

Exercise 9.42 – Properties of carboxylic acids

Q942-01 What is produced when ethanoic acid reacts with magnesium ribbon?

Q942-02 When methanoic acid is tested for with sodium hydrogen carbonate, which ionic product is formed?

Q942-03 Arrange the following acids in order of increasing acidity.

- methanoic acid
 - propanoic acid
 - chloroethanoic acid
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Q942-04 Benzoic acid is insoluble in cold water due to the bulky hydrophobic benzene group. However, when benzoic acid is stirred with sodium hydroxide solution it dissolves easily. Explain this observation.

Q942-05 Why is concentrated sulphuric acid added to the reaction mixture when ethanoic acid reacts with methanol?

Q942-06 What is the name of the product formed when methanoic acid reacts with propanol?

Q942-07 In an experiment to determine the relative molecular mass of an acid by measuring the volume of its vapour, a student found that ethanoic acid had a relative molecular mass of 120. How can this be explained?

Q942-08 Which compound is formed by reduction of ethanoic acid using excess lithium aluminium hydride?

Q942-09 Which carboxylic acid is produced by oxidation of butan-1-ol using excess potassium dichromate (VI) in dilute sulphuric acid?

Q942-10 Spectroscopic studies show that the carbon-oxygen bond lengths in ethanoic acid are different, whereas the carbon oxygen bond lengths in the ethanate ion are the same. How is this explained?
