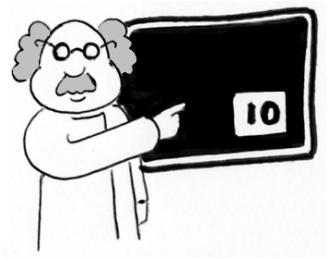
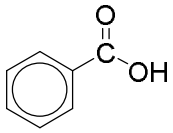


STARTER FOR 10...

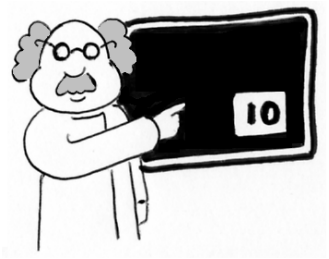
8.6. Molecular true or false

Look at the structure of molecule A and indicate whether the statements 1 to 10 are true or false (1 mark each).



A

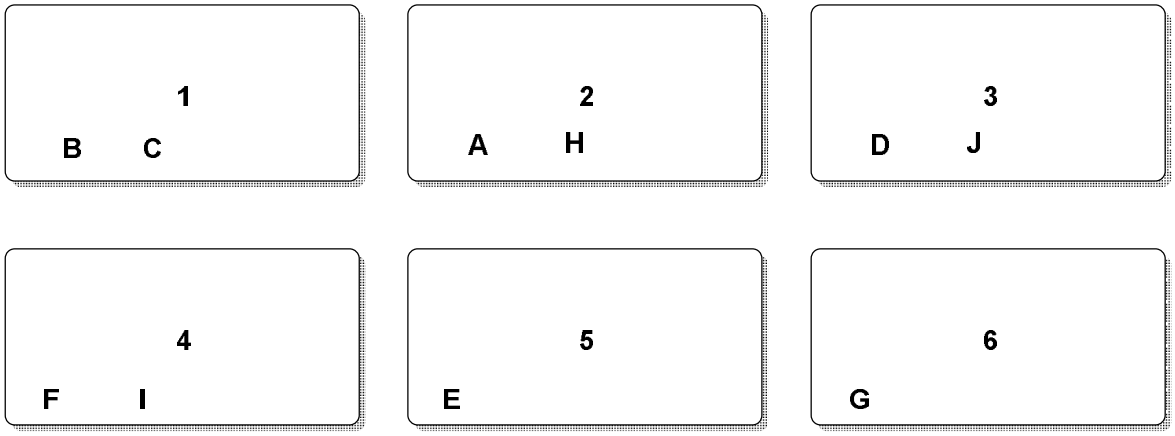
1. It has a major fragment in its mass spectrum at *m/z* = 105.
2. It decolourises bromine water.
3. There are 5 distinct peaks in its 13C NMR spectrum.
4. There are only 2 unique proton environments in the molecule.
5. One of the peaks in the 1H NMR spectrum will disappear when a little D_2O (deuterated water) is added to the tube and it is reanalysed.
6. Its molecular ion appears at *m/z* = 121 in the mass spectrum.
7. When reacted with Tollens' reagent, a silver mirror forms.
8. The molecule will turn blue litmus paper red.
9. Its IR spectrum will contain a broad peak at 2800-3500cm^{-1}.
10. A sample of A will be immiscible with water.



STARTER FOR 10...

8. Answers

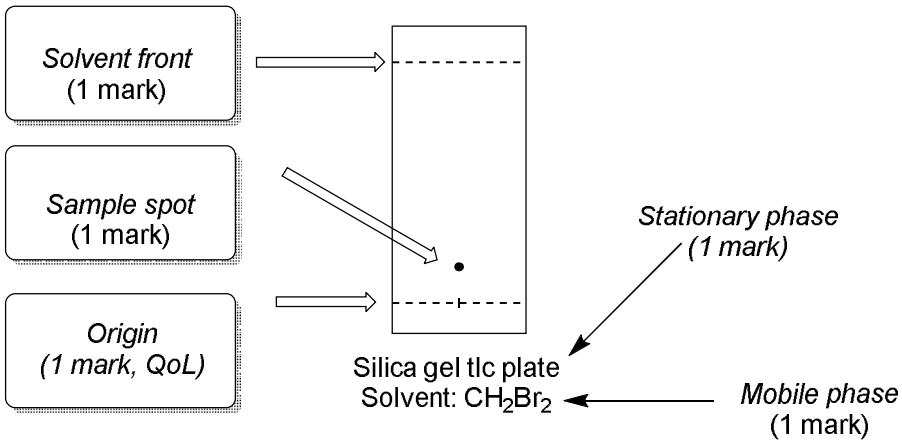
8.5 13C NMR spectroscopy



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)