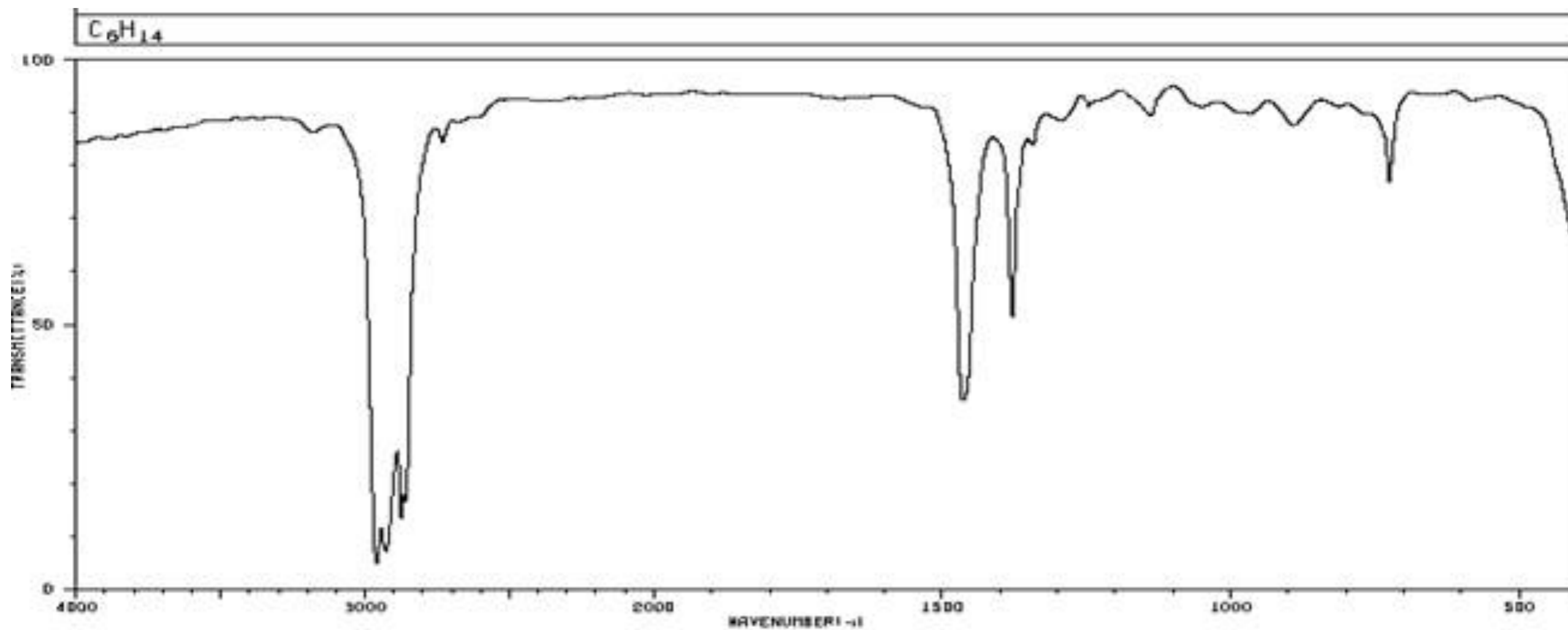


ESERCIZI DI SPETTROSCOPIA IR

LEZIONE 10

SPETTRO 1



3167	84	1465	34	726	74
3176	84	1379	49		
2959	4	1300	84		
2920	7	1294	84		
2875	13	1138	86		
2862	15	891	84		
2734	81	884	84		



SOLUZIONE

2900: stretching C-H

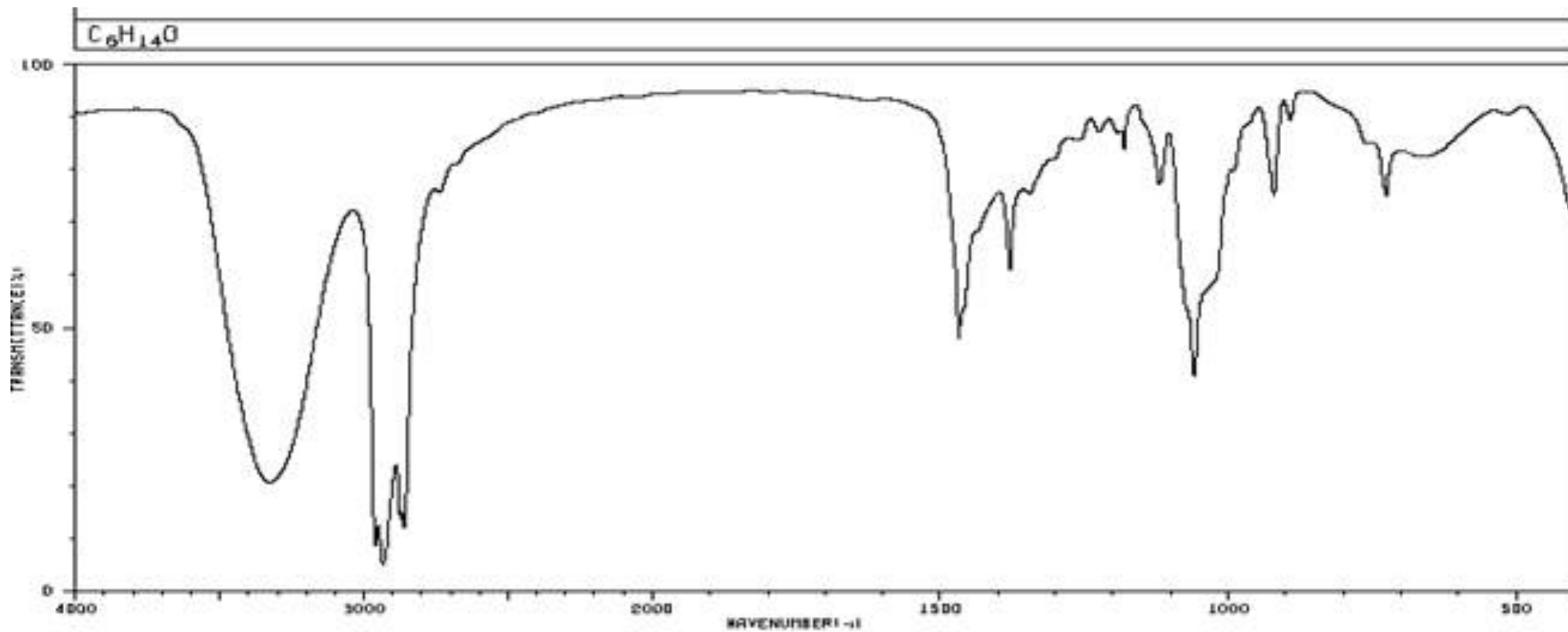
1460: bending CH_2 e bending asimmm CH_3

1380: bending simm C-H

hexane



SPETTRO 2



3324	20	1378	68	821	72
2958	8	1225	84	892	86
2933	4	1192	64	726	72
2874	13	1187	64		
2861	11	1181	81		
1466	46	1113	74		
1461	50	1069	39		



SOLUZIONE

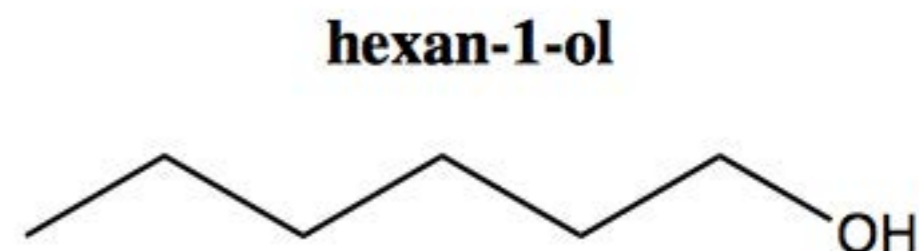
3330: stretching O-H

1060: stretching C-O

3000: stretching C-H

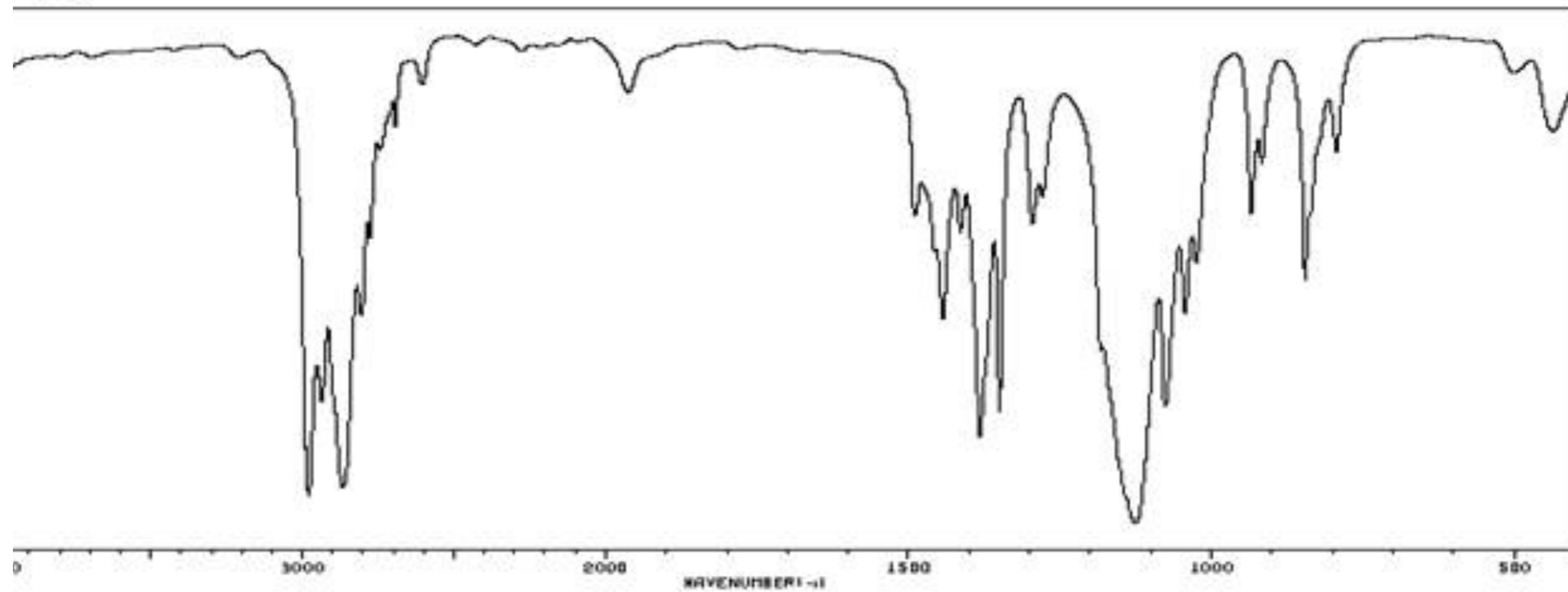
1470: bending CH₂ e bending asimmetrico CH₃

1378: bending simmetrico CH₃



SPETTRO 3

$C_4H_{10}O$



2989	17	2693	74	1389	20	1024	50
2979	9	2604	81	1351	24	935	58
2935	26	1962	81	1297	56	917	68
2868	10	1490	68	1279	82	846	47
2804	41	1457	58	1126	4	794	70
2777	55	1444	41	1077	25	501	64
2743	70	1416	67	1043	42	438	74

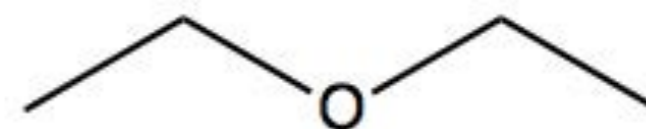


SOLUZIONE

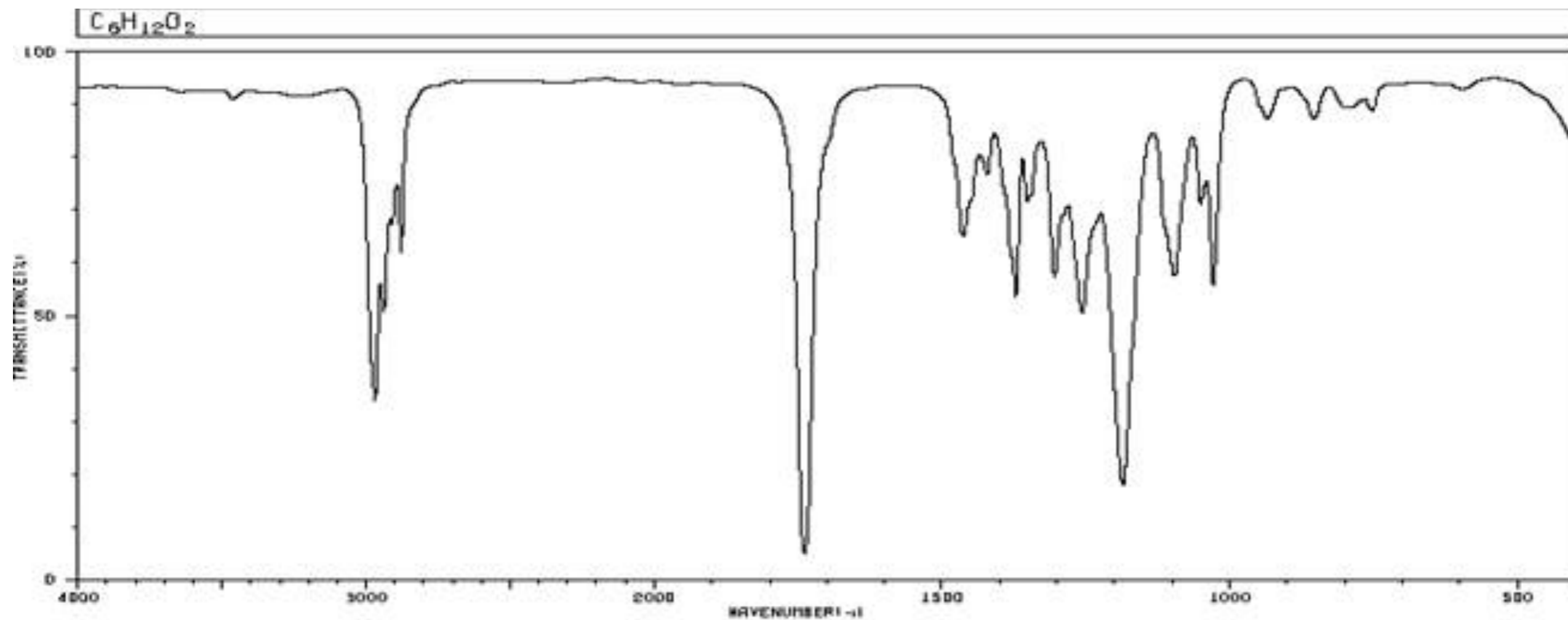
2989/2804: stretching C-H

1125: stretching C-O

diethyl ether



SPETTRO 4



2969	32	1372	62	1061	68	753	84
2939	49	1352	68	1029	53		
2879	80	1347	70	935	84		
1739	4	1306	66	869	84		
1463	62	1257	49	801	86		
1450	68	1188	17	796	86		
1422	74	1096	66	791	86		

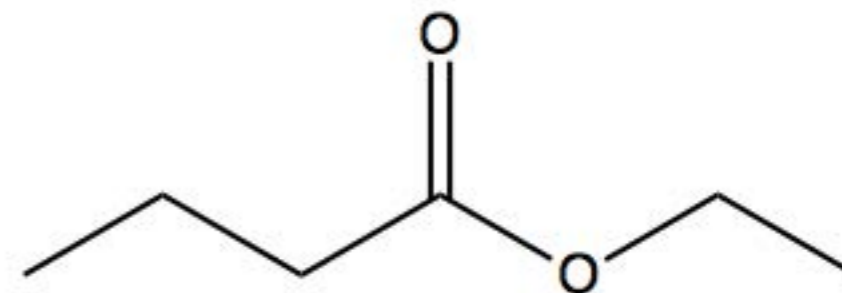


SOLUZIONE

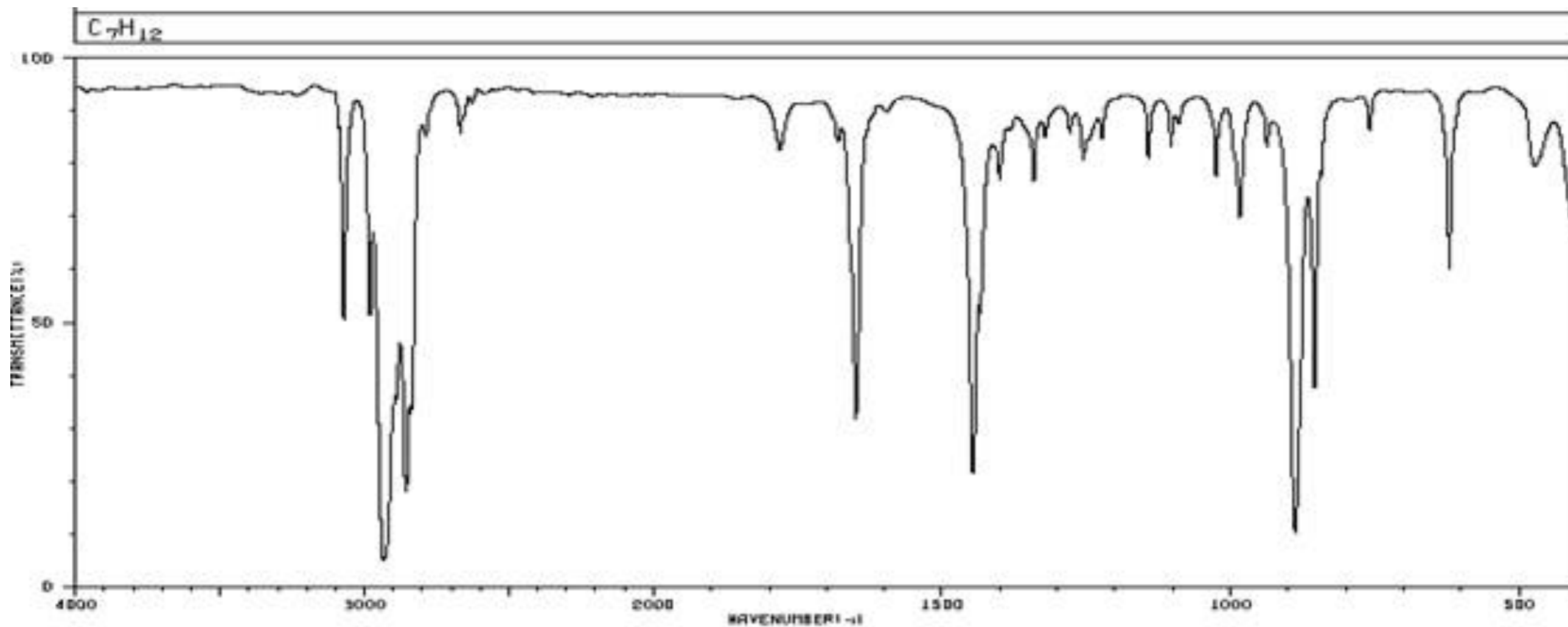
1730: stretching C=O

1180: stretching C-O

ethyl butyrate



SPETTRO 5



3089	84	2789	81	1434	50	1223	81	888	9
3071	49	2669	81	1400	74	1143	79	854	36
3052	84	1781	79	1341	74	1103	79	759	84
2981	49	1680	81	1322	81	1090	84	621	68
2933	4	1649	30	1279	81	1025	74	472	77
2856	17	1598	66	1256	77	984	68		
2839	31	1446	20	1247	81	937	79		

SOLUZIONE

2900: stretching C-H alchilici

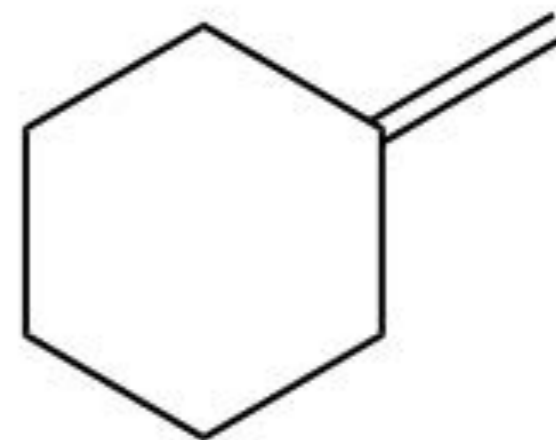
3100: stretching C-H vinilici

1650: stretching C=C

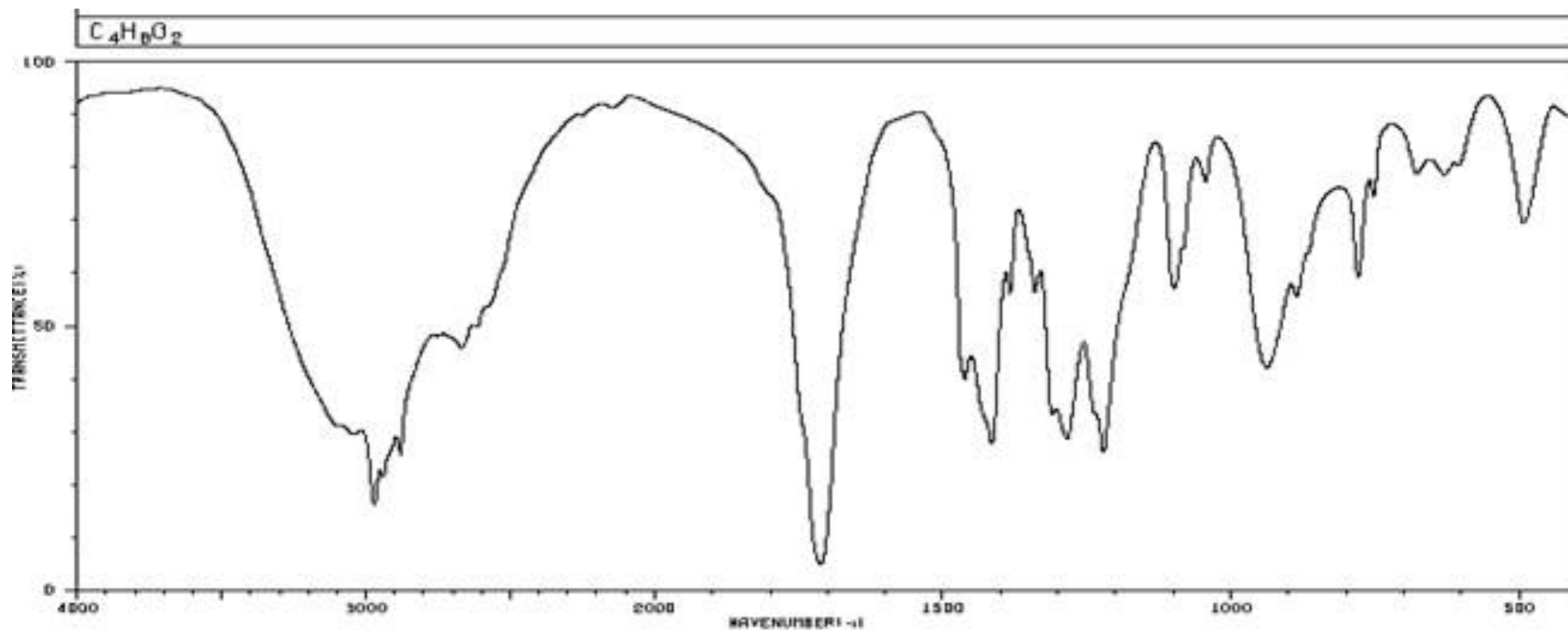
1450: bending C-H

900: bending C-H vinilici

methylen cyclohexane



SPETTRO 6



2971	15	1461	38	1098	55	678	77
2940	20	1415	26	1050	77	629	77
2860	24	1384	55	1044	74	492	65
2861	44	1341	66	837	41		
2868	44	1285	27	886	53		
1712	4	1235	32	760	57		
1467	39	1222	26	762	72		

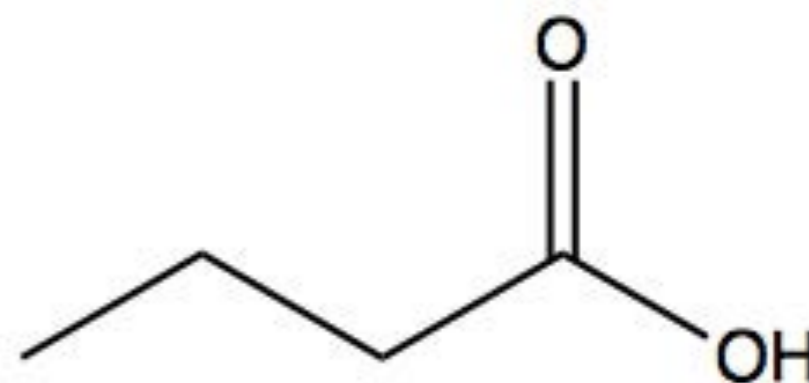


SOLUZIONE

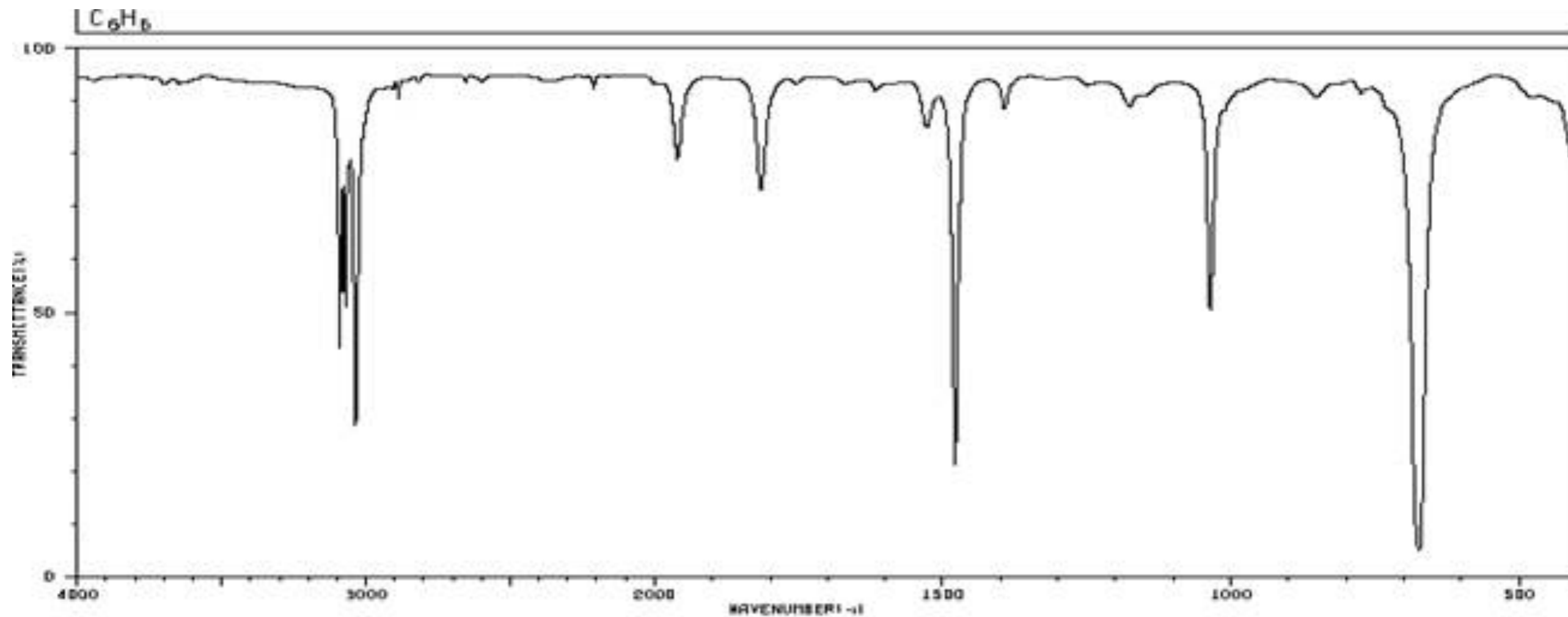
2500/3600: O-H acido

1710: stretching C=O

butyric acid



SPETTRO 7



3091	42	1383	84
3072	49	1176	86
3056	27	1038	49
1961	77	674	4
1815	70		
1526	81		
1479	20		



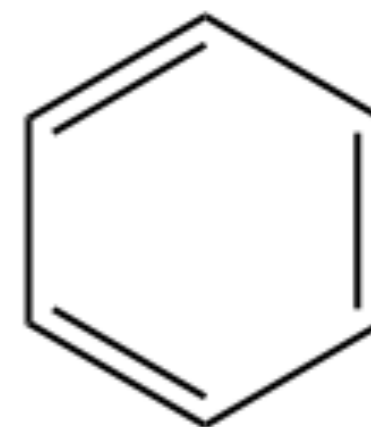
SOLUZIONE

3000/3100: stretching C-H

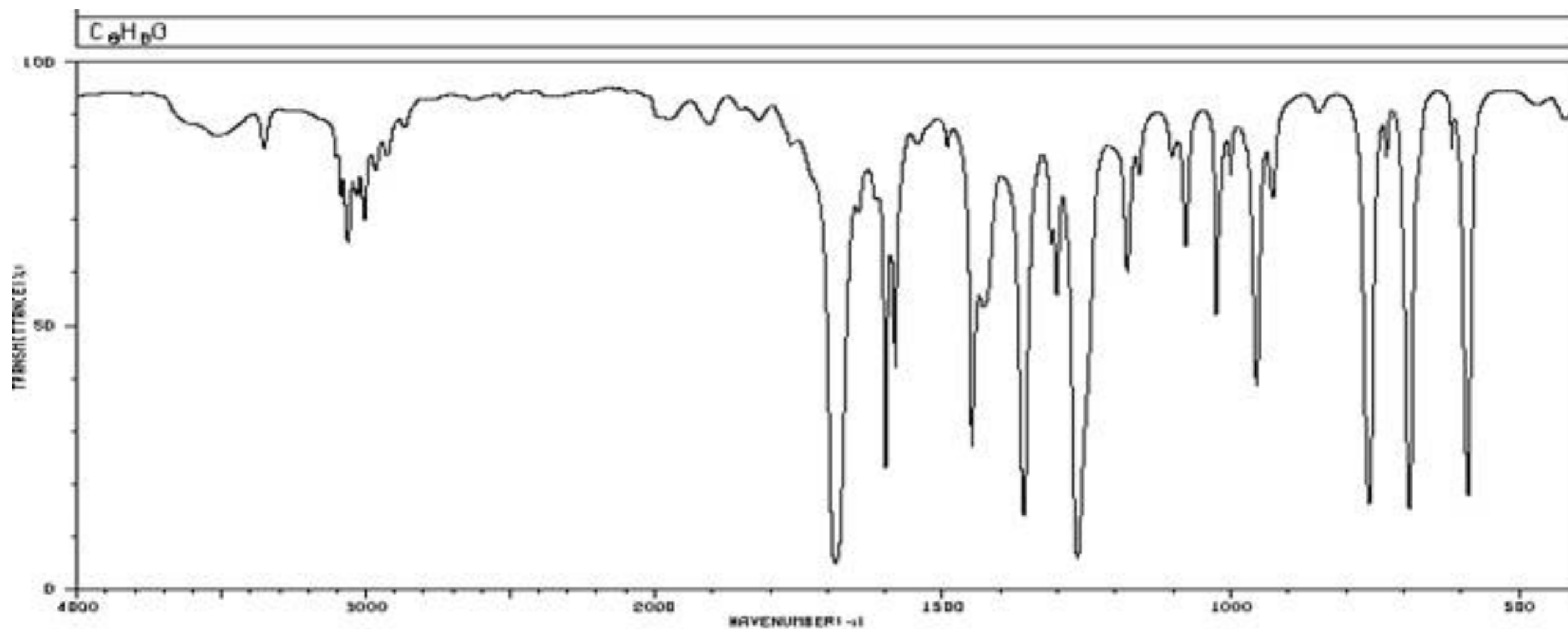
1500: stretching C=C

2000/1800: assorbimenti armonici di bending scheletro a 1000/500

benzene



SPETTRO 8



3504	84	2967	77	1646	81	1267	6	966	37
3352	81	2925	79	1492	81	1181	58	928	72
3087	72	2857	84	1450	26	1160	74	761	15
3063	84	1686	4	1430	62	1103	79	731	79
3040	72	1646	68	1360	13	1079	62	691	14
3029	72	1599	21	1315	82	1025	50	616	81
3006	88	1583	41	1303	63	1001	74	588	17

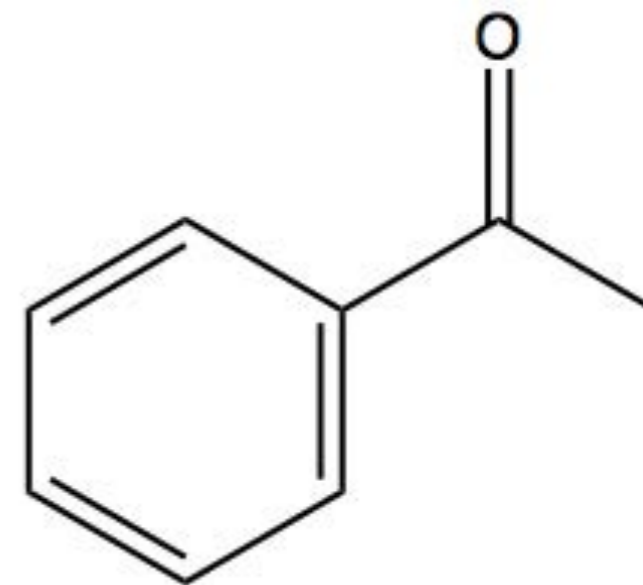
SOLUZIONE

3000: stretching C-H aromatici e alifatici

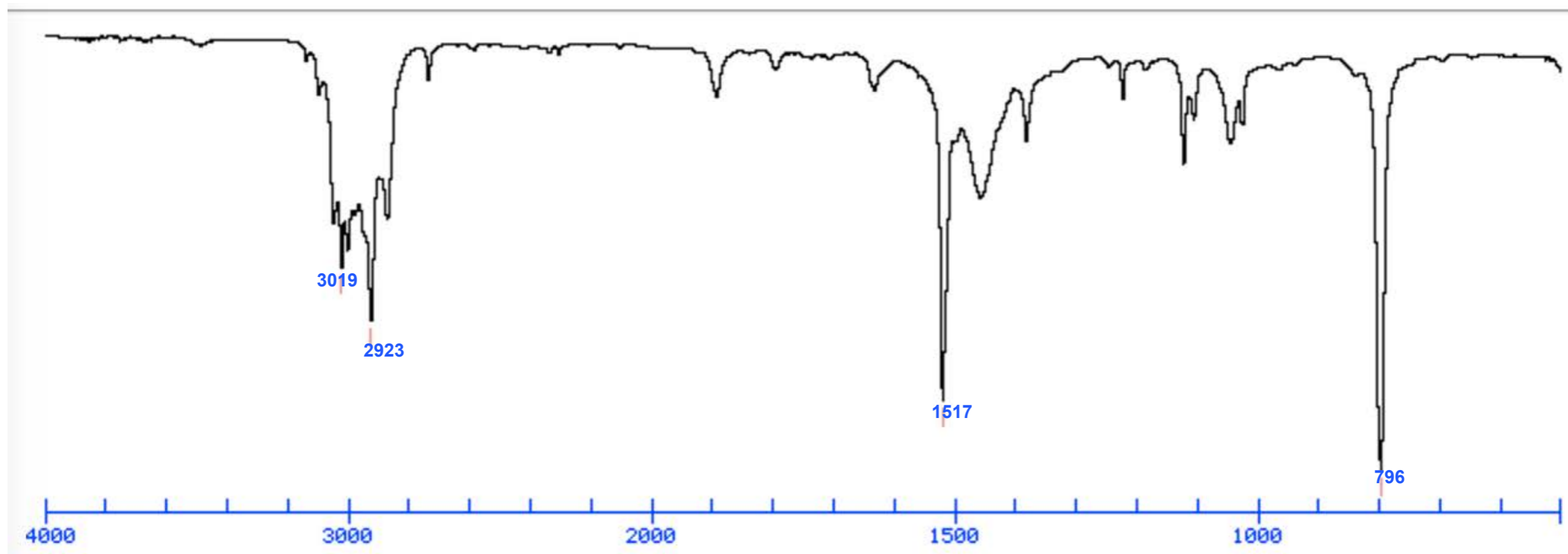
1700: stretching C=O

1450 e 1600: stretching C=C

acetophenone



SPETTRO 9



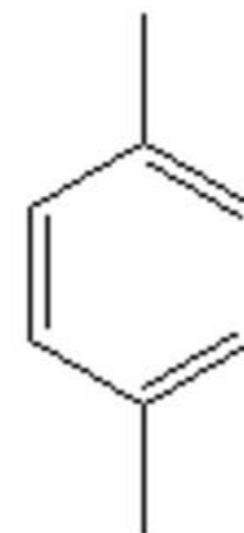
SOLUZIONE

2923 e 3019: stretching C-H

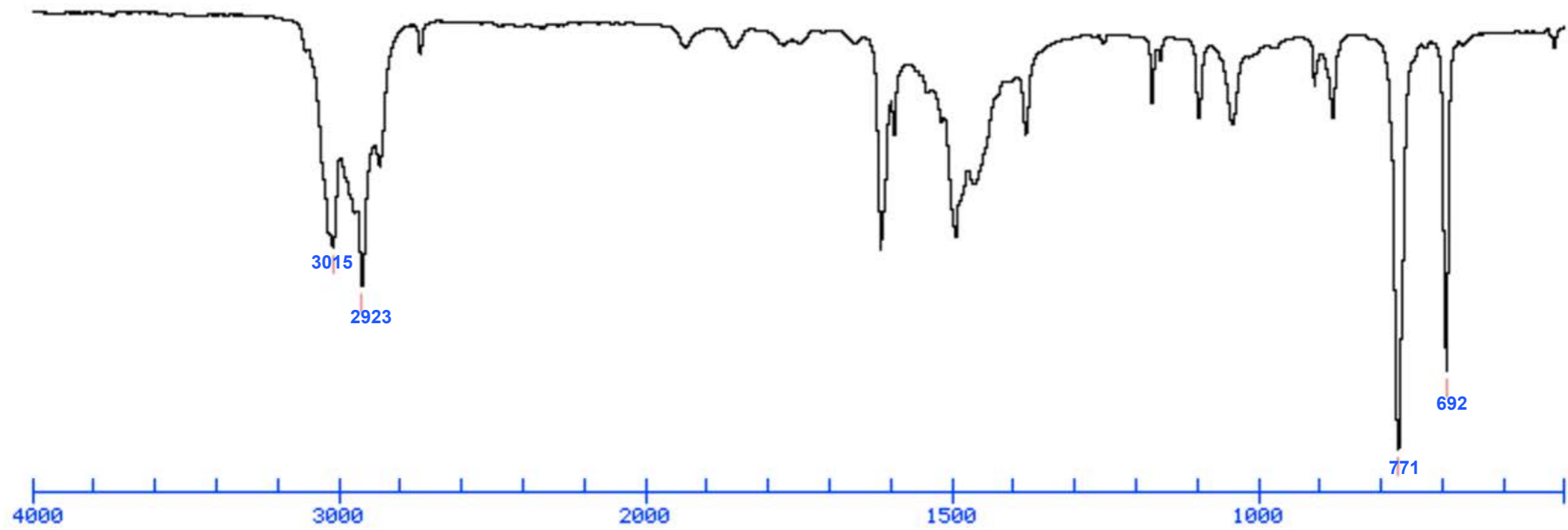
1517: stretching C-C

796: bending C-C aromatici (para)

p-xylene
1,4-dimethylbenzene



SPETTRO 10

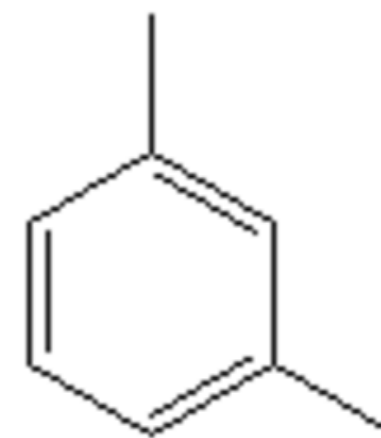


SOLUZIONE

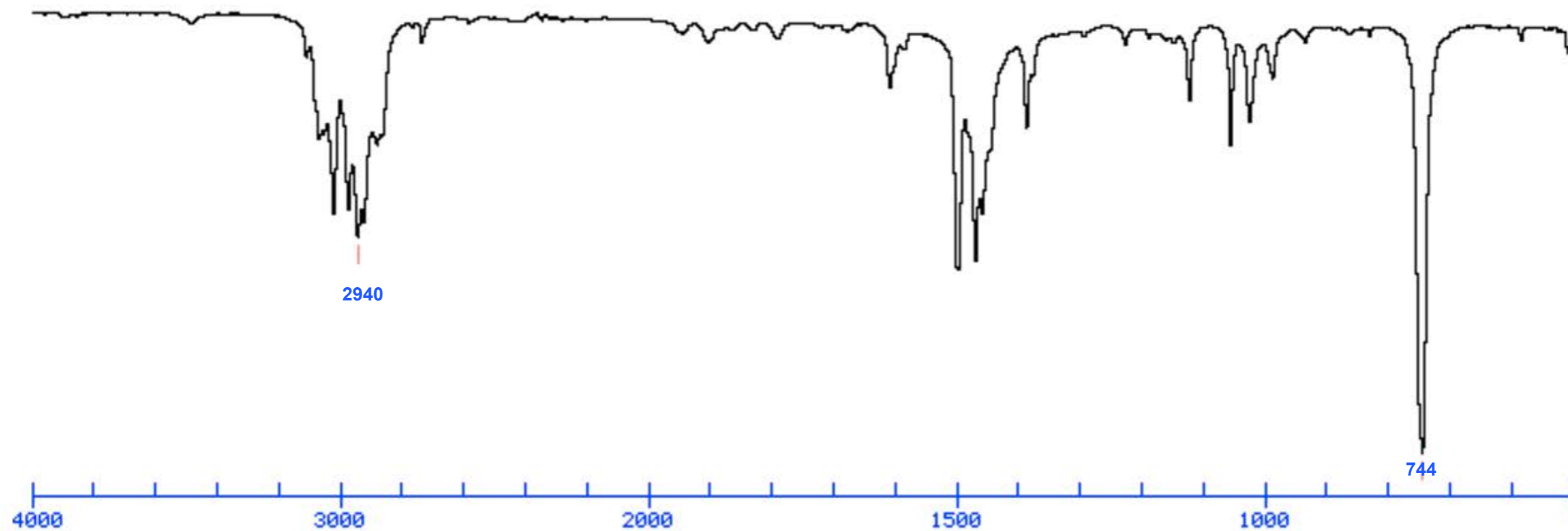
2923 e 3015: stretching C-H

692 e 771: bending C-C aromatici (meta)

m-xylene
1,3-dimethylbenzene



SPETTRO 11

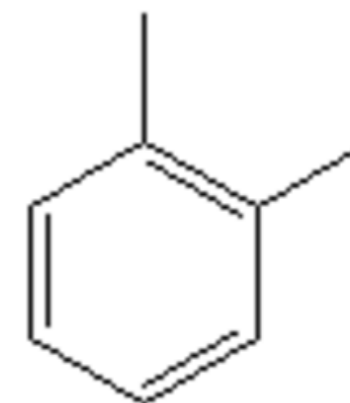


SOLUZIONE

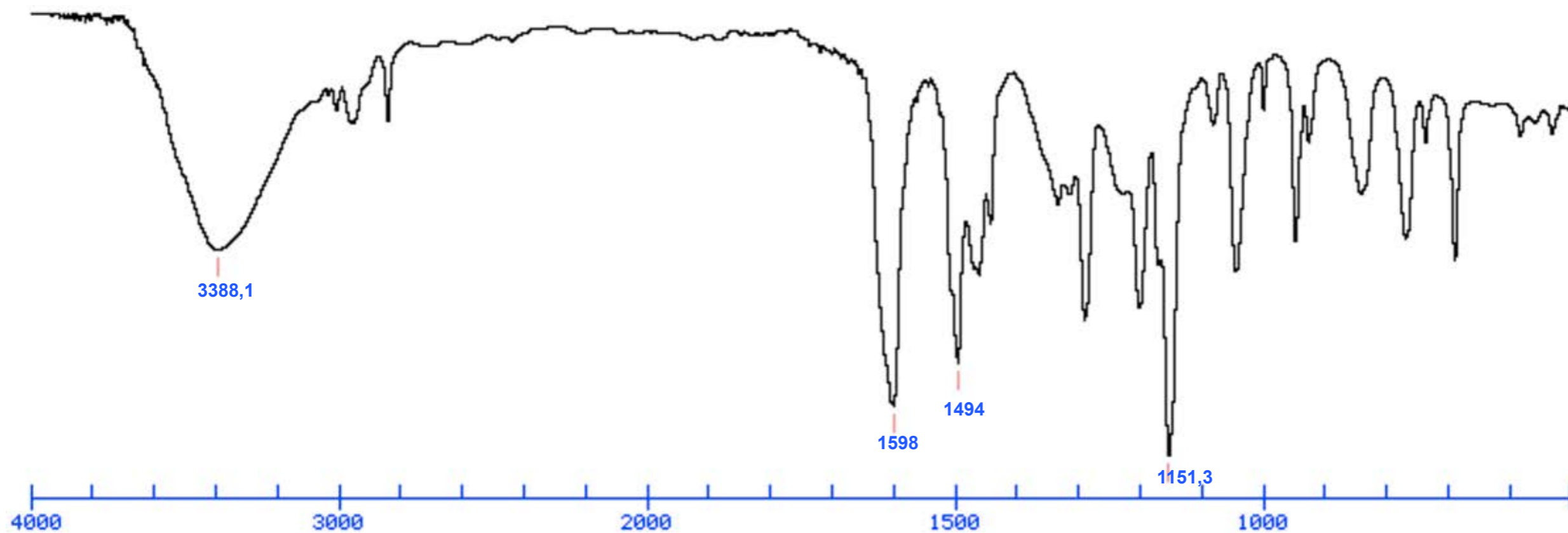
2940: stretching C-H

744: bending C-C aromatici (orto)

o-xylene
1,2-dimethylbenzene



SPETTRO 12



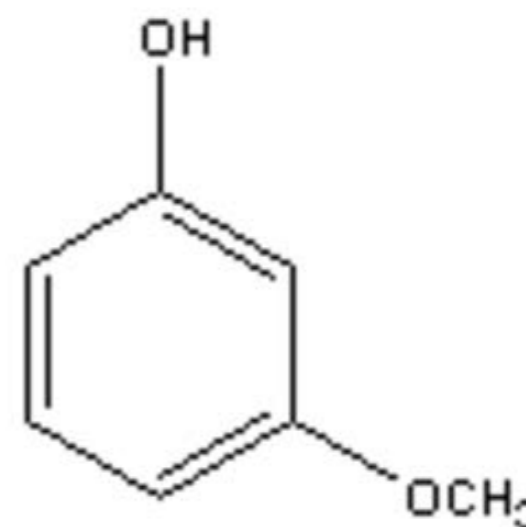
SOLUZIONE

3388: stretching O-H

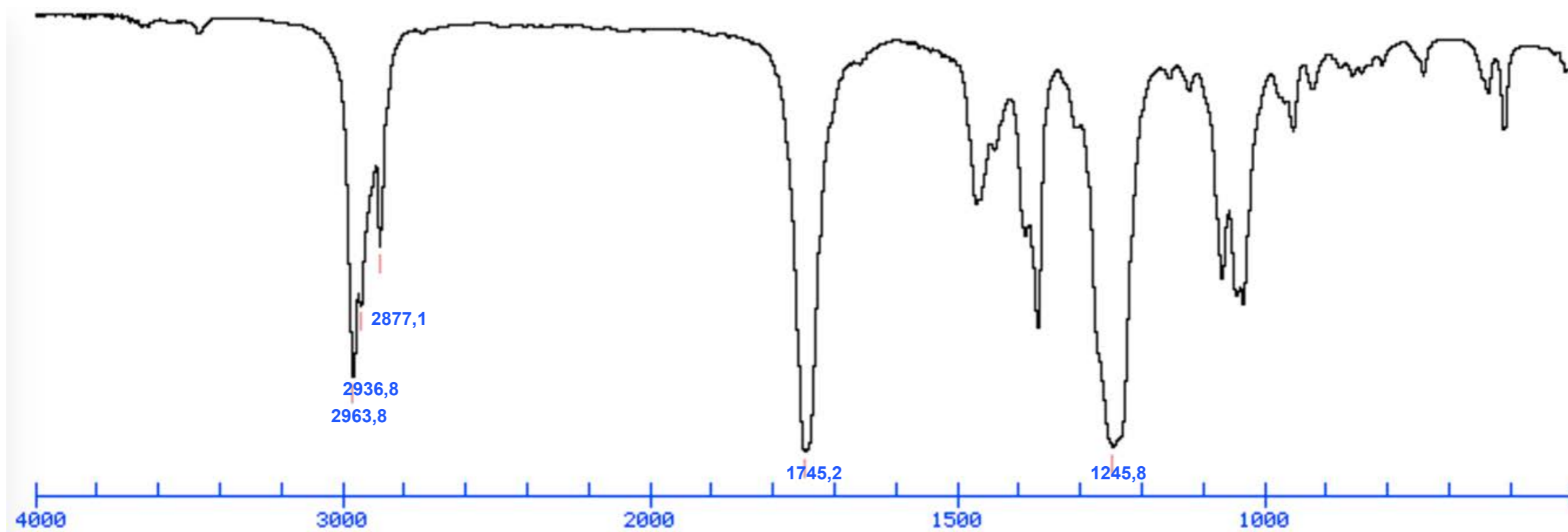
1494 e 1598: stretching C-C aromatici

1151,3: stretching C-O

3-methoxyphenol



SPETTRO 13



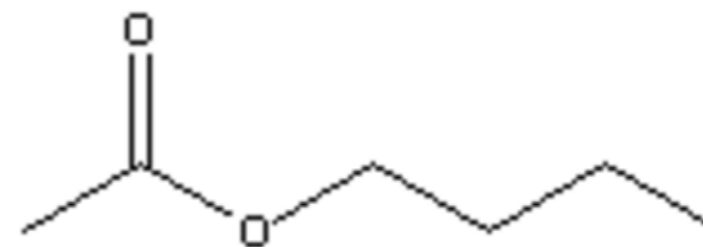
SOLUZIONE

2963,8/2877: stretching C-H

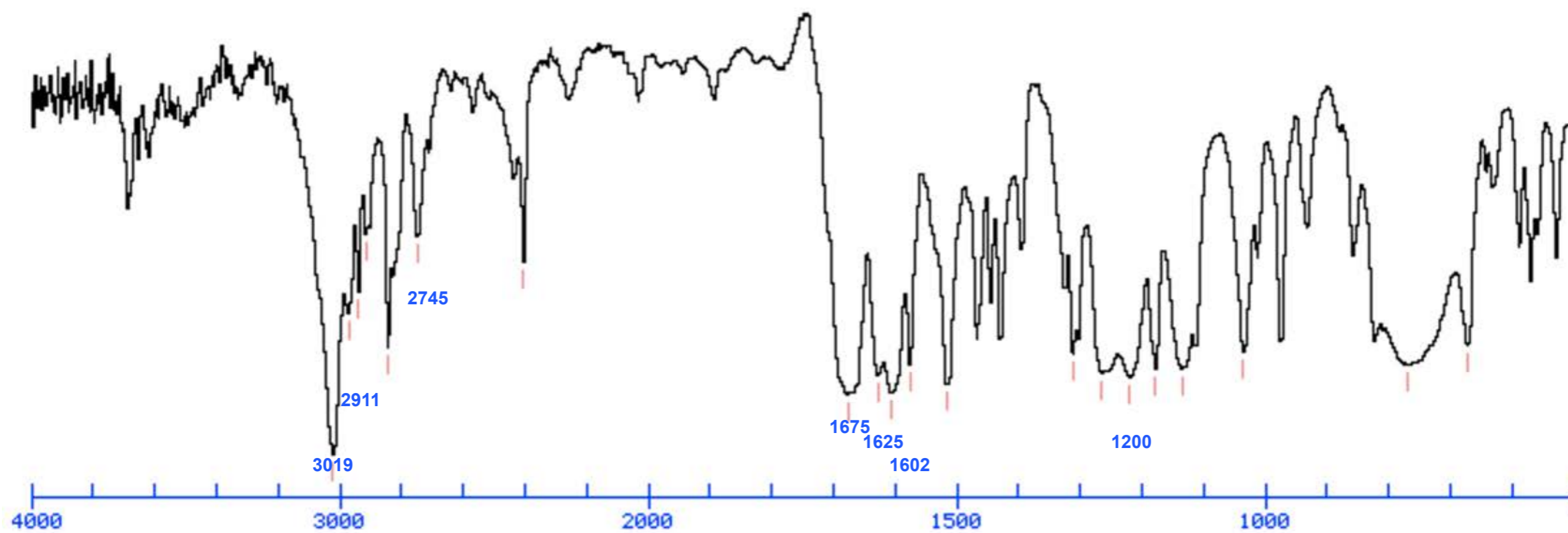
1745,2: stretching C=O

1245,8: stretching C-O

butyl acetate
butyl ethanoate



SPETTRO 14



SOLUZIONE

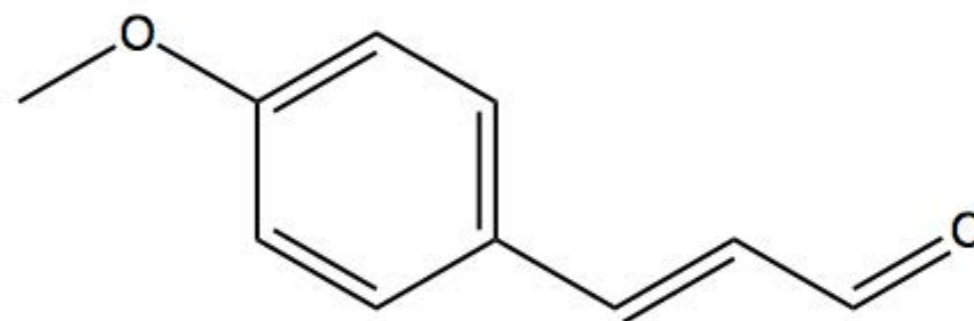
3019: stretching C-H alcano

2963,8/2745: stretching C-H aldeide

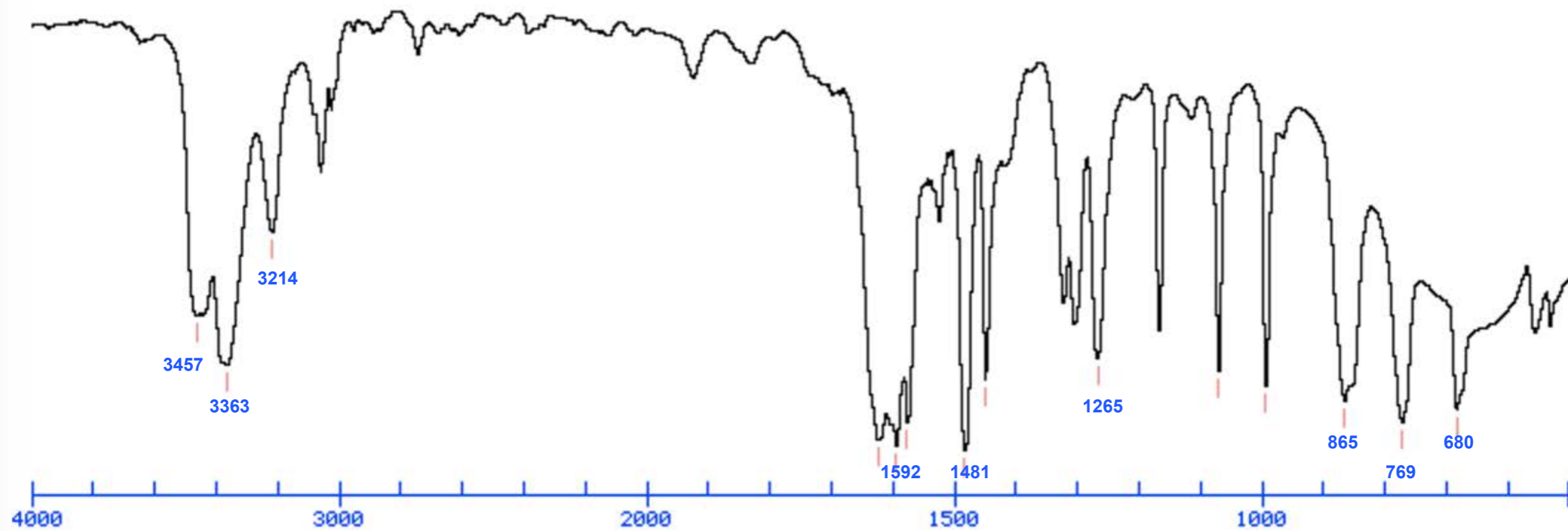
1745,2: stretching C=O

1245,8: stretching C-O

p-Methoxycinnamaldehyde



SPETTRO 15



SOLUZIONE

3457: stretching asimmetrico NH_2

3363: stretching simmetrico NH_2

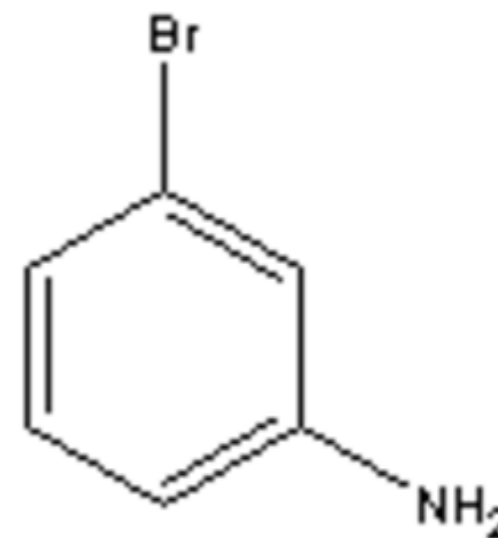
3214: stretching C-H aromatico

1592 e 1481: stretching C-C aromatico

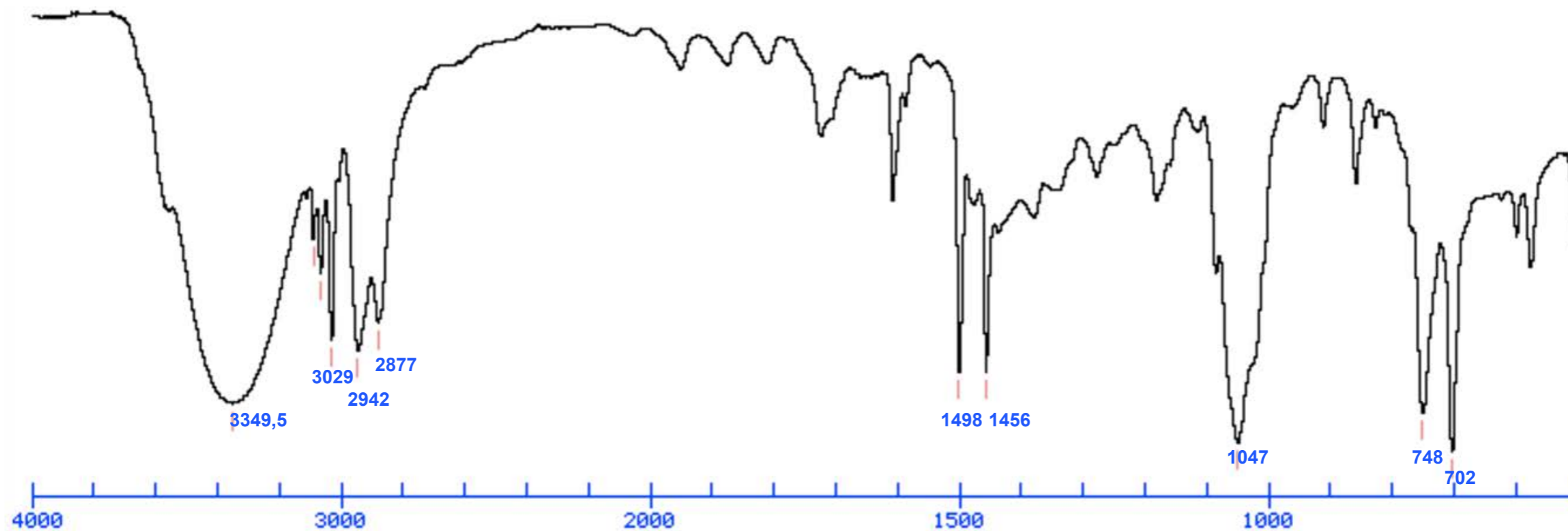
769 e 865: bending C-H aromatico (meta)

680: bending Br

3-bromoaniline



SPETTRO 16



SOLUZIONE

3349: stretching O-H

3085/2877: stretching C-H

1498, 1456: stretching C-C

1047: stretching C-O

748 e 702: bending C-H monosostituito

2-phenylethanol

