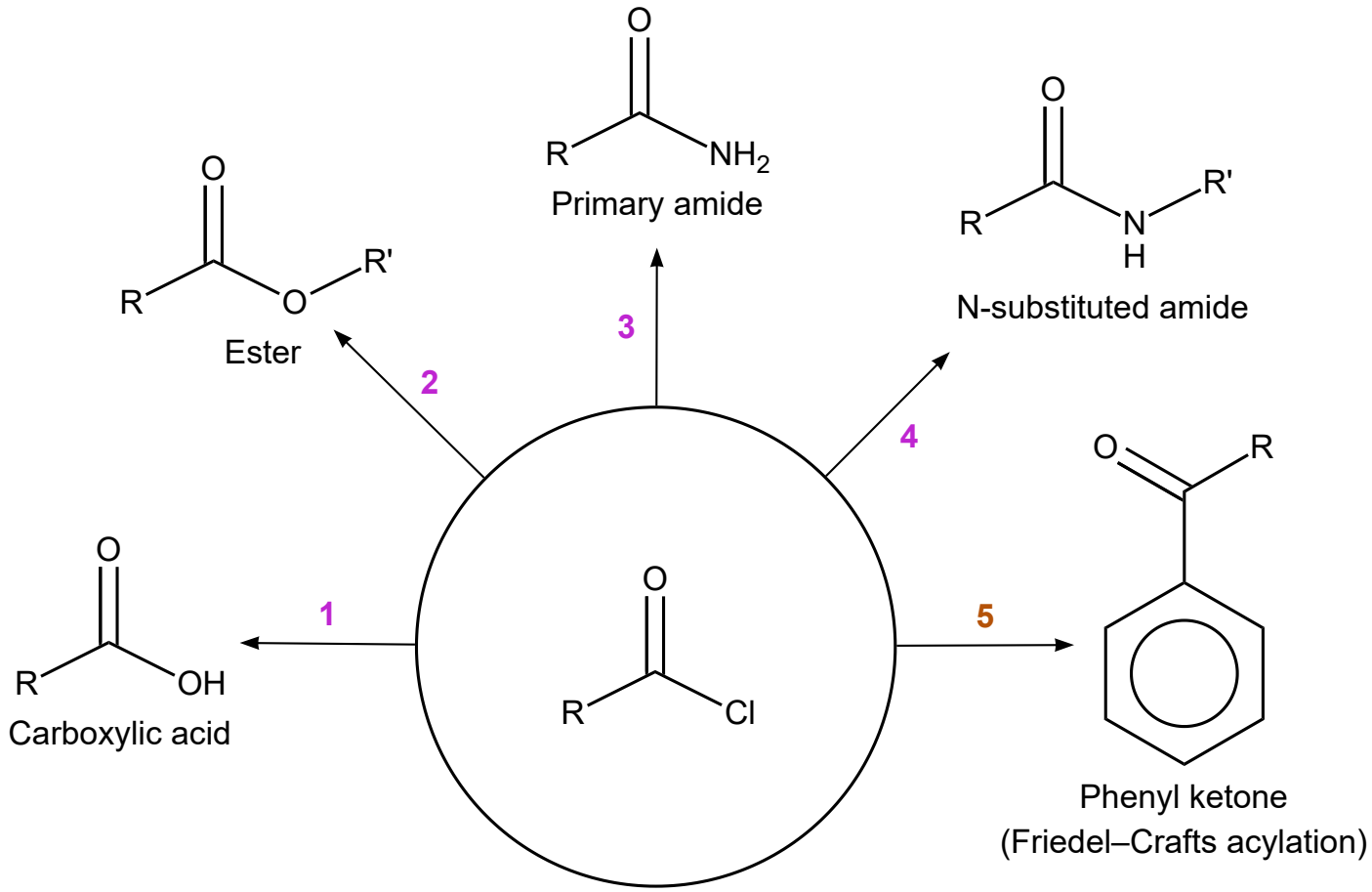
Acyl Chlorides Map

AQA A Level Chemistry · 3.3.9 Carboxylic acids and derivatives



1 **addition-elimination**: water, room temperature; misty fumes of HCl

2 **addition-elimination**: alcohol, R'OH, room temperature

3 **addition-elimination**: ammonia, room temperature

4 **addition-elimination**: primary amine, $R'NH_2$, room temperature

5 **substitution (electrophilic)**: benzene, $AlCl_3$ catalyst, anhydrous, heat under reflux

Acid anhydrides react in the same way with water, alcohols, ammonia and amines, giving a carboxylic acid instead of HCl. Ethanoic anhydride is preferred for aspirin manufacture: cheaper, less corrosive, slower and no HCl fumes.

addition-elimination substitution

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