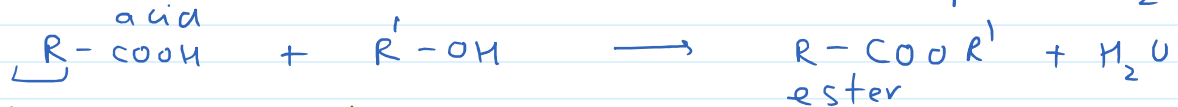
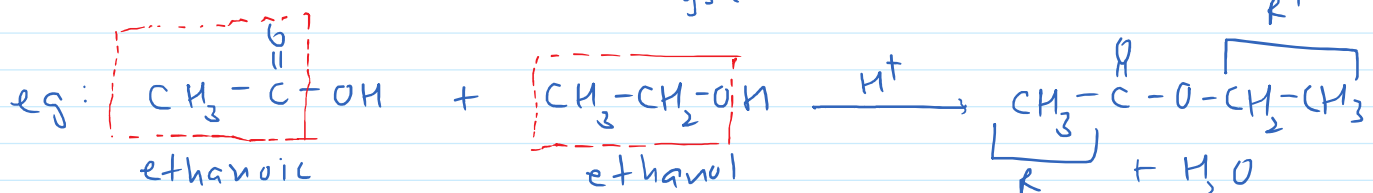


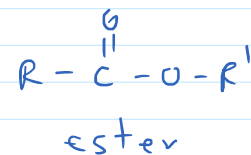
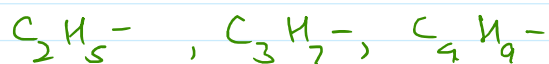
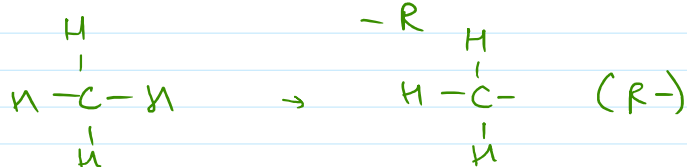
Chemical reactions of ethanoic acid

i) Esterification

acid + alcohols $\xrightarrow[\text{catalyst}]{\text{acid}}$ ester + water.



Alkane - H = Alkyl

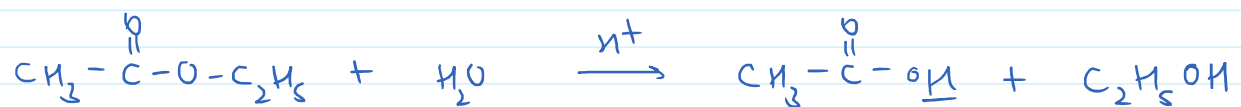


Esters are sweet smelling substances used in making perfumes and as flavouring agents.

ii) Saponification

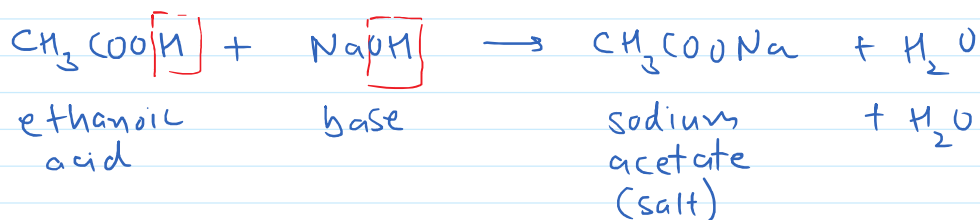
Esters react in the presence of an acid or a base to give back the alcohol and carboxylic acid.

This reaction is known as saponification because it is used in the preparation of soap.



iii) Reaction with base

acid + base \rightarrow salt + water.



$\text{CH}_3\text{COO}^- \rightarrow$ acetate ion

Like mineral acids, ethanoic acid reacts with a base such as sodium hydroxide to give a salt.

iv) Reaction with carbonates and hydrogen carbonates.

acid + carbonates/bicarbonates \rightarrow salt + H₂O + CO₂

