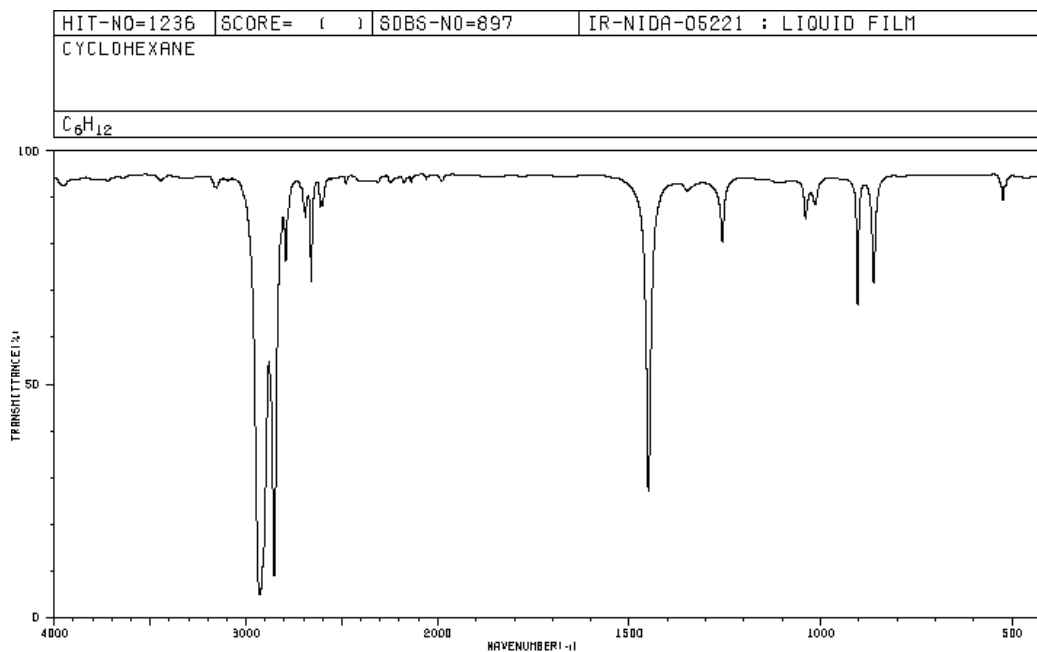


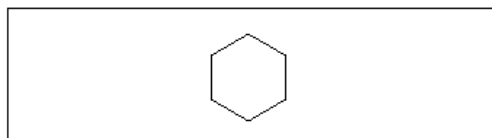
# Organic Chemistry II (CHEM 242-002)

Instructor: Dr. Chulsung Bae

## Examples of IR Spectra (for Chapter 12)



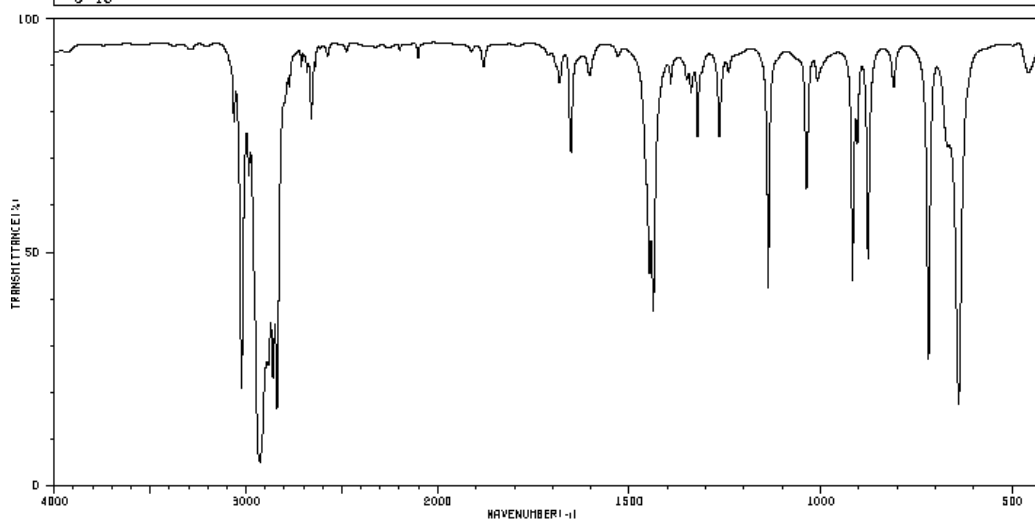
2928	4	1460	26
2853	8	1257	77
2794	72	1039	81
2690	81	1016	84
2661	70	904	64
2013	84	862	68
2699	84	624	86



HIT-NO=1069 SCORE= ( ) SOBS-NO=569 IR-NIDA-04101 : LIQUID FILM

CYCLOHEXENE

$C_6H_{10}$



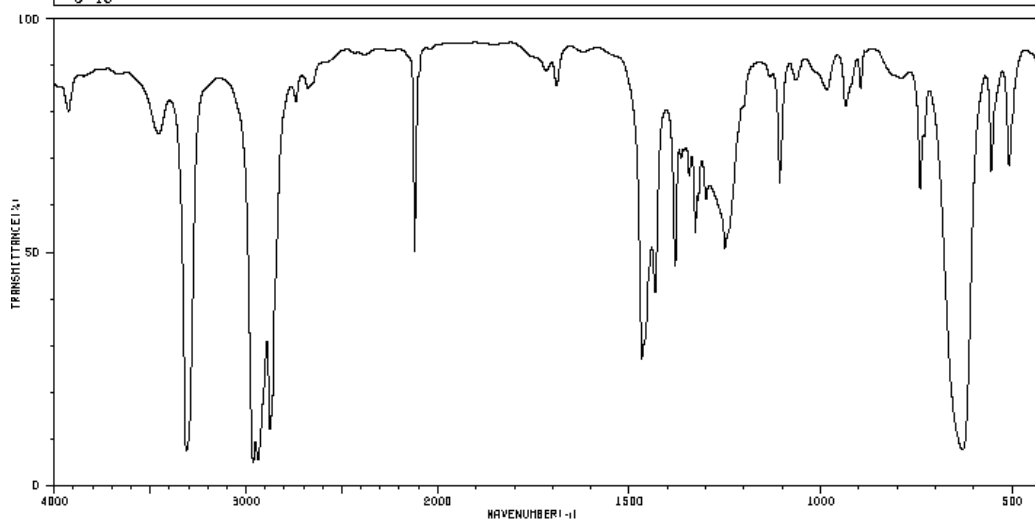
3063	74	2711	86	1662	68	1330	84	917	42
3023	20	2682	84	1604	84	1322	72	904	70
2965	84	2659	74	1447	43	1265	72	877	46
2927	4	2639	86	1438	36	1241	84	810	81
2860	21	1860	86	1392	84	1137	41	719	26
2836	15	1691	86	1351	84	1037	60	640	16
2776	81	1682	84	1339	81	1009	84	467	84



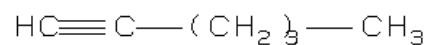
HIT-NO=1068 SCORE= ( ) SOBS-NO=568 IR-NIDA-05748 : LIQUID FILM

1-HEXYNE

$C_6H_{10}$



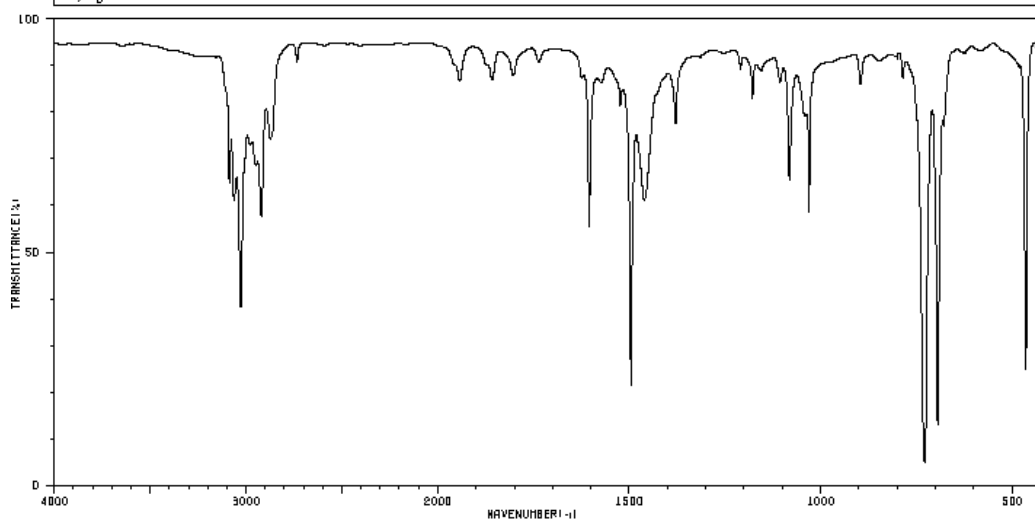
3926	77	2679	81	1432	39	1260	49	740	50
3455	72	2120	49	1380	46	1107	62	730	72
3311	7	2097	84	1366	88	1063	84	630	7
2962	4	1717	86	1344	64	983	81	666	64
2937	5	1690	81	1326	52	934	79	509	86
2876	11	1467	26	1320	58	895	81		
2738	79	1461	29	1300	68	793	84		



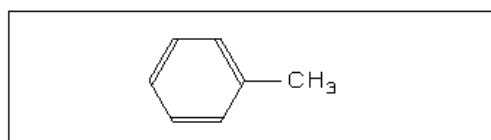
HIT-NO=857 SCORE= ( ) SOBS-NO=97 IR-NIDA-63542 : LIQUID FILM

TOLUENE

C<sub>7</sub>H<sub>8</sub>



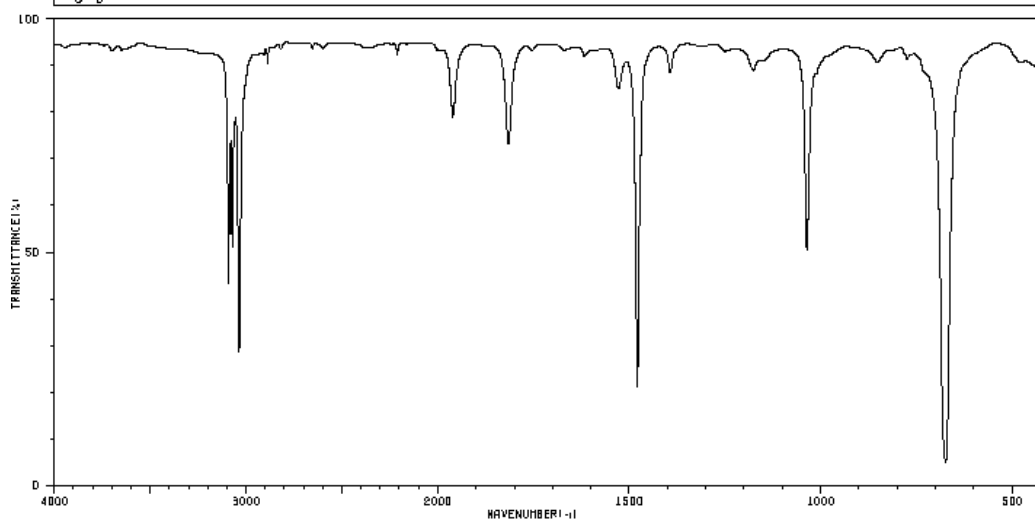
3087	82	1868	84	1210	86	896	81
3062	58	1803	84	1179	79	786	84
3026	37	1605	55	1156	86	729	4
2948	66	1524	79	1107	84	696	12
2920	55	1496	20	1082	82	678	74
2873	70	1461	58	1042	77	465	29
1942	84	1379	74	1030	67		



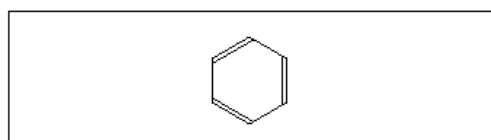
HIT-NO=1237 SCORE= ( ) SOBS-NO=898 IR-NIDA-63541 : LIQUID FILM

BENZENE

C<sub>6</sub>H<sub>6</sub>



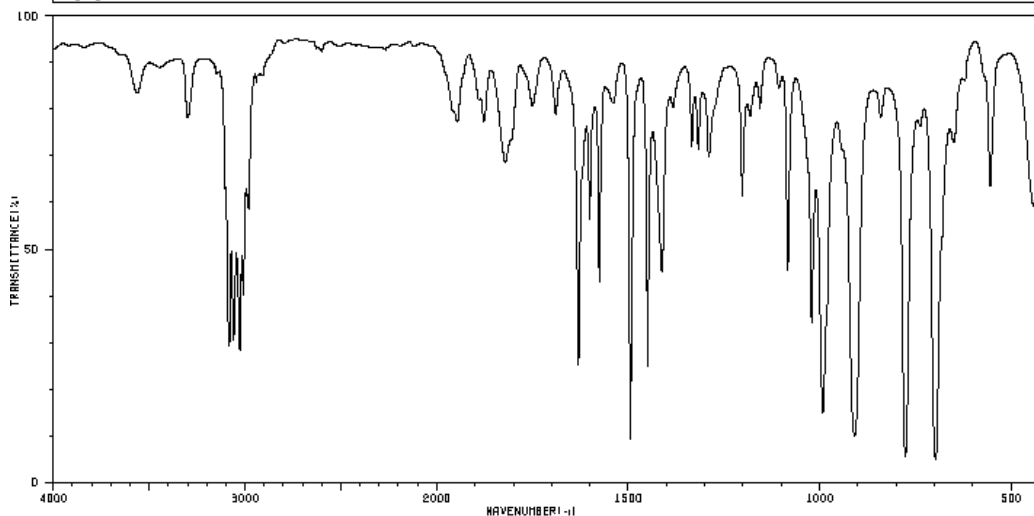
3091	42	1393	84
3072	49	1176	86
3036	27	1038	49
1961	77	874	4
1815	70		
1628	81		
1479	20		



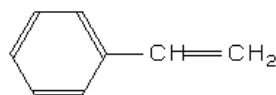
HIT-NO=2170 SCORE= ( ) SOBS-NO=3044 IR-NIDA-10290 : LIQUID FILM

STYRENE

C<sub>8</sub>H<sub>8</sub>



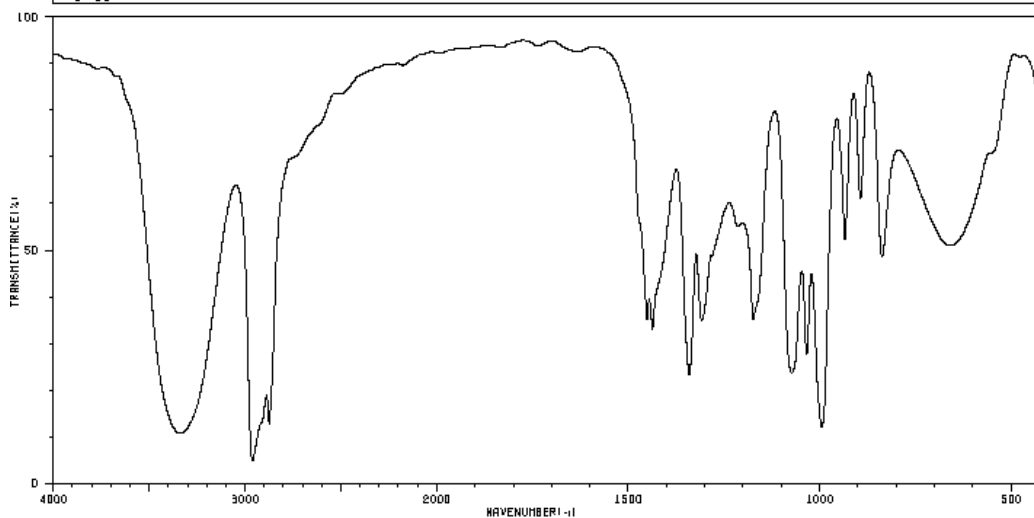
3299	74	1946	74	1495	9	1202	68	841	74
3082	28	1876	74	1449	23	1182	74	777	5
3050	29	1821	66	1412	43	1156	77	736	72
3027	27	1689	77	1389	77	1089	49	698	4
3009	38	1630	24	1334	70	1021	33	650	70
2980	57	1601	59	1317	66	992	14	555	60
1955	77	1576	41	1290	66	909	9	442	57



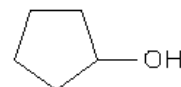
HIT-NO=4177 SCORE= ( ) SOBS-NO=10527 IR-NIDA-03148 : LIQUID FILM

CYCLOPENTANOL

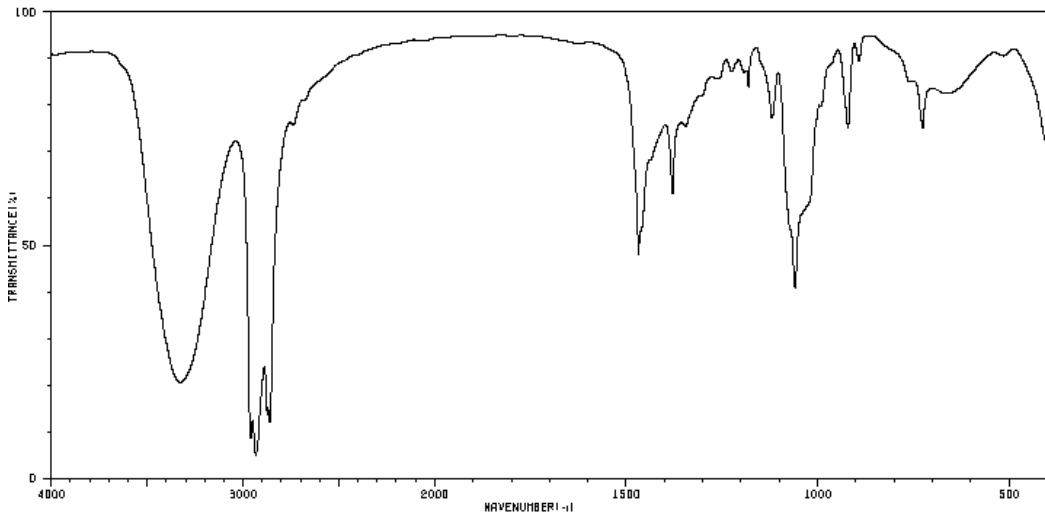
C<sub>5</sub>H<sub>10</sub>O



3346	10	1308	34	837	47
3335	10	1174	34	664	49
2961	4	1073	25	656	49
2873	12	1034	26		
1451	34	994	12		
1436	32	934	50		
1341	23	894	68		

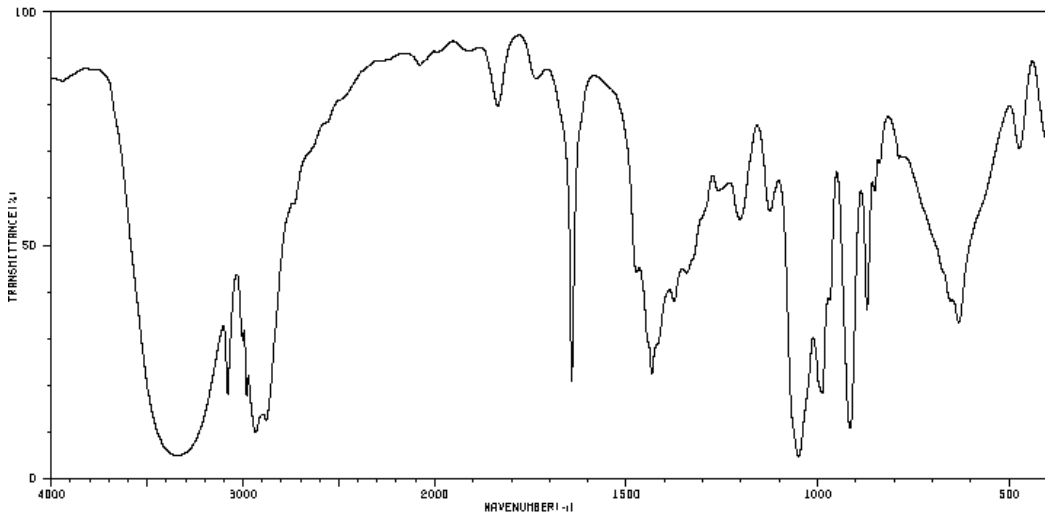


HIT-NO=1377	SCORE= ( )	SDBS-NO=1303	IR-NIDA-00216 : LIQUID FILM
HEXYL ALCOHOL			
C <sub>6</sub> H <sub>14</sub> O			

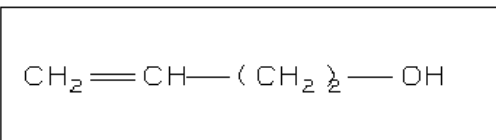


3324	20	1379	69	921	72
2958	8	1225	84	892	86
2935	4	1192	64	726	72
2874	13	1187	84		
2861	11	1181	81		
1466	46	1119	74		
1461	60	1069	39		

HIT-NO=2916	SCORE= ( )	SDBS-NO=5328	IR-NIDA-09544 : LIQUID FILM
3-BUTEN-1-OL			
C <sub>4</sub> H <sub>8</sub> O			



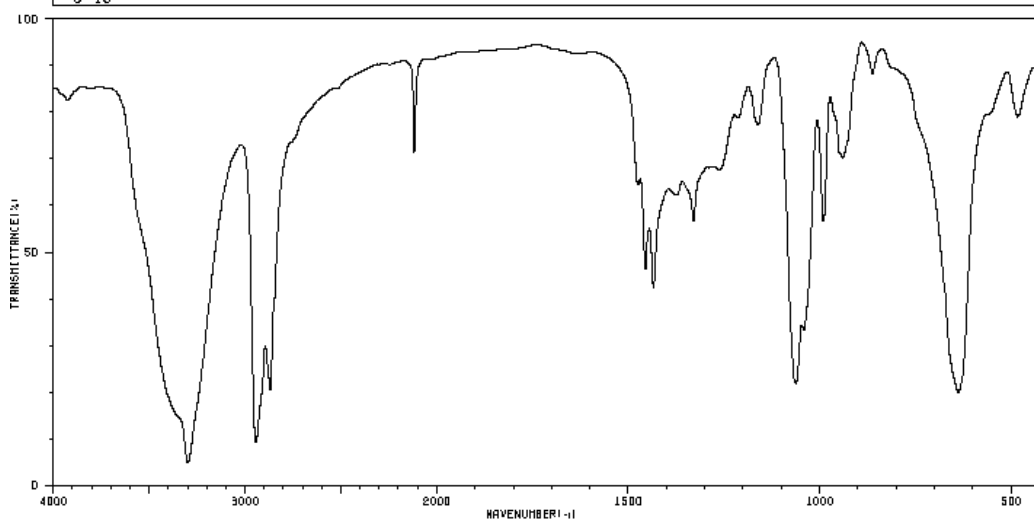
3080	16	1736	81	1125	66	632	39
3002	29	1642	20	1050	4	474	68
2961	17	1433	22	996	19		
2939	10	1376	37	988	18		
2878	12	1259	60	916	10		
2077	86	1249	60	871	35		
1836	77	1203	69	861	60		



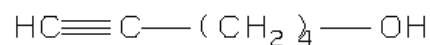
HIT-NO=5502 SCORE= ( ) SDBS-NO=18834 IR-NIDA-44129 : LIQUID FILM

5-HEXYN-1-OL

C<sub>6</sub>H<sub>10</sub>O



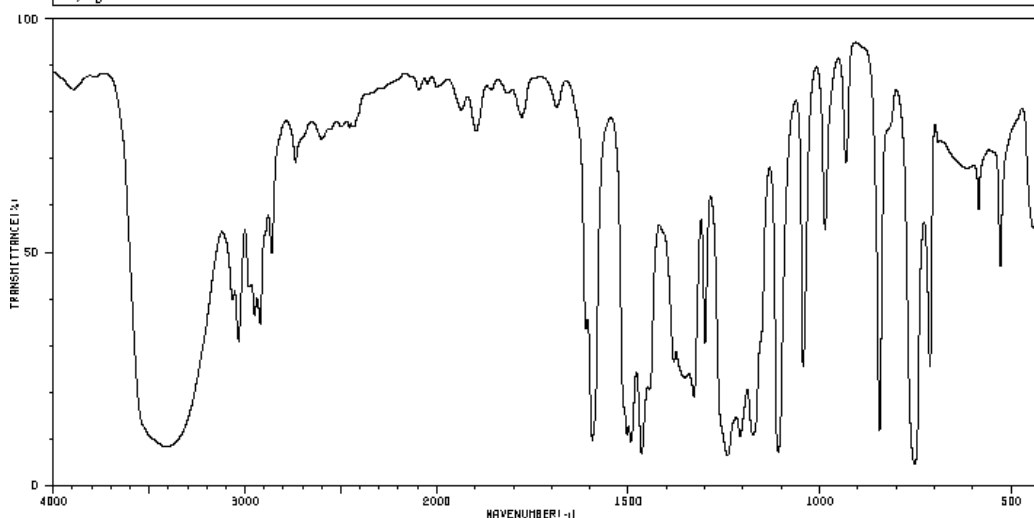
3926	79	1434	41	949	68
3297	4	1374	60	941	68
2943	9	1329	55	865	84
2868	20	1161	74	637	19
2117	68	1063	21	485	77
1475	62	1041	32		
1455	44	990	55		



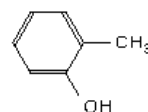
HIT-NO=1416 SCORE= ( ) SDBS-NO=1368 IR-NIDA-05134 : LIQUID FILM

O-CRESOL

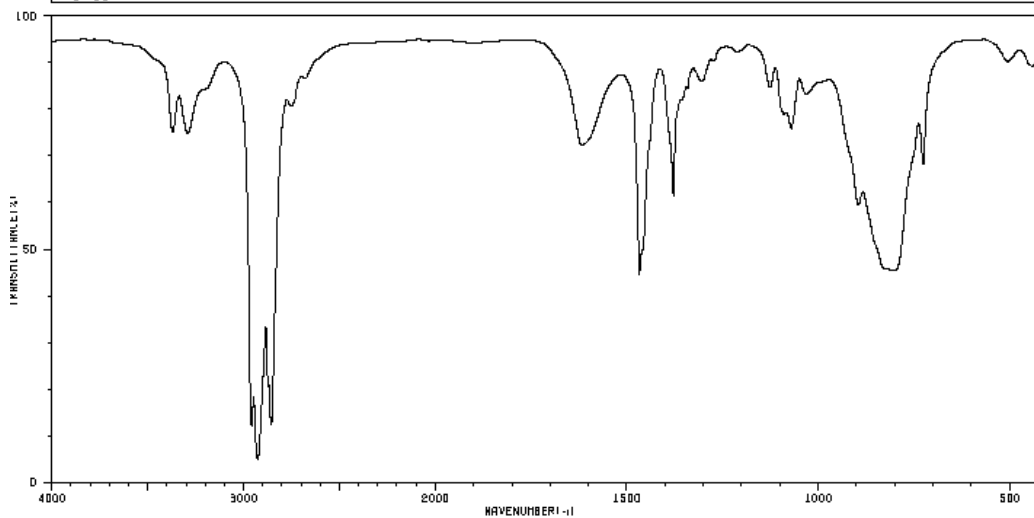
C<sub>7</sub>H<sub>8</sub>O



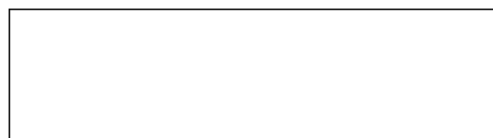
3408	6	2600	72	1594	9	1300	30	931	56
3053	38	2497	74	1503	10	1241	6	844	12
3033	30	2434	74	1494	9	1208	10	752	4
2960	36	1936	77	1465	7	1174	10	712	25
2920	34	1897	74	1381	26	1109	7	585	57
2851	49	1778	77	1342	23	1044	25	526	46
2736	66	1611	39	1329	18	986	63	442	53



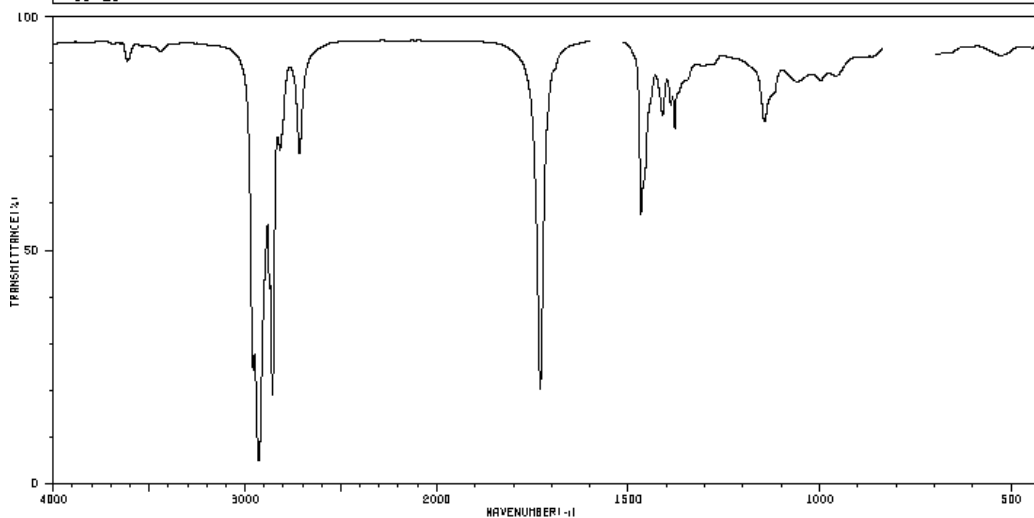
HIT-NO=1112	SCORE= ( )	SDBS-NO=664	IR-NIDA-04476 ; LIQUID FILM
HEXYLAMINE			
$C_6H_{15}N$			



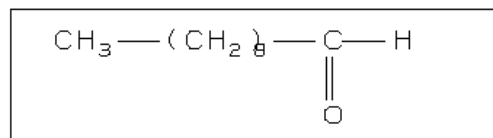
3369	72	1617	70	1070	72
3291	72	1468	42	1031	79
2956	11	1461	47	895	57
2927	4	1379	58	812	43
2873	19	1303	84	726	66
2856	12	1128	61		
2763	77	1086	77		



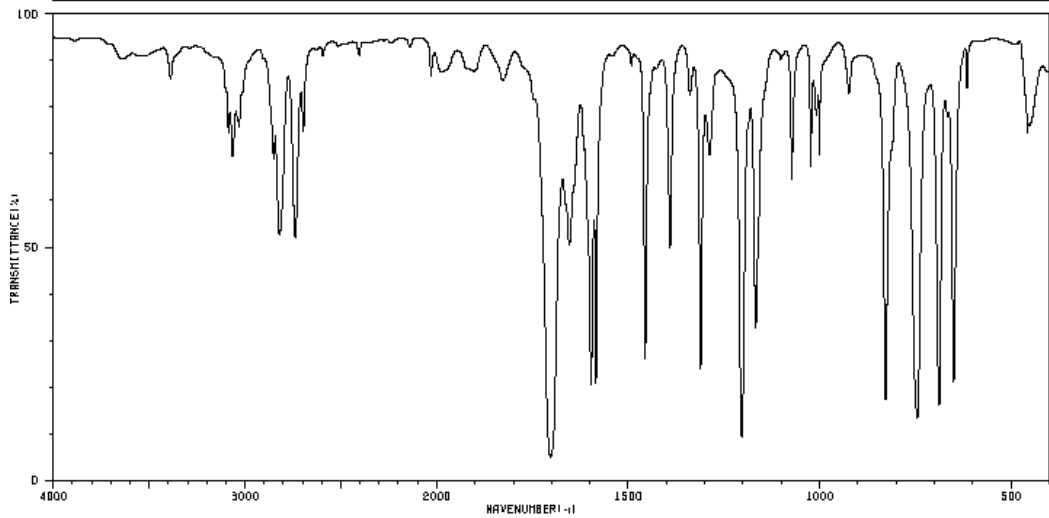
HIT-NO=1466	SCORE= ( )	SDBS-NO=1893	IR-NIDA-06510 ; CCL4 SOLUTION
DECANAL			
$C_{10}H_{20}O$			



2957	23	1467	66
2928	4	1411	77
2873	39	1389	79
2867	18	1379	72
2818	68	1145	74
2715	68	1058	64
1730	19	997	84

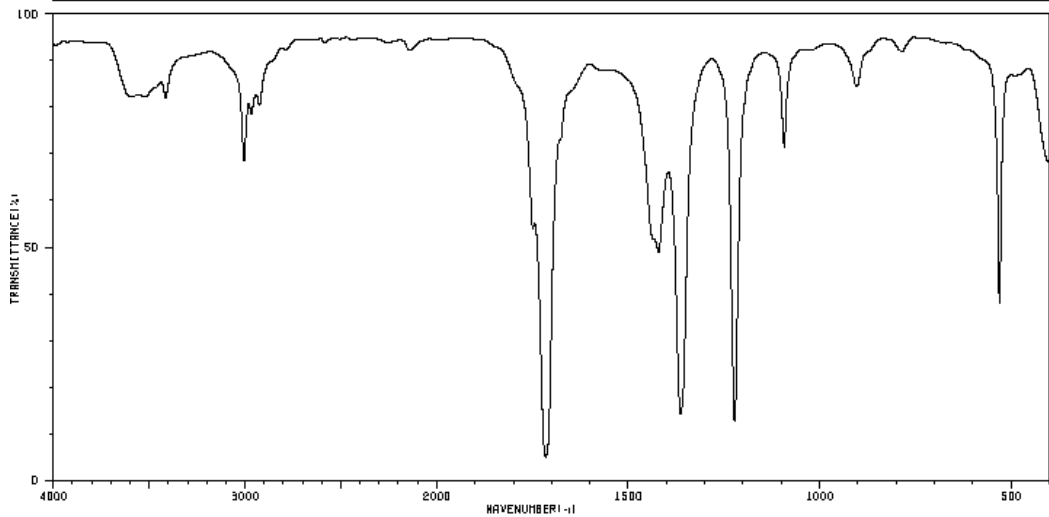


HIT-NO=1117	SCORE= ( )	SOBS-NO=672	IR-NIDA-05223 : LIQUID FILM
BENZALDEHYDE			
C <sub>7</sub> H <sub>6</sub> O			



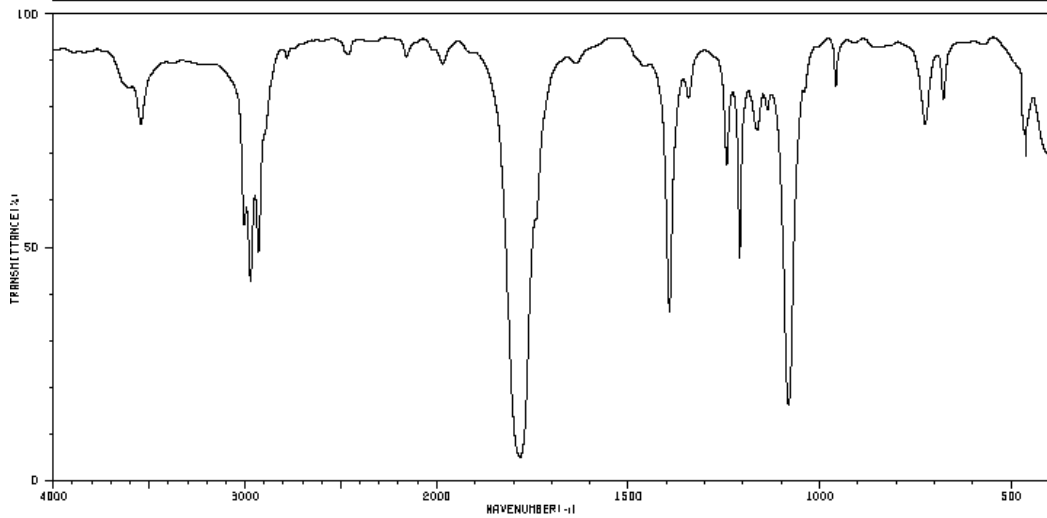
3086	72	1981	84	1697	20	1204	8	828	16
3065	66	1916	84	1584	20	1168	31	746	13
3051	72	1909	84	1456	25	1073	62	686	15
2860	66	1901	84	1391	47	1023	64	667	74
2820	50	1828	81	1339	79	1008	74	650	20
2736	50	1703	4	1311	23	1001	66	615	61
2696	72	1664	48	1288	68	924	79	467	72

HIT-NO=960	SCORE= ( )	SOBS-NO=319	IR-NIDA-63533 : LIQUID FILM
ACETONE			
C <sub>3</sub> H <sub>6</sub> O			

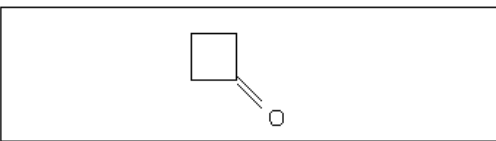


3414	79	1421	47
3005	66	1363	19
2966	74	1223	12
2926	77	1093	68
1749	52	903	81
1715	4	531	36
1434	49		

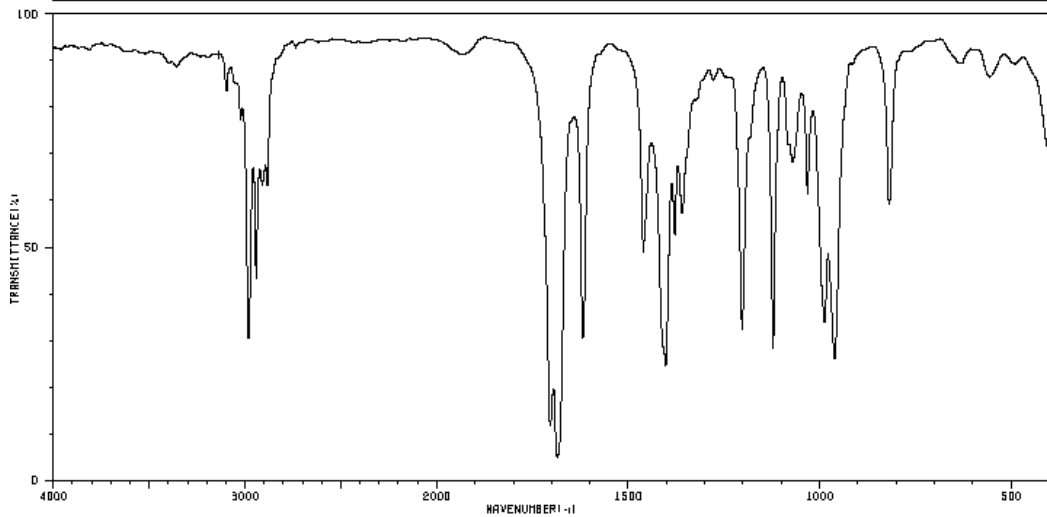
HIT-NO=3902	SCORE= ( )	SOBS-NO=8838	IR-NIDA-24775 : LIQUID FILM
CYCLOBUTANONE			
C <sub>4</sub> H <sub>6</sub> O			



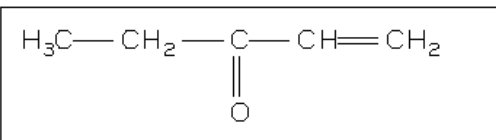
3643	74	1393	34	968	81
3004	52	1343	79	725	72
2971	41	1243	64	877	79
2930	47	1209	48	463	86
1984	86	1164	72		
1783	4	1137	77		
1636	86	1081	16		



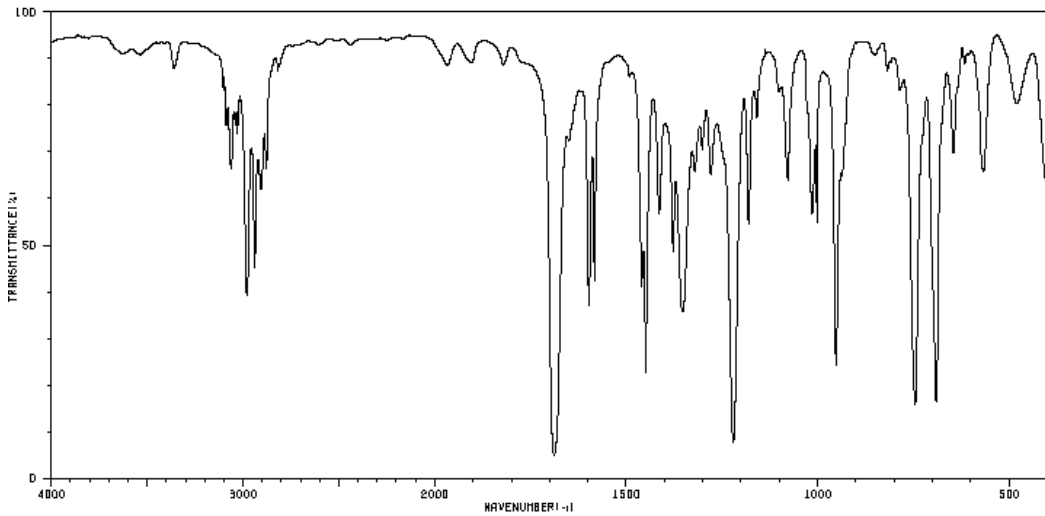
HIT-NO=4700	SCORE= ( )	SOBS-NO=13219	IR-NIDA-16945 : LIQUID FILM
1-PENTEN-3-ONE			
C <sub>5</sub> H <sub>8</sub> O			



3356	84	1704	11	1279	81	961	26
3097	79	1685	4	1203	31	819	57
3023	74	1619	29	1122	26	635	86
2980	29	1461	47	1080	70	630	86
2942	42	1403	23	1071	66	556	84
2911	80	1379	50	1032	58	490	86
2883	60	1360	66	987	32		

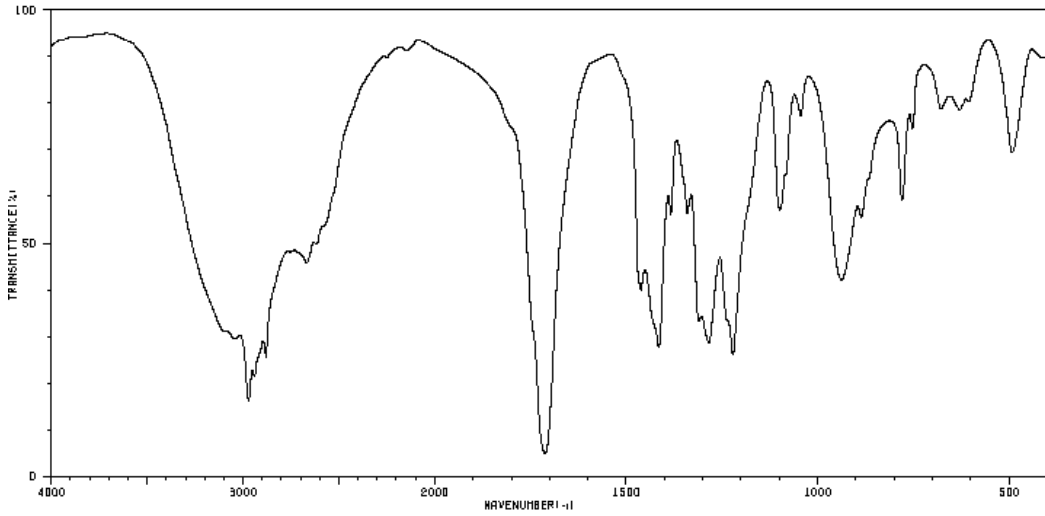


HIT-NO=2075	SCORE= ( )	SOBS-NO=2839	IR-NIDA-67049 : LIQUID FILM
PROPIONPHENONE			
C <sub>9</sub> H <sub>10</sub> O			



3102	79	2879	64	1378	46	1169	74	786	79
3087	72	1688	4	1353	34	1102	79	746	15
3062	84	1598	35	1321	84	1078	62	691	15
3030	70	1583	41	1302	88	1016	66	646	68
2979	37	1460	39	1279	62	1002	52	636	79
2940	43	1448	21	1221	7	952	29	568	64
2906	60	1414	66	1181	62	937	62	480	77

HIT-NO=1322	SCORE= ( )	SOBS-NO=1227	IR-NIDA-01956 : LIQUID FILM
BUTYRIC ACID			
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>			

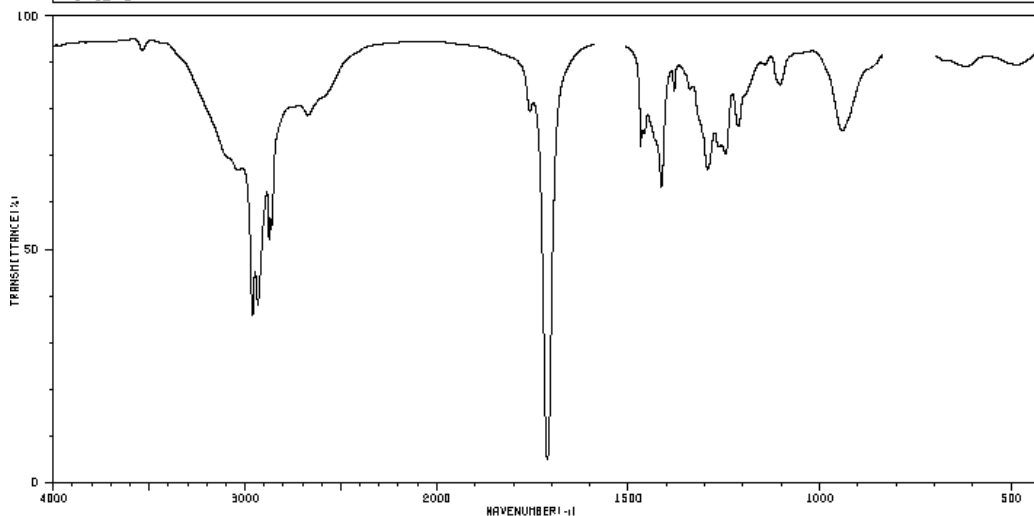


2971	15	1461	38	1098	66	678	77
2940	20	1415	26	1050	77	629	77
2880	24	1384	53	1044	74	492	66
2881	44	1341	66	937	41		
2868	44	1285	27	886	53		
1712	4	1235	32	780	57		
1467	39	1222	26	762	72		

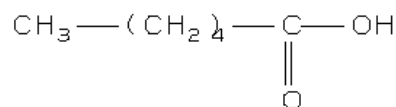
HIT-NO=969 SCORE= ( ) SDBS-NO=582 IR-NIDA-06539 : CCL4 SOLUTION

HEXANOIC ACID

$C_6H_{12}O_2$



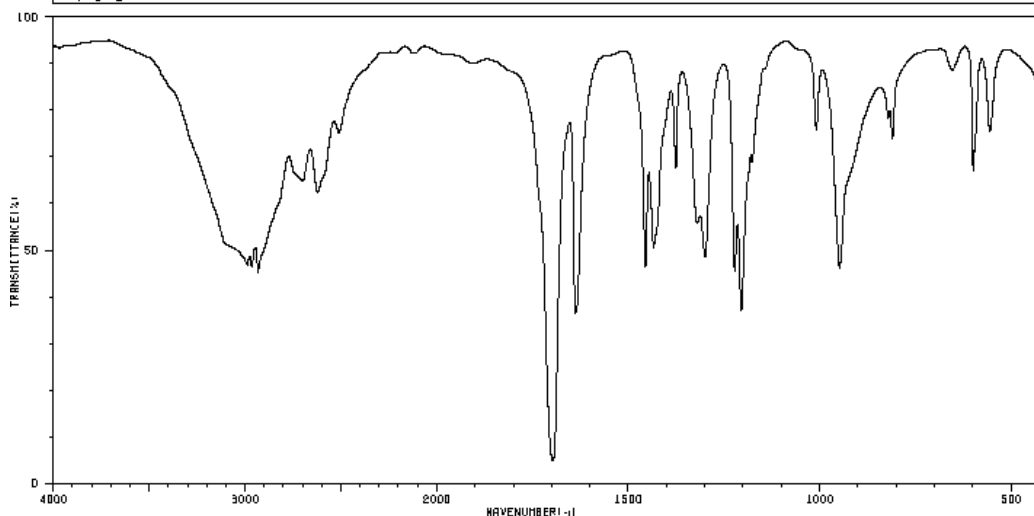
2960	34	1468	68	1213	72
2933	36	1457	72	1103	81
2875	50	1414	60	941	72
2863	62	1380	81		
2872	77	1292	64		
1757	77	1258	70		
1711	4	1246	68		



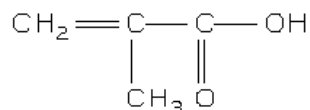
HIT-NO=1317 SCORE= ( ) SDBS-NO=1222 IR-NIDA-00430 : LIQUID FILM

METHACRYLIC ACID

$C_4H_6O_2$



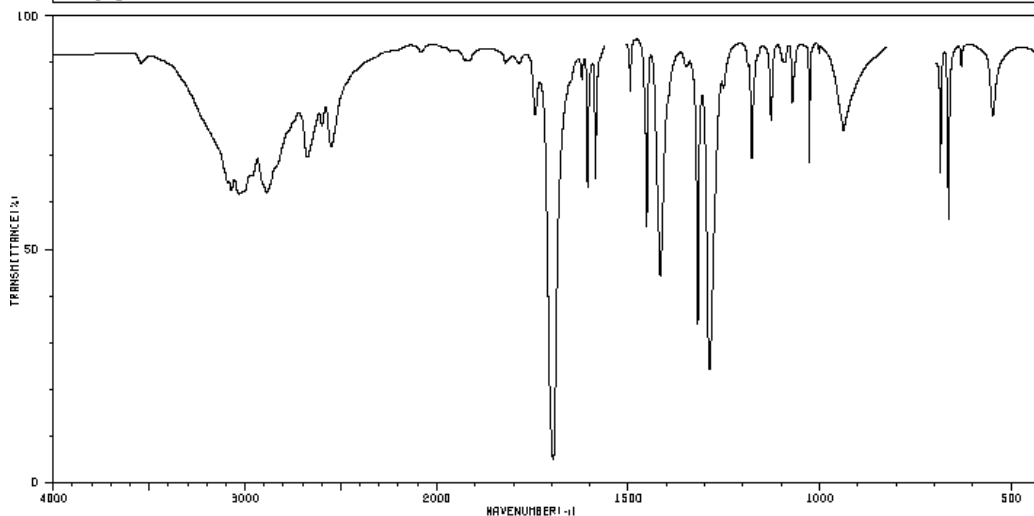
2988	44	1637	36	1205	36	599	64
2954	44	1455	44	1177	66	594	72
2932	43	1434	49	1008	72	556	72
2700	62	1376	64	948	44		
2621	60	1320	53	821	74		
2509	72	1300	47	810	70		
1697	4	1222	49	665	84		



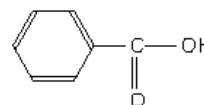
HIT-NO=1101 SCORE= ( ) SOBS-NO=673 IR-NIDA-07134 : CCL4 SOLUTION

BENZOIC ACID

$C_7H_6O_2$



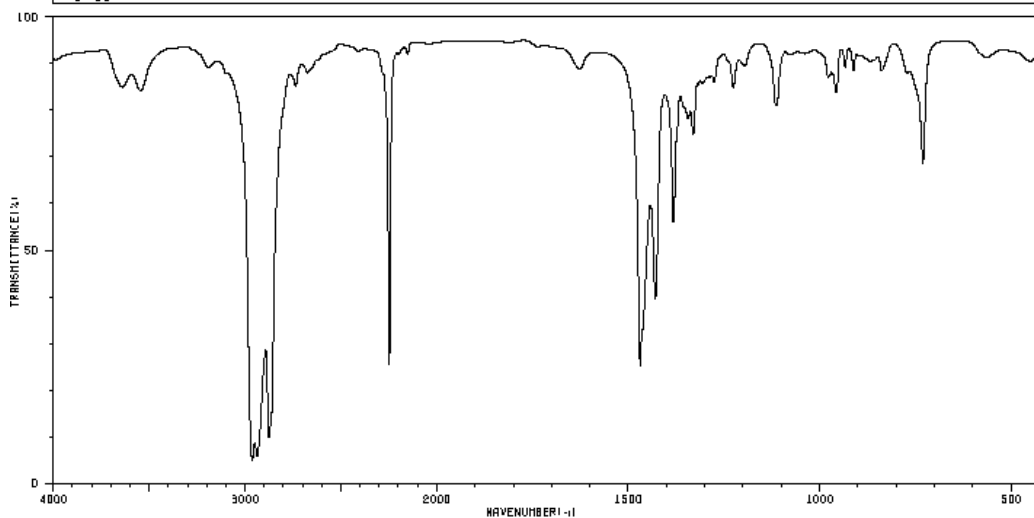
3642	86	1821	86	1496	81	1187	86	664	53
3071	60	1785	86	1452	53	1178	66	630	86
3050	80	1742	77	1417	43	1127	74	546	77
2886	60	1696	4	1349	86	1071	79		
2674	68	1621	84	1319	33	1027	66		
2596	74	1608	60	1286	23	939	72		
2660	70	1586	62	1261	81	686	64		



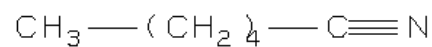
HIT-NO=1481 SCORE= ( ) SOBS-NO=1574 IR-NIDA-02713 : LIQUID FILM

HEXANENITRILE

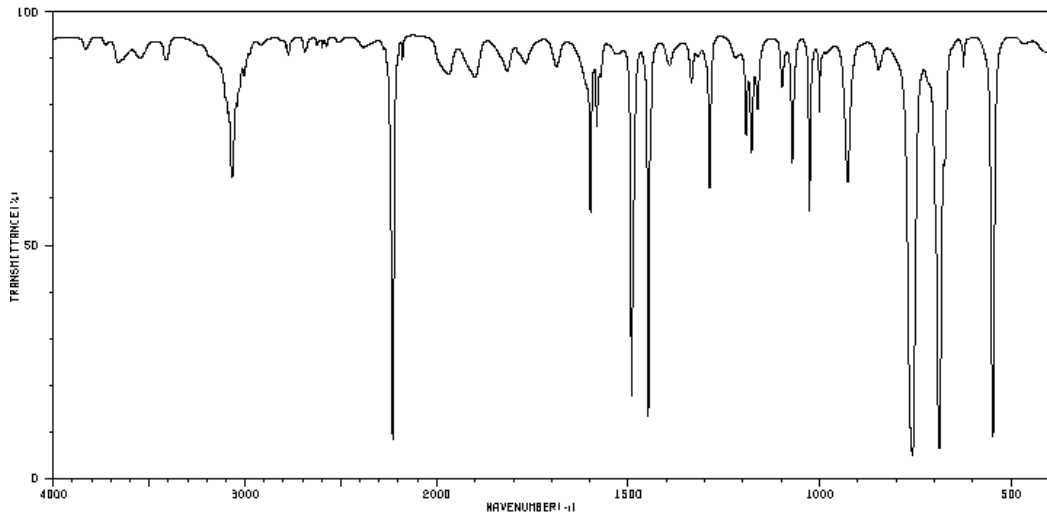
$C_6H_{11}N$



3637	81	2676	84	1344	74	967	81
3545	81	2661	84	1330	72	933	86
3166	86	2247	24	1276	84	912	84
2962	4	1626	86	1226	81	898	84
2936	5	1469	24	1196	86	731	66
2876	9	1429	38	1112	77		
2736	81	1382	69	969	84		

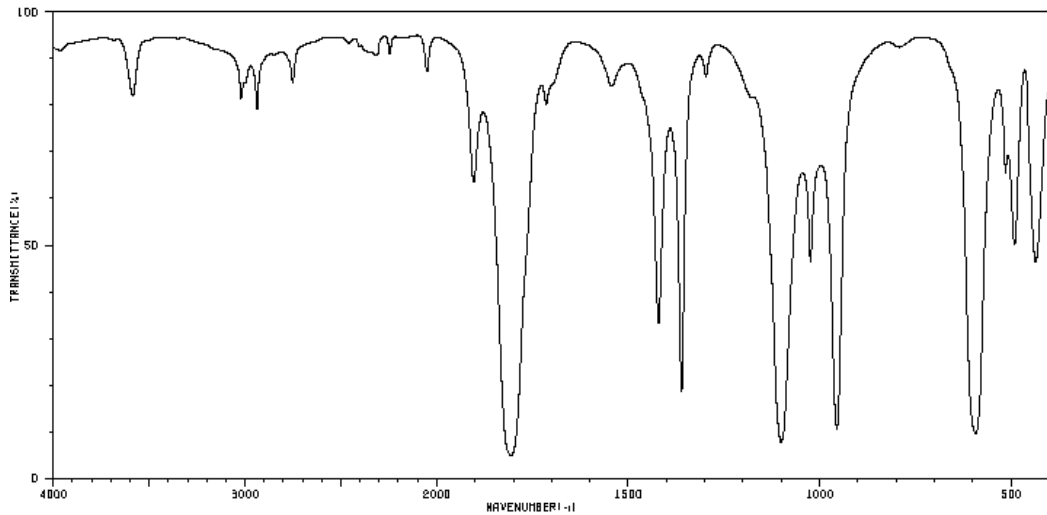


HIT-NO=1114	SCORE= ( )	SOBS-NO=669	IR-NIDA-05064 : LIQUID FILM
BENZONITRILE			
C <sub>7</sub> H <sub>5</sub> N			



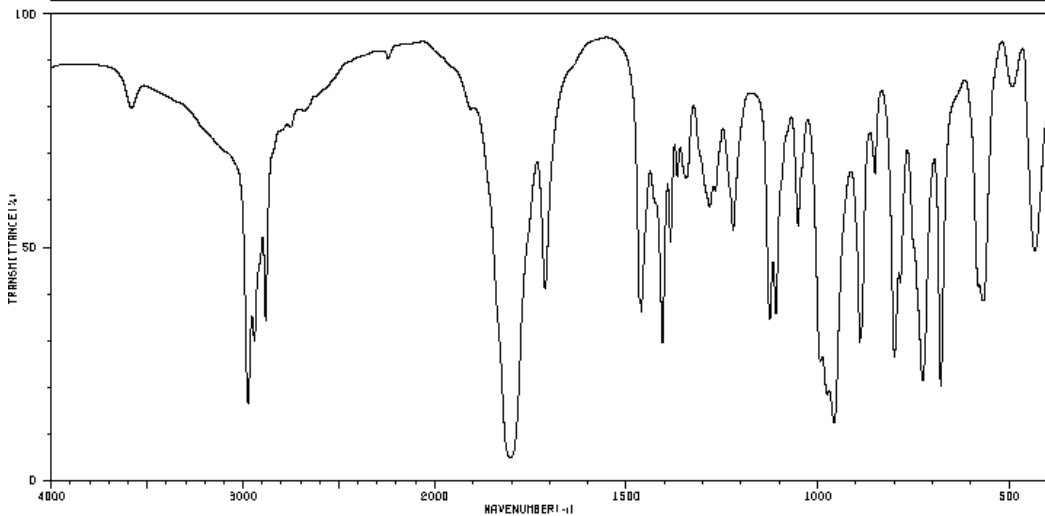
3646	86	2178	86	1682	72	1288	60	1001	74
3412	86	1969	84	1572	81	1193	70	927	60
3066	74	1899	81	1492	17	1178	66	846	84
3066	62	1816	84	1448	12	1163	77	768	4
3004	84	1768	86	1441	72	1098	81	688	6
2256	84	1688	84	1392	84	1072	64	625	64
2230	8	1599	66	1336	81	1027	66	648	8

HIT-NO=1359	SCORE= ( )	SOBS-NO=1278	IR-NIDA-04097 : LIQUID FILM
ACETYL CHLORIDE			
C <sub>2</sub> H <sub>3</sub> ClO			



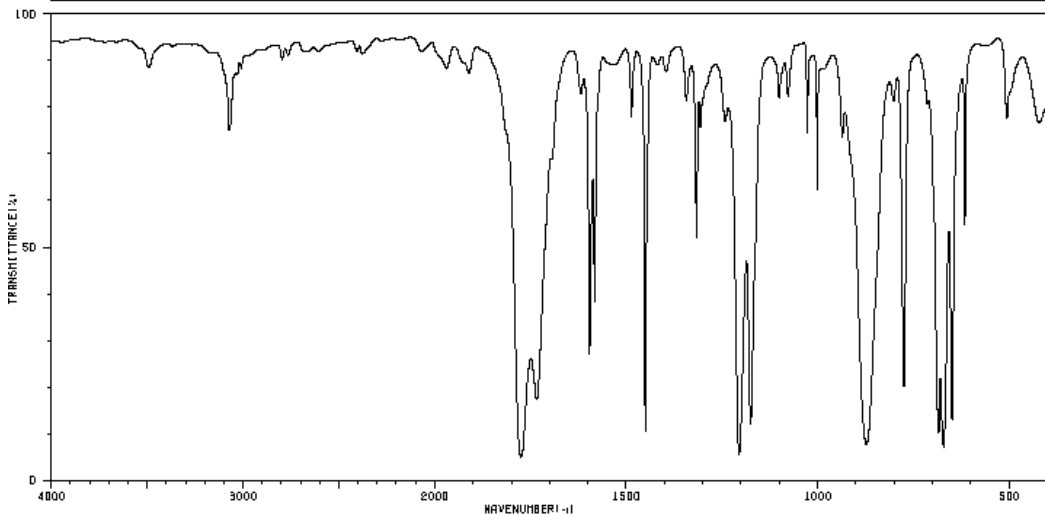
3686	79	1806	4	1024	44
3020	79	1714	77	955	10
2937	81	1542	81	693	9
2937	77	1421	32	616	62
2751	81	1361	16	491	47
2051	84	1297	84	461	84
1903	60	1100	7	436	44

HIT-NO=2578	SCORE= ( )	SOBS-NO=4243	IR-NIDA-01958 : LIQUID FILM
BUTYRYL CHLORIDE			
C <sub>4</sub> H <sub>7</sub> ClO			



3581	77	1460	34	1125	33	800	26	492	81	$\text{CH}_3 - (\text{CH}_2)_2 - \overset{\text{O}}{\parallel}{\text{C}} - \text{Cl}$
2973	16	1406	28	1109	34	784	41	434	47	
2941	28	1384	49	1051	52	726	20			
2882	33	1367	62	976	17	679	19			
1802	4	1344	62	957	12	581	39			
1712	39	1283	57	890	28	574	38			
1465	37	1221	62	860	64	568	37			

HIT-NO=1113	SCORE= ( )	SOBS-NO=668	IR-NIDA-04585 : LIQUID FILM
BENZOYL CHLORIDE			
C <sub>7</sub> H <sub>5</sub> ClO			

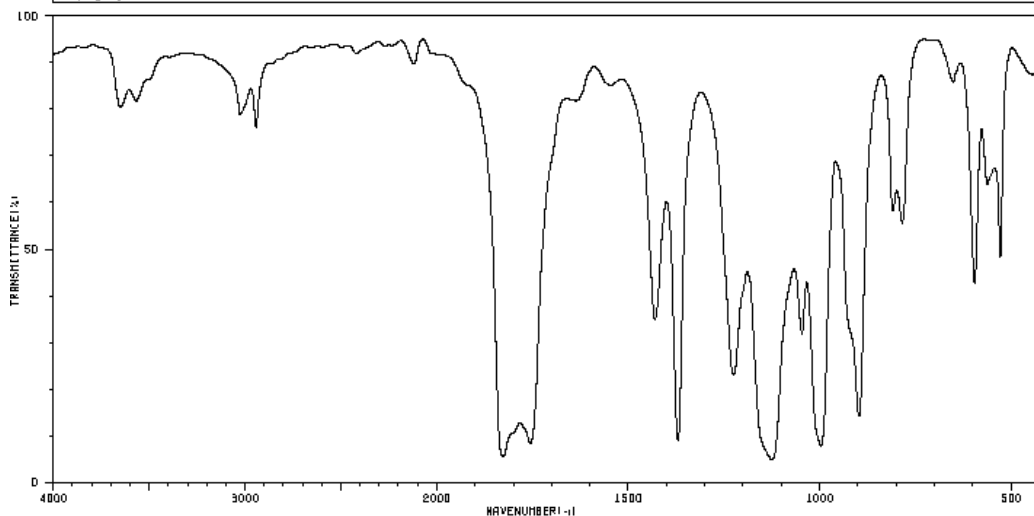


3493	84	1618	79	1317	60	1027	72	775	19	$\text{C}_6\text{H}_5 - \overset{\text{O}}{\parallel}{\text{C}} - \text{Cl}$
3071	72	1596	26	1307	72	1002	60	685	10	
3009	84	1583	36	1242	74	992	84	671	6	
1969	84	1486	74	1205	6	986	84	649	12	
1910	84	1450	10	1175	11	936	70	616	52	
1775	4	1395	84	1100	79	873	7	507	74	
1733	16	1343	79	1078	79	802	79	600	79	

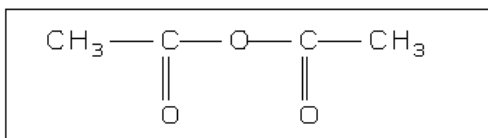
HIT-NO=1277 SCORE= ( ) SDBS-NO=1034 IR-NIDA-05414 : LIQUID FILM

ACETIC ANHYDRIDE

C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>



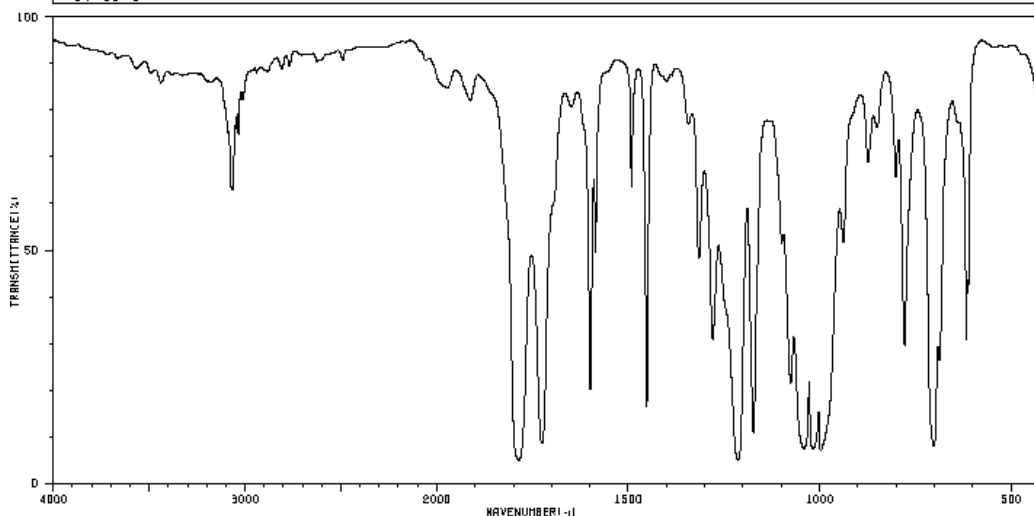
3650	77	1647	81	997	7	563	62
3567	79	1542	81	897	13	543	64
3025	77	1430	35	809	55	529	46
2942	72	1370	8	799	60		
2119	86	1226	22	784	53		
1827	5	1124	4	651	81		
1755	8	1046	30	596	41		



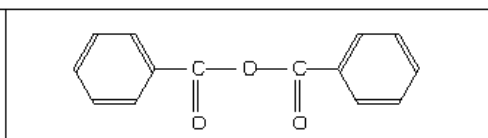
HIT-NO=3725 SCORE= ( ) SDBS-NO=7284 IR-NIDA-20654 : LIQUID FILM

BENZOIC ANHYDRIDE

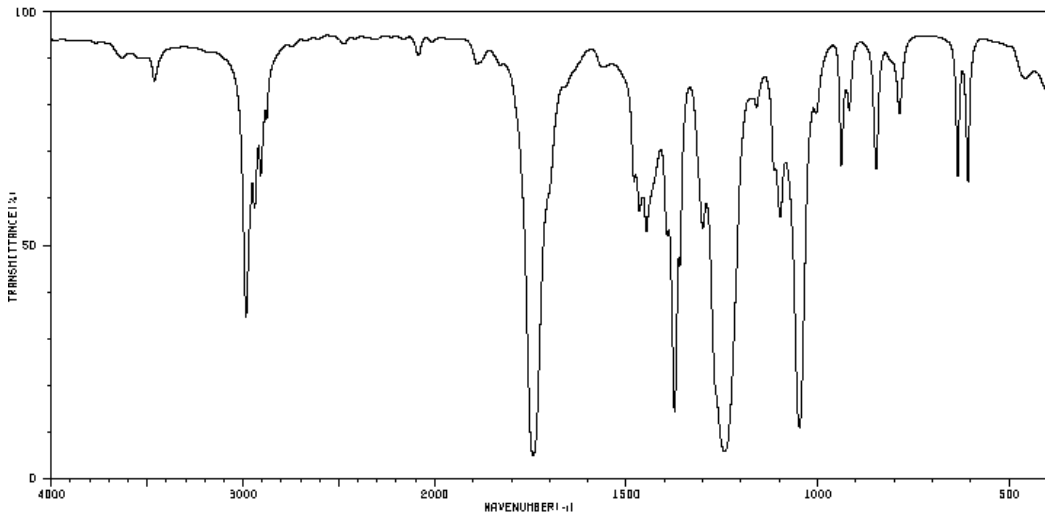
C<sub>14</sub>H<sub>10</sub>O<sub>3</sub>



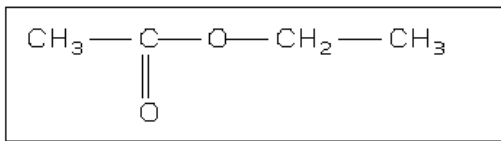
3440	81	1973	81	1492	60	1173	10	874	56
3089	72	1912	79	1452	15	1099	49	850	74
3065	80	1788	4	1406	84	1076	20	802	64
3048	72	1726	8	1344	74	1041	7	779	28
3034	72	1649	77	1315	46	1016	7	702	7
3010	79	1599	19	1280	29	987	6	686	25
1979	81	1586	47	1213	4	938	49	617	29



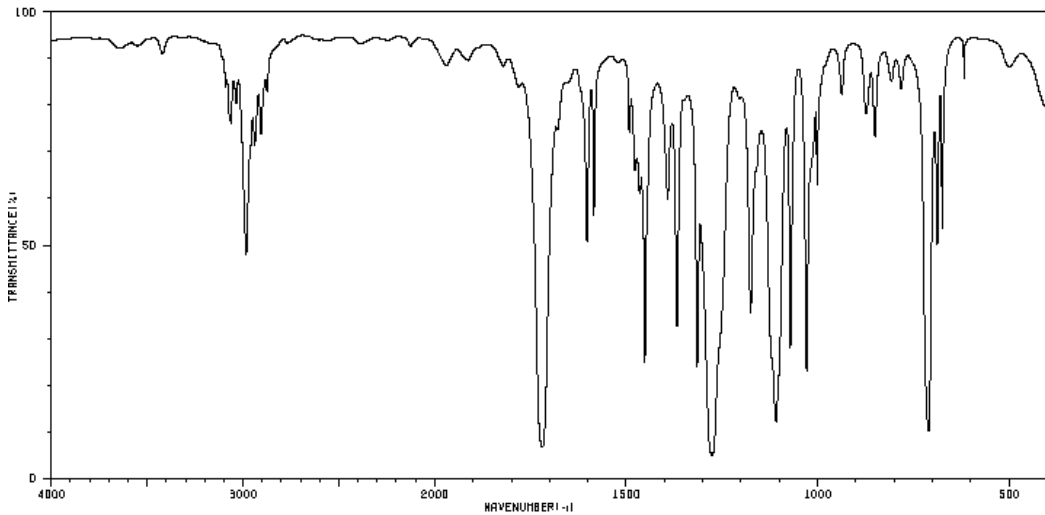
HIT-NO=1229	SCORE= ( )	SOBS-NO=889	IR-NIDA-01804 : LIQUID FILM
ETHYL ACETATE			
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>			



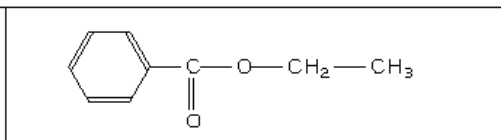
3462	81	1480	60	1243	6	847	64
2983	33	1466	55	1160	77	786	74
2940	55	1448	50	1111	84	634	62
2808	62	1393	50	1098	63	608	60
2877	74	1374	13	1046	10	457	81
1889	86	1360	49	939	84		
1743	4	1301	62	917	77		



HIT-NO=1451	SCORE= ( )	SOBS-NO=1460	IR-NIDA-04316 : LIQUID FILM
ETHYL BENZOATE			
C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>			



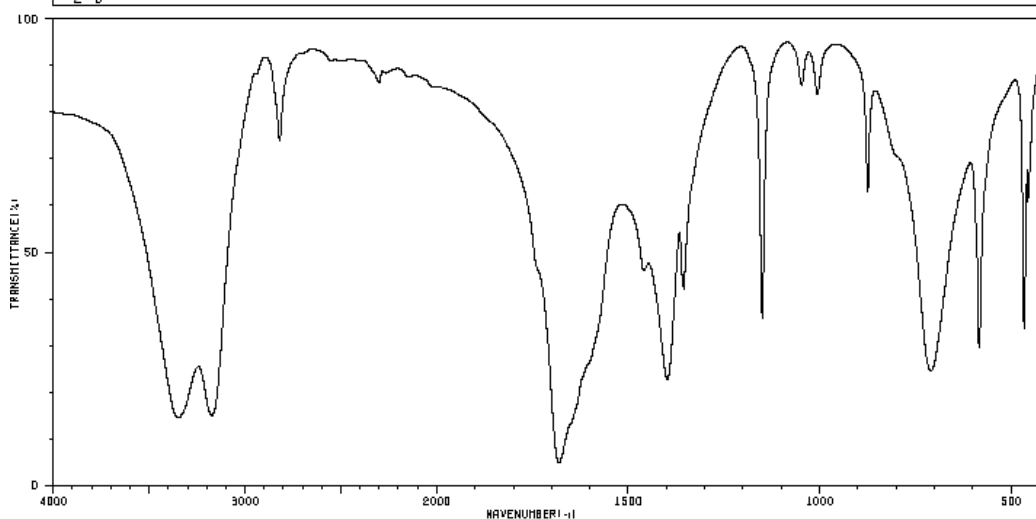
3091	81	1969	84	1465	68	1109	12	807	81
3064	72	1822	84	1452	23	1071	26	782	79
3035	77	1719	6	1392	87	1029	21	711	9
2989	46	1603	49	1368	31	1002	60	688	47
2939	68	1585	53	1315	23	937	79	675	52
2907	70	1492	72	1276	4	873	74	618	81
2874	79	1478	64	1176	34	861	70	606	84



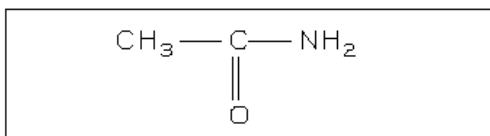
HIT-NO=1501 SCORE= ( ) SOBS-NO=1491 IR-NIDA-04320 : KBR DISC

ACETAMIDE

C<sub>2</sub>H<sub>5</sub>NO



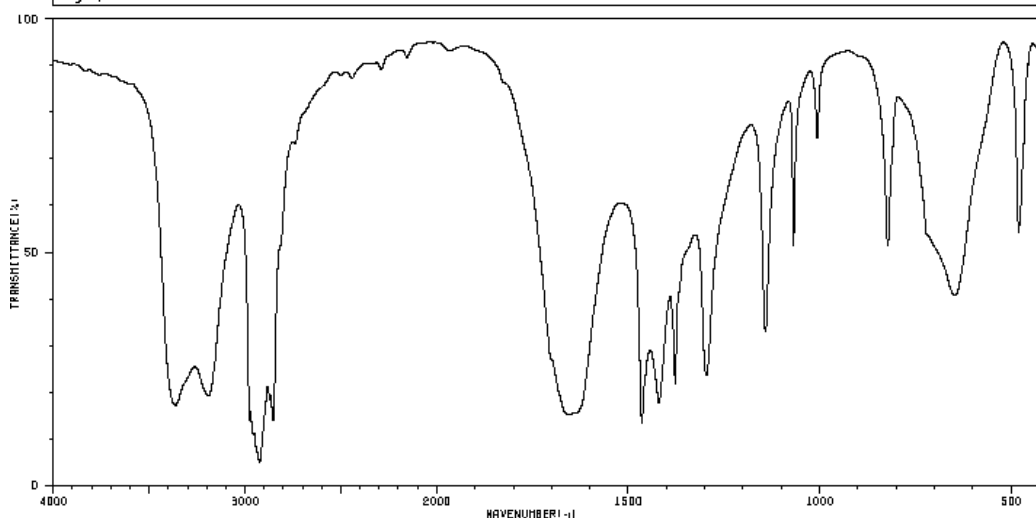
3348	13	1366	41	467	32
3173	14	1151	34	457	58
2819	70	1047	61		
2301	84	1006	61		
1681	4	874	60		
1460	44	710	23		
1398	21	684	28		



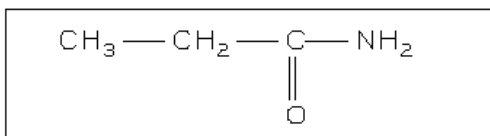
HIT-NO=831 SCORE= ( ) SOBS-NO=1431 IR-NIDA-25357 : NUJOL MULL

PROPIONAMIDE

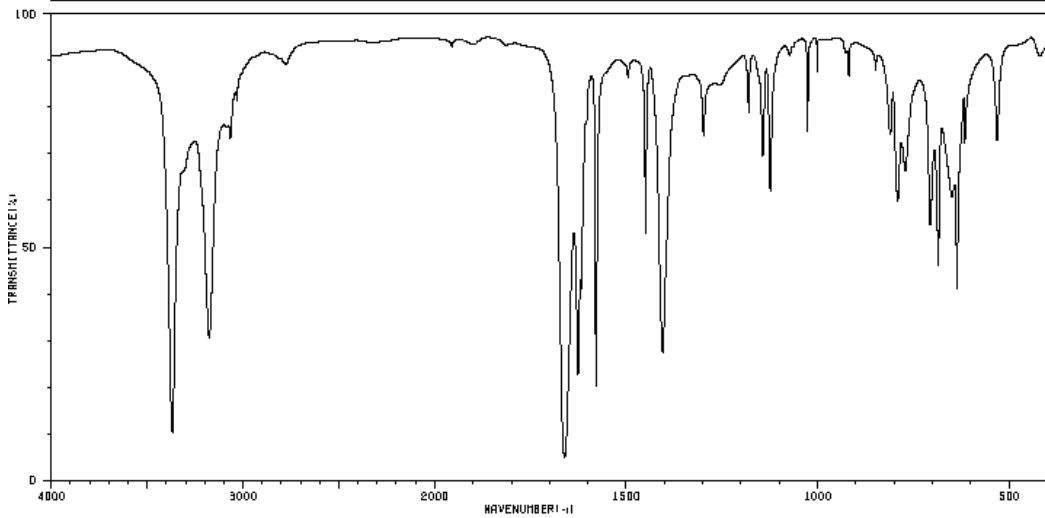
C<sub>3</sub>H<sub>7</sub>NO



3363	16	2288	86	1068	49
3192	18	1650	14	1006	72
2975	13	1465	12	822	49
2966	10	1420	17	648	39
2924	4	1378	20	481	52
2854	13	1298	22		
2443	84	1142	31		

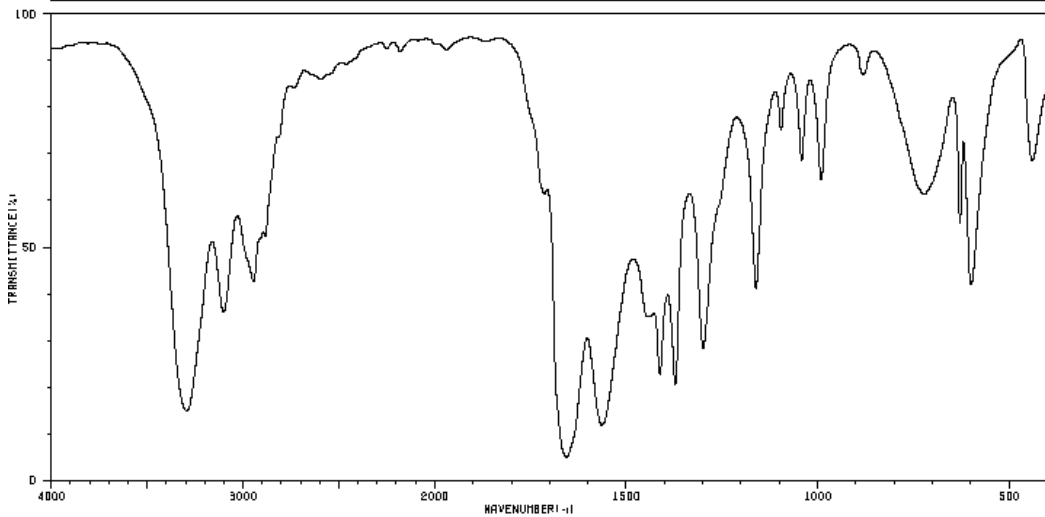


HIT-NO=1623	SCORE= ( )	SOBS-NO=1689	IR-NIDA-04226 : KBR DISC
BENZAMIDE			
C <sub>7</sub> H <sub>7</sub> NO			



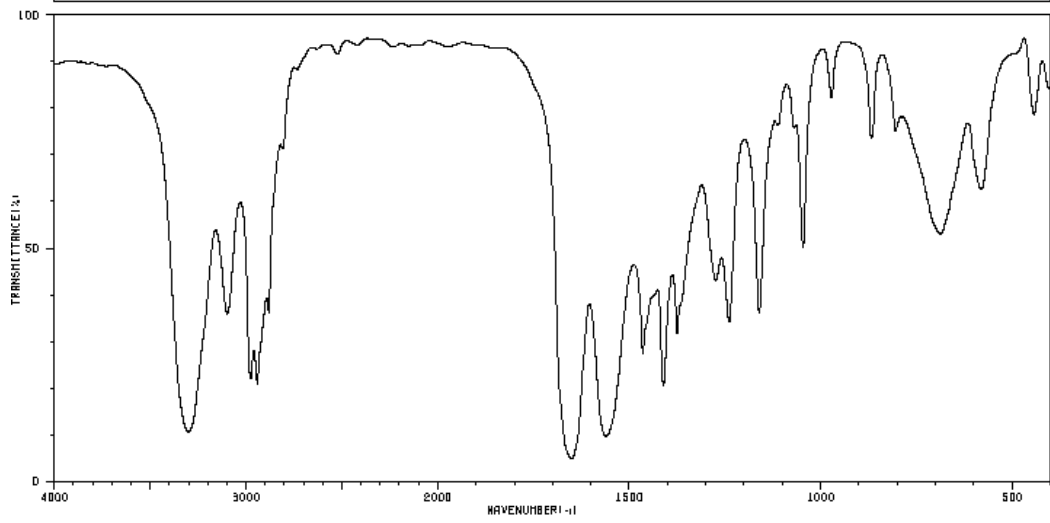
3369	10	1618	39	1144	66	792	67	532	70
3177	29	1579	19	1124	60	771	64		
3066	70	1495	64	1026	72	706	52		
3032	79	1460	60	1002	84	686	44		
2777	86	1405	26	919	84	650	58		
1861	4	1298	70	849	84	637	59		
1626	21	1181	77	811	70	616	70		

HIT-NO=2452	SCORE= ( )	SOBS-NO=4002	IR-NIDA-63942 : LIQUID FILM
N-METHYLACETAMIDE			
C <sub>3</sub> H <sub>7</sub> NO			



3294	14	1372	20	721	68
3099	35	1299	26	629	53
2946	41	1161	39	599	41
2697	84	1096	72	440	66
1655	4	1042	66		
1563	11	991	62		
1412	21	881	84		

HIT-NO=2923	SCORE= ( )	SDBS-NO=5335	IR-NIDA-18285 : LIQUID FILM
N-METHYLPROPIONAMIDE			
C <sub>4</sub> H <sub>9</sub> NO			



3299	10	1464	26	972	79
3097	34	1411	20	868	70
2976	21	1375	30	805	72
2941	20	1274	41	687	60
2881	35	1239	33	581	60
1851	4	1161	34	444	77
1660	9	1046	47		

