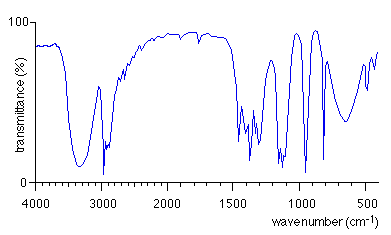
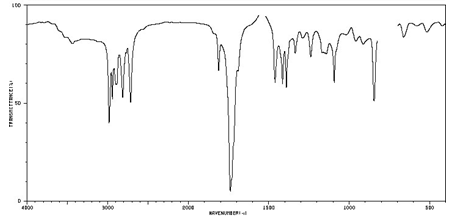
2.2.3 Exercise 1 – INFRARED SPECTROSCOPY

1. Explain how infra-red spectra are produced.
2. Explain what can be deduced from:
3. The left-hand side of the spectrum (1500 cm-1 – 4000 cm-1)
4. The right-hand side of the spectrum (500 cm-1 – 1500 cm-1)
5. Identify the functional groups present in the molecules responsible for the following spectra:

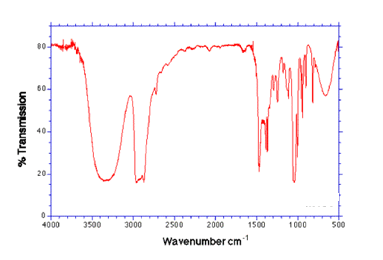
Molecule A

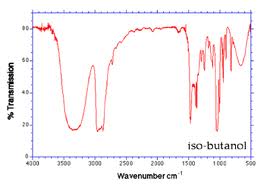


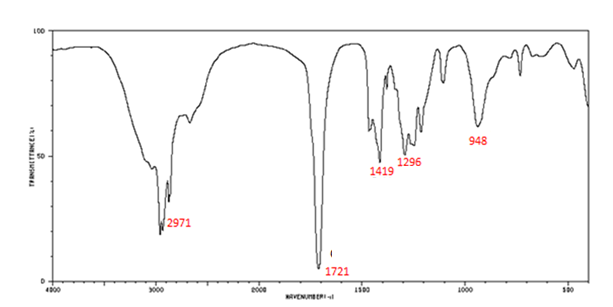
Molecule B



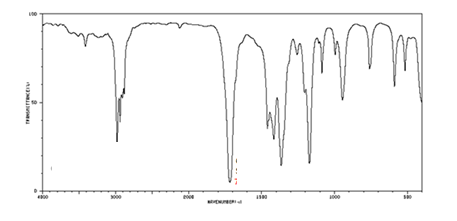
Molecule C



Molecule Dscores [](http://www.google.co.uk/imgres?imgurl=http://www.pharmaziestudenten-hd.de/analytik/ir/images/ir-iso-butanol.gif&imgrefurl=http://quinceanerasmargarita.com/56.php?q=isobutanol-ir-spectrum&usg=__p0_0Issd_YRZjVTPRSCei93xdWY=&h=243&w=360&sz=14&hl=en&start=7&zoom=1&tbnid=tx-KjyfWQDZbcM:&tbnh=82&tbnw=121&ei=lHaYTbnHAdD04QaFkemeDA&prev=/images?q=infrared+spectrum+of+butan-1-ol&hl=en&biw=1362&bih=554&gbv=2&tbs=isch:1&itbs=1)



Molecule E



Molecule F



1. Give an important use for infra-red spectroscopy