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# Appendices

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Appendix 1:  $^1\text{H}$  NMR spectrum of epicatechin from *H. pauciflorus*

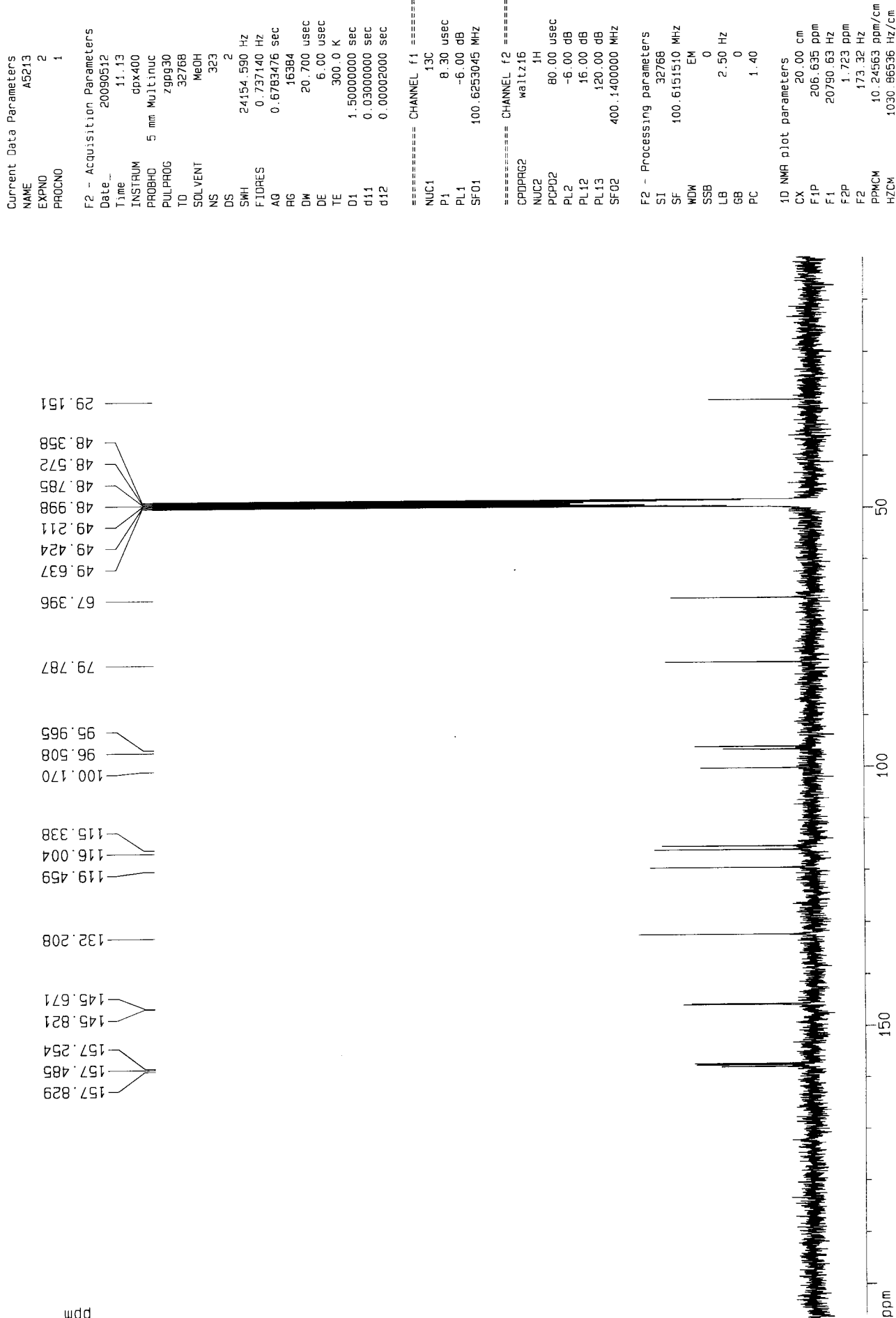
Appendix 2:  $^{13}\text{C}$  NMR spectrum of epicatechin from *H. pauciflorus*

Appendix 3:  $^1\text{H}$  NMR spectrum of  $\beta$ -sitosterol from *H. pauciflorus*

Appendix 4:  $^1\text{H}$  NMR spectrum of lupeol from *H. pauciflorus*

Appendix 5:  $^{13}\text{C}$  NMR spectrum of lupeol from *H. pauciflorus*

# Analytical, BCSIR, 13C Spectrum HP-1 in CD3OD, Dr. Mostafa, BCSIR



Allylicol, BCSiH, in spectrum HP-1 in CD3OD, D<sub>2</sub>O, MUsolaid, BCSiH

Current Data Parameters  
NAME A5213  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20090512  
Time 11.05  
INSTRUM dpx400  
PROBHD 5 mm Multinuc  
PULPROG zg30  
TD 32768  
SOLVENT MeOH  
NS 98  
DS 2  
SWH 6410.256 Hz  
FIDRES 0.195625 Hz  
AQ 2.5559540 sec  
RG 40.3  
DW 78.000 usec  
DE 6.00 usec  
TE 310.0 K  
D1 1.00000000 sec

===== CHANNEL f1 =====  
NUC1 1H  
P1 8.30 usec  
PL1 -6.00 dB  
SF01 400.1428010 MHz

F2 - Processing parameters  
SI 32768  
SF 400.1400064 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.40

1D NMR plot parameters  
CX 20.00 cm  
F1P 12.279 ppm  
F1 4913.46 Hz

0.90596  
1.27699  
2.70776  
2.74980  
2.83792  
2.84865  
2.87966  
2.89058  
3.30970  
3.46717  
3.76727  
4.18540  
4.78454  
5.94201  
5.96546  
6.76561  
6.78602  
6.79697  
6.81826  
6.97972

1.1038  
1.1738  
1.1323  
1.7953  
2.2310  
1.0000

ppm

Integral

<sup>1</sup>H Spectrum, HP-2 in CDCl<sub>3</sub>, Dr. Mostafa, BCSIR

ppm

Integral

7.2497  
5.1393  
5.0496  
4.3648  
4.3174  
3.5402  
3.4546  
3.3628  
3.3421  
2.3259  
2.0110  
1.7553  
1.6031  
1.5272  
1.2467  
1.0240  
1.0082  
0.8843  
0.8688  
0.8504  
0.8350  
0.8154  
0.7972  
0.7861  
0.5383

1.000  
1.765  
3.215  
1.380  
1.045  
0.722  
2.290  
4.318  
1.475  
16.767  
2.291  
7.775  
0.712  
0.087

Current Data Parameters  
NAME A5167  
EXPNO 1  
PROCNO 1

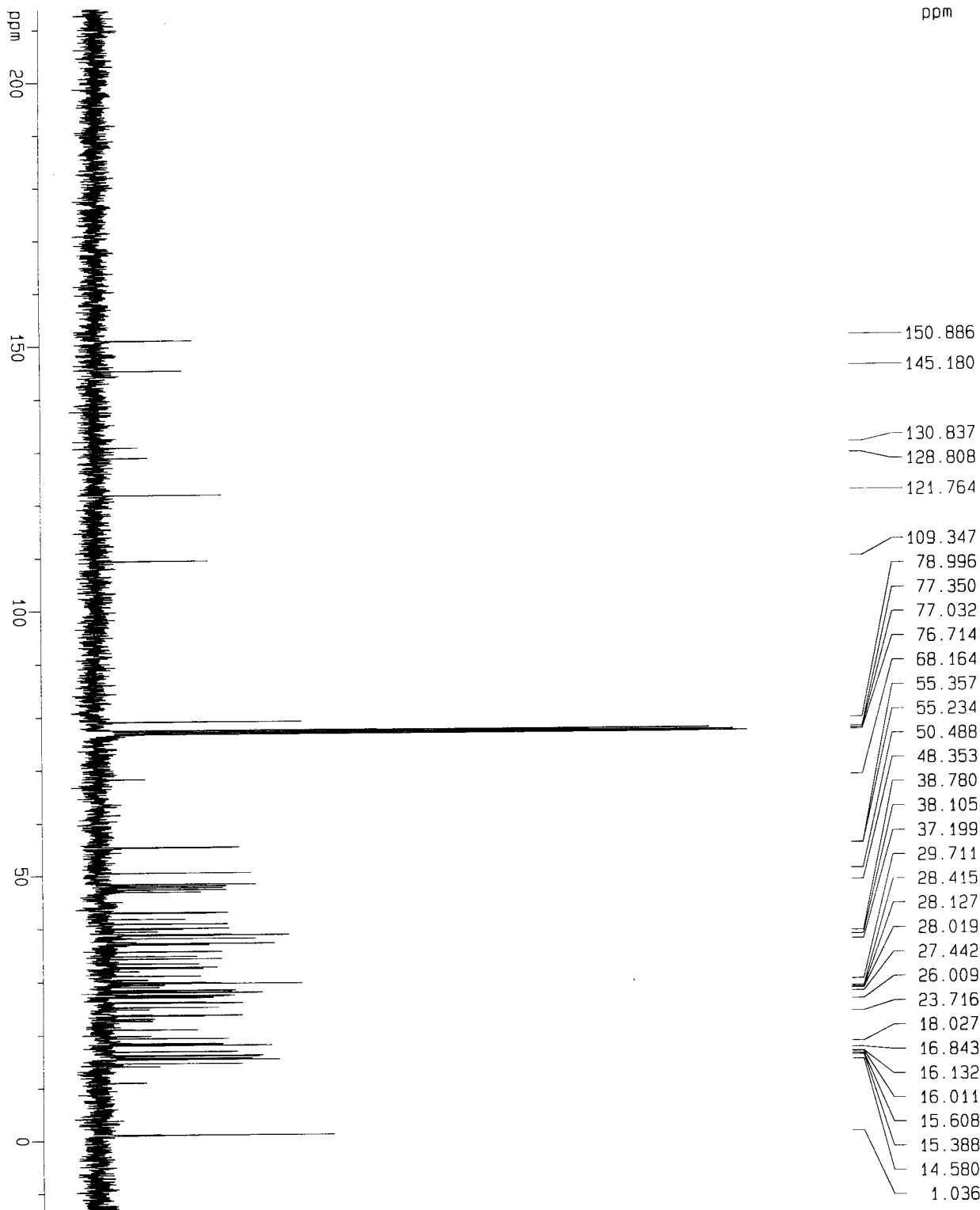
F2 - Acquisition Parameters  
Date\_ 20090423  
Time 10.14  
INSTRUM dpx400  
PROBHD 5 mm Multinu  
PULPROG zg30  
TD 32768  
SOLVENT CDCl<sub>3</sub>  
NS 44  
DS 2  
SWH 6410.256 Hz  
FIDRES 0.195625 Hz  
AQ 2.5559540 sec  
RG 90.5  
DW 78.000 usec  
DE 6.00 usec  
TE 310.0 K  
D1 1.00000000 sec

===== CHANNEL f1 =====  
NUC1 <sup>1</sup>H  
P1 8.30 usec  
PL1 -6.00 dB  
SF01 400.1428010 MHz

F2 - Processing parameters  
SI 32768  
SF 400.1400121 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.40

1D NMR plot parameters  
CX 20.00 cm  
F1P 13.991 ppm  
F1 5598.44 Hz  
F2P -0.169 ppm  
F2 -67.53 Hz  
PC 0.7000 sec/pt

# Analytical, BCSIR Lab, Dhaka 13C Spectrum HP-4 in CDCl3, Mostafa.



Current Data Parameters

| NAME   | AS252 |
|--------|-------|
| EXPNO  | 2     |
| PROCNO | 1     |

F2 - Acquisition Parameters

| Date_   | 20090525       |
|---------|----------------|
| Time    | 16.20          |
| INSTRUM | dpk400         |
| PROBHD  | 5 mm Multinu   |
| PULPROG | zgpg30         |
| TD      | 32768          |
| SOLVENT | CDCl3          |
| NS      | 92             |
| DS      | 2              |
| SWH     | 24154.590 Hz   |
| FIDRES  | 0.737140 Hz    |
| AG      | 0.6783476 sec  |
| RG      | 16384          |
| DW      | 20.700 usec    |
| DE      | 6.00 usec      |
| TE      | 300.0 K        |
| D1      | 1.50000000 sec |
| d11     | 0.03000000 sec |
| d12     | 0.00002000 sec |

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

| NUC1 | 13C             |
|------|-----------------|
| P1   | 8.30 usec       |
| PL1  | -6.00 dB        |
| SFO1 | 100.6253045 MHz |

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

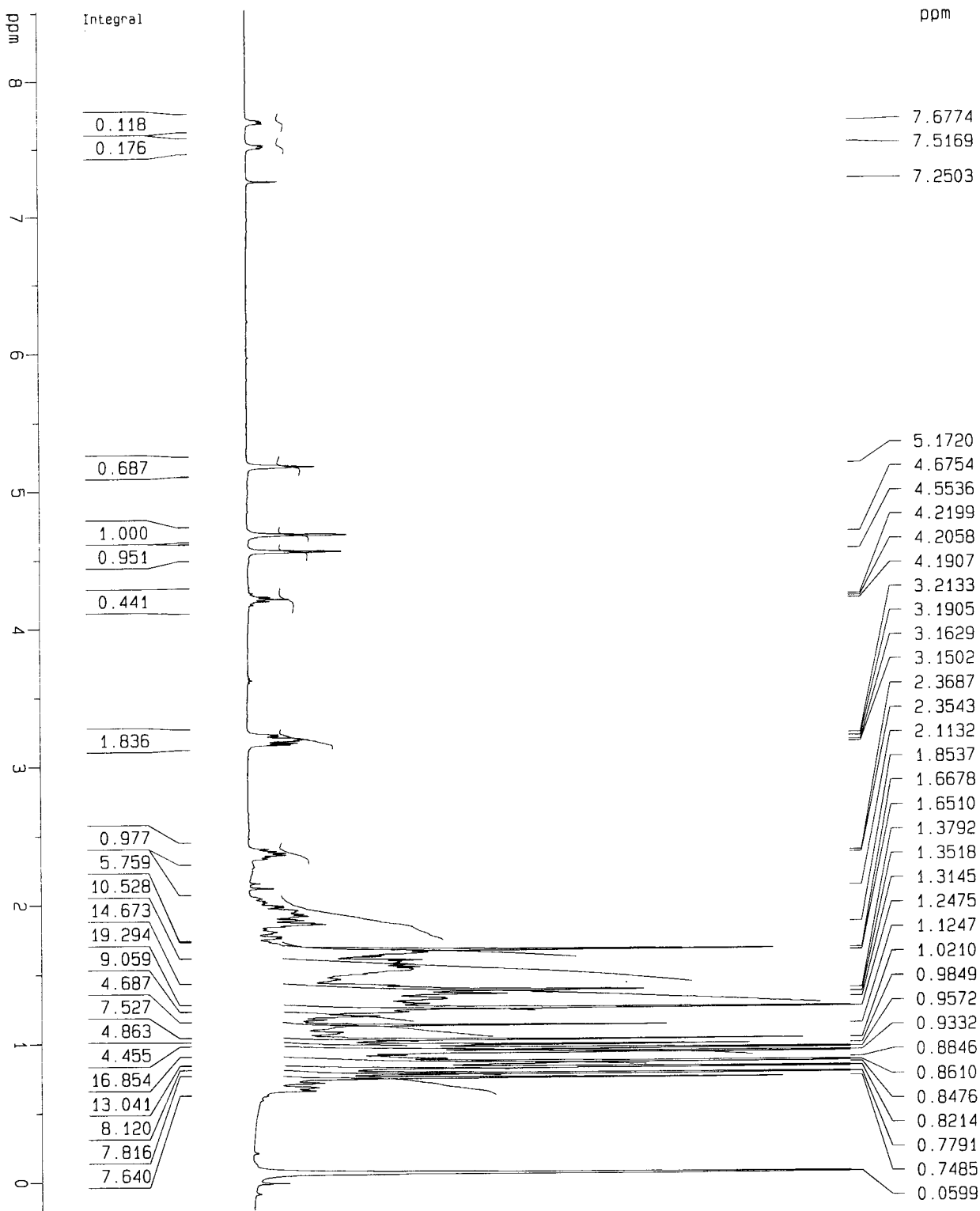
| CPDPRG2 | waltz16         |
|---------|-----------------|
| NUC2    | 1H              |
| PCPD2   | 80.00 usec      |
| PL2     | -6.00 dB        |
| PL12    | 16.00 dB        |
| PL13    | 120.00 dB       |
| SFO2    | 400.1400000 MHz |

F2 - Processing Parameters

| SI  | 32768           |
|-----|-----------------|
| SF  | 100.6152823 MHz |
| MDW | EM              |
| SSB | 0               |
| LB  | 2.50 Hz         |
| GB  | 0               |
| PC  | 1.40            |

1D NMR plot parameters

| CX    | 20.00 cm         |
|-------|------------------|
| F1P   | 213.868 ppm      |
| F1    | 21518.43 Hz      |
| F2P   | -13.393 ppm      |
| F2    | -1347.58 Hz      |
| PRMCM | 11.36309 ppm/cm  |
| HZCM  | 1143.30042 Hz/cm |



Current Data Parameters  
 NAME AS252  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20090525  
 Time 16.15  
 INSTRUM dpx400  
 PROBHD 5 mm Multinu  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl3  
 NS 45  
 DS 2  
 SWH 6410.256 Hz  
 FIDRES 0.195625 Hz  
 AQ 2.5559540 sec  
 RG 20.2  
 DW 78.000 usec  
 DE 6.00 usec  
 TE 310.0 K  
 D1 1.00000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 8.30 usec  
 PL1 -6.00 dB  
 SFO1 400.1428010 MHz

F2 - Processing parameters  
 SI 32768  
 SF 400.1400119 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.40

1D NMR plot parameters  
 CX 20.00 cm  
 F1P 8.512 ppm  
 F1 3406.00 Hz  
 F2P -0.202 ppm  
 F2 -80.75 Hz  
 PPMCM 0.43569 ppm/cm  
 HZCM 174.33752 Hz/cm