

Edexcel IGCSE Chemistry

Topic 4: Organic chemistry

Esters

Notes



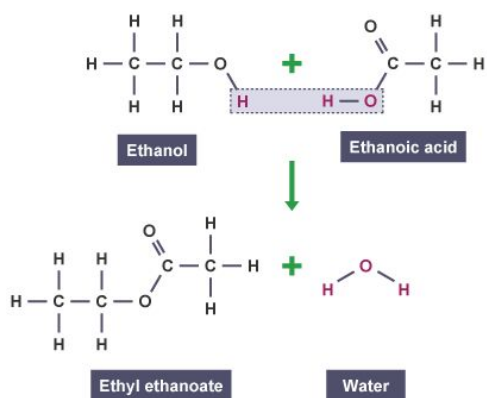


4.38 (chemistry only) know that esters contain the functional group -COO-

- They have the functional group -COO- .

4.39 (chemistry only) know that ethyl ethanoate is the ester produced when ethanol and ethanoic acid react in the presence of an acid catalyst

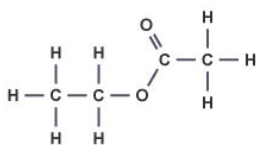
- Carboxylic acids react with alcohols in the presence of an acid catalyst to produce esters
- ethyl ethanoate is produced when ethanol and ethanoic acid react:



4.40 (chemistry only) understand how to write the structural and displayed formulae of ethyl ethanoate

structural formula: $\text{CH}_3\text{COOCH}_2\text{CH}_3$

displayed formula:





4.41 (chemistry only) understand how to write the structural and displayed formulae of an ester, given the name or formula of the alcohol and carboxylic acid from which it is formed and vice versa

- naming esters:
 - first part comes from alcohol, remove -anol and replace with -yl e.g. propanol → propyl
 - second part comes from carboxylic acid, remove -oic acid and replace with -oate e.g. methanoic acid → methanoate
 - full name from propanol and methanoic acid would be propyl methanoate
- structure of esters:
 - H is lost from alcohol and OH from carboxylic acid, bond forms between C in carboxylic acid and O in alcohol

4.42 (chemistry only) know that esters are...

- Volatile compounds with distinctive smells
- Used as food flavourings and in perfumes

4.43 (chemistry only) practical: prepare a sample of an ester such as ethyl ethanoate

