

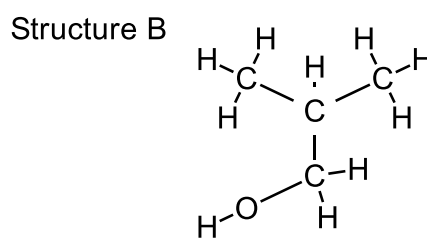
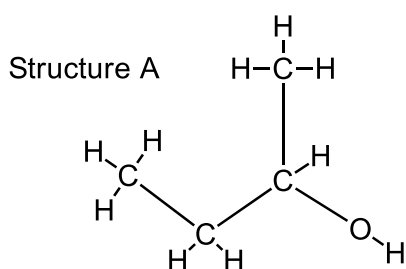
VCE Chemistry: Unit 3
 NMR Spectroscopy

Worksheet 5

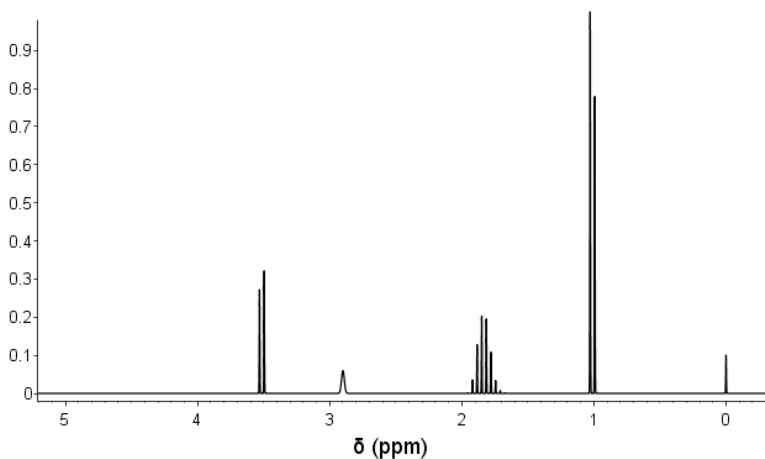
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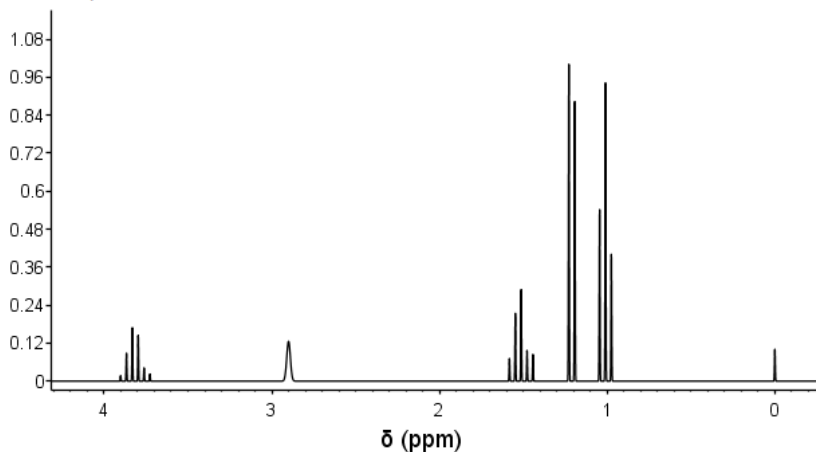
The following structures were analysed by using ^1H NMR and the spectrums below were generated.



Spectrum 1



Spectrum 2



a) What is the peak called at a chemical shift of zero? What is the purpose of this peak? ___/ 2marks

b) Identify the structures that match with the above spectrums. ___/ 2marks

Spectrum 1 =

Spectrum 2 =

c) On the above spectrums identify the hydrogen that are responsible for each of the peaks .

___/4 marks

d) Why is water not used as a solvent in ^1H NMR?

___/ 1 mark

e) Explain why splitting is possible using high resolution ^1H NMR, however it is not possible with ^{13}C NMR? ___/ 2marks

f) What is the purpose of radio waves in NMR?

___/ 2 marks