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ACS Publications

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JEOL

31-OCT-91 19: 48: 34
 DFILE 01NOV1301
 COMNT KAWAKAMI M1-89
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.3 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 26.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 14
 XE 3997.8250 Hz
 XS -162.0593 Hz

KAWAKAMI M1-89

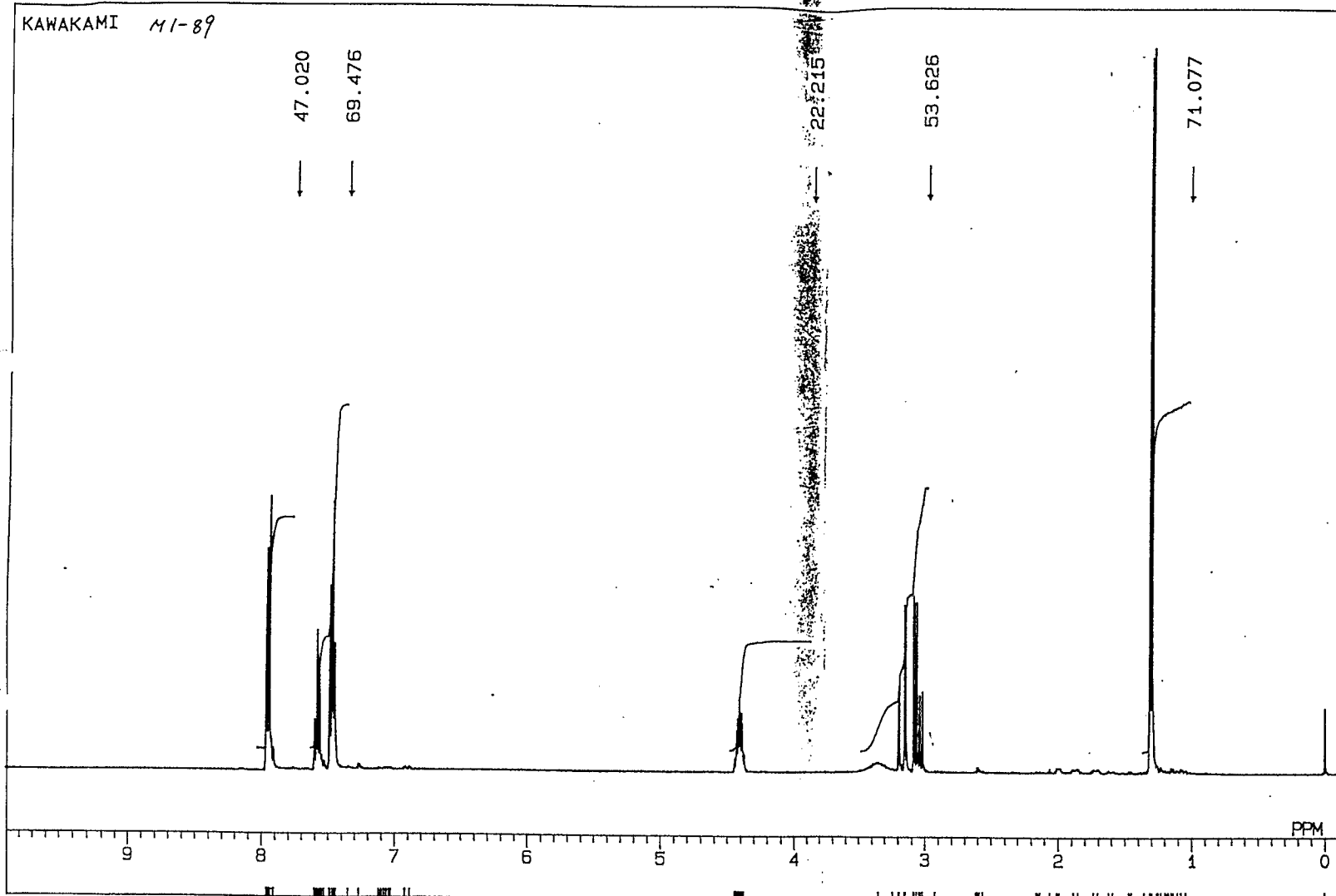
47.020

69.476

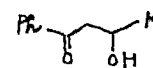
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53.626

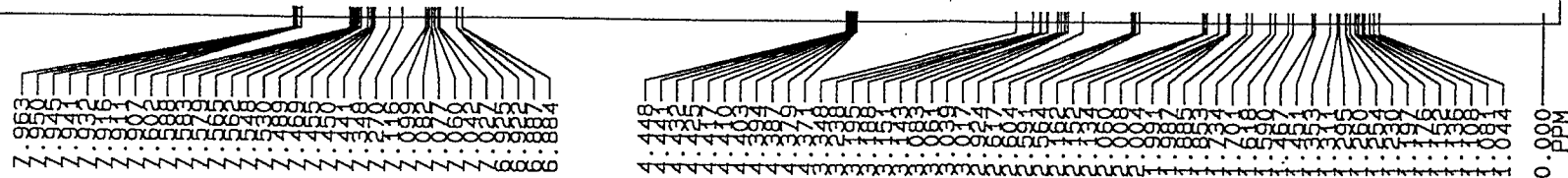
71.077



M1-89



4a

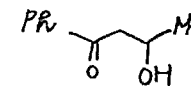


G 07-1

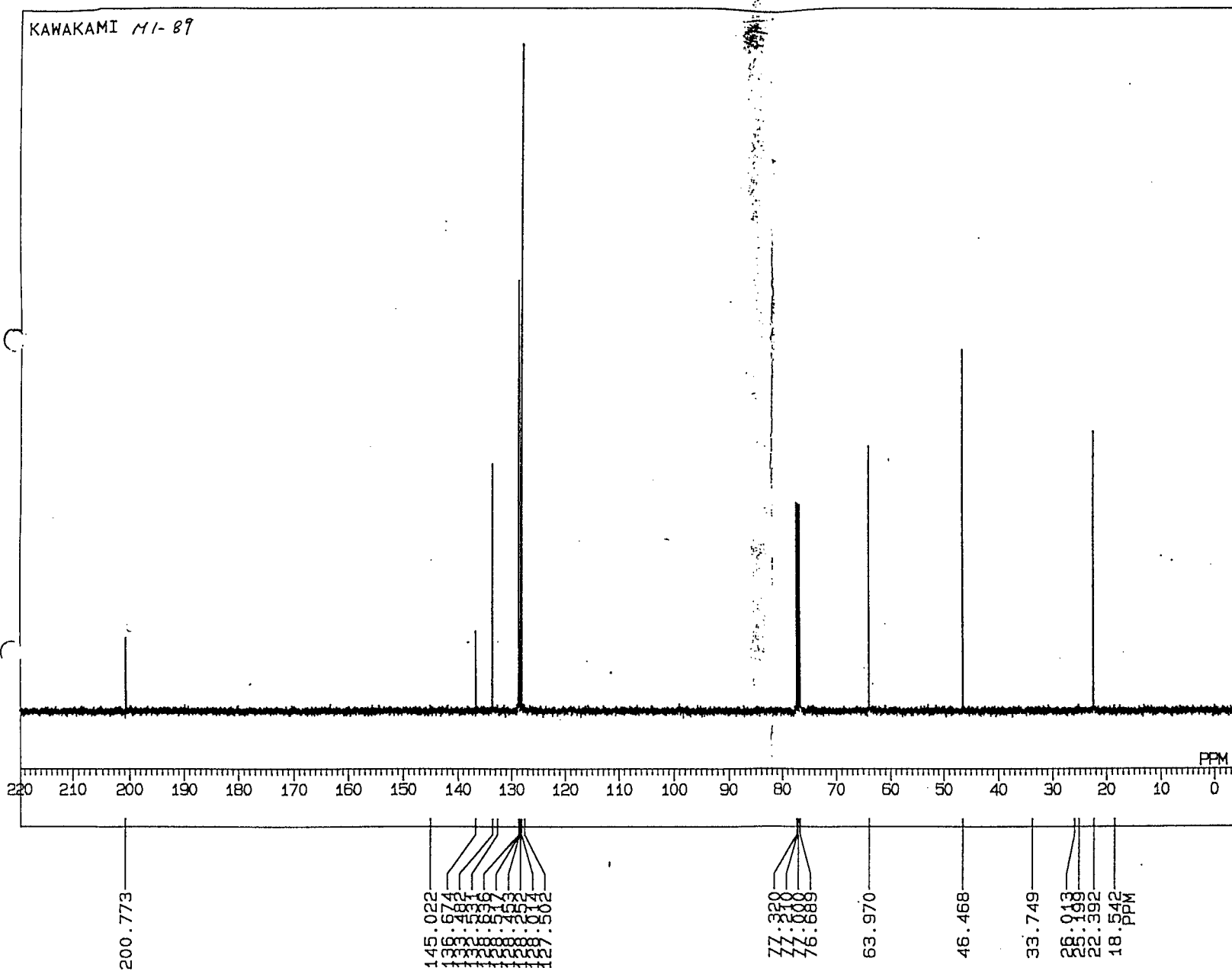
JEOL

31-OCT-91 20:03:51
 DFILE 01NOV1303
 COMNT KAWAKAMI M1-89
 EXMOD SGBCM
 OBNUC 13C
 OBFIN 10244.0 Hz
 POINT 65536
 FREQU 30120.5 Hz
 SCANS 1 / 702
 ACQTM 1.088 sec
 PD 1.912 sec
 PW1 5.0 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 26.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.92 Hz
 RGAIN 18
 XE 22618.2200 Hz
 XS -957.3691 Hz

M1-89



4a

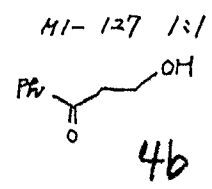
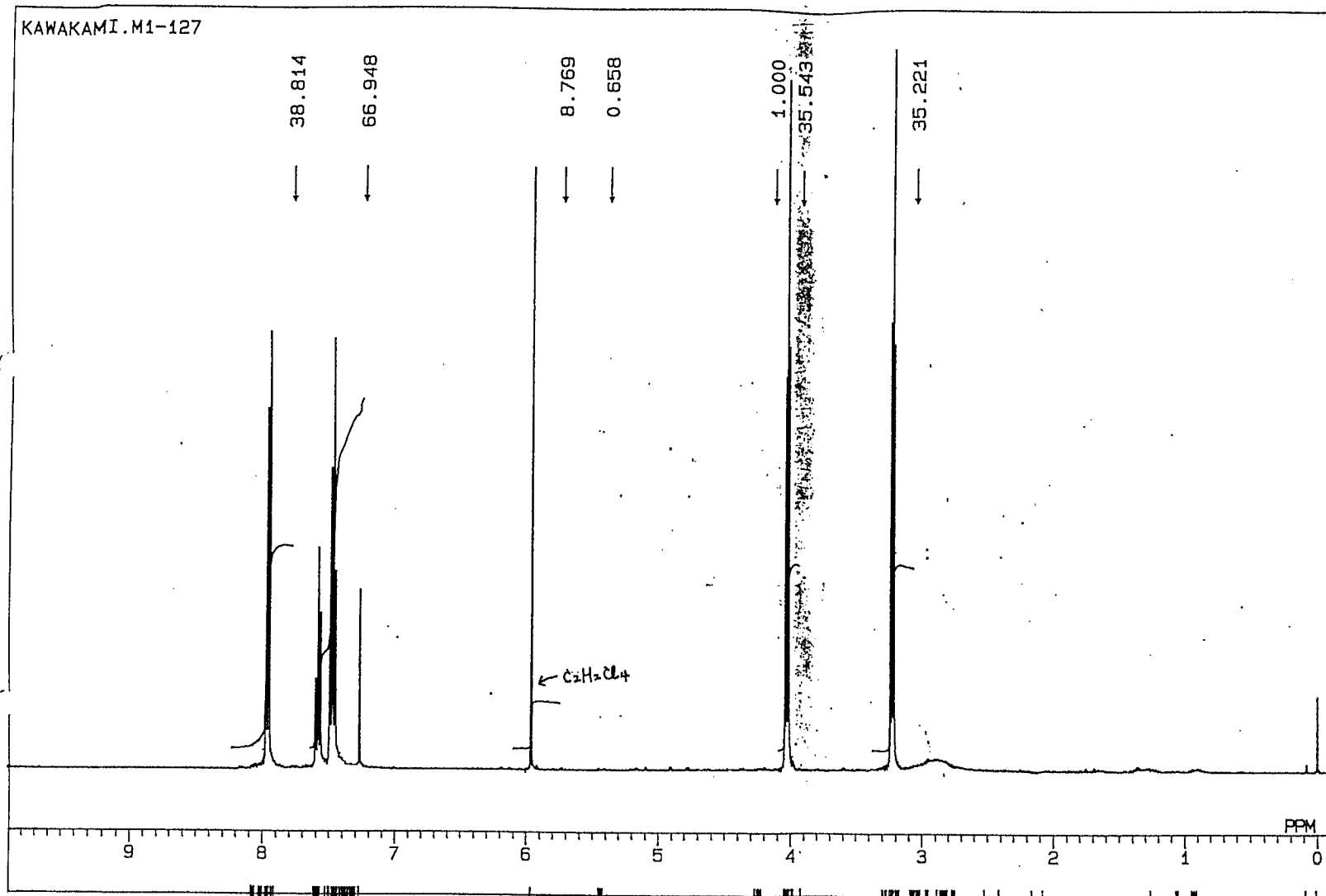


6187-2

7

JEOL

03-DEC-91 18:47:41
 DFILE 03DEC0901
 COMNT KAWAKAMI.M1-127
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.3 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 25.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 13
 XE 3997.8250 Hz
 XS -162.5476 Hz

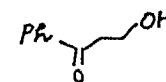


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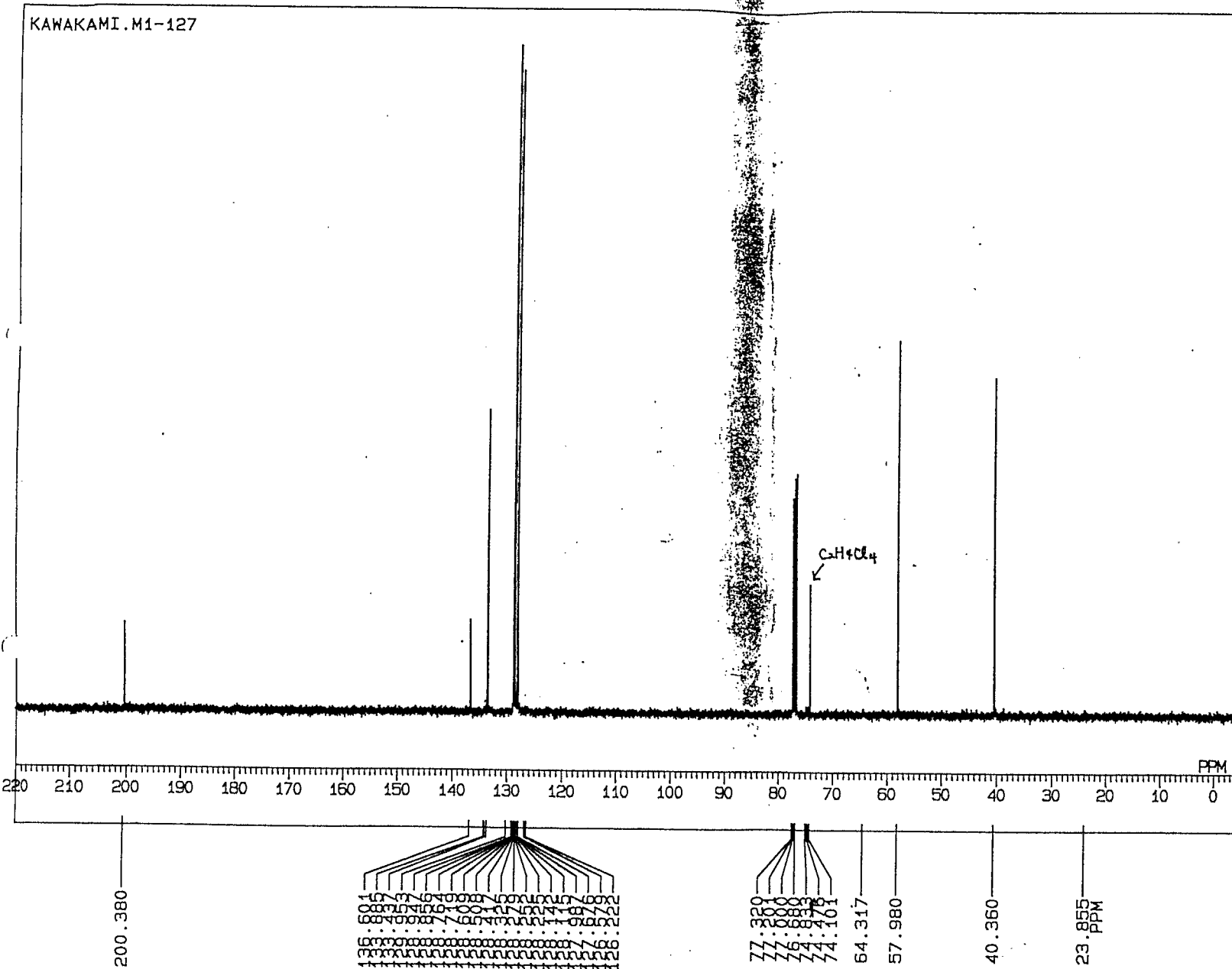
JEOL

04-DEC-91 09: 57: 32
 DFILE 03DEC0903
 COMNT KAWAKAMI.M1-127
 EXMOD SGBCM
 OBNUC 13C
 OBFIN 10244.0 Hz
 POINT 65536
 FREQU 30120.5 Hz
 SCANS 4160
 ACQTM 1.088 sec
 PD 1.912 sec
 PW1 5.0 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 26.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.92 Hz
 RGAIN 18
 XE 22618.2200 Hz
 XS -960.1270 Hz

M1-127



4b



587-4

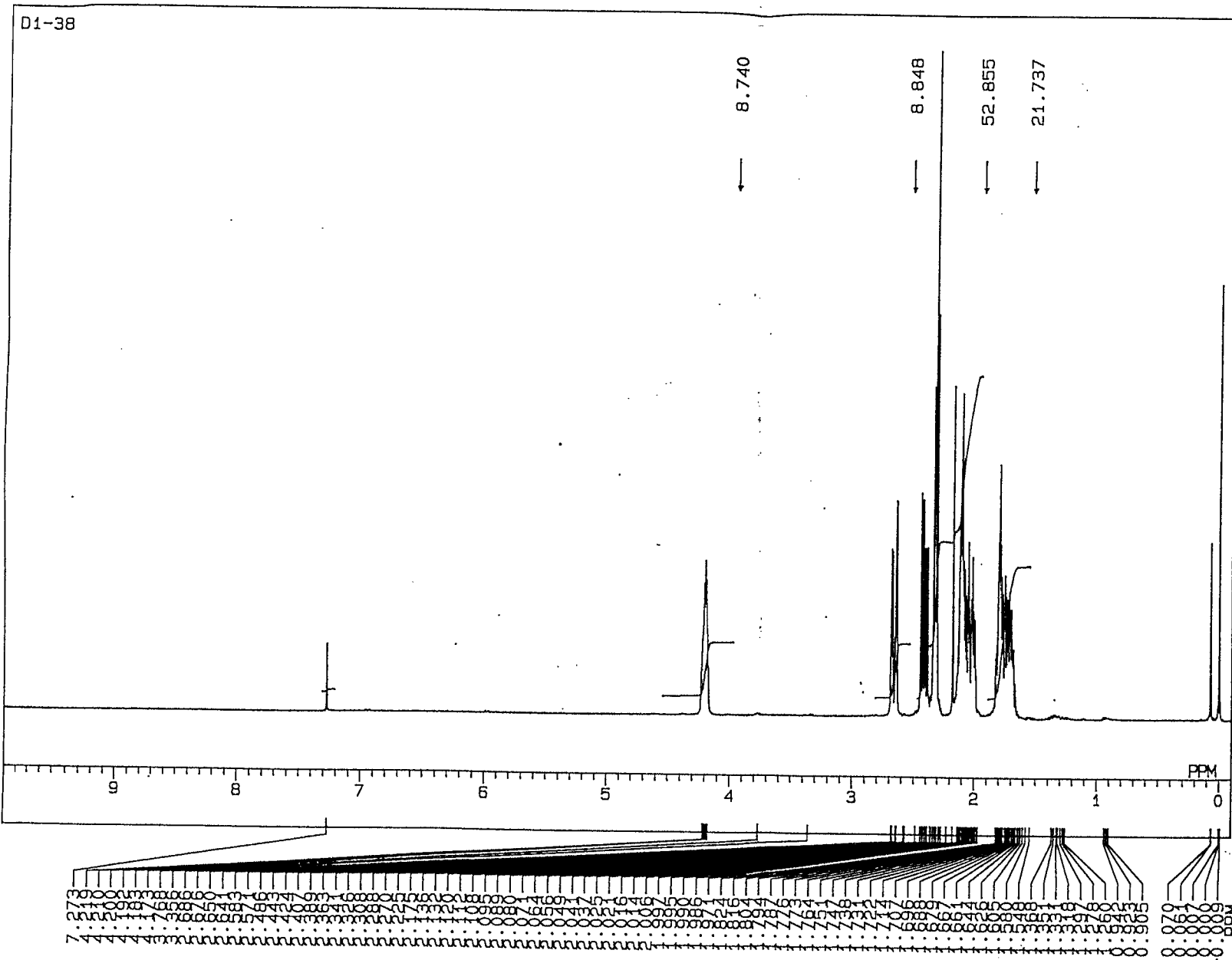
JEOL

17-MAY-93 13: 35: 40
 DFILE 17MAY0301
 COMNT D1-38
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.5 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 15
 XE 3997.8250 Hz
 XS -160.5945 Hz

D1-38



4c

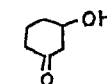


6787-5

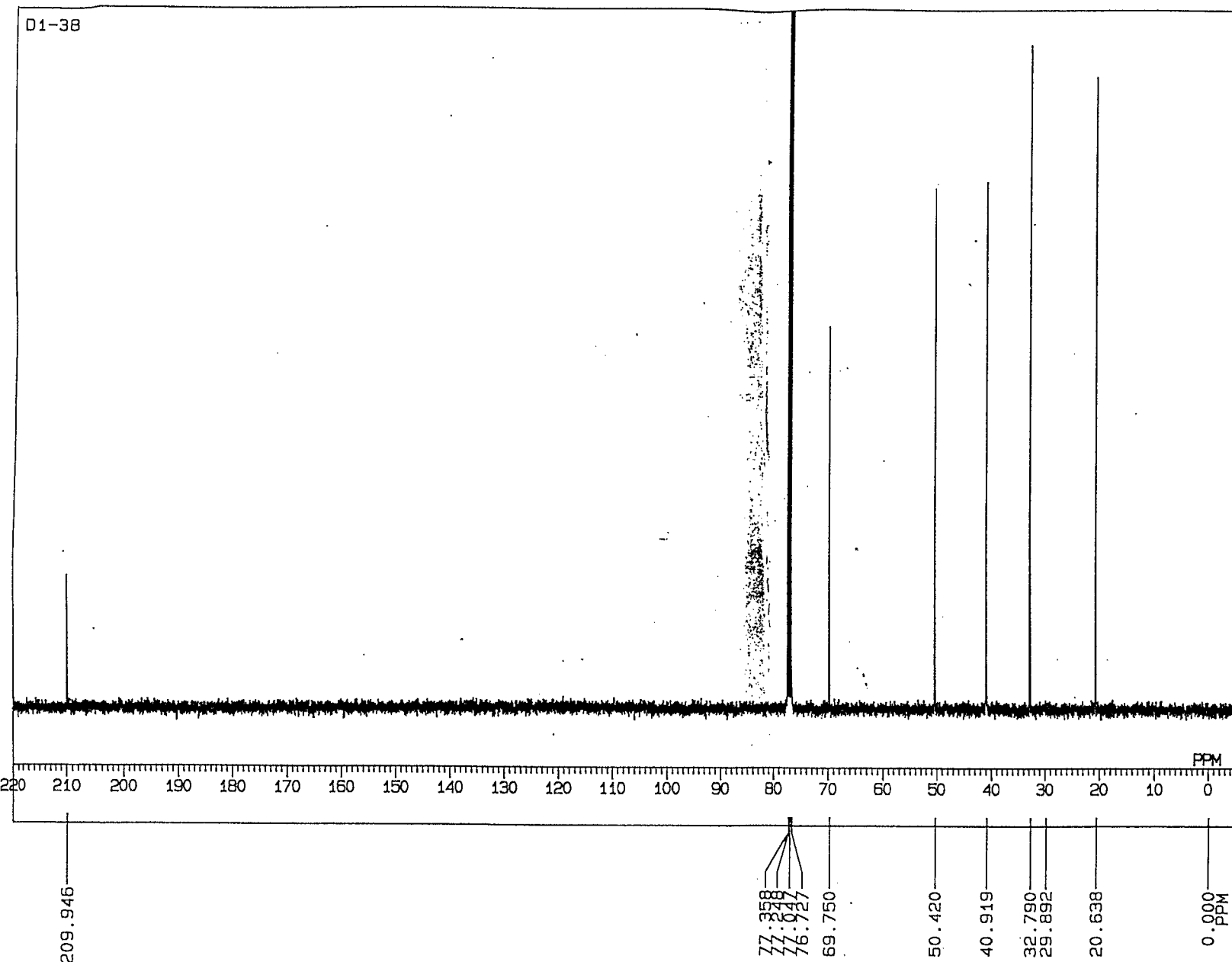
JEOL

17-MAY-93 13: 50: 47
DFILE 17MAY0303
COMNT D1-38
EXMOD SGBCM
OBNUC 13C
OBFIN 10244.0 Hz
POINT 65536
FREQU 30120.5 Hz
SCANS 1128
ACQTM 1.088 sec
PD 1.912 sec
PW1 5.2 us
IRFIN 10300.0 Hz
IRATN 25
IRRPW 65 us
TEMP. 27.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.92 Hz
RGAIN 28
XE 22618.2100 Hz
XS -951.6914 Hz

D1-38



4c

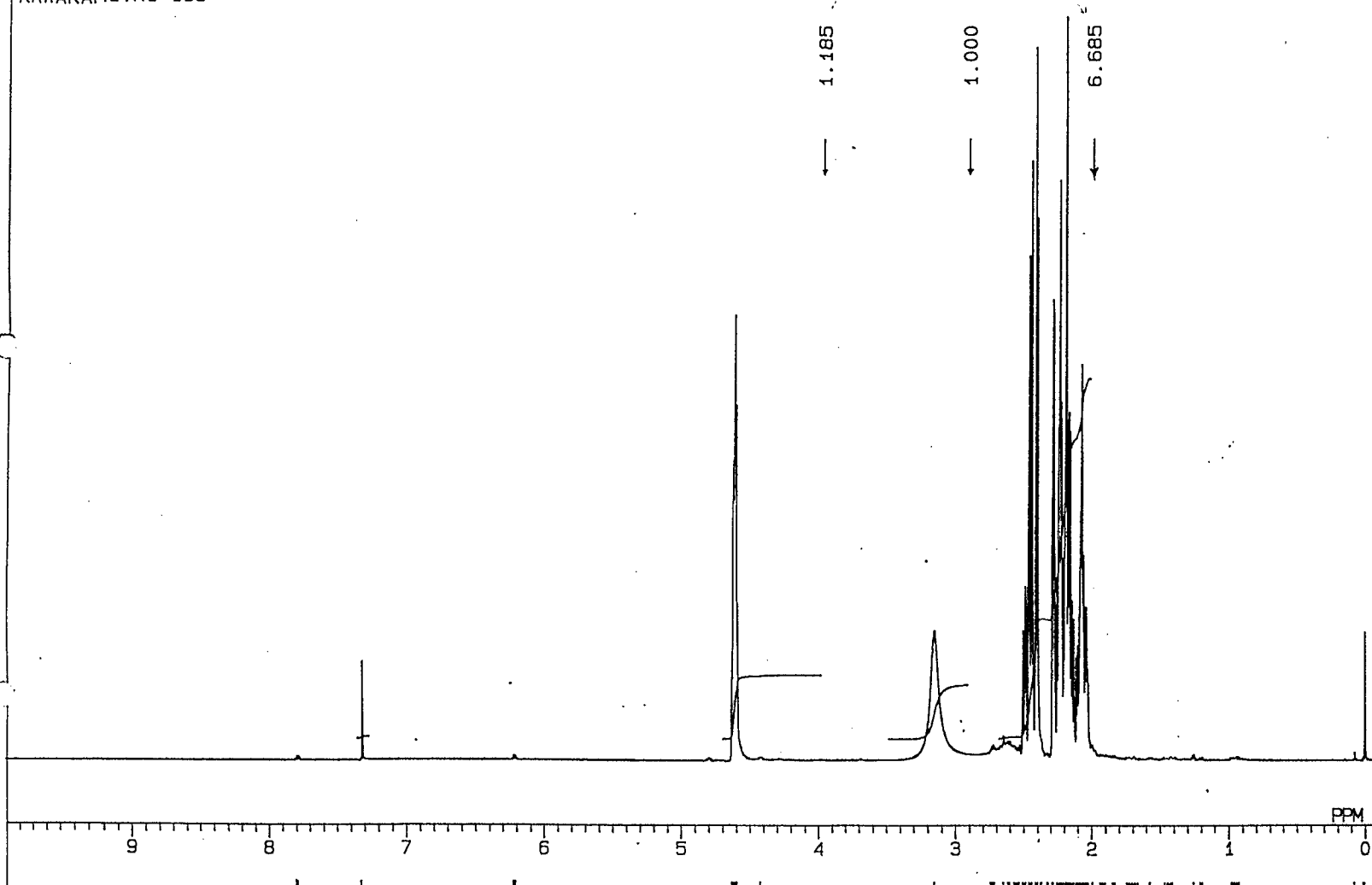


4-07-10

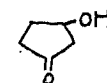
KAWAKAMI.M1-185

JEOL

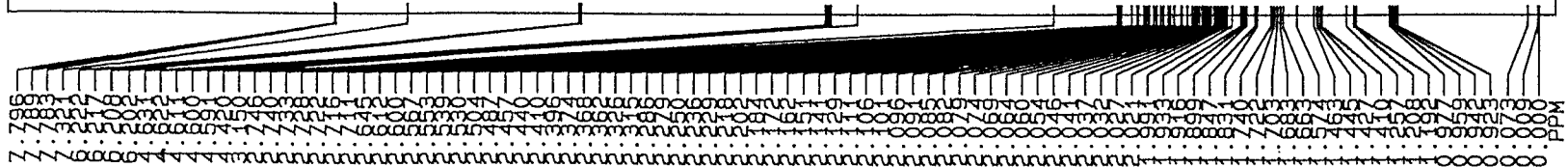
25-FEB-92 15:50:25
 DFILE 24FEB2401
 COMNT KAWAKAMI.M1-185
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.3 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 26.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 10
 XE 3997.8240 Hz
 XS -141.5513 Hz



M1-185



4d



6487-7
 7

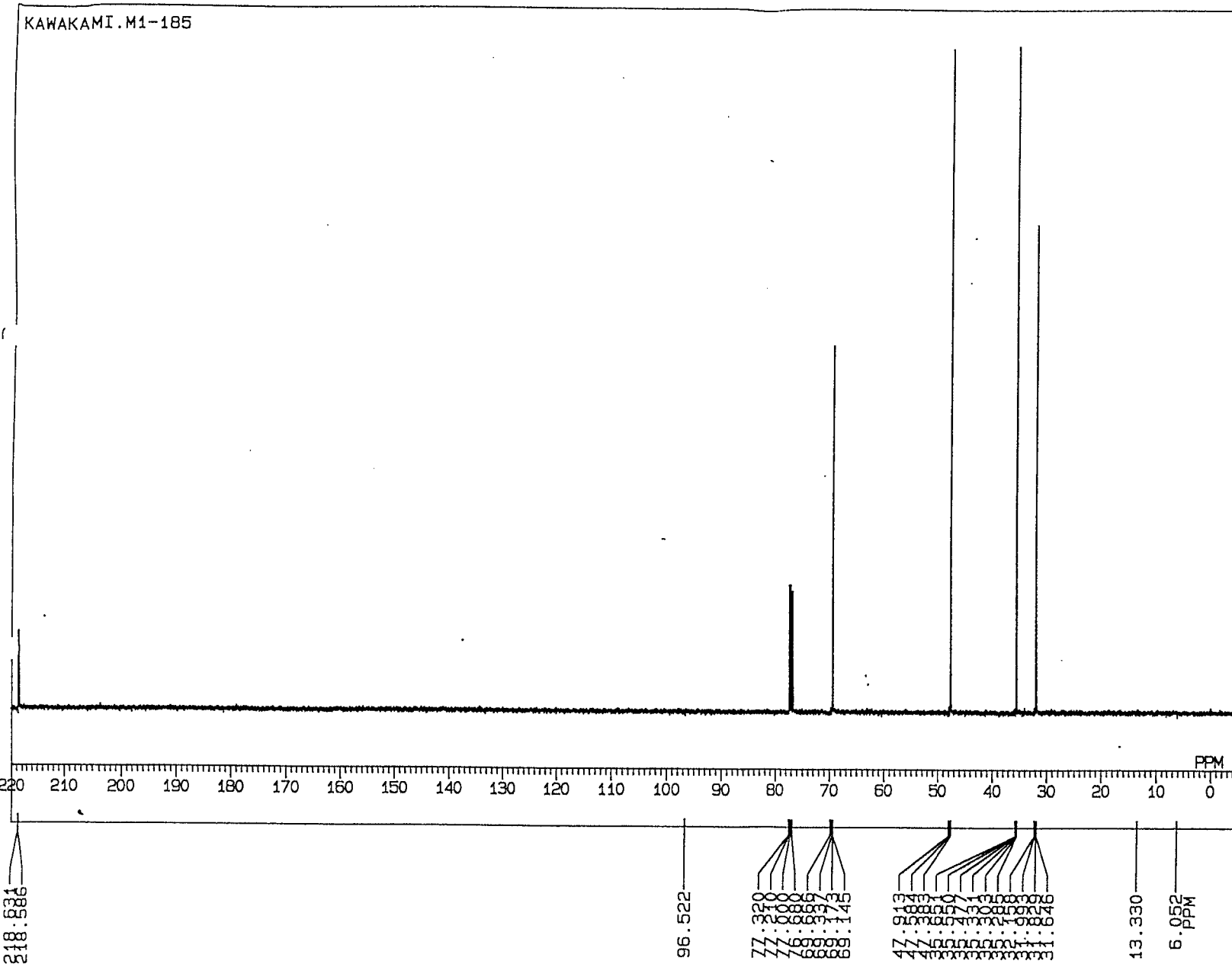
JEOL

25-FEB-92 16:06:11
DFILE 24FEB2403
COMNT KAWAKAMI.M1-185
EXMOD SGBCM
OBNUC 13C
OBFIN 10244.0 Hz
POINT 65536
FREQU 30120.5 Hz
SCANS 176
ACQTM 1.088 sec
PD 1.912 sec
PW1 5.0 us
IRFIN 10300.0 Hz
IRATN 20
IRRPW 50 us
TEMP. 26.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.92 Hz
RGAIN 28
XE 22618.2200 Hz
XS -962.8848 Hz

M1-185



4d



218.813

96.522

77.000
77.000
73.000
73.000

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47.000
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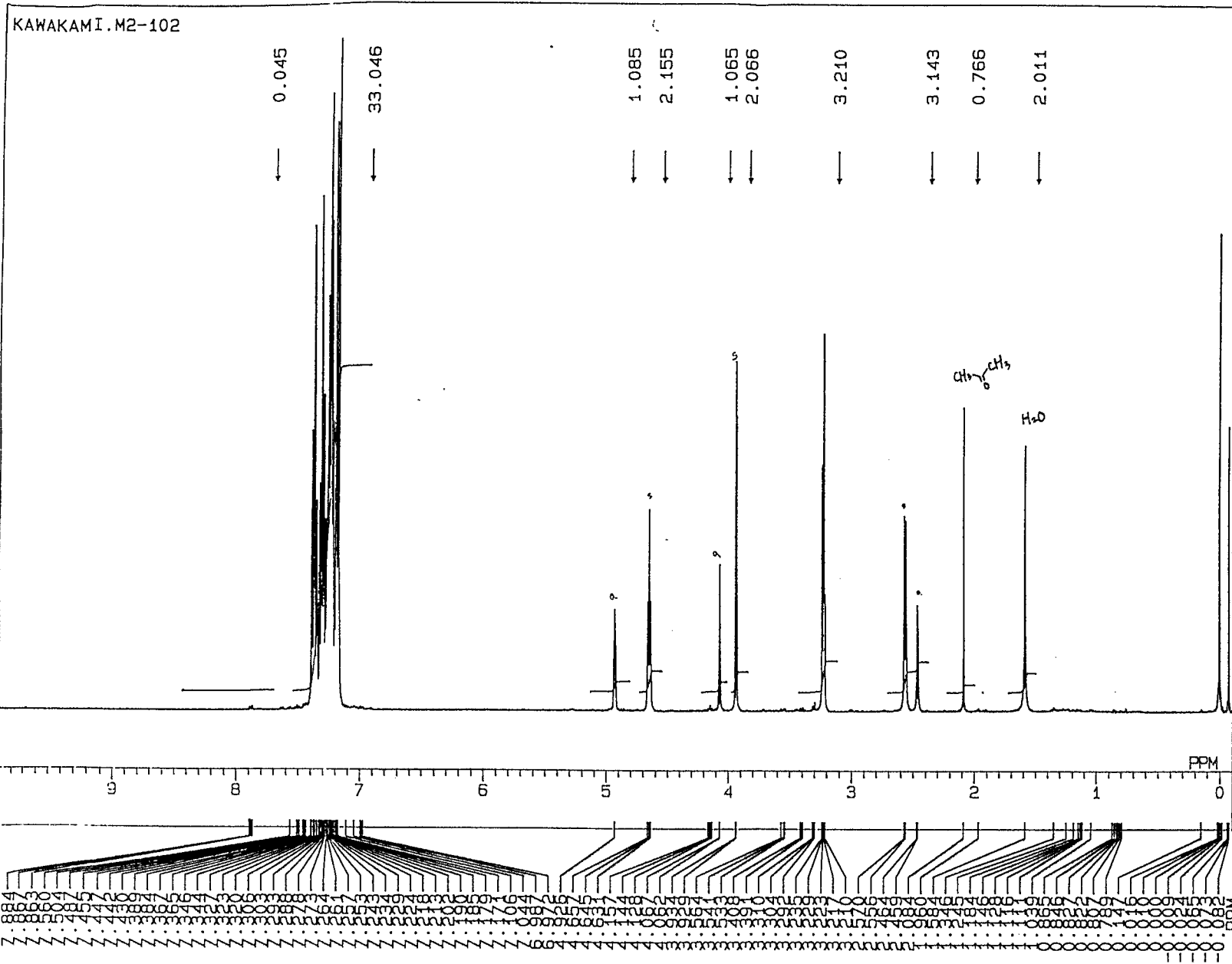
13.330

6.052 PPM

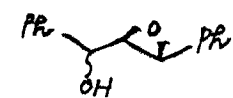
6187-5

JEOL

14-SEP-92 15: 47: 46
 DFILE 14SEP1101
 COMNT KAWAKAMI.M2-102
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.3 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 16
 XE 3997.8250 Hz
 XS -201.6105 Hz



M2-102



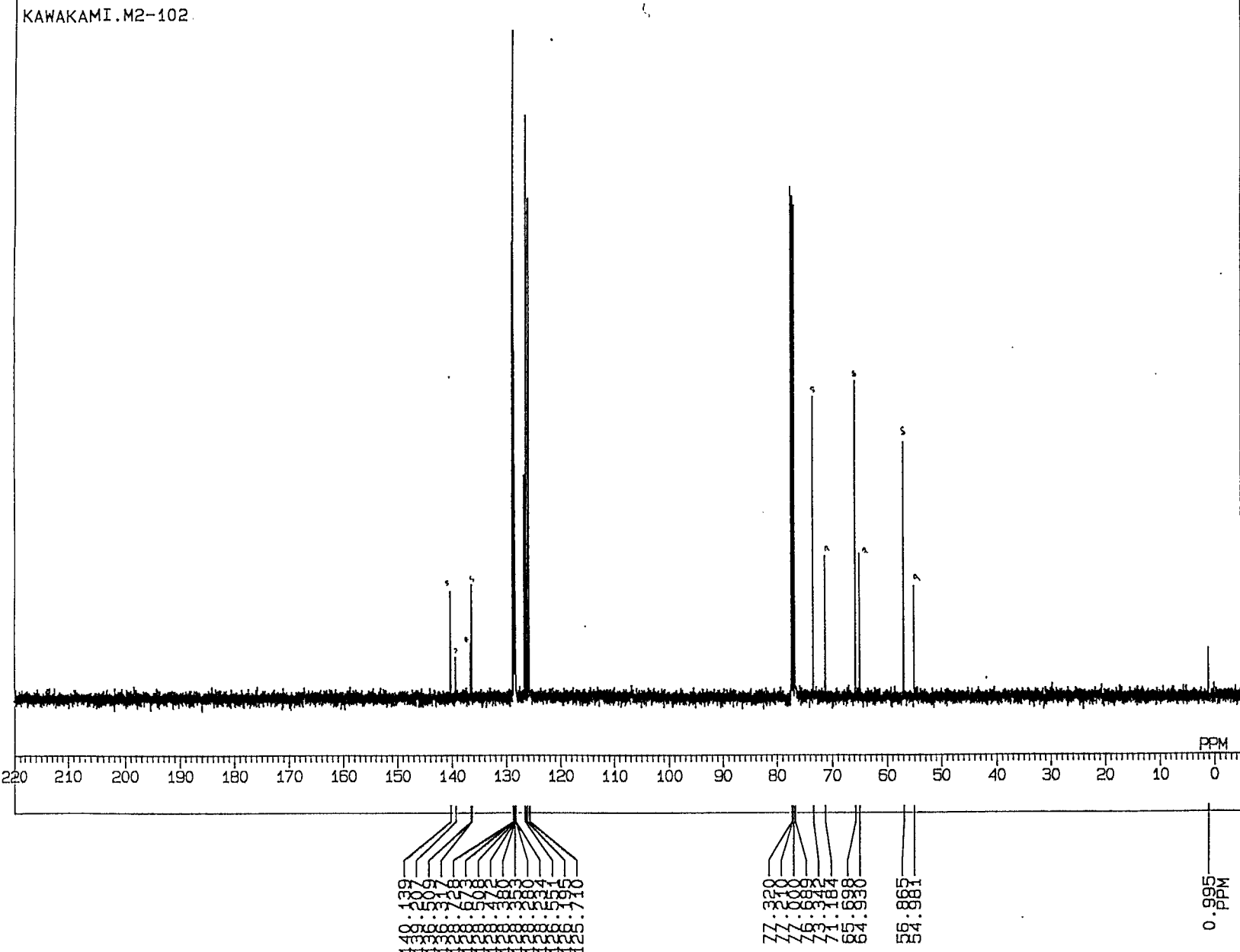
mixture

2e + 3e

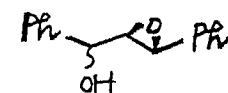
5787-9

JEOL

14-SEP-92 16:09:18
 DFILE 14SEP1103
 COMNT KAWAKAMI.M2-102
 EXMOD SGBCM
 OBNUC 13C
 OBFIN 10244.0 Hz
 POINT 65536
 FREQU 30120.5 Hz
 SCANS 301
 ACQTM 1.088 sec
 PD 1.912 sec
 PW1 5.0 us
 IRFIN 10300.0 Hz
 IRATN 20
 IRRPW 60 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.92 Hz
 RGAIN 28
 XE 22618.2100 Hz
 XS -956.4512 Hz



M2-102



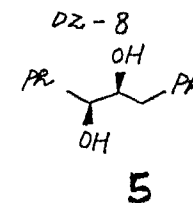
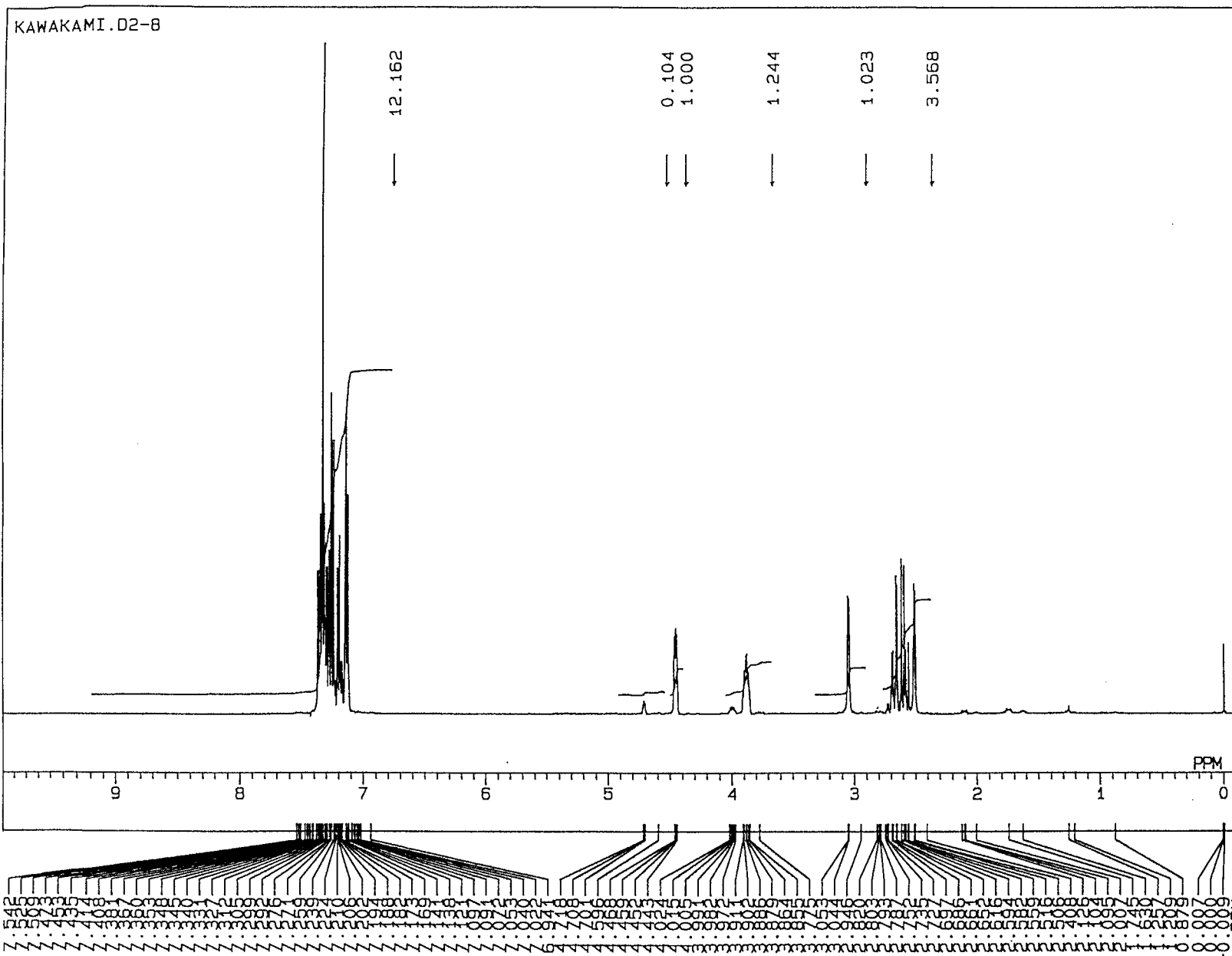
mixture

2c + 3c

4
97-10

JEOL

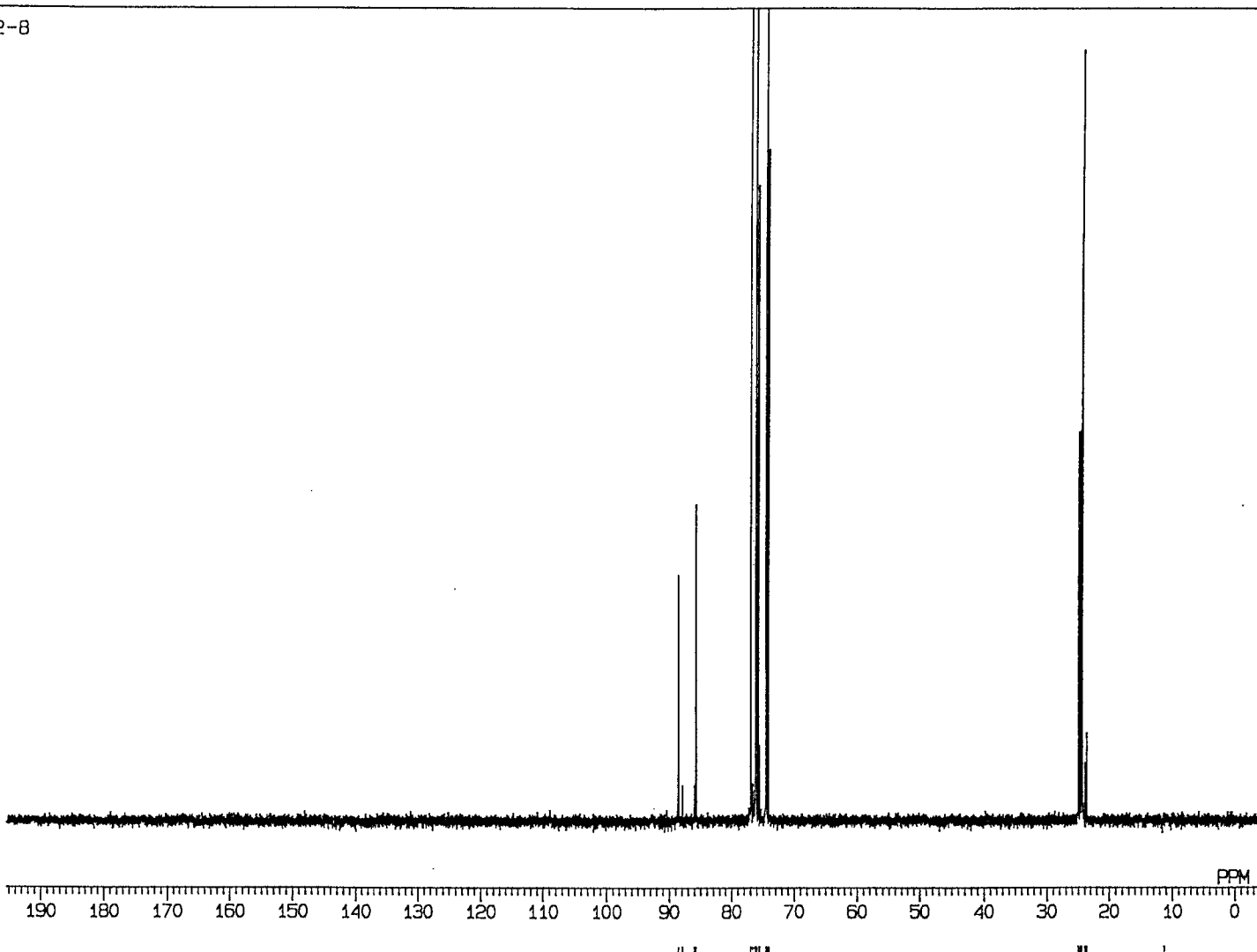
09-MAR-94 14: 12: 58
 DFIL 09MAY0101
 COMNT KAWAKAMI.D2-8
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.7 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 10
 XE 3997.8250 Hz
 XS -180.6144 Hz



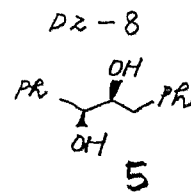
G-87-11

JEOL

09-MAR-94 14: 29: 27
 DFILE 09MAY0103
 COMNT KAWAKAMI.D2-8
 EXMOD SGBCM
 OBNUC 13C
 OBFIN 10244.0 Hz
 POINT 65536
 FREQU 30120.5 Hz
 SCANS 168
 ACQTM 1.088 sec
 PD 1.912 sec
 PW1 5.2 us
 IRFIN 10300.0 Hz
 IRATN 12
 IRRPW 50 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.92 Hz
 RGAIN 26
 XE 22619.4000 Hz
 XS -6219.0570 Hz



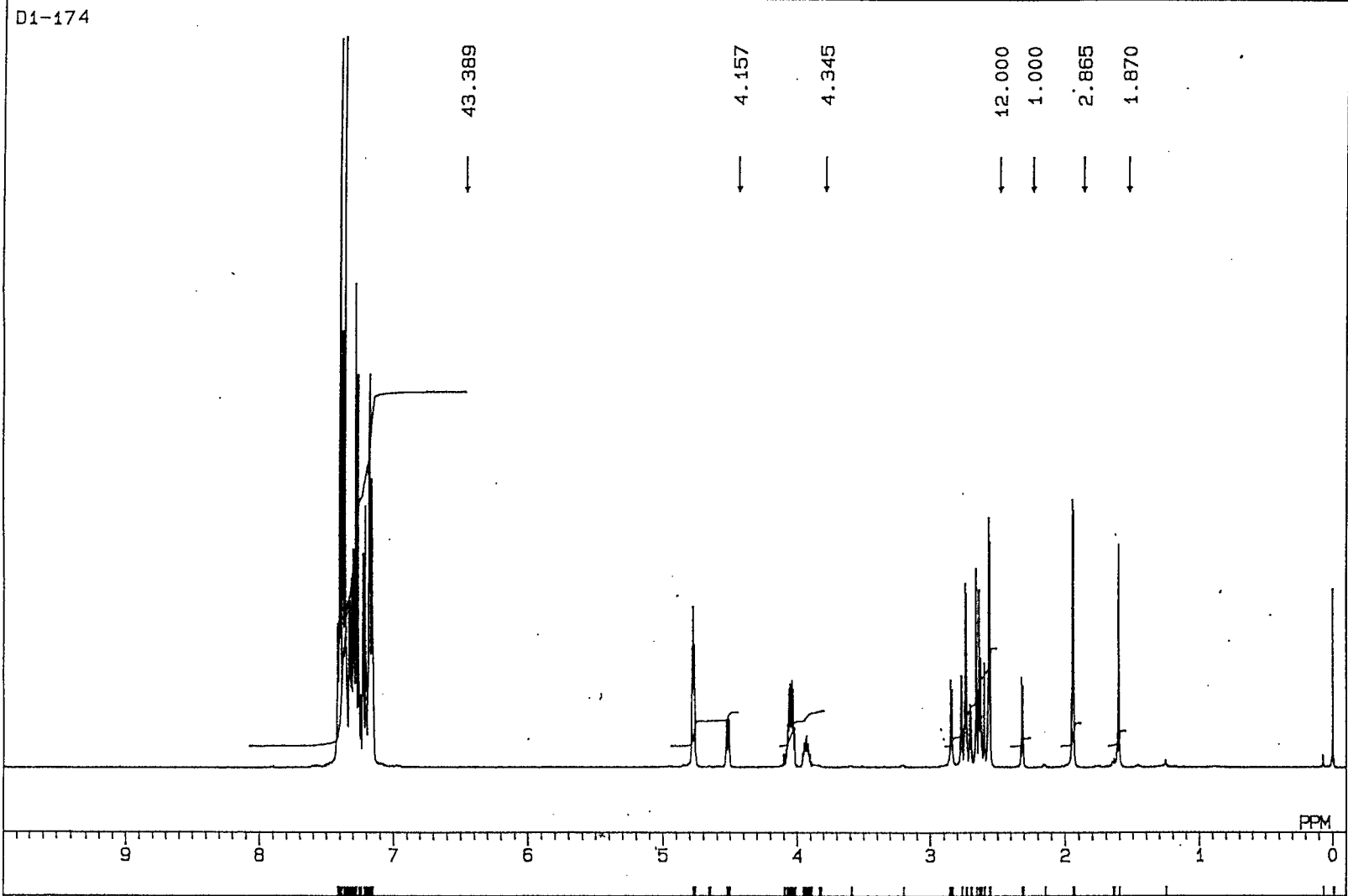
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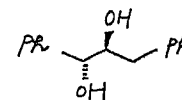
6
 87-12

JEOL

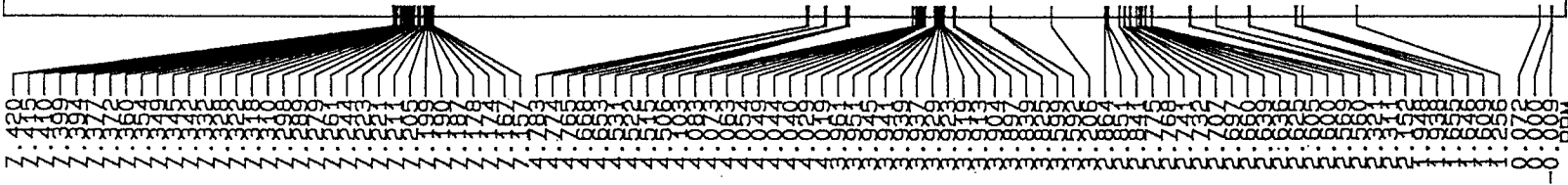
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 COMNT D1-174
 EXMOD SGNON
 OBNUC 1H
 OBFIN 10300.0 Hz
 POINT 32768
 FREQU 8000.0 Hz
 SCANS 16
 ACQTM 2.048 sec
 PD 4.000 sec
 PW1 7.7 us
 IRFIN 10300.0 Hz
 IRATN 15
 IRRPW 60 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.24 Hz
 RGAIN 13
 XE 3997.8250 Hz
 XS -172.3132 Hz



D1-174



6

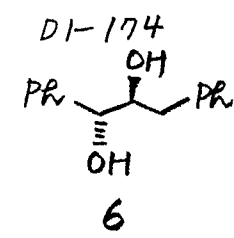
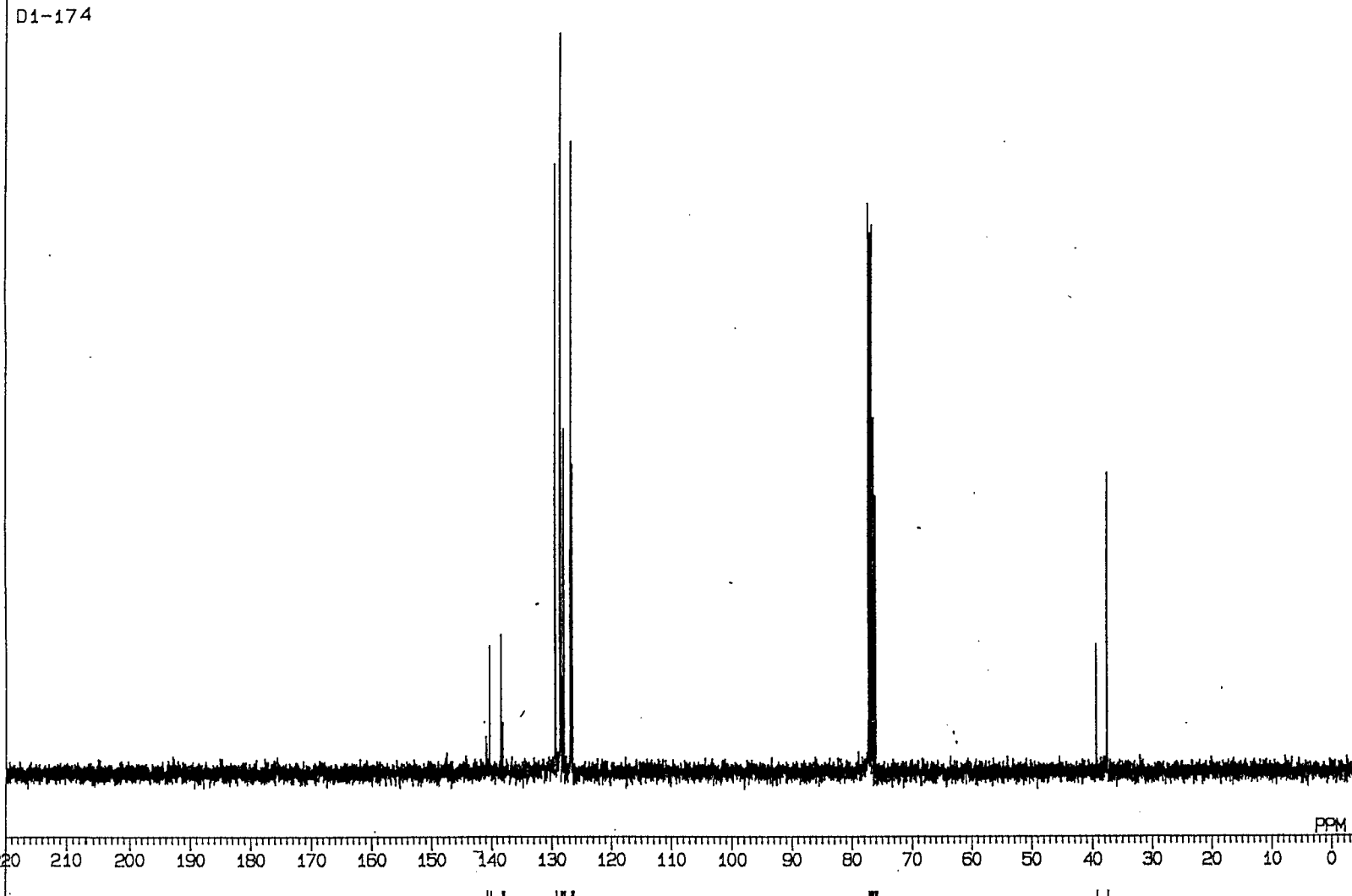


687-13

G187-14

JEOL

15-DEC-93 00: 28: 03
 DFILE 14DEC1403
 COMNT D1-174
 EXMOD SGBCM
 OBNUC 13C
 OBFIN 10244.0 Hz
 POINT 65536
 FREQU 30120.5 Hz
 SCANS 173
 ACQTM 1.088 sec
 PD 1.912 sec
 PW1 5.2 us
 IRFIN 10300.0 Hz
 IRATN 12
 IRRPW 50 us
 TEMP. 27.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.92 Hz
 RGAIN 26
 XE 22618.2100 Hz
 XS -956.4512 Hz



Integration curve for the 140-150 ppm region.

Integration curve for the 35-45 ppm region.

Integration curve for the 60-70 ppm region.