

Appendix 3

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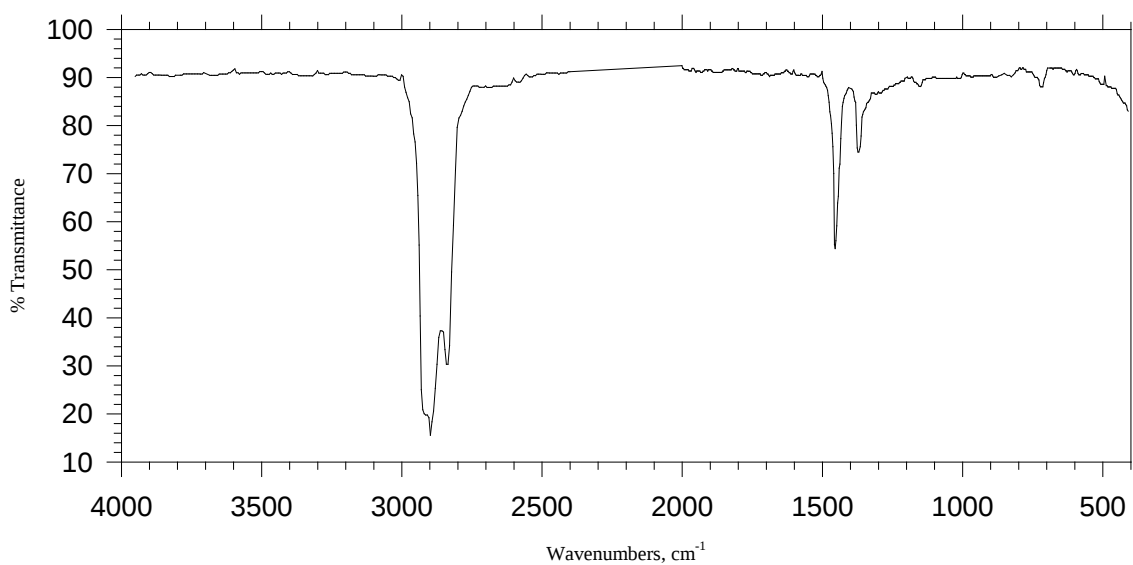


Figure IR-5. Nujol; thin film (Nujol is a trade name for mineral oil, a long chain alkane)

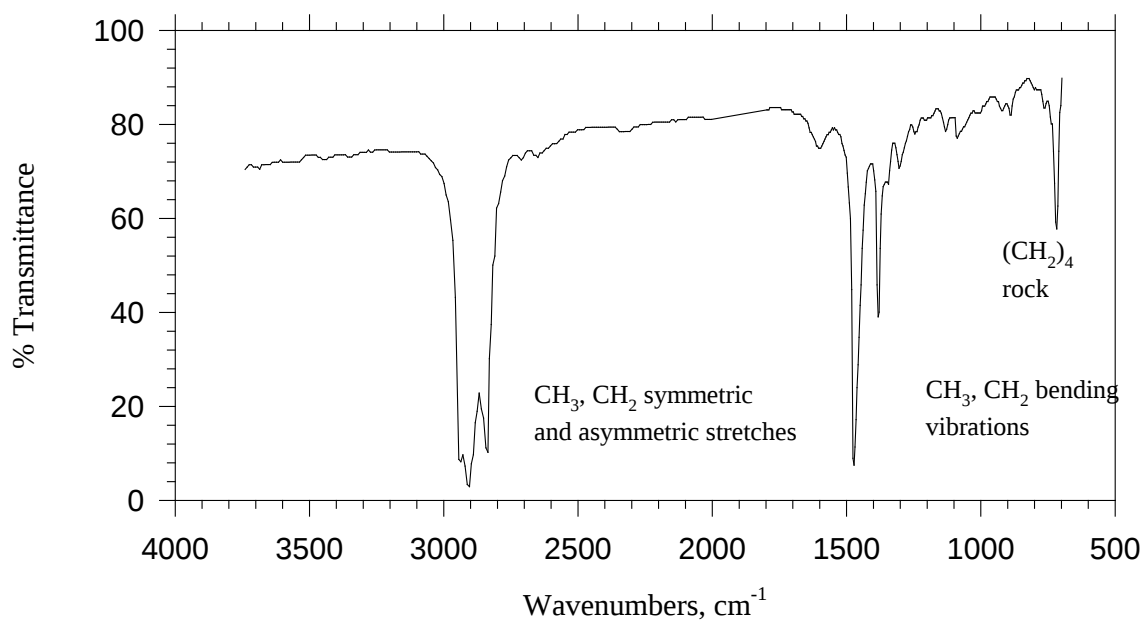


Figure IR-6. N-Decane, neat liquid, thin film: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

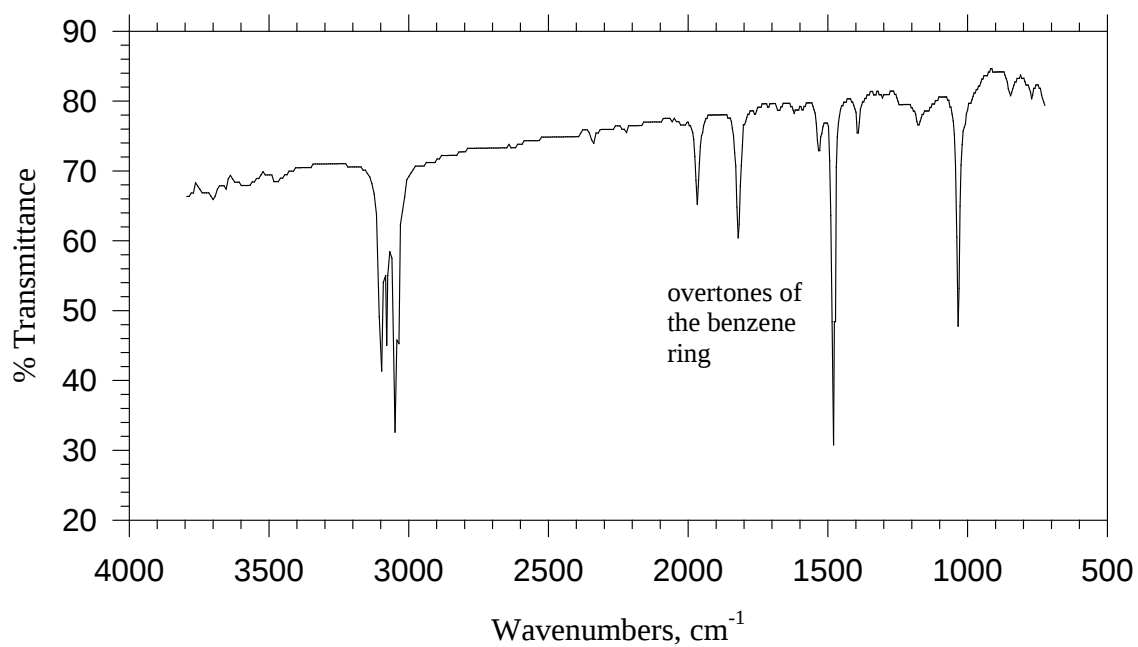


Figure IR-7. Benzene, neat, thin film:

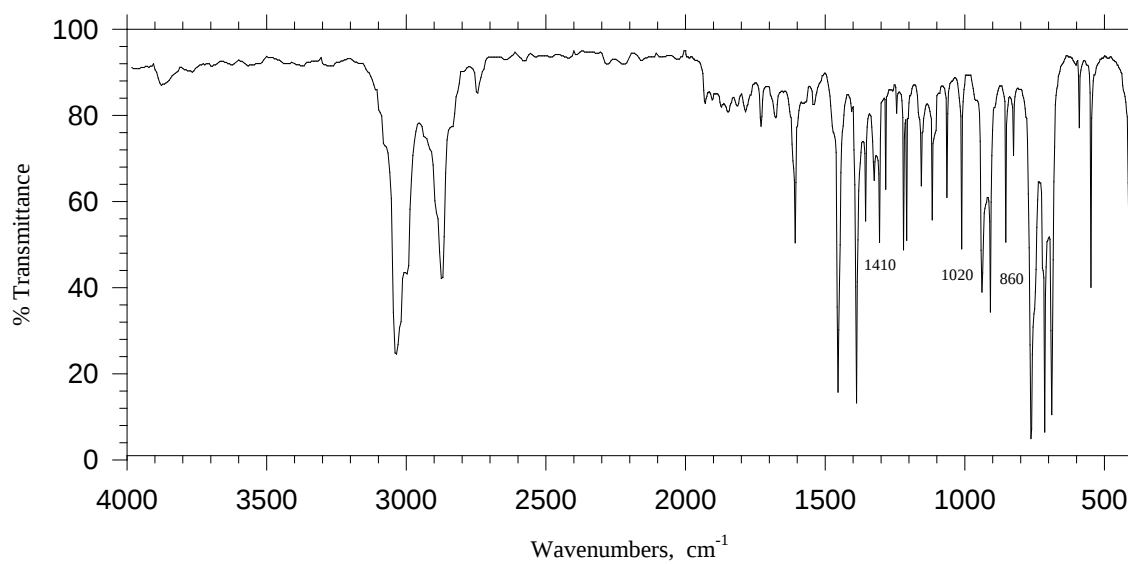
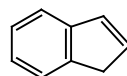


Figure IR-8. Indene; neat; 0.05 mm cell:



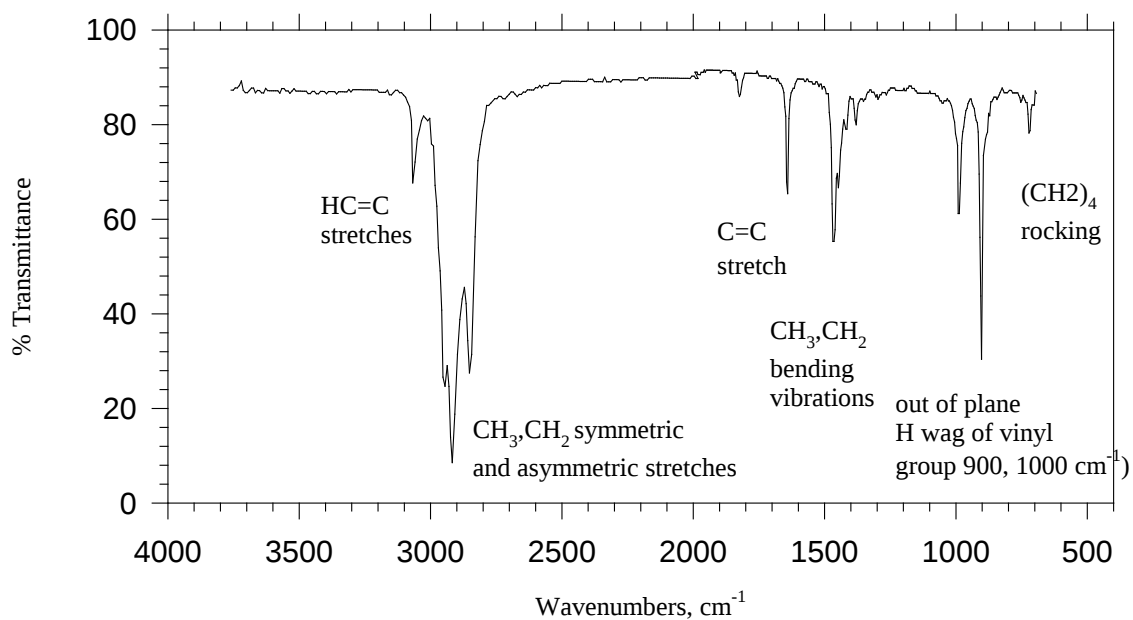


Figure IR-9. 1-Heptene; neat sample, thin film: $\text{H}_2\text{C}=\text{CH}-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

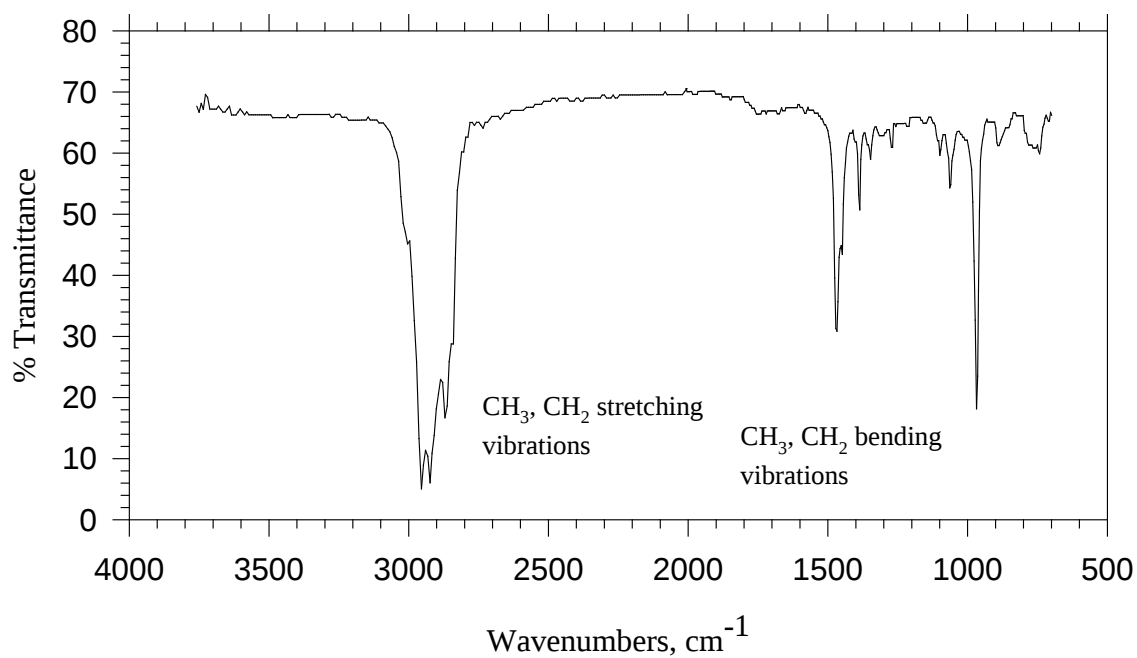
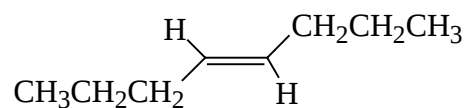


Figure IR-10. *trans*-4-Octene, neat liquid, thin film:



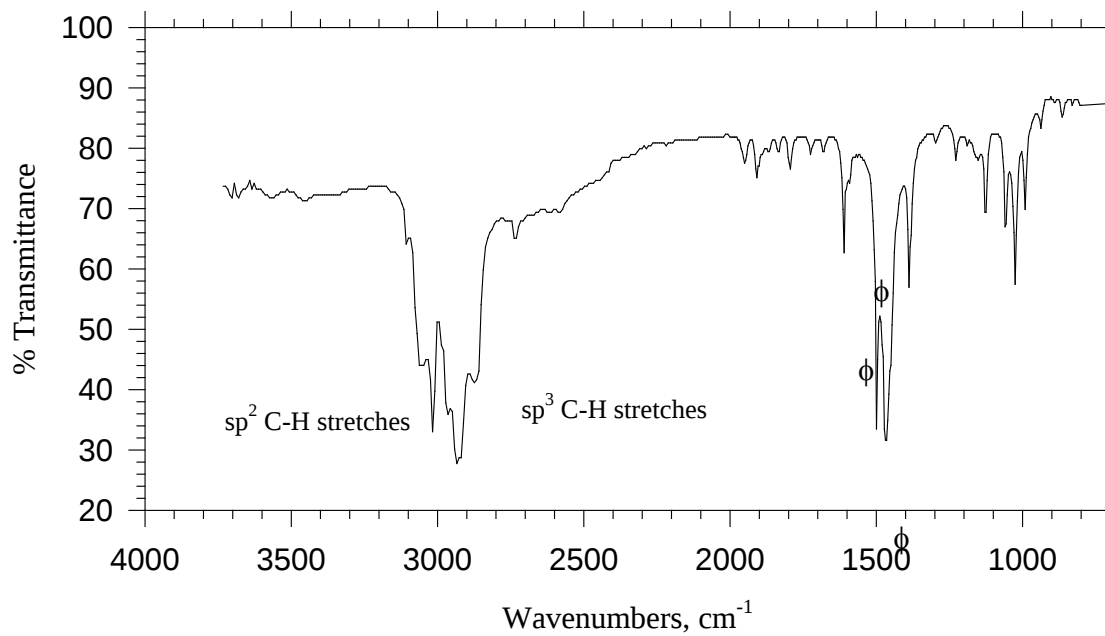


Figure IR-11. *ortho*-Xylene, neat, thin film:

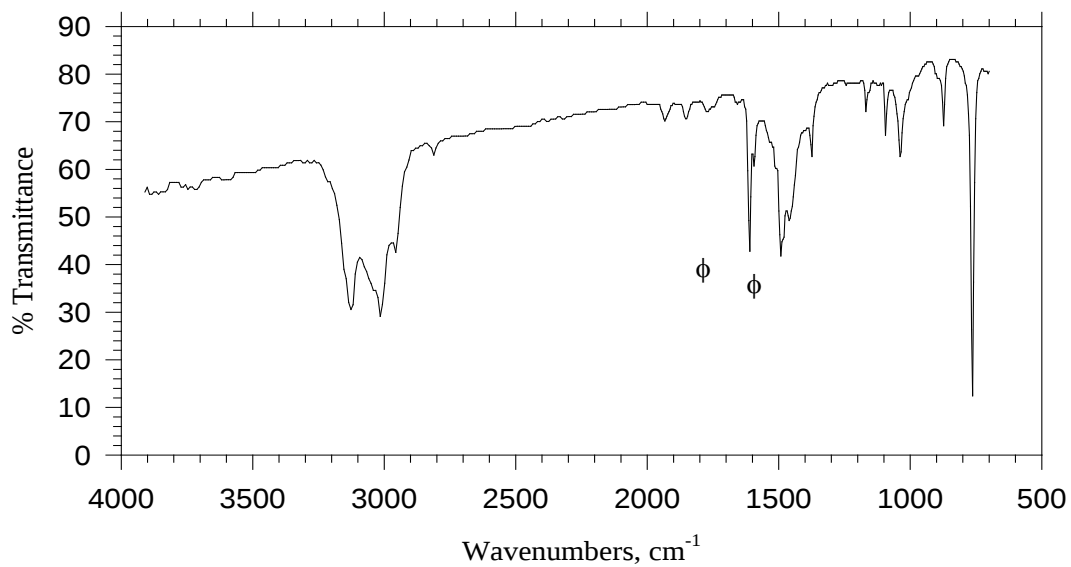
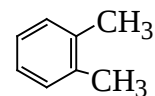
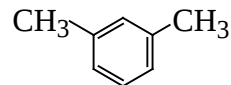


Figure IR-12. *meta*-Xylene, neat, thin film:



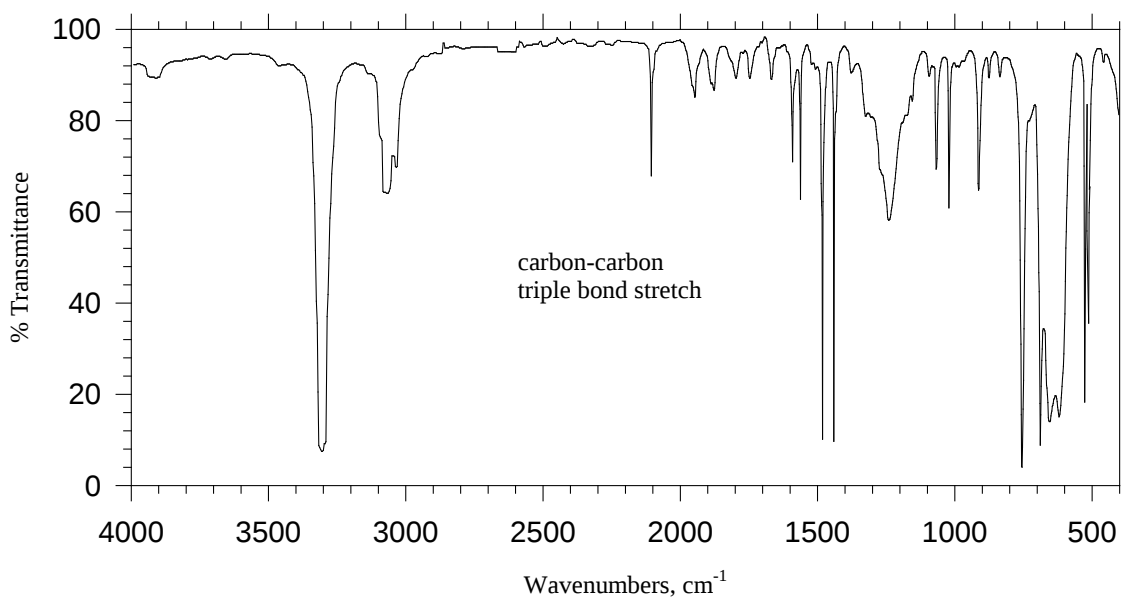


Figure IR-13. Phenylacetylene, neat liquid; thin film:

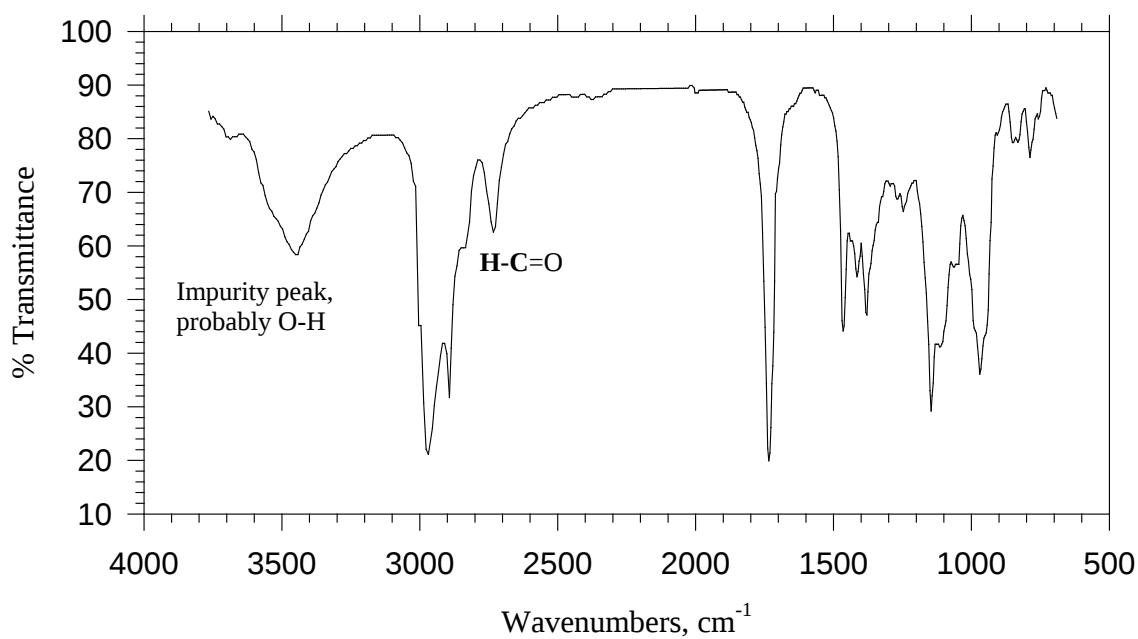
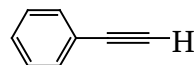


Figure IR-14. Butanal, neat liquid, thin film: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$

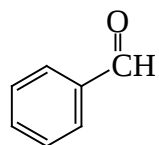
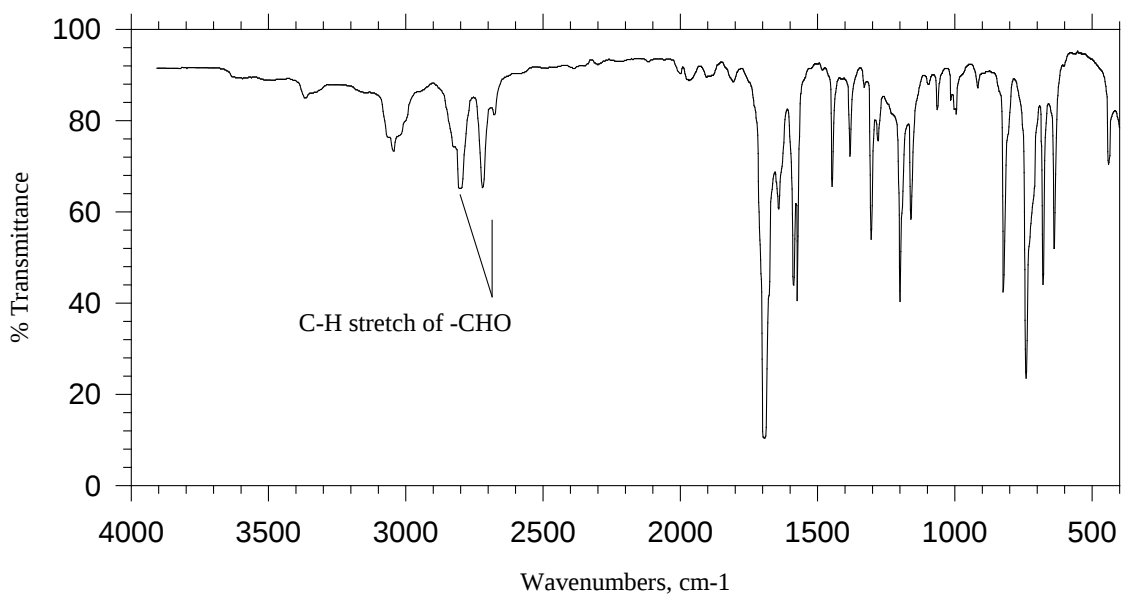


Figure IR-15. Benzaldehyde, neat, thin film:

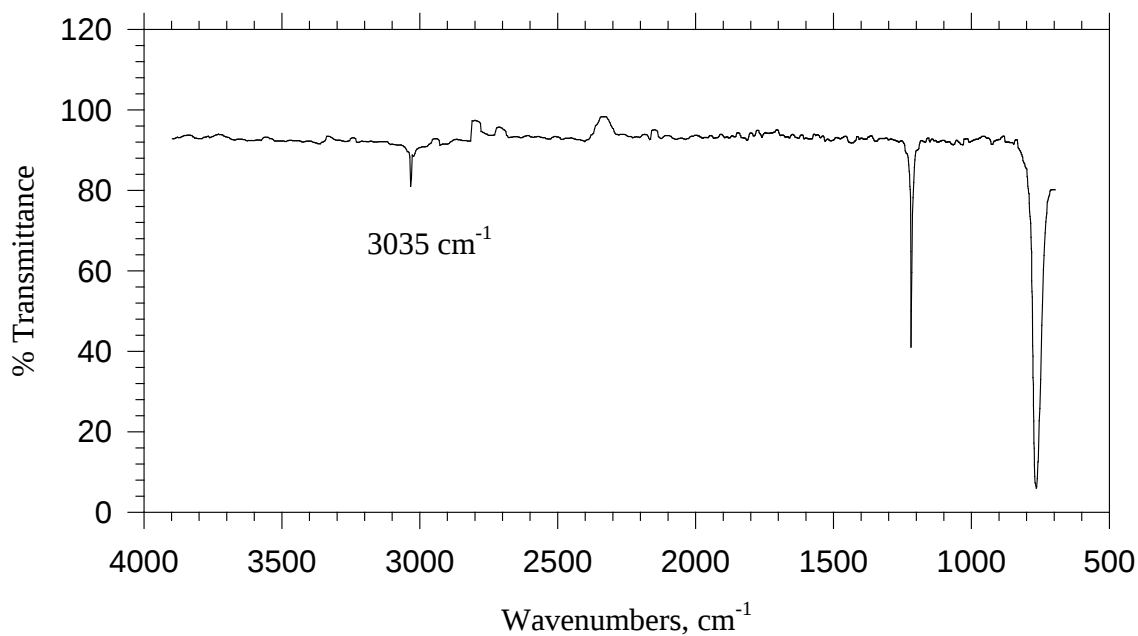


Figure IR-16. Chloroform, thin film: CHCl₃

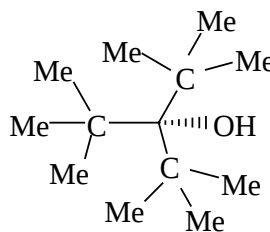
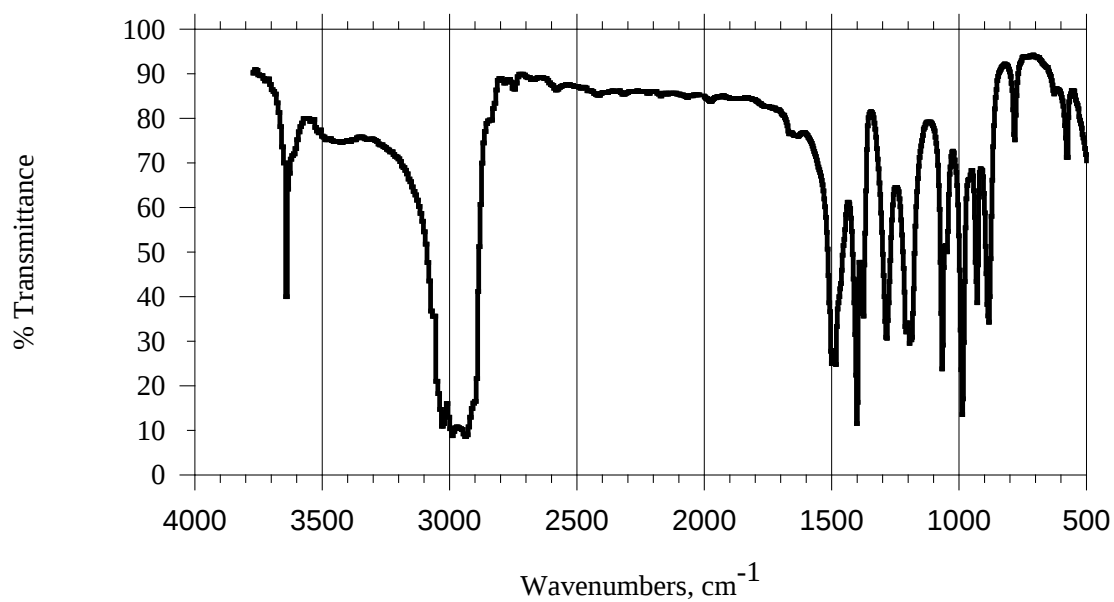


Figure IR-17. Tri-*t*-butylmethanol, KBr pellet:

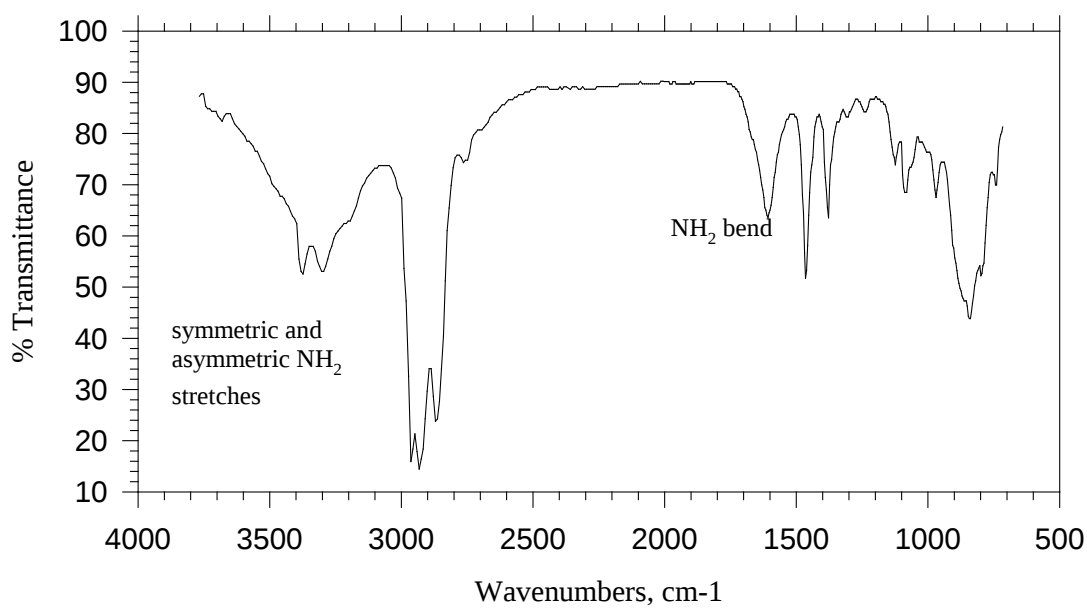


Figure IR-18. Butylamine, neat liquid; thin film: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$

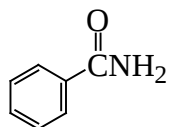
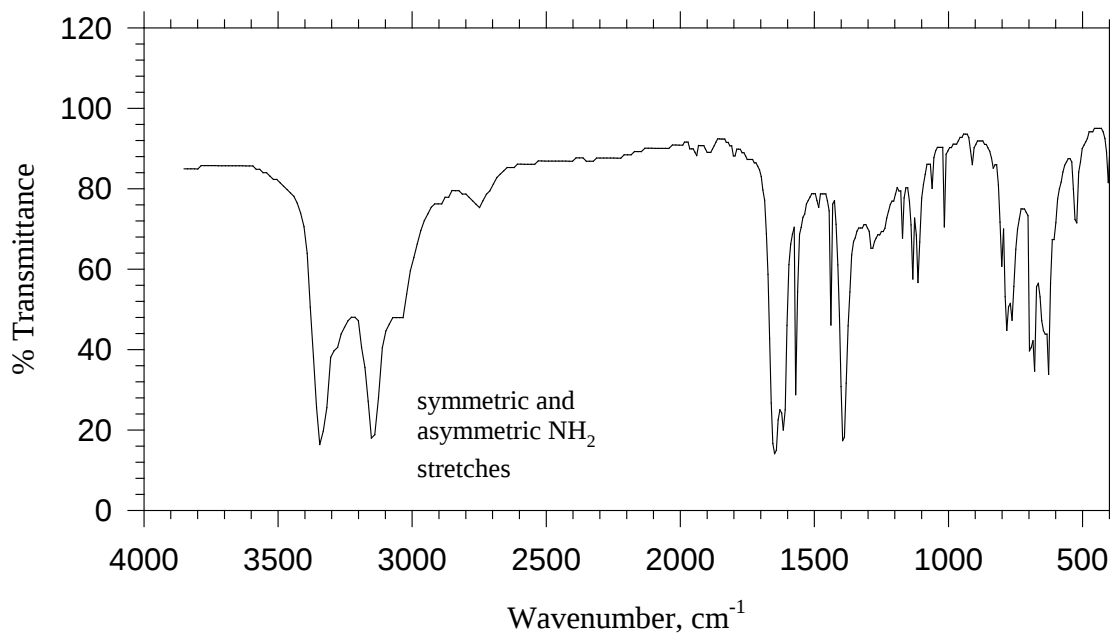


Figure IR-19. Benzamide, KBr pellet:

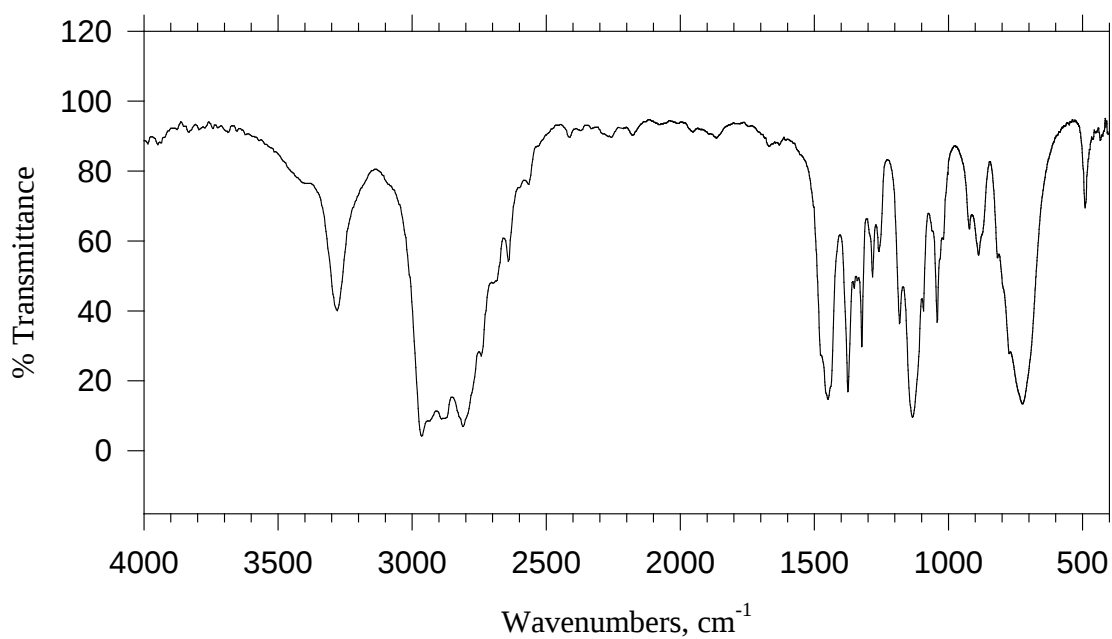


Figure IR-20. Diethylamine, neat liquid; thin film: $\text{CH}_3\text{CH}_2\text{NHCH}_2\text{CH}_3$

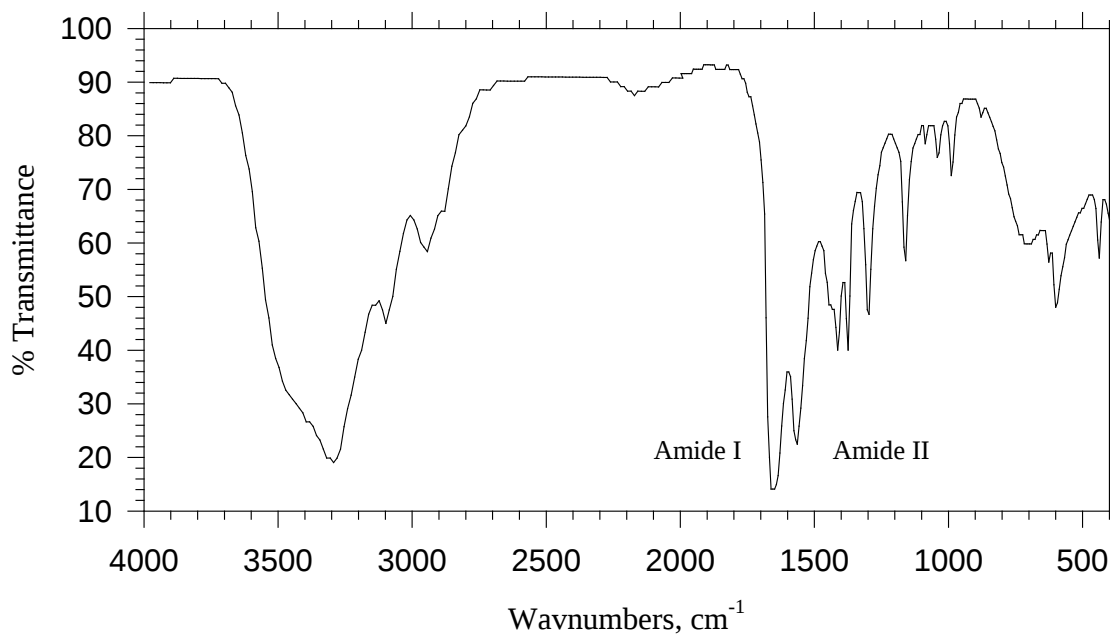


Figure IR-21. N-Methyl acetamide, neat liquid; thin film: $\text{CH}_3\text{CONHCH}_3$

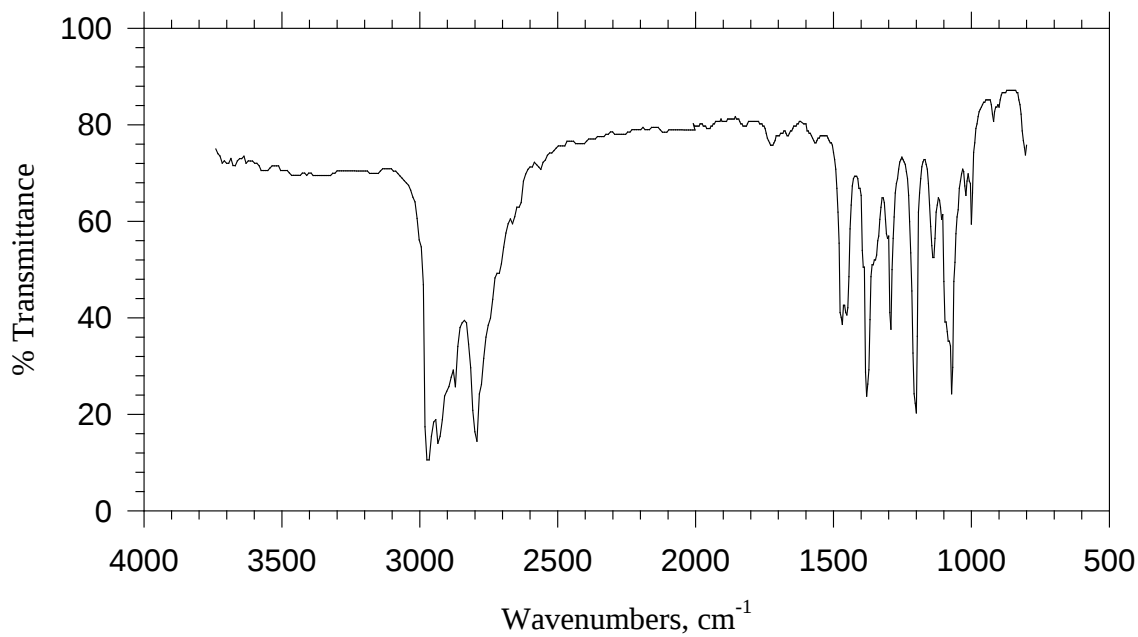


Figure IR-22. Triethylamine, neat liquid; thin film: $(\text{CH}_3\text{CH}_2)_3\text{N}$

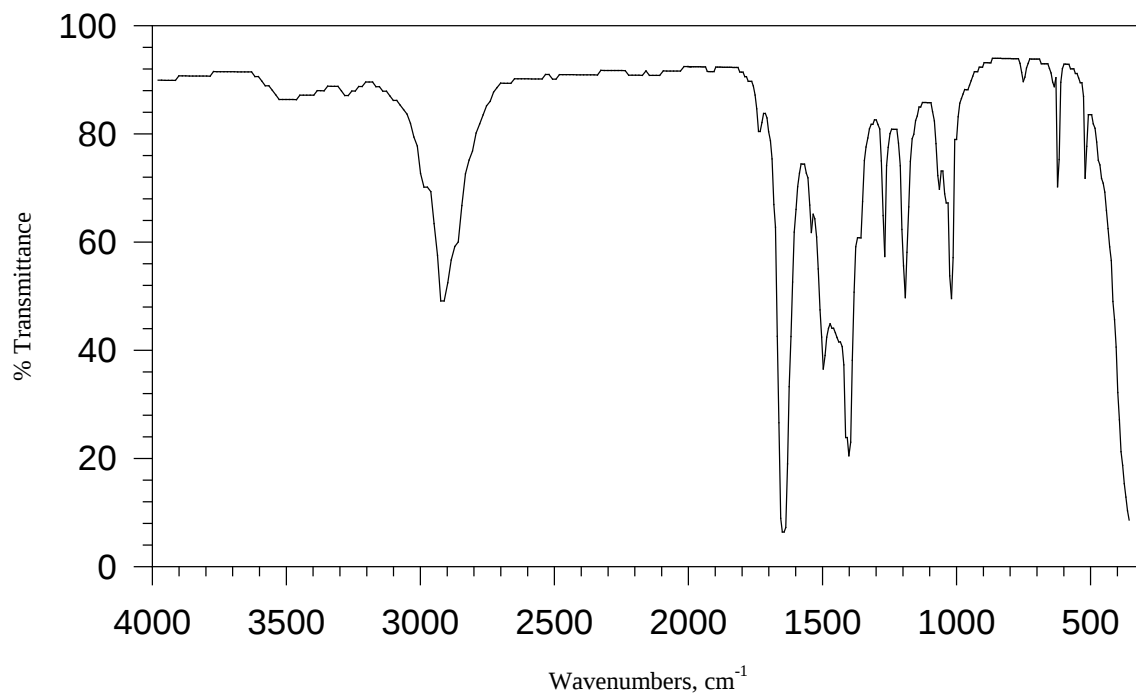


Figure IR-23. N,N-Dimethylacetamide, neat liquid; thin film: $\text{CH}_3\text{CON}(\text{CH}_3)_2$

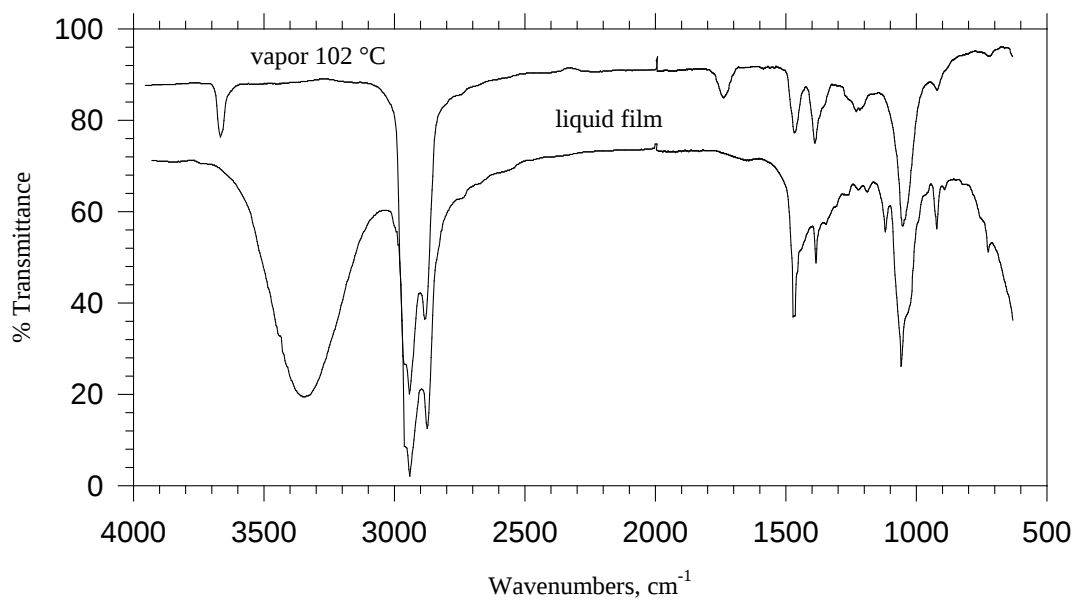


Figure IR-24. The liquid and vapor spectra of n-hexanol.

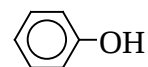
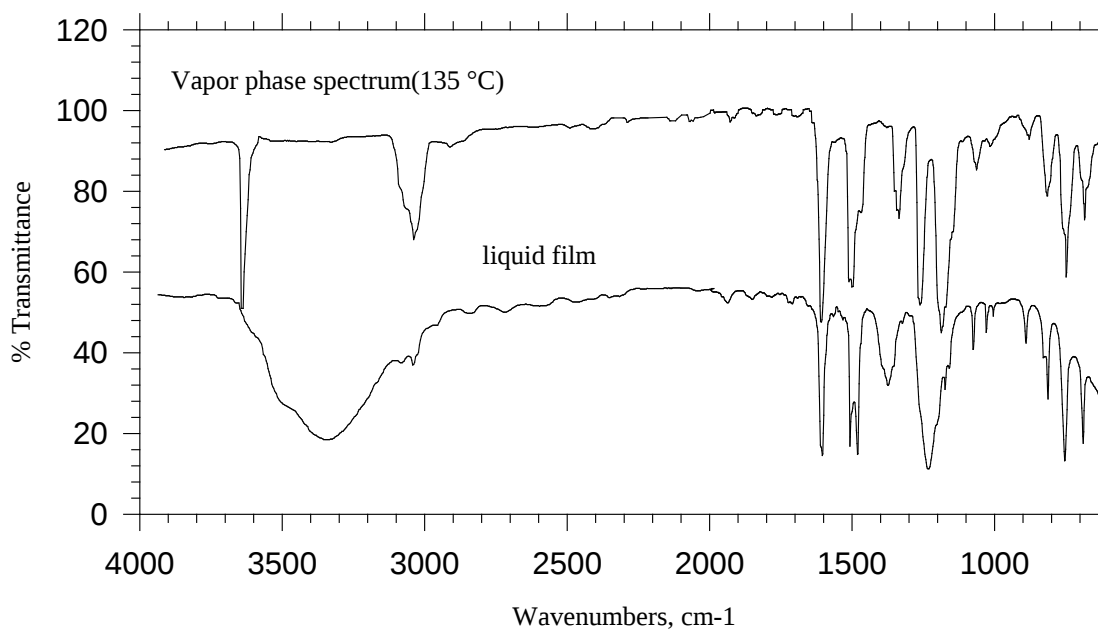


Figure IR-25. The liquid and vapor spectra of phenol.

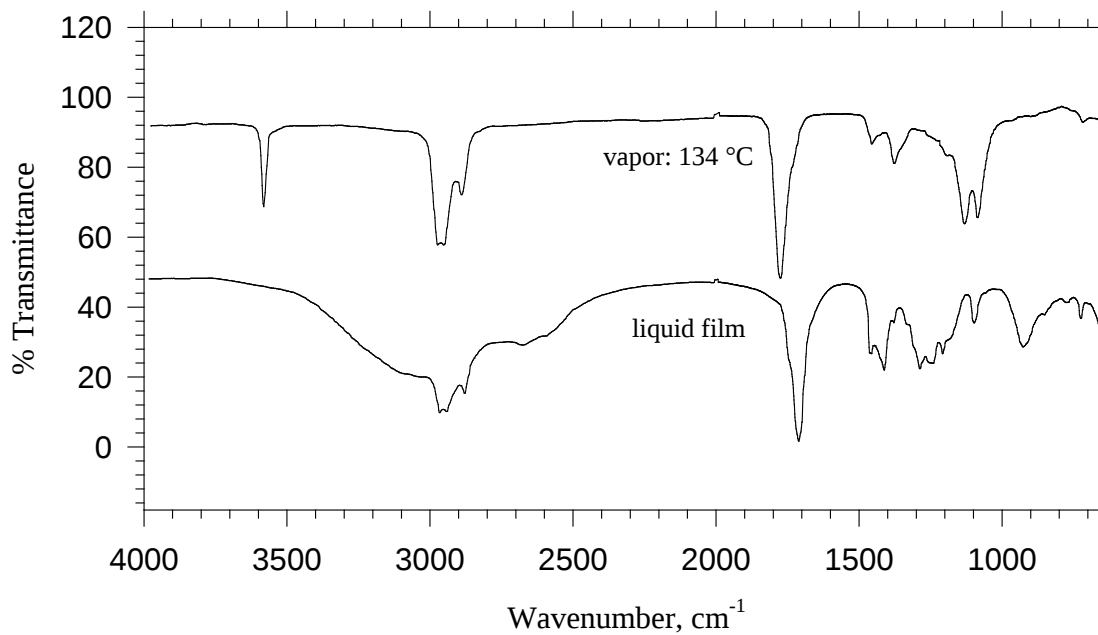


Figure IR-26. The liquid and vapor spectra of hexanoic acid: $\text{CH}_3(\text{CH}_2)_4\text{CO}_2\text{H}$

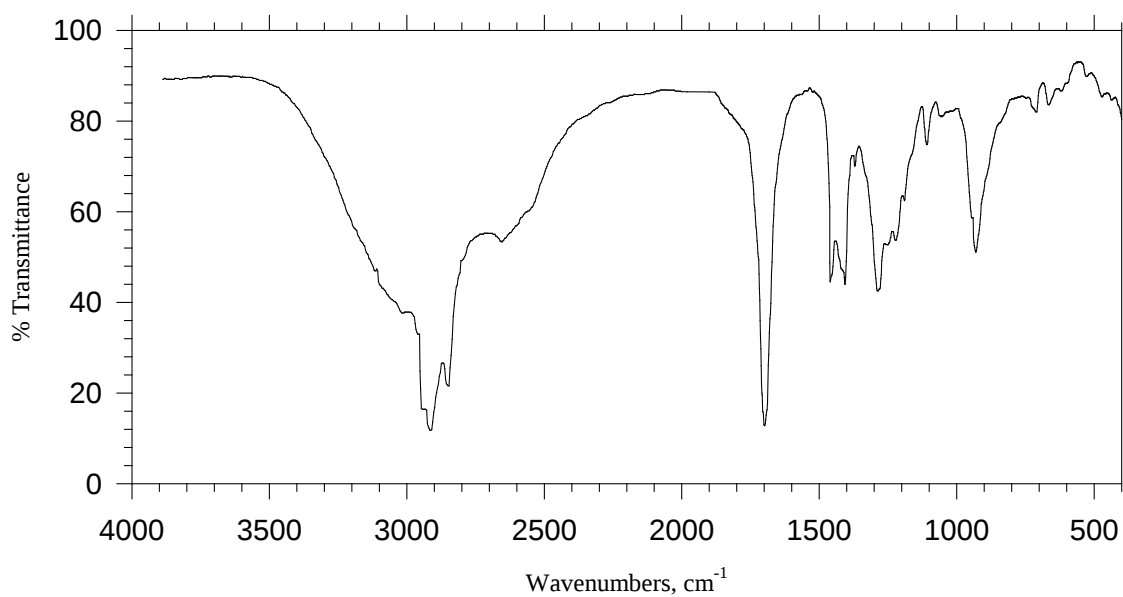


Figure IR-27. Decanoic acid, neat liquid, thin film: $\text{CH}_3(\text{CH}_2)_8\text{CO}_2\text{H}$

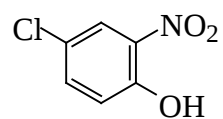
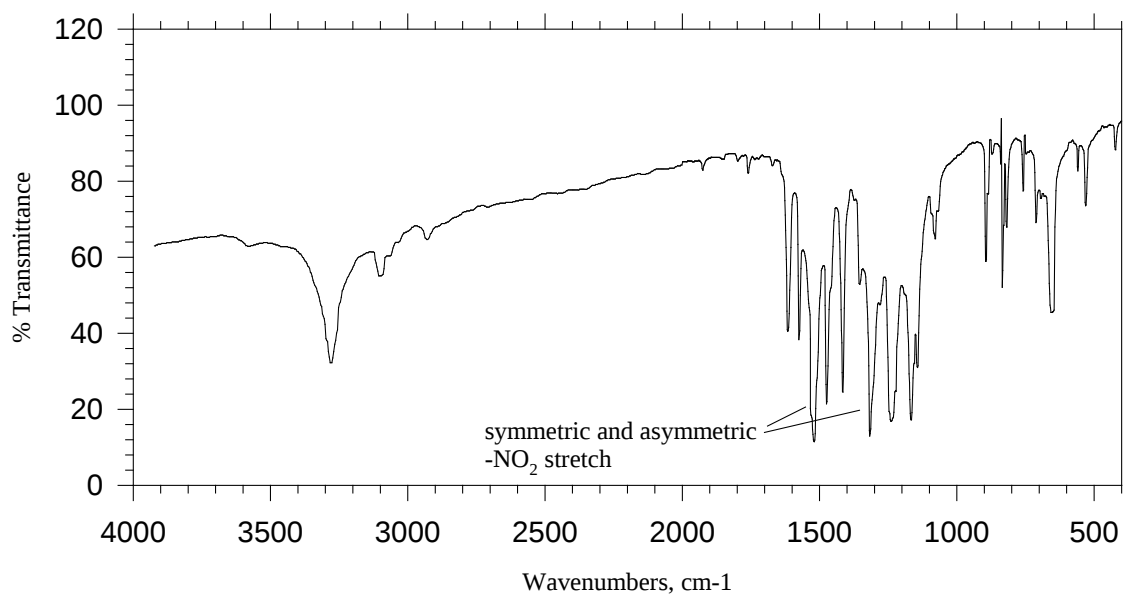


Figure IR-28. 4-Chloro-2-nitrophenol, KBr pellet:

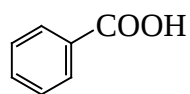
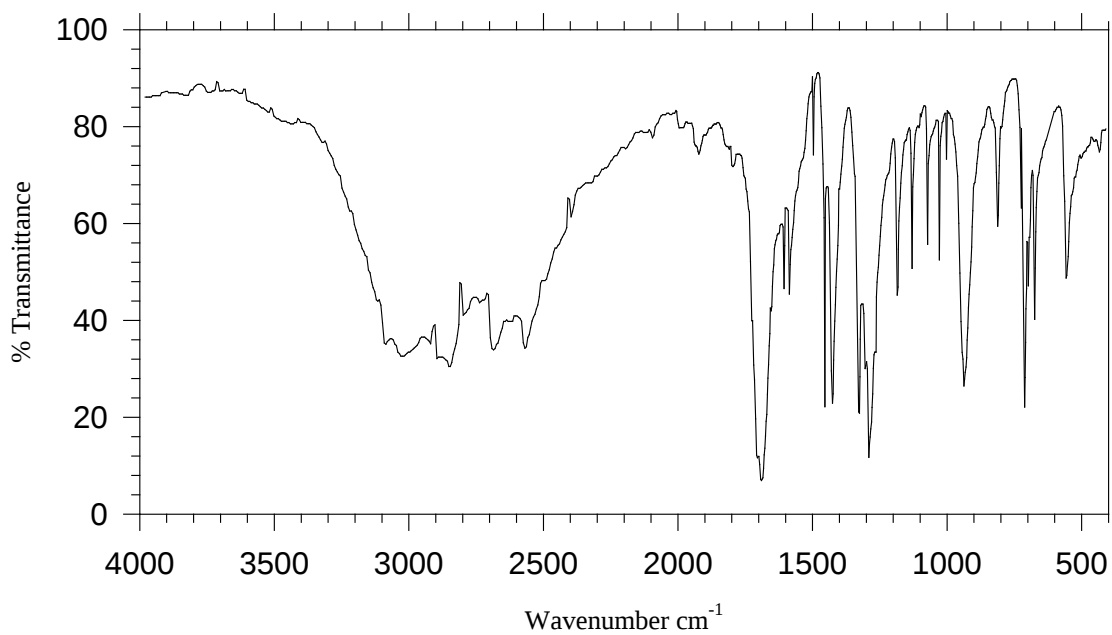


Figure IR-29. Benzoic acid; KBr disk:

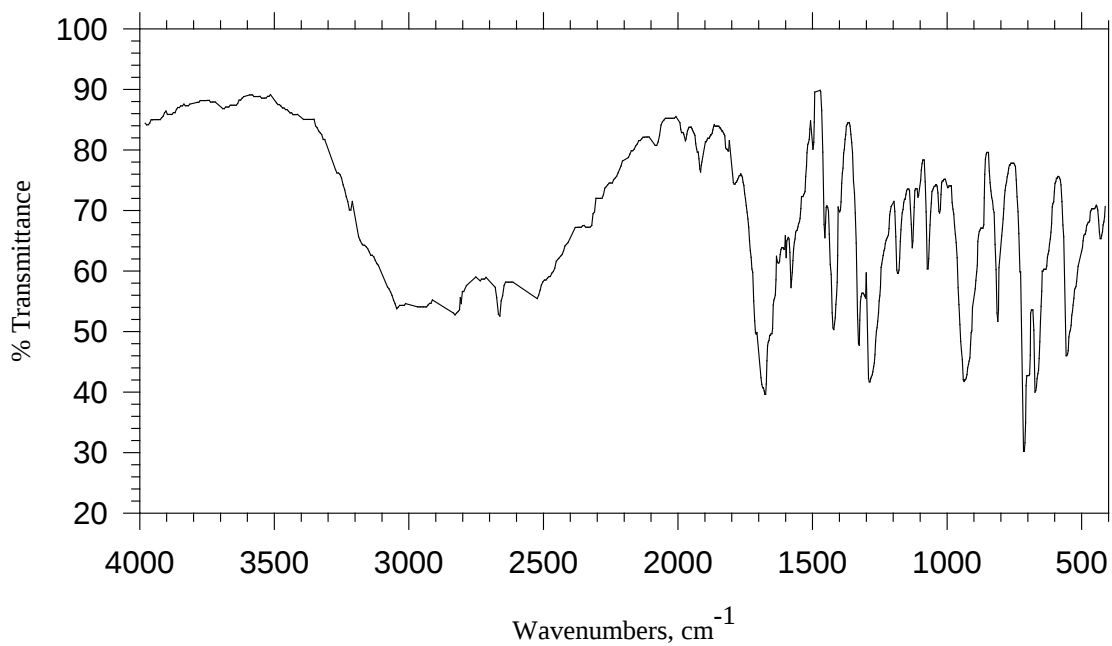


Figure IR-30. Benzoic acid, KBr; band distortions and broadening caused by poor grinding, compare

to Figure 29.

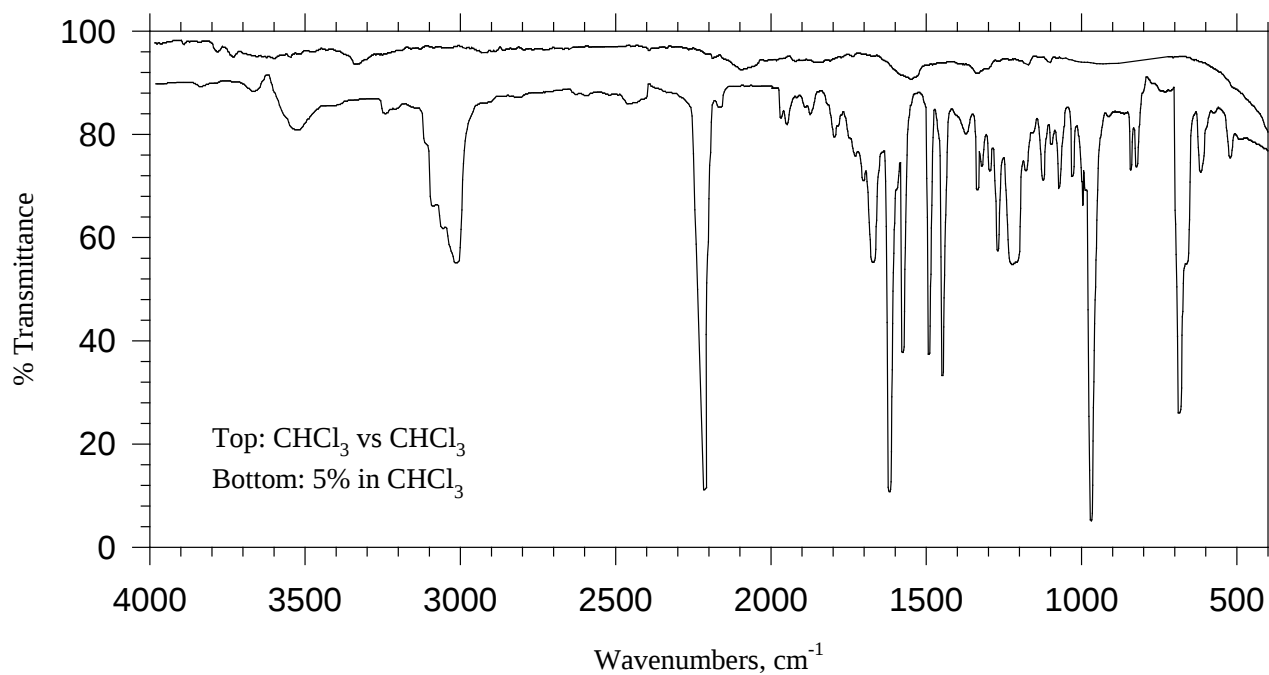


Figure IR-31. *trans*-2-Phenyl-1-cyanoethene, in CHCl_3 solution: Ph-CH=CH-CN

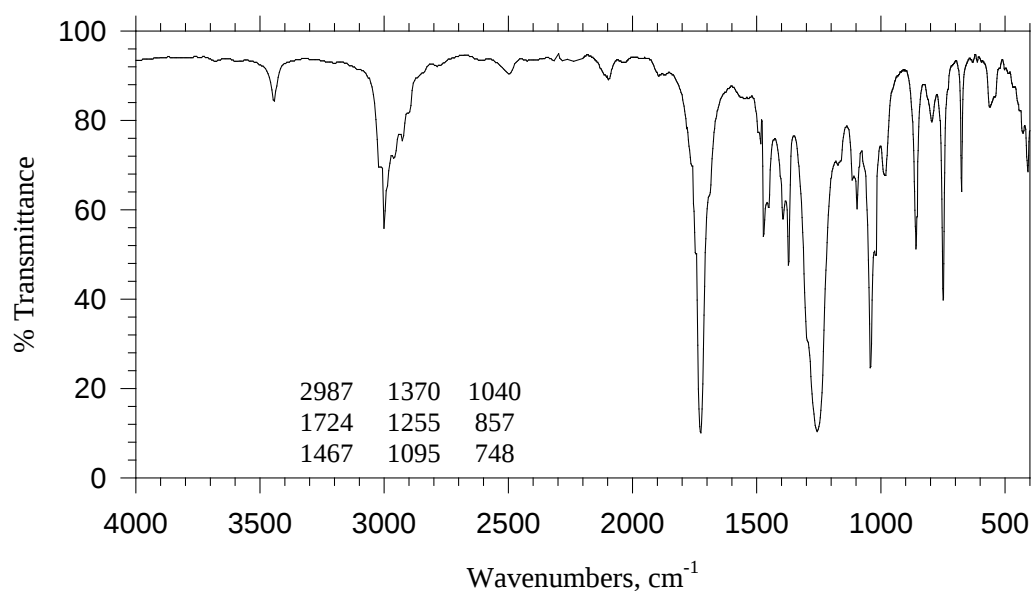


Figure IR-32. Diethyl acetylenedicarboxylate; neat liquid: $\text{C}_2\text{H}_5\text{OCO-C}\equiv\text{C-CO}_2\text{CH}_2\text{CH}_3$

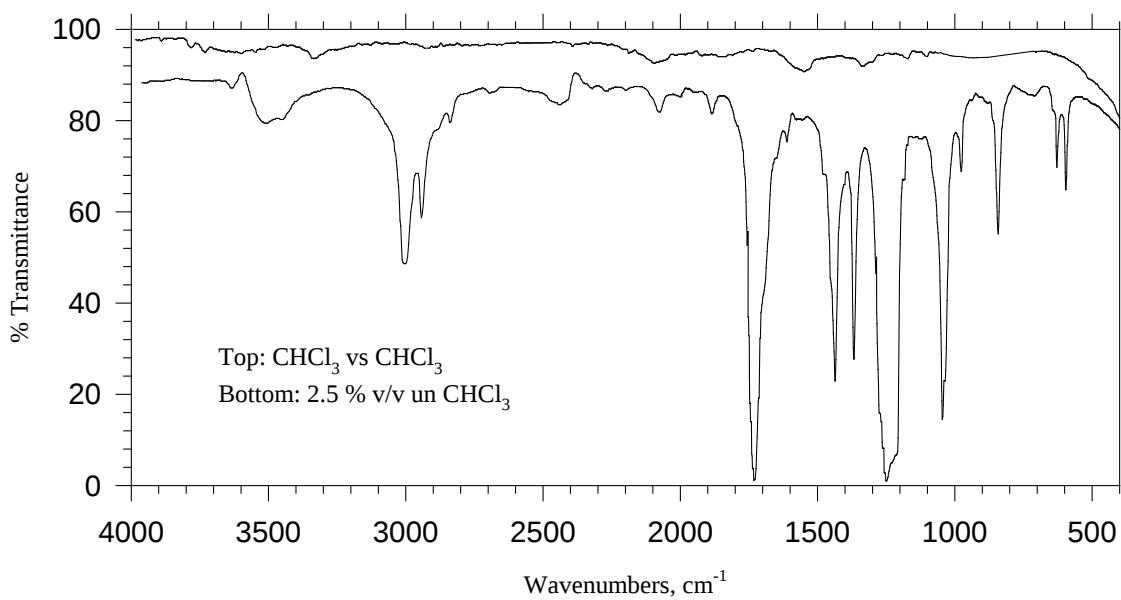


Figure IR-33. Methyl acetate in 0.1 mm NaCl cells: $\text{CH}_3\text{CO}_2\text{CH}_3$

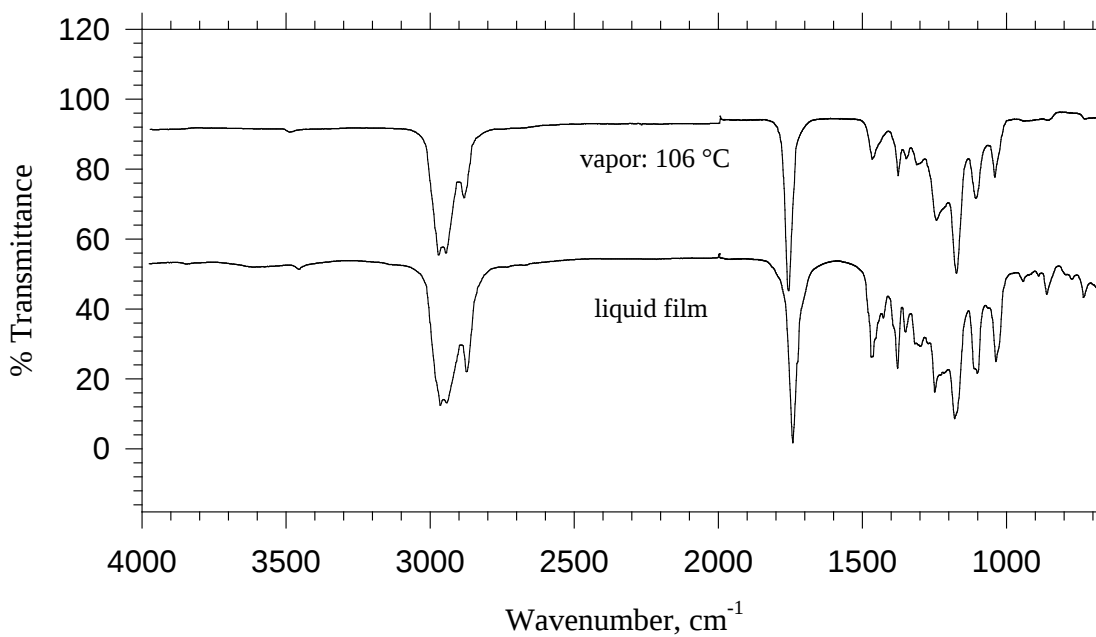


Figure IR-34. Vapor and liquid spectra of ethyl n-hexanoate: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CO}_2\text{CH}_2\text{CH}_3$

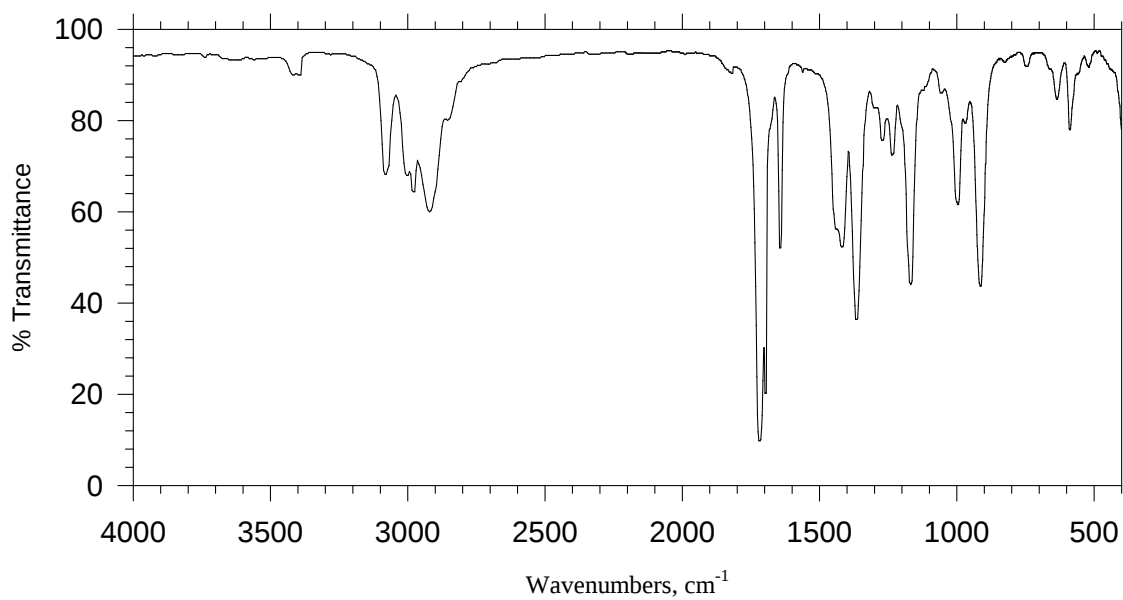


Figure IR-35. 5-Hexene-2-one, neat liquid: $\text{CH}_2=\text{CH}_2\text{CH}_2\text{CH}_2\text{COCH}_3$

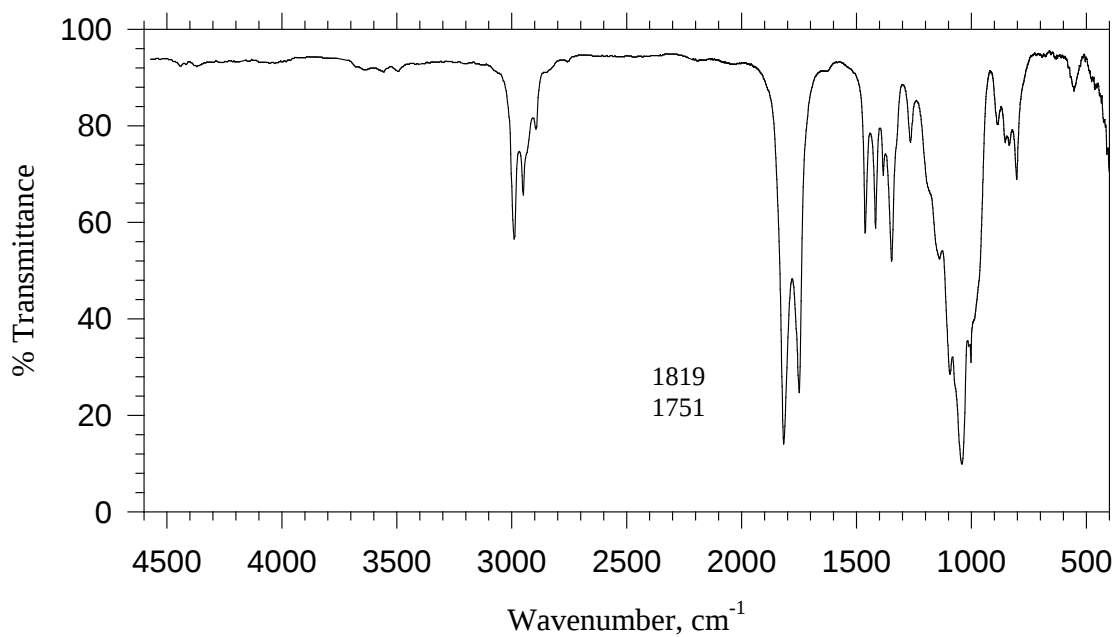


Figure IR-36. Propionic anhydride, neat liquid: $\text{CH}_3\text{CH}_2\text{CO}_2\text{COCH}_2\text{CH}_3$

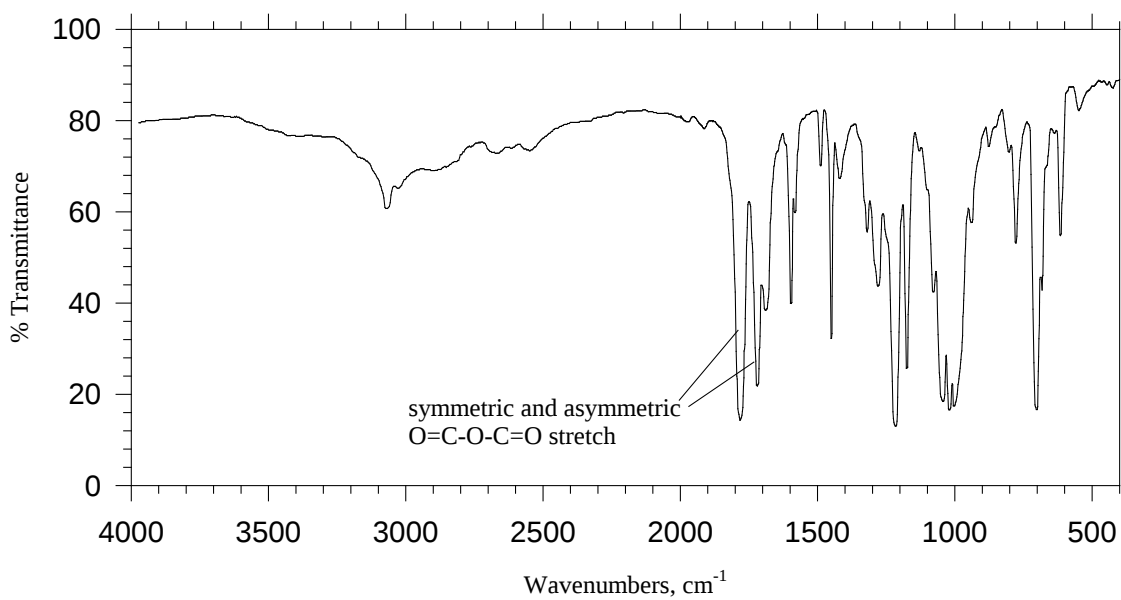


Figure IR-37. Benzoic anhydride, KBr pellet:

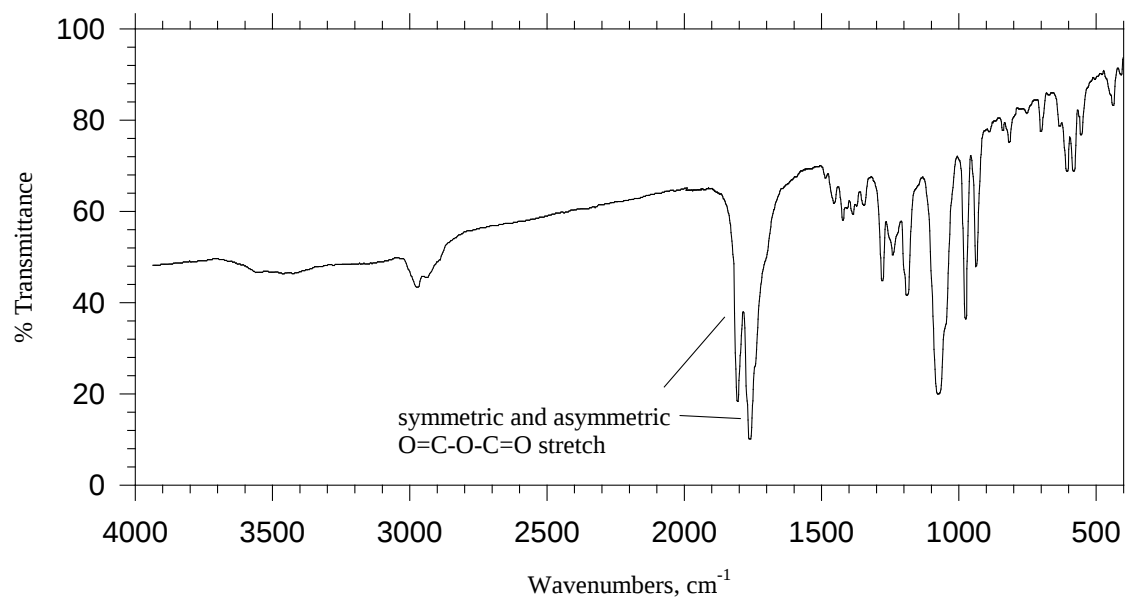
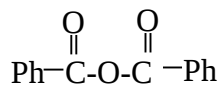
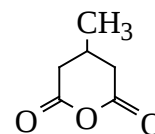
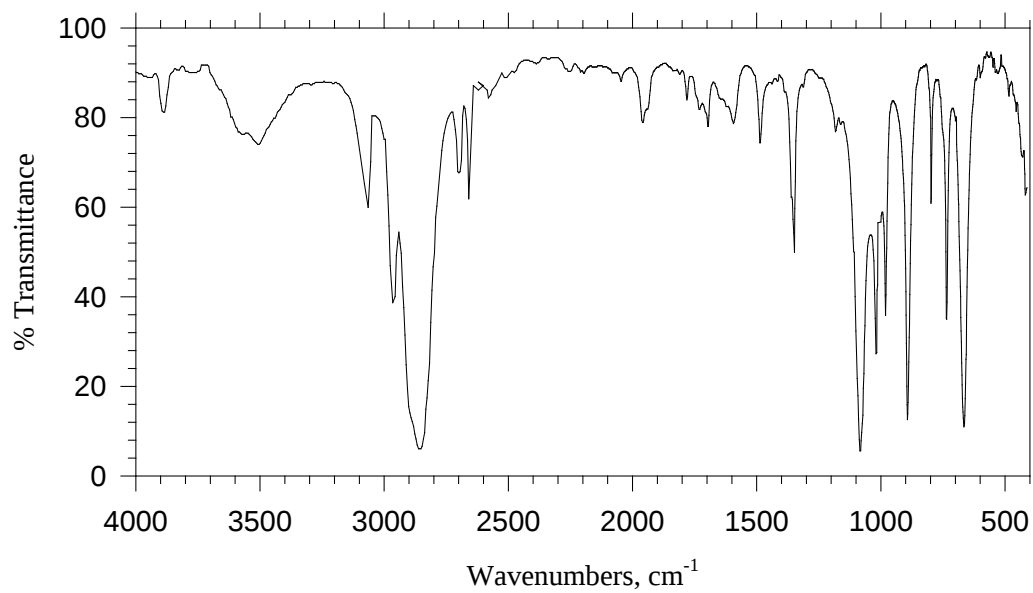


Figure IR-38. 3-Methylpimelic acid anhydride, KBr pellet:

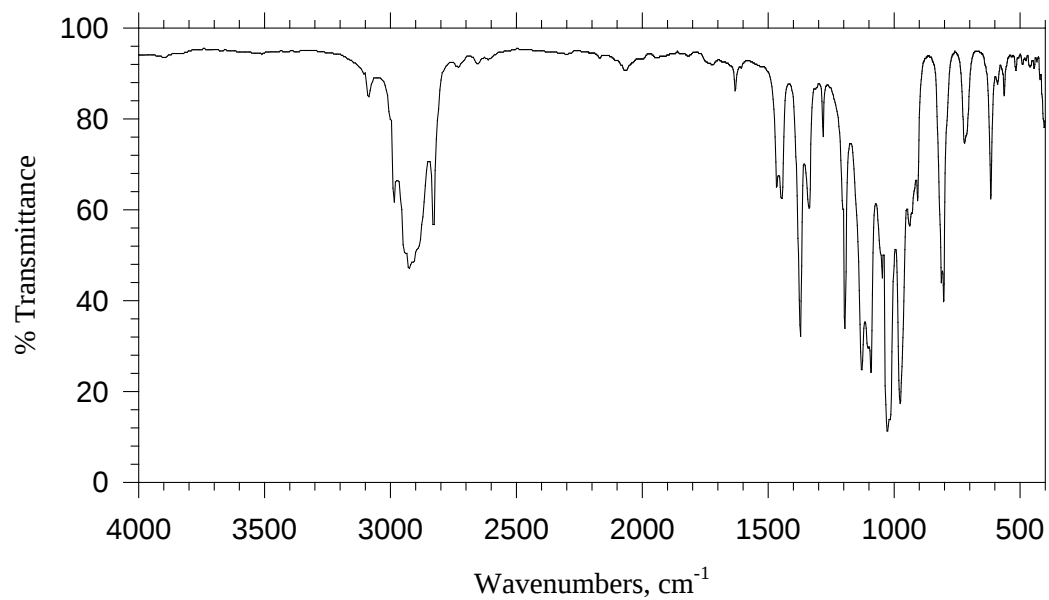




2850	1012	798
1345	981	736
1079	892	665



Figure IR-39. 2,5-Dihydrofuran, neat liquid:



2934	1091	938
1373	1026	906
1196	976	665

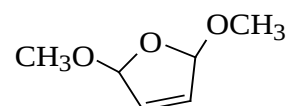


Figure IR-40. 2,5-Dimethoxy-2,5-dihydrofuran, neat liquid:

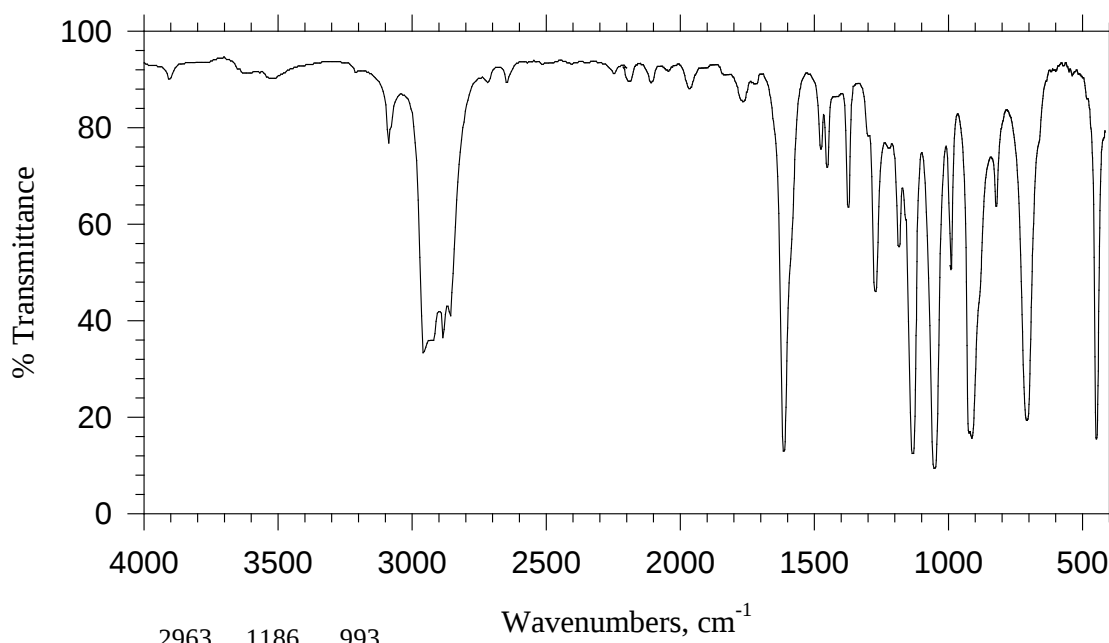


Figure IR-41. 2,3-Dihydrofuran, neat liquid:

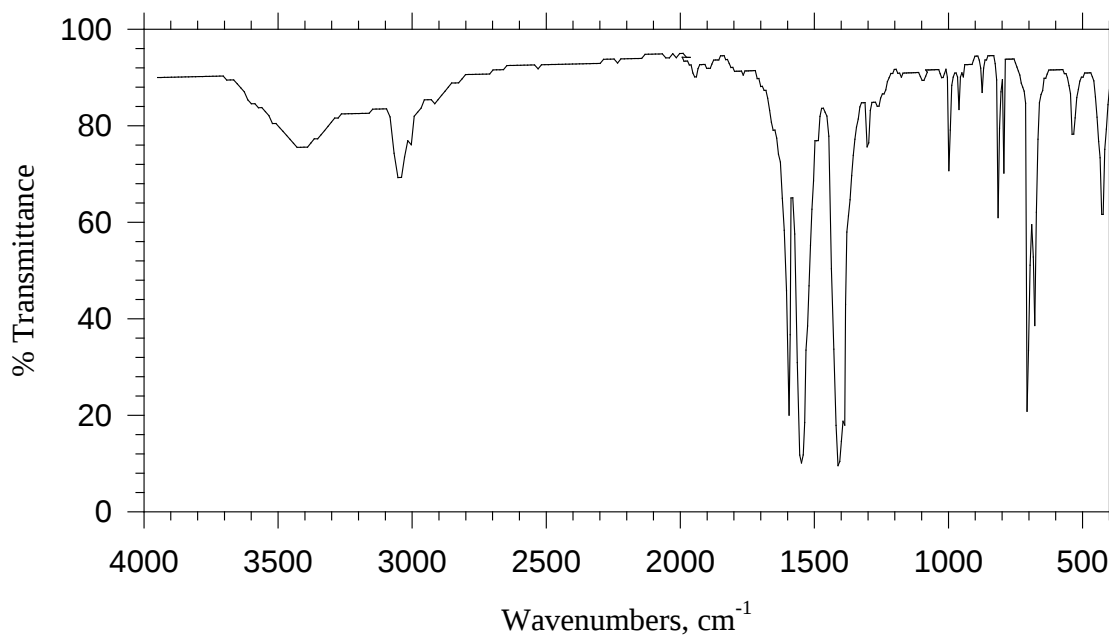
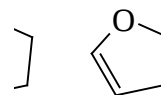
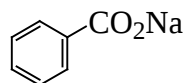


Figure IR-42. Sodium benzoate, KBr pellet:



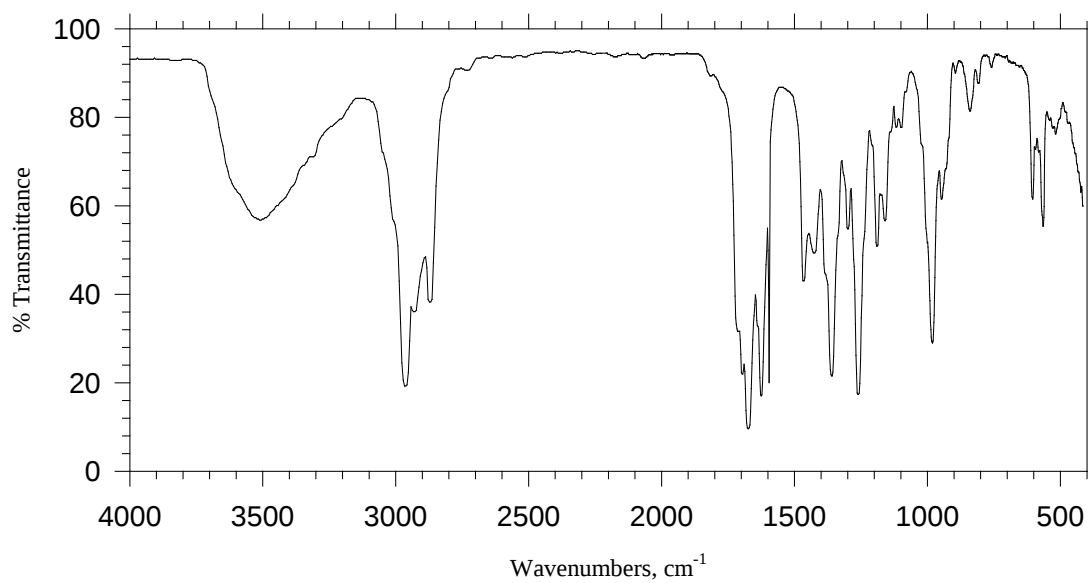
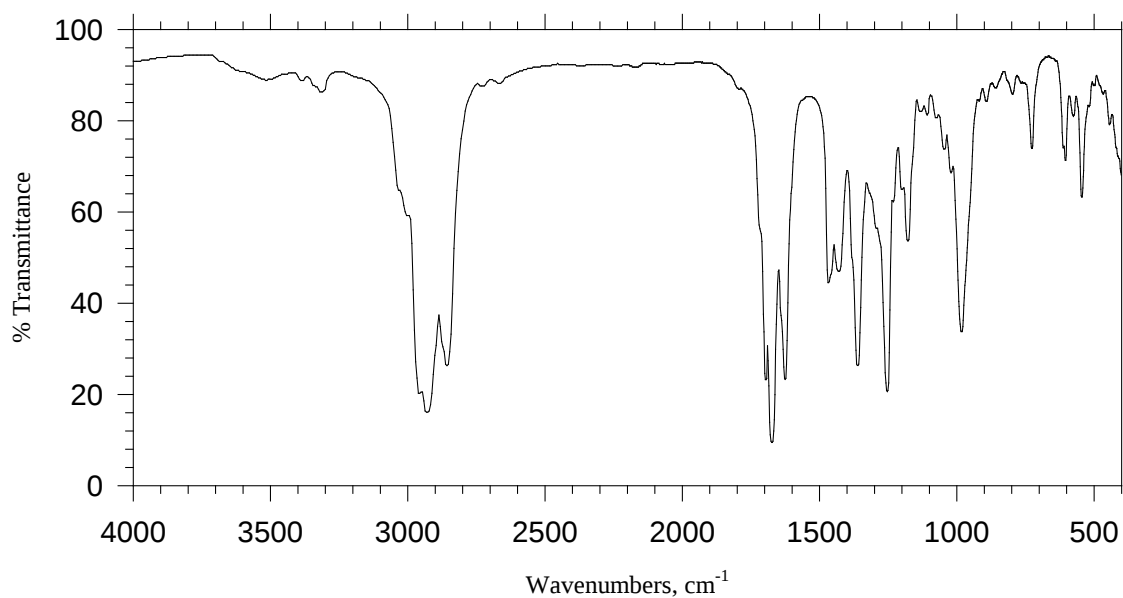
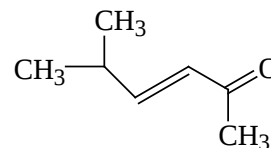
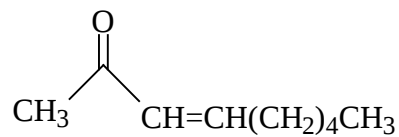


Figure IR-43. 5-Methyl-3-hexene-2-one, tech. grade, 80%; neat



2930	1361	982
1677	1253	606
1467	1167	547

Figure IR-44. 3-Nonen-2-one, 95%; neat liquid, thin film:



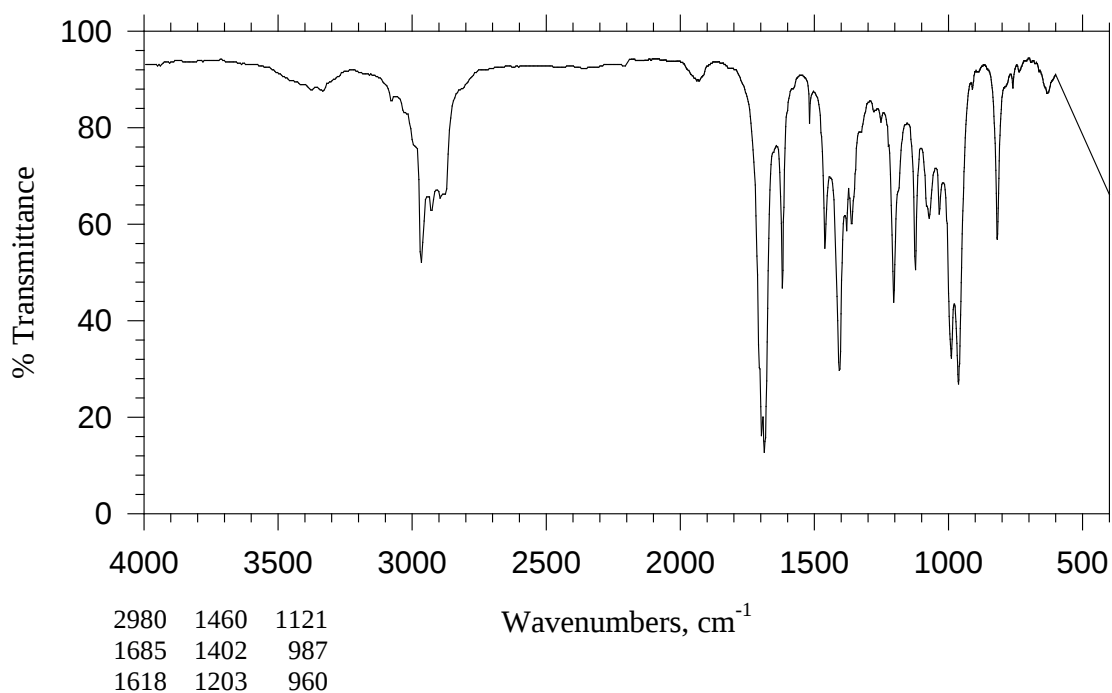


Figure IR-45. Ethyl vinyl ketone, neat liquid: $\text{CH}_3\text{CH}_2\text{COCH}=\text{CH}_2$

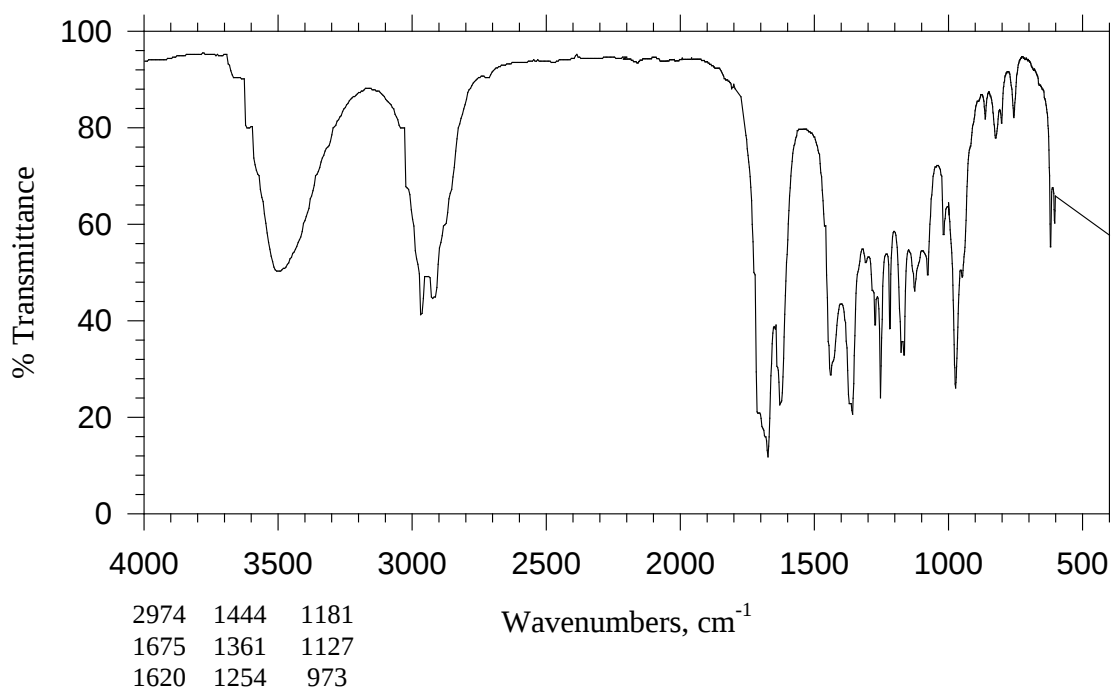
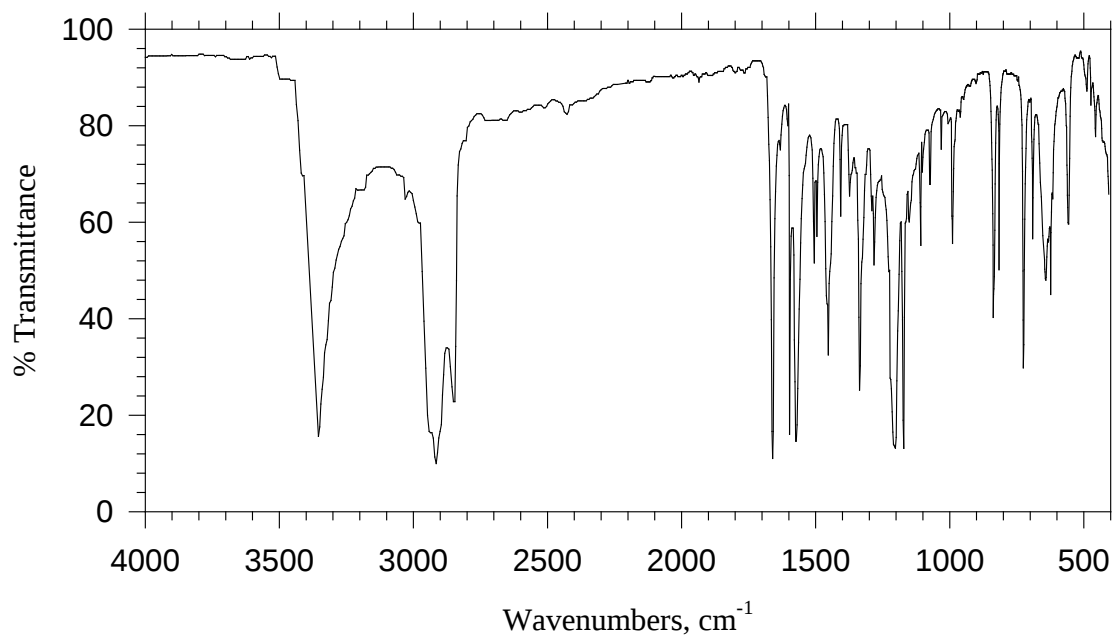


Figure IR-46. 3-Penten-2-one, neat liquid: $\text{CH}_3\text{CH}=\text{CHCOCH}_3$



3368 1338 995
1666 1230 841
1578 1168 728

Figure IR-47. Benzyl 4-hydroxyphenyl ketone, Nujol mull:

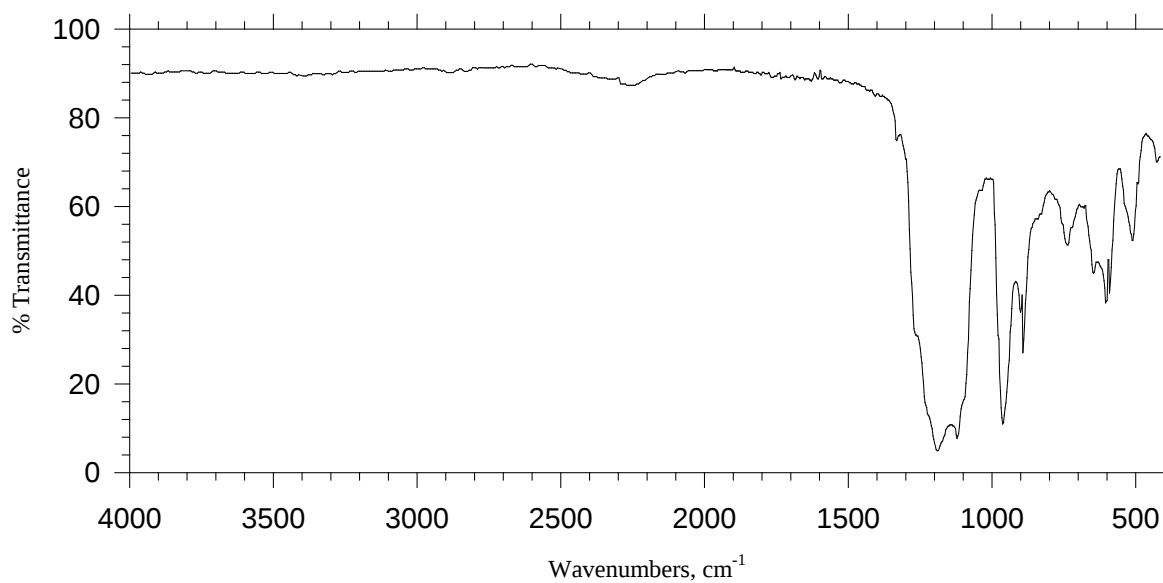
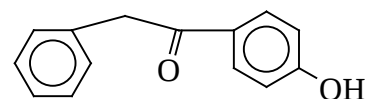


Figure IR-48. Perfluorohydrocarbon oil; thin film

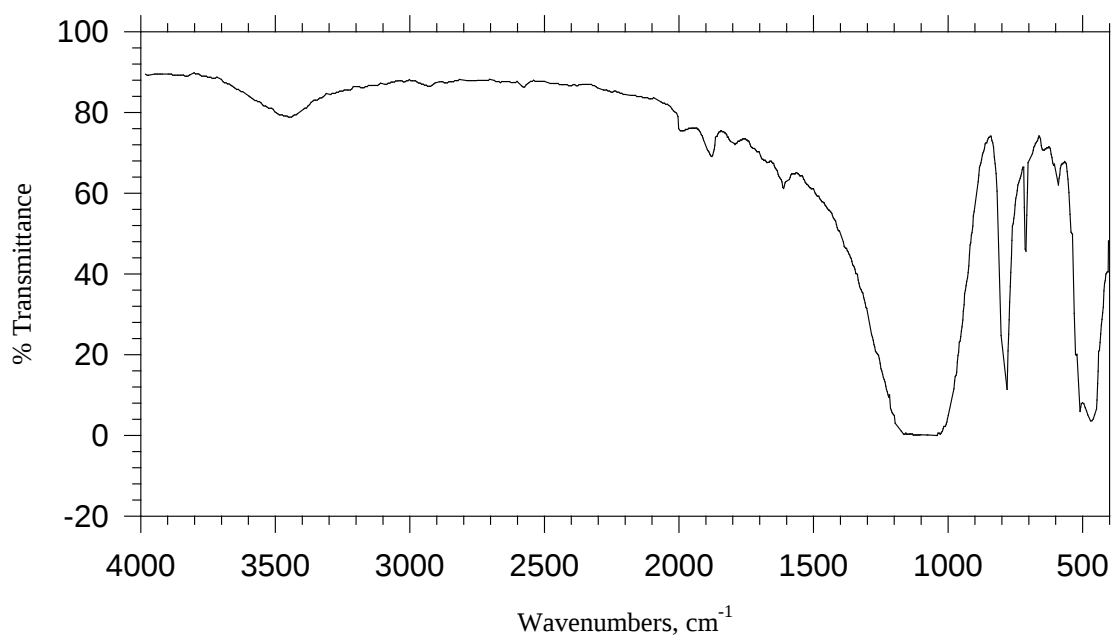


Figure IR-49. Quartz; KBr pellet.

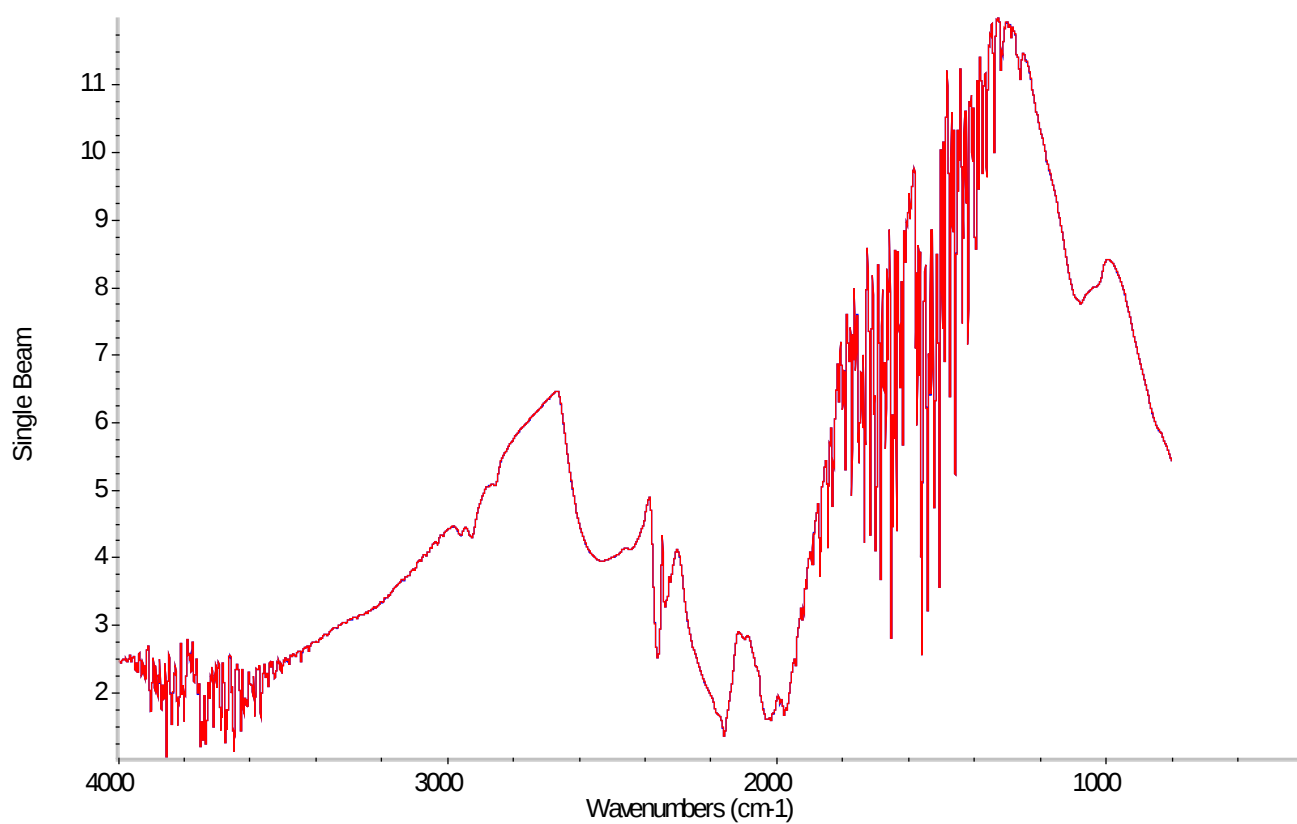


Figure IR-50. IR spectrum of background and of the ATR accessory.