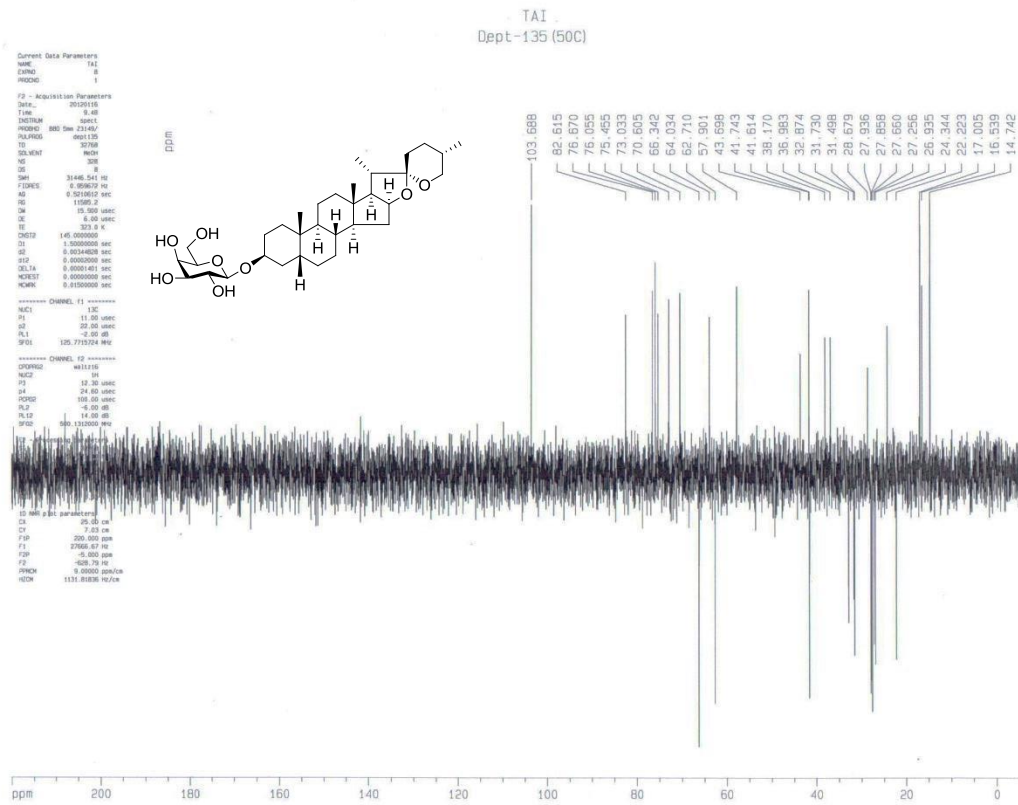
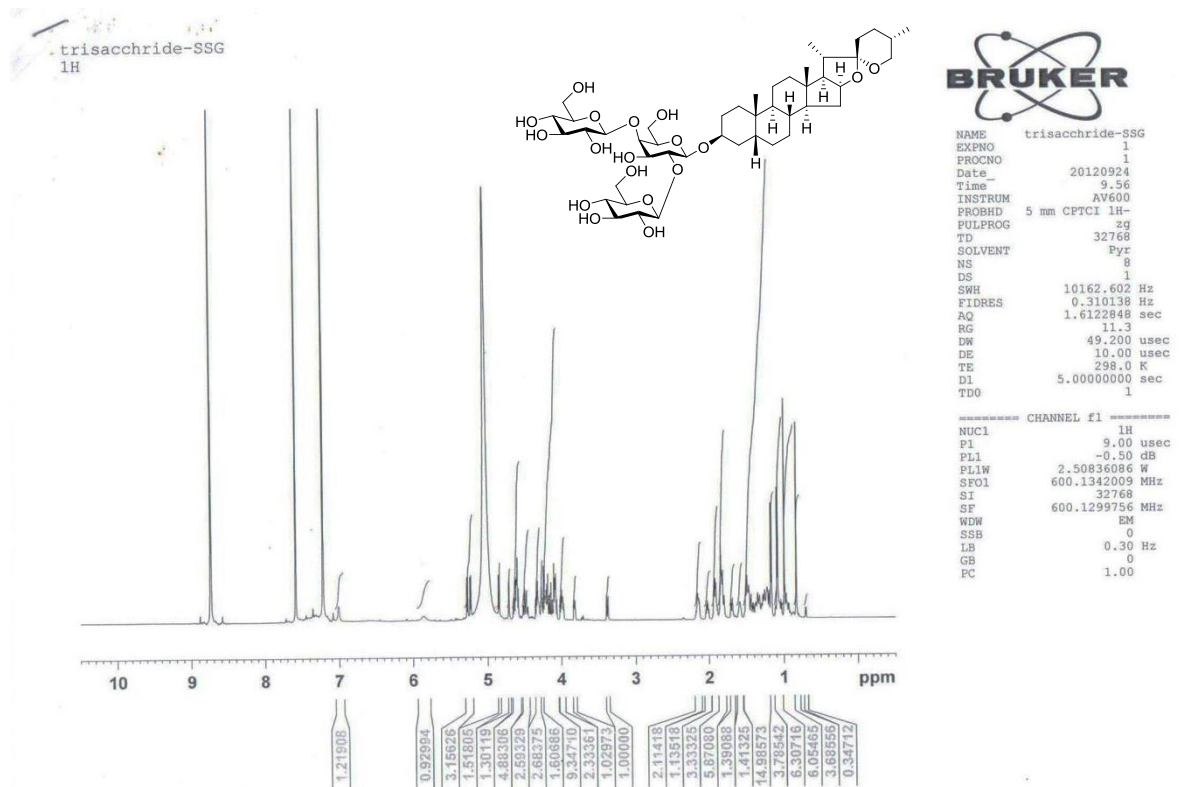


Dept-135 of Timosaponin A I (3)

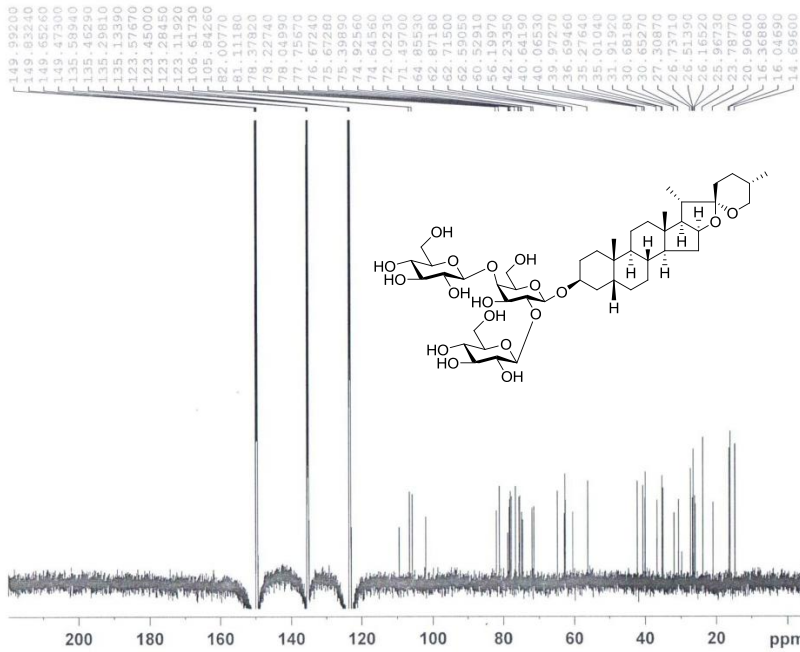


¹H NMR of Timosaponin A V (4)



¹³C NMR of Timosaponin A V (4)

trisacchride-SSG
13C-Complete-decoupling



```

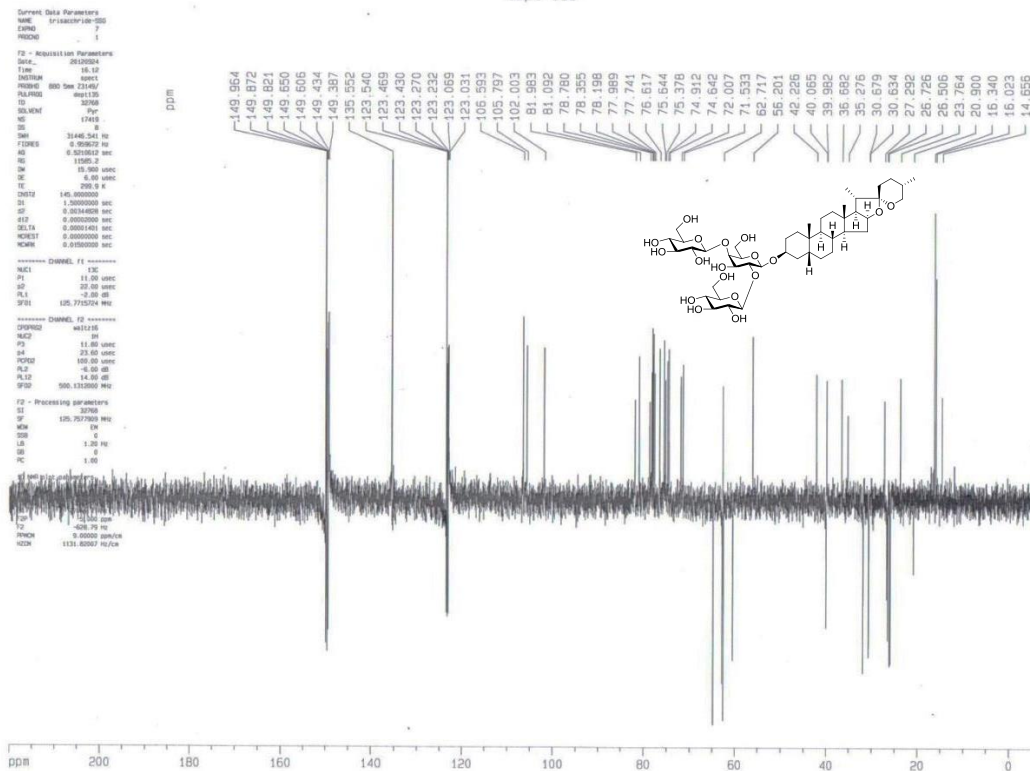
NAME trisacchride-SSG
EXPNO 4
PROCNO 1
Date_ 20120924
Time 10.01
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG zgdc
TD 32634
SOLVENT Pyr
NS 633
DS 2
SWH 37593.984 Hz
FIDRES 1.151988 Hz
AQ 0.4340955 sec
RG 5160.6
DM 13.300 usec
DE 50.00 usec
TE 298.0 K
D1 3.0000000 sec
D11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 15.00 usec
PL1 -3.00 dB
PL1W 140.33242798 W
SFO1 150.9193483 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PF2 -0.50 dB
PL12 15.60 dB
PL2W 2.50836086 W
PL12W 0.06157295 W
SFO2 600.1330006 MHz
SI 32768
SF 150.9028078 MHz
WDW EM
SSB 0
LB 1.20 Hz
GB 0
PC 1.00
    
```

Dept-135 of Timosaponin A V (4)

trisacchride-SSG
Dept-135



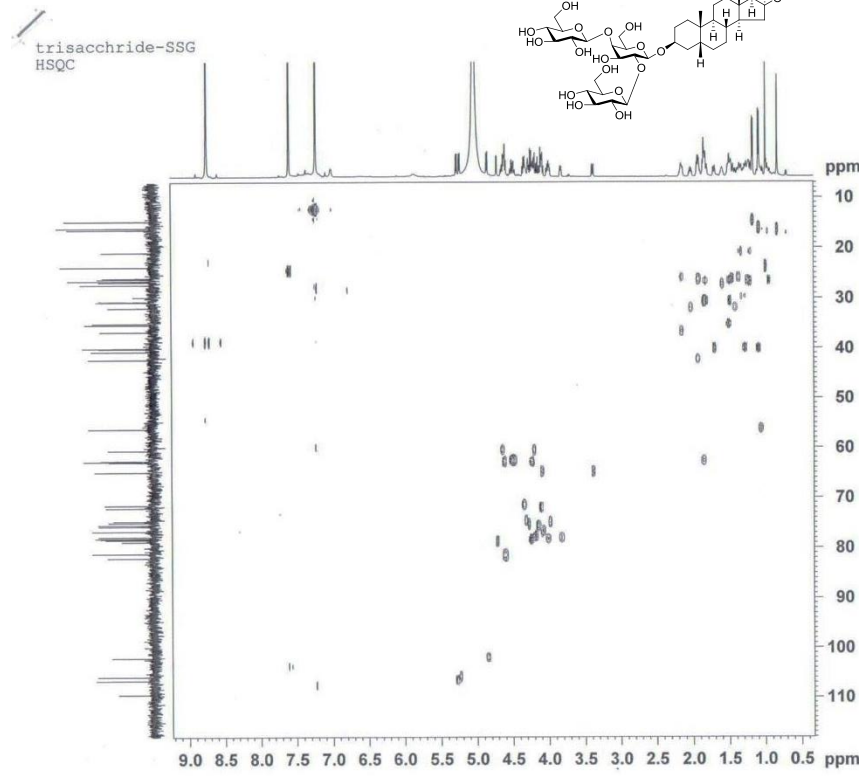
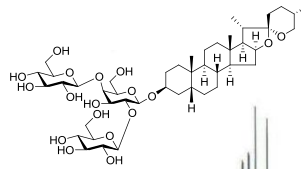
```

Current Data Parameters
Name trisacchride-SSG
EXPNO 4
PROCNO 1
F2 - Acquisition Parameters
Date_ 20120924
Time 10.01
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG zgdc
TD 32634
SOLVENT Pyr
NS 633
DS 2
SWH 37593.984 Hz
FIDRES 1.151988 Hz
AQ 0.4340955 sec
RG 5160.6
DM 13.300 usec
DE 50.00 usec
TE 298.0 K
D1 3.0000000 sec
D11 0.0300000 sec
D12 0.0000000 sec
D13 0.0000000 sec
D14 0.0000000 sec
D15 0.0000000 sec
===== CHANNEL f1 =====
NUC1 13C
P1 15.00 usec
PL1 -3.00 dB
PL1W 140.33242798 MHz
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PF2 -0.50 dB
PL12 15.60 dB
PL2W 2.50836086 W
PL12W 0.06157295 W
SFO2 600.1330006 MHz
SI 32768
SF 150.9028078 MHz
WDW EM
SSB 0
LB 1.20 Hz
GB 0
PC 1.00

F2 - Processing parameters
SI 32768
SF 150.9028078 MHz
WDW EM
SSB 0
LB 1.20 Hz
GB 0
PC 1.00

===== CHANNEL f1 =====
NUC1 13C
P1 15.00 usec
PL1 -3.00 dB
PL1W 140.33242798 MHz
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PF2 -0.50 dB
PL12 15.60 dB
PL2W 2.50836086 W
PL12W 0.06157295 W
SFO2 600.1330006 MHz
SI 32768
SF 150.9028078 MHz
WDW EM
SSB 0
LB 1.20 Hz
GB 0
PC 1.00
    
```

HSQC of Timosaponin A V (4)



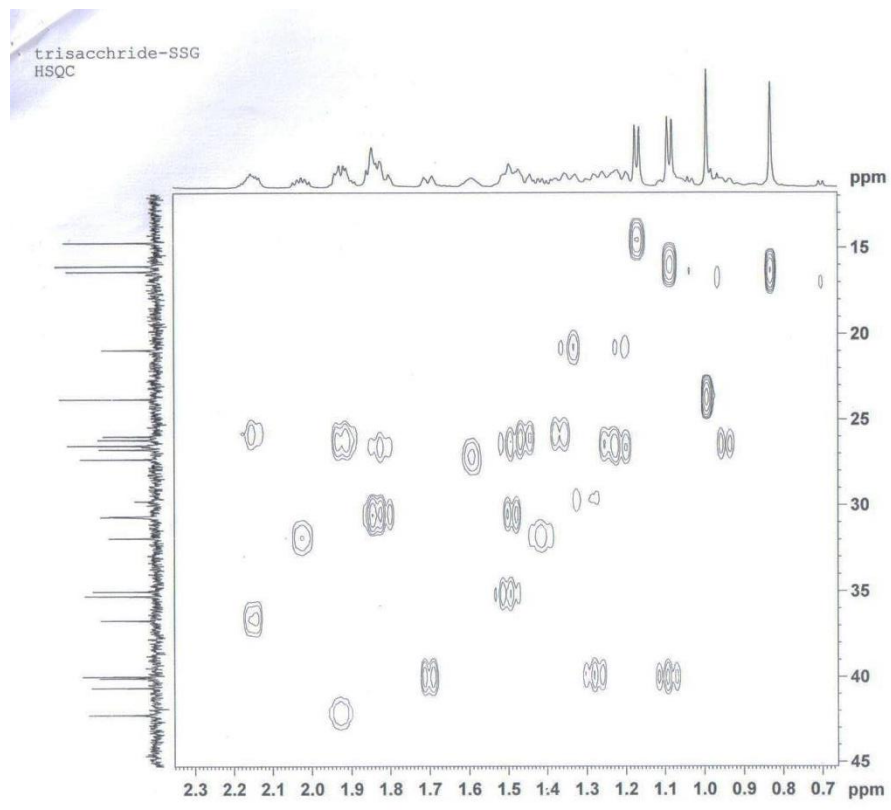
```

NAME trisacchride-SSG
EXPNO 1
PROCNO 20120924
Date_ 11.57
INSTRUM AV600
PROBHD 5 mm CPYCI 1H-
PULPROG hzgpcpg
TD 2048
SOLVENT H2O
NS 8
DS 16
SWH 5341.880 Hz
FIDRES 2.408340 Hz
AQ 0.1918364 sec
RG 1290.2
RW 93.600 usec
DE 6.00 usec
TE 298.0 K
CHST2 145.0000000 sec
D1 0.0000000 sec
D11 2.5000000 sec
D12 0.00172414 sec
D13 0.0300000 sec
D14 0.0000000 sec
D16 0.0002000 sec
IM0 0.0002980 sec
ZGPGTNS

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
P3 2.00 usec
PL1 -0.50 dB
PL1W 2.50036096 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
CPDPRG2 913C
NUC2 13C
P3 15.00 usec
P4 30.00 usec
PCPD2 60.00 usec
PL2 -3.00 dB
PL12 13.00 dB
PL1W 140.3324798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPRAM1 SINE.100
GPRAM2 SINE.100
GFE1 80.00 %
GFE2 20.10 %
P16 1000.00 usec
WDW 2
TD 128
SF01 150.9122 MHz
FIDRES 131.081146 Hz
SW 111.180 ppm
FWDOME Echo-Antiecho
SI 2048
SF 600.1299738 MHz
WVW QZINE
SSB 3
LB 0.00 Hz
GB 0
PC 1.40
SI 294
MC2 echo-antiecho
SF 150.9027912 MHz
WVW QZINE
SSB 3
LB 0.00 Hz
GB 0
    
```



```

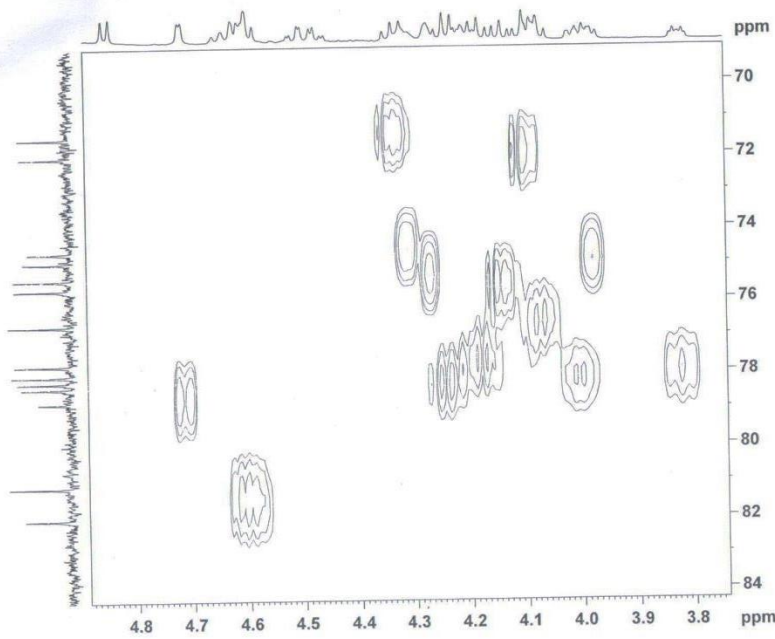
NAME trisacchride-SSG
EXPNO 7
PROCNO 20120924
Date_ 11.57
INSTRUM AV600
PROBHD 5 mm CPYCI 1H-
PULPROG hzgpcpg
TD 2048
SOLVENT H2O
NS 8
DS 16
SWH 5341.880 Hz
FIDRES 2.408340 Hz
AQ 0.1918364 sec
RG 1290.2
RW 93.600 usec
DE 6.00 usec
TE 298.0 K
CHST2 145.0000000 sec
D1 0.0000000 sec
D11 2.5000000 sec
D12 0.00172414 sec
D13 0.0300000 sec
D14 0.0000000 sec
D16 0.0002000 sec
IM0 0.0002980 sec
ZGPGTNS

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
P3 2.00 usec
PL1 -0.50 dB
PL1W 2.50036096 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
CPDPRG2 913C
NUC2 13C
P3 15.00 usec
P4 30.00 usec
PCPD2 60.00 usec
PL2 -3.00 dB
PL12 13.00 dB
PL1W 140.3324798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPRAM1 SINE.100
GPRAM2 SINE.100
GFE1 80.00 %
GFE2 20.10 %
P16 1000.00 usec
WDW 2
TD 128
SF01 150.9122 MHz
FIDRES 131.081146 Hz
SW 111.180 ppm
FWDOME Echo-Antiecho
SI 2048
SF 600.1299738 MHz
WVW QZINE
SSB 3
LB 0.00 Hz
GB 0
PC 1.40
SI 294
MC2 echo-antiecho
SF 150.9027912 MHz
WVW QZINE
SSB 3
LB 0.00 Hz
GB 0
    
```

triacchride-SSG
HSQC



```

NAME      triacchride-SSG
EXPNO    2
PROCNO   1
Date_    20120924
Time     11.57
INSTRUM  AV600
PROBHD   5 mm CP131 1H-
PULPROG  zgpg30
TD        65536
SOLVENT  Pyr
NS        4
DS        16
SWH       5341.880 Hz
FIDRES   0.131364 sec
AQ        0.0959900 sec
RG        14.3
SQ        93.600 usec
DE        10.00 usec
TE        298.0 K
DO        0.0000300 sec
D1        2.0000000 sec
D13       0.0000400 sec
D15       0.0002000 sec
IN0       0.00018720 sec
  
```

```

----- CHANNEL f1 -----
NUC1      1H
P1        7.90 usec
PI        0.40 usec
PL1       -0.50 dB
PL1W      2.50836086 W
SFO1      600.1328430 MHz
  
```

```

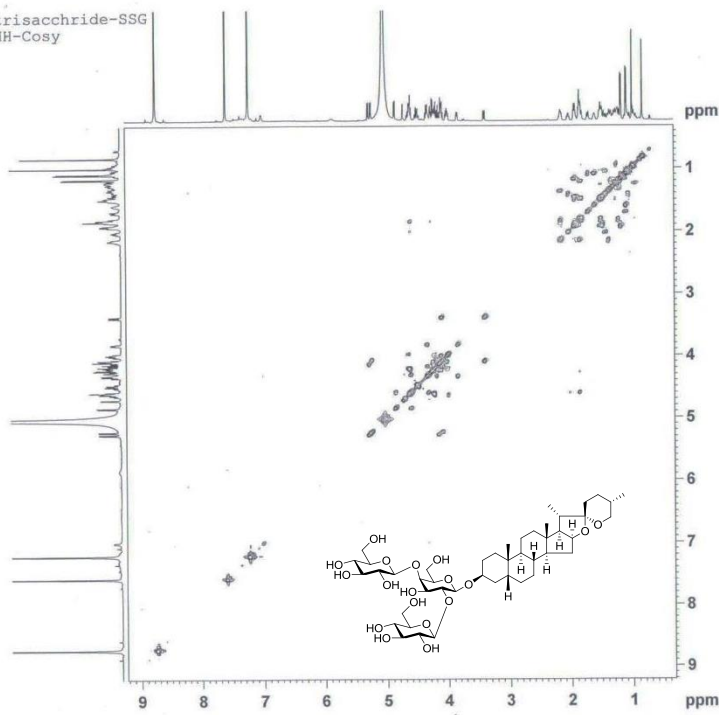
----- CHANNEL f2 -----
CPDPRG2  gddp
NUC2      13C
P2        15.00 usec
PI        30.00 usec
PCPD2     60.00 usec
PL2       -3.00 dB
PL12      140.3342728 W
PL12W     3.52499104 W
SFO2      150.9122250 MHz
  
```

```

----- GRADIENT CHANNEL -----
GPRAM1    SINE.100
GPRAM2    SINE.100
GFI1      10.00 %
P16       1000.00 usec
NDO       1
TD        256
SF01      600.1328 MHz
FIDRES    20.866737 Hz
SW        8.901 ppm
PnMODE    OF
SI        512
SF        600.1299776 MHz
WDW       SINE
SSB       0
LB        0.00 Hz
GB        0
PC        1.00
SI        512
MC2       OF
SF        600.1299805 MHz
WDW       SINE
SSB       0
LB        0.00 Hz
GB        0
  
```

HH-COSY of Timosaponin A V (4)

triacchride-SSG
HH-Cosy



```

NAME      triacchride-SSG
EXPNO    5
PROCNO   1
Date_    20120924
Time     10.35
INSTRUM  AV600
PROBHD   5 mm CP131 1H-
PULPROG  zgpg30
TD        1024
SOLVENT  Pyr
NS        4
DS        16
SWH       5341.880 Hz
FIDRES   0.216680 Hz
AQ        0.0959900 sec
RG        14.3
SQ        93.600 usec
DE        10.00 usec
TE        298.0 K
DO        0.0000300 sec
D1        2.0000000 sec
D13       0.0000400 sec
D15       0.0002000 sec
IN0       0.00018720 sec
  
```

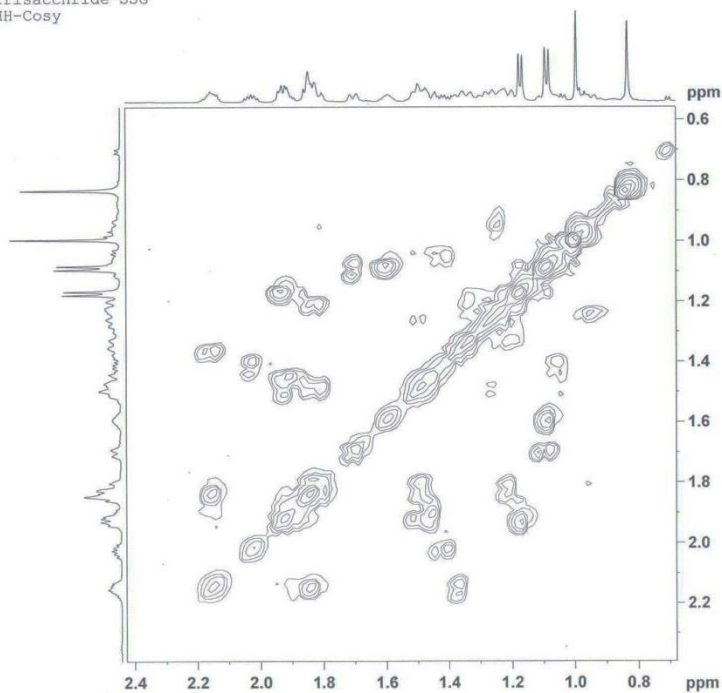
```

----- CHANNEL f1 -----
NUC1      1H
P1        7.90 usec
PI        0.40 usec
PL1       -0.50 dB
PL1W      2.50836086 W
SFO1      600.1328430 MHz
  
```

```

----- GRADIENT CHANNEL -----
GPRAM1    SINE.100
GPRAM2    SINE.100
GFI1      10.00 %
P16       1000.00 usec
NDO       1
TD        256
SF01      600.1328 MHz
FIDRES    20.866737 Hz
SW        8.901 ppm
PnMODE    OF
SI        512
SF        600.1299776 MHz
WDW       SINE
SSB       0
LB        0.00 Hz
GB        0
PC        1.00
SI        512
MC2       OF
SF        600.1299805 MHz
WDW       SINE
SSB       0
LB        0.00 Hz
GB        0
  
```

trisacchride-SSG
HH-Cosy



BRUKER

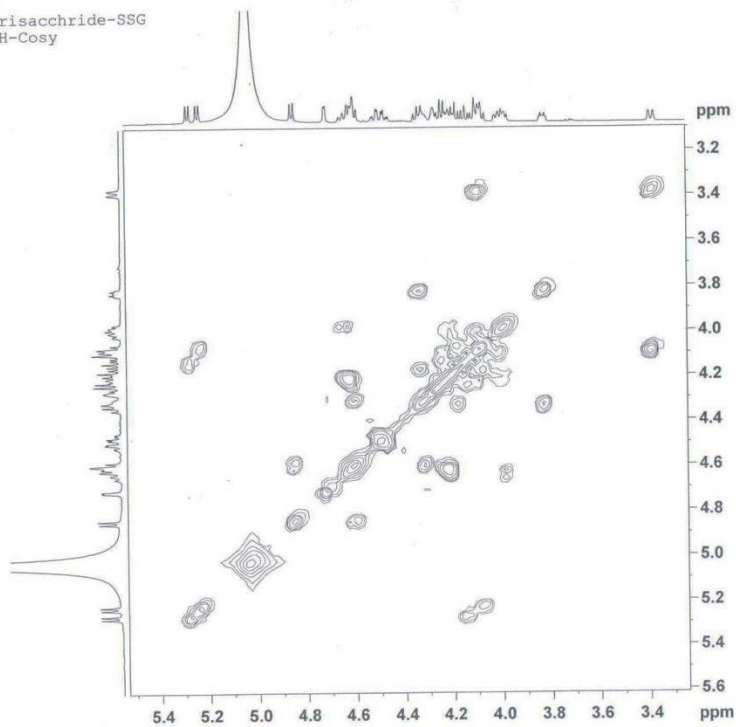
```

NAME      trisacchride-SSG
EXPNO     5
PROCNO    1
Date_     20120924
Time      10.35
INSTRUM   AV600
PROBHD    5 mm CPTCI 1H-
PULPROG   cosygpgzf
TD         1024
SOLVENT   Fyr
NS         4
DS         16
SWH        5341.880 Hz
FIDRES     5.216680 Hz
AQ         0.0959900 sec
RG         14.3
DW         93.600 usec
DE         10.00 usec
TE         298.0 K
DO         0.00000300 sec
D1         2.00000000 sec
D13        0.00000400 sec
D16        0.00020000 sec
IN0        0.00018720 sec

----- CHANNEL f1 -----
NUC1       1H
P0         7.90 usec
P1         9.40 usec
PL1        -0.50 dB
PL1W       2.50836086 W
SF01       600.1328430 MHz

----- GRADIENT CHANNEL -----
GPRAM1     SINE.100
GPF1       10.00 %
P16        1000.00 usec
NDD         1
TD         256
SF01       600.1328 MHz
FIDRES     20.866737 Hz
SW         8.901 ppm
F0MODE     OF
SI         512
SF         600.1299776 MHz
WDW        SINE
SSB         0
LB         0.00 Hz
GB         0
PC         1.00
SI         512
MC2        OF
SF         600.1299805 MHz
WDW        SINE
SSB         0
LB         0.00 Hz
GB         0
  
```

trisacchride-SSG
HH-Cosy



BRUKER

```

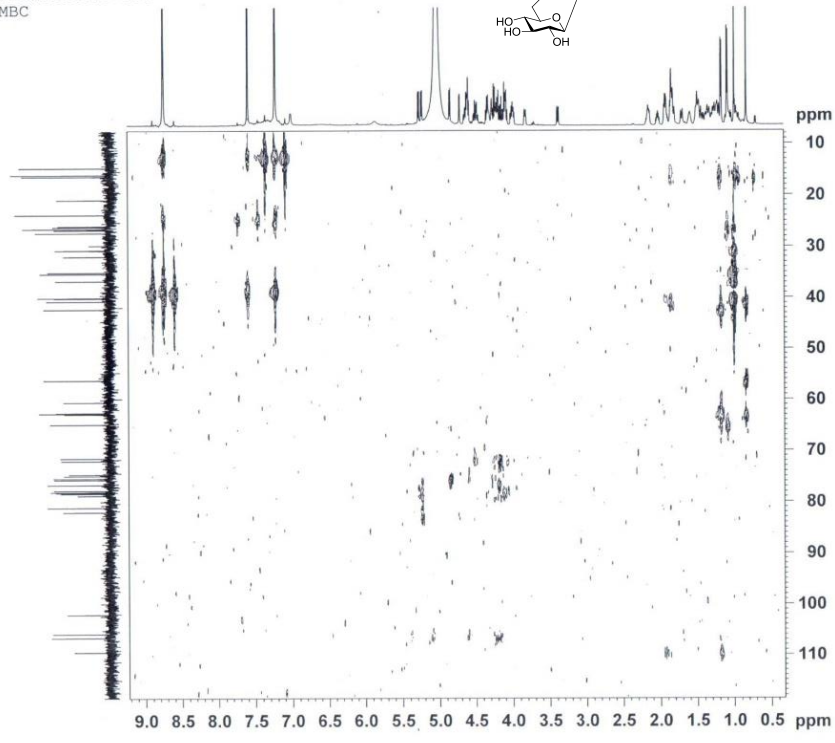
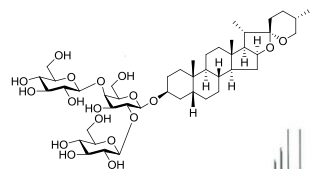
NAME      trisacchride-SSG
EXPNO     5
PROCNO    1
Date_     20120924
Time      10.35
INSTRUM   AV600
PROBHD    5 mm CPTCI 1H-
PULPROG   cosygpgzf
TD         1024
SOLVENT   Fyr
NS         4
DS         16
SWH        5341.880 Hz
FIDRES     5.216680 Hz
AQ         0.0959900 sec
RG         14.3
DW         93.600 usec
DE         10.00 usec
TE         298.0 K
DO         0.00000300 sec
D1         2.00000000 sec
D13        0.00000400 sec
D16        0.00020000 sec
IN0        0.00018720 sec

----- CHANNEL f1 -----
NUC1       1H
P0         7.90 usec
P1         9.40 usec
PL1        -0.50 dB
PL1W       2.50836086 W
SF01       600.1328430 MHz

----- GRADIENT CHANNEL -----
GPRAM1     SINE.100
GPF1       10.00 %
P16        1000.00 usec
NDD         1
TD         256
SF01       600.1328 MHz
FIDRES     20.866737 Hz
SW         8.901 ppm
F0MODE     OF
SI         512
SF         600.1299776 MHz
WDW        SINE
SSB         0
LB         0.00 Hz
GB         0
PC         1.00
SI         512
MC2        OF
SF         600.1299805 MHz
WDW        SINE
SSB         0
LB         0.00 Hz
GB         0
  
```

HMBC of Timosaponin A V (4)

trisacchride-SSG
HMBC



```

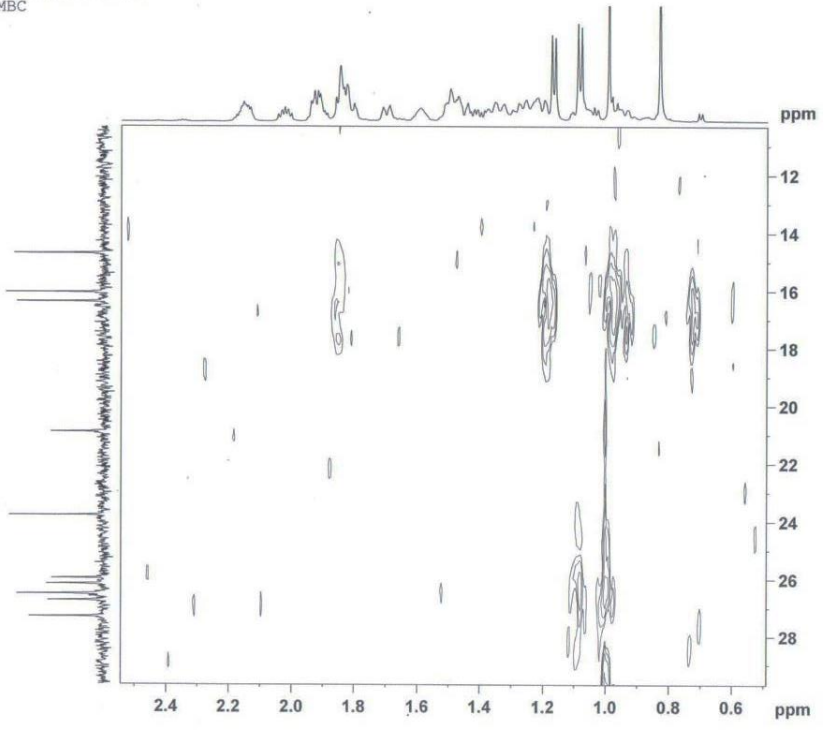
NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17:55
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG hmcpgm2rf
TD 2048
SOLVENT Pyr
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1290.2
SM 93.600 usec
DE 6.00 usec
TE 298.0 K
CMT13 1.0000000
DO 0.00000300 sec
D1 2.50000000 sec
D6 0.50000000 sec
D16 0.00020000 sec
IND 0.00002980 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.50836086 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
P4 30.00 usec
PL2W 140.33242798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPE1 50.00 %
GPE2 30.00 %
GPE3 40.10 %
P16 1000.00 usec
ND0 2
TD 128
SFO1 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FMODE QF
SI 2048
SF 600.1299792 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
SF 150.9027072 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
    
```

trisacchride-SSG
HMBC



```

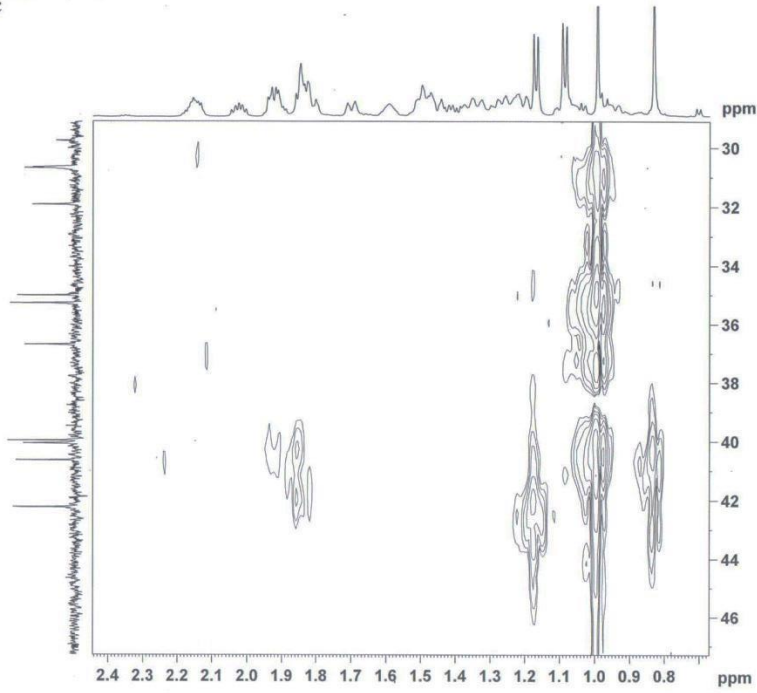
NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17:55
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG hmcpgm2rf
TD 2048
SOLVENT Pyr
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1290.2
SM 93.600 usec
DE 6.00 usec
TE 298.0 K
CMT13 1.0000000
DO 0.00000300 sec
D1 2.50000000 sec
D6 0.50000000 sec
D16 0.00020000 sec
IND 0.00002980 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.50836086 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
P4 30.00 usec
PL2W 140.33242798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPE1 50.00 %
GPE2 30.00 %
GPE3 40.10 %
P16 1000.00 usec
ND0 2
TD 128
SFO1 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FMODE QF
SI 2048
SF 600.1299792 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
SF 150.9027072 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
    
```


trisacchride-SSG
HMBC



```

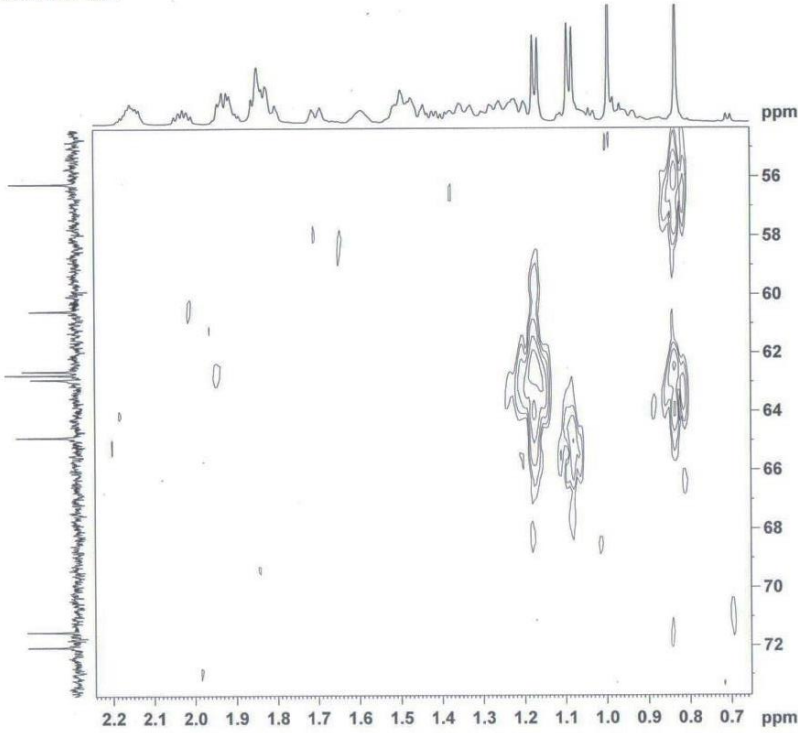
NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17.55
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG hmbcpgp04gf
TD 2048
SOLVENT Pyz
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1280.2
WDW 93.600 usec
DE 6.00 usec
TE 298.0 K
CNS113 1.0000000
DO 0.0000000 sec
D1 2.5000000 sec
D6 0.5000000 sec
D16 0.0020000 sec
INV 0.0002980 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.50836086 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
PL2 -3.00 dB
PL2W 140.33242798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPRAM1 SINE.100
GPRAM2 SINE.100
GPRAM3 SINE.100
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
PI6 1000.00 usec
ND0 2
TD 128
SFO1 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FMODE QF
SI 2048
SF 600.1299792 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
MC2 QF
SF 150.9023072 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
  
```

trisacchride-SSG
HMBC



```

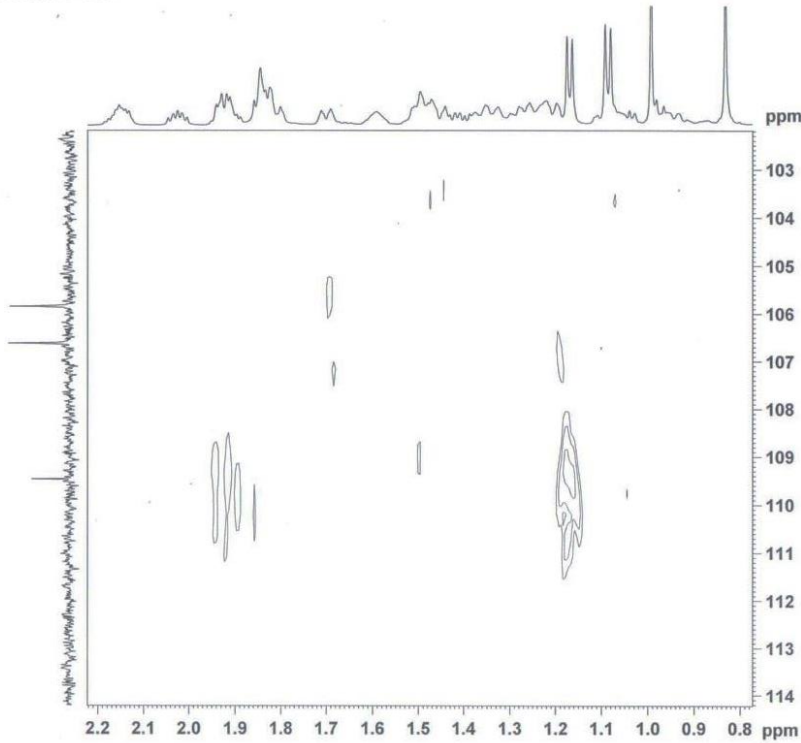
NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17.55
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG hmbcpgp04gf
TD 2048
SOLVENT Pyz
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1280.2
WDW 93.600 usec
DE 6.00 usec
TE 298.0 K
CNS113 1.0000000
DO 0.0000000 sec
D1 2.5000000 sec
D6 0.5000000 sec
D16 0.0020000 sec
INV 0.0002980 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.50836086 W
SFO1 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
PL2 -3.00 dB
PL2W 140.33242798 W
SFO2 150.9122250 MHz

----- GRADIENT CHANNEL -----
GPRAM1 SINE.100
GPRAM2 SINE.100
GPRAM3 SINE.100
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
PI6 1000.00 usec
ND0 2
TD 128
SFO1 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FMODE QF
SI 2048
SF 600.1299792 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
MC2 QF
SF 150.9023072 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
  
```

trisacchride-SSG
HMBC



```

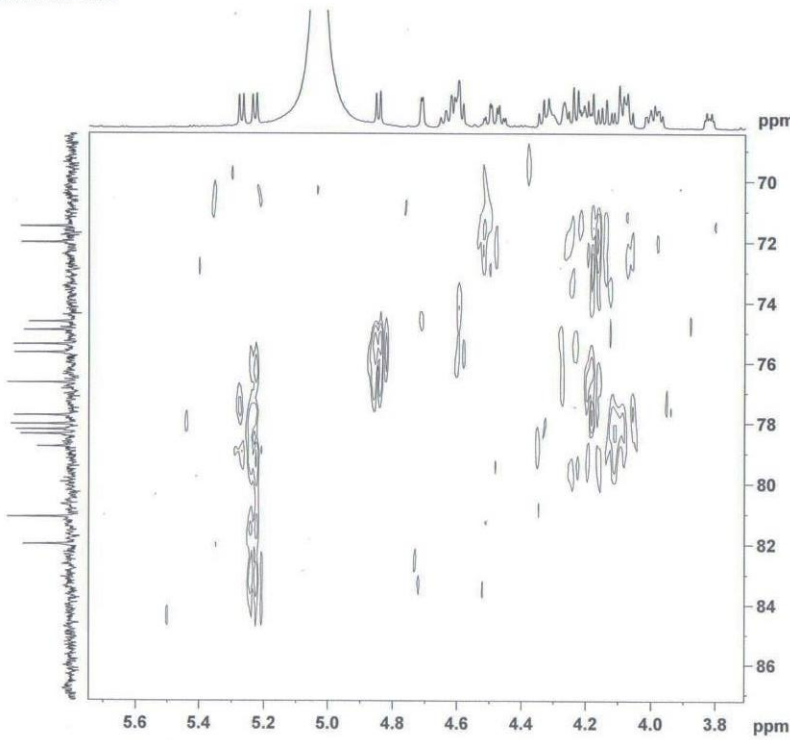
NAME trisacchride-SSG
EXPNO 1
PROCNO 1
Date_ 20120925
Time 17.55
INSTRUM AV600
PROBHD 5 mm CPXI 1H-
PULPROG hmcoppodqf
TD 2048
SOLVENT Pyr
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1290.2
DM 93.600 usec
DE 6.00 usec
TE 298.0 K
CST13 1.000000
DO 0.0000300 sec
D1 2.5000000 sec
DE 0.5000000 sec
D16 0.0002000 sec
RG 0.0000380 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.5083606 W
SF01 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
PL2 -3.00 dB
PL2W 140.33242798 W
SF02 150.9122550 MHz

----- GRADIENT CHANNEL -----
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPE1 50.00 %
GPE2 30.00 %
GPE3 40.10 %
P16 1000.00 usec
NS0 2
TD 128
SF01 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FWDKDE QF
SI 2048
SF 600.1299792 MHz
WDM SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
MC2 QF
SF 150.9027072 MHz
WDM SINE
SSB 0
LB 0.00 Hz
GB 0
  
```

trisacchride-SSG
HMBC



```

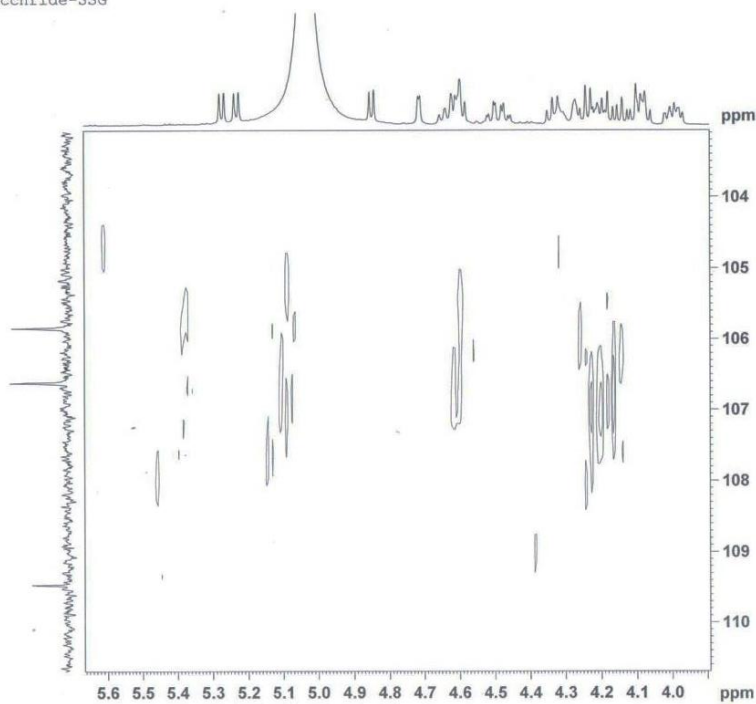
NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17.55
INSTRUM AV600
PROBHD 5 mm CPXI 1H-
PULPROG hmcoppodqf
TD 2048
SOLVENT Pyr
NS 140
DS 32
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1918364 sec
RG 1290.2
DM 93.600 usec
DE 6.00 usec
TE 298.0 K
CST13 1.000000
DO 0.0000300 sec
D1 2.5000000 sec
DE 0.5000000 sec
D16 0.0002000 sec
RG 0.0000380 sec

----- CHANNEL f1 -----
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL1W 2.5083606 W
SF01 600.1328430 MHz

----- CHANNEL f2 -----
NUC2 13C
P3 15.00 usec
PL2 -3.00 dB
PL2W 140.33242798 W
SF02 150.9122550 MHz

----- GRADIENT CHANNEL -----
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPE1 50.00 %
GPE2 30.00 %
GPE3 40.10 %
P16 1000.00 usec
NS0 2
TD 128
SF01 150.9122 MHz
FIDRES 131.076370 Hz
SW 111.176 ppm
FWDKDE QF
SI 2048
SF 600.1299792 MHz
WDM SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.40
SI 256
MC2 QF
SF 150.9027072 MHz
WDM SINE
SSB 0
LB 0.00 Hz
GB 0
  
```

trisacchride-SSG
HMBC



```

NAME trisacchride-SSG
EXPNO 8
PROCNO 1
Date_ 20120925
Time 17.55
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG hmcqzqdrf
TD 2048
SOLVENT zg
NS 140
DS 2
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1318364 sec
RG 1290.2
DW 93.4600 usec
DE 6.00 usec
TE 298.0 K
CRYT13 1.0000000
D0 0.00000300 sec
D1 2.50000000 sec
D6 0.30000000 sec
D16 0.00020000 sec
IND 0.00002980 sec

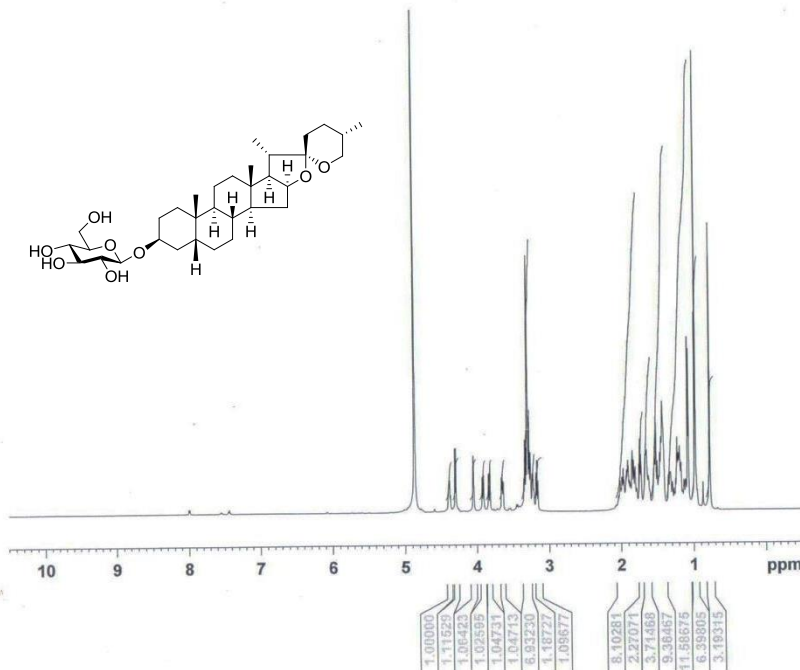
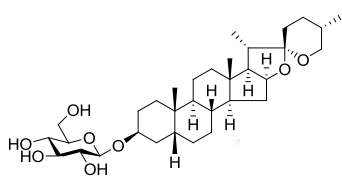
===== CHANNEL f1 =====
NUC1 1H
P1 9.40 usec
P2 18.80 usec
PL1 -0.50 dB
PL2 0.00 dB
PLW 2.50836086 W
SF01 600.1328430 MHz

===== CHANNEL f2 =====
NUC2 13C
P3 15.00 usec
PL3 0.00 dB
PLW 140.33242798 W
SF02 150.9122250 MHz

===== GRADIENT CHANNEL =====
GPRAM0 SINE:100
GPRAM2 SINE:100
GPRAM3 SINE:100
GPE1 50.00 %
GPE2 30.00 %
GPE3 40.10 %
P16 1000.00 usec
NS0 2
TD 128
SF01 150.9122 MHz
FIDRES 131.074370 Hz
SW 111.176 ppm
FREQDE OF
SI 2048
SF 600.1339792 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 140
SI 256
MC2 OF
SF 150.9021072 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
  
```

¹H NMR of Asparagoside A (5)

SSG-glucose
1H

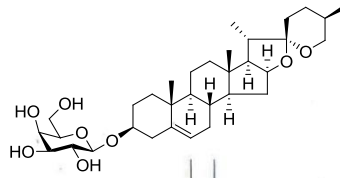


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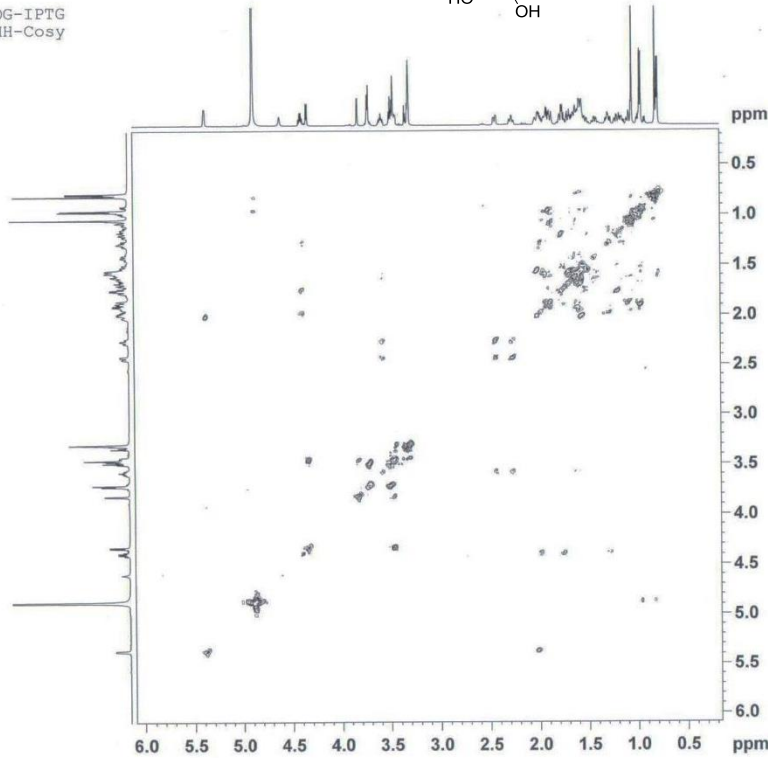
NAME SSG-glucose
EXPNO 1
PROCNO 1
Date_ 20120503
Time 12.46
INSTRUM AV600
PROBHD 5 mm CPTCI 1H-
PULPROG zg
TD 32768
SOLVENT MeOD
NS 8
DS 1
SWH 8992.806 Hz
FIDRES 0.274439 Hz
AQ 1.8220063 sec
RG 14.3
DW 55.600 usec
DE 10.00 usec
TE 298.0 K
D1 5.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.00 usec
PL1 -0.50 dB
PL2 0.00 dB
PLW 2.50836086 W
SF01 600.1330006 MHz
SI 32768
SF 600.1300138 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
  
```


HH-COSY of Capsicoside A₃ (8)



DG-IPTG
HH-Cosy



BRUKER

```

NAME      DG-IPTG
EXPNO     5
PROCNO    1
Date_     20120314
Time      14.52
INSTRUM   AV600
PROBHD    5 mm CPTCI 1H-
PULPROG   cosyqqqf
TD         1024
SOLVENT   MeOD
NS         4
DS         16
SWH        3561.254 Hz
FIDRES     3.477787 Hz
AQ         0.1439600 sec
RG         14.3
DW         140.400 usec
DE         10.00 usec
TE         298.0 K
DO         0.00000300 sec
D1         2.00000000 sec
D13        0.00000400 sec
D16        0.00020000 sec
IN0        0.00028080 sec
    
```

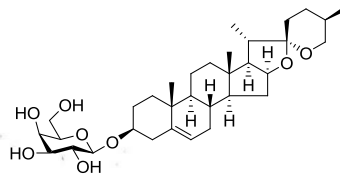
```

----- CHANNEL f1 -----
NUC1      1H
PO        7.90 usec
P1        10.40 usec
PL1       -0.50 dB
PL1W      2.50836086 W
SFO1      600.1318890 MHz
    
```

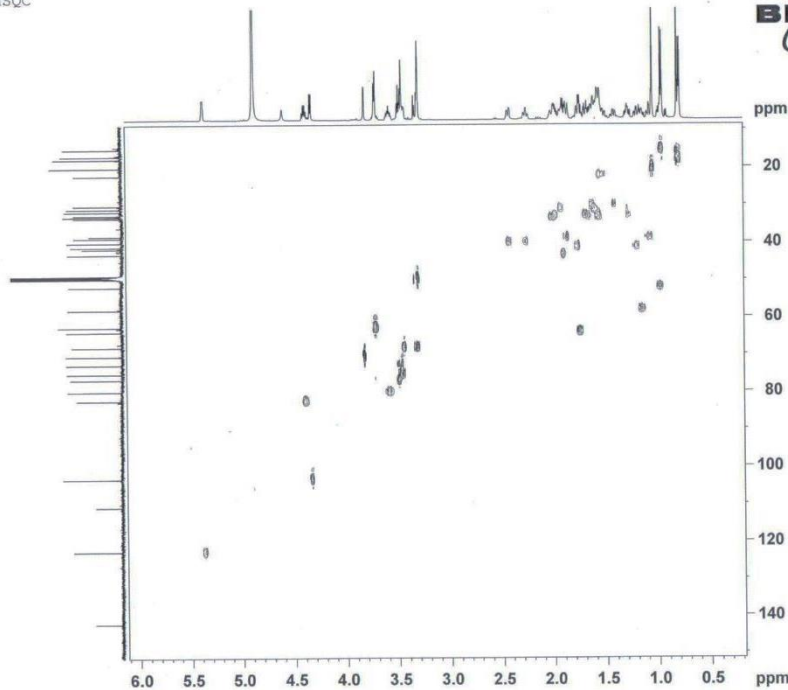
```

----- GRADIENT CHANNEL -----
GPNAM1    SINE.100
GP21      10.00 %
P16       1000.00 usec
NDO        1
TD         256
SFO1      600.1319 MHz
FIDRES    13.911134 Hz
SW         5.934 ppm
PnMODE    QF
SI         512
SF         600.1300131 MHz
WDW        SINE
SSB        0
LB         0.00 Hz
GB         0
PC         1.00
SI         512
MC2        QF
SF         600.1300132 MHz
WDW        SINE
SSB        0
LB         0.00 Hz
GB         0
    
```

HSQC of Capsicoside A₃ (8)



DG-IPTG
HSQC



BRUKER

```

NAME      DG-IPTG
EXPNO     4
PROCNO    1
Date_     20120314
Time      15.31
INSTRUM   AV600
PROBHD    5 mm CPTCI 1H-
PULPROG   hsqcqpqf
TD         2048
SOLVENT   MeOD
NS         8
DS         16
SWH        3561.254 Hz
FIDRES     1.738993 Hz
AQ         0.2877296 sec
RG         1149.4
DW         140.400 usec
DE         6.00 usec
TE         298.0 K
DO         0.00000300 sec
D1         2.00000000 sec
D13        0.00172414 sec
D16        0.00000400 sec
D18        0.00000000 sec
IN0        0.00000200 sec
    
```

```

----- CHANNEL f1 -----
NUC1      1H
P1        10.40 usec
P2        32.82 usec
P21       2.00 usec
PL1       -0.50 dB
PL1W      2.50836086 W
SFO1      600.1318890 MHz
    
```

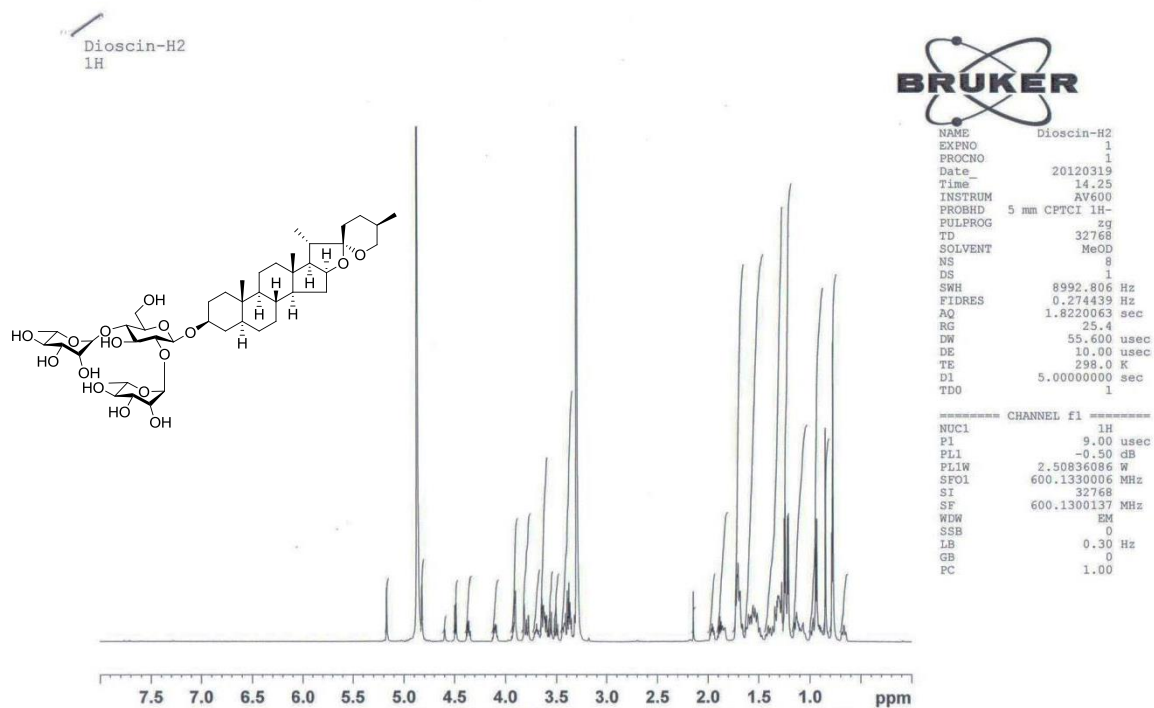
```

----- CHANNEL f2 -----
CPDPRG2   9apf
NUC2      13C
P3         15.00 usec
P4         30.00 usec
PCPD2     60.00 usec
PC2       -1.00 dB
PL12      13.00 dB
PL12W     140.3382796 W
PL12W     2.52499104 W
SFO2      150.9144420 MHz
    
```

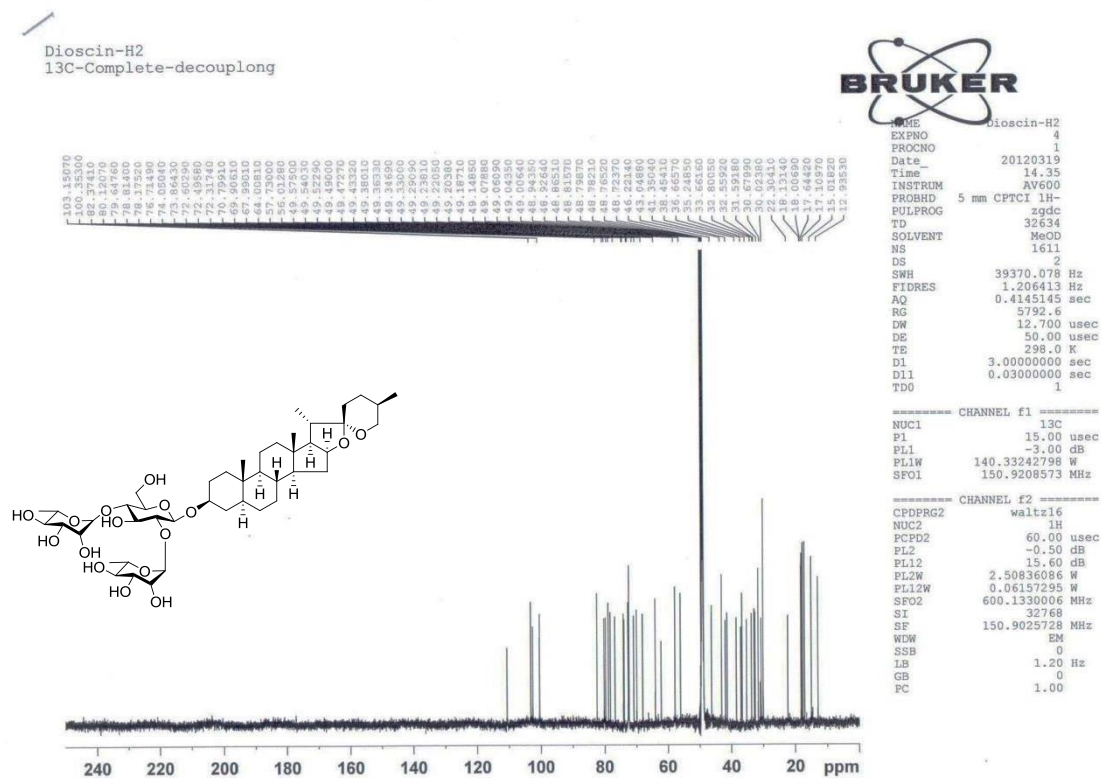
```

----- GRADIENT CHANNEL -----
GPNAM1    SINE.100
GPNAM2    SINE.100
GP11      80.00 %
GP12      20.10 %
P16       1000.00 usec
NDO        2
TD         128
SFO1      150.9144 MHz
FIDRES    168.772849 Hz
SW         142.607 ppm
PnMODE    Echo-Antiecho
SI         2048
SF         600.1300103 MHz
WDW        QNINE
SSB        0
LB         0.00 Hz
GB         0
PC         1.40
SI         256
MC2        echo-antiecho
SF         150.9025154 MHz
WDW        QNINE
SSB        0
LB         0.00 Hz
GB         0
    
```

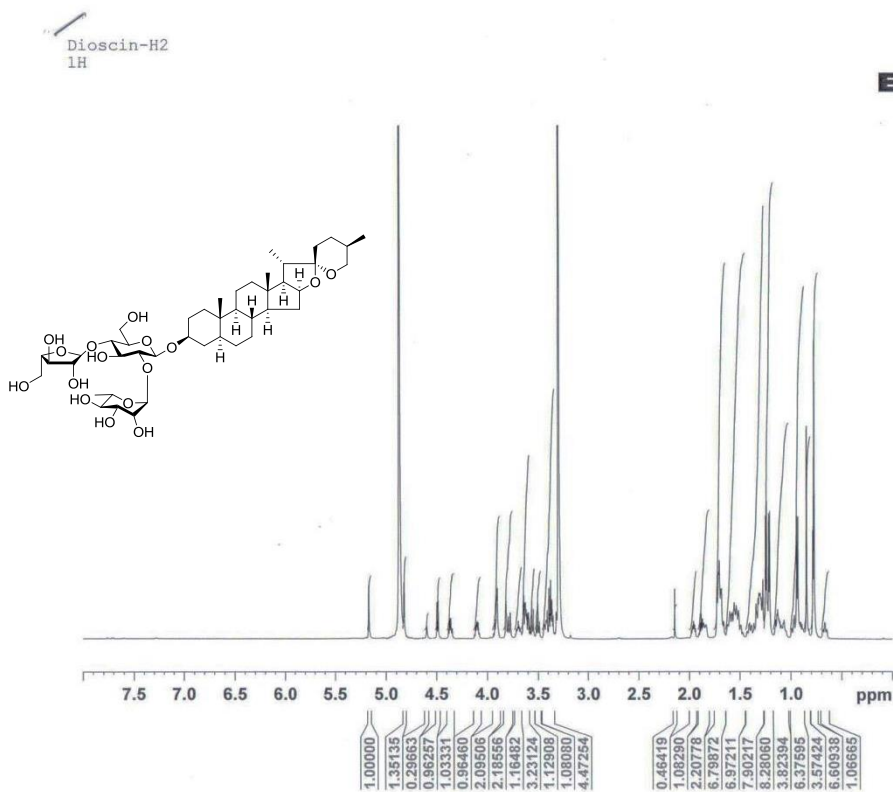
¹H NMR of Dihydrodioscin (11)



¹³C NMR of Dihydrodioscin (11)



¹H NMR of Dihydropolyphyllin D (12)



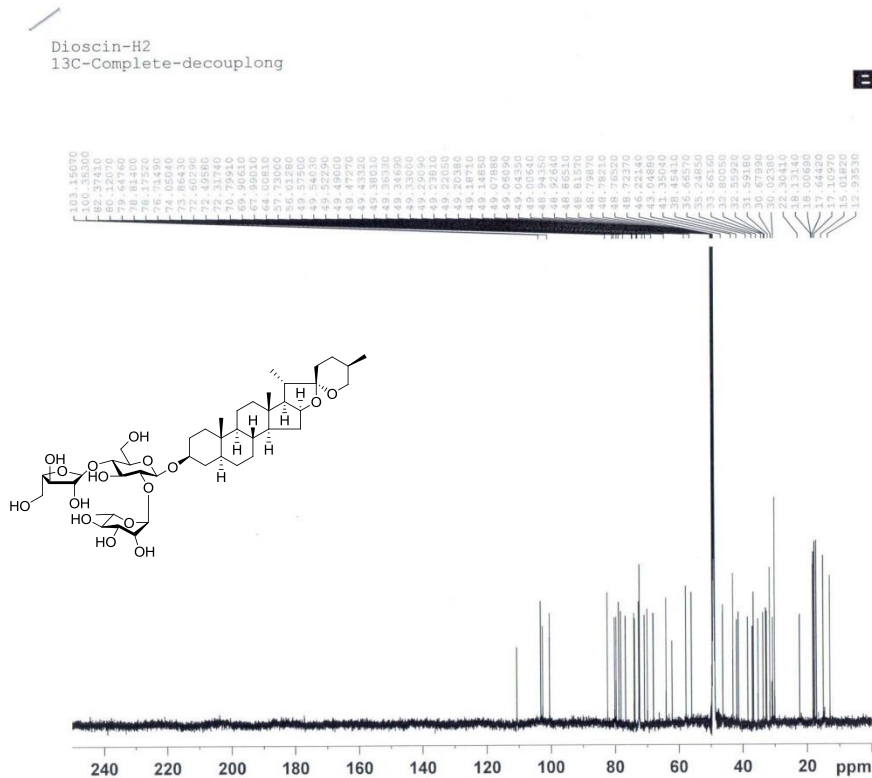
```

NAME      Dioscin-H2
EXPNO    1
PROCNO   1
Date_    20120319
Time     14.25
INSTRUM AV600
PROBHD   5 mm CPTCI 1H-
PULPROG  zg
TD       32768
SOLVENT  MeOD
NS       8
DS       1
SWH      8992.806 Hz
FIDRES   0.274439 Hz
AQ       1.8220063 sec
RG       25.4
DW       55.600 usec
DE       10.00 usec
TE       298.0 K
D1       5.0000000 sec
D11      1
TD0      1
  
```

```

===== CHANNEL f1 =====
NUC1     1H
P1       9.00 usec
PL1      -0.50 dB
PL1W     2.50836086 W
SF01     600.1330006 MHz
SI       32768
SF       600.1300137 MHz
WDW      EM
SSB      0
LB       0.30 Hz
GB       0
PC       1.00
  
```

¹³C NMR of Dihydropolyphyllin D (12)



```

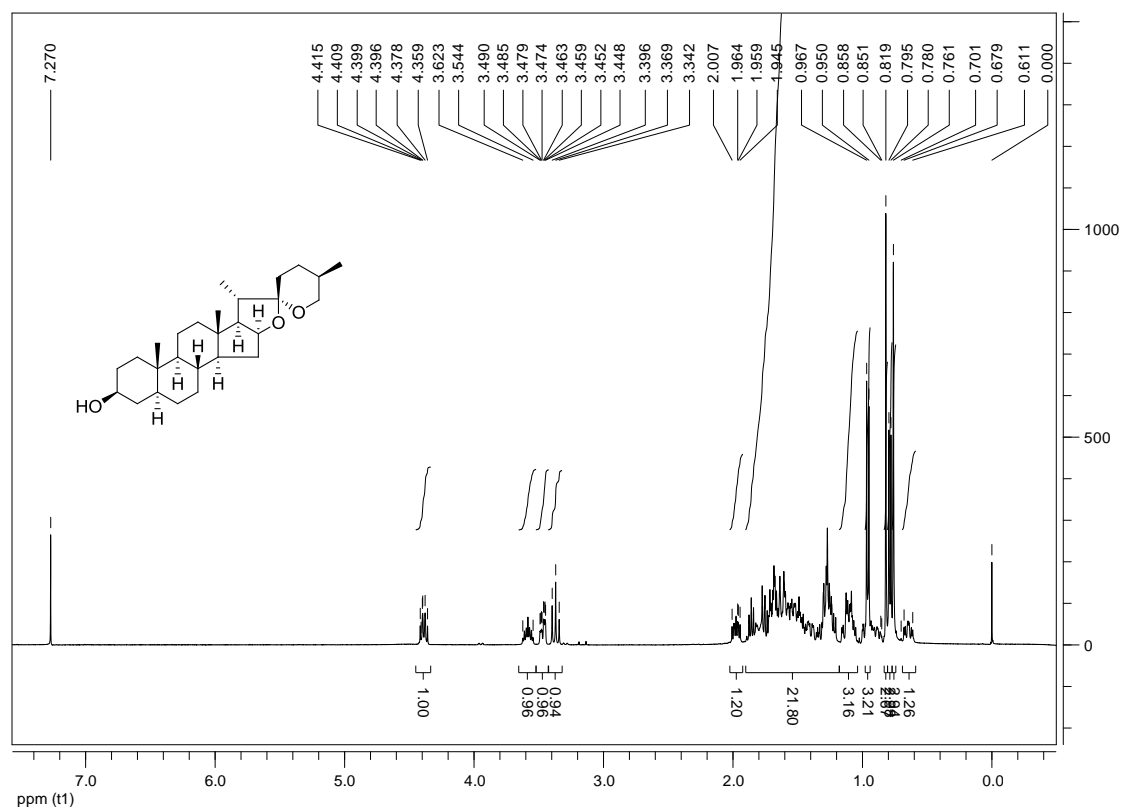
NAME      Dioscin-H2
EXPNO    4
PROCNO   1
Date_    20120319
Time     14.35
INSTRUM AV600
PROBHD   5 mm CPTCI 1H-
PULPROG  zgdc
TD       32634
SOLVENT  MeOD
NS       2
DS       2
SWH      39370.078 Hz
FIDRES   1.206413 Hz
AQ       0.4145145 sec
RG       5792.6
DW       12.700 usec
DE       50.00 usec
TE       298.0 K
D1       3.0000000 sec
D11     0.0300000 sec
D10      1
  
```

```

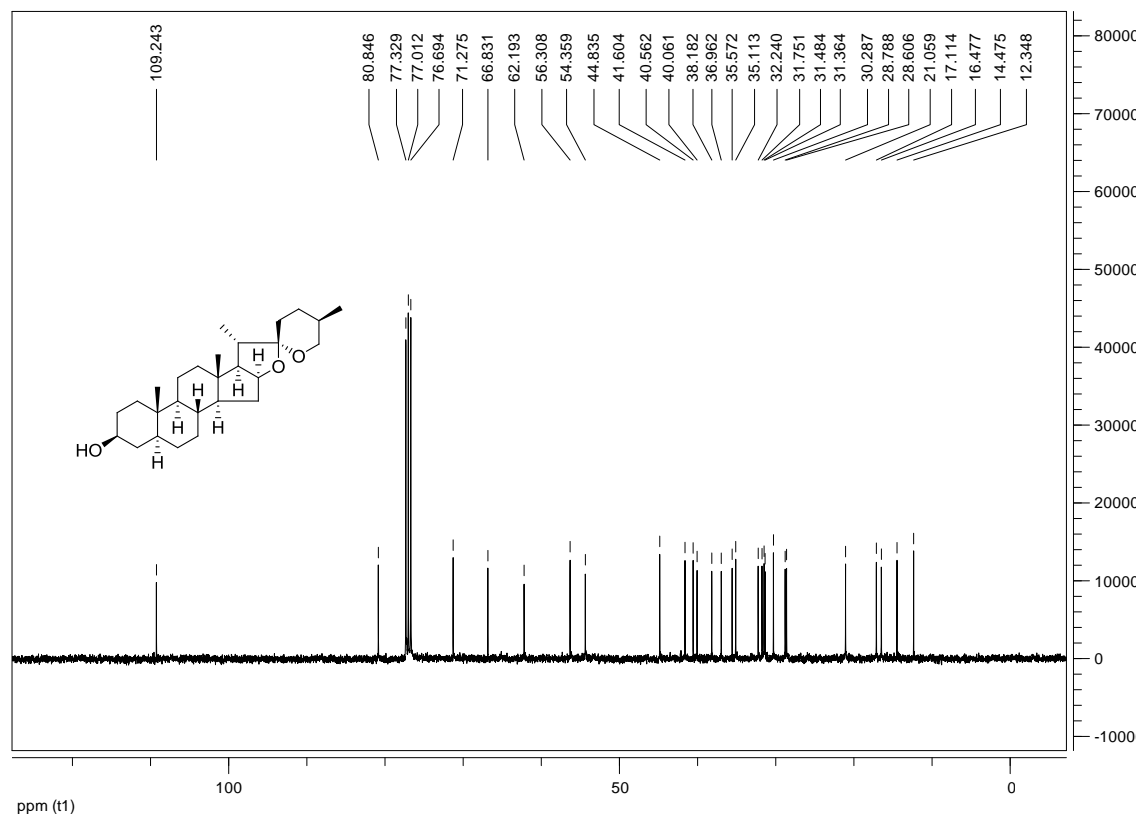
===== CHANNEL f1 =====
NUC1     13C
P1       15.00 usec
PL1      -3.00 dB
PL1W     140.33242798 W
SF01     150.9208573 MHz

===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    60.00 usec
PL2      -0.50 dB
PL12     15.60 dB
PL2W     2.50836086 W
SF02     600.1330006 MHz
SI       32768
SF       150.9025728 MHz
WDW      EM
SSB      0
LB       1.20 Hz
GB       0
PC       1.00
  
```

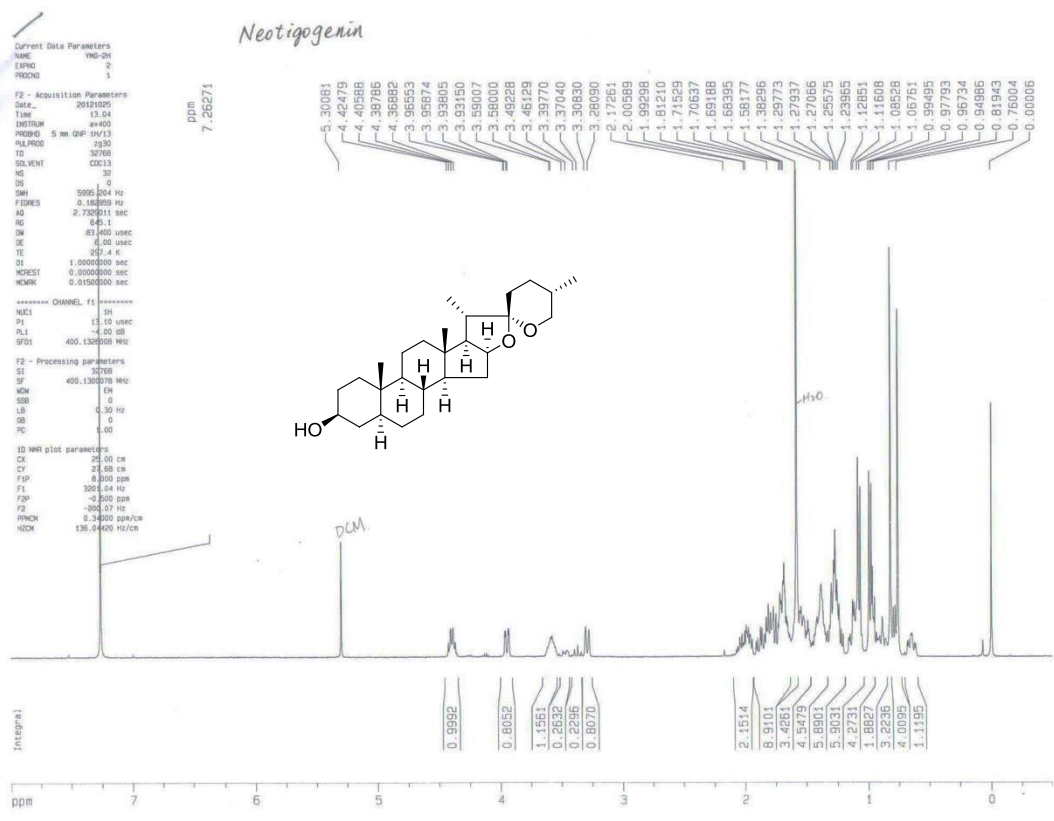

¹H NMR of Tigogenin (13)



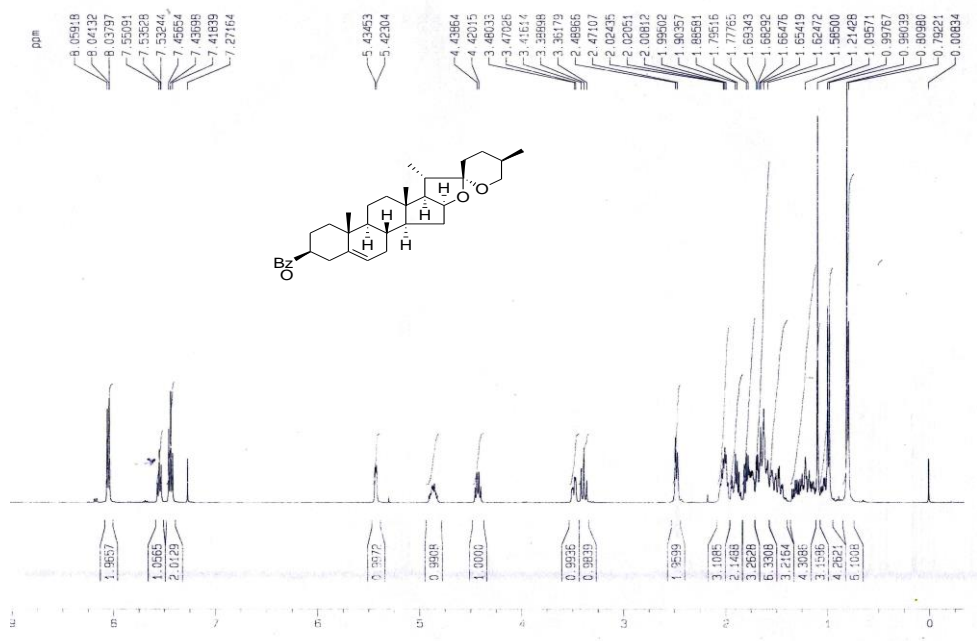
¹³C NMR of Tigogenin (13)



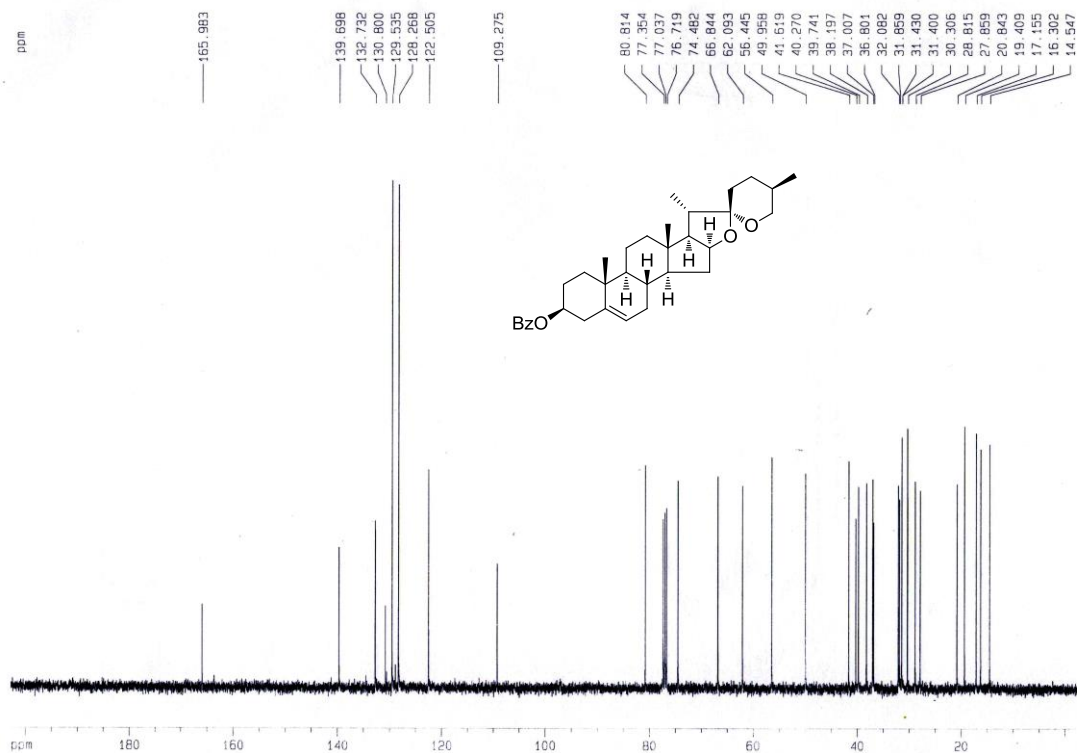
¹H NMR of Neotigogenin (14)



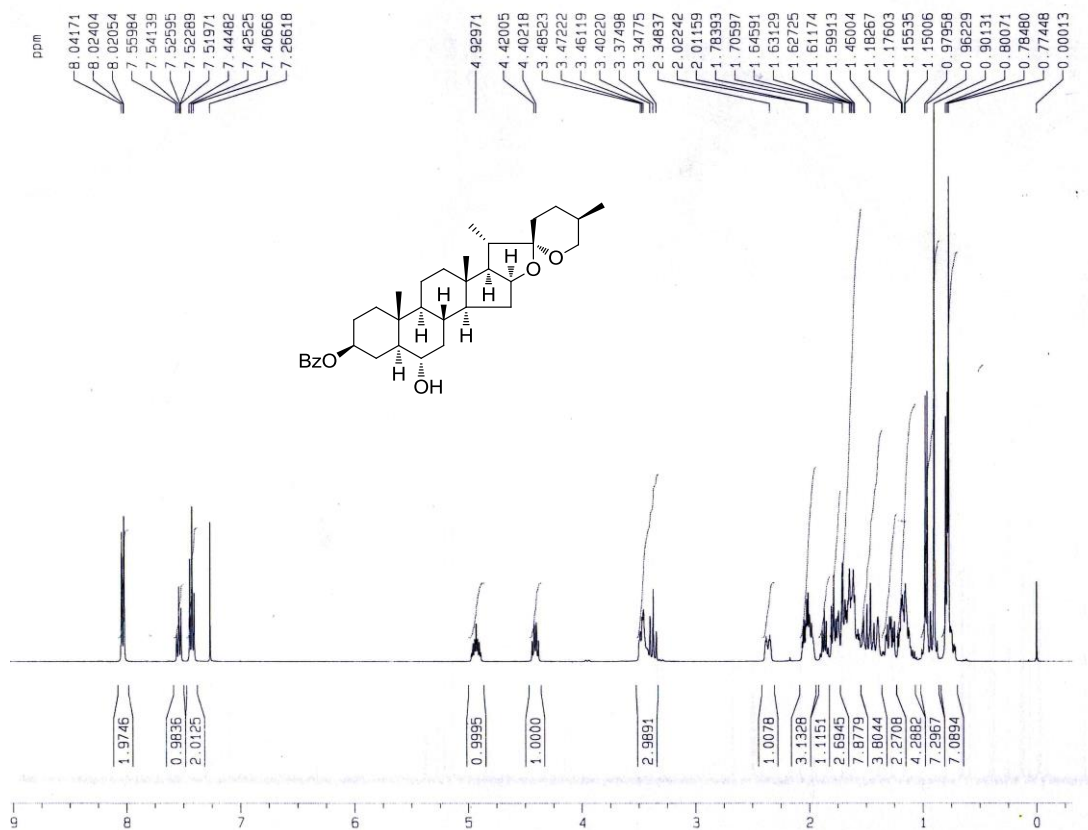
¹H NMR of 3-benzoylated diosgenin



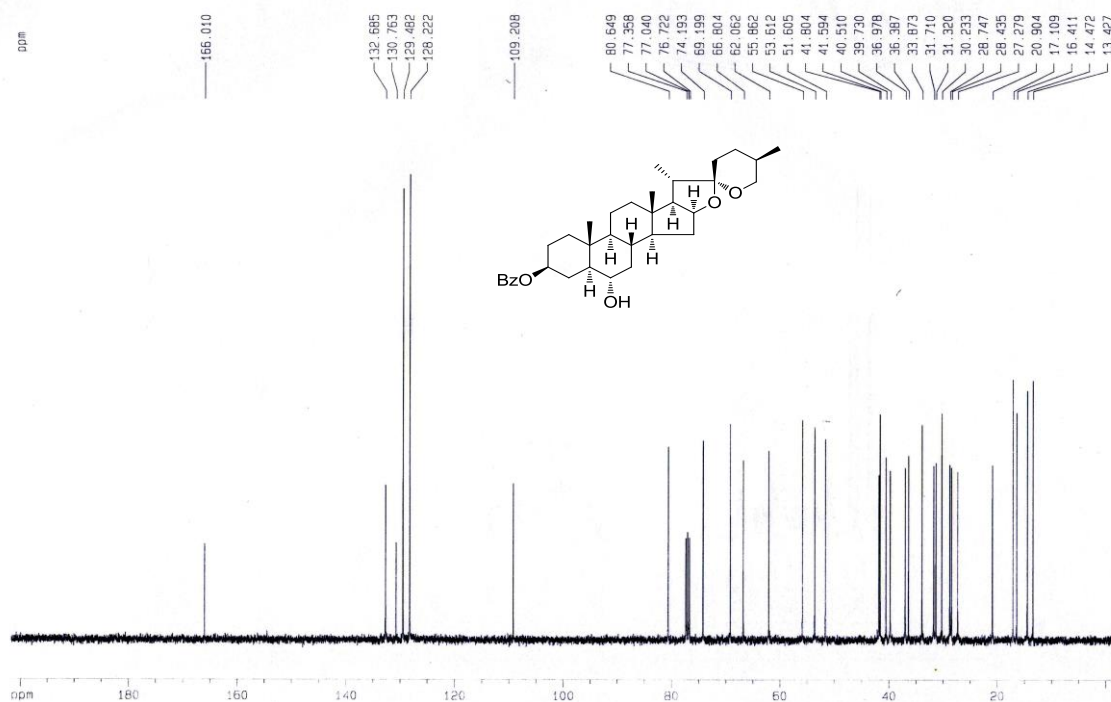
^{13}C NMR of 3-benzoylated diosgenin



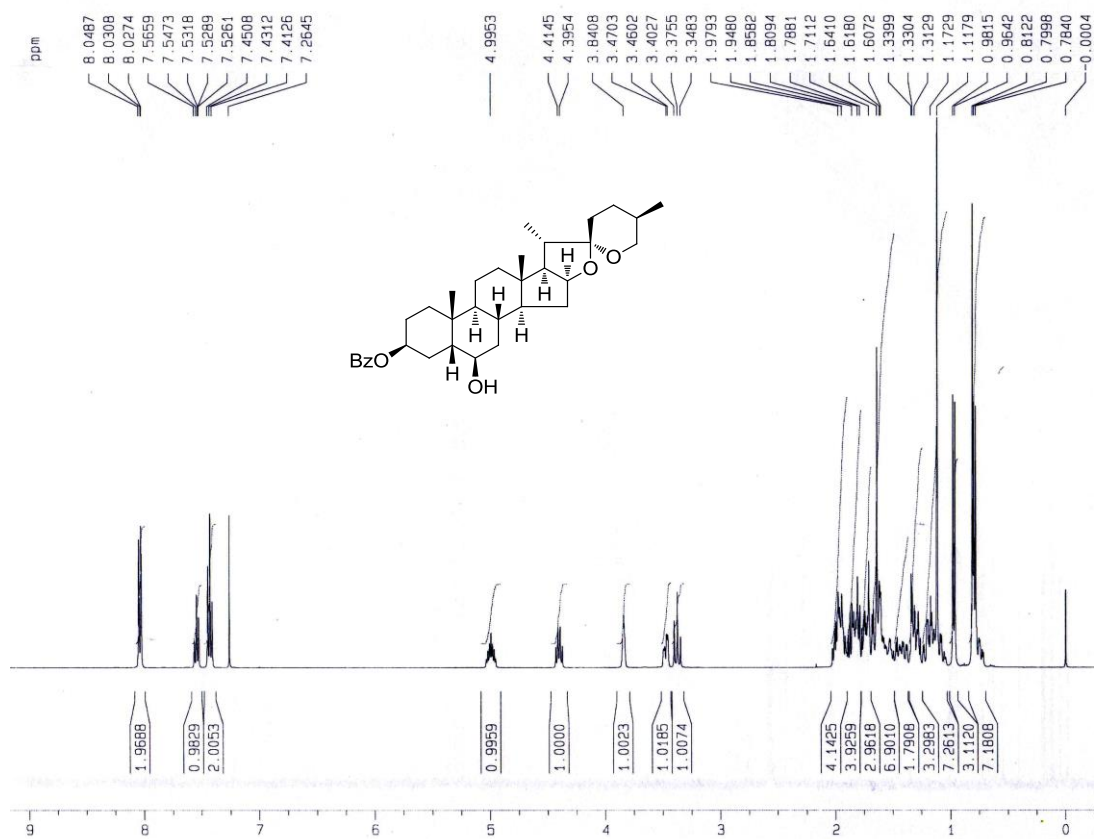
^1H NMR of 3-benzoylated 5 α -H, 6 α -OH diosgenin



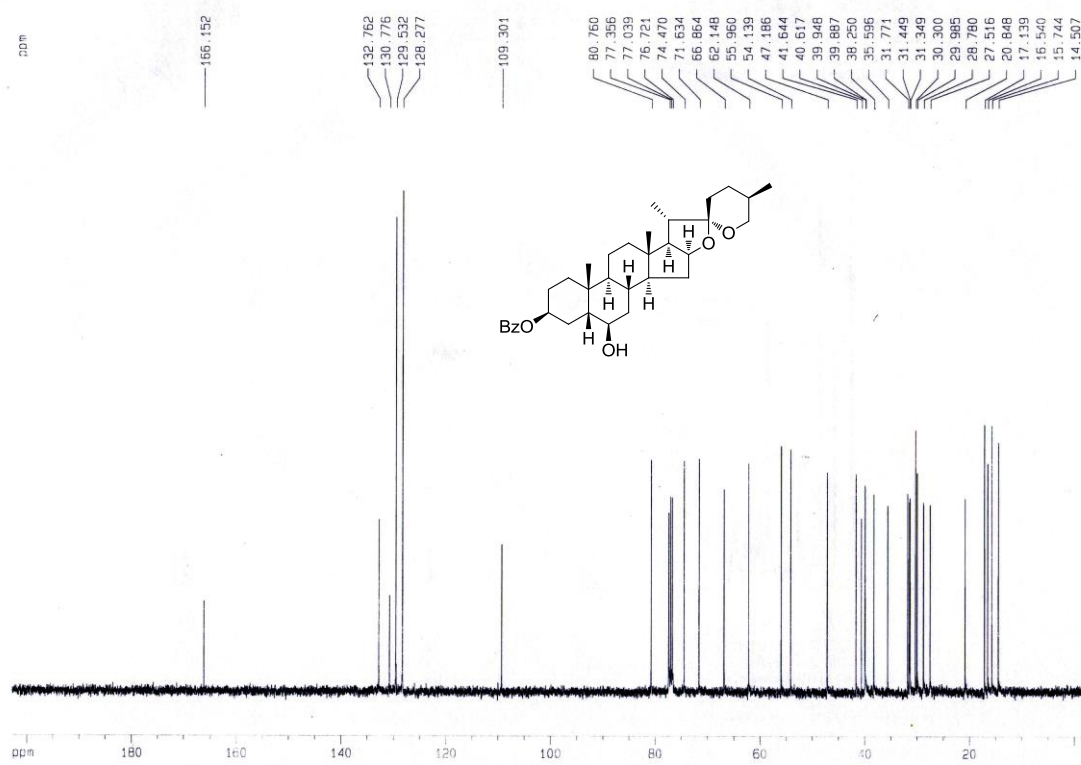
¹³C NMR of 3-benzoylated 5 α -H, 6 α -OH diosgenin



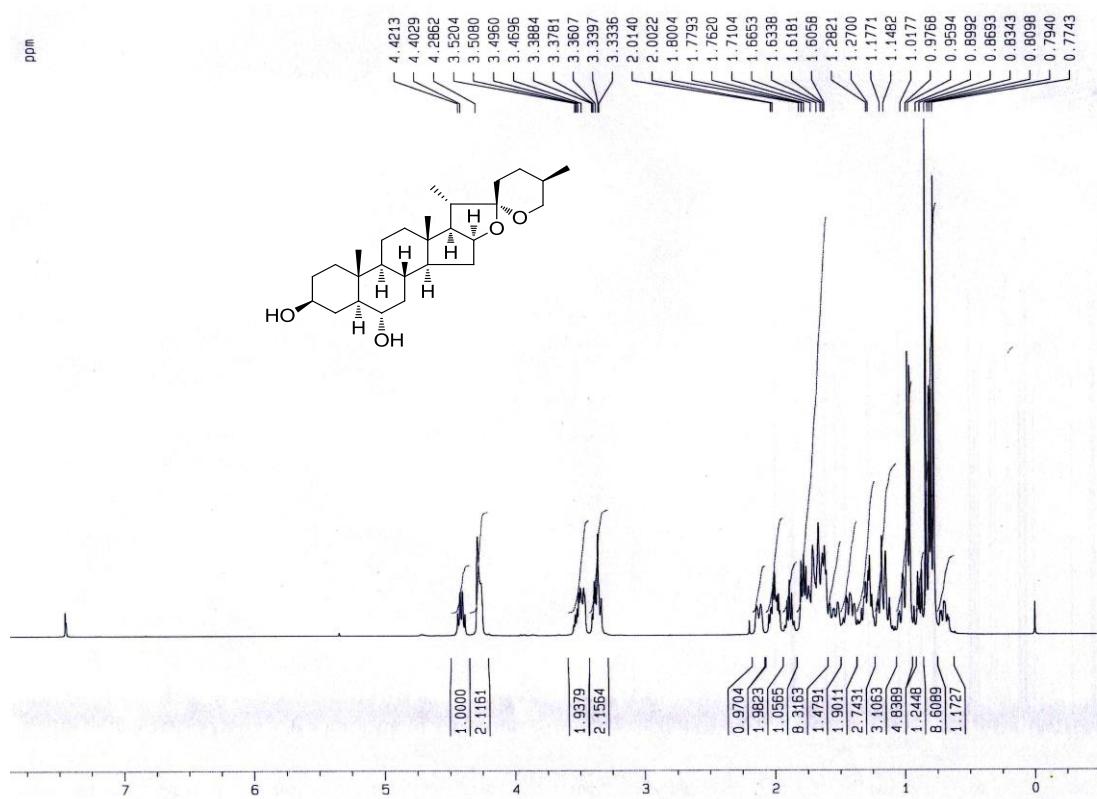
¹H NMR of 3-benzoylated 5 β -H, 6 β -OH diosgenin



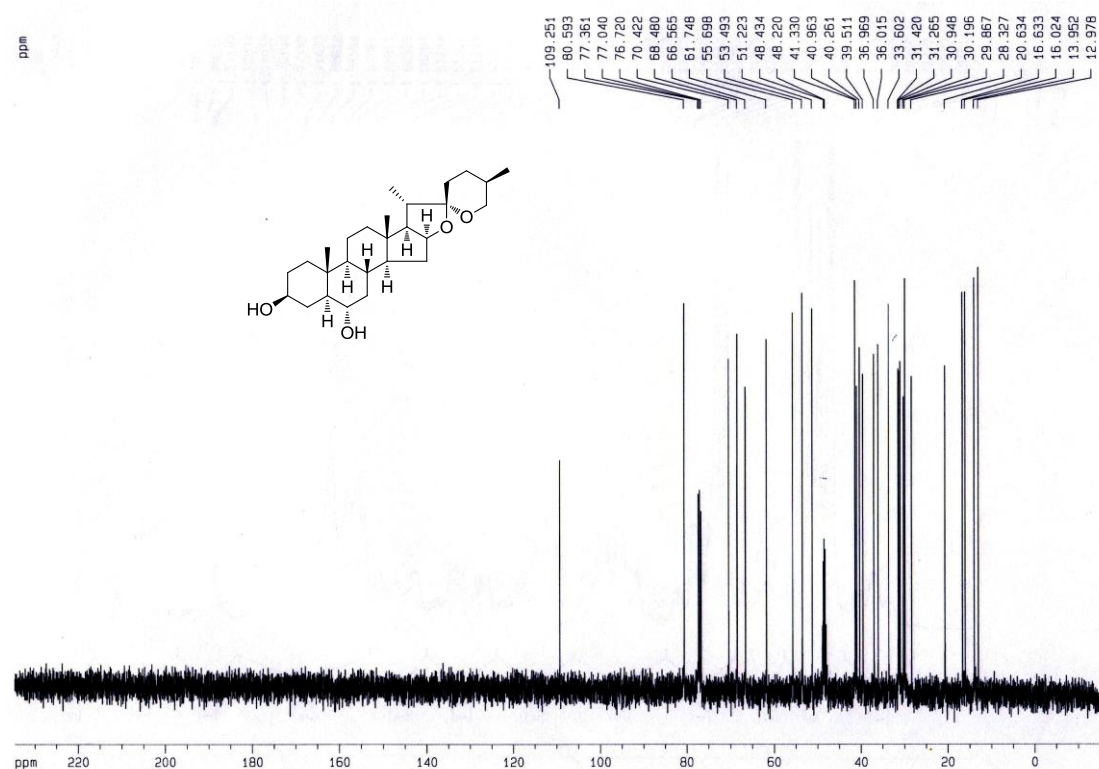
¹³CNMR of 3-benzoylated 5β-H, 6β-OH diosgenin



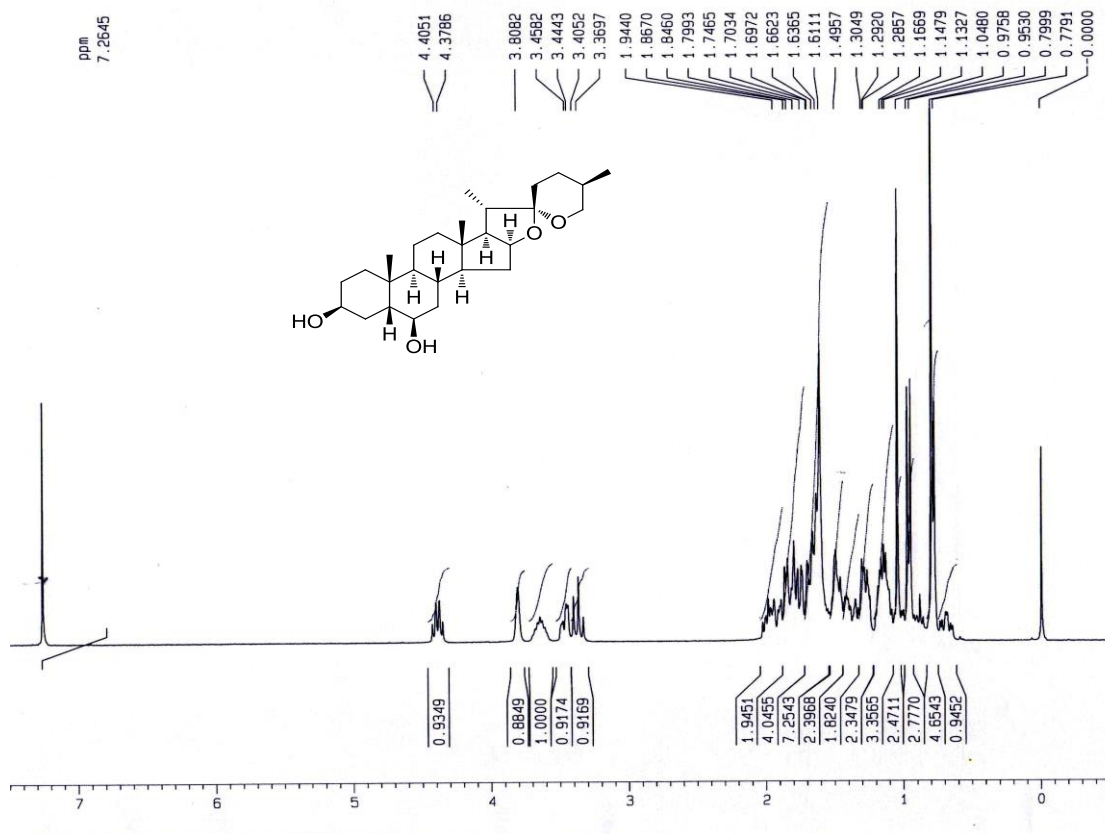
¹H NMR of 5α-H, 6α-OH diosgenin (15)



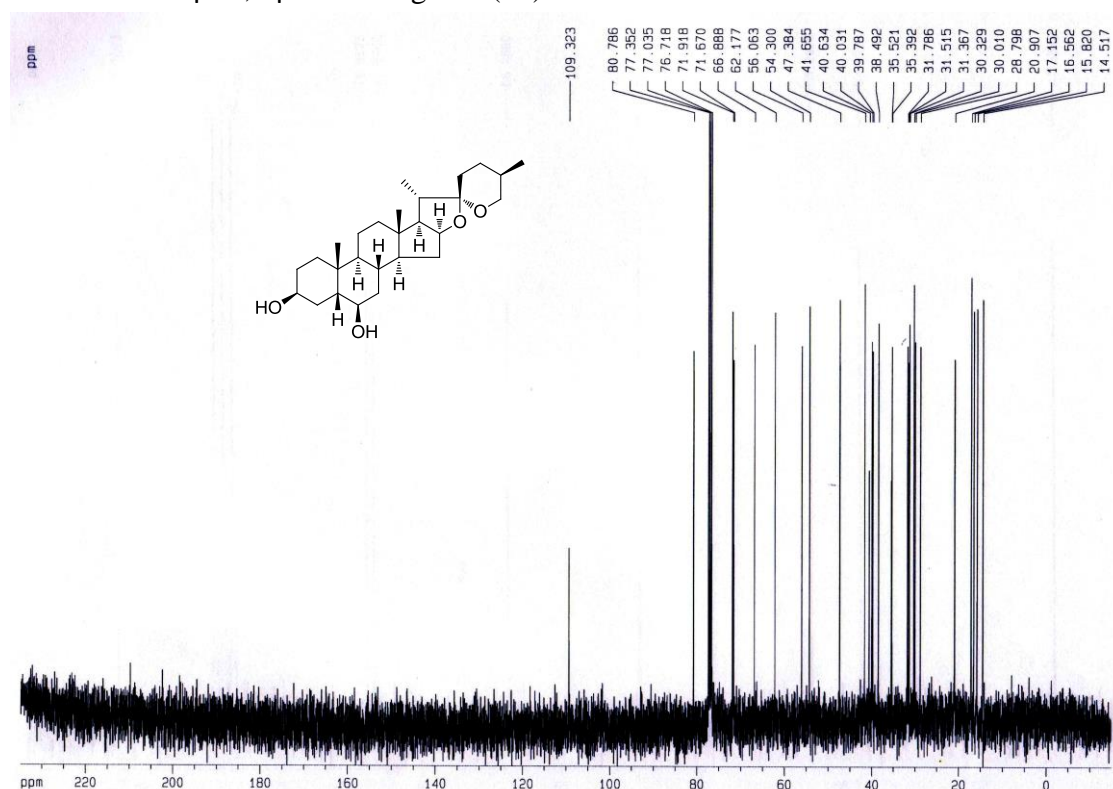
^{13}C NMR of $5\alpha\text{-H}$, $6\alpha\text{-OH}$ diosgenin (**15**)



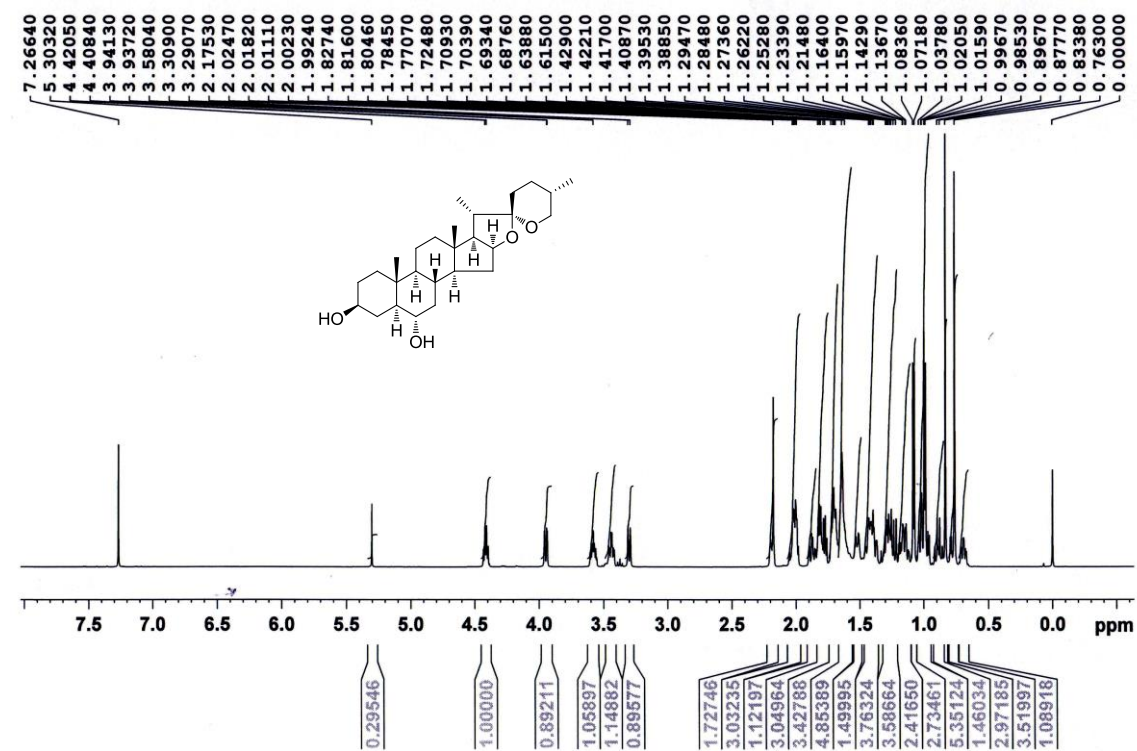
^1H NMR of $5\beta\text{-H}$, $6\beta\text{-OH}$ diosgenin (**16**)



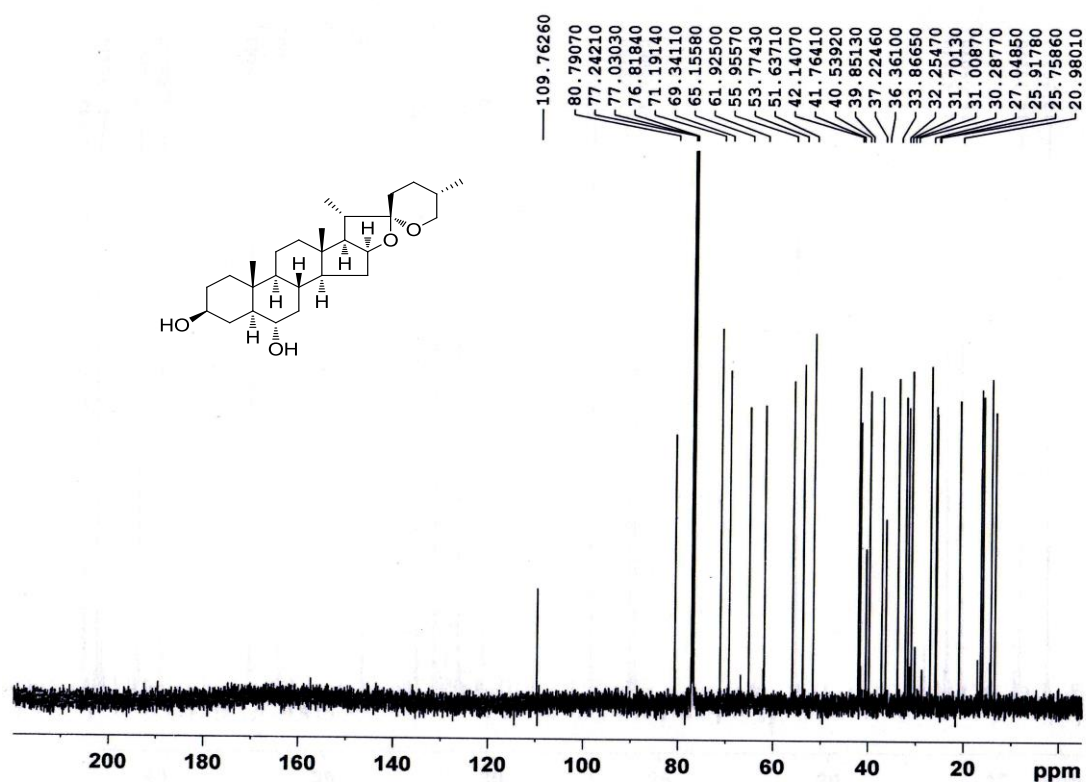
^{13}C NMR of $5\beta\text{-H}$, $6\beta\text{-OH}$ diosgenin (**16**)



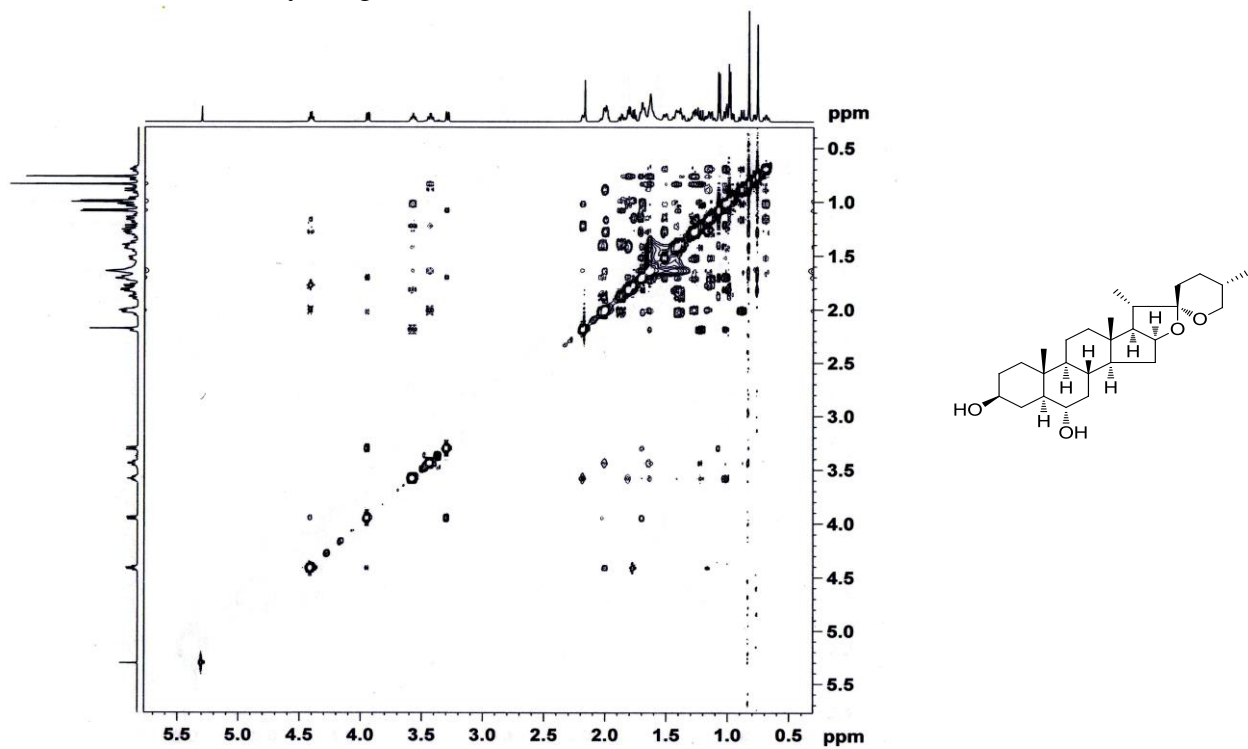
^1H NMR of $5\alpha\text{-H}$, $6\alpha\text{-OH}$ yamogenin (**17**)



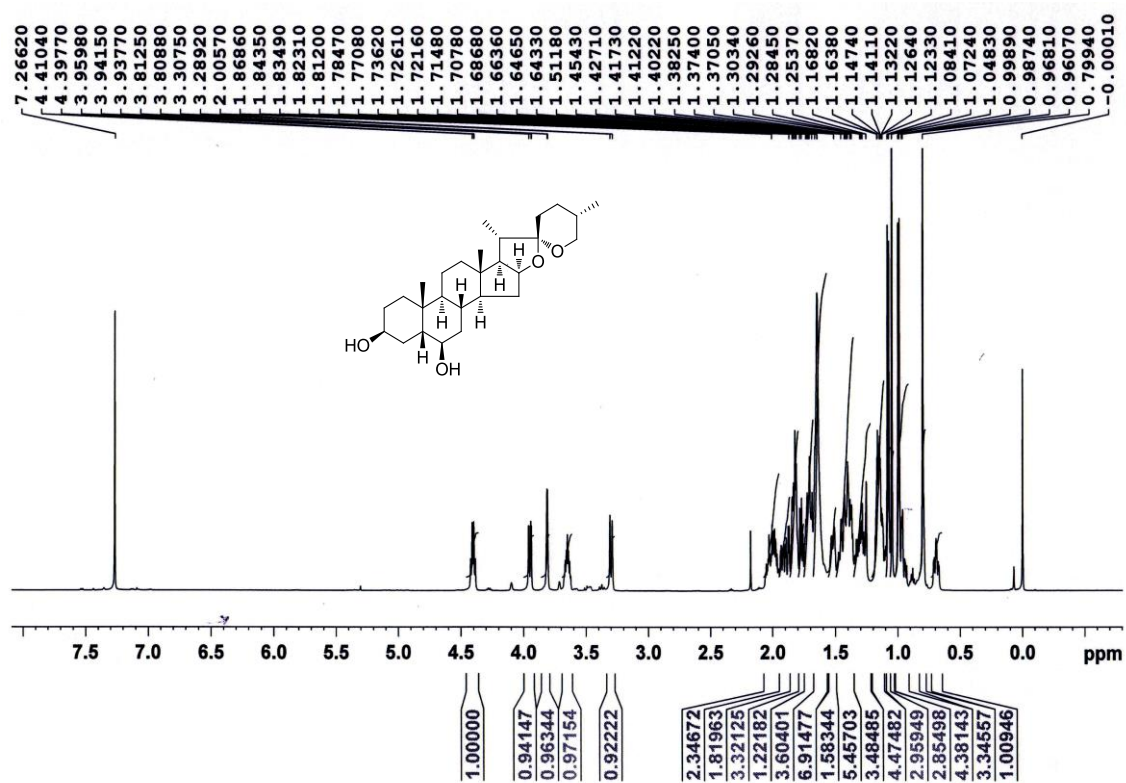
^{13}C NMR of $5\alpha\text{-H}$, $6\alpha\text{-OH}$ yamogenin (17)



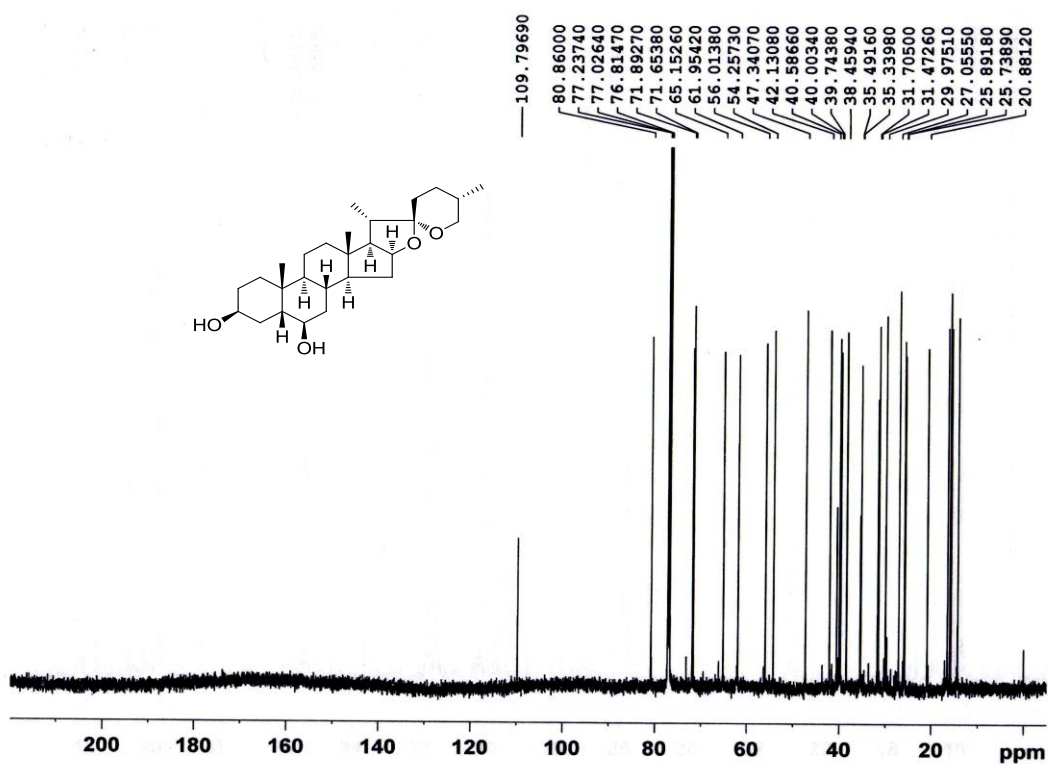
NOE of $5\alpha\text{-H}$, $6\alpha\text{-OH}$ yamogenin (17)



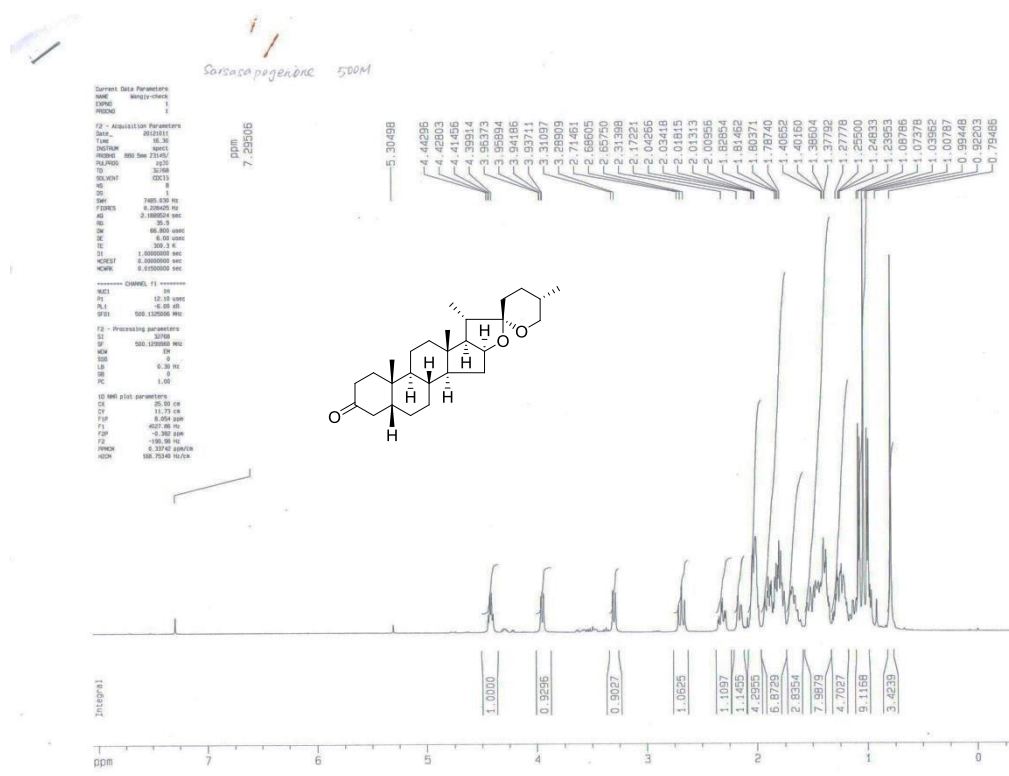
^1H NMR of 5 β -H, 6 β -OH yamogenin (18)



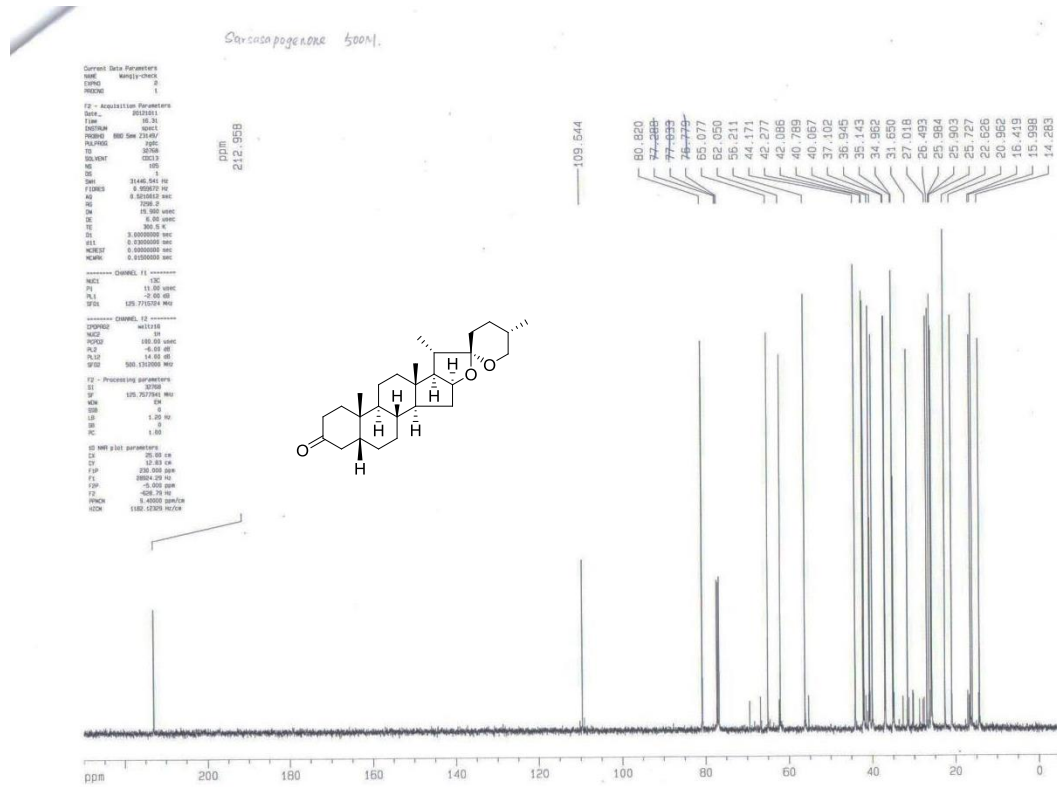
^{13}C NMR of 5 β -H, 6 β -OH yamogenin (18)



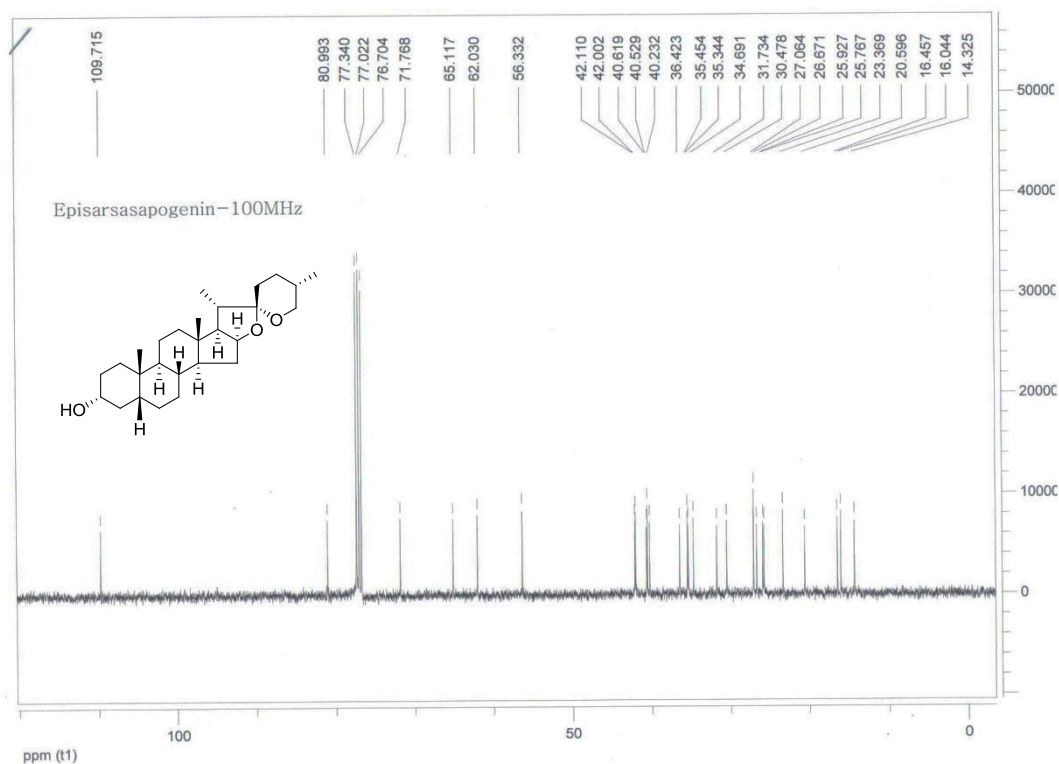
¹H NMR of Sarsasapogenone (19)



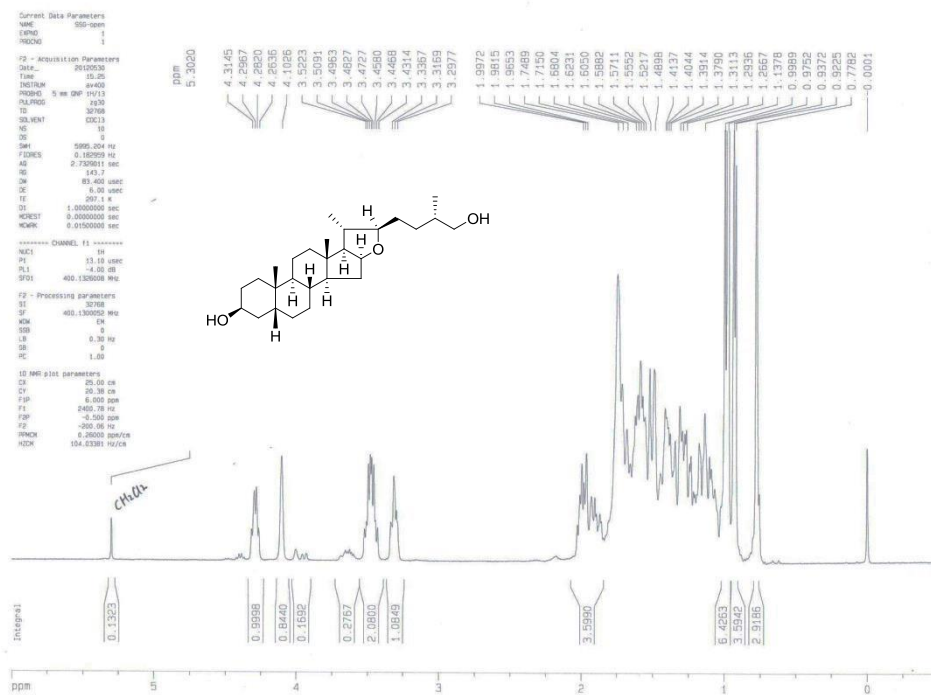
¹³C NMR of Sarsasapogenone (19)



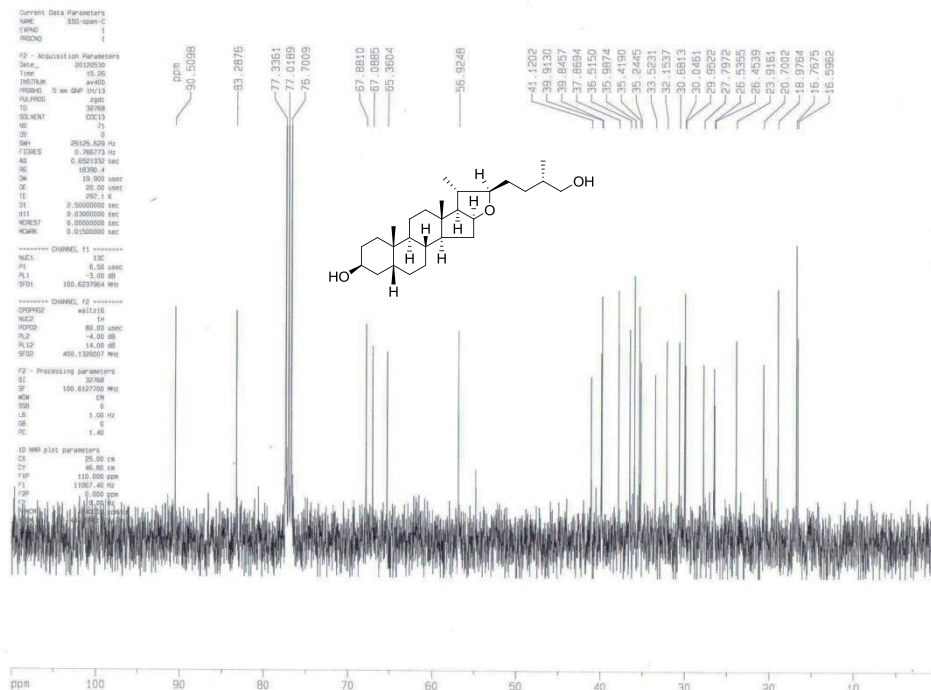
¹³C NMR of Episarsasapogenin (20)



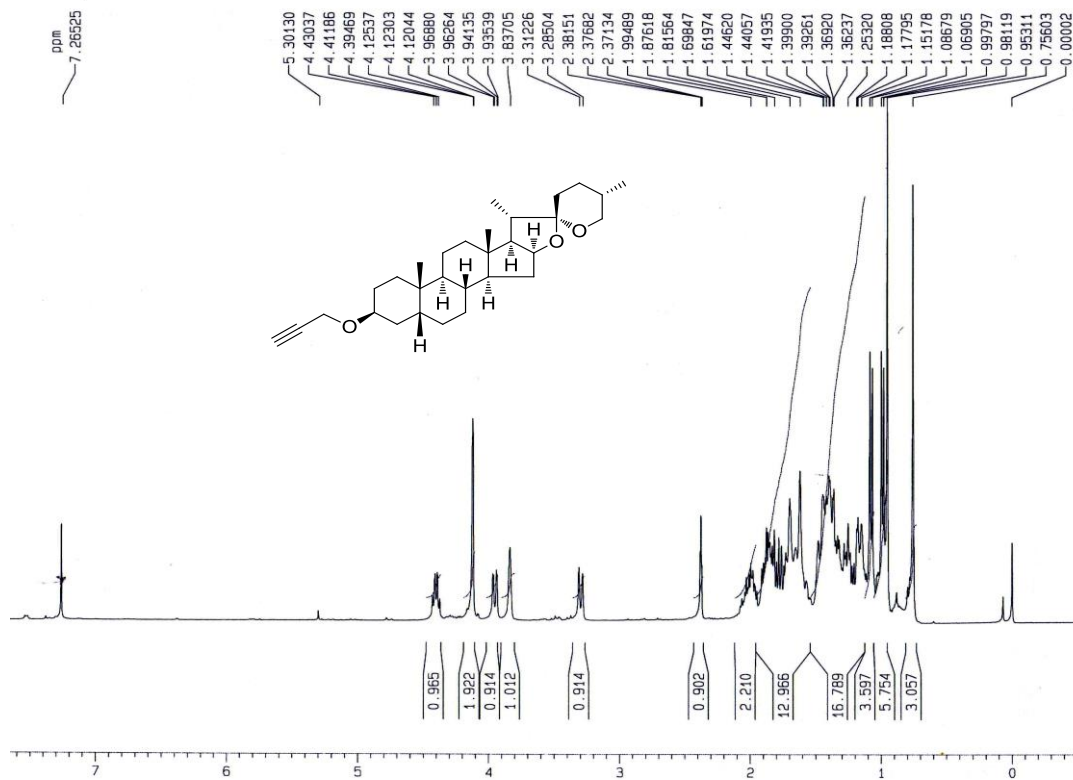
¹H NMR of dihydrosarsasapogenin (dSSG, 21)



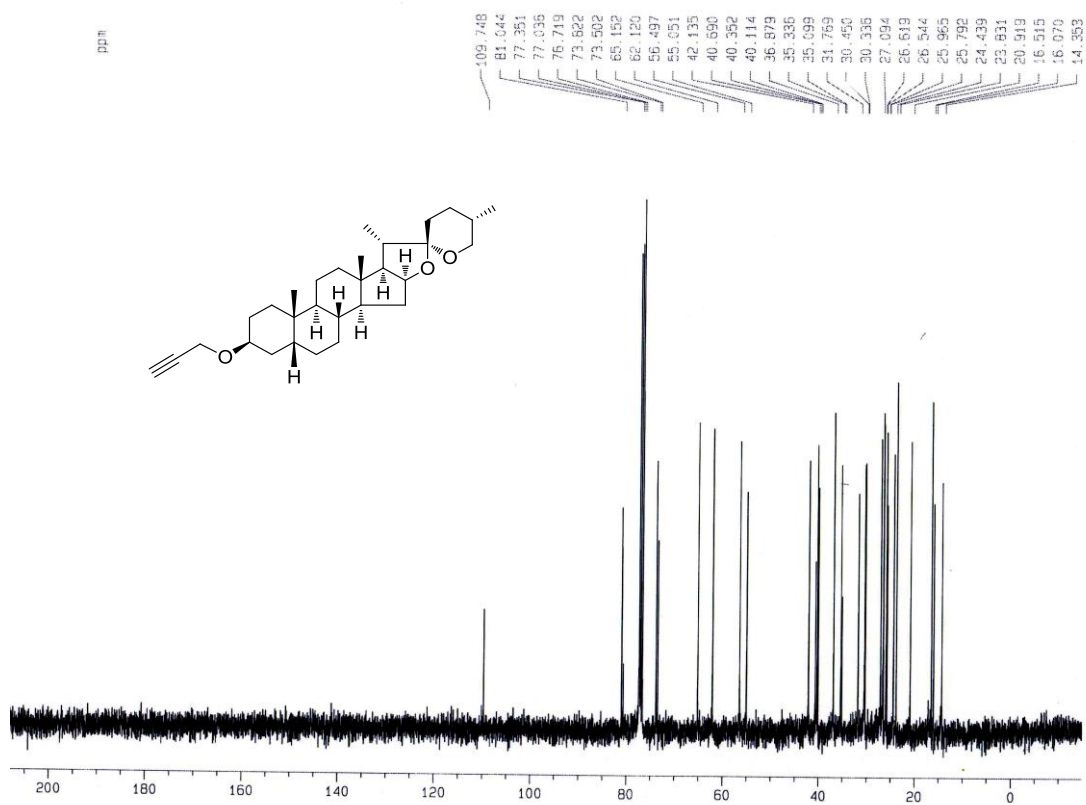
¹³C NMR of dihydrosarsasapogenin (dSSG, **21**)



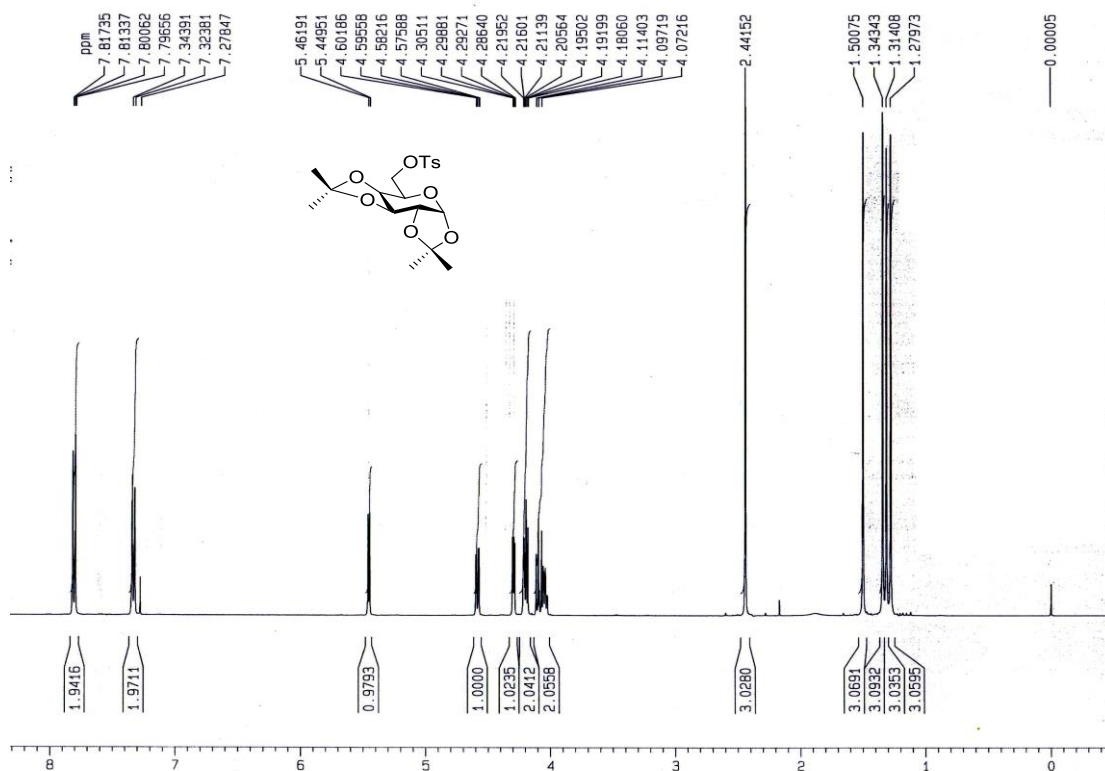
¹H NMR of Propargyl SSG (**25**)



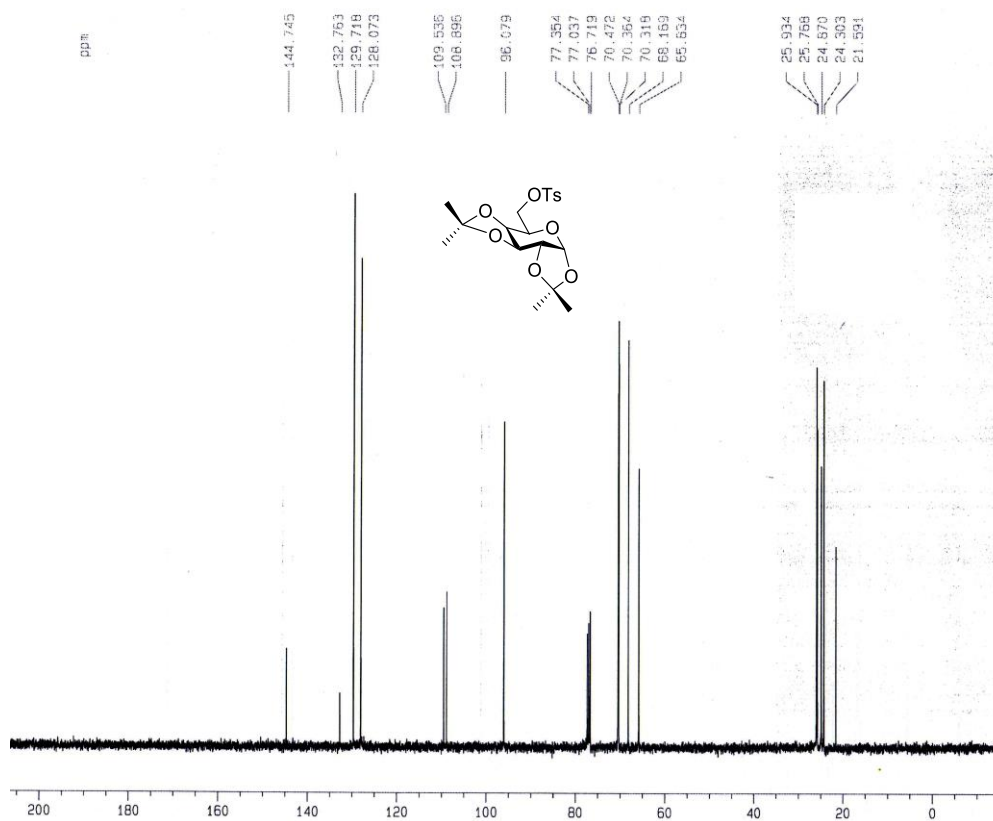
¹³C NMR of Propargyl SSG (25)



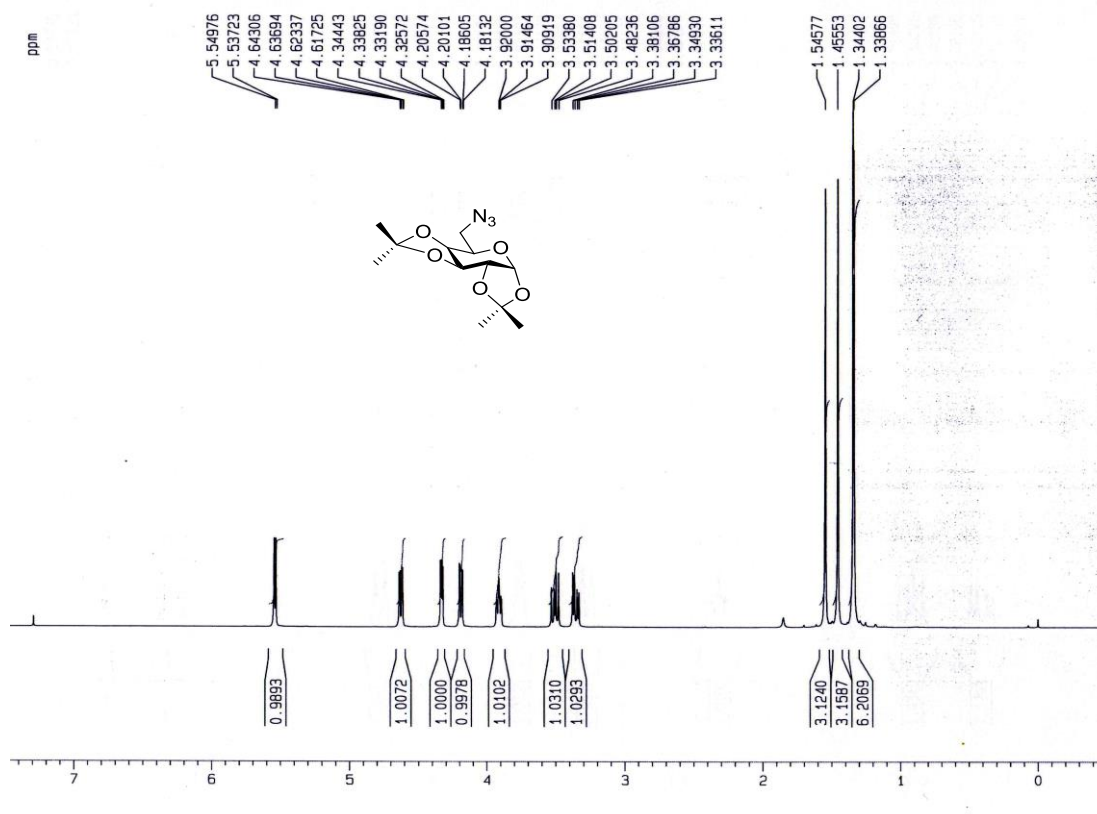
¹H NMR of Compound 26a



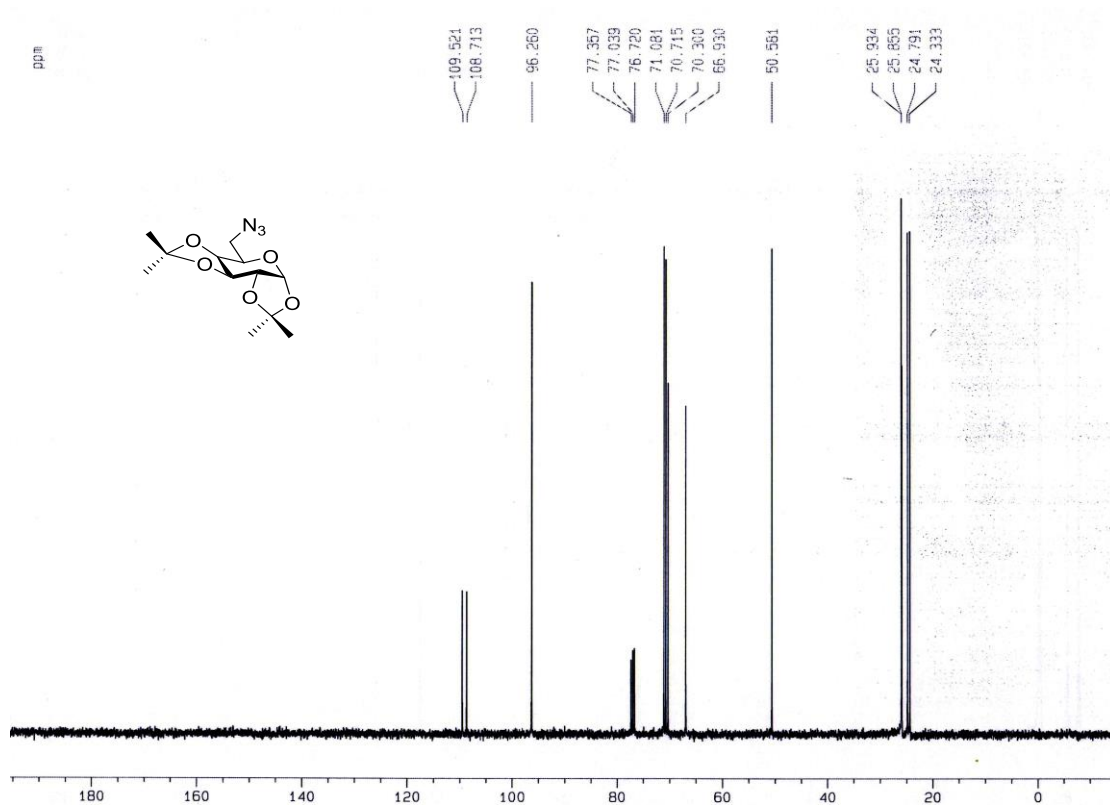
¹³C NMR of Compound 26a



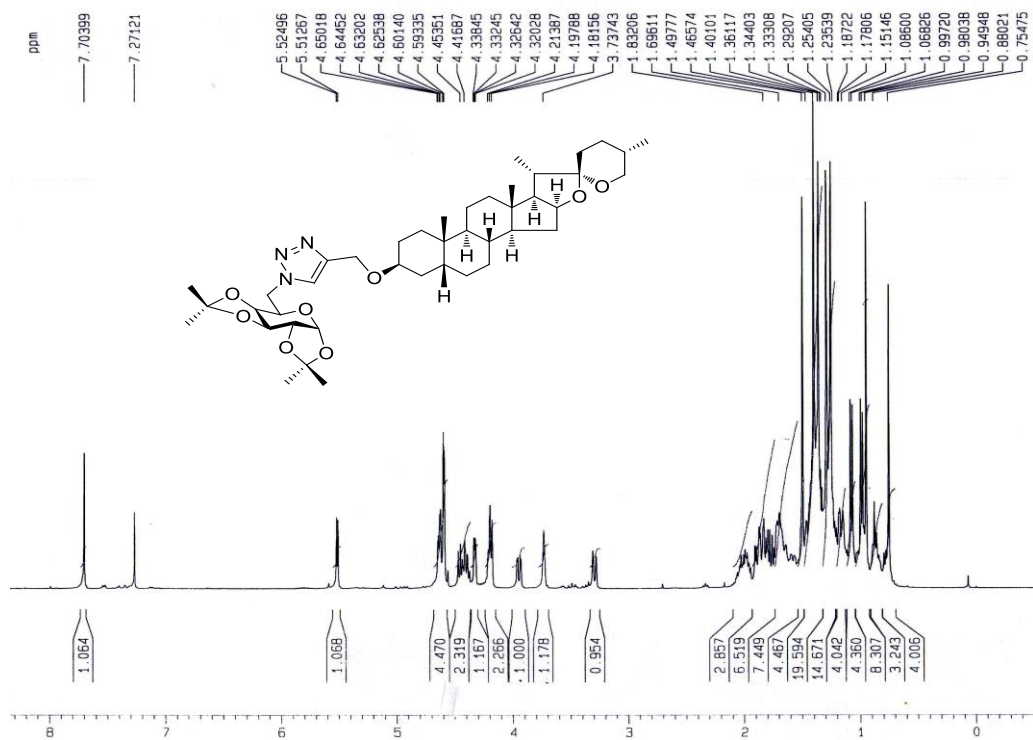
¹H NMR of Compound 26



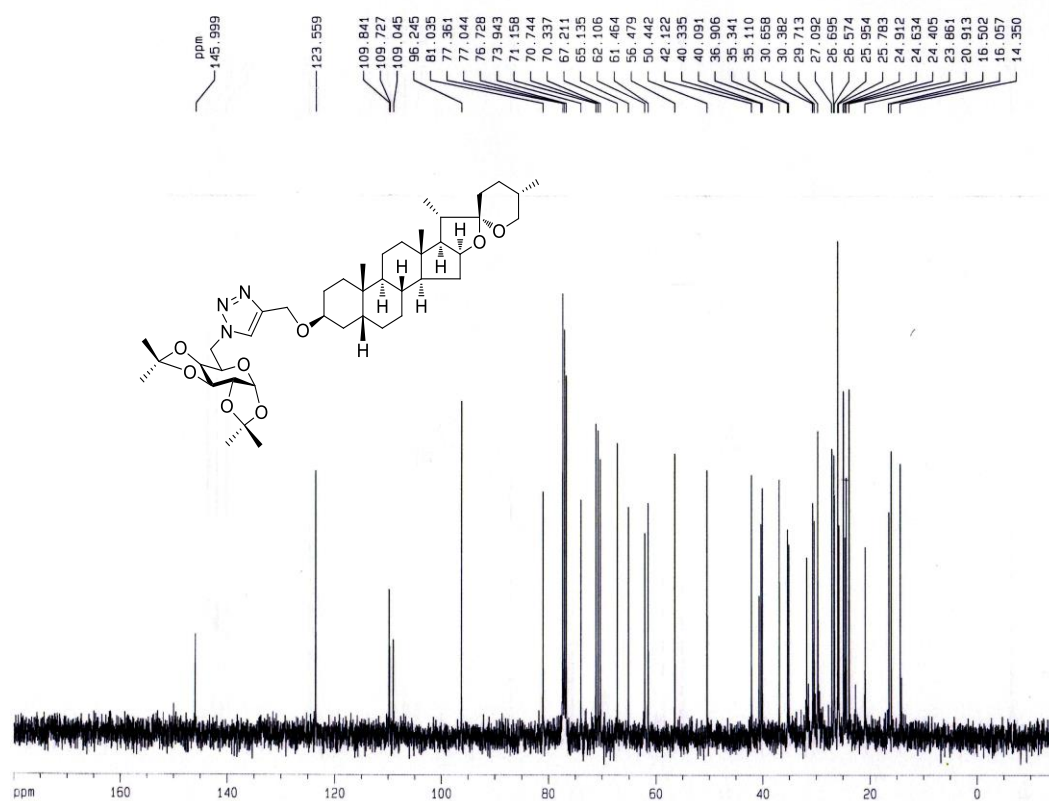
¹³C NMR of Compound 26



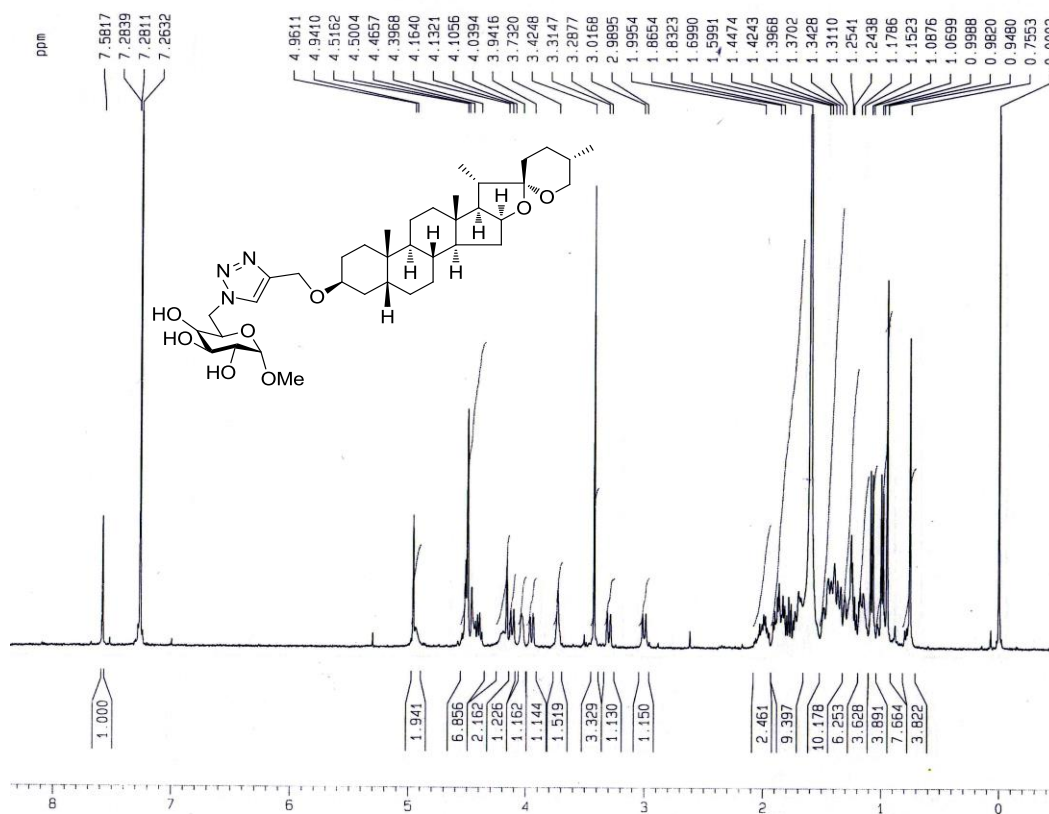
¹H NMR of Triazole SSG (27)



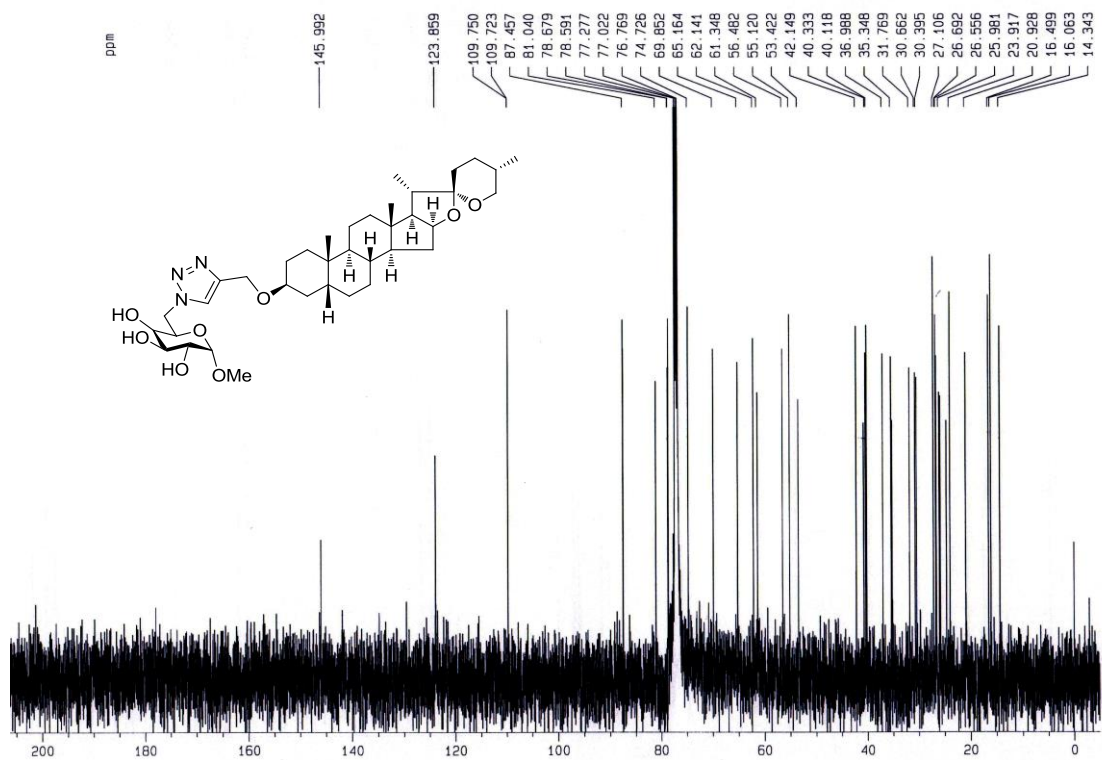
¹³C NMR of Triazole SSG (27)



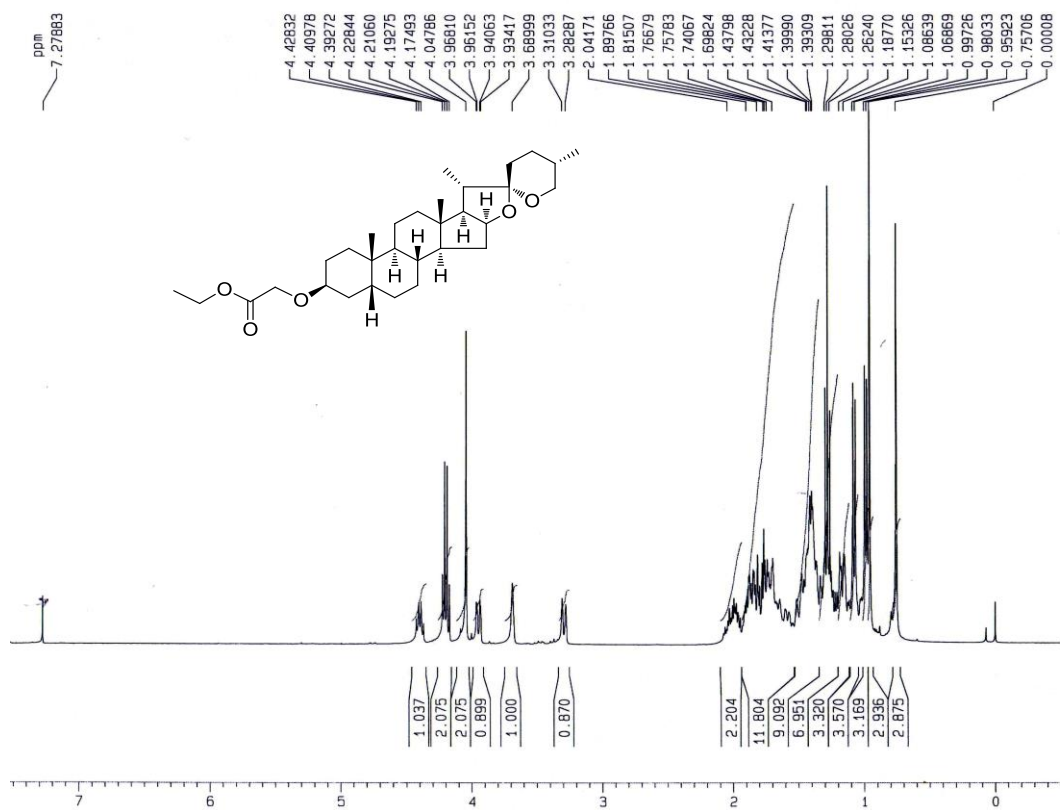
¹H NMR of α-OMe triazole SSG (28)



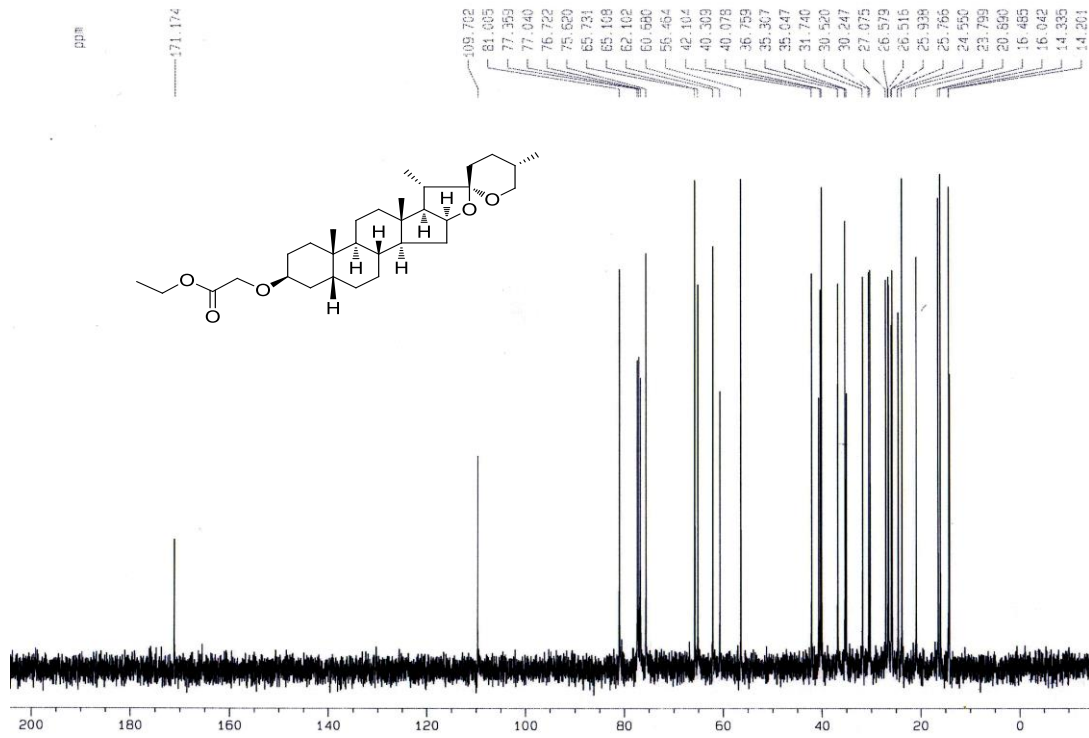
¹³C NMR of α -OMe triazole SSG (**28**)



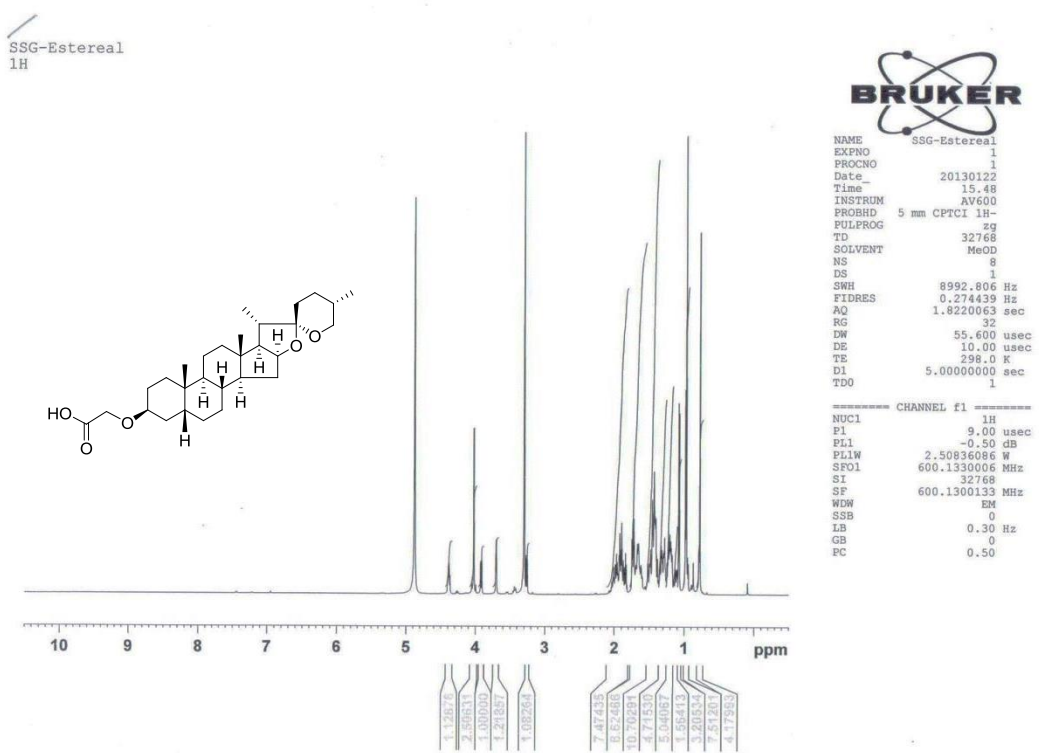
¹H NMR of Carboxylate ethereal SSG (**29a**)



¹³C NMR of Carboxylate ethereal SSG (29a)

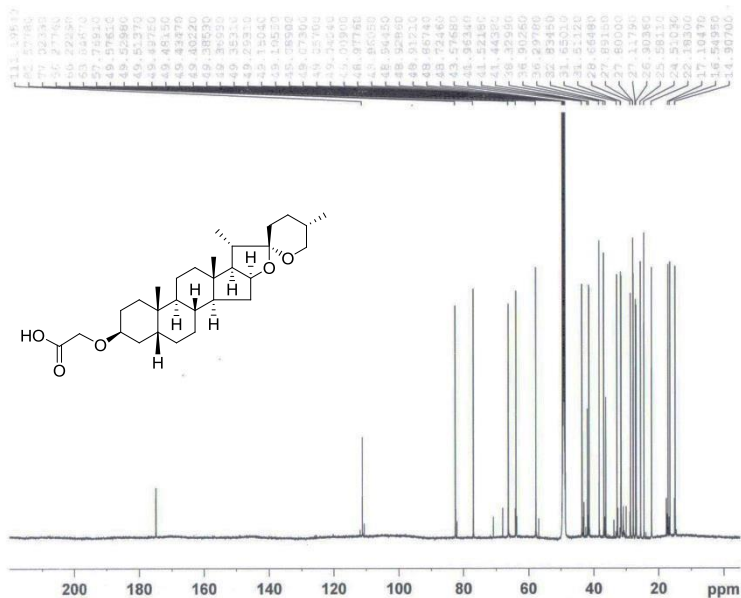


¹H NMR of Ethereal SSG (29)



¹³C NMR of Ethereal SSG (29)

SSG-Estereal
13C-Complete-decoupling



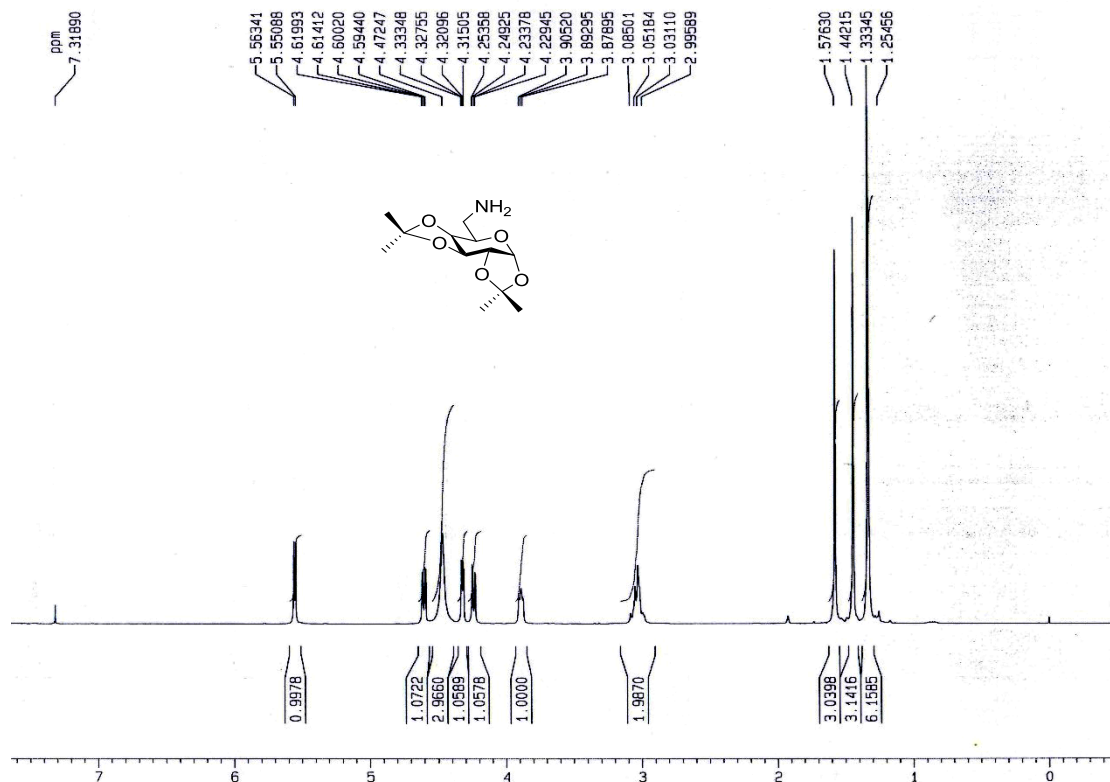
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NAME      SSG-Estereal
EXPNO     3
PROCNO    1
Date_     20130122
Time      16.26
INSTRUM   AV600
PROBHD    5 mm CPTCI 1H-
PULPROG   zgdc
TD         32768
SOLVENT   MeOD
NS         7133
DS         2
SWH        37593.984 Hz
FIDRES     1.147277 Hz
AQ         0.4358777 sec
RG         3195.2
DW         13.300 usec
DE         50.00 usec
TE         298.0 K
D1         3.0000000 sec
D11        0.0300000 sec
TD0        1

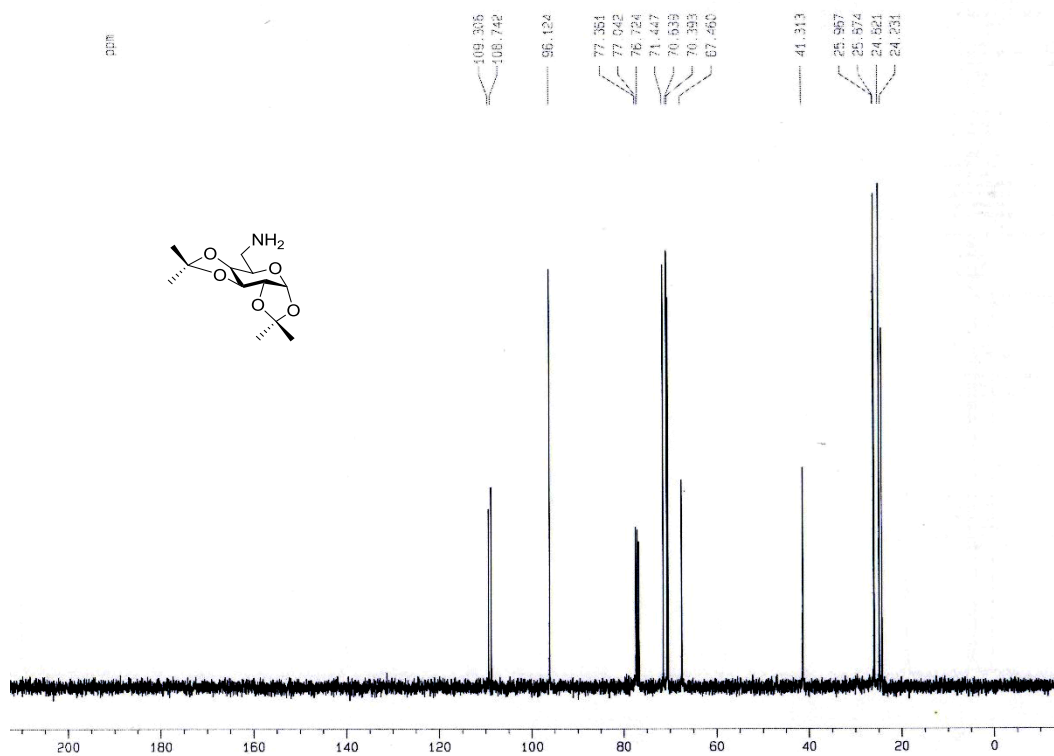
===== CHANNEL f1 =====
NUC1       13C
P1         15.00 usec
PL1        -3.00 dB
PL1W       140.33242798 W
SFO1       150.9193483 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2       1H
PCPD2     60.00 usec
PL2        -0.50 dB
PL12       15.60 dB
PL2W       2.50636086 W
SFO2       600.1330006 MHz
SI         32768
SF         150.9025726 MHz
WDW        EM
SSB        0
LB         1.20 Hz
GB         0
PC         1.00
    
```

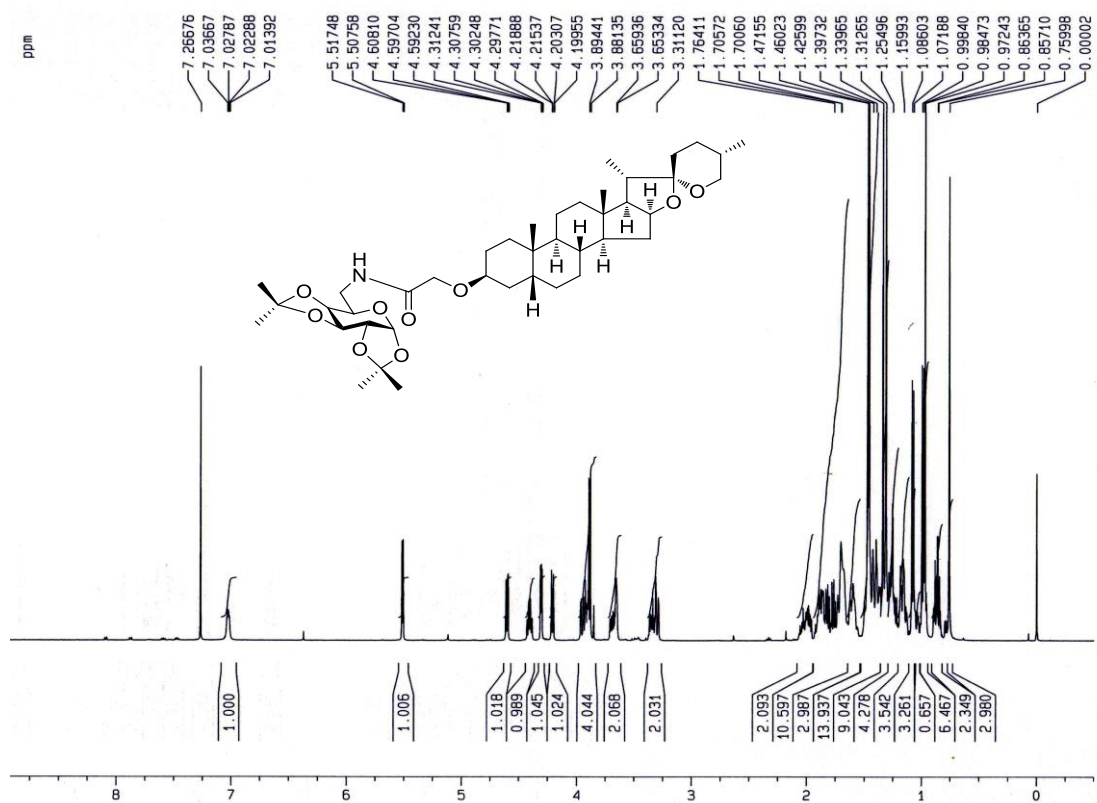
¹H NMR of Compound 30



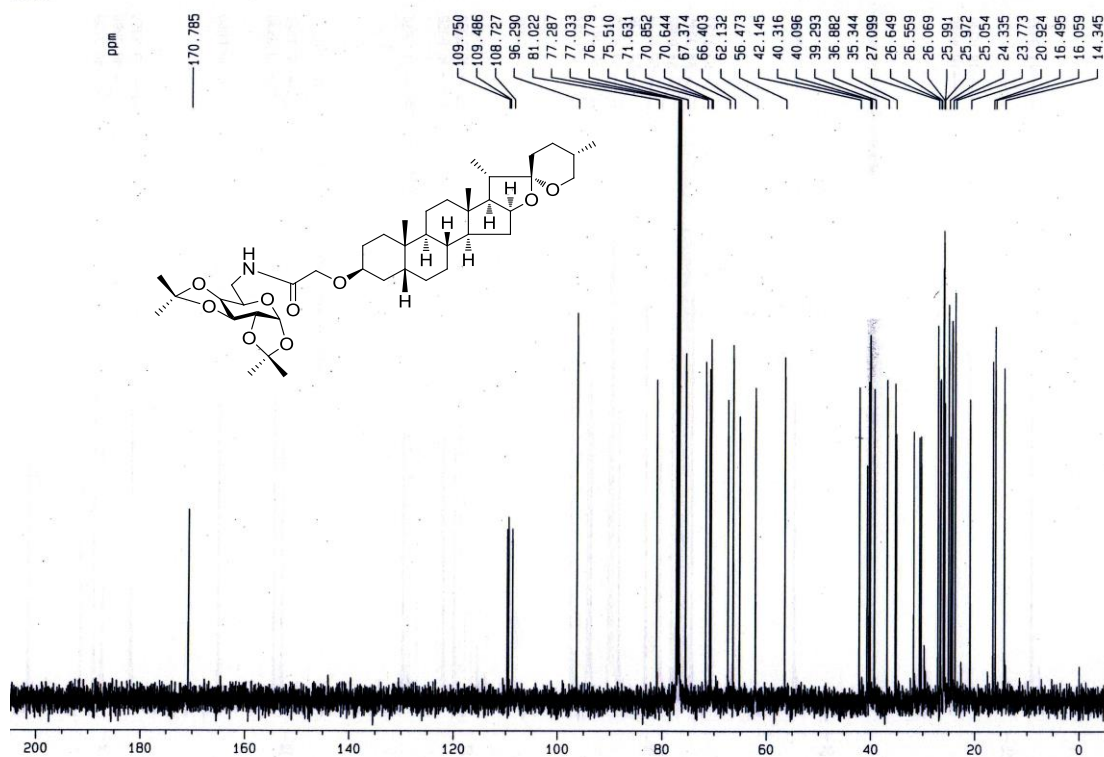
¹³C NMR of Compound 30



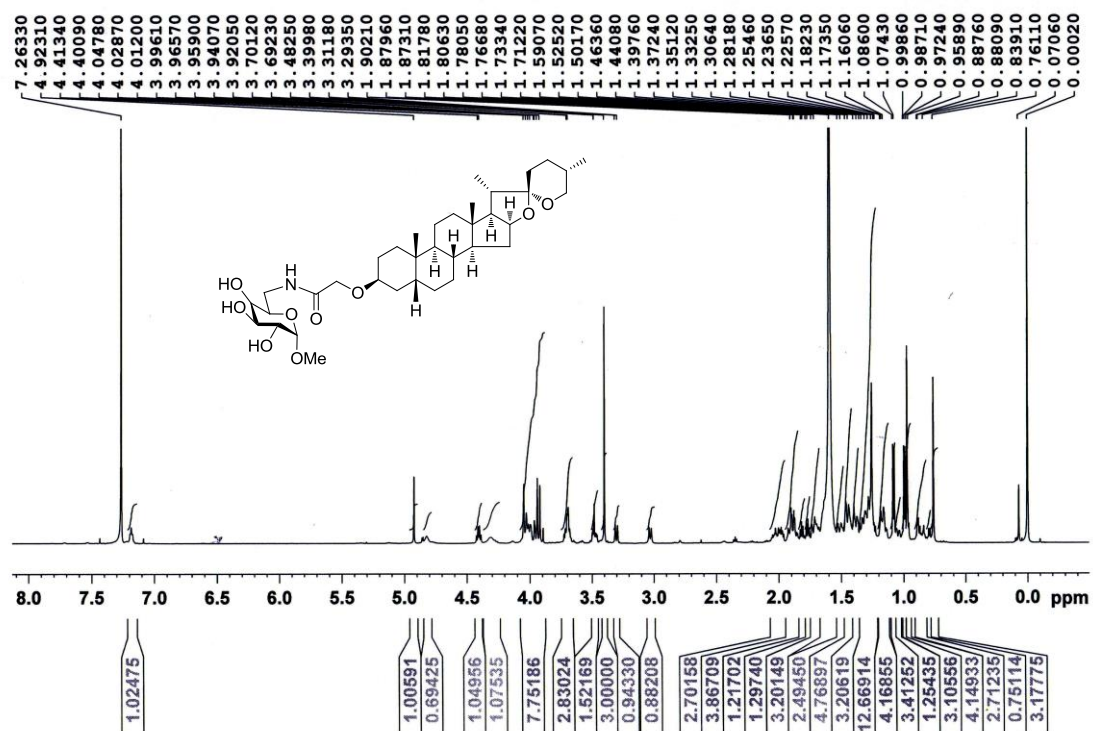
¹H NMR of Amide SSG (31)



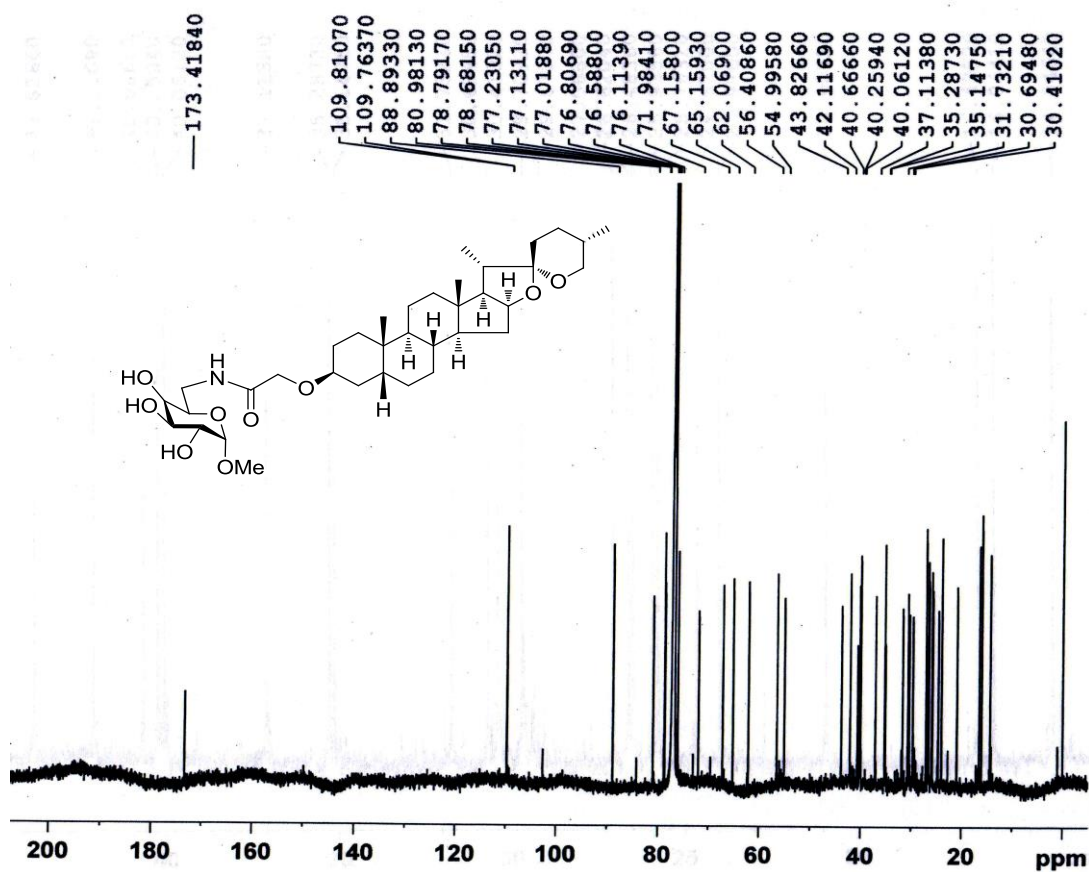
¹³C NMR of Amide SSG (31)



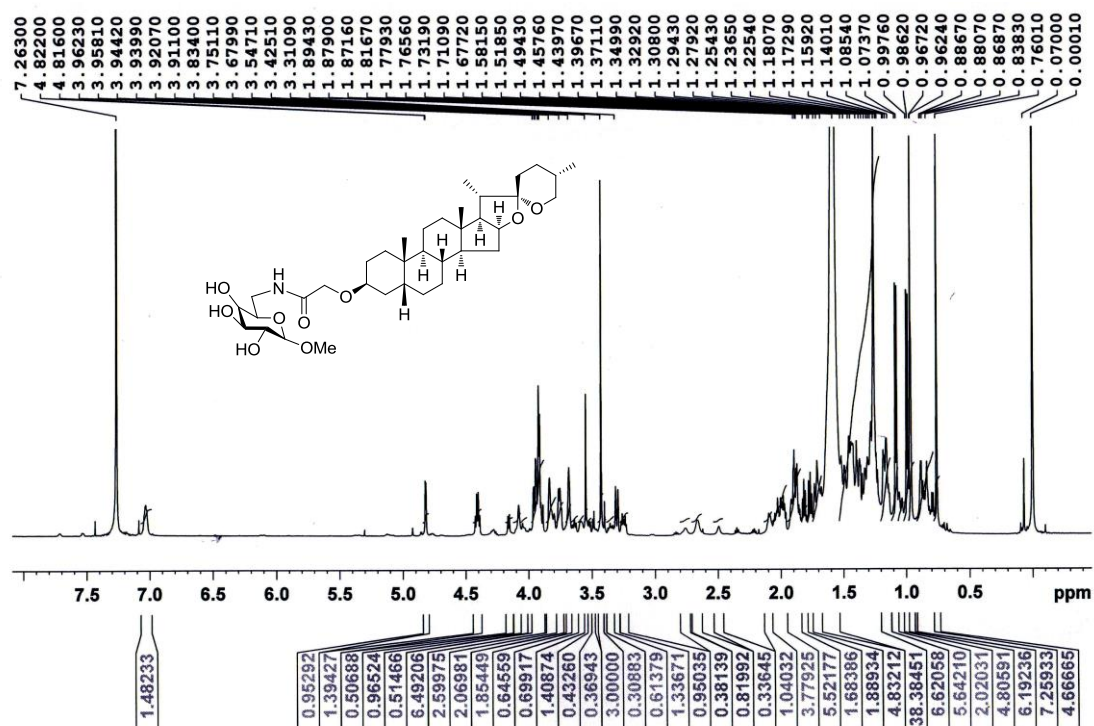
¹H NMR of α-OMe SSG (32)



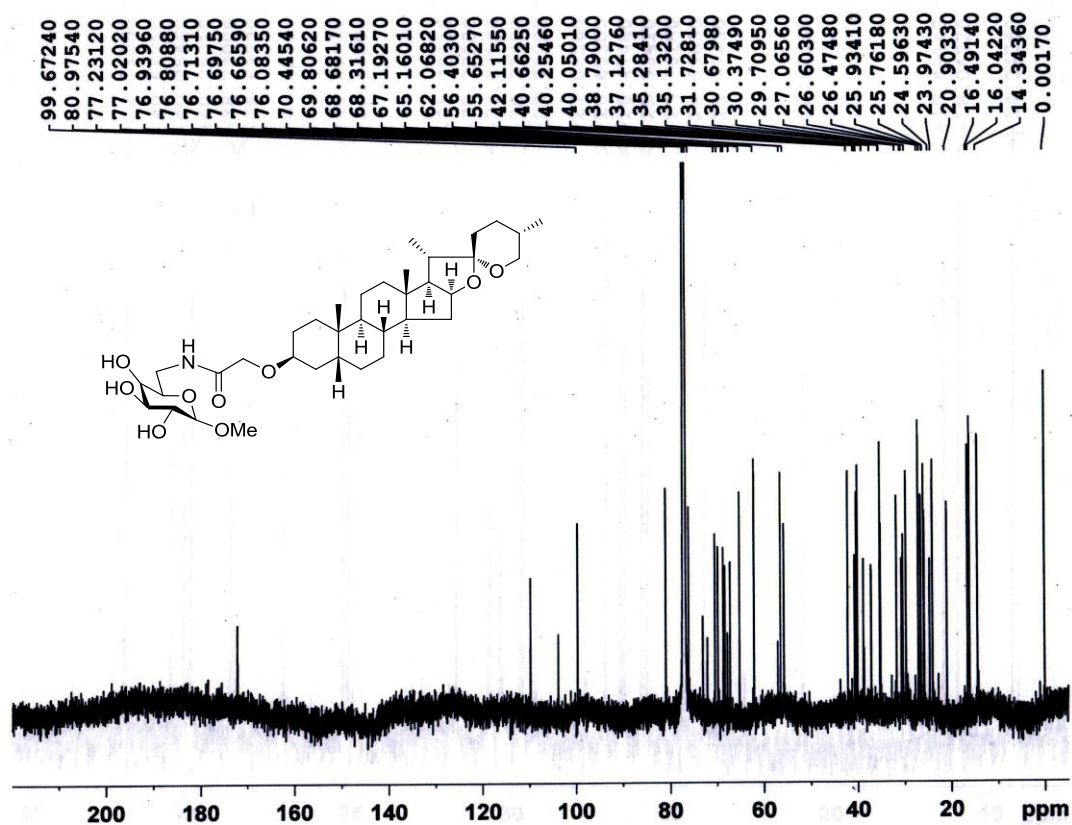
^{13}C NMR of α -OMe SSG (32)



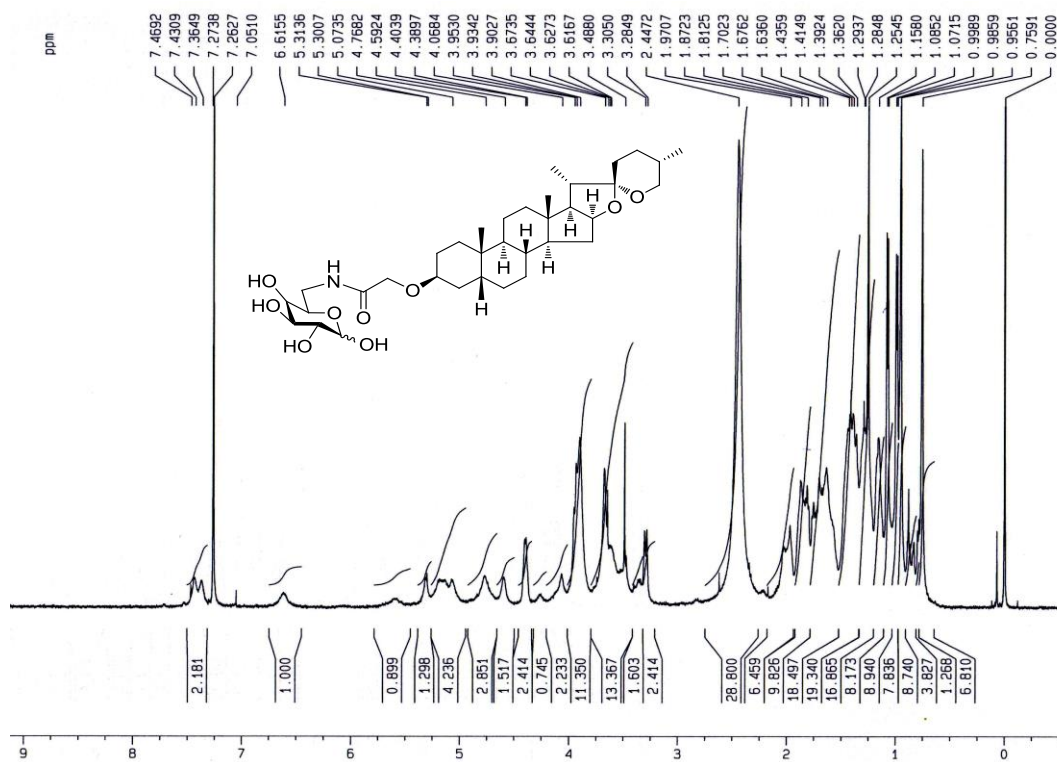
^1H NMR of β -OMe SSG (33)



^{13}C NMR of β -OMe SSG (33)



^1H NMR of α - β -OH SSG (34)



^{13}C NMR of α -, β -OH SSG (34)

