

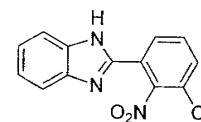
Current Data Parameters
NAME Mar01-2003
EXPNO 60
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030301
Time 18.49
INSTRUM spect
PROBHD 5 mm BBD BB-1
PULPROG zg30
TO 32768
SOLVENT DMSO
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

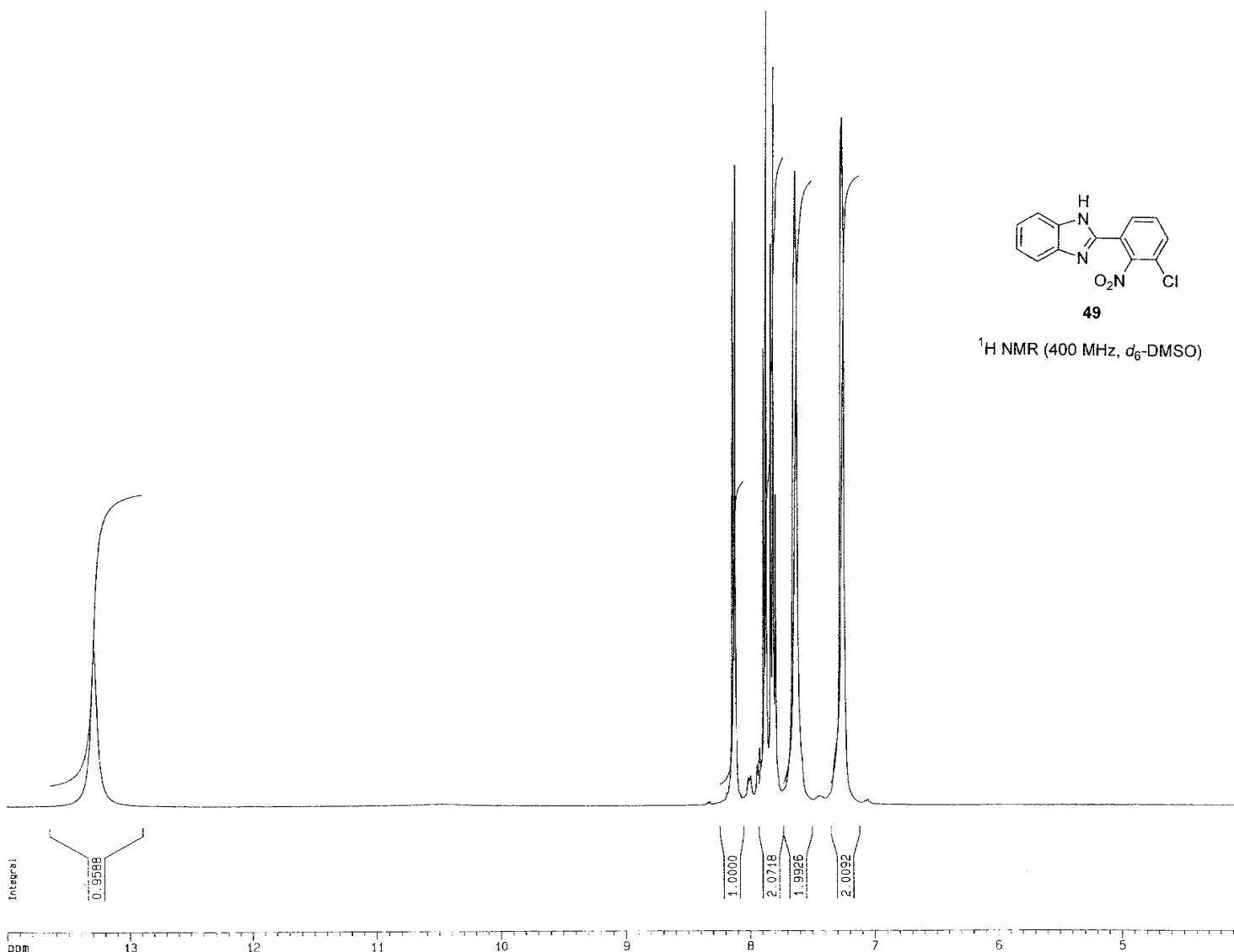
F2 - Processing parameters
SI 32768
SF 400.1300056 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
F1P 14.000 ppm
F1 5601.82 Hz
F2P 4.000 ppm
F2 1600.52 Hz
PPMCM 0.33333 ppm/cm
HZCM 133.37656 Hz/cm



49

¹H NMR (400 MHz, d₆-DMSO)



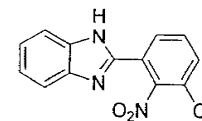
Current Data Parameters
 NAME Mar01-2003
 EXPNO 60
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030301
 Time 18.49
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT DMSO
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

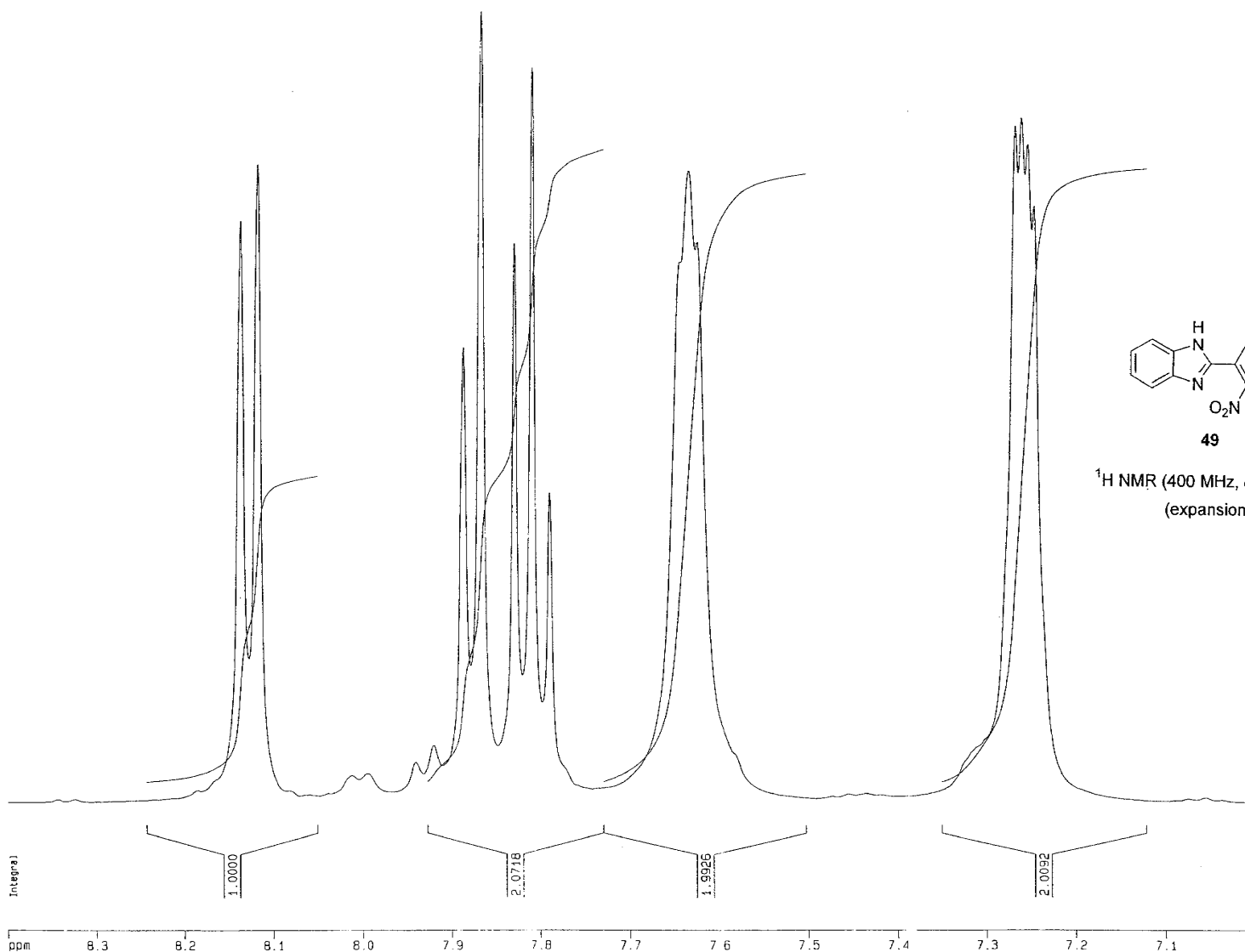
F2 - Processing parameters
 SI 32768
 SF 400.1300056 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

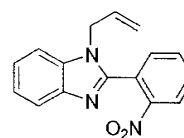
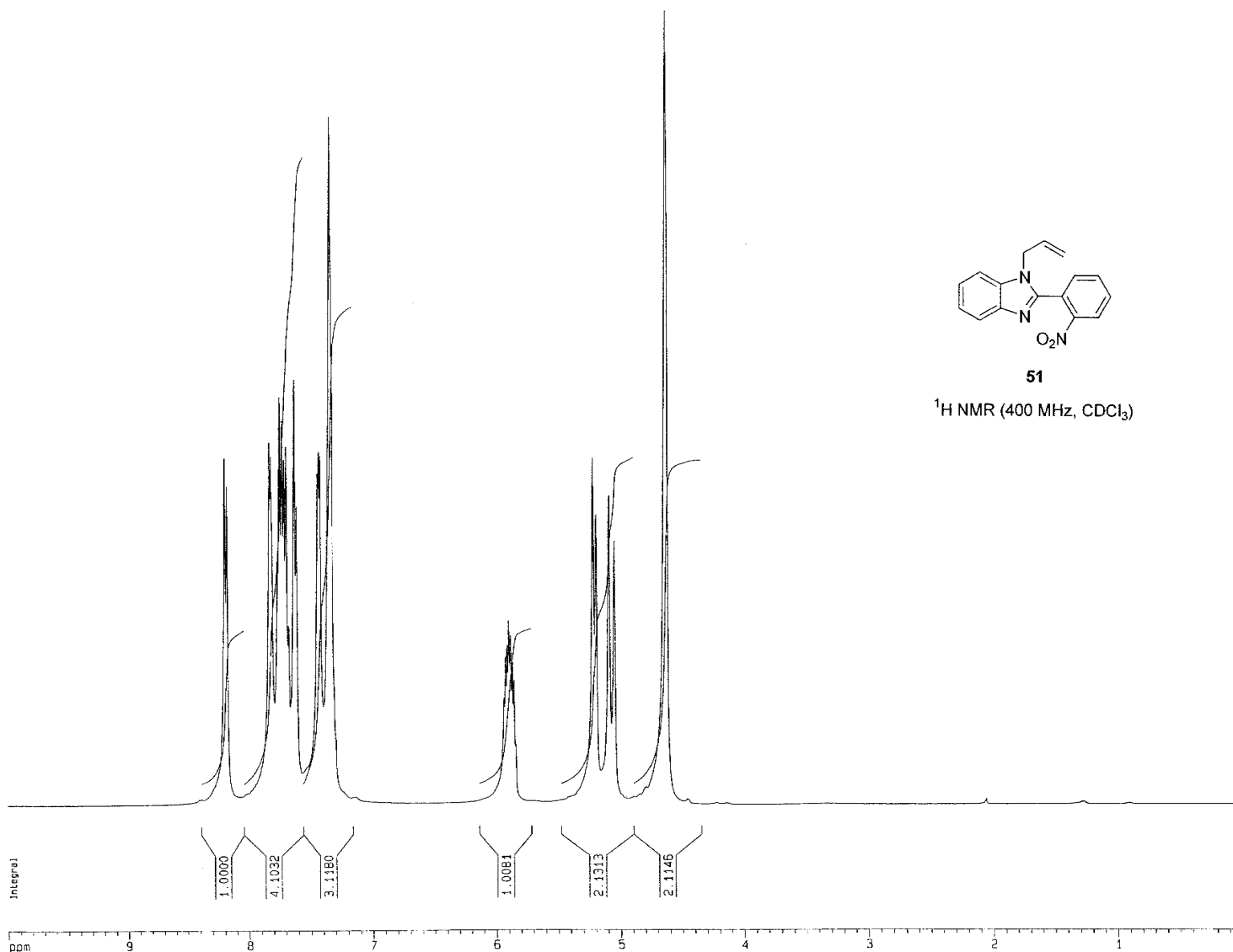
1D NMR plot parameters
 CX 30.00 cm
 F1P 8.400 ppm
 F1 3361.09 Hz
 F2P 7.000 ppm
 F2 2800.91 Hz
 PPMCM 0.04667 ppm/cm
 HZCM 18.67273 Hz/cm



49

¹H NMR (400 MHz, d₆-DMSO)
 (expansion)





51
¹H NMR (400 MHz, CDCl₃)

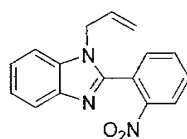
Current Data Parameters
NAME Mar01-2003
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030301
Time 18.00
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 57
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SFO1 400.1324710 MHz

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

1D NMR plot parameters
CX 30.00 cm
F1P 10.000 ppm
F1 4001.30 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCM 0.33333 ppm/cm
HZCM 133.37666 Hz/cm



51

¹H NMR (400 MHz, CDCl₃)
(expansion)

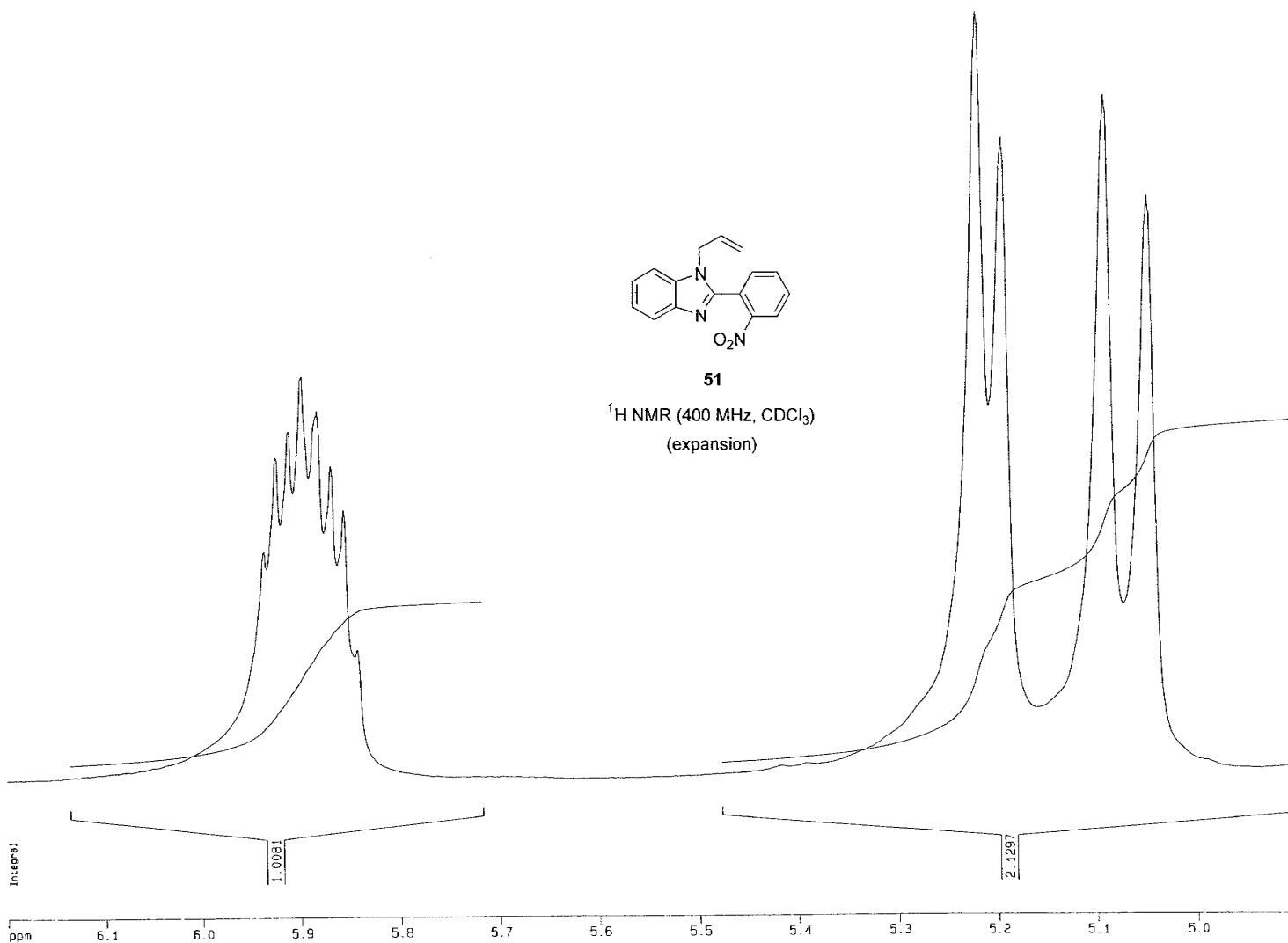
Current Data Parameters
NAME Mar01-2003
EXPNO 10
PROCNO 1

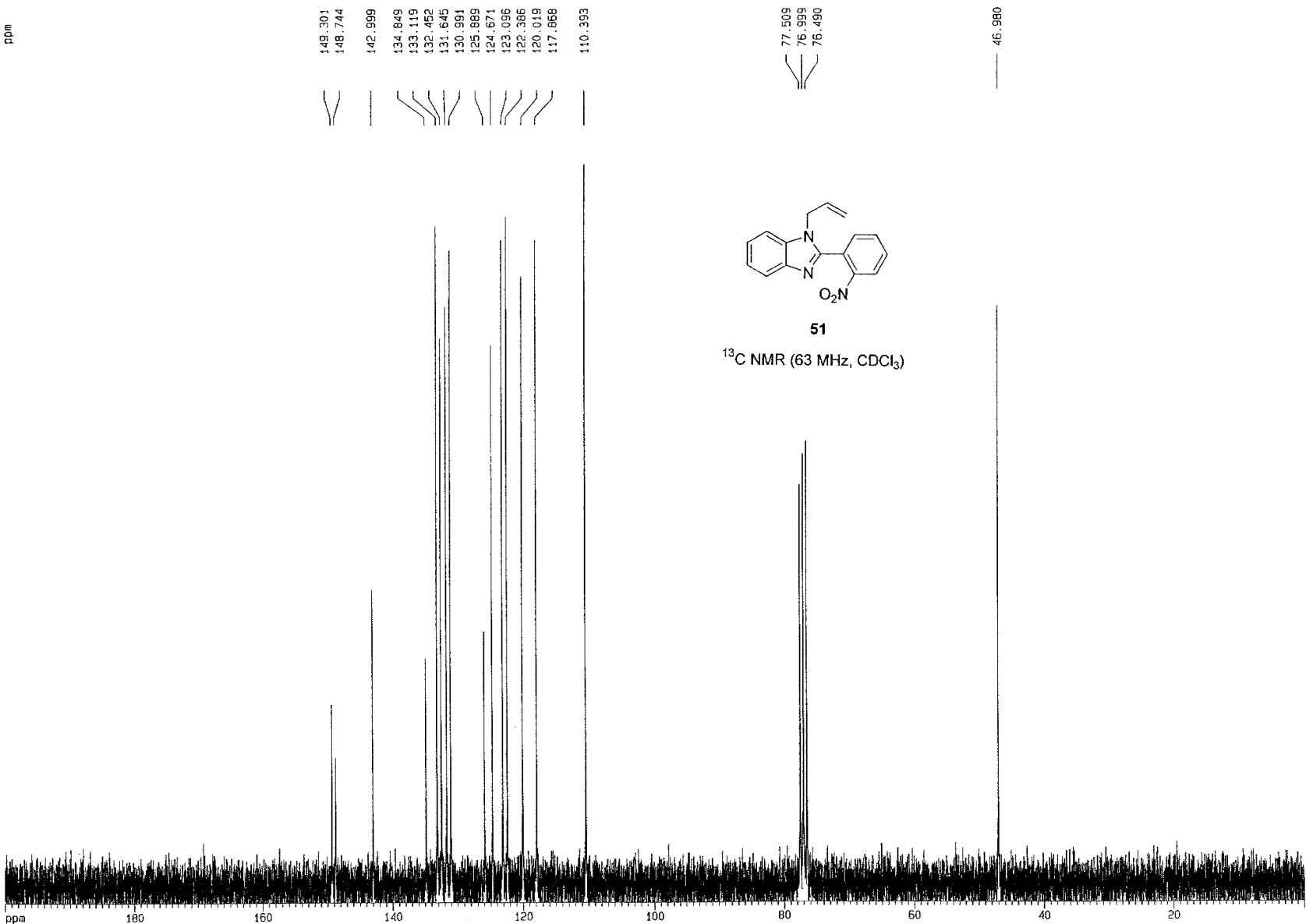
F2 - Acquisition Parameters
Date_ 20030301
Time 18.00
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 57
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SFO1 400.1324710 MHz

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

1D NMR plot parameters
CX 30.00 cm
F1P 6.200 ppm
F1 2480.81 Hz
F2P 4.900 ppm
F2 1960.64 Hz
PPMCM 0.04333 ppm/cm
HZCM 17.33897 Hz/cm





Current Data Parameters
NAME Feb28-2003
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030228
Time 14.36
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 4
SWH 15723.271 Hz
FIDRES 0.239918 Hz
AQ 2.0840948 sec
RG 16384
OW 31.800 usec
DE 30.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
PL1 0.00 dB
SFO1 62.9021320 MHz

===== CHANNEL f2 =====
CPOPRG2 waltz16
NUC2 1H
POPD2 80.00 usec
PL2 -4.00 dB
PL12 16.00 dB
PL13 17.00 dB
SFO2 250.1310005 MHz

F2 - Processing parameters
SI 32768
SF 62.8952488 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.40

10 NMR plot parameters
CX 34.00 cm
F1P 200.000 ppm
F1 12579.05 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPHMC 5.88235 ppm/cm
HZCM 369.97205 Hz/cm

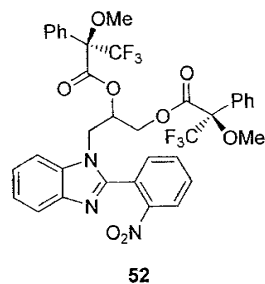
Current Data Parameters
 NAME Jun02-2003
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030602
 Time 12.11
 INSTRUM spect
 PROBHD 5 mm BBO 88-
 PULPRDG zg30
 TO 65536
 SOLVENT CDCl3
 NS 128
 DS 0
 SWH 8278.146 Hz
 FIDRES 0.126314 Hz
 AQ 3.9584243 sec
 RG 203.2
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec

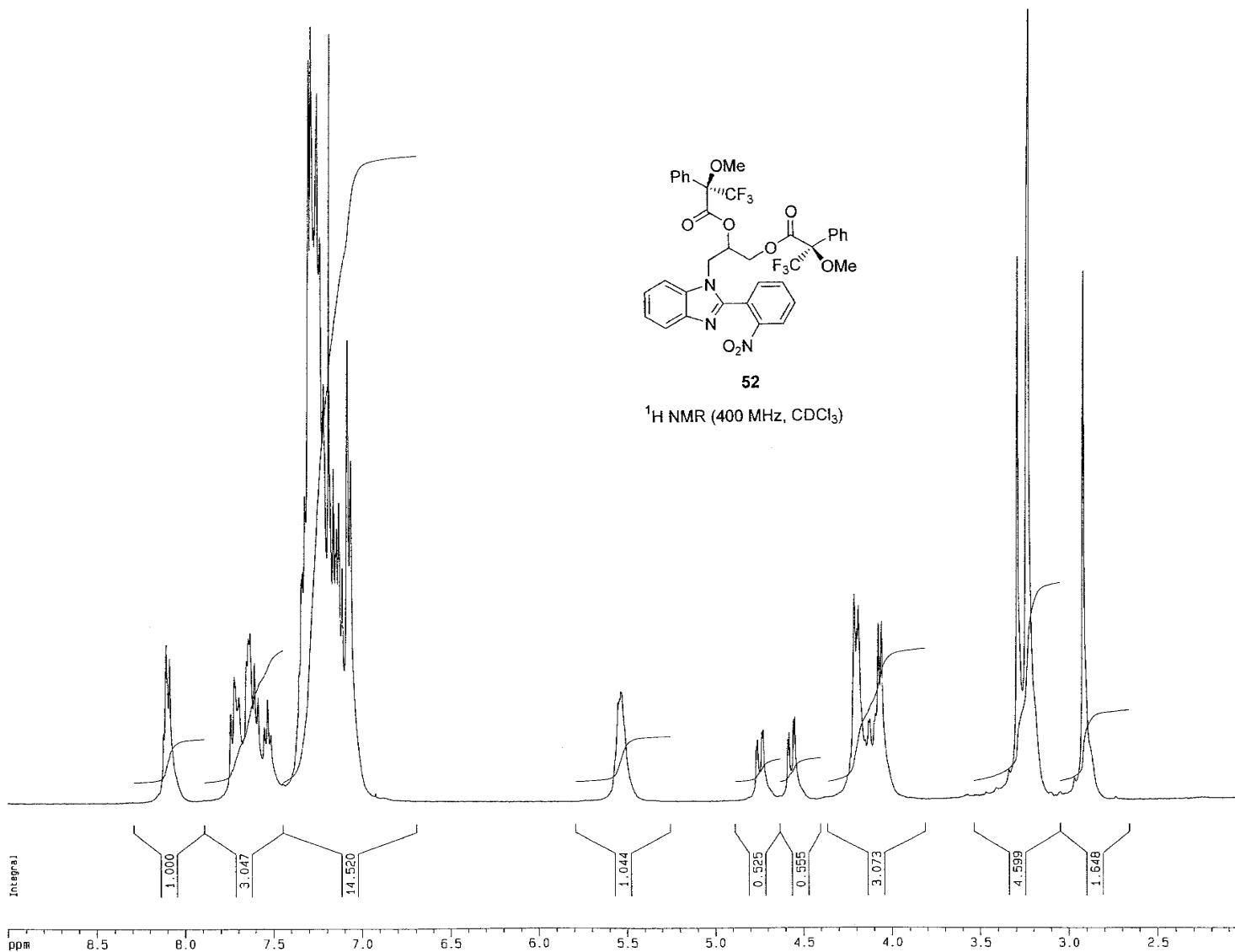
===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300378 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 9.000 ppm
 F1 3601.17 Hz
 F2P 2.000 ppm
 F2 800.26 Hz
 PPMCM 0.23333 ppm/cm
 HZCM 93.36368 Hz/cm

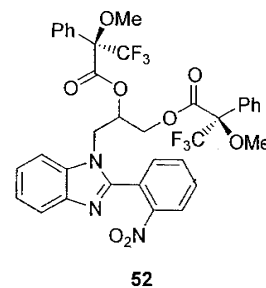


¹H NMR (400 MHz, CDCl₃)



Current Data Parameters
 NAME Jun02-2003
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030502
 Time 12.11
 INSTAUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 128
 DS 0
 SWH 8278.145 Hz
 FIDRES 0.126314 Hz
 AQ 3.9584243 sec
 RG 203.2
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec

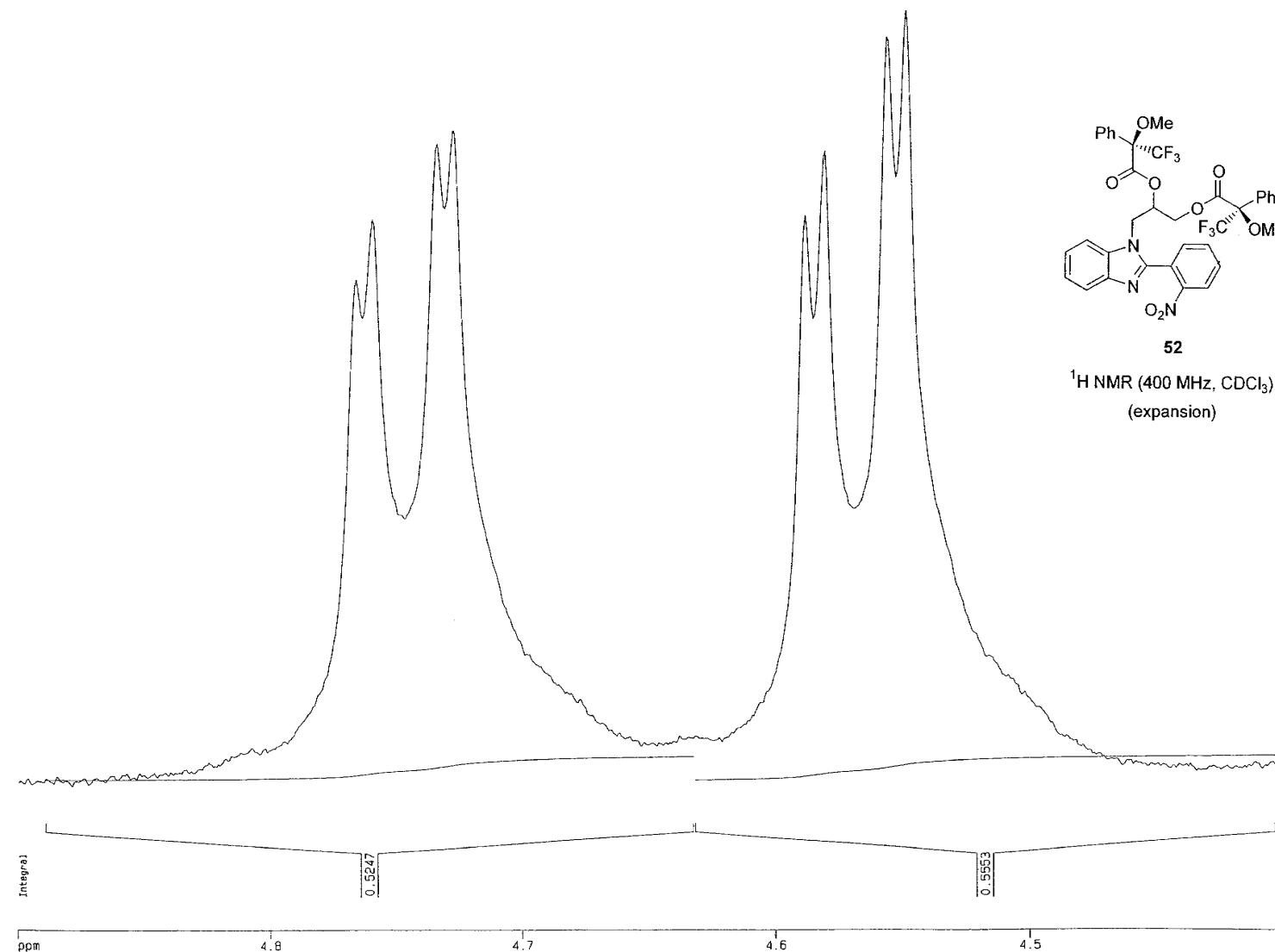


¹H NMR (400 MHz, CDCl₃)
 (expansion)

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SFG1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300378 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 4.900 ppm
 F1 1960.64 Hz
 F2P 4.400 ppm
 F2 1760.57 Hz
 PPMCM 0.01667 ppm/cm
 HZCM 6.66883 Hz/cm



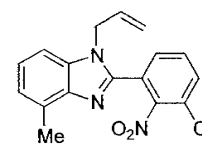
Current Data Parameters
 NAME Jun04-2003
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030604
 Time 17.59
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

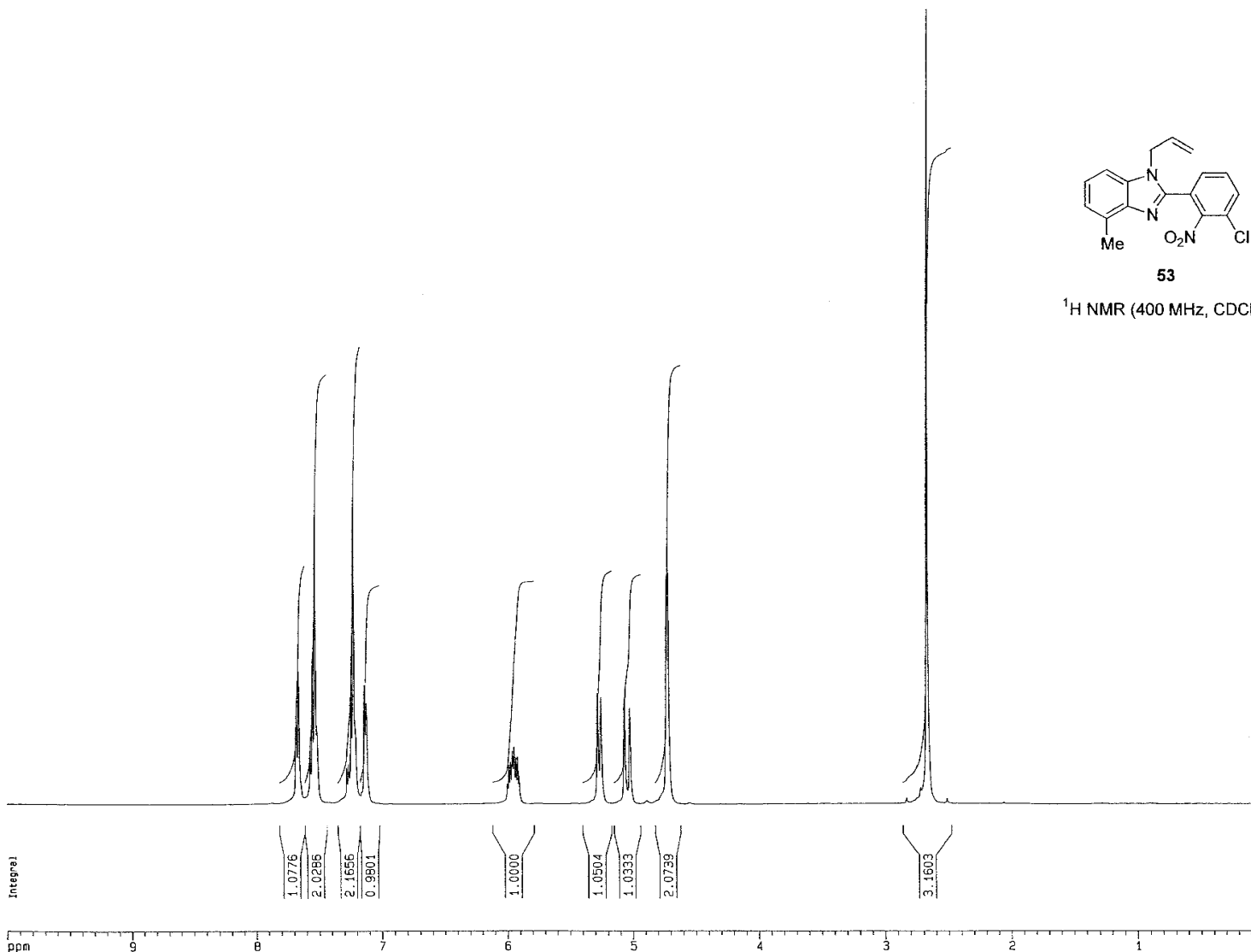
F2 - Processing parameters
 SI 32768
 SF 400.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

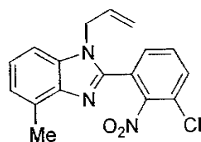
1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMDK 0.33333 ppm/cm
 HZCM 133.37666 Hz/cm



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¹H NMR (400 MHz, CDCl₃)





53

^1H NMR (400 MHz, CDCl_3)
(expansion)

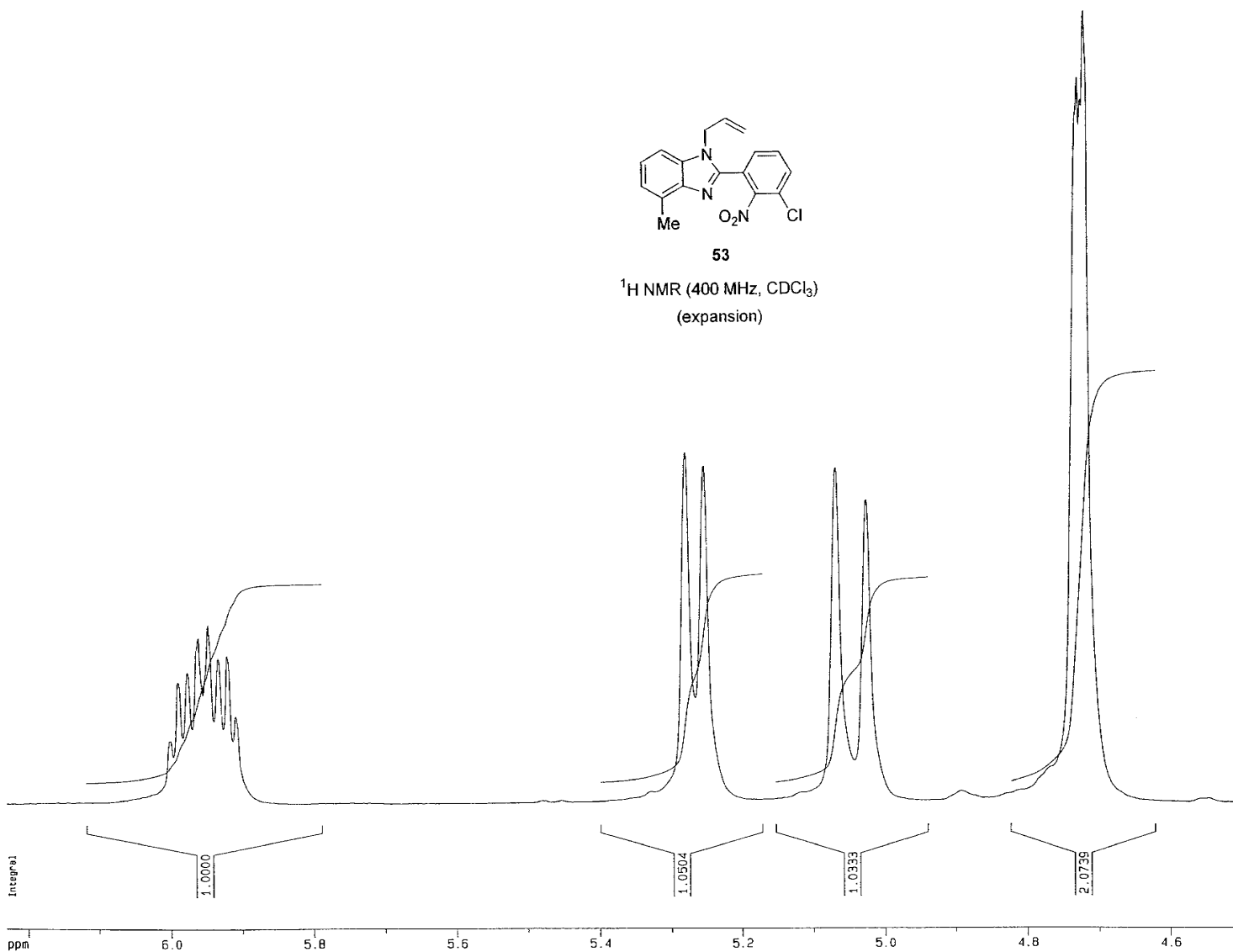
Current Data Parameters
NAME Jun04-2003
EXPNO 10
PROCNO 1

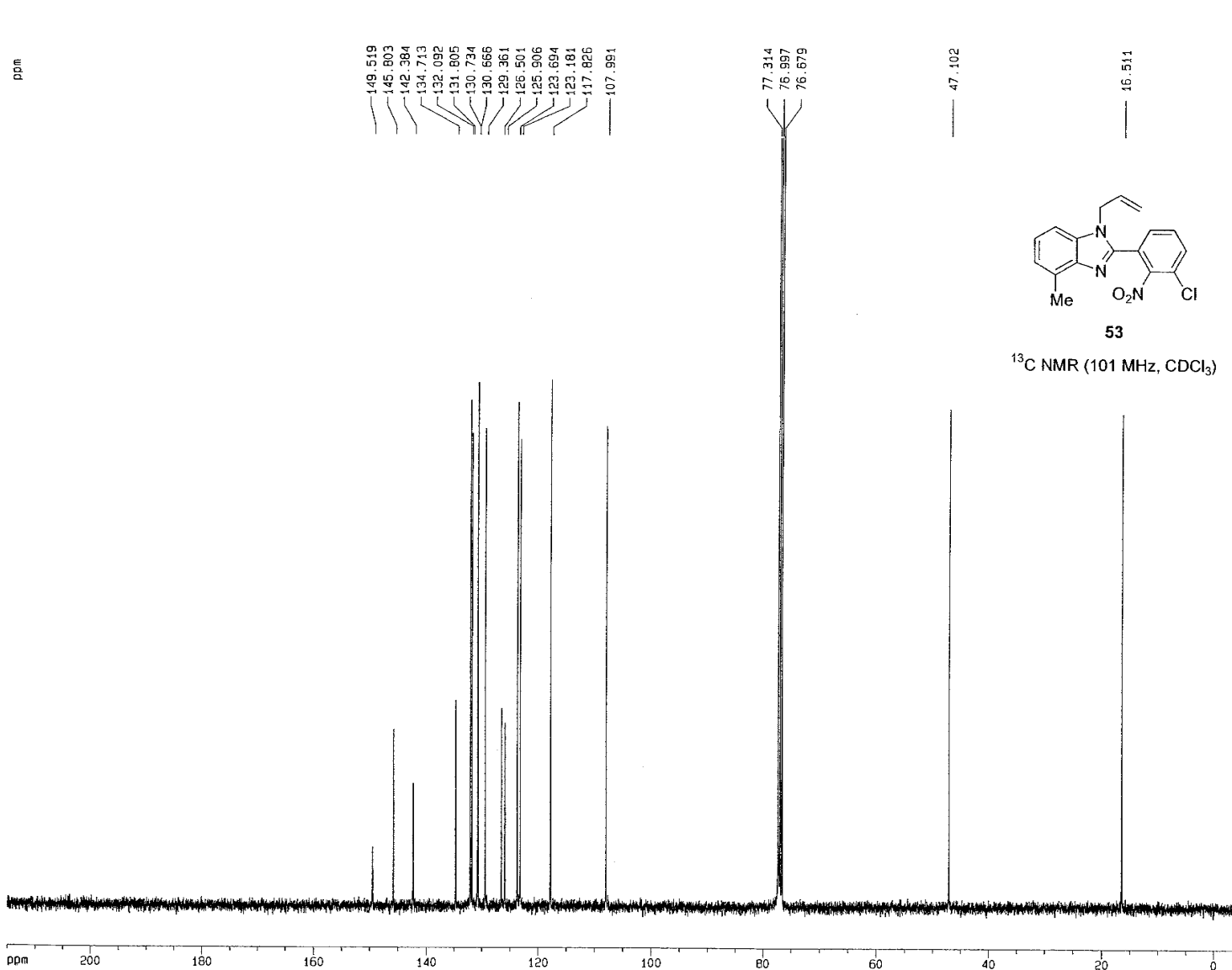
F2 - Acquisition Parameters
Date_ 20030604
Time 17.59
INSTRUM spect
PROBHD 5 mm BBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl_3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 ^1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

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

1D NMR plot parameters
CX 30.00 cm
F1P 6.230 ppm
F1 2492.81 Hz
F2P 4.500 ppm
F2 1800.59 Hz
PPMCM 0.05767 ppm/cm
HZCM 23.07416 Hz/cm





Current Data Parameters
 NAME Jun04-2003
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030604
 Time 18.47
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 770
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 4096
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

===== CHANNEL f1 =====
 NUC1 ^{13}C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

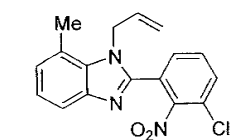
===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 ^1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127755 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 215.000 ppm
 F1 21531.75 Hz
 F2P -5.000 ppm
 F2 -503.06 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82703 Hz/cm

Current Data Parameters
 NAME Jun04-2003
 EXPNO 20
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030604
 Time 18.55
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec



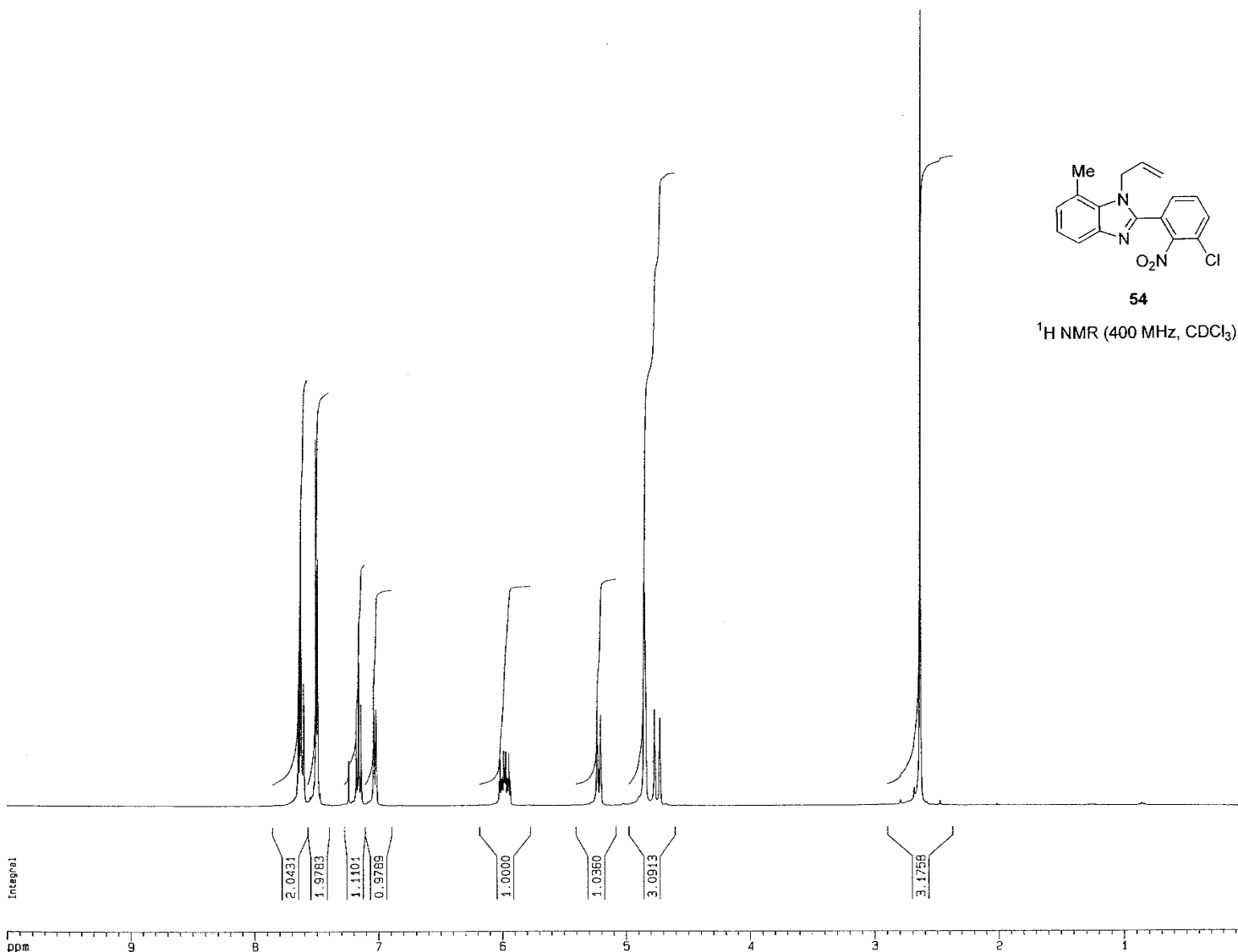
54

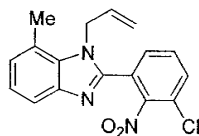
¹H NMR (400 MHz, CDCl₃)

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300169 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.33333 ppm/cm
 HZCM 133.37666 Hz/cm





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¹H NMR (400 MHz, CDCl₃)
(expansion)

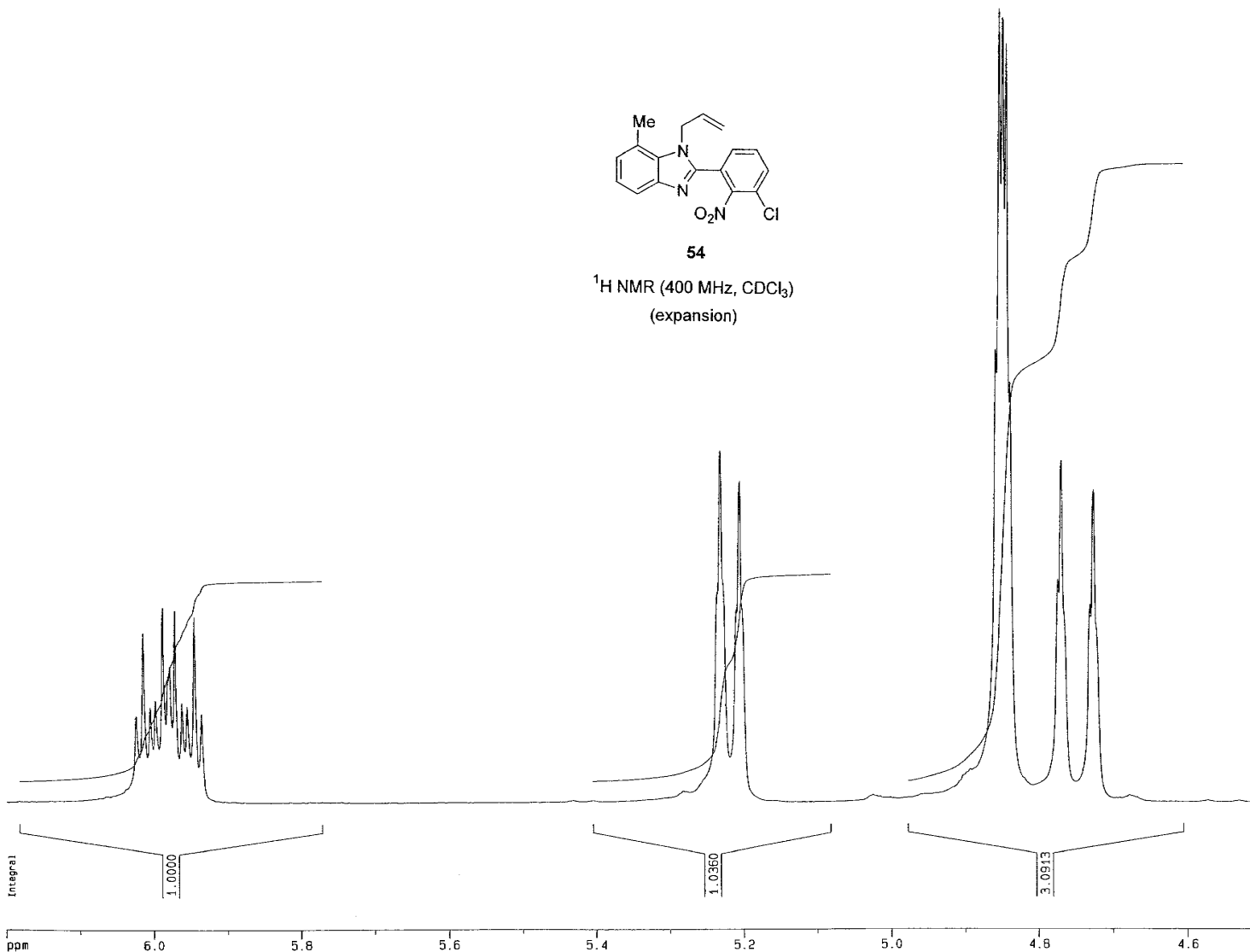
Current Data Parameters
NAME Jun04-2003
EXPNO 20
PROCNO 1

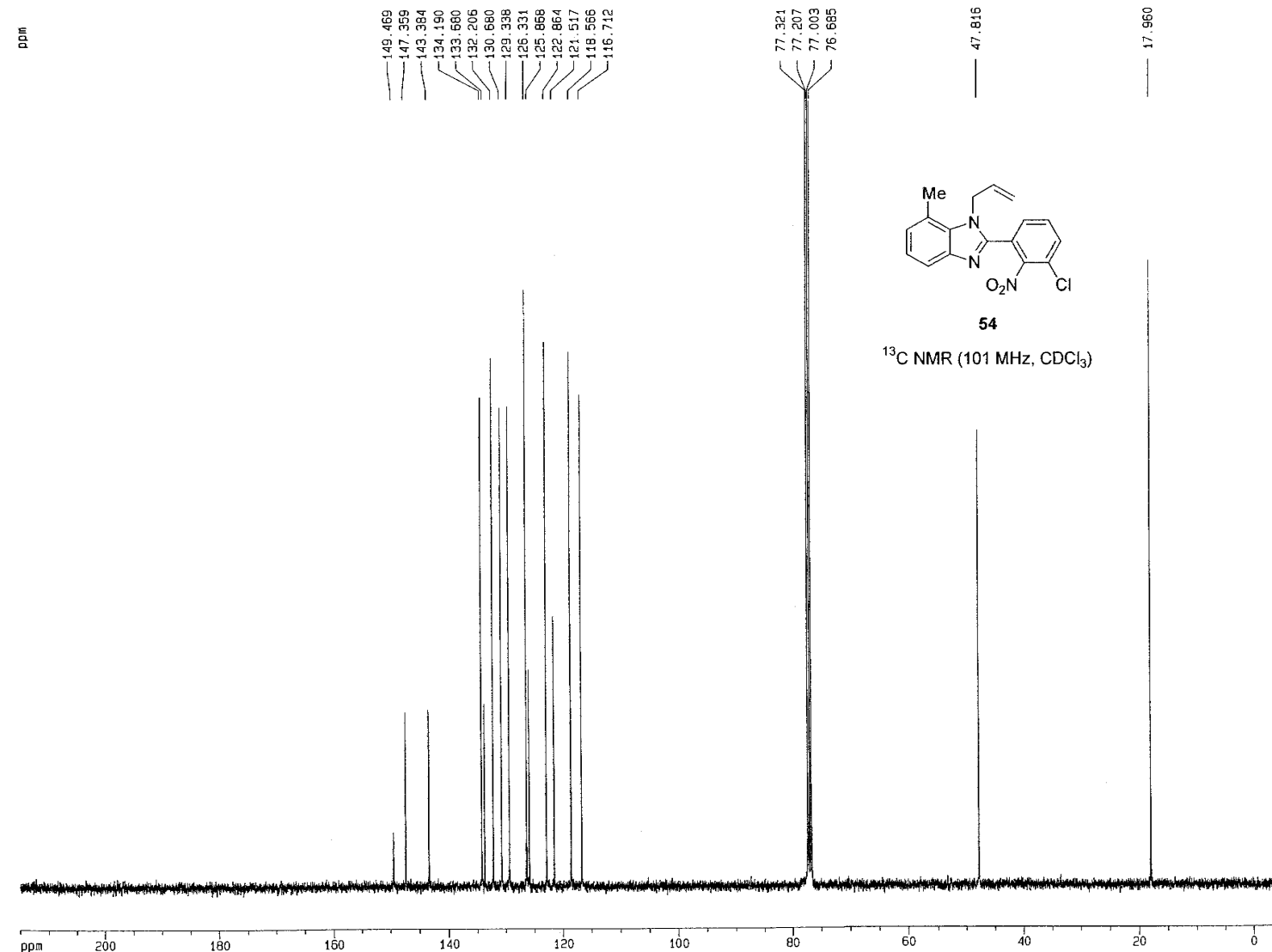
F2 - Acquisition Parameters
Date_ 20030604
Time 18.55
INSTRUM spect
PROBHD 5 mm BBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl₃
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300169 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
F1P 6.200 ppm
F1 2480.81 Hz
F2P 4.500 ppm
F2 1800.58 Hz
PPMCM 0.05667 ppm/cm
HZCM 22.67403 Hz/cm





Current Data Parameters
 NAME Jun04-2003
 EXPNO 21
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030604
 Time 19.45
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 840
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383397 Hz
 AQ 1.3042164 sec
 RG 16384
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.0000000 sec
 d11 0.0300000 sec
 d12 0.0000200 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

===== CHANNEL f2 =====
 CPOPRG2 waltz16
 NUC2 1H
 PCPO2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127755 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 215.000 ppm
 F1 21631.75 Hz
 F2P -5.000 ppm
 F2 -503.06 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82703 Hz/cm

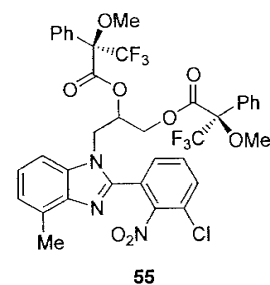
Current Data Parameters
 NAME Jul03-2003
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030703
 Time 17.54
 INSTRUM spect
 PROBHD 5 mm 860 BB-
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 362
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

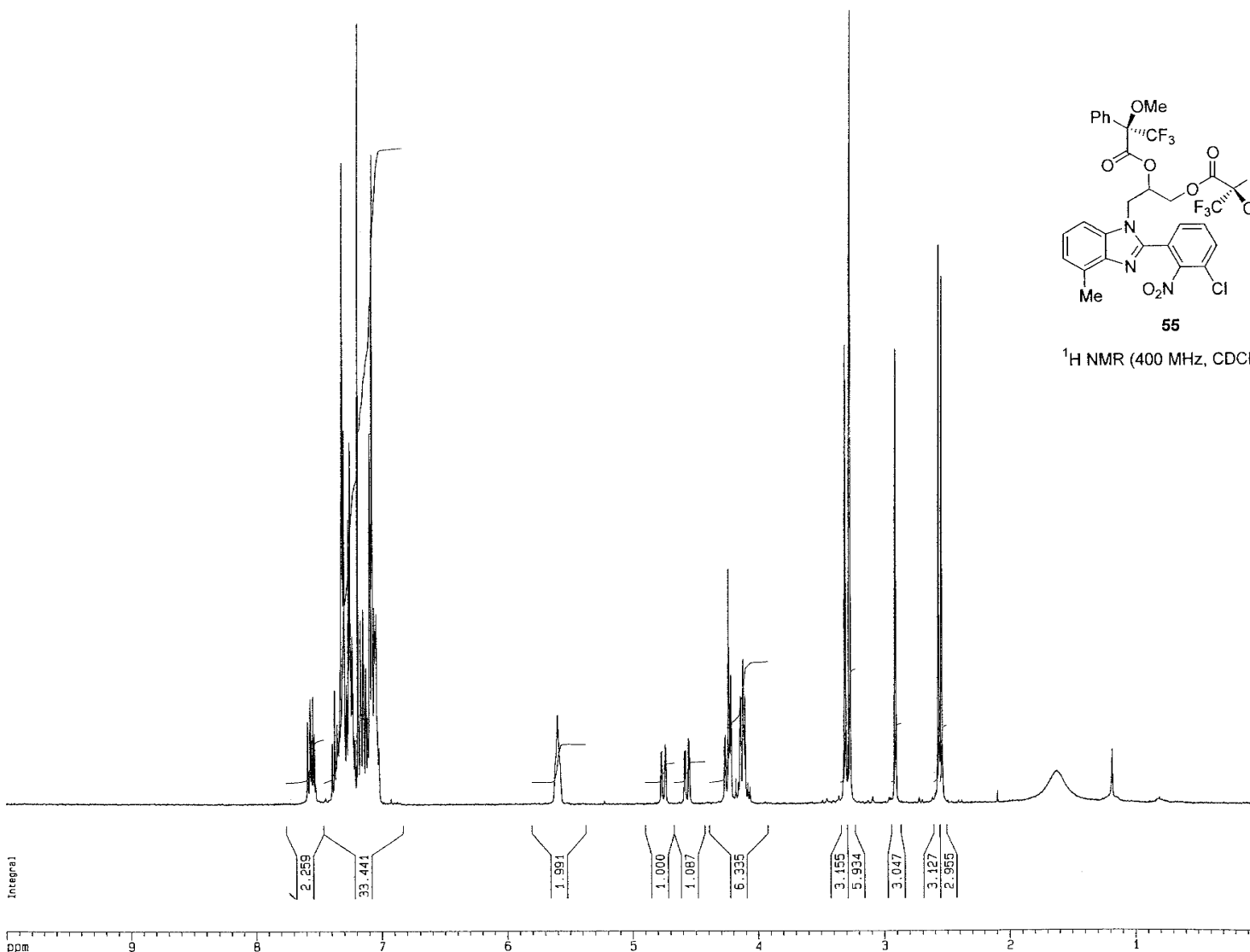
===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300375 MHz
 WDM EM
 SS0 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.33333 ppm/cm
 HZCM 133.37668 Hz/cm



¹H NMR (400 MHz, CDCl₃)



Current Data Parameters

NAME Jul103-2003
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030703
Time 17.54
INSTRUM spect
PROBHD 5 mm BB0 BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 362
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====

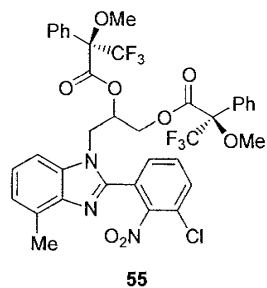
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters

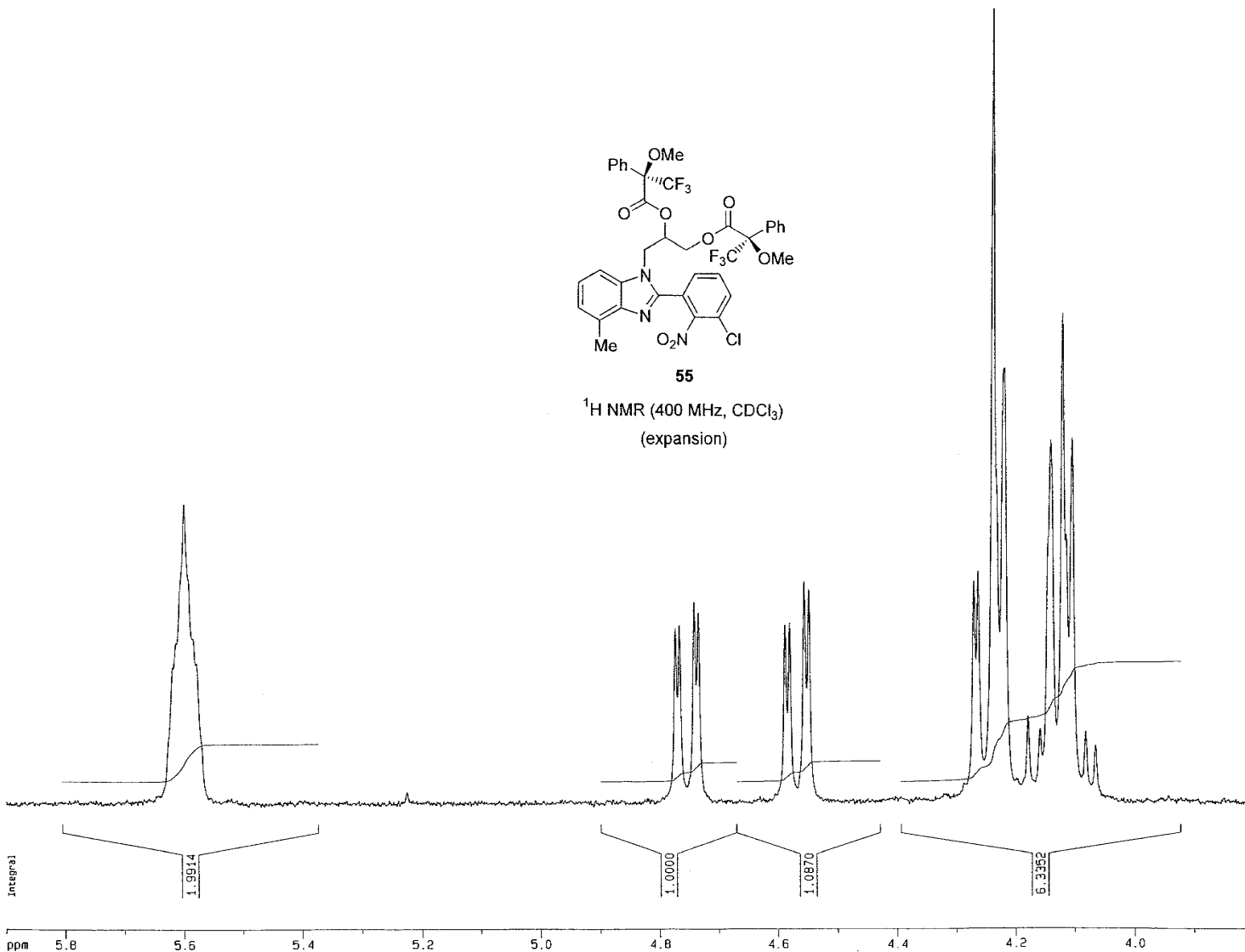
SI 32768
SF 400.1300375 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters

CX 30.00 cm
F1P 5.900 ppm
F1 2360.77 Hz
F2P 3.800 ppm
F2 1520.49 Hz
PPMCM 0.07000 ppm/cm
HZCM 20.00910 Hz/cm



^1H NMR (400 MHz, CDCl_3)
(expansion)



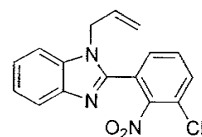
Current Data Parameters
 NAME Mar01-2003
 EXPNO 30
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030301
 Time 18.21
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.0000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

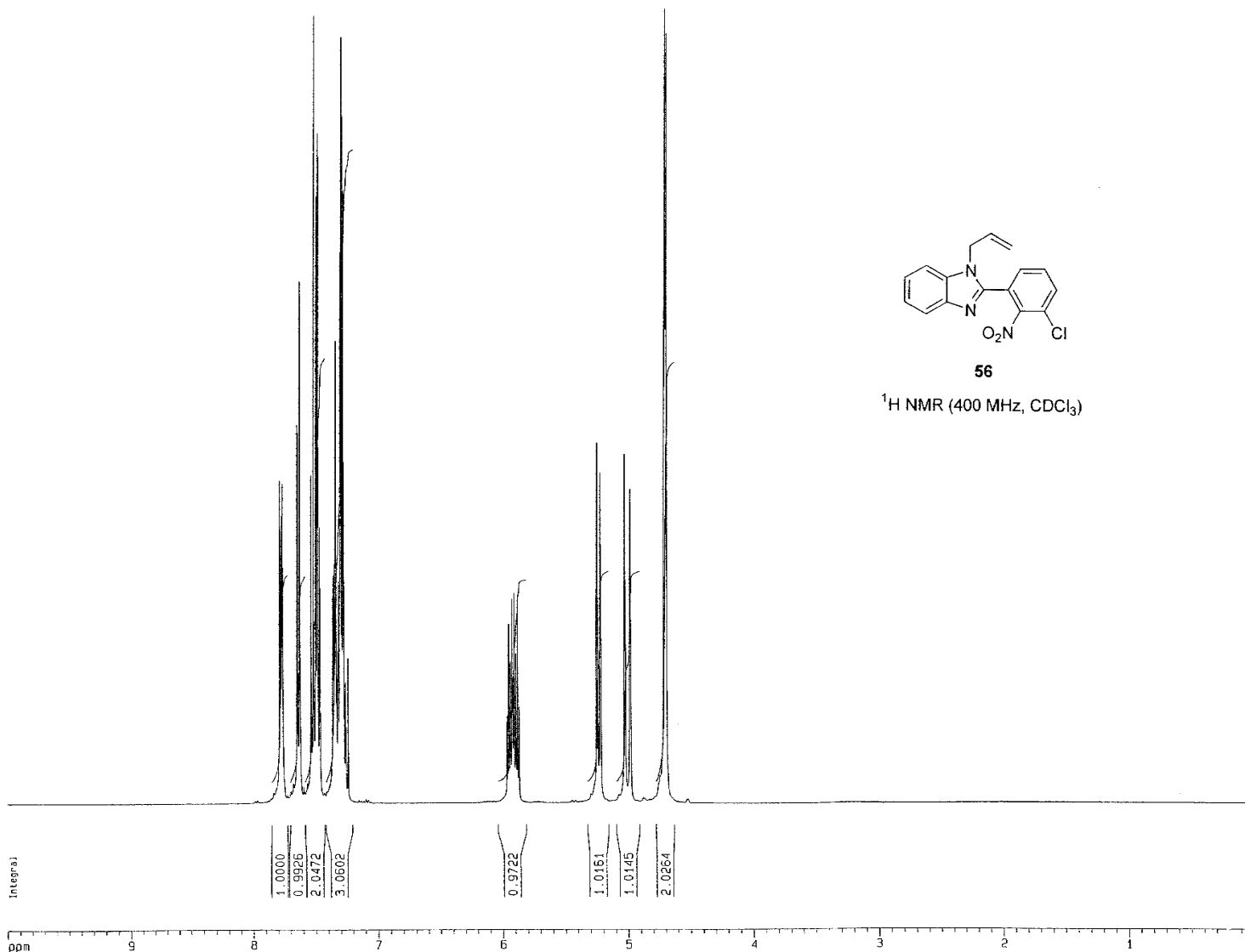
F2 - Processing parameters
 SI 32768
 SF 400.1300247 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.33333 ppm/cm
 HZCM 133.37658 Hz/cm



56

¹H NMR (400 MHz, CDCl₃)



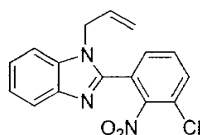
Current Data Parameters
 NAME Mar01-2003
 EXPNO 30
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030301
 Time 18.21
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

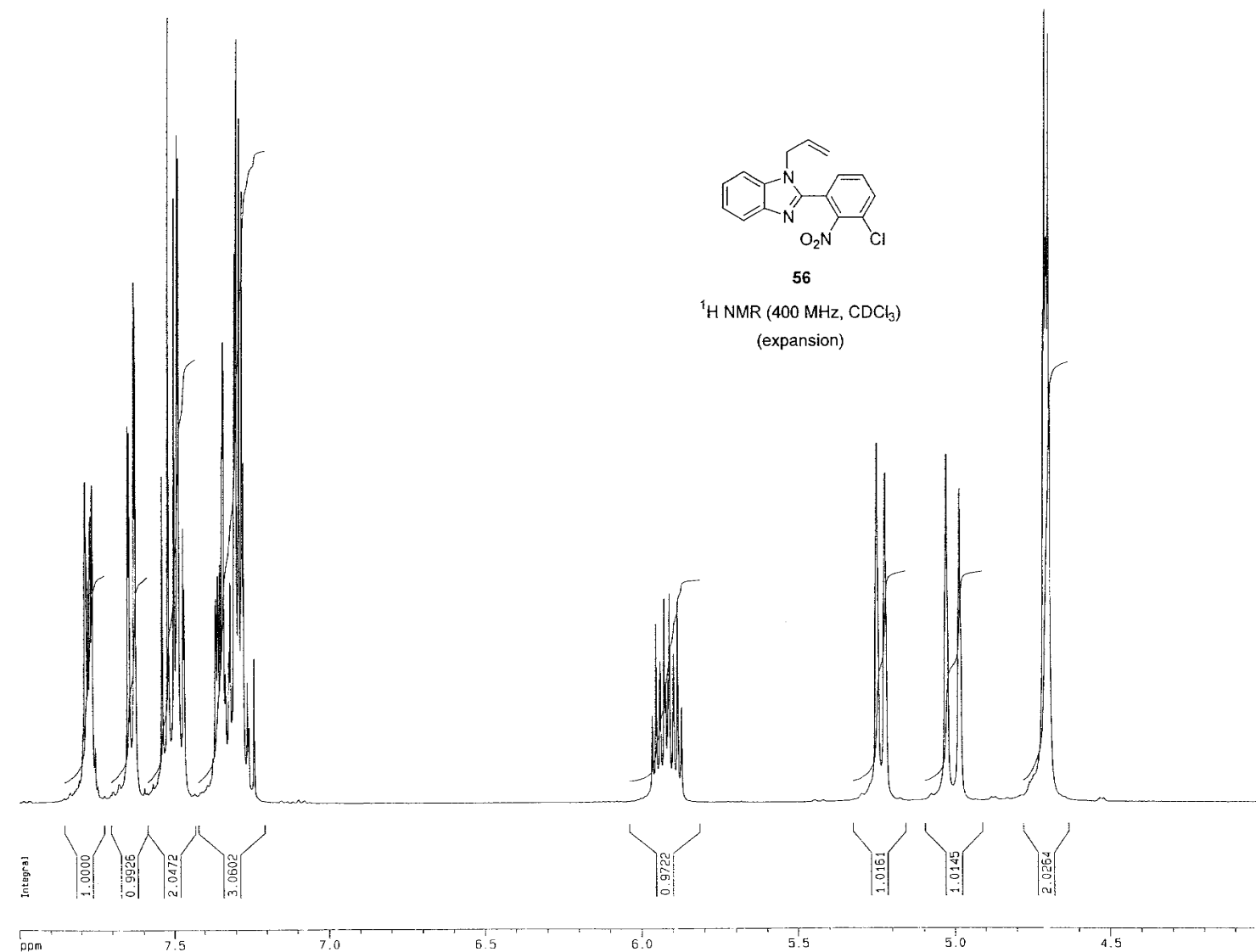
F2 - Processing parameters
 SI 32768
 SF 400.1300247 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 8.000 ppm
 F1 3201.04 Hz
 F2P 4.000 ppm
 F2 1600.52 Hz
 PPMCM 0.13333 ppm/cm
 HZCM 53.35067 Hz/cm

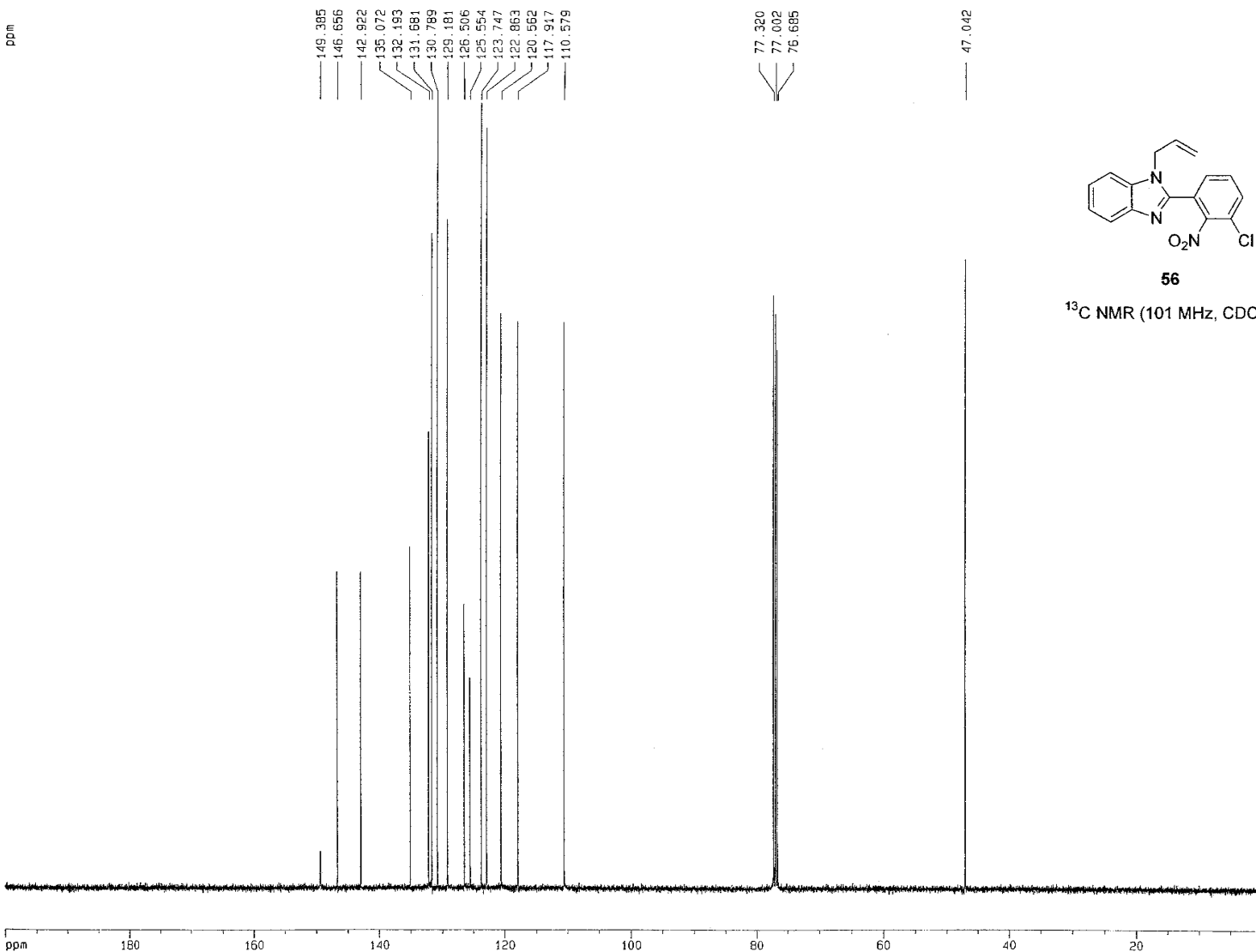


56

¹H NMR (400 MHz, CDCl₃)
 (expansion)



ppm



Current Data Parameters

NAME Mar01-2003
EXPNO 100
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030301
Time 23.54
INSTRUM spect
PROBHD 5 mm BBD BB-1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2800
DS 4
SWH 25125.629 Hz
FIDRES 0.383387 Hz
AQ 1.3042164 sec
RG 4096
DW 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====

NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SFO1 100.6237959 MHz

===== CHANNEL f2 =====

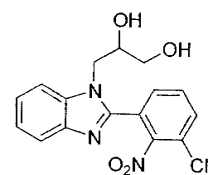
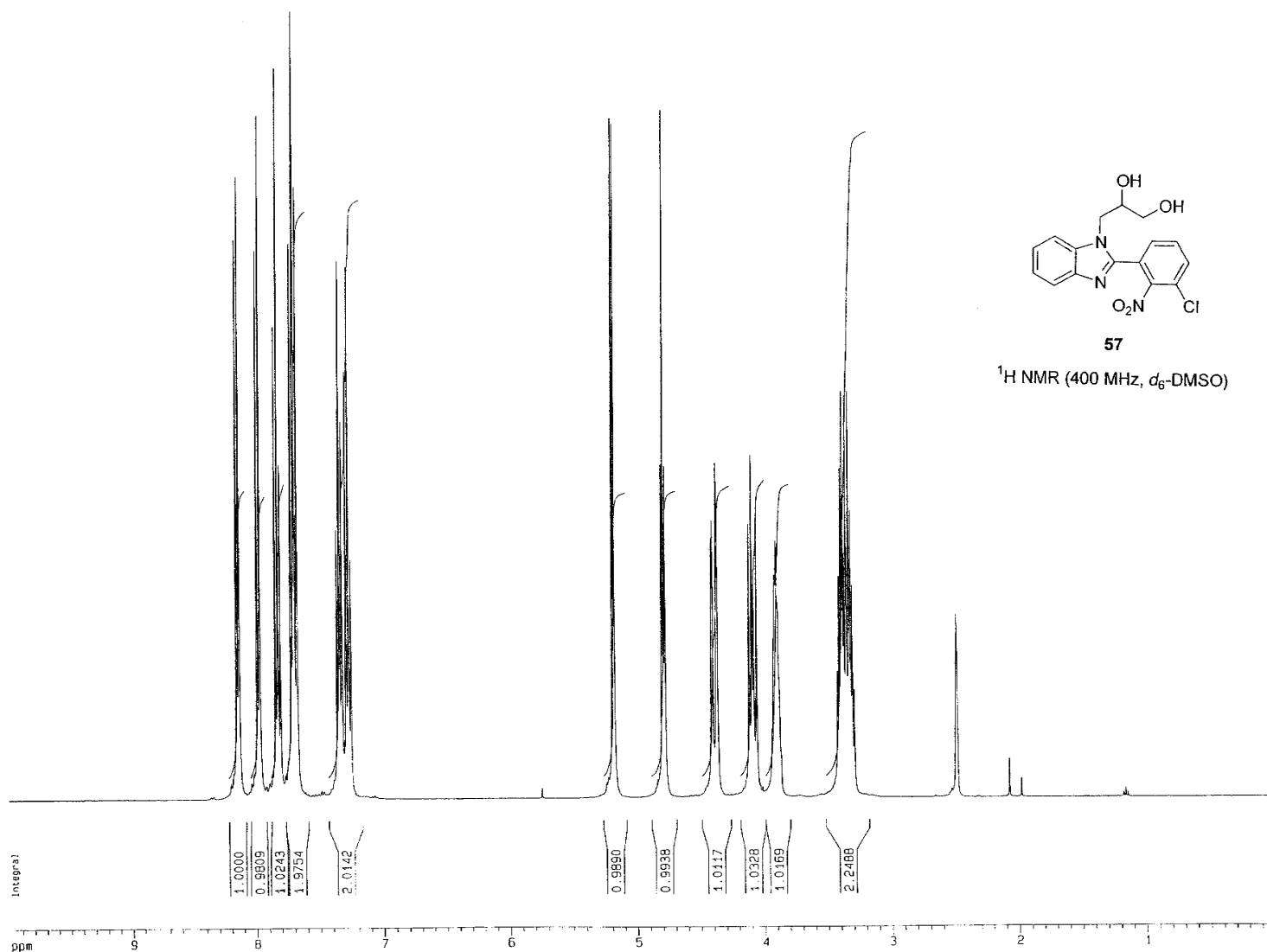
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SFO2 400.1316005 MHz

F2 - Processing parameters

SI 32768
SF 100.6127807 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.40

1D NMR plot parameters

CX 30.00 cm
F1P 200.000 ppm
F1 20122.55 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCH 6.65667 ppm/cm
HZCM 670.75177 Hz/cm



57

^1H NMR (400 MHz, d_6 -DMSO)

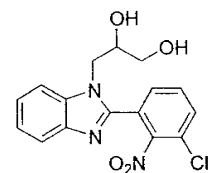
Current Data Parameters
NAME Mar02-2003
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030302
Time 20.32
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 ^1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300056 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
F1P 10.000 ppm
F1 4001.30 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCM 0.33333 ppm/cm
HZCM 133.37666 Hz/cm



57

^1H NMR (400 MHz, d_6 -DMSO)
(expansion)

Current Data Parameters

NAME Mar02-2003
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030302
Time 20.32
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.0000000 sec

===== CHANNEL f1 =====

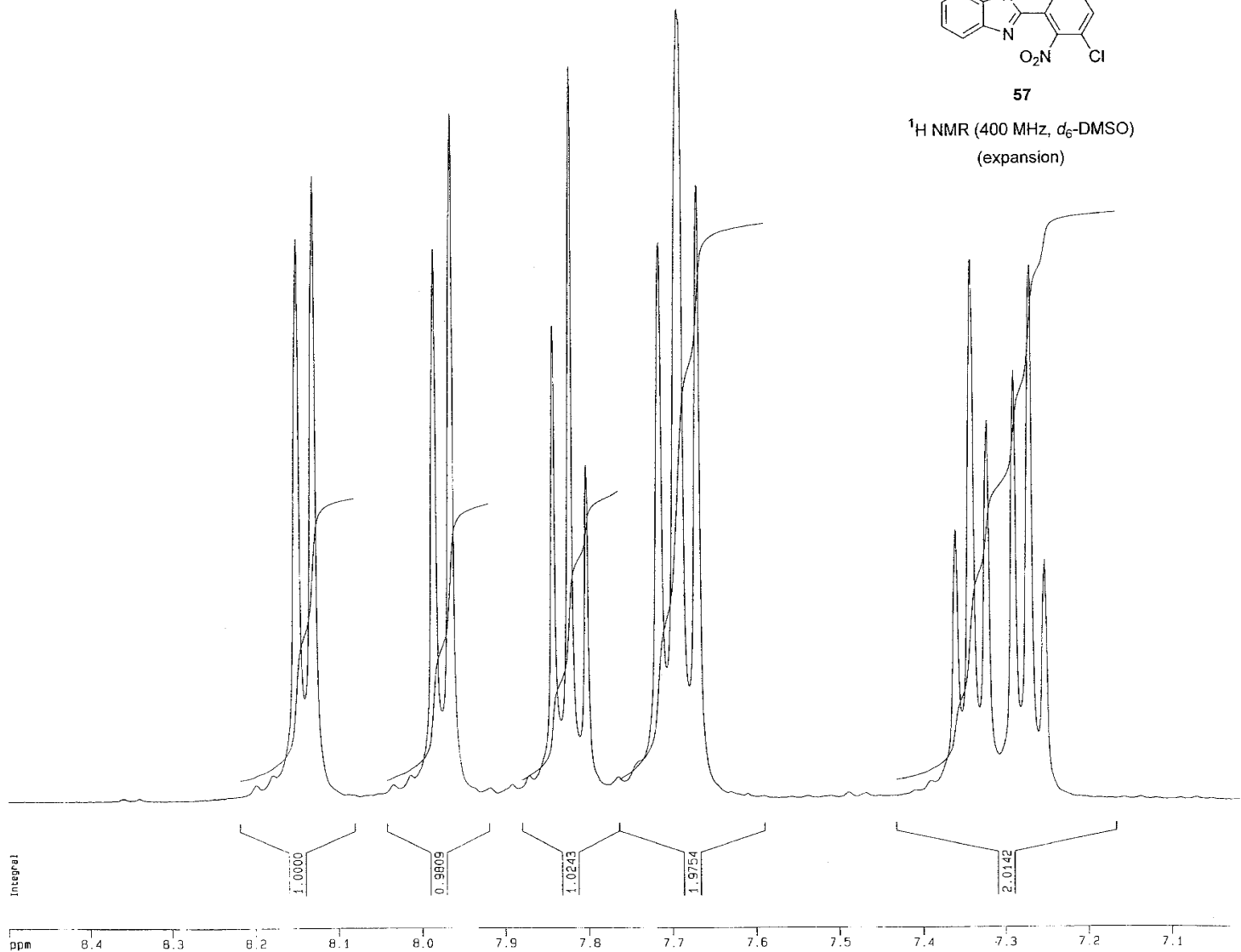
NUC1 ^1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

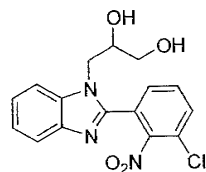
F2 - Processing parameters

SI 32768
SF 400.1300056 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters

CX 30.00 cm
F1P 8.500 ppm
F1 3401.10 Hz
F2P 7.000 ppm
F2 2800.91 Hz
PPMCM 0.05000 ppm/cm
HZCM 20.00650 Hz/cm





57

^1H NMR (400 MHz, d_6 -DMSO)
(expansion)

Current Data Parameters

NAME Mar02-2003
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030302
Time 20.32
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 90.5
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====

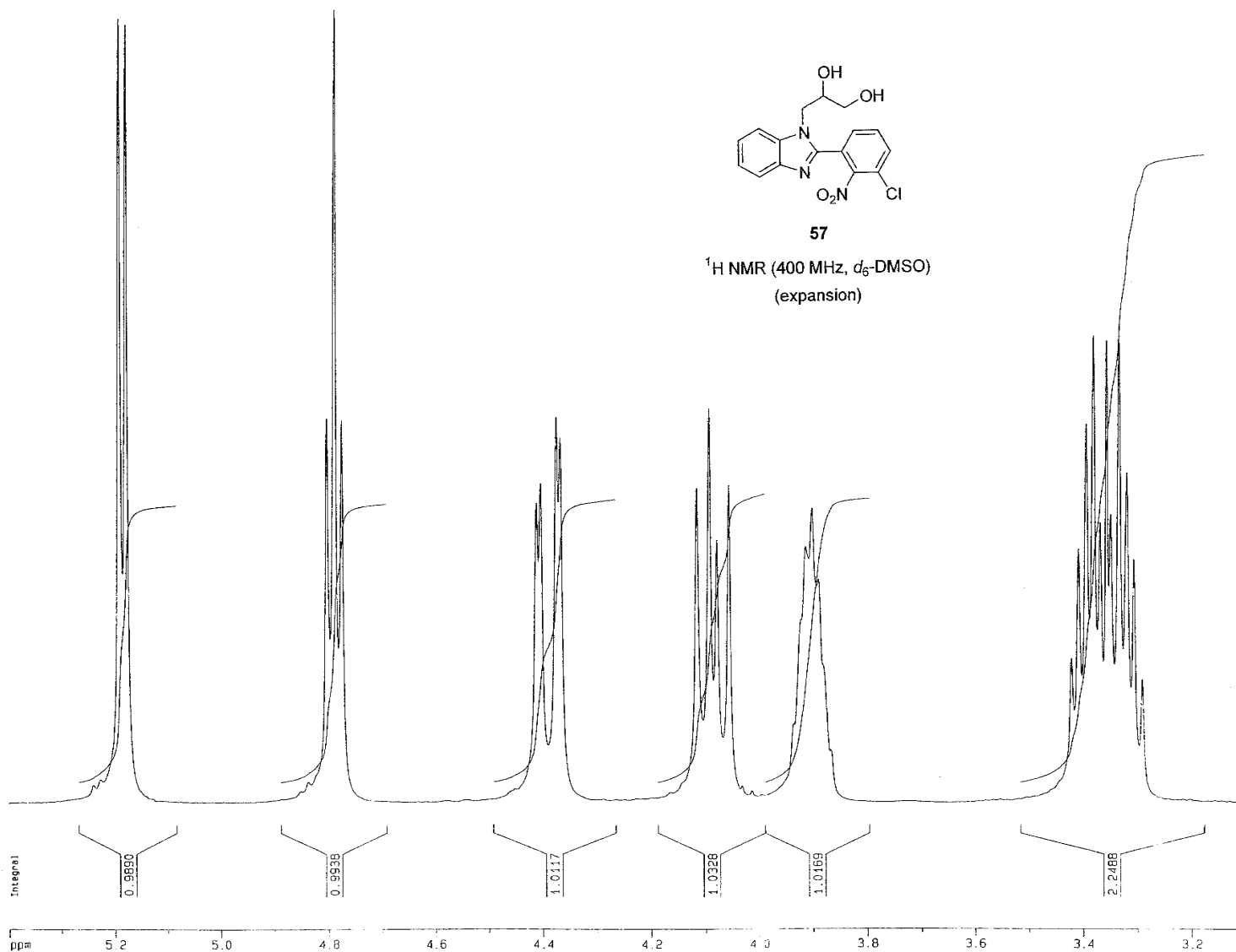
NUC1 ^1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters

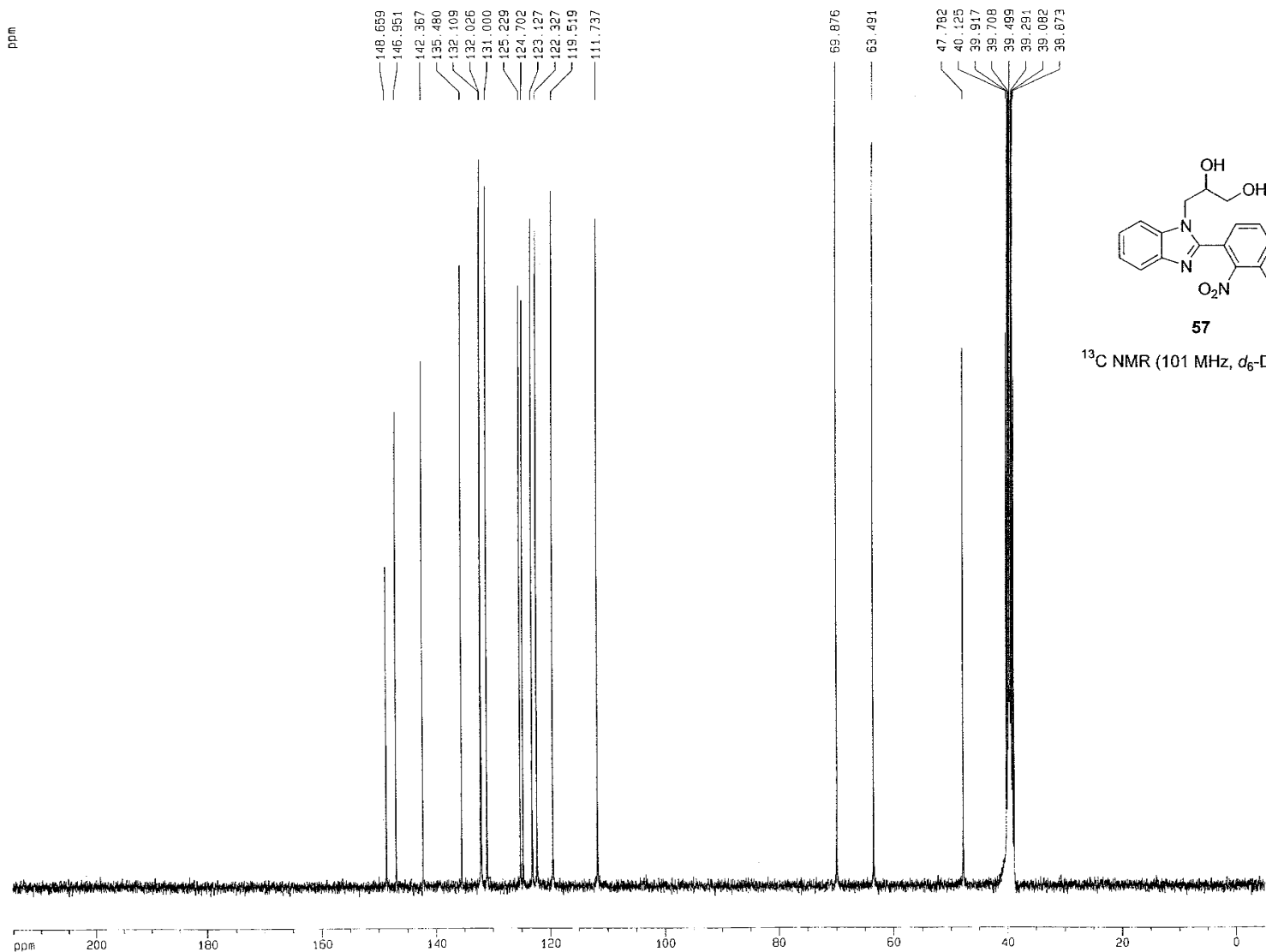
SI 32768
SF 400.1300056 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters

CX 30.00 cm
F1P 5.400 ppm
F1 2160.70 Hz
F2P 3.100 ppm
F2 1240.40 Hz
PPMCM 0.07667 ppm/cm
HZCM 30.67664 Hz/cm



ppm



Current Data Parameters

NAME Mar02-2003
EXPNO 41
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030302
Time 23.23
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 3000
DS 4
SWH 25125.629 Hz
FIDRES 0.383387 Hz
AQ 1.3042164 sec
RG 16384
DW 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====

NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

===== CHANNEL f2 =====

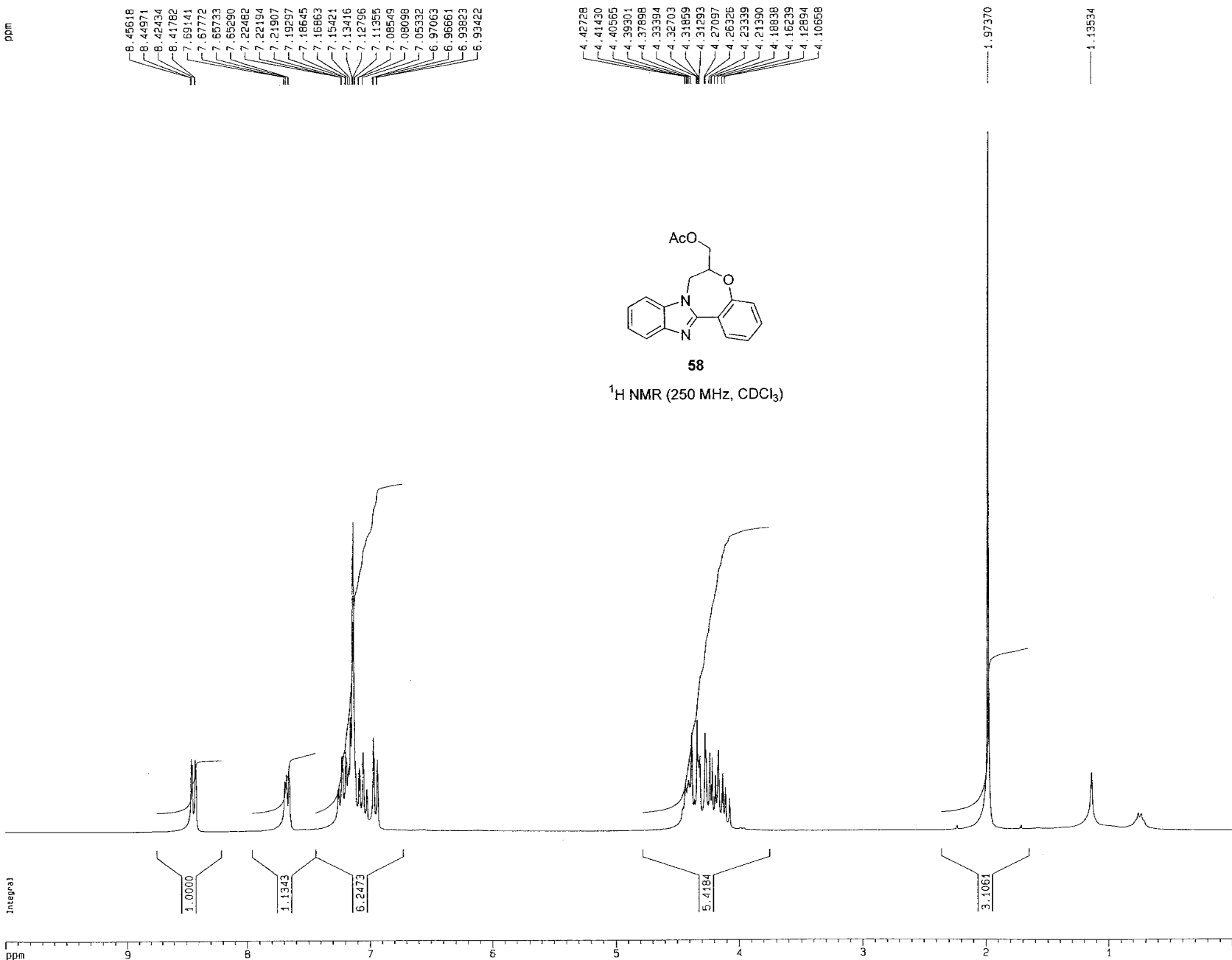
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters

SI 32768
SF 100.6128166 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters

CX 30.00 cm
F1P 215.000 ppm
F1 21631.76 Hz
F2P -5.000 ppm
F2 -503.06 Hz
PPMCM 7.33333 ppm/cm
HZCM 737.82733 Hz/cm



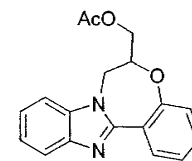
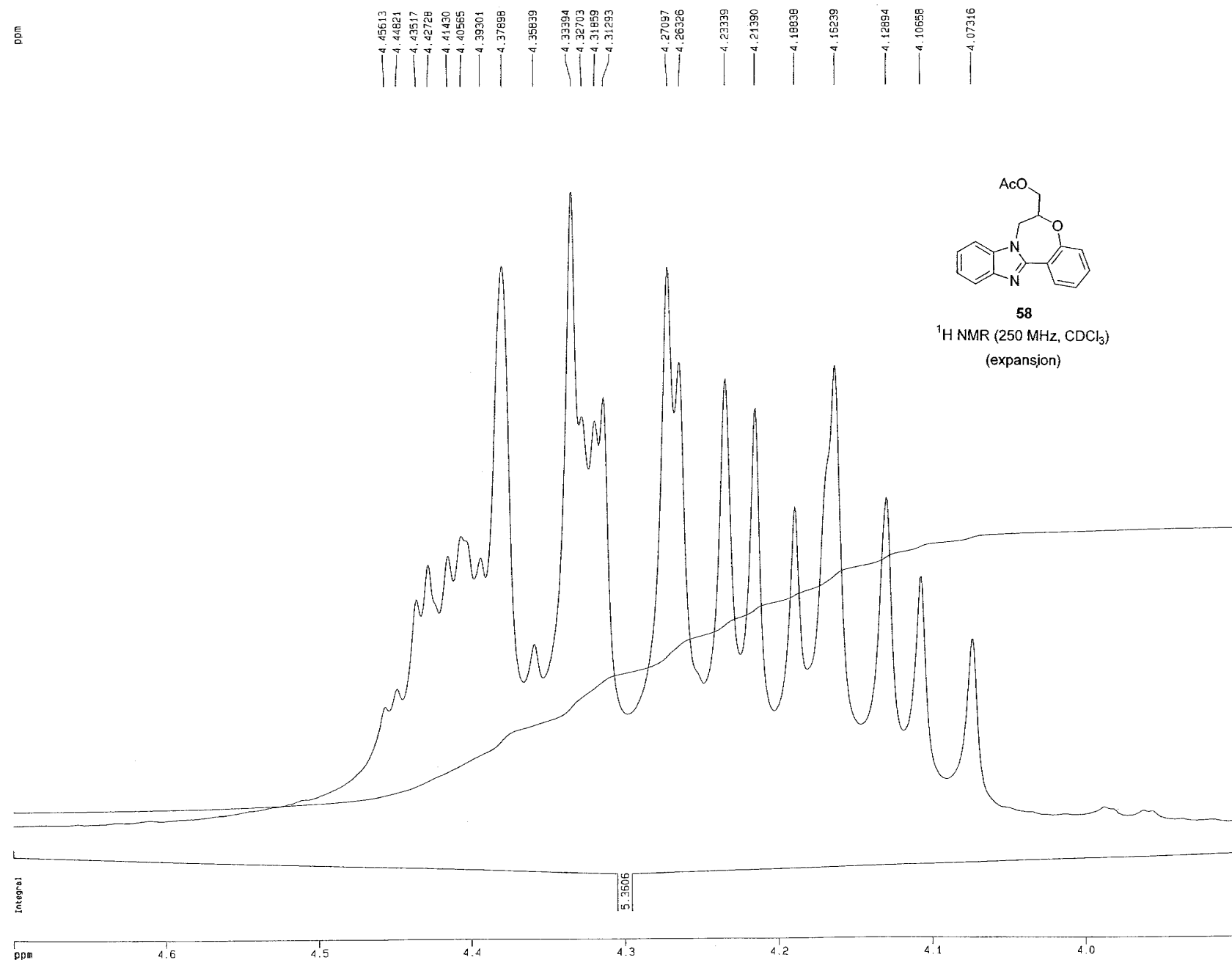
Current Data Parameters
NAME Mar05-2003
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030305
Time 11.37
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zg30
TD 15384
SOLVENT CDCl3
NS 16
DS 2
SWH 5175.983 Hz
FIDRES 0.315917 Hz
AQ 1.5827444 sec
RG 90.5
DM 96.600 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.20 usec
PL1 -4.00 dB
SFO1 250.1315447 MHz

F2 - Processing parameters
SI 32768
SF 250.1300366 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 34.00 cm
F1P 10.000 ppm
F1 2501.30 Hz
F2P 0.000 ppa
F2 0.00 Hz
PPMCM 0.29412 ppm/cm
HZCM 73.56766 Hz/cm



58

¹H NMR (250 MHz, CDCl₃)
(expansion)

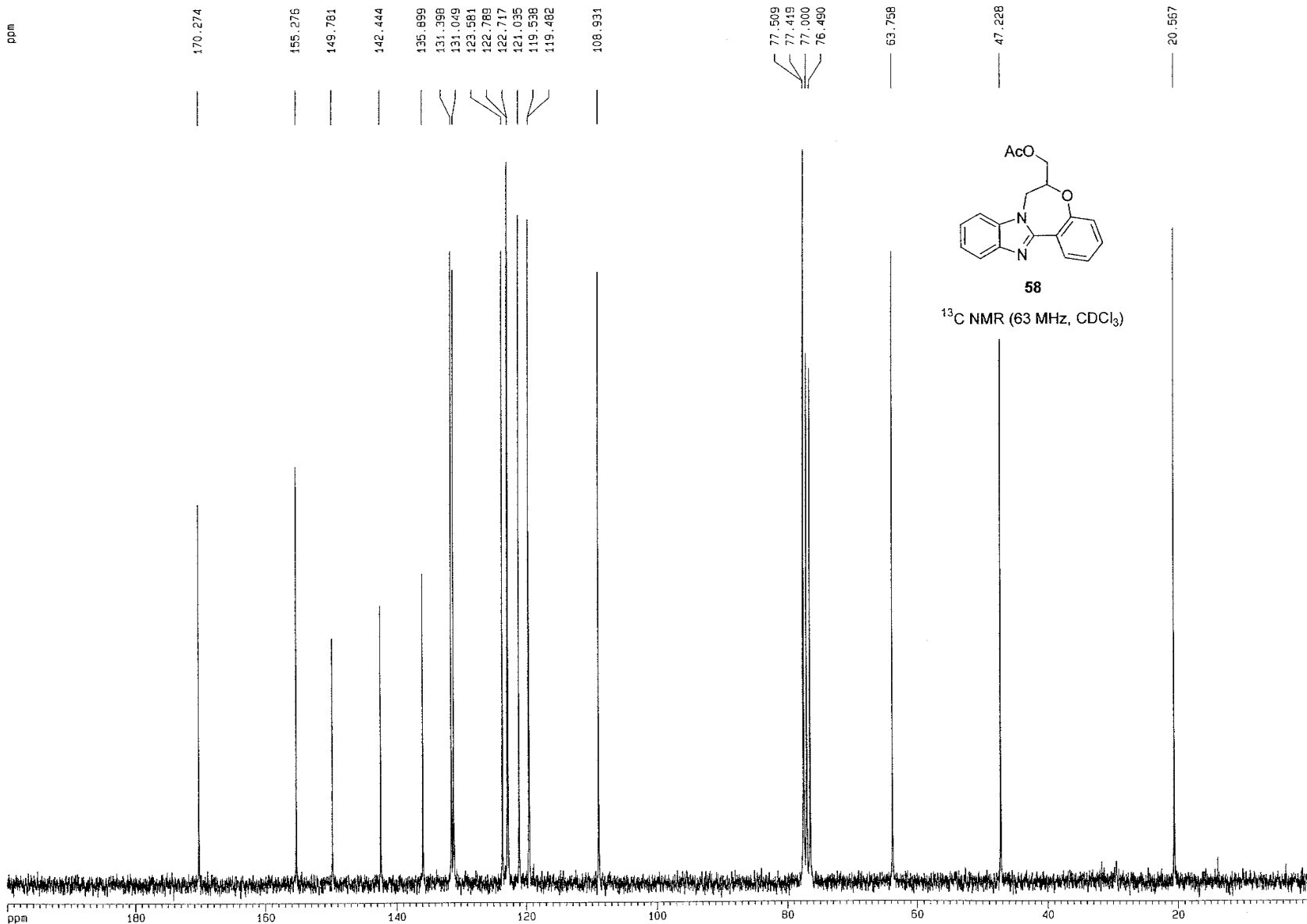
Current Data Parameters
NAME Mar05-2003
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030305
Time 11.37
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zg30
TD 16384
SOLVENT CDCl3
NS 16
DS 2
SWH 5175.983 Hz
FIDRES 0.315917 Hz
AQ 1.5827444 sec
RG 90.5
DM 96.600 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.20 usec
PL1 -4.00 dB
SFO1 250.1315447 MHz

F2 - Processing parameters
SI 32768
SF 250.1300366 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 34.00 cm
F1P 4.700 ppm
F1 1175.61 Hz
F2P 3.900 ppm
F2 975.51 Hz
PPHMC 0.02353 ppm/cm
HZCM 5.68541 Hz/cm



Current Data Parameters
NAME Mar05-2003
EXPNO 11
PROCNO 1

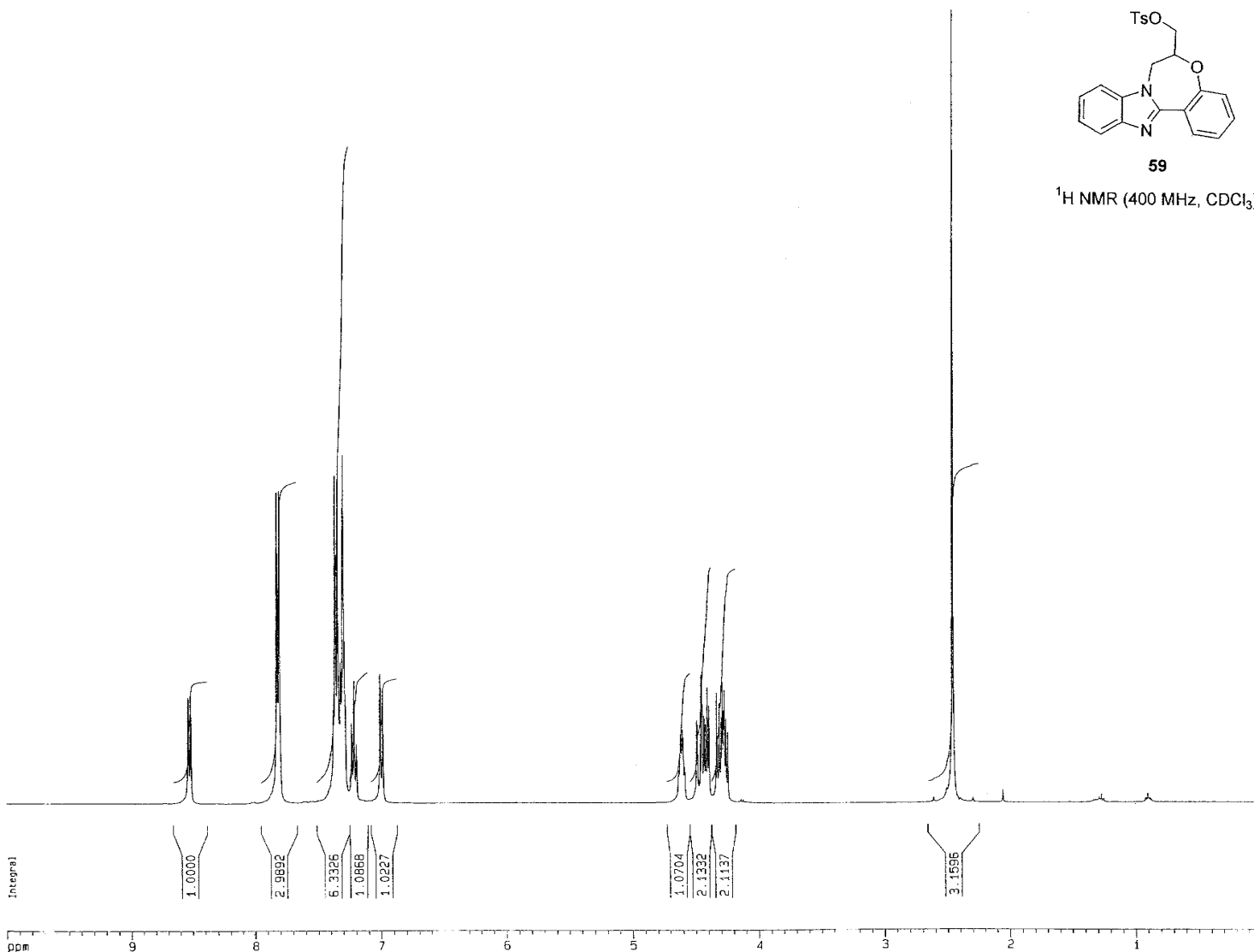
F2 - Acquisition Parameters
Date_ 20030305
Time 12.09
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 400
DS 4
SWH 15723.271 Hz
FIDRES 0.239916 Hz
AQ 2.0840946 sec
RG 11555.2
DM 31.800 usec
DE 30.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====
NUC1 ^{13}C
P1 8.00 usec
PL1 0.00 dB
SFO1 62.9021320 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz15
NUC2 ^1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 16.00 dB
PL13 17.00 dB
SFO2 250.1310005 MHz

F2 - Processing parameters
SI 32768
SF 62.8952497 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 34.00 cm
F1P 200.000 ppm
F1 12579.05 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCK 5.88235 ppm/cm
HZCM 369.97205 Hz/cm



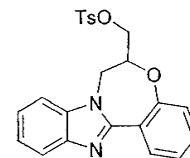
Current Data Parameters
 NAME Mar16-2003-tfek
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030316
 Time 18.29
 INSTRUM spect
 PROBHD 5 mm BB0 BB-
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SFO1 400.1324710 MHz

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

1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.33333 ppm/cm
 HZCM 133.37666 Hz/cm



59
¹H NMR (400 MHz, CDCl₃)
 (expansion)

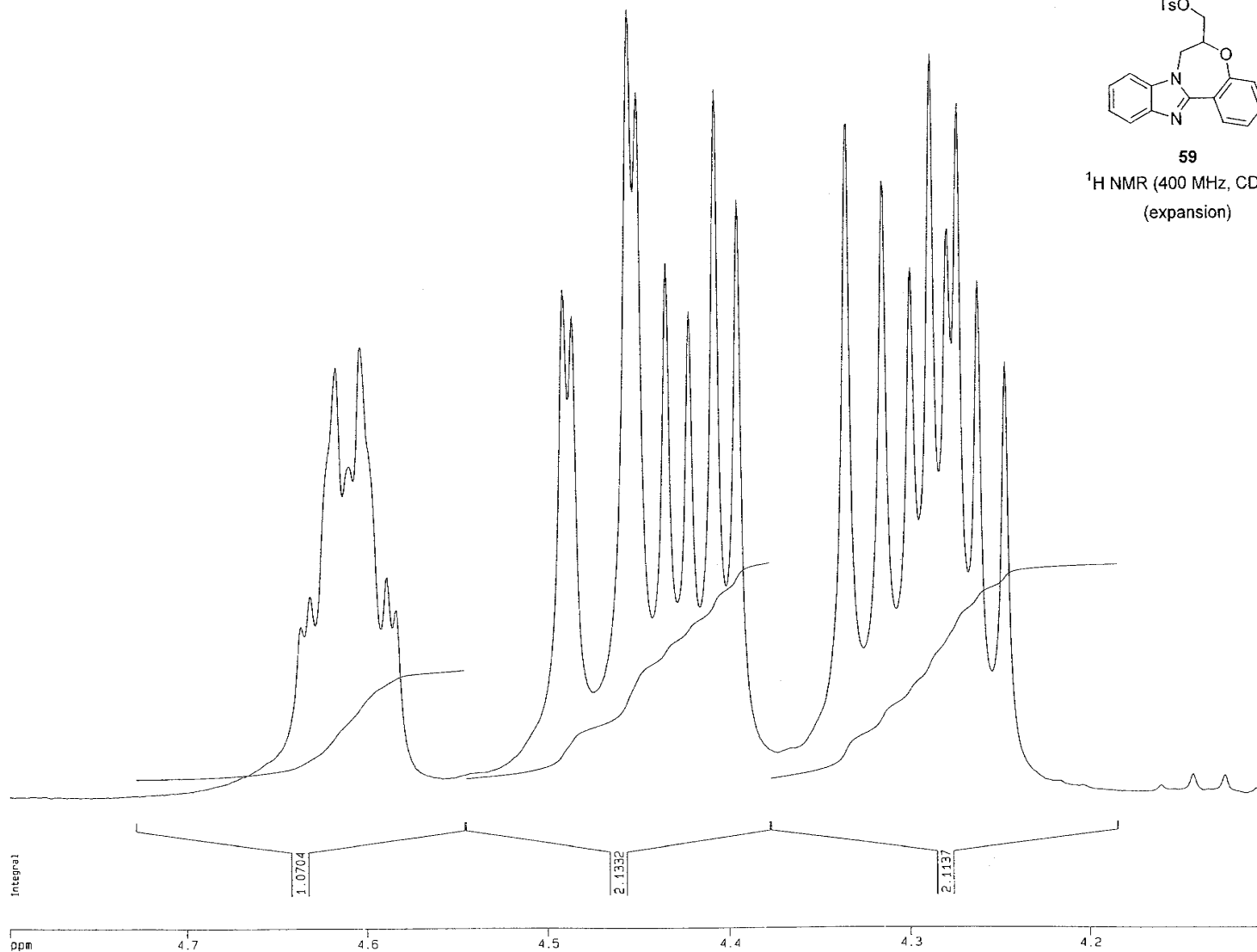
Current Data Parameters
 NAME Mar15-2003-tfek
 EXPNO 10
 PROCNO 1

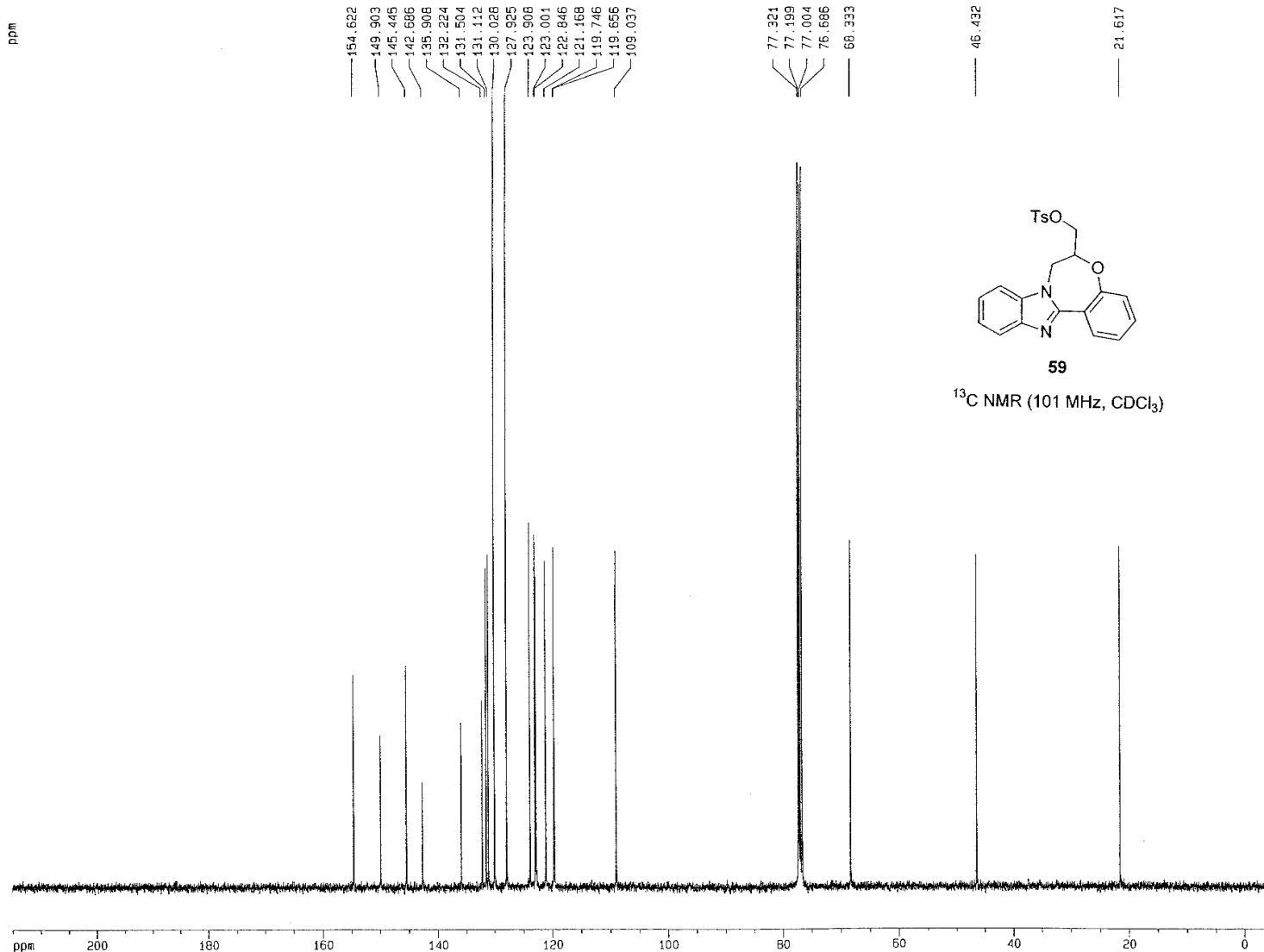
F2 - Acquisition Parameters
 Date_ 20030316
 Time 18.29
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.0000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

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

1D NMR plot parameters
 CX 30.00 cm
 F1P 4.800 ppm
 F1 1920.62 Hz
 F2P 4.100 ppm
 F2 1640.53 Hz
 PPMCM 0.02333 ppm/cm
 HZCM 9.33637 Hz/cm





Current Data Parameters
NAME Mar16-2003-tfek
EXPNO 11
PROCNO 1

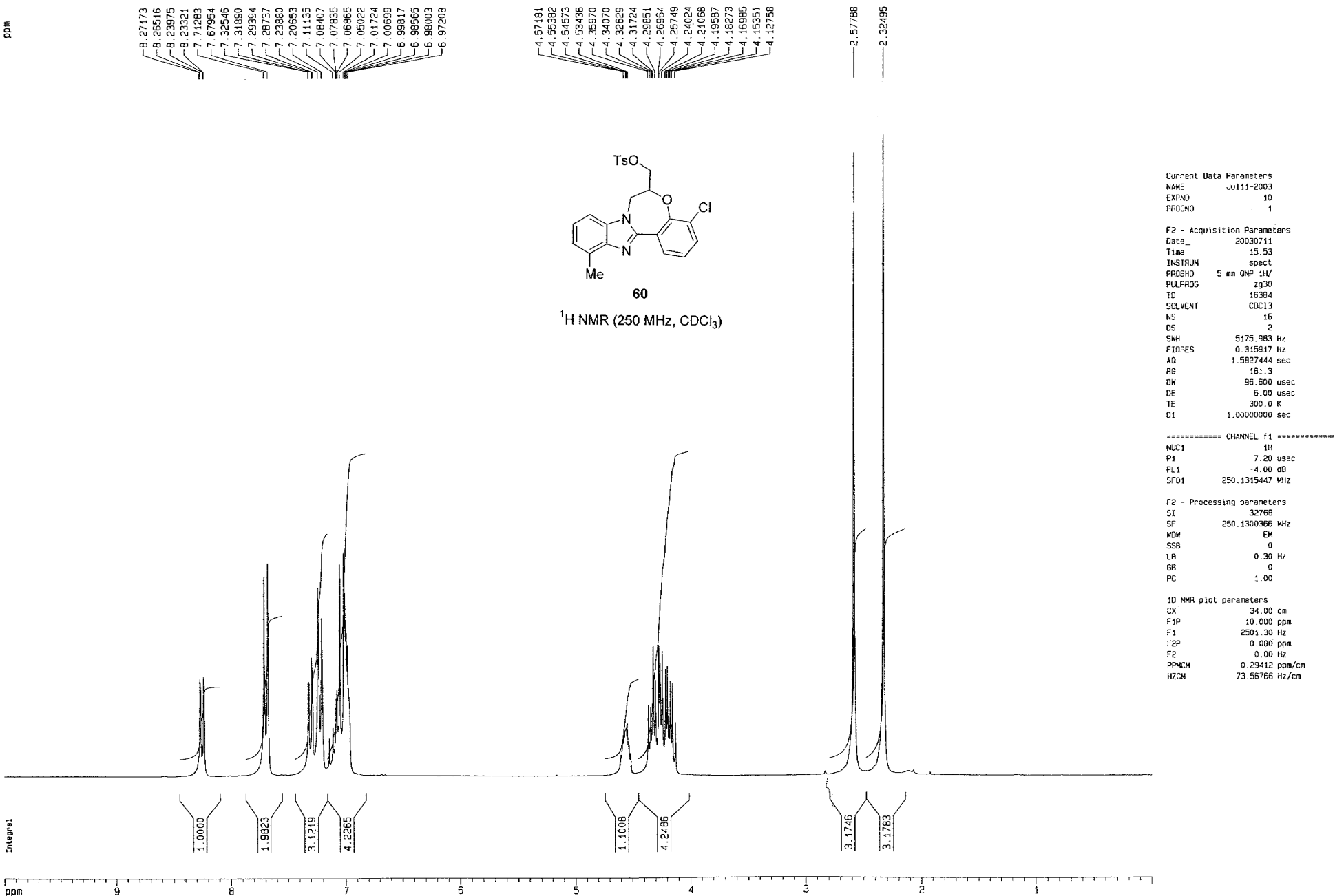
F2 - Acquisition Parameters
Date_ 20030316
Time 19.31
INSTRUM spect
PROBHD 5 mm BBO BB-
PULPROG zgpg30
TO 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 25125.629 Hz
FIDRES 0.383387 Hz
AQ 1.3042164 sec
RG 8192
DW 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127755 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 30.00 cm
F1P 215.000 ppm
F1 21631.75 Hz
F2P -5.000 ppm
F2 -503.06 Hz
PPWCH 7.33333 ppm/cm
HZCM 737.82703 Hz/cm

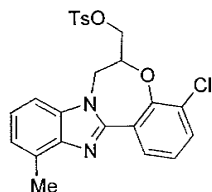


ppm

4.60150
4.58890
4.58225
4.57181
4.55382
4.54573
4.53438
4.52769
4.51541

4.35970
4.34070
4.32629
4.31724
4.29851
4.28954
4.25749
4.24024

4.21068
4.19587
4.18273
4.16985
4.15351
4.12758



60

^1H NMR (250 MHz, CDCl_3)
(expansion)

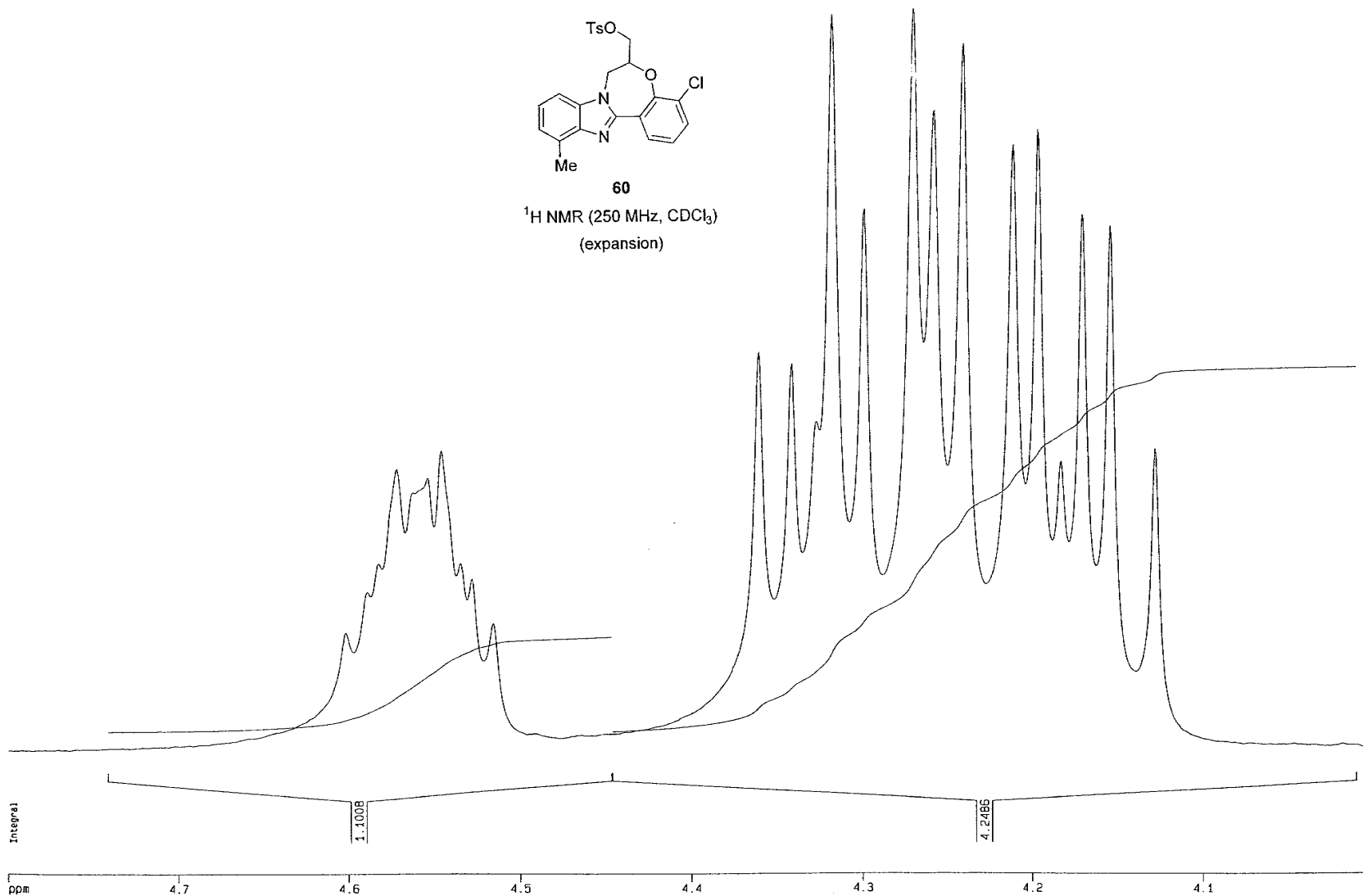
Current Data Parameters
NAME Jul11-2003
EXPNO 10
PROCNO 1

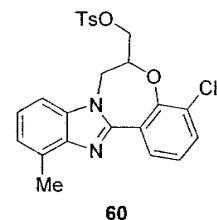
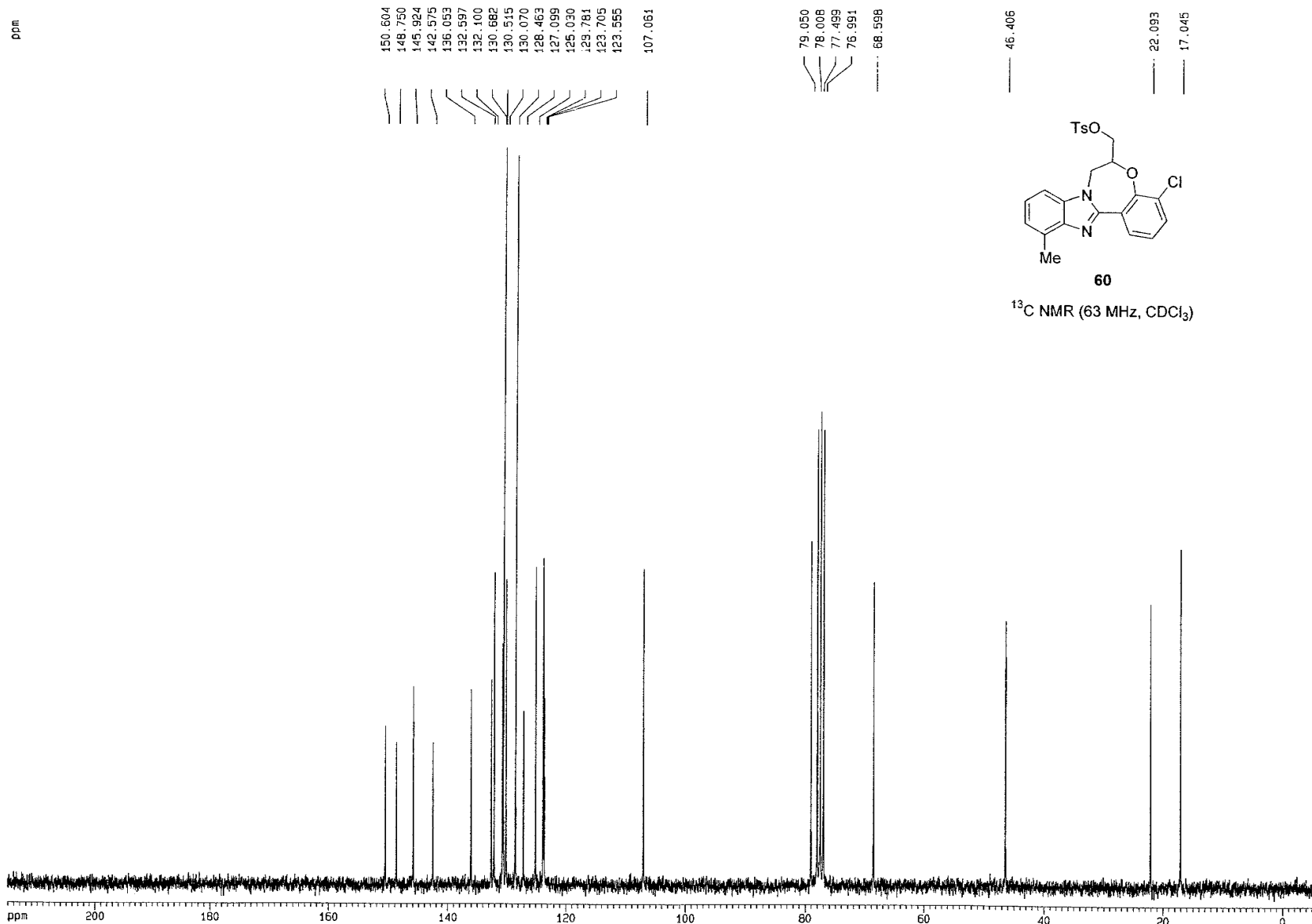
F2 - Acquisition Parameters
Date_ 20030711
Time 15.53
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zg30
TD 16384
SOLVENT CDCl_3
NS 16
DS 2
SWH 5175.983 Hz
FIDRES 0.315917 Hz
AQ 1.5827444 sec
RG 151.3
DN 96.600 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.20 usec
PL1 -4.00 dB
SF01 250.1315447 MHz

F2 - Processing parameters
SI 32768
SF 250.1300366 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 34.00 cm
F1P 4.800 ppm
F1 1200.62 Hz
F2P 4.000 ppm
F2 1000.52 Hz
PPMCH 0.02353 ppm/cm
HZCM 5.88541 Hz/cm





Current Data Parameters
NAME Jul11-2603
EXPNO 11
PROCNO 1

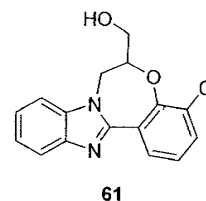
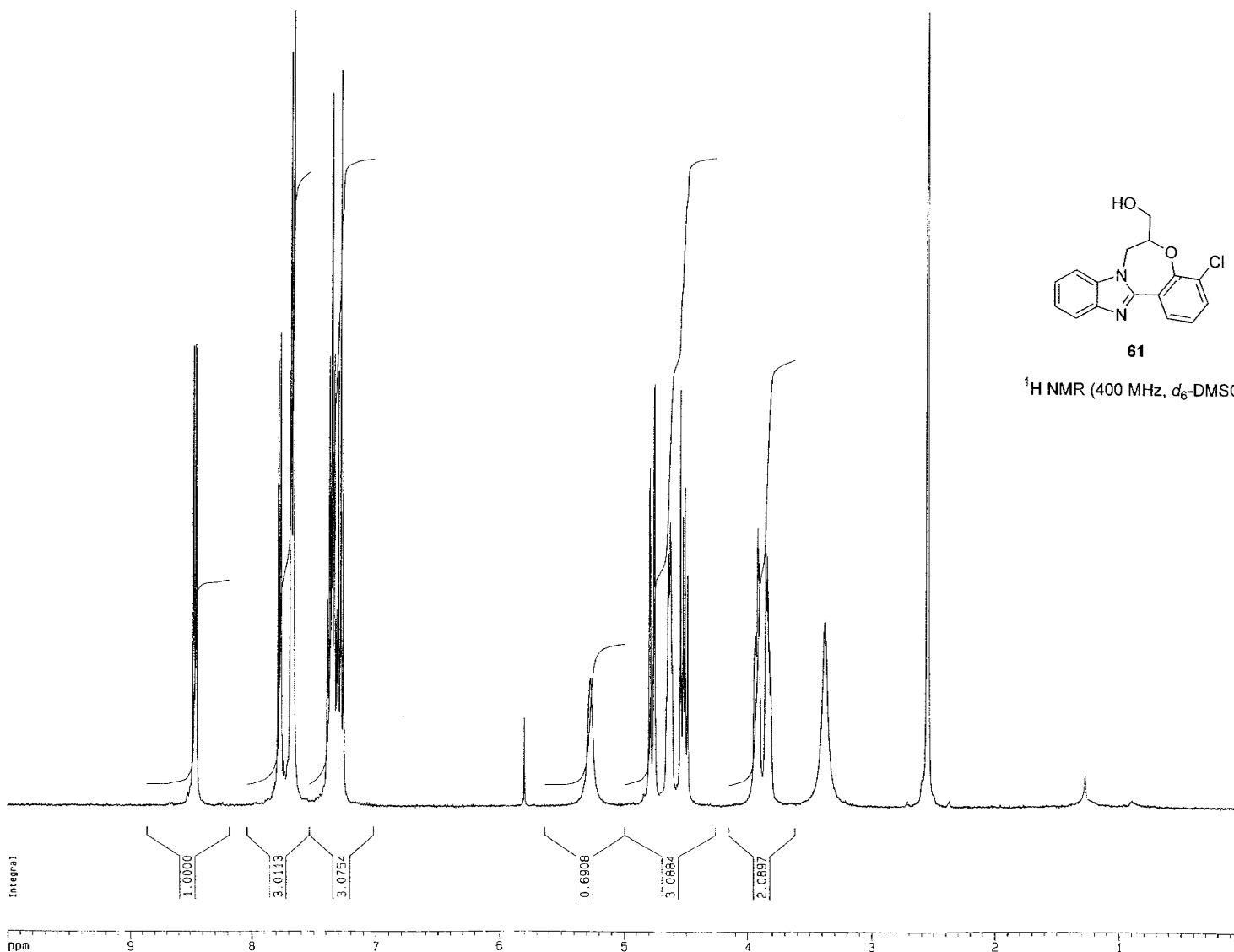
F2 - Acquisition Parameters
Date_ 20030711
Time 16.26
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 420
DS 4
SWH 15723.271 Hz
FIDRES 0.236918 Hz
AQ 2.0840948 sec
RG 14585.5
OW 31.800 usec
DE 30.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
PL1 0.00 dB
SF01 62.9021320 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 16.00 dB
PL13 17.00 dB
SF02 250.1310005 MHz

F2 - Processing parameters
SI 32768
SF 62.8952140 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 34.00 cm
F1P 215.000 ppm
F1 13522.47 Hz
F2P -5.000 ppm
F2 -314.48 Hz
PPHMC 6.47059 ppm/cm
HZCM 406.96902 Hz/cm



¹H NMR (400 MHz, d₆-DMSO)

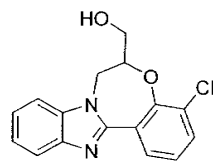
Current Data Parameters
 NAME Mar08-2003
 EXPNO 30
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030308
 Time 20.48
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT DMSO
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 362
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

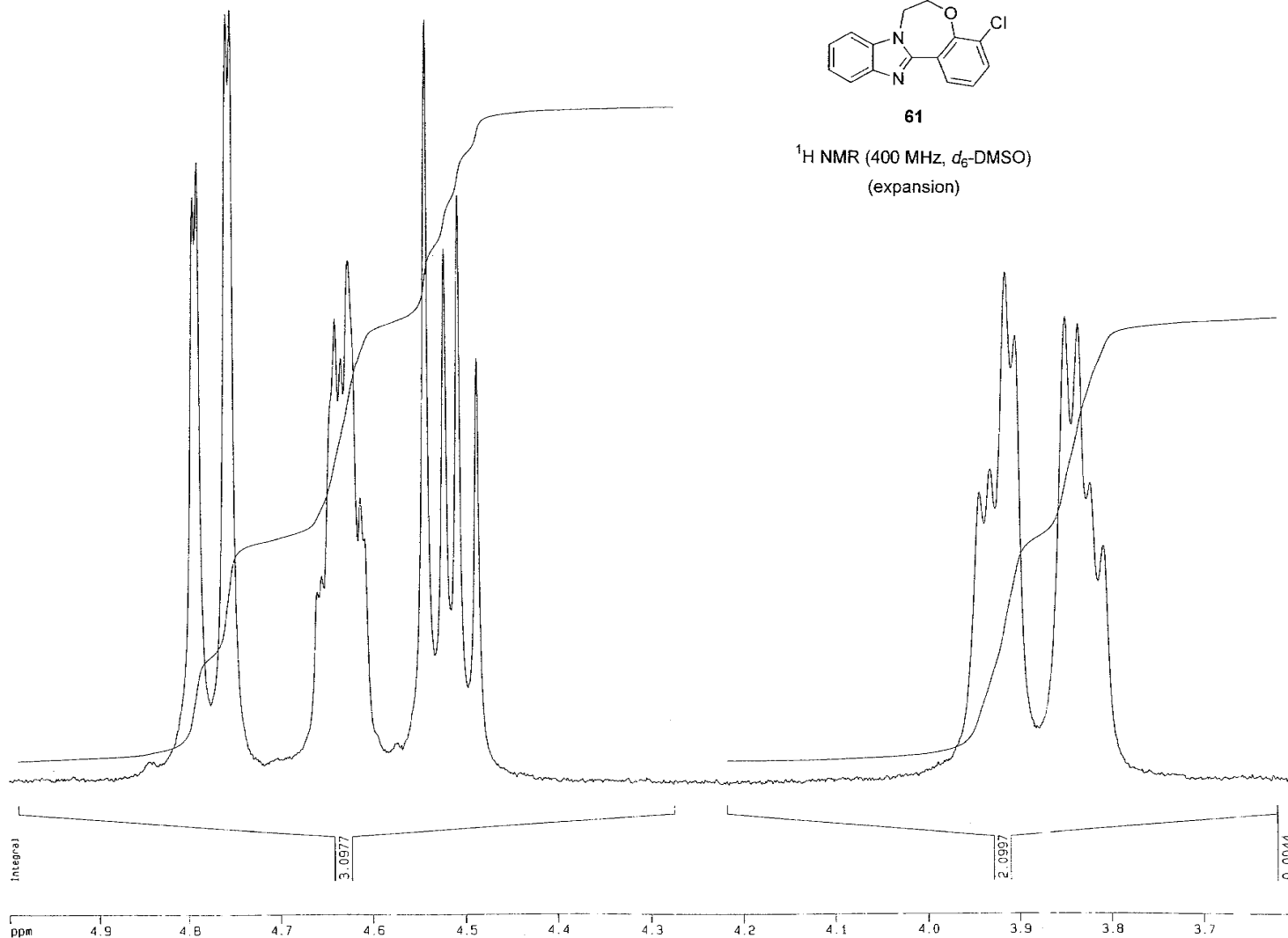
F2 - Processing parameters
 SI 32768
 SF 400.1299832 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.33333 ppm/cm
 HZCM 133.37666 Hz/cm



61

^1H NMR (400 MHz, d_6 -DMSO)
(expansion)



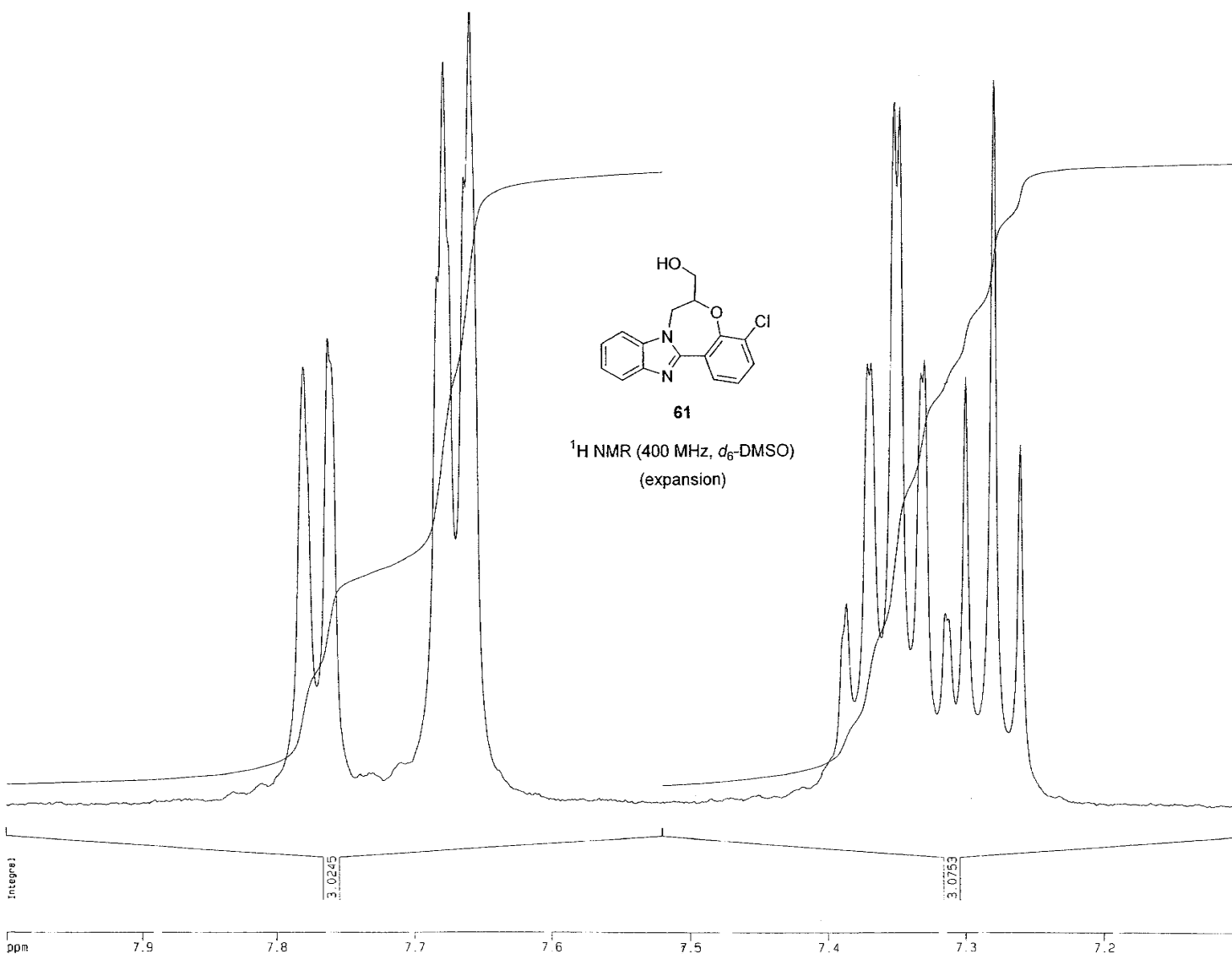
Current Data Parameters
NAME Mar08-2003
EXPNO 30
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030308
Time 20.48
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 16
DS 2
SWH 8278.145 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 362
DW 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

===== CHANNEL f1 =====
NUC1 ^1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1299832 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
F1P 5.000 ppm
F1 2000.65 Hz
F2P 3.600 ppm
F2 1440.47 Hz
PPMCM 0.04567 ppm/cm
HZCM 18.67273 Hz/cm



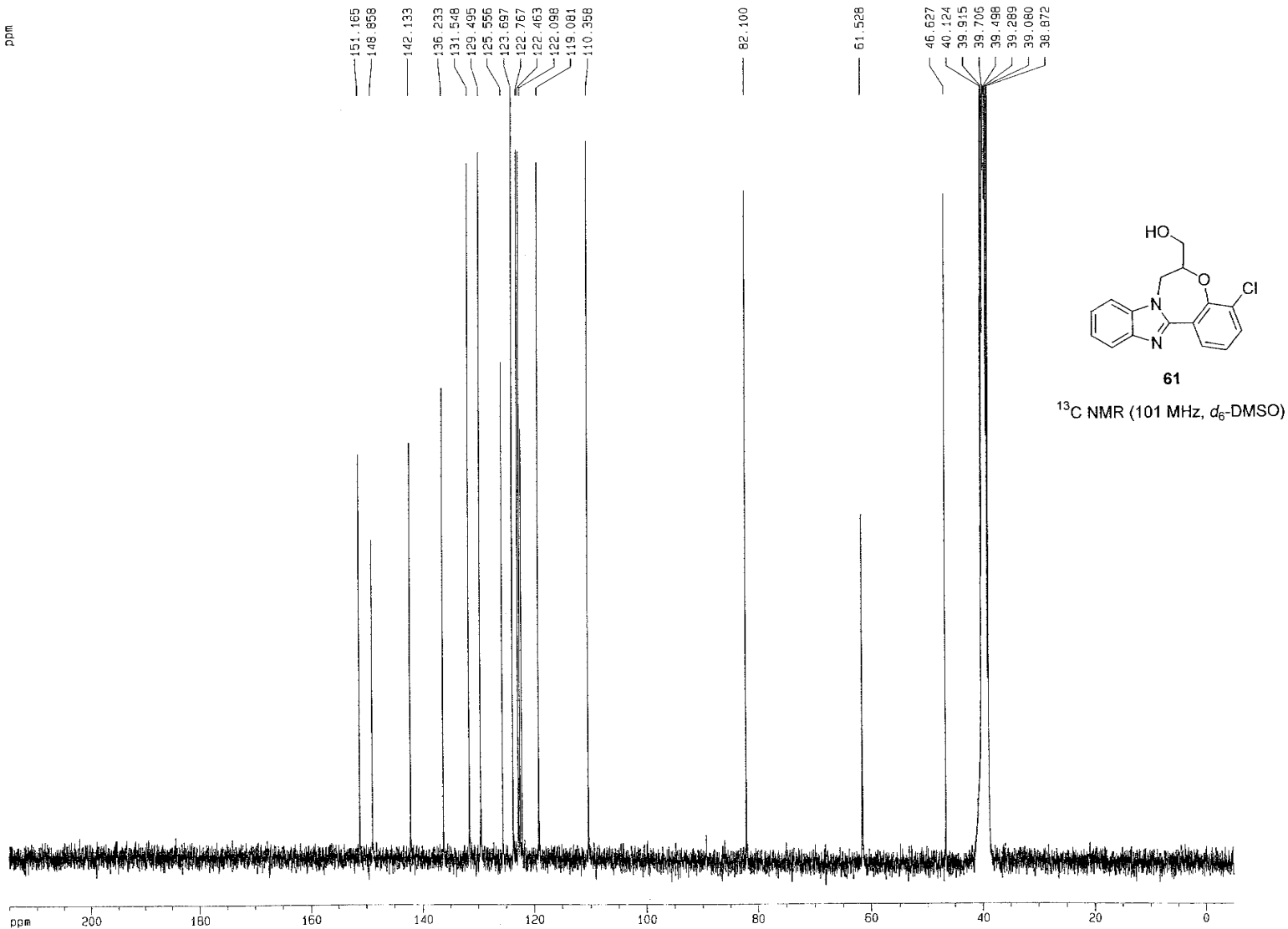
Current Data Parameters
 NAME Mar08-2003
 EXPNO 30
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030308
 Time 20.48
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT DMSO
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 362
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1299832 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 8.000 ppm
 F1 3201.04 Hz
 F2P 7.100 ppm
 F2 2840.92 Hz
 PPMCN 0.03000 ppm/cm
 HZCM 12.00390 Hz/cm



Current Data Parameters
 NAME Mar09-2003
 EXPNO 20
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030310
 Time 7.10
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 14000
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 3649.1
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

===== CHANNEL f1 =====
 NUC1 ¹³C
 P1 5.90 usec
 PL1 -6.00 dB
 SFO1 100.6237959 MHz

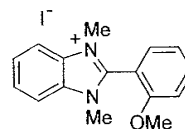
===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 ¹H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6128197 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

10 NMR plot parameters
 CX 30.00 cm
 F1P 215.000 ppm
 F1 21631.76 Hz
 F2P -5.000 ppm
 F2 -503.06 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82739 Hz/cm

ppm

8.24862
8.22789
7.95011
7.91396
7.90134
7.88871
7.87624
7.74199
7.73738
7.70738
7.66611
7.65289
7.64130
7.62838
7.61988
7.61335
7.34465
7.31069
7.26042
7.25707
7.23013
7.22583
7.01697
6.89752
4.76022
4.68623
4.68374
4.68108
4.65785
4.12593
4.09427
3.85548
3.85290
3.85028
3.83678
3.82809
3.82522
3.82250
3.81960
3.80909
3.79878
3.79586
3.79326
3.75068
3.78812
3.20219
3.19569
3.18918
3.18262
3.17613
2.91402
1.88923
1.86162



62

¹H NMR (250 MHz, d₄-MeOH)

Current Data Parameters

NAME Jul03-2003
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030703
Time 19.31
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zg30
TD 16384
SOLVENT MeOH
NS 16
DS 2
SWH 5175.983 Hz
FIDRES 0.315917 Hz
AQ 1.5827444 sec
RG 322.5
OW 96.600 usec
OE 6.00 usec
TE 300.0 K
O1 1.00000000 sec

===== CHANNEL f1 =====

NUC1 1H
P1 7.20 usec
PL1 -4.00 dB
SFO1 250.1315447 MHz

F2 - Processing parameters

SI 32768
SF 250.1300366 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters

CX 34.00 cm
F1P 11.000 ppm
F1 2751.43 Hz
F2P -1.000 ppm
F2 -250.13 Hz
PPMCM 0.35294 ppm/cm
HZCM 88.28119 Hz/cm

Integral

ppm

42.112

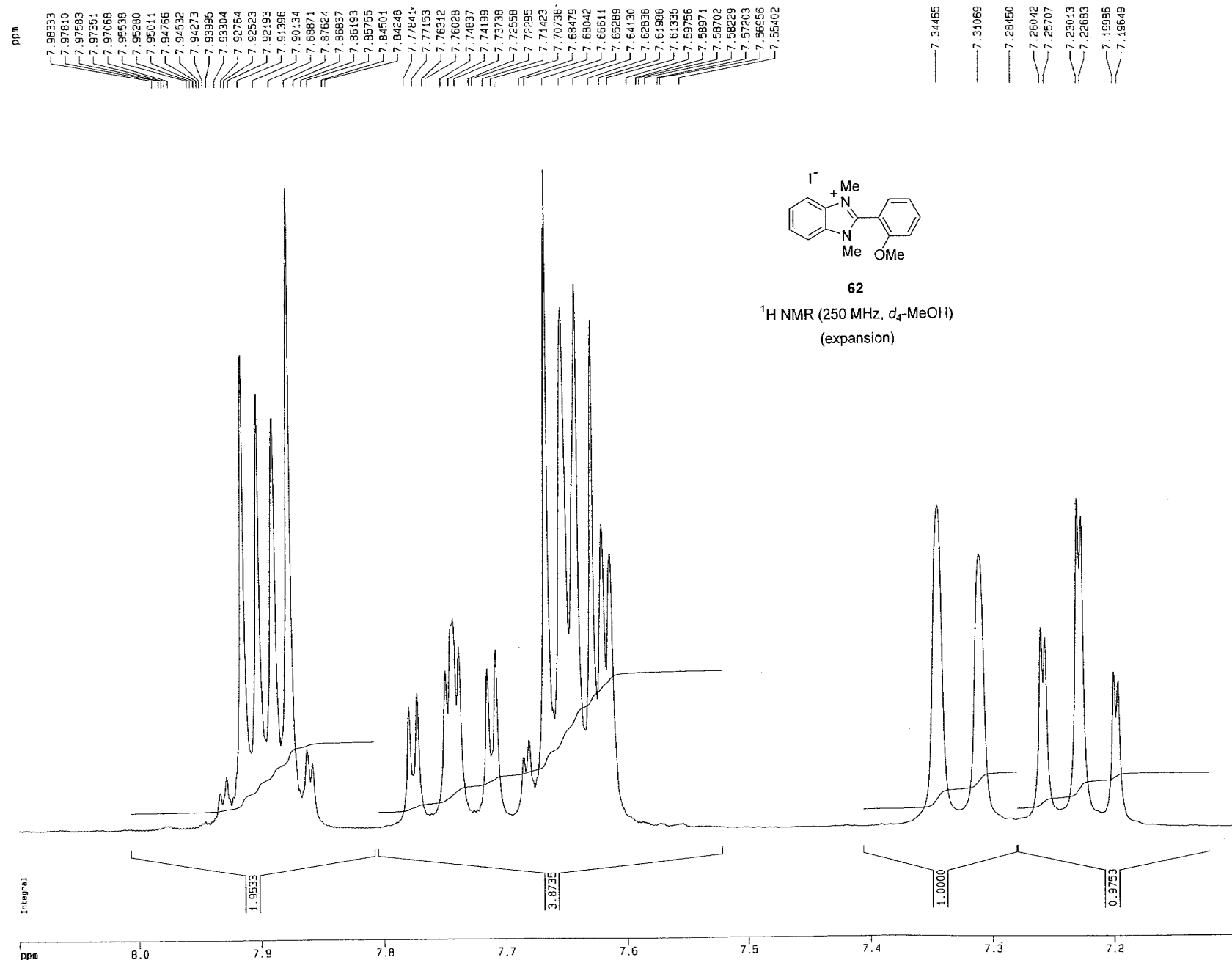
4.428

0.231

49.198

-0.012

4.044



Current Data Parameters
NAME Jul03-2003
EXPNO 40
PROCNO 1

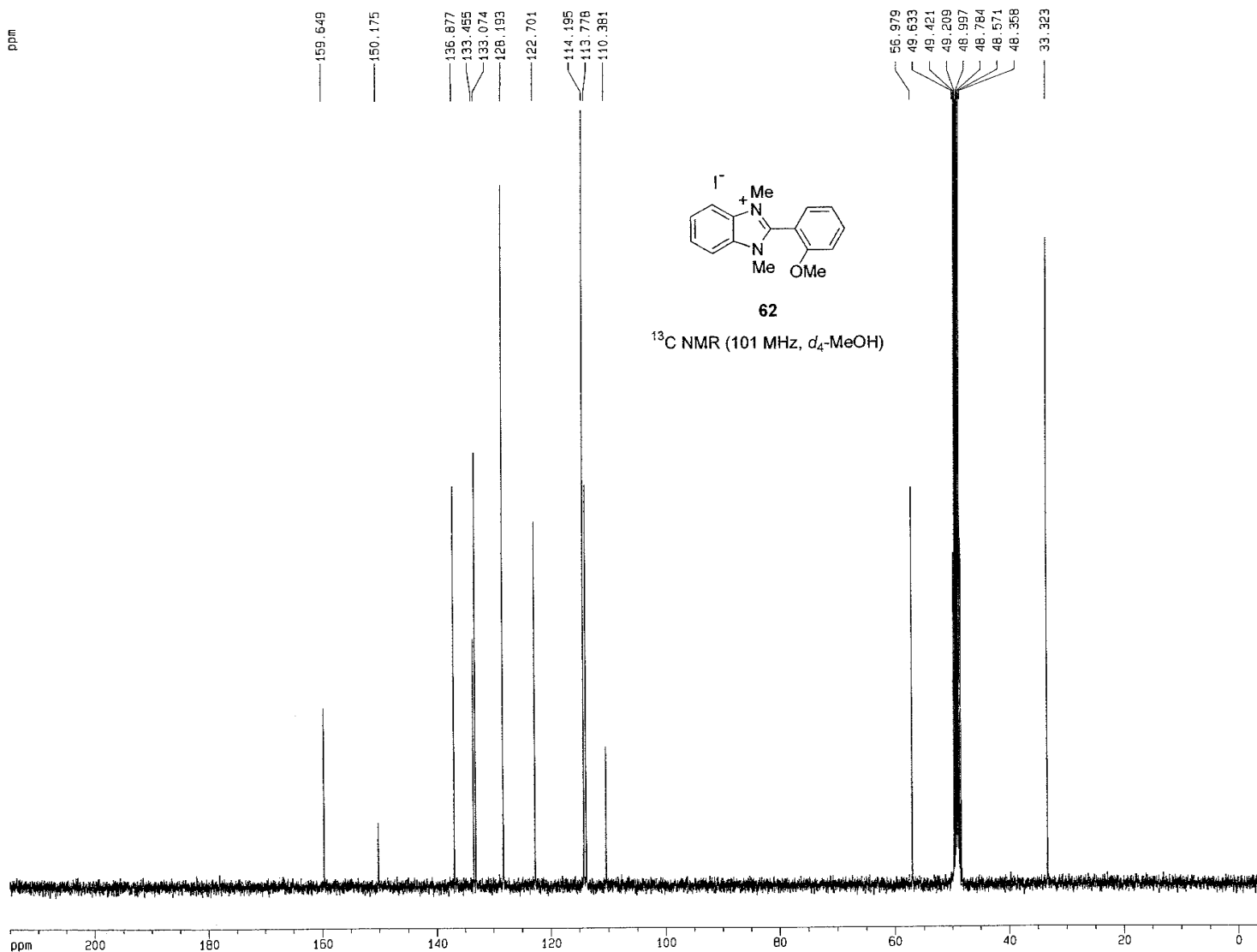
F2 - Acquisition Parameters
Date_ 20030703
Time 19.31
INSTRUM spect
PROBHD 5 mm QNP 1H/
PULPROG zg30
TD 16384
SOLVENT MeOH
NS 16
DS 2
SWH 5175.983 Hz
FIDRES 0.315917 Hz
AQ 1.5827444 sec
RG 322.5
DM 96.600 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.20 usec
PL1 -4.00 dB
SFO1 250.1315447 MHz

F2 - Processing parameters
SI 32768
SF 250.1300365 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 34.00 cm
F1P 8.100 ppm
F1 2026.05 Hz
F2P 7.100 ppm
F2 1775.92 Hz
PPMCK 0.02941 ppm/cm
HZCM 7.35677 Hz/cm

ppm



Current Data Parameters
 NAME Jul103-2003
 EXPNO 21
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030703
 Time 18.51
 INSTRUM spect
 PROBHD 5 mm BBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOH
 NS 750
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 8192
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6126314 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 215.000 ppm
 F1 21631.72 Hz
 F2P -5.000 ppm
 F2 -503.06 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82599 Hz/cm