

**Diastereoselective syntheses of functionalized five-membered carbocycles and heterocycles by a
SmI₂-promoted intramolecular coupling of bromoalkynes and α,β -unsaturated esters**

Kazunori Takahashi and Toshio Honda*

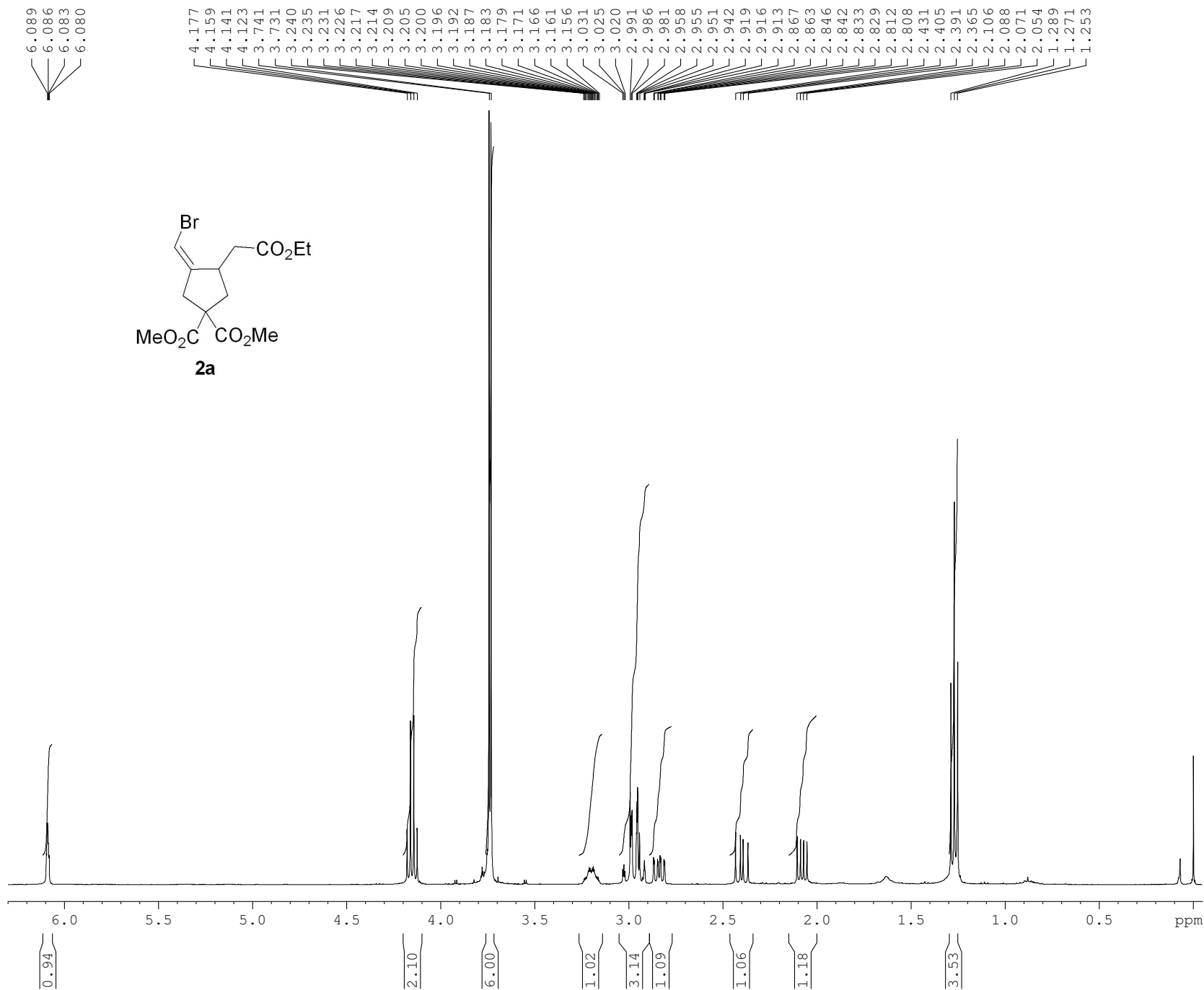
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Supporting Information

Part B

NMR spectra

S29-62



Current Data Parameters
NAME 090227 SmD
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090227
Time 18.42
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 161
DW 60.800 usec
DE 6.00 usec
TE 294.8 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 12.30 usec
PL1 -1.00 dB
PL1W 10.05604267 W
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300058 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

171.69
171.32
171.17

146.39

100.01

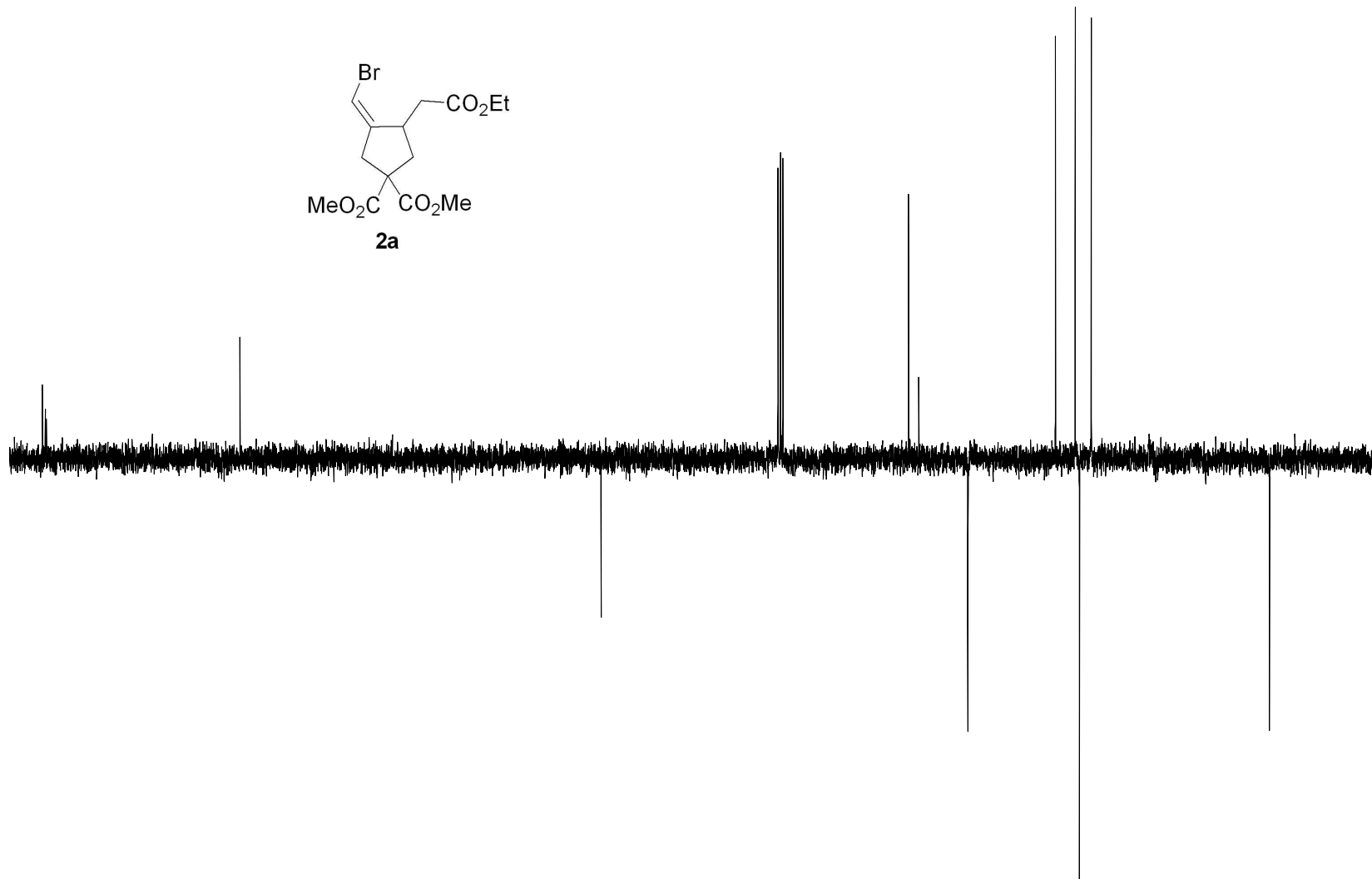
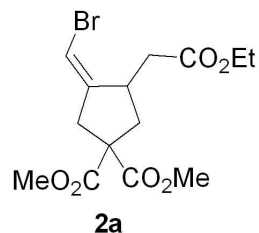
77.32
77.00
76.68

60.54
59.23

52.95
52.92

41.69
39.16
38.62
37.08

14.21



Current Data Parameters
NAME 090227 SmD C13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090227
Time 18.49
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDCl3
NS 130
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 295.9 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

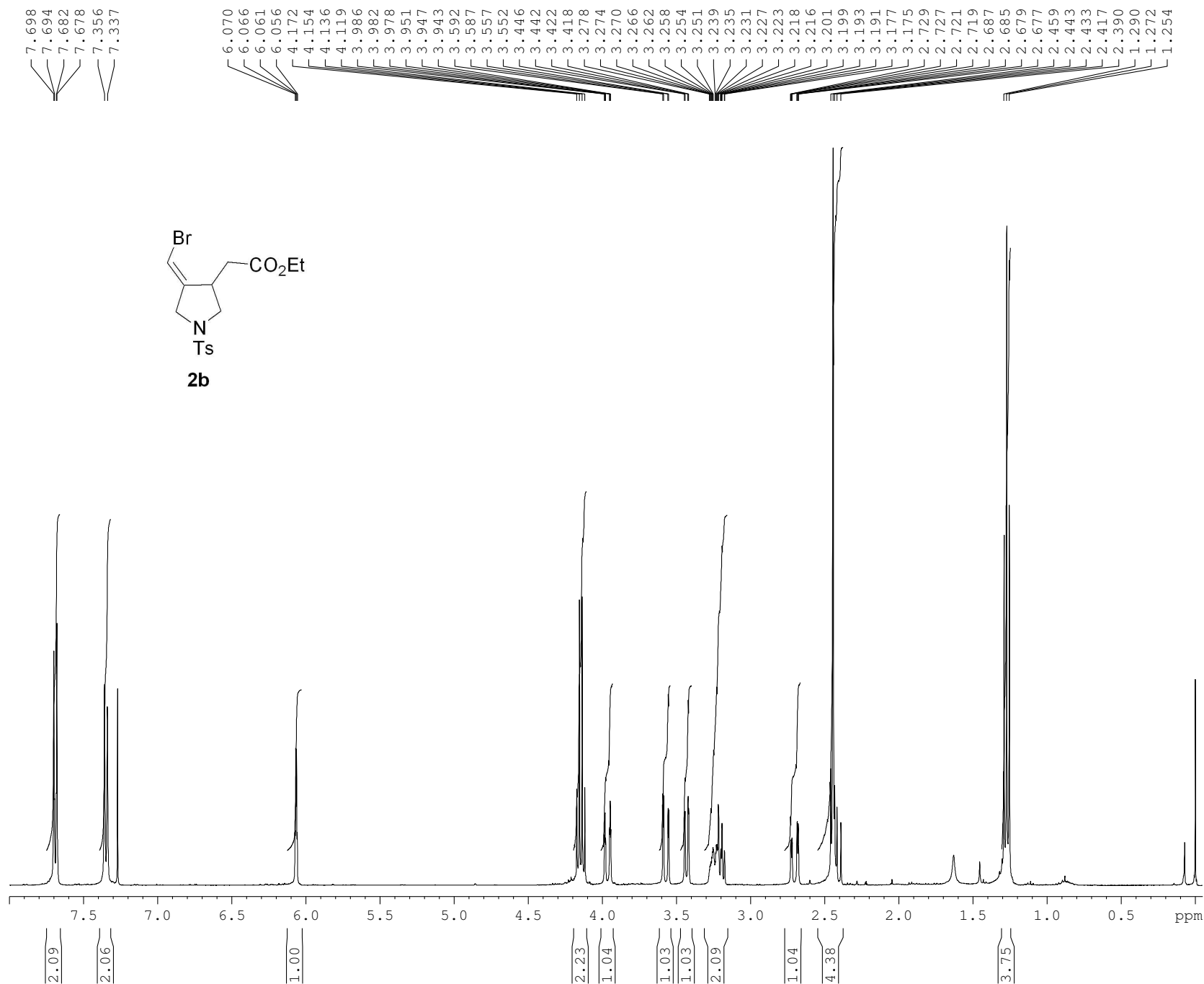
===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127722 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

S30

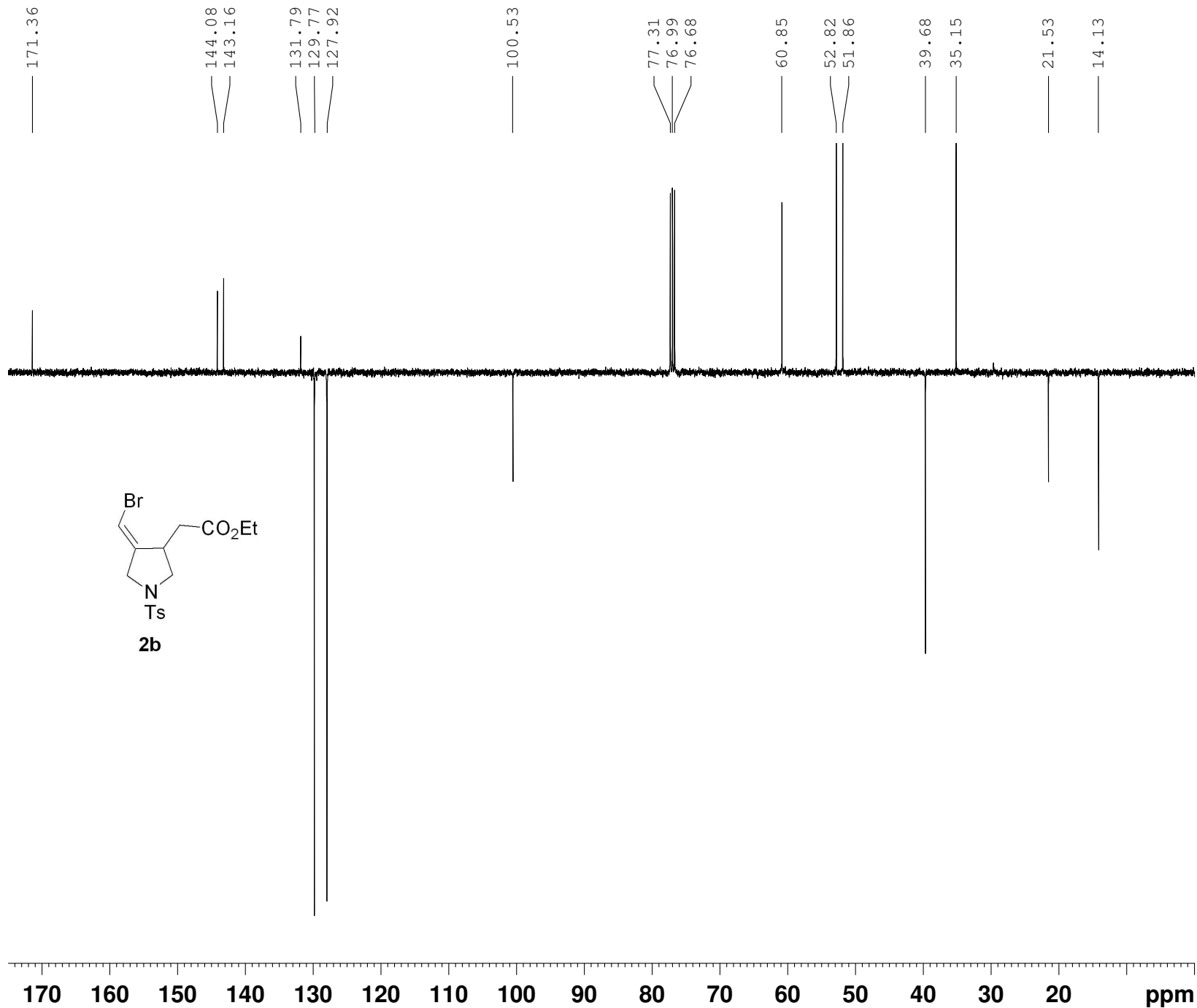


Current Data Parameters
 NAME 090319Br5TsNester
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090319
 Time_ 20.29
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 161
 DW 60.800 usec
 DE 6.00 usec
 TE 295.3 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.30 usec
 PL1 -1.00 dB
 PL1W 10.05604267 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300064 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



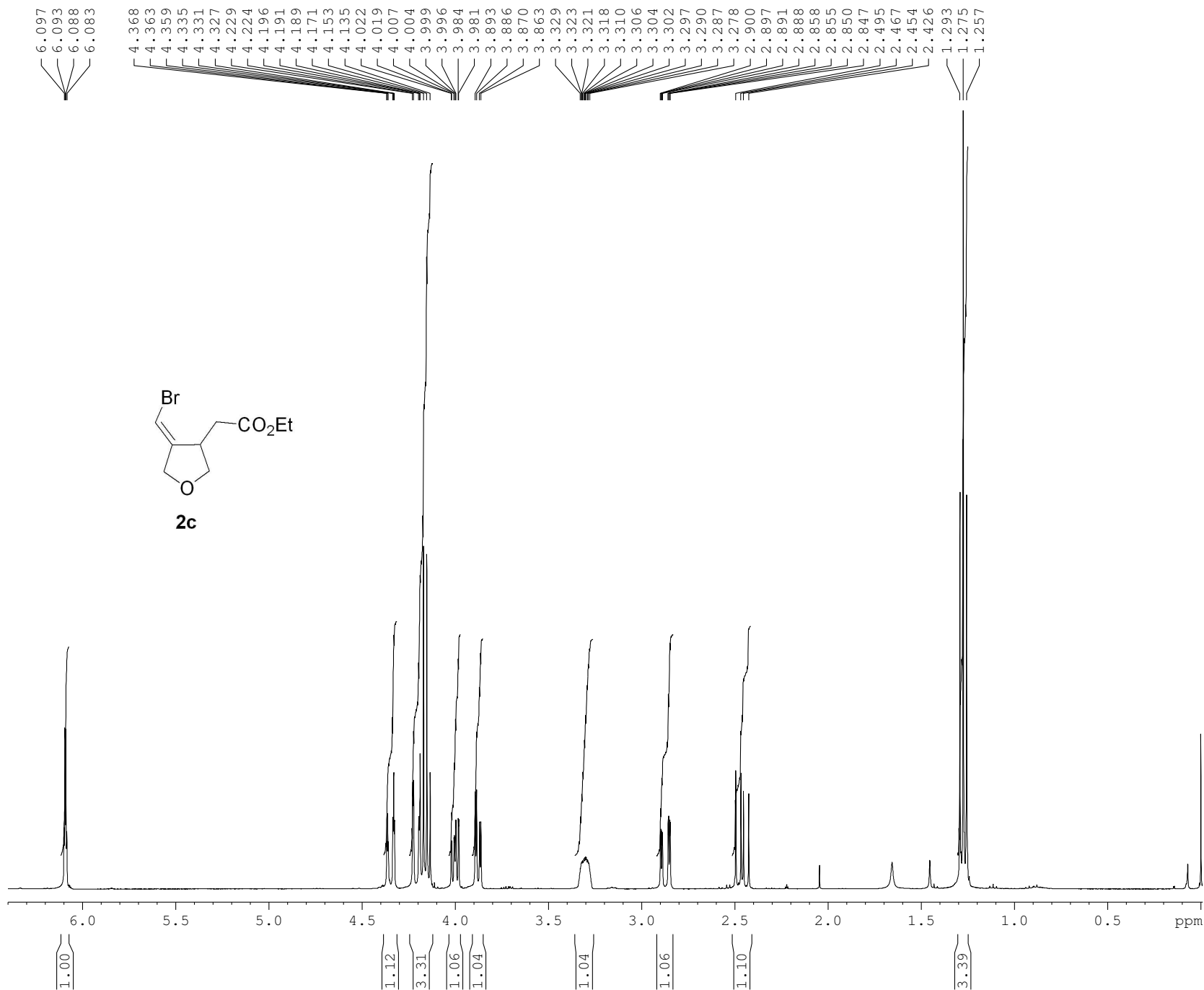
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 NAME 090321Br5TsNesterC13
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090321
 Time 9.18
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDCl3
 NS 780
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 295.8 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.0000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.00 usec
 P2 16.00 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -1.00 dB
 PL12 15.26 dB
 PL2W 10.05604267 W
 PL12W 0.23791789 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127736 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

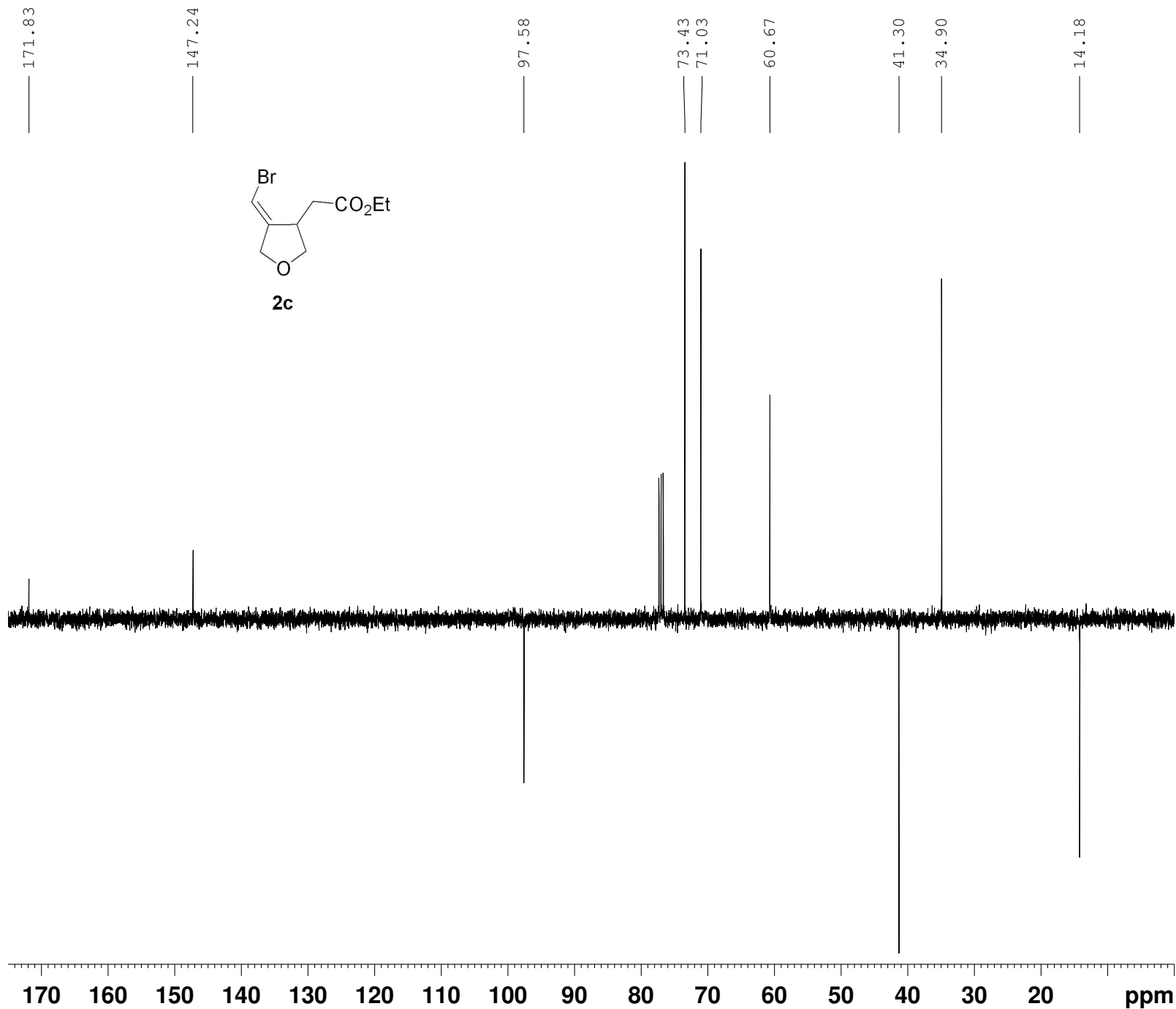


Current Data Parameters
NAME 090319 Br-5-O-ester
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090319
Time 19.13
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 161
DW 60.800 usec
DE 6.00 usec
TE 295.3 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 12.30 usec
PL1 -1.00 dB
PL1W 10.05604267 W
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300054 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



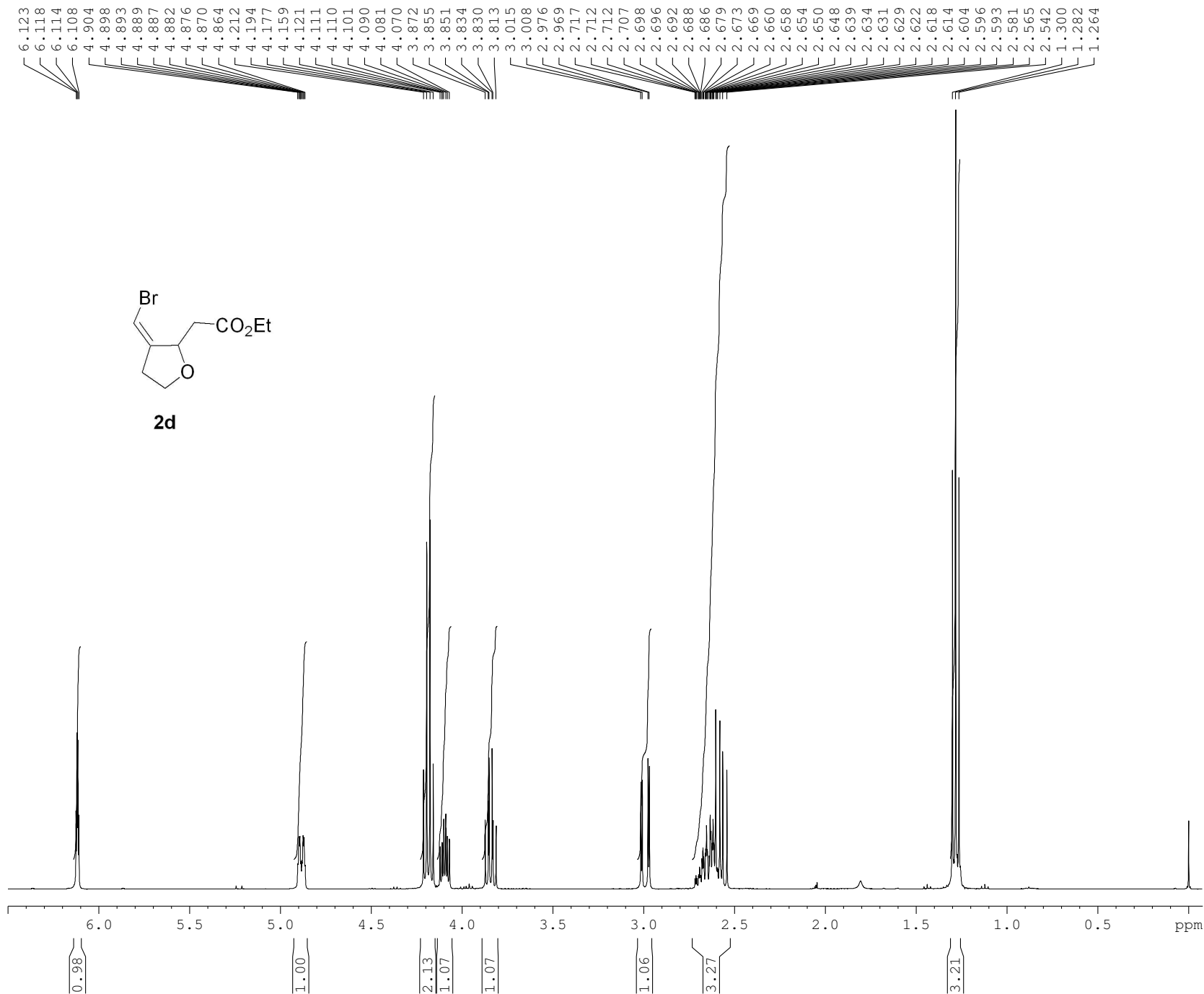
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NAME 090319 Br-5-O-esterC13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090319
Time 19.16
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDCl3
NS 140
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 296.1 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.000000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127729 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

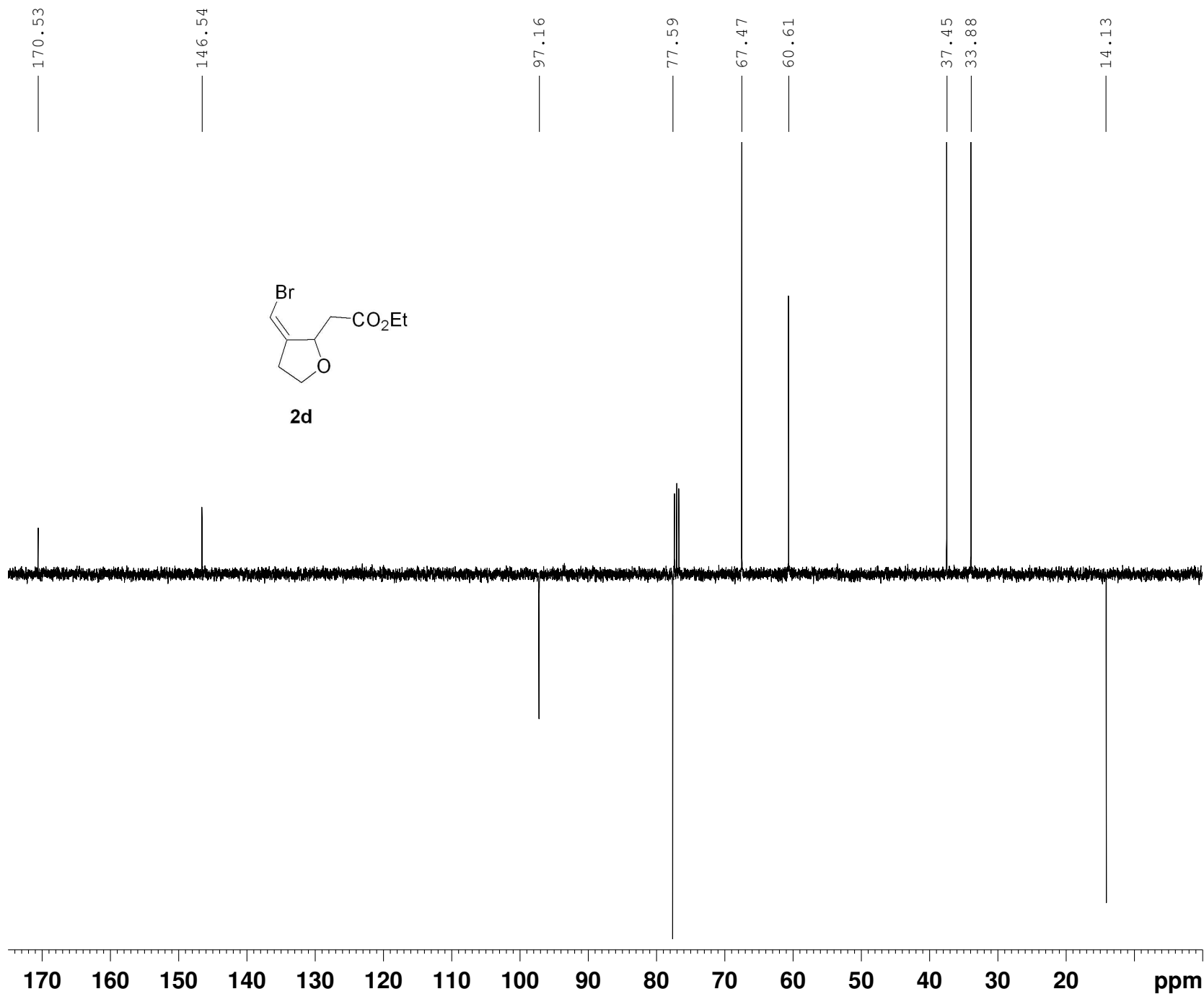


Current Data Parameters
 NAME 090709 cyclo acetate
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090709
 Time 10.39
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 80.6
 DW 60.800 usec
 DE 6.00 usec
 TE 295.0 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1299993 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



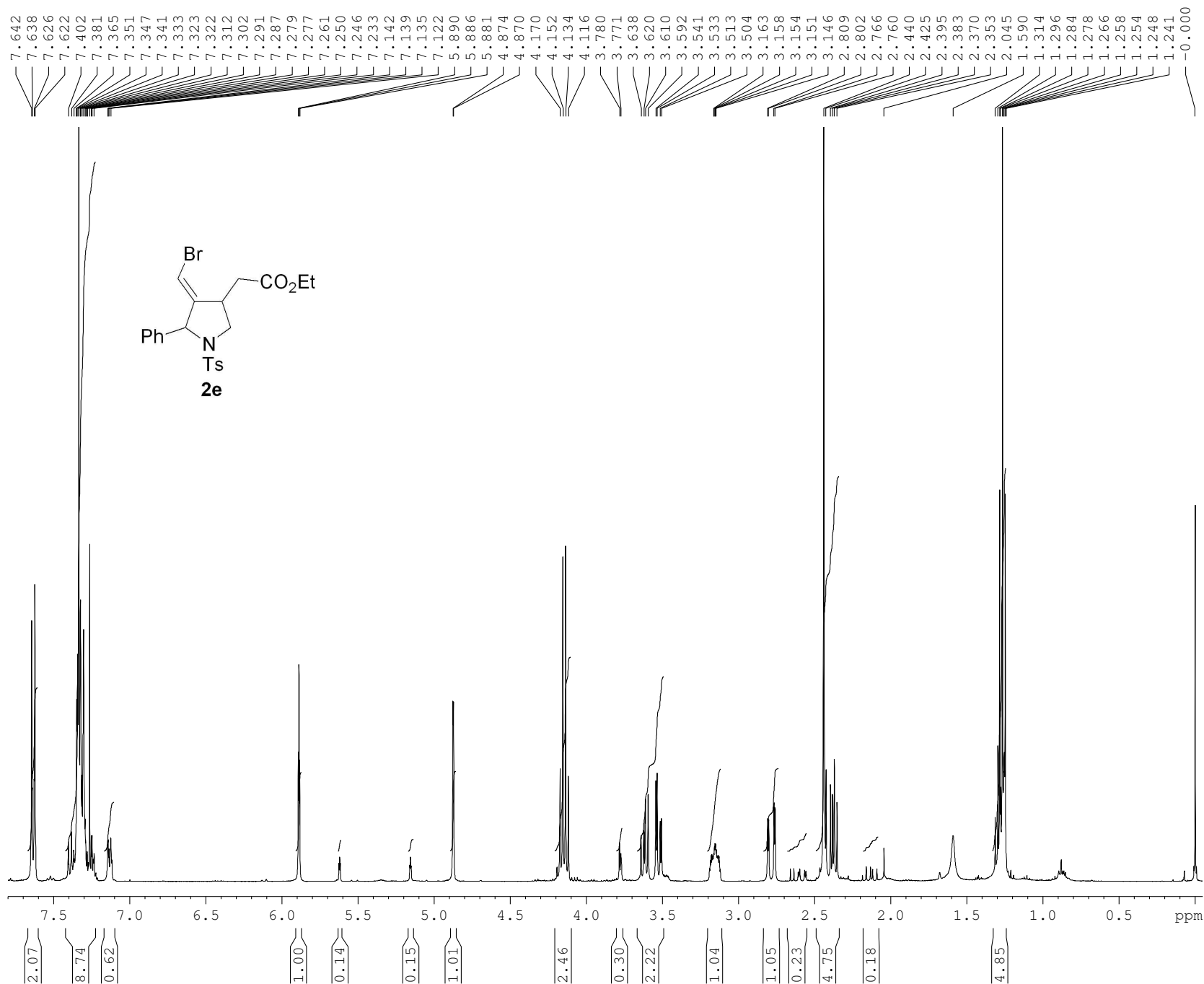
Current Data Parameters
 NAME 090709 cyclo acetate C13
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090709
 Time 10.43
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDC13
 NS 60
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 295.9 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.0000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.60 usec
 P2 17.20 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waitz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -2.00 dB
 PL12 14.10 dB
 PL2W 12.65980816 W
 PL12W 0.31076142 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127758 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

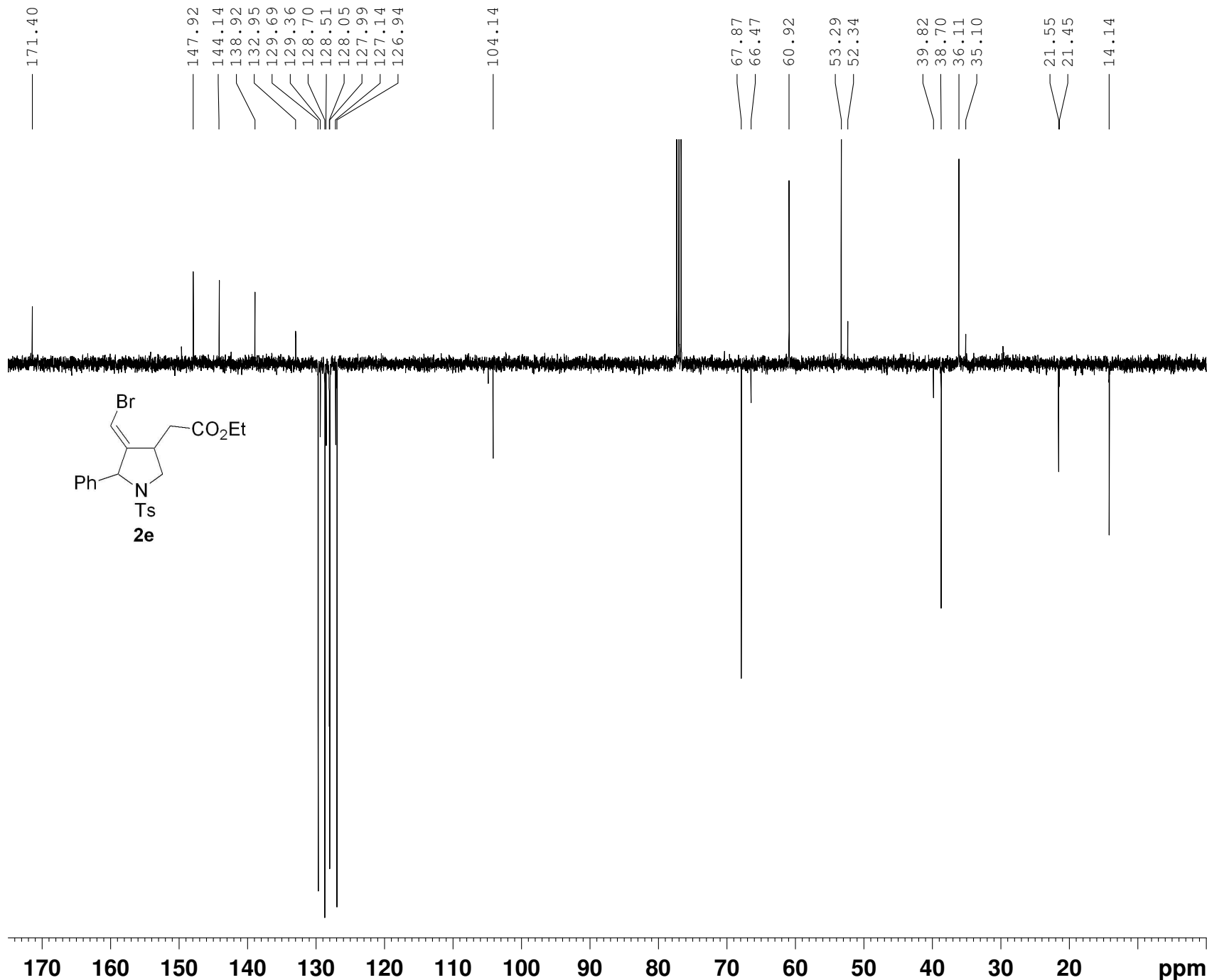


Current Data Parameters
NAME 090418PhNTs cyclo
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090418
Time 18.48
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 181
DW 60.800 usec
DE 6.00 usec
TE 295.5 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 12.30 usec
PL1 -1.00 dB
PL1W 10.05604267 W
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300091 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



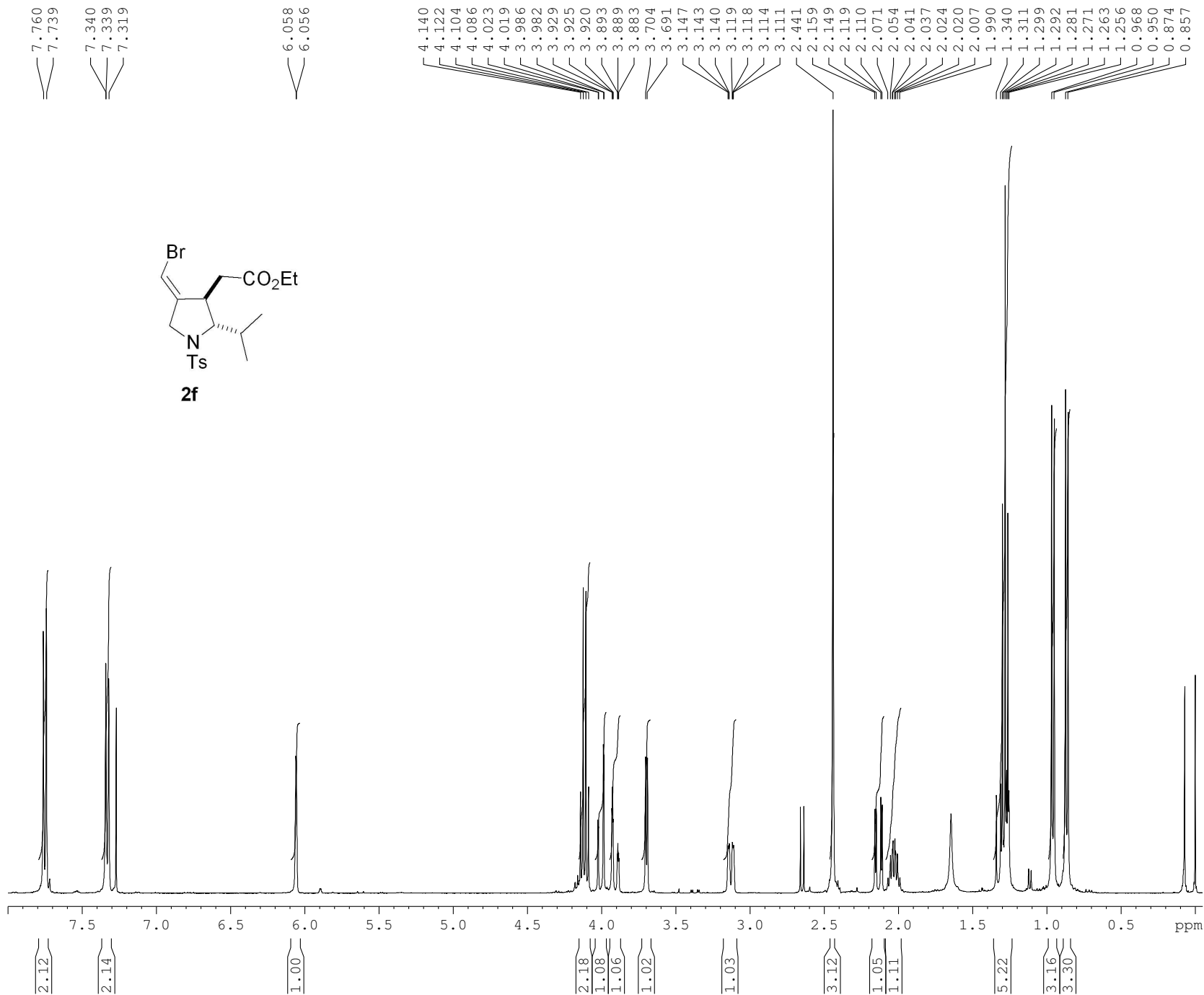
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NAME 090418PhNTs cycloc13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090418
Time 18.53
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDCl3
NS 399
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 296.1 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127722 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

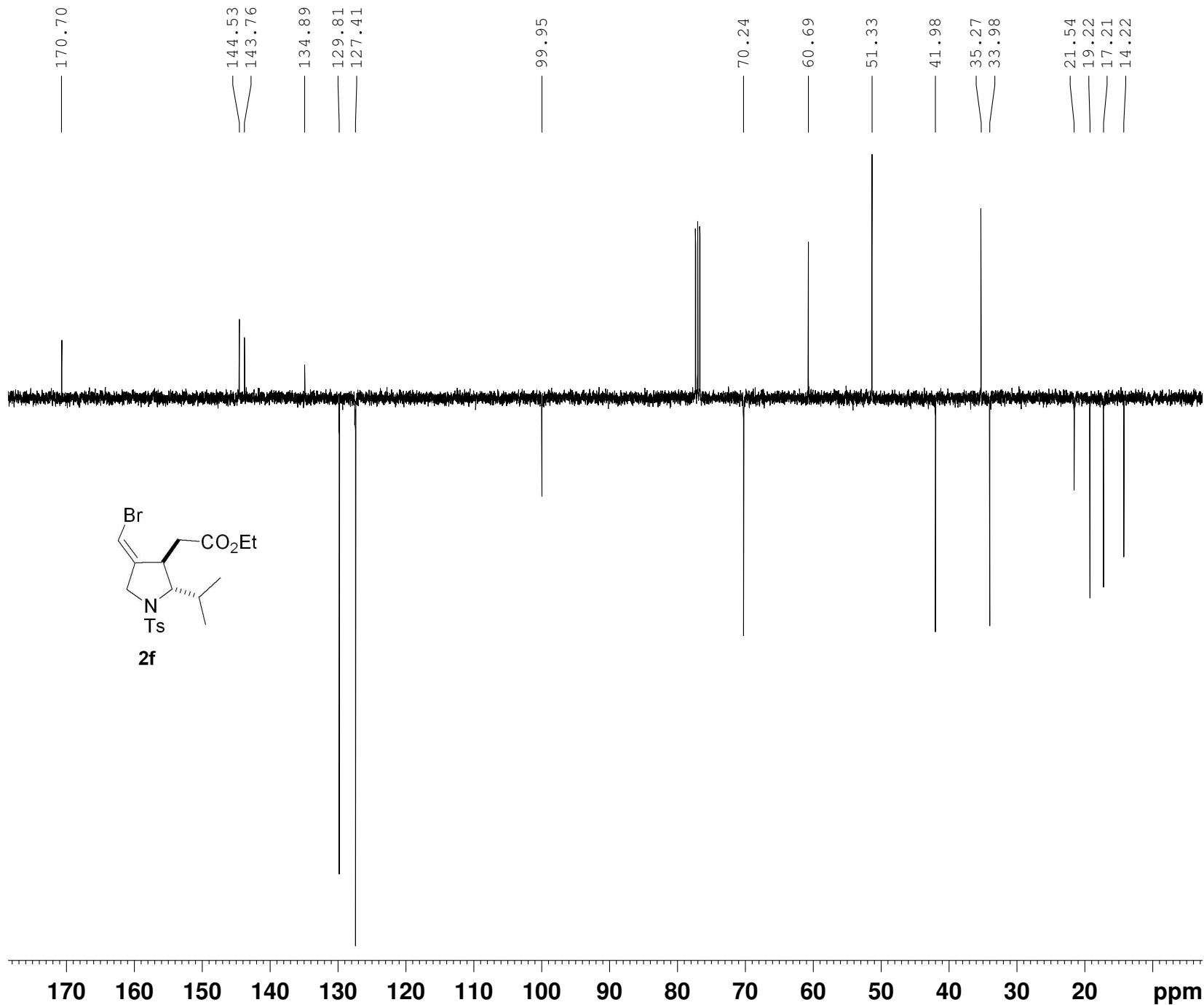


Current Data Parameters
NAME 090606cyclov
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090606
Time 15.39
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 144
DW 60.800 usec
DE 6.00 usec
TE 294.6 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 12.30 usec
PL1 -1.00 dB
PL1W 10.05604267 W
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300059 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



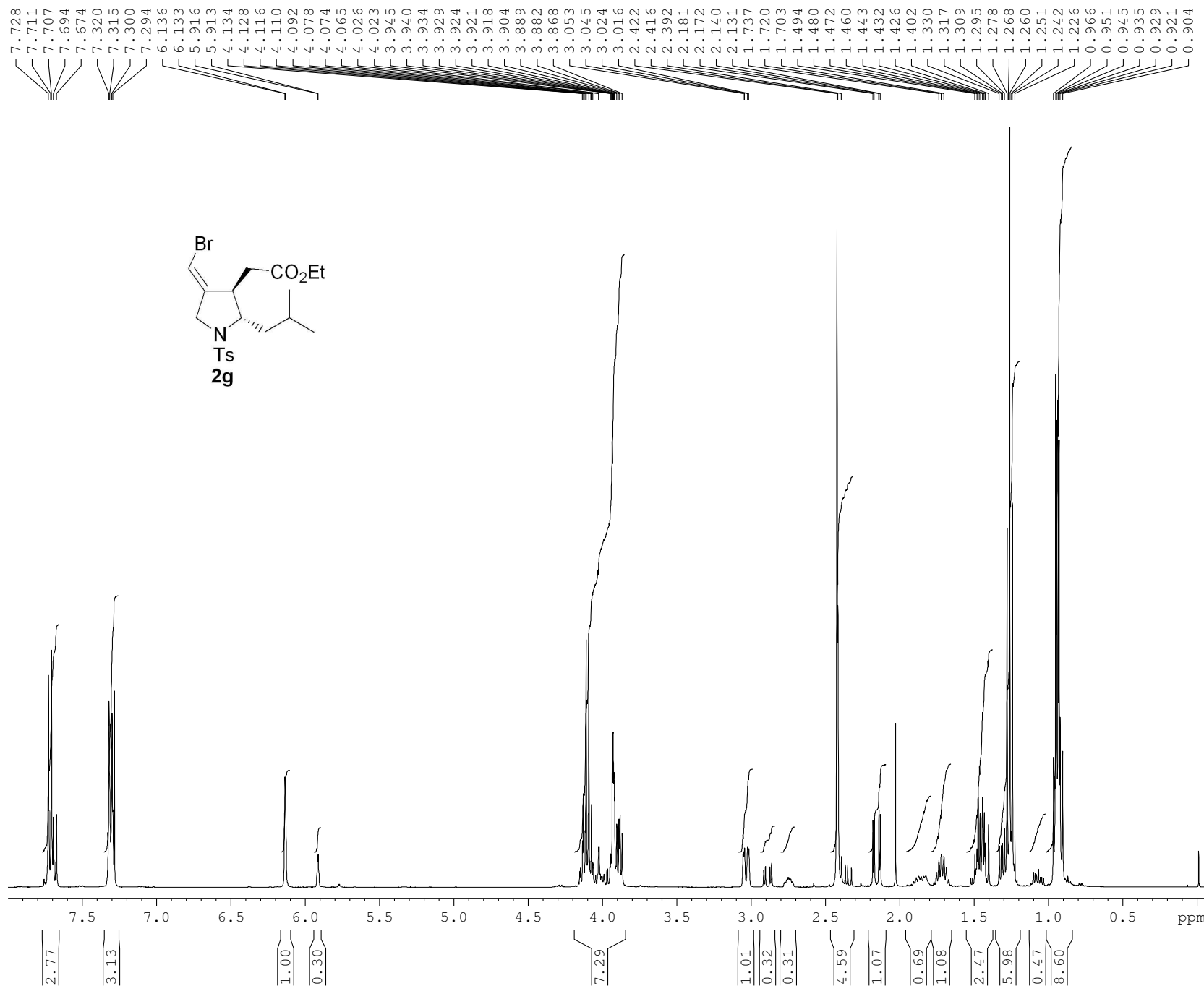
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NAME 090606cycloV C13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090606
Time 15.48
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDCl3
NS 216
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 295.4 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127721 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

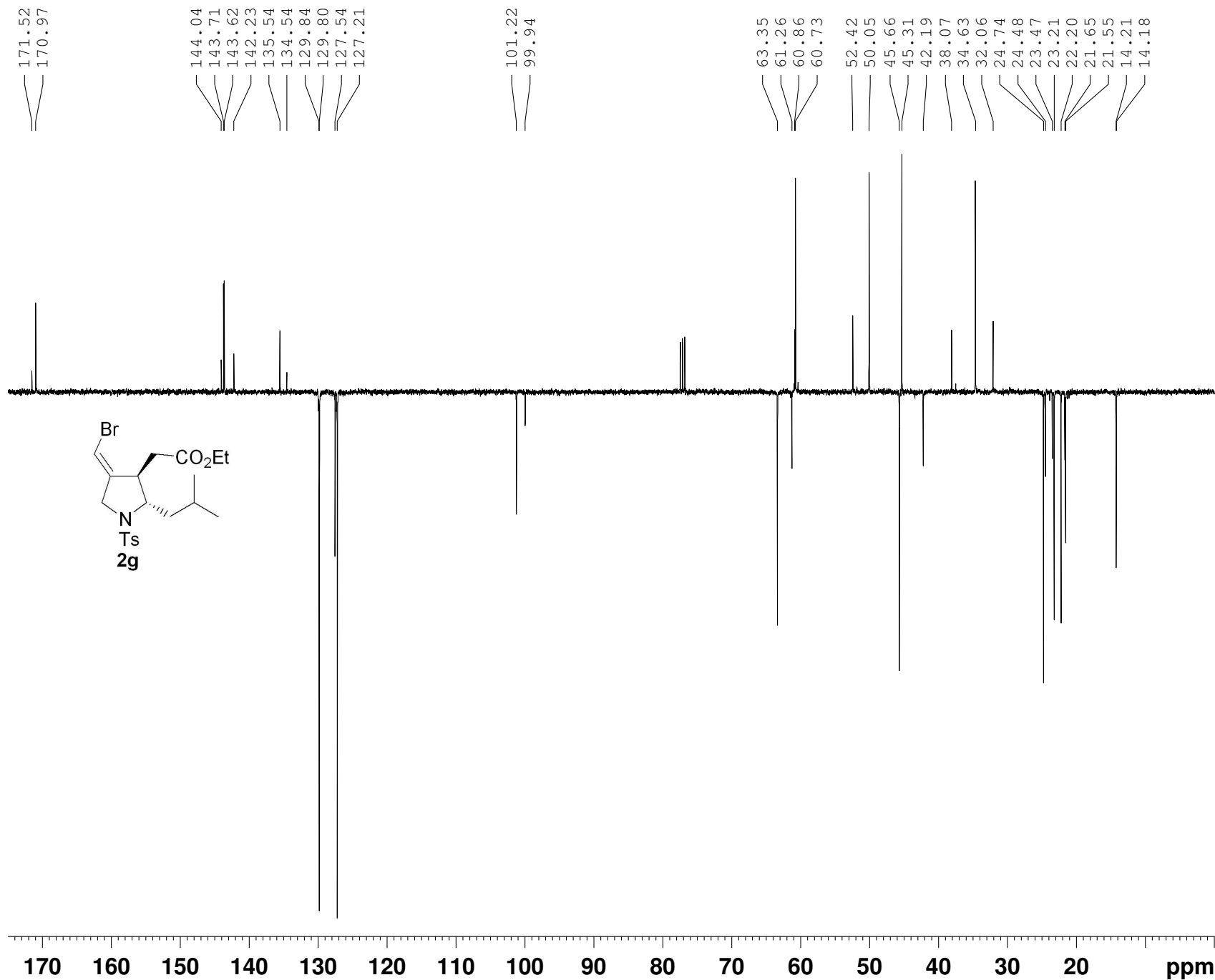


Current Data Parameters
 NAME 090909 cycloL
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090909
 Time 16.04
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 36
 DW 60.800 usec
 DE 6.00 usec
 TE 673.2 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 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



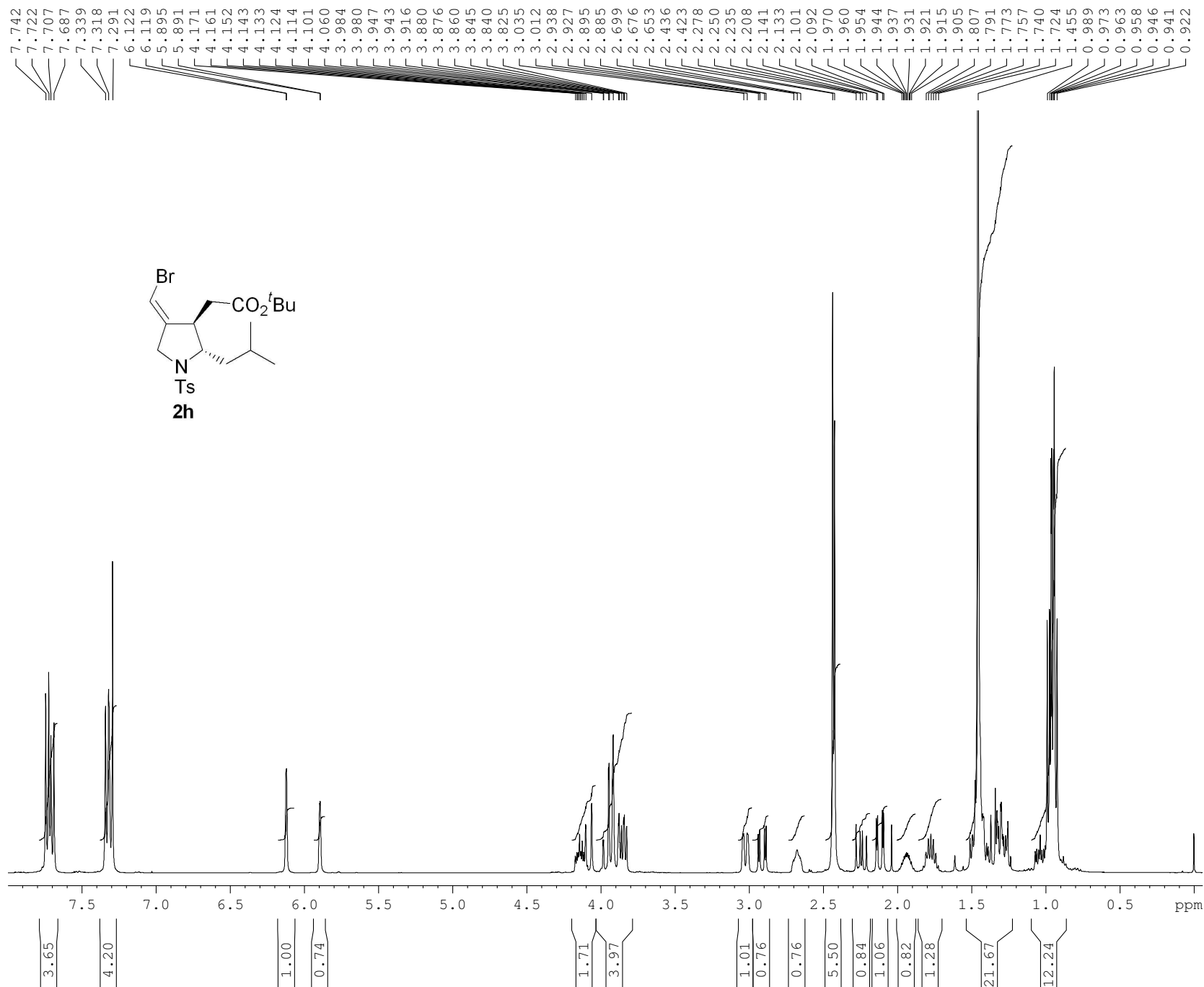
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 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090909
 Time 16.16
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDCl3
 NS 192
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 673.2 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.00000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.80 usec
 P2 17.60 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 0.00 dB
 PL12 14.30 dB
 PL2W 7.98779869 W
 PL12W 0.29677486 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127690 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

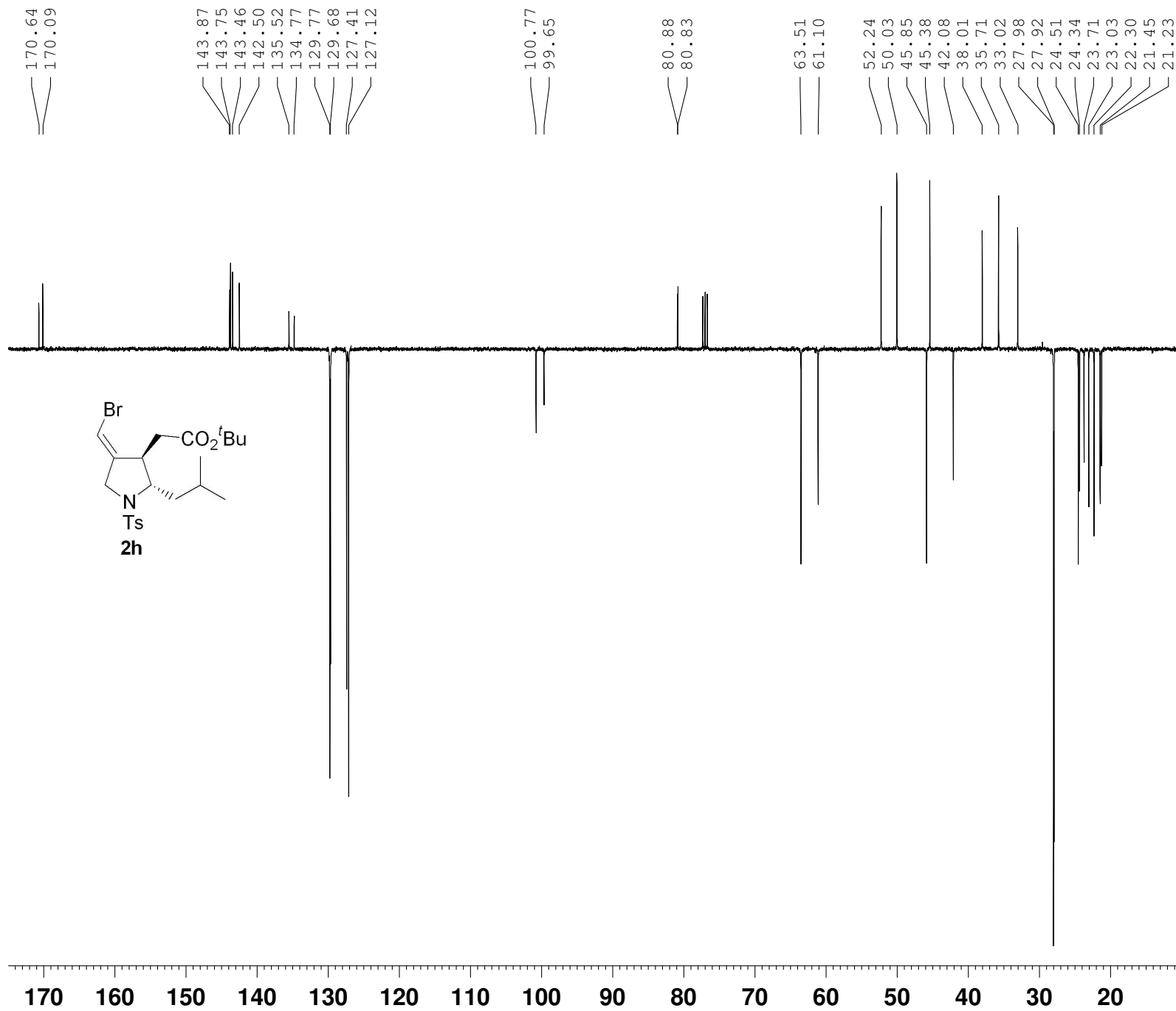


Current Data Parameters
 NAME 090918cycloLtB
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090918
 Time 9.50
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 36
 DW 60.800 usec
 DE 6.00 usec
 TE 673.2 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1299974 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



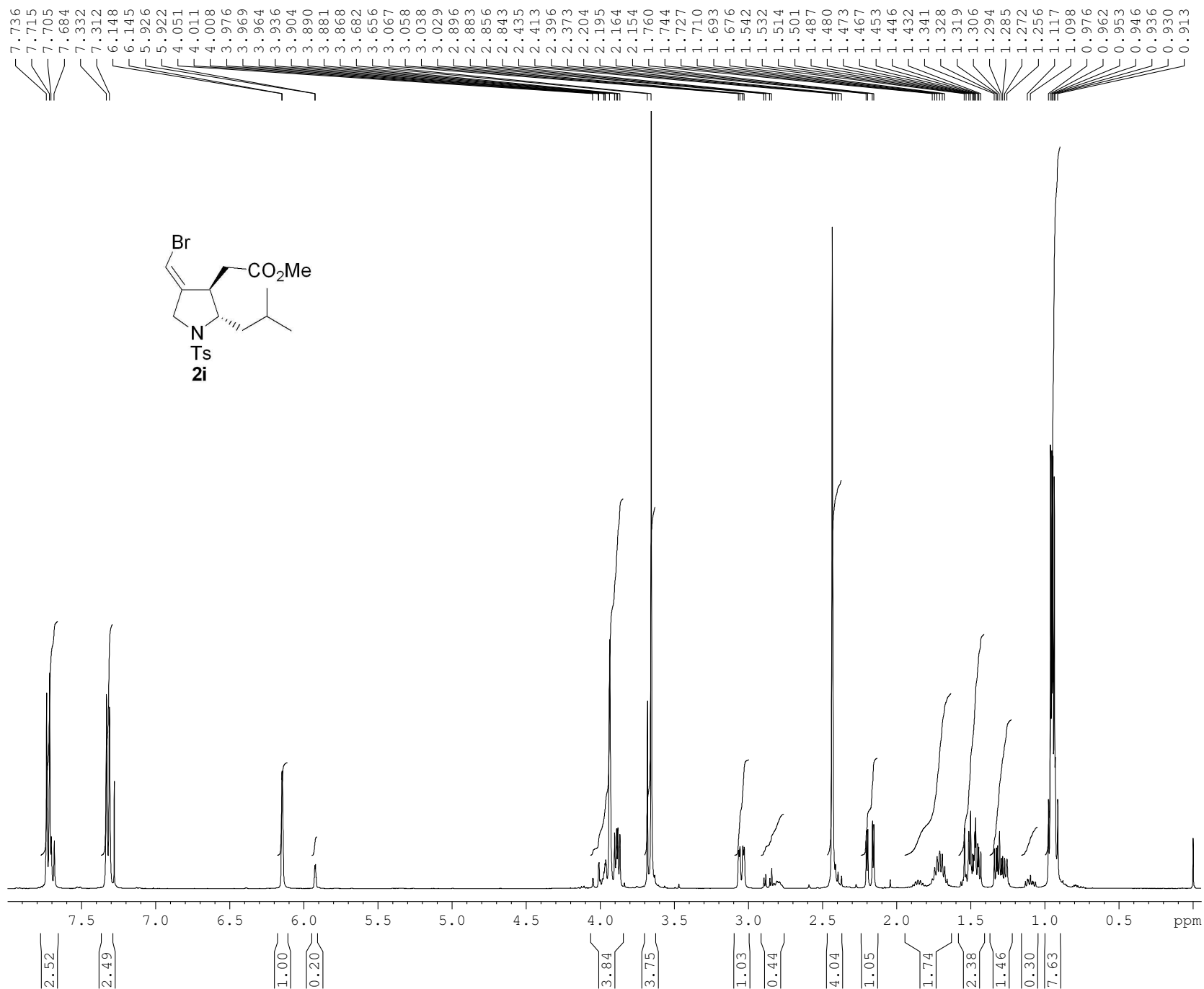
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NAME 090918cycloLTB C13
EXNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090918
Time_ 10.02
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDC13
NS 360
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 673.2 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.80 usec
P2 17.60 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 0.00 dB
PL12 14.30 dB
PL2W 7.98779869 W
PL12W 0.29677486 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127795 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

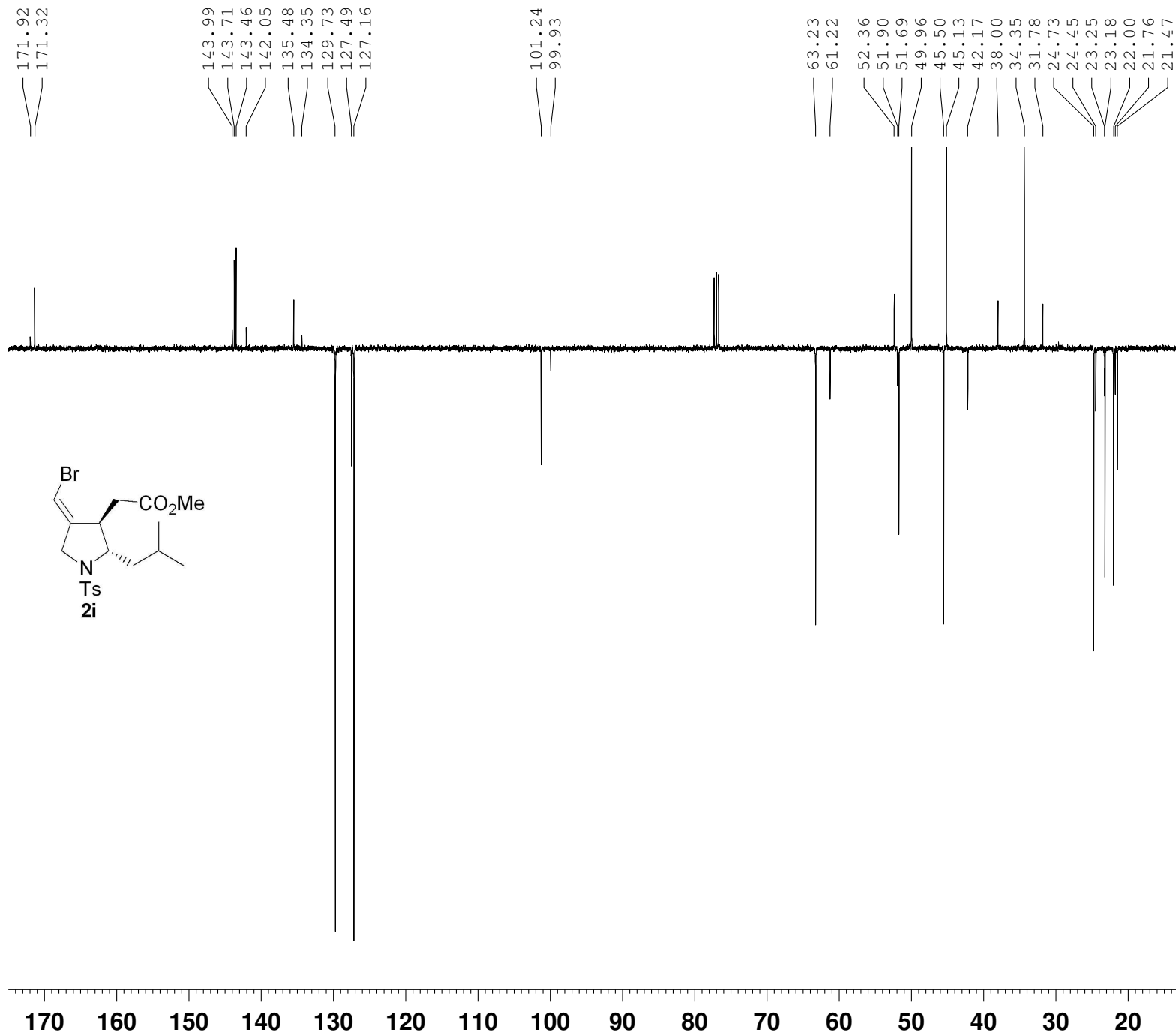


Current Data Parameters
 NAME 090929 cycloLMe
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090929
 Time 8.54
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 64
 DW 60.800 usec
 DE 6.00 usec
 TE 673.2 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 PL 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300016 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



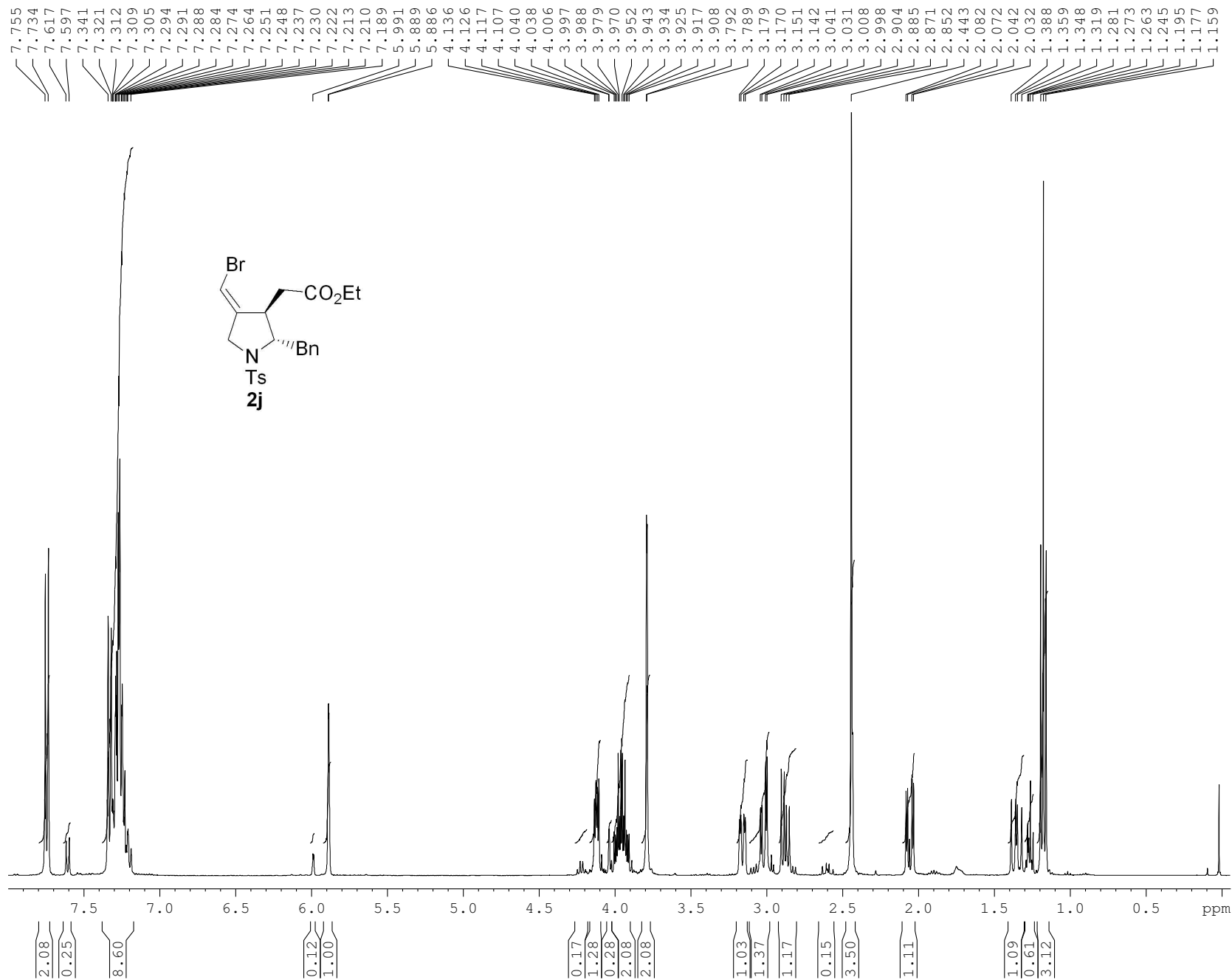
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EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090929
Time 9.05
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDC13
NS 304
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 673.2 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.80 usec
P2 17.60 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 0.00 dB
PL12 14.30 dB
PL2W 7.98779869 W
PL12W 0.29677486 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127766 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

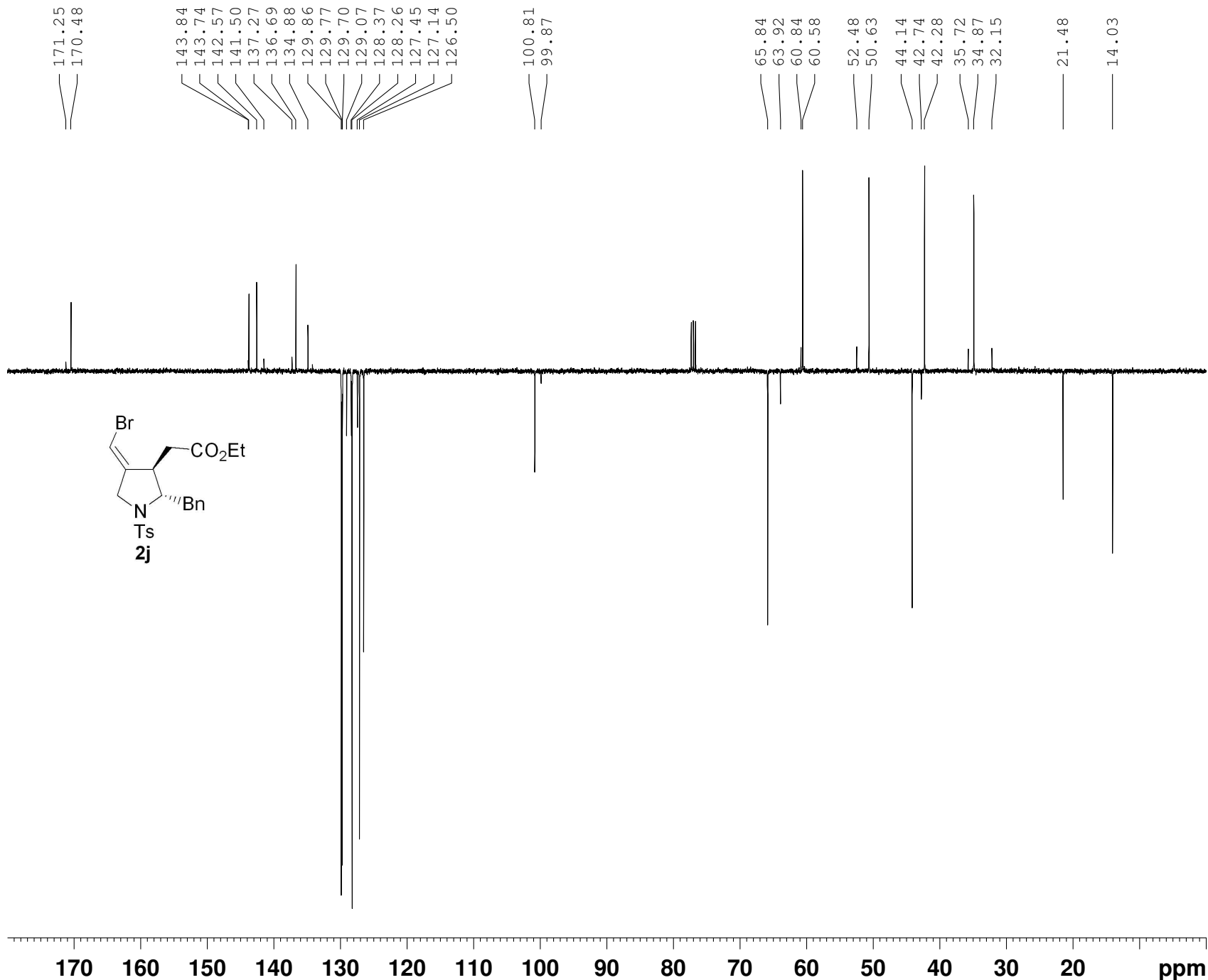


Current Data Parameters
NAME 091216 cycloPA
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20091216
Time 21.19
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 36
DW 60.800 usec
DE 6.00 usec
TE 293.1 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 13.30 usec
PL1 -2.00 dB
PL1W 12.65980816 W
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



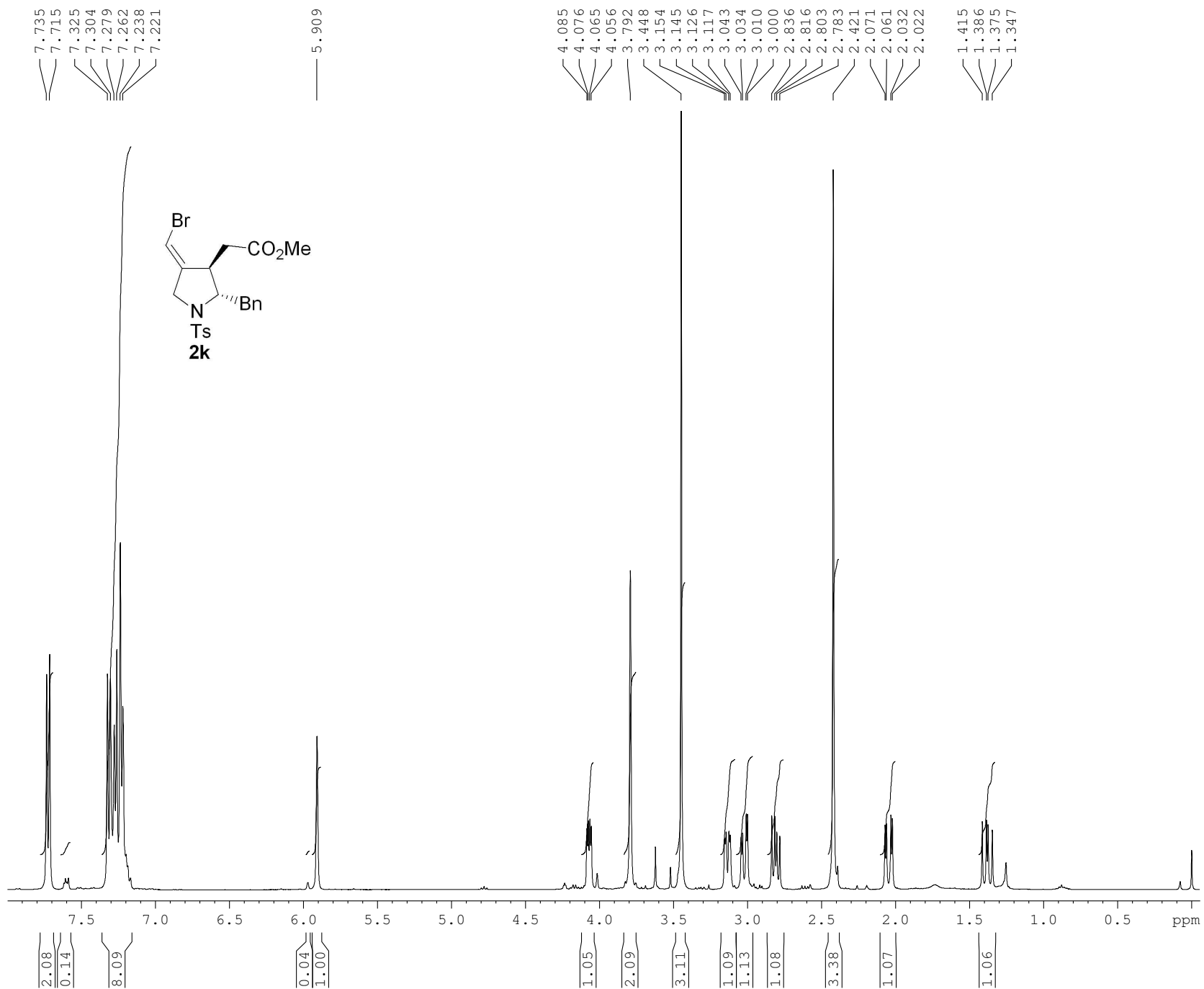
Current Data Parameters
 NAME 091216 cycloPA C13
 EXNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091216
 Time 21.24
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDC13
 NS 180
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 294.5 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.00000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.60 usec
 P2 17.20 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -0.50 dB
 PL12 14.10 dB
 PL2W 8.96245766 W
 PL12W 0.31076142 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127802 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

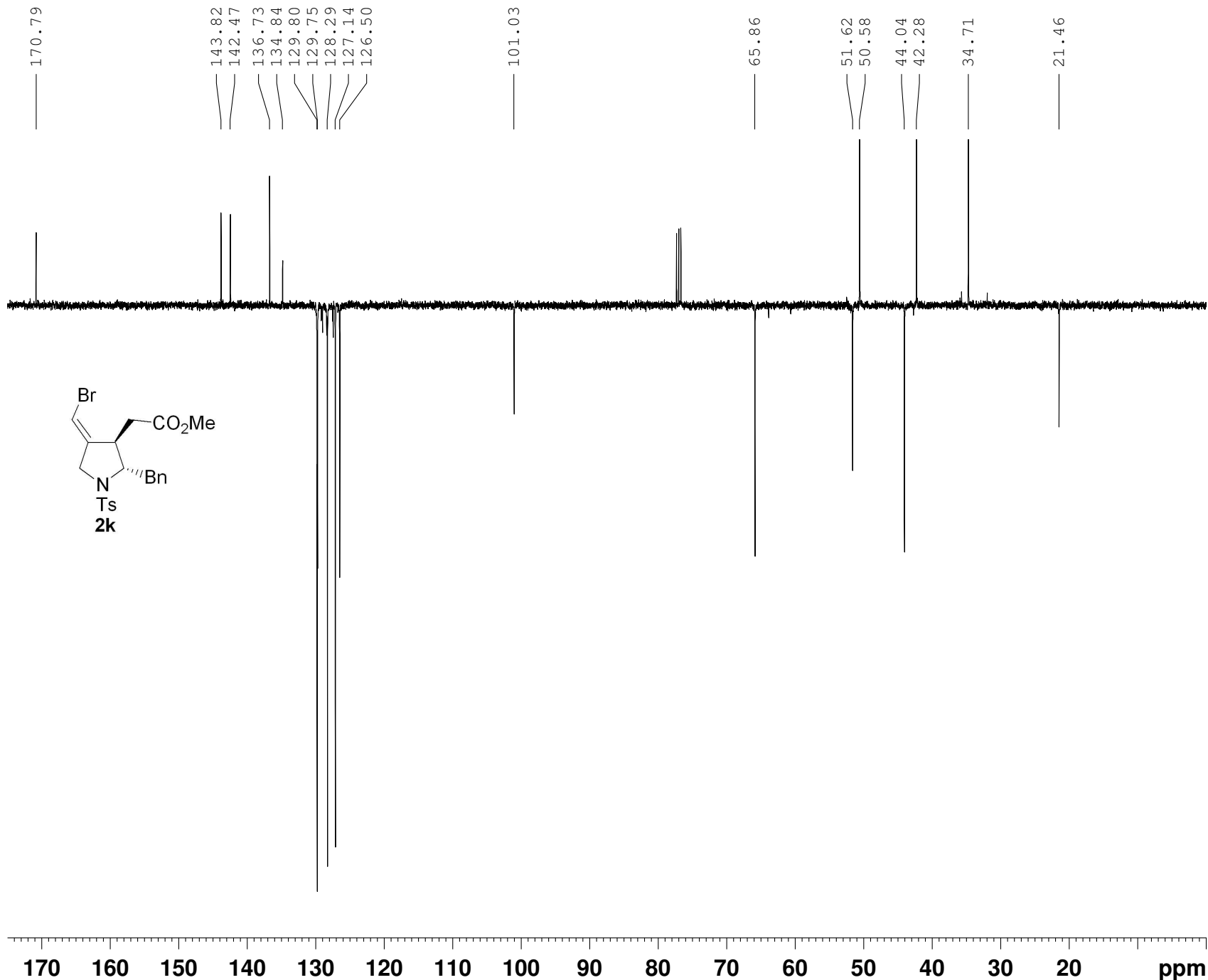


Current Data Parameters
 NAME 091013cycloPAMe
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091013
 Time 9.25
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 71.8
 DW 60.800 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300082 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME 091013cycloPAMe C13
 EXPNO 1
 PROCNO 1

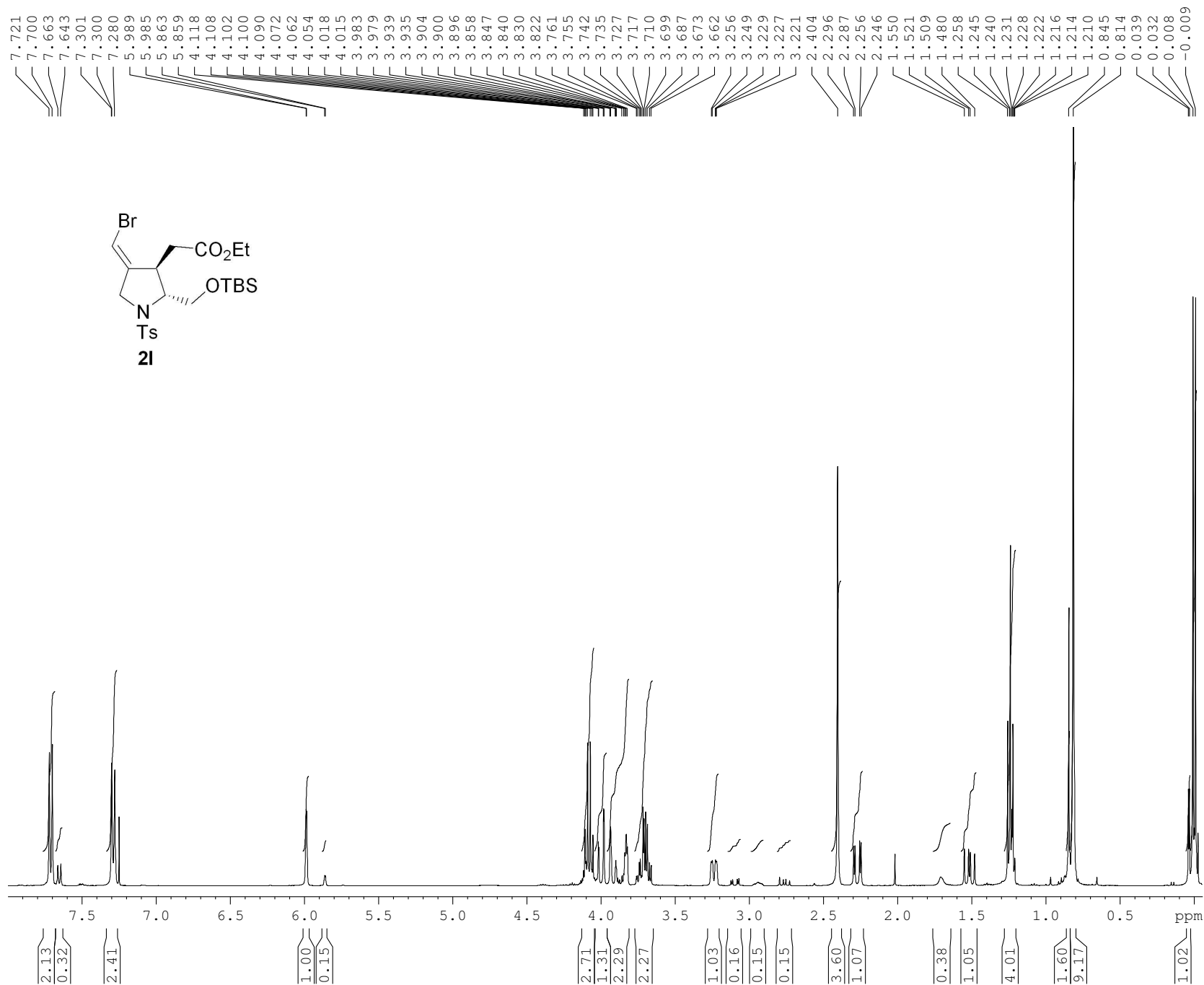
F2 - Acquisition Parameters
 Date_ 20091013
 Time 9.33
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDCl3
 NS 100
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 300.0 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.00000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.80 usec
 P2 17.60 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 0.00 dB
 PL12 14.30 dB
 PL2W 7.98779869 W
 PL12W 0.29677486 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127810 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

S50

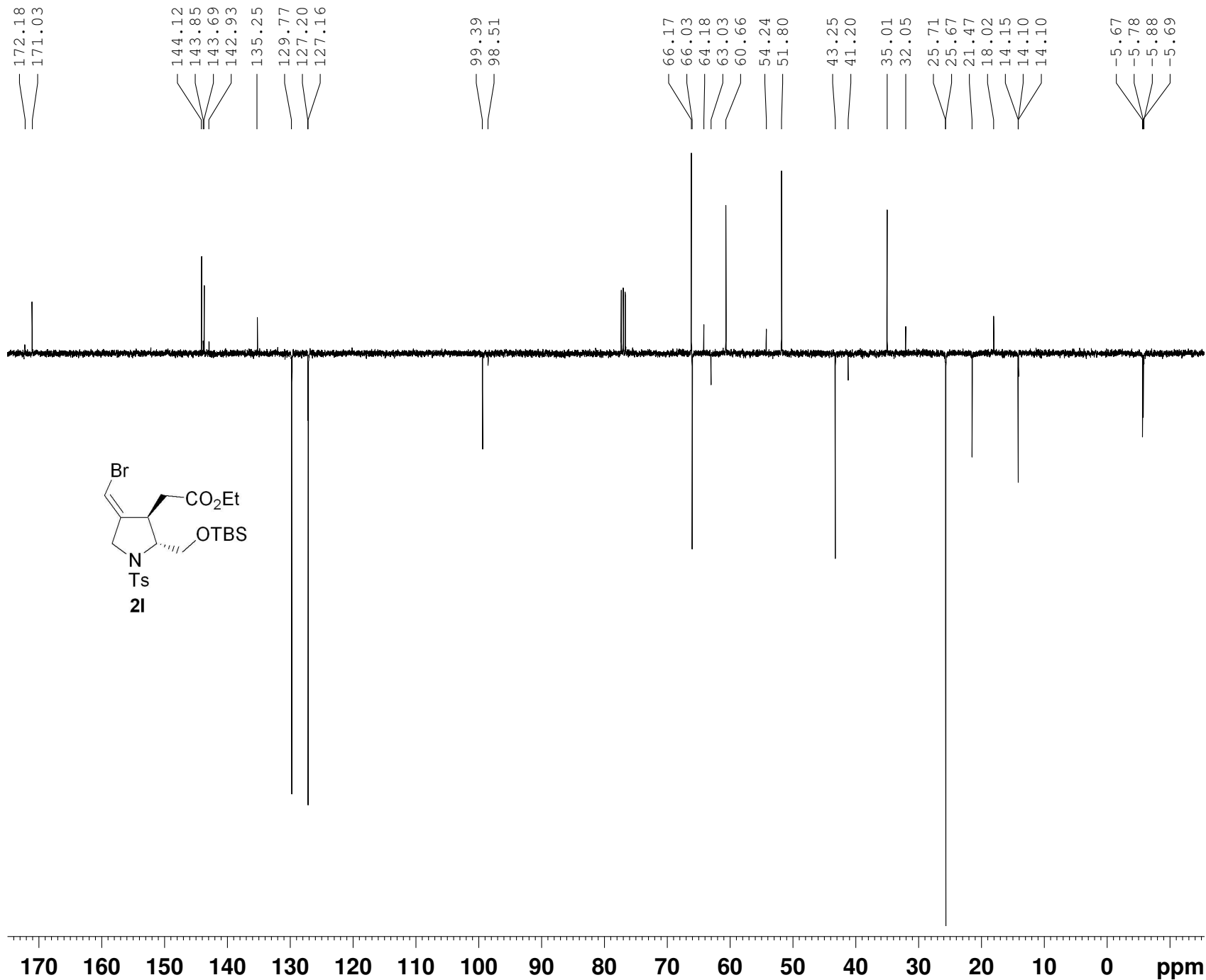


Current Data Parameters
NAME 090613 cycloS
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090613
Time 14.39
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 64
DW 60.800 usec
DE 6.00 usec
TE 294.8 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 12.30 usec
PL1 -1.00 dB
PL1W 10.05604267 W
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300134 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



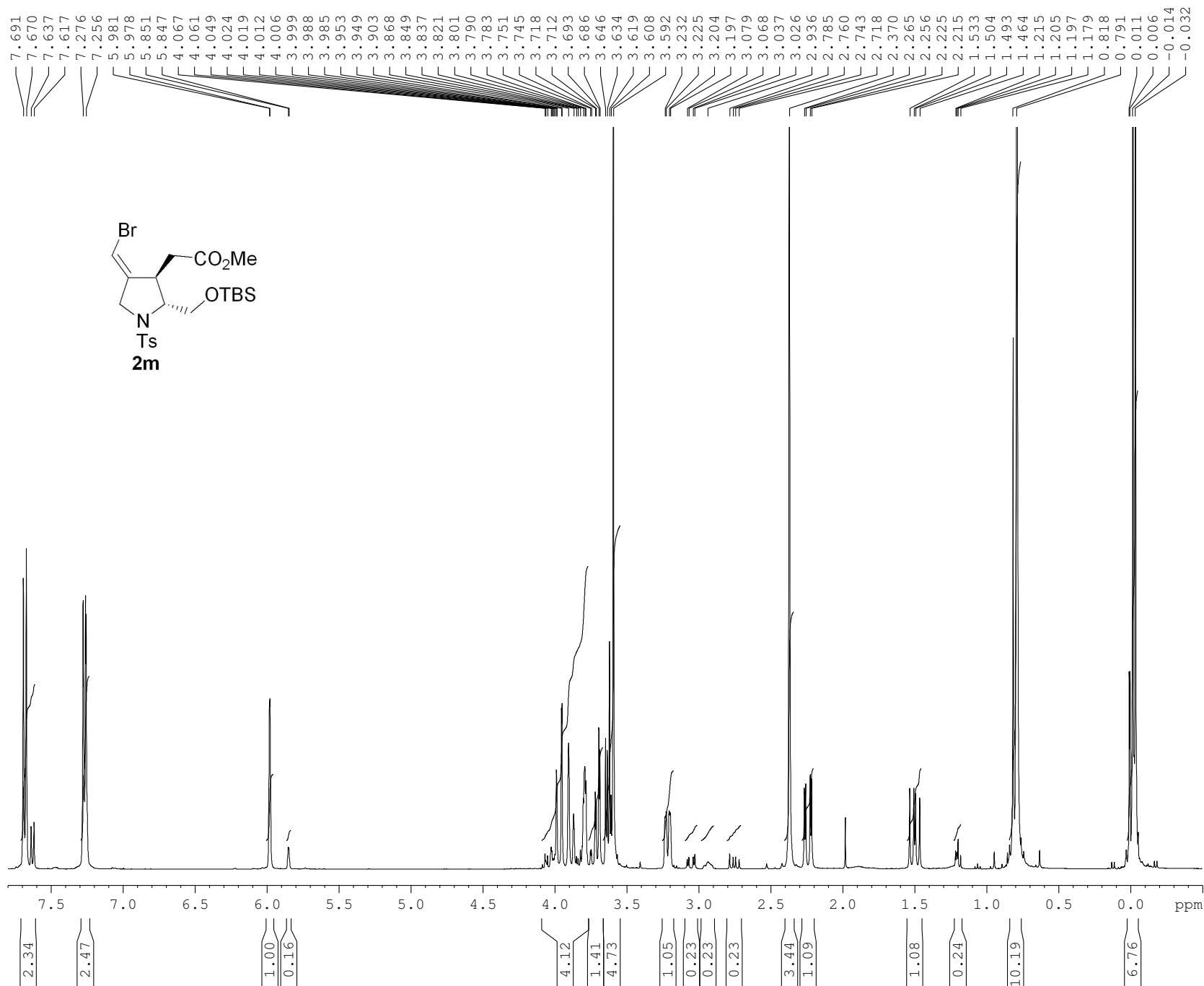
Current Data Parameters
NAME 090613 cycloS C13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090613
Time 14.45
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDC13
NS 148
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 295.3 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127751 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

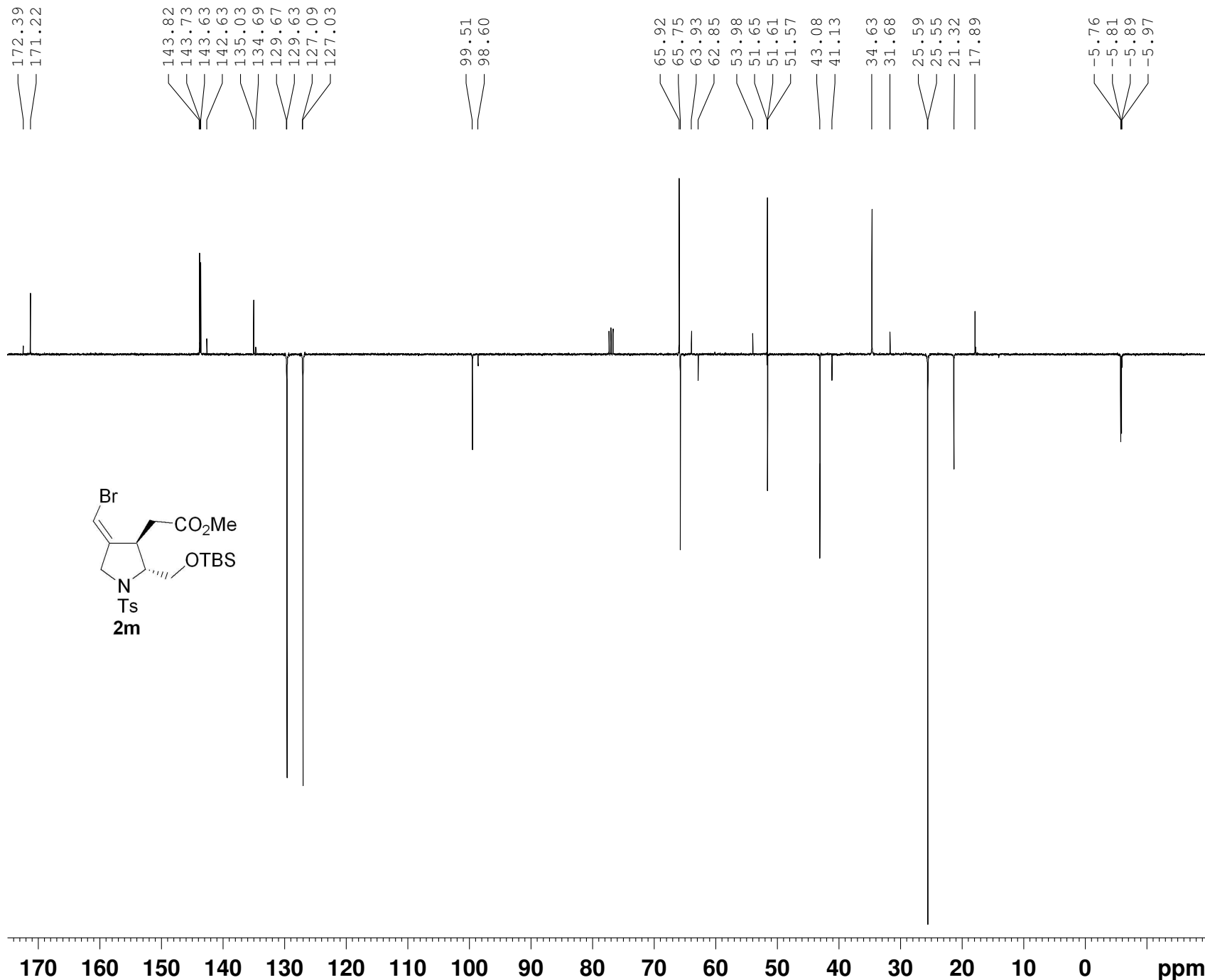


Current Data Parameters
 NAME 091016 cycloSMe
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091016
 Time 9.07
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 18
 DW 60.800 usec
 DE 6.00 usec
 TE 673.2 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 PL 12.80 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300094 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



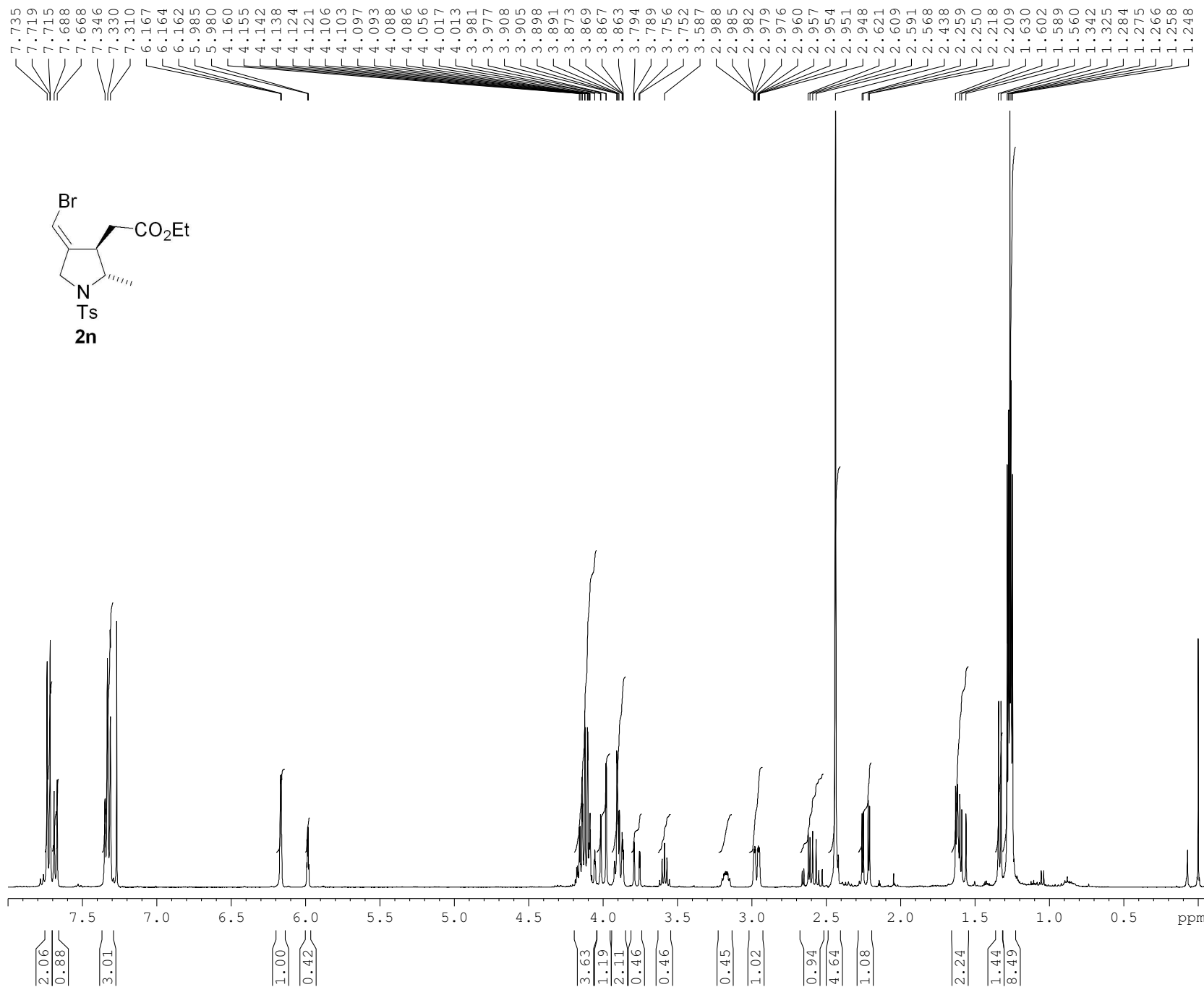
Current Data Parameters
 NAME 091016 cycloSMe C13
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091016
 Time 9.19
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDC13
 NS 300
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 673.2 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.00000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.80 usec
 P2 17.60 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 0.00 dB
 PL12 14.30 dB
 PL2W 7.98779869 W
 PL12W 0.29677486 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127854 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

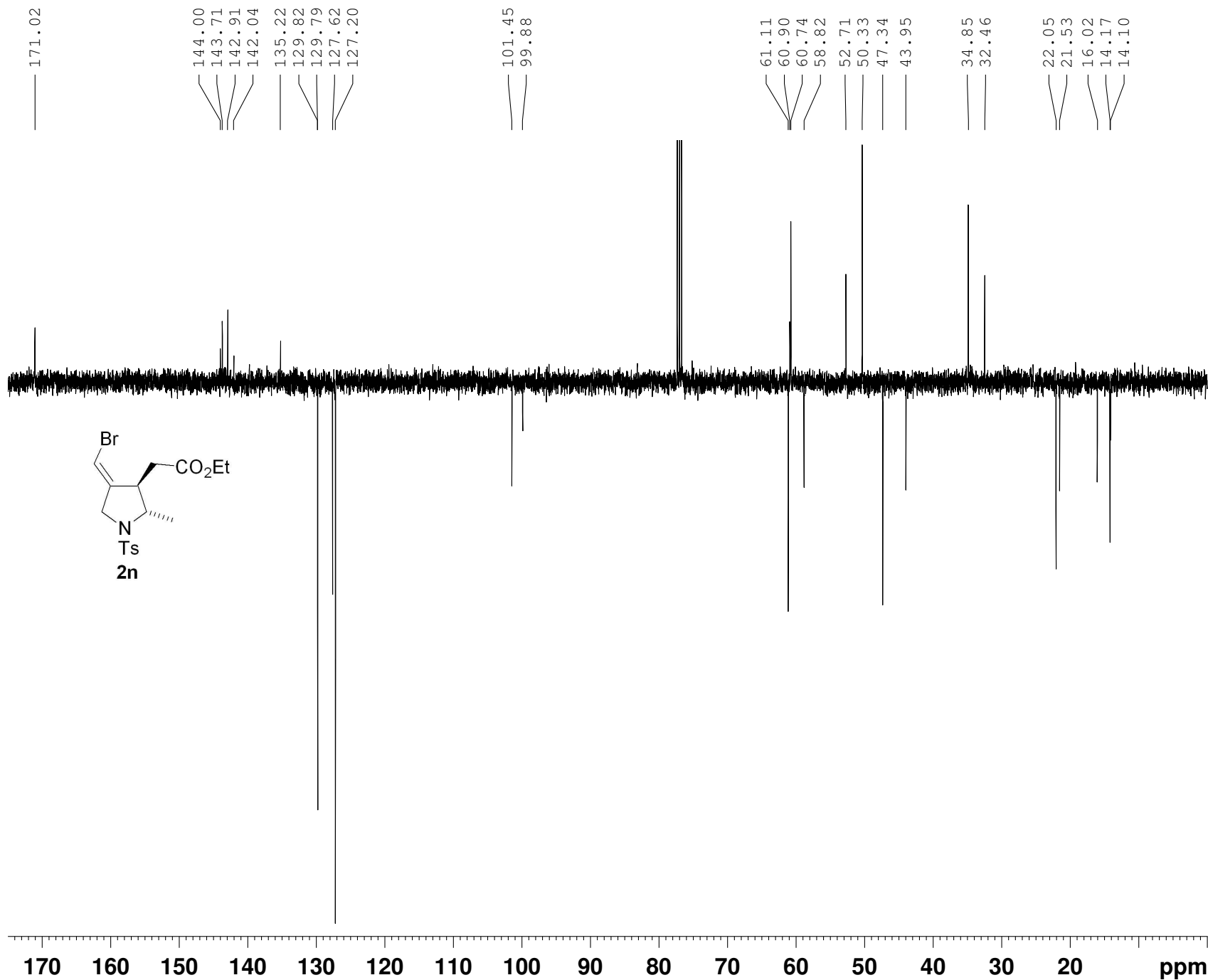


Current Data Parameters
 NAME 090608 cycloA
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20090608
 Time 15.48
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 181
 DW 60.800 usec
 DE 6.00 usec
 TE 294.4 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.30 usec
 PL1 -1.00 dB
 PL1W 10.05604267 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300066 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



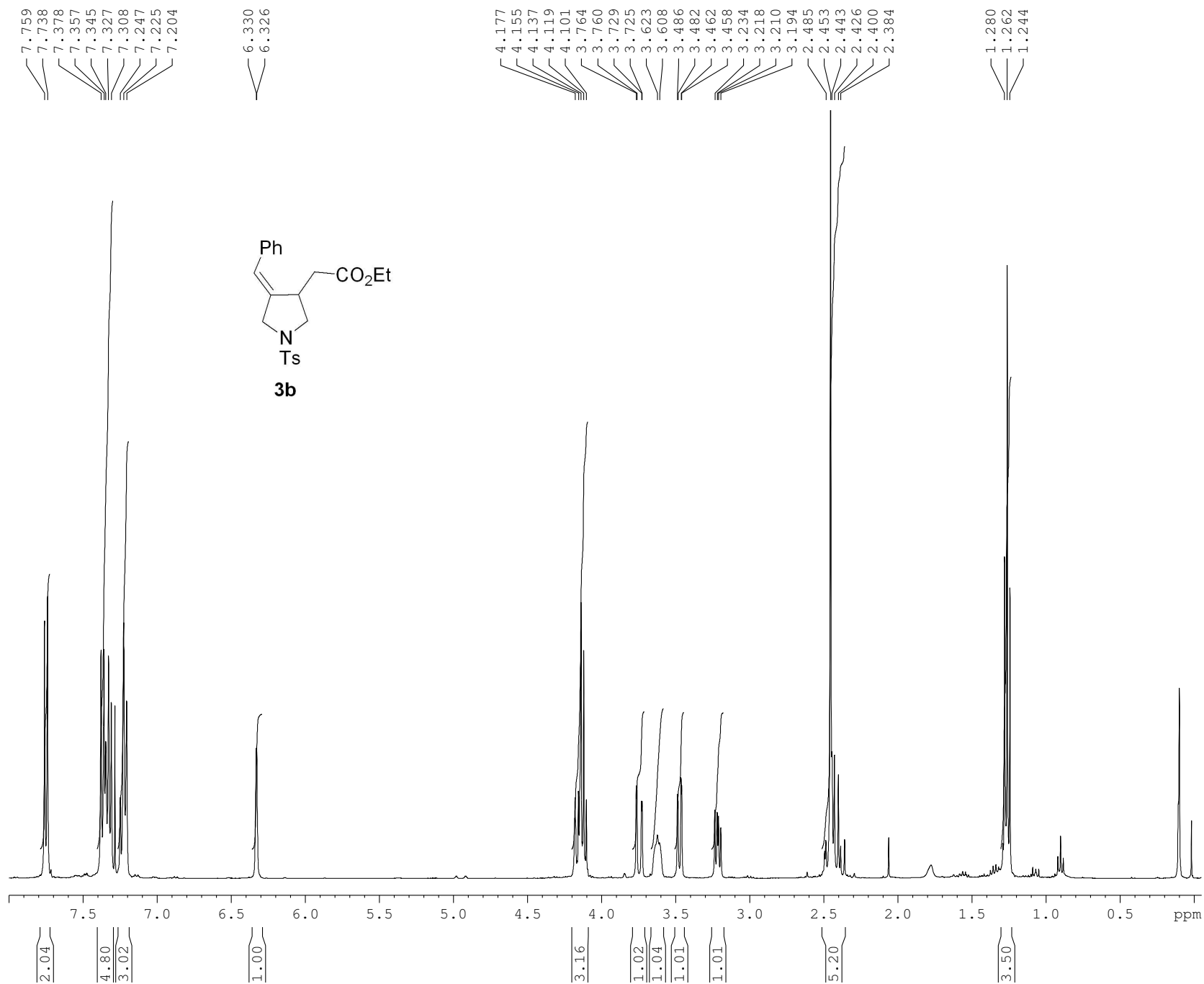
Current Data Parameters
NAME 090608 cycloA C13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090608
Time 15.54
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDC13
NS 211
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 295.3 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.0000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.00 usec
P2 16.00 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 15.26 dB
PL2W 10.05604267 W
PL12W 0.23791789 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127722 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 0.40

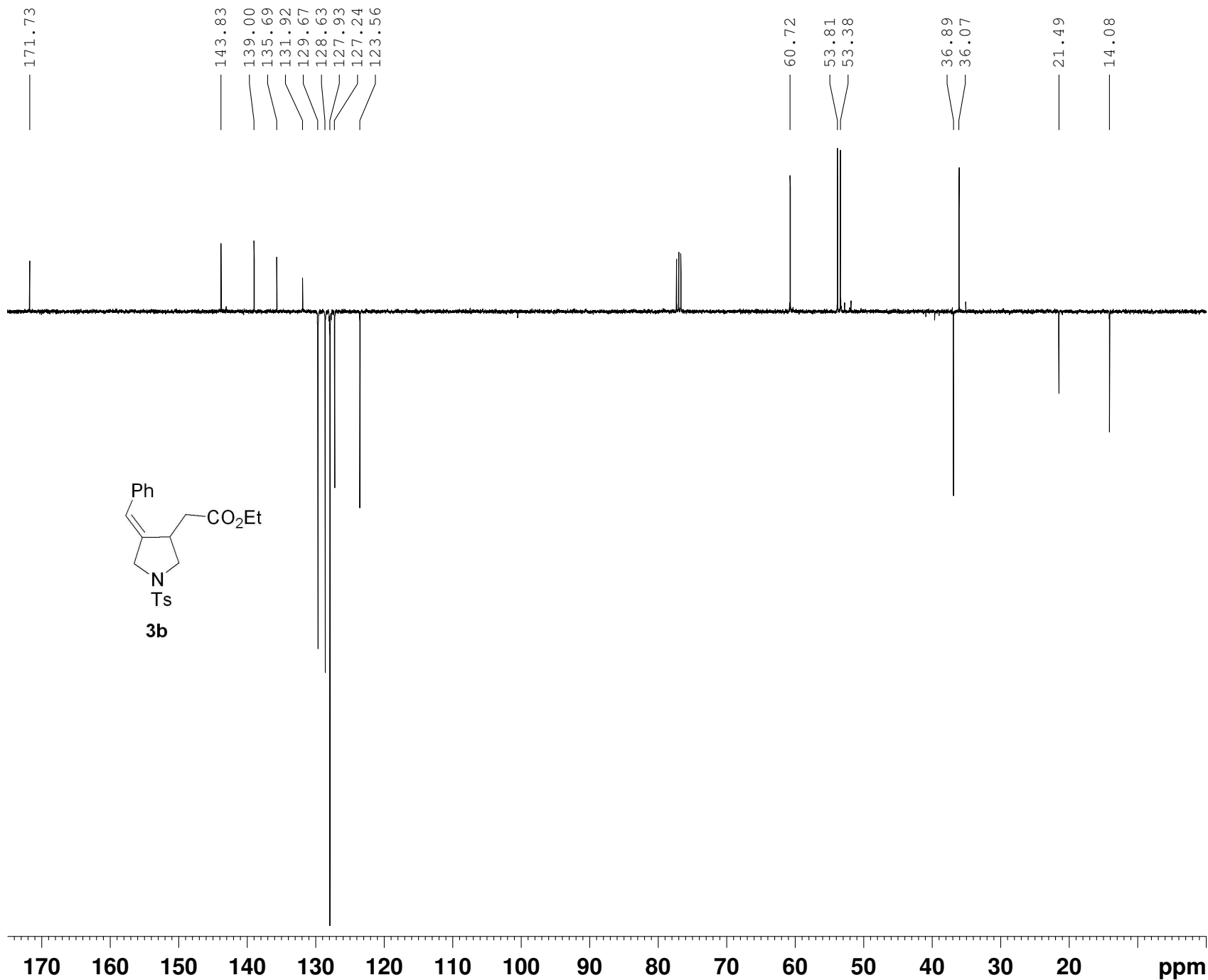


Current Data Parameters
NAME 091127 PhNTs Zn
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20091127
Time 17.04
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDC13
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 36
DW 60.800 usec
DE 6.00 usec
TE 292.6 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 13.30 usec
PL1 -2.00 dB
PL1W 12.65980816 W
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



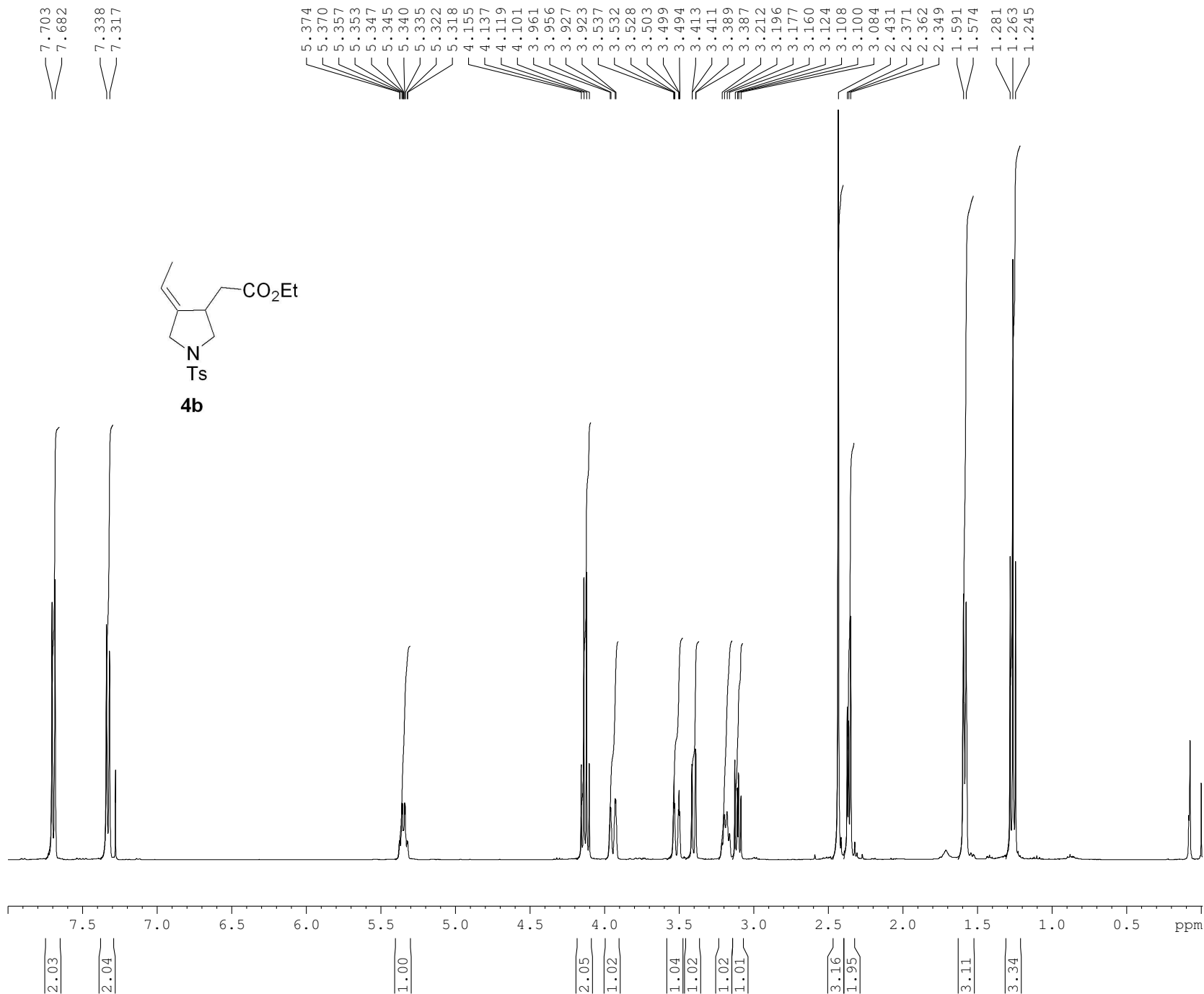
Current Data Parameters
NAME 091126 PhNTs C13
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20091126
Time 9.29
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG jmod
TD 65536
SOLVENT CDCl3
NS 220
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 2050
DW 20.800 usec
DE 6.00 usec
TE 293.2 K
CNST2 145.0000000
CNST11 1.0000000
D1 2.00000000 sec
D20 0.00689655 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 8.60 usec
P2 17.20 usec
PL1 -2.00 dB
PL1W 54.93878937 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -0.50 dB
PL12 14.10 dB
PL2W 8.96245766 W
PL12W 0.31076142 W
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127780 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

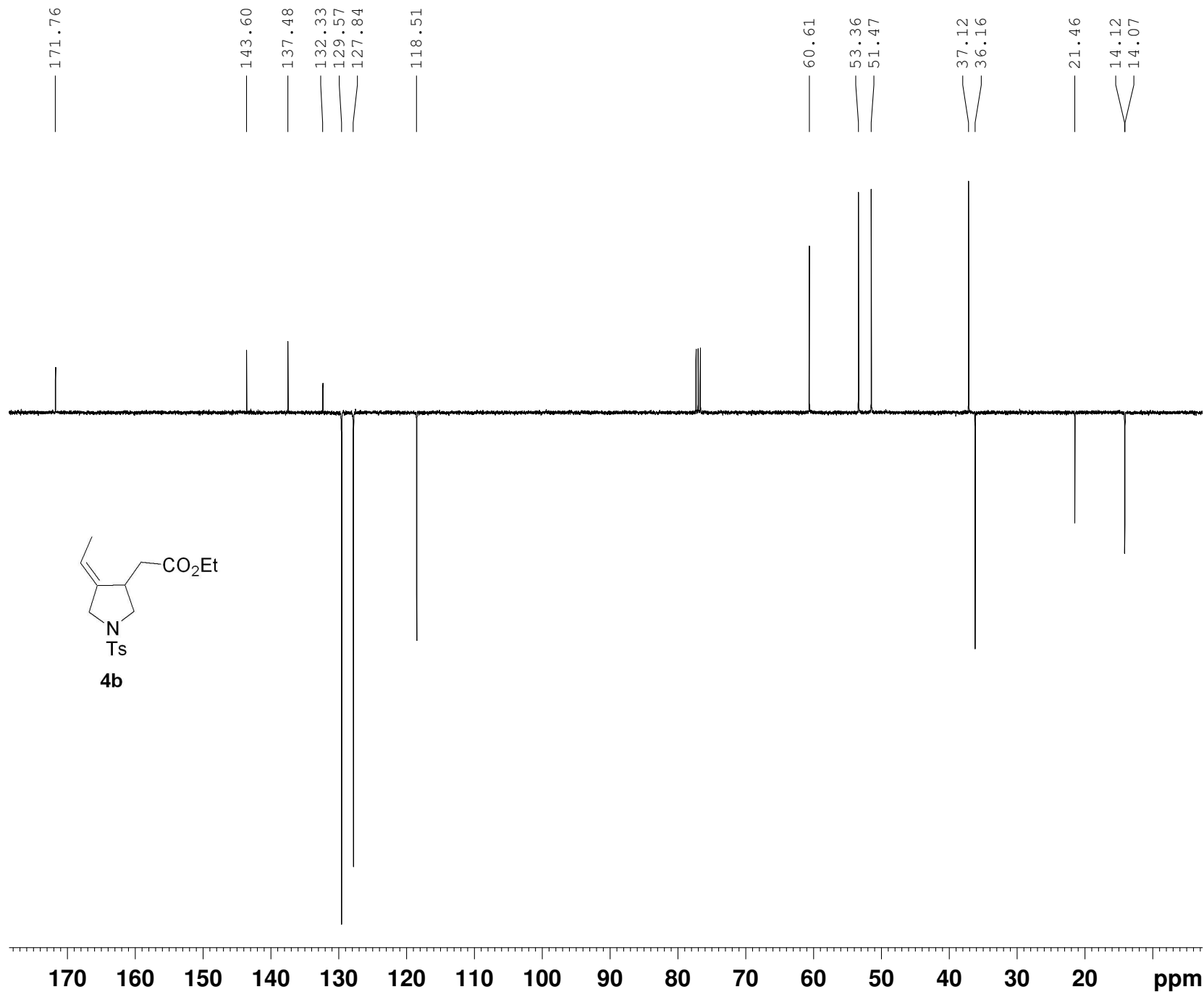


Current Data Parameters
 NAME 091119 MeNtsesterPd(OAc)2
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091119
 Time 18.07
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 9
 DS 2
 SWH 8223.685 Hz
 FIDRES 0.125483 Hz
 AQ 3.9846387 sec
 RG 80.6
 DW 60.800 usec
 DE 6.00 usec
 TE 299.1 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 13.30 usec
 PL1 -2.00 dB
 PL1W 12.65980816 W
 SFO1 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300023 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME 091119 MeNTsester C13
 EXPNO 1
 PROCNO 1

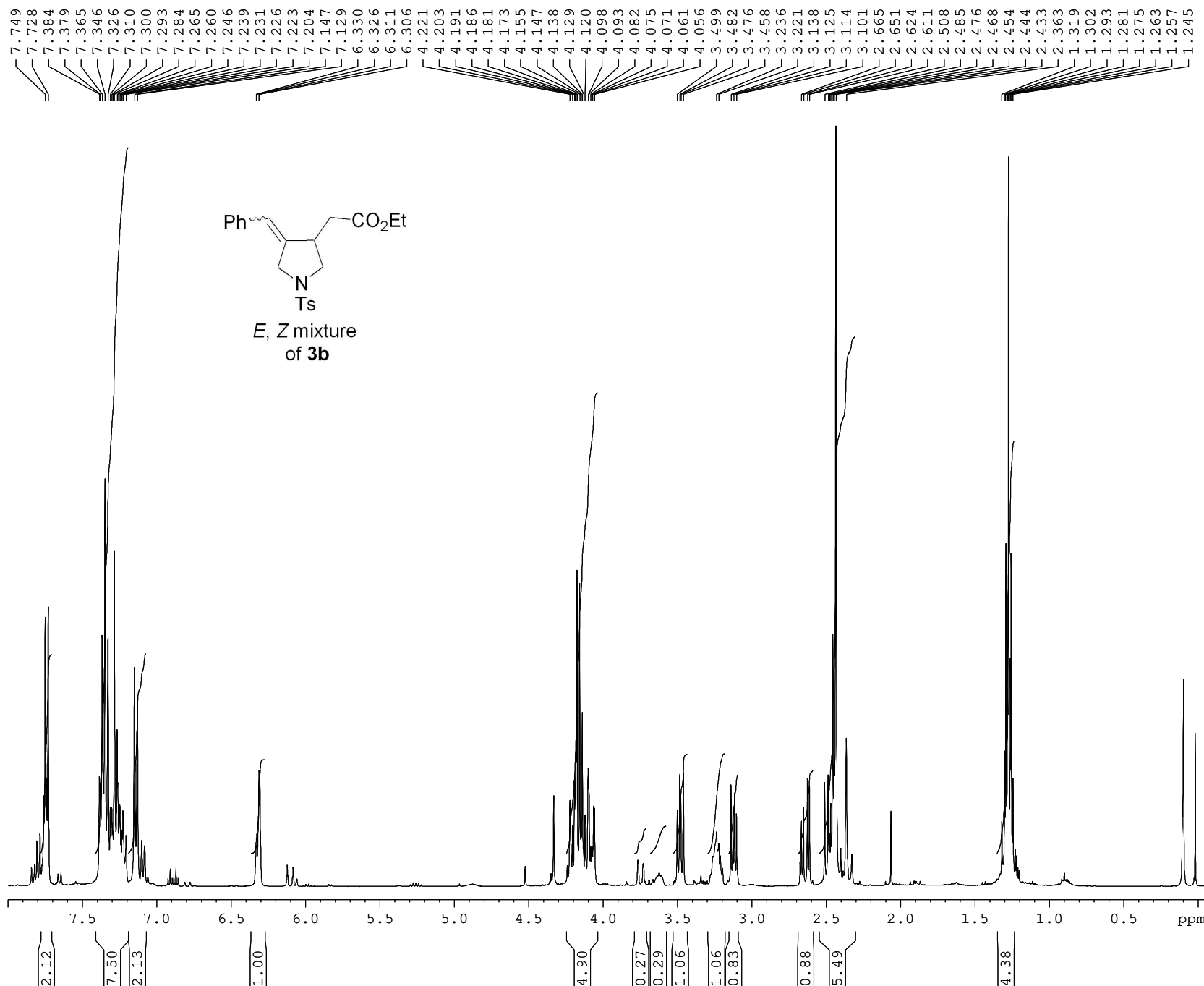
F2 - Acquisition Parameters
 Date_ 20091119
 Time 9.40
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDCl3
 NS 317
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 299.2 K
 CNST2 145.000000
 CNST11 1.0000000
 D1 2.0000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.60 usec
 P2 17.20 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -0.50 dB
 PL12 14.10 dB
 PL2W 8.96245766 W
 PL12W 0.31076142 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127751 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

S60

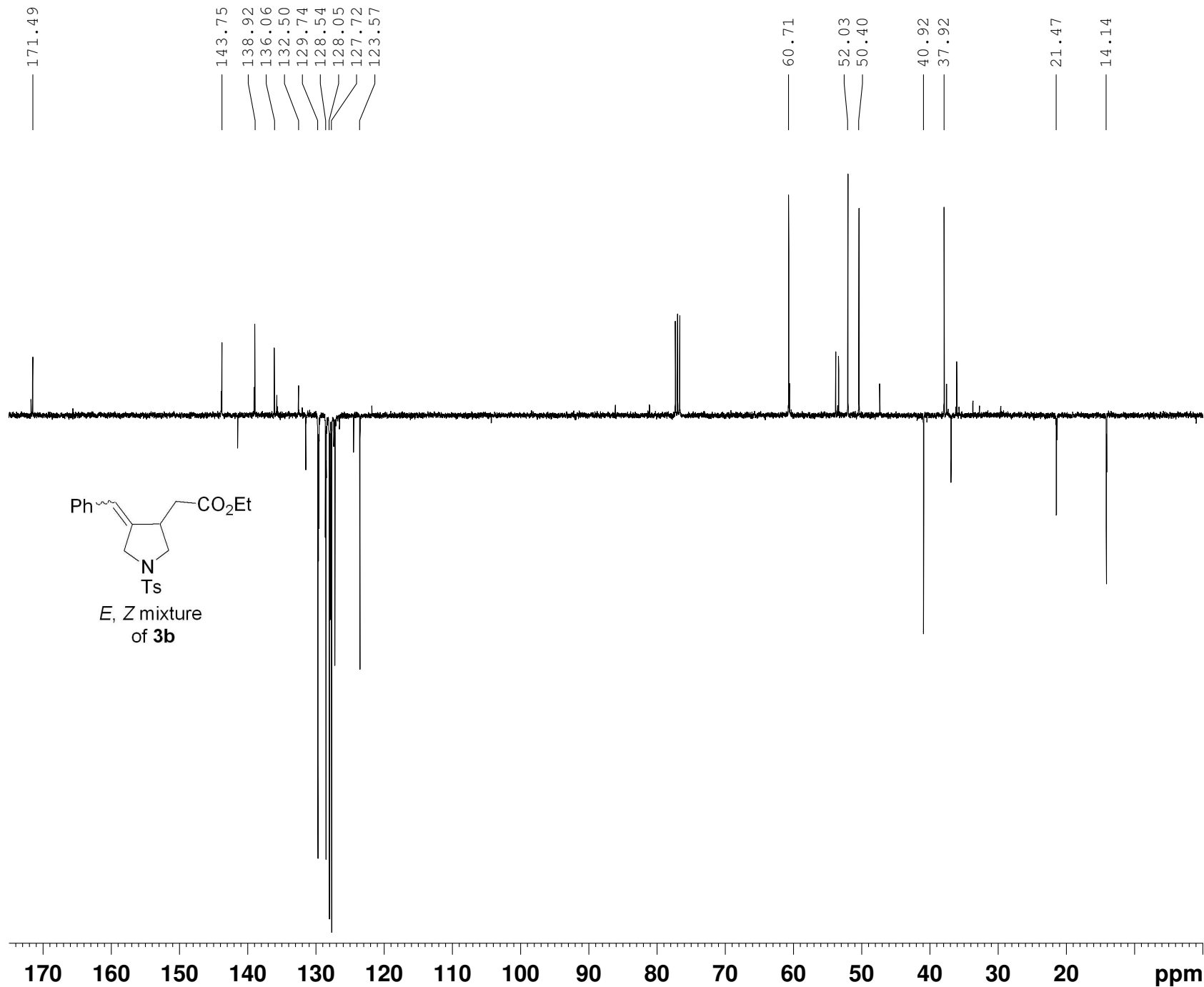


Current Data Parameters
NAME 091208 PhNTs cyclo Z major
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20091208
Time 19.09
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 71.8
DW 60.800 usec
DE 6.00 usec
TE 293.6 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 13.30 usec
PL1 -2.00 dB
PL1W 12.65980816 W
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



Current Data Parameters
 NAME 091208 PhNTs cyclo Z major C13
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20091208
 Time 19.13
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG jmod
 TD 65536
 SOLVENT CDCl3
 NS 434
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631988 sec
 RG 2050
 DW 20.800 usec
 DE 6.00 usec
 TE 294.6 K
 CNST2 145.0000000
 CNST11 1.0000000
 D1 2.0000000 sec
 D20 0.00689655 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 8.60 usec
 P2 17.20 usec
 PL1 -2.00 dB
 PL1W 54.93878937 W
 SFO1 100.6228298 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -0.50 dB
 PL12 14.10 dB
 PL2W 8.96245766 W
 PL12W 0.31076142 W
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127780 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40