

**SUPPORTING INFORMATION**

**Title:** InCl<sub>3</sub>-Catalyzed Rapid 1,3-Alkoxy Migration in Glycal Ethers: Stereoselective Synthesis of Unsaturated  $\alpha$ -*O*-Glycosides and an  $\alpha,\alpha$ -(1→1)-Linked Disaccharide

**Author(s):** Paramathevar Nagaraj and Namakkal G. Ramesh\*

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**1,5-Anhydro-3,4,6-tri-*O*-benzyl-2-deoxy-2-*C*-(2'-propynyloxy)methyl-*D*-lyxo-hex-1-enitol 6d**: Compound **6d** (0.79 g, 73 % yield) was obtained as a colorless liquid from the reaction of glycal **4** (1.0 g, 2.2 mmol) with NaH (0.131 g, 3.3 mmol) and propargyl bromide (0.295 mL, 3.3 mmol, 93% in toluene) over 4 h.  $[\alpha]_{\text{D}}^{28} +16.5$  ( $c$  0.20,  $\text{CHCl}_3$ ); IR (KBr) 2924, 2860, 2359, 1650, 1457, 1091, 739, 695  $\text{cm}^{-1}$ ;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  7.37-7.25 (m, aromatic, 15H), 6.46 (s, 1H, 1-H), 4.84 (d,  $J = 12.0$  Hz, 1H), 4.82 (d,  $J = 11.7$  Hz, 1H), 4.71-4.68 (m, 2H), 4.54 (d,  $J = 11.7$  Hz, 1H), 4.43 (d,  $J = 11.7$  Hz, 1H), 4.31-4.28 (m, 3H), 4.07-3.99 (m, 3H), 3.86-3.76 (m, 2H), 3.71 (dd,  $J = 10.5, 3.9$  Hz, 1H), 2.39 (d,  $J = 1.5$  Hz, 1H,  $\equiv\text{CH}$ );  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )  $\delta$  143.4 (C-1), 138.3, 137.8, 137.6, 128.0, 127.9, 127.56, 127.54, 127.4, 127.3, 127.2 (aromatic-C), 108.9 (C), 79.6 ( $\equiv\text{CH}$ ), 75.4 (OCH), 74.2 (C), 73.1 ( $\text{OCH}_2$ ), 72.9 ( $\text{OCH}_2$ ), 72.7 ( $\text{OCH}_2$ ), 71.9 (OCH), 70.8 (OCH), 67.7( $\text{OCH}_2$ ), 67.1 ( $\text{OCH}_2$ ), 55.9 ( $\text{OCH}_2$ ); HRMS (ESI):  $[\text{M}+\text{Na}]^+$  found : 507.2164  $\text{C}_{31}\text{H}_{32}\text{O}_5\text{Na}$  requires 507.2147

**Ethyl 3,4,6-tri-*O*-benzyl-2-deoxy-2-*C*-methylene- $\alpha$ -*D*-lyxo-hexopyranoside 8b**:

Compound **8b** (0.268g, 89 % yield) was obtained from the reaction of ally ether **6b** (0.300 g, 0.63 mmol) and anhyd.  $\text{InCl}_3$  (0.026 g, 0.126 mmol) over 10 min. Colorless liquid;  $[\alpha]_{\text{D}}^{28} + 27.5$  ( $c$  0.40,  $\text{CHCl}_3$ ); IR (KBr) 2916, 2362, 1640, 1454, 1361, 1150, 1092, 1055, 1008, 738, 697, 601  $\text{cm}^{-1}$ ;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  7.37-7.26 (m, aromatic, 15H), 5.42 (s, 1H), 5.26 (s, 1H), 5.22 (s, 1H), 4.91 (d,  $J = 11.7$  Hz, 1H), 4.75-4.57 (m, 3H), 4.50-4.30 (m, 3H), 4.14-3.92 (m, 2H), 3.76-3.43 (m, 4H), 1.22 (t,  $J = 6.9$  Hz, 3H);  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )  $\delta$  141.0 (C-2), 140.6, 138.5, 138.3, 137.9, 128.36, 128.31, 128.2, 128.0, 127.9, 127.6, 127.5, 127.4, 127.0 (aromatic-C), 111.2 ( $=\text{CH}_2$ ), 101.2 (C-1), 78.1 (OCH), 75.4 (OCH), 73.9 ( $\text{OCH}_2$ ), 73.3 ( $\text{OCH}_2$ ), 71.5 ( $\text{OCH}_2$ ), 70.4 (OCH), 69.2 ( $\text{OCH}_2$ ), 62.6( $\text{OCH}_2$ ), 15.0 ( $\text{CH}_3$ ); HRMS (ESI):  $[\text{M}+\text{Na}]^+$  found : 497.2304.  $\text{C}_{30}\text{H}_{34}\text{O}_5\text{Na}$  requires 497.2307.

**Benzyl 3, 4, 6-tri-*O*-benzyl-2-deoxy-2-*C*-methylene- $\alpha$ -*D*-lyxo-hexopyranoside 8g**:

Compound **8g** (0.32 g, 91 % yield) was obtained from the reaction of ally ether **6g** (0.350 g, 0.65 mmol) and anhyd.  $\text{InCl}_3$  (0.028 g, 0.130 mmol) over 10 min. Colorless liquid;  $[\alpha]_{\text{D}}^{28} +25.0$  ( $c$  0.11,  $\text{CHCl}_3$ ); IR (KBr) 2916, 2865, 2362, 1642, 1495, 1454, 1360, 1149, 1058, 1018, 738, 697  $\text{cm}^{-1}$ ;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  7.39-7.24 (m, aromatic, 20H) 5.43 (s, 1H), 5.30 (s, 1H), 5.25 (s, 1H), 4.92 (d,  $J = 11.7\text{Hz}$ , 1H), 4.73 (d,  $J = 12.3$  Hz,

1H), 4.67 (d,  $J = 9.3$  Hz, 1H), 4.60 (d,  $J = 8.7$  Hz, 1H), 4.53 (d,  $J = 8.4$  Hz, 1H), 4.48 (m, 2H), 4.42 (d,  $J = 12.0$  Hz, 1H), 4.17 (t,  $J = 6.3$  Hz, 1H), 4.01 (m, 1H), 3.57 (d,  $J = 6.3$  Hz, 2H);  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )  $\delta$  140.7 (C-2), 138.6, 138.4, 138.1, 137.6, 128.4, 128.39, 128.35, 128.1, 127.9, 127.7, 127.6, 127.5, 127.4, 127.1 (aromatic-C), 111.6 (=CH<sub>2</sub>), 100.8 (C-1), 78.2 (OCH), 75.4 (OCH), 74.0 (OCH<sub>2</sub>), 73.4 (OCH<sub>2</sub>), 71.6 (OCH<sub>2</sub>), 70.9 (OCH), 69.3 (OCH<sub>2</sub>), 68.8 (OCH<sub>2</sub>); HRMS (ESI):  $[\text{M}+\text{Na}]^+$  found: 559.2451  $\text{C}_{35}\text{H}_{36}\text{O}_5\text{Na}$  requires 559.2460.

**Methyl 3, 4, 6-tri-*O*-benzyl-2-deoxy-2-*C*-methylene- $\alpha$ -D-arabino-hexopyranoside 9a:**

Compound **9a** (0.19 g, 67 % yield) was obtained from the reaction of ally ether **7a** (0.280 g, 0.60 mmol) and anhyd.  $\text{InCl}_3$  (0.026 g, 0.12 mmol) over 10 min. Colorless liquid.  $[\alpha]_{\text{D}}^{28} +42$  ( $c$  0.10,  $\text{CHCl}_3$ ); IR (KBr) 1633, 1496, 1454, 1403, 1358, 1325, 1192, 1107, 1072, 1031, 973, 919, 850, 738, 697  $\text{cm}^{-1}$ ;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  7.37-7.13 (m, aromatic, 15H), 5.31 (s, 1H), 5.17 (s, 1H), 5.06 (s, 1H), 4.88 (d,  $J = 10.8$  Hz, 1H), 4.78-4.68 (m, 3H), 4.66-4.44 (m, 3H), 3.96-3.91 (m, 1H), 3.78-3.58 (m, 3H), 3.39 (s, 3H, OMe);  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )  $\delta$  142.3 (C-2), 138.36, 138.31, 138.1, 137.5, 128.7, 128.6, 128.4, 128.3, 128.0, 127.9, 127.8, 127.7, 127.6, 127.0 (aromatic-C), 110.7 (=CH<sub>2</sub>), 102.4 (C-1), 81.2 (OCH), 79.9 (OCH), 74.9 (OCH<sub>2</sub>), 73.4 (2X OCH<sub>2</sub>), 71.5 (OCH), 68.8 (OCH<sub>2</sub>), 54.5(OCH<sub>3</sub>); HRMS (ESI):  $[\text{M}+\text{Na}]^+$  found: 483.2132  $\text{C}_{29}\text{H}_{32}\text{O}_5\text{Na}$  requires 483.2147.

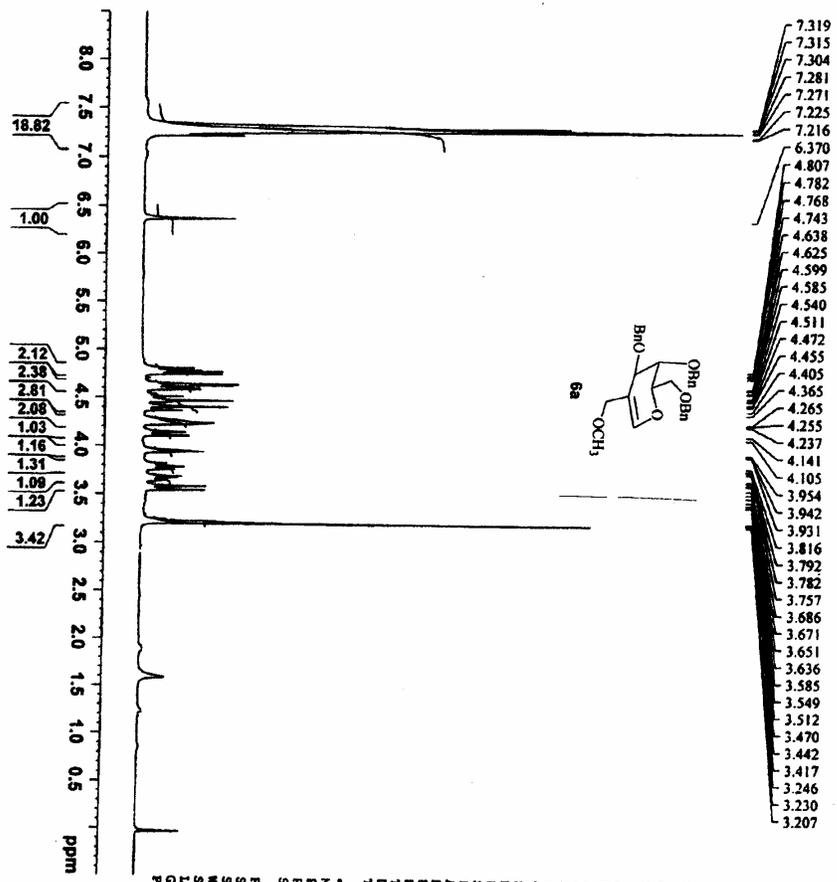
**Benzyl 3,4,6-tri-*O*-benzyl-2-deoxy-2-*C*-methylene- $\alpha$ -D-arabino-hexopyranoside 9c:**

Compound **9c** (0.16 g, 72 % yield) was obtained from the reaction of ally ether **7c** (0.220 g, 0.41 mmol) and anhyd.  $\text{InCl}_3$  (0.018 g, 0.082 mmol) over 10 min. Colorless liquid;  $[\alpha]_{\text{D}}^{28} +38.0$  ( $c$  0.53,  $\text{CHCl}_3$ ); IR (KBr) 2919, 2866, 1741, 1607, 1496, 1455, 1359, 1316, 1254, 1208, 1107, 1020, 738, 697  $\text{cm}^{-1}$ ;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  7.37-7.14 (m, aromatic, 20H), 5.29 (s, 1H), 5.25 (s, 1H), 5.12 (s, 1H), 4.86 (d,  $J = 10.8$  Hz, 1H), 4.77-4.65 (m, 3H), 4.61-4.47 (m, 5H), 4.00 (d,  $J = 9.6$  Hz, 1H), 3.77-3.60 (m, 3H);  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )  $\delta$  142.1 (C-2), 138.2, 138.1, 138.0, 137.3, 128.34, 128.30, 128.2, 127.9, 127.8, 127.7, 127.6, 127.58, 127.52 (aromatic-C), 110.6 (=CH<sub>2</sub>), 100.6 (C-1), 81.1 (OCH), 79.9 (OCH), 74.9 (OCH<sub>2</sub>), 73.39 (OCH<sub>2</sub>), 73.34 (OCH<sub>2</sub>), 71.6 (OCH), 68.7 (OCH<sub>2</sub>), 68.6 (OCH<sub>2</sub>); HRMS (ESI):  $[\text{M}+\text{Na}]^+$  found: 559.2469  $\text{C}_{35}\text{H}_{36}\text{O}_5\text{Na}$  requires 559.2460.

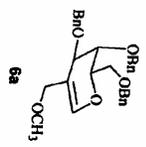
**Benzyl 4,6-di-*O*-benzyl-2,3-dideoxy-D-erythro-hex-2-enopyranoside 14:** Compound **14** (0.24 g, 75 % yield) was obtained from the reaction of compound **12** (0.318 g, 0.764 mmol) and anhyd. InCl<sub>3</sub> (0.032 g, 0.152 mmol) over 10 min. Colorless liquid; specific rotation and spectral data are 80:20 anomeric mixture.  $[\alpha]_D^{28} +49.5$  (*c* 0.22, CHCl<sub>3</sub>) IR (KBr) 2865, 1495, 1454, 1372, 1307, 1205, 1097, 1032, 739, 698 cm<sup>-1</sup>; <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>)  $\delta$  7.34-7.22 (m, aromatic, 15H) 6.08 (d, *J* = 10.2 Hz, 1H), 5.79 (dt, *J* = 10.2, 2.1 Hz, 1H), 5.12 (s, 1H), 4.81 (d, *J* = 11.7 Hz, 1H), 4.67-4.42 (m, 5H), 4.19 (d, *J* = 9.6 Hz, 1H), 4.02-3.98 (m, 1H), 3.71 (dd, *J* = 10.5, 1.8 Hz, 1H), 3.66 (m, 1H); <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>)  $\delta$  138.1, 138.0, 130.8, 128.3, 127.9, 127.7, 127.5, 126.5 (aromatic-C, C-2, C-3), 93.9 (C-1), 73.3 (OCH<sub>2</sub>), 71.0 (OCH<sub>2</sub>), 70.3 (OCH), 70.0 (OCH<sub>2</sub>), 69.3 (OCH), 68.8 (OCH<sub>2</sub>); HRMS (ESI): [M+Na]<sup>+</sup> found: 439.1890 C<sub>27</sub>H<sub>28</sub>O<sub>4</sub>Na requires 439.1885.

**Benzyl 4,6-di-*O*-benzyl-2,3-dideoxy- $\alpha$ -D-threo-hex-2-enopyranoside 15:**

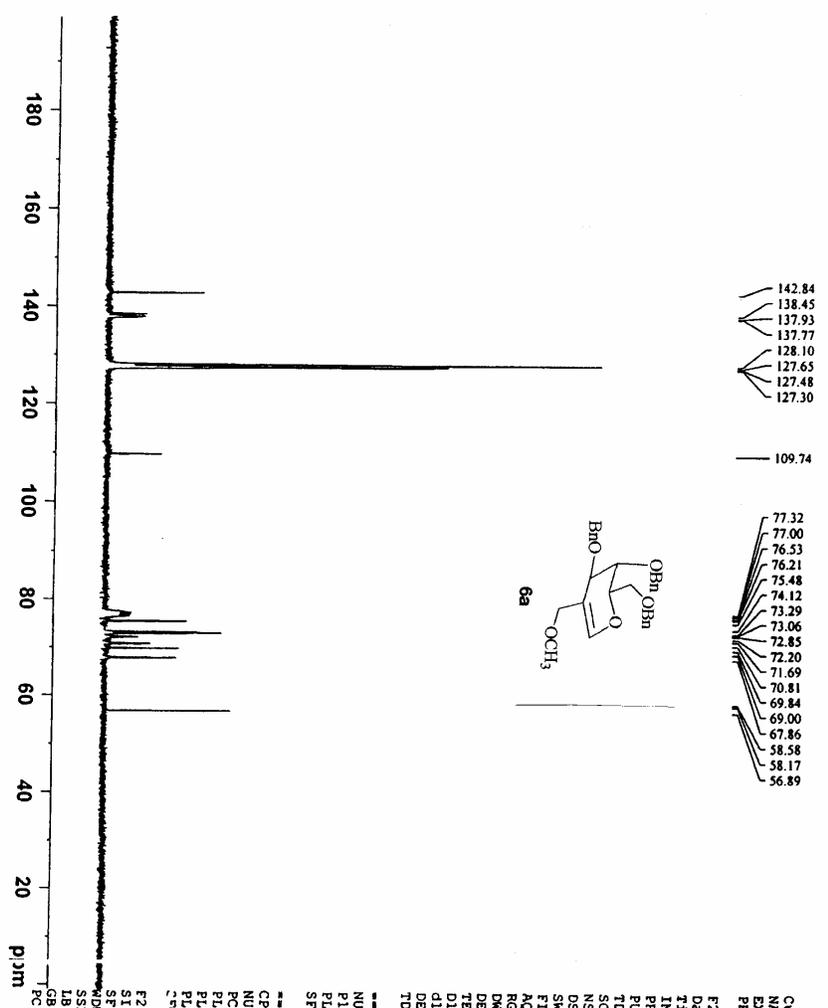
Compound **15** (0.18 g, 64 % yield) was obtained as a low melting colorless solid from the reaction of **13** (0.280 g, 0.673 mmol) and anhyd. InCl<sub>3</sub> (0.028 g, 0.134 mmol) over 10 min;  $[\alpha]_D^{28} -70.5$  (*c* 0.25, CHCl<sub>3</sub>); IR (KBr) 2865, 1599, 1494, 1455, 1372, 1317, 1250, 1198, 1102, 1025, 738, 698 cm<sup>-1</sup>; <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>)  $\delta$  7.38-7.28 (m, aromatic, 15H), 6.13 (dd, *J* = 10.2, 9.8 Hz, 1H), 6.00 (dd, *J* = 10.2, 2.7 Hz, 1H), 5.16 (d, *J* = 2.7 Hz, 1H), 4.82 (d, *J* = 11.7 Hz, 1H), 4.65-4.53 (m, 5H), 4.35-4.30 (m, 1H), 3.83 (dd, *J* = 9.9, 5.7 Hz, 1H), 3.76 (m, 2H); <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>)  $\delta$  138.3, 138.2, 137.8, 129.5, 128.3, 128.2, 127.7, 127.6, 127.5, 127.1 (aromatic-C, C-2, C-3), 93.2 (C-1), 73.4 (OCH<sub>2</sub>), 70.9 (OCH<sub>2</sub>), 69.6 (OCH), 69.57 (OCH<sub>2</sub>), 69.52 (OCH<sub>2</sub>), 67.2 (OCH); HRMS (ESI): [M+Na]<sup>+</sup> found: 439.1878 C<sub>27</sub>H<sub>28</sub>O<sub>4</sub>Na requires 439.1885.



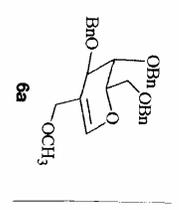
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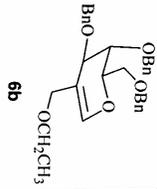
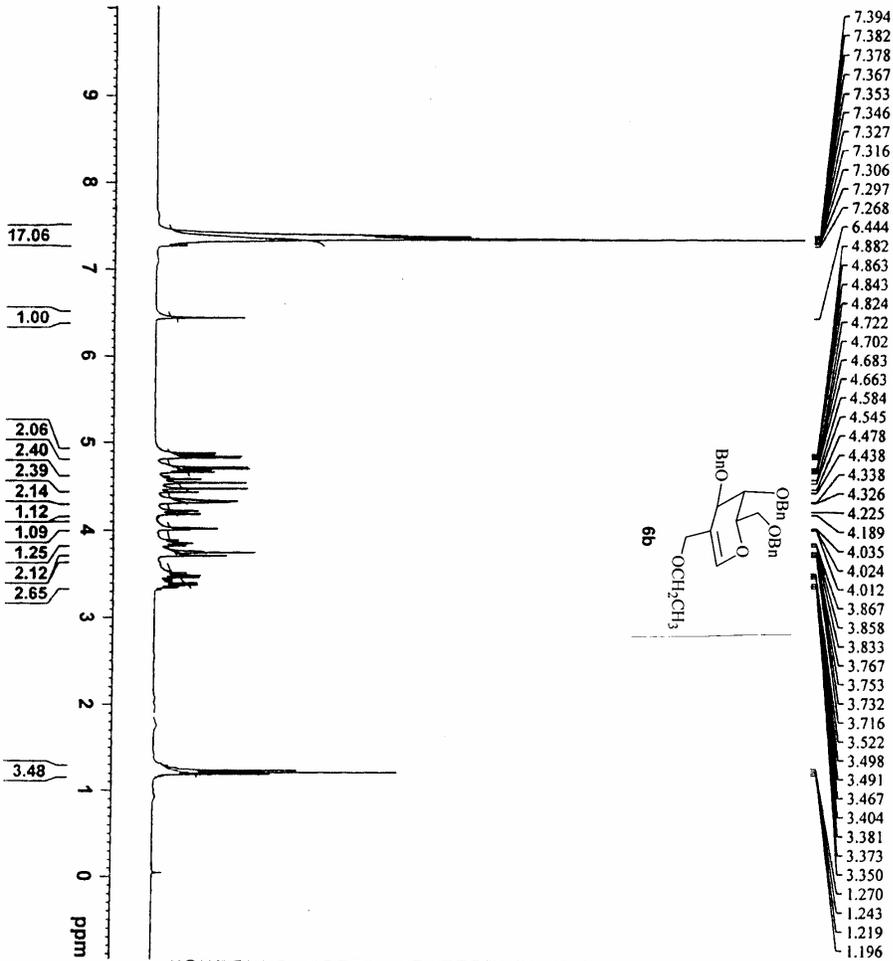


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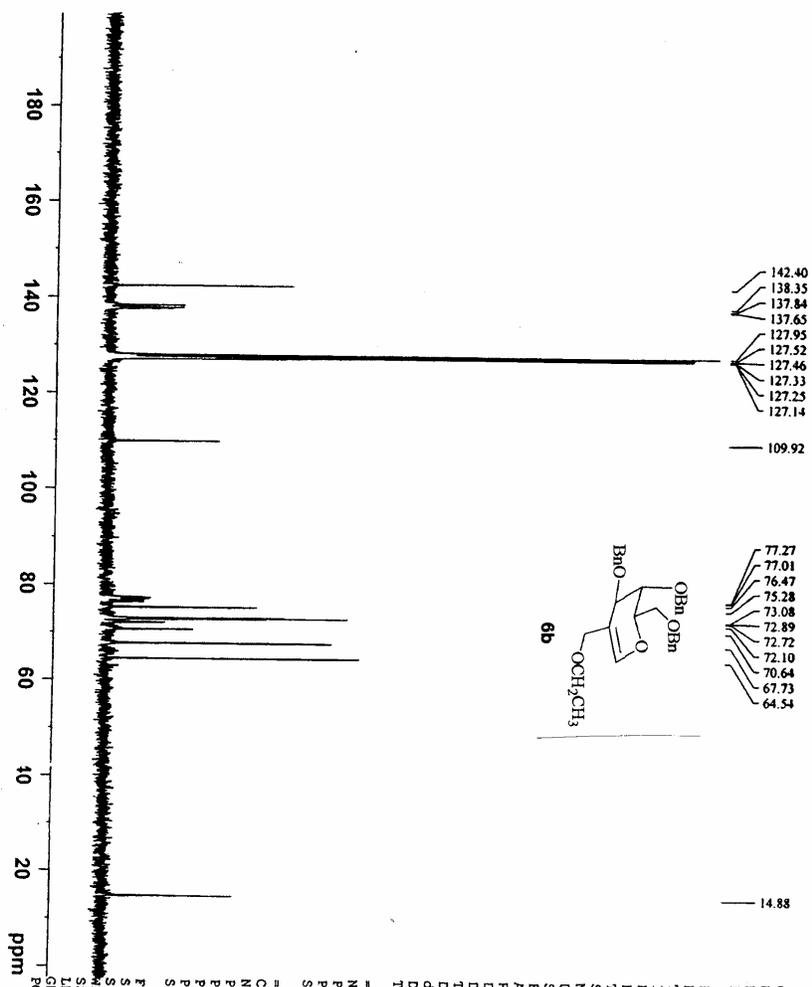
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 DE 81.000 usec  
 TE 300.0 K  
 DI 1.00000000 sec  
 TD0 1

==== CHANNEL f1 =====  
 NUCL1 1H  
 P1 10.10 usec  
 PL1 -2.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SF 300.130051 MHz  
 SF 32768  
 MDW 0  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



```

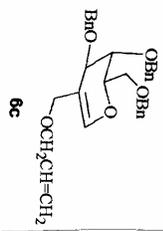
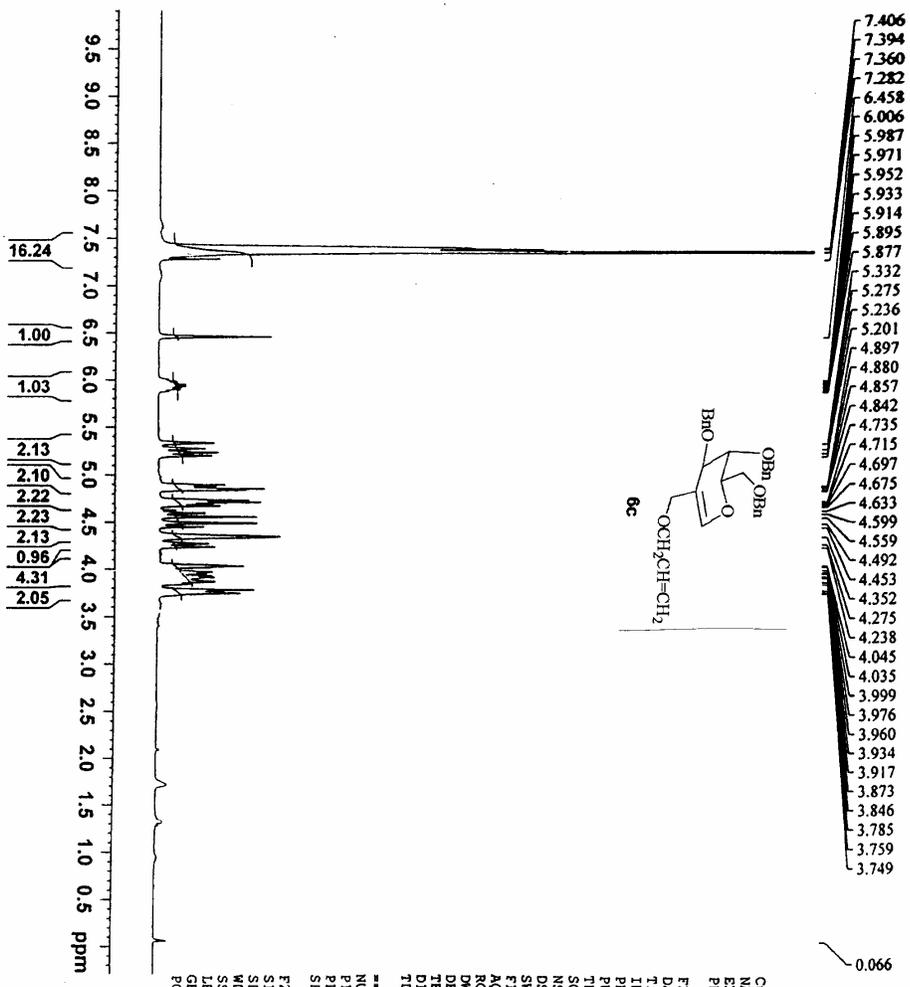
Current Data Parameters
NAME          CARBON
EXPNO        327
PROCNO       1

F2 - Acquisition Parameters
Date_        20070323
Time         10.45
INSTRUM     av300
PROBHD      5 mm Dual 13C/
PULPROG     zgpg30
TD           65536
SOLVENT     CDCl3
NS           32
DS           4
SWH          17985.611 Hz
FIDRES      0.274439 Hz
AQ          1.8219508 sec
RG          11585.2
DE          27.800 usec
TE           30.00 usec
D1           2.0000000 sec
d11          0.0300000 sec
DELTA       1.89999998 sec
TDO         1

===== CHANNEL f1 =====
NUC1         13C
P1           8.30 usec
PL1         -2.00 dB
SFO1        75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2     waltz16
NUC2         1H
PCPD2       80.00 usec
PL2         -2.00 dB
PL12        15.80 dB
PL13        19.80 dB
SFO2        300.1312005 MHz

F2 - Processing parameters
SI           32768
SF           75.4677918 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           1.40
  
```



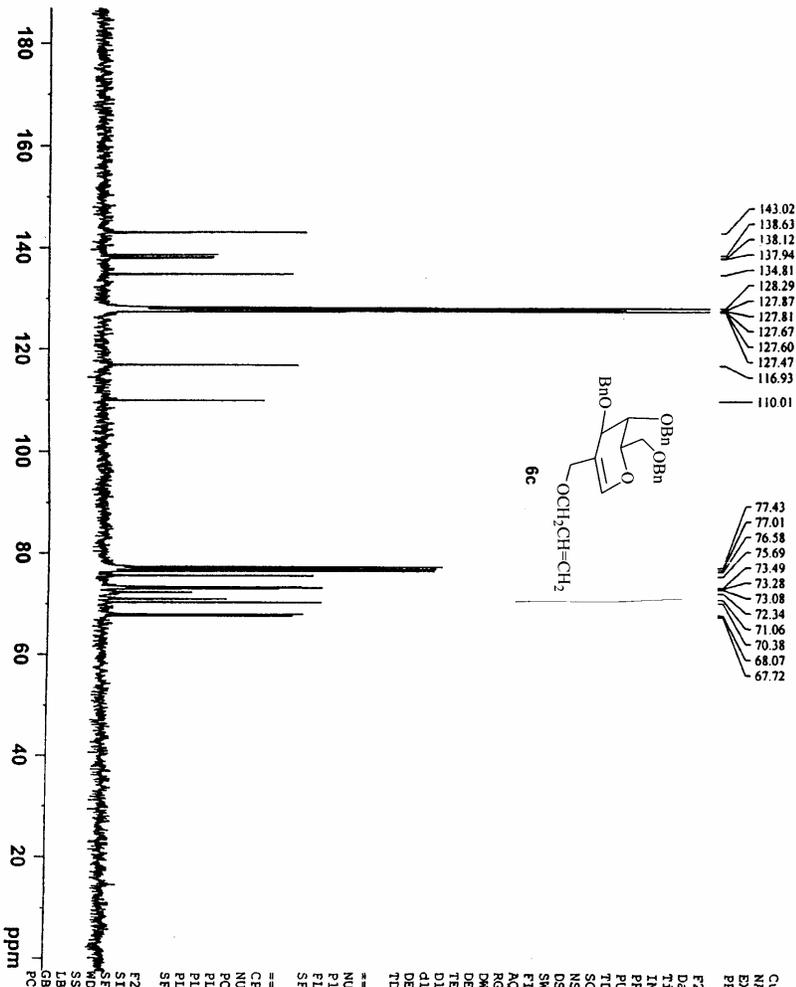
Current Data Parameters  
 NAME Aug 10-2007-11td  
 EXPNO 41  
 PROCNO 2

F2 - Acquisition Parameters  
 Date\_ 20070810  
 Time 20:38  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CMC13  
 NS 10  
 DS 2

SWH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084690 sec  
 RG 4702  
 DW 81.4702 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TD0 1

===== CHANNEL f1 =====  
 NUCL1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300000 MHz  
 MDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



- 143.02
- 138.63
- 138.12
- 137.94
- 134.81
- 128.29
- 127.87
- 127.81
- 127.67
- 127.60
- 127.47
- 116.93
- 110.01
- 77.43
- 77.01
- 76.58
- 75.69
- 73.49
- 73.28
- 73.08
- 72.34
- 71.06
- 70.38
- 68.07
- 67.72

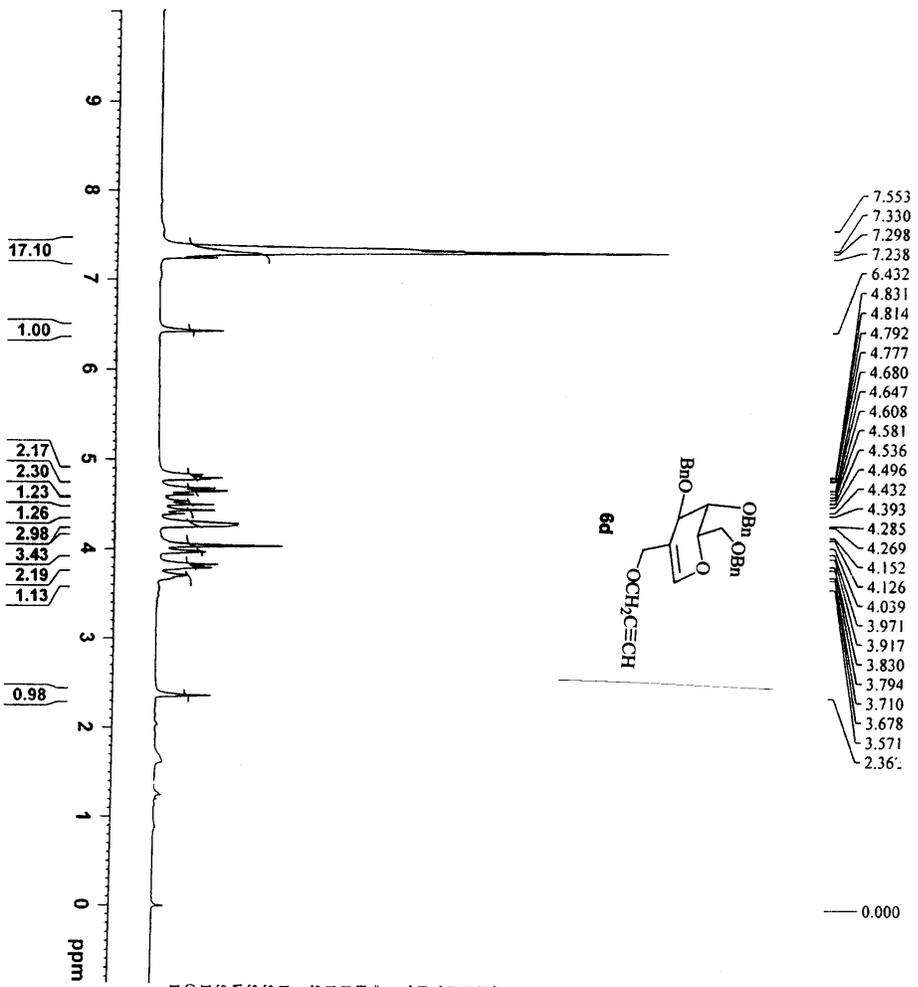
Current Data Parameters  
 NAME Aug 10-2007-11cd  
 EXPNO 43  
 F2PROCNO 2

F2 - Acquisition Parameters  
 Date\_ 20070810  
 Time 20:10  
 INSTRUM 4v300  
 PROBHD 5 mm BBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 102  
 DS 4  
 SMH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 32768  
 DM 27.800 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TD0 1

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 75.4752953 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.467756 MHz  
 DM BM  
 S2 0  
 S8 3.00 Hz  
 L2 0  
 L8 1.40



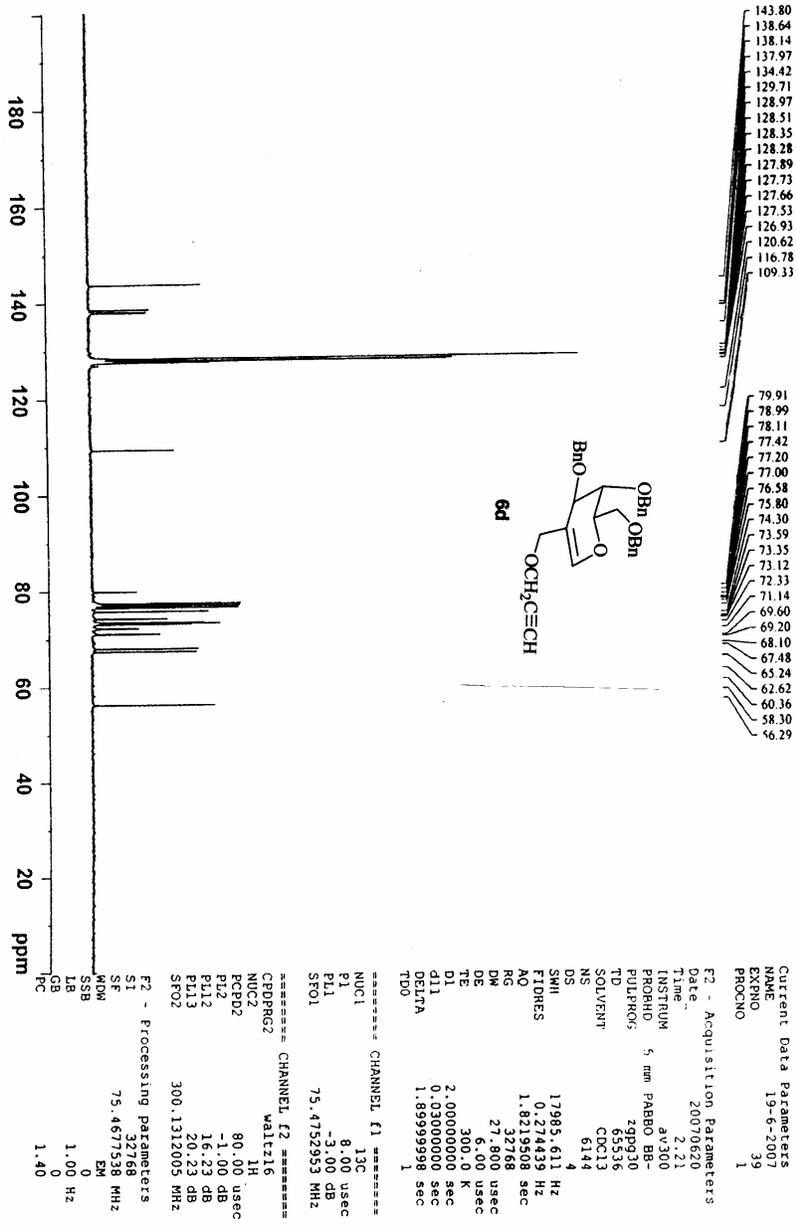
- 7.553
- 7.330
- 7.298
- 7.238
- 6.432
- 4.831
- 4.814
- 4.792
- 4.777
- 4.680
- 4.647
- 4.608
- 4.581
- 4.536
- 4.496
- 4.432
- 4.393
- 4.285
- 4.269
- 4.152
- 4.126
- 4.039
- 3.971
- 3.917
- 3.830
- 3.794
- 3.710
- 3.678
- 3.571
- 2.361
- 0.000

Current Data Parameters  
 NAME 19-6-2007  
 EXPNO 13  
 PROCNO 1

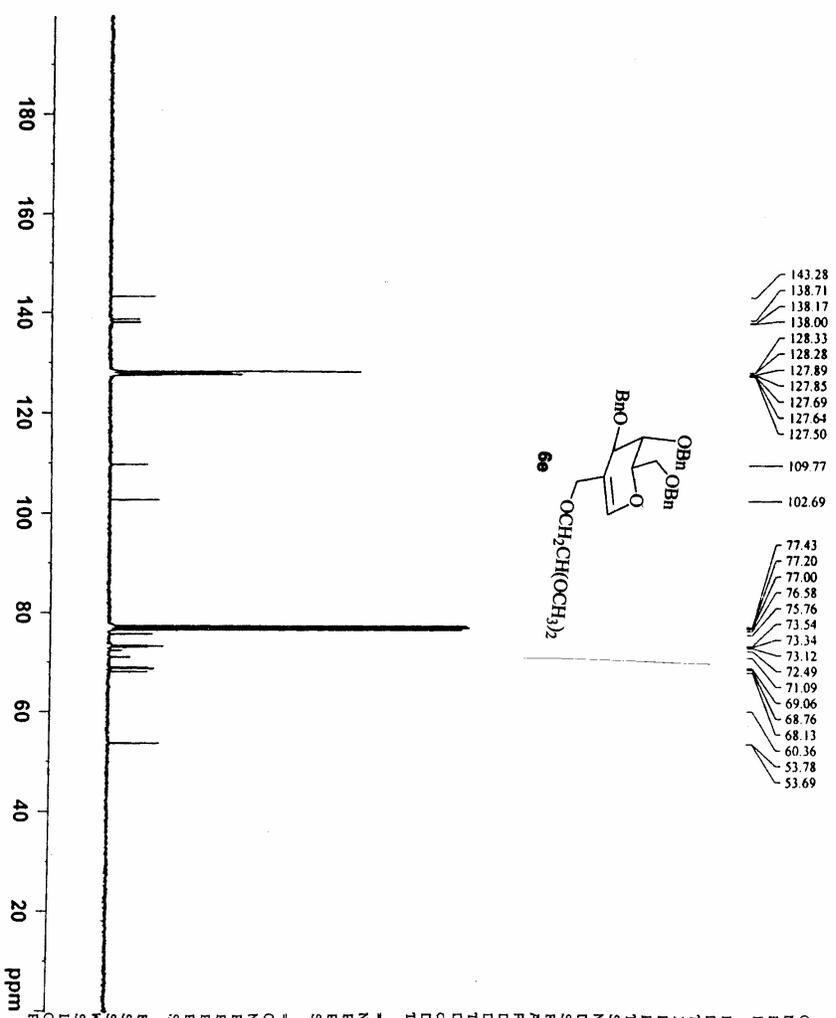
F2 - Acquisition Parameters  
 Date\_ 20070619  
 Time\_ 11:30  
 INSTRUM av300  
 PROBRD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 8  
 DS 2  
 SWH 6172.839 Hz  
 FIDRES 0.074180 Hz  
 AQ 5.308160 sec  
 RG 1600  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

===== CHANNEL f1 =====  
 NUCL1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300133 MHz  
 MDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00







- 143.28
- 138.71
- 138.17
- 138.00
- 128.33
- 128.28
- 127.89
- 127.85
- 127.69
- 127.64
- 127.50
- 109.77
- 102.69
- 77.43
- 77.20
- 77.00
- 76.58
- 75.76
- 73.54
- 73.34
- 73.12
- 72.49
- 71.09
- 69.06
- 68.76
- 68.13
- 60.36
- 53.78
- 53.69

Current Data Parameters  
 NAME Z1-6-2007  
 EXPNO 36  
 PROCNO 1

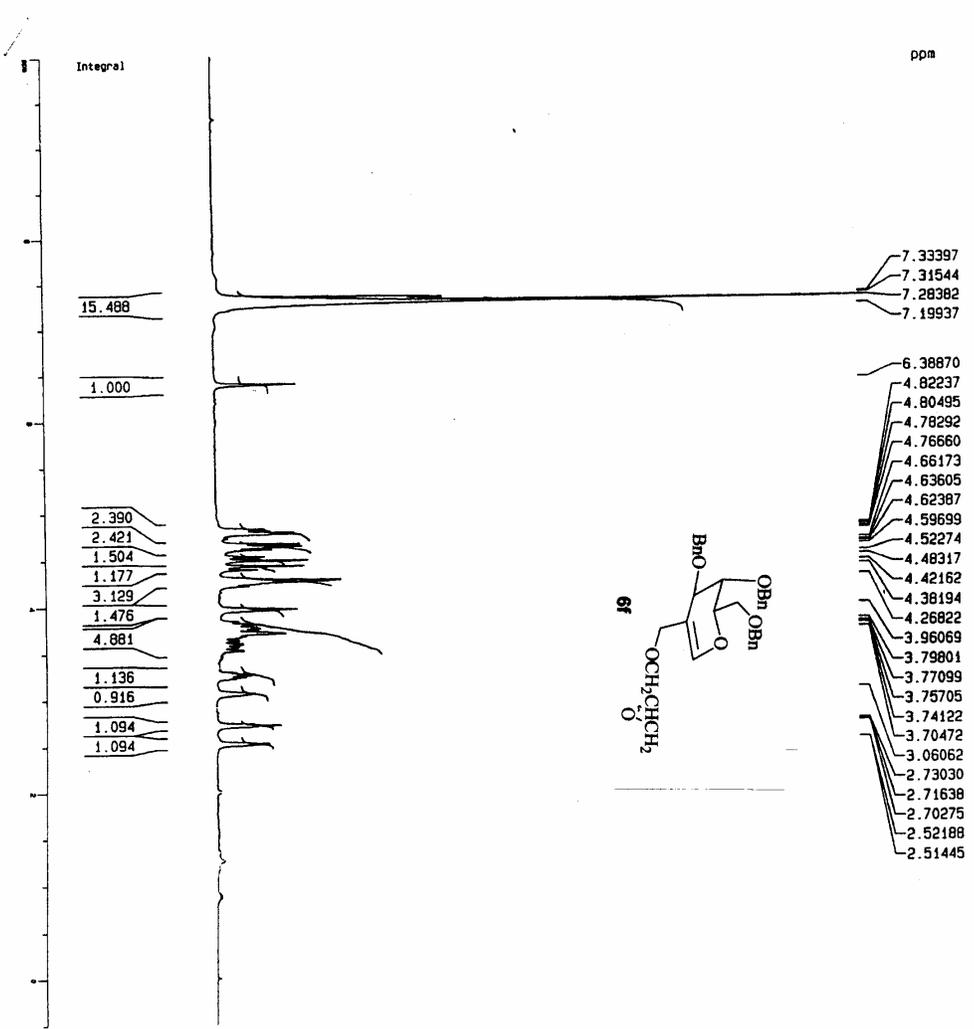
F2 - Acquisition Parameters  
 Date\_ 20070627  
 Time 17:24  
 INSTRUM av300  
 PROBD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 1024  
 DS 4

SMH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.6215508 sec  
 RG 32768  
 DW 27.600 usec  
 DE 5.00 usec  
 TE 300.00 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TDO 1

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 75.4752953 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.4677528 MHz  
 NDM 0  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



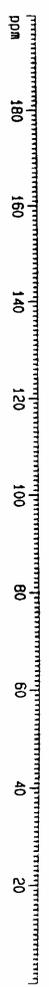
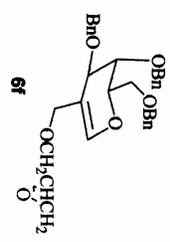
Current Data Parameters  
 NAME proton  
 EXPNO 197  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 500000  
 Time 16.46  
 INSTRUM dx300  
 PROBHD 5mm Dual ZS  
 PULPROG zg  
 TD 32768  
 SOLVENT CDCl3  
 NS 12  
 DS 0  
 SMH 8992.806 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 16  
 DW 55.600 usec  
 DE 4.50 usec  
 TE 300.0 K  
 D1 5.00000000 sec  
 P1 12.00 usec  
 DE SF01 4.50 usec  
 SF01 300.1342018 MHz  
 NUC1 1H  
 PL1 0.00 dB

F2 - Processing parameters  
 SI 32768  
 SF 300.1300254 MHz  
 MDW EM  
 SSB 0  
 LB 0.80 Hz  
 GB 0  
 PC 1.40

1D NMR plot parameters  
 CX 20.00 cm  
 F1P 10.000 ppm  
 F1 3004.30 Hz  
 F2P -0.500 ppm  
 F2 -150.07 Hz  
 PPMCK 0.52500 ppm/cm  
 HZCK 157.58827 Hz/cm

- 143.180
- 138.545
- 138.061
- 137.879
- 128.196
- 127.719
- 127.598
- 109.664
- 75.660
- 73.321
- 73.194
- 73.055
- 72.217
- 70.964
- 69.941
- 69.612
- 69.256
- 68.847
- 68.695
- 68.009
- 50.610
- 44.156



Current Data Parameters  
 NAME 13c  
 EXPNO 160  
 PROCNO 1

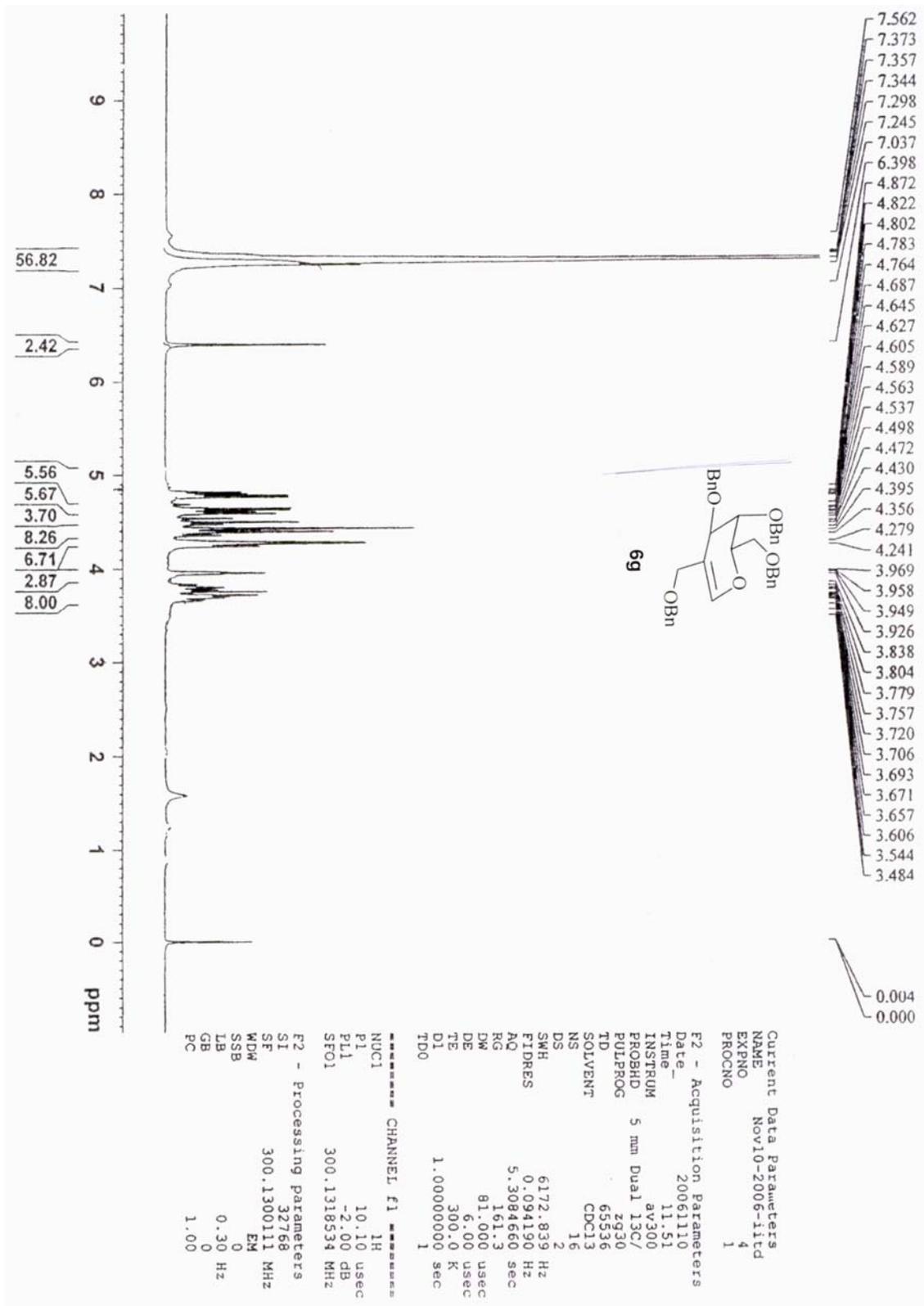
F2 - Acquisition Parameters

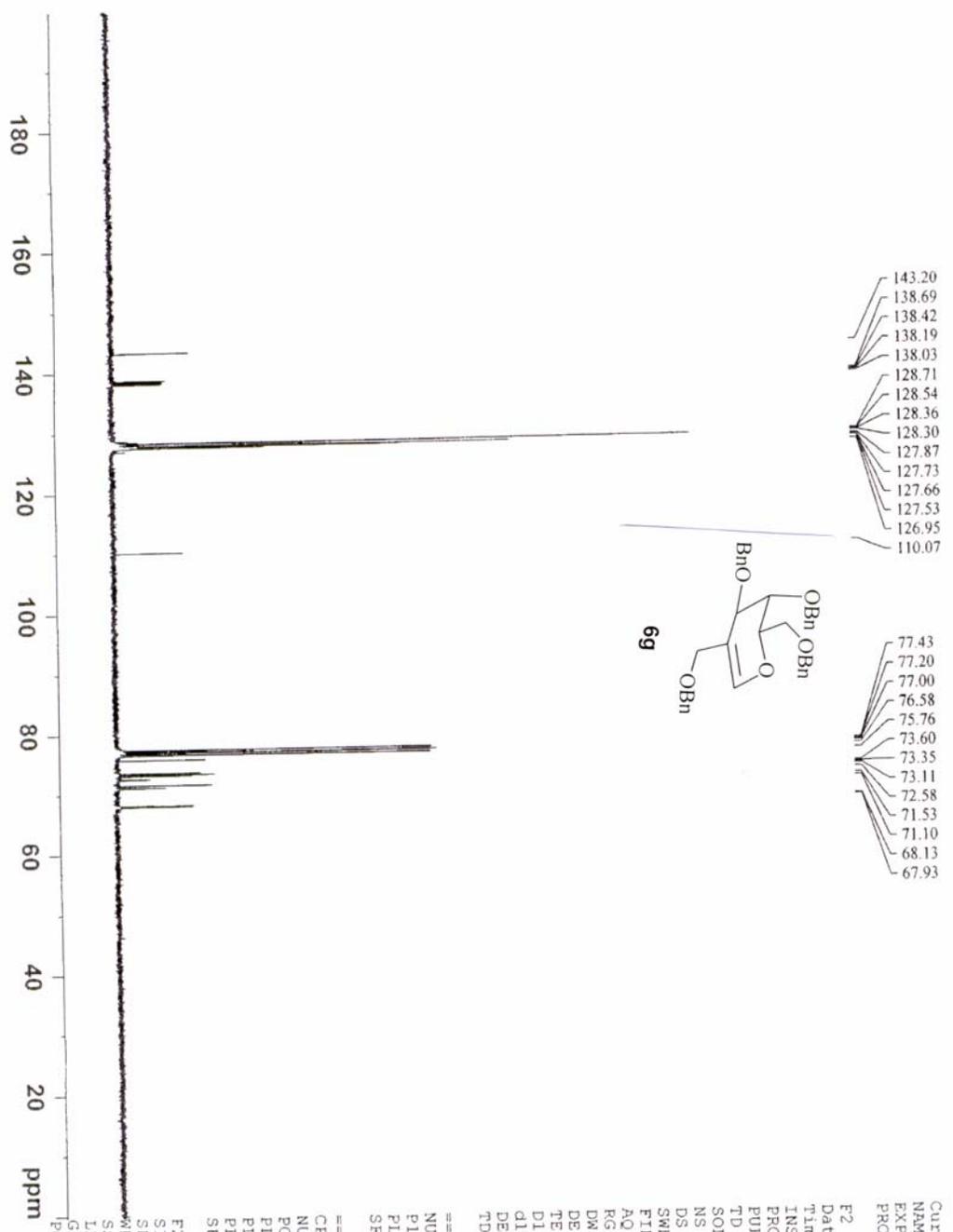
Date\_ 8/20/00  
 Time 15.28  
 INSTRUM 400X300  
 PROBRD 5mm Dui 1 25  
 PULPROG zgpg  
 ID 16384  
 SOLVENT CDCl3  
 NS 4003  
 DS 0  
 SMH 18832.393 Hz  
 FIDRES 1.146438 Hz  
 AQ 0.4260482 sec  
 RG 28995.3  
 DM 28.350 usec  
 DE 4.50 usec  
 TE 300.0 K  
 d11 0.0300000 sec  
 PL12 17.50 dB  
 wait116

PCPRG2 90.00 usec  
 SF02 300.1315007 MHz  
 NUC2 1H  
 PL2 0.00 dB  
 P1 1.00000000 sec  
 P2 9.40 usec  
 DE 4.50 usec  
 SF01 75.4787751 MHz  
 NUC1 13C  
 PL1 0.00 dB

F2 - Processing parameters  
 SI 16384  
 SF 75.4677664 MHz  
 KW 64  
 SSB 0  
 LB 10.00 Hz  
 GB 0  
 PC 1.40

1D NMR plot parameters  
 CX 20.00 cm  
 F1P 200.000 dpm  
 F1 15093.55 Hz  
 F2P 0.000 dpm  
 F2 0.00 Hz  
 PPMCM 10.00000 dpm/cm  
 HZCM 754.67767 Hz/cm





Current Data Parameters  
 NAME Nov16-2006-11td  
 EXPNO 27  
 PROCNO 1

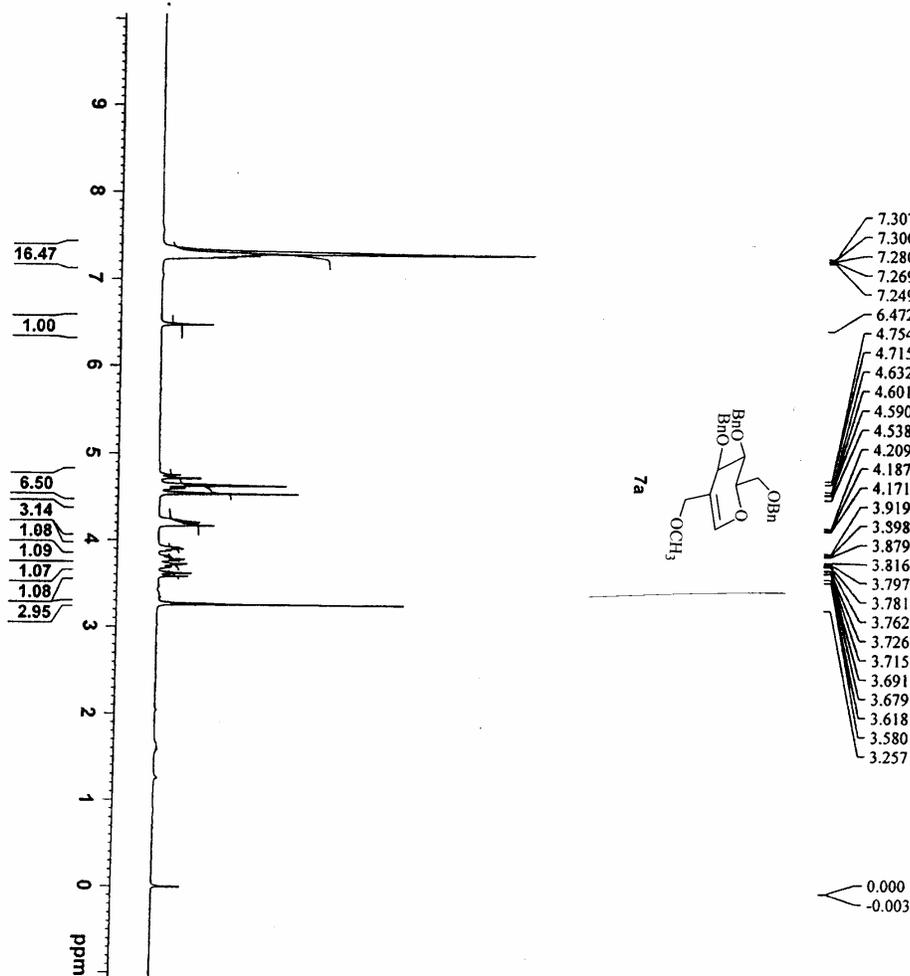
F2 - Acquisition Parameters

Date\_ 20061117  
 Time\_ 2.39  
 INSTRUM av300  
 PROBHID 5 mm Dual 13C/  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 1024  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 10321.3  
 DW 27.800 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TD0 1

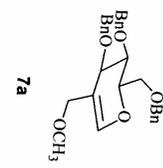
==== CHANNEL F1 =====  
 NUC1 13C  
 P1 8.30 usec  
 PL1 -2.00 dB  
 SFO1 75.4752953 MHz

==== CHANNEL F2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -2.00 dB  
 PL12 15.80 dB  
 PL13 19.80 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.4677523 MHz  
 WDM EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



- 7.307
- 7.300
- 7.280
- 7.269
- 7.249
- 6.472
- 4.754
- 4.715
- 4.632
- 4.601
- 4.590
- 4.538
- 4.209
- 4.187
- 4.171
- 3.919
- 3.898
- 3.879
- 3.816
- 3.797
- 3.781
- 3.762
- 3.726
- 3.715
- 3.691
- 3.679
- 3.618
- 3.580
- 3.257
- 0.000
- 0.003



N 2

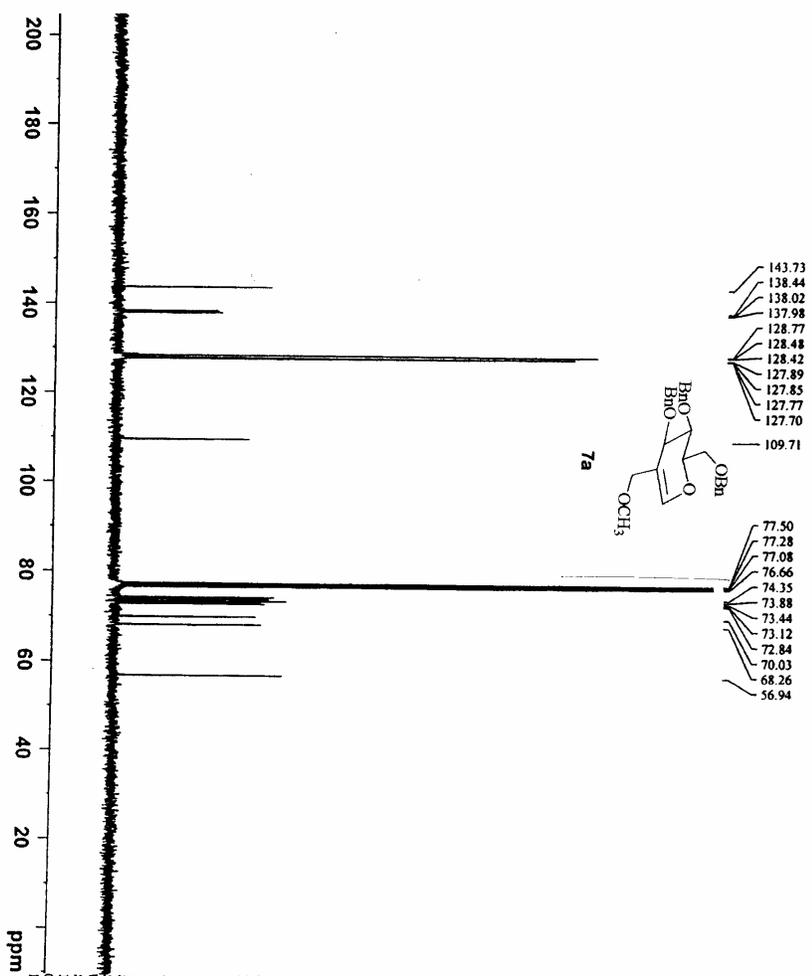
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Current Data Parameters
NAME      Jul15-2007-11td
EXPNO     13
PROCNO    1

F2 - Acquisition Parameters
Date_     20070716
Time      15.05
INSTRUM   av300
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         8
DS         2
SWH        6172.839 Hz
FIDRES     0.094190 Hz
AQ         5.3084660 sec
RG         90.5
DM         81.000 use
DE         6.00 use
TE         300.0 K
TD0        1.00000001 sec

===== CHANNEL f1 =====
NUC1       1H
P1         11.00 use
PL1        -1.00 dB
SFO1       300.1318534 MHz

F2 - Processing parameters
SI         32768
SF         300.1300099 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```



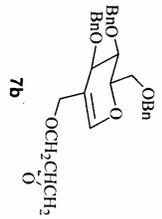
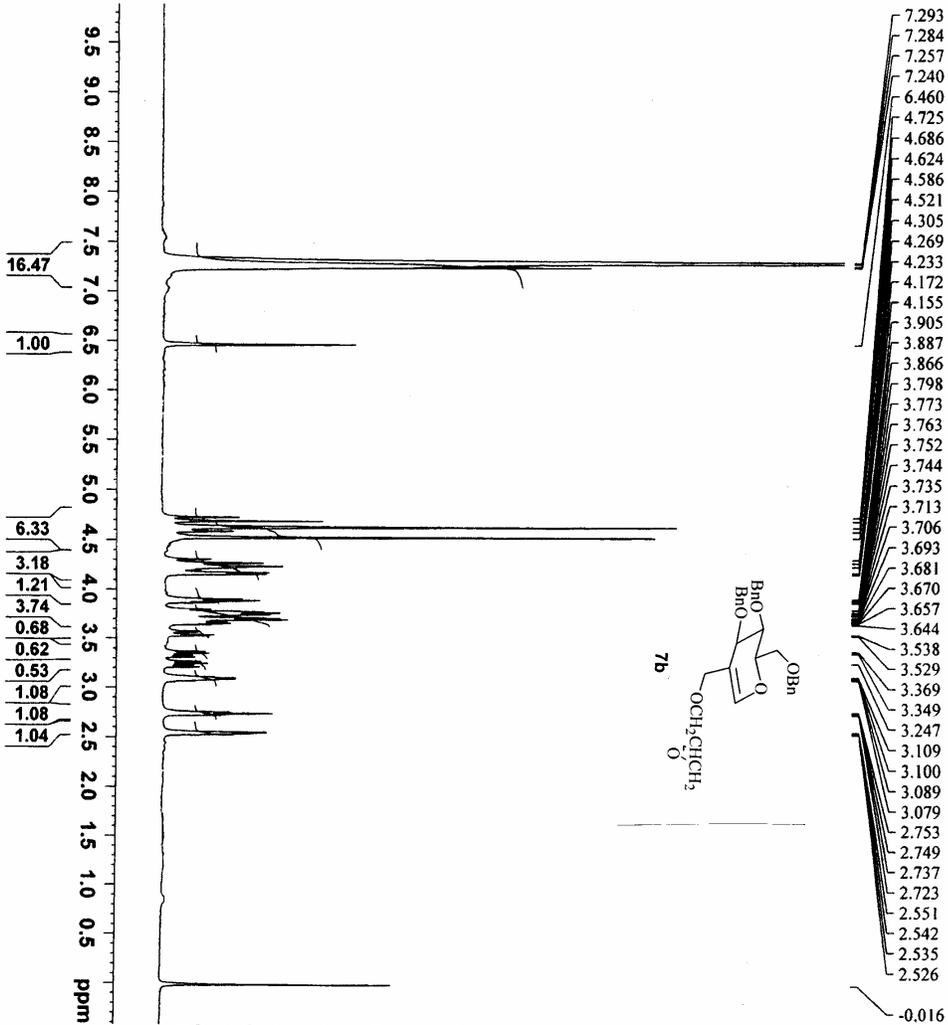
Current Data Parameters  
 NAME Jul21-2007-11td  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070721  
 Time 9.20  
 INSTRUM AV300  
 PULPROG zgpg30  
 FIDRES 0.274430 Hz  
 AQC 1.8219508 sec  
 RG 32768  
 DM 27.800 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TD0 1

==== CHANNEL f1 =====  
 NUCL1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SF01 75.4752953 MHz

==== CHANNEL f2 =====  
 CPOPRG2 waltz16  
 NUCL2 1H  
 P2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.20 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

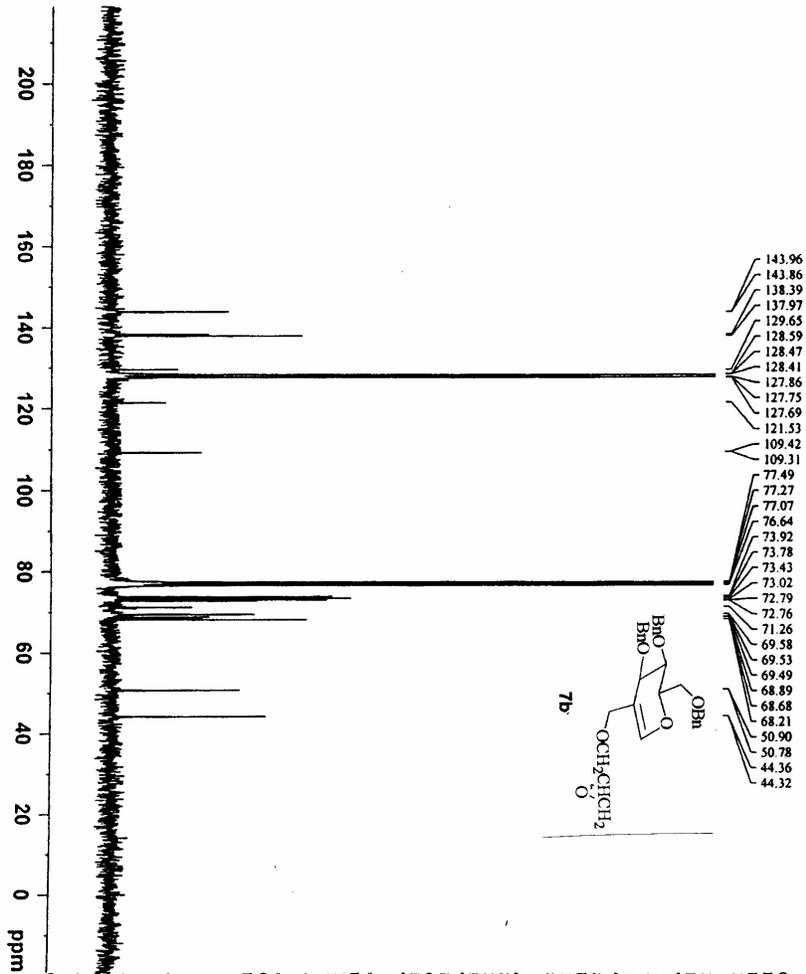
F2 - Processing parameters  
 SI 32768  
 SF 75.4677490 MHz  
 WDW EM  
 SSB 0  
 GB 0  
 PC 1.00 Hz  
 SC 0  
 EC 1.40



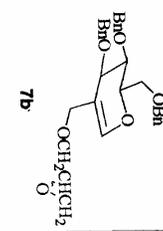
Current Data Parameters  
 NAME Aug 22-2007-11d  
 EXPNO 11  
 FROCN0 1

F2 - Acquisition Parameters  
 Date\_ 20070822  
 Time 11.31  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 2  
 DS 8  
 SWH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 181  
 DW 81.000 usec  
 DE 6.000 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TD0 1

==== CHANNEL f1 =====  
 NUCL1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 300.1300124 MHz  
 WDW EM  
 SSB 0  
 LB 0  
 GB 0  
 PC 1.00



- 143.96
- 143.86
- 138.39
- 137.97
- 129.65
- 128.59
- 128.47
- 128.41
- 127.86
- 127.75
- 127.69
- 121.53
- 109.42
- 109.31
- 77.49
- 77.27
- 77.07
- 76.64
- 73.92
- 73.78
- 73.43
- 73.02
- 72.79
- 72.76
- 71.26
- 69.58
- 69.53
- 69.49
- 68.89
- 68.68
- 68.21
- 50.90
- 50.78
- 44.36
- 44.32



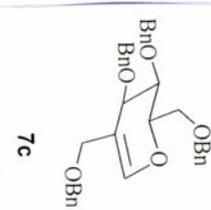
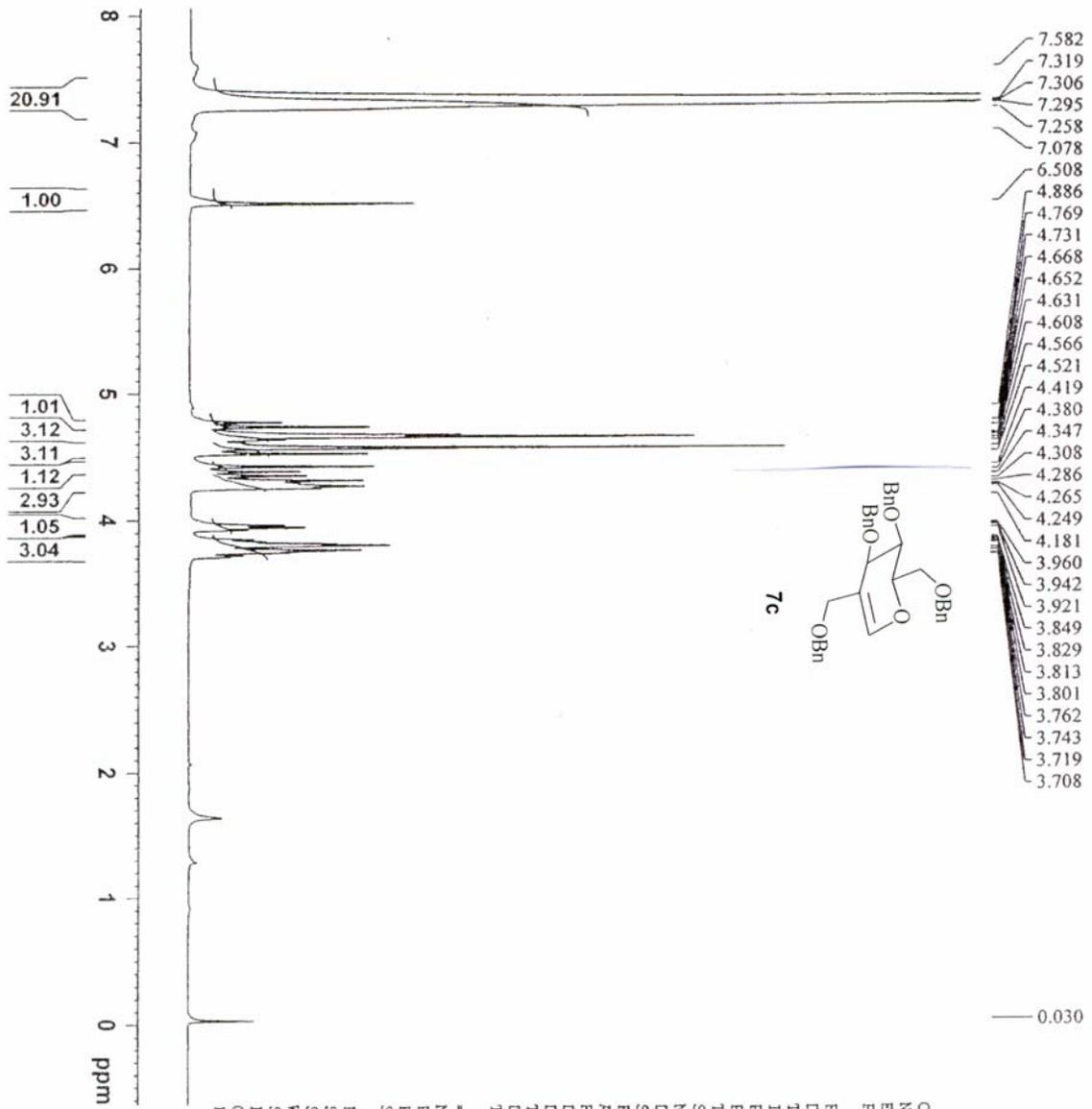
Current Data Parameters  
 NAME Jul21-2007-11td  
 EXPNO 24  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070721  
 Time 17.06  
 INSTRUM AV300  
 PROBHD 5 mm BBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 505  
 DS 4  
 SMH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 32768  
 DR 27.800 usec  
 DE 6.00 usec  
 TE 300.2 K  
 D1 2.000000 sec  
 d11 0.0300000 sec  
 DELTA 1.8999998 sec  
 TD0 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 75.4752953 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPDZ 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.467749 MHz  
 WDW EM  
 SSB 0  
 LB 2.00 Hz  
 GB 0  
 PC 1.40



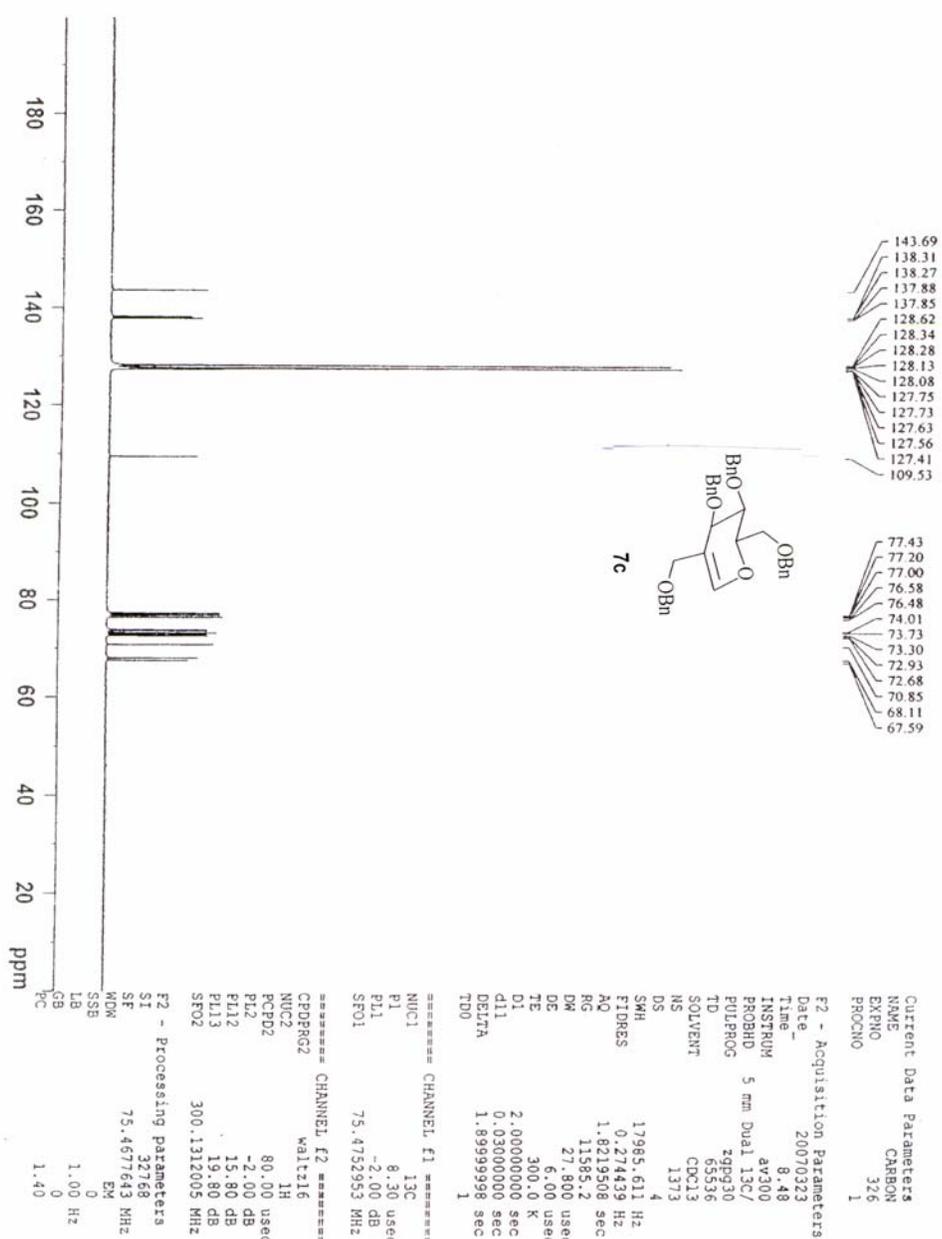
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Current Data Parameters
NAME      Mar-16-2007-11td
EXPNO     4
PROCNO    1

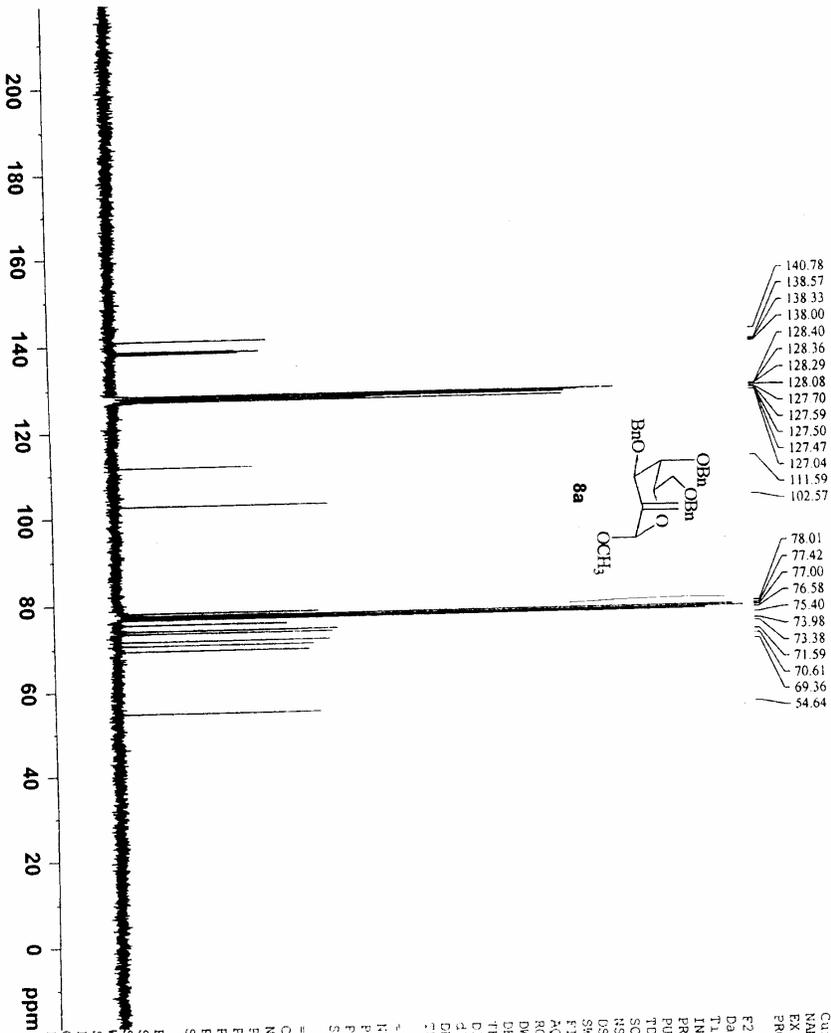
F2 - Acquisition Parameters
Date_     20070316
Time      10:38
INSTRUM   av300
PROBHD    5 mm Dual 13C/
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         8
DS         2
SMH        6172.839 Hz
FIDRES     0.094190 Hz
AQ         5.308460 sec
RG         80.6
DW         81.000 usec
DE         6.00 usec
TE         300.0 K
D1         1.0000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1       1H
P1         10.10 usec
PL1        -2.00 dB
SFO1       300.1318534 MHz

F2 - Processing parameters
SI         32768
SF         300.1300084 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```







Current Data Parameters  
 NAME CARBON  
 EXPRNO 458  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070412  
 Time\_ 23.45

INSTRUM av300  
 PROBHD 5 mm Dual 13C/  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 133  
 DS 4

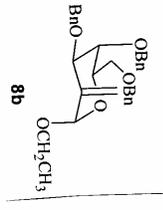
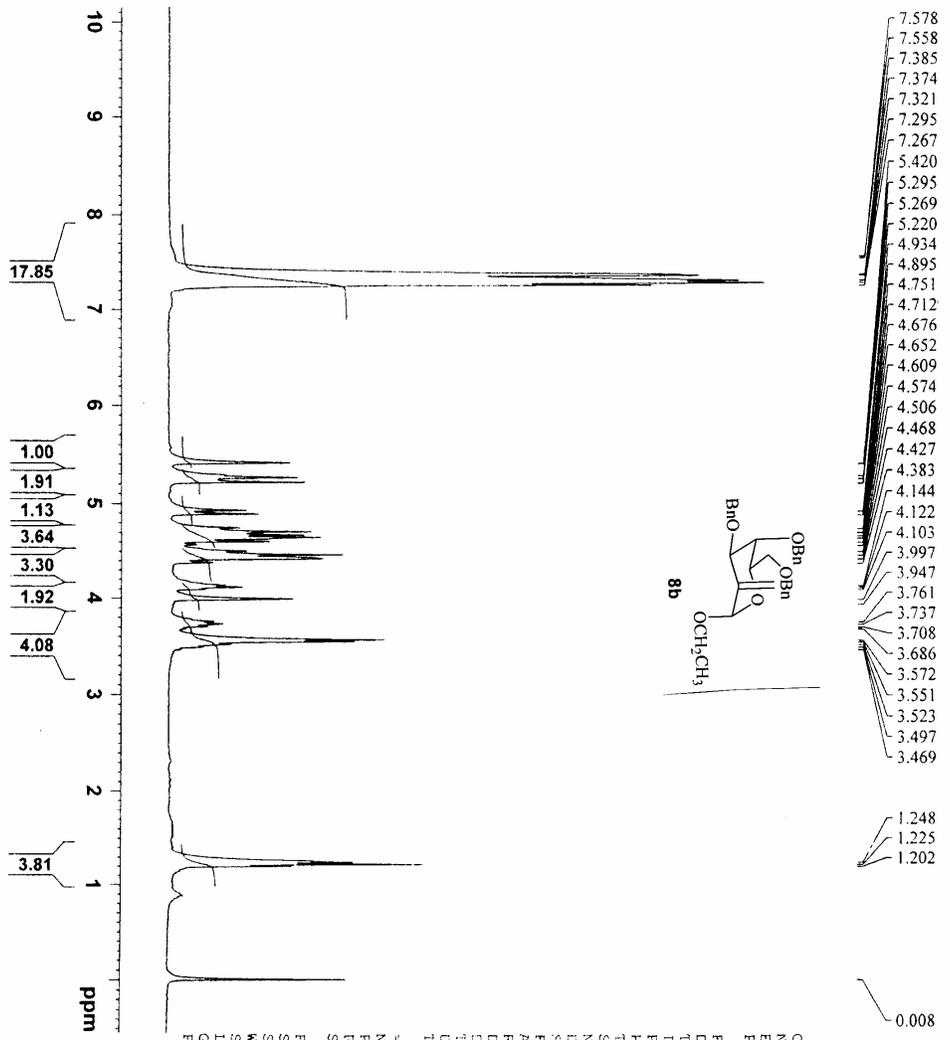
SMH 17965.611 Hz  
 FIDERS 0.274439 Hz  
 AQ 1.6219508 sec  
 RG 8192  
 DM 27.800 USEC  
 DE 6.00 USEC  
 TE 300.0 K

SI 2.0000000 sec  
 DI 0.0300000 sec  
 DELTA 1.0000000 sec  
 PC

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NU1 13C  
 P1 0.30 USEC  
 PL1 -2.00 dB  
 SFO1 75.47567 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NU1 1H  
 P1 80.00 USEC  
 PL1 -2.00 dB  
 PL12 15.80 dB  
 PL13 19.80 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.4677586 MHz  
 WDM 0  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



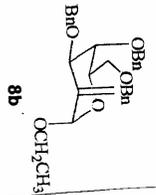
Current Data Parameters  
 NAME April-09-2007-1:1d  
 EXPNO 12  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070409  
 Time 11:23  
 INSTRUM av300  
 PROBHD 5 mm Dual 13C/7  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 2  
 DS 4  
 SWH 11724.54 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.098460 sec  
 RG 278.1  
 DW 81.000 use  
 DE 51.00 use  
 TE 300.2 K  
 DI 1.0000000 use  
 TDG 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 13C  
 P1 10.10 use  
 PL1 0.00 dB  
 SFO1 300.130054 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 300.130054 MHz  
 WDW EM  
 SSB 0  
 GB 0  
 PC 1.00

ppm

- 141.009
- 140.674
- 138.588
- 136.378
- 137.995
- 128.310
- 128.061
- 127.572
- 127.442
- 127.019
- 111.246
- 101.204
- 78.131
- 77.443
- 77.017
- 76.593
- 75.461
- 73.973
- 73.368
- 71.544
- 70.609
- 70.424
- 69.294
- 62.653
- 15.036



Current Data Parameters  
 NAME 136  
 EXPNO 117  
 PROCNO 1

F2 - Acquisition Parameters

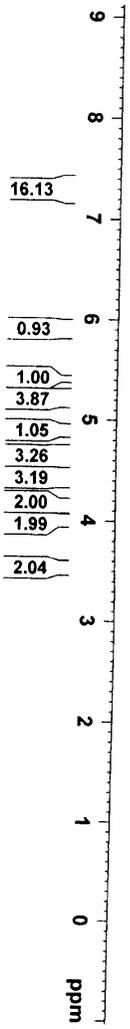
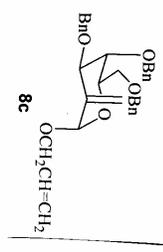
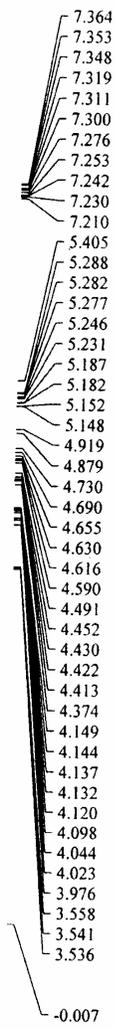
Date\_ 500000  
 Time 15.26  
 INSTRUM dpx300  
 PROBRD Spm Dual 75  
 PULPROG zgpg  
 TD 16384  
 SOLVENT CDCl<sub>3</sub>  
 NS 7277  
 DS 0  
 SWH 18832.393 Hz  
 FIDRES 1.149438 Hz  
 AQ 0.4350452 sec  
 RG 6502  
 DW 26.550 usec  
 DE 4.50 usec  
 TE 300.0 K  
 J11 0.0300000 sec  
 a112 17.80 dB  
 CPDPRG2 \*altz15  
 PCPRG2 90.00 user  
 SFO2 300.1330011 MHz  
 NU2 1H  
 a12 0.00 dB  
 O1 1.00000000 sec  
 a1 9.40 usec  
 OF 4.50 usec  
 SFO1 75.4767751 MHz  
 NU1 13C  
 a11 0.00 dB

F2 - Processing parameters

SF 16384  
 SF 75.4677618 MHz  
 WHW EM  
 SSB 0  
 LB 10.00 Hz  
 GB 0  
 PC 1.40

10 NMR plot parameters

CX 20.00 cm  
 F1P 200.000 ppm  
 F1 15093.55 Hz  
 F2P 0.000 ppm  
 F2 0.00 Hz  
 PRMCM 10.00000 ppm  
 HZCM 754.67761 Hz



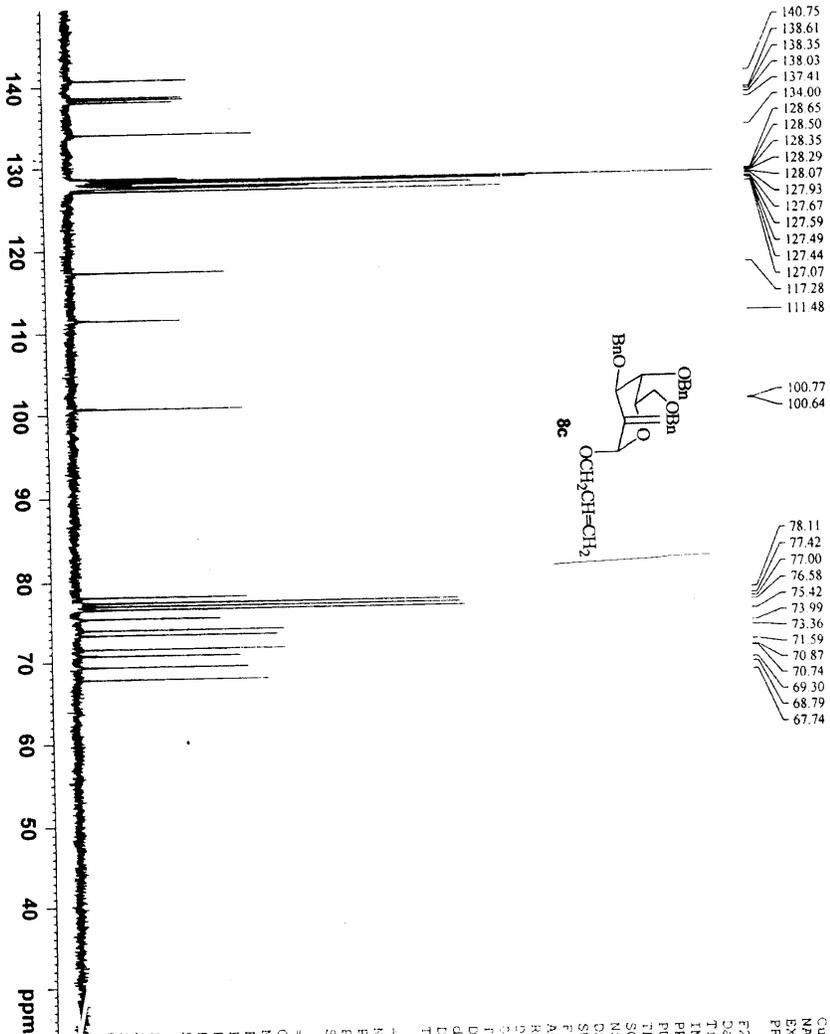
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Current Data Parameters
NAME      Aug 22-2007-ilt
EXPNO     12
PROCNO    1

F2 - Acquisition Parameters
Date_     20070822
Time      11.39
INSTRUM   av300
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         8
DS         2
SWH        6172.839 Hz
FIDRES     0.094190 Hz
AQ         5.3084660 sec
RG         181
DE         81.000 usec
TE         300.0 K
D1         1.00000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1       1H
P1         11.00 usec
PL1        -1.00 dB
SFO1       300.1318534 MHz

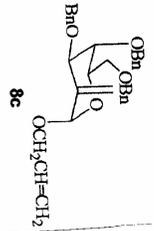
F2 - Processing parameters
SI         32768
SF         300.1300124 MHz
WDW        EM
SSB        0
GB         0
PC         1.00
  
```



- 140.75
- 138.61
- 138.35
- 138.03
- 137.41
- 134.00
- 128.65
- 128.50
- 128.35
- 128.29
- 128.07
- 127.93
- 127.67
- 127.59
- 127.49
- 127.44
- 127.07
- 117.28
- 111.48

- 100.77
- 100.64

- 78.11
- 77.42
- 77.00
- 76.58
- 75.42
- 73.99
- 73.36
- 71.59
- 70.87
- 70.74
- 69.30
- 68.79
- 67.74

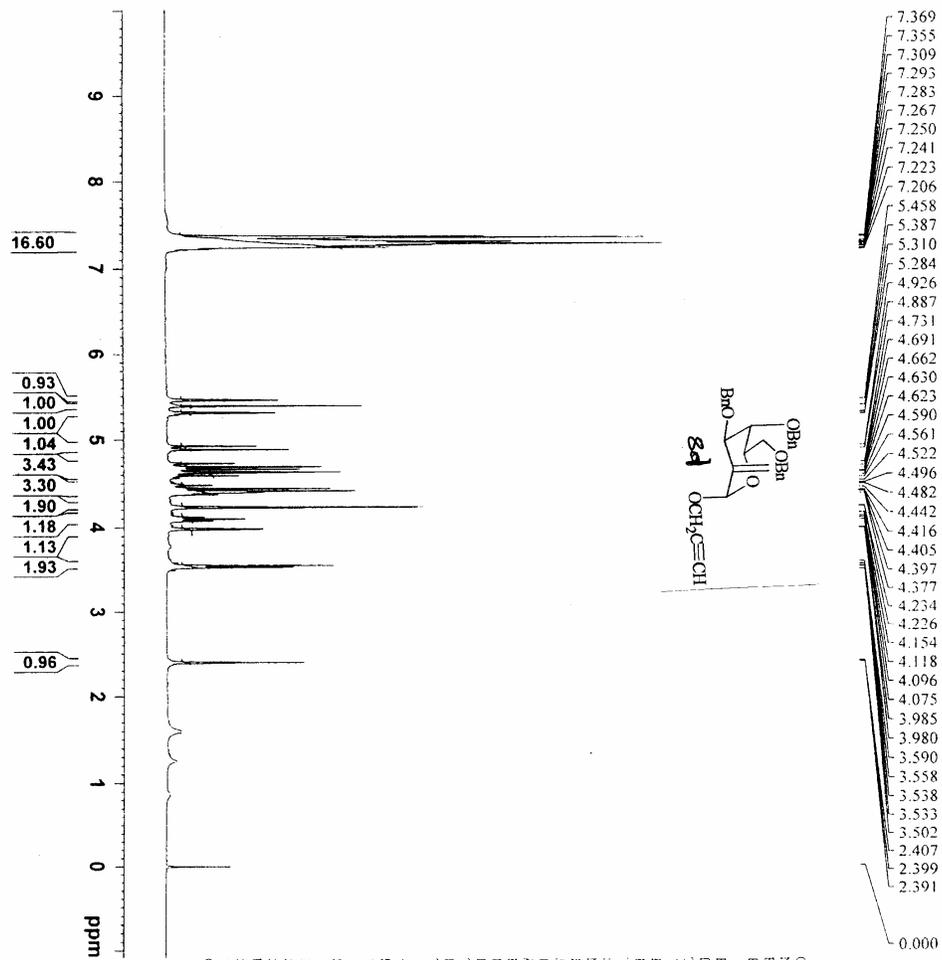


Current Data Parameters  
 NAME CARBON  
 EXPNO 530  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070424  
 Time 20:29  
 INSTRUM av300  
 PROBHD 5 mm Dual 13C/  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 191  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219506 sec  
 RC 8182  
 DM 27.800 usec  
 DE 6.00 usec  
 FE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89499998 sec  
 TD3 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NU1 1K  
 P1 8.30 usec  
 PL1 -2.00 dB  
 SFO1 75.475253 MHz  
 \*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NU2 1H  
 PCPDZ 80.00 usec  
 PL2 -2.00 dB  
 PL12 15.80 dB  
 PL13 19.80 dB  
 SFO2 300.1212005 MHz

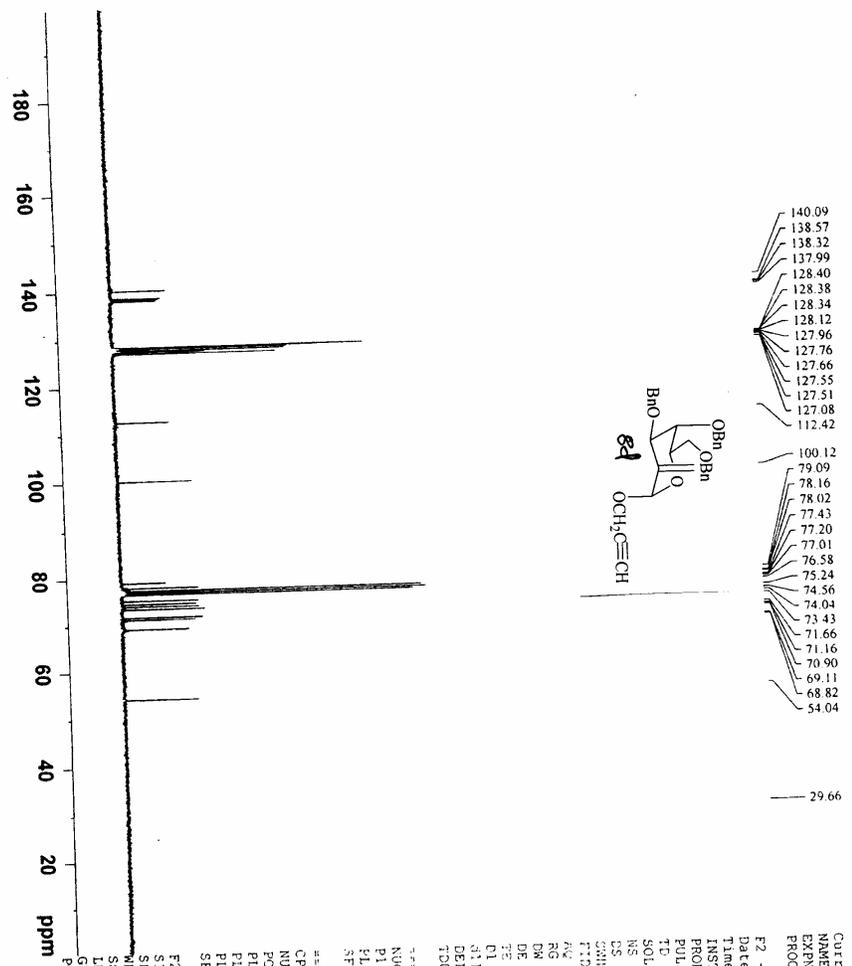
F2 - Processing parameters  
 SI 32768  
 SF 75.4677589 MHz  
 MDW 0  
 SSB 0  
 EX 0  
 GB 1.00 Hz  
 PC 1.40



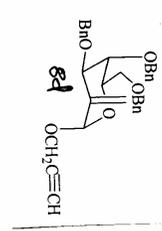
Current Data Parameters  
 NAME 214-2607  
 EXPNO 17  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 0020621  
 Time 11:13  
 INSTRUM spect  
 PROBRD 4 mm 1H/5Q Bp-  
 PULPROG zgpg30  
 TD 65536  
 SFO 500.136  
 SOLVENT DMSO-d6  
 NS 1280  
 DS 4  
 SWH 4000.438 Hz  
 FIDRES 0.00130 Hz  
 AQ 0.54478 sec  
 RG 313  
 DW 11.000 usec  
 DE 4.000 usec  
 TE 300.2 K  
 D1 0.000000 sec  
 TD0

-----  
 CHANNEL f1 1H  
 P1 13.00 usec  
 PL1 0.00 dB  
 SFO1 500.136137 MHz  
 F2 - Processing Parameters  
 SF 500.136137 MHz  
 WDW EM  
 SSB 0  
 GB 0  
 PC 1.00



- 140.09
- 138.57
- 138.32
- 137.99
- 128.40
- 128.38
- 128.34
- 128.12
- 127.96
- 127.76
- 127.66
- 127.55
- 127.51
- 127.08
- 112.42
- 100.12
- 79.09
- 78.16
- 78.02
- 77.43
- 77.20
- 77.01
- 76.58
- 75.24
- 74.56
- 74.04
- 73.43
- 71.66
- 71.16
- 70.90
- 69.11
- 68.82
- 54.04



Current Data Parameters  
 NAME 26-6-2007  
 EXPNO 12  
 PROCNO 1

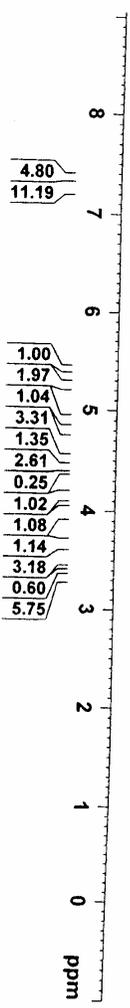
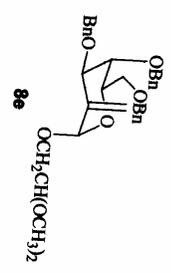
F2 - Acquisition Parameters  
 Date\_ 20070626  
 Time 13.14  
 INSTRUM av300  
 PROBHD 5 mm PASBO BB-  
 PULPRG2 zgpg30  
 TD 65536  
 SFO1 400.1312005 M  
 SOLVENT CDCl<sub>3</sub>  
 NS 445  
 DS 4  
 SWH 17983.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.5215626 sec  
 RG 32768  
 WC 27.800 use  
 DE 1.000 use  
 RE 16380.000 Hz  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999999 sec  
 TDC

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 <sup>13</sup>C  
 P1 6.00 use  
 PL1 0.00 dB  
 SFO1 75.2653624 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NUCC 1H  
 PCF02 80.00 use  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameter  
 SI 32768  
 SF 75.4671562 MHz  
 WDM 0  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

7.367  
7.356  
7.351  
7.332  
7.318  
7.302  
7.287  
7.281  
7.269  
7.260  
7.244  
7.239  
7.218  
5.419  
5.263  
5.228  
4.919  
4.880  
4.724  
4.684  
4.659  
4.636  
4.619  
4.596  
4.549  
4.531  
4.514  
4.485  
4.446  
4.415  
4.376  
4.171  
4.150  
4.129  
3.985  
3.978  
3.691  
3.675  
3.654  
3.638  
3.583  
3.562  
3.550  
3.541  
3.527  
3.382  
3.366  
3.352  
3.323



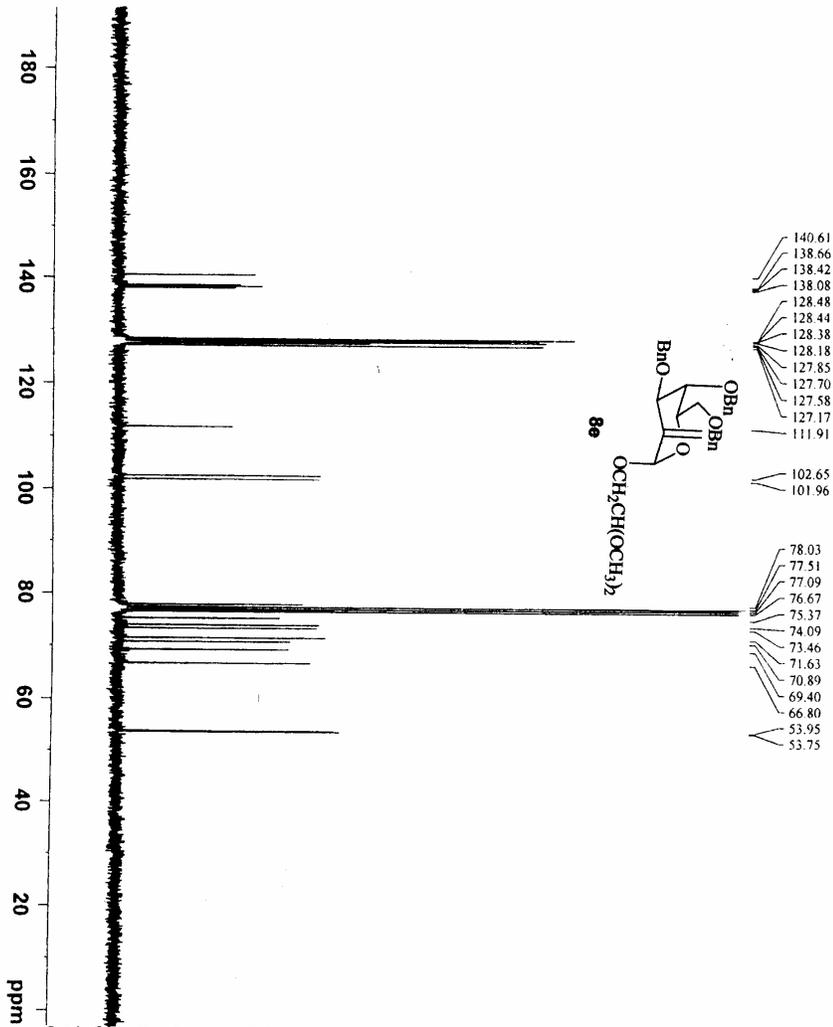
Current Data Parameters  
 NAME Jul16-2007-11td  
 EXPNO 12  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070716  
 Time 14.59  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 8  
 DS 2  
 SWH 4177.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 0.3084670 s  
 RG 50.00  
 DW 81.000 us  
 DE 5.00 us  
 TE 300.0 K  
 D1 1.00000000 s  
 TDC 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 1H  
 P1 11.00 us  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300128 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

N 1



Current Data Parameters  
 NAME Jul21-2007-111d  
 EXPNO 6  
 F2PROCNO 1

F2 - Acquisition Parameters:

Date\_ 20070721  
 Time 11:52  
 INSTRUM spect  
 PROBRW 5 mm WBBO CB  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 229  
 DS 4  
 SMR 12985.411 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219509 sec  
 RG 13004  
 DK 27.800 use  
 TE 6.00 use  
 DE 360.0 R  
 FL1 2.0000000 sec  
 FL2 0.0000000 sec  
 DELTA 1.8999999 sec  
 ICH1

===== CHANNEL f1 =====

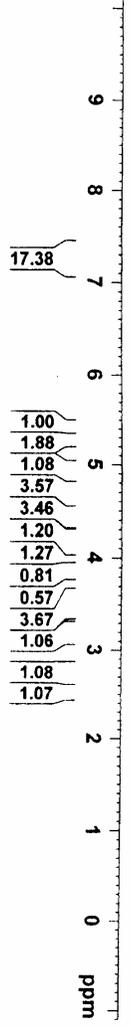
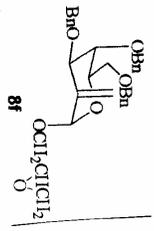
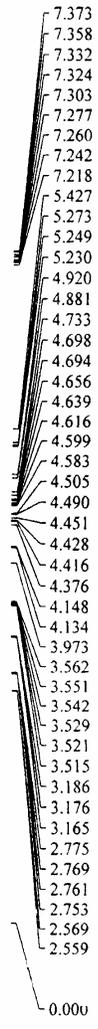
NUC1 13C  
 P1 6.00 use  
 PL1 -3.00 dB  
 SF01 75.452952 MHz

===== CHANNEL f2 =====

CPDPRG2 waltz16  
 NUC2 1H  
 P2 80.00 use  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SF02 300.1312005 MHz

F2 - Processing parameters

SI 327.68 MHz  
 SF 75.467749 MHz  
 MDW B0  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

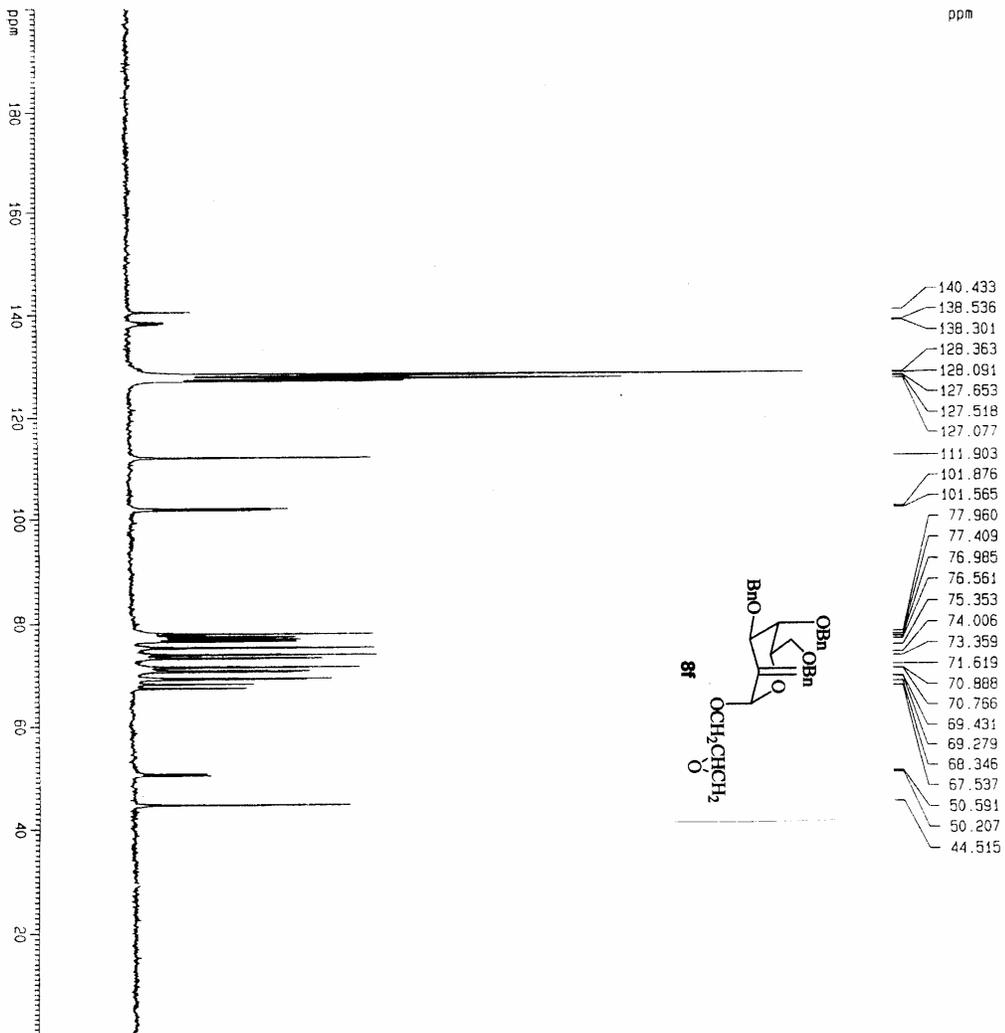


Current Data Parameters  
 NAME Jul03-2007-11f  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070703  
 Time 11:39  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 6172.838 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 101.6  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUCL1 1H  
 P1 11.00 usec  
 PL1 -1.70 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300119 MHz  
 WDM EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



Current Data Parameters  
 NAME 13C  
 EXPNO 254  
 PROCNO 1

F2 - Acquisition Parameters

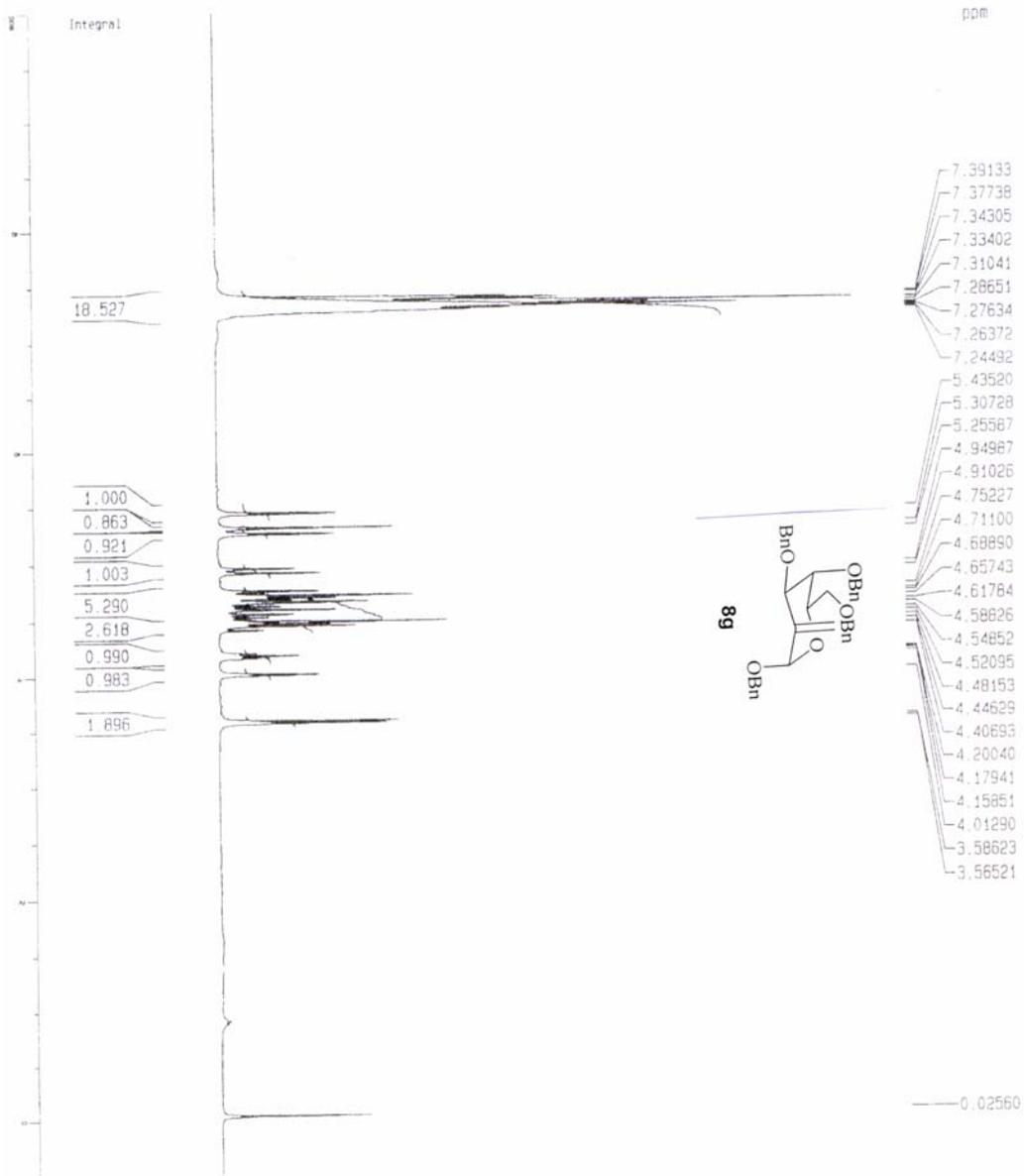
Date\_ 5000000  
 Time 11.37  
 INSTRUM dpv300  
 PROBNM 5mm Dns1 75  
 PULPROG zgpgc  
 TD 16384  
 SOLVENT CDCl3  
 NS 10047  
 DS 0  
 SWH 18832.393 Hz  
 FIDRES 1.140438 Hz  
 AQ 0.4350428 sec  
 RG 4096  
 CM 26.550 uspc  
 DE 4.50 uspc  
 TE 300.0 K  
 D11 0.0360000 sec  
 d12 1.7000000 sec  
 CPDPRG2 waltz16  
 PCPRG2  
 SFO1 300.1330011 MHz  
 NUC2 13C  
 PL2 0.00 dB  
 P1 1.00000000 sec  
 P2 9.40 uspc  
 DE 4.50 uspc  
 SFO1 75.476751 MHz  
 NUC1 13C  
 PL1 0.00 dB

F2 - Processing parameters

SI 16384  
 SF 75.4677560 MHz  
 KW FM  
 SSB 0  
 LB 6.00 Hz  
 GB 0  
 PC 1.40

1D NMR plot parameters

CX 20.00 cm  
 FAP 200.000 ppm  
 F4 15093.55 Hz  
 F2P 0.000 ppm  
 F2 0.00 Hz  
 PPMCM 10.00000 ppm/c  
 HZCM 754.67761 Hz/cm



Current Data Parameters  
 NAME: proton  
 EXPNO: 447  
 PROCNO: 1

F2 - Acquisition Parameters

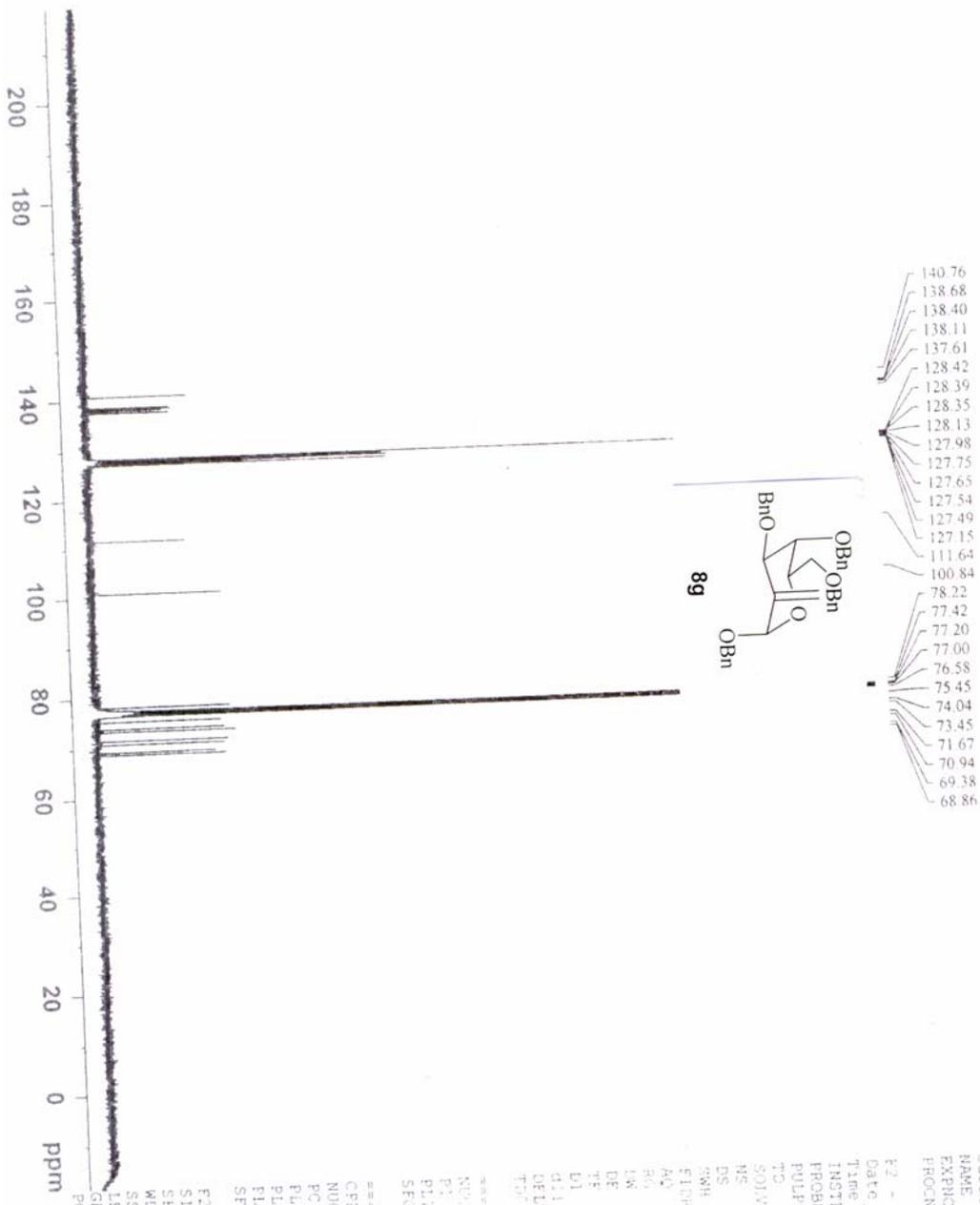
Date\_: 500000  
 Time: 16.58  
 INSTRUM: dpx300  
 PROBHD: 5mm Dual 25  
 PULPROG: zg  
 TD: 32768  
 SOLVENT: CDCl3  
 NS: 16  
 DS: 0  
 SMH: 8992.806 Hz  
 FIDRES: 0.274439 Hz  
 AQ: 1.8249508 sec  
 RG: 90.5  
 SW: 55.600 usec  
 DE: 4.50 usec  
 TE: 300.0 K  
 P1: 5.00000000 sec  
 P2: 12.00 usec  
 DE: 4.50 usec  
 SFO1: 300.1342018 MHz  
 NUC1: 1H  
 PL1: 0.00 dB

F2 - Processing parameters

SI: 32768  
 SF: 300.1300018 MHz  
 MCM: EM  
 SSB: 0  
 LB: 0.60 Hz  
 GB: 0  
 PC: 1.40

1D NMR plot parameters

CX: 20.00 cm  
 F1P: 10.000 ppm  
 F1: 3001.30 Hz  
 F2P: -0.500 ppm  
 F2: -190.07 Hz  
 PPMCH: 0.52500 ppm/cm  
 HZCM: 157.56825 Hz/cm



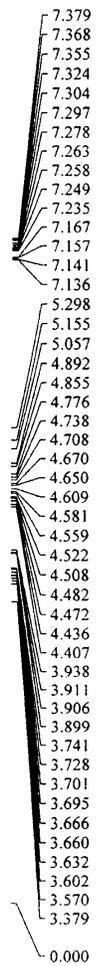
Current Data Parameters  
 NAME CARBON  
 EXPNO 523  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070423  
 Time\_ 22.12  
 INSTRUM av300  
 PROBHD 5 mm Dual 13C/  
 PULPROG zgpg30  
 TD 65536  
 CQC13  
 SOLVENT  
 NS 5120  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.2744439 Hz  
 AQ 1.0219508 sec  
 RG 9192  
 LW 27.600 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999996 sec  
 TD 1

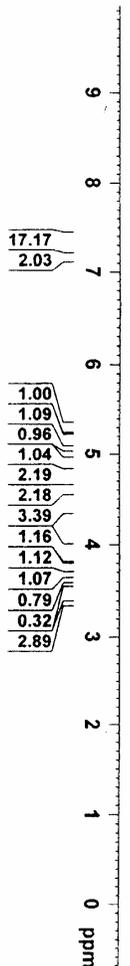
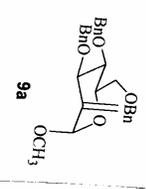
\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUCL 13C  
 P1 0.25 usec  
 PL1 -2.00 dB  
 SFO1 75.4752953 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NUCC 1H  
 PCPD2 80.00 usec  
 PL2 -2.00 dB  
 PL12 15.80 dB  
 PL13 19.80 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameter  
 SI 32768  
 SF 75.4677507 MHz  
 WDM EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



Nagaraaj 2



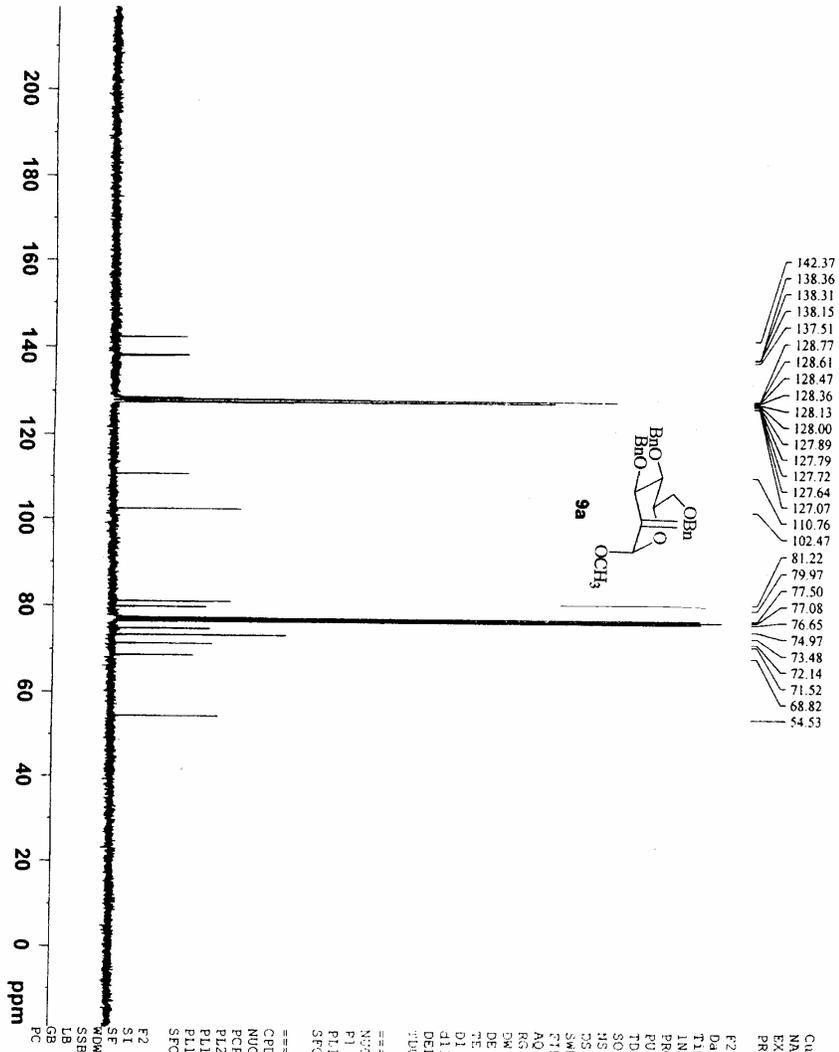
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Current Data Parameters
NAME      Jul19-2007-11td
EXPNO     32
PROCNO    1

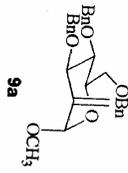
F2 - Acquisition Parameters
Date_     20070719
Time      14.55
INSTRUM   av300
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         2
DS         4
SWH        6172.819 Hz
FIDRES     0.094190 Hz
AQ         5.3084660 sec
RG         64
DM         81.000 use
DE         6.00 use
TE         300.1 K
D1         1.00000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1       13C
P1         11.00 use
PL1        -1.00 dB
SFO1       300.1318531 MHz

F2 - Processing parameters
SI         300.1300141 MHz
SF         377.68 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```



- 142.37
- 138.36
- 138.31
- 138.15
- 137.51
- 128.77
- 128.61
- 128.47
- 128.36
- 128.13
- 128.00
- 127.89
- 127.79
- 127.72
- 127.64
- 127.07
- 110.76
- 102.47
- 81.22
- 79.97
- 77.50
- 77.08
- 76.65
- 74.97
- 73.48
- 72.14
- 71.52
- 68.82
- 54.53



Current Data Parameters  
 NAME Jul21-2007-31td  
 EXPNO 3  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070721  
 Time 9.58

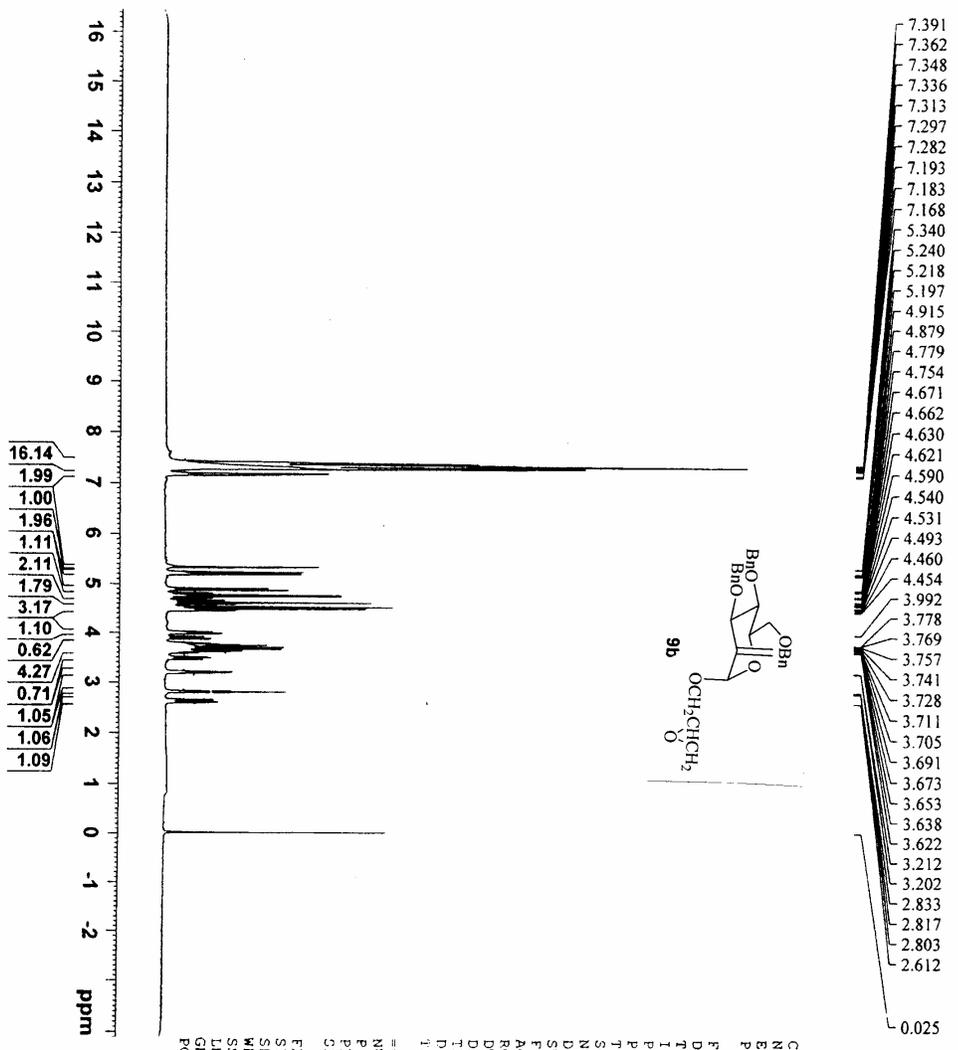
INSTRUM avj00  
 PROBHD 5 mm PABO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 336  
 DS 4

SWH 11982.611 Hz  
 FIDPEC 0.271439 Hz  
 AQ 1.8219508 sec  
 RG 32768  
 DW 27.860 usec  
 DE 6.00 usec  
 TE 300.2 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TDV 1

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 75.4722903 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.4677490 MHz  
 WDM EM  
 SSB 0  
 DB 1.00 Hz  
 GB 0  
 PC 1.40



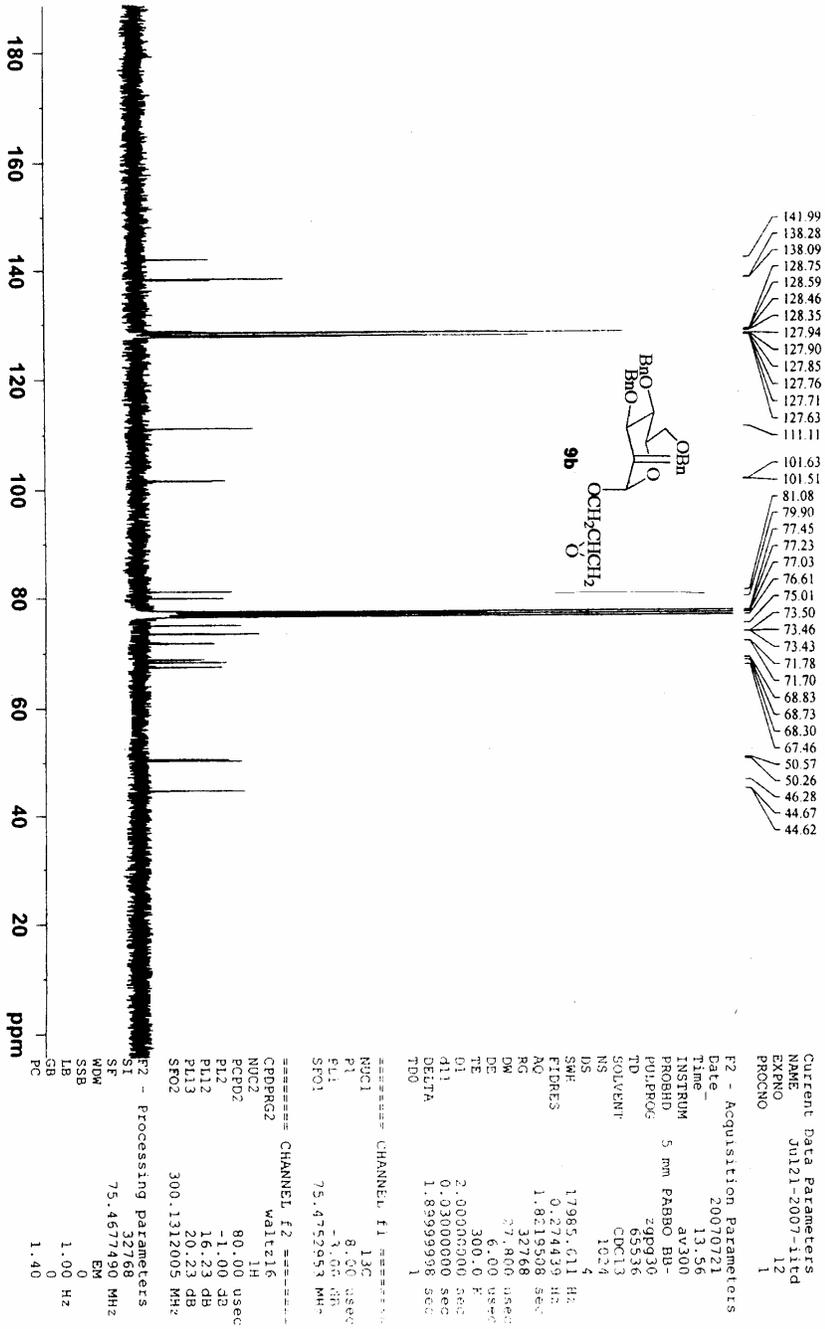
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 NAME Jul21-2007-11td  
 EXPNO 8  
 PROCNO 1

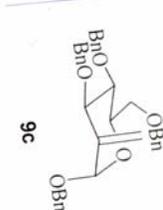
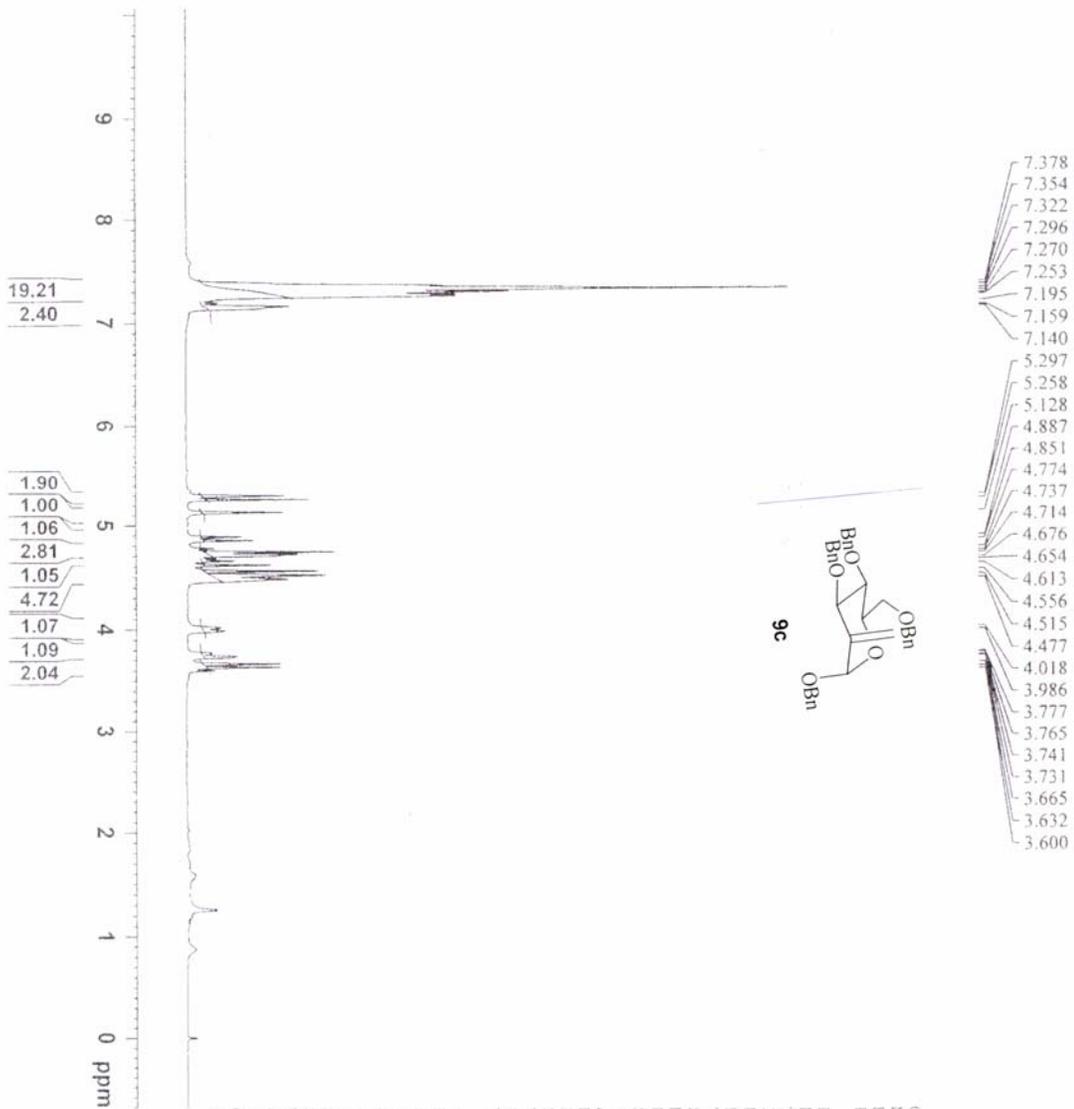
F2 - Acquisition Parameters:

Date\_ 20070721  
 Time 12.31  
 INSTRUM dv300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 2  
 DS 2  
 SWH 6172.614 Hz  
 FIDRES 0.000410 Hz  
 AQ 5.7084660 sec  
 RG 151.7  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 PI 1.00000000 sec  
 TDU 1

----- CHANNEL f1 -----

NUC1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 CPO1 300.1310534 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 300.1300000 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



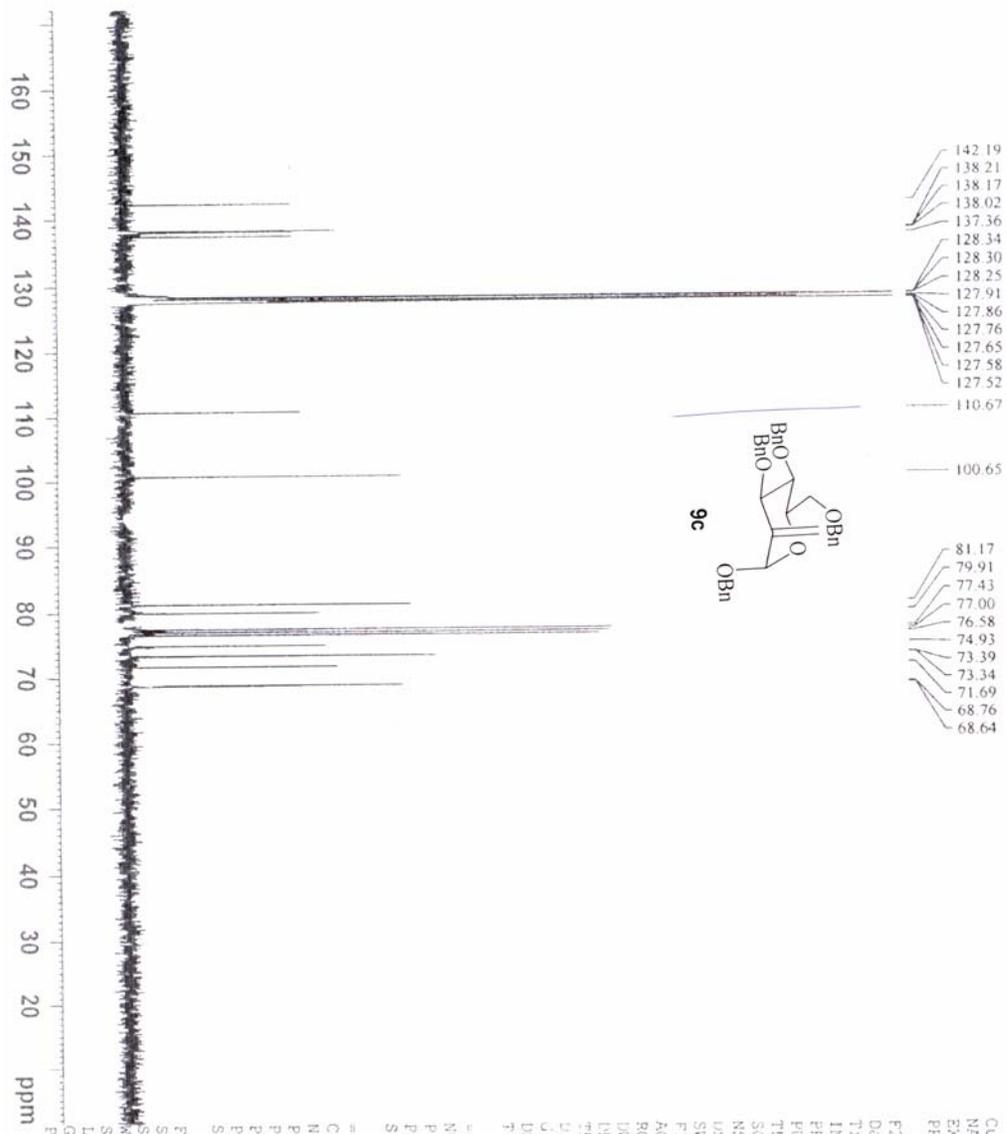


Current Data Parameters  
 NAME April-26-2007-11td  
 EXPNO 17  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070426  
 Time 11.32  
 INSTRUM aw300  
 PROBRD 5 mm Dual 13c/  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT cdcl3  
 NS 5  
 DS 2  
 SMH 6172.532 Hz  
 FIDRES 0.064190 Hz  
 AQ 5.3284660 sec  
 RG 45.3  
 LW 81.000 user  
 DE 3.000 user  
 TE 300.0 K  
 UJ 0.000000 sec  
 TD0 1

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 1.00  
 PL1 0.00000000  
 F1 101.626125 MHz  
 SFO1 101.626125 MHz

F2 - Processing parameters  
 SI 32768  
 SF 299.1360258 MHz  
 WDM 4  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



Current Data Parameters  
 NAME CARBON  
 EXPNO 514  
 PROCNO 1

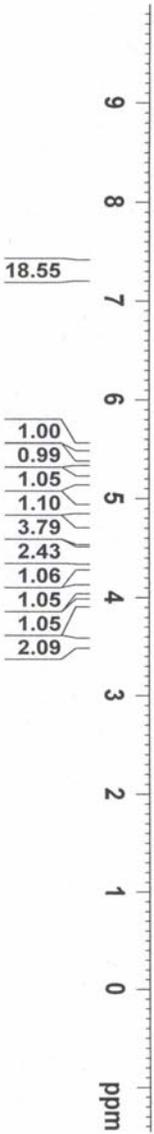
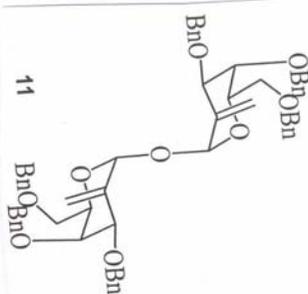
F2 - Acquisition Parameters  
 Date\_ 20070420  
 Time 12.53  
 INSTRUM AV300  
 PROBD 5 mm Tzal 147  
 FOLPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 76  
 DS 4  
 SWH 11985.411 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.48219508 sec  
 RG 8132  
 DW 29.000 usec  
 DE 61.00 usec  
 PE 390.0 usec  
 U1 2.0000000 sec  
 U11 0.0300000 sec  
 DELTA 1.89939996 sec  
 TD0 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 13C  
 P1 4.30 usec  
 PL1 -2.00 dB  
 SFO1 75.4752953 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -2.00 dB  
 PL12 15.80 dB  
 PL13 19.80 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 75.4677650 MHz  
 MWDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

7.401  
7.384  
7.375  
7.357  
7.342  
7.317  
7.309  
7.300  
7.284  
7.276  
7.268  
7.257  
7.250  
7.244  
7.223  
7.206  
5.526  
5.353  
5.192  
4.916  
4.877  
4.674  
4.655  
4.634  
4.611  
4.588  
4.570  
4.562  
4.508  
4.492  
4.453  
4.418  
4.379  
4.310  
4.303  
4.111  
4.090  
4.069  
3.976  
3.970  
3.590  
3.557  
3.538  
3.532  
3.388

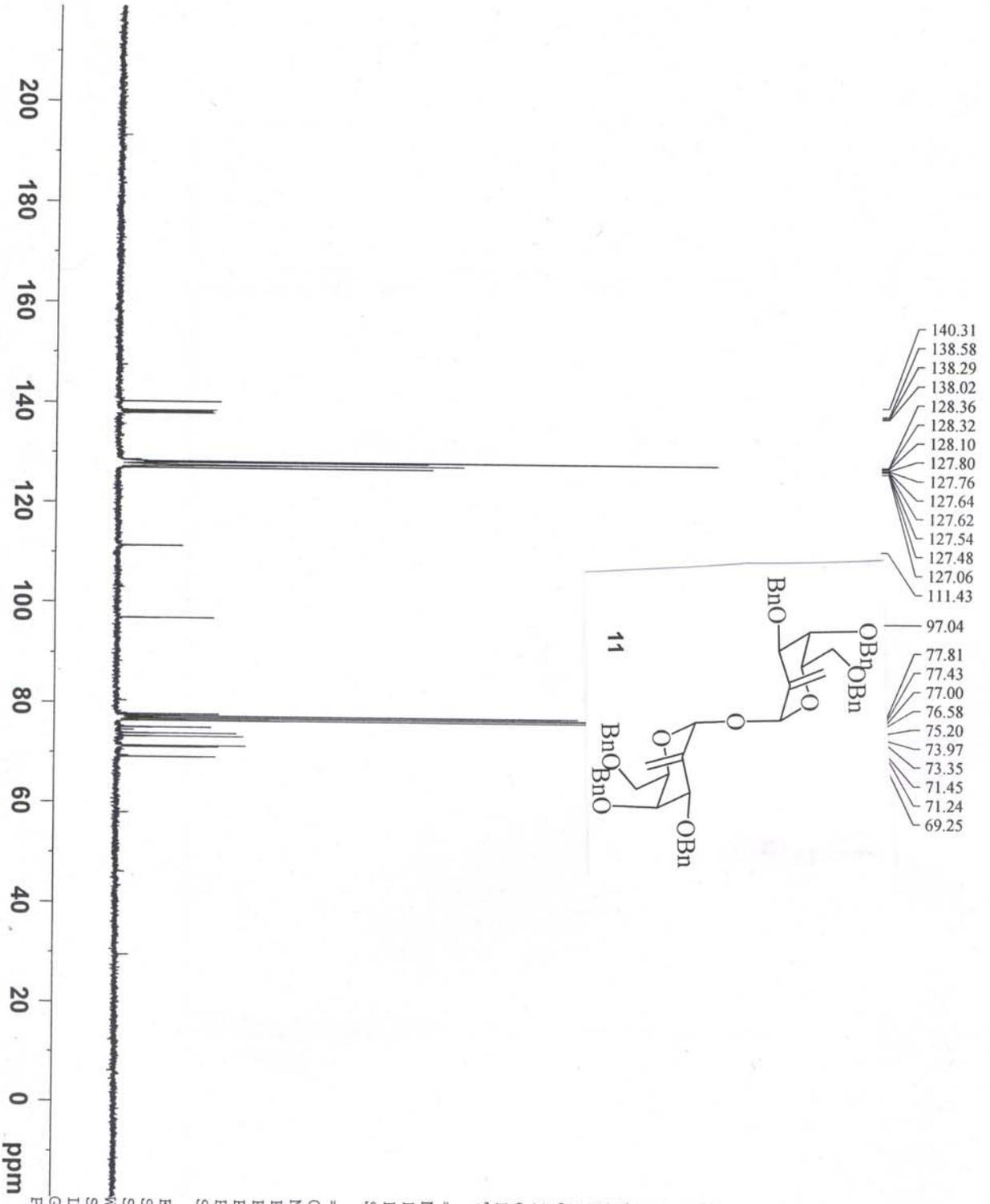


Current Data Parameters  
 NAME Nov-20-2007-1.td  
 EXPNO 26  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20071120  
 Time\_ 12.27  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 8  
 DS 2  
 SMH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 128  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TD0 1

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300109 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

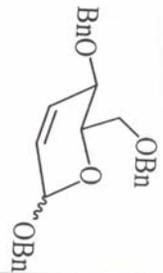
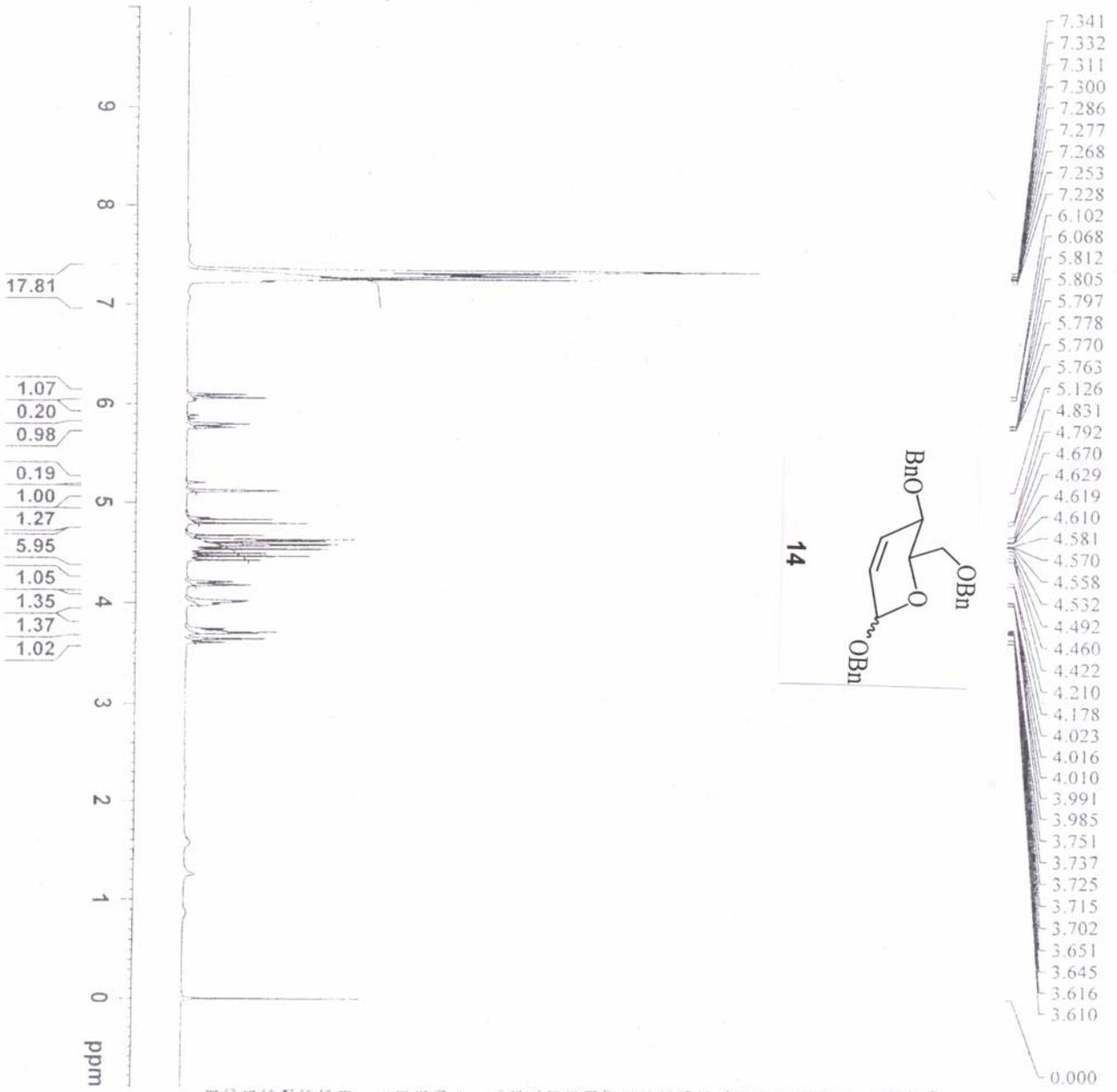


- 140.31
- 138.58
- 138.29
- 138.02
- 128.36
- 128.32
- 128.10
- 127.80
- 127.76
- 127.64
- 127.62
- 127.54
- 127.48
- 127.06
- 111.43
- 97.04
- 77.81
- 77.43
- 77.00
- 76.58
- 75.20
- 73.97
- 73.35
- 71.45
- 71.24
- 69.25

Current Data Pa  
 NAME NOV-20  
 EXPNO  
 PROCNO

F2 - Acquisition  
 Date\_  
 Time\_  
 INSTRUM  
 PROBHD 5 mm P  
 PULPROG  
 TD  
 SOLVENT  
 NS  
 DS  
 SMH  
 FIDRES  
 AQ  
 RG  
 DW  
 DE  
 TE  
 D1  
 d11  
 DELTA  
 TD0

==== CHANNEL  
 NUC1  
 P1  
 PL1  
 SFO1 75.  
 ===== CHANNEL  
 CPDPRG2  
 NUC2  
 PCPD2  
 PL2  
 PL12  
 PL13  
 SFO2 300.  
 F2 - Processing  
 SI 75.  
 SF  
 WDM  
 SSB  
 LB  
 GB  
 PC

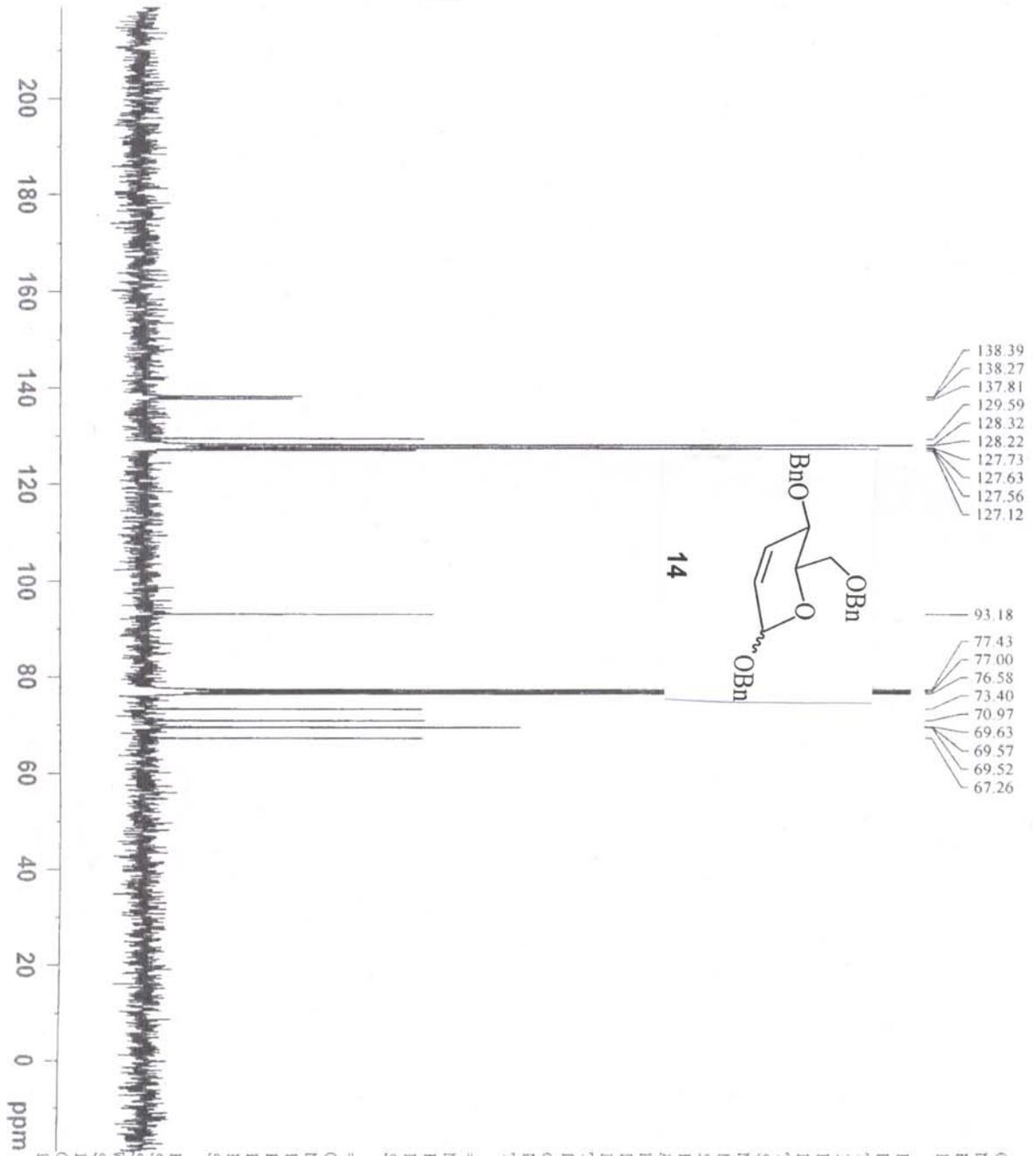


Current Data Parameters  
 NAME Aug 6-2007-1110  
 EXPNO 5  
 PROCNO 1

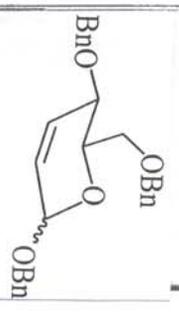
F2 - Acquisition Parameters  
 Date\_ 20070806  
 Time 10:05  
 INSTRUM AV100  
 PROBHD 5 mm DPYB1-1B  
 PULPROG zgpg30  
 TD 65536  
 SFO 500.136400  
 SOLVENT dms-d6  
 NS 1280  
 DS 4  
 SWH 10000.000  
 FIDRES 0.001000  
 AQ 5.0000000  
 RG 327.680  
 EX 16.384  
 DE 6.00000  
 TE 300.2  
 D1 1.00000000  
 DELT 0.00000000

===== CHANNEL f1 =====  
 NU1 13  
 P1 11.00000  
 PL1 0.00000  
 PR1 0.00000  
 PC1 1.00000

F1 - Processing parameters  
 SI 32768  
 SF 400.1360928 MHz  
 KW 512  
 SSB 0  
 LB 0.30000  
 GB 0  
 PC 1.00000



- 138.39
- 138.27
- 137.81
- 129.59
- 128.32
- 128.22
- 127.73
- 127.63
- 127.56
- 127.12
- 93.18
- 77.43
- 77.00
- 76.58
- 73.40
- 70.97
- 69.63
- 69.57
- 69.52
- 67.26



Current Data Parameters  
 NAME Aug 10-2007-11.fid  
 EXPNO 53  
 PROCNO 3

F2 - Acquisition Parameters

Date\_ 20070810  
 Time 21.53  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 111  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 32768  
 DW 27.800 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.89999998 sec  
 TD0 1

CHANNEL f1

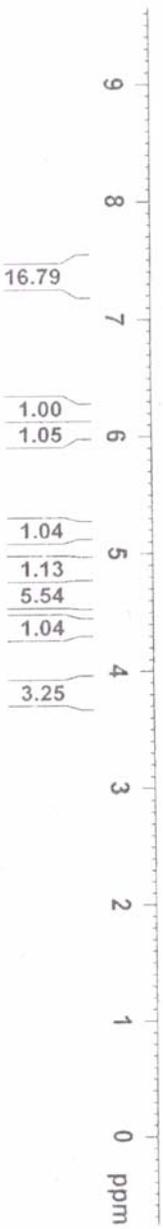
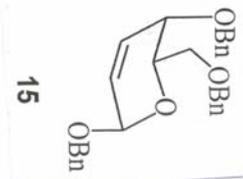
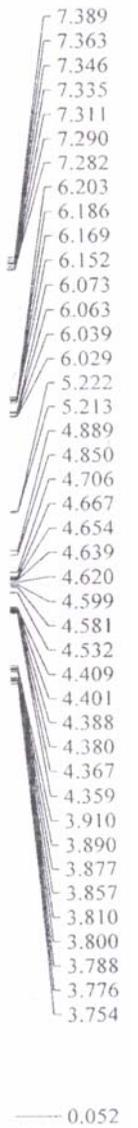
NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SF01 75.4752953 MHz

CHANNEL f2

CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SF02 300.1312005 MHz

F2 - Processing Parameters

SI 32768  
 SF 75.4677548 MHz  
 WDW EM  
 SSB 0  
 LB 3.00 Hz  
 GB 0  
 PC 1.40

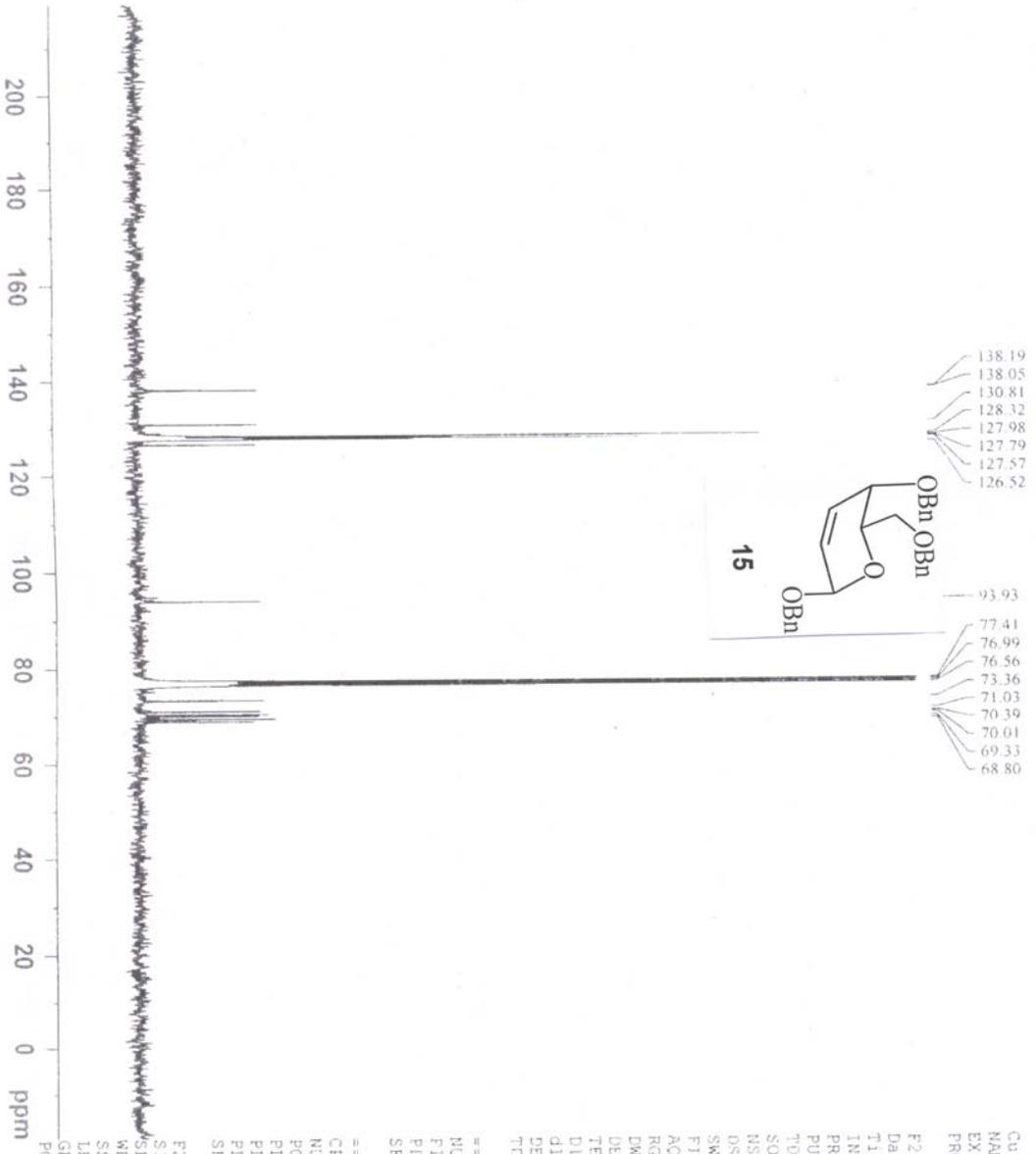


Current Data Parameters  
 NAME Aug 8-2007-11td  
 EXPNO 30  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070808  
 Time 15.57  
 INSTRUM av300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 8  
 DS 2  
 SWH 6172.939 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 64  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TD0 1

==== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 -1.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300000 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



Current Data Parameters  
 NAME Aug 6-2007-111d  
 EXPNO 80  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20070806  
 Time 21:41  
 INSTRUM dv300  
 PROBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 1154  
 DS 4  
 SWH 17945.611 Hz  
 FIDRES 0.274436 Hz  
 AQ 1.6219505 sec  
 RG 32768  
 DW 27.800 usec  
 DE 4.00 usec  
 TE 300.0 K  
 D1 2.00000000 sec  
 d11 0.03000000 sec  
 DELTA 1.00000000 sec  
 TDO 1

===== CHANNEL f1 =====  
 NUQ1 1.40  
 F1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 75.4752953 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 -1.00 dB  
 PL12 16.23 dB  
 PL13 20.23 dB  
 SFO2 300.1312005 MHz

F2 - Processing parameters  
 SI 32768  
 SE 75.4677527 MHz  
 WDM EM  
 SSB 0  
 LB 4.00 Hz  
 GB 0  
 PC 1.40