

Exercise 9.43 – Esterification and esters

Q943-01 Which two starting compounds must be used to prepare a sample of methyl ethanoate?

Q943-02 Apart from a catalyst, what other function does the sulphuric acid perform in esterification?

Q943-03 Animal fat is a triesters of the acid stearic acid ($C_{17}H_{35}COOH$) and glycerol (propan-1,2,3-triol). When animal fat is heated with sodium hydroxide solution what are the products?

Q943-04 How many moles of methanoic acid can 1 mole of propan-1,2,3-triol react with?

Q943-05 Amyl acetate is the old name for 3-methylbutyl ethanoate, an ester used as a pear-drop flavouring in sweets. When amyl acetate is hydrolysed by water in the presence of sulphuric acid what are the products?

Q943-06 What is the name of the compound $CH_3CH_2CH_2COOCH_3$

- A. Butyl methanoate
 - B. Methyl butanoate
 - C. Methyl propanoate
 - D. Pentanone
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Q943-07 Which product is formed from the reaction between CH_3COOH and CH_3OH ?

- A. $CH_3COOCH_2CH_3$
 - B. $CH_3CH_2COOCH_2CH_3$
 - C. $CH_3CH_2COOCH_3$
 - D. CH_3COOCH_3
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Q943-08 What will happen to the overall acidity/basicity of a reaction mixture when ethyl ethanoate is allowed to react with water in the presence of sodium hydroxide.

Q943-09 Oil of wintergreen, a medicinal lotion, is an ester also known as methyl salicylate. If the formula of salicylic acid is HOC_6H_4COOH , write out the formula of oil of wintergreen.

Q943-10 Butyl butanoate is a pineapple flavouring that occurs naturally in several fruits. When it is hydrolysed by heating with dilute sodium hydroxide, what are the products?
