

เอกสารอ้างอิง

- 3.2.6 [1] Watt, J.M.; Breyer-Brandwilk, M.G.; *Medicinal and Poisionus Plants of East and Southern Africa*, 2nd ed.; E & S Livingtone: Edinburgh and London, 1962, 785.
- 3.2.6 [2] Combes, G.; Gaignault, J. C. *Fitotherapie* 1984, **55**, 161.
- 3.2.6 [3] Wing, H. J. *J. Indian Chem Soc.* 1942, **19**, 425.
- 3.2.6 [4] Wang, C.; Chang, H. *Shan-hsi Hsin I Yao* 1981, 10, 52, 51.
- 3.2.6 [5] Sharma, P. N.; Shoeb, A.; Kapil, R. S.; Popil, S. P. *Phytochemistry* 1981, **20**, 335.
- 3.2.6 [6] Ishii, H.; Kobayashi, J.; Ishikawa, T. *Chem. Pharm. Bull.* 1983, **31**, 3330.
- 3.2.6 [7] Tan, S; Ishii, H.; *Jpn. Kokai Tokkyo Koho* 1998, JP 01,242,578 [89,242,578] (Cl. C07D311/18).
- 3.2.6 [8] Ishii, H.; Tan, S.; Wang, J. P.; Chen, I. S.; Ishikawa, T. *Yakugaku Zasshi* ... 1991, **111**, 376.
- 3.2.6 [9] Oketeh-Rabah, H. A.; Mwangi, J. W.; Lisgarten, J.; Mberu, E. *Fitotherapie* 2000, **71**, 636.
- 3.2.6 [10] Tsai, I.; Wun, M.; Teng, C.; Ishikawa, T.; Chen, I. *Phytochemistry* 1998, **48**, 1377.
- 3.2.6 [11] Sharma, P. N.; Shoeb, A.; Kapil, R.; Popli, S. P. *Phytochemistry* 1980, **19**, 1258.
- 3.2.6 [12] Ishii, H.; Kobayashi, J.; Yamaguchi, K.; Ishikawa, T. *Chem. Pharm. Bull.* 1993, **41**, 1655.
- 3.2.6 [13] Ishii, H.; Ishikawa, T.; Kobayashi, J. I.; Seki, H. *Tennen Yuki kagobutsu Toronkai Koen Yoshishu* 1992, **34**, 518.
- 3.2.6 [14] Tsai, I.; Fang, S.; Ishikawa, T.; Chang, C.; Chen, I. *Phytochemistry* 1997, **44**, 1383.

- 3.2.6 [15] Sharma, P. N.; Shoeb, A.; Kapil, R. S.; Popli, S. P. *Phytochemistry* 1982, **21**, 252.
- 3.2.6 [16] Gakunju, D. M. N.; Mberu, E. K.; Dossaji, S. F.; Gray, A. I.; Waigh, R. D.; Waterman, P. G; Watkins, W. M. *Antimicrob. Agents Chemother.* 1995, **39**, 2606.
- 3.2.6 [17] Mahato, S. B.; Kundu, A. P. *Phytochemistry*, **1994**, *37*, 1517.
- 3.2.6 [18] a) Hui, W. H.; Li, M. M. Ng, K. K. *Phytochemistry*, **1975**, *14*, 816. b) Anjaneyula, A. S. R.; Reddy, D. S. K. *Indian J. Chem.* 20b, *12*, 1033.

SV-(CB)-50/43 in CDCl₃+CD₃OD * Ca
CS-BC-45 / 2-9

bc-ru-1146 ✓

OK ✓

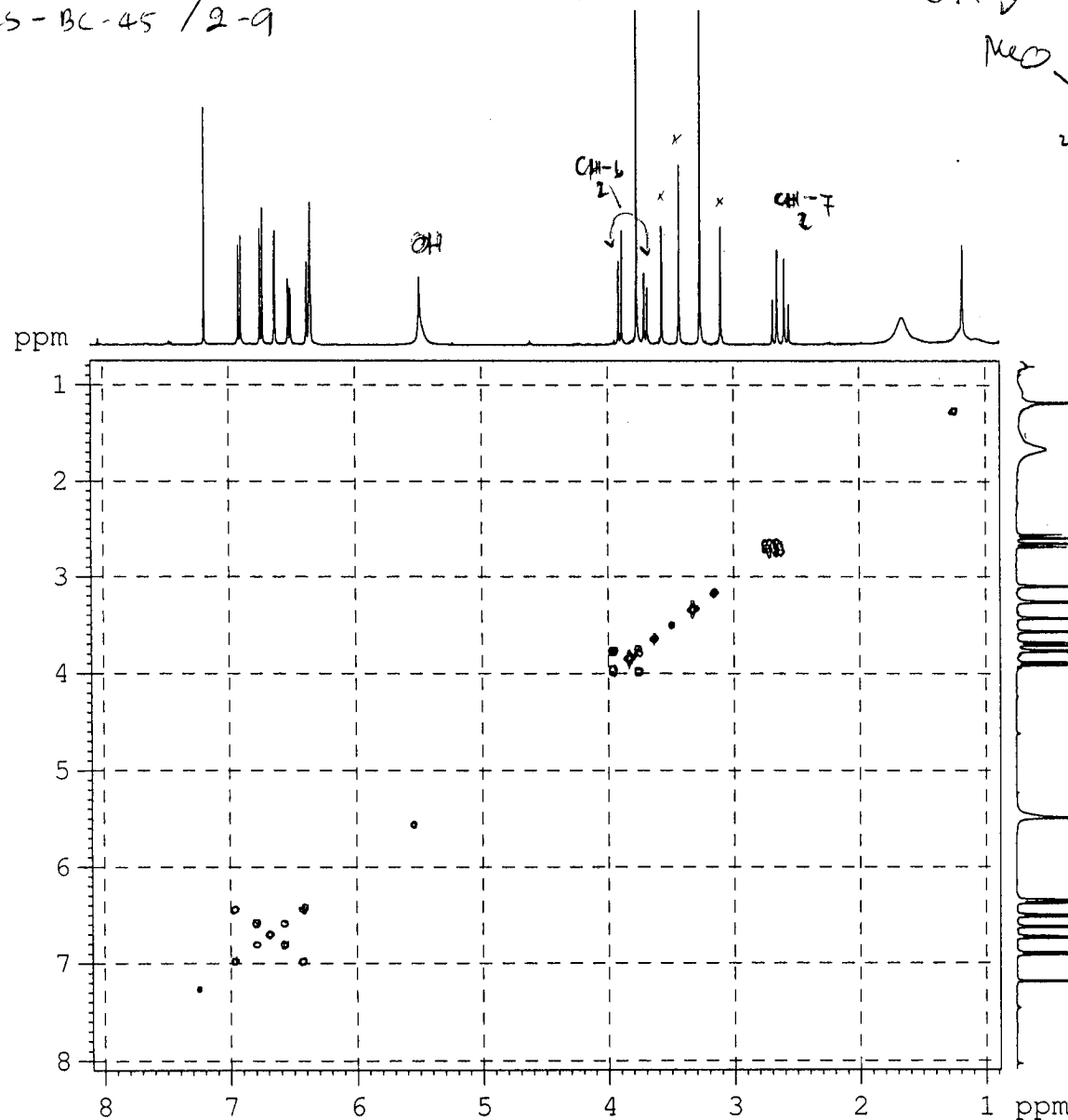
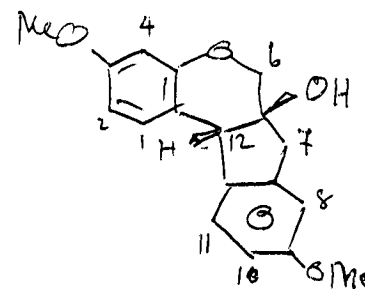


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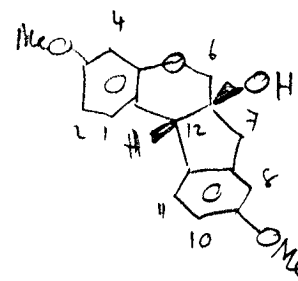
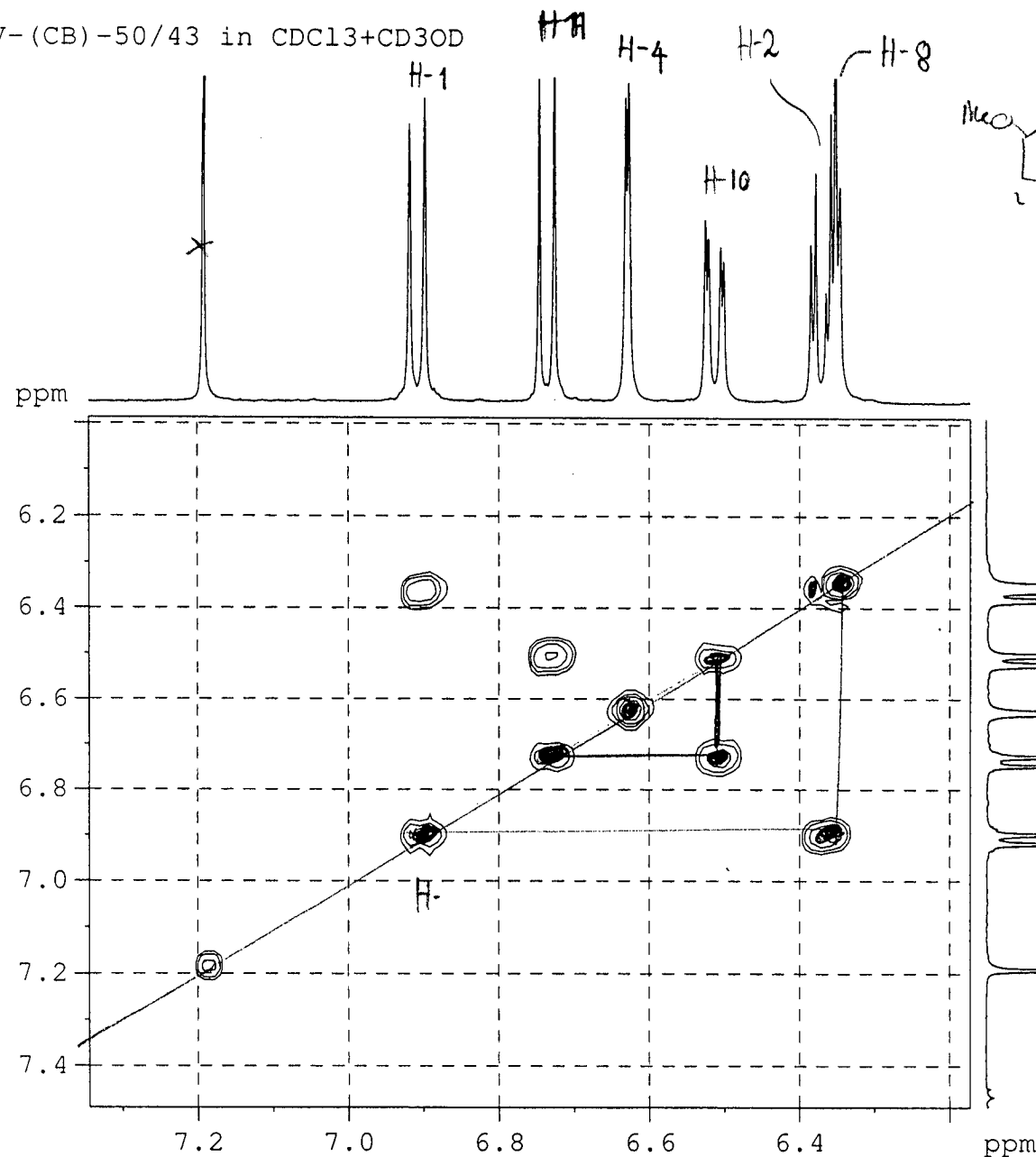
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RG 57
DW 60.400 usec
DE 6.00 usec
TE 673.2 K
D1 1.00000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.20 usec
PL1 -3.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1299866 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



SV-(CB)-50/43 in CDCl₃+CD₃OD



Current Data Parameters
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F2 - Acquisition Parameters

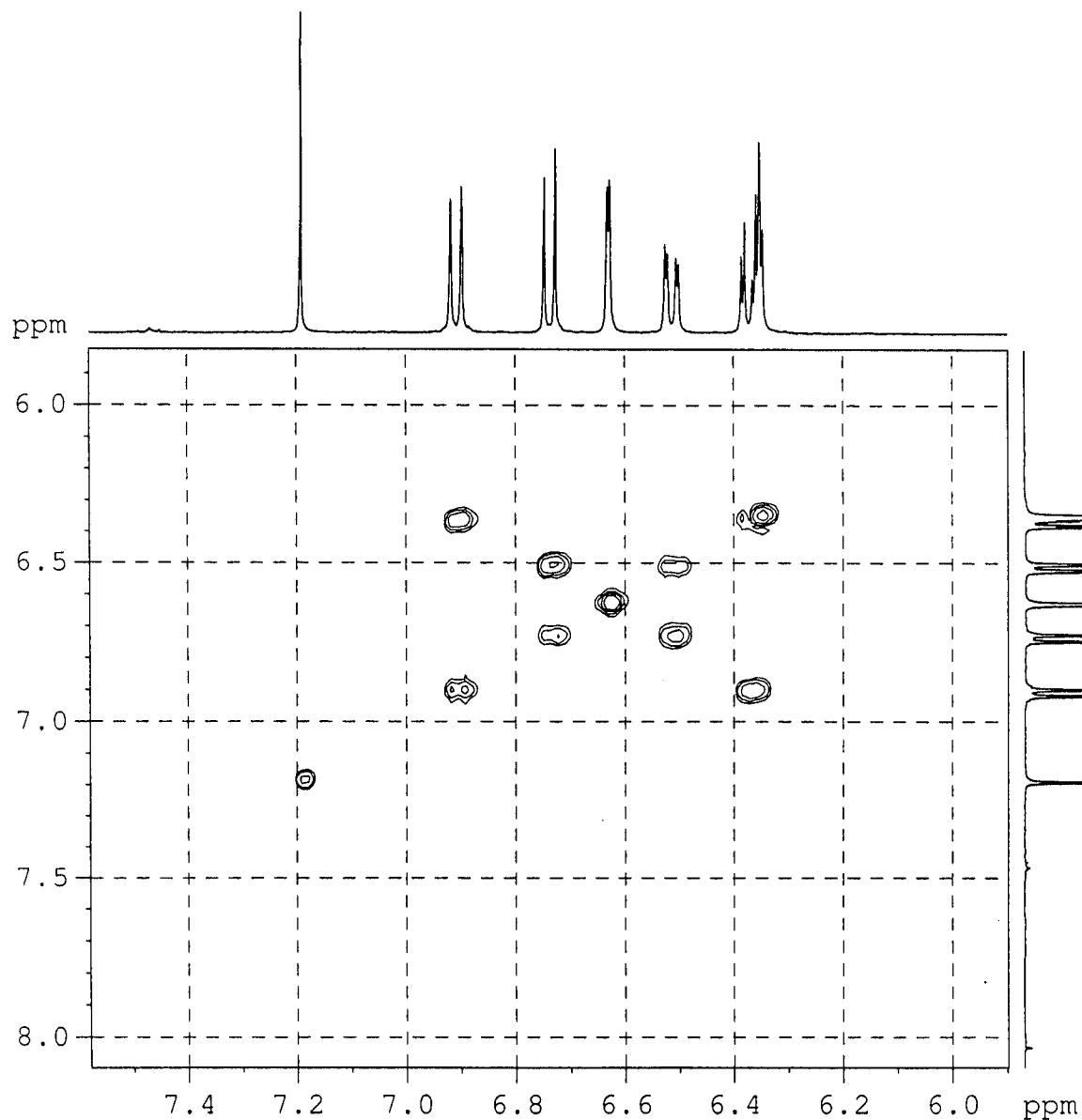
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 SWH 8278.146 Hz
 FIDRES 0.126314 Hz
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 DW 60.400 usec
 DE 6.00 usec
 TE 673.2 K
 D1 1.00000000 sec
 MCREST 0.00000000 sec
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===== CHANNEL f1 =====
 NUC1 1H
 P1 7.20 usec
 PL1 -3.00 dB
 SFO1 400.1324710 MHz

F2 - Processing parameters

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 SF 400.1299866 MHz
 WDW EM
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 LB 0.30 Hz
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 PC 1.00

SV-(CB)-50/43 in CDCl₃+CD₃OD



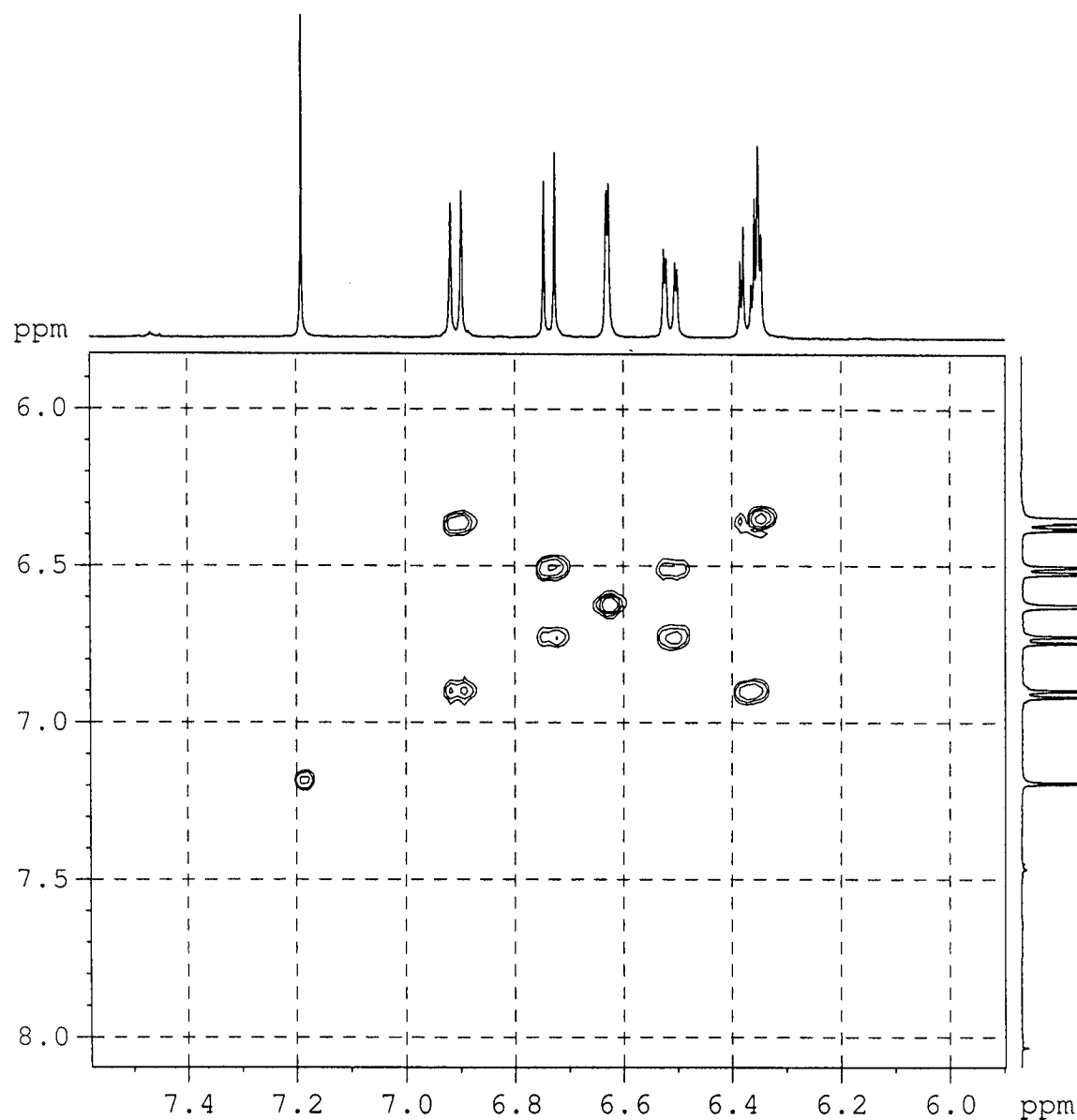
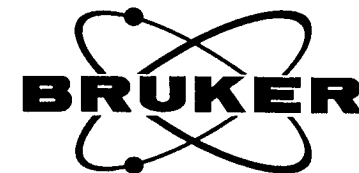
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F2 - Acquisition Parameters
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PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.126314 Hz
AQ 3.9584243 sec
RG 57
DW 60.400 usec
DE 6.00 usec
TE 673.2 K
D1 1.00000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.20 usec
PL1 -3.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1299866 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

SV-(CB)-50/43 in CDCl₃+CD₃OD



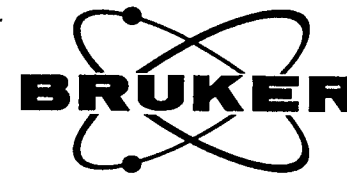
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TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.126314 Hz
AQ 3.9584243 sec
RG 57
DW 60.400 usec
DE 6.00 usec
TE 673.2 K
D1 1.00000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.20 usec
PL1 -3.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1299866 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

SV-(CB)-50/43 in CDCl₃+CD₃OD

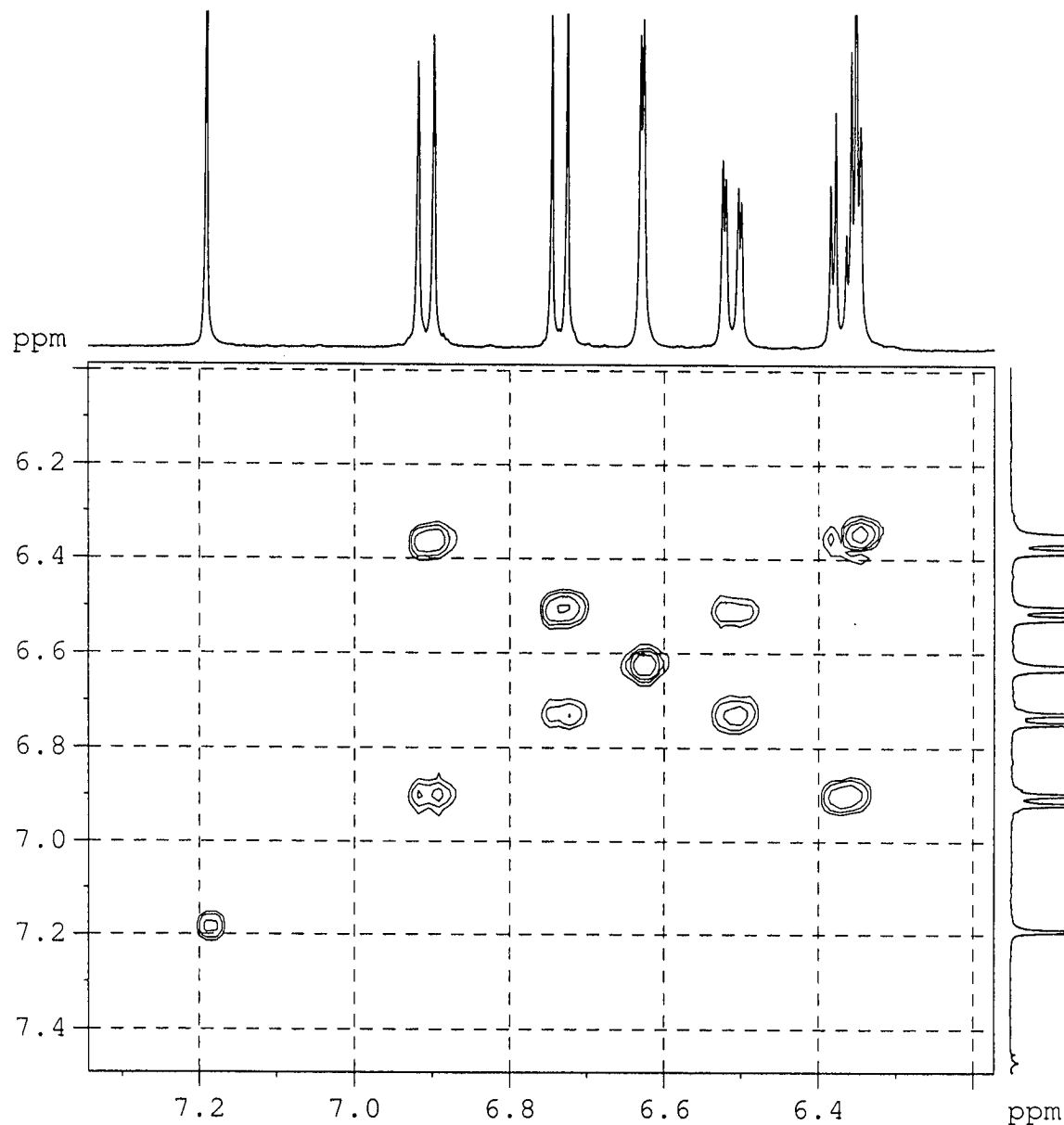


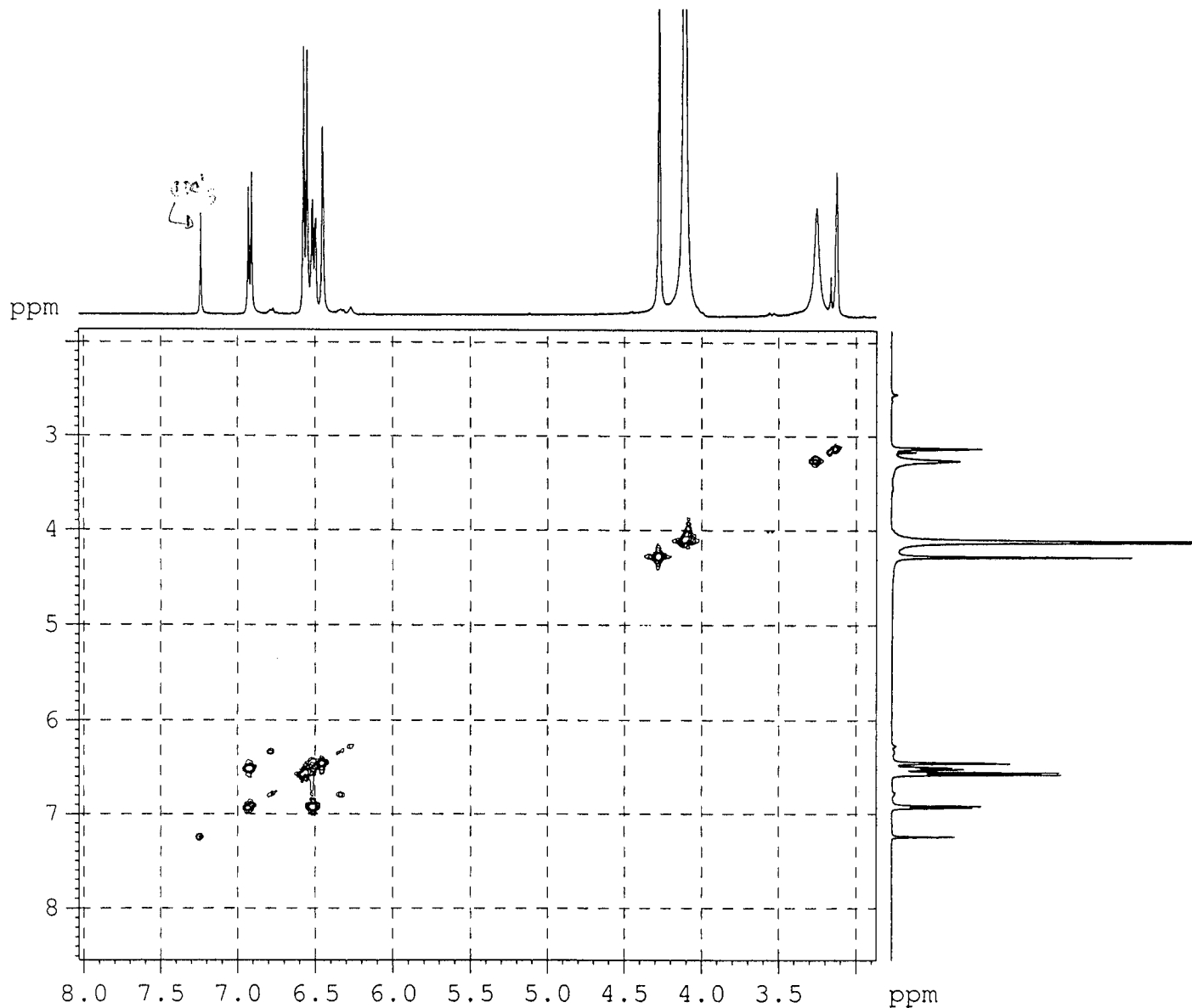
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PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.126314 Hz
AQ 3.9584243 sec
RG 57
DW 60.400 usec
DE 6.00 usec
TE 673.2 K
D1 1.00000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.20 usec
PL1 -3.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1299866 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00





Current Data Parameters
NAME bc-ru-1324
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 700610
Time_ 3.53
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG cosygpgpf
TD 2048
SOLVENT DMSO
NS 16
DS 8
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1917428 sec
RG 203.2
DW 93.600 usec
DE 6.00 usec
TE 30.4 K
d0 0.00000300 sec
d1 1.48689198 sec
d13 0.00000400 sec
d16 0.00020000 sec
IN0 0.00018720 sec
MCREST 0.00000000 sec
MCWRK 1.48689198 sec

===== CHANNEL f1 =====
NUC1 1H
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P1 6.10 usec
PL1 -3.00 dB
SFO1 400.1324057 MHz

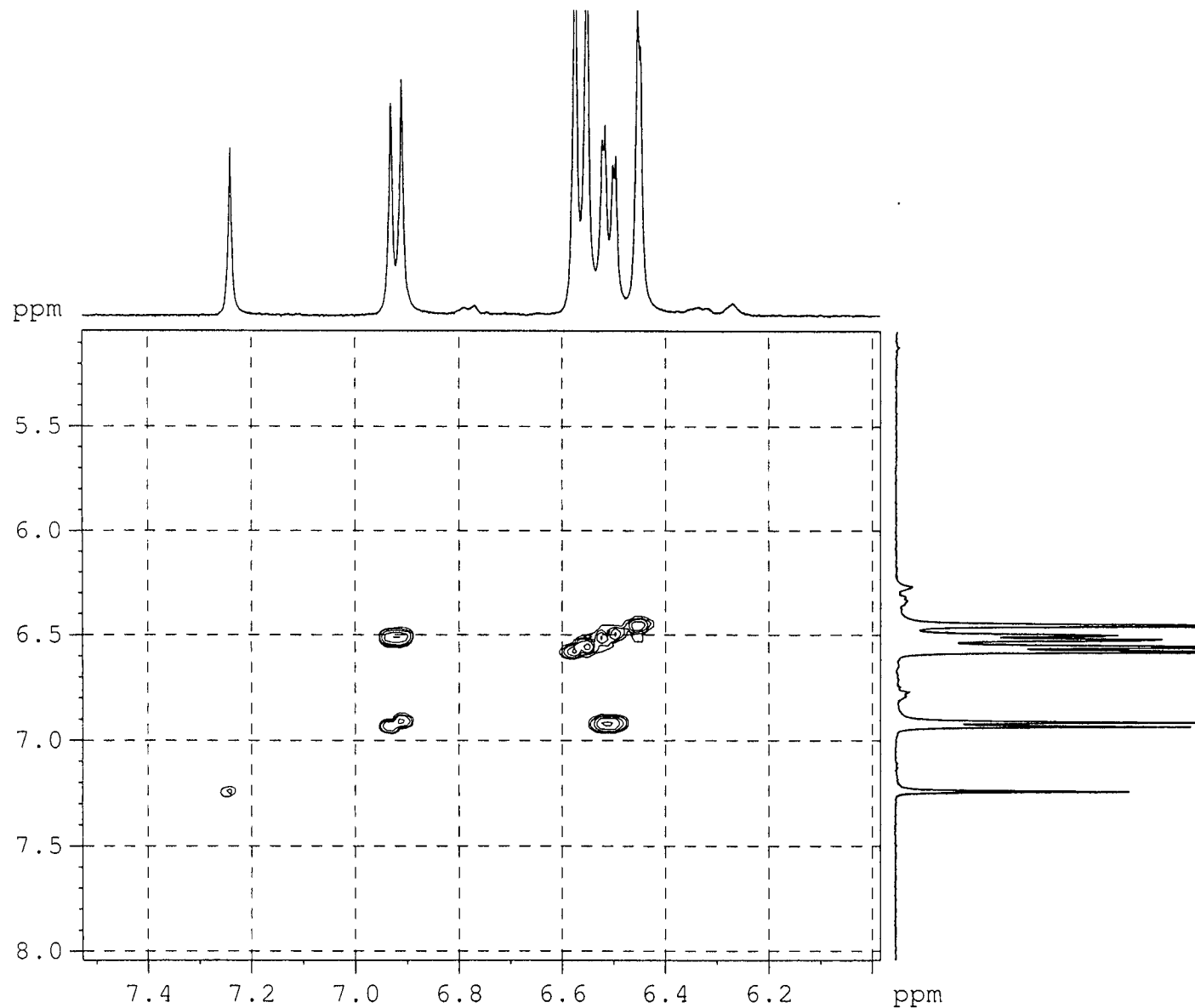
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GPNAM2 SINE.100
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GPX2 0.00 %
GPY1 0.00 %
GPY2 0.00 %
GPZ1 10.00 %
GPZ2 10.00 %
P16 1000.00 usec

F1 - Acquisition parameters
ND0 1
TD 256
SFO1 400.1324 MHz
FIDRES 20.866720 Hz
SW 13.350 ppm
FnMODE QF

F2 - Processing parameters
SI 1024
SF 400.1316660 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 1024
MC2 QF
SF 400.1316581 MHz
WDW SINE
SSB 0
LB 0.00 Hz

COSY 4 BC CS-BC(2)-26/46-94 in CDCl3



Current Data Parameters
NAME bc-ru-1324
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 700610
Time 3.53
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG cosygpgf
TD 2048
SOLVENT DMSO
NS 16
DS 8
SWH 5341.880 Hz
FIDRES 2.608340 Hz
AQ 0.1917428 sec
RG 203.2
DW 93.600 usec
DE 6.00 usec
TE 30.4 K
d0 0.00000300 sec
D1 1.48689198 sec
d13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018720 sec
MCREST 0.00000000 sec
MCWRK 1.48689198 sec

----- CHANNEL f1 -----
NUC1 1H
P0 6.10 usec
P1 6.10 usec
PL1 -3.00 dB
SFO1 400.1324057 MHz

----- GRADIENT CHANNEL -----
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0.00 %
GPX2 0.00 %
GPY1 0.00 %
GPY2 0.00 %
GPZ1 10.00 %
GPZ2 10.00 %
P16 1000.00 usec

F1 - Acquisition parameters
ND0 1
TD 256
SFO1 400.1324 MHz
FIDRES 20.866720 Hz
SW 13.350 ppm
FnMODE QF

F2 - Processing parameters
SI 1024
SF 400.1316660 MHz
WDW SINE
SSB 0
LB 0.00 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 1024
MC2 QF
SF 400.1316581 MHz
WDW SINE
SSB 0
LB 0.00 Hz



Current Data Parameters
NAME bc-ru-1324
EXPNO 4
PROCNO 1

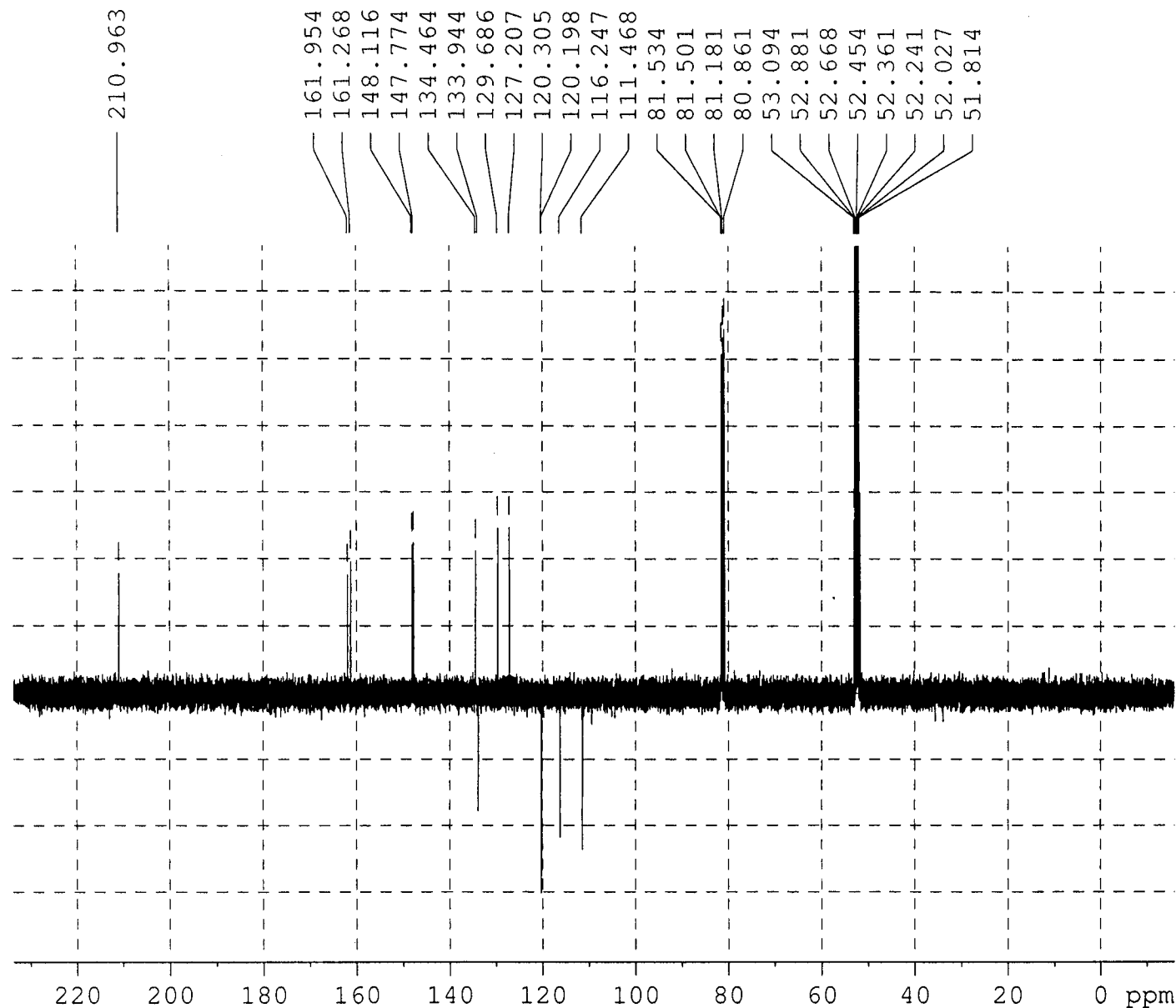
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Date_ 700610
Time 11.05
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG jmod
TD 131072
SOLVENT CDC13
NS 3072
DS 0
SWH 25125.629 Hz
FIDRES 0.191693 Hz
AQ 2.6083827 sec
RG 65536
DW 19.900 usec
DE 6.00 usec
TE 30.1 K
CNST2 139.0000000
CNST11 1.0000000
D1 2.00000000 sec
d20 0.00719424 sec
DELTA 0.00001719 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

----- CHANNEL f1 -----
NUC1 ¹³C
P1 13.50 usec
p2 27.00 usec
PL1 -6.00 dB
SFO1 100.6237358 MHz

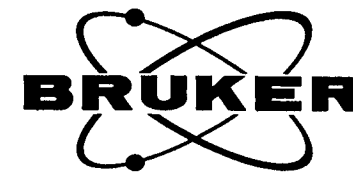
----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 ¹H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 20.20 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 65536
SF 100.6127749 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 12.50 cm
F1P 223.804 ppm
F1 22517.54 Hz
F2P -25.922 ppm
F2 -2608.09 Hz
PPMCM 12.48630 ppm/cm
HZCM 1256.28149 Hz/cm



¹³C (jmod) CS-bc-(2)-26/46-94 in CDCl₃



Current Data Parameters
NAME bc-ru-1324
EXPNO 4
PROCNO 1

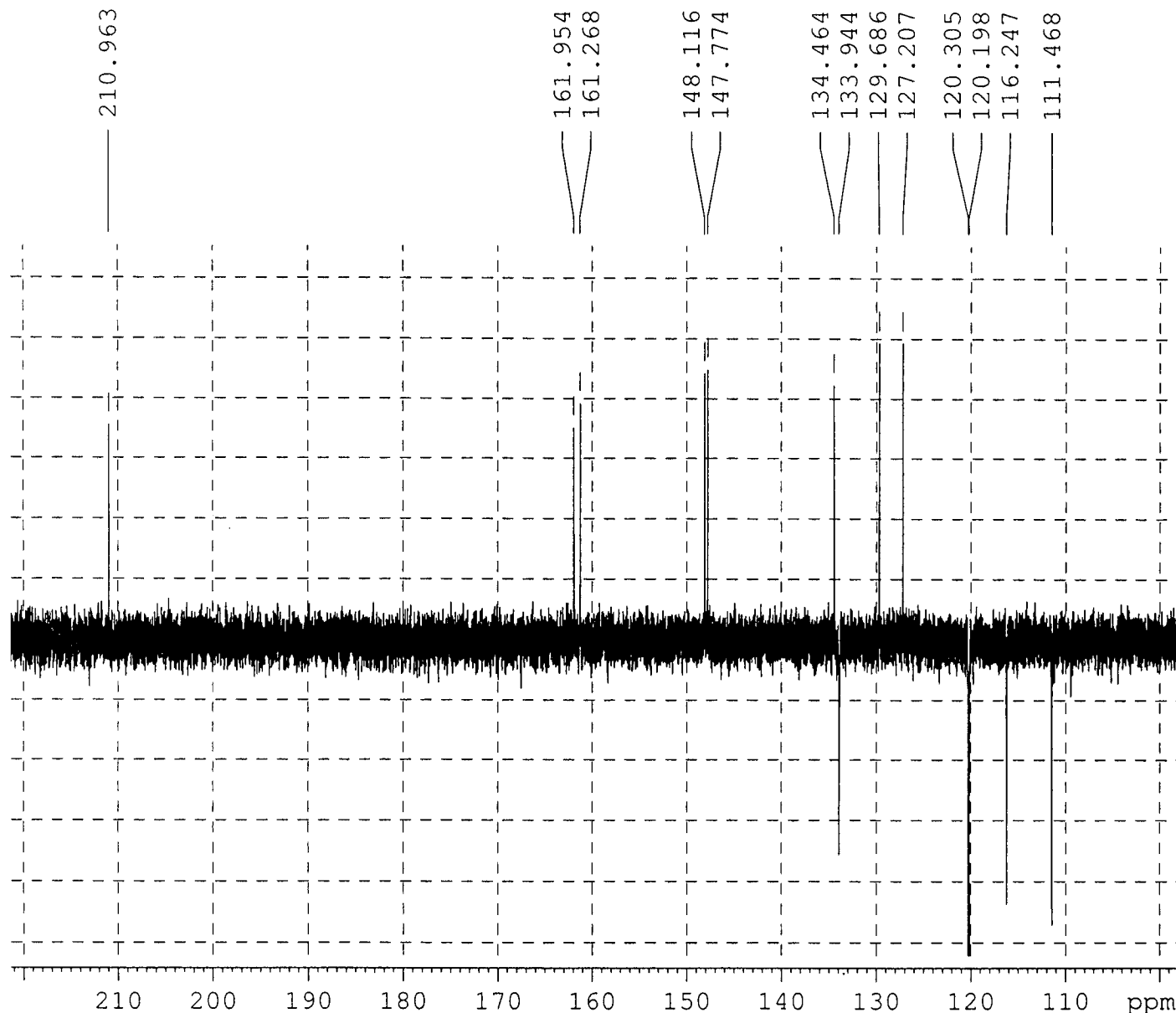
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Date_ 700610
Time 11.05
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG jmod
TD 131072
SOLVENT CDCl₃
NS 3072
DS 0
SWH 25125.629 Hz
FIDRES 0.191693 Hz
AQ 2.6083827 sec
RG 65536
DW 19.900 usec
DE 6.00 usec
TE 30.1 K
CNST2 139.0000000
CNST11 1.0000000
D1 2.00000000 sec
d20 0.00719424 sec
DELTA 0.00001719 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 ¹³C
P1 13.50 usec
p2 27.00 usec
PL1 -6.00 dB
SFO1 100.6237358 MHz

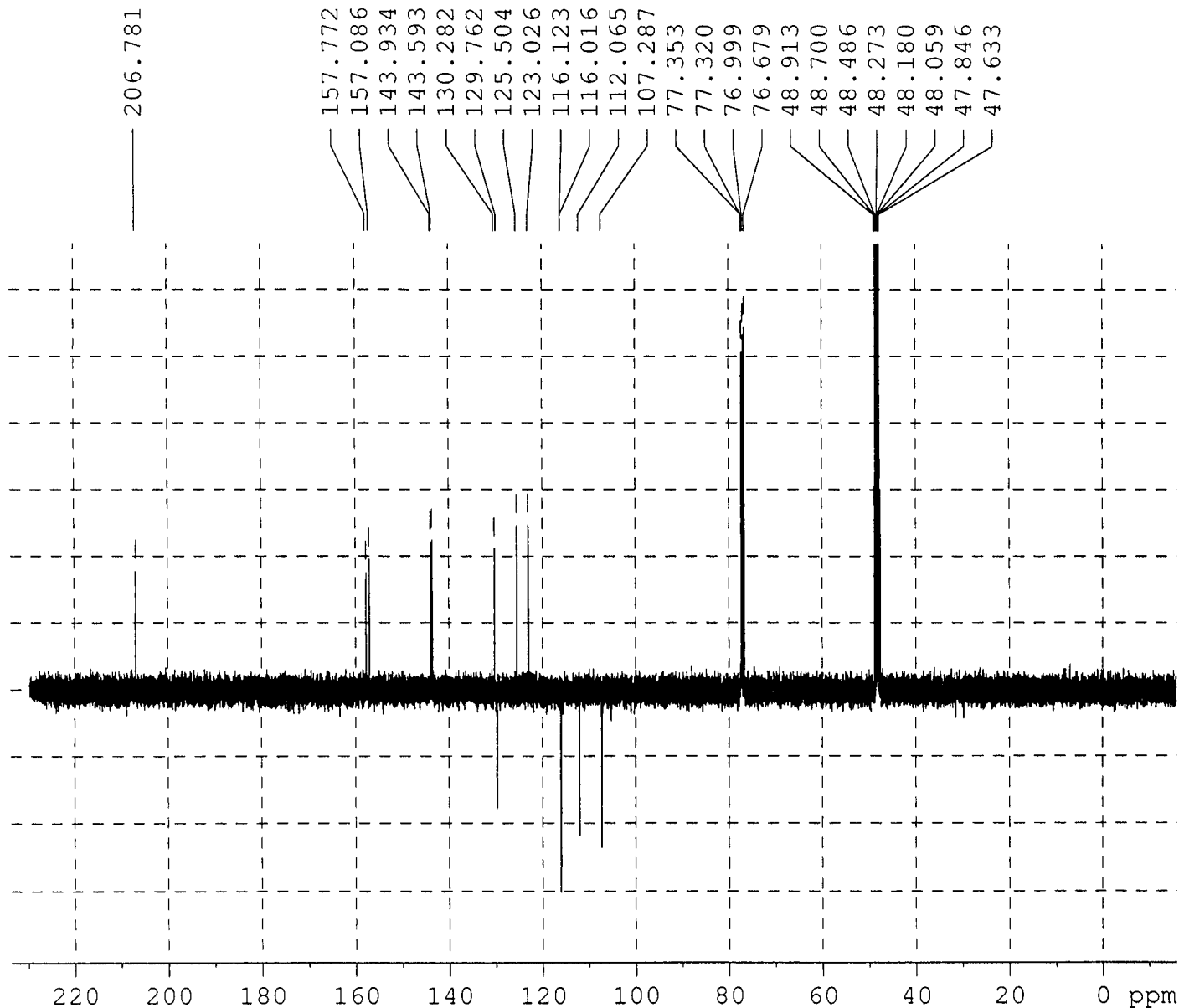
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 ¹H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 20.20 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 65536
SF 100.6127749 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 12.50 cm
F1P 223.804 ppm
F1 22517.54 Hz
F2P -25.922 ppm
F2 -2608.09 Hz
PPMCM 12.48630 ppm/cm
H7CM 1256.28149 Hz/cm



¹³C (jmod) CS-bc-(2)-26/46-94 in CDCl₃



Current Data Parameters
NAME bc-ru-1324
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 700610
Time 11.05
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG jmod
TD 131072
SOLVENT CDCl₃
NS 3072
DS 0
SWH 25125.629 Hz
FIDRES 0.191693 Hz
AQ 2.6083827 sec
RG 65536
DW 19.900 usec
DE 6.00 usec
TE 30.1 K
CNST2 139.0000000
CNST11 1.0000000
D1 2.00000000 sec
d20 0.00719424 sec
DELTA 0.00001719 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

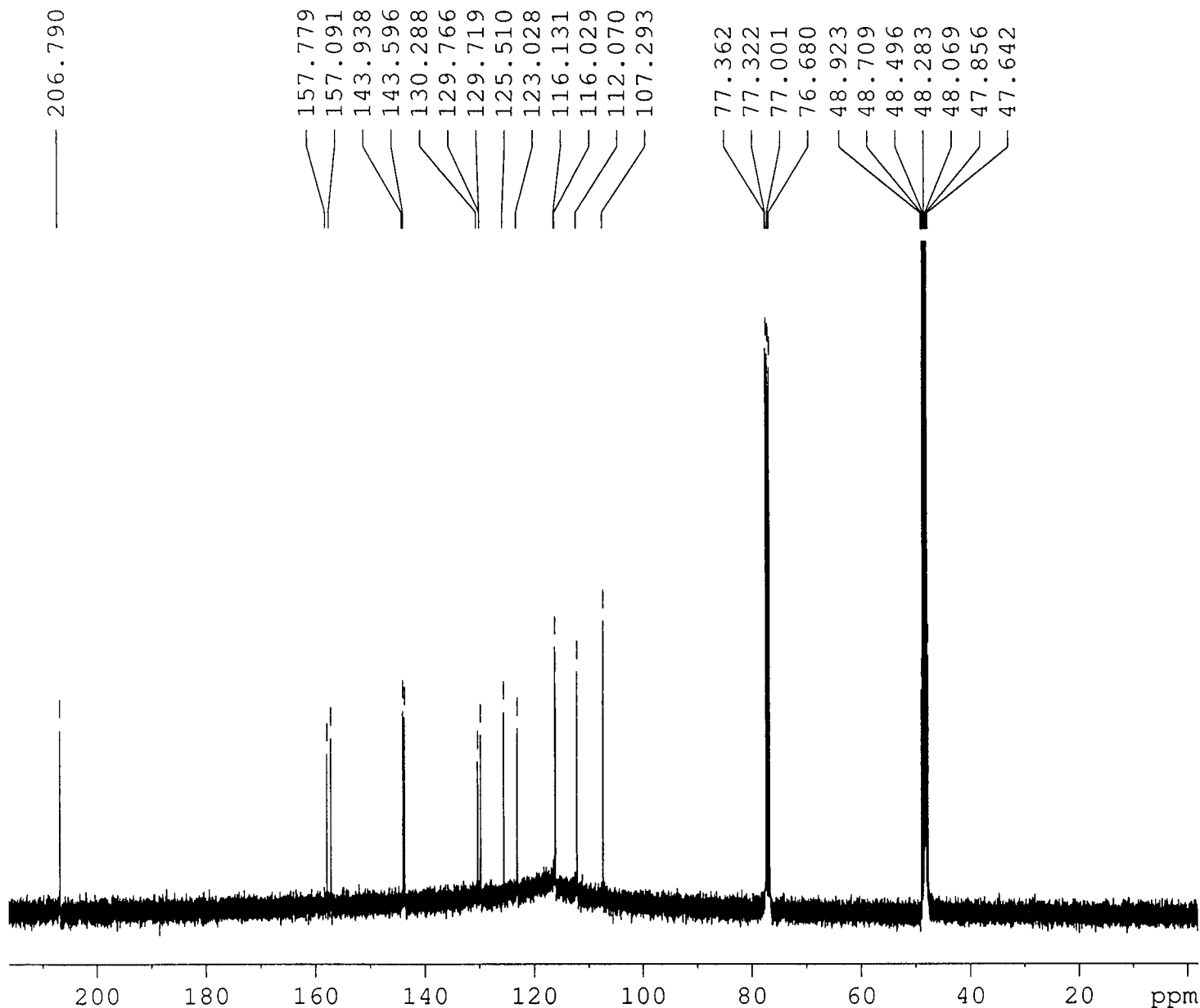
===== CHANNEL f1 =====
NUC1 ¹³C
P1 13.50 usec
p2 27.00 usec
PL1 -6.00 dB
SFO1 100.6237358 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 ¹H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 20.20 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 65536
SF 100.6127749 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 12.50 cm
F1P 223.804 ppm
F1 22517.54 Hz
F2P -25.922 ppm
F2 -2608.09 Hz
PPMCM 12.48630 ppm/cm
NUC1 ¹³C
NUC2 ¹H

¹³C 2 BC CS-bc(2)-26/46-94 in CDCl₃



Current Data Parameters
NAME bc-ru-1324
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 700610
Time 3.52
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG zgdc
TD 131072
SOLVENT CDCl₃
NS 6144
DS 0
SWH 25125.629 Hz
FIDRES 0.191693 Hz
AQ 2.6083827 sec
RG 65536
DW 19.900 usec
DE 6.00 usec
TE 30.4 K
D1 2.00000000 sec
d11 0.03000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 13.50 usec
PL1 -6.00 dB
SFO1 100.6227297 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 20.20 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 65536
SF 100.6131951 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

13C 2 BC CS-bc(2)-26/46-94 in CDCl3



Current Data Parameters
NAME bc-ru-1324
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 700610
Time 3.52
INSTRUM AV400
PROBHD 5 mm Multinucl
PULPROG zgdc
TD 131072
SOLVENT CDCl3
NS 6144
DS 0
SWH 25125.629 Hz
FIDRES 0.191693 Hz
AQ 2.6083827 sec
RG 65536
DW 19.900 usec
DE 6.00 usec
TE 30.4 K
D1 2.00000000 sec
d11 0.03000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 13.50 usec
PL1 -6.00 dB
SFO1 100.6227297 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 20.20 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 65536
SF 100.6131951 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

