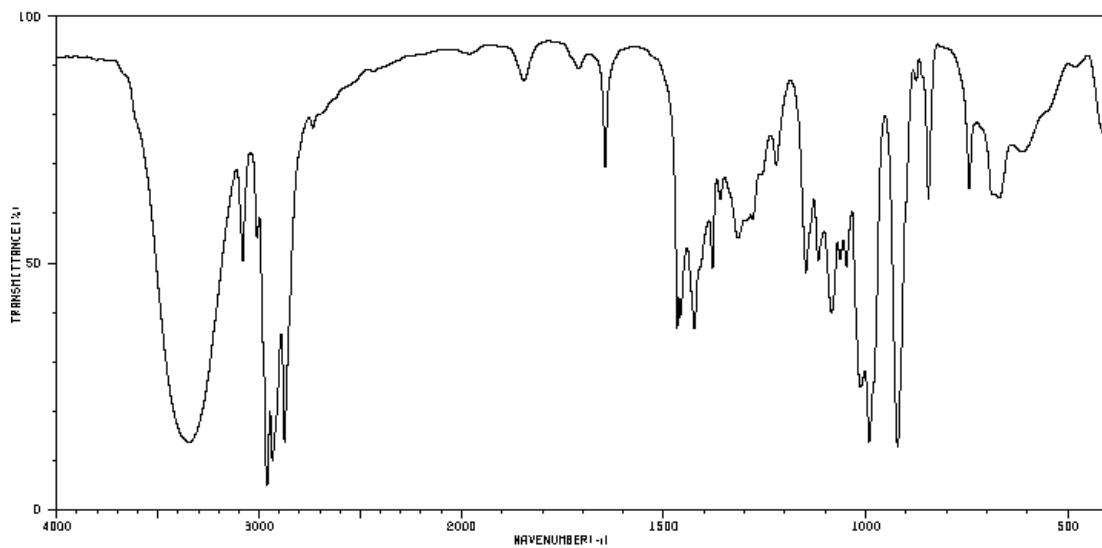
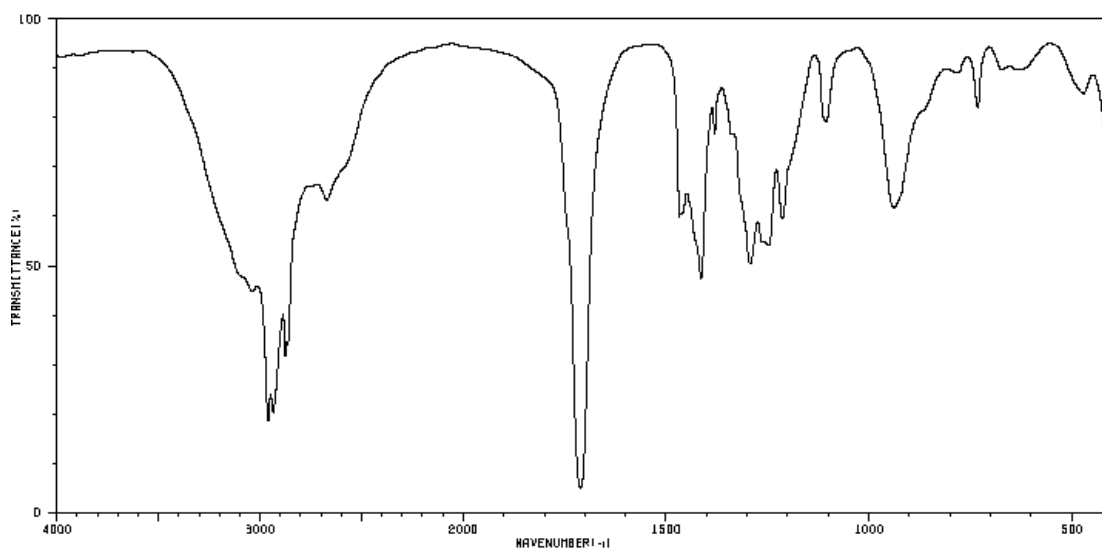
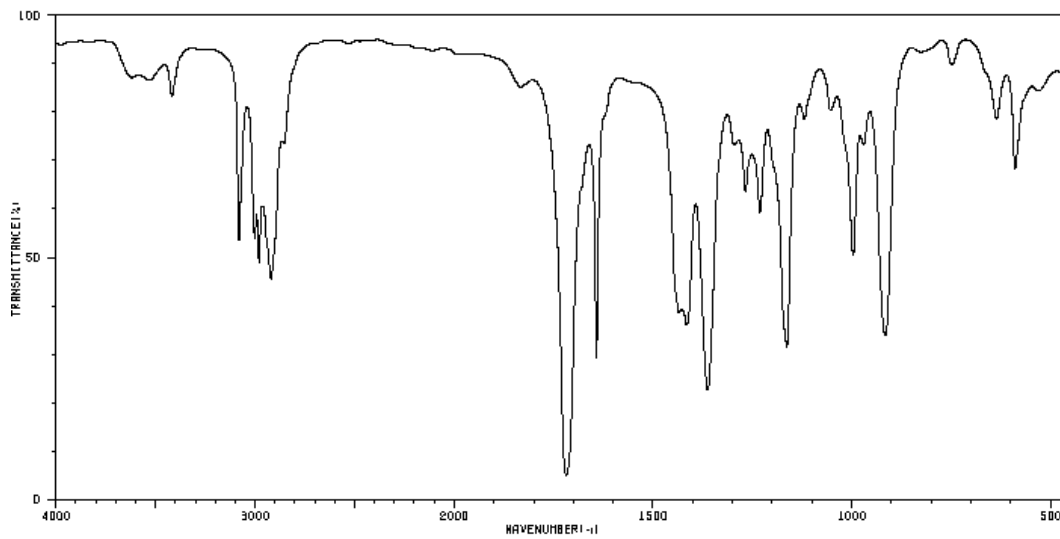
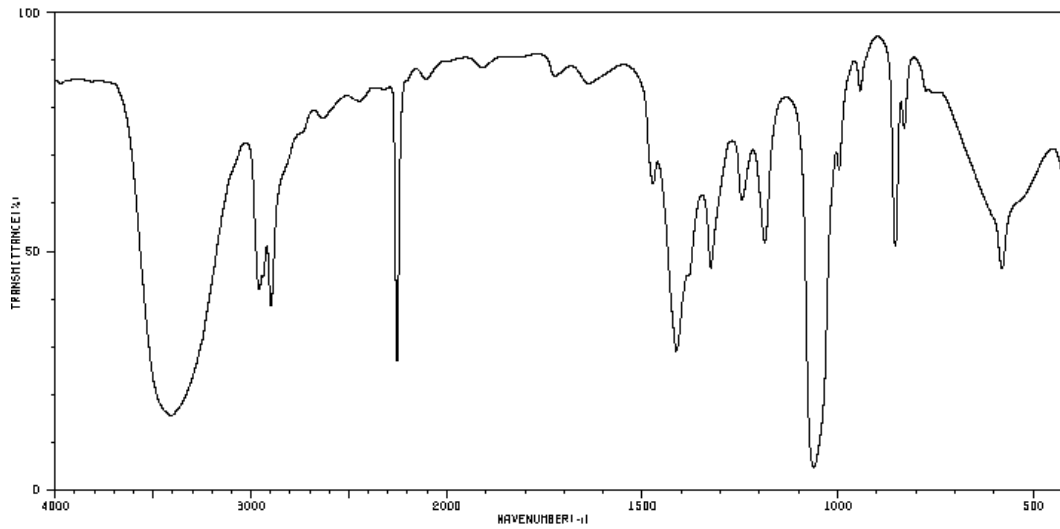
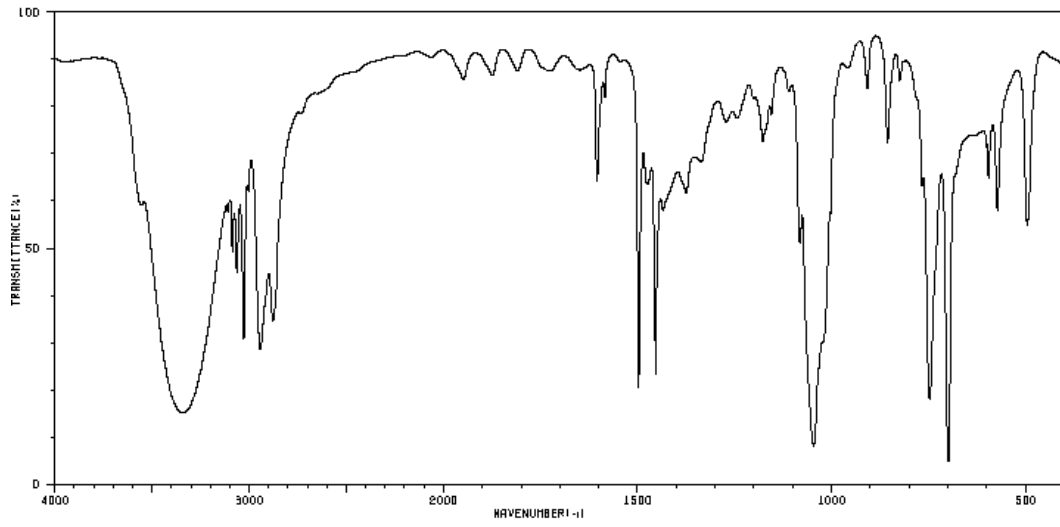


## IR/MS problems

1. The Infrared spectra that follow correspond to the following compounds. Match the spectra with the compounds by **drawing the structure on the spectrum**. Cite two distinguishing characteristics in each spectrum. Note: “-one” is a suffix for a ketone, “-oic acid” is a suffix for a carboxylic acid.

- a) 2-phenylethanol
- b) 1-hexen-3-ol
- c) 5-hexen-2-one
- d) hexanoic acid
- e) 3-hydroxypropanenitrile (  $\text{HOCH}_2\text{CH}_2\text{C}=\text{N}$  )





2. Propose a molecular formula (not a structure) for the compound that gives the following mass spectrum. **The  $m^+$  = 106**. Explain your thought process.

