



STARTER FOR 10...

8.5. ^{13}C NMR spectroscopy

Sort the molecules below into the number of peaks that would be displayed in its ^{13}C NMR spectrum (1 mark each).

1

2

3

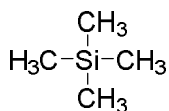
4

5

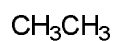
6



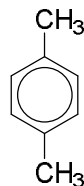
A



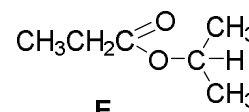
B



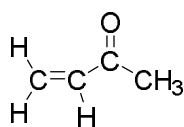
C



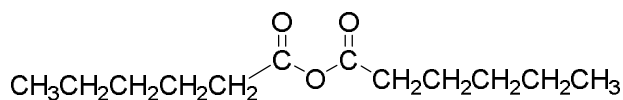
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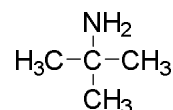
E



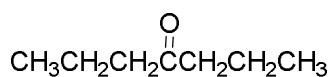
F



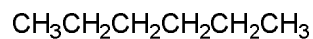
G



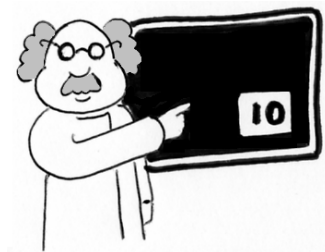
H



I



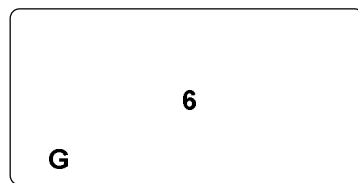
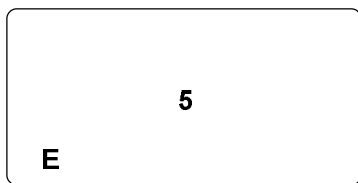
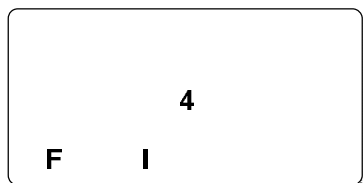
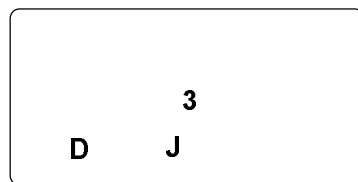
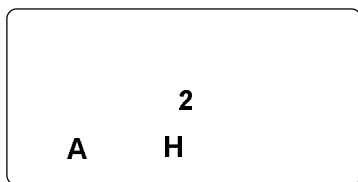
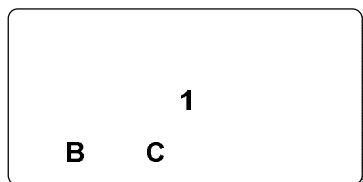
J



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8. Answers

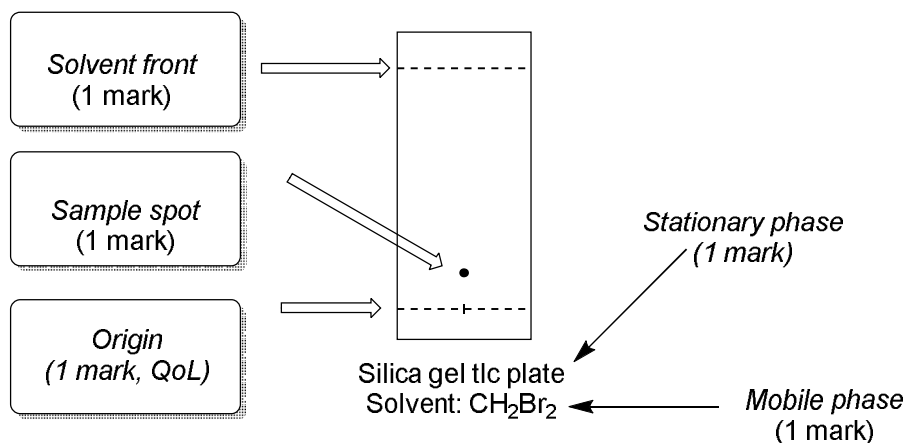
8.5 ¹³C NMR spectroscopy



8.6 Molecular true or false

1. T 2. F 3. F 4. T 5. T 6. F 7. F 8. T 9. T 10. F

8.7 Thin layer chromatography



1 and 2 as above total = 5 marks

3. Measurement from origin to centre of spot (1 mark), measurement of origin to solvent front (1 mark)
division of measurement 1 by measurement 2 (1 mark)

4. UV light (1 mark) and staining/names stain such as DNP/DCPIP (1 mark)

8.8. Gas Chromatography – Mass Spectrometry

1. (relative) solubility (1 mark)

2. The gas stream (1 mark)