A Stereoselective Route to the Ezoaminuroic Acid Core of the Ezomycins

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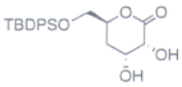
General experimental details:

All of the solvents and reagents used were obtained commercially and used as such, unless noted otherwise. Moisture or air sensitive reactions were conducted under argon atmosphere in oven dried (120°C) glass apparatus. Diethyl ether and THF were distilled from sodium benzophenone ketyl, while dichloromethane was distilled over calcium hydride, prior to use. Solvents were removed under reduced pressure using standard rotary evaporators. Flash column chromatography was carried out using Silica gel 60 (230-400 mesh), while thin layer chromatography (tlc) was carried out on Silica Gel HLF, pre-coated glass plates. All yields reported refer to isolated material judged to be homogeneous by tlc and NMR spectroscopy. Unless noted otherwise, NMR spectra were recorded with the chemical shifts (δ) reported in ppm relative to Me_4Si (for ^{1}H) and $CDCl_3$ (for ^{13}C) as internal standards respectively.



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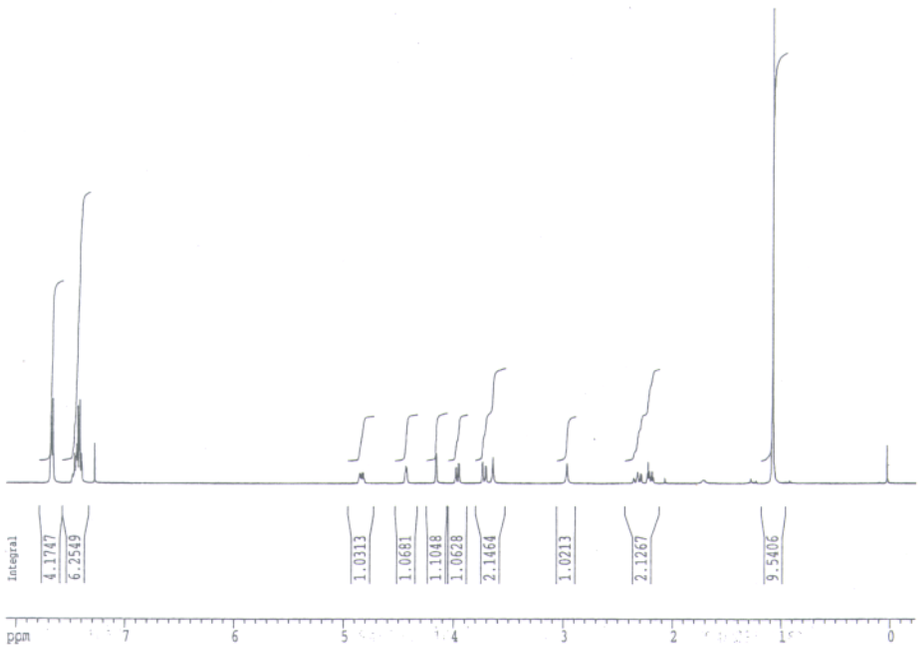


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RG                    64
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MCWRK          0.01500000 sec

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P1                  7.70 usec
PL1                -6.00 dB
SFO1         400.1320007 MHz

F2 - Processing parameters
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SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.096 ppm
F1               3239.25 Hz
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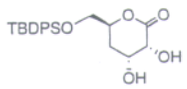
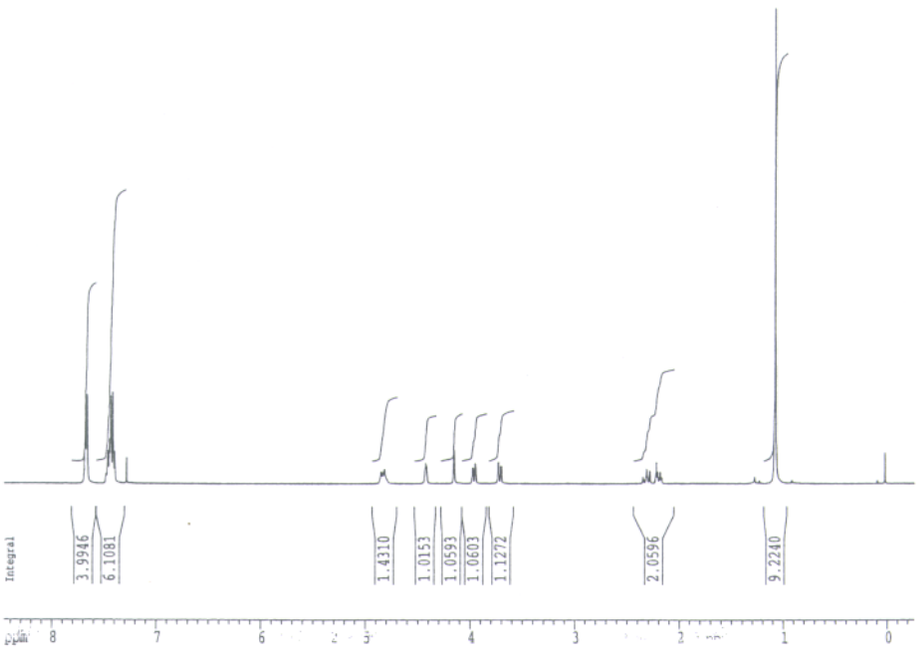


3 (D_2O exchange)

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NS                    16
DS                     2
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FIDRES          0.146157 Hz
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RG                  90.5
DW               104.400 usec
DE                 5.50 usec
TE                293.2 K
D1             1.00000000 sec
MCREST         0.00000000 sec
MCWRK          0.01500000 sec

======== CHANNEL f1 ========
NUC1                  1H
P1                  7.70 usec
PL1                -6.00 dB
SFO1         400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.470 ppm
F1               3388.92 Hz
F2P               -0.262 ppm
F2               -104.98 Hz
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HZCM           174.69489 Hz/cm
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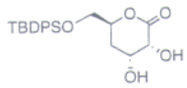

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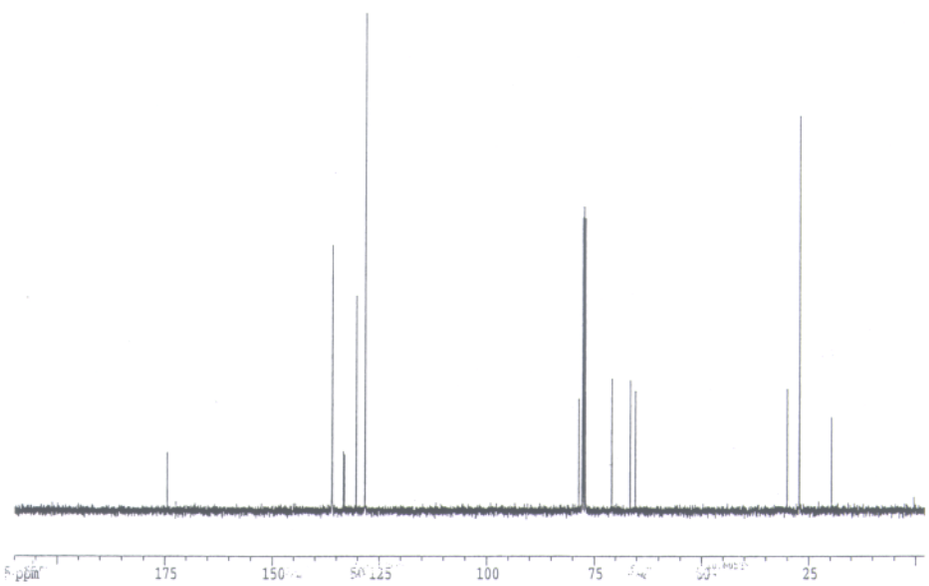


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SOLVENT            CDCl3
NS                   277
DS                     4
SWH            23148.148 Hz
FIDRES          0.353213 Hz
AQ             1.4156276 sec
RG                 812.7
DW                21.600 usec
DE                 5.50 usec
TE                1283.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                 12.30 usec
PL1                 2.00 dB
SFO1         100.6232933 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                   1H
PCPD2             100.00 usec
PL2                 0.00 dB
PL12               18.00 dB
PL13               18.00 dB
SFO2         400.1316005 MHz

F2 - Processing parameters
SI                 65536
SF          100.6127290 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.40

1D NMR plot parameters
CX                 20.00 cm
CY                 11.00 cm
F1P               210.000 ppm
F1              21128.68 Hz
F2P               -2.111 ppm
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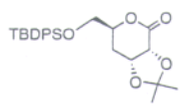

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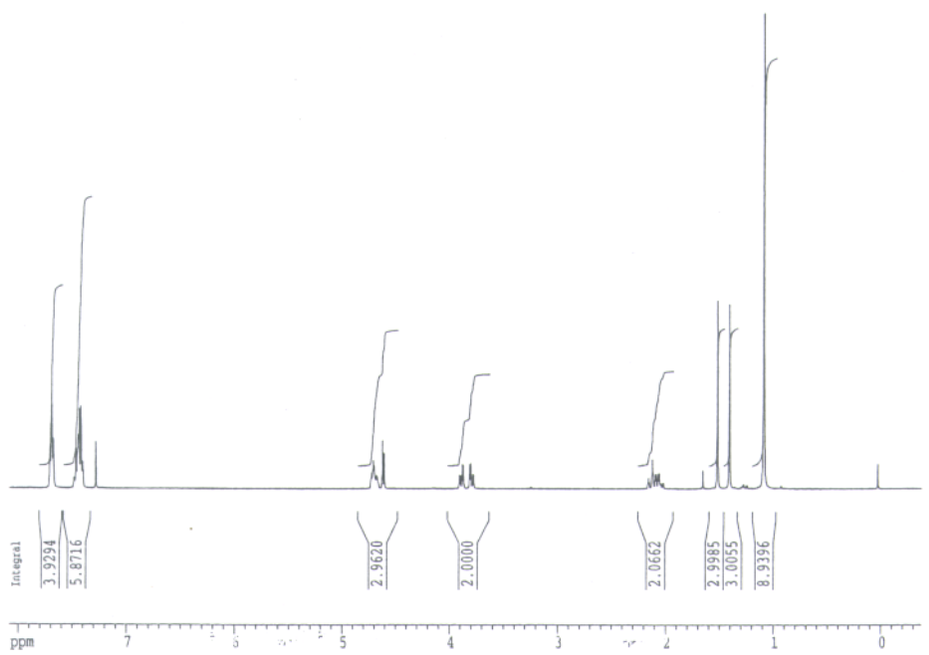


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TD                 32768
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NS                    16
DS                     2
SWH             4789.272 Hz
FIDRES          0.146157 Hz
AQ             3.4210291 sec
RG                    64
DW               104.400 usec
DE                 5.50 usec
TE                293.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                   1H
P1                  7.70 usec
PL1                -6.00 dB
SFO1         400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.083 ppm
F1              3234.09 Hz
F2P               -0.378 ppm
F2               -151.43 Hz
PPMCM            0.42305 ppm/cm
HZCM           169.27599 Hz/cm
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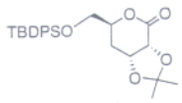

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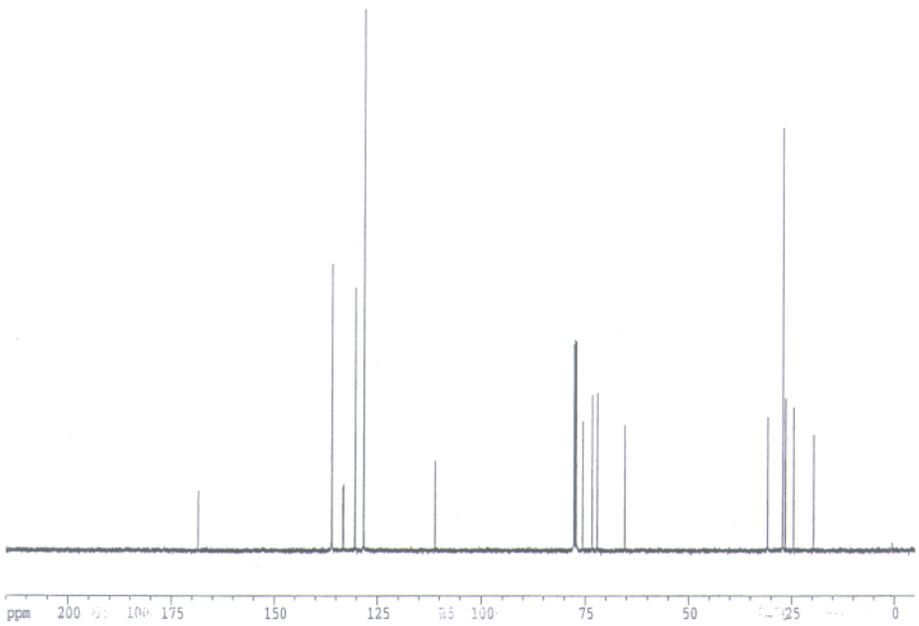


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NS                   482
DS                     4
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FIDRES          0.353213 Hz
AQ             1.4156276 sec
RG                1625.5
DW                21.600 usec
DE                  5.50 usec
TE                294.2 K
D1             0.15000001 sec
d11            0.03000000 sec
DELTA          0.05000000 sec
MCREST         0.00000000 sec
MCWRK          0.01500000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                  12.30 usec
PL1                  2.00 dB
SFO1          100.6232933 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                   1H
PCPD2             100.00 usec
PL2                 0.00 dB
PL12               18.00 dB
PL13               18.00 dB
SFO2          400.1316005 MHz

F2 - Processing parameters
SI                 65536
SF          100.6127290 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.40

1D NMR plot parameters
CX                 20.00 cm
CY                 12.00 cm
F1P               215.000 ppm
F1              21631.74 Hz
F2P               -5.000 ppm
F2               -503.06 Hz
PPMCM            11.00000 ppm/cm
HZCM          1106.73999 Hz/cm
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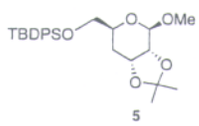

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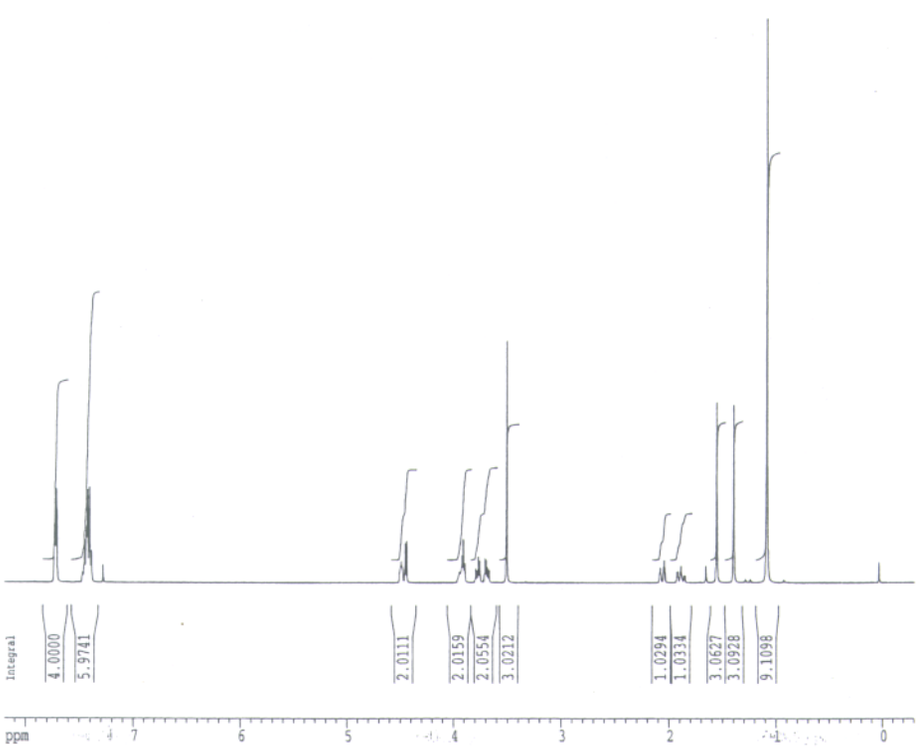


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SOLVENT            CDCl3
NS                    16
DS                     2
SWH             4789.272 Hz
FIDRES          0.146157 Hz
AQ             3.4210291 sec
RG                    64
DW                104.400 usec
DE                  5.50 usec
TE                294.2 K
D1             1.00000000 sec
MCREST         0.00000000 sec
MCWRK          0.01500000 sec

======== CHANNEL f1 ========
NUC1                   1H
P1                  7.70 usec
PL1                -6.00 dB
SFO1          400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.199 ppm
F1              3280.54 Hz
F2P               -0.301 ppm
F2               -120.46 Hz
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HZCM           170.05013 Hz/cm
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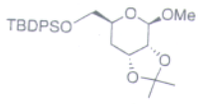

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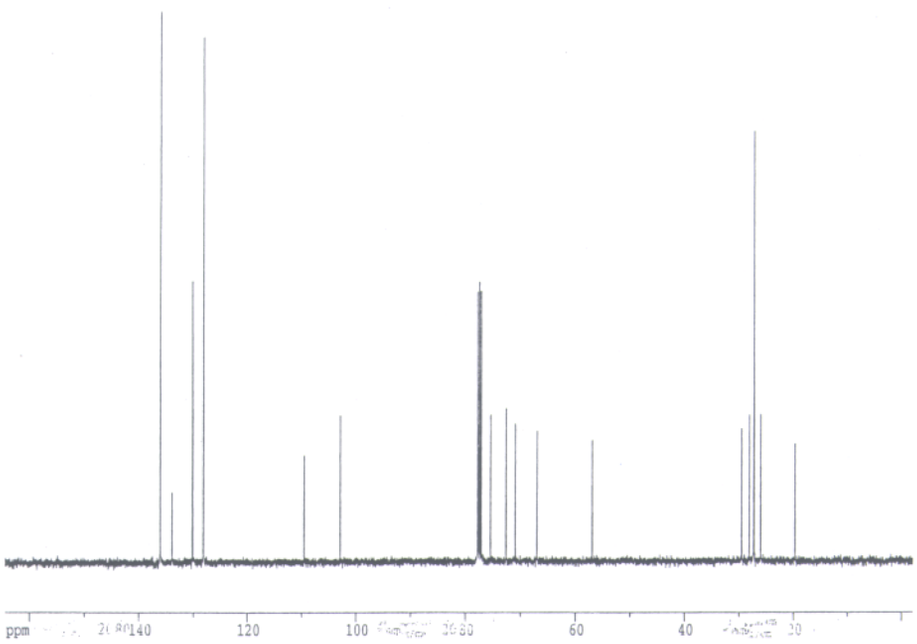


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PULPROG          zgpg30
TD                65536
SOLVENT            CDCl3
NS                   200
DS                     4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ            1.4156276 sec
RG               1824.6
DW               21.600 usec
DE                 5.50 usec
TE                294.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                13C
P1                12.30 usec
PL1                2.00 dB
SFO1        100.6232933 MHz

======== CHANNEL f2 ========
CPDPRG2         waltz16
NUC2                 1H
PCPD2            100.00 usec
PL2                0.00 dB
PL12              18.00 dB
PL13              18.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                65536
SF          100.6127290 MHz
WDW                  EM
SSB                   0
LB                 1.00 Hz
GB                    0
PC                 1.40

1D NMR plot parameters
CX                20.00 cm
CY                12.50 cm
F1P              164.501 ppm
F1             16550.93 Hz
F2P               -2.102 ppm
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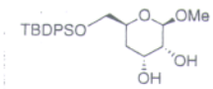

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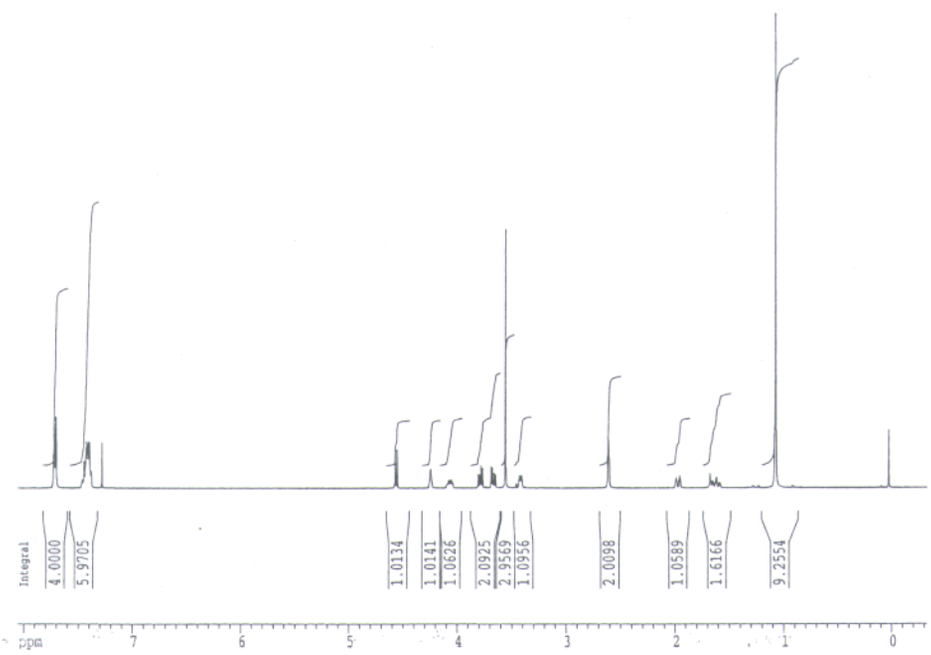


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NS                    16
DS                     2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ            3.4210291 sec
RG               101.6
DW              104.400 usec
DE                 5.50 usec
TE                293.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                 1H
P1                7.70 usec
PL1              -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                32768
SF          400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.30 Hz
GB                    0
PC                 1.00

1D NMR plot parameters
CX                20.00 cm
CY                12.50 cm
F1P               8.057 ppm
F1             3223.77 Hz
F2P              -0.327 ppm
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HZCM          167.72774 Hz/cm
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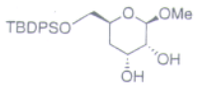
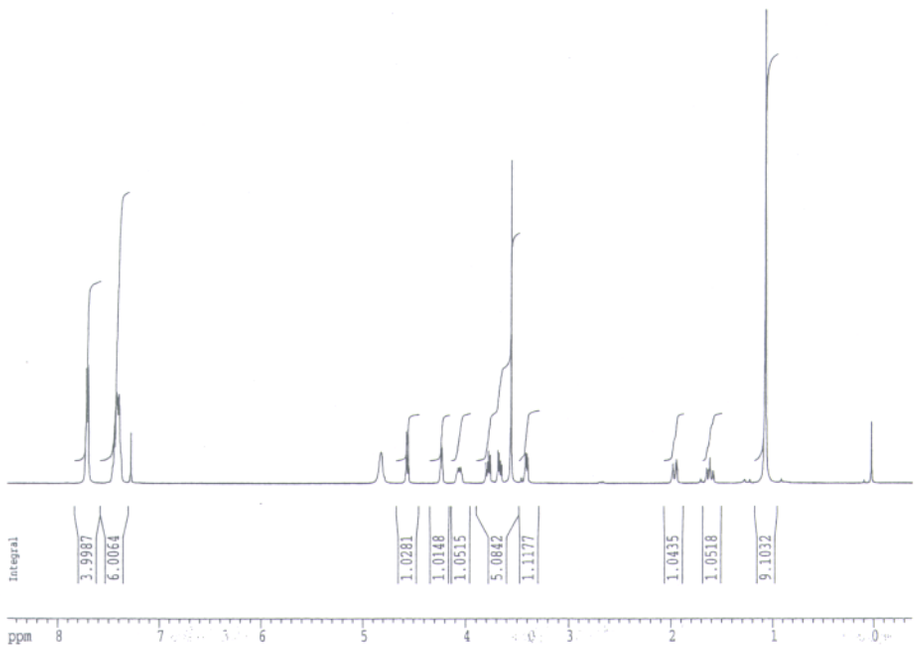


6 (D_2O exchange)

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PROCNO                 1

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PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ            3.4210291 sec
RG               90.5
DW              104.400 usec
DE                5.50 usec
TE               293.2 K
D1            1.00000000 sec
MCREST        0.00000000 sec
MCWRK         0.01500000 sec

======== CHANNEL f1 ========
NUC1                 1H
P1                7.70 usec
PL1              -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                32768
SF          400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.30 Hz
GB                    0
PC                 1.00

1D NMR plot parameters
CX                20.00 cm
CY                17.00 cm
F1P               8.495 ppm
F1             3399.24 Hz
F2P              -0.378 ppm
F2             -151.43 Hz
PPMCM           0.44369 ppm/cm
HZCM          177.53336 Hz/cm
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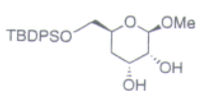

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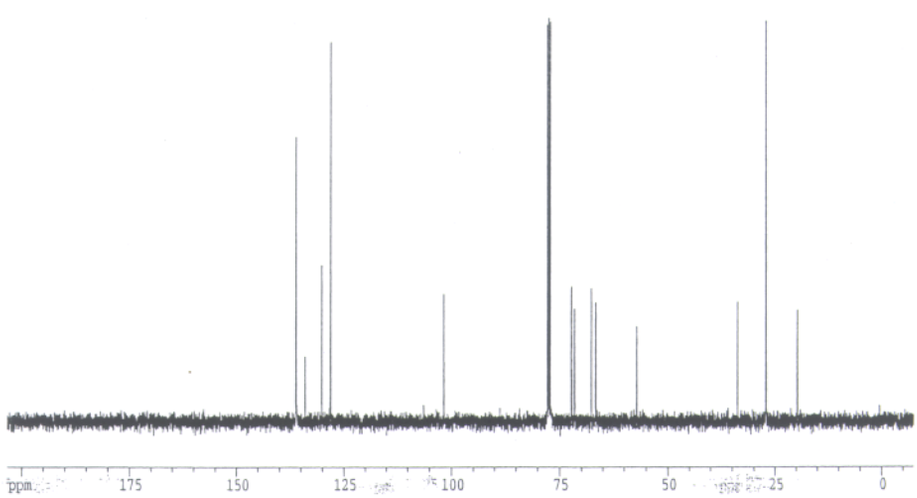


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PROCNO                 1

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PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                  197
DS                    4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ            1.4156276 sec
RG               912.3
DW               21.600 usec
DE                5.50 usec
TE               294.2 K
D1            0.15000001 sec
d11           0.03000000 sec
DELTA         0.05000000 sec
MCREST        0.00000000 sec
MCWRK         0.01500000 sec

======== CHANNEL f1 ========
NUC1                 13C
P1                12.30 usec
PL1                2.00 dB
SFO1        100.6232933 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                 1H
PCPD2            100.00 usec
PL2                0.00 dB
PL12              18.00 dB
PL13              18.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                65536
SF          100.6127290 MHz
WDW                  EM
SSB                   0
LB                 1.00 Hz
GB                    0
PC                 1.40

1D NMR plot parameters
CX                20.00 cm
CY                 9.00 cm
F1P             203.425 ppm
F1            20467.16 Hz
F2P              -7.557 ppm
F2             -760.29 Hz
PPMCM          10.54909 ppm/cm
HZCM        1061.3198 Hz/cm
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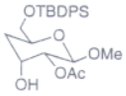

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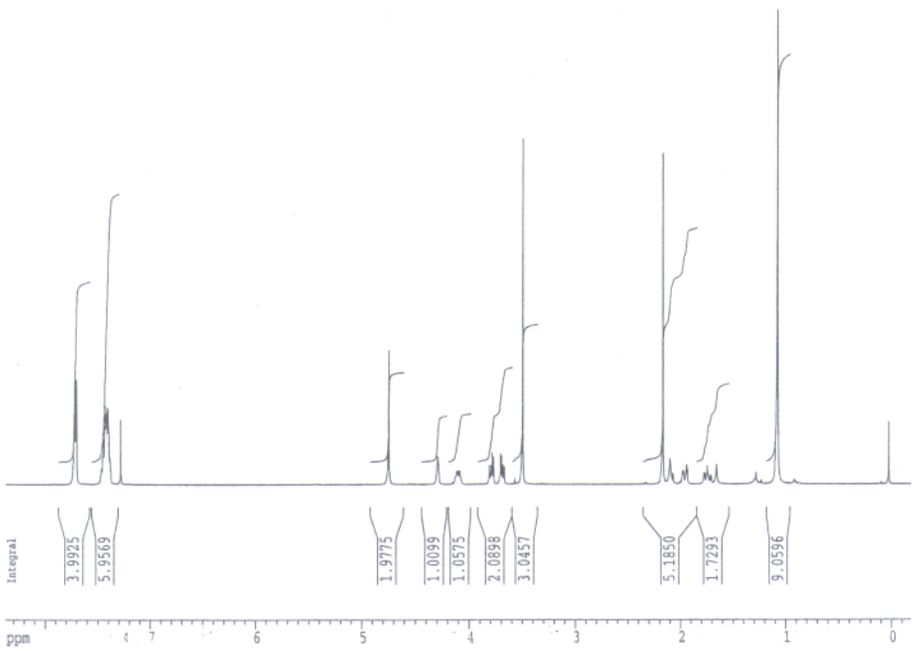


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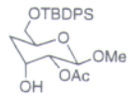
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_           20040628
Time               15.00
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ             3.4210291 sec
RG                 90.5
DW              104.400 usec
DE                5.50 usec
TE                293.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

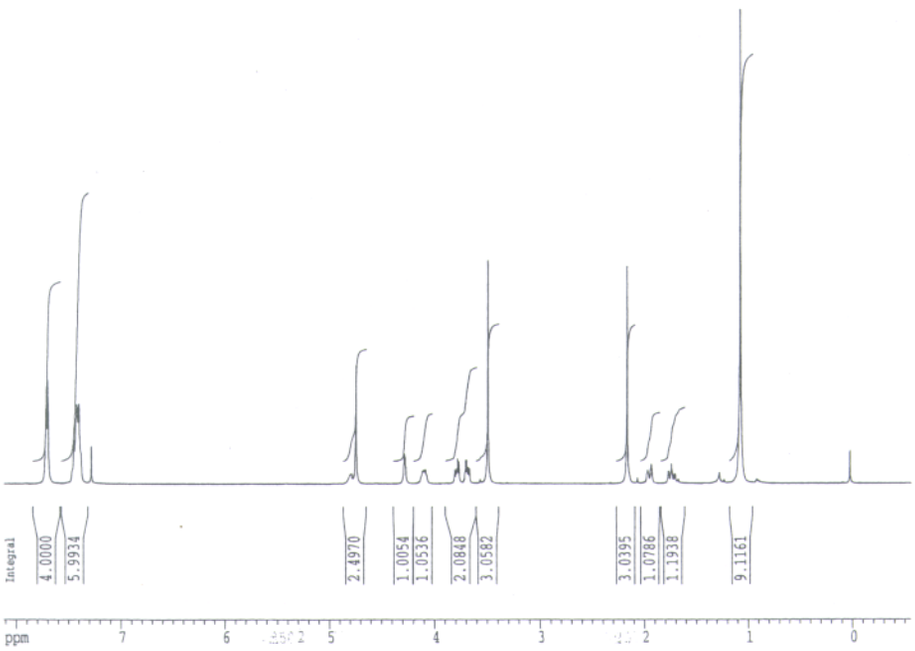
======== CHANNEL f1 ========
NUC1                  1H
P1                  7.70 usec
PL1                -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 17.00 cm
F1P                8.379 ppm
F1               3352.79 Hz
F2P               -0.185 ppm
F2                -74.02 Hz
PPMCM           0.42821 ppm/cm
HZCM          171.34035 Hz/cm
```



7(D_2O exchange)



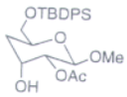

```
Current Data Parameters
NAME          JK4-88-173
EXPNO                  3
PROCNO                 1

F2 - Acquisition Parameters
Date_           20040628
Time               18.57
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ             3.4210291 sec
RG                 90.5
DW              104.400 usec
DE                5.50 usec
TE                294.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

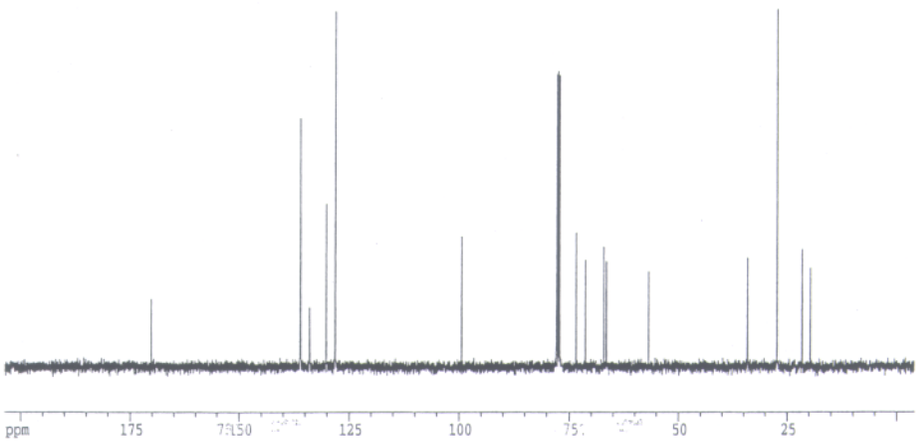
======== CHANNEL f1 ========
NUC1                  1H
P1                  7.70 usec
PL1                -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.121 ppm
F1               3249.57 Hz
F2P               -0.559 ppm
F2               -223.68 Hz
PPMCM           0.43402 ppm/cm
HZCM          173.66272 Hz/cm
```



7




```
Current Data Parameters
NAME          JK4-88-173
EXPNO                  2
PROCNO                 1

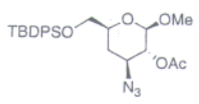
F2 - Acquisition Parameters
Date_           20040628
Time               18.51
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                  160
DS                    4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ            1.4156276 sec
RG                912.1
DW               21.600 usec
DE                 5.50 usec
TE                294.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                 13C
P1                12.30 usec
PL1                2.00 dB
SFO1        100.6232933 MHz

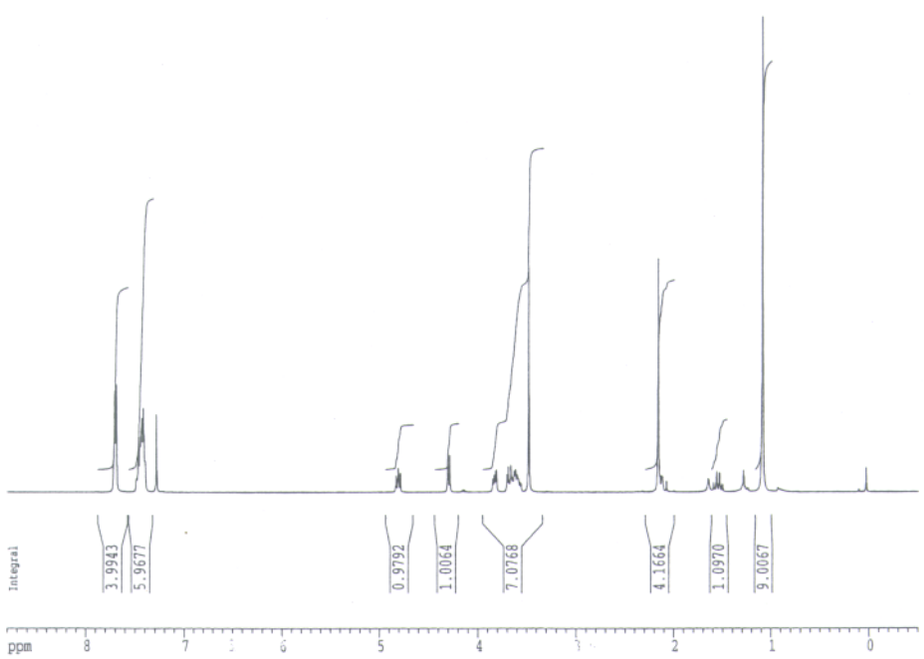
======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2            100.00 usec
PL2                 0.00 dB
PL12               18.00 dB
PL13               18.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                 65536
SF          100.6127290 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.40

1D NMR plot parameters
CX                 20.00 cm
CY                  8.00 cm
F1P               203.673 ppm
F1              20492.10 Hz
F2P                -4.086 ppm
F2               -411.07 Hz
PPMCM            10.38794 ppm/cm
HZCM          1045.15881 Hz/cm
```



8



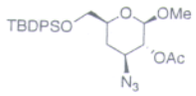

```
Current Data Parameters
NAME          JK4-89-175
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_           20040701
Time               18.22
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ            3.4210291 sec
RG                   64
DW              104.400 usec
DE                 5.50 usec
TE                293.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

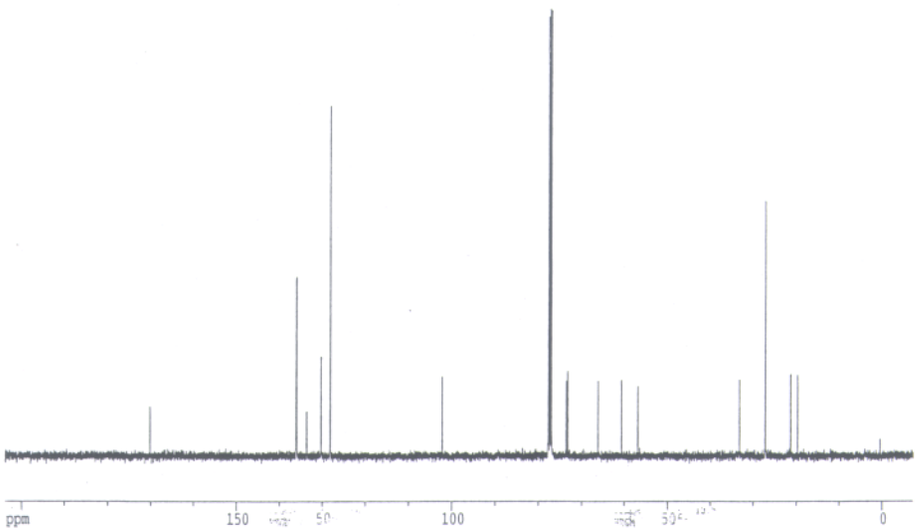
======== CHANNEL f1 ========
NUC1                  1H
P1                 7.70 usec
PL1               -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.805 ppm
F1              3523.10 Hz
F2P               -0.507 ppm
F2               -203.04 Hz
PPMCM            0.46562 ppm/cm
HZCM           186.30679 Hz/cm
```



8




```
Current Data Parameters
NAME          JK4-89-175
EXPNO                  2
PROCNO                 1

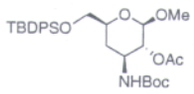
F2 - Acquisition Parameters
Date_            20040629
Time               19.27
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG           zgpg30
TD                 65536
SOLVENT            CDCl3
NS                   881
DS                     4
SWH            23148.148 Hz
FIDRES          0.353213 Hz
AQ             1.4156276 sec
RG                1625.5
DW                21.600 usec
DE                 5.50 usec
TE                294.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                 13C
P1                 12.30 usec
PL1                 2.00 dB
SFO1        100.6232933 MHz

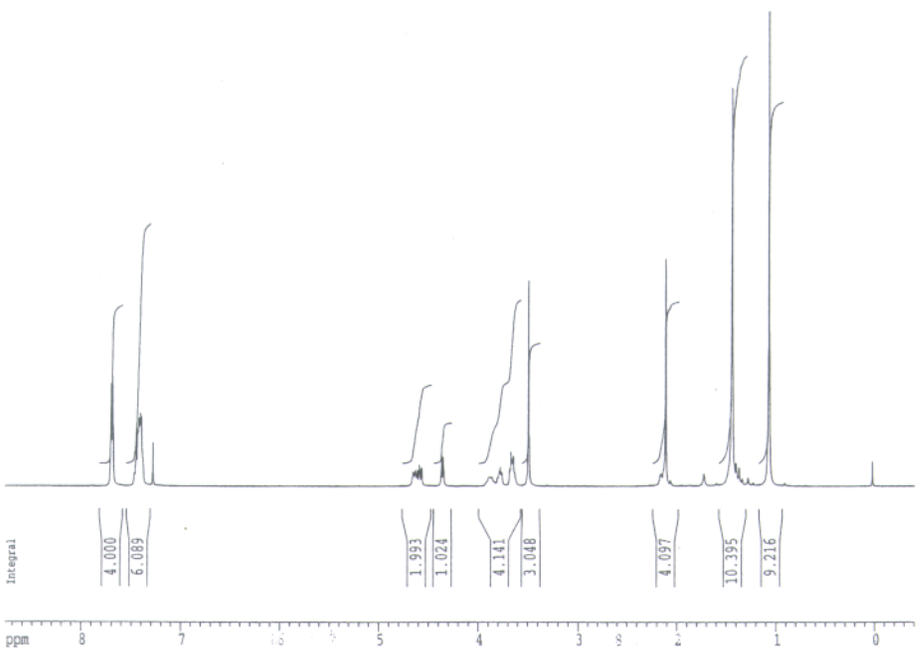
======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2             100.00 usec
PL2                 0.00 dB
PL12               18.00 dB
PL13               18.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                 65536
SF          100.6127290 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.40

1D NMR plot parameters
CX                 20.00 cm
CY                 10.00 cm
F1P               203.921 ppm
F1              20517.04 Hz
F2P                -7.309 ppm
F2               -735.35 Hz
PPMCM            [illegible]6148 ppm/cm
HZCM            1062.61963 Hz/cm
```



1



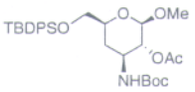

```
Current Data Parameters
NAME          JK4-90-177
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_            20040803
Time               10.09
INSTRUM           drx400
PROBHD   5 mm Multinucl
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    16
DS                     2
SWH             4789.272 Hz
FIDRES          0.146157 Hz
AQ             3.4210291 sec
RG                    64
DW               104.400 usec
DE                 5.50 usec
TE                294.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

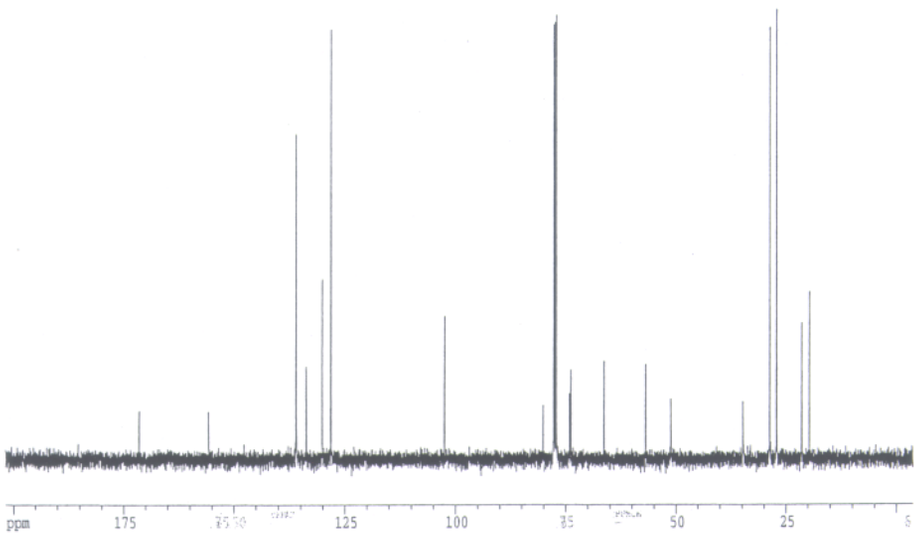
======== CHANNEL f1 ========
NUC1                  1H
P1                 7.70 usec
PL1               -6.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                 12.50 cm
F1P                8.779 ppm
F1              3512.78 Hz
F2P               -0.404 ppm
F2              -161.75 Hz
PPMCM           0.45917 ppm/cm
HZCM           183.72638 Hz/cm
```



1




```
Current Data Parameters
NAME          JK4-90-177
EXPNO                  3
PROCNO                 1

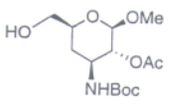
F2 - Acquisition Parameters
Date_           20040803
Time               10.18
INSTRUM          drx400
PROBHD   5 mm Multinucl
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                  240
DS                    4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ            1.4156276 sec
RG                574.7
DW                21.600 usec
DE                 5.50 usec
TE                294.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                 13C
P1                 12.10 usec
PL1                 2.00 dB
SFO1        100.6232931 MHz

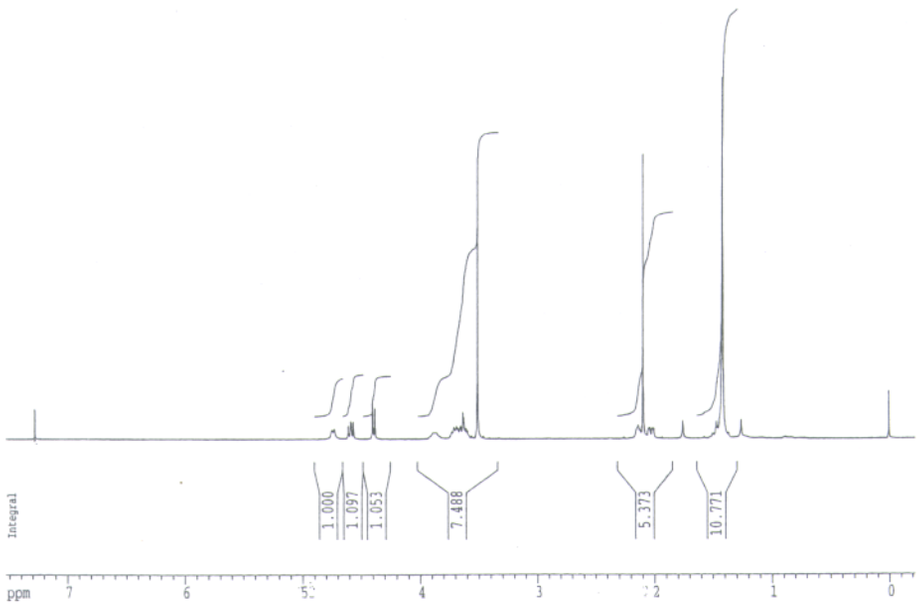
======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2             100.00 usec
PL2                 0.00 dB
PL12               18.00 dB
PL13               18.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                 65536
SF          100.6127290 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.40

1D NMR plot parameters
CX                 20.00 cm
CY                 10.00 cm
F1P               201.938 ppm
F1              20317.49 Hz
F2P                -3.838 ppm
F2               -386.13 Hz
PPMCM            10.28877 ppm/cm
HZCM          1035.18115 Hz/cm
```



9



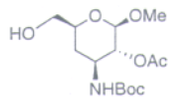

```
Current Data Parameters
NAME          JK5-46-91
EXPNO                 1
PROCNO                1

F2 - Acquisition Parameters
Date_           20050411
Time               16.34
INSTRUM          drx400
PROBHD   5 mm QNP 1H/13
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    16
DS                     2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ            3.4210291 sec
RG                 161.3
DW               104.400 usec
DE                 5.50 usec
TE                298.2 K
D1            1.00000000 sec
MCREST        0.00000000 sec
MCWRK         0.01500000 sec

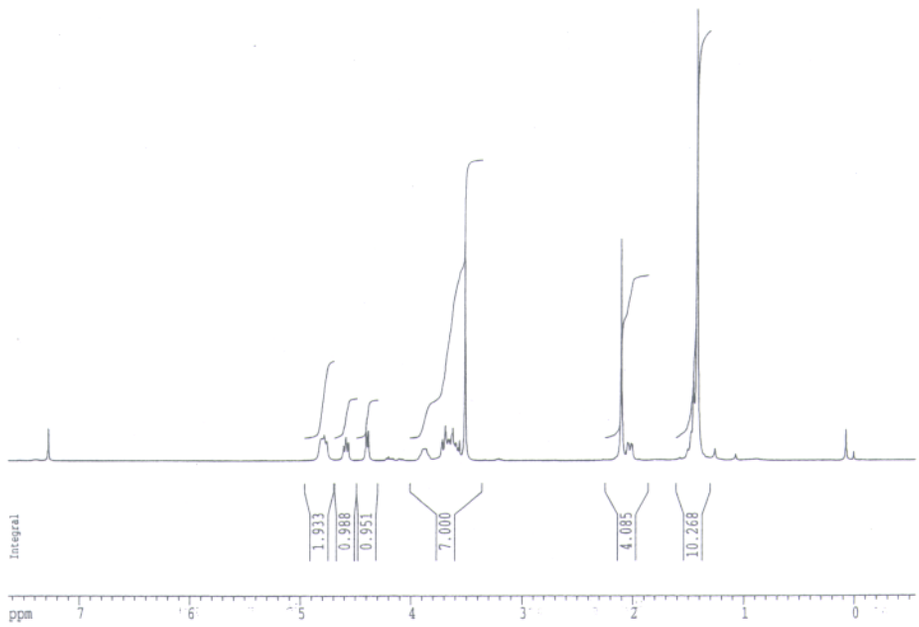
======== CHANNEL f1 ========
NUC1                  1H
P1                  9.35 usec
PL1                -4.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                 32768
SF          400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00

1D NMR plot parameters
CX                 20.00 cm
CY                  8.00 cm
F1P                7.535 ppm
F1               3014.91 Hz
F2P               -0.218 ppm
F2                -87.24 Hz
PPMCM             0.38764 ppm/cm
HZCM            155.10709 Hz/cm
```



9 (D_2O exchange)



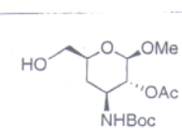

```
Current Data Parameters
NAME            JK5-2-5
EXPNO                 1
PROCNO                1

F2 - Acquisition Parameters
Date_          20050203
Time              17.28
INSTRUM          drx400
PROBHD   5 mm QNP 1H/13
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            4789.272 Hz
FIDRES         0.146157 Hz
AQ             3.4210291 sec
RG                161.3
DW               104.400 usec
DE                 5.50 usec
TE                291.2 K
D1             1.00000000 sec
MCREST         0.00000000 sec
MCWRK          0.01500000 sec

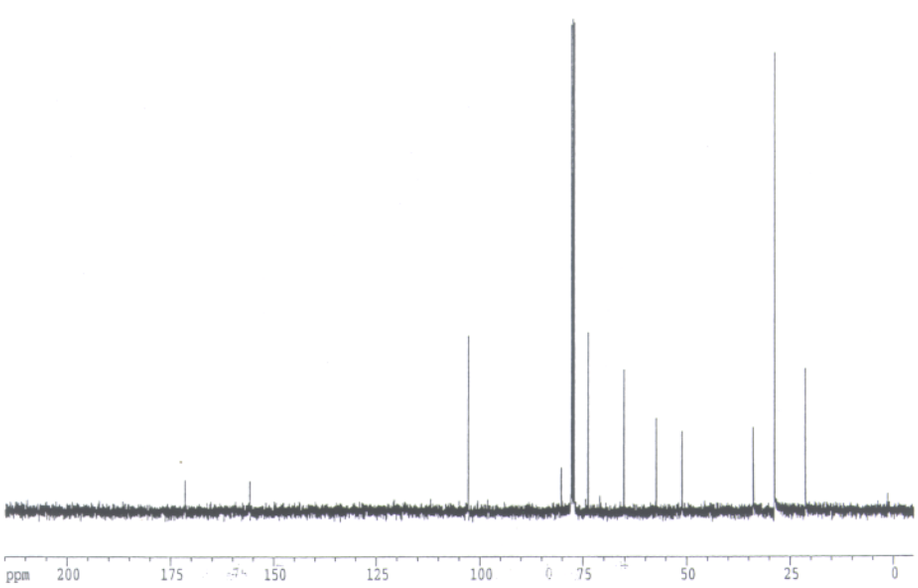
======== CHANNEL f1 ========
NUC1                  1H
P1                  9.35 usec
PL1                -4.00 dB
SFO1         400.1320007 MHz

F2 - Processing parameters
SI                32768
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.30 Hz
GB                    0
PC                 1.00

1D NMR plot parameters
CX                20.00 cm
CY                10.00 cm
F1P                7.644 ppm
F1              3058.62 Hz
F2P               -0.559 ppm
F2              -223.68 Hz
PPMCM           0.41015 ppm/cm
HZCM          164.11514 Hz/cm
```



9




```
Current Data Parameters
NAME            JK5-2-5
EXPNO                 2
PROCNO                1

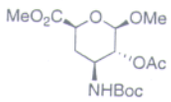
F2 - Acquisition Parameters
Date_          20050203
Time              12.56
INSTRUM          drx400
PROBHD   5 mm QNP 1H/13
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                  541
DS                    4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ             1.4156276 sec
RG                2896.3
DW                21.600 usec
DE                 5.50 usec
TE                293.2 K
D1             0.15000001 sec
d11            0.03000000 sec
DELTA          0.05000000 sec
MCREST         0.00000000 sec
MCWRK          0.01500000 sec

======== CHANNEL f1 ========
NUC1                 13C
P1                11.25 usec
PL1                2.00 dB
SFO1         100.6232933 MHz

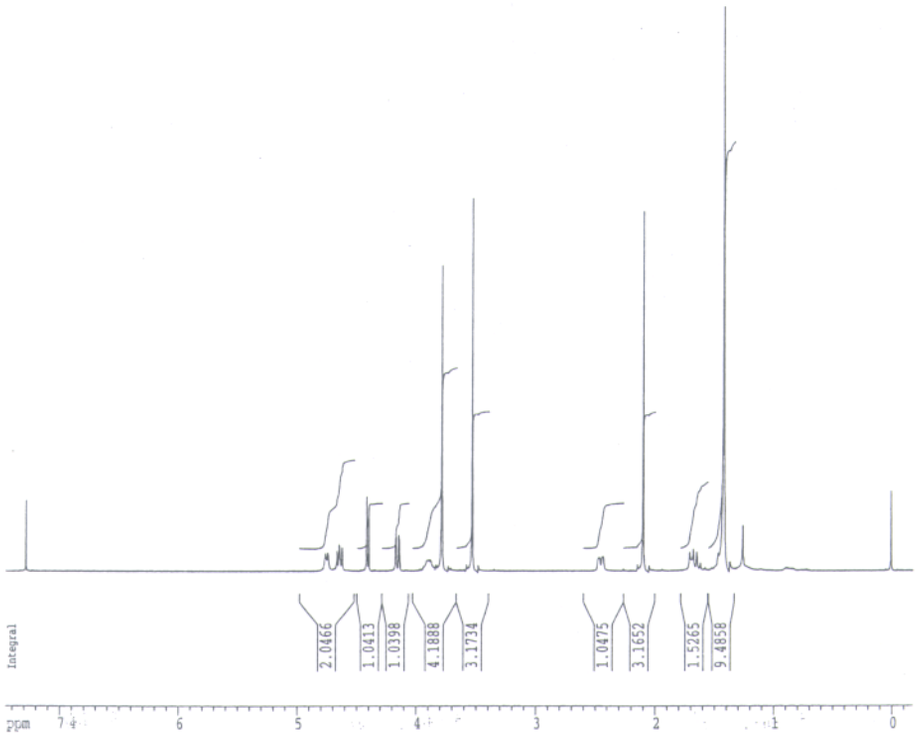
======== CHANNEL f2 ========
CPDPRG2         waltz16
NUC2                  1H
PCPD2             100.00 usec
PL2                -4.00 dB
PL12               16.58 dB
PL13               17.00 dB
SFO2         400.1316005 MHz

F2 - Processing parameters
SI                65536
SF           100.6127290 MHz
WDW                  EM
SSB                   0
LB                 1.00 Hz
GB                    0
PC                 1.40

1D NMR plot parameters
CX                20.00 cm
CY                11.00 cm
F1P              215.000 ppm
F1             21631.74 Hz
F2P               -5.000 ppm
F2              -503.06 Hz
PPMCM          11.00000 ppm/cm
HZCM        1106.73999 Hz/cm
```



10



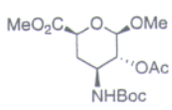

```
Current Data Parameters
NAME          JK5-64-127
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_           20050506
Time              16.26
INSTRUM          drx400
PROBHD   5 mm QNP 1H/13
PULPROG            zg10
TD               957852
SOLVENT           CDCl3
NS                     1
DS                     0
SWH            4789.272 Hz
FIDRES         0.005000 Hz
AQ           99.9998016 sec
RG                   128
DW             104.400 usec
DE               5.50 usec
TE               294.2 K
D1           1.00000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

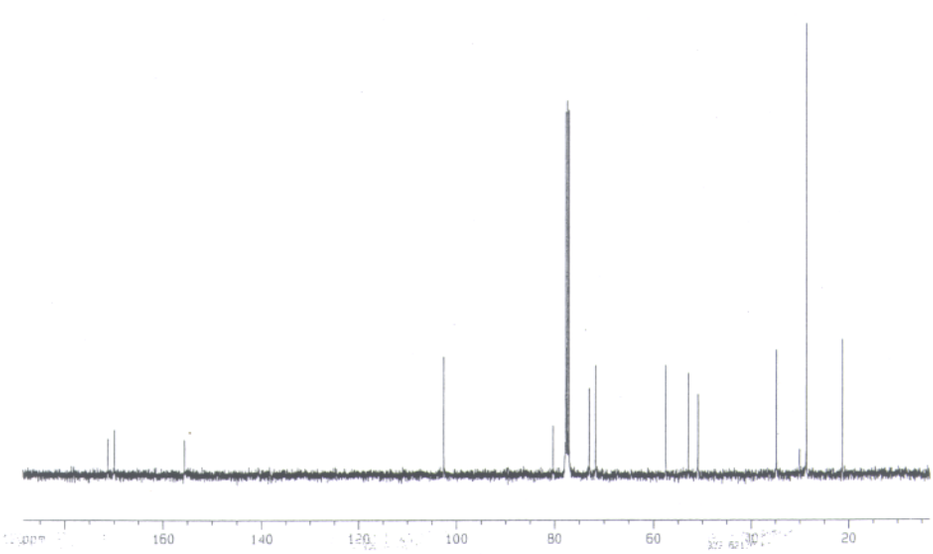
======== CHANNEL f1 ========
NUC1                  1H
P1                 9.35 usec
PL1               -4.00 dB
SFO1        400.1320007 MHz

F2 - Processing parameters
SI                32768
SF          400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.30 Hz
GB                    0
PC                 1.00

1D NMR plot parameters
CX                20.00 cm
CY                12.50 cm
F1P                7.455 ppm
F1              2982.82 Hz
F2P               -0.178 ppm
F2               -71.27 Hz
PPMCM           0.38164 ppm/cm
HZCM          152.70482 Hz/cm
```



10




```
Current Data Parameters
NAME          JK5-64-127
EXPNO                  2
PROCNO                 1

F2 - Acquisition Parameters
Date_           20050509
Time              16.00
INSTRUM          drx400
PROBHD   5 mm QNP 1H/13
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                   911
DS                     4
SWH           23148.148 Hz
FIDRES         0.353213 Hz
AQ           1.4156276 sec
RG                2896.3
DW              21.600 usec
DE               5.50 usec
TE               294.2 K
D1           0.15000001 sec
d11          0.03000000 sec
DELTA        0.05000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                11.25 usec
PL1                2.00 dB
SFO1        100.6232933 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2            100.00 usec
PL2               -4.00 dB
PL12              16.58 dB
PL13              17.00 dB
SFO2        400.1316005 MHz

F2 - Processing parameters
SI                65536
SF          100.6127290 MHz
WDW                  EM
SSB                   0
LB                 1.00 Hz
GB                    0
PC                 1.40

1D NMR plot parameters
CX                20.00 cm
CY                10.00 cm
F1P              188.662 ppm
F1             18981.85 Hz
F2P                3.274 ppm
F2               329.41 Hz
PPMCM           9.26942 ppm/cm
HZCM          932.62170 Hz/cm
```