
NUC1          13C
P1             7.75 usec
PL1           -3.00 dB
SFO1          100.6228298 MHz
```

```
===== CHANNEL f2 =====
CPDPRG2          waltz16
NUC2              1H
PCPD2            80.00 usec
PL2              -6.00 dB
PL12             17.00 dB
SFO2            400.1328009 MHz
```

```
F2 - Processing parameters
SI                      32768
SF                      100.6127573 MHz
WDW                      EM
SSB                      0
LB                      1.00 Hz
GB                      0
PC                      1.40
```


CCCC(C)CCC(C)CCC(C)CCC(C)C=O
25

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Current Data Parameters
NAME          P-15-120.13C
EXPNO         2
PROCNO        1

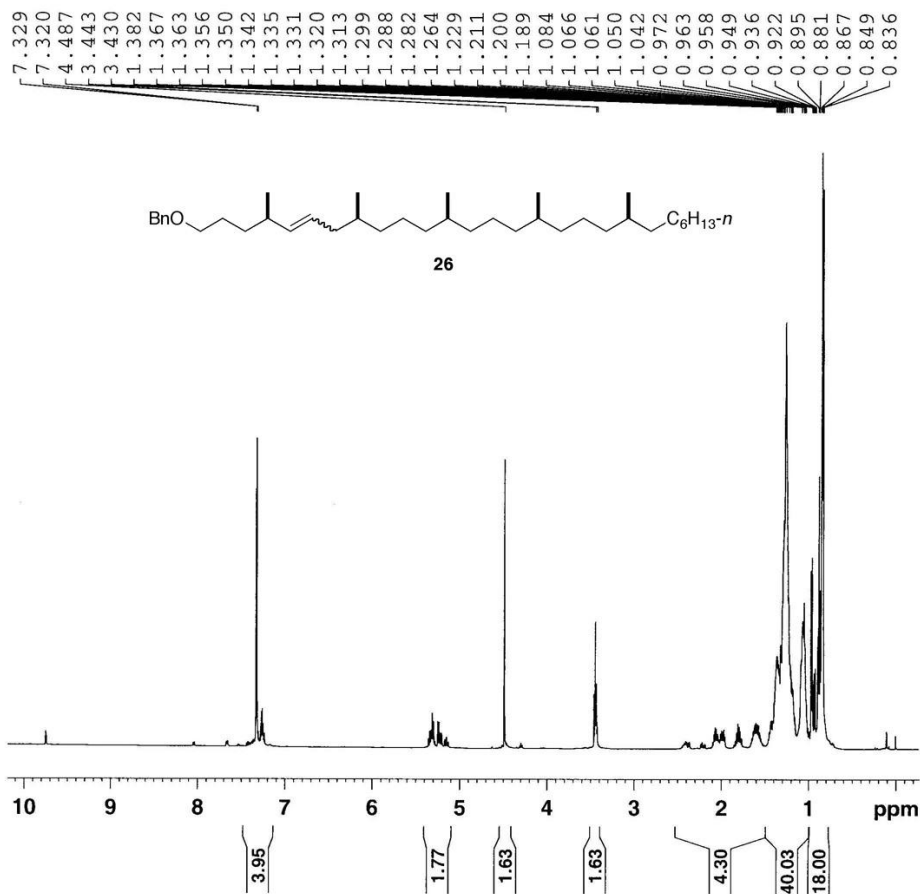
F2 - Acquisition Parameters
Date_         20100222
Time          10.24
INSTRUM       spect
PROBHD        5 mm BBO BB-1H
PULPROG       zgdc
TD            144228
SOLVENT       CDC13
NS            43
DS            0
SWH           24038.461 Hz
FIDRES        0.166670 Hz
AQ            2.9999924 sec
RG            1024
DE            20.800 usec
DN            6.00 usec
TE            295.7 K
TL            3.00000000 sec
d11           0.03000000 sec
TD0           1

===== CHANNEL f1 =====
NUC1          13C
P1            7.75 usec
PL1          -3.00 dB
SFO1         100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        80.00 usec
PL2          -6.00 dB
PL12         17.00 dB
SFO2         400.1328009 MHz

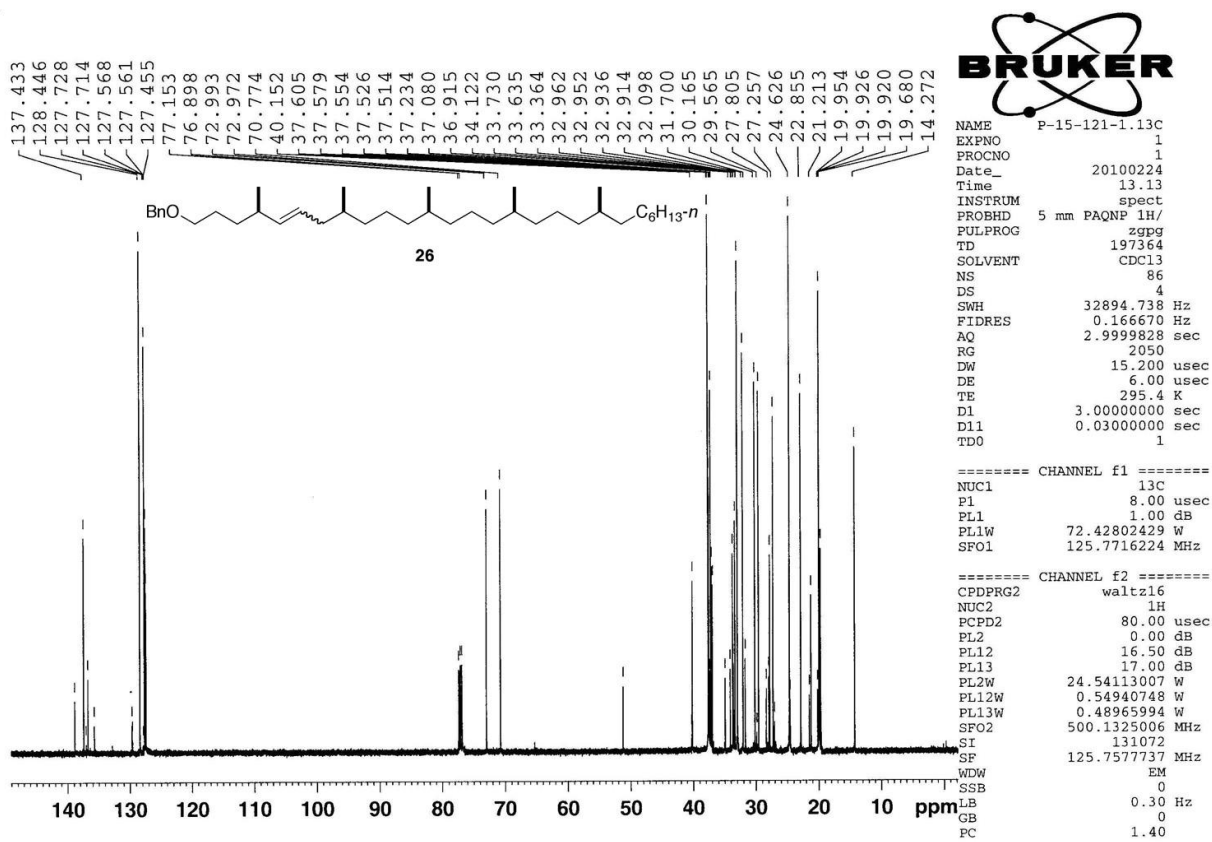
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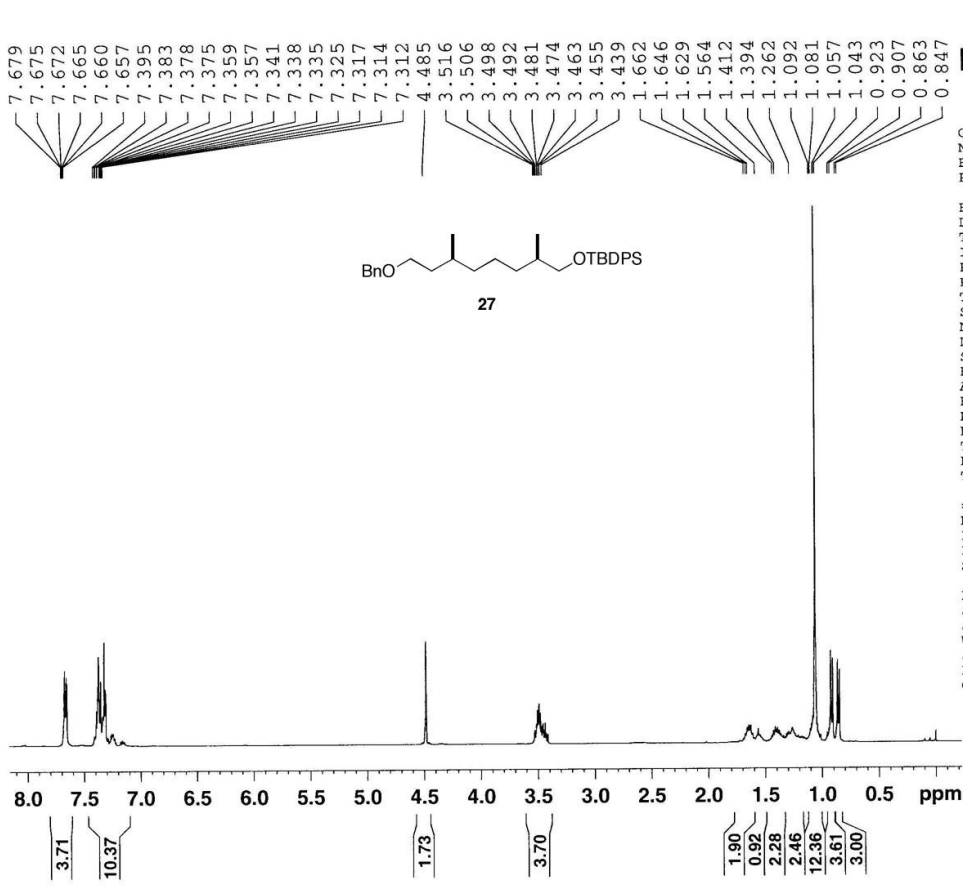
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NAME P-15-121-1.1H
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 PROCNO 1
 Date_ 20100224
 Time 13.11
 INSTRUM spect
 PROBHD 5 mm PAQNP 1H/
 PULPROG zg
 TD 44998
 SOLVENT CDC13
 NS 8
 DS 0
 SWH 7500.000 Hz
 FIDRES 0.166674 Hz
 AQ 2.9999166 sec
 RG 8
 DW 66.667 usec
 DE 71.43 usec
 TE 295.2 K
 D1 3.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 0.00 dB
 PL1W 24.54113007 W
 SFO1 500.1330008 MHz
 SI 16384
 SF 500.1300228 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



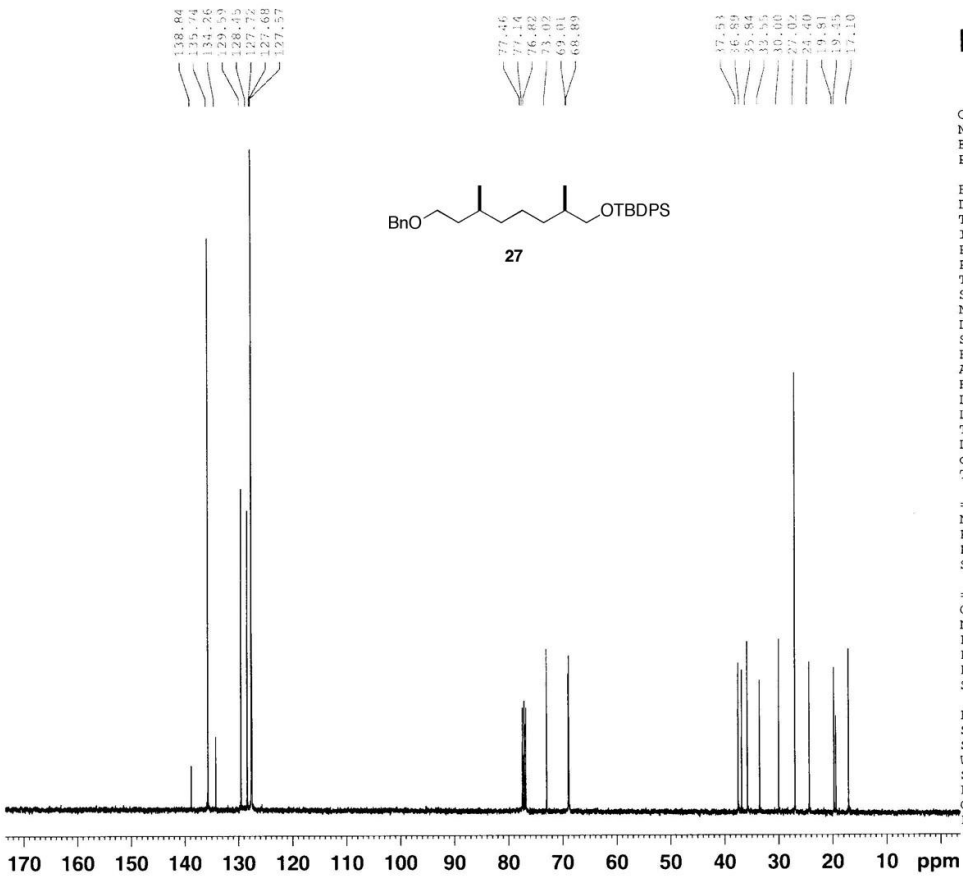


Current Data Parameters
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 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
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 Time 15.32
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg
 TD 38460
 SOLVENT CDCl3
 NS 4
 DS 0
 SWH 6410.256 Hz
 FIDRES 0.166673 Hz
 AQ 2.9999299 sec
 RG 35.9
 DW 78.000 usec
 DE 111.43 usec
 TE 296.0 K
 D1 1.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 8.00 usec
 PL1 -6.00 dB
 SFO1 400.1326008 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300394 MHz
 WDW EM
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME P-16-055.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100419
Time 14.23
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 57
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 812.7
DW 20.800 usec
DE 6.00 usec
TE 296.8 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

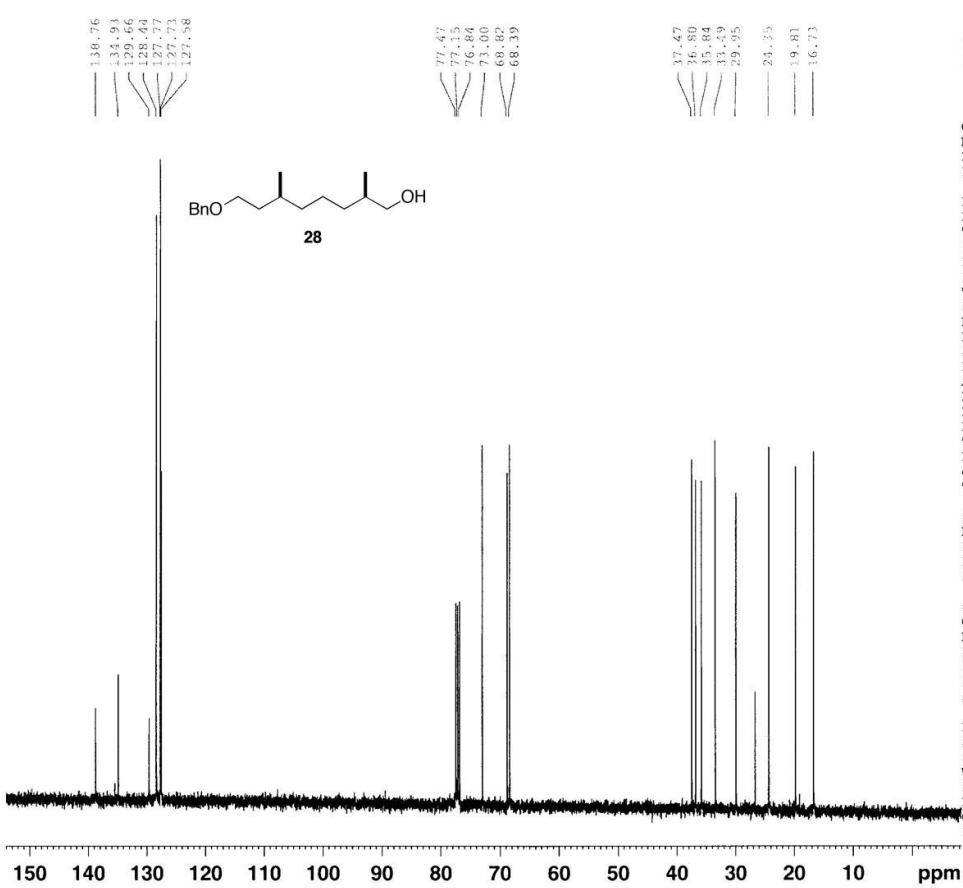
===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127620 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



```
F2 - Processing parameters
SI                      32768
SF                    400.1300128 MHz
WDW                      EM
SSB                      0
LB                      0.00 Hz
GB                      0
PC                      1.00
```



Current Data Parameters
 NAME P-16-060.13C
 EXPNO 1
 PROCNO 1

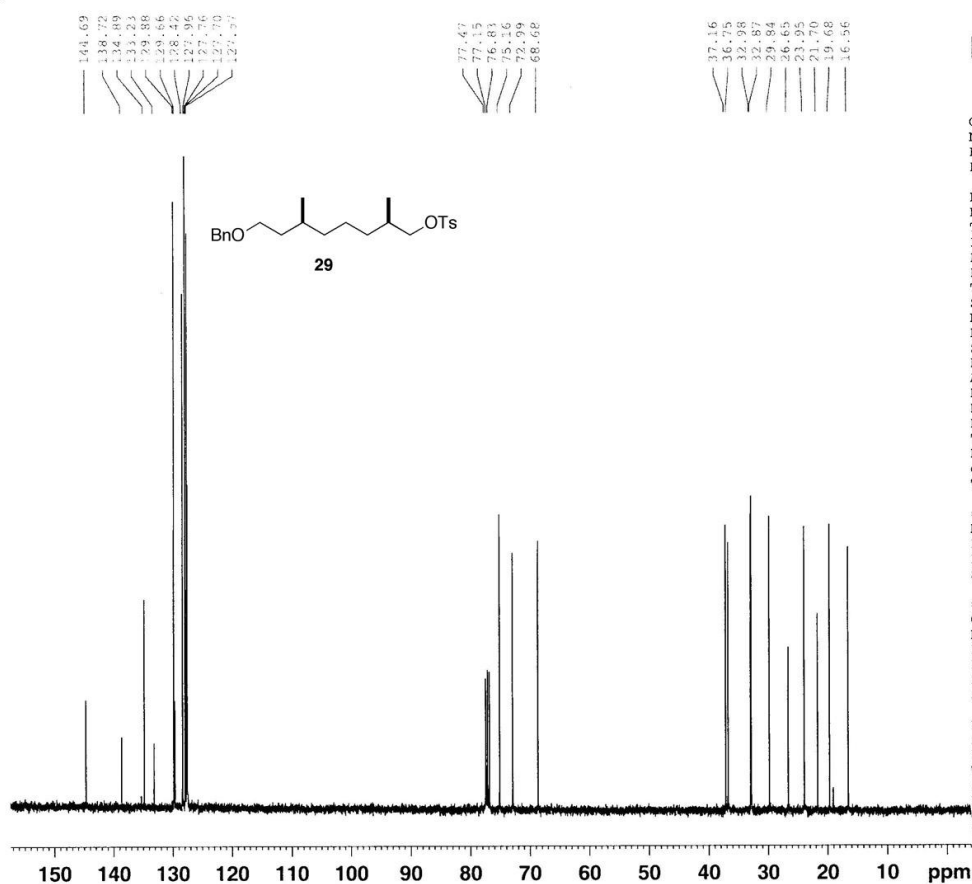
F2 - Acquisition Parameters
 Date_ 20100427
 Time_ 15.03
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgdc
 TD 144228
 SOLVENT CDCl3
 NS 34
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 812.7
 DW 20.800 usec
 DE 6.00 usec
 TE 297.2 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127603 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40





Current Data Parameters
NAME P-16-064.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100428
Time 14.15
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDCl3
NS 48
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 812.7
DW 20.800 usec
DE 6.00 usec
TE 296.8 K
D1 3.0000000 sec
d11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127636 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



```
Current Data Parameters
NAME          P-16-065.13C
EXPNO          1
PROCNO         1
```

```

F2 - Acquisition Parameters
Date_      20100430
Time       8.04
INSTRUM    spect
PROBHD     5 mm BBO BB5-H
PULPROG    zgpg
TD          144228
SOLVENT    CDC13
NS          44
DS          0
SWH         24038.461 Hz
FIDRES      0.166670 Hz
AQ          2.9999924 sec
RG          812.7
DW          20.800 usec
DE          6.00 usec
TE          297.0 K
D1          3.00000000 sec
d11         0.03000000 sec
TD0         1

```

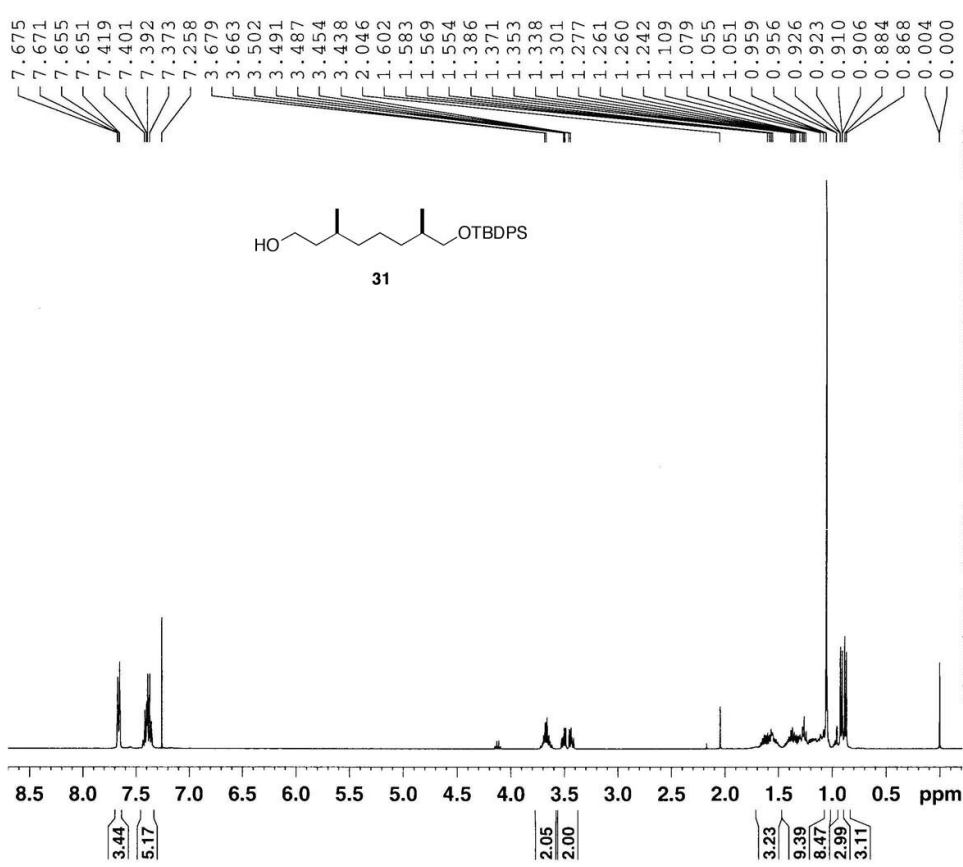
```
===== CHANNEL f1 =====
NUC1          13C
P1             7.75 usec
PL1           -3.00 dB
SFO1         100.6228298 MHz
```

```
===== CHANNEL f2 =====
CPDPRG2          waltz16
NUC2              1H
PCPD2            80.00 usec
PL2              -6.00 dB
PL12             17.00 dB
SFO2            400.1328009 MHz
```

```

F2 - Processing parameters
SI                      32768
SF                    100.6127585 MHz
WDW                      EM
SSB                      0
LB                      1.00 Hz
GB                      0
PC                      1.40

```

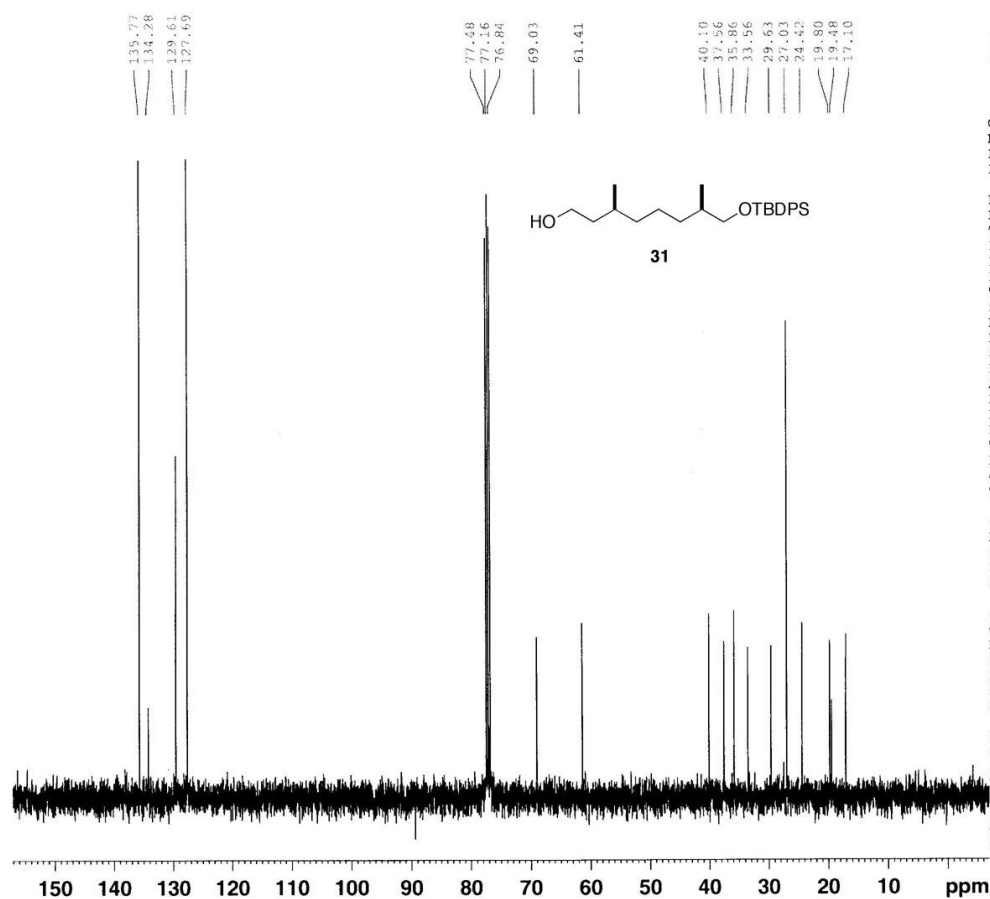


Current Data Parameters
NAME P-16-058.1H
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100430
Time 14.34
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT CDC13
NS 4
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 256
DW 78.000 usec
DE 111.43 usec
TE 296.4 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1300095 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
PC 1.00



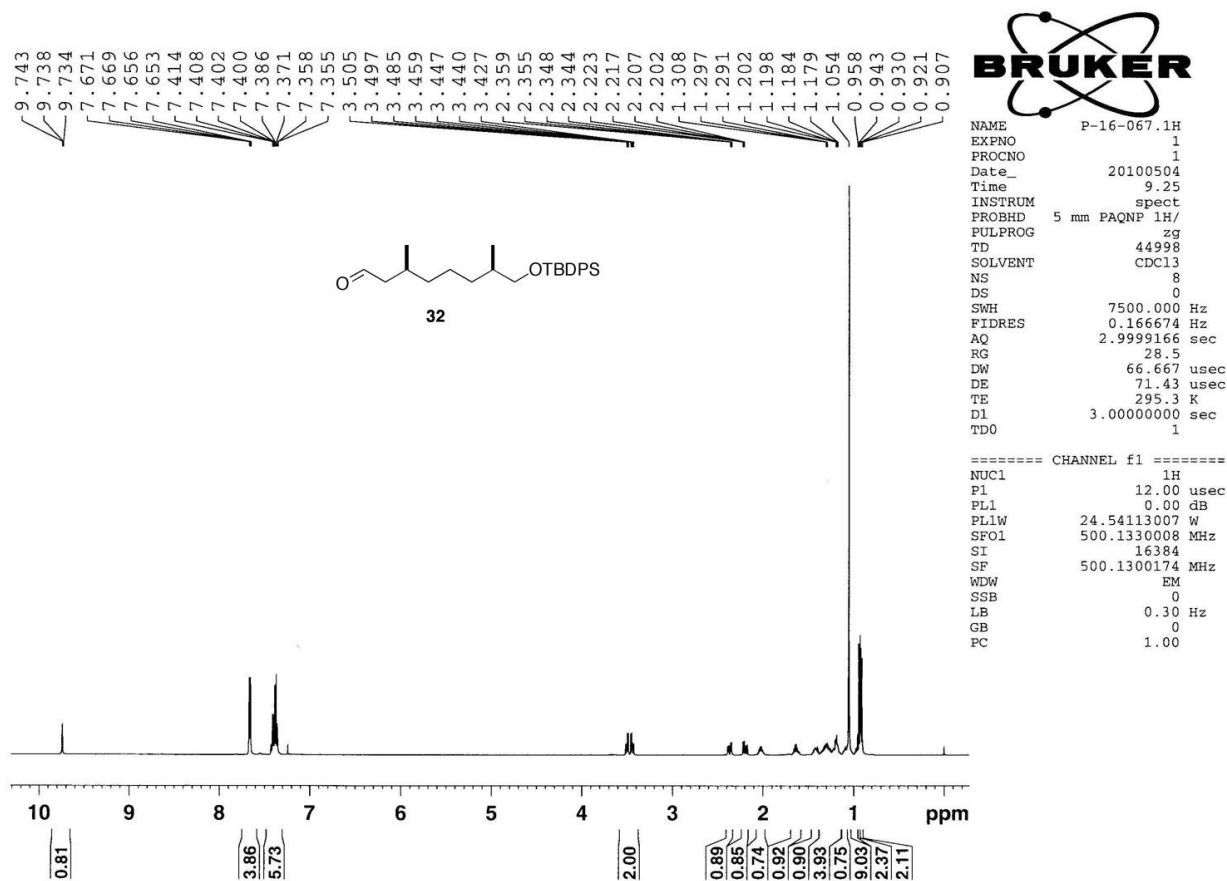
Current Data Parameters
NAME P-16-058.13C
EXPNO 1
PROCNO 1

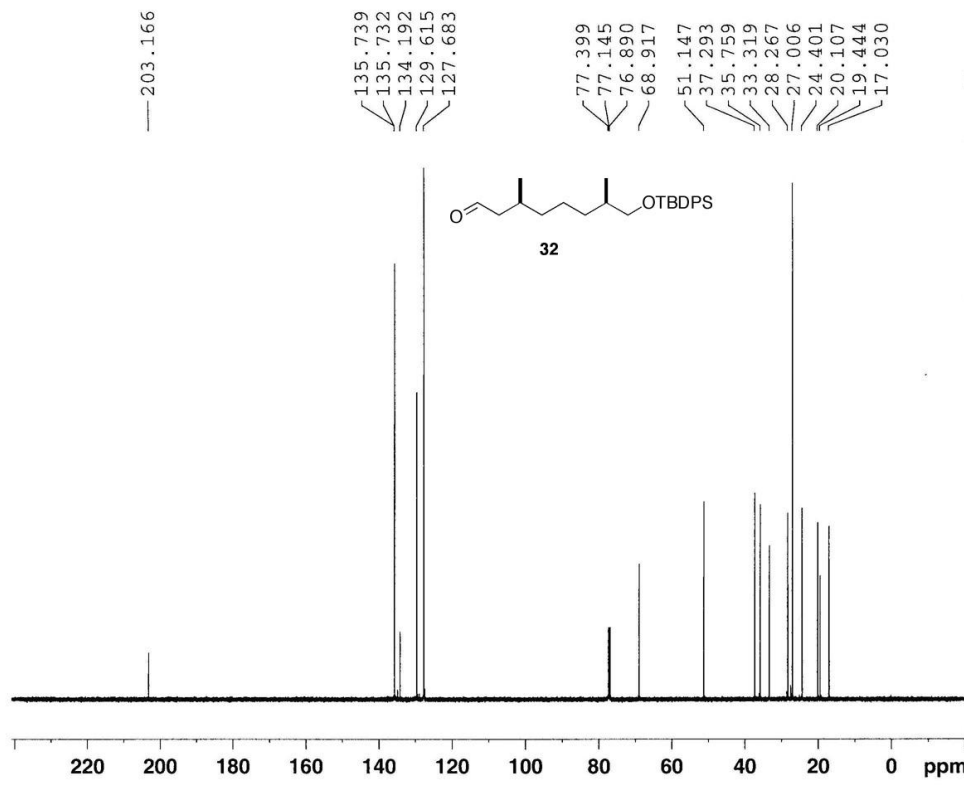
F2 - Acquisition Parameters
Date_ 20100430
Time 14.41
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDCl3
NS 59
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 912.3
DW 20.800 usec
DE 6.00 usec
TE 296.6 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127552 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

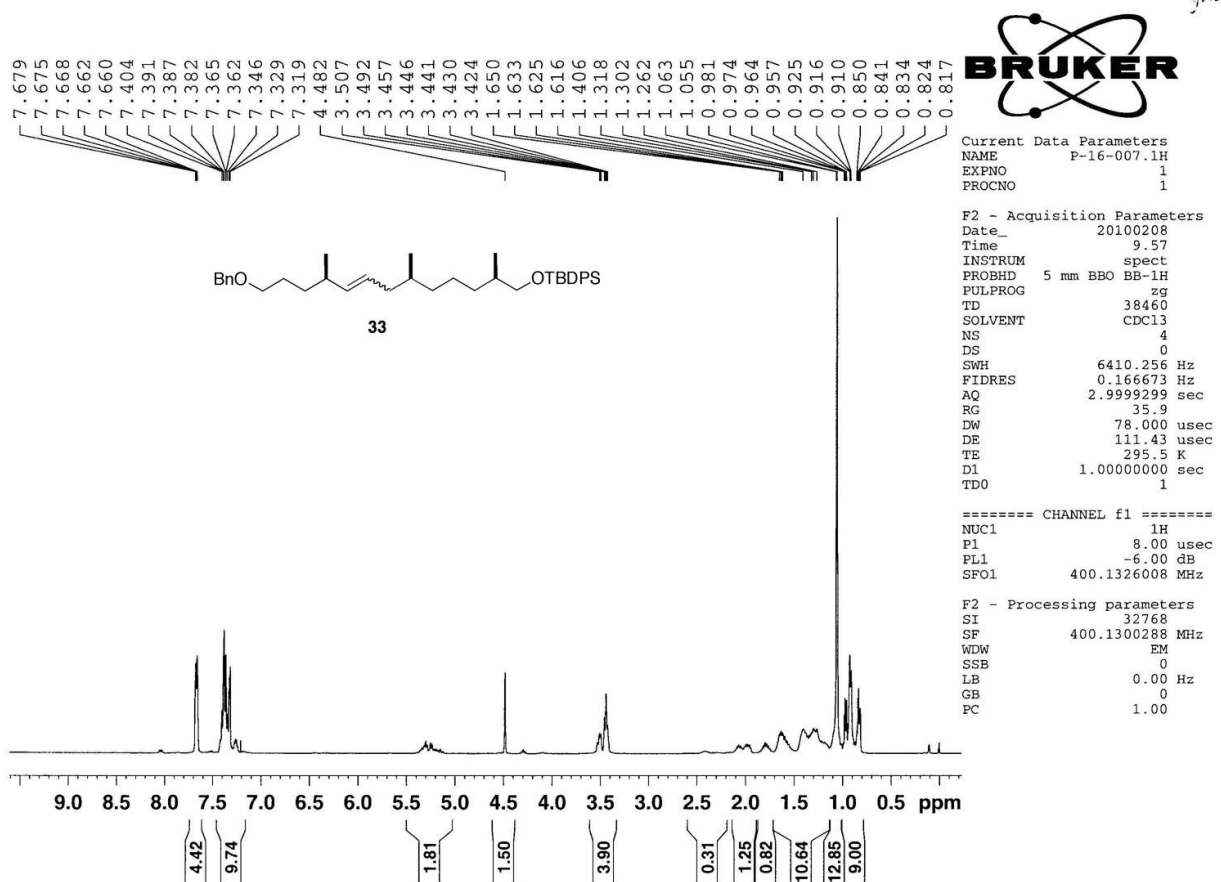


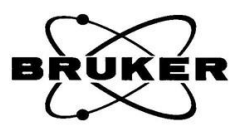
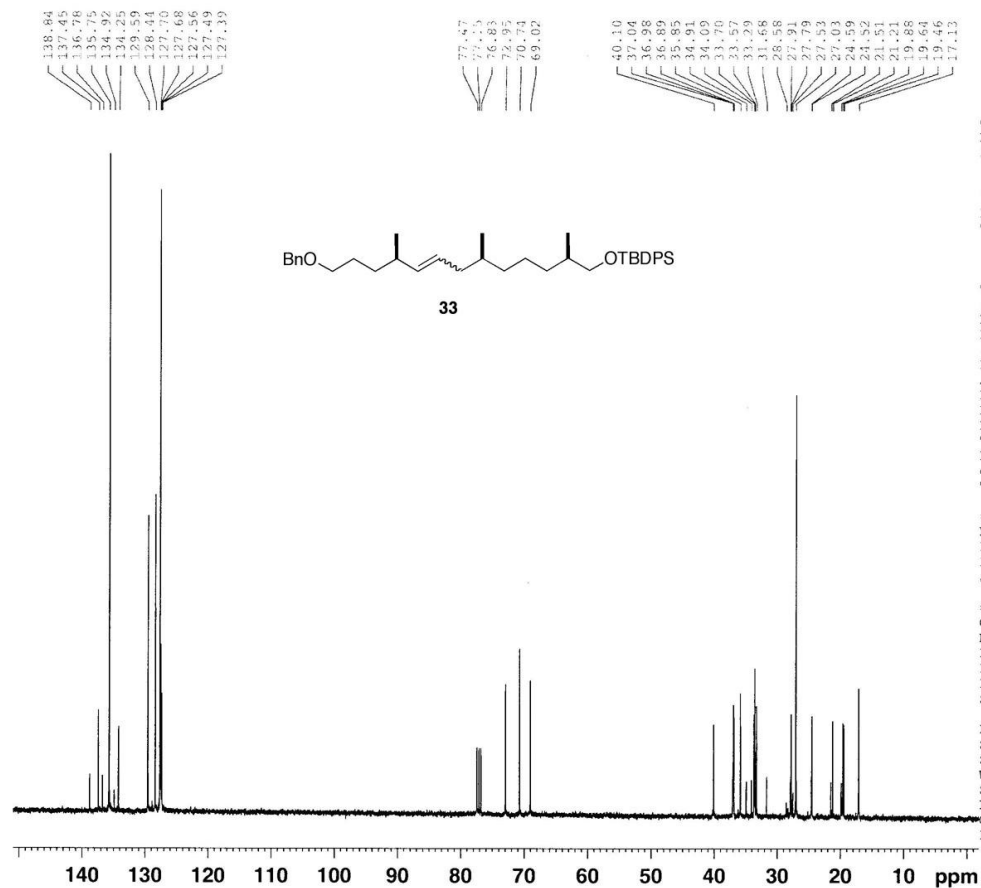


NAME P-16-067.13C
 EXPNO 1
 PROCNO 1
 Date_ 20100504
 Time 9.27
 INSTRUM spect
 PROBHD 5 mm PAQNP 1H/
 PULPROG zgpg
 TD 197364
 SOLVENT CDC13
 NS 84
 DS 4
 SWH 32894.738 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999828 sec
 RG 2050
 DW 15.200 usec
 DE 6.00 usec
 TE 295.6 K
 D1 3.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.00 usec
 PL1 1.00 dB
 PL1W 72.42802429 W
 SFO1 125.7716224 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 0.00 dB
 PL12 16.50 dB
 PL13 17.00 dB
 PL2W 24.54113007 W
 PL12W 0.54940748 W
 PL13W 0.48965994 W
 SFO2 500.1325006 MHz
 SI 131072
 SF 125.7577769 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.40





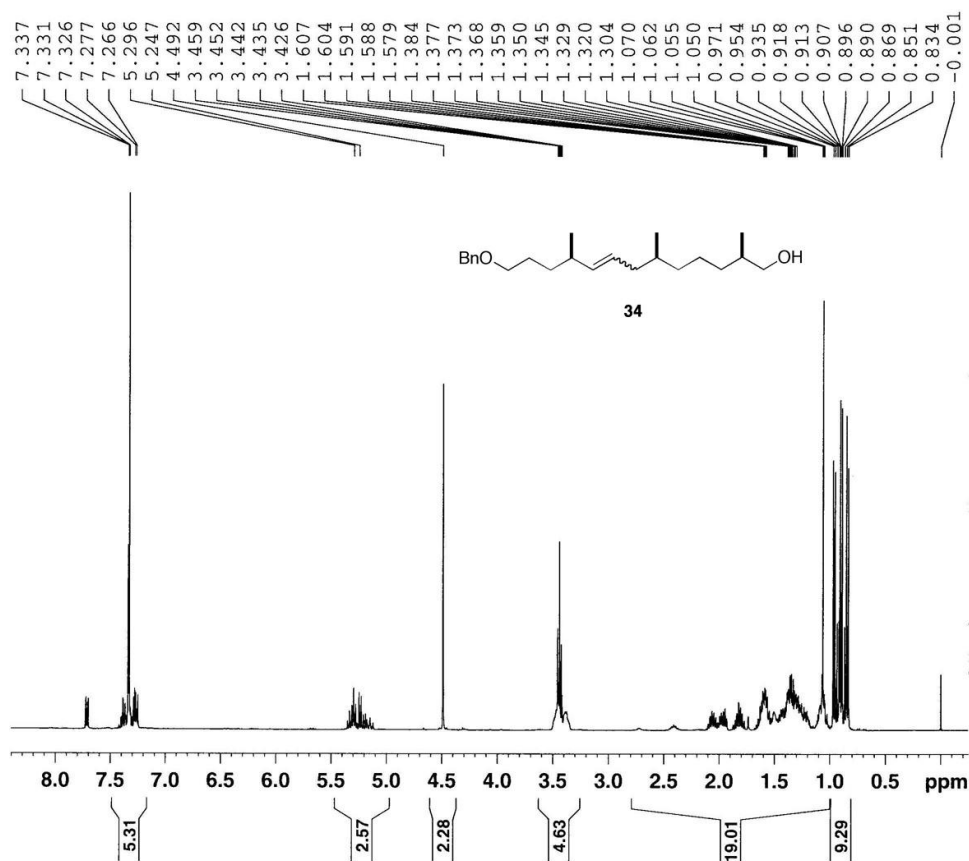
Current Data Parameters
NAME P-16-070.13c
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100505
Time 13.19
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 42
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 574.7
DW 20.800 usec
DE 6.00 usec
TE 296.8 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127652 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

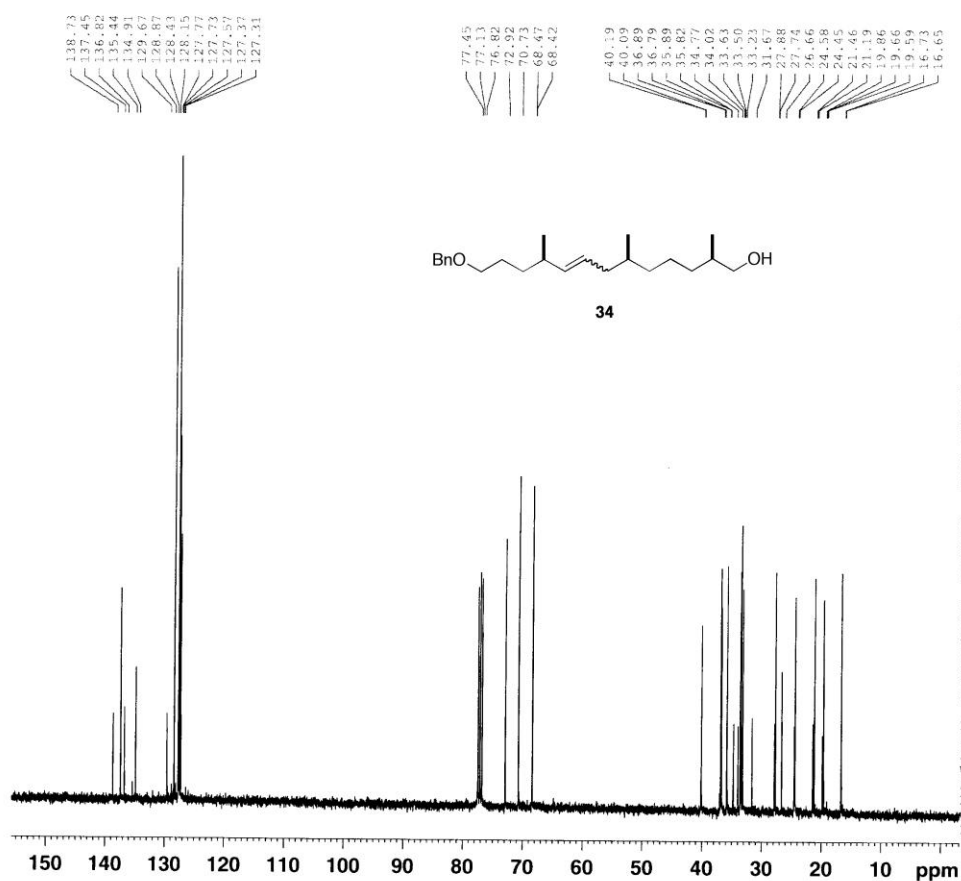


Current Data Parameters
 NAME P-16-008.1H
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100209
 Time 12.25
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg
 TD 38460
 SOLVENT CDCl3
 NS 12
 DS 0
 SWH 6410.256 Hz
 FIDRES 0.166673 Hz
 AQ 2.9999299 sec
 RG 57
 DW 78.000 usec
 DE 111.43 usec
 TE 295.6 K
 D1 1.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 8.00 usec
 PL1 -6.00 dB
 SFO1 400.1326008 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300133 MHz
 WDW EM
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00



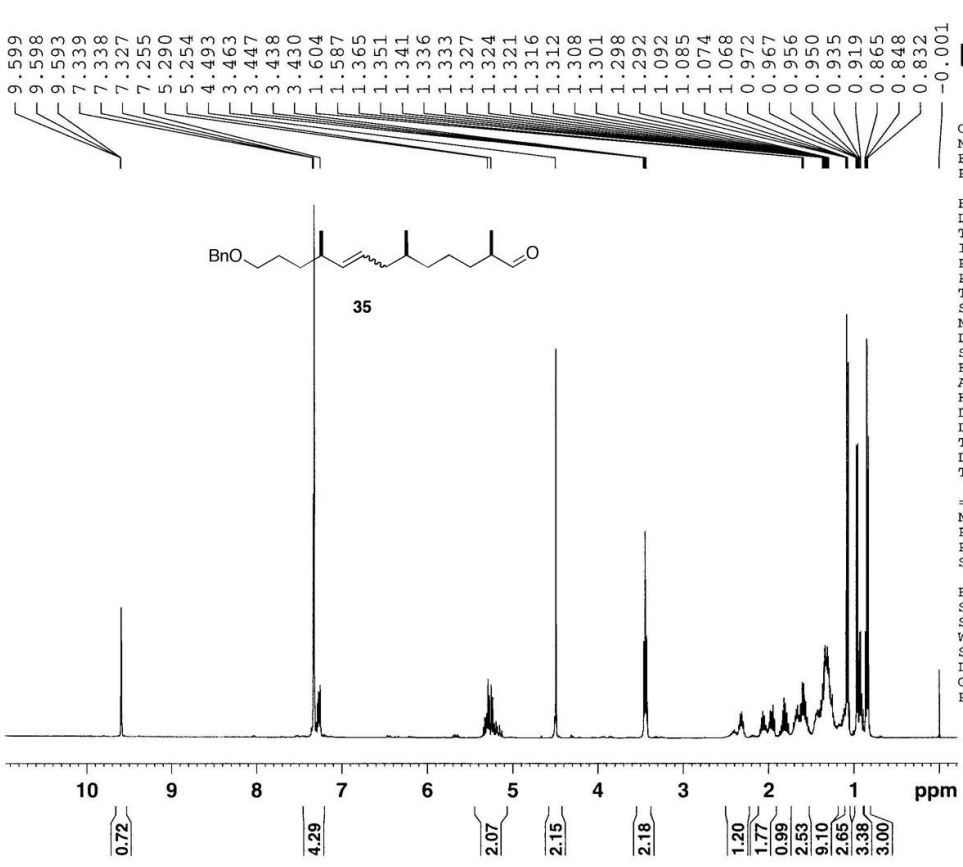
Current Data Parameters
NAME P-16-008.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100209
Time 12.27
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 86
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 812.7
DW 20.800 usec
DE 6.00 usec
TE 295.7 K
D1 3.0000000 sec
d11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127618 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

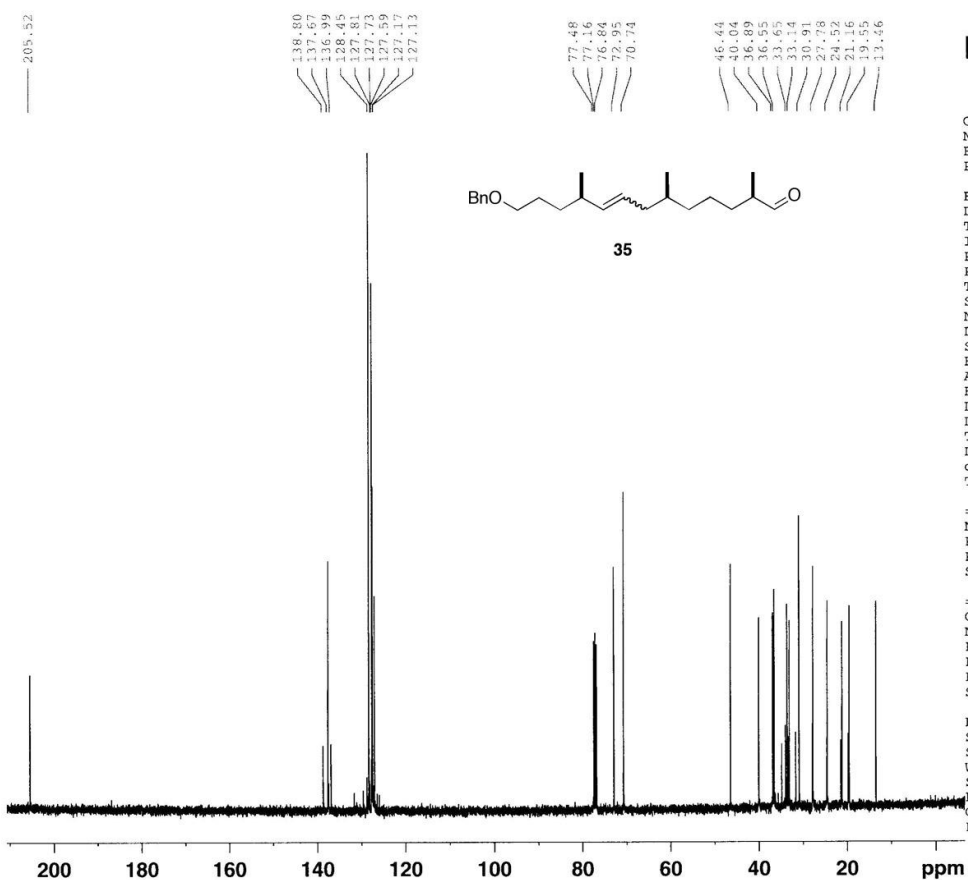


Current Data Parameters
NAME P-16-011-1.1H
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100215
Time 10.27
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT CDCl3
NS 8
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 57
DW 78.000 usec
DE 111.43 usec
TE 295.5 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1300111 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
FC 1.00



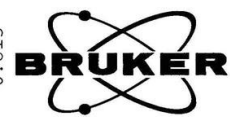
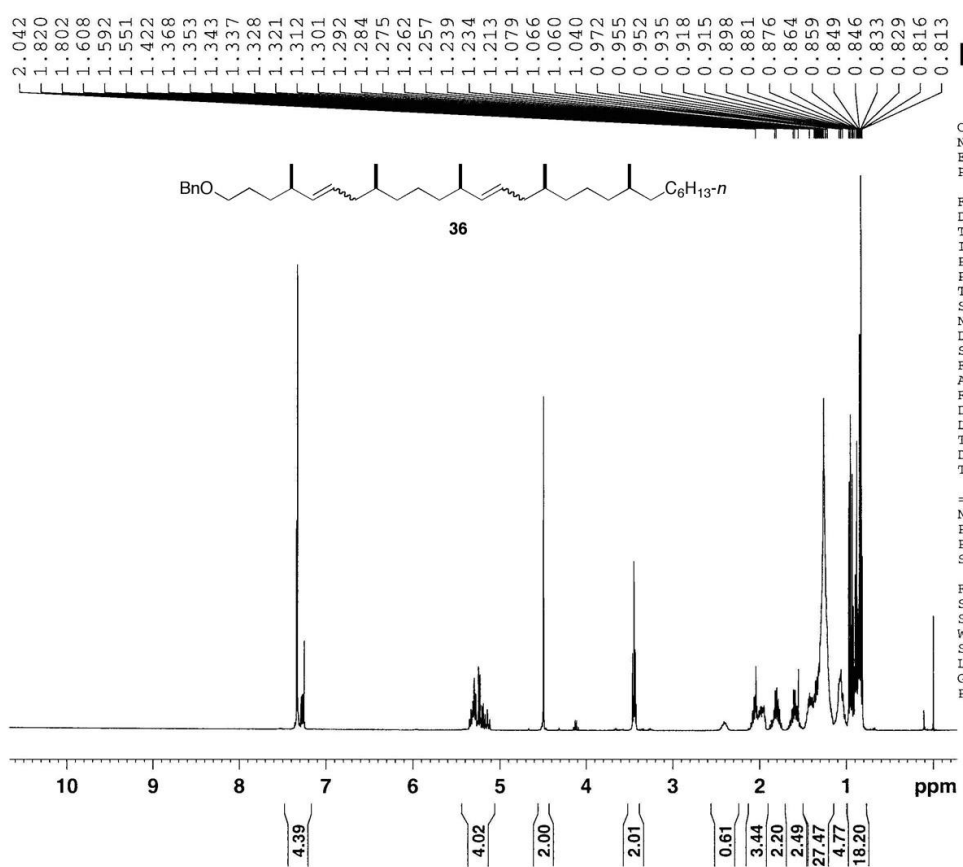
Current Data Parameters
NAME P-16-011-1.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100215
Time 10.37
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 114
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 574.7
DW 20.800 usec
DE 6.00 usec
TE 295.8 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127580 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

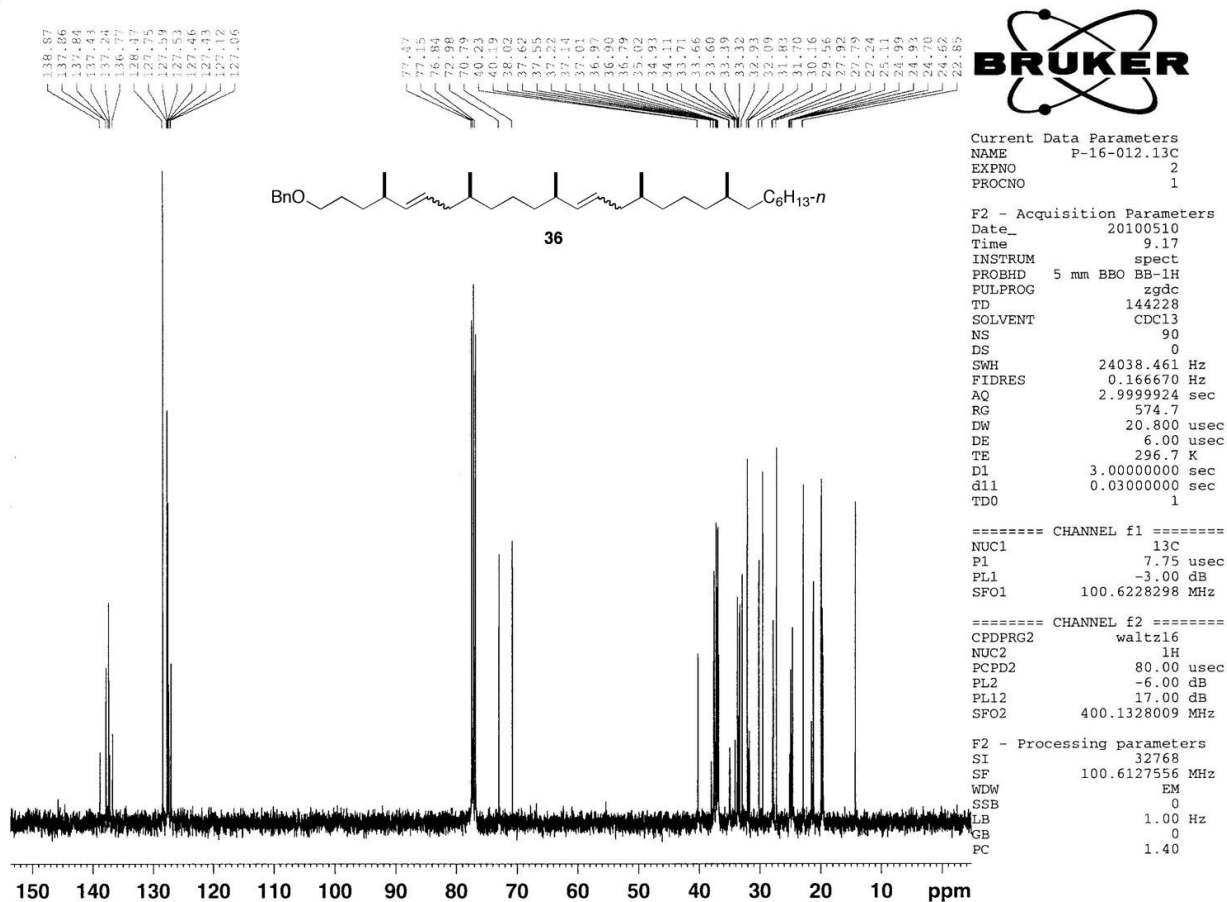


Current Data Parameters
NAME P-16-012.1H
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100510
Time 9.15
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT CDCl3
NS 4
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 71.8
DW 78.000 usec
DE 111.43 usec
TE 296.6 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1300120 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
PC 1.00





```
Current Data Parameters
NAME          P-16-076.13C
EXPNO          1
PROCNO         1
```

```

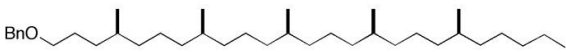
F2 - Acquisition Parameters
Date_      20100511
Time       14.14
INSTRUM    spect
PROBHD      5 mm BBO
PULPROG     zgpg30
TD          144228
SOLVENT     CDC13
NS          126
DS          0
SWH         24038.461 Hz
FIDRES      0.166670 Hz
AQ          2.9999924 sec
RG          574.7
DW          20.800 usec
DE          6.00 usec
TE          296.8 K
D1          3.00000000 sec
d11         0.03000000 sec
TD0         1

```

```
===== CHANNEL f1 =====
NUC1          13C
P1             7.75 usec
PL1           -3.00 dB
SFO1         100.6228298 MHz
```

```
===== CHANNEL f2 =====
CPDPRG2          waltz16
NUC2              1H
PCPD2            80.00 usec
PL2              -6.00 dB
PL12             17.00 dB
SFO2            400.1328009 MHz
```

```
F2 - Processing parameters
SI              32768
SF              100.6127549 MHz
WDW              EM
SSB              0
LB              1.00 Hz
GB              0
PC              1.40
```



37a



```
Current Data Parameters
NAME          P-16-098.1H
EXPNO          1
PROCNO         1
```

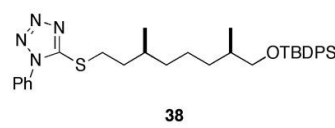
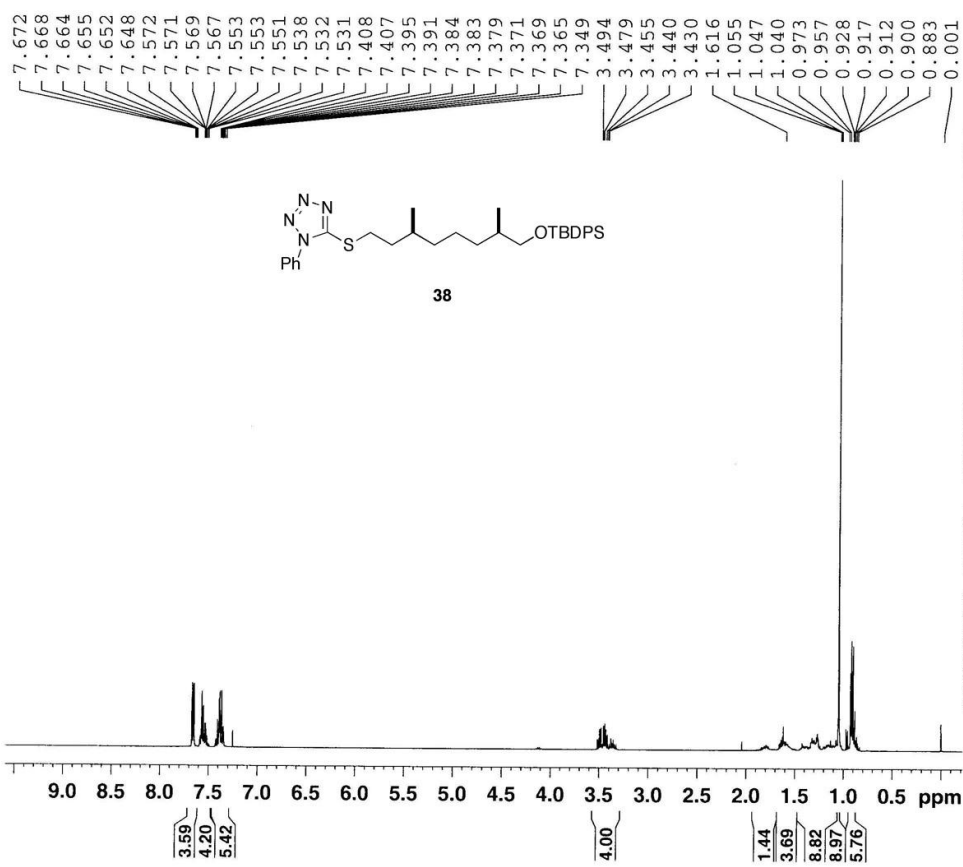
```

F2 - Acquisition Parameters
Date_      20100712
Time       16.32
INSTRUM    spect
PROBH      5 mm BBO BB-H-1
PULPROG    zg
TD          38460
SOLVENT    CDC13
NS          4
DS          0
SWH         6410.256 Hz
FIDRES     0.166673 Hz
AQ          2.9999979 sec
RG          25.4
DW          78.0000 usec
DE          111.43 usec
TE          296.4 K
D1          1.00000000 sec
TD0         1

```

```
===== CHANNEL f1 =====  
NUC1                1H  
P1                   8.00 usec  
PL1                  -6.00 dB  
SFO1                 400.1326008 MHz
```

```
F2 - Processing parameters
SI                32768
SF                400.1300203 MHz
WDW               EM
SSB               0
LB                0.00 Hz
GB               0
PC               1.00
```

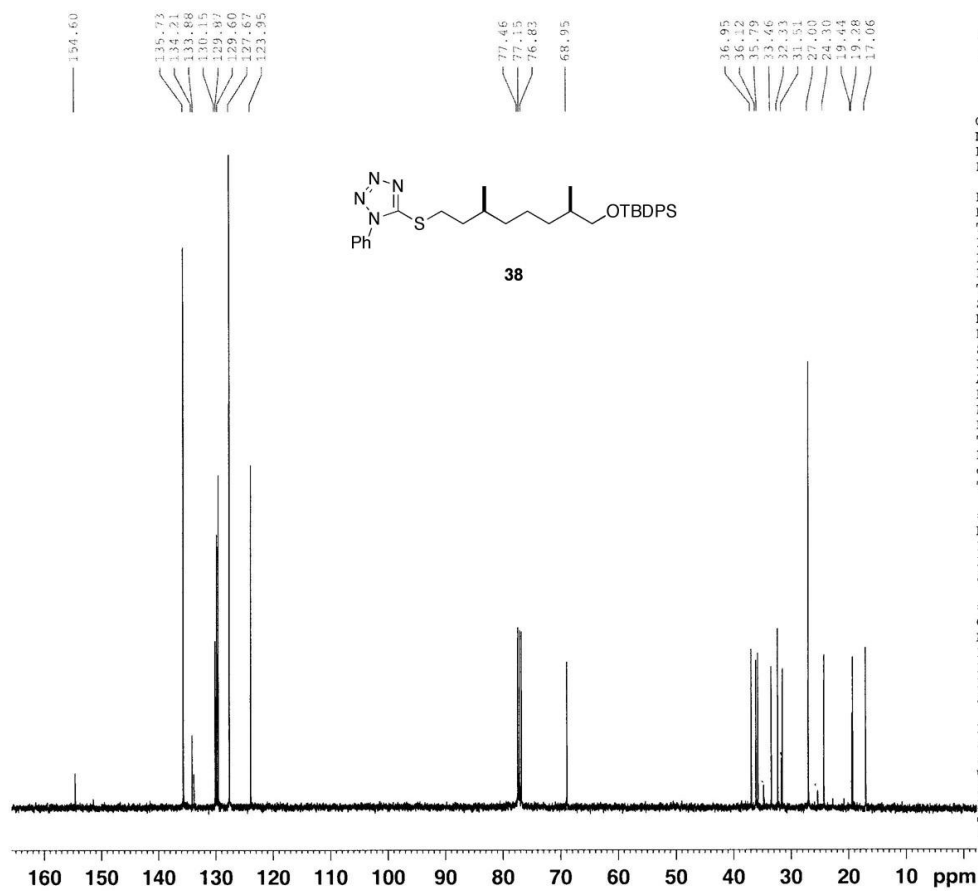



Current Data Parameters
NAME P-16-068.1H
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100503
Time 13.29
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT CDC13
NS 4
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 80.6
DW 78.000 usec
DE 111.43 usec
TE 296.2 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1300123 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
PC 1.00



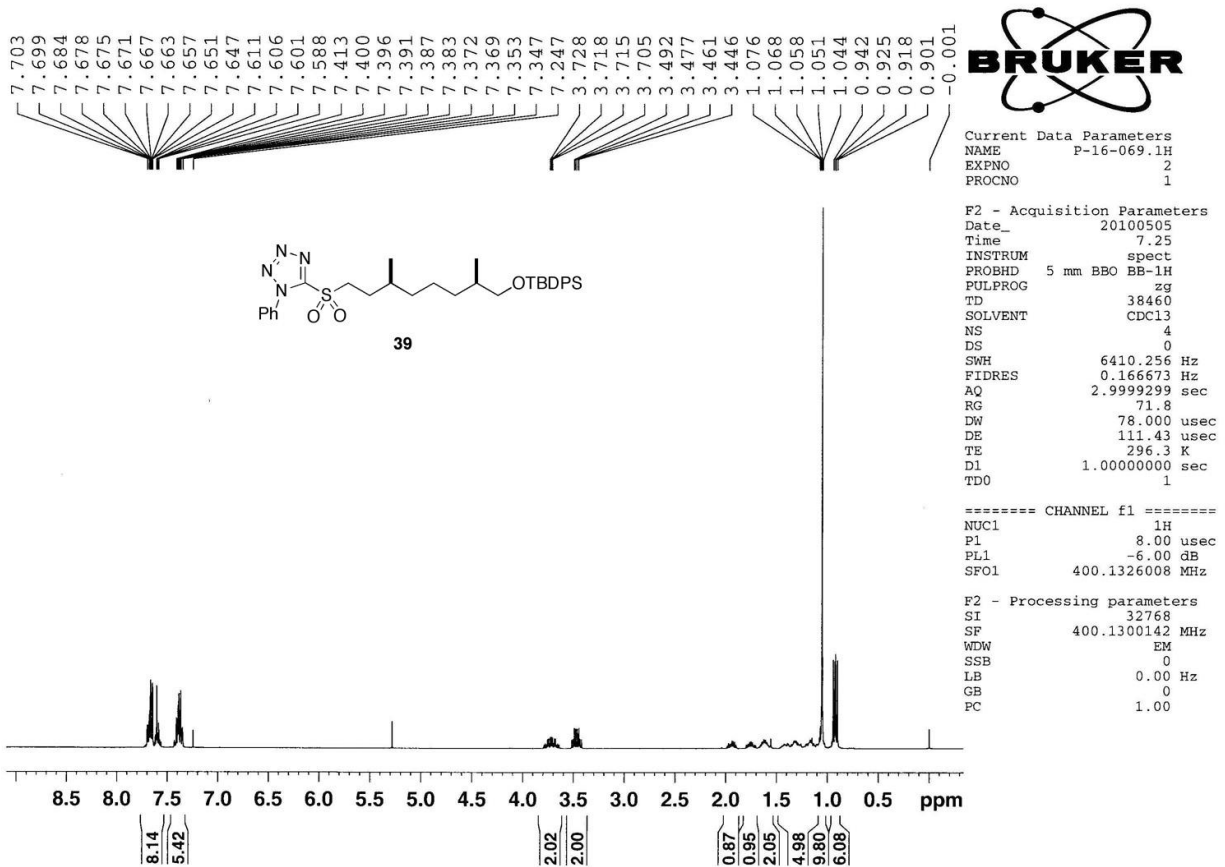
Current Data Parameters
 NAME P-16-068.13C
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100503
 Time 13.31
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgpg
 TD 144228
 SOLVENT CDC13
 NS 91
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 812.7
 DW 20.800 usec
 DE 6.00 usec
 TE 296.4 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127594 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40





```
Current Data Parameters
NAME          P-16-075.1H
EXPNO          2
PROCNO         1
```

```

F2 - Acquisition Parameters
Date_                20100511
Time_                13.53
INSTRUM              5 mm BBO BB-1h
PROBHD               spect
PULPROG              zg
TD                   38460
SOLVENT              CDC13
NS                   4
DS                   0
SWH                 6410.256 Hz
FIDRES              0.166673 Hz
AQ                 2.9999299 sec
RG                 28.5
DE                 78.000 usec
TE                 111.43 degC
TD                 296.3 K
D1                 1.00000000 sec
TDO                 1

```

```
===== CHANNEL f1 =====
NUC1          1H
P1            8.00 usec
PL1          -6.00 dB
SFO1        400.1326008 MHz
```

```
F2 - Processing parameters
SI                32768
SF                400.1300341 MHz
WDW               EM
SSB               0
LB                0.00 Hz
GB                0
PC                1.00
```

137.92
137.88
137.42
137.23
136.76
135.75
134.26
129.59
128.45
127.71
127.68
127.57
127.51
127.46
127.10
127.04
126.98

77.47
77.15
76.81
72.96
70.76
69.93
69.32
40.13
38.01
37.66
37.59
37.09
37.00
36.96
36.89
36.77
35.87
35.00
34.94
34.10
33.71
33.59
33.32
33.30
31.83
31.69
27.92
27.79
27.04
25.10
25.05
24.97
24.91
24.61
24.29
21.22
19.89



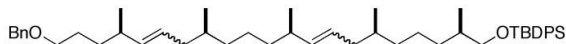
Current Data Parameters
NAME P-16-075.13C
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100511
Time 14.01
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT CDCl3
NS 80
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 574.7
DW 20.800 usec
DE 6.00 usec
TE 296.8 K
D1 3.0000000 sec
d11 0.0300000 sec
TDO 1

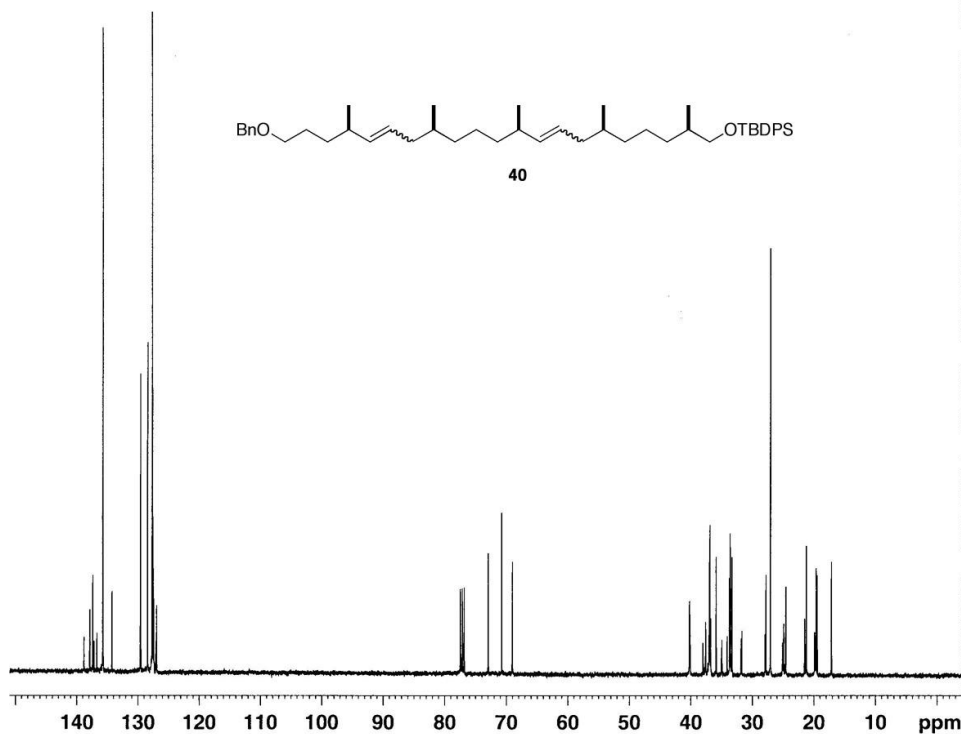
===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

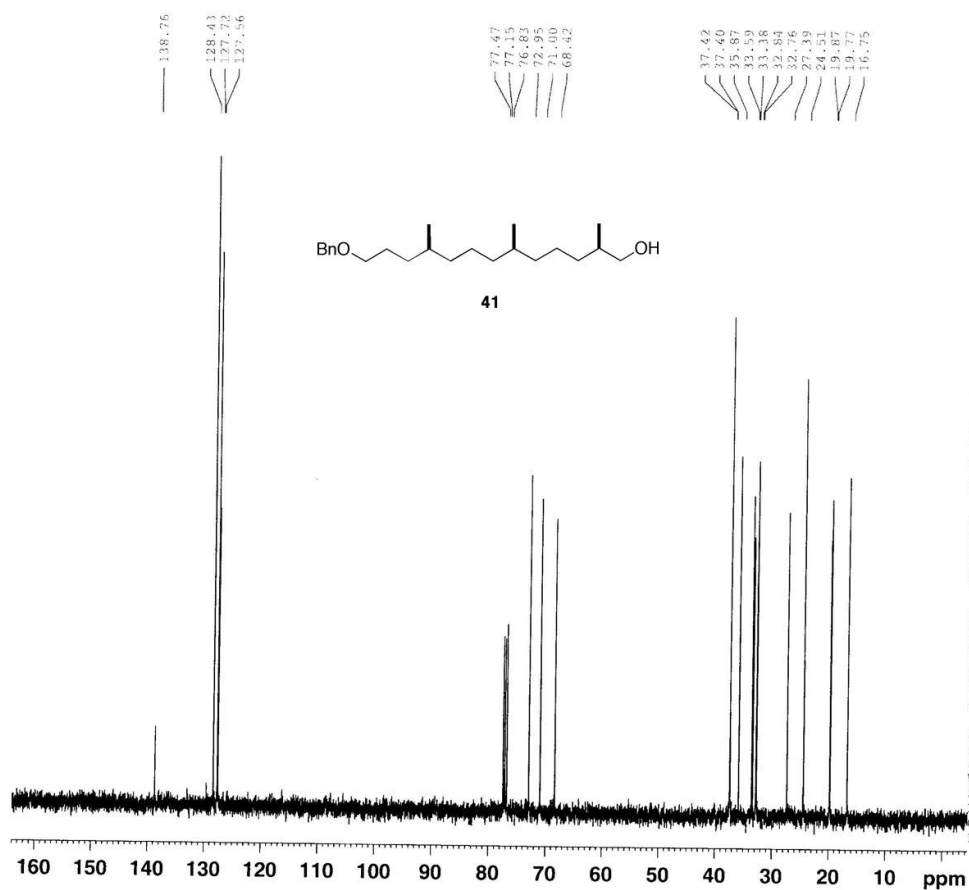
F2 - Processing parameters
SI 32768
SF 100.6127629 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



40







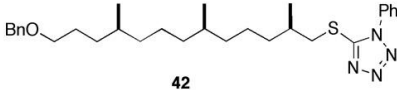
Current Data Parameters
 NAME P-16-084.13C
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100525
 Time 10.11
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgdc
 TD 144228
 SOLVENT CDC13
 NS 9
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 512
 DW 20.800 usec
 DE 6.00 usec
 TE 296.3 K
 D1 3.0000000 sec
 d11 0.0300000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

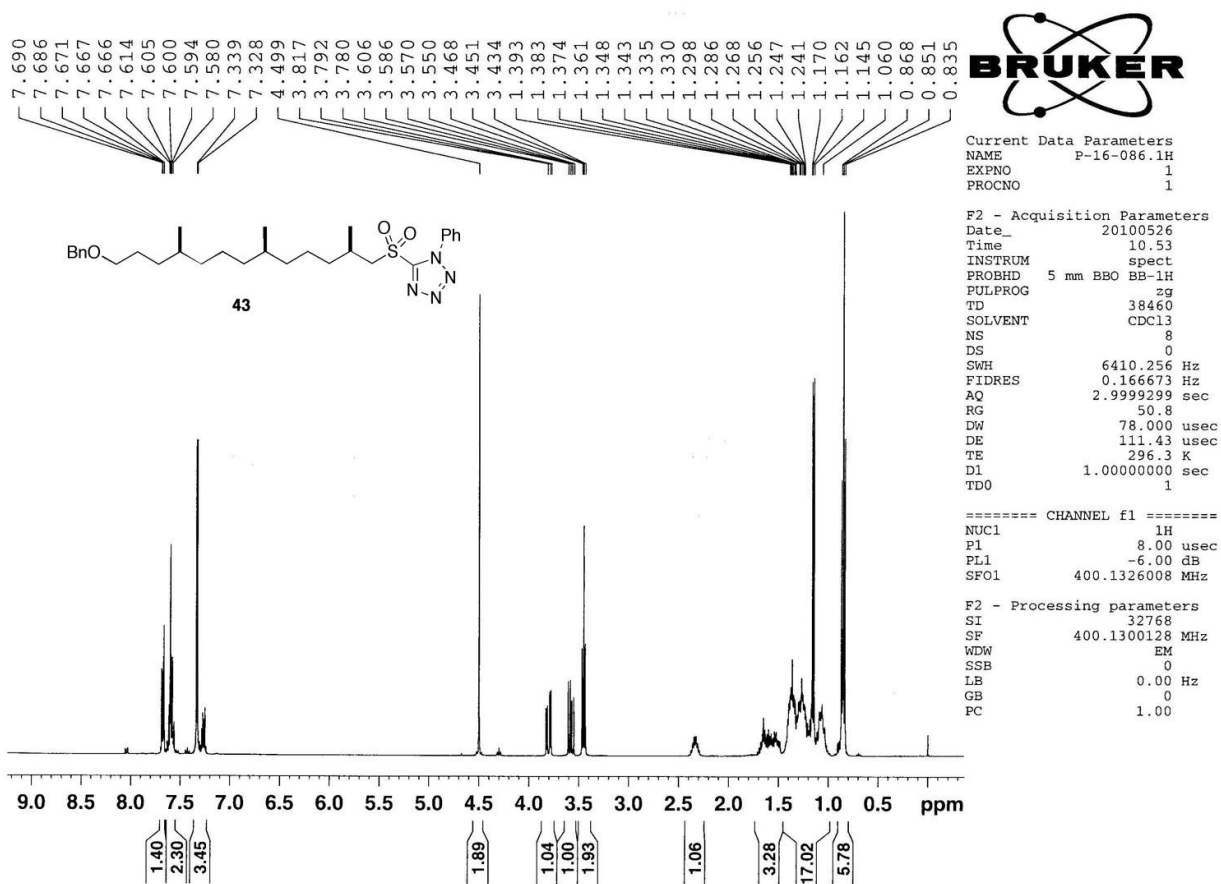
F2 - Processing parameters
 SI 32768
 SF 100.6127613 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

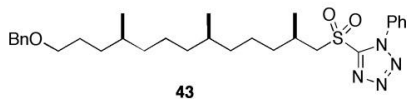


```

F2 - Processing parameters
SI                      32768
SF                      100.6127590 MHz
WDW                      EM
SSB                      0
LB                      1.00 Hz
GB                      0
PC                      1.40

```

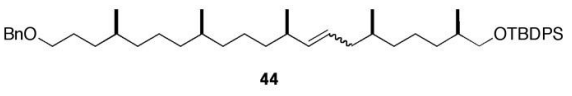
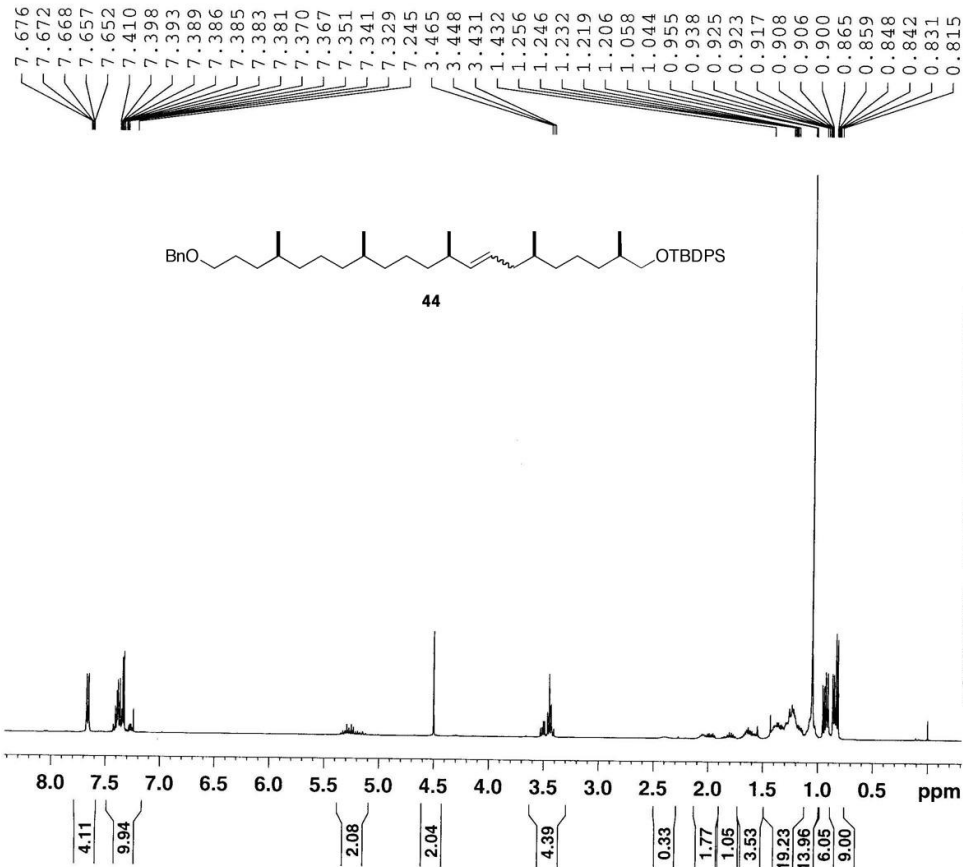




```

F2 - Processing parameters
SI                32768
SF              100.6127631 MHz
WDW                EM
SSB                0
LB                1.00 Hz
GB                0
PC                1.40

```

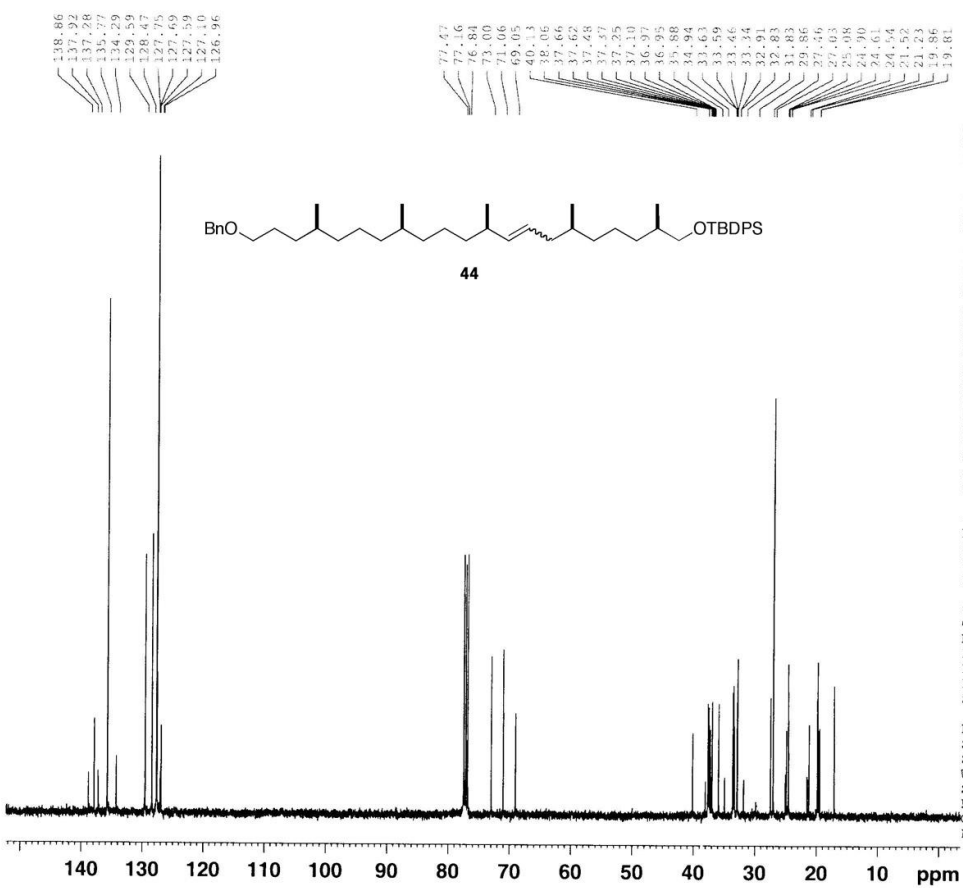


Current Data Parameters
 NAME P-16-087B.1H
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100527
 Time 13.49
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg
 TD 38460
 SOLVENT CDC13
 NS 8
 DS 0
 SWH 6410.256 Hz
 FIDRES 0.166673 Hz
 AQ 2.9999299 sec
 RG 80.6
 DW 78.000 usec
 DE 111.43 usec
 TE 296.5 K
 DL 1.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 8.00 usec
 PL1 -6.00 dB
 SFO1 400.1326008 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300150 MHz
 WDW EM
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00



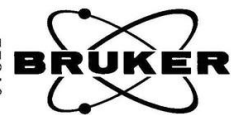
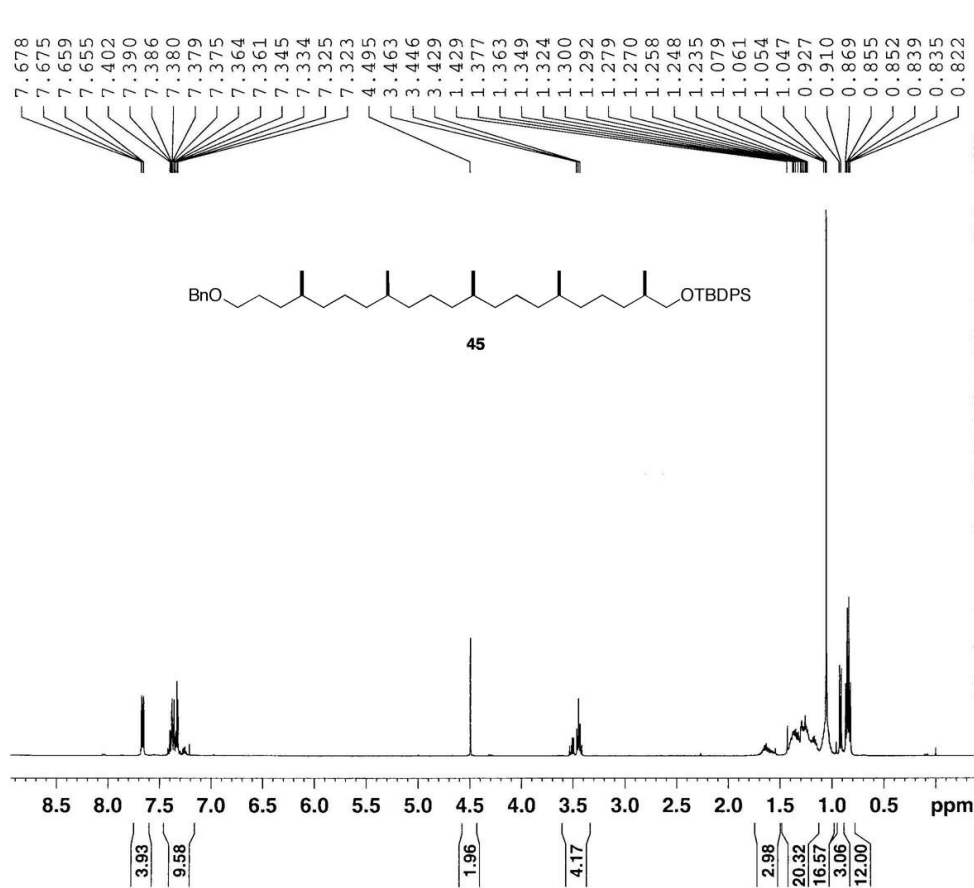
Current Data Parameters
NAME P-16-087B.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100527
Time 13.51
INSTRUM spect
PROBHD 5 mm BBO BB-H
PULPROG zgdc
TD 144228
SOLVENT CDC13
NS 160
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 812.7
DW 20.800 usec
DE 6.00 usec
TE 296.6 K
D1 3.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6127566 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

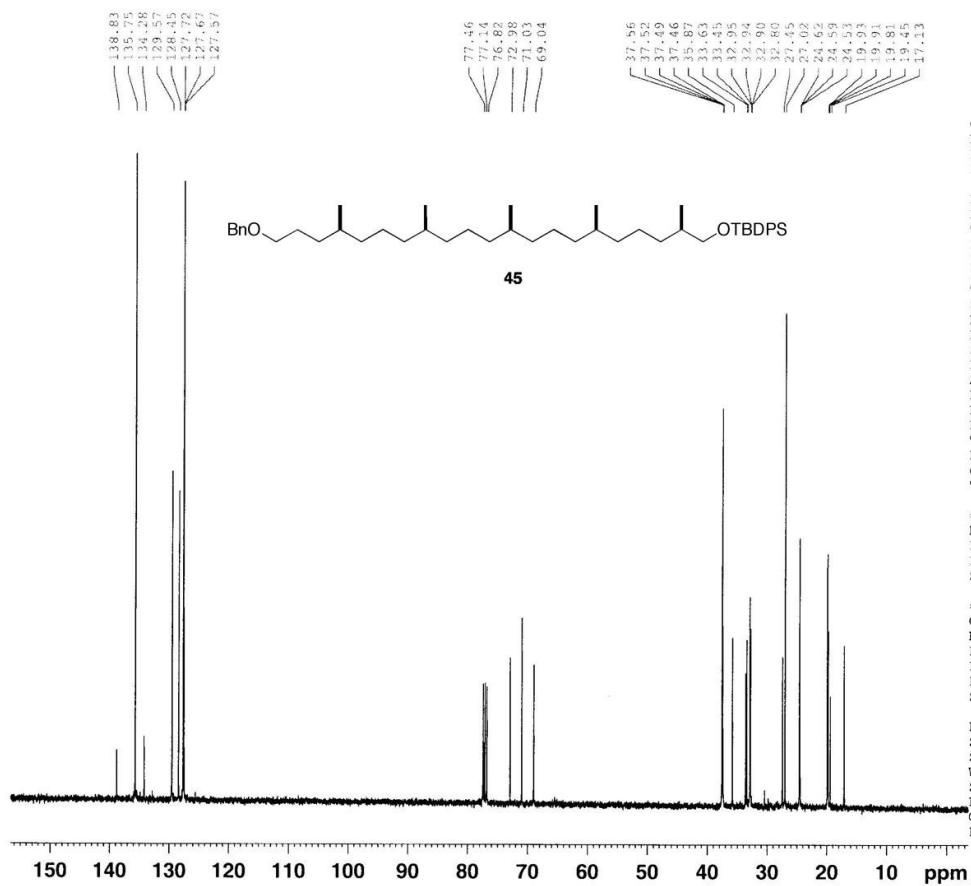


Current Data Parameters
NAME P-16-088.1H
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100528
Time 12.35
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT CDCl3
NS 8
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 32
DW 78.000 usec
DE 111.43 usec
TE 296.2 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1300278 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
PC 1.00



Current Data Parameters
 NAME P-16-088.13C
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100528
 Time 12.37
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgdc
 TD 144228
 SOLVENT CDCl3
 NS 52
 DS 0
 SWH 24038.461 Hz
 FIDRES 0.166670 Hz
 AQ 2.9999924 sec
 RG 812.7
 DW 20.800 usec
 DE 6.00 usec
 TE 296.2 K
 D1 3.00000000 sec
 d11 0.03000000 sec
 TD0 1

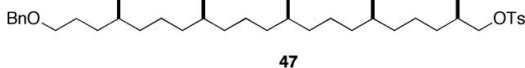
===== CHANNEL f1 =====
 NUC1 13C
 P1 7.75 usec
 PL1 -3.00 dB
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 ECPD2 80.00 usec
 PL2 -6.00 dB
 PL12 17.00 dB
 SFO2 400.1328009 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127618 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



```
F2 - Processing parameters
SI                      32768
SF                      100.6127600 MHz
WDW                      EM
SSB                      0
LB                      1.00 Hz
GB                      0
PC                      1.40
```

```
Current Data Parameters
NAME          P-16-080.13C
EXPNO          1
PROCNO         1
```

```

F2 - Acquisition Parameters
Date_                20100517
Time_                15.25
INSTRUM              spect
PUBHDD              5 mm BBO BB-1H
PULPROG              zgdc
TD                   144228
SOLVENT              CDCl3
NS                   5
DS                   0
SWH                  24038.461 Hz
FIDRES              0.166670 Hz
AQ                   2.9999924 sec
RG                   1149.4
DW                   20.800 usec
DE                   6.00 usec
TE                   296.6 K
D1                   3.0000000
d11                  0.0300000 sec
TD0                  1

```

```
===== CHANNEL f1 =====
NUC1          13C
P1             7.75 usec
PL1           -3.00 dB
SFO1         100.6228298 MHz
```

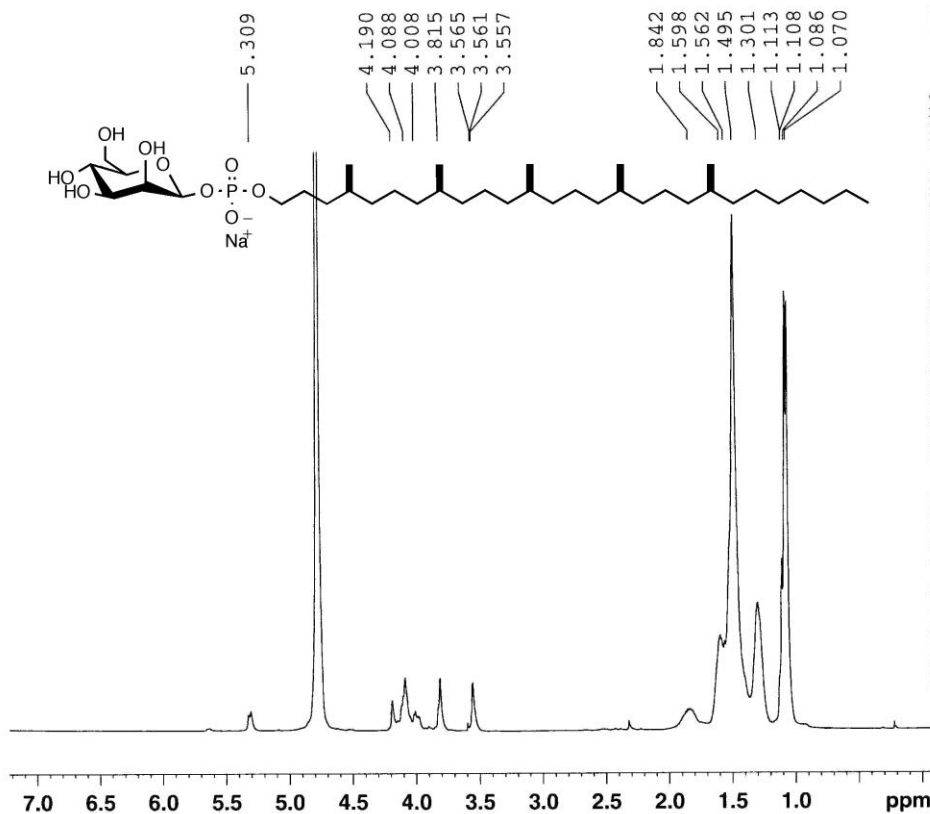
```
===== CHANNEL f2 =====
CPDPRG2          waltz16
NUC2              1H
PCPD2            80.00 usec
PL2              -6.00 dB
PL12             17.00 dB
SFO2            400.1328009 MHz
```

```
F2 - Processing parameters
SI              32768
SF              100.6127599 MHz
WDW             EM
SSB             0
LB              1.00 Hz
GB              0
PC              1.40
```





```
F2 - Processing parameters
SI                32768
SF                100.6127556 MHz
WDW               EM
SSB               0
LB                1.00 Hz
GB               0
PC               1.40
```

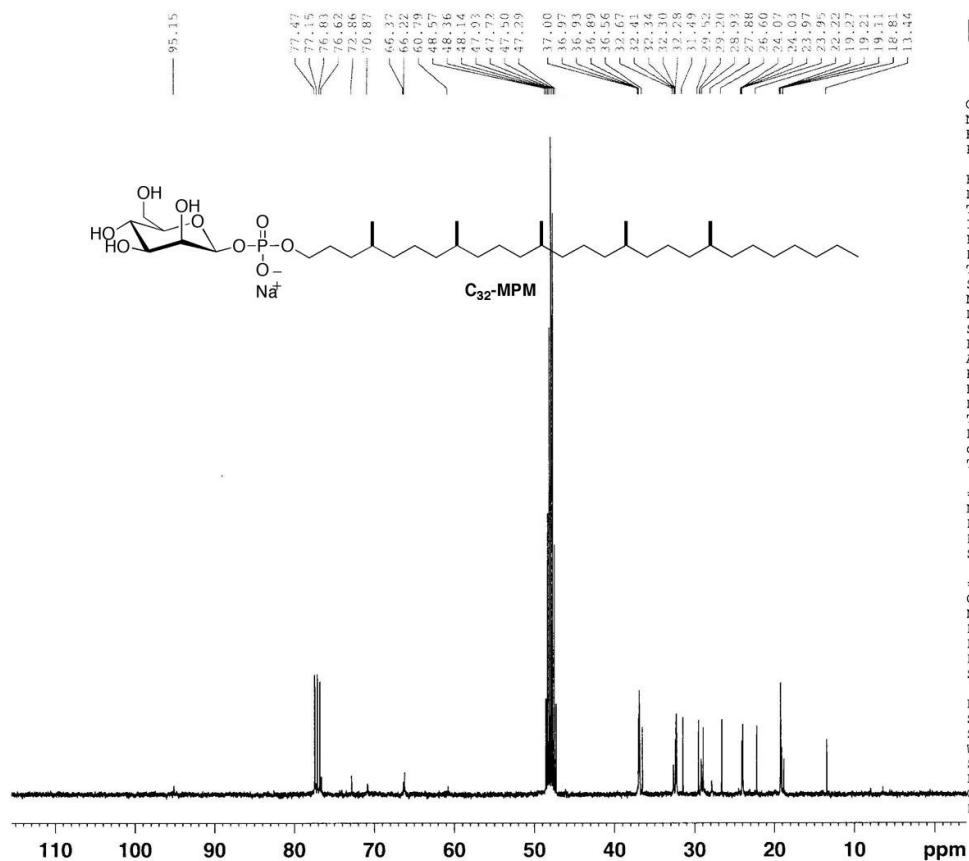


Current Data Parameters
NAME
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100123
Time 9.46
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg
TD 38460
SOLVENT
NS 8
DS 0
SWH 6410.256 Hz
FIDRES 0.166673 Hz
AQ 2.9999299 sec
RG 45.3
DW 78.000 usec
DE 111.43 usec
TE 295.5 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 8.00 usec
PL1 -6.00 dB
SFO1 400.1326008 MHz

F2 - Processing parameters
SI 32768
SF 400.1304673 MHz
WDW EM
SSB 0
LB 0.00 Hz
GB 0
PC 1.00



Current Data Parameters
NAME P-16-083.13C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20100521
Time 14.38
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 144228
SOLVENT MeOD
NS 401
DS 0
SWH 24038.461 Hz
FIDRES 0.166670 Hz
AQ 2.9999924 sec
RG 1149.4
DW 20.800 usec
DE 6.00 usec
TE 296.5 K
D1 2.00000000 sec
d11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 7.75 usec
PL1 -3.00 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 17.00 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 32768
SF 100.6128026 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40