

Supporting Information

Diastereoselective Synthesis of Vicinal *cis*-Dihydroxyheterospirocycles by One-Pot Epoxidation/Spirocyclization of (C)-3-Functionalized Cyclohex-2-en-1-ols

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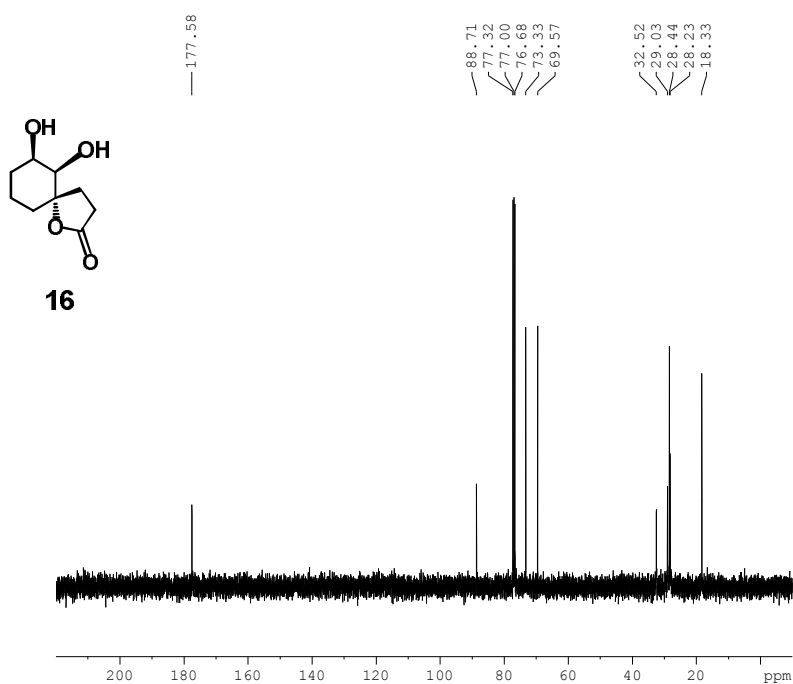
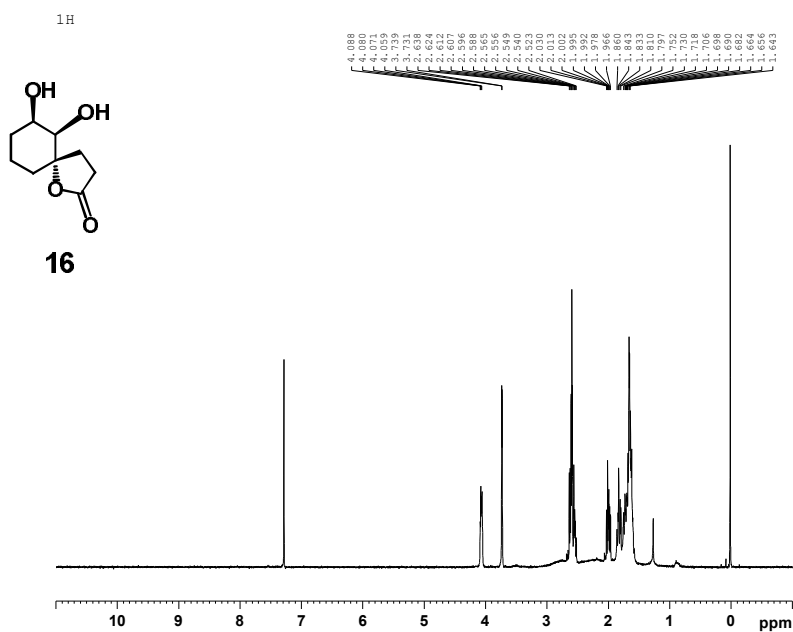
^b Department of Nursing, Meiho University, 23, Pingguang Rd., Neipu, Pingtung,
Taiwan, Republic of China

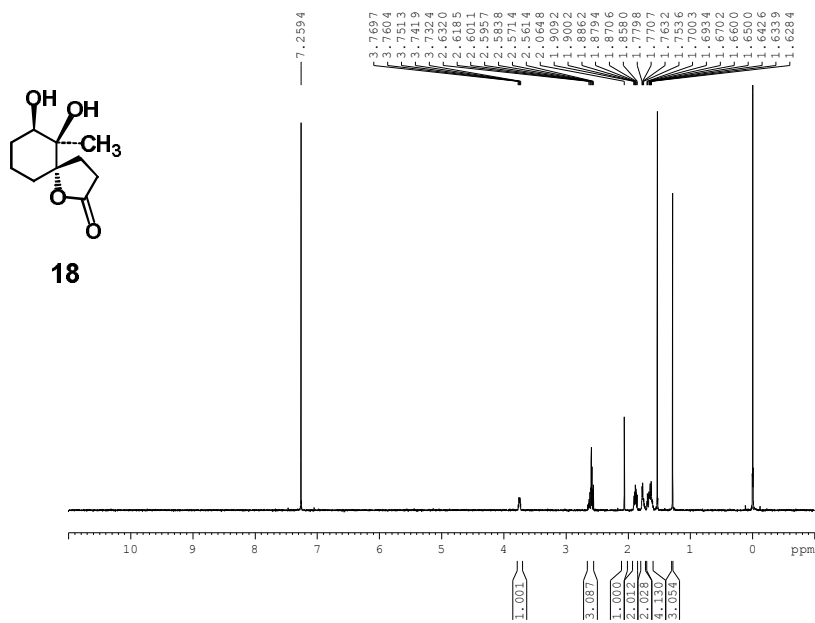
Fax: (+886)-915686889; e-mail: nurwang@mail.meiho.edu.tw

Contents of Supporting Information

Copies of all ¹H and ¹³C NMR Spectra of Compounds **16**, **18–23** and **28–29**. S2

Copies of all ¹H and ¹³C NMR Spectra





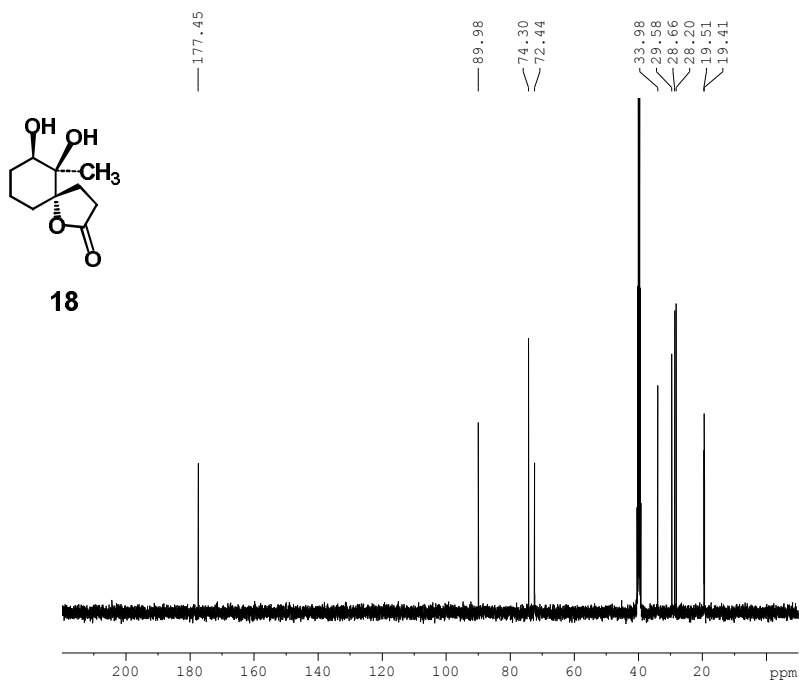
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Current Data Parameters
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EXPNO        22
PROCNO       1

F2 - Acquisition Parameters
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Time         16.05
INSTRUM      spect
PROBHD       5 mm PABBO BB-
PULPROG      zg30
TD           32768
SOLVENT      CDCl3
NS           4
DS           0
SWH          9857.971 Hz
FIDRES       0.276427 Hz
AQ           1.8088988 sec
RG           362
DW           55.200 usec
DE           6.50 usec
TE           298.7 K
D1           2.0000000 sec
TDO          1

===== CHANNEL f1 =====
NUC1         1H
P1           14.00 usec
PL1          0 dB
SFO1         500.1330008 MHz

F2 - Processing parameters
SI           16384
SF           500.1306128 MHz
WDW          EM
SSB          0
LB           0 Hz
GB           0
PC           1.00
    
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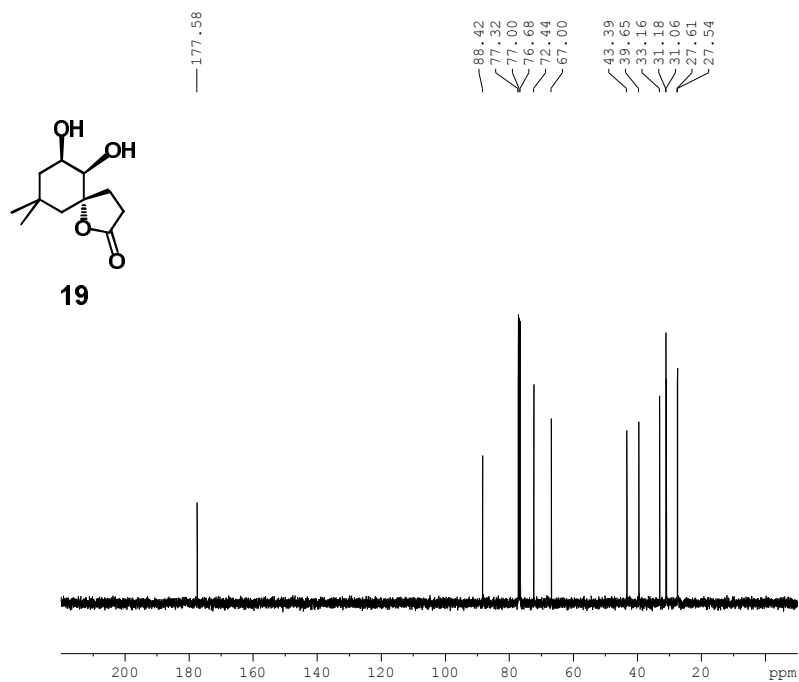
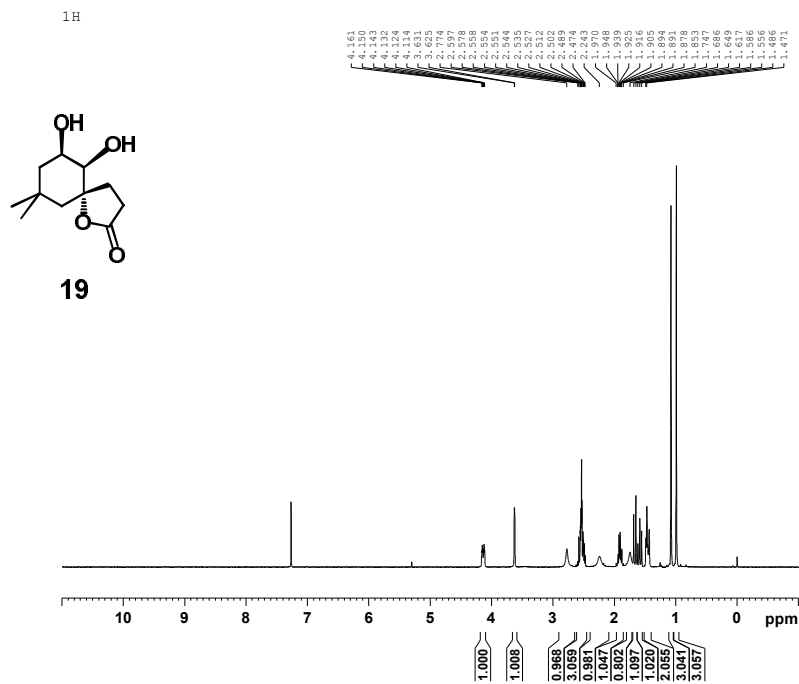
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EXPNO         5
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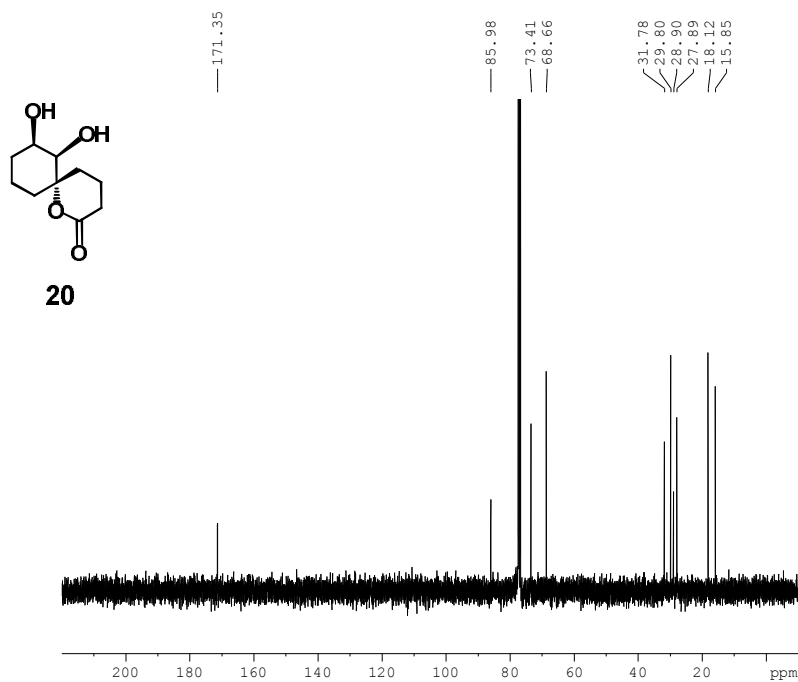
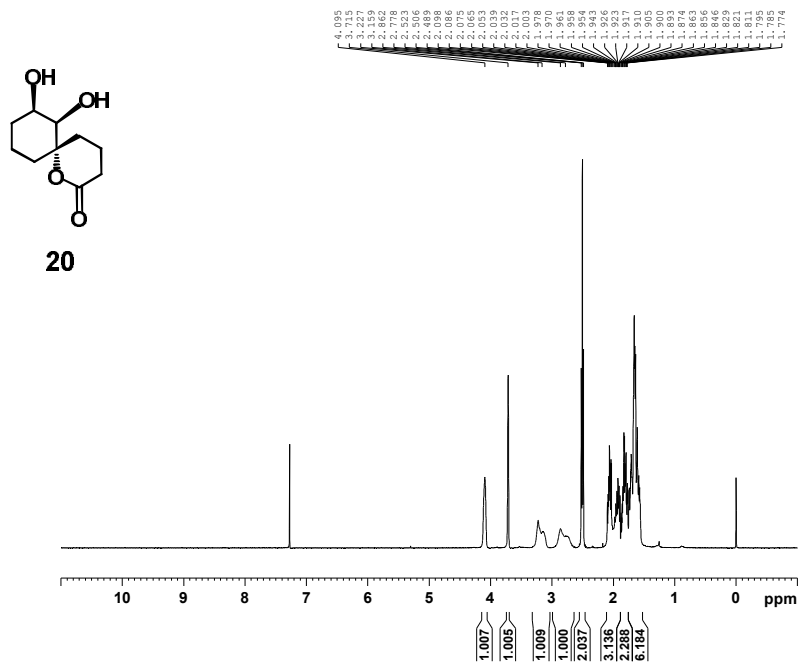
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PULPROG      zgpg30
TD           32768
SOLVENT      DMSO
NS           109
DS           0
SWH          24038.461 Hz
FIDRES       0.733596 Hz
AQ           0.6816452 sec
RG           9195.2
DW           20.800 usec
DE           6.50 usec
TE           299.0 K
D1           2.0000000 sec
D11          0.0300000 sec
TDO          1

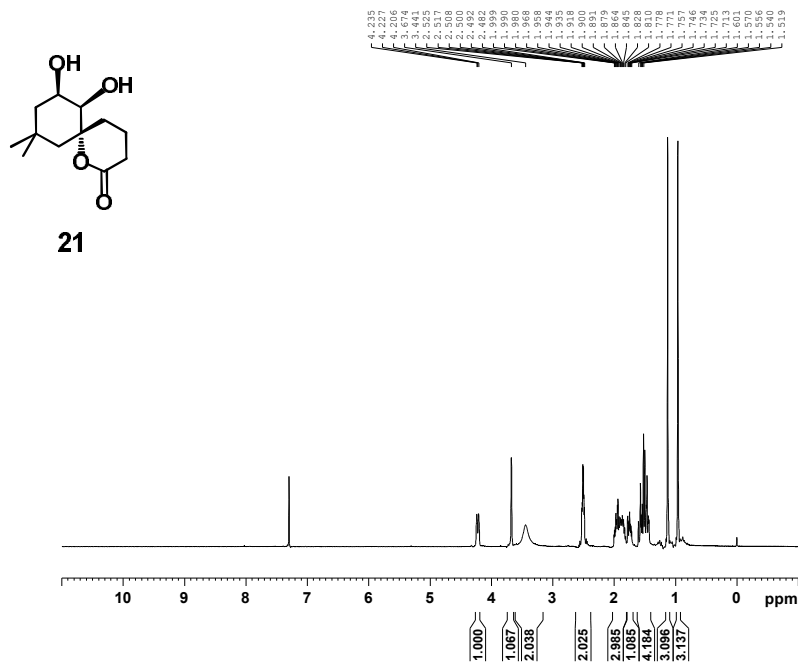
===== CHANNEL f1 =====
NUC1         13C
P1           8.90 usec
PL1          7.00 dB
SFO1         100.6233325 MHz

===== CHANNEL f2 =====
CPDPRG2      waitz16
NUC2         1H
PCPD2        90.00 usec
PL2          3.80 dB
PL12         21.60 dB
PL13         24.60 dB
SFO2         400.1316005 MHz

F2 - Processing parameters
SI           32768
SF           100.6127690 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           1.00
    
```





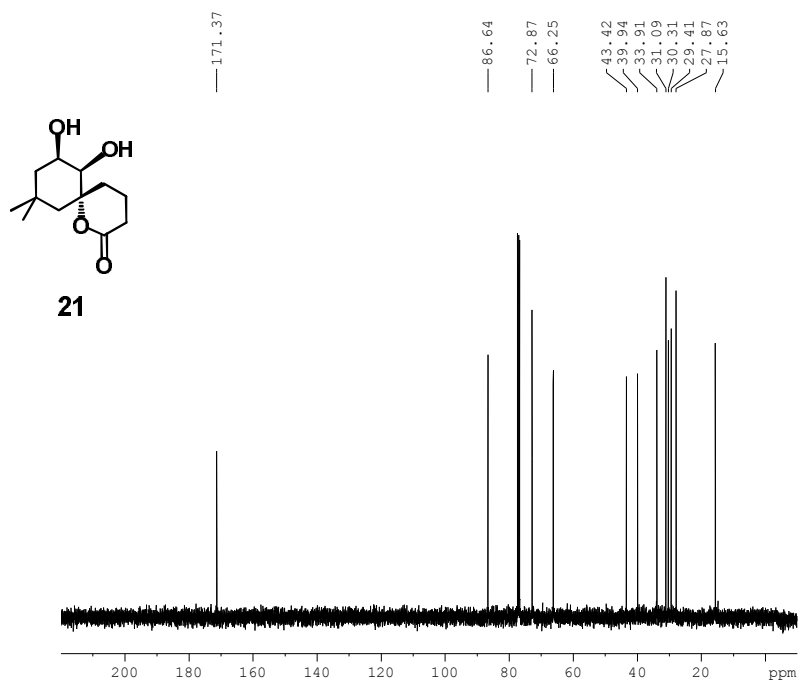


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NAME      gun
EXPNO    3
PROCNO   1

F2 - Acquisition Parameters
Date_    20100902
Time     22.21
INSTRUM spect
PROBHD   5 mm BBO BB-1H
PULPROG zg30
TD        16384
SOLVENT  CDCl3
NS        1
DS        0
SWH       6009.615 Hz
FIDRES   0.366798 Hz
AQ        1.3632820 sec
RG        35.9
DW        83.200 usec
DE        6.50 usec
TE        299.4 K
D1        1.5000000 sec
MCREST   0 sec
MCWRK    0.0150000 sec

===== CHANNEL f1 =====
NUC1     1H
P1       8.80 usec
PL1      0 dB
SF01     400.132608 MHz

F2 - Processing parameters
SI       16384
SF       400.1299940 MHz
WDW      EM
SSB      0
LB       0.10 Hz
GB       0
FC       1.00
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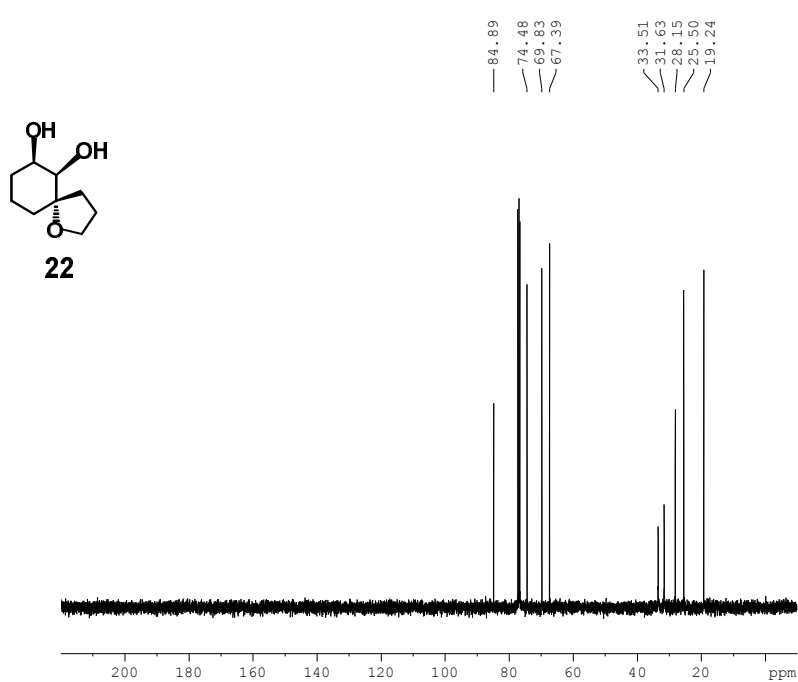
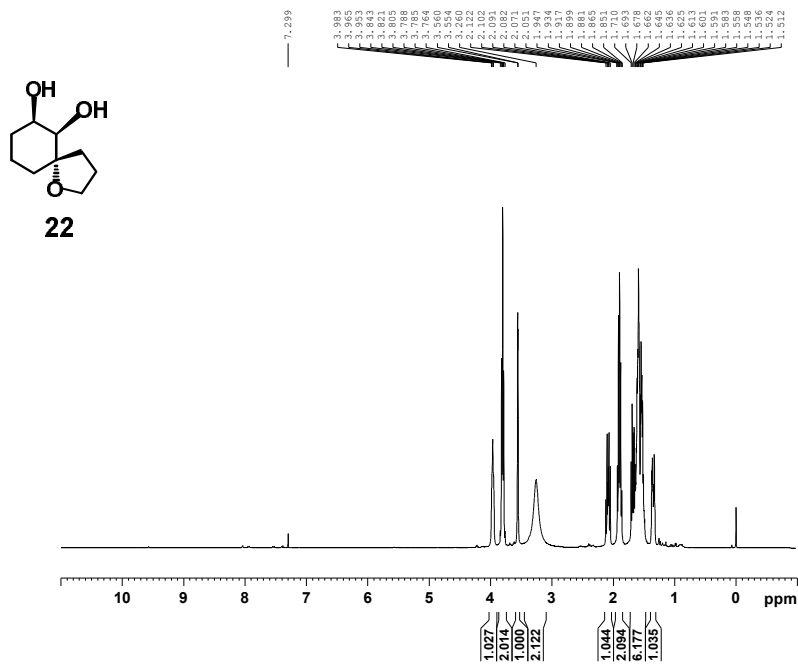
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EXPNO    4
PROCNO   1

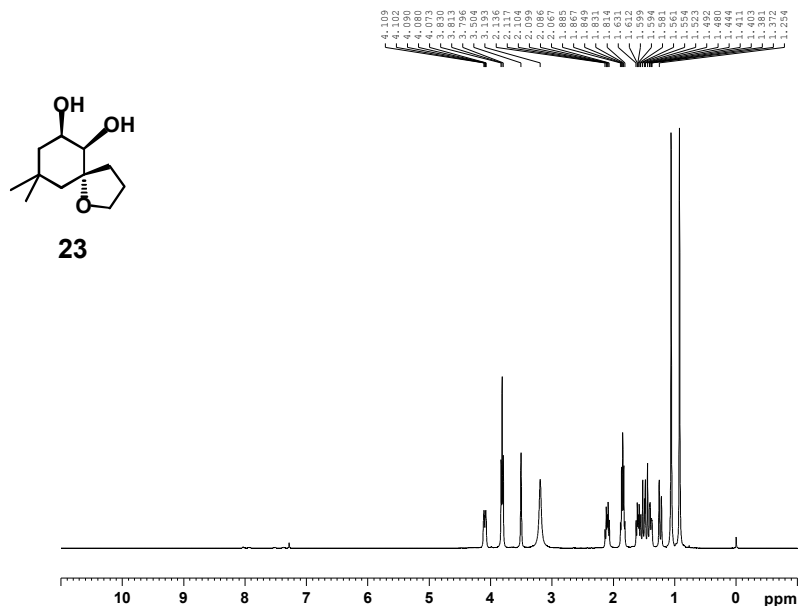
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Time     22.25
INSTRUM spect
PROBHD   5 mm BBO BB-1H
PULPROG zgpg30
TD        65536
SOLVENT  CDCl3
NS        31
DS        0
SWH       25062.656 Hz
FIDRES   0.382426 Hz
AQ        1.3075131 sec
RG        10240
DW        19.950 usec
DE        6.50 usec
TE        299.6 K
D1        2.0000000 sec
d11      0.0300000 sec
DELTA    1.89999998 sec
MCREST   0 sec
MCWRK    0.0150000 sec

===== CHANNEL f1 =====
NUC1     13C
P1       10.00 usec
PL1      5.00 dB
SF01     100.6242935 MHz

===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    90.00 usec
PL2      4.00 dB
PL12     20.80 dB
PL13     23.80 dB
SF02     400.1319000 MHz

F2 - Processing parameters
SI       32768
SF       100.6127672 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
FC       1.40
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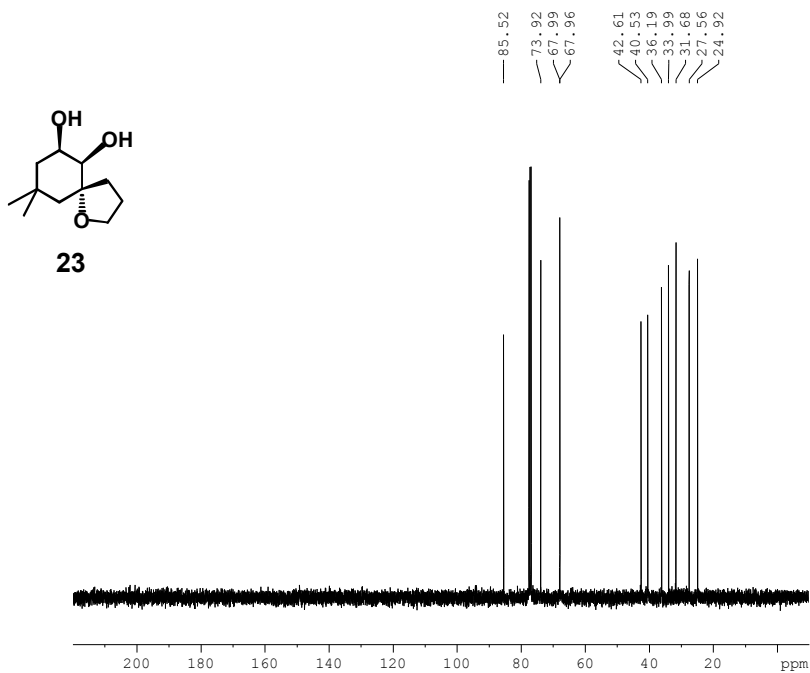


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Current Data Parameters
NAME      20100608
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20100608
Time     14.35
INSTRUM spect
PROBHD   5 mm BBO BB-1H
PULPROG zg30
TD        16384
SOLVENT  CDC13
NS        4
DS        0
SWH       6009.615 Hz
FIDRES    0.366798 Hz
AQ         1.3632820 sec
RG         32
DW         83.200 usec
DE         6.50 usec
TE         299.4 K
D1         1.50000000 sec
MCREST    0 sec
MCWRK     0.01500000 sec

===== CHANNEL f1 =====
NUC1      1H
P1        14.50 usec
PL1       5.20 dB
SF01      400.132608 MHz

F2 - Processing parameters
SI         16384
SF         400.1299999 MHz
WDW        EM
SSB        0
LB         0.10 Hz
GB         0
FC         1.00
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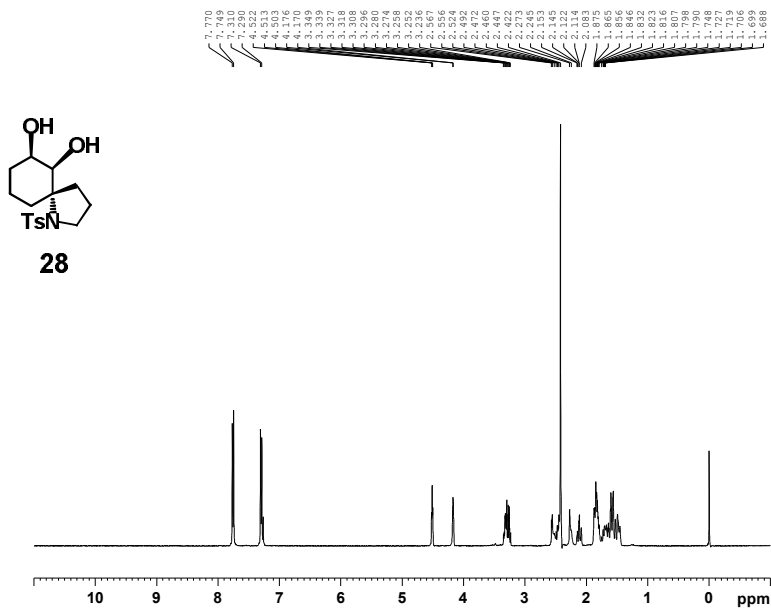
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EXPNO    2
PROCNO   1

F2 - Acquisition Parameters
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Time     14.37
INSTRUM spect
PROBHD   5 mm BBO BB-1H
PULPROG zgpg30
TD        65536
SOLVENT  CDC13
NS        59
DS        0
SWH       25062.656 Hz
FIDRES    0.382426 Hz
AQ         1.3075131 sec
RG         4096
DW         19.950 usec
DE         6.50 usec
TE         299.6 K
D1         2.00000000 sec
d11       0.03000000 sec
DELTA     1.89999999 sec
MCREST    0 sec
MCWRK     0.01500000 sec

===== CHANNEL f1 =====
NUC1      13C
P1        10.00 usec
PL1       5.00 dB
SF01      100.6242995 MHz

===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2      1H
PCPD2    90.00 usec
PL2       4.00 dB
PL12     20.80 dB
PL13     23.80 dB
SF02     400.1319000 MHz

F2 - Processing parameters
SI         32768
SF         100.6127478 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
FC         1.40
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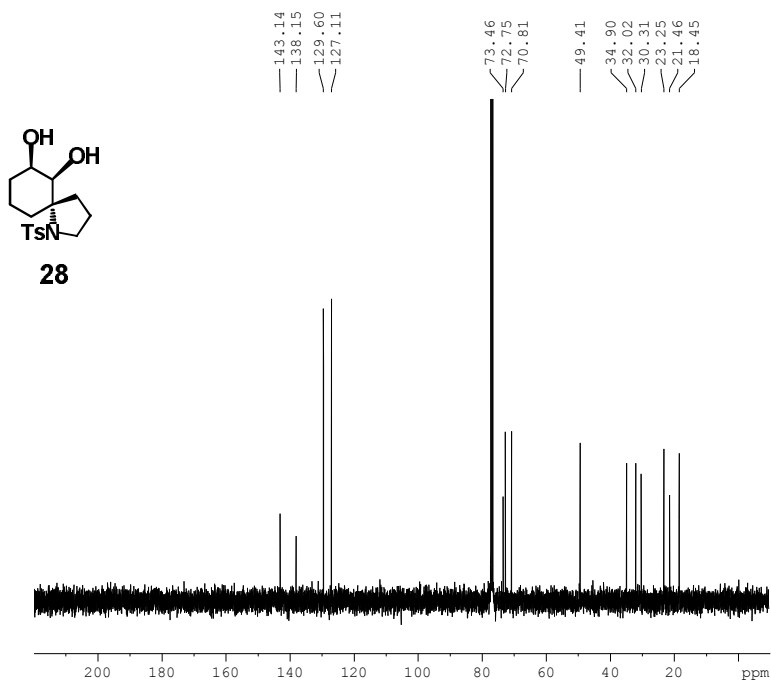



Current Data Parameters
 NAME nitrite
 EXPNO 111
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090921
 Time 22.51
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg30
 TD 16384
 SOLVENT CDCl3
 NS 1
 DS 0
 SWH 5995.204 Hz
 FIDRES 0.365918 Hz
 AQ 1.3664756 sec
 RG 128
 DW 83.400 usec
 DE 6.50 usec
 TE 299.4 K
 D1 1.5000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 400.132608 MHz

F2 - Processing parameters
 SI 16384
 SF 400.1300061 MHz
 WDW EM
 SSB 0
 LB 0.10 Hz
 GB 0
 FC 1.00



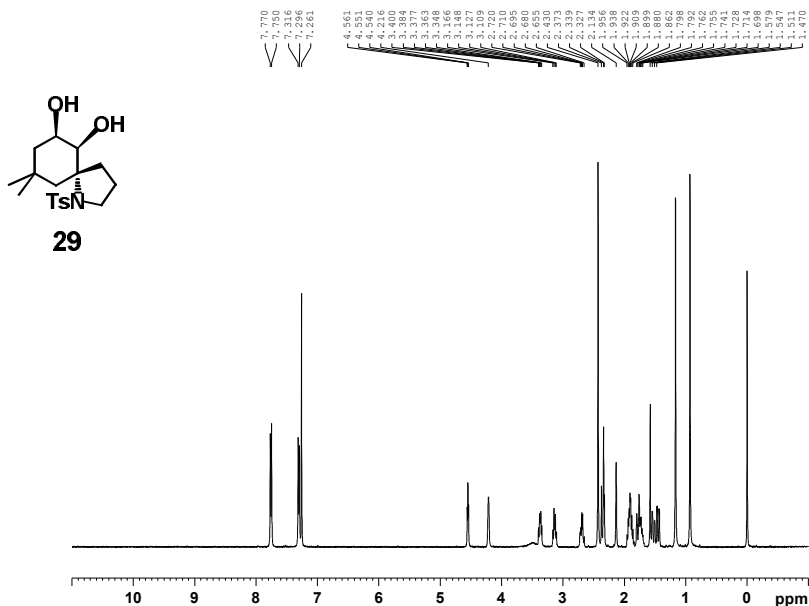
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 EXPNO 32
 PROCNO 1

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 Time 22.24
 INSTRUM spect
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 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 101
 DS 0
 SWH 25062.656 Hz
 FIDRES 0.382426 Hz
 AQ 1.3074932 sec
 RG 4096
 DW 19.950 usec
 DE 6.50 usec
 TE 299.5 K
 D1 2.0000000 sec
 d11 0.0300000 sec
 DELTA 1.89999998 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.90 usec
 PL1 5.00 dB
 SFO1 100.6243390 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 100.00 usec
 PL2 0 dB
 PLI2 19.10 dB
 PLI3 22.10 dB
 SFO2 400.1319000 MHz

F2 - Processing parameters
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 SF 100.6127714 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 1.40

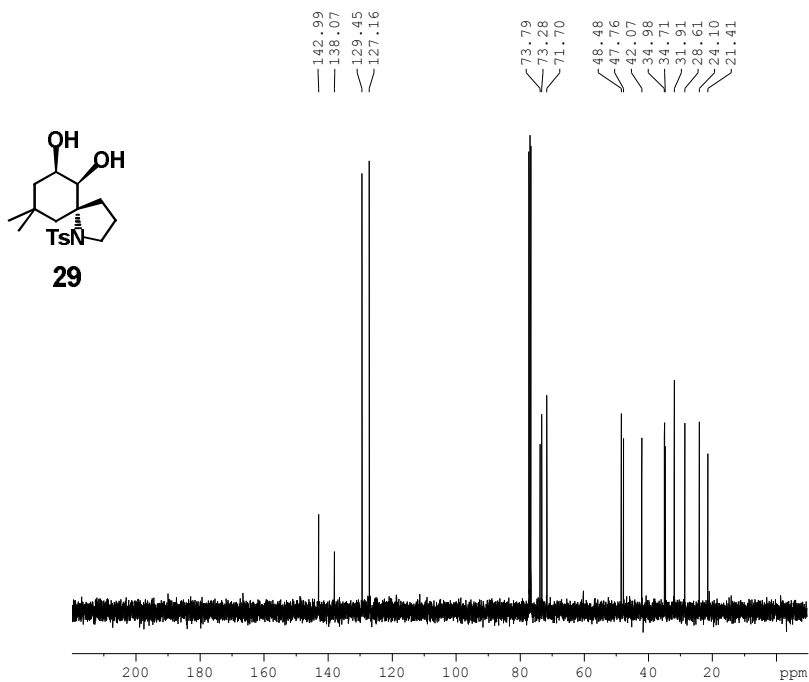


Current Data Parameters
 NAME 990511
 EXPNO 12
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20100512
 Time 1.36
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg30
 TD 16384
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 5995.204 Hz
 FIDRES 0.365918 Hz
 AQ 1.3664756 sec
 RG 22
 DW 83.400 usec
 DE 8.00 usec
 TE 299.4 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 400.132608 MHz

F2 - Processing parameters
 SI 16384
 SF 400.1300090 MHz
 WDW EM
 SSB 0
 LB 0.10 Hz
 GB 0
 FC 1.00



Current Data Parameters
 NAME nitrite
 EXPNO 153
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091029
 Time 21.35
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 47
 DS 0
 SWH 25062.656 Hz
 FIDRES 0.382426 Hz
 AQ 1.3074932 sec
 RG 10240
 DW 19.950 usec
 DE 6.50 usec
 TE 299.3 K
 D1 2.0000000 sec
 d11 0.0300000 sec
 DELTA 1.89999998 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.90 usec
 PL1 5.00 dB
 SFO1 100.6243390 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 100.00 usec
 PL2 0 dB
 PL12 19.10 dB
 PL13 22.10 dB
 SFO2 400.1319000 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127760 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 1.40