

OCR (B) Chemistry A-Level

PL5 - Organic Reactions

Flashcards

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How do you hydrolyse esters by acid hydrolysis?



How do you hydrolyse esters by acid hydrolysis?

Acid hydrolysis of an ester is the reverse of esterification.

- The ester is heated under reflux with dilute aqueous acid (i.e. H_2SO_4).
- Water hydrolyses the ester, with the acid acting as a catalyst. This forms an alcohol and a carboxylic acid.



How do you hydrolyse esters by alkali hydrolysis?



How do you hydrolyse esters by alkali hydrolysis?

- Also known as saponification.
- The ester is heated under reflux with aqueous hydroxide ions (i.e. from NaOH).
- This will form an alcohol and a salt of the carboxylic acid.



How do you hydrolyse amides by acid hydrolysis?



How do you hydrolyse amides by acid hydrolysis?

Heat with aqueous acid, this forms a carboxylic acid and ammonium chloride:



How do you hydrolyse primary amides
by alkali hydrolysis?



How do you hydrolyse primary amides by alkali hydrolysis?

- Heat with $\text{NaOH}_{(aq)}$
- This forms ammonia and the salt of the carboxylic acid:

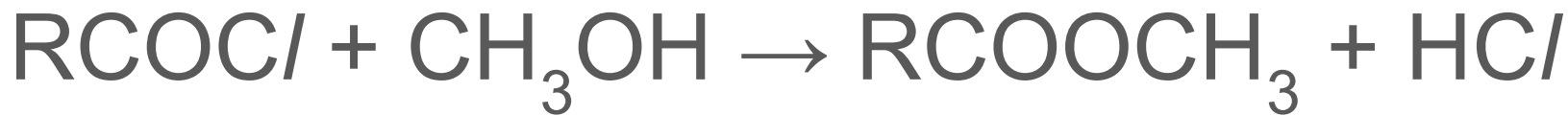


How do acyl chlorides react with alcohols?



How do acyl chlorides react with alcohols?

An acyl chloride reacts with alcohol to form an ester and hydrochloric acid:



How do acyl chlorides react with amines?



How do acyl chlorides react with amines?

An acyl chloride reacts with a primary amine to form a secondary amide and hydrochloric acid.

