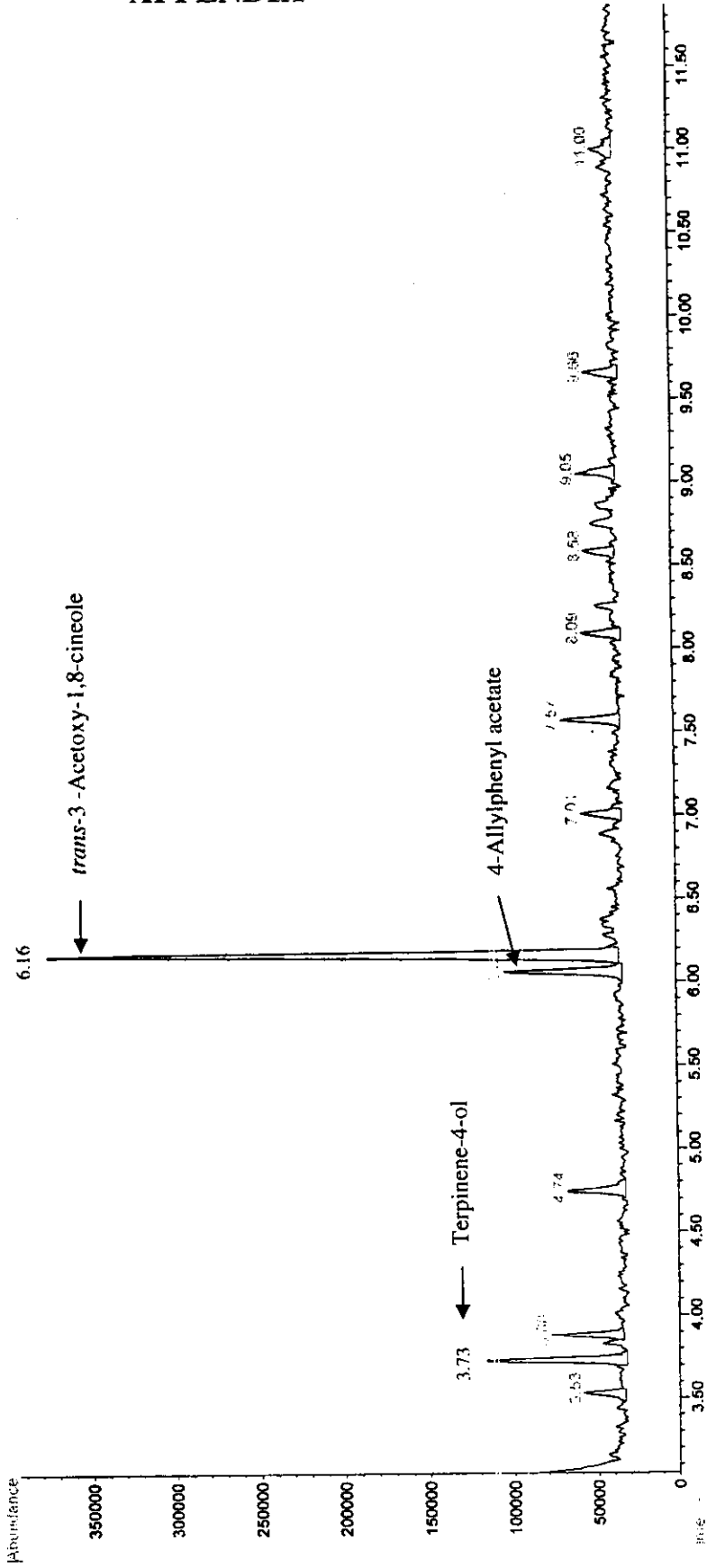


APPENDIX

Figure 8 GC chromatogram of volatile oil from *Alpina galanga* (water distillation)

File : C:\HPCHEM\1\DATA\1698N21.D
Operator : PIMPIMOL
Acquired : 3 May 01 2:54 pm using AcqMethod HP1
Instrument : GC/MS Ins
Sample Name: BPV SAMPLE
Misc Info :
Vial Number: 98

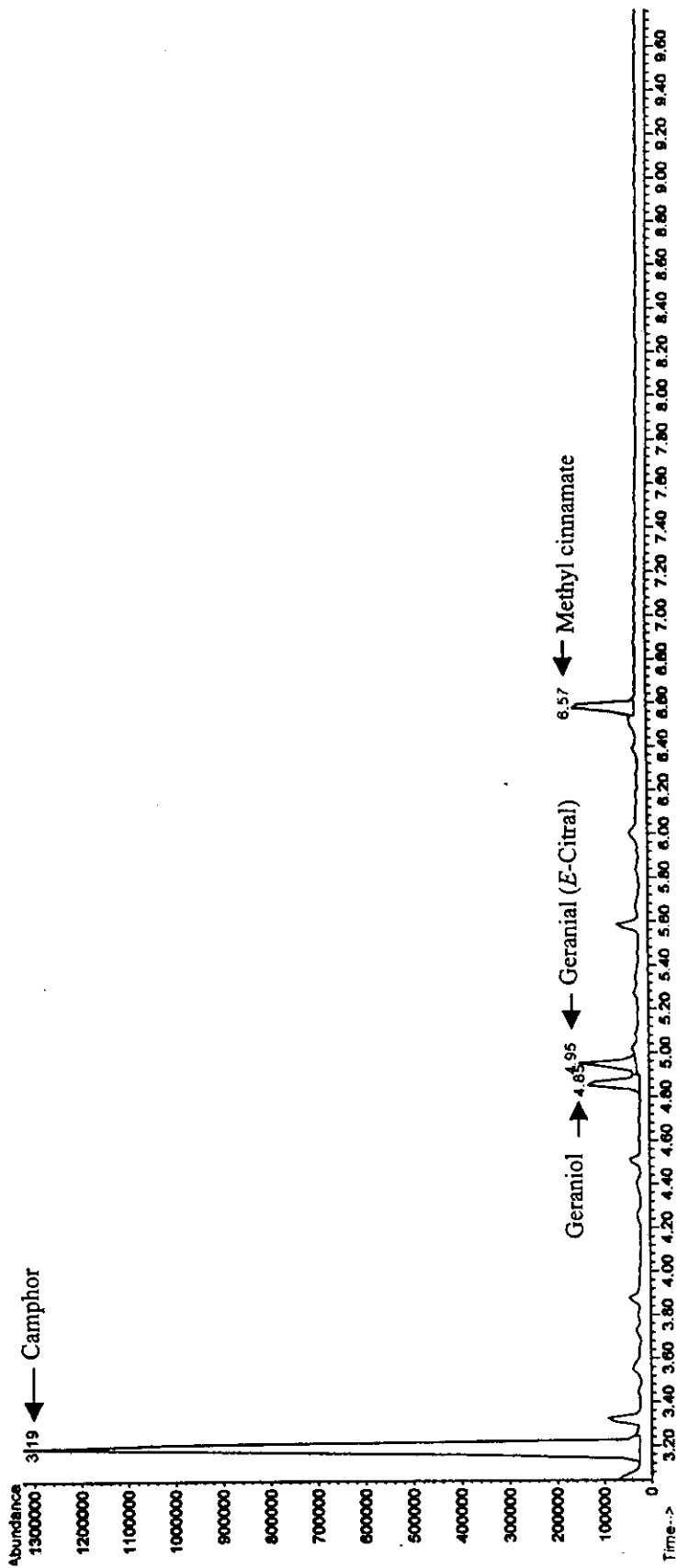


Figure 9 GC chromatogram of volatile oil from *Boesenbergia pandurata* (water distillation)

File : C:\HPCHEM\1\DATA\1666N11.D
Operator : Pimpimol
Acquired : 10 Apr 01 10:19 am using AcqMethod HPL
Instrument : GC/MS Ins
Sample Name : sample CLV
Misc Info :
Vial Number : 85

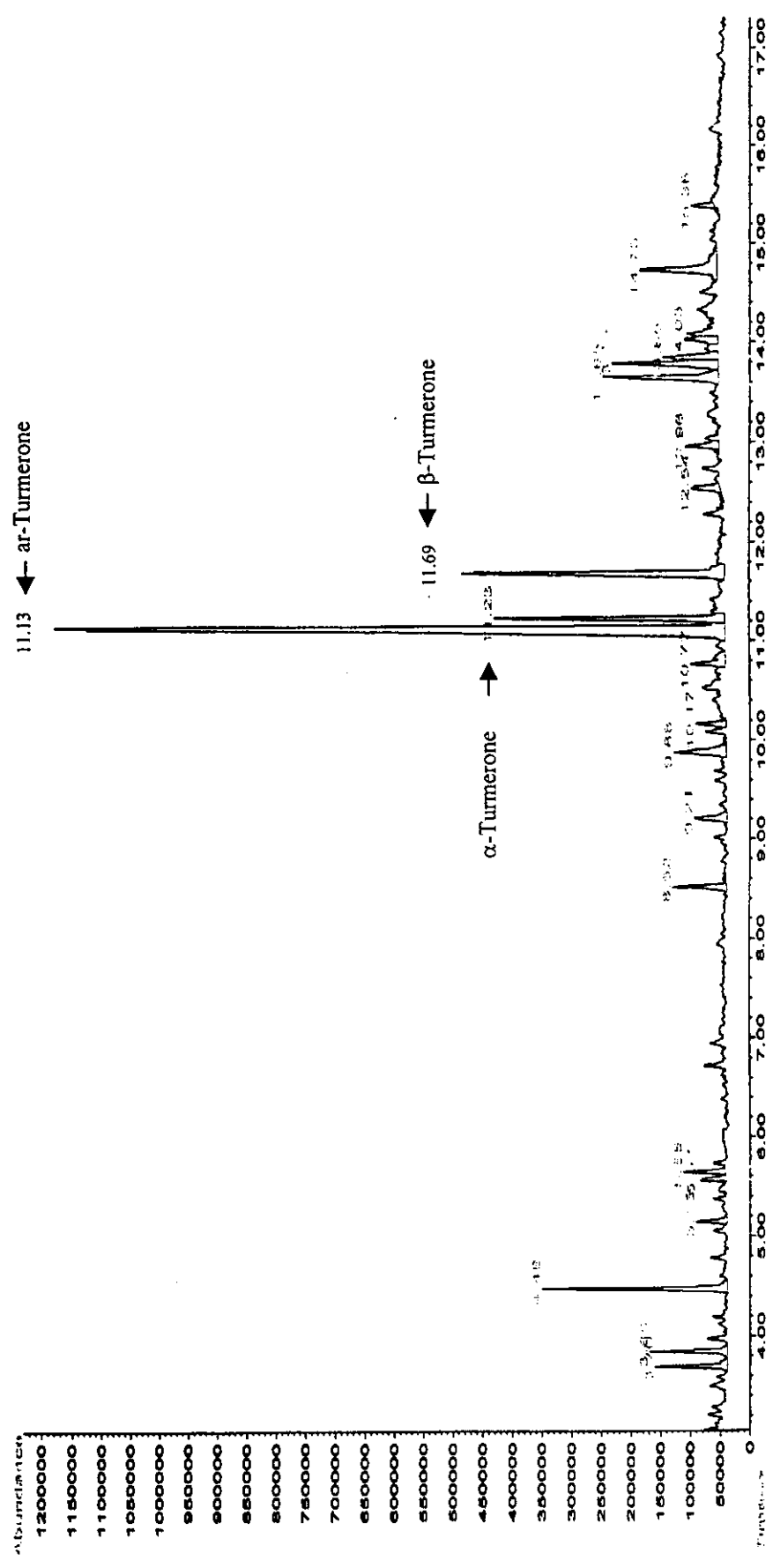


Figure 10 GC chromatogram of volatile oil from *Curcuma longa* (water distillation)

File : C:\HPCHEM\1\DATA\1653N11.D
 Operator :
 Acquired : 28 Mar 01 10:32 pm using AcqMethod HP-1
 Instrument : GC/MS Ins
 Sample Name : KGV
 Misc Info :
 Vial Number : 1

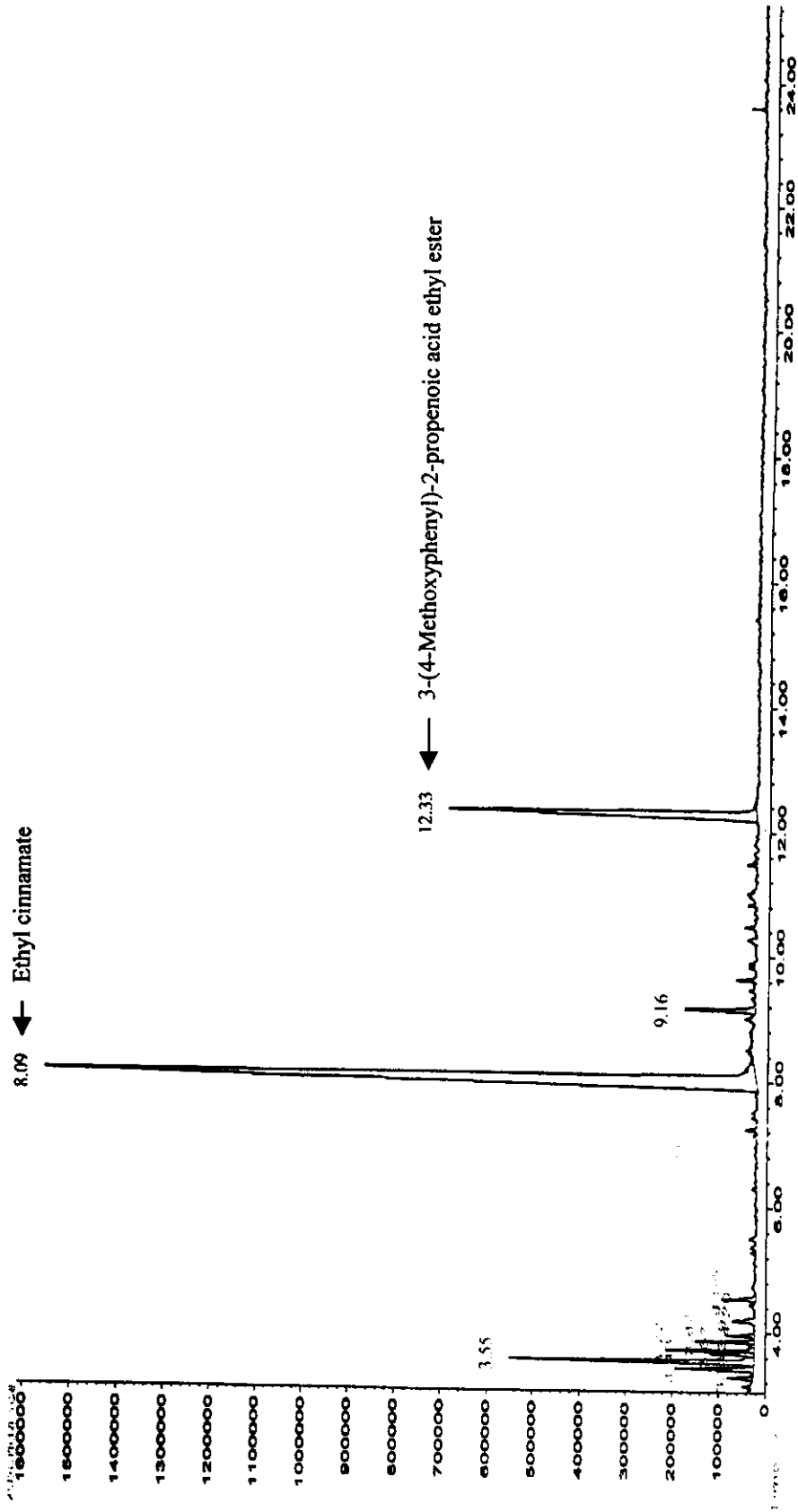


Figure 11 GC chromatogram of volatile oil from *Kaempferia galanga* (water distillation)

File : C:\HPCHEM\1\DATA\1698N12.D
Operator : PIMPIMOL
Acquired : 3 May 01 2:27 pm using AcqMethod HP1
Instrument : GC/MS Ins
Sample Name: ZOV SAMPLE
Misc Info :
Vial Number: 98

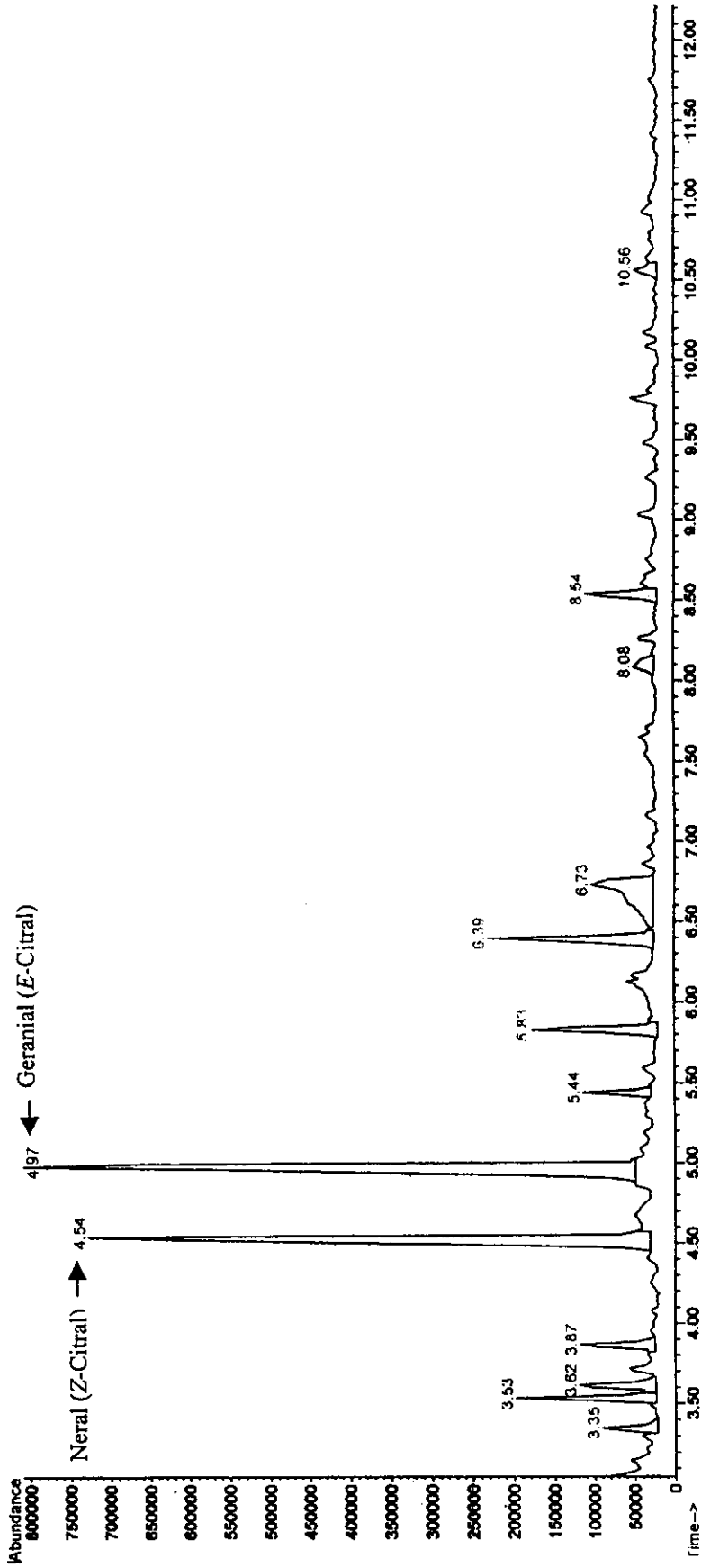
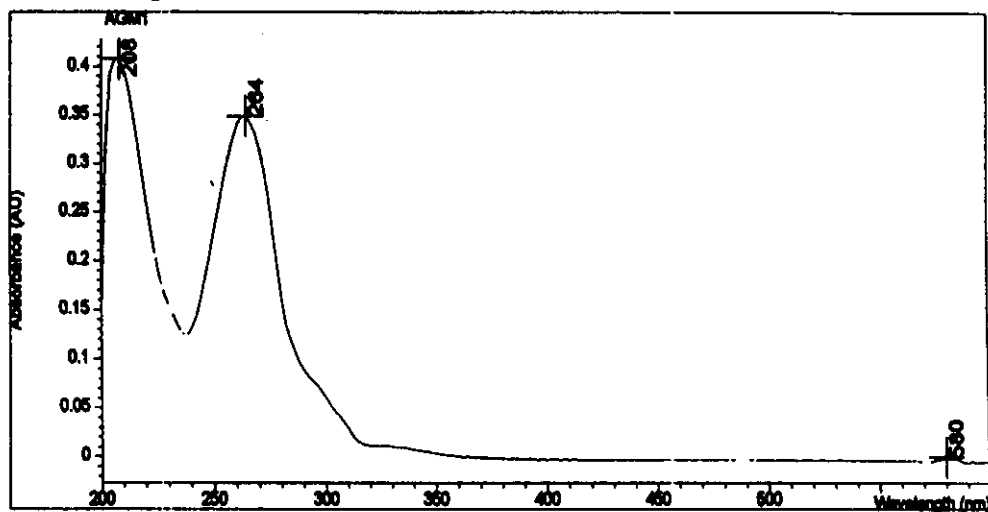


Figure 12 GC chromatogram of volatile oil from *Zingiber officinale* (water distillation)

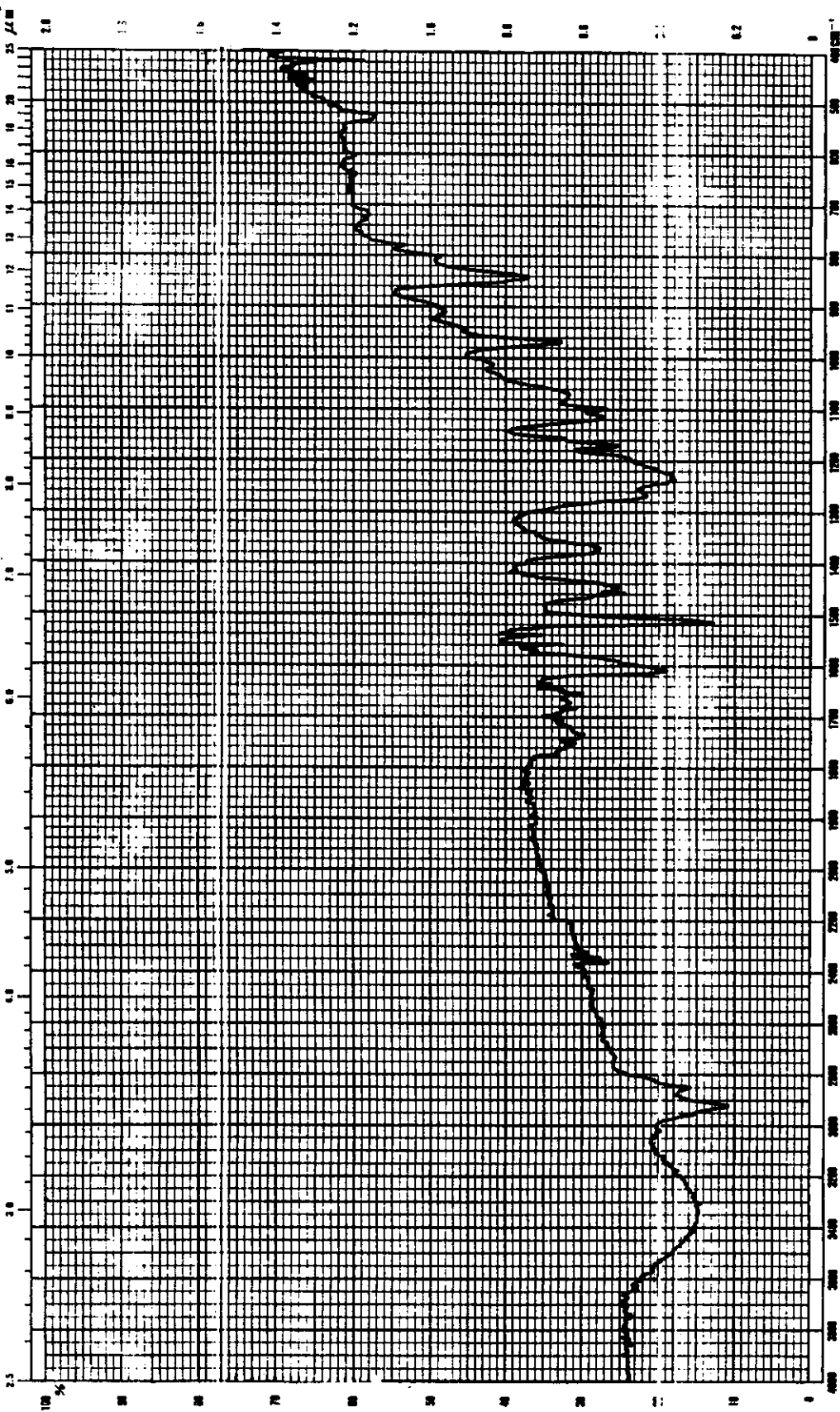
 Spectrum/Peak Report Date 06/12/03 Time 17:34:49 Page 1 of 1

Overlaid Spectra:



#	Name	Peaks (nm)	Abs(AU)	Valleys (nm)	Abs(AU)
1	AGM1	208.0	0.40775	570.0	-5.7068E-3
1		264.0	0.34889	486.0	-4.4250E-3
1		580.0	-2.7466E-4	238.0	0.12393

Figure 13 Ultraviolet spectrum of AGM1 (*p*-coumaryl-9-methyl ether)



DATE		MODE		SCAN SPEED		SAMPLE		SAMPLING-METHOD		CONCENTRATION		REMARKS	
21 Aug 01		SPAN		---		AGMI		KBr					
OPERATOR		W/EXPANDER		SLIT				CELL-LENGTH		SOLVENT			

KOBAYASHI KIKOKUSHI

Figure 14 IR spectrum of AGMI (*p*-coumaryl-9-methyl ether)

Name of sample: AGM1
observed proton experiment
Pulse Sequence: s2pul

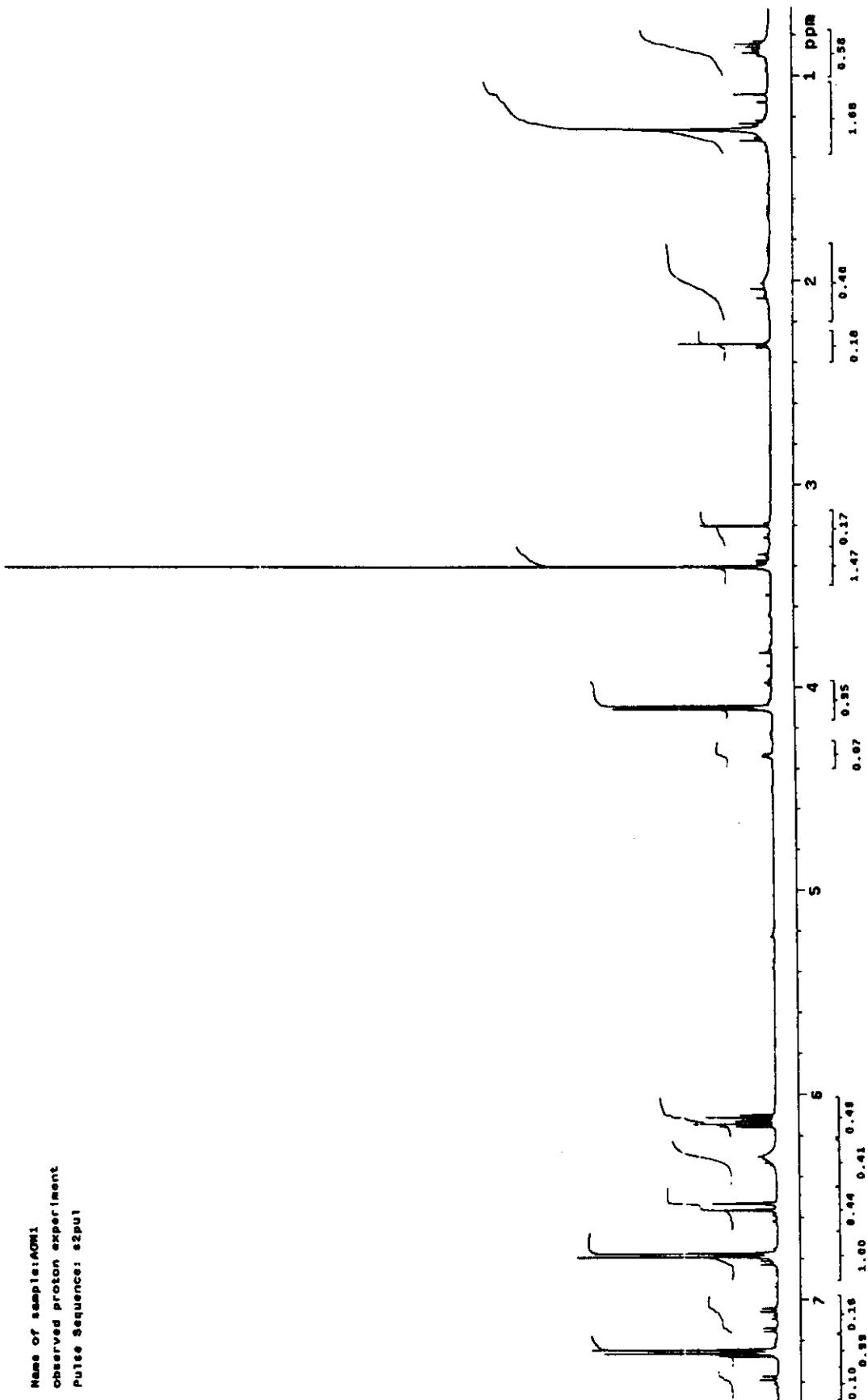
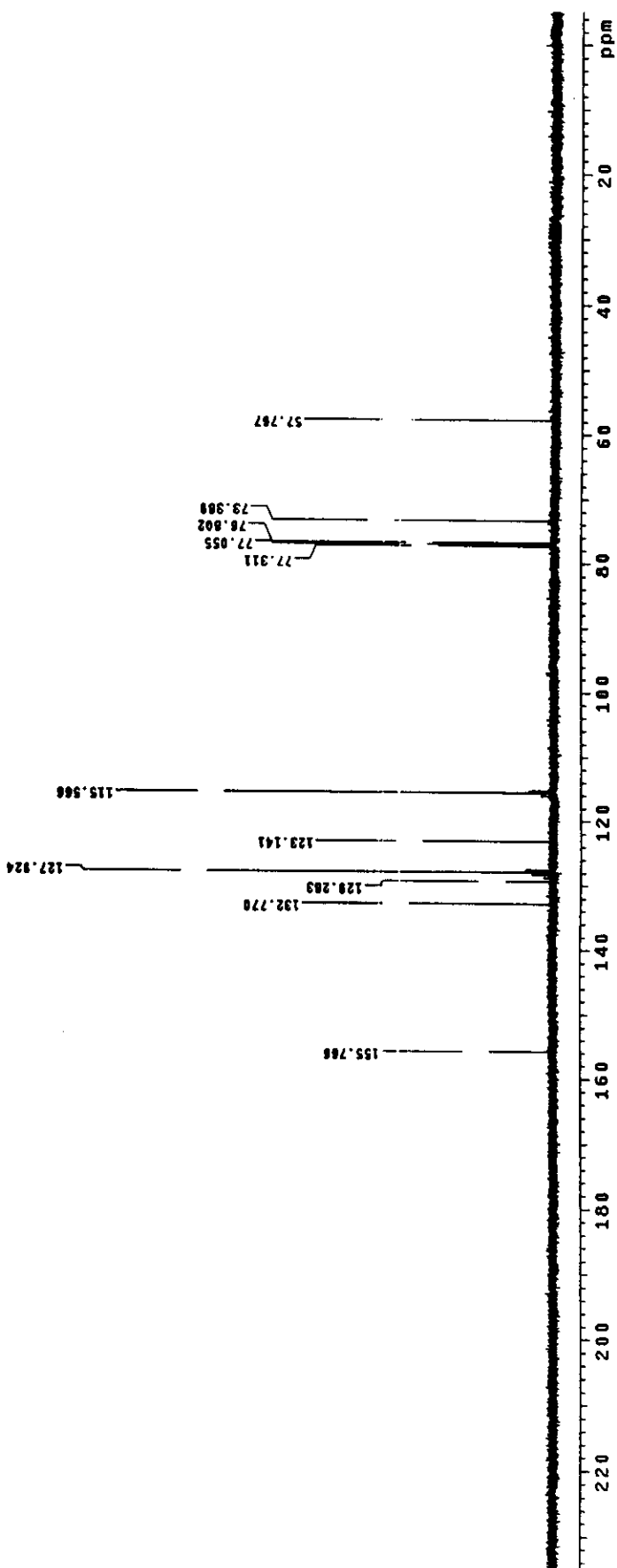


Figure 15 ¹H-NMR spectrum of AGM1 (*p*-coumaryl-9-methyl ether)

Figure 16 ^{13}C -NMR spectrum of AGM1 (*p*-coumaryl-9-methyl ether)

gcosy experiment
Pulse Sequence: gcosy

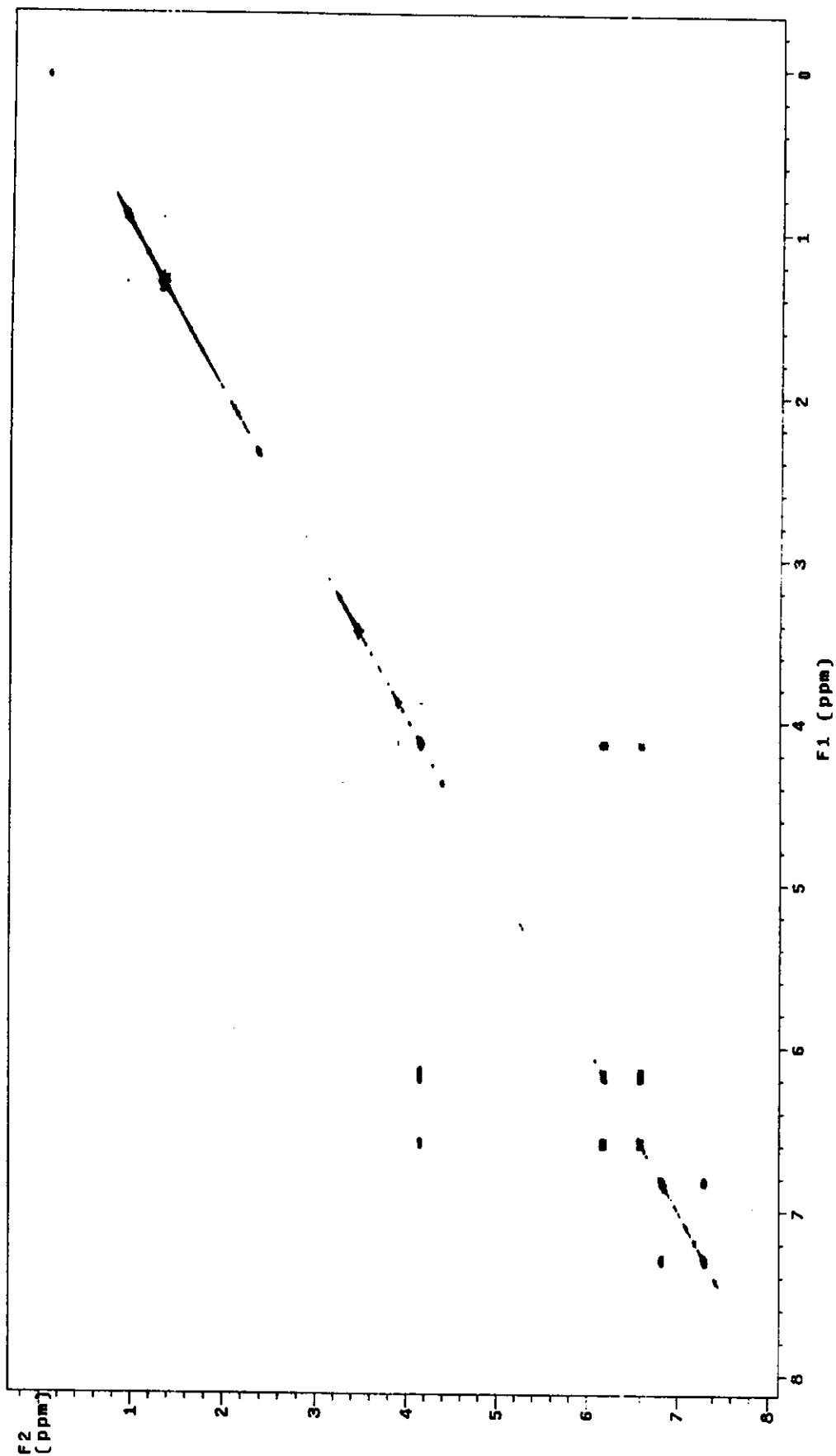
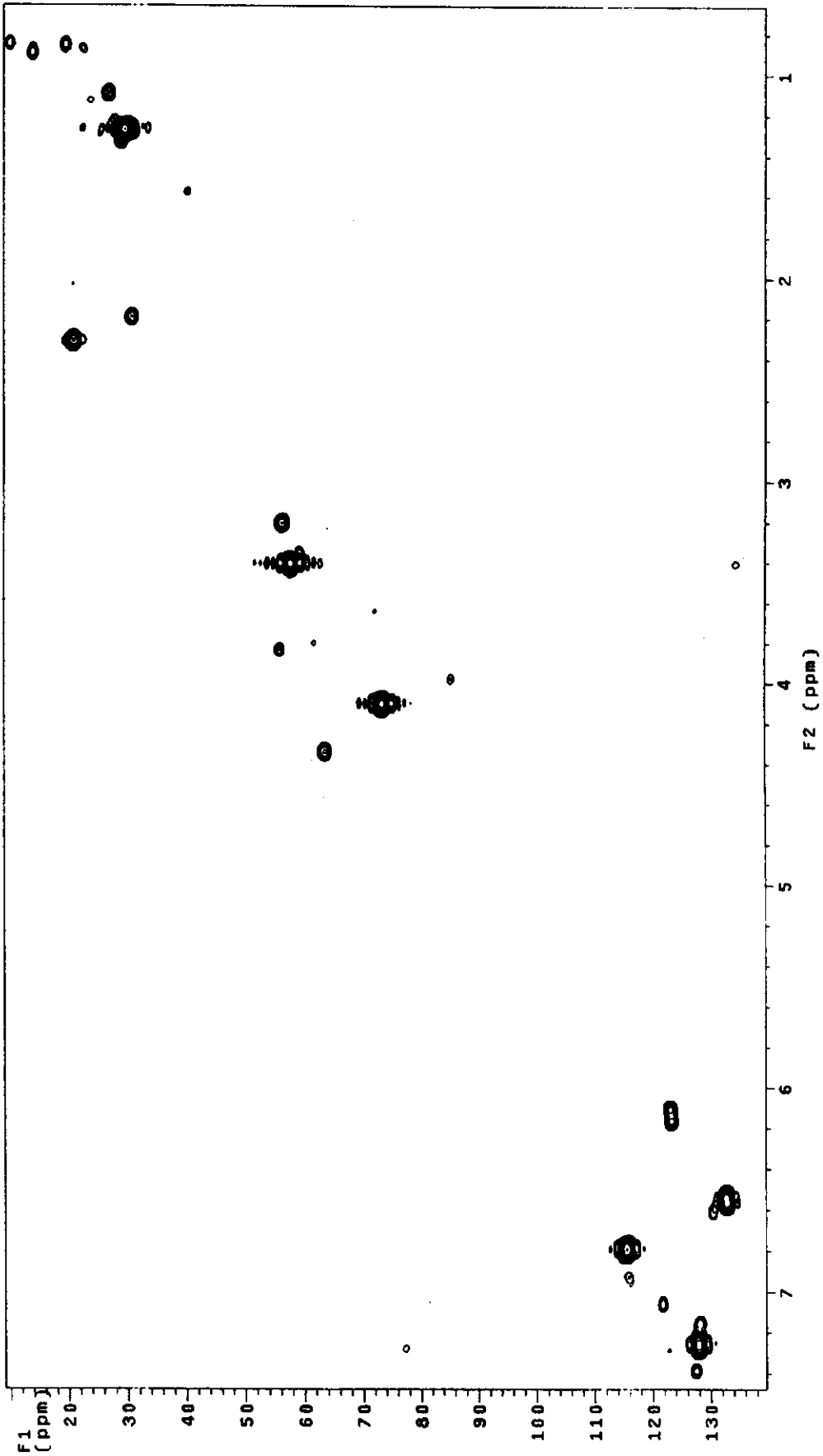
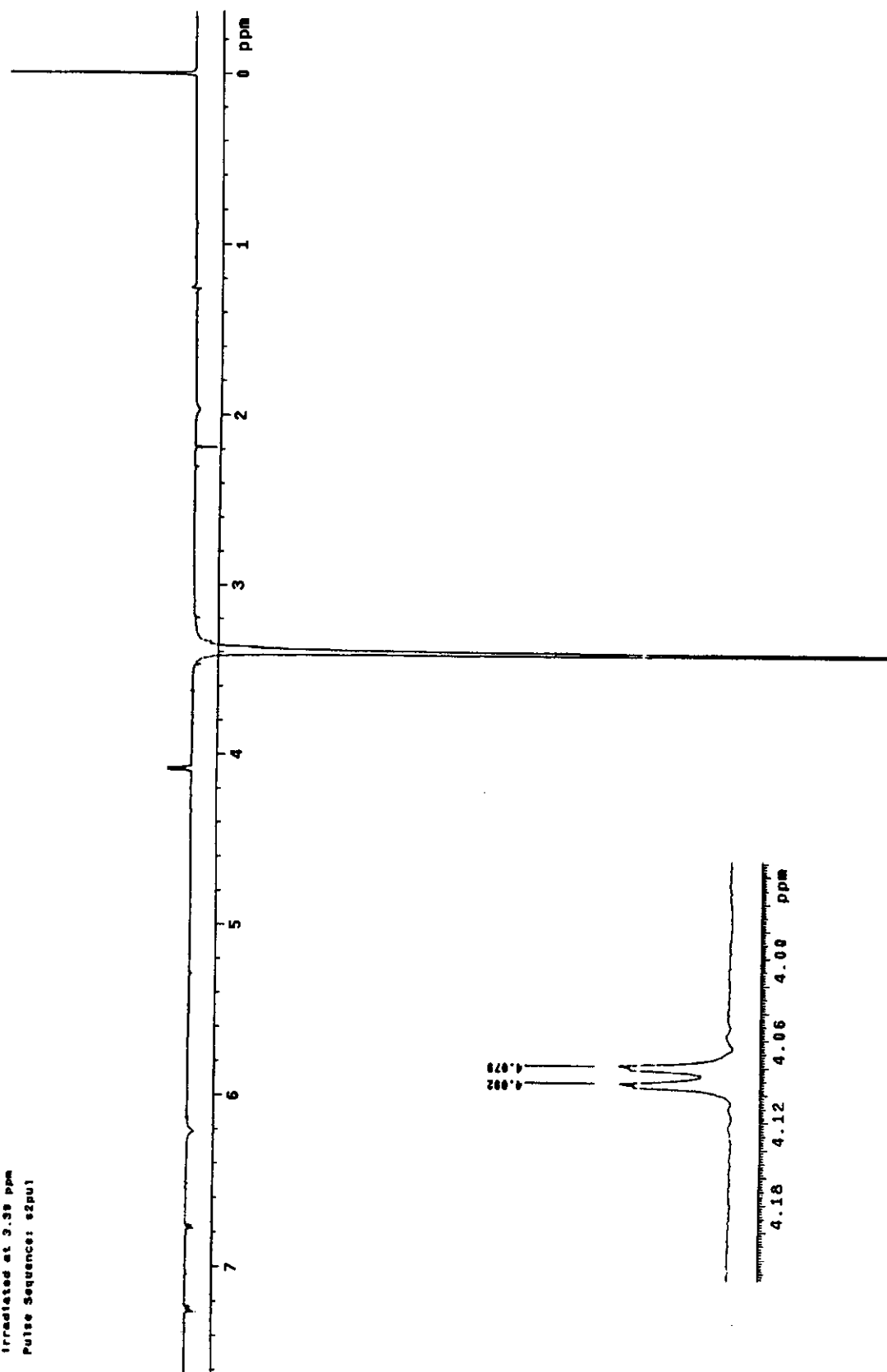


Figure 17 ^1H - ^1H COSY spectrum of AGMI (*p*-coumaryl-9-methyl ether)

Figure 18 HMQC spectrum of AGM1 (*p*-coumaryl-9-methyl ether)

Figure 19 NOE spectrum of AGMI (*p*-coumaryl-9-methyl ether)

File : C:\HPCHEM\1\DATA\1965N12.D
Operator :
Acquired : 19 Sep 2001 9:44 using AcqMethod HP-1
Instrument : GC/MS Ins
Sample Name: AGM1
Misc Info :
Vial Number: 1

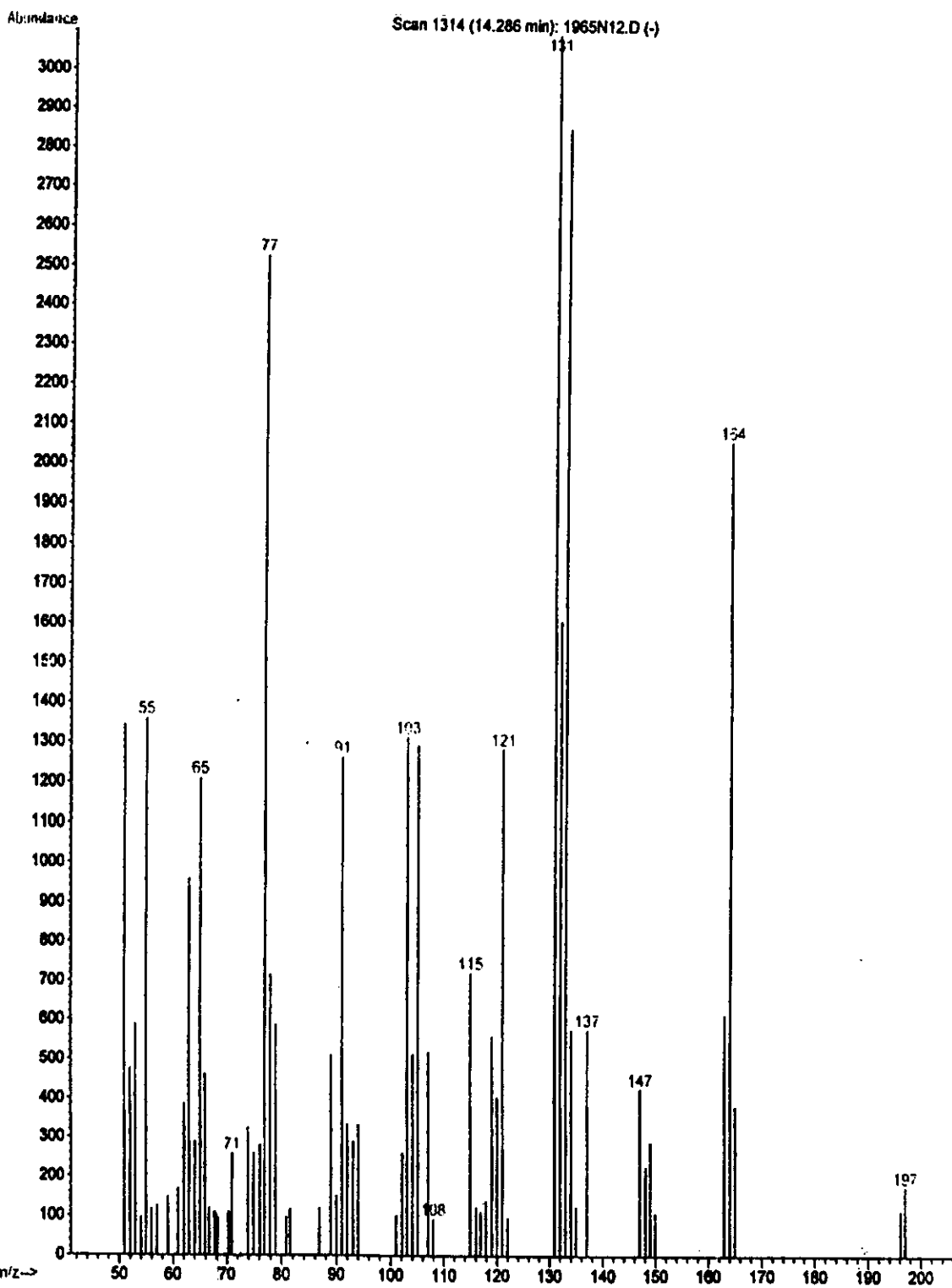


Figure 20 Mass spectrum (EI) of AGM1 (*p*-coumaryl-9-methyl ether)

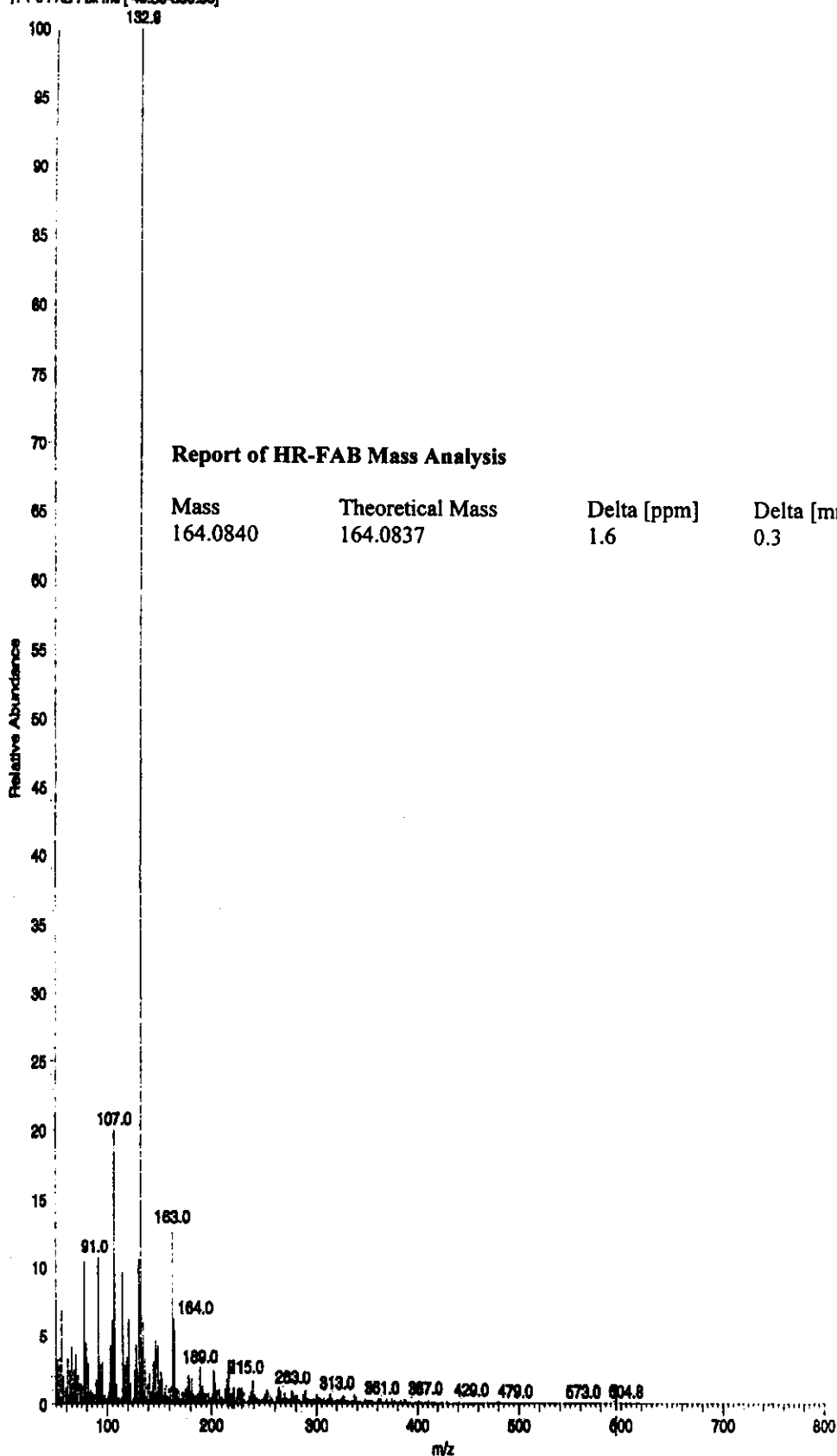
D:\data\p0000001\011

U:\MSDS\0010244 PM

AGM1

3076n11 #3-9 RT: 0.98-1.00 AV: 7 NL: 1.88E5

T: +c FAB Full ms [40.50-800.50]

Figure 21 Mass spectrum (FAB) of AGM1 (*p*-coumaryl-9-methyl ether)

Name of sample: CLM01
 observed proton experiment
 Pulse Sequence: s2pul.

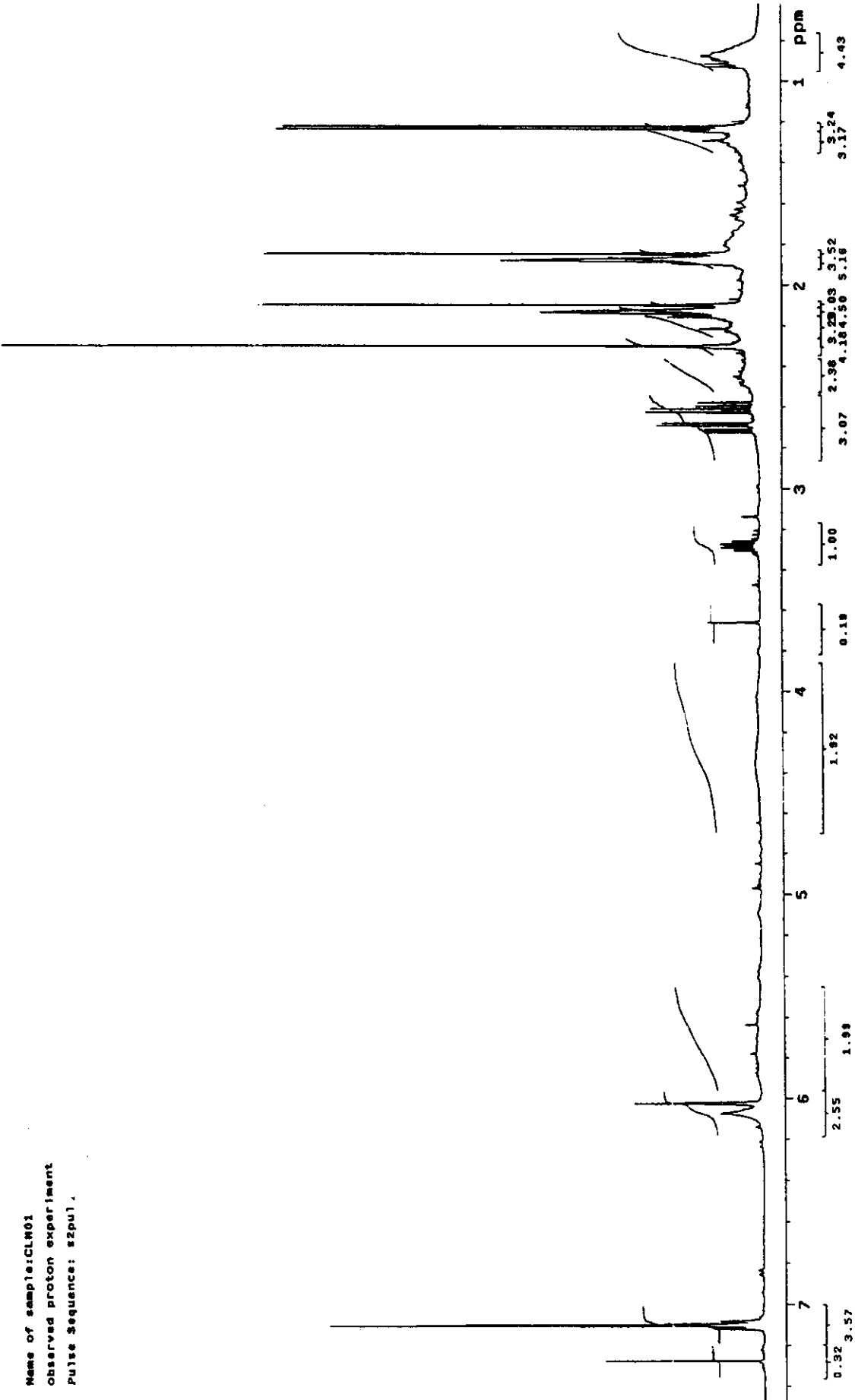


Figure 22 ¹H-NMR spectrum of CLM01 (ar-turmerone)

Name of sample: CLM01
Observed carbon experiment
Pulse Sequence: s2pul

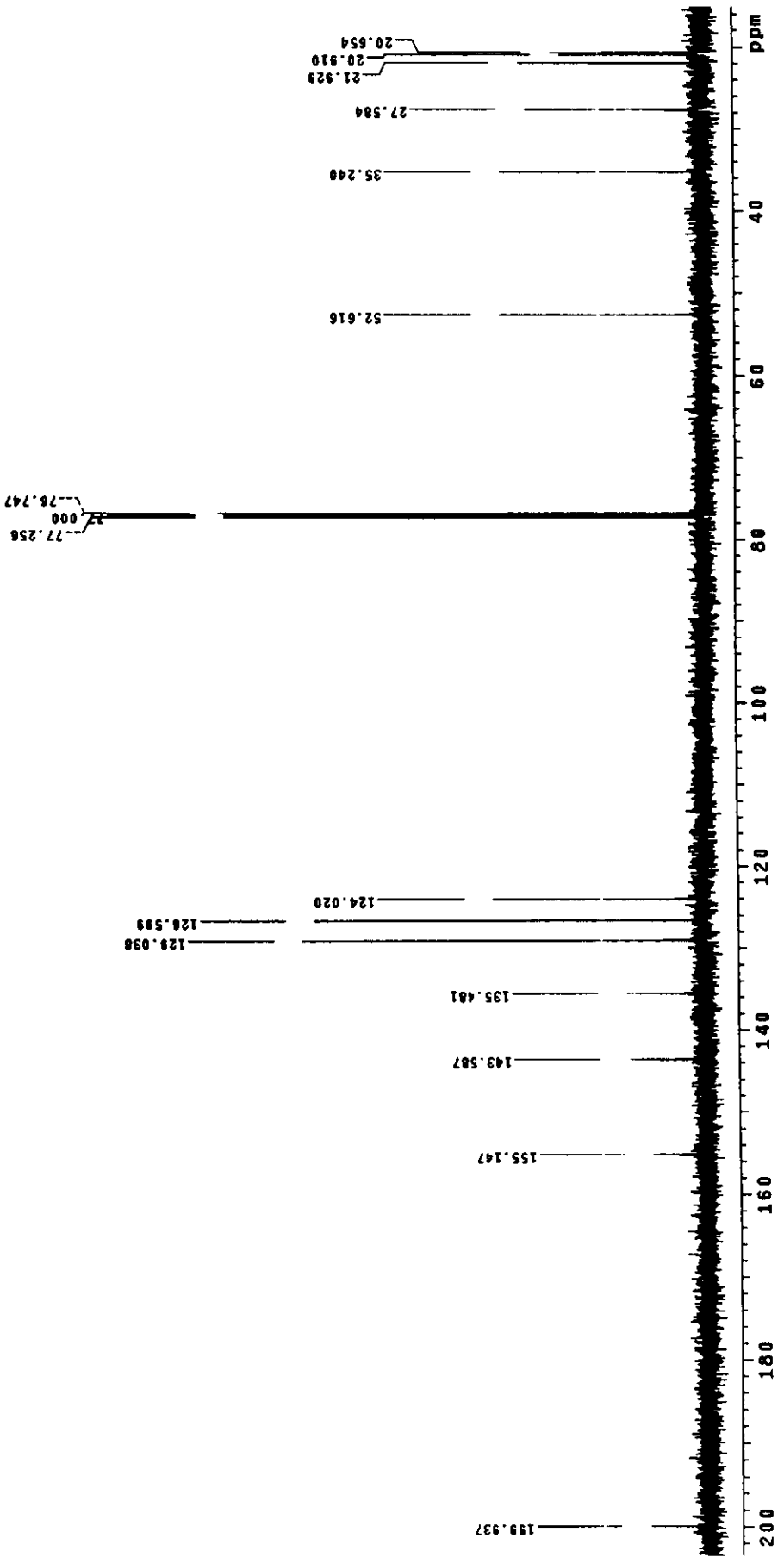
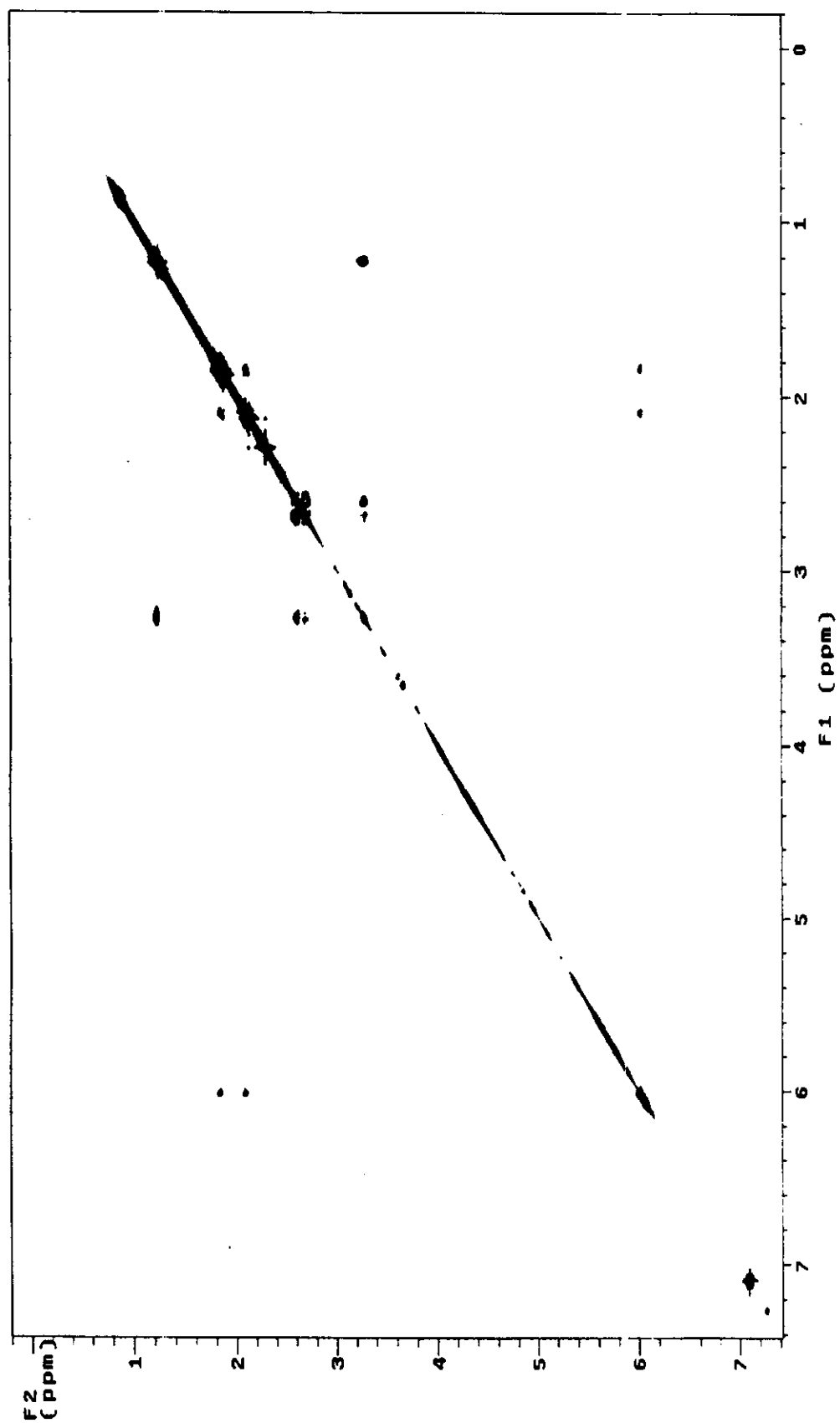


Figure 23 ^{13}C -NMR spectrum of CLM01 (ar-turmerone)

Figure 24 ^1H - ^1H COSY spectrum of CLM01 (ar-turmerone)

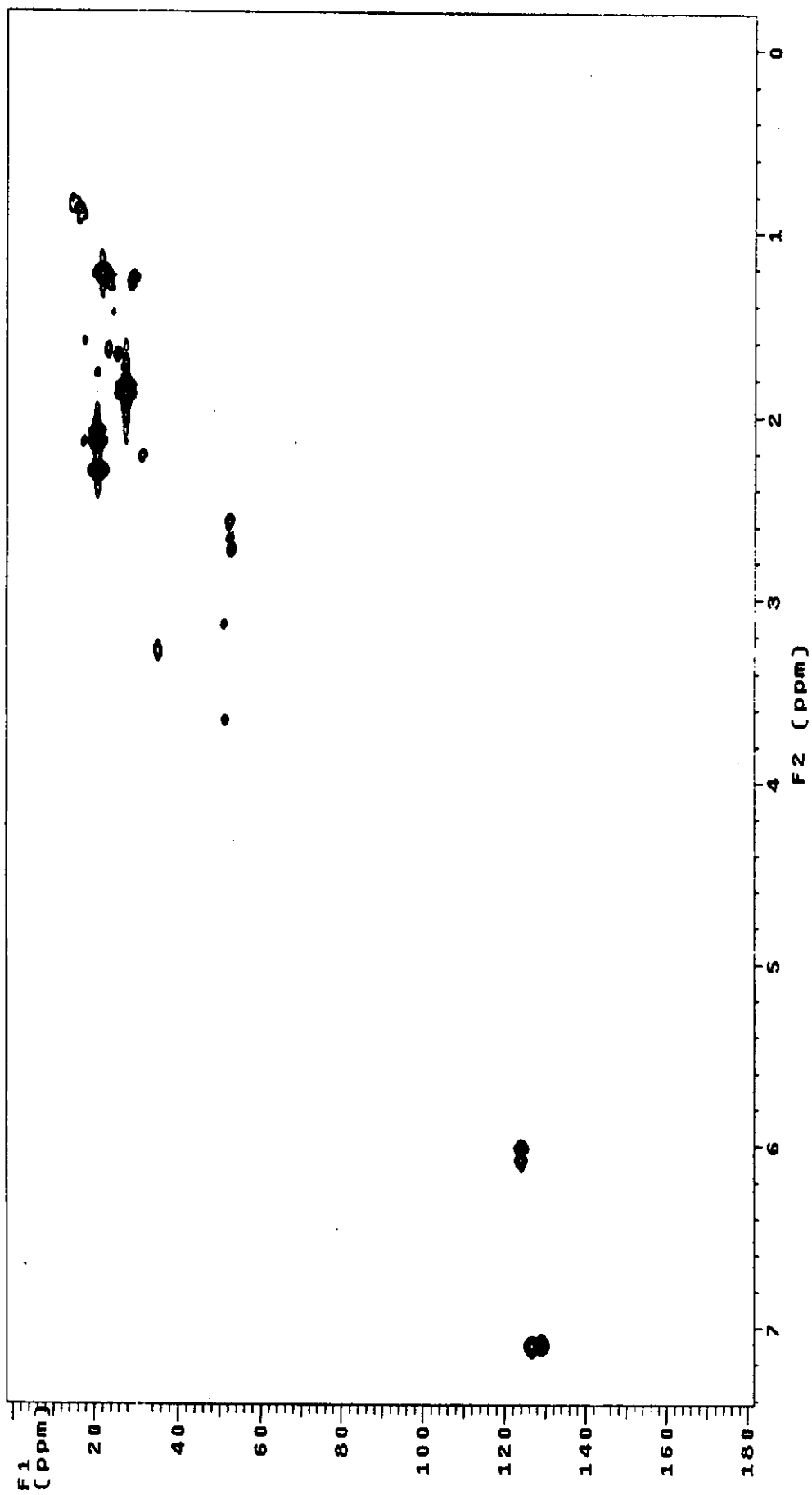
ghmqc experiment
exp1_ghmqc-da

Figure 25 HMQC spectrum of CLM01 (ar-turmerone)

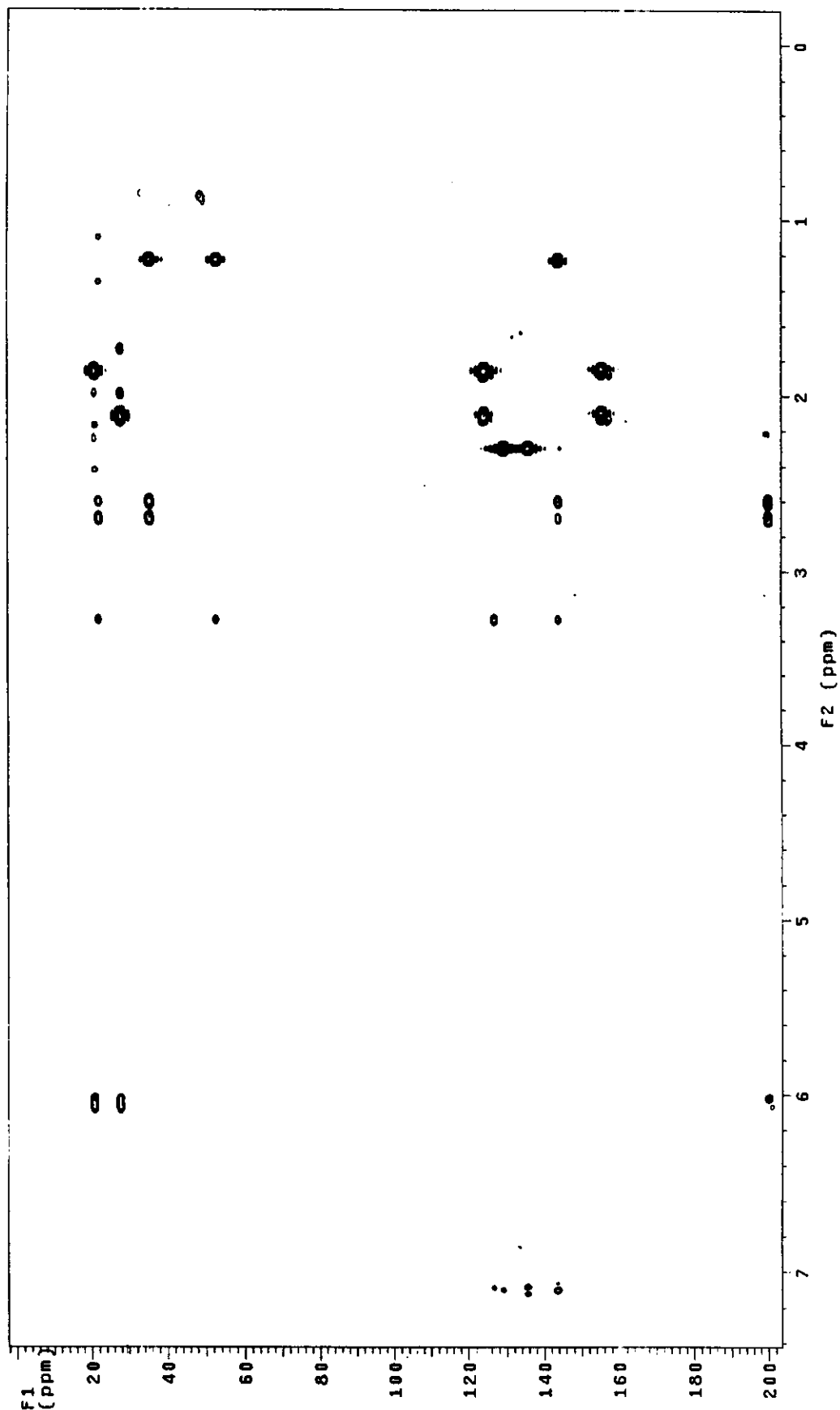


Figure 26 HMBC spectrum of CLM01 (ar-turmerone)

File : C:\HPCHEM\1\DATA\3953N11.D
Operator : Pimpimon
Acquired : 21 Oct 03 10:20 using AcqMethod HP-1
Instrument : GC/MS Ins
Sample Name: CLM01
Misc Info :
Vial Number: 1

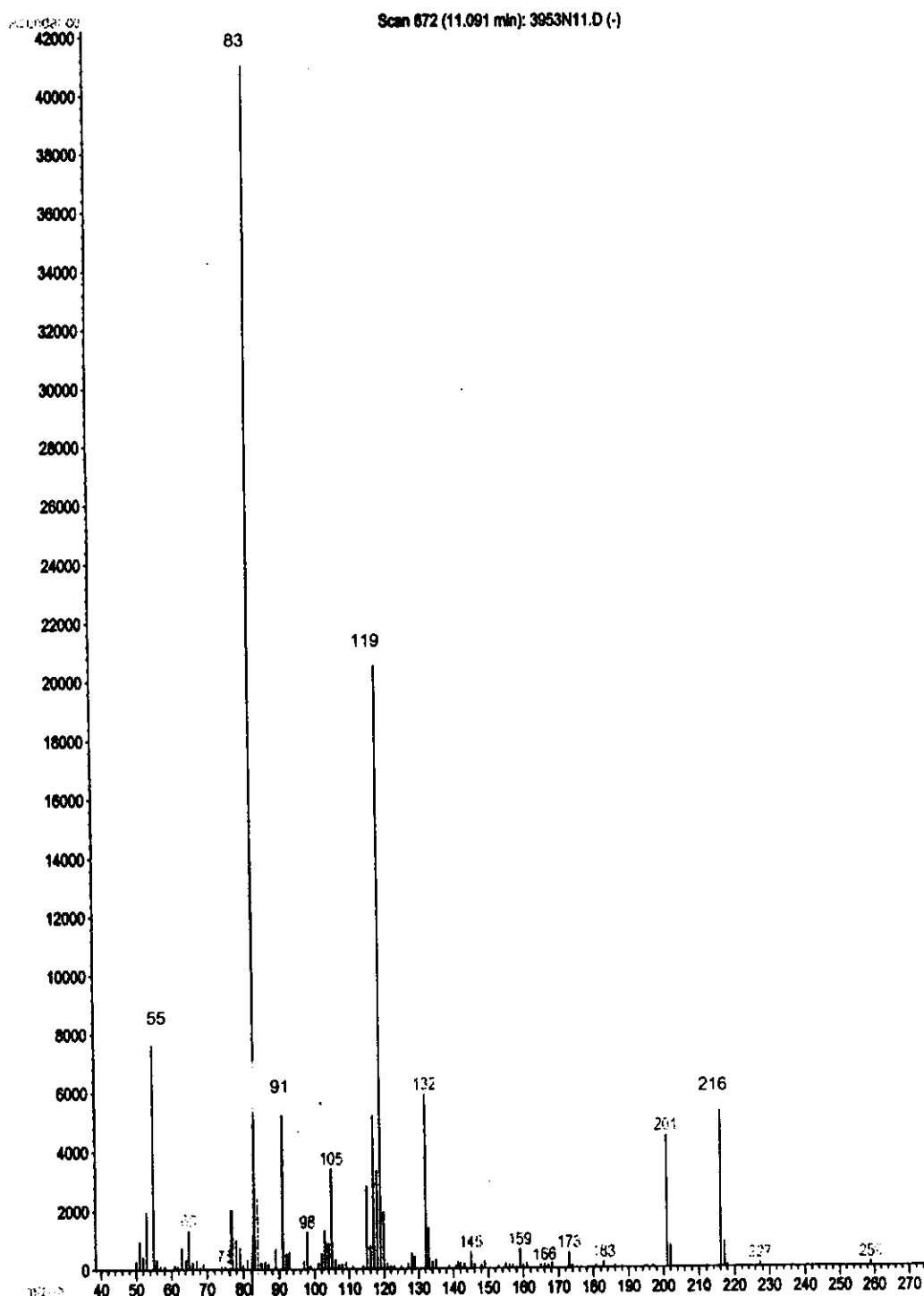


Figure 27 Mass spectrum (EI) of CLM01 (ar-turmerone) (GC/MS)

Name of sample: CLM02
observed proton experiment
Pulse Sequence: s2pu1

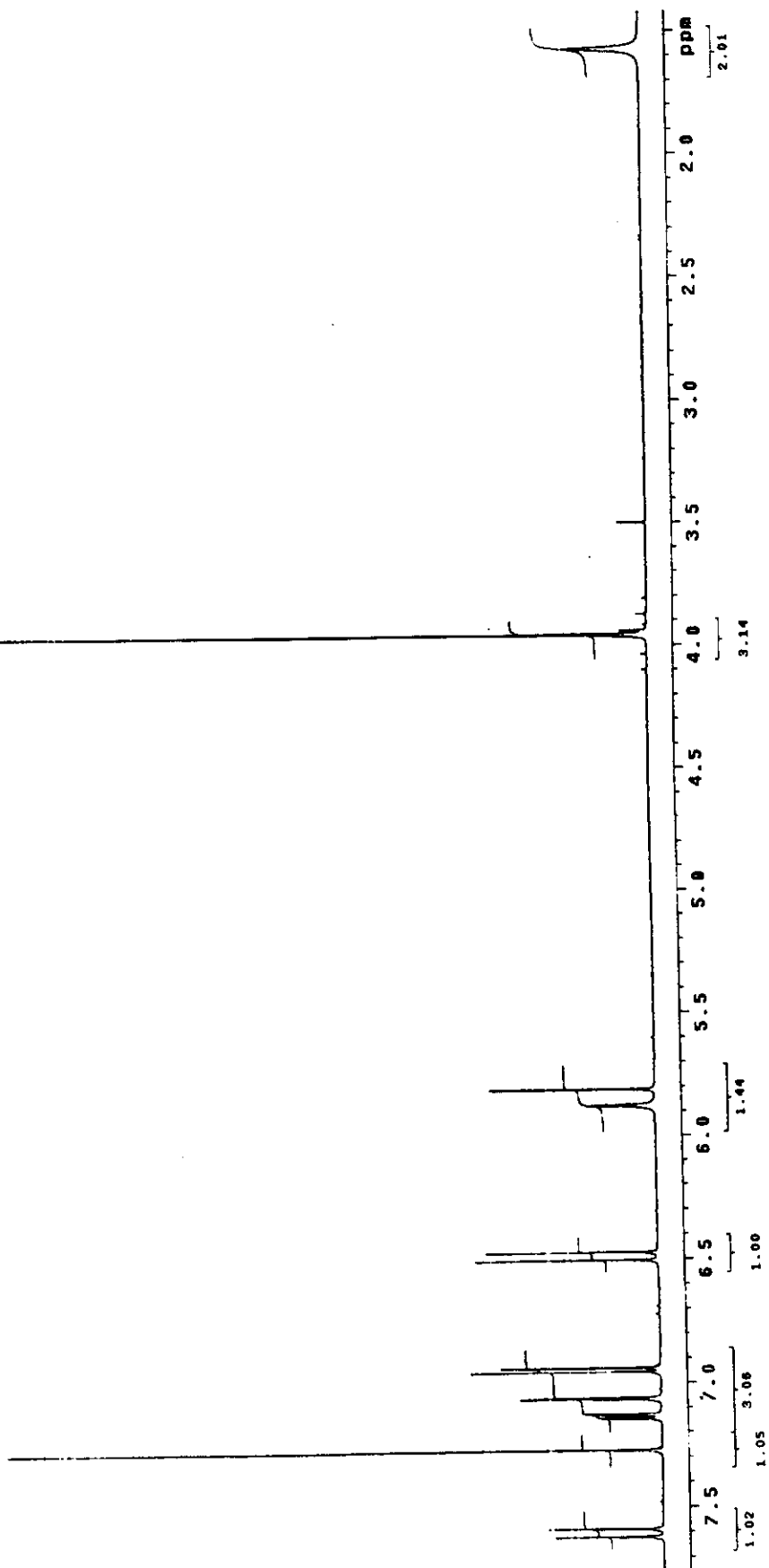


Figure 28 ¹H-NMR spectrum of CLM02 (curcumin)

Name of experiment: CLM02
observed carbon experiment
Pulse Sequence: s2pu1

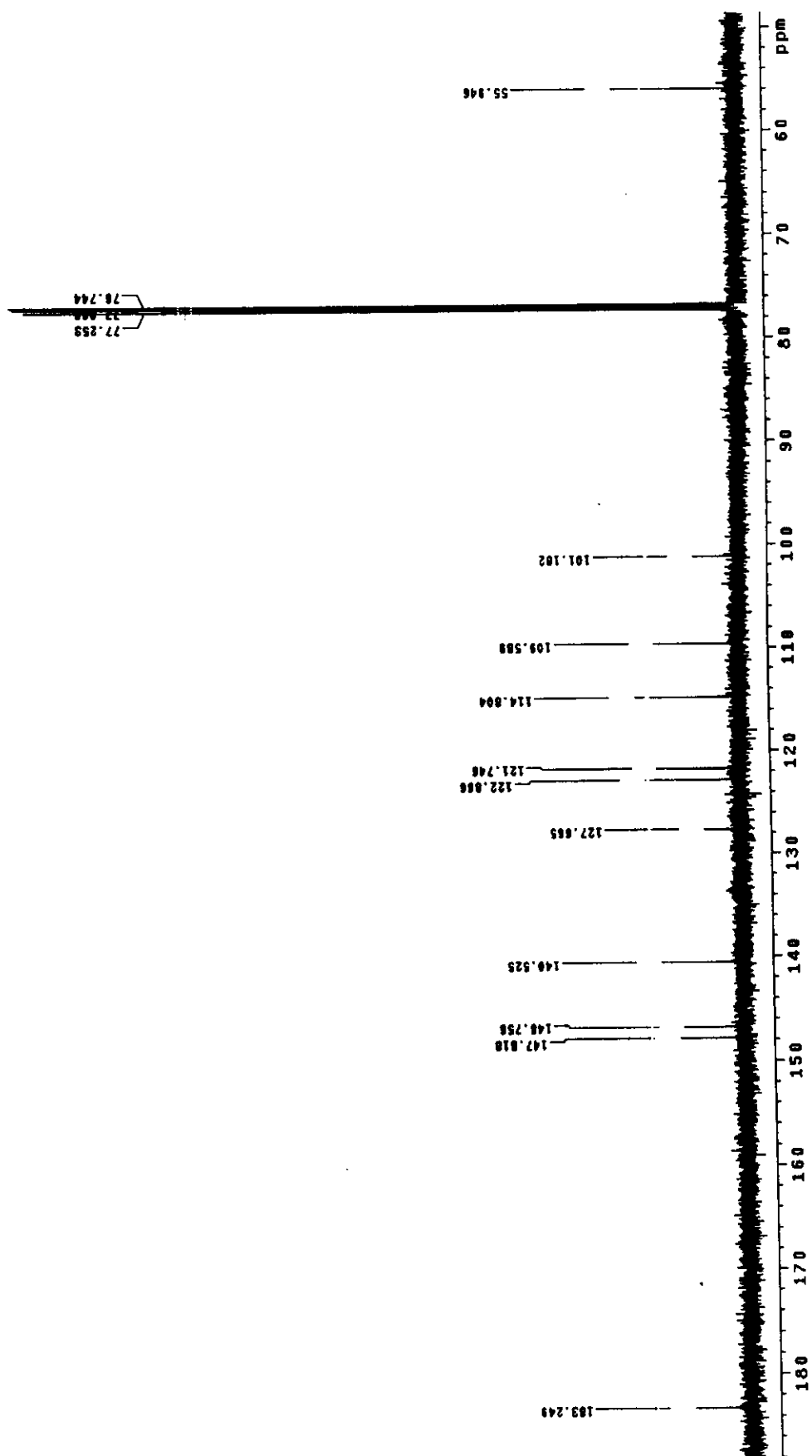


Figure 29 ^{13}C -NMR spectrum of CLM02 (curcumin)

Name of sample: CLM02
ghmqc experiment
exp3 ghmqc-da

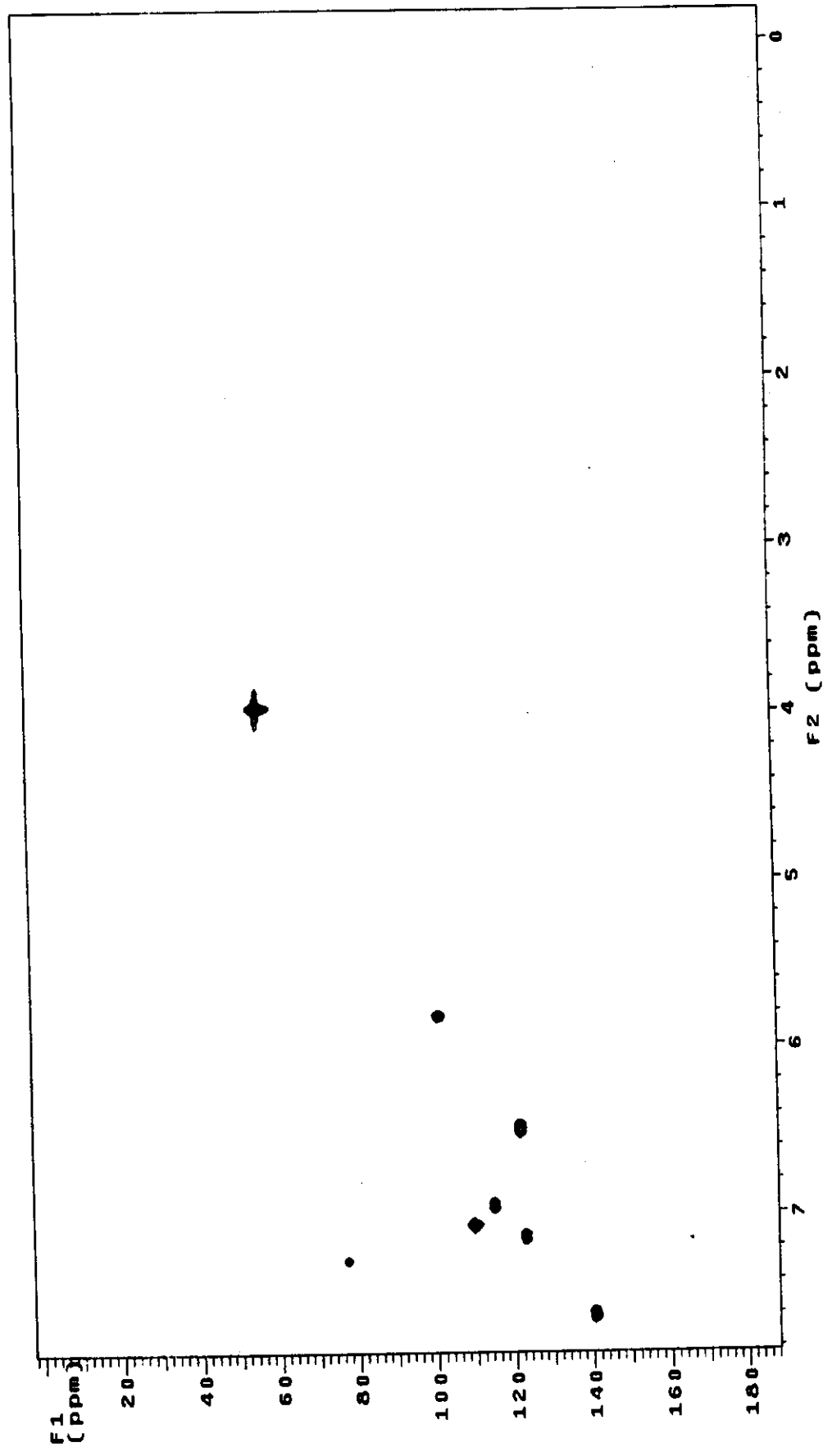


Figure 30 HMQC spectrum of CLM02 (curcumin)

Name of sample: CLM02

ghmbc experiment

using ghmqc pulse sequence

exp5 ghmqc-da

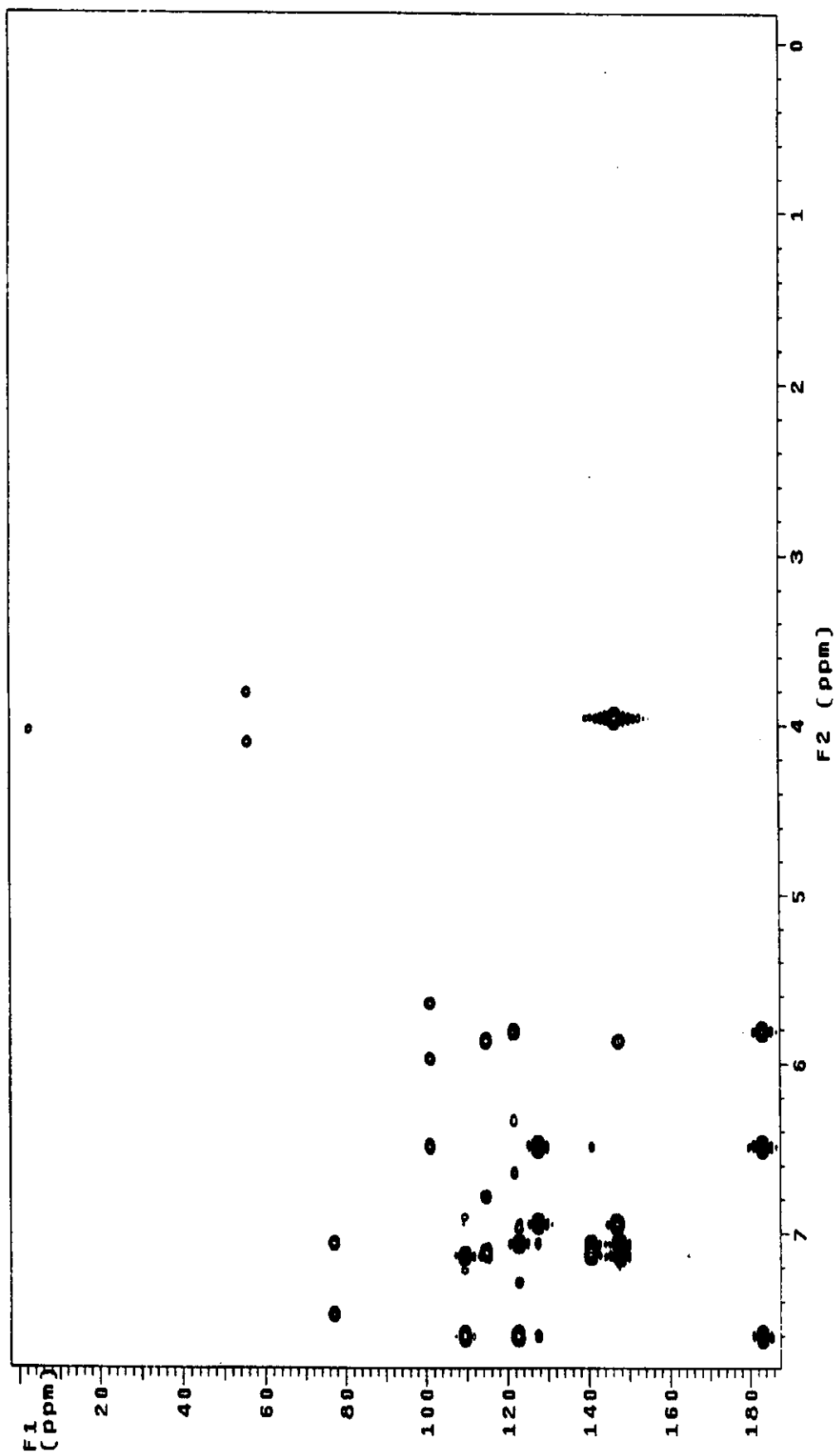


Figure 31 HMBC spectrum of CLM02 (curcumin)

D:\Calibur\data\3064n11

01/02/03 04:52:29 PM

CLM02

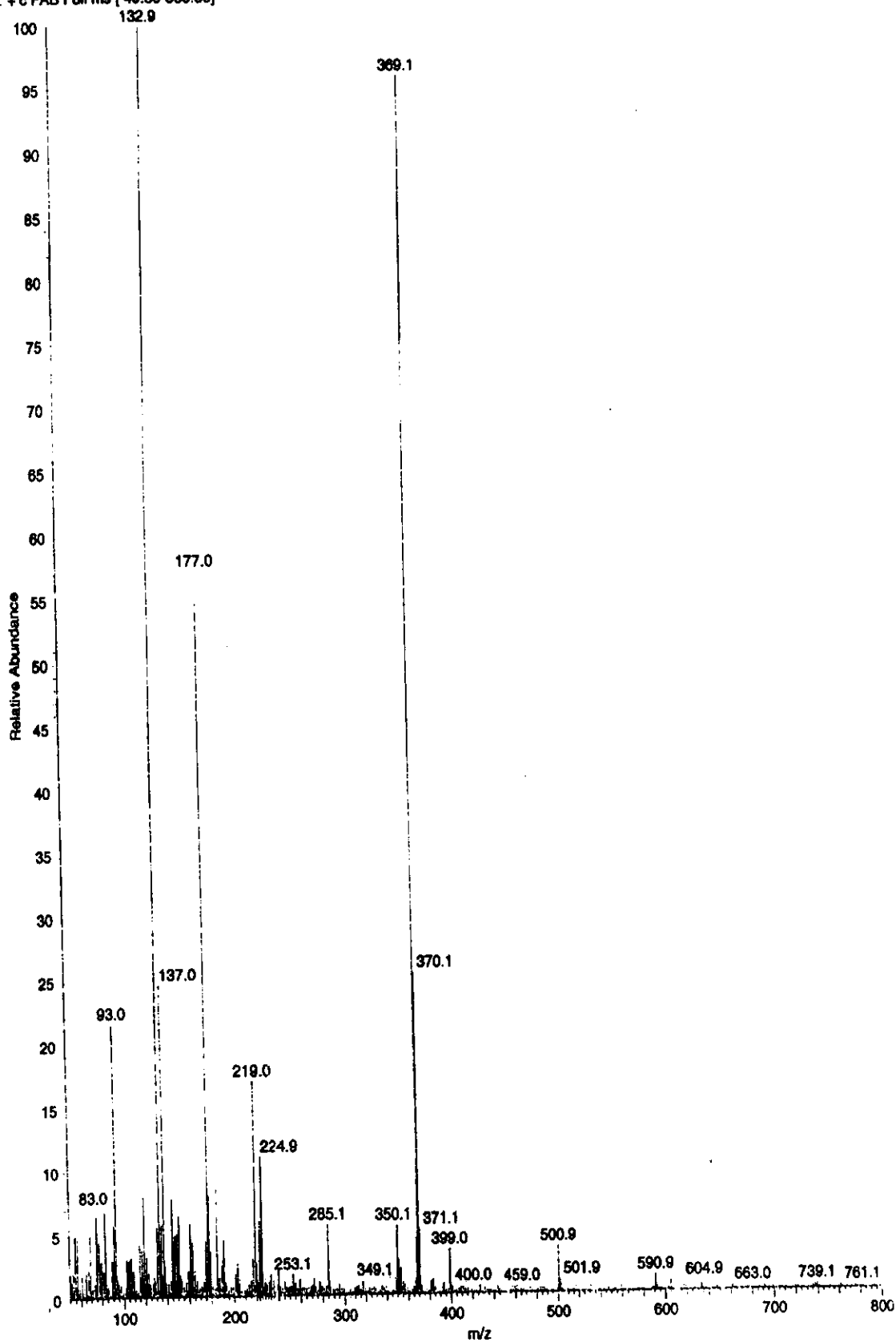
3064n11 #7-9 RT: 0.49-0.70 AV: 3 NL: 8.02E5
T: +c FAB Full ms [49.50-800.50]

Figure 32 Mass spectrum (FAB) of CLM02 (curcumin)

Name of sample: CLM03
observed proton experiment
Pulse Sequence: s2pu1

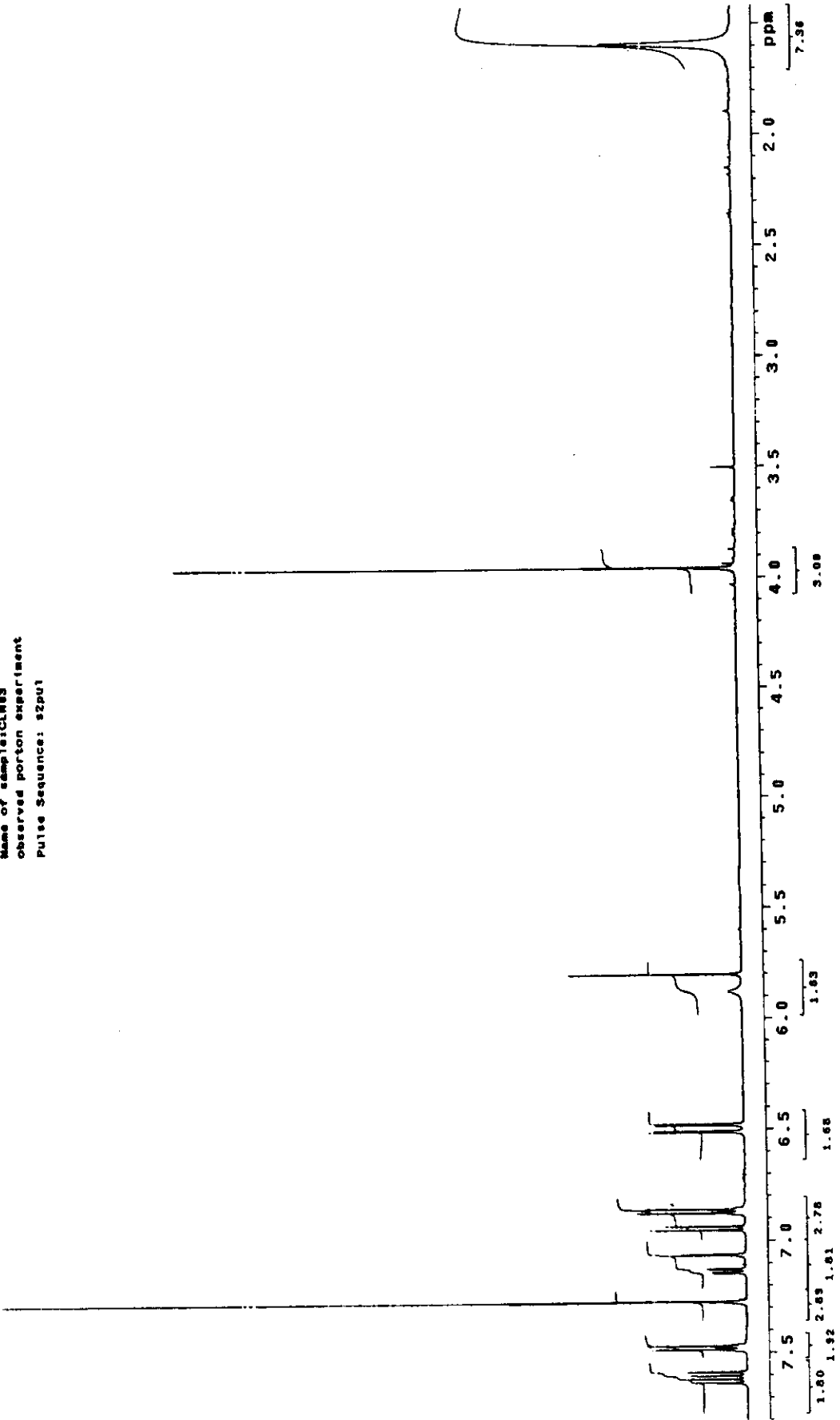


Figure 33 1H-NMR spectrum of CLM03 (demethoxycurcumin)

Name of sample: CLM03
observed carbon experiment
Pulse Sequence: szpu1

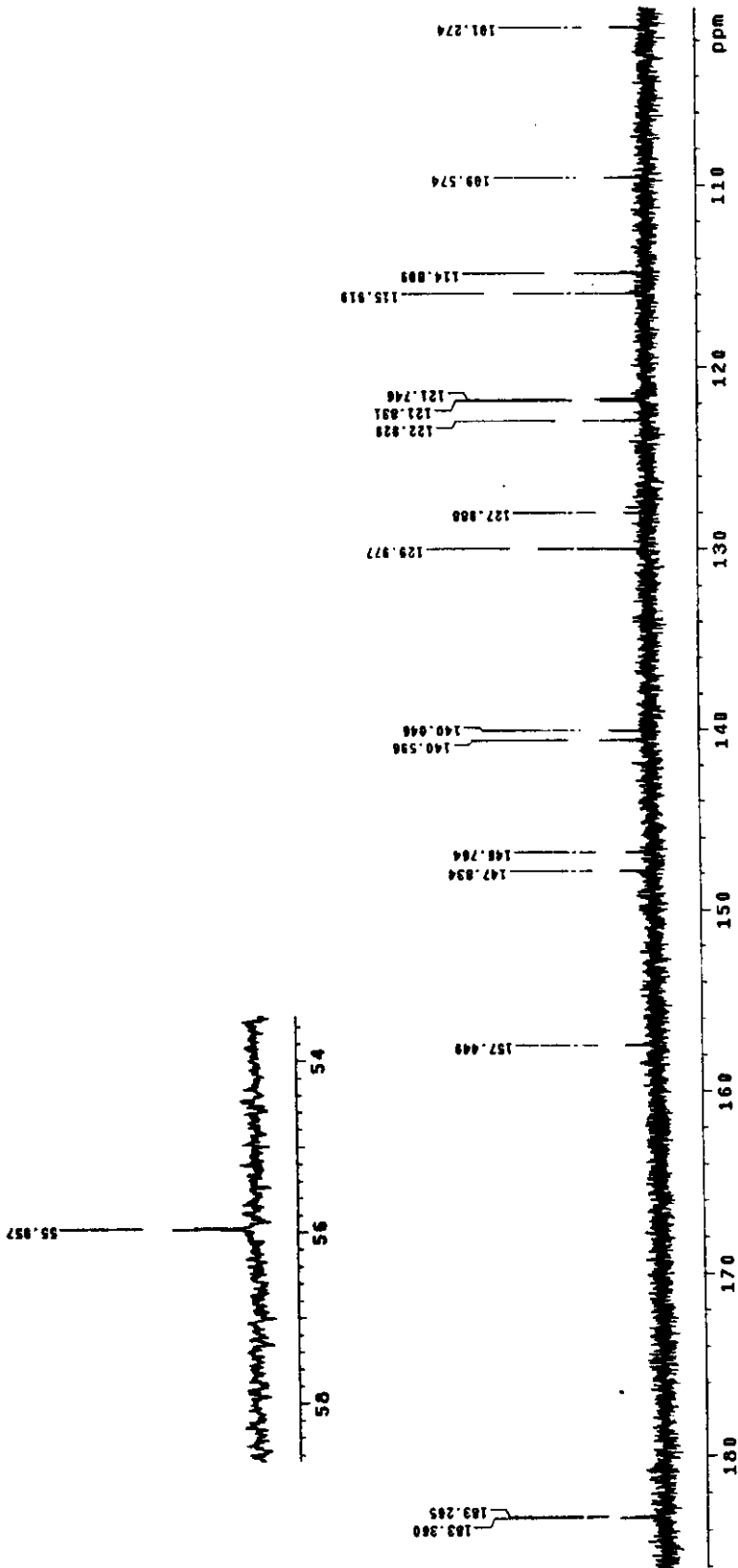


Figure 34 ¹³C-NMR spectrum of CLM03 (demethoxycurcumin)

Name of sample: CLM03
ghmqc experiment
exp3 ghmqc-da

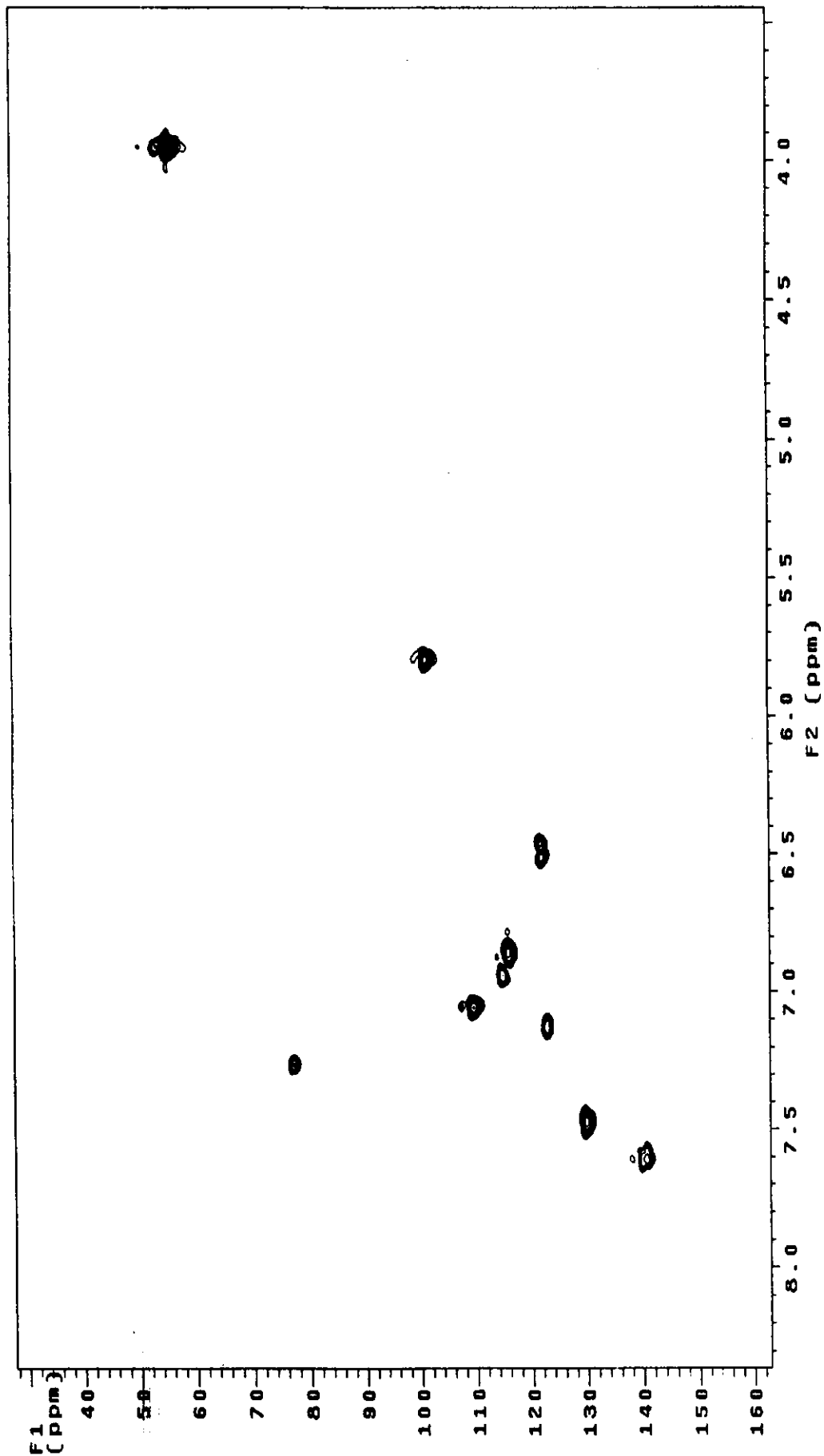


Figure 35 HMQC spectrum of CLM03 (demethoxycurcumin)

Name of sample: CLM03
ghmc experiment
using ghaqc pulse sequence
Pulse Sequence: ghaqc_da

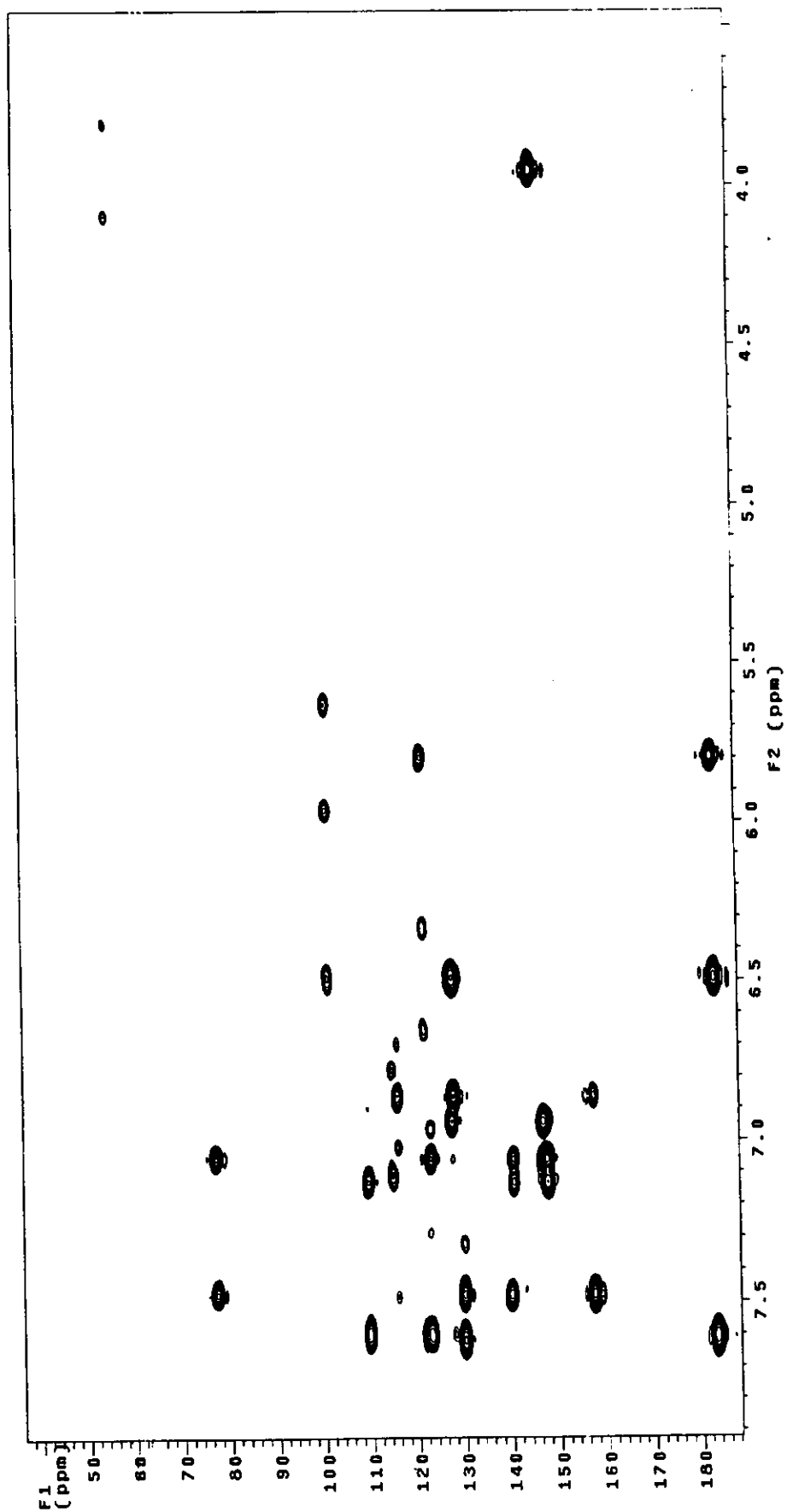


Figure 36 HMB spectrum of CLM03 (demethoxycurcumin)

D:\Xcalibur\data\3064n21

01/02/03 04:59:58 PM

CLM03

3064n21 #10-14 RT: 1.10-1.51 AV: 5 NL: 2.03E6

F: +c FAB Full ms [49.50-800.50]

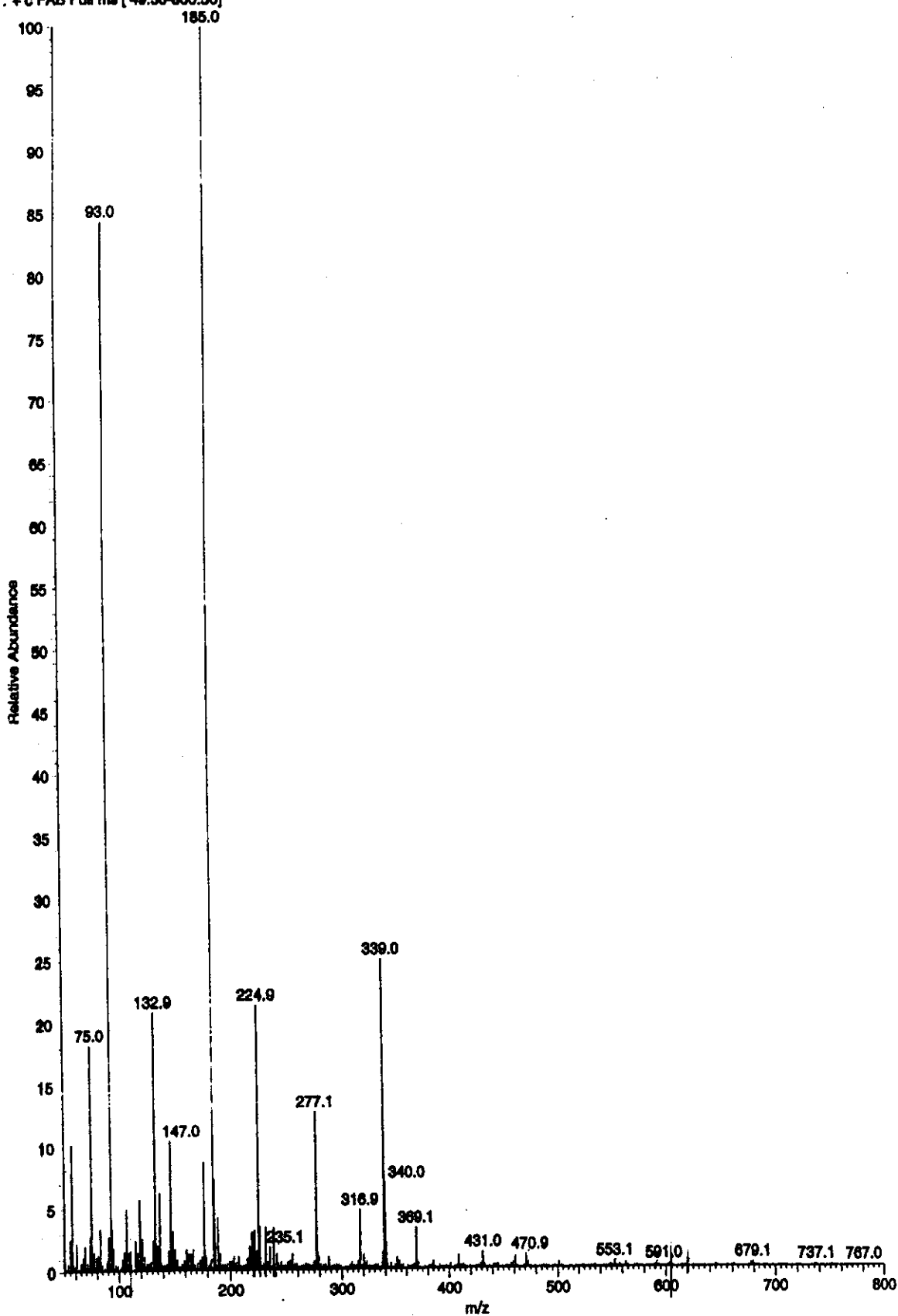


Figure 37 Mass spectrum (FAB) of CLM03 (demethoxycurcumin)

Name of sample: CLM06
observed proton experiment
Pulse Sequence: s2pu1

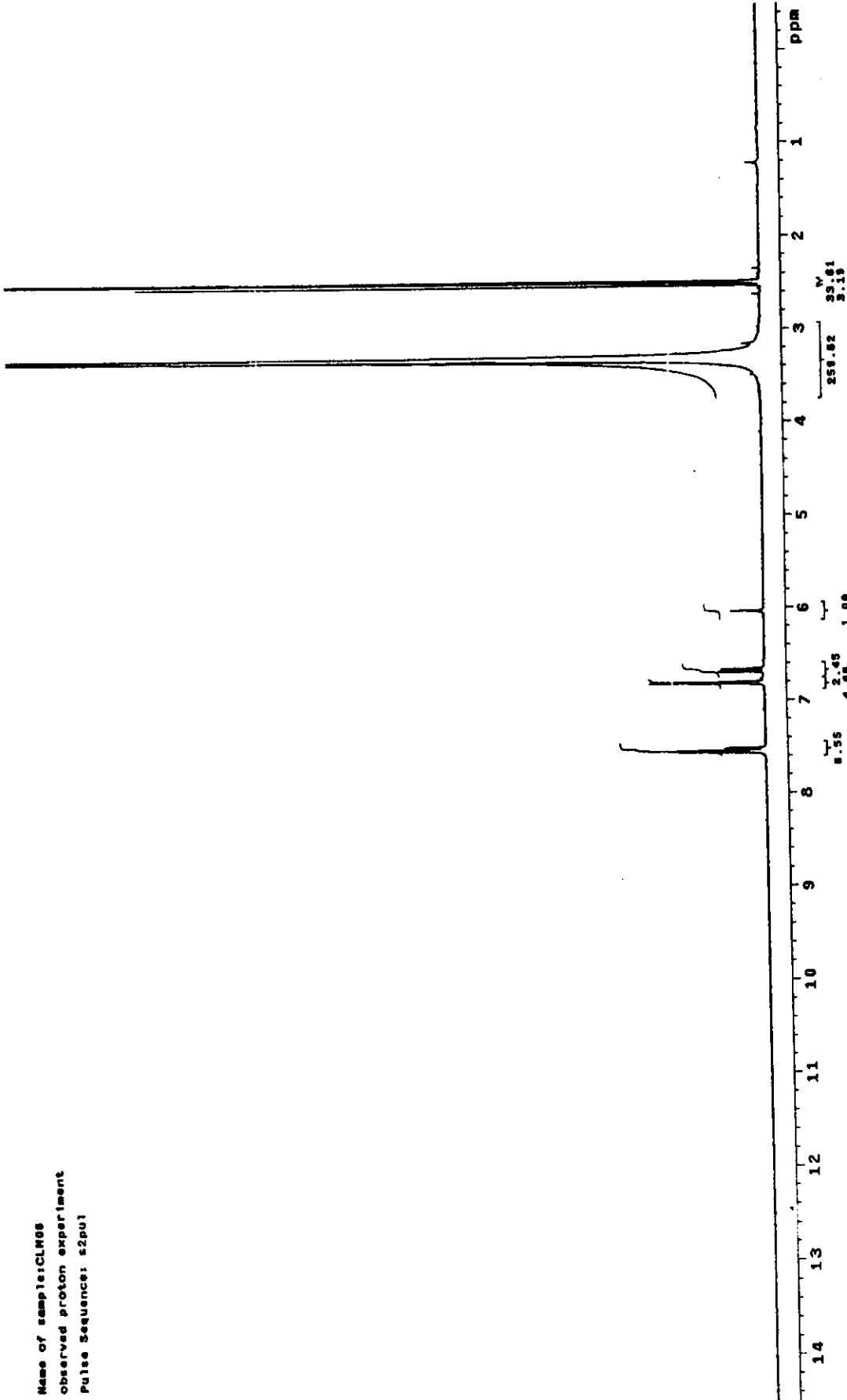


Figure 38 1H-NMR spectrum of CLM06 (bisdemethoxycurcumin)

Name of sample: CLM06
Observed carbon experiment
Pulse Sequence: s2pu1

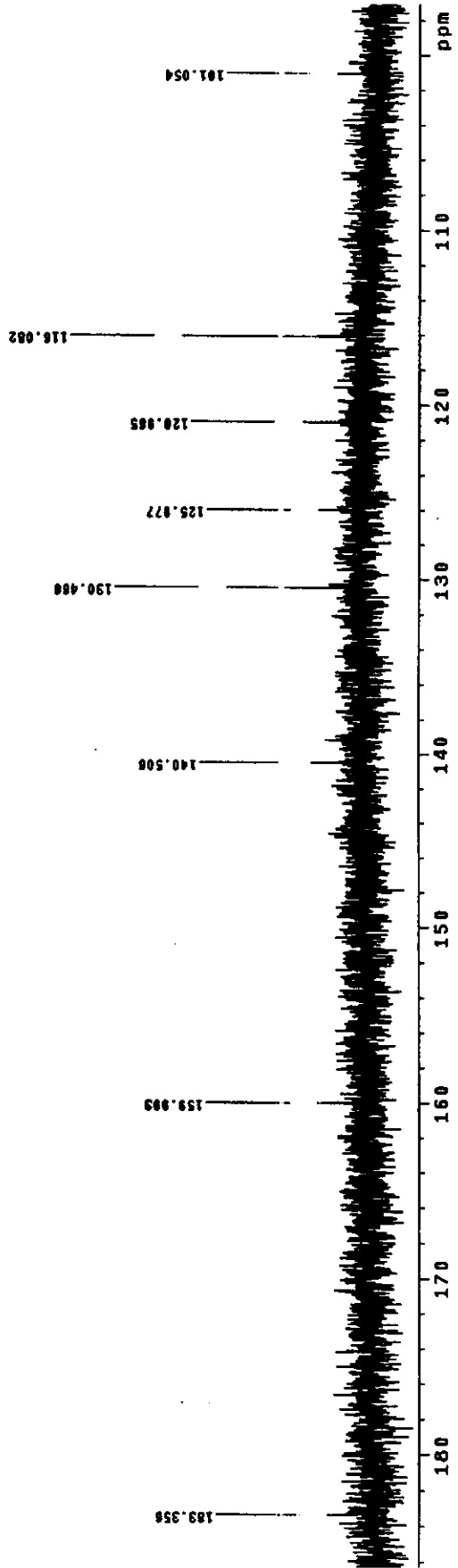


Figure 39 ^{13}C -NMR spectrum of CLM06 (bisdemethoxycurcumin)

D:\Xcalibur...13232n12_030210155921

02/10/03 03:59:21 PM

Glycerol-dm06(LRFABMS)

923246 6Feb 2003(SAPIKA)

3232n12_030210155921 #11-18 RT: 1.36-2.17 AV: 8 SB: 36 0.21-4.25 NL: 3.98E4

T: +c FAB Full ms [49.50-1111.50]

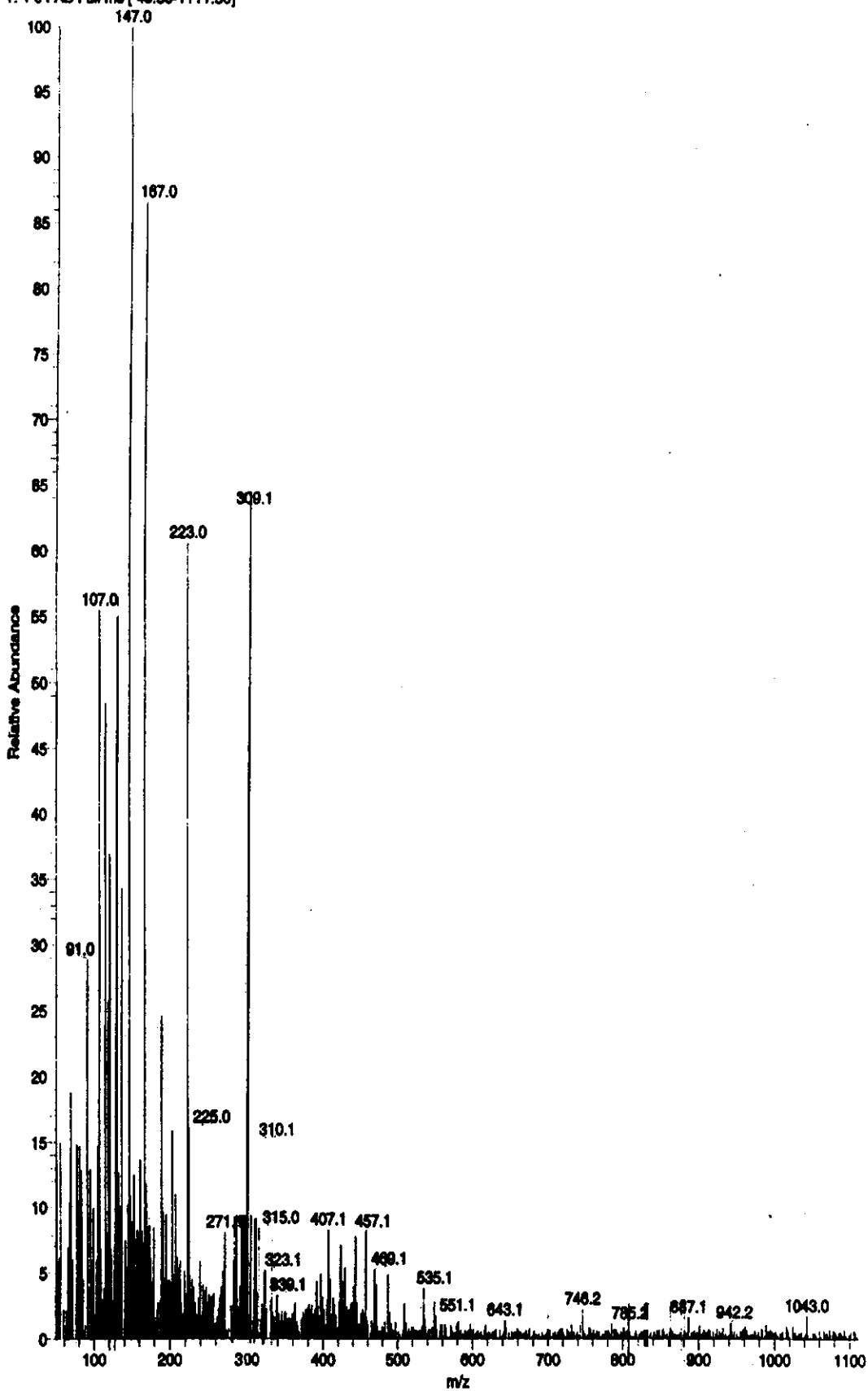


Figure 40 Mass spectrum (FAB) of CLM06 (bisdemethoxycurcumin)

Name of sample: ZOM0
observed proton experiment
Pulse Sequence: s2pul

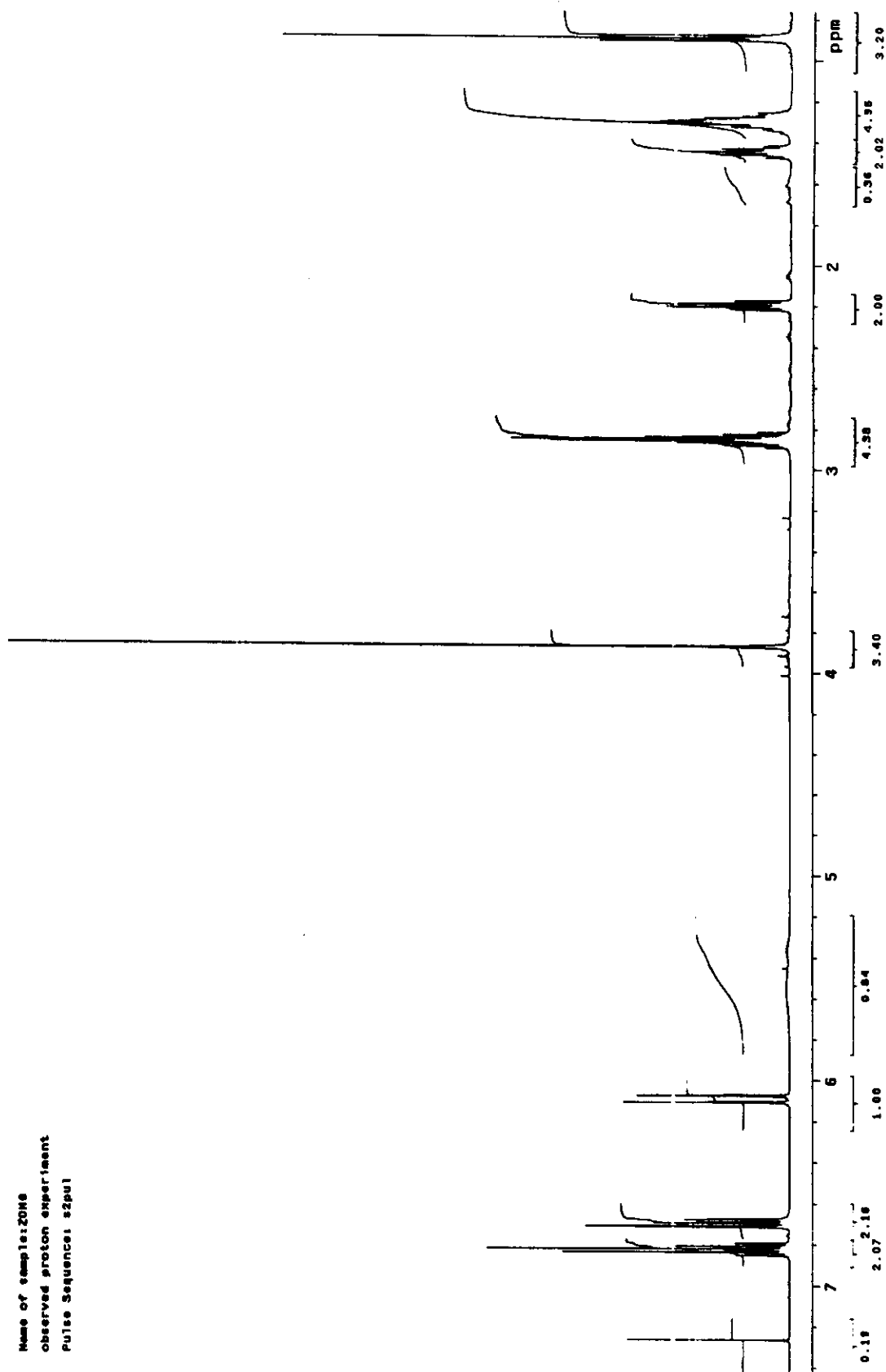


Figure 41 ¹H-NMR spectrum of ZOM0 (6-shogaol)

Name of sample: E010
 observed carbon experiment
 Pulse Sequence: s2pu1

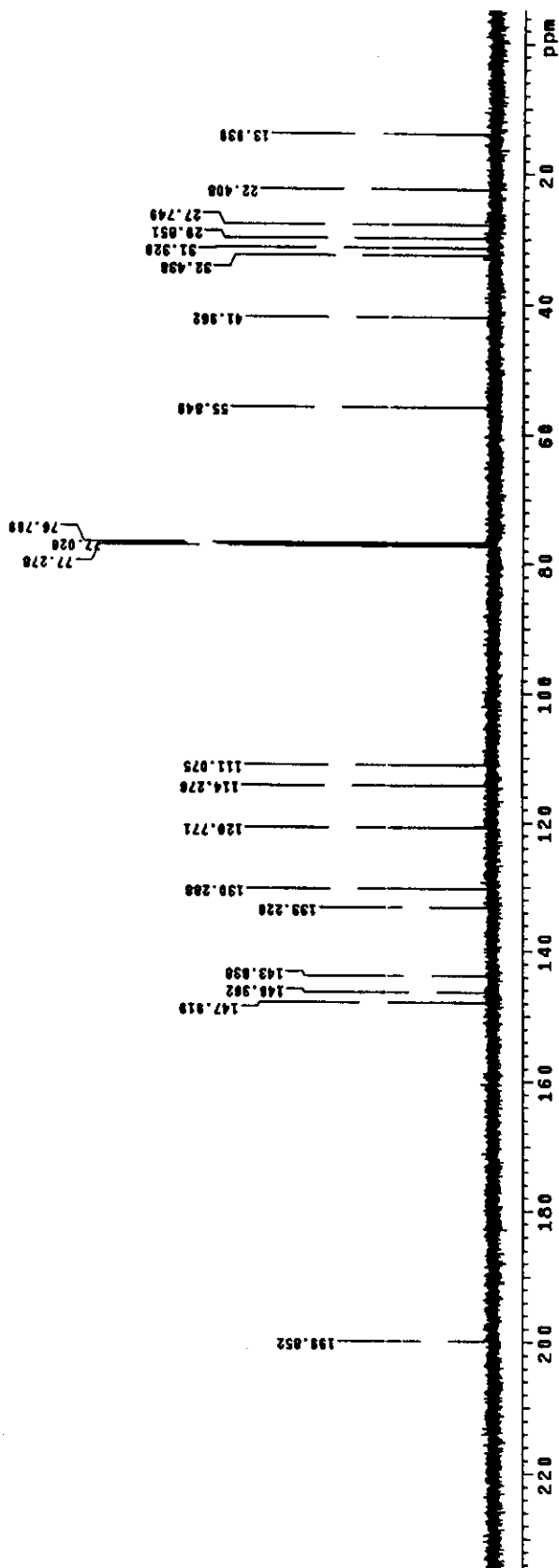
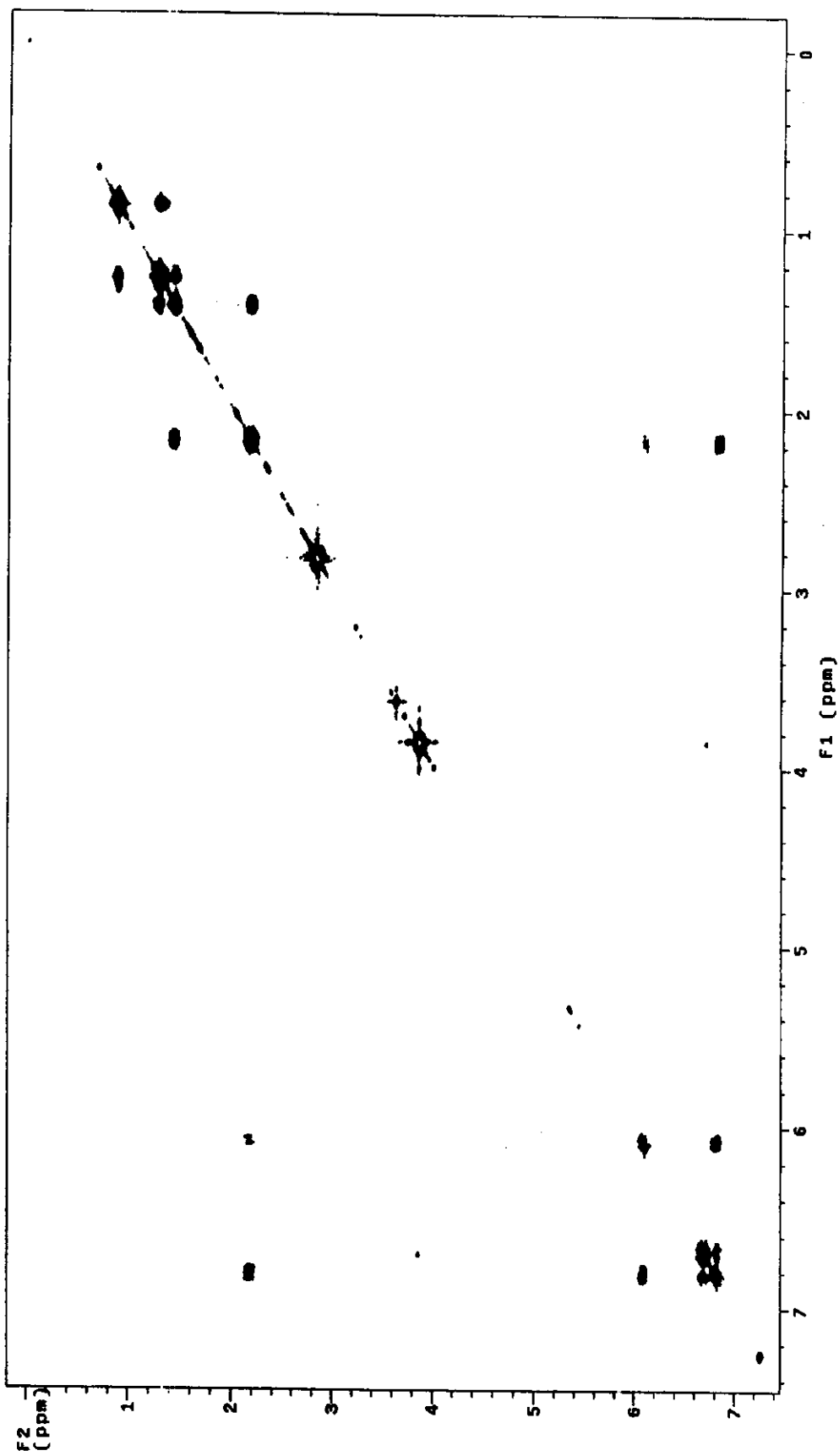


Figure 42 ^{13}C -NMR spectrum of ZOM0 (6-shogaol)

Figure 43 ^1H - ^1H COSY spectrum of ZOM0 (6-shogaol)

Name of sample: ZOM0
ghmc experiment
Pulse Sequence: ghmc_da

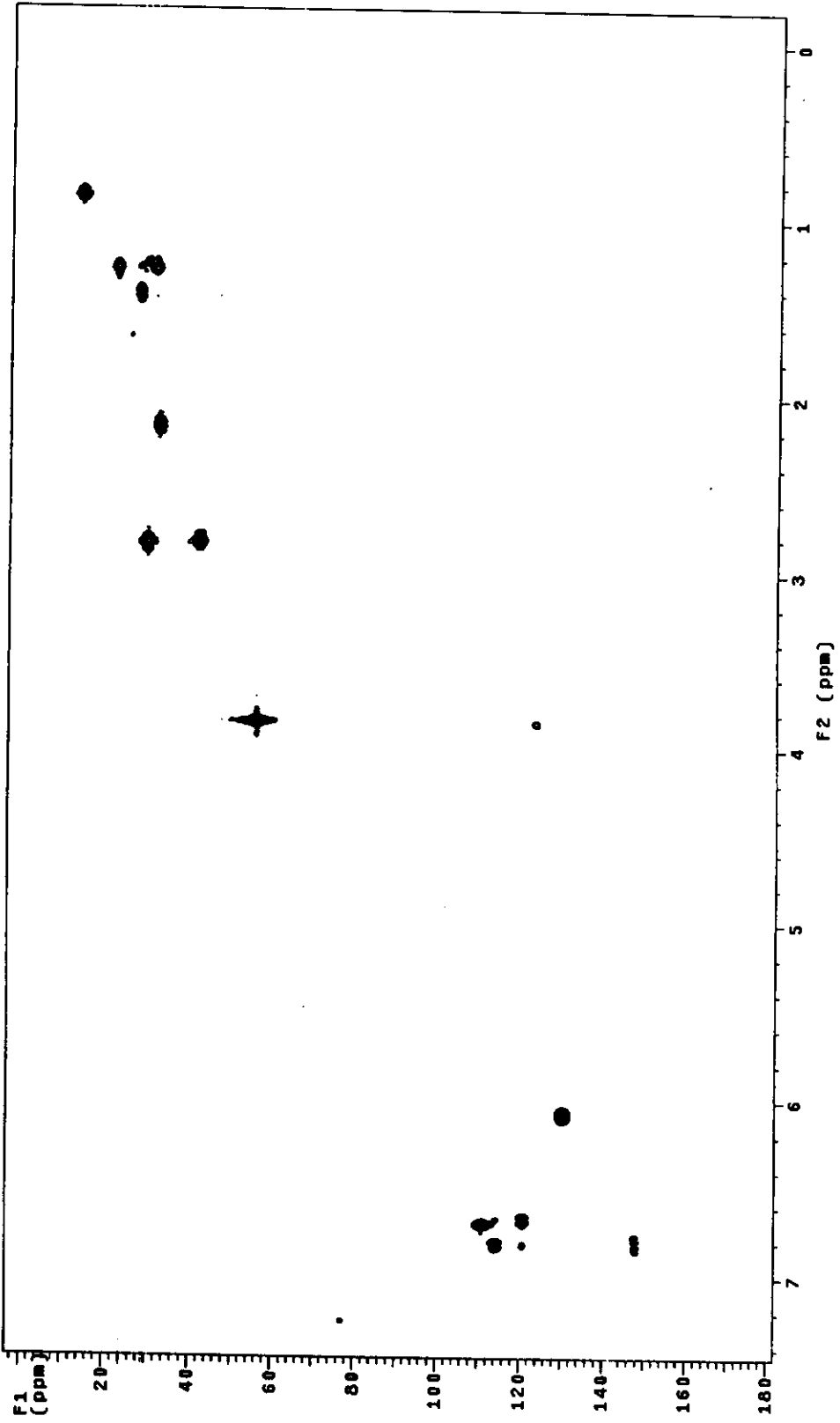


Figure 44 HMQC spectrum of ZOM0 (6-shogaol)

Name of sample: ZOM0
ghmhc experiment
using ghmhc pulse sequence
Pulse Sequence: ghmhc_da

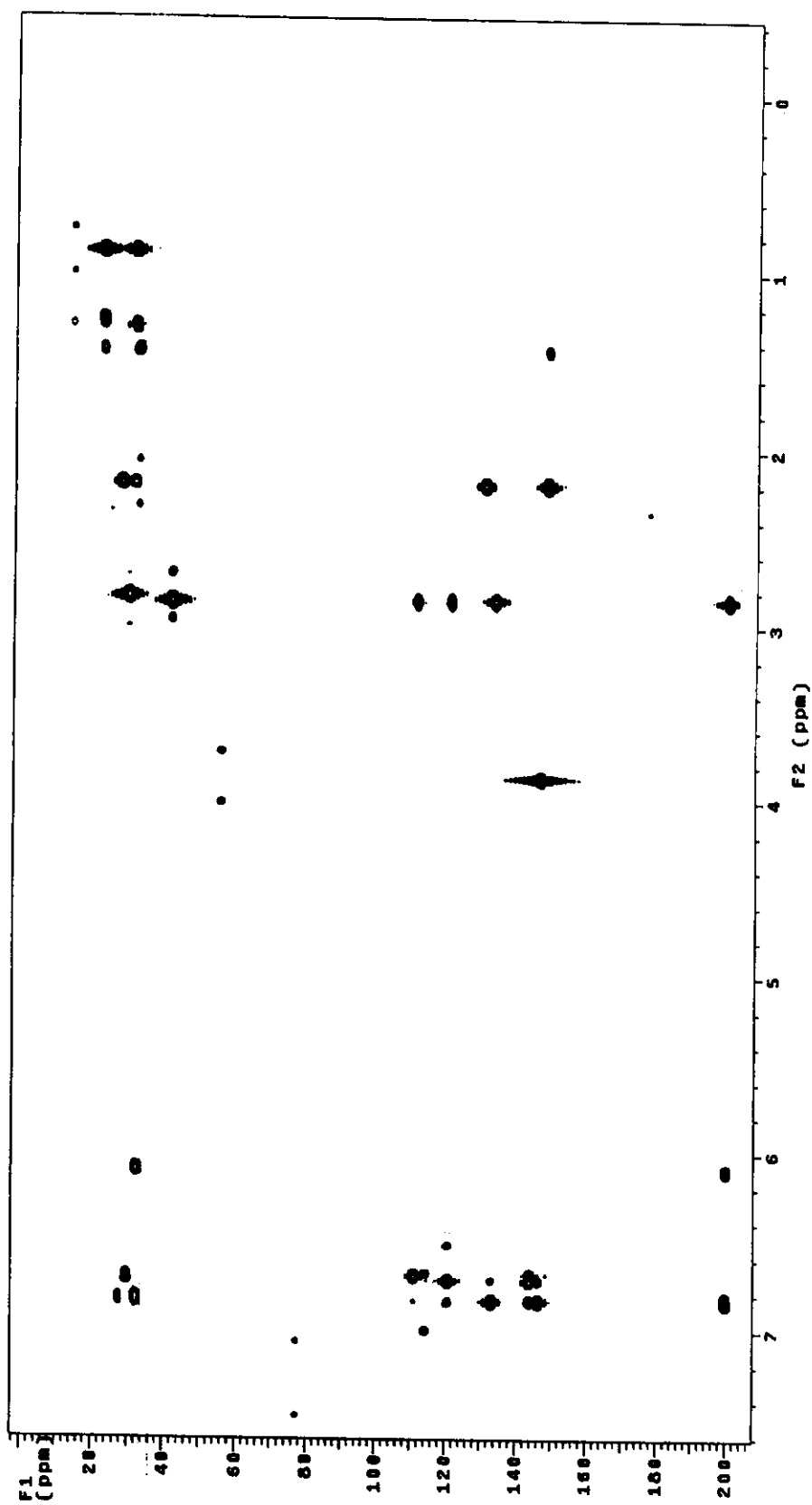


Figure 45 HMBC spectrum of ZOM0 (6-shogaol)

D:\Xcellbur\data\3119n11
FAB-LPMS

01/16/03 02:43:26 PM

glycerol+ZOM 0

3119n11 #17-20 RT: 1.55-1.82 AV: 4 NL: 1.00E6

T: +c FAB Full ms [98.50-1111.50]

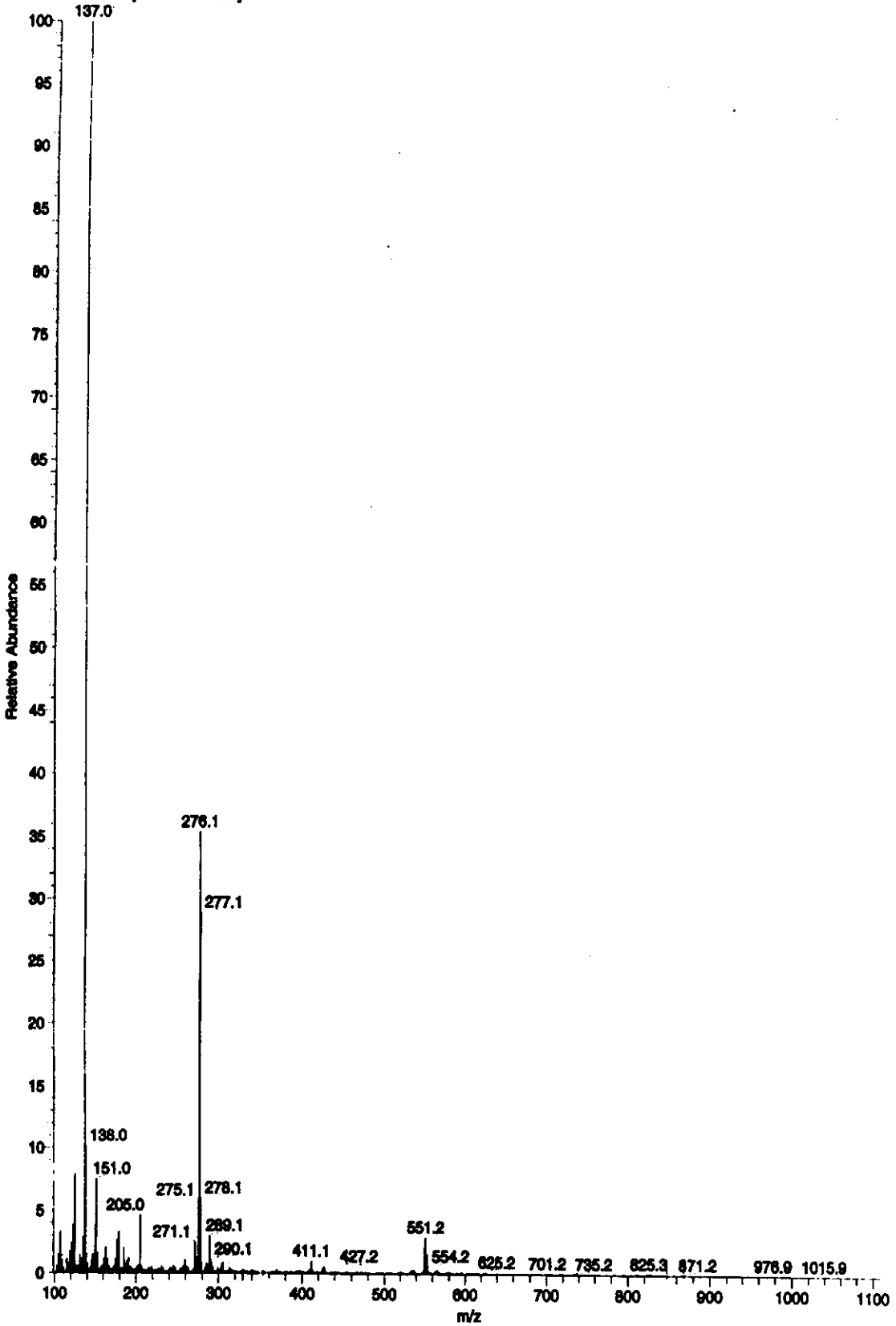


Figure 46 Mass spectrum (FAB) of ZOM0 (6-shogaol)

Name of sample: ZOM1
Observed proton experiment
Pulse Sequence: s2pu1

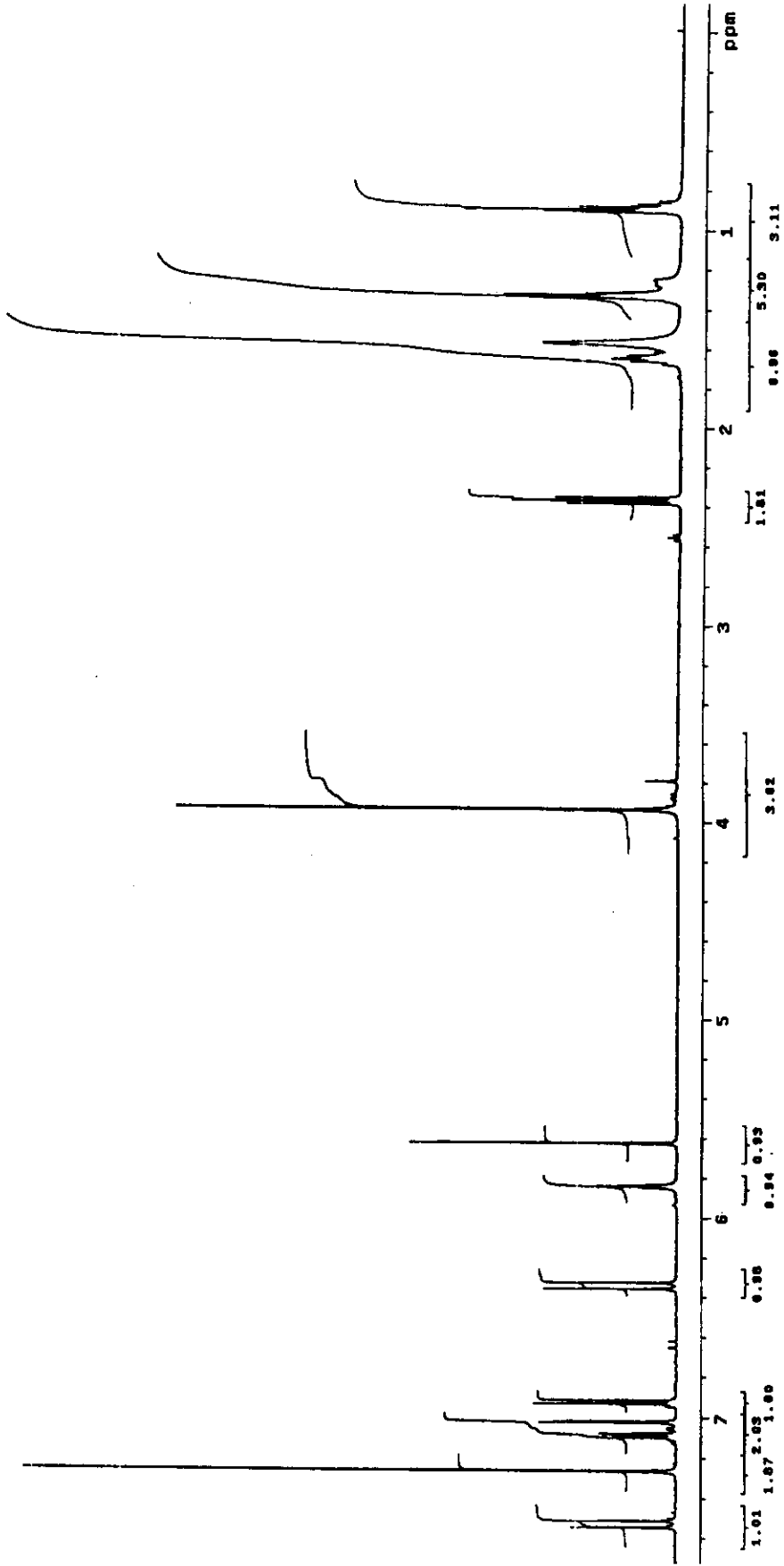
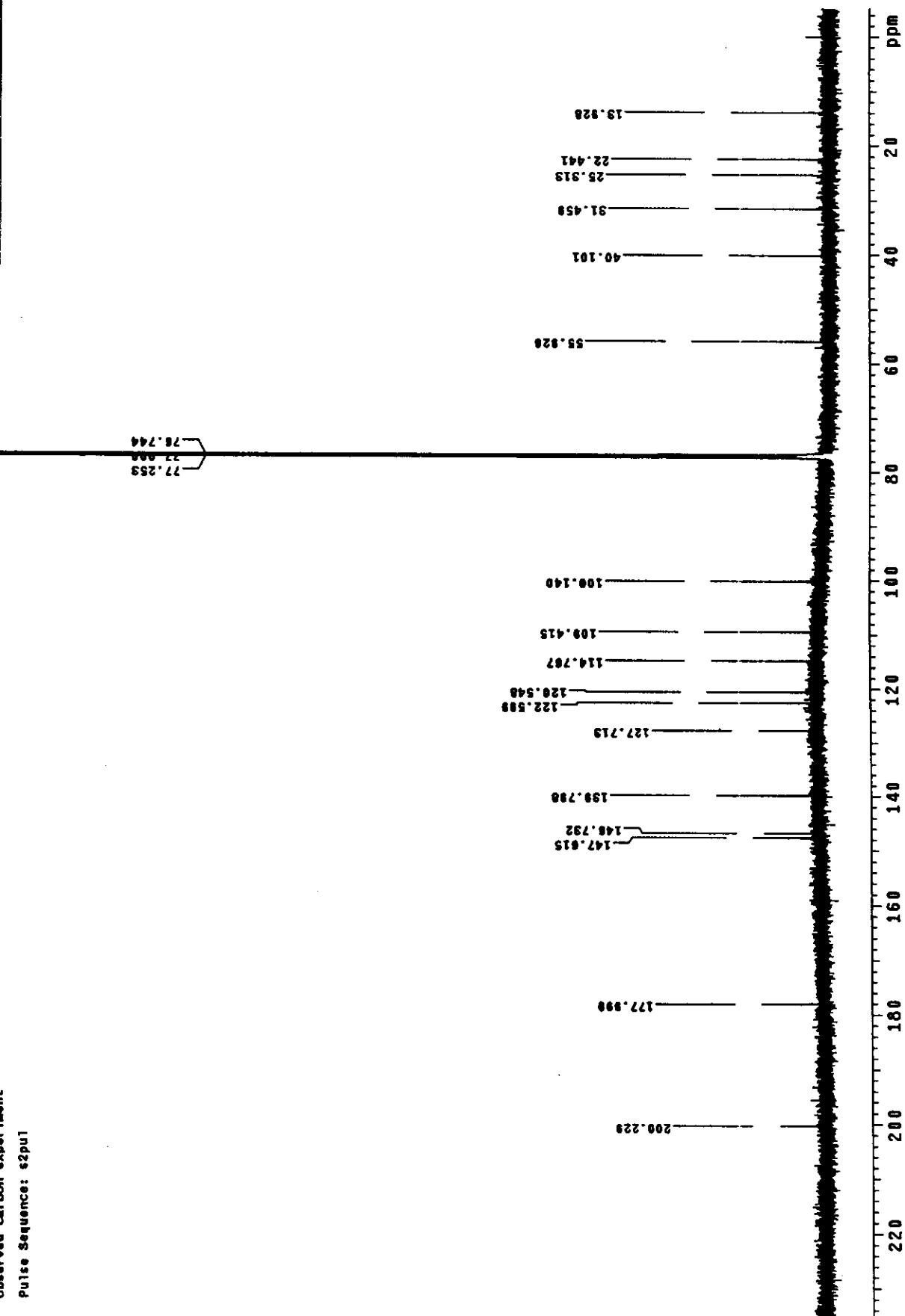


Figure 47 1H-NMR spectrum of ZOM1 (6-dehydrogingerdione)

Figure 48 ¹³C-NMR spectrum of ZOM1 (6-dehydrogingerdione)

Name of sample: ZOM1
observed proton experiment
Pulse Sequence: gcosy

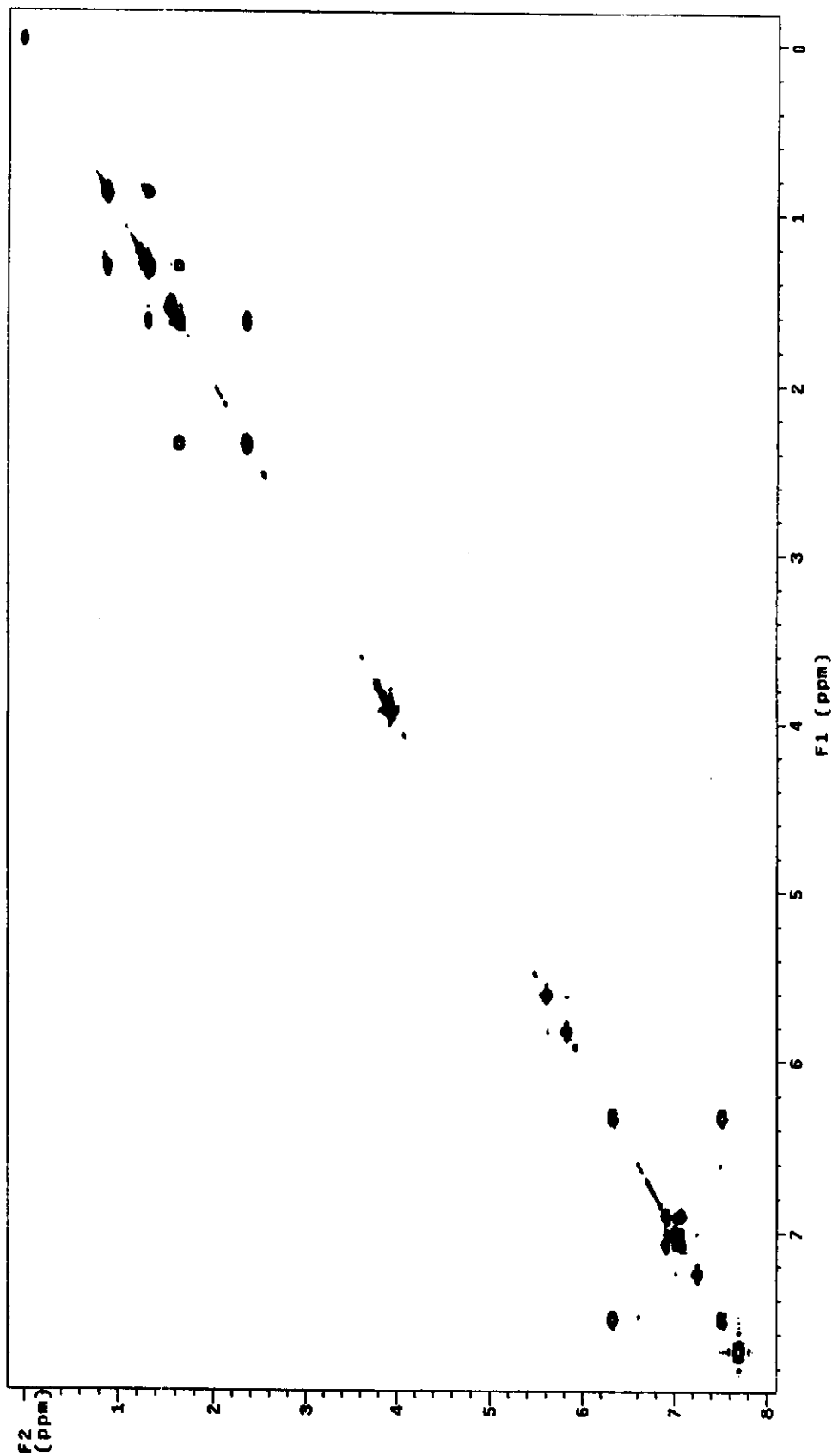


Figure 49 ^1H - ^1H COSY spectrum of ZOM1 (6-dehydrogingerdione)

Name of sample: ZOM1
ghmc experiment
Pulse sequence: ghmc_da

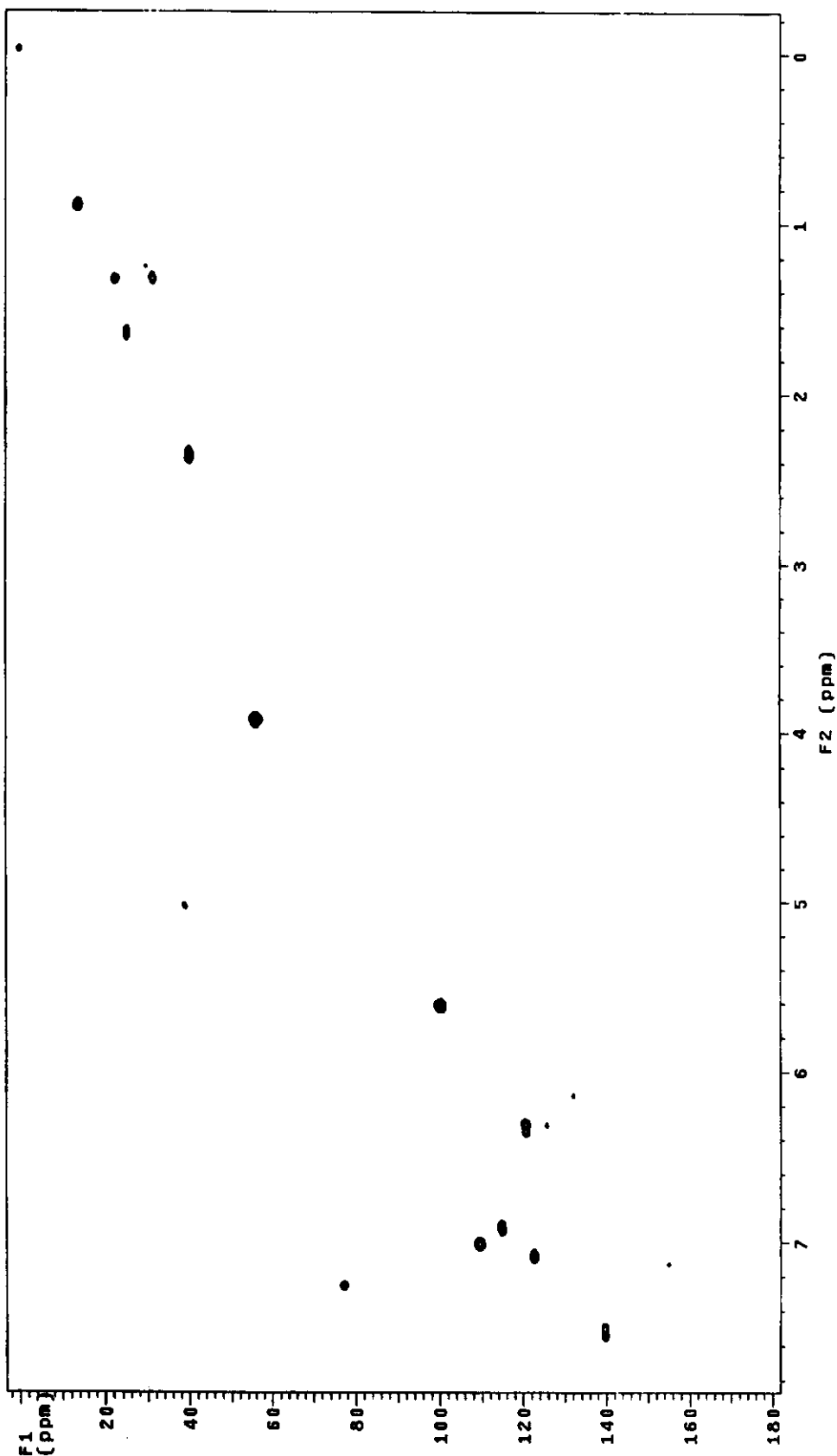


Figure 50 HMQC spectrum of ZOM1 (6-dehydrogingerdione)

Name of sample: ZOM1
ghmc experiment
using ghmc pulse sequence
Pulse Sequence: ghmc_da

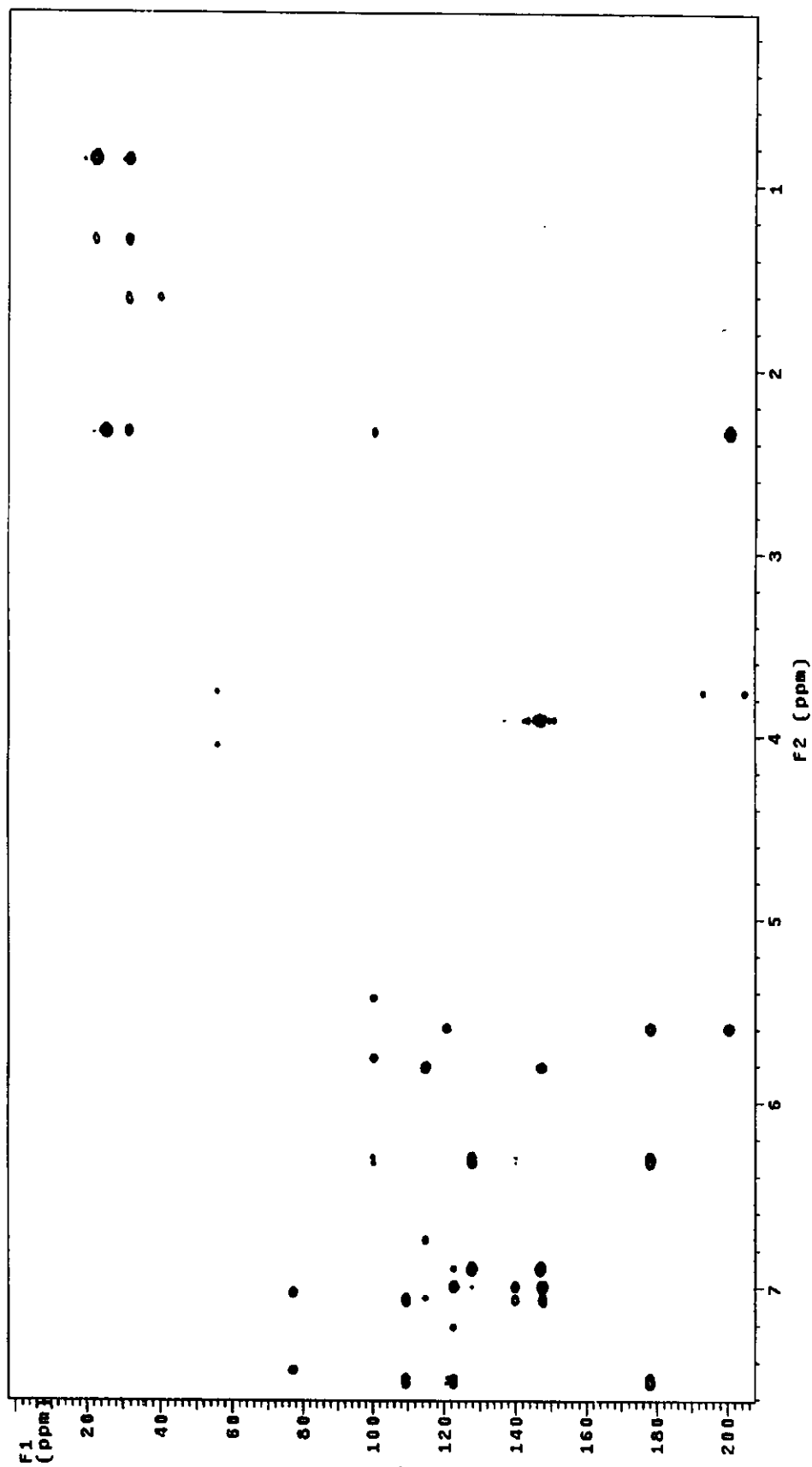


Figure 51 HMBC spectrum of ZOM1 (6-dehydrogingerdione)

D:\Xcalibur\data\3119n21

01/16/03 02:54:19 PM

glycerol+ZOM 1

FAB-LRMS

3119n21 #5-9 RT: 0.52-0.88 AV: 5 NL: 8.17E4

T: #c FAB Full ms [98.50-1111.50]

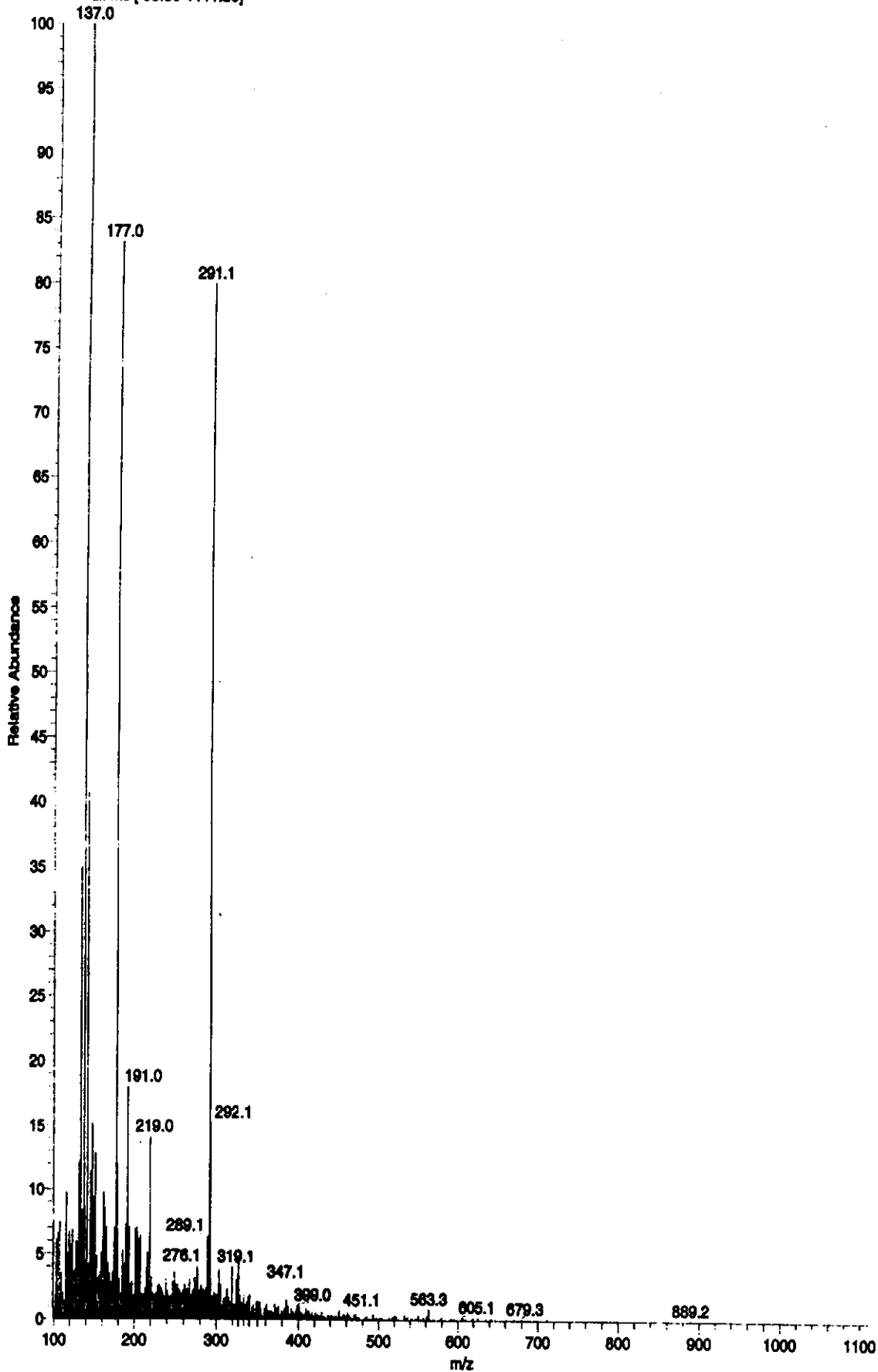
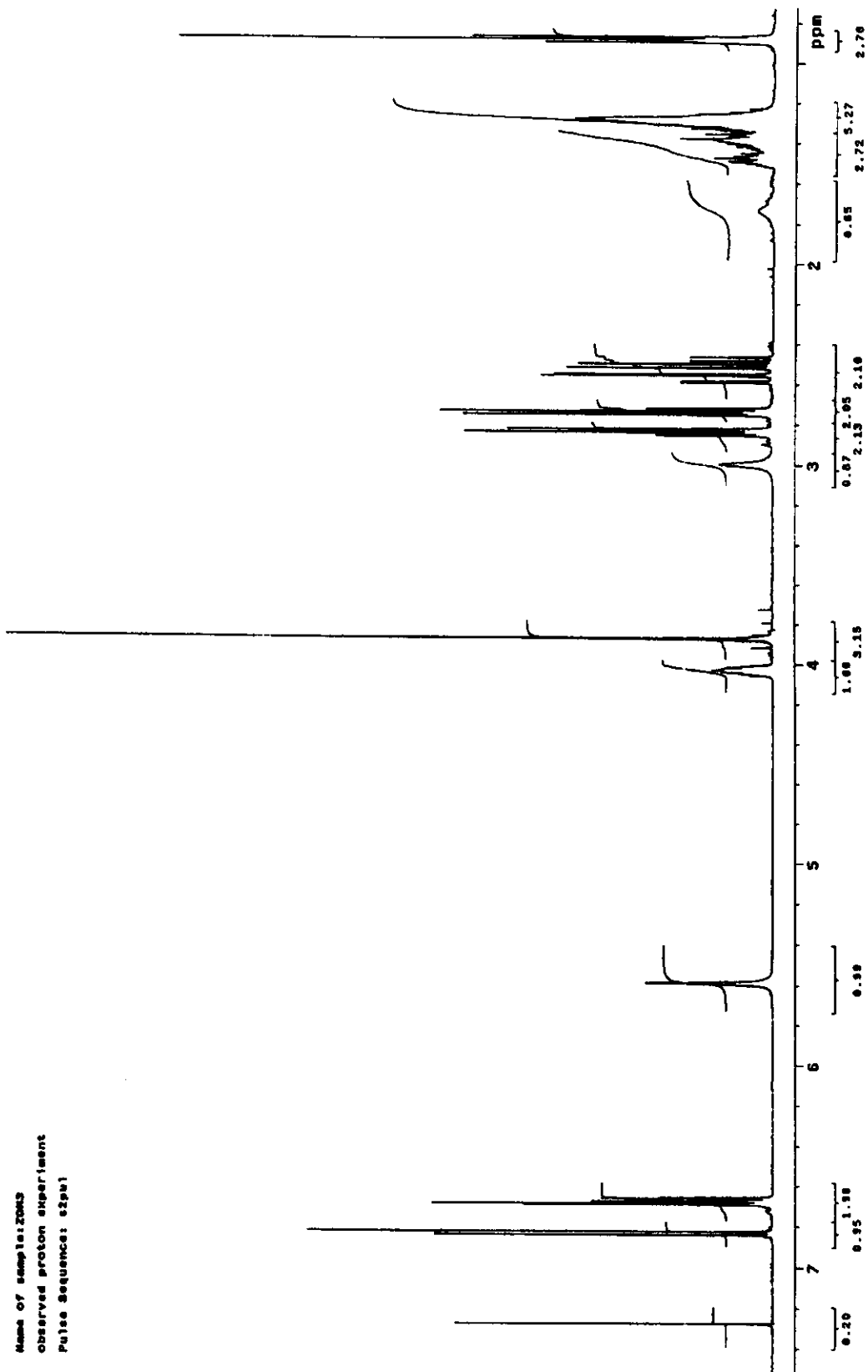


Figure 52 Mass spectrum (FAB) of ZOM1 (6-dehydrogingerdione)

Figure 53 ¹H-NMR spectrum of ZOM3 (6-gingerol)

Name of sample: ZOM3
observed carbon experiment
Pulse Sequence: s2pu1

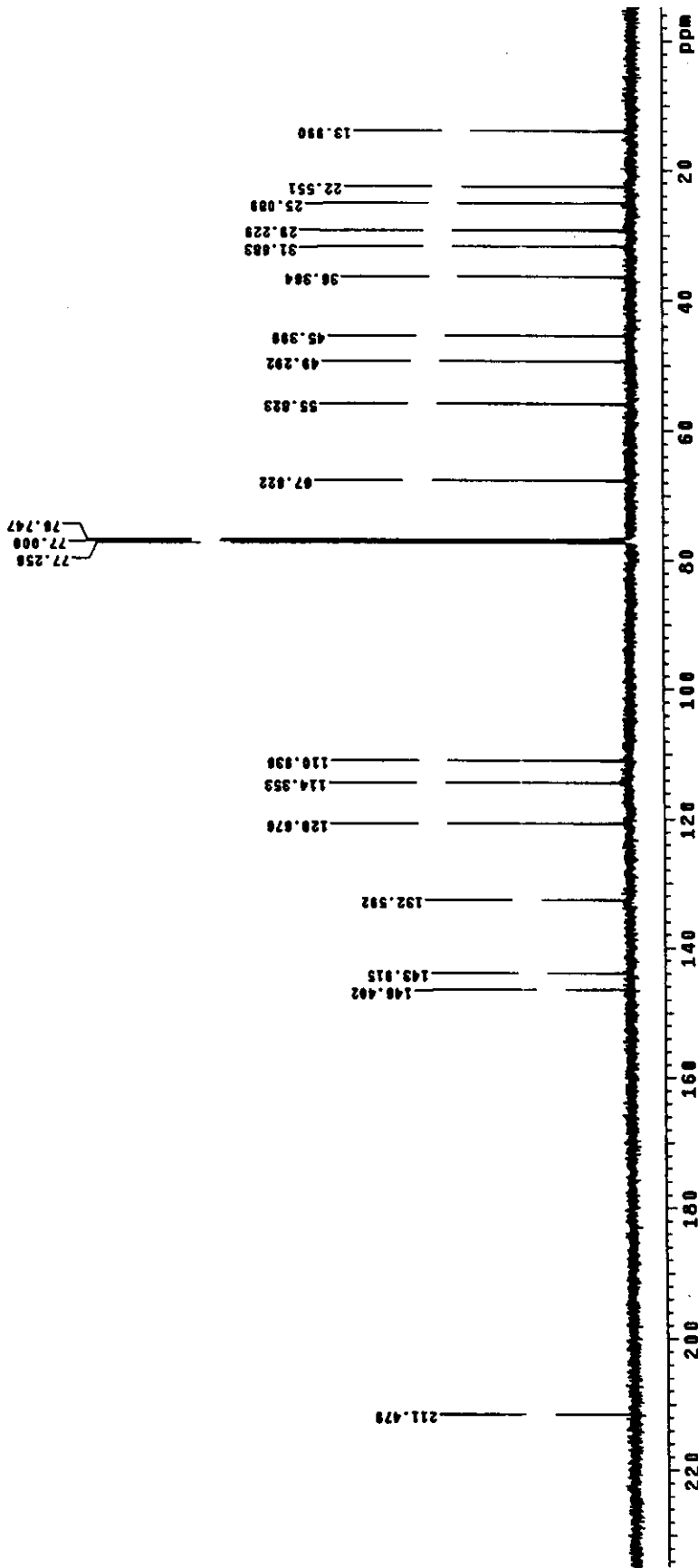


Figure 54 ¹³C-NMR spectrum of ZOM3 (6-gingerol)

Name of sample: ZOM3
scopy experiment
Pulse sequence: gcosy

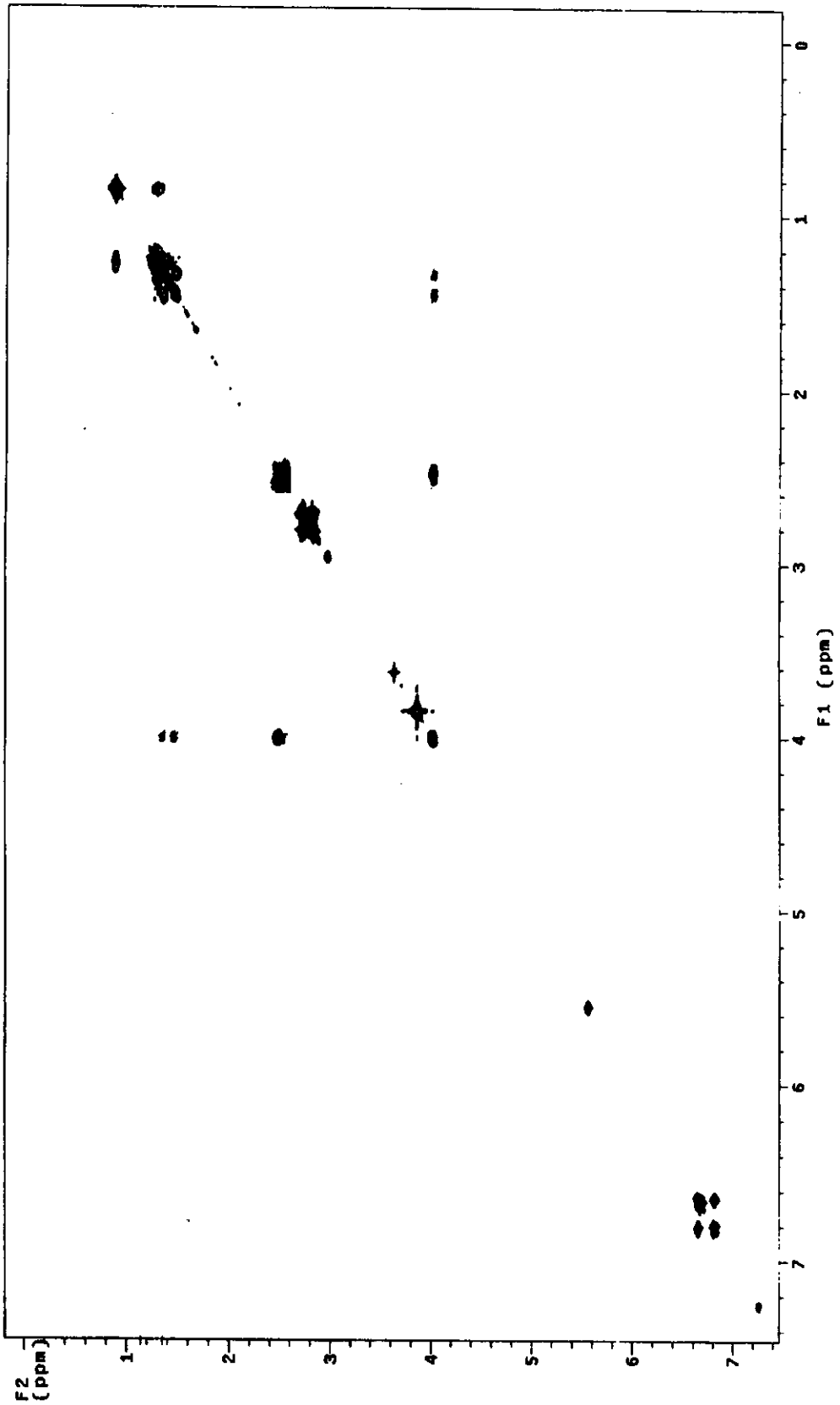


Figure 55 ^1H - ^1H COSY spectrum of ZOM3 (6-gingerol)

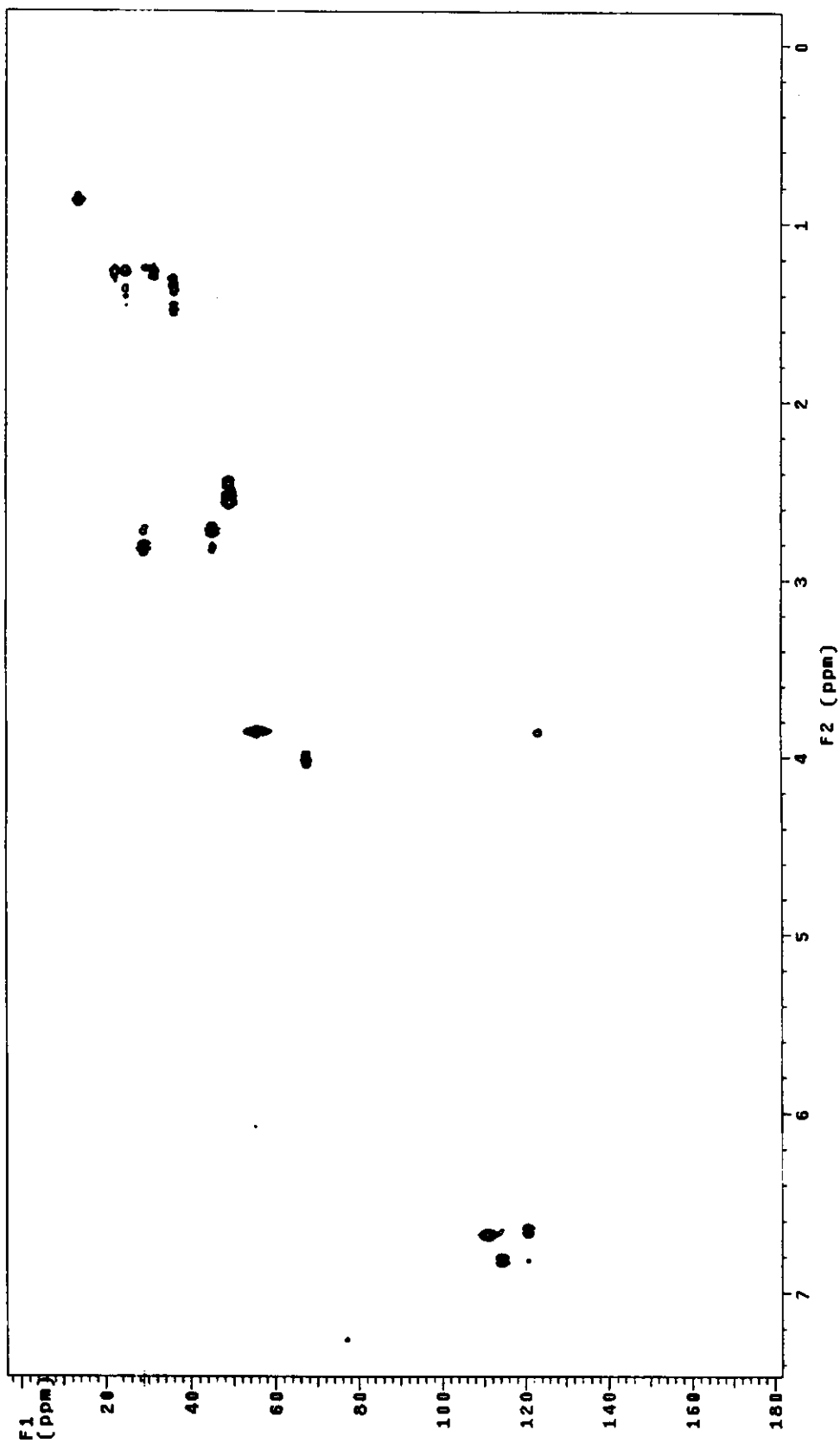


Figure 56 HMQC spectrum of ZOM3 (6-gingerol)

Name of sample: ZOM3
ghmbc experiment
using hmqc pulse sequence
Pulse Sequence: ghmqc_da

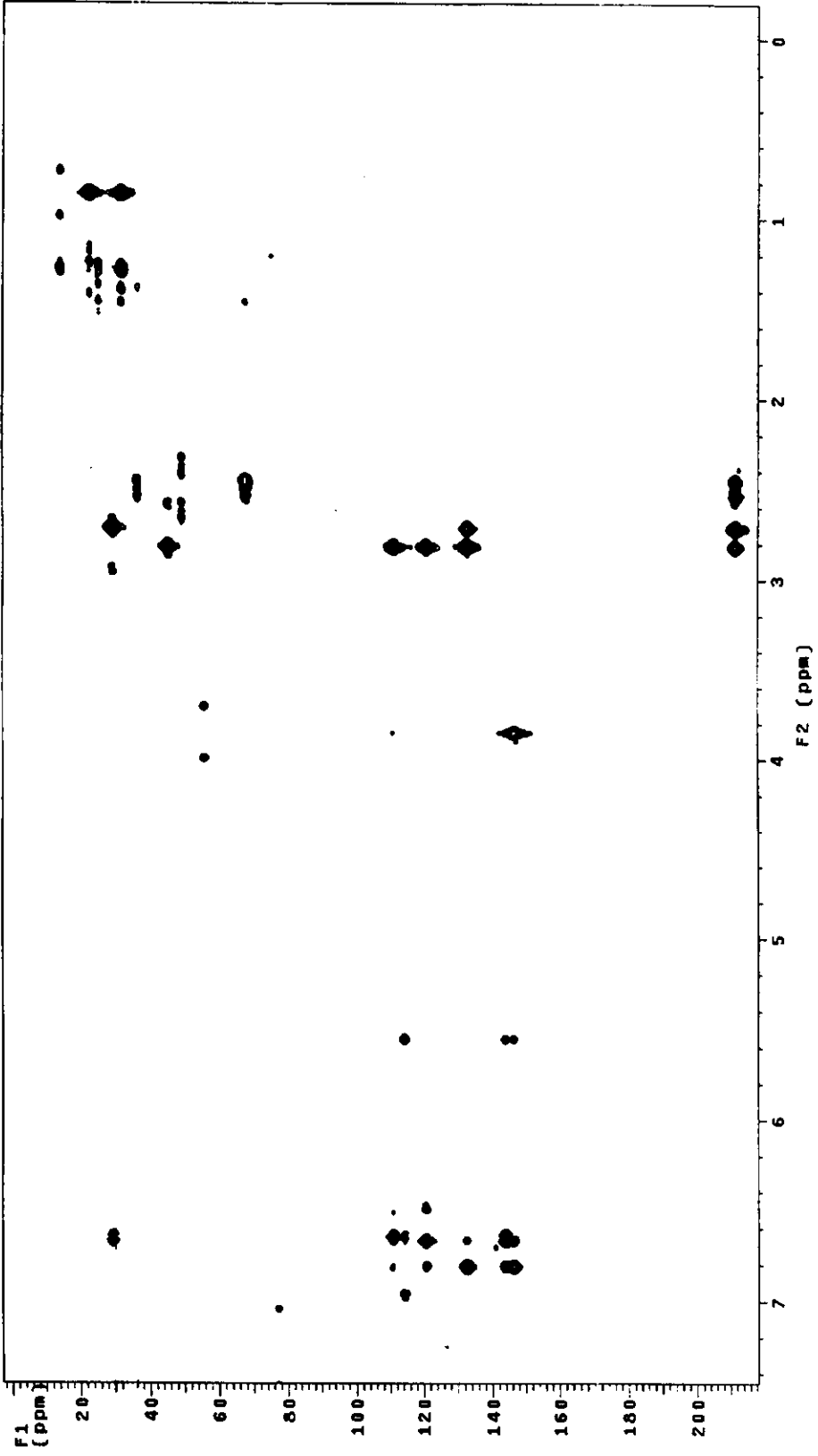


Figure 57 HMBC spectrum of ZOM3 (6-gingerol)

D:\Xcalibur\data\3119n31
FAB-LRMS

01/16/03 02:59:58 PM

glycerol+ZOM 3

3119n31 #6-9 RT: 0.77-0.86 AV: 2 NL: 4.37E5

T: +c FAB Full ms [99.50-1111.50]

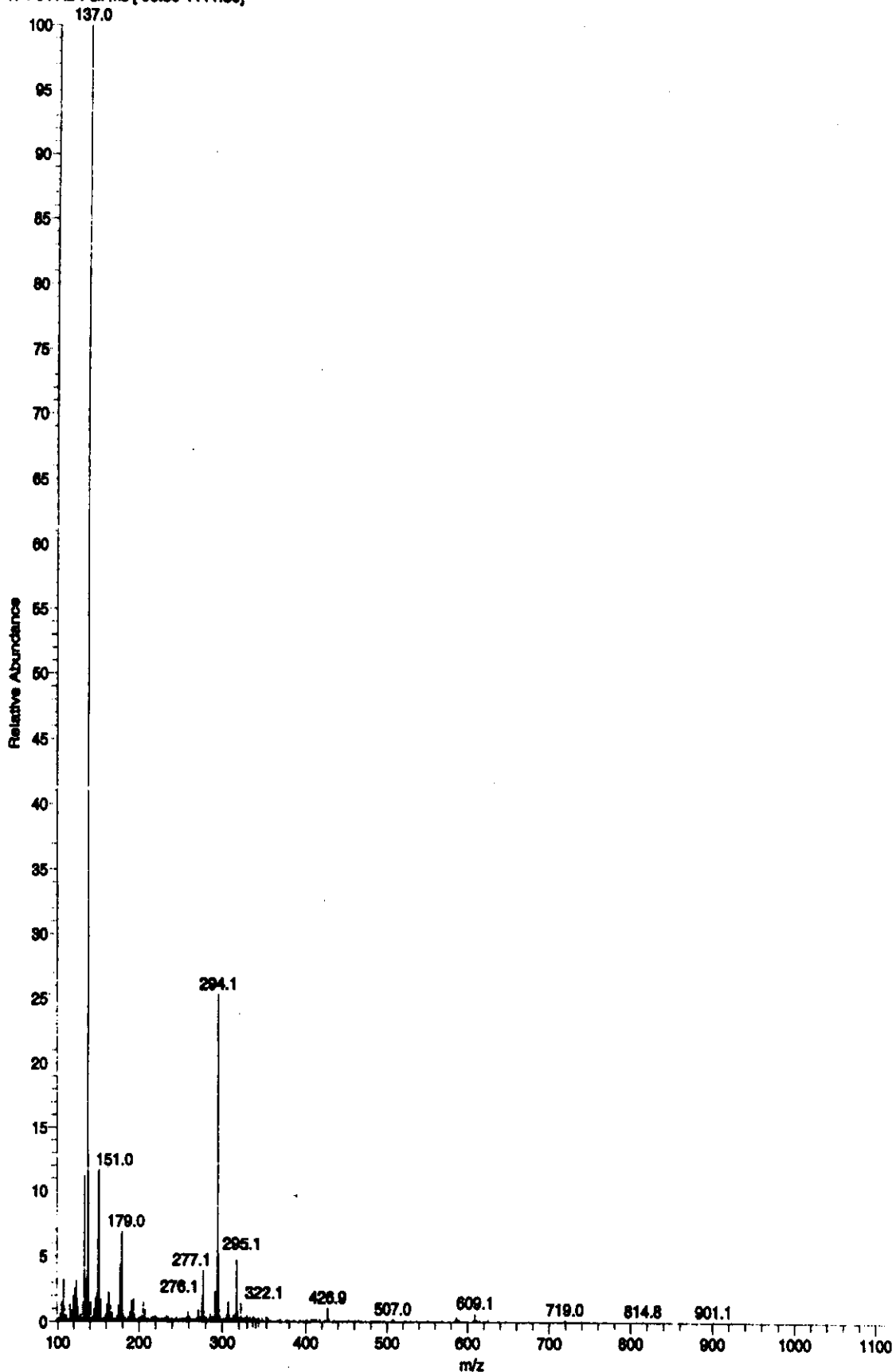


Figure 58 Mass spectrum (FAB) of ZOM3 (6-gingerol)