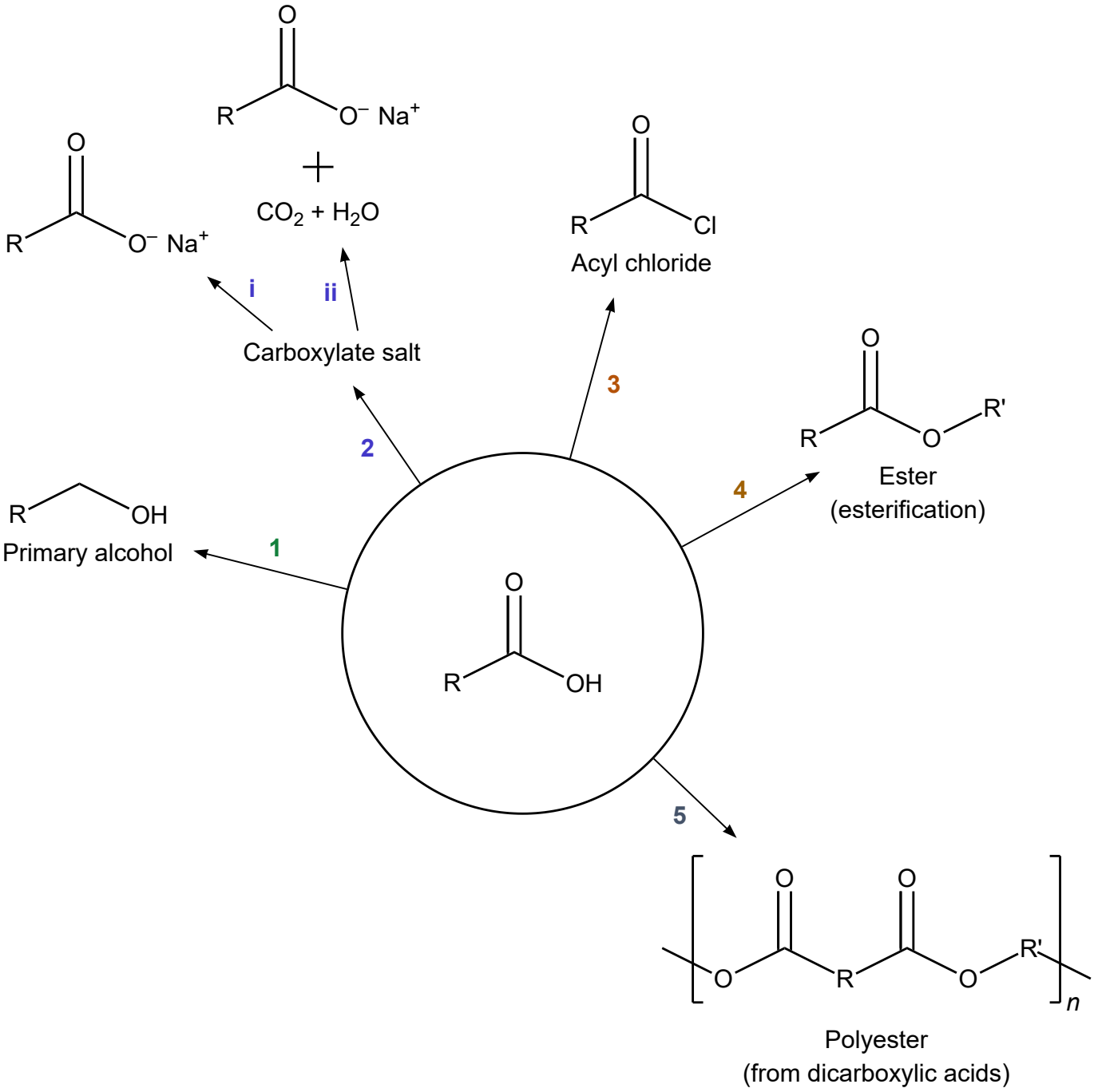
Carboxylic Acids Map

Edexcel A Level Chemistry · Topic 17C Carboxylic acids



1 reduction: [H]; $LiAlH_4$ in dry ether, room temperature, then add dilute acid

2 acid-base: bases, room temperature
i NaOH(aq) → sodium carboxylate + water
ii Na_2CO_3 or $NaHCO_3$, effervescence (test for –COOH) → salt + CO_2 + water

4 condensation: alcohol, R'OH, conc. H_2SO_4 catalyst, heat under reflux

5 polymerisation (condensation): diol, heat with an acid catalyst (e.g. Terylene)

Made by oxidising 1° alcohols or aldehydes ($K_2Cr_2O_7$, dil. H_2SO_4, reflux) or by hydrolysing nitriles (dilute acid, reflux).
Hydrogen bonding gives high boiling temperatures and solubility of short-chain acids.

reduction · acid-base · substitution · condensation · polymerisation

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