Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Electronic Supplementary Information

Total syntheses of five uvacalols: Structural validation of uvacalol A, uvacalol B and uvacalol C and disproval of the structures of uvacalol E and uvacalol G

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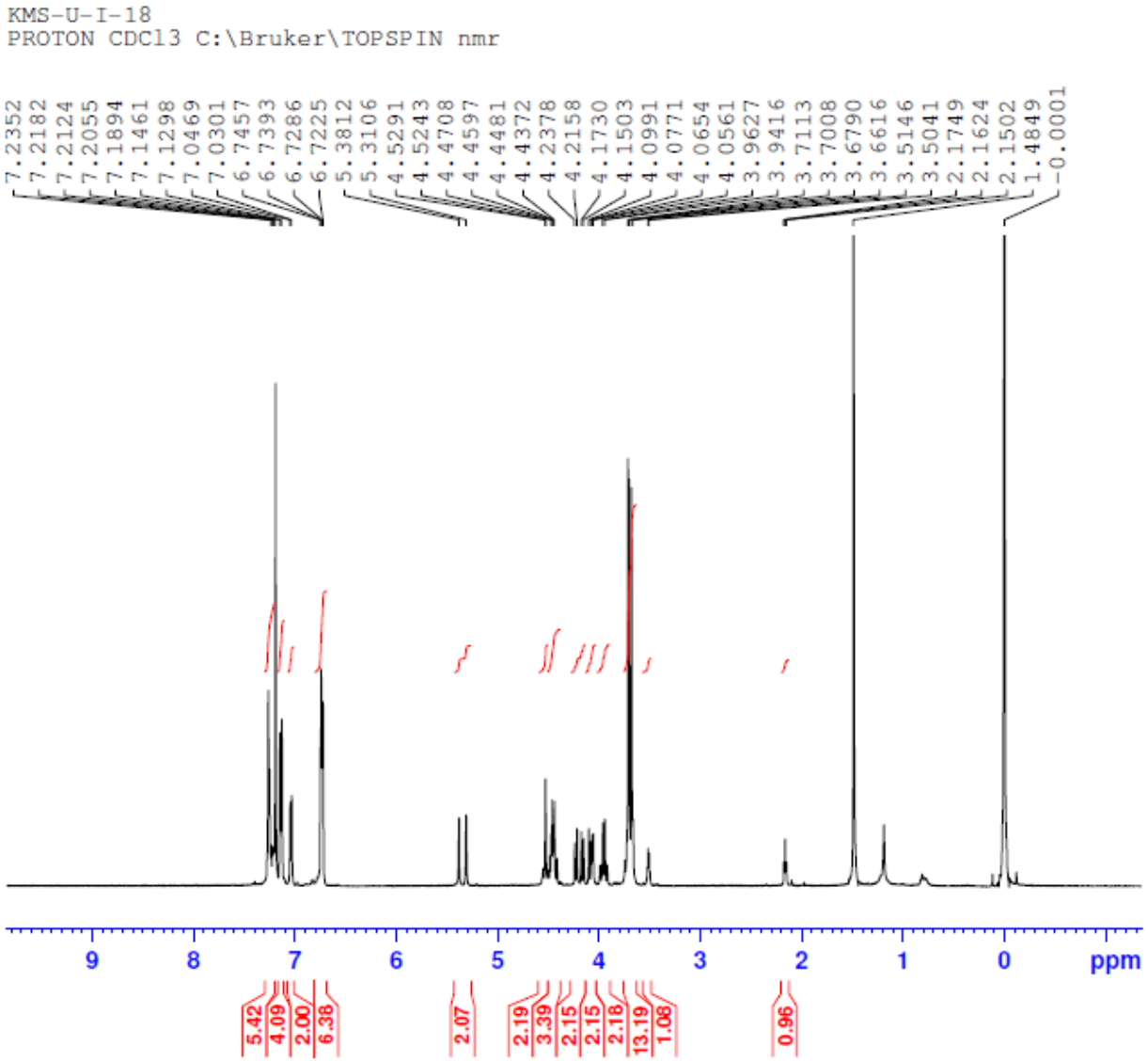
^{1}H NMR of compound **4**

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Current Data Parameters
NAME                  Vignesh
EXPNO                      88
PROCNO                      1

F2 - Acquisition Parameters
Date_               20140129
Time                    9.48
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH                10330.578 Hz
FIDRES             0.157632 Hz
AQ                 3.1719923 sec
RG                    171.32
DW                    48.400 usec
DE                     6.50 usec
TE                    300.5 K
D1                 1.00000000 sec

======== CHANNEL f1 ========
NUC1                       1H
P1                      9.04 usec
PLW1              27.16399956 W
SFO1              500.2330891 MHz

F2 - Processing parameters
SI                         65536
SF                500.2300514 MHz
WDW                           EM
SSB          0
LB                      0.30 Hz
GB           0
PC                      1.00
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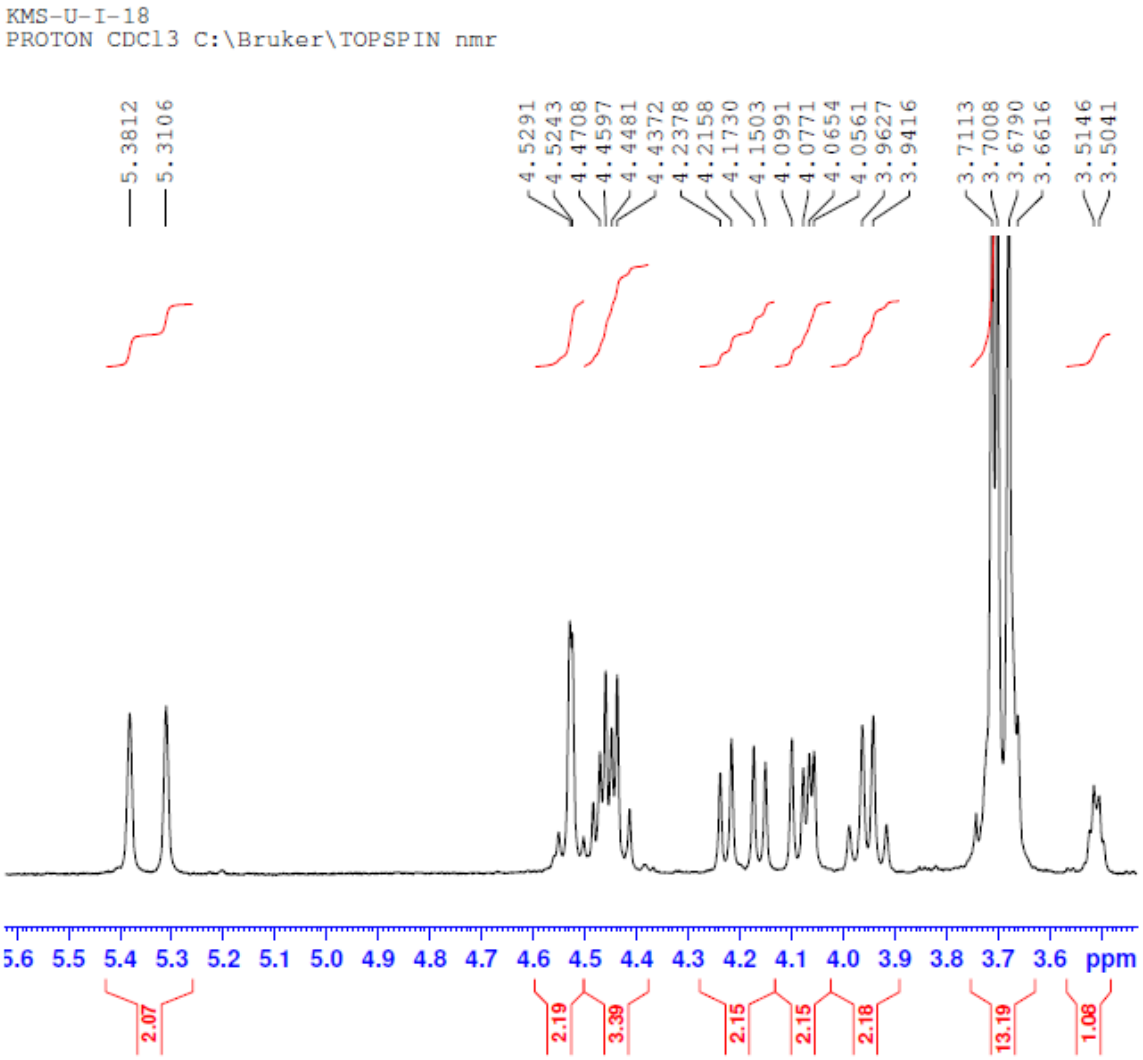
^{1}H NMR of compound **4** (zoom)

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Current Data Parameters
NAME                 Vignesh
EXPNO                     88
PROCNO                     1

F2 - Acquisition Parameters
Date_              20140129
Time                   9.48
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                 3.1719923 sec
RG                    171.32
DW                  48.400 usec
DE                   6.50 usec
TE                   300.5 K
D1                1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300514 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
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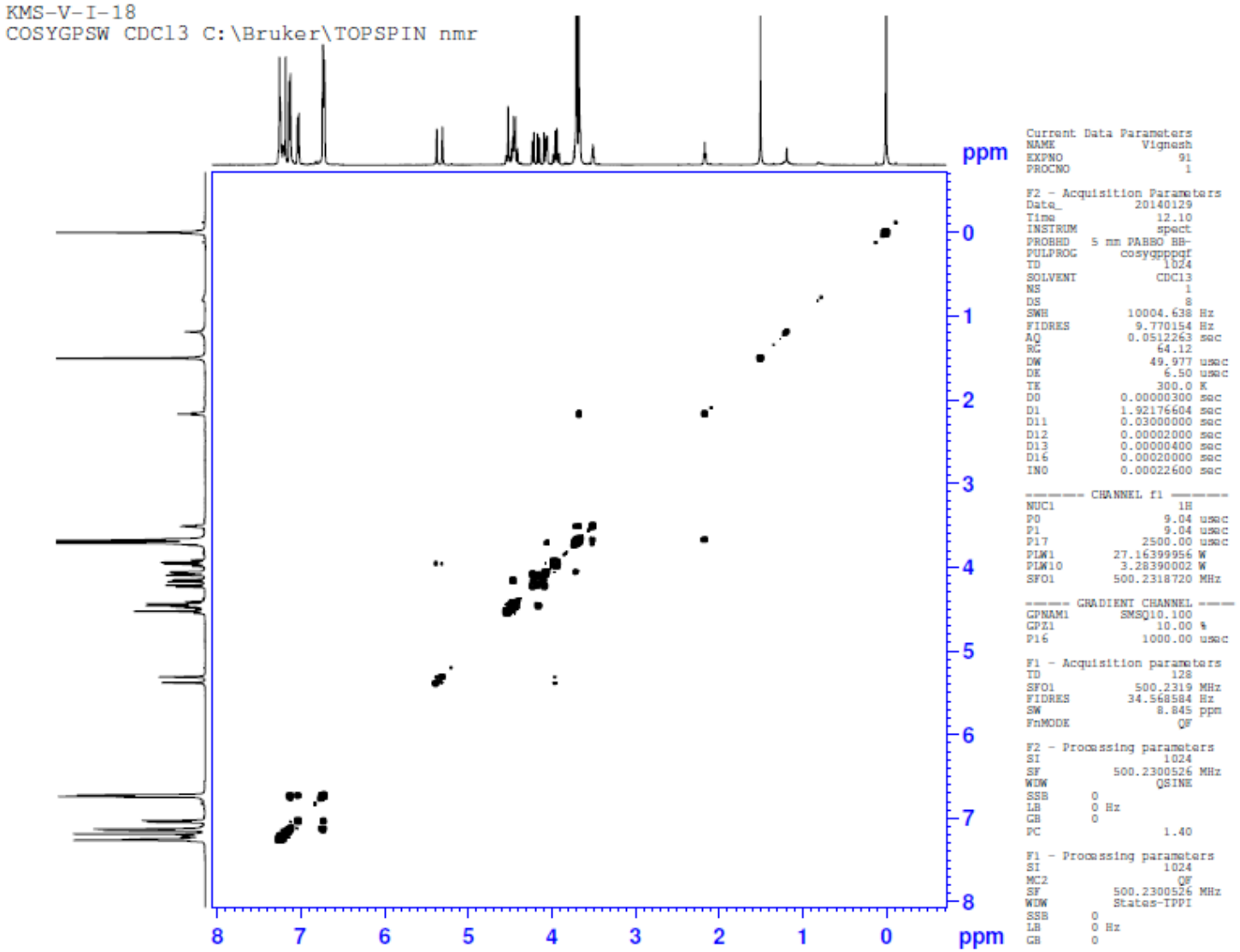
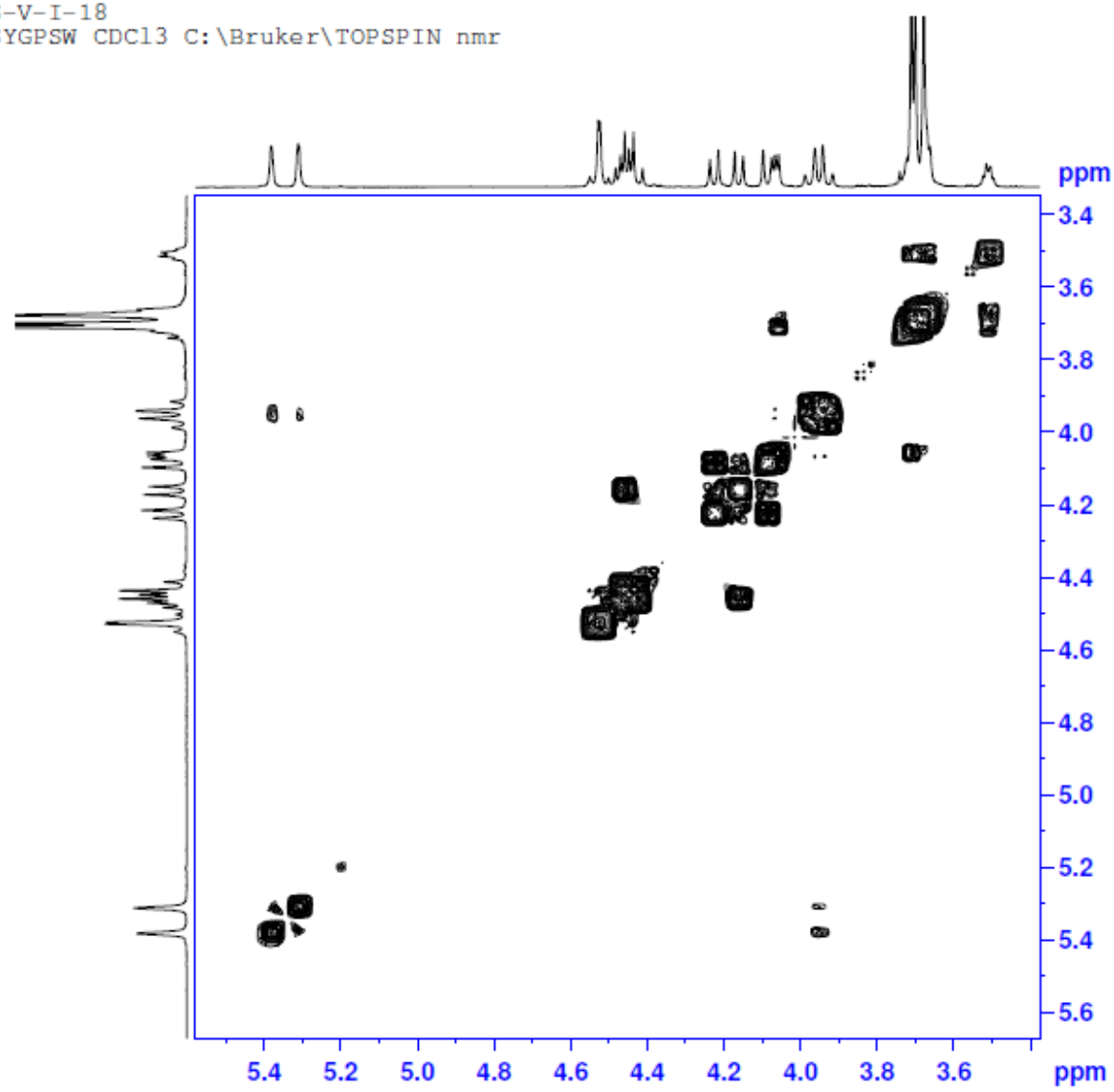
COSY of compound **4**



COSY of compound **4** (zoom)

KMS-V-I-18
COSYGPSW CDCl3 C:\Bruker\TOPSPIN nmr

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Current Data Parameters
NAME                  Vignesh
EXPNO                      91
PROCNO                      1

F2 - Acquisition Parameters
Date_               20140129
Time                   12.10
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG       cosygpppqf
TD                       1024
SOLVENT                CDCl3
NS                          1
DS                          8
SWH              10004.638 Hz
FIDRES            9.770154 Hz
AQ                0.0512263 sec
RG                    64.12
DW                   49.977 usec
DE                    6.50 usec
TE                   300.0 K
D0              0.00000300 sec
D1              1.92176604 sec
D11             0.03000000 sec
D12             0.00002000 sec
D13             0.00000400 sec
D16             0.00020000 sec
IN0             0.00022600 sec

======== CHANNEL f1 =======
NUC1                     1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W
SFO1          500.2318720 MHz

====== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2319 MHz
FIDRES           34.568584 Hz
SW                    8.845 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF              500.2300526 MHz
WDW                    QSINE
SSB         0
LB          0 Hz
GB          0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF              500.2300526 MHz
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LB          0 Hz
GB          0
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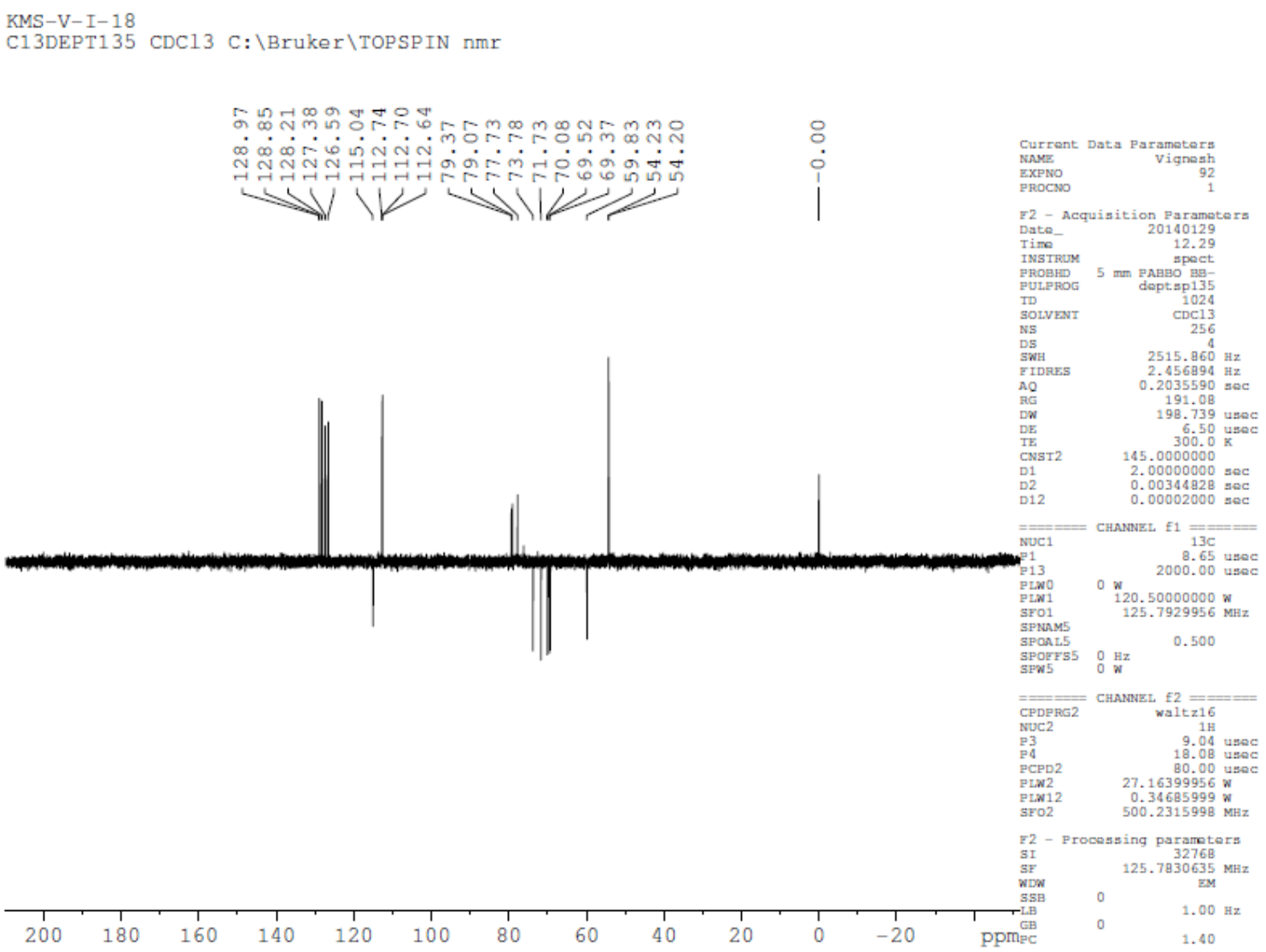
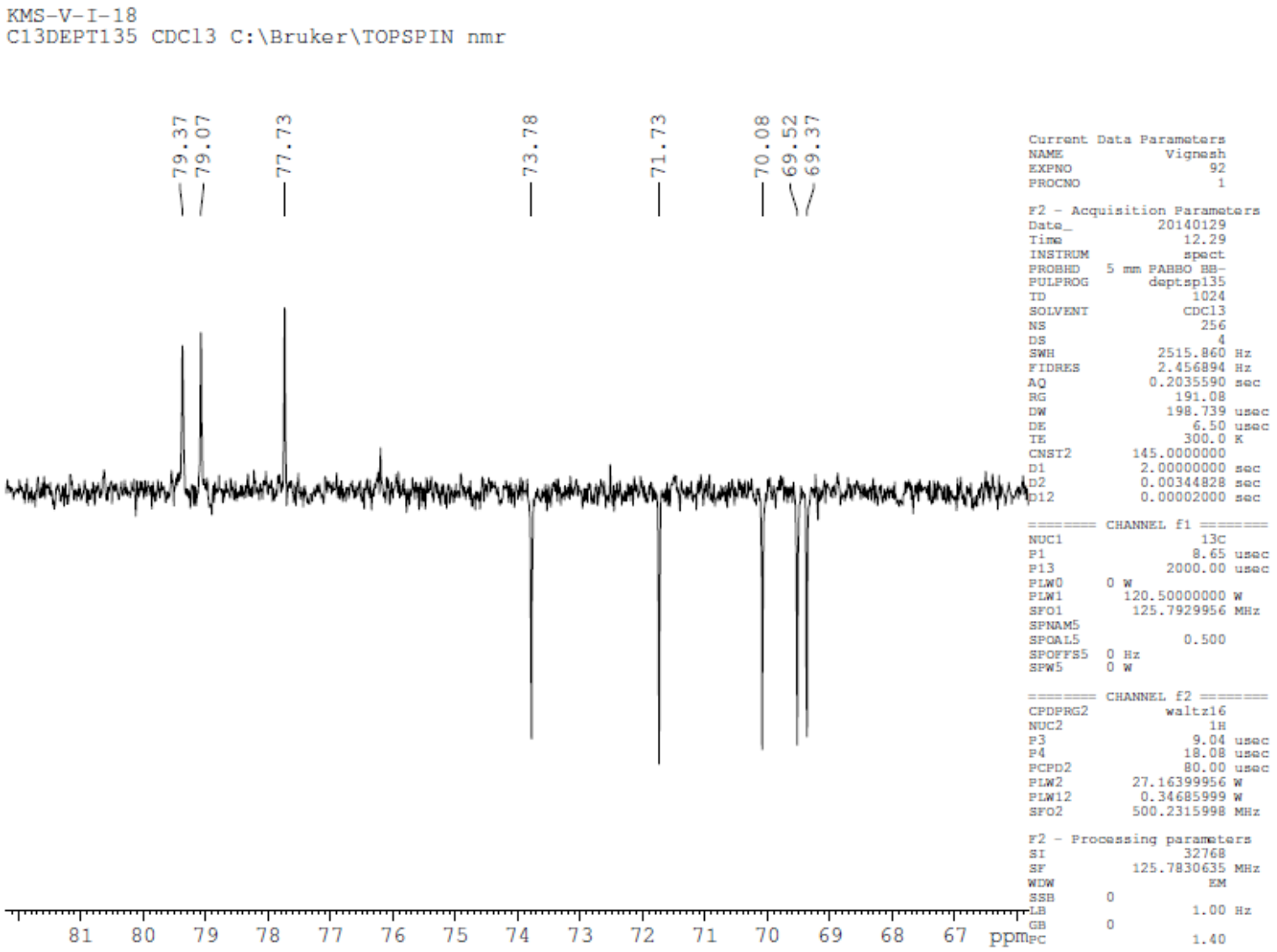
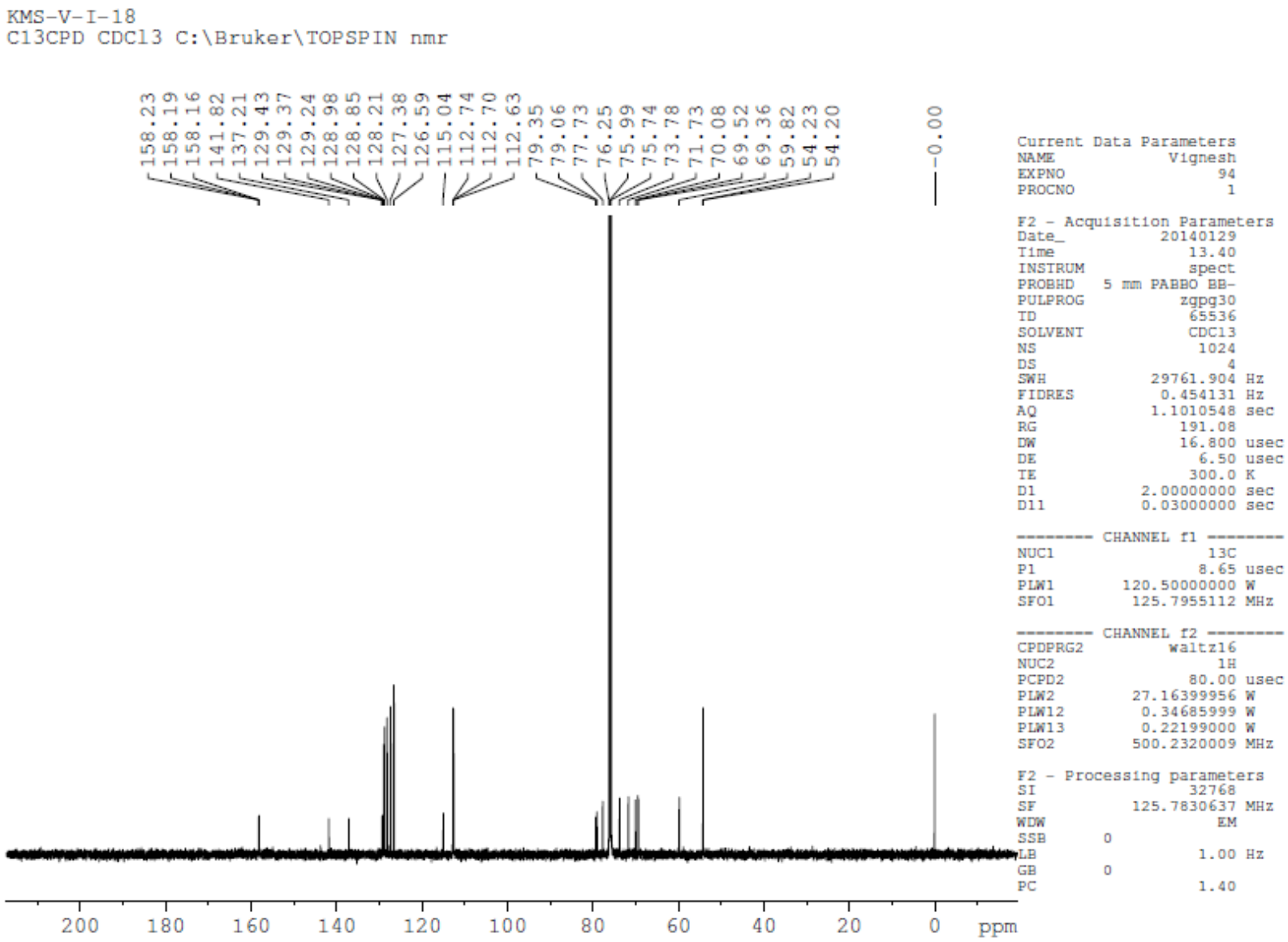


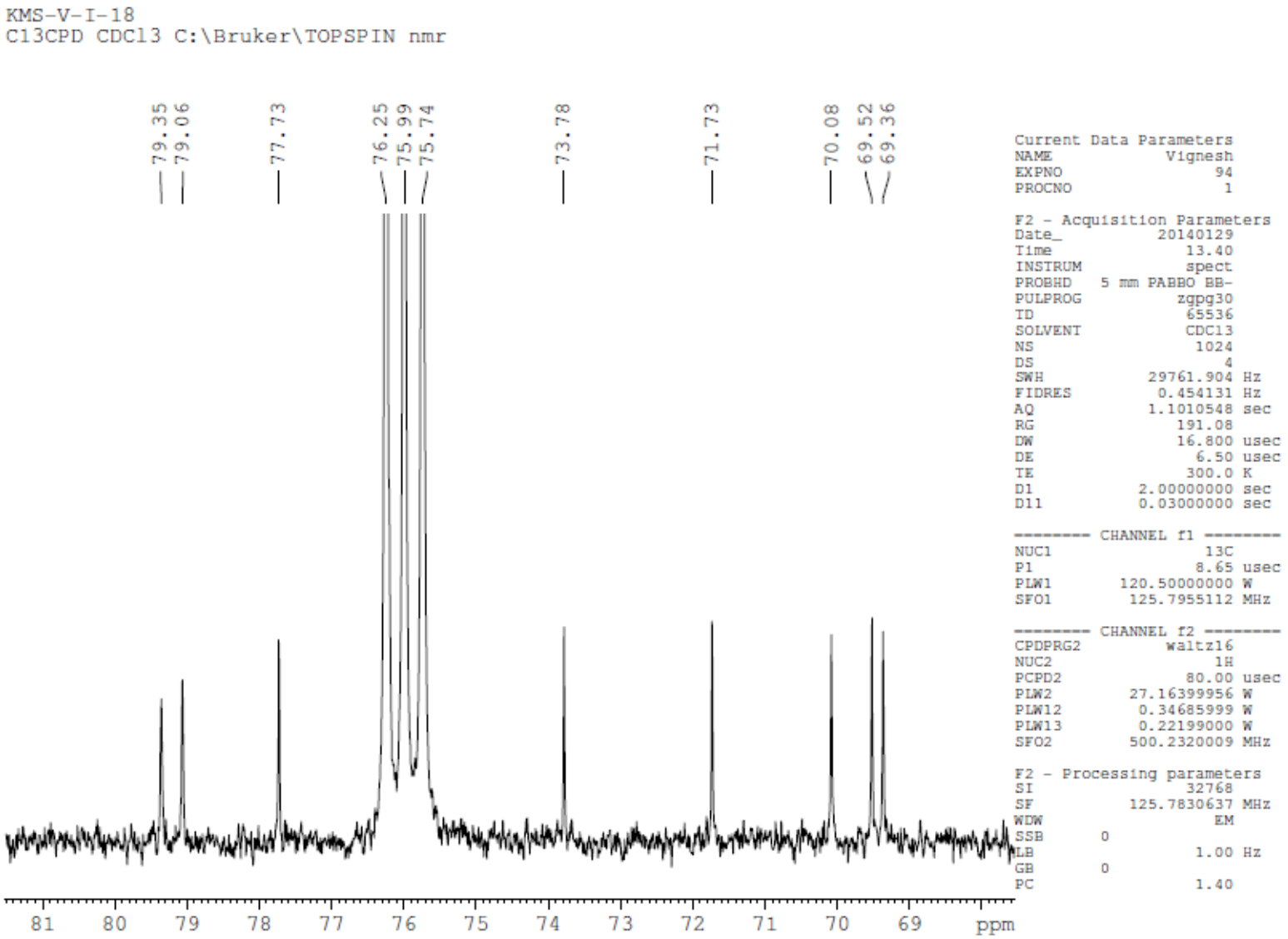
DEPT-135 of compound **4** (zoom)



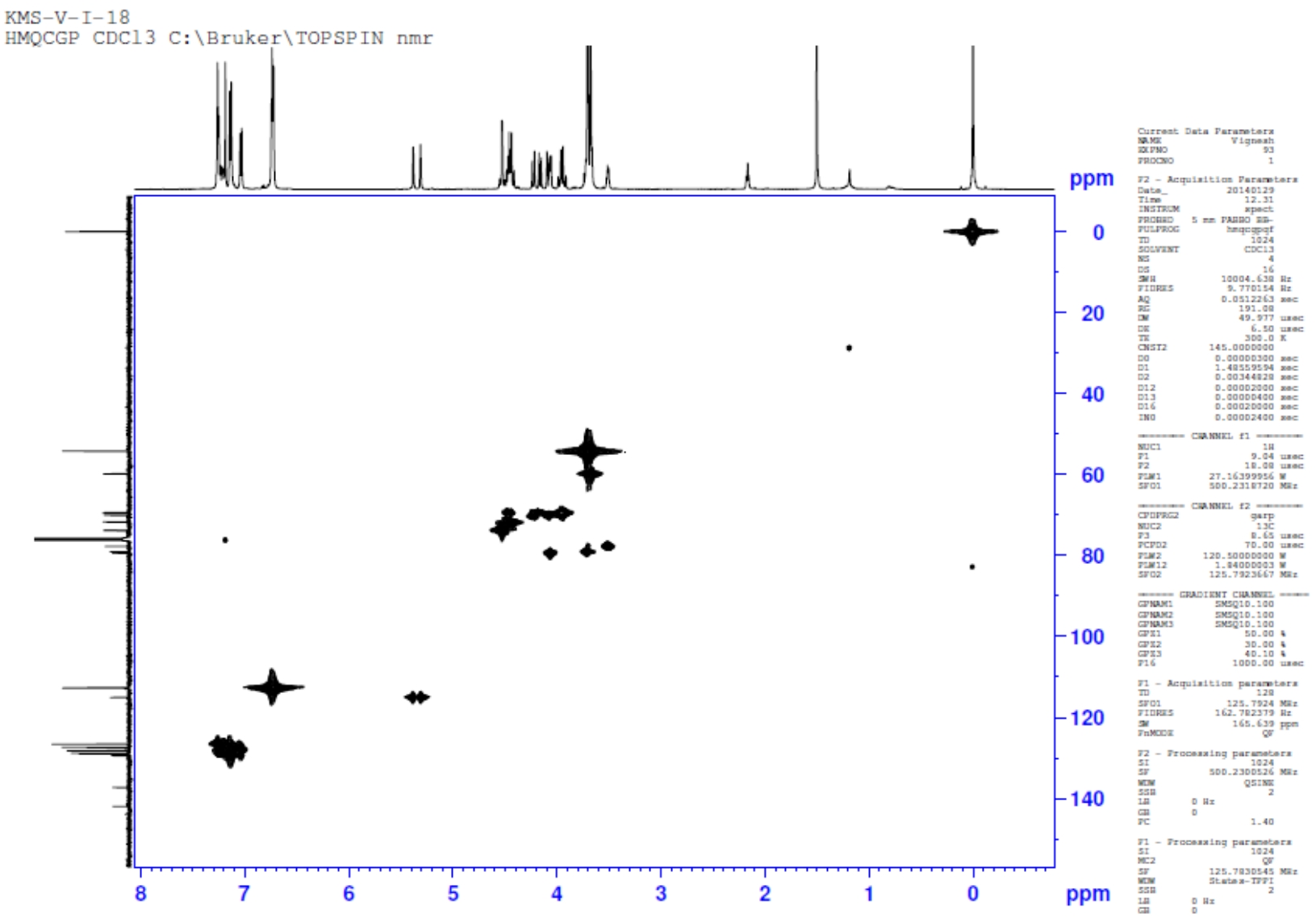
^{13}C NMR of compound **4**



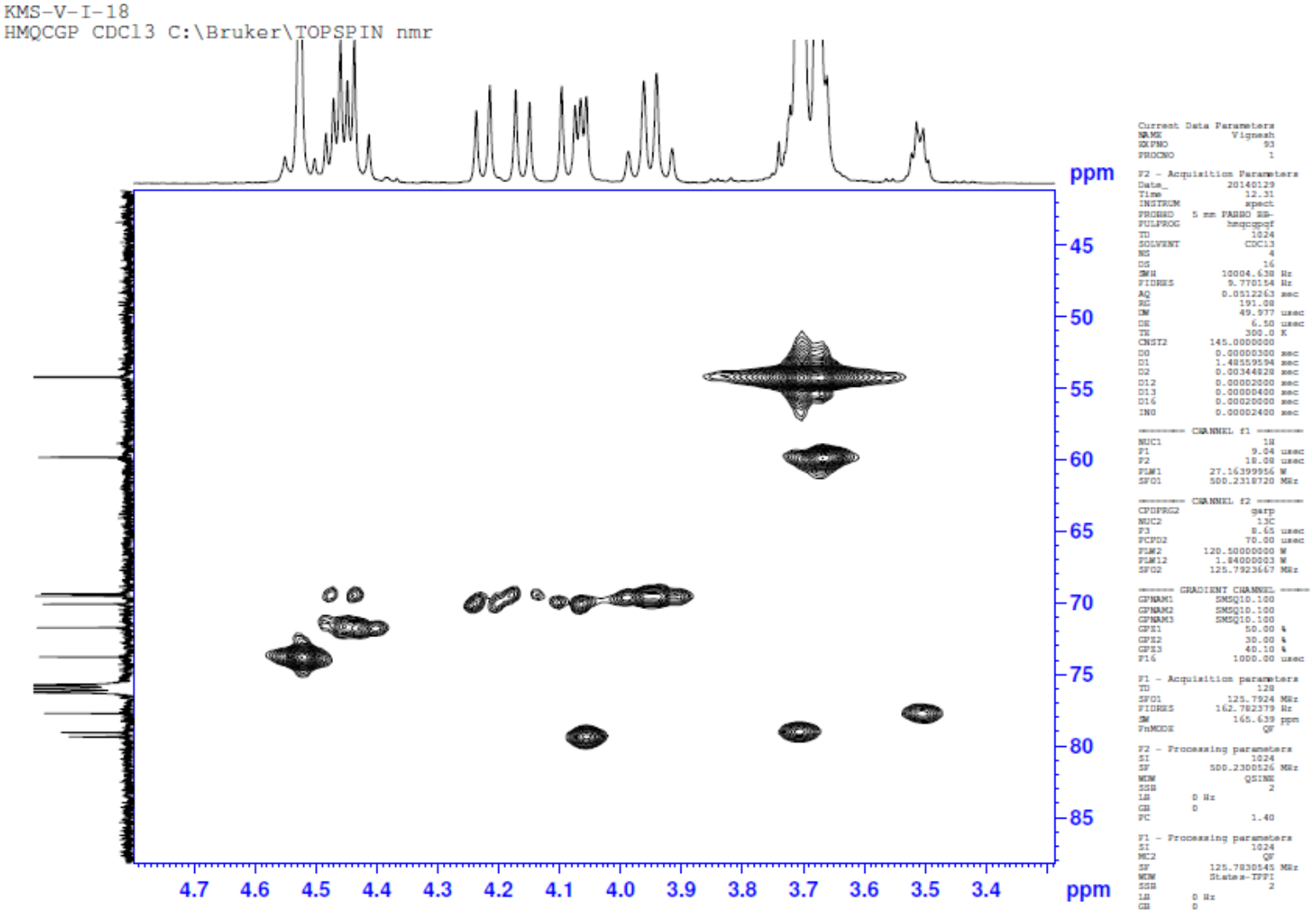
^{13}C NMR of compound **4** (zoom)



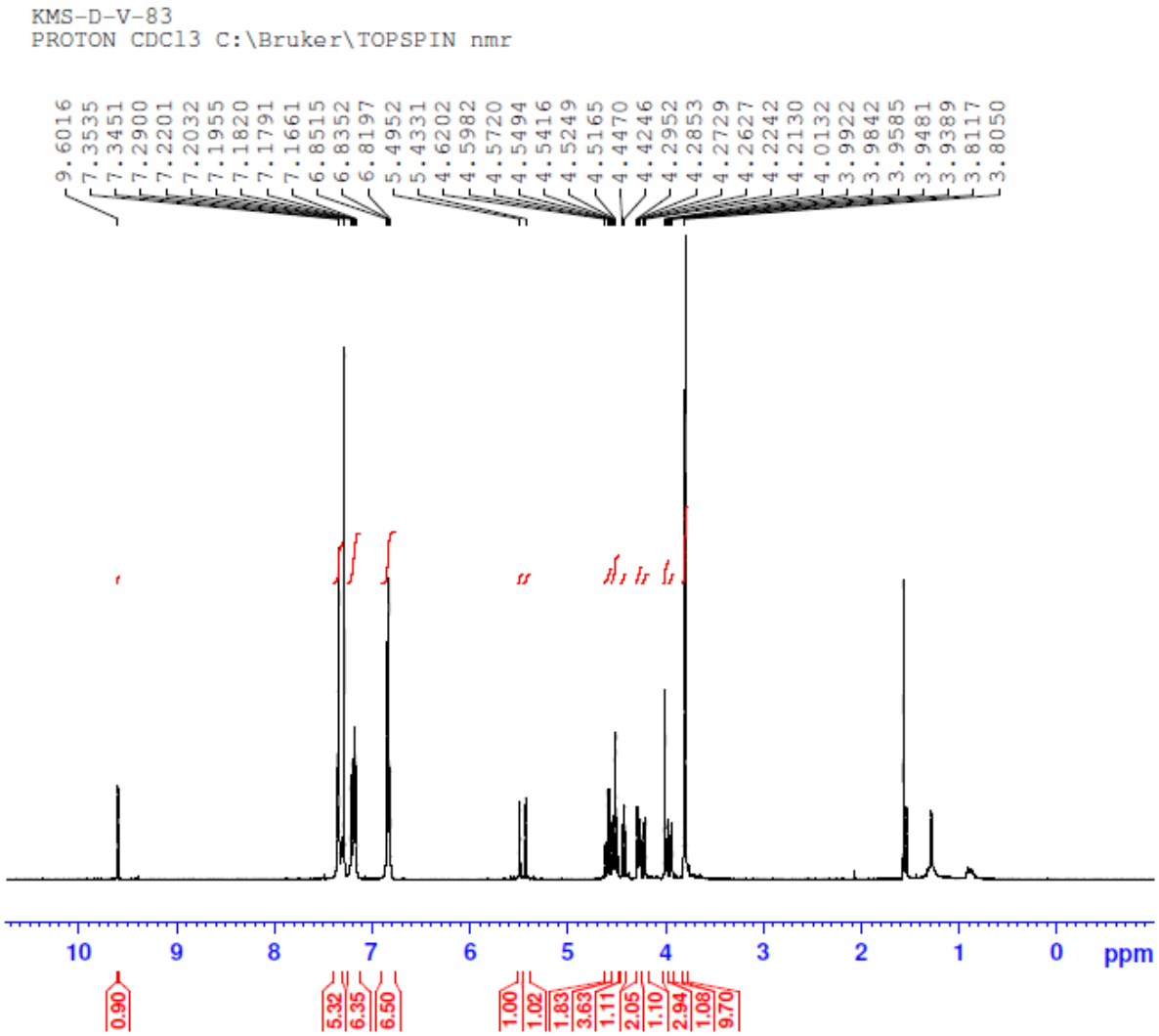
HMQC of compound **4**



HMQC of compound **4** (zoom)



^{1}H NMR of compound **5**

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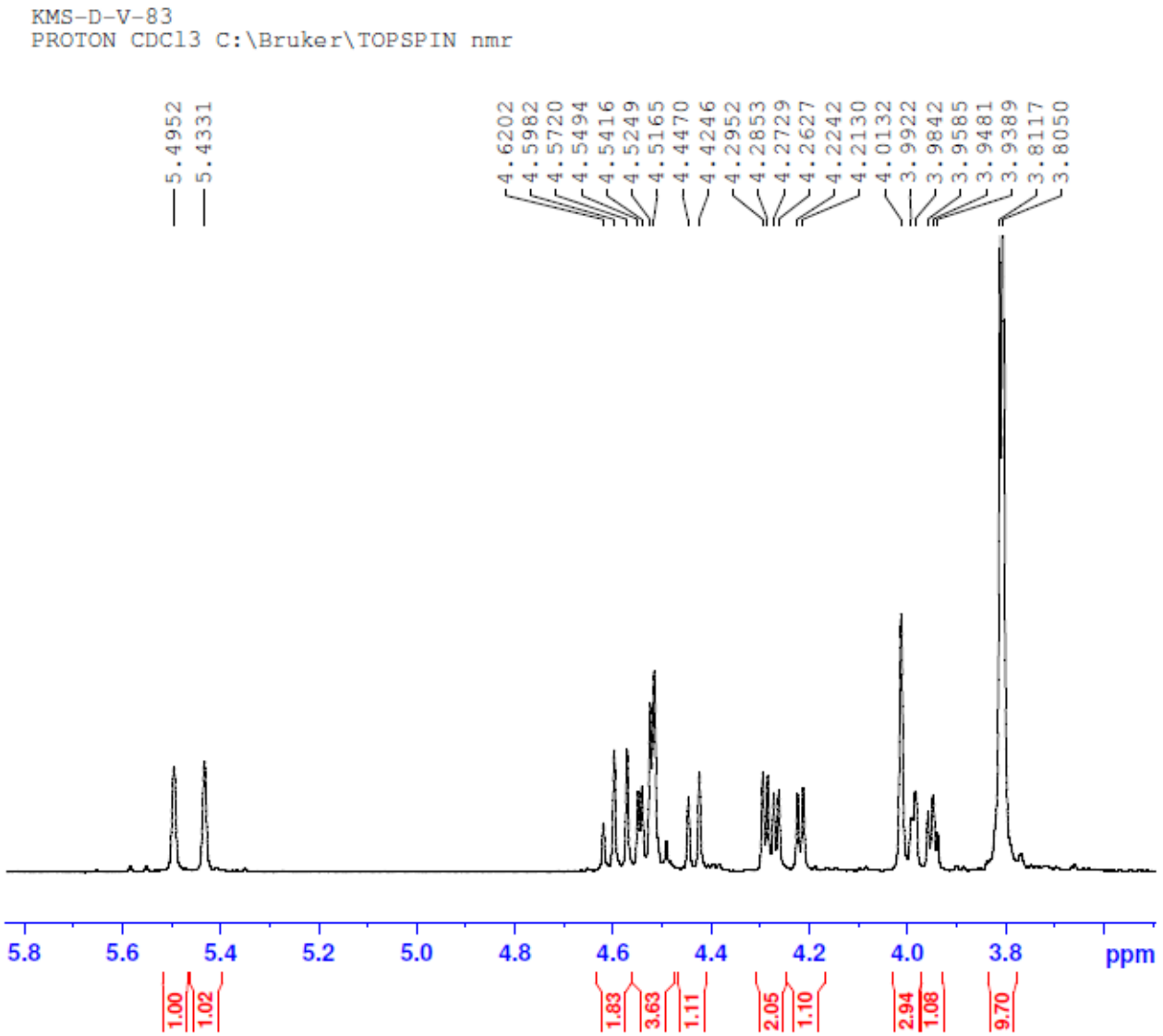
Current Data Parameters
NAME                  Sagar
EXPNO                   503
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140102
Time                  15.53
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES            0.157632 Hz
AQ                3.1719425 sec
RG                   171.32
DW                   48.400 usec
DE                    6.50 usec
TE                   300.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300000 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **5** (zoom)



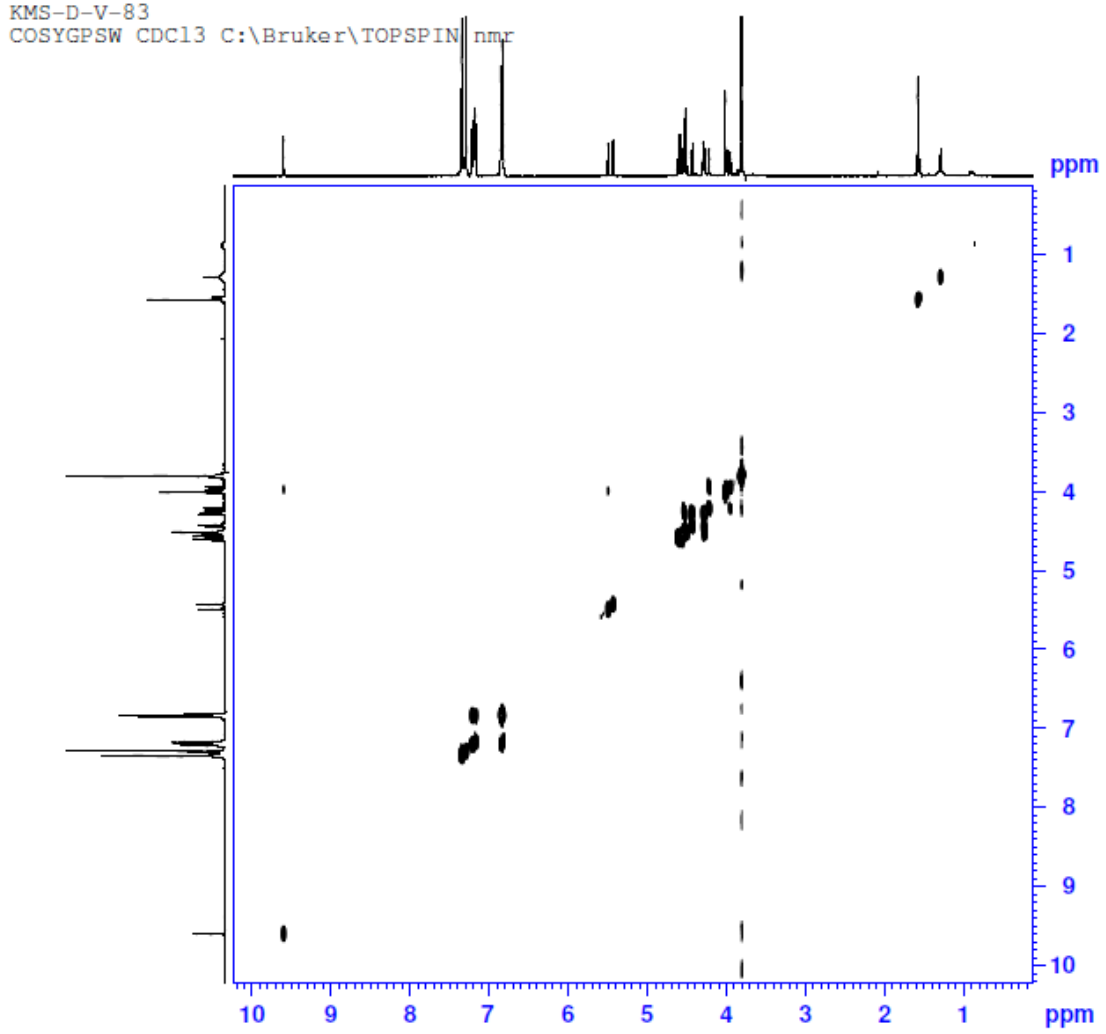

```
Current Data Parameters
NAME                  Sagar
EXPNO                   503
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140102
Time                  15.53
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719425 sec
RG                   171.32
DW                  48.400 usec
DE                   6.50 usec
TE                   300.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300000 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **5**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   518
PROCNO                    1

F2 - Acquisition Parameters
Data_               20140103
Time                   15.16
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                10004.651 Hz
FIDRES              9.770167 Hz
AQ                  0.0511762 sec
RG                     191.08
DW                     49.977 usec
DE                       6.50 usec
TE                      300.0 K
D0                  0.00000300 sec
D1                  1.95043802 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00019800 sec

======== CHANNEL f1 =======
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1                27.16399956 W
PLW10                3.28390002 W
SFO1               500.2325899 MHz

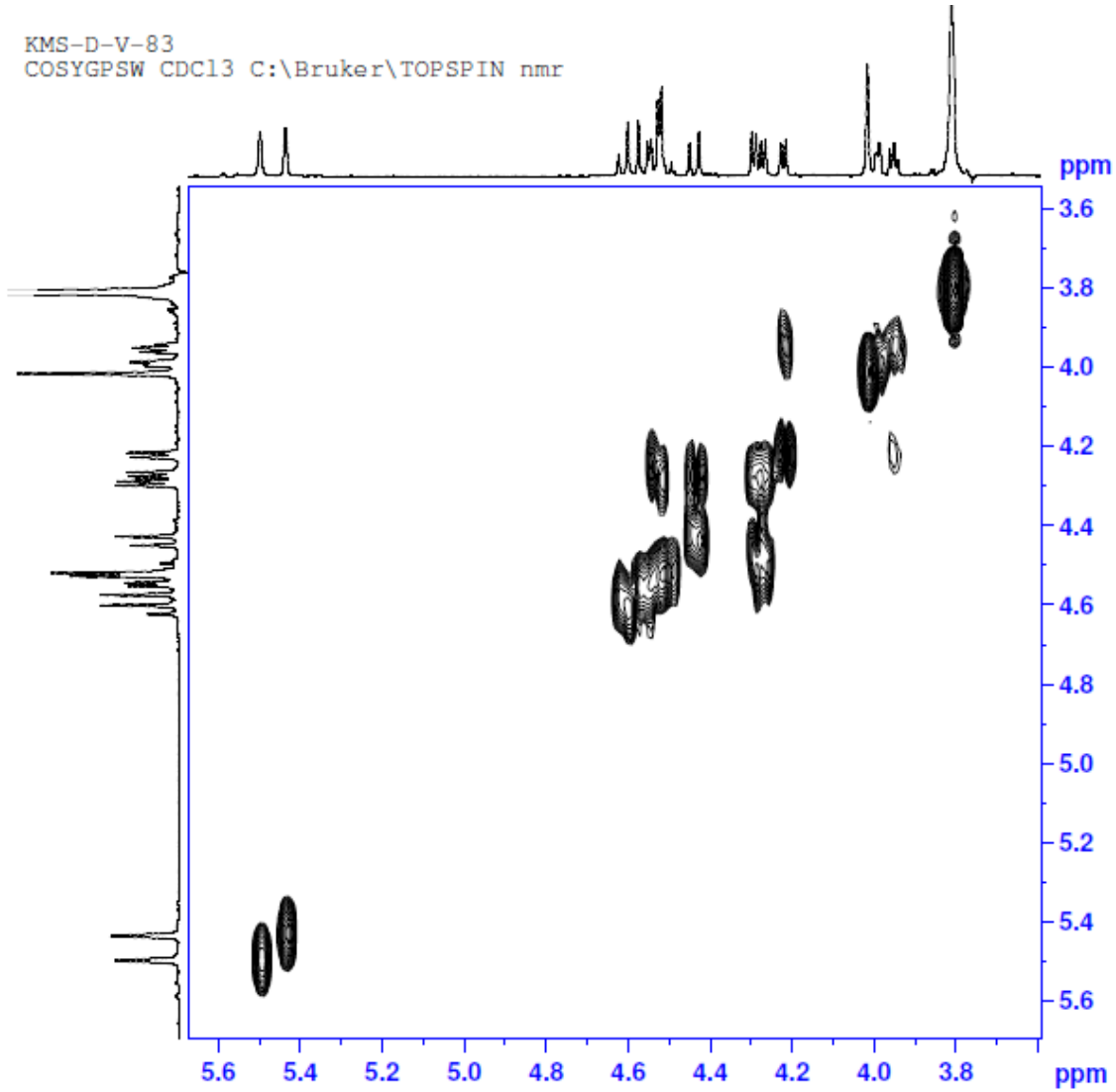
====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1               500.2326 MHz
FIDRES              39.457069 Hz
SW                     10.096 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                 500.2300000 MHz
WDW                     QSINE
SSB           0
LB            0 Hz
GB            0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                 500.2300000 MHz
WDW                     QSINE
SSB           0
LB            0 Hz
GB            0
```

COSY of compound **5** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   518
PROCNO                    1

F2 - Acquisition Parameters
Data_               20140103
Time                   15.16
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          cosygppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                10004.651 Hz
FIDRES              9.770167 Hz
AQ                  0.0511762 sec
RG                     191.08
DW                     49.977 usec
DE                      6.50 usec
TE                     300.0 K
D0                  0.00000300 sec
D1                  1.95043802 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00019800 sec

======== CHANNEL f1 ========
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1                27.16399956 W
PLW10                3.28390002 W
SFO1               500.2325899 MHz

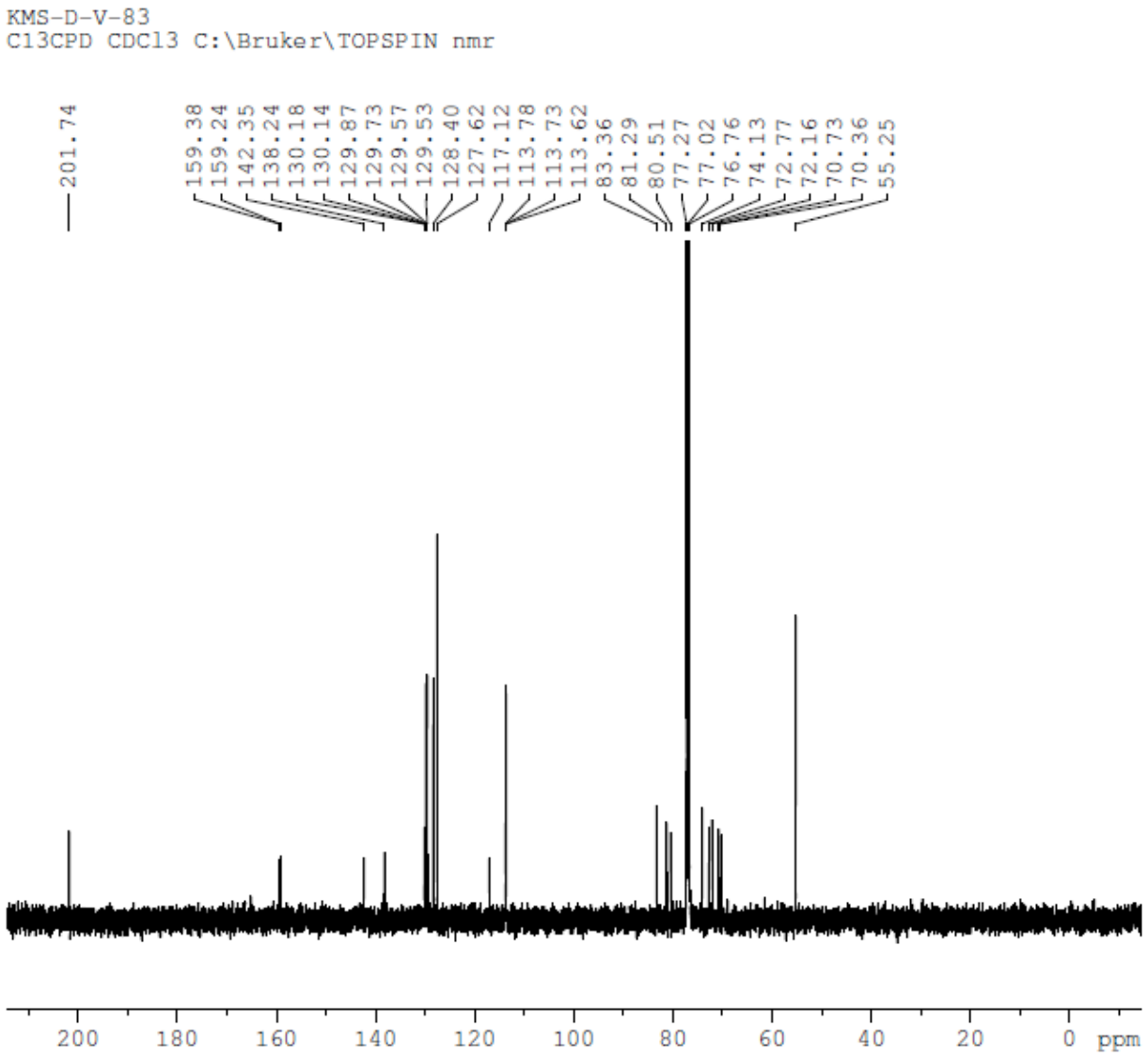
====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1               500.2326 MHz
FIDRES              39.457069 Hz
SW                     10.096 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                 500.2300000 MHz
WDW                       QSINE
SSB          0
LB           0 Hz
GB           0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                 500.2300000 MHz
WDW                       QSINE
SSB          0
LB           0 Hz
GB           0
```

^{13}C NMR of compound **5**




```
Current Data Parameters
NAME                 Sagar
EXPNO                  515
PROCNO                   1

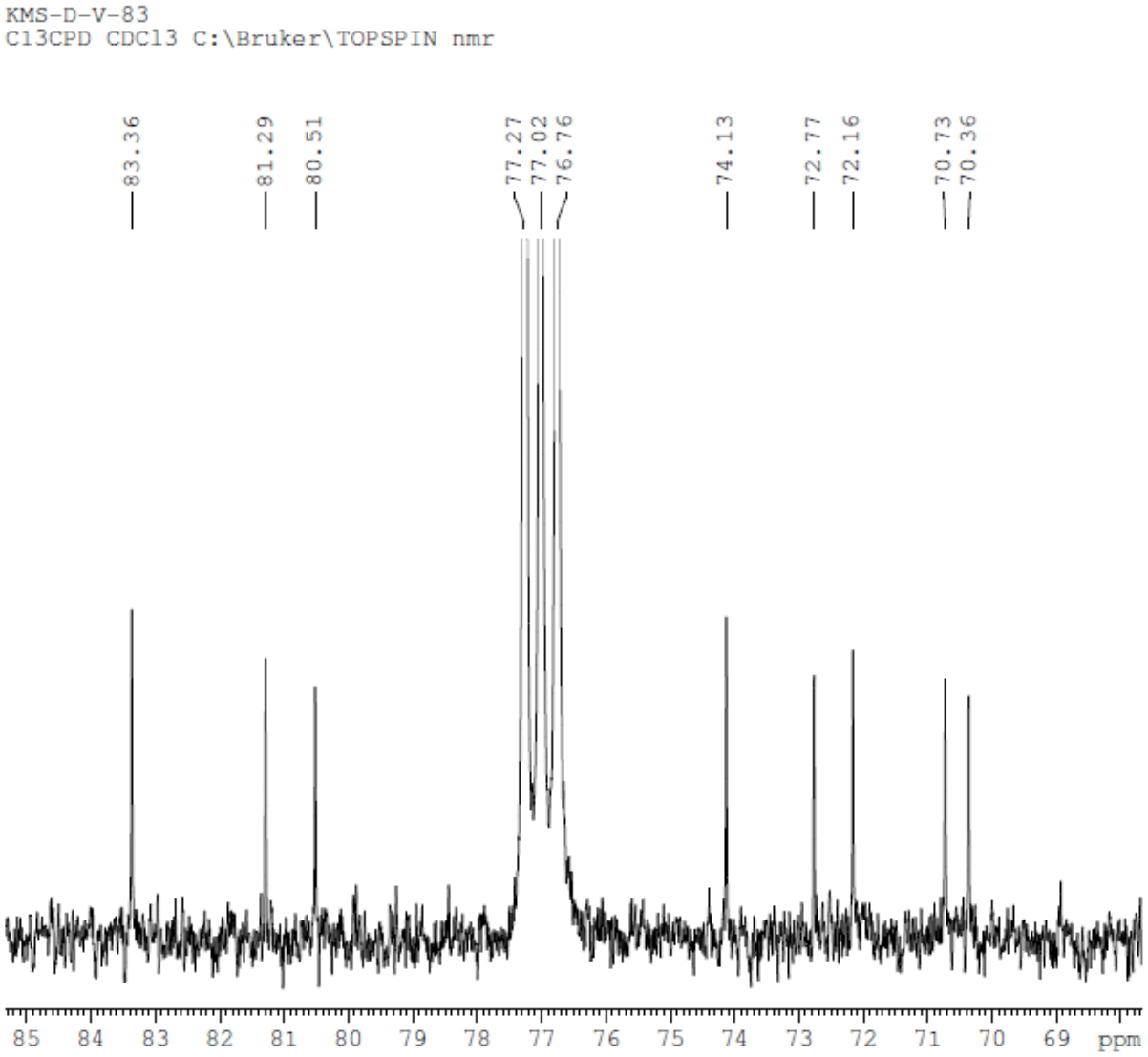
F2 - Acquisition Parameters
Date_             20140103
Time                 13.30
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG            zgpg30
TD                  65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                16.800 usec
DE                 6.50 usec
TE                 300.0 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                  8.65 usec
PLW1         120.50000000 W
SFO1         125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2           waltz16
NUC2                   1H
PCPD2              80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF           125.7829340 MHz
WDW                     EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

^{13}C NMR of compound **5** (zoom)

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Current Data Parameters
NAME                  Sagar
EXPNO                   515
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140103
Time                  13.30
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG             zqpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   300.0 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```
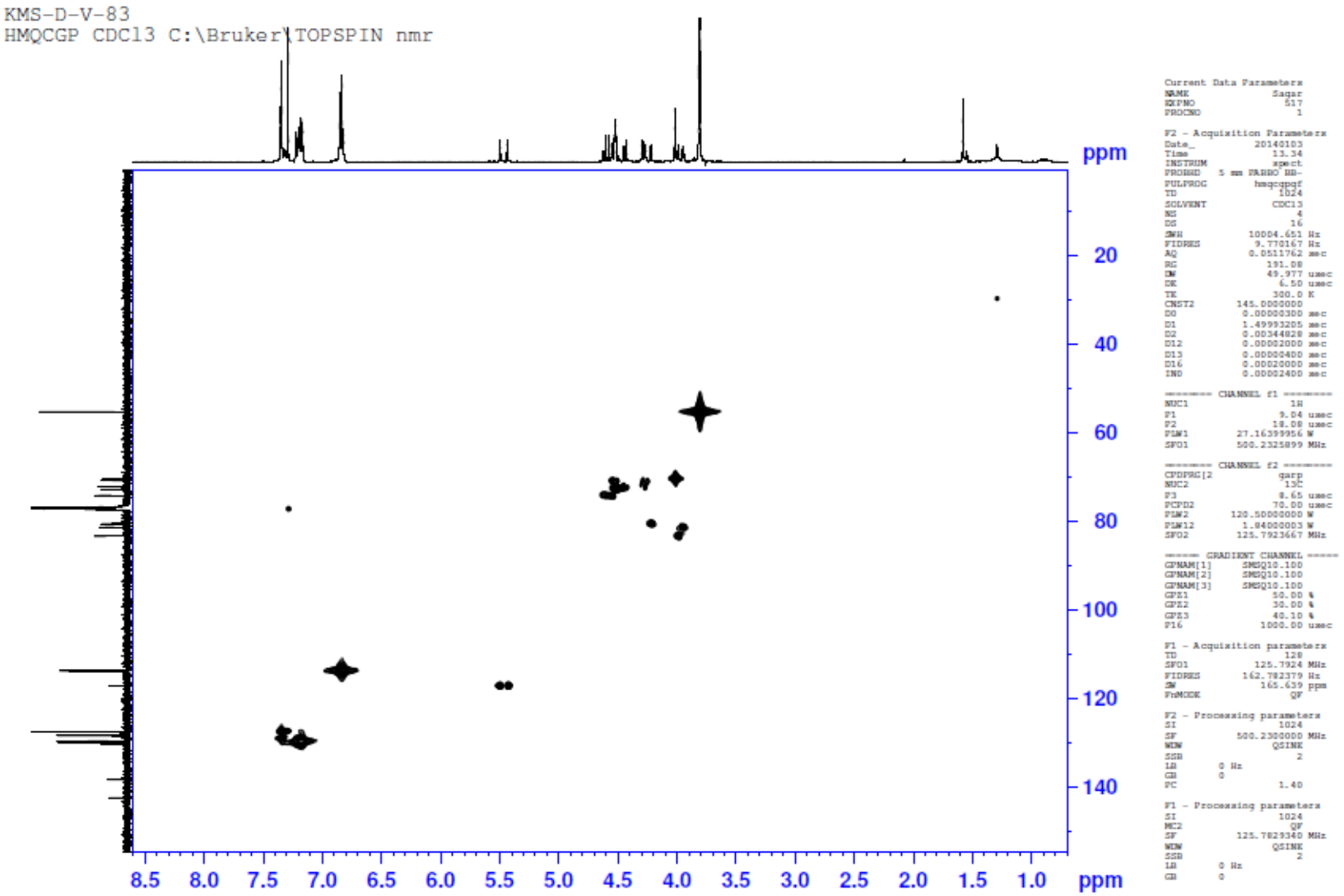
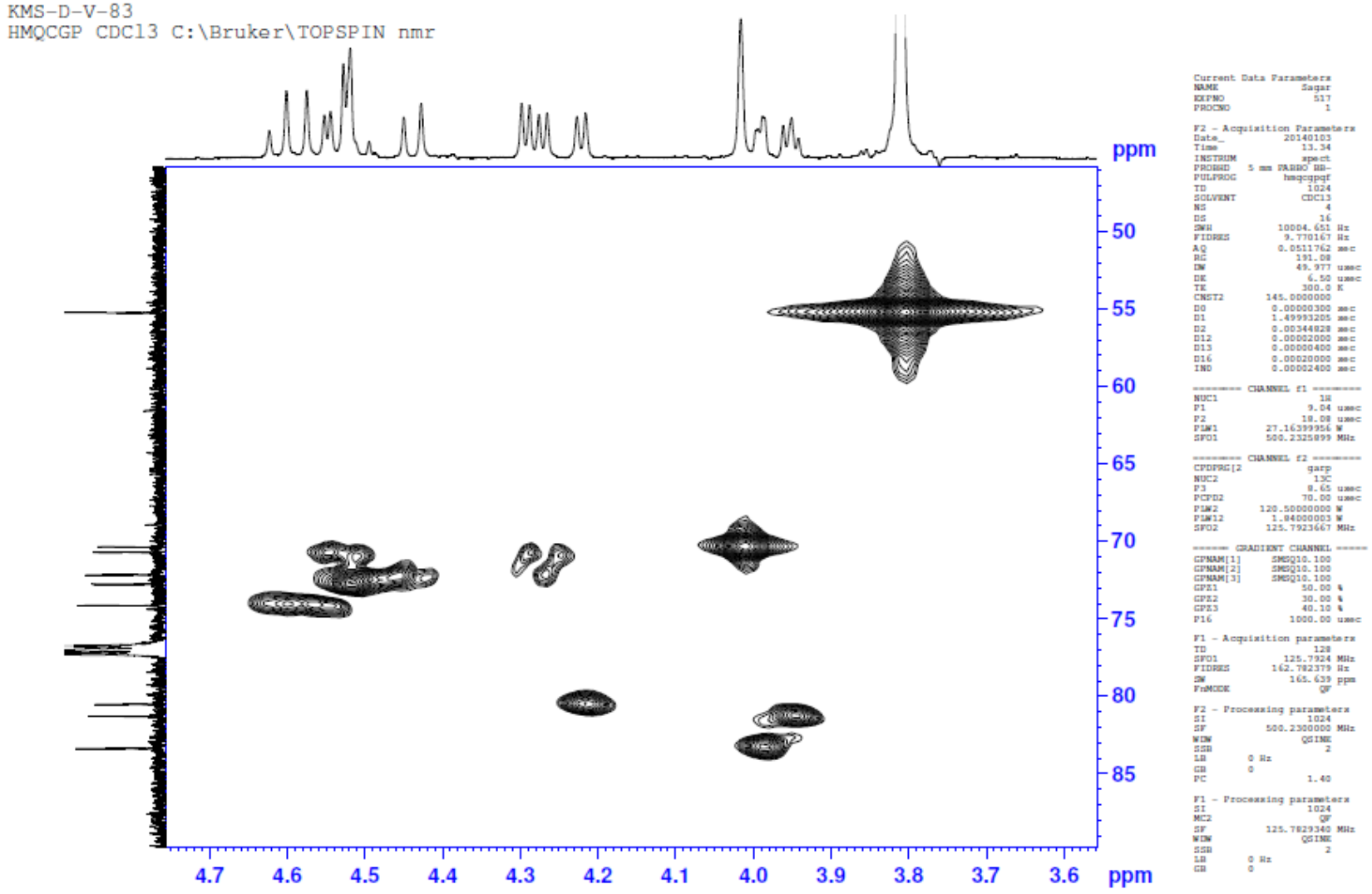
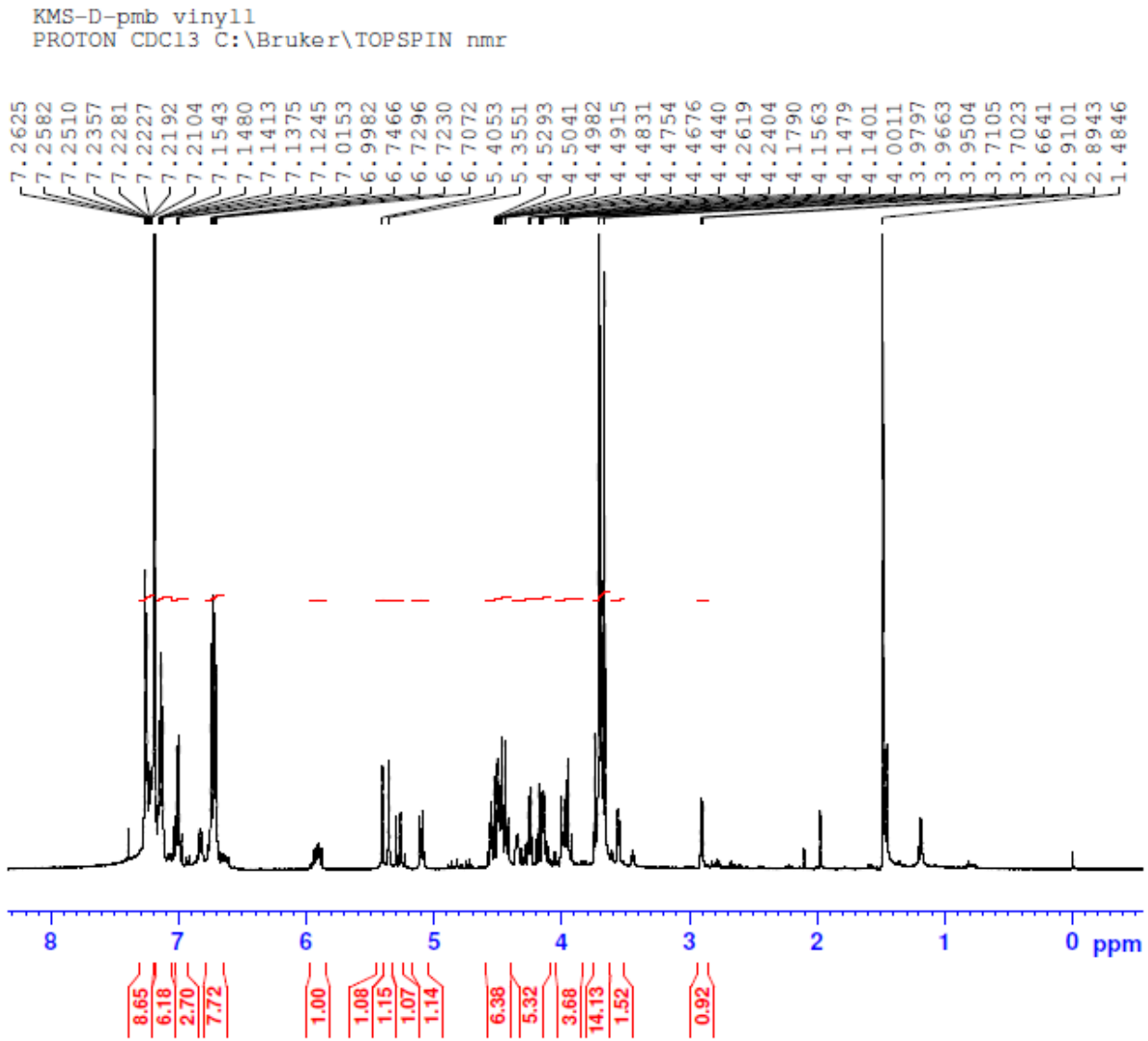

HMQC of compound **5**



HMQC of compound **5** (zoom)

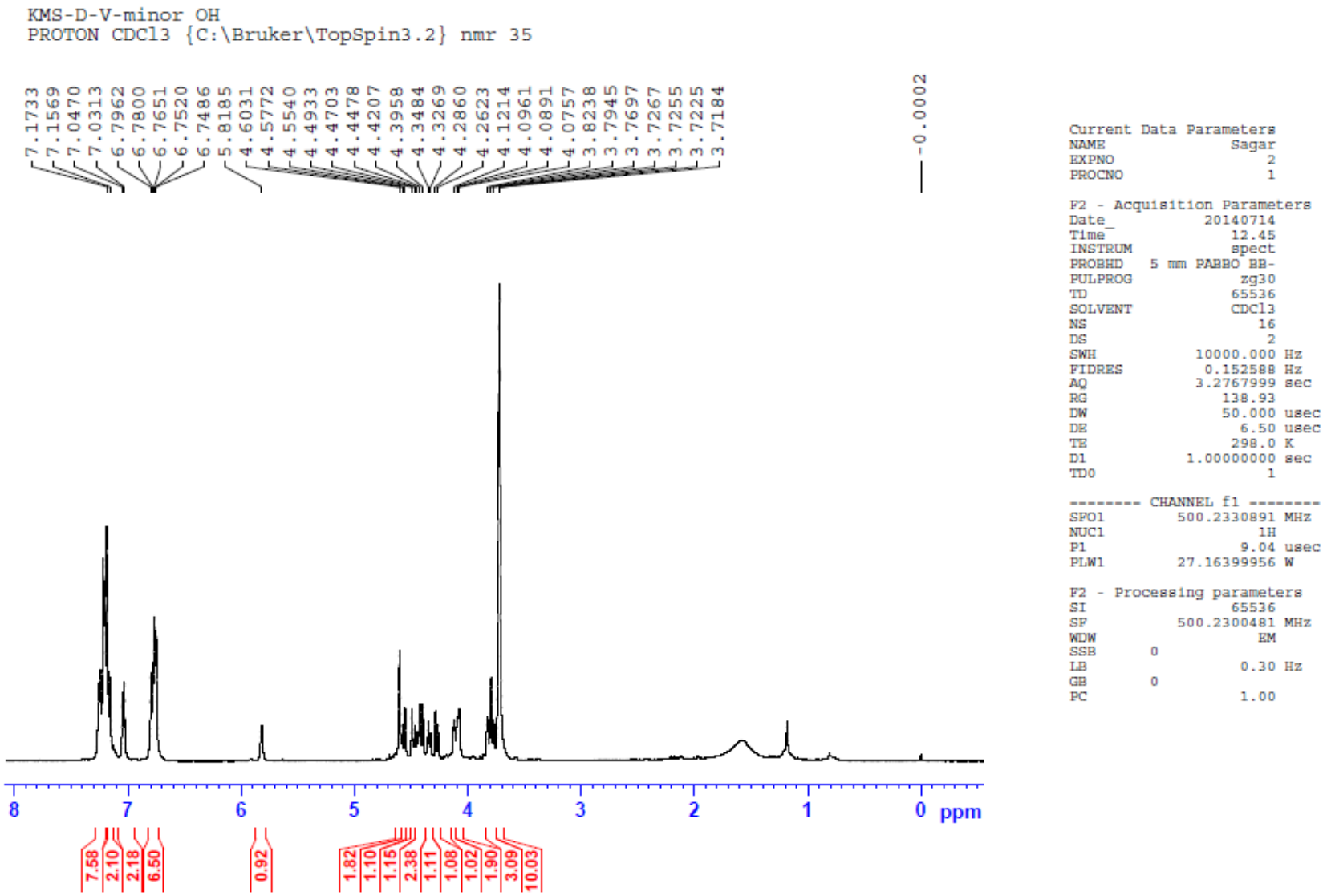


^{1}H NMR of compound **6**



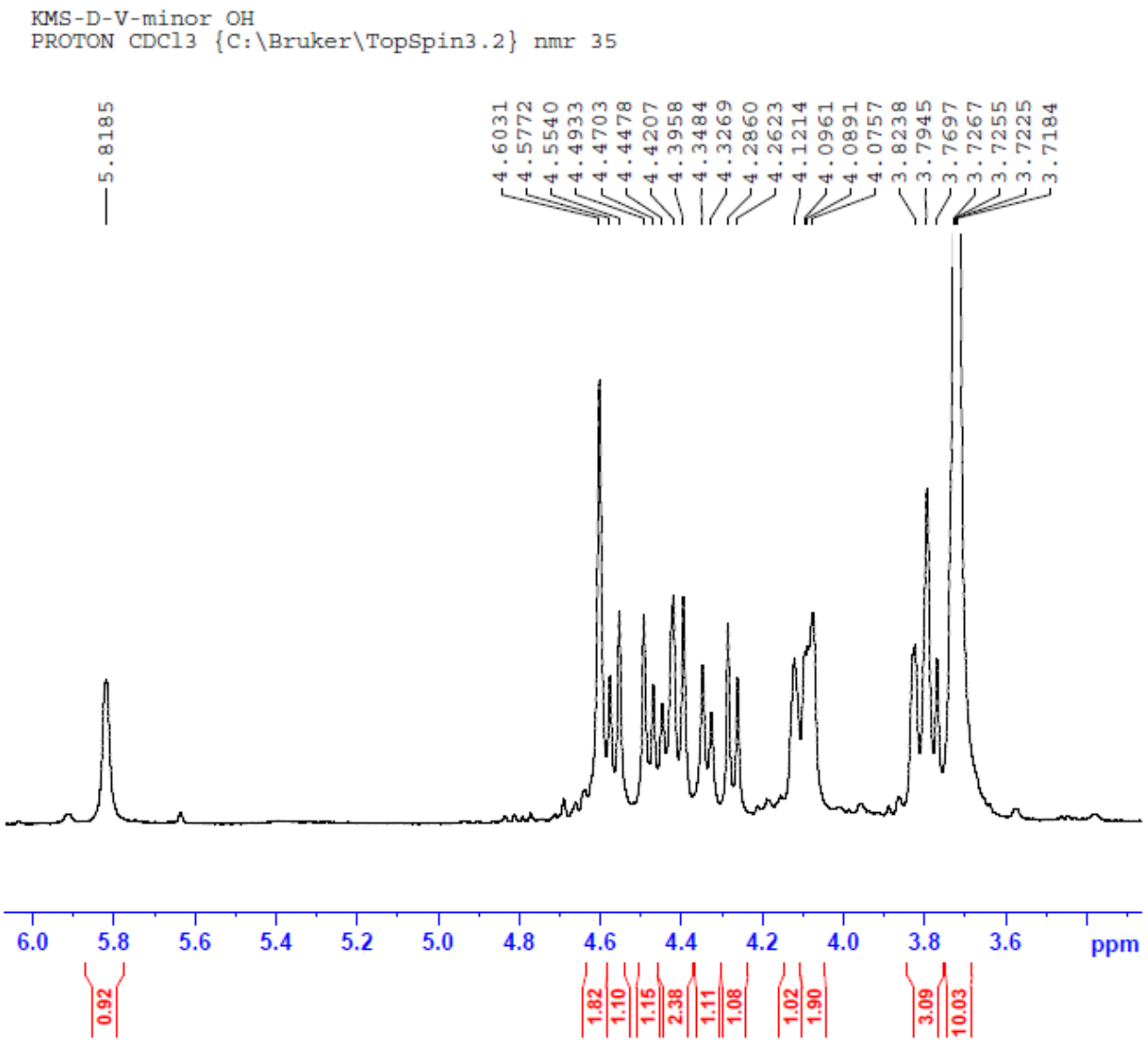

```
Current Data Parameters
NAME                  Sagar
EXPNO                   532
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140204
Time                 14.08
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                    1024
SOLVENT               CDC13
NS                       16
DS                        2
SWH              10004.662 Hz
FIDRES           9.770178 Hz
AQ               0.0511761 sec
RG                  171.32
DW                  49.977 usec
DE                    6.50 usec
TE                   300.0 K
D1             1.00000000 sec

======== CHANNEL f1 ========
NUC1                   1H
P1                   9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300508 MHz
WDW                    EM
SSB       0
LB                   0.30 Hz
GB        0
PC                   1.00
```

^{1}H NMR of compound **7**



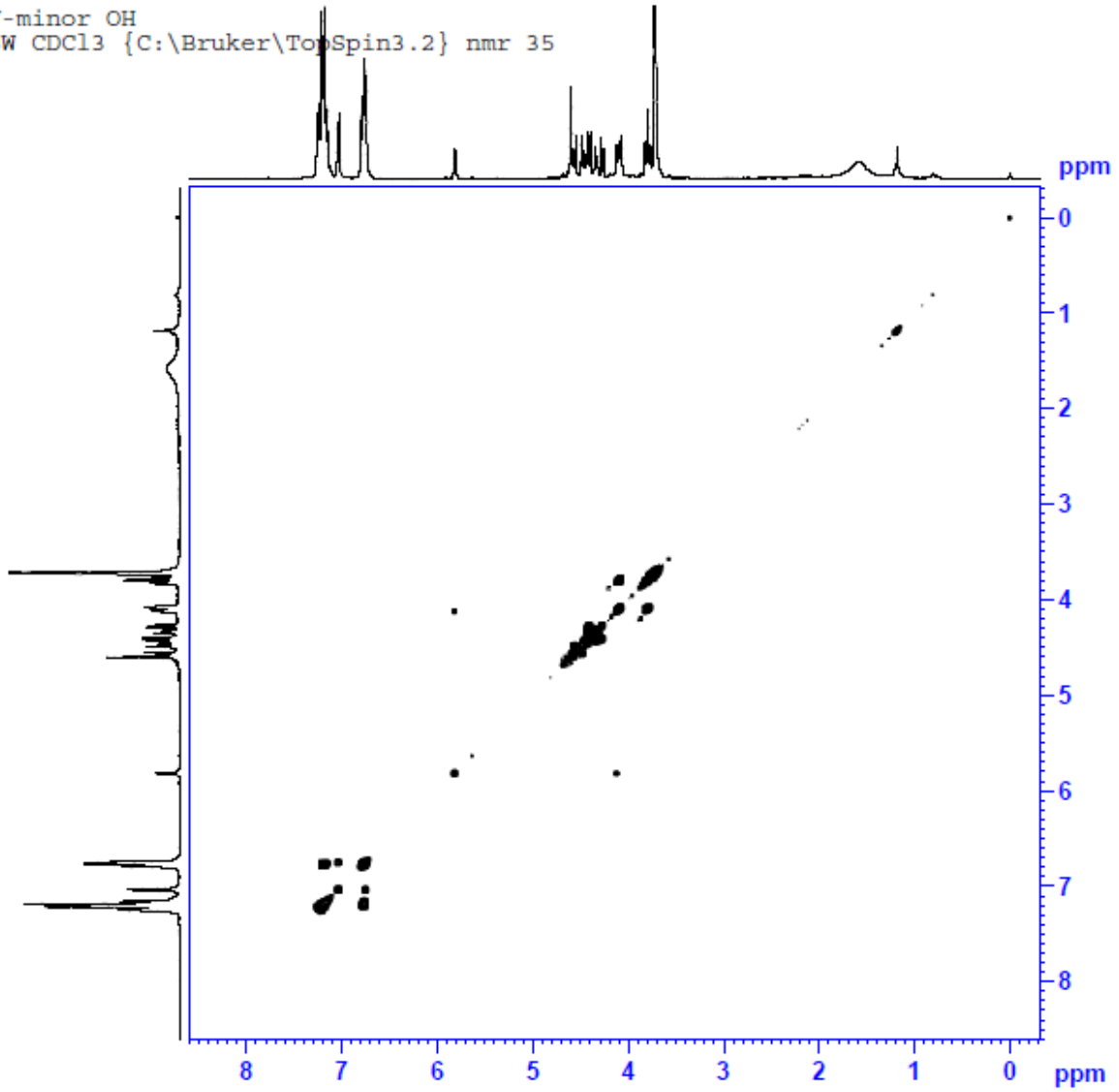

```
Current Data Parameters
NAME                  Sagar
EXPNO                     2
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140714
Time                  12.45
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   138.93
DW                    50.000 usec
DE                     6.50 usec
TE                   298.0 K
D1                1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300481 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

^{1}H NMR of compound **7** (zoom)



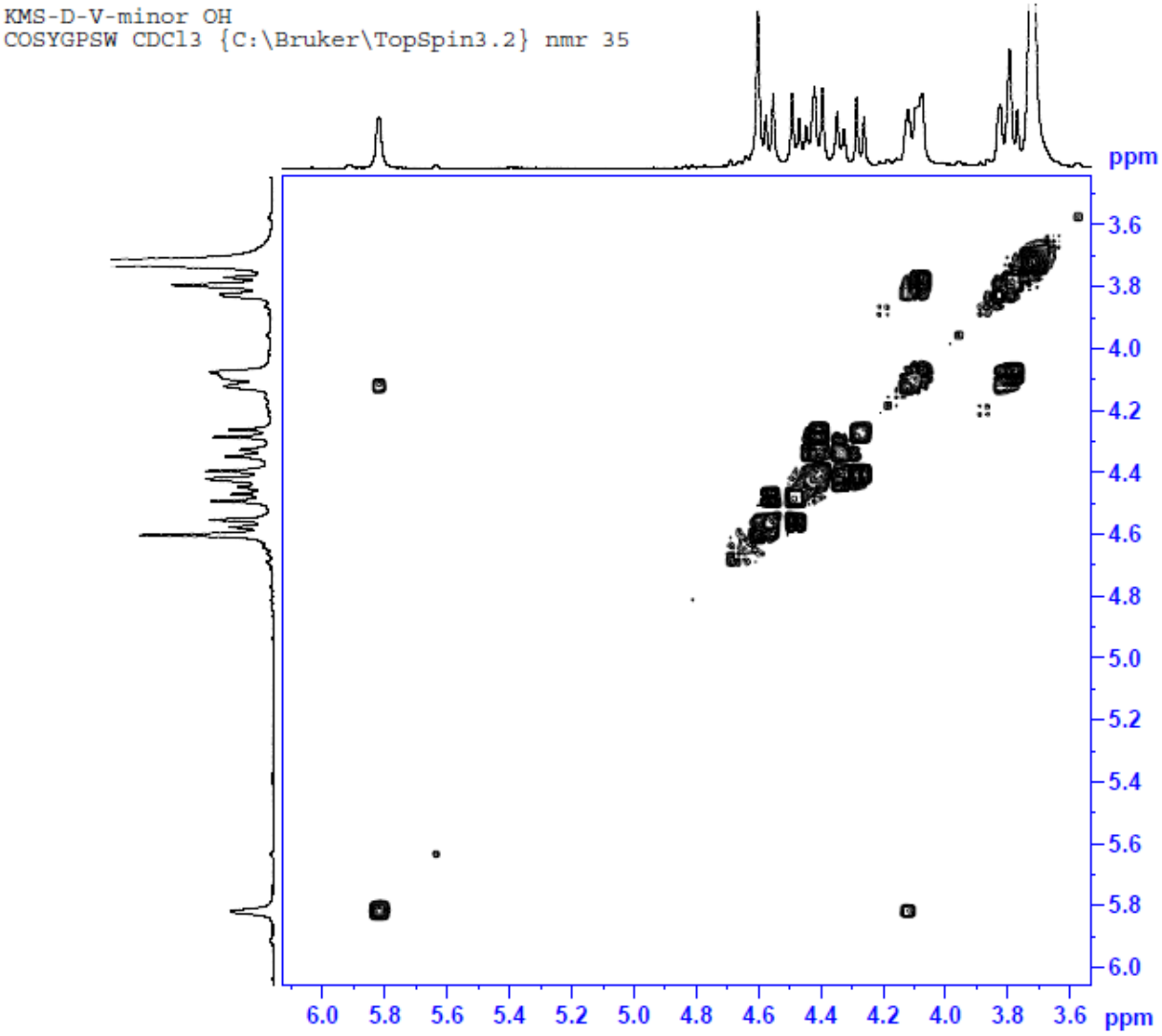

```
Current Data Parameters
NAME                 Sagar
EXPNO                    2
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140714
Time                 12.45
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10000.000 Hz
FIDRES           0.152588 Hz
AQ               3.2767999 sec
RG                  138.93
DW                  50.000 usec
DE                   6.50 usec
TE                  298.0 K
D1               1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                    1H
P1                   9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                   65536
SF              500.2300481 MHz
WDW                     EM
SSB          0
LB                   0.30 Hz
GB           0
PC                   1.00
```

COSY of compound **7**



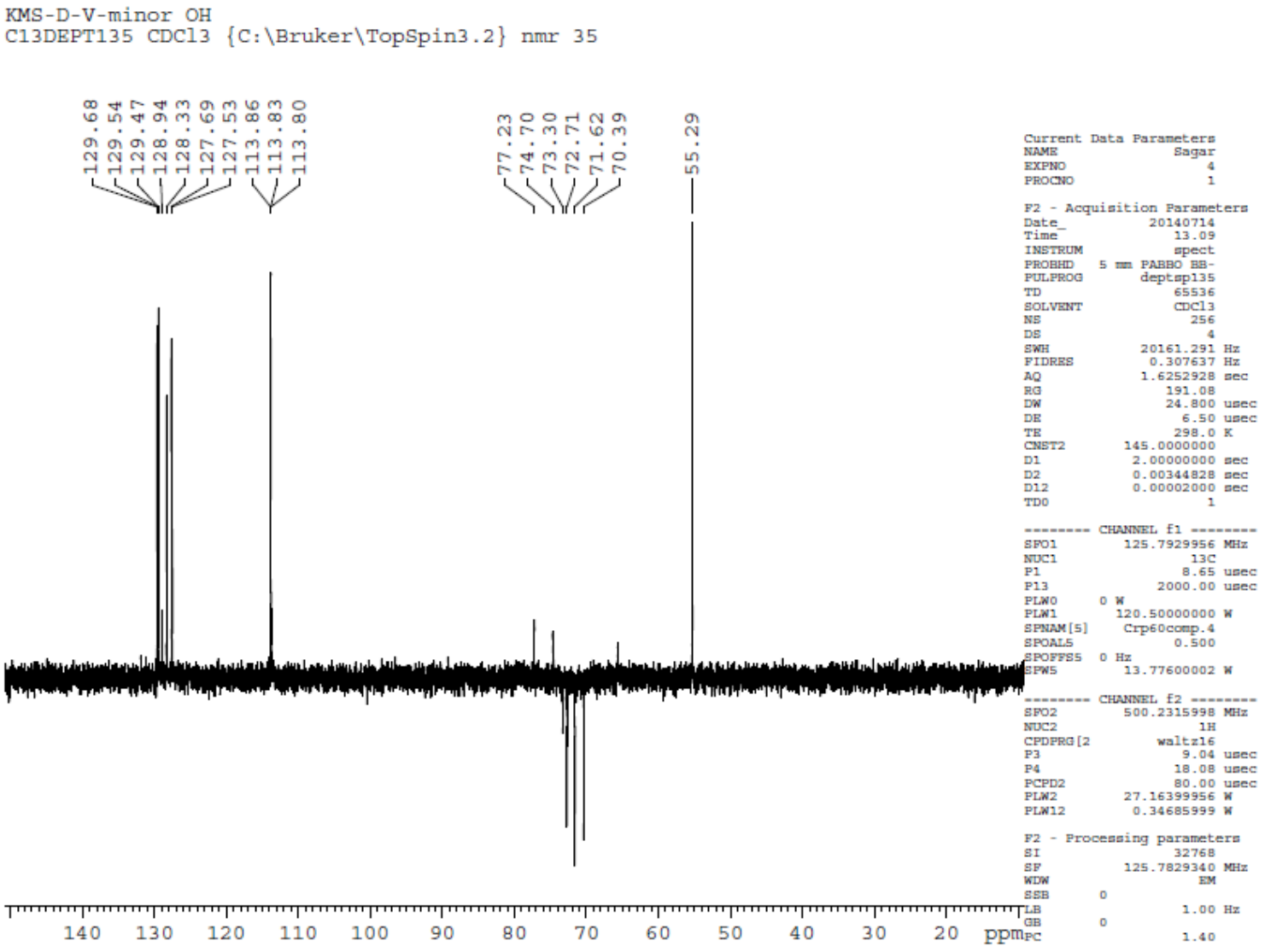

```
Current Data Parameters
NAME                  Sagar
EXPNO                     3
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140714
Time                  12.47
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG          cosygpppqf
TD                     2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH                4464.286 Hz
FIDRES             2.179827 Hz
AQ                 0.2293760 sec
RG                     64.12
DW                   112.000 usec
DE                     6.50 usec
TE                   298.0 K
D0                 0.00000300 sec
D1                 1.92381406 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00022400 sec

======== CHANNEL f1 ========
SFO1              500.2321212 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1               500.2321 MHz
FIDRES            34.877232 Hz
SW                    8.924 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF              500.2300481 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF              500.2300481 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **7** (zoom)



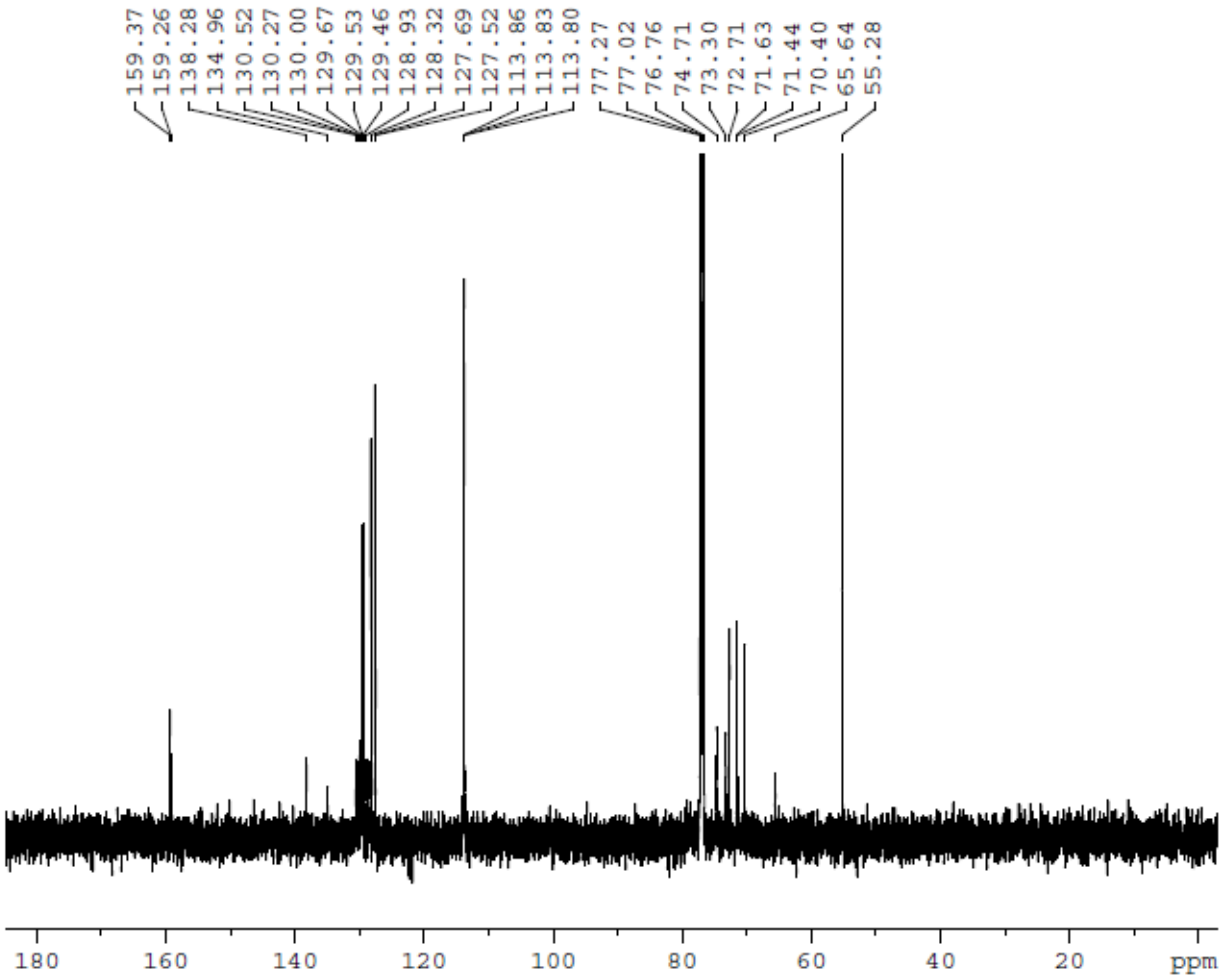

```
Current Data Parameters
NAME                  Sagar
EXPNO                     3
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140714
Time                  12.47
INSTRUM               spect
PROBHD     5 mm PABBO BB-
PULPROG          cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4464.286 Hz
FIDRES             2.179827 Hz
AQ                 0.2293760 sec
RG                     64.12
DW                   112.000 usec
DE                     6.50 usec
TE                   298.0 K
D0                 0.00000300 sec
D1                 1.92381406 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00022400 sec

======== CHANNEL f1 ========
SFO1             500.2321212 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1                500.2321 MHz
FIDRES             34.877232 Hz
SW                     8.924 ppm
FnMODE                    QF

F2 - Processing parameters
SI                       1024
SF                500.2300481 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                       QF
SF                500.2300481 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **7**



^{13}C NMR of compound **7**

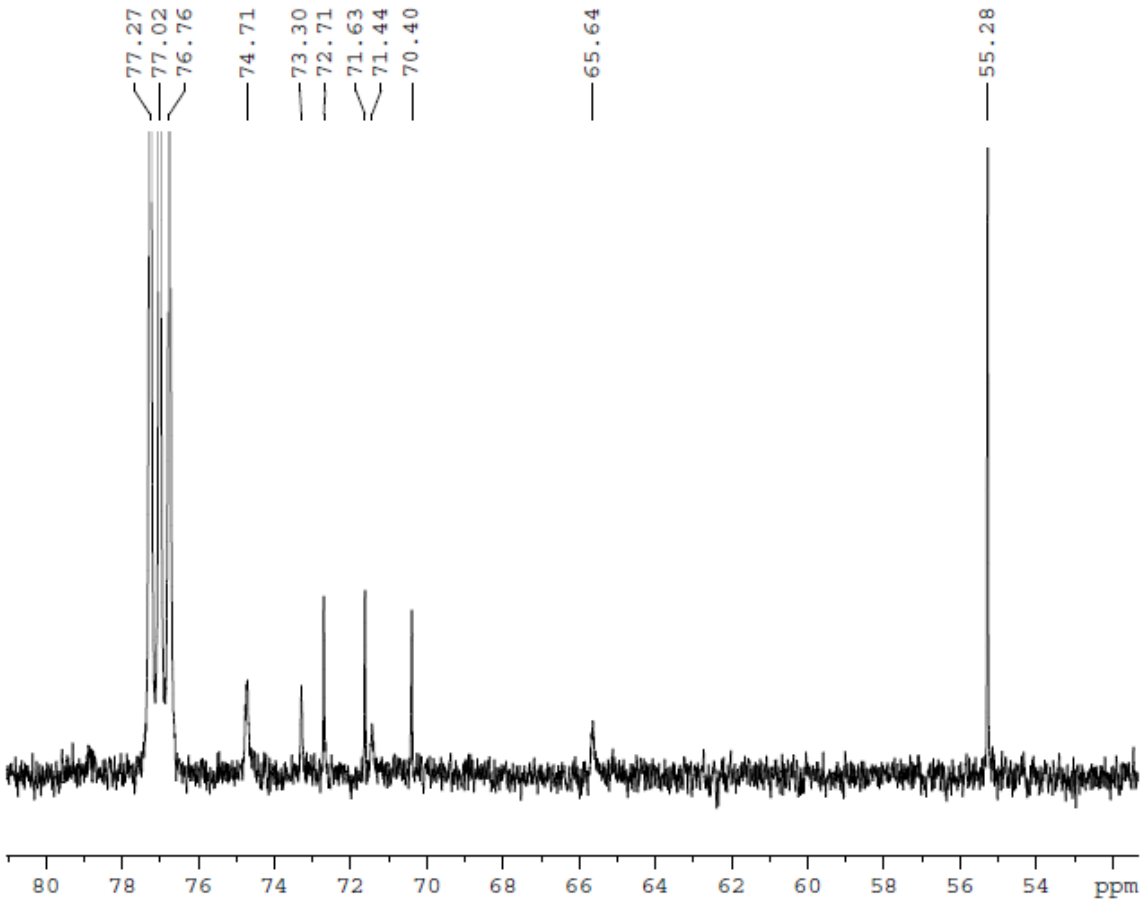
KMS-D-V-minor OH
C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 35




```
Current Data Parameters
NAME                  Sagar
EXPNO                     5
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140714
Time                  13.33
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.7 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1         120.50000000 W

======== CHANNEL f2 ========
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                      EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

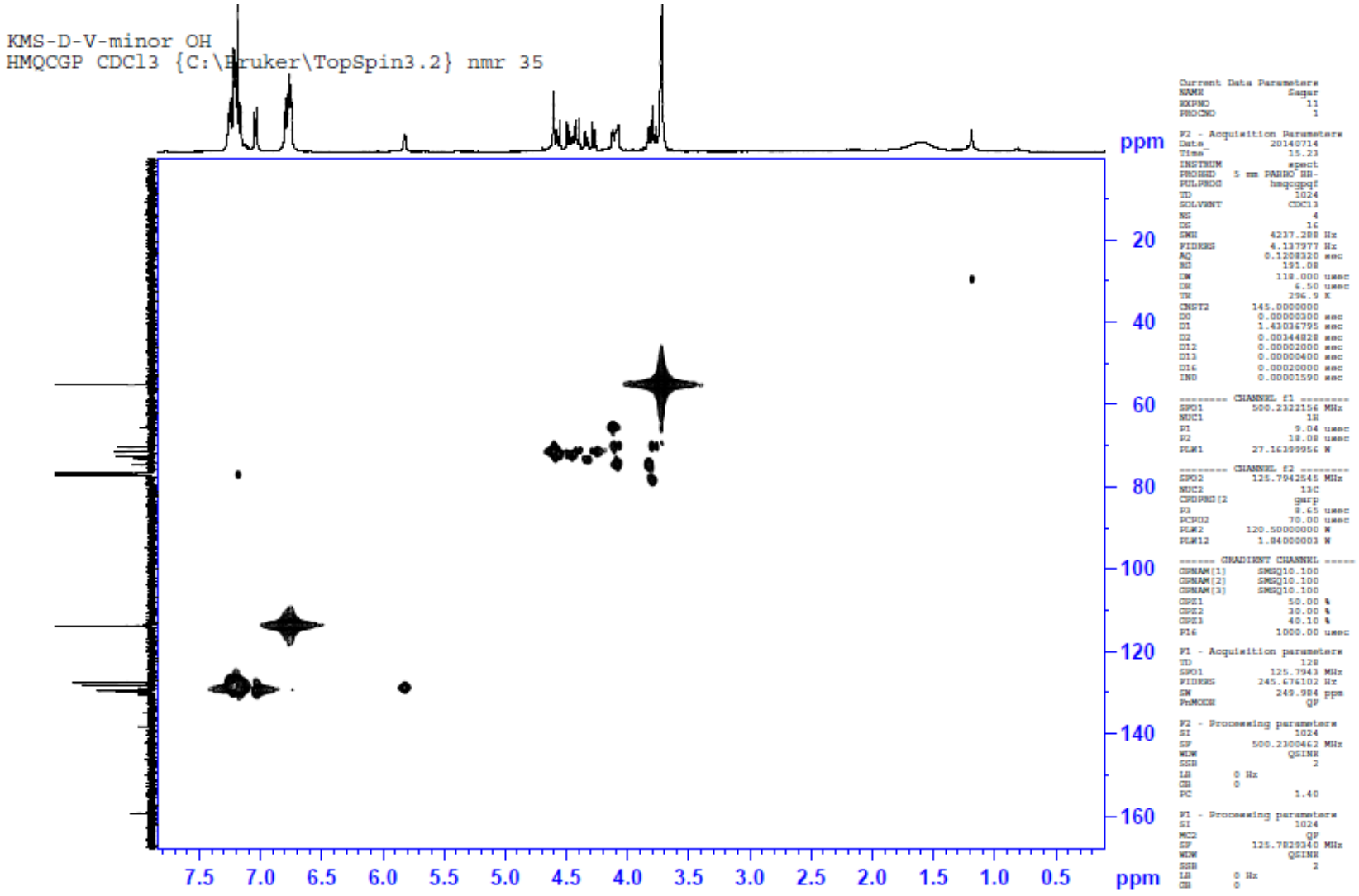
^{13}C NMR of compound **7** (zoom)

KMS-D-V-minor OH
C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 35

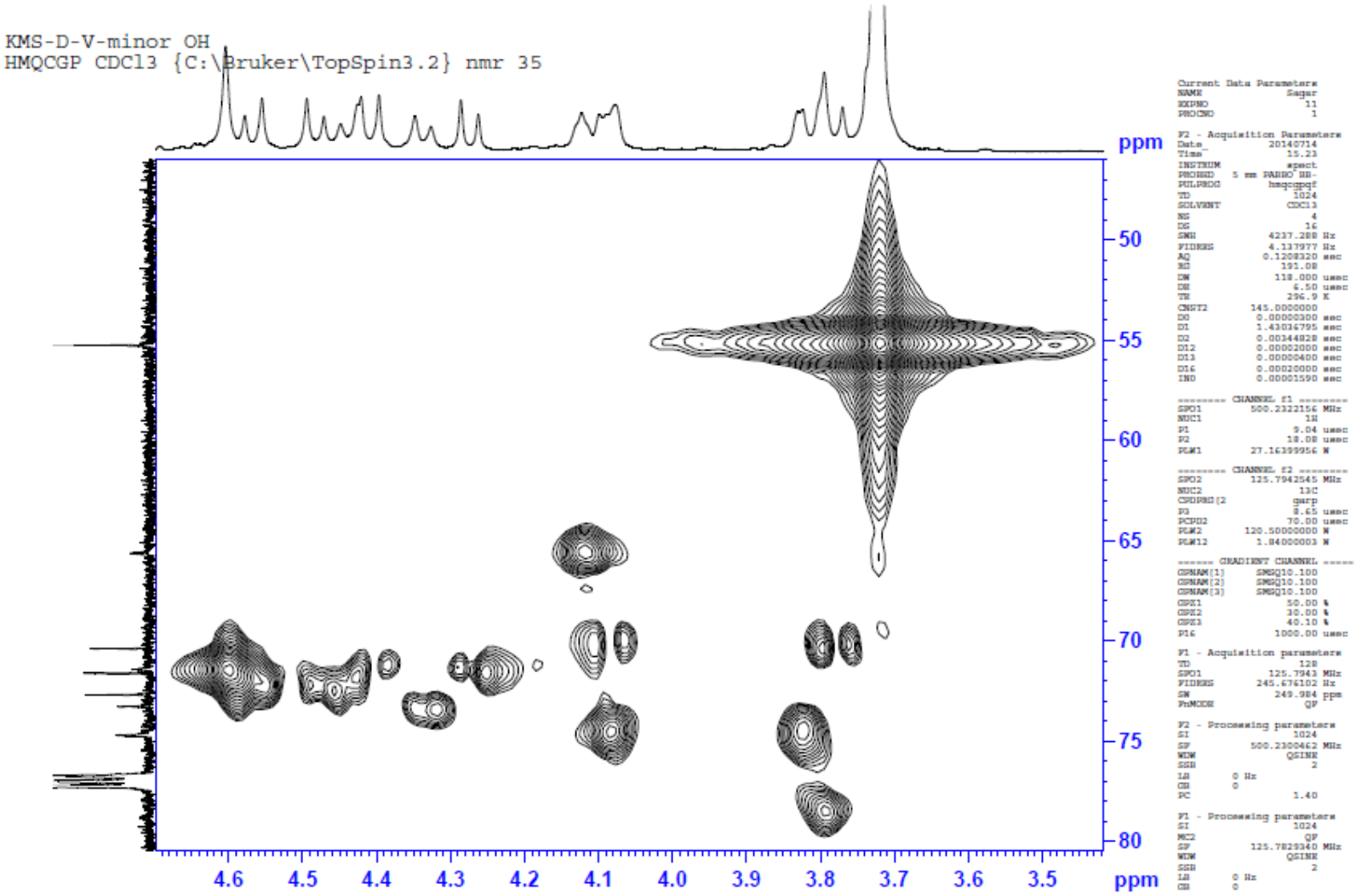



```
Current Data Parameters
NAME                 Sagar
EXPNO                    5
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140714
Time                 13.33
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG           zgpg30
TD                 65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.7 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                      1

-------- CHANNEL f1 --------
SFO1           125.7955112 MHz
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W

-------- CHANNEL f2 --------
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2            waltz16
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                   32768
SF             125.7829340 MHz
WDW                     EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

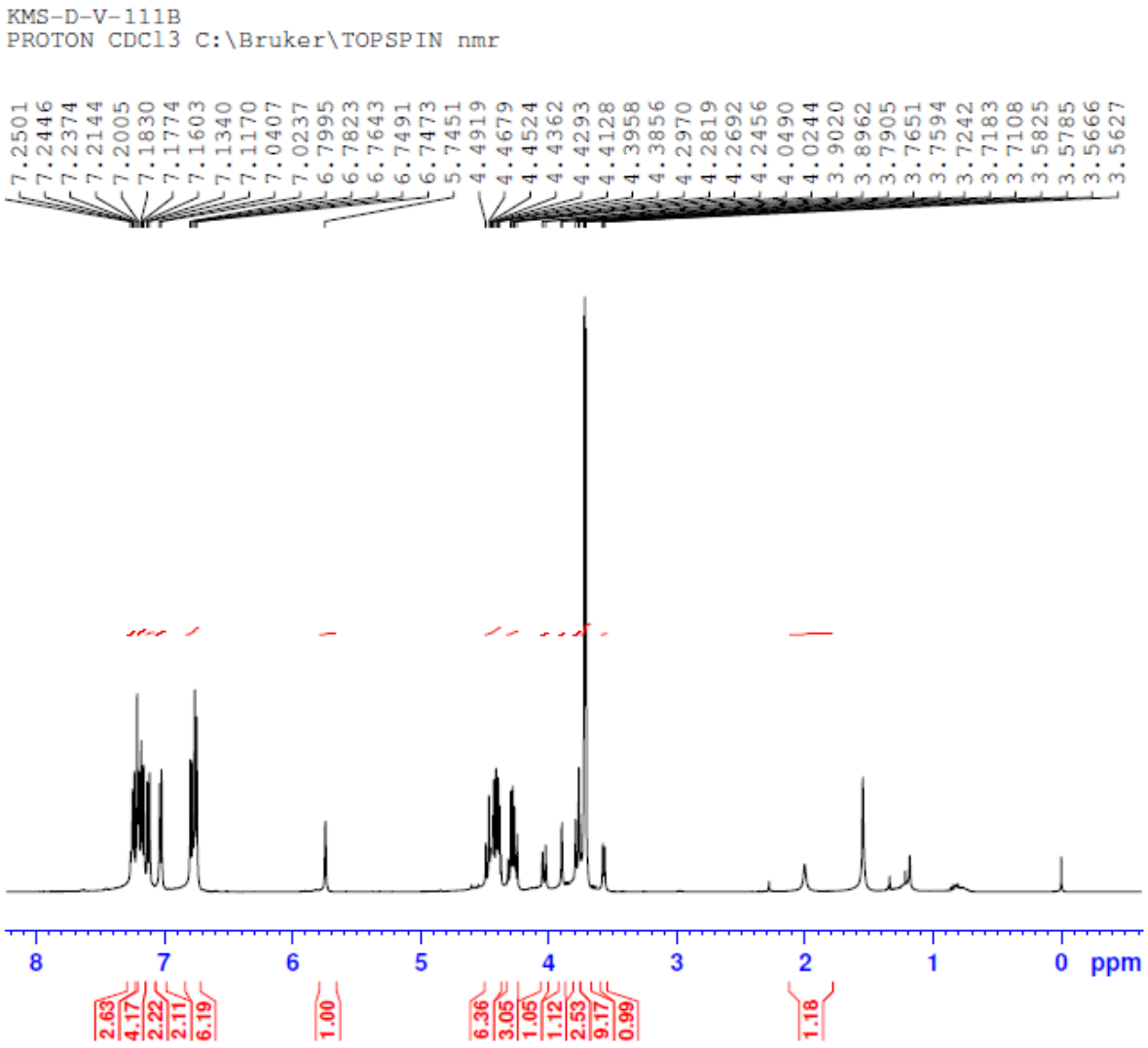
HMQC of compound **7**



HMQC of compound **7** (zoom)

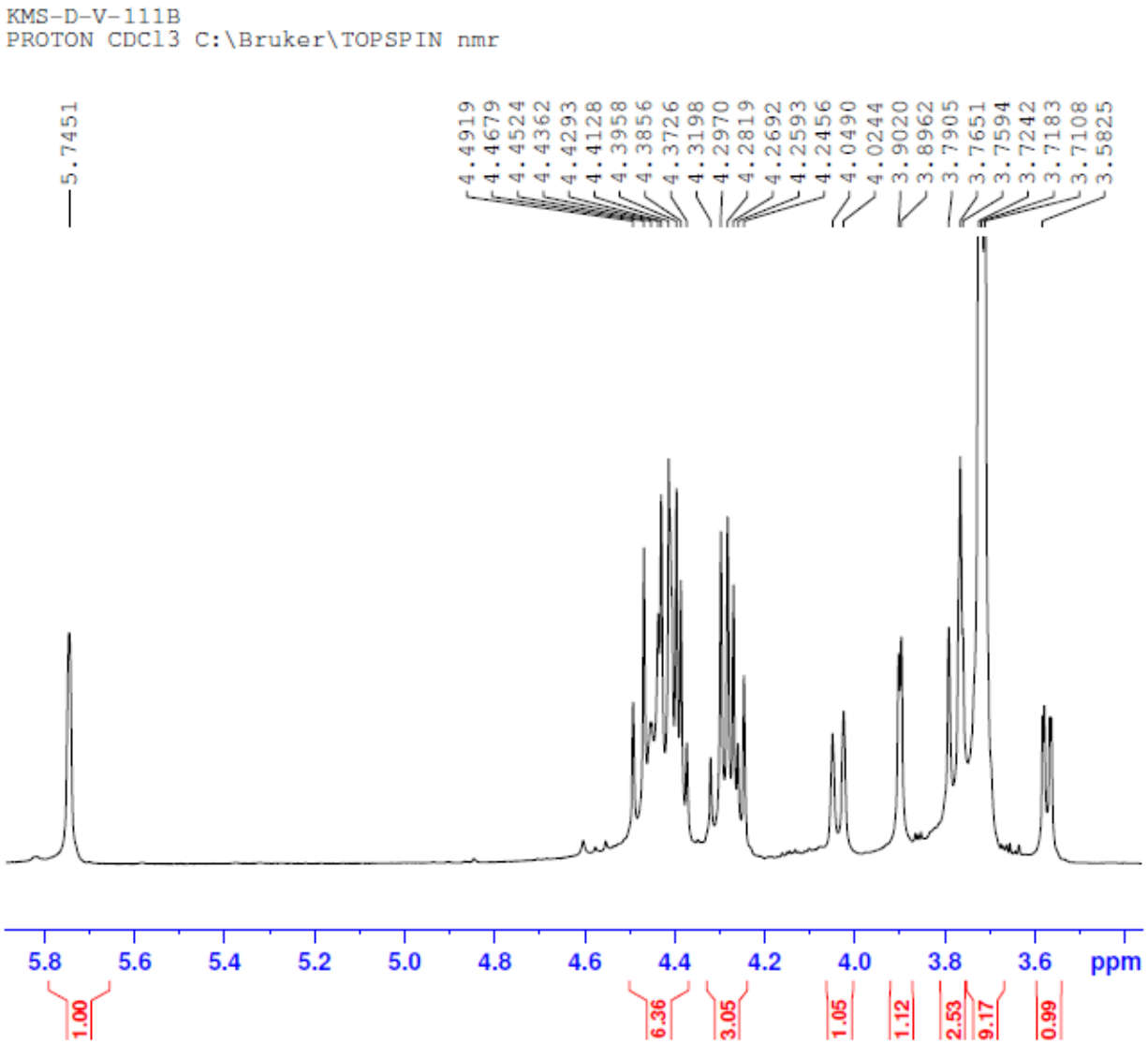


^{1}H NMR of compound **8**



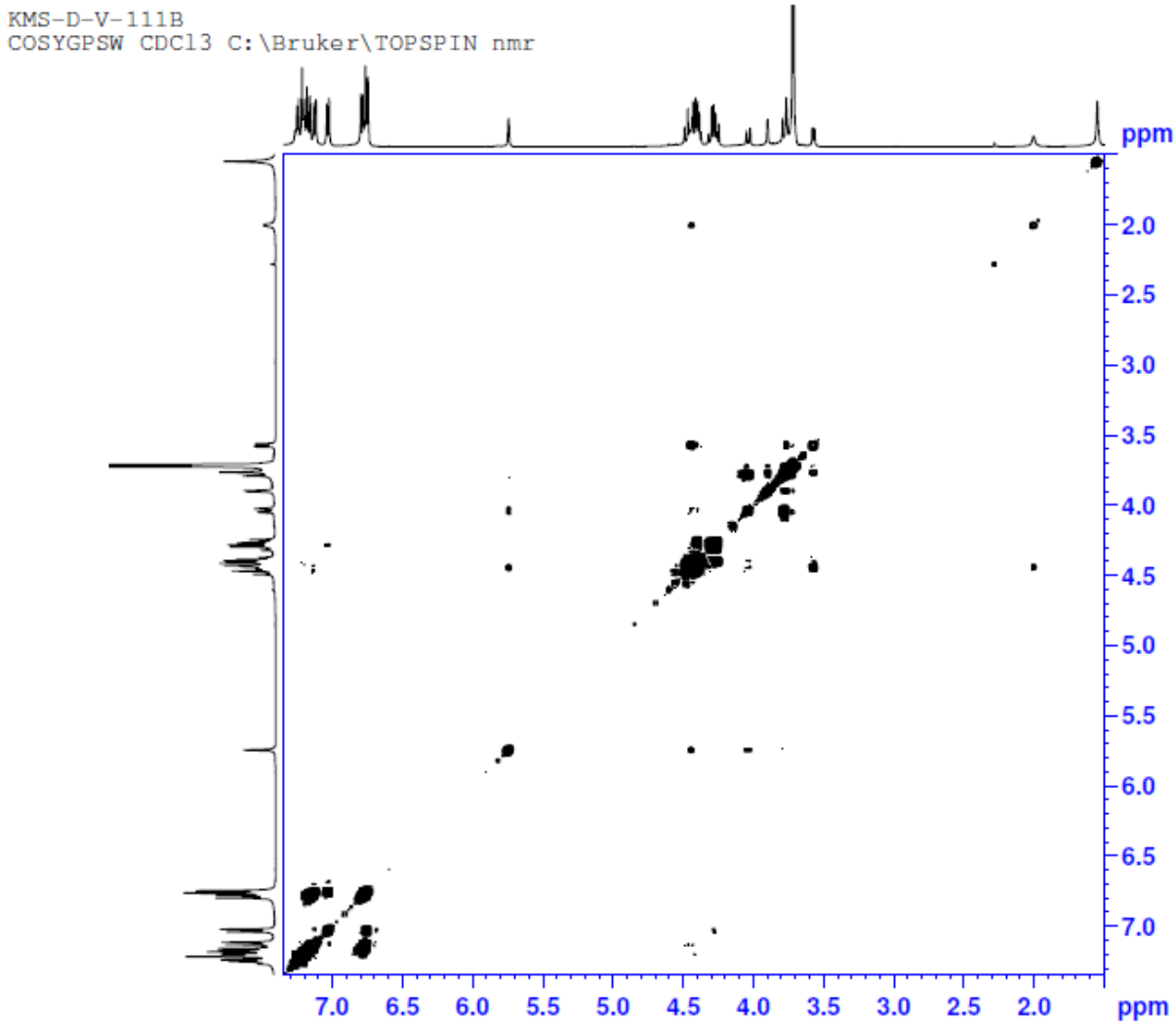

```
Current Data Parameters
NAME                  Sagar
EXPNO                   583
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  15.18
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ               3.1719923 sec
RG                  107.19
DW                  48.400 usec
DE                   6.50 usec
TE                  298.0 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300547 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

^{1}H NMR of compound **8** (zoom)



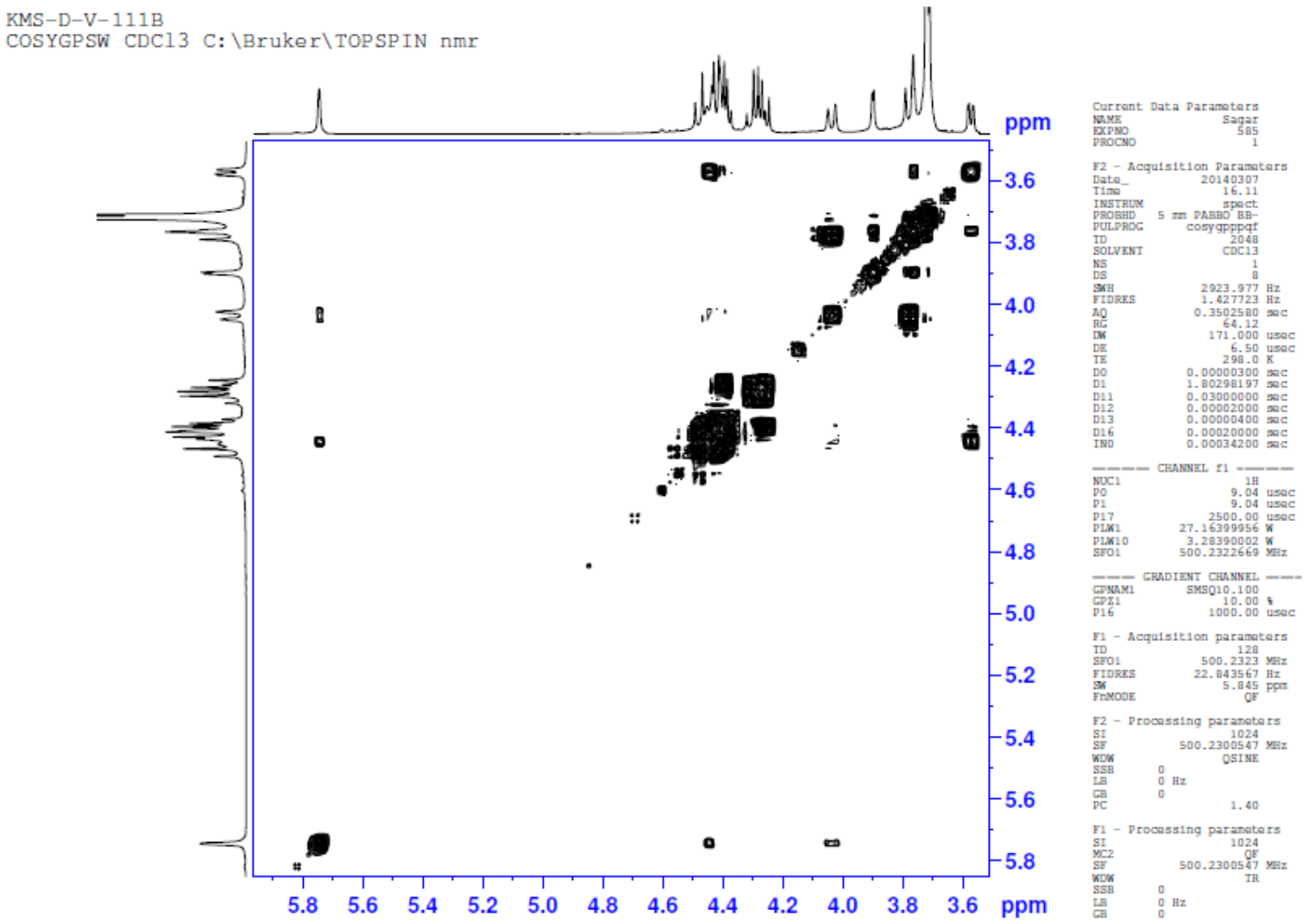

```
Current Data Parameters
NAME                  Sagar
EXPNO                   583
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  15.18
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   107.19
DW                   48.400 usec
DE                    6.50 usec
TE                   298.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300547 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **8**



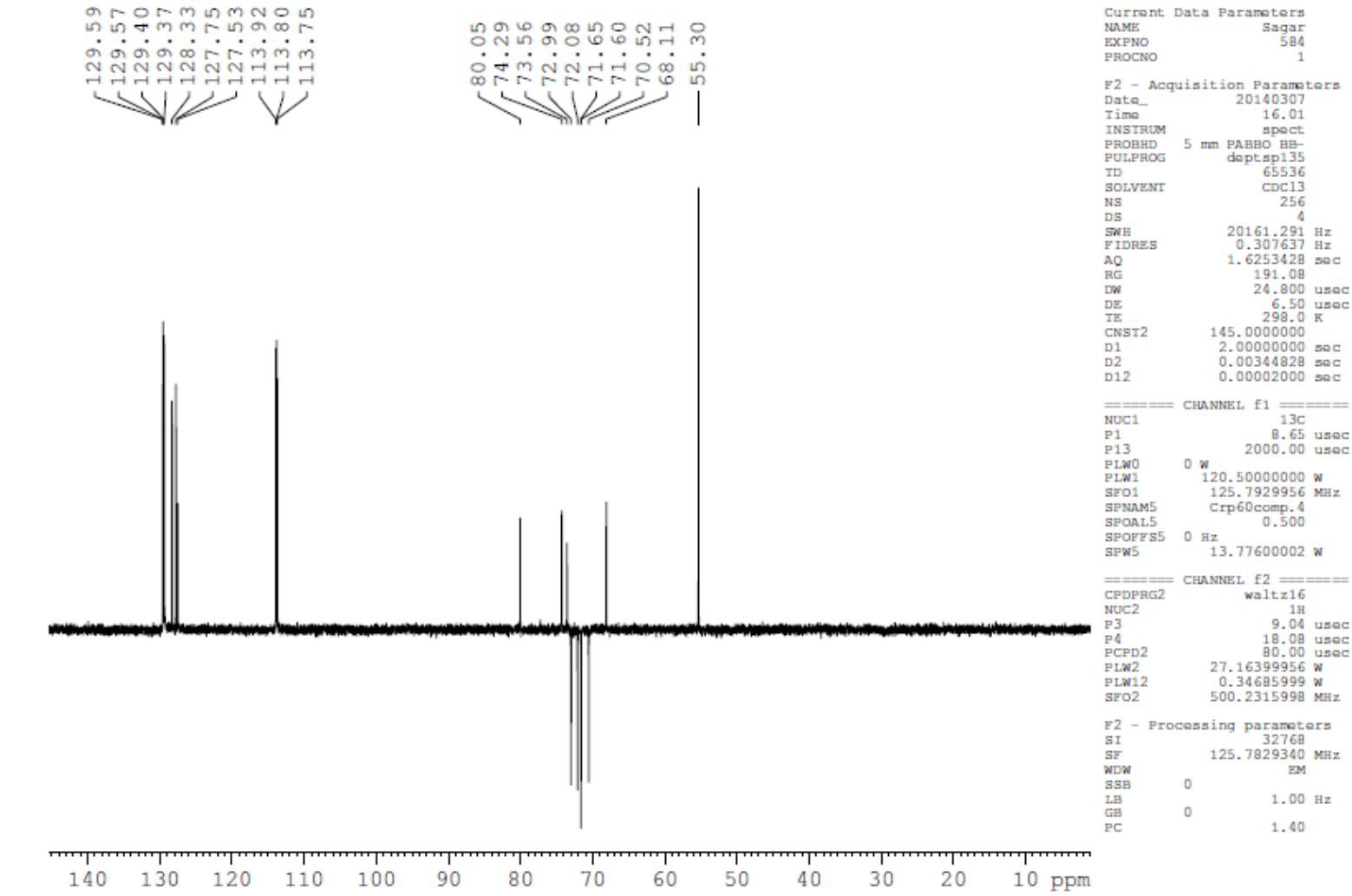

```
Current Data Parameters
NAME                  Sagar
EXPNO                   585
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  16.11
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH                2923.977 Hz
FIDRES             1.427723 Hz
AQ                 0.3502580 sec
RG                    64.12
DW                  171.000 usec
DE                    6.50 usec
TE                   298.0 K
D0                 0.00000300 sec
D1                 1.80298197 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00034200 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2322669 MHz

====== GRADIENT CHANNEL =====
GPNAM1           SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                      128
SFO1             500.2323 MHz
FIDRES            22.843567 Hz
SW                    5.845 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF               500.2300547 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF               500.2300547 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **8** (zoom)

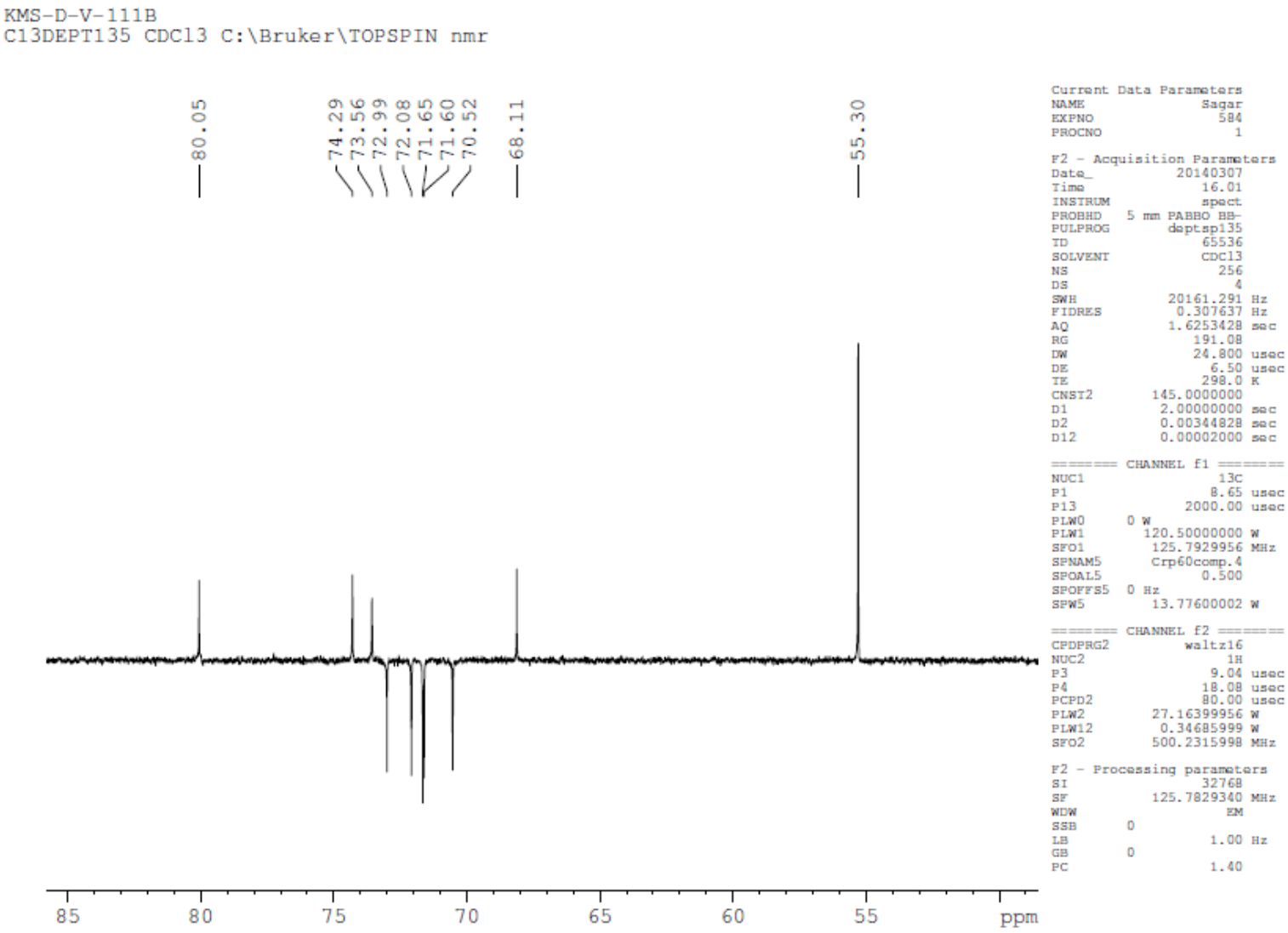



```
Current Data Parameters
NAME                  Sagar
EXPNO                   585
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  16.11
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH                2923.977 Hz
FIDRES             1.427723 Hz
AQ                 0.3502580 sec
RG                     64.12
DW                   171.000 usec
DE                     6.50 usec
TE                   298.0 K
D0                 0.00000300 sec
D1                 1.80298197 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00034200 sec

------ CHANNEL f1 ------
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2322669 MHz

===== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                  10.00 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1              500.2323 MHz
FIDRES           22.843567 Hz
SW                    5.845 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF             500.2300547 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF             500.2300547 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **8**

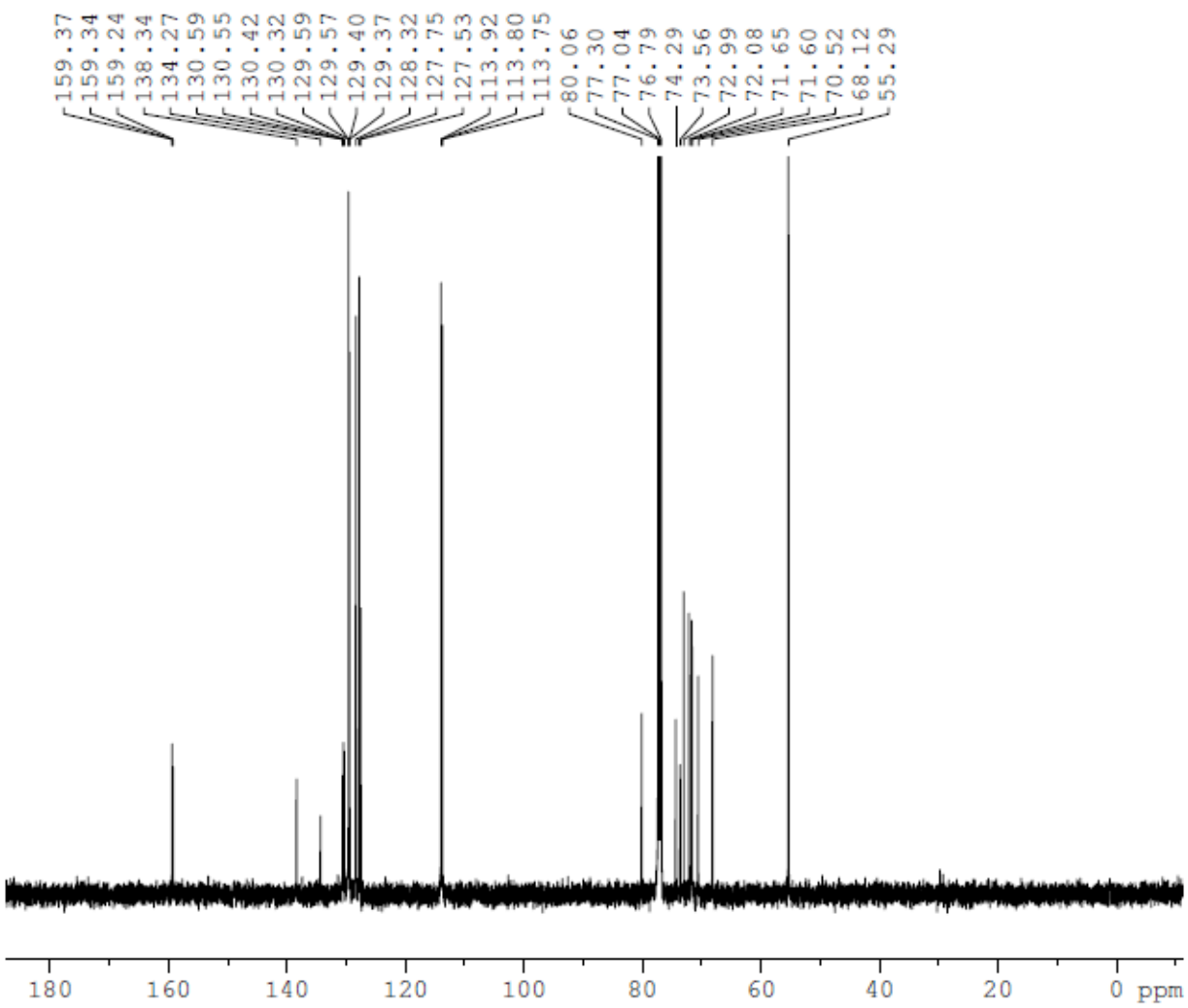


DEPT of compound **8** (zoom)



^{13}C NMR of compound **8**

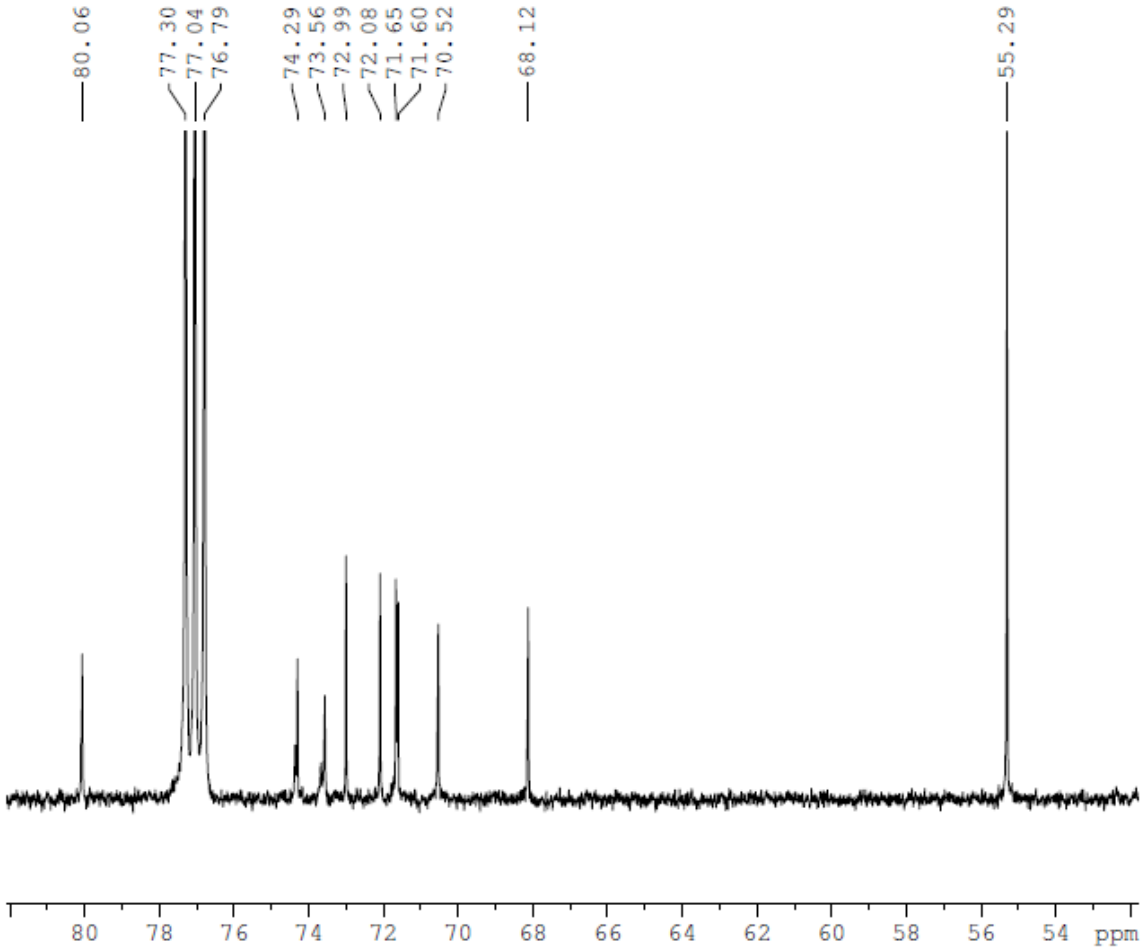
KMS-D-V-111B
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr




```
Current Data Parameters
NAME                  Sagar
EXPNO                   590
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  17.44
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.0 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF            125.7829340 MHz
WDW                      EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

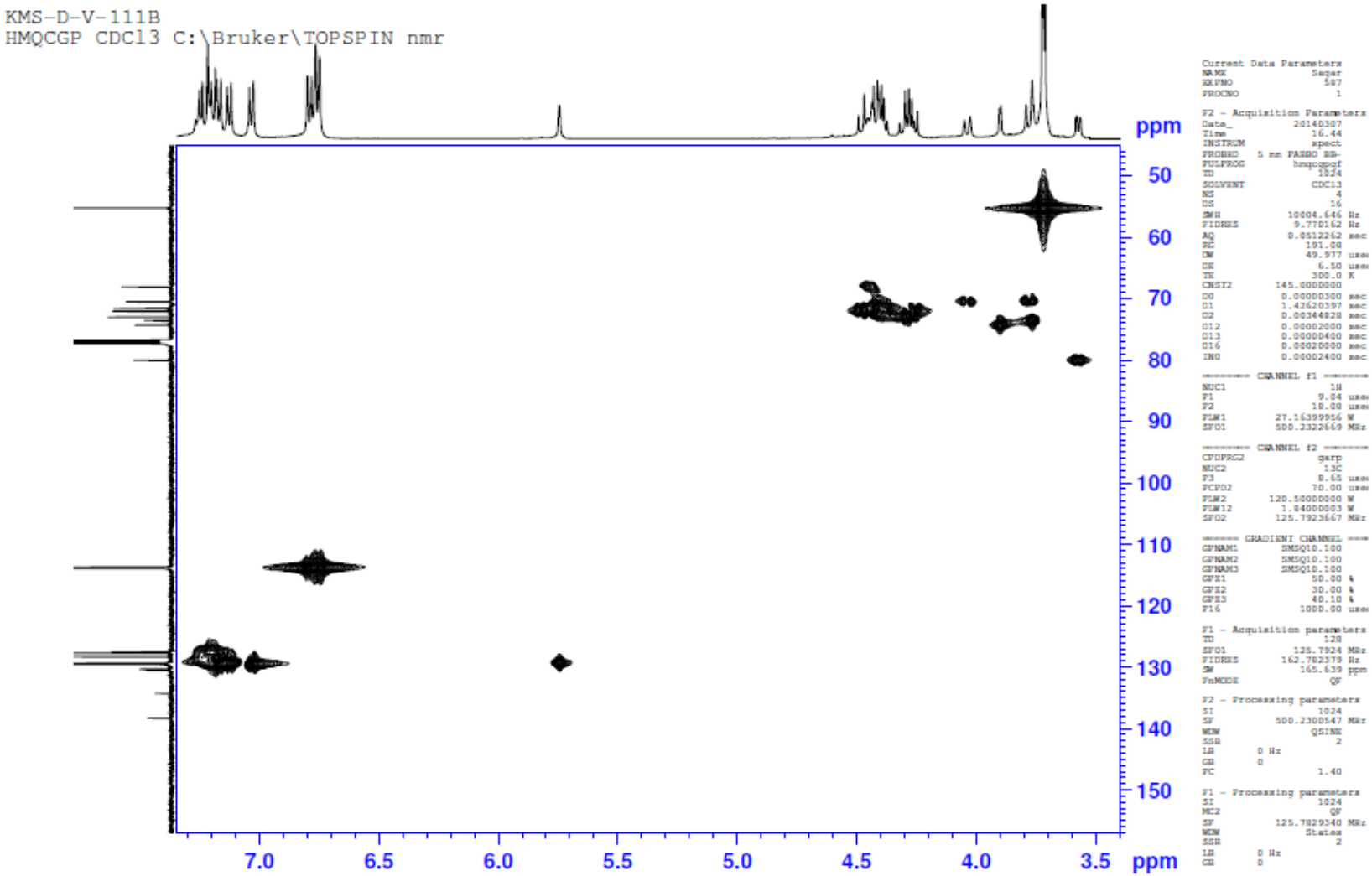
^{13}C NMR of compound **8** (zoom)

KMS-D-V-111B
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr

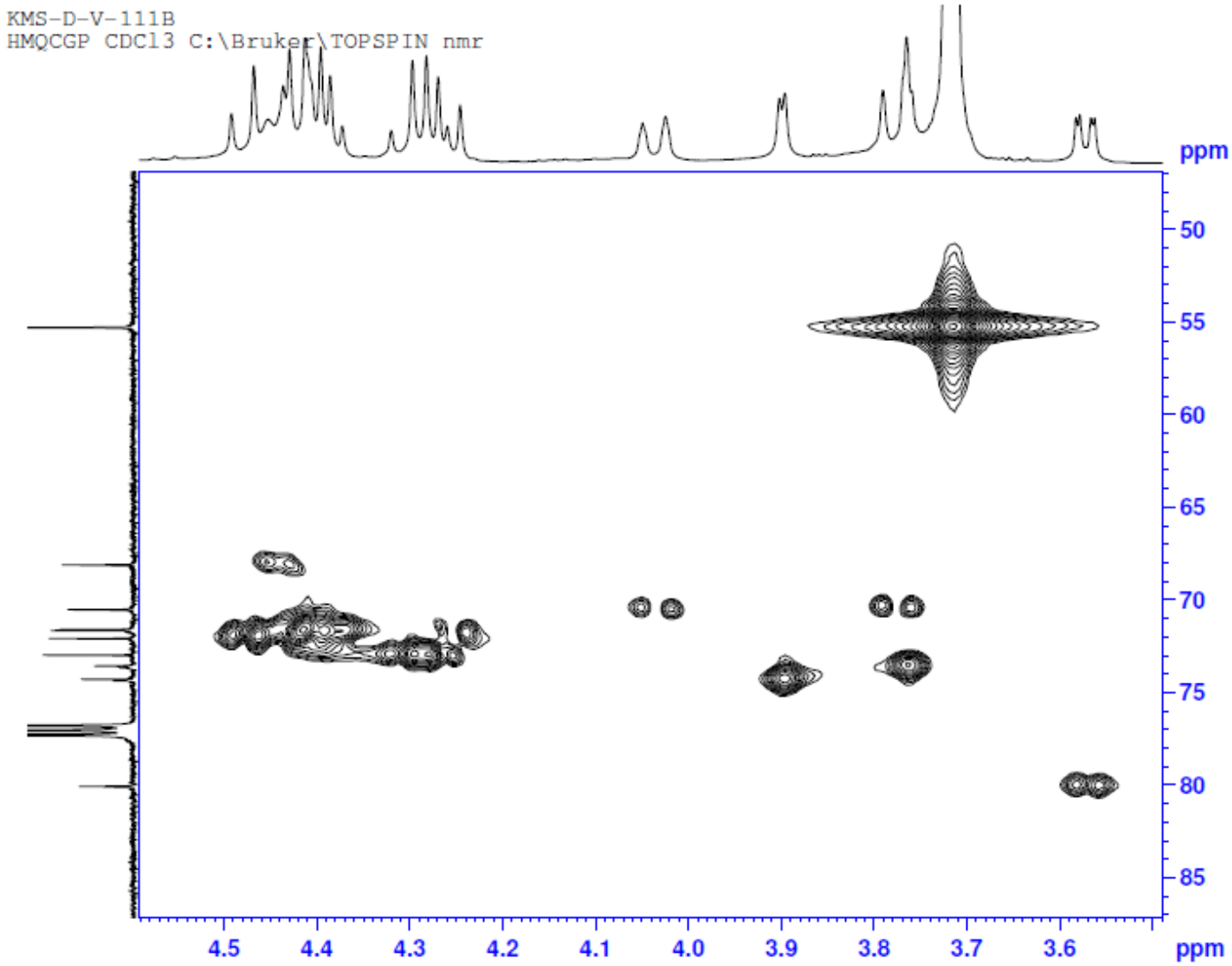



```
Current Data Parameters
NAME                 Sagar
EXPNO                  590
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140307
Time                 17.44
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.0 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                   1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                      EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

HMQC of compound **8**

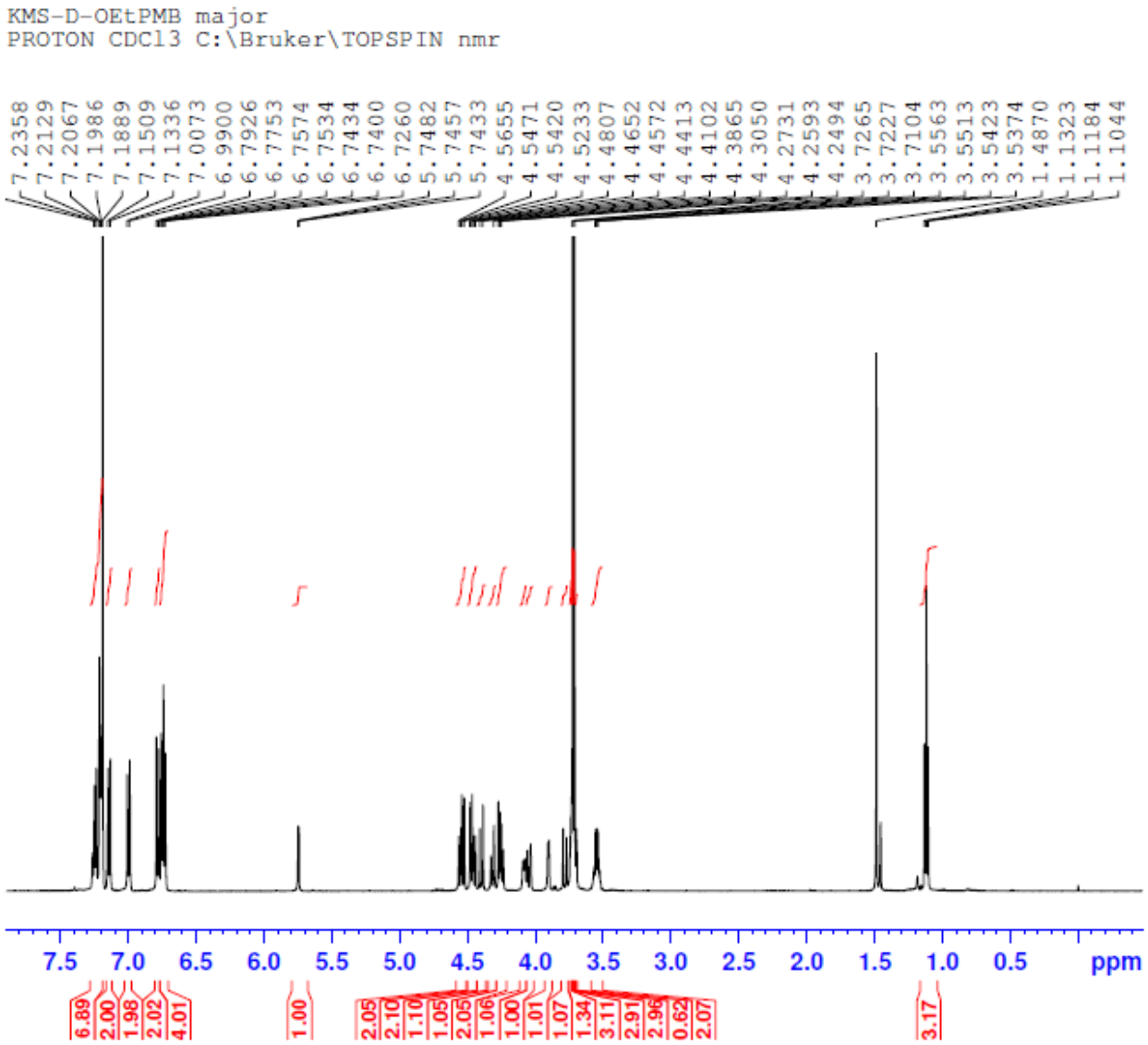


HMQC of compound **8** (zoom)



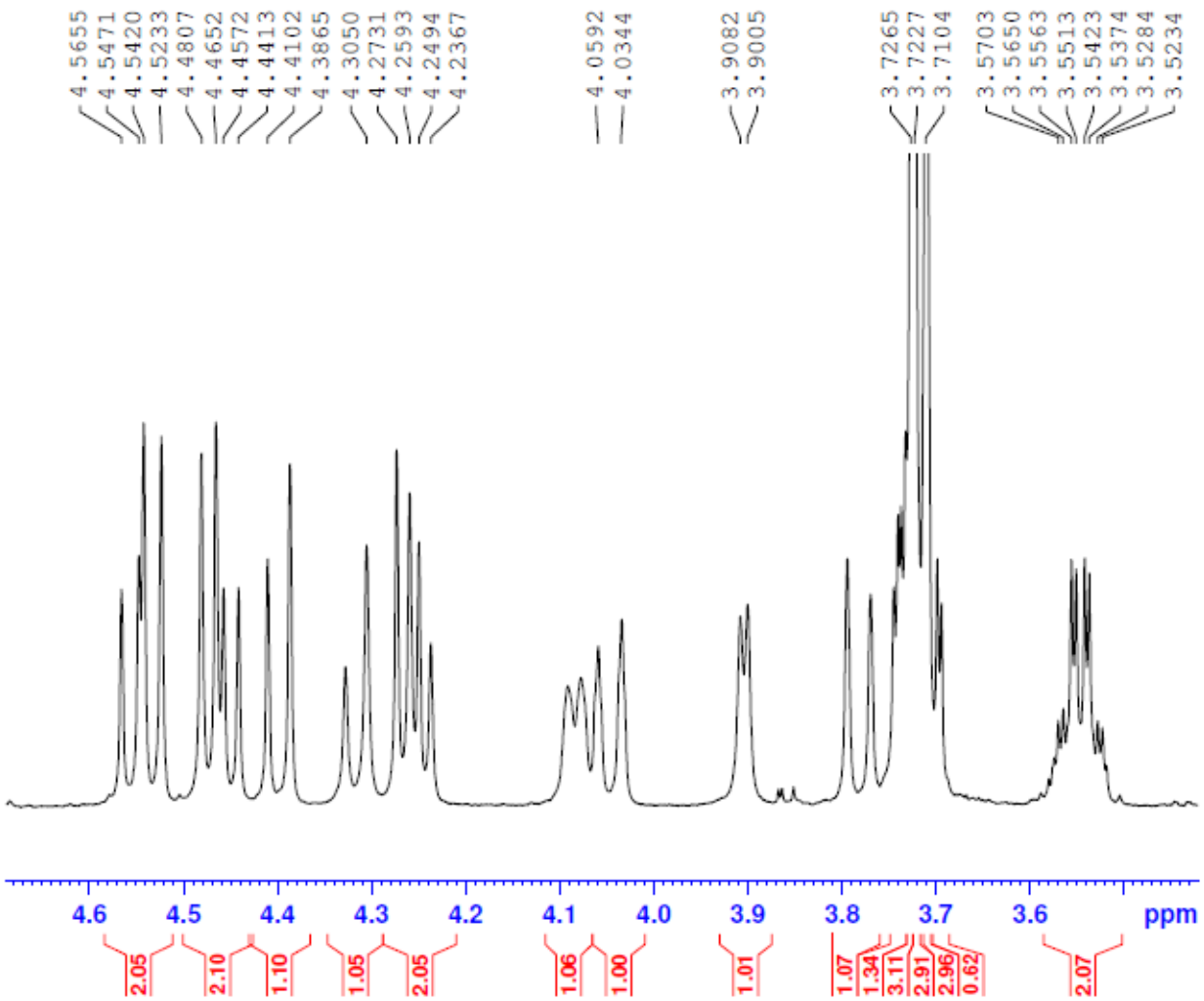

```
Current Data Parameters
NAME                  Sagar
EXPNO                   587
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140307
Time                  16.44
INSTRUM                spect
PROBHD     5 mm PABBO BB-
PULPROG            hmqcgpqf
TD                      1024
SOLVENT                 CDCl3
NS                         4
DS                        16
SWH               10004.646 Hz
FIDRES             9.770162 Hz
AQ                 0.0512262 sec
RG                    191.08
DW                 49.977 usec
DE                      6.50 usec
TE                     300.0 K
CNST2             145.0000000
D0                 0.00000300 sec
D1                 1.42620397 sec
D2                 0.00344828 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00002400 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                      9.04 usec
P2                     18.08 usec
PLW1              27.16399956 W
SFO1             500.2322669 MHz

======== CHANNEL f2 ========
CPDPRG2                 garp
NUC2                      13C
P3                      8.65 usec
PCPD2                  70.00 usec
PLW2             120.50000000 W
PLW12              1.84000003 W
SFO2             125.7923667 MHz

======= GRADIENT CHANNEL =====
GPNAM1              SMSQ10.100
GPNAM2              SMSQ10.100
GPNAM3              SMSQ10.100
GPZ1                   50.00 %
GPZ2                   30.00 %
GPZ3                   40.10 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1             125.7924 MHz
FIDRES           162.782379 Hz
SW                   165.639 ppm
FnMODE                    QF

F2 - Processing parameters
SI                        1024
SF               500.2300547 MHz
WDW                     QSINE
SSB                        2
LB          0 Hz
GB          0
PC                      1.40

F1 - Processing parameters
SI                        1024
MC2                       QF
SF               125.7829340 MHz
WDW                     States
SSB                        2
LB          0 Hz
GB          0
```

^{1}H NMR of compound **9**



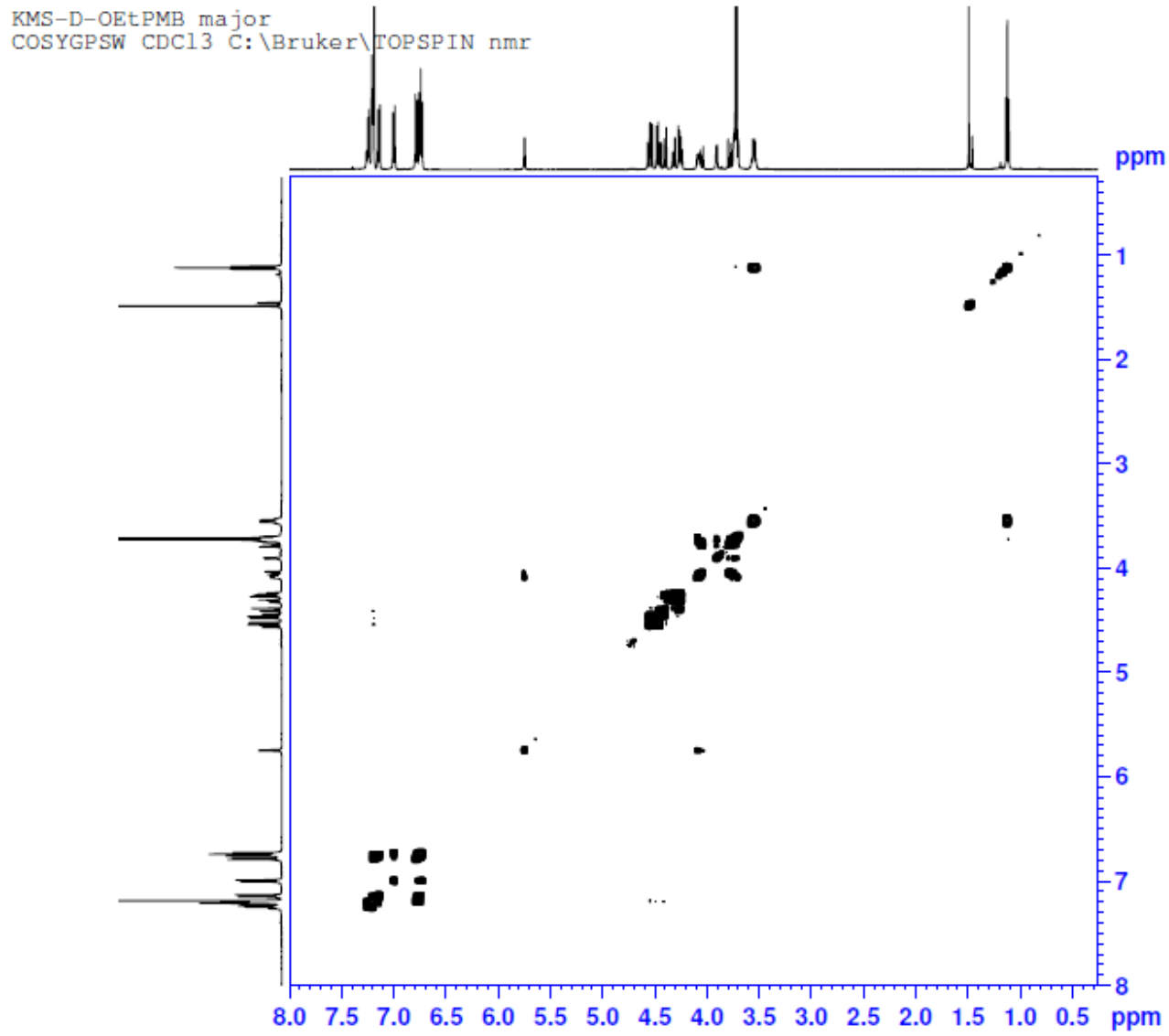

```
Current Data Parameters
NAME                  Sagar
EXPNO                   533
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140204
Time                  23.41
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   171.32
DW                   48.400 usec
DE                    6.50 usec
TE                   298.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300510 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **9** (zoom)



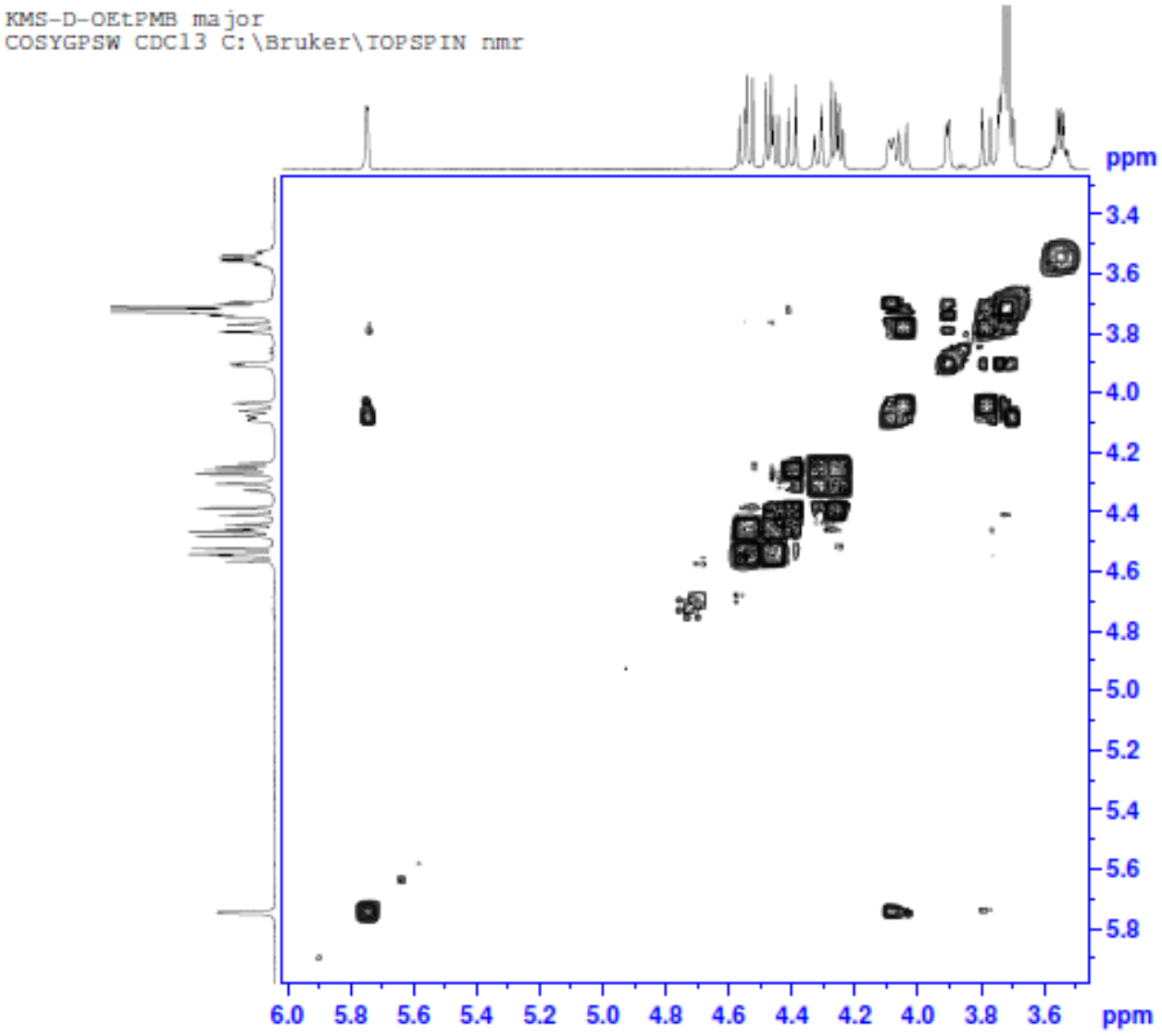

```
Current Data Parameters
NAME                  Sagar
EXPNO                   533
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140204
Time                 23.41
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH             10330.578 Hz
FIDRES           0.157632 Hz
AQ               3.1719923 sec
RG                  171.32
DW                   48.400 usec
DE                    6.50 usec
TE                  298.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                    1H
P1                   9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                   65536
SF            500.2300510 MHz
WDW                     EM
SSB       0
LB                   0.30 Hz
GB        0
PC                   1.00
```

COSY of compound **9**



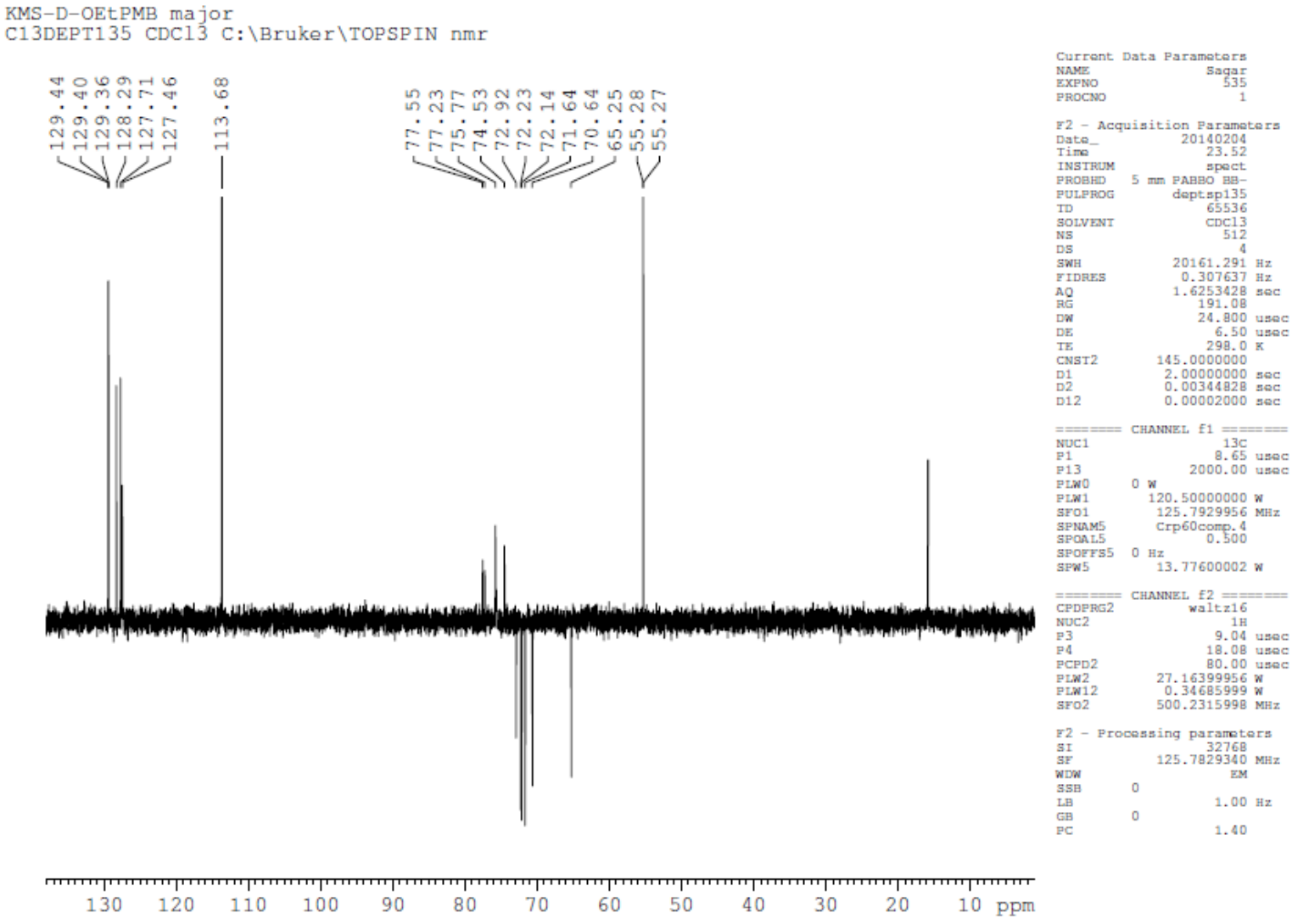

```
Current Data Parameters
NAME                  Sagar
EXPNO                   534
PROCNO                    1

F2 - Acquisition Parameters
Date_               20140204
Time                   23.43
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                10004.643 Hz
FIDRES             9.770159 Hz
AQ                 0.0512262 sec
RG                    107.19
DW                    49.977 usec
DE                      6.50 usec
TE                     300.0 K
D0                 0.00000300 sec
D1                 1.88899803 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00025800 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1            27.16399956 W
PLW10            3.28390002 W
SFO1            500.2321152 MHz

====== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1             500.2321 MHz
FIDRES           30.281008 Hz
SW                   7.748 ppm
FnMODE                  QF

F2 - Processing parameters
SI                      1024
SF               500.2300510 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                      1024
MC2                     QF
SF               500.2300510 MHz
WDW             States-TPPI
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **9** (zoom)

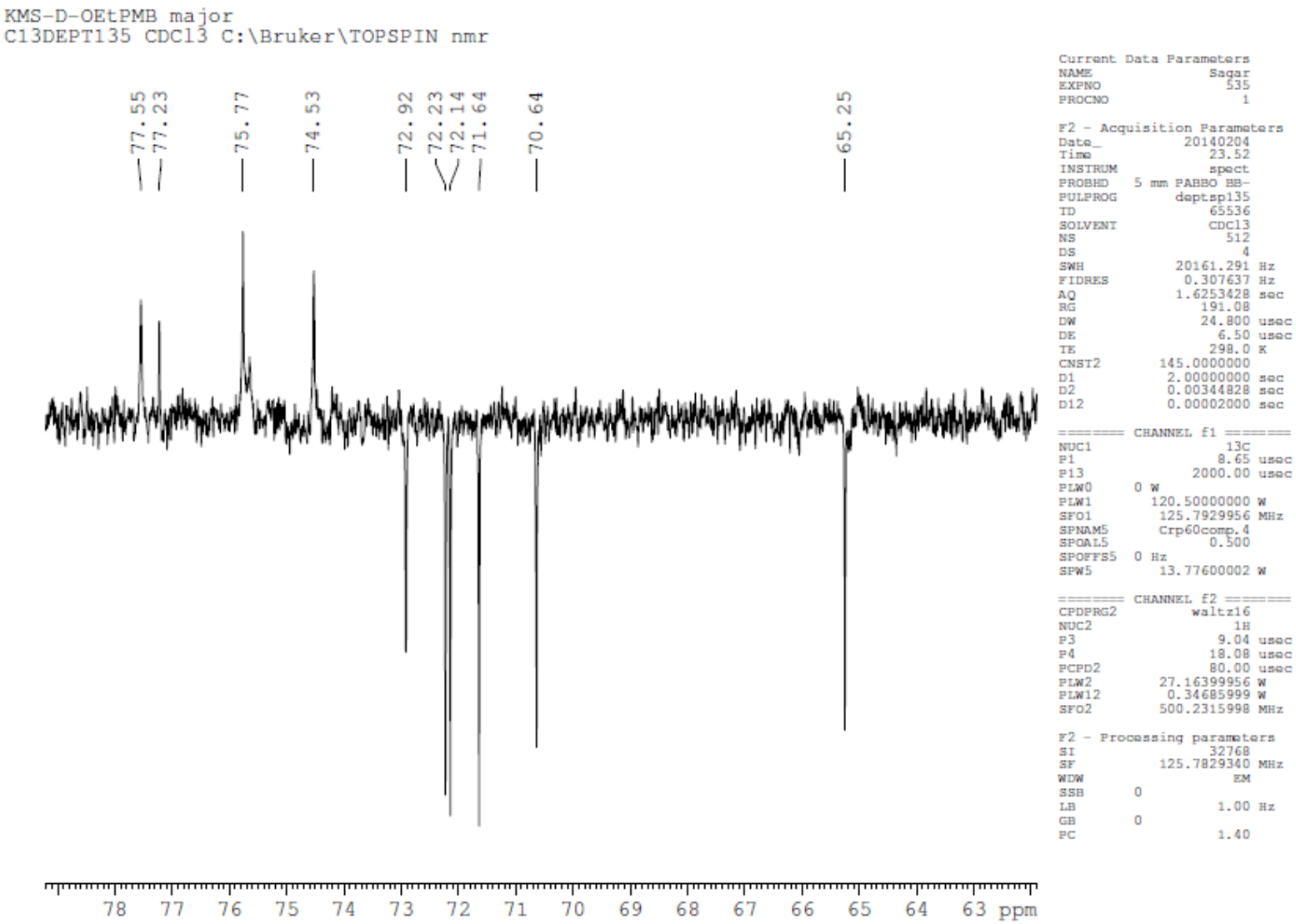



```
Current Data Parameters
NAME                  Sagar
EXPNO                   534
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140204
Time                  23.43
INSTRUM                spect
PROBHD     5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH               10004.643 Hz
FIDRES             9.770159 Hz
AQ                 0.0512262 sec
RG                    107.19
DW                   49.977 usec
DE                    6.50 usec
TE                   300.0 K
D0                 0.00000300 sec
D1                 1.88899803 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00025800 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1               27.14399604 W
PLW10               3.28399002 W
SFO1              500.2321152 MHz

====== GRADIENT CHANNEL =====
GPNAM1            SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1              500.2321 MHz
FIDRES           30.281008 Hz
SW                    7.748 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF              500.2300510 MHz
WDW                     QSINE
SSB         0
LB          0 Hz
GB          0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF              500.2300510 MHz
WDW                  States-TPPI
SSB         0
LB          0 Hz
GB          0
```

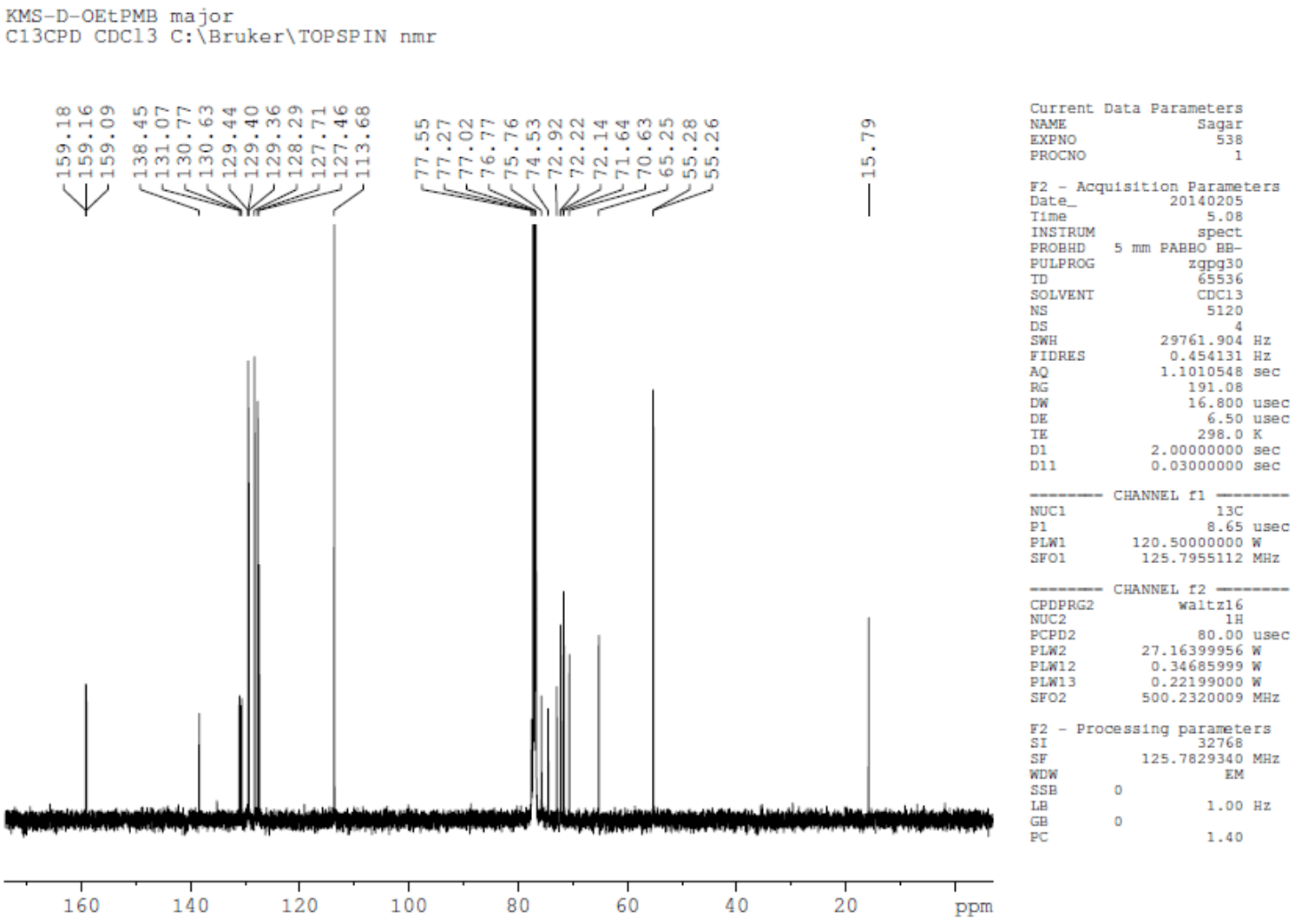
DEPT of compound **9**



DEPT of compound **9** (zoom)

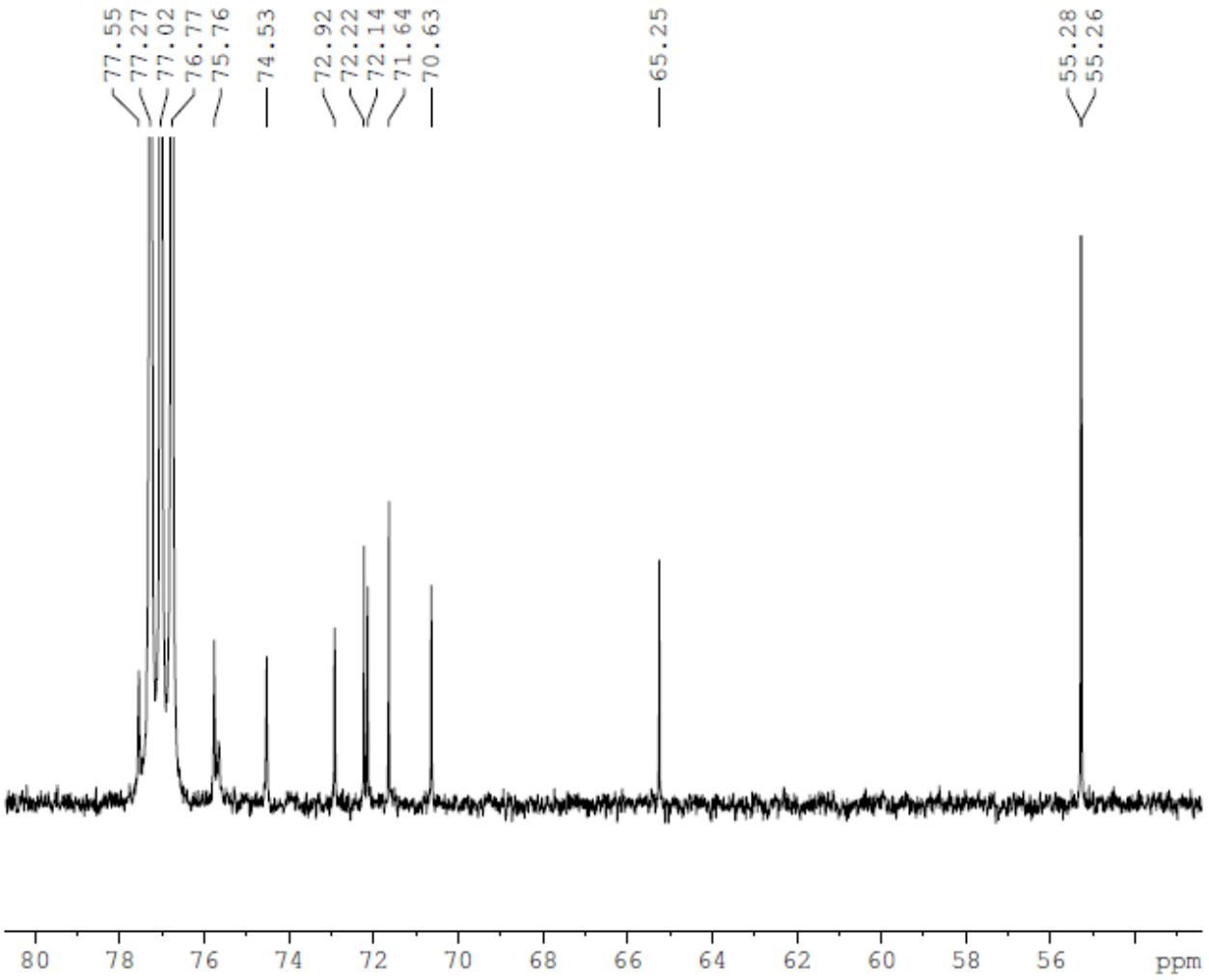


^{13}C NMR of compound **9**



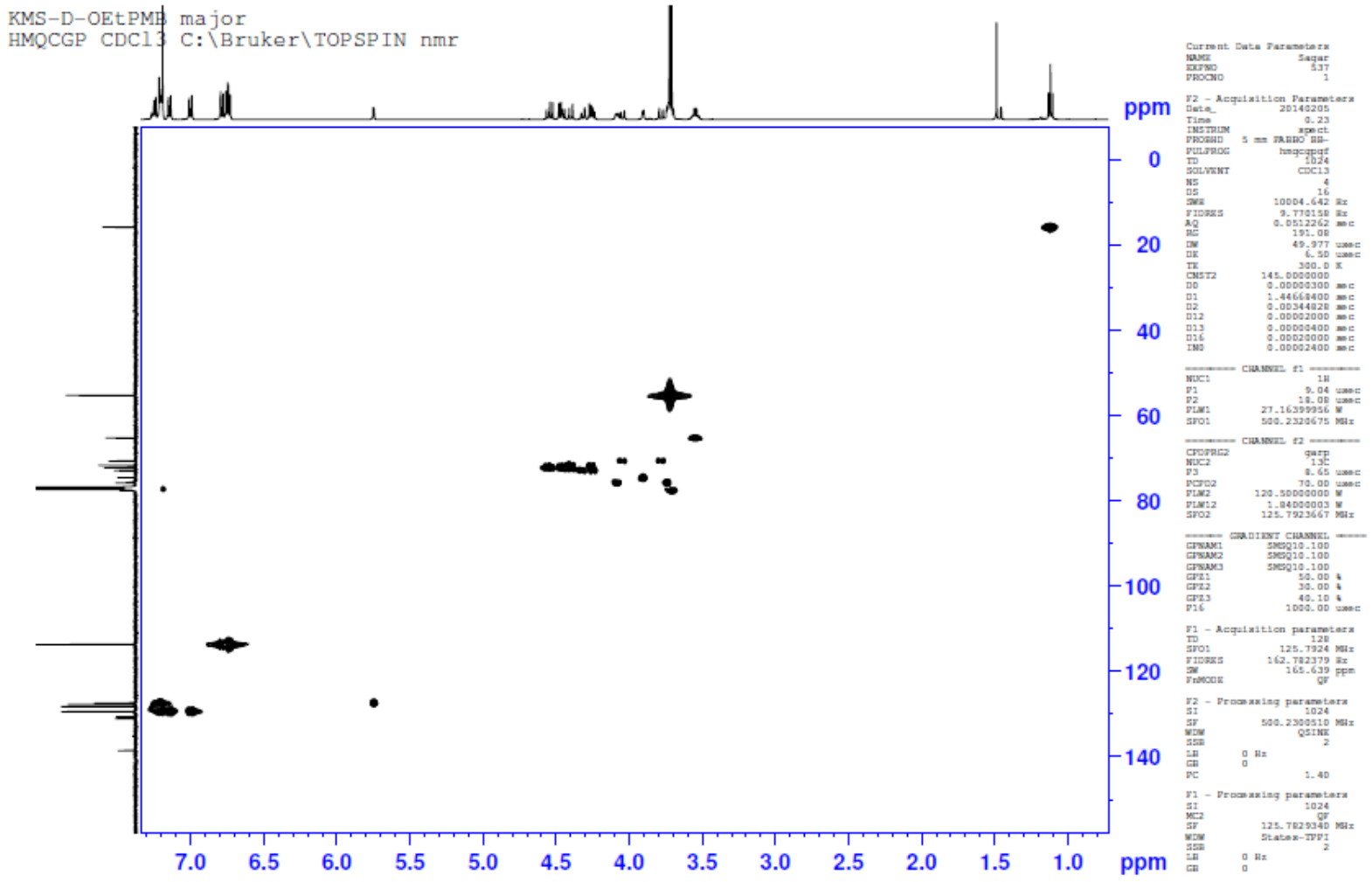
^{13}C NMR of compound **9** (zoom)

KMS-D-OEtPMB major
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr

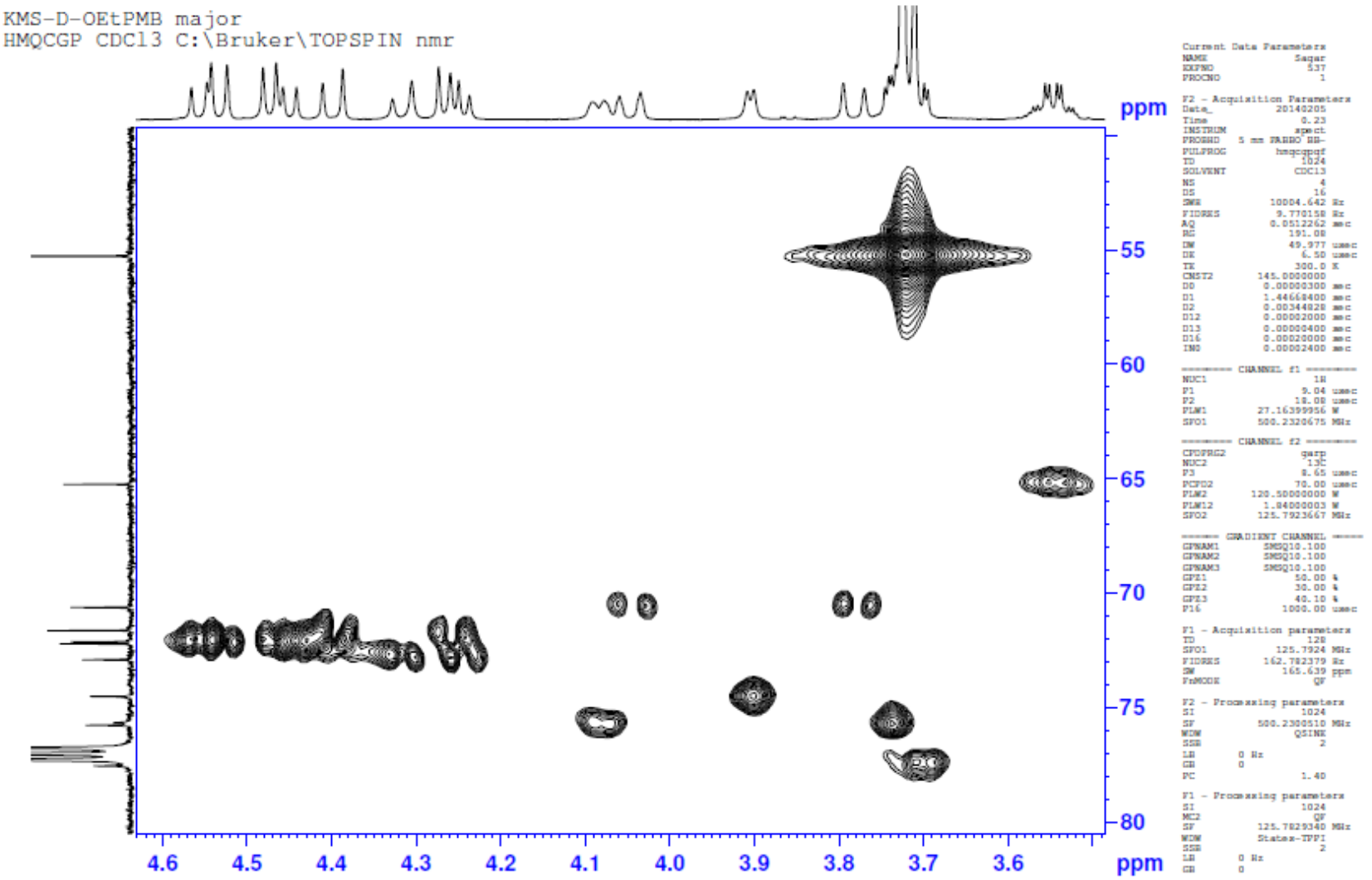



```
Current Data Parameters
NAME                  Sagar
EXPNO                   538
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140205
Time                   5.08
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    5120
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                 16.800 usec
DE                  6.50 usec
TE                  298.0 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                   8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2               80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

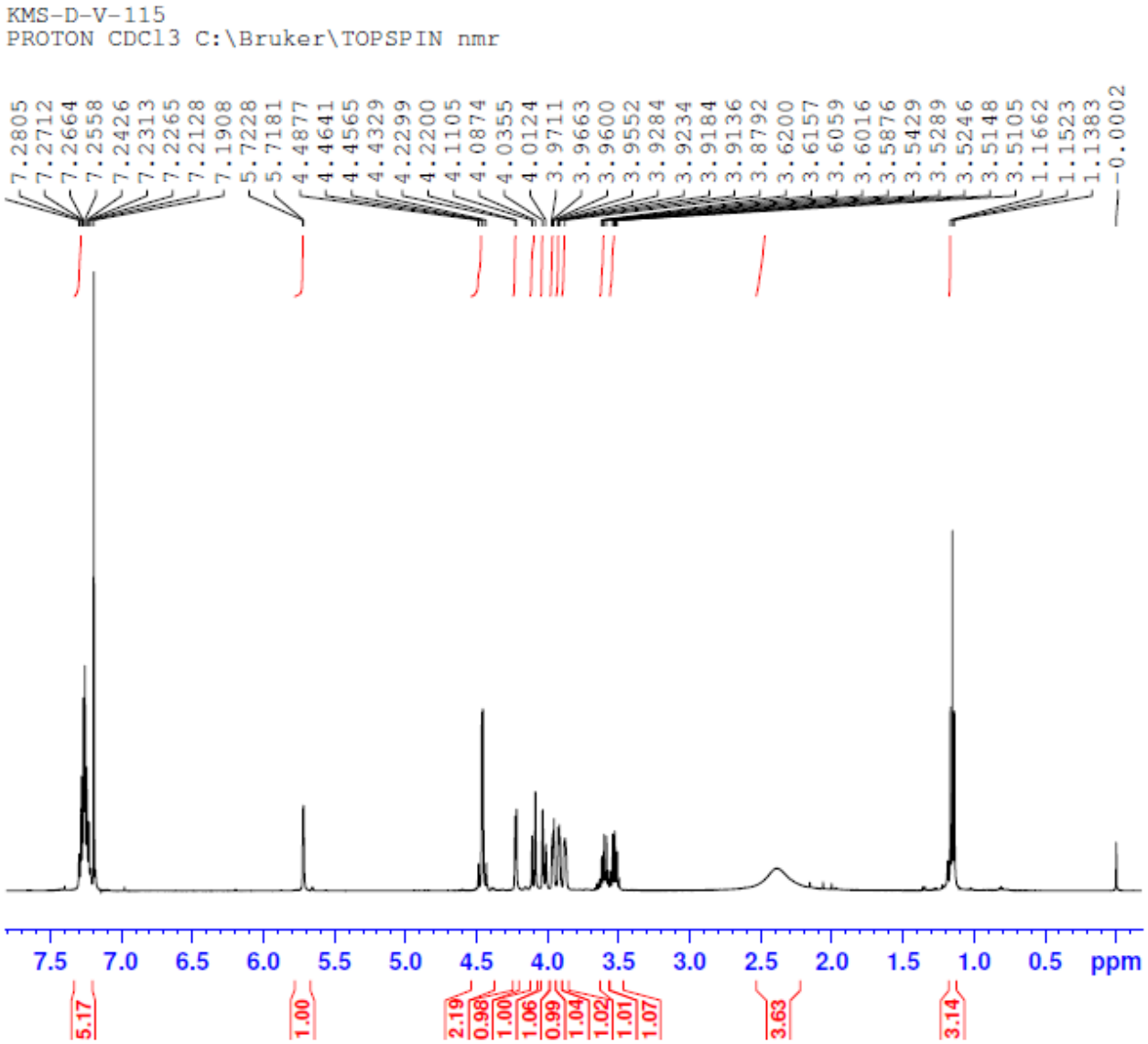
HMQC of compound **9**



HMQC of compound **9** (zoom)



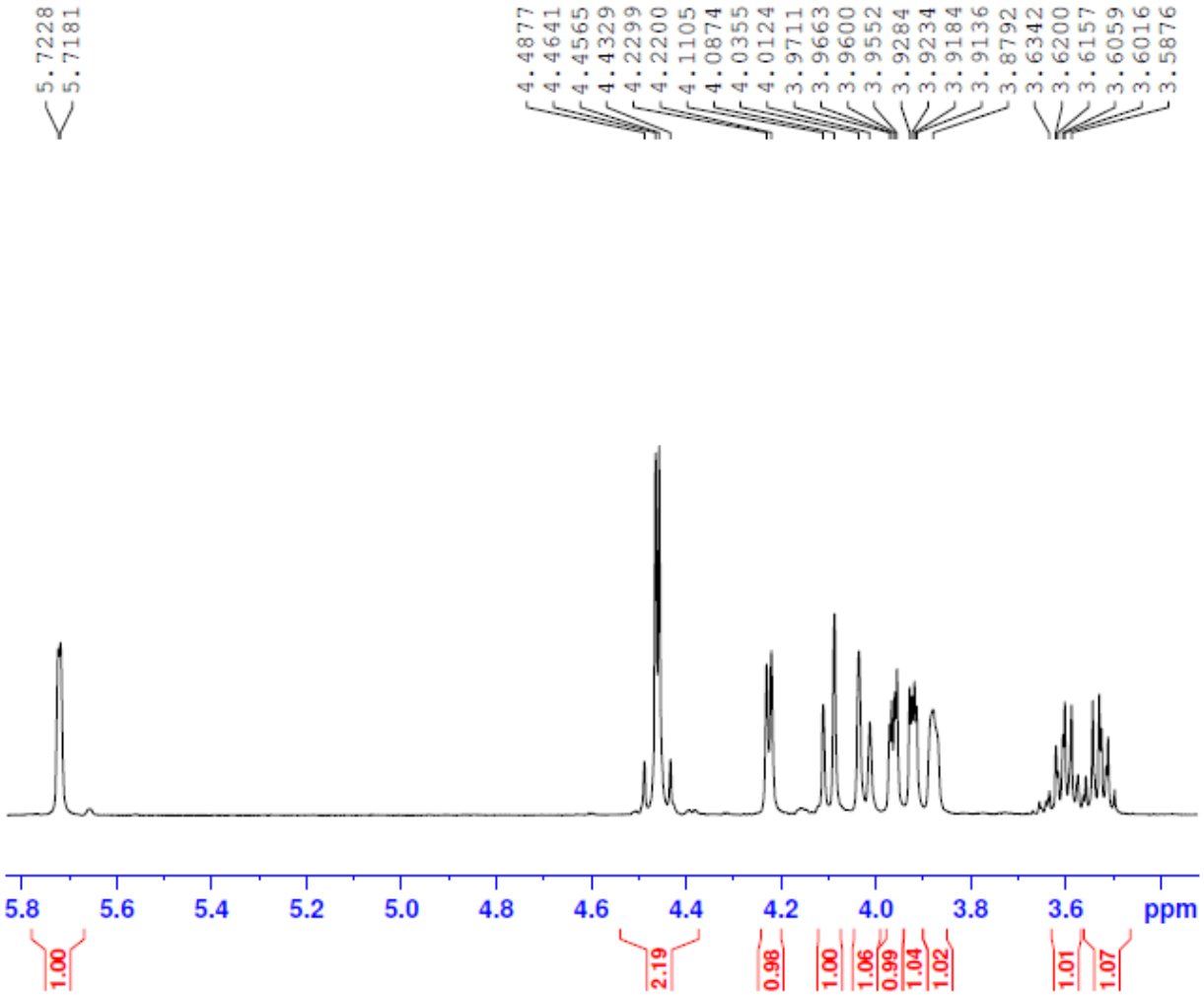
^{1}H NMR of compound **10**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   594
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140311
Time                  12.33
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   171.32
DW                  48.400 usec
DE                   6.50 usec
TE                   298.5 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                        65536
SF             500.2300502 MHz
WDW                       EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

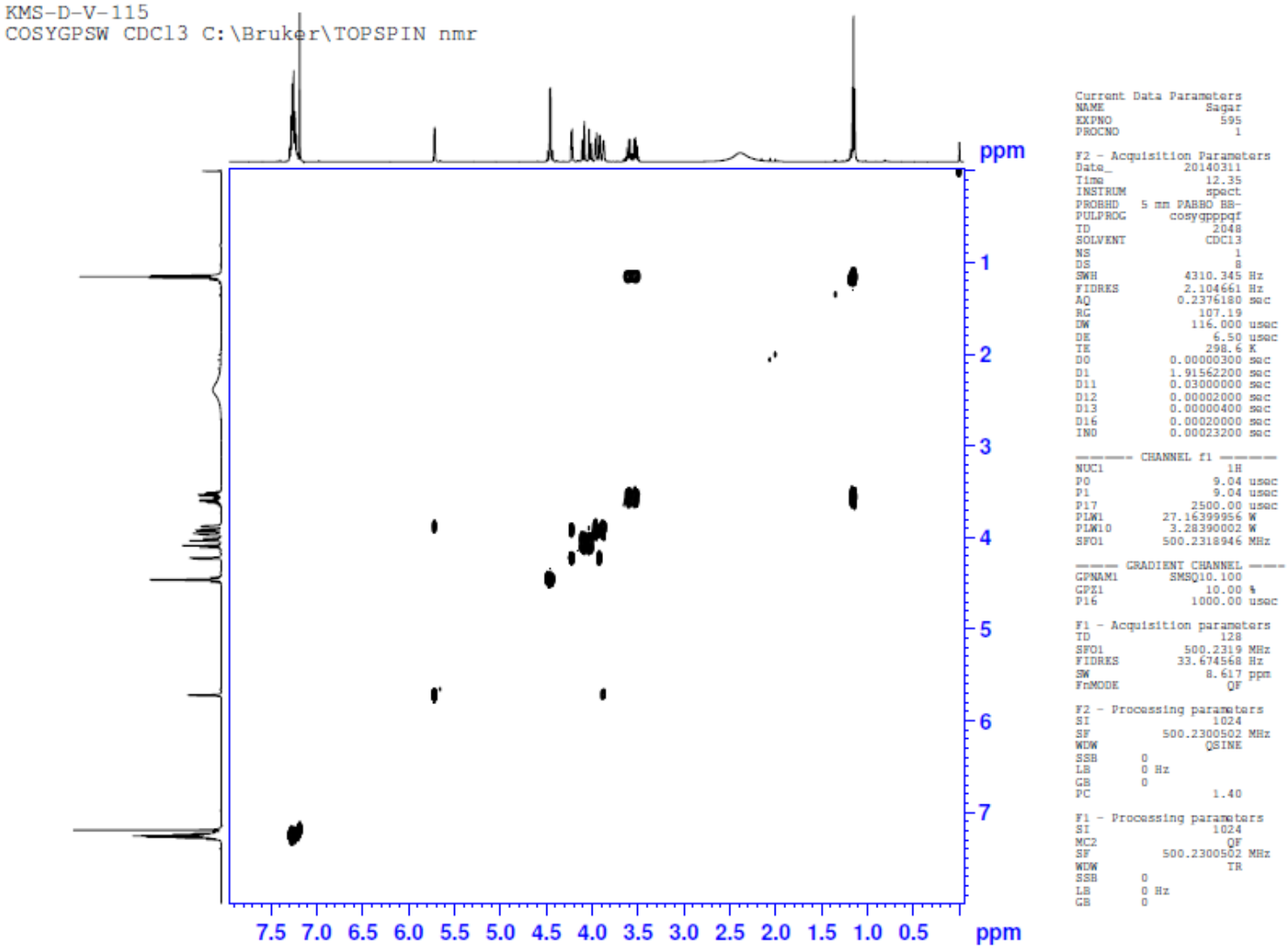
^{1}H NMR of compound **10** (zoom)

KMS-D-V-115
PROTON CDCl3 C:\Bruker\TOPSPIN nmr

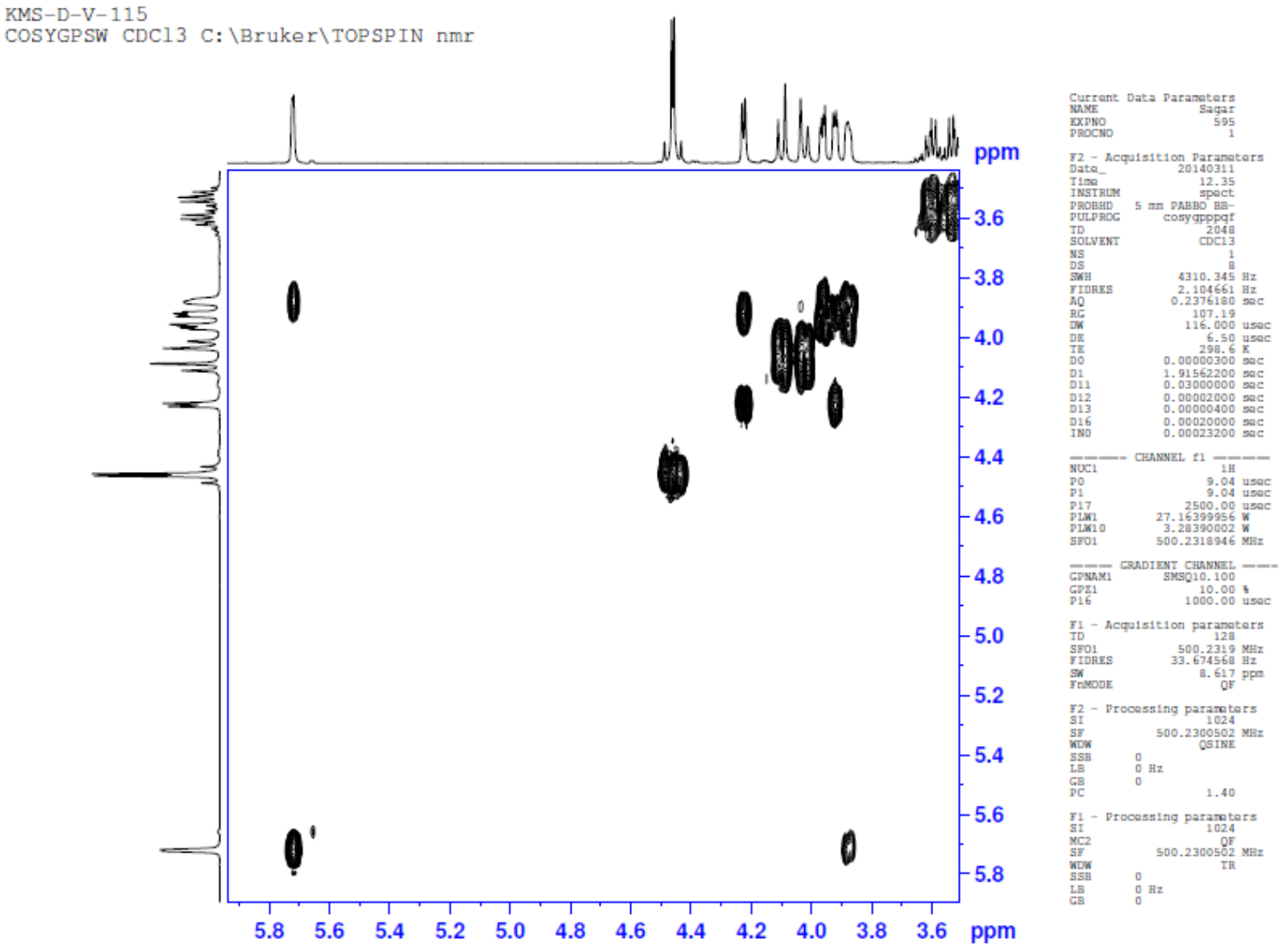



```
Current Data Parameters
NAME                  Sagar
EXPNO                   594
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140311
Time                  12.33
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                 3.1719923 sec
RG                    171.32
DW                    48.400 usec
DE                     6.50 usec
TE                    298.5 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300502 MHz
WDW                      EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

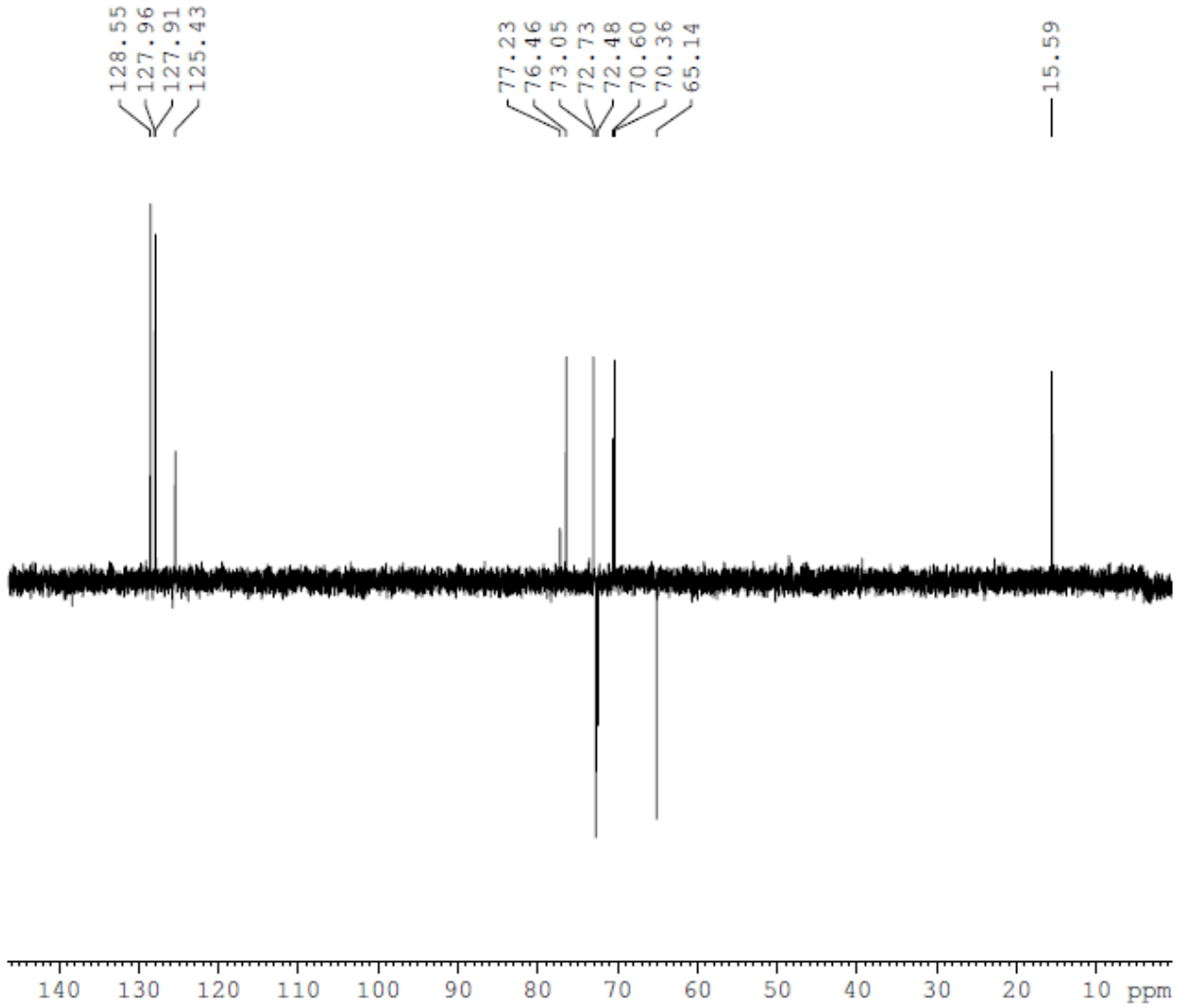
COSY of compound **10**



COSY of compound **10** (zoom)

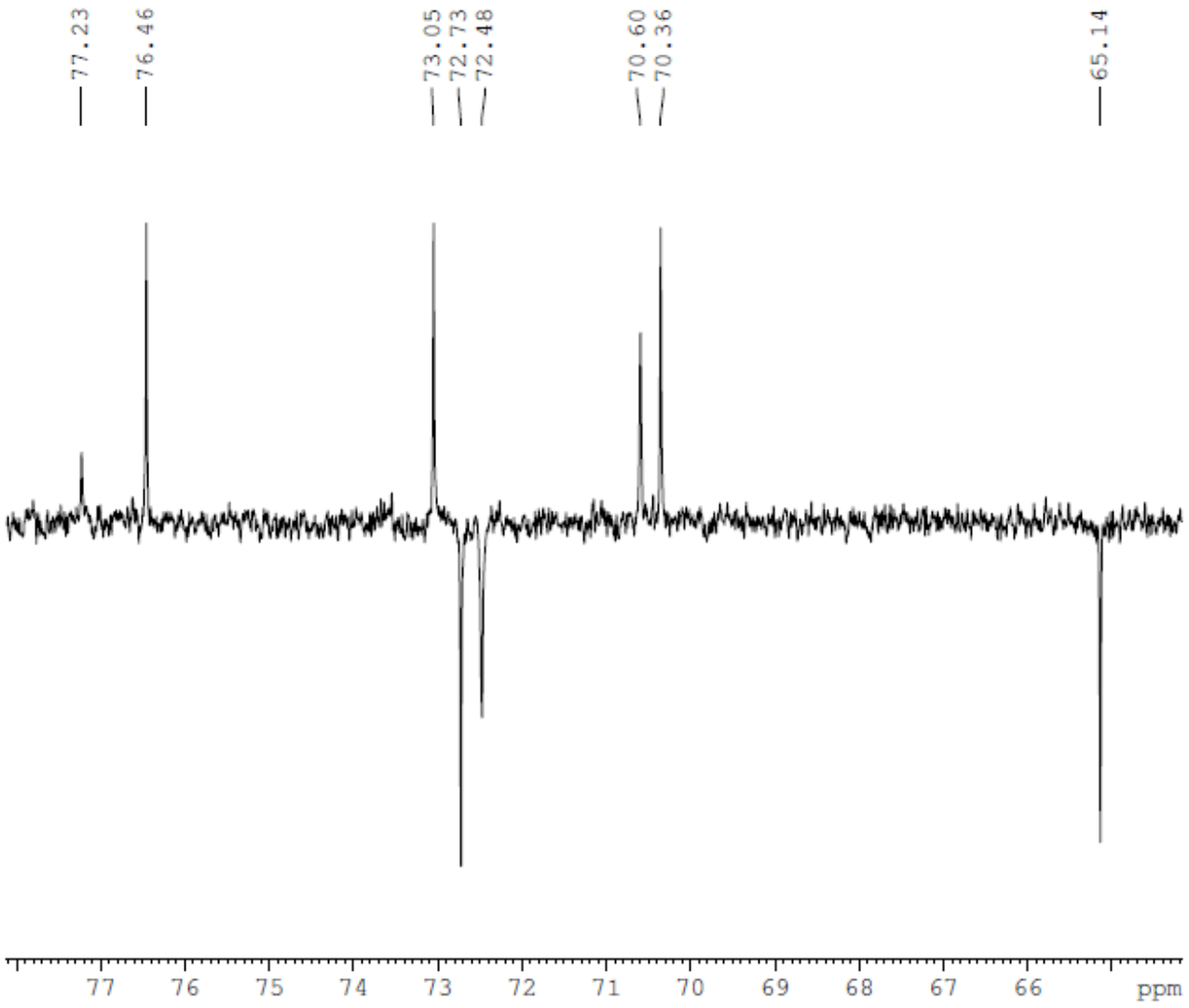


DEPT of compound **10**



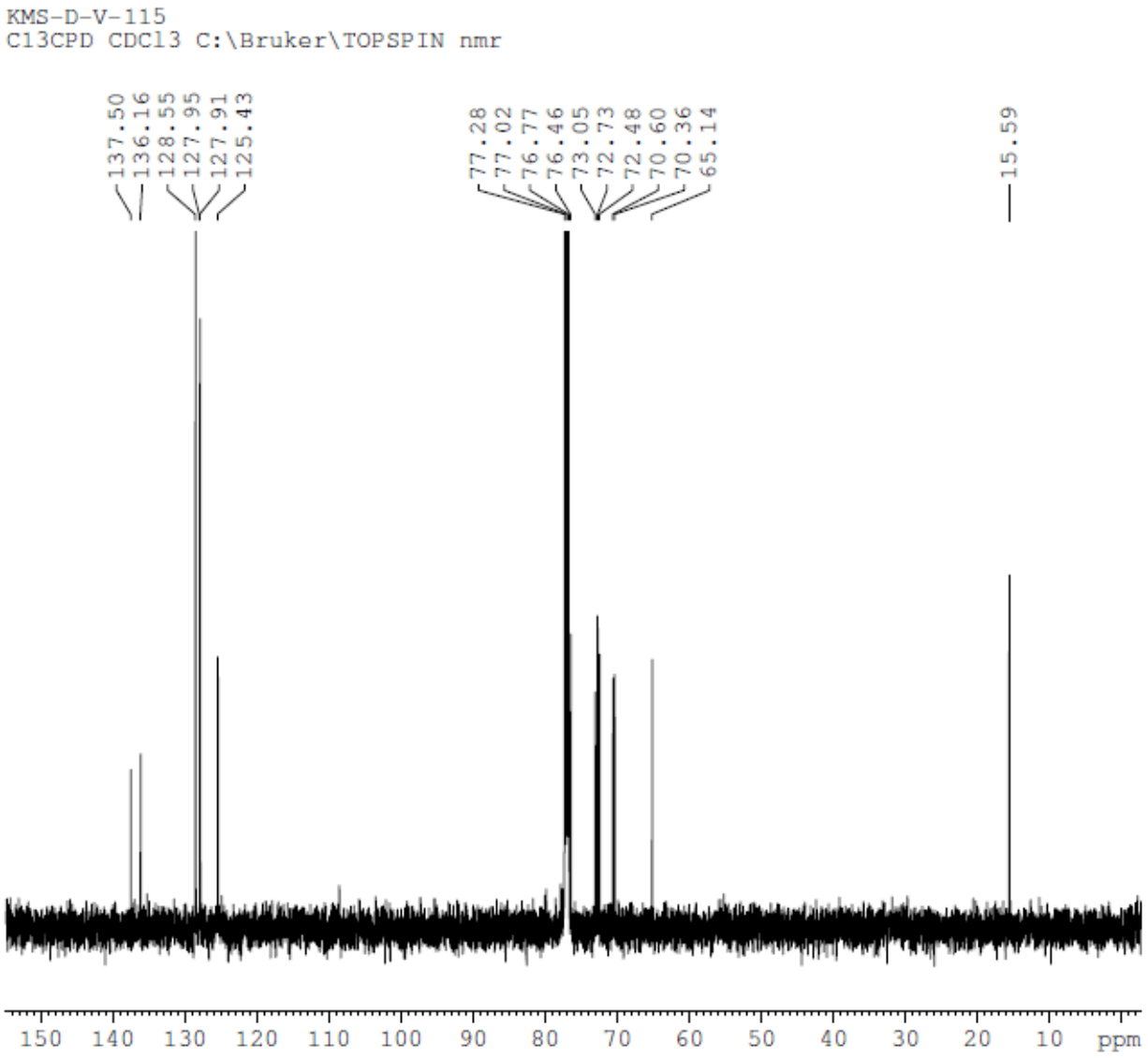

```
Current Data Parameters
NAME                 Sagar
EXPNO                  596
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140311
Time                 12.43
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.9 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0       0 W
PLW1         120.50000000 W
SFO1          125.7929956 MHz
SPNAM5        Crp60comp.4
SPOAL5              0.500
SPOFFS5    0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                   1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                    EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

DEPT of compound **10** (zoom)



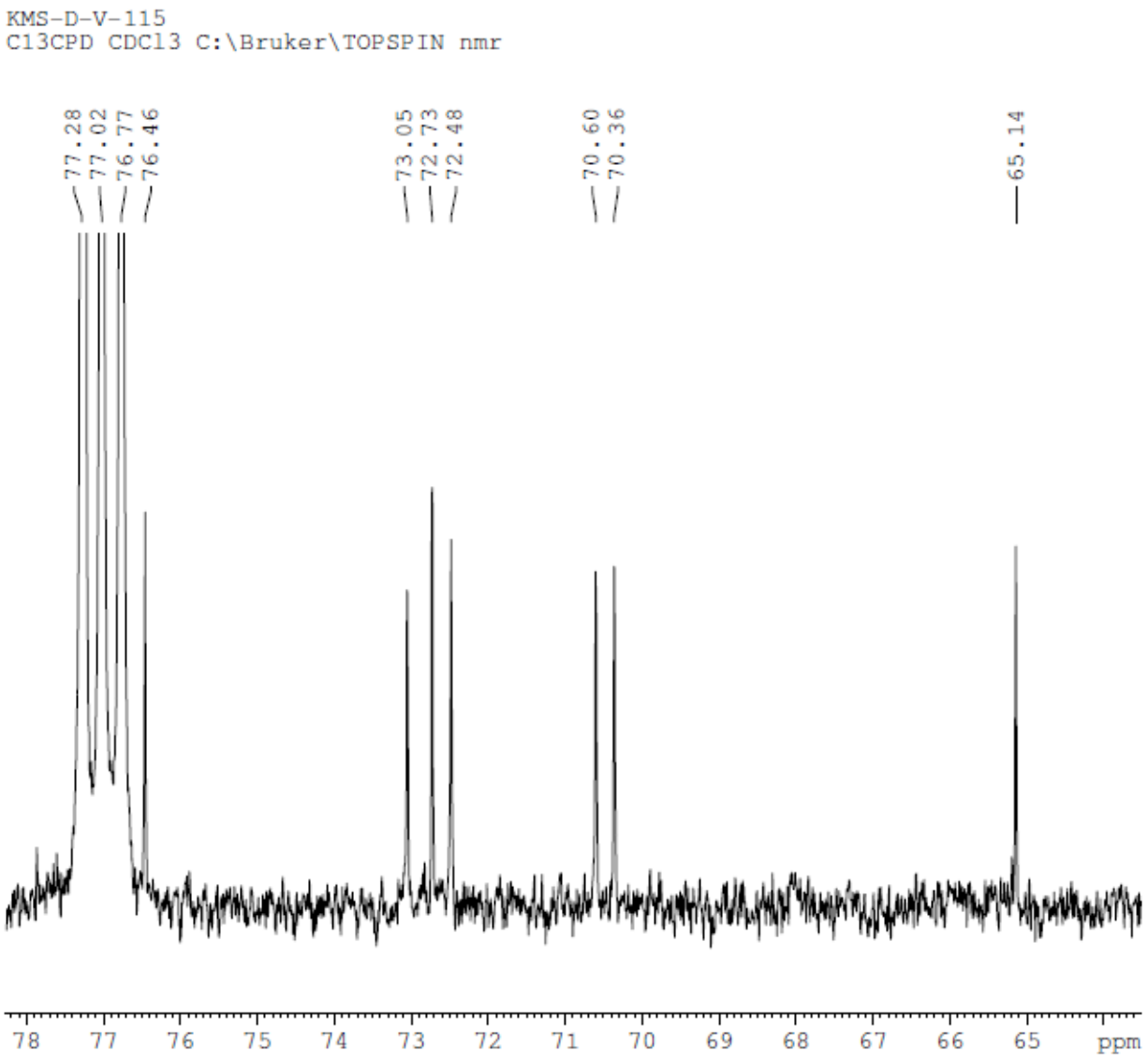

```
Current Data Parameters
NAME                  Sagar
EXPNO                   596
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140311
Time                  12.43
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH               20161.291 Hz
FIDRES            0.307637 Hz
AQ                1.6253428 sec
RG                   191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   298.9 K
CNST2            145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5        Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

^{13}C NMR of compound **10**



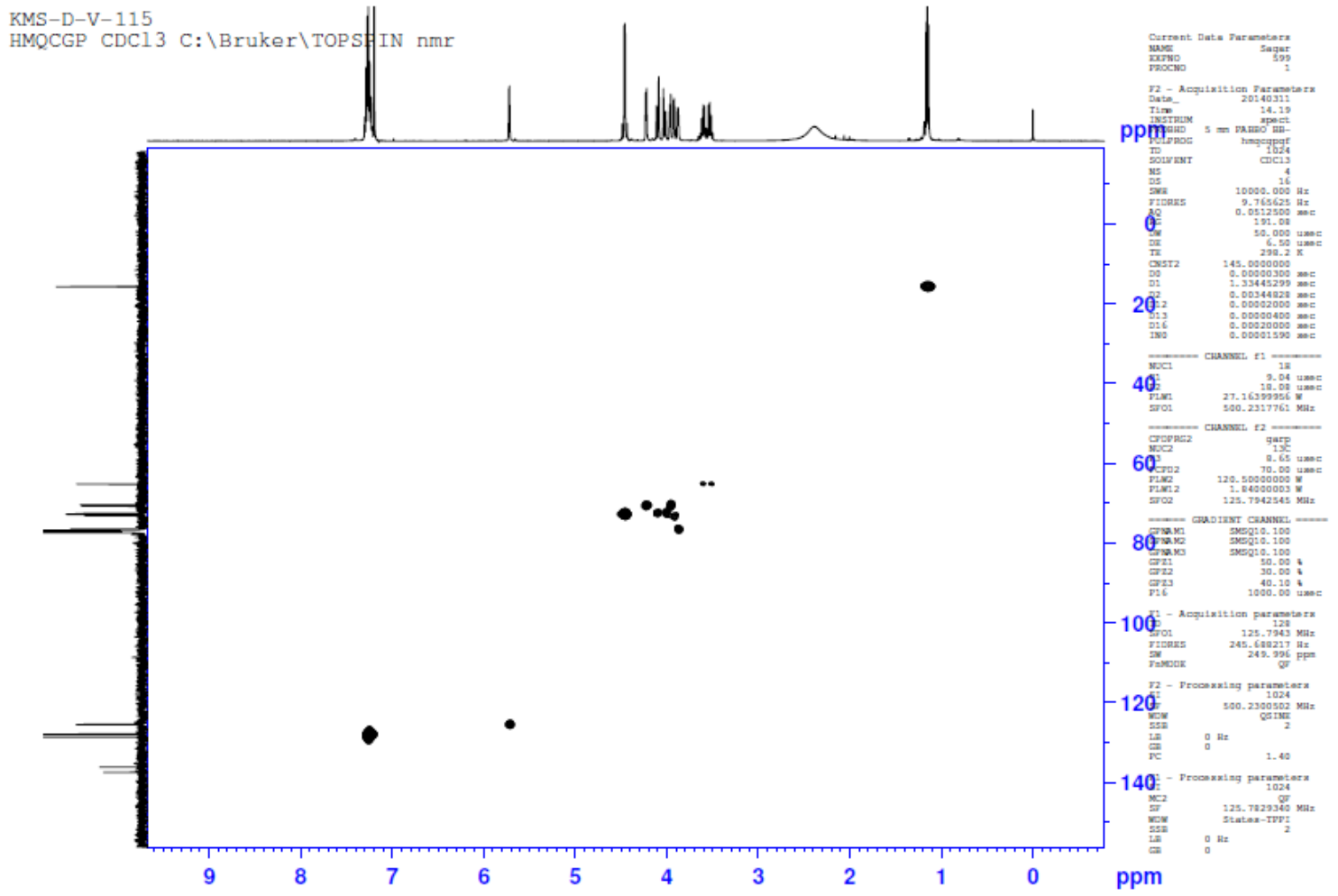

```
Current Data Parameters
NAME                  Sagar
EXPNO                   598
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140311
Time                  13.52
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010548 sec
RG                  191.08
DW                16.800 usec
DE                 6.50 usec
TE                 298.5 K
D1             2.00000000 sec
D11            0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                  8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                   1H
PCPD2               80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2         500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF           125.7829340 MHz
WDW                      EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

^{13}C NMR of compound **10** (zoom)

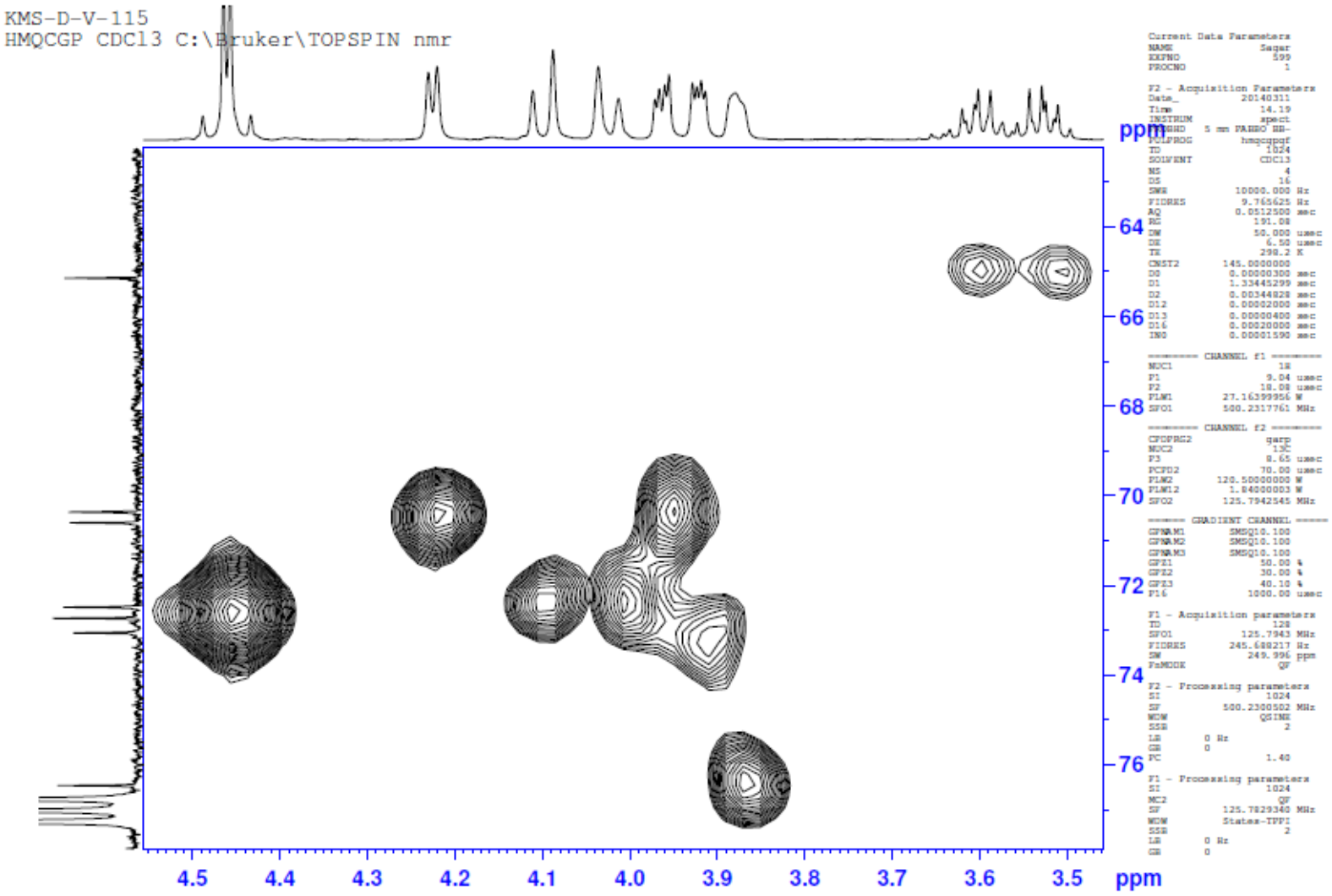



```
Current Data Parameters
NAME                  Sagar
EXPNO                   598
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140311
Time                 13.52
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG            zgpg30
TD                  65536
SOLVENT             CDCl3
NS                   1024
DS                      4
SWH             29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010548 sec
RG                 191.08
DW                 16.800 usec
DE                  6.50 usec
TE                 298.5 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                   8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                  1H
PCPD2               80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                   32768
SF            125.7829340 MHz
WDW                    EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

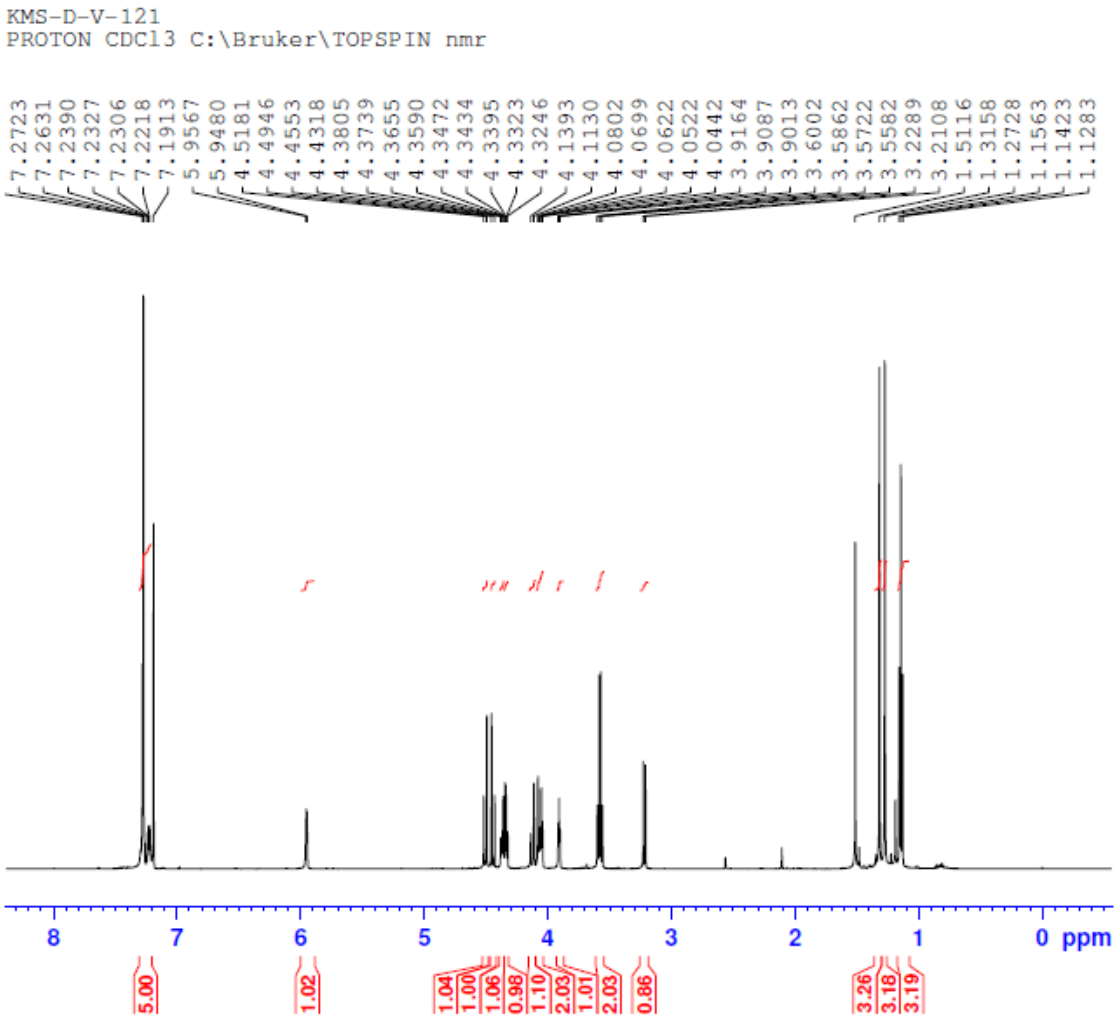
HMQC of compound **10**



HMQC of compound **10** (zoom)

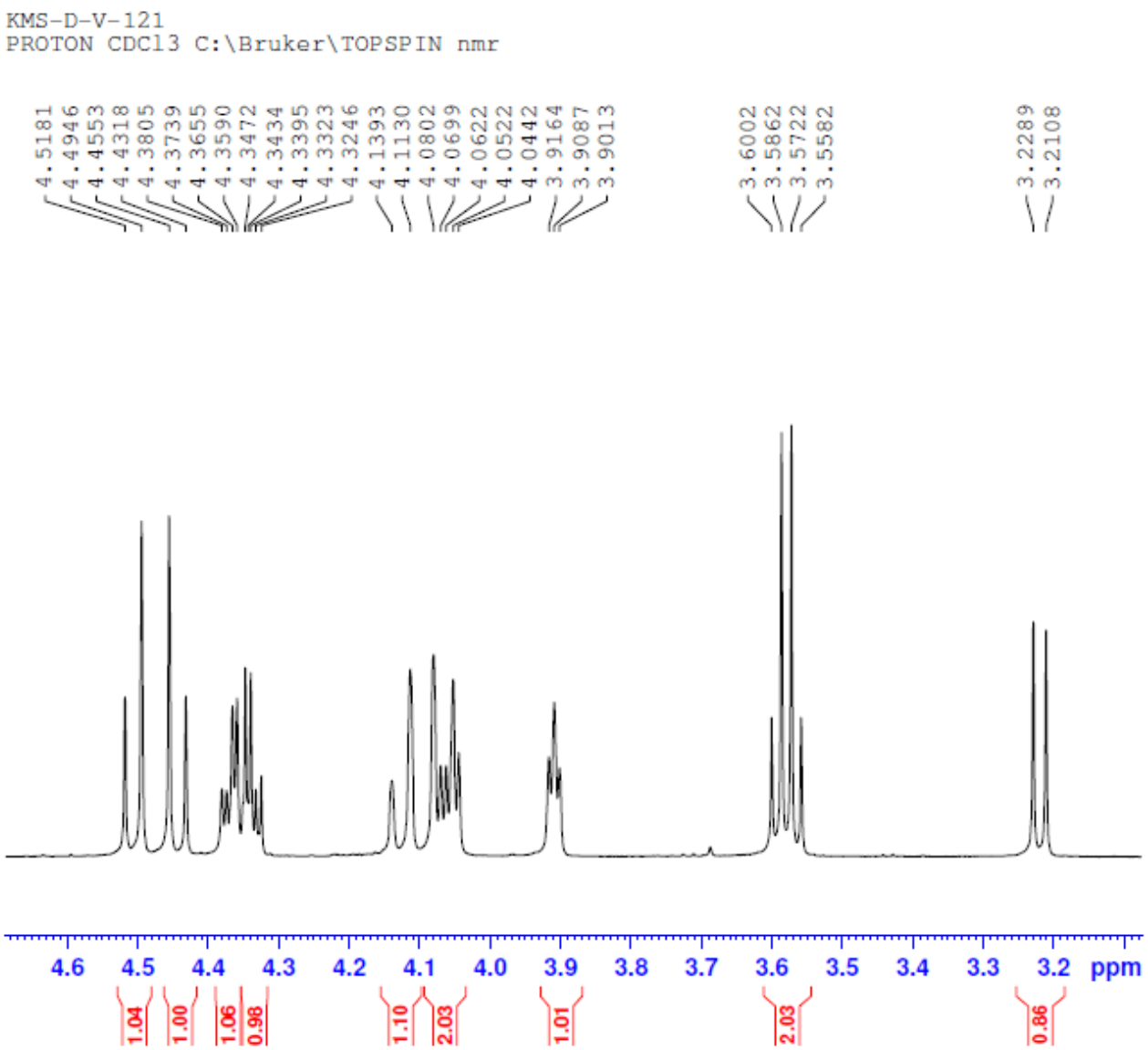


[1]HMR of compound **11**



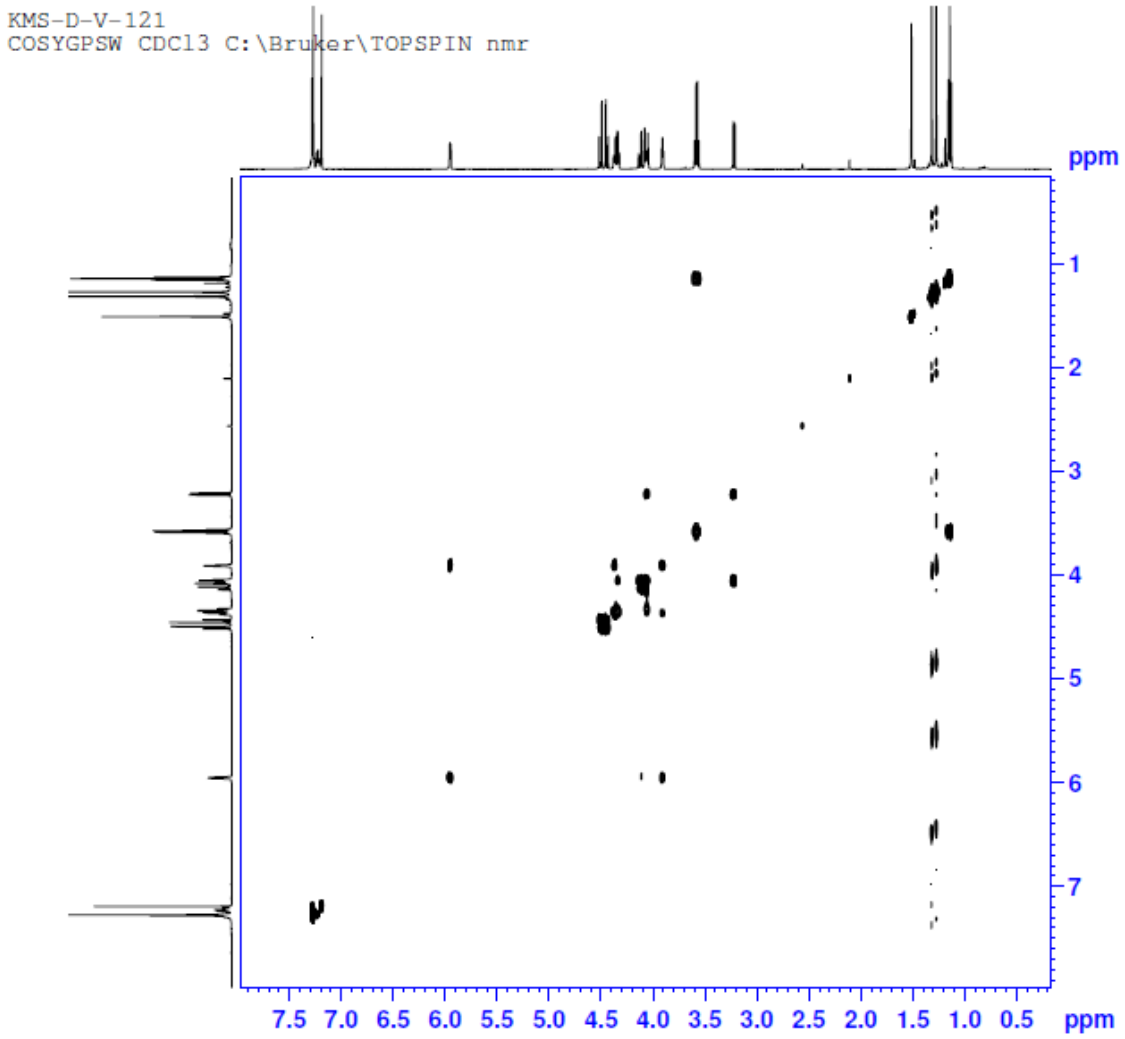

```
Current Data Parameters
NAME                  Sagar
EXPNO                   610
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                 14.02
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10330.578 Hz
FIDRES           0.157632 Hz
AQ               3.1719923 sec
RG                  153.65
DW                48.400 usec
DE                 6.50 usec
TE                 298.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                    1H
P1                   9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                   65536
SF            500.2300507 MHz
WDW                     EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```

[1]HMR of compound **11** (zoom)



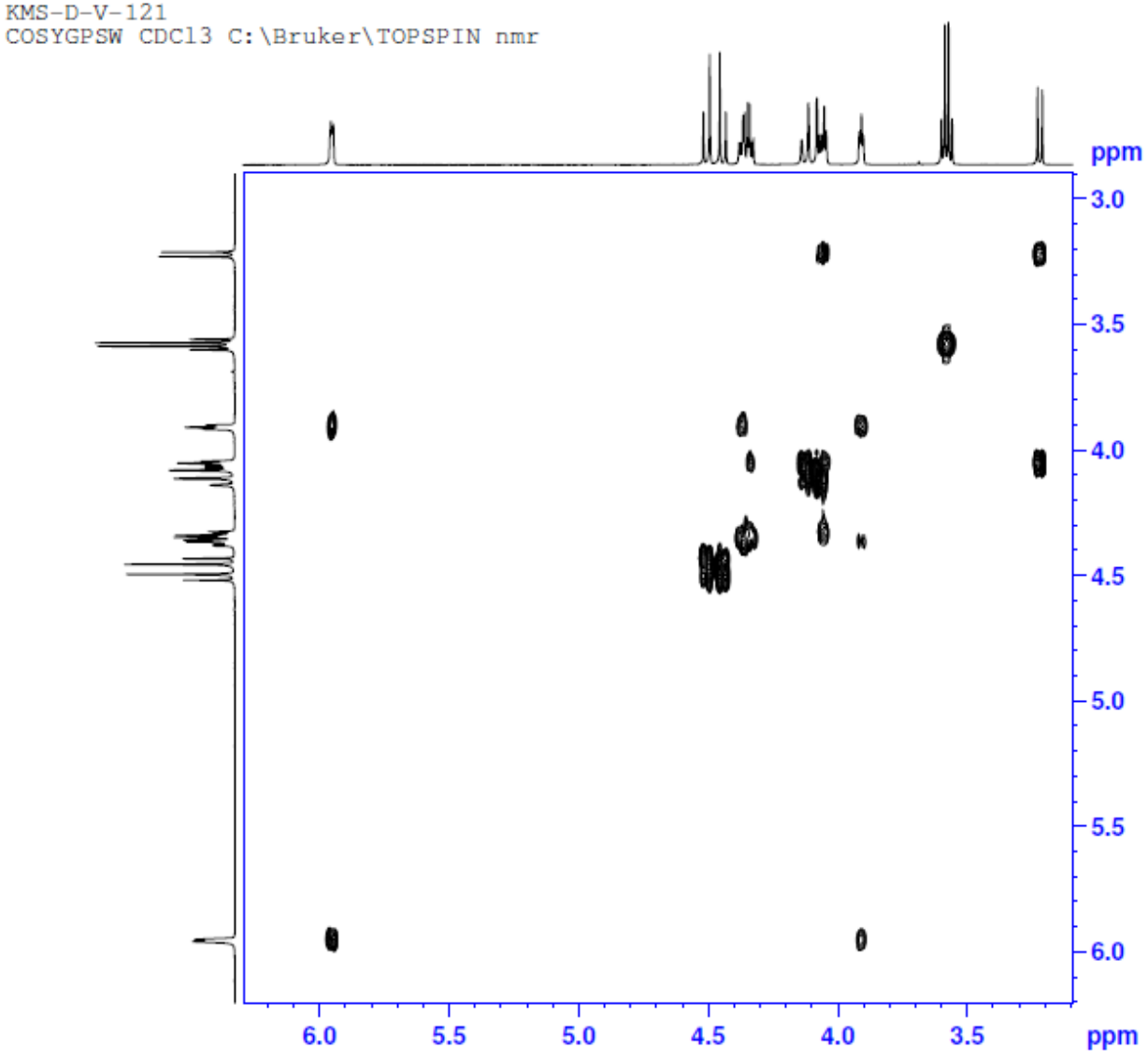

```
Current Data Parameters
NAME                  Sagar
EXPNO                   610
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  14.02
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDC13
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ               3.1719923 sec
RG                   153.65
DW                   48.400 usec
DE                    6.50 usec
TE                   298.0 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300507 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **11**



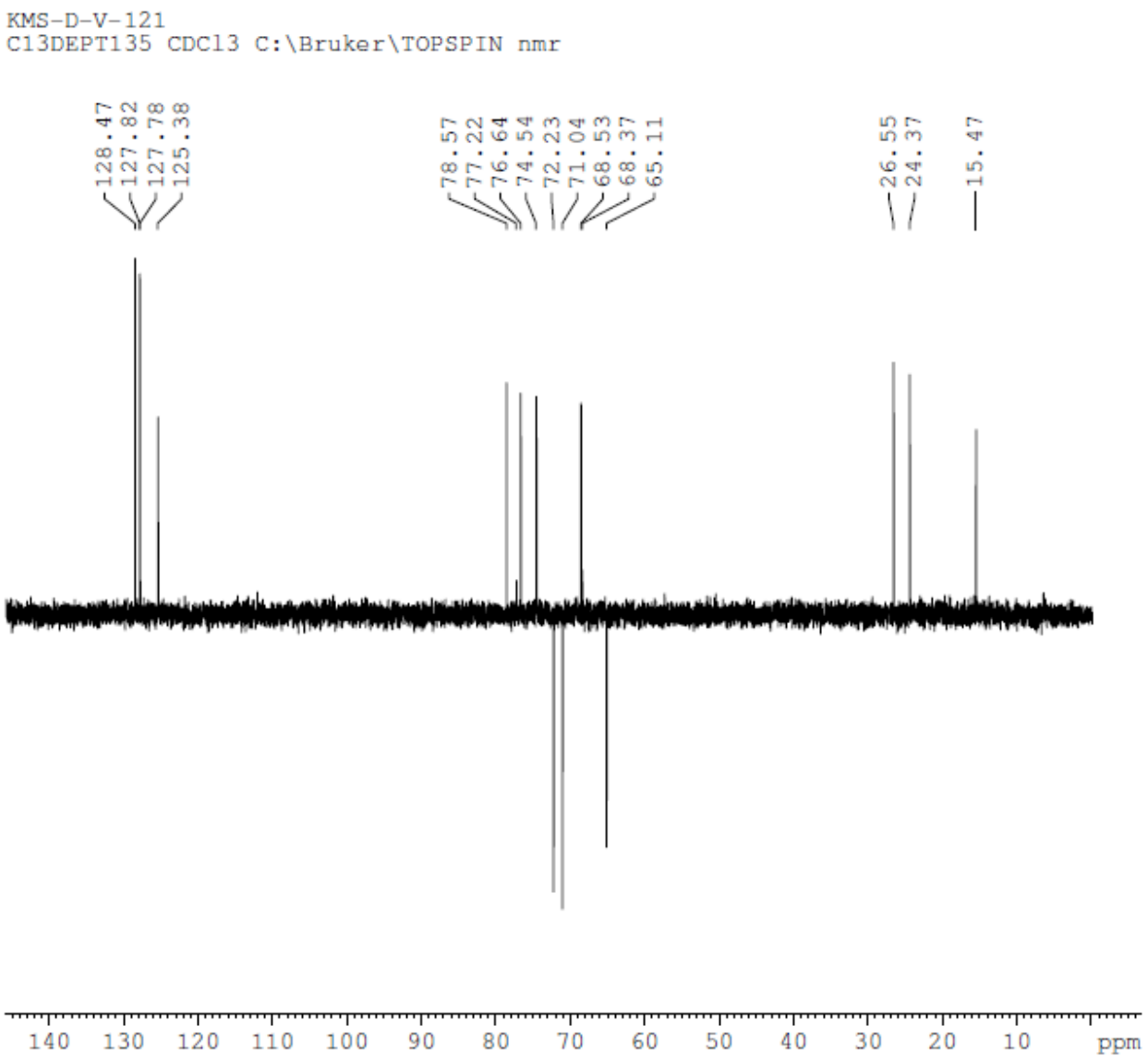

```
Current Data Parameters
NAME                  Sagar
EXPNO                   612
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  14.19
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH               10004.642 Hz
FIDRES             9.770158 Hz
AQ                 0.0512262 sec
RG                     95.46
DW                    49.977 usec
DE                     6.50 usec
TE                    300.0 K
D0                 0.00000300 sec
D1                 1.89104605 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00025600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1              500.2320876 MHz

====== GRADIENT CHANNEL =====
GPNAM1            SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1              500.2321 MHz
FIDRES            30.517578 Hz
SW                     7.809 ppm
FnMODE                    QF

F2 - Processing parameters
SI                        1024
SF              500.2300507 MHz
WDW                    QSINE
SSB           0
LB            0 Hz
GB            0
PC                     1.40

F1 - Processing parameters
SI                        1024
MC2                       QF
SF              500.2300507 MHz
WDW            States-TPPI
SSB           0
LB            0 Hz
GB            0
```

COSY of compound **11** (zoom)



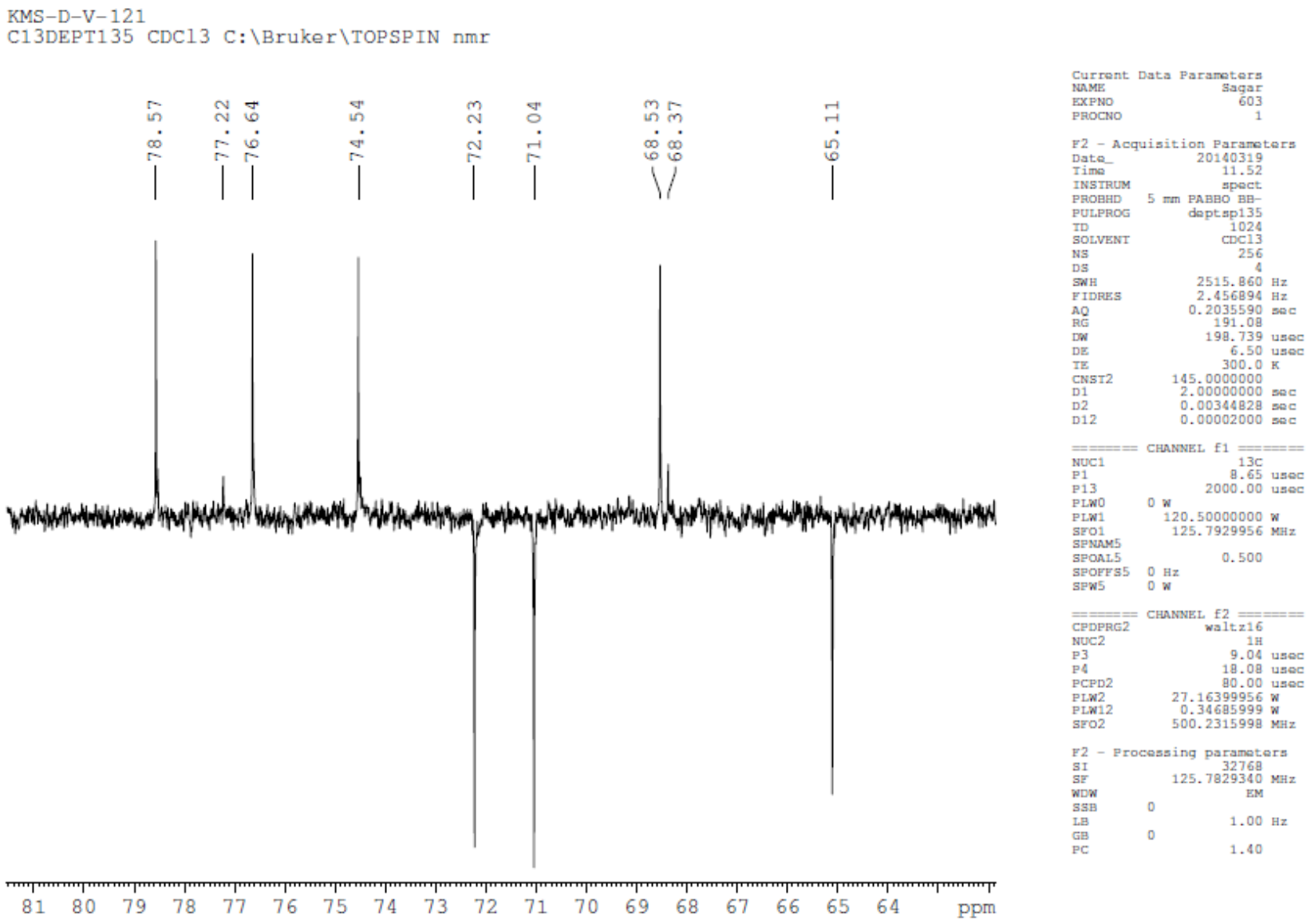

```
Current Data Parameters
NAME                  Sagar
EXPNO                   612
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  14.19
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      1024
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH               10004.642 Hz
FIDRES             9.770158 Hz
AQ                 0.0512262 sec
RG                     95.46
DW                    49.977 usec
DE                     6.50 usec
TE                    300.0 K
D0                 0.00000300 sec
D1                 1.89104605 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00025600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2320876 MHz

====== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2321 MHz
FIDRES           30.517578 Hz
SW                    7.809 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF               500.2300507 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF               500.2300507 MHz
WDW            States-TPPI
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **11**



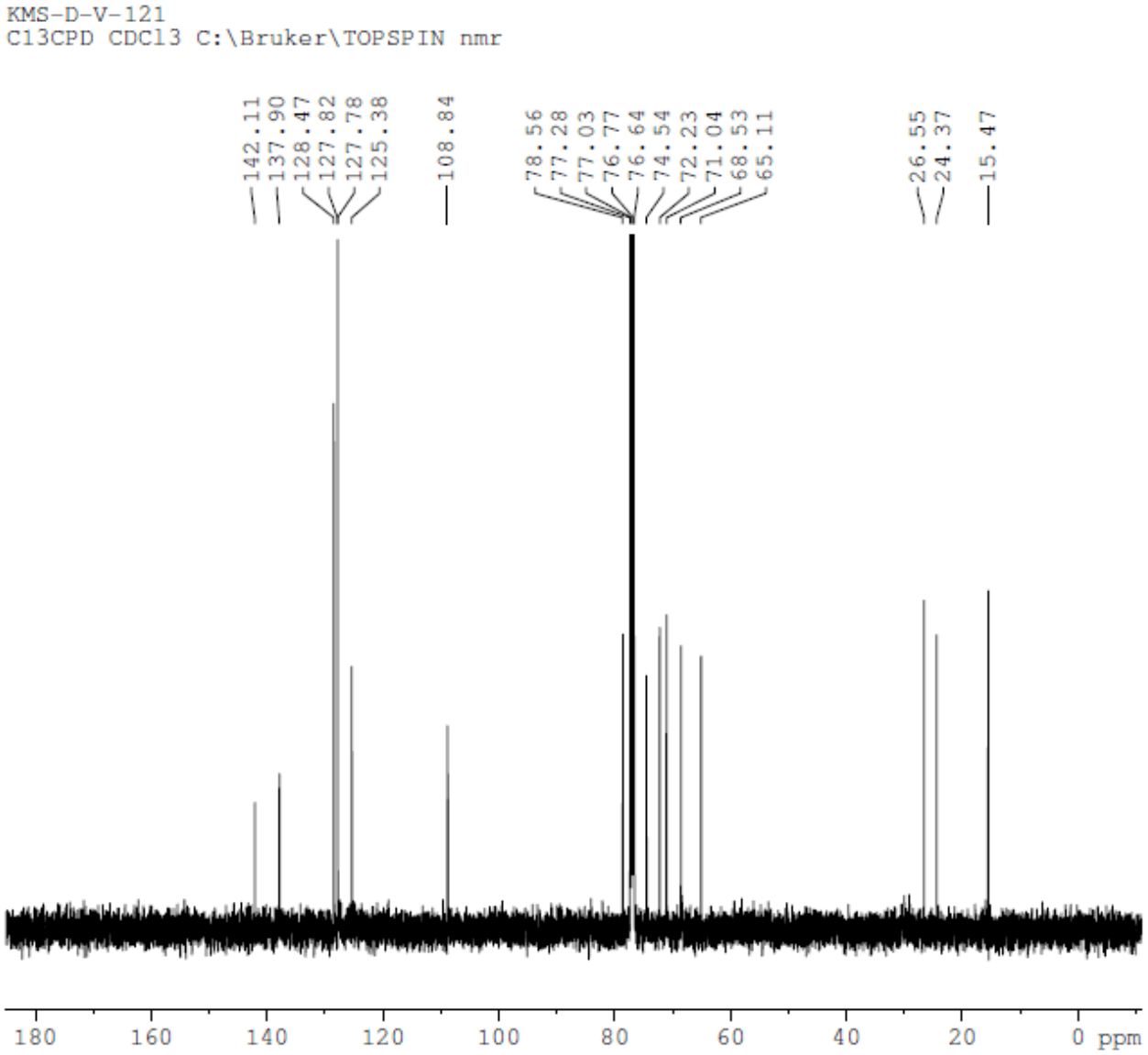

```
Current Data Parameters
NAME                  Sagar
EXPNO                   603
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  11.52
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG           deptsp135
TD                     1024
SOLVENT                CDCl3
NS                       256
DS                         4
SWH                 2515.860 Hz
FIDRES              2.456894 Hz
AQ                  0.2035590 sec
RG                     191.08
DW                    198.739 usec
DE                       6.50 usec
TE                      300.0 K
CNST2              145.0000000
D1                   2.00000000 sec
D2                   0.00344828 sec
D12                  0.00002000 sec

======== CHANNEL f1 ========
NUC1                      13C
P1                       8.65 usec
P13                   2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5
SPOAL5                  0.500
SPOFFS5     0 Hz
SPW5        0 W

======== CHANNEL f2 ========
CPDPRG2               waltz16
NUC2                      1H
P3                       9.04 usec
P4                      18.08 usec
PCPD2                   80.00 usec
PLW2             27.16399956 W
PLW12             0.34685999 W
SFO2            500.2315998 MHz

F2 - Processing parameters
SI                        32768
SF                 125.7829340 MHz
WDW                          EM
SSB         0
LB                       1.00 Hz
GB          0
PC                       1.40
```

DEPT of compound **11** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   603
PROCNO                    1

F2 - Acquisition Parameters
Data_               20140319
Time                   11.52
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                      1024
SOLVENT                CDCl3
NS                       256
DS                         4
SWH                 2515.860 Hz
FIDRES              2.456894 Hz
AQ                  0.2035590 sec
RG                     191.08
DW                    198.739 usec
DE                       6.50 usec
TE                      300.0 K
CNST2              145.0000000
D1                   2.00000000 sec
D2                   0.00344828 sec
D12                  0.00002000 sec

======== CHANNEL f1 ========
NUC1                      13C
P1                       8.65 usec
P13                   2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5
SPOAL5                  0.500
SPOFFS5     0 Hz
SPW5        0 W

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                      1H
P3                       9.04 usec
P4                      18.08 usec
PCPD2                   80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                       32768
SF             125.7829340 MHz
WDW                         EM
SSB         0
LB                       1.00 Hz
GB          0
PC                       1.40
```

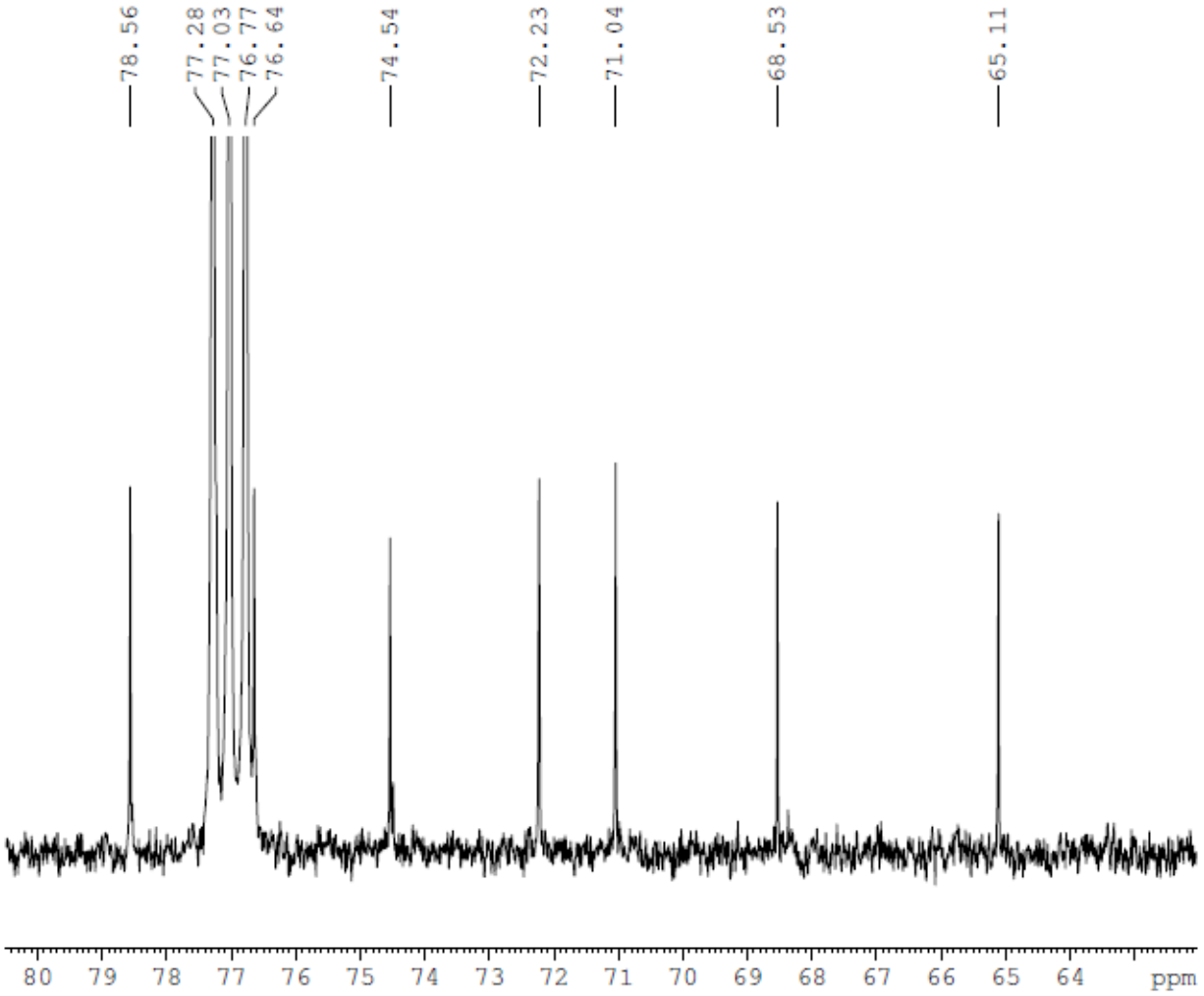
^{13}C NMR of compound **11**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   609
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  13.28
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                     588
DS                       4
SWH              29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010548 sec
RG                    191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   298.2 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF             125.7829340 MHz
WDW                       EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

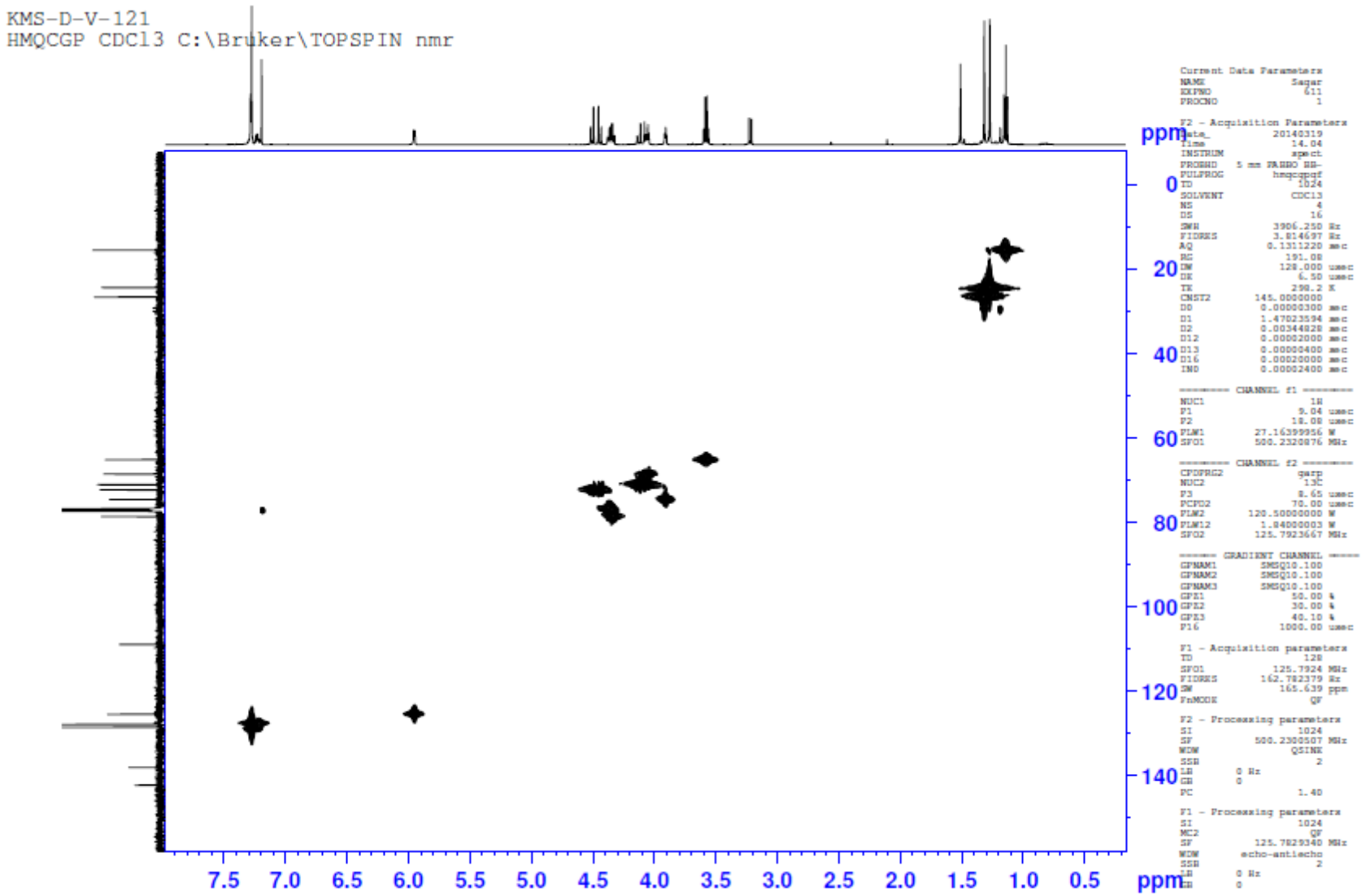
^{13}C NMR of compound **11** (zoom)

KMS-D-V-121
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr

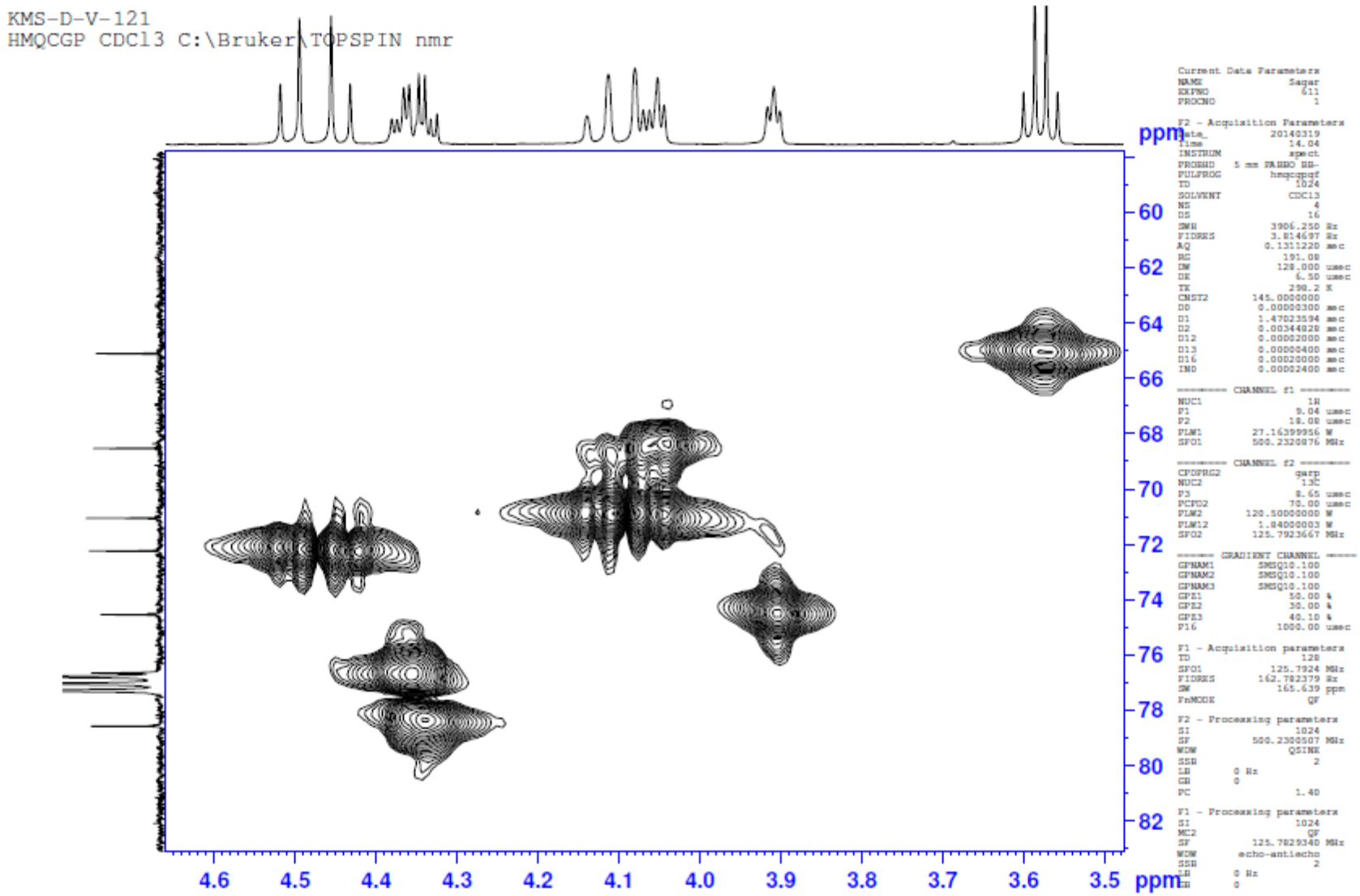



```
Current Data Parameters
NAME                  Sagar
EXPNO                   609
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140319
Time                  13.28
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                     588
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010548 sec
RG                  191.08
DW                16.800 usec
DE                 6.50 usec
TE                  298.2 K
D1             2.00000000 sec
D11            0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                  8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2              80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                  1.00 Hz
GB        0
PC                    1.40
```

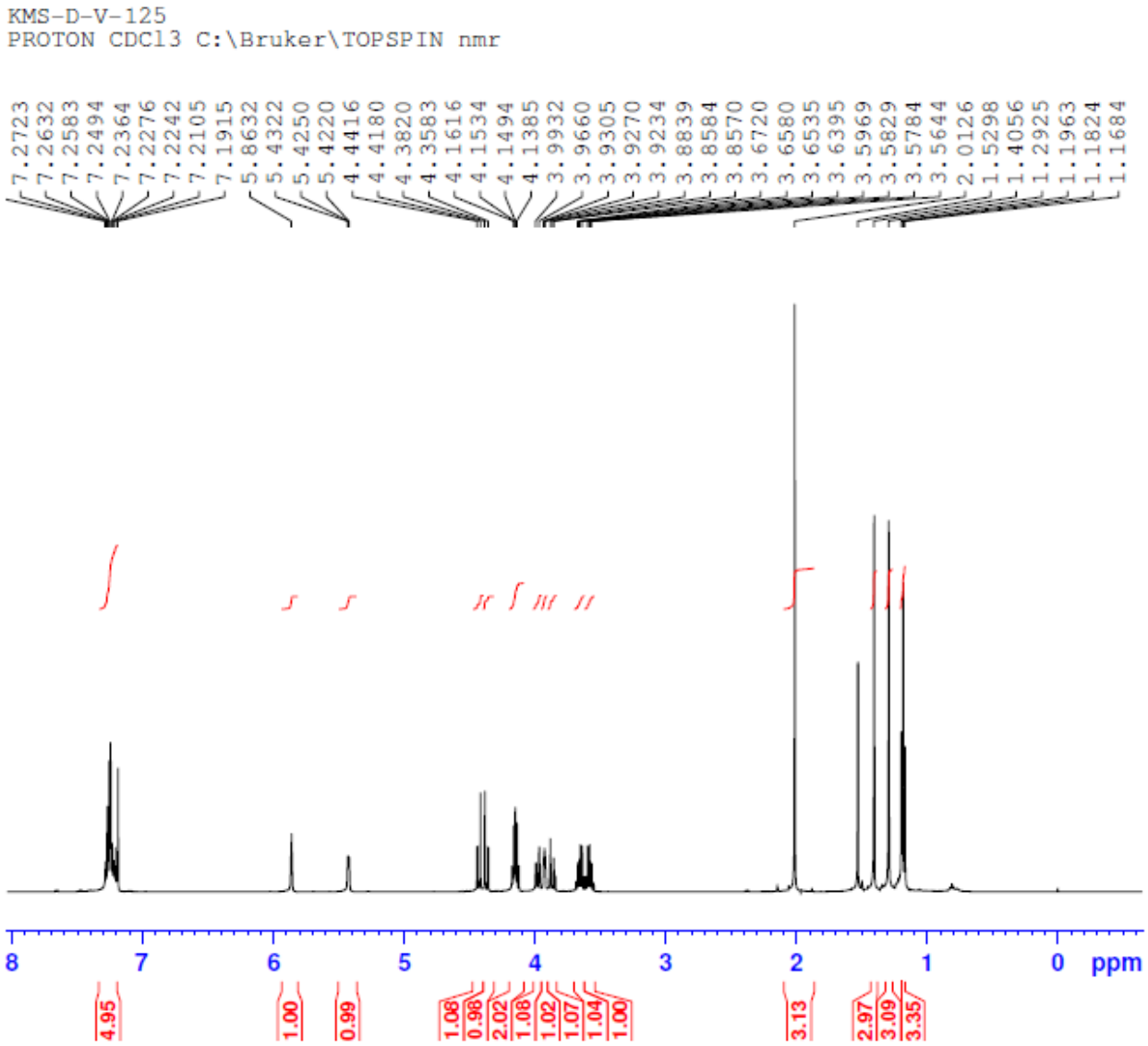
HMQC of compound **11**



HMQC of compound **11** (zoom)



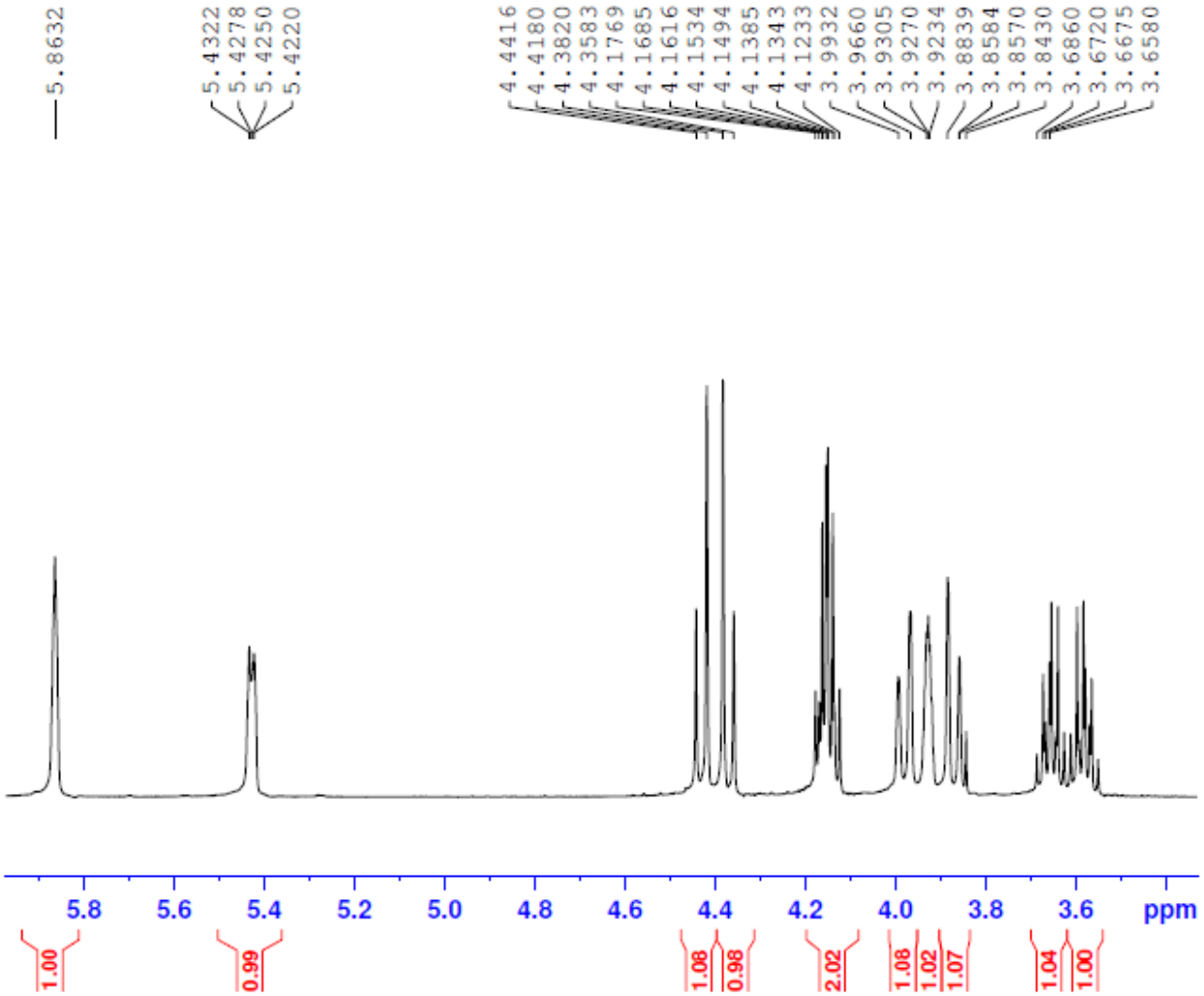
^{1}H NMR of compound **12**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   614
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140324
Time                  21.58
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ                3.1719923 sec
RG                   125.62
DW                   48.400 usec
DE                    6.50 usec
TE                   298.2 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300502 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

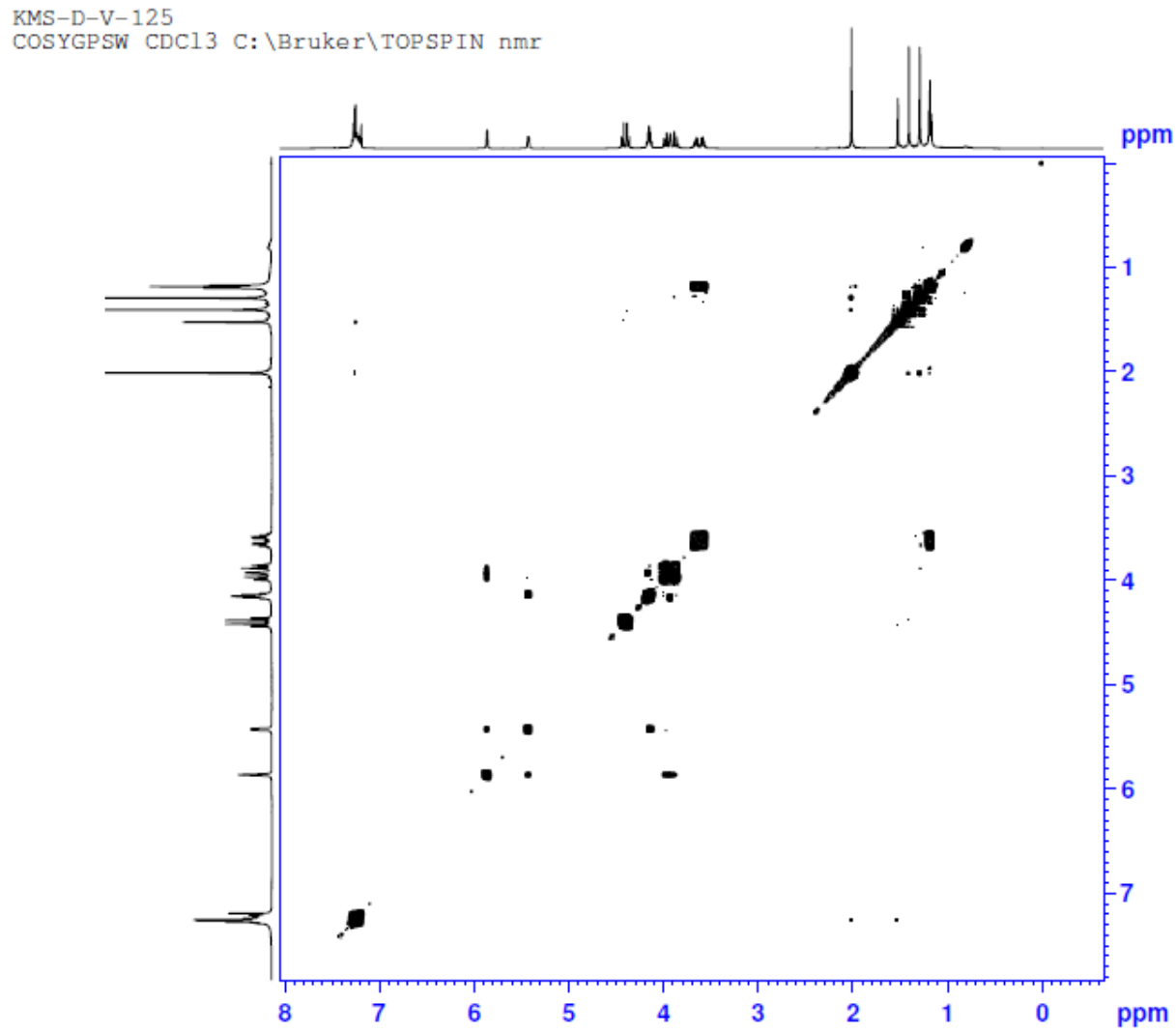
^{1}H NMR of compound **12** (zoom)

KMS-D-V-125
PROTON CDCl3 C:\Bruker\TOPSPIN nmr



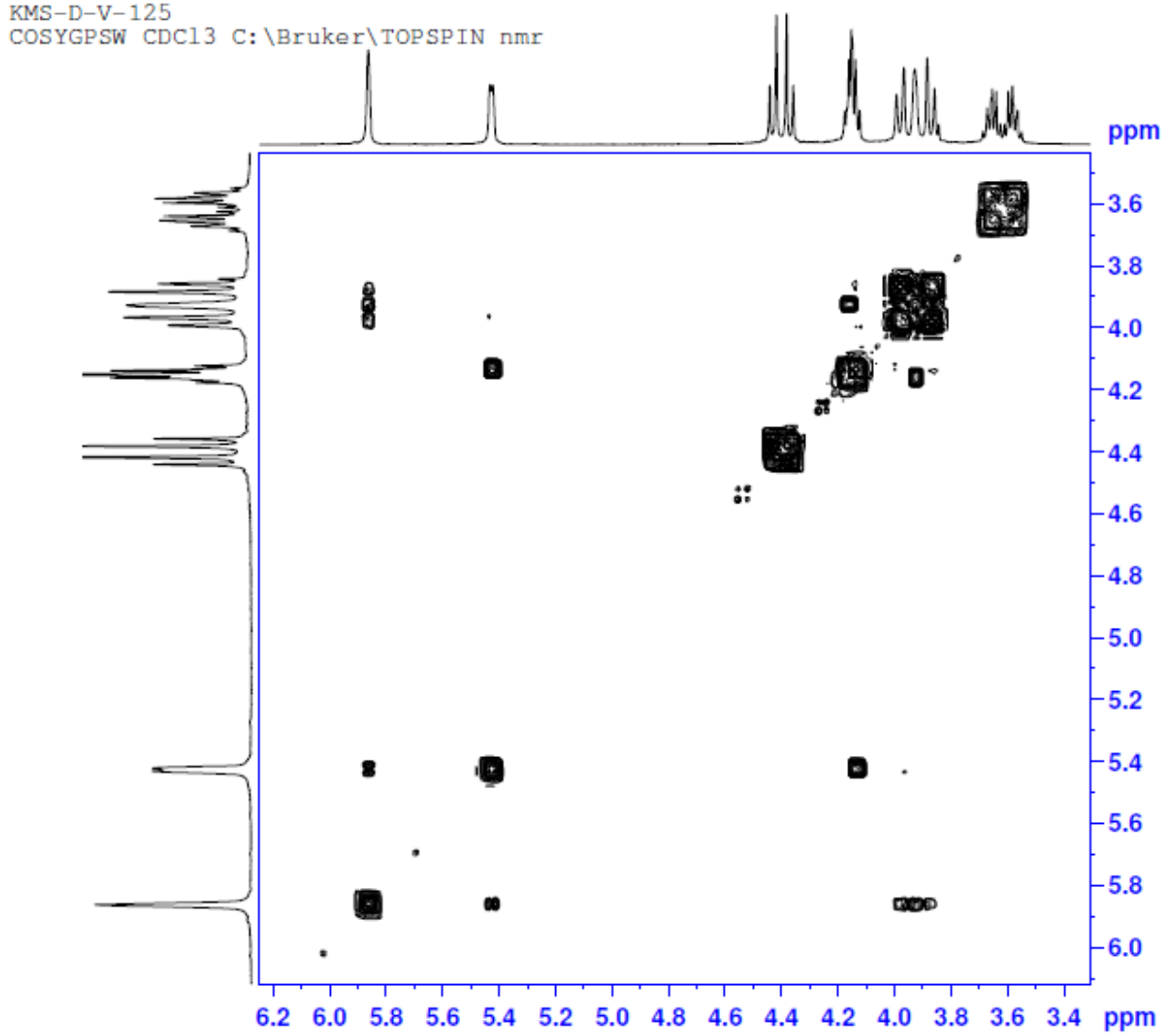

```
Current Data Parameters
NAME                  Sagar
EXPNO                   614
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140324
Time                 21.58
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10330.578 Hz
FIDRES           0.157632 Hz
AQ               3.1719923 sec
RG                  125.62
DW                  48.400 usec
DE                   6.50 usec
TE                  298.2 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                    1H
P1                   9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                   65536
SF            500.2300502 MHz
WDW                     EM
SSB       0
LB                   0.30 Hz
GB        0
PC                   1.00
```

COSY of compound **12**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   620
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140325
Time                 10.25
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG       cosygpppqf
TD                    2048
SOLVENT              CDCl3
NS                        1
DS                        8
SWH                4716.981 Hz
FIDRES             2.303213 Hz
AQ                 0.2171380 sec
RG                    64.12
DW                  106.000 usec
DE                    6.50 usec
TE                  300.2 K
D0                 0.00000300 sec
D1                 1.85117900 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00021200 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2320471 MHz

====== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1               500.232 MHz
FIDRES            36.851414 Hz
SW                    9.430 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF               500.2300505 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF               500.2300505 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

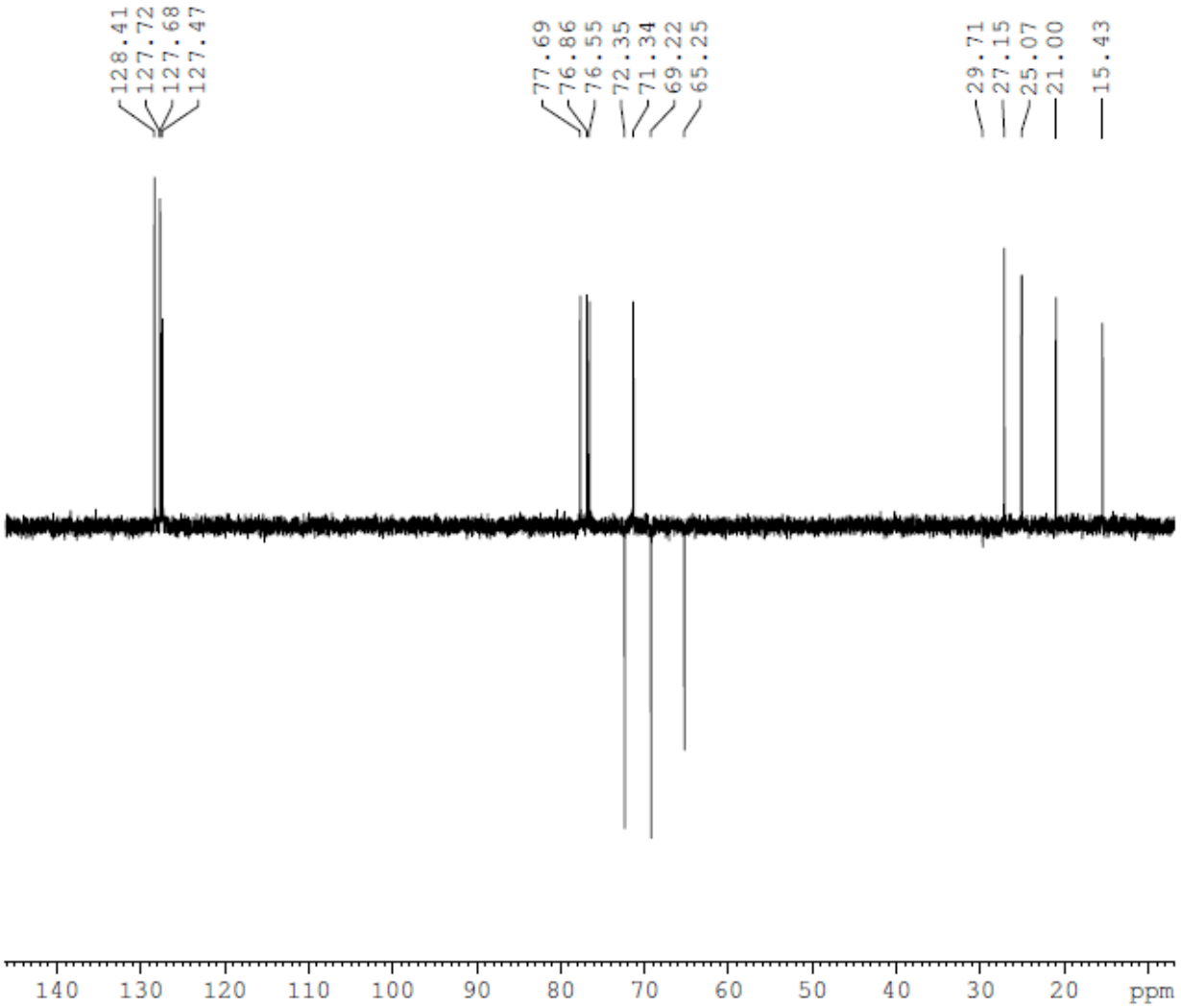
COSY of compound **12** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   620
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140325
Time                  10.25
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4716.981 Hz
FIDRES             2.303213 Hz
AQ                 0.2171380 sec
RG                     64.12
DW                   106.000 usec
DE                     6.50 usec
TE                    300.2 K
D0                 0.00000300 sec
D1                 1.85117900 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00021200 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2320471 MHz

====== GRADIENT CHANNEL =====
GPNAM1            SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1             500.232 MHz
FIDRES          36.851414 Hz
SW                    9.430 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF               500.2300505 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF               500.2300505 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

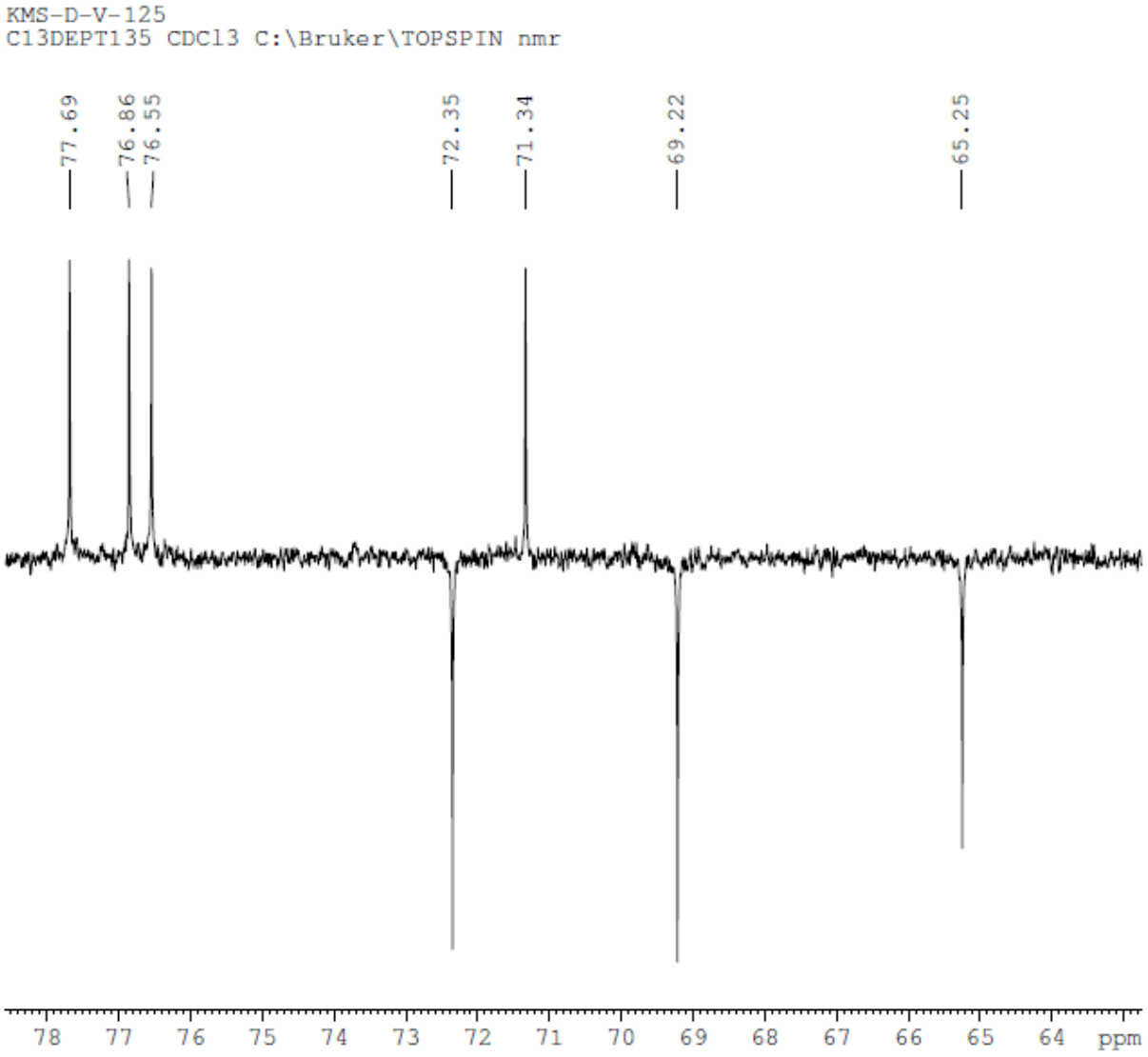
DEPT of compound **12**

KMS-D-V-125
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



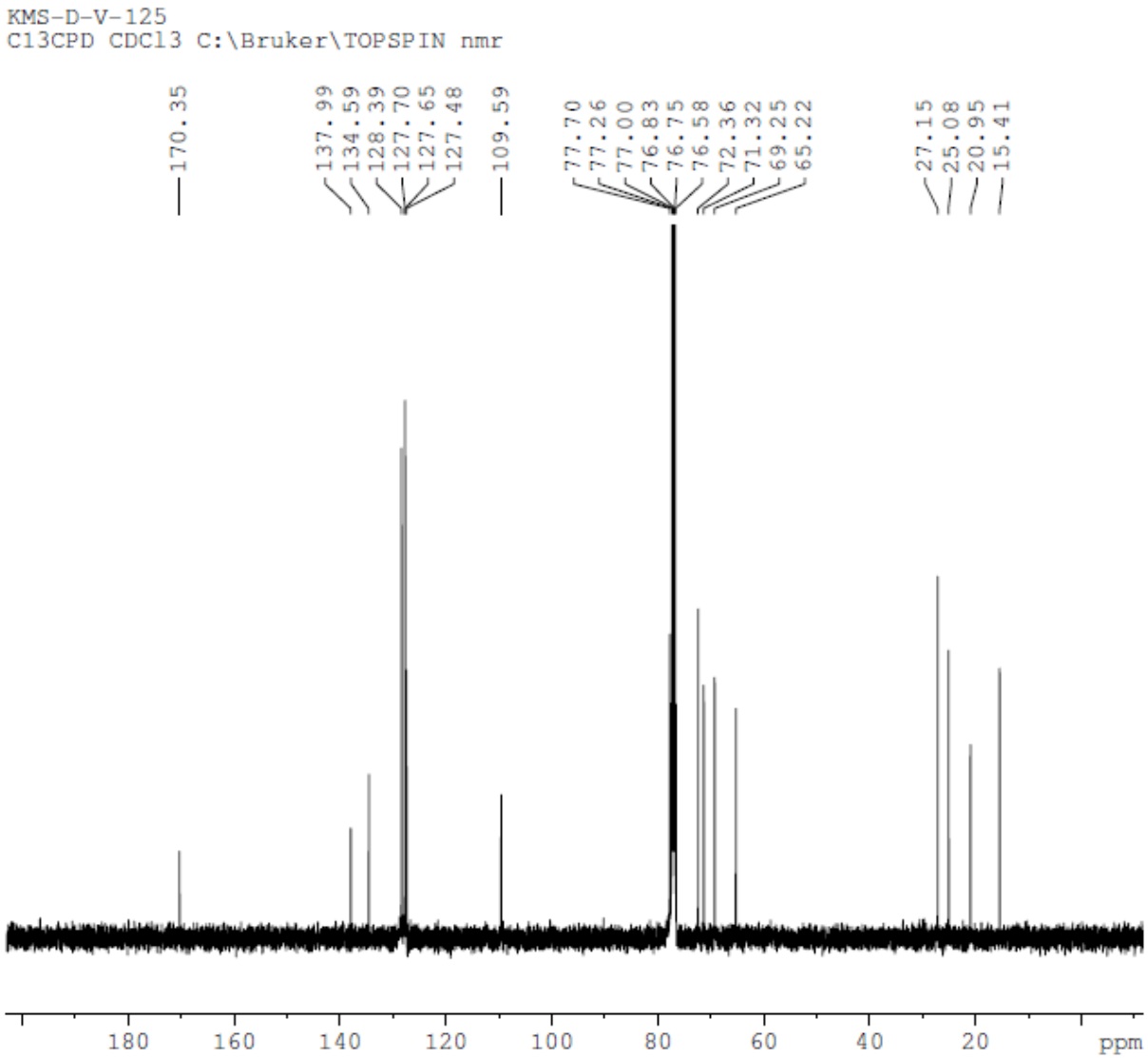

```
Current Data Parameters
NAME                  Saqar
EXPNO                   616
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140324
Time                  23.26
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6253428 sec
RG                    191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   299.4 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5   0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

DEPT of compound **12** (zoom)



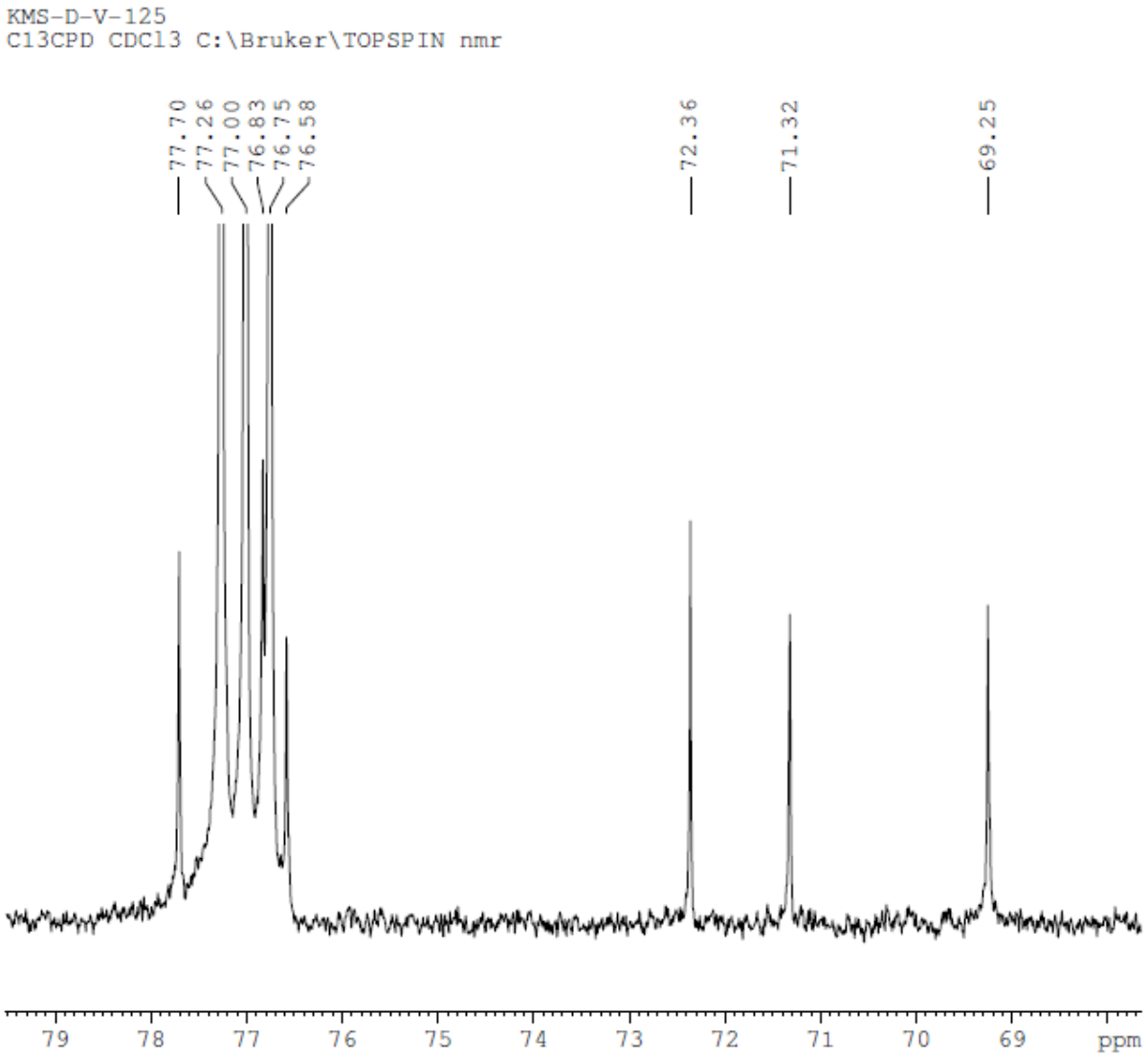

```
Current Data Parameters
NAME                  Sagar
EXPNO                   616
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140324
Time                  23.26
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  299.4 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0       0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5    0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                   1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                     EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

^{13}C NMR of compound **12**



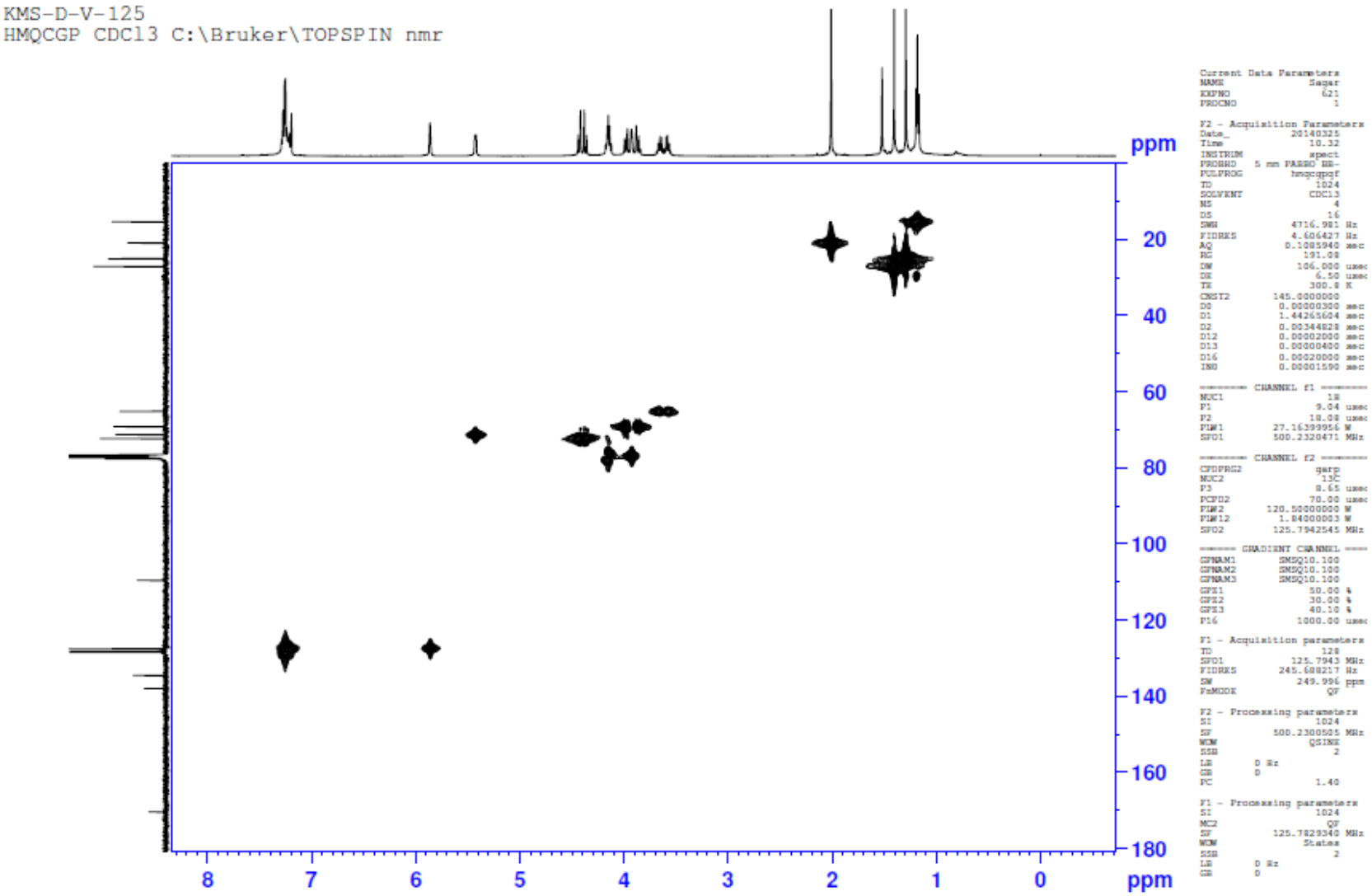

```
Current Data Parameters
NAME                  Sagar
EXPNO                   618
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140325
Time                   0.37
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG              zgpg30
TD                     1024
SOLVENT               CDCl3
NS                      1024
DS                         4
SWH                2515.910 Hz
FIDRES             2.456944 Hz
AQ                 0.2035549 sec
RG                    191.08
DW                   198.735 usec
DE                     6.50 usec
TE                    300.0 K
D1                 2.00000000 sec
D11                0.03000000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
PLW1           120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                     1H
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF             125.7829340 MHz
WDW                       EM
SSB       0
LB                      1.00 Hz
GB        0
PC                      1.40
```

^{13}C NMR of compound **12** (zoom)

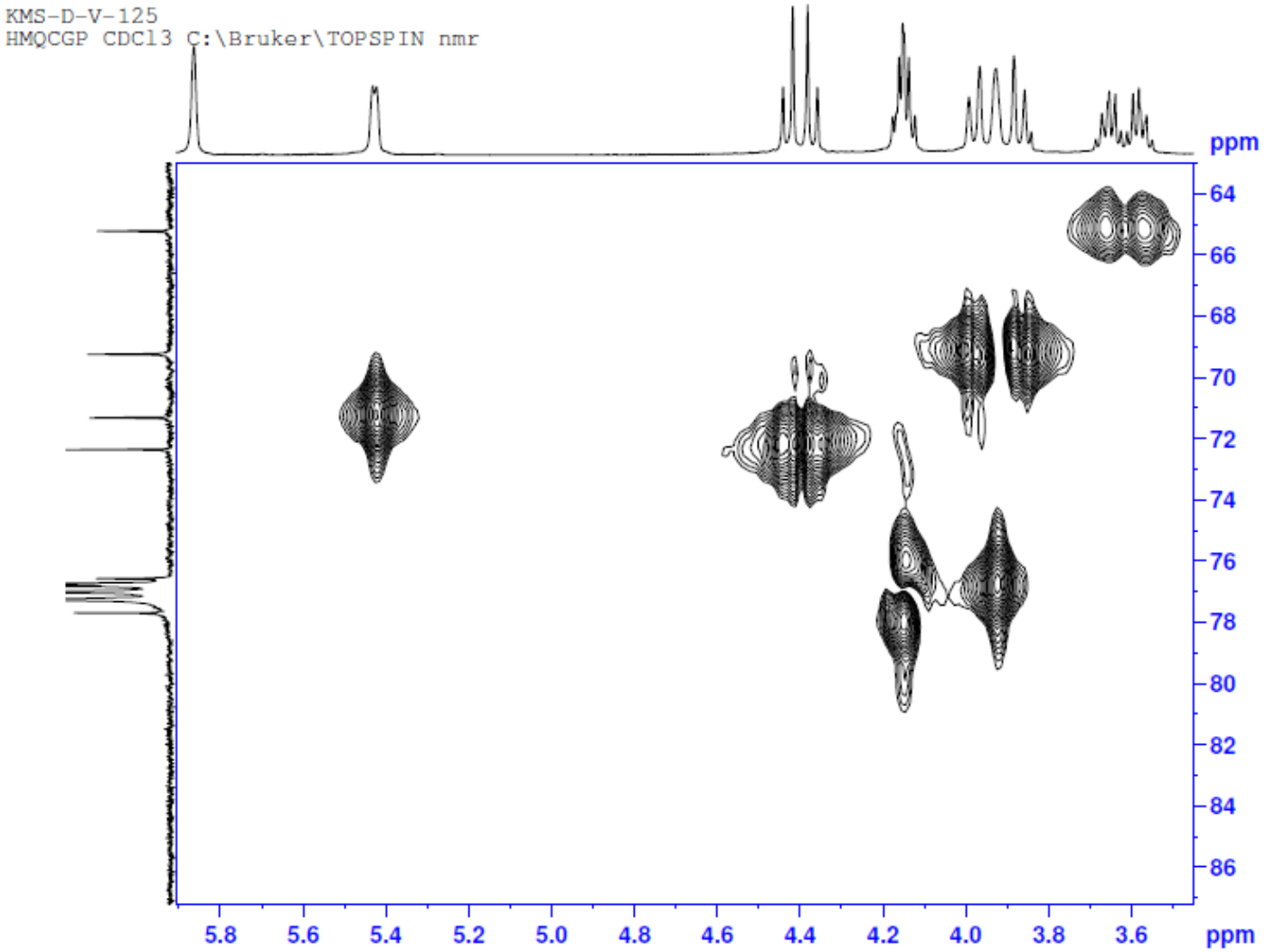



```
Current Data Parameters
NAME                  Sagar
EXPNO                   618
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140325
Time                   0.37
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                    1024
SOLVENT               CDCl3
NS                    1024
DS                       4
SWH                2515.910 Hz
FIDRES             2.456944 Hz
AQ                 0.2035549 sec
RG                   191.08
DW                 198.735 usec
DE                   6.50 usec
TE                   300.0 K
D1                 2.00000000 sec
D11                0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

HMQC of compound **12**

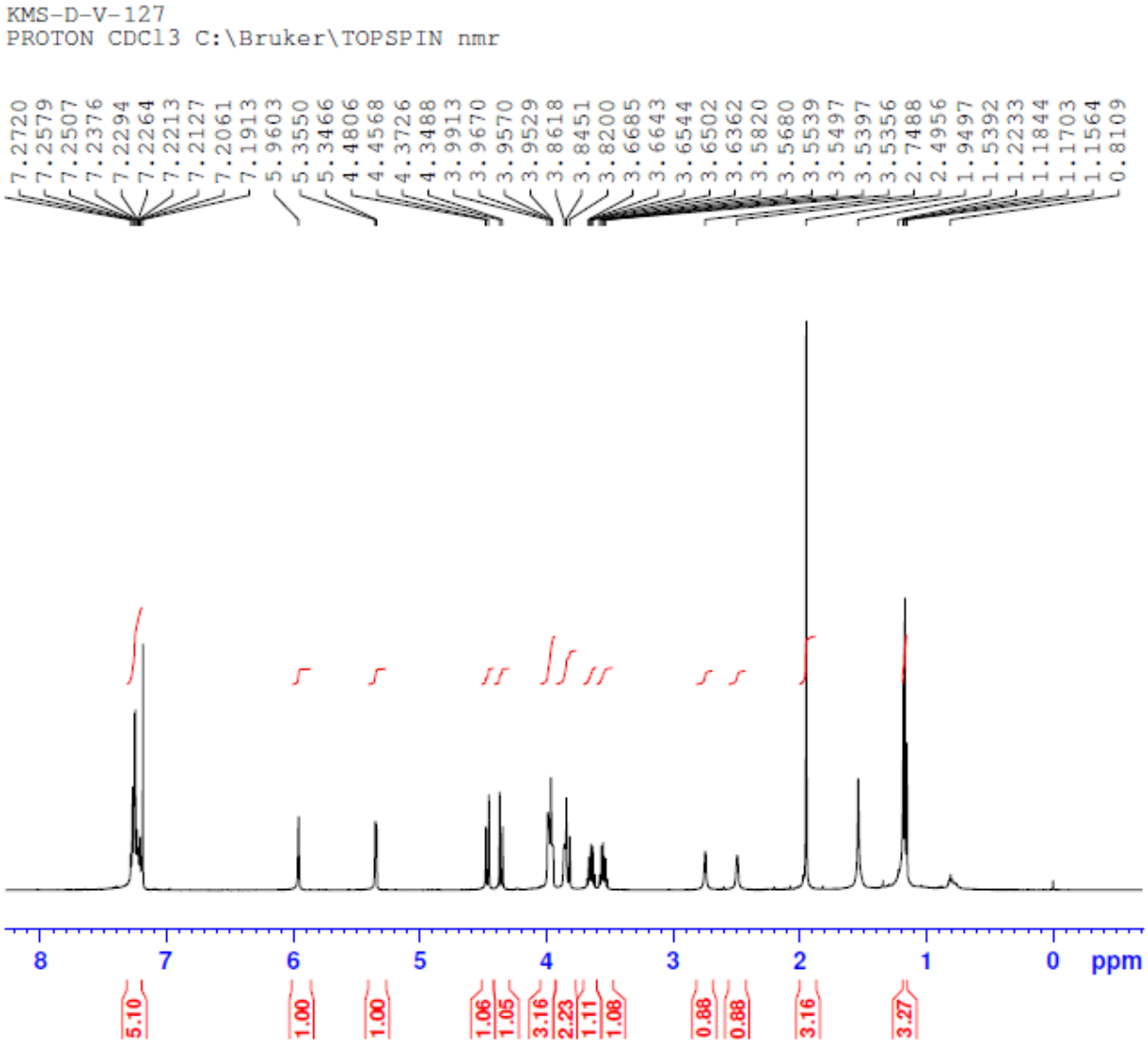


HMQC of compound **12** (zoom)



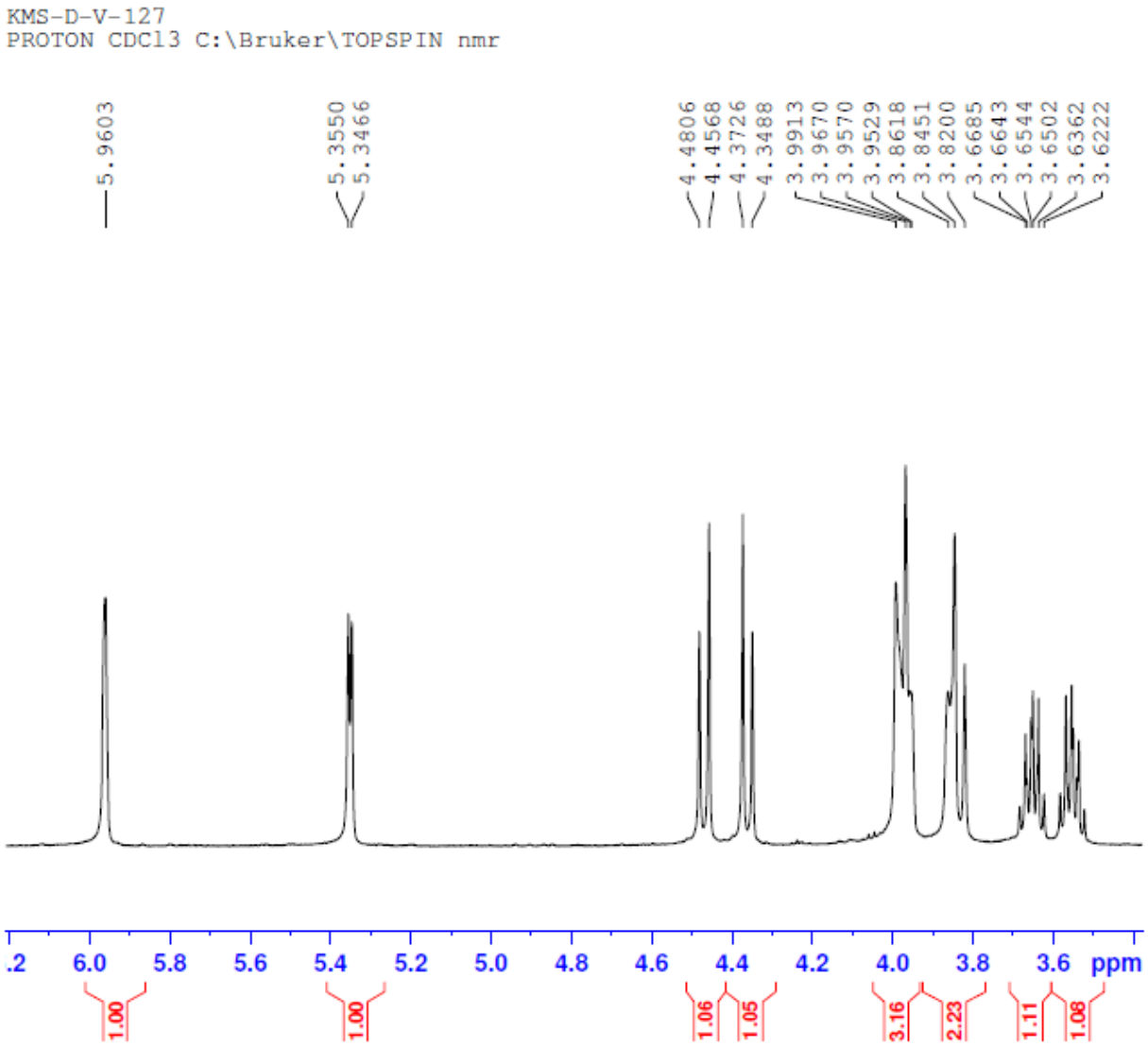

```
Current Data Parameters
NAME                  Sagar
EXPNO                   621
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140325
Time                  10.32
INSTRUM               spect
PROBHD     5 mm PABBO BB-
PULPROG          hmqcgpqf
TD                    1024
SOLVENT               CDCl3
NS                        4
DS                       16
SWH                4716.981 Hz
FIDRES             4.606427 Hz
AQ                 0.1085940 sec
RG                    191.08
DW                   106.000 usec
DE                     6.50 usec
TE                   300.0 K
CNST2              145.0000000
D0                 0.00000300 sec
D1                 1.44265604 sec
D2                 0.00344828 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00001590 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                      9.04 usec
P2                     18.08 usec
PLW1              27.16399956 W
SFO1             500.2320471 MHz

======== CHANNEL f2 ========
CPDPRG2                 garp
NUC2                      13C
P3                      8.65 usec
PCPD2                  70.00 usec
PLW2             120.50000000 W
PLW12              1.84000003 W
SFO2             125.7942545 MHz

======= GRADIENT CHANNEL =====
GPNAM1            SMSQ10.100
GPNAM2            SMSQ10.100
GPNAM3            SMSQ10.100
GPZ1                  50.00 %
GPZ2                  30.00 %
GPZ3                  40.10 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1             125.7943 MHz
FIDRES           245.688217 Hz
SW                 249.996 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF               500.2300505 MHz
WDW                    QSINE
SSB                        2
LB          0 Hz
GB          0
PC                      1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF               125.7829340 MHz
WDW                   States
SSB                        2
LB          0 Hz
GB          0
```

^{1}H NMR of compound **13**



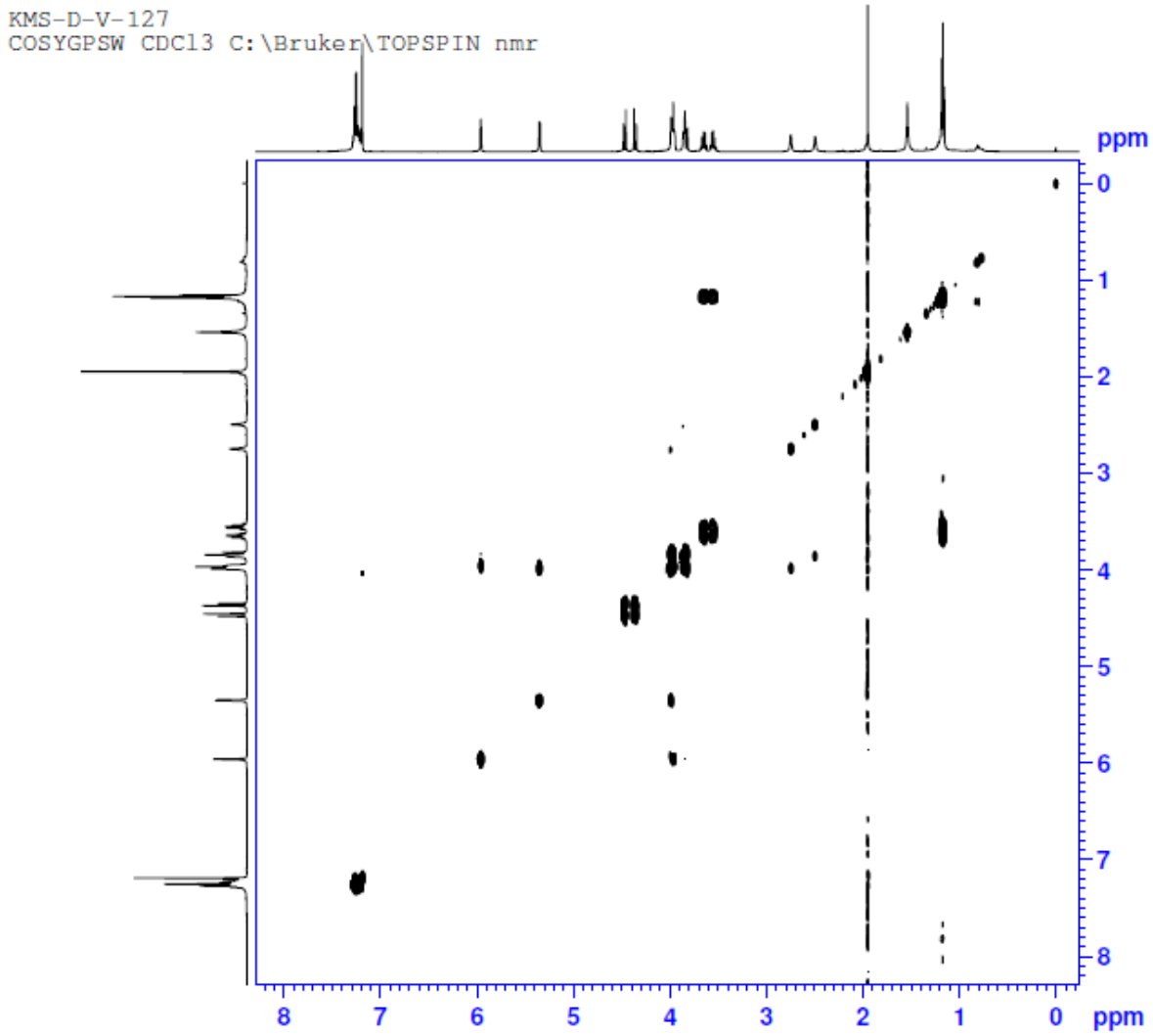

```
Current Data Parameters
NAME                  Sagar
EXPNO                   623
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   2.27
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   153.65
DW                   48.400 usec
DE                    6.50 usec
TE                   298.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300500 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **13** (zoom)



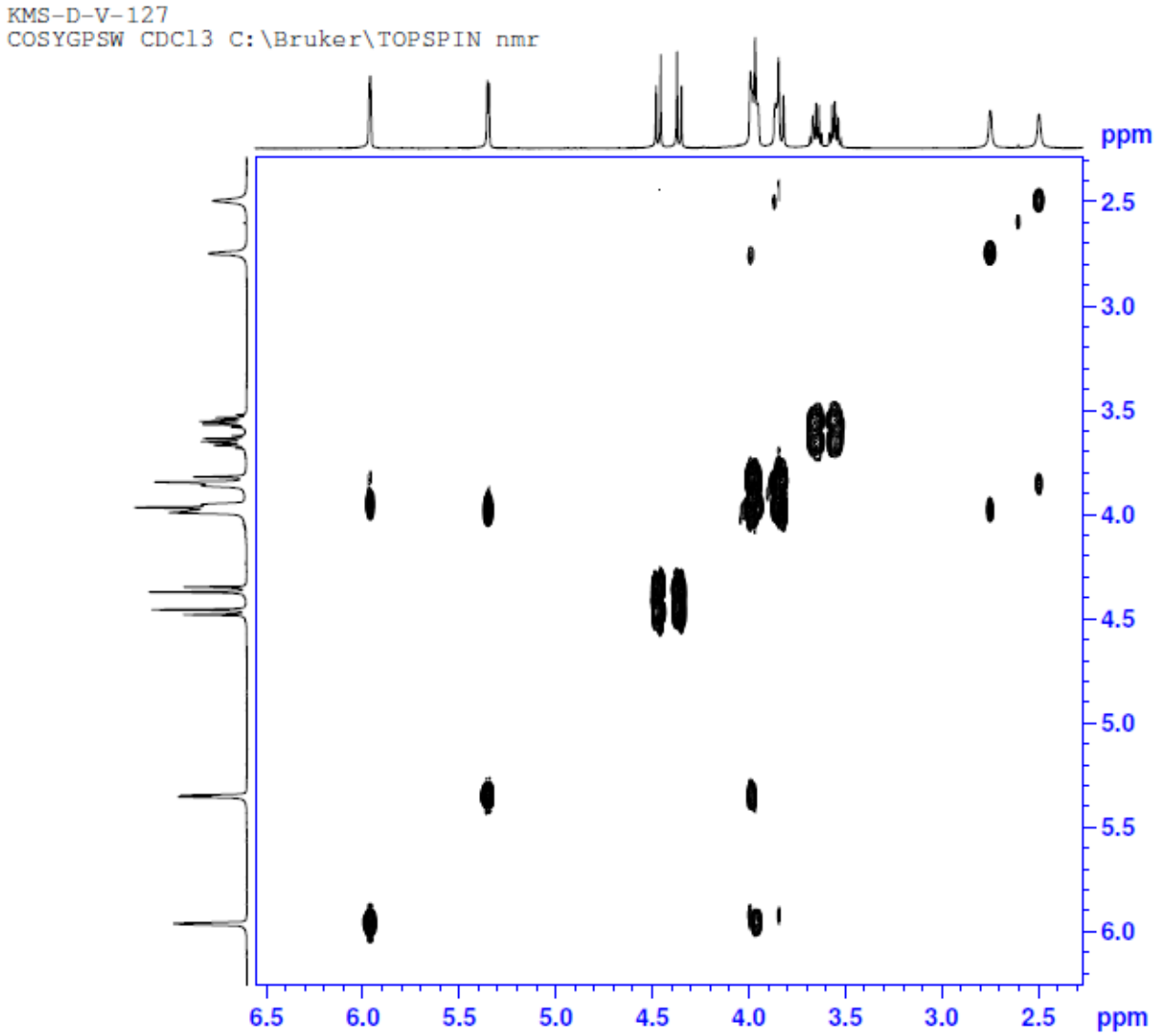

```
Current Data Parameters
NAME                  Sagar
EXPNO                   623
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   2.27
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ                3.1719923 sec
RG                   153.65
DW                   48.400 usec
DE                    6.50 usec
TE                   298.0 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF           500.2300500 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **13**



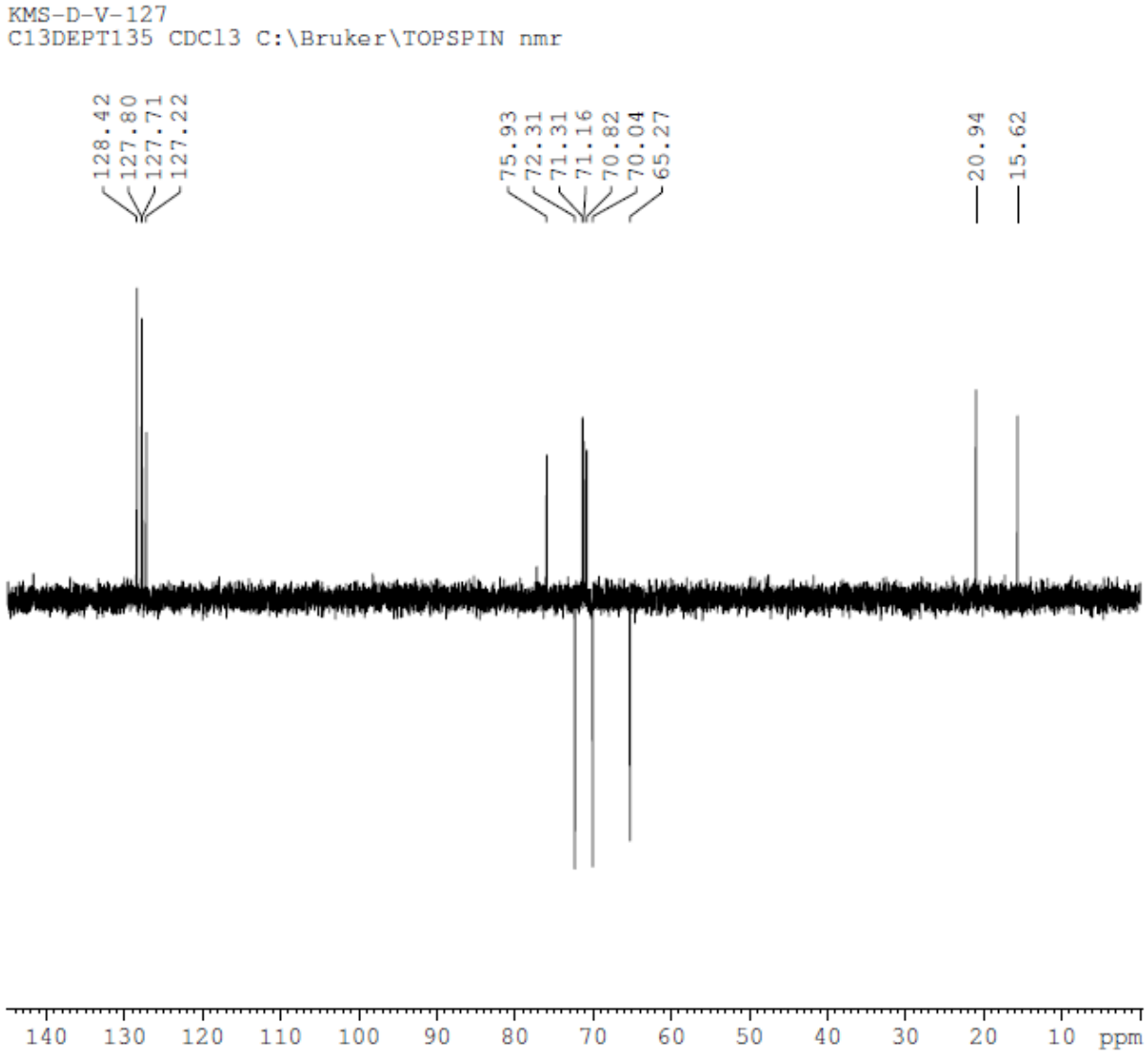

```
Current Data Parameters
NAME                  Sagar
EXPNO                   624
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   2.28
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH               4273.504 Hz
FIDRES            2.086672 Hz
AQ                0.2396660 sec
RG                    95.46
DW                  117.000 usec
DE                    6.50 usec
TE                   298.0 K
D0                0.00000300 sec
D1                1.91357398 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00023400 sec

====== CHANNEL f1 ======
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W
SFO1              500.2320635 MHz

===== GRADIENT CHANNEL =====
GPNAM1            SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2321 MHz
FIDRES            33.386753 Hz
SW                    8.543 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF                500.2300500 MHz
WDW                    QSINE
SSB                       0
LB                     0 Hz
GB                        0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF                500.2300500 MHz
WDW                      TR
SSB                       0
LB                     0 Hz
GB                        0
```

COSY of compound **13** (zoom)



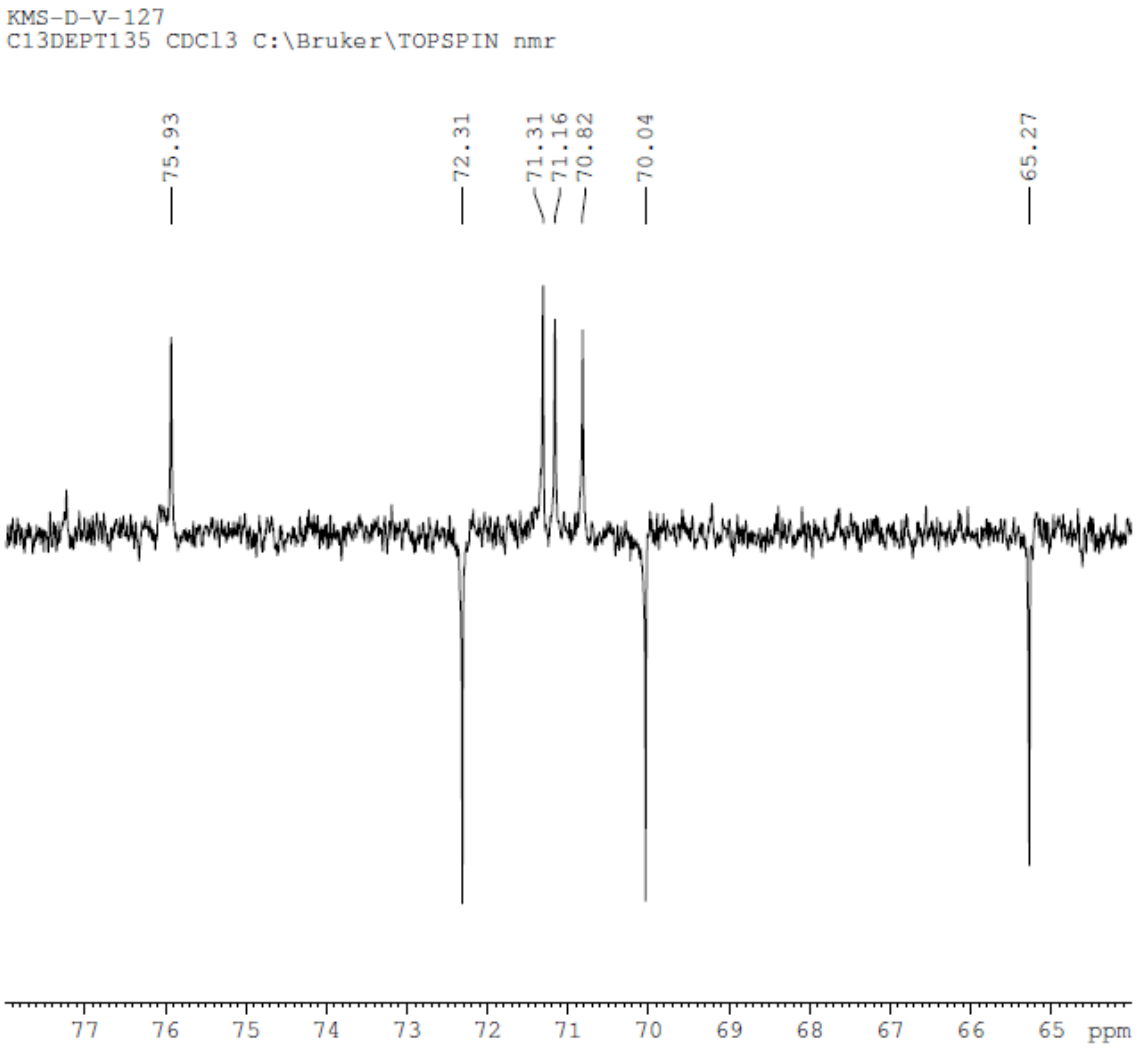

```
Current Data Parameters
NAME                  Sagar
EXPNO                   624
PROCNO                    1

F2 - Acquisition Parameters
Date_               20140326
Time                    2.28
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      2048
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                 4273.504 Hz
FIDRES              2.086672 Hz
AQ                  0.2396660 sec
RG                      95.46
DW                    117.000 usec
DE                      6.50 usec
TE                    298.0 K
D0                  0.00000300 sec
D1                  1.91357398 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00023400 sec

======== CHANNEL f1 ========
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1                27.16399956 W
PLW10                3.28390002 W
SFO1                500.2320635 MHz

====== GRADIENT CHANNEL =====
GPNAM1              SMSQ10.100
GPZ1                     10.00 %
P16                    1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                500.2321 MHz
FIDRES              33.386753 Hz
SW                      8.543 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                  500.2300500 MHz
WDW                     QSINE
SSB                 0
LB                  0 Hz
GB                  0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                  500.2300500 MHz
WDW                        TR
SSB                 0
LB                  0 Hz
GB                  0
```

DEPT of compound **13**



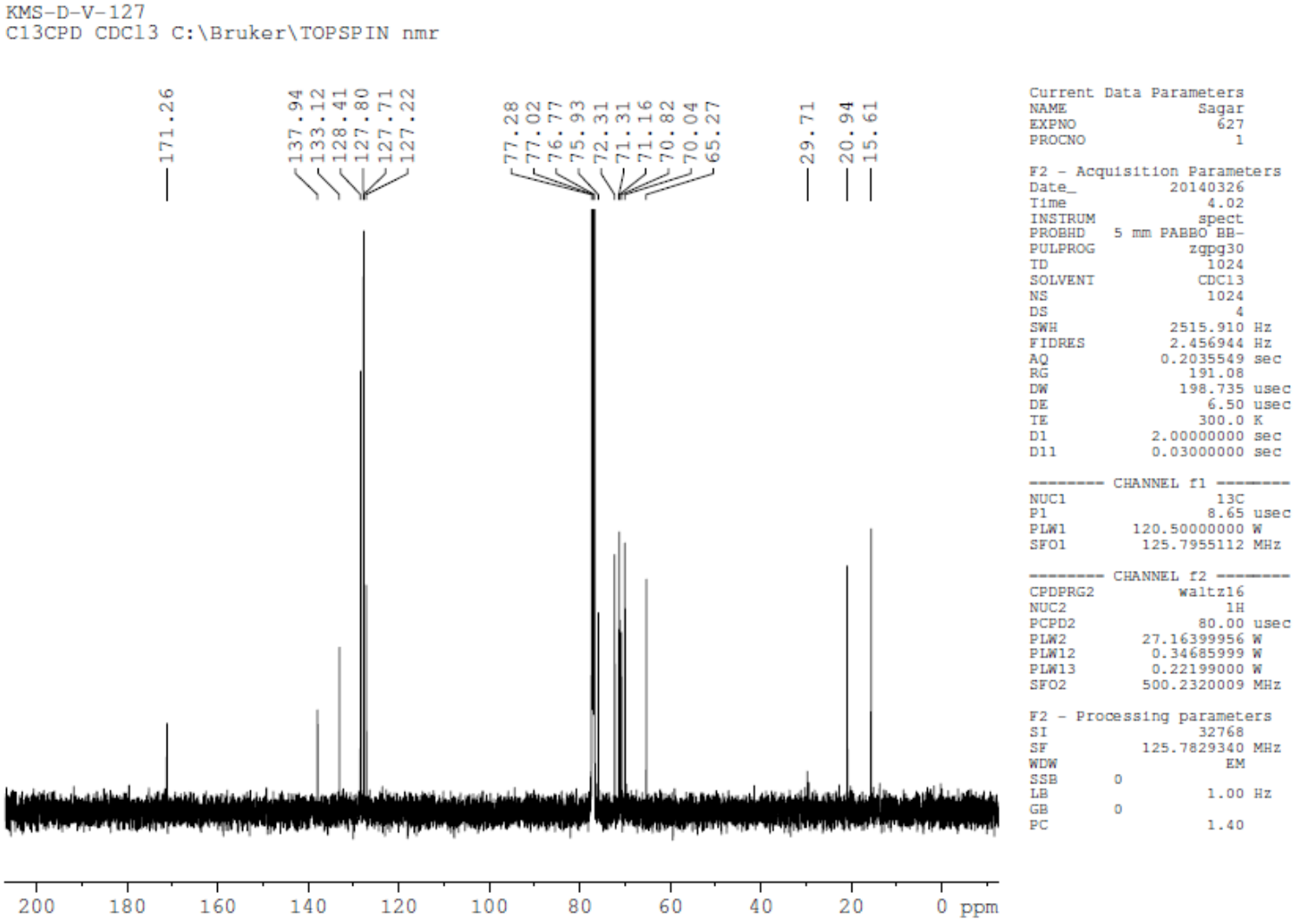

```
Current Data Parameters
NAME                  Sagar
EXPNO                   625
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   2.37
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5        Crp60comp.4
SPOAL5              0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                   1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

DEPT of compound **13** (zoom)



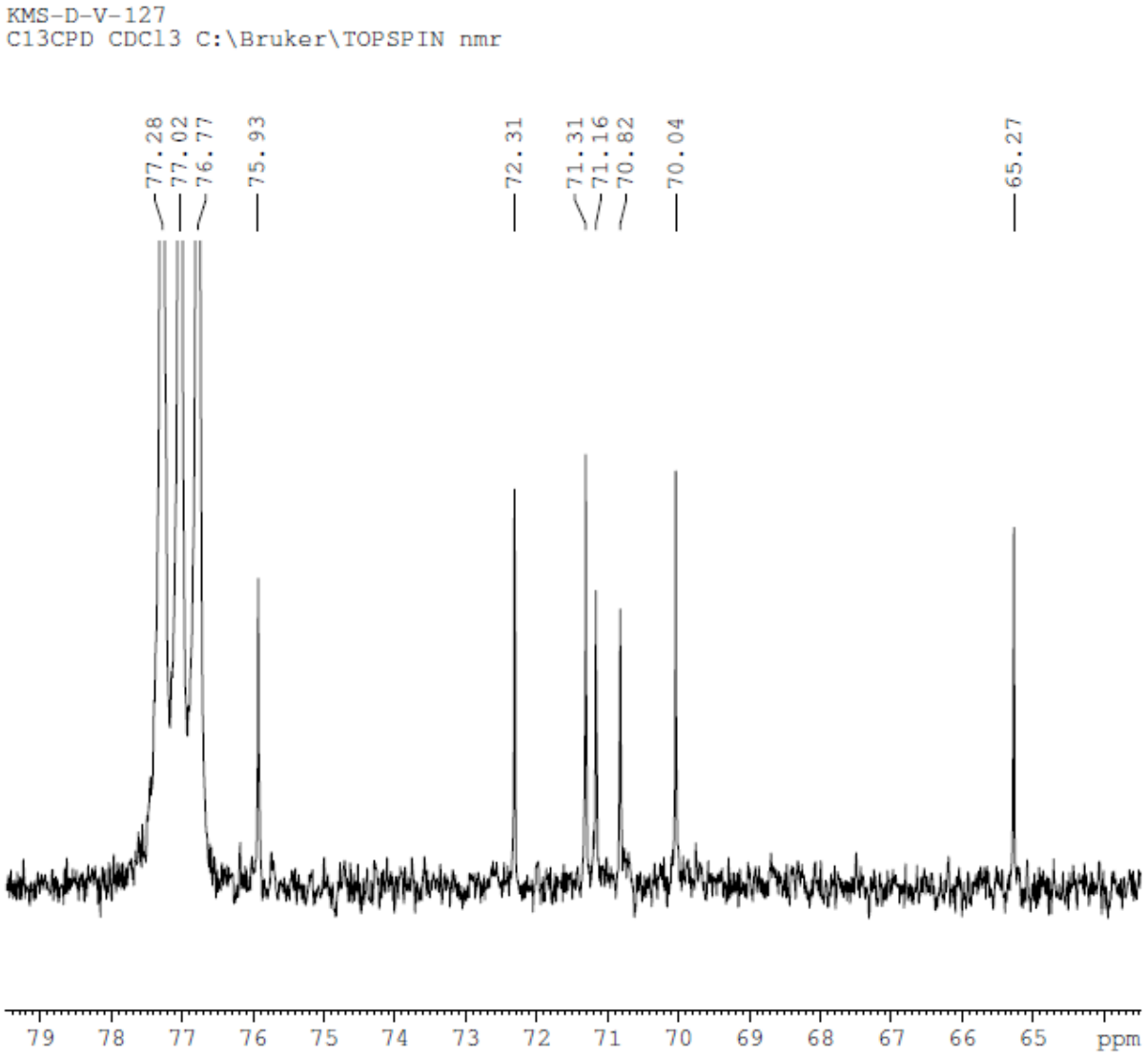

```
Current Data Parameters
NAME                  Sagar
EXPNO                   625
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   2.37
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0        0 W
PLW1         120.50000000 W
SFO1          125.7929956 MHz
SPNAM5        Crp60comp.4
SPOAL5              0.500
SPOFFS5    0 Hz
SFW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                    1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                   32768
SF            125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

^{14}C NMR of compound **13**



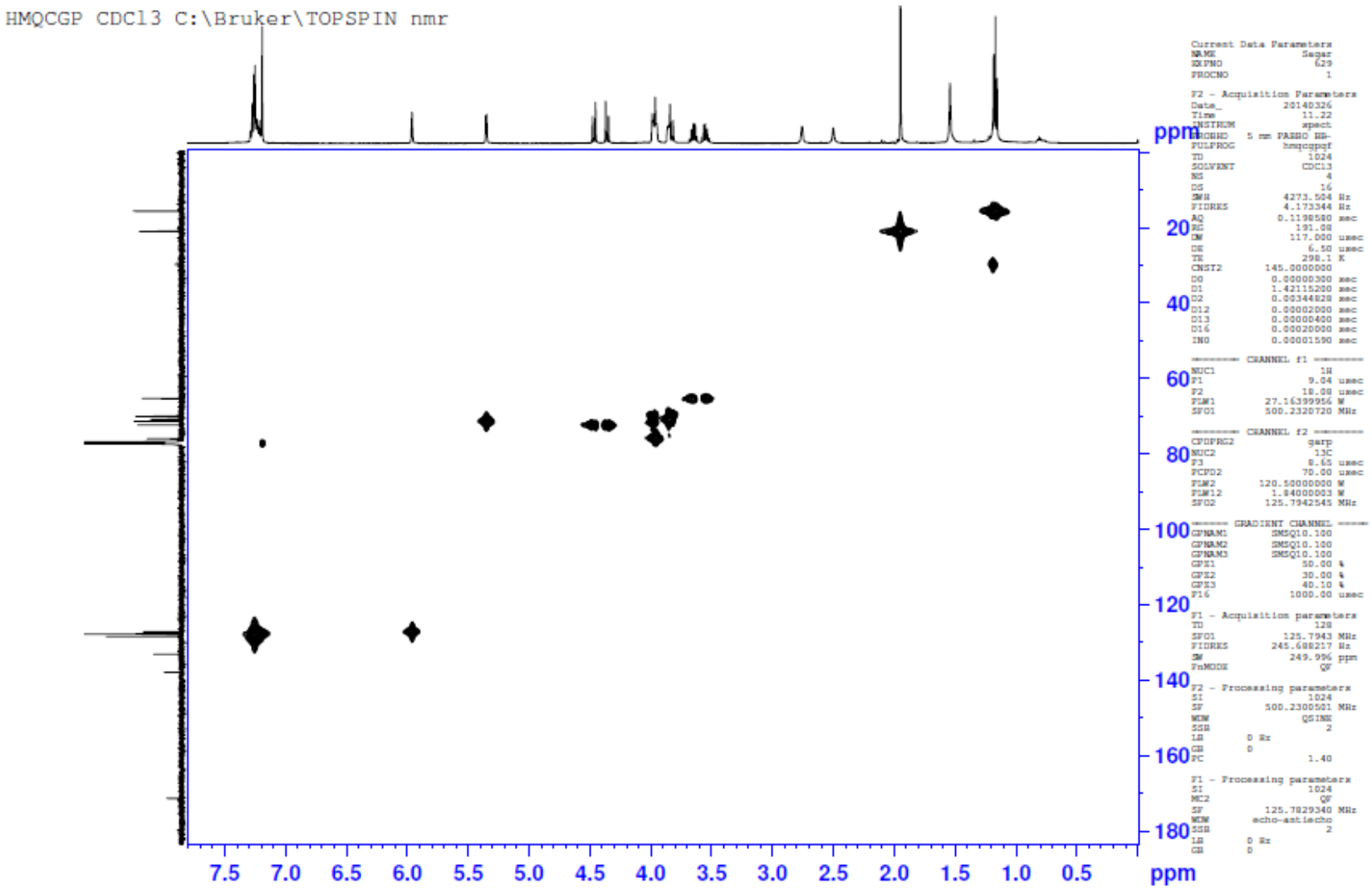

```
Current Data Parameters
NAME                  Sagar
EXPNO                   627
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140326
Time                   4.02
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG              zgpg30
TD                     1024
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH                2515.910 Hz
FIDRES             2.456944 Hz
AQ                 0.2035549 sec
RG                    191.08
DW                  198.735 usec
DE                    6.50 usec
TE                   300.0 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                    8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

^{14}C NMR of compound **13** (zoom)

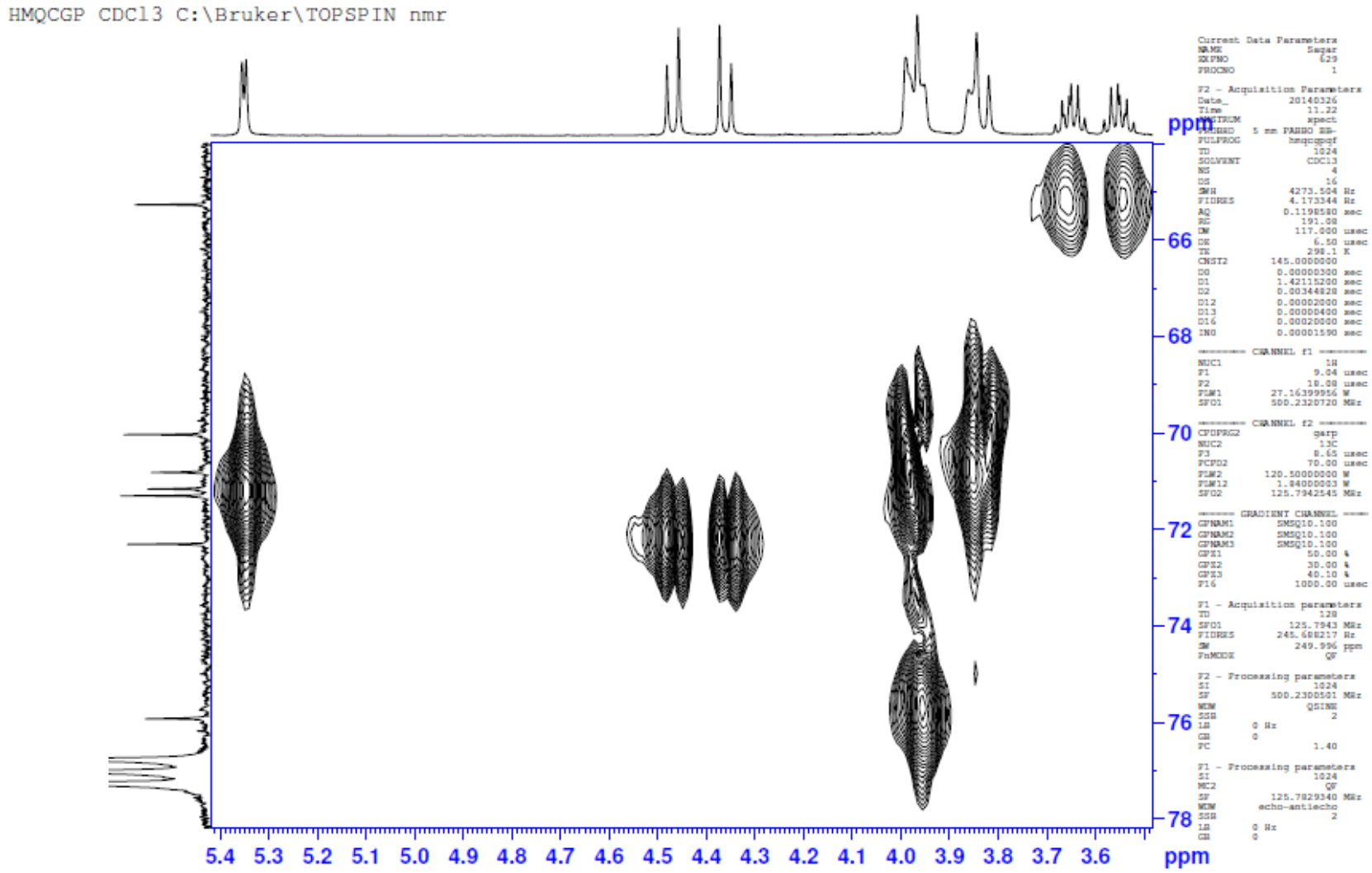



```
Current Data Parameters
NAME                 Sagar
EXPNO                  627
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140326
Time                 4.02
INSTRUM             spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                    1024
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH               2515.910 Hz
FIDRES            2.456944 Hz
AQ                0.2035549 sec
RG                  191.08
DW                198.735 usec
DE                  6.50 usec
TE                  300.0 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                  8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                  1H
PCPD2               80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                   32768
SF            125.7829340 MHz
WDW                    EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

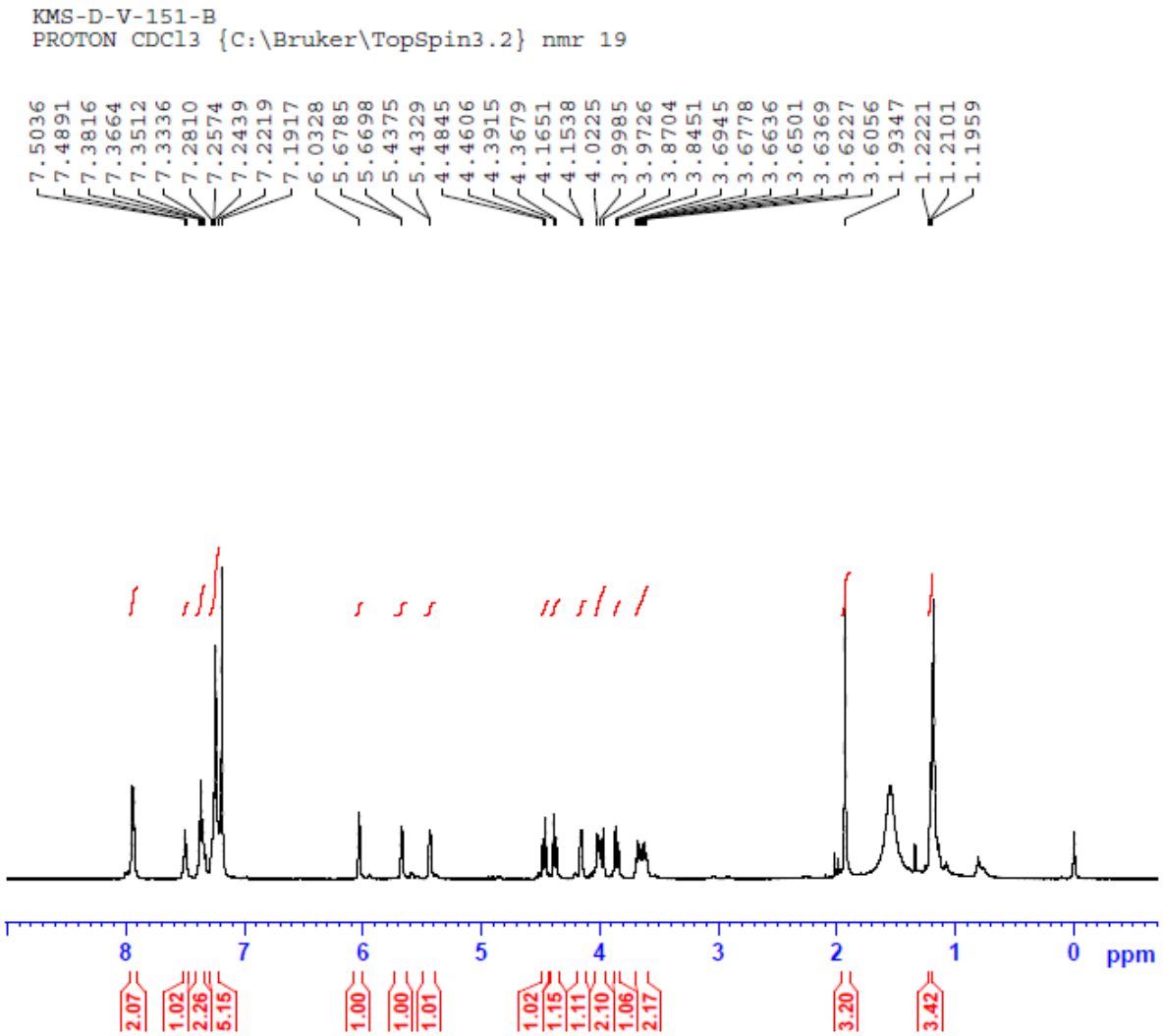
HMQC of compound **13**



HMQC of compound **13** (zoom)

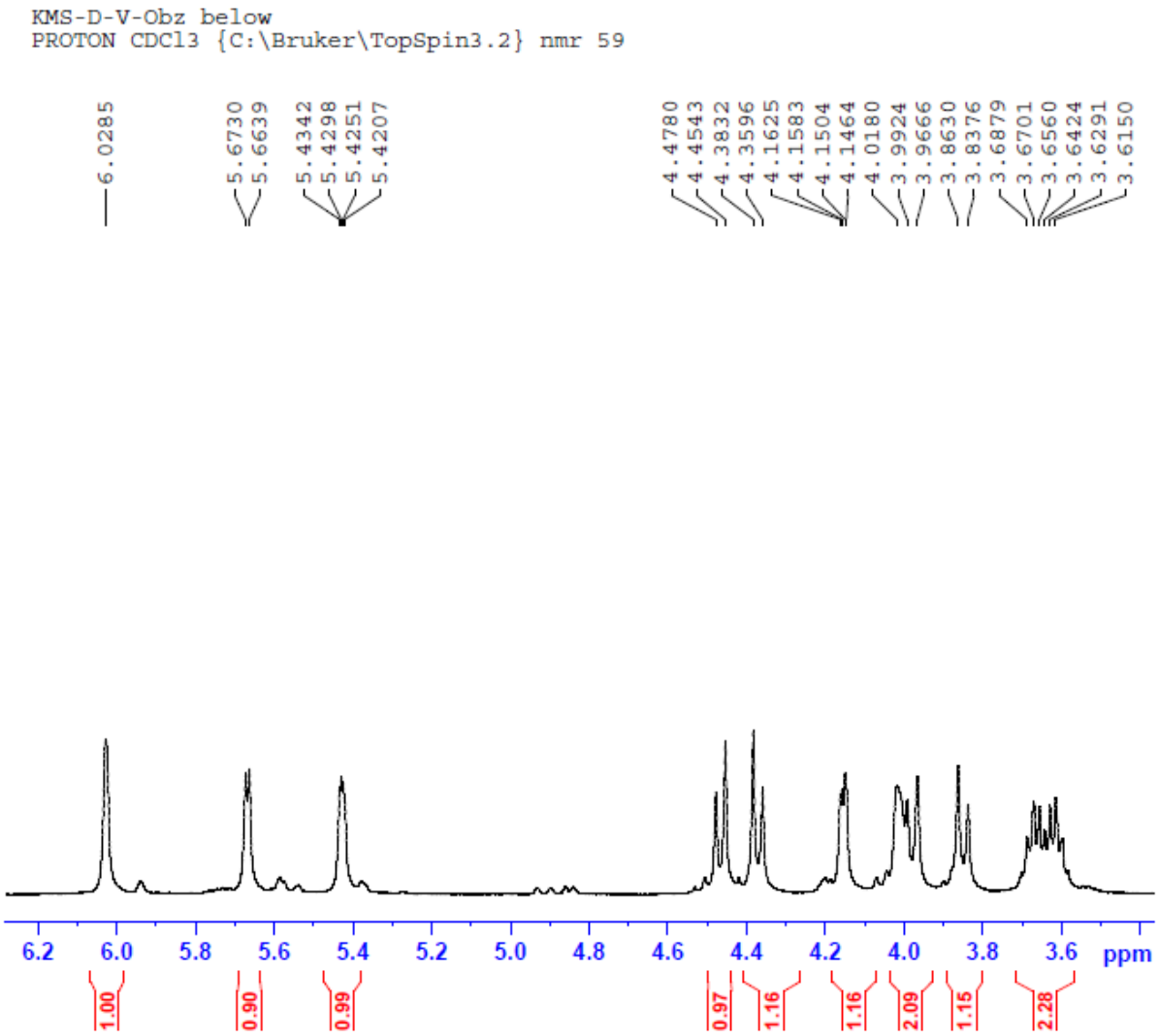


^{1}H NMR of compound **14**



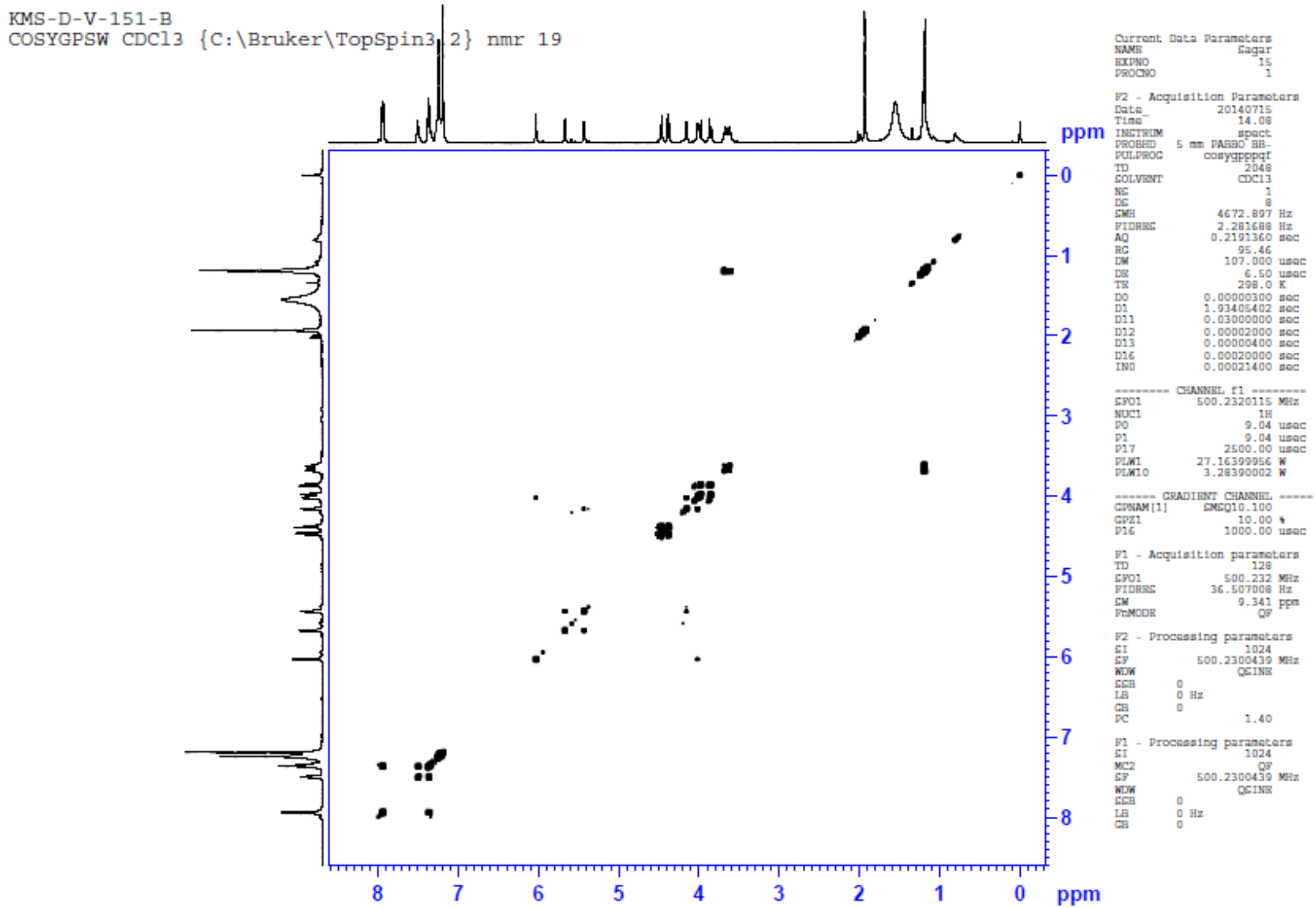

```
Current Data Parameters
NAME                  Sagar
EXPNO                    14
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140715
Time                 14.07
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10000.000 Hz
FIDRES               0.152588 Hz
AQ                3.2767999 sec
RG                     171.32
DW                  50.000 usec
DE                   6.50 usec
TE                   298.0 K
D1               1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                    1H
P1                   9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300439 MHz
WDW                     EM
SSB          0
LB                   0.30 Hz
GB           0
PC                    1.00
```

^{1}H NMR of compound **14** (zoom)

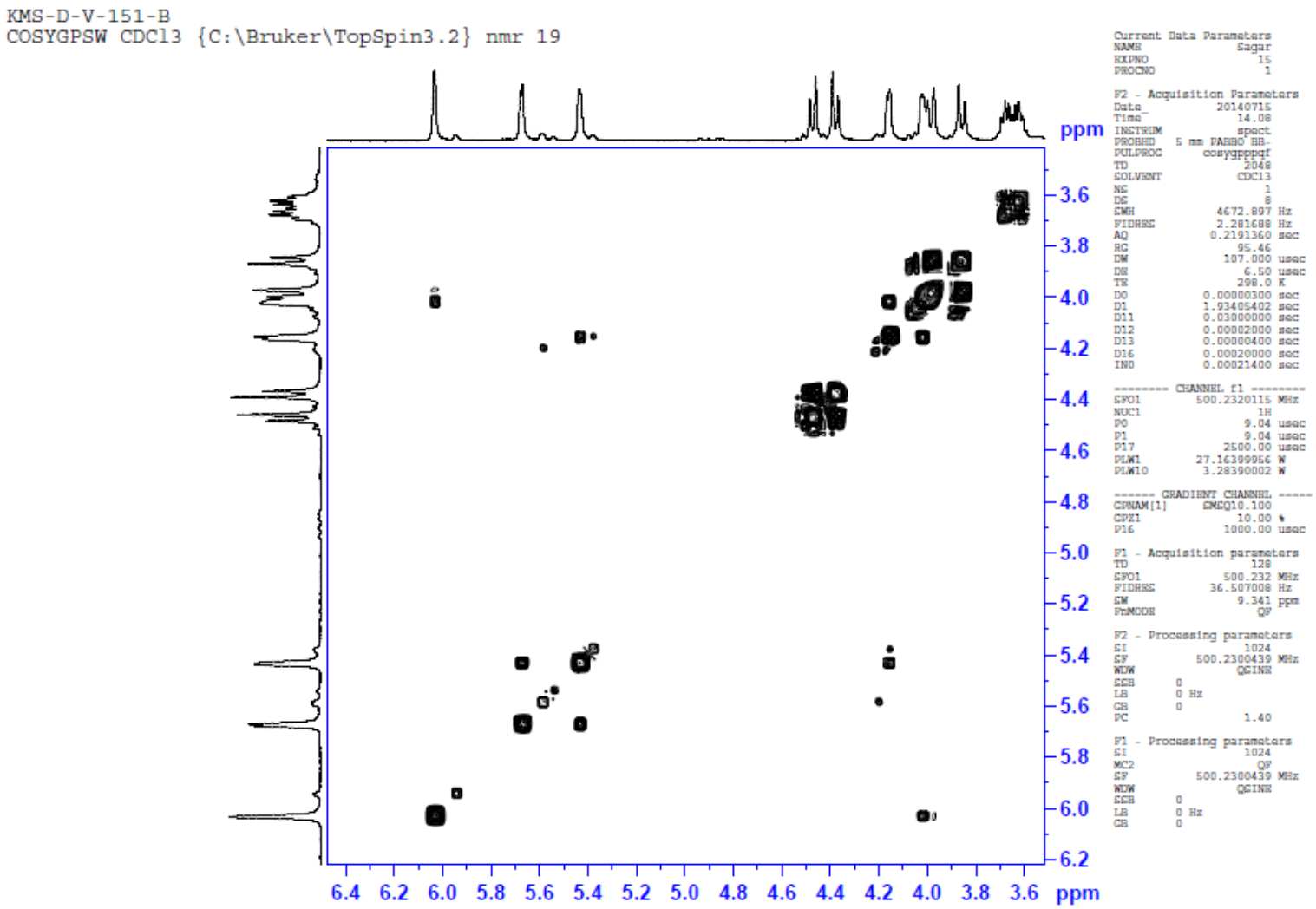



```
Current Data Parameters
NAME                 Sagar
EXPNO                   12
PROCNO                   1

F2 - Acquisition Parameters
Date_              20140714
Time                 20.46
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   138.93
DW                   50.000 usec
DE                    6.50 usec
TE                   295.0 K
D1                1.00000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300472 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

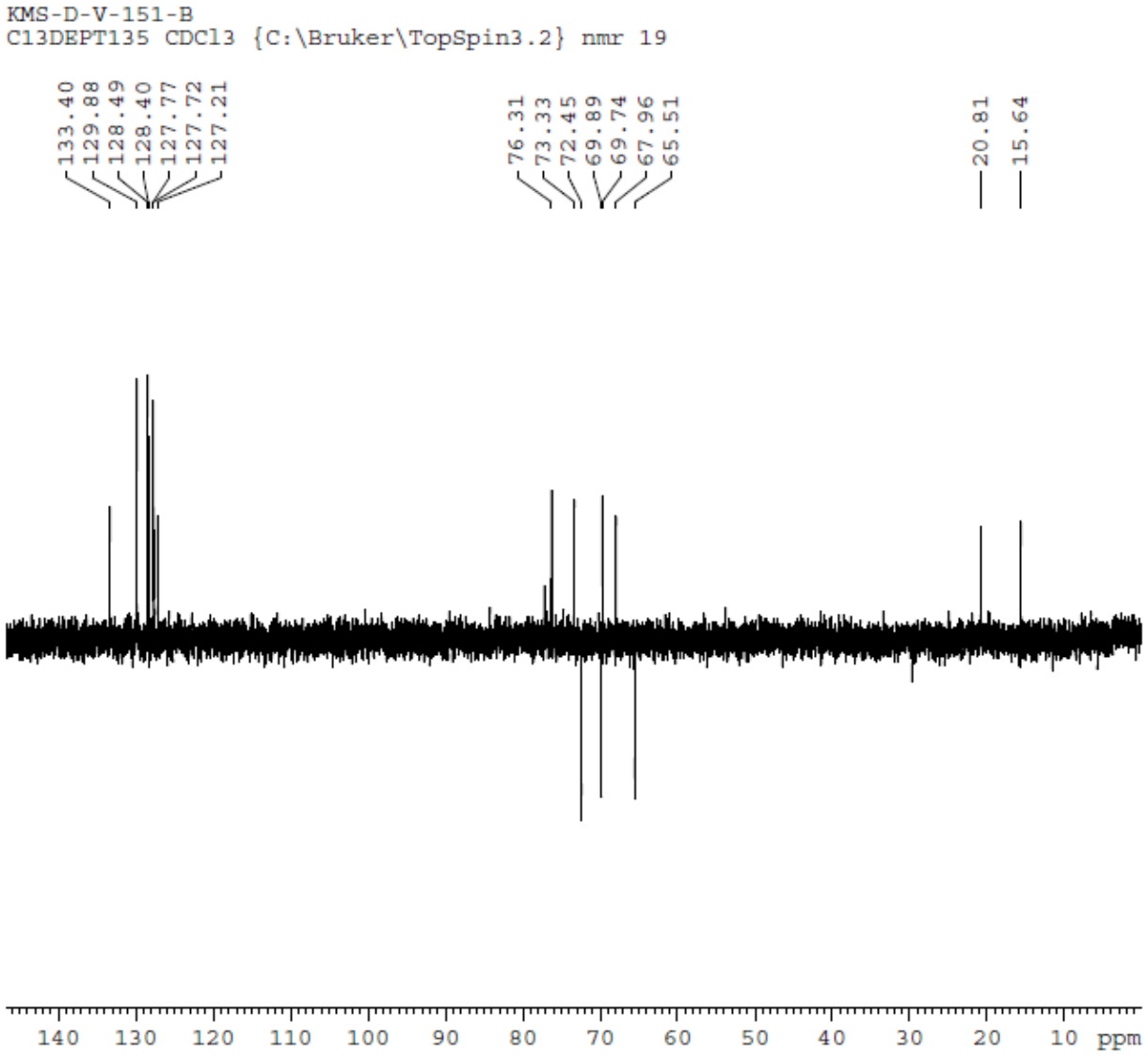
COSY of compound **14**


KMS-D-V-151-B
COSYGPSW CDCl3 {C:\Bruker\TopSpin3.2} nmr 19
ppm
0
1
2
3
4
5
6
7
8
8 7 6 5 4 3 2 1 0 ppm
Current Data Parameters
NAME Sagar
EXPNO 15
PROCNO 1
F2 - Acquisition Parameters
Date_ 20140715
Time 14.08
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG cosygpppqf
TD 2048
SOLVENT CDCl3
NS 1
DS 8
SWH 4672.897 Hz
FIDRES 2.281688 Hz
AQ 0.2191360 sec
RG 95.46
DW 107.000 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.93405402 sec
D11 0.03000000 sec
D12 0.00002000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00021400 sec
======== CHANNEL f1 ========
SFO1 500.2320115 MHz
NUC1 1H
P0 9.04 usec
P1 9.04 usec
P17 2500.00 usec
PLW1 27.16399956 W
PLW10 3.28390002 W
====== GRADIENT CHANNEL =====
GPNAM[1] SMSQ10.100
GPZ1 10.00 %
P16 1000.00 usec
F1 - Acquisition parameters
TD 128
SFO1 500.232 MHz
FIDRES 36.507008 Hz
SW 9.341 ppm
FnMODE QF
F2 - Processing parameters
SI 1024
SF 500.2300439 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40
F1 - Processing parameters
SI 1024
MC2 QF
SF 500.2300439 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0

COSY of compound **14** (zoom)

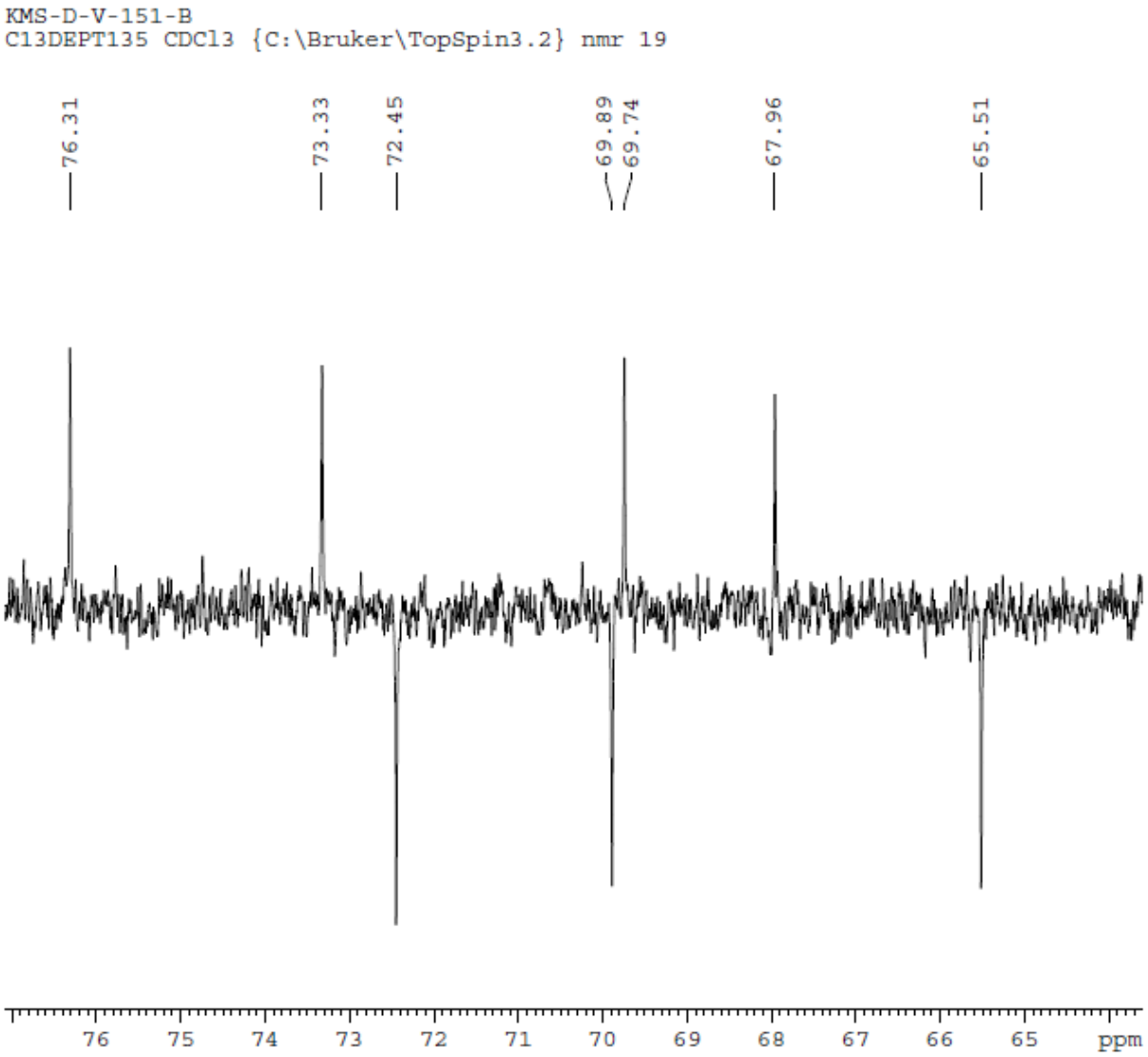


DEPT of compound **14**



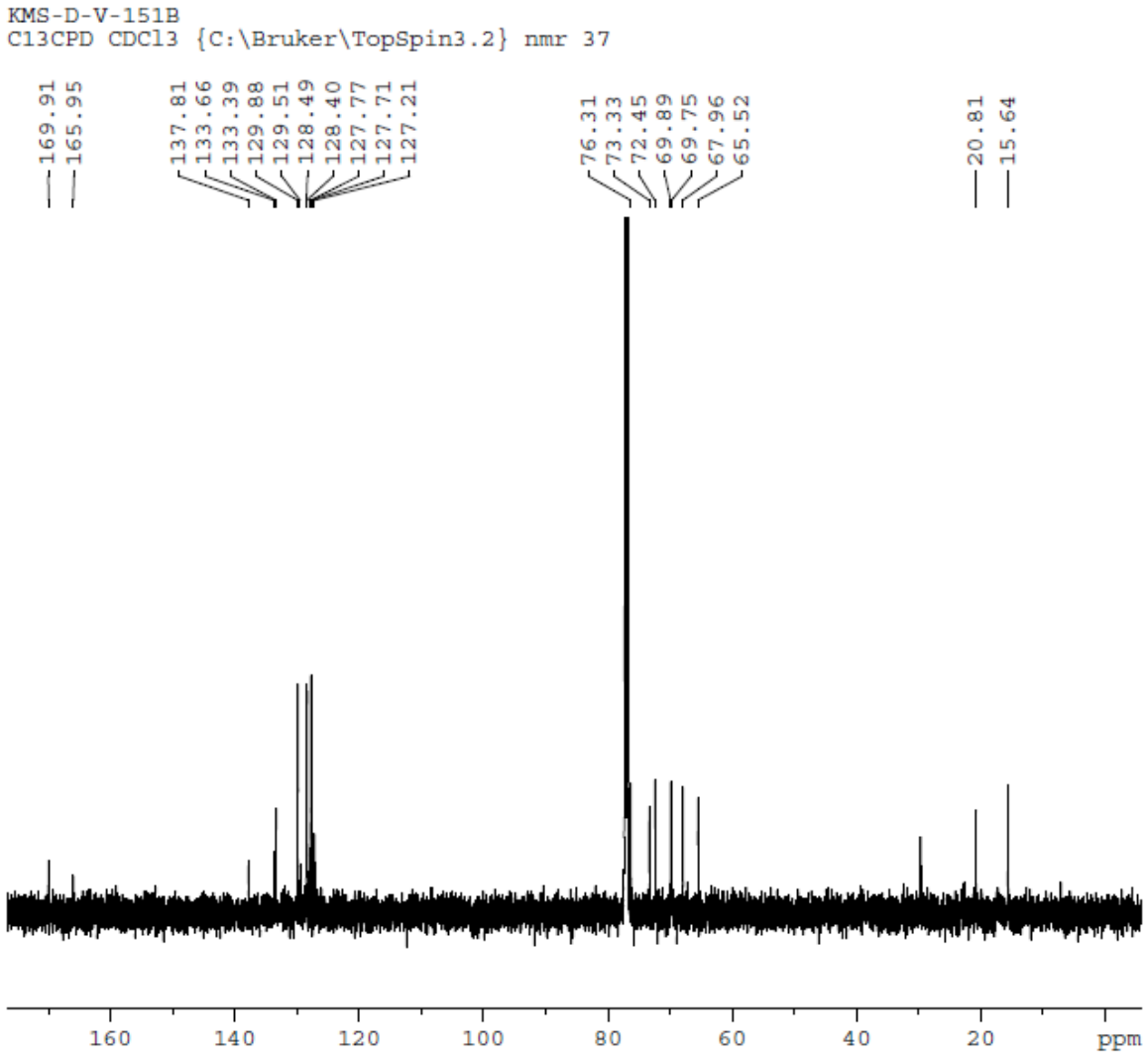

```
Current Data Parameters
NAME                  Sagar
EXPNO                    16
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140715
Time                 14.18
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                    8.65 usec
P13                2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

DEPT of compound **14** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                    16
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140715
Time                  14.18
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG          deptsp135
TD                    65536
SOLVENT               CDCl3
NS                      256
DS                        4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                   191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                    8.65 usec
P13                2000.00 usec
PLW0       0 W
PLW1         120.50000000 W
SPNAM[5]      Crp60comp.4
SPOAL5                0.500
SPOFFS5   0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2           waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

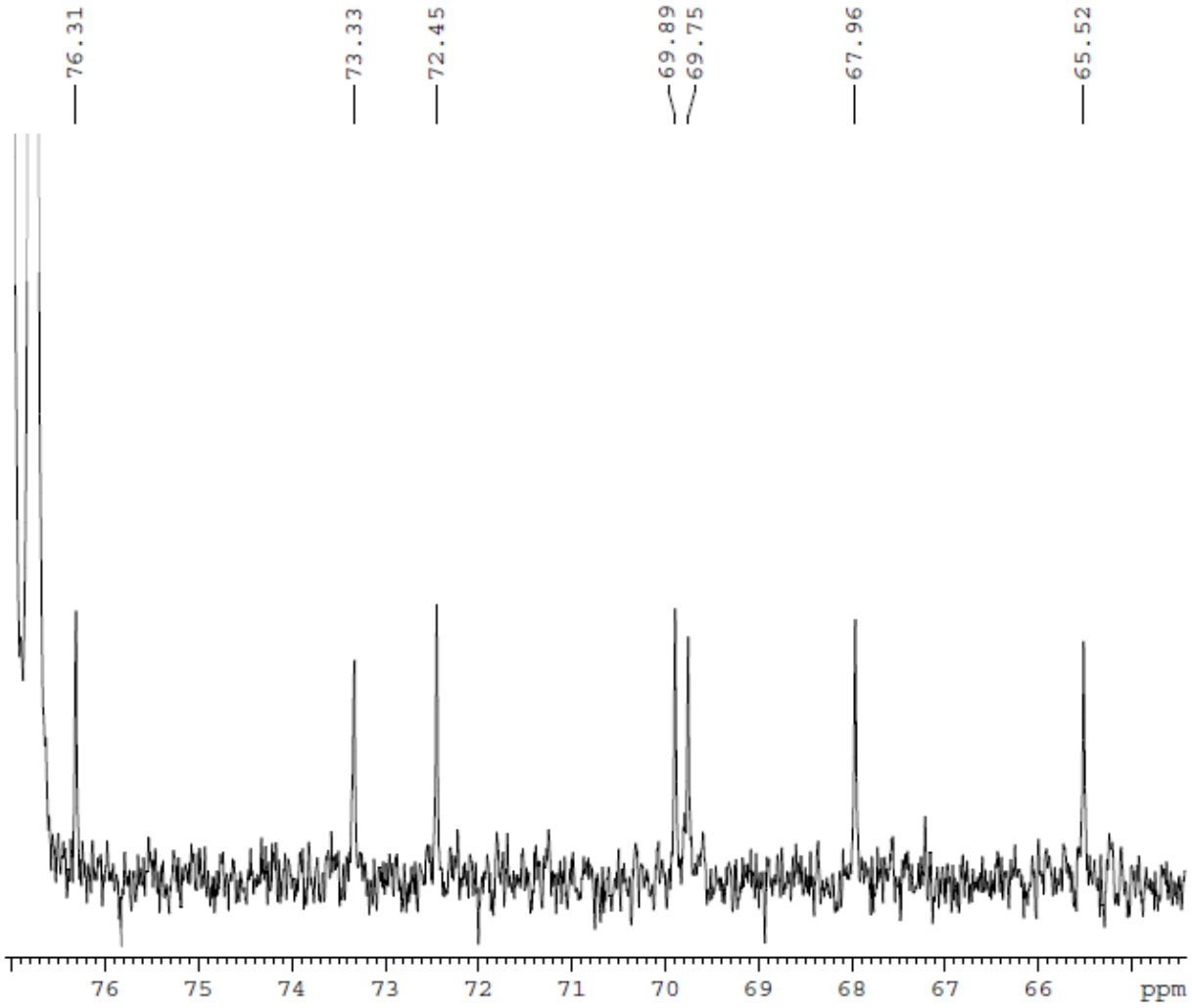
^{14}C NMR of compound **14**




```
Current Data Parameters
NAME                  Sagar
EXPNO                    20
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140716
Time                  11.16
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     1206
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   298.0 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                       1

-------- CHANNEL f1 --------
SFO1            125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1           120.50000000 W

-------- CHANNEL f2 --------
SFO2            500.2320009 MHz
NUC2                    1H
CPDPRG[2             waltz16
PCPD2                 80.00 usec
PLW2              27.16399956 W
PLW12              0.34685999 W
PLW13              0.22199000 W

F2 - Processing parameters
SI                      32768
SF              125.7829340 MHz
WDW                        EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```

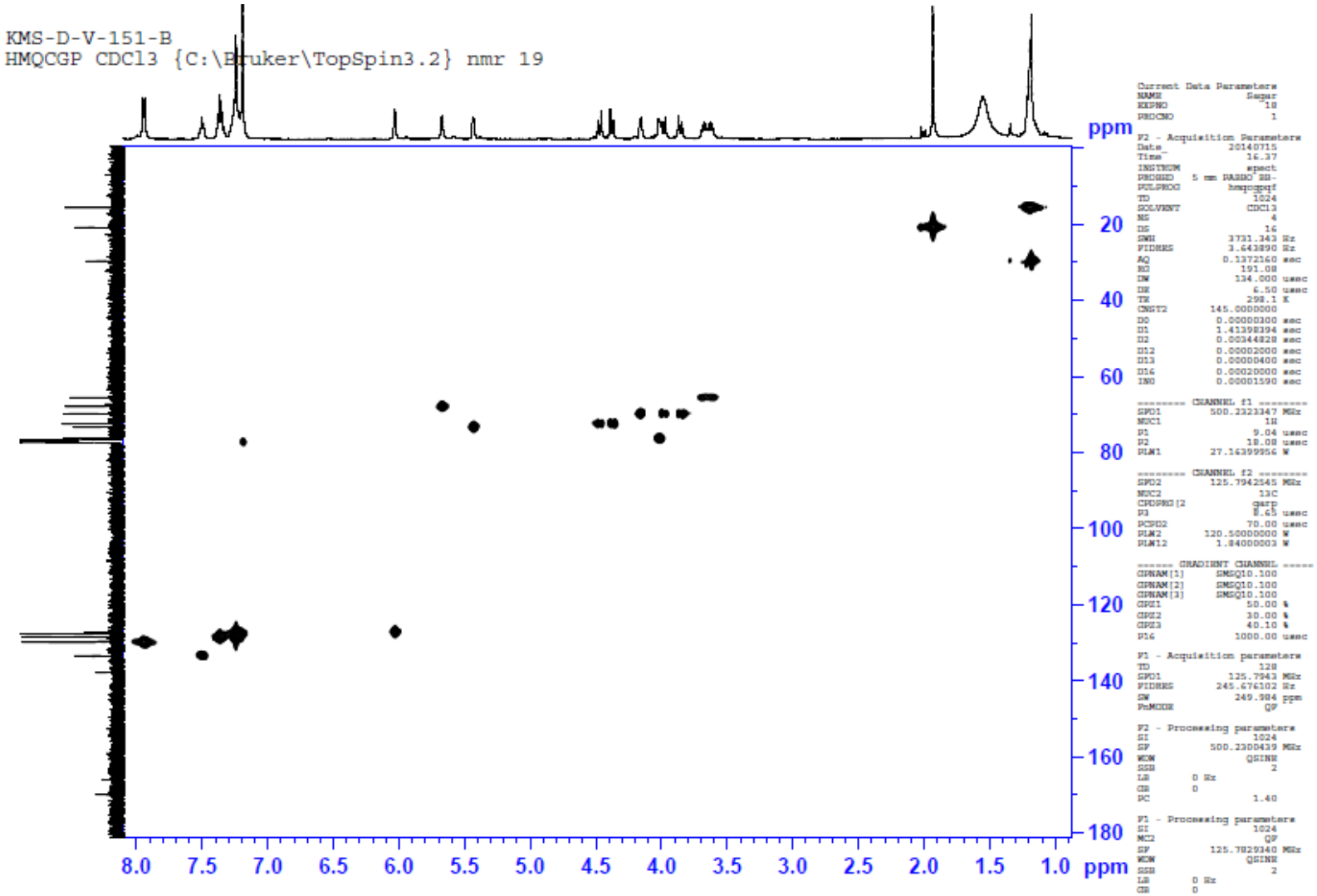
^{14}C NMR of compound **14** (zoom)

KMS-D-V-151B
C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 37

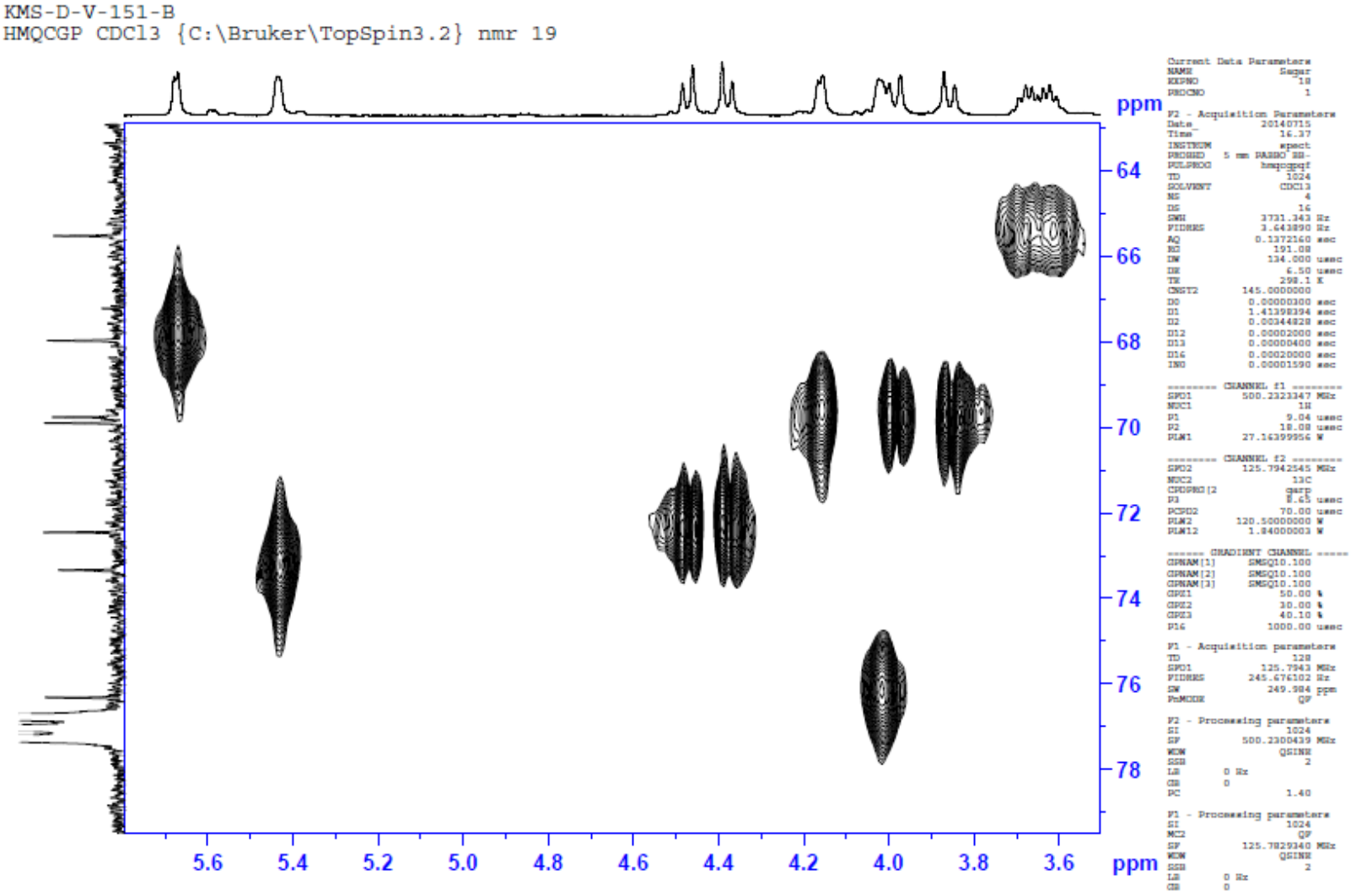



```
Current Data Parameters
NAME                  Sagar
EXPNO                    20
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140716
Time                  11.16
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1206
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.0 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2            waltz16
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                    32768
SF               125.7829340 MHz
WDW                      EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

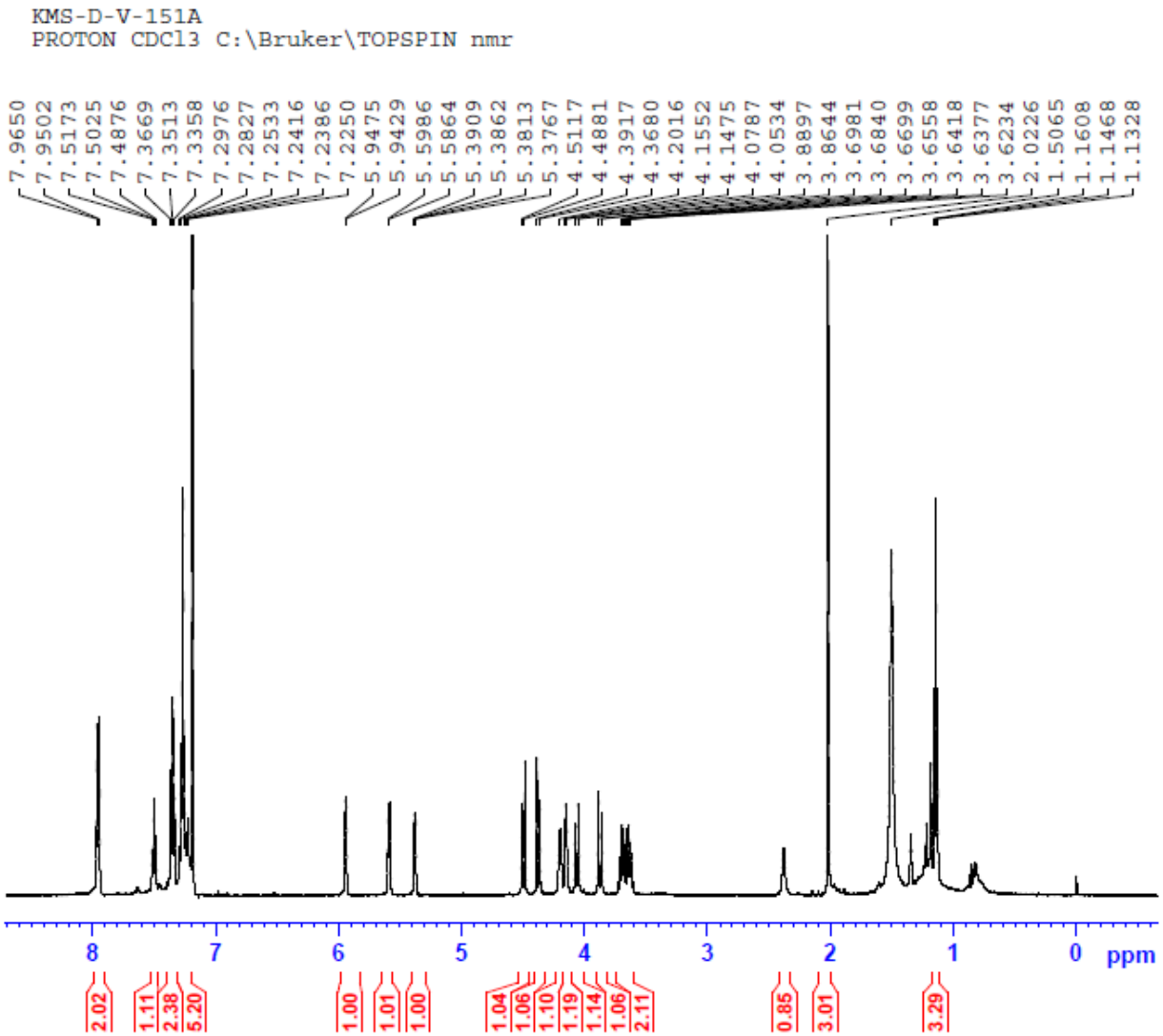
HMQC of compound **14**



HMQC of compound **14** (zoom)

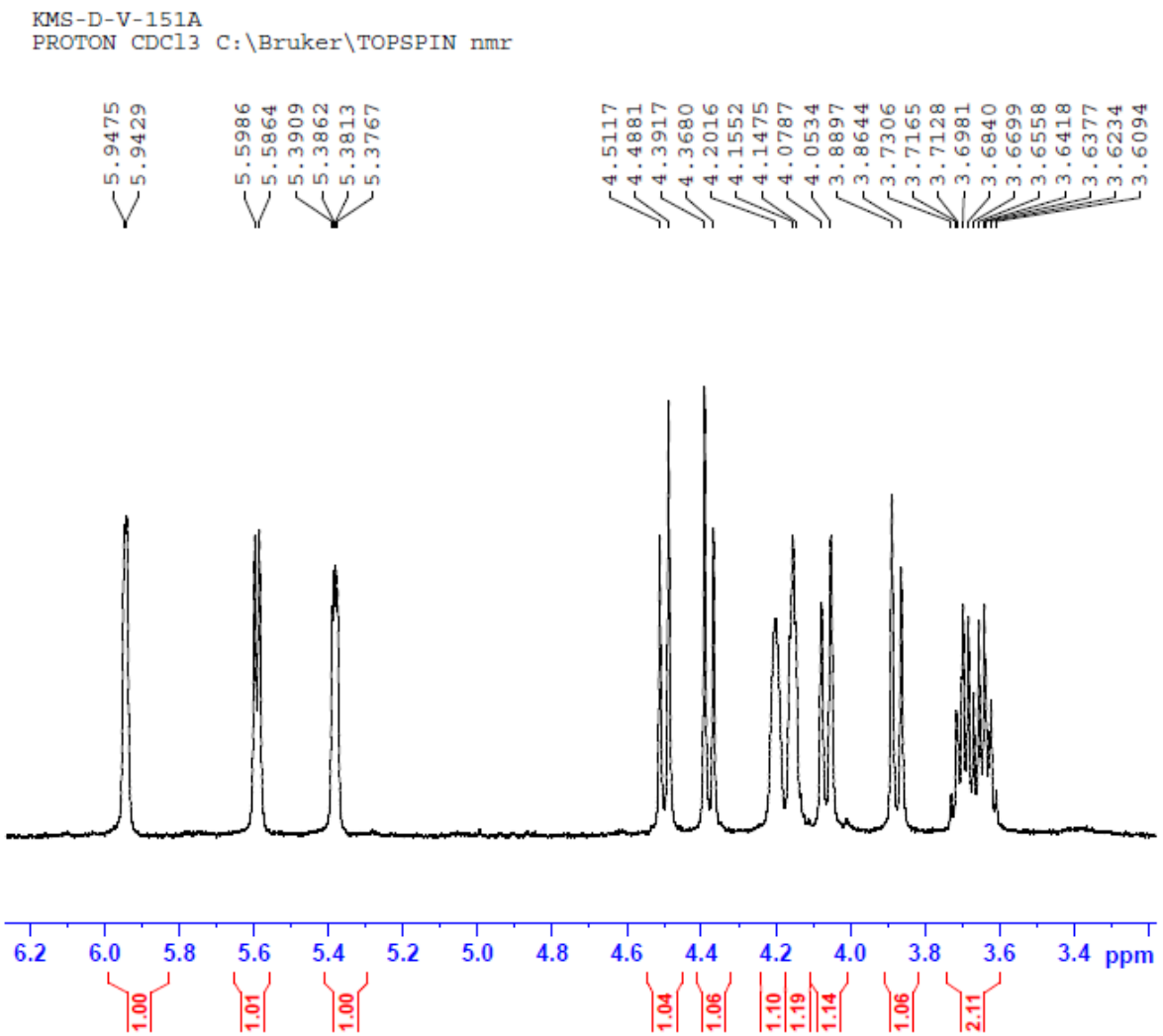


^{1}H NMR of compound **15**



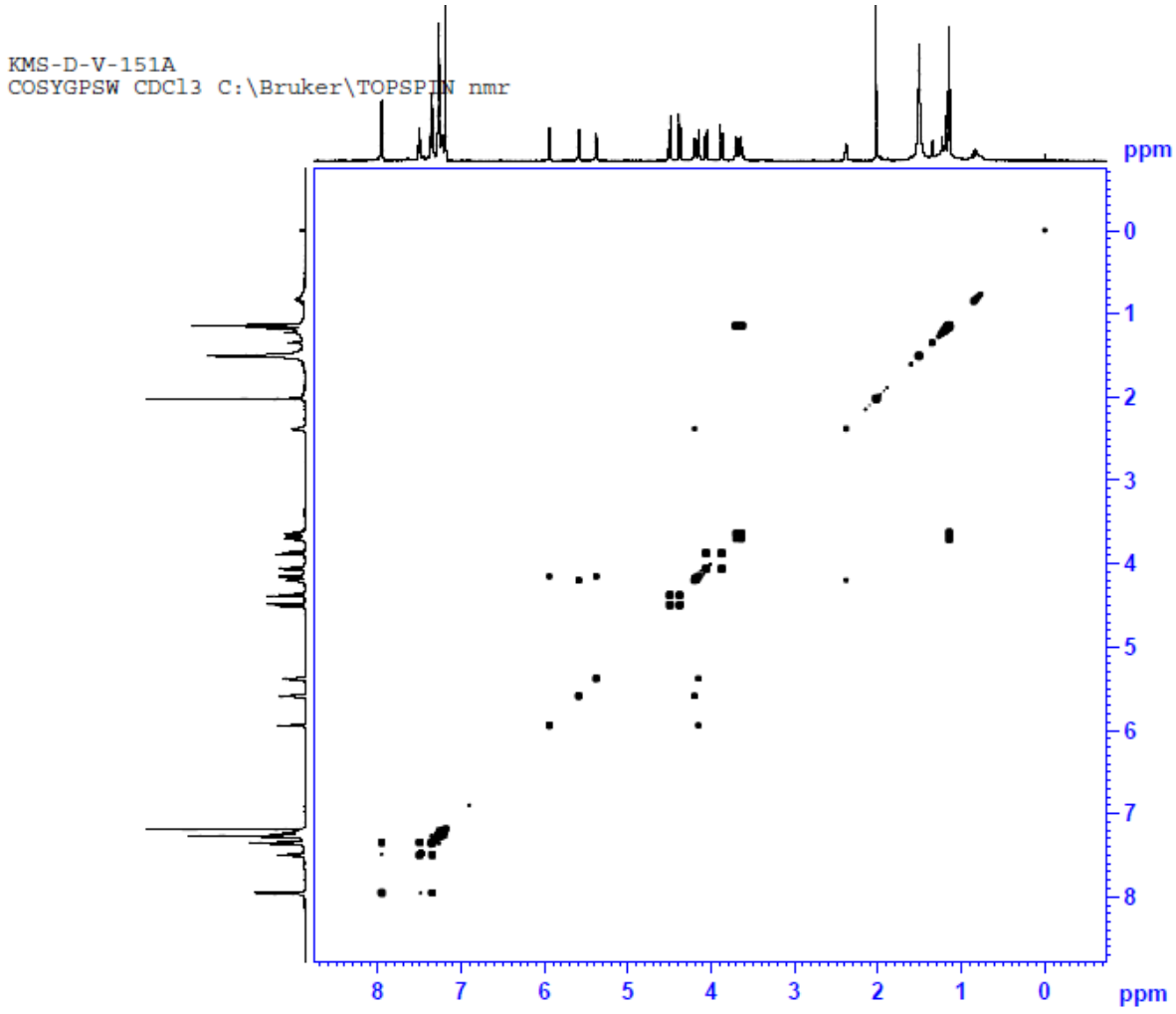

```
Current Data Parameters
NAME                  Sagar
EXPNO                   710
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time                   0.12
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                 3.1719425 sec
RG                    191.08
DW                    48.400 usec
DE                     6.50 usec
TE                    299.0 K
D1                1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                        65536
SF             500.2300506 MHz
WDW                       EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

^{1}H NMR of compound **15** (zoom)



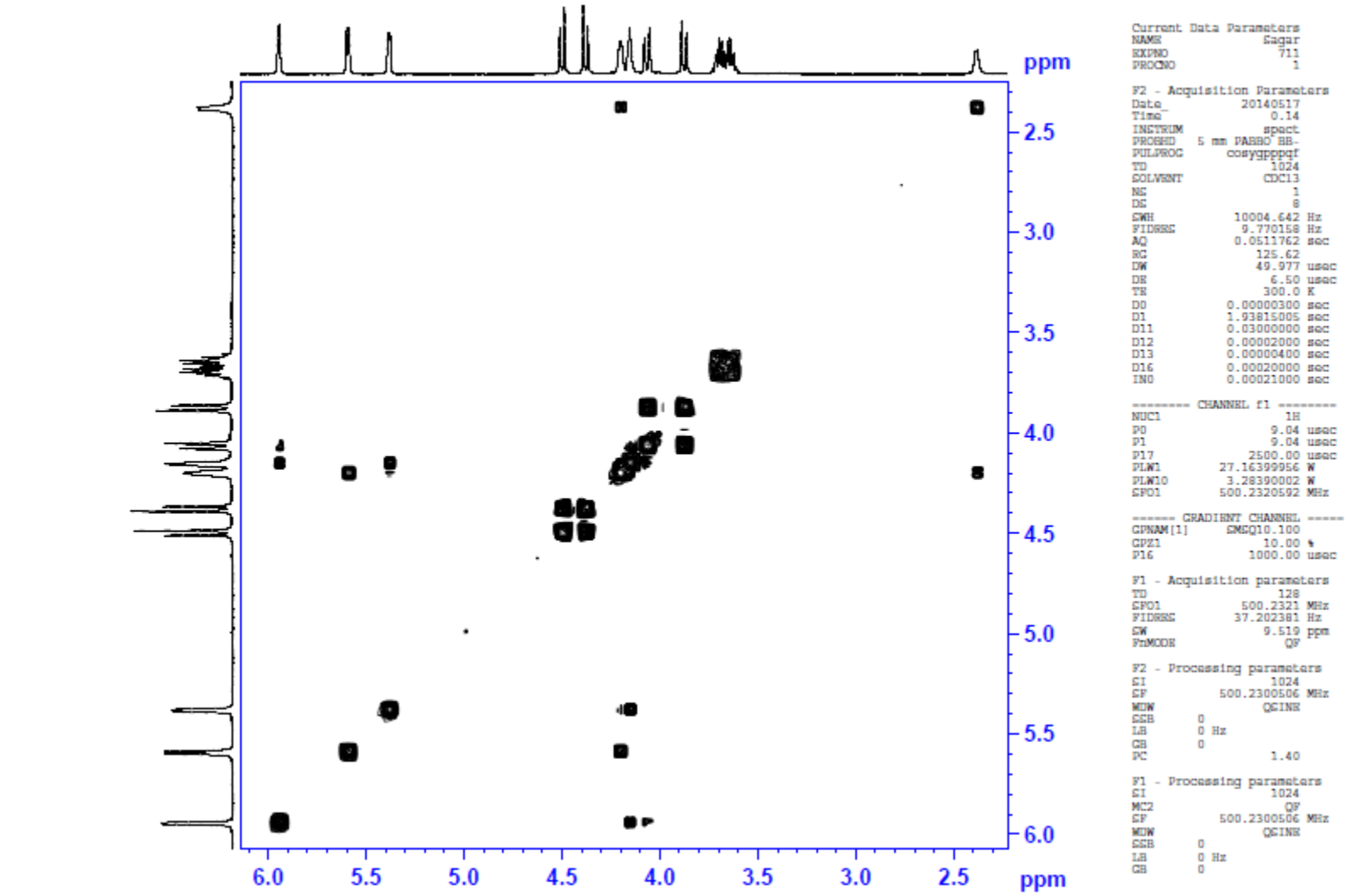

```
Current Data Parameters
NAME                  Sagar
EXPNO                   710
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time                   0.12
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719425 sec
RG                   191.08
DW                   48.400 usec
DE                    6.50 usec
TE                   299.0 K
D1              1.00000000 sec

-------- CHANNEL f1 --------
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300506 MHz
WDW                      EM
SSB         0
LB                    0.30 Hz
GB          0
PC                    1.00
```

COSY of compound **15**



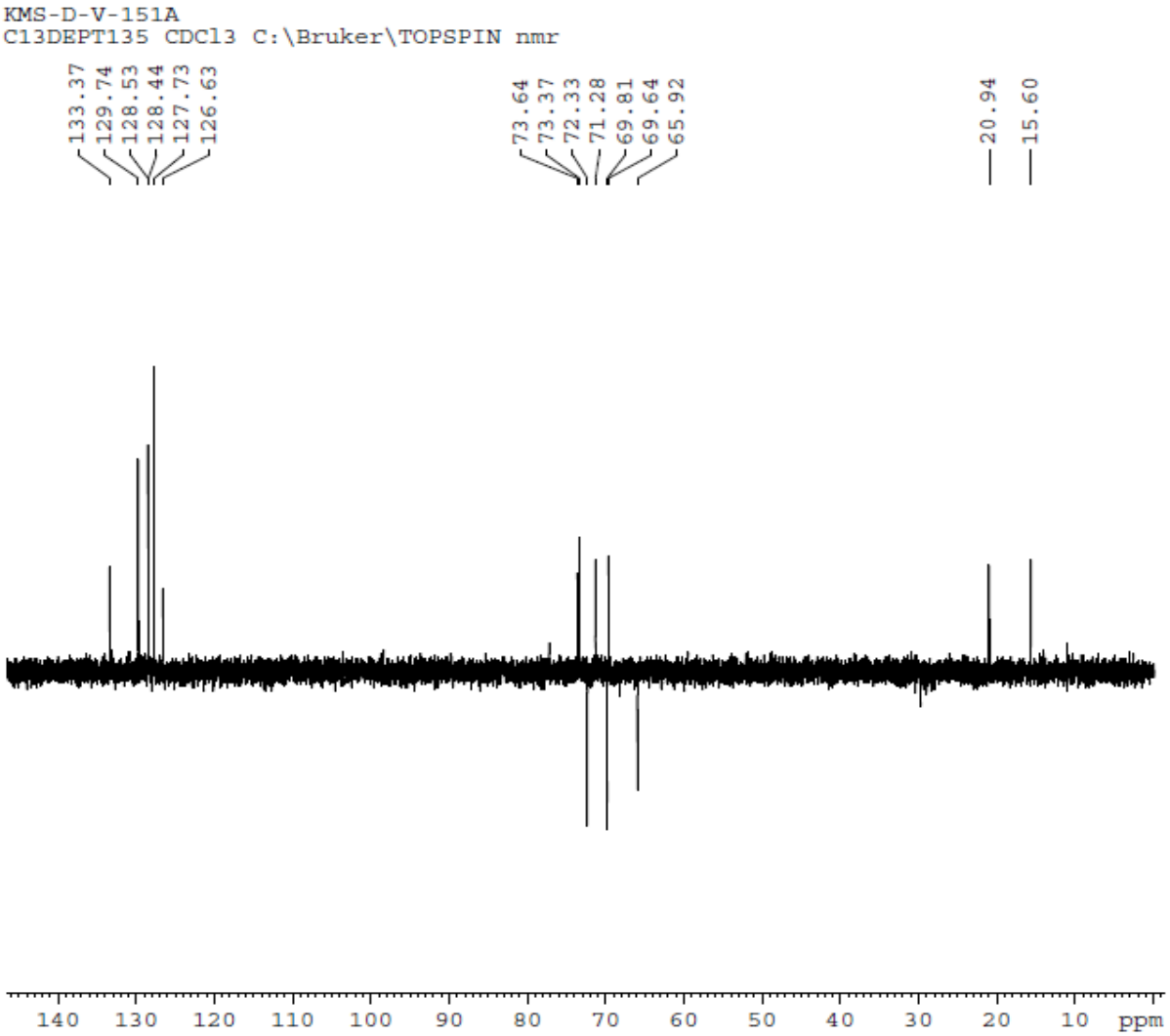

```
Current Data Parameters
NAME                  Sagar
EXPNO                   711
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time                   0.14
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG          cosygppqf
TD                     1024
SOLVENT                CDCl3
NS                        1
DS                        8
SWH               10004.642 Hz
FIDRES             9.770158 Hz
AQ                 0.0511762 sec
RG                    125.62
DW                    49.977 usec
DE                     6.50 usec
TE                    300.0 K
D0                 0.00000300 sec
D1                 1.93815005 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00021000 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W
SFO1              500.2320592 MHz

====== GRADIENT CHANNEL =====
GPNAM[1]          GMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1              500.2321 MHz
FIDRES            37.202381 Hz
SW                    9.519 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF                500.2300506 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF                500.2300506 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **15** (zoom)



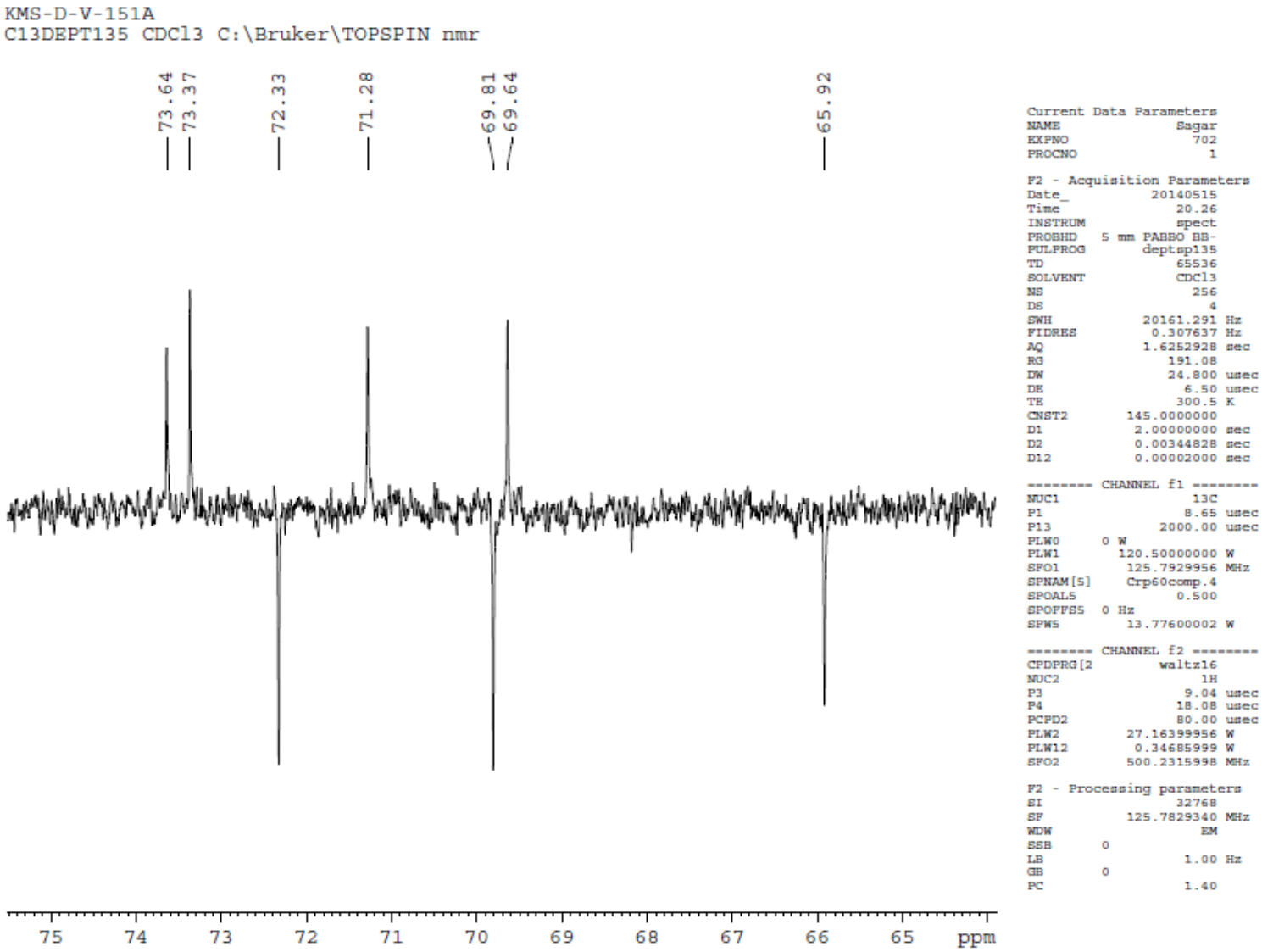

```
Current Data Parameters
NAME                  Sagar
EXPNO                   711
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time               0.14
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     1024
SOLVENT                CDCl3
NS                        1
DS                        8
SWH              10004.642 Hz
FIDRES            9.770158 Hz
AQ                0.0511762 sec
RG                   125.62
DW                  49.977 usec
DE                   6.50 usec
TE                  300.0 K
D0                0.00000300 sec
D1                1.93815005 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00021000 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2320592 MHz

====== GRADIENT CHANNEL =====
GPNAM[1]       SMSQ10.100
GPZ1                  10.00 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1             500.2321 MHz
FIDRES           37.202381 Hz
SW                    9.519 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF               500.2300506 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF               500.2300506 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **15**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   702
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140515
Time                  20.26
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG          dept#p135
TD                    65536
SOLVENT               CDCl3
NS                      256
DS                        4
SWH               20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6252928 sec
RG                    191.08
DW                    24.800 usec
DE                     6.50 usec
TE                    300.5 K
CNST2             145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
P13                  2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2              waltz16
NUC2                     1H
P3                      9.04 usec
P4                     18.08 usec
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                    32768
SF               125.7829340 MHz
WDW                      EM
SSB         0
LB                      1.00 Hz
GB          0
PC                      1.40
```

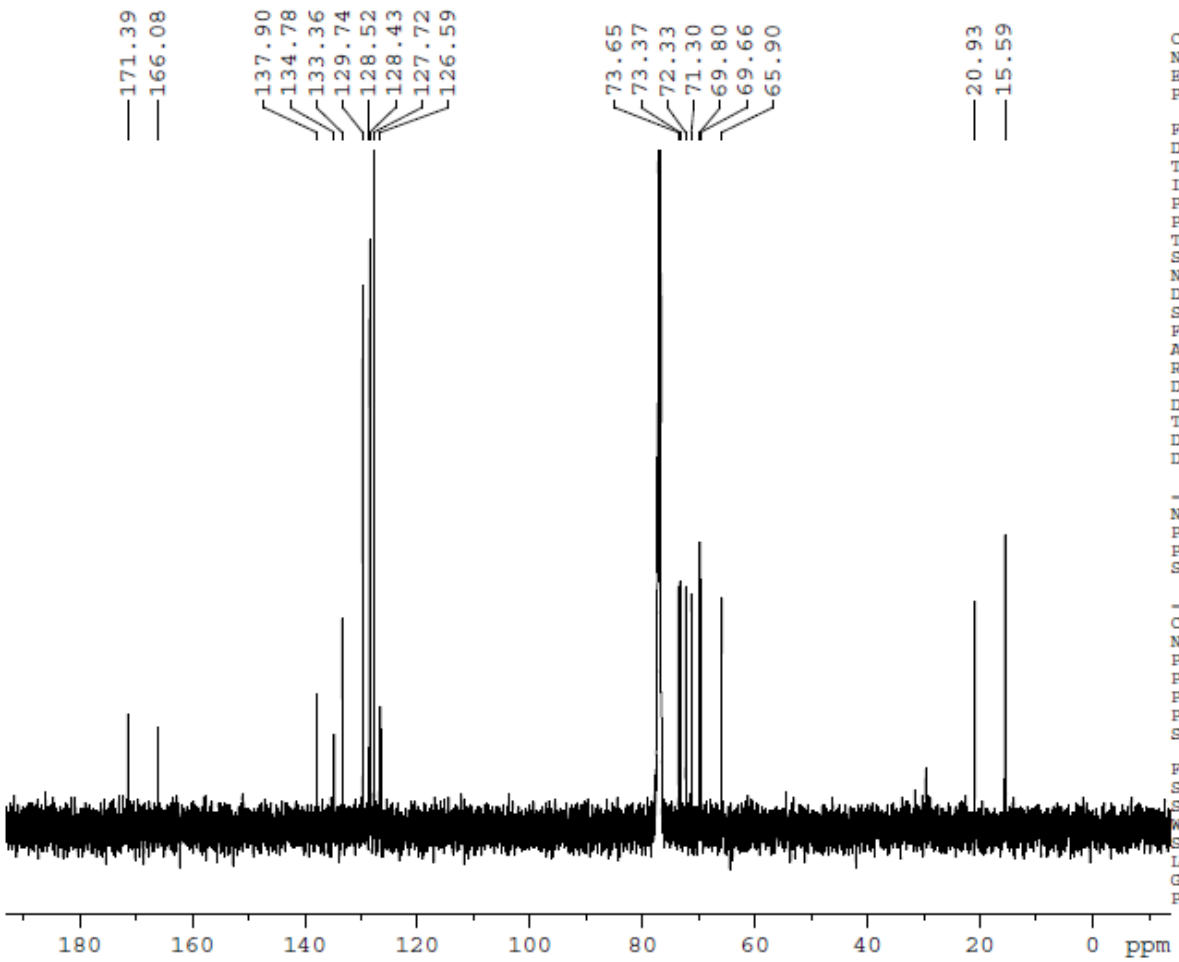
DEPT of compound **15** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   702
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140515
Time                  20.26
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          dept#p135
TD                    65536
SOLVENT               CDCl3
NS                      256
DS                        4
SWH               20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6252928 sec
RG                    191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   300.5 K
CNST2             145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
P13                  2000.00 usec
PLW0       0 W
PLW1         120.50000000 W
SFO1          125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5                0.500
SPOFFS5    0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                     1H
P3                      9.04 usec
P4                     18.08 usec
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                      EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

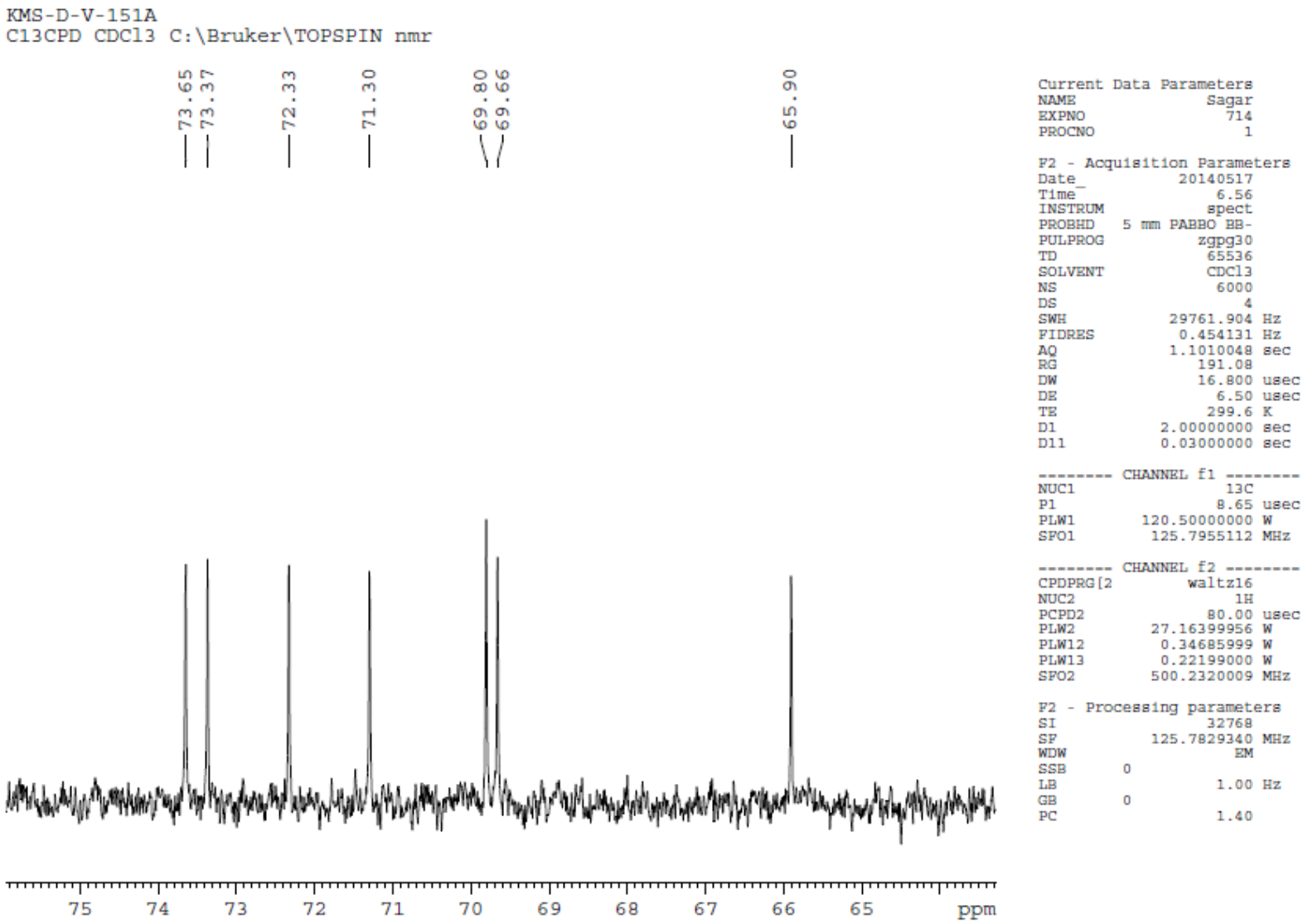
^{14}C NMR of compound **15**

KMS-D-V-151A
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



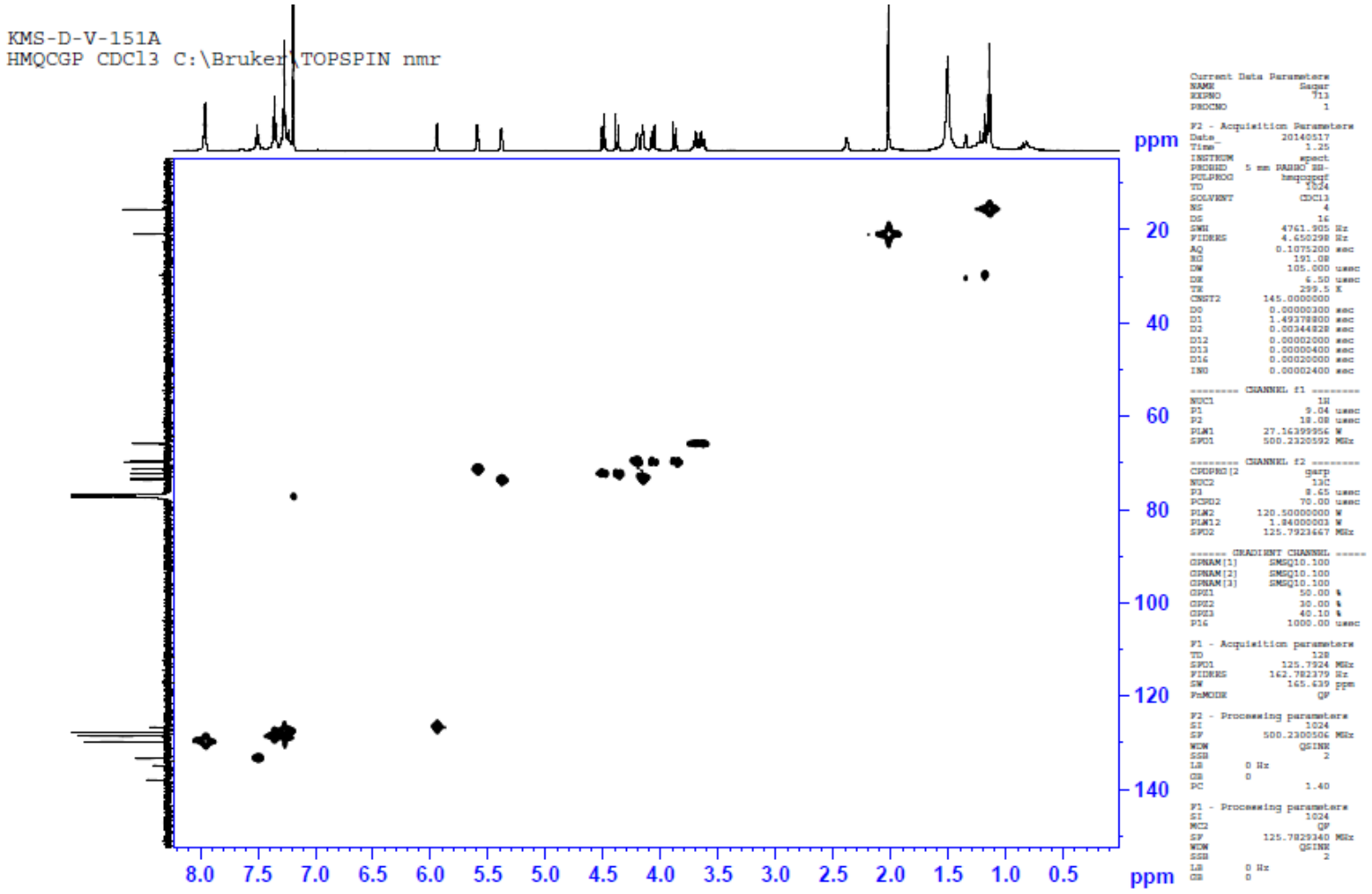

```
Current Data Parameters
NAME                  Sagar
EXPNO                   714
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time                   6.56
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     6000
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                   299.6 K
D1              2.00000000 sec
D11             0.03000000 sec

-------- CHANNEL f1 --------
NUC1                    13C
P1                   8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

-------- CHANNEL f2 --------
CPDPRG[2           waltz16
NUC2                    1H
PCPD2               80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                   1.00 Hz
GB        0
PC                   1.40
```

^{14}C NMR of compound **15** (zoom)

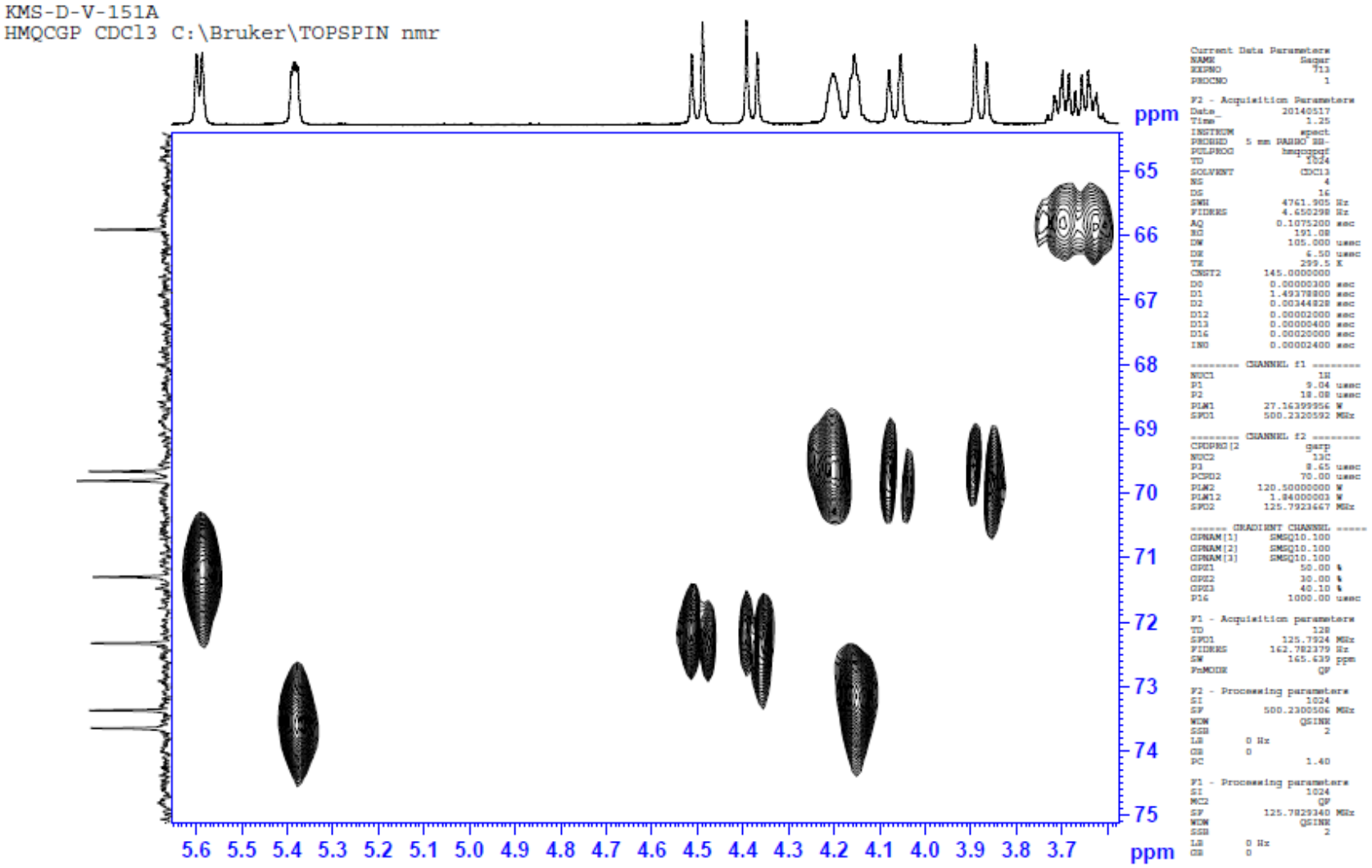



```
Current Data Parameters
NAME                  Sagar
EXPNO                   714
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140517
Time                   6.56
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    6000
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  299.6 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2           waltz16
NUC2                   1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF           125.7829340 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

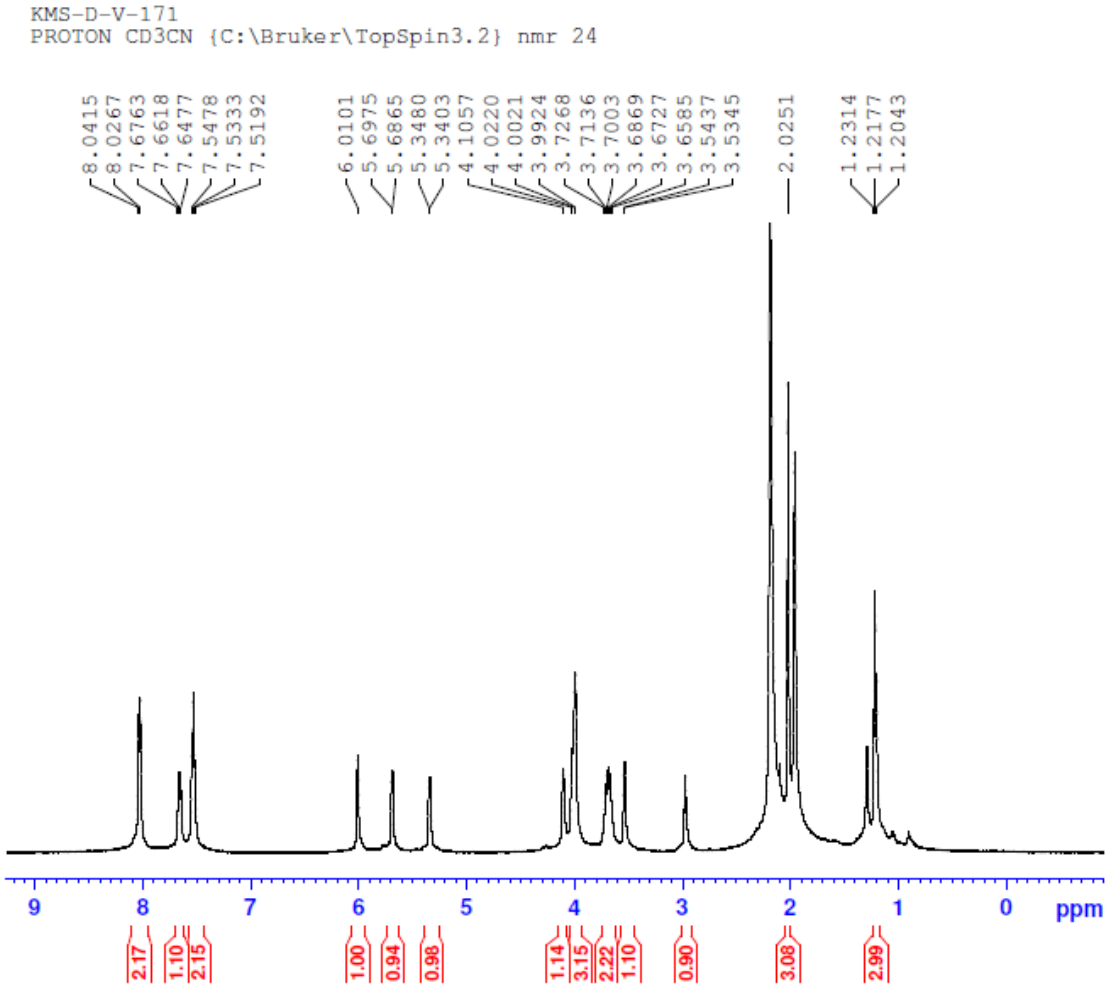
HMQC of compound **15**



HMQC of compound **15** (zoom)

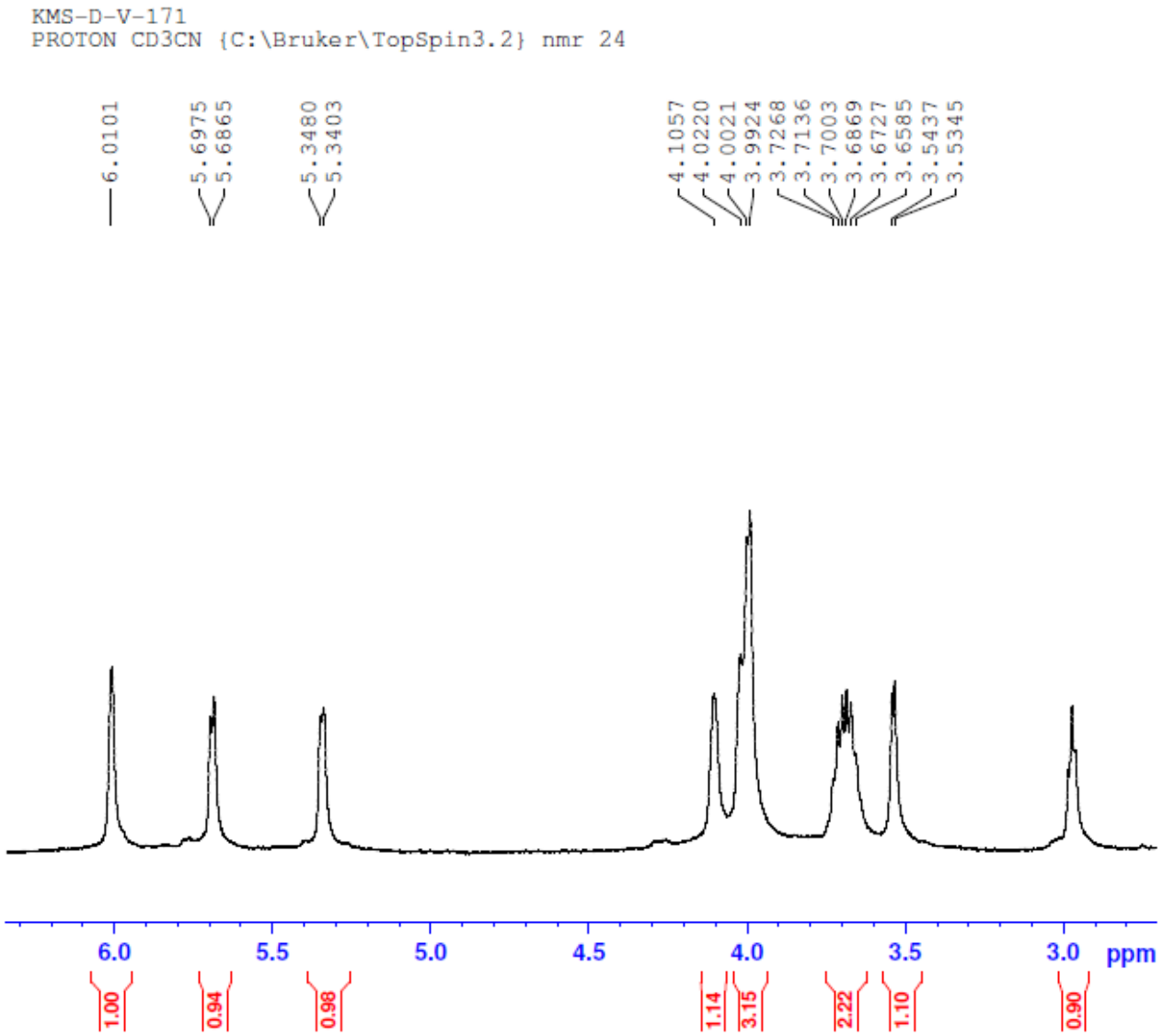


^{1}H NMR of compound **16**



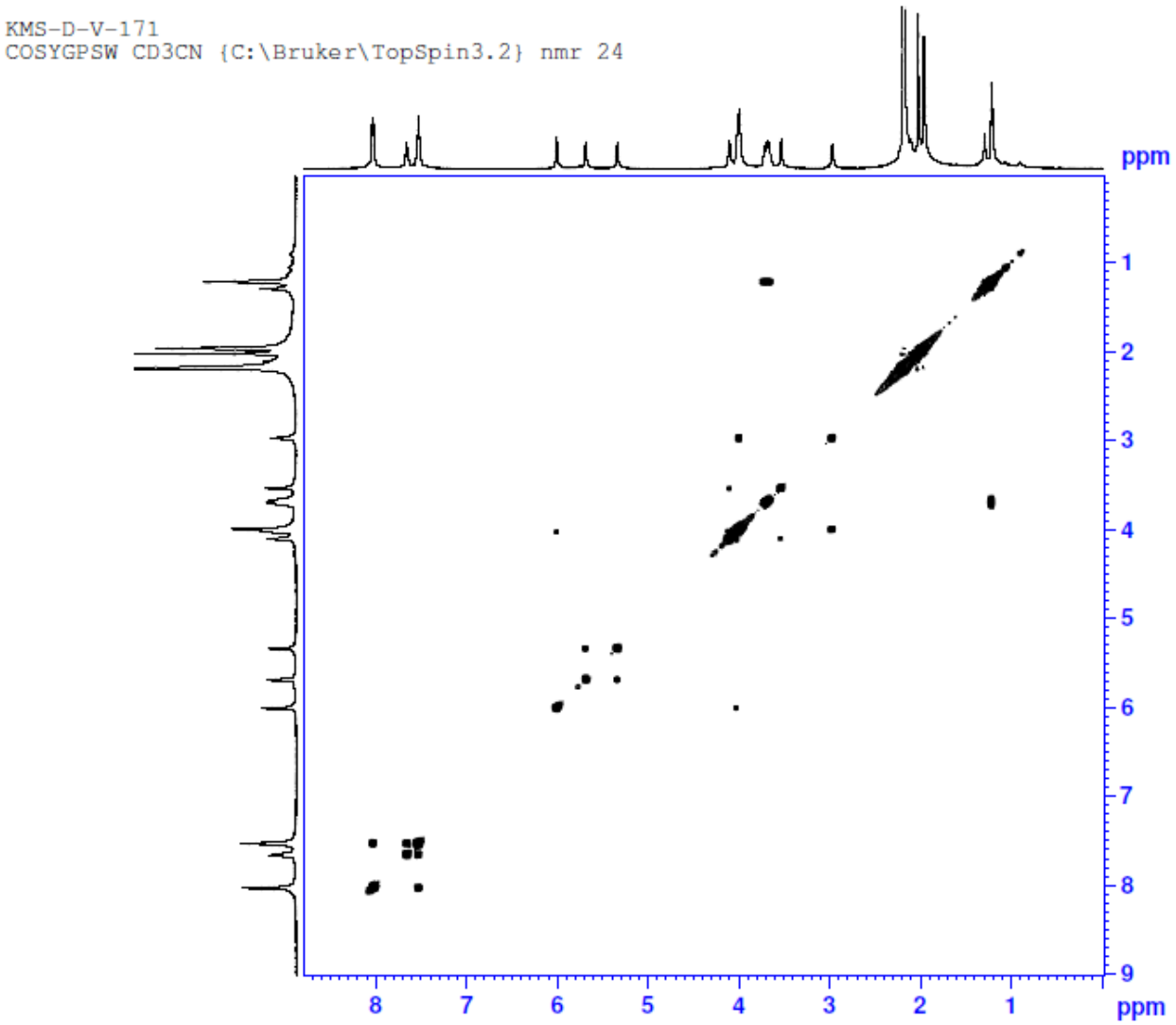

```
Current Data Parameters
NAME                  Sagar
EXPNO                    28
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   3.31
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CD3CN
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   153.65
DW                    50.000 usec
DE                     6.50 usec
TE                    295.4 K
D1              1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300000 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

^{1}H NMR of compound **16** (zoom)



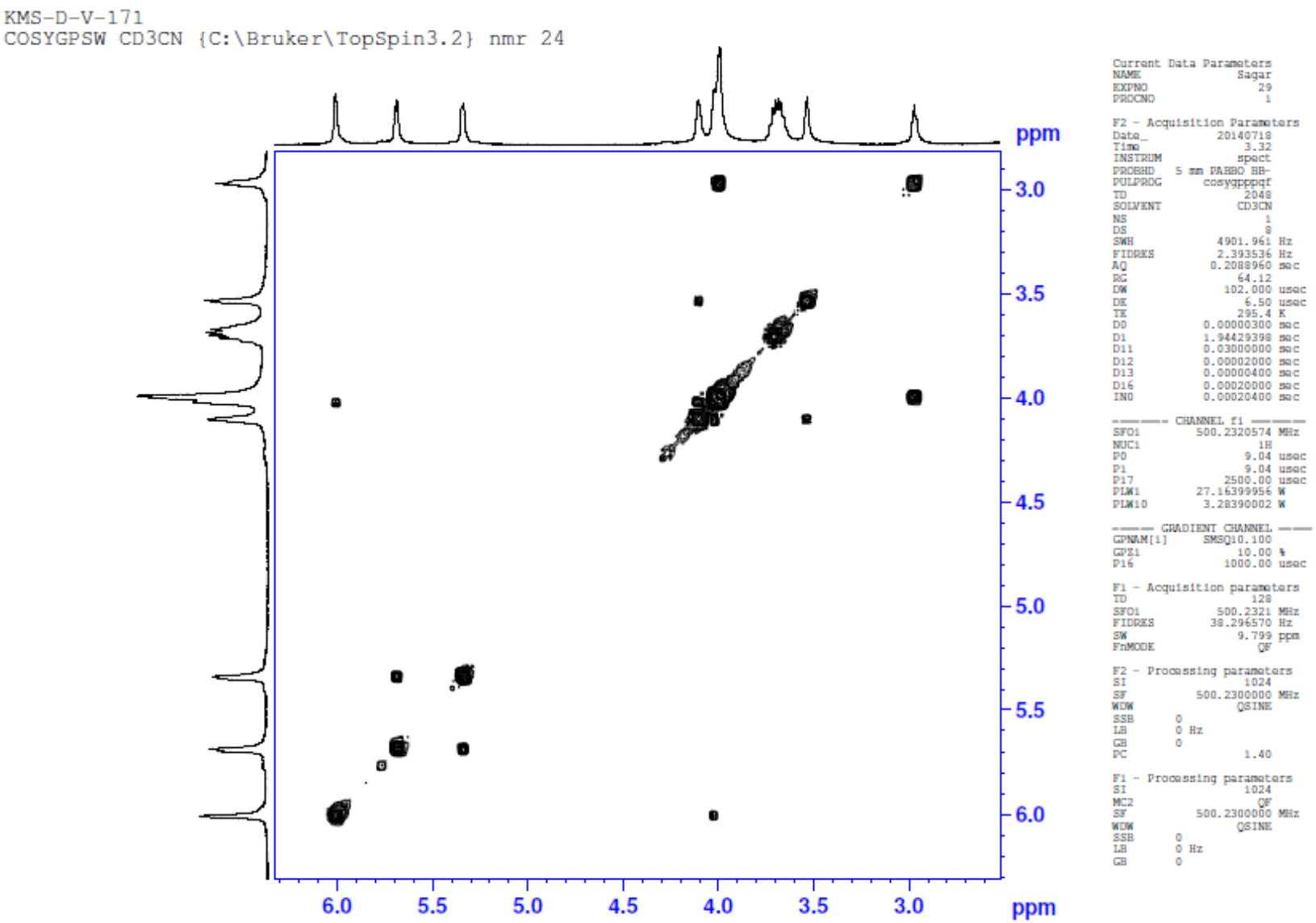

```
Current Data Parameters
NAME                  Sagar
EXPNO                    28
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   3.31
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CD3CN
NS                       16
DS                        2
SWH             10000.000 Hz
FIDRES              0.152588 Hz
AQ                3.2767999 sec
RG                   153.65
DW                   50.000 usec
DE                    6.50 usec
TE                   295.4 K
D1               1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                    1H
P1                    9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300000 MHz
WDW                     EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

COSY of compound **16**



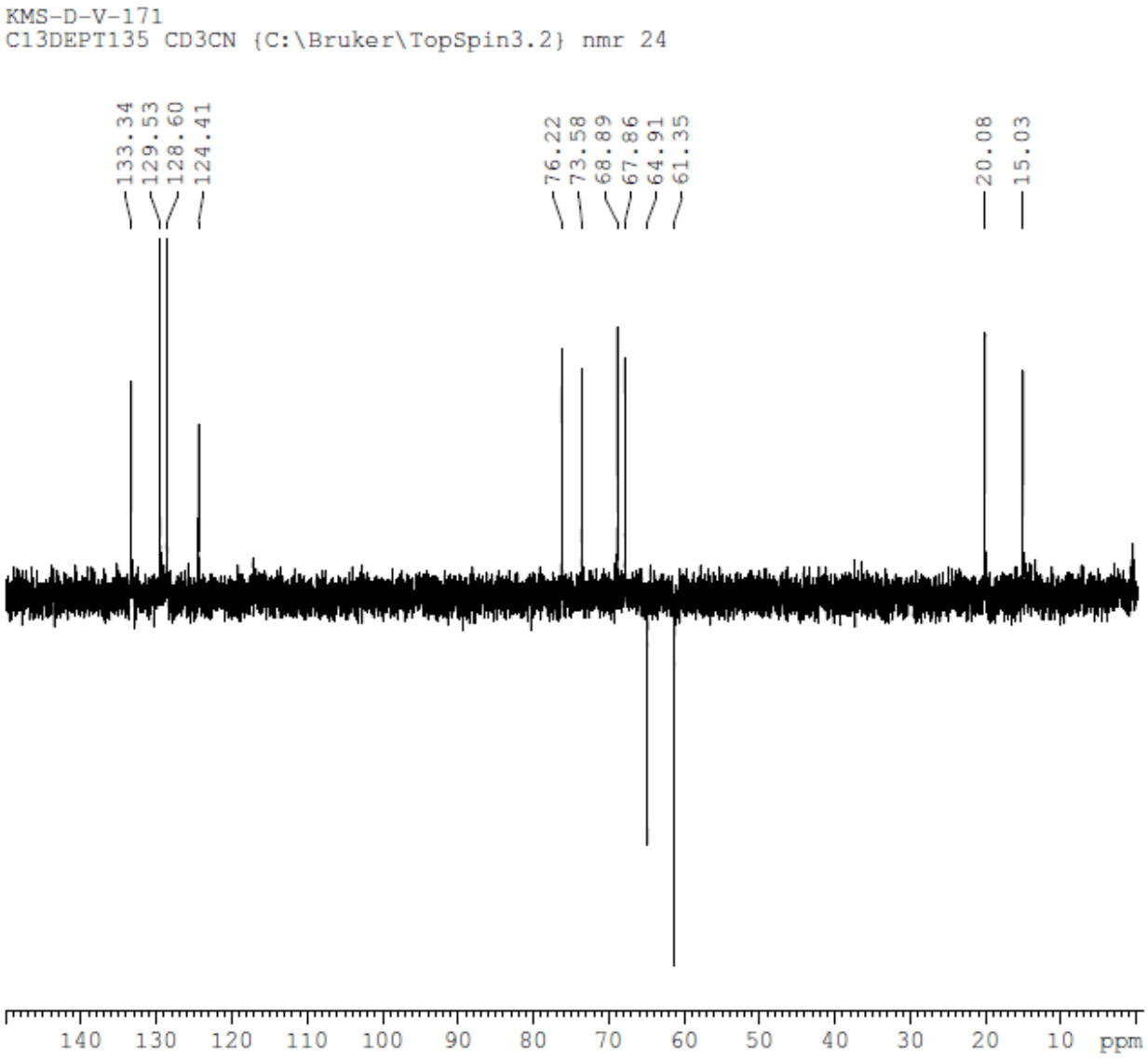

```
Current Data Parameters
NAME                  Sagar
EXPNO                    29
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   3.32
INSTRUM               spect
PROBHD     5 mm PABBO BB-
PULPROG         cosygpppqf
TD                     2048
SOLVENT               CD3CN
NS                        1
DS                        8
SWH                4901.961 Hz
FIDRES             2.393536 Hz
AQ                 0.2088960 sec
RG                     64.12
DW                   102.000 usec
DE                      6.50 usec
TE                     295.4 K
D0                0.00000300 sec
D1                1.94429398 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00020400 sec

======== CHANNEL f1 ========
SFO1             500.2320574 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]        SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                      128
SFO1             500.2321 MHz
FIDRES          38.296570 Hz
SW                   9.799 ppm
FnMODE                  QF

F2 - Processing parameters
SI                      1024
SF               500.2300000 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
PC                      1.40

F1 - Processing parameters
SI                      1024
MC2                     QF
SF               500.2300000 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **16** (zoom)



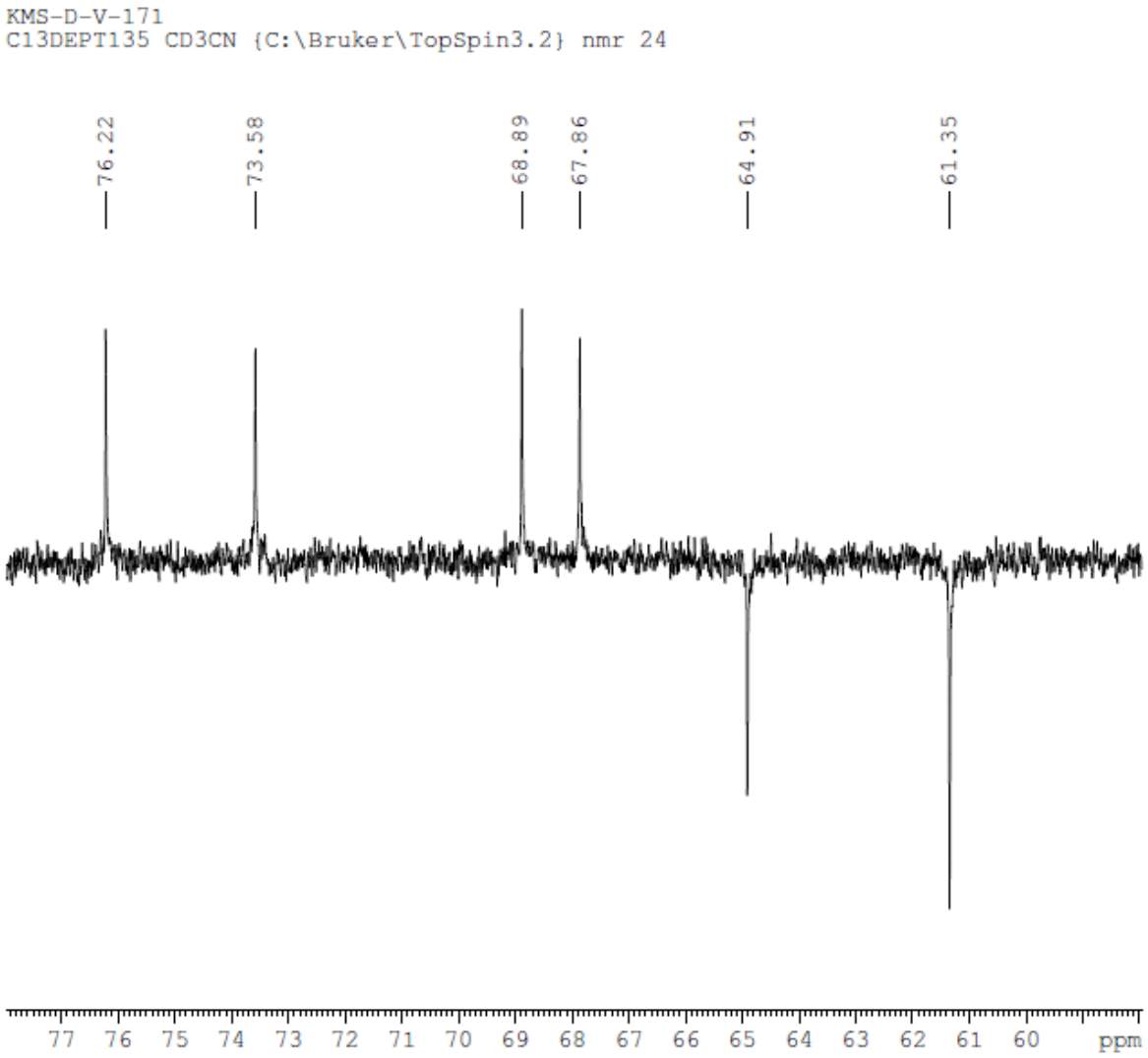

```
Current Data Parameters
NAME                  Sagar
EXPNO                    29
PROCNO                    1

F2 - Acquisition Parameters
Data_           20140718
TIME                  3.32
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG       cosygpppqf
TD                    2048
SOLVENT            CD3CN
NS                       1
DS                       8
SWH              4901.961 Hz
FIDRES           2.393536 Hz
AQ               0.2088960 sec
RG                   64.12
DW                102.000 usec
DE                   6.50 usec
TE                  295.4 K
D0               0.00000300 sec
D1               1.94429398 sec
D11              0.03000000 sec
D12              0.00002000 sec
D13              0.00000400 sec
D16              0.00020000 sec
IN0              0.00020400 sec

======== CHANNEL f1 ========
SFO1          500.2320574 MHz
NUC1                     1H
P0                    9.04 usec
P1                    9.04 usec
P17                2500.00 usec
PLW1          27.16399956 W
PLW10          3.28390002 W

======== GRADIENT CHANNEL ====
GPNAM[1]       SMSQ10.100
GPZ1                10.00 %
P16               1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2321 MHz
FIDRES           38.296570 Hz
SW                    9.799 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF              500.2300000 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF              500.2300000 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **16**



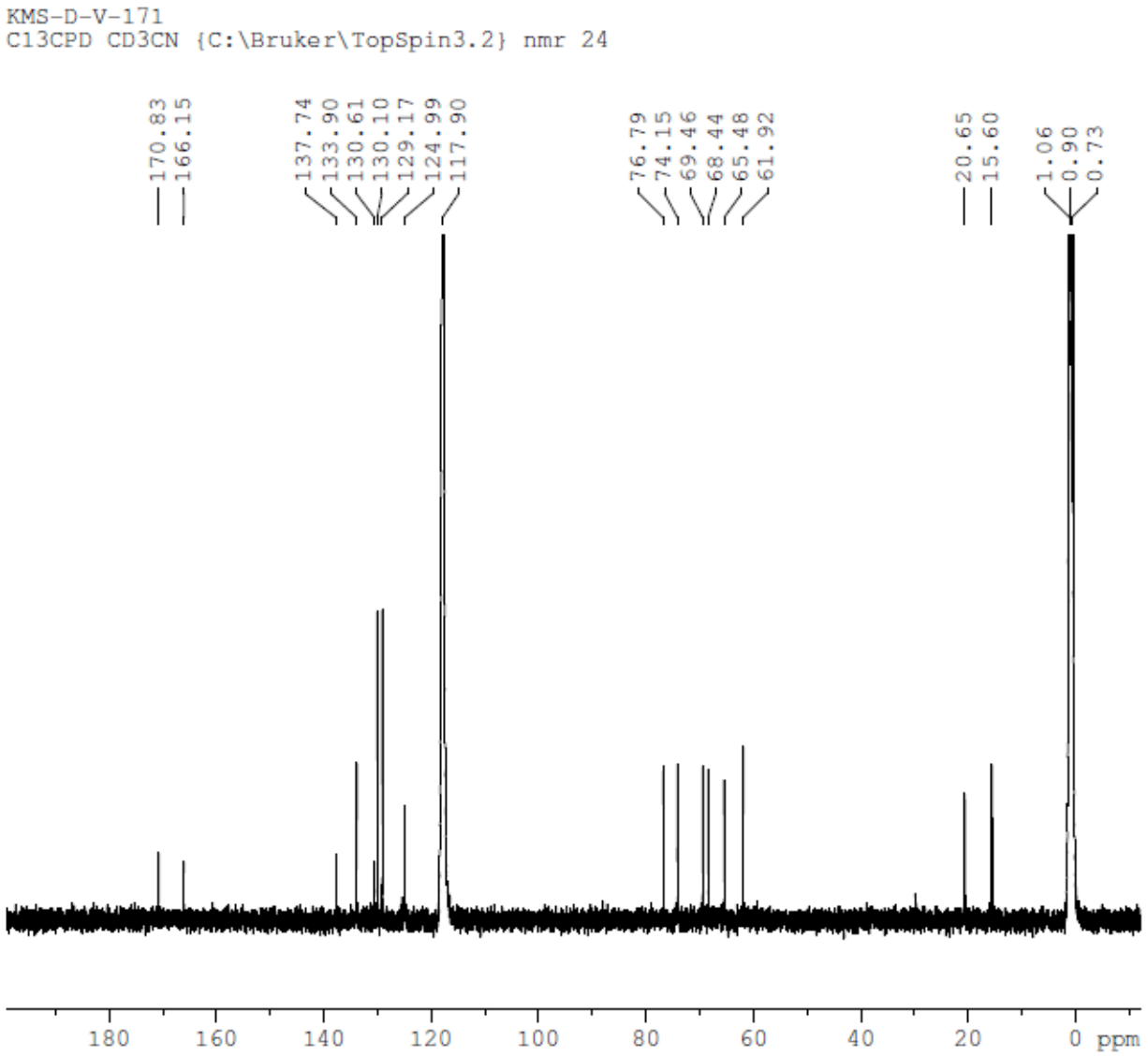

```
Current Data Parameters
NAME                  Sagar
EXPNO                    32
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   8.27
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CD3CN
NS                    1000
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  295.3 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0       0 W
PLW1         120.50000000 W
SPNAM[5]     Crp60comp.4
SPOAL5               0.500
SPOFFS5    0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB        0
LB                     1.00 Hz
GB         0
PC                     1.40
```

DEPT of compound **16** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                    32
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   8.27
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CD3CN
NS                    1000
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  295.3 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
SFO2           500.2315998 MHz
NUC2                    1H
CPDPRG[2            waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

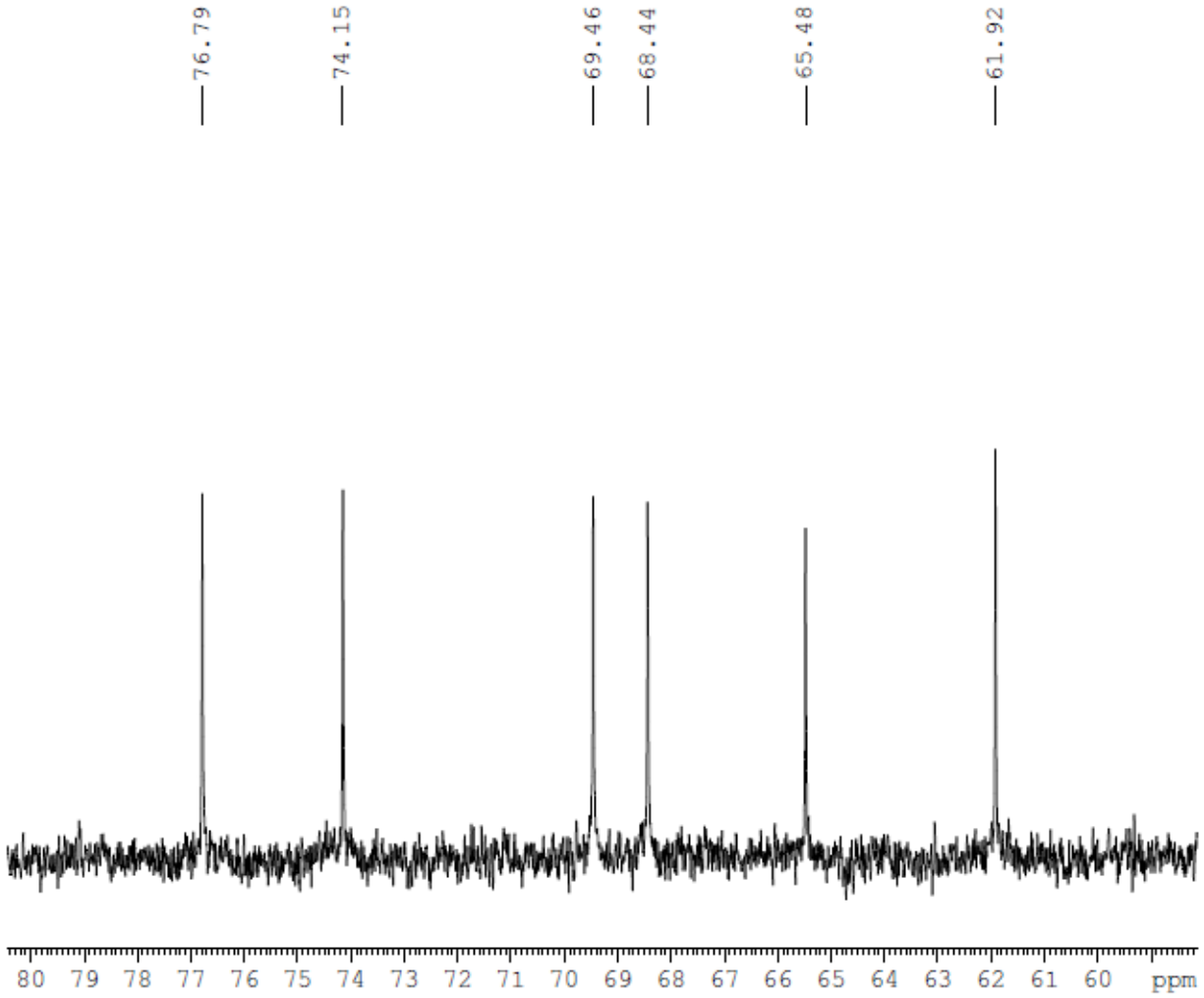
^{14}C NMR of compound **16**




```
Current Data Parameters
NAME                  Sagar
EXPNO                    31
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   4.08
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CD3CN
NS                     4000
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                   295.5 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                    32768
SF             125.7828625 MHz
WDW                      EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

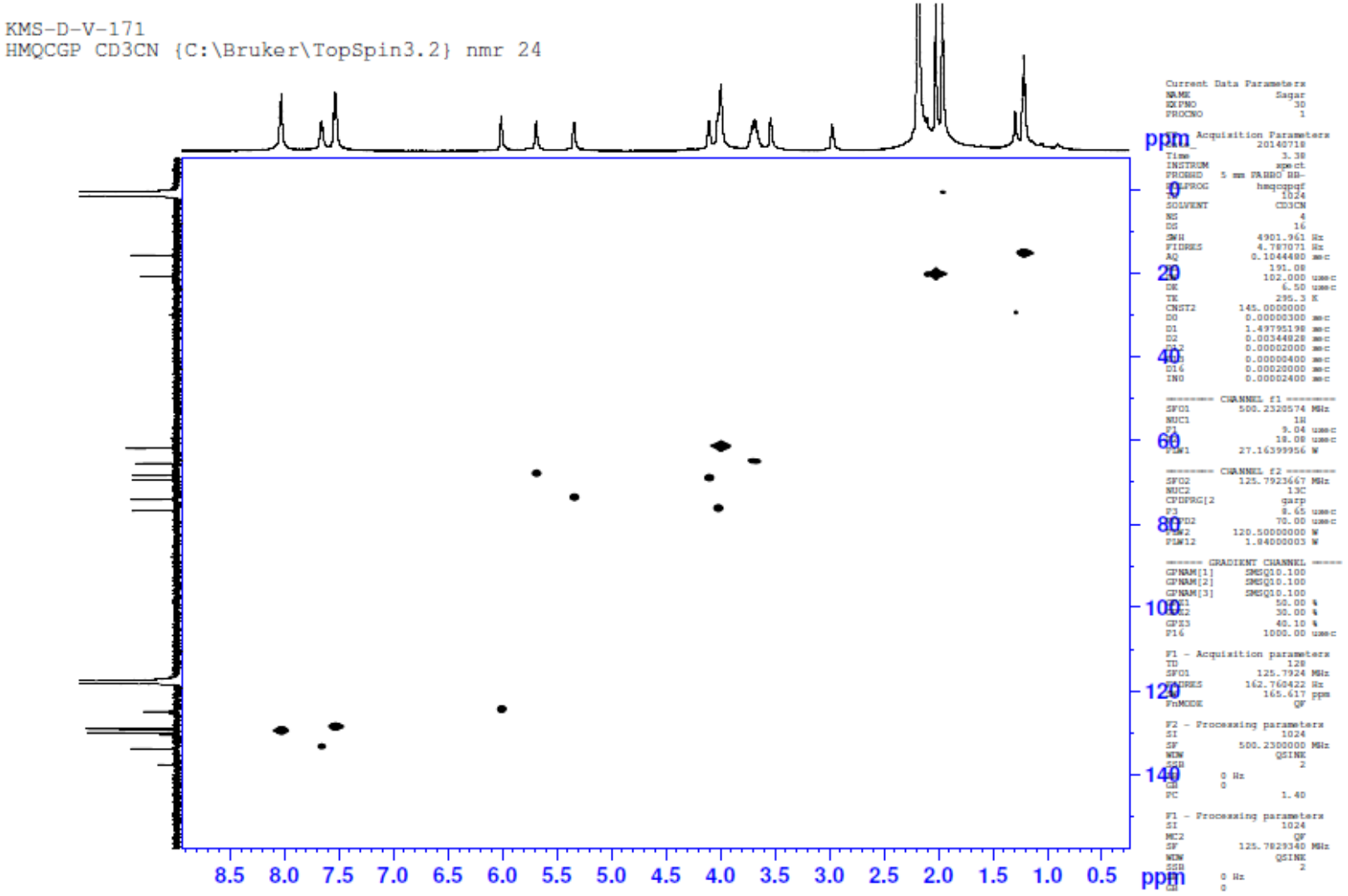
^{14}C NMR of compound **16** (zoom)

KMS-D-V-171
C13CPD CD3CN {C:\Bruker\TopSpin3.2} nmr 24

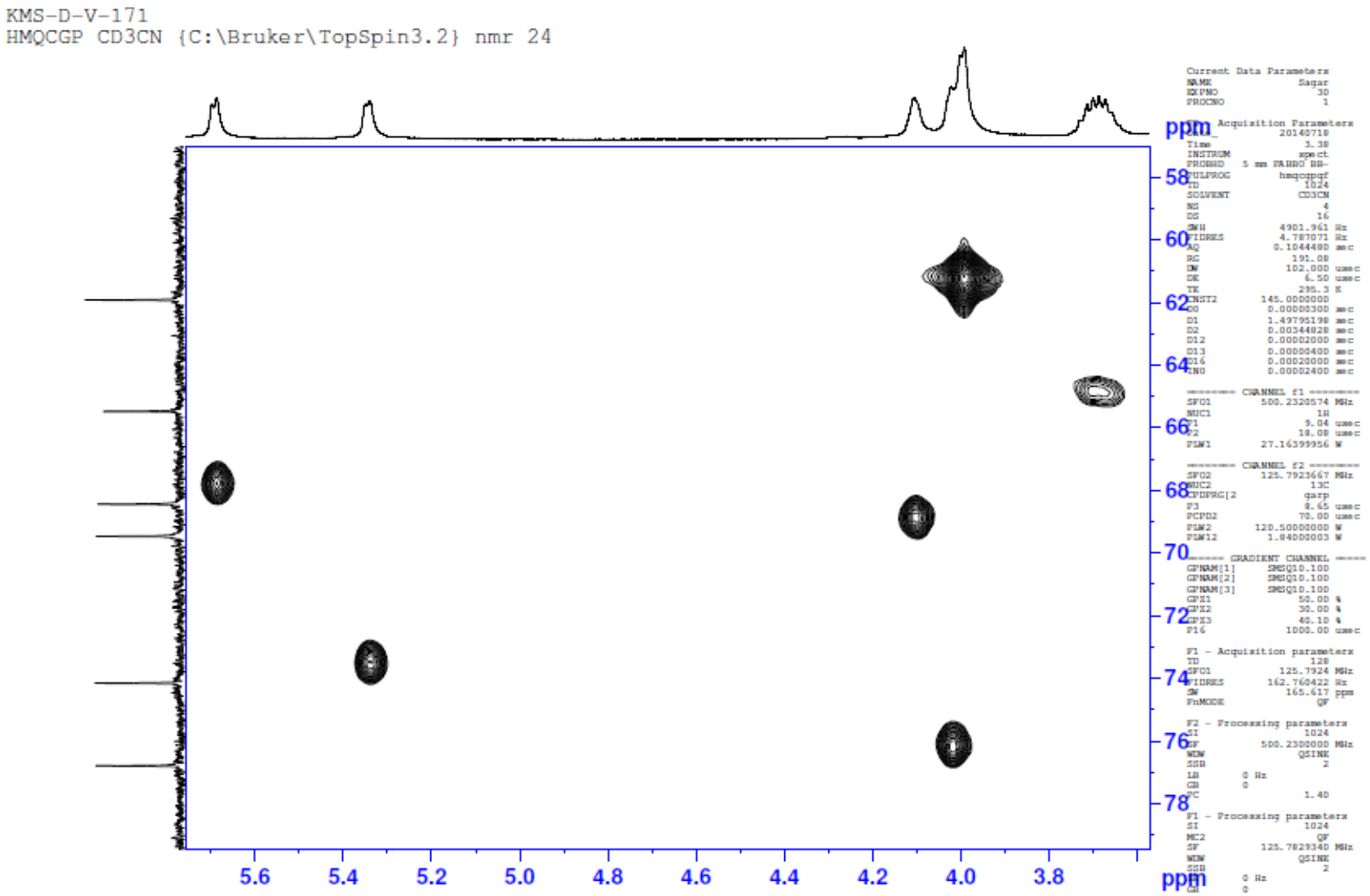



```
Current Data Parameters
NAME                  Sagar
EXPNO                    31
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140718
Time                   4.08
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CD3CN
NS                     4000
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  295.5 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1          125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1         120.50000000 W

======== CHANNEL f2 ========
SFO2          500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                     32768
SF            125.7828625 MHz
WDW                       EM
SSB       0
LB                     1.00 Hz
GB        0
PC                     1.40
```

HMQC of compound **16**

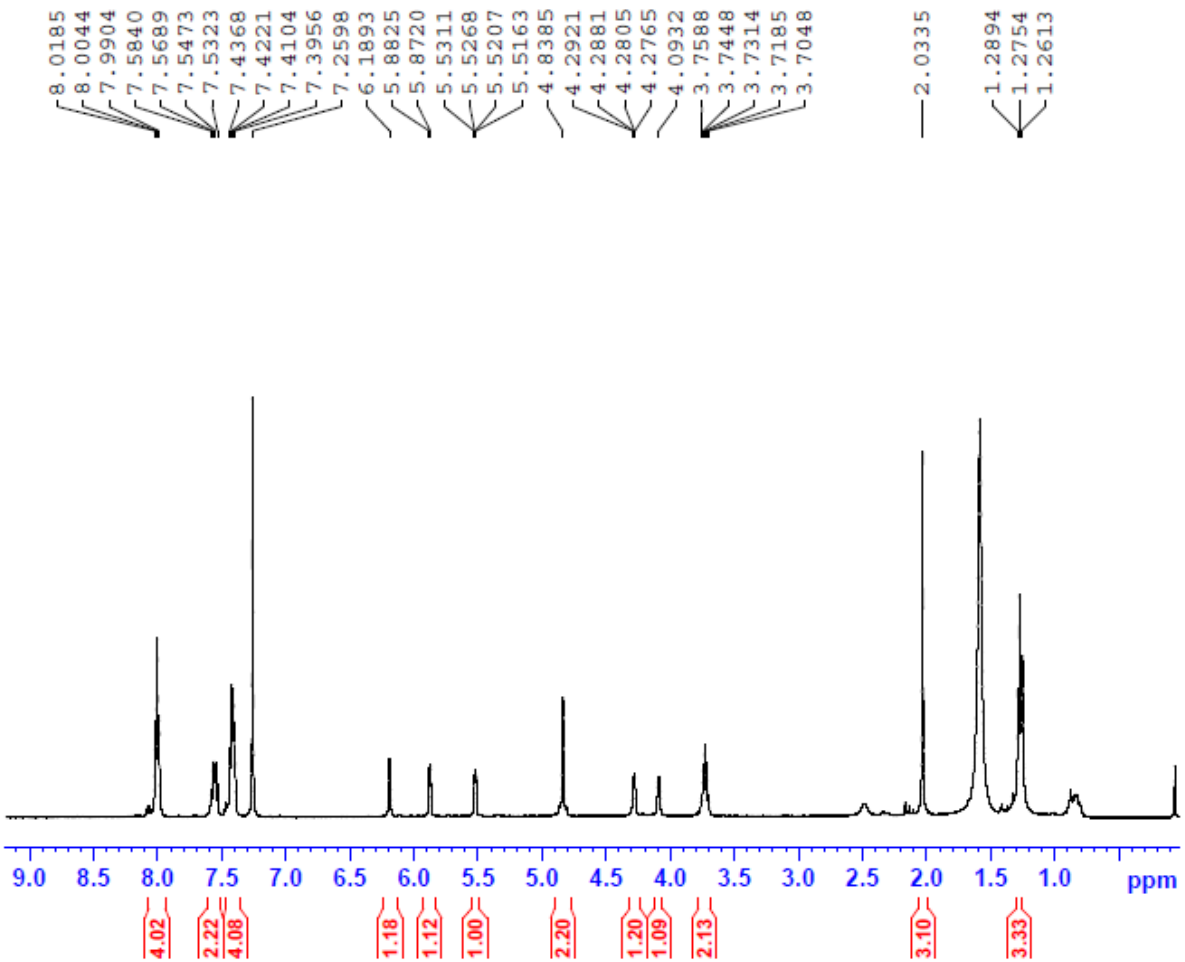


HMQC of compound **16** (zoom)



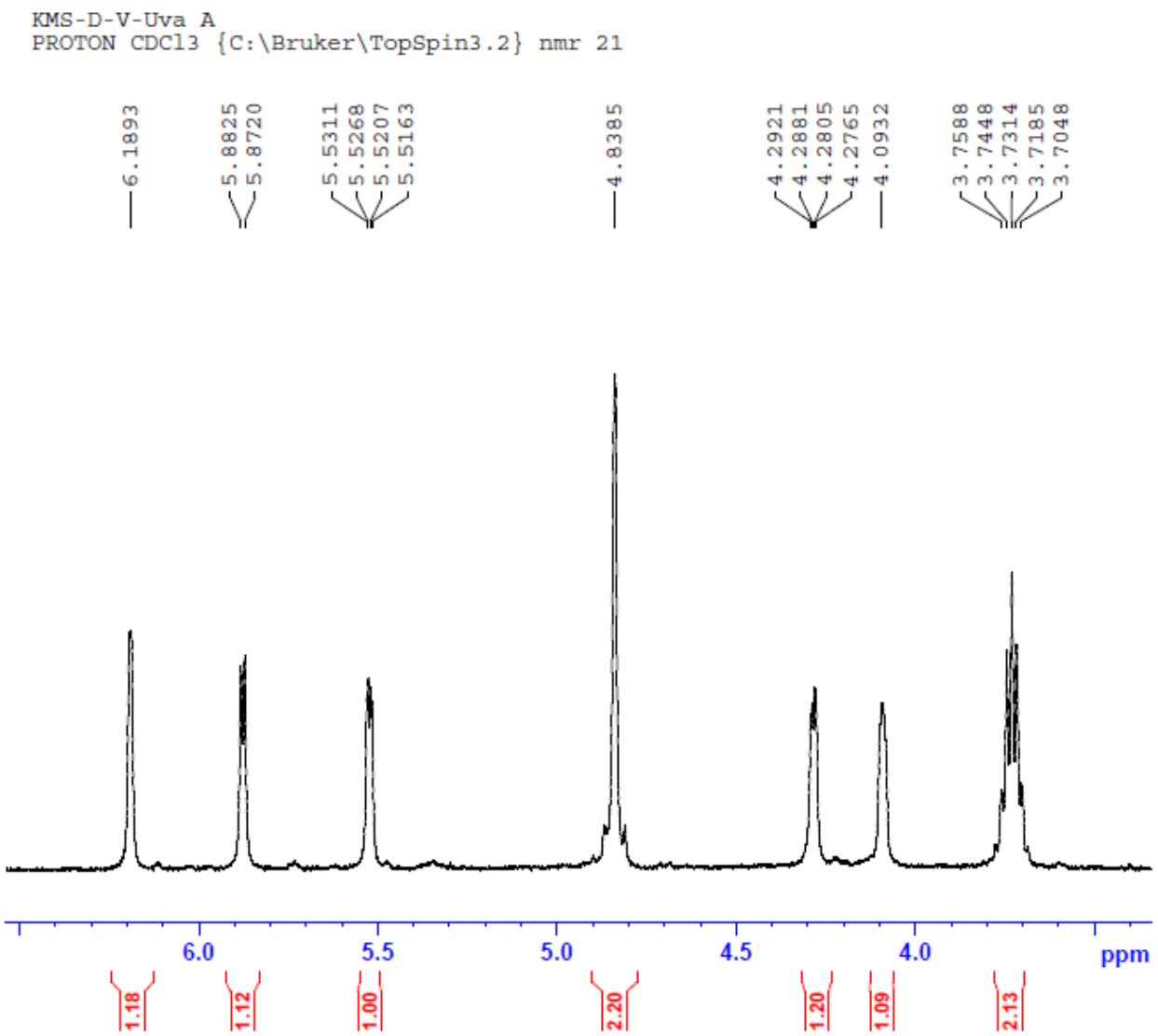
^{1}H NMR of compound **17**

KMS-D-V-Uva A
PROTON CDCl3 {C:\Bruker\TopSpin3.2} nmr 21



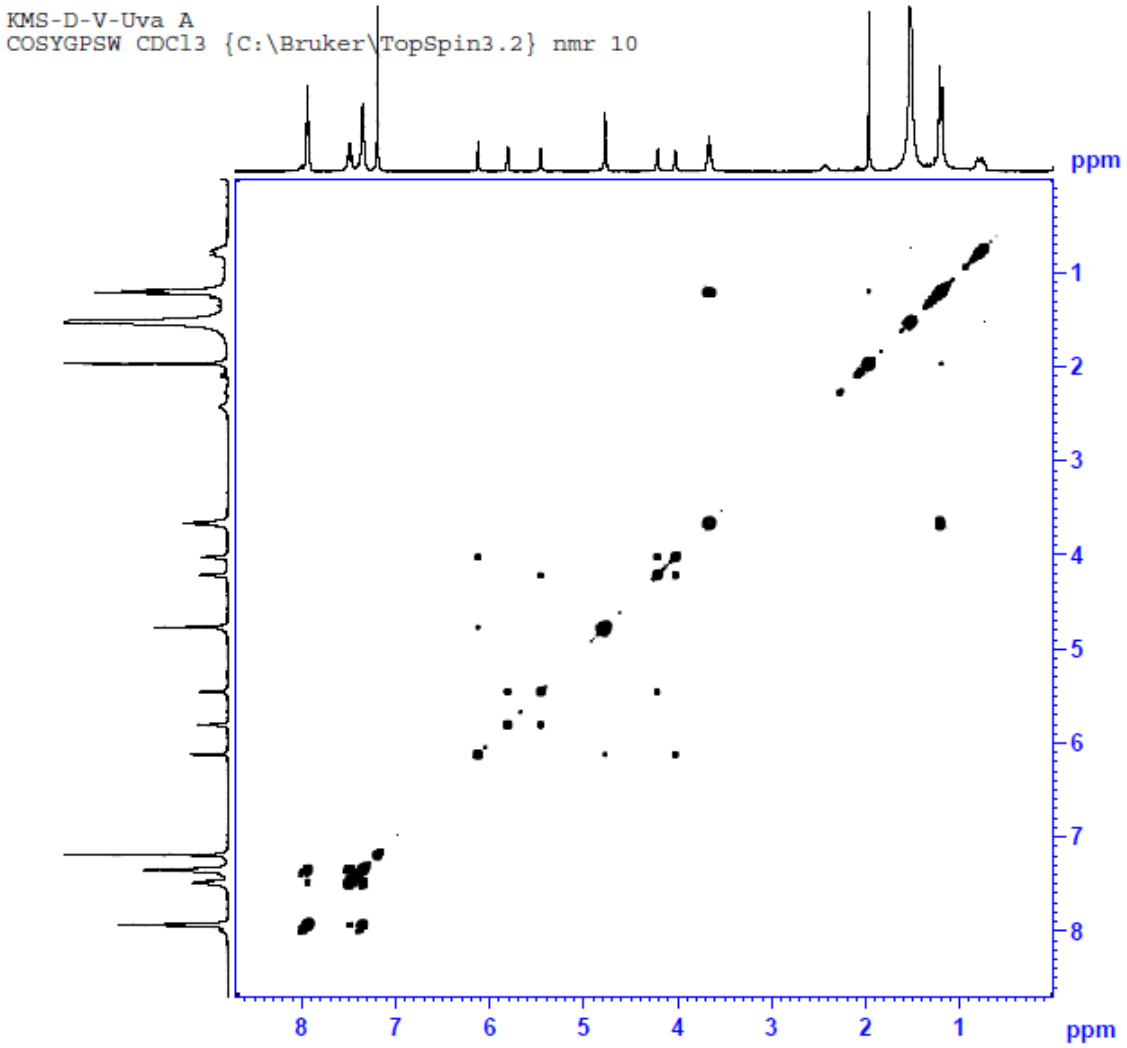

```
Current Data Parameters
NAME                  Sagar
EXPNO                    57
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140723
Time                  13.19
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                    171.32
DW                    50.000 usec
DE                     6.50 usec
TE                    298.0 K
D1              1.00000000 sec
TD0                       1

-------- CHANNEL f1 --------
SFO1           500.2330891 MHz
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF             500.2300094 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

^{1}H NMR of compound **17** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                    57
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140723
Time                  13.19
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES            0.152588 Hz
AQ                3.2767999 sec
RG                   171.32
DW                50.000 usec
DE                 6.50 usec
TE                   298.0 K
D1              1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           500.2330891 MHz
NUC1                   1H
P1                   9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF             500.2300094 MHz
WDW                      EM
SSB          0
LB                   0.30 Hz
GB           0
PC                   1.00
```

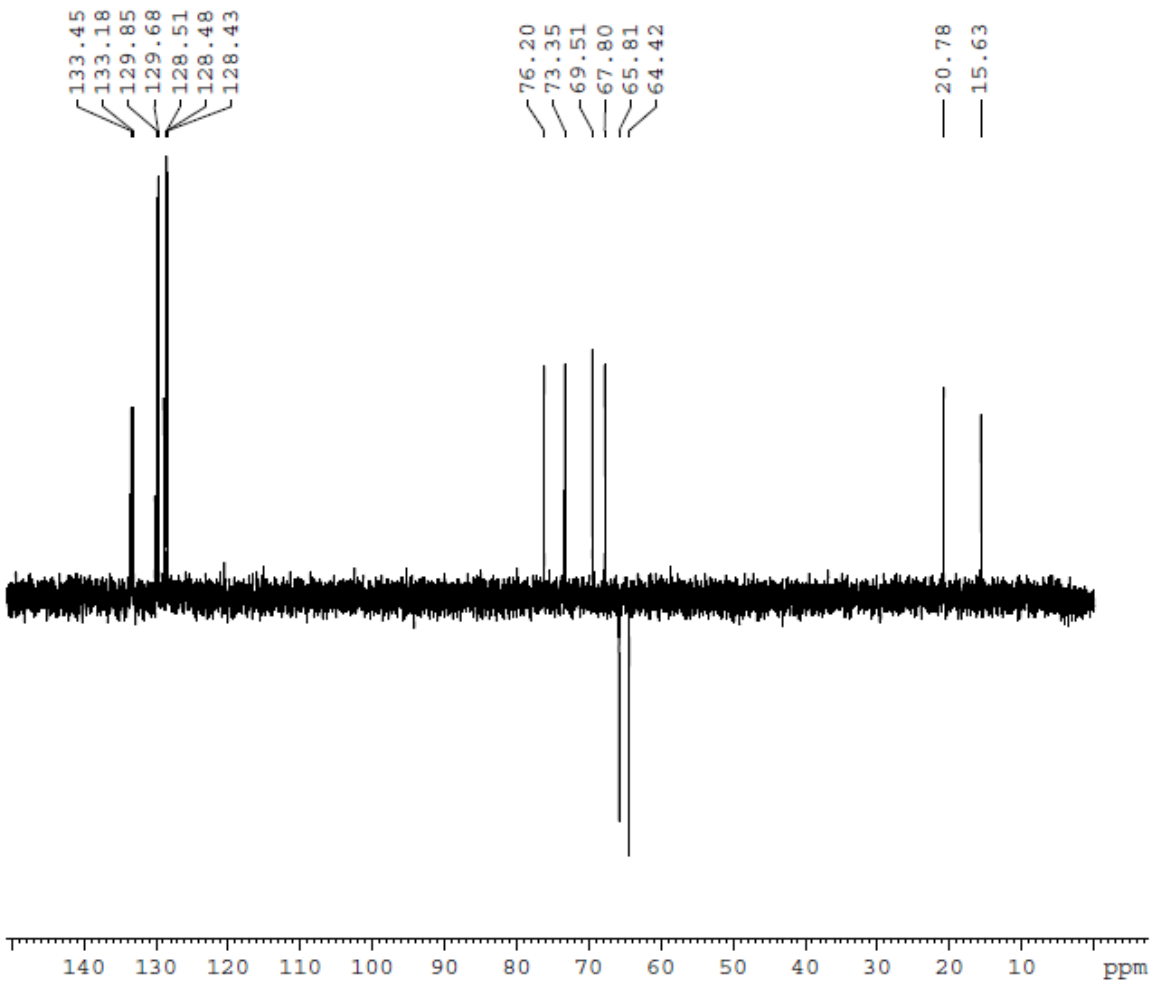
COSY of compound **17**




```
Current Data Parameters
NAME                  Sagar
EXPNO                    50
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140723
Time                   3.04
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4347.826 Hz
FIDRES             2.122962 Hz
AQ                 0.2355200 sec
RG                    107.19
DW                   115.000 usec
DE                     6.50 usec
TE                   298.0 K
D0                 0.00000300 sec
D1                 1.91767001 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00023000 sec

======== CHANNEL f1 ========
SFO1              500.2322215 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1               500.2322 MHz
FIDRES            33.967392 Hz
SW                     8.692 ppm
FnMODE                    QF

F2 - Processing parameters
SI                        1024
SF              500.2300448 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                      1.40

F1 - Processing parameters
SI                        1024
MC2                       QF
SF              500.2300448 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **17**

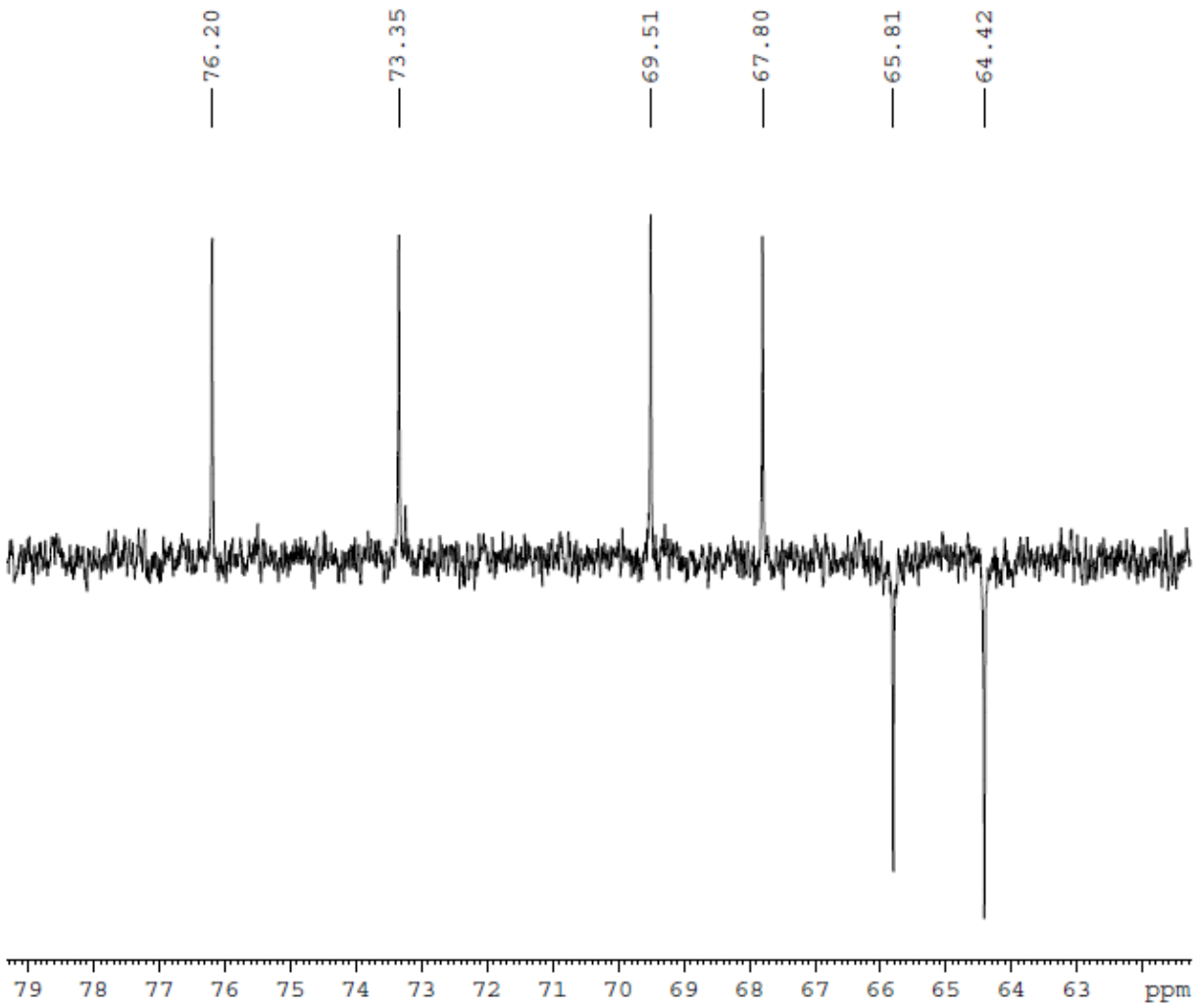
KMS-D-V-UVA-A
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 1




```
Current Data Parameters
NAME                  Sagar
EXPNO                    43
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140721
Time                  11.00
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                 24.800 usec
DE                  6.50 usec
TE                  298.4 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                    8.65 usec
P13                2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2           waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                   32768
SF              125.7829340 MHz
WDW                     EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

DEPT of compound **17** (zoom)

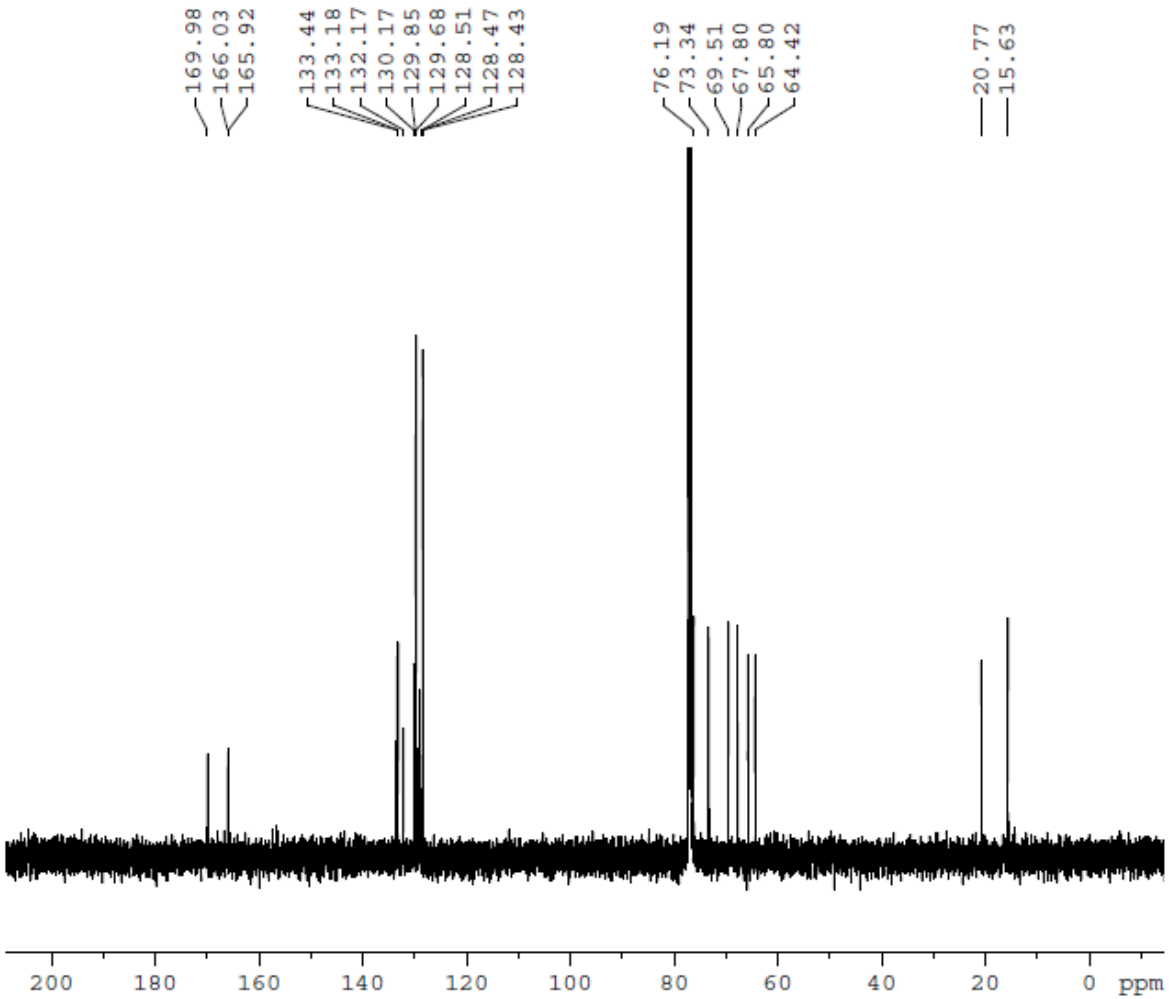
KMS-D-V-UVA-A
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 1




```
Current Data Parameters
NAME                  Sagar
EXPNO                    43
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140721
Time                  11.00
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.4 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5                0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2           waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

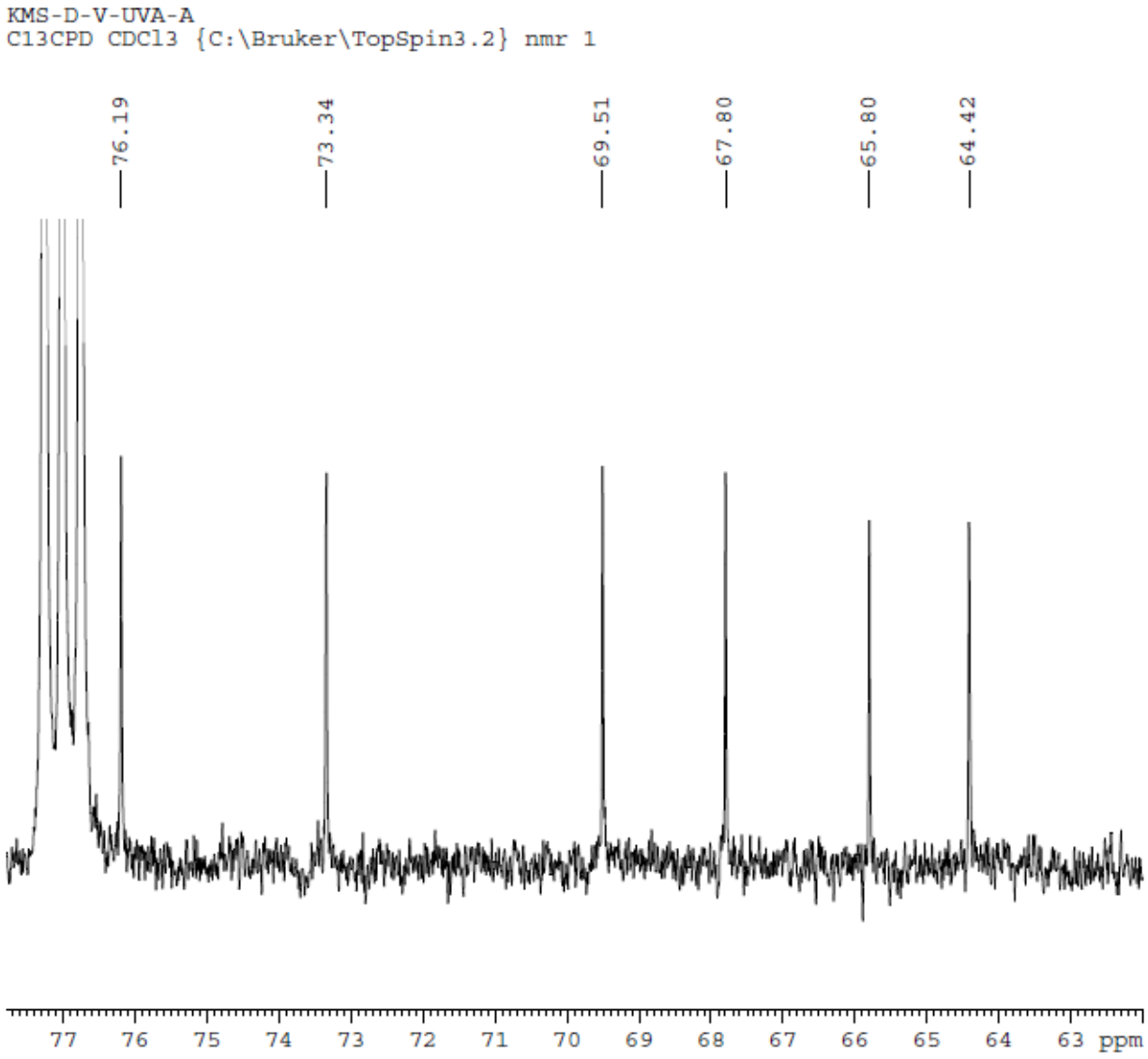
^{14}C NMR of compound **17**

KMS-D-V-UVA-A
C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 1



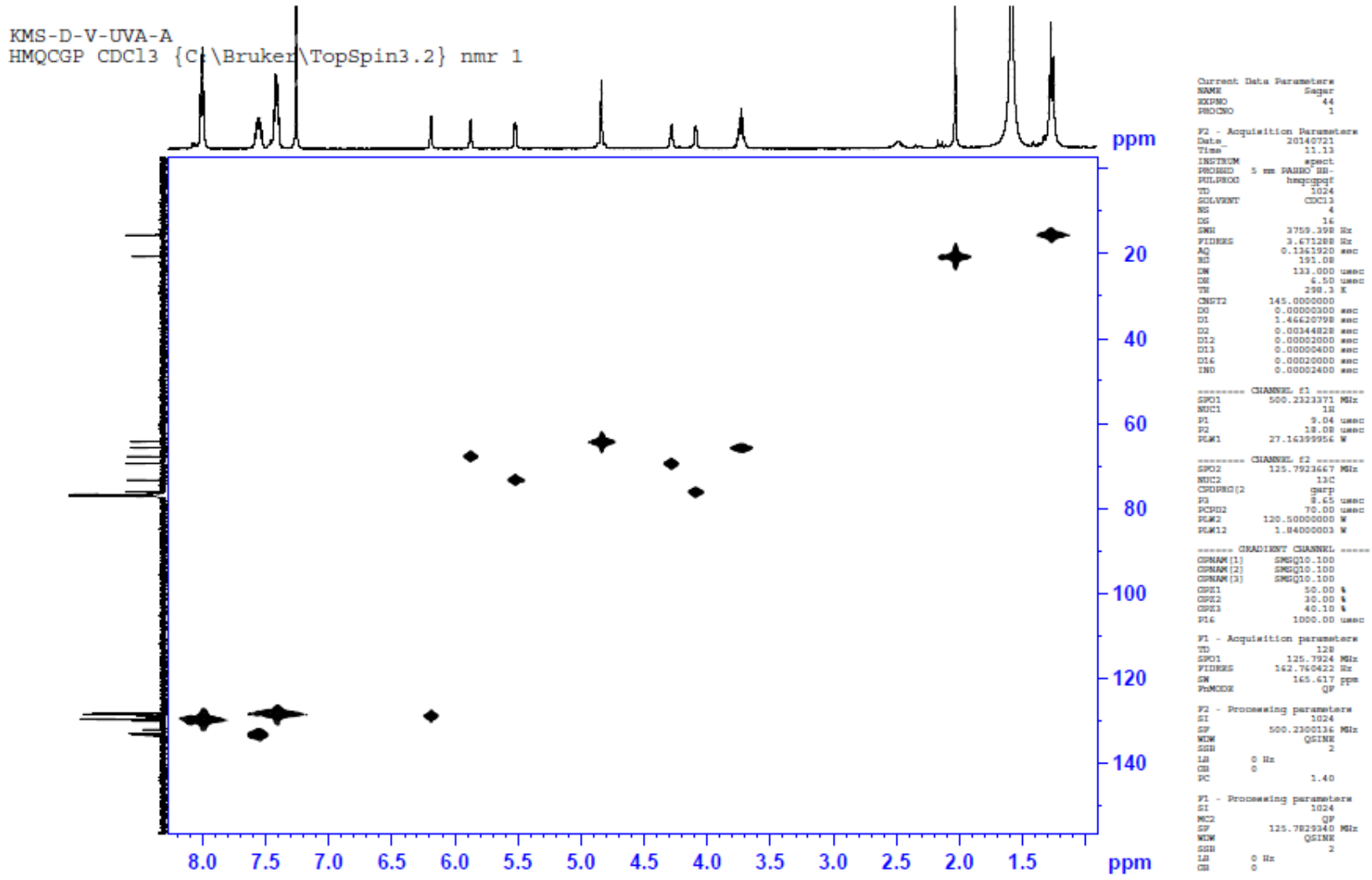

```
Current Data Parameters
NAME                 Sagar
EXPNO                   45
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140721
Time                 11.48
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.8 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7955112 MHz
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2            500.2320009 MHz
NUC2                    1H
CPDPRG[2             waltz16
PCPD2                80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W
PLW13            0.22199000 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                      EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

^{14}C NMR of compound **17** (zoom)



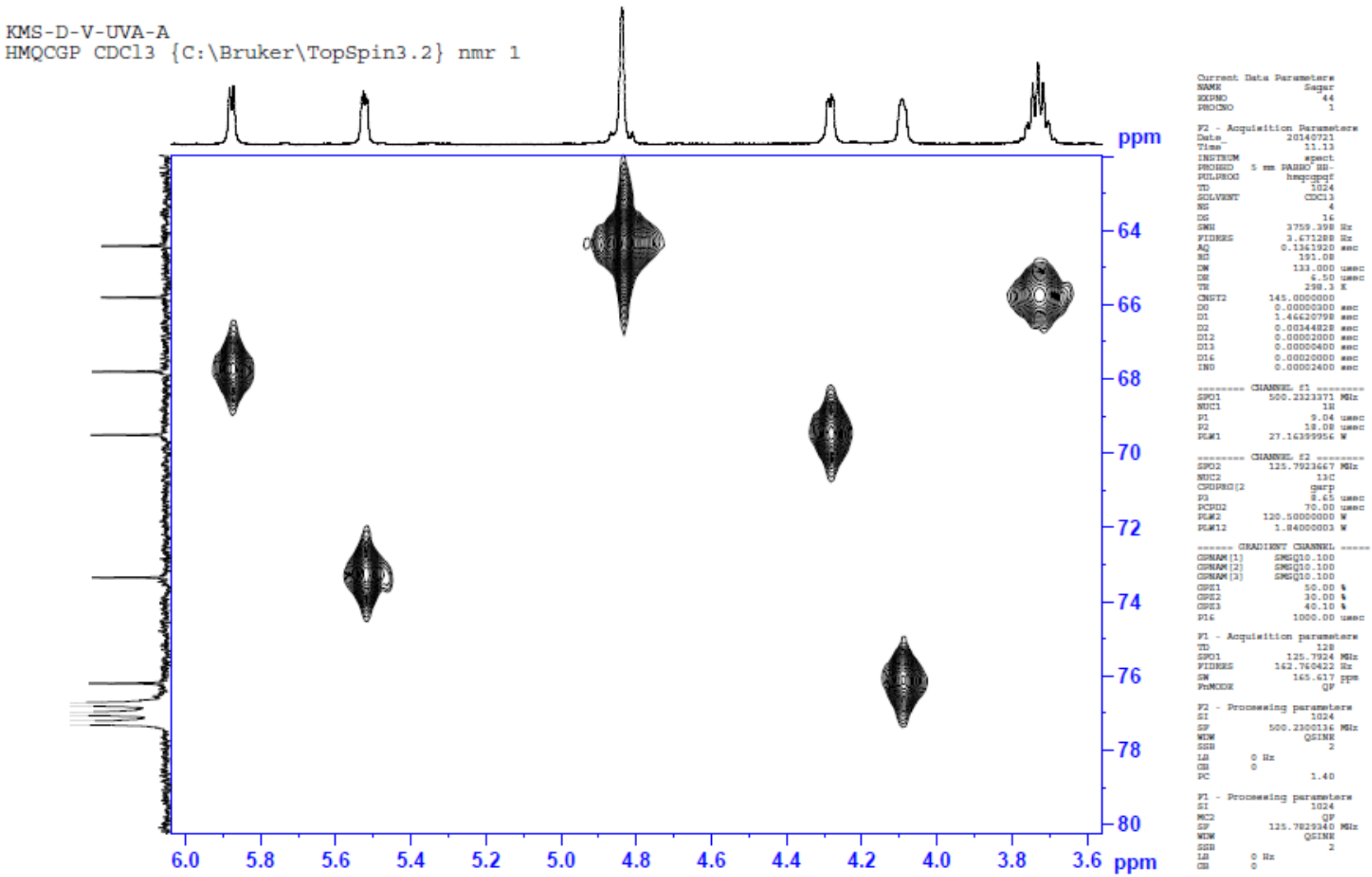

```
Current Data Parameters
NAME                  Sagar
EXPNO                    45
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140721
Time                 11.48
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                 16.800 usec
DE                  6.50 usec
TE                  298.8 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7955112 MHz
NUC1                    13C
P1                   8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2            waltz16
PCPD2                80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W
PLW13            0.22199000 W

F2 - Processing parameters
SI                      32768
SF             125.7829340 MHz
WDW                        EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

HMQC of compound **17**

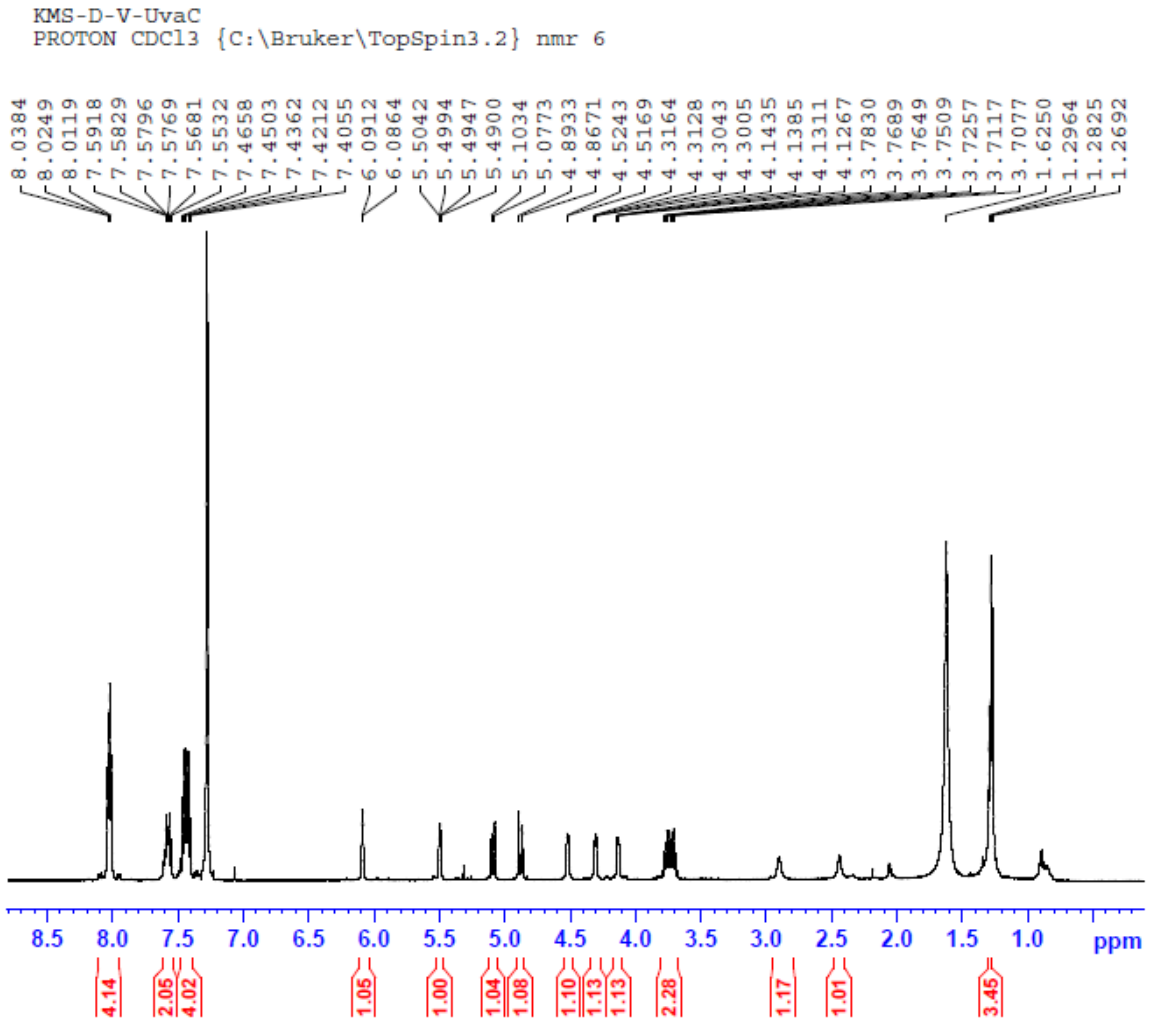



```
Current Data Parameters
NAME                  Sagar
EXPNO                    44
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140721
Time               11.13
INSTRUM              spect
PROBHD     5 mm PABBO BB-
PULPROG         hmqcgpqf
TD                    1024
SOLVENT               CDCl3
NS                       4
DS                      16
SWH              3759.398 Hz
FIDRES           3.671288 Hz
AQ               0.1361920 sec
RG                    191.08
DW                133.000 usec
DE                  6.50 usec
TE                  298.3 K
CNST2           145.0000000
D0               0.00000300 sec
D1               1.46620798 sec
D2               0.00344828 sec
D12              0.00002000 sec
D13              0.00000400 sec
D16              0.00020000 sec
IN0              0.00002400 sec

======== CHANNEL f1 ========
SFO1            500.2323371 MHz
NUC1                    1H
P1                    9.04 usec
P2                   18.08 usec
PLW1           27.16399956 W

======== CHANNEL f2 ========
SFO2            125.7923667 MHz
NUC2                   13C
CPDPRG[2               garp
P3                    8.65 usec
PCPD2                70.00 usec
PLW2           120.5000000 W
PLW12           1.84000003 W

====== GRADIENT CHANNEL =====
GPNAM[1]       SMSQ10.100
GPNAM[2]       SMSQ10.100
GPNAM[3]       SMSQ10.100
GPZ1                 50.00 %
GPZ2                 30.00 %
GPZ3                 40.10 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                    128
SFO1            125.7924 MHz
FIDRES         162.760422 Hz
SW                165.617 ppm
FnMODE                QF

F2 - Processing parameters
SI                    1024
SF              500.2300136 MHz
WDW                   QSINE
SSB                      2
LB          0 Hz
GB          0
PC                    1.40

F1 - Processing parameters
SI                    1024
MC2                   QF
SF              125.7923940 MHz
WDW                   QSINE
SSB                      2
LB          0 Hz
GB          0
```

HMQC of compound **17** (zoom)

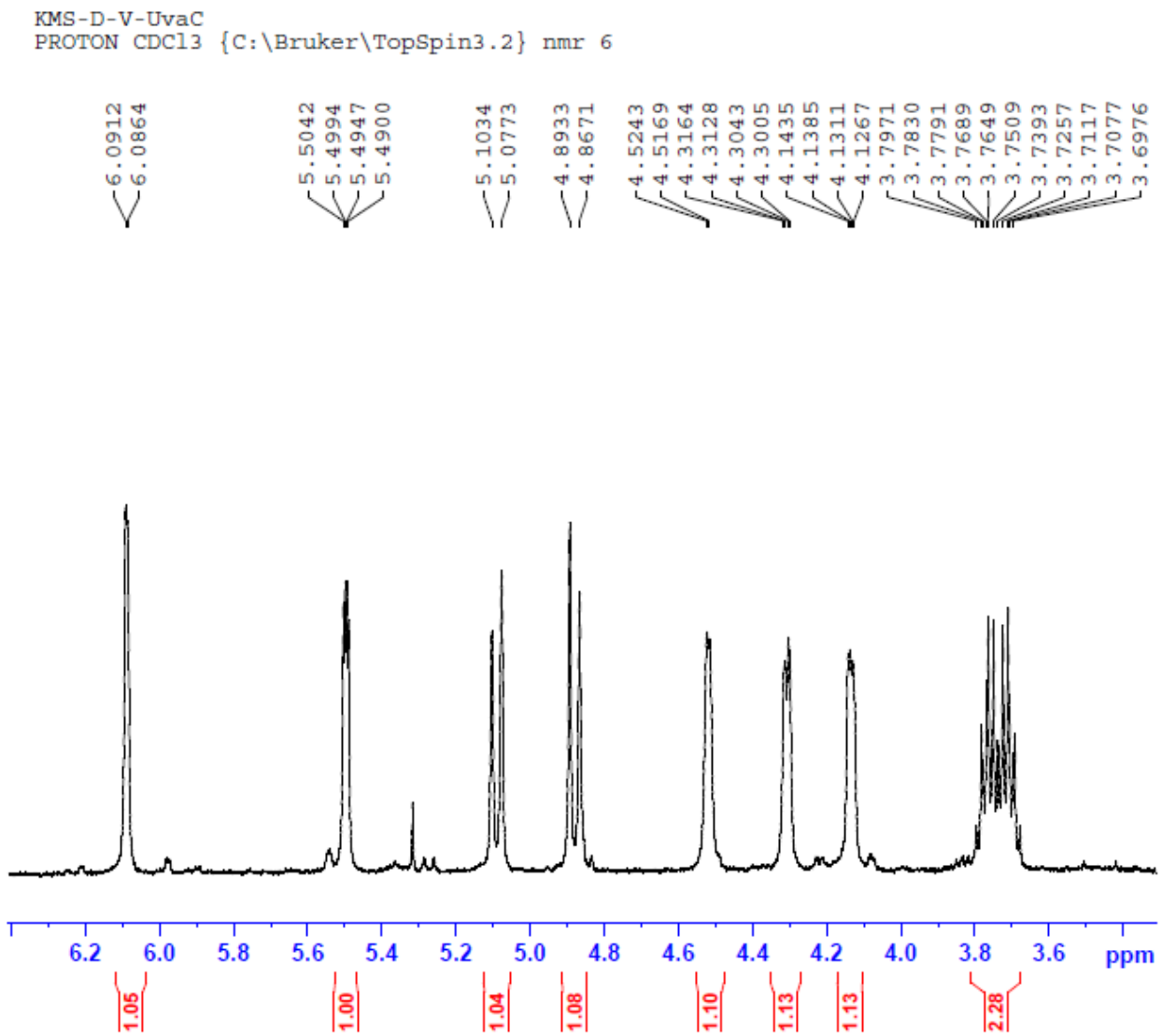


^{1}H NMR of compound **18**



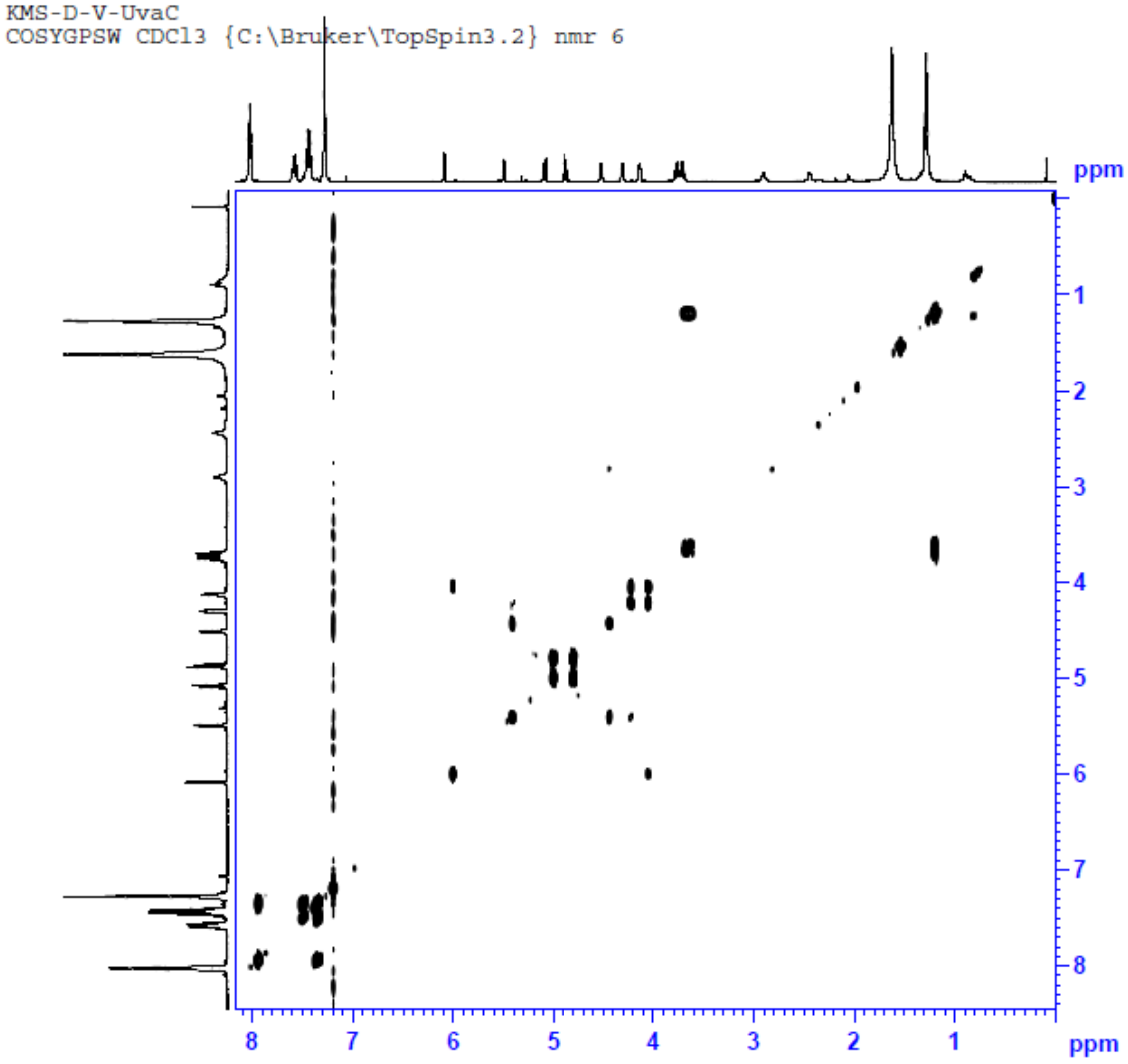

```
Current Data Parameters
NAME                  Sagar
EXPNO                   105
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140818
Time                  11.55
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   171.32
DW                    50.000 usec
DE                     6.50 usec
TE                    296.7 K
D1              1.00000000 sec
TD0                       1

-------- CHANNEL f1 --------
SFO1            500.2330891 MHz
NUC1                    1H
P1                    9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300000 MHz
WDW                     EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **18** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   105
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140818
Time                  11.55
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                    171.32
DW                    50.000 usec
DE                     6.50 usec
TE                    296.7 K
D1                1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           500.2330891 MHz
NUC1                      1H
P1                      9.04 usec
PLW1          27.16399956 W

F2 - Processing parameters
SI                    65536
SF             500.2300000 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

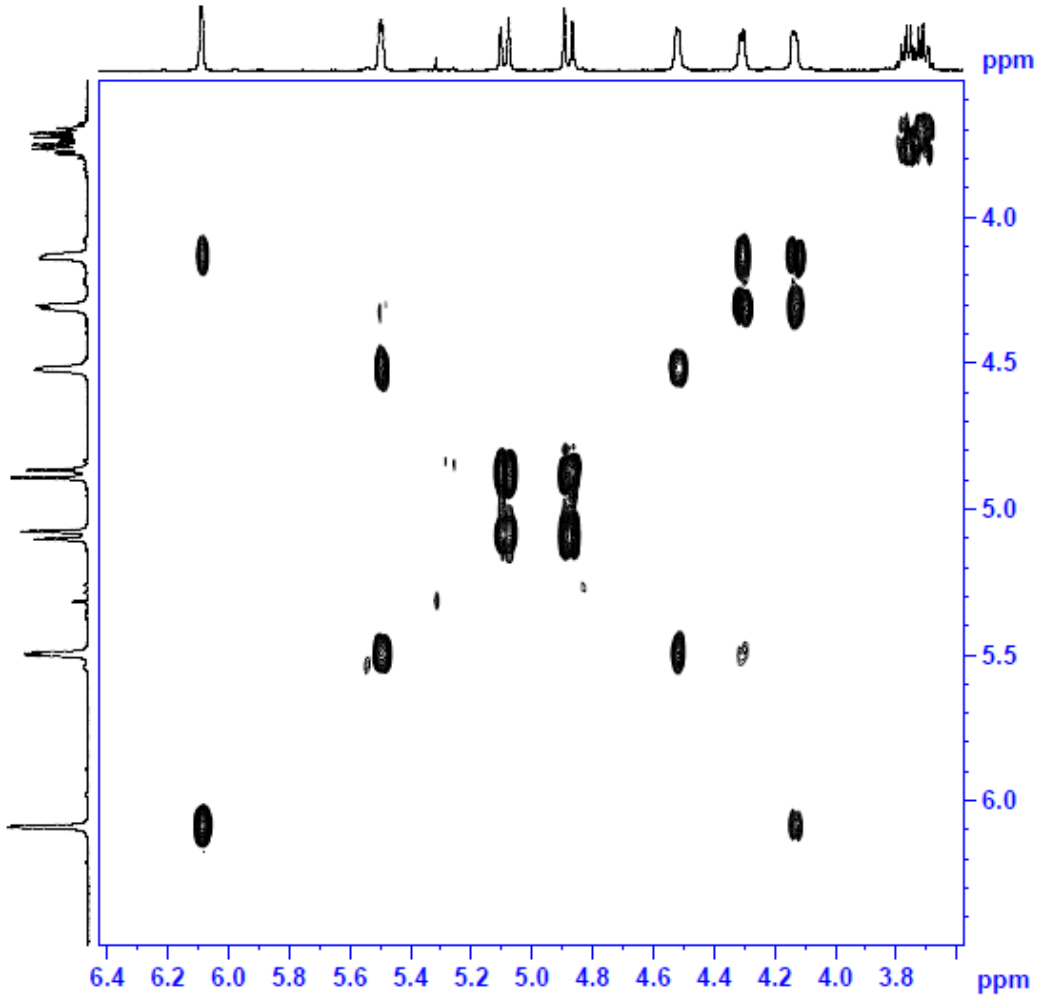
COSY of compound **18**




```
Current Data Parameters
NAME                   Sagar
EXPNO                    106
PROCNO                     1

F2 - Acquisition Parameters
Date_               20140818
Time                   11.58
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG          cosygpppqf
TD                       2048
SOLVENT                CDCl3
NS                         1
DS                         8
SWH                 4807.692 Hz
FIDRES              2.347506 Hz
AQ                  0.2129920 sec
RG                     107.19
DW                    104.000 usec
DE                      6.50 usec
TE                     296.7 K
D0                  0.00000300 sec
D1                  1.94019794 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00020800 sec

======== CHANNEL f1 ========
SFO1             500.2319837 MHz
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                500.232 MHz
FIDRES             37.560097 Hz
SW                      9.611 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                 500.2300417 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                 500.2300417 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **18** (zoom)

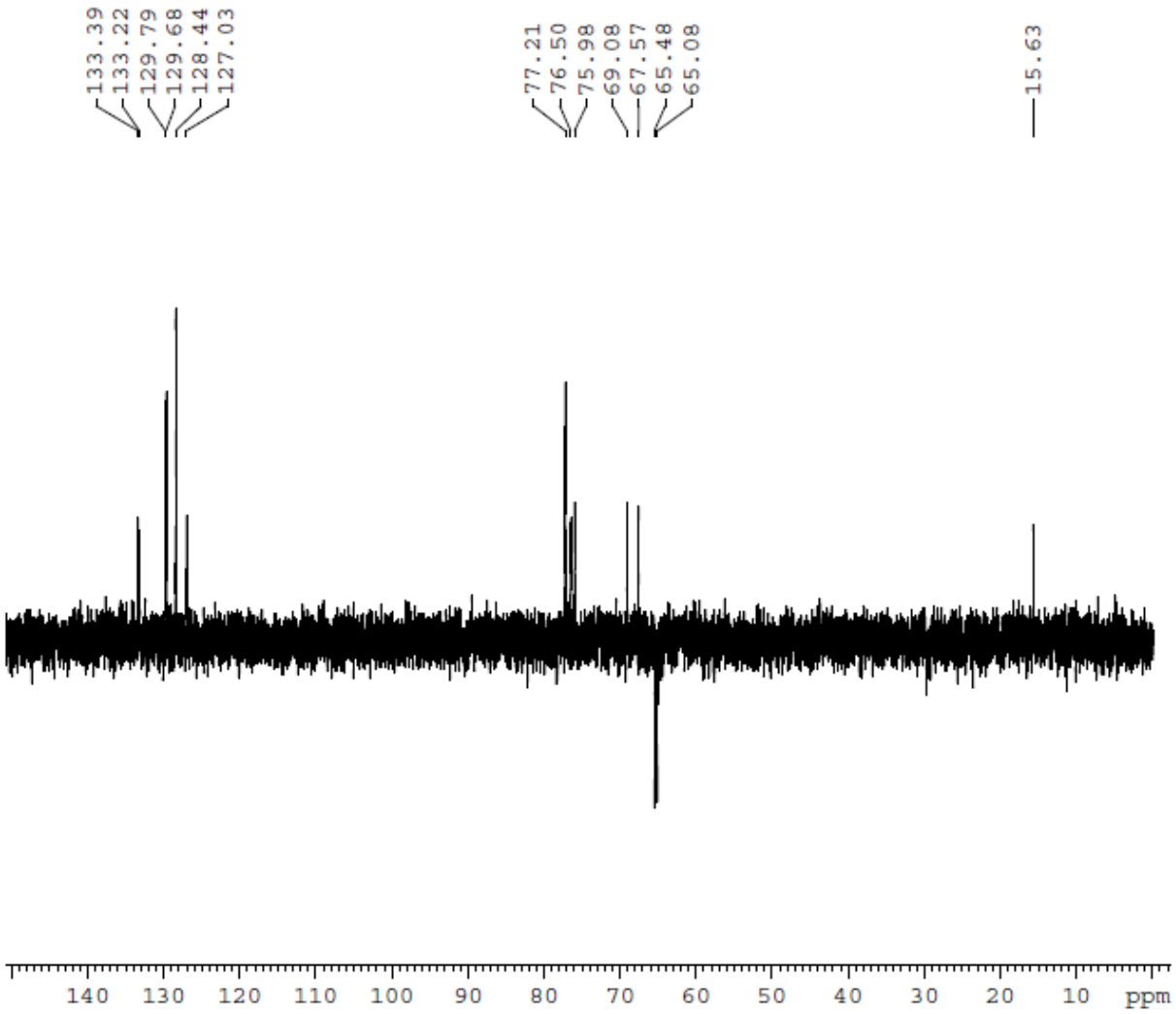
KMS-D-V-UvaC
COSYGPSW CDCl3 {C:\Bruker\TopSpin3.2} nmr 6




```
Current Data Parameters
NAME                  Sagar
EXPNO                   106
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140818
Time                  11.58
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      2048
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                4807.692 Hz
FIDRES             2.347506 Hz
AQ                 0.2129920 sec
RG                     107.19
DW                   104.000 usec
DE                      6.50 usec
TE                     296.7 K
D0                 0.00000300 sec
D1                 1.94019794 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00020800 sec

======== CHANNEL f1 ========
SFO1              500.2319837 MHz
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                500.232 MHz
FIDRES             37.560097 Hz
SW                     9.611 ppm
FnMODE                    QF

F2 - Processing parameters
SI                        1024
SF                500.2300000 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                       QF
SF                500.2299992 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **18**

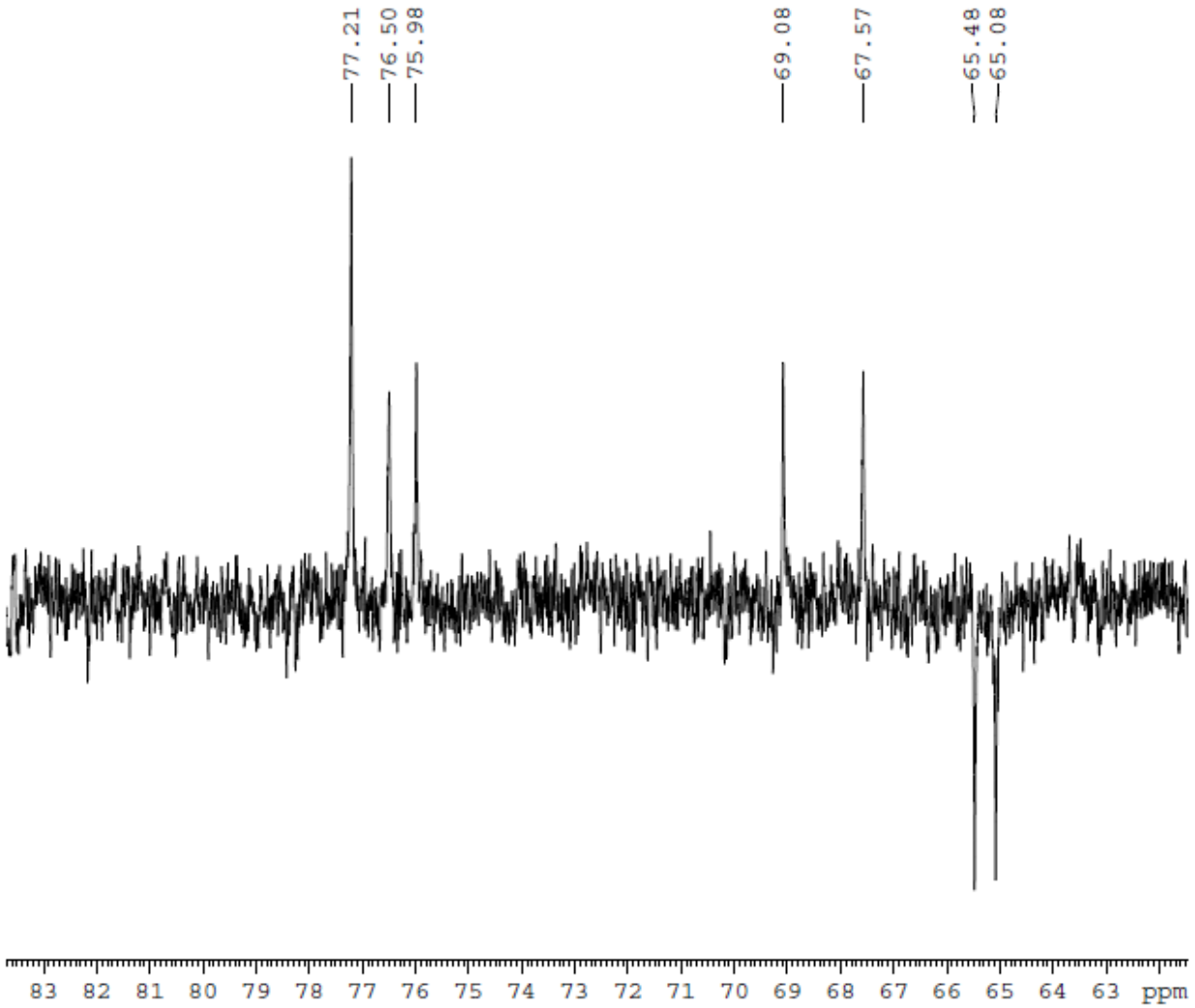
KMS-D-V-UvaC
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 6




```
Current Data Parameters
NAME                  Sagar
EXPNO                    97
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140815
Time                  22.35
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W

F2 - Processing parameters
SI                      32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

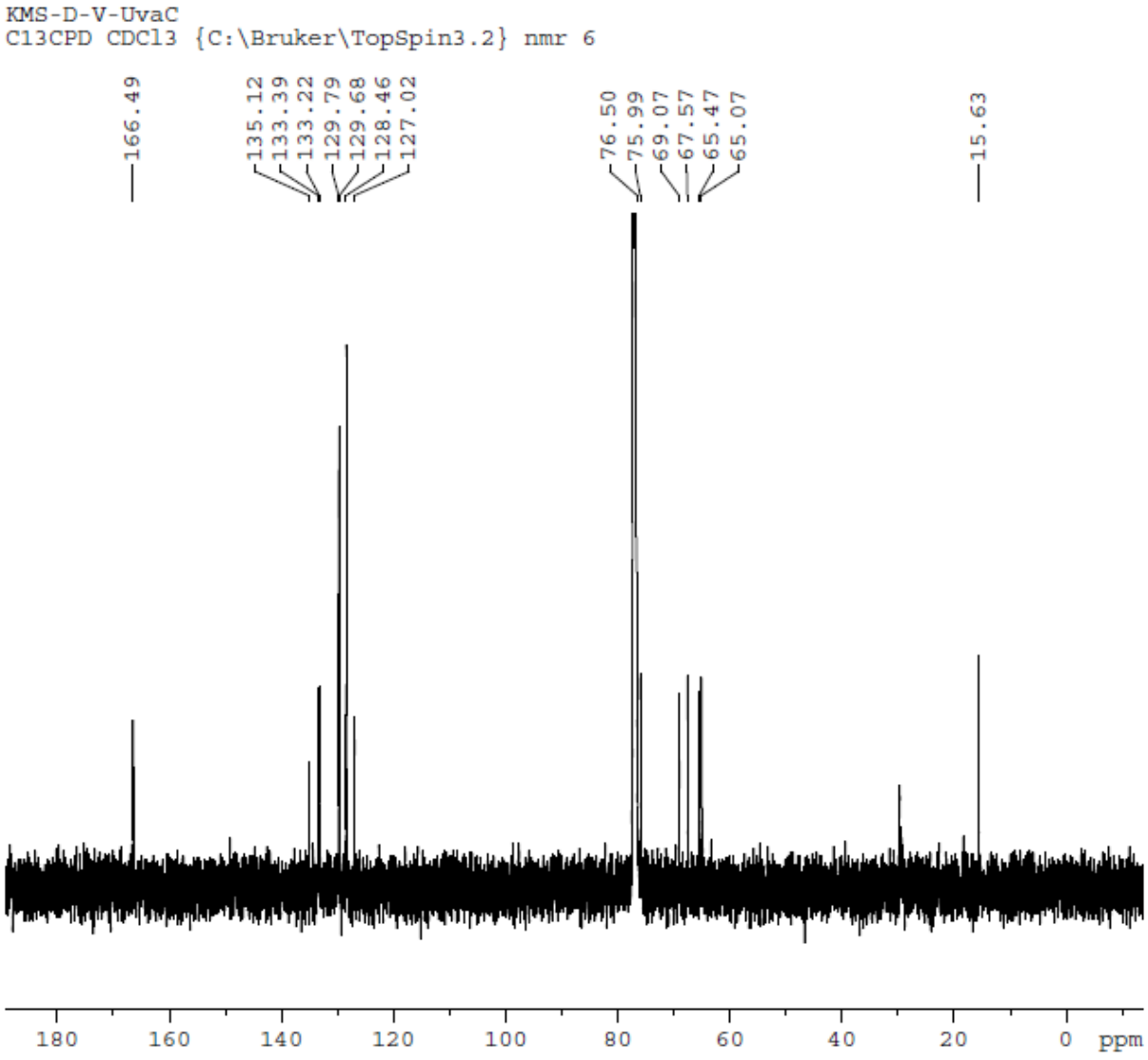
DEPT of compound **18** (zoom)

KMS-D-V-UvaC
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 6



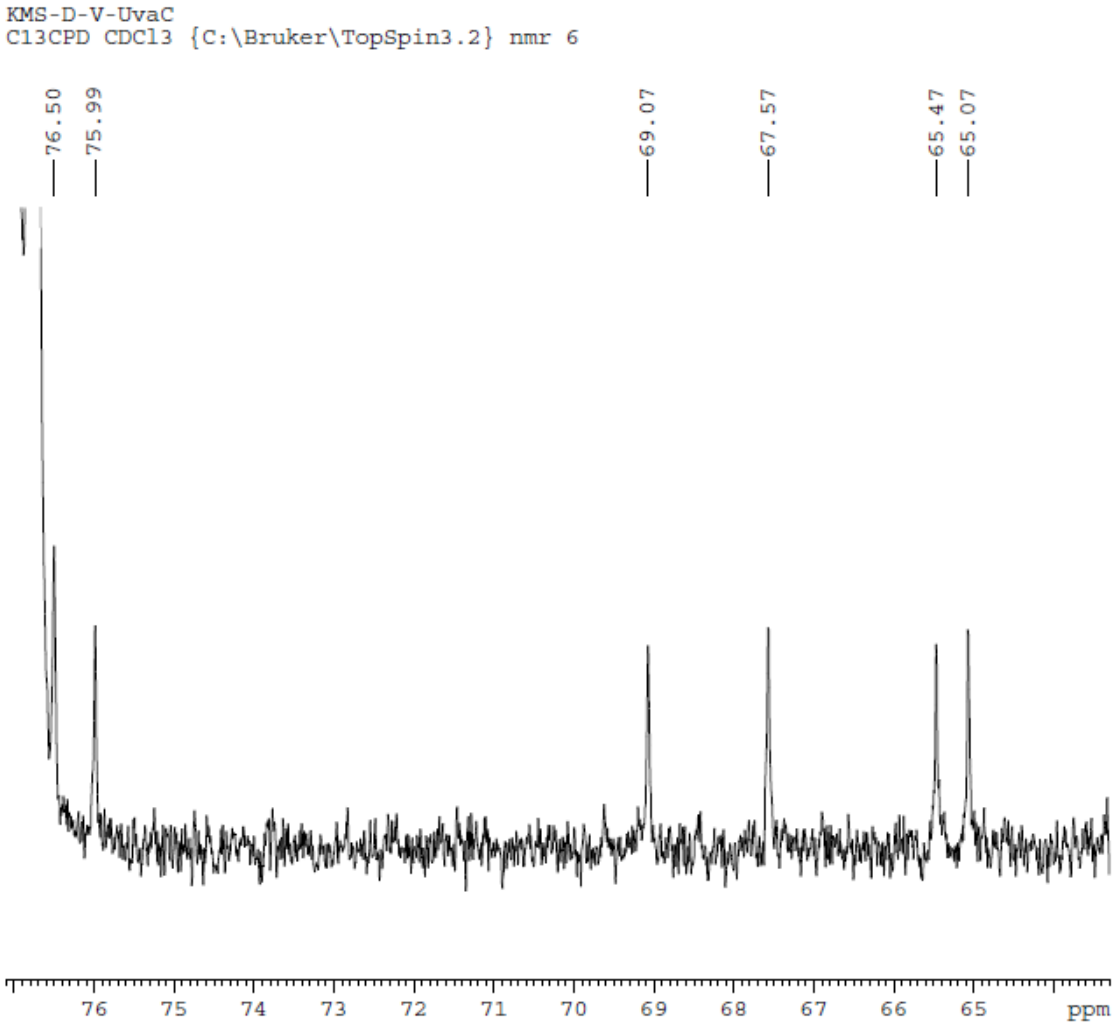

```
Current Data Parameters
NAME                  Sagar
EXPNO                    97
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140815
Time                  22.35
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.0 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

^{14}C NMR of compound **18**



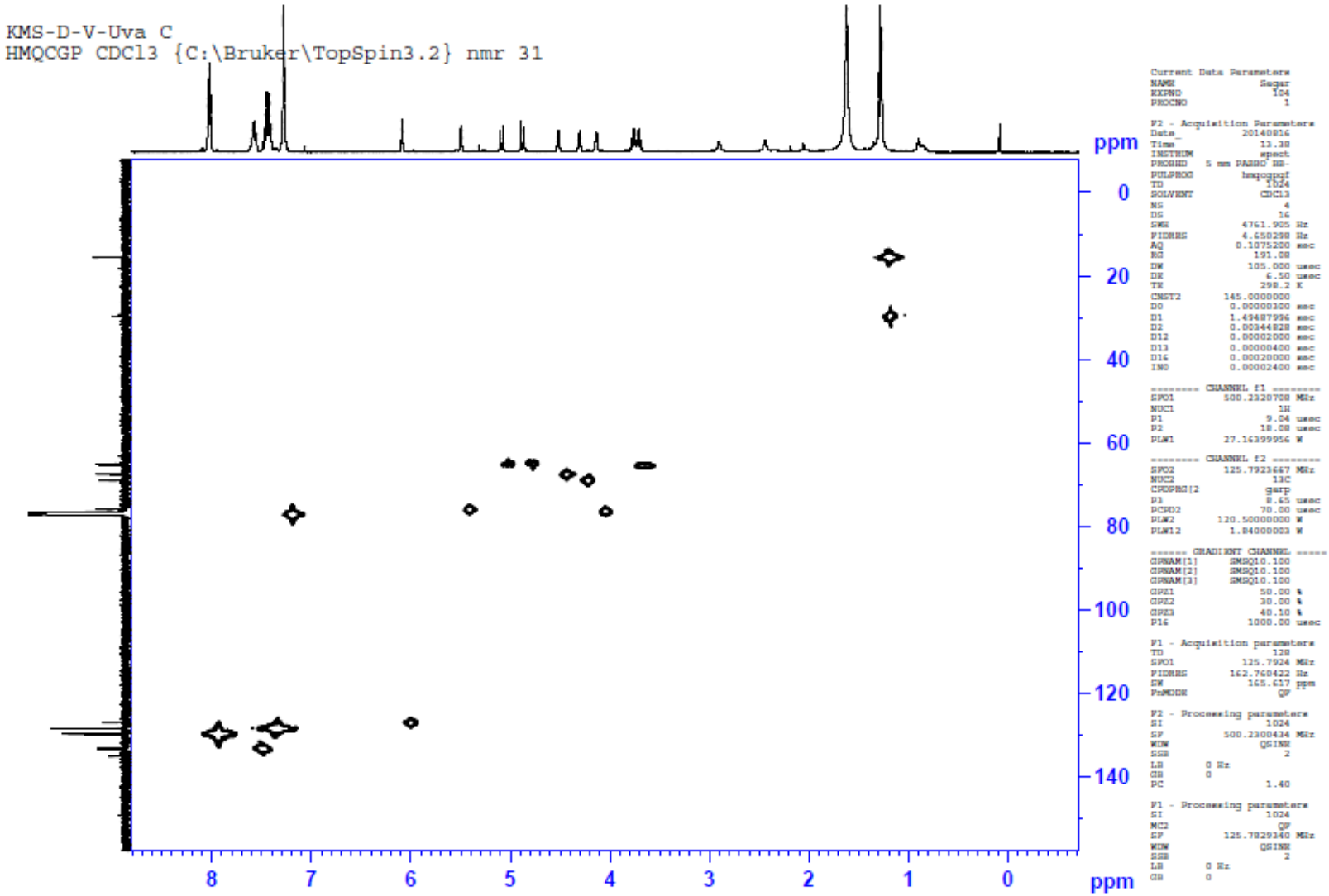

```
Current Data Parameters
NAME                  Sagar
EXPNO                    98
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140816
Time                   5.48
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    7000
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.0 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2            500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W
PLW13            0.22199000 W

F2 - Processing parameters
SI                      32768
SF              125.7829340 MHz
WDW                        EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

^{14}C NMR of compound **18** (zoom)

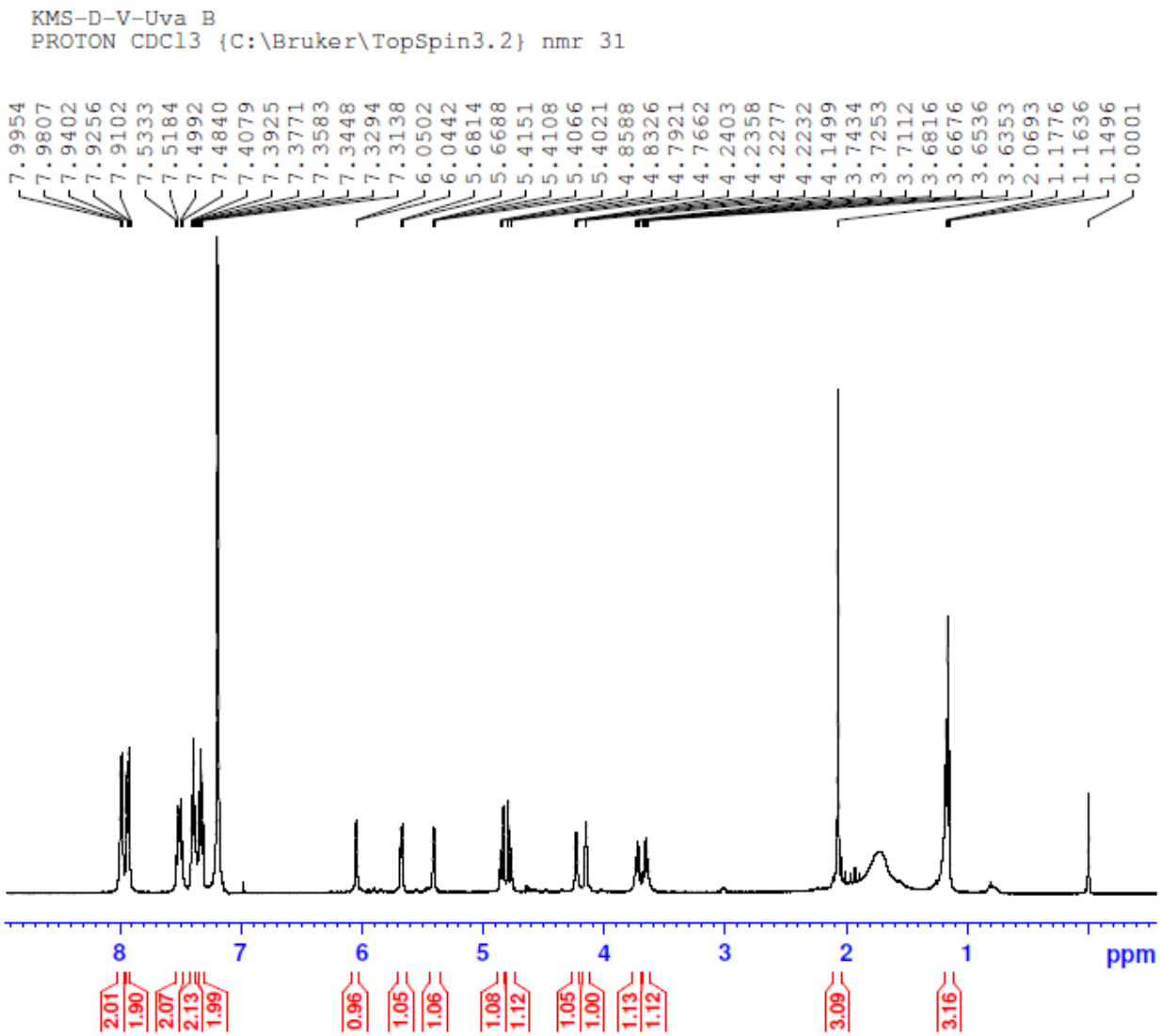



```
Current Data Parameters
NAME                  Sagar
EXPNO                    98
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140816
Time                  5.48
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    7000
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010048 sec
RG                  191.08
DW                16.800 usec
DE                 6.50 usec
TE                 298.0 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7955112 MHz
NUC1                    13C
P1                   8.65 usec
PLW1         120.50000000 W

======== CHANNEL f2 ========
SFO2           500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2               80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                      EM
SSB       0
LB                   1.00 Hz
GB        0
PC                   1.40
```

HMQC of compound **18**

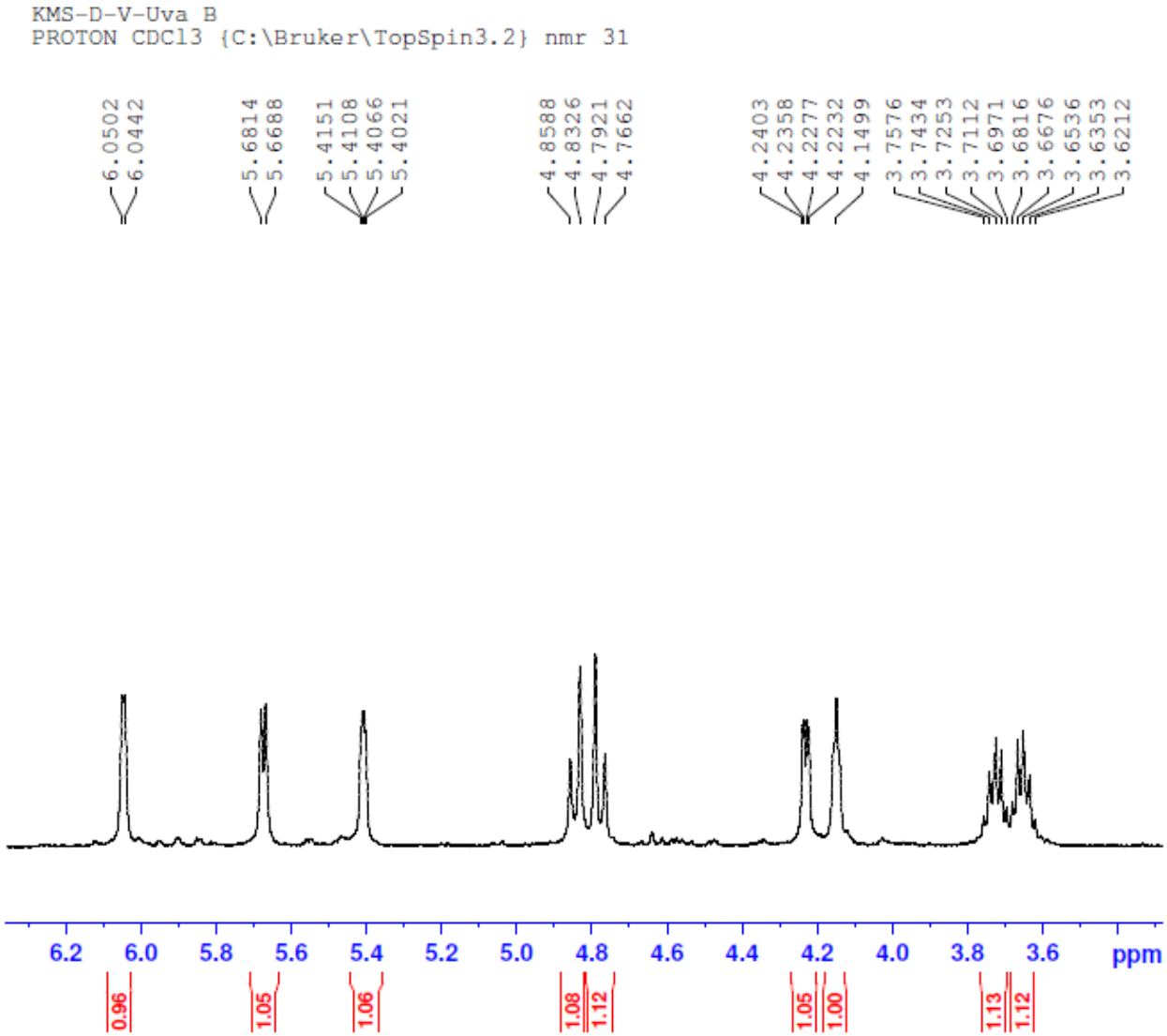


^{1}H NMR of compound **19**



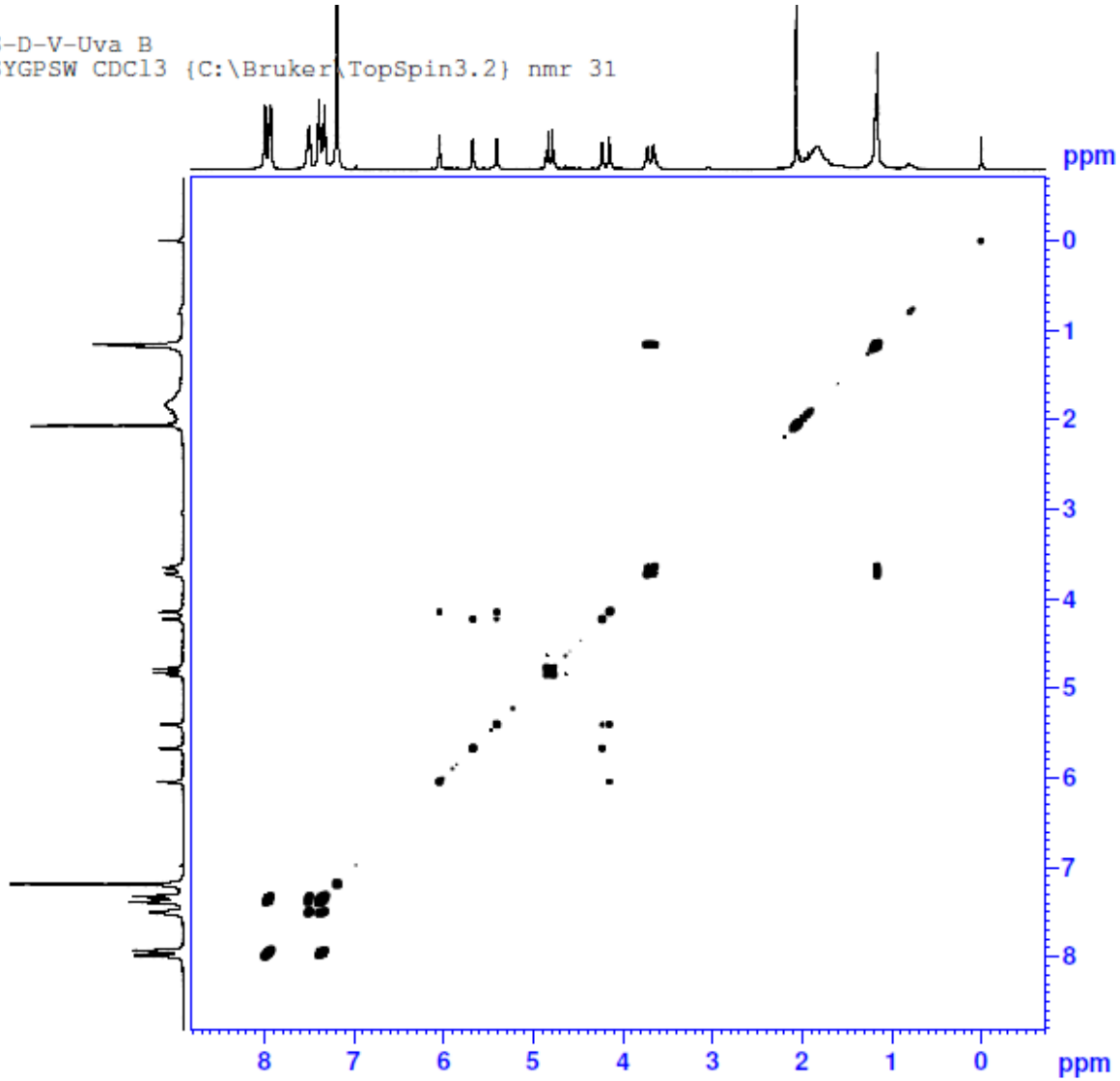

```
Current Data Parameters
NAME                  Sagar
EXPNO                    92
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                  16.39
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   171.32
DW                    50.000 usec
DE                     6.50 usec
TE                    298.0 K
D1              1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                    1H
P1                    9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300438 MHz
WDW                     EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

^{1}H NMR of compound **19** (zoom)



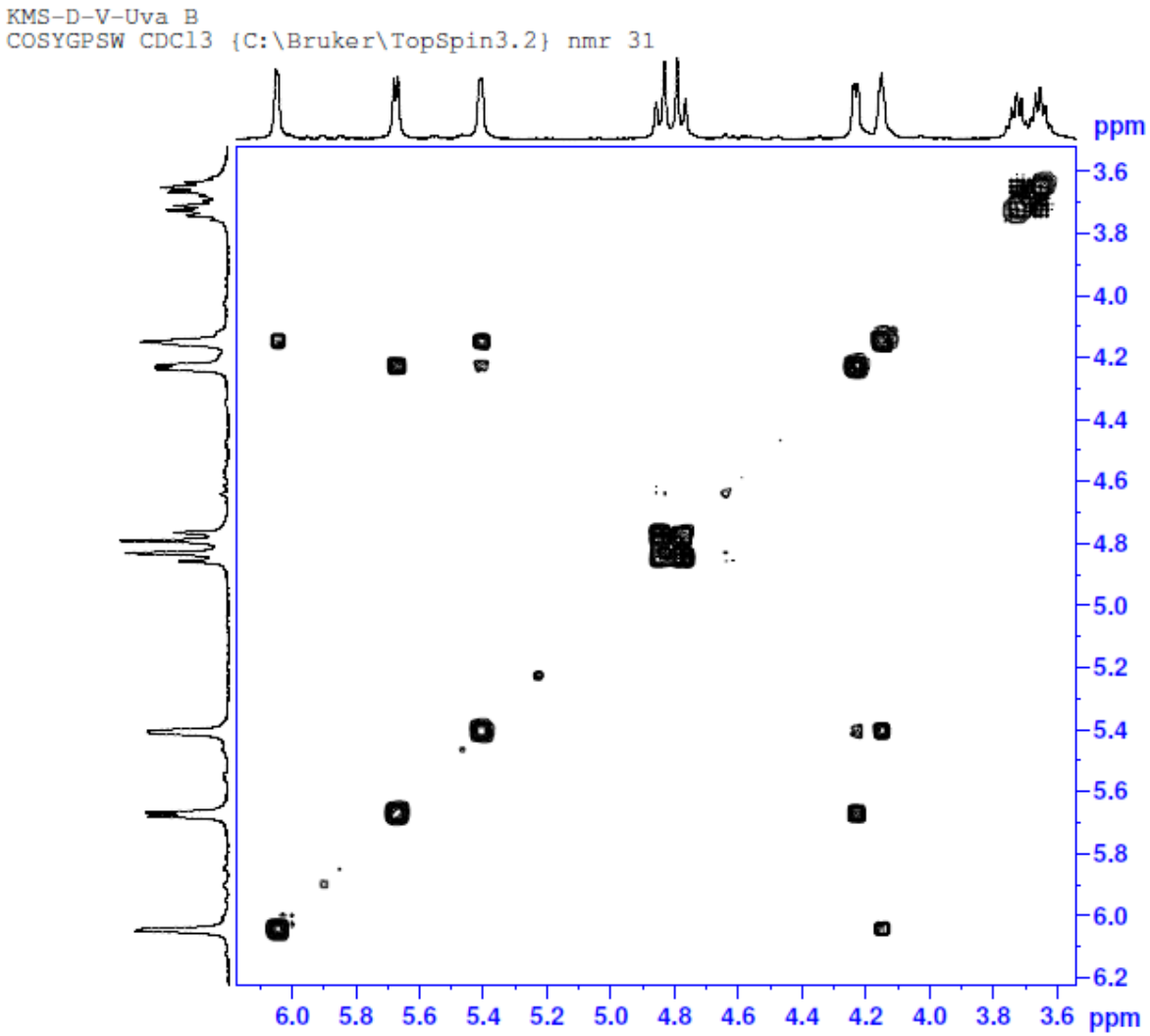

```
Current Data Parameters
NAME                  Sagar
EXPNO                    92
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                  16.39
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                   171.32
DW                    50.000 usec
DE                     6.50 usec
TE                   298.0 K
D1                1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            500.2330891 MHz
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W

F2 - Processing parameters
SI                    65536
SF              500.2300438 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

COSY of compound **19**



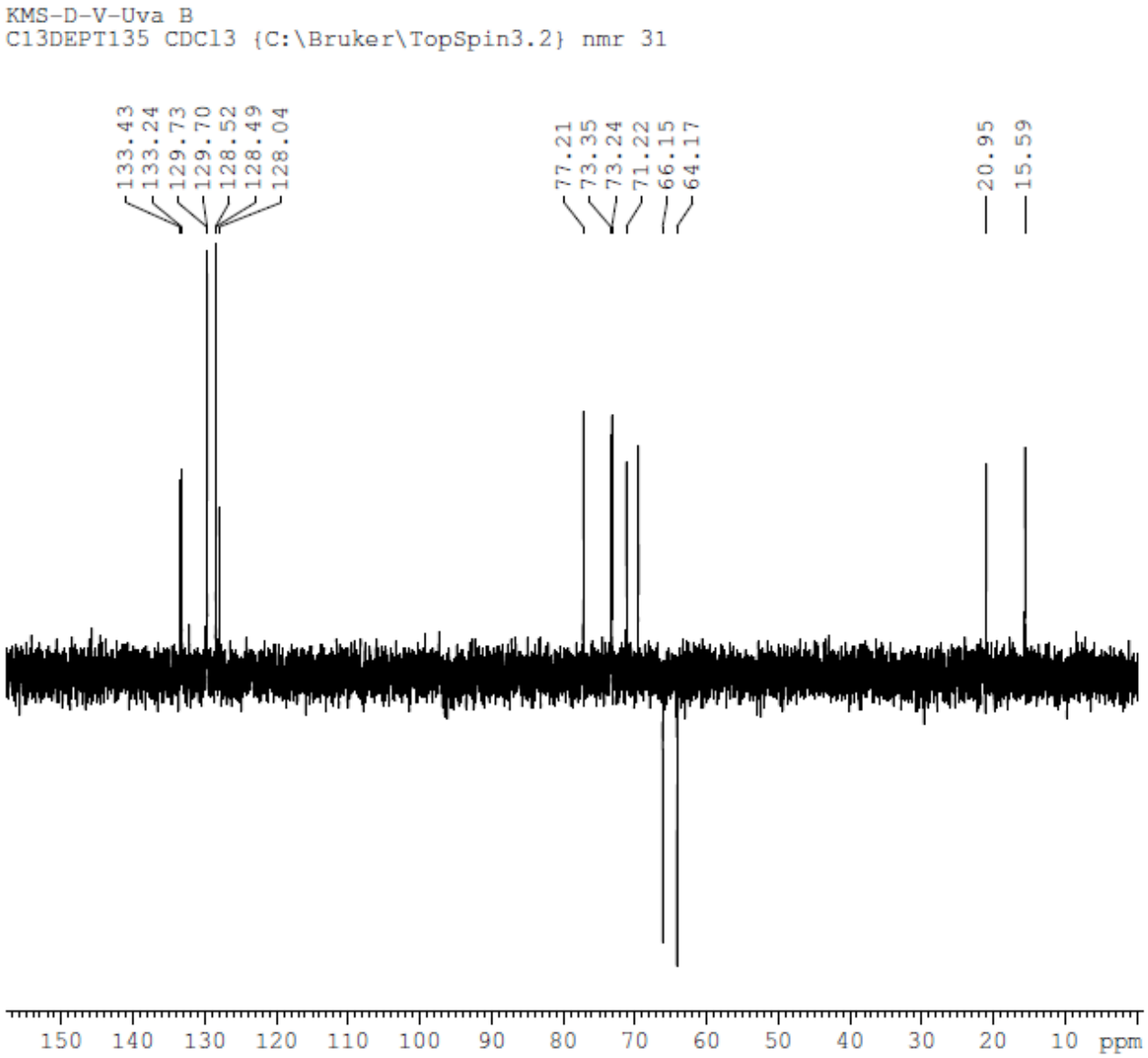

```
Current Data Parameters
NAME                  Sagar
EXPNO                    89
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                   9.20
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4761.905 Hz
FIDRES             2.325149 Hz
AQ                 0.2150400 sec
RG                    107.19
DW                   105.000 usec
DE                     6.50 usec
TE                    298.4 K
D0                 0.00000300 sec
D1                 1.93815005 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00021000 sec

======== CHANNEL f1 ========
SFO1            500.2320708 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1            27.16399956 W
PLW10            3.28390002 W

======== GRADIENT CHANNEL =====
GPNAM[1]         SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1                500.2321 MHz
FIDRES             37.202381 Hz
SW                     9.519 ppm
FnMODE                    QF

F2 - Processing parameters
SI                       1024
SF                500.2300434 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                       QF
SF                500.2300434 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **19** (zoom)



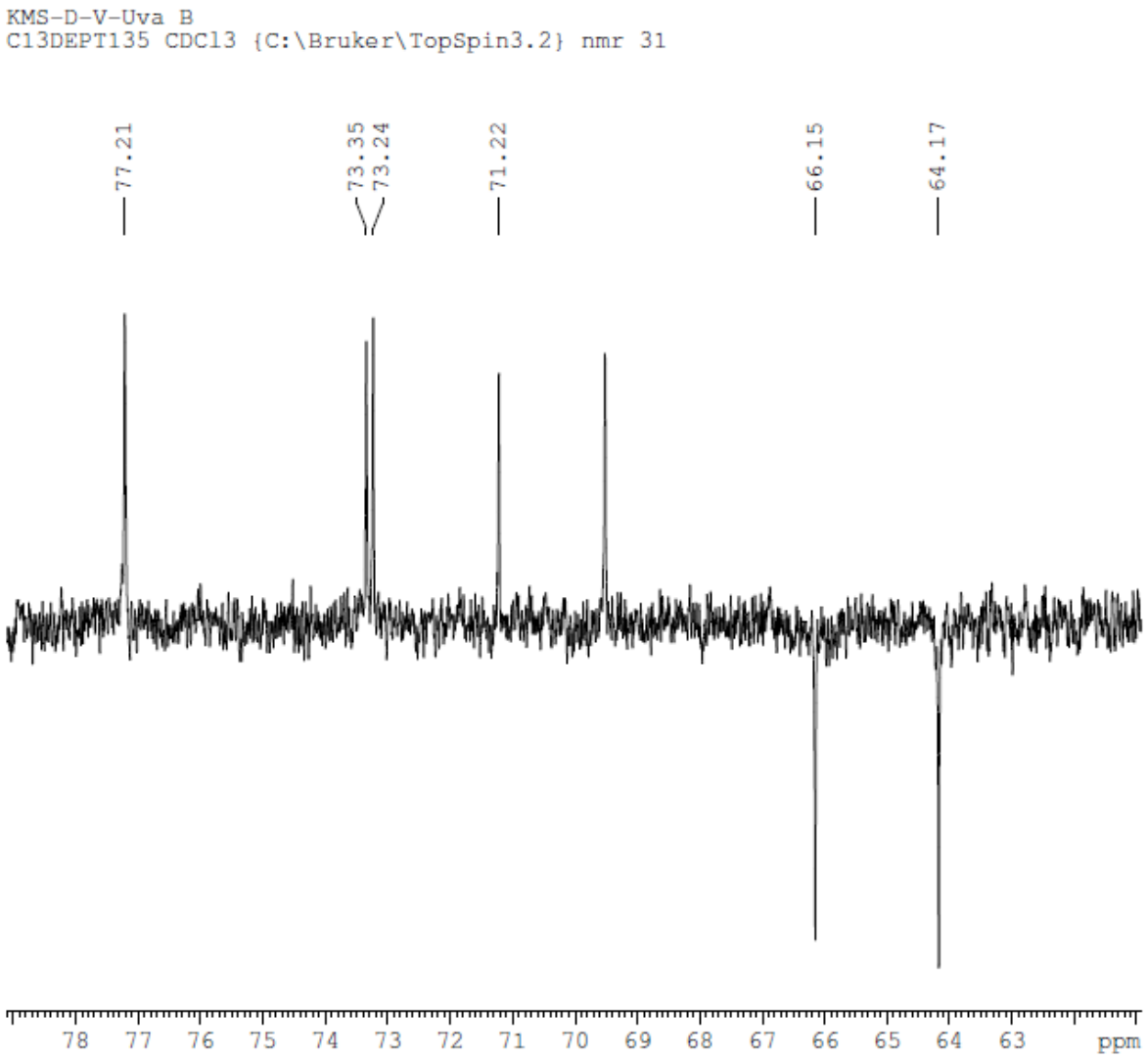

```
Current Data Parameters
NAME                  Sagar
EXPNO                    89
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                   9.20
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG          cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4761.905 Hz
FIDRES             2.325149 Hz
AQ                 0.2150400 sec
RG                    107.19
DW                   105.000 usec
DE                      6.50 usec
TE                    298.4 K
D0                 0.00000300 sec
D1                 1.93815005 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00021000 sec

======== CHANNEL f1 ========
SFO1            500.2320708 MHz
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1             27.16399956 W
PLW10             3.28390002 W

======== GRADIENT CHANNEL ====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1               500.2321 MHz
FIDRES            37.202381 Hz
SW                     9.519 ppm
FnMODE                    QF

F2 - Processing parameters
SI                       1024
SF              500.2300434 MHz
WDW                    QSINE
SSB             0
LB              0 Hz
GB              0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                       QF
SF              500.2300434 MHz
WDW                    QSINE
SSB             0
LB              0 Hz
GB              0
```

DEPT of compound **19**



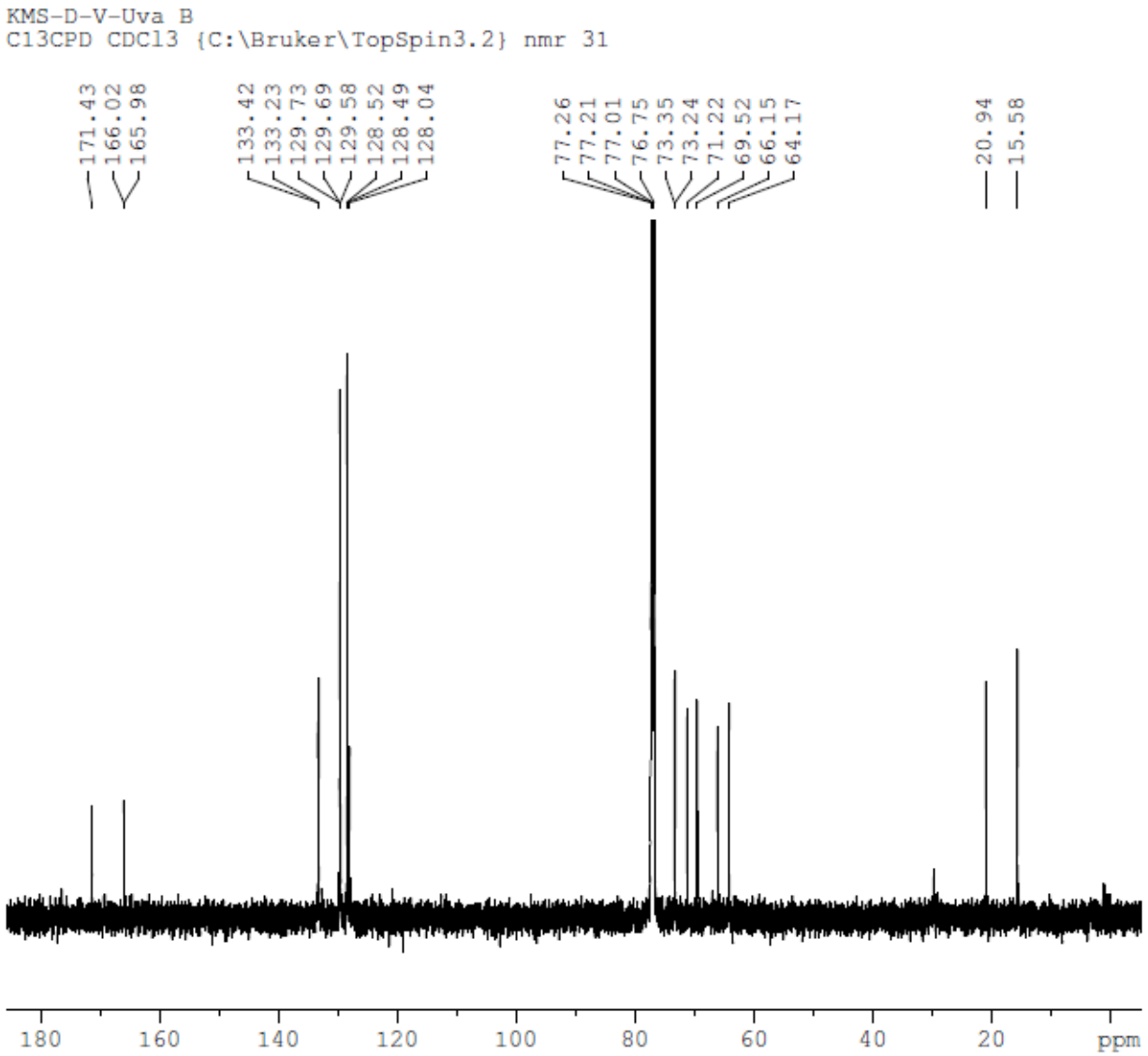

```
Current Data Parameters
NAME                  Sagar
EXPNO                    86
PROCNO                    1

F2 - Acquisition Parameters
Data_              20140814
Time                   4.26
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          dept.sp135
TD                    65536
SOLVENT               CDCl3
NS                      512
DS                        4
SWH               20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6252928 sec
RG                    191.08
DW                    24.800 usec
DE                     6.50 usec
TE                    298.2 K
CNST2             145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1              125.7929956 MHz
NUC1                      13C
P1                       8.65 usec
P13                   2000.00 usec
PLW0        0 W
PLW1           120.50000000 W
SPNAM[5]        Crp60comp.4
SPOAL5                 0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2              500.2315998 MHz
NUC2                      1H
CPDPRG[2              waltz16
P3                       9.04 usec
P4                      18.08 usec
PCPD2                  80.00 usec
PLW2             27.16399956 W
PLW12             0.34685999 W

F2 - Processing parameters
SI                        32768
SF                125.7829340 MHz
WDW                        EM
SSB         0
LB                       1.00 Hz
GB          0
PC                       1.40
```

DEPT of compound **19** (zoom)



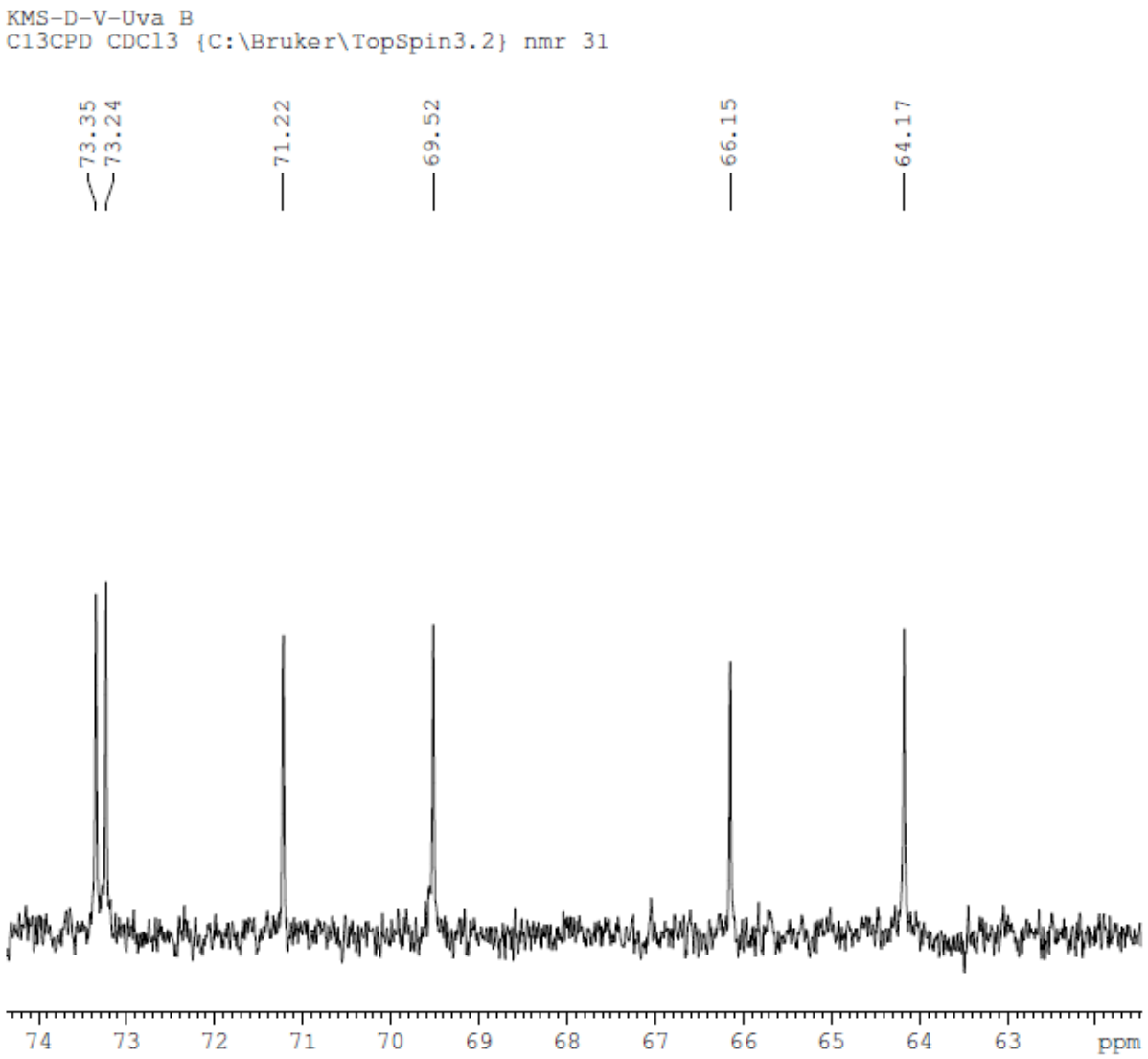

```
Current Data Parameters
NAME                  Sagar
EXPNO                    86
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                   4.26
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     512
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.2 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2           waltz16
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

^{14}C NMR of compound **19**



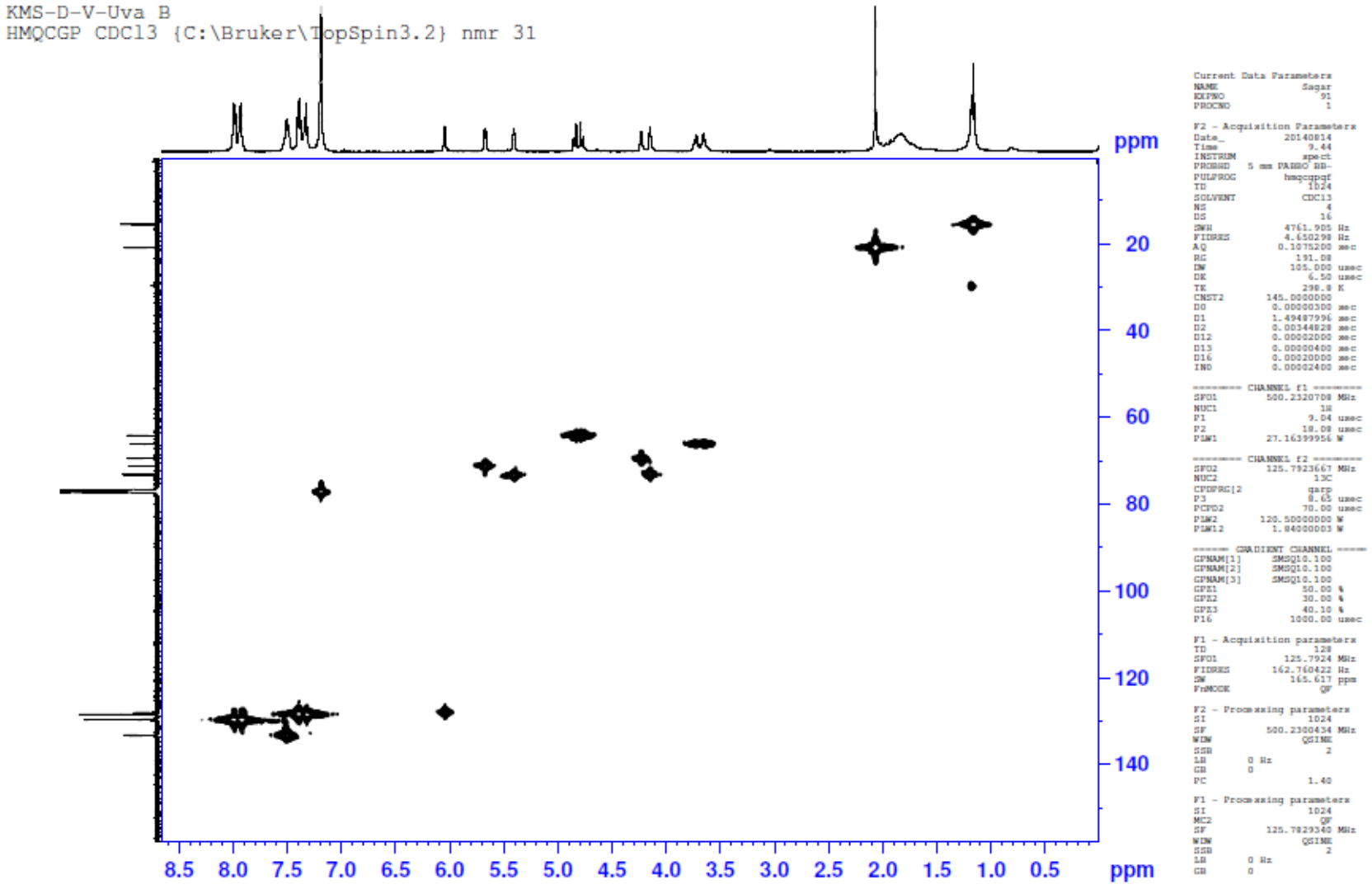

```
Current Data Parameters
NAME                  Sagar
EXPNO                    87
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140814
Time                  8.58
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    5000
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   298.5 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1          125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1         120.50000000 W

======== CHANNEL f2 ========
SFO2          500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W

F2 - Processing parameters
SI                    32768
SF            125.7829340 MHz
WDW                      EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

^{14}C NMR of compound **19** (zoom)

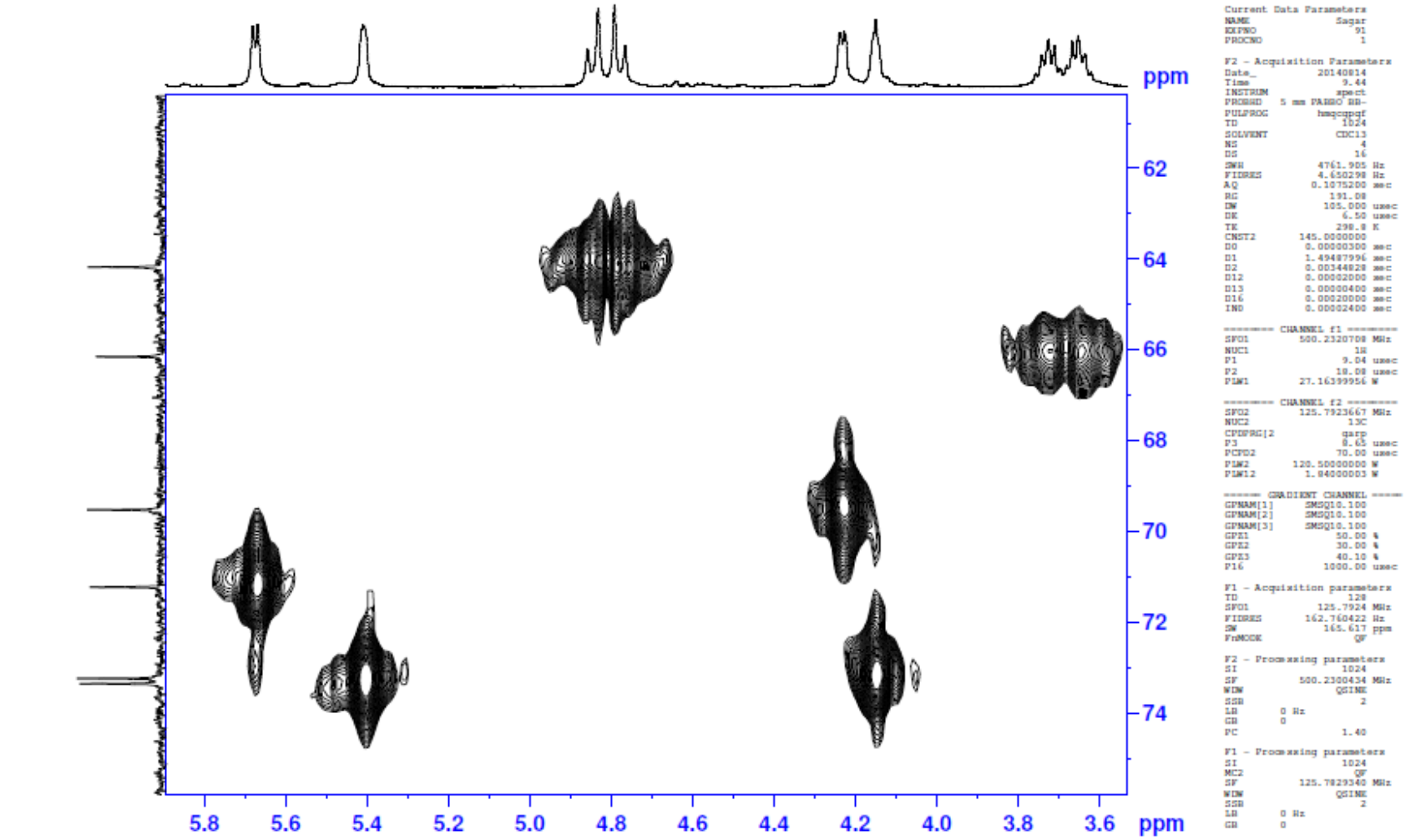



```
Current Data Parameters
NAME                 Sagar
EXPNO                   87
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140814
Time                 8.58
INSTRUM             spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    5000
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   298.5 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7955112 MHz
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W

======== CHANNEL f2 ========
SFO2            500.2320009 MHz
NUC2                    1H
CPDPRG[2           waltz16
PCPD2                 80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W
PLW13            0.22199000 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```

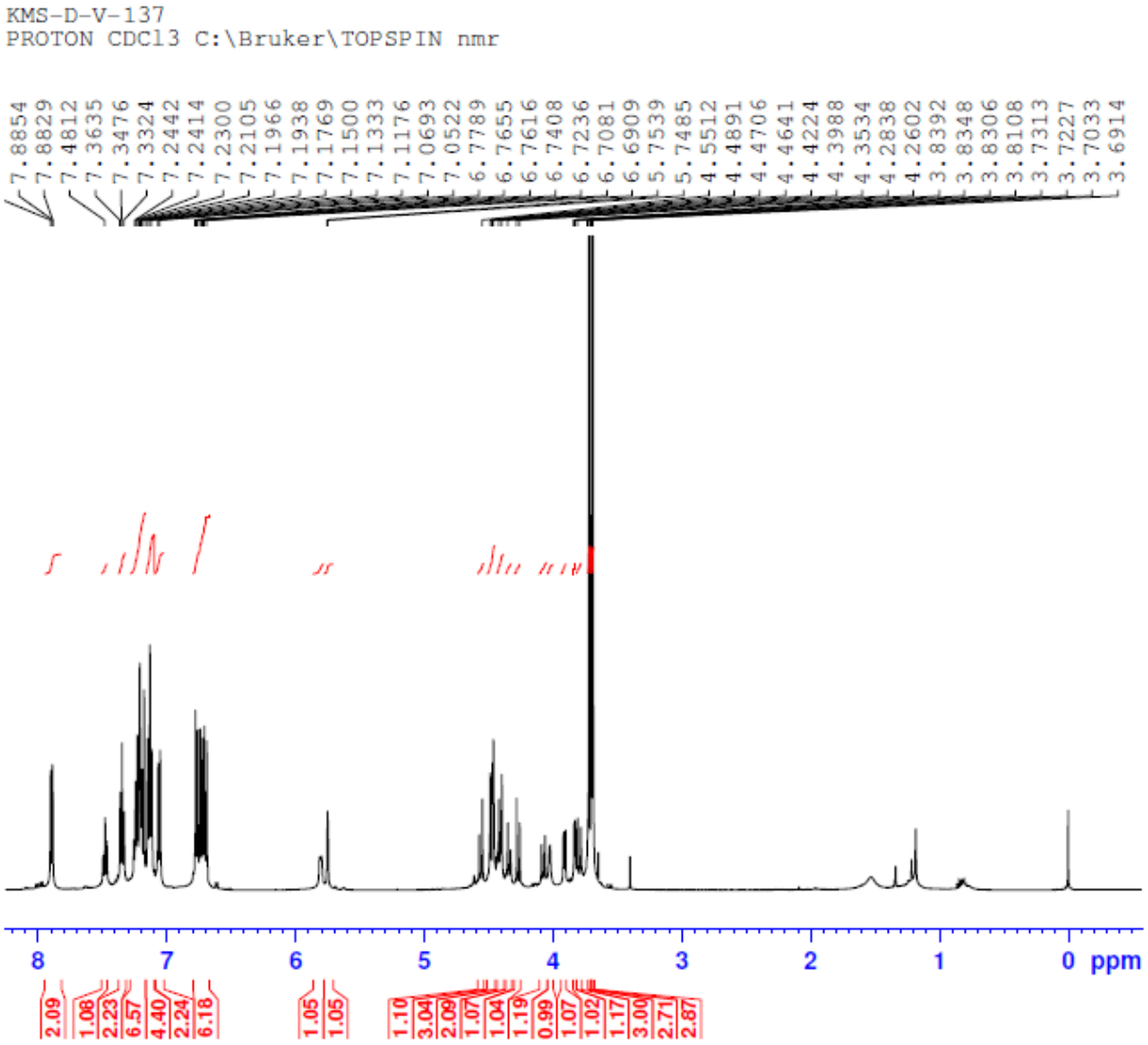
HMQC of compound **19**



HMQC of compound **19** (zoom)

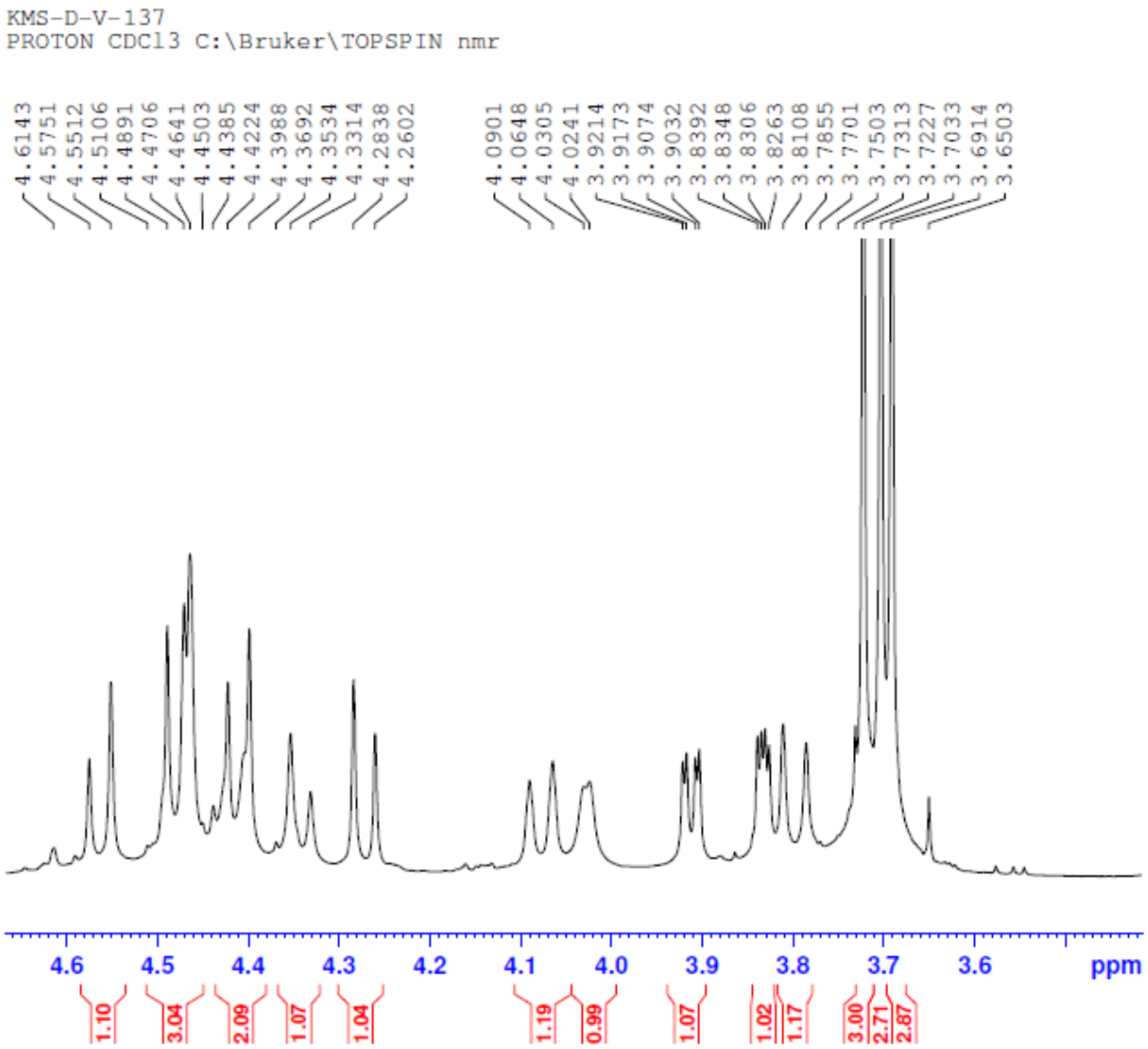


^{1}H NMR of compound **20**



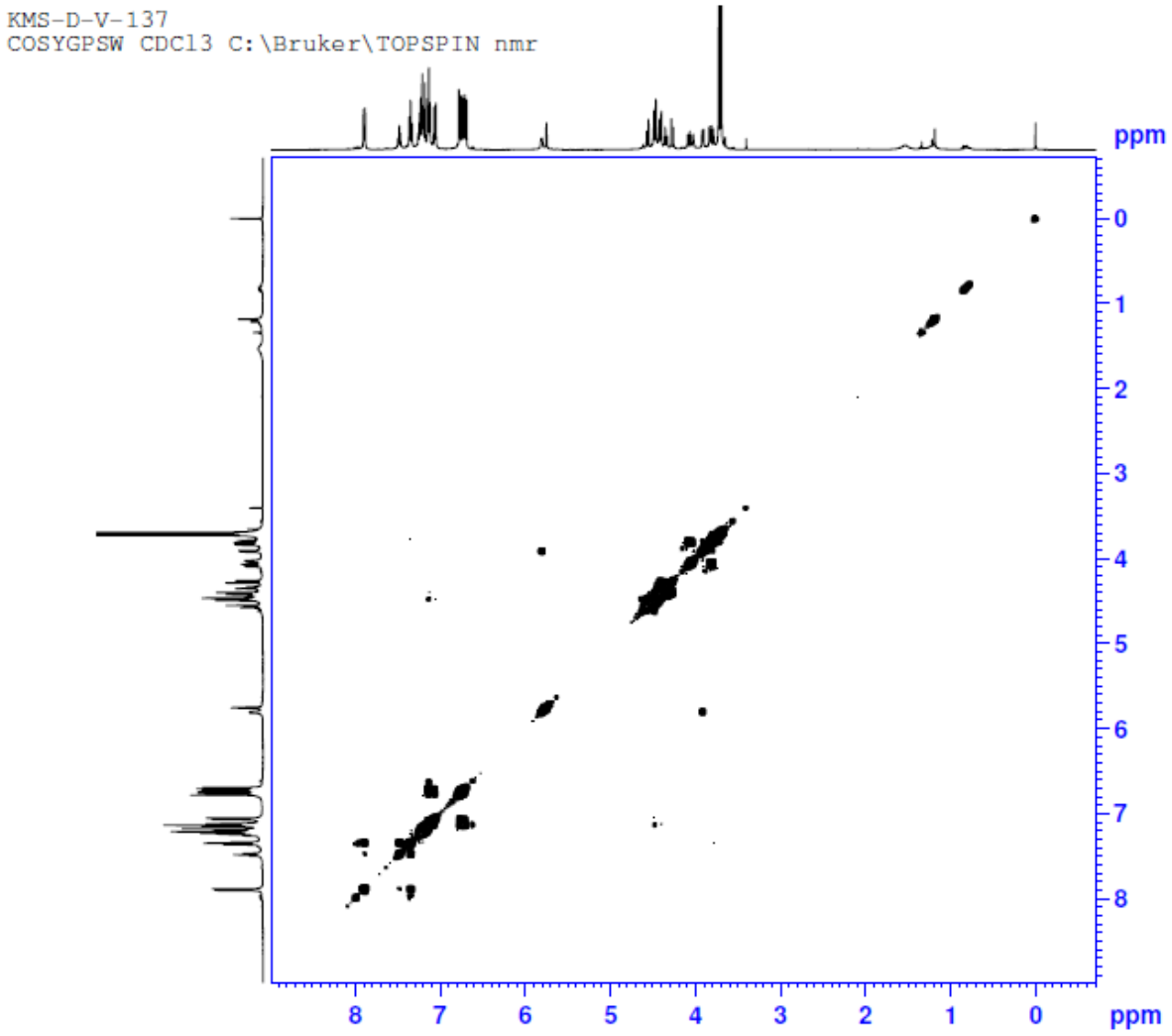

```
Current Data Parameters
NAME                  Sagar
EXPNO                   649
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  20.36
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ                3.1719923 sec
RG                    95.46
DW                  48.400 usec
DE                   6.50 usec
TE                  299.7 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300570 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **20** (zoom)



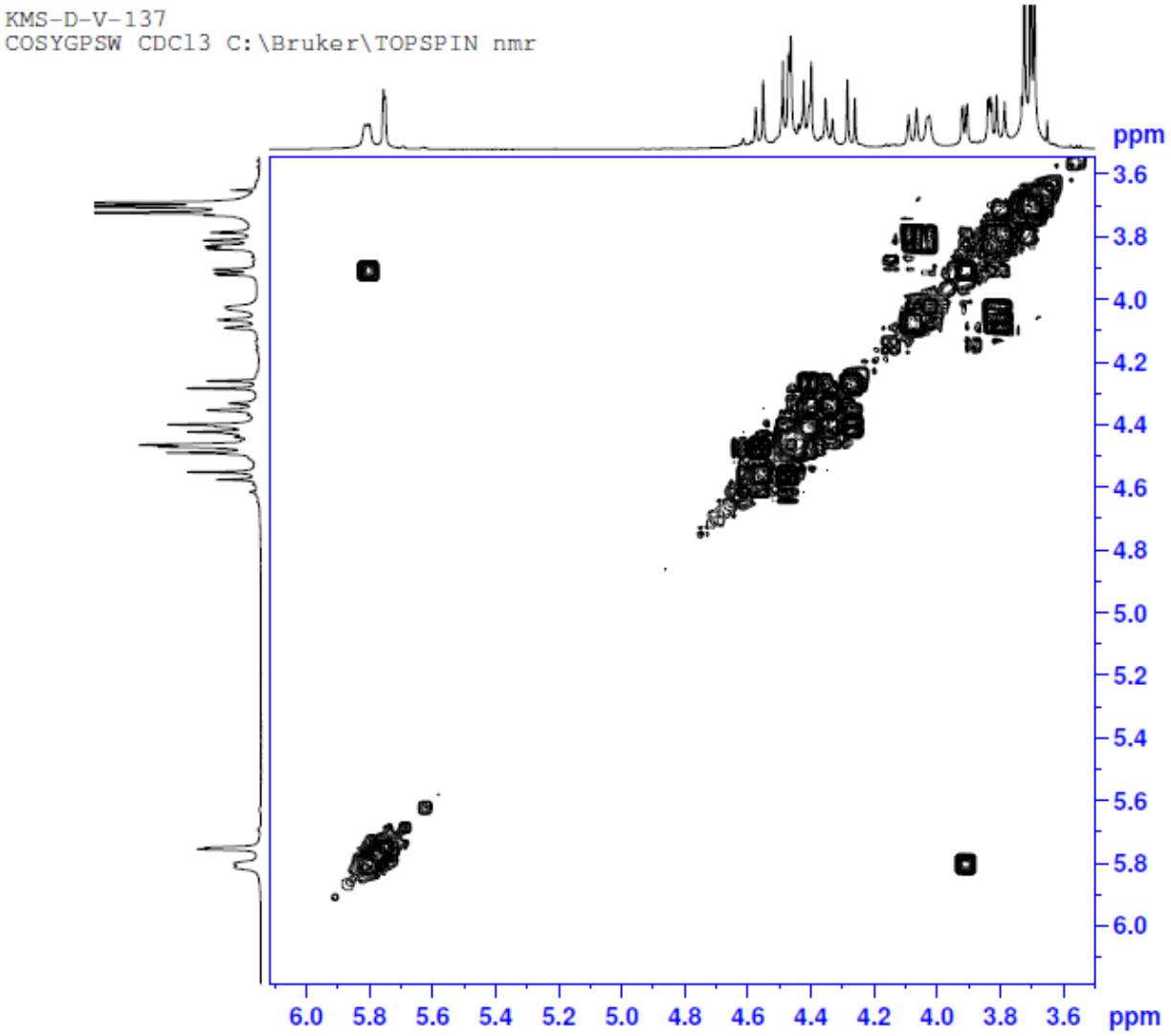

```
Current Data Parameters
NAME                  Sagar
EXPNO                   649
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  20.36
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                 3.1719923 sec
RG                    95.46
DW                   48.400 usec
DE                    6.50 usec
TE                   299.7 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300570 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **20**



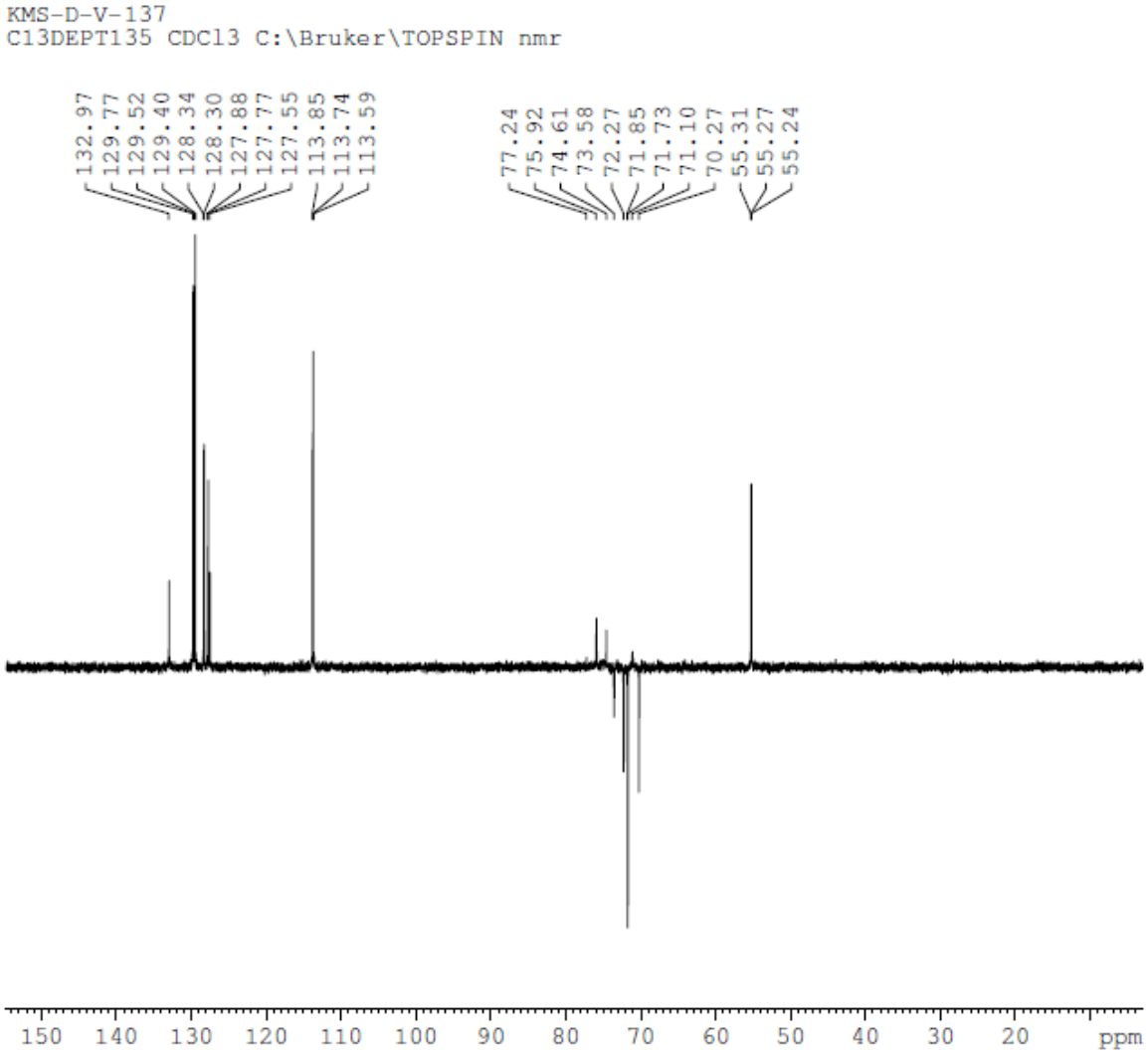

```
Current Data Parameters
NAME                  Sagar
EXPNO                   650
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                 20.38
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          cosygpppqf
TD                     2048
SOLVENT               CDCl3
NS                        1
DS                        8
SWH                4854.369 Hz
FIDRES             2.370297 Hz
AQ                 0.2109940 sec
RG                     64.12
DW                   103.000 usec
DE                     6.50 usec
TE                   299.7 K
D0                 0.00000300 sec
D1                 1.94224596 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00020600 sec

======== CHANNEL f1 =======
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W
SFO1           500.2321253 MHz

===== GRADIENT CHANNEL =====
GPNAM1           SMSQ10.100
GPZ1                  10.00 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2321 MHz
FIDRES           37.924759 Hz
SW                    9.704 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF             500.2300570 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF             500.2300570 MHz
WDW              States-TPPI
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **20** (zoom)



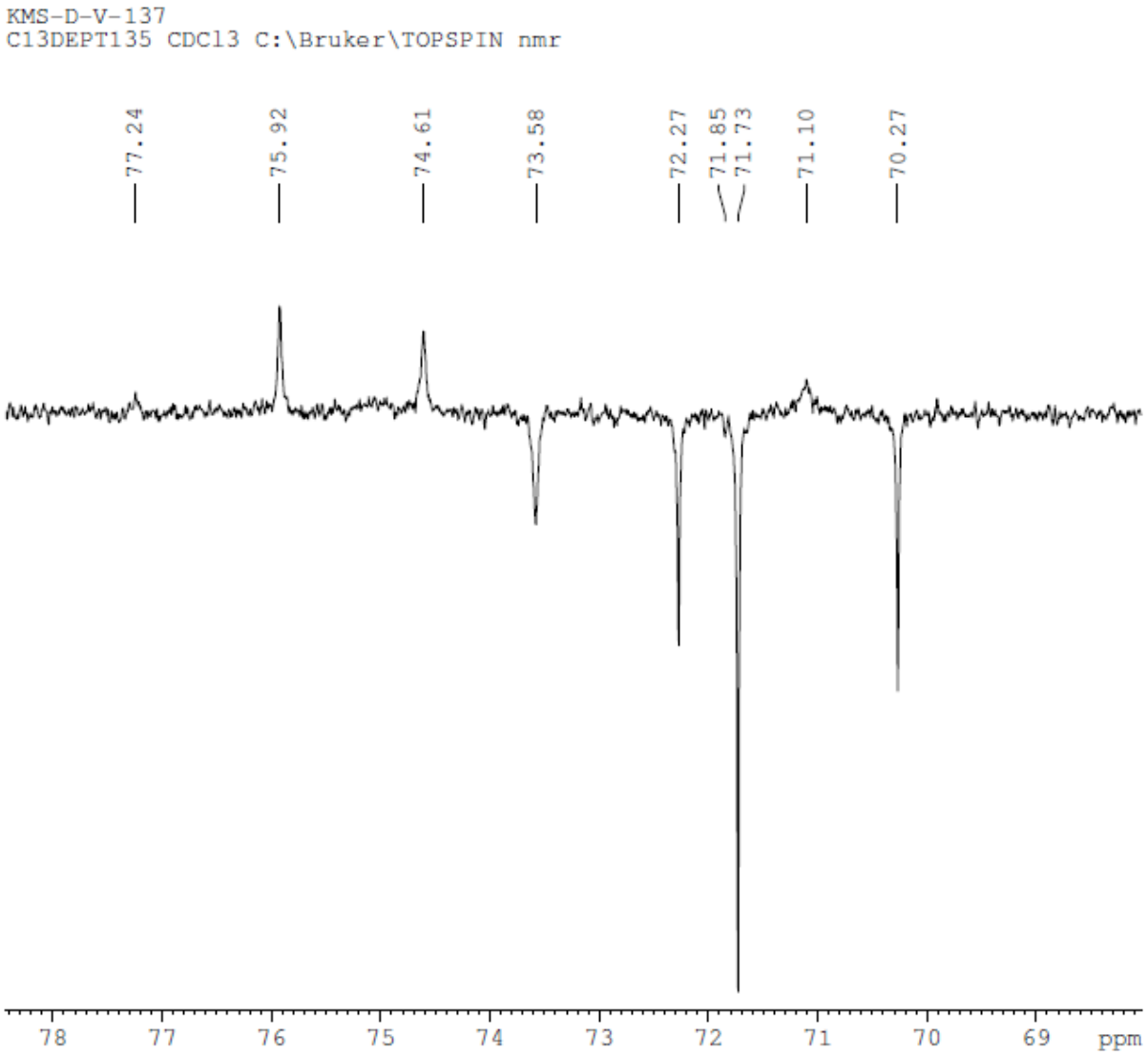

```
Current Data Parameters
NAME                  Sagar
EXPNO                   650
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  20.38
INSTRUM                spect
PROBHD     5 mm PABBO BB-
PULPROG         cosygpppqf
TD                     2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH               4854.369 Hz
FIDRES            2.370297 Hz
AQ                0.2109940 sec
RG                    64.12
DW                  103.000 usec
DE                    6.50 usec
TE                   299.7 K
D0                0.00000300 sec
D1                1.94224596 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00020600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W
SFO1           500.2321253 MHz

===== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2321 MHz
FIDRES           37.924759 Hz
SW                    9.704 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF             500.2300570 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
PC                    1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF             500.2300570 MHz
WDW             States-TPPI
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **20**



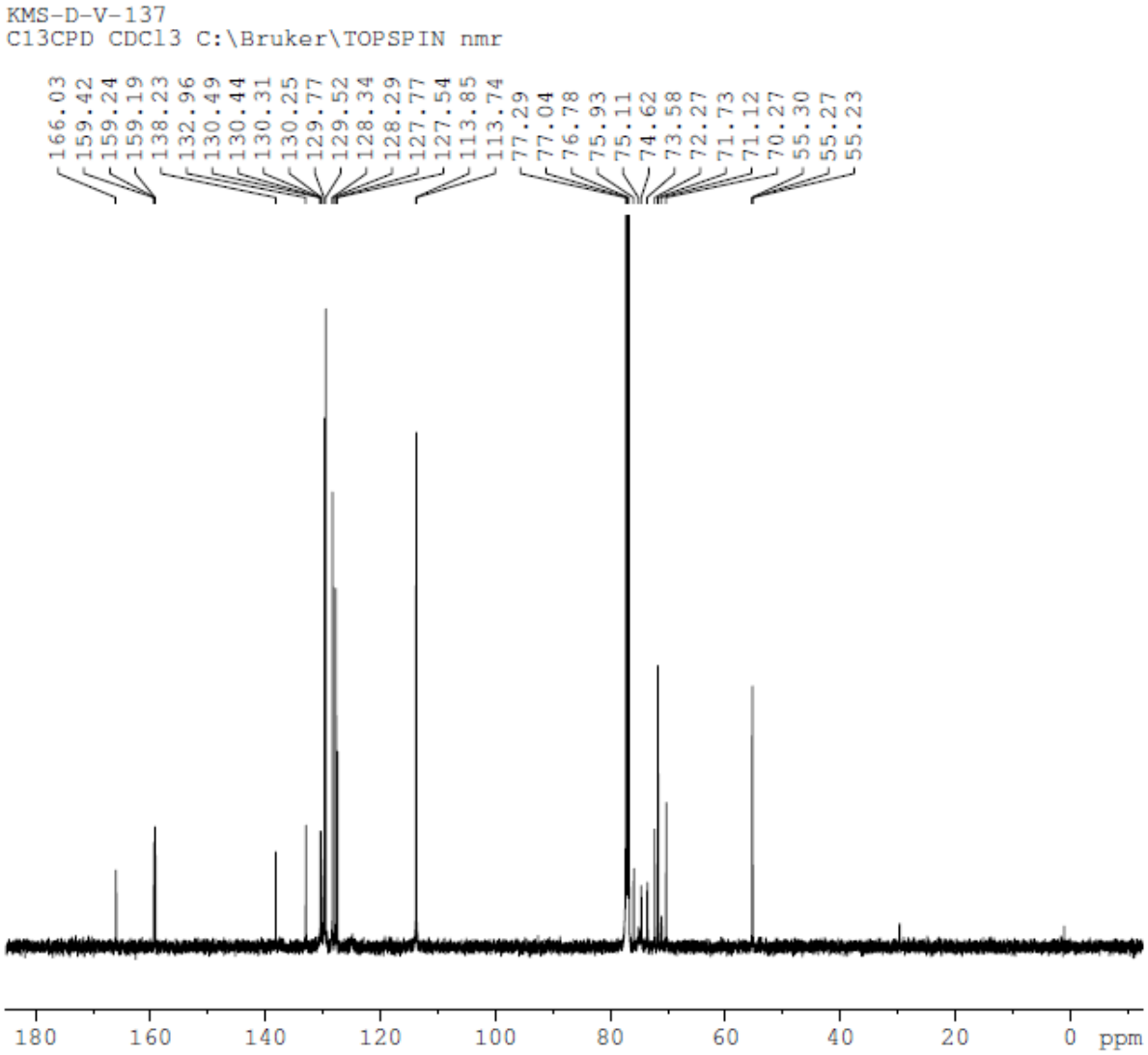

```
Current Data Parameters
NAME                  Sagar
EXPNO                   651
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  20.46
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG          deptsp135
TD                     65536
SOLVENT                CDCl3
NS                       256
DS                         4
SWH               20161.291 Hz
FIDRES            0.307637 Hz
AQ                1.6253428 sec
RG                   191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   300.1 K
CNST2            145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

DEPT of compound **20** (zoom)



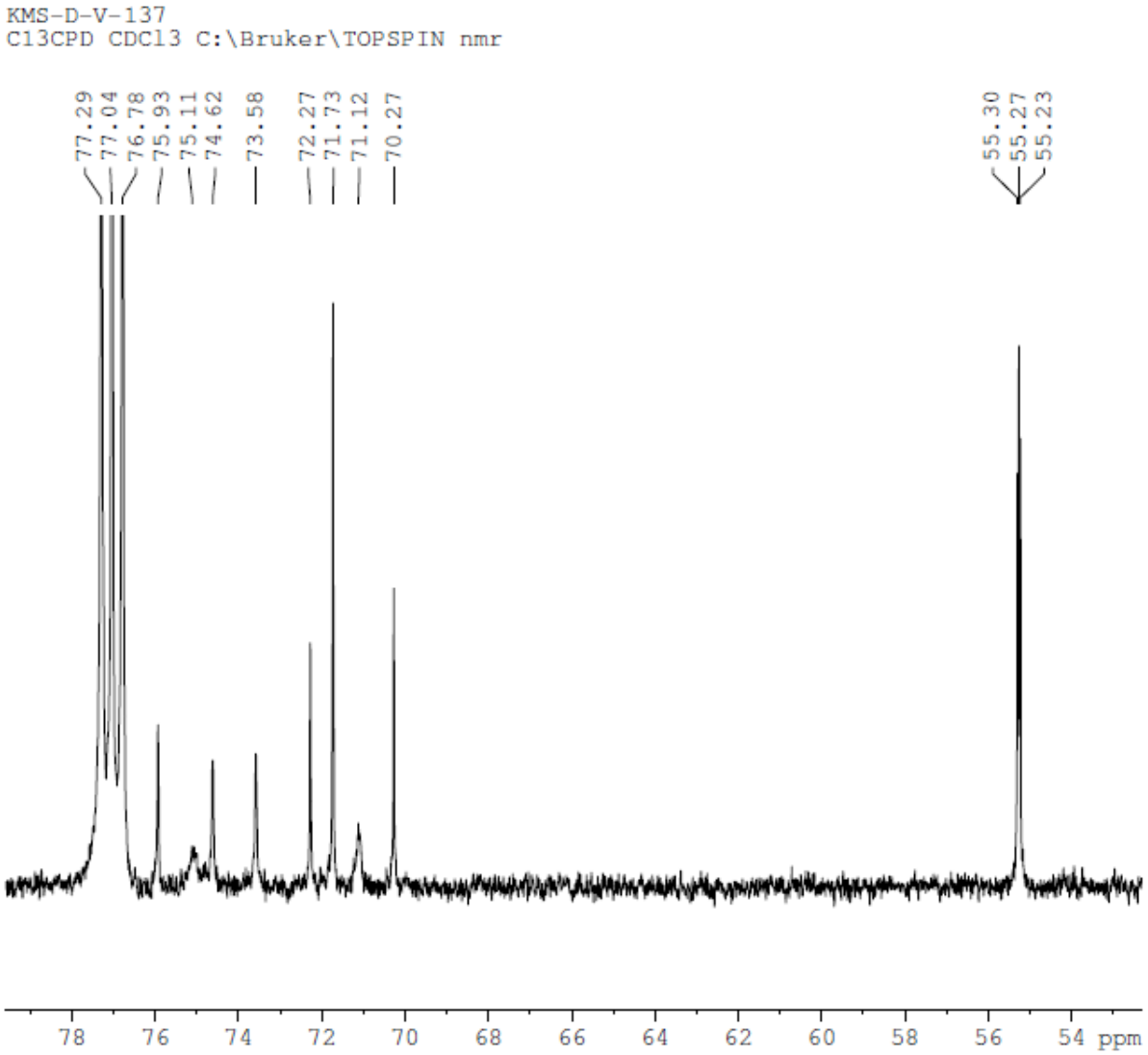

```
Current Data Parameters
NAME                  Sagar
EXPNO                   651
PROCNO                    1

F2 - Acquisition Parameters
Data_               20140415
Time                   20.46
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                     65536
SOLVENT                CDCl3
NS                       256
DS                         4
SWH                20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6253428 sec
RG                     191.08
DW                     24.800 usec
DE                      6.50 usec
TE                     300.1 K
CNST2             145.0000000
D1                  2.00000000 sec
D2                  0.00344828 sec
D12                 0.00002000 sec

======== CHANNEL f1 ========
NUC1                      13C
P1                       8.65 usec
P13                   2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                      1H
P3                       9.04 usec
P4                      18.08 usec
PCPD2                   80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                       32768
SF             125.7829340 MHz
WDW                         EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

^{14}C NMR of compound **20**



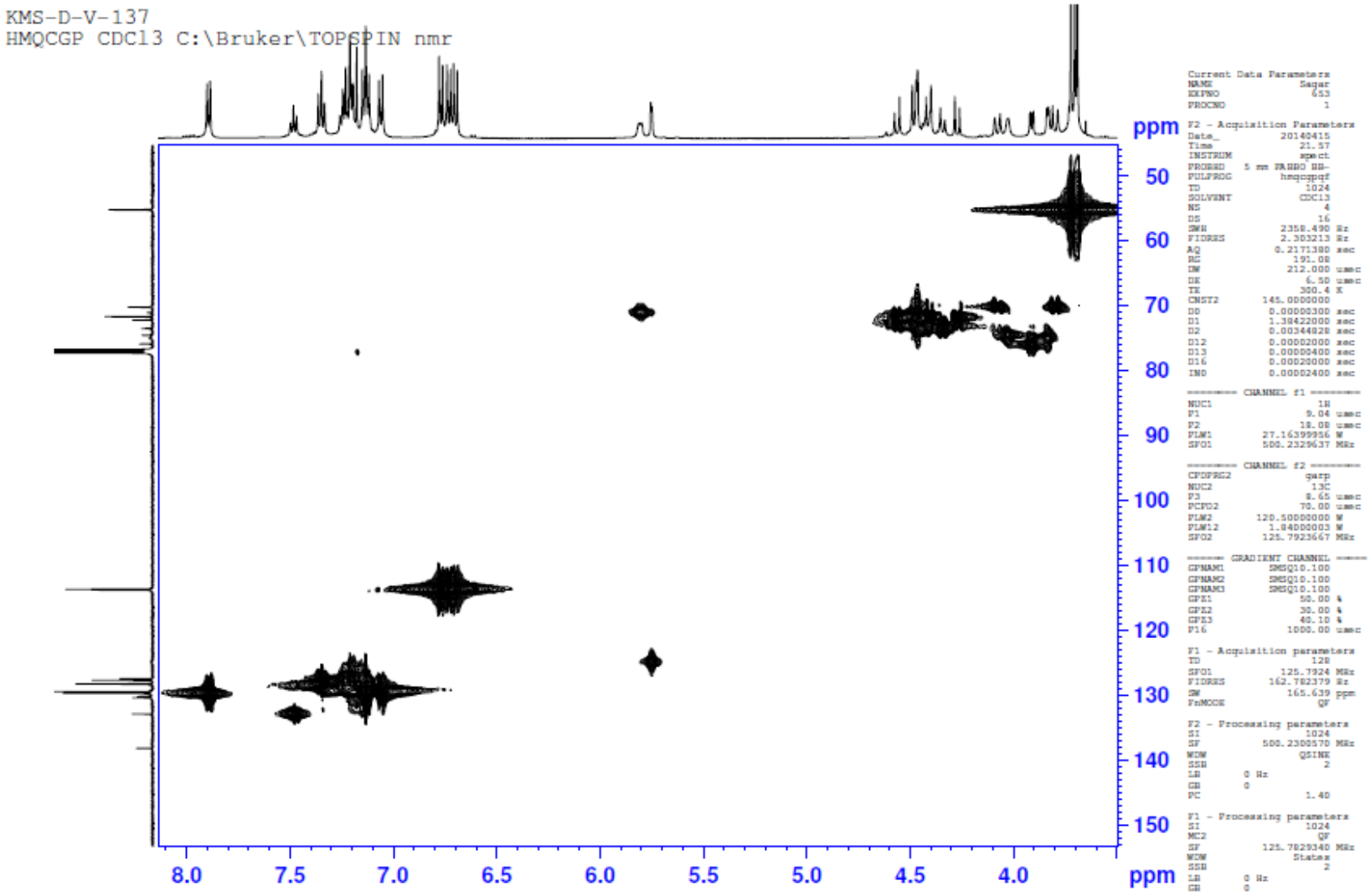

```
Current Data Parameters
NAME                  Sagar
EXPNO                   652
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  21.45
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   300.6 K
D1                2.00000000 sec
D11               0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

^{14}C NMR of compound **20** (zoom)

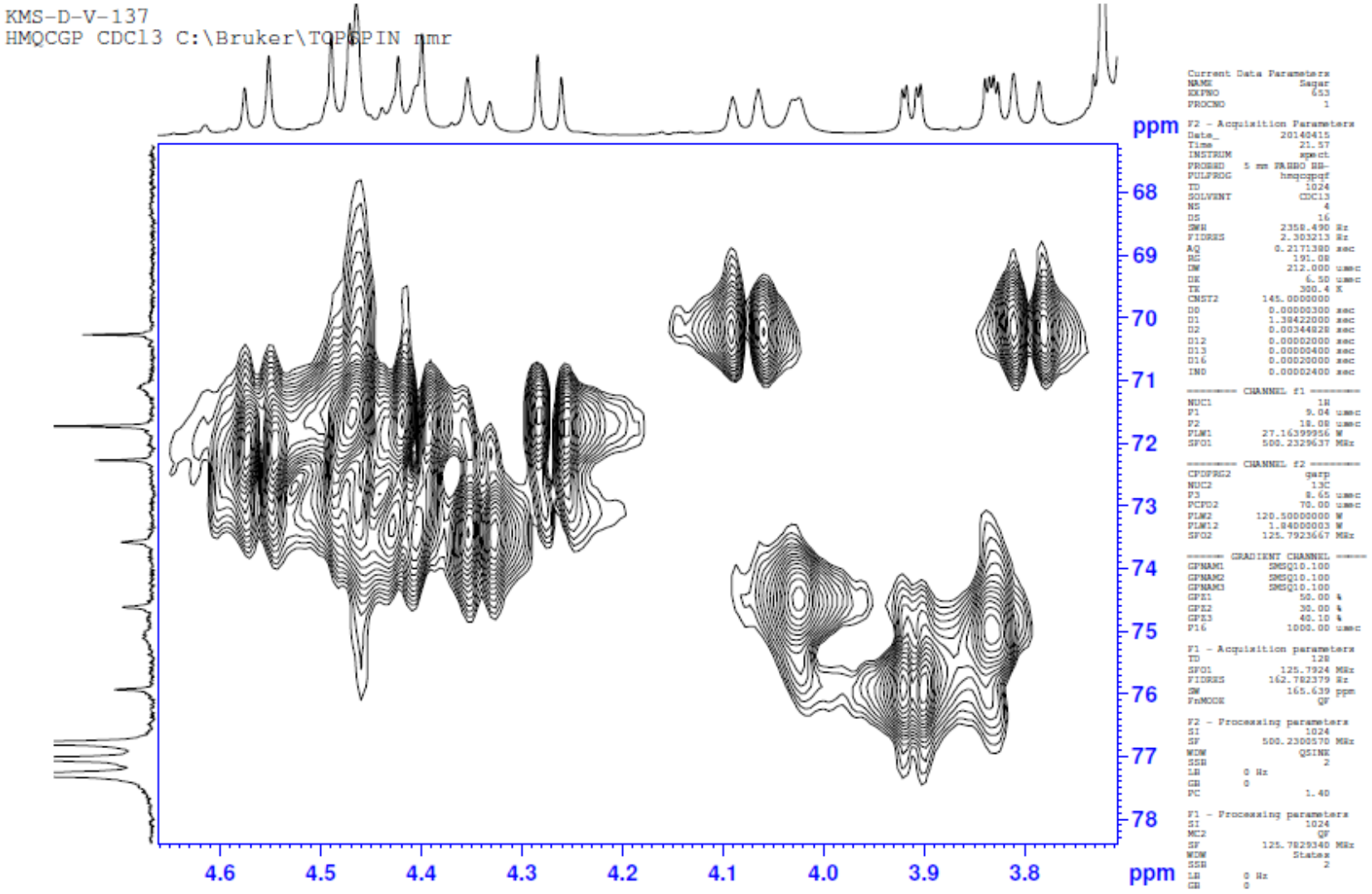



```
Current Data Parameters
NAME                  Sagar
EXPNO                   652
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140415
Time                  21.45
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010548 sec
RG                    191.08
DW                    16.800 usec
DE                     6.50 usec
TE                    300.6 K
D1                 2.00000000 sec
D11                0.03000000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
PLW1           120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                     1H
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                       32768
SF             125.7829340 MHz
WDW                         EM
SSB          0
LB                      1.00 Hz
GB           0
PC                      1.40
```

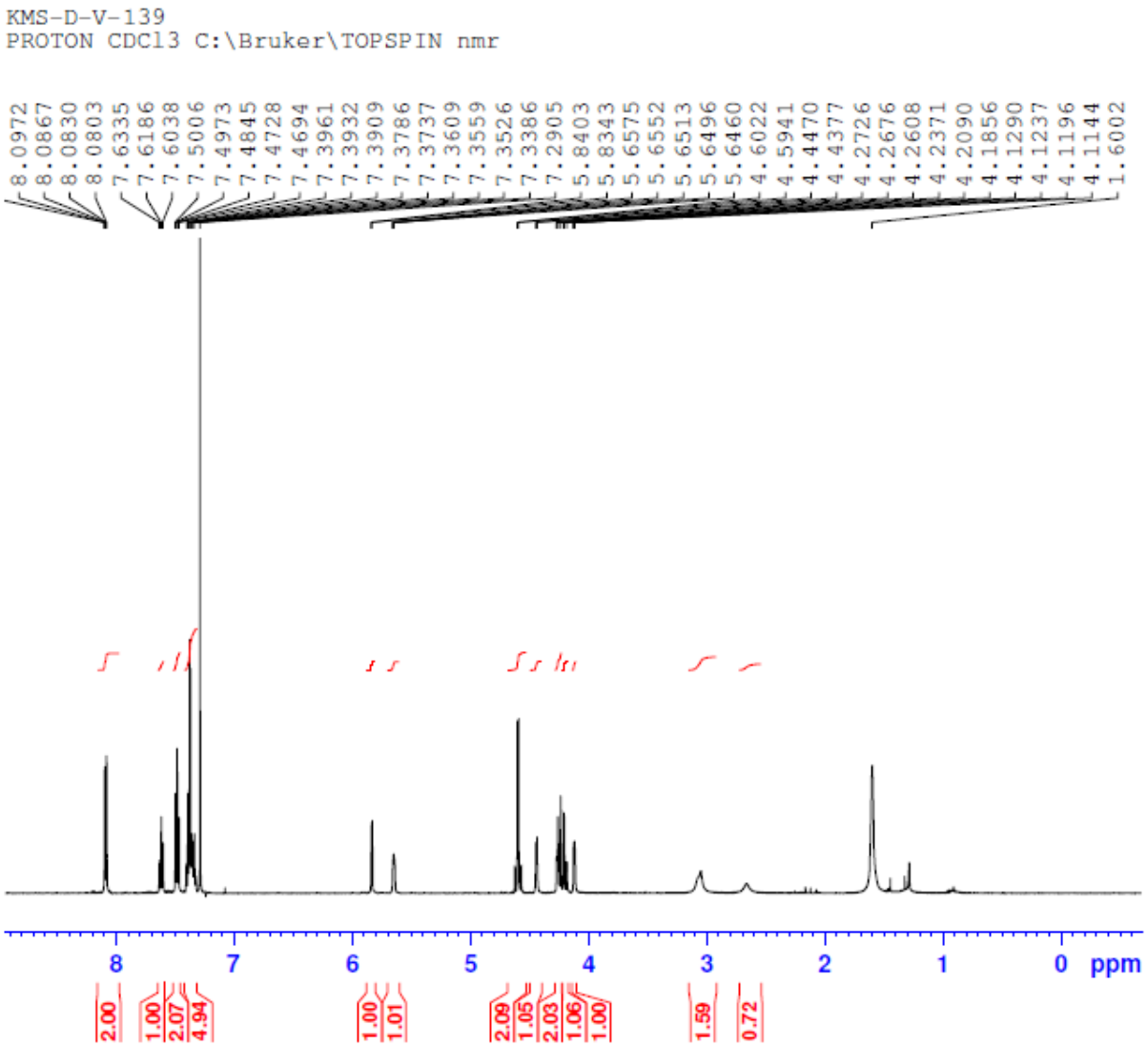
HMQC of compound **20**



HMQC of compound **20** (zoom)

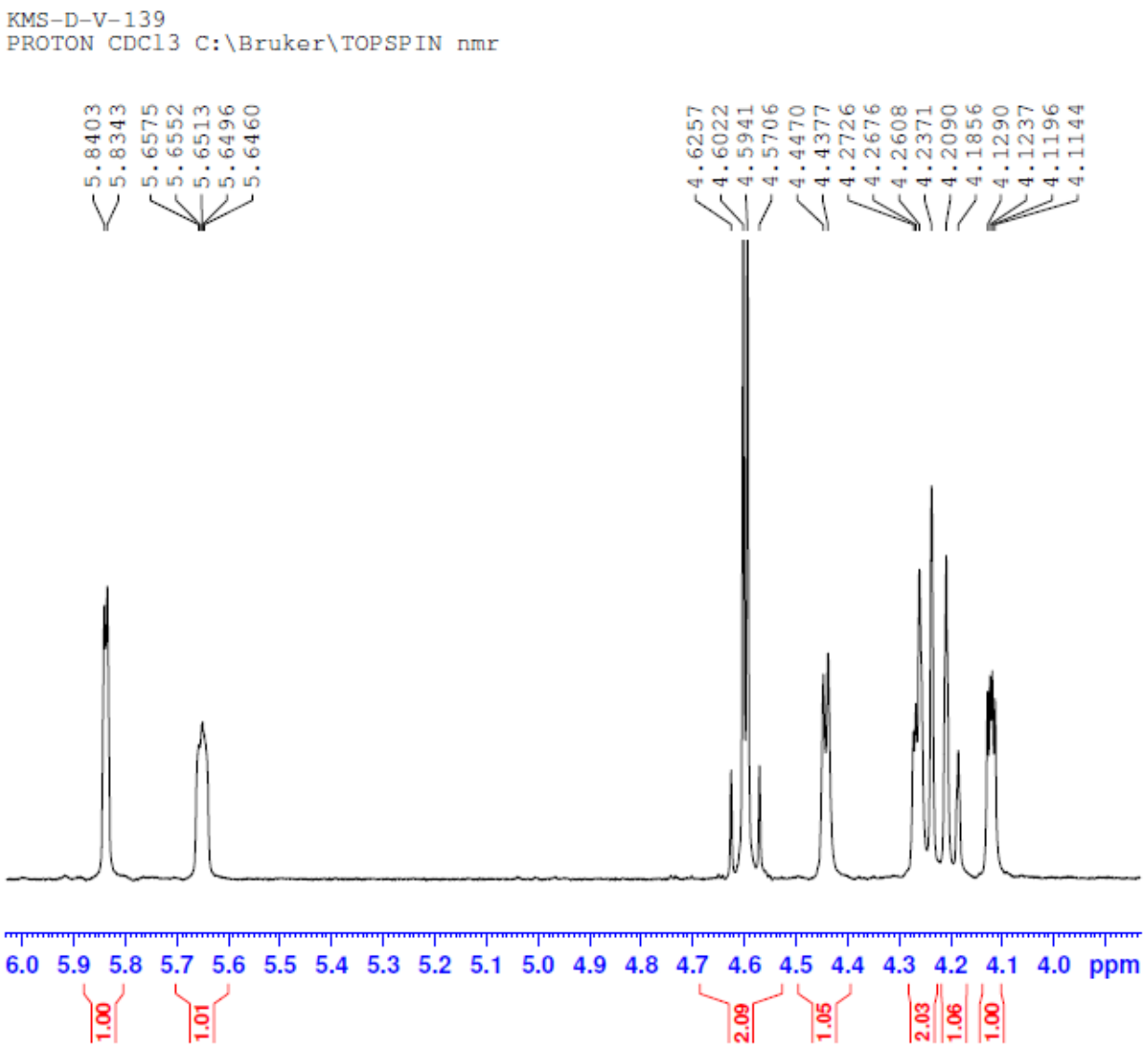


^{1}H NMR of compound **21**



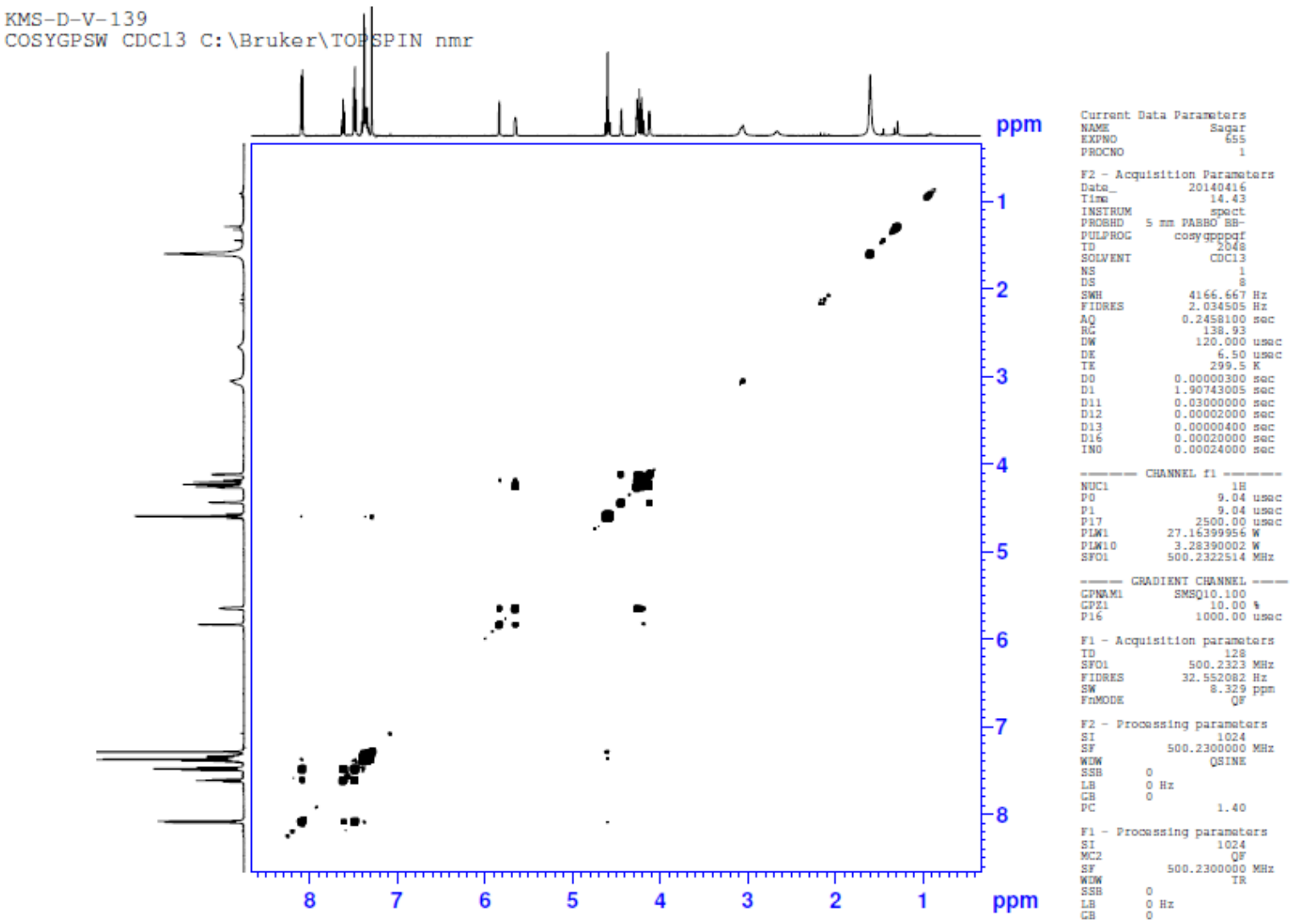

```
Current Data Parameters
NAME                  Sagar
EXPNO                   654
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  14.41
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   191.08
DW                  48.400 usec
DE                   6.50 usec
TE                   299.5 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300000 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **21** (zoom)



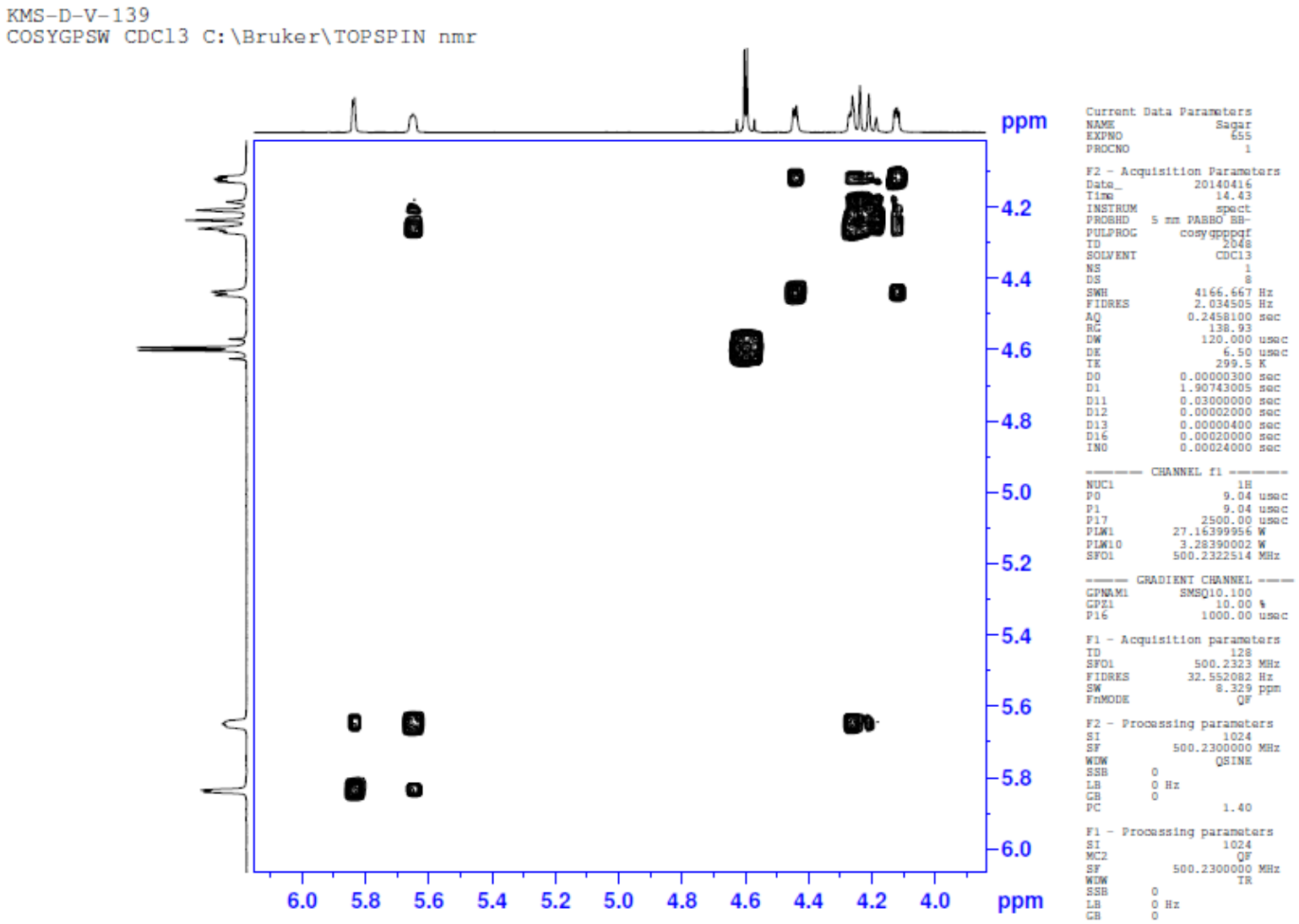

```
Current Data Parameters
NAME                  Sagar
EXPNO                   654
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  14.41
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   191.08
DW                  48.400 usec
DE                   6.50 usec
TE                   299.5 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300000 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **21**

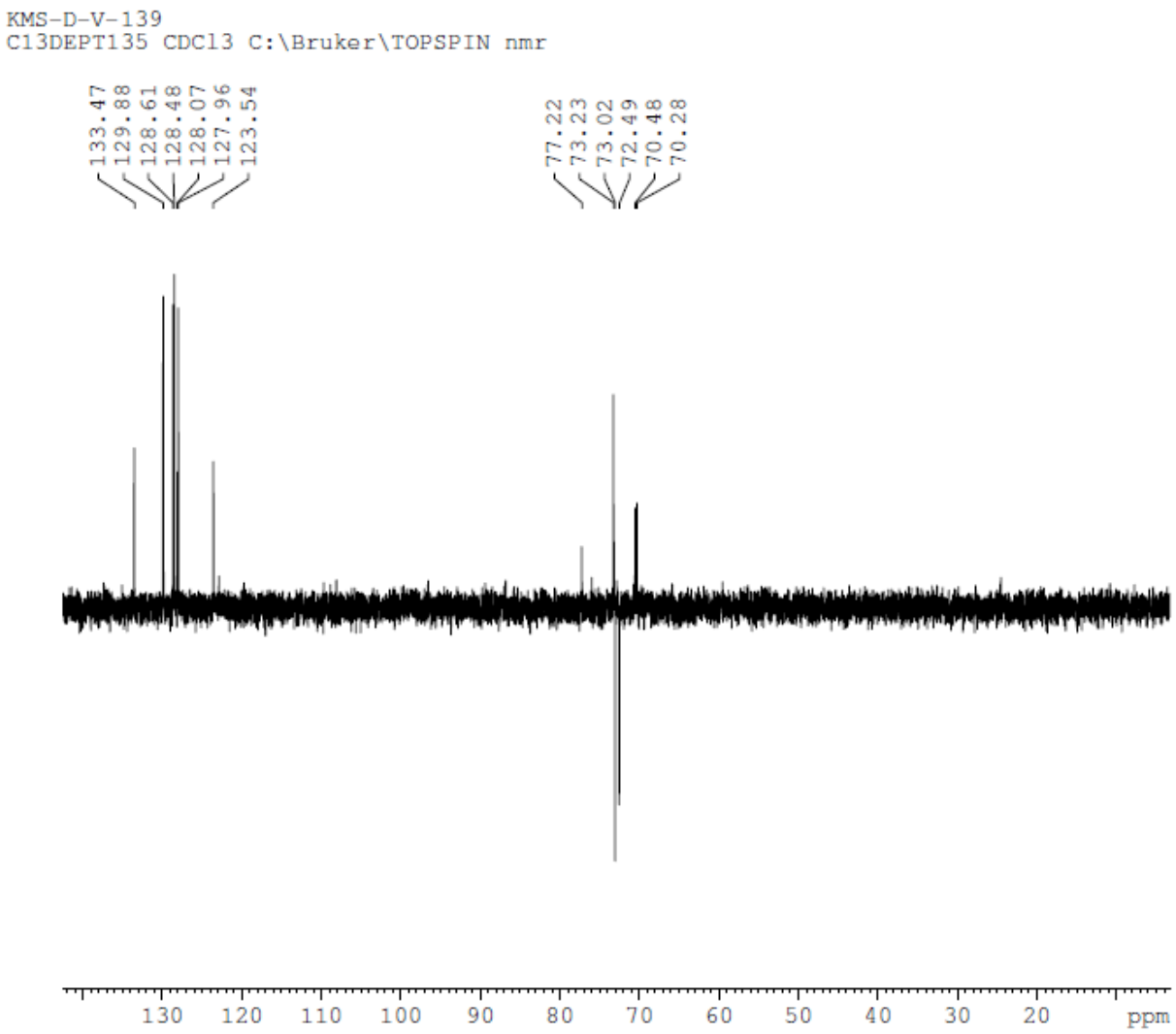



```
Current Data Parameters
NAME                  Sagar
EXPNO                   655
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  14.43
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH               4166.667 Hz
FIDRES            2.034505 Hz
AQ                0.2458100 sec
RG                   138.93
DW                  120.000 usec
DE                    6.50 usec
TE                   299.5 K
D0                0.00000300 sec
D1                1.90743005 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00024000 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1            27.16399956 W
PLW10            3.28390002 W
SFO1           500.2322514 MHz

===== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1           500.2323 MHz
FIDRES          32.552082 Hz
SW                    8.329 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF           500.2300000 MHz
WDW                   QSINE
SSB          0
LB           0 Hz
GB           0
PC                    1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF           500.2300000 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

COSY of compound **21** (zoom)



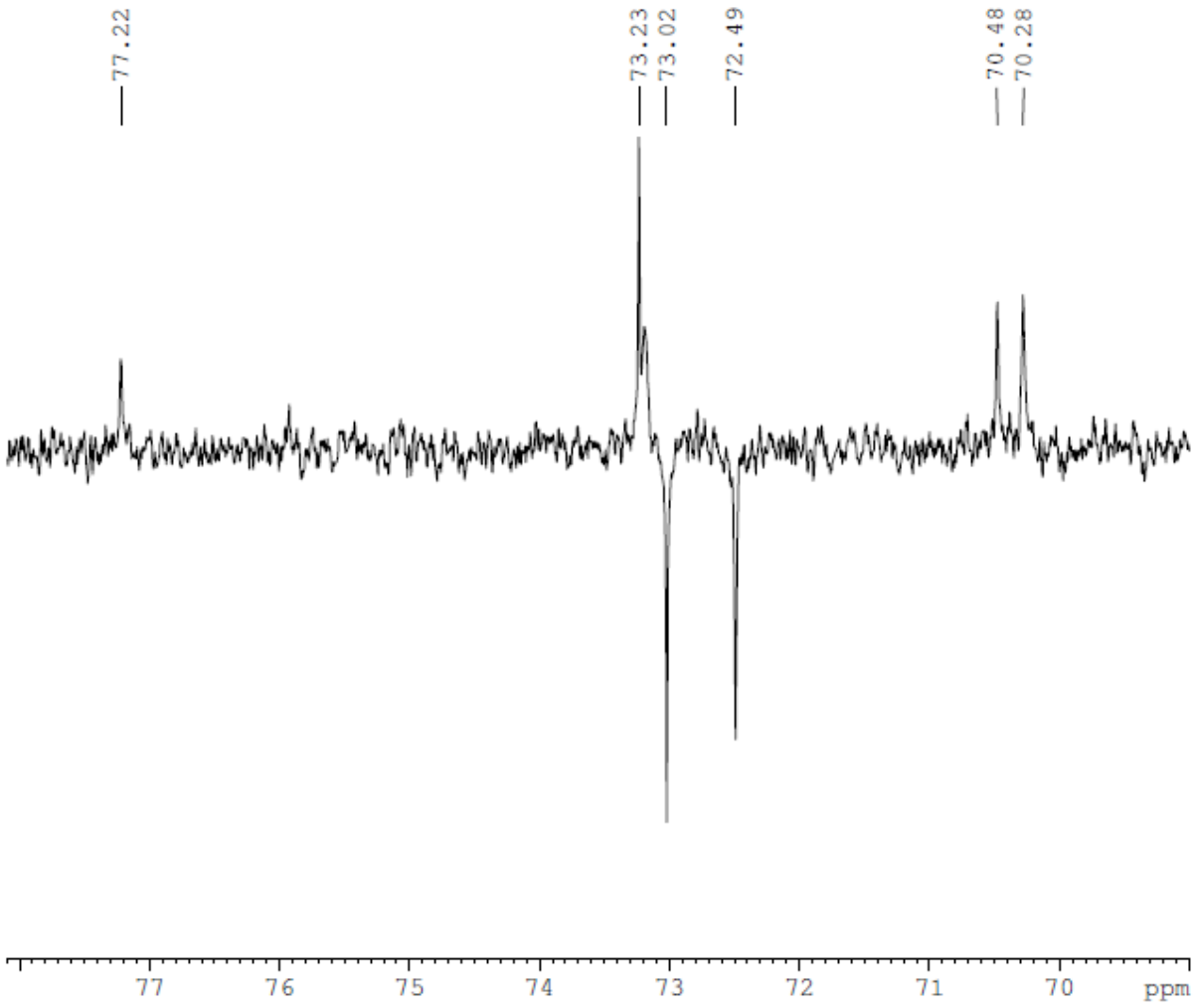
DEPT of compound **21**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   660
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  18.02
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                    65536
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH               20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6253428 sec
RG                    191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   299.5 K
CNST2             145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec

======== CHANNEL f1 =======
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0       0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5    0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 =======
CPDPRG2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF           125.7829340 MHz
WDW                       EM
SSB        0
LB                     1.00 Hz
GB         0
PC                     1.40
```

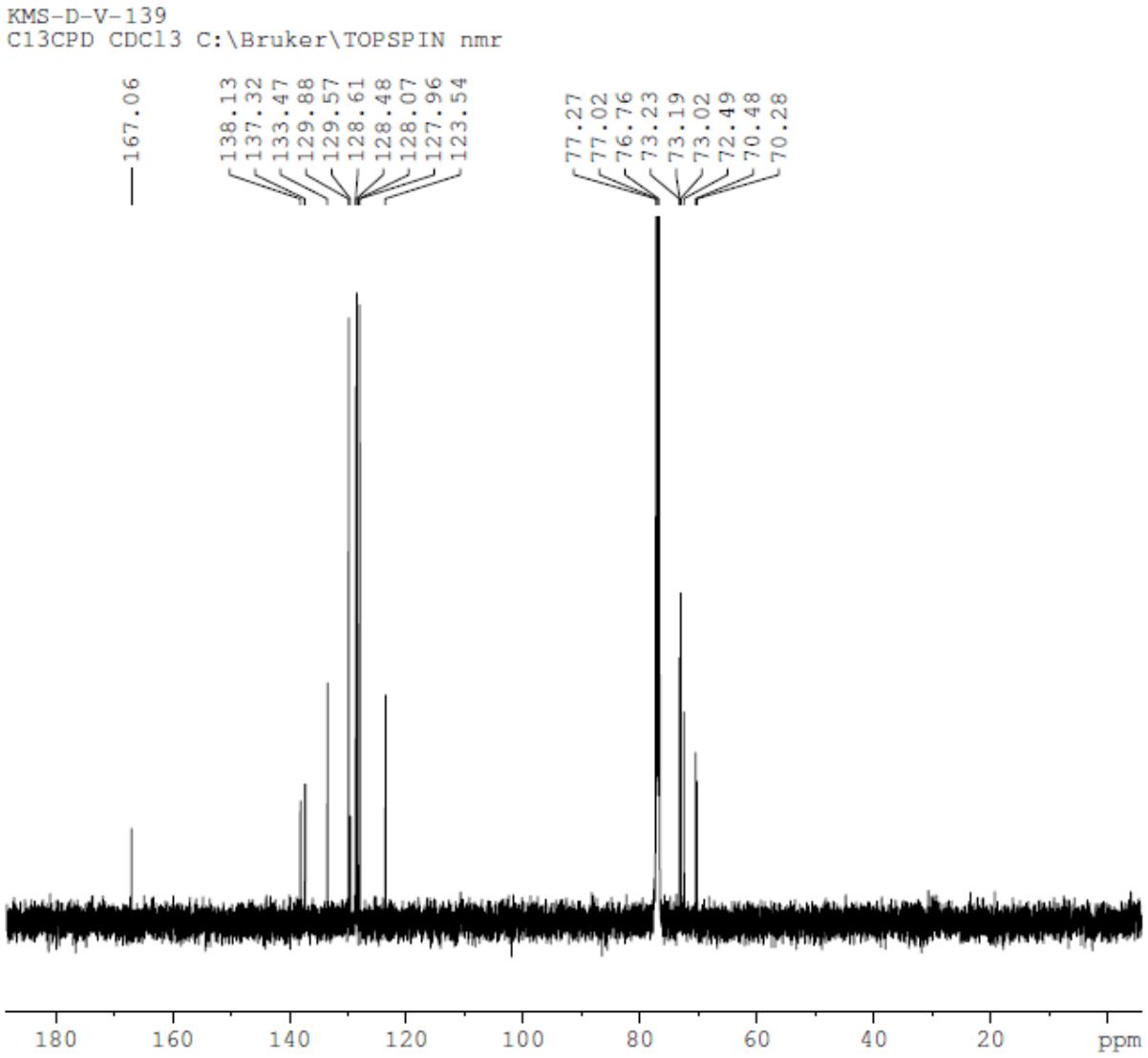
DEPT of compound **21** (zoom)

KMS-D-V-139
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



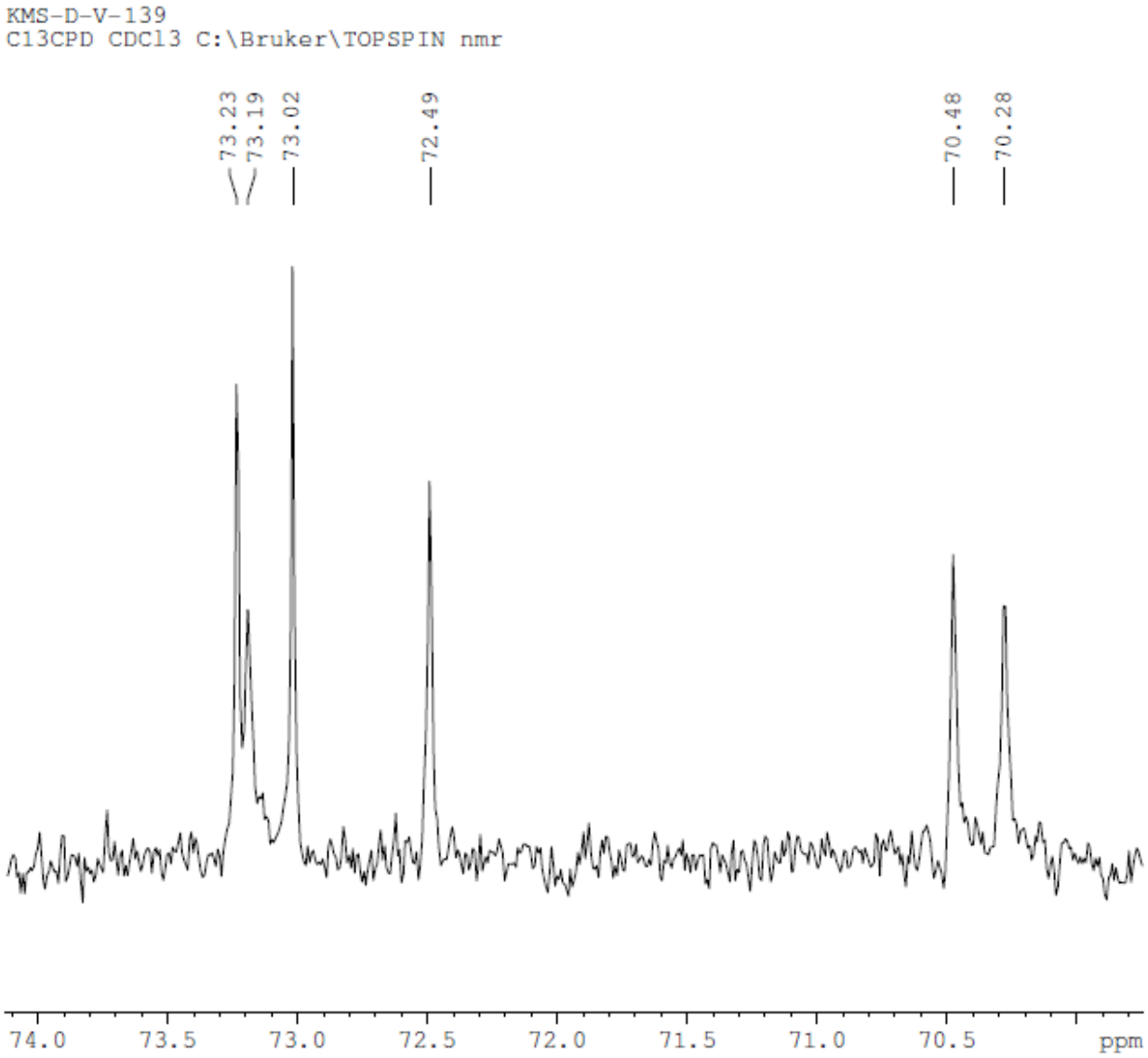

```
Current Data Parameters
NAME                  Sagar
EXPNO                   660
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                 18.02
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  299.5 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 =======
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 =======
CPDPRG2            waltz16
NUC2                    1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                   32768
SF             125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

^{14}C NMR of compound **21**



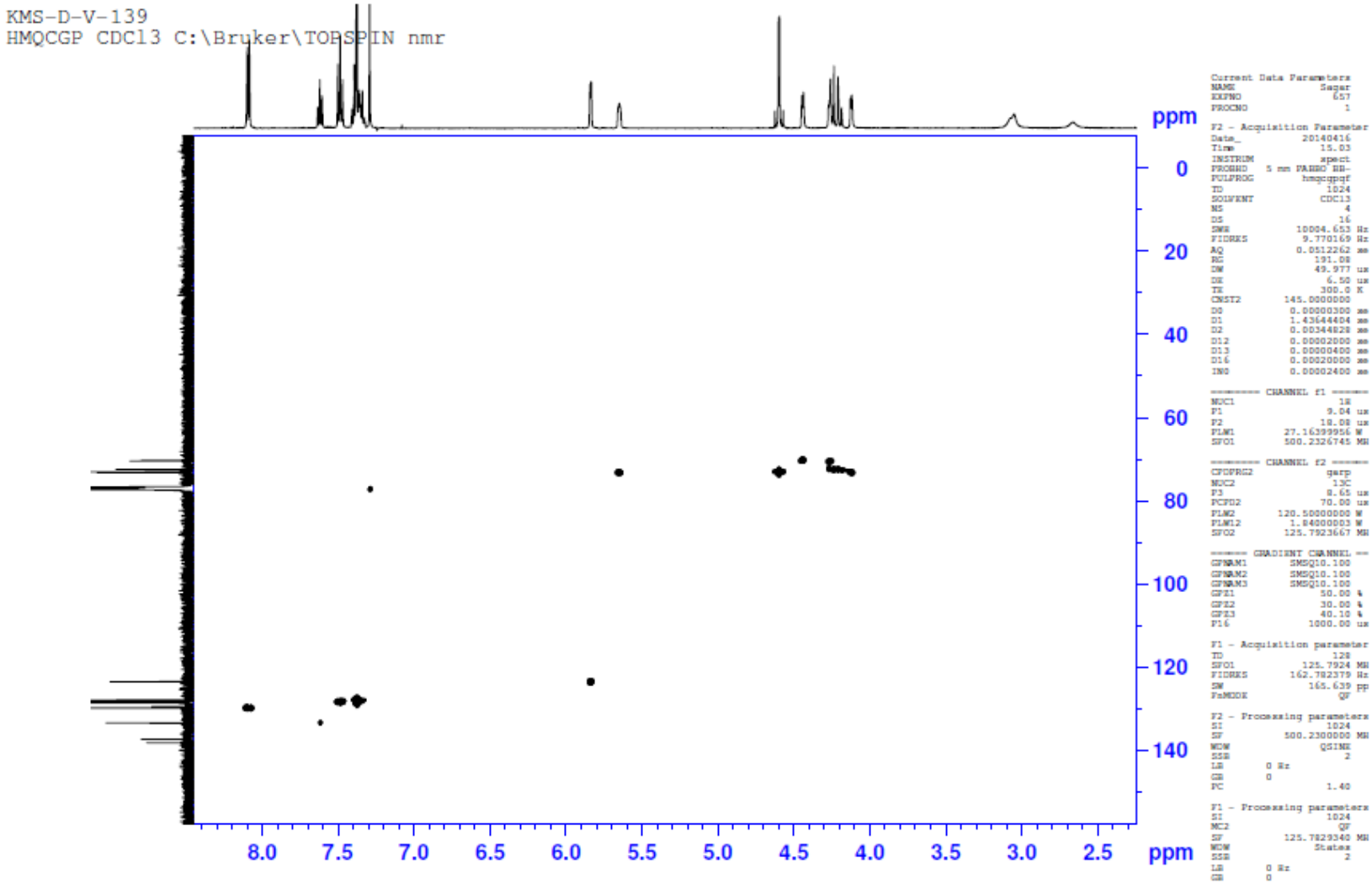

```
Current Data Parameters
NAME                  Sagar
EXPNO                   663
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  19.46
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    4096
DS                       4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                 16.800 usec
DE                  6.50 usec
TE                  299.5 K
D1              2.00000000 sec
D11             0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                  8.65 usec
PLW1          120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                   1H
PCPD2               80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF             125.7829340 MHz
WDW                      EM
SSB       0
LB                  1.00 Hz
GB        0
PC                  1.40
```

^{14}C NMR of compound **21** (zoom)

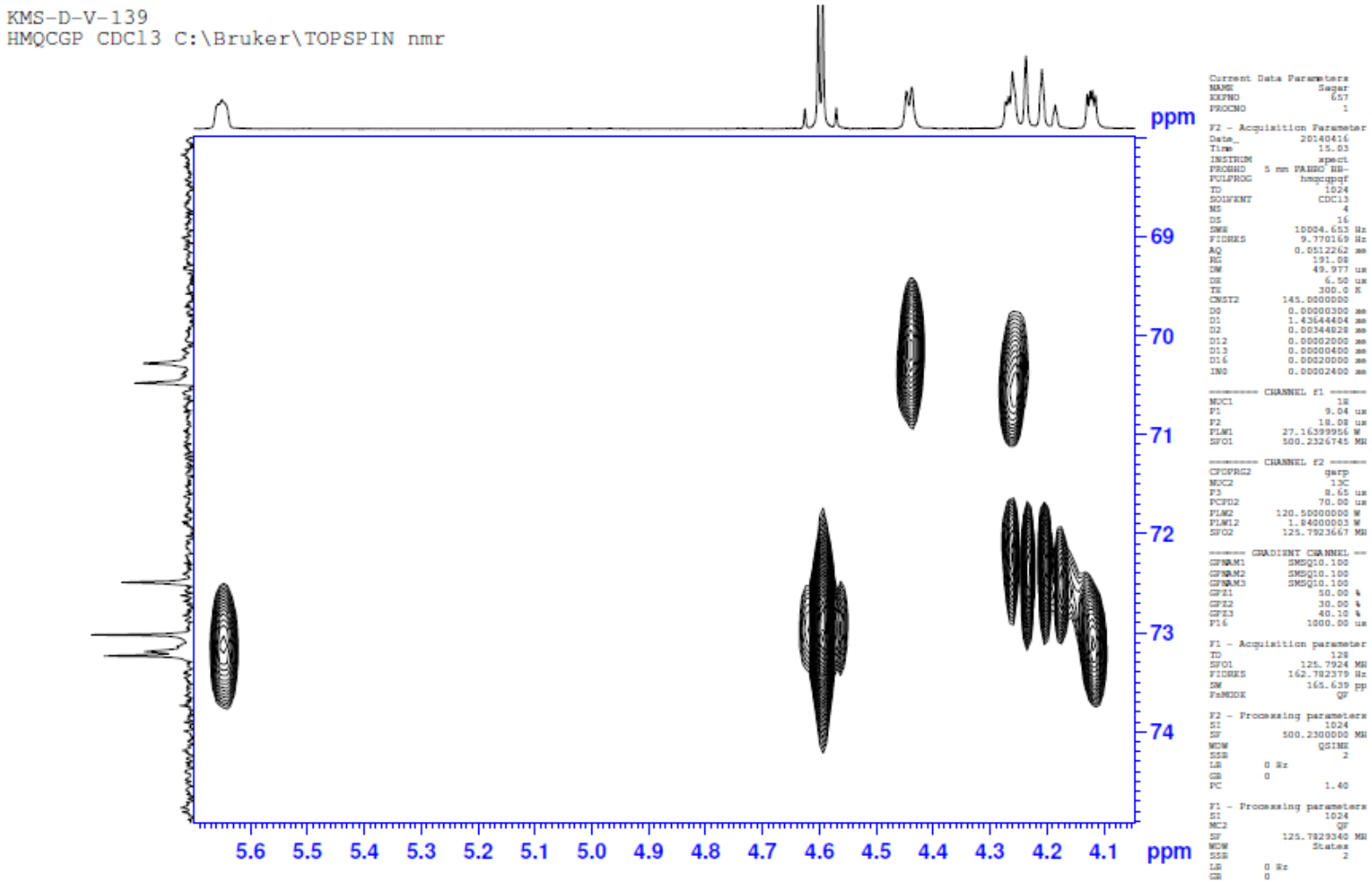



```
Current Data Parameters
NAME                  Sagar
EXPNO                   663
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140416
Time                  19.46
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     4096
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010548 sec
RG                    191.08
DW                    16.800 usec
DE                     6.50 usec
TE                    299.5 K
D1                 2.00000000 sec
D11                0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                    1H
PCPD2                 80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                     1.00 Hz
GB        0
PC                     1.40
```

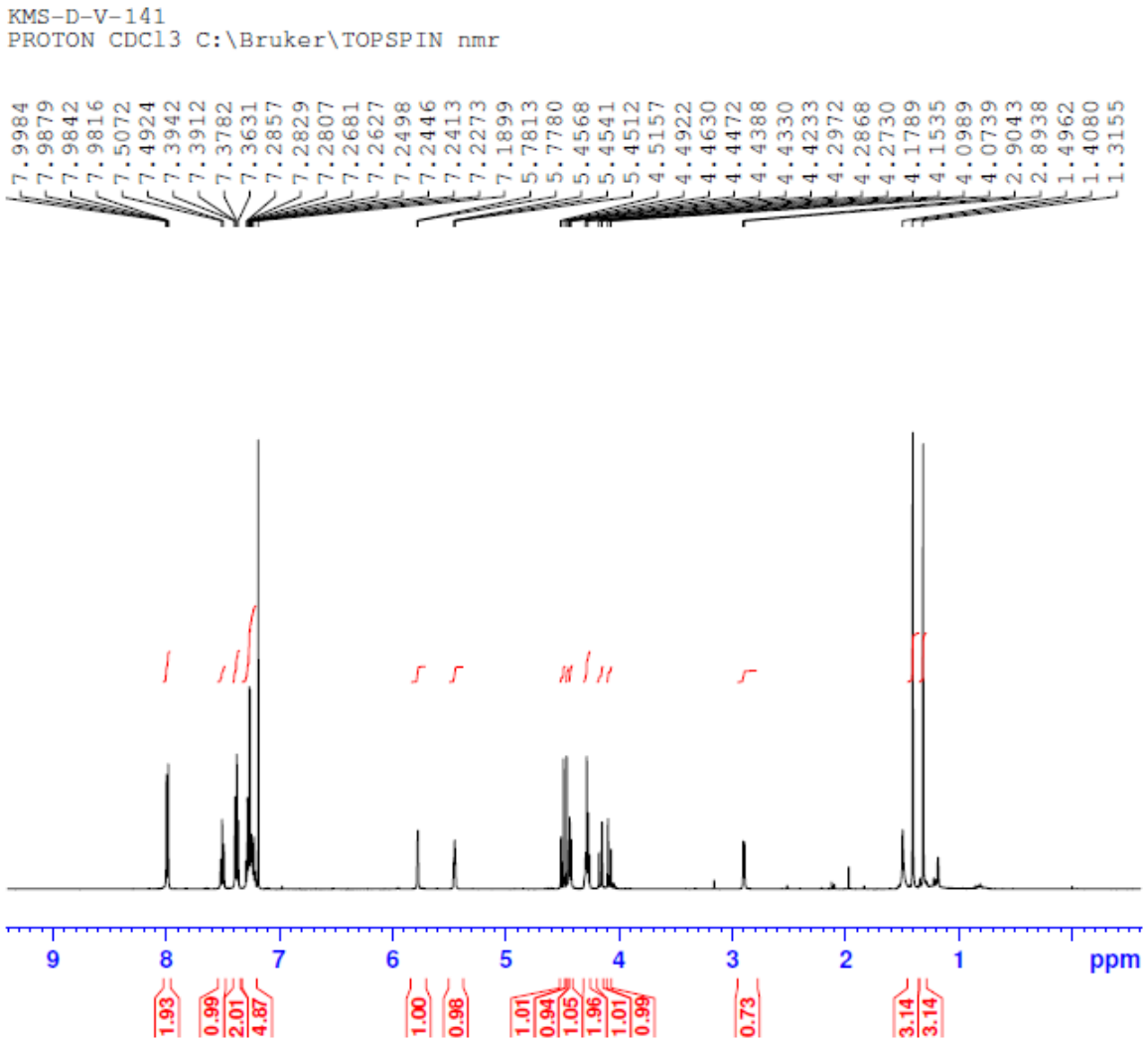
HMQC of compound **21**



HMQC of compound **21** (zoom)

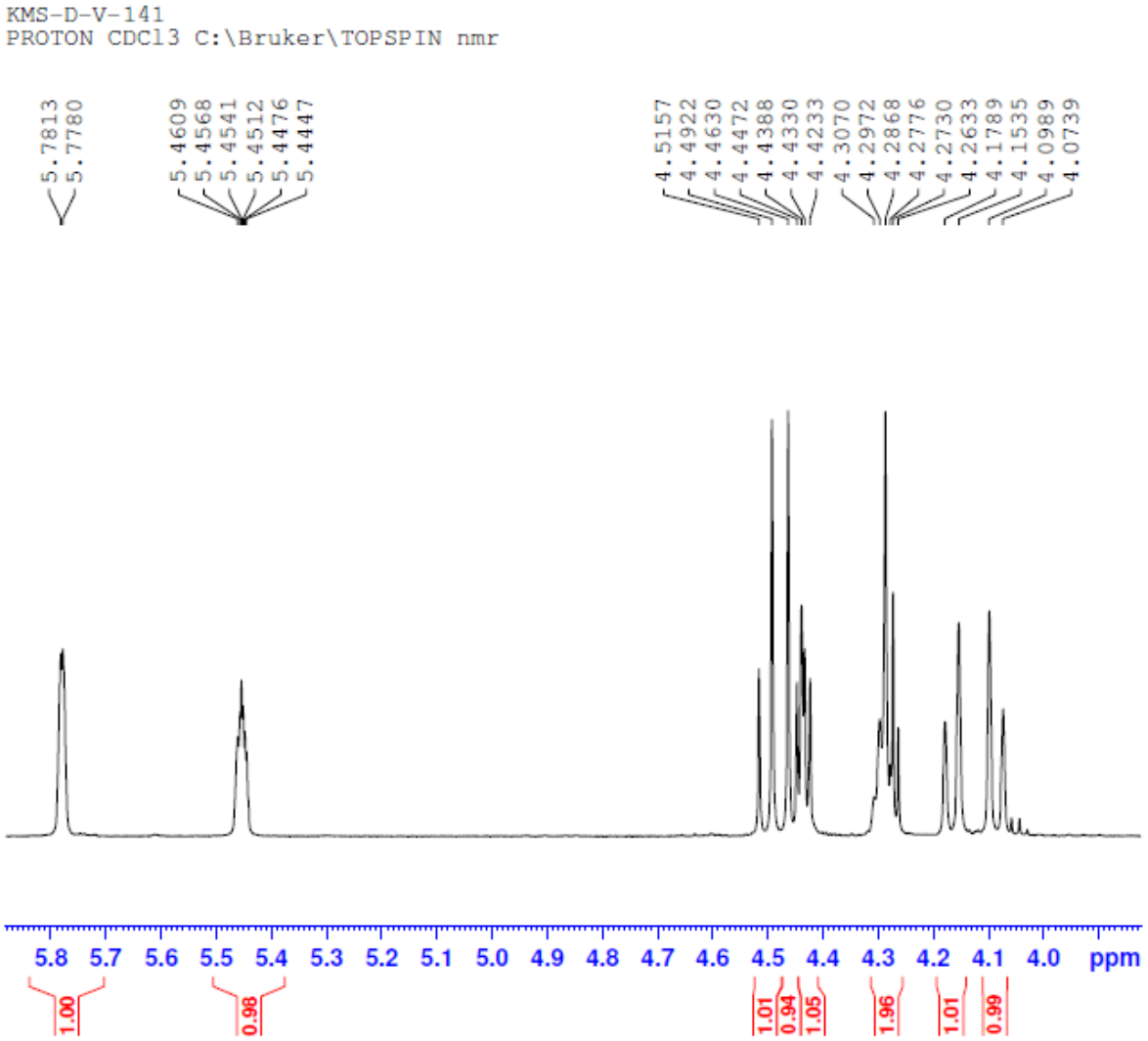


^{1}H NMR of compound **22**



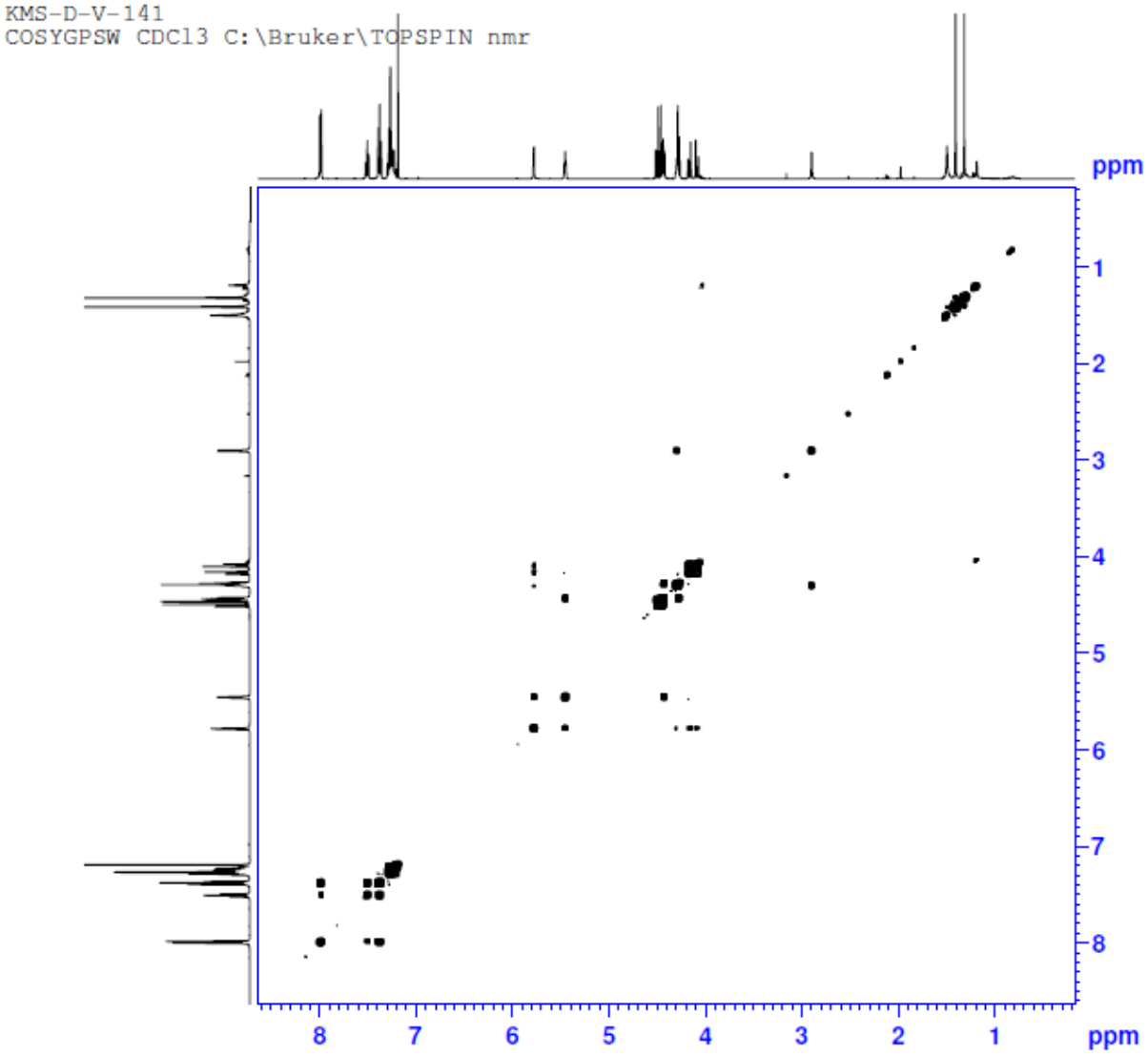

```
Current Data Parameters
NAME                  Sagar
EXPNO                   664
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   1.31
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719923 sec
RG                   171.32
DW                  48.400 usec
DE                   6.50 usec
TE                  298.0 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300502 MHz
WDW                      EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

^{1}H NMR of compound **22** (zoom)



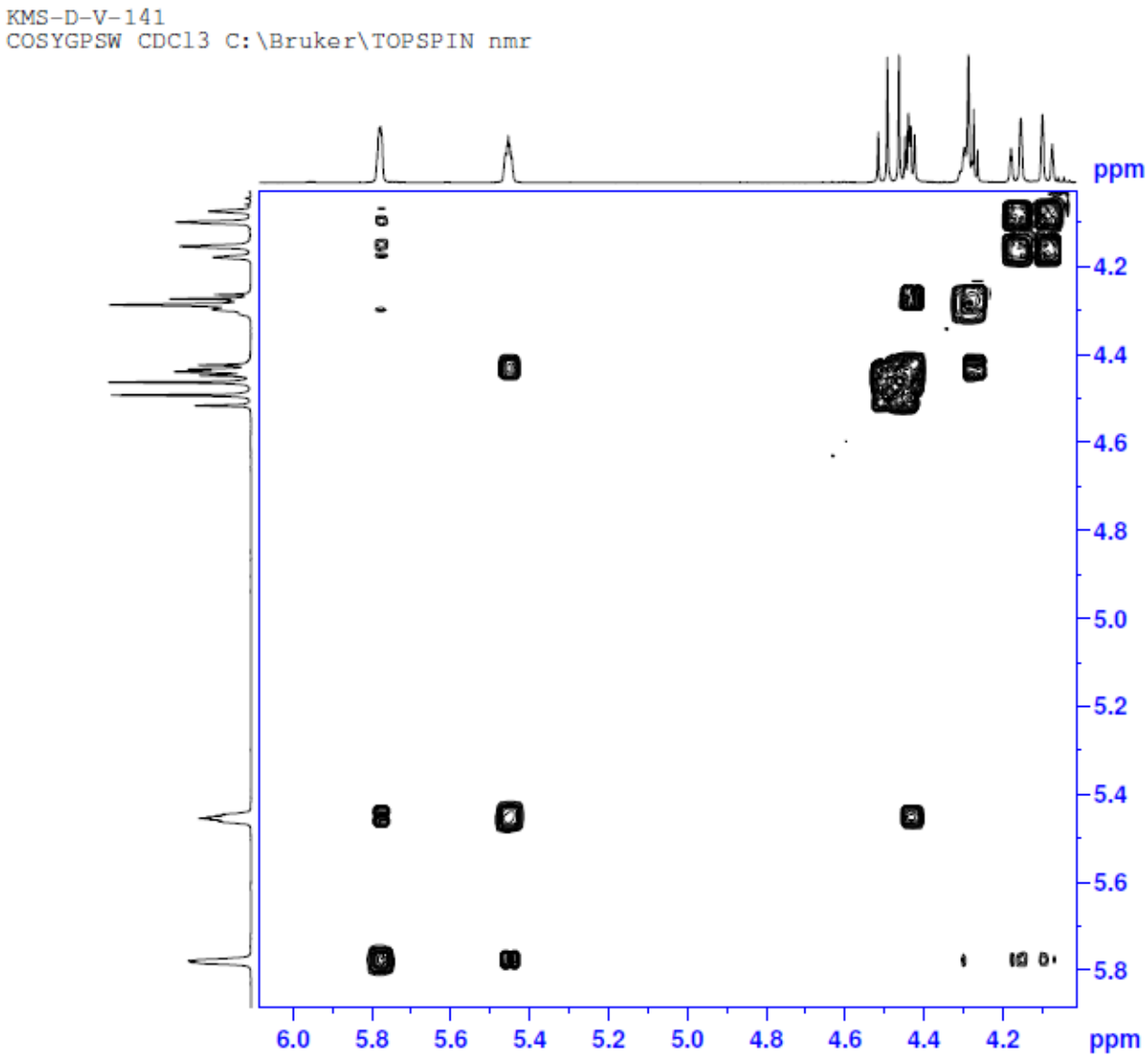

```
Current Data Parameters
NAME                  Sagar
EXPNO                   664
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   1.31
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                      16
DS                       2
SWH             10330.578 Hz
FIDRES          0.157632 Hz
AQ              3.1719923 sec
RG                 171.32
DW                48.400 usec
DE                 6.50 usec
TE                298.0 K
D1             1.00000000 sec

======== CHANNEL f1 ========
NUC1                   1H
P1                  9.04 usec
PLW1         27.16399956 W
SFO1         500.2330891 MHz

F2 - Processing parameters
SI                   65536
SF           500.2300502 MHz
WDW                    EM
SSB       0
LB                  0.30 Hz
GB        0
PC                  1.00
```

COSY of compound **22**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   665
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   1.34
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT              CDCl3
NS                        1
DS                        8
SWH                4237.288 Hz
FIDRES             2.068988 Hz
AQ                 0.2417140 sec
RG                    107.19
DW                   118.000 usec
DE                      6.50 usec
TE                    298.0 K
D0                 0.00000300 sec
D1                 1.91152596 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00023600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W
SFO1              500.2322521 MHz

====== GRADIENT CHANNEL =====
GPNAM1           SMSQ10.100
GPZ1                 10.00 %
P16                1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.2323 MHz
FIDRES            33.103813 Hz
SW                    8.471 ppm
FnMODE                   QF

F2 - Processing parameters
SI                      1024
SF                500.2300502 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                     1.40

F1 - Processing parameters
SI                      1024
MC2                      QF
SF                500.2300502 MHz
WDW                      TR
SSB          0
LB           0 Hz
GB           0
```

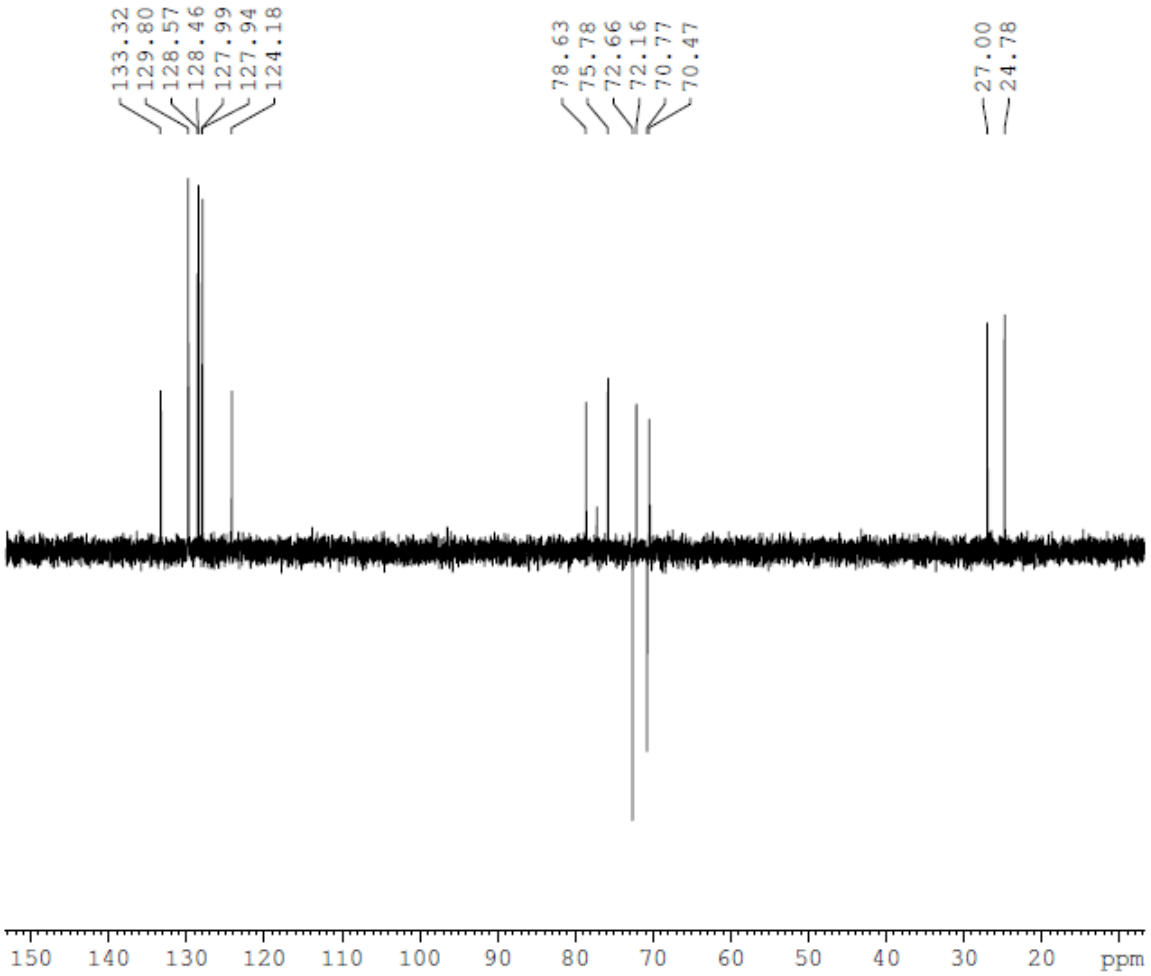
COSY of compound **22** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   665
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   1.34
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH               4237.288 Hz
FIDRES            2.068988 Hz
AQ                0.2417140 sec
RG                   107.19
DW                 118.000 usec
DE                    6.50 usec
TE                  298.0 K
D0                0.00000300 sec
D1                1.91152596 sec
D11               0.03000000 sec
D12               0.00002000 sec
D13               0.00000400 sec
D16               0.00020000 sec
IN0               0.00023600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1          27.16399956 W
PLW10          3.28390002 W
SFO1          500.2322521 MHz

====== GRADIENT CHANNEL =====
GPNAM1          SMSQ10.100
GPZ1                10.00 %
P16               1000.00 usec

F1 - Acquisition parameters
TD                      128
SFO1             500.2323 MHz
FIDRES          33.103813 Hz
SW                  8.471 ppm
FnMODE                 QF

F2 - Processing parameters
SI                     1024
SF            500.2300502 MHz
WDW                   QSINE
SSB         0
LB          0 Hz
GB          0
PC                     1.40

F1 - Processing parameters
SI                     1024
MC2                    QF
SF            500.2300502 MHz
WDW                    TR
SSB         0
LB          0 Hz
GB          0
```

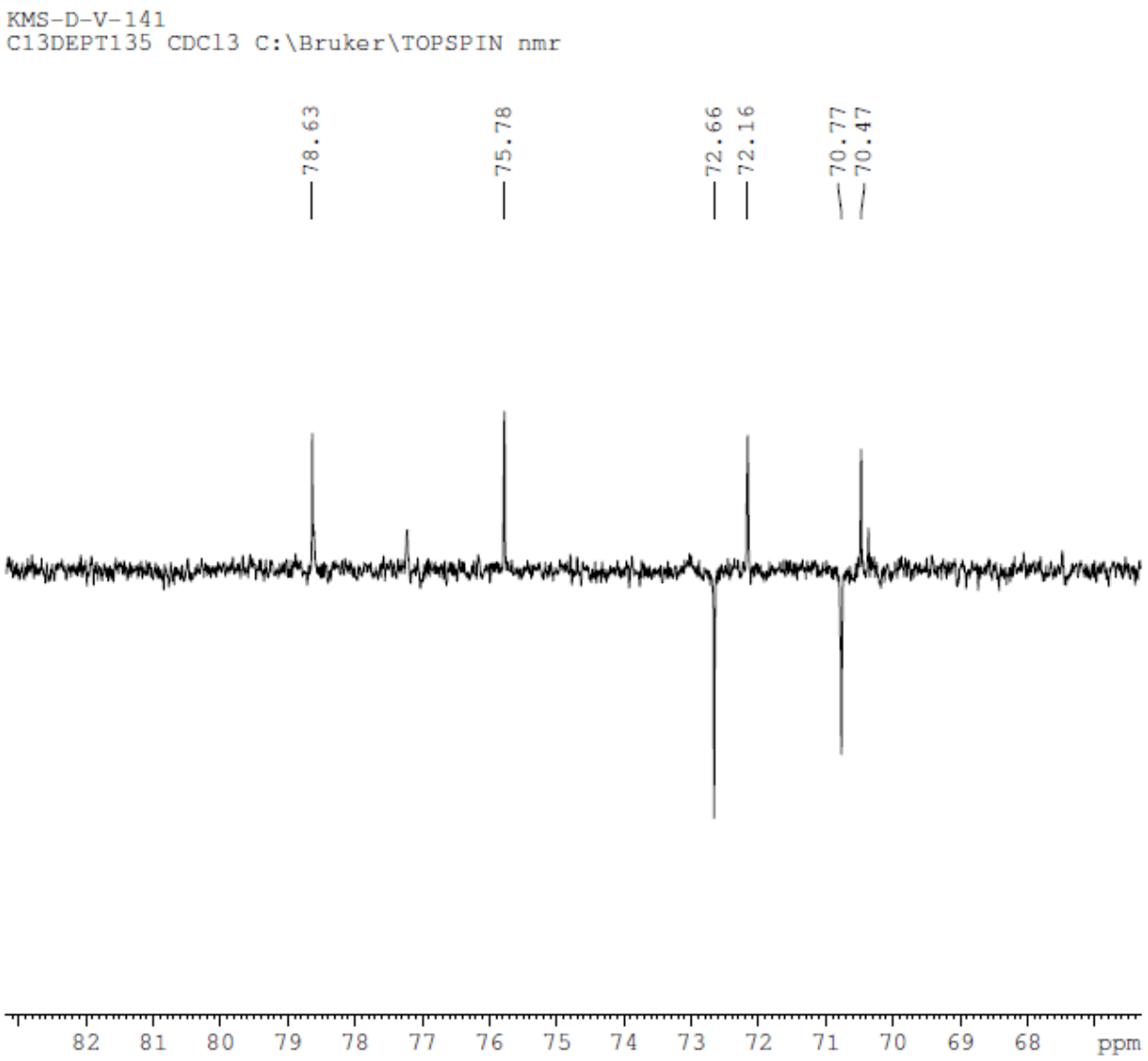
DEPT of compound **22**

KMS-D-V-141
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



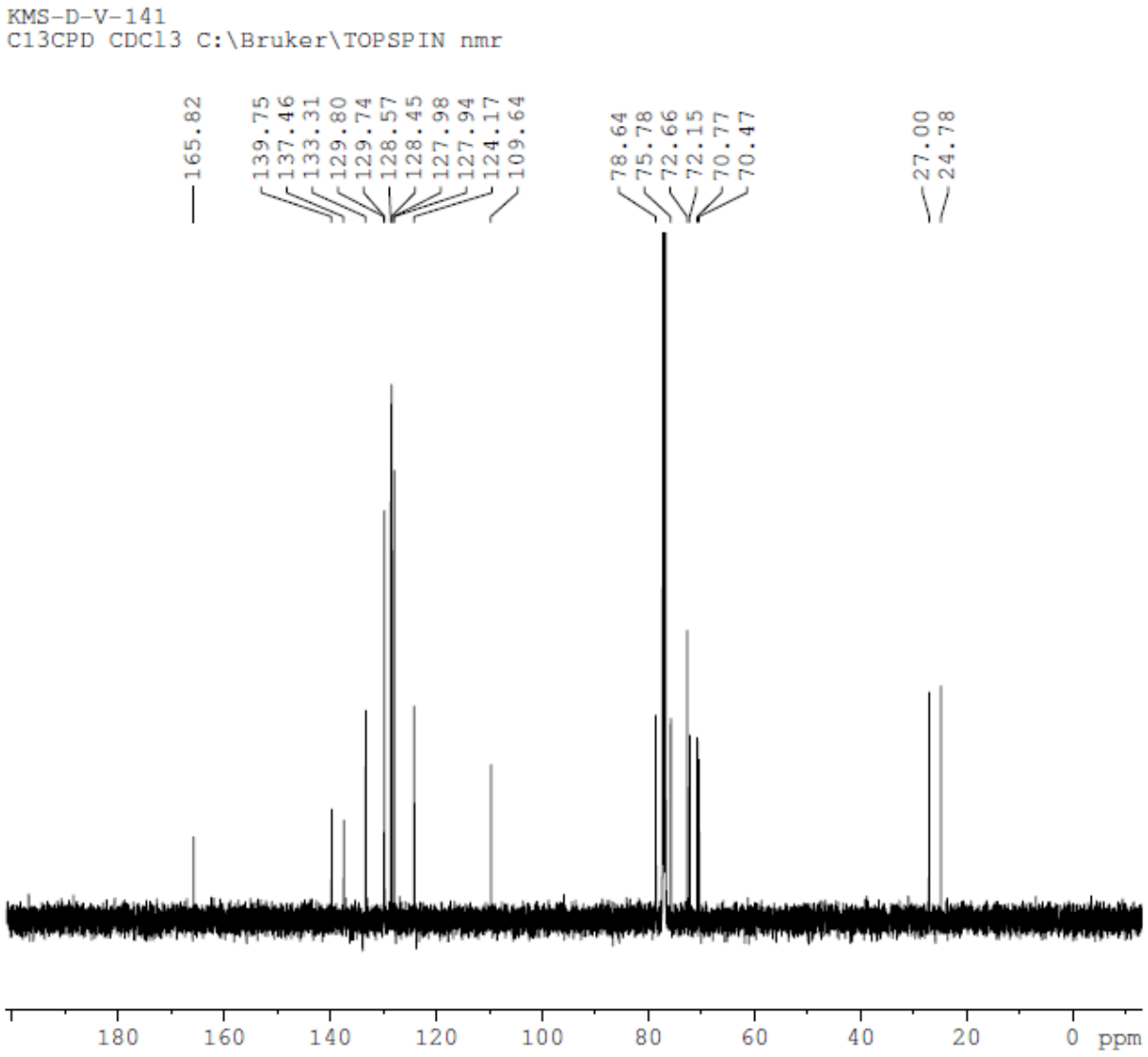

```
Current Data Parameters
NAME                  Sagar
EXPNO                   666
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   1.56
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  298.3 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM5         Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG2              waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

DEPT of compound **22** (zoom)




```
Current Data Parameters
NAME                 Sagar
EXPNO                  666
PROCNO                   1

F2 - Acquisition Parameters
Data_           20140417
Time                 1.56
INSTRUM             spect
PROBHD   5 mm PABBO BB-
PULPROG         dept.sp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6253428 sec
RG                  191.08
DW                 24.800 usec
DE                  6.50 usec
TE                 298.3 K
CNST2          145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0       0 W
PLW1         120.50000000 W
SFO1          125.7929956 MHz
SPNAM5        Crp60comp.4
SPOAL5              0.500
SPOFFS5    0 Hz
SPW5          13.77600002 W

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                   1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                      EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

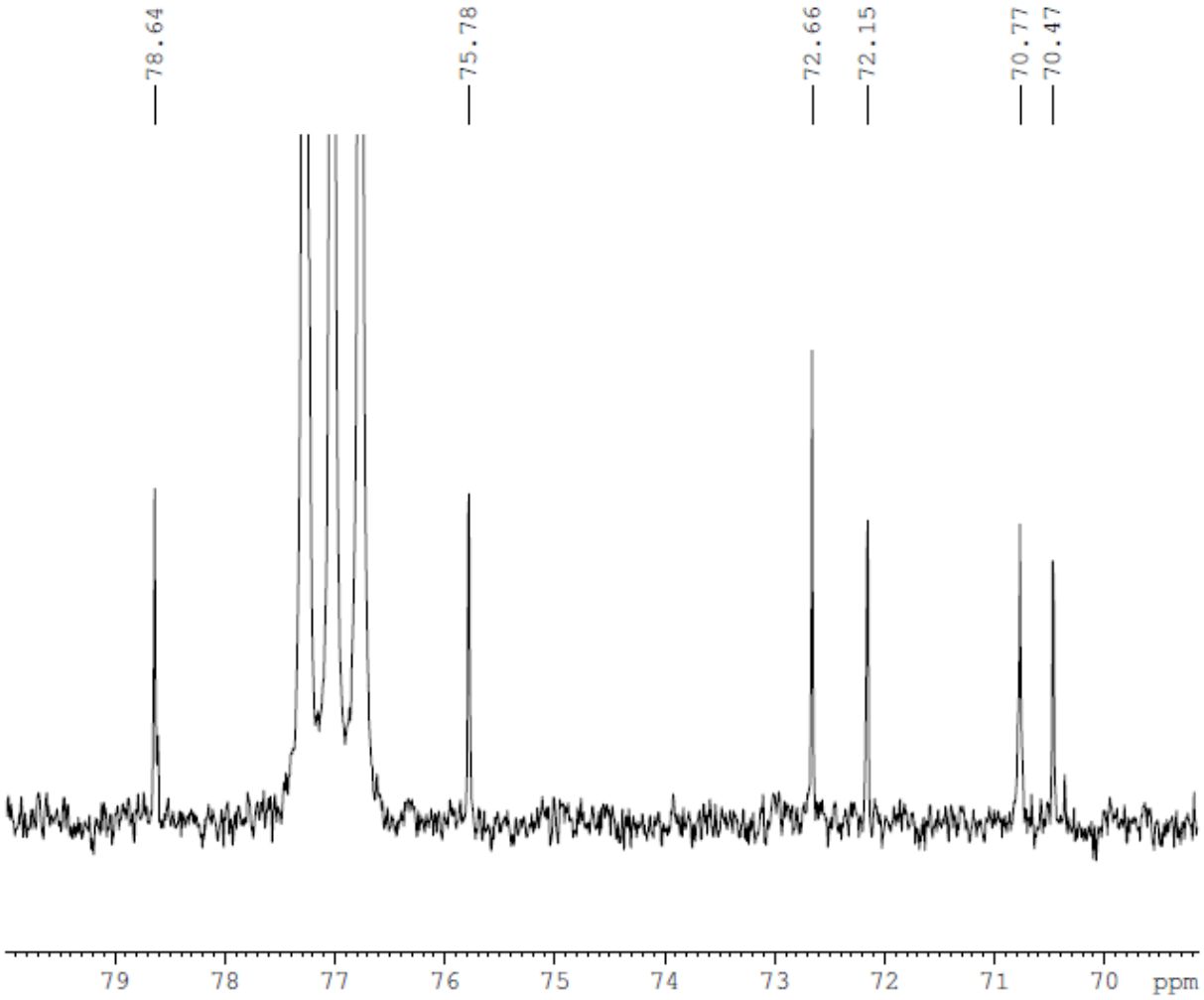
^{14}C NMR of compound **22**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   667
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140417
Time                   2.26
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                     1024
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010548 sec
RG                   191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.7 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7829340 MHz
WDW                       EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

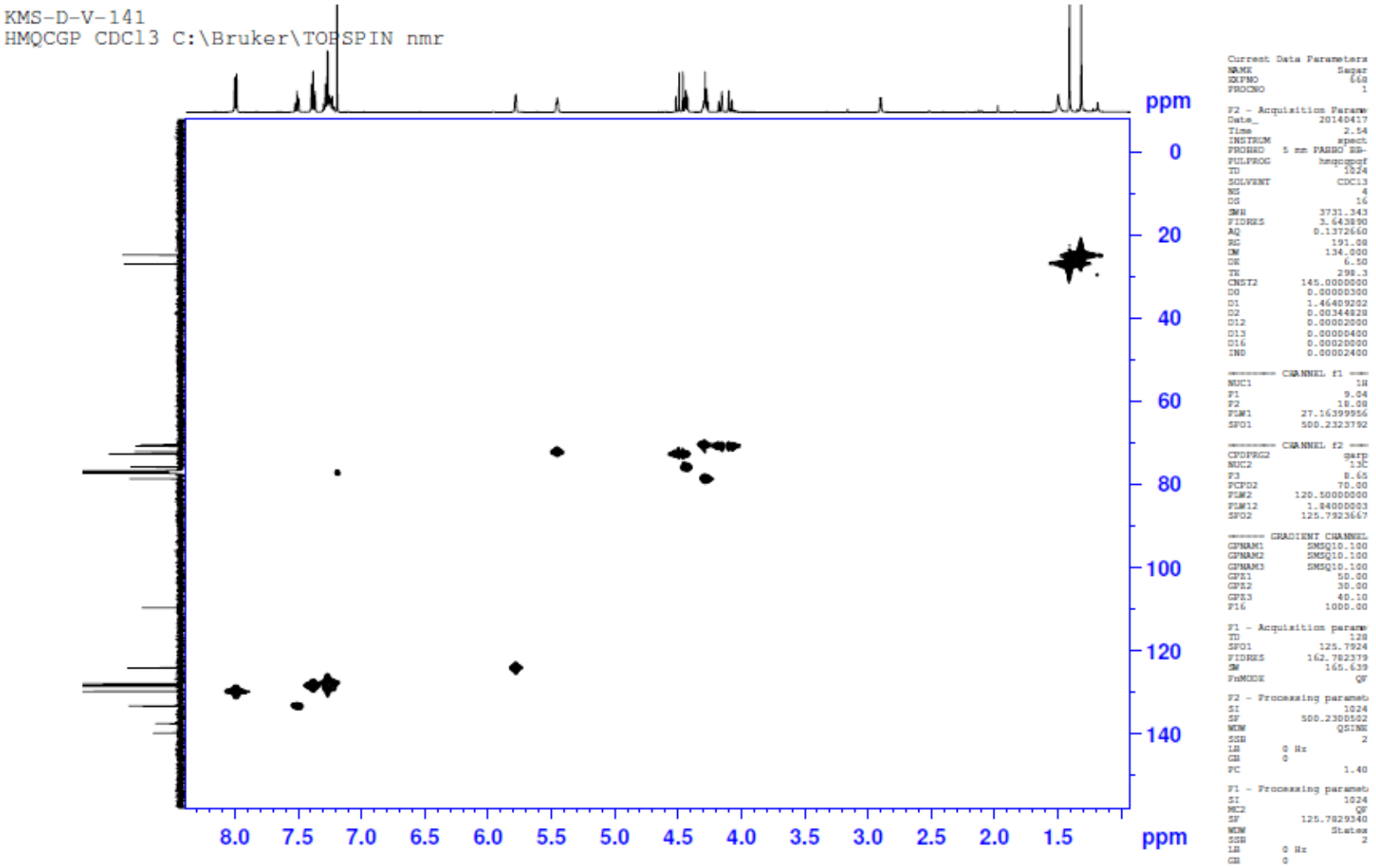
^{14}C NMR of compound **22** (zoom)

KMS-D-V-141
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr

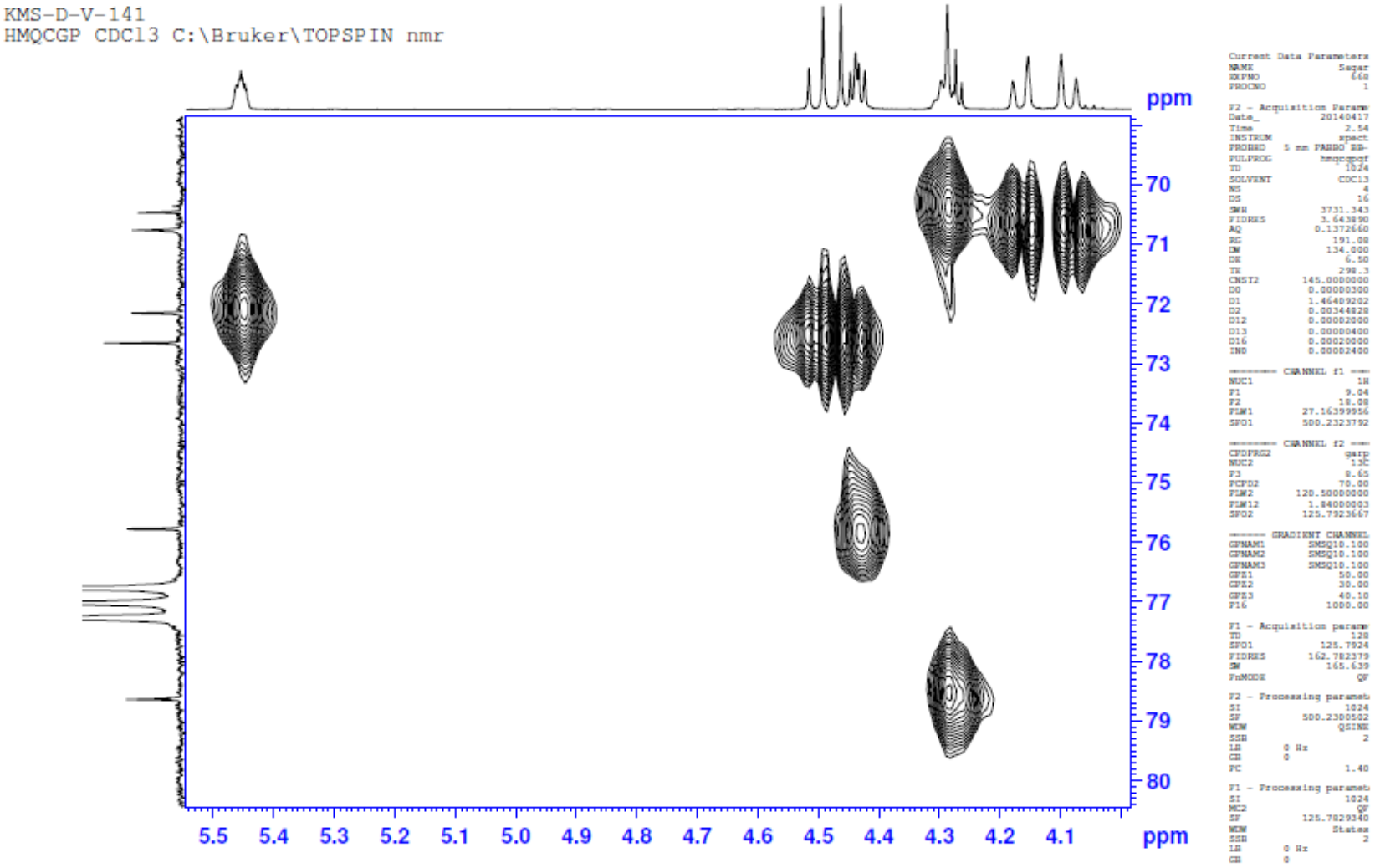



```
Current Data Parameters
NAME                 Sagar
EXPNO                  667
PROCNO                   1

F2 - Acquisition Parameters
Date_             20140417
Time                 2.26
INSTRUM             spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              29761.904 Hz
FIDRES           0.454131 Hz
AQ               1.1010548 sec
RG                  191.08
DW                  16.800 usec
DE                   6.50 usec
TE                  298.7 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                  13C
P1                   8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                  1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                   32768
SF            125.7829340 MHz
WDW                  EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

HMQC of compound **22**

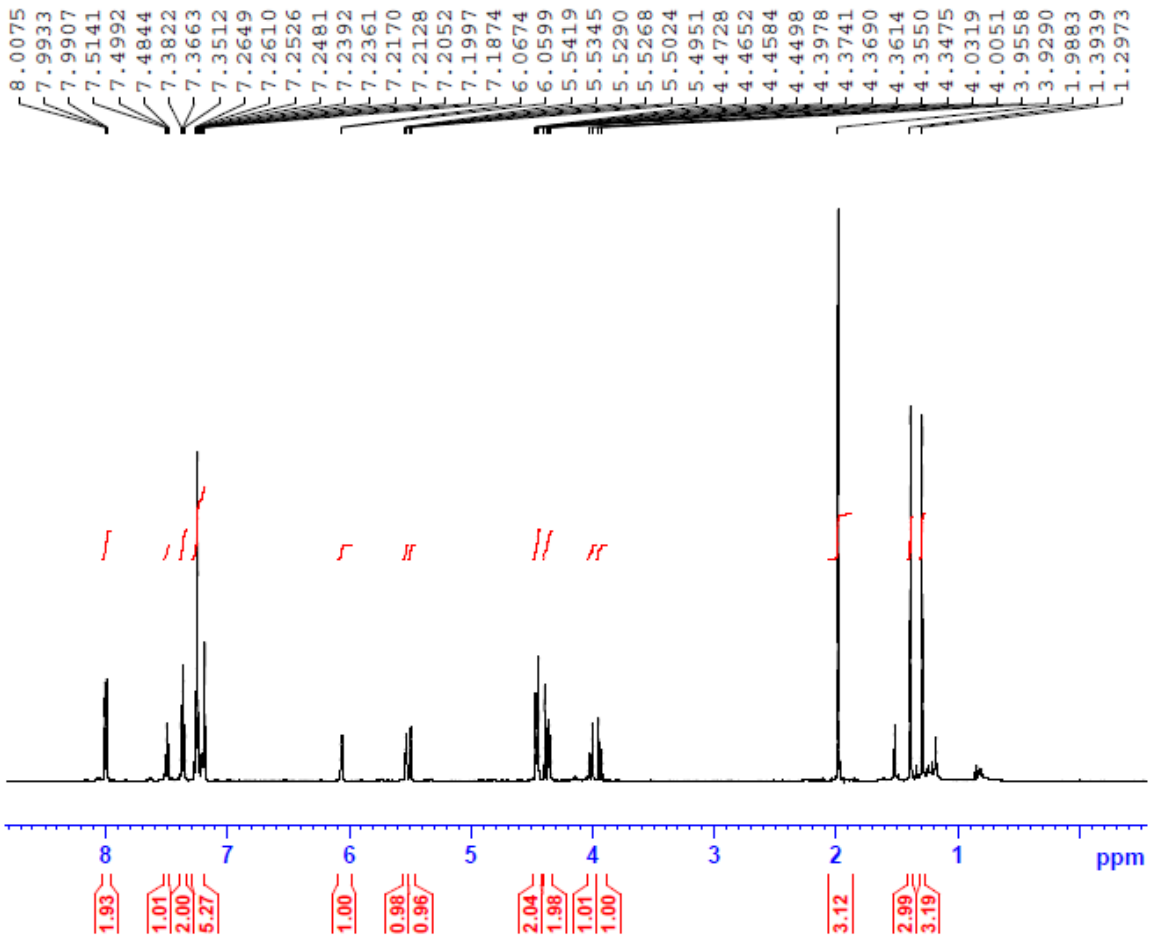


HMQC of compound **22** (zoom)



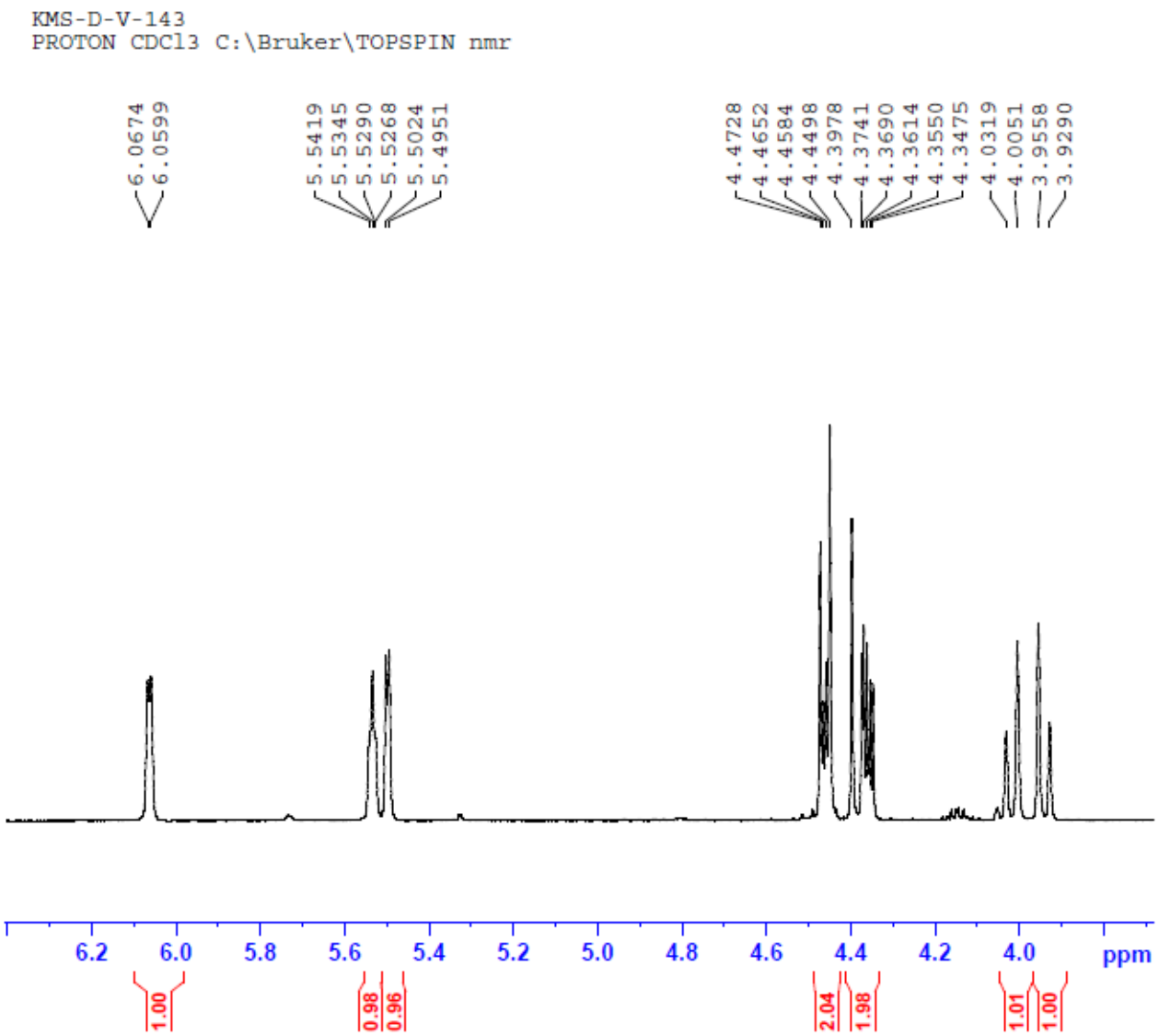
^{1}H NMR of compound **23**

KMS-D-V-143
PROTON CDCl3 C:\Bruker\TOPSPIN nmr



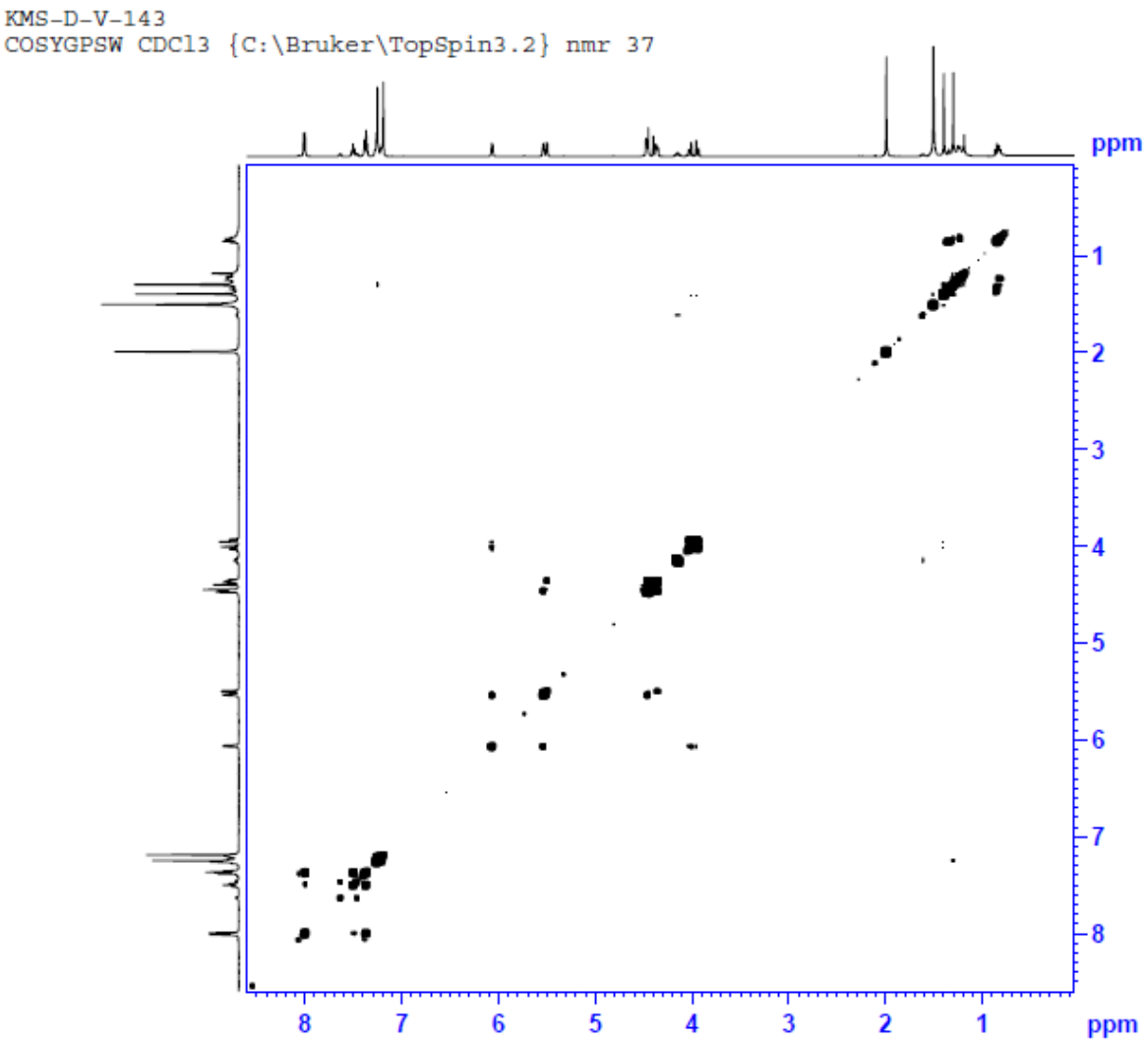

```
Current Data Parameters
NAME                  Sagar
EXPNO                   669
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140418
Time                 13.57
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                    1024
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10004.662 Hz
FIDRES           9.770178 Hz
AQ               0.0511761 sec
RG                  107.19
DW                49.977 usec
DE                 6.50 usec
TE                 300.0 K
D1              1.00000000 sec

-------- CHANNEL f1 --------
NUC1                    1H
P1                   9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300516 MHz
WDW                     EM
SSB       0
LB                   0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **23** (zoom)



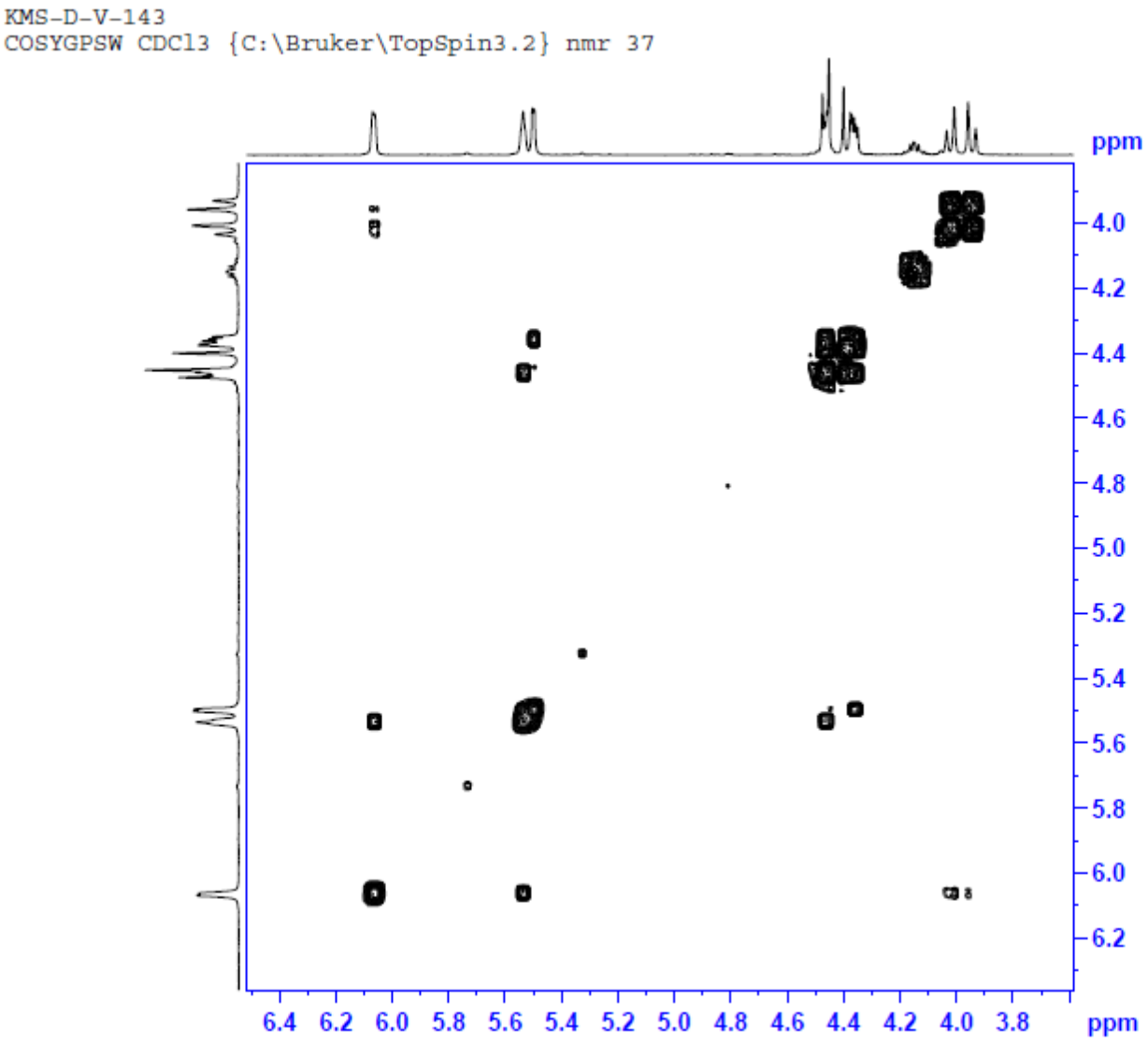

```
Current Data Parameters
NAME                  Sagar
EXPNO                   669
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140418
Time                 13.57
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                    1024
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10004.662 Hz
FIDRES            9.770178 Hz
AQ               0.0511761 sec
RG                  107.19
DW                  49.977 usec
DE                    6.50 usec
TE                   300.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                    1H
P1                    9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300516 MHz
WDW                     EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

COSY of compound **23**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   133
PROCNO                    1

F2 - Acquisition Parameters
Date_              20141001
Time                  21.33
INSTRUM                spect
PROBHD     5 mm PABBO BB-
PULPROG          cosygpppqf
TD                      2048
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                 4273.504 Hz
FIDRES              2.086672 Hz
AQ                  0.2396160 sec
RG                      107.19
DW                     117.000 usec
DE                       6.50 usec
TE                      298.9 K
D0                  0.00000300 sec
D1                  1.91357398 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00023400 sec

======== CHANNEL f1 ========
SFO1               500.2322111 MHz
NUC1                        1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                500.2322 MHz
FIDRES             33.386753 Hz
SW                      8.543 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                 500.2300466 MHz
WDW                     QSINE
SSB           0
LB            0 Hz
GB            0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                 500.2300466 MHz
WDW                     QSINE
SSB           0
LB            0 Hz
GB            0
```

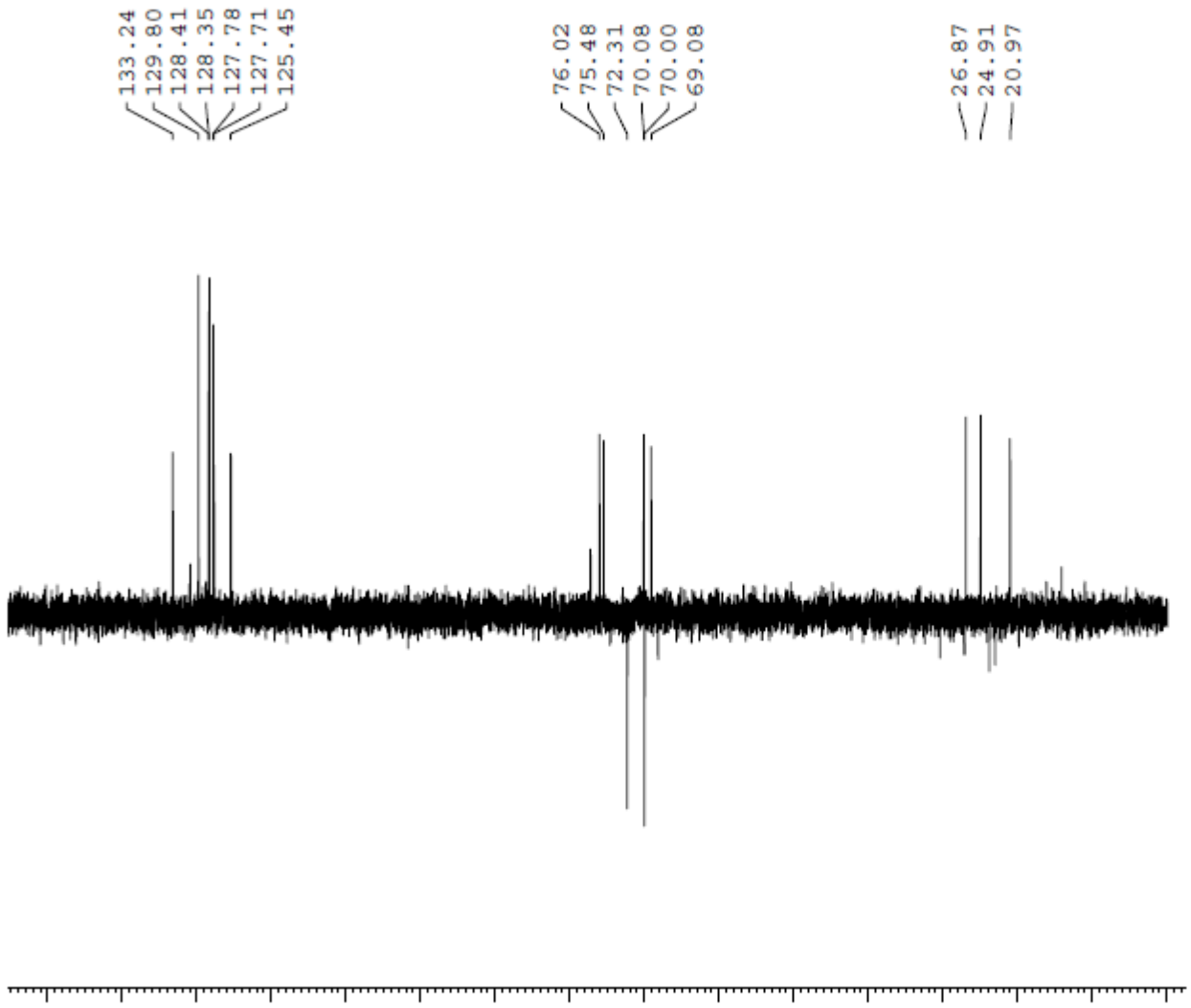
COSY of compound **23** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   133
PROCNO                    1

F2 - Acquisition Parameters
Date_               20141001
Time                   21.33
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG          cosygpppqf
TD                      2048
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                 4273.504 Hz
FIDRES              2.086672 Hz
AQ                  0.2396160 sec
RG                     107.19
DW                    117.000 usec
DE                      6.50 usec
TE                     298.9 K
D0                  0.00000300 sec
D1                  1.91357398 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00023400 sec

======== CHANNEL f1 ========
SFO1               500.2322111 MHz
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1               27.16399956 W
PLW10               3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                500.2322 MHz
FIDRES             33.386753 Hz
SW                      8.543 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                  500.2300466 MHz
WDW                       QSINE
SSB          0
LB           0 Hz
GB           0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                  500.2300466 MHz
WDW                       QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **23**

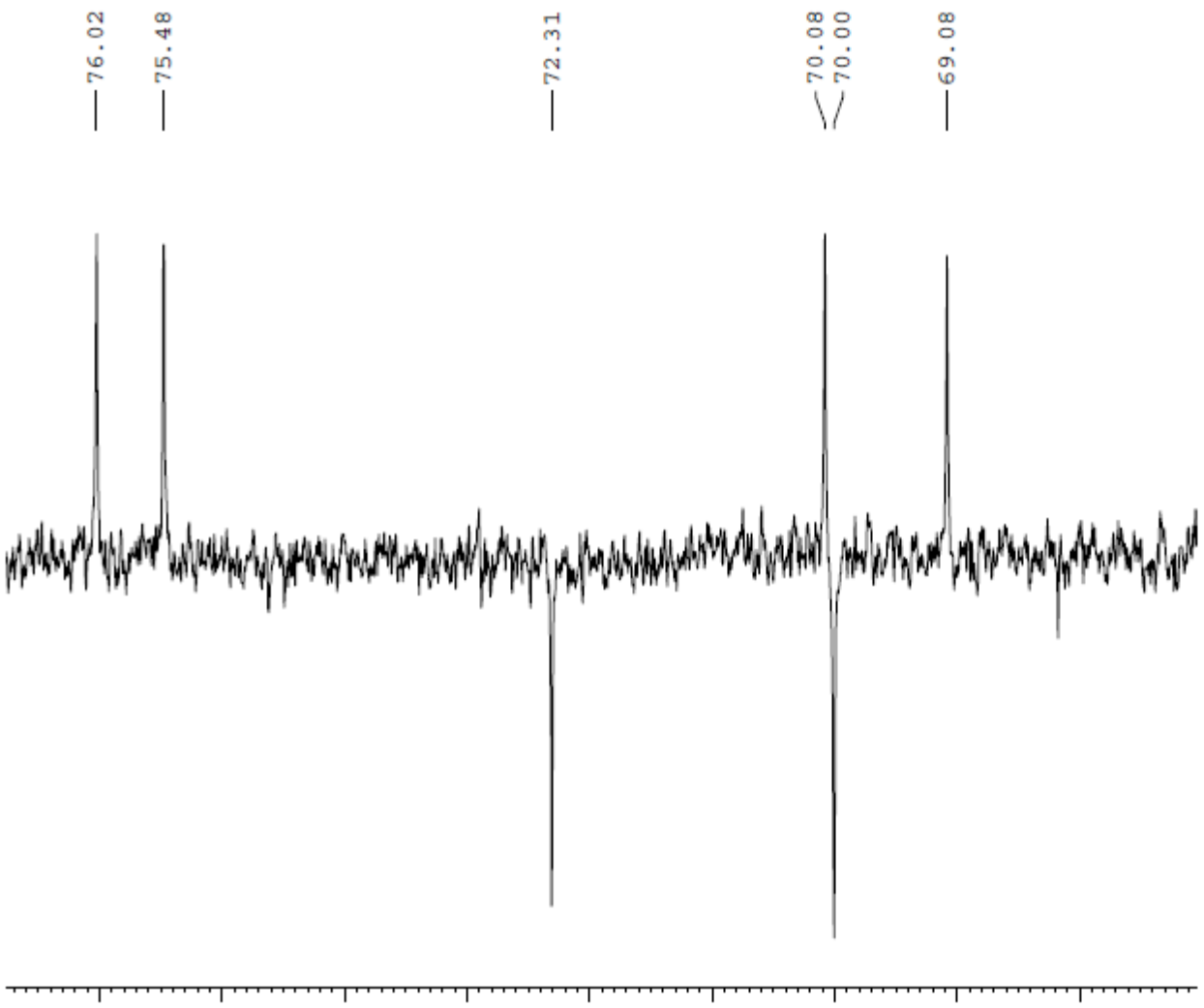
KMS-D-V-143
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 37




```
Current Data Parameters
NAME                  Sagar
EXPNO                   134
PROCNO                    1

F2 - Acquisition Parameters
Date_              20141001
Time                 21.54
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG         deptsp135
TD                  65536
SOLVENT             CDCl3
NS                    256
DS                      4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  299.3 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5                0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

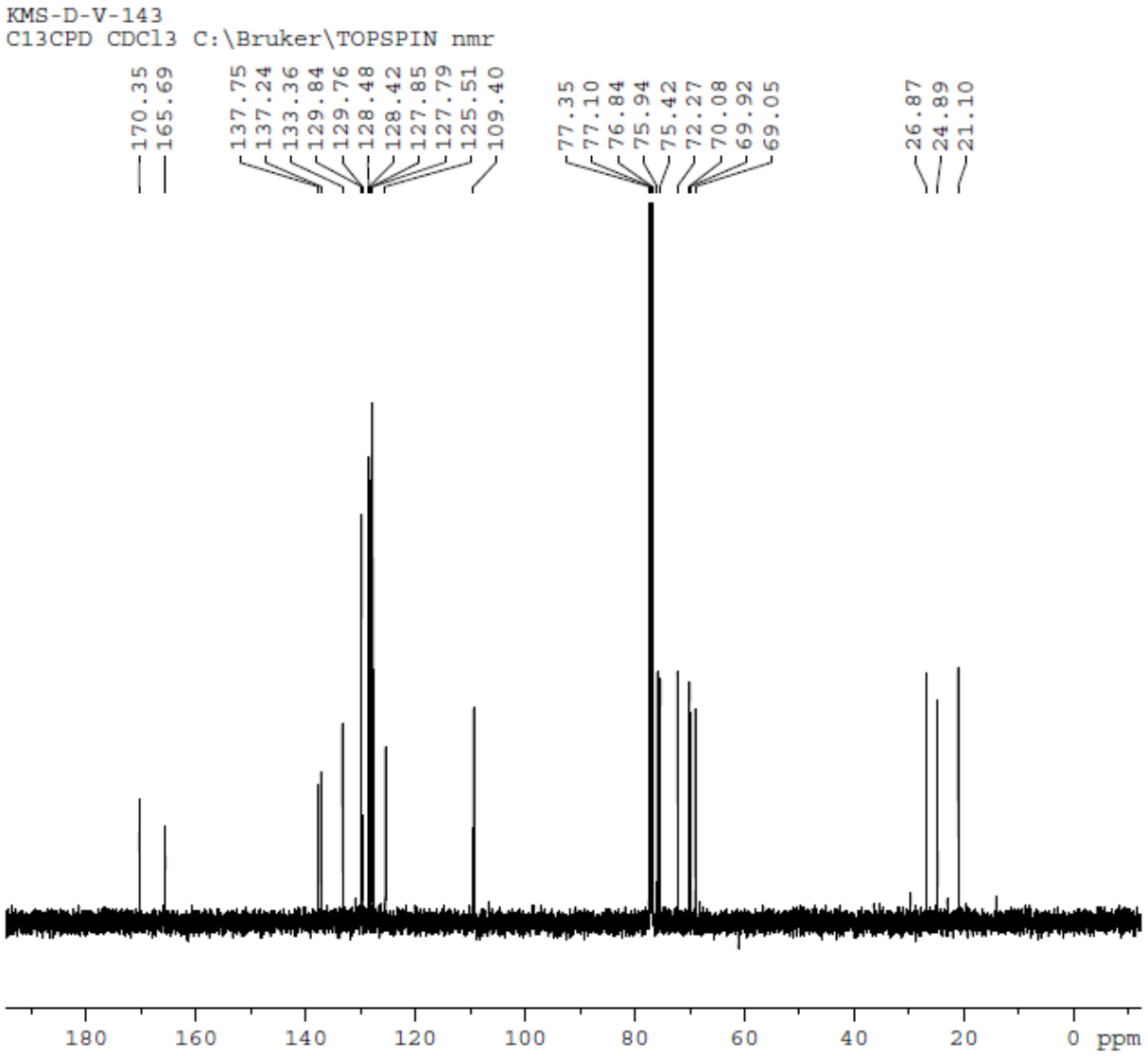
DEPT of compound **23** (zoom)

KMS-D-V-143
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 37



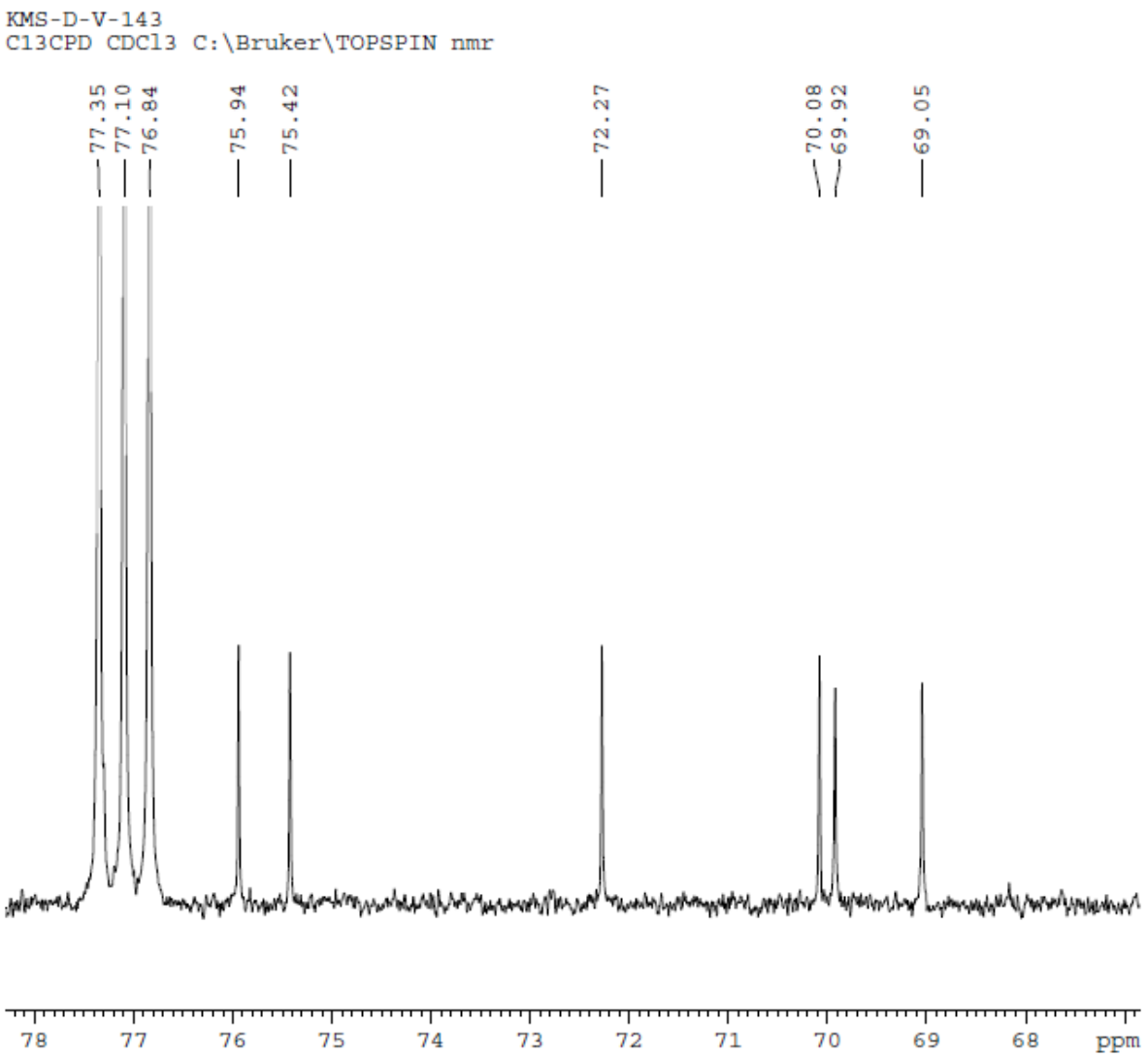

```
Current Data Parameters
NAME                  Sagar
EXPNO                   134
PROCNO                    1

F2 - Acquisition Parameters
Date_              20141001
Time                 21.54
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     256
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  299.3 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec
TD0                      1

======== CHANNEL f1 ========
SFO1            125.7929956 MHz
NUC1                    13C
P1                    8.65 usec
P13                2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
SFO2            500.2315998 MHz
NUC2                    1H
CPDPRG[2             waltz16
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2            27.16399956 W
PLW12            0.34685999 W

F2 - Processing parameters
SI                    32768
SF              125.7829340 MHz
WDW                     EM
SSB         0
LB                    1.00 Hz
GB          0
PC                    1.40
```

^{14}C NMR of compound **23**



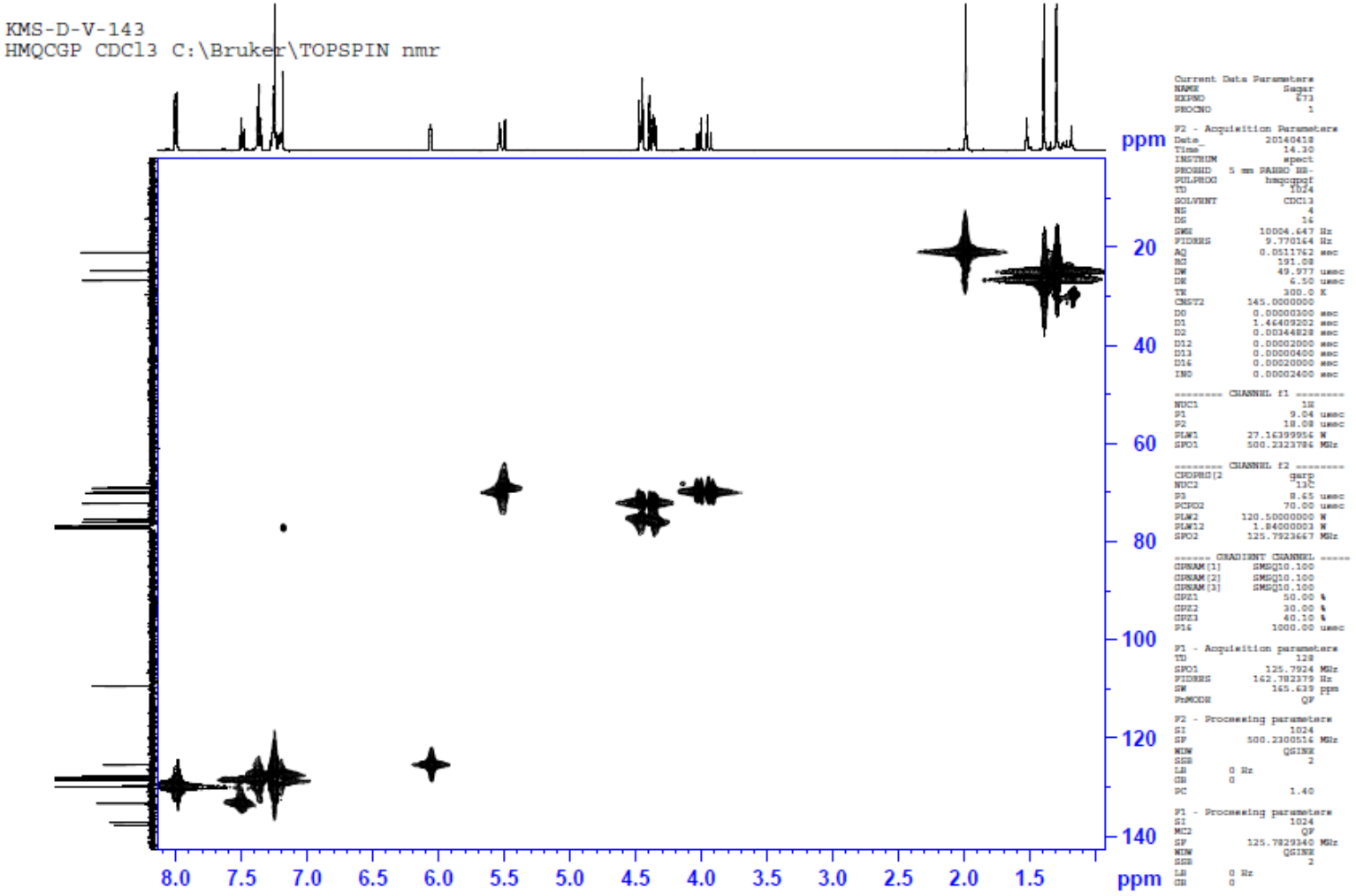

```
Current Data Parameters
NAME                  Sagar
EXPNO                   672
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140418
Time                  14.17
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                      209
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   283.2 K
D1             2.00000000 sec
D11            0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
PLW1         120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                    1H
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
PLW13          0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF           125.7829340 MHz
WDW                     EM
SSB       0
LB                    1.00 Hz
GB        0
PC                    1.40
```

^{14}C NMR of compound **23** (zoom)

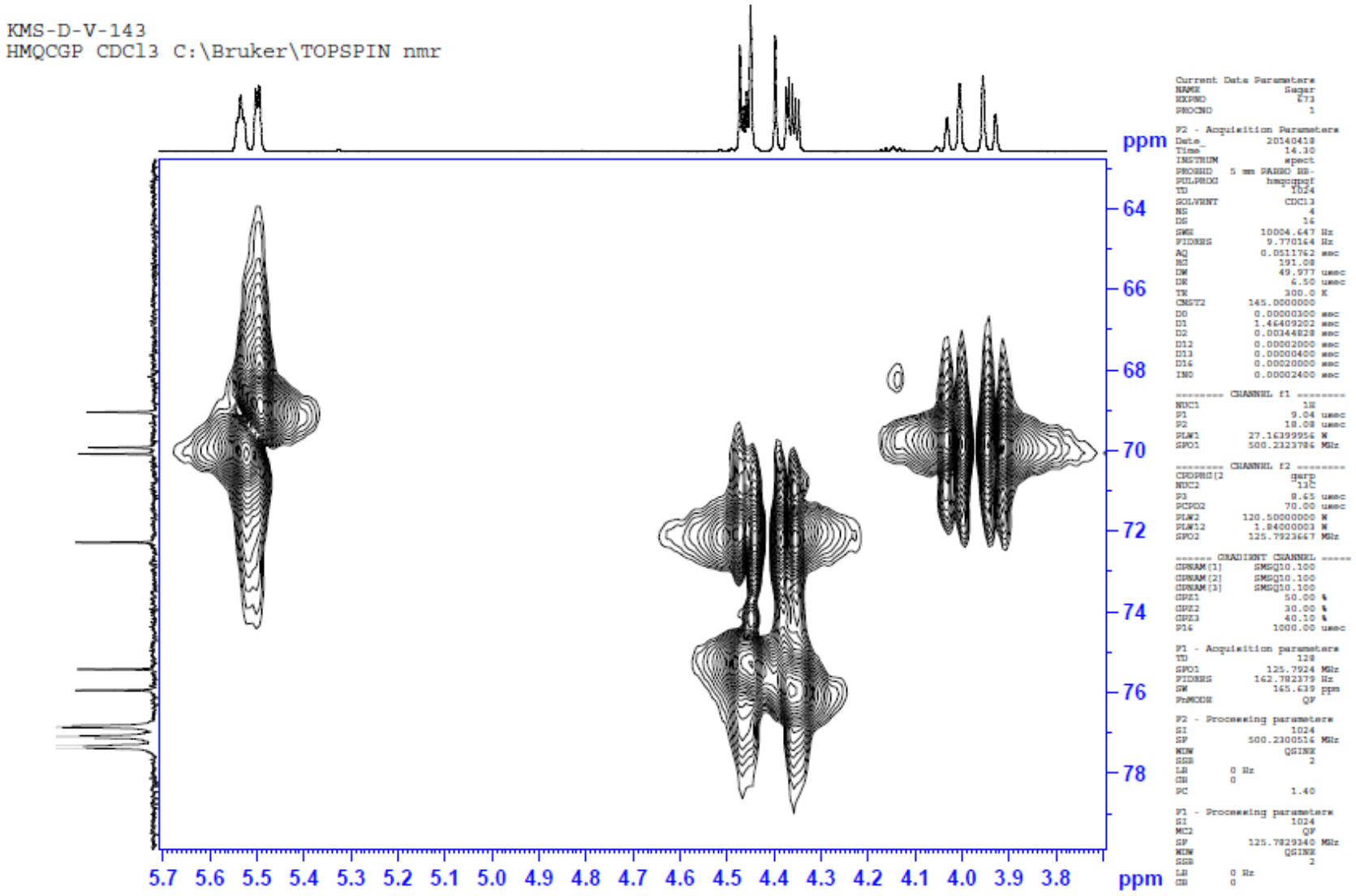



```
Current Data Parameters
NAME                  Sagar
EXPNO                   672
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140418
Time                  14.17
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT               CDCl3
NS                      209
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    191.08
DW                    16.800 usec
DE                     6.50 usec
TE                    283.2 K
D1                 2.00000000 sec
D11                0.03000000 sec

-------- CHANNEL f1 --------
NUC1                     13C
P1                      8.65 usec
PLW1          120.50000000 W
SFO1          125.7955112 MHz

-------- CHANNEL f2 --------
CPDPRG[2              waltz16
NUC2                     1H
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                       32768
SF            125.7829340 MHz
WDW                      EM
SSB       0
LB                      1.00 Hz
GB        0
PC                      1.40
```

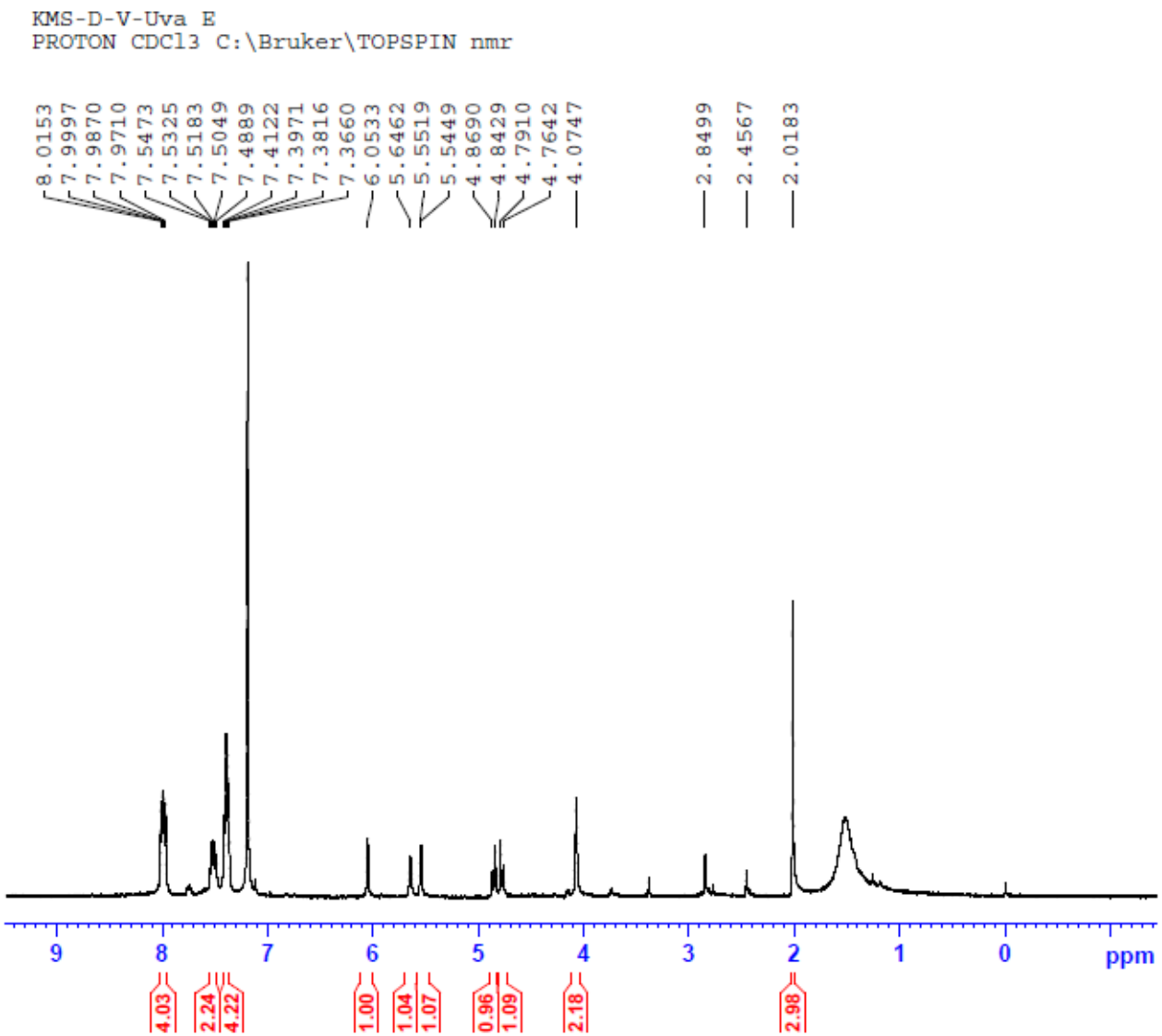
HMQC of compound **23**



HMQC of compound **23** (zoom)

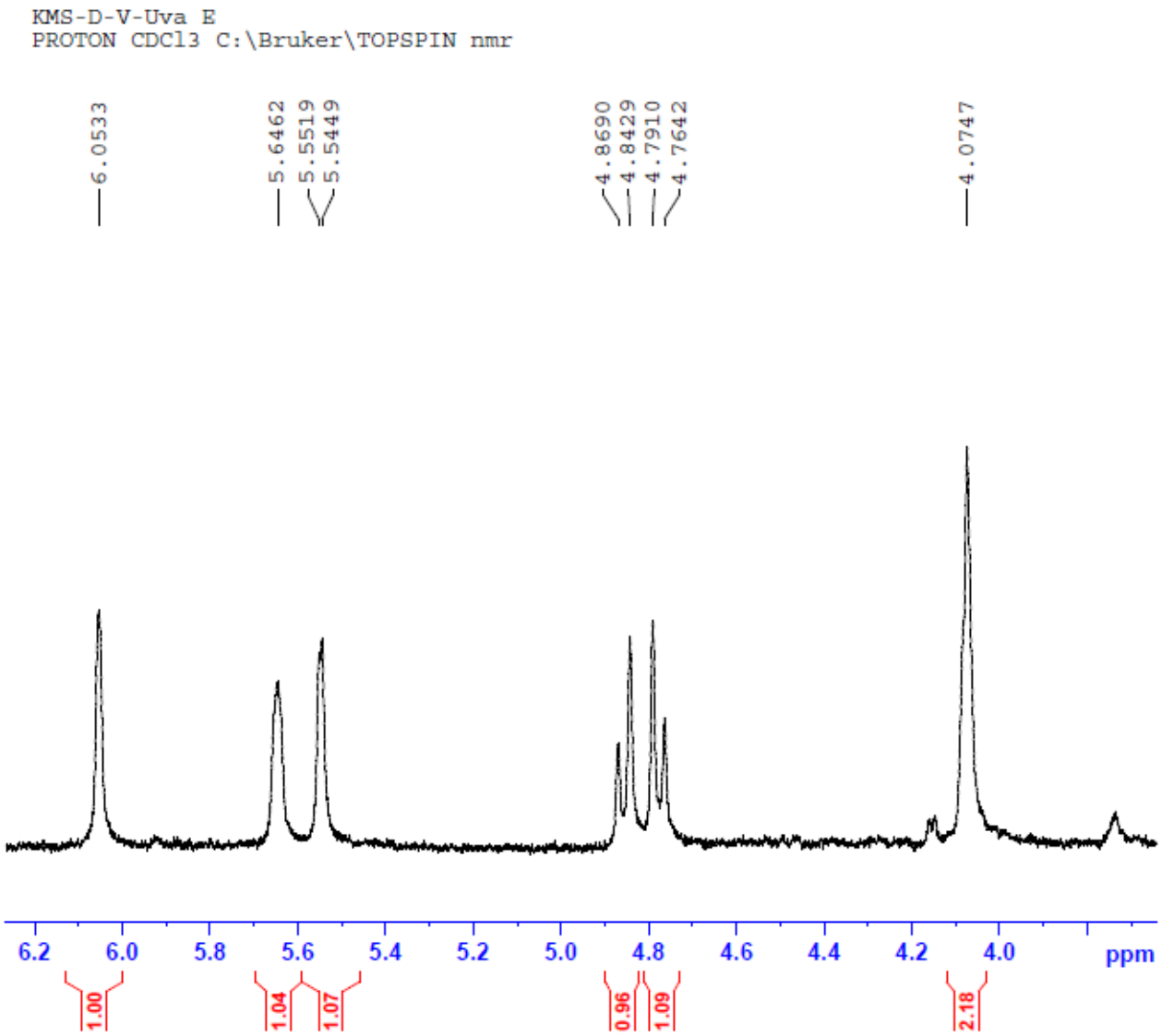


^{1}H NMR of compound **24**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   742
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140602
Time                 21.28
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                    1024
SOLVENT               CDCl3
NS                      16
DS                       2
SWH              10004.662 Hz
FIDRES            9.770178 Hz
AQ               0.0511761 sec
RG                  191.08
DW                  49.977 usec
DE                    6.50 usec
TE                   300.0 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                    1H
P1                    9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300500 MHz
WDW                     EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

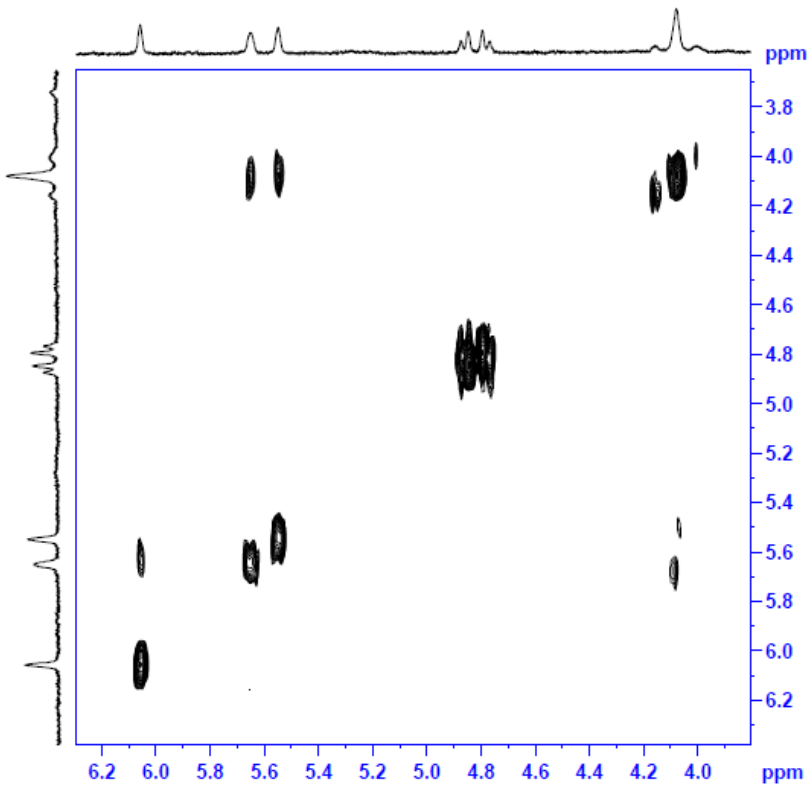
^{1}H NMR of compound **24** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   742
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140602
Time                 21.28
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                    1024
SOLVENT              CDCl3
NS                      16
DS                       2
SWH              10004.662 Hz
FIDRES            9.770178 Hz
AQ               0.0511761 sec
RG                  191.08
DW                  49.977 usec
DE                   6.50 usec
TE                  300.0 K
D1               1.00000000 sec

-------- CHANNEL f1 --------
NUC1                    1H
P1                    9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300500 MHz
WDW                     EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **24**

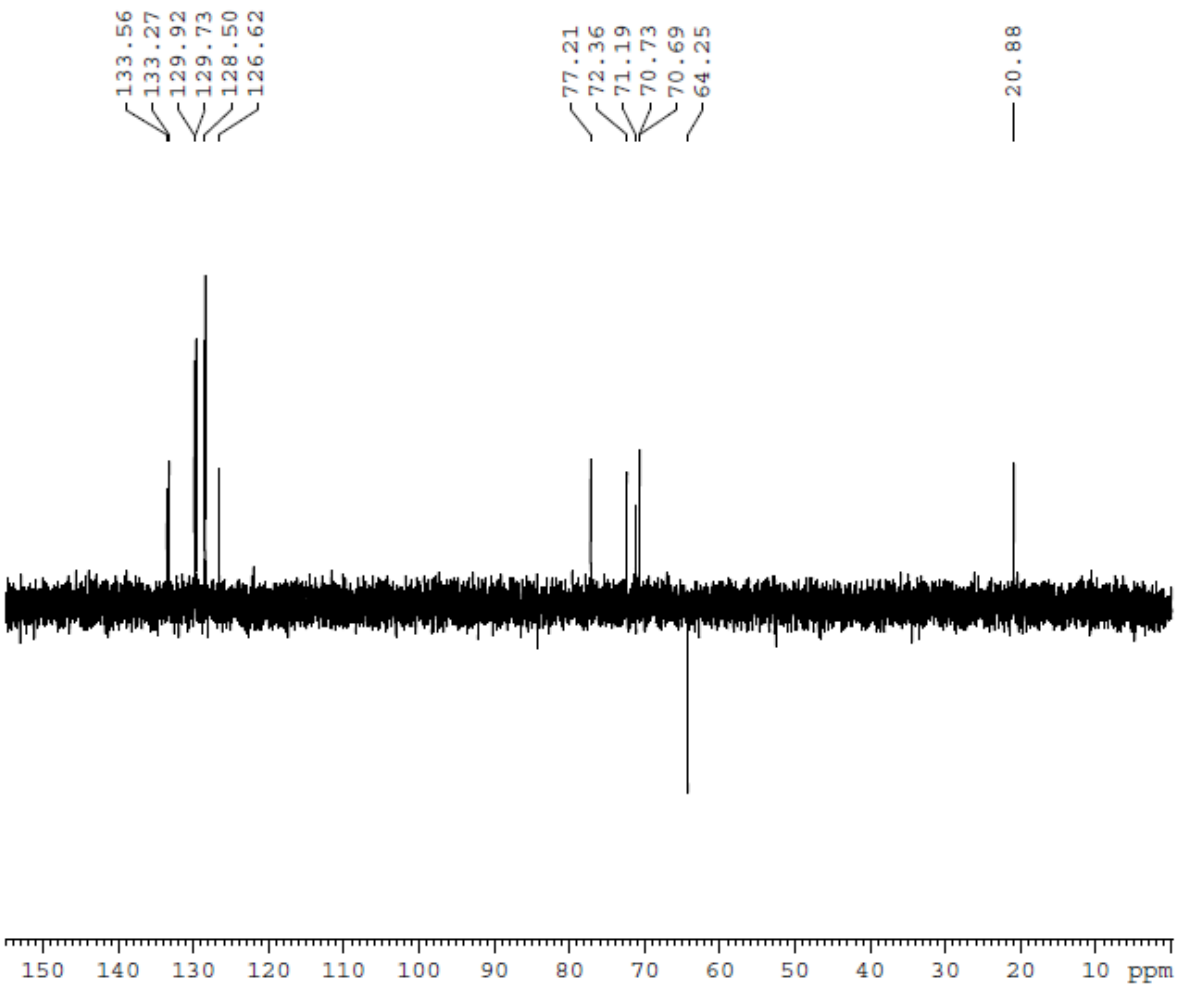
KMS-D-V-uVA e
COSYGPSW CDCl3 {C:\Bruker\TopSpin3.2} nmr 57




```
Current Data Parameters
NAME                  Sagar
EXPNO                   131
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140915
Time                  17.06
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG         cosygpppqf
TD                      2048
SOLVENT                 CDCl3
NS                         1
DS                         8
SWH                4310.345 Hz
FIDRES             2.104661 Hz
AQ                 0.2375680 sec
RG                     64.12
DW                   116.000 usec
DE                      6.50 usec
TE                    296.8 K
D0                 0.00000300 sec
D1                 1.91562200 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00023200 sec

======== CHANNEL f1 ========
SFO1            500.2322302 MHz
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                        128
SFO1               500.2322 MHz
FIDRES            33.674568 Hz
SW                     8.617 ppm
FnMODE                    QF

F2 - Processing parameters
SI                        1024
SF                 500.2300444 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
PC                      1.40

F1 - Processing parameters
SI                        1024
MC2                       QF
SF                 500.2300444 MHz
WDW                     QSINE
SSB          0
LB           0 Hz
GB           0
```

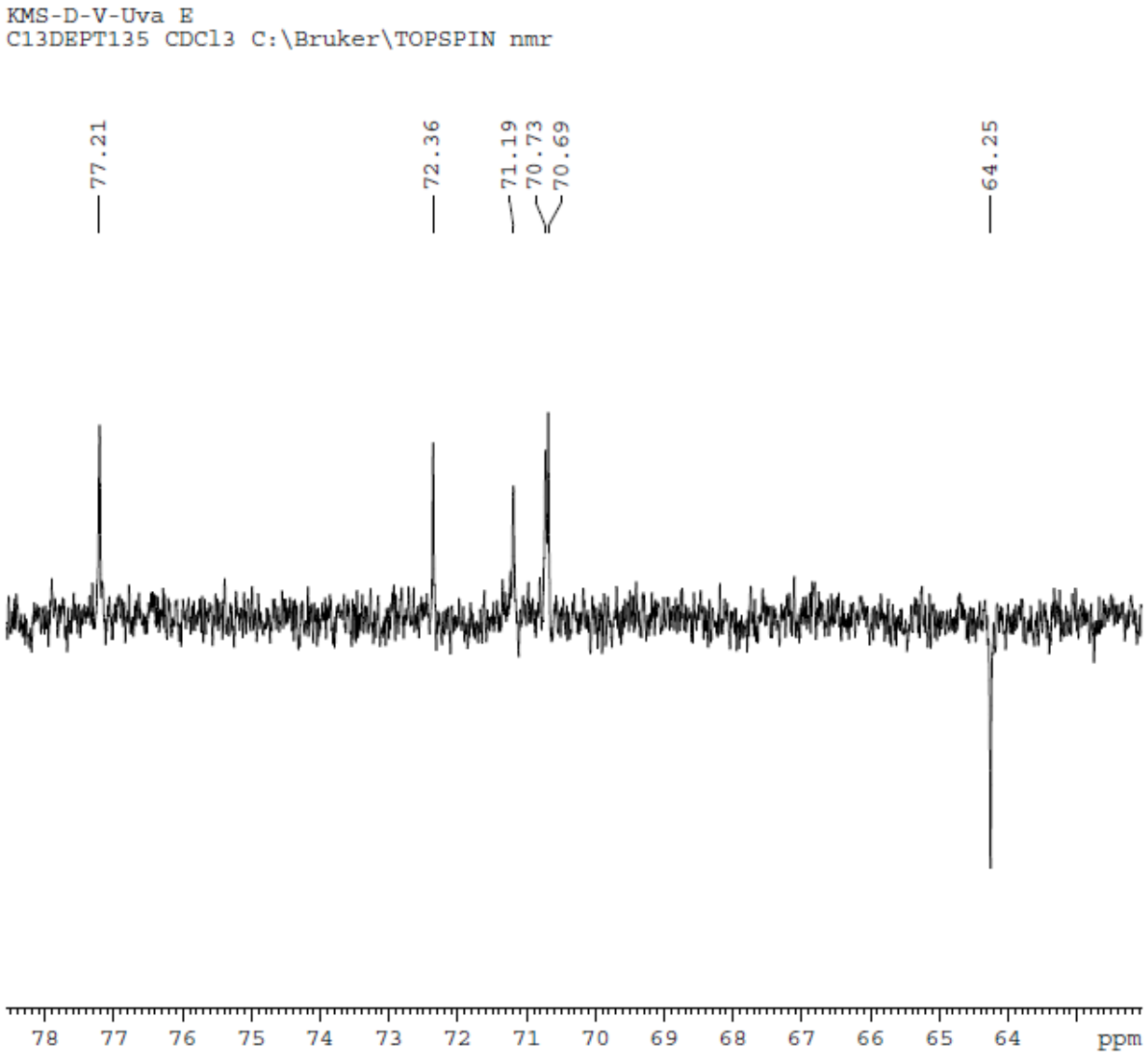
DEPT of compound **24**

KMS-D-V-Uva E
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



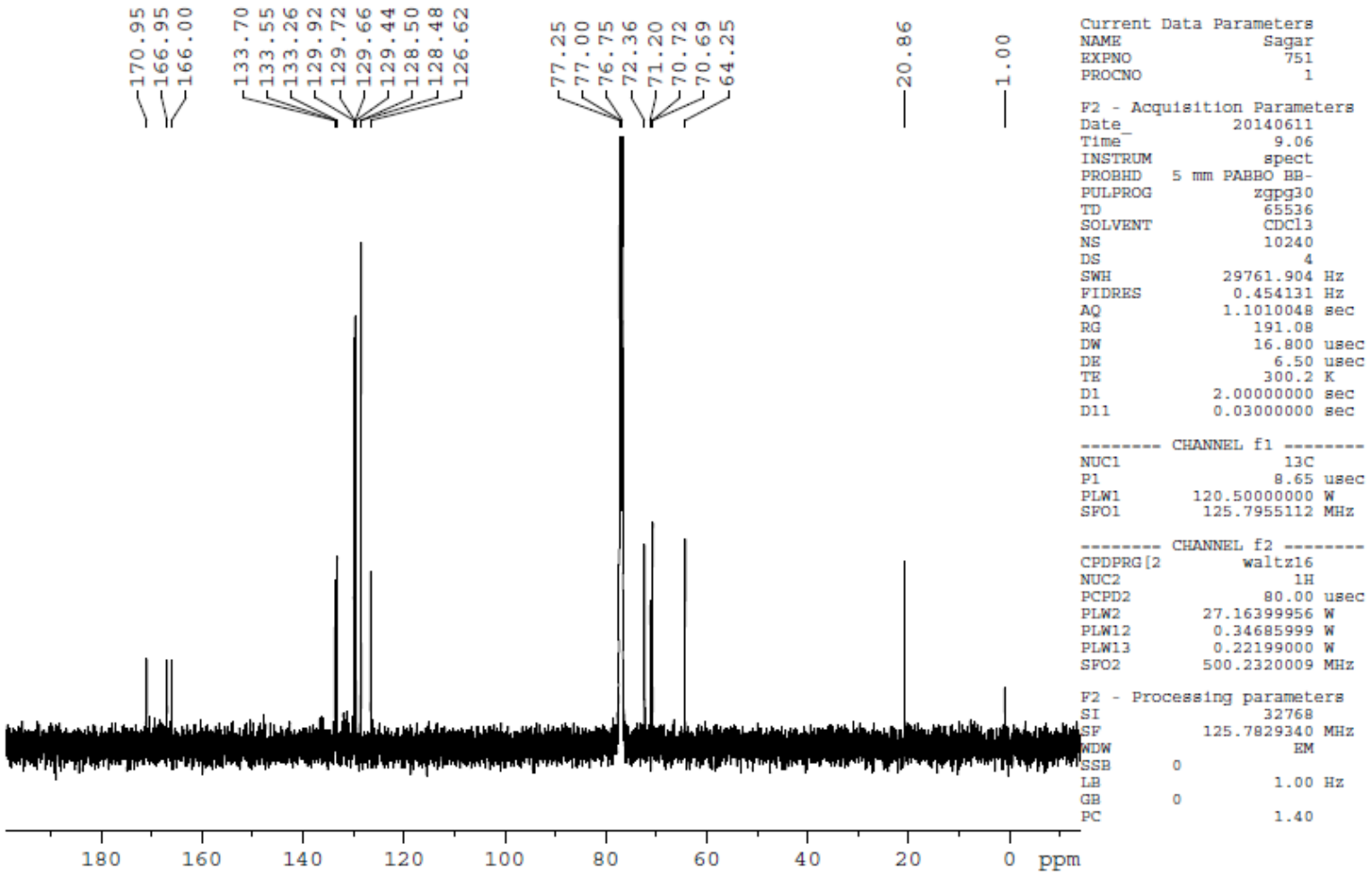

```
Current Data Parameters
NAME                  Sagar
EXPNO                   750
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140610
Time                 23.02
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              20161.291 Hz
FIDRES           0.307637 Hz
AQ               1.6252928 sec
RG                  191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  300.4 K
CNST2           145.0000000
D1               2.00000000 sec
D2               0.00344828 sec
D12              0.00002000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
P13                2000.00 usec
PLW0       0 W
PLW1      120.50000000 W
SFO1       125.7929956 MHz
SPNAM[5]     Crp60comp.4
SPOAL5             0.500
SPOFFS5    0 Hz
SPW5         13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                   1H
P3                    9.04 usec
P4                   18.08 usec
PCPD2                80.00 usec
PLW2          27.16399956 W
PLW12          0.34685999 W
SFO2         500.2315998 MHz

F2 - Processing parameters
SI                    32768
SF           125.7829340 MHz
WDW                     EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

DEPT of compound **24** (zoom)

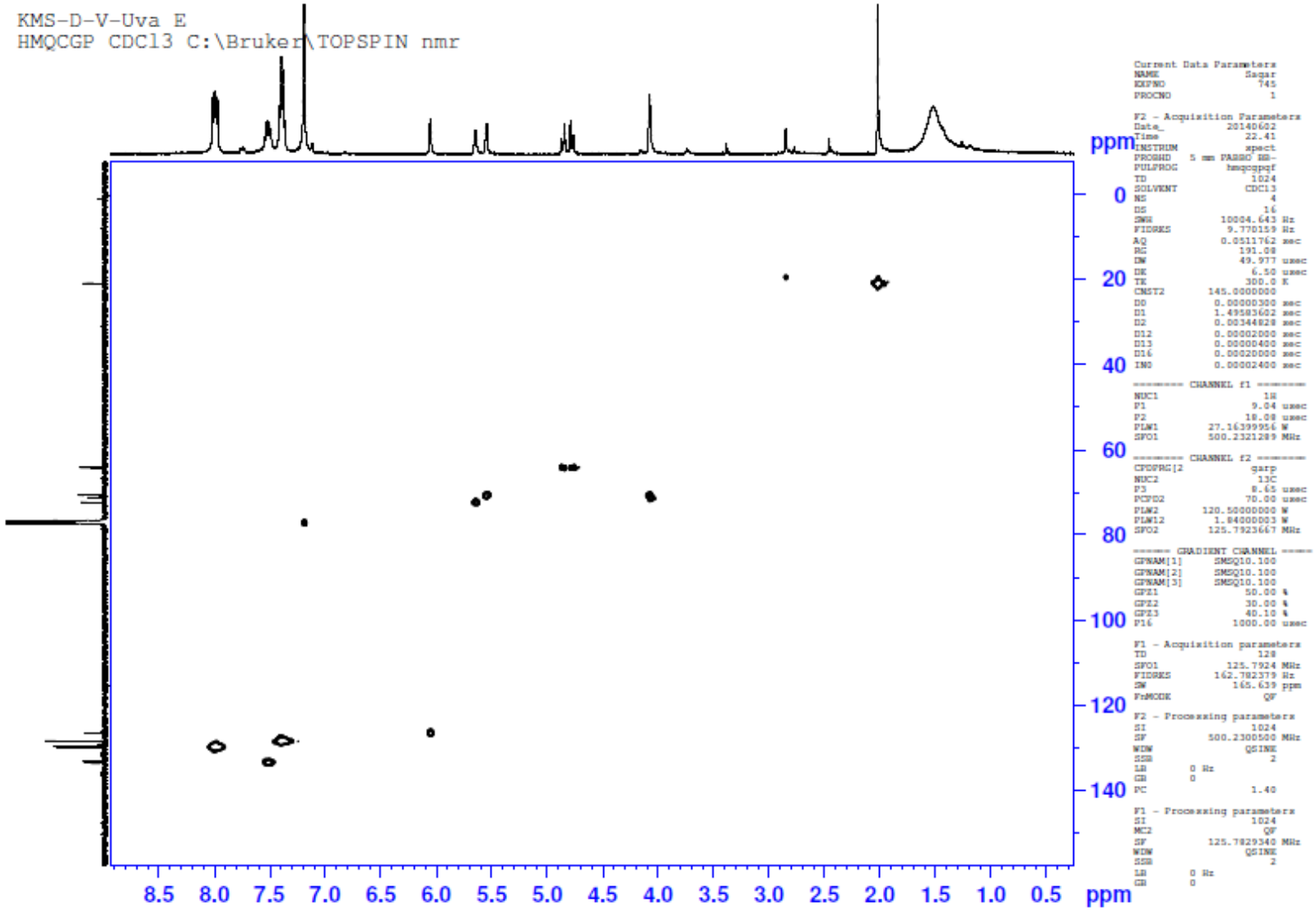



```
Current Data Parameters
NAME                  Sagar
EXPNO                   750
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140610
Time                 23.02
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                    1024
DS                       4
SWH              20161.291 Hz
FIDRES            0.307637 Hz
AQ                1.6252928 sec
RG                   191.08
DW                  24.800 usec
DE                   6.50 usec
TE                  300.4 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1           120.50000000 W
SFO1            125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

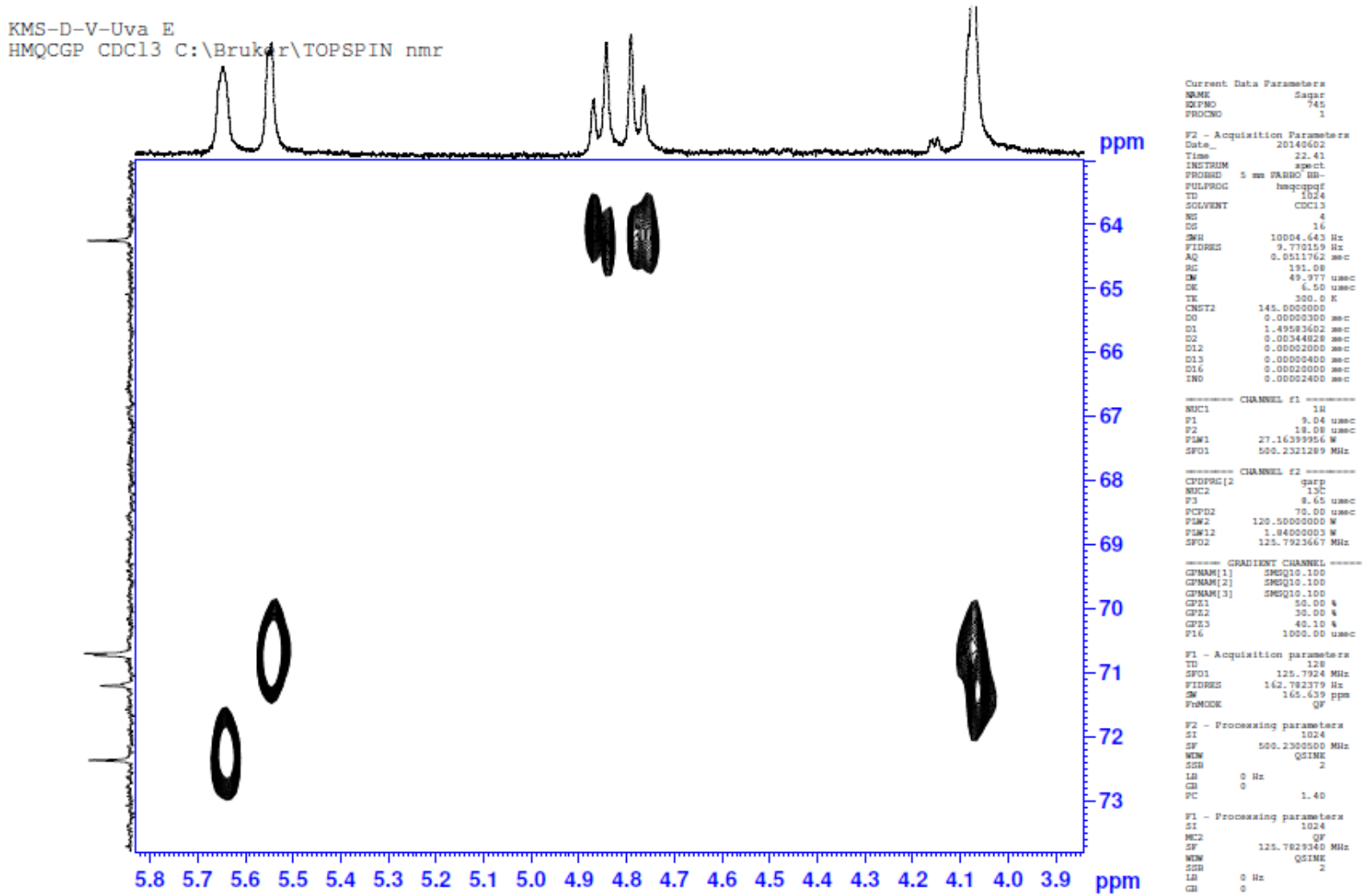
^{14}C NMR of compound **24**



HMQC of compound **24**


KMS-D-V-Uva E
HMQCGP CDCl3 C:\Bruker\TOPSPIN nmr
ppm
0
20
40
60
80
100
120
140
8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 ppm
Current Data Parameters
NAME Sagar
EXPNO 745
PROCNO 1
F2 - Acquisition Parameters
Data_ 20140602
Time 22.41
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG hmqcgpqf
TD 1024
SOLVENT CDCl3
NS 4
DS 16
SWH 10004.643 Hz
FIDRES 9.770159 Hz
AQ 0.0511762 sec
RG 181.08
DW 49.977 usec
DE 6.50 usec
TE 300.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.49583602 sec
D2 0.00344828 sec
D12 0.00002000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00002400 sec
CHANNEL f1
NUC1 1H
P1 9.04 usec
P2 18.08 usec
PLW1 27.16399956 W
SFO1 500.2321289 MHz
CHANNEL f2
CPDPRG[2 garp
NUC2 13C
P3 8.65 usec
PCPD2 70.00 usec
PLW2 120.50000000 W
PLW12 1.84000003 W
SFO2 125.7923667 MHz
GRADIENT CHANNEL
GPNAM[1] SMSQ10.100
GPNAM[2] SMSQ10.100
GPNAM[3] SMSQ10.100
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec
F1 - Acquisition parameters
TD 128
SFO1 125.7924 MHz
FIDRES 162.782379 Hz
SW 165.639 ppm
FnMODE QF
F2 - Processing parameters
SI 1024
SF 500.2300500 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40
F1 - Processing parameters
SI 1024
MC2 QF
SF 125.7829340 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0

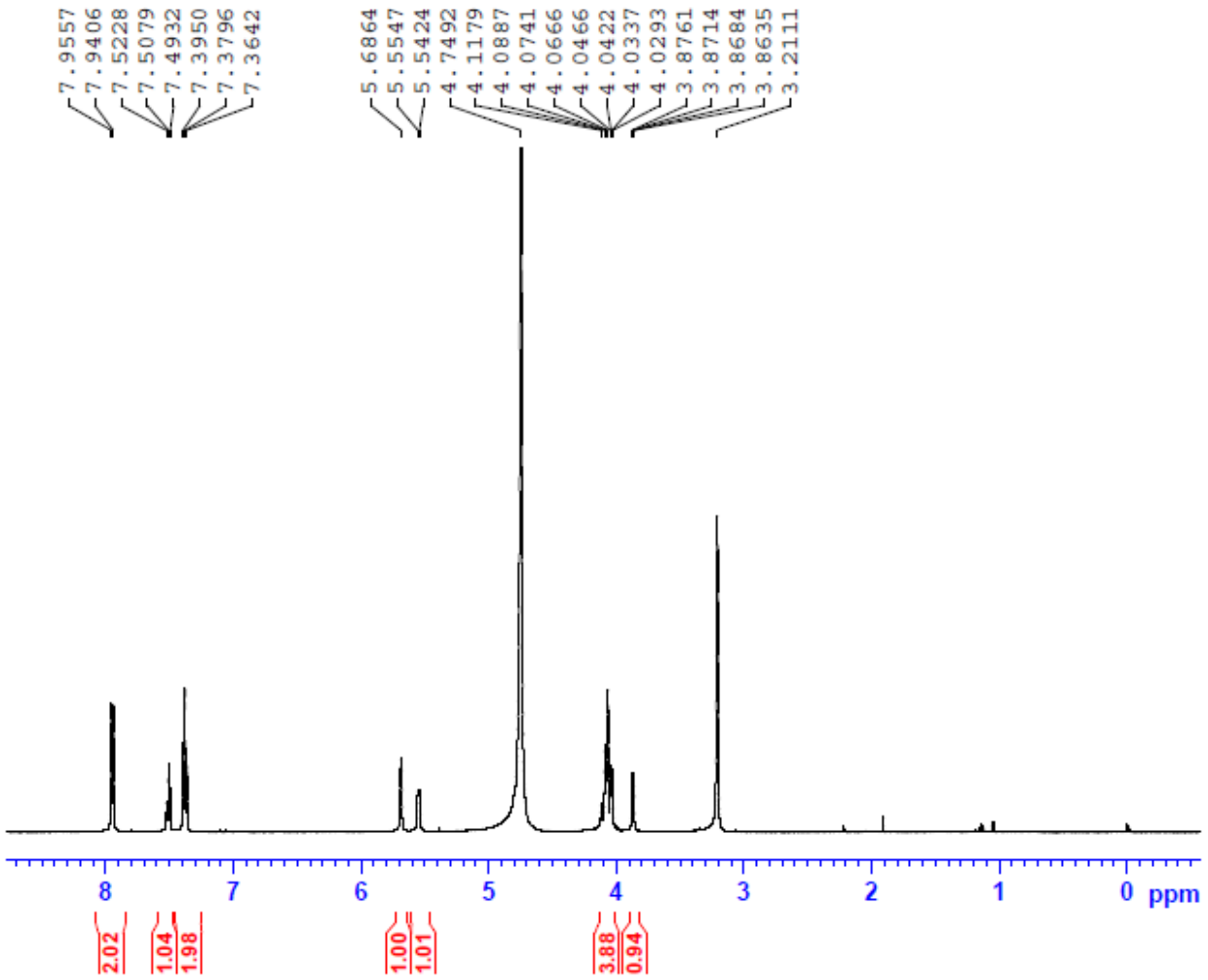
HMQC of compound **24** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   745
PROCNO                    1

F2 - Acquisition Parameters
Date_              20140602
Time                  22.41
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG           hmqcgpgf
TD                    1024
SOLVENT               CDCl3
NS                       4
DS                      16
SWH               10004.643 Hz
FIDRES             9.770159 Hz
AQ                 0.0511762 sec
RG                    191.08
DW                  49.977 usec
DE                    6.50 usec
TE                   300.0 K
CNST2             145.0000000
D0                 0.00000300 sec
D1                 1.49583602 sec
D2                 0.00344828 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00002400 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                      9.04 usec
P2                     18.08 usec
PLW1              27.16399956 W
SFO1             500.2321289 MHz

======== CHANNEL f2 ========
CPDPRG[2                garp
NUC2                      13C
P3                      8.65 usec
PCPD2                  70.00 usec
PLW2             120.50000000 W
PLW12              1.84000003 W
SFO2             125.7923667 MHz

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPNAM[2]          SMSQ10.100
GPNAM[3]          SMSQ10.100
GPZ1                   50.00 %
GPZ2                   30.00 %
GPZ3                   40.10 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1             125.7924 MHz
FIDRES           162.782379 Hz
SW                   165.639 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF               500.2300500 MHz
WDW                    QSINE
SSB                        2
LB          0 Hz
GB          0
PC                      1.40

F1 - Processing parameters
SI                       1024
MC2                        QF
SF               125.7829340 MHz
WDW                    QSINE
SSB                        2
LB          0 Hz
GB          0
```

^{1}H NMR of compound **25**

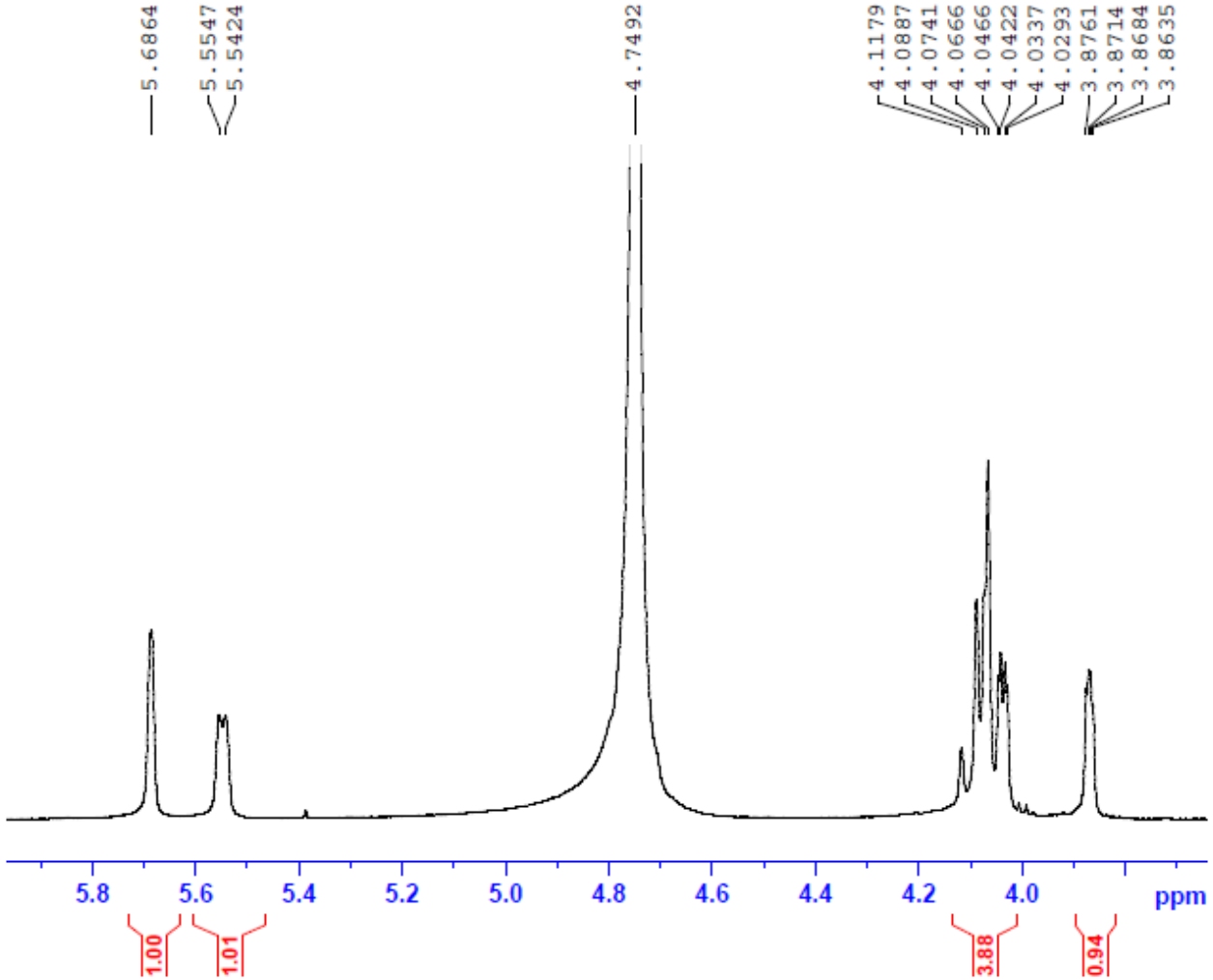
KMS-D-V-31
PROTON MeOD C:\Bruker\TOPSPIN nmr




```
Current Data Parameters
NAME                  Sagar
EXPNO                   332
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time                  15.09
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT                MeOD
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ               3.1719425 sec
RG                   125.62
DW                 48.400 usec
DE                  6.50 usec
TE                  299.1 K
D1              1.00000000 sec

======== CHANNEL f1 ========
NUC1                      1H
P1                     9.04 usec
PLW1          27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300618 MHz
WDW                      EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

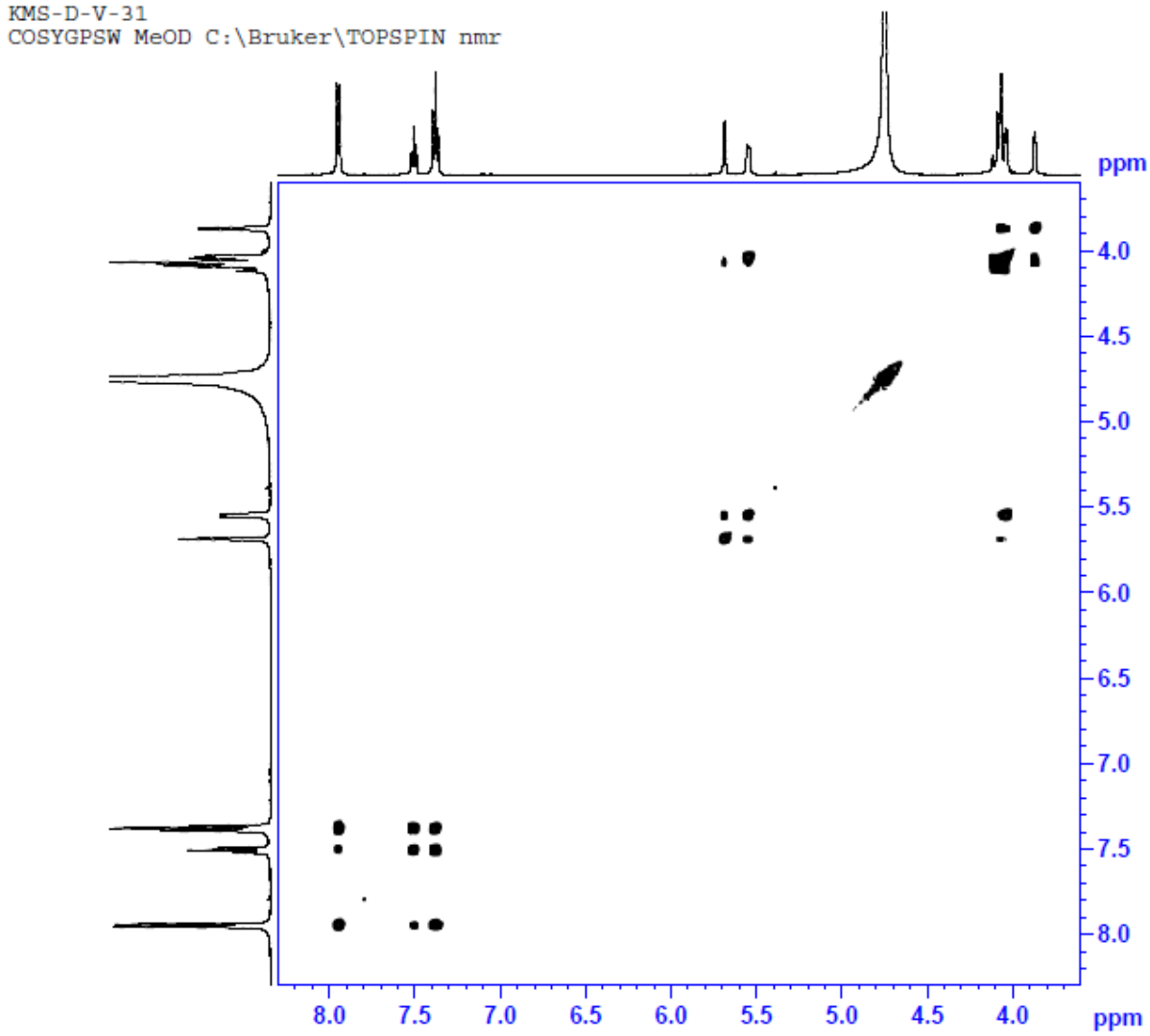
^{1}H NMR of compound **25** (zoom)

KMS-D-V-31
PROTON MeOD C:\Bruker\TOPSPIN nmr



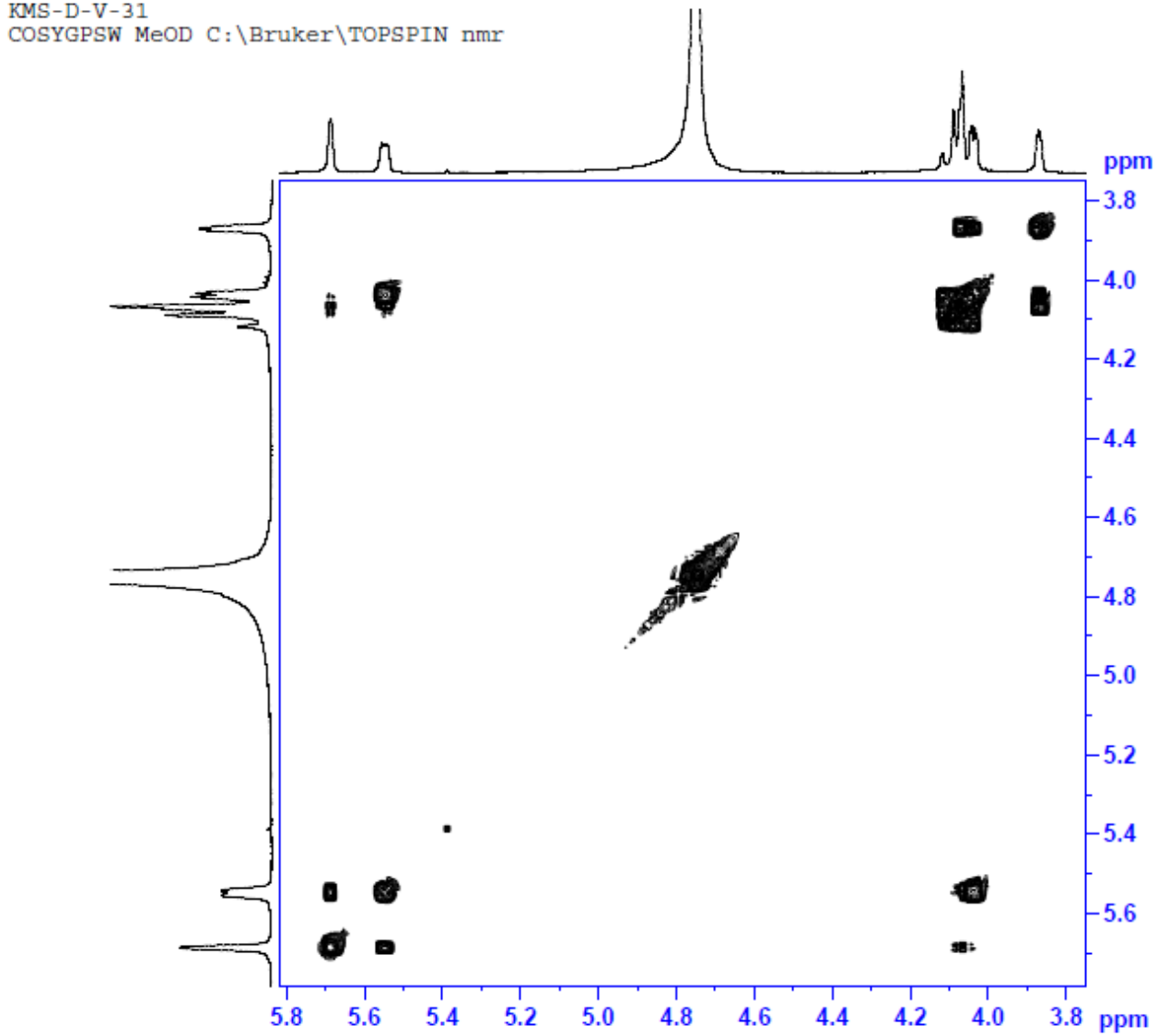

```
Current Data Parameters
NAME                  Sagar
EXPNO                   332
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time                  15.09
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT                MeOD
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719425 sec
RG                   125.62
DW                  48.400 usec
DE                   6.50 usec
TE                   299.1 K
D1              1.00000000 sec

-------- CHANNEL f1 --------
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1          500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF            500.2300618 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

COSY of compound **25**




```
Current Data Parameters
NAME                  Sagar
EXPNO                   534
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time               15.35
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT                MeOD
NS                        1
DS                        8
SWH              2347.418 Hz
FIDRES           1.146200 Hz
AQ               0.4362240 sec
RG                    64.12
DW                213.000 usec
DE                  6.50 usec
TE                 299.4 K
D0               0.00000300 sec
D1               1.71696603 sec
D11              0.03000000 sec
D12              0.00002000 sec
D13              0.00000400 sec
D16              0.00020000 sec
IN0              0.00042600 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1           27.16399956 W
PLW10           3.28390002 W
SFO1            500.2330375 MHz

====== GRADIENT CHANNEL =====
GPNAM(1)        SMSQ10.100
GPX1                  10.00 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1              500.233 MHz
FIDRES          18.339201 Hz
SW                  4.693 ppm
FnMODE                   QF

F2 - Processing parameters
SI                       1024
SF              500.2300618 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                      QF
SF              500.2300618 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
```

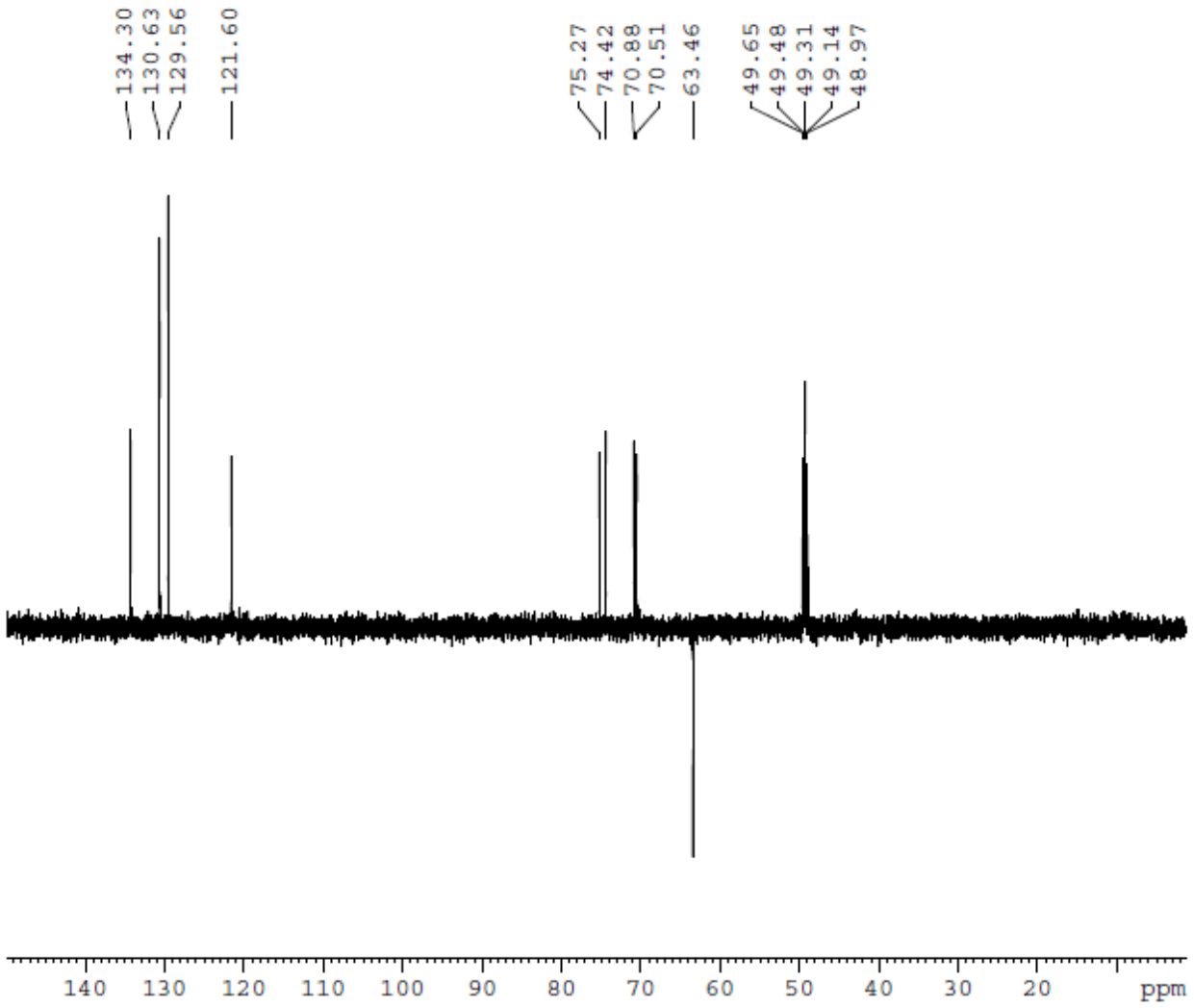
COSY of compound **25** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   334
PROCNO                    1

F2 - Acquisition Parameters
Date_               20130511
Time                   15.35
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG         cosygppqf
TD                      2048
SOLVENT                 MeOD
NS                         1
DS                         8
SWH                 2347.418 Hz
FIDRES              1.146200 Hz
AQ                  0.4362240 sec
RG                      64.12
DW                    213.000 usec
DE                      6.50 usec
TE                     299.4 K
D0                  0.00000300 sec
D1                  1.71696603 sec
D11                 0.03000000 sec
D12                 0.00002000 sec
D13                 0.00000400 sec
D16                 0.00020000 sec
IN0                 0.00042600 sec

======== CHANNEL f1 ========
NUC1                       1H
P0                       9.04 usec
P1                       9.04 usec
P17                   2500.00 usec
PLW1                27.16399956 W
PLW10                3.28390002 W
SFO1               500.2330375 MHz

====== GRADIENT CHANNEL =====
GPNAM(1)          SMSQ10.100
GPZ1                    10.00 %
P16                   1000.00 usec

F1 - Acquisition parameters
TD                         128
SFO1                   500.233 MHz
FIDRES              18.339201 Hz
SW                      4.693 ppm
FnMODE                     QF

F2 - Processing parameters
SI                        1024
SF                 500.2300618 MHz
WDW                      QSINE
SSB                0
LB                 0 Hz
GB                 0
PC                        1.40

F1 - Processing parameters
SI                        1024
MC2                        QF
SF                 500.2300618 MHz
WDW                      QSINE
SSB                0
LB                 0 Hz
GB                 0
```

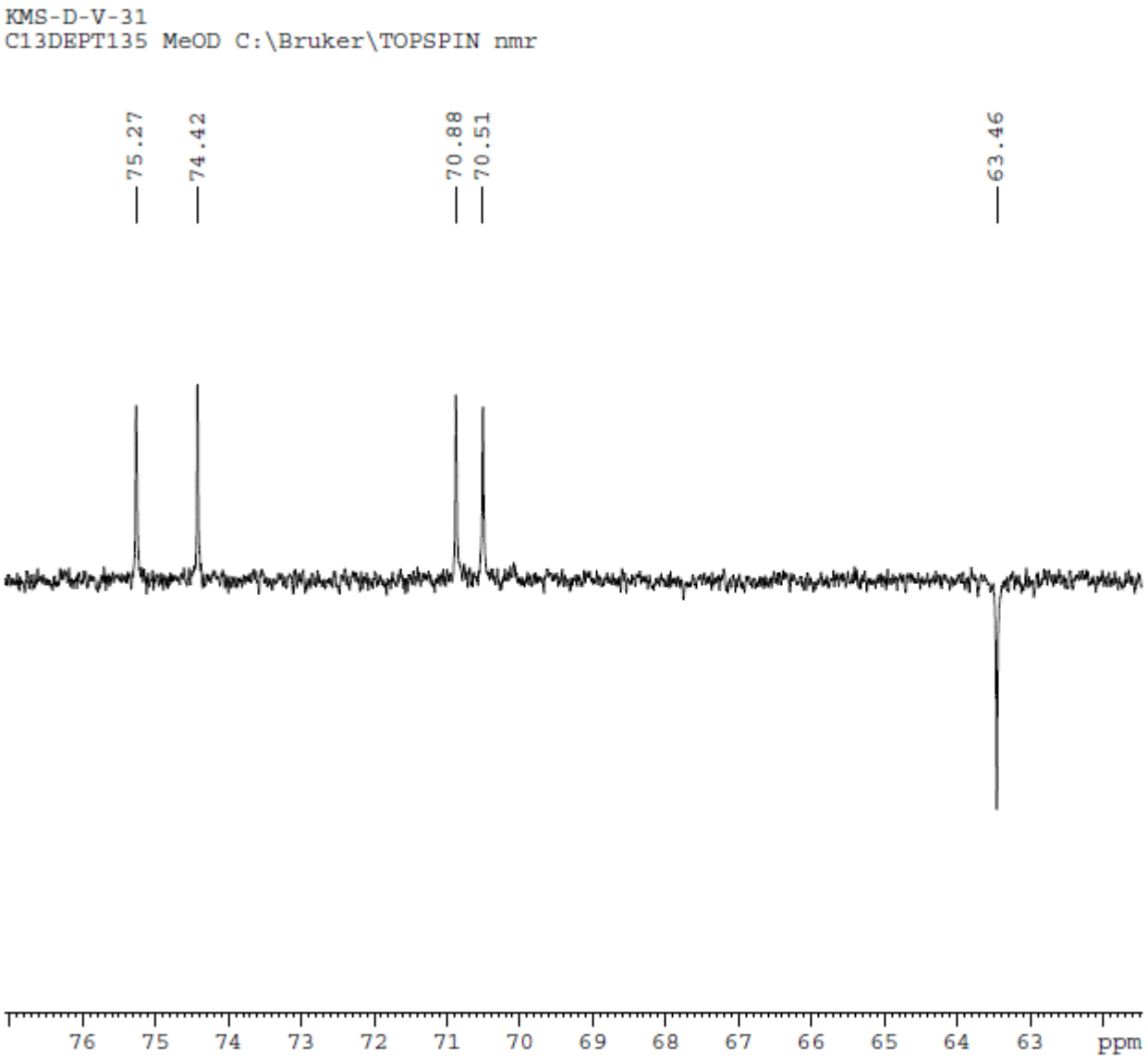
DEPT of compound **25**

KMS-D-V-31
C13DEPT135 MeOD C:\Bruker\TOPSPIN nmr



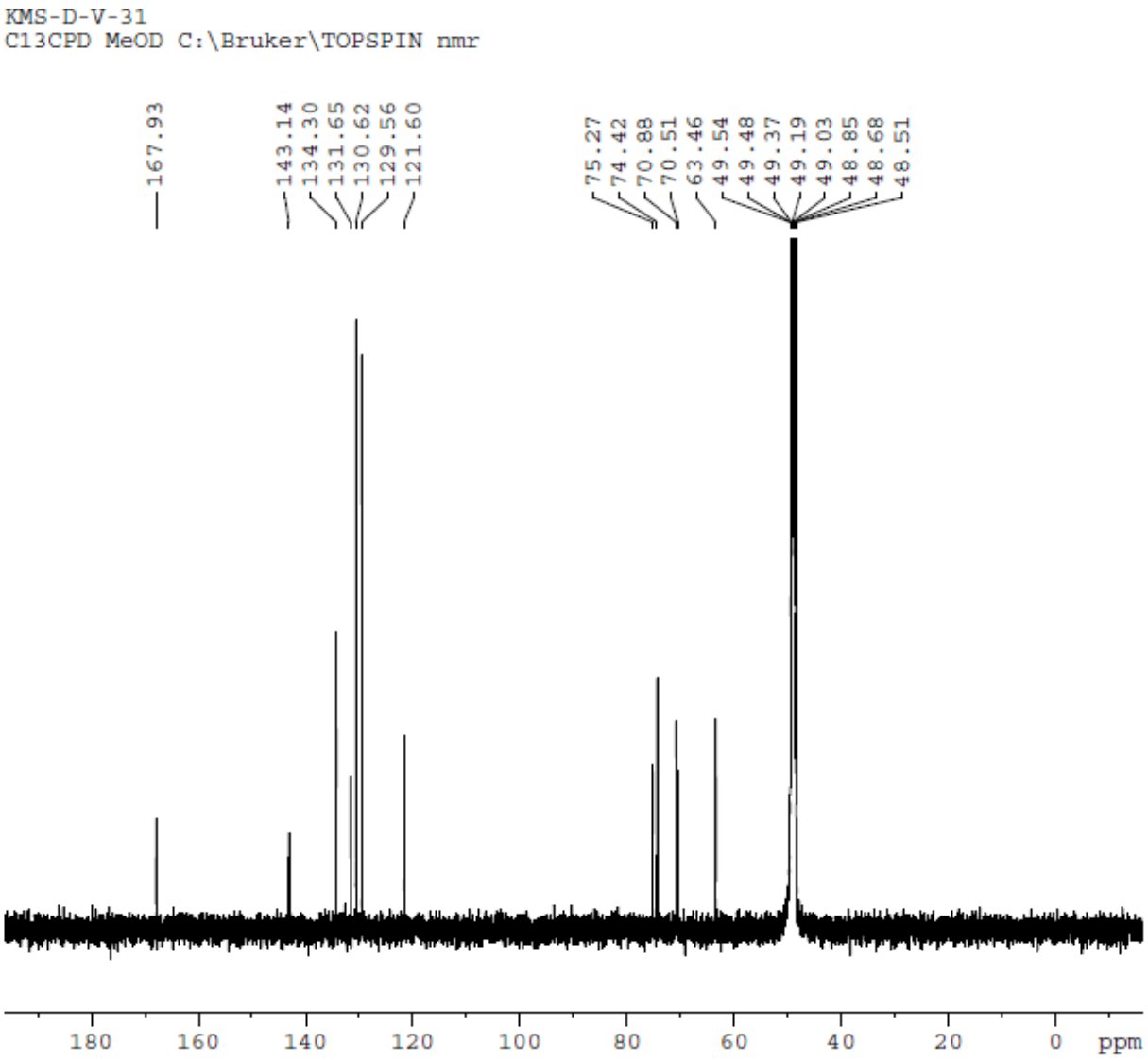

```
Current Data Parameters
NAME                  Sagar
EXPNO                   333
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time                  15.33
INSTRUM               spect
PROBHD   5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT                MeOD
NS                       256
DS                         4
SWH               20161.291 Hz
FIDRES             0.307637 Hz
AQ                 1.6252928 sec
RG                    191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   299.7 K
CNST2             145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
P13                  2000.00 usec
PLW0       0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5    0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                     1H
P3                      9.04 usec
P4                     18.08 usec
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                       32768
SF             125.7827554 MHz
WDW                         EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
```

DEPT of compound **25** (zoom)




```
Current Data Parameters
NAME                  Sagar
EXPNO                   333
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time                  15.33
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT                MeOD
NS                      256
DS                        4
SWH              20161.291 Hz
FIDRES            0.307637 Hz
AQ                1.6252928 sec
RG                   191.08
DW                   24.800 usec
DE                    6.50 usec
TE                   299.7 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5                0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7827554 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

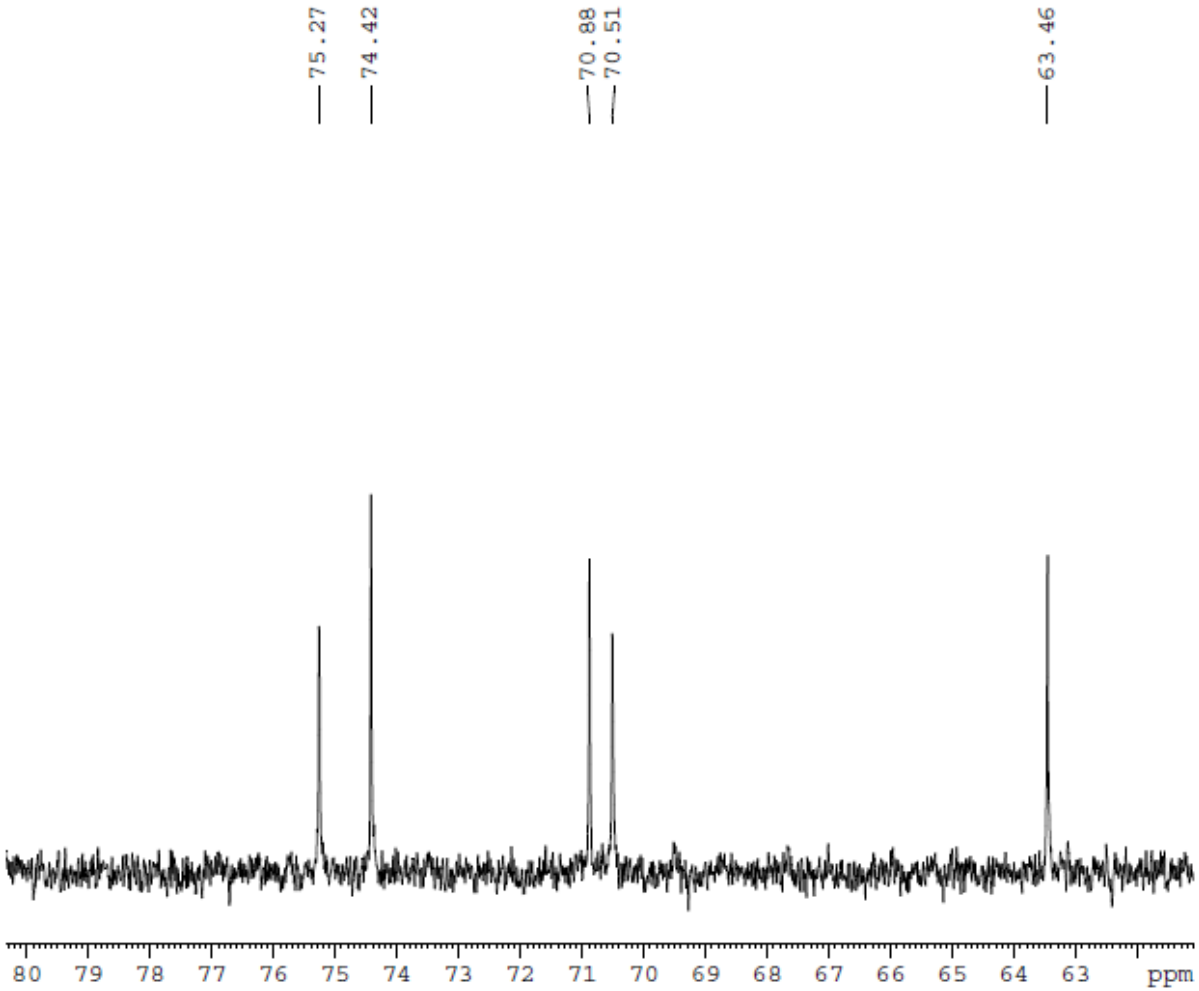
^{14}C NMR of compound **25**




```
Current Data Parameters
NAME                 Sagar
EXPNO                  336
PROCNO                   1

F2 - Acquisition Parameters
Date_             20130511
Time                 16.00
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG              zgpg30
TD                    65536
SOLVENT                MeOD
NS                     1024
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   300.2 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                   13C
P1                    8.65 usec
PLW1          120.50000000 W
SFO1           125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                   1H
PCPD2                80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2           500.2320009 MHz

F2 - Processing parameters
SI                    32768
SF             125.7827554 MHz
WDW                    EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

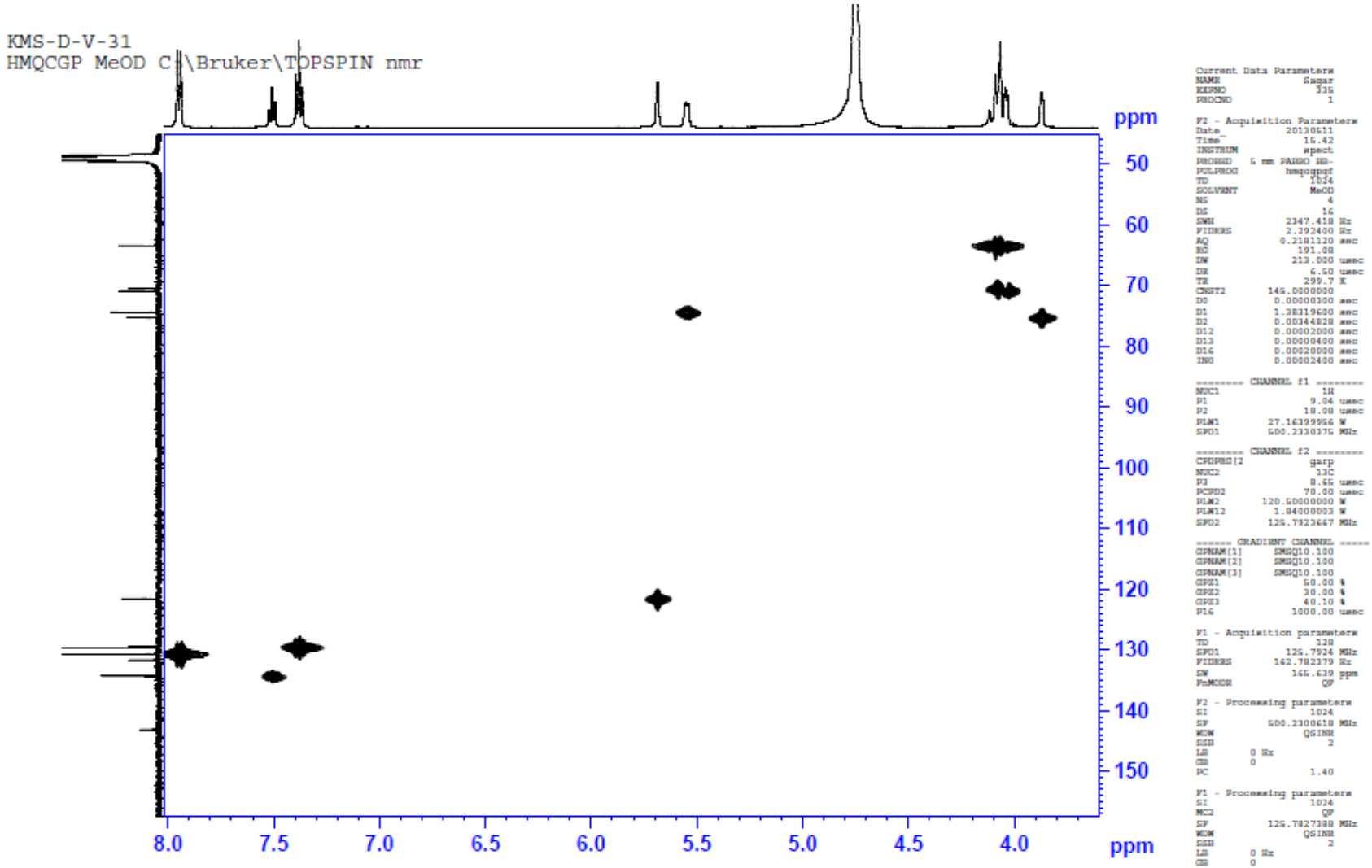
^{14}C NMR of compound **25** (zoom)

KMS-D-V-31
C13CPD MeOD C:\Bruker\TOPSPIN nmr

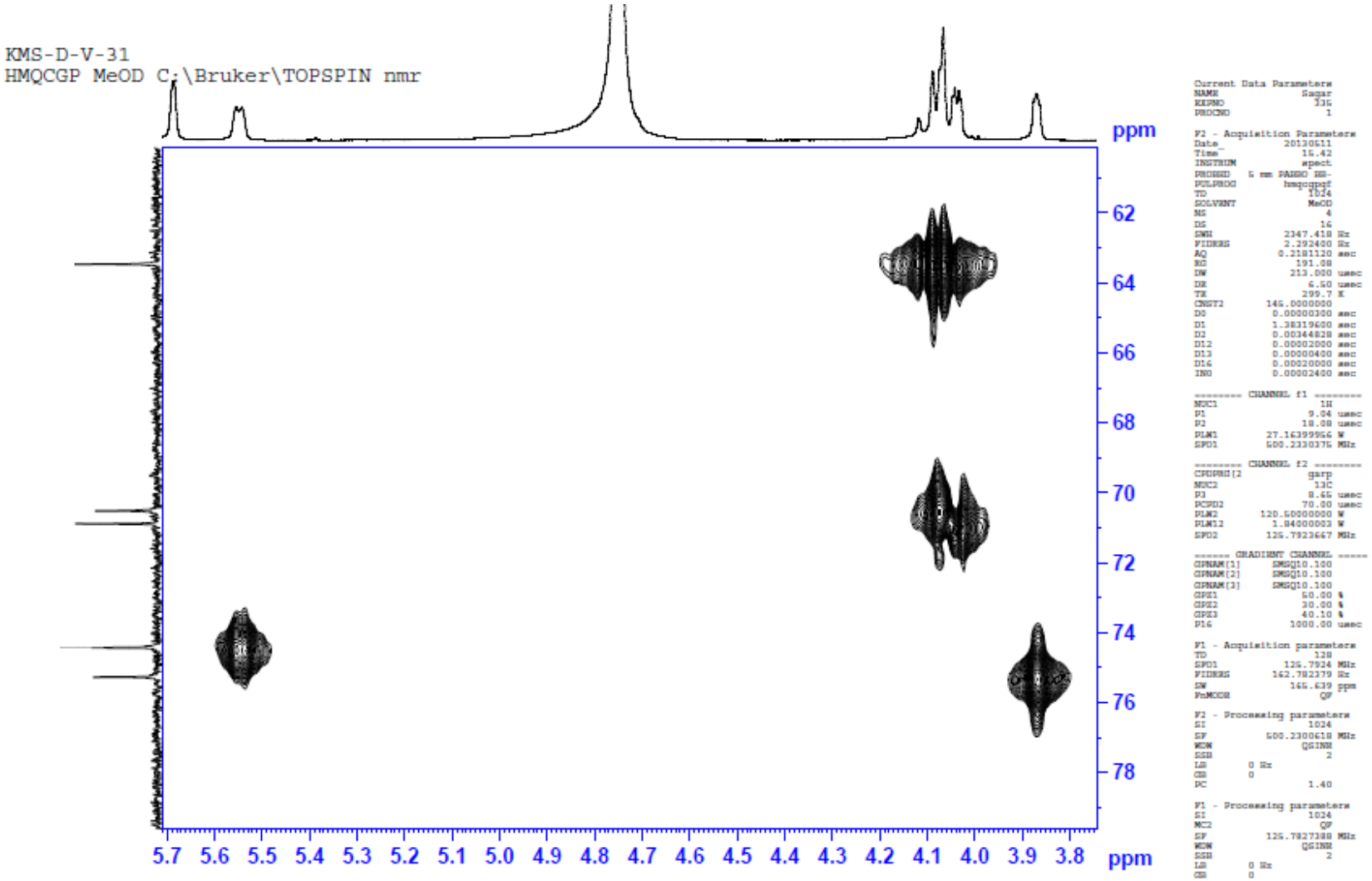



```
Current Data Parameters
NAME                  Sagar
EXPNO                   336
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130511
Time                  16.00
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT                MeOD
NS                     1024
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ                1.1010048 sec
RG                   191.08
DW                   16.800 usec
DE                    6.50 usec
TE                   300.2 K
D1               2.00000000 sec
D11              0.03000000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
PLW1          120.50000000 W
SFO1          125.7955112 MHz

======== CHANNEL f2 ========
CPDPRG[2             waltz16
NUC2                    1H
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
PLW13           0.22199000 W
SFO2          500.2320009 MHz

F2 - Processing parameters
SI                     32768
SF            125.7827554 MHz
WDW                       EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```

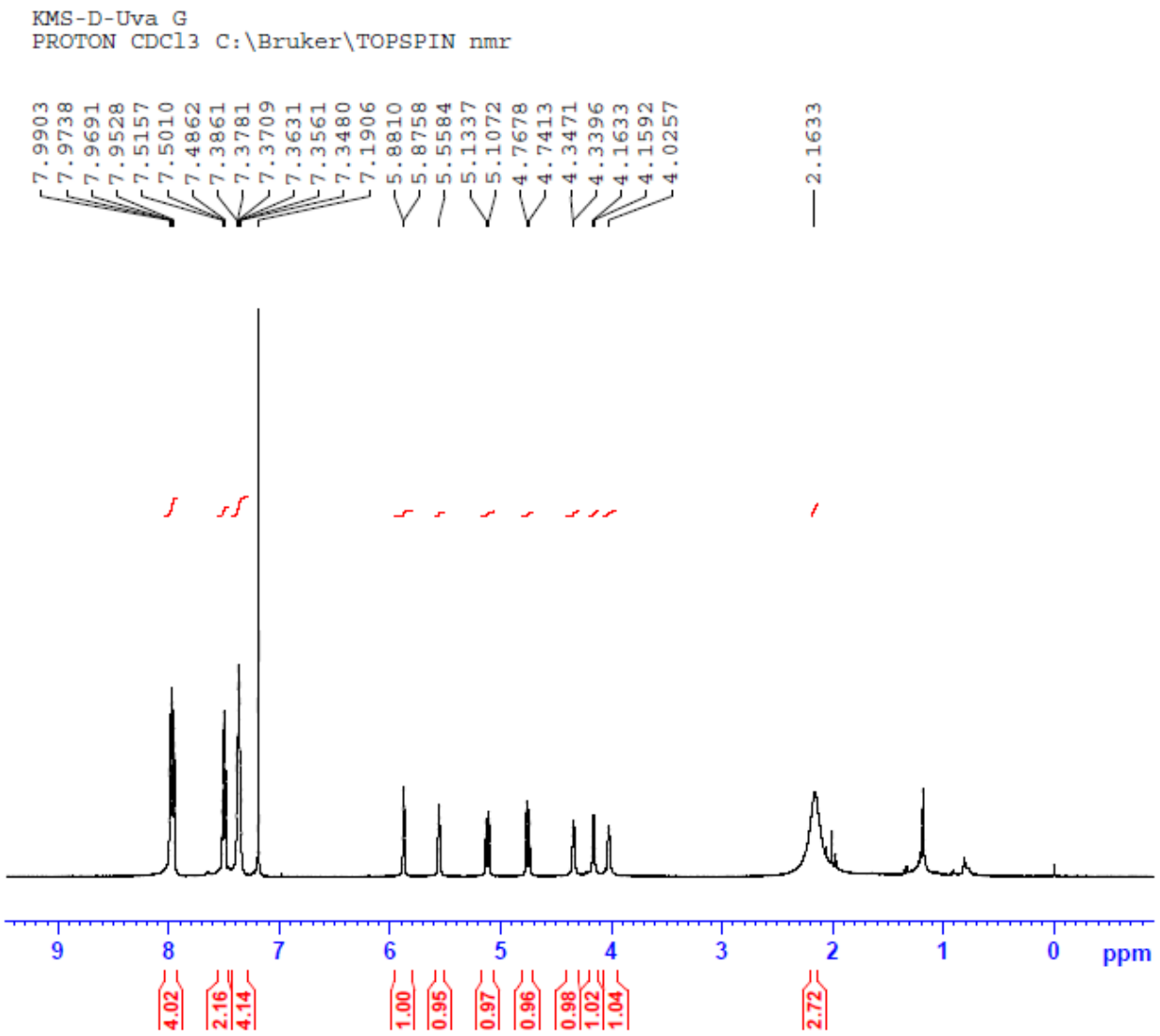
HMQC of compound **25**



HMQC of compound **25** (zoom)

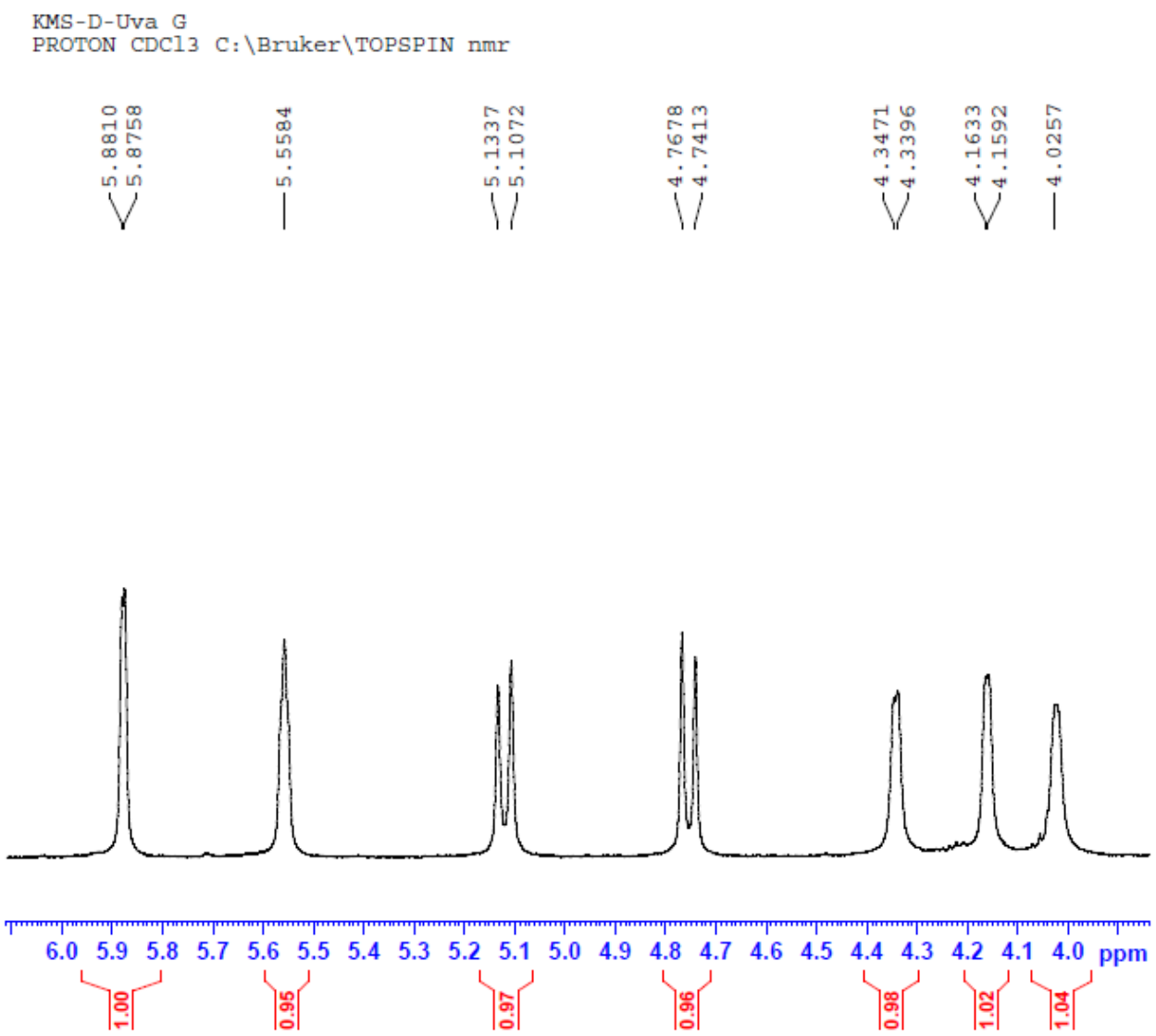


^{1}H NMR of compound **26**



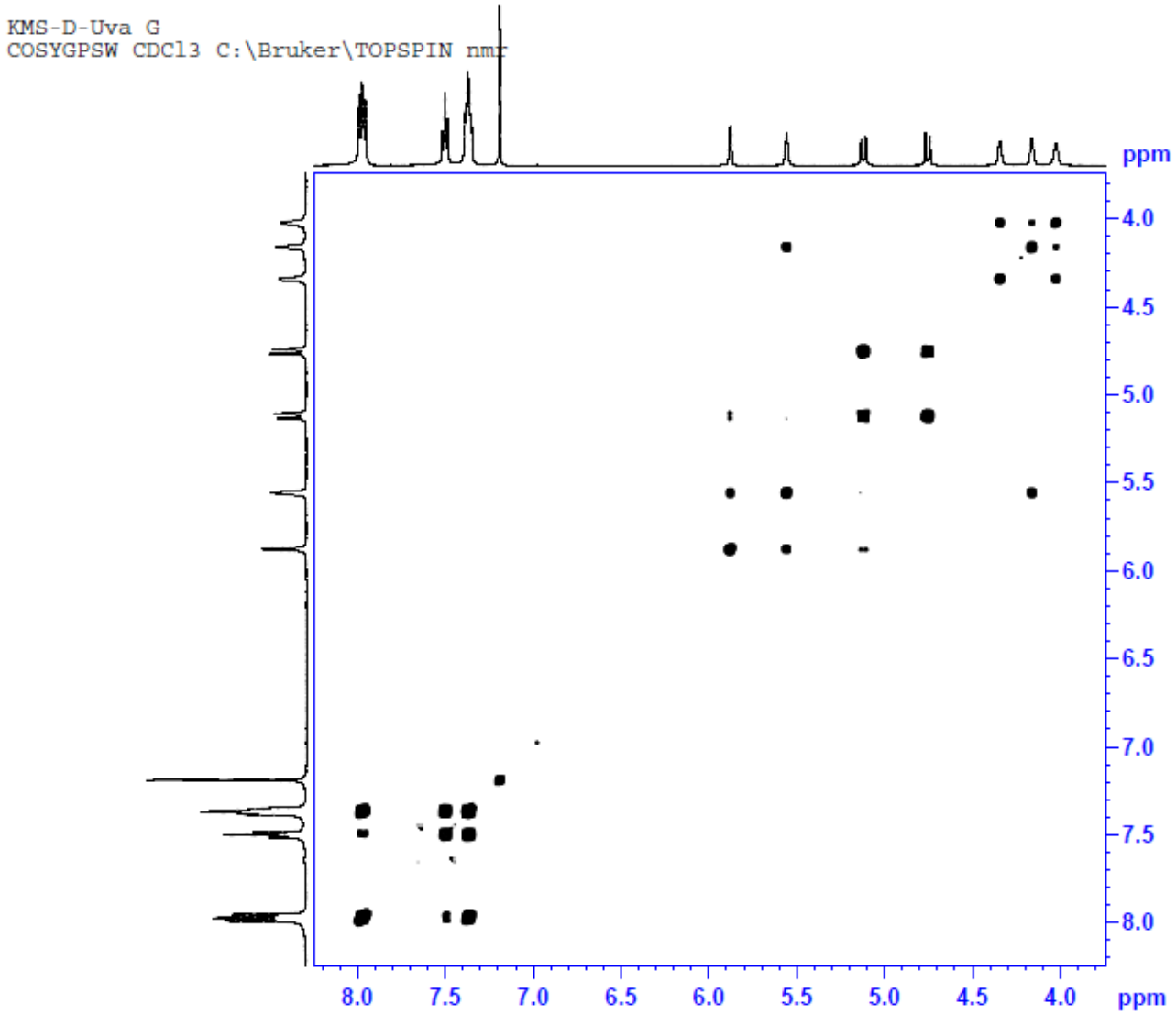

```
Current Data Parameters
NAME                  Sagar
EXPNO                   347
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  11.56
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH              10330.578 Hz
FIDRES            0.157632 Hz
AQ                3.1719425 sec
RG                   171.32
DW                  48.400 usec
DE                   6.50 usec
TE                  299.6 K
D1               1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300504 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

^{1}H NMR of compound **26** (zoom)



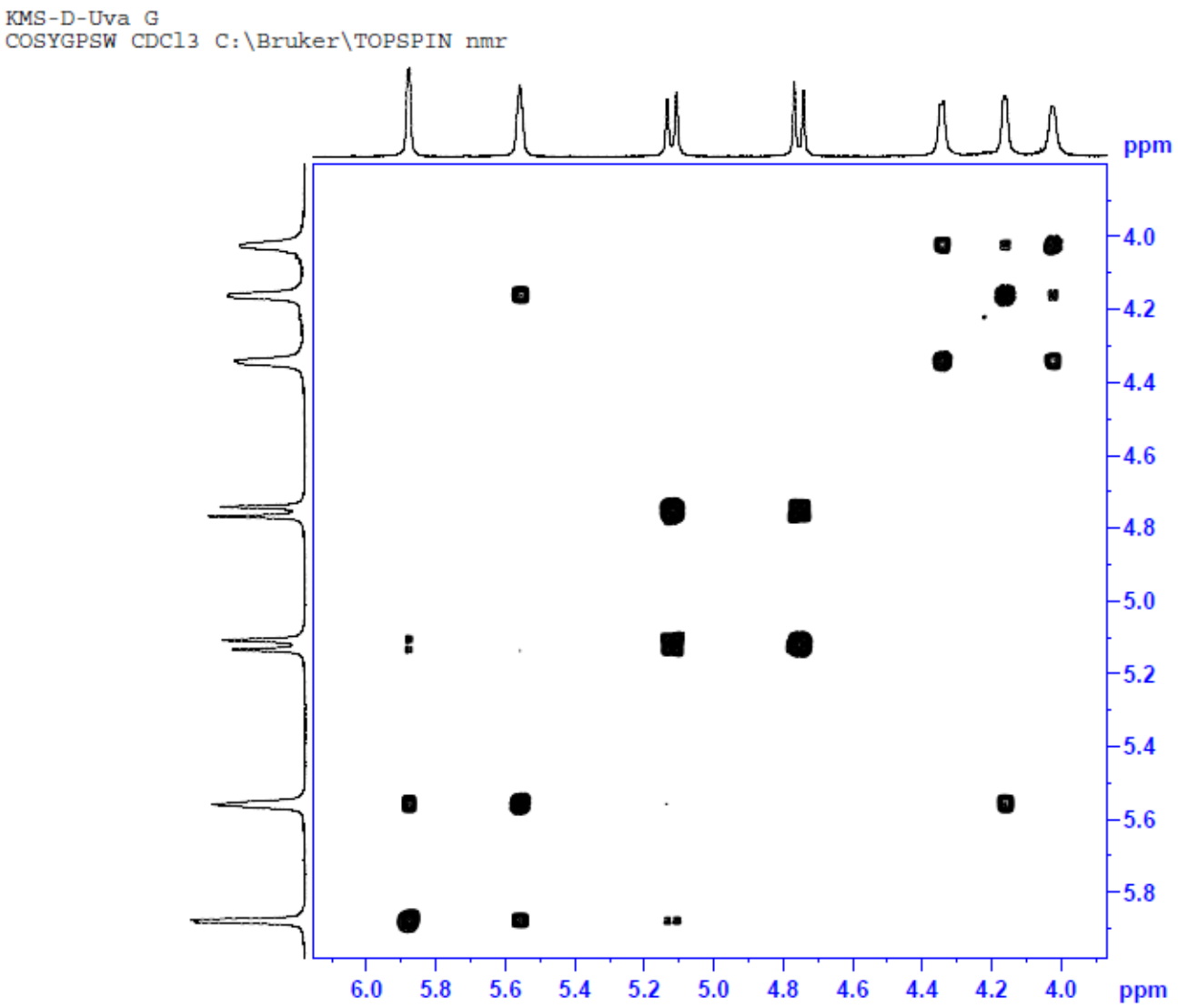

```
Current Data Parameters
NAME                  Sagar
EXPNO                   347
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  11.56
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH               10330.578 Hz
FIDRES             0.157632 Hz
AQ                3.1719425 sec
RG                   171.32
DW                   48.400 usec
DE                    6.50 usec
TE                   299.6 K
D1                1.00000000 sec

-------- CHANNEL f1 --------
NUC1                     1H
P1                    9.04 usec
PLW1           27.16399956 W
SFO1           500.2330891 MHz

F2 - Processing parameters
SI                    65536
SF             500.2300504 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

COSY of compound **26**



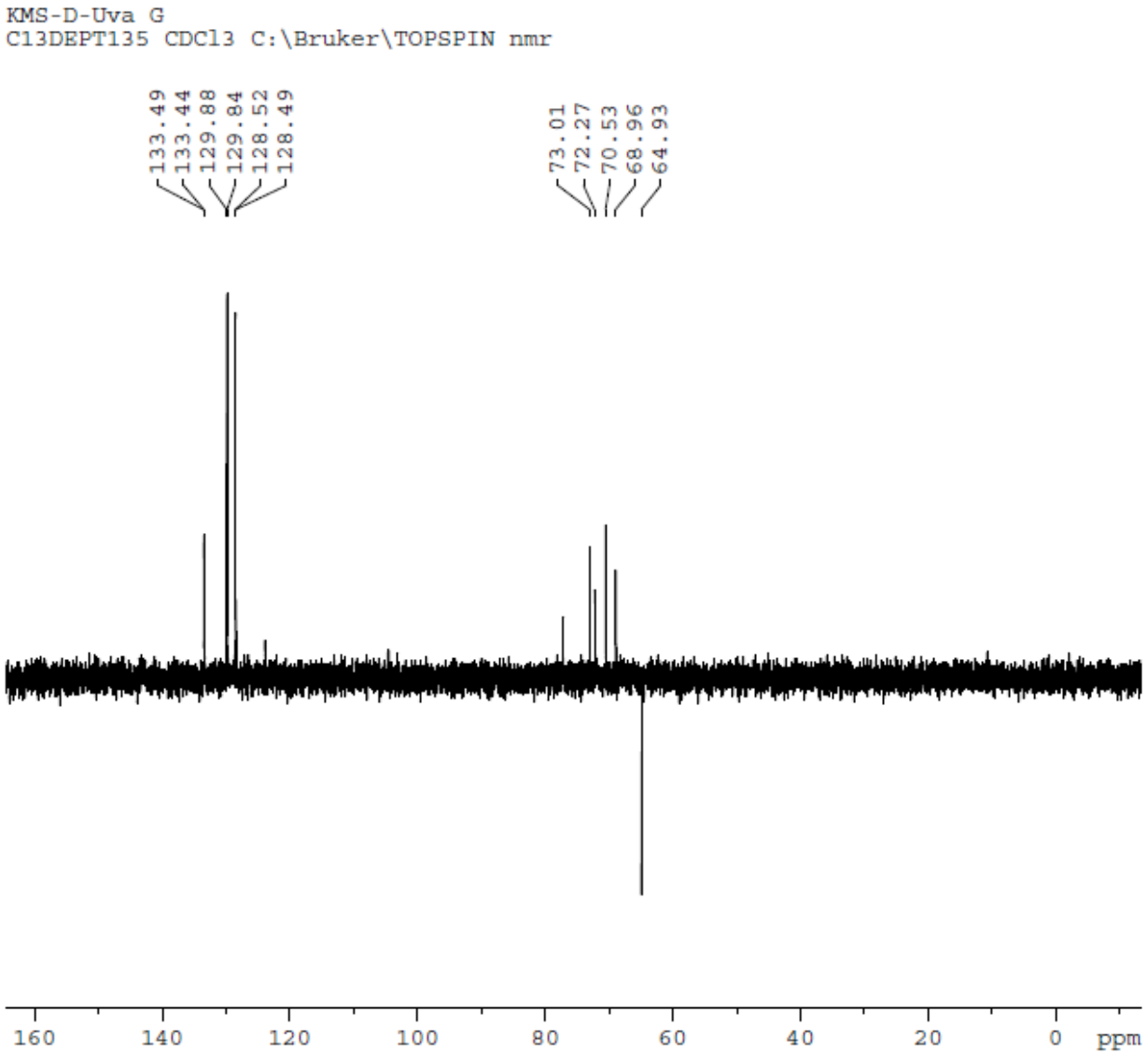

```
Current Data Parameters
NAME                  Sagar
EXPNO                   348
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  12.04
INSTRUM                spect
PROBHD    5 mm PABBO BB-
PULPROG        cosygpppqf
TD                     2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH                2252.252 Hz
FIDRES             1.099733 Hz
AQ                 0.4546560 sec
RG                   125.62
DW                   222.000 usec
DE                     6.50 usec
TE                   299.6 K
D0                 0.00000300 sec
D1                 1.69853401 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00044400 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                     9.04 usec
P1                     9.04 usec
P17                 2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2330493 MHz

====== GRADIENT CHANNEL ======
GPNAM[1]       SMDQ10.100
GPZ1                  10.00 %
P16                 1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1               500.233 MHz
FIDRES            17.595720 Hz
SW                     4.502 ppm
FnMODE                    QF

F2 - Processing parameters
SI                       1024
SF               500.2300504 MHz
WDW                      QSINE
SSB             0
LB              0 Hz
GB              0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                       QF
SF               500.2300504 MHz
WDW                      QSINE
SSB             0
LB              0 Hz
GB              0
```

COSY of compound **26** (zoom)



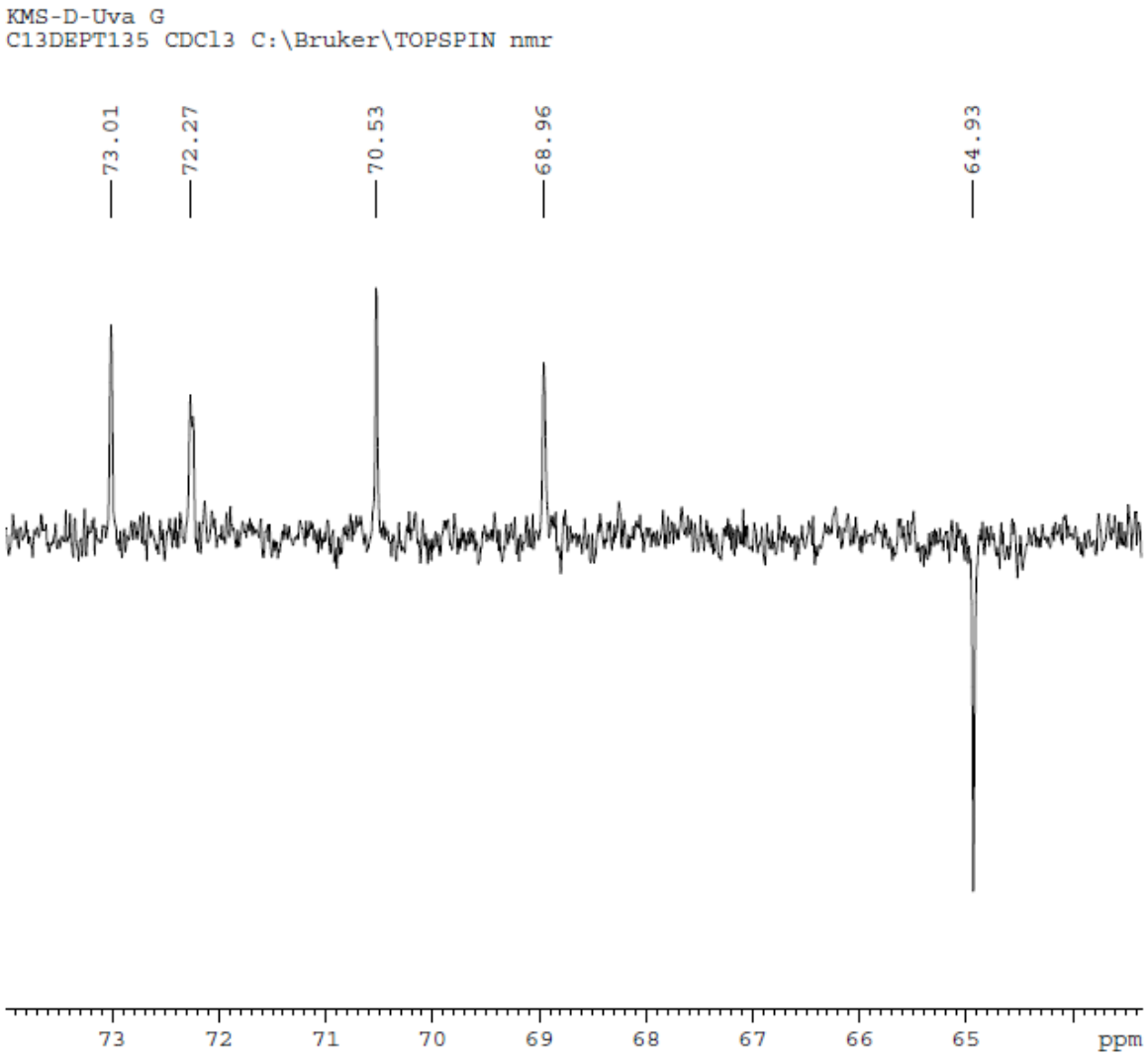

```
Current Data Parameters
NAME                  Sagar
EXPNO                   348
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  12.04
INSTRUM                spect
PROBHD   5 mm PABBO BB-
PULPROG        cosygpppqf
TD                      2048
SOLVENT                CDCl3
NS                        1
DS                        8
SWH                2252.252 Hz
FIDRES             1.099733 Hz
AQ                 0.4546560 sec
RG                    125.62
DW                   222.000 usec
DE                     6.50 usec
TE                   299.6 K
D0                 0.00000300 sec
D1                 1.69853401 sec
D11                0.03000000 sec
D12                0.00002000 sec
D13                0.00000400 sec
D16                0.00020000 sec
IN0                0.00044400 sec

======== CHANNEL f1 ========
NUC1                      1H
P0                      9.04 usec
P1                      9.04 usec
P17                  2500.00 usec
PLW1              27.16399956 W
PLW10              3.28390002 W
SFO1             500.2330493 MHz

====== GRADIENT CHANNEL =====
GPNAM[1]          SMSQ10.100
GPZ1                   10.00 %
P16                  1000.00 usec

F1 - Acquisition parameters
TD                       128
SFO1                 500.233 MHz
FIDRES            17.595720 Hz
SW                     4.502 ppm
FnMODE                    QF

F2 - Processing parameters
SI                       1024
SF               500.2300504 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
PC                       1.40

F1 - Processing parameters
SI                       1024
MC2                       QF
SF               500.2300504 MHz
WDW                    QSINE
SSB          0
LB           0 Hz
GB           0
```

DEPT of compound **26**



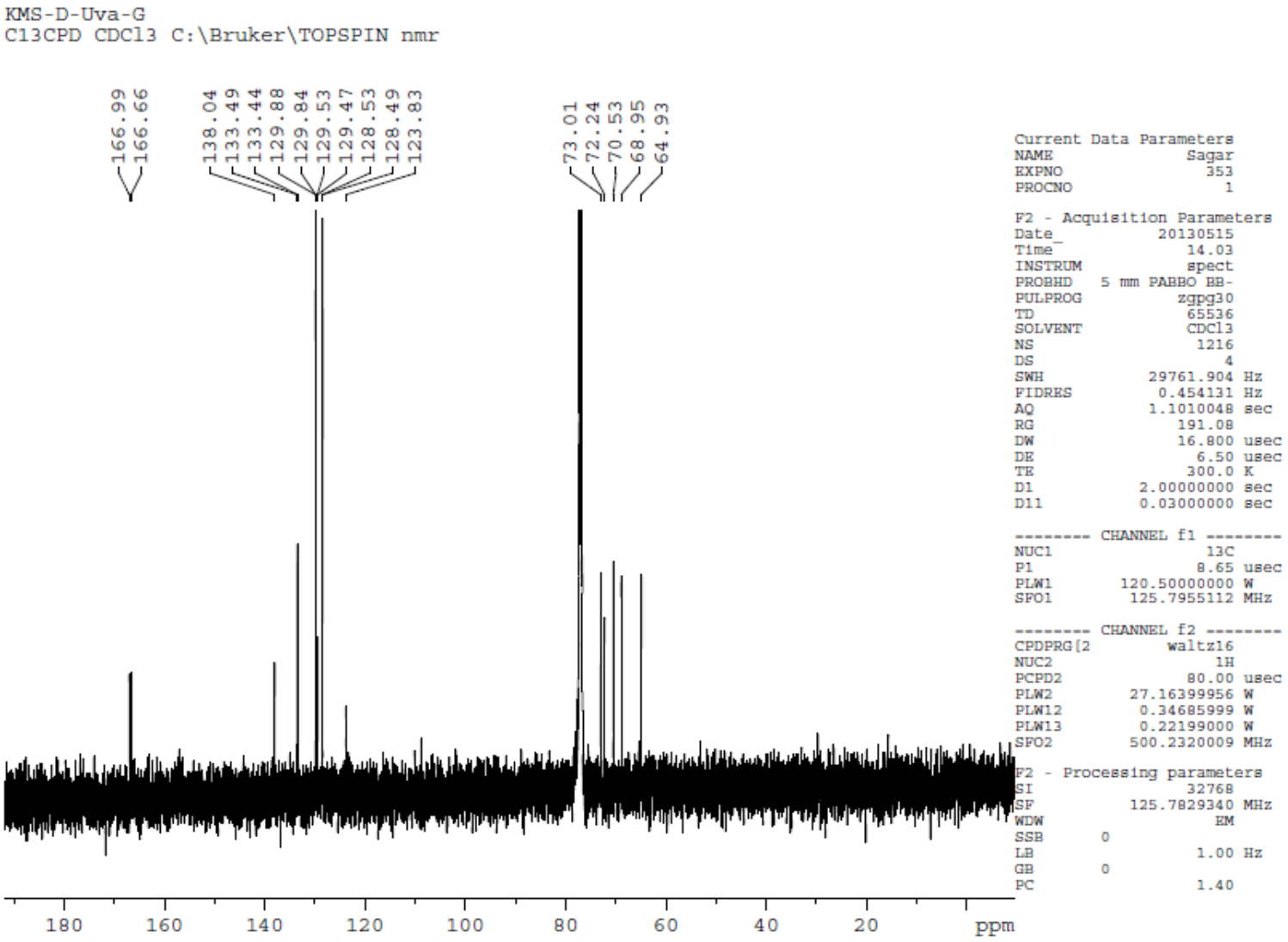

```
Current Data Parameters
NAME                  Sagar
EXPNO                   357
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  15.22
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          deptsp135
TD                   65536
SOLVENT              CDCl3
NS                     512
DS                       4
SWH              32894.738 Hz
FIDRES            0.501934 Hz
AQ                0.9961472 sec
RG                   191.08
DW                  15.200 usec
DE                   6.50 usec
TE                  300.1 K
CNST2           145.0000000
D1                2.00000000 sec
D2                0.00344828 sec
D12               0.00002000 sec

======== CHANNEL f1 ========
NUC1                    13C
P1                     8.65 usec
P13                 2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5                0.500
SPOFFS5     0 Hz
SPW5           13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2             waltz16
NUC2                    1H
P3                     9.04 usec
P4                    18.08 usec
PCPD2                 80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2           500.2315998 MHz

F2 - Processing parameters
SI                     32768
SF              125.7829340 MHz
WDW                       EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

DEPT of compound **26** (zoom)

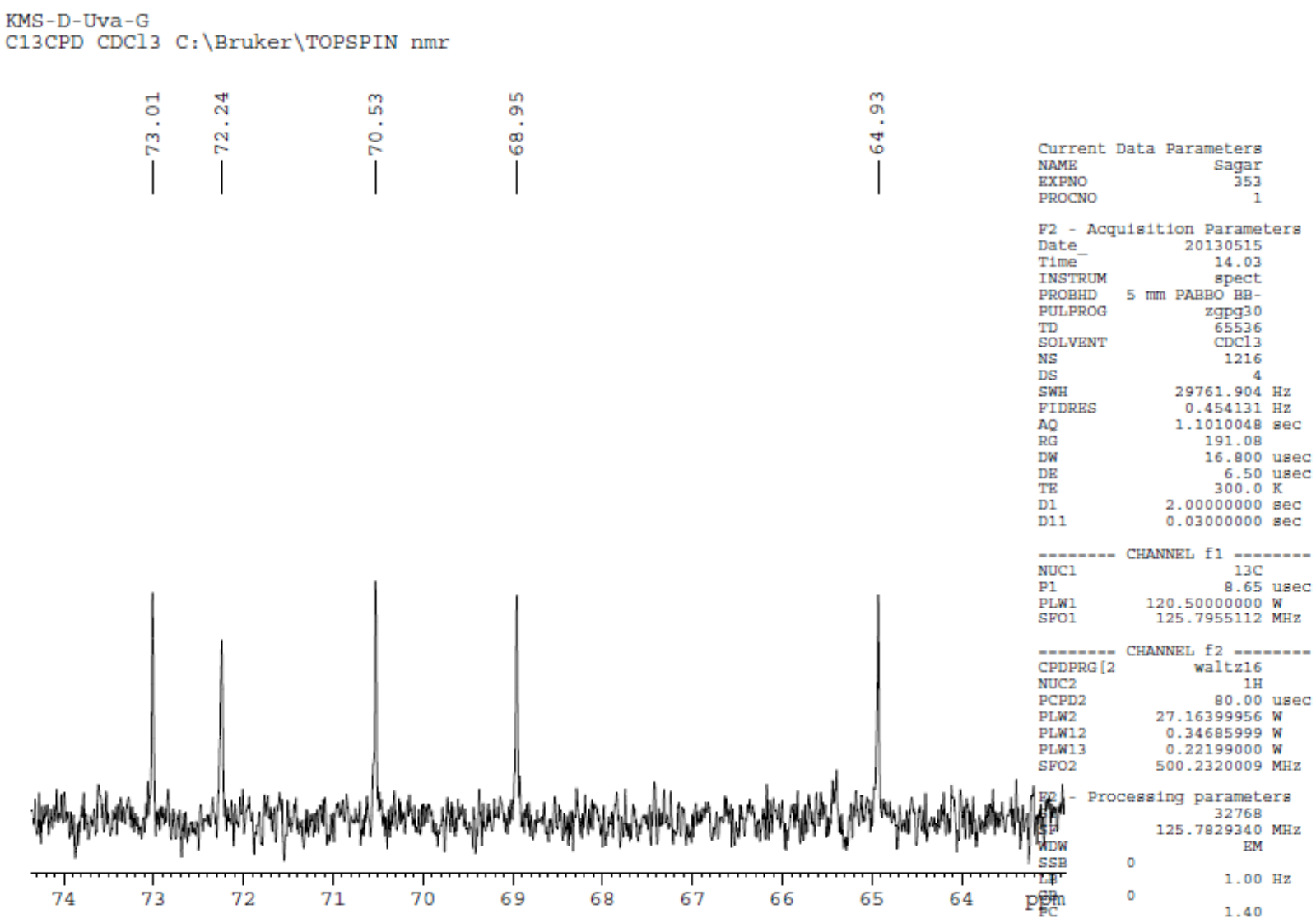



```
Current Data Parameters
NAME                  Sagar
EXPNO                   357
PROCNO                    1

F2 - Acquisition Parameters
Date_              20130515
Time                  15.22
INSTRUM               spect
PROBHD    5 mm PABBO BB-
PULPROG          dept#p135
TD                    65536
SOLVENT               CDCl3
NS                      512
DS                        4
SWH               32894.738 Hz
FIDRES             0.501934 Hz
AQ                 0.9961472 sec
RG                    191.08
DW                    15.200 usec
DE                     6.50 usec
TE                    300.1 K
CNST2            145.0000000
D1                 2.00000000 sec
D2                 0.00344828 sec
D12                0.00002000 sec

======== CHANNEL f1 ========
NUC1                     13C
P1                      8.65 usec
P13                  2000.00 usec
PLW0        0 W
PLW1          120.50000000 W
SFO1           125.7929956 MHz
SPNAM[5]       Crp60comp.4
SPOAL5               0.500
SPOFFS5     0 Hz
SPW5            13.77600002 W

======== CHANNEL f2 ========
CPDPRG[2            waltz16
NUC2                     1H
P3                      9.04 usec
P4                     18.08 usec
PCPD2                  80.00 usec
PLW2           27.16399956 W
PLW12           0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI                    32768
SF               125.7829340 MHz
WDW                      EM
SSB         0
LB                     1.00 Hz
GB          0
PC                     1.40
```

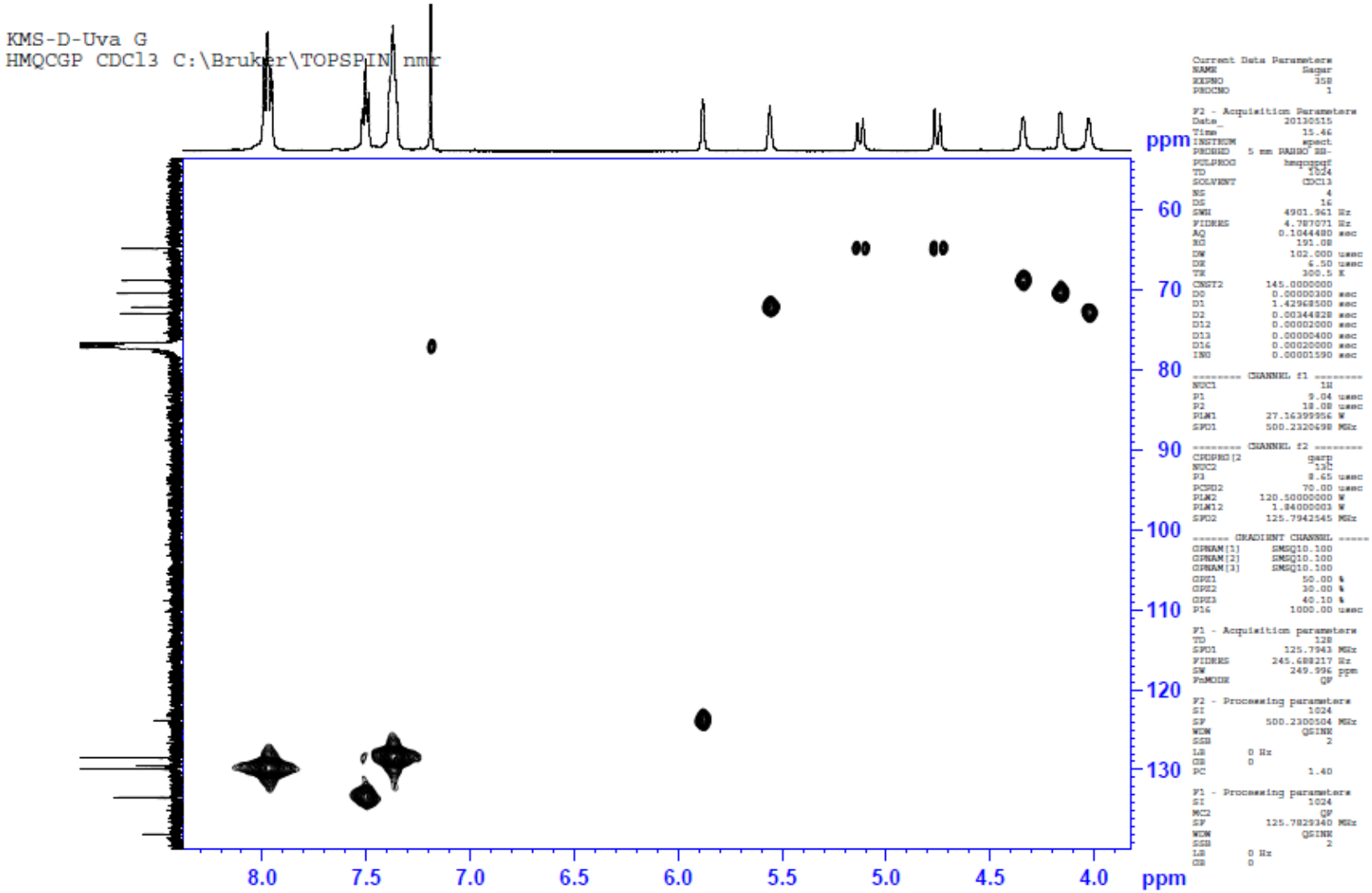
^{14}C NMR of compound **26**



^{14}C NMR of compound **26** (zoom)



HMQC of compound **26**



HMQC of compound **26** (zoom)