

Cambridge IGCSE Chemistry

Topic 14: Organic chemistry

Carboxylic acids

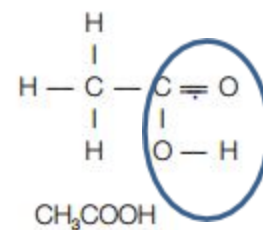
Notes





Describe the properties of aqueous ethanoic acid

- Ethanoic acid is a member of the carboxylic acids, they have the functional group -COOH .
- First four members are: methanoic acid, ethanoic acid, propanoic acid and butanoic acid



- Dissolves in water to produce an acidic solution

(Extended only) Describe the formation of ethanoic acid by the oxidation of ethanol by fermentation and with acidified potassium manganate(VII)

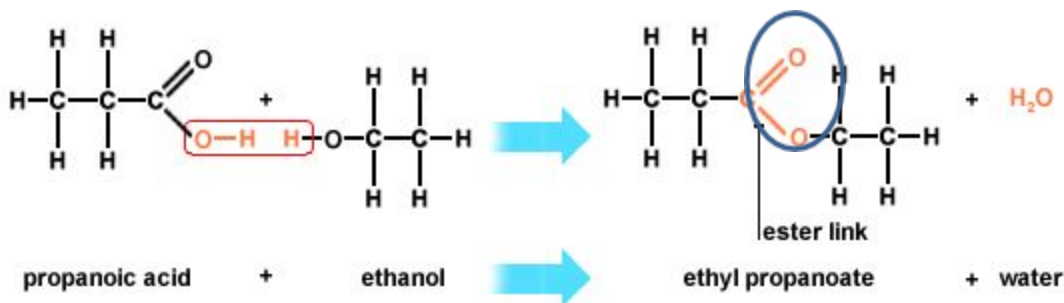
- Ethanol reacts with oxygen in the air to form ethanoic acid (microbial oxidation)
- Ethanol reacts with acidified potassium manganate(VII) to form ethanoic acid (under reflux)

(Extended only) Describe ethanoic acid as...

- A typical weak acid
- this means ethanol will release some H^+ ions in solution, but will not fully dissociate (loses the H^+ from the COOH group)

(Extended only) Describe the reaction of a carboxylic acid with an alcohol in the presence of a catalyst to give an ester

- Carboxylic acids react with alcohols in the presence of an acid catalyst to produce esters...



- o They have the functional group -COO- .



- name:
 - o first part is from alcohol e.g. methanol → methyl
 - o second part is from carboxylic acid e.g. butanoic acid → butanoate

