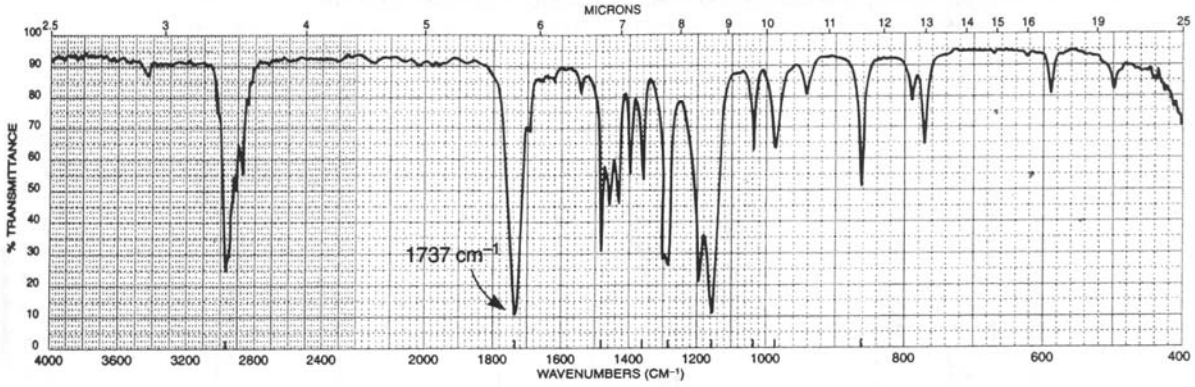
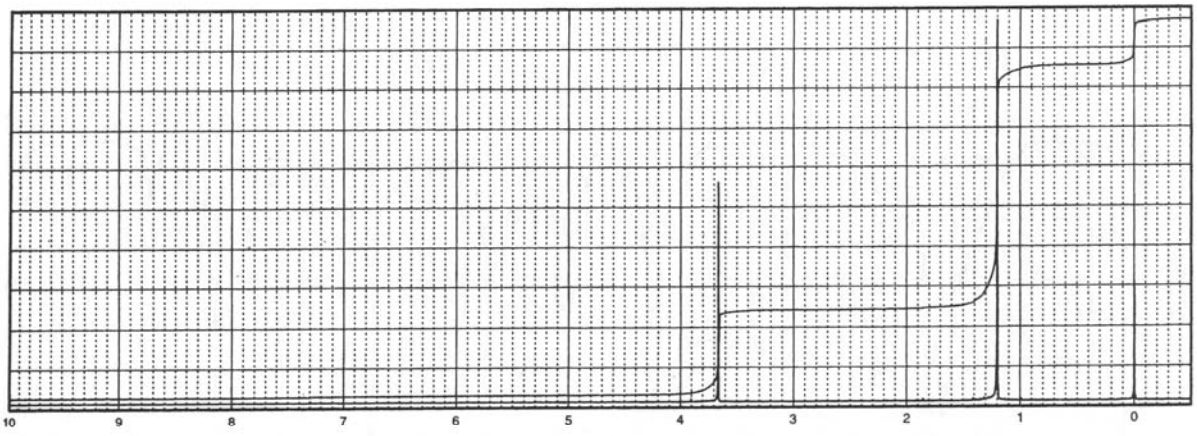
***4.** The formula for this compound is $C_6H_{12}O_2$.

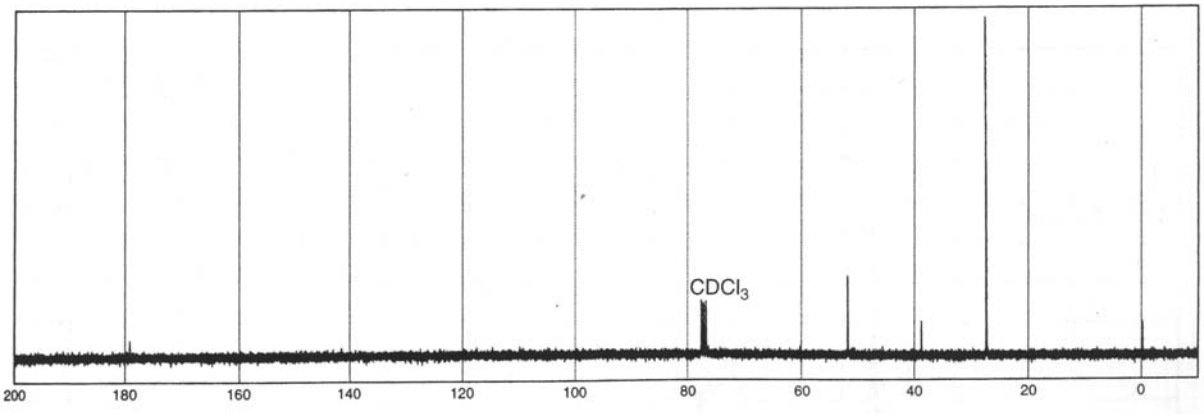
a)



b)

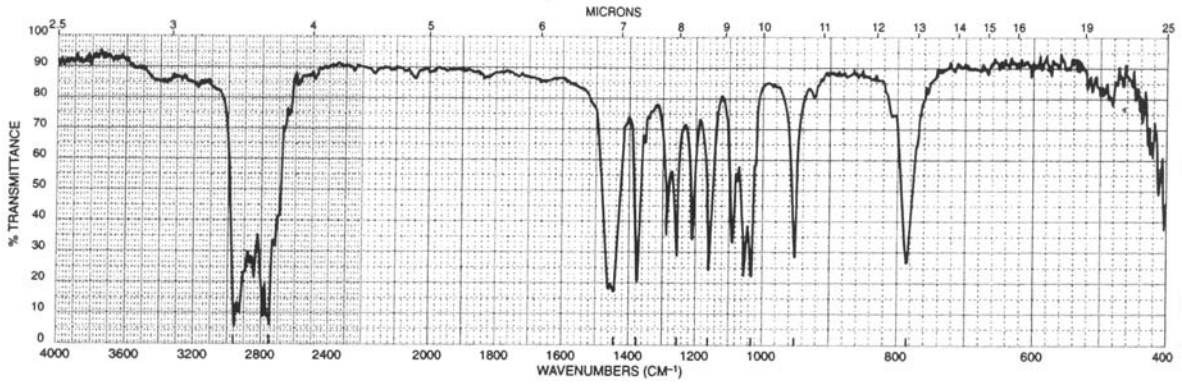


c)

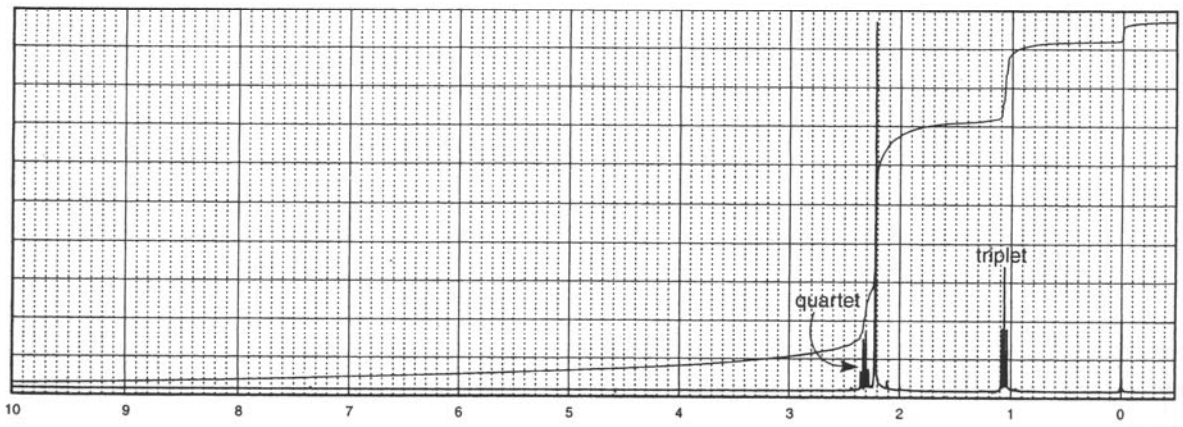


***9.** This compound has the molecular formula $C_4H_{11}N$.

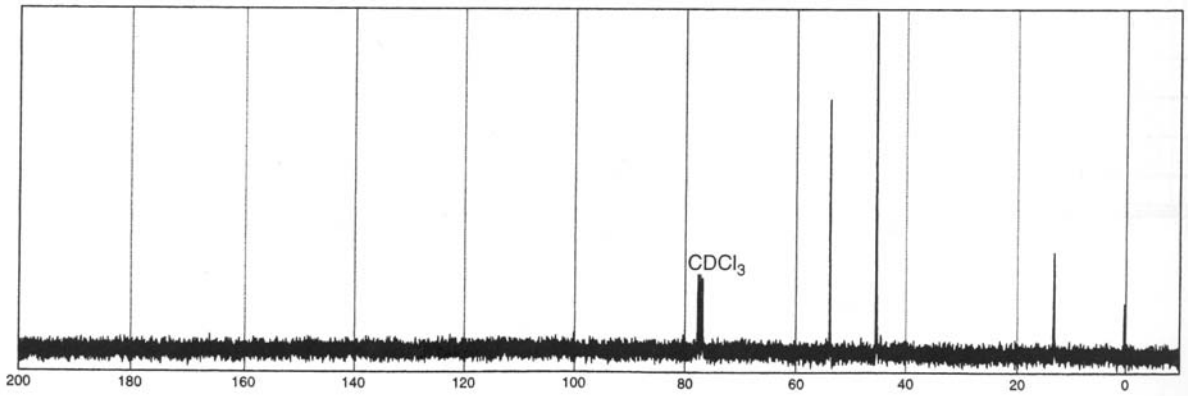
a)



b)

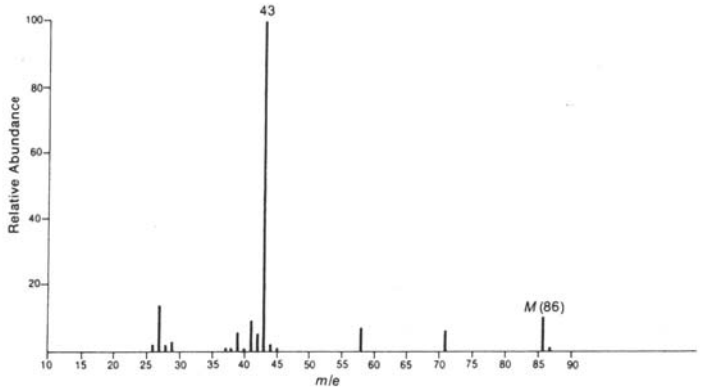


c)

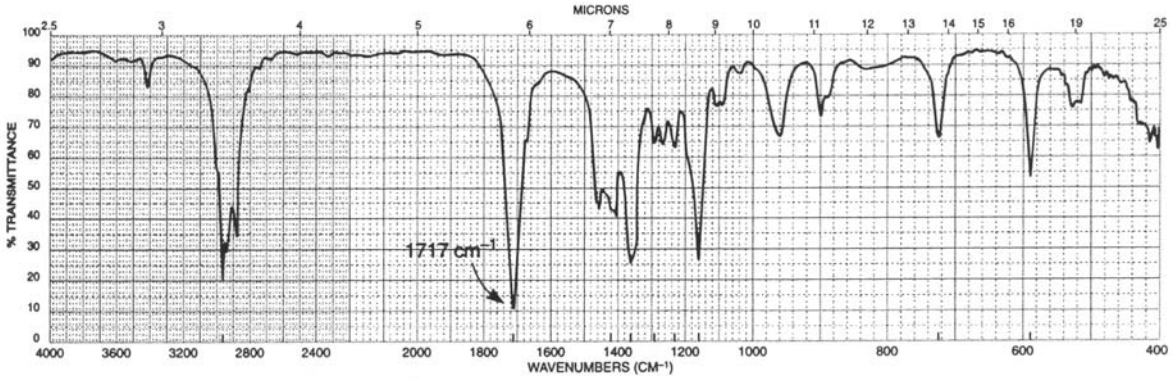


***10.** The UV spectrum of this compound is determined in 95% ethanol: λ_{max} 280 nm (log ε 1.3). This compound has the formula $C_5H_{10}O$.

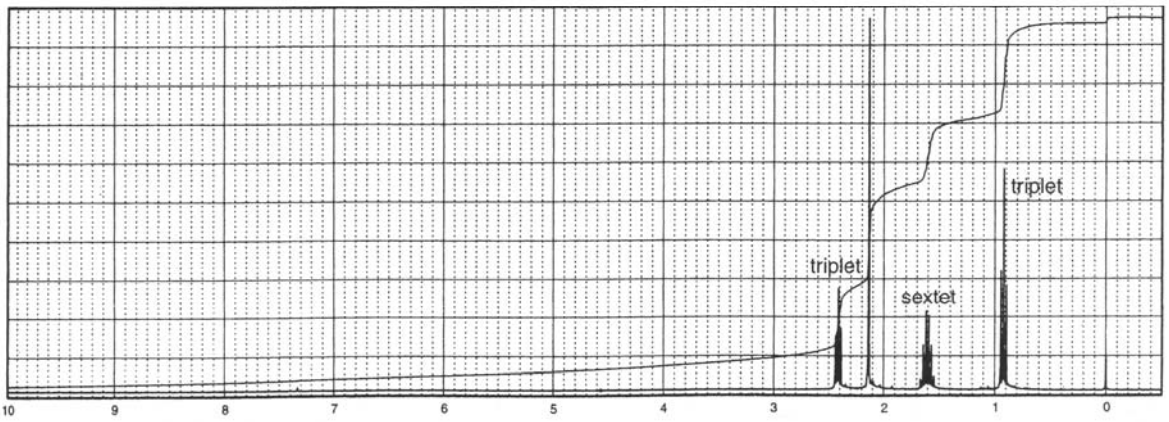
a)



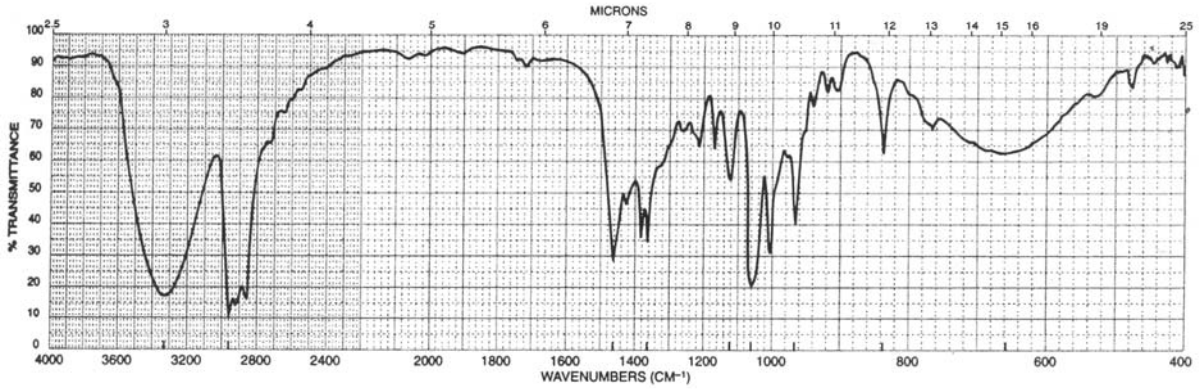
b)

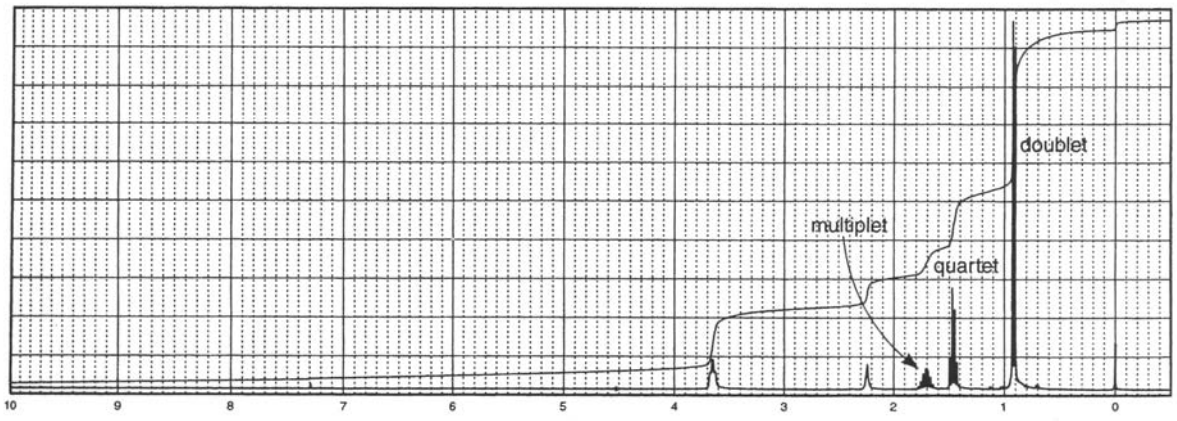


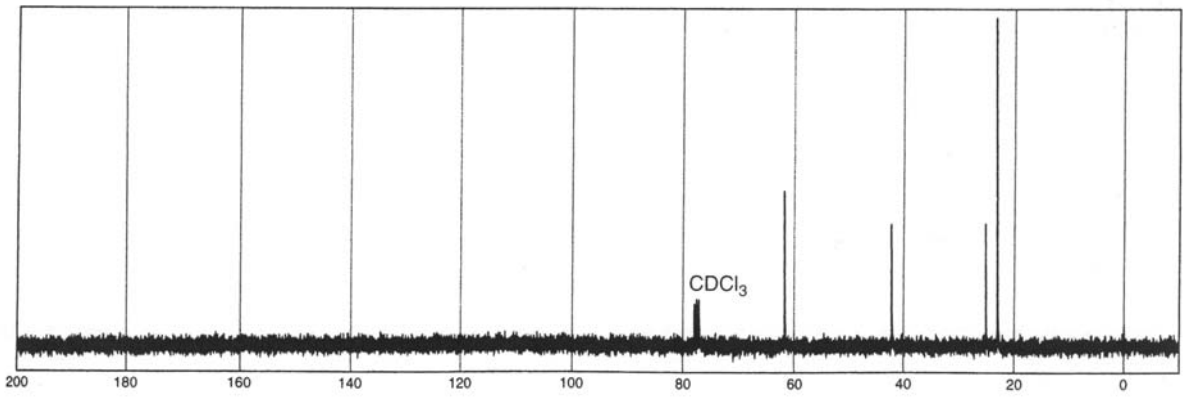
c)



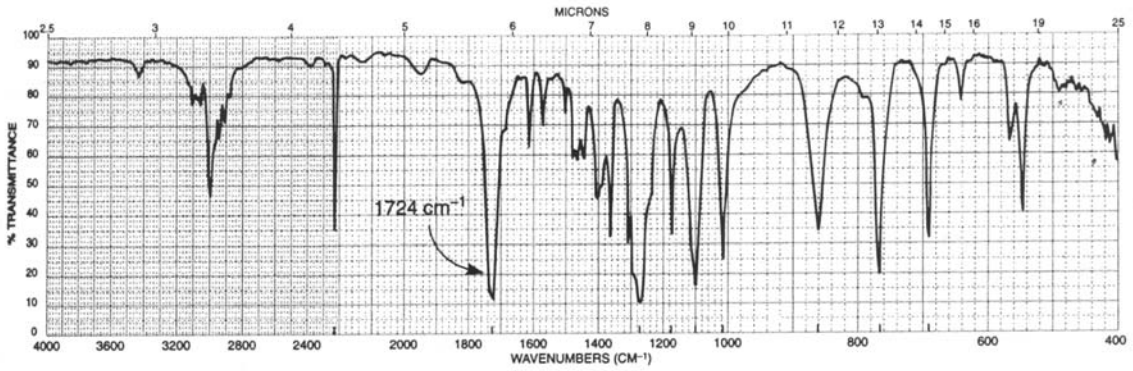
***14.** This compound has the formula $C_5H_{12}O$. When a trace of aqueous acid is added to the sample, the proton NMR spectrum resolves into a clean triplet at 3.6 ppm, and the broad peak at 2.2 ppm moves to 4.5 ppm.

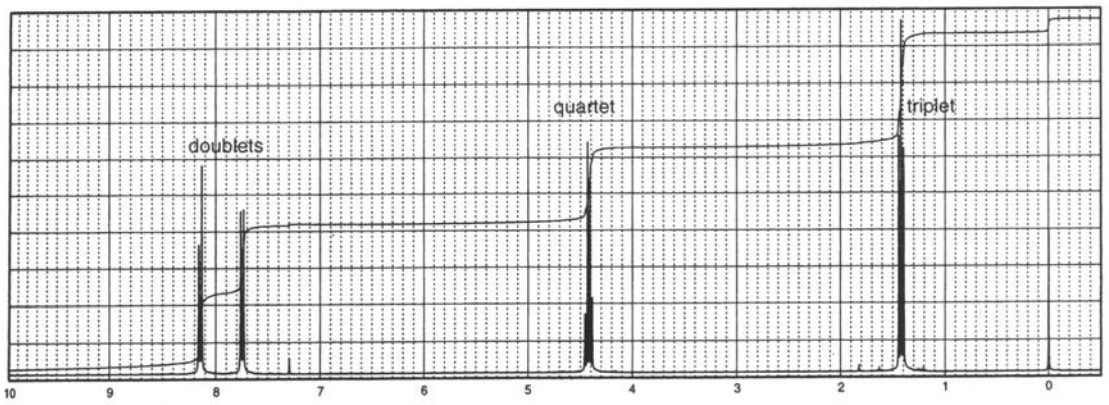


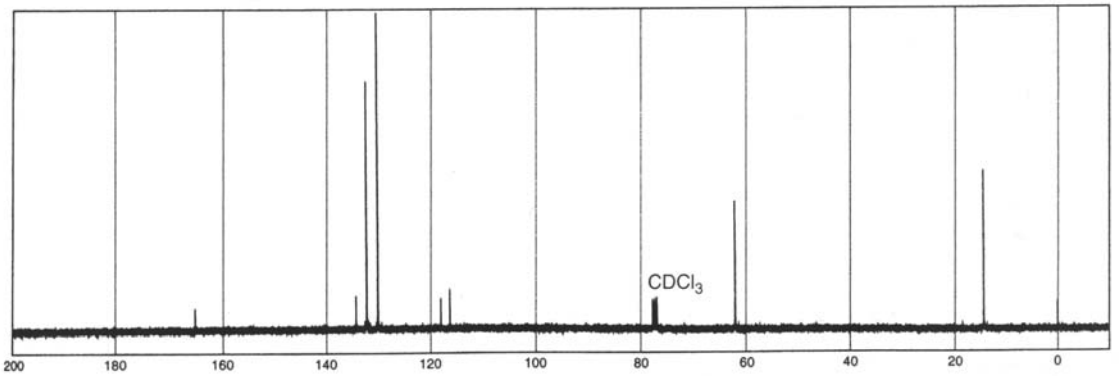




***16.** This compound has the molecular formula $C_{10}H_9NO_2$.







***17.** This compound has the formula C_9H_9ClO. The full proton NMR spectrum is shown along with expansions of individual patterns.