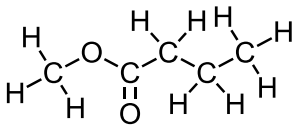
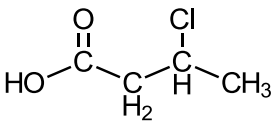
VCE Chemistry: Unit 3 Worksheet 6 – NMR Spectroscopy

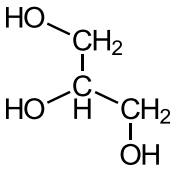
Structure A

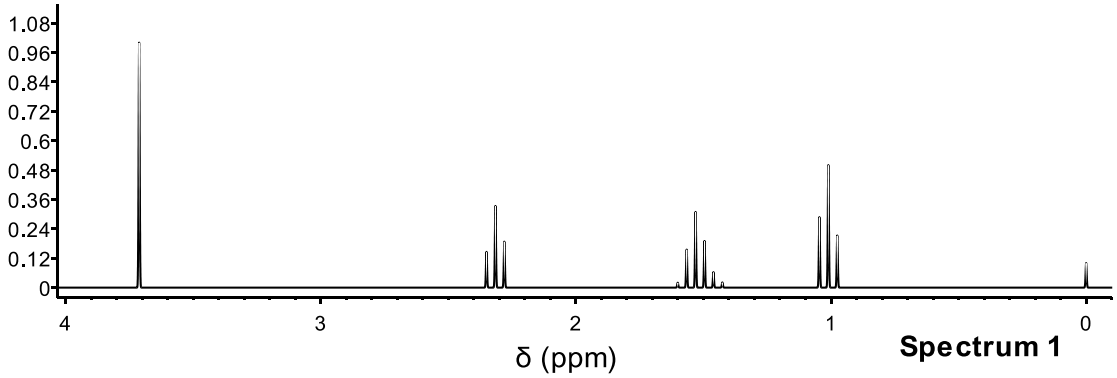


Structure B

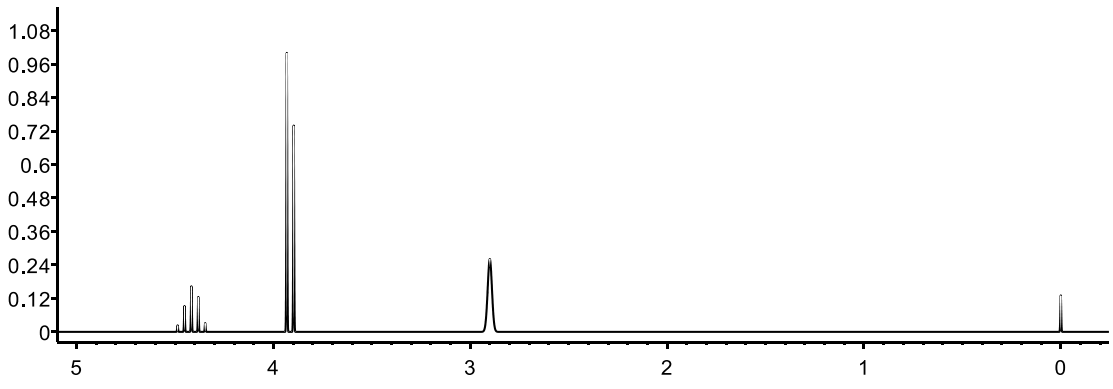


Structure C

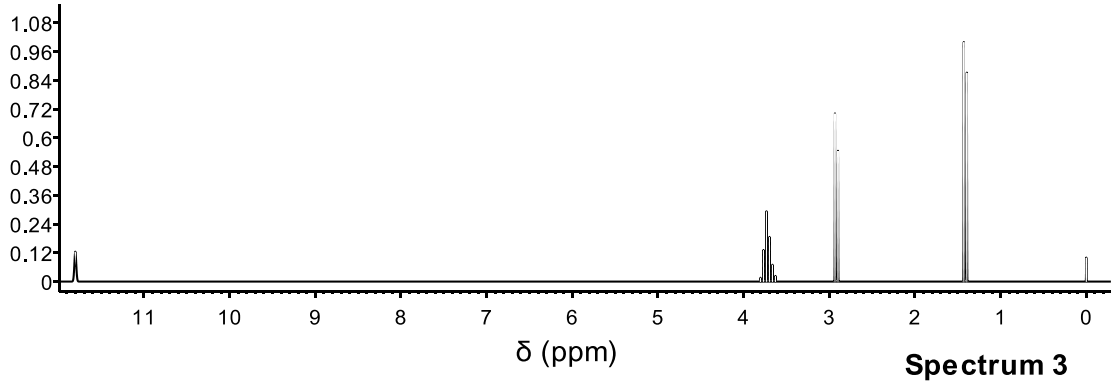




Spectrum 1



Spectrum 2



Spectrum 3

"Success seems to be connected with action. Successful people keep moving. They make mistakes, but they don't quit"
- Conrad Hilton

a) Why are the peak heights in the ^{1}H NMR different? ___/ 1 marks

b) Identify the structures that match with the above spectrums. Assume that $C_3H_8O_3$ is glycerol.

___/ 6 marks

Spectrum 1 = Systematic Name =

Spectrum 2 = Systematic Name =

Spectrum 3 = Systematic Name =

c) On spectrum 1 identify the hydrogen that are responsible for each of the peaks.

___/4 marks

d) Identify the number of signals that would be present in ^{13}C NMR for the above structures.

Structure A =

Structure B =

Structure C =

"Success seems to be connected with action. Successful people keep moving. They make mistakes, but they don't quit"
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e) Match the correct structures to the following ^{13}C NMR spectrums. ___/3 marks