

## 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**

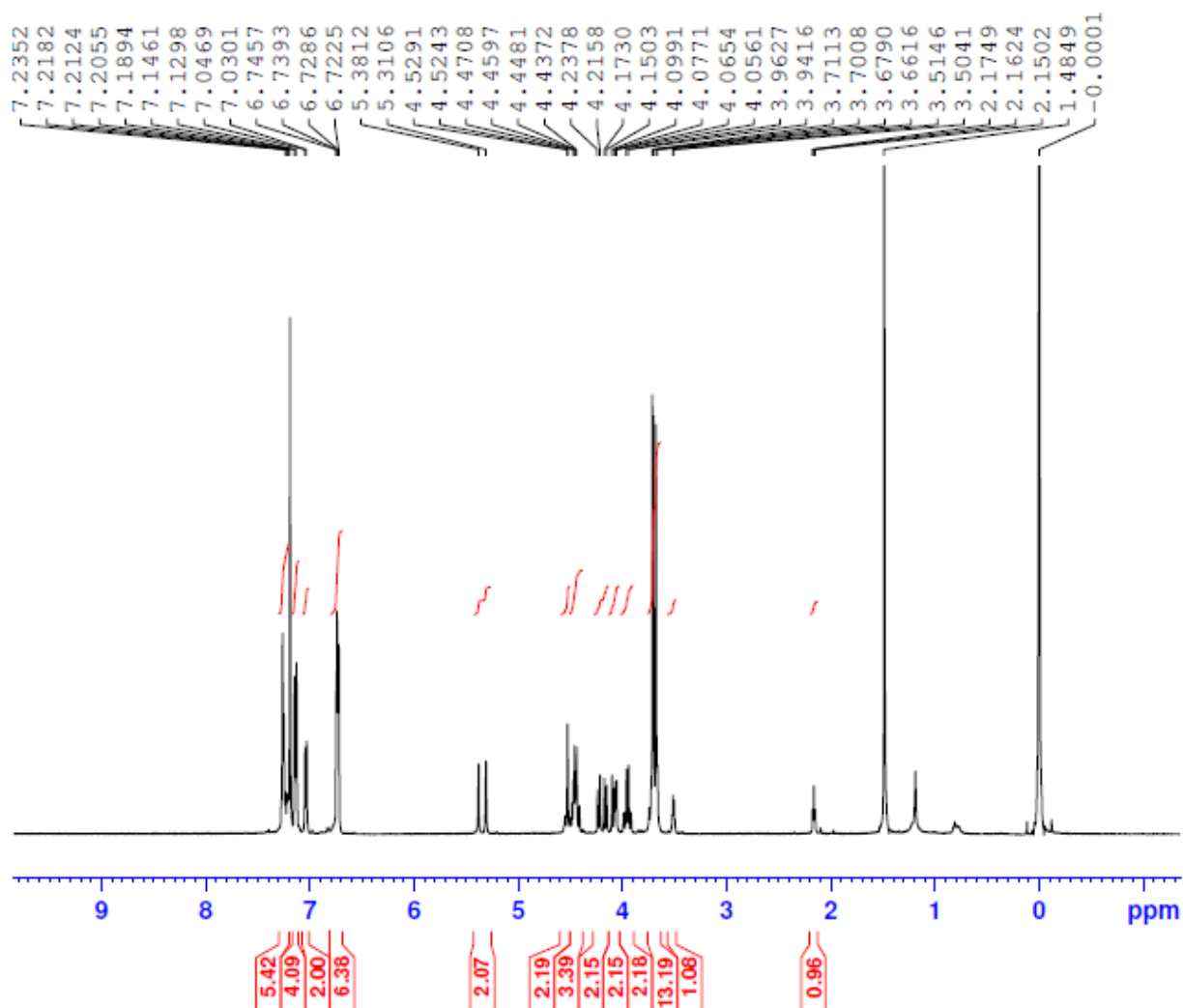
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*School of Chemistry,*  
*Indian Institute of Science Education and Research*  
*Thiruvananthapuram, Kerala, 695017.*

### INDEX

<sup>1</sup>H NMR, COSY, DEPT, <sup>13</sup>C NMR and HMQC of all the compounds **4-26**-----Page No 2-215

<sup>1</sup>H NMR of compound 4

KMS-U-I-18  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



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 EXPNO 88  
 PROCNO 1

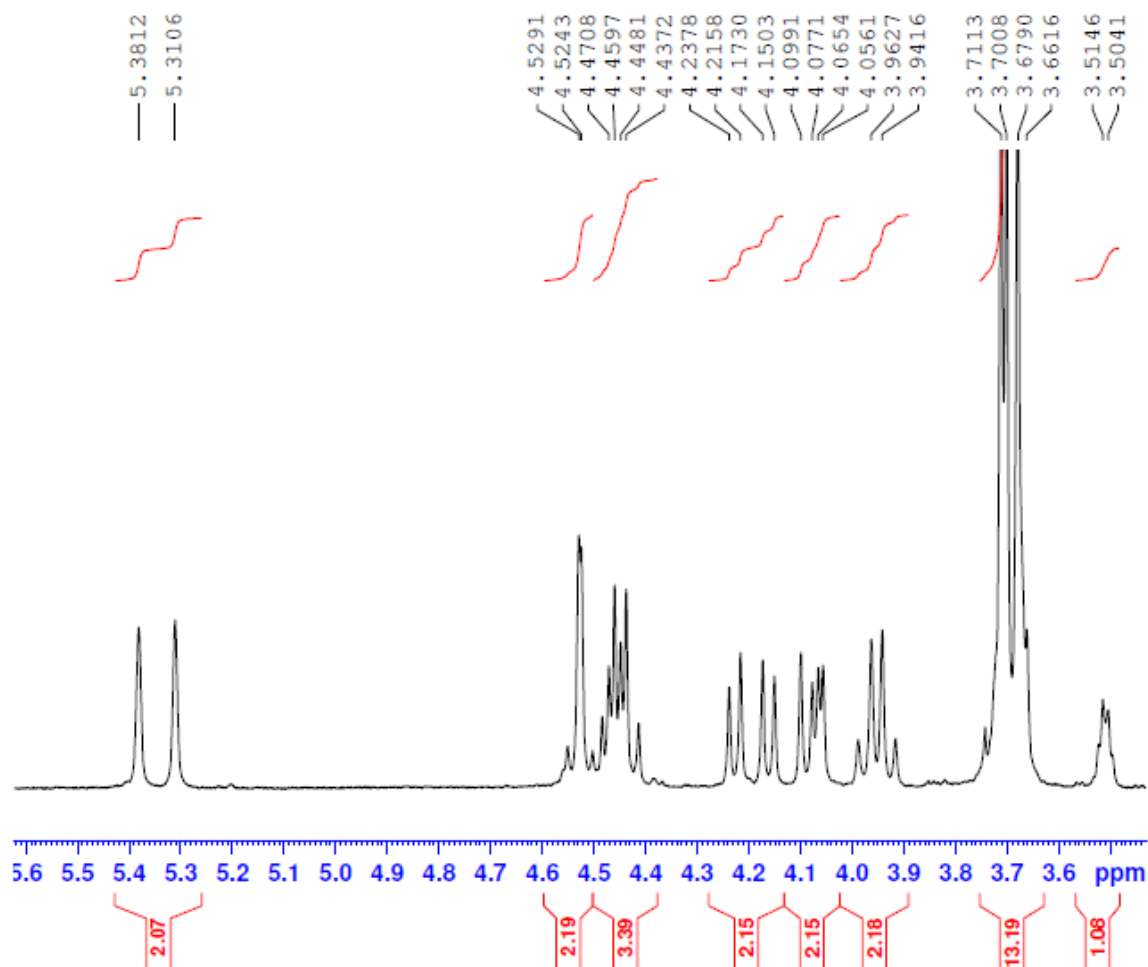
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 PULPROG zg30  
 ID 65536  
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 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 300.5 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
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 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

F2 - Processing parameters  
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 SF 500.2300514 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

<sup>1</sup>H NMR of compound **4** (zoom)

KMS-U-I-18  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
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 EXPNO 88  
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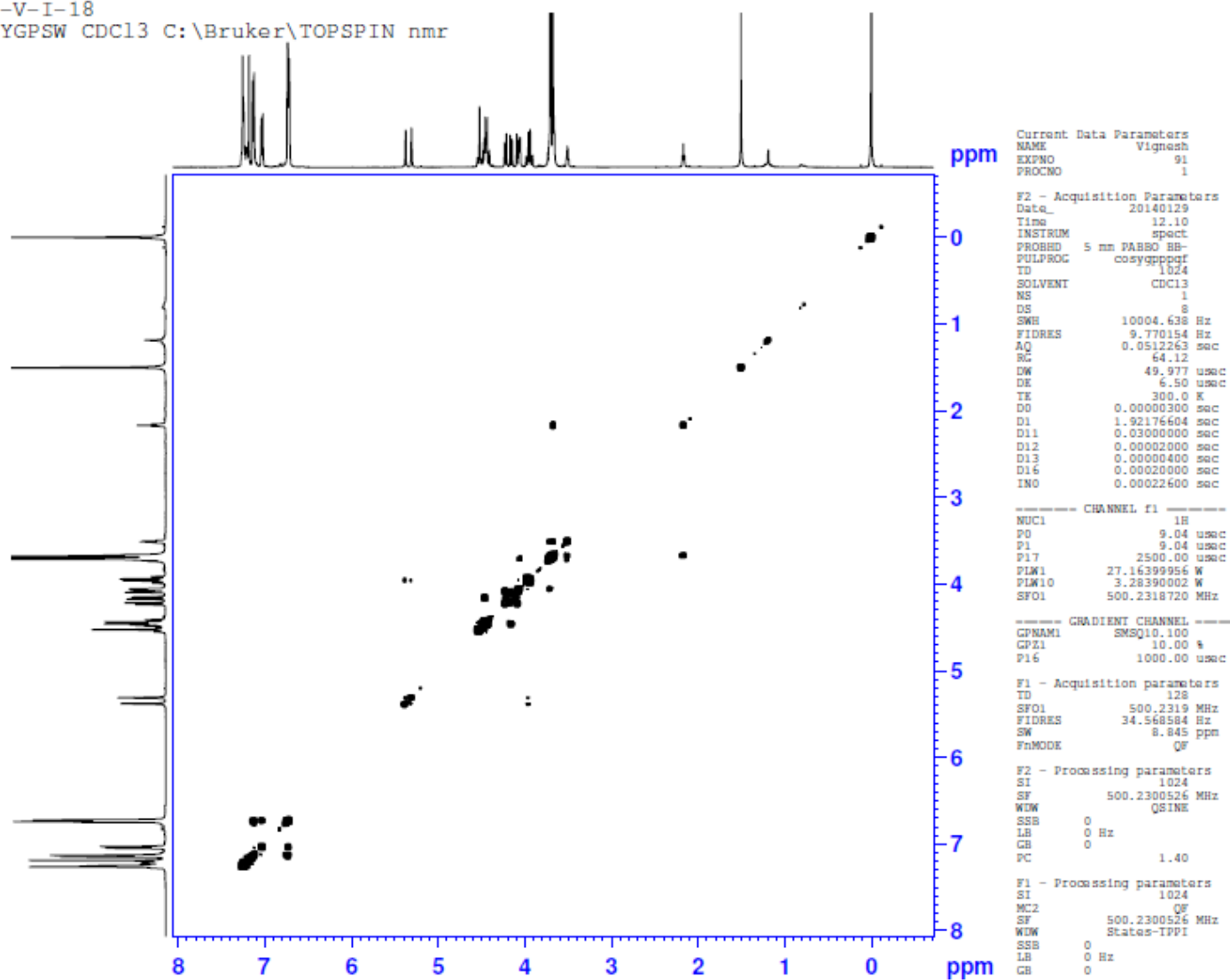
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 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 300.5 K  
 D1 1.00000000 sec

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

F2 - Processing parameters  
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 SF 500.2300514 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

## COSY of compound 4

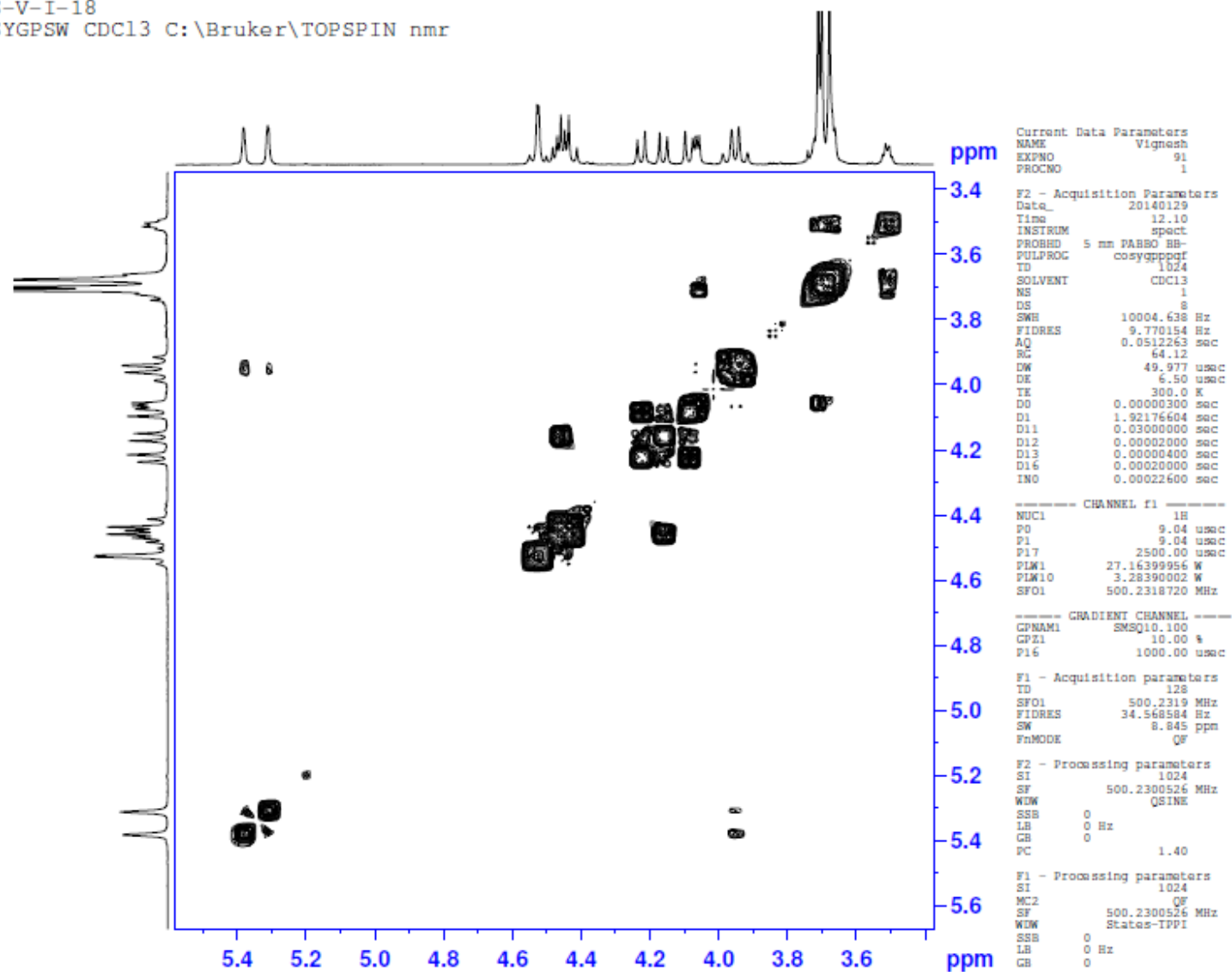
KMS-V-I-18  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr





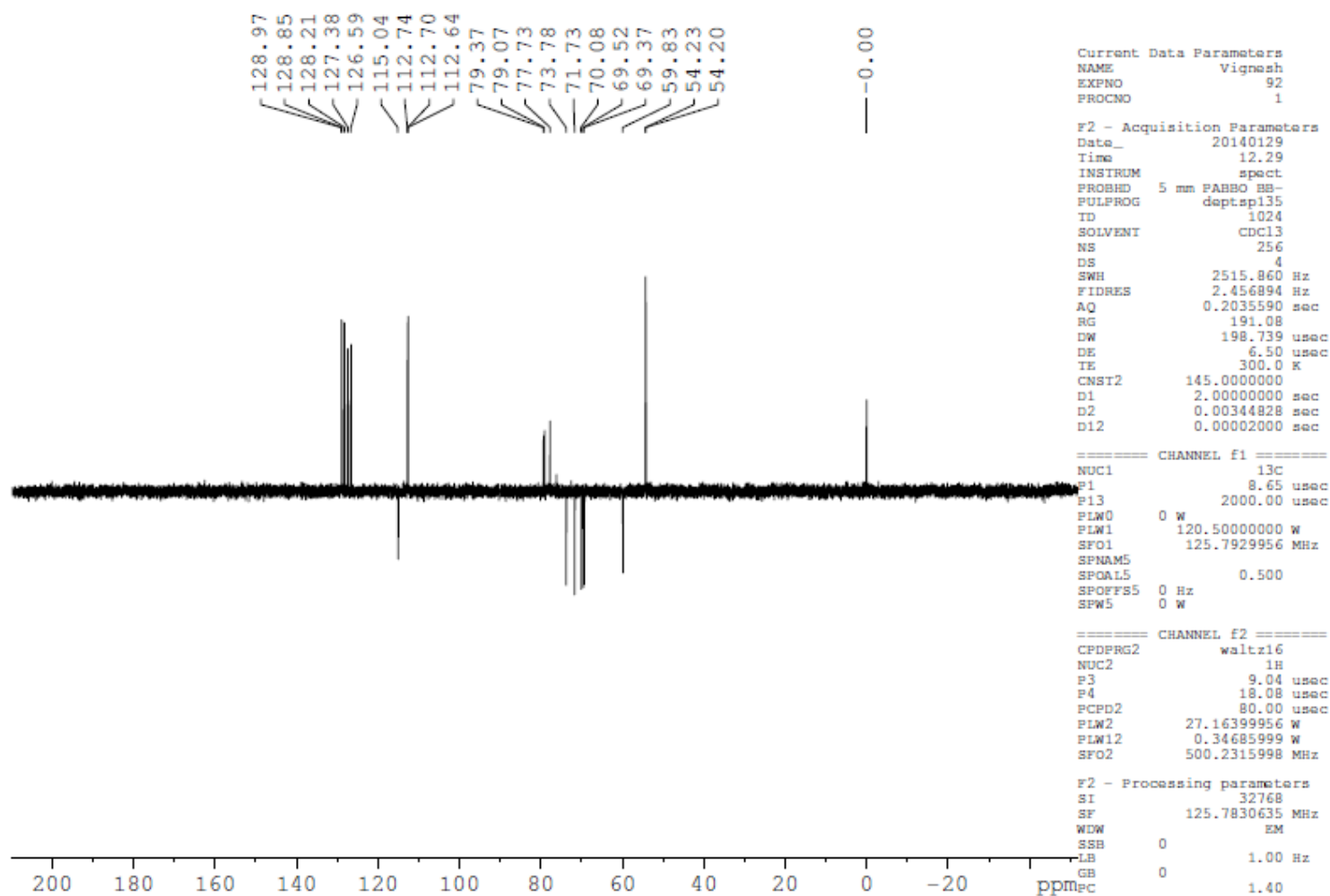
COSY of compound **4** (zoom)

KMS-V-I-18  
 COSYGPSW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



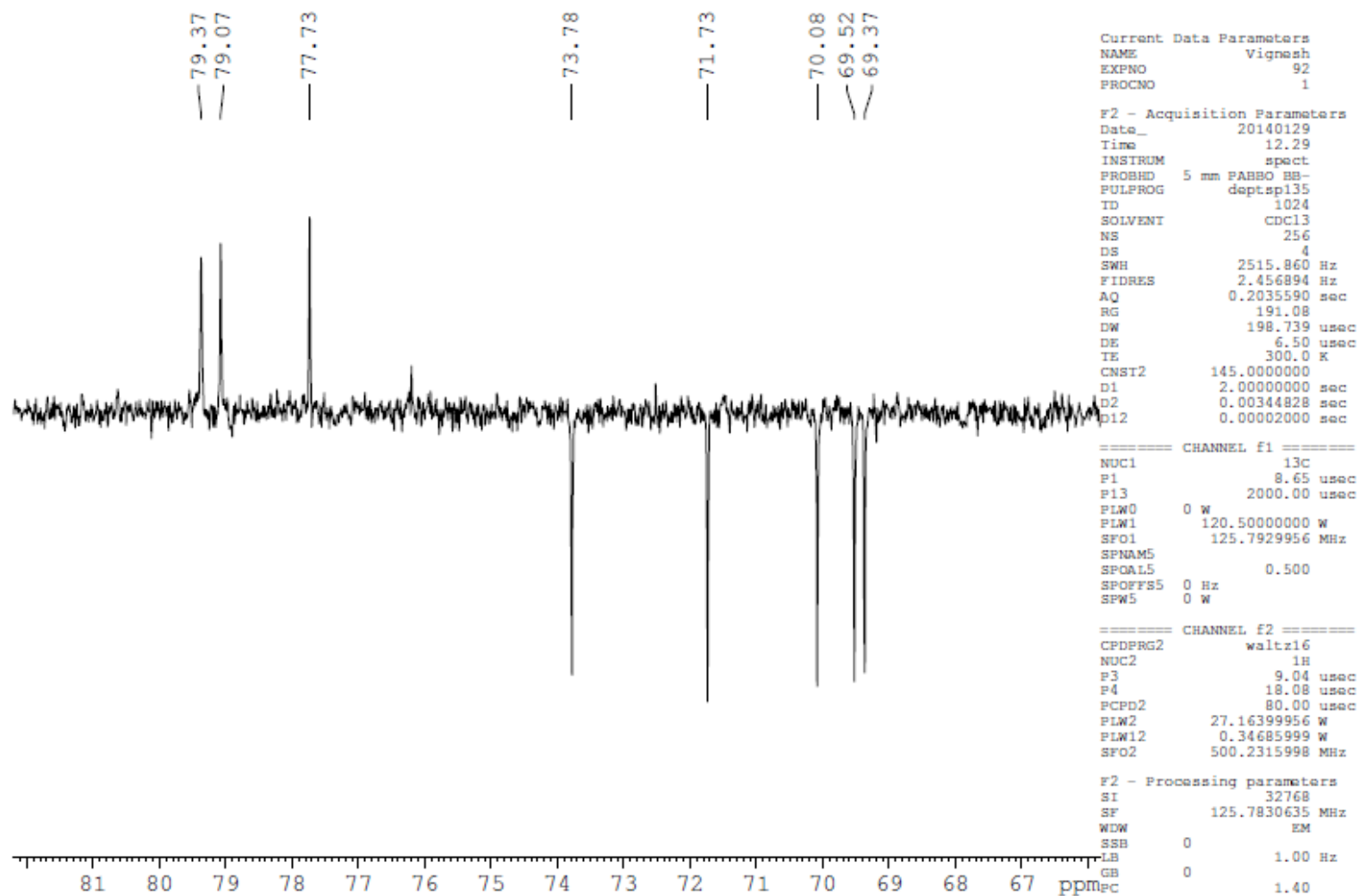
DEPT-135 of compound **4**

KMS-V-I-18  
 C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



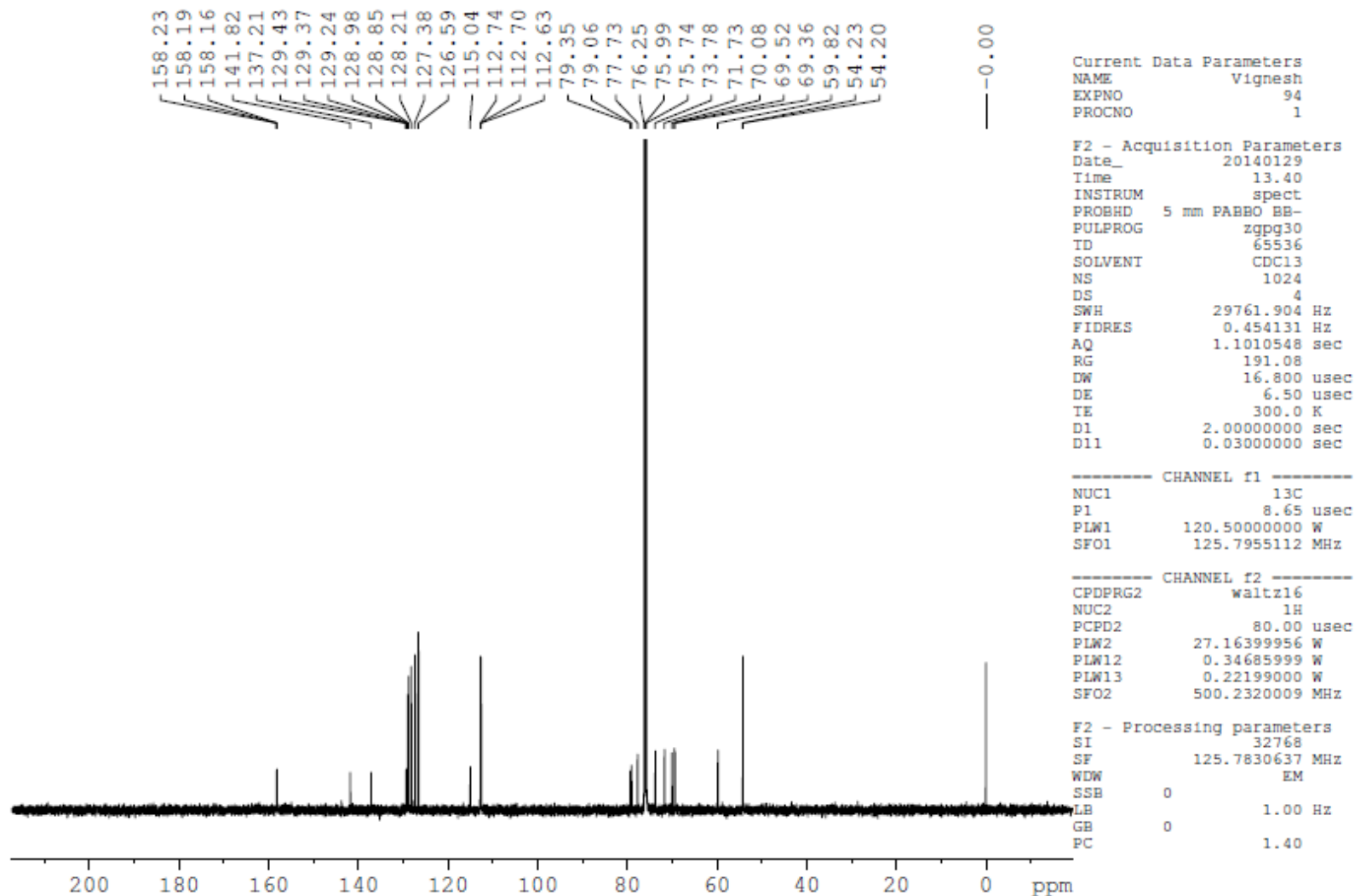
DEPT-135 of compound **4** (zoom)

KMS-V-I-18  
C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



<sup>13</sup>C NMR of compound **4**

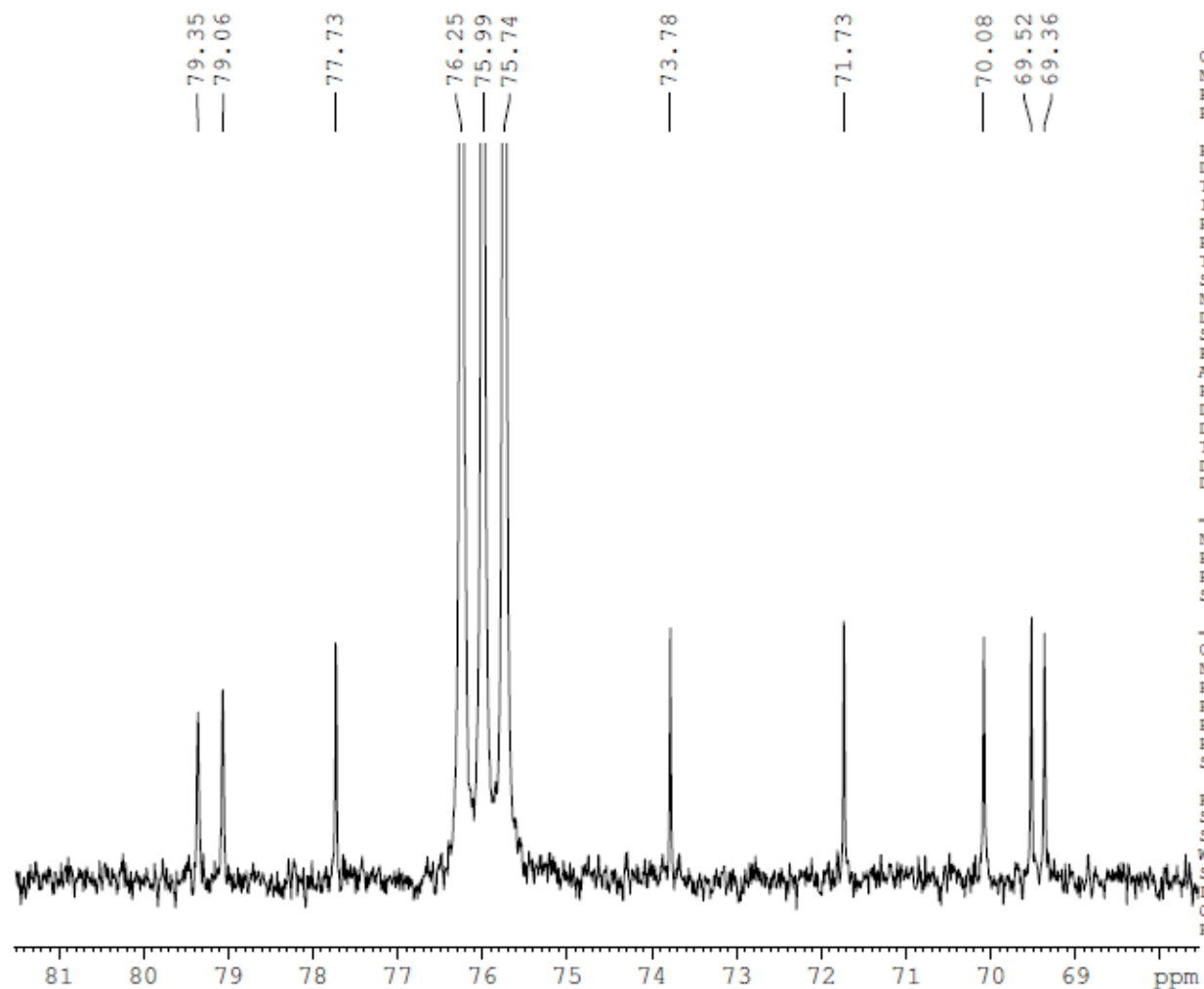
KMS-V-I-18  
 C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



<sup>13</sup>C NMR of compound **4** (zoom)

KMS-V-I-18

C13CPD CDC13 C:\Bruker\TOPSPIN nmr



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 PROCNO 1

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 PULPROG zgpg30  
 ID 65536  
 SOLVENT CDC13  
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 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 300.0 K  
 D1 2.00000000 sec  
 D11 0.03000000 sec

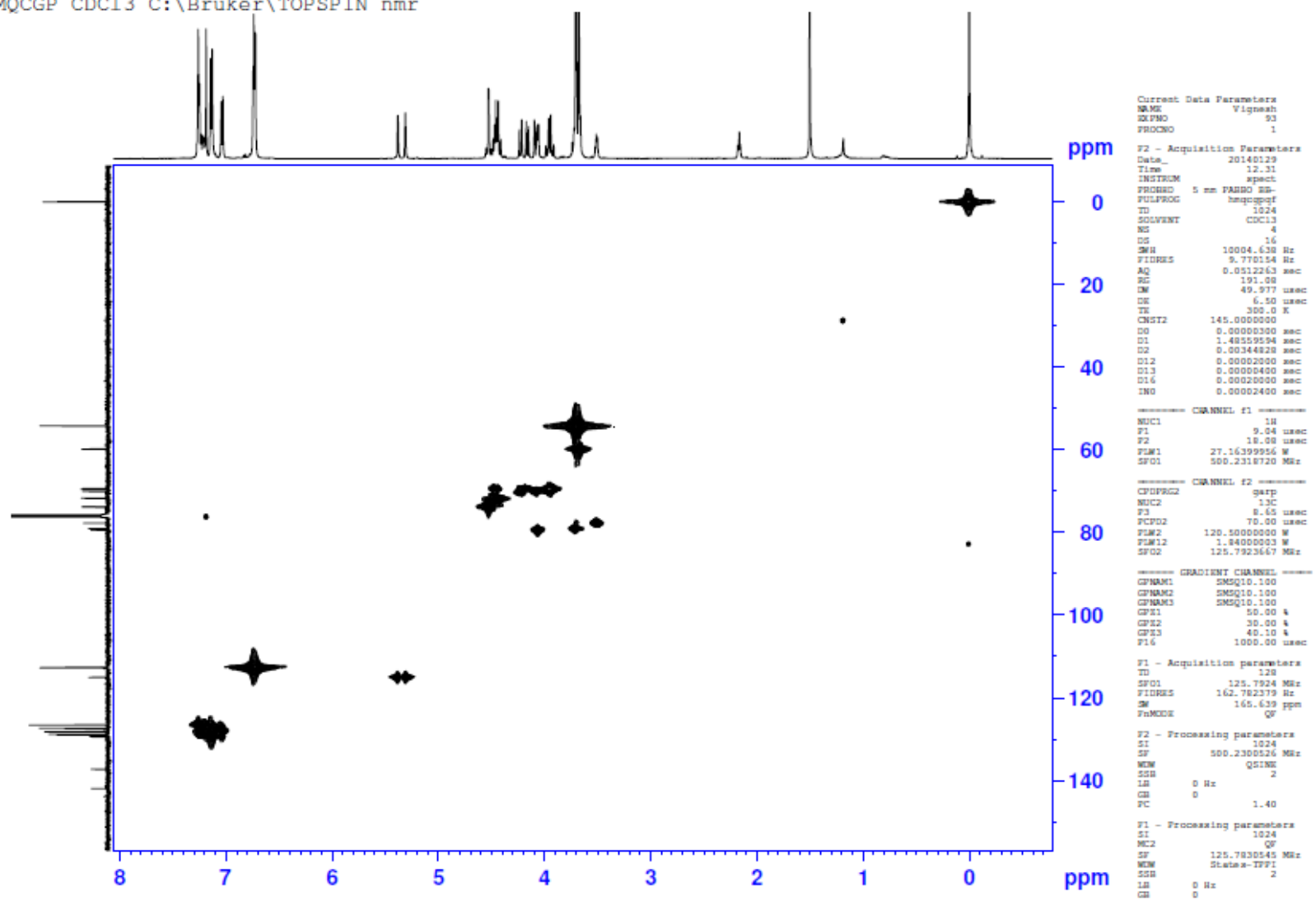
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 PLW1 120.50000000 W  
 SFO1 125.7955112 MHz

----- CHANNEL f2 -----  
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 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  
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 LB 1.00 Hz  
 GB 0  
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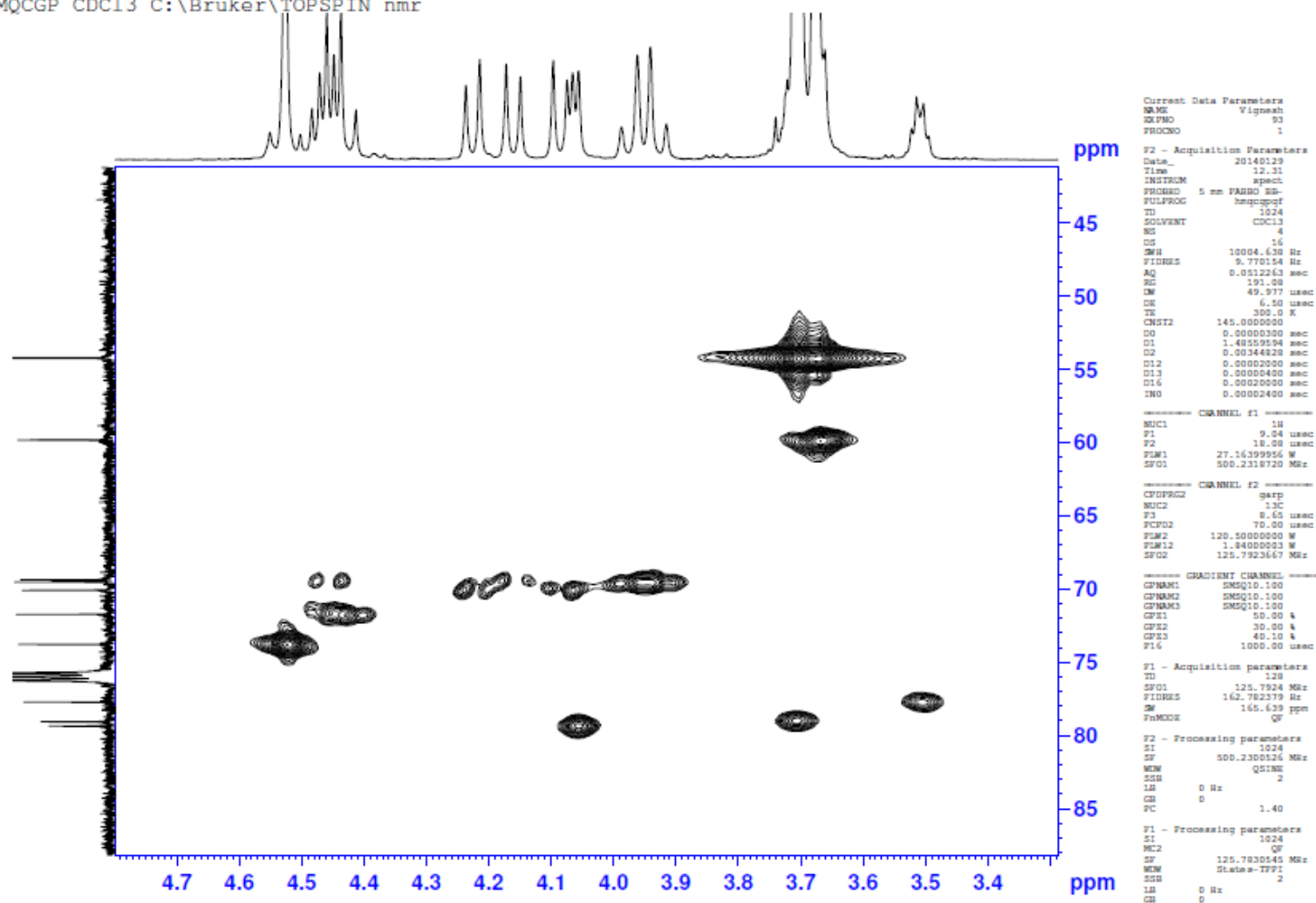
## HMQC of compound 4

KMS-V-I-18  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



# HMQC of compound 4 (zoom)

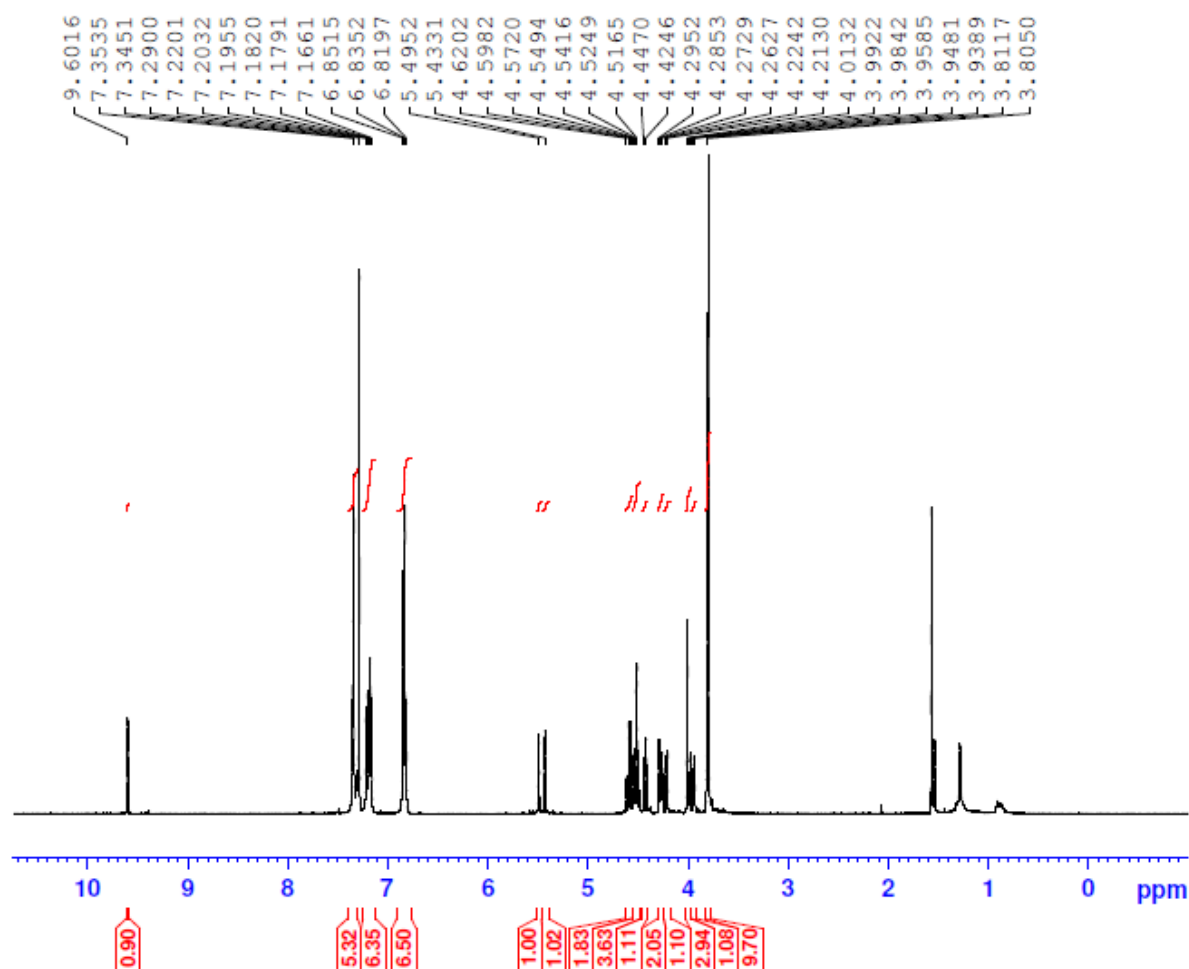
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 HMQC GP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr





<sup>1</sup>H NMR of compound 5

KMS-D-V-83  
 PROTON CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 503  
 PROCNO 1

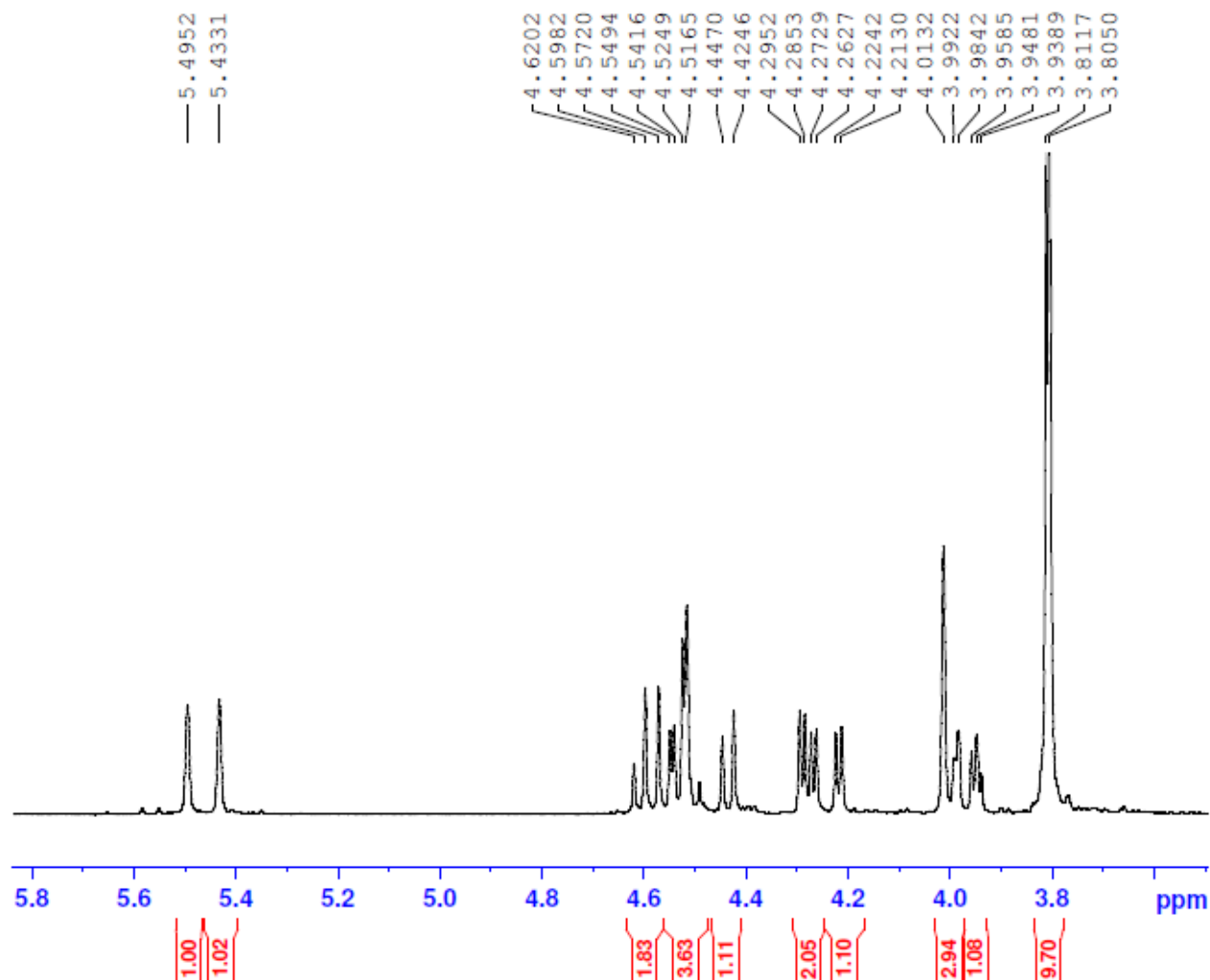
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 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
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 SOLVENT CDC13  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719425 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 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

<sup>1</sup>H NMR of compound **5** (zoom)

KMS-D-V-83  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr

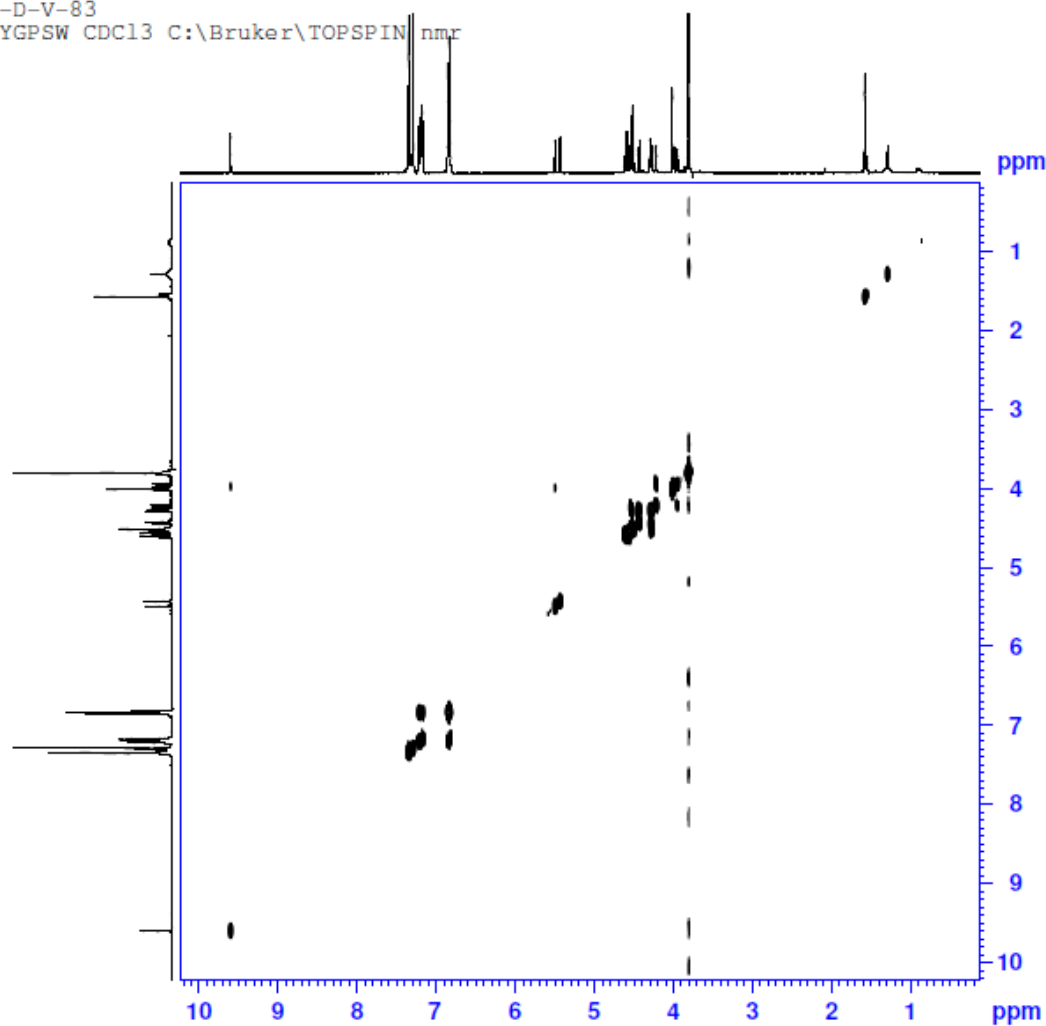
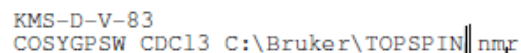


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 EXPNO 503  
 PROCNO 1

F2 - Acquisition Parameters  
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 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 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  
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 SF 500.2300000 MHz  
 WDW EM  
 SSB 0  
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```
Current Data Parameters
NAME          Sagar
EXPNO        518
PROCNO       1

F2 - Acquisition Parameters
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Time         15.16
INSTRUM      spect
PROBHD       5 mm PABBO BB-
PULPRG       coesypppggqf
TD           1024
SOLVENT      CDCl3
NS            1
DS            8
SWH           10004.651 Hz
FIDRES       9.770167 Hz
AQ            0.0511762 sec
RG            PC
PC            191.08
DC            49.977 usec
DE            6.50
TE            300.0 K
D0            0.00000300 sec
D1            1.95040802 sec
D11           0.03000000 sec
D12           0.00000200 sec
D13           0.00000400 sec
D16           0.00020000 sec
TMO          0.00019800 sec

===== CHANNEL f1 =====
NUC1          1H
P0            9.04 usec
PI            9.04 usec
P17           2500.00 usec
P1M1         27.16399956 W
PLM1LO       3.28390002 W
SF01          500.2325899 MHz

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GPZ1         10.00 %
P16          1000.00 usec

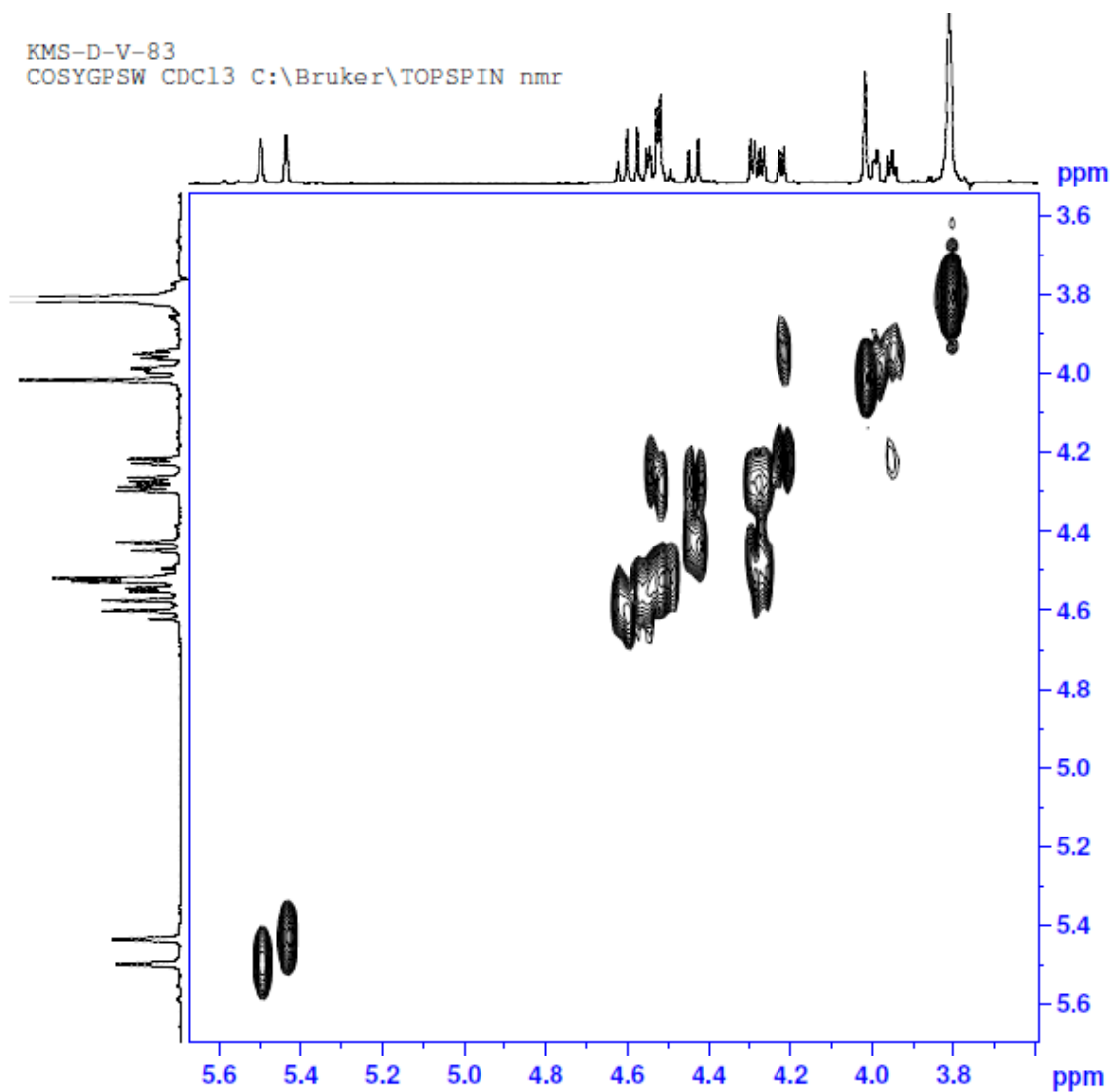
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FMODE        QF

F2 - Processing parameters
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SF           500.2300000 MHz
SSB          0 QSKIN
LB           0 Hz
GB           0
PC            1.40

F1 - Processing parameters
SI            1024
MC2          OF
SF           500.2300000 MHz
SSB          0 QSKIN
LB           0 Hz
GB           0
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COSY of compound **5** (zoom)

KMS-D-V-83  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME      Sagar
EXPNO     518
PROCNO    1

F2 - Acquisition Parameters
Date_     20140103
Time      15.16
INSTRUM   spect
PROBHD    5 mm VABBO BB-
PULPROG   cosygpgpgf
TD        1024
SOLVENT   CDC13
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        0.00020000 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

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CPE1       10.00 %
P16        1000.00 usec

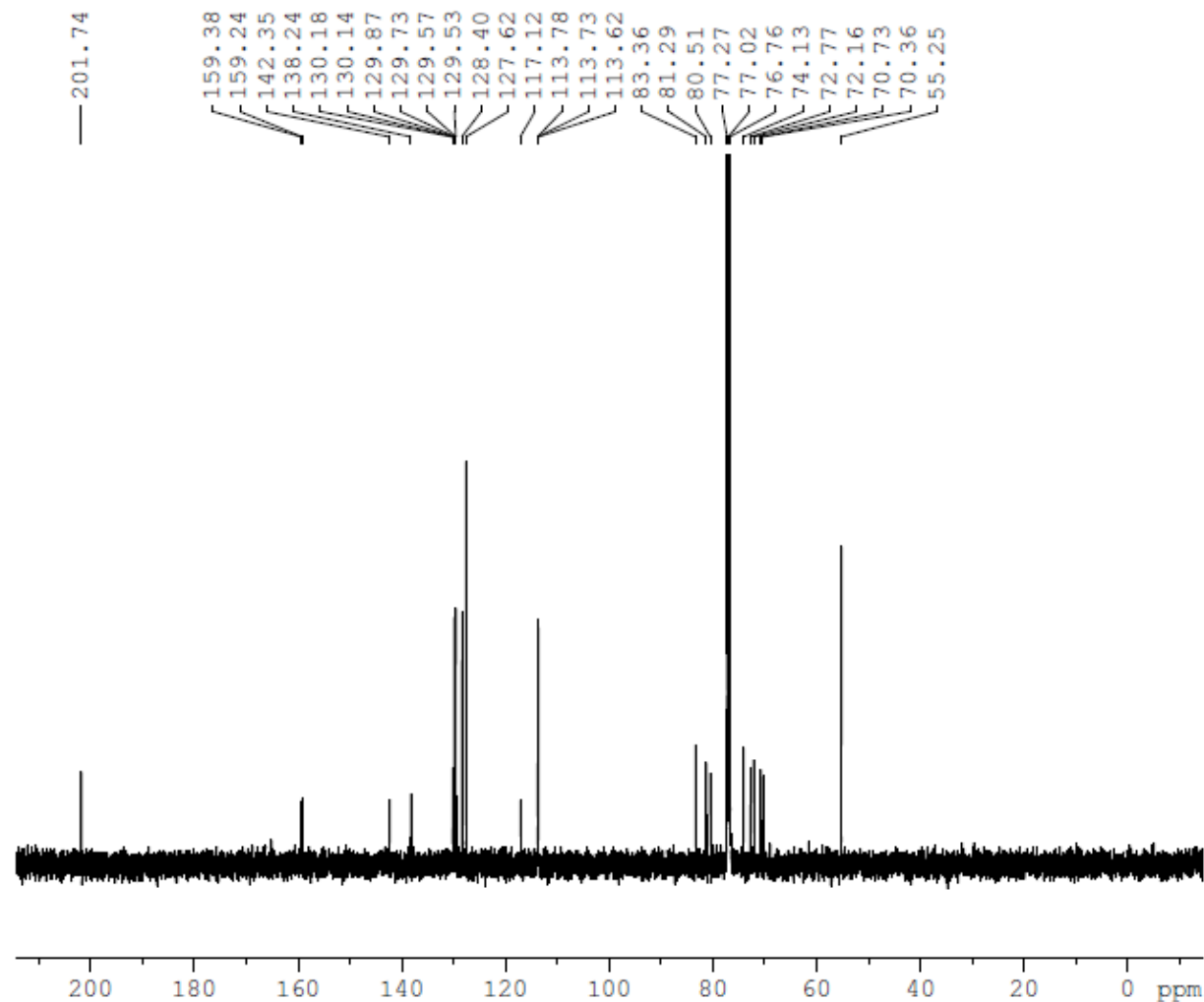
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SFO1       500.2326 MHz
FIDRES     39.457069 Hz
SW         10.096 ppm
PRMODE     QF

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
  
```

$^{13}\text{C}$  NMR of compound **5**

KMS-D-V-83  
 C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 515  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140103  
 Time 13.30  
 INSTRUM spect  
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 PULPROG zgpg30  
 ID 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

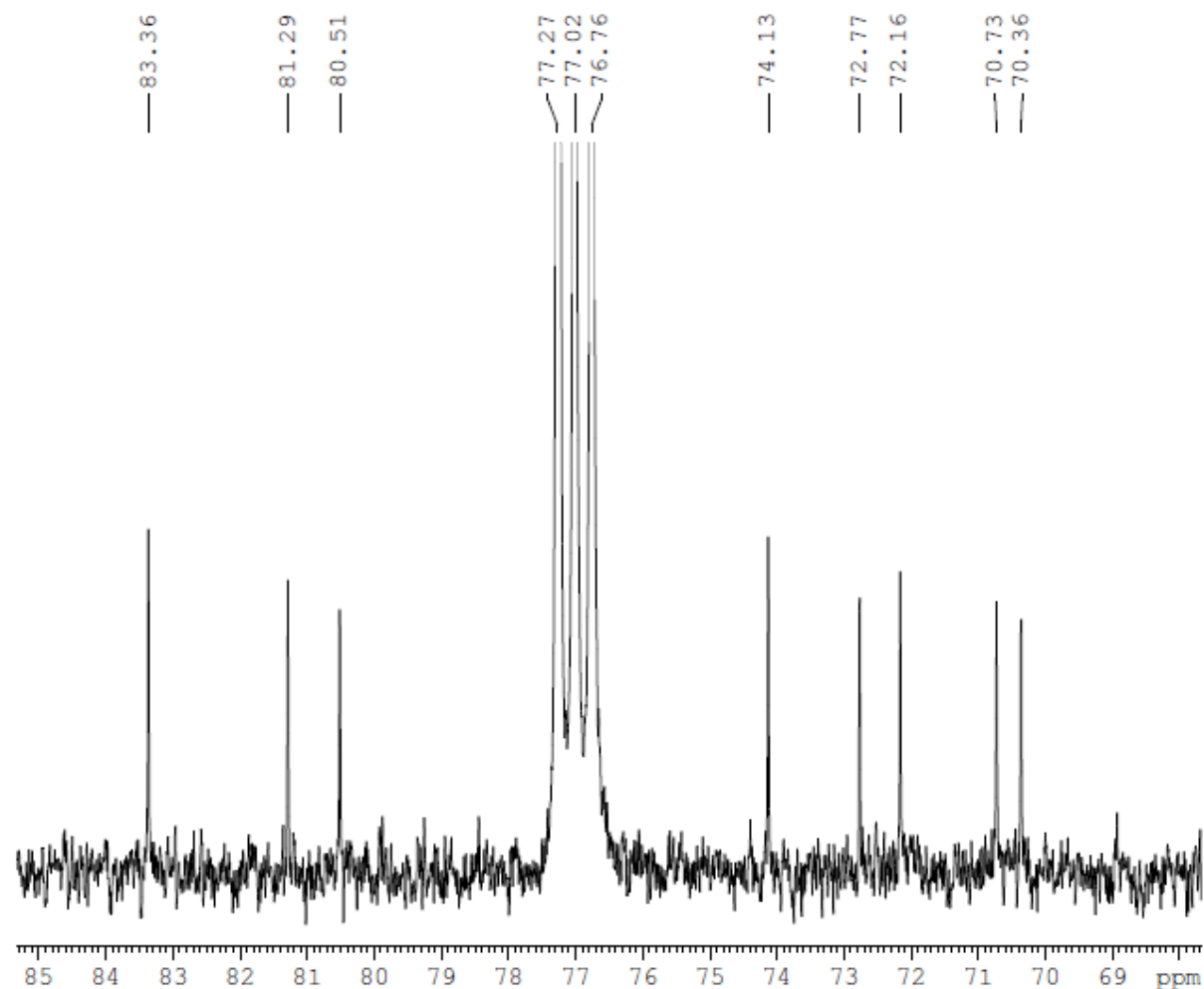
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 SFO1 125.7955112 MHz

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 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

<sup>13</sup>C NMR of compound **5** (zoom)

KMS-D-V-83  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sagar  
EXPNO 515  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140103  
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INSRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
ID 65536  
SOLVENT CDC13  
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

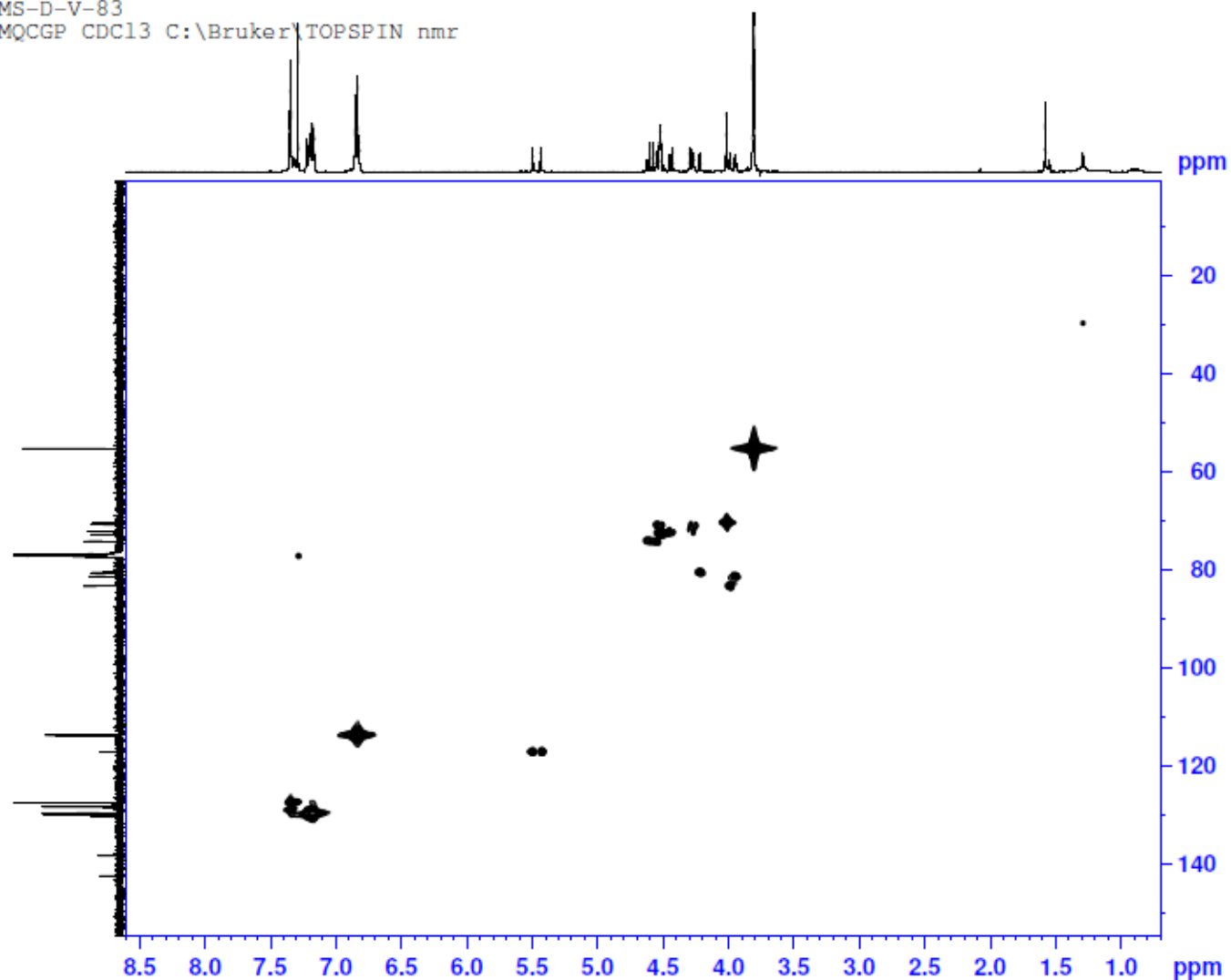
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P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- CHANNEL f2 -----  
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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  
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SF 125.7829340 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

## HMQC of compound 5

KMS-D-V-83  
 HMQC CDP13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 517  
 PROCNO 1

F2 - Acquisition Parameters  
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 PULPROG hsqcpgf  
 TD 1024  
 SOLVENT CDCl3  
 NS 4  
 DS 16  
 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  
 CRYST2 145.000000  
 DO 0.00000000 sec  
 D1 1.49993205 sec  
 D2 0.00344828 sec  
 D12 0.00002000 sec  
 D13 0.00002400 sec  
 D16 0.00020000 sec  
 INO 0.0002400 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 9.04 usec  
 P2 18.08 usec  
 PGM1 27.1639956 W  
 SFO1 500.2325899 MHz

===== CHANNEL f2 =====  
 CPOPRG2 garr  
 NUC2 13C  
 P3 8.65 usec  
 PGM2 70.00 usec  
 PGM12 120.5000000 W  
 PGM12 1.84000003 W  
 SFO2 125.7823667 MHz

===== GRADIENT CHANNEL =====  
 GYAM[1] SMOQ10.100  
 GYAM[2] SMOQ10.100  
 GYAM[3] SMOQ10.100  
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 GPE2 50.00 %  
 GPE3 40.10 %  
 P16 1000.00 usec

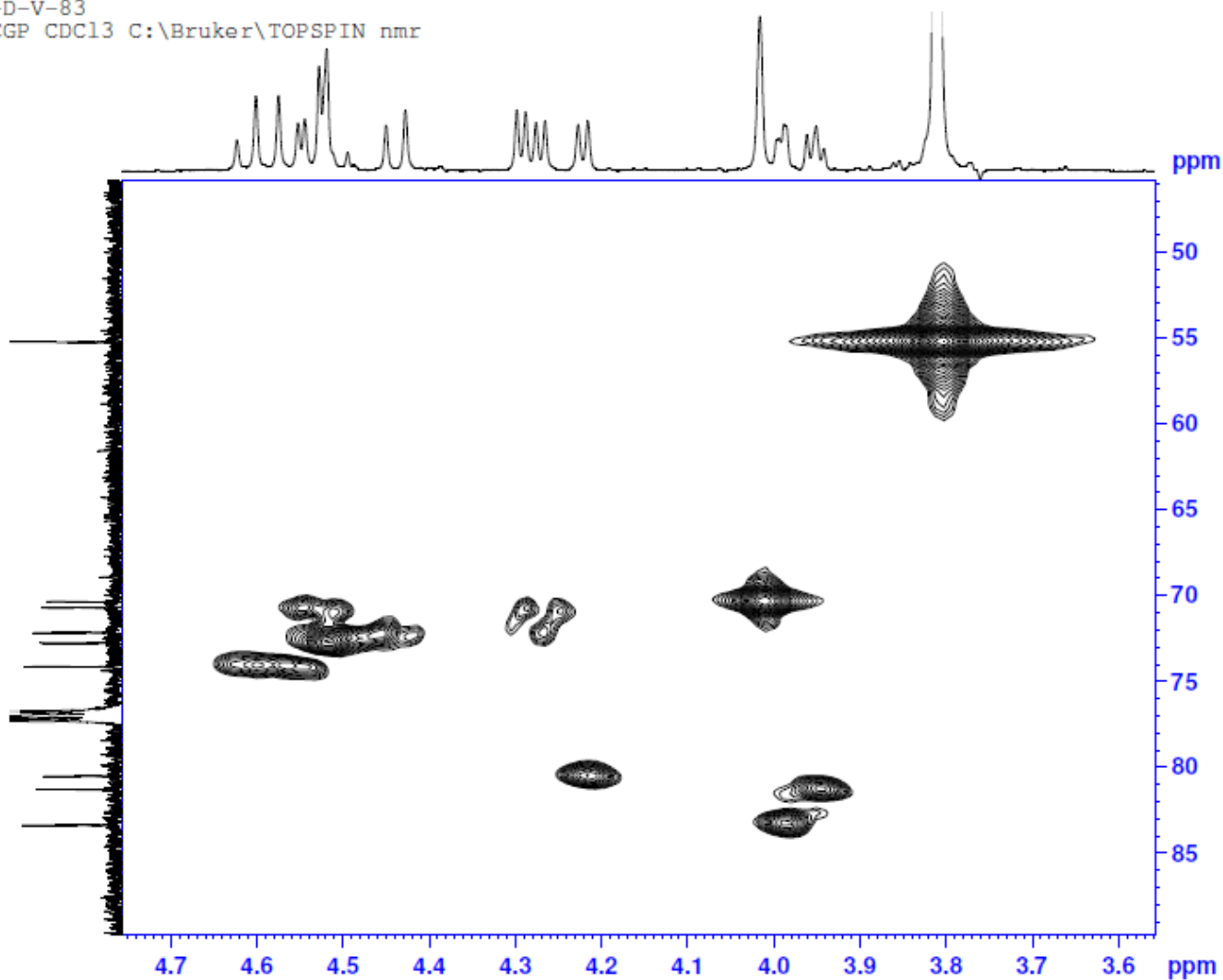
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 SW 165.639 ppm  
 FWHM 0F

F2 - Processing parameters  
 SI 1024  
 SF 500.2300000 MHz  
 NW 500.2300000 MHz  
 SSB 2  
 LB 0 Hz  
 GB 0  
 PC 1.40

F1 - Processing parameters  
 SI 1024  
 MC2 0F  
 SF 125.7829340 MHz  
 NW 125.7829340 MHz  
 SSB 2  
 LB 0 Hz  
 GB 0

HMQC of compound **5** (zoom)

KMS-D-V-83  
HMQC GP CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sagar  
EXPNO 517  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140103  
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PROBHD 5 mm PABBO BB-  
PULPROG hsqcpgpgf  
TD 1024  
SOLVENT CDC13  
NS 4  
DS 16  
SWH 10004.651 Hz  
FIDRES 9.770167 Hz  
AQ 0.0511762 sec  
RG 191.08  
DW 49.977 usec  
DE 6.50 usec  
TE 300.2 K  
CNS2 145.000000  
D0 0.0000300 sec  
D1 1.49993205 sec  
D2 0.00344828 sec  
D12 0.00002000 sec  
D13 0.00004000 sec  
D16 0.00020000 sec  
RG 0.0002400 sec

===== CHANNEL f1 =====  
NUC1 1H  
P1 9.04 usec  
P2 18.08 usec  
P1W1 27.1639956 W  
SFO1 500.2325899 MHz

===== CHANNEL f2 =====  
CPDPRG2 garp  
NUC2 13C  
P3 8.65 usec  
PCPD2 70.00 usec  
P1W2 120.5000000 W  
P1W12 1.84000003 W  
SFO2 125.7923667 MHz

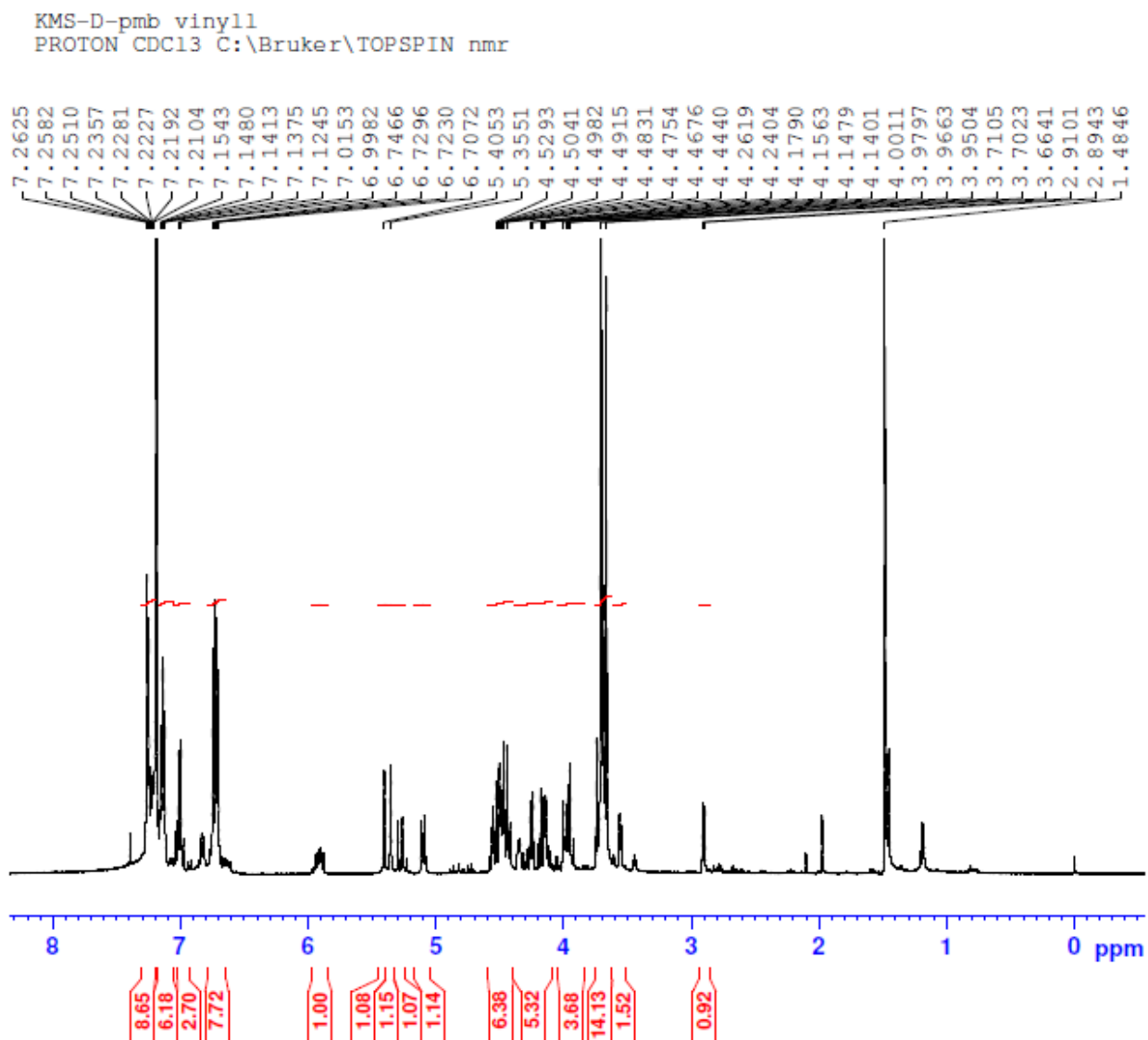
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GPMAM[2] SMCQ10.100  
GPMAM[3] SMCQ10.100  
GPE1 50.00 %  
GPE2 30.00 %  
GPE3 40.10 %  
P16 1000.00 usec

F1 - Acquisition parameters  
TD 128  
SFO1 125.7924 MHz  
FIDRES 162.782379 Hz  
SW 165.639 ppm  
F2MODE QF

F2 - Processing parameters  
SI 1024  
SF 500.2300000 MHz  
WDW QSI  
SSB 2  
LB 0 Hz  
GB 0  
PC 1.40

F1 - Processing parameters  
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MC2 QF  
SF 125.7823340 MHz  
WDW QSI  
SSB 2  
LB 0 Hz  
GB 0



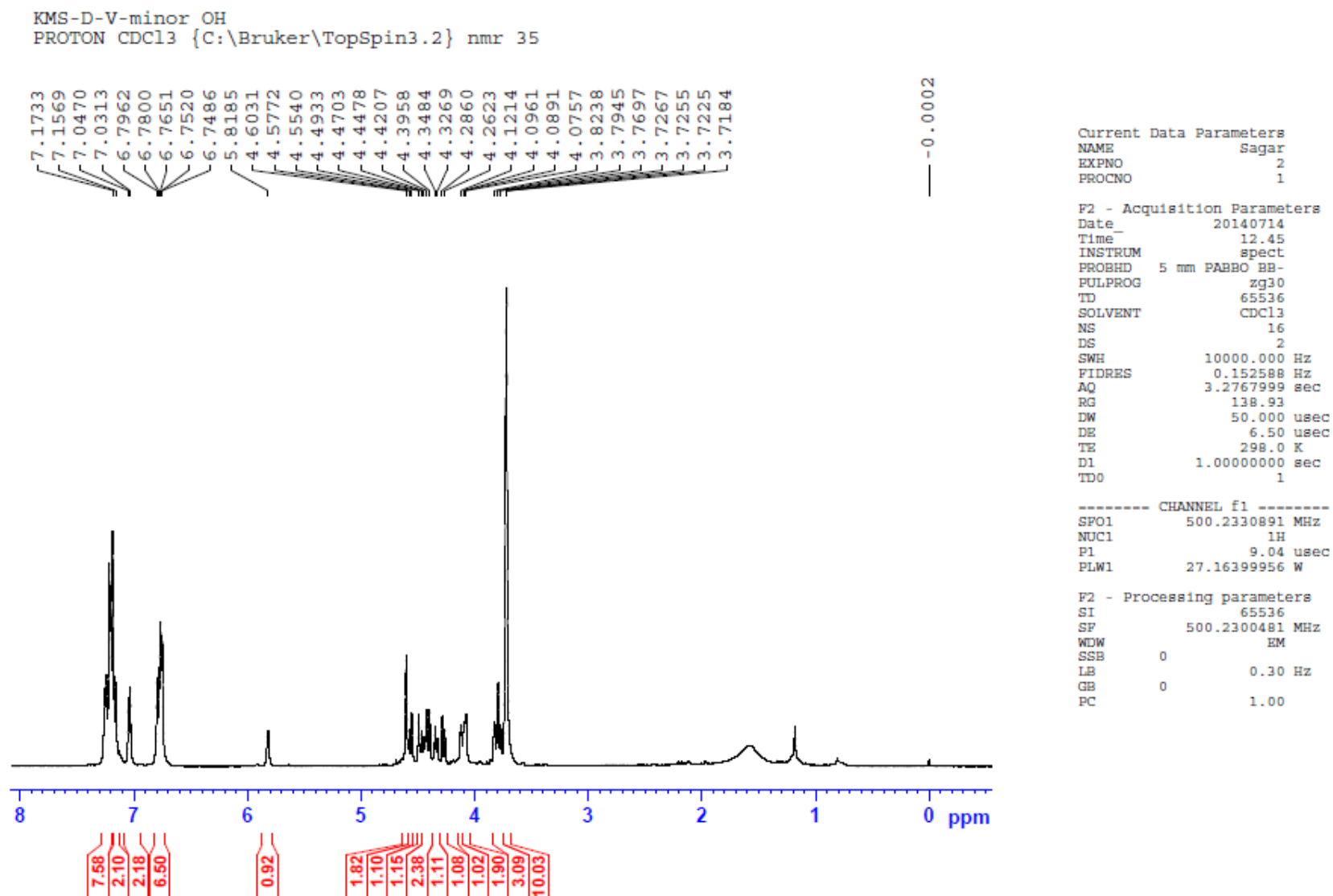
<sup>1</sup>H NMR of compound 6

Current Data Parameters  
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EXPNO 532  
PROCNO 1

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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

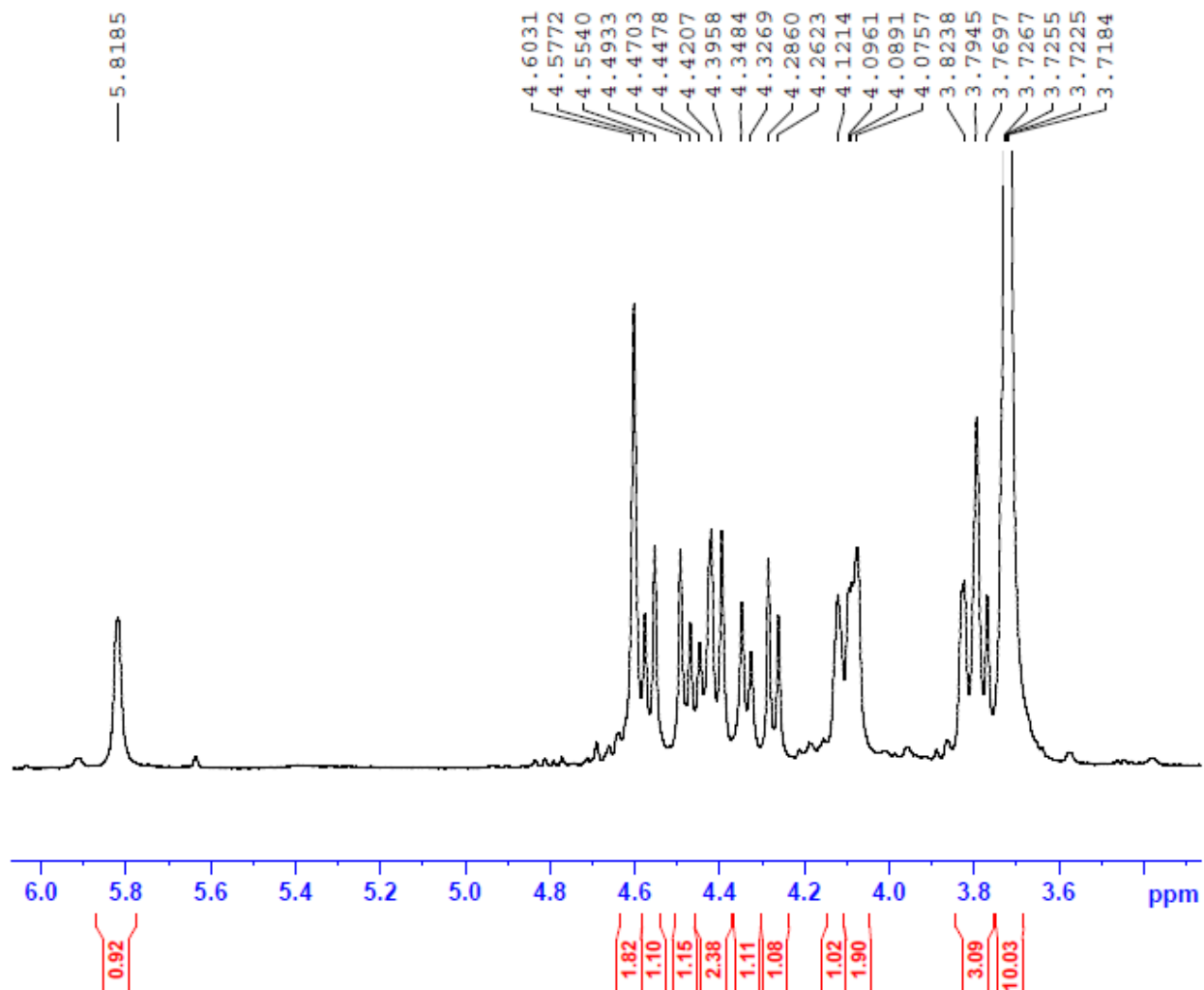
----- CHANNEL f1 -----  
NUC1 1H  
P1 9.04 usec  
PLW1 27.16399956 W  
SFO1 500.2330891 MHz

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

<sup>1</sup>H NMR of compound 7

<sup>1</sup>H NMR of compound **7** (zoom)

KMS-D-V-minor OH  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 35



Current Data Parameters  
 NAME Sagar  
 EXPNO 2  
 PROCNO 1

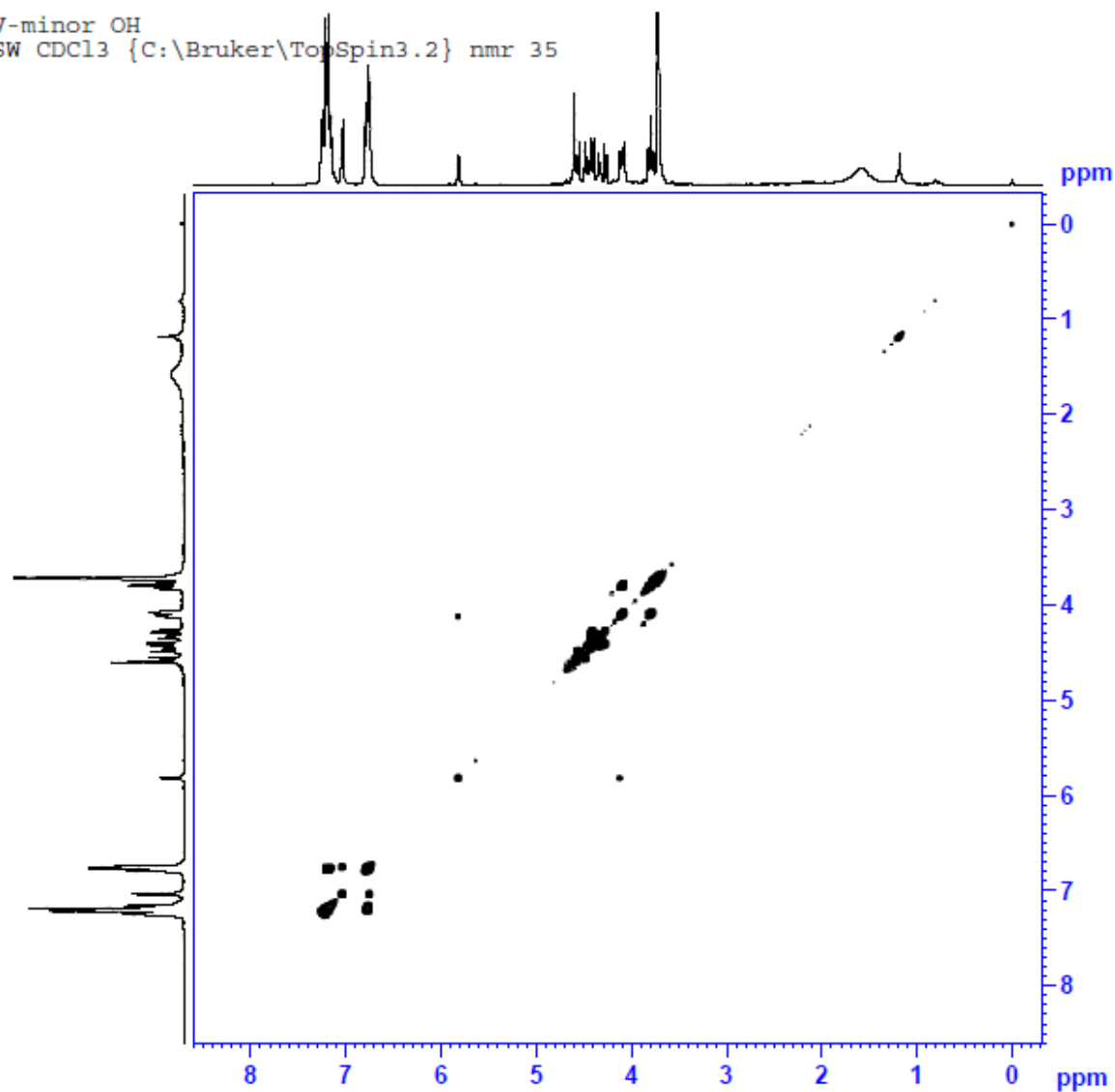
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 Date\_ 20140714  
 Time 12.45  
 INSTRUM spect  
 PROBHD 5 mm PARBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 138.93  
 DW 50.000 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 1.00000000 sec  
 TDO 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

KMS-D-V-minor OH  
 COSYGPSW CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 35



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Current Data Parameters
NAME      Sagar
EXPNO     3
PROCNO    1

F2 - Acquisition Parameters
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Time      12.47
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   cosygpppgf
TD         2048
SOLVENT   CDCl3
NS         1
DS         8
SWH        4464.286 Hz
FIDRES     2.179827 Hz
AQ         0.2293760 sec
RG         64.12
SW         112.000 usec
DE         6.50 usec
TE         298.0 K
DO         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
PLM1       27.16399956 W
PLM10      3.28390002 W

----- GRADIENT CHANNEL -----
GPNAM[1]  SMCQ10.100
GPZ1      10.00 %
P16       1000.00 usec

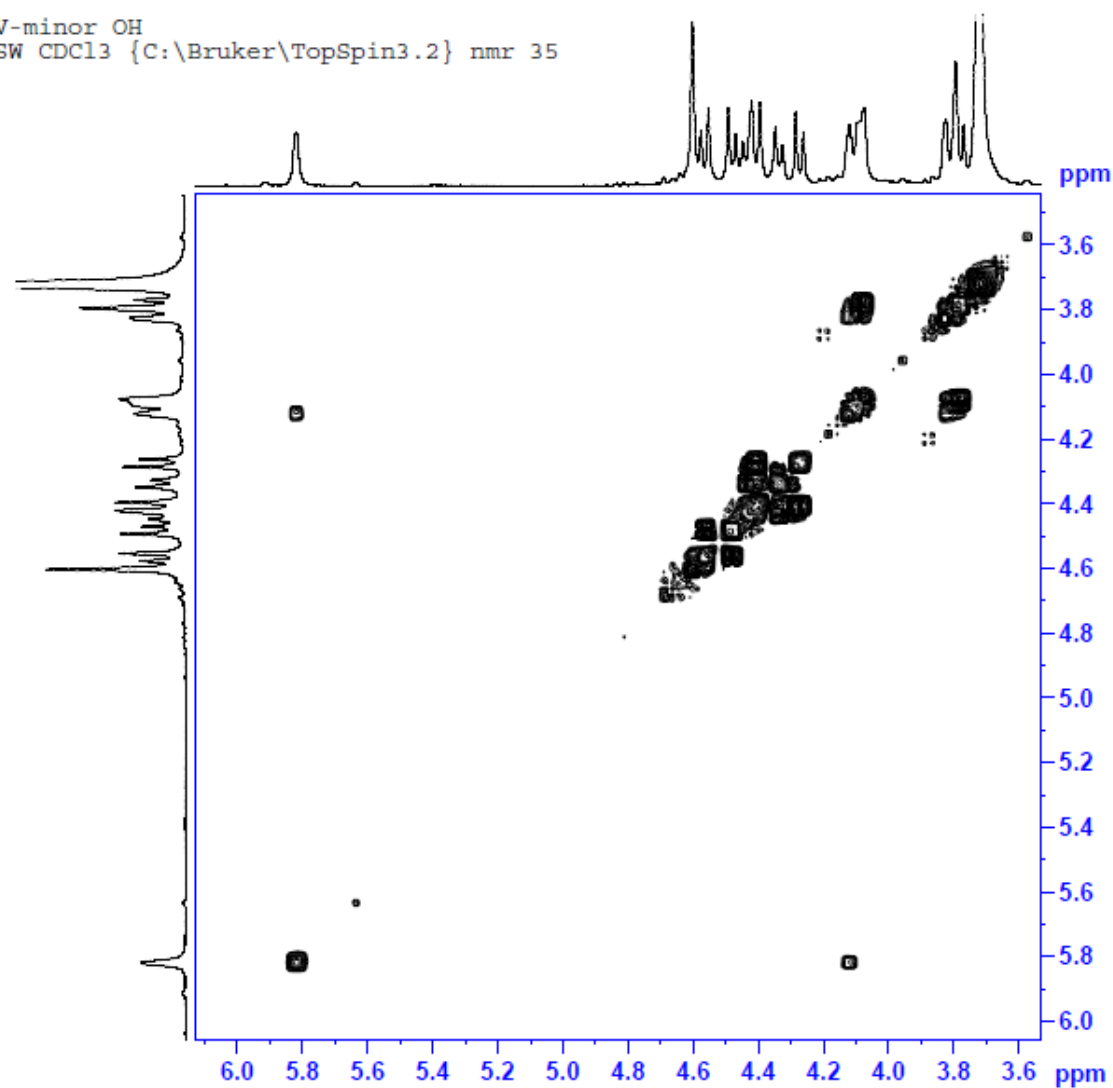
F1 - Acquisition parameters
TD         128
SFO1      500.2321 MHz
FIDRES     34.877232 Hz
SW         8.924 ppm
PRMODE     QF

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

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

COSY of compound **7** (zoom)

KMS-D-V-minor OH  
 COSYGPSW CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 35



```

Current Data Parameters
NAME      Sugar
EXPNO     3
PROCNO    1

F2 - Acquisition Parameters
Date_     20140714
Time      12.47
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   cosypppgqf
TD         2048
SOLVRNT   CDCl3
NS         1
DS         8
SWH        4464.286 Hz
FIDRES     2.179627 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
INO        0.00022400 sec

----- CHANNEL f1 -----
SFO1      500.2321212 MHz
NUC1       1H
P0         9.04 usec
P1         9.04 usec
P17        2500.00 usec
PLM1       27.16399956 W
PLM10      3.28390002 W

----- GRADIENT CHANNEL -----
GPNAM[1]   SMCQ10.100
CPZ1       10.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         128
SFO1      500.2321 MHz
FIDRES     34.677232 Hz
SW         8.924 ppm
PnMODE     QF

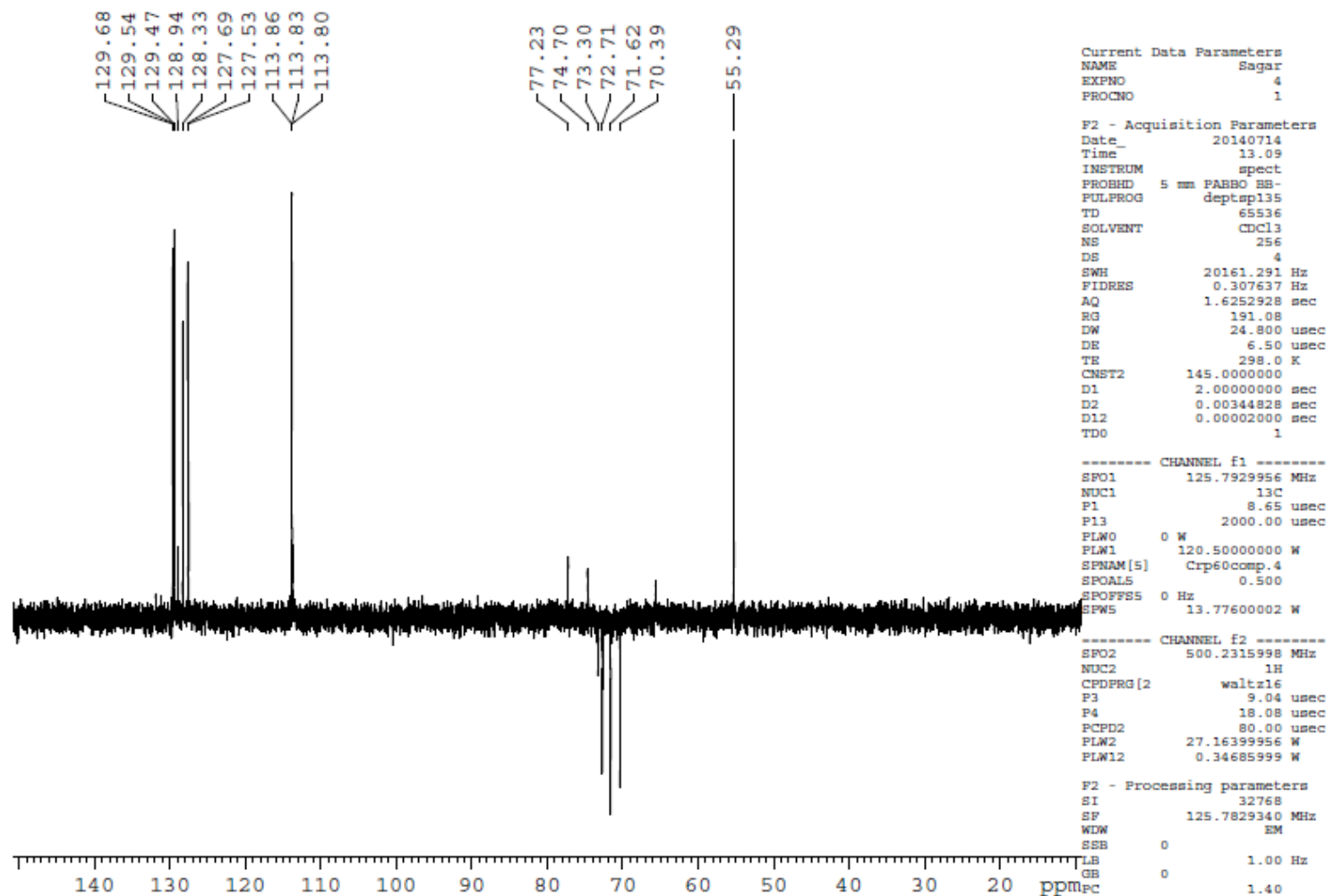
F2 - Processing parameters
SI         1024
SF         500.2300481 MHz
WDW        QF
SSB        0
LB         0 Hz
GB         0
PC         1.40

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

```

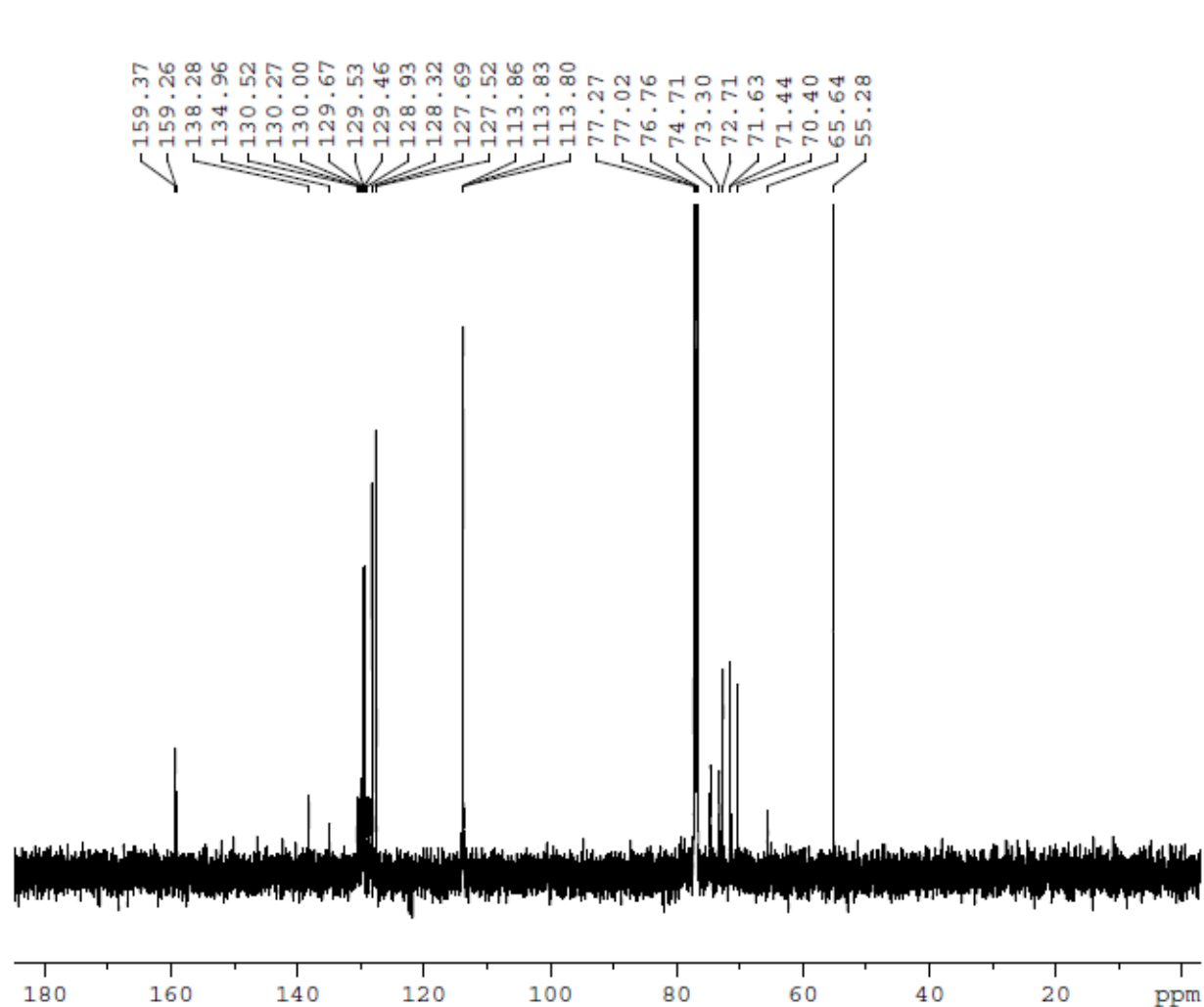
## DEPT of compound 7

KMS-D-V-minor OH  
 C13DEPT135 CDC13 {C:\Bruker\TopSpin3.2} nmr 35



<sup>13</sup>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

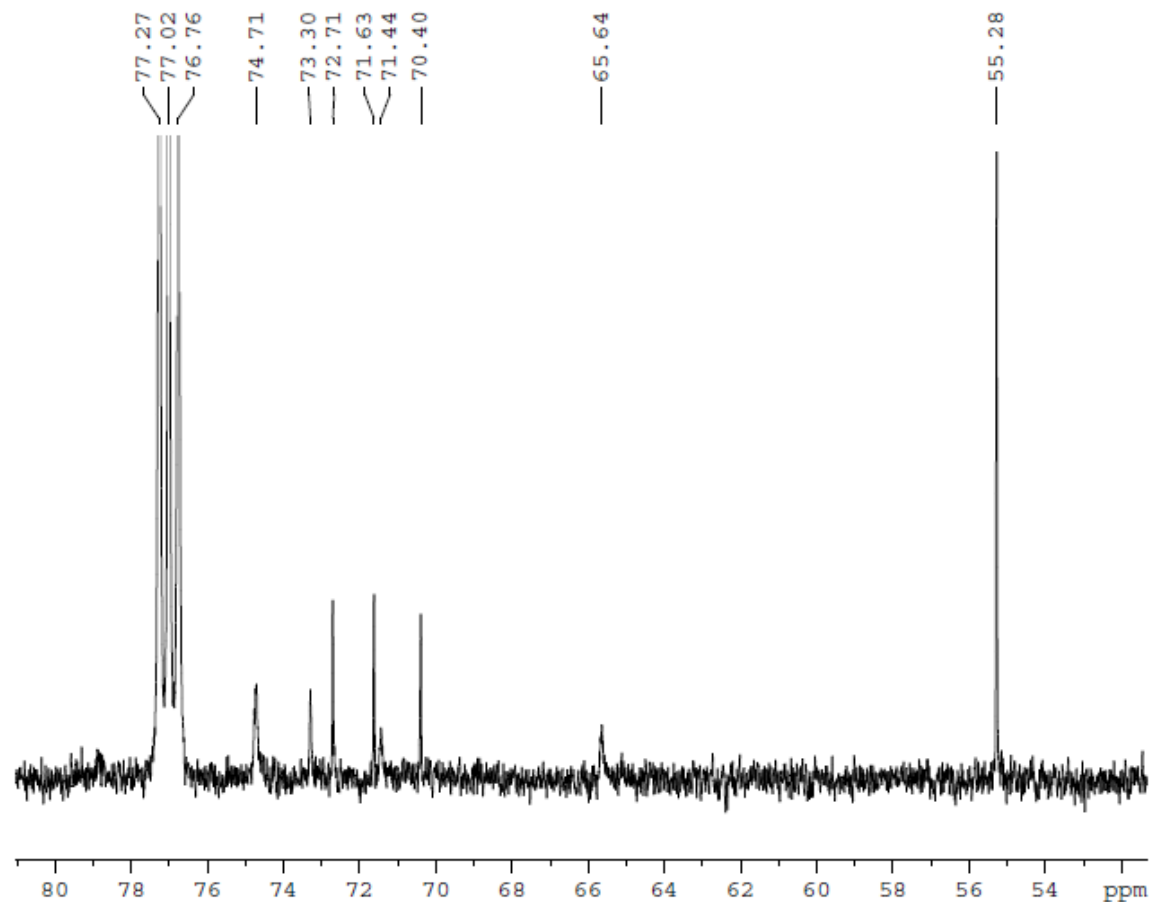
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W

----- CHANNEL f2 -----  
 SFO2 500.2320009 MHz  
 NUC2 1H  
 CPDPRG2 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

<sup>13</sup>C NMR of compound **7** (zoom)

KMS-D-V-minor OH  
 C13CPD CDCl<sub>3</sub> {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 CDCl<sub>3</sub>  
 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

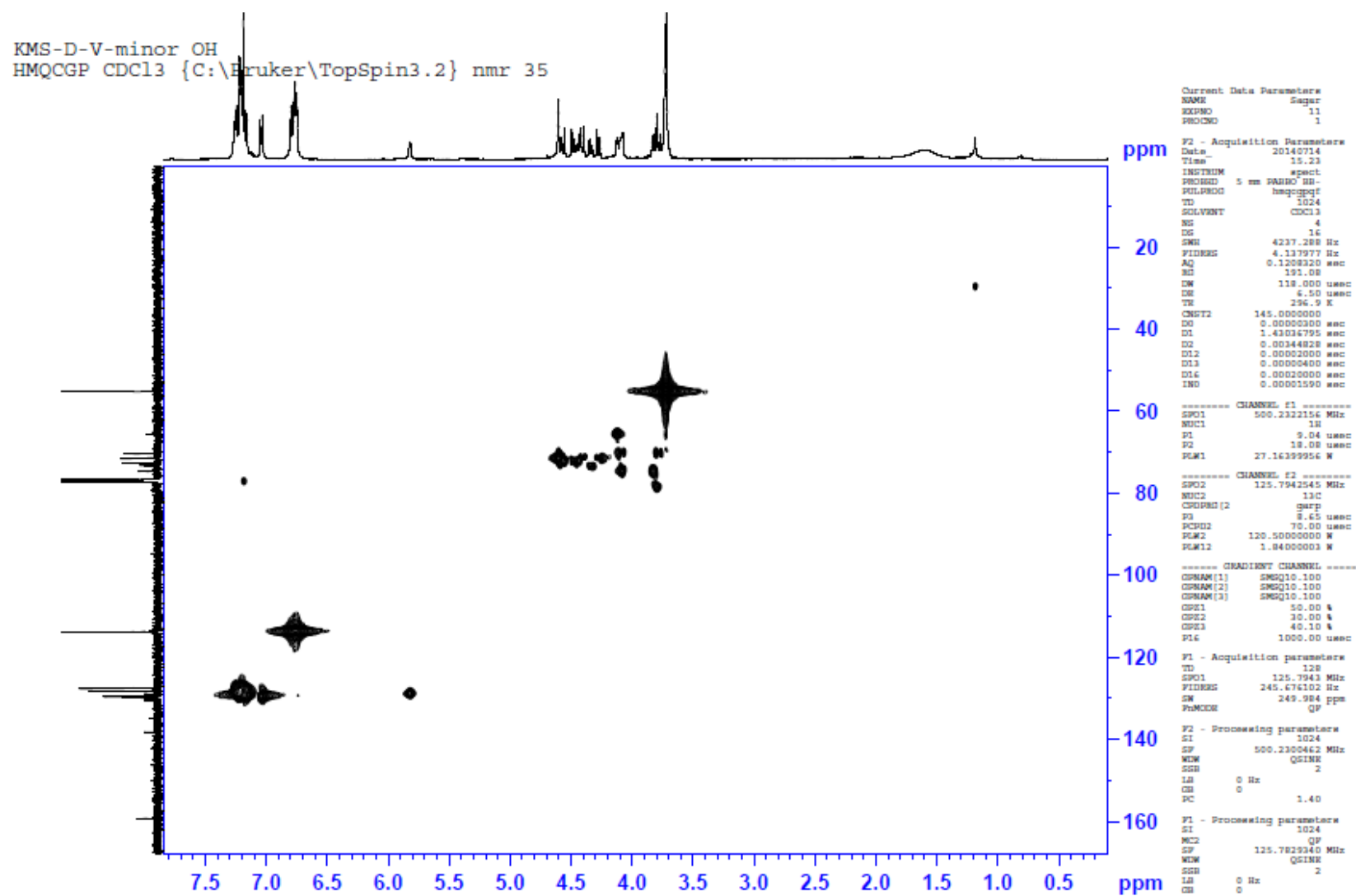
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W

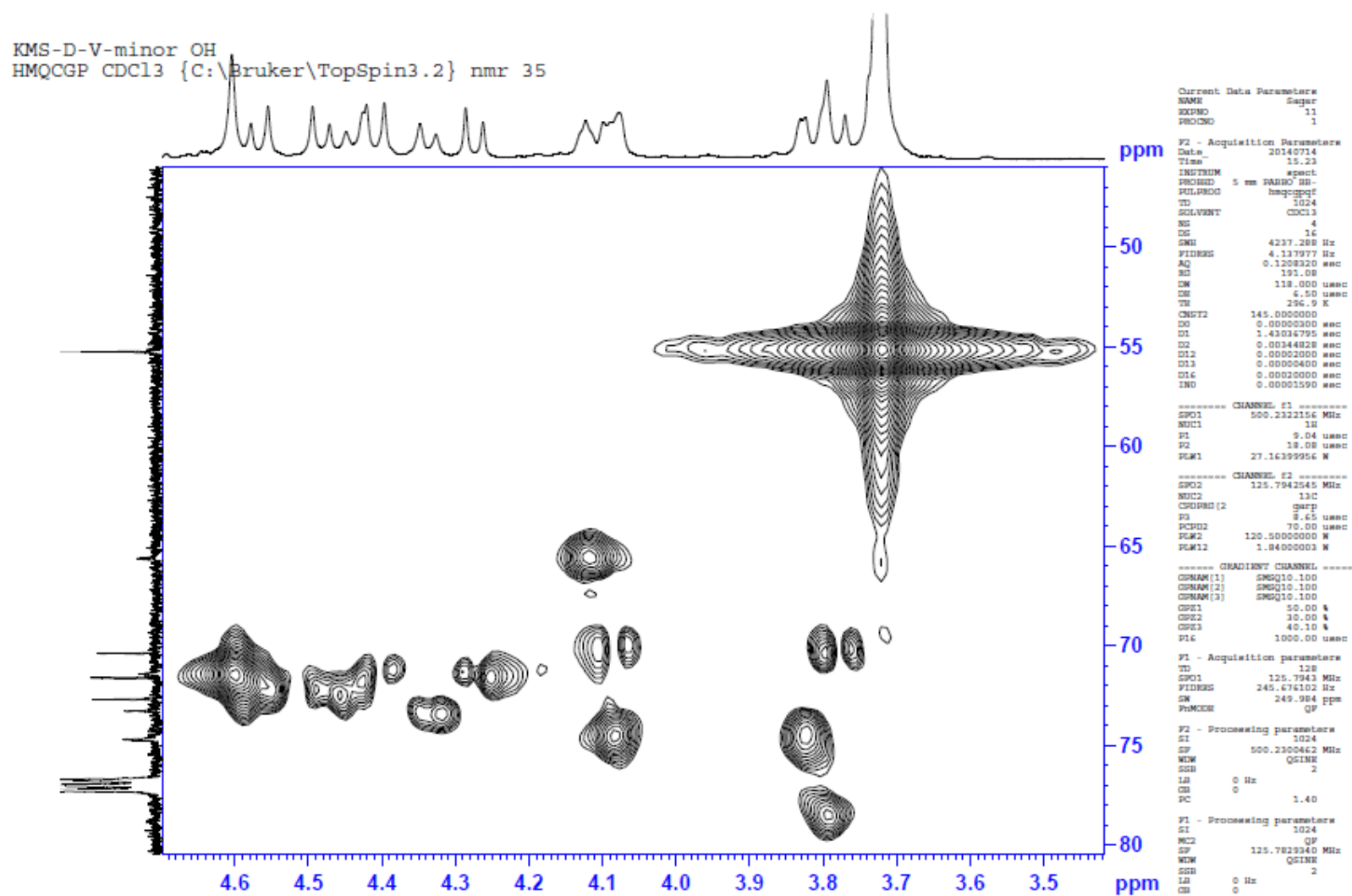
----- CHANNEL f2 -----  
 SFO2 500.2320009 MHz  
 NUC2 1H  
 CPDPRG[2] waltz16  
 PCPD2 80.00 usec  
 PLW2 27.16399956 W  
 PLW12 0.34685999 W  
 PLW13 0.22199000 W

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



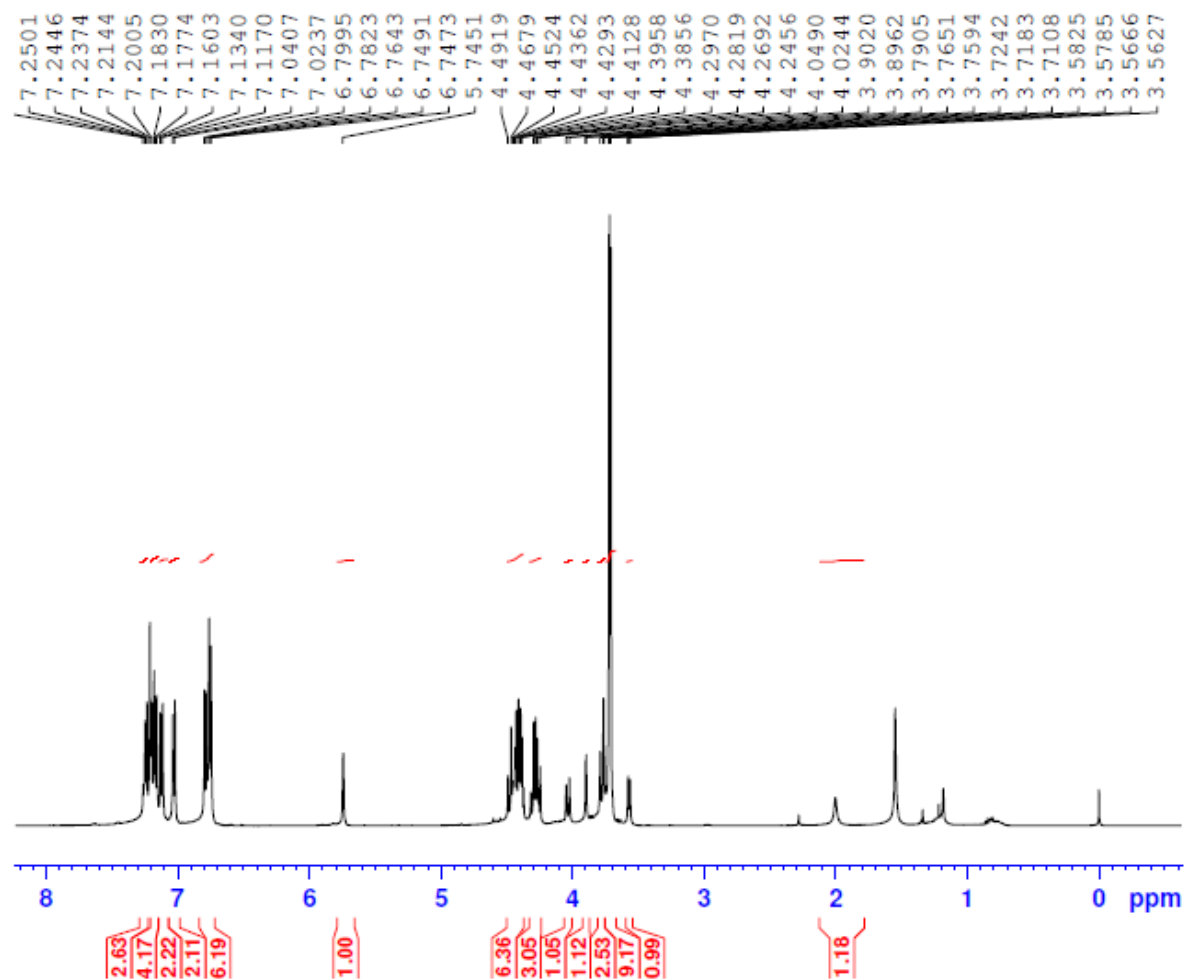
## HMQC of compound 7



HMQC of compound **7** (zoom)

<sup>1</sup>H NMR of compound **8**

KMS-D-V-111B  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 583  
 PROCNO 1

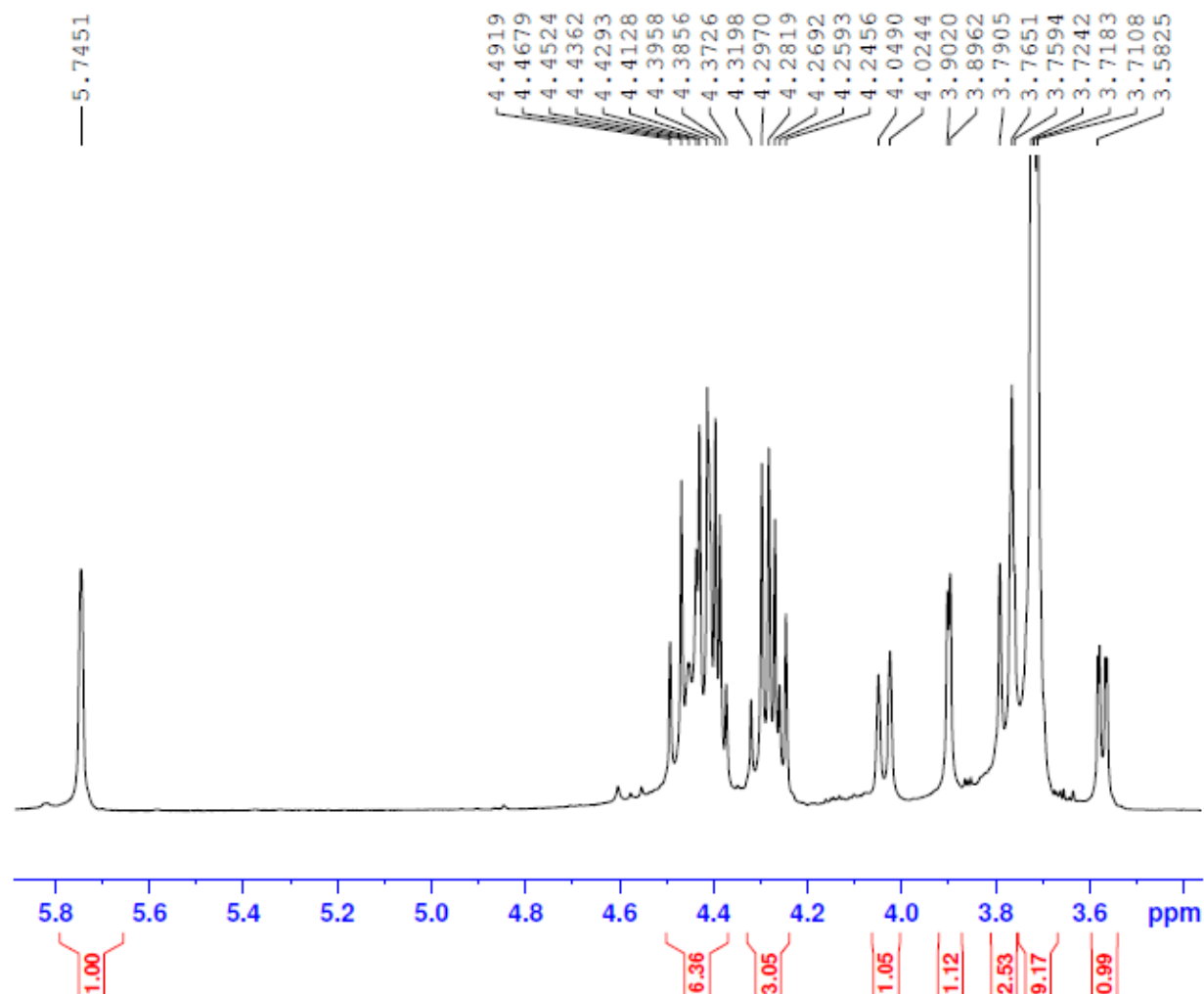
F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 15.18  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 107.19  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 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

<sup>1</sup>H NMR of compound **8** (zoom)

KMS-D-V-111B  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 583  
 PROCNO 1

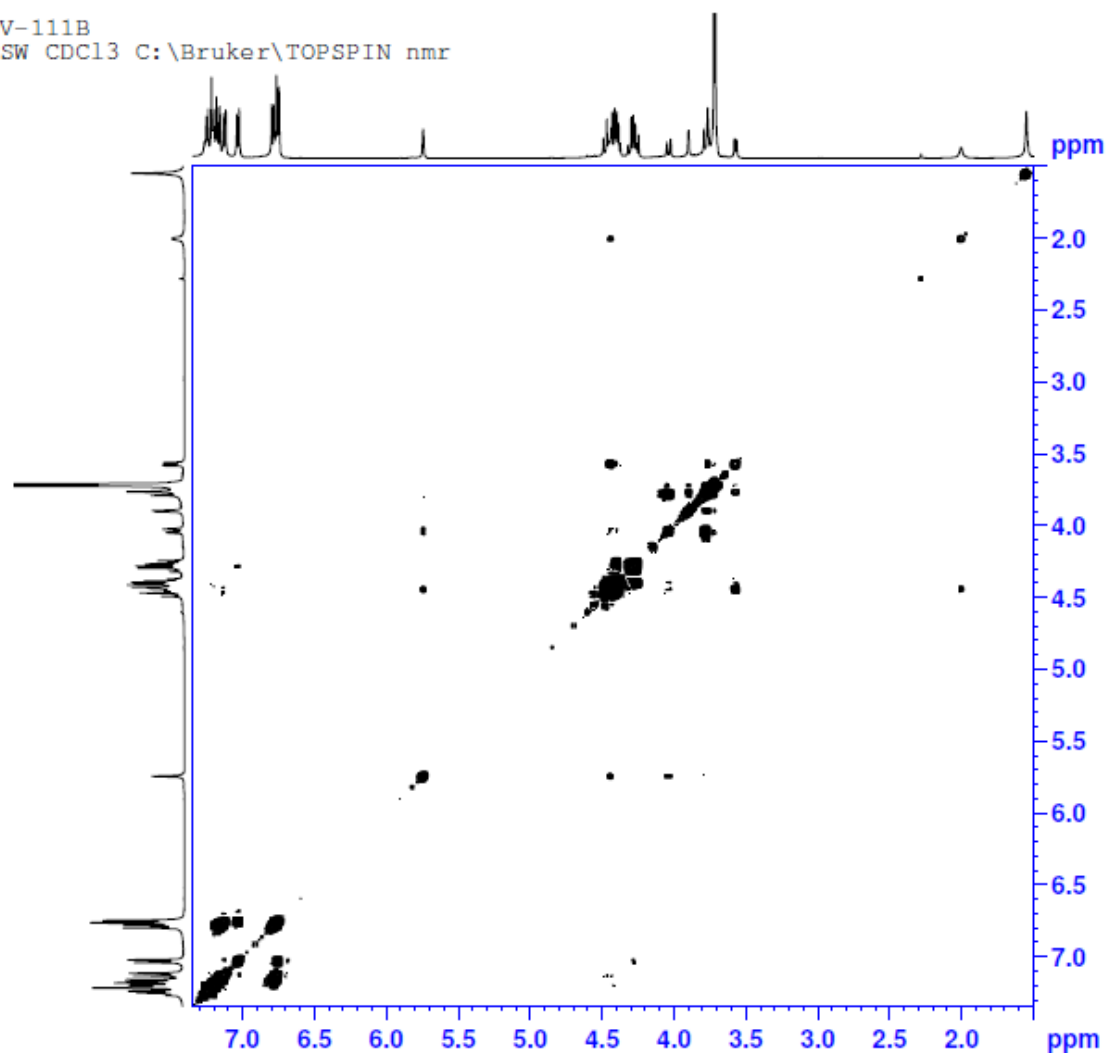
F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 15.18  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 107.19  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 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**

KMS-D-V-111B  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 585  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 16.11  
 INSTRUM spect  
 PROSD 5 mm PABBO BB-  
 PULPROG cosygpppqf  
 TD 2048  
 SOLVENT CDC13  
 NS 1  
 DS 8  
 SWH 2923.977 Hz  
 FIDRES 1.427723 Hz  
 AQ 0.3502580 sec  
 RG 64.12  
 LW 171.000 usec  
 DE 6.50 usec  
 TE 298.0 K  
 DO 0.00000300 sec  
 D1 1.80298197 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D16 0.00020000 sec  
 INO 0.00034200 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 PO 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  
 GPX1 10.00 %  
 P16 1000.00 usec

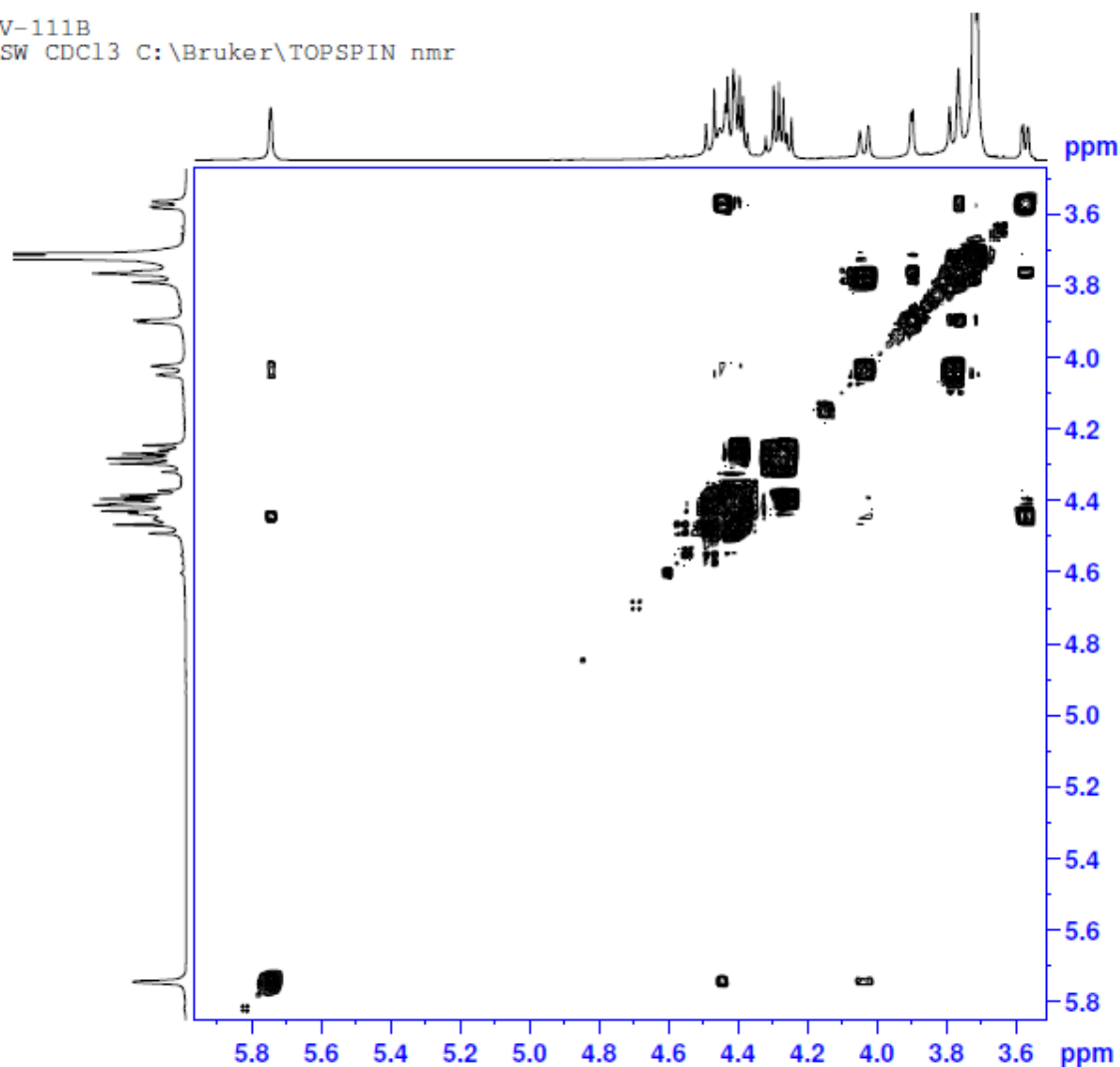
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2323 MHz  
 FIDRES 22.843567 Hz  
 SW 5.845 ppm  
 FMODE QF

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)

KMS-D-V-111B  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 585  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 16.11  
 INSTRUM spect  
 PROBRD 5 mm PASBO BB-  
 PULPROG cosygpswqf  
 TD 2048  
 SOLVENT CDC13  
 NS 1  
 DS 8  
 SMH 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 0.0000300 sec  
 D1 1.80298197 sec  
 D11 0.03000000 sec  
 D12 0.0002000 sec  
 D13 0.0000400 sec  
 D16 0.0002000 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 -----  
 GPMAX1 SMSQ10.100  
 CP11 10.00 %  
 P16 1000.00 usec

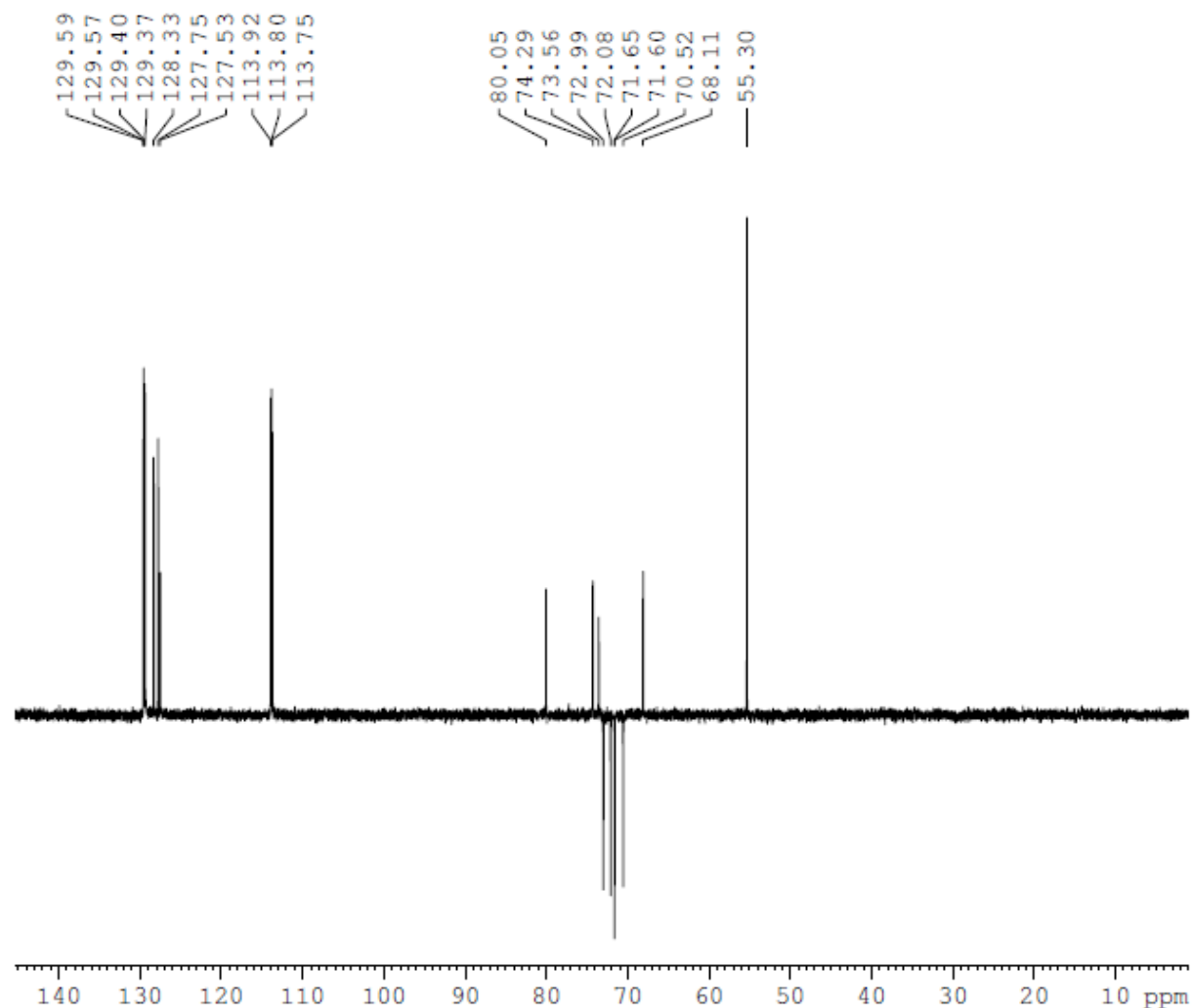
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2323 MHz  
 FIDRES 22.843567 Hz  
 SM 5.845 ppm  
 FMODE QF

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

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

DEPT of compound **8**

KMS-D-V-111B  
 C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 584  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 16.01  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG deptspl35  
 TD 65536  
 SOLVENT CDC13  
 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

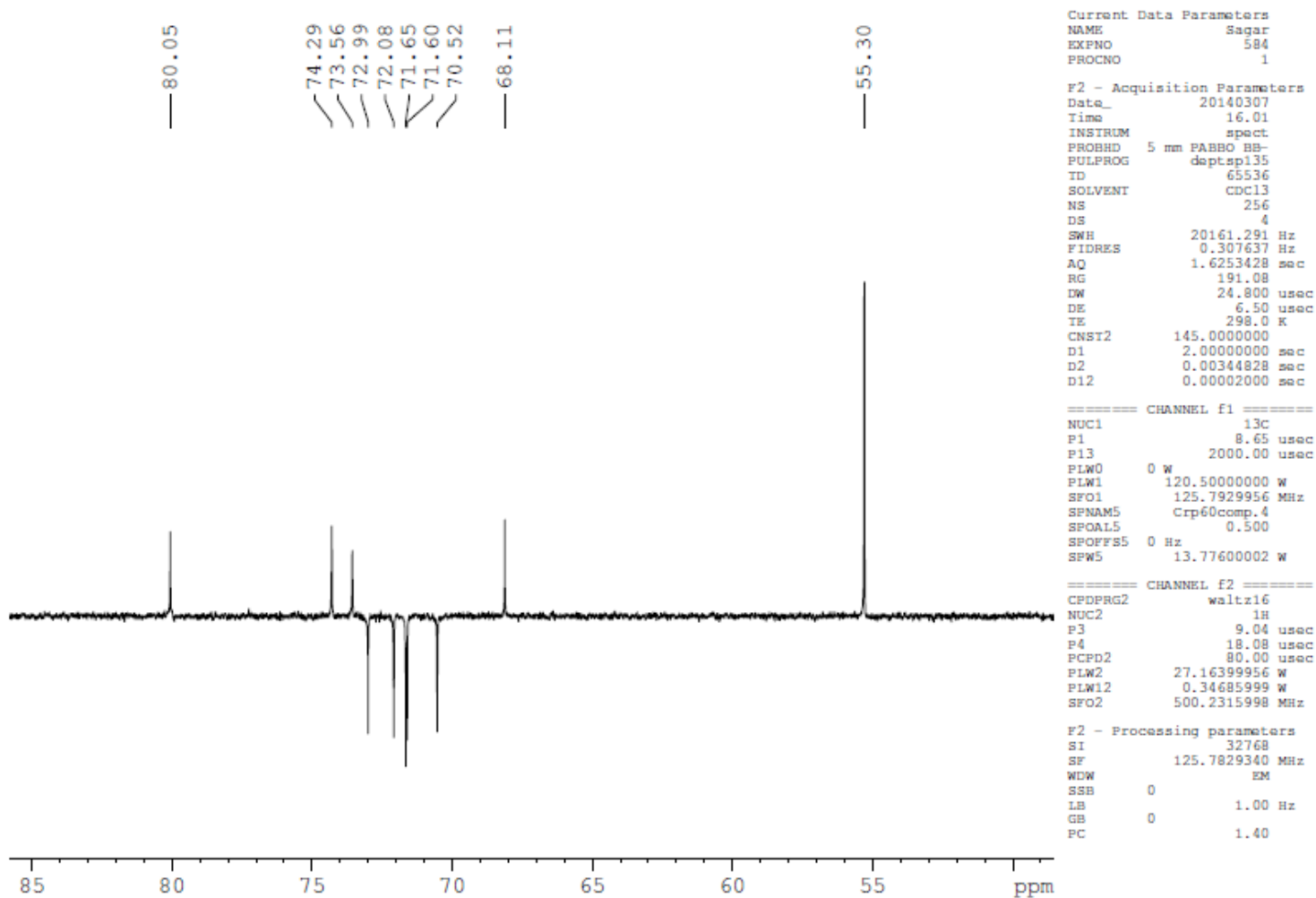
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SFOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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 **8** (zoom)

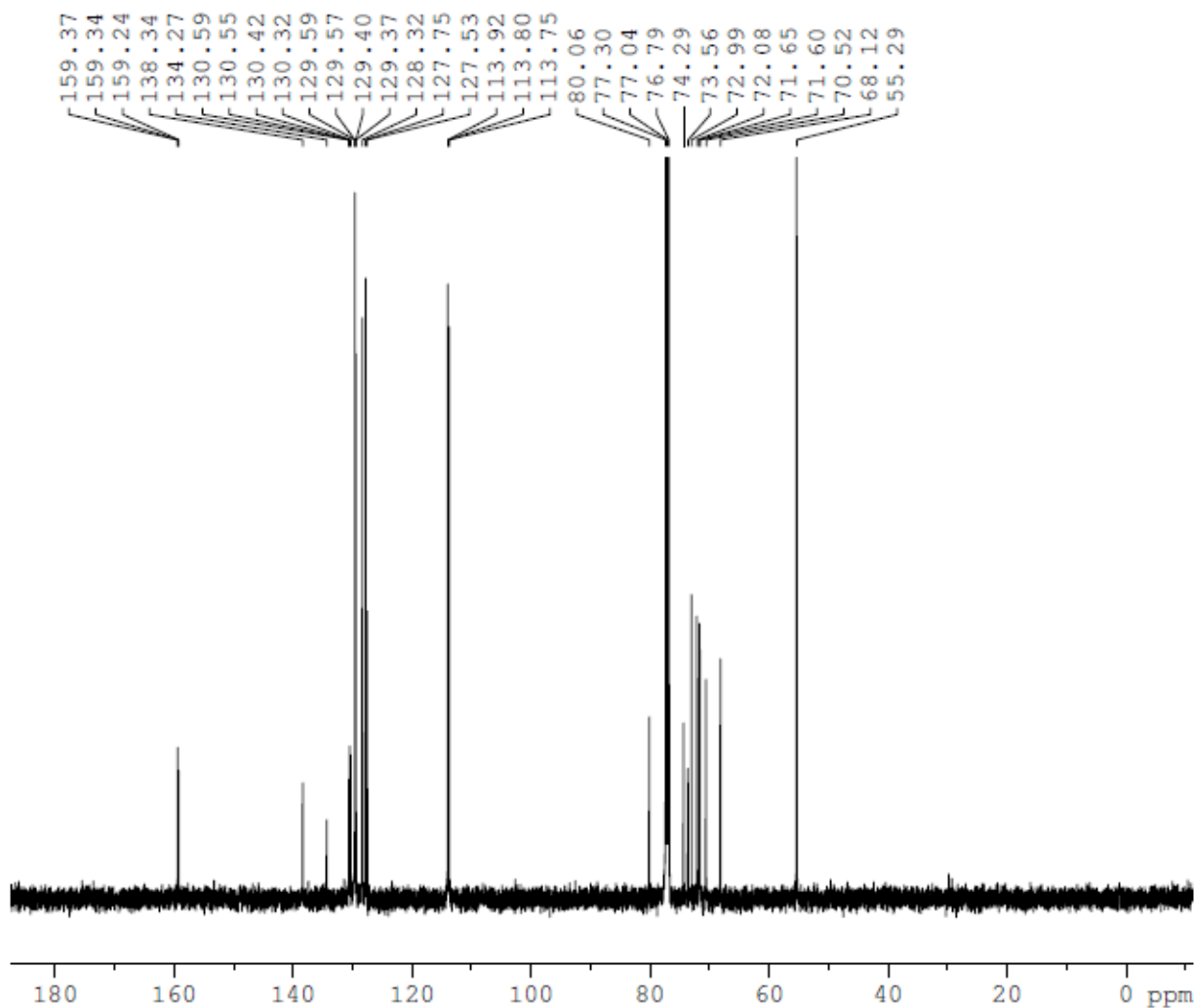
KMS-D-V-111B  
 C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr





<sup>13</sup>C NMR of compound **8**

KMS-D-V-111B  
 C13CPD CDC13 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 CDC13  
 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

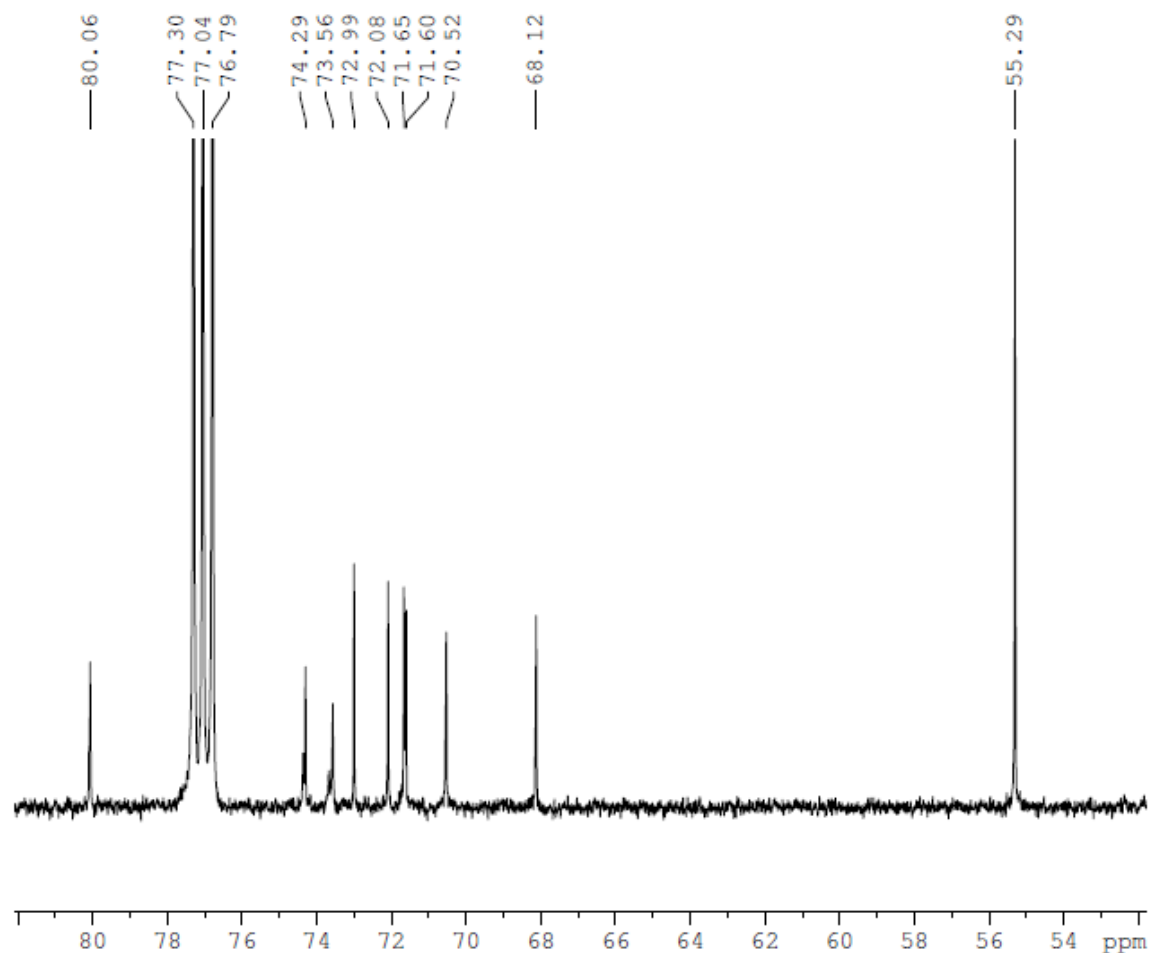
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W  
 SFO1 125.7955112 MHz

----- 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

<sup>13</sup>C NMR of compound **8** (zoom)

KMS-D-V-111B  
C13CPD CDC13 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 CDC13  
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

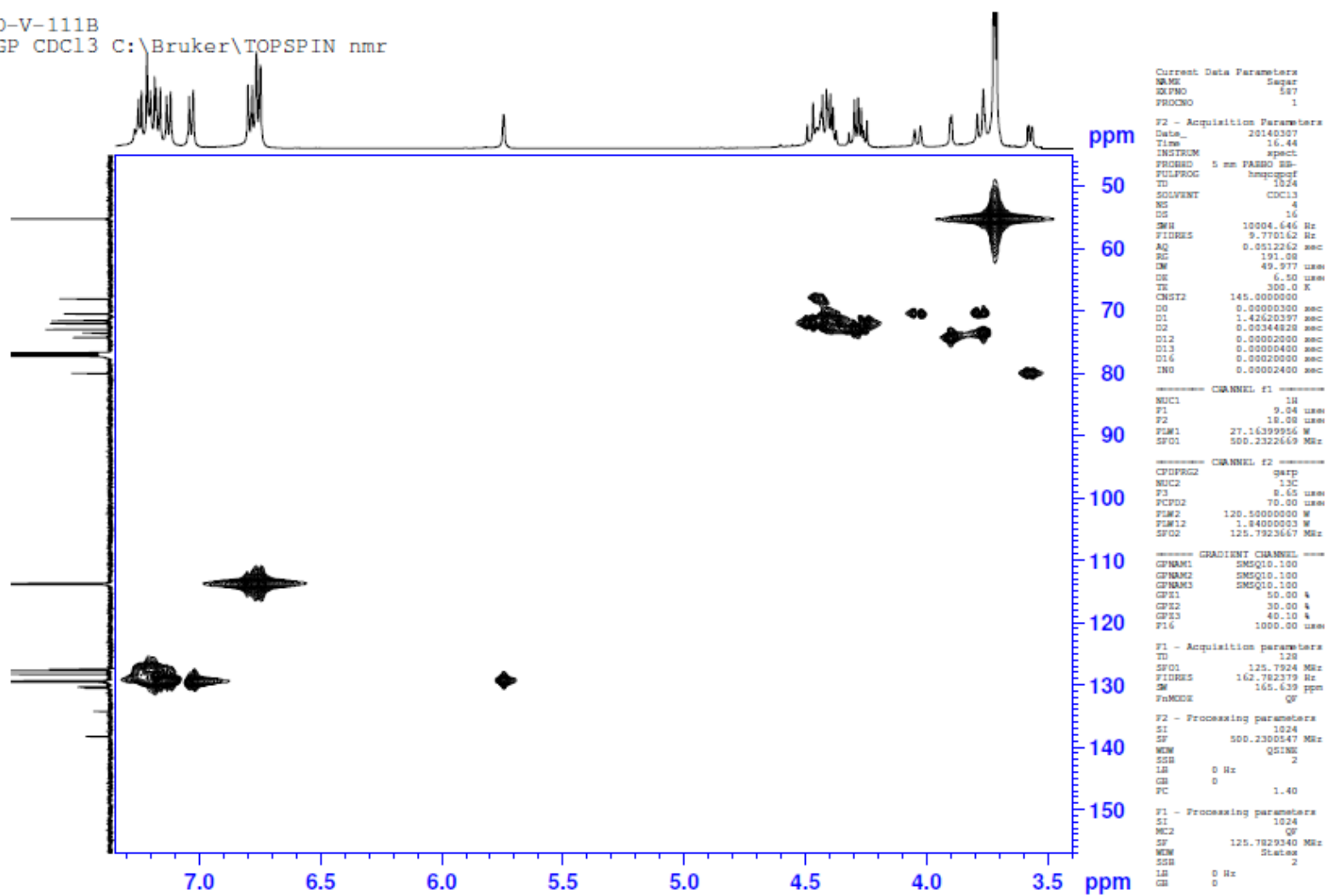
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

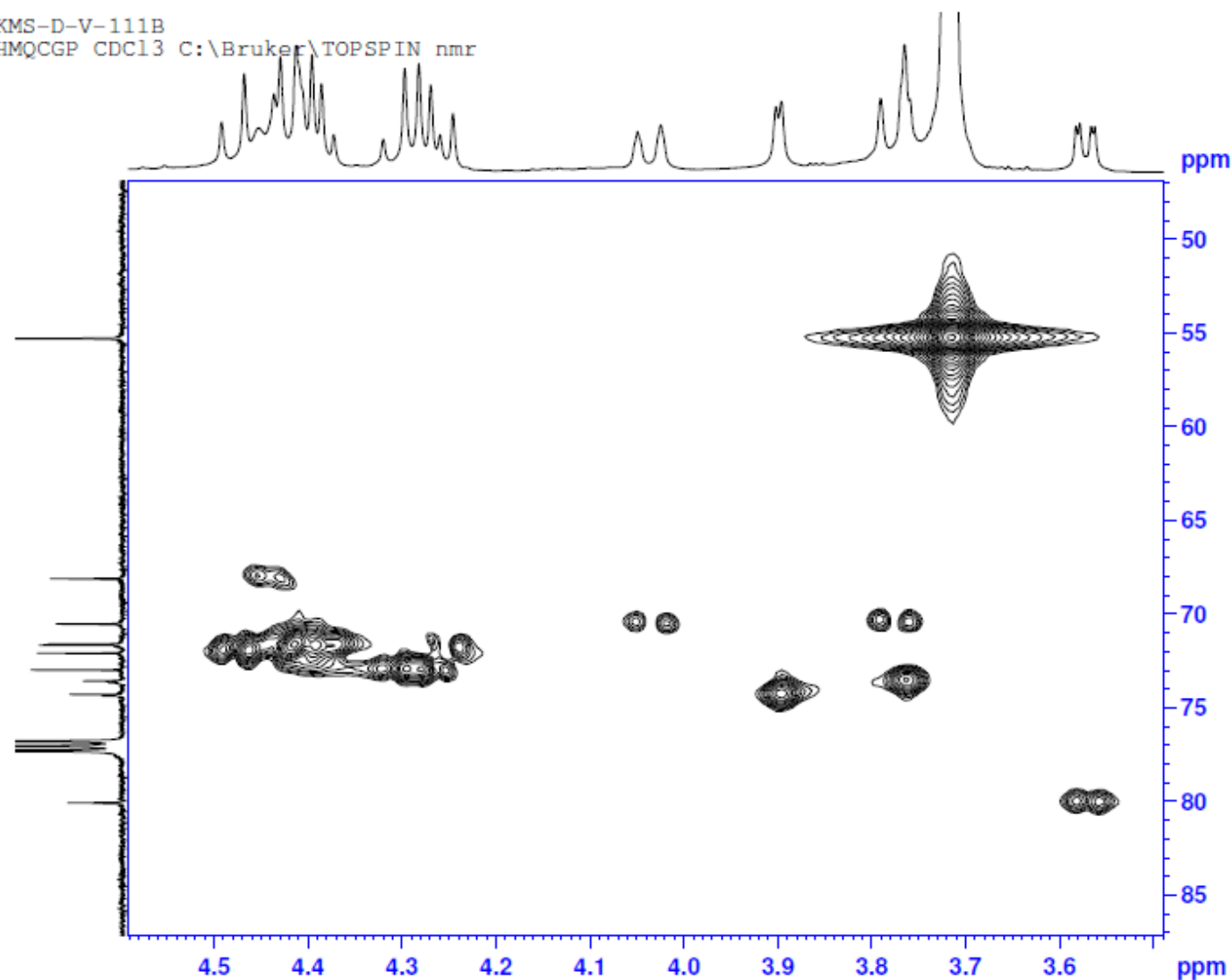
HMQC of compound **8**

KMS-D-V-111B  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



HMQC of compound **8** (zoom)

KMS-D-V-111B  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 187  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140307  
 Time 16.44  
 INSTRUM spect  
 PROBHD 5 mm PABBO SP-  
 PULPROG hmqcpgp  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 4  
 DS 16  
 SWH 10004.646 Hz  
 FIDRES 9.770162 Hz  
 AQ 0.0512262 sec  
 RG 191.00  
 DM 49.977 umm  
 DE 6.50 umm  
 TE 300.0 K  
 CRYST2 145.0000000  
 D0 0.00000000 sec  
 D1 1.43620397 sec  
 D2 0.00344828 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D14 0.00020000 sec  
 D15 0.00002400 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 9.04 umm  
 P2 19.00 umm  
 PLW1 27.16399956 W  
 SFO1 500.2322669 MHz

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

===== GRADIENT CHANNEL =====  
 GPNAM1 SMSQ10.100  
 GPNAM2 SMSQ10.100  
 GPNAM3 SMSQ10.100  
 GPE1 50.00 %  
 GPE2 30.00 %  
 GPE3 40.10 %  
 F16 1000.00 umm

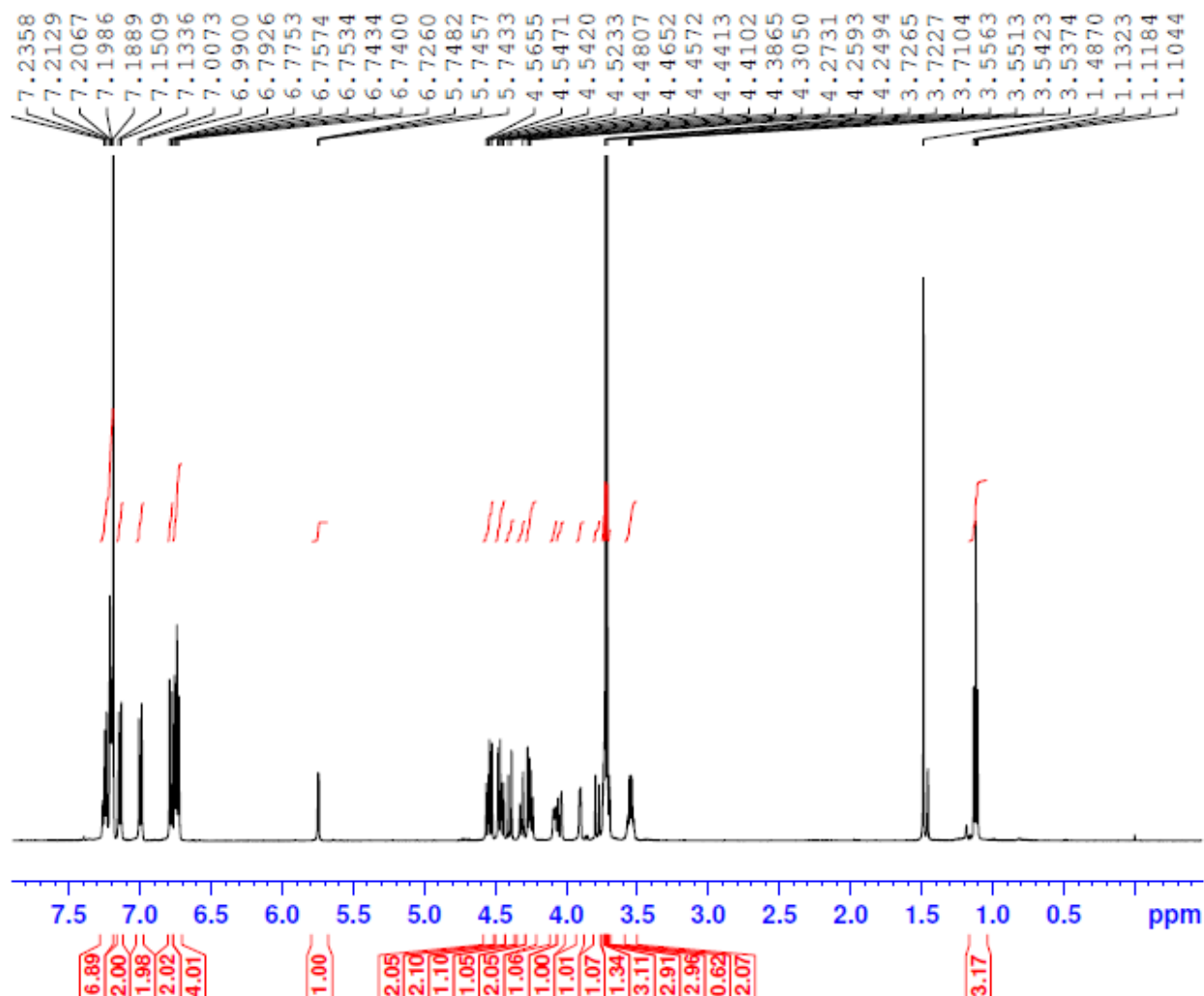
F1 - Acquisition parameters  
 TD 128  
 SFO1 125.7924 MHz  
 FIDRES 162.782379 Hz  
 SW 165.639 ppm  
 FMODE QF

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

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

<sup>1</sup>H NMR of compound 9

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



Current Data Parameters  
 NAME Sagar  
 EXPNO 533  
 PROCNO 1

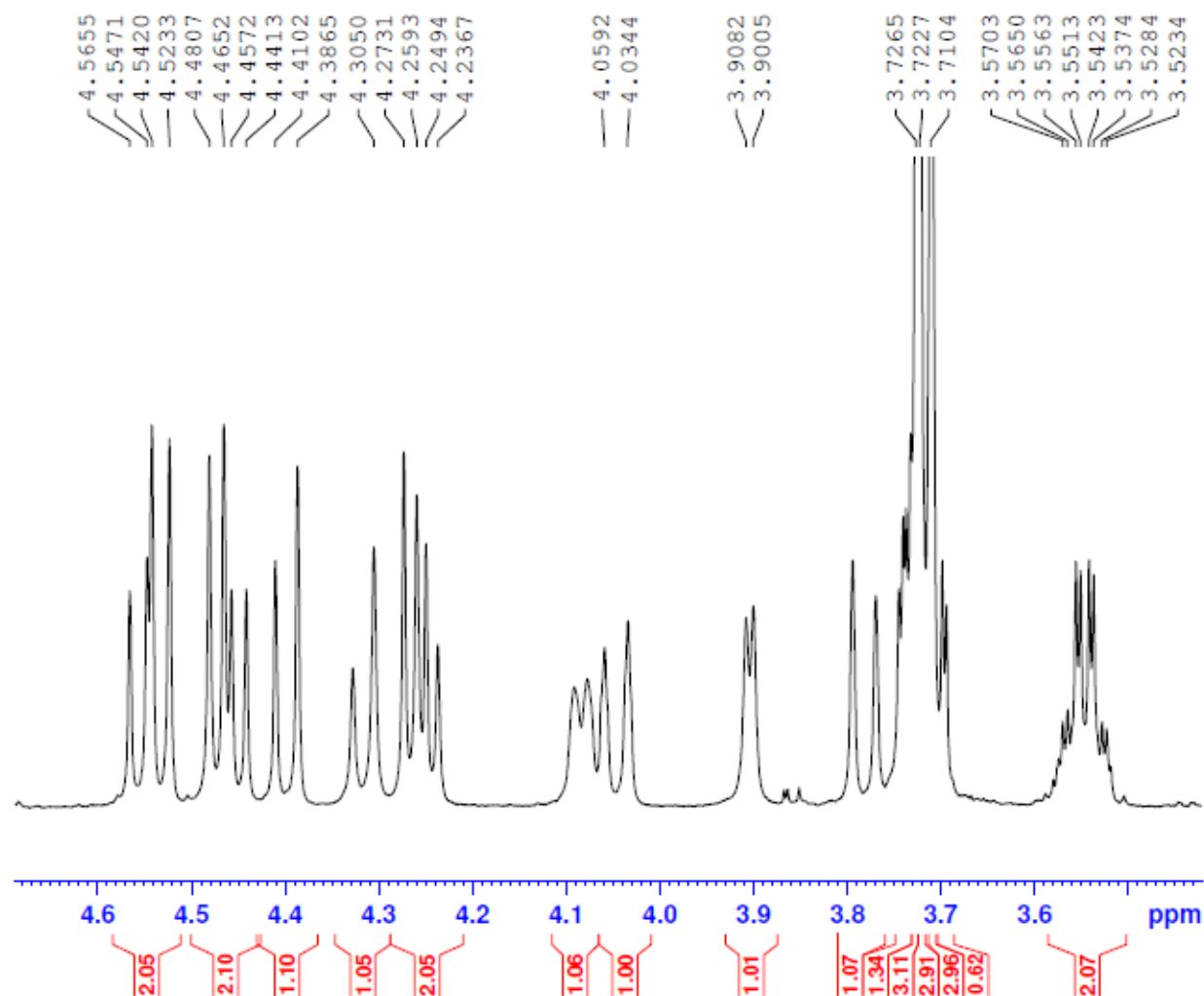
F2 - Acquisition Parameters  
 Date\_ 20140204  
 Time 23.41  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 1.00000000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

<sup>1</sup>H NMR of compound 9 (zoom)

KMS-D-OEtPMB major  
 PROTON CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 533  
 PROCNO 1

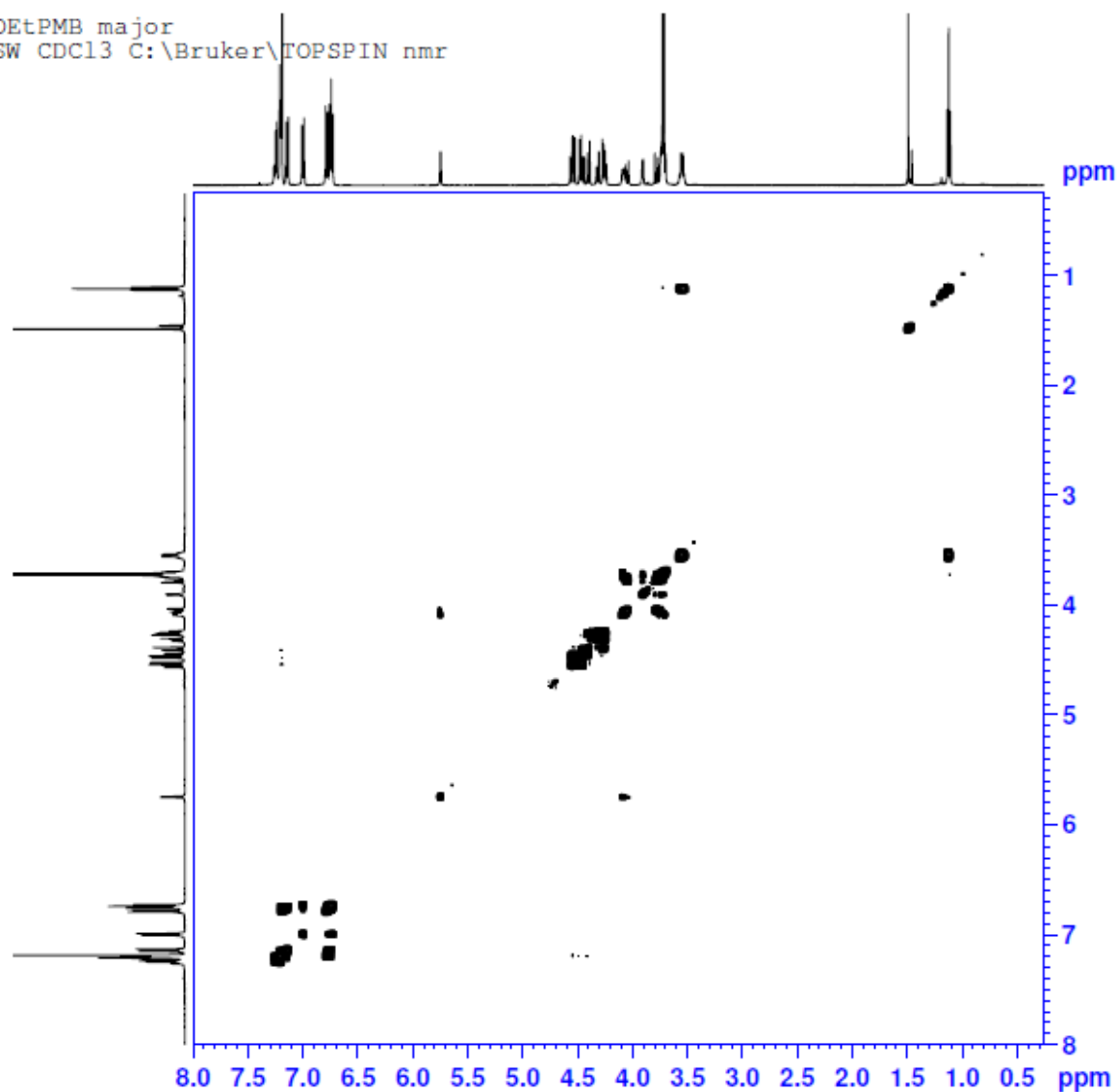
F2 - Acquisition Parameters  
 Date\_ 20140204  
 Time 23.41  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDC13  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 1.00000000 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

KMS-D-OEtPMB major  
 COSYGPSW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



```
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   cosygpsw
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

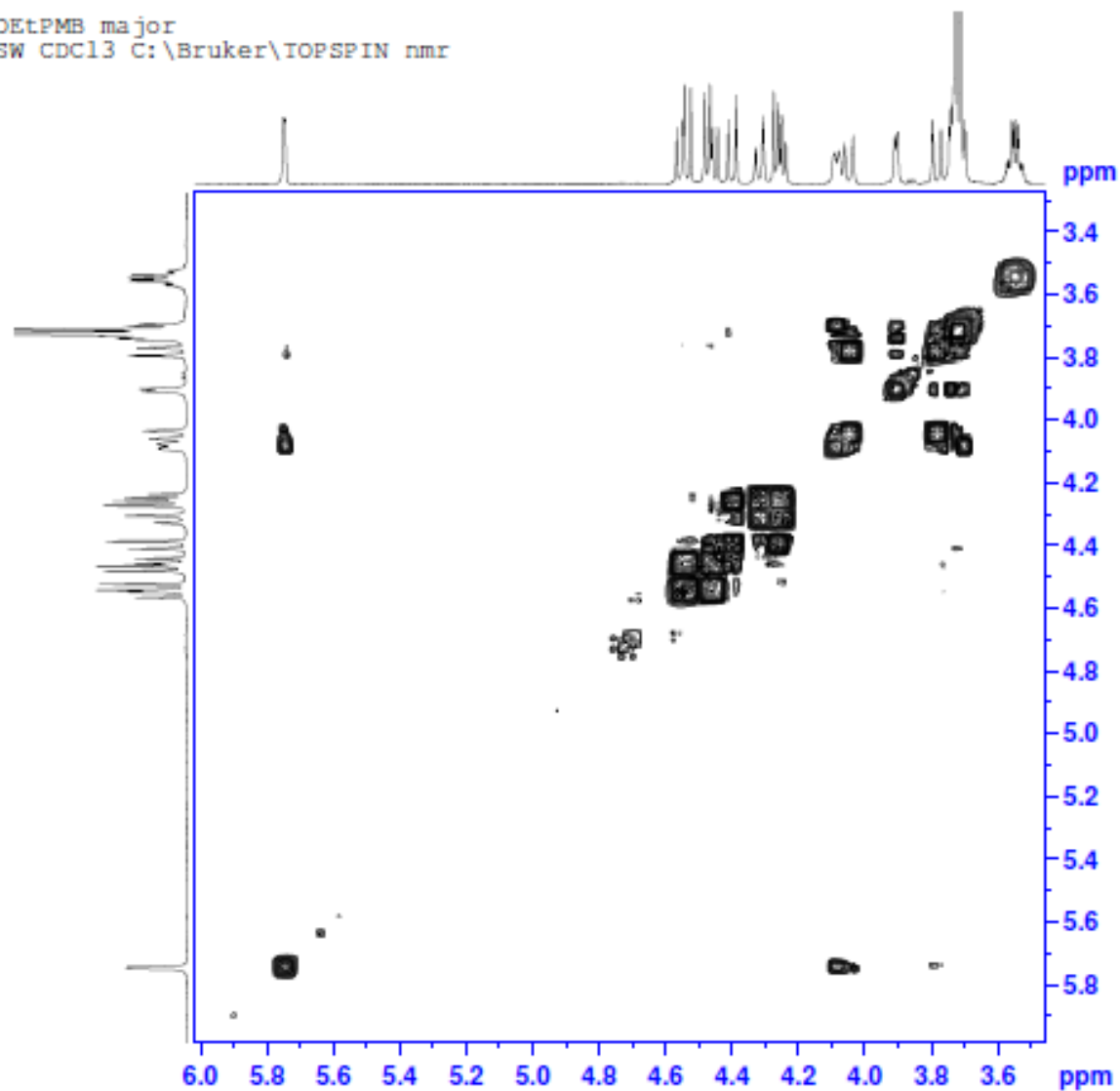
F2 - Processing parameters
SI         1024
SF         500.2300510 MHz
WDW        QSINE
SSB        0
LB         0 Hz
GB         0
PC         1.40

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)



KMS-D-OEtPMB major  
 COSYGPSW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME      Sagar
EXPNO     534
PROCNO    1

F2 - Acquisition Parameters
Date_     20140204
Time      23.43
INSTRUM   spect
PROBHD    5 mm RAREBO BB-
PULPROG   cosygpppgf
TD         1024
SOLVENT   CDCl3
NS         1
DS         8
SWH        10004.643 Hz
FIDRES     0.770159 Hz
AQ         0.0512262 sec
RG         107.19
CW         49.677 usec
DE         6.50 usec
TE         300.0 K
DO         0.00000300 sec
D1         1.88899803 sec
d11        0.03000000 sec
d12        0.00020000 sec
d13        0.00000400 sec
d14        0.00020000 sec
IN0        0.00025800 sec

===== CHANNEL f1 =====
NUC1       1H
P0         0.04 usec
P1         0.04 usec
P17        2500.00 usec
PLW1       27.16399954 W
PLW10      3.28399002 W
SFO1       500.2321152 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SMCQ10.100
CPS1       10.00 %
P14        1000.00 usec

F1 - Acquisition parameters
TD         128
SFO1       500.2321 MHz
FIDRES     30.281000 Hz
SW         7.748 ppm
FWDKDE     QF

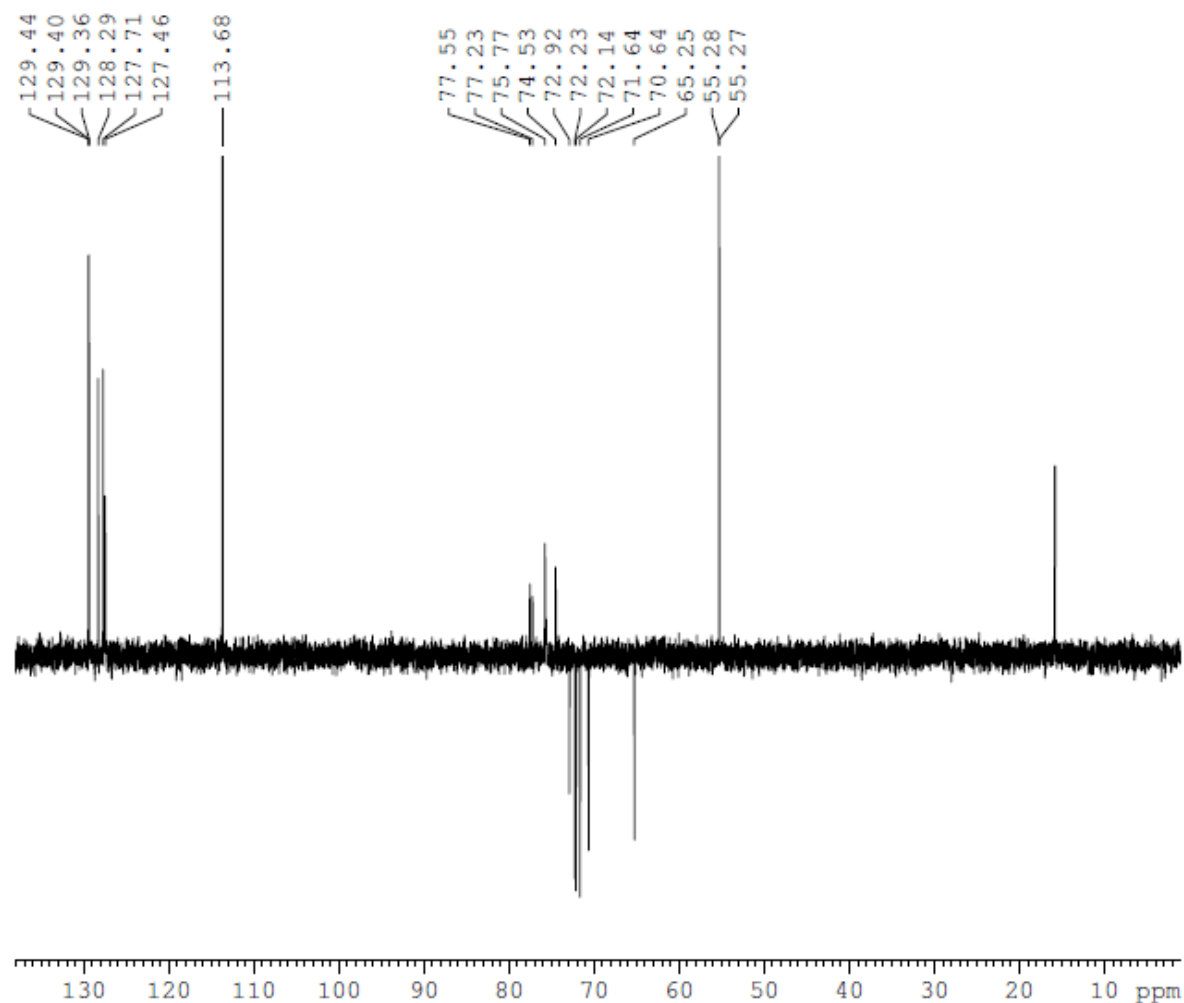
F2 - Processing parameters
S1         1024
SF         500.2309510 MHz
WDW        Q51N0
SSB        0
LB         0 Hz
GB         0
PC         1.40

F1 - Processing parameters
S1         1024
NUC2       13C
SF         500.2309510 MHz
WDW        Sinc-TPP1
SSB        0
LB         0 Hz
GB         0

```

DEPT of compound 9

KMS-D-OEtPMB major  
C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sagar  
EXPNO 535  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140204  
Time 23.52  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG deptapl35  
TD 65536  
SOLVENT CDC13  
NS 512  
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

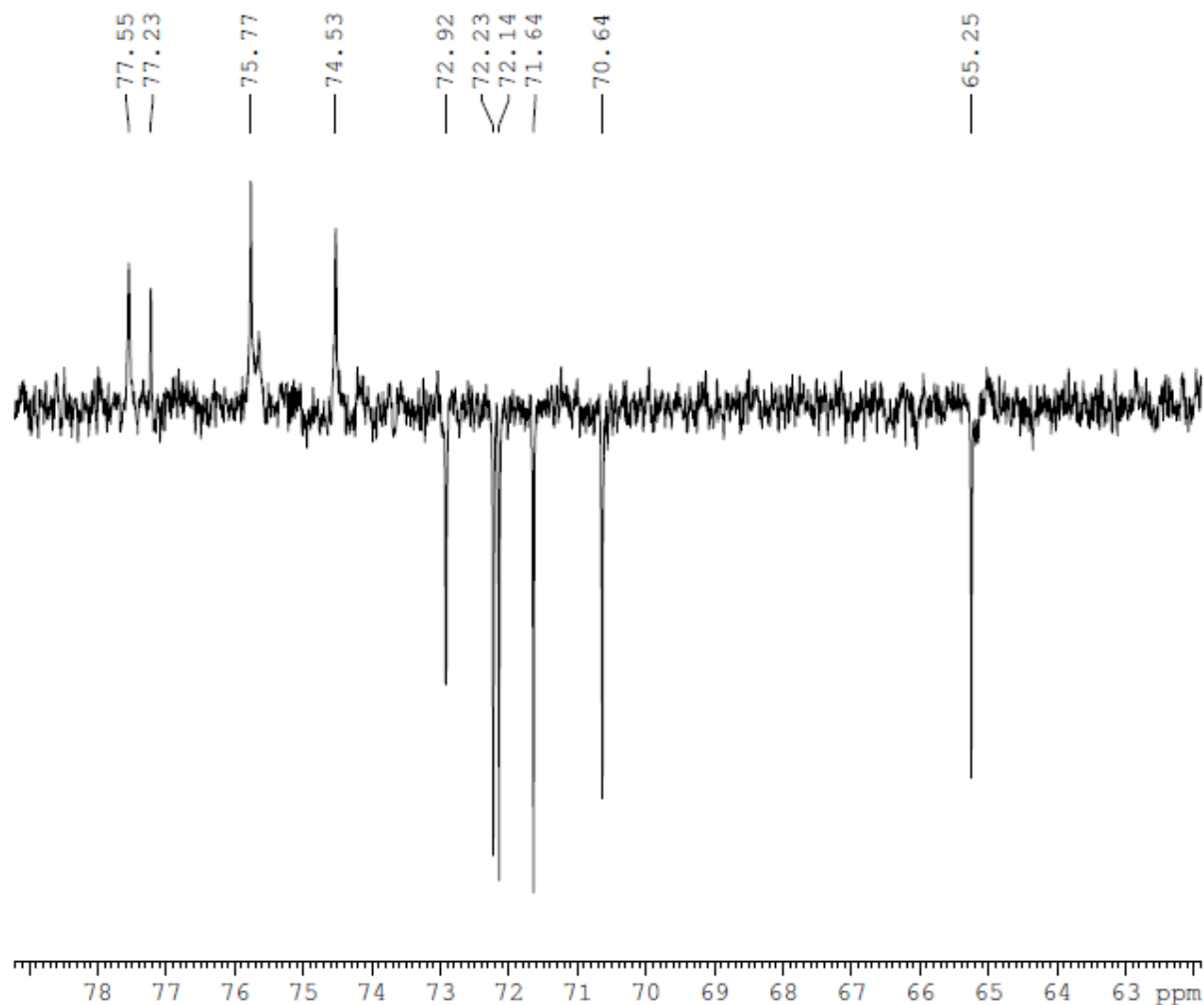
===== CHANNEL f1 =====  
NUC1 13c  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM5 Crp60comp.4  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

===== 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 **9** (zoom)

KMS-D-OEtPMB major  
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME          Sagar
EXPNO         535
PROCNO        1

F2 - Acquisition Parameters
Date_         20140204
Time          23.52
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            1.6253428 sec
RG            191.08
DW            24.800 usec
DE            6.50 usec
TE            298.0 K
CNS12         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
SFOAL5        0.500
SPOFFS5       0 Hz
SPW5         13.77600002 W

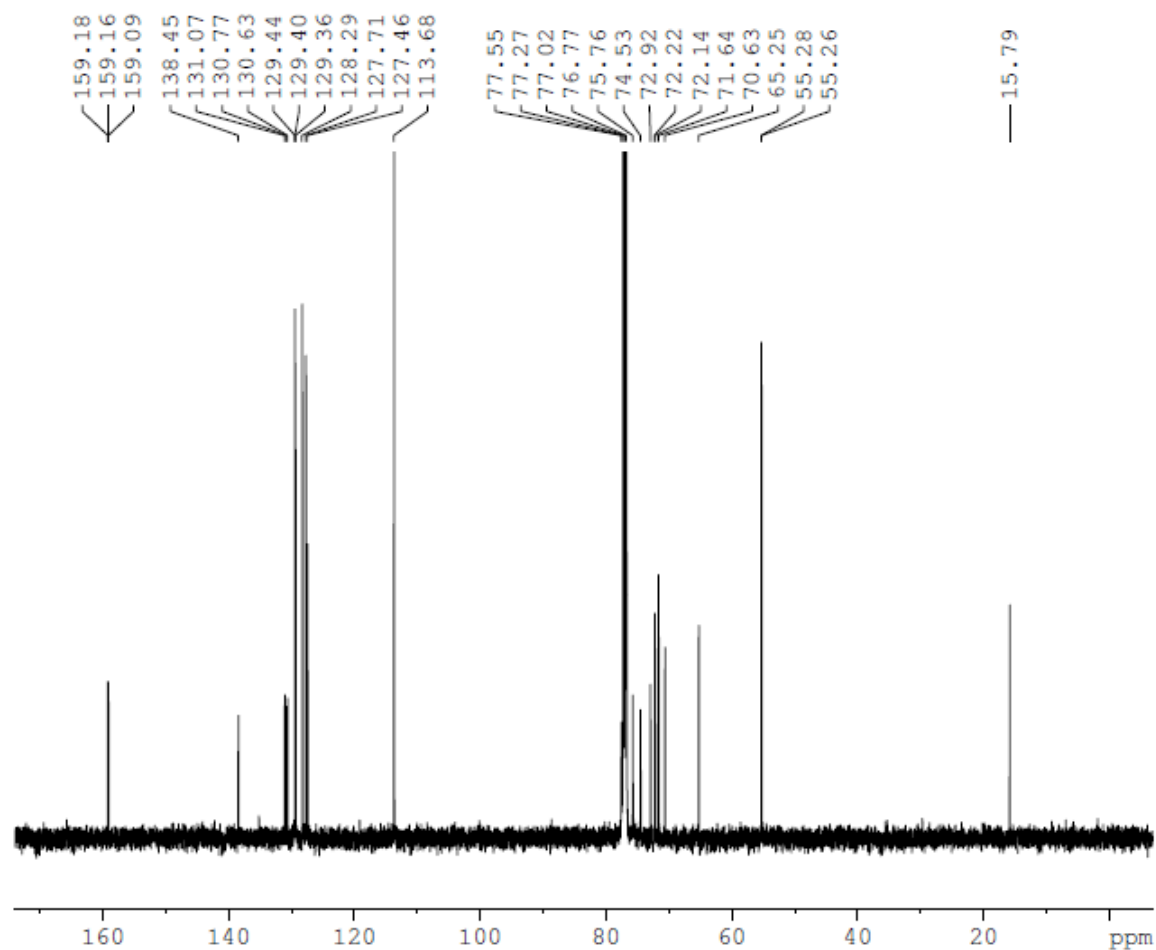
===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
P3            9.04 usec
P4           18.08 usec
PCPD2         80.00 usec
PLW2         27.16399956 W
PLW12        0.34685999 W
SFO2         500.2315998 MHz

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

```

<sup>13</sup>C NMR of compound 9

KMS-D-OEtPMB major  
C13CPD CDC13 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 CDC13  
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

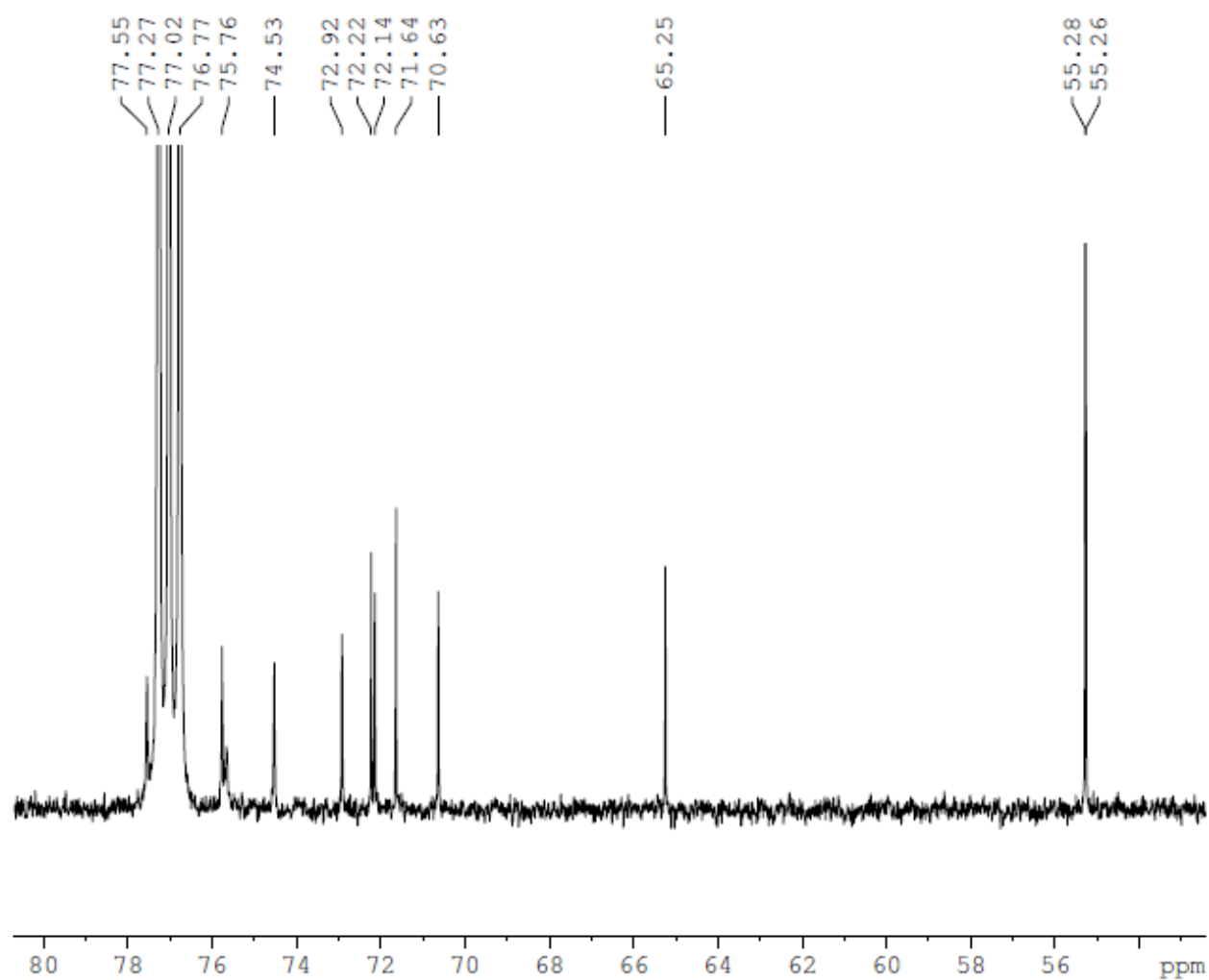
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

$^{13}\text{C}$  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

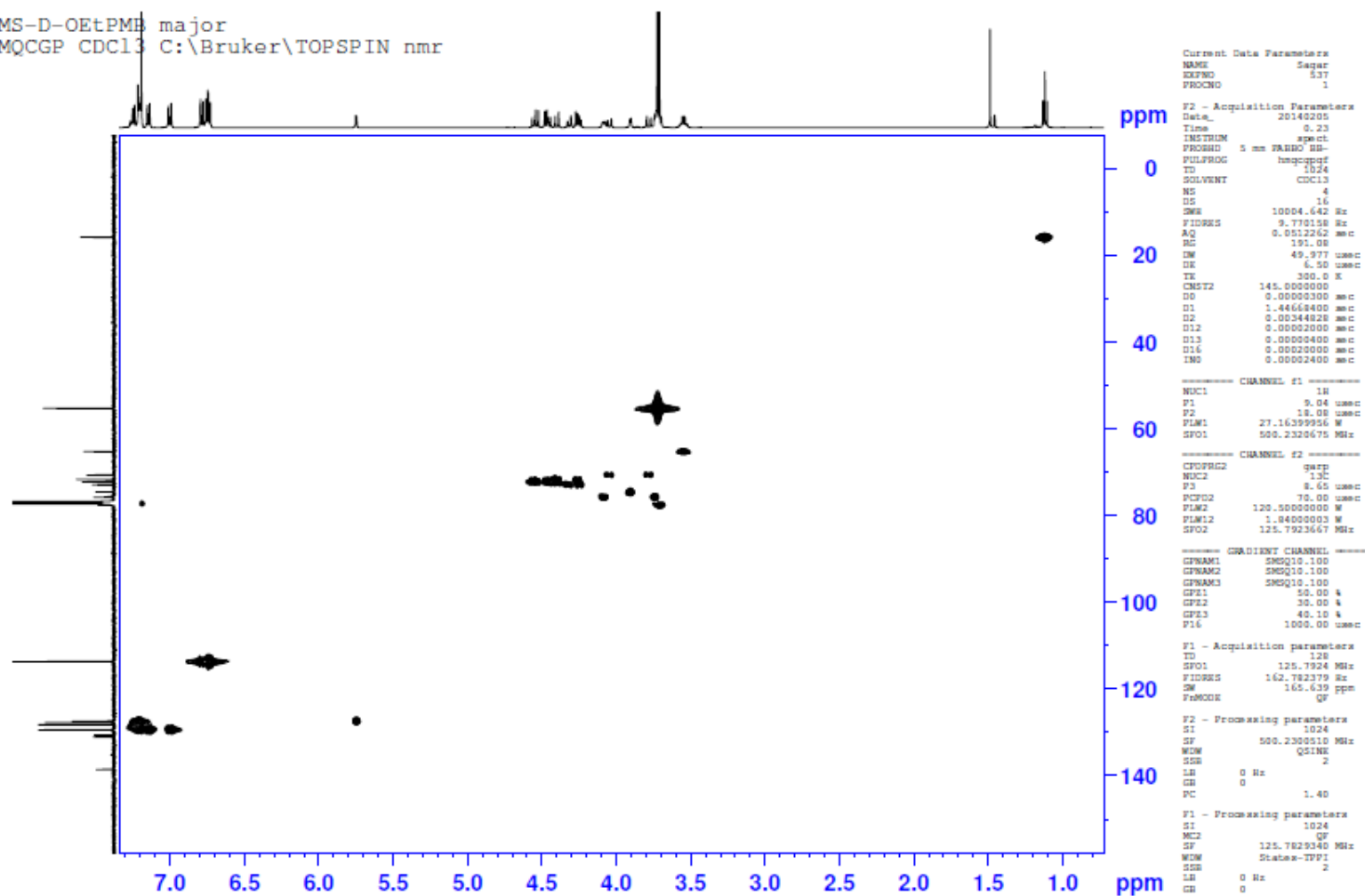
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W  
 SFO1 125.7955112 MHz

----- 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

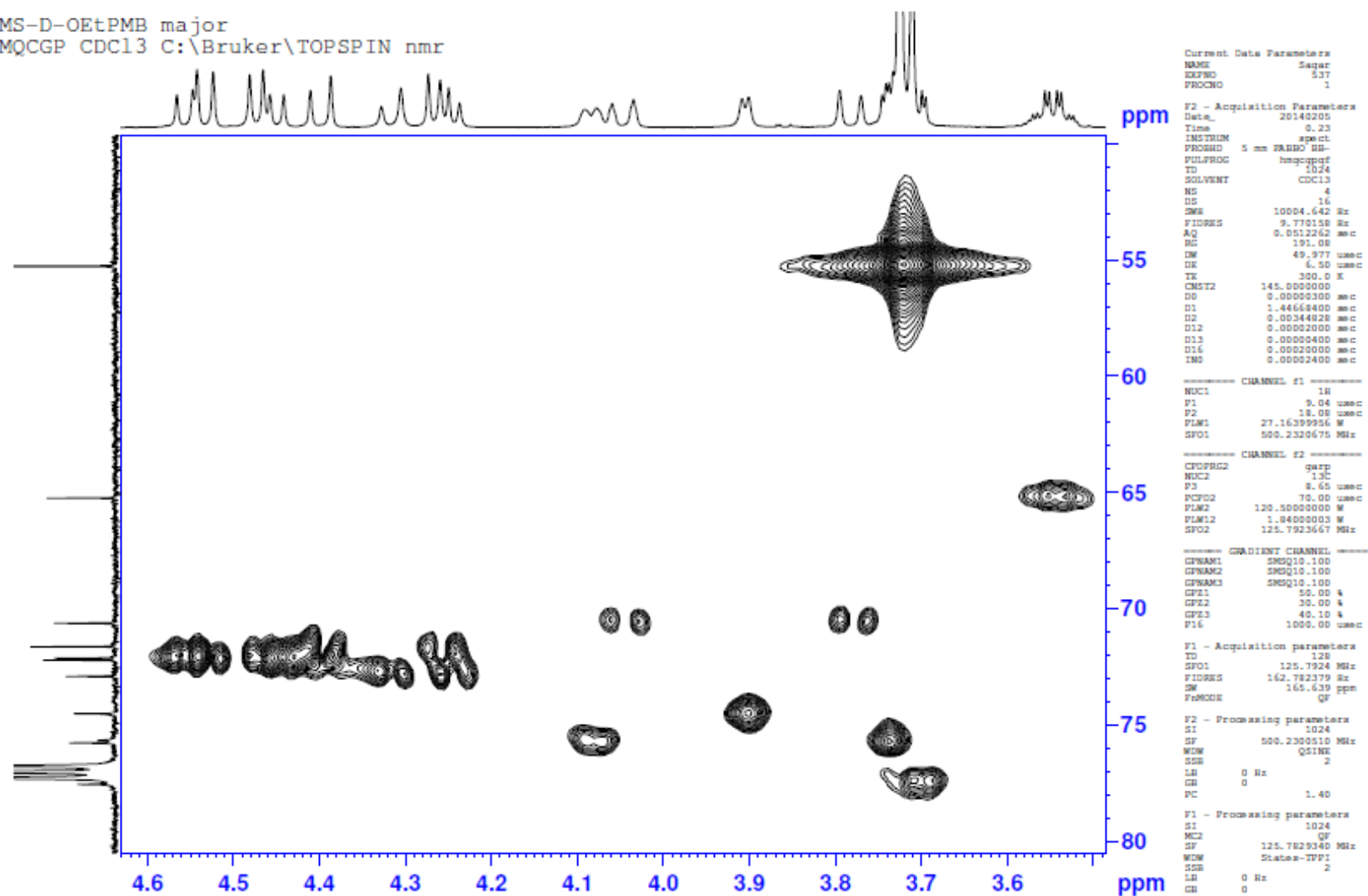
HMQC of compound 9

KMS-D-OEtPMB major  
HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



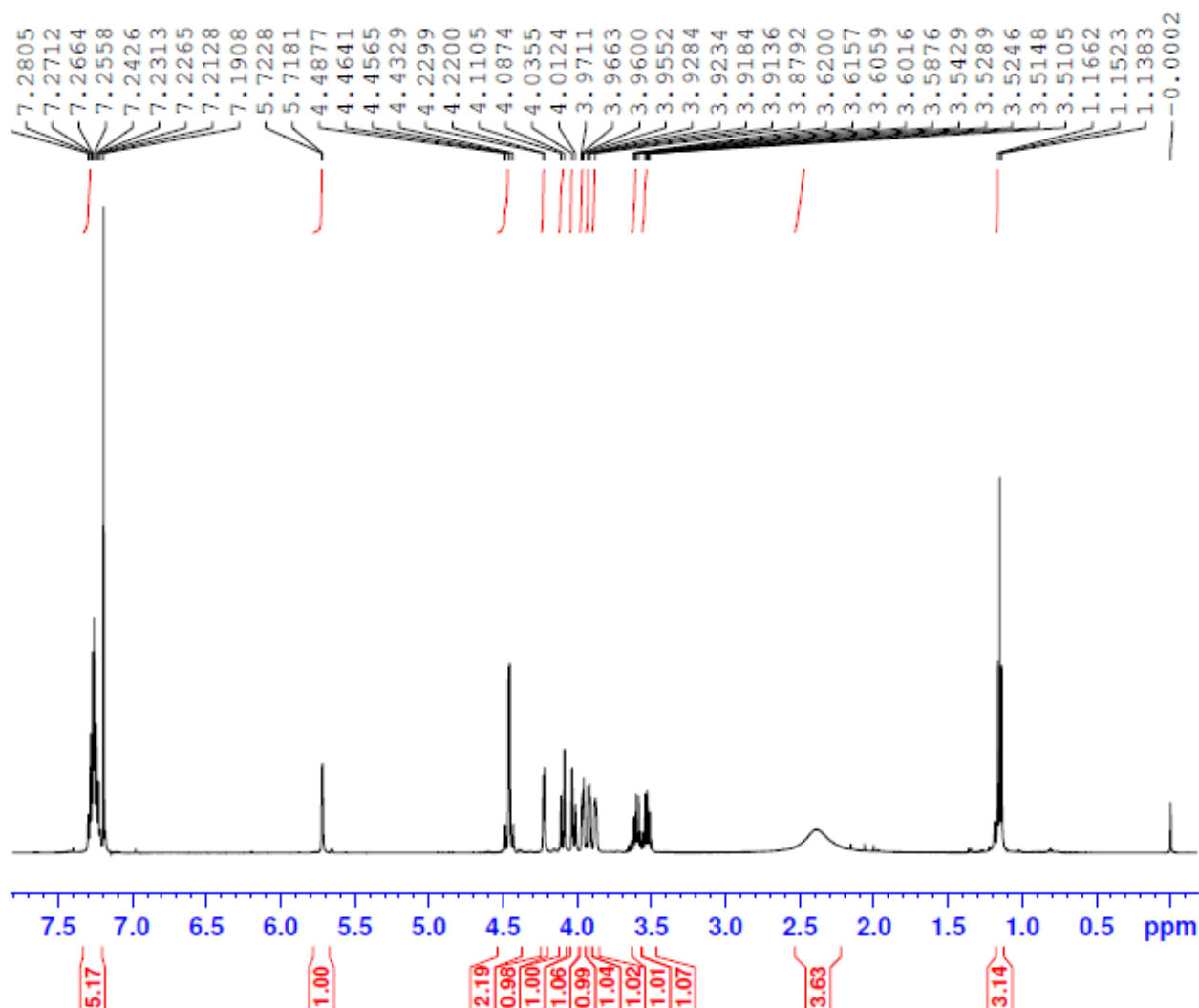
HMQC of compound **9** (zoom)

KMS-D-OEtPMB major  
 HMQCPG CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



<sup>1</sup>H NMR of compound 10

KMS-D-V-115  
 PROTON CDC13 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  
 ID 65536  
 SOLVENT CDC13  
 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

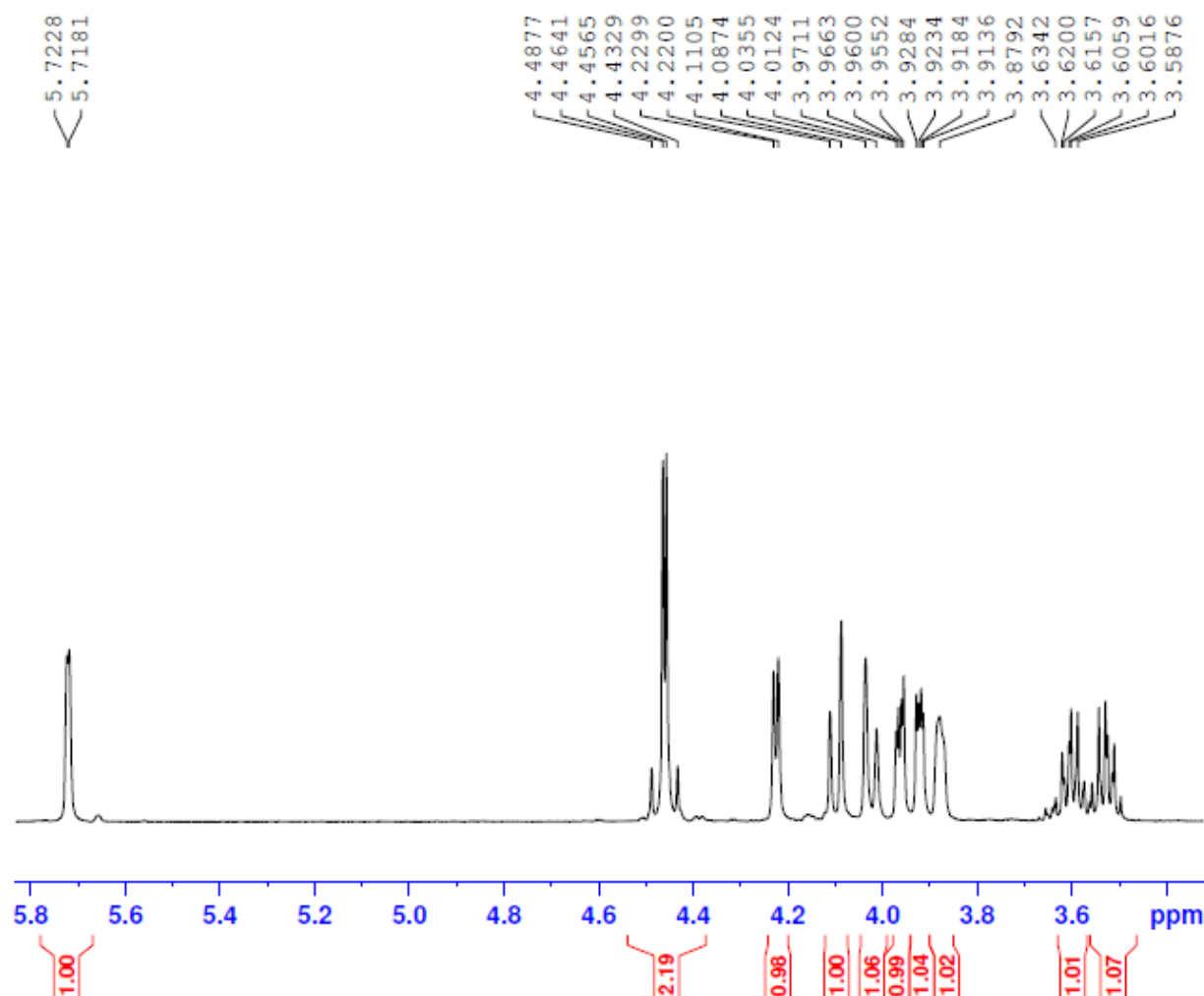
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

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

<sup>1</sup>H NMR of compound **10** (zoom)



KMS-D-V-115  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 594  
 PROCNO 1

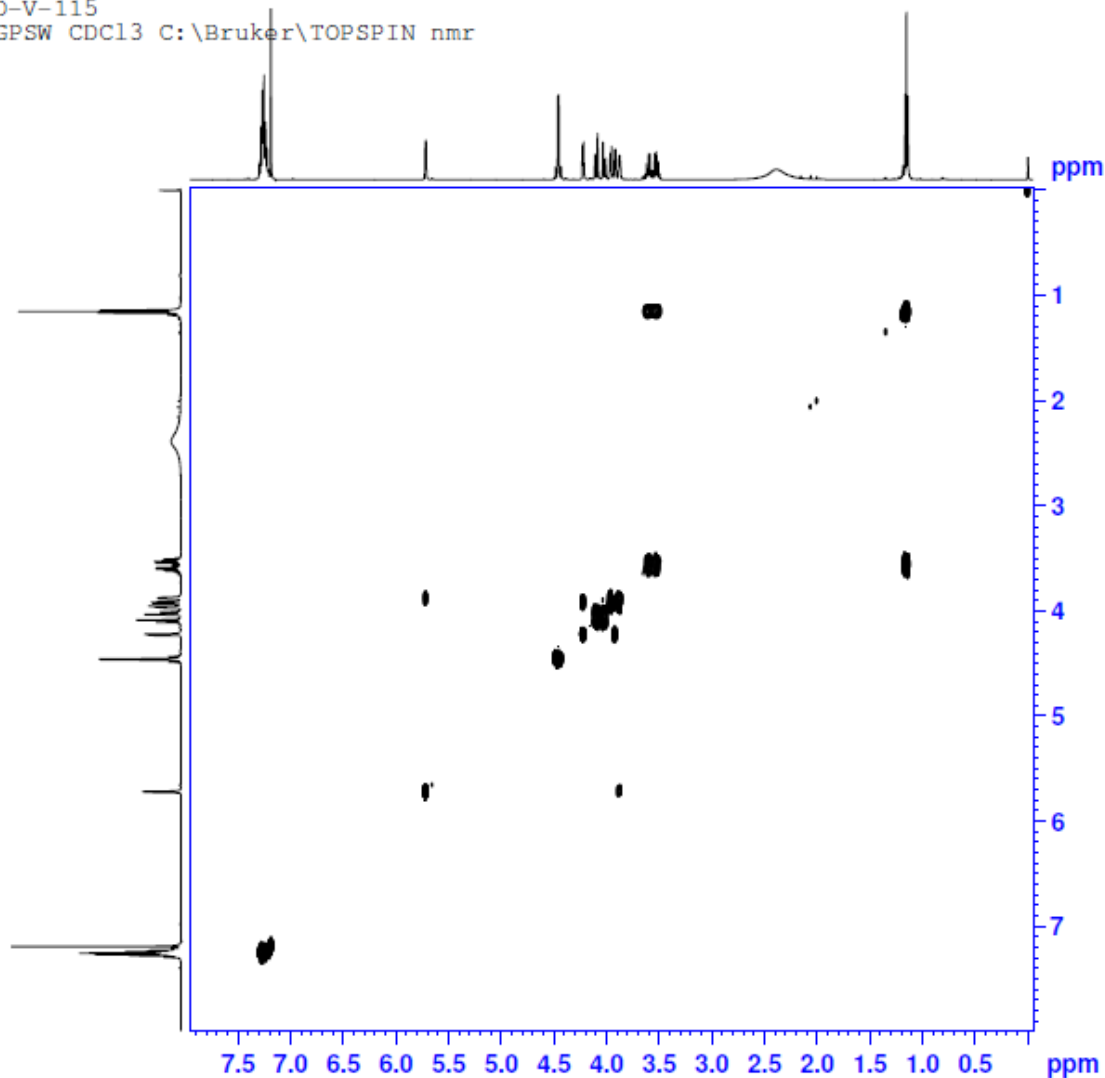
F2 - Acquisition Parameters  
 Date\_ 20140311  
 Time 12.33  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.5 K  
 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

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



```

Current Data Parameters
NAME      Sagar
EXPNO     595
PROCNO    1

F2 - Acquisition Parameters
Date_     20140311
Time      12:35
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   cosygpsw
TD        2048
SOLVENT   CDCl3
NS         1
DS         8
SWH        4310.345 Hz
FIDRES     2.104661 Hz
AQ         0.2376180 sec
RG         107.19
DW         116.000 usec
DE         6.50 usec
TE         298.6 K
DO         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 -----
NUC1       1H
P0         9.04 usec
P1         9.04 usec
P17        2500.00 usec
PLW1       27.16399956 W
PLW10      3.28390002 W
SFO1       500.2318946 MHz

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

F1 - Acquisition parameters
TD         128
SFO1       500.2319 MHz
FIDRES     33.674568 Hz
SW         8.617 ppm
FnMODE     QF

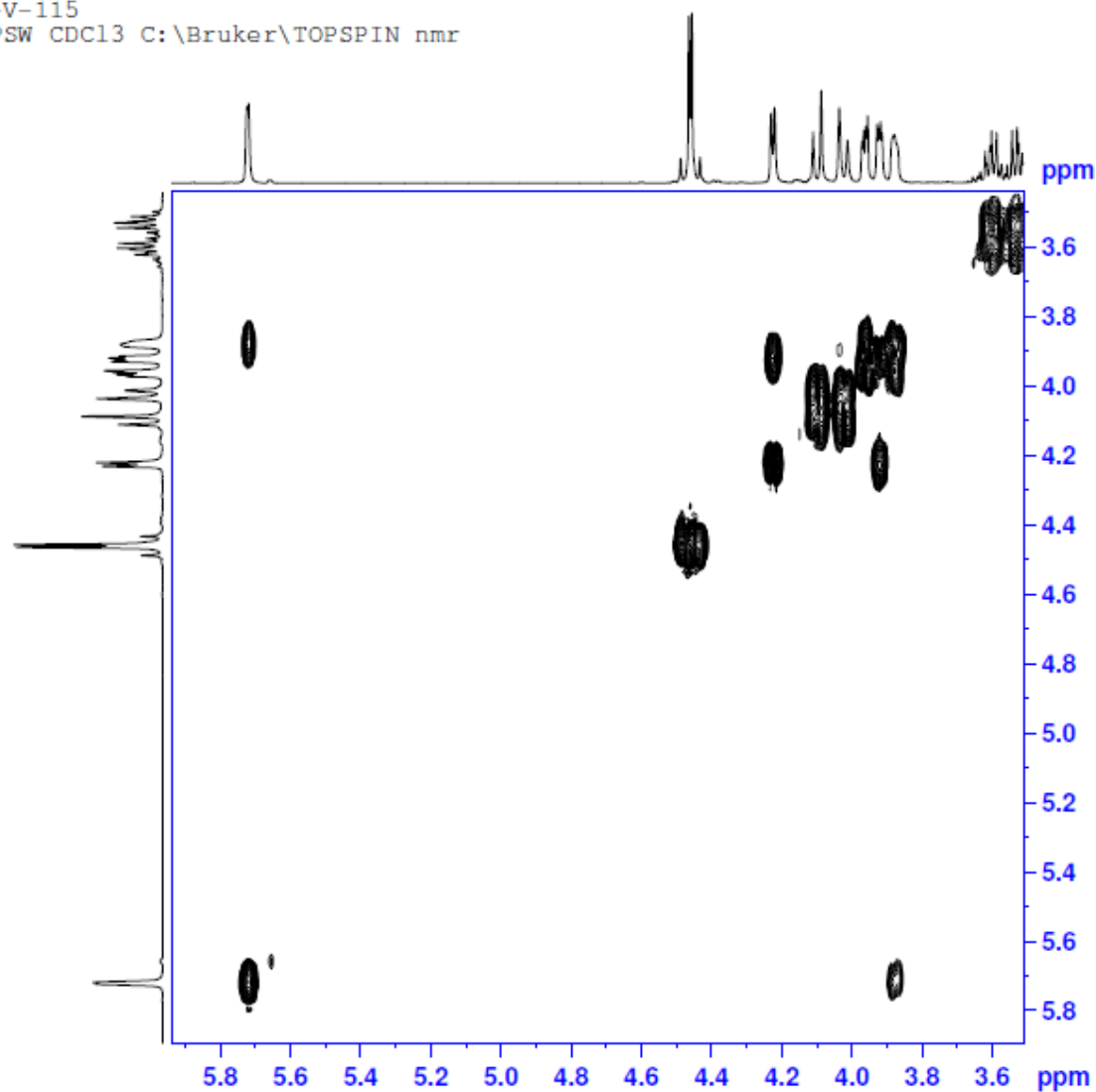
F2 - Processing parameters
SI         1024
SF         500.2300502 MHz
WDW        QSINE
SSB        0
LB         0 Hz
GB         0
PC         1.40

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

```

COSY of compound **10** (zoom)

KMS-D-V-115  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 595  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140311  
 Time 12.35  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG cosygpsw  
 TD 2048  
 SOLVENT CDC13  
 NS 1  
 DS 8  
 SWH 4310.345 Hz  
 FIDRES 2.104661 Hz  
 AQ 0.2376180 sec  
 RG 107.19  
 DW 116.000 usec  
 DE 6.50 usec  
 TE 298.6 K  
 D0 0.00000300 sec  
 D1 1.91562200 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00004000 sec  
 D14 0.00020000 sec  
 IN0 0.00023200 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P0 9.04 usec  
 P1 9.04 usec  
 P17 2500.00 usec  
 P1M1 27.16399956 W  
 P1M10 3.28390002 W  
 SFO1 500.2318946 MHz

----- GRADIENT CHANNEL -----  
 GPMAM1 SMSQ10.100  
 GPZ1 10.00 %  
 P16 1000.00 usec

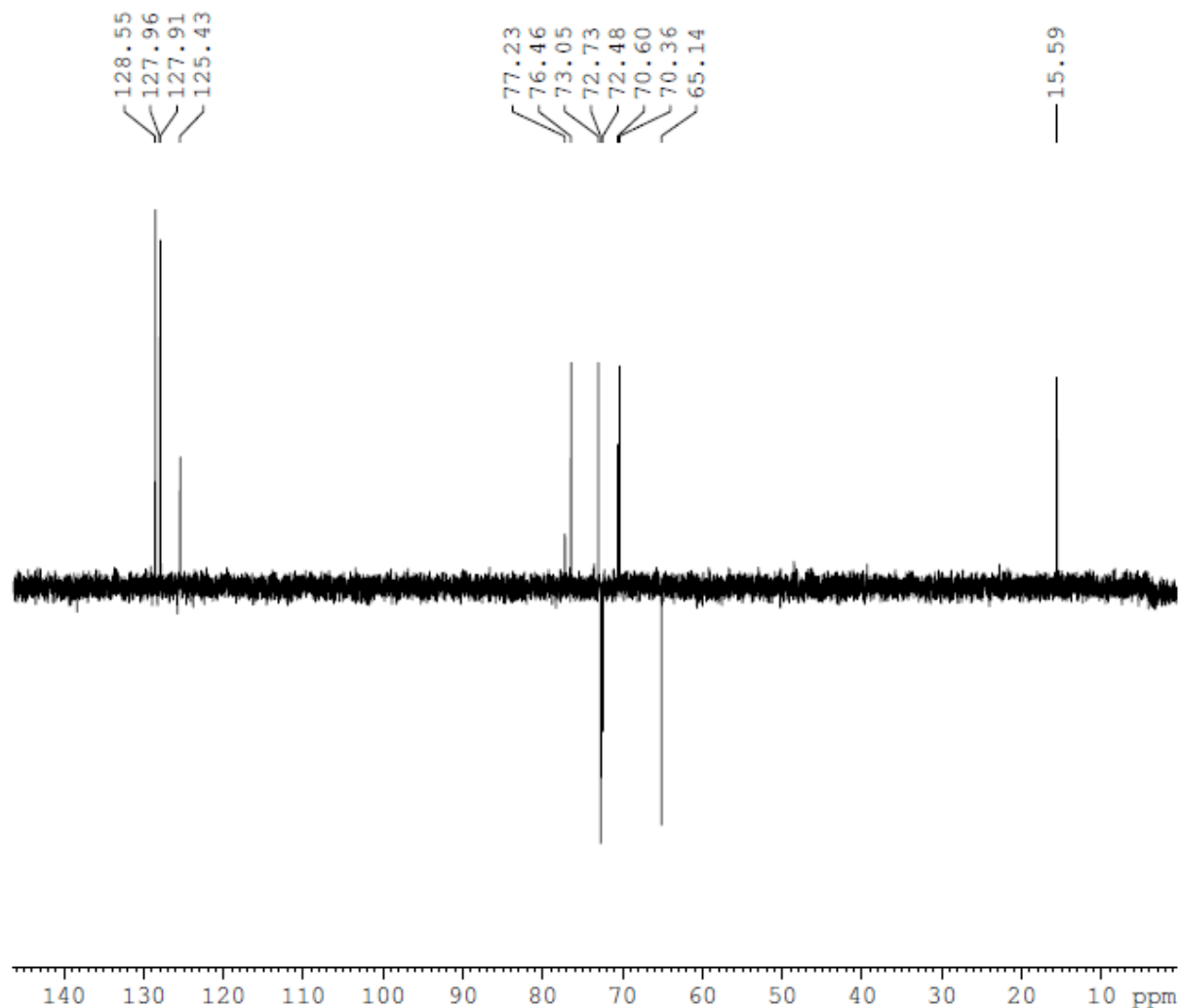
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2319 MHz  
 FIDRES 33.674568 Hz  
 SW 8.617 ppm  
 FhMODE QF

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 10

KMS-D-V-115  
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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

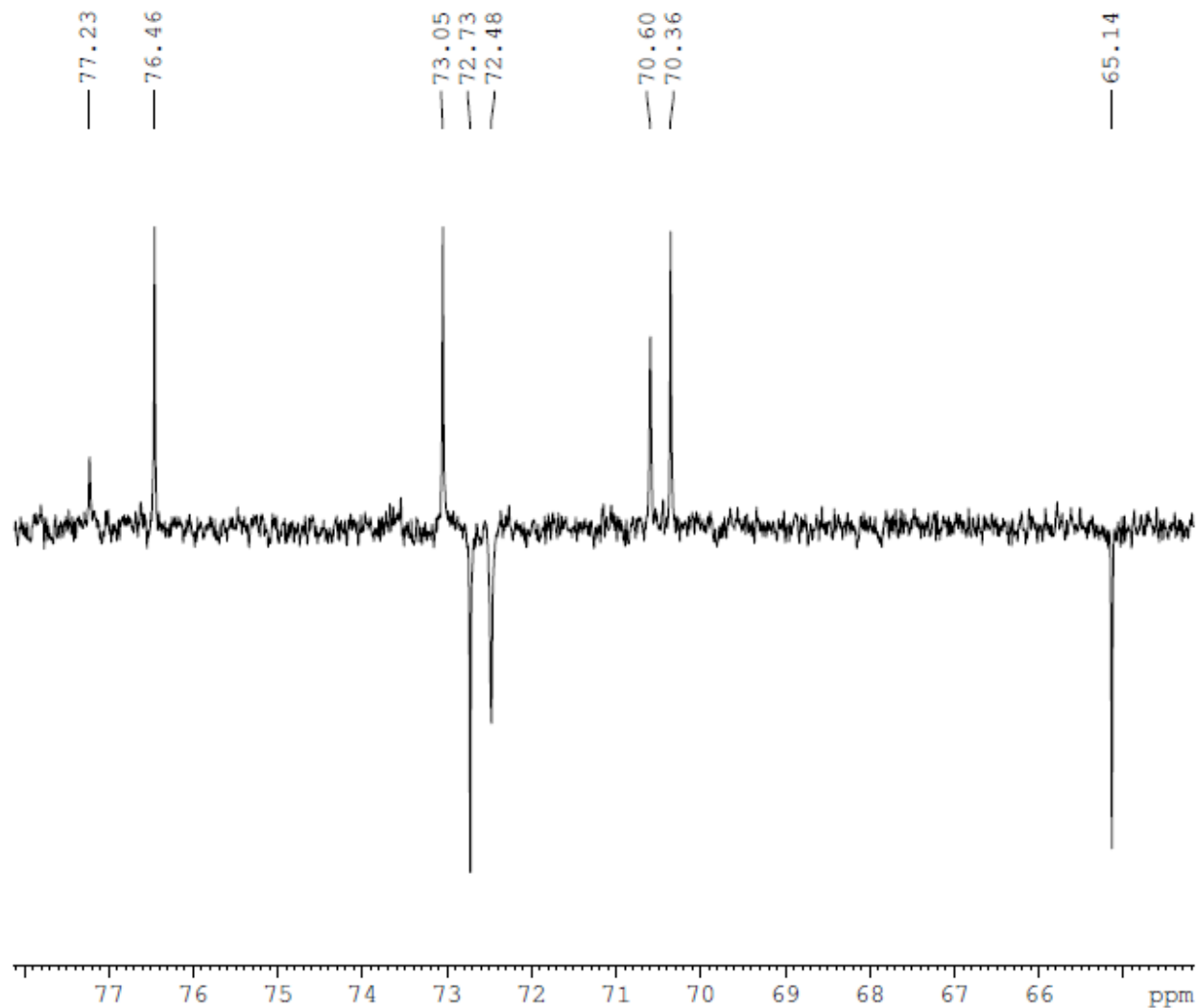
===== CHANNEL f1 =====  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM5 Crp60comp.4  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

===== 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)

KMS-D-V-115  
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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

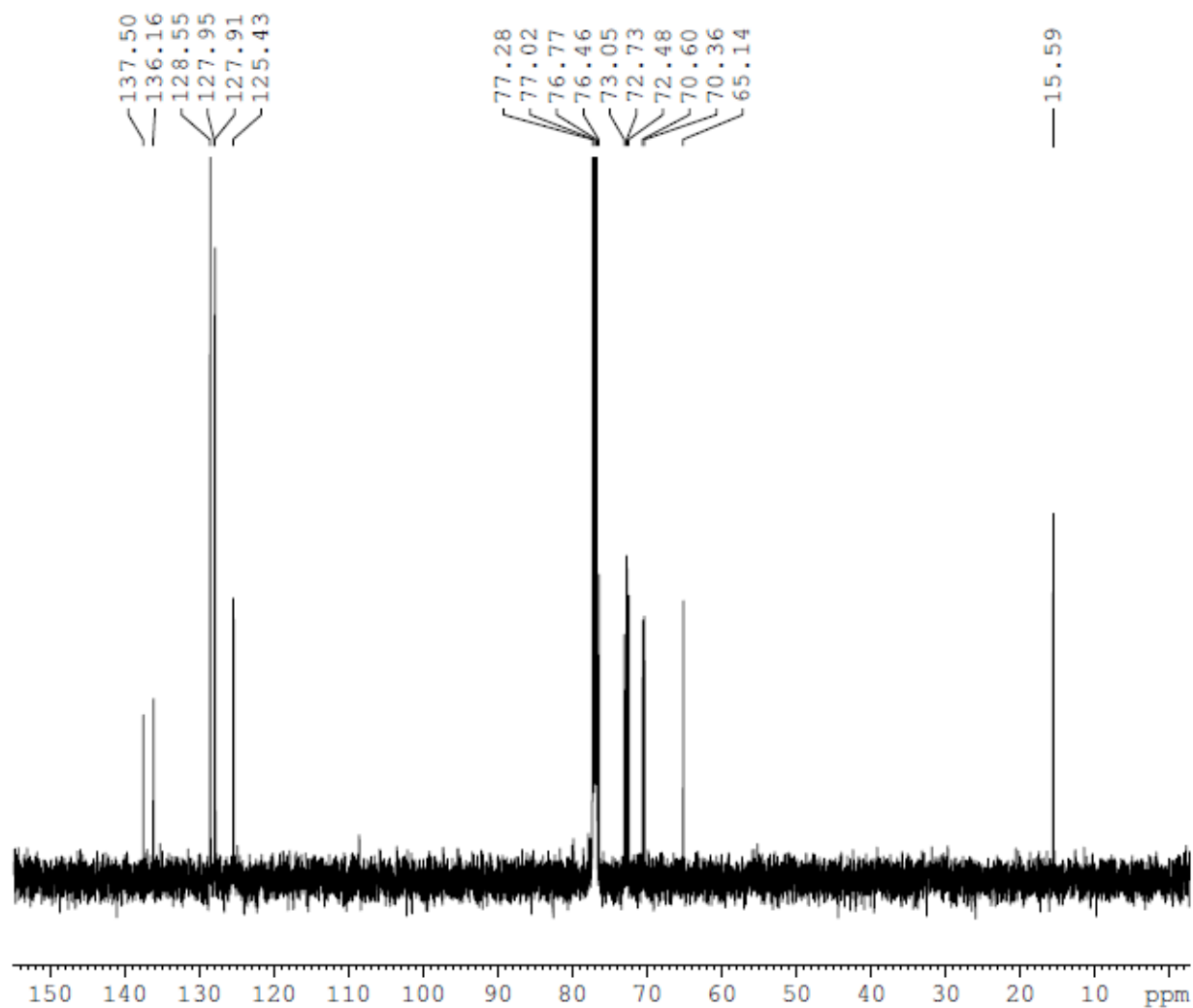
===== CHANNEL f1 =====  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM5 Crp60comp.4  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

===== 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

$^{13}\text{C}$  NMR of compound **10**

KMS-D-V-115  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

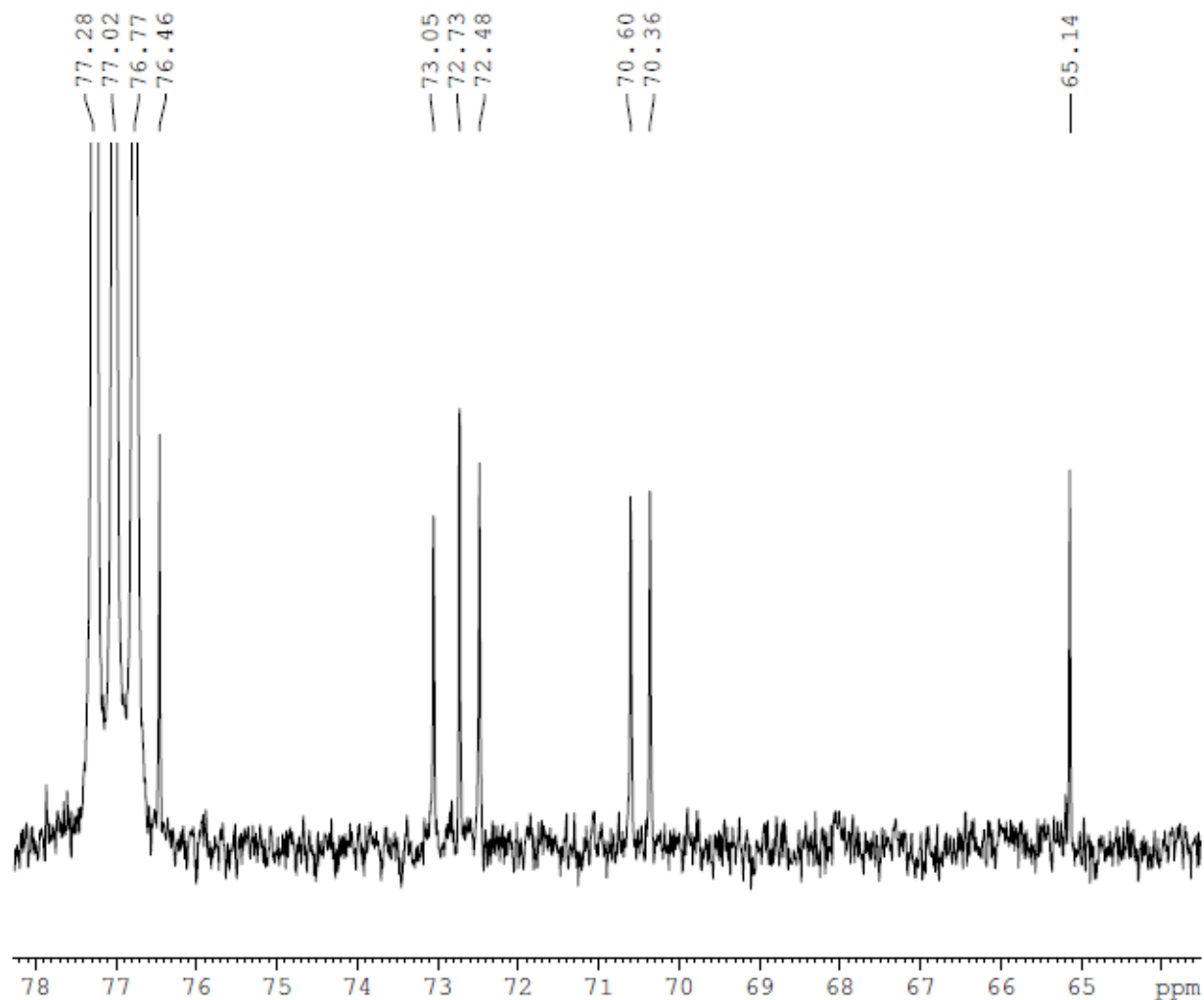
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>13</sup>C NMR of compound **10** (zoom)

KMS-D-V-115  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

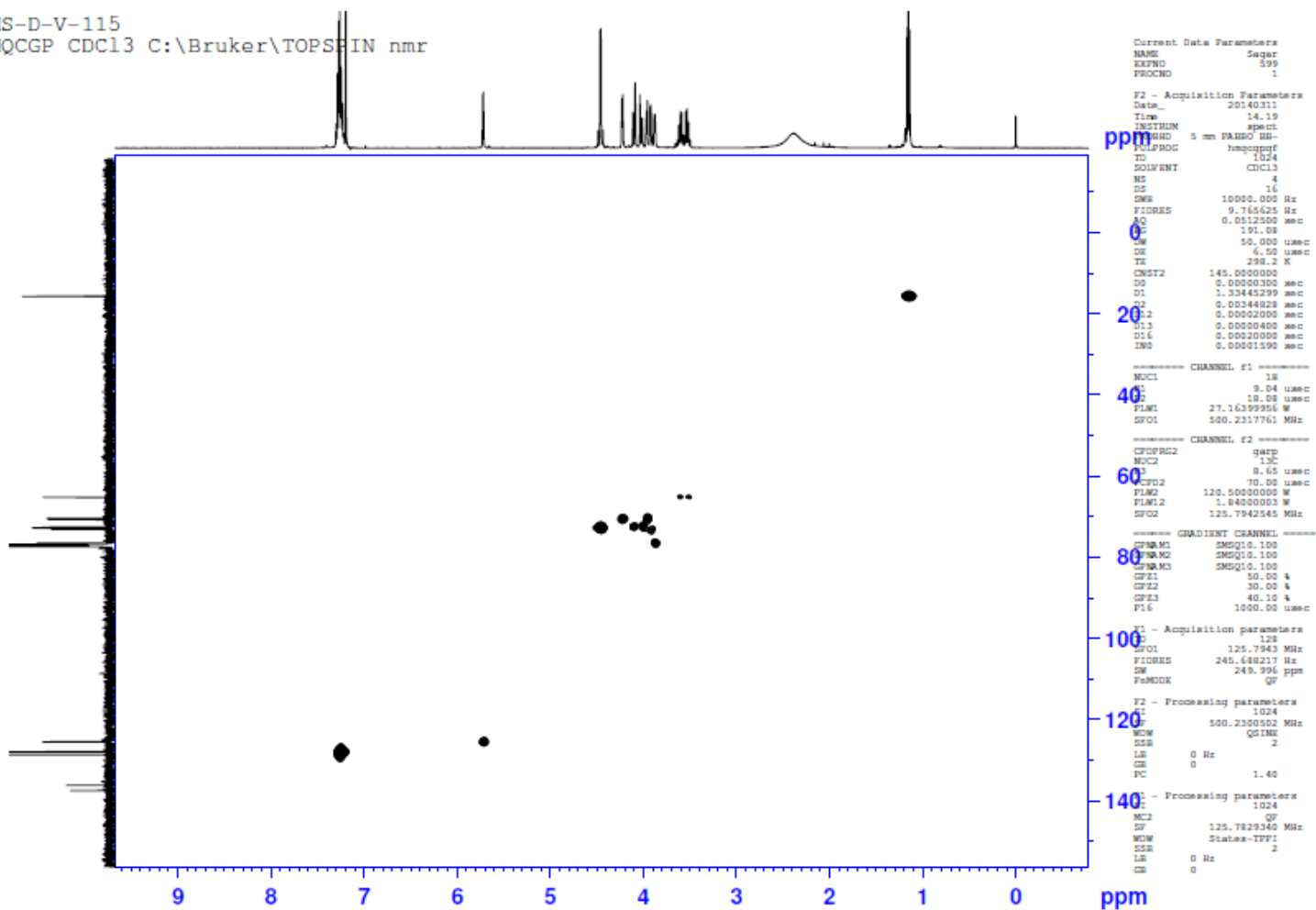
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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**

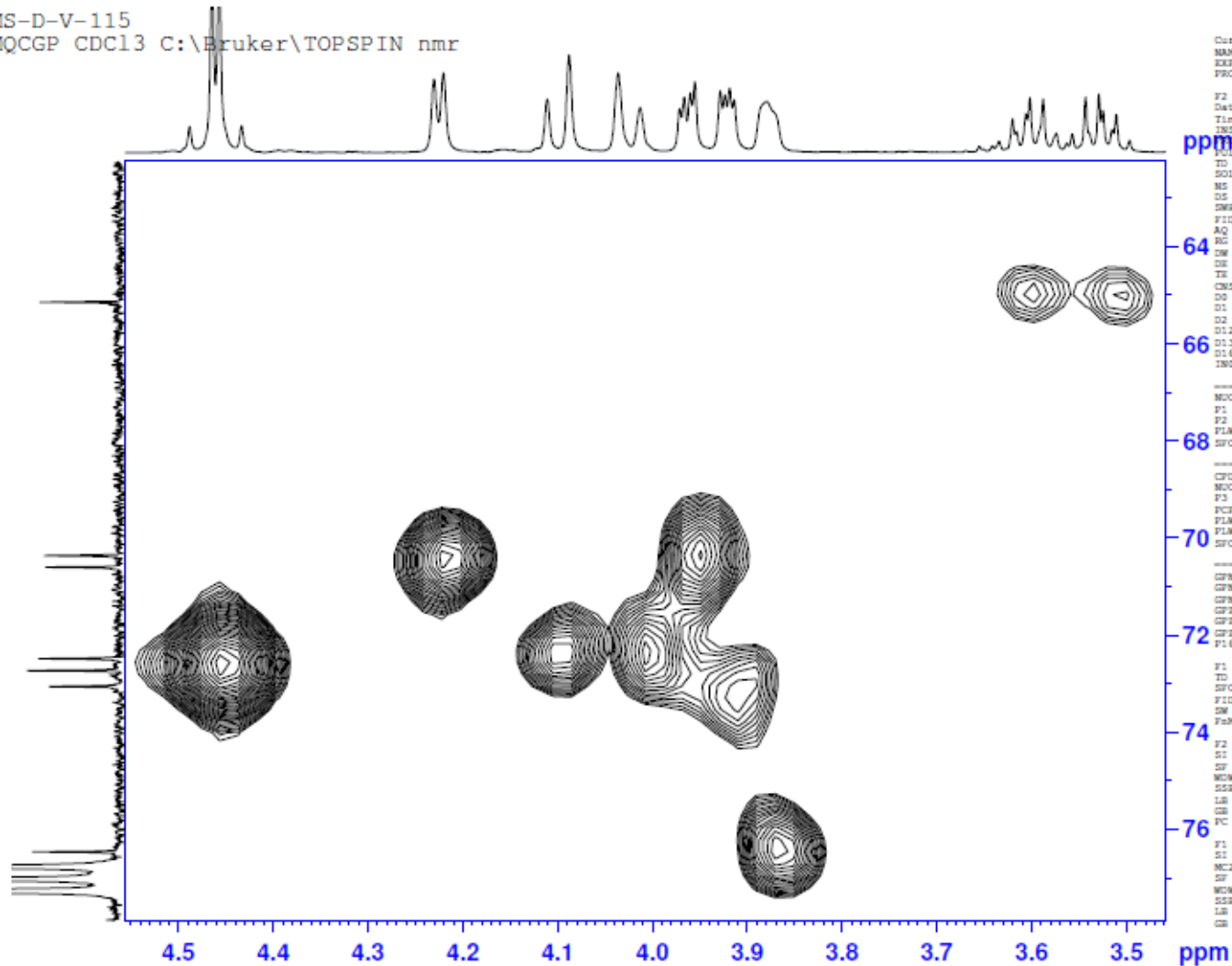
KMS-D-V-115  
HMQC CDP13 C:\Bruker\TOPSPIN nmr



HMQC of compound **10** (zoom)

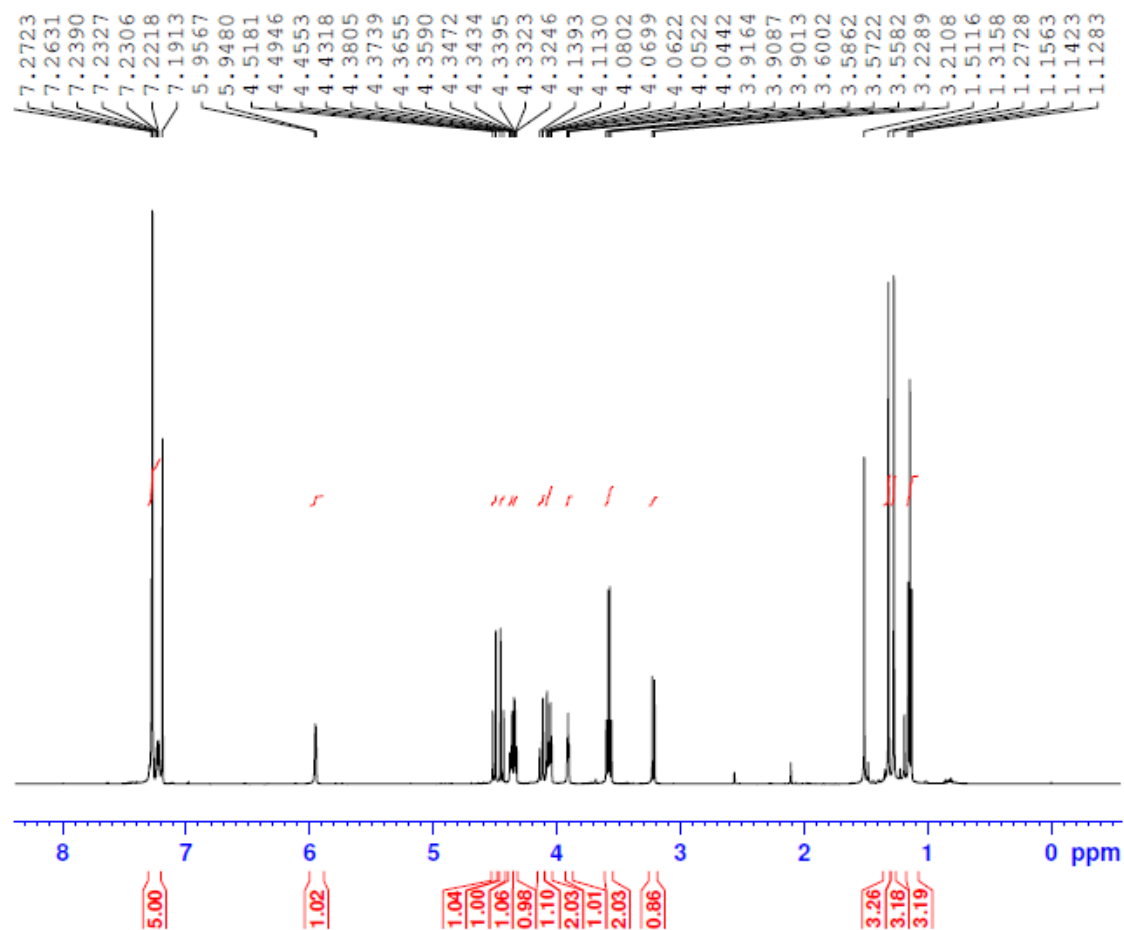


KMS-D-V-115  
 HMQCP CDC13 C:\Bruker\TOPSPIN nmr



$^1\text{HMR}$  of compound **11**

KMS-D-V-121  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 610  
 PROCNO 1

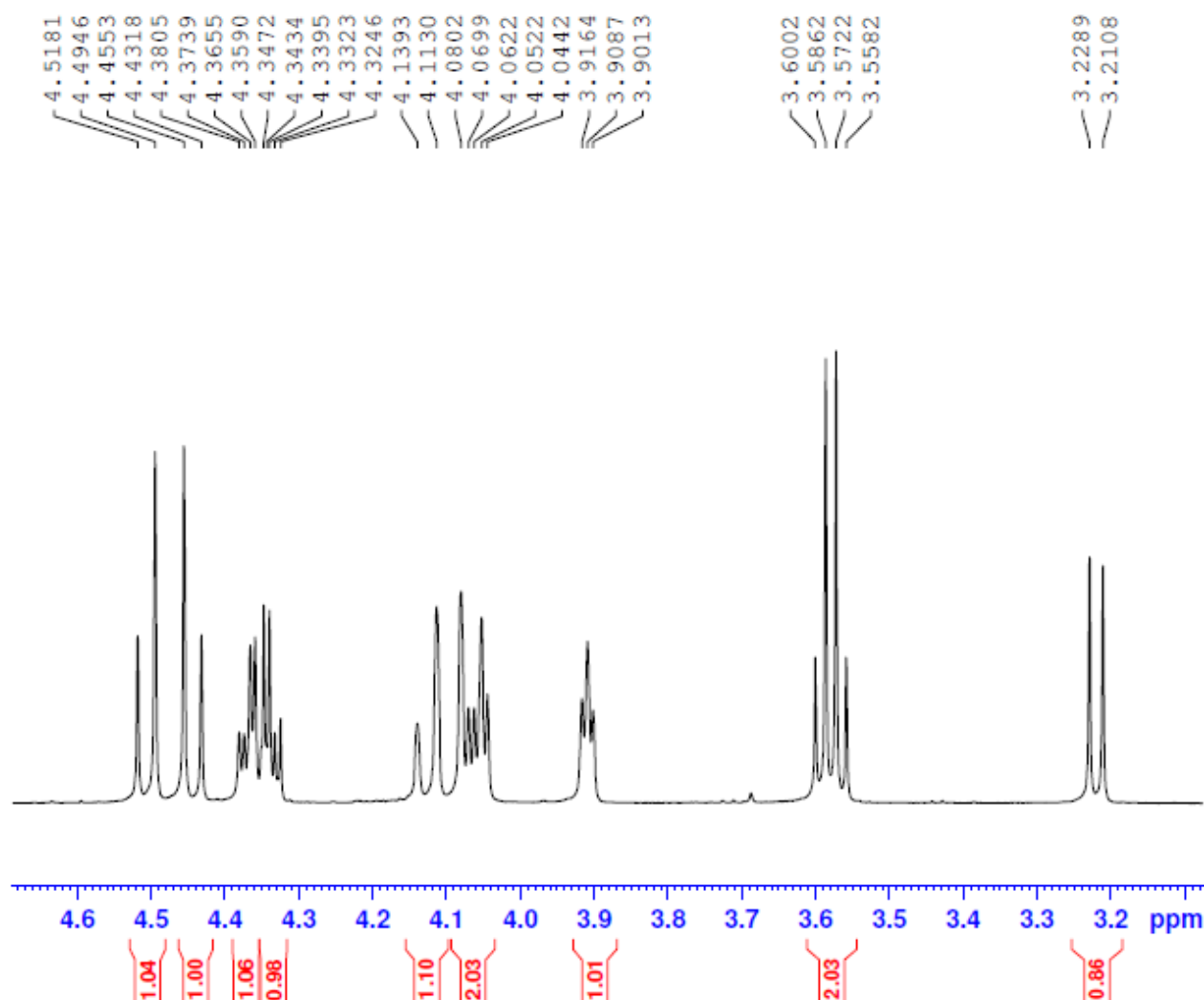
F2 - Acquisition Parameters  
 Date\_ 20140319  
 Time 14.02  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 153.65  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 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

<sup>1</sup>HMR of compound **11** (zoom)

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



Current Data Parameters  
 NAME Sagar  
 EXPNO 610  
 PROCNO 1

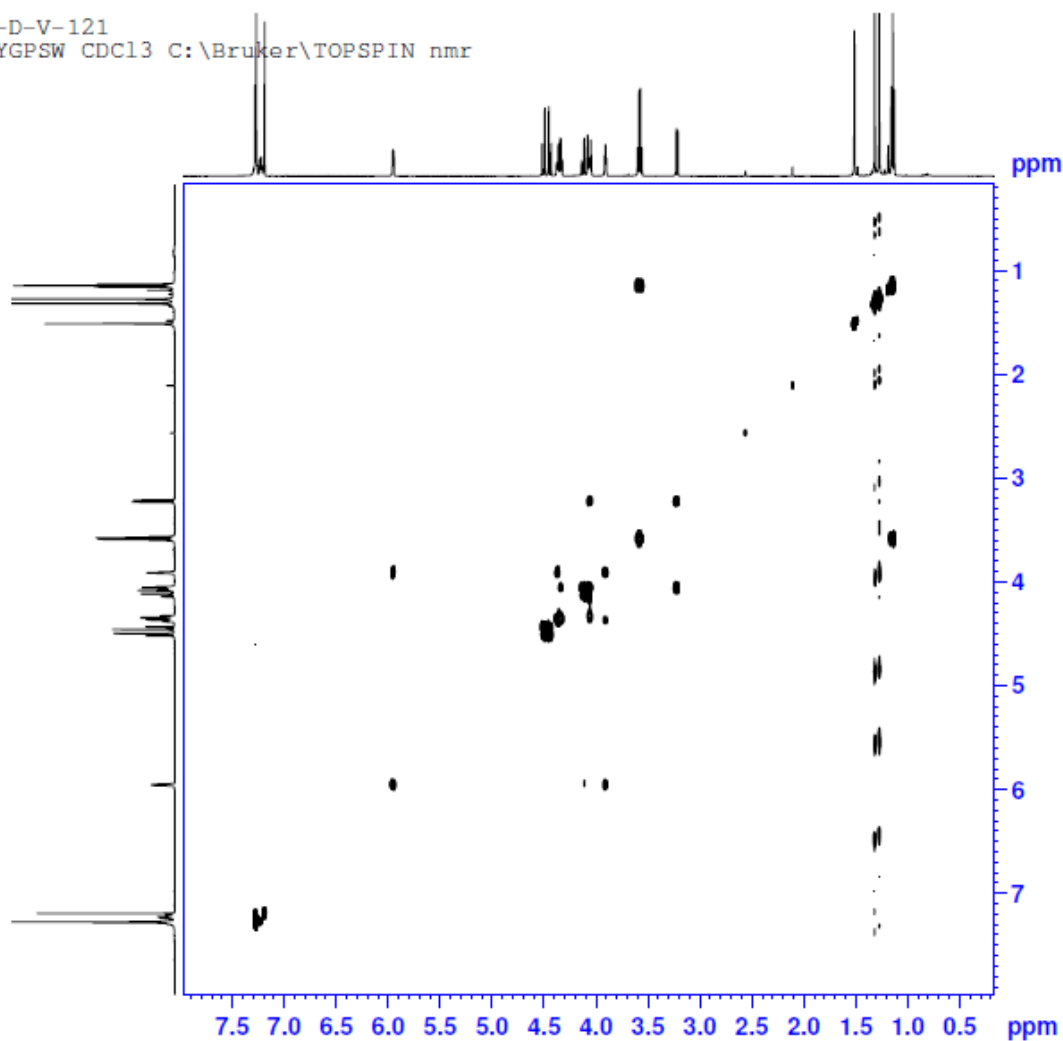
F2 - Acquisition Parameters  
 Date\_ 20140319  
 Time 14.02  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 153.65  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 1.00000000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

COSY of compound 11

KMS-D-V-121  
 COSYGP SW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



```

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   conyqpppqf
TD         1024
SOLVENT   CDCl3
NS         1
DS         8
SMH        10004.642 Hz
FIDRES     9.770158 Hz
AQ         0.0512262 sec
RG         95.46
IM         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       27.14399956 W
PLW10      3.28390002 W
SFO1       500.2320876 MHz

----- GRADIENT CHANNEL -----
GPNAM1     SMSQ10.100
CPZ1       10.00 %
P16        1000.00 usec

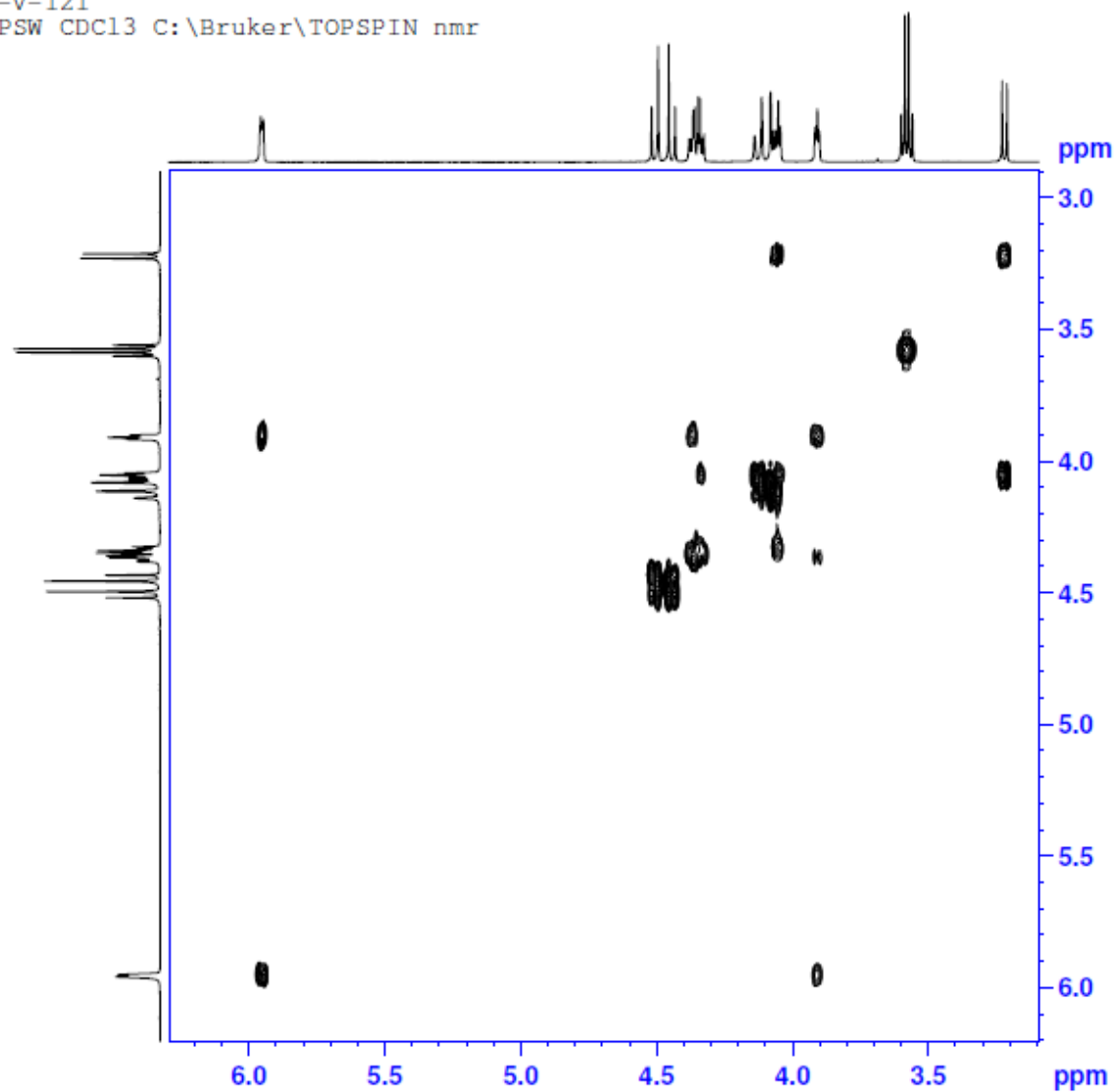
F1 - Acquisition parameters
TD         128
SFO1       500.2321 MHz
FIDRES     30.517578 Hz
SM         7.809 ppm
FrMODE     QF

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        Stator-TFPI
SSB        0
LB         0 Hz
GB         0
  
```

COSY of compound **11** (zoom)

KMS-D-V-121  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



```

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   cosygpppgf
TD         1024
SOLVENT   CDC13
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
DO         0.00000300 sec
D1         1.89104605 sec
D11        0.03000000 sec
D12        0.00002000 sec
D13        0.00000400 sec
D16        0.00020000 sec
INO        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 -----
CPMAM1     SMSQ10.100
GPT1       10.00 %
P16         1000.00 usec

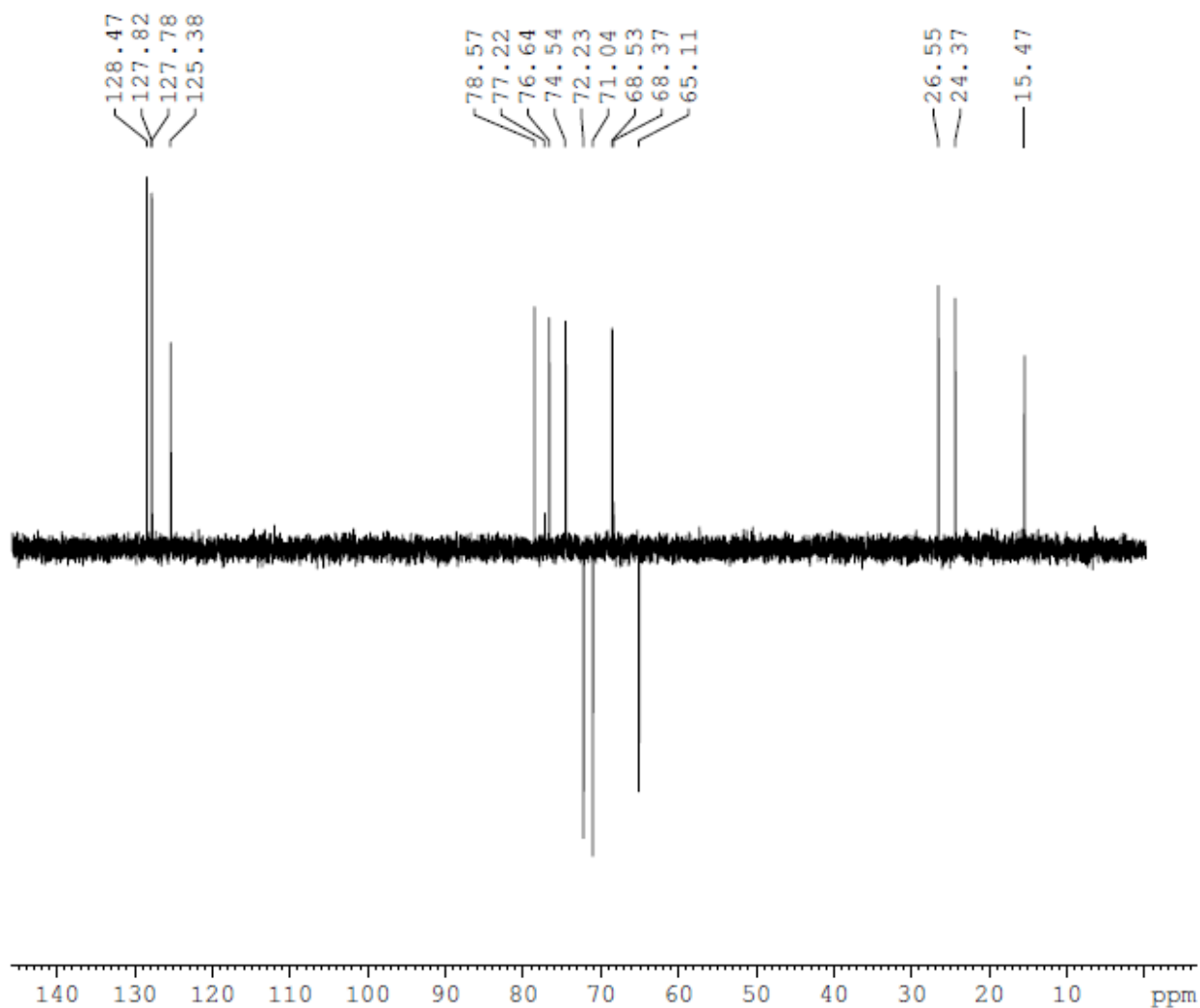
F1 - Acquisition parameters
TD         128
SFO1       500.2321 MHz
FIDRES     30.517578 Hz
SW         7.809 ppm
FnMODE     QF

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**

KMS-D-V-121  
C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
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  
CNS12 145.0000000  
D1 2.00000000 sec  
D2 0.00344828 sec  
D12 0.00002000 sec

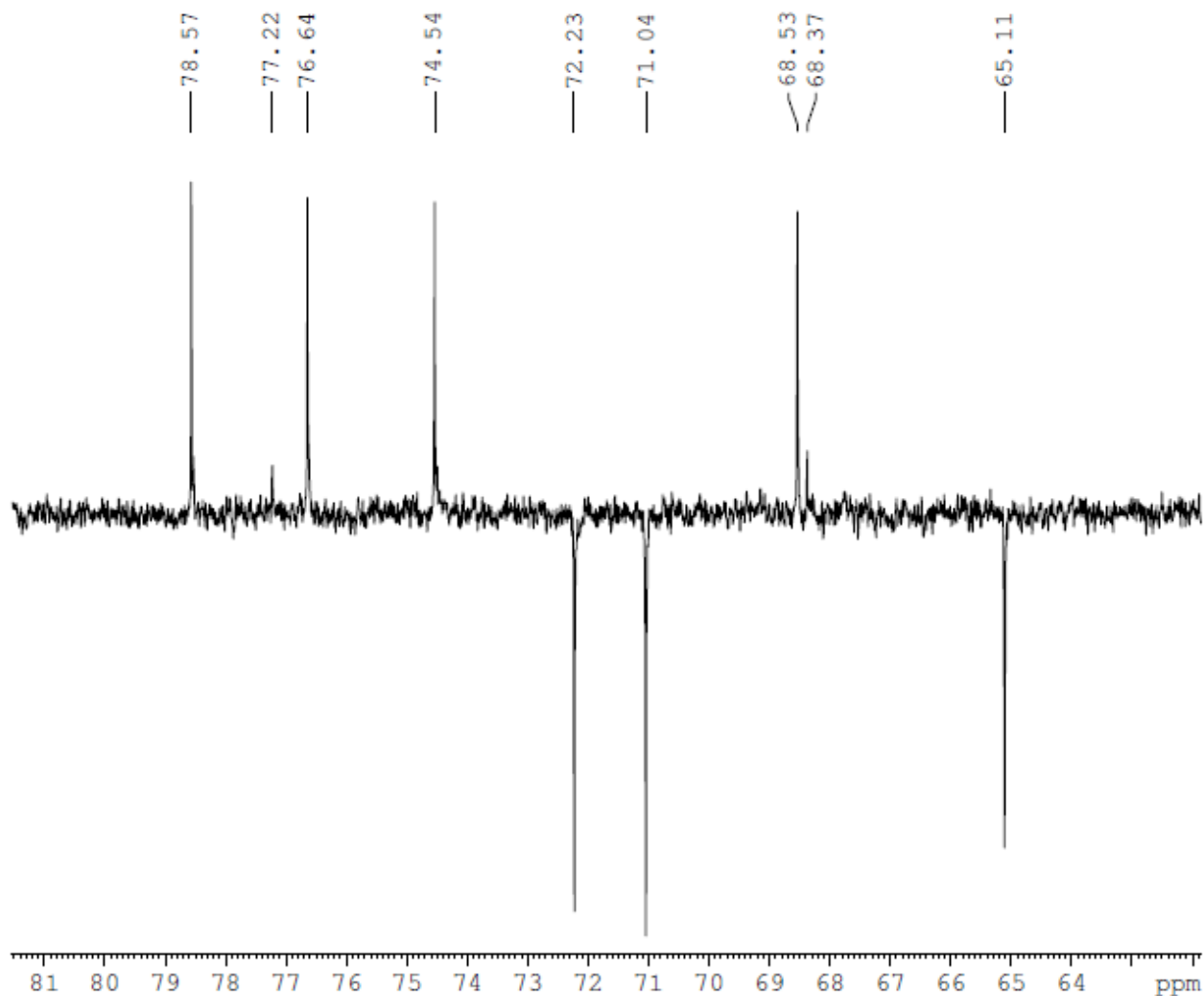
===== CHANNEL f1 =====  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM5  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 0 W

===== 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)

KMS-D-V-121  
 C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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 dptasp135  
 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

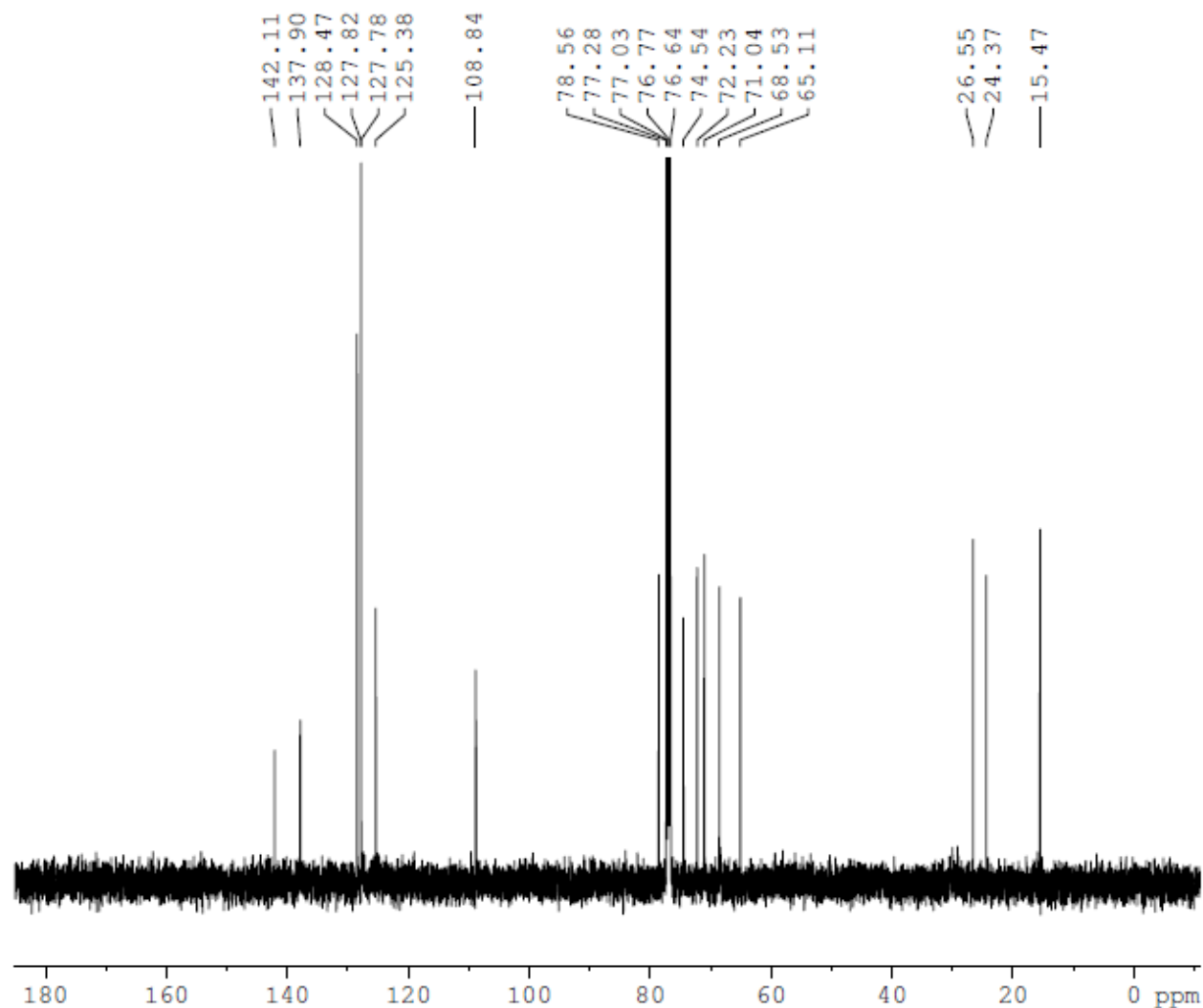
===== CHANNEL F1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5  
 SFOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 0 W

===== 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

<sup>13</sup>C NMR of compound **11**

KMS-D-V-121  
C13CPD CDC13 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 CDC13  
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 120.5000000 W  
SFO1 125.7955112 MHz

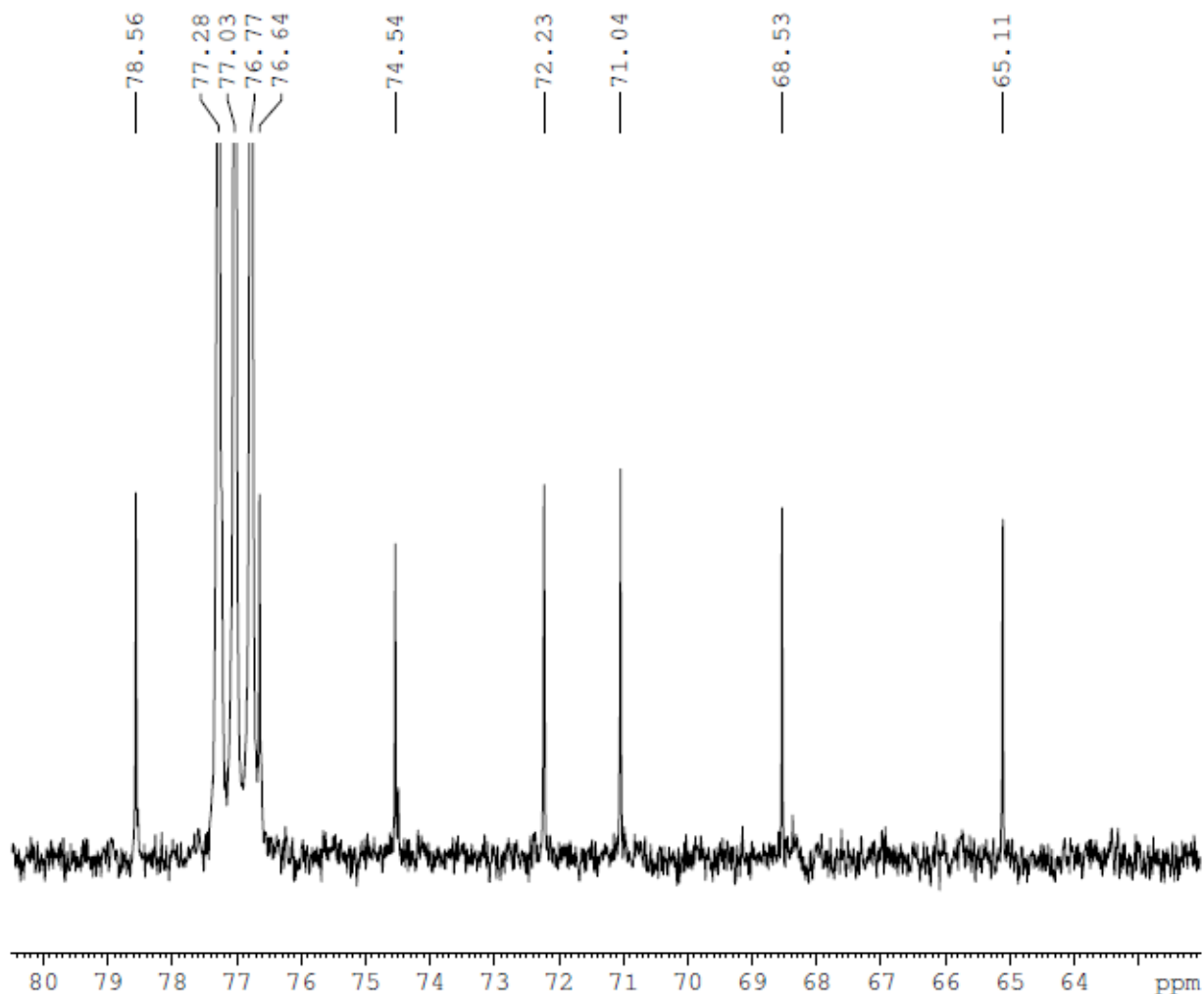
----- CHANNEL f2 -----  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W  
SFO2 500.2320009 MHz

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

<sup>13</sup>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

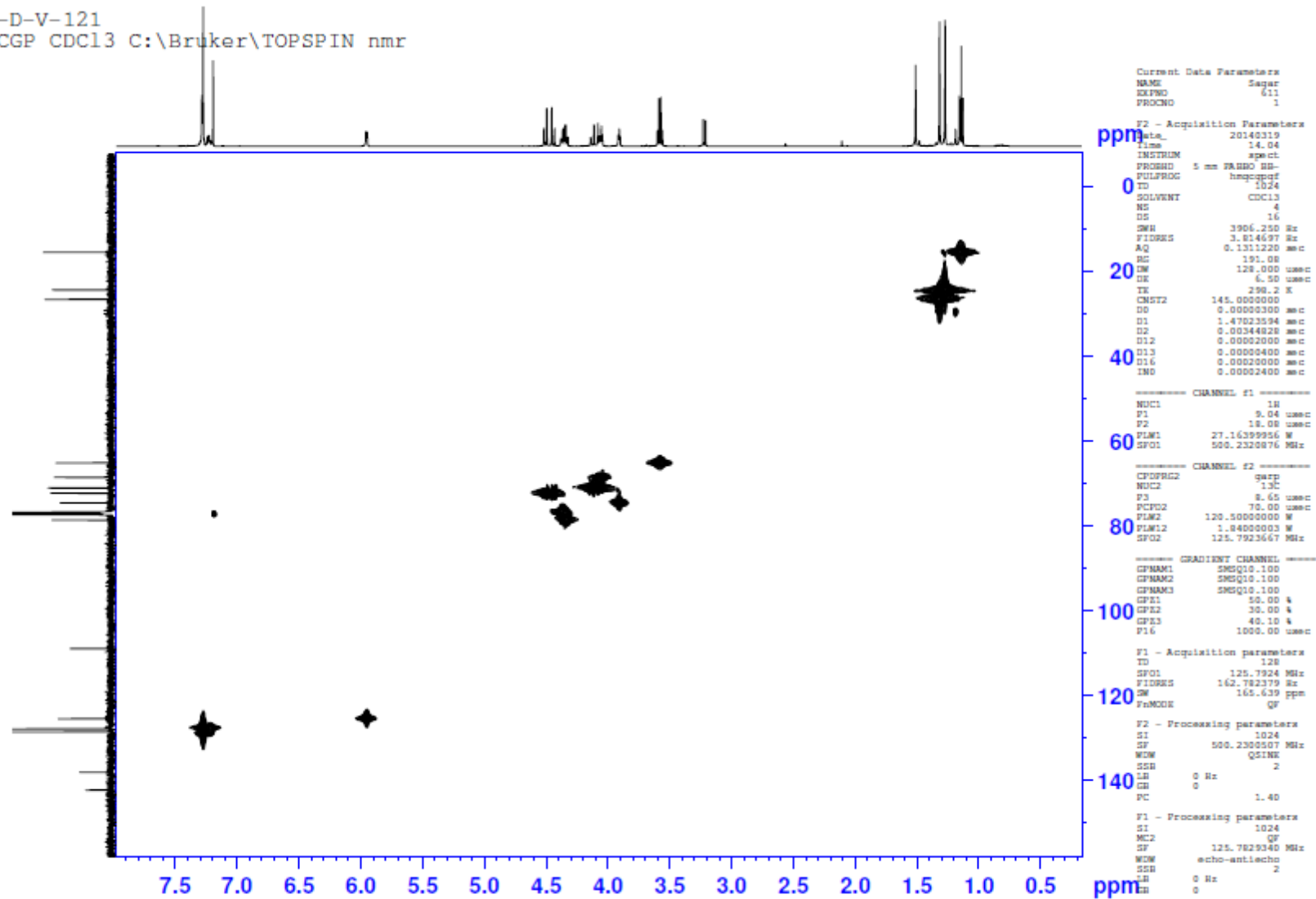
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

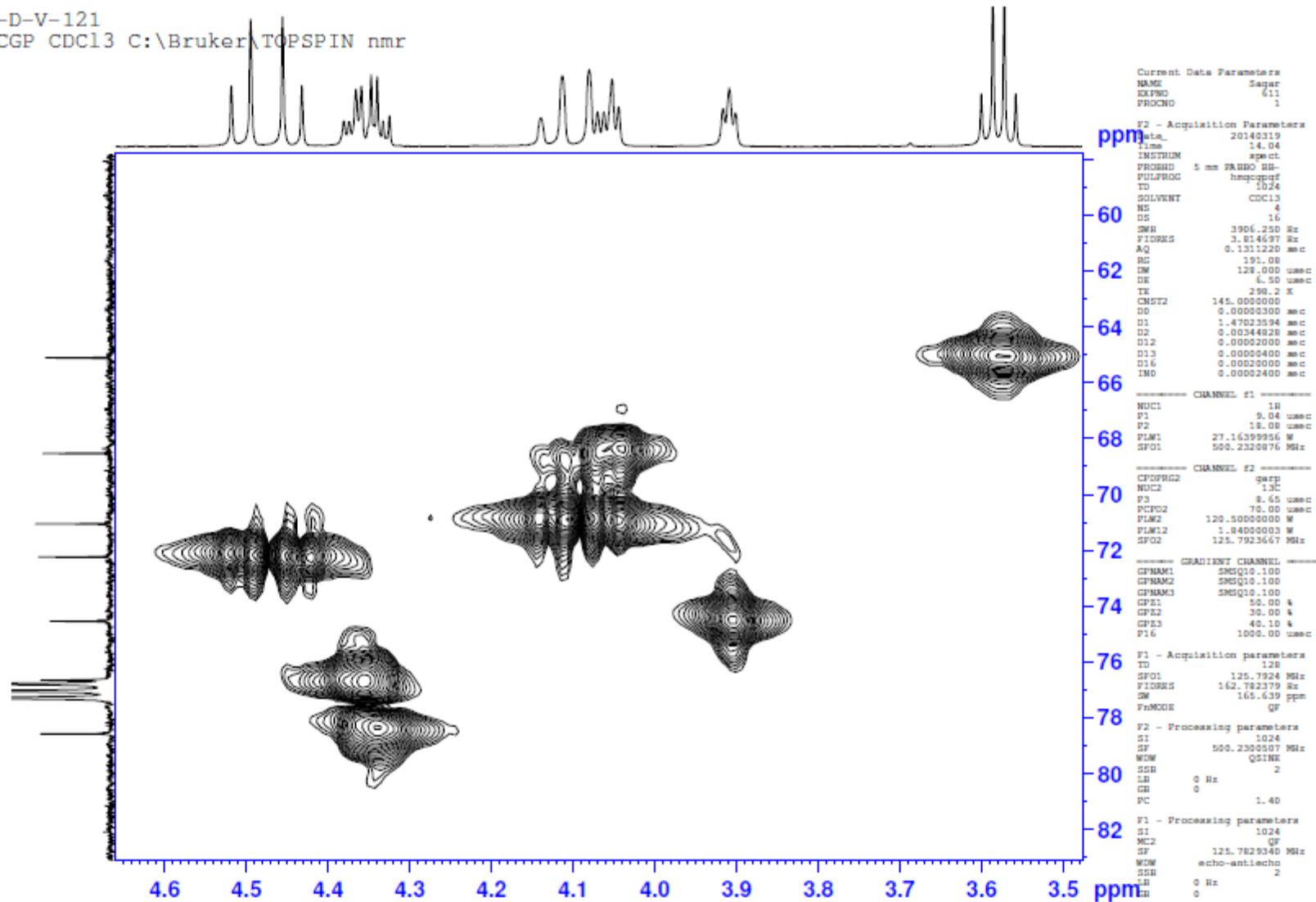
HMQC of compound 11

KMS-D-V-121  
HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



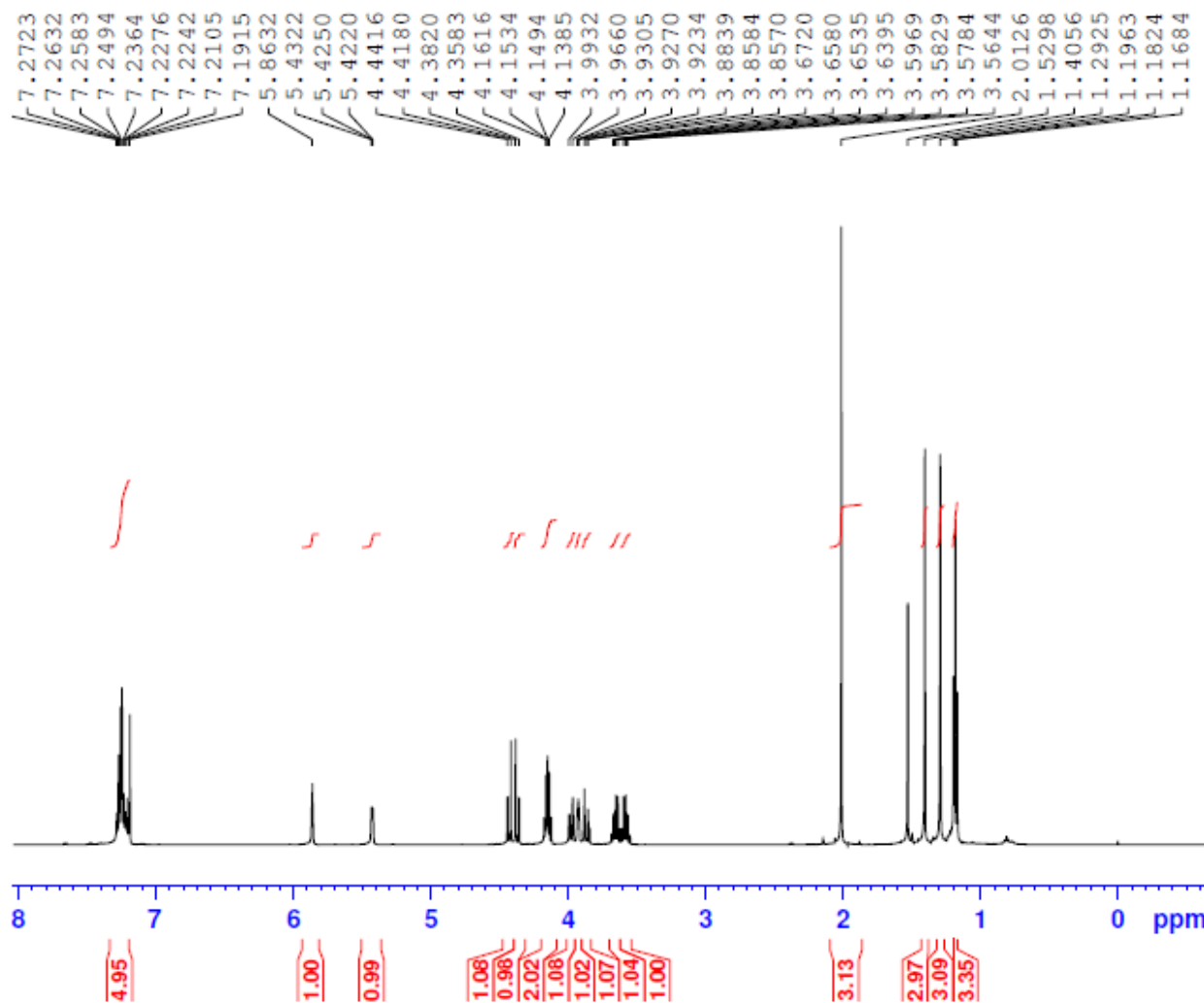
HMQC of compound **11** (zoom)

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



<sup>1</sup>H NMR of compound 12

KMS-D-V-125  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 614  
 PROCNO 1

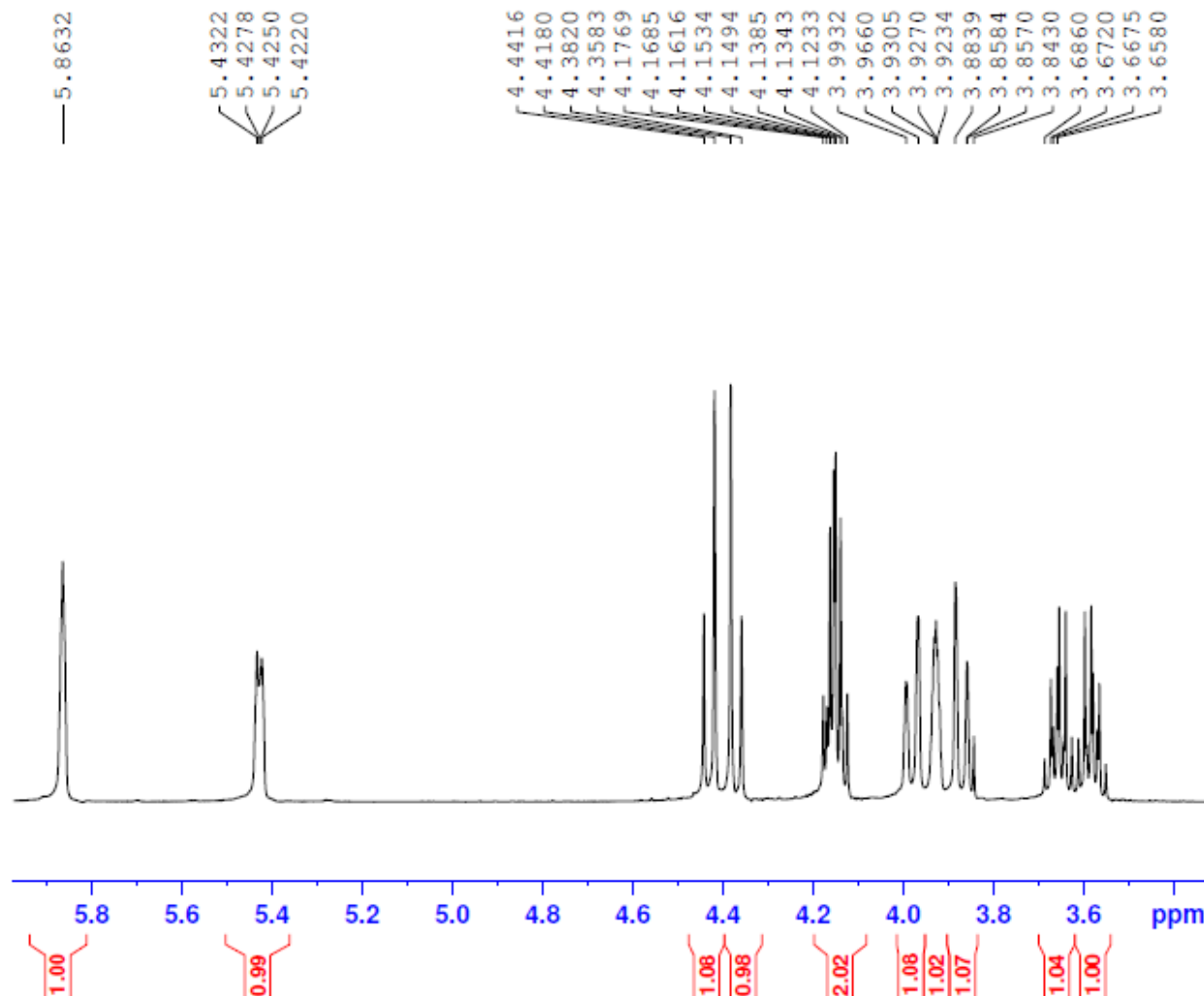
F2 - Acquisition Parameters  
 Date\_ 20140324  
 Time 21.58  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 125.62  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.2 K  
 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

<sup>1</sup>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  
 ID 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

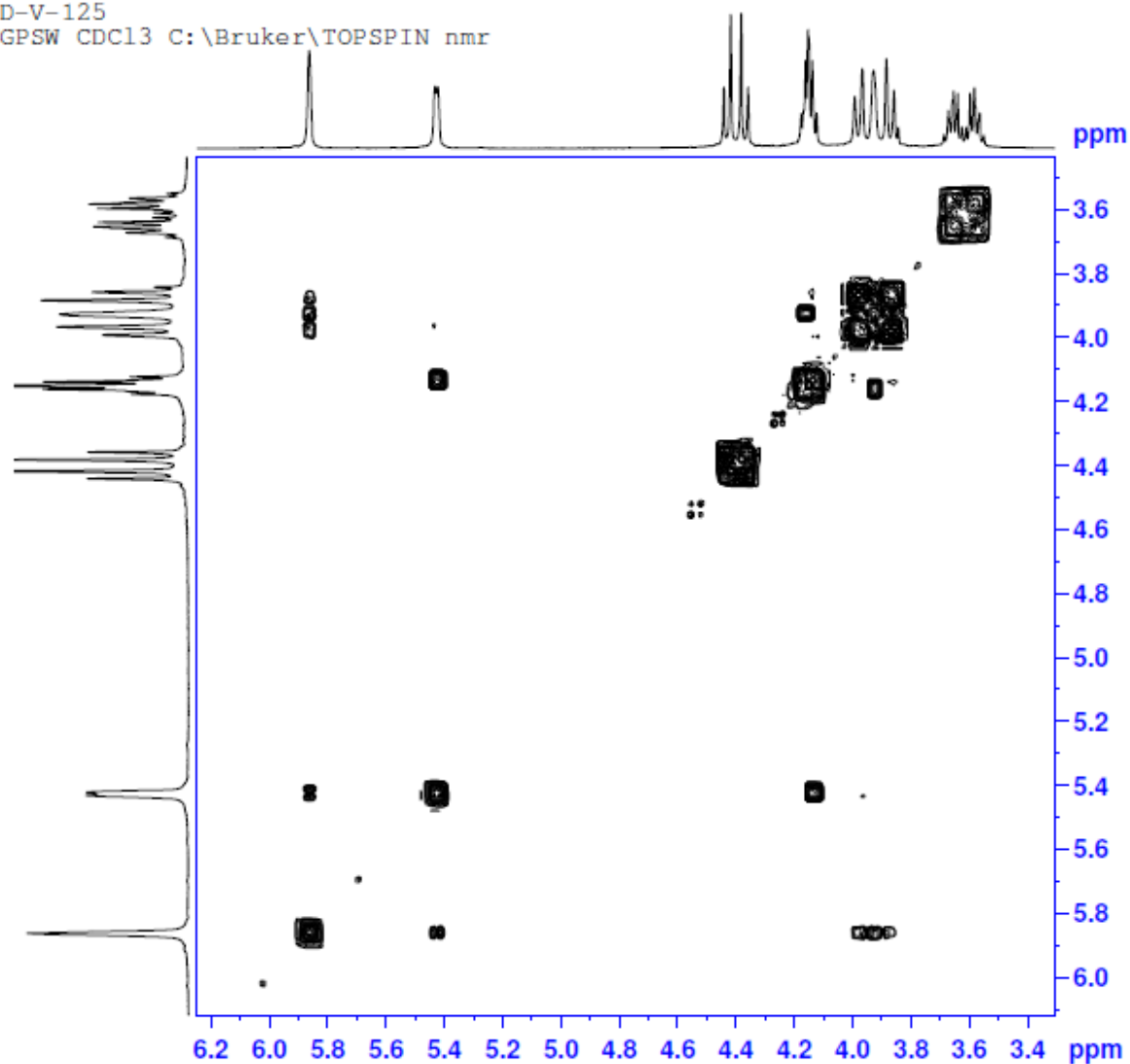
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

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

```
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)

KMS-D-V-125  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



```

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       cosygpsw
TD            2048
SOLVENT       CDC13
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          27.16399955 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
FMODE         QF

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

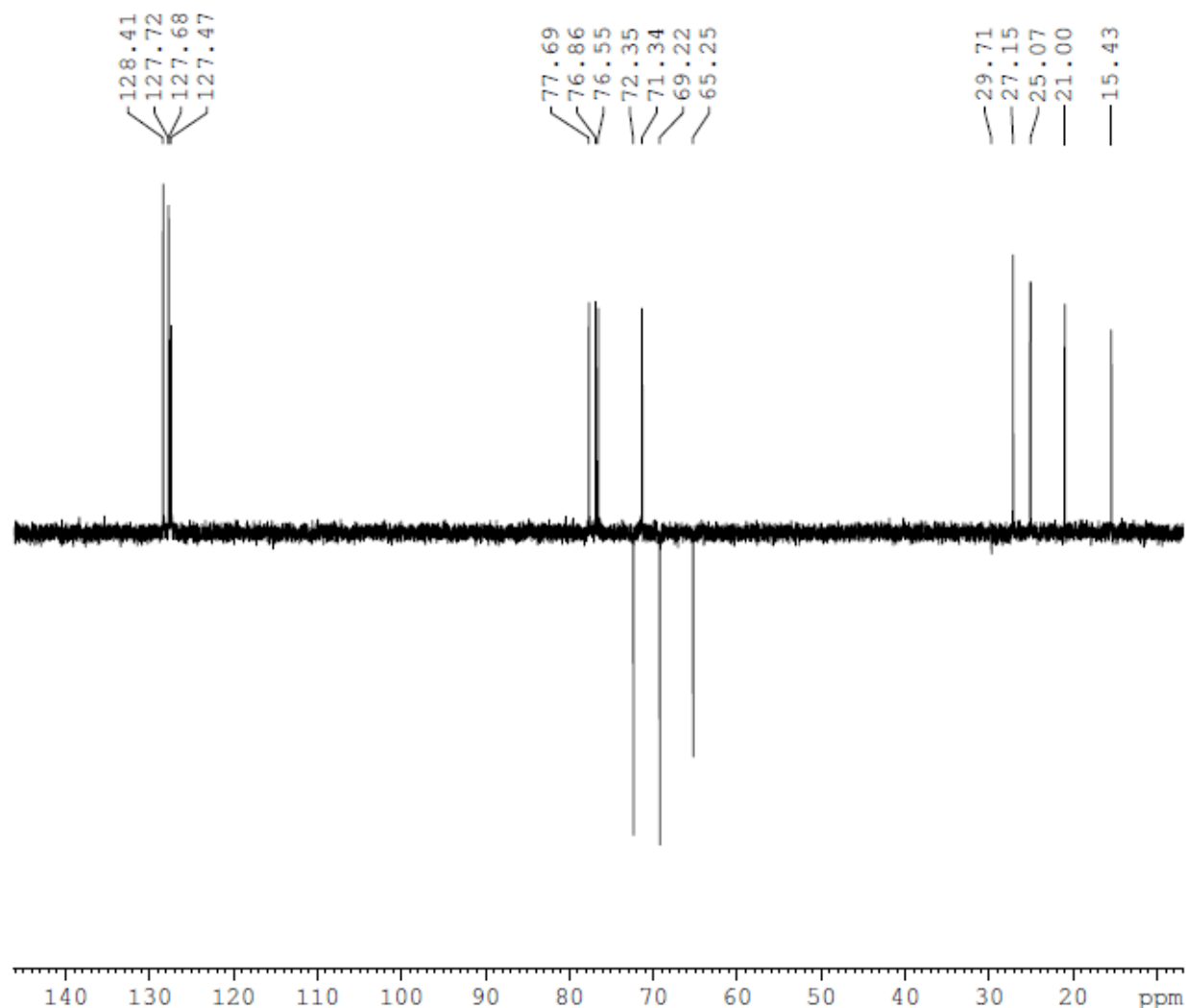
F1 - Processing parameters
SI            1024
MC2           QF
SF            500.2300505 MHz
WDW           TR
SSB           0
LB            0 Hz
GB            0

```

DEPT of compound **12**



KMS-D-V-125  
C13DEPT135 CDC13 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 dptps135  
TD 65536  
SOLVENT CDC13  
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  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SEW5 13.77600002 W

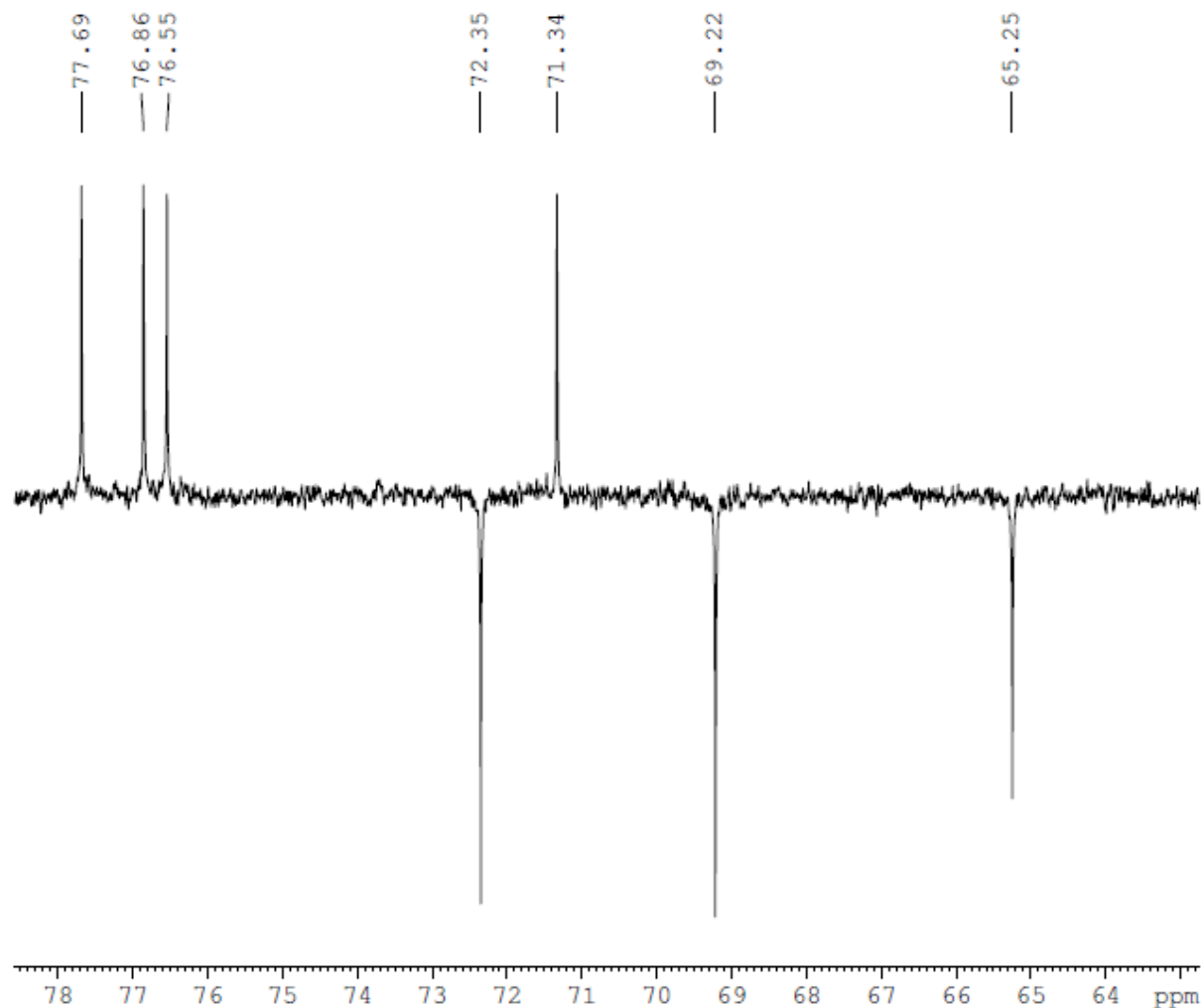
===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
P3 9.04 usec  
P4 18.08 usec  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
SFO2 500.2315998 MHz

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)

KMS-D-V-125

C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
 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

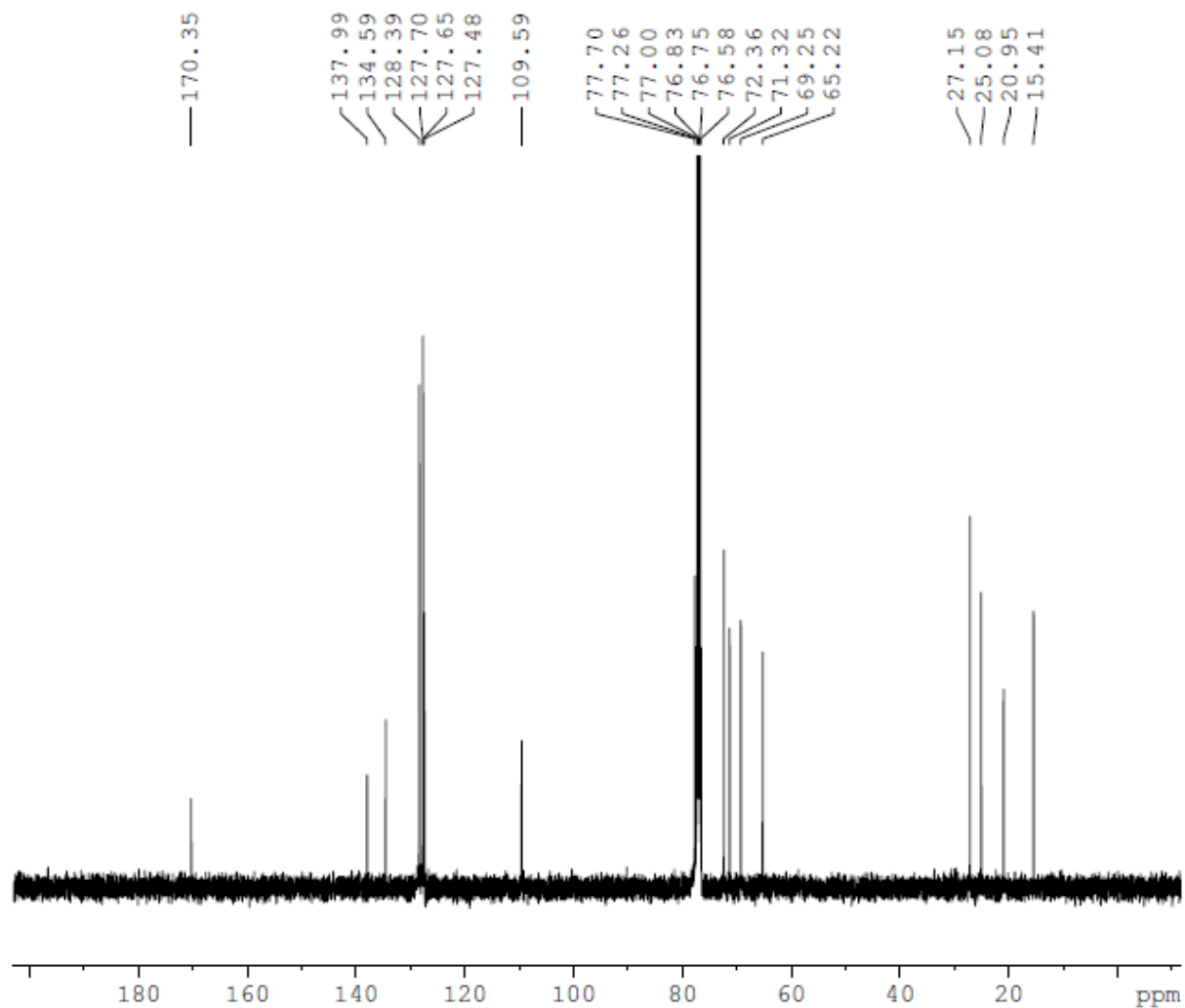
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SPOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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

<sup>13</sup>C NMR of compound **12**

KMS-D-V-125  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
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

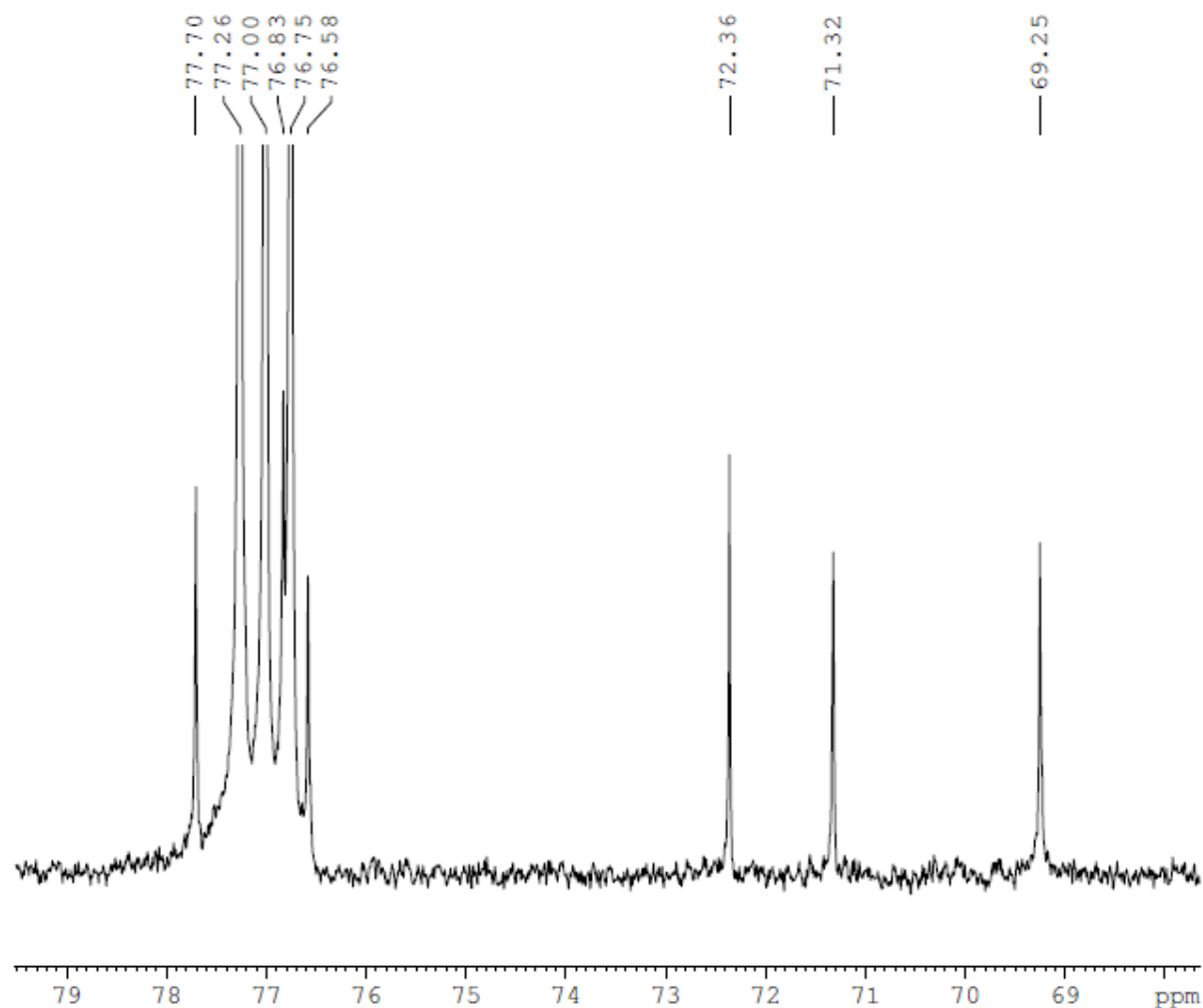
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>13</sup>C NMR of compound **12** (zoom)

KMS-D-V-125  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

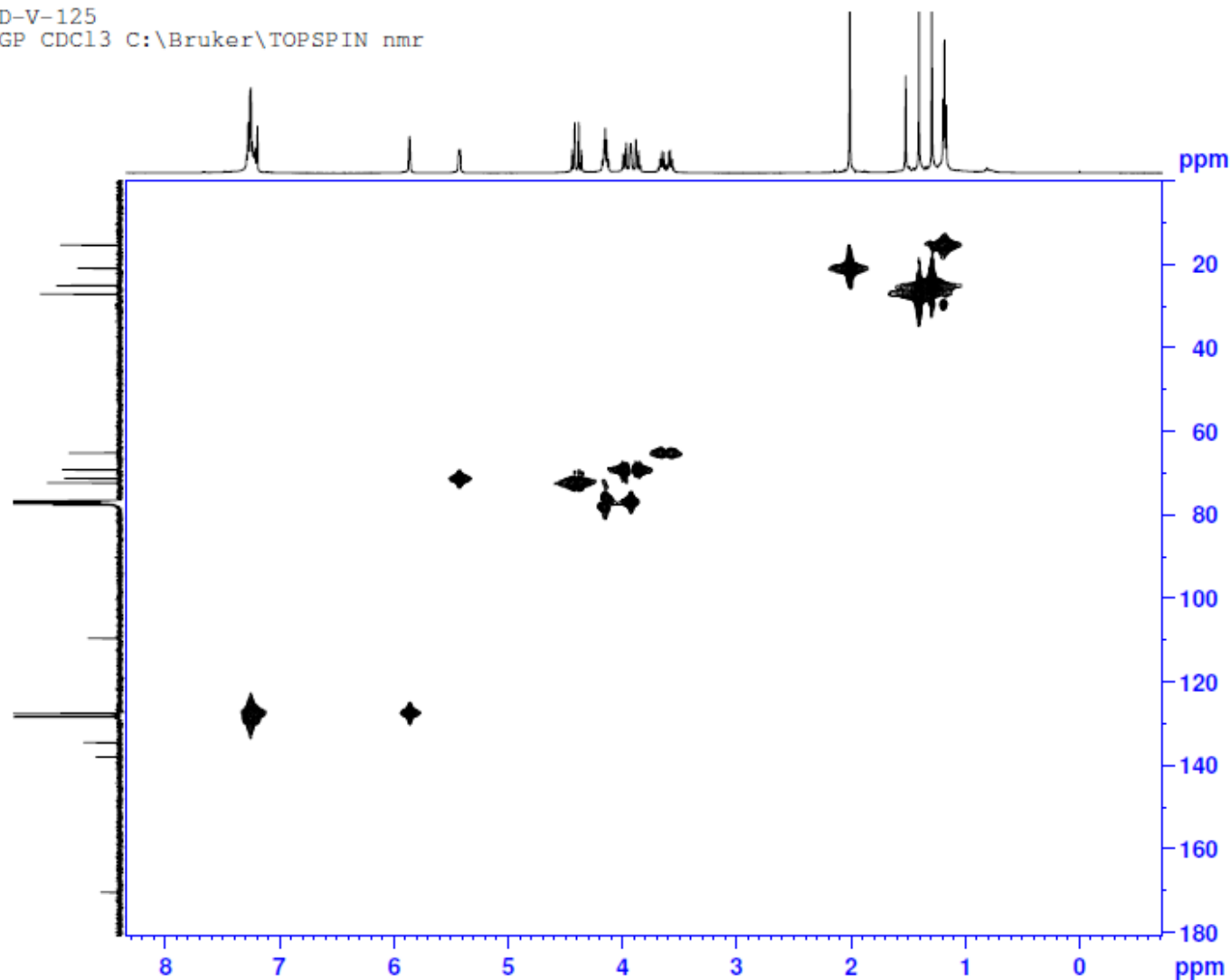
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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**

KMS-D-V-125  
HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sager  
EXPNO 621  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140325  
Time 10.32  
INSTRUM spect  
PROBHD 5 mm PASPO HS-  
PULPROG hmgcpqpf  
TD 1024  
SOLVENT CDCl<sub>3</sub>  
NS 4  
DS 16  
SWH 4716.981 Hz  
FIDRES 4.605427 Hz  
AQ 0.1005940 sec  
RG 191.08  
CW 106.000 usec  
DE 6.50 usec  
TE 300.2 K  
CNS12 145.0000000  
D0 0.00000300 sec  
D1 1.4465604 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 19.08 usec  
P1M1 27.1639956 W  
SFO1 500.2320471 MHz

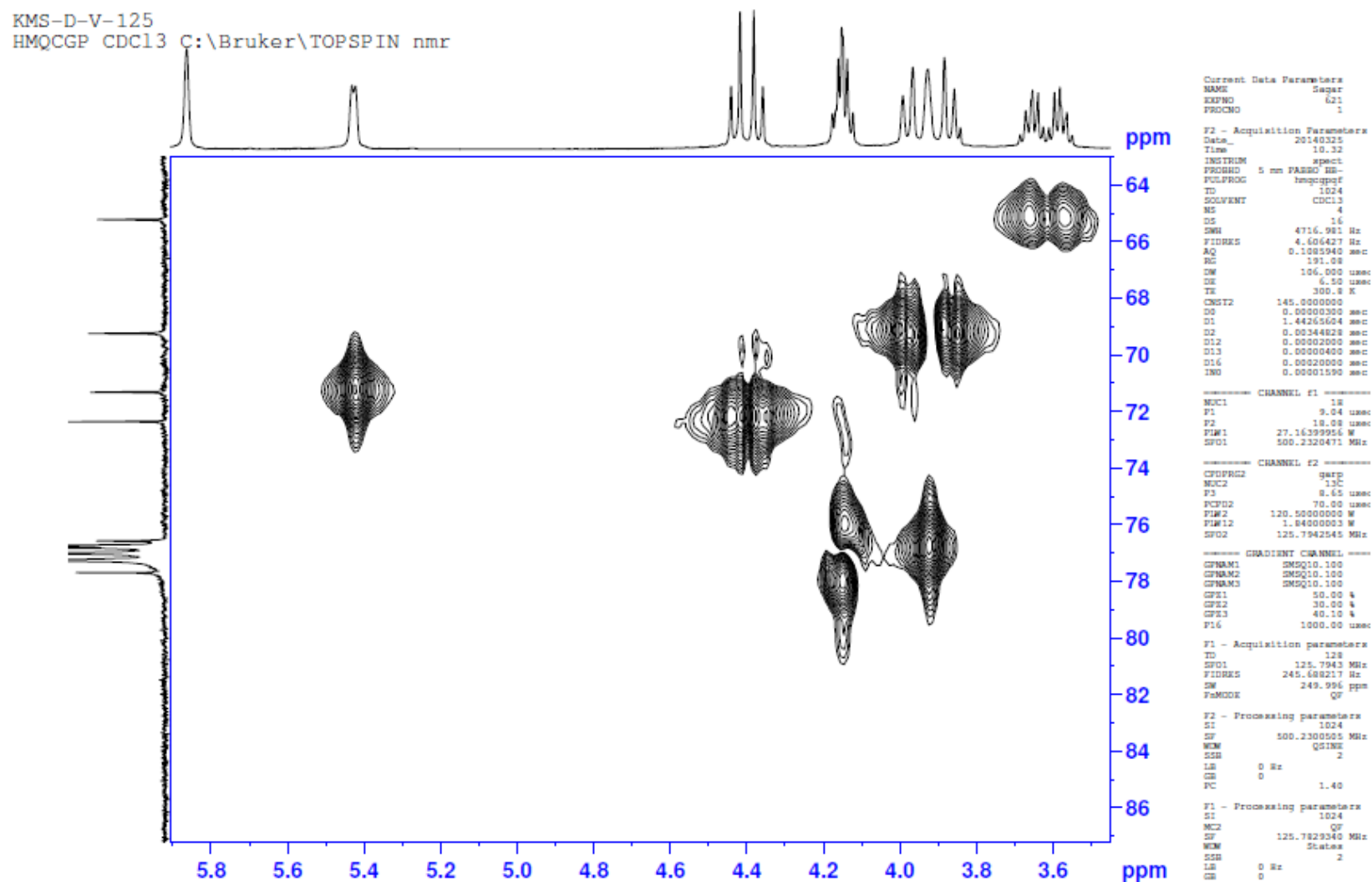
===== CHANNEL f2 =====  
CFPRG2 gcp  
NUC2 13C  
P3 8.65 usec  
PCPD2 70.00 usec  
P1M2 120.5000000 W  
P1M12 1.84000003 W  
SFO2 125.7942545 MHz

===== GRADIENT CHANNEL =====  
GPNAM1 GMSQ10.100  
GPNAM2 GMSQ10.100  
GPNAM3 GMSQ10.100  
GPE1 50.00 %  
GPE2 30.00 %  
GPE3 40.10 %  
P16 1000.00 usec

F1 - Acquisition parameters  
TD 128  
SFO1 125.7943 MHz  
FIDRES 245.689217 Hz  
SW 249.996 ppm  
F2MODE QF

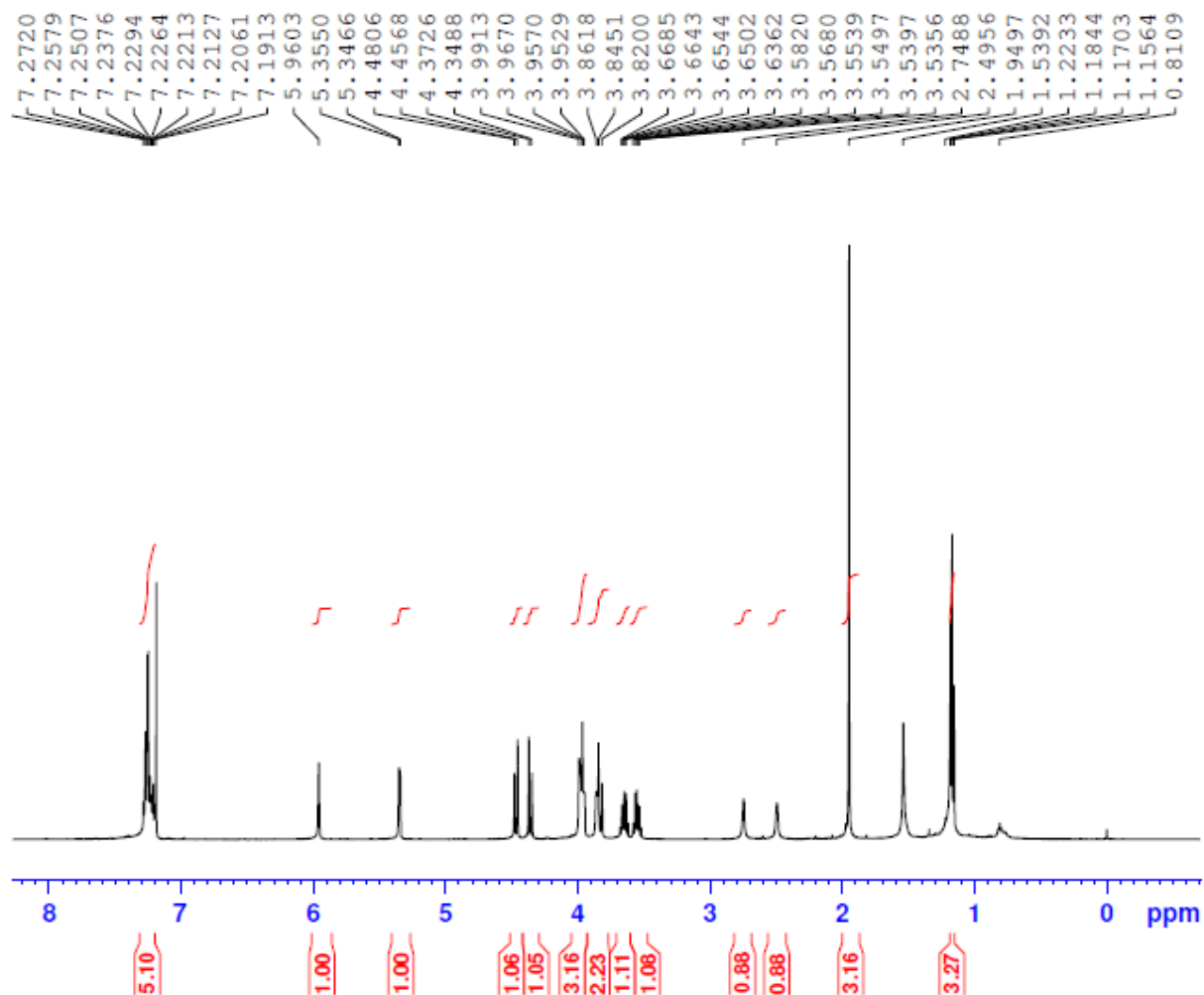
F2 - Processing parameters  
SI 1024  
SF 500.2300505 MHz  
WDW Q5INE  
SSB 2  
LB 0 Hz  
GB 0  
PC 1.40

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

HMQC of compound **12** (zoom)

<sup>1</sup>H NMR of compound **13**

KMS-D-V-127  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 623  
 PROCNO 1

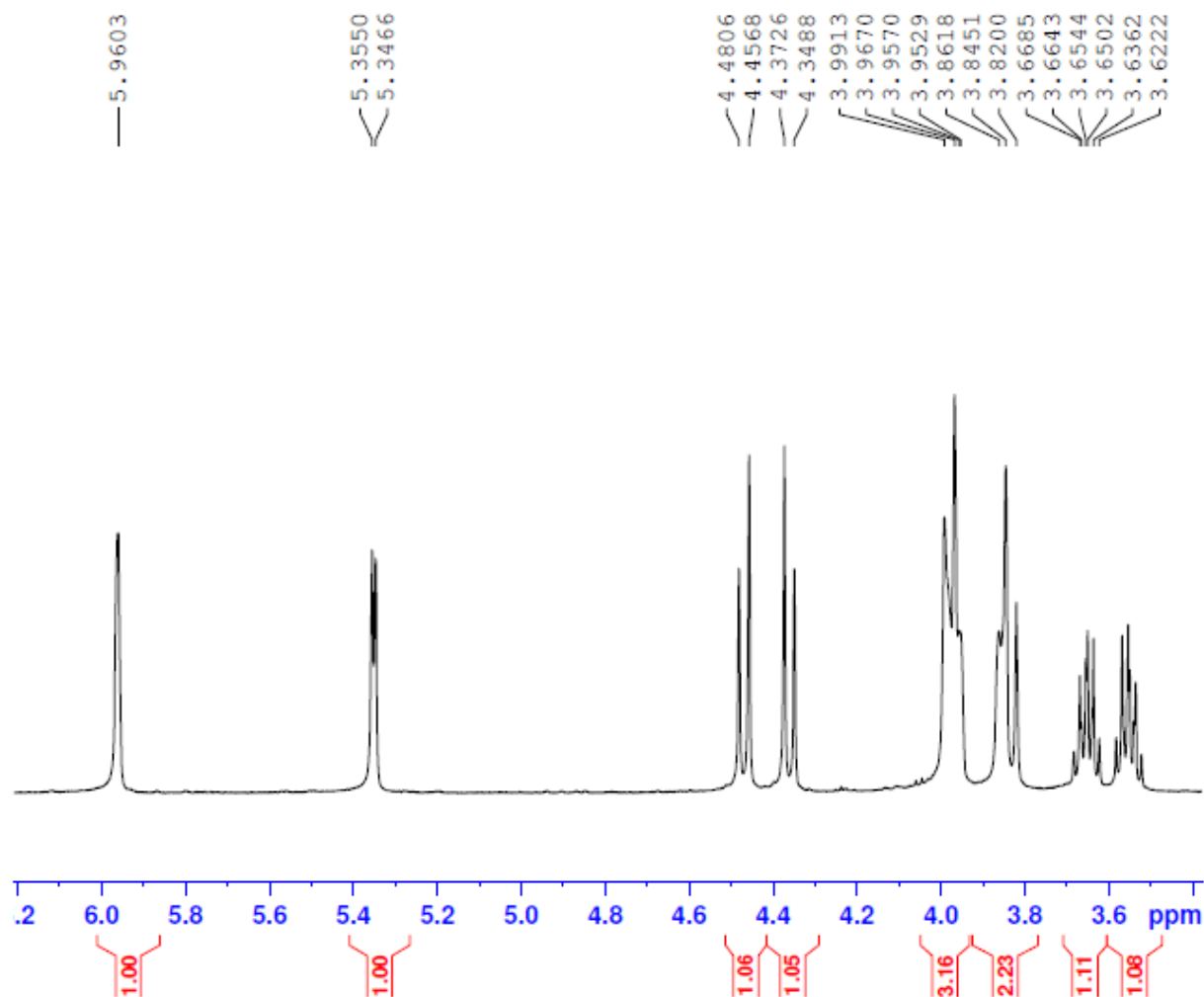
F2 - Acquisition Parameters  
 Date\_ 20140326  
 Time 2.27  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 153.65  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 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

<sup>1</sup>H NMR of compound **13** (zoom)

KMS-D-V-127  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



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  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 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

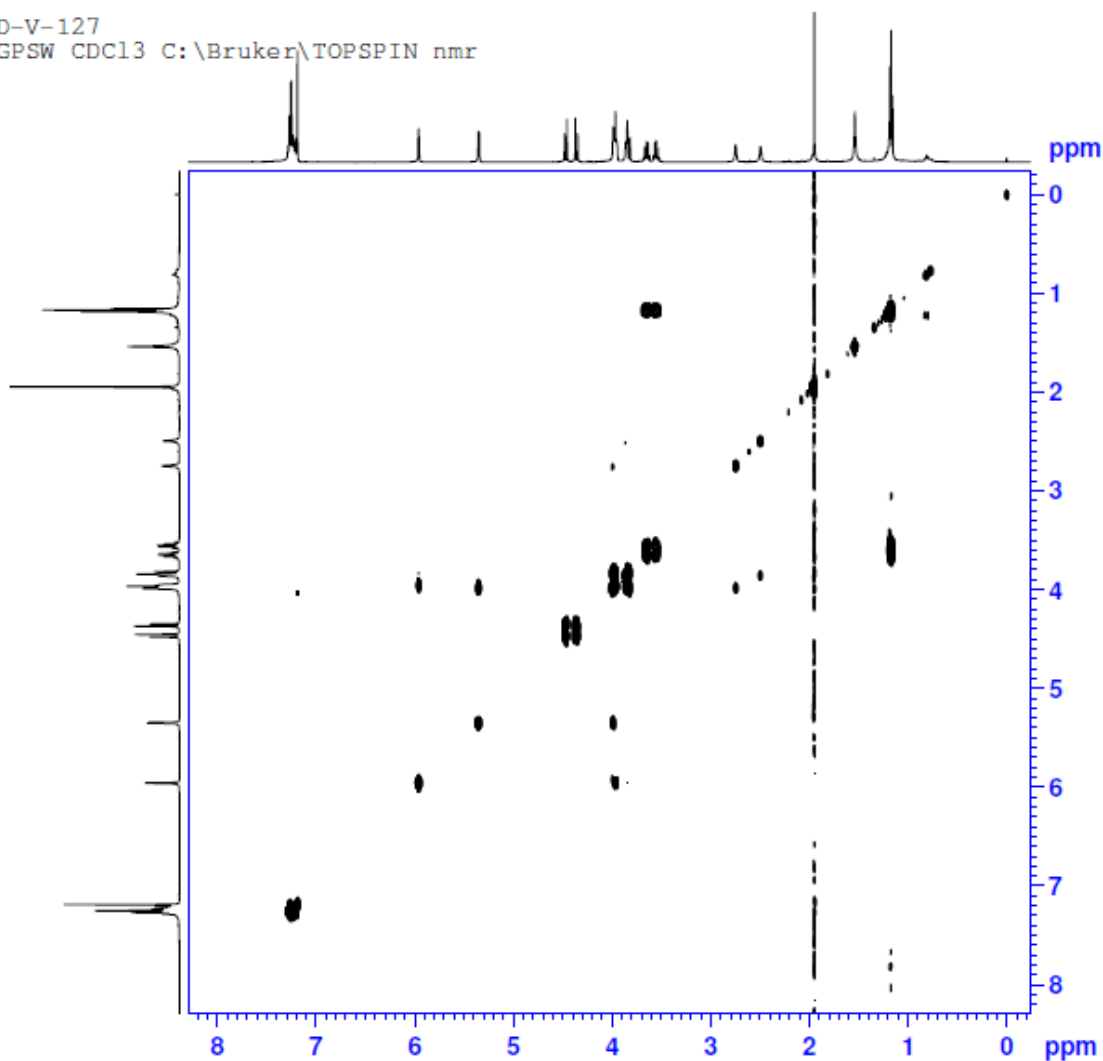
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

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**

KMS-D-V-127  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 624  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140326  
 Time 2.28  
 INSTRUM spect  
 PROBHD 5 mm PASBO BB-  
 PULPROG cosygpppgf  
 TD 2648  
 SOLVENT CDC13  
 NS 1  
 DS 8  
 SWH 4273.504 Hz  
 FIDRES 2.086672 Hz  
 AQ 0.2396460 sec  
 RG 95.46  
 TM 117.000 usec  
 DE 6.50 usec  
 TE 298.0 K  
 DO 0.00000300 sec  
 D1 1.91357398 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00004000 sec  
 D16 0.00020000 sec  
 INO 0.00023400 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PL 9.04 usec  
 PL17 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  
 ID 128  
 SFO1 500.2321 MHz  
 FIDRES 33.386753 Hz  
 SW 8.543 ppm  
 FMODE QF

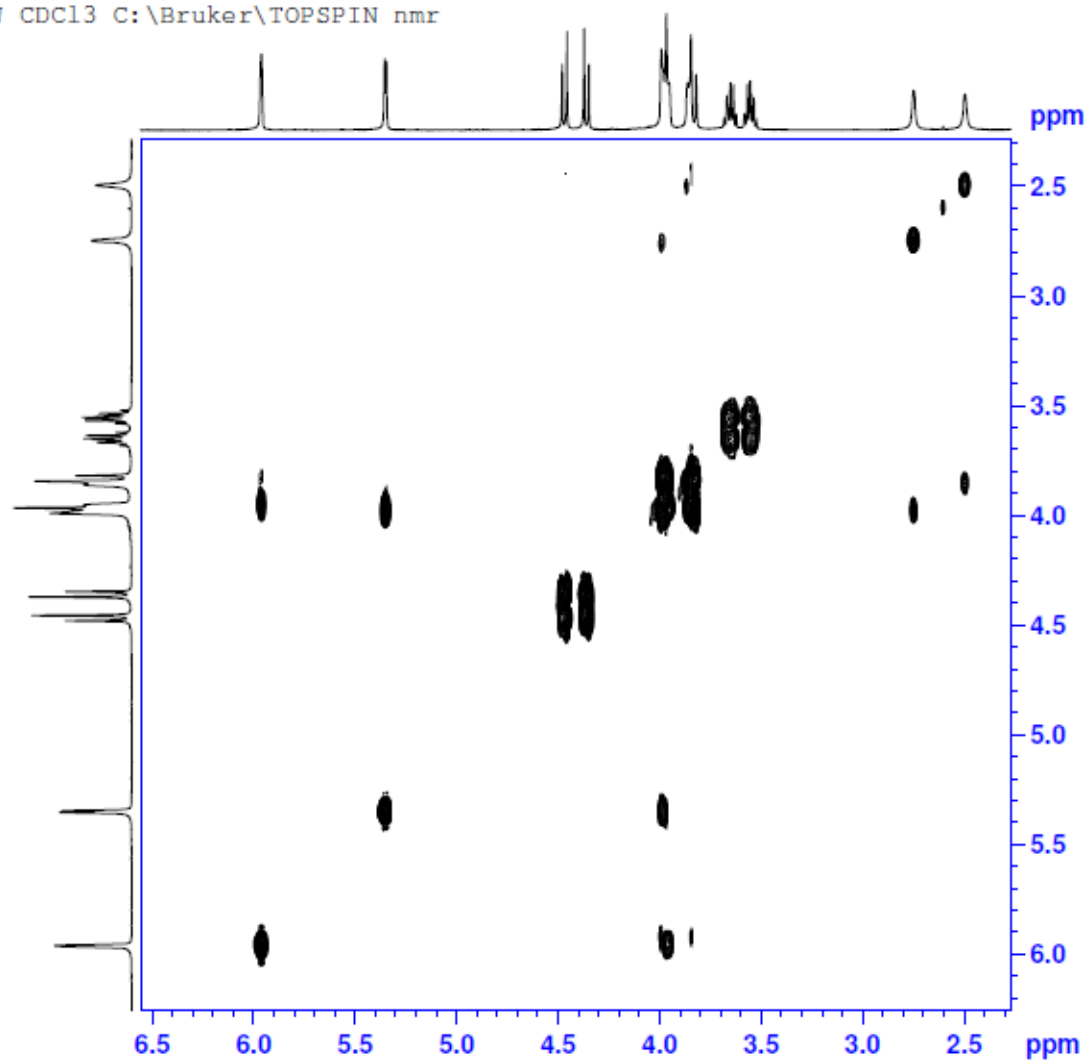
F2 - Processing parameters  
 SI 1024  
 SF 500.2300500 MHz  
 WDW QSINE  
 SSB 0  
 LB 0 Hz  
 CB 0  
 PC 1.40

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)

KMS-D-V-127

COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 624  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140326  
 Time 2.28  
 INSTRUM spect  
 PROSHD 5 mm PASPO BB-  
 PULPROG cosygpppqf  
 TD 2048  
 SOLVENT CDC13  
 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 -----  
 CPNAMI SMSQ10.100  
 GPZ1 10.00 %  
 P16 1000.00 usec

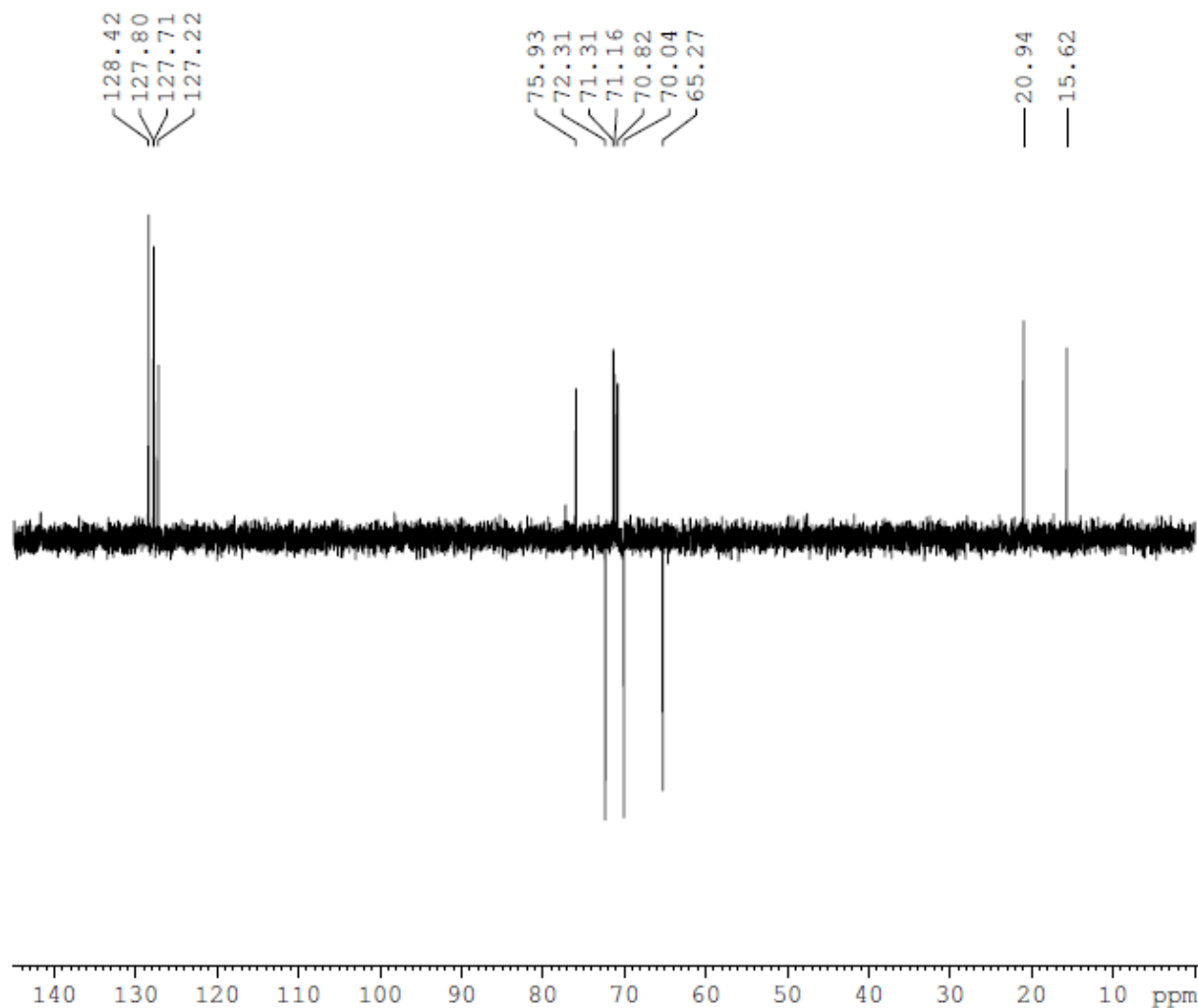
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2321 MHz  
 FIDRES 33.386753 Hz  
 SW 8.543 ppm  
 FMODE QF

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 IR  
 SSB 0  
 LB 0 Hz  
 GB 0

DEPT of compound **13**

KMS-D-V-127  
 C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 deptap135  
 TD 65536  
 SOLVENT CDC13  
 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

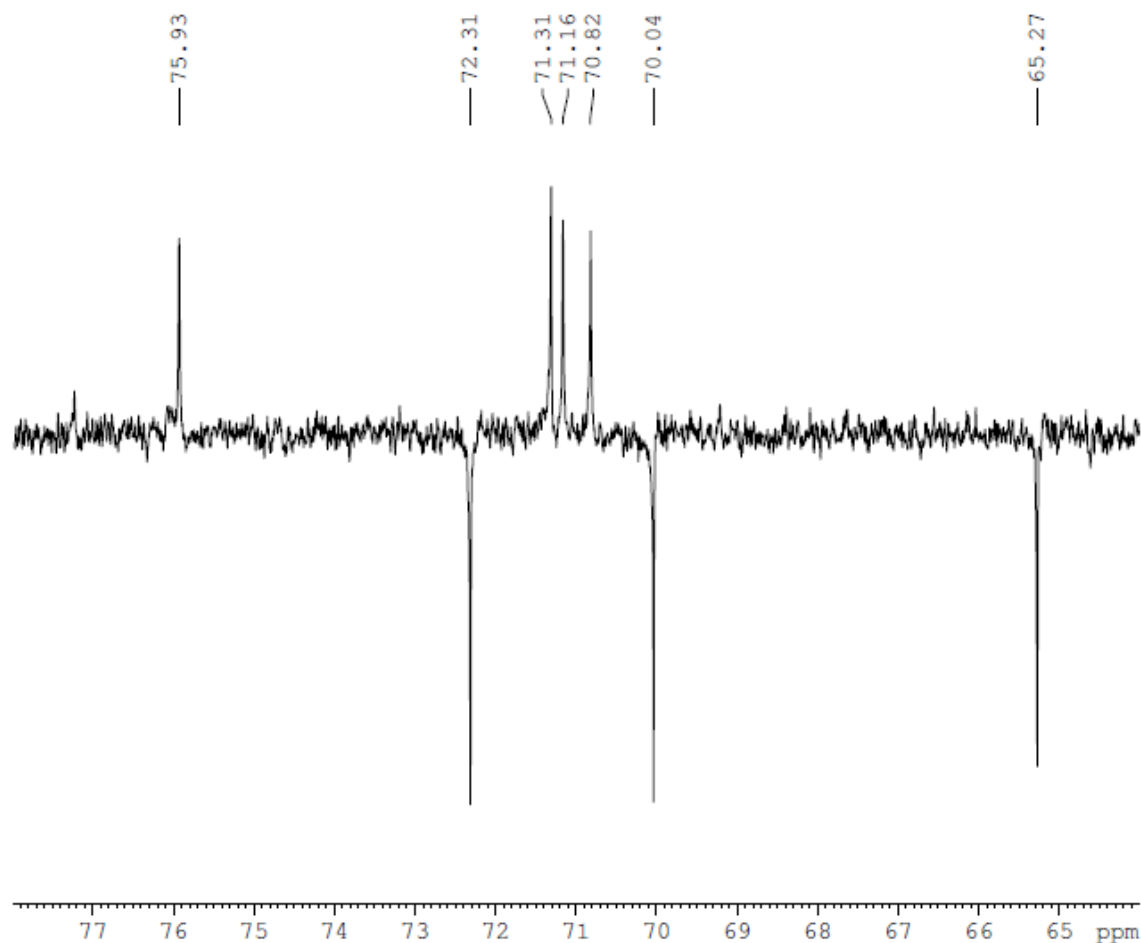
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SPOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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)

KMS-D-V-127  
 C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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

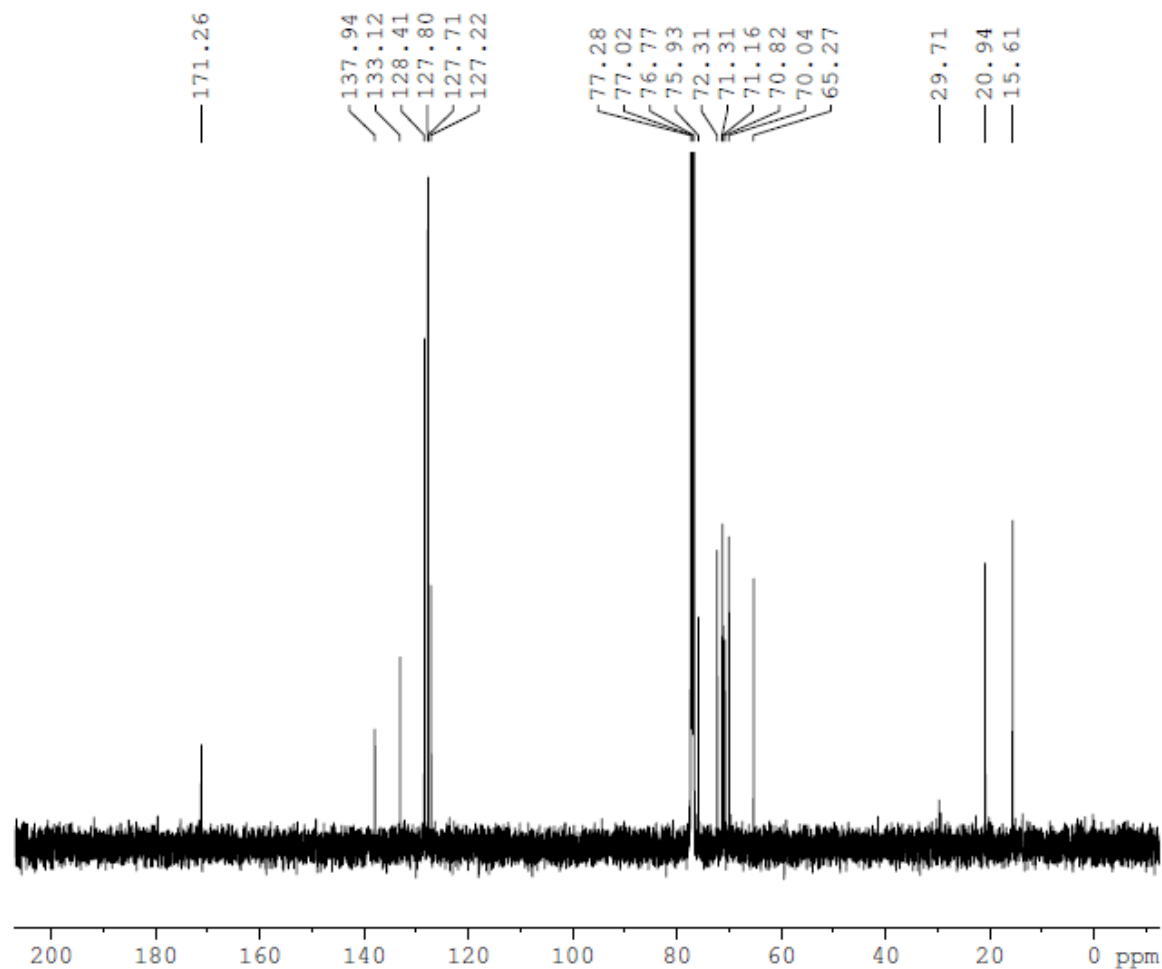
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SFOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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

<sup>13</sup>C NMR of compound **13**

KMS-D-V-127  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
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

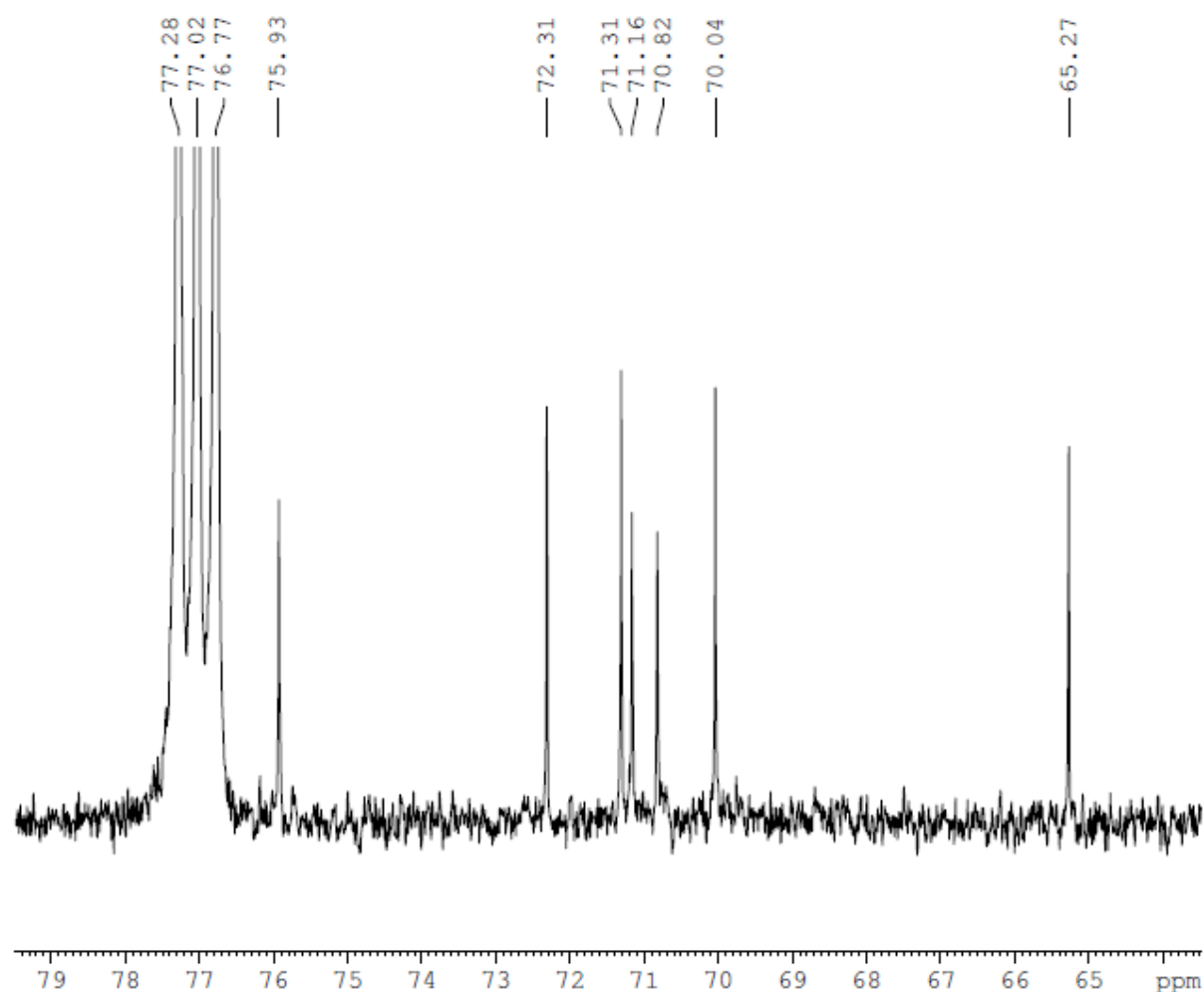
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>14</sup>C NMR of compound **13** (zoom)

KMS-D-V-127  
 C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



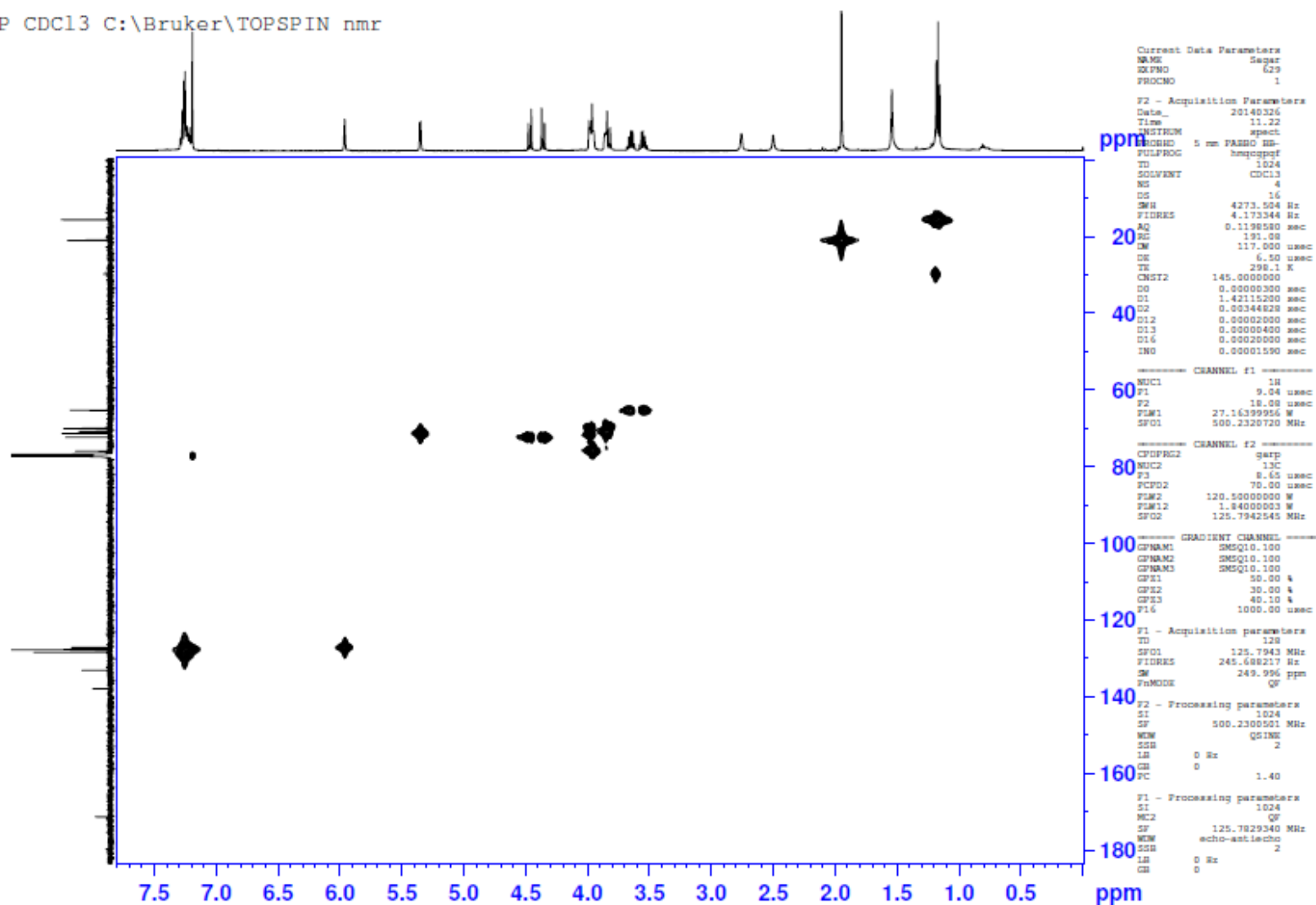
Current Data Parameters  
 NAME Sagar  
 EXPNO 627  
 PROCNO 1

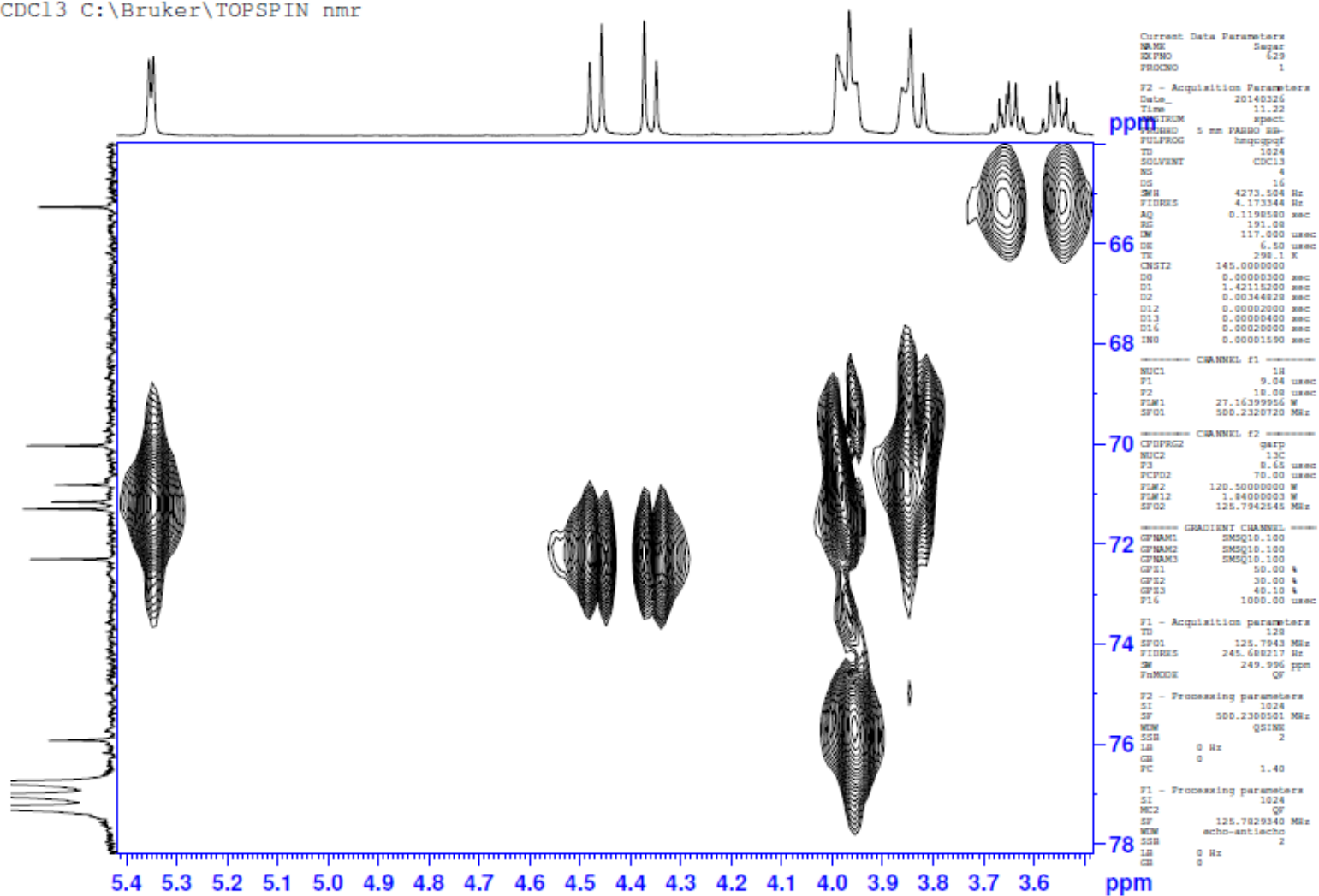
F2 - Acquisition Parameters  
 Date\_ 20140326  
 Time 4.02  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 1024  
 SOLVENT CDCl3  
 NS 1024  
 DS 4  
 SWH 2515.910 Hz  
 FIDRES 2.456944 Hz  
 AQ 0.2035549 sec  
 RG 191.08  
 DW 198.735 usec  
 DE 6.50 usec  
 TE 300.0 K  
 D1 2.00000000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

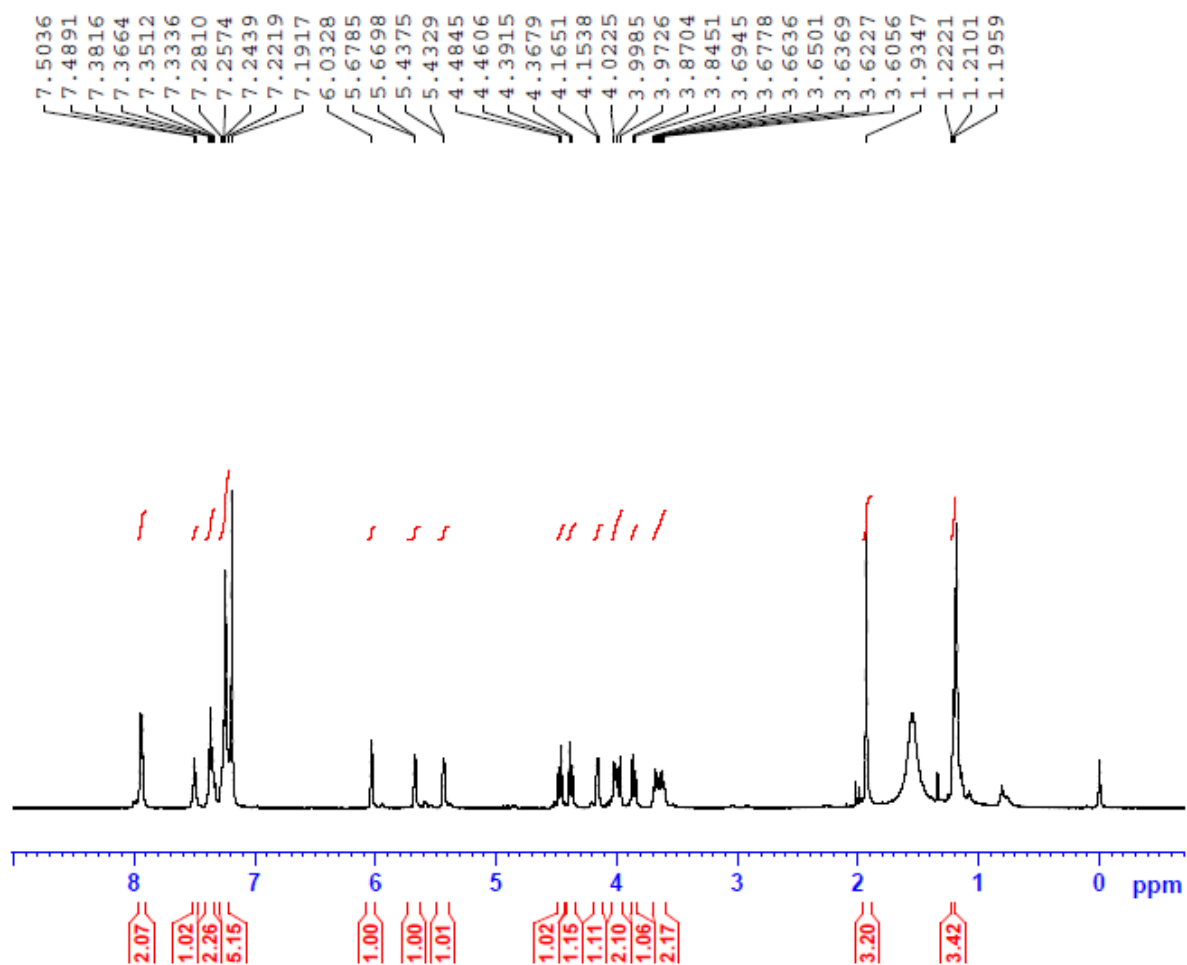
HMQC of compound **13**HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr

HMQC of compound **13** (zoom)HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



<sup>1</sup>H NMR of compound **14**

KMS-D-V-151-B  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 19



Current Data Parameters  
 NAME Sagar  
 EXPNO 14  
 PROCNO 1

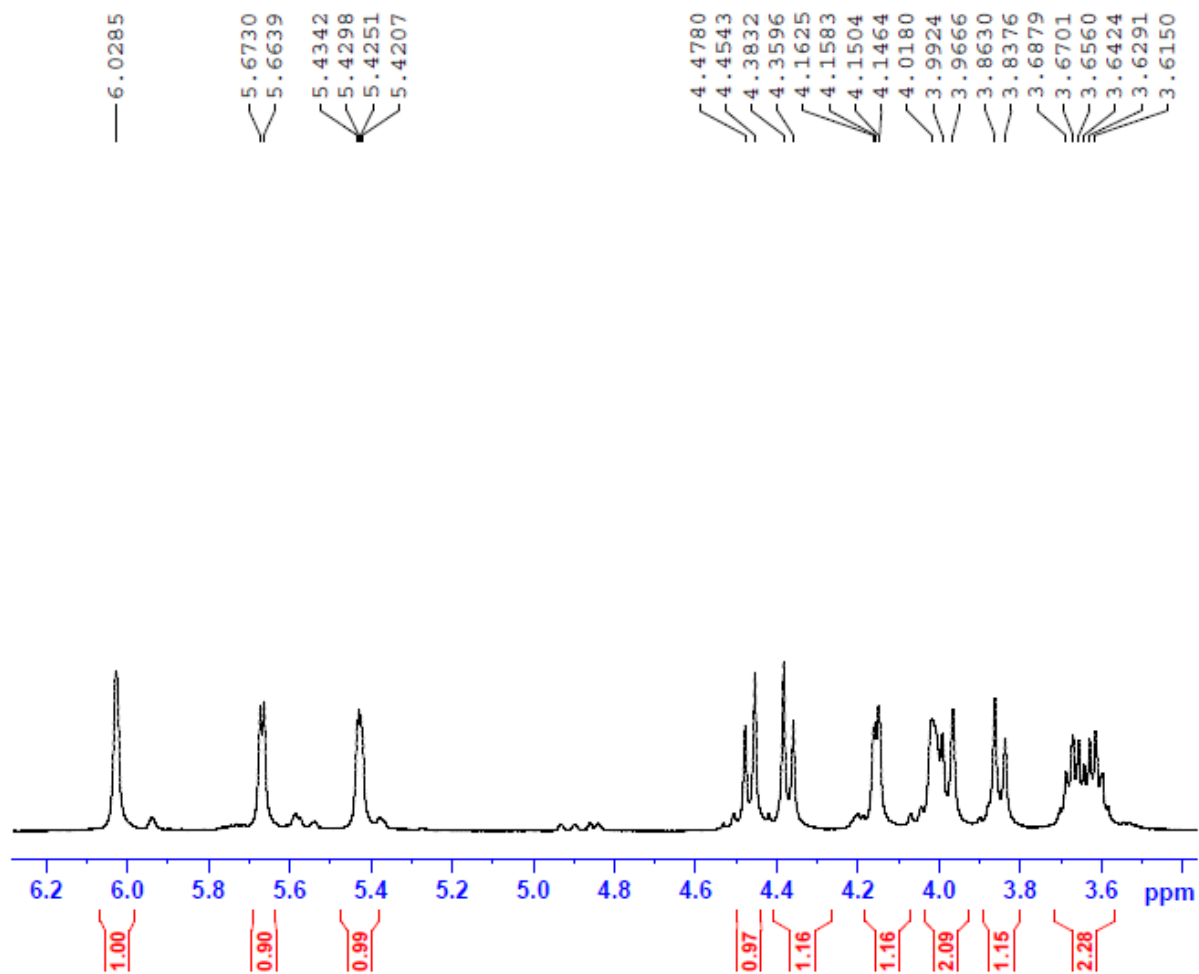
F2 - Acquisition Parameters  
 Date\_ 20140715  
 Time 14.07  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 171.32  
 DW 50.000 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 1.00000000 sec  
 TDO 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

<sup>1</sup>H NMR of compound **14** (zoom)

KMS-D-V-Obz below  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 59



Current Data Parameters  
 NAME Sagar  
 EXPNO 12  
 PROCNO 1

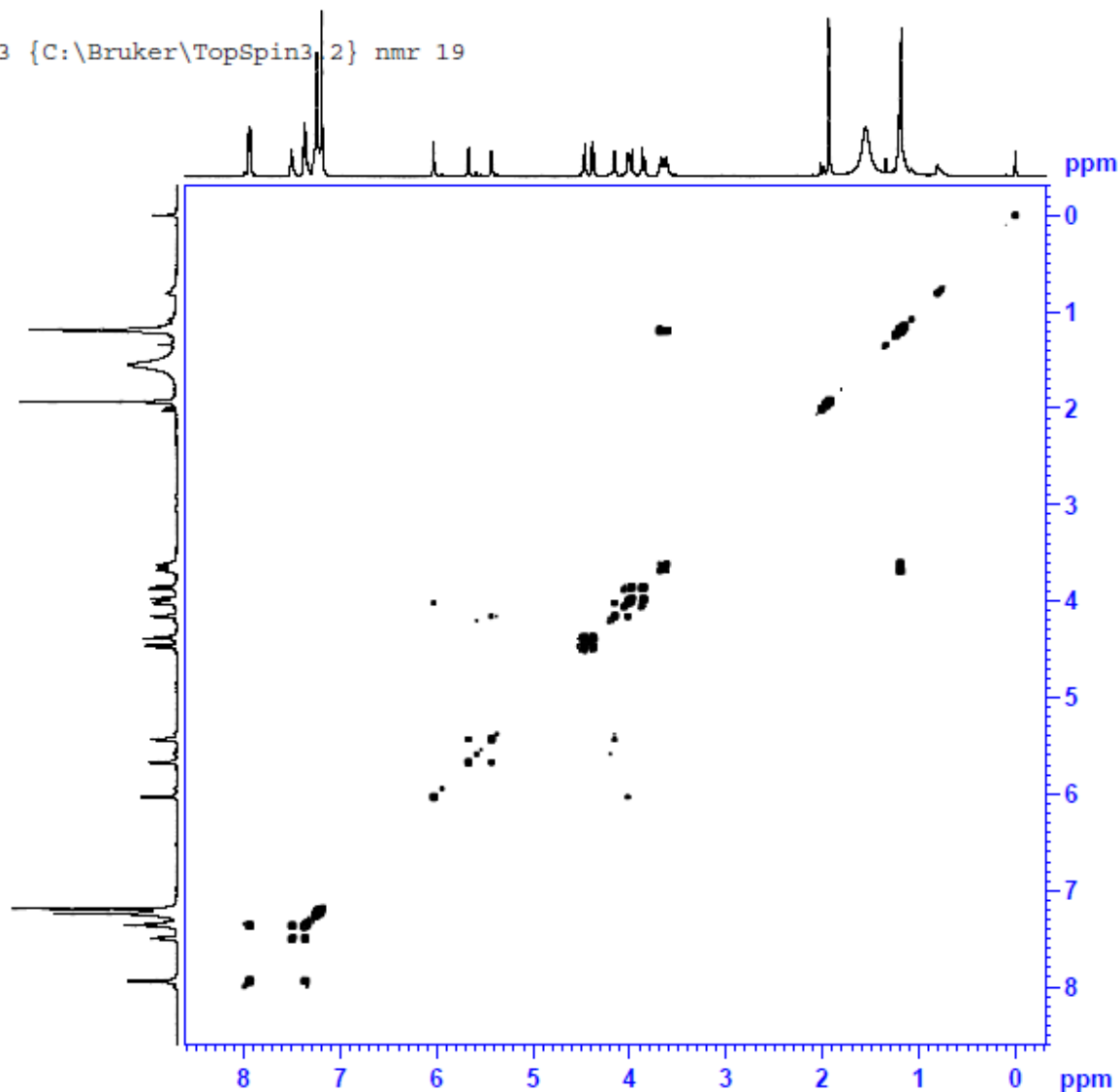
F2 - Acquisition Parameters  
 Date\_ 20140714  
 Time\_ 20.46  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 138.93  
 DW 50.000 usec  
 DE 6.50 usec  
 TE 295.0 K  
 D1 1.00000000 sec  
 TDO 1

----- CHANNEL f1 -----  
 SP01 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 CDC13 {C:\Bruker\TopSpin3\2} nmr 19



Current Data Parameters  
 NAME Egar  
 EXPRNO 15  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140715  
 Time 14.08  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG cosygpppqf  
 TD 2048  
 SOLVENT CDC13  
 NS 1  
 DS 8  
 SMH 4672.897 Hz  
 FIDRES 2.281688 Hz  
 AQ 0.2191360 sec  
 RG 95.46  
 DM 107.000 usec  
 DE 6.50 usec  
 TR 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  $^1\text{H}$   
 PO 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  
 GPE1 10.00 %  
 P16 1000.00 usec

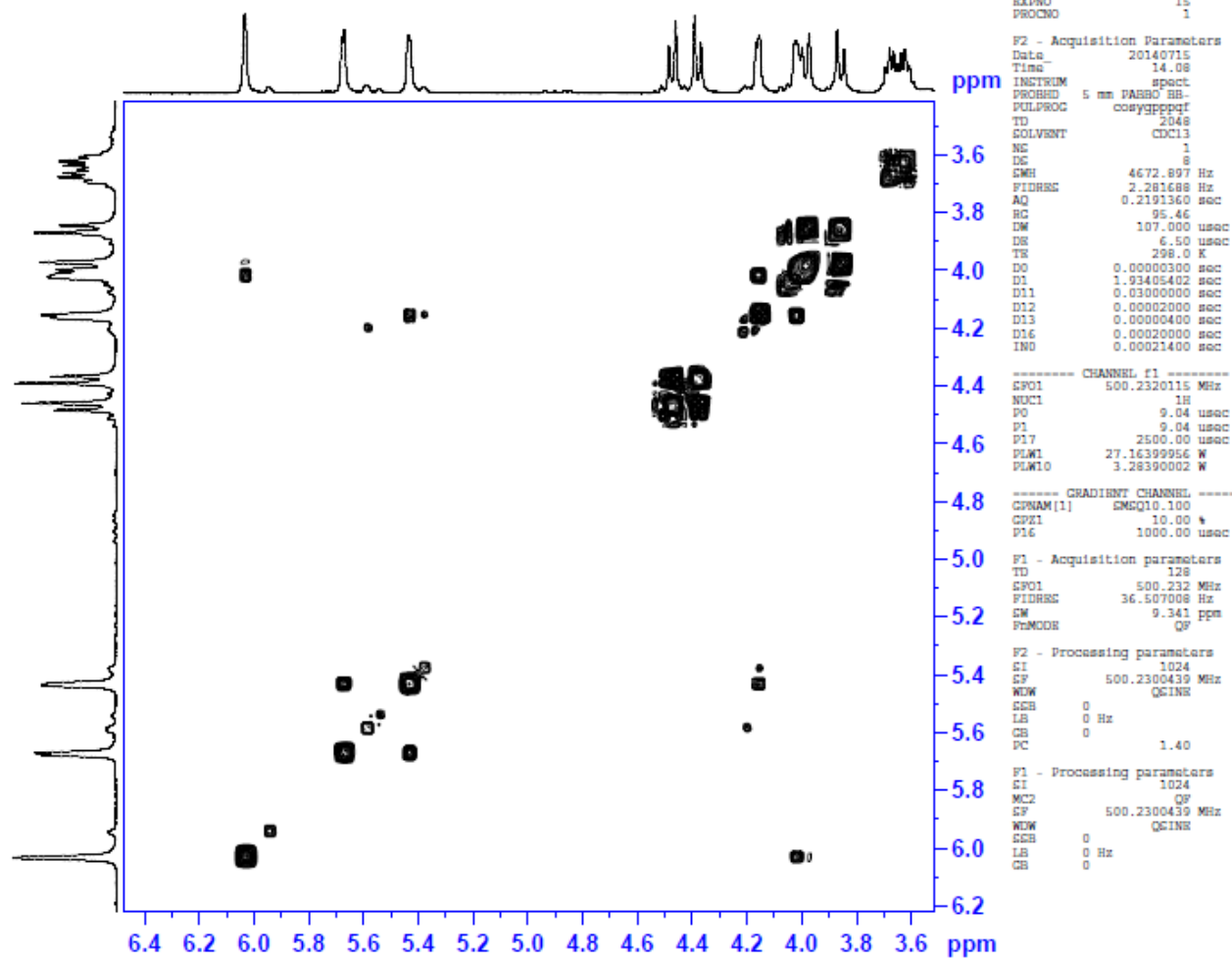
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.232 MHz  
 FIDRES 36.507008 Hz  
 SW 9.341 ppm  
 FMODR QF

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

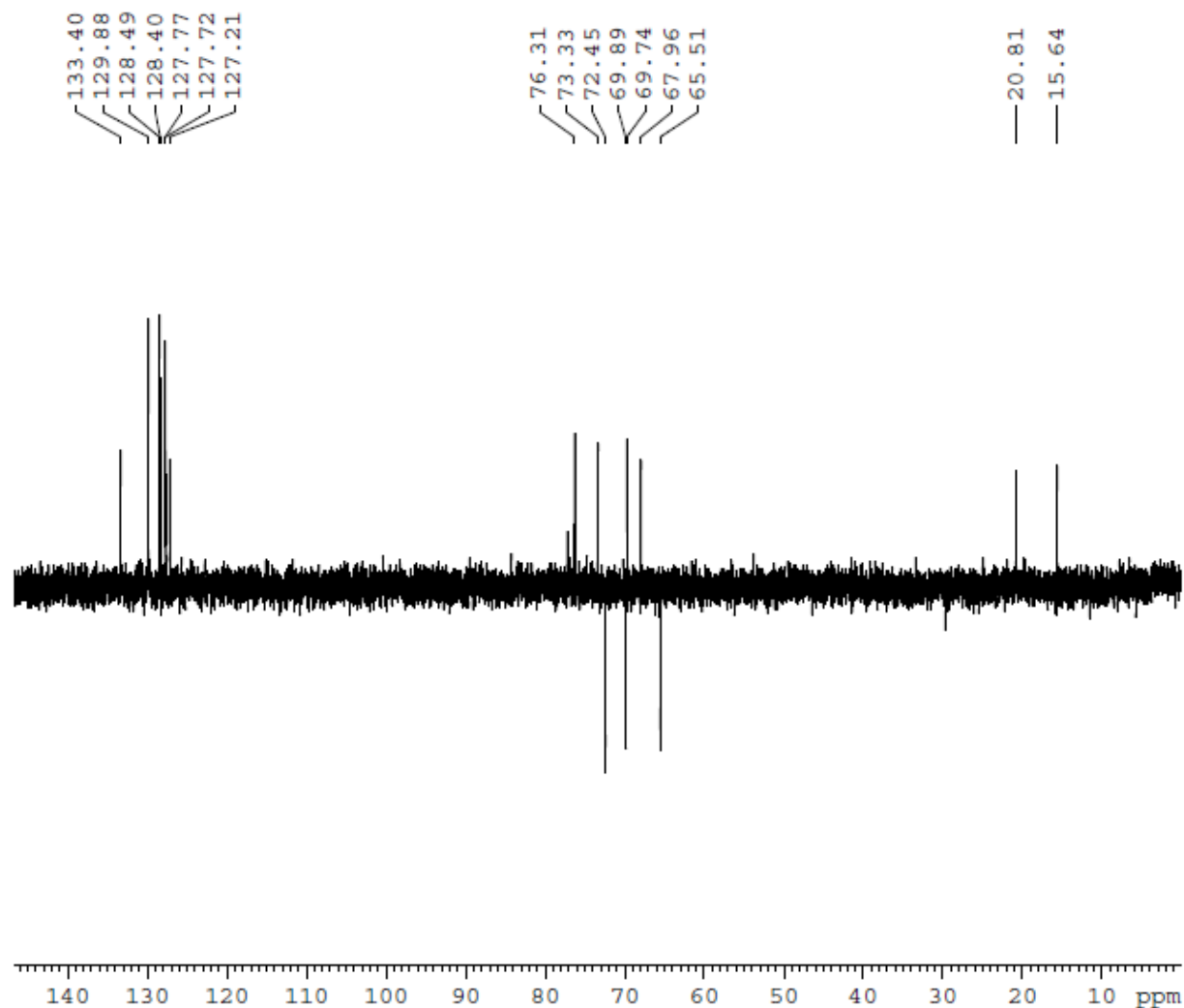
COSY of compound **14** (zoom)

KMS-D-V-151-B  
 COSYGPSW CDC13 {C:\Bruker\TopSpin3.2} nmr 19



DEPT of compound **14**

KMS-D-V-151-B  
C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 19



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

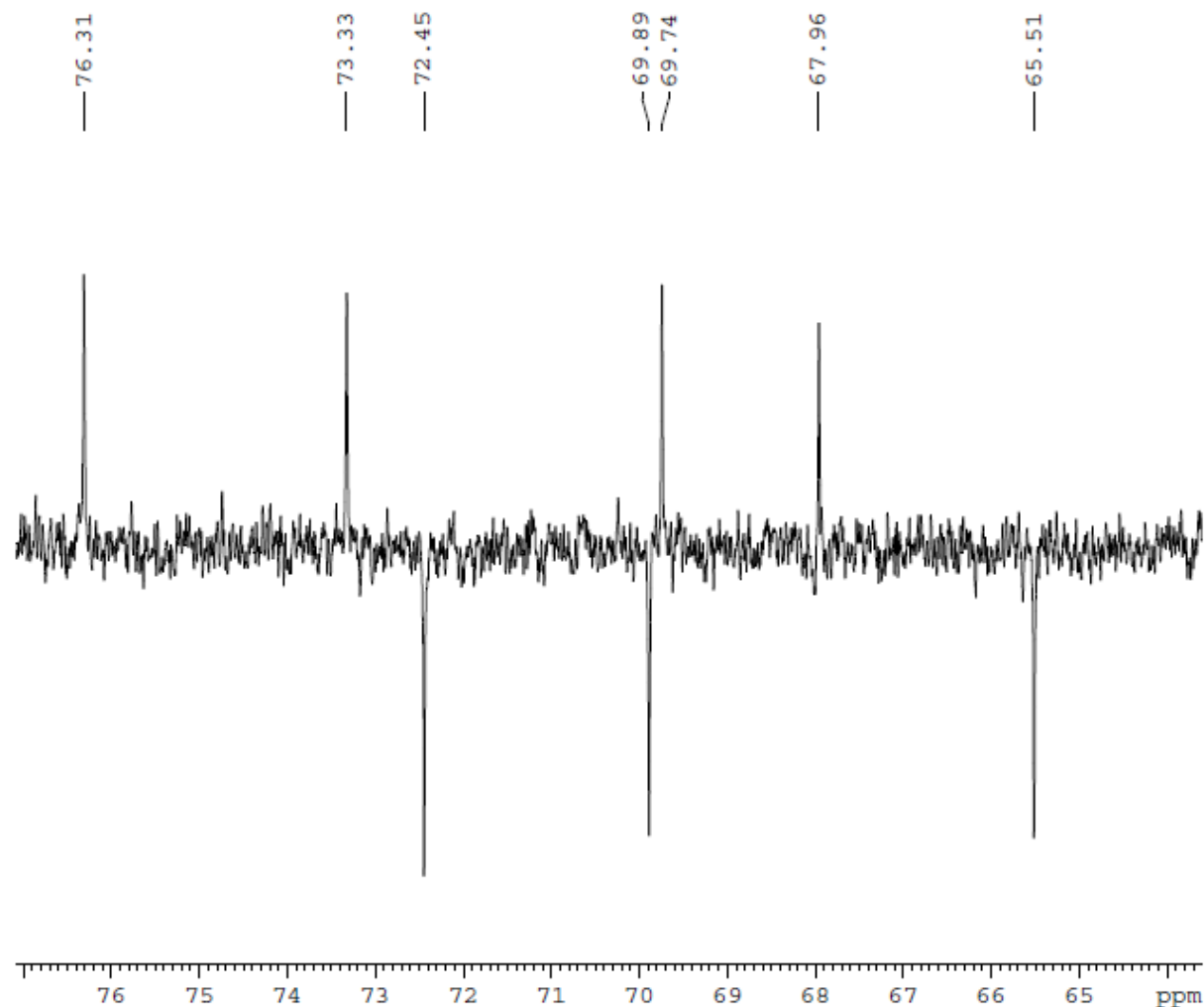
----- CHANNEL f1 -----  
SFO1 125.7929956 MHz  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SPNAM[5] Crp60comp.4  
SPOALS 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

----- 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)

KMS-D-V-151-B  
 C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 19



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 deptapl35  
 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  
 CNET2 145.0000000  
 D1 2.00000000 sec  
 D2 0.00344828 sec  
 D12 0.00002000 sec  
 TD0 1

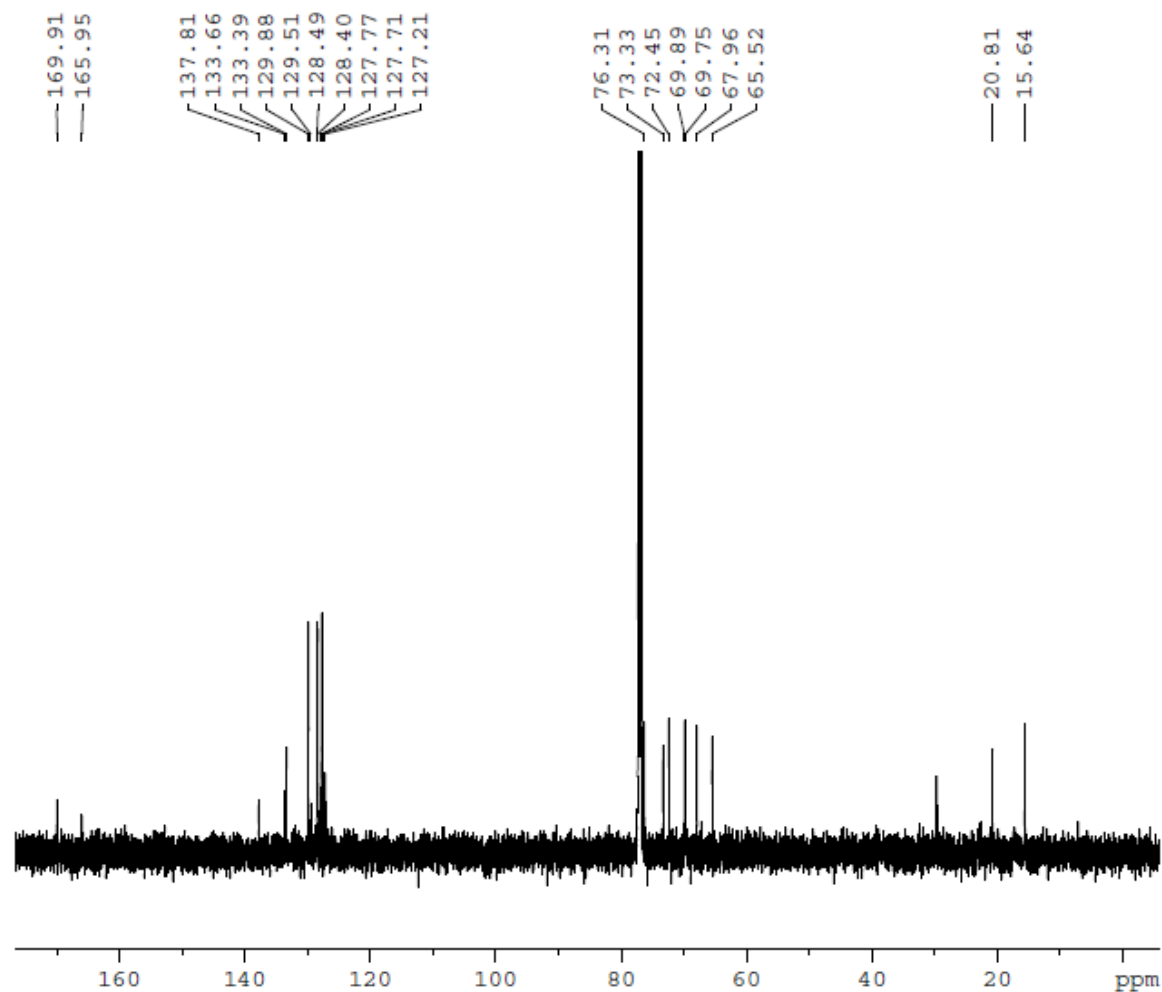
----- CHANNEL f1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 F1 8.65 usec  
 F13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SPNAM[S] Crp60comp.4  
 SFOALS 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

----- CHANNEL f2 -----  
 SFO2 500.2315998 MHz  
 NUC2 1H  
 CPDPRG[2] waltz16  
 F3 9.04 usec  
 F4 18.08 usec  
 FCPD2 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

<sup>14</sup>C NMR of compound **14**

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

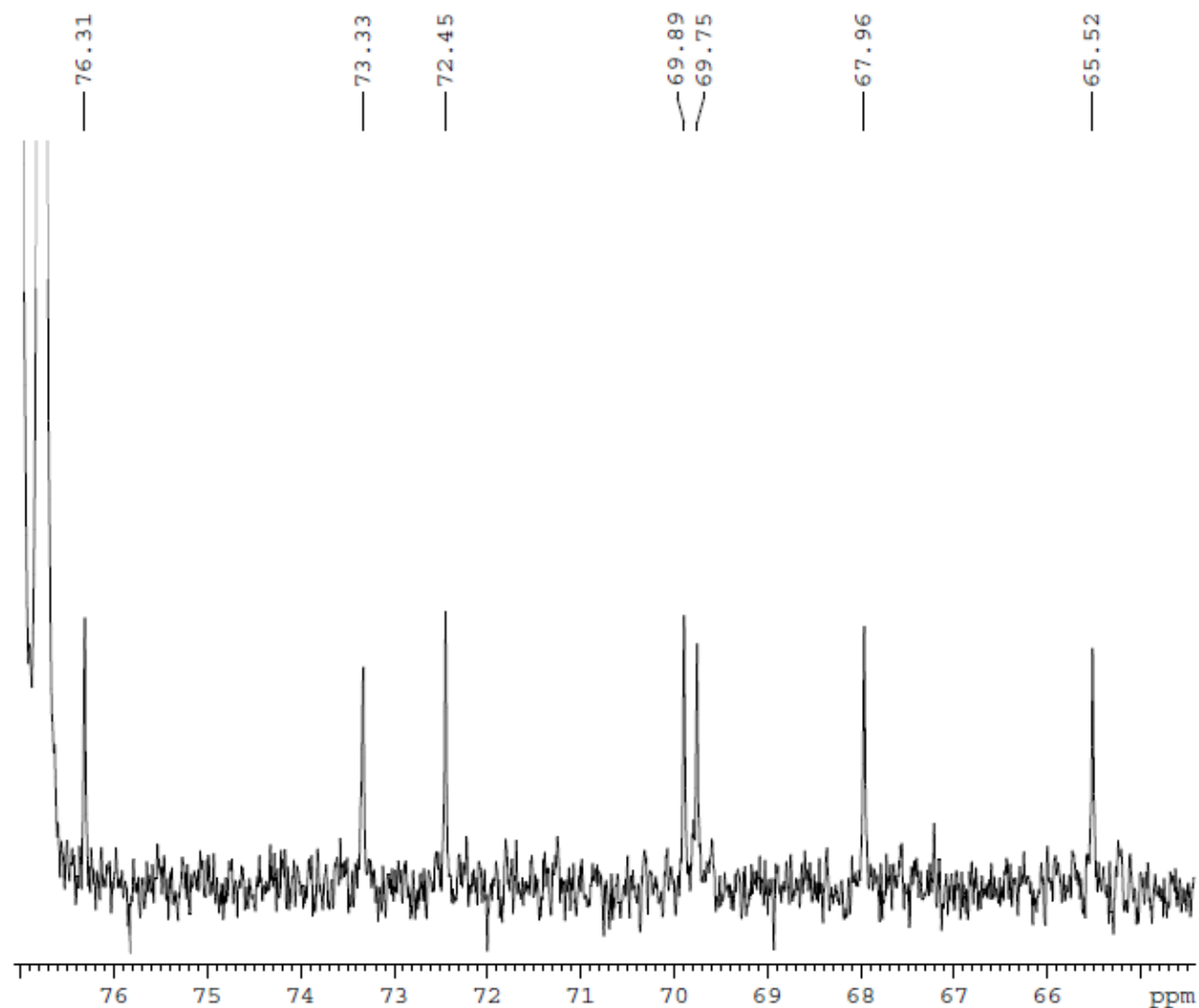
----- CHANNEL f2 -----  
SFO2 500.2320009 MHz  
NUC2 1H  
CPDPRG[2] waltz16  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W

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



<sup>14</sup>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

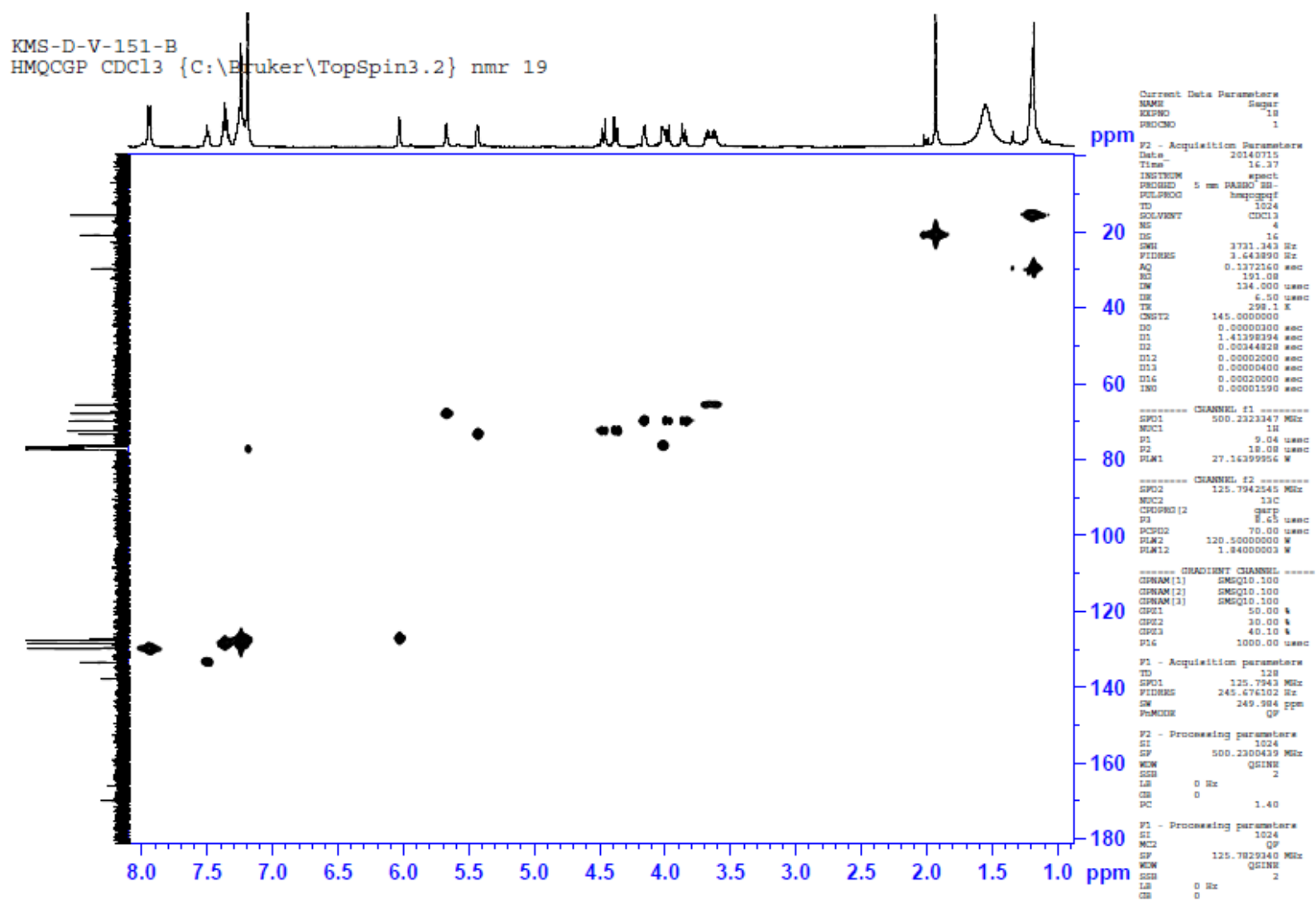
F2 - Acquisition Parameters  
Date\_ 20140716  
Time\_ 11.16  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 1206  
DS 4  
SWH 29761.904 Hz  
FIDRES 0.454131 Hz  
AQ 1.1010048 sec  
RG 191.08  
DW 16.800 usec  
DE 6.50 usec  
TE 298.0 K  
D1 2.00000000 sec  
D11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

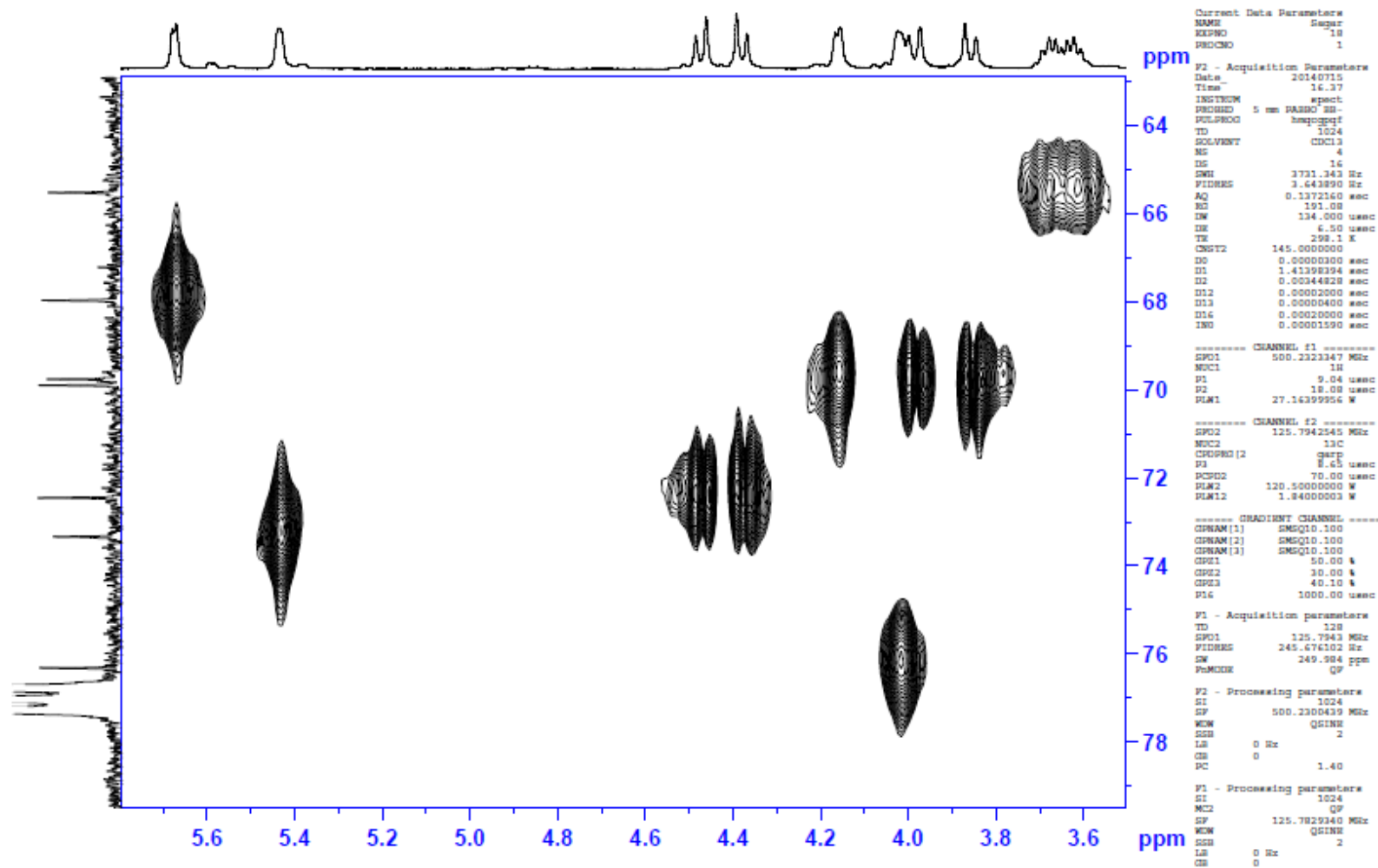
F2 - Processing parameters  
SI 32768  
SF 125.7829340 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

## HMQC of compound 14



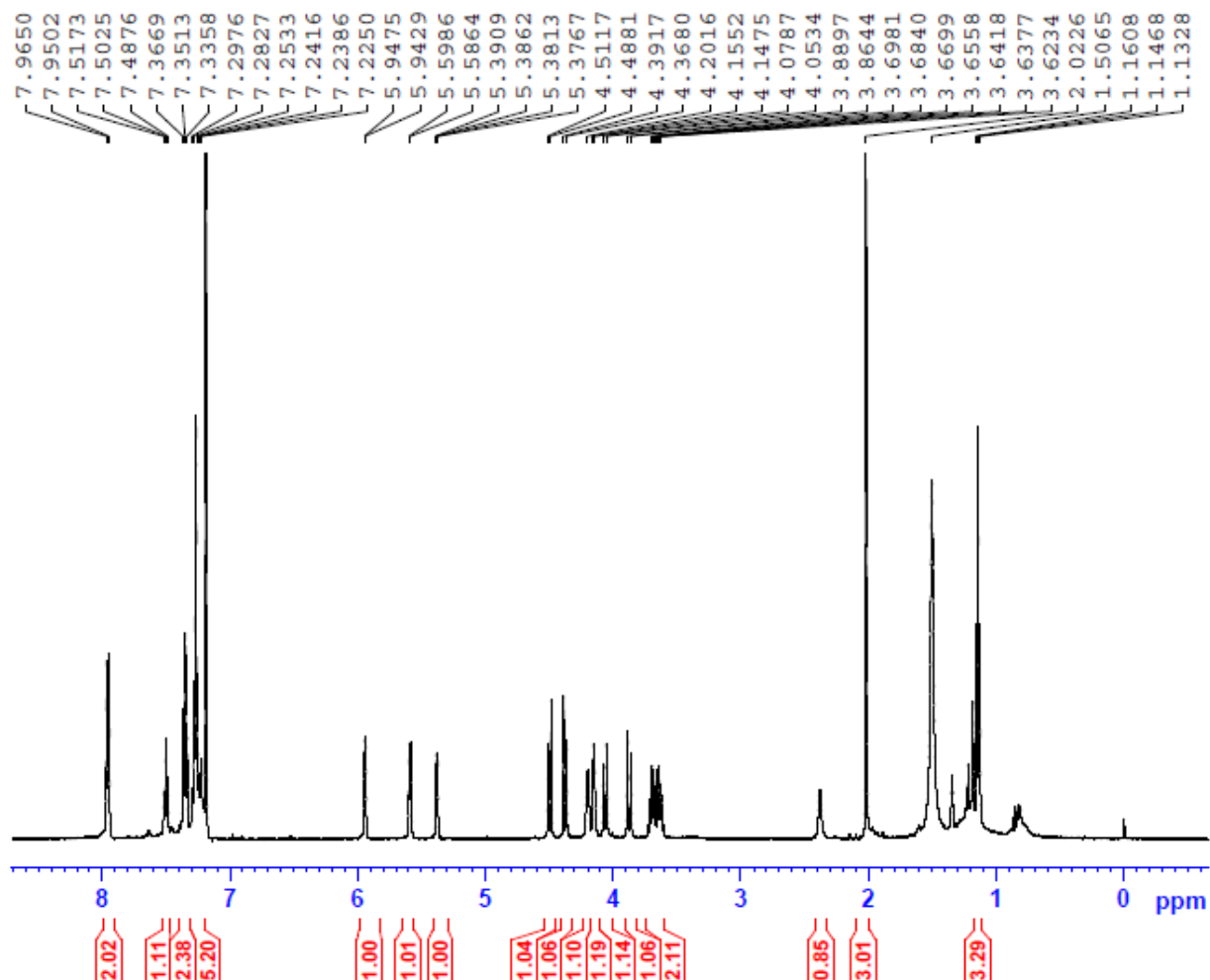
HMQC of compound **14** (zoom)

KMS-D-V-151-B

HMQCGP CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 19

<sup>1</sup>H NMR of compound **15**

KMS-D-V-151A  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 710  
 PROCNO 1

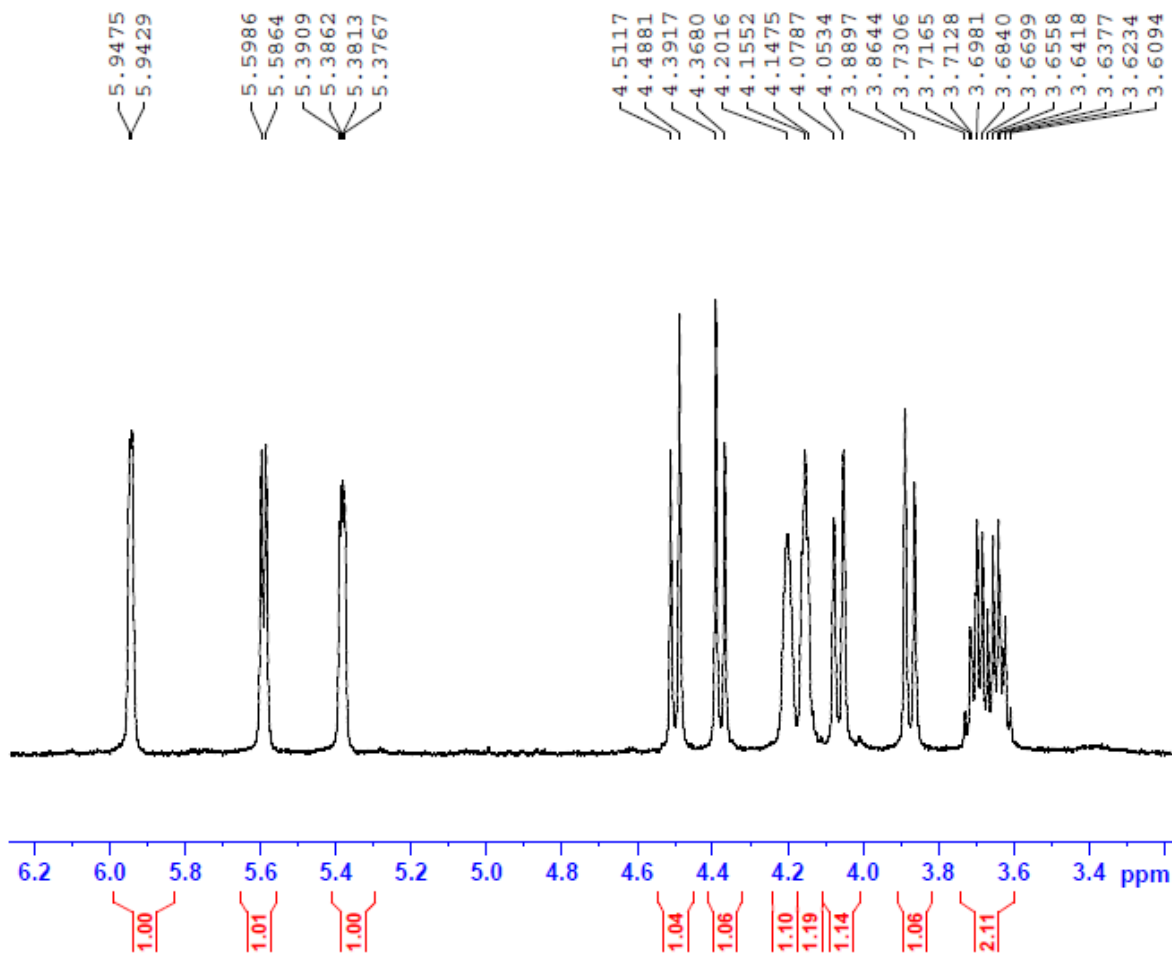
F2 - Acquisition Parameters  
 Date\_ 20140517  
 Time 0.12  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719425 sec  
 RG 191.08  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.0 K  
 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

<sup>1</sup>H NMR of compound **15** (zoom)

KMS-D-V-151A  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 710  
 PROCNO 1

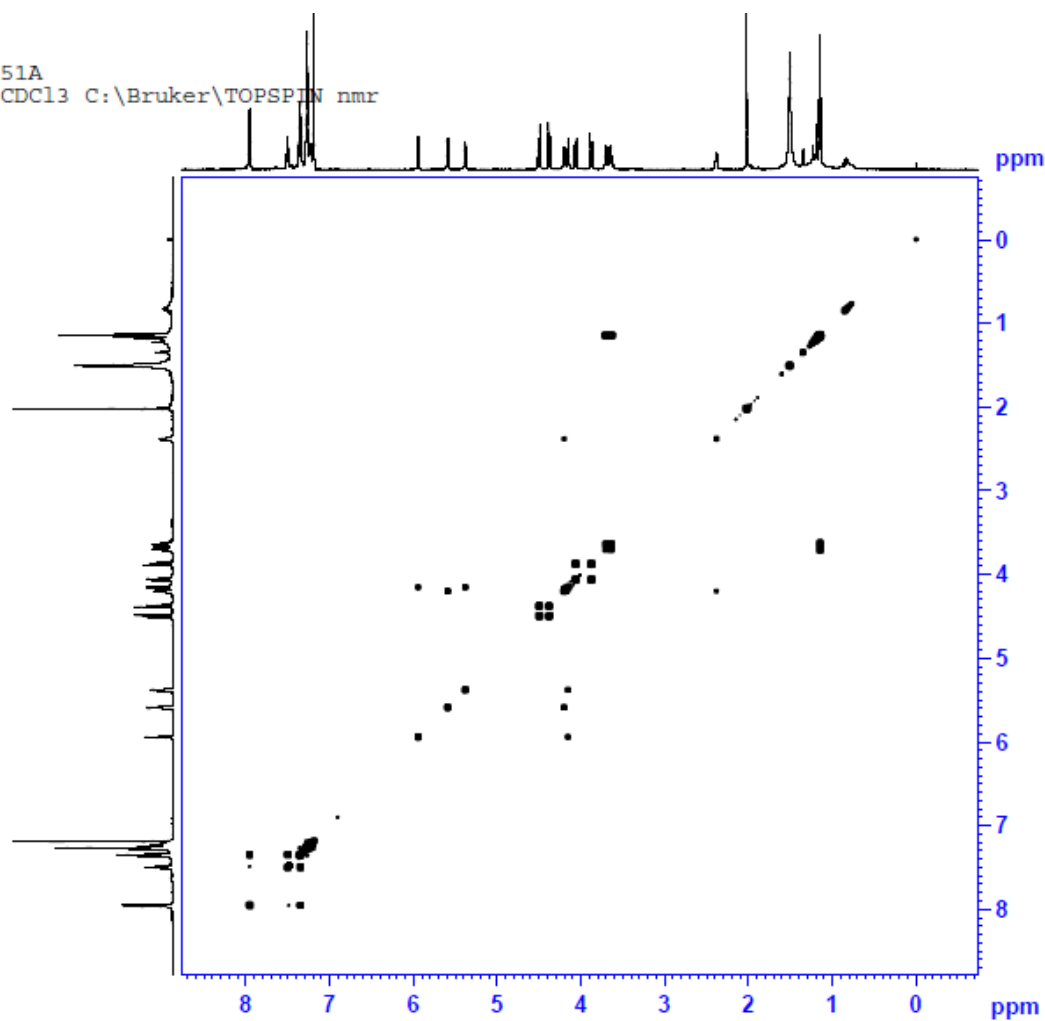
F2 - Acquisition Parameters  
 Date\_ 20140517  
 Time\_ 0.12  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719425 sec  
 RG 191.08  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.0 K  
 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**

KMS-D-V-151A  
 COSYGPW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sacar  
 EXPNO 711  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140517  
 Time 0.14  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG cosygpgpgf  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 1  
 DS 8  
 SWH 10004.642 Hz  
 FIDRES 9.770158 Hz  
 AQ 0.0511762 sec  
 RG 125.62  
 DM 49.977 usec  
 DE 6.50 usec  
 TR 300.0 K  
 D0 0.0000300 sec  
 D1 1.93815005 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D16 0.00020000 sec  
 INO 0.00021000 sec

----- CHANNEL f1 -----  
 NUCL 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 -----  
 GRAM[1] GMRQ10.100  
 GPZ1 10.00 %  
 P16 1000.00 usec

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

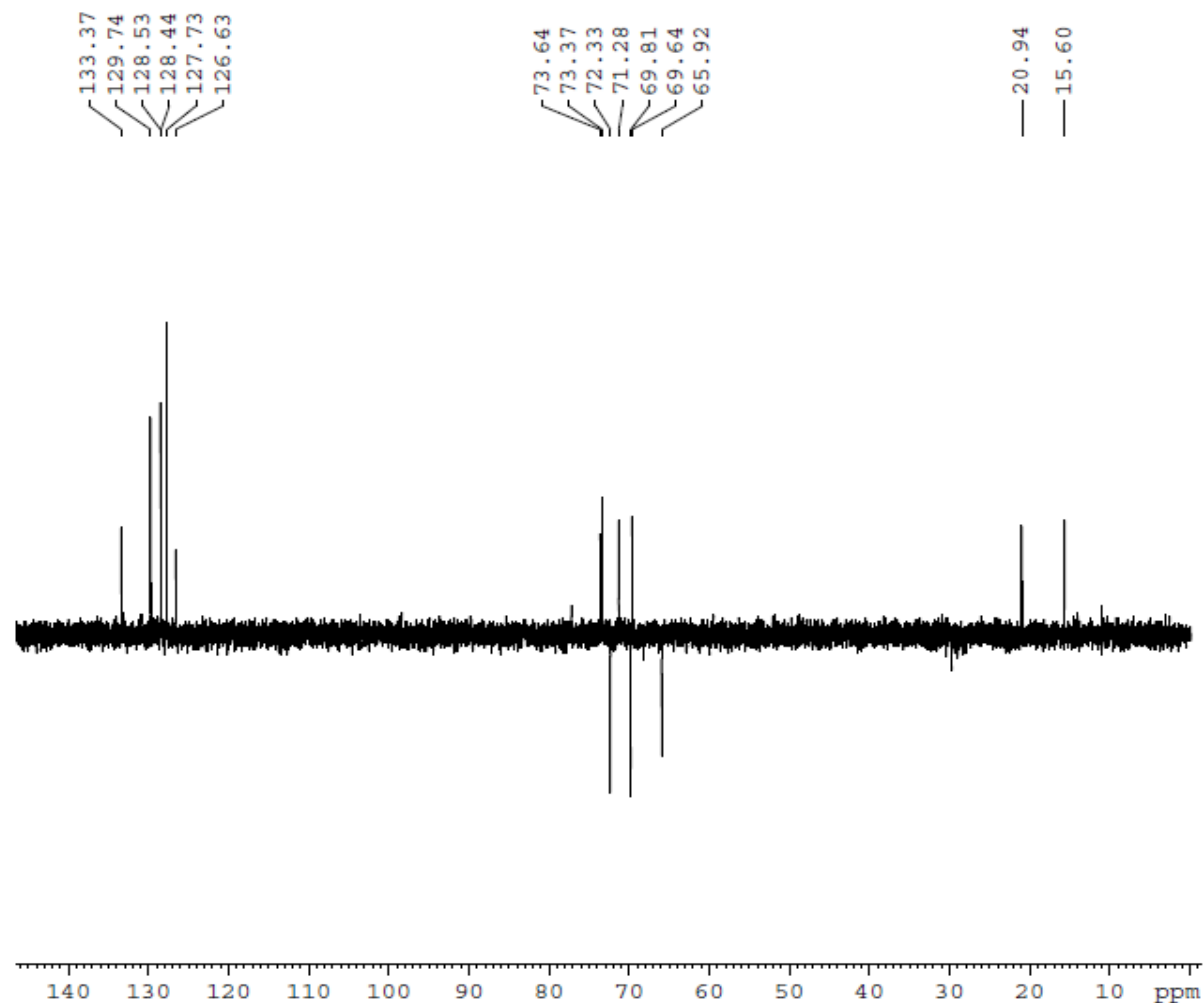
F2 - Processing parameters  
 SI 1024  
 SF 500.2300506 MHz  
 WDW QGINS  
 SSB 0  
 LB 0 Hz  
 GB 0  
 PC 1.40

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



DEPT of compound **15**

KMS-D-V-151A  
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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	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	300.5 K
CNST2	145.0000000
D1	2.00000000 sec
D2	0.00344828 sec
D12	0.00002000 sec

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

NUC1	13C
F1	8.65 usec
F13	2000.00 usec
PLW0	0 W
PLW1	120.50000000 W
SFO1	125.7929956 MHz
SPNAM[5]	Crp60comp.4
SFOALS	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

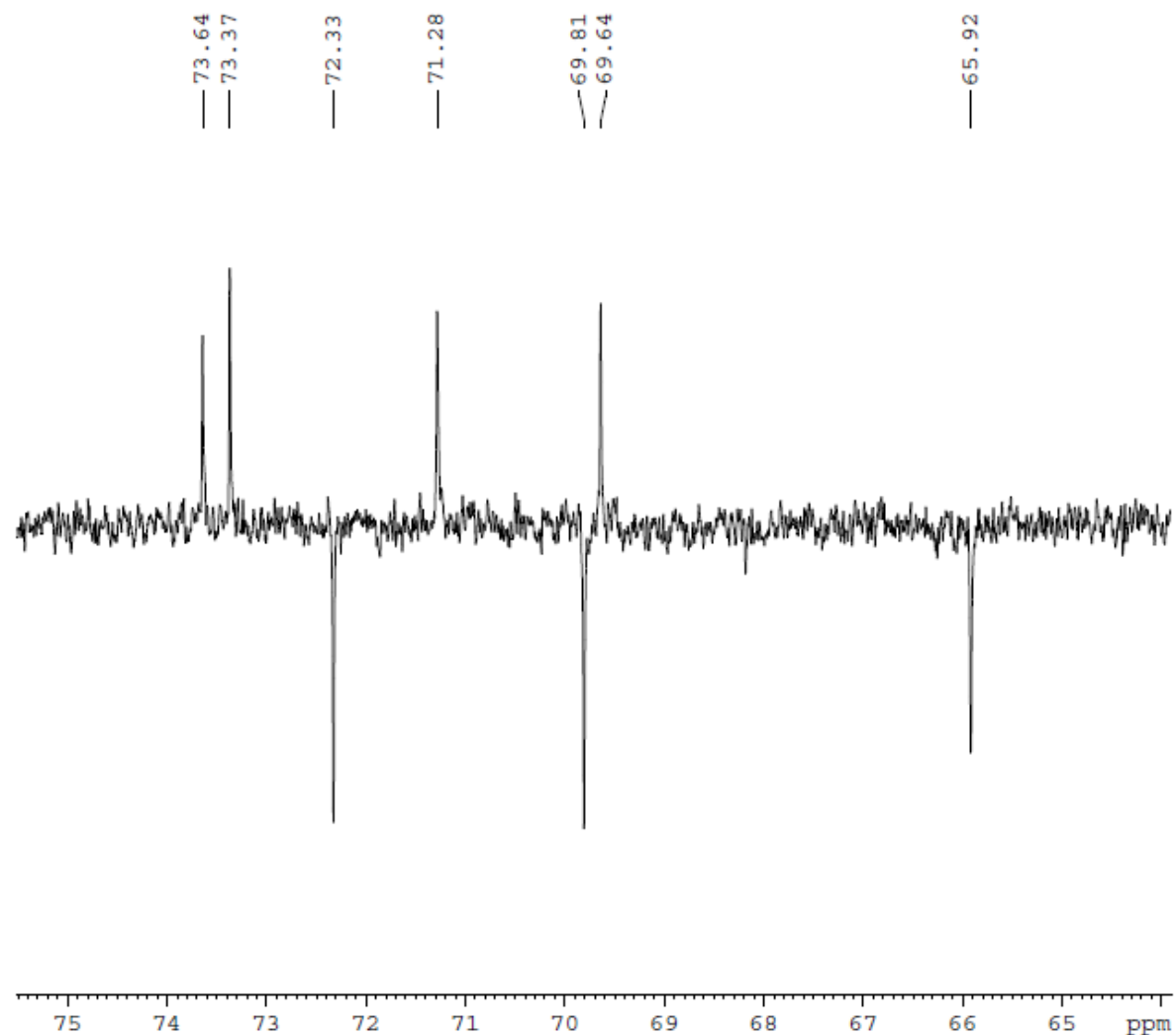
SI	32768
SF	125.7829340 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



DEPT of compound **15** (zoom)

KMS-D-V-151A

C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXFNO 702  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140515  
 Time 20.26  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG deptspl35  
 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  
 CNET2 145.0000000  
 D1 2.00000000 sec  
 D2 0.00344828 sec  
 D12 0.00002000 sec

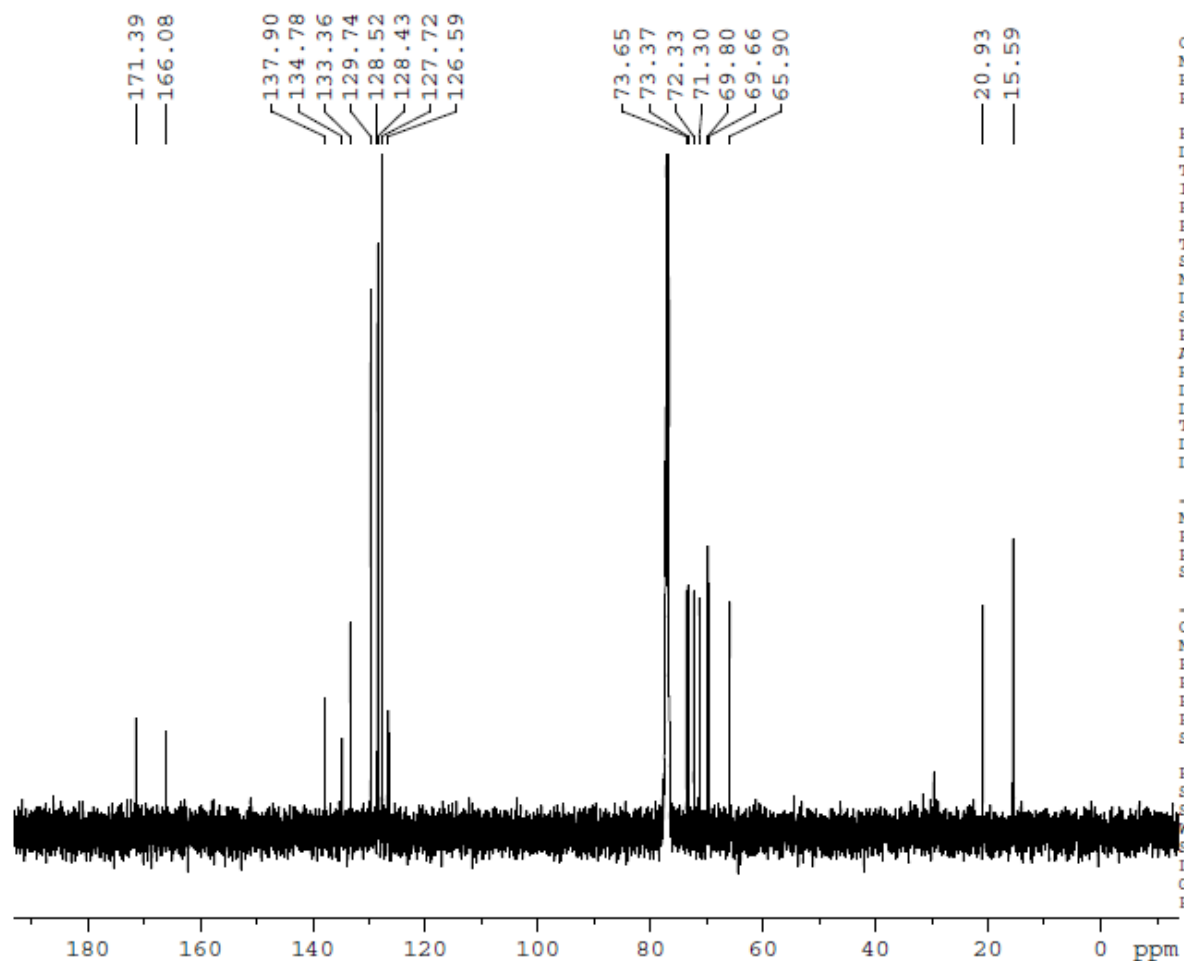
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM[S] Crp60comp.4  
 SPOALS 0.500  
 SPOFFS5 0 Hz  
 SPWS 13.77600002 W

----- 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

<sup>13</sup>C NMR of compound **15**

KMS-D-V-151A  
 C13CPD CDCl<sub>3</sub> 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 CDCl<sub>3</sub>  
 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

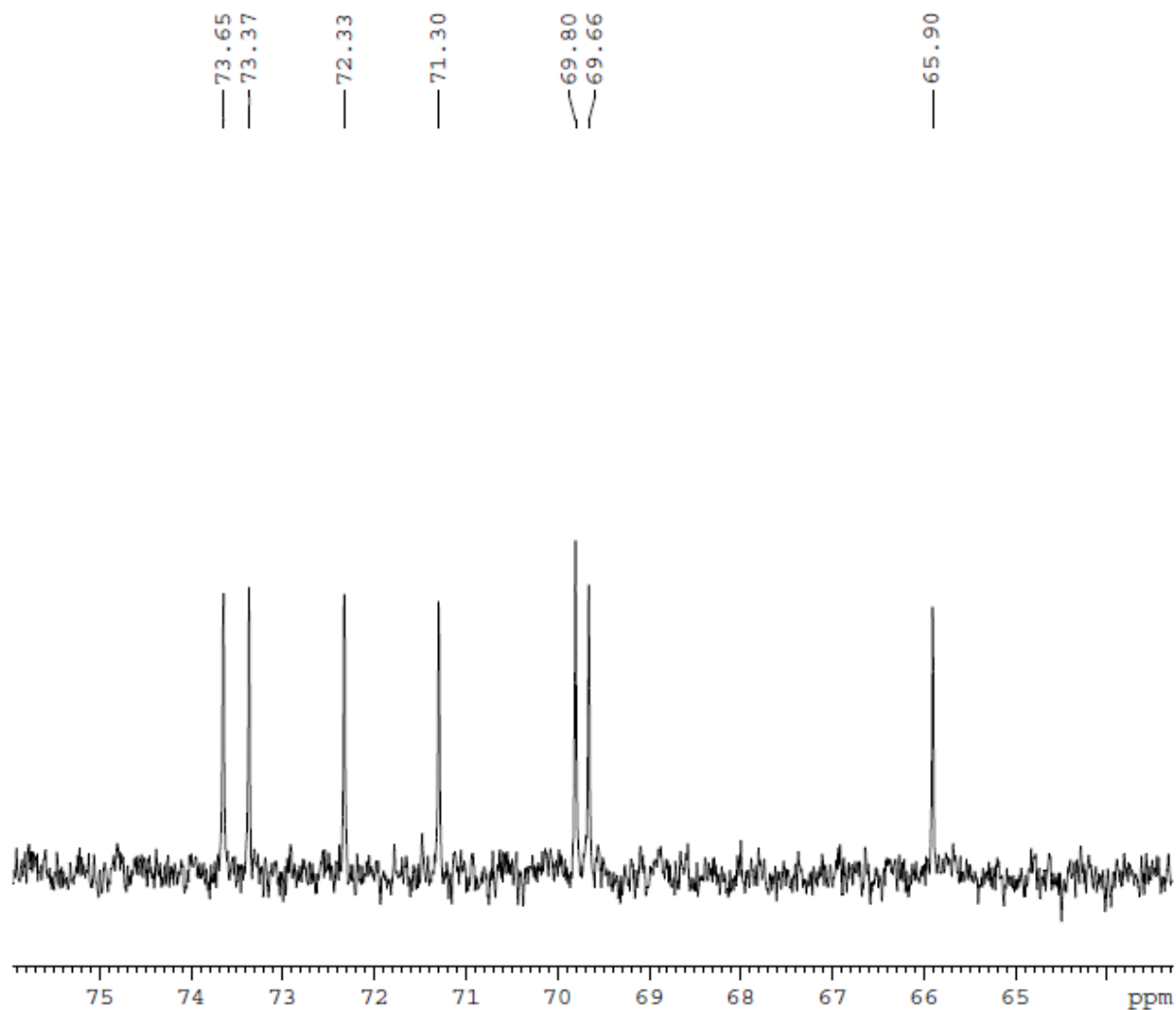
----- CHANNEL f1 -----  
 NUC1 <sup>13</sup>C  
 P1 8.65 usec  
 PLW1 120.50000000 W  
 SFO1 125.7955112 MHz

----- CHANNEL f2 -----  
 CPDPRG[2] waltz16  
 NUC2 <sup>1</sup>H  
 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

<sup>14</sup>C NMR of compound **15** (zoom)

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

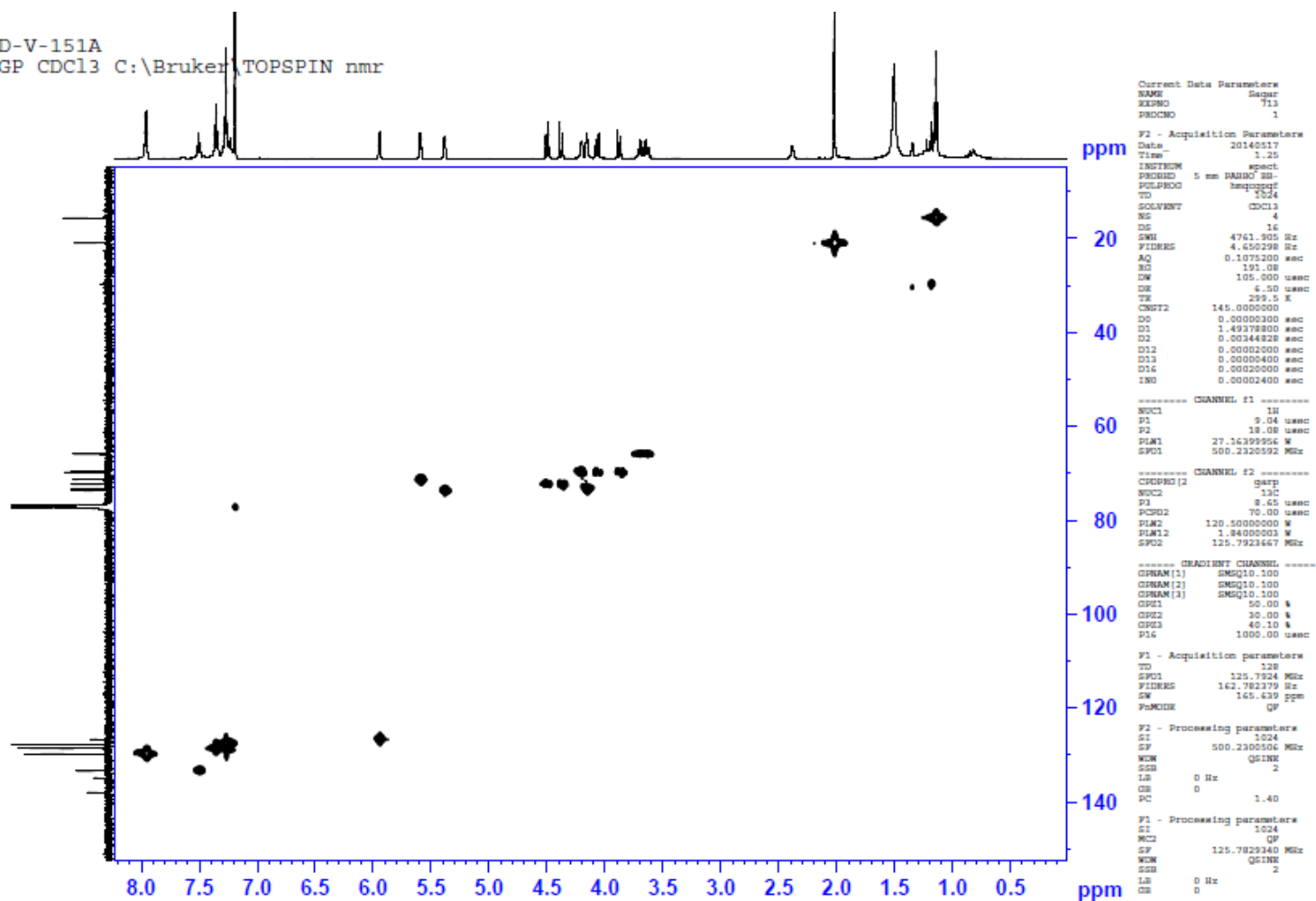
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

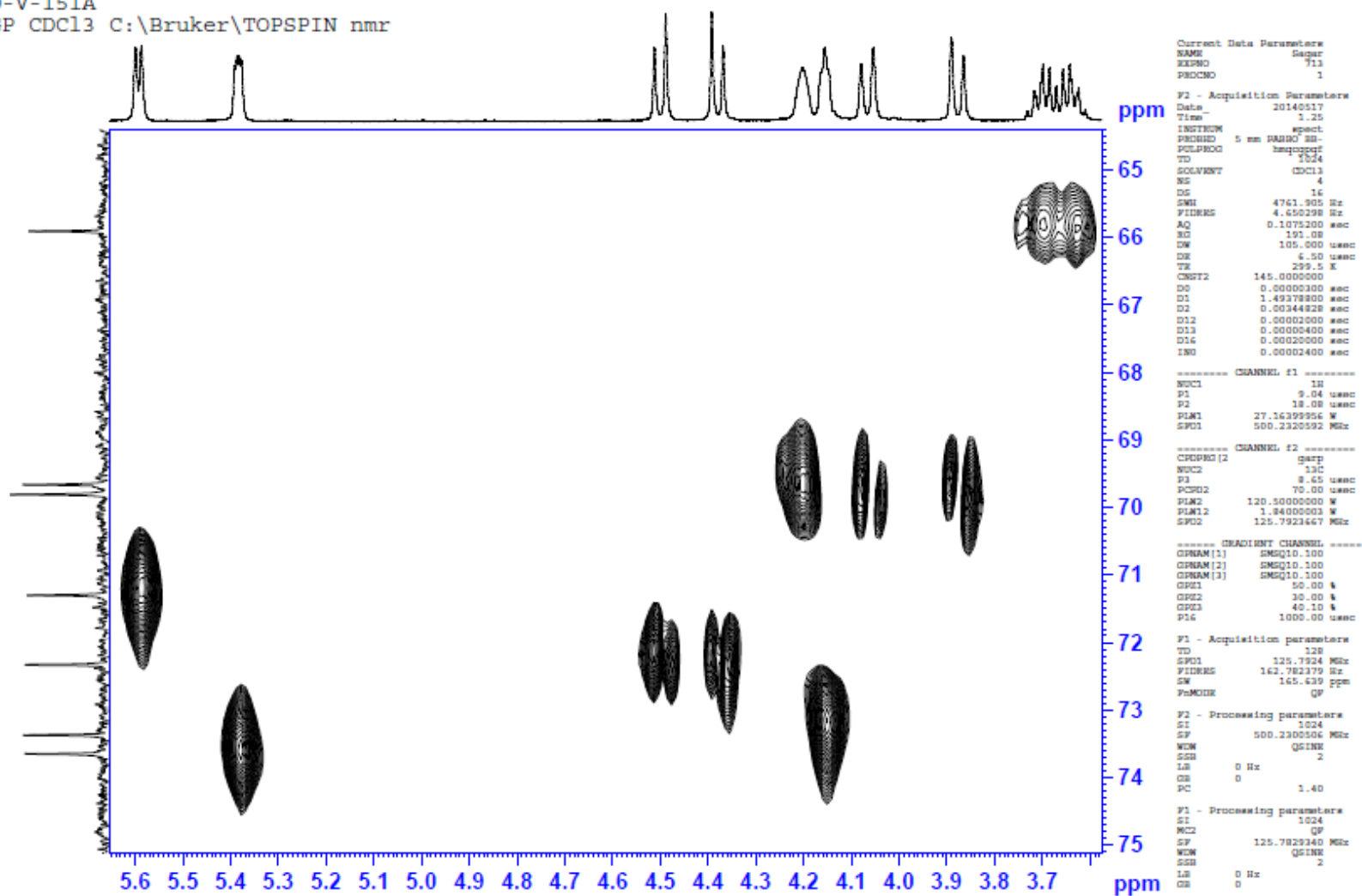
HMQC of compound **15**

KMS-D-V-151A  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



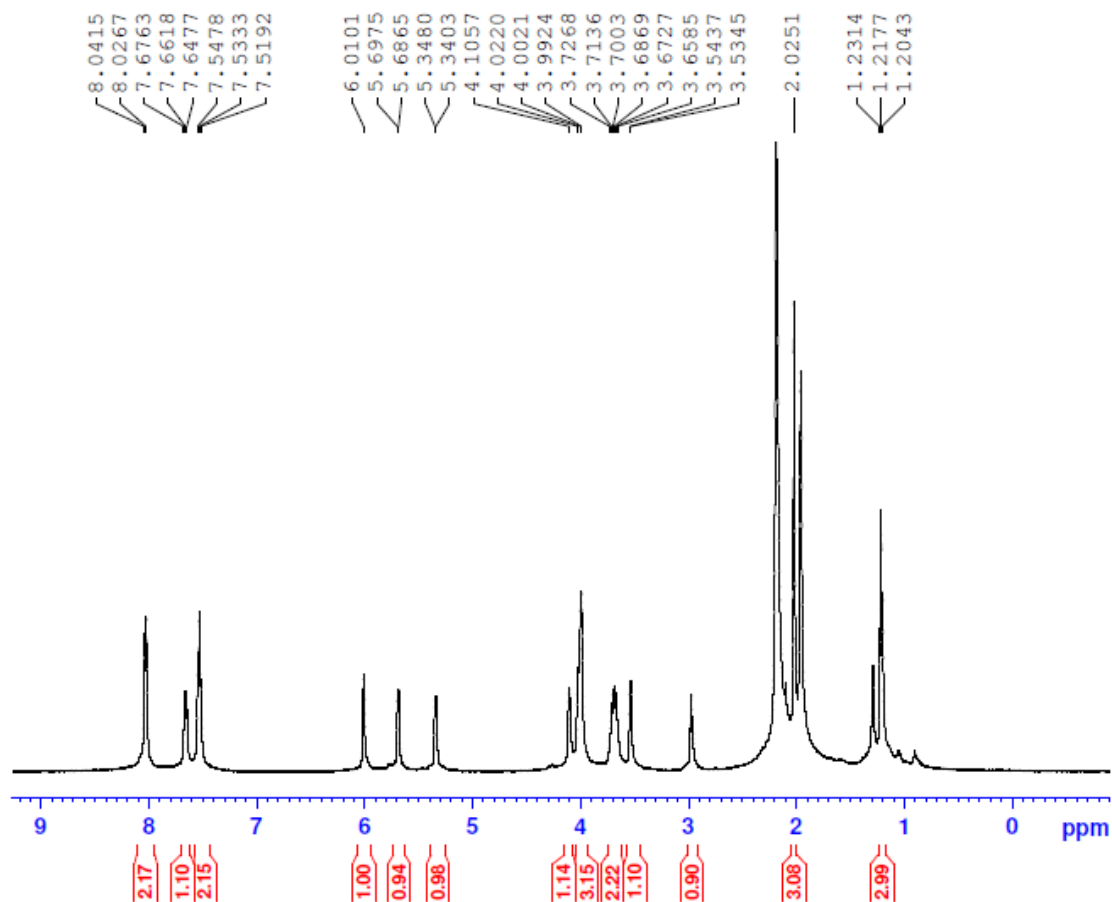
HMQC of compound **15** (zoom)

KMS-D-V-151A  
HMQC GP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



<sup>1</sup>H NMR of compound **16**

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



Current Data Parameters  
 NAME Sagar  
 EXPNO 28  
 PROCNO 1

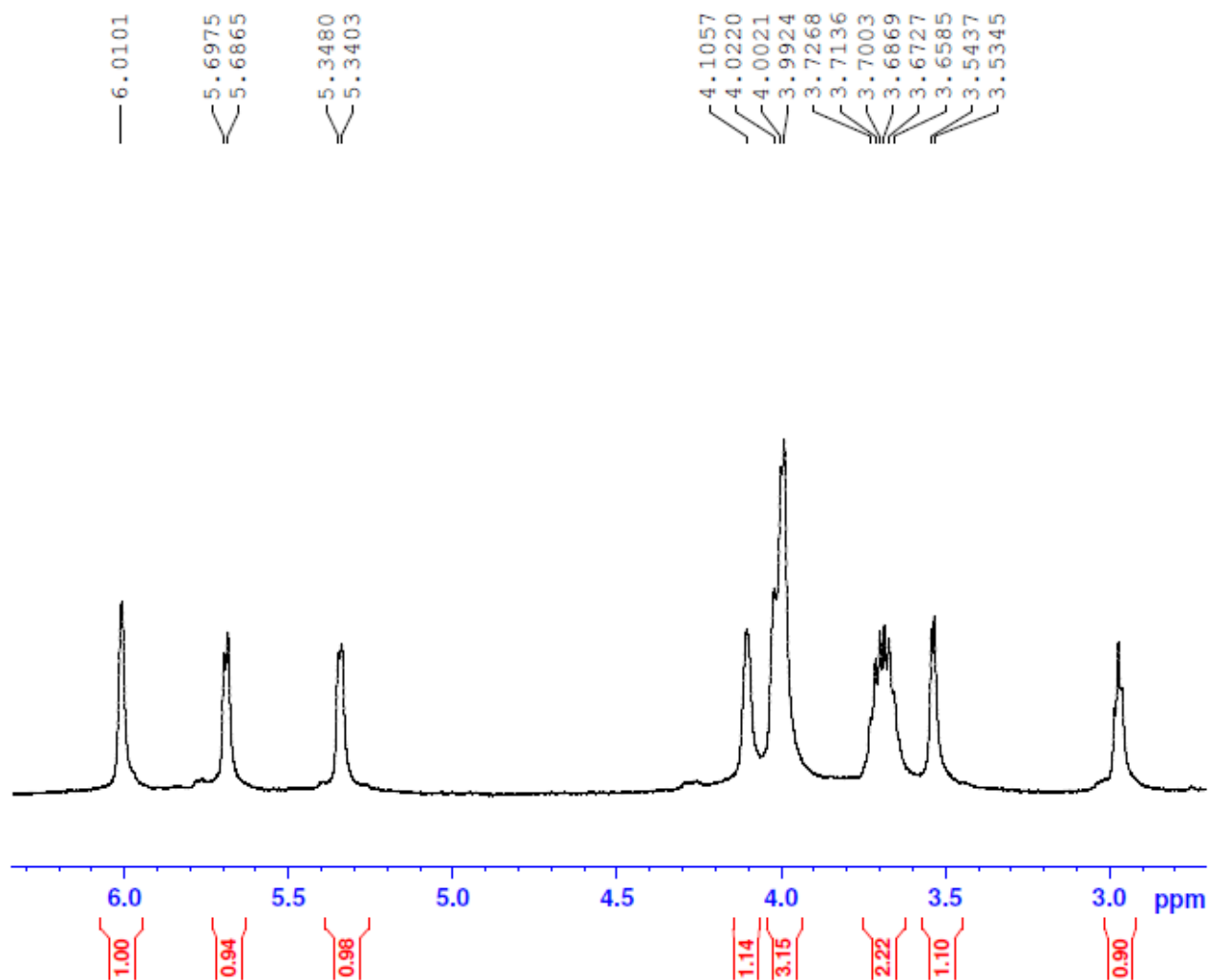
F2 - Acquisition Parameters  
 Date\_ 20140718  
 Time 3.31  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CD3CN  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 153.65  
 DW 50.000 usec  
 DE 6.50 usec  
 IE 295.4 K  
 D1 1.00000000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

<sup>1</sup>H NMR of compound **16** (zoom)

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



Current Data Parameters  
 NAME Sagar  
 EXPNO 28  
 PROCNO 1

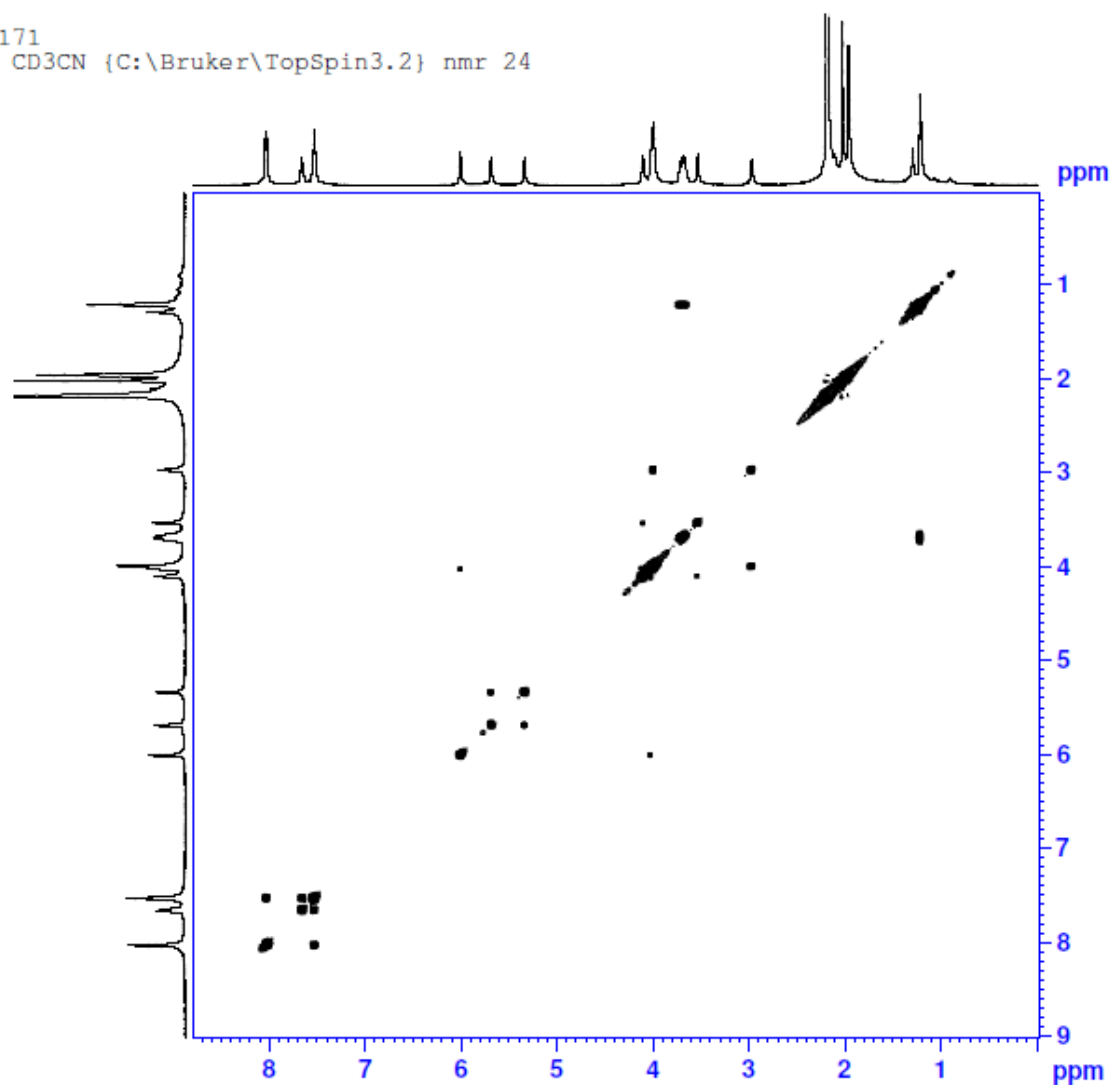
F2 - Acquisition Parameters  
 Date\_ 20140718  
 Time 3.31  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CD3CN  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 153.65  
 DW 50.000 usec  
 DE 6.50 usec  
 TE 295.4 K  
 D1 1.00000000 sec  
 ID0 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**

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



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 0.00004000 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  
 GPE1 10.00 %  
 P16 1000.00 usec

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

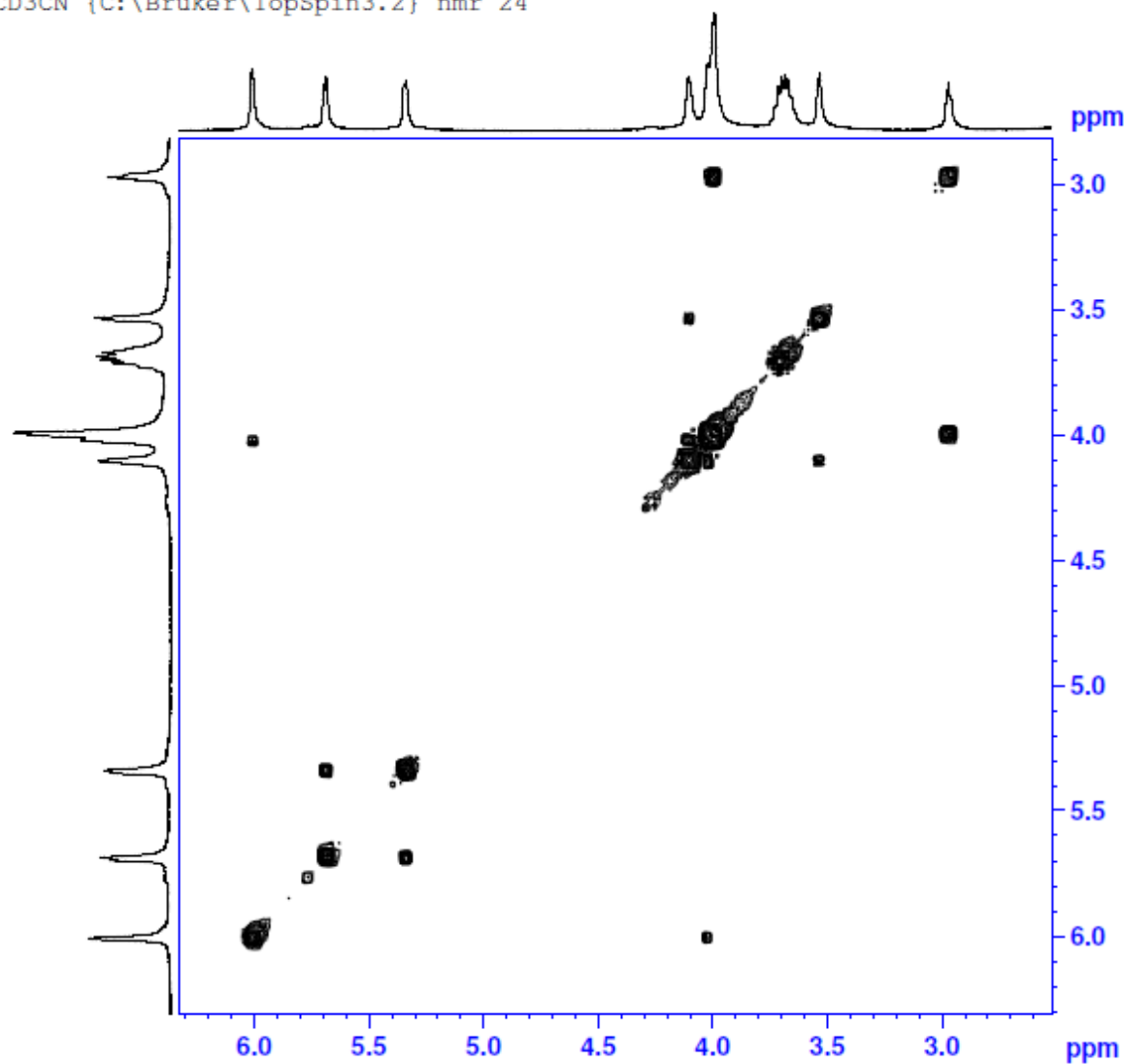
F2 - Processing parameters  
 SI 1024  
 SF 500.2300000 MHz  
 WDW QSINE  
 SSB 0  
 LB 0 Hz  
 GB 0  
 PC 1.40

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)

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



```

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   cosypppqf
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
DO        0.00000300 sec
D1         1.94429398 sec
D11        0.03000000 sec
D12        0.00020000 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 -----
GPMAM[1]  SMSQ10.100
GPZ1       10.00 %
P16        1000.00 usec

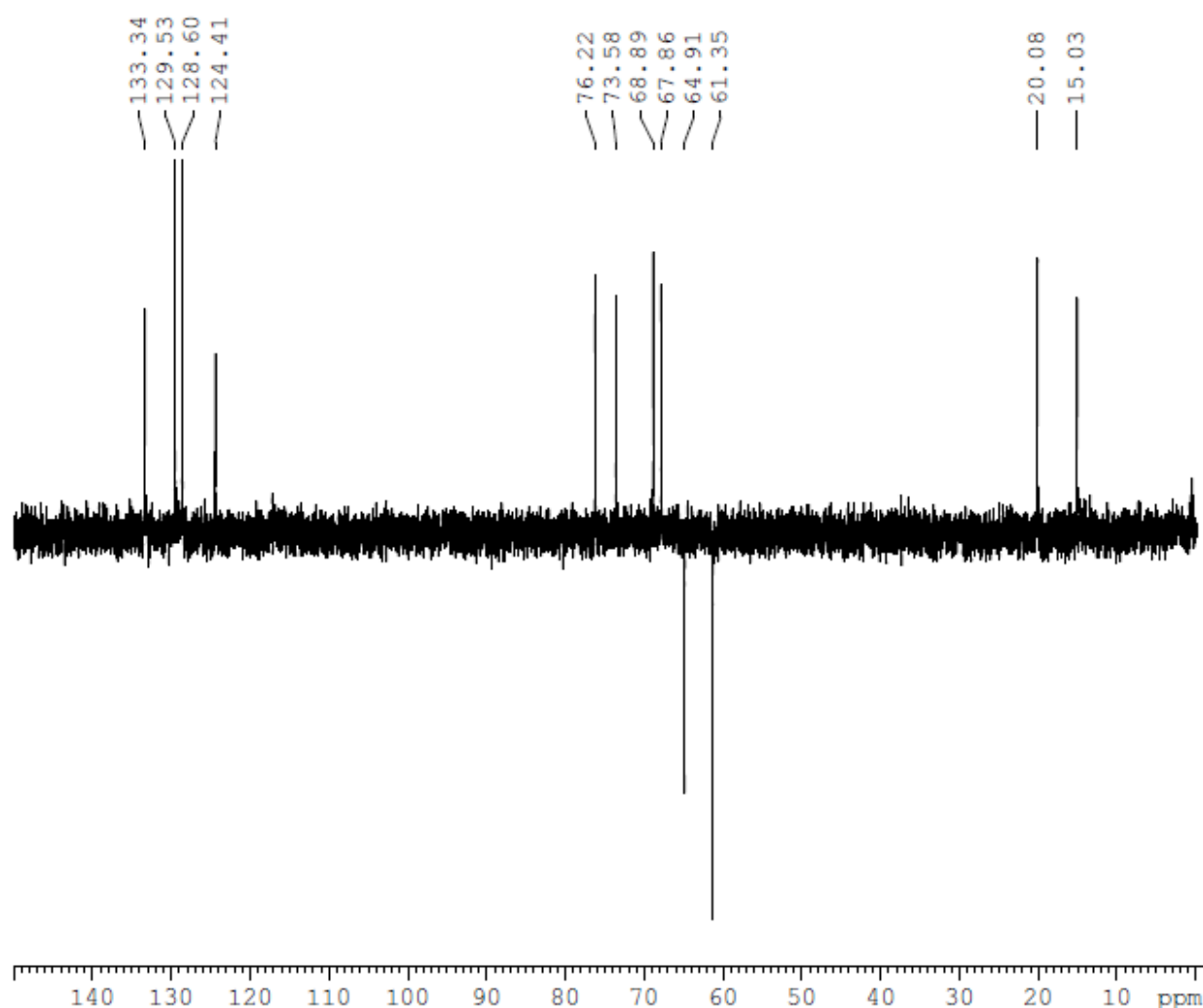
F1 - Acquisition parameters
TD         128
SFO1       500.2321 MHz
FIDRES     38.296570 Hz
SW         9.799 ppm
F0MODE     QF

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**

KMS-D-V-171  
 C13DEPT135 CD3CN {C:\Bruker\TopSpin3.2} nmr 24



```

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

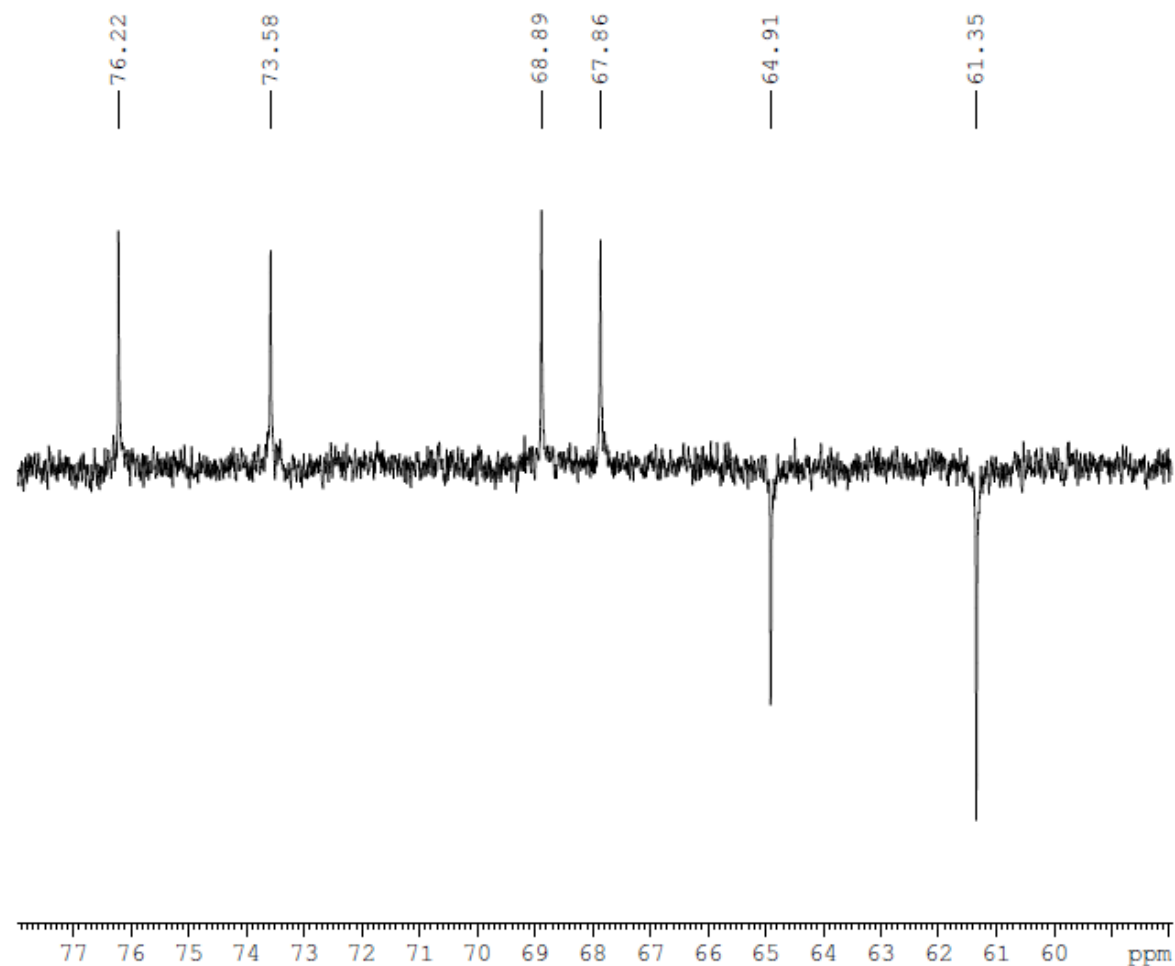
===== CHANNEL f1 =====
SFO1          125.7929956 MHz
NUC1           13C
P1            8.65 usec
P13           2000.00 usec
PLW0          0 W
PLW1          120.50000000 W
SPNAM[5]      Crp60comp.4
SFOAL5        0.500
SPOFFS5       0 Hz
SPW5          13.77600002 W

===== 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)

KMS-D-V-171  
 C13DEPT135 CD3CN {C:\Bruker\TopSpin3.2} nmr 24



```

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
SFOAL5    0.500
SPOFFS5   0 Hz
SPW5      13.77600002 W

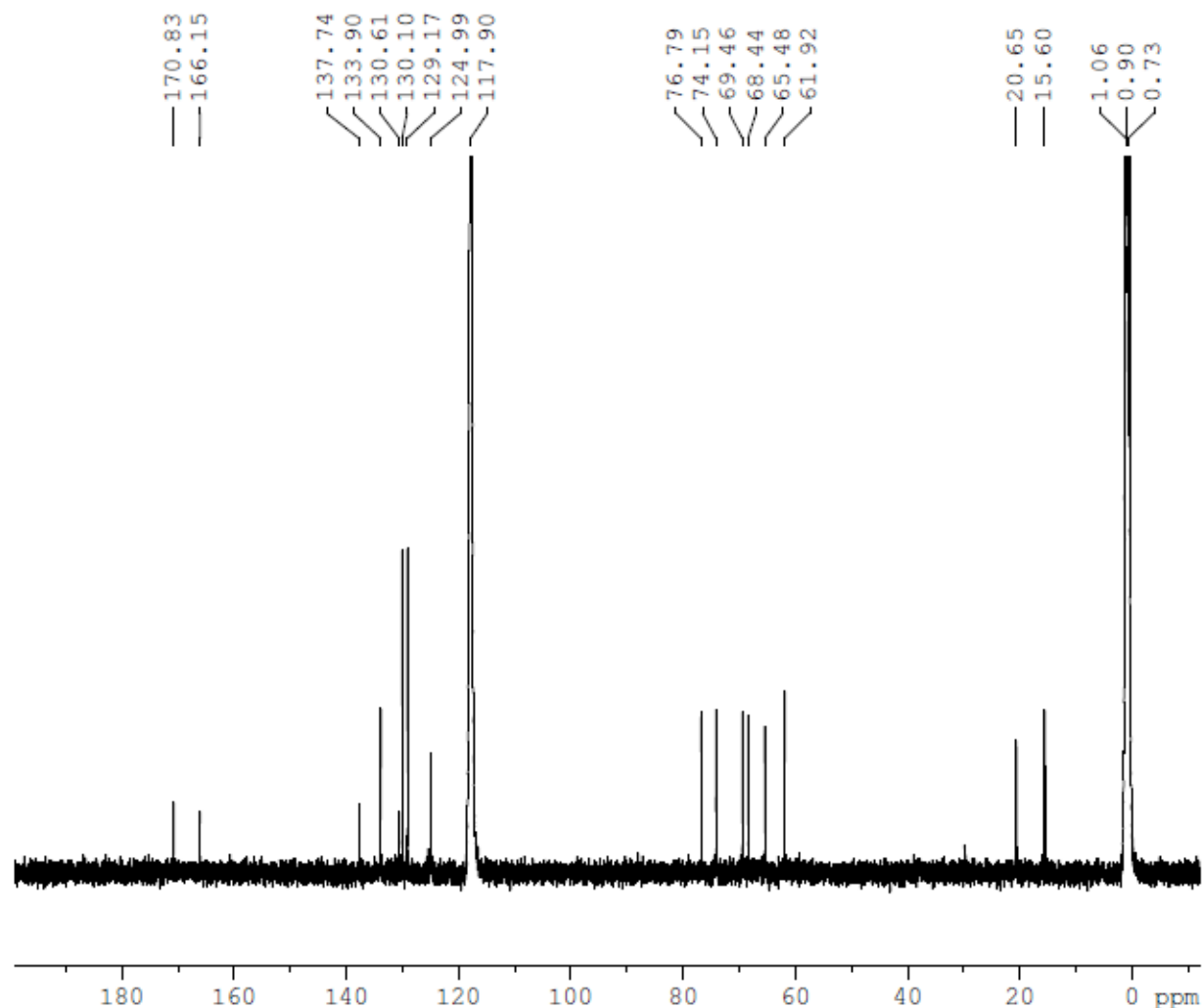
===== CHANNEL f2 =====
SFO2      500.2315998 MHz
NUC2       1H
CPDPRG[2] waltz16
P3        9.04 usec
P4        18.08 usec
PCPD2     80.00 usec
PLW2      27.16399956 W
PLW12     0.34685999 W

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

```

<sup>13</sup>C NMR of compound **16**

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

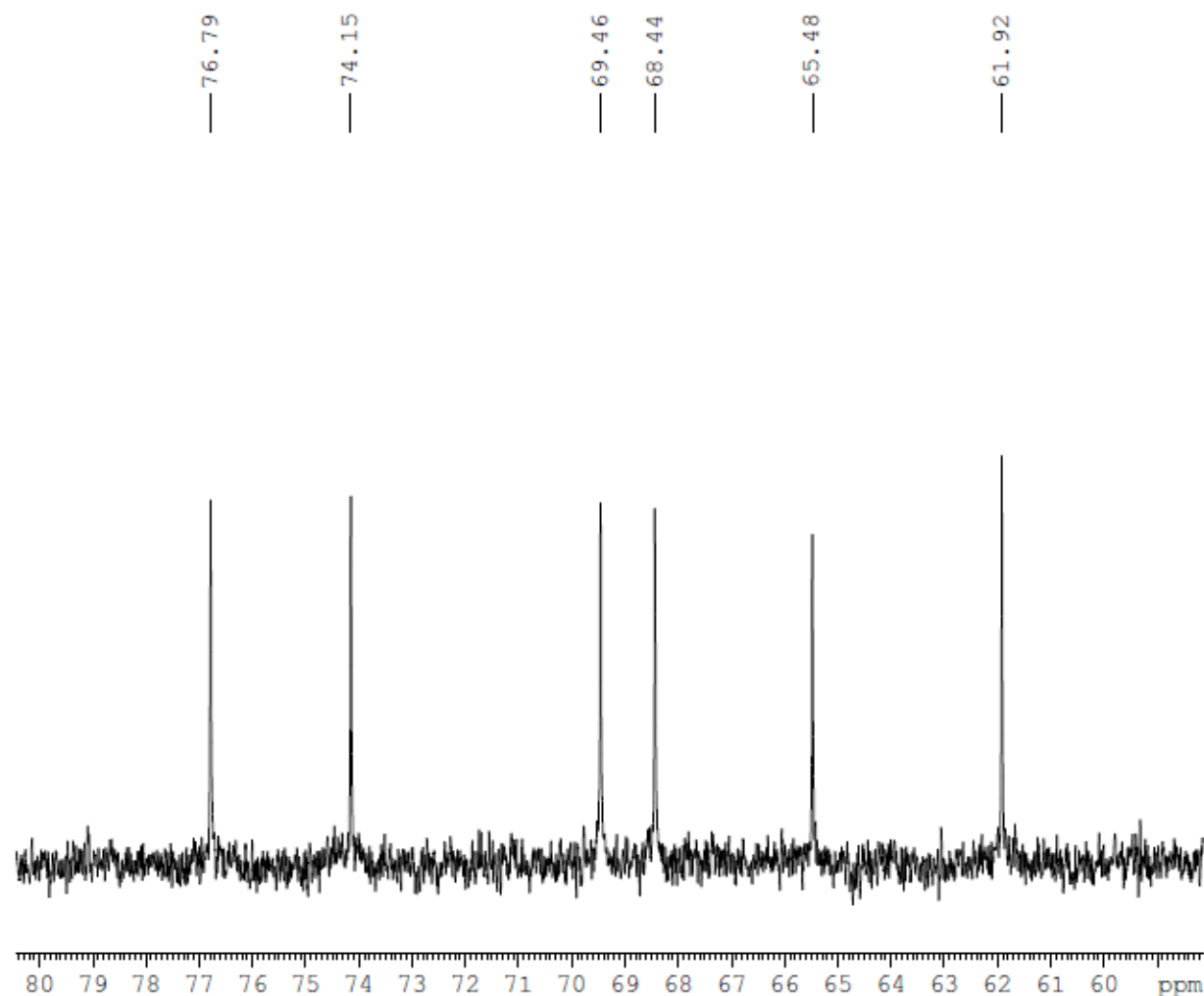
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W

----- 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

<sup>14</sup>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  
 ID 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  
 ID0 1

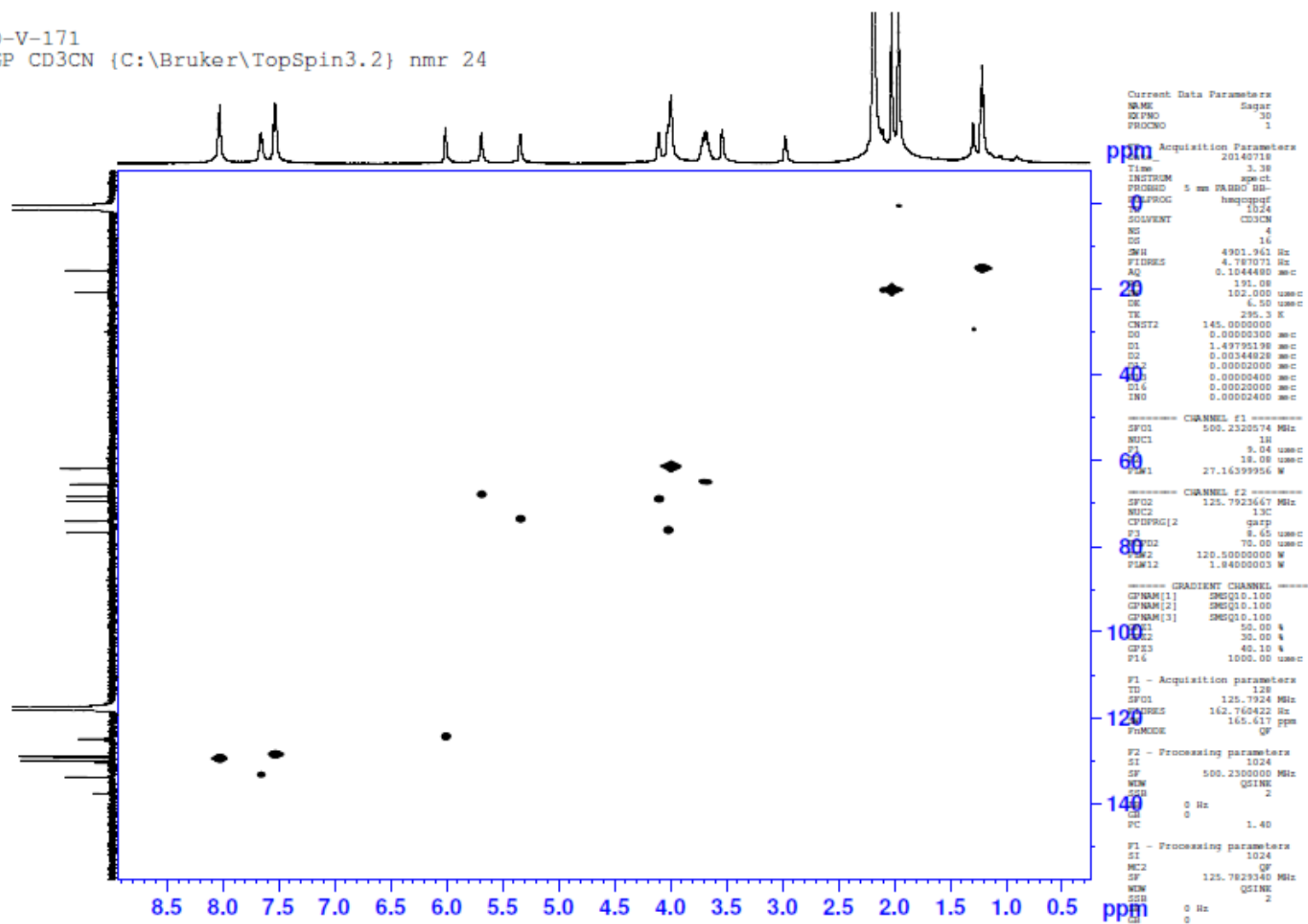
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W

----- 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

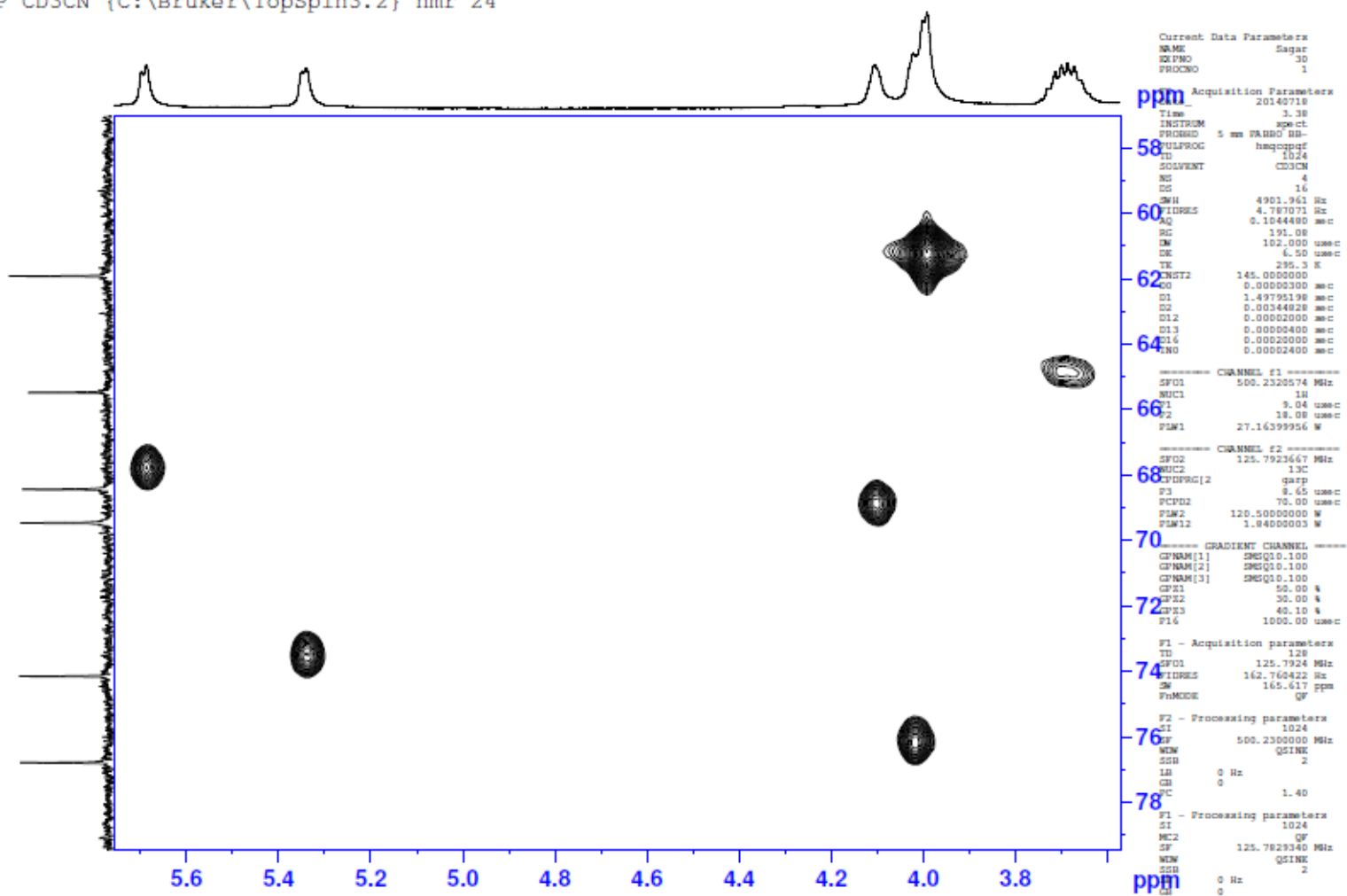
HMQC of compound **16**

KMS-D-V-171  
 HMQC GP CD3CN (C:\Bruker\TopSpin3.2) nmr 24



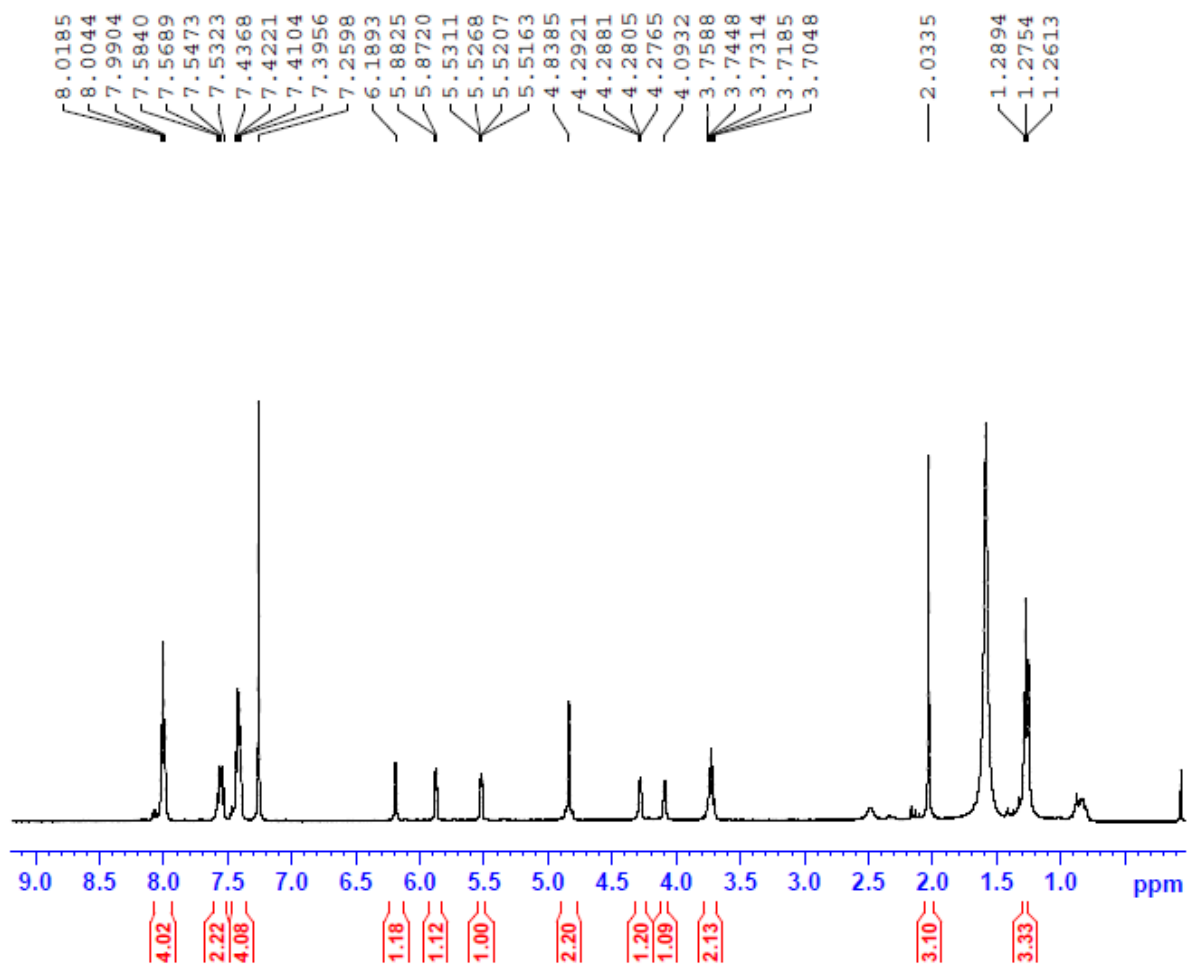
HMQC of compound **16** (zoom)

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



<sup>1</sup>H NMR of compound **17**

KMS-D-V-Uva A  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 21



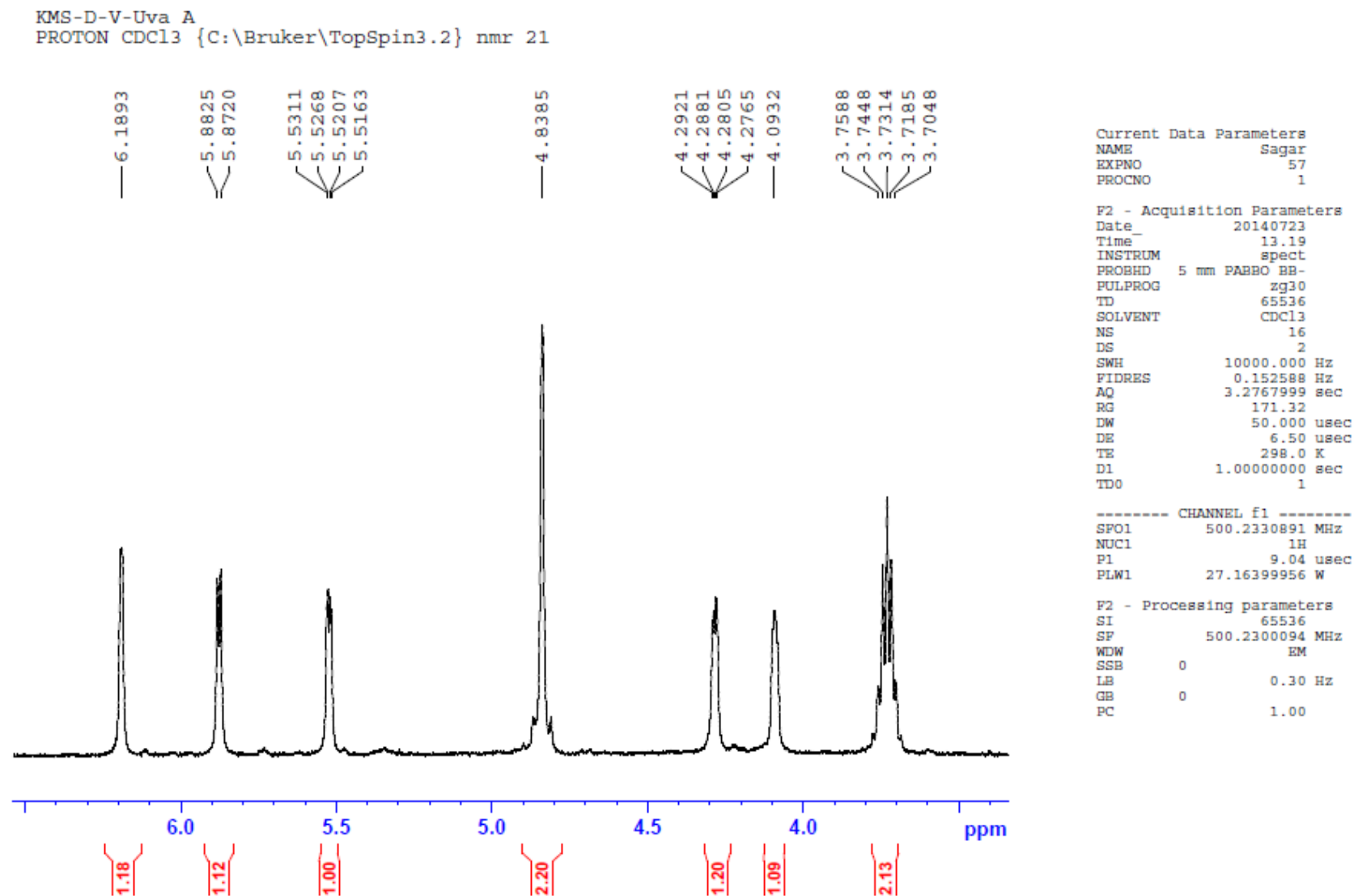
Current Data Parameters  
 NAME Sagar  
 EXPNO 57  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140723  
 Time\_ 13.19  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 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  
 TDO 1

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

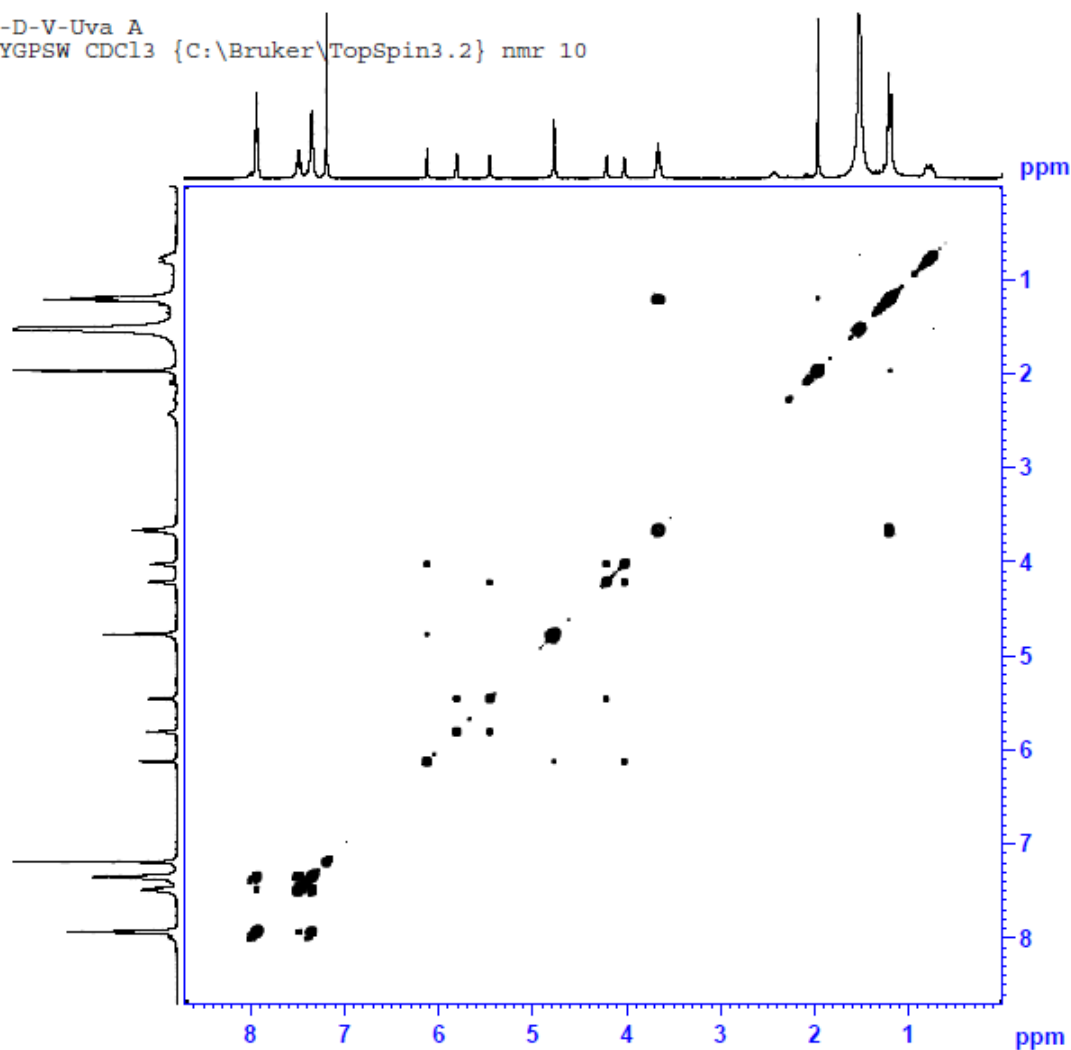
F2 - Processing parameters  
 SI 65536  
 SF 500.2300094 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



<sup>1</sup>H NMR of compound **17** (zoom)

COSY of compound **17**

KMS-D-V-Uva A  
 COSYGPSW CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 10



Current Data Parameters  
 NAME Sagar  
 EXPNO 50  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140723  
 Time 3.04  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG cosygppp4f  
 TD 2048  
 SOLVENT CDCl<sub>3</sub>  
 NS 1  
 DS 8  
 SWH 4347.826 Hz  
 FIDRES 2.122962 Hz  
 AQ 0.2355200 sec  
 SC 107.19  
 DW 115.000 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D0 0.0000300 sec  
 D1 1.91767001 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D16 0.00020000 sec  
 INO 0.00023000 sec

----- CHANNEL f1 -----  
 SFO1 500.2322215 MHz  
 NUC1 1H  
 P0 9.04 usec  
 P1 9.04 usec  
 P17 2500.00 usec  
 PLM1 27.16399956 W  
 PLM10 3.28390002 W

----- GRADIENT CHANNEL -----  
 GPRAM[1] GMSG10.100  
 QPZ1 10.00 %  
 P16 1000.00 usec

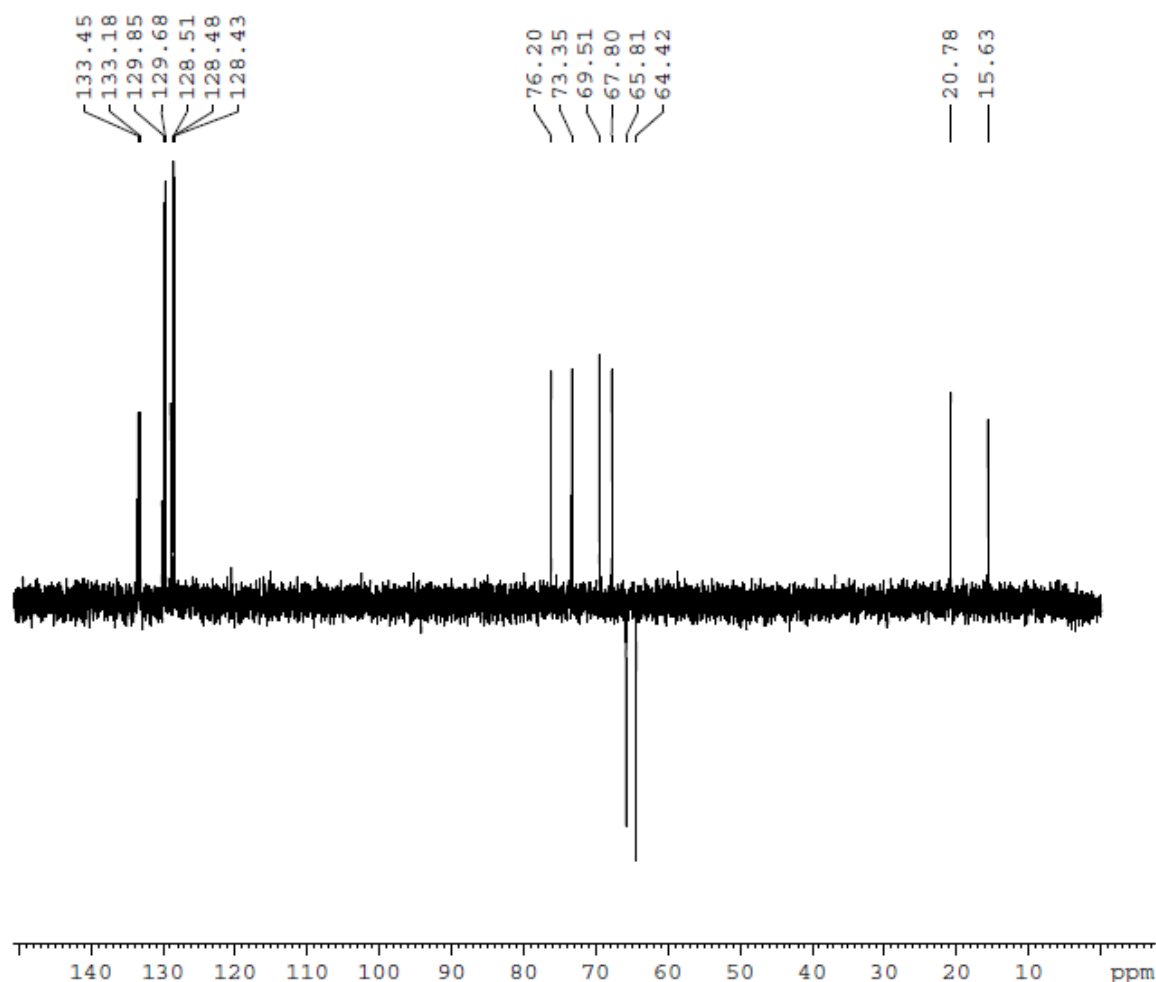
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2322 MHz  
 FIDRES 33.967392 Hz  
 SW 8.692 ppm  
 FMODE QF

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

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

DEPT of compound **17**

KMS-D-V-UVA-A  
 C13DEPT135 CDC13 {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 PARBO BB-  
 PULPROG deptsp135  
 TD 65536  
 SOLVENT CDC13  
 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  
 TDO 1

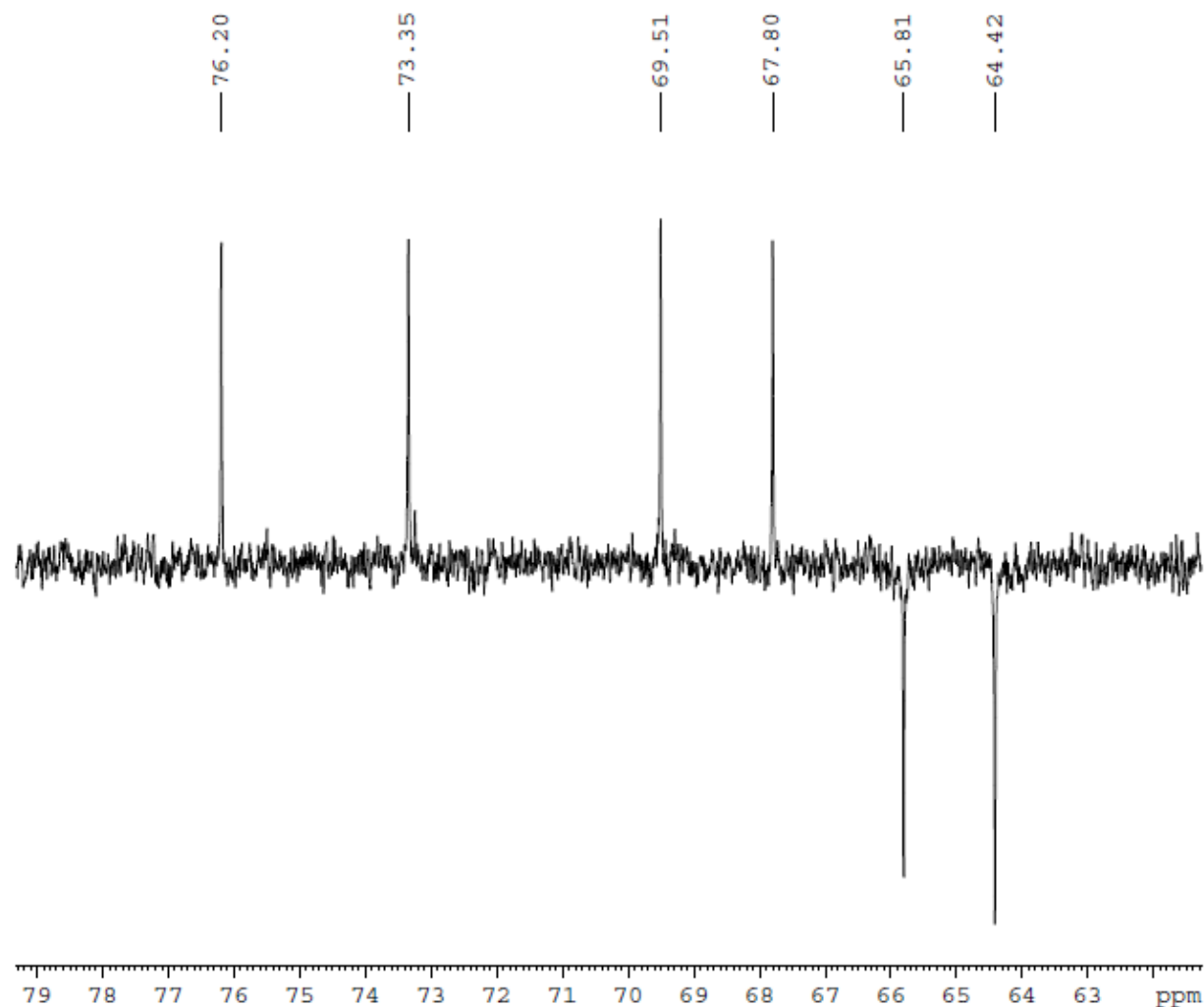
----- CHANNEL f1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFOAM[5] Crp60comp.4  
 SFOALS 0.500  
 SPOFFS5 0 Hz  
 SFWS 13.77600002 W

----- 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 deptap135  
 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

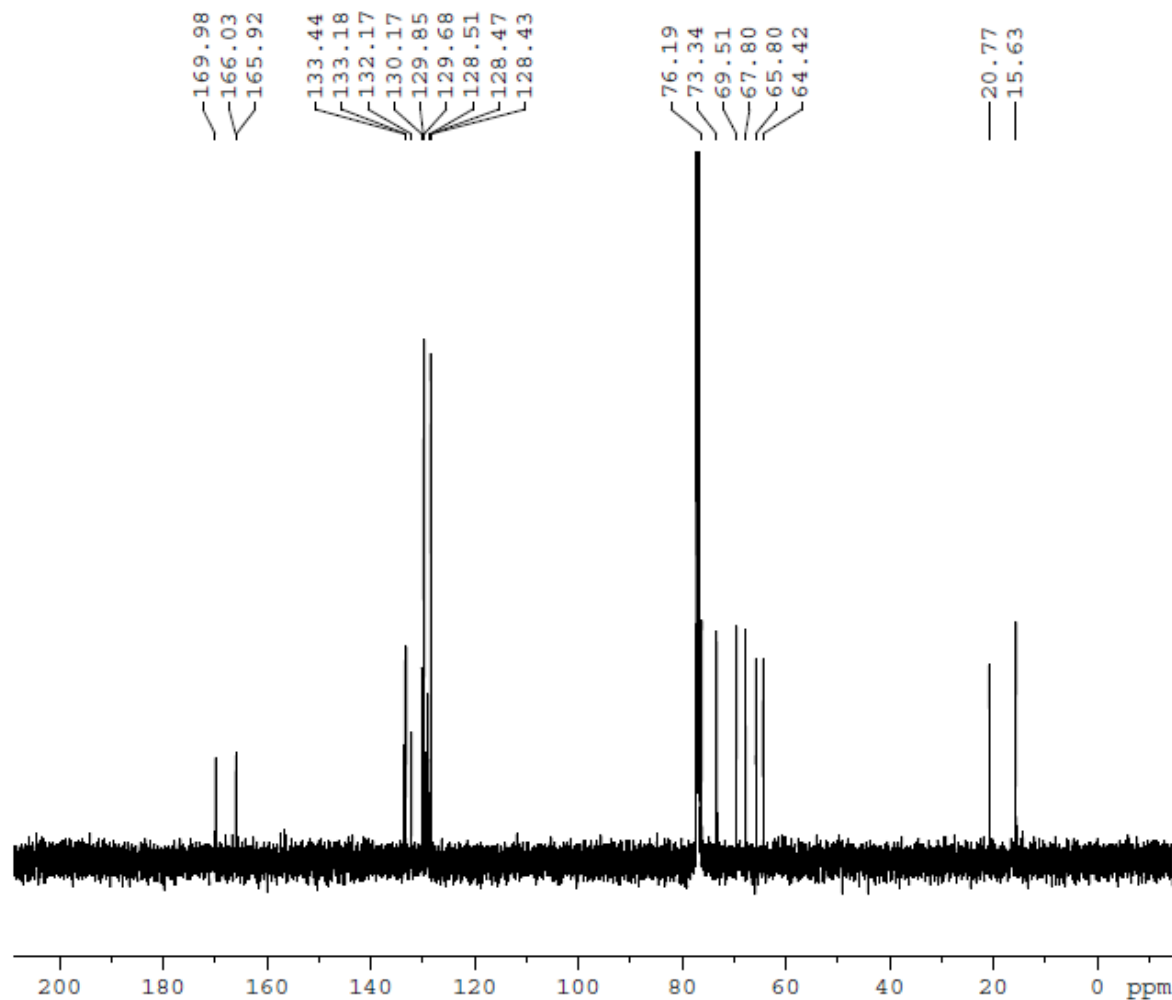
----- CHANNEL f1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PL1 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SPNAM[s] Crp60comp.4  
 SPOALS 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

----- 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

<sup>14</sup>C NMR of compound **17**

KMS-D-V-UVA-A  
C13CPD CDC13 {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

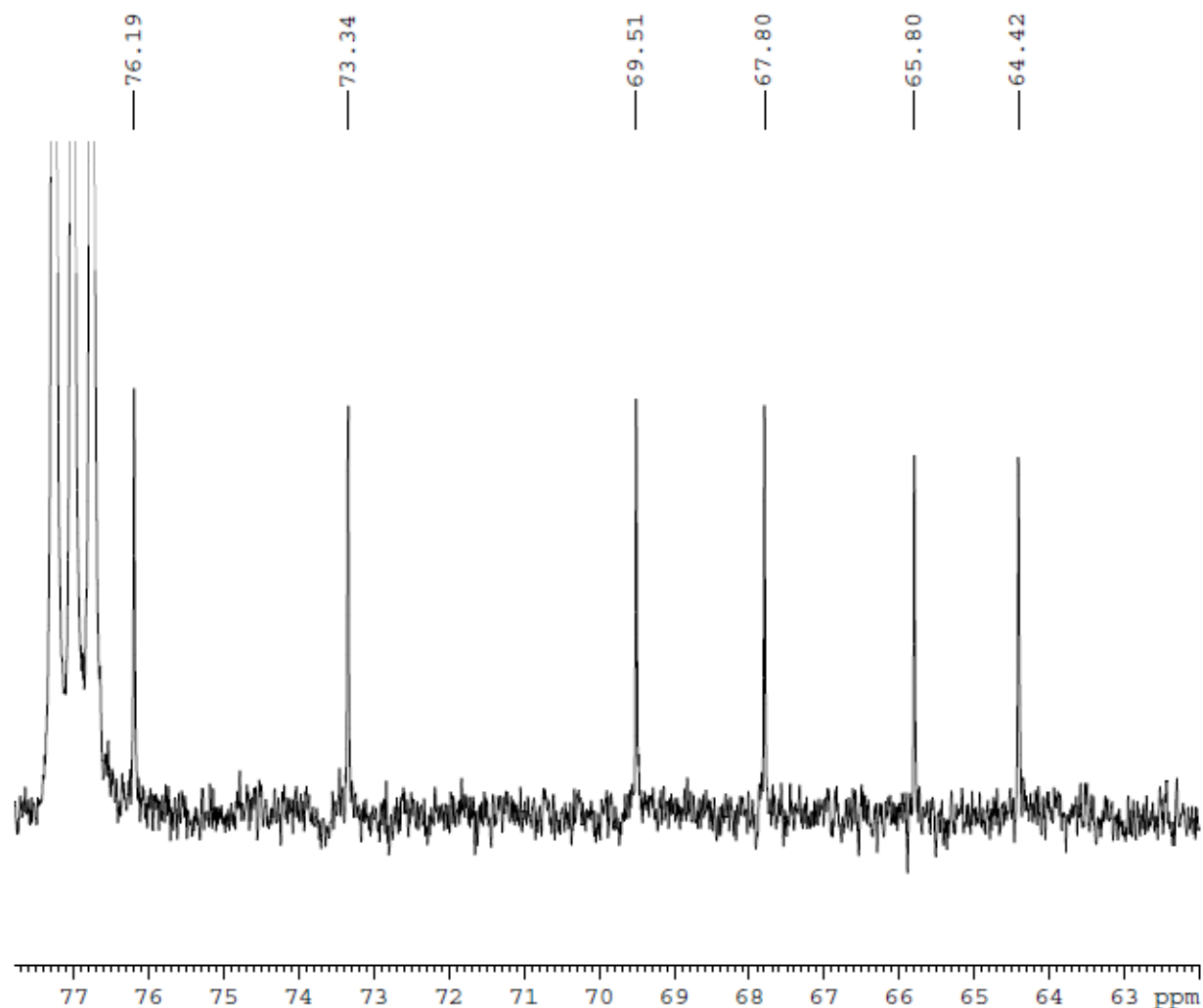
----- CHANNEL f2 -----  
SFO2 500.2320009 MHz  
NUC2 1H  
CPDPRG2 waltz16  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W

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

<sup>14</sup>C NMR of compound **17** (zoom)

KMS-D-V-UVA-A

C13CPD CDC13 {C:\Bruker\TopSpin3.2} nmr 1



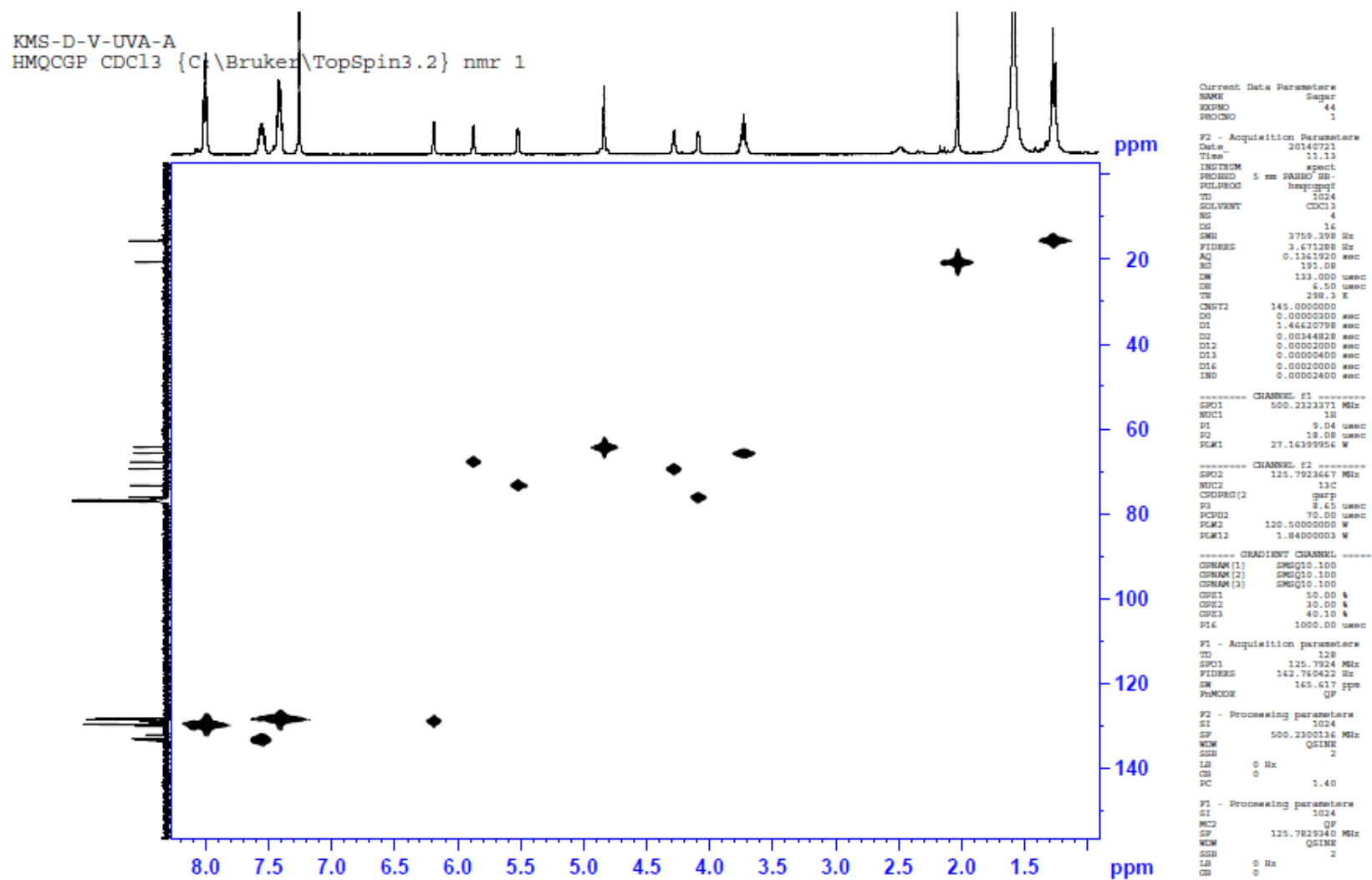
Current Data Parameters  
 NAME Sagar  
 EXPNO 45  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140721  
 Time\_ 11.48  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDC13  
 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  
 TDO 1

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

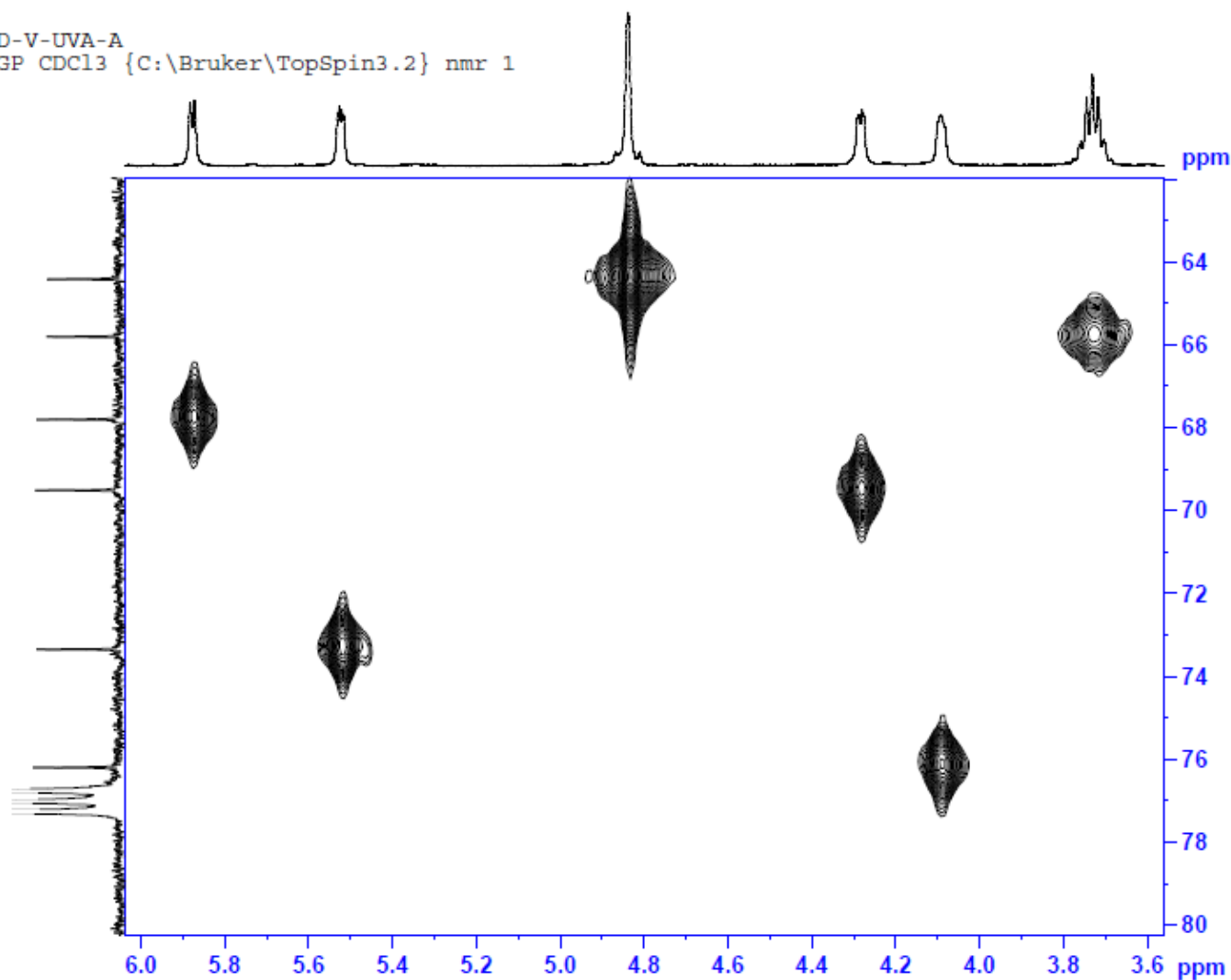
----- CHANNEL f2 -----  
 SFO2 500.2320009 MHz  
 NUC2 1H  
 CPDPRG[2] waltz16  
 PCPD2 80.00 usec  
 PLW2 27.16399956 W  
 PLW12 0.34685999 W  
 PLW13 0.22199000 W

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**

HMQC of compound **17** (zoom)

KMS-D-V-UVA-A

HMQCGP CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 1

Current Data Parameters  
NAME Sugar  
EXPNO 44  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140721  
Time 11.13  
INSTRUM spect  
PROBHD 5 mm PABBO 1H-  
PULPROG zgpg30  
TD 1024  
SOLVENT CDCl<sub>3</sub>  
NS 4  
DS 16  
SWH 3759.398 Hz  
FIDRES 3.671288 Hz  
AQ 0.1361920 sec  
RG 191.08  
SQ 133.000 usec  
DE 6.50 usec  
TE 298.2 K  
CNS2 145.000000 sec  
DO 0.00000000 sec  
D1 1.46620798 sec  
D2 0.00344828 sec  
D12 0.00022000 sec  
D13 0.00004000 sec  
D14 0.00020000 sec  
IND 0.00002400 sec

===== CHANNEL F1 =====  
SFO1 500.232371 MHz  
NUC1 1H  
P1 9.04 usec  
P2 18.08 usec  
PLW1 27.16399956 W

===== CHANNEL F2 =====  
SFO2 125.7823667 MHz  
NUC2 13C  
CPCPD2 2  
P3 8.65 usec  
PCPD2 70.00 usec  
PLW2 120.50000000 W  
PLW12 1.84000003 W

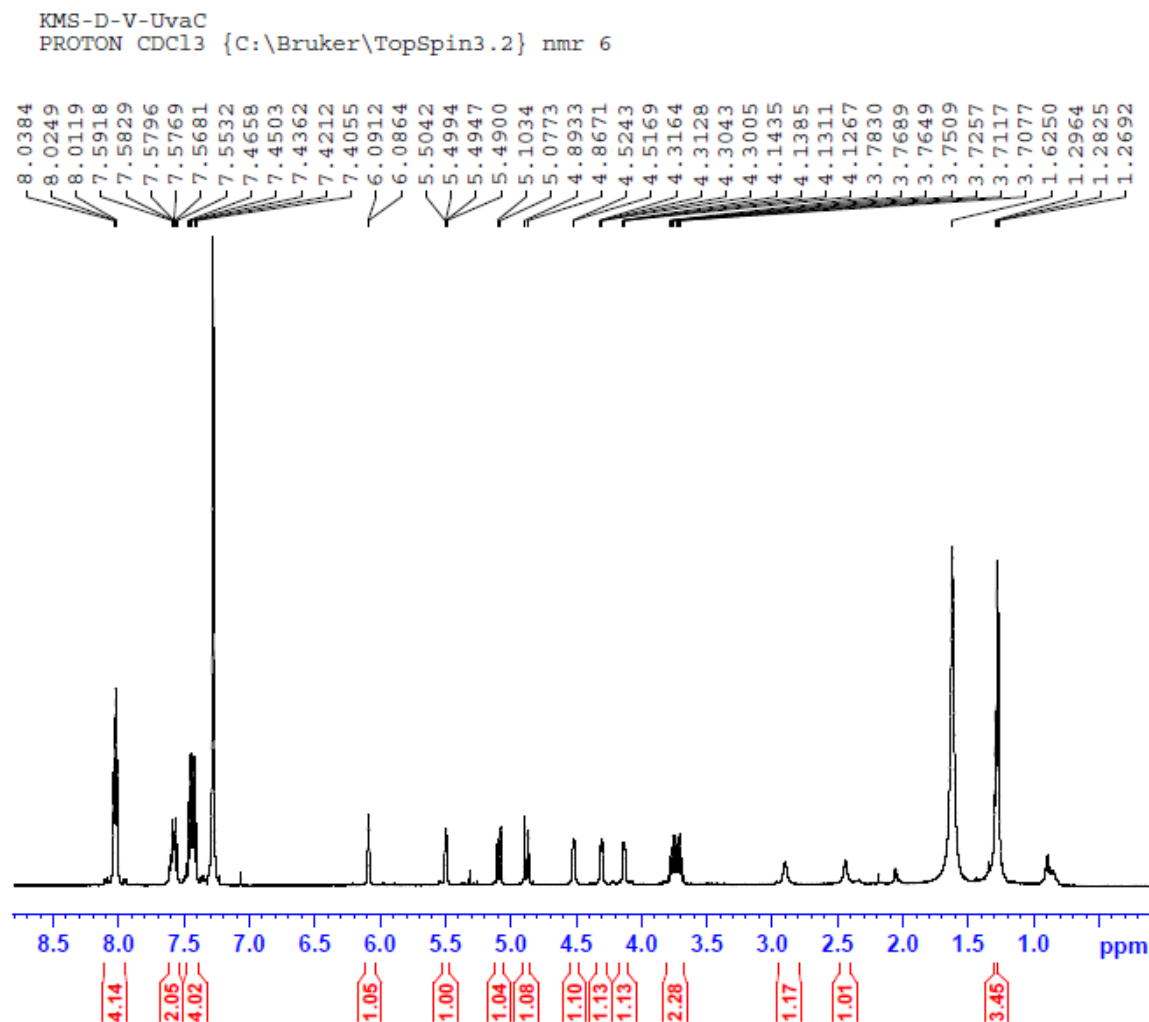
===== GRADIENT CHANNEL =====  
GRAN1(1) SMCQ10.100  
GRAN1(2) SMCQ10.100  
GRAN1(3) SMCQ10.100  
CPE1 30.00 %  
CPE2 30.00 %  
CPE3 40.10 %  
P16 1000.00 usec

F1 - Acquisition parameters  
TD 128  
SFO1 125.7824 MHz  
FIDRES 162.760422 Hz  
SW 165.617 ppm  
PbMODE QP

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

F1 - Processing parameters  
SI 1024  
SF 125.7823640 MHz  
WDW QLINE  
SSB 2  
LB 0 Hz  
GB 0



<sup>1</sup>H NMR of compound **18**

Current Data Parameters  
NAME Sagar  
EXPNO 105  
PROCNO 1

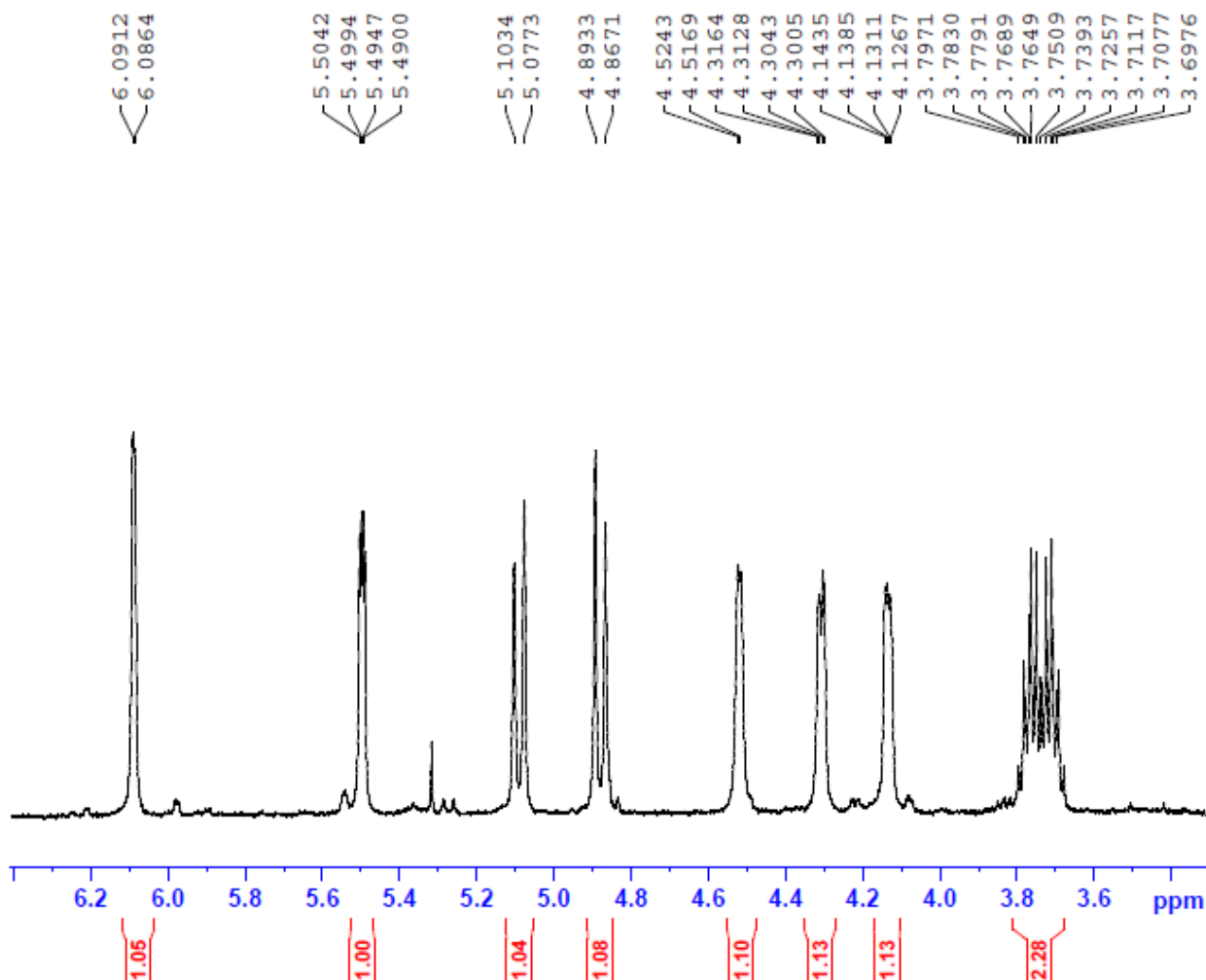
F2 - Acquisition Parameters  
Date\_ 20140818  
Time\_ 11.55  
INSTRUM spect  
PROBHD 5 mm PARBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDCl<sub>3</sub>  
NS 16  
DS 2  
SWH 10000.000 Hz  
FIDRES 0.152588 Hz  
AQ 3.2767999 sec  
RG 171.32  
DW 50.000 usec  
DE 6.50 usec  
TE 296.7 K  
D1 1.00000000 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

<sup>1</sup>H NMR of compound **18** (zoom)

KMS-D-V-UvaC  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 6



Current Data Parameters  
 NAME Sagar  
 EXPNO 105  
 PROCNO 1

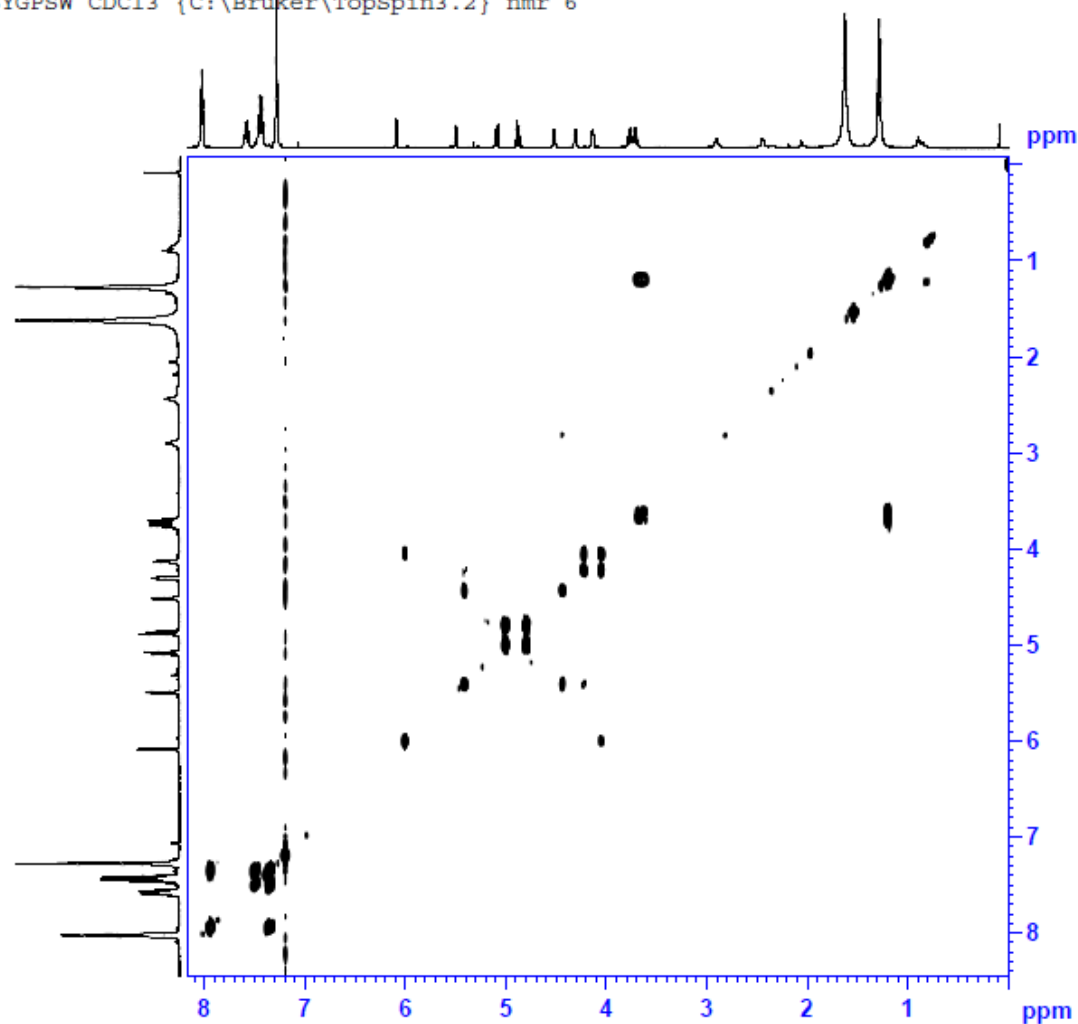
F2 - Acquisition Parameters  
 Date\_ 20140818  
 Time 11.55  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 171.32  
 DW 50.000 usec  
 DE 6.50 usec  
 TE 296.7 K  
 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**

KMS-D-V-UvaC  
 COSYGPSW CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 6



```

Current Data Parameters
NAME          Sagat
EXPNO         106
PROCNO        1

F2 - Acquisition Parameters
Date_         20140818
Time          11:58
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       cosygpsw
TD            2048
SOLVENT       CDCl3
RG            1
DC            8
SWH           4807.692 Hz
FIDRES        2.347506 Hz
AQ            0.2129920 sec
RG            107.19
SW           104.000 usec
DS            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
PC            9.04 usec
P1            9.04 usec
P17           2500.00 usec
PLW1          27.16399956 W
PLW10         3.28390002 W

----- GRADIENT CHANNEL -----
GPMAM[1]      SMCQ10.100
CPZ1          10.00 usec
P16           1000.00 usec

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

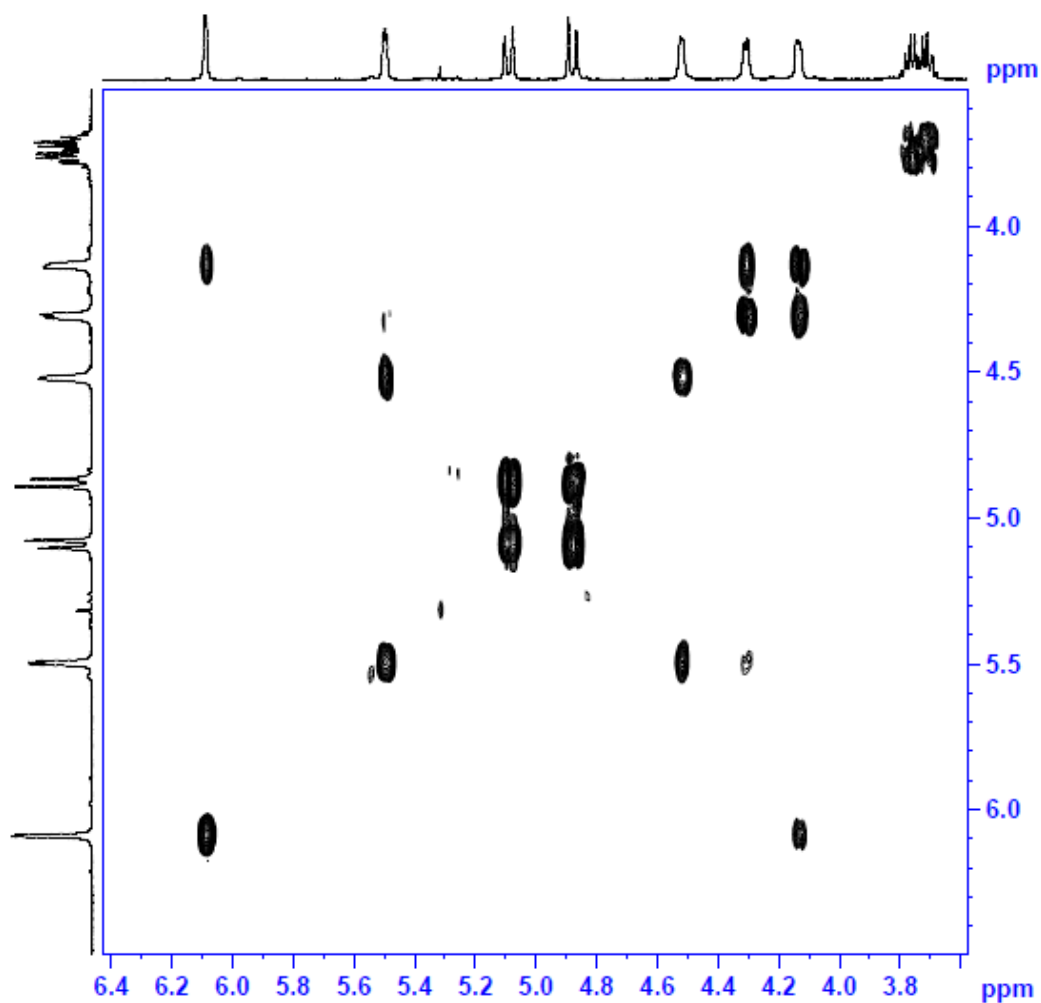
F2 - Processing parameters
SI            1024
SF            500.2300417 MHz
WDW           QCINE
SSB           0
LB            0 Hz
GB            0
PC            1.40

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

```

COSY of compound **18** (zoom)

KMS-D-V-UvaC  
 COSYGPSW CDCl<sub>3</sub> {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 BD-
PULPROG       cosygpppgf
TD            2048
SOLVENT       CDCl3
NS            1
DS            8
SWH           4807.692 Hz
FIDRES        2.347506 Hz
AQ            0.2129920 sec
RG            107.10
DW            104.000 usec
DE            6.50 usec
TE            296.7 K
DO            0.00000300 sec
D1            1.94019794 sec
D11           0.03000000 sec
D12           0.00002000 sec
D13           0.00000400 sec
D16           0.00020000 sec
INO           0.00020800 sec

----- CHANNEL f1 -----
SFO1          500.2319837 MHz
NUC1          1H
P0            9.04 usec
P1            9.04 usec
P17           2500.00 usec
PLM1          27.16399956 W
PLM10         3.28390002 W

----- GRADIENT CHANNEL -----
GPNAM[1]      GMDQ10.100
GPZ1          10.00 %
P16           1000.00 usec

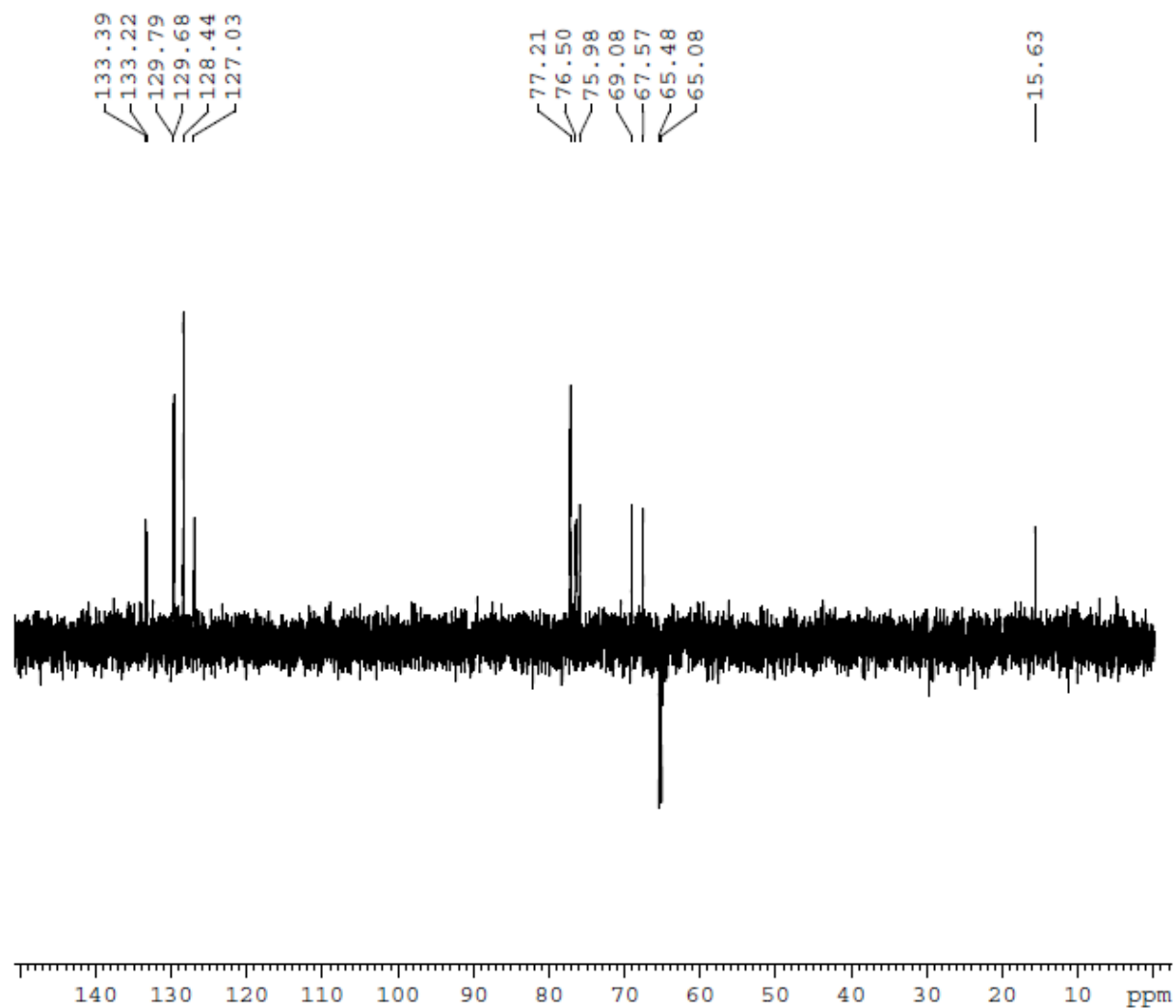
F1 - Acquisition parameters
TD            128
SFO1          500.232 MHz
FIDRES        37.560097 Hz
SW            9.611 ppm
PnMODE        QF

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

F1 - Processing parameters
SI            1024
SF            500.2299992 MHz
WDW           QF
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 deptspl35  
 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

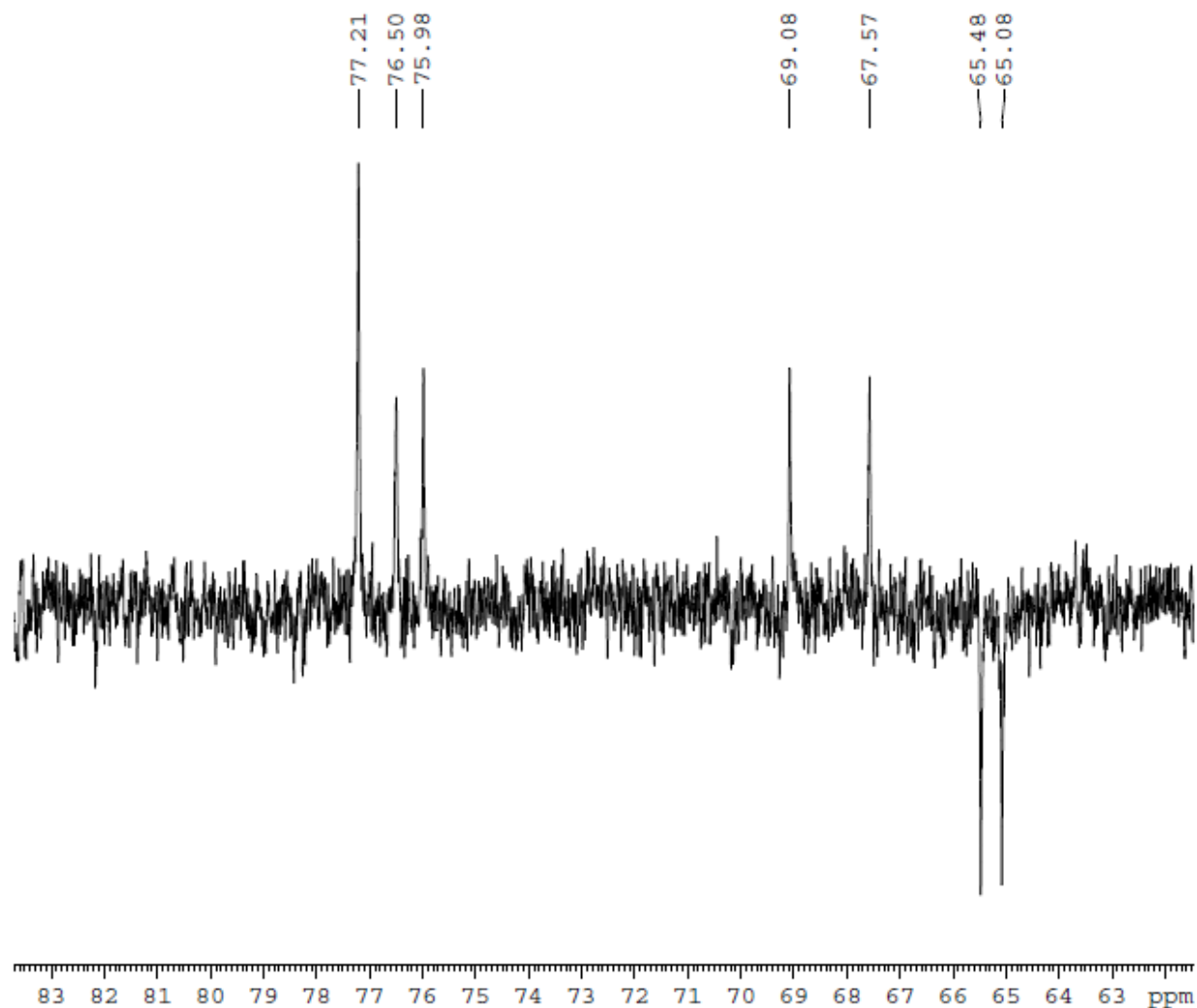
----- CHANNEL f1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFOAL5 Crp60comp.4  
 SFOAL5 0.500  
 SPOFFS5 0 Hz  
 SFW5 13.77600002 W

----- CHANNEL f2 -----  
 SFO2 500.2315998 MHz  
 NUC2 1H  
 CPDPRG2 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 deptap135  
 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

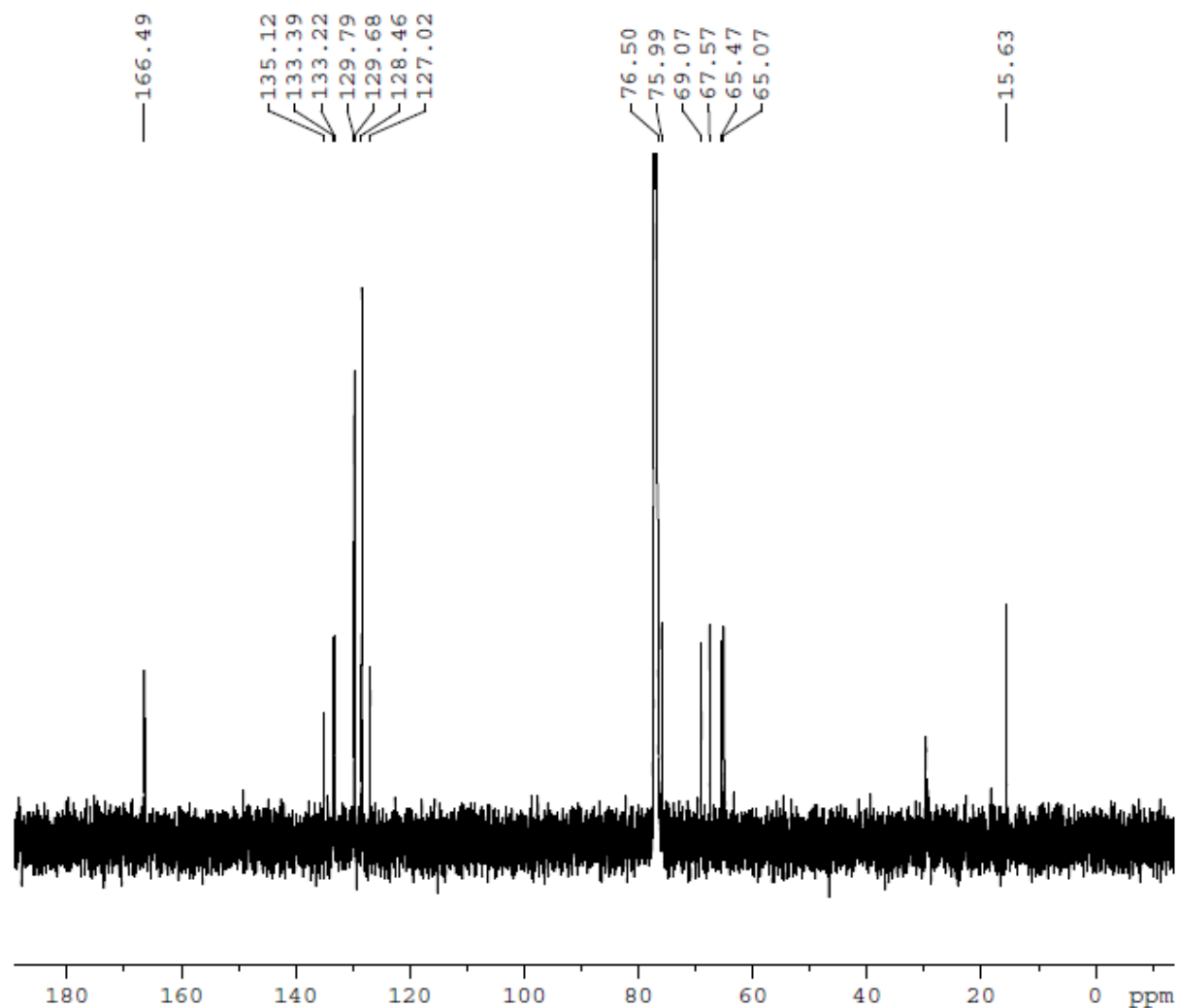
----- CHANNEL F1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SPNAM[s] Crp50comp.4  
 SFOALS 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

----- 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

$^{13}\text{C}$  NMR of compound **18**

KMS-D-V-UvaC  
 C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 6



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

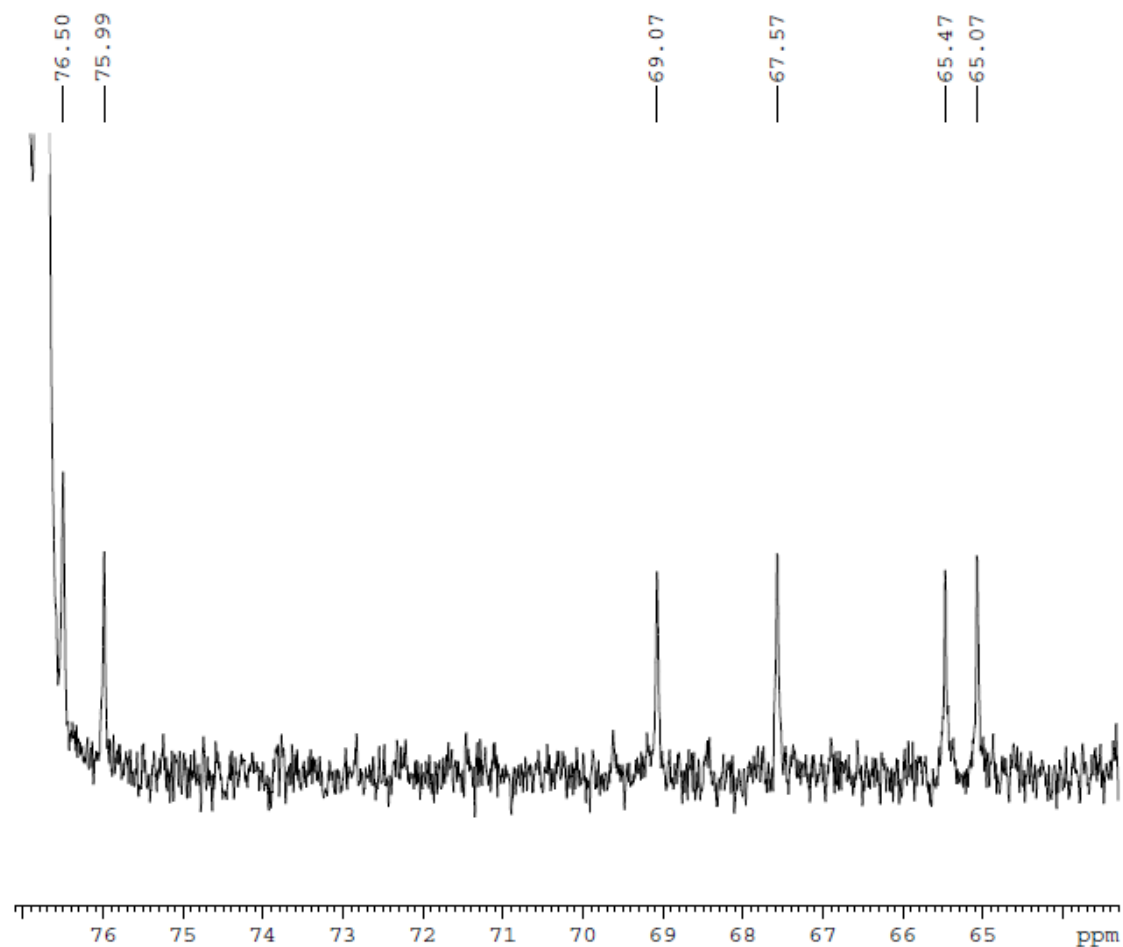
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W

----- 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

<sup>14</sup>C NMR of compound **18** (zoom)

KMS-D-V-UvaC  
C13CPD CDCl3 {C:\Bruker\TopSpin3.2} nmr 6



Current Data Parameters  
NAME Sagar  
EXPNO 98  
PROCNO 1

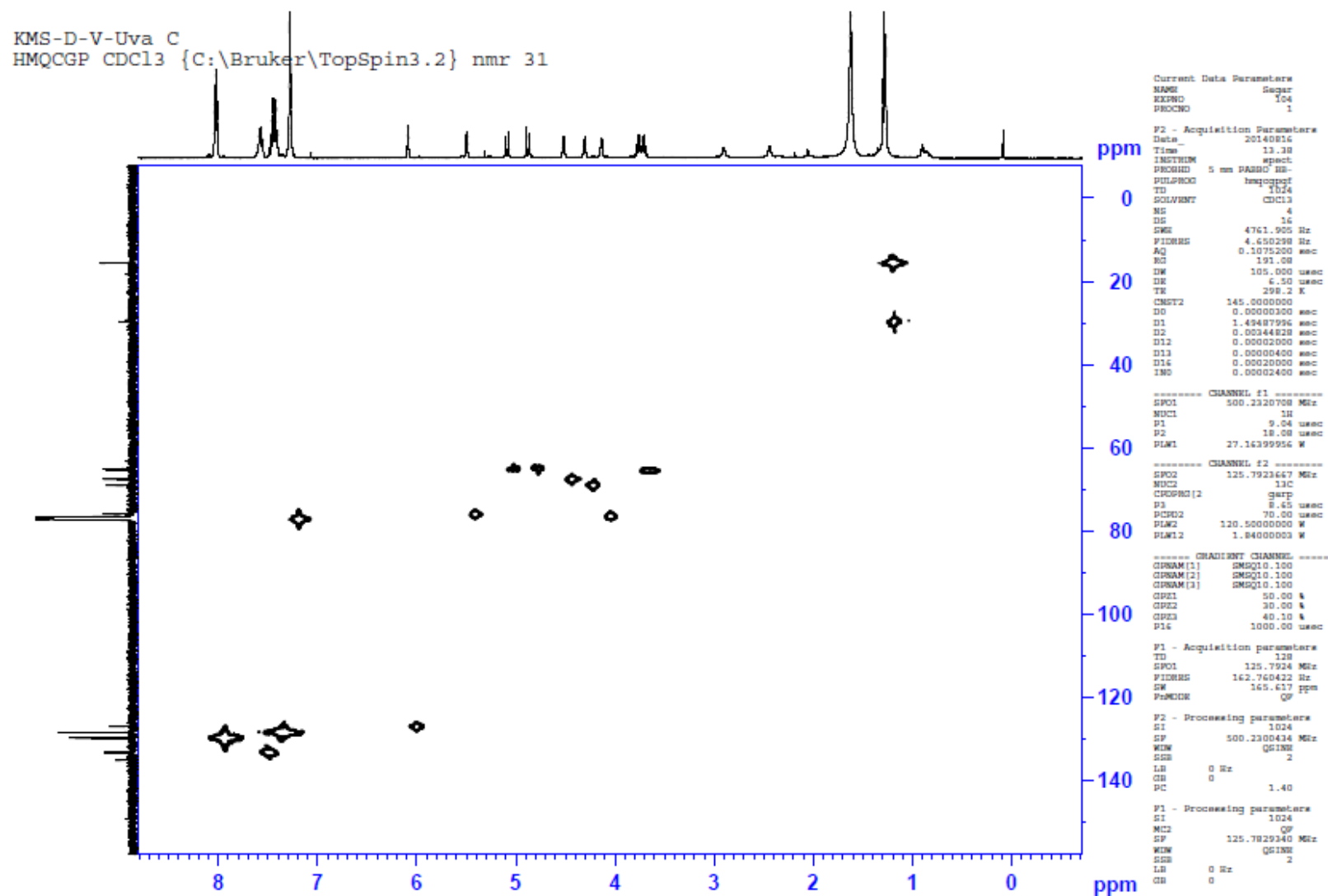
F2 - Acquisition Parameters  
Date\_ 20140816  
Time\_ 5.48  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 7000  
DS 4  
SWH 29761.904 Hz  
FIDRES 0.454131 Hz  
AQ 1.1010048 sec  
RG 191.08  
DW 16.800 usec  
DE 6.50 usec  
TE 298.0 K  
D1 2.00000000 sec  
D11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

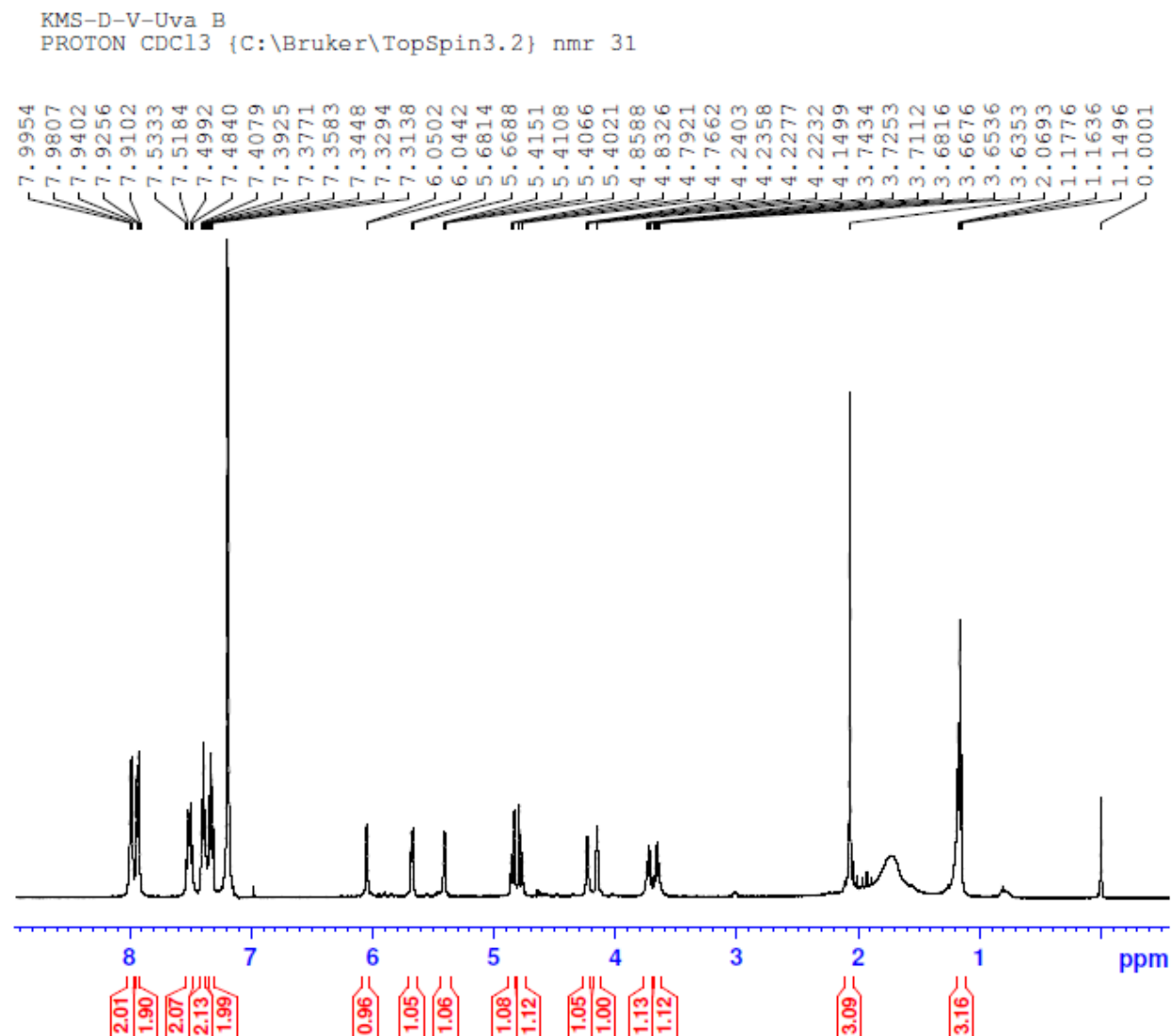
----- CHANNEL f1 -----  
SFO1 125.7955112 MHz  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W

----- 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**

<sup>1</sup>H NMR of compound **19**

Current Data Parameters  
NAME Sagar  
EXPNO 92  
PROCNO 1

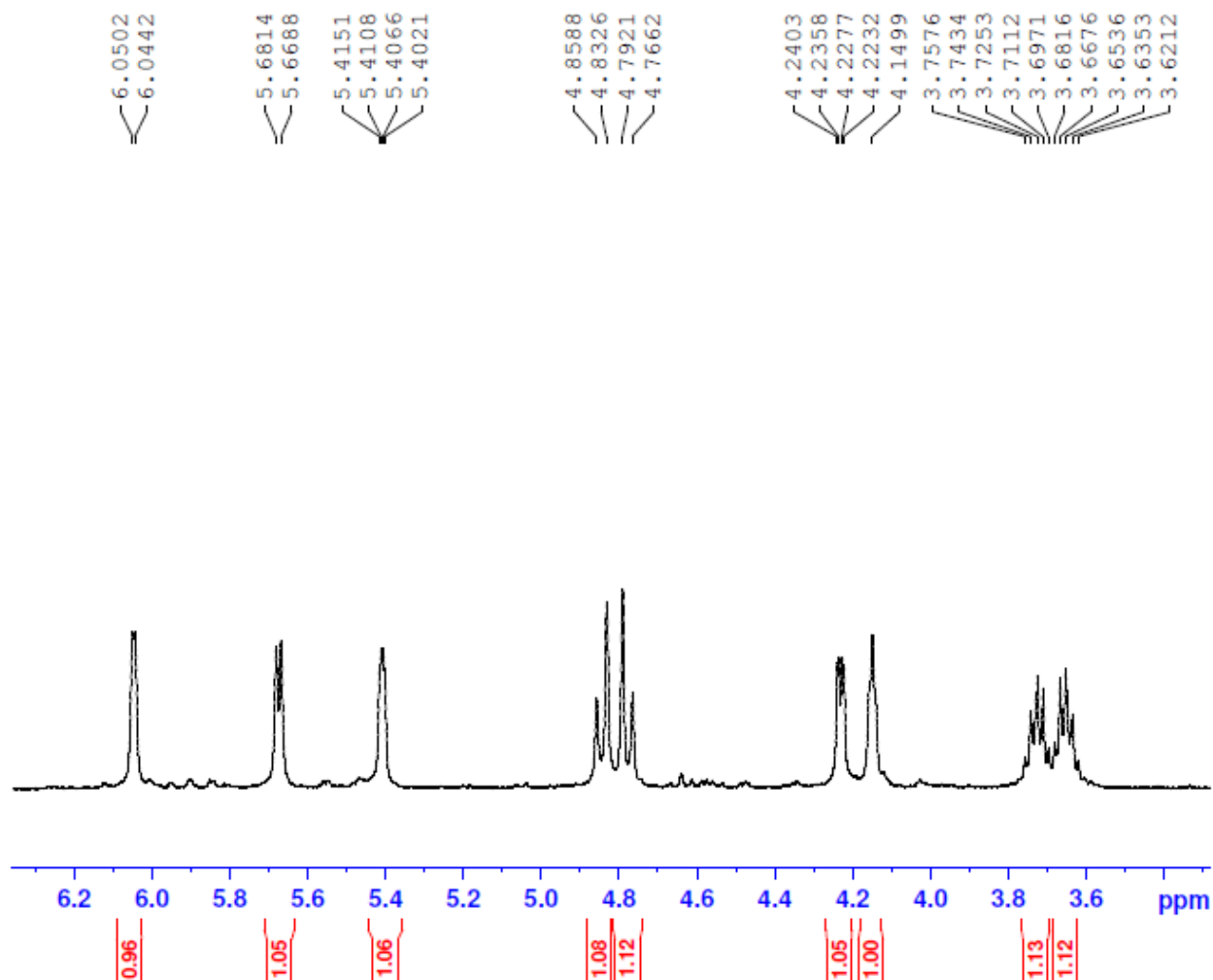
F2 - Acquisition Parameters  
Date\_ 20140814  
Time 16.39  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
ID 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 10000.000 Hz  
FIDRES 0.152588 Hz  
AQ 3.2767999 sec  
RG 171.32  
DW 50.000 usec  
DE 6.50 usec  
TE 298.0 K  
D1 1.00000000 sec  
TD0 1

----- 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

<sup>1</sup>H NMR of compound **19** (zoom)

KMS-D-V-Uva B  
 PROTON CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 31



Current Data Parameters  
 NAME Sagar  
 EXPNO 92  
 PROCNO 1

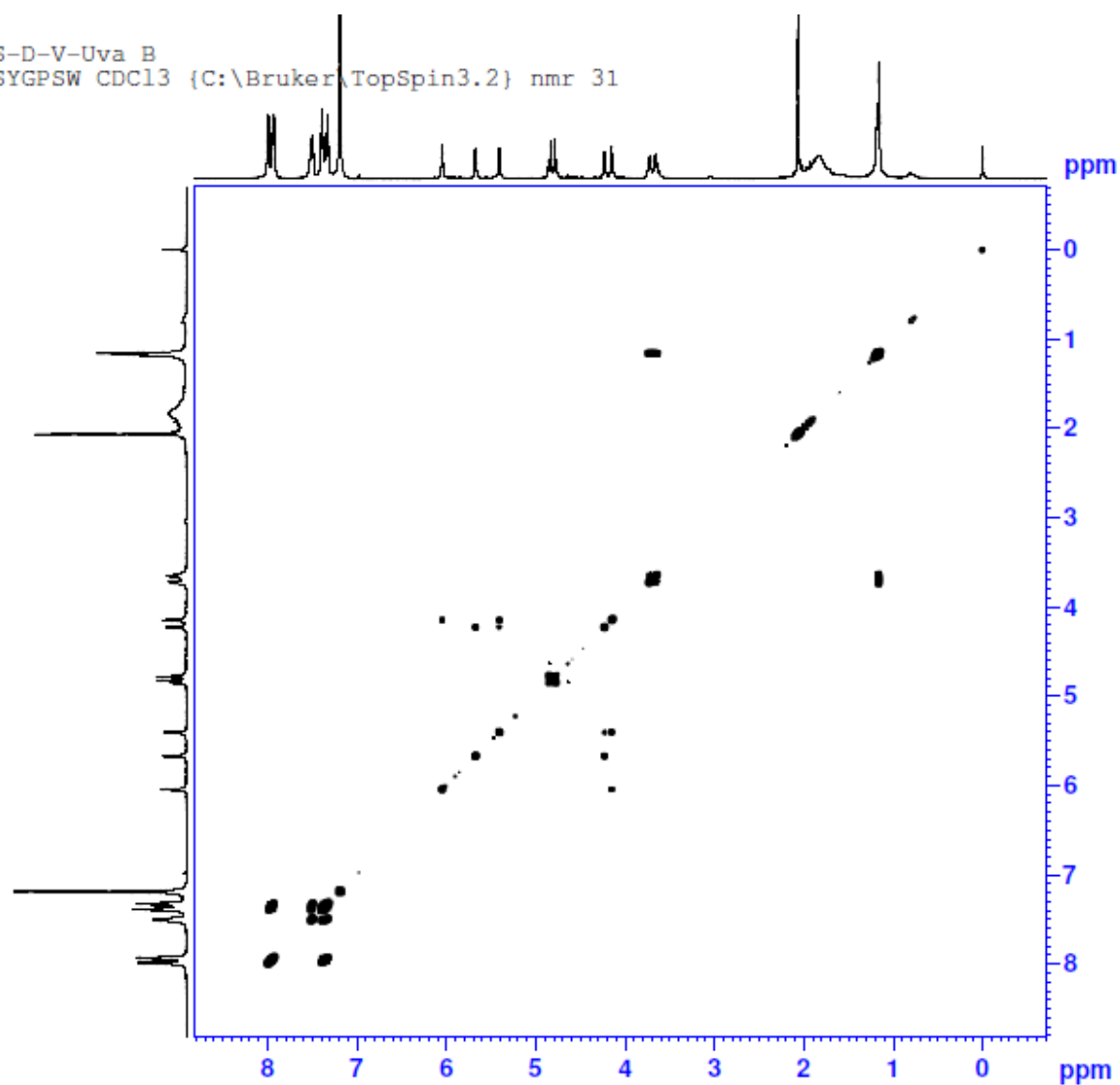
F2 - Acquisition Parameters  
 Date\_ 20140814  
 Time 16.39  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10000.000 Hz  
 FIDRES 0.152588 Hz  
 AQ 3.2767999 sec  
 RG 171.32  
 DW 50.000 usec  
 DE 6.50 usec  
 IE 298.0 K  
 D1 1.00000000 sec  
 ID0 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

KMS-D-V-Uva B  
 COSYGPSW CDC13 {C:\Bruker\TopSpin3.2} nmr 31



```

Current Data Parameters
NAME      Sagar
EXPNO     89
PROCNO    1

F2 - Acquisition Parameters
Date_     20140814
Time      9.20
INSTRUM   spect
PROBHD    5 mm DABBO BB-
PULPROG   cosygpppgf
TD         2048
SOLVENT   CDC13
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
FMODE      QF

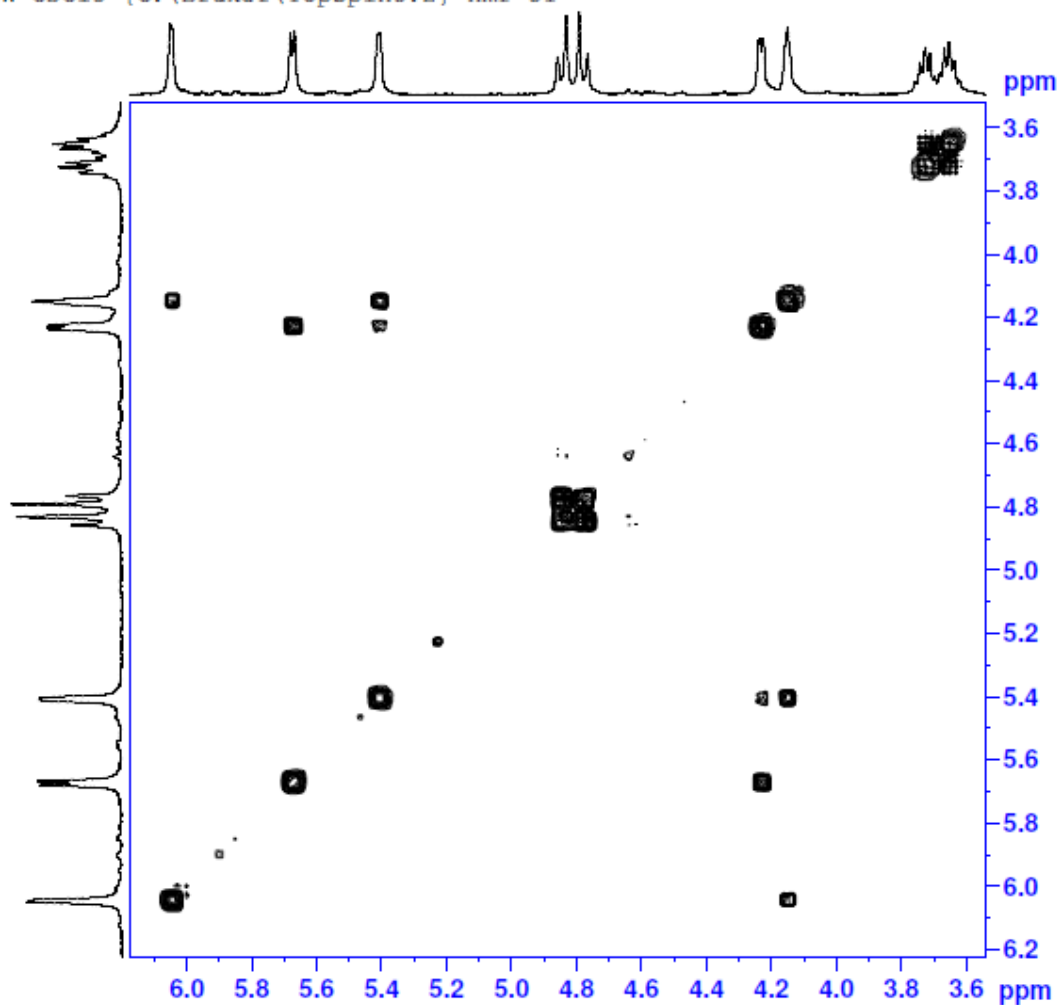
F2 - Processing parameters
SI         1024
SF         500.2300434 MHz
WDW        QSINE
SSB        0
LB         0 Hz
GB         0
PC         1.40

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)

KMS-D-V-Uva B  
 COSYGPSW CDC13 {C:\Bruker\TopSpin3.2} nmr 31



```

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       cosygpsw
TD            2048
SOLVENT       CDC13
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
D14           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
PIN1          27.16399956 W
PIN10         3.28390002 W

----- GRADIENT CHANNEL -----
GPRAM[1]      SMSQ10.100
GP21          10.00 %
P16           1000.00 usec

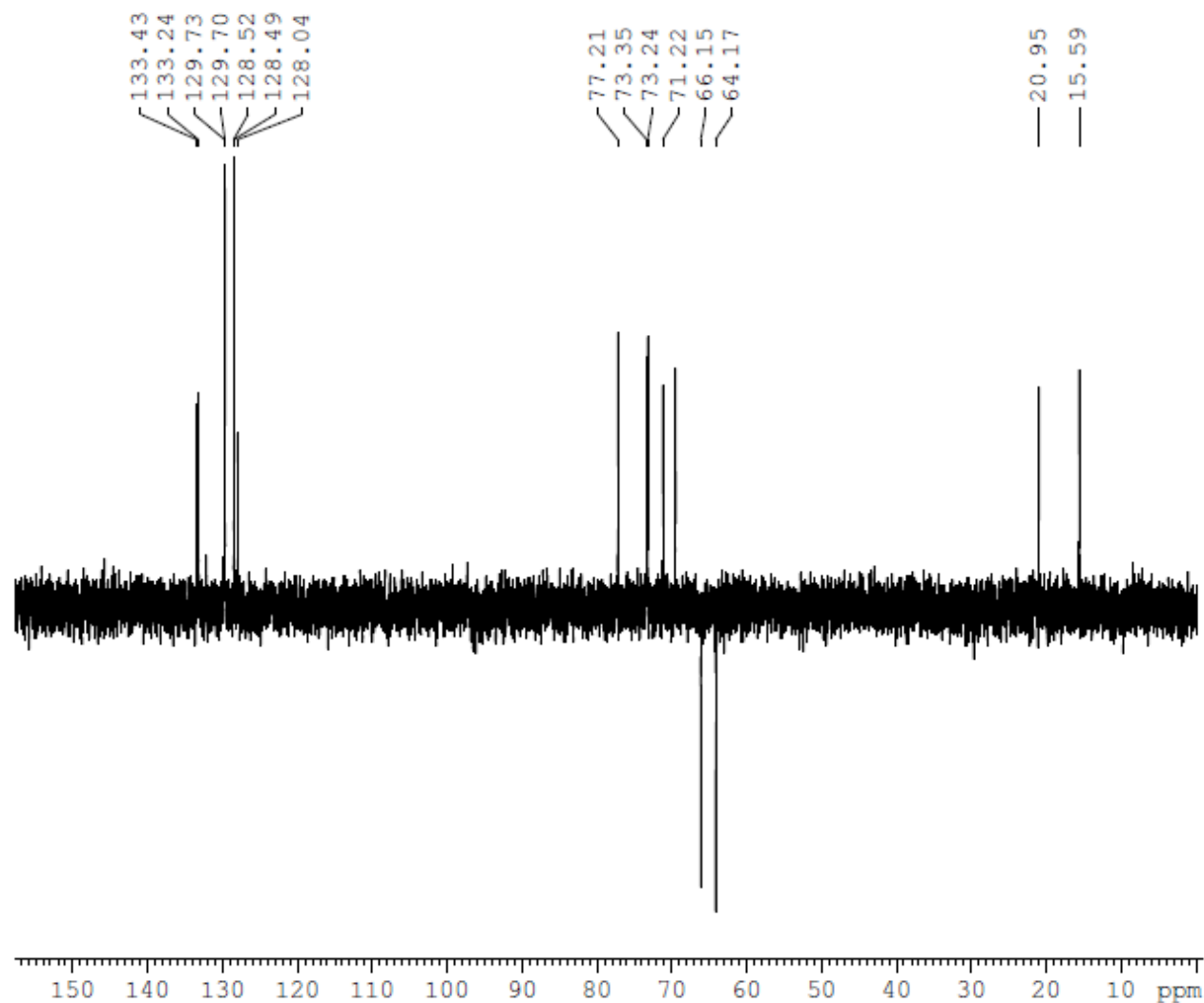
F1 - Acquisition parameters
TD            128
SFO1          500.2321 MHz
FIDRES        37.202381 Hz
SW            9.519 ppm
FnMODE        QF

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**

KMS-D-V-Uva B  
 C13DEPT135 CDC13 {C:\Bruker\TopSpin3.2} nmr 31



```

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       CDC13
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            2.0000000 sec
D2            0.00344828 sec
D12           0.00002000 sec
TD0           1

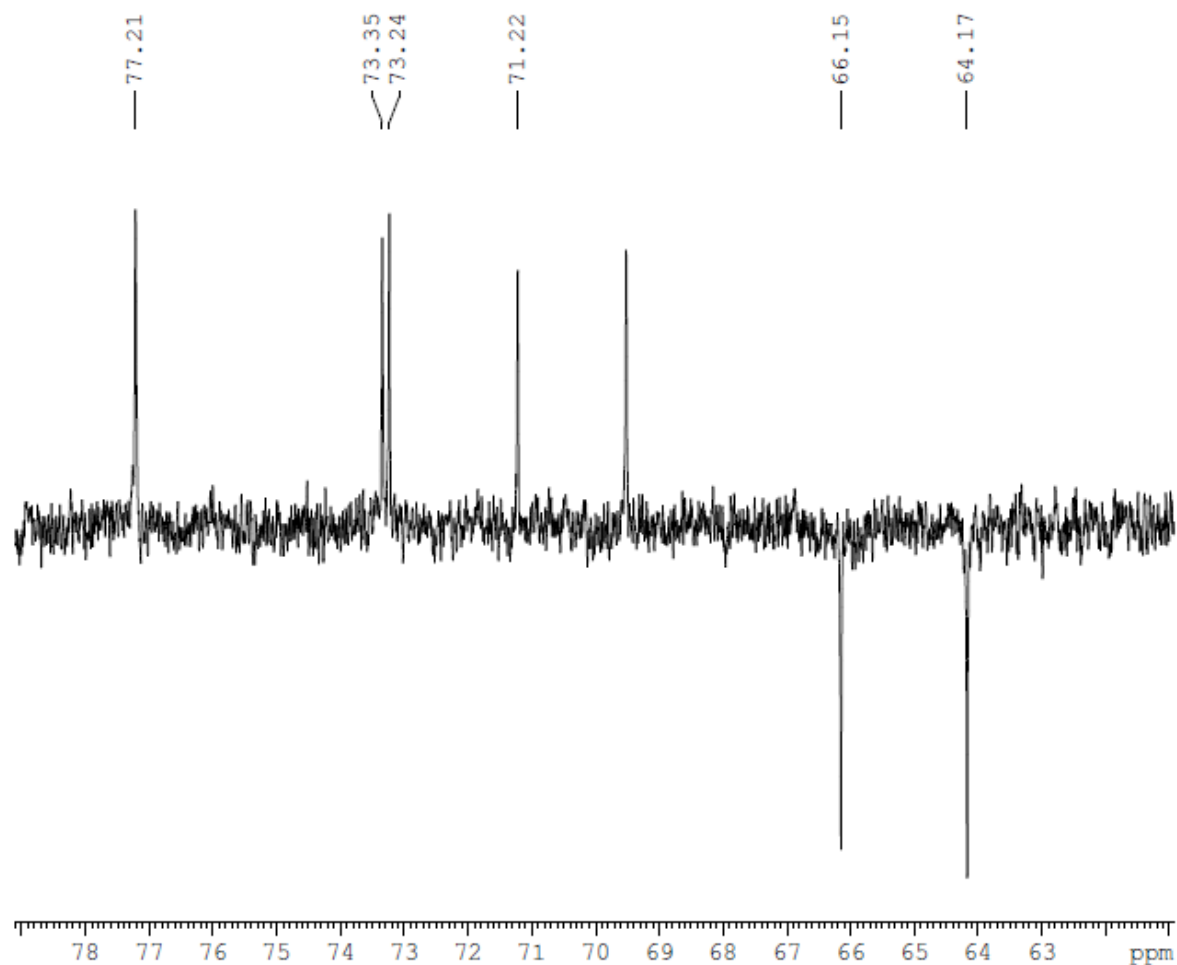
===== CHANNEL f1 =====
SFO1          125.7929956 MHz
NUC1           13C
P1            8.65 usec
P13           2000.00 usec
PLW0          0 W
PLW1          120.50000000 W
SPNAM[5]      Crp60comp.4
SPCAL5        0.500
SPOFFS5       0 Hz
SPW5          13.77600002 W

===== 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)

KMS-D-V-Uva B  
 C13DEPT135 CDCl3 {C:\Bruker\TopSpin3.2} nmr 31



```

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

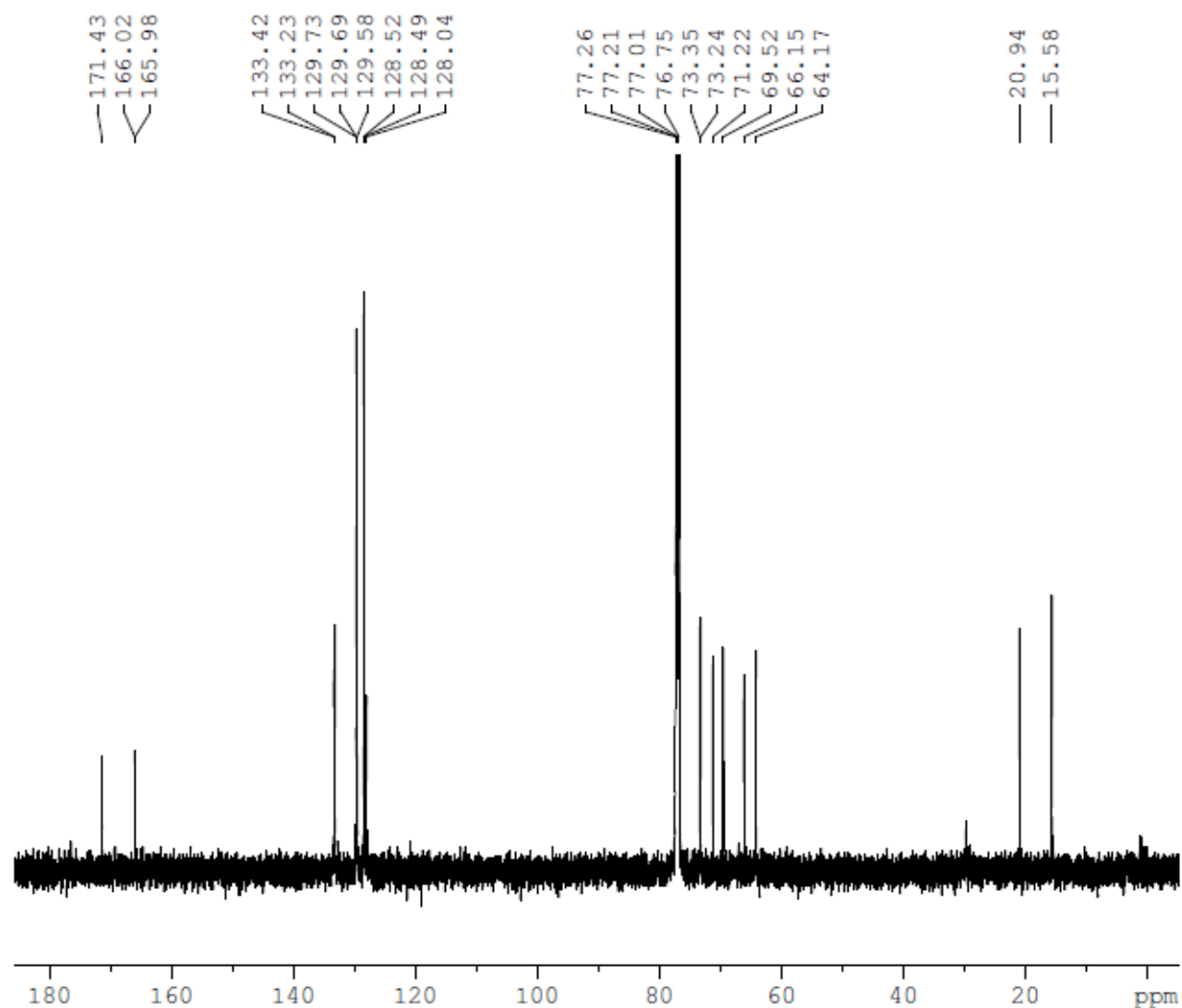
===== CHANNEL f1 =====
SFO1          125.7929956 MHz
NUC1          13C
P1            8.65 usec
P13           2000.00 usec
PLW0          0 W
PLW1          120.50000000 W
SPNAM[5]      Crp60comp.4
SFOAL5        0.500
SPOFFS5       0 Hz
SPW5          13.77600002 W

===== 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
  
```

<sup>14</sup>C NMR of compound **19**

KMS-D-V-Uva B  
C13CPD CDC13 {C:\Bruker\TopSpin3.2} nmr 31



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  
ID 65536  
SOLVENT CDC13  
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

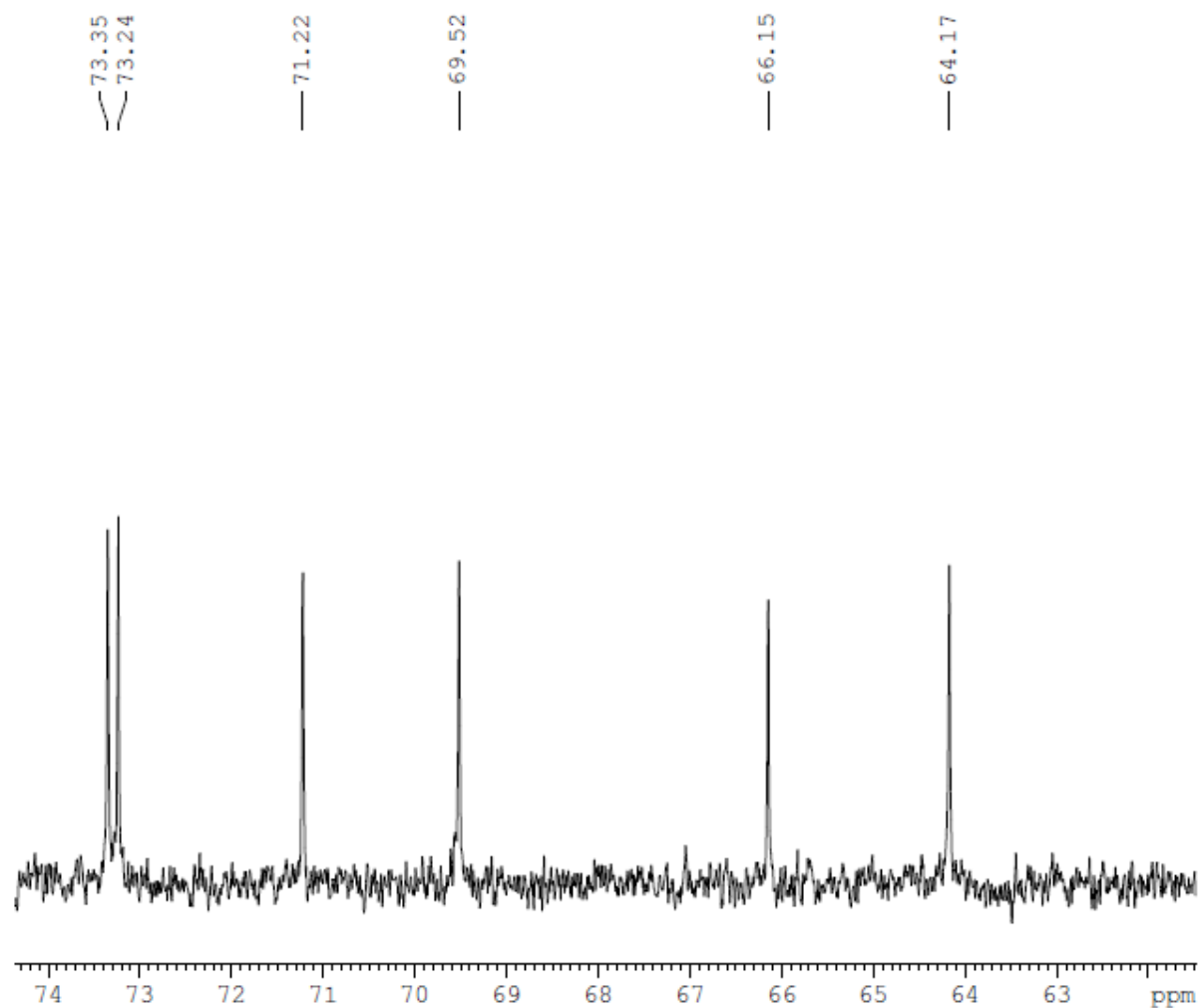
----- CHANNEL f2 -----  
SFO2 500.2320009 MHz  
NUC2 1H  
CPDPRG[2] waltz16  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W

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



<sup>14</sup>C NMR of compound **19** (zoom)

KMS-D-V-Uva B  
 C13CPD CDC13 {C:\Bruker\TopSpin3.2} nmr 31



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  
 ID 65536  
 SOLVENT CDC13  
 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  
 ID0 1

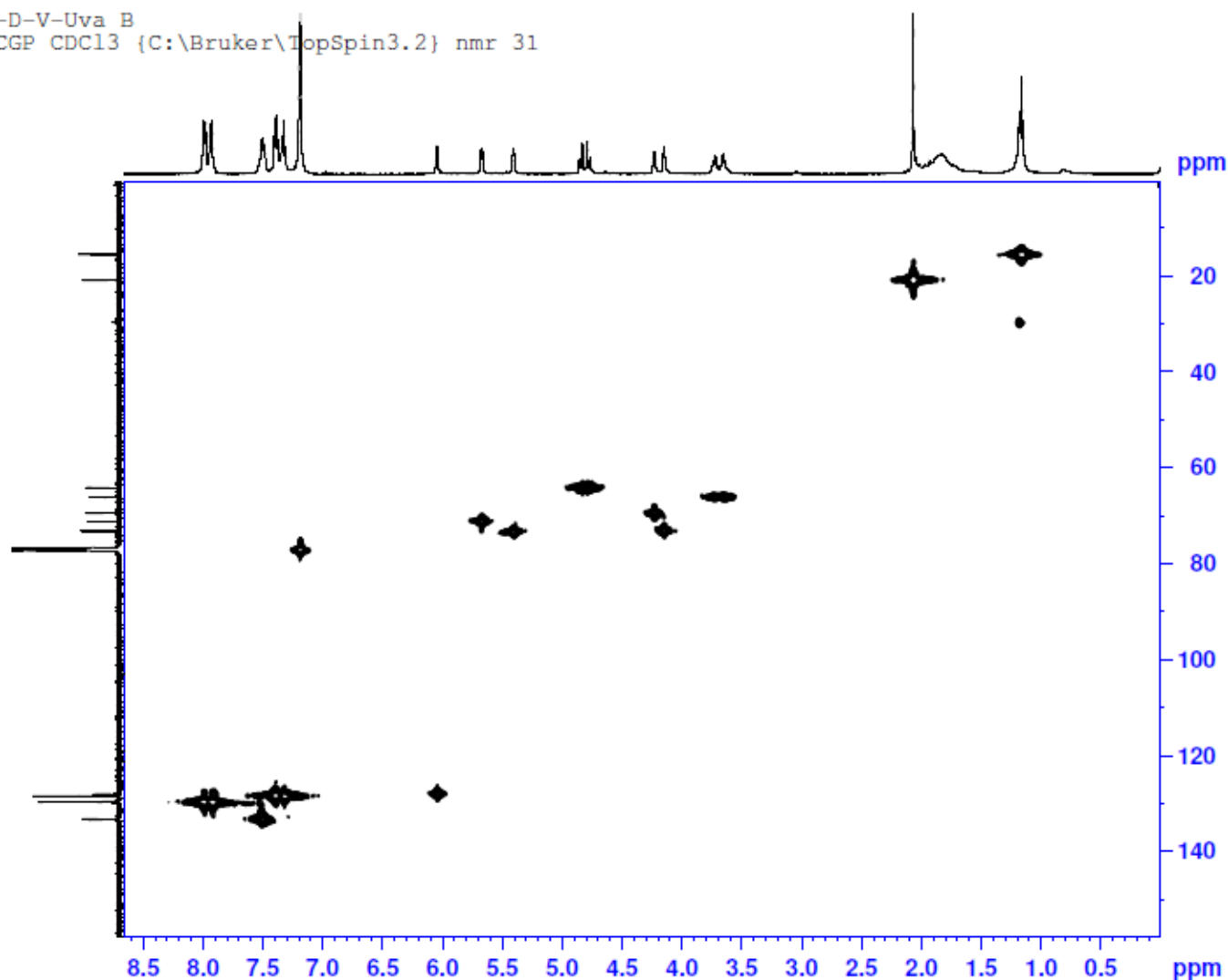
----- CHANNEL f1 -----  
 SFO1 125.7955112 MHz  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.5000000 W

----- 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**

KMS-D-V-Uva B  
HMQCGP CDC13 {C:\Bruker\TopSpin3.2} nmr 31



Current Data Parameters  
NAME Sugar  
EXPNO 91  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140814  
Time 9.44  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG hmqcgpg  
TD 1324  
SOLVENT CDC13  
NS 4  
DS 16  
SWH 4761.900 Hz  
FIDRES 4.650298 Hz  
AQ 0.1075200 sec  
RG 191.08  
DM 105.000 usec  
DE 6.50 usec  
TE 298.0 K  
CNST2 145.000000  
D0 0.0000000 sec  
D1 1.49487996 sec  
D2 0.00344828 sec  
D12 0.00002000 sec  
D13 0.00000400 sec  
D16 0.00020000 sec  
IN0 0.00002400 sec

===== CHANNEL f1 =====  
SFO1 500.2320700 MHz  
NUC1 1H  
P1 9.04 usec  
P2 18.08 usec  
P1M1 27.16399956 W

===== CHANNEL f2 =====  
SFO2 125.7923667 MHz  
NUC2 13C  
CPCPRG(2) garp  
P3 8.65 usec  
PCPG2 70.00 usec  
P1M2 120.5000000 W  
P1M12 1.84000003 W

===== GRADIENT CHANNEL =====  
GPMAN(1) SMSQ10.100  
GPMAN(2) SMSQ10.100  
GPMAN(3) SMSQ10.100  
GPE1 50.00 %  
GPE2 30.00 %  
GPE3 40.10 %  
P16 1000.00 usec

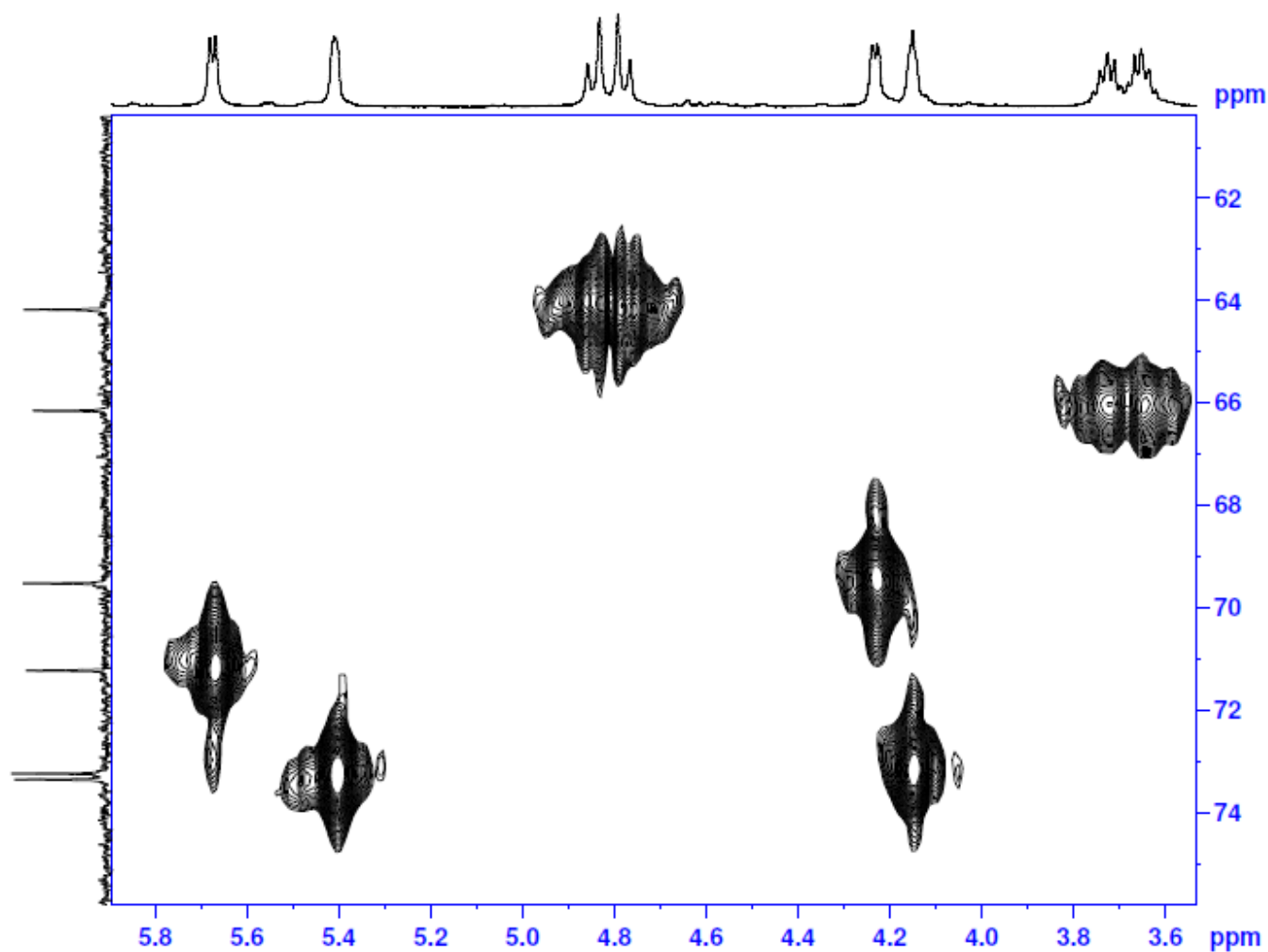
F1 - Acquisition parameters  
TD 128  
SFO1 125.7924 MHz  
FIDRES 162.760422 Hz  
DM 165.617 ppm  
PRACKE GF

F2 - Processing parameters  
SI 1024  
SF 500.2300434 MHz  
WDW QGMC  
SSB 2  
LB 0 Hz  
GB 0  
PC 1.40

F1 - Processing parameters  
SI 1024  
MC2 GF  
SF 125.7829340 MHz  
WDW QGMC  
SSB 2  
LB 0 Hz  
GB 0

HMQC of compound **19** (zoom)

KMS-D-V-Uva B  
 HMQCGP CDC13 {C:\Bruker\TopSpin3.2} nmr 31



Current Data Parameters  
 NAME Sagar  
 EXPNO 91  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140814  
 Time 9.44  
 INSTRUM spect  
 PROBRD 5 mm FARGO BB-  
 PULPROG hmqcpgp  
 TD 1024  
 SOLVENT CDC13  
 NS 4  
 DS 16  
 SWH 4761.905 Hz  
 FIDRES 4.650298 Hz  
 AQ 0.1075200 sec  
 RG 191.08  
 DW 105.000 usec  
 DE 6.50 usec  
 TE 298.2 K  
 CNST2 145.0000000  
 D0 0.00000300 sec  
 D1 1.49487996 sec  
 D2 0.00344828 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D16 0.00020000 sec  
 IN0 0.0002400 sec

===== CHANNEL f1 =====  
 SF01 500.2320758 MHz  
 NUC1 13C  
 P1 9.04 usec  
 P2 10.08 usec  
 PLW1 27.16399956 W

===== CHANNEL f2 =====  
 SF02 125.7823667 MHz  
 NUC2 13C  
 CYCPRG2 gprp  
 P3 8.65 usec  
 PCPD2 70.00 usec  
 PLW2 120.5000000 W  
 PLW12 1.84000003 W

===== GRADIENT CHANNEL =====  
 GPMAN[1] SMSQ10.100  
 GPMAN[2] SMSQ10.100  
 GPMAN[3] SMSQ10.100  
 GPE1 50.00 %  
 GPE2 30.00 %  
 GPE3 40.10 %  
 P16 1000.00 usec

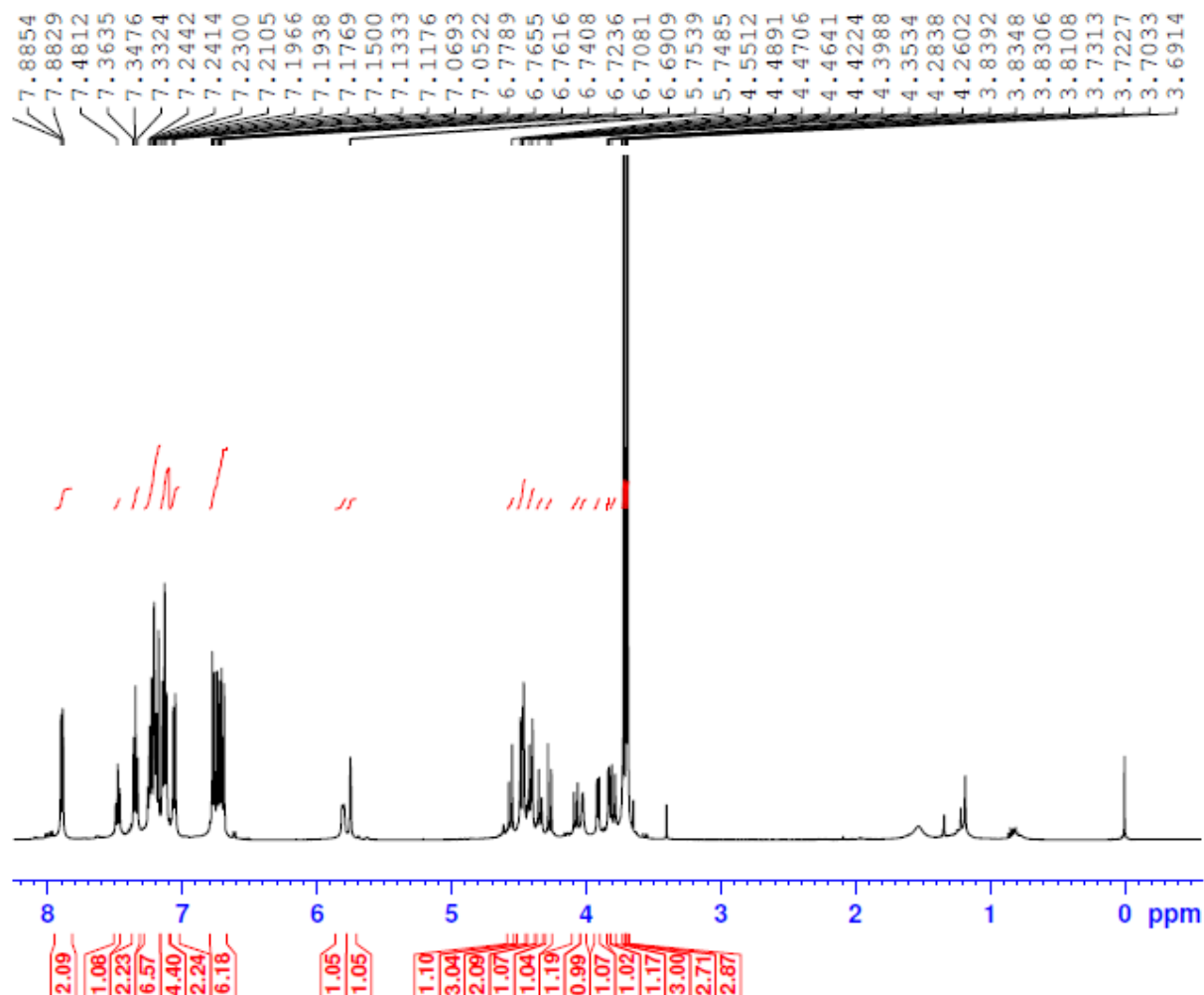
F1 - Acquisition parameters  
 TD 128  
 SF01 125.7924 MHz  
 FIDRES 162.760422 Hz  
 SW 165.617 ppm  
 FMCKE QF

F2 - Processing parameters  
 SI 1024  
 SF 500.2300434 MHz  
 WDW QDINE  
 SSB 2  
 LB 0 Hz  
 GB 0  
 PC 1.40

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

<sup>1</sup>H NMR of compound **20**

KMS-D-V-137  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 649  
 PROCNO 1

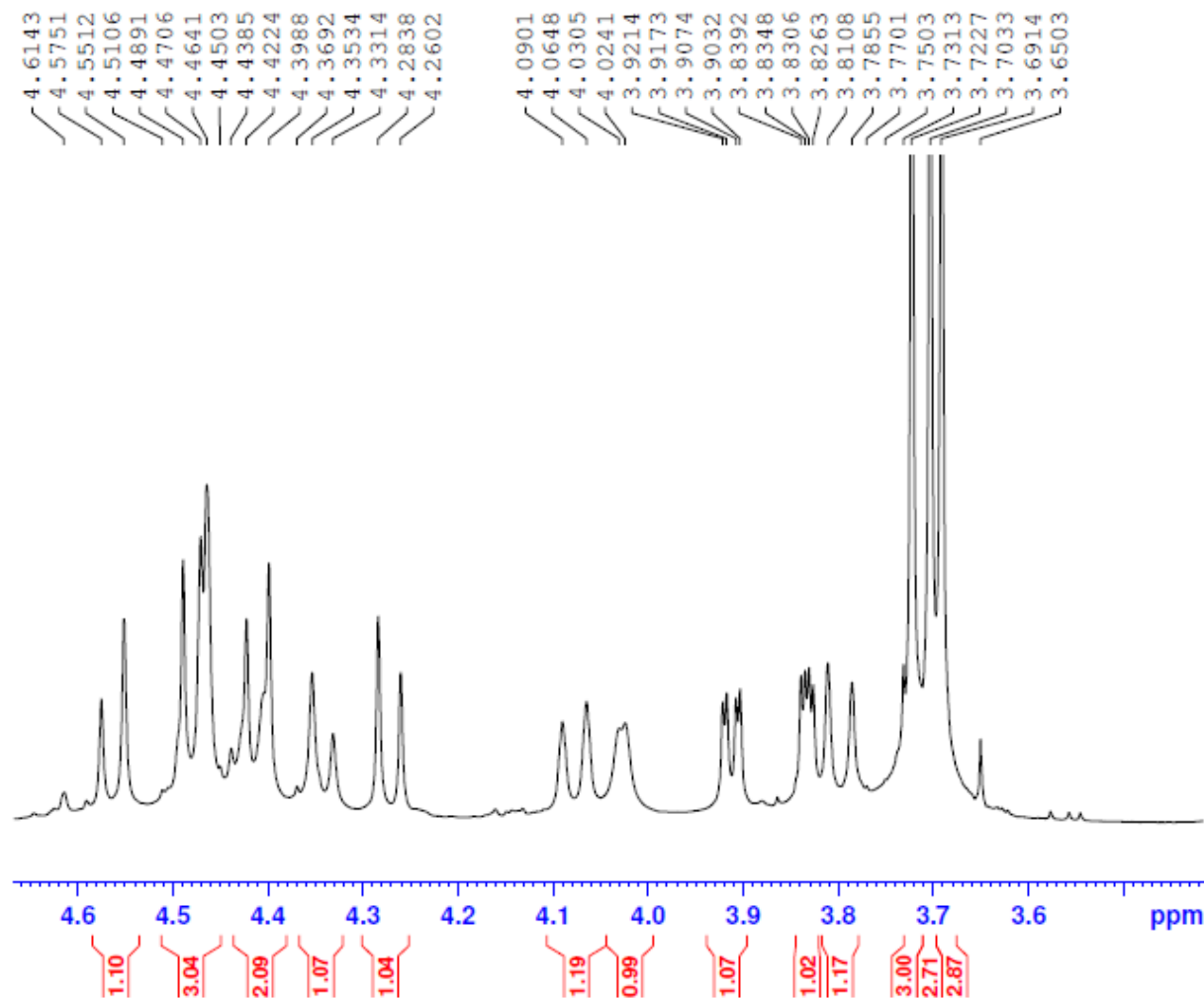
F2 - Acquisition Parameters  
 Date\_ 20140415  
 Time 20.36  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 95.46  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.7 K  
 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

<sup>1</sup>H NMR of compound **20** (zoom)

KMS-D-V-137  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 649  
 PROCNO 1

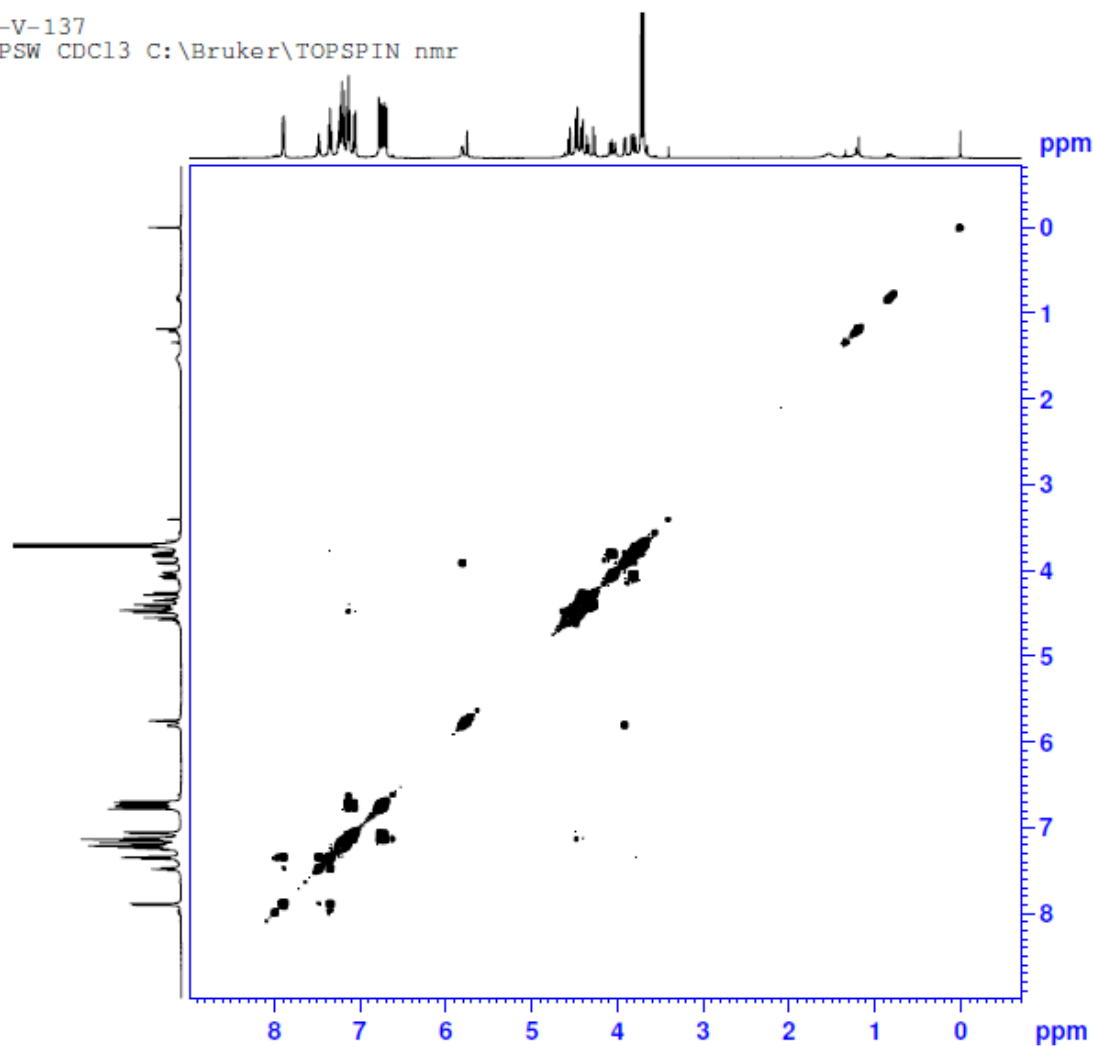
F2 - Acquisition Parameters  
 Date\_ 20140415  
 Time 20.36  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 95.46  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.7 K  
 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**

KMS-D-V-137  
 COSYGPWSW CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
 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 0.0000200 sec  
 D1 1.94224596 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00004000 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

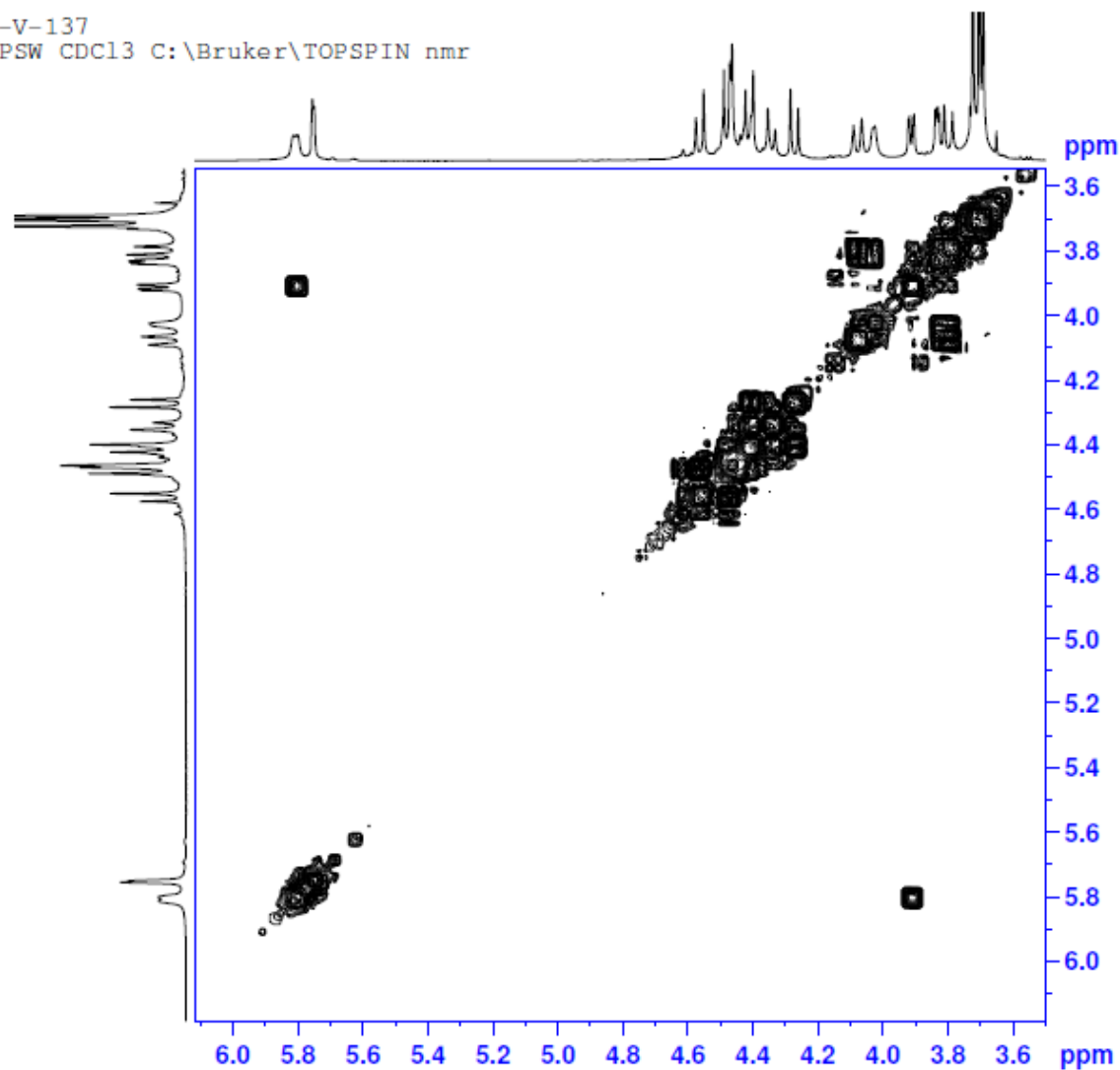
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.2321 MHz  
 FIDRES 37.924759 Hz  
 SW 9.704 ppm  
 FMODE QF

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)

KMS-D-V-137  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME      Sagar
EXPNO     450
PROCNO    1

F2 - Acquisition Parameters
Date_     20140415
Time      20.38
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   cosygpppqr
TD        2048
SOLVENT   CDC13
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 -----
CPNAMI     SMSQ10.100
CP21       10.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         128
SFO1       500.2321 MHz
FIDRES     37.924759 Hz
SW         9.704 ppm
F0MODE     QF

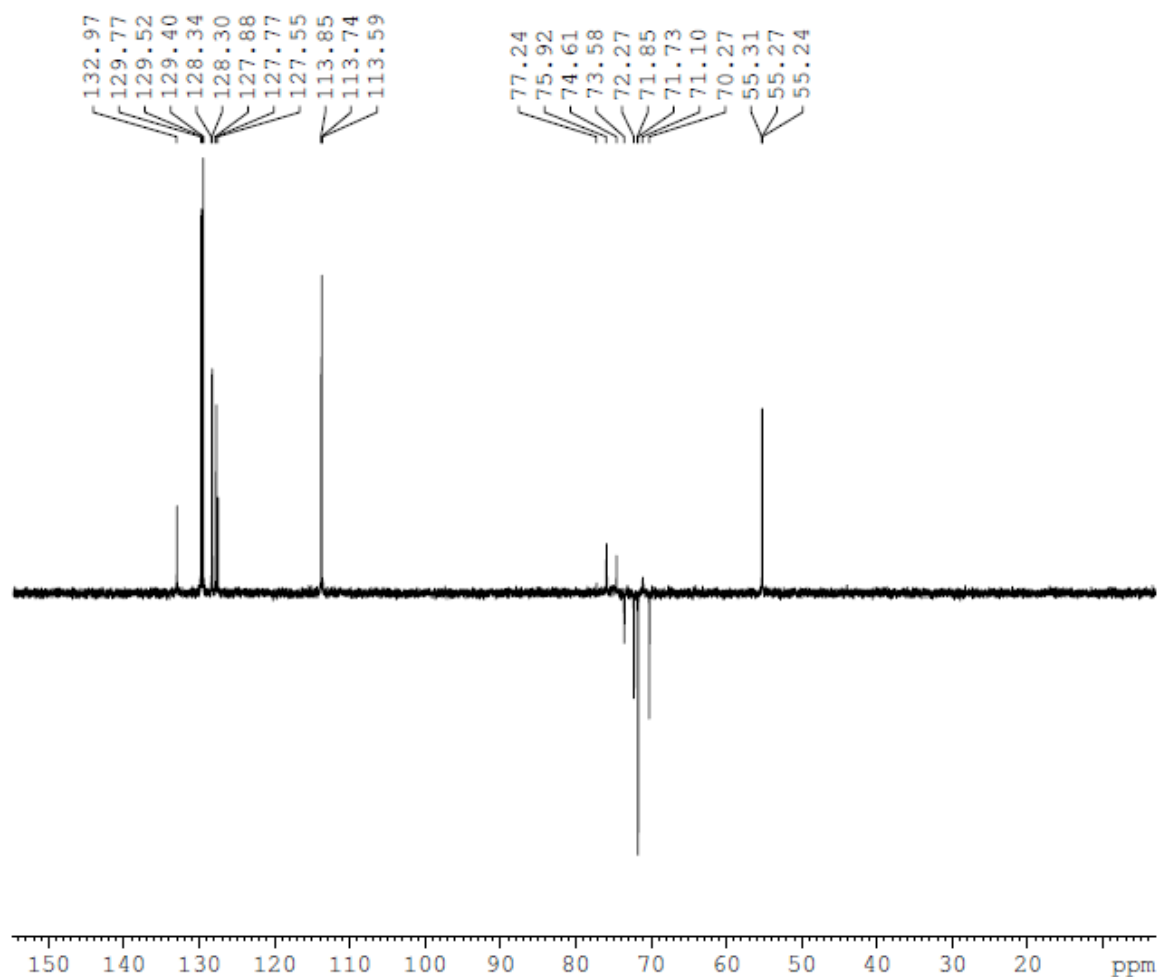
F2 - Processing parameters
SI         1024
SF         500.2300570 MHz
WDW        QSINE
SSB        0
LB         0 Hz
GB         0
PC         1.40

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**

KMS-D-V-137  
 C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 deptap135  
 ID 65536  
 SOLVENT CDC13  
 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  
 SFOAL5 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

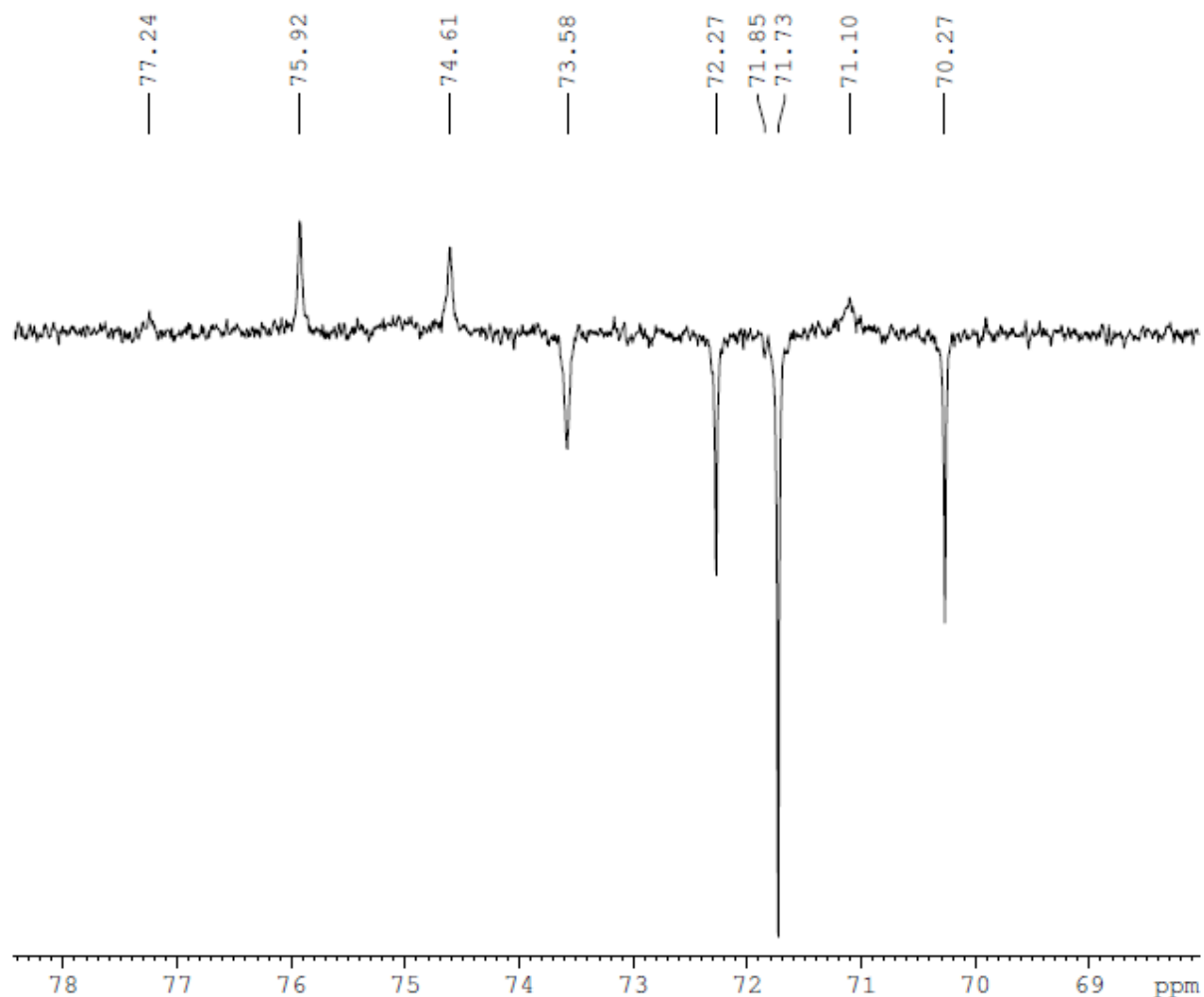
F2 - Processing parameters  
 SI 32768  
 SF 125.7829340 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



DEPT of compound **20** (zoom)

KMS-D-V-137

C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
 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

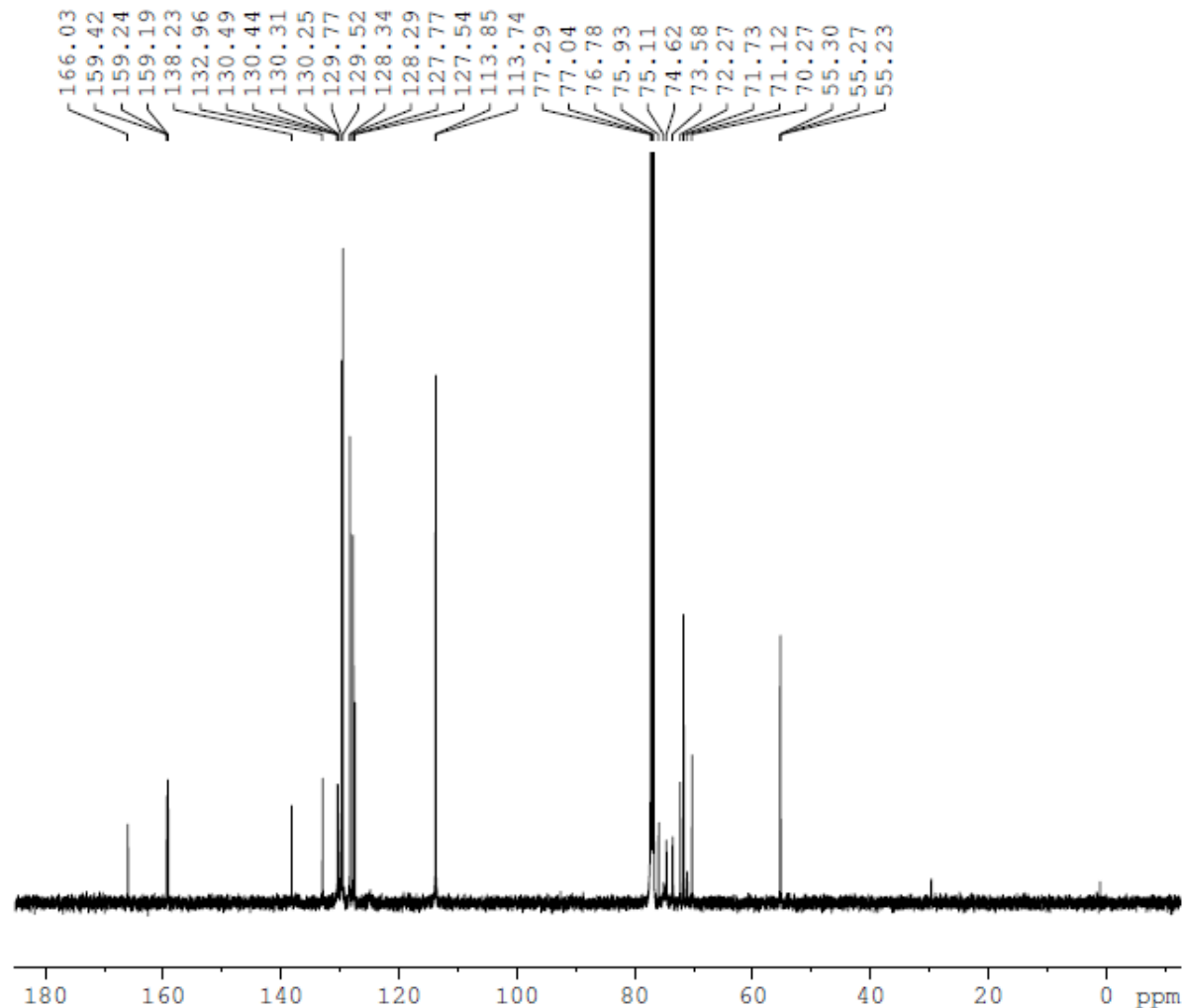
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SPAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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

<sup>14</sup>C NMR of compound **20**

KMS-D-V-137  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



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  
ID 65536  
SOLVENT CDC13  
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

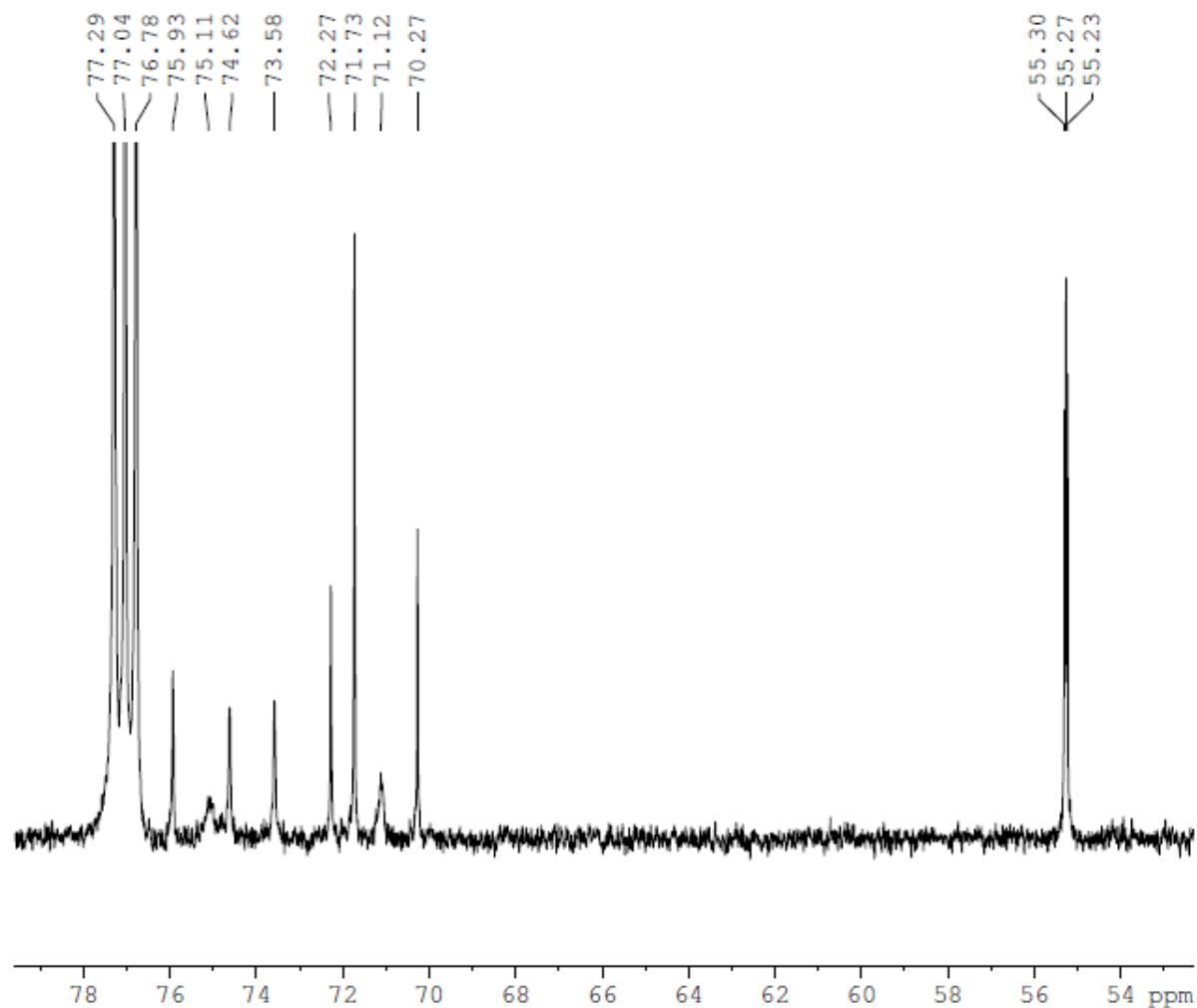
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>14</sup>C NMR of compound **20** (zoom)

KMS-D-V-137  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

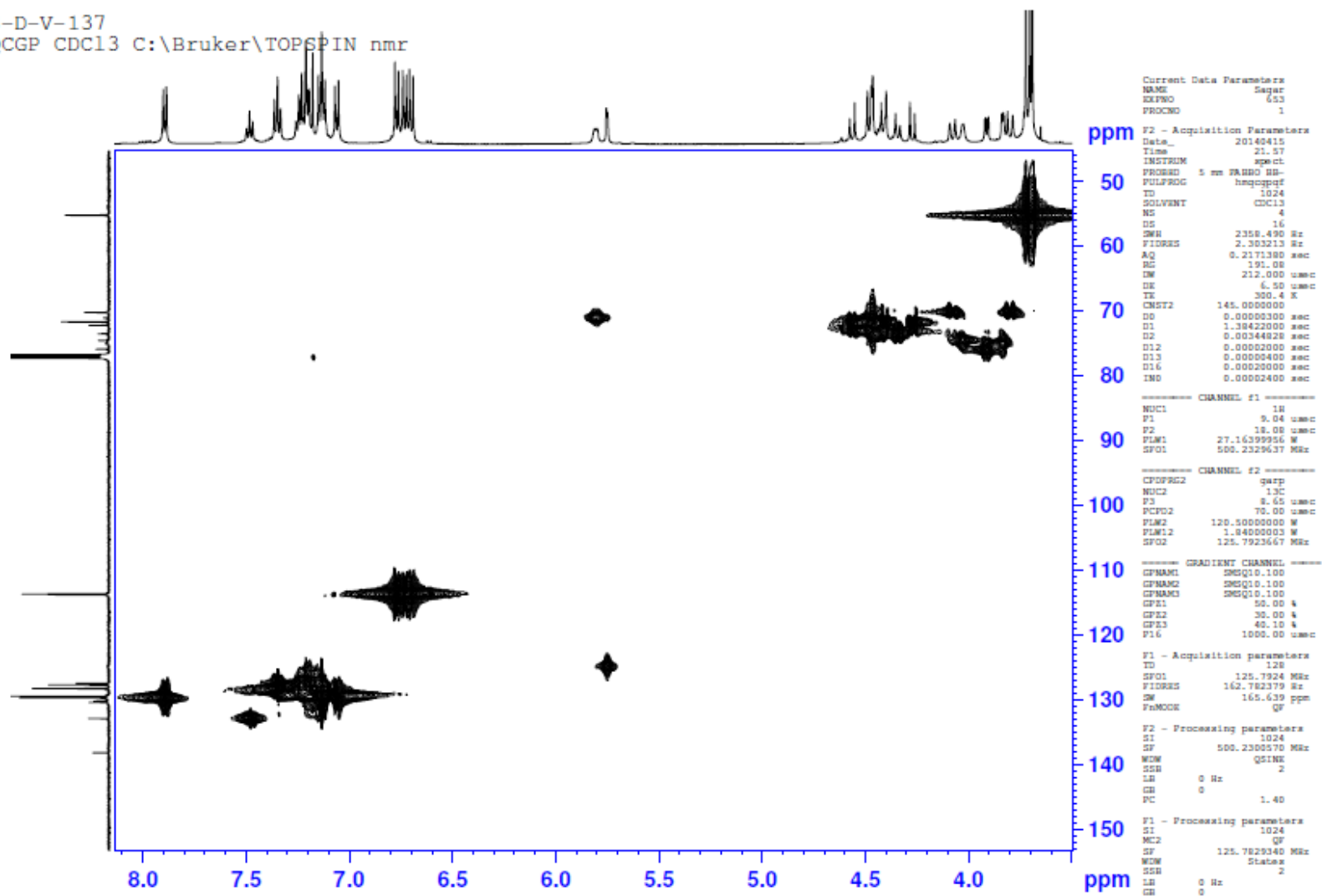
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

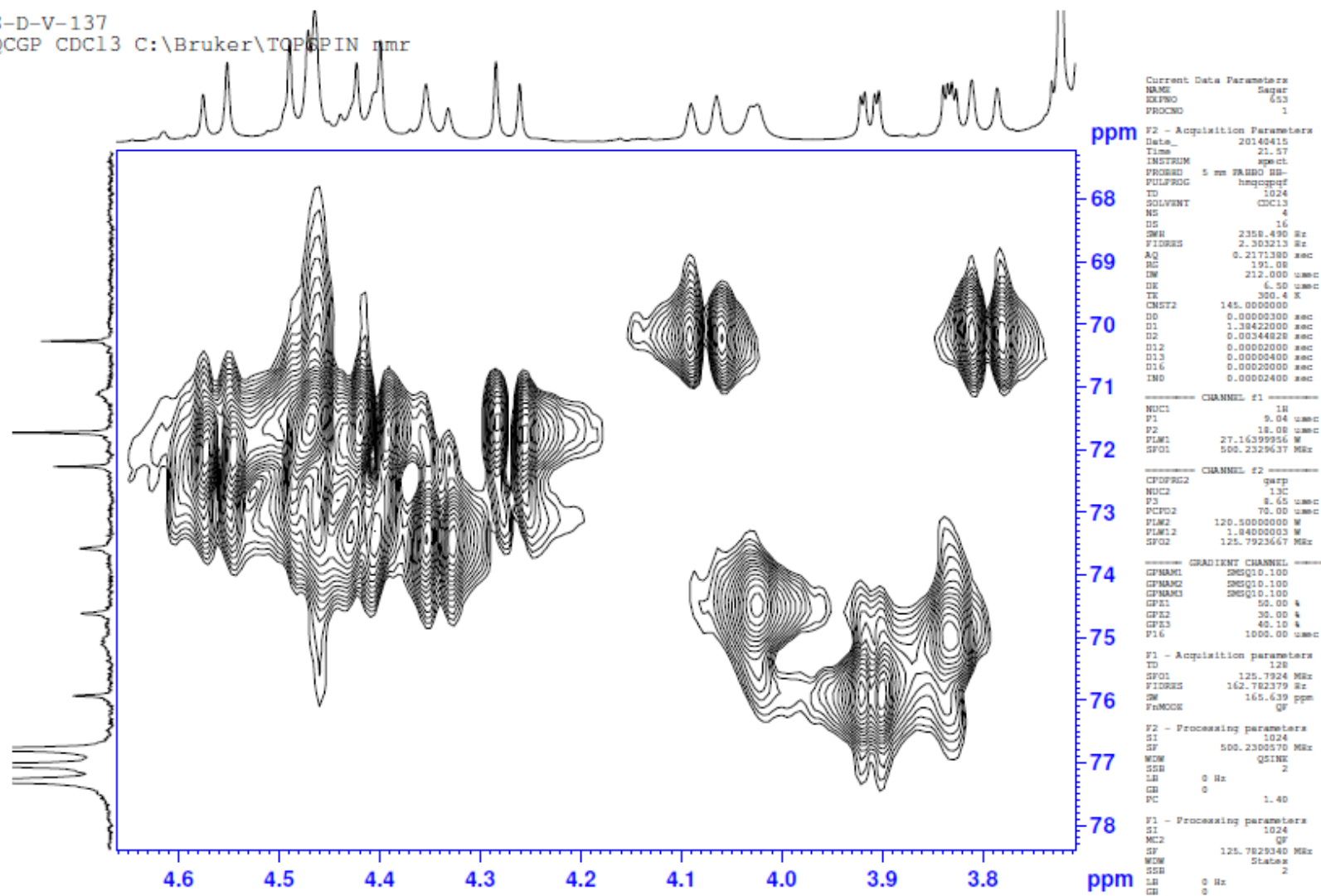
HMQC of compound **20**

KMS-D-V-137  
HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



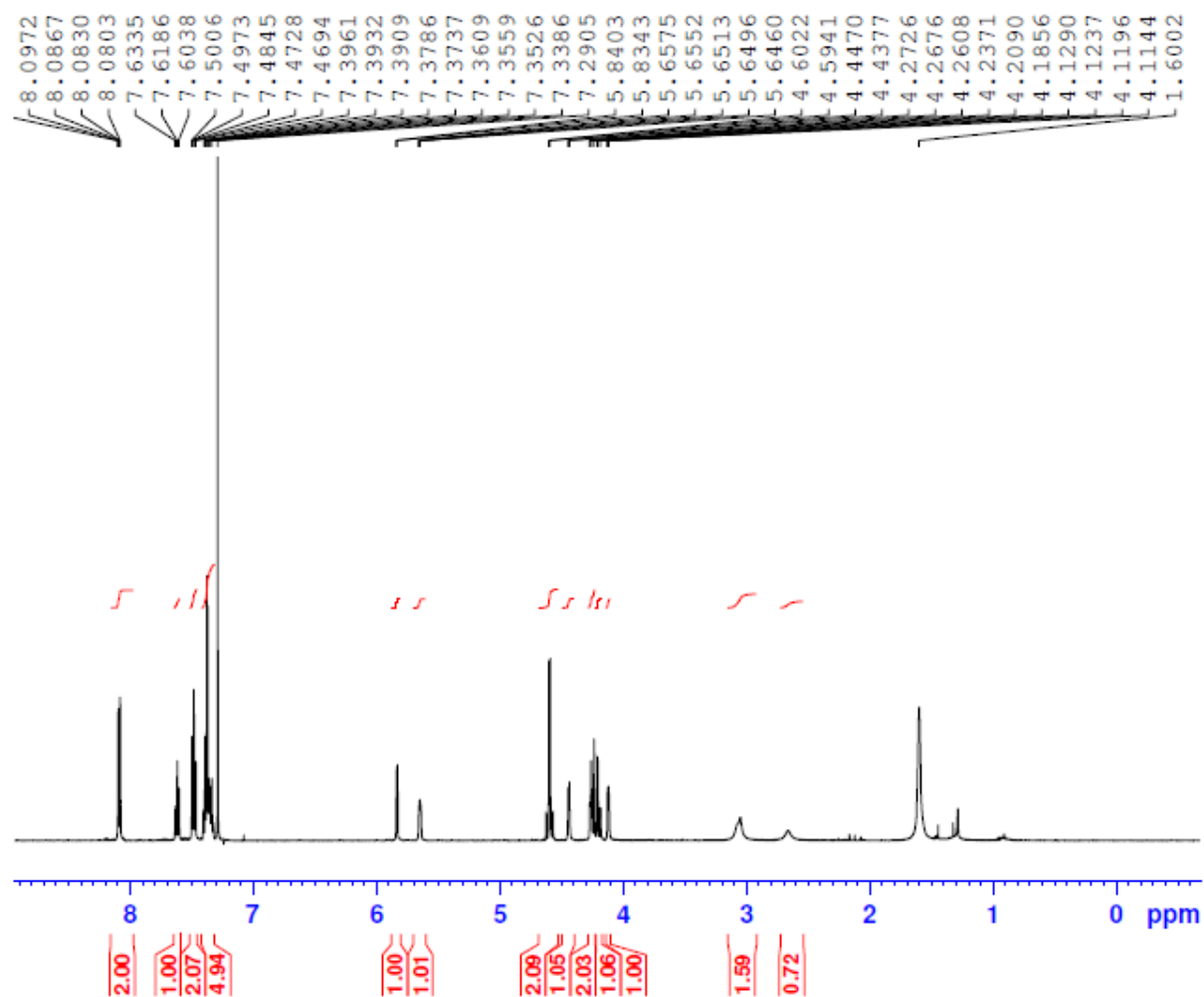
HMQC of compound **20** (zoom)

KMS-D-V-137  
HMQC GP CDC13 C:\Bruker\TOPSPIN nmr



<sup>1</sup>H NMR of compound **21**

KMS-D-V-139  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 654  
 PROCNO 1

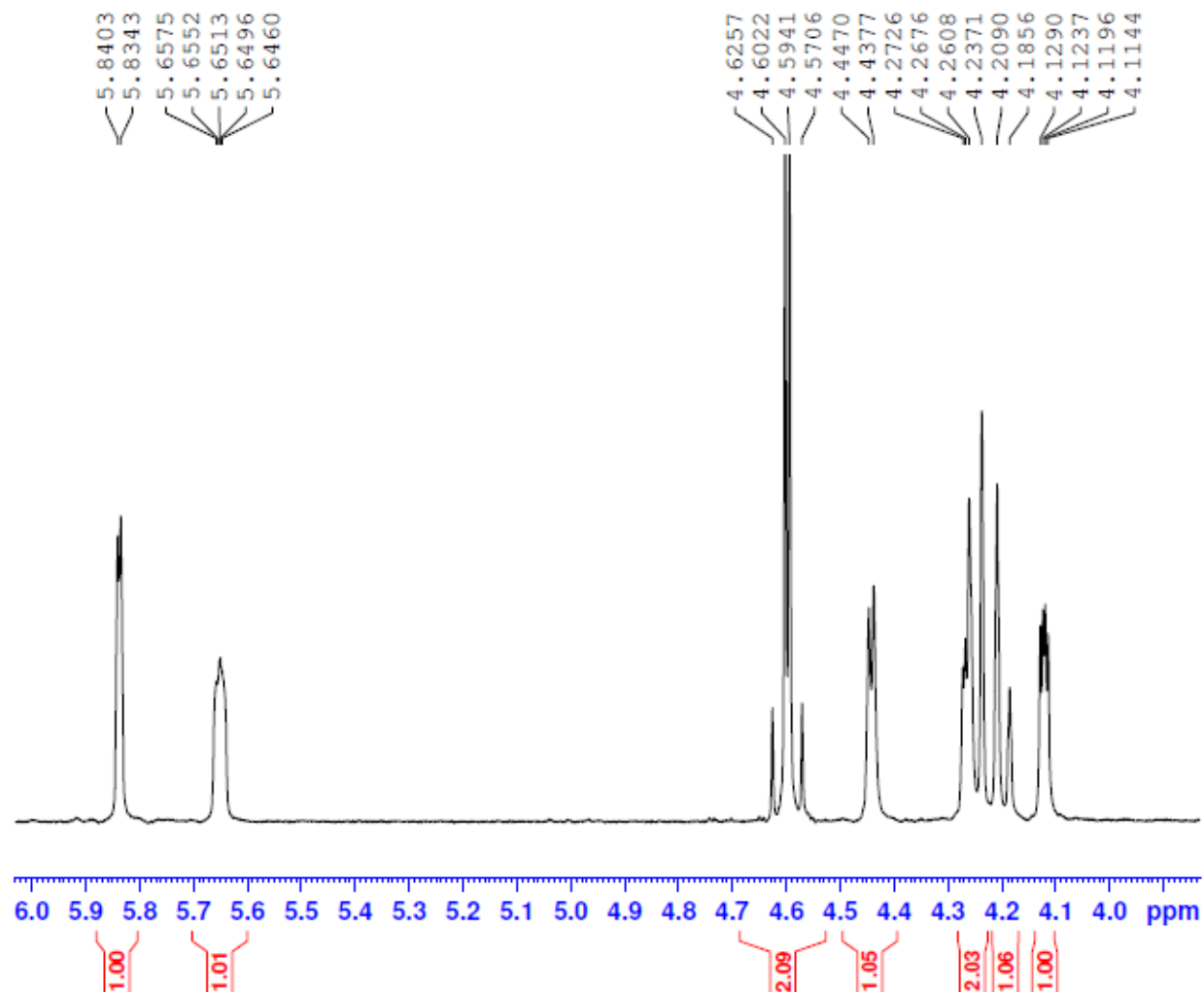
F2 - Acquisition Parameters  
 Date\_ 20140416  
 Time 14.41  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 191.08  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.5 K  
 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

<sup>1</sup>H NMR of compound **21** (zoom)

KMS-D-V-139  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 654  
 PROCNO 1

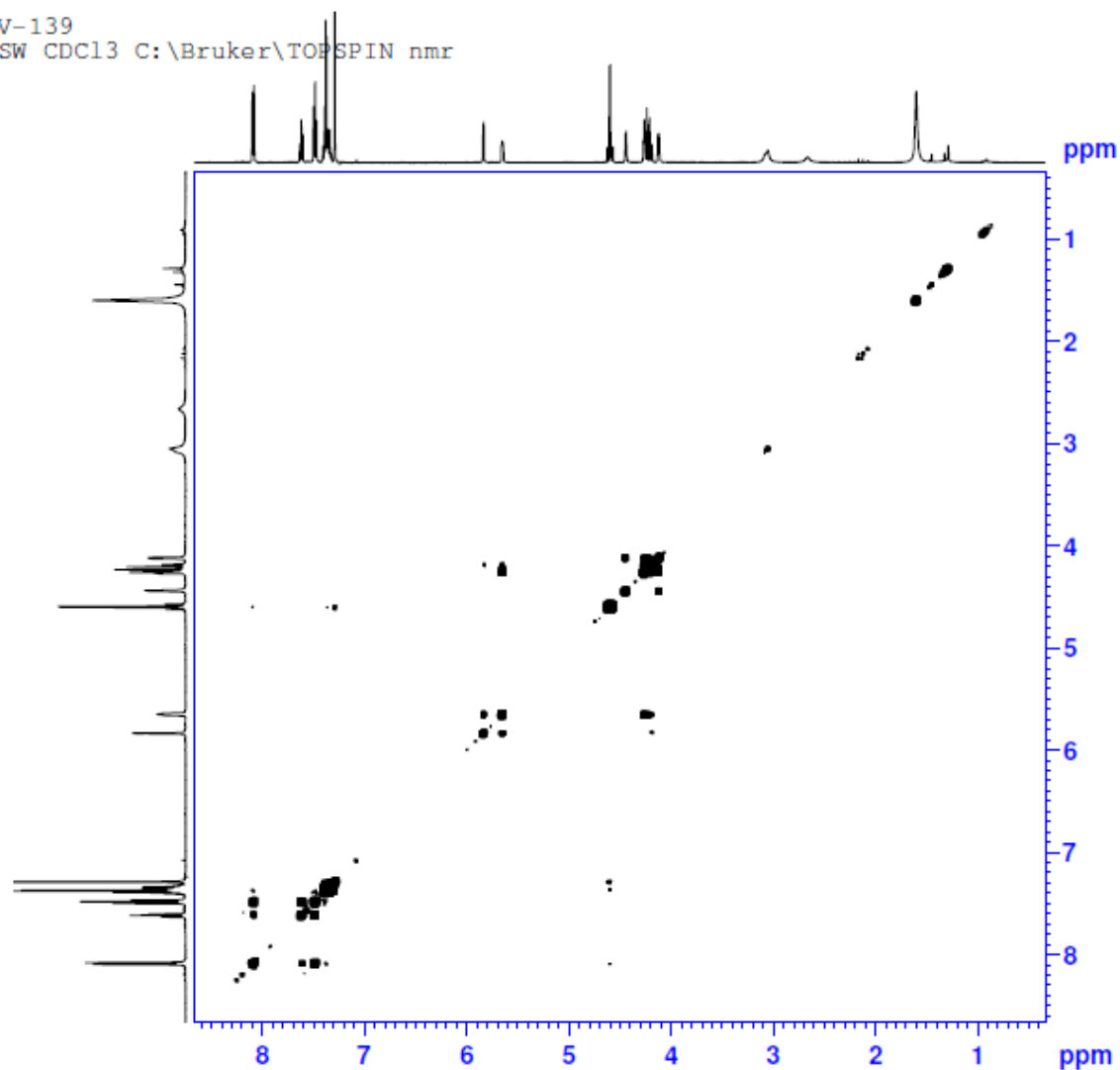
F2 - Acquisition Parameters  
 Date\_ 20140416  
 Time 14.41  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 191.08  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 299.5 K  
 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**

KMS-D-V-139  
 COSYGPSW CDC13 C:\Bruker\TOPSPIN nmr



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 cosygpppgf  
 TD 2048  
 SOLVENT CDC13  
 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  
 DO 0.00000300 sec  
 D1 1.90743005 sec  
 D11 0.03000000 sec  
 D12 0.00002000 sec  
 D13 0.00000400 sec  
 D16 0.00020000 sec  
 INO 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  
 FhMODE QF

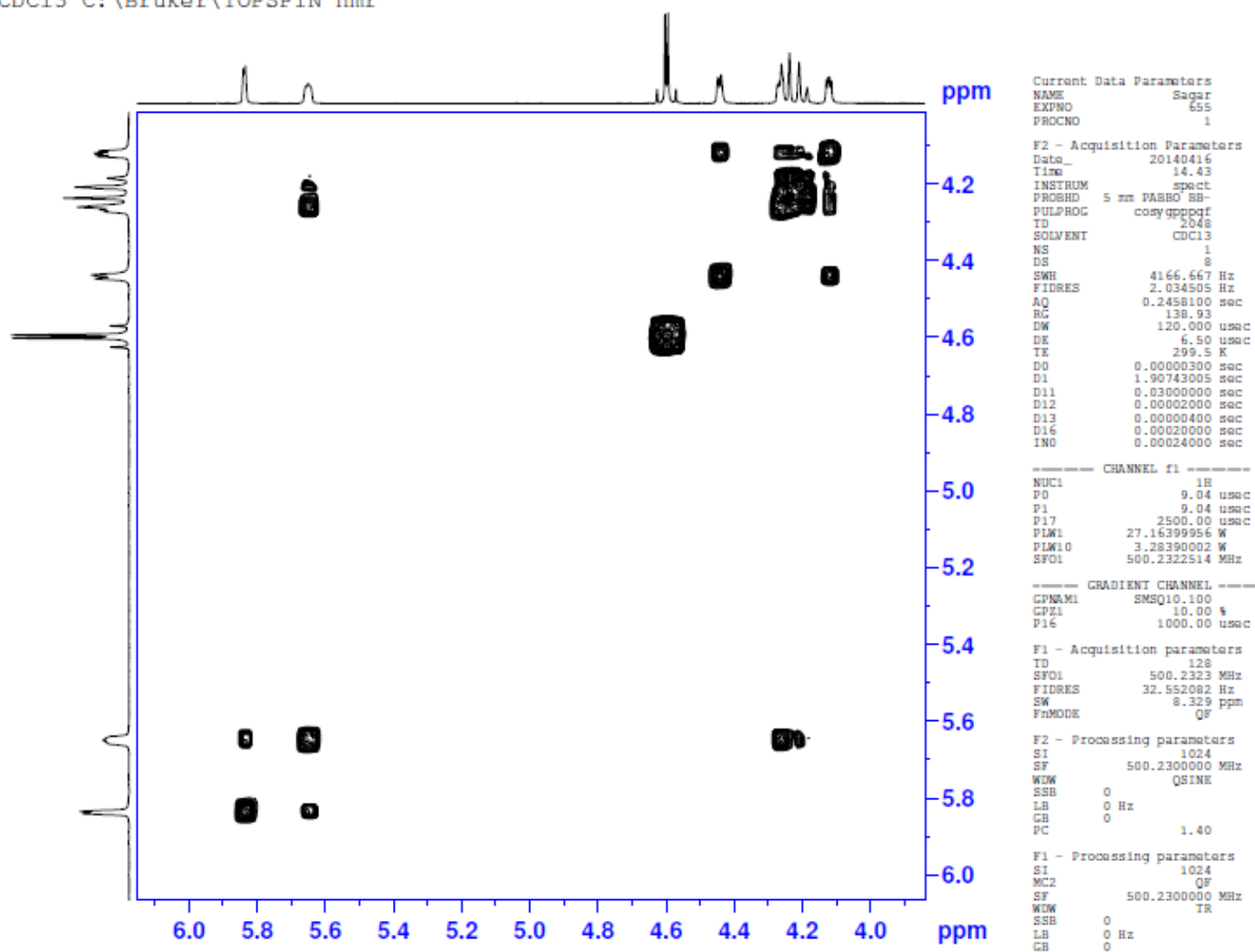
F2 - Processing parameters  
 SI 1024  
 SF 500.2300000 MHz  
 WDW QSINE  
 SSB 0  
 LB 0 Hz  
 GB 0  
 PC 1.40

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



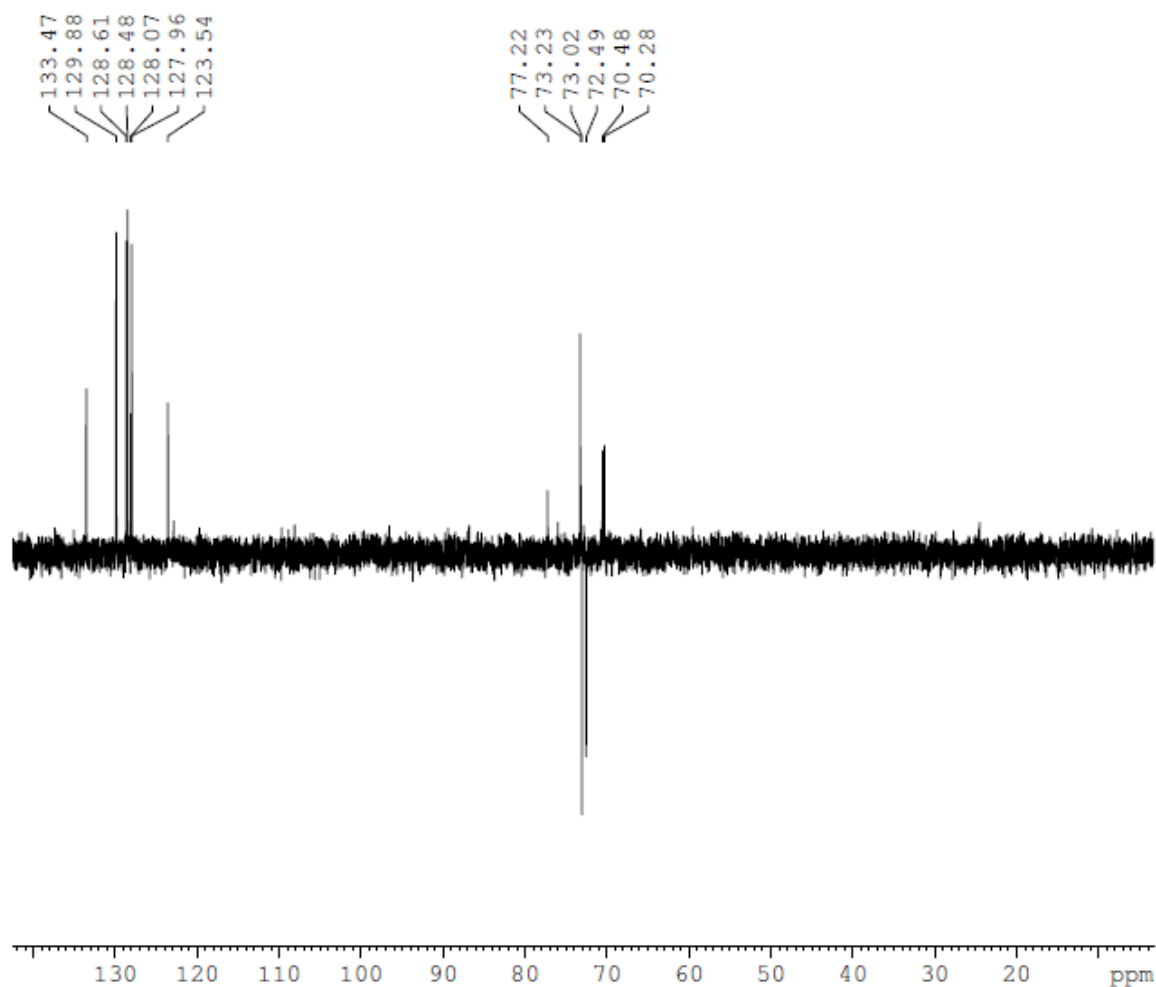
COSY of compound **21** (zoom)

KMS-D-V-139  
 COSYGP SW CDC13 C:\Bruker\TOPSPIN nmr



DEPT of compound **21**

KMS-D-V-139  
C13DEPT135 CDC13 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 CDC13  
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  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

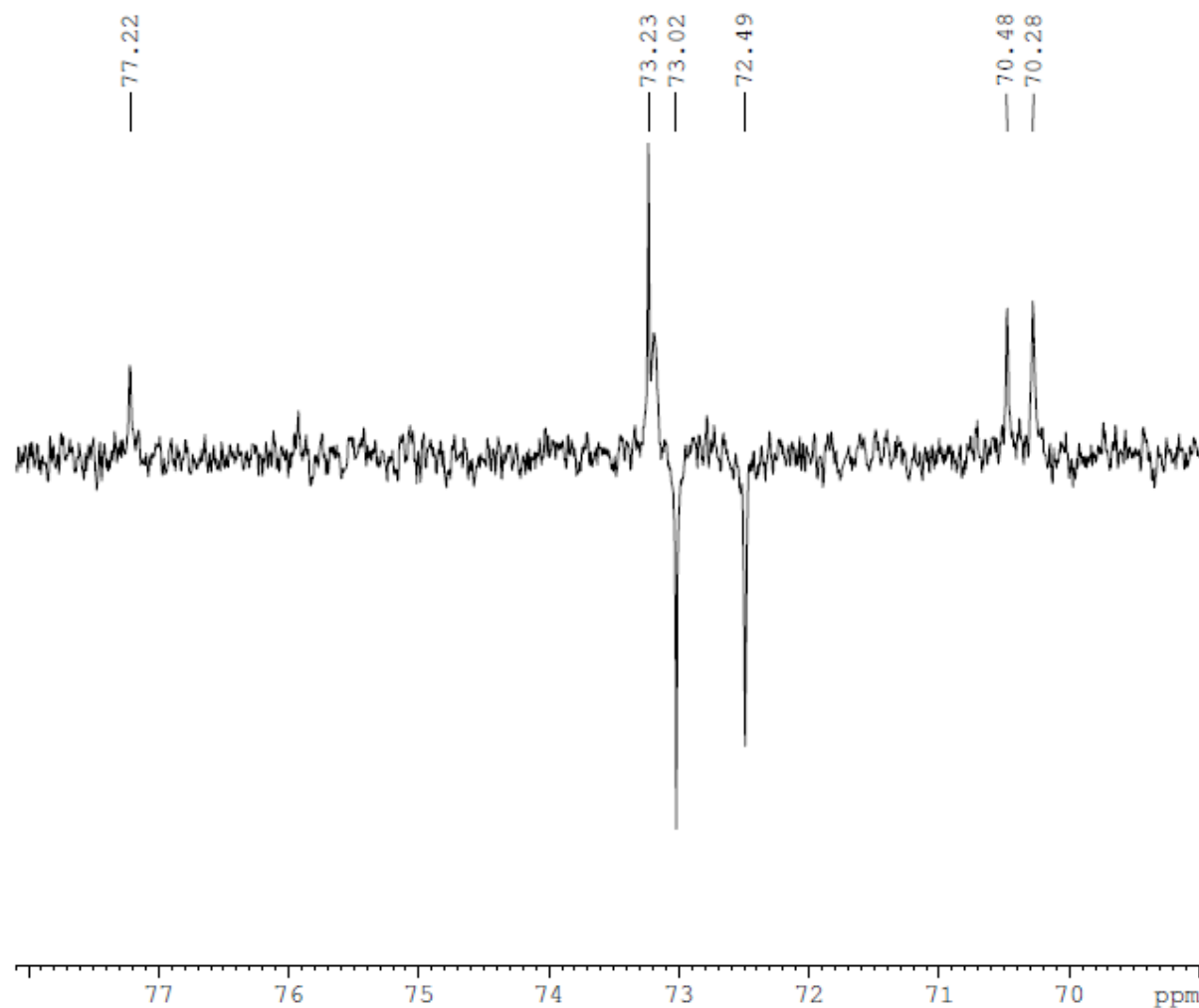
===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
P3 9.04 usec  
P4 18.08 usec  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
SFO2 500.2315998 MHz

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 CDC13 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 CDC13  
 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

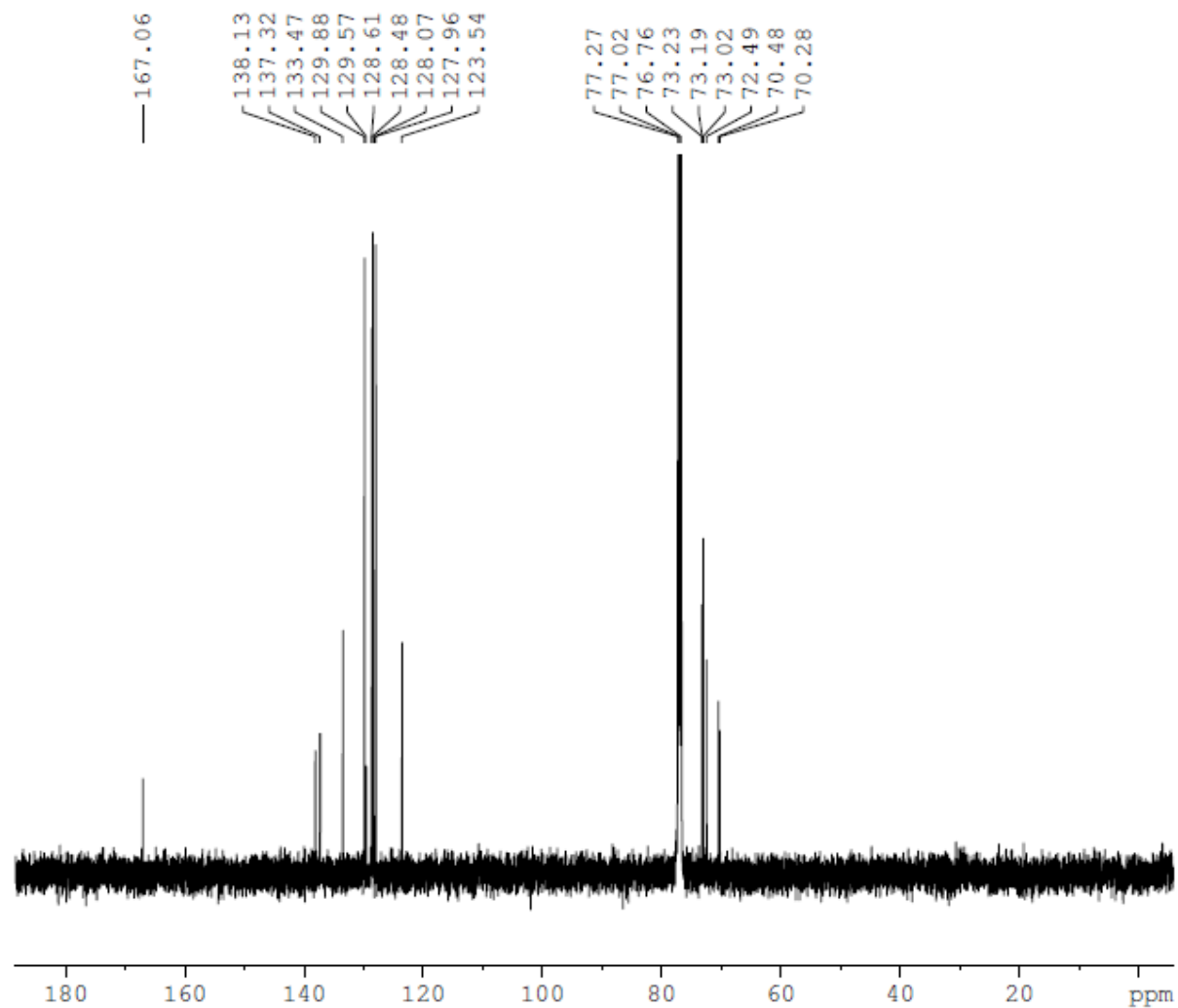
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SFOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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

<sup>14</sup>C NMR of compound **21**

KMS-D-V-139  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

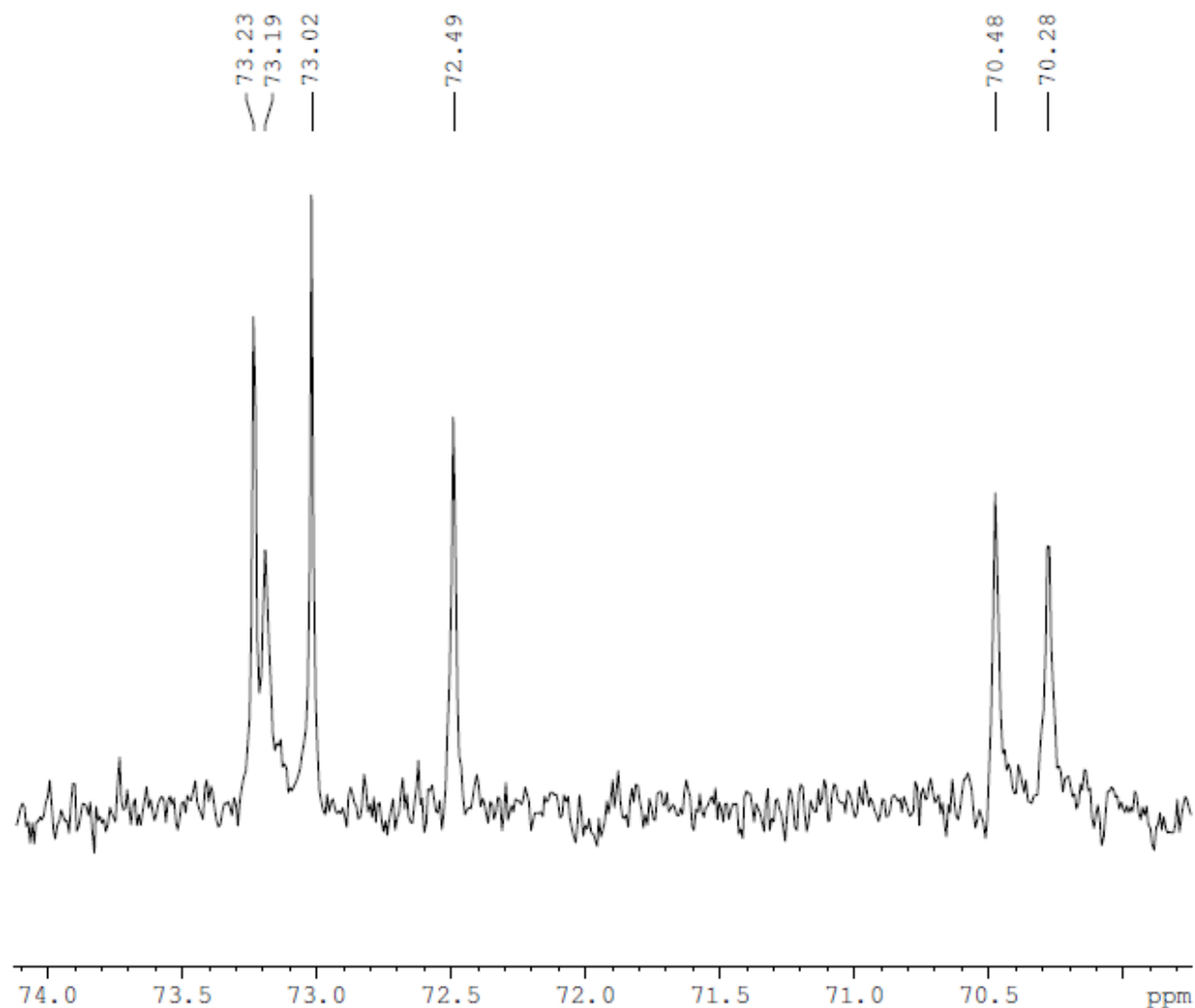
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>14</sup>C NMR of compound **21** (zoom)

KMS-D-V-139  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



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

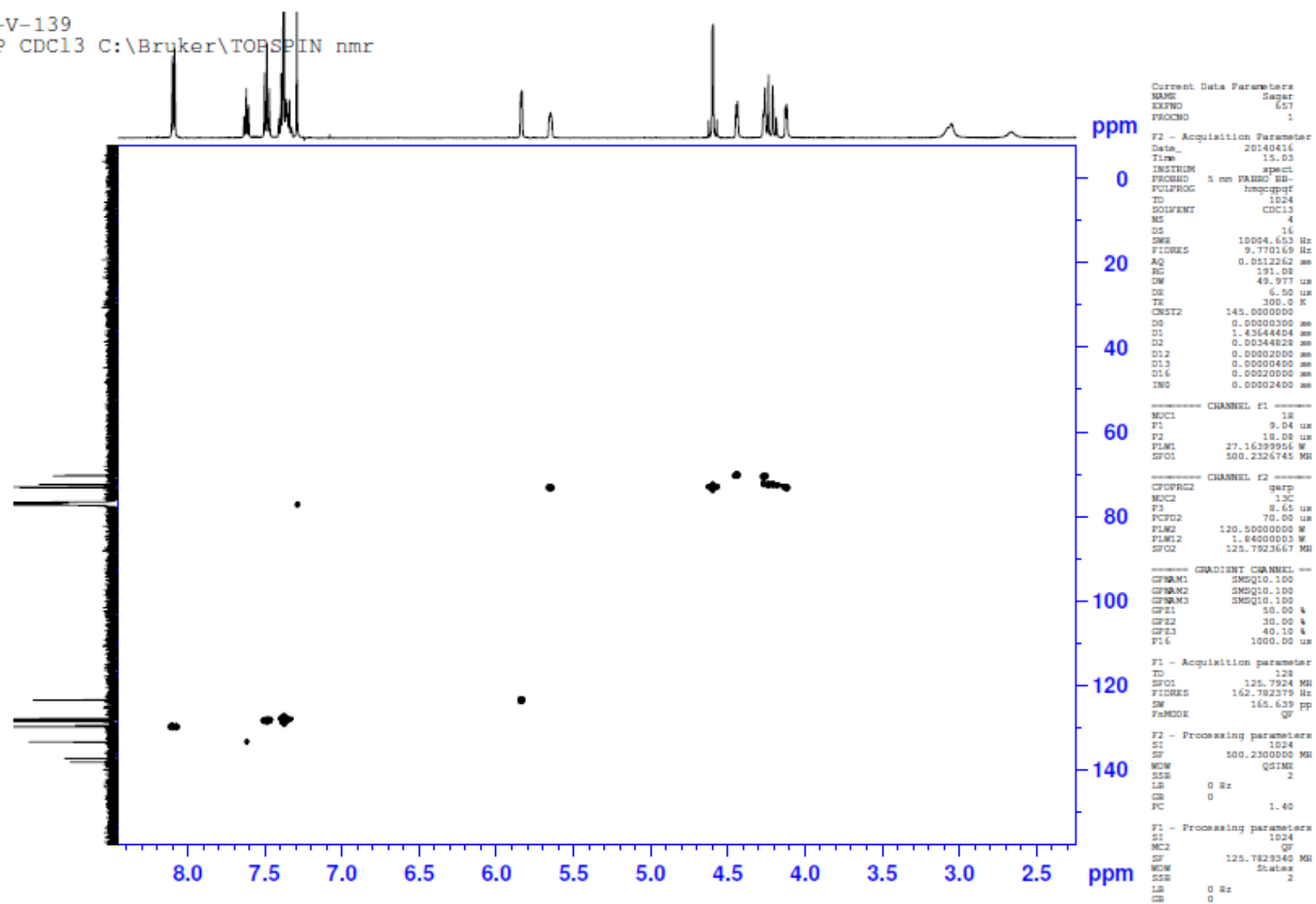
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

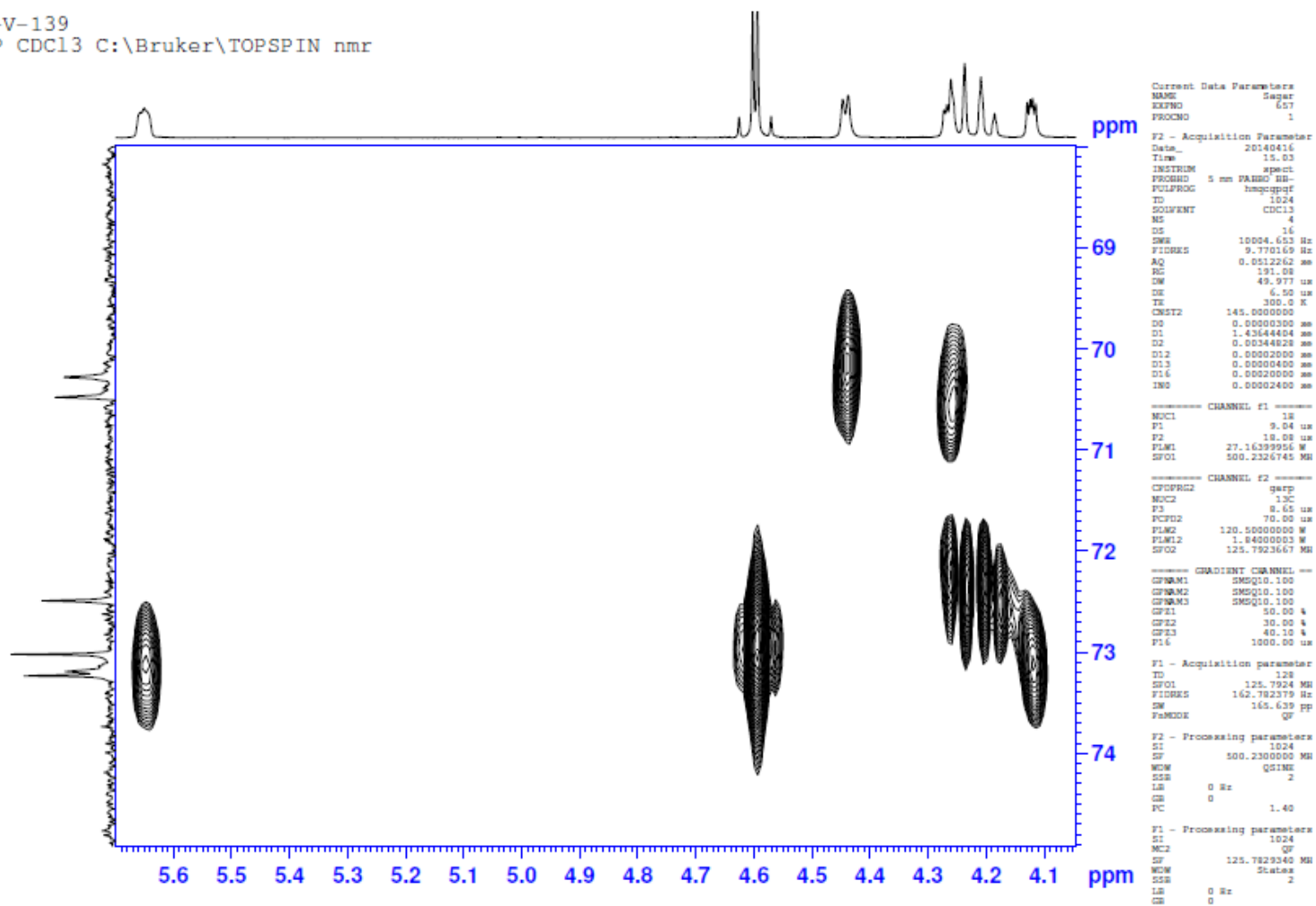
HMQC of compound **21**

KMS-D-V-139  
HMQCGP CDC13 C:\Bruker\TOPSPIN nmr



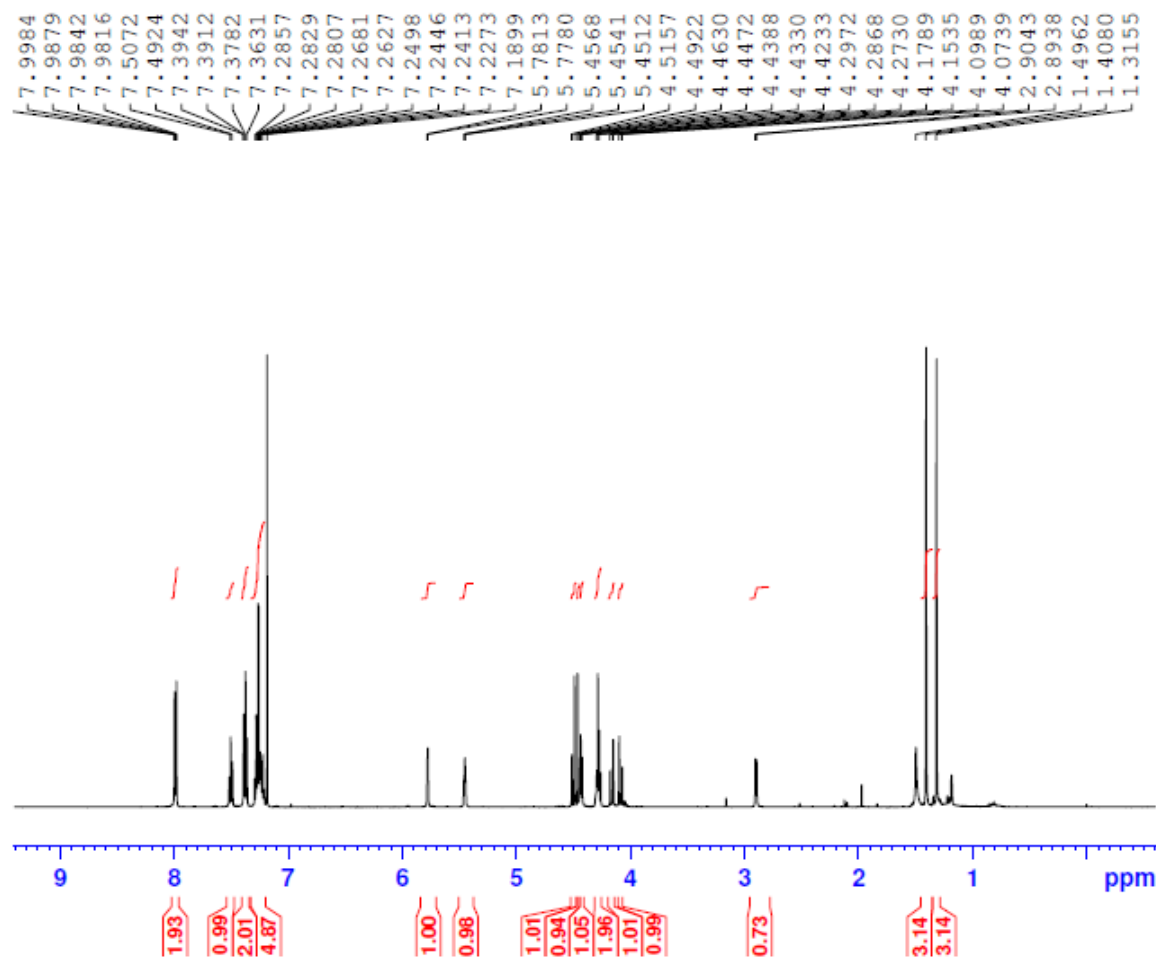
HMQC of compound **21** (zoom)

KMS-D-V-139

HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr

<sup>1</sup>H NMR of compound **22**

KMS-D-V-141  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



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 CDCl<sub>3</sub>  
 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

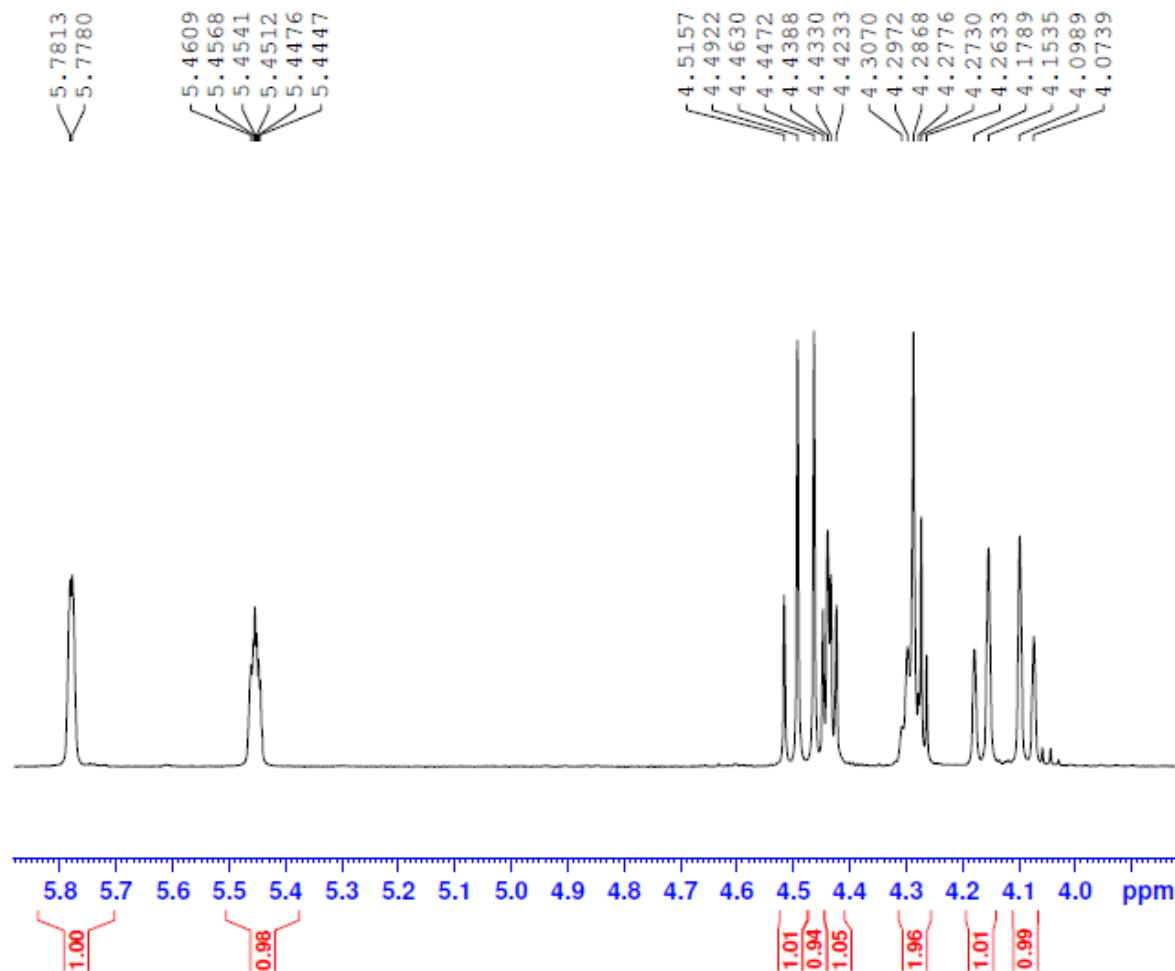
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

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



<sup>1</sup>H NMR of compound **22** (zoom)

KMS-D-V-141  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 664  
 PROCNO 1

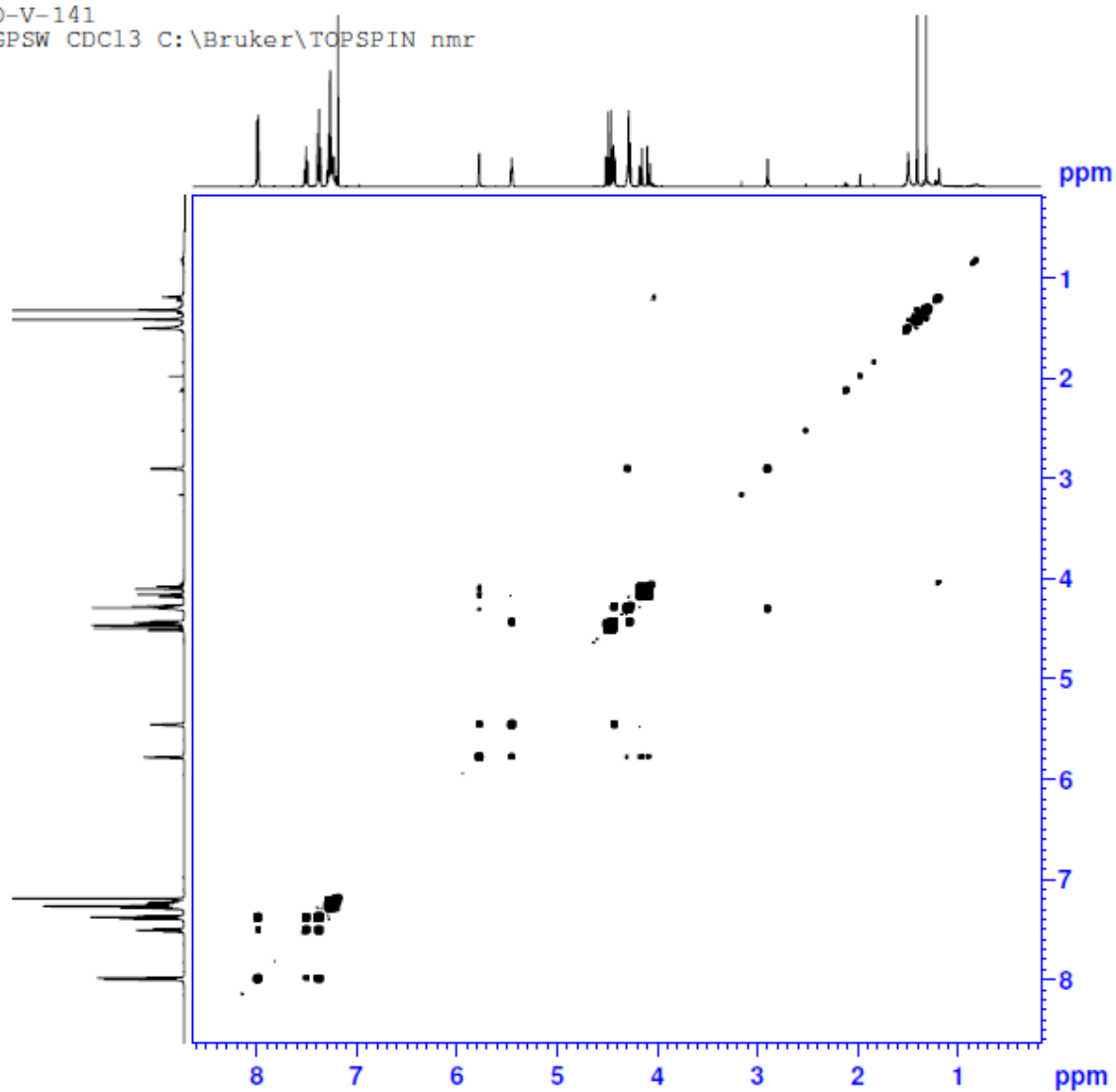
F2 - Acquisition Parameters  
 Date\_ 20140417  
 Time 1.31  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 ID 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10330.578 Hz  
 FIDRES 0.157632 Hz  
 AQ 3.1719923 sec  
 RG 171.32  
 DW 48.400 usec  
 DE 6.50 usec  
 TE 298.0 K  
 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**

KMS-D-V-141  
 COSYGP SW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



```

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   cosygpppgf
TD        2048
SOLVENT   CDCl3
NS         1
DS         8
SWH        4237.288 Hz
FIDRES     2.068988 Hz
AQ         0.2417140 sec
RG         107.19
DC         118.000 usec
DE         6.50 usec
TE         298.0 K
DO         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

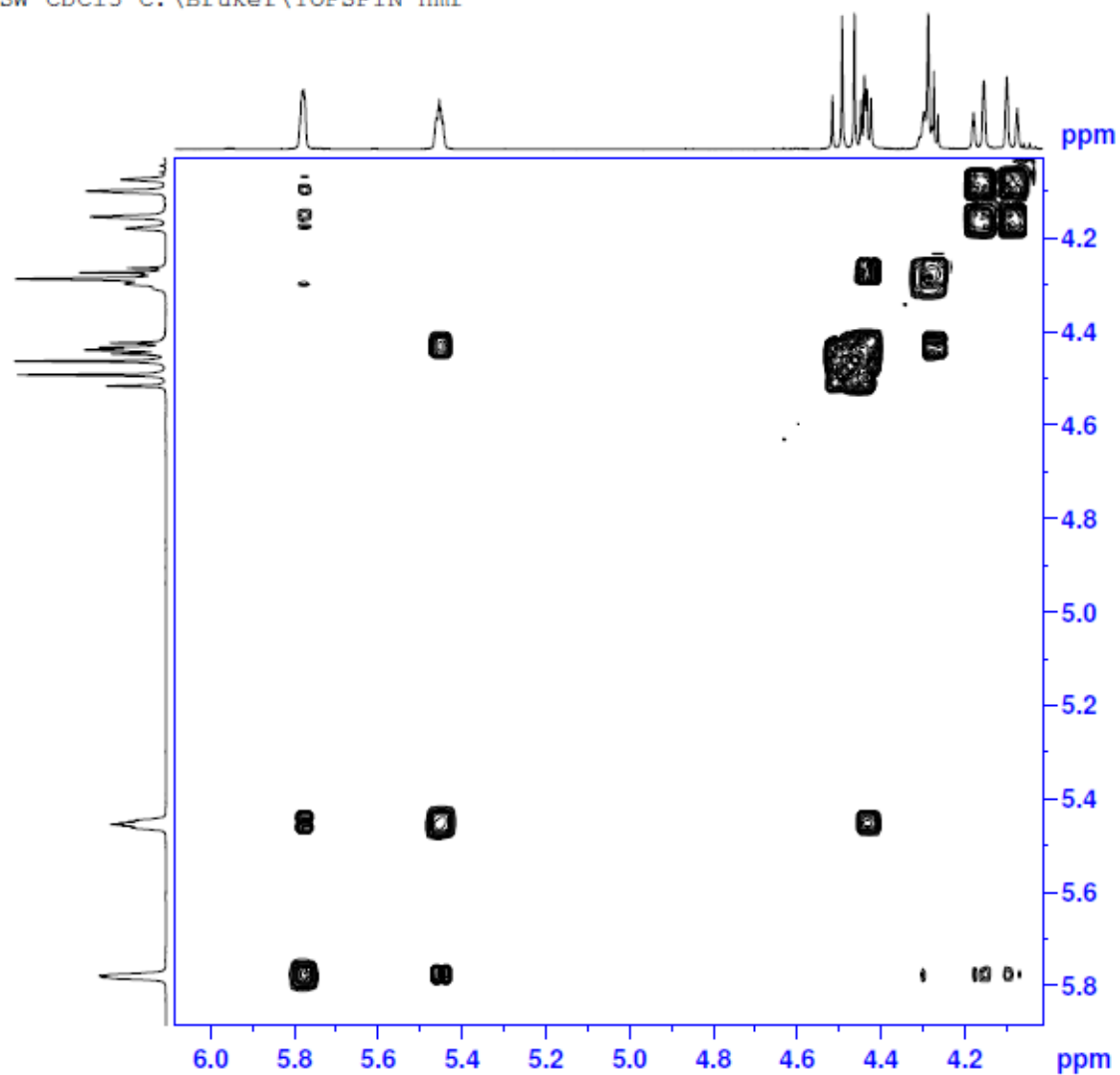
F2 - Processing parameters
SI         1024
SF         500.2300502 MHz
WDW        QSINE
SSB        0
LB         0 Hz
GB         0
PC         1.40

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)

KMS-D-V-141  
 COSYPSW CDC13 C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME          Sagar
EXPNO         665
PROCNO        1

F2 - Acquisition Parameters
Date_         20140417
Time          1.34
INSTRUM       spect
PROBHD        5 mm PASPO BB-
PULPROG       cosygpsw
TD            2048
SOLVENT       CDC13
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
PLM1          27.16399956 W
PLM10         3.28390002 W
SFO1          500.2322521 MHz

----- GRADIENT CHANNEL -----
GPNAM1        SMSQ10.100
GPE1          10.00 %
P16           1000.00 usec

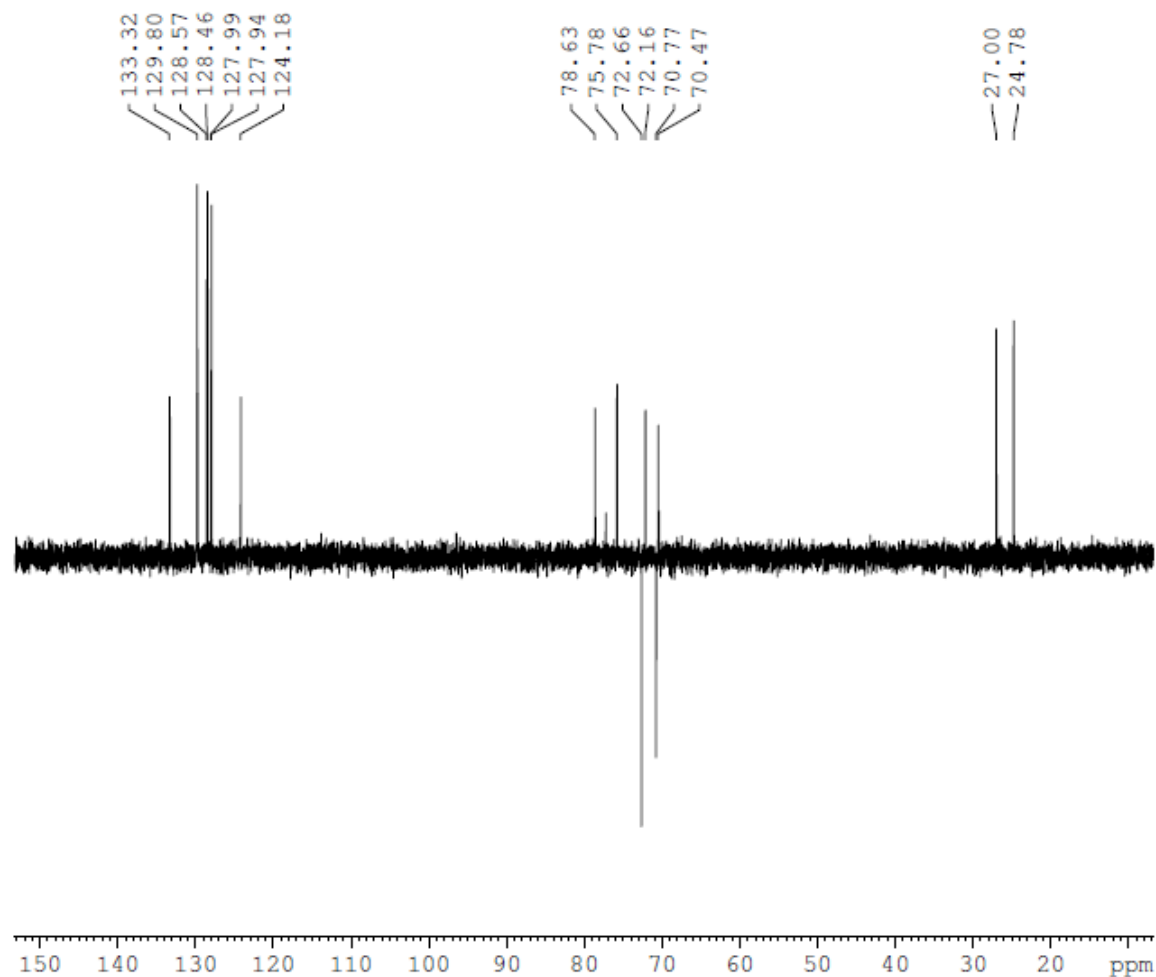
F1 - Acquisition parameters
TD            128
SFO1          500.2323 MHz
FIDRES        33.103813 Hz
SW            8.471 ppm
FnmODE        QF

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

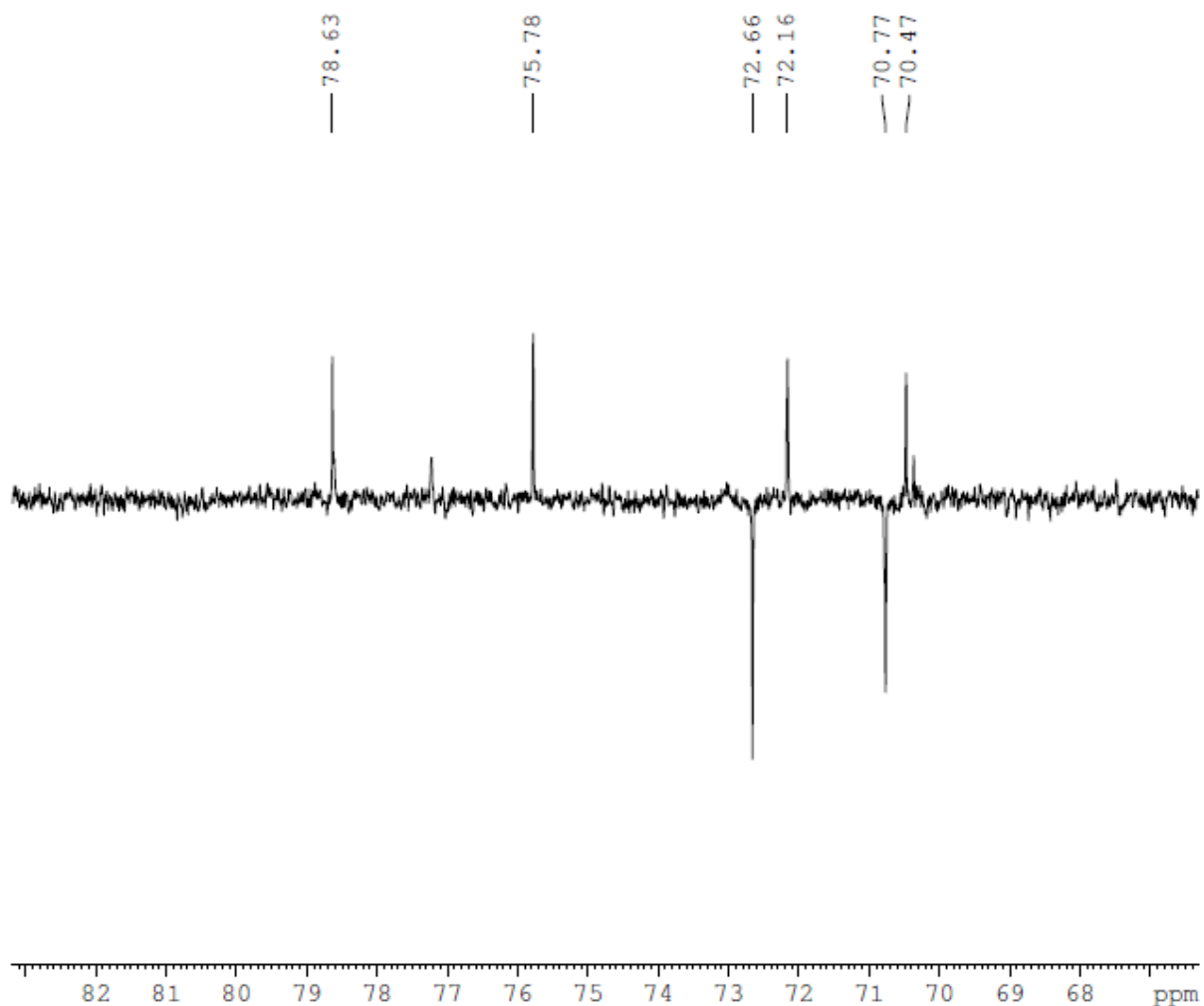
===== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM5 Crp60comp.4  
 SPOAL5 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

===== 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)

KMS-D-V-141  
C13DEPT135 CDC13 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       CDC13
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
SFOAL5         0.500
SPOFFS5        0 Hz
SPW5           13.77600002 W

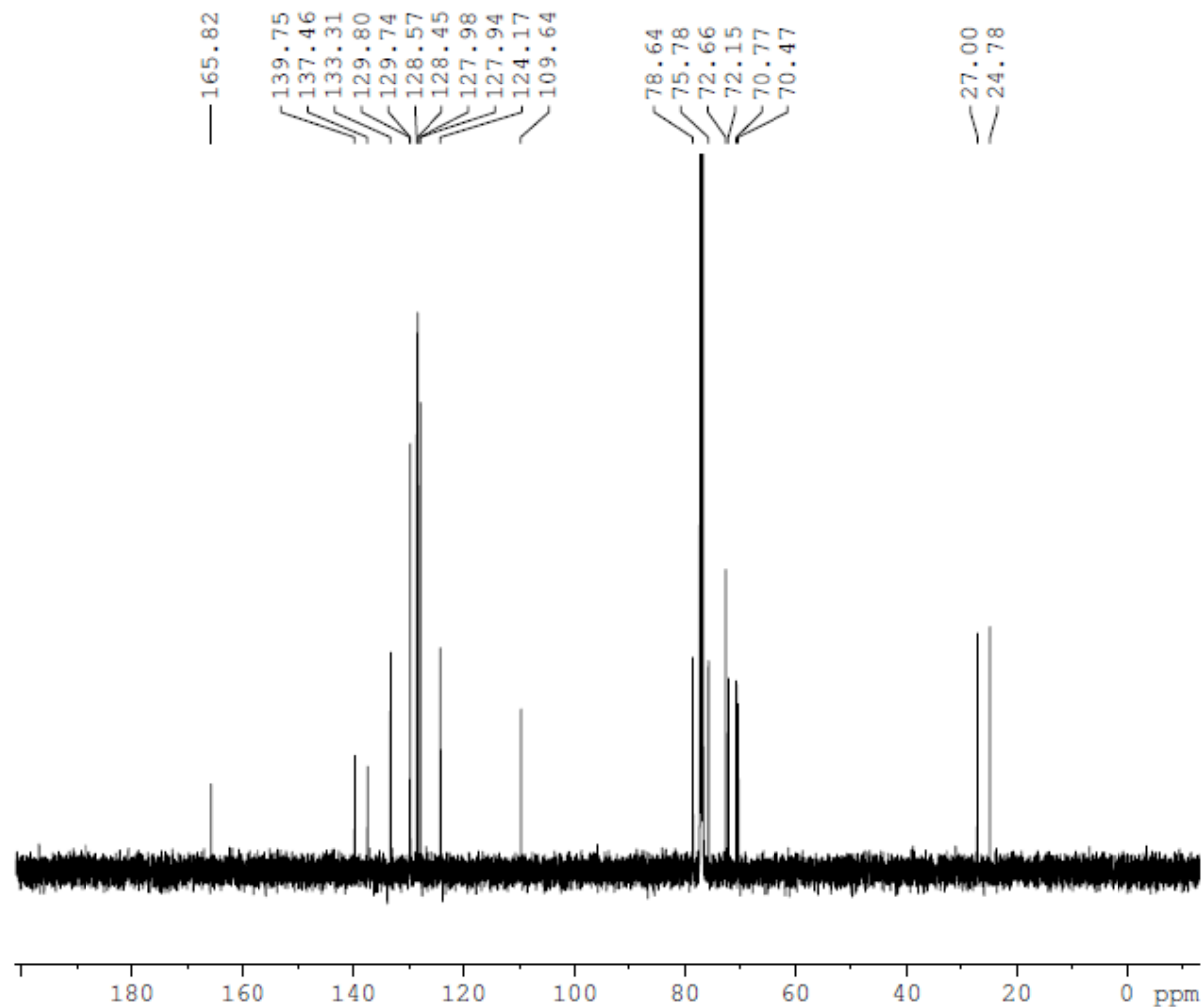
===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2           1H
P3             9.04 usec
P4            18.08 usec
PCPD2         80.00 usec
PLW2          27.16399956 W
PLW12         0.34685999 W
SFO2           500.2315998 MHz

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

```

<sup>14</sup>C NMR of compound **22**

KMS-D-V-141  
C13CPD CDC13 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 CDC13  
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

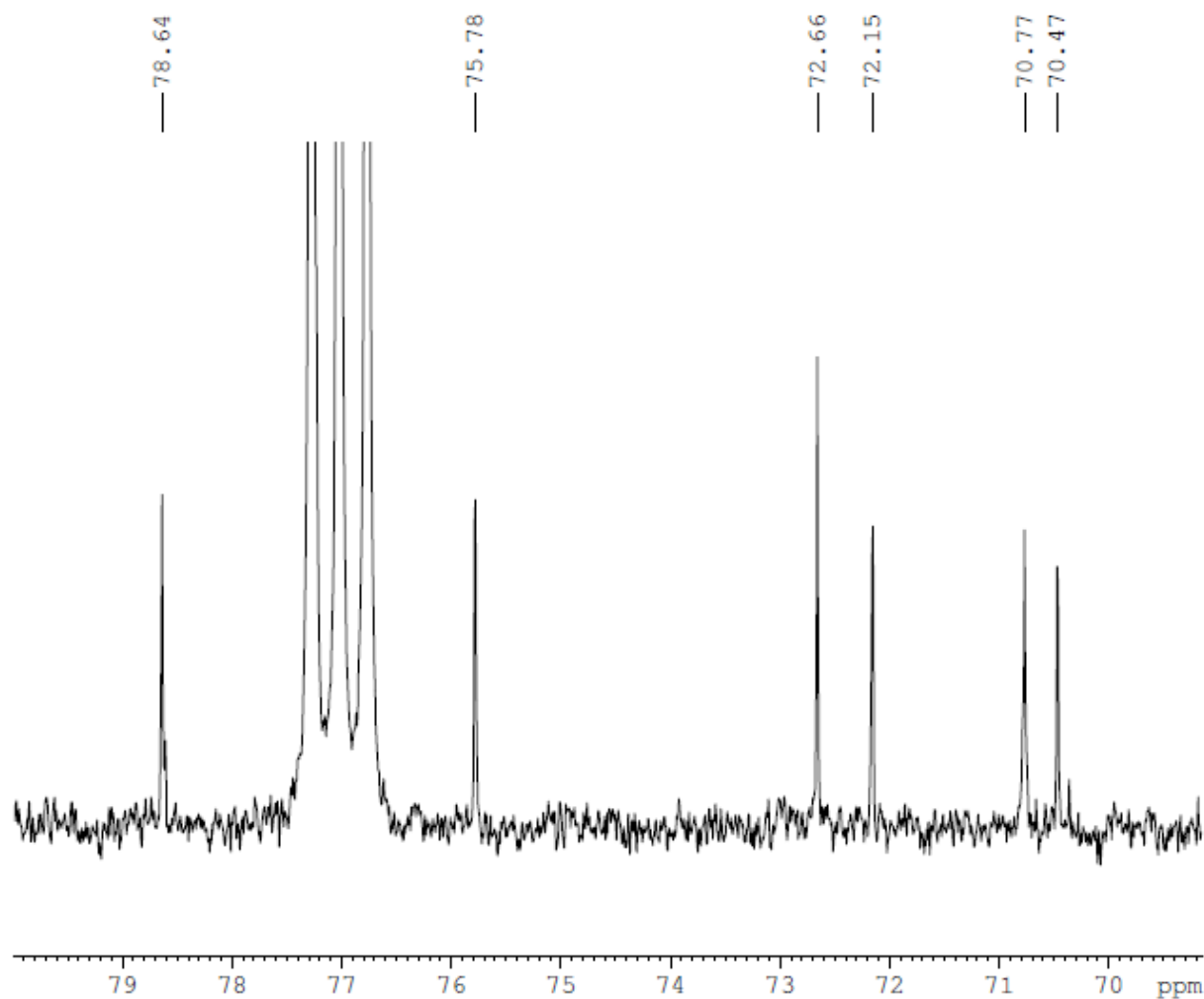
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>14</sup>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

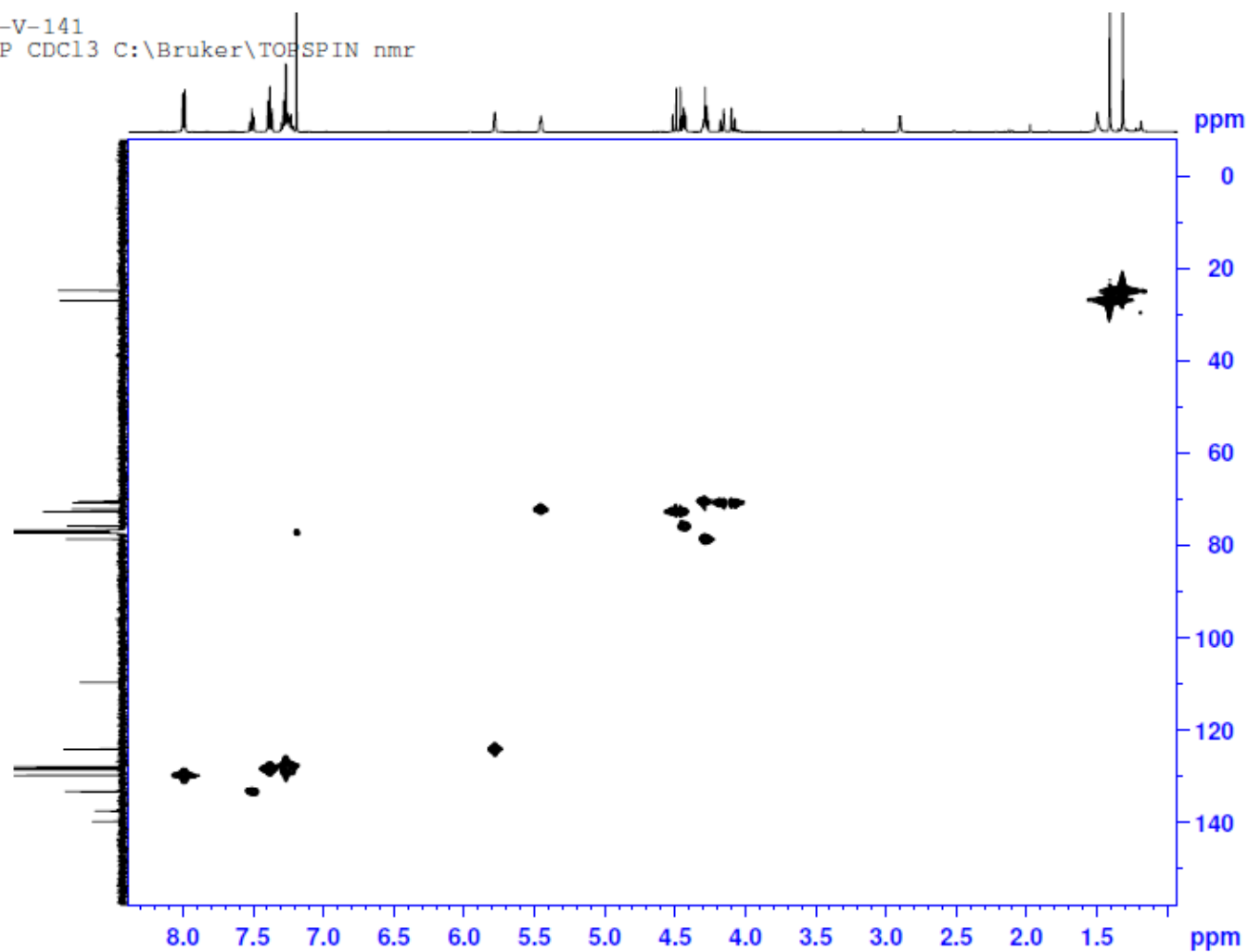
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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**

KMS-D-V-141  
HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sugar  
EXPNO 668  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140417  
Time 2.54  
INSTRUM spect  
PROBHD 5 mm FAREO ES-  
PULPROG hmqcpgp  
TD 1024  
SOLVENT CDCl<sub>3</sub>  
NS 4  
DS 16  
SWH 3731.343  
FIDRES 1.643890  
AQ 0.1372650  
RG 191.08  
EC 134.000  
DE 6.50  
TE 298.3  
CNS2 145.0000000  
DO 0.0000000  
D1 1.46409202  
D2 0.00344828  
D12 0.00002000  
D13 0.00000400  
D16 0.00000000  
DMS 0.00002400

===== CHANNEL f1 =====  
NUC1 1H  
P1 9.04  
F2 18.00  
PCW1 27.16399956  
SFO1 500.2323792

===== CHANNEL f2 =====  
CPDPRG2 gmp  
NUC2 13C  
P3 8.65  
PCPD2 78.00  
PCW2 120.50000000  
PCW12 1.84000003  
SFO2 125.7923667

===== GRADIENT CHANNEL =====  
GPMAX1 SMSQ10.100  
GPMAX2 SMSQ10.100  
GPMAX3 SMSQ10.100  
GPS1 50.00  
GPS2 30.00  
GPS3 40.10  
F16 1000.00

F1 - Acquisition parameters  
TD 128  
SFO1 125.7924  
FIDRES 162.782379  
SW 165.639  
P0MODE QF

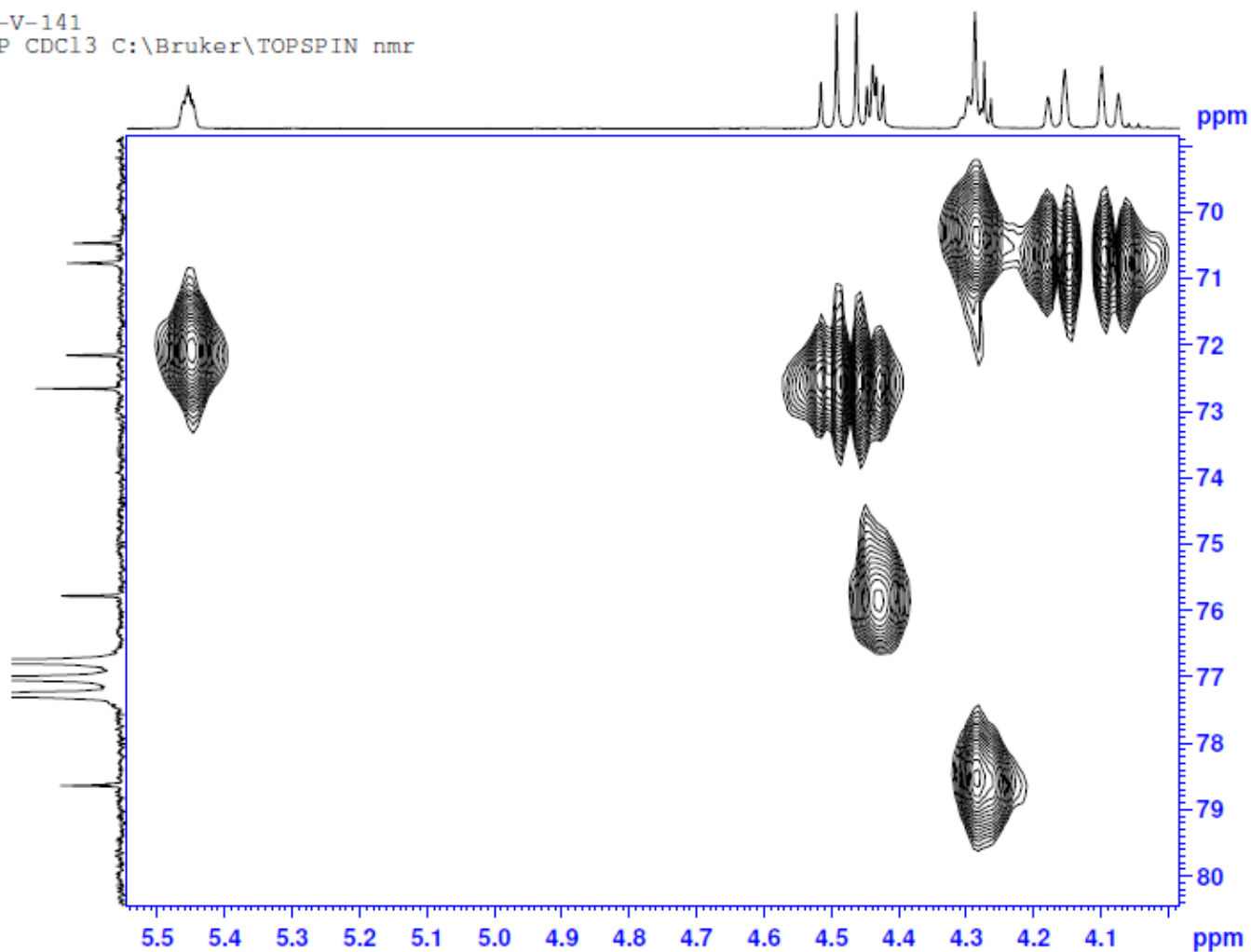
F2 - Processing parameters  
SI 1024  
SF 500.2300502  
WDM QSIK  
SSB 2  
LB 0 Hz  
GB 0  
PC 1.40

F1 - Processing parameters  
SI 1024  
WC 125.782340  
SF Statex  
SSB 2  
LB 0 Hz  
GB 0



HMQC of compound **22** (zoom)

KMS-D-V-141  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sugar  
 EXPNO 648  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140417  
 Time 2.54  
 INSTRUM spect  
 PROBHD 5 mm PABBO 2H-  
 PULPROG hmqcpgp  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 4  
 DS 16  
 SWH 3731.343  
 FIDRES 3.643890  
 AQ 0.1372560  
 RG 191.08  
 CW 134.000  
 DE 6.50  
 TE 298.3  
 CNST2 145.0000000  
 D0 0.0000300  
 D1 1.46409202  
 D2 0.00344828  
 D12 0.00002000  
 D13 0.00004400  
 D16 0.00020000  
 IN0 0.00002400

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 9.04  
 F2 18.08  
 PCW1 27.16399956  
 SFO1 500.2323792

===== CHANNEL f2 =====  
 CPOPRG2 gmp  
 NUC2 13C  
 P3 8.65  
 PCPD2 70.00  
 PCW2 120.50000000  
 PCW12 1.84000003  
 SFO2 125.7923667

===== GRADIENT CHANNEL =====  
 GPMAM1 SMSQ10.100  
 GPMAM2 SMSQ10.100  
 GPMAM3 SMSQ10.100  
 GPE1 50.00  
 GPE2 30.00  
 GPE3 40.10  
 F16 1000.00

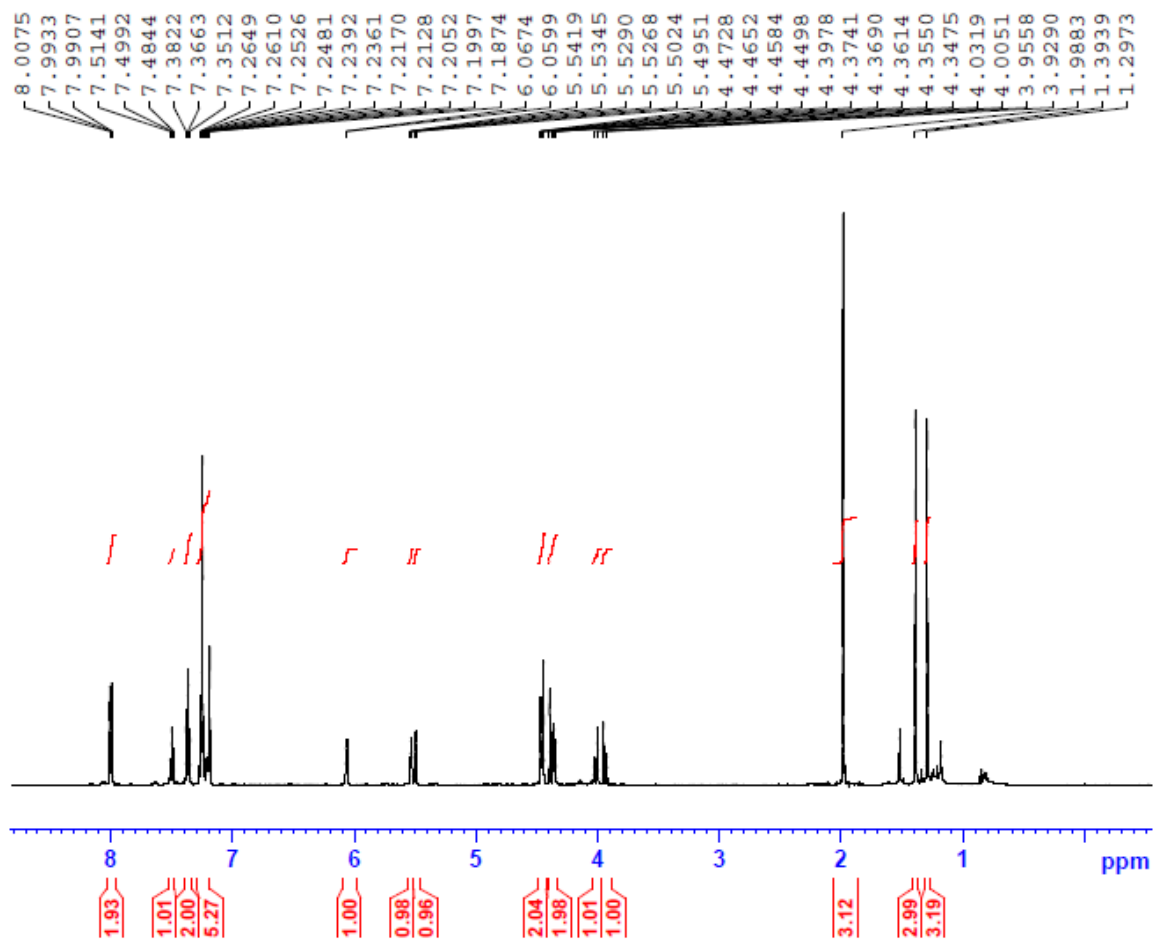
F1 - Acquisition param  
 TD 128  
 SFO1 125.7924  
 FIDRES 162.782379  
 SW 165.639  
 PnMODE QF

F2 - Processing param  
 SI 1024  
 SF 500.2300502  
 NW QSIKE  
 SS 2  
 LB 0 Hz  
 GB 0  
 PC 1.40

F1 - Processing param  
 SI 1024  
 MC2 QF  
 SF 125.7923667  
 NW Status  
 SS 2  
 LB 0 Hz  
 GB 0

<sup>1</sup>H NMR of compound **23**

KMS-D-V-143  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 669  
 PROCNO 1

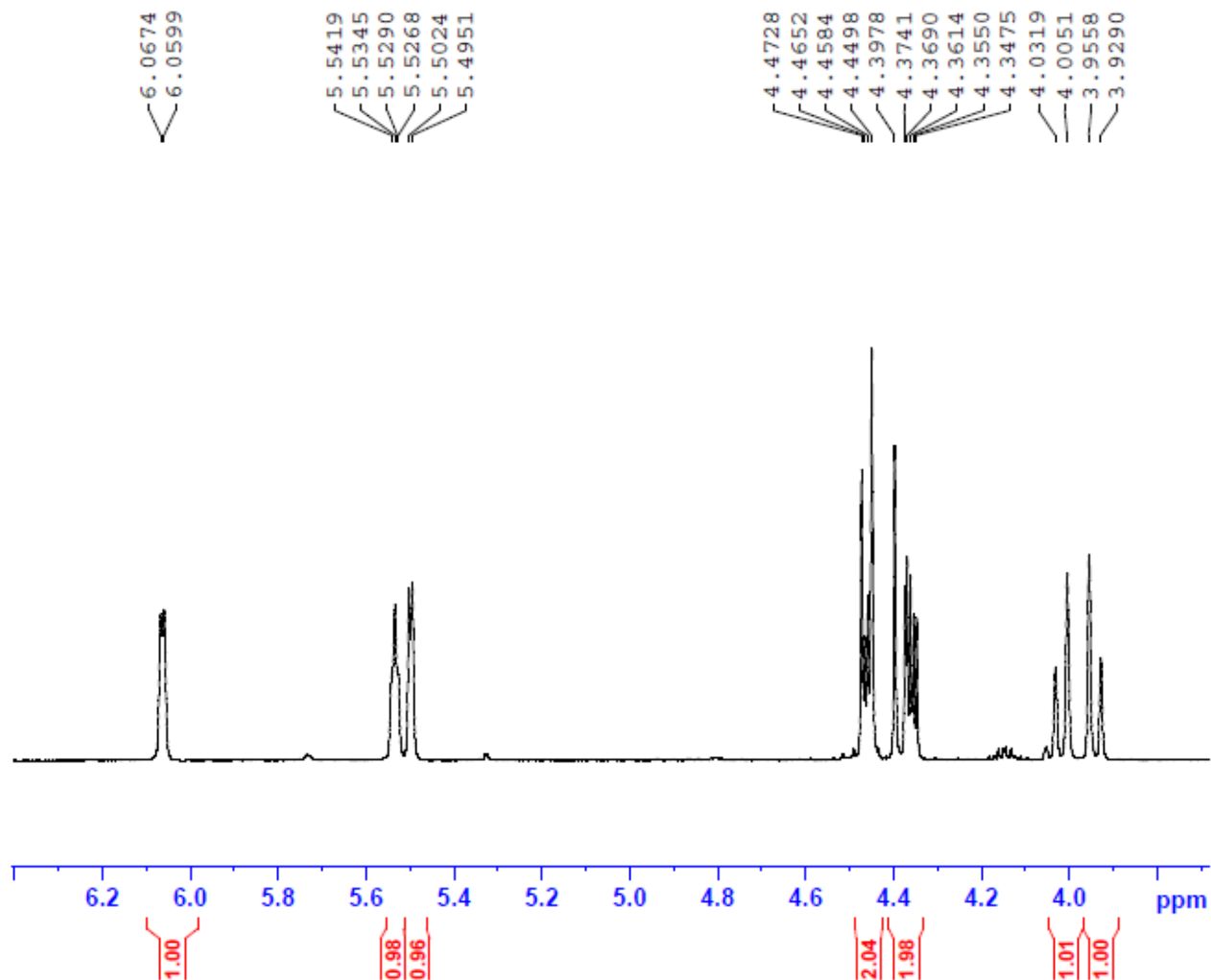
F2 - Acquisition Parameters  
 Date\_ 20140418  
 Time\_ 13.57  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10004.662 Hz  
 FIDRES 9.770178 Hz  
 AQ 0.0511761 sec  
 RG 107.19  
 DW 49.977 usec  
 DE 6.50 usec  
 TE 300.0 K  
 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

<sup>1</sup>H NMR of compound **23** (zoom)

KMS-D-V-143  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 669  
 PROCNO 1

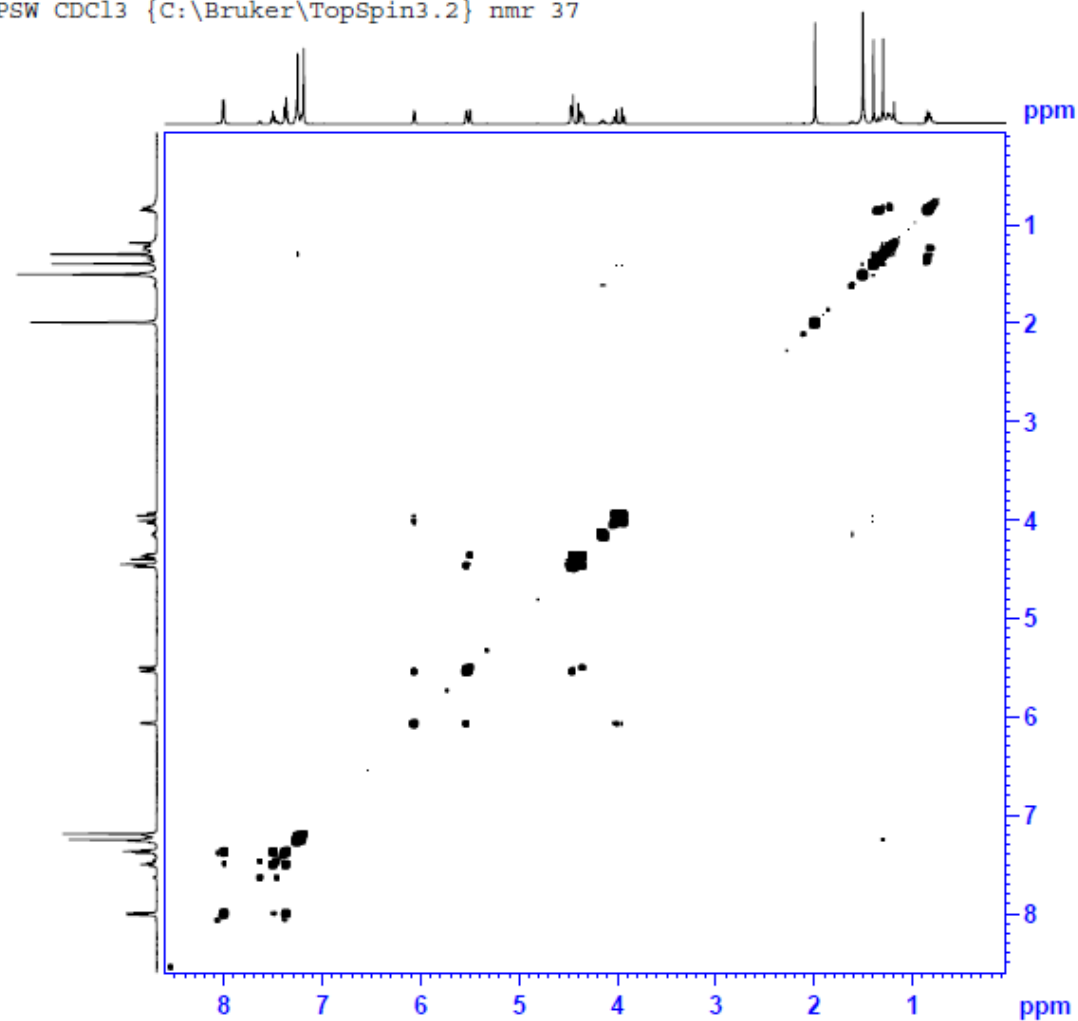
F2 - Acquisition Parameters  
 Date\_ 20140418  
 Time 13.57  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10004.662 Hz  
 FIDRES 9.770178 Hz  
 AQ 0.0511761 sec  
 RG 107.19  
 DW 49.977 usec  
 DE 6.50 usec  
 TE 300.0 K  
 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**

KMS-D-V-143  
 COSYGPSW CDC13 {C:\Bruker\TopSpin3.2} nmr 37



```

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   cosygpppgf
TD         2048
SOLVENT   CDC13
NS         1
DS         8
SWH        4273.504 Hz
FIDRES     2.886672 Hz
AQ         0.2396160 sec
RG         107.19
DW         117.000 usec
DE         6.50 usec
TE         298.9 K
D0         0.0000300 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 =====
CPD1      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]  SMCQ10.100
GP21      10.00 usec
P16       1000.00 usec

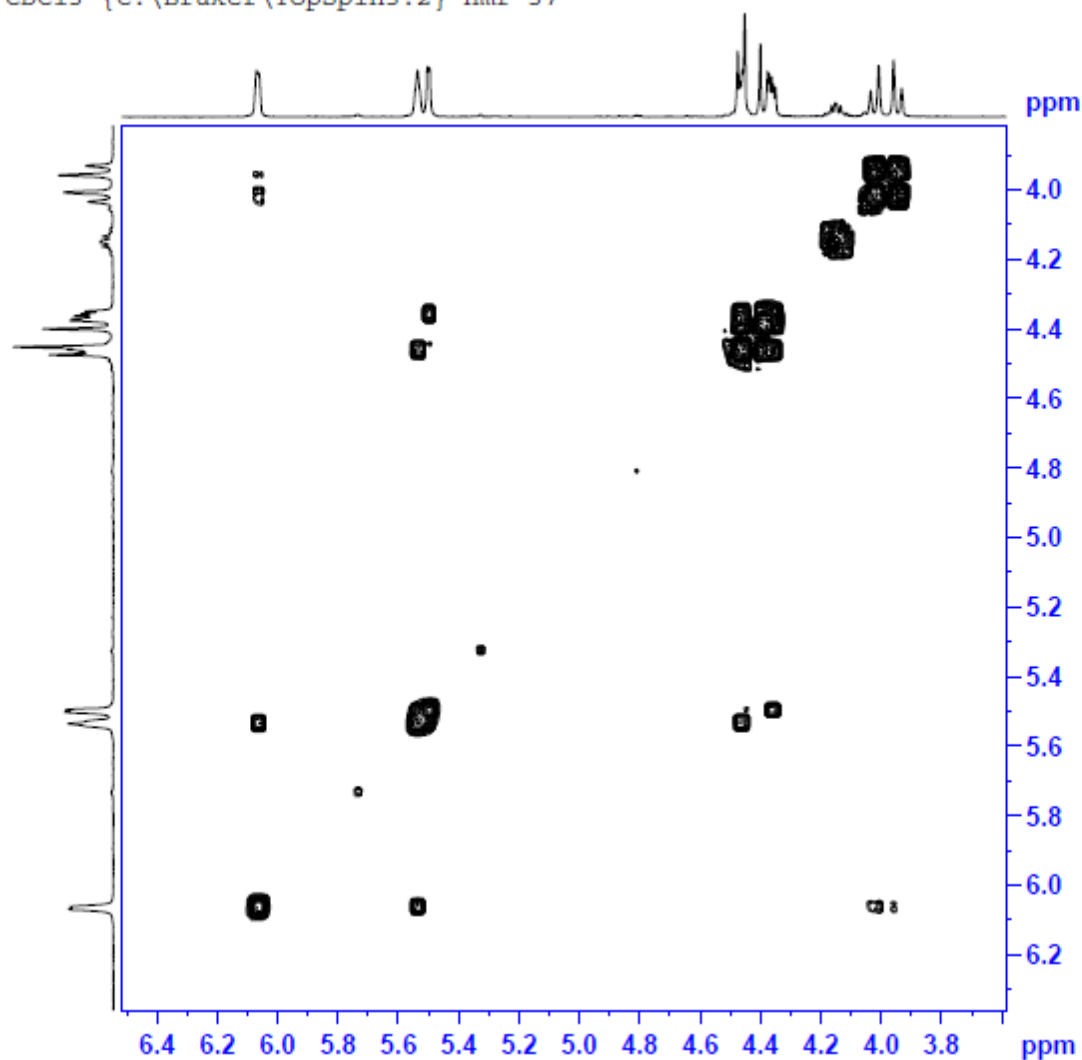
F1 - Acquisition parameters
TD         128
CPD1      500.2322 MHz
FIDRES     33.386753 Hz
SW         8.543 ppm
PRMODE     QF

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

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

COSY of compound **23** (zoom)

KMS-D-V-143  
 COSYGPSW CDC13 {C:\Bruker\TopSpin3.2} nmr 37



```

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   CDC13
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
PT         9.04 usec
P17        2500.00 usec
PLW1      27.16399956 W
PLW10     3.28390002 W

===== GRADIENT CHANNEL =====
GPNAM[1]  EMSQ10.100
GP21      10.00 %
P16       1000.00 usec

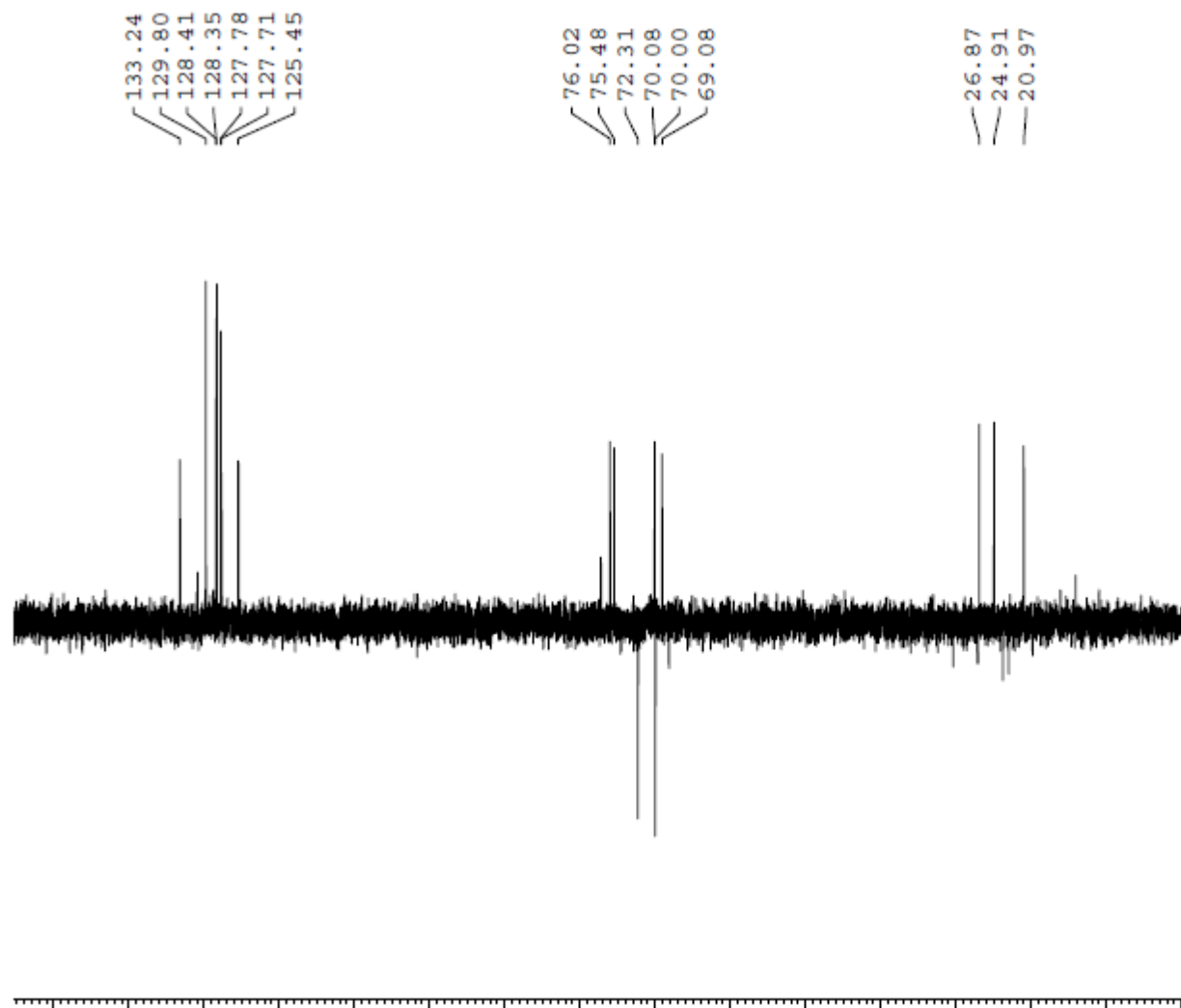
F1 - Acquisition parameters
TD         128
SFO1      500.2322 MHz
FIDRES     33.386753 Hz
SW         8.543 ppm
PnMODE     QF

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

F1 - Processing parameters
SI         1024
MC2        QF
SF         500.2300466 MHz
WDW        QFINE
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 DABBO 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  
 TR 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  
 SFOALS 0.500  
 SPOFFS 0 Hz  
 SPW5 13.77600002 W

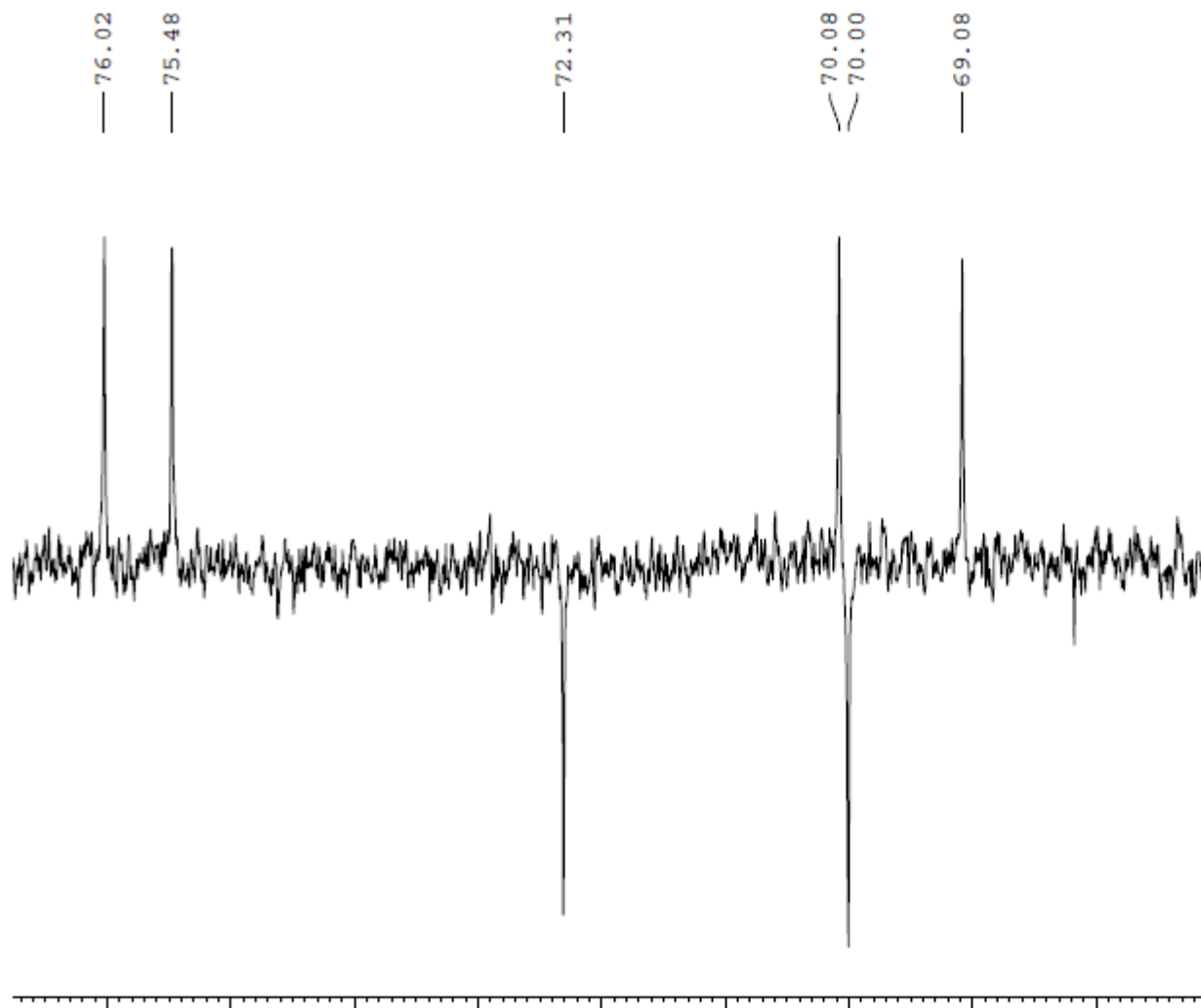
----- CHANNEL f2 -----  
 SFO2 500.2315998 MHz  
 NUC2 1H  
 CPDPRG[2] waltz16  
 P3 9.04 usec  
 P4 18.08 usec  
 PCPD2 80.00 usec  
 PLW2 27.16399956 W  
 PLW12 0.34685999 W

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 CDC13 {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 DABBO BB-  
 PULPROG deptsp135  
 TD 65536  
 SOLVENT CDC13  
 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

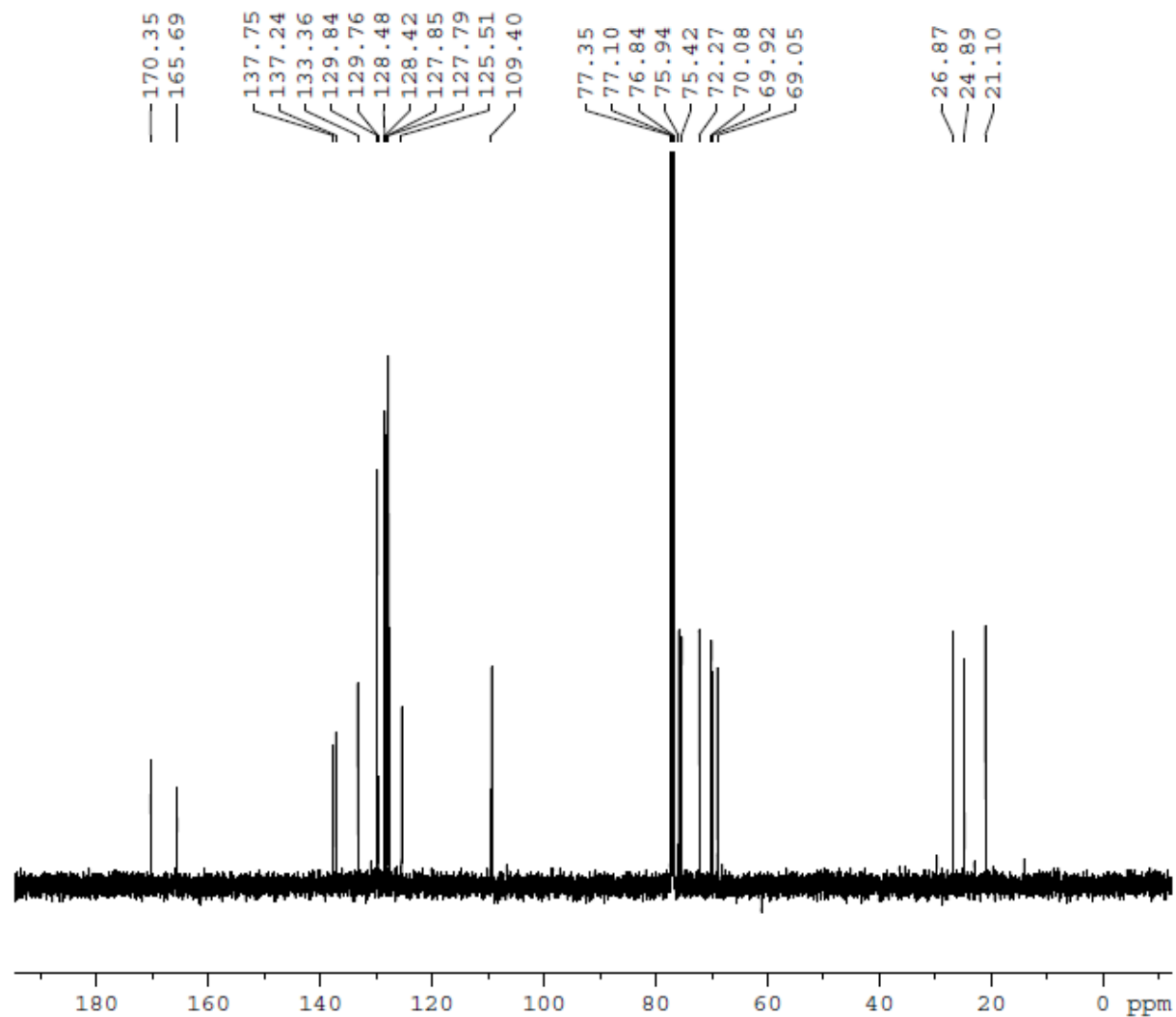
----- CHANNEL f1 -----  
 SFO1 125.7929956 MHz  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SPNAM[S] Crp60comp.4  
 SFOALS 0.500  
 SPOFFS 0 Hz  
 SPWS 13.77600002 W

----- 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  
 CB 0  
 PC 1.40

<sup>14</sup>C NMR of compound **23**

KMS-D-V-143  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



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

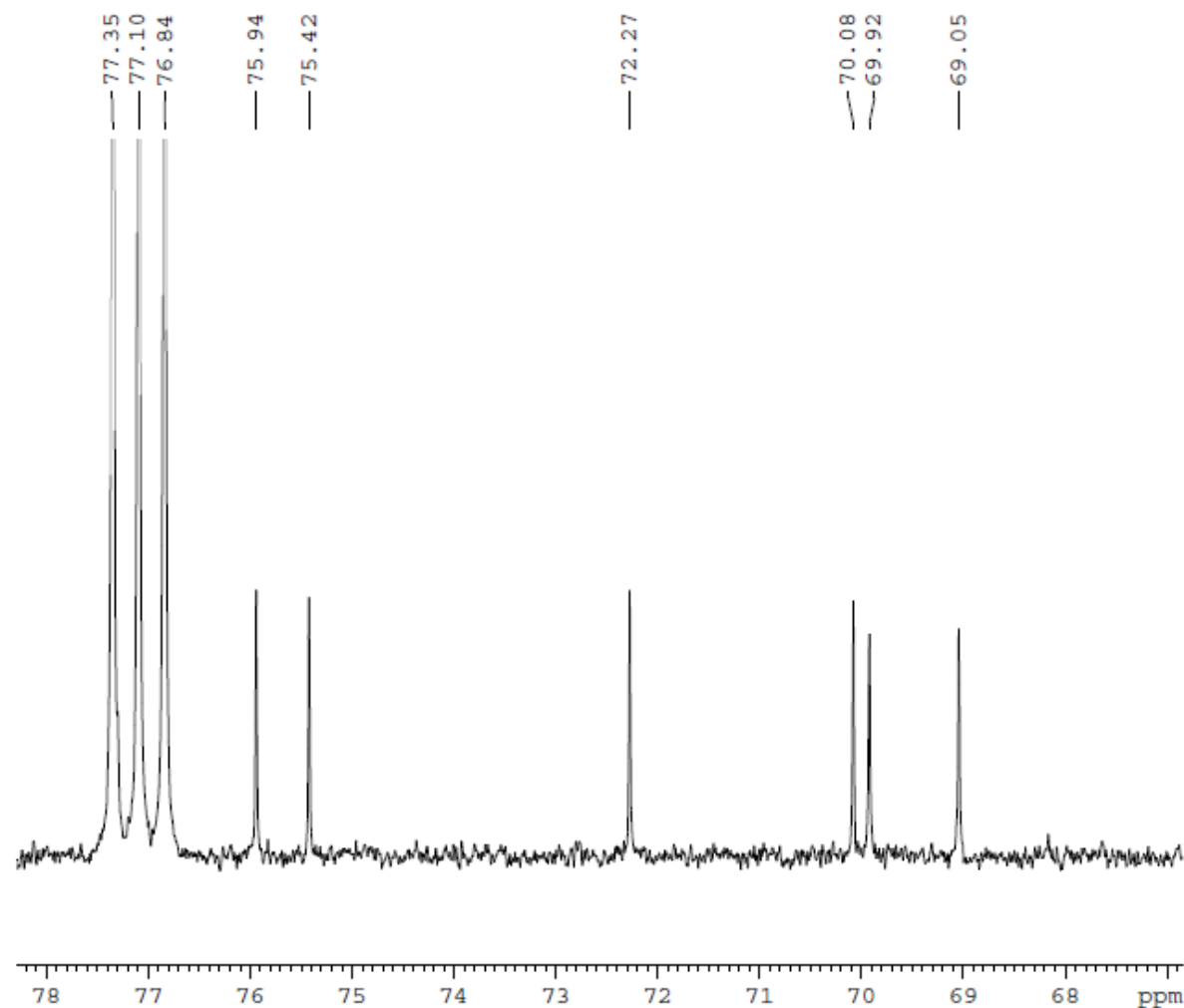
----- CHANNEL f2 -----  
CPDPRG[2] waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W  
SFO2 500.2320009 MHz

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



<sup>14</sup>C NMR of compound **23** (zoom)

KMS-D-V-143  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



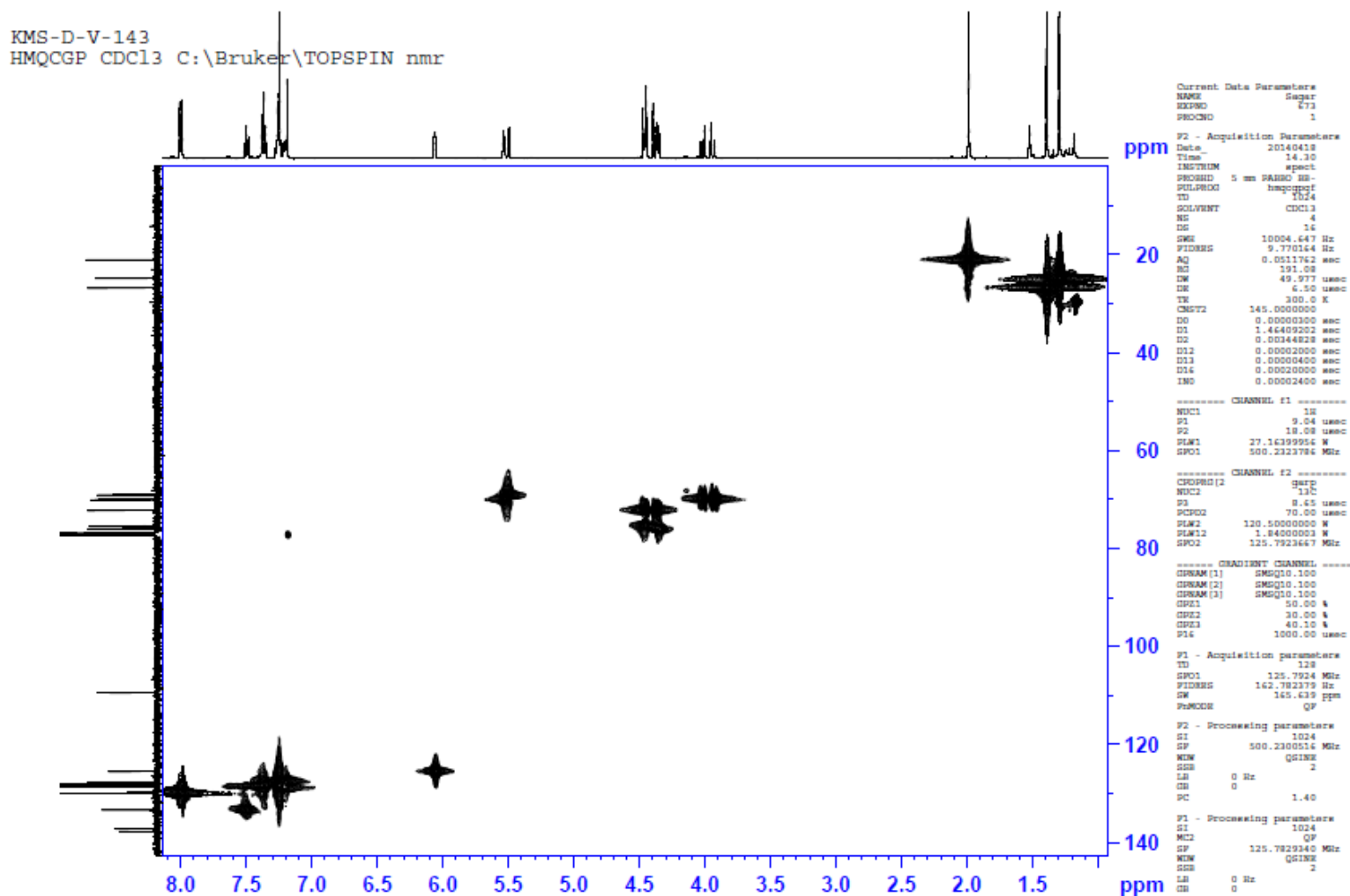
Current Data Parameters  
NAME Sagar  
EXPNO 672  
PROCNO 1

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 120.5000000 W  
SFO1 125.7955112 MHz

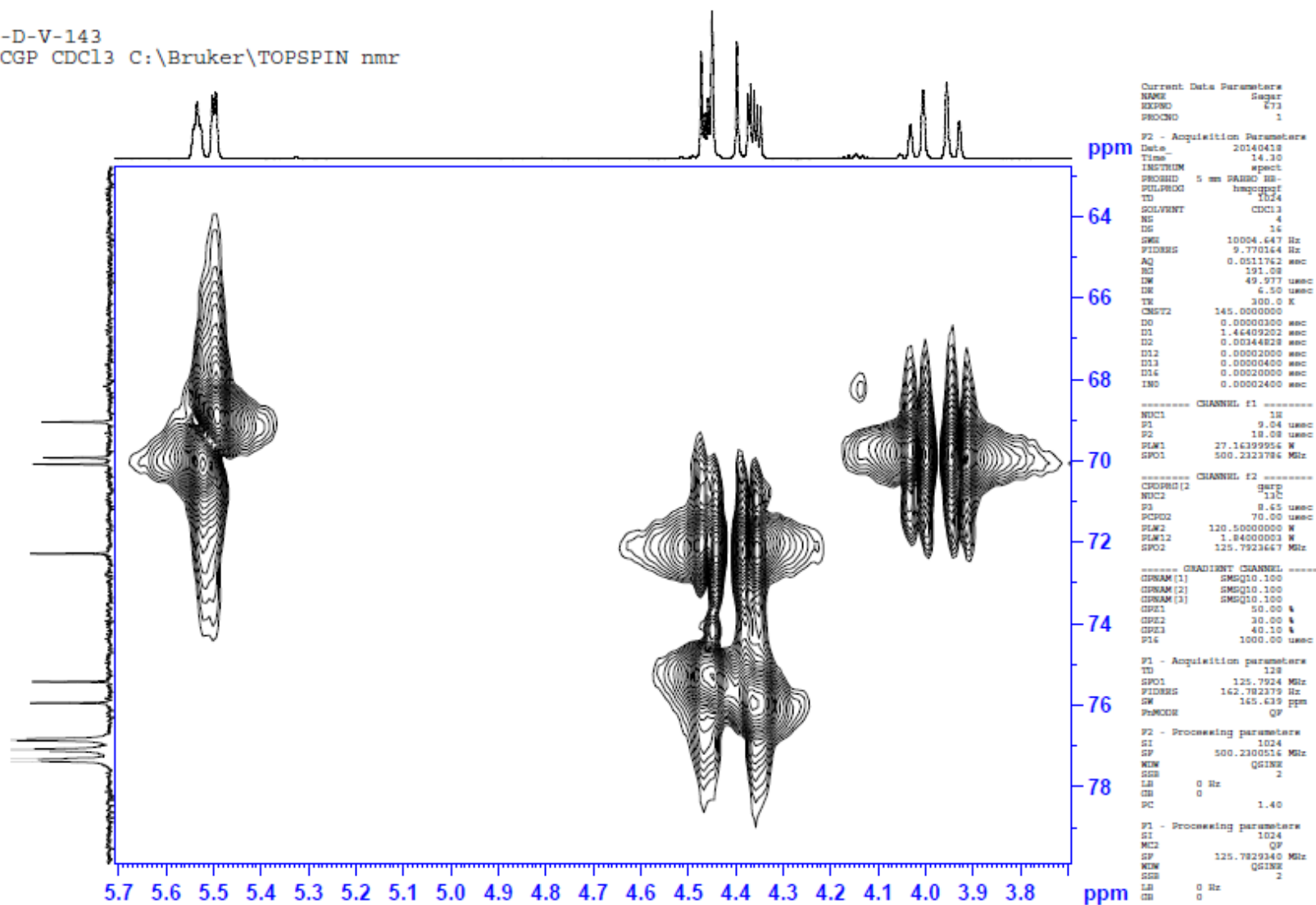
----- CHANNEL f2 -----  
CPDPRG[2] waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
PLW13 0.22199000 W  
SFO2 500.2320009 MHz

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**

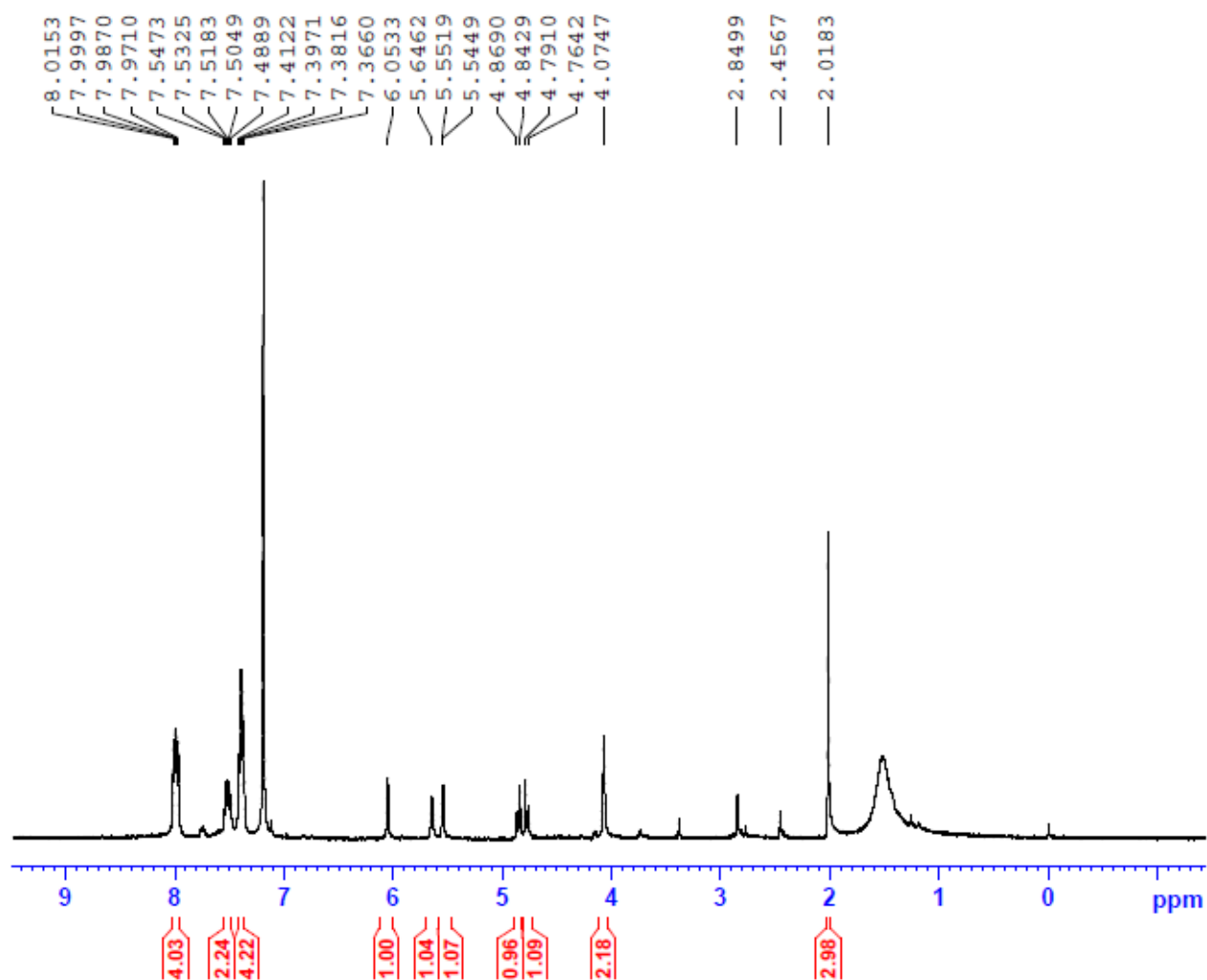
HMQC of compound **23** (zoom)

KMS-D-V-143  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



<sup>1</sup>H NMR of compound **24**

KMS-D-V-Uva E  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 742  
 PROCNO 1

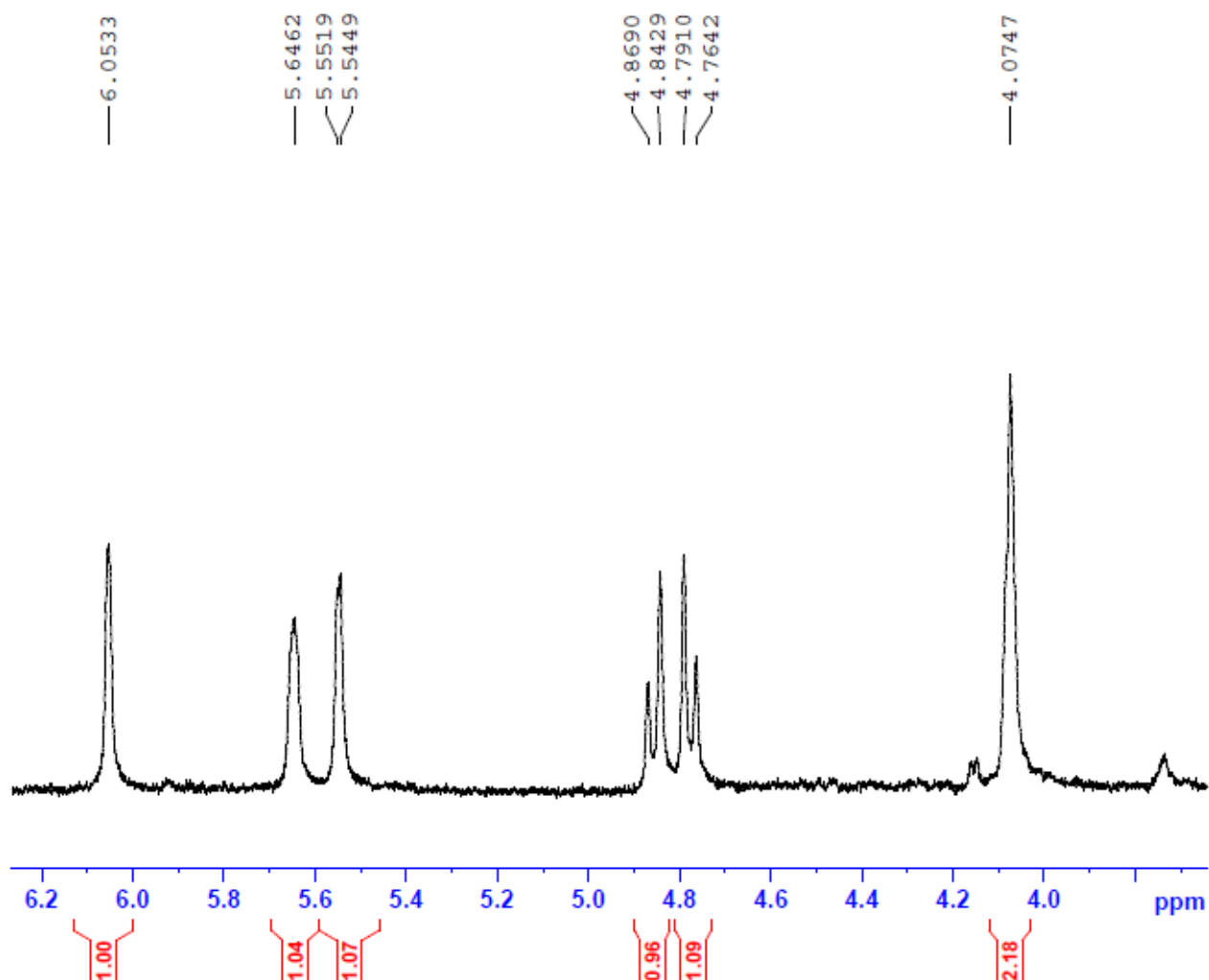
F2 - Acquisition Parameters  
 Date\_ 20140602  
 Time\_ 21.28  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10004.662 Hz  
 FIDRES 9.770178 Hz  
 AQ 0.0511761 sec  
 RG 191.08  
 DW 49.977 usec  
 DE 6.50 usec  
 TE 300.0 K  
 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

<sup>1</sup>H NMR of compound **24** (zoom)

KMS-D-V-Uva E  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagar  
 EXPNO 742  
 PROCNO 1

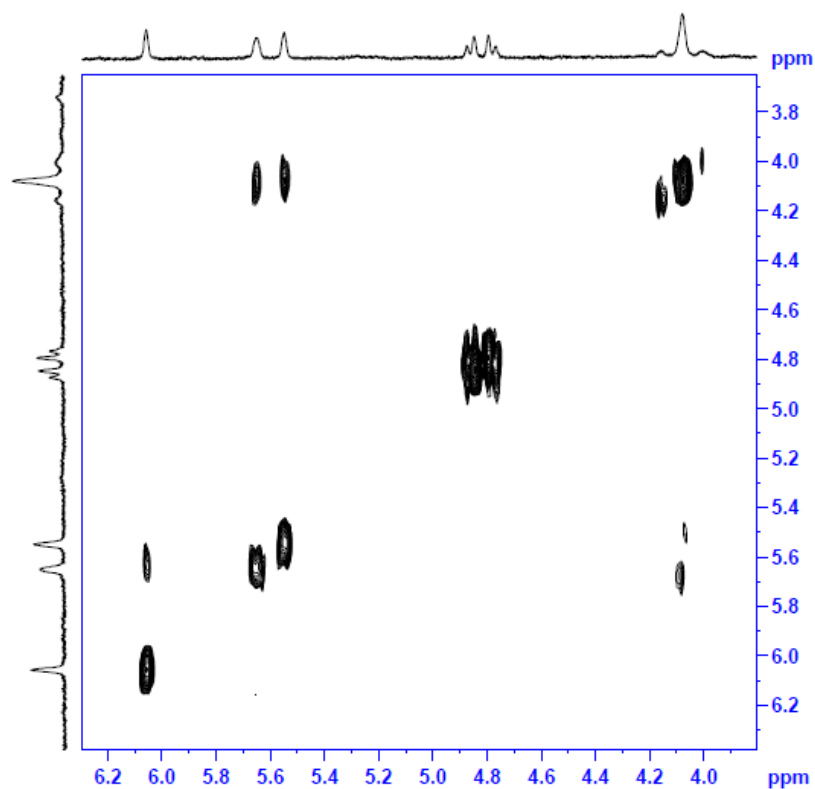
F2 - Acquisition Parameters  
 Date\_ 20140602  
 Time\_ 21.28  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 1024  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 10004.662 Hz  
 FIDRES 9.770178 Hz  
 AQ 0.0511761 sec  
 RG 191.08  
 DW 49.977 usec  
 DE 6.50 usec  
 TE 300.0 K  
 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  
 COSYGPBW CDCl<sub>3</sub> {C:\Bruker\TopSpin3.2} nmr 57



```

Current Data Parameters
NAME      Sugar
EXPNO     1
PROCNO    1

F2 - Acquisition Parameters
Date_     20140915
Time      17.06
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   cosygpppgaf
TD         2648
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         0.00000100 sec
D1         1.91562200 sec
D11        0.03000000 sec
D12        0.00002000 sec
D13        0.00000400 sec
D16        0.00020000 sec
RG         0.00023200 sec

===== CHANNEL f1 =====
SFO1      500.2322302 MHz
NUC1       1H
P0         9.04 usec
P1         9.04 usec
P17        2500.00 usec
PLM1       27.16399956 W
PLM10      3.28390002 W

===== GRADIENT CHANNEL =====
GPNAM[1]  GMDQ10.100
CPT1      10.00 %
P16        1000.00 usec

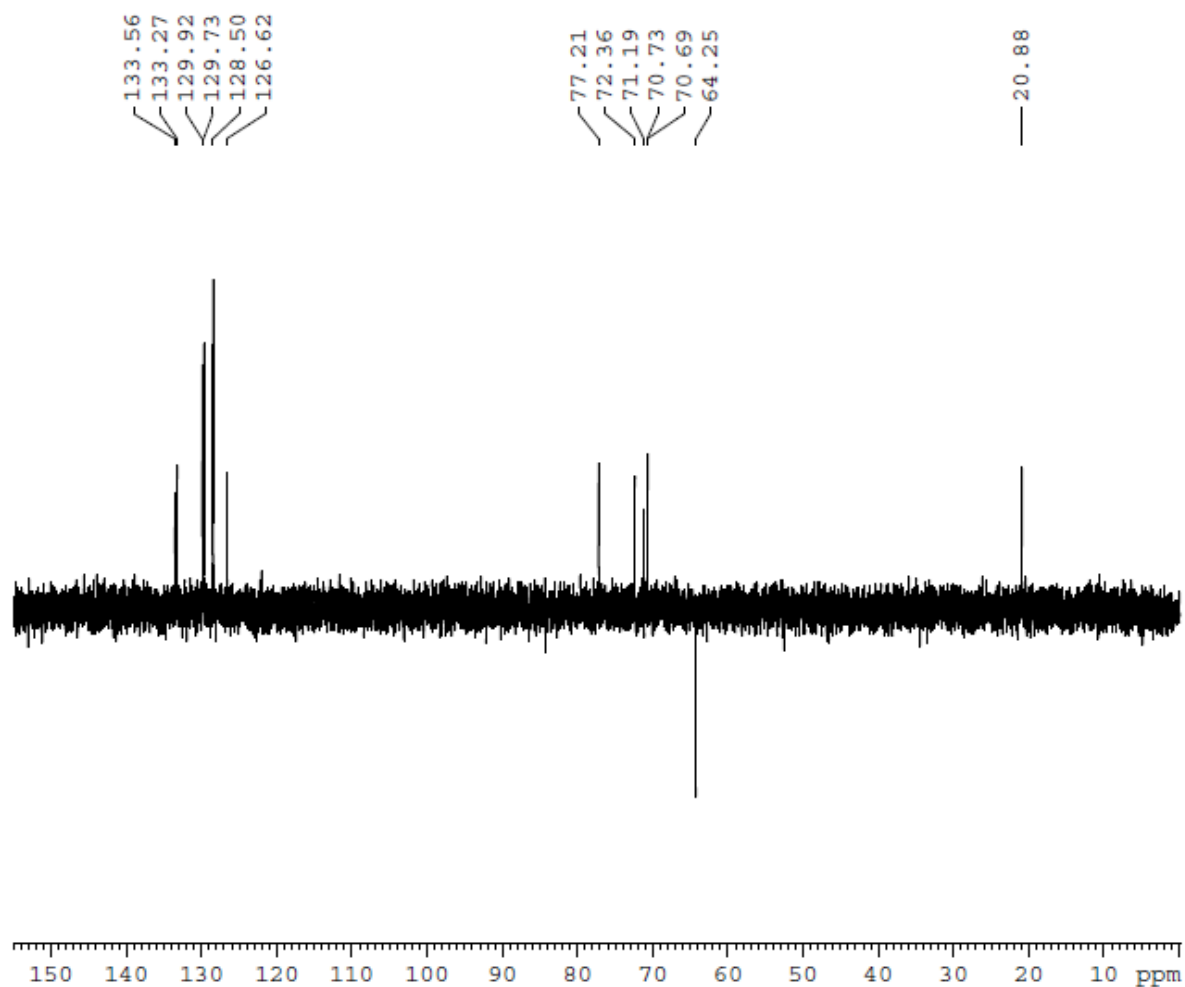
F1 - Acquisition parameters
TD         128
SFO1      500.2322 MHz
FIDRES     33.674568 Hz
SW         8.617 ppm
PRMODE     QF

F2 - Processing parameters
SI         1024
SF         500.2300444 MHz
WDW        QF
GB         0
LB         0 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         1024
MC2        QF
SF         500.2300444 MHz
WDW        QF
GB         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 deptap135  
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

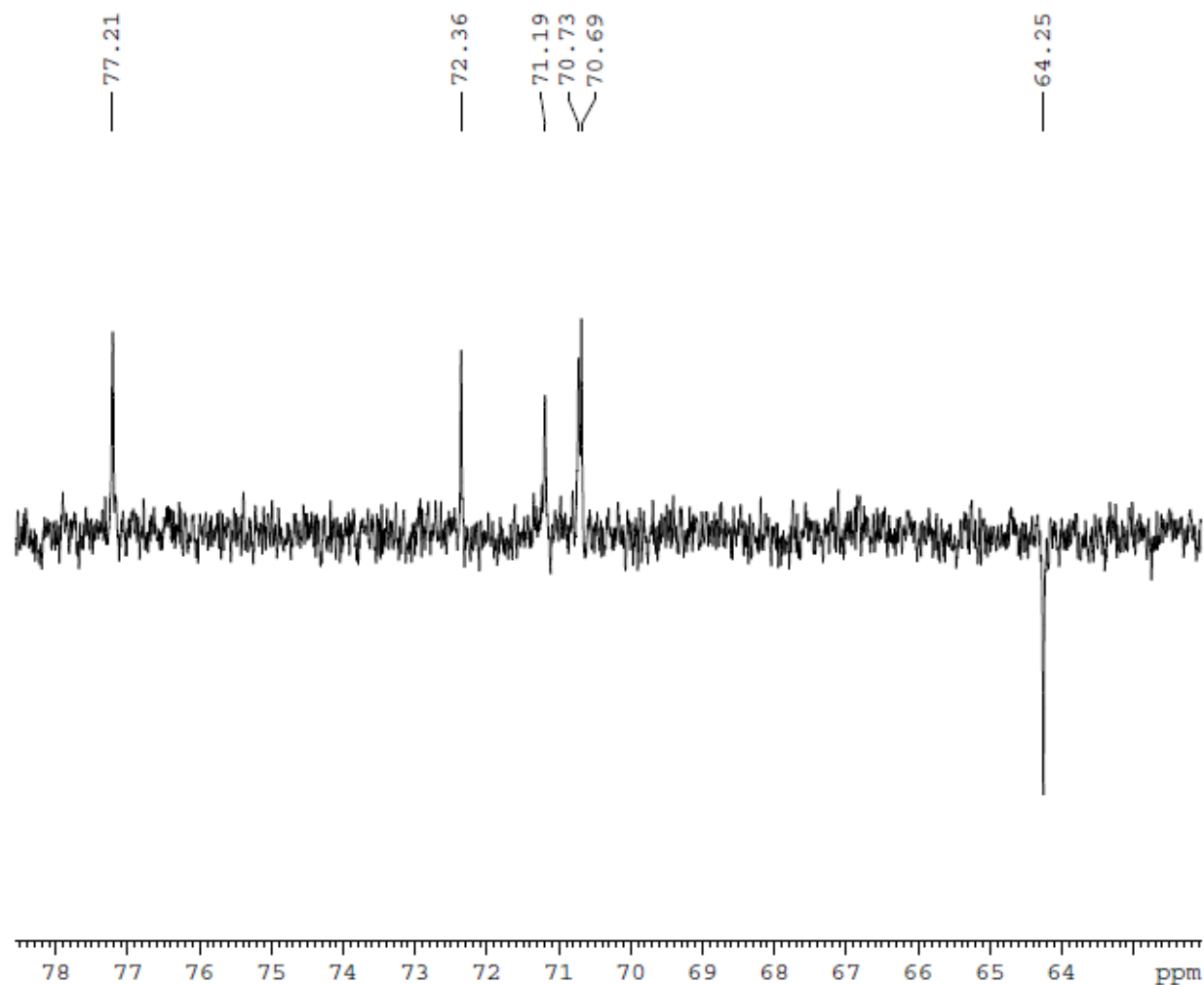
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM[s] Crp60comp.4  
SFOAL5 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

----- 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)

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 deptspl35  
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[S] Crp60comp.4  
SFOALS 0.500  
SPOFFS5 0 Hz  
SPWS 13.77600002 W

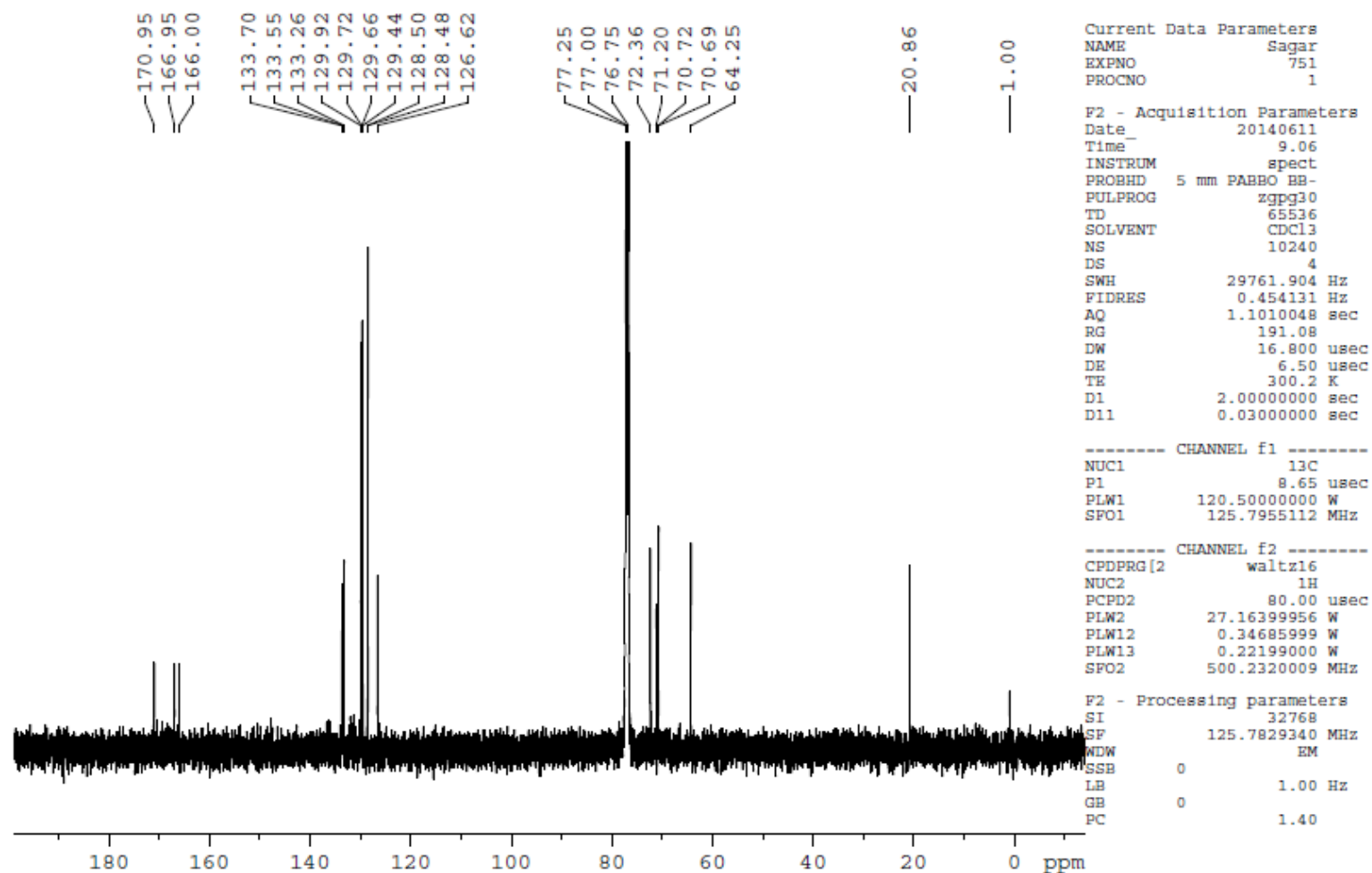
----- CHANNEL f2 -----  
CPDPRG[2] waltz16  
NUC2 1H  
P3 9.04 usec  
P4 18.08 usec  
PCPD2 80.00 usec  
PLW2 27.16399956 W  
PLW12 0.34685999 W  
SFO2 500.2315998 MHz

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



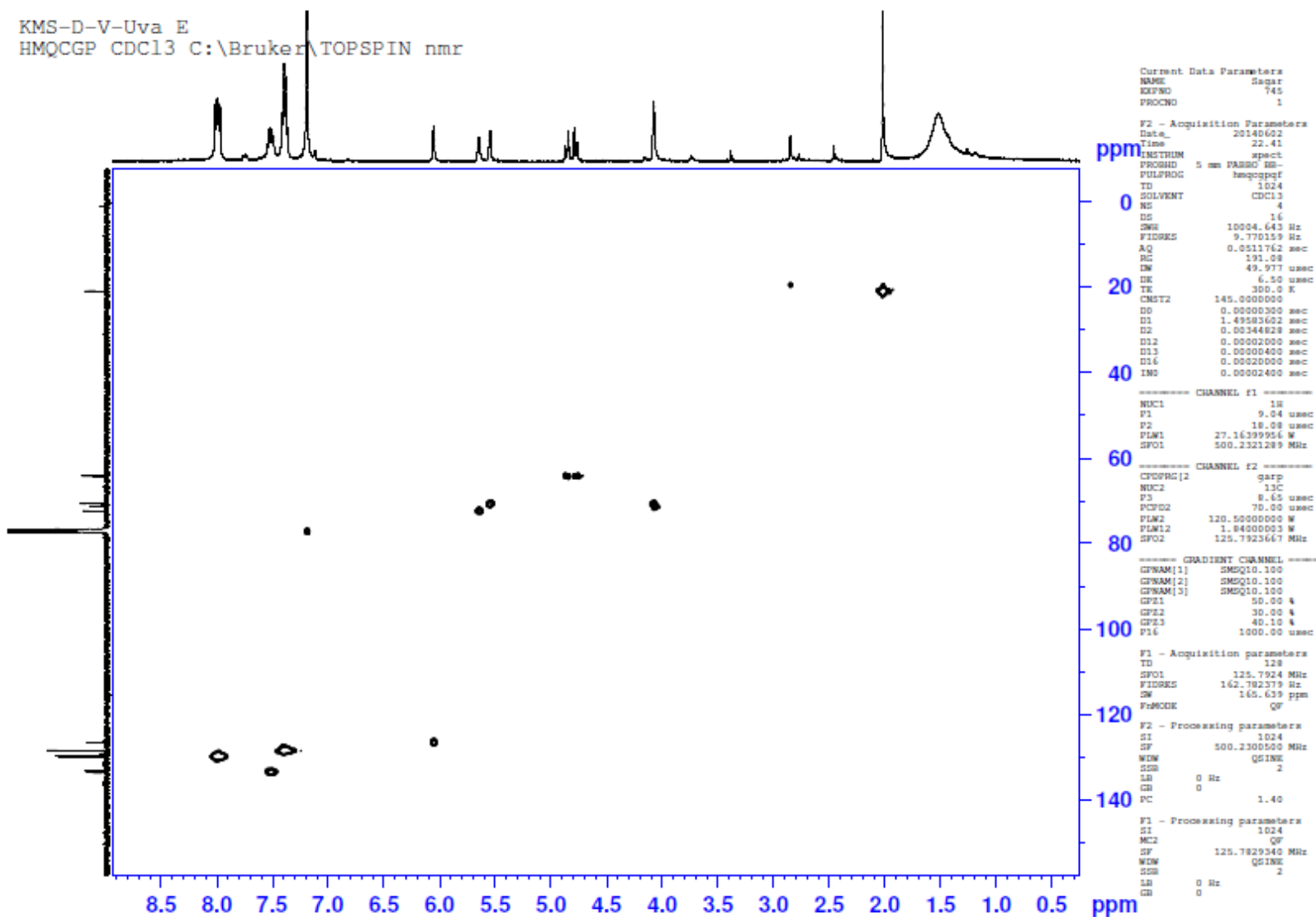
<sup>14</sup>C NMR of compound **24**

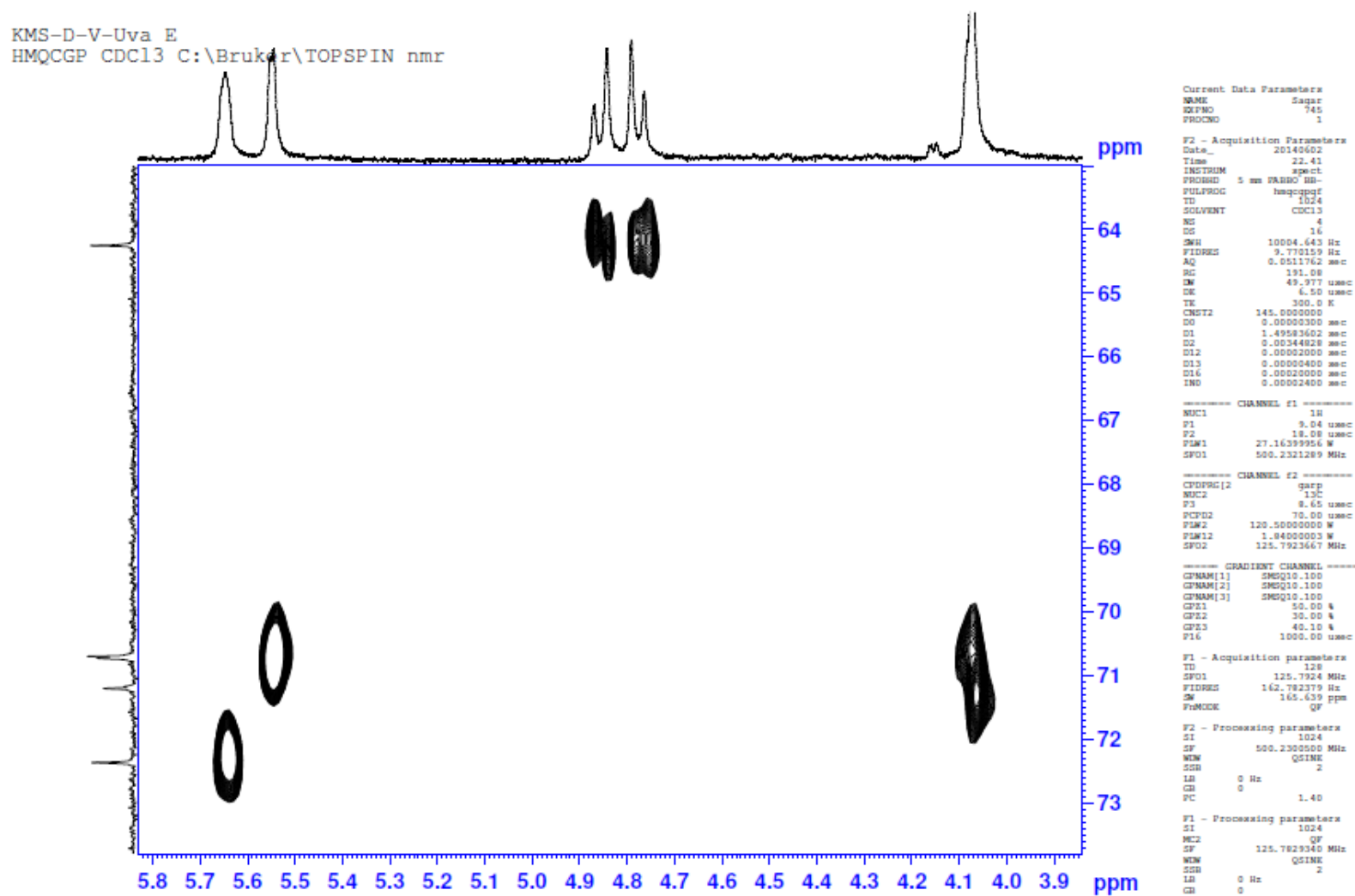
KMS-D-V-Uva E  
 C13CPD CDC13 C:\Bruker\TOPSPIN nmr



HMQC of compound **24**

KMS-D-V-Uva E  
HMQCGP CDC13 C:\Bruker\TOPSPIN nmr

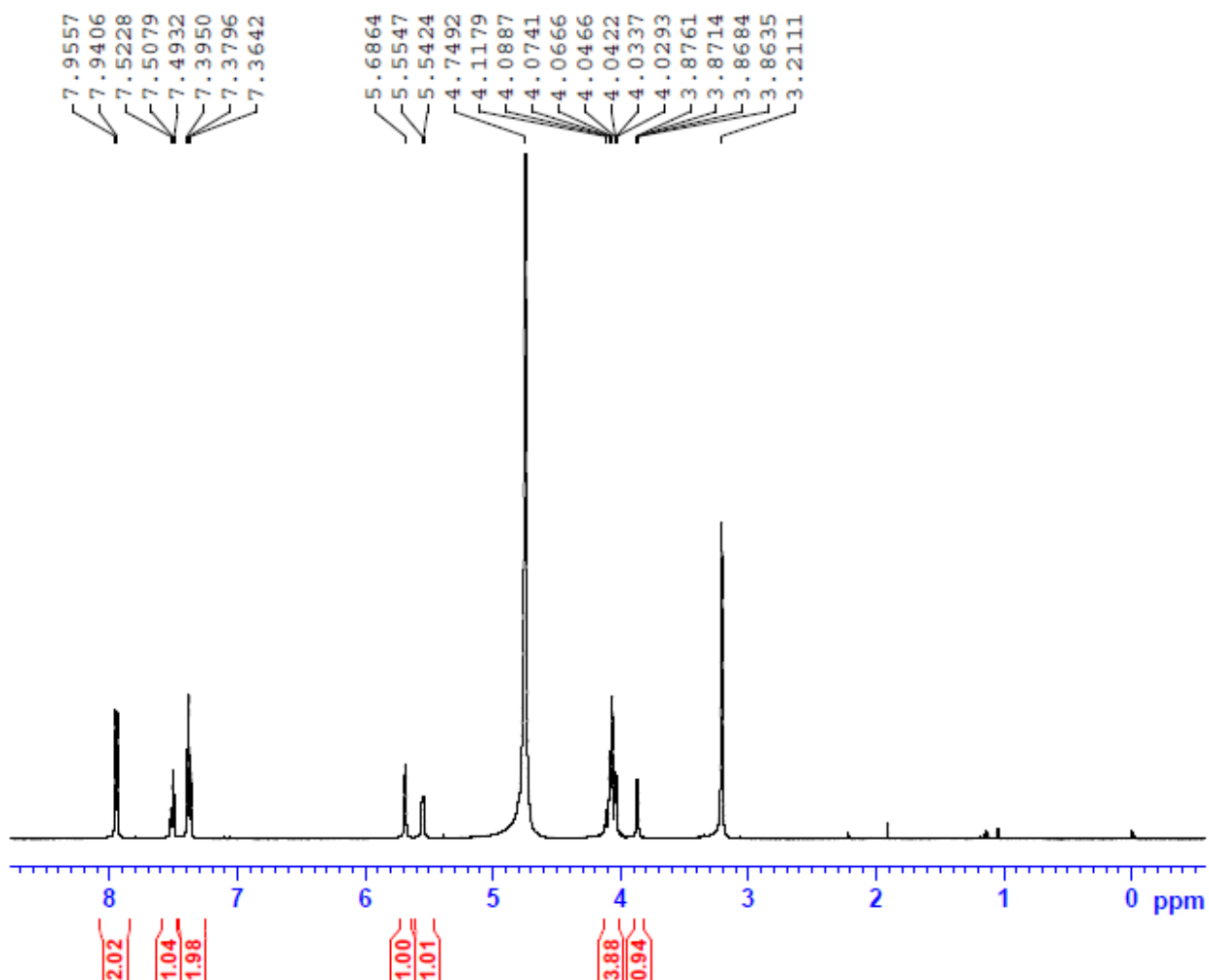


HMQC of compound **24** (zoom)

<sup>1</sup>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

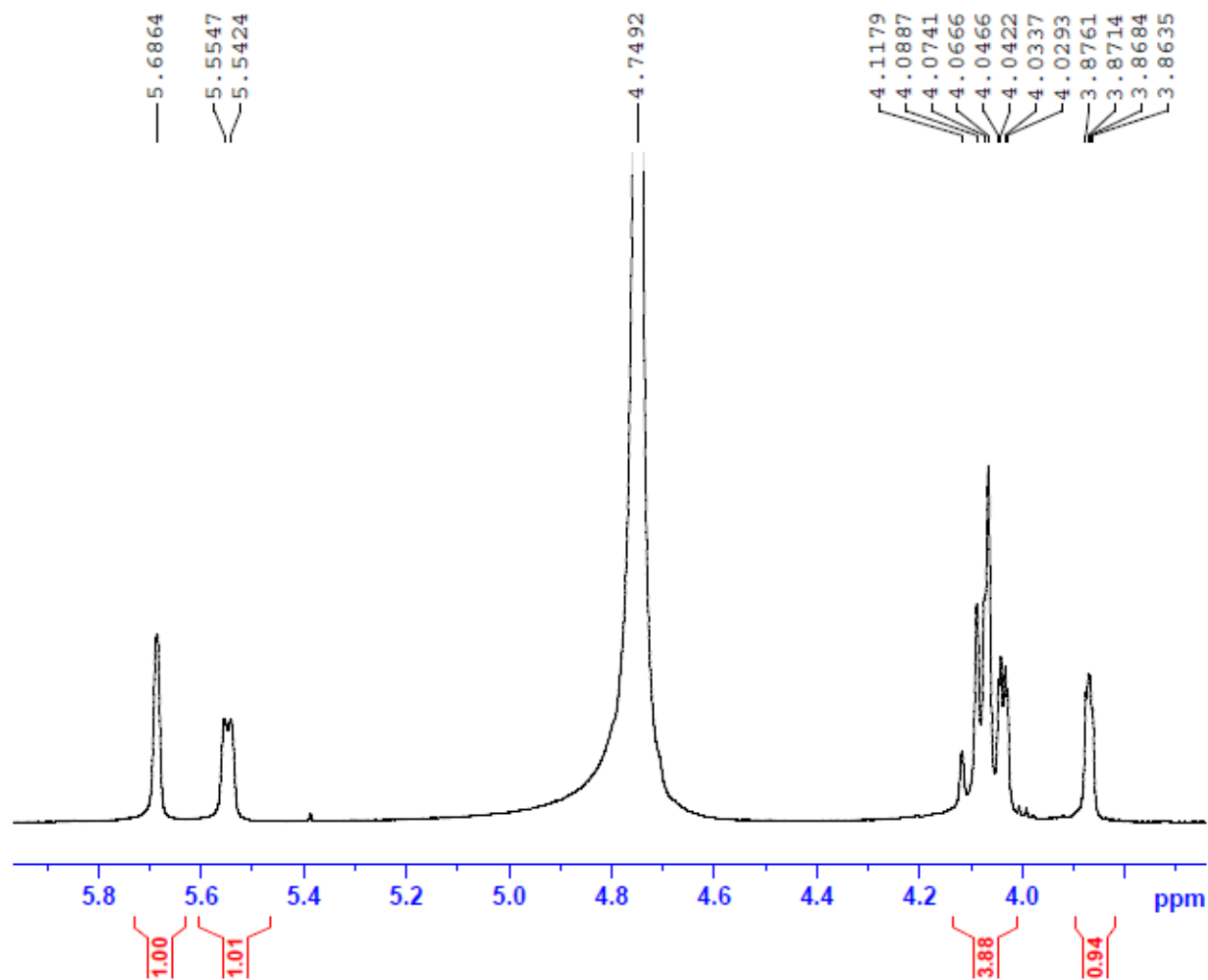
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

F2 - Processing parameters  
 SI 65536  
 SF 500.2300618 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

<sup>1</sup>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

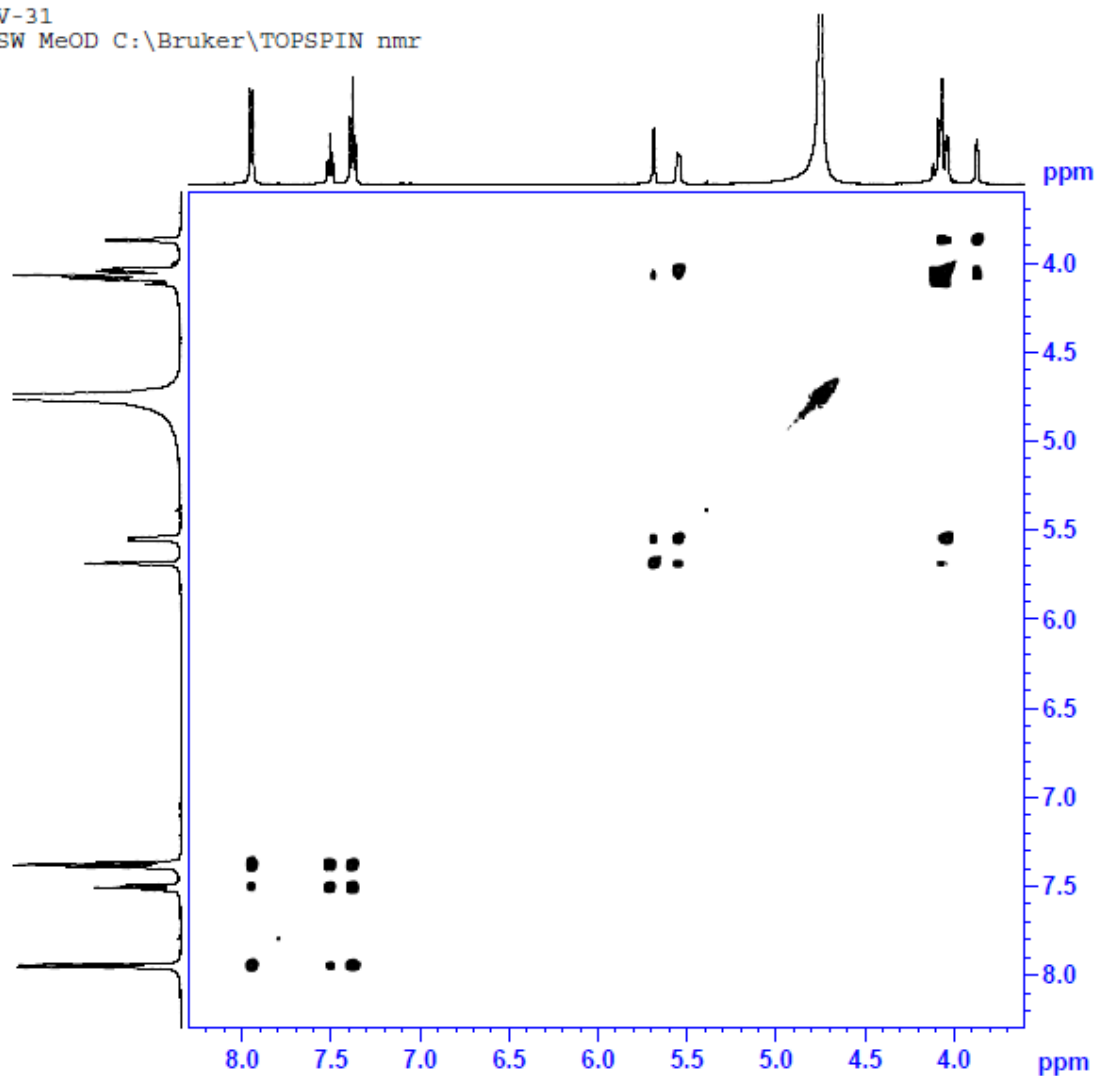
----- CHANNEL f1 -----  
 NUC1 1H  
 P1 9.04 usec  
 PLW1 27.16399956 W  
 SFO1 500.2330891 MHz

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

KMS-D-V-31

COSYGPSW MeOD C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Sagur  
 EXPNO 334  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20130511  
 Time 15.35  
 INSTRUM spect  
 PROBED 5 mm PAHBO BB  
 PULPROG cosygpgsw  
 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 0.00020000 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  
 PLM1 27.16399956 W  
 PLM10 3.28390002 W  
 SFO1 500.2330375 MHz

===== GRADIENT CHANNEL =====  
 GRAM(1) SMSQ10.100  
 GPZ1 10.00 u  
 P16 1000.00 usec

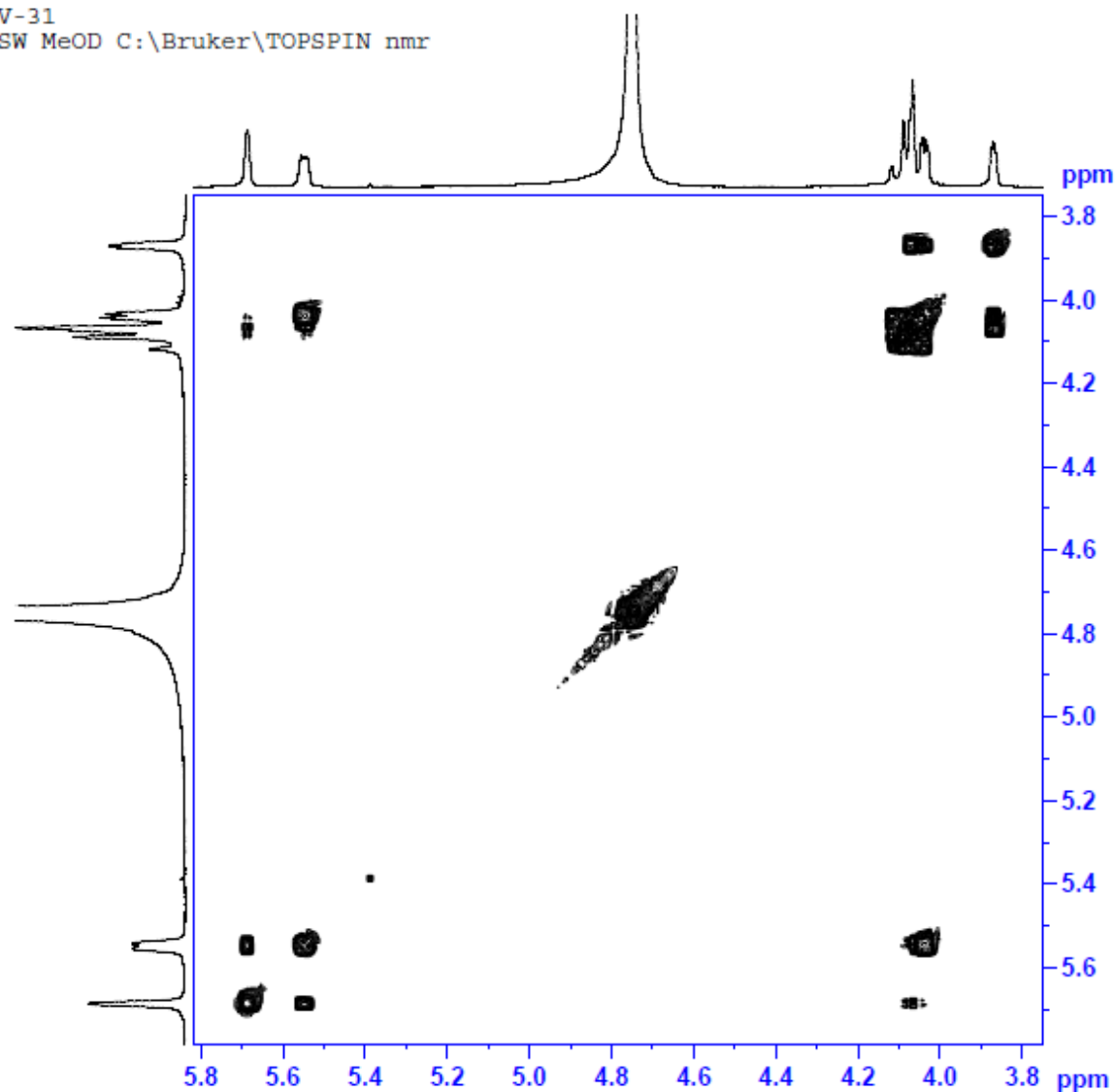
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.233 MHz  
 FIDRES 18.339201 Hz  
 SW 4.693 ppm  
 PRMODE QF

F2 - Processing parameters  
 SI 1024  
 SF 500.2300618 MHz  
 MW QSIGNR  
 SSB 0  
 LB 0 Hz  
 GB 0  
 PC 1.40

F1 - Processing parameters  
 SI 1024  
 MC2 QF  
 SF 500.2300618 MHz  
 MW QSIGNR  
 SSB 0  
 LB 0 Hz  
 GB 0

COSY of compound **25** (zoom)

KMS-D-V-31  
 COSYGPSW MeOD C:\Bruker\TOPSPIN nmr



```

Current Data Parameters
NAME          Sagar
EXPNO         334
PROCNO        1

F2 - Acquisition Parameters
Date_         20130511
Time          15.35
INSTRUM       spect
PROBHD        5 mm PA1HBO BB
PULPROG       cosypppgpf
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 =====
G1NAME(1)     SMSQ10.100
GP11          10.00 *
P16           1000.00 usec

F1 - Acquisition parameters
TD            128
SFO1          500.233 MHz
FIDRES        18.339201 Hz
SW            4.693 ppm
P1MODE        QF

F2 - Processing parameters
SI            1024
CF            500.2300618 MHz
WDW           QSIGN
LB            0
GB            0 Hz
CB            0
PC            1.40

F1 - Processing parameters
SI            1024
MC2           QF
CF            500.2300618 MHz
WDW           QSIGN
LB            0
GB            0 Hz
CB            0

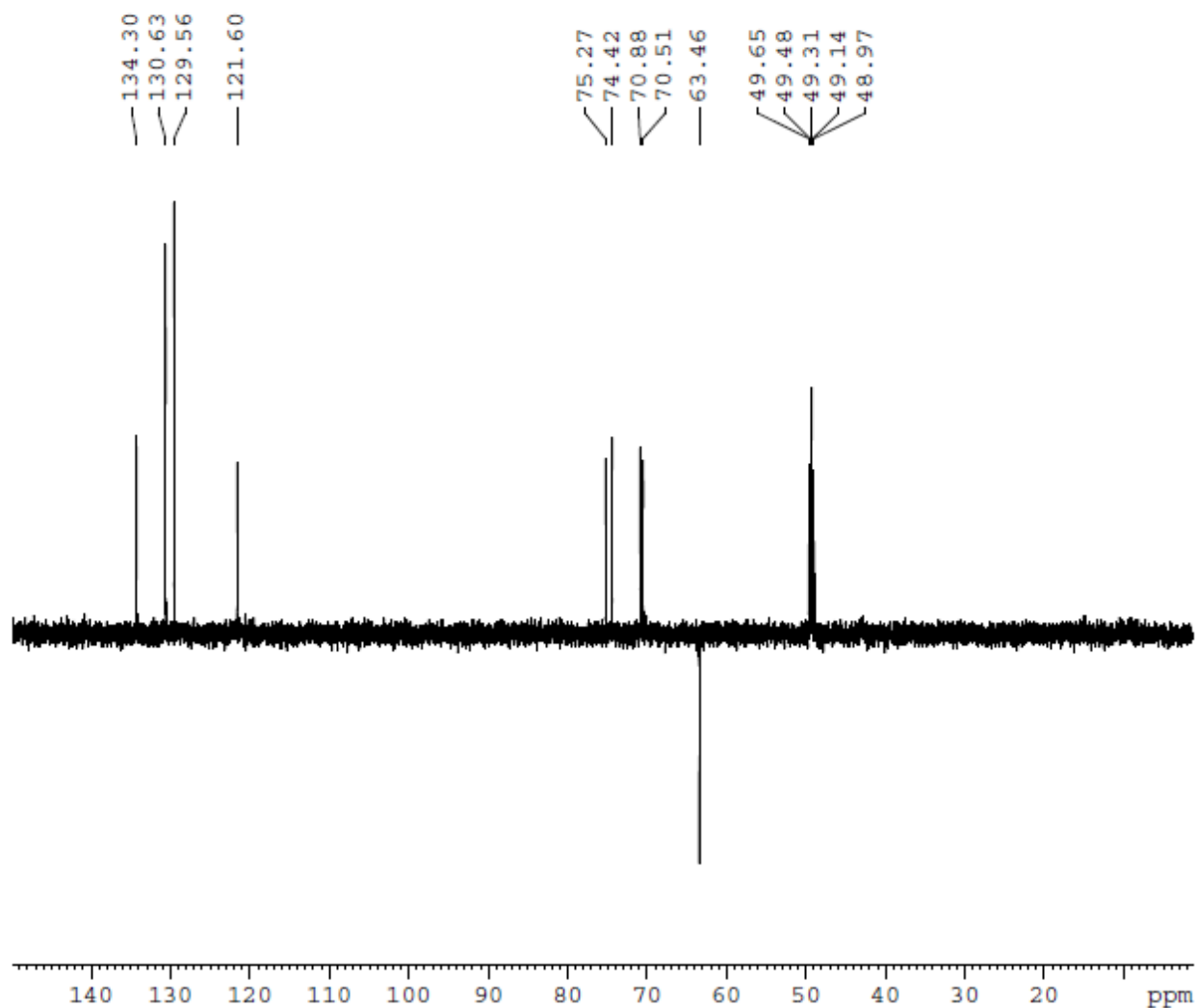
```



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 DABBO BB-  
 PULPROG deptspl35  
 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

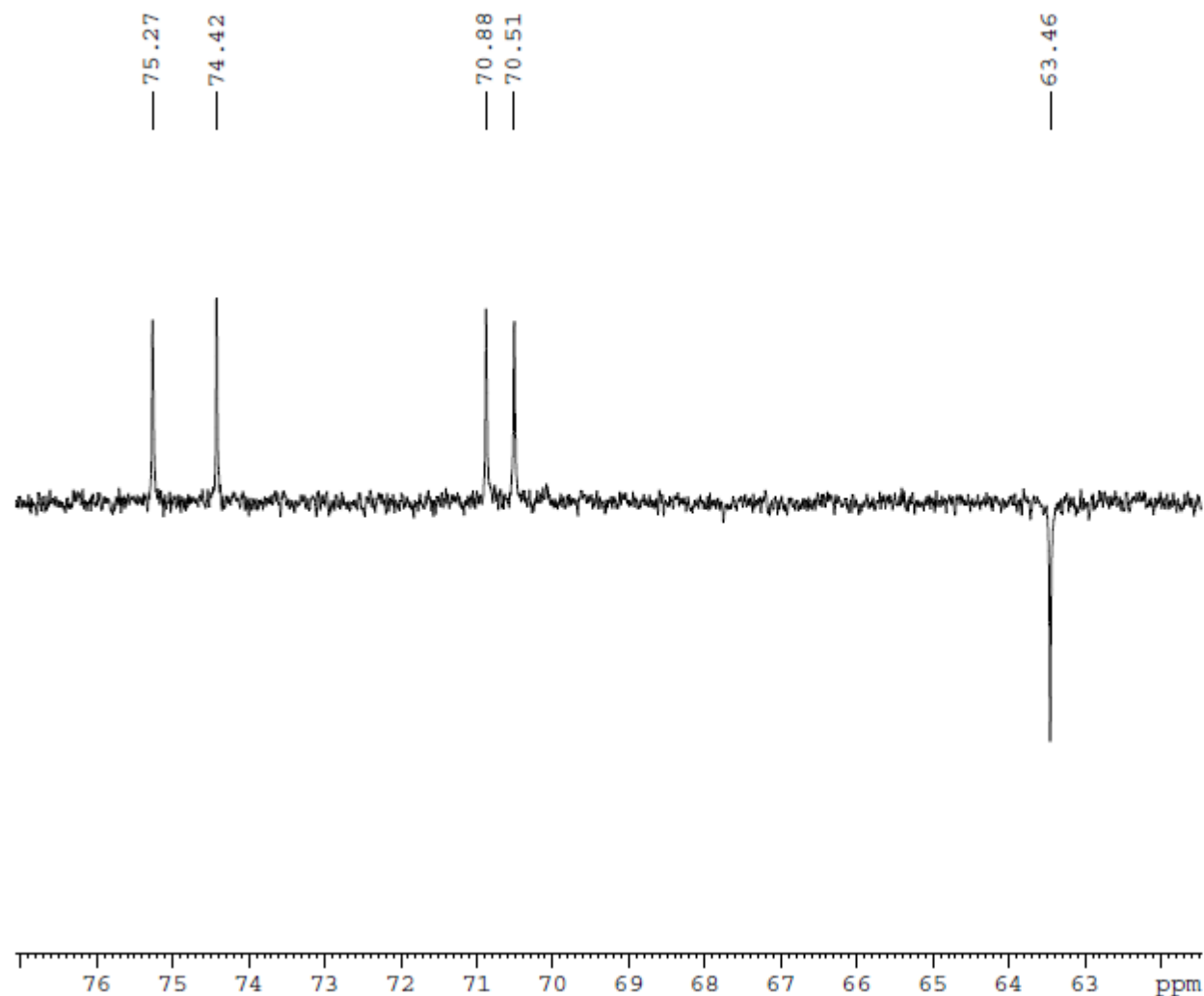
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 P13 2000.00 usec  
 PLW0 0 W  
 PLW1 120.50000000 W  
 SFO1 125.7929956 MHz  
 SPNAM[5] Crp60comp.4  
 SFOALS 0.500  
 SPOFFS5 0 Hz  
 SPW5 13.77600002 W

----- 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)

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 DABBO 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
SPOALS        0.500
SPOFFS5       0 Hz
SPW5          13.77600002 W

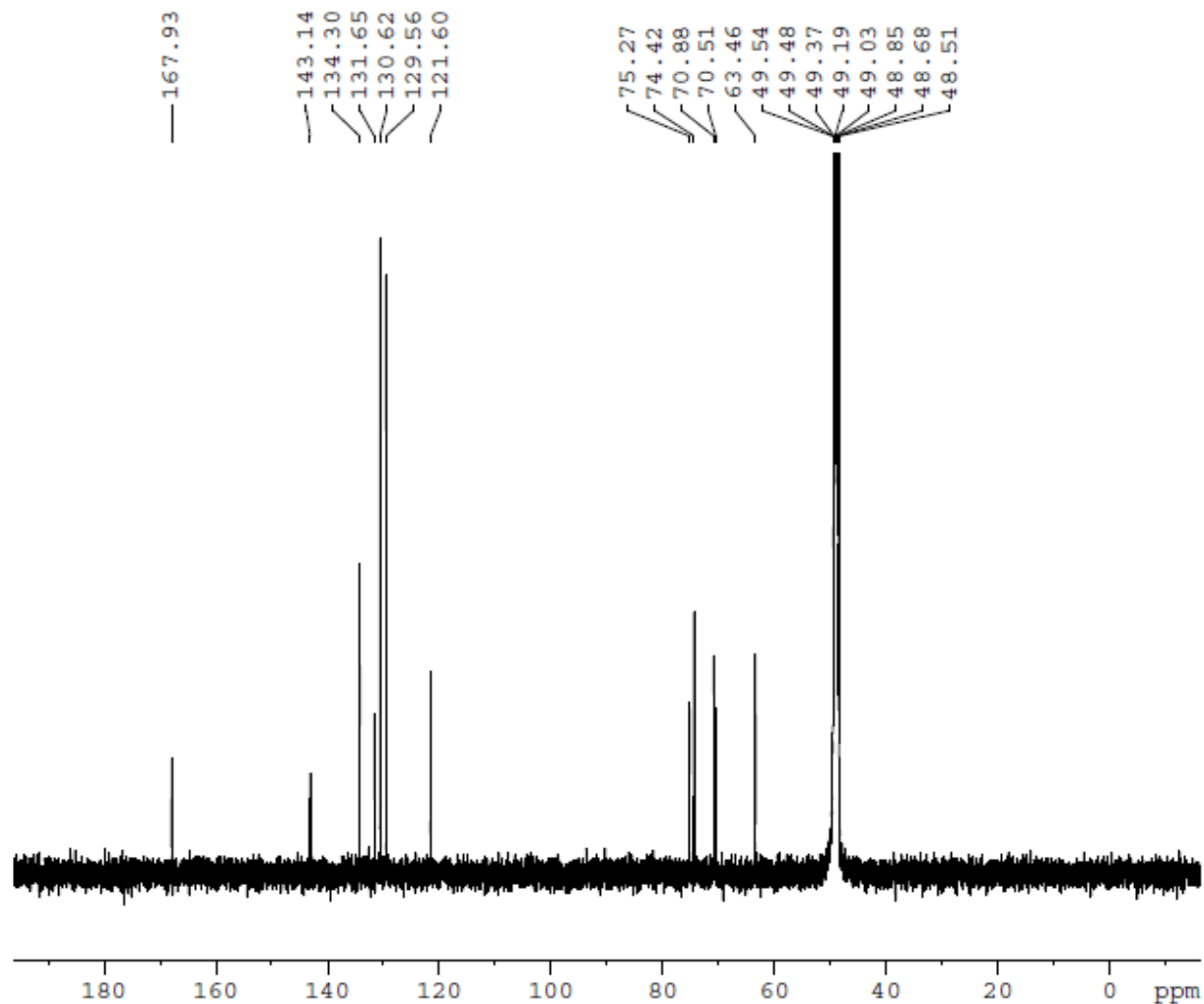
----- CHANNEL f2 -----
CPDPRG[2]     waltz16
NUC2          1H
P3            9.04 usec
P4            18.08 usec
PCPD2         80.00 usec
PLW2          27.16399956 W
PLW12         0.34685999 W
SFO2          500.2315998 MHz

F2 - Processing parameters
SI            32768
SF            125.7827554 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40

```

$^{13}\text{C}$  NMR of compound **25**

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

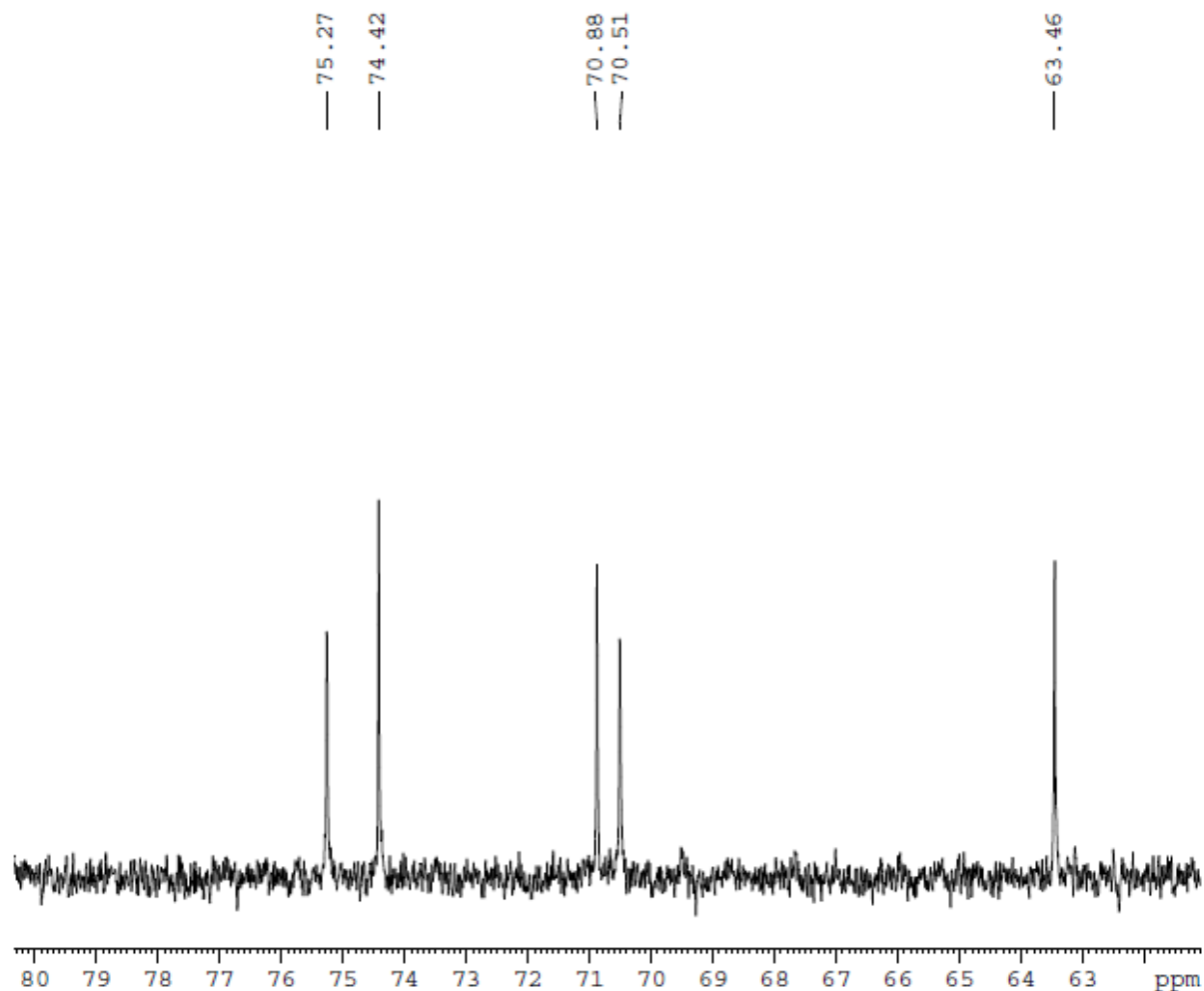
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.5000000 W  
 SFO1 125.7955112 MHz

----- 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 125.7827554 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

<sup>14</sup>C NMR of compound **25** (zoom)

KMS-D-V-31  
 C13CPD MeOD C:\Bruker\TOPSPIN nmr



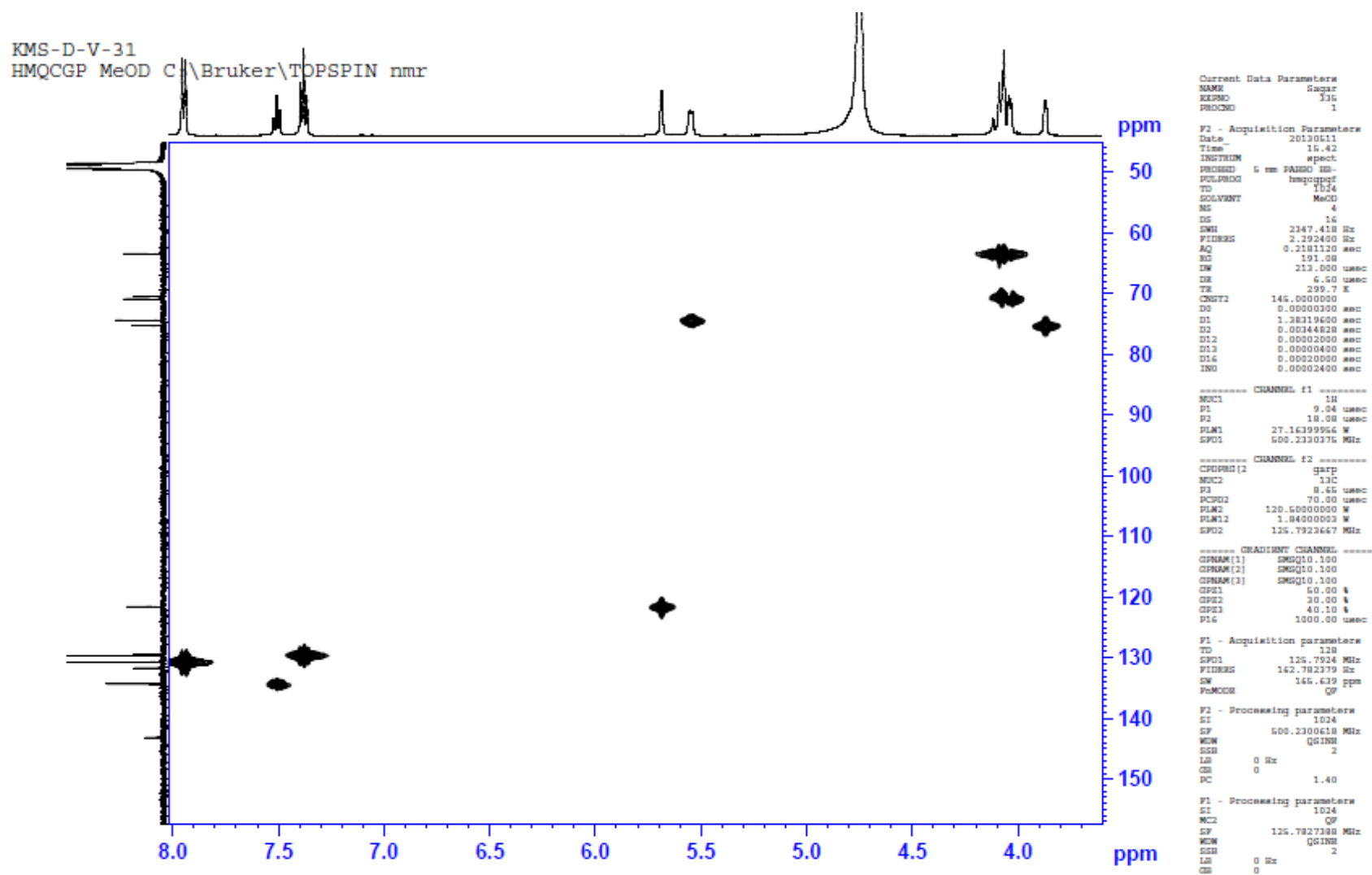
Current Data Parameters  
 NAME Sagar  
 EXPNO 336  
 PROCNO 1

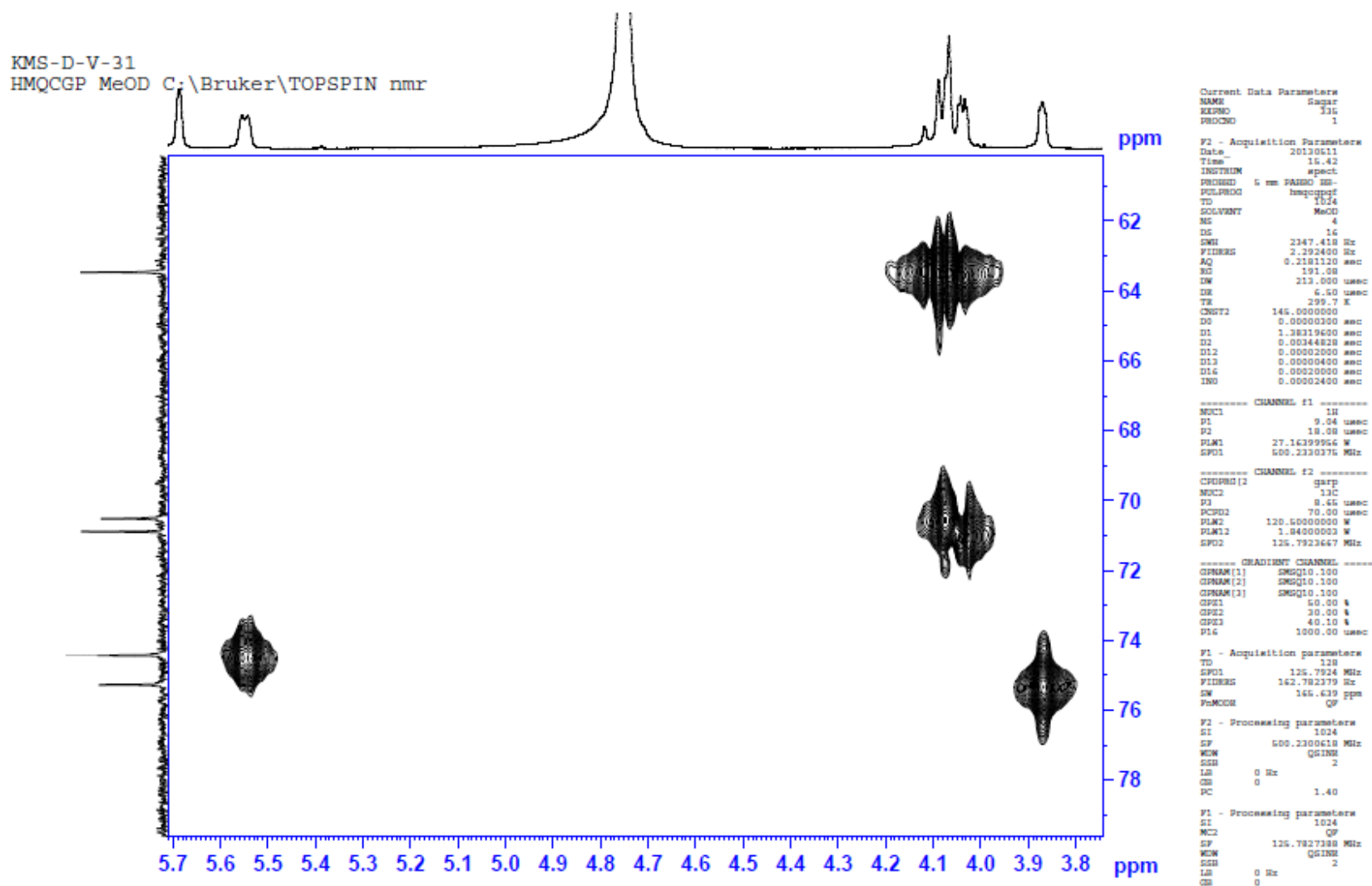
F2 - Acquisition Parameters  
 Date\_ 20130511  
 Time\_ 16.00  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT MeOD  
 NS 1024  
 DS 4  
 SWH 29761.904 Hz  
 FIDRES 0.454131 Hz  
 AQ 1.1010048 sec  
 RG 191.08  
 DW 16.800 usec  
 DE 6.50 usec  
 TE 300.2 K  
 D1 2.00000000 sec  
 D11 0.03000000 sec

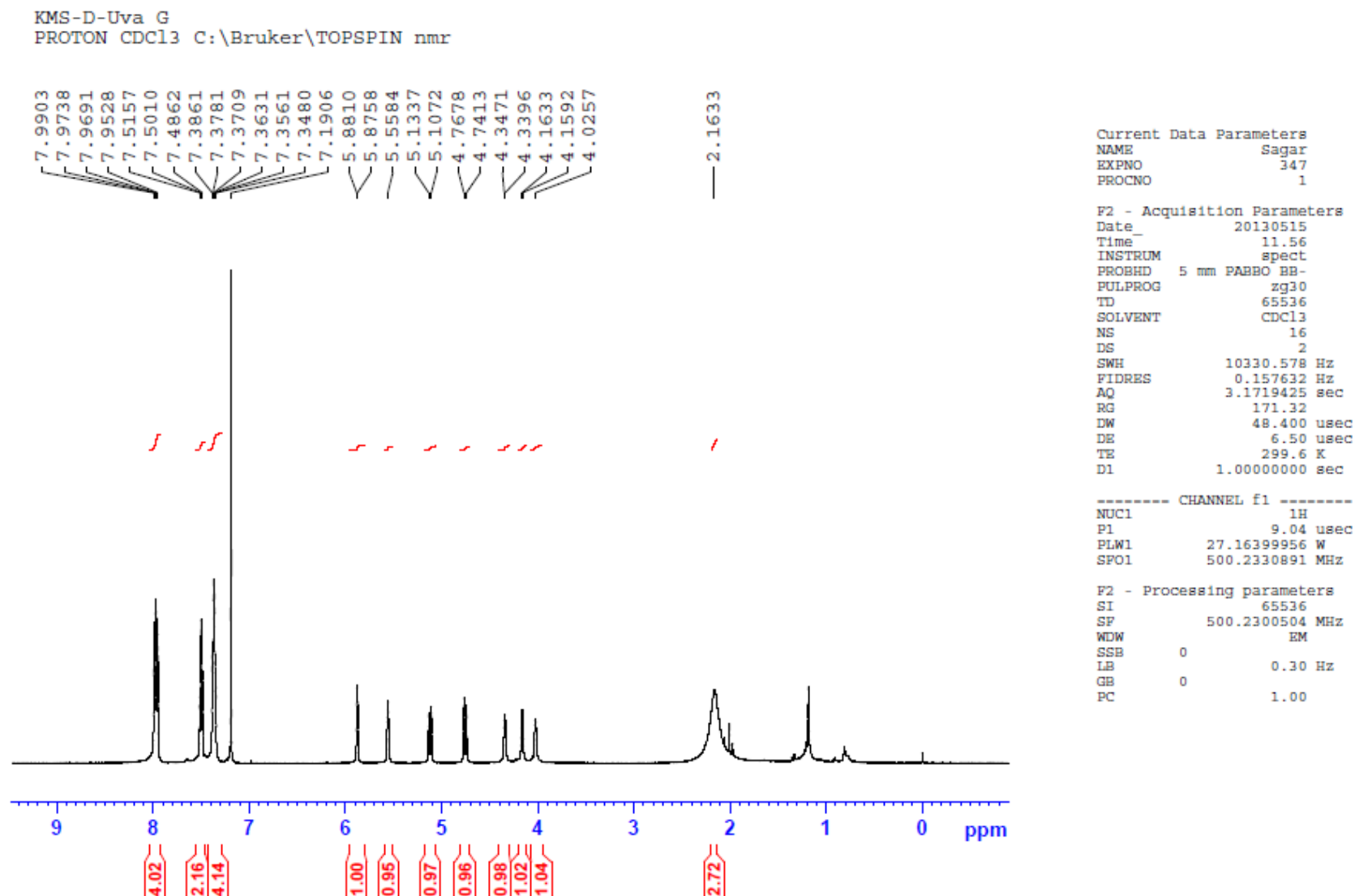
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.65 usec  
 PLW1 120.50000000 W  
 SFO1 125.7955112 MHz

----- 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

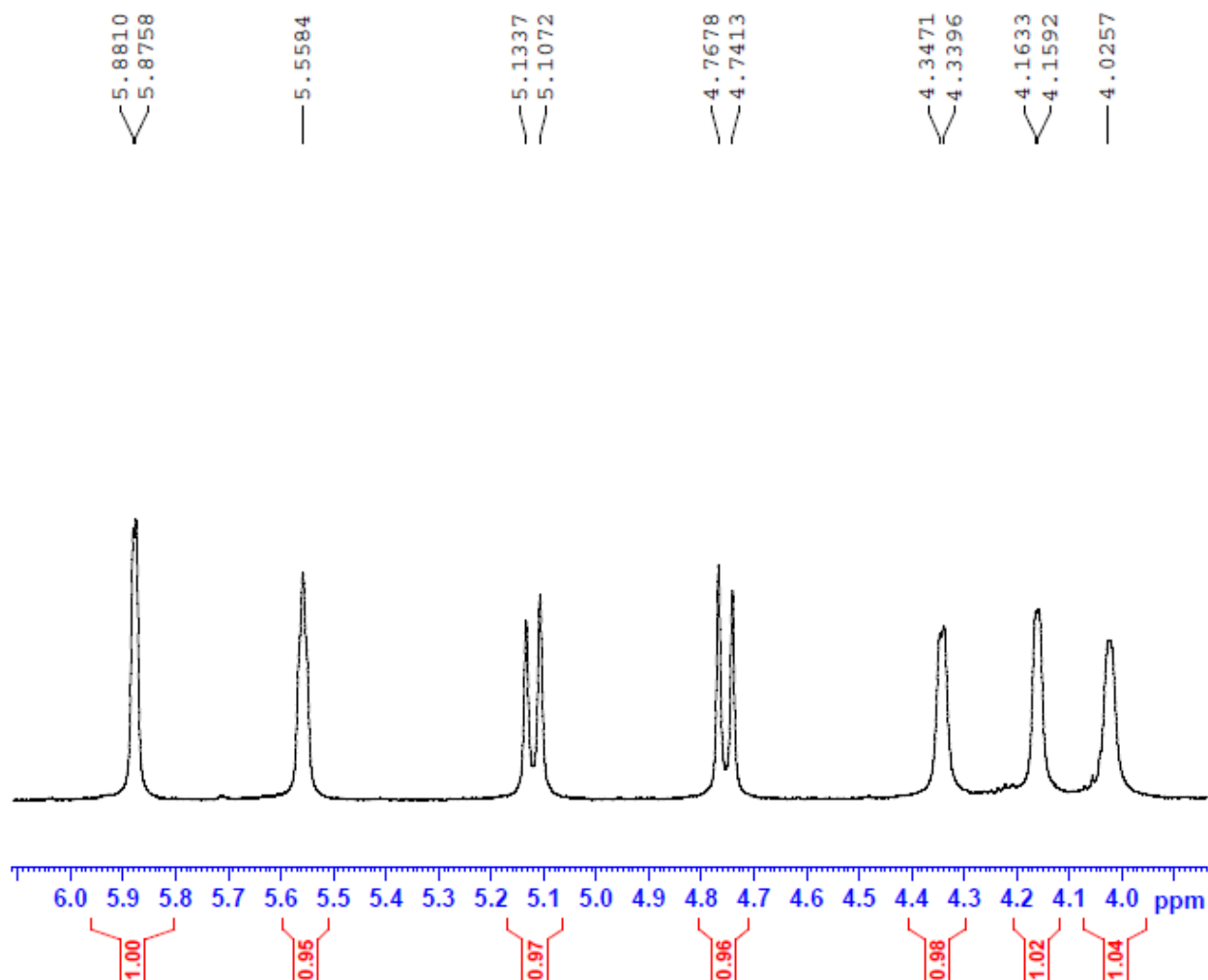
HMQC of compound **25**

HMQC of compound **25** (zoom)

<sup>1</sup>H NMR of compound **26**

<sup>1</sup>H NMR of compound **26** (zoom)

KMS-D-Uva G  
 PROTON CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



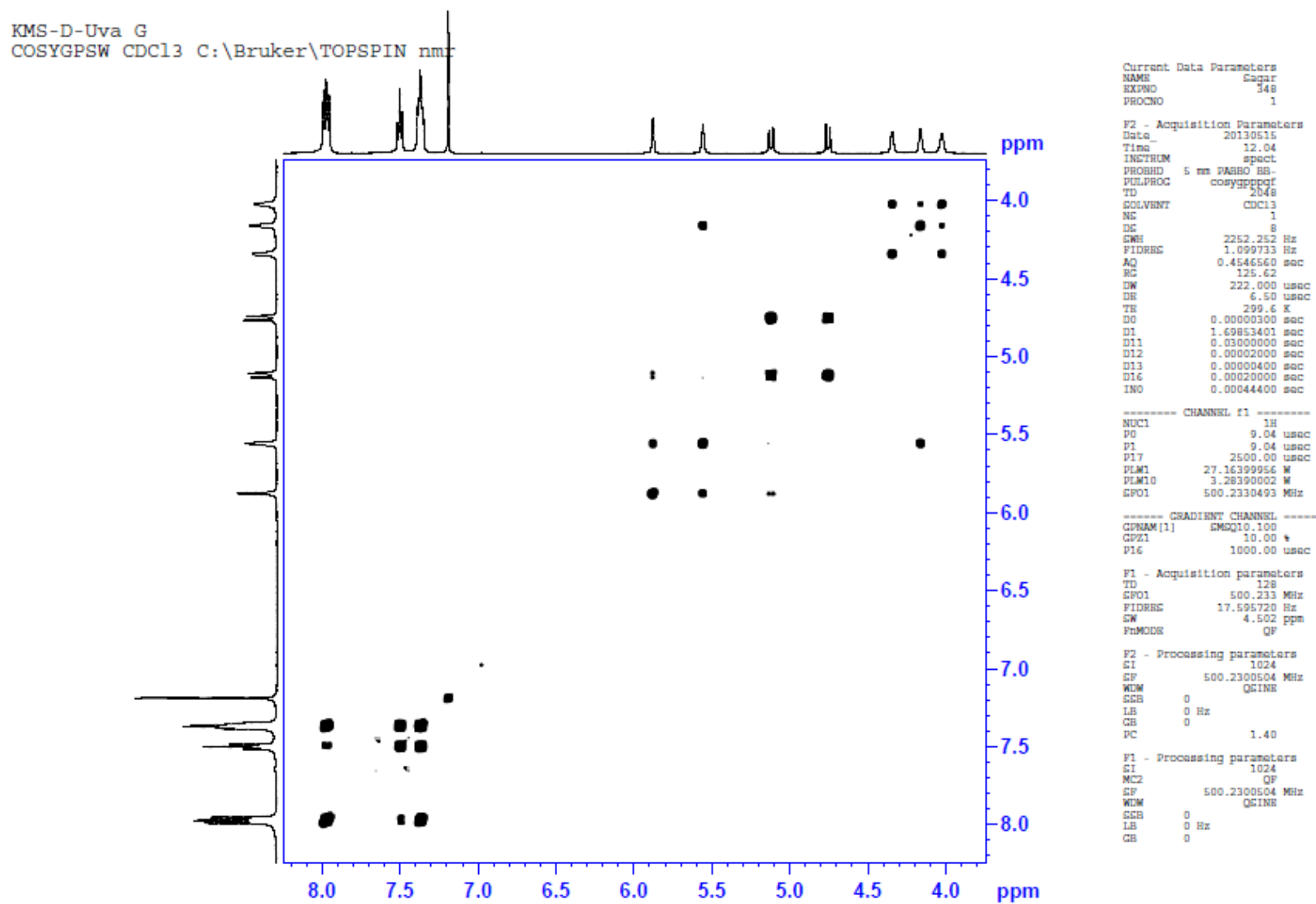
Current Data Parameters  
 NAME Sagar  
 EXPNO 347  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20130515  
 Time 11.56  
 INSTRUM spect  
 PROBHD 5 mm PABBO BB-  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 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

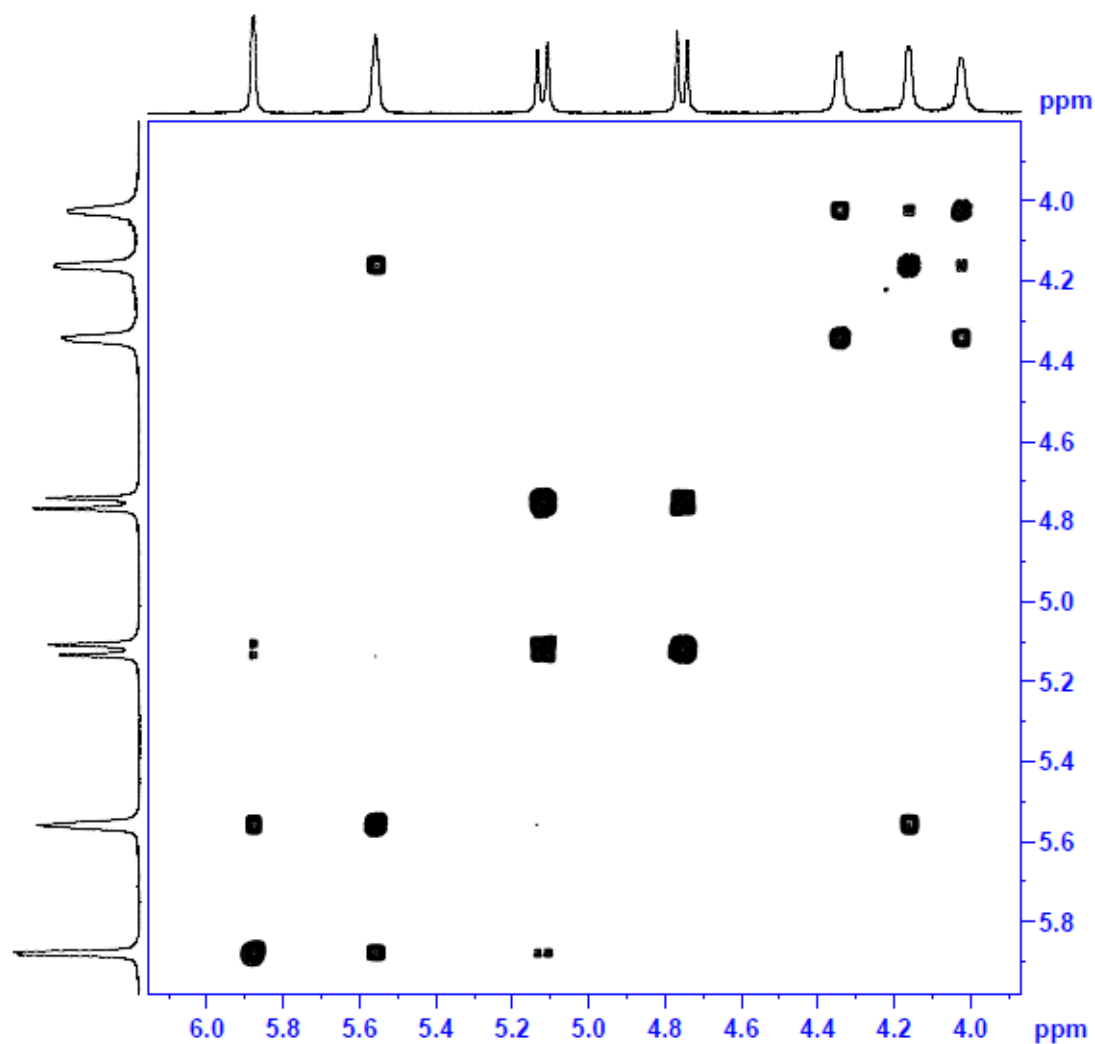
F2 - Processing parameters  
 SI 65536  
 SF 500.2300504 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





COSY of compound **26** (zoom)

KMS-D-Uva G  
 COSYGPSW CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr



Current Data Parameters  
 NAME Cagar  
 EXPNO 348  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20130515  
 Time 12.04  
 INSTRUM spect  
 PROBHD 5 mm PARBO BB-  
 PULPROG cosygpsw  
 TD 32768  
 SOLVENT CDCl<sub>3</sub>  
 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  
 PLW0 3.28390002 W  
 SFO1 500.2330493 MHz

----- GRADIENT CHANNEL -----  
 GPNAM[1] GMRQ10.100  
 GPZ1 10.00 usec  
 P16 1000.00 usec

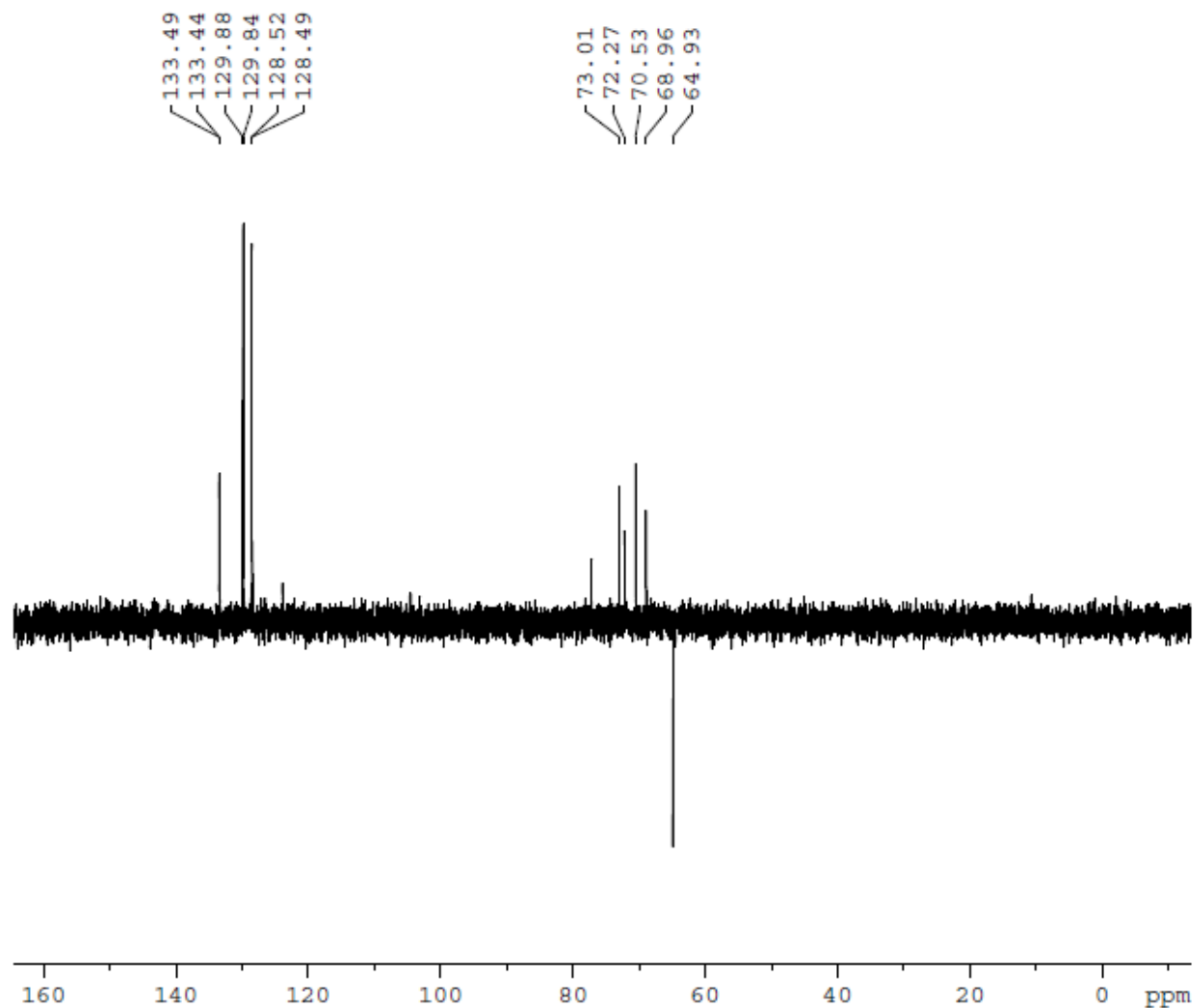
F1 - Acquisition parameters  
 TD 128  
 SFO1 500.233 MHz  
 FIDRES 17.596720 Hz  
 SW 4.502 ppm  
 FMODR QF

F2 - Processing parameters  
 SI 1024  
 SF 500.2300504 MHz  
 WCN QFNR  
 SSB 0  
 LB 0 Hz  
 CB 0  
 PC 1.40

F1 - Processing parameters  
 SI 1024  
 MC2 QF  
 SF 500.2300504 MHz  
 WCN QFNR  
 SSB 0  
 LB 0 Hz  
 CB 0

DEPT of compound **26**

KMS-D-Uva G  
C13DEPT135 CDCl3 C:\Bruker\TOPSPIN nmr



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 deptap135  
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

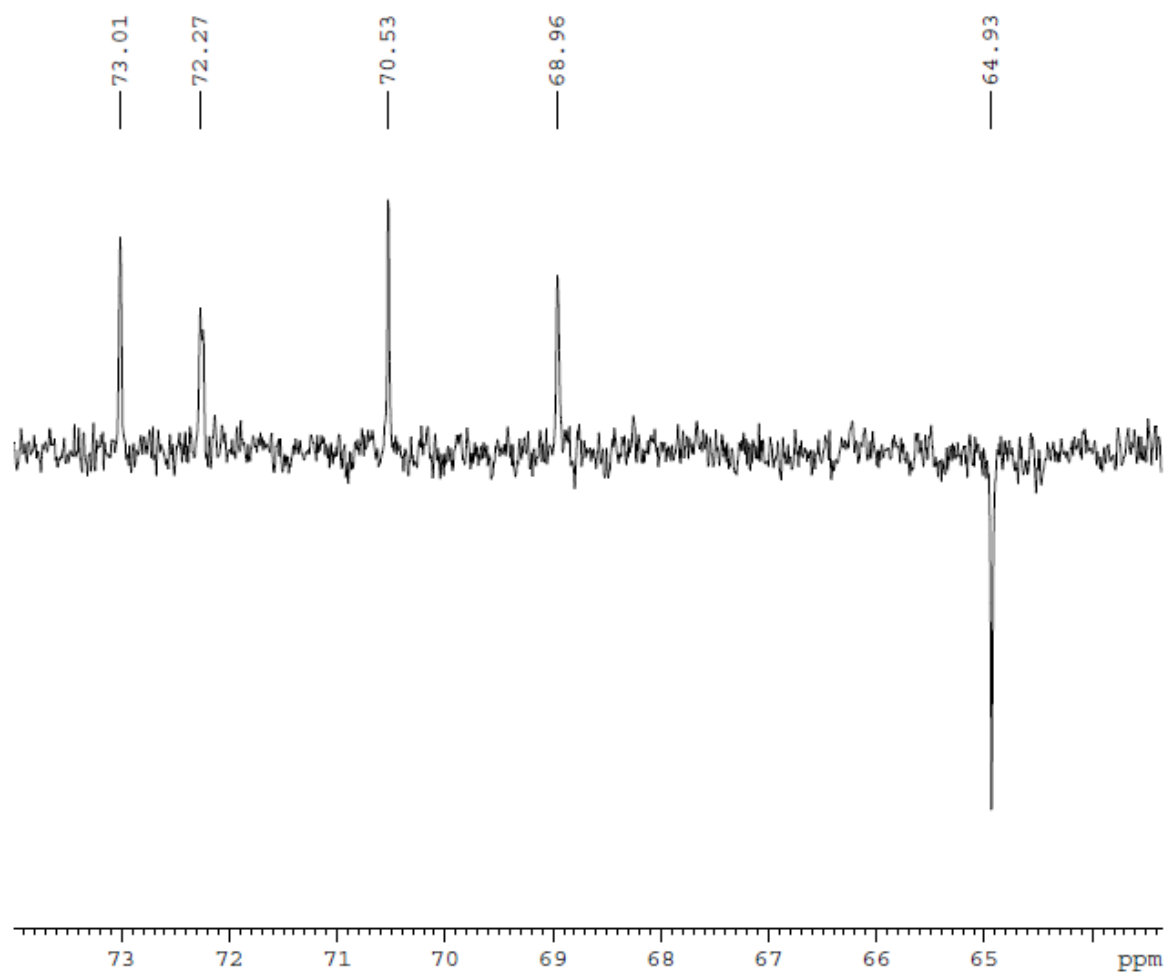
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM[s] Crp60comp.4  
SFOALS 0.500  
SPOFFS5 0 Hz  
SPW5 13.77600002 W

----- 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)

KMS-D-Uva G  
C13DEPT135 CDC13 C:\Bruker\TOPSPIN nmr



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 CDC13  
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

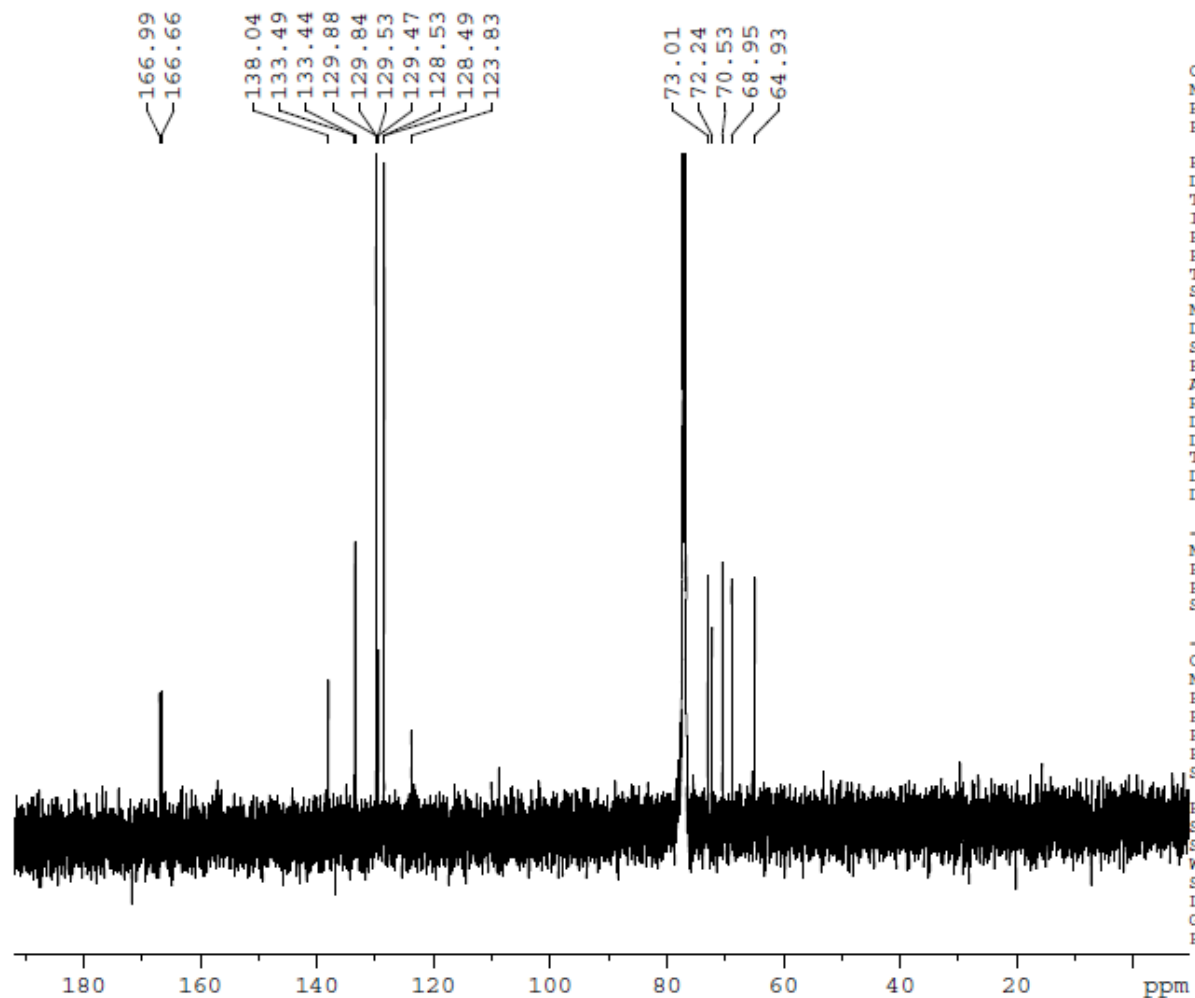
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
P13 2000.00 usec  
PLW0 0 W  
PLW1 120.50000000 W  
SFO1 125.7929956 MHz  
SPNAM[5] Crp60comp.4  
SPOALS 0.500  
SPOFFS 0 Hz  
SPWS 13.77600002 W

----- 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

<sup>13</sup>C NMR of compound **26**

KMS-D-Uva-G  
C13CPD CDCl3 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sagar  
EXPNO 353  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20130515  
Time 14.03  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 1216  
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

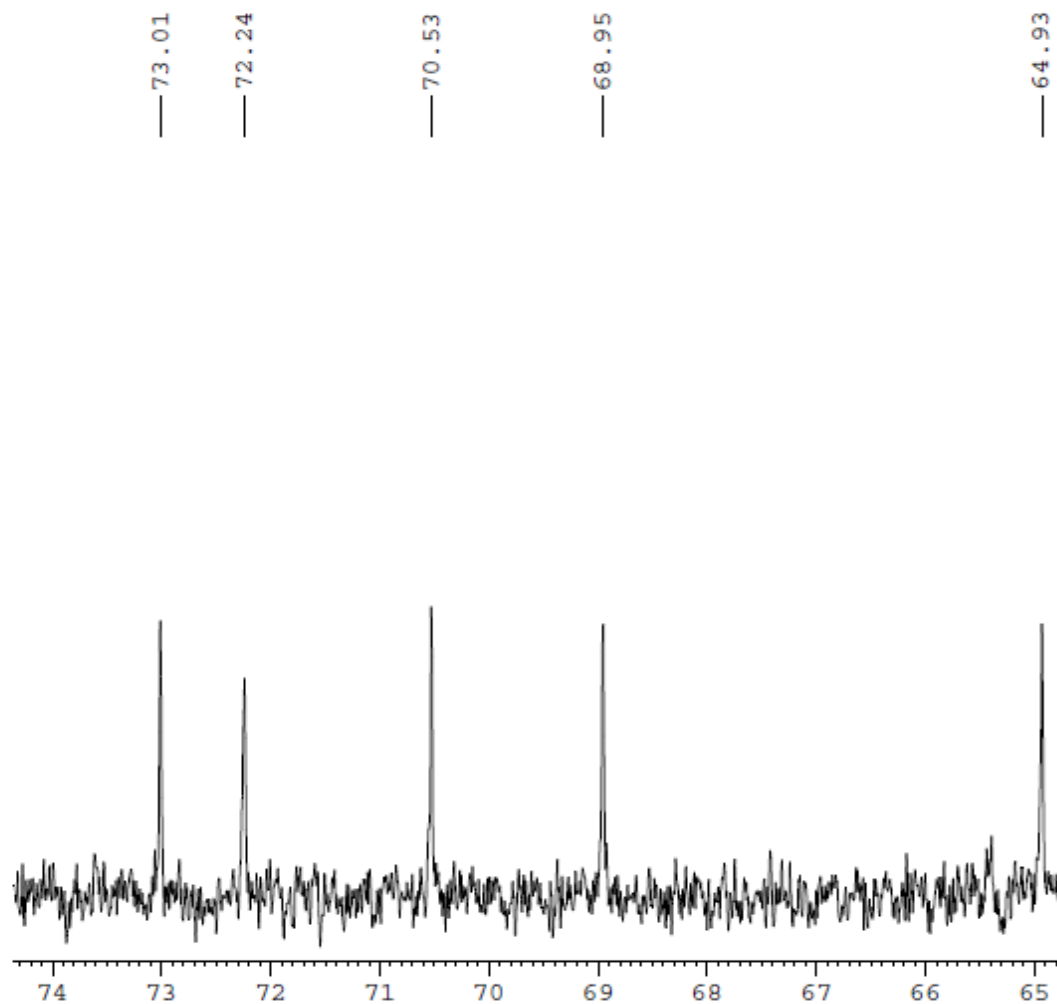
----- CHANNEL f1 -----  
NUC1 13C  
P1 8.65 usec  
PLW1 120.50000000 W  
SFO1 125.7955112 MHz

----- 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

<sup>14</sup>C NMR of compound **26** (zoom)

KMS-D-Uva-G  
C13CPD CDC13 C:\Bruker\TOPSPIN nmr



Current Data Parameters  
NAME Sagar  
EXPNO 353  
PROCNO 1

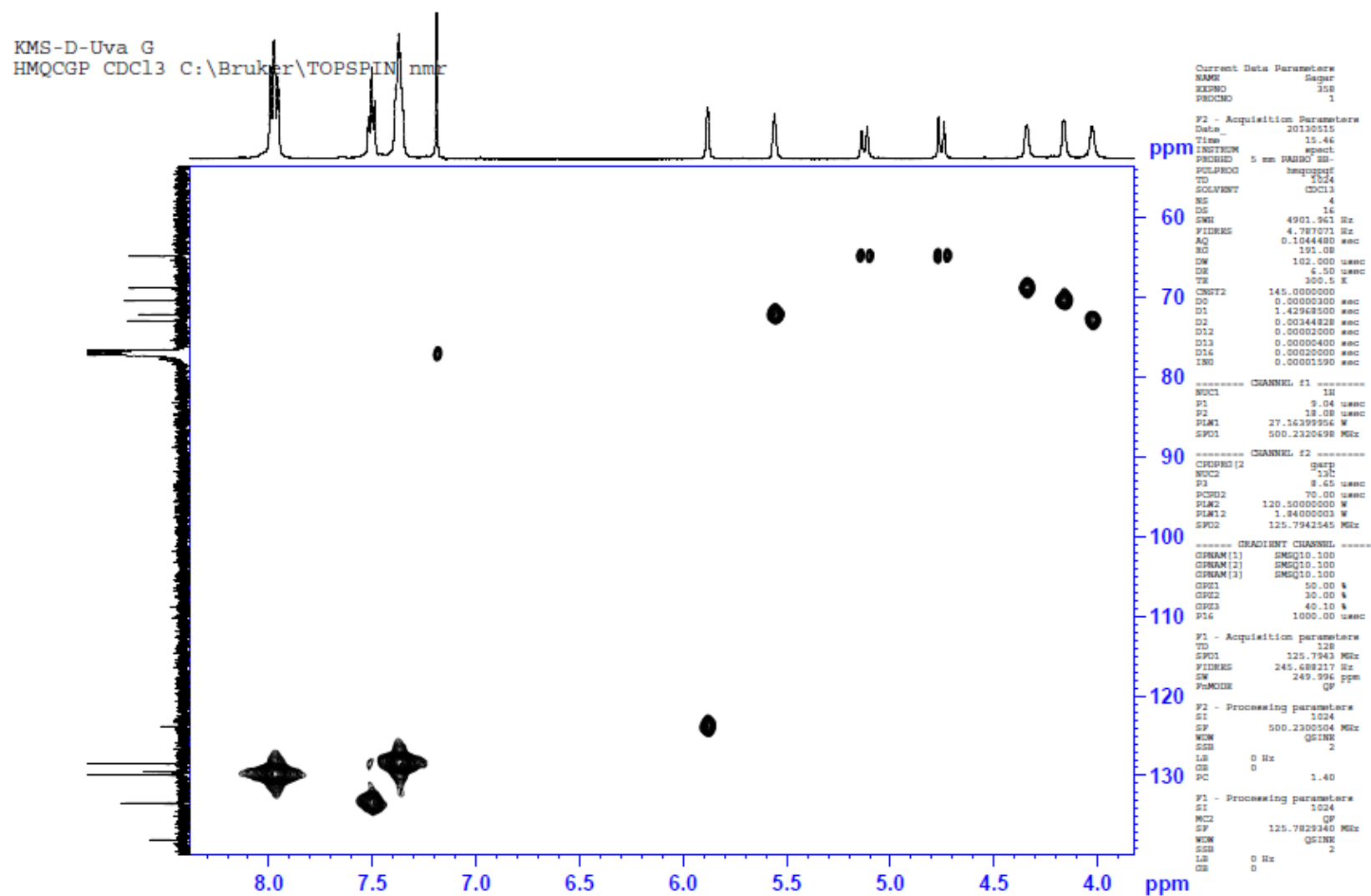
F2 - Acquisition Parameters  
Date\_ 20130515  
Time\_ 14.03  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 1216  
DS 4  
SWH 29761.904 Hz  
FIDRES 0.454131 Hz  
AQ 1.1010048 sec  
RG 191.08  
DW 16.800 usec  
DE 6.50 usec  
TE 300.0 K  
D1 2.00000000 sec  
D11 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

----- Processing parameters -----  
F2 32768  
F1 125.7829340 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

## HMQC of compound 26



HMQC of compound **26** (zoom)

KMS-D-Uva G  
 HMQCGP CDCl<sub>3</sub> C:\Bruker\TOPSPIN nmr

