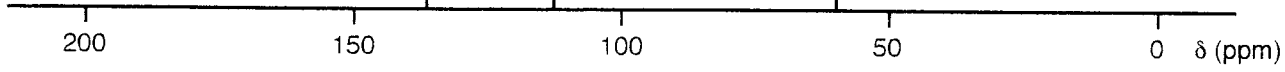
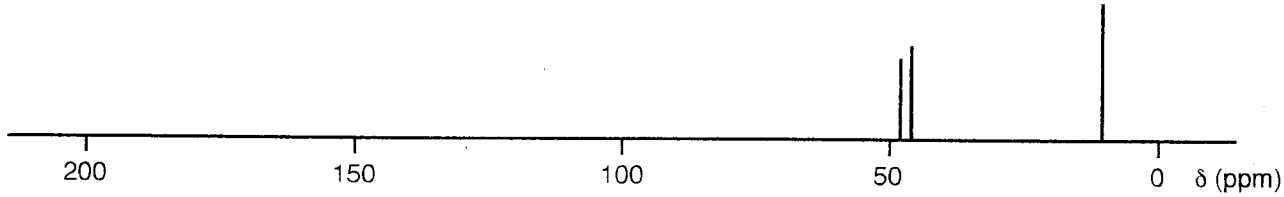
1. There are three isomeric ALCOHOLS with the chemical formula $C_4H_{10}O$. Draw these three different isomers and explain how they can be distinguished using $^{13}C$ NMR spectroscopy alone.

2. There are seven chemically reasonable structural isomers that have the molecular formula $C_3H_6O$ – the $^{13}C$ NMR spectra of three of them are shown below (**A**, **B** and **C**). Propose molecular structures for **A**, **B** and **C**, based on your knowledge of chemical shift and the number of signals present in each spectrum.

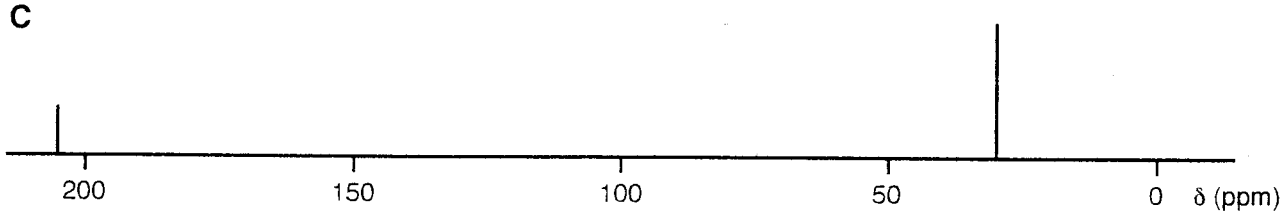
**A**




**B**




**C**

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