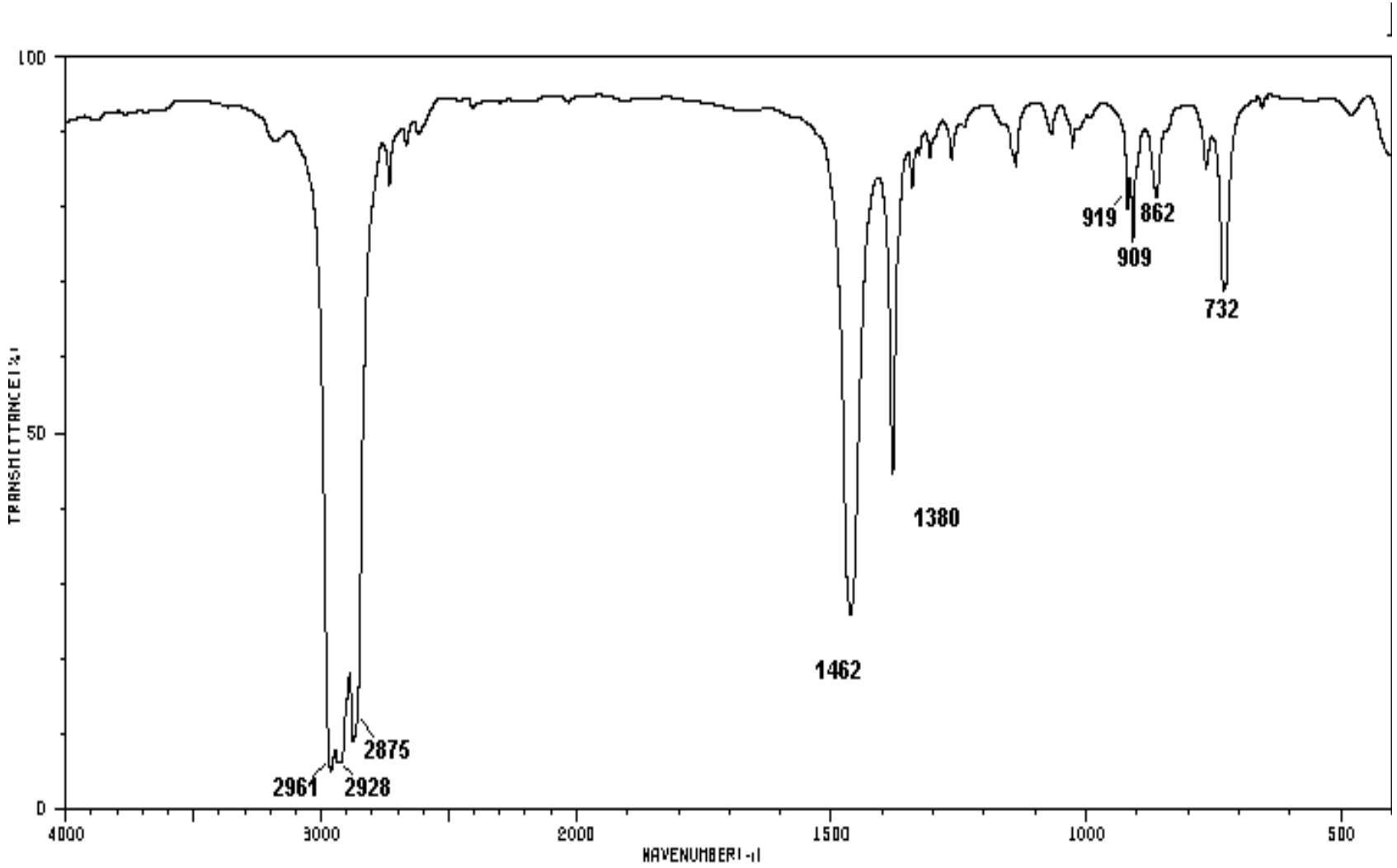
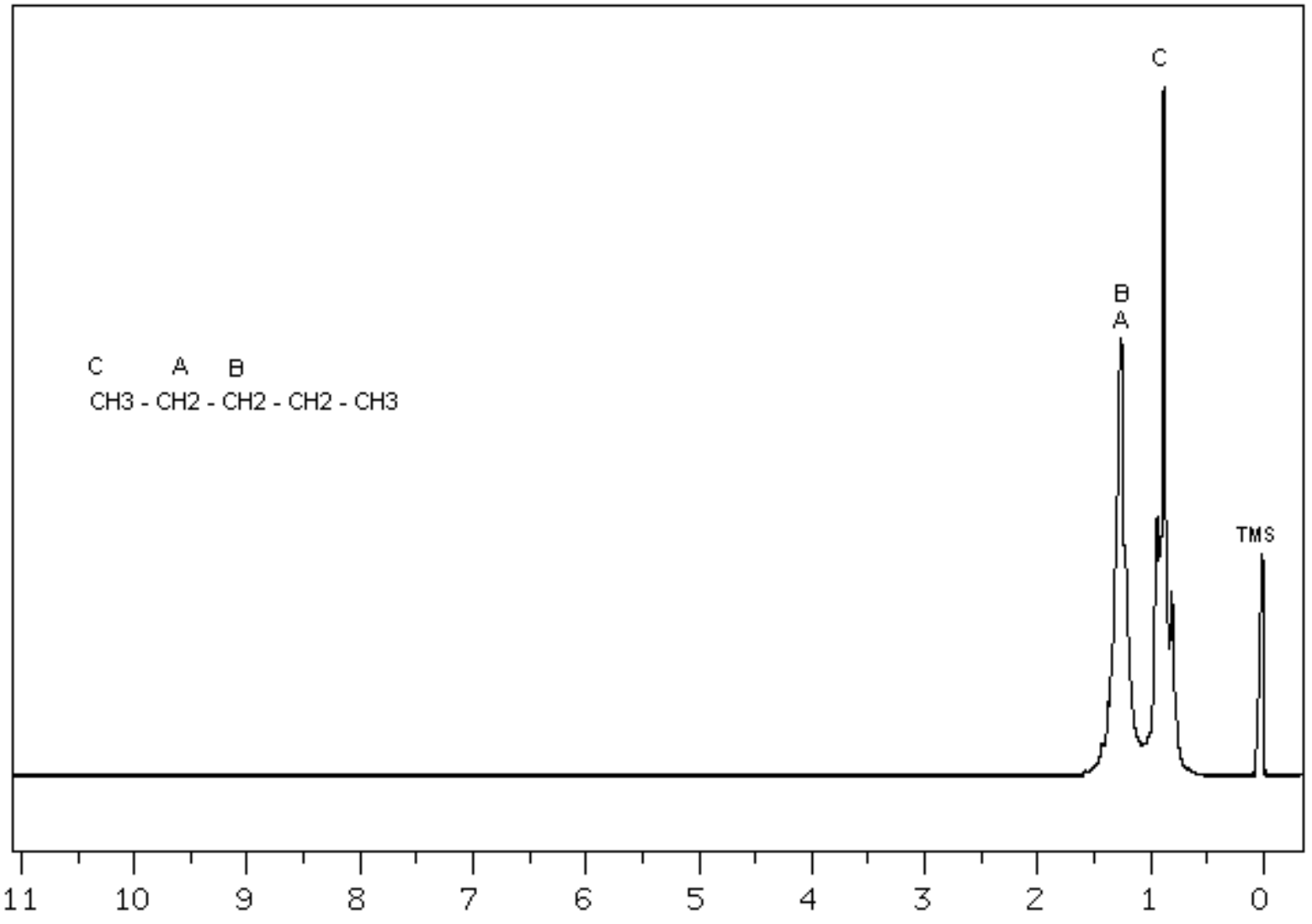
ESPECTROS DE IR RM^{1}H Y EM

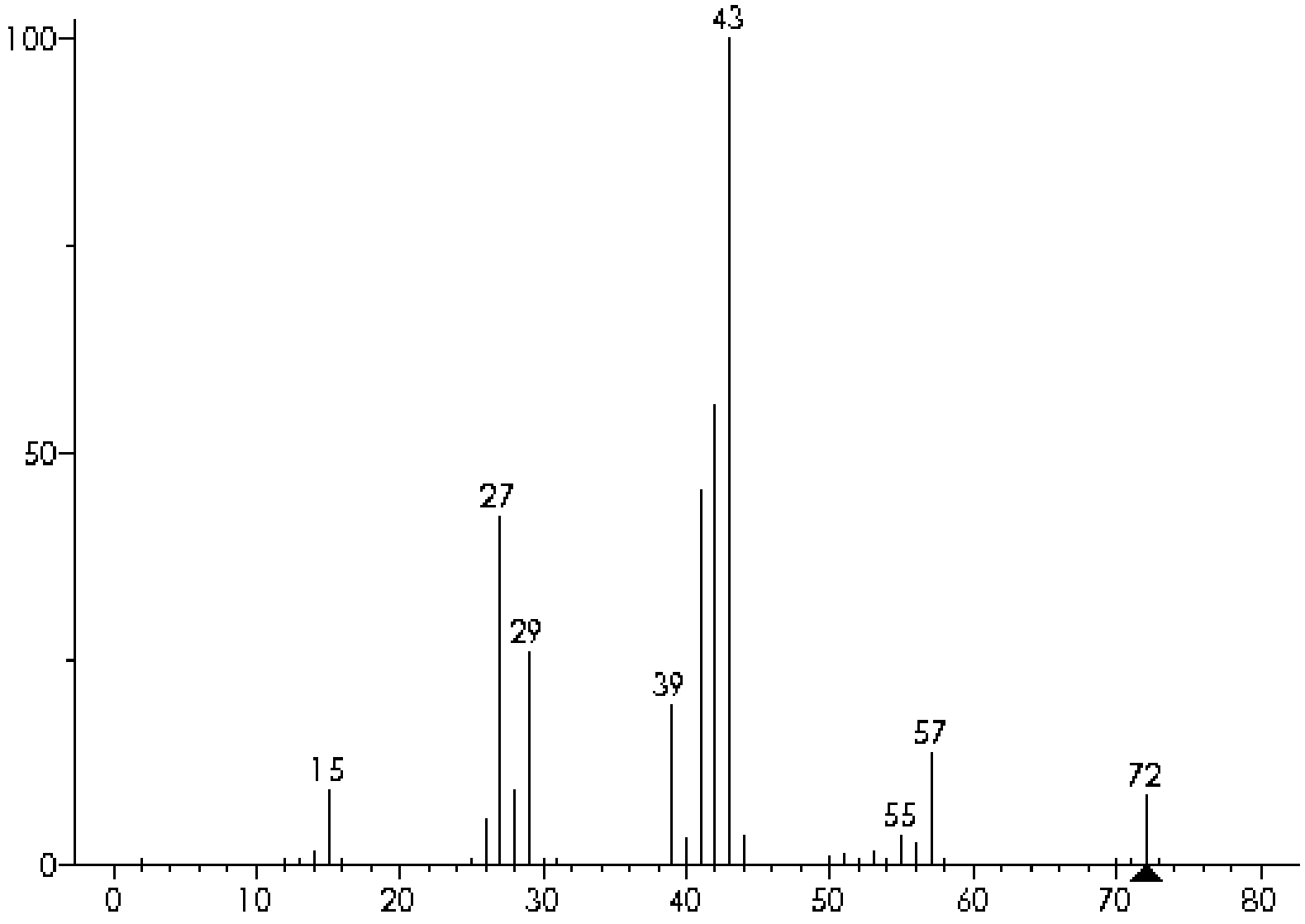
ANALÍTICA EXPERIMENTAL II

Profa. Silvia Mendoza Arellano

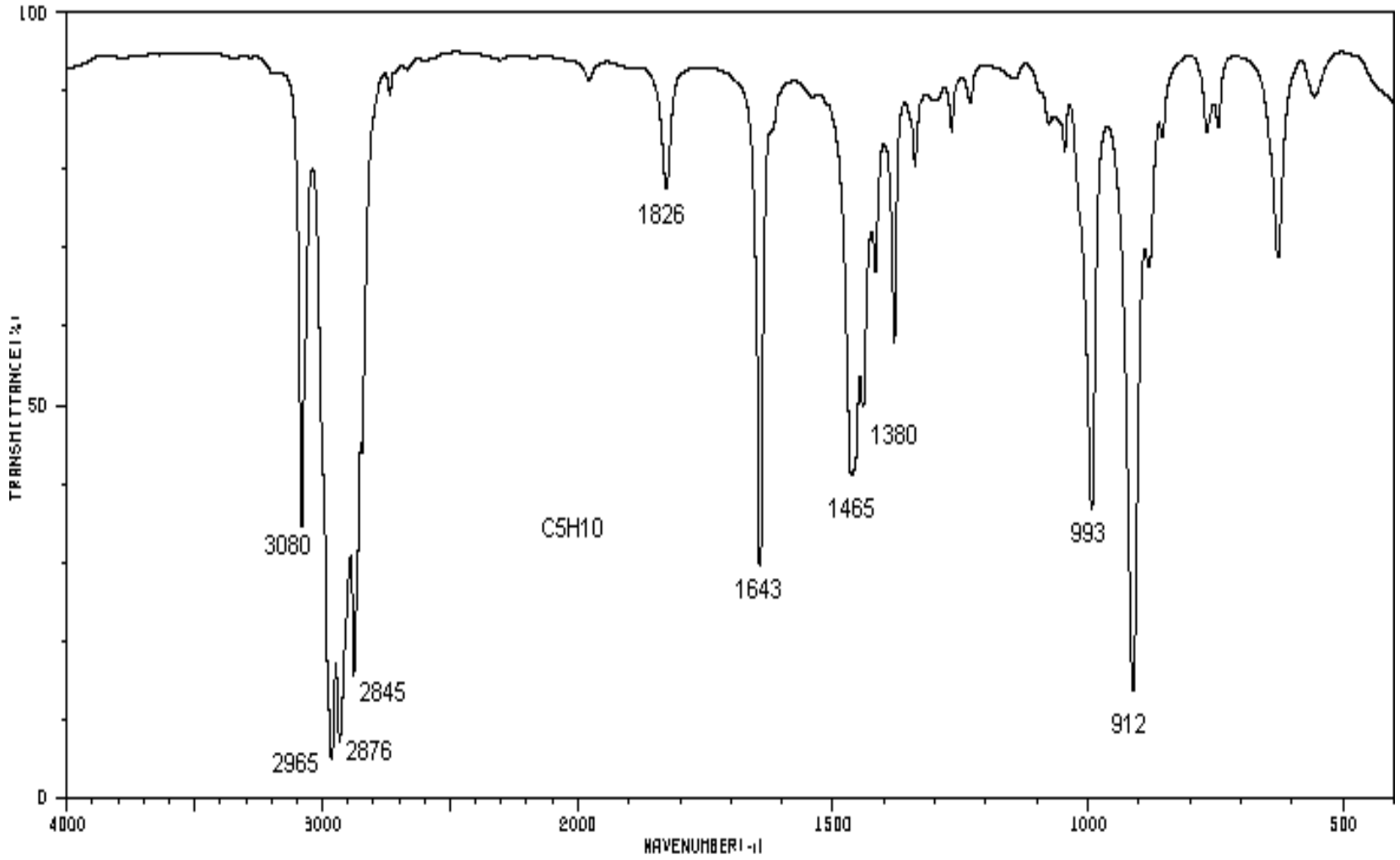
PENTANO


100
50
0
TRANSMITTANCE[%]
4000
3000
2000
1500
1000
500
WAVENUMBER[-1]
2961
2928
2875
1462
1380
919
909
862
732


C
B
A
C
A
B
CH3 - CH2 - CH2 - CH2 - CH3
TMS
11
10
9
8
7
6
5
4
3
2
1
0


100
50
0
43
27
29
39
15
57
55
72
0
10
20
30
40
50
60
70
80

1-PENTENO


100
50
0
TRANSMITTANCE[%]
4000
3000
2000
1500
1000
500
WAVENUMBER[-1]
C5H10
3080
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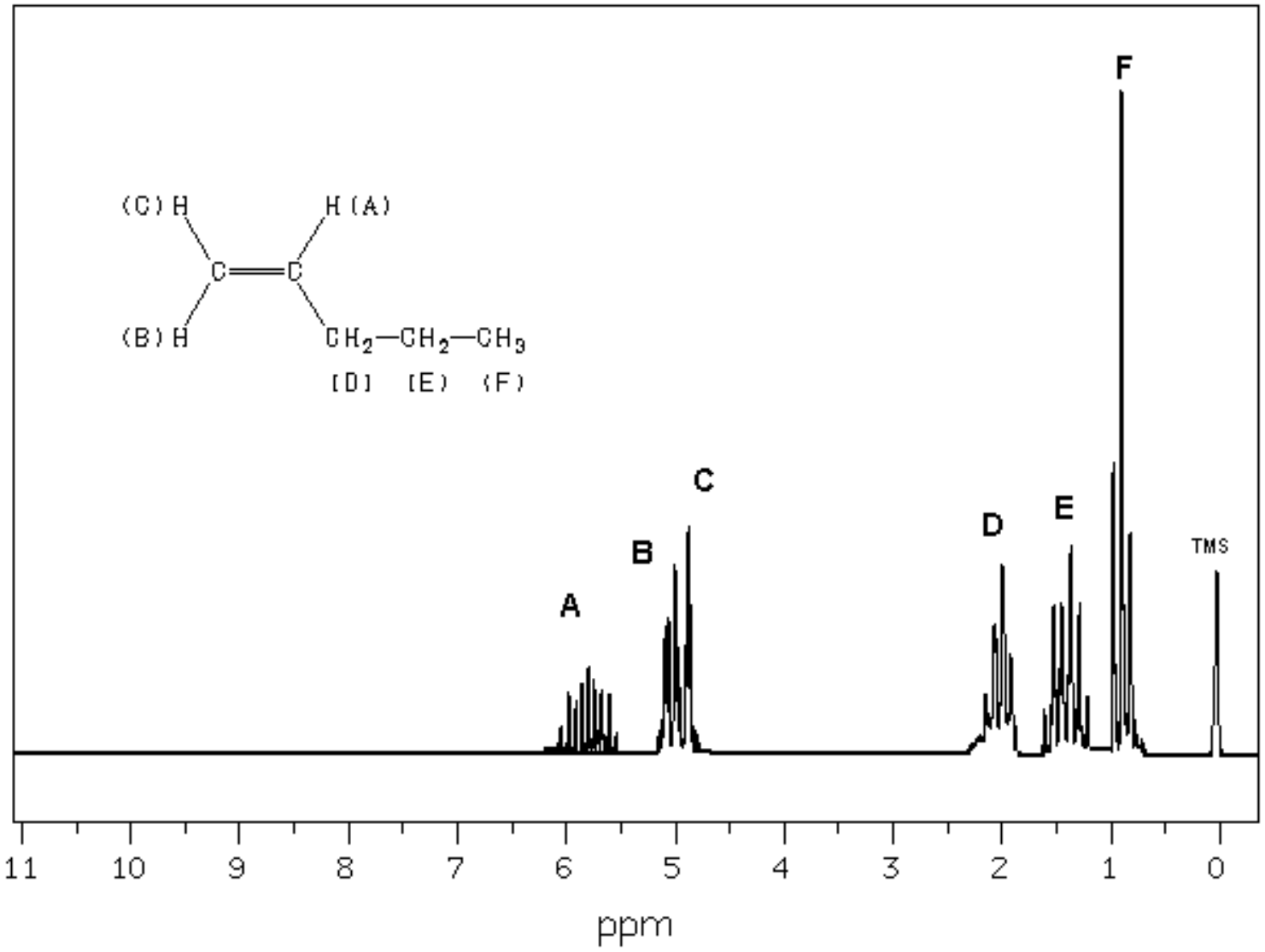
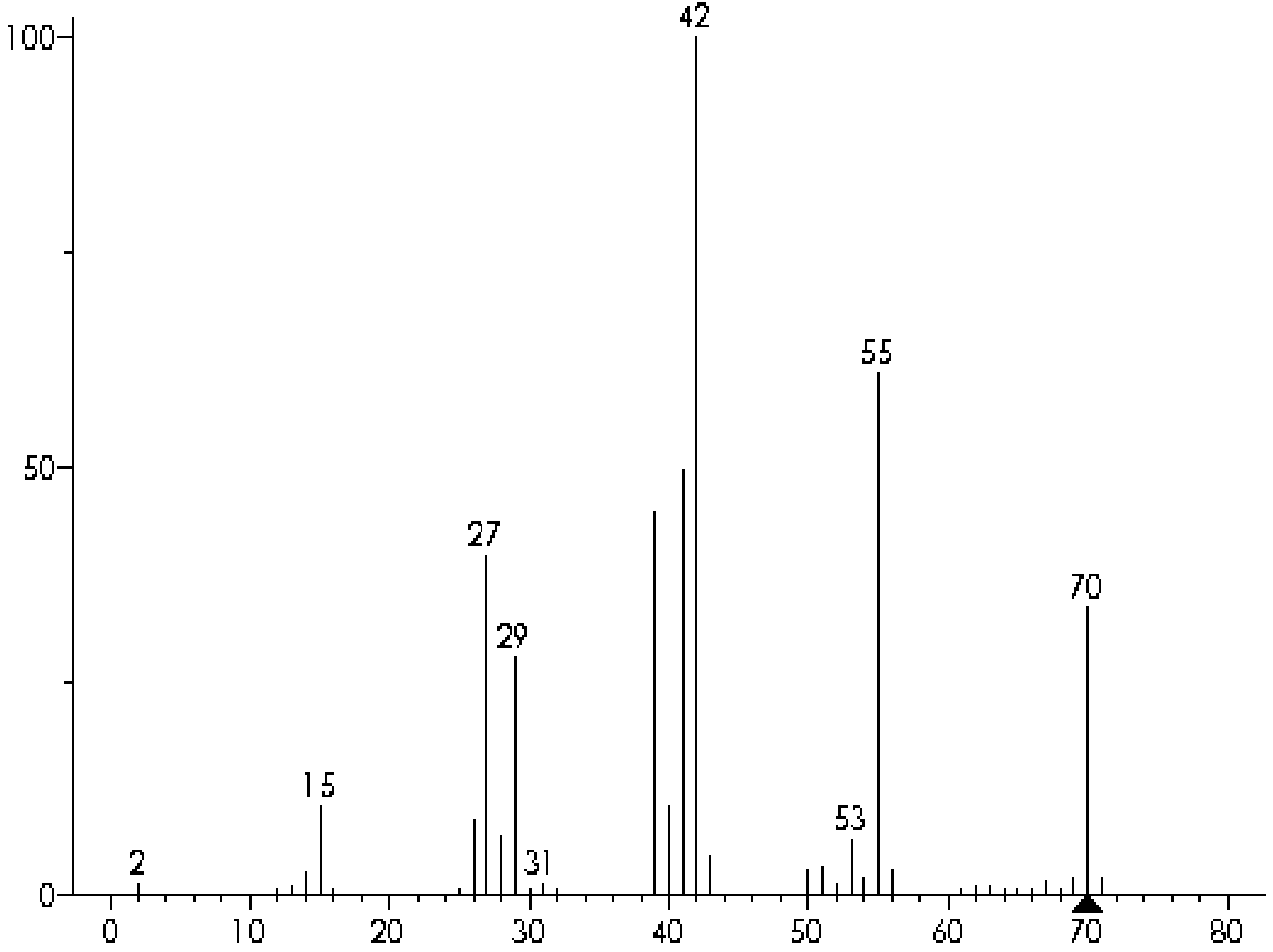
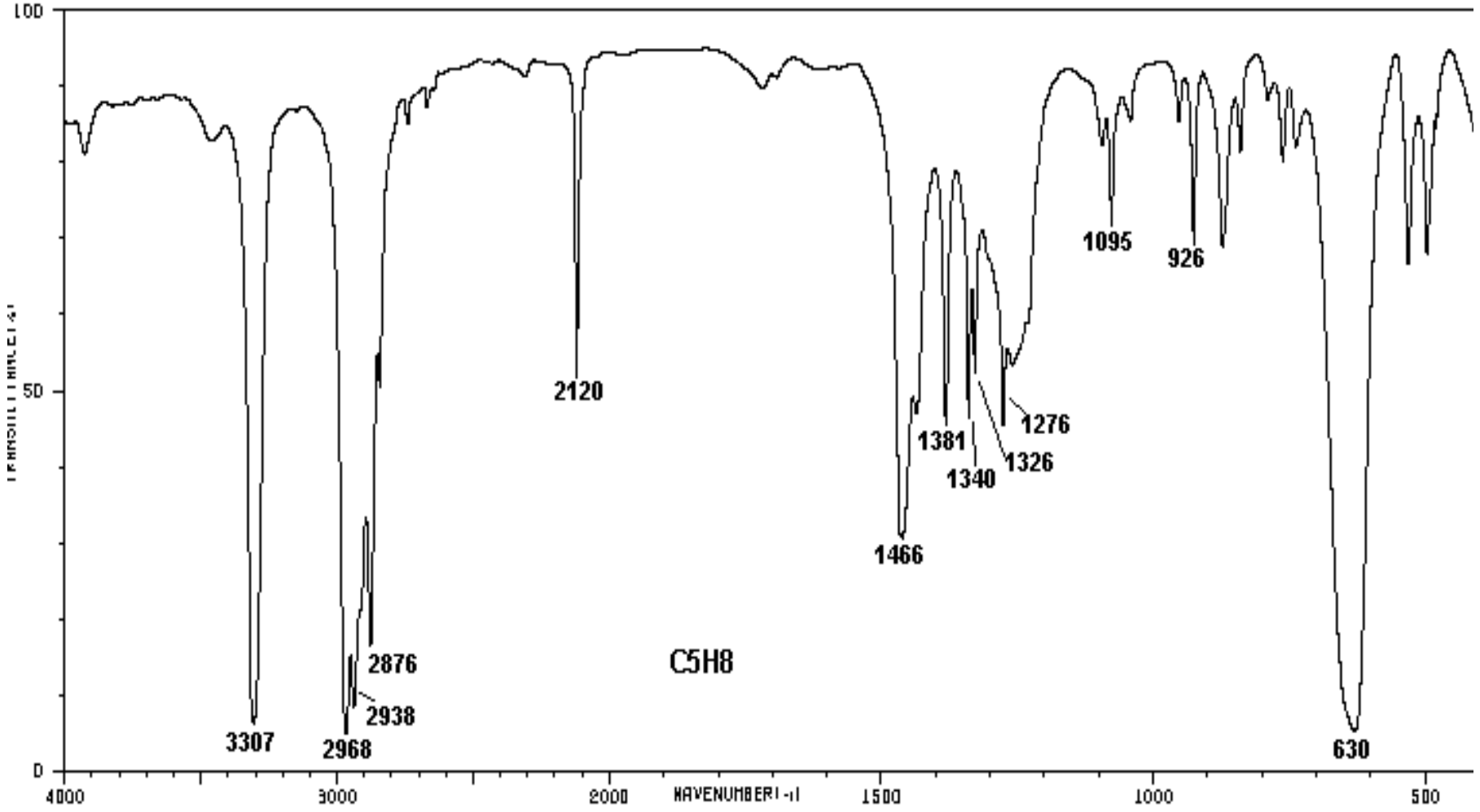
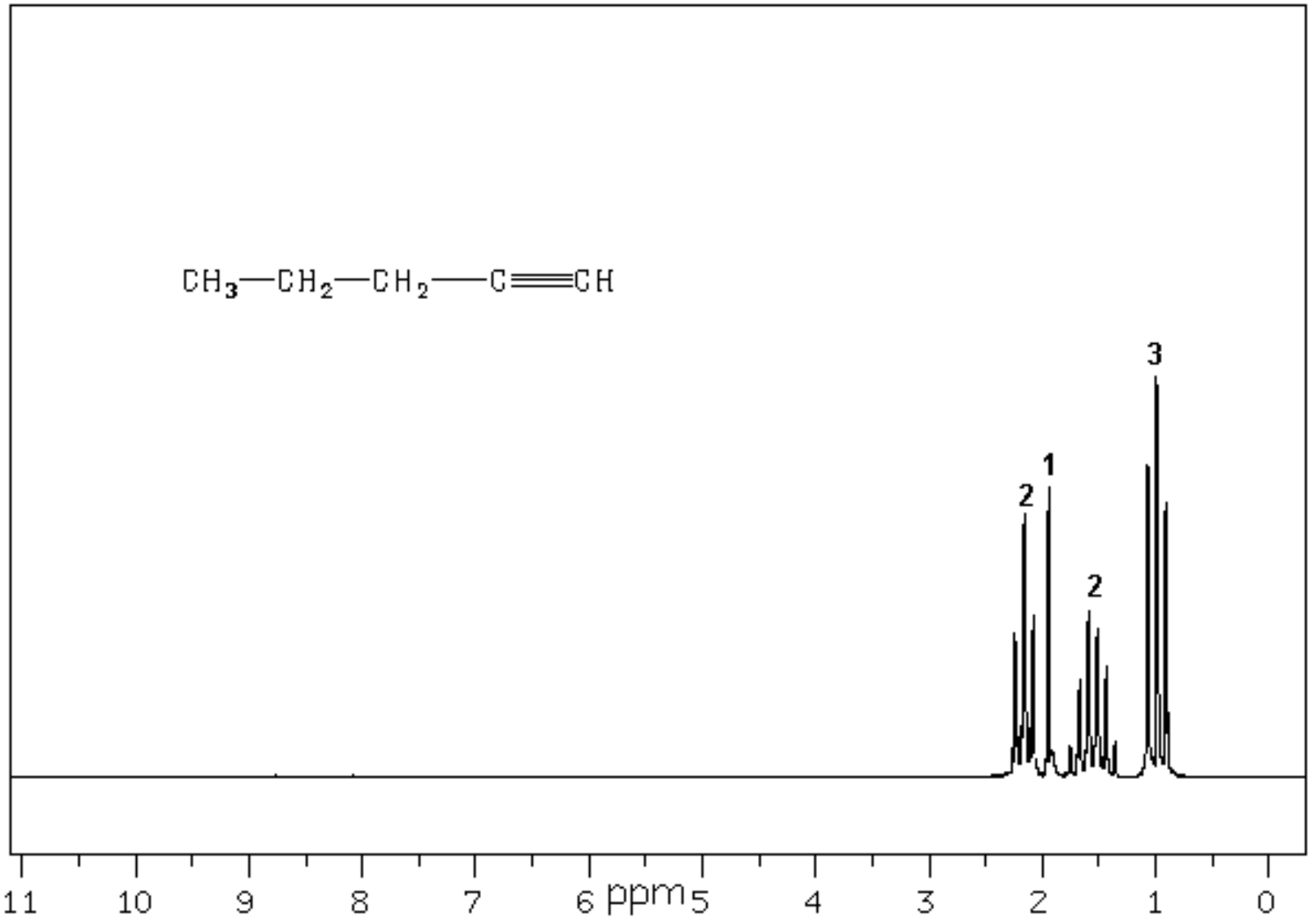
2876
2845
1826
1643
1465
1380
993
912

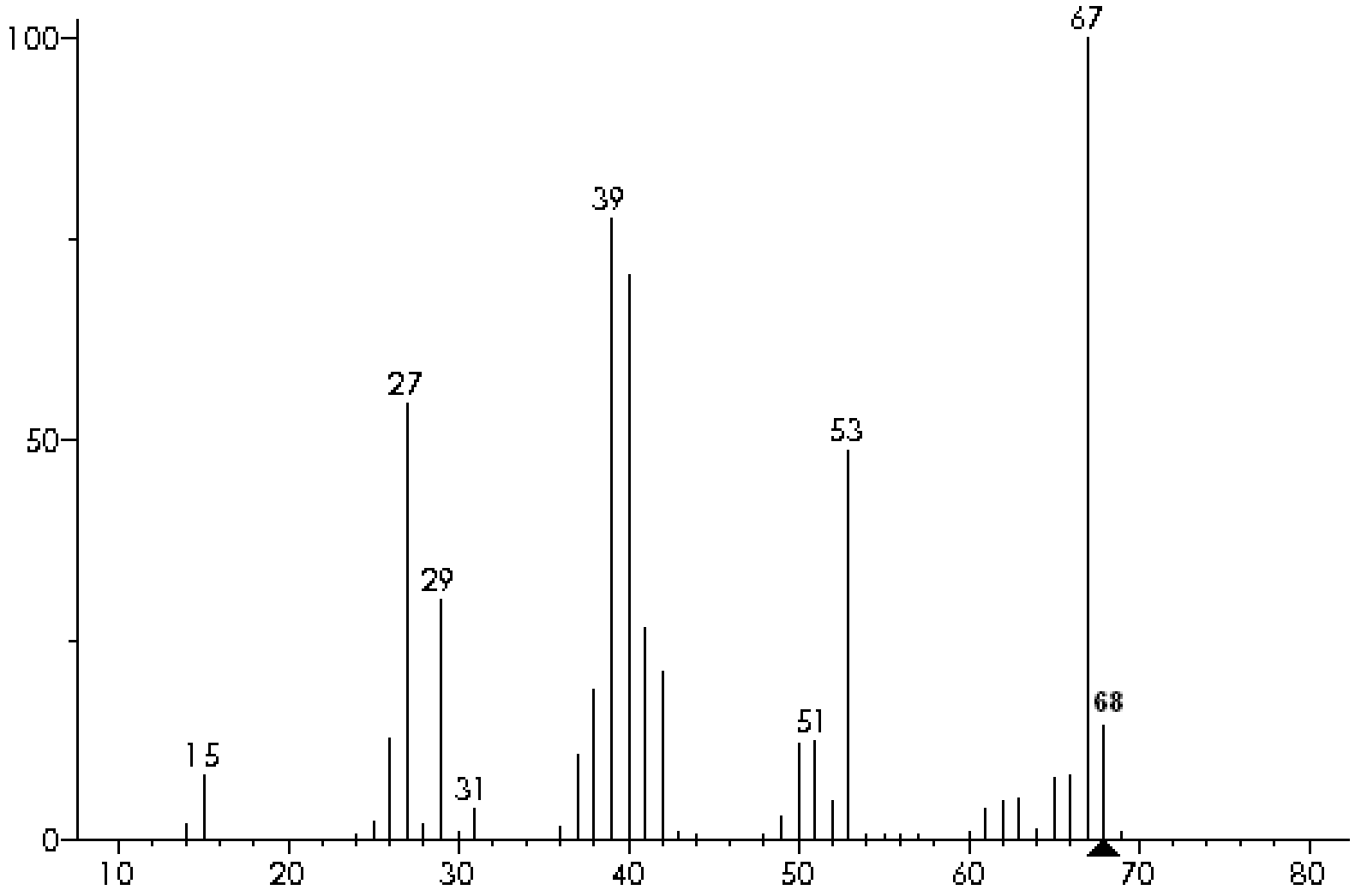

(C)H
H(A)
C
C
(B)H
CH2—CH2—CH3
[D] [E] (F)
A
B
C
D
E
F
TMS
11
10
9
8
7
6
5
4
3
2
1
0
ppm


100
50
0
42
55
27
70
29
15
53
2
31
0
10
20
30
40
50
60
70
80

1 PENTINO


100
50
0
4000
3000
2000
1500
1000
500
WAVENUMBER(-1)
3307
2968
2938
2876
2120
1466
1381
1340
1326
1276
1095
926
630
C5H8

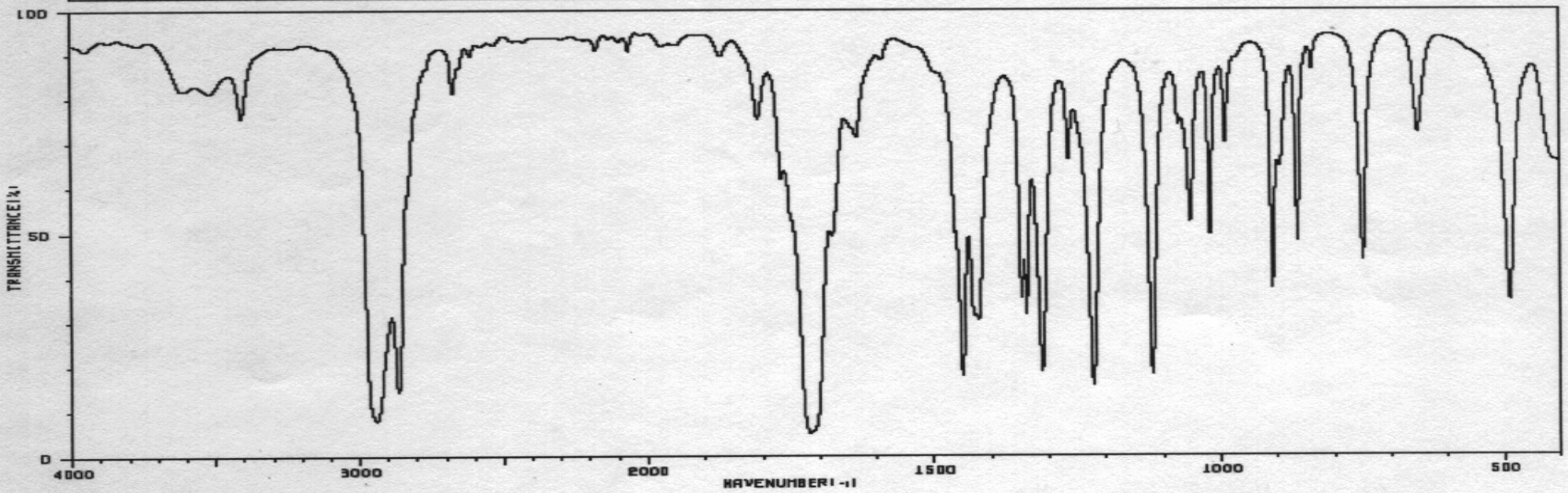

CH3—CH2—CH2—C≡CH
3
2
1
2
11
10
9
8
7
6
ppm
5
4
3
2
1
0


100
50
0
67
39
27
53
29
68
51
15
31
10
20
30
40
50
60
70
80

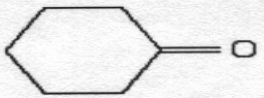
HIT-NO=1070 | SCORE= ( ) | SDBS-NO=571 | IR-NIDA-05262 : LIQUID FILM

CYCLOHEXANONE

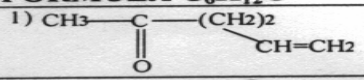
$C_6H_{10}O$

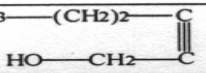


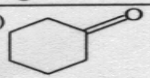
3610	79	2611	88	1460	17	1222	16	896	62
3515	79	1870	86	1429	30	1119	17	864	46
3407	72	1808	72	1422	26	1073	72	839	64
2941	7	1766	60	1347	34	1062	60	760	42
2864	13	1716	4	1338	30	1018	47	652	70
2870	79	1677	47	1311	17	991	68	490	33
2664	84	1634	68	1266	64	909	36		

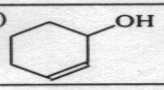


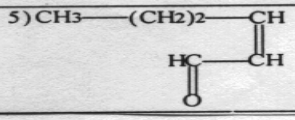
FÓRMULA $C_6H_{12}O$

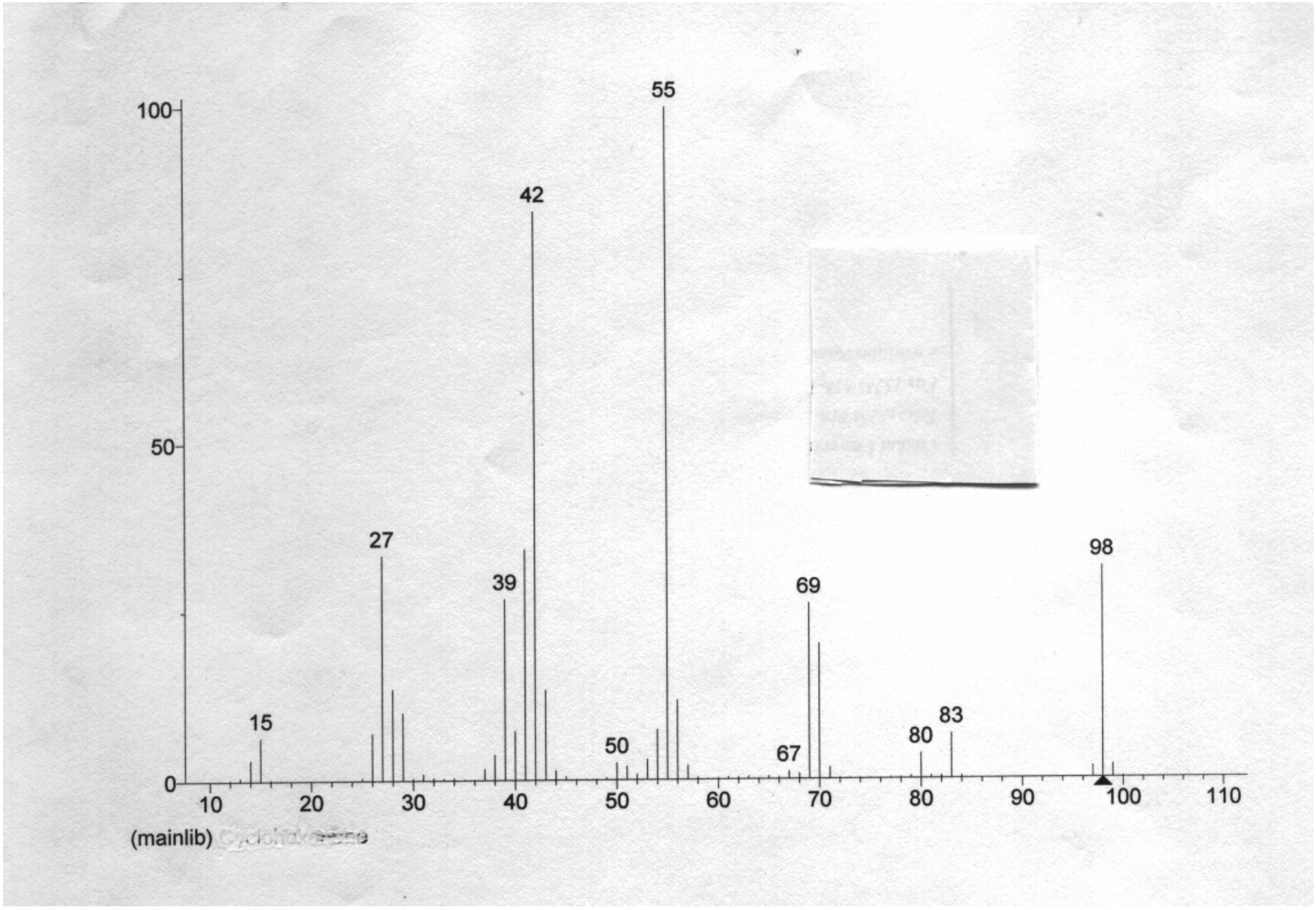
1) 

2) 

3) 

4) 

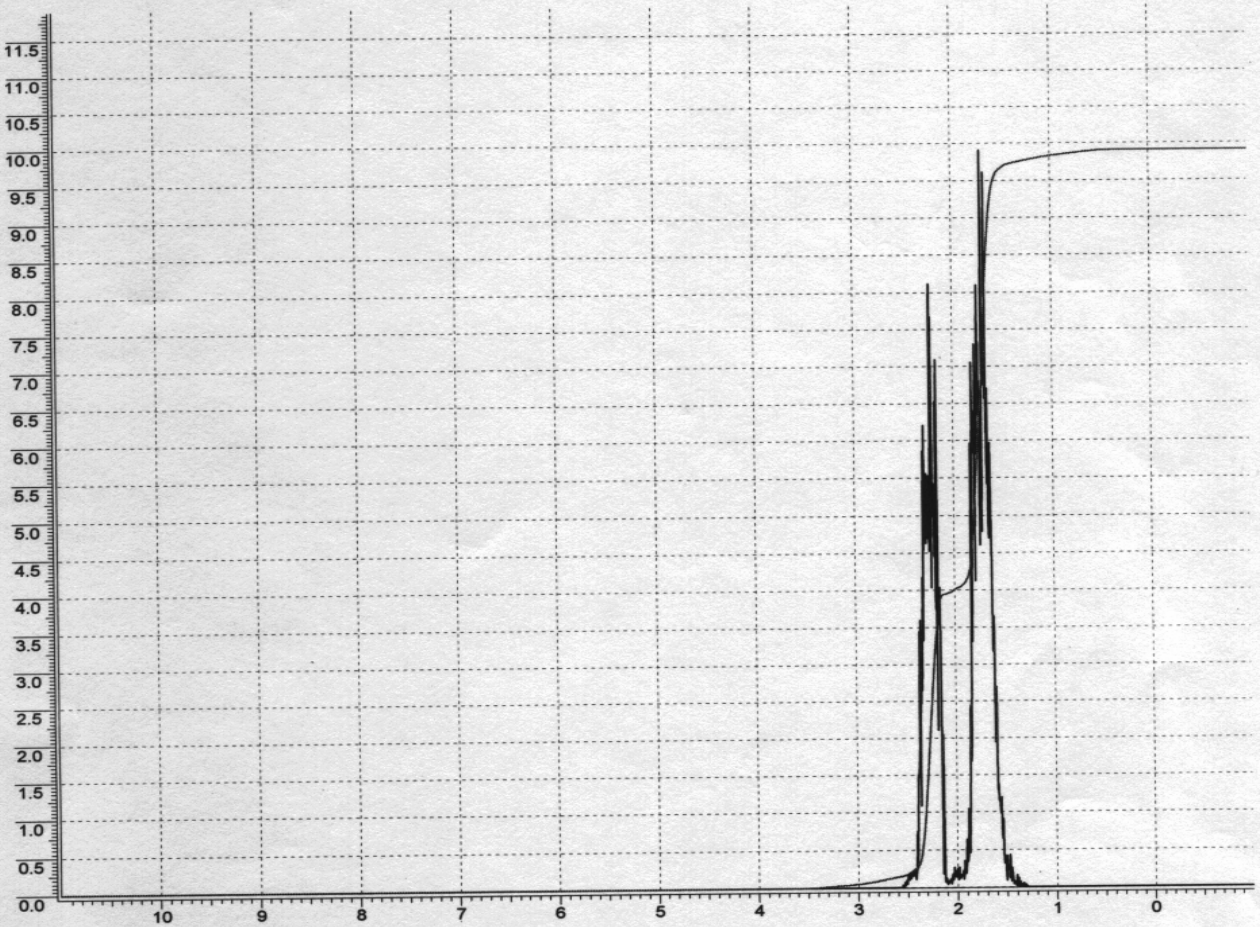
5) 


100
50
0
55
42
27
39
69
98
15
50
67
80
83
10
20
30
40
50
60
70
80
90
100
110
(mainlib)

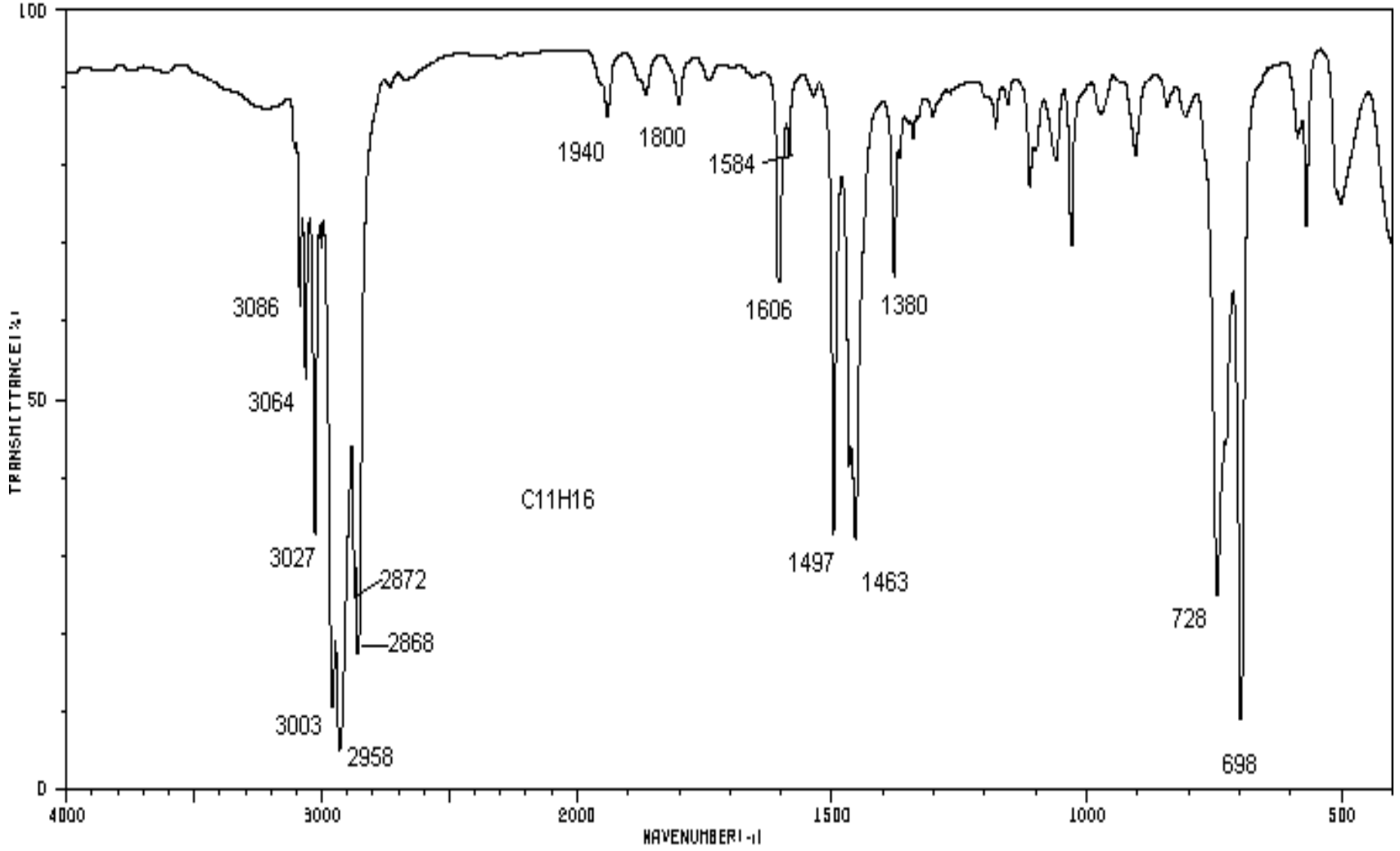
RESONANCIA MAGNÉTICA PROTÓNICA

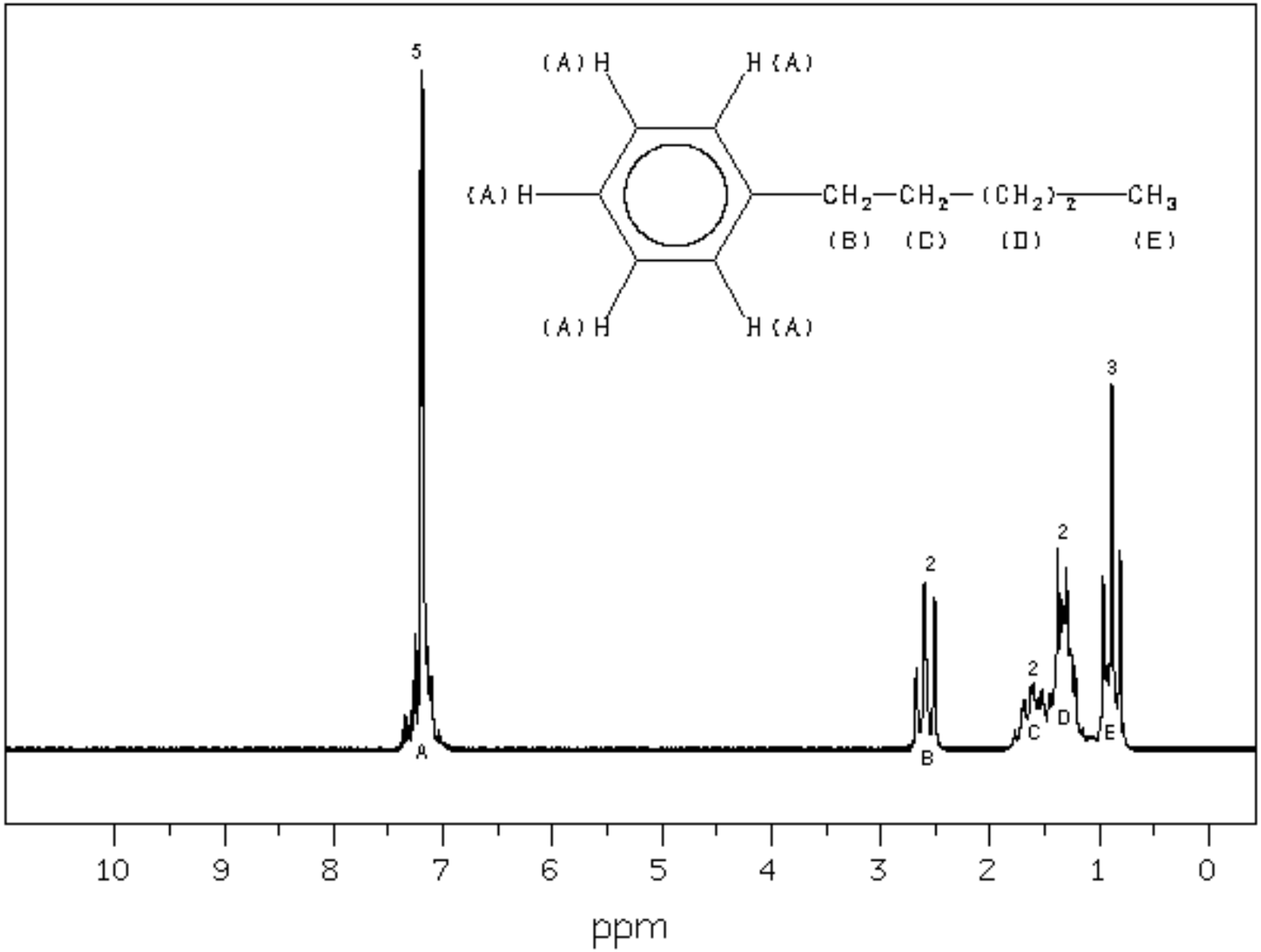
FÓRMULA: $C_6H_{10}O$

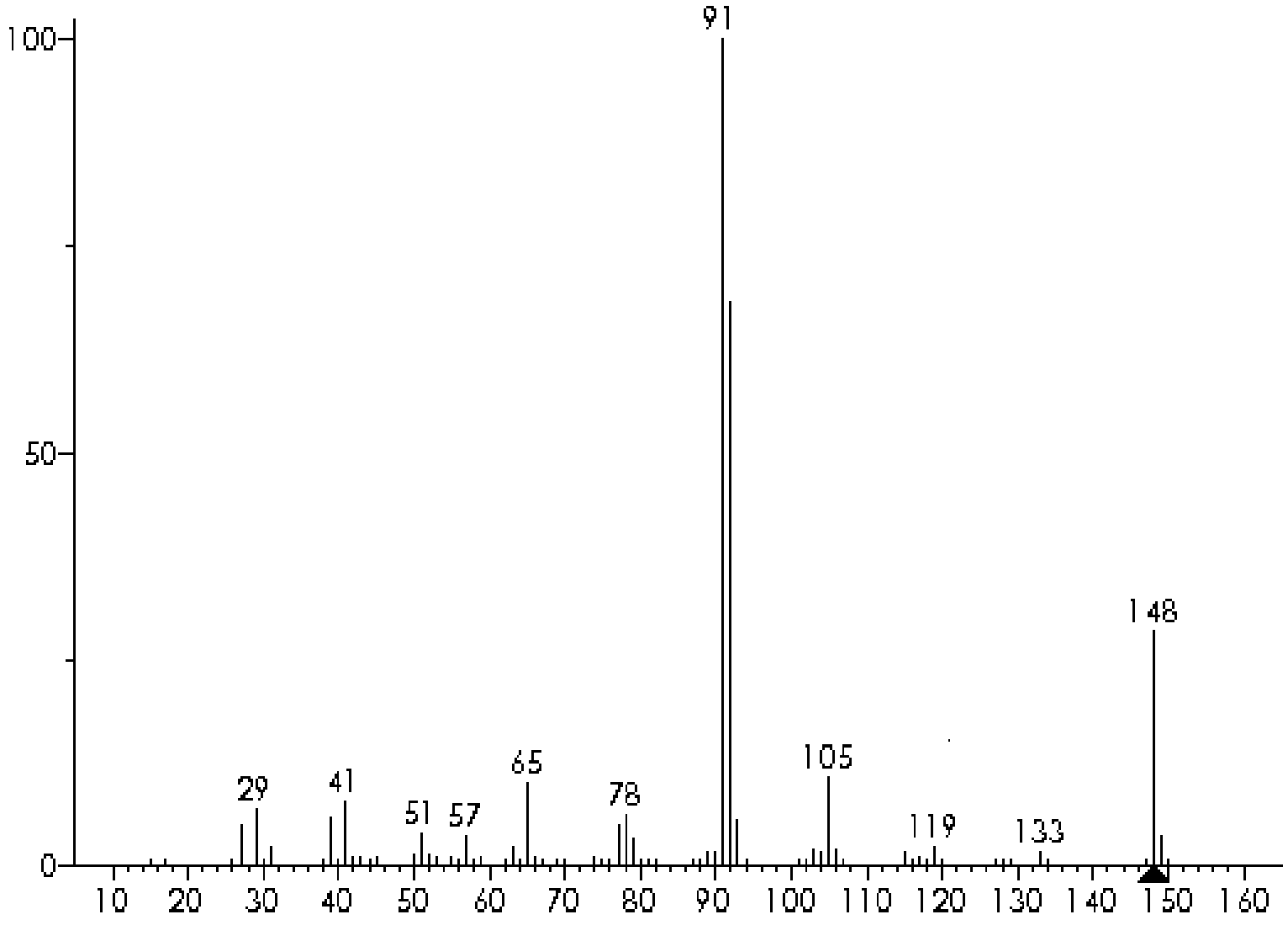
Desplazamiento (ppm)	Integración
1.8	3
2.3	2



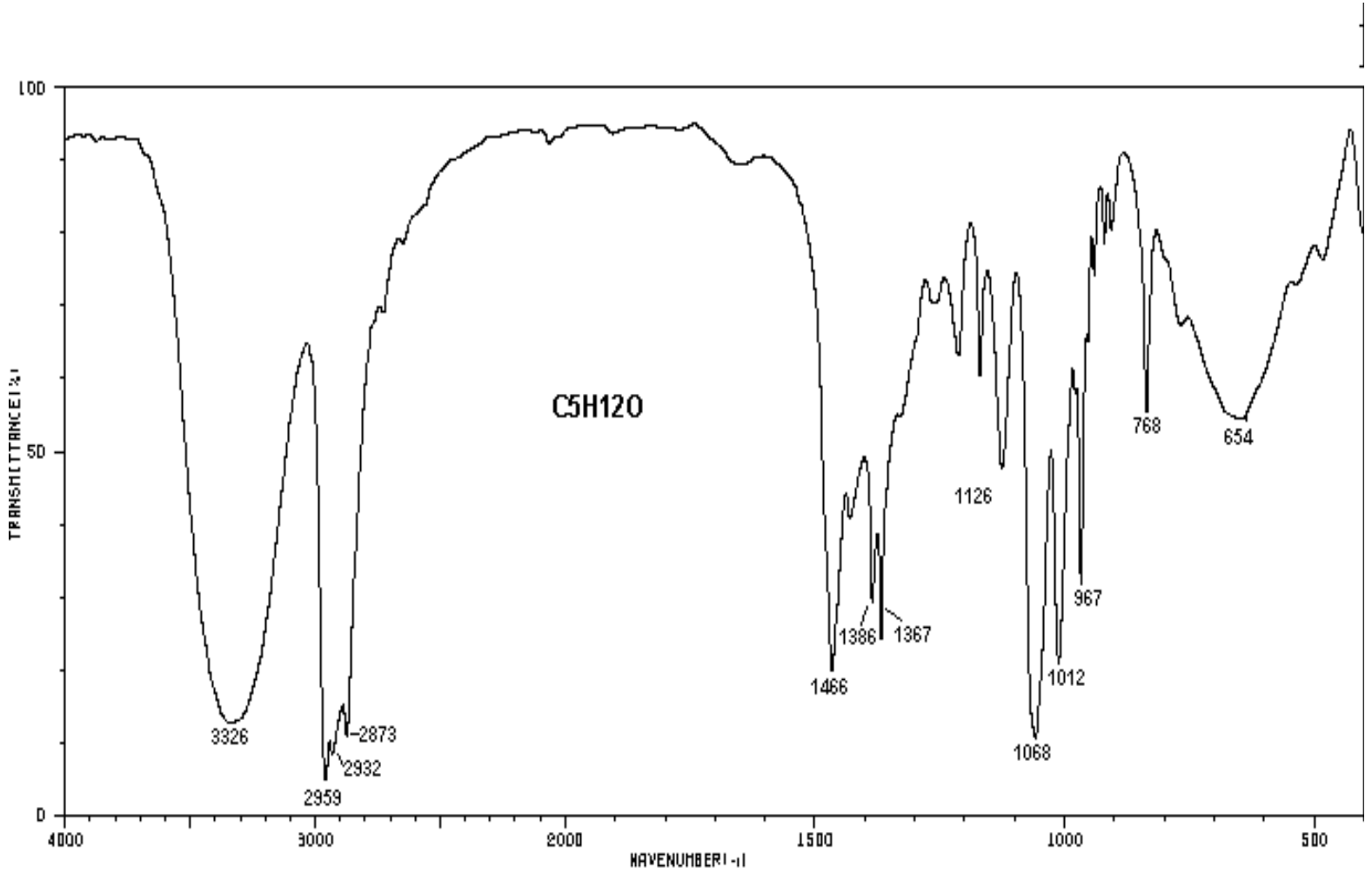
PENTIL BENCENO

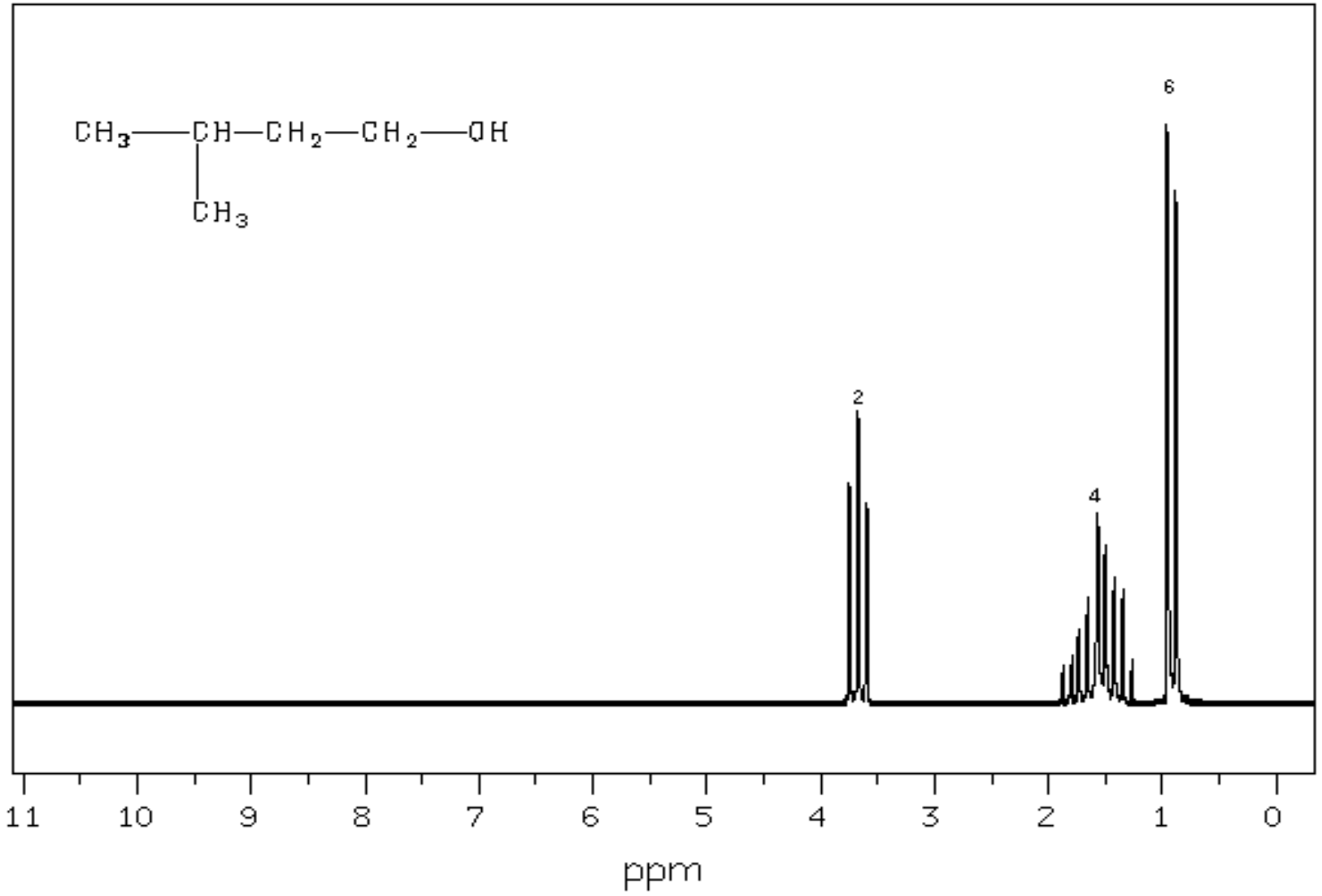


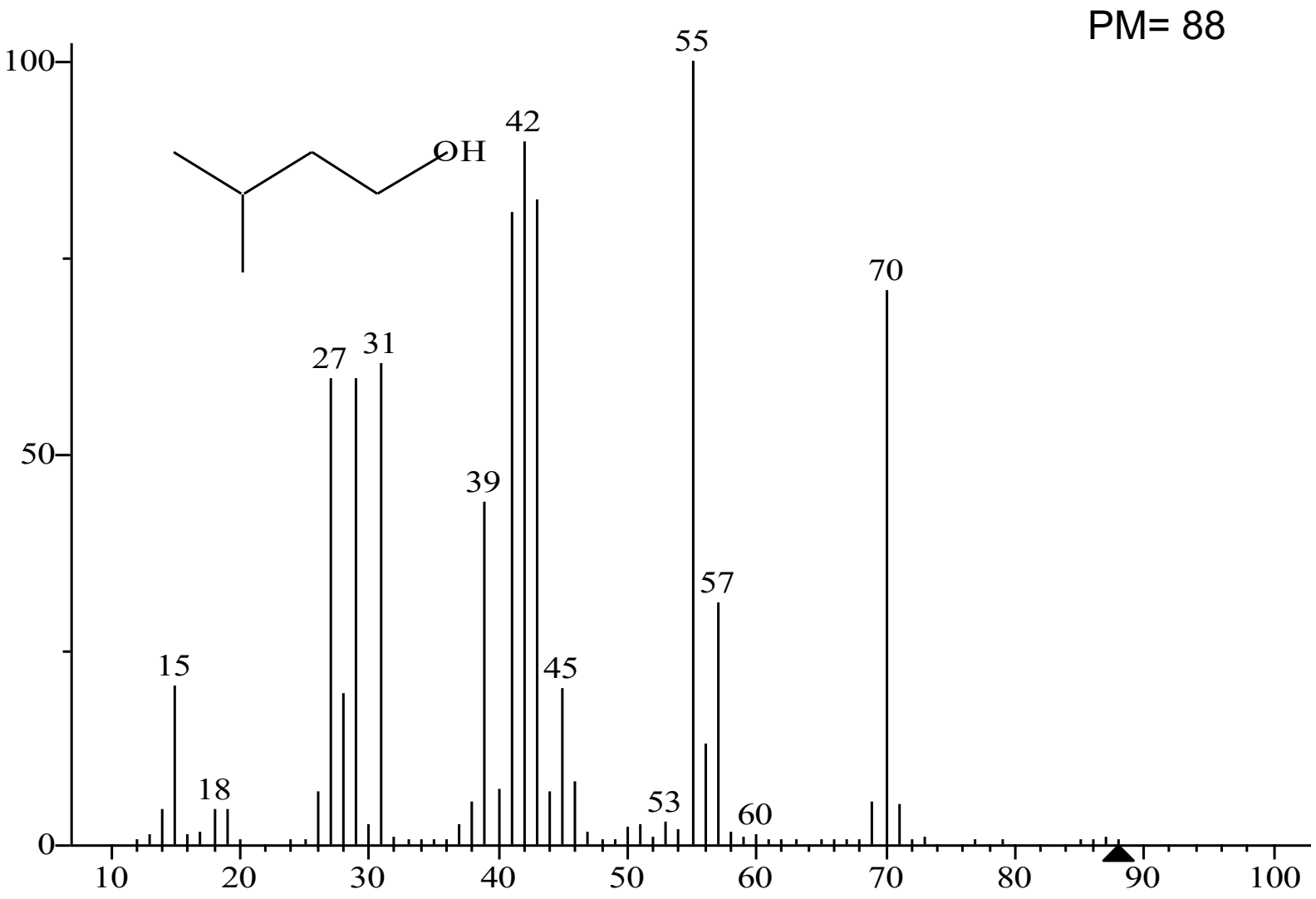

5
(A)H
H(A)
(A)H
H(A)
(A)H
H(A)
CH2—CH2—(CH2)2—CH3
(B) (C) (D) (E)
2
2
2
3
A
B
C
D
E
10
9
8
7
6
5
4
3
2
1
0
ppm


100
50
0
91
148
29
41
51
57
65
78
105
119
133
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160

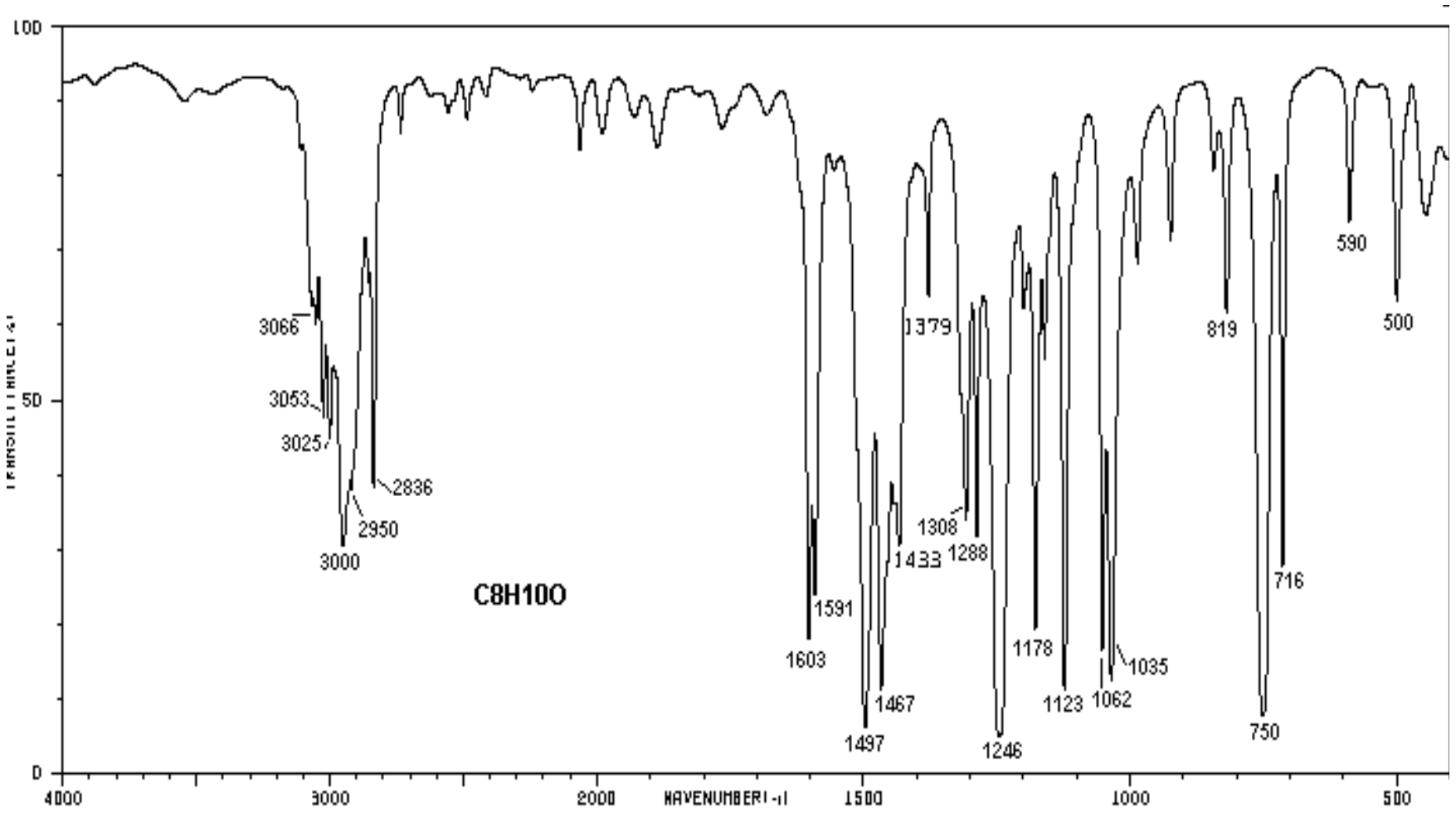
3 METIL 1 BUTANOL

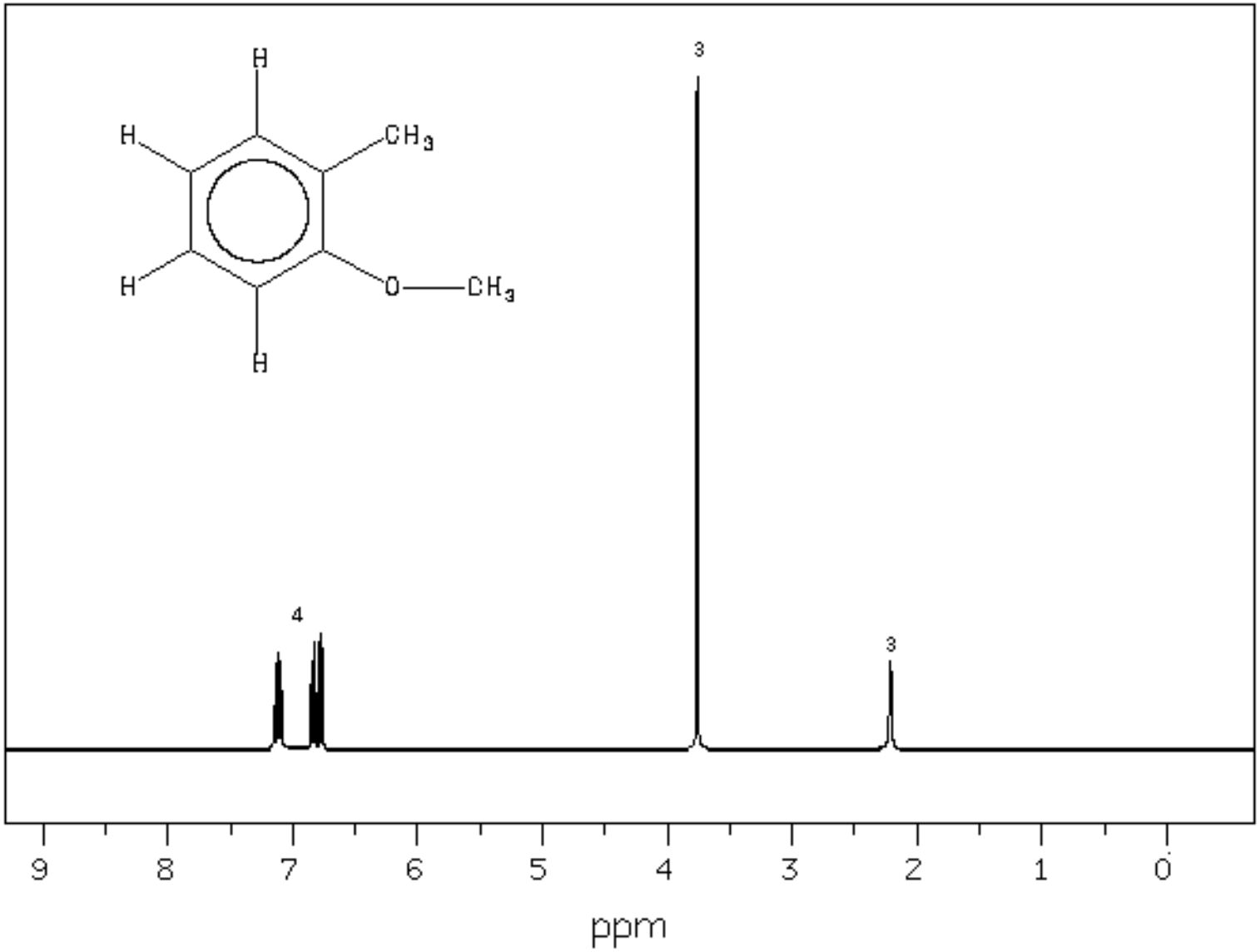


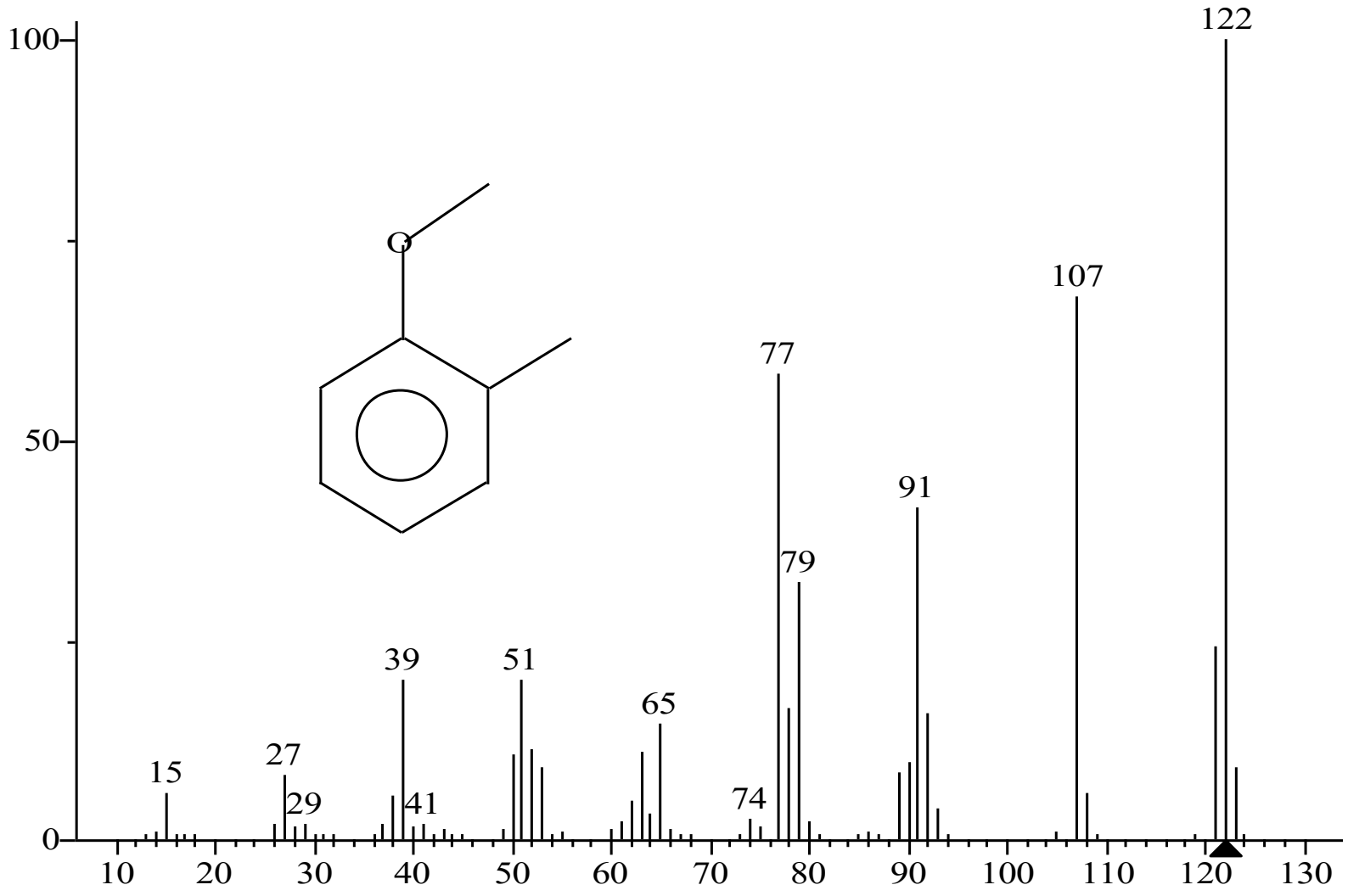

CH3—CH—CH2—CH2—OH
CH3
6
2
4
11
10
9
8
7
6
5
4
3
2
1
0
ppm


PM= 88
100
50
0
OH
55
42
70
27
31
39
57
15
45
18
53
60
10
20
30
40
50
60
70
80
90
100

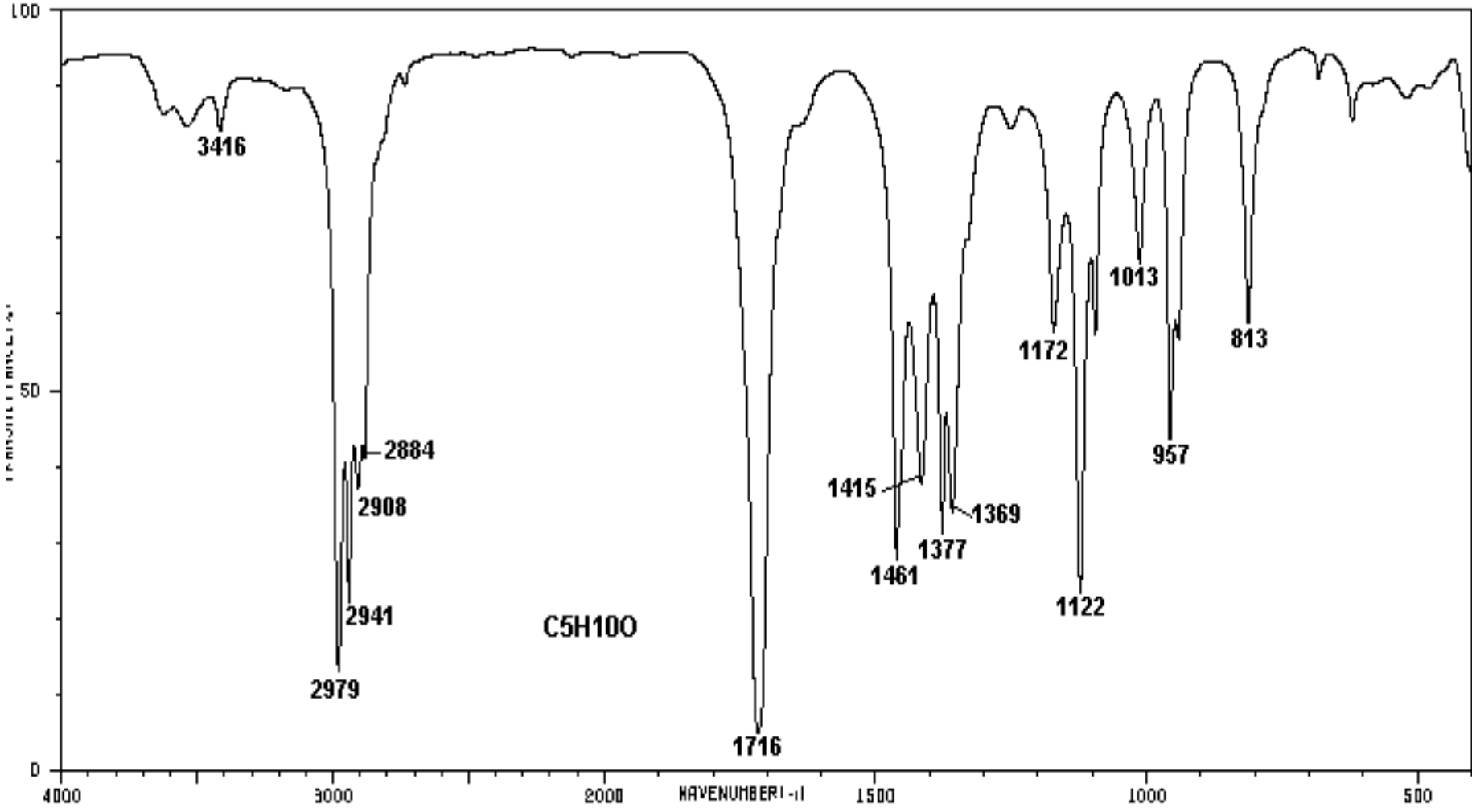
0-METOXI TOLUENO

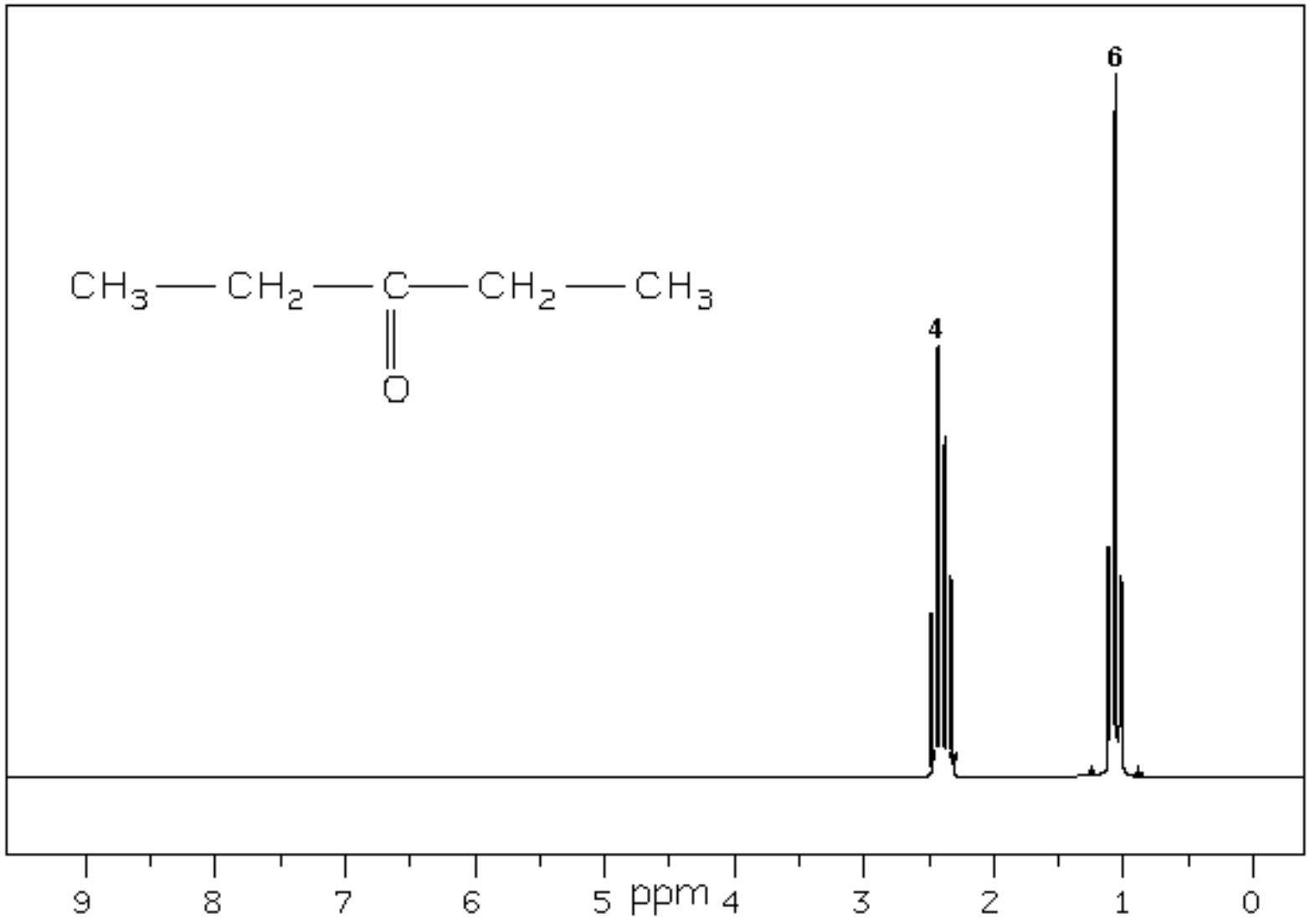


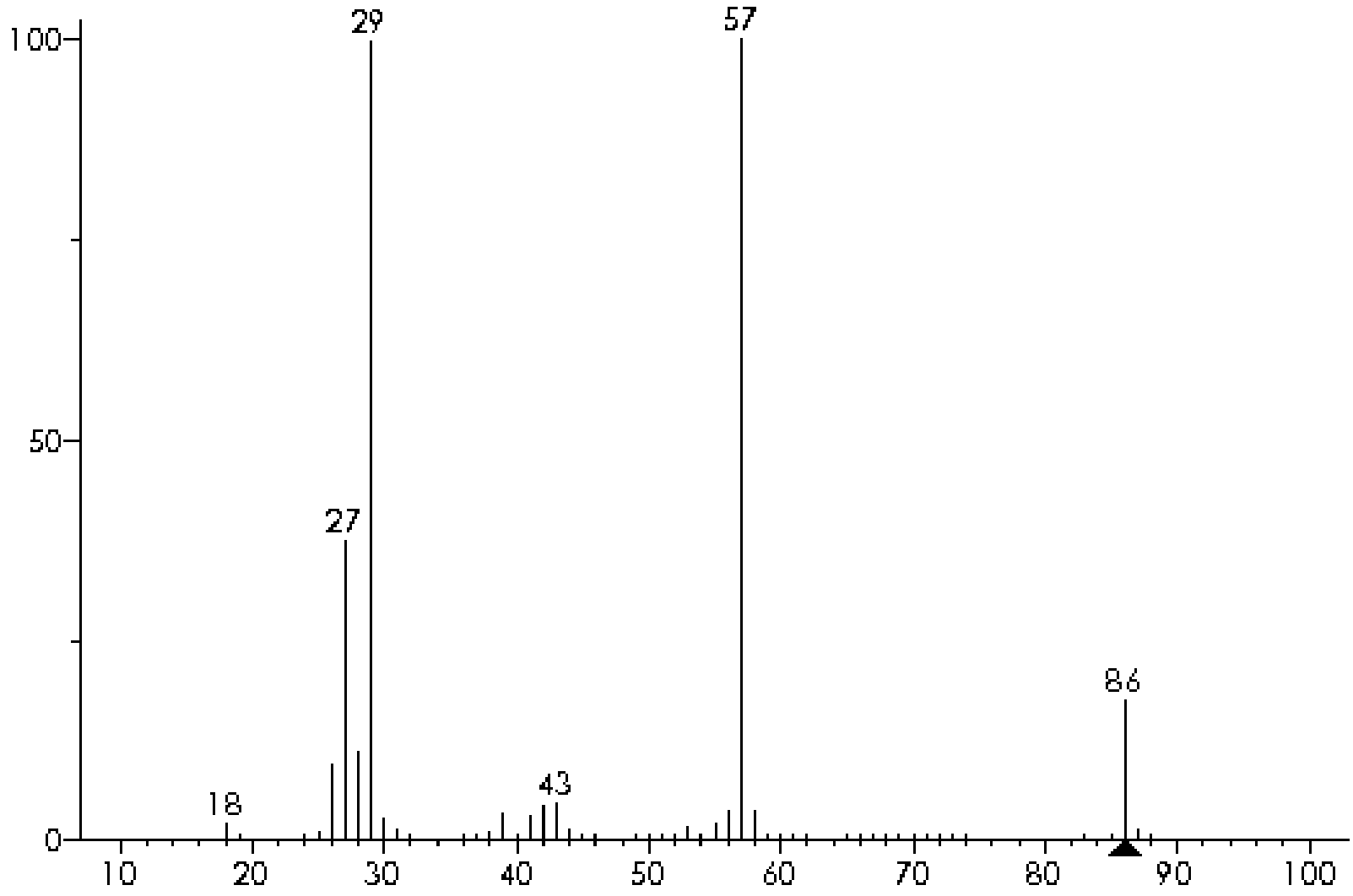

H
H
CH3
H
O—CH3
H
3
4
3
9
8
7
6
5
4
3
2
1
0
ppm


100
50
0
10
20
30
40
50
60
70
80
90
100
110
120
130
O
122
107
77
91
79
39
51
65
27
15
29
41
74

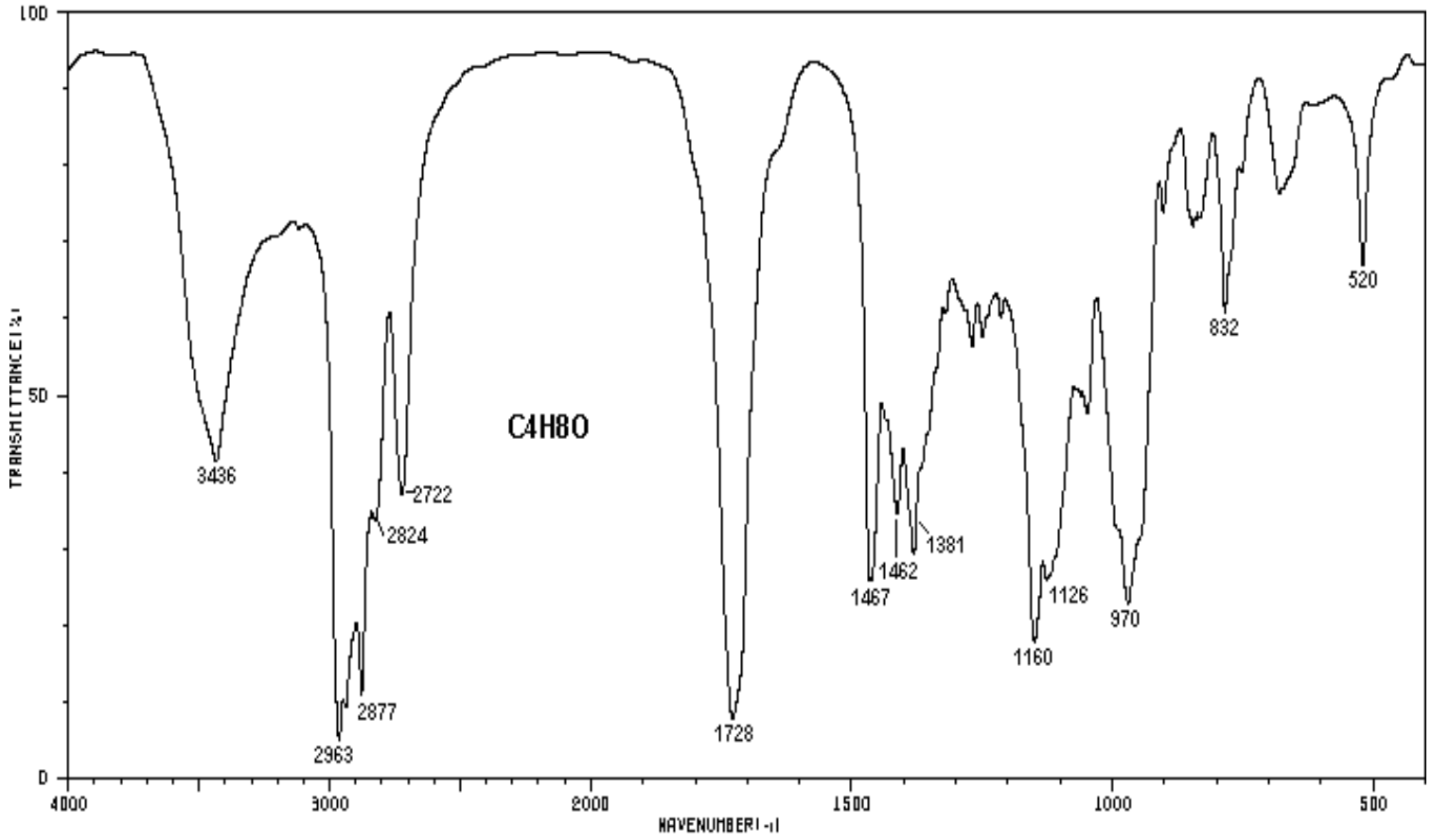
3 PENTANONA

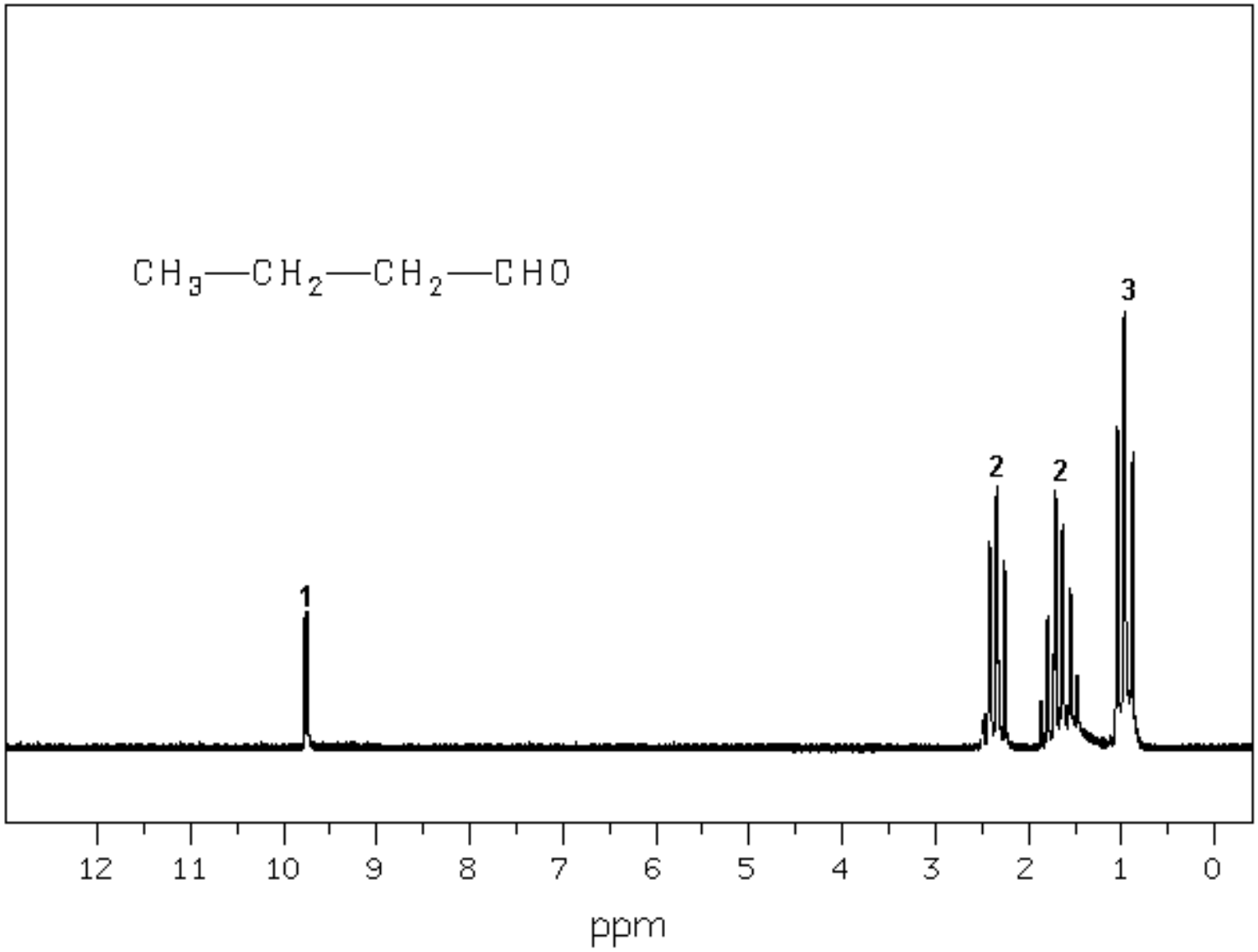

100
50
0
3416
2884
2908
2941
2979
C5H10O
1716
1415
1461
1377
1369
1172
1122
1013
957
813
4000
3000
2000
1500
1000
500

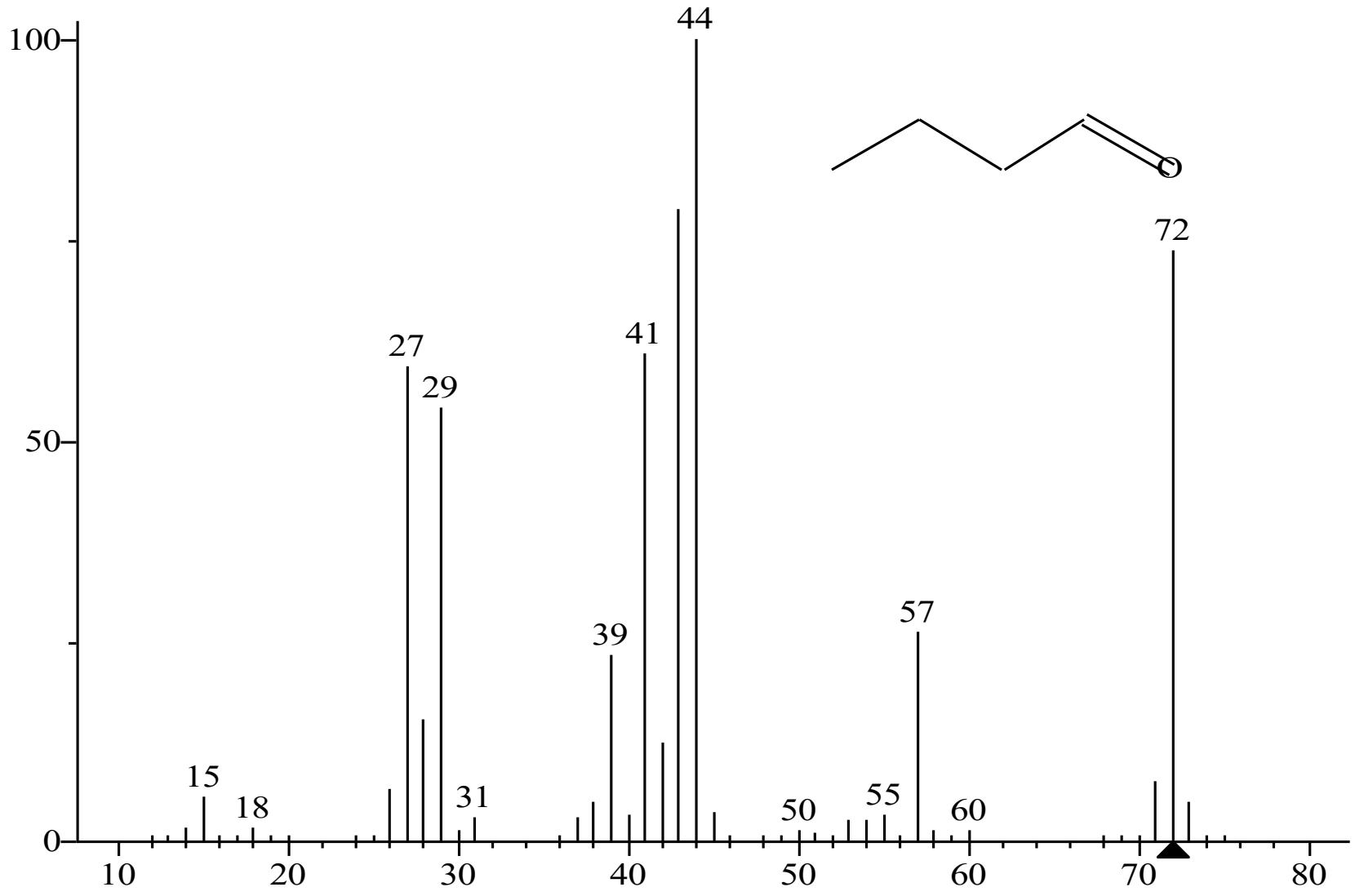

CH3 — CH2 — C — CH2 — CH3
O
6
4
9
8
7
6
5
ppm
4
3
2
1
0


100
50
0
29
57
27
86
18
43
10
20
30
40
50
60
70
80
90
100

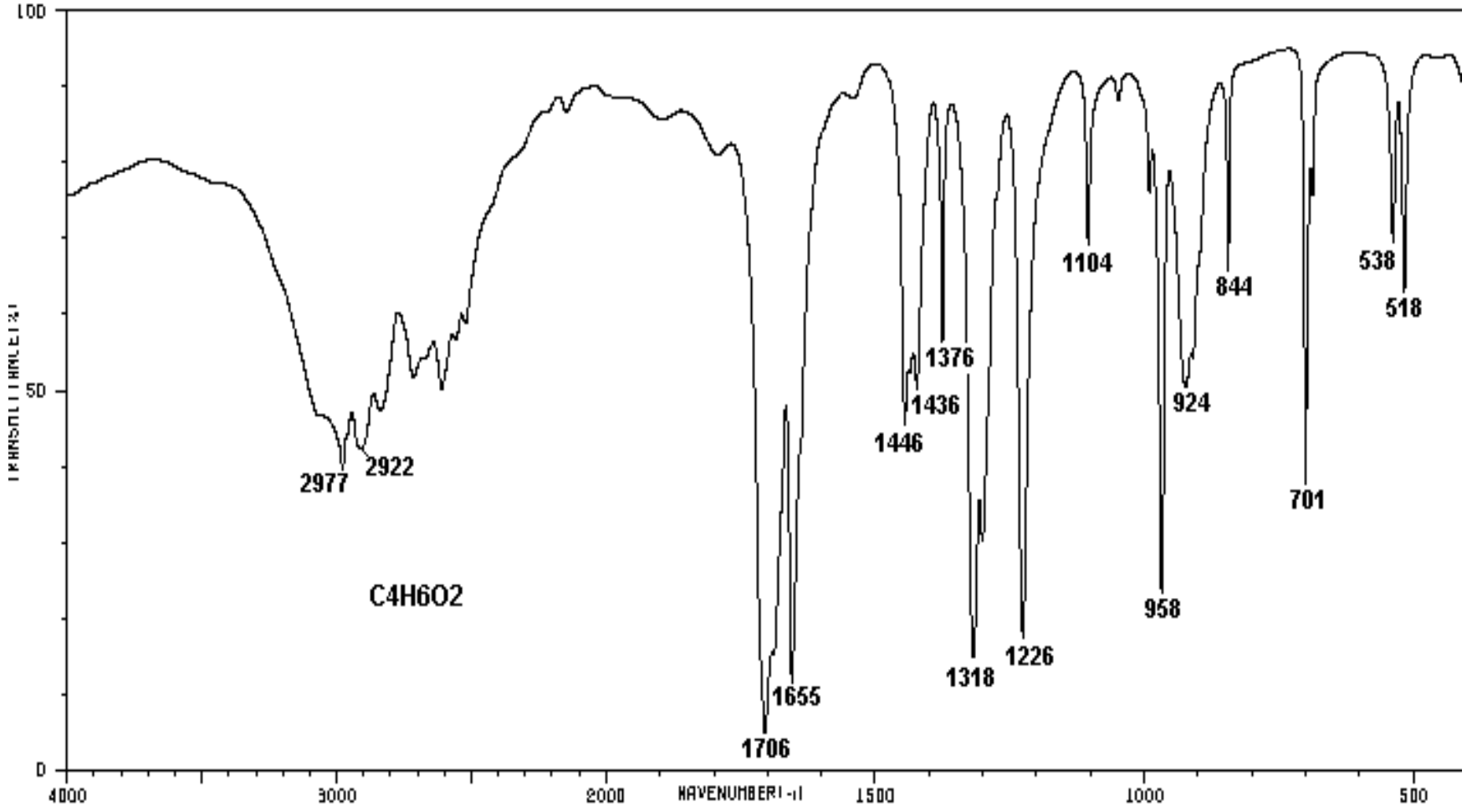
BUTIRALDEHÍDO



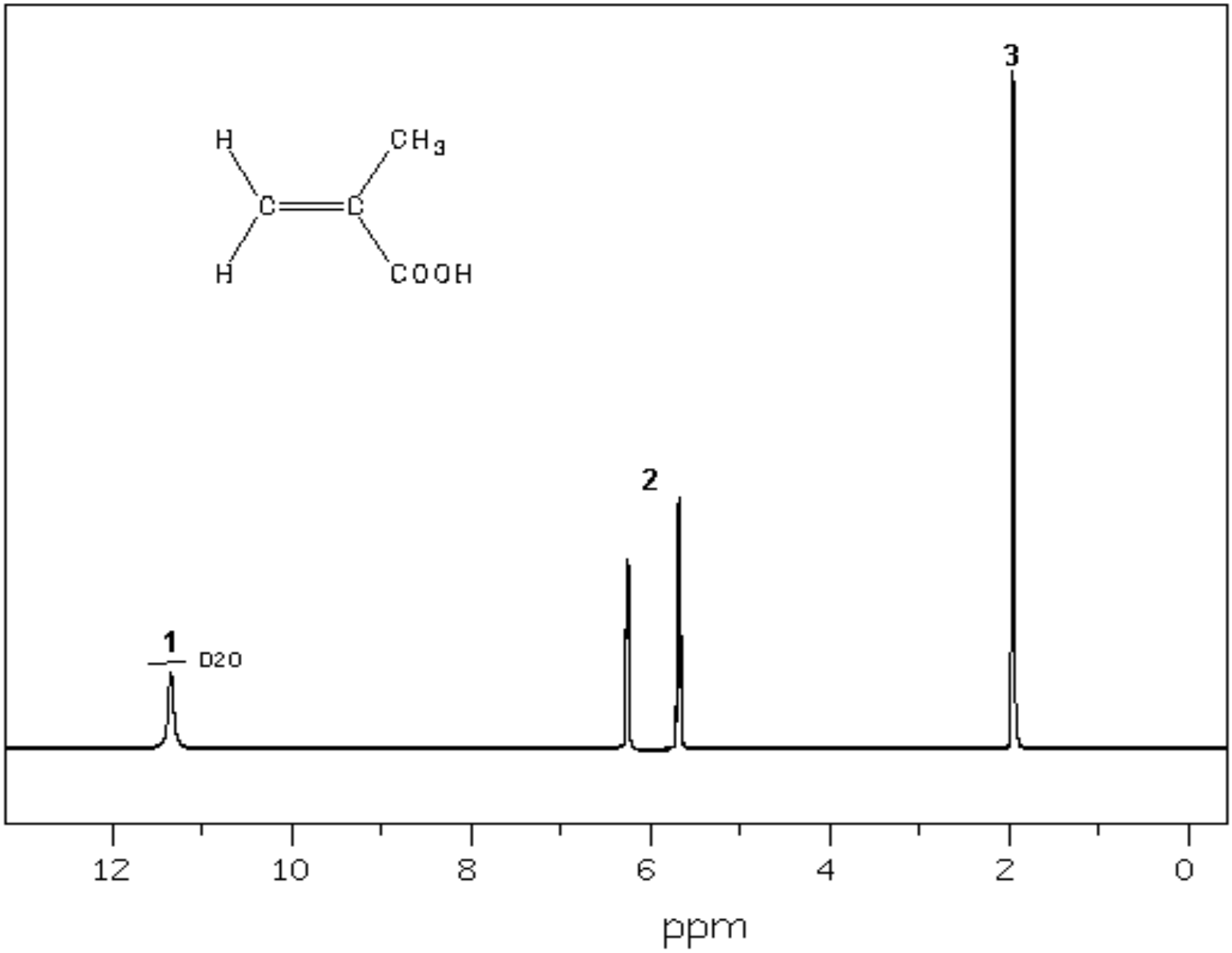

CH3—CH2—CH2—CHO
1
2
2
3
12
11
10
9
8
7
6
5
4
3
2
1
0
ppm

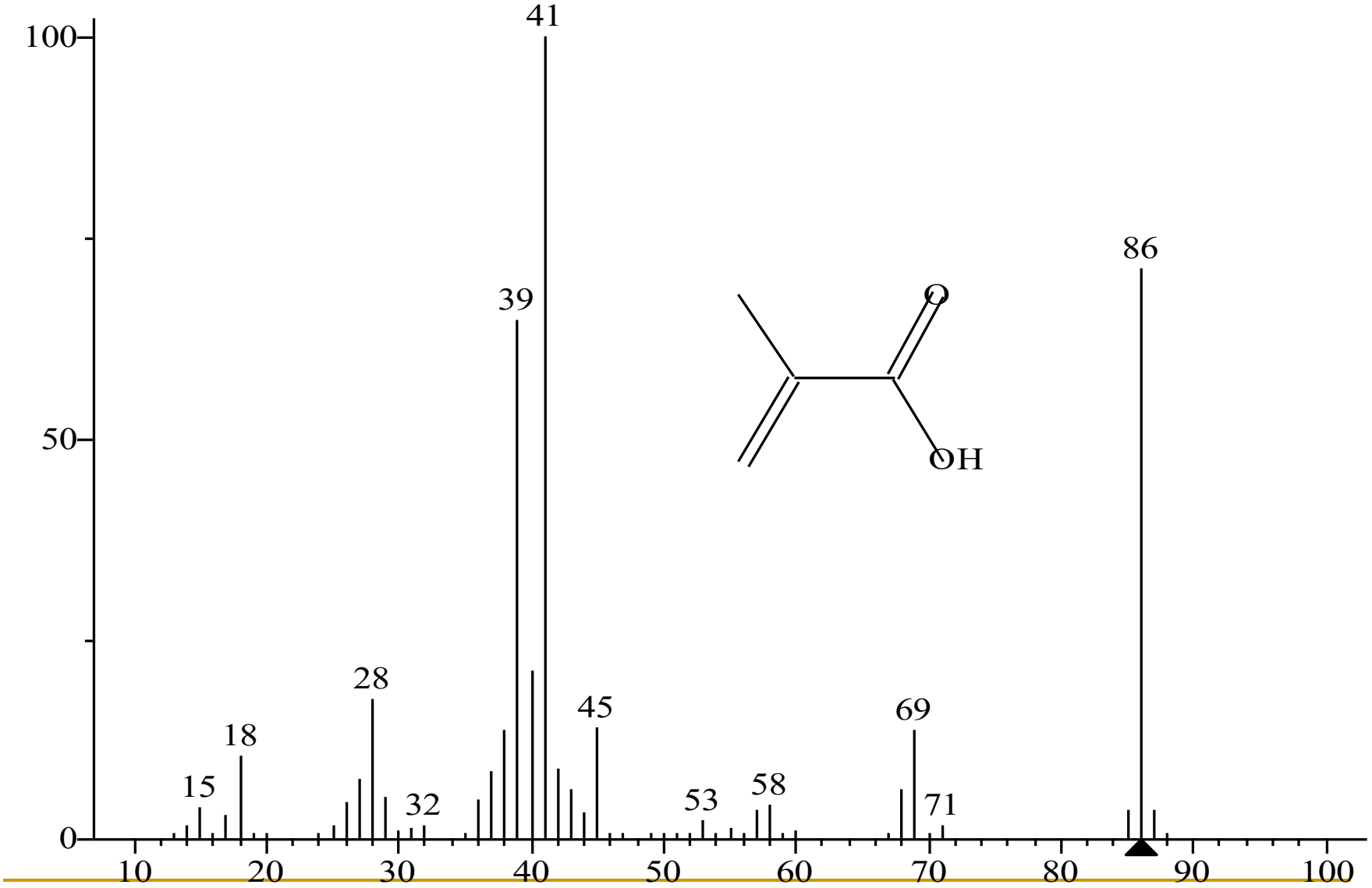

100
50
0
10
20
30
40
50
60
70
80
44
72
27
29
41
39
57
15
18
31
50
55
60
O

Ac. 2 METIL PROPENOICO

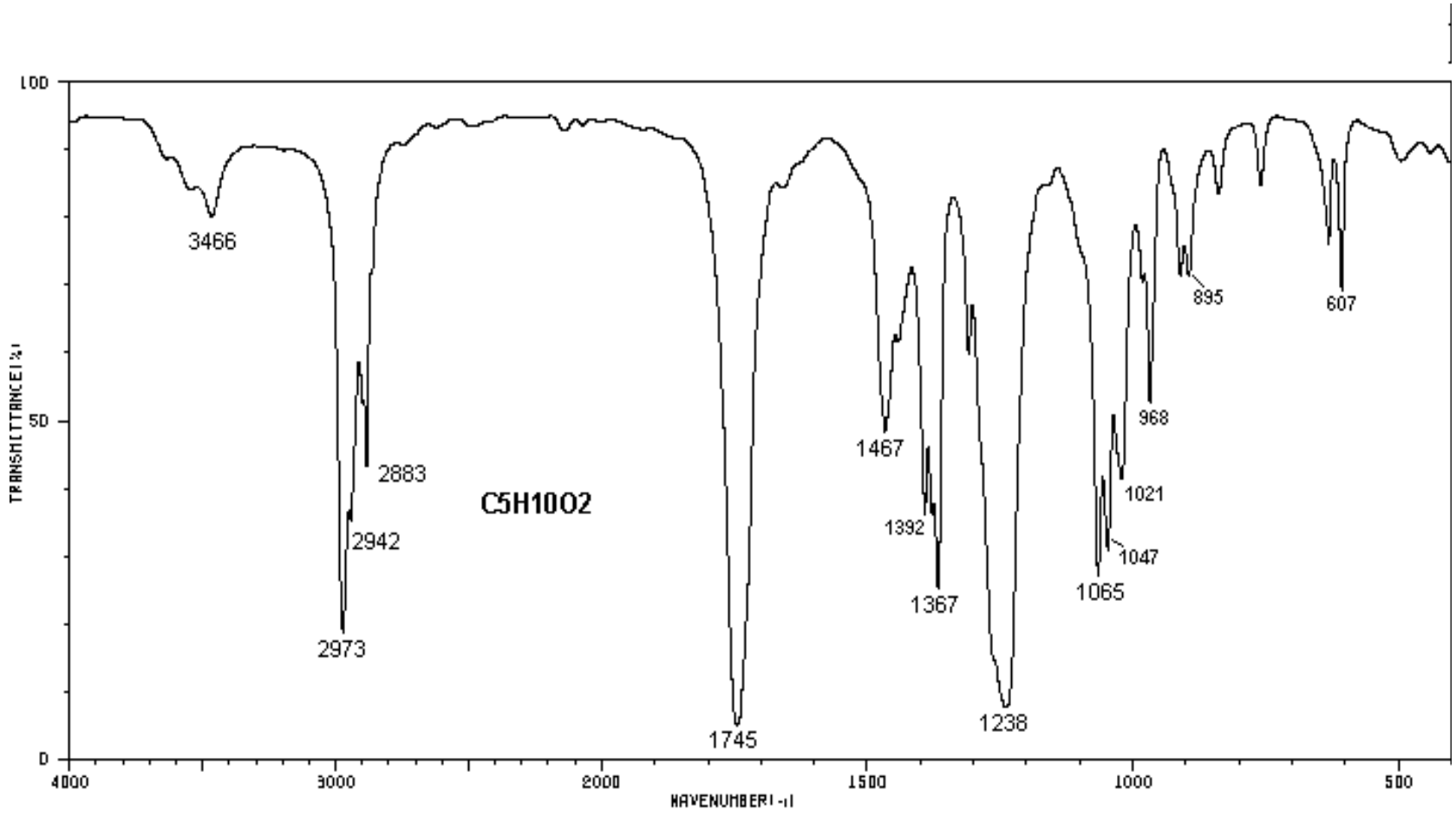


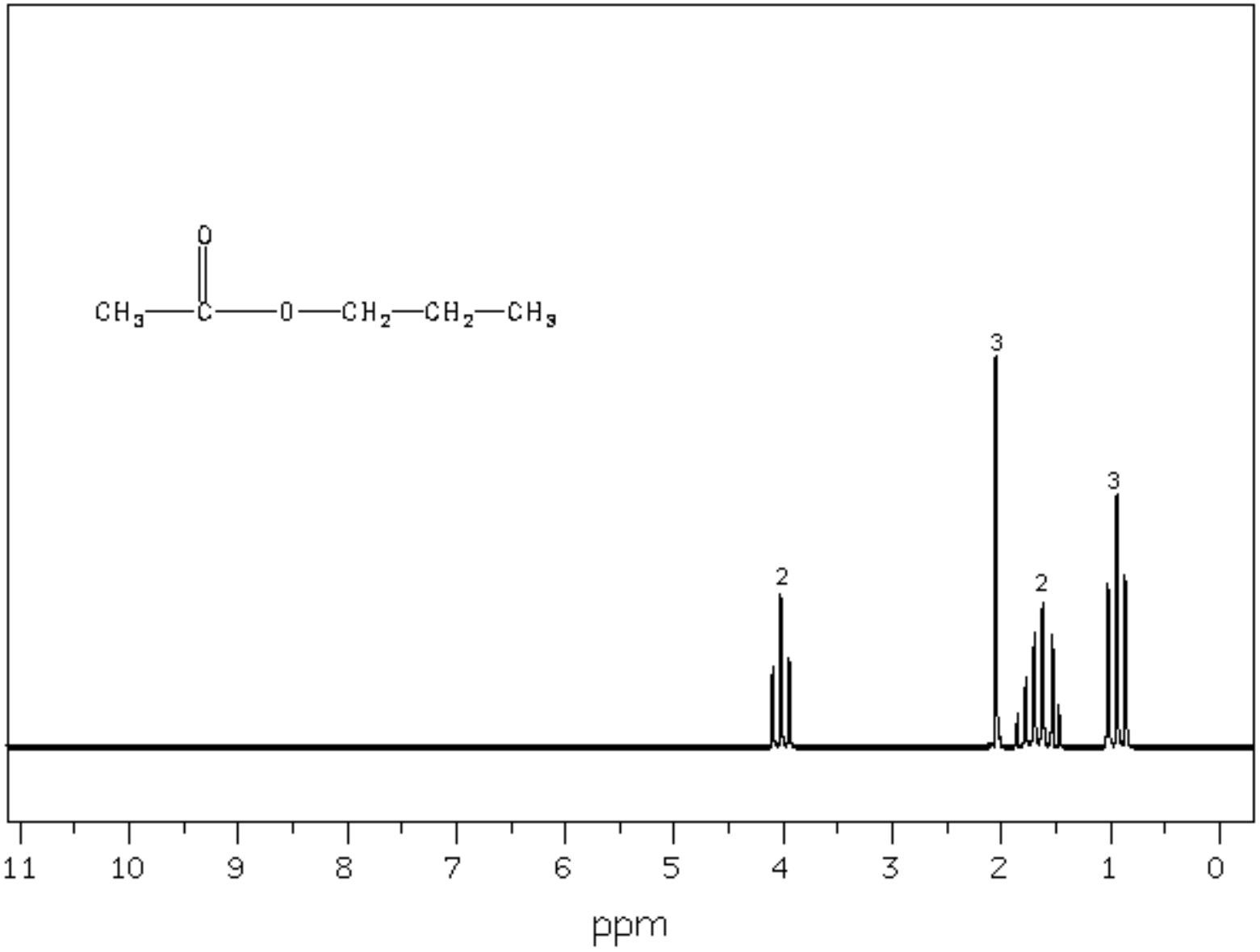
Ac. 2METIL PROPENOICO

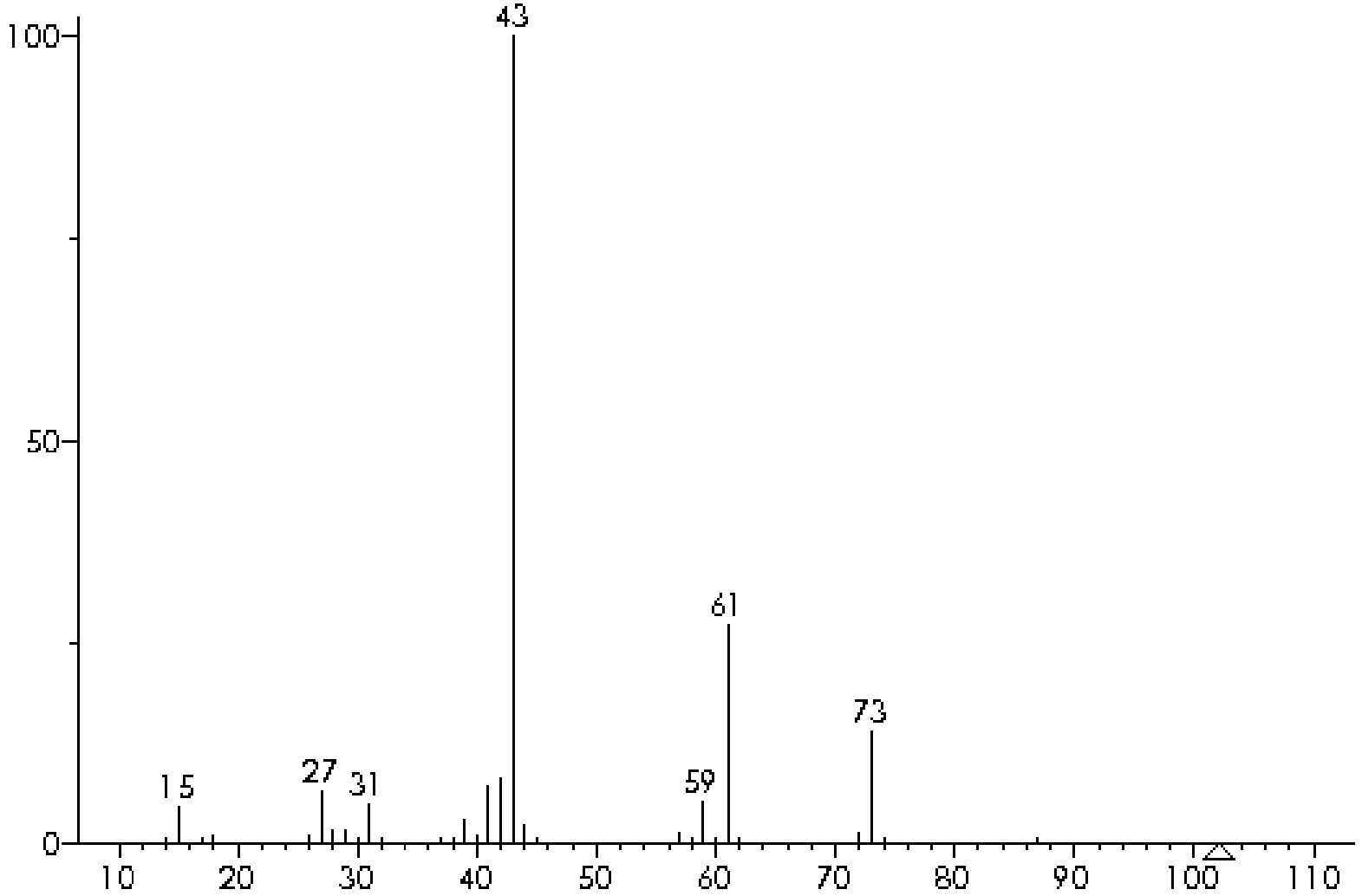


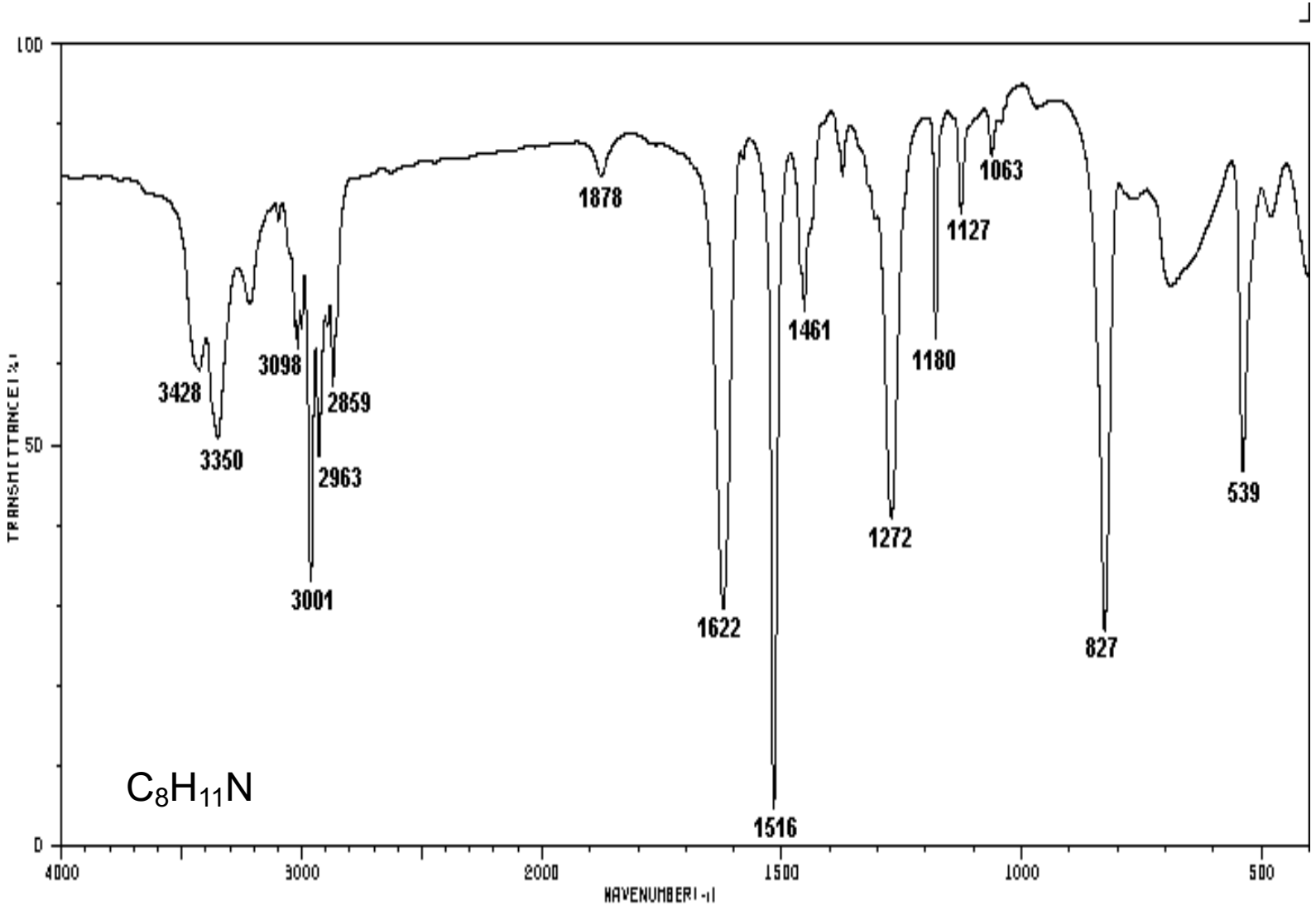

100
50
0
41
39
86
28
45
69
18
15
32
53
58
71
O
OH
10
20
30
40
50
60
70
80
90
100

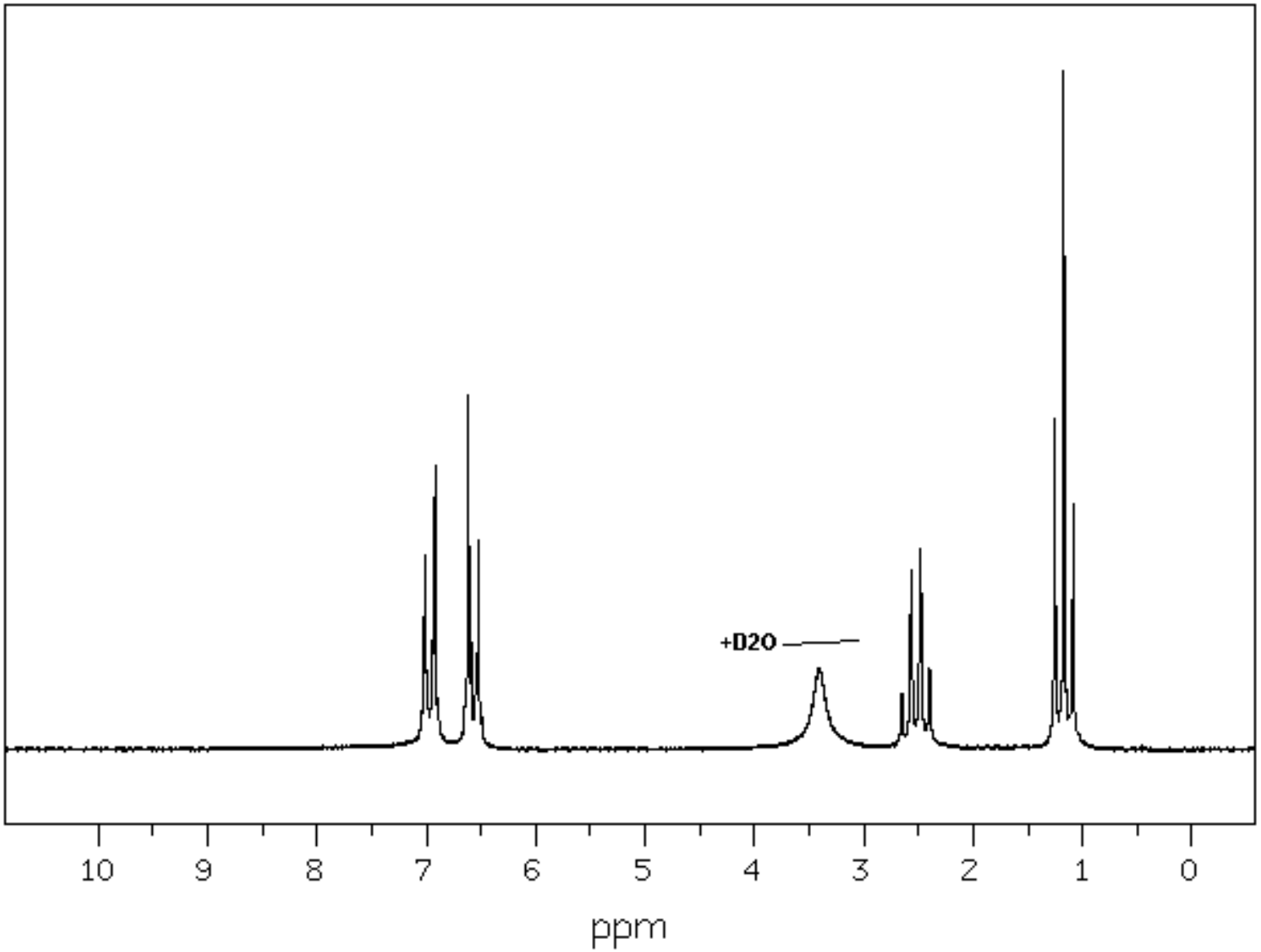
PROPIL ACETATO

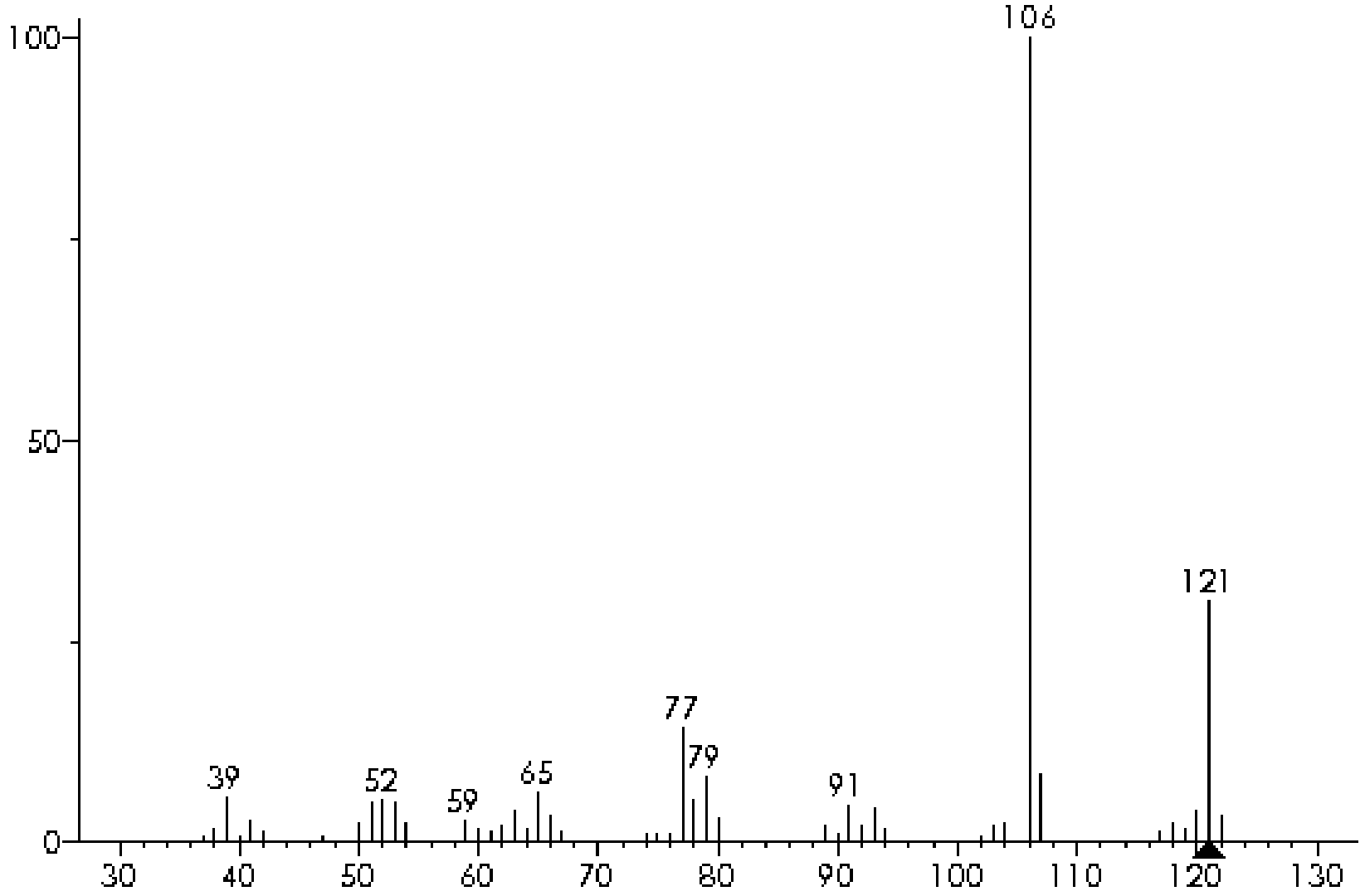



O
CH3—C—O—CH2—CH2—CH3
2
3
2
3
11
10
9
8
7
6
5
4
3
2
1
0
ppm


100
50
0
43
61
73
15
27
31
59
10
20
30
40
50
60
70
80
90
100
110


100
50
0
TRANSMITTANCE[%]
4000
3000
2000
1500
1000
500
WAVENUMBER[-1]
3428
3350
3098
3001
2859
2963
1878
1622
1516
1461
1272
1180
1127
1063
827
539
C8H11N

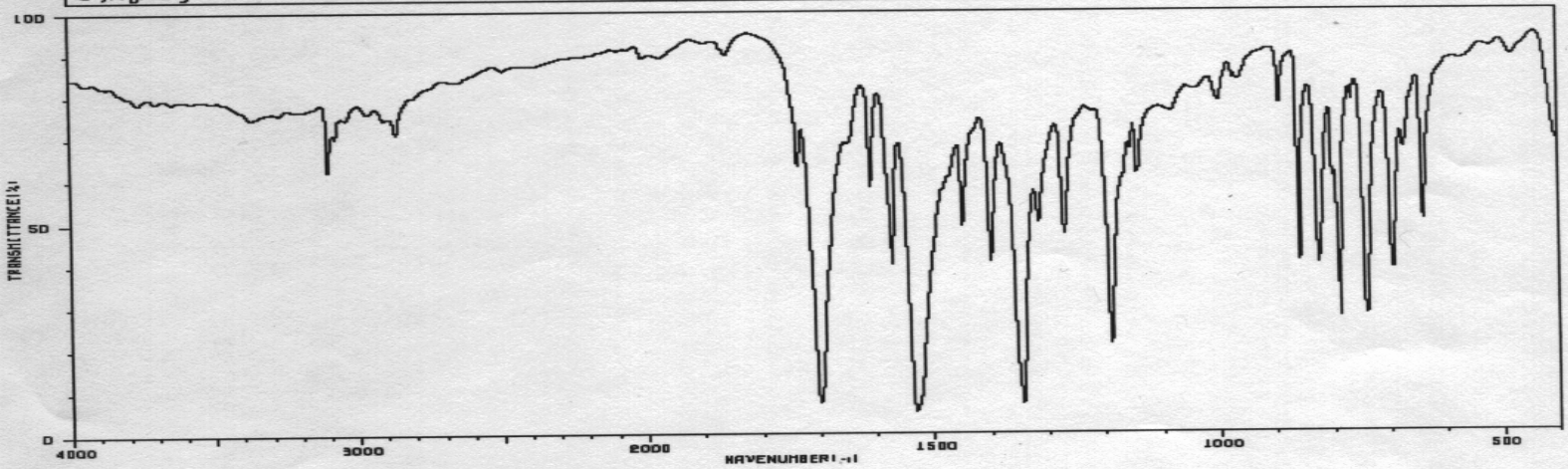

+D2O
10
9
8
7
6
5
4
3
2
1
0
ppm


100
50
0
106
121
77
79
39
52
59
65
91
30
40
50
60
70
80
90
100
110
120
130

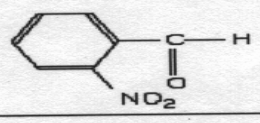
HIT-NO=1547 | SCORE= [ ] | SDBS-NO=1551 | IR-NIDA-23291 : KBR DISC

O-NITROBENZALDEHYDE

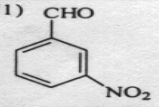
$C_7H_5NO_3$

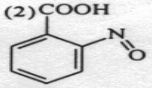


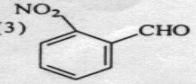
3762	74	2900	72	1632	4	1144	58	826	38
3367	72	2887	72	1448	47	1009	79	788	26
3103	80	2864	68	1399	38	1000	74	757	74
3089	68	1736	60	1345	6	976	81	742	26
3076	68	1699	6	1316	47	966	81	695	37
3065	72	1608	57	1271	44	893	74	675	54
2960	72	1671	38	1190	20	869	38	641	47

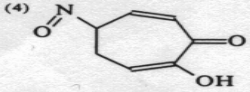


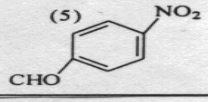
FÓRMULA: $C_7H_5NO_3$

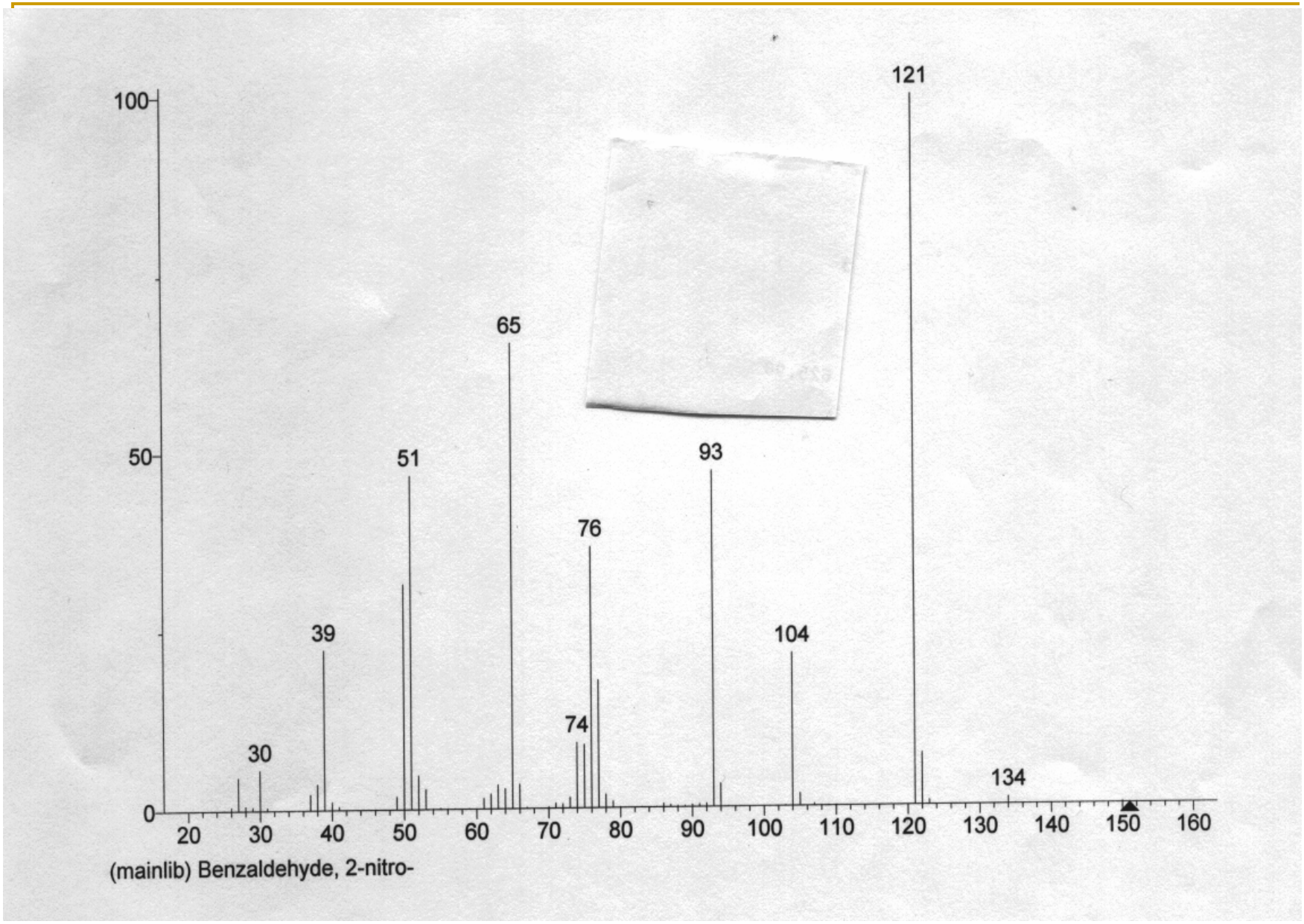
(1) 

(2) 

(3) 

(4) 

(5) 


100
50
0
121
65
51
93
76
39
104
74
30
134
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
(mainlib) Benzaldehyde, 2-nitro-

RESONANCIA MAGNÉTICA PROTÓNICA

FÓRMULA: $C_7H_5NO_3$

Desplazamiento (ppm)	Integración
7.8	3
8.2	1
10.2	1