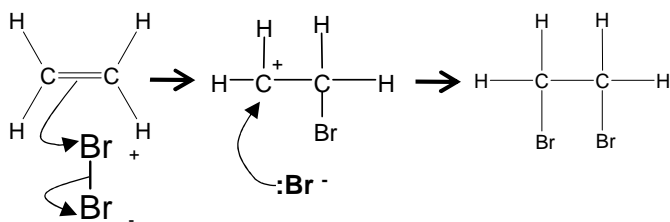
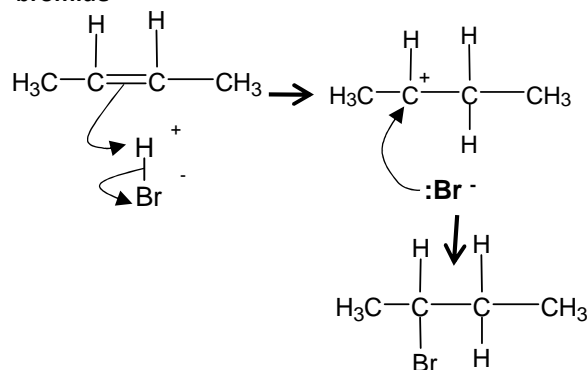
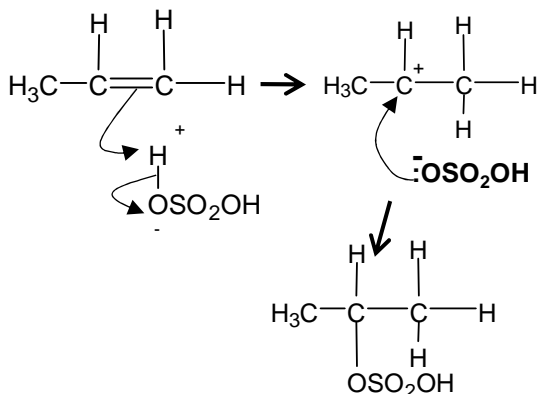
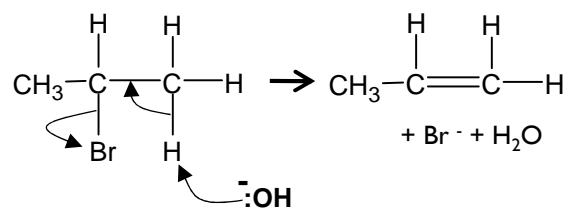
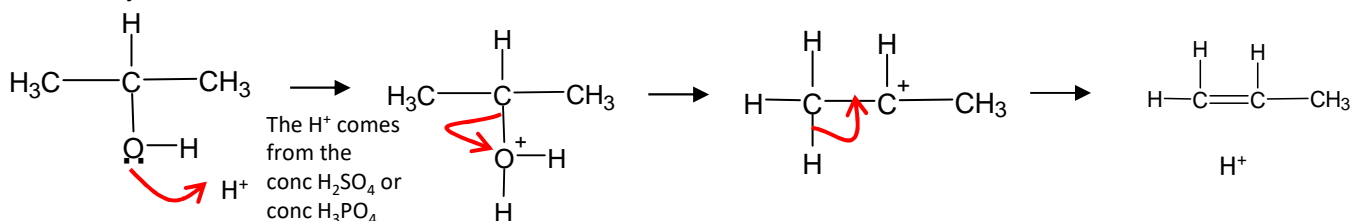
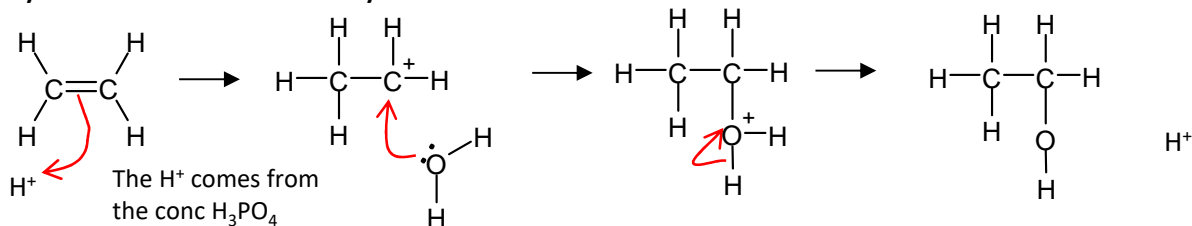
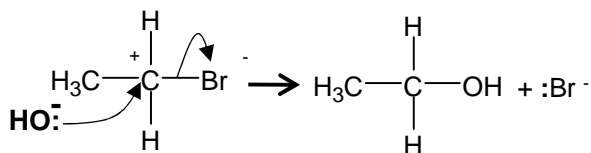
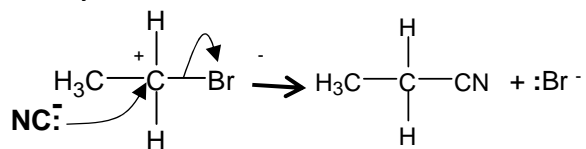
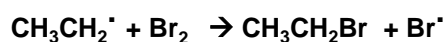
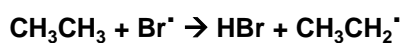
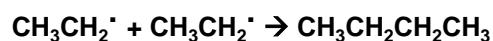


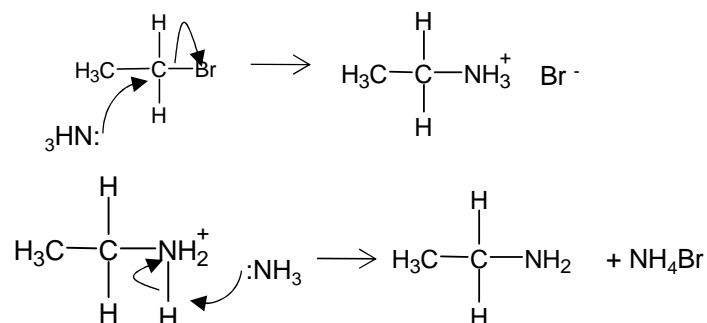
Electrophilic Addition of alkenes with bromine**Electrophilic Addition** of alkenes with hydrogen bromide**Electrophilic Addition** of alkenes with sulfuric acid**Elimination** of halogenoalkanes with ethanolic hydroxide ions**Acid catalysed elimination mechanism: alcohols** → alkenes**Acid catalysed addition mechanism for hydration of ethene****Nucleophilic Substitution** of halogenoalkanes with aqueous hydroxide ions.**Nucleophilic Substitution** of Halogenoalkanes with cyanide ions.**Free Radical Substitution** of alkanes with bromine**STEP ONE** Initiation

Essential condition: UV light

**STEP TWO** Propagation**STEP THREE** Termination

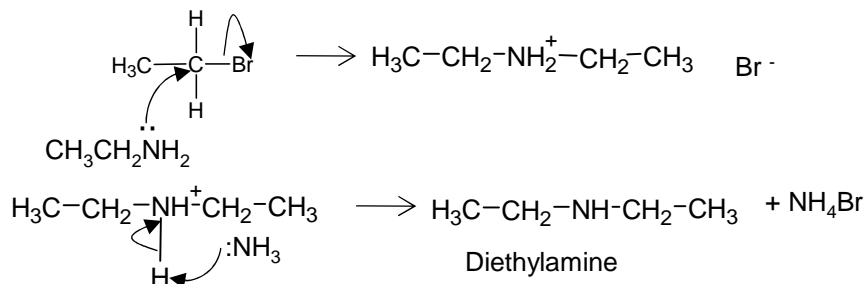
Nucleophilic Substitution reactions of ammonia/amines

Reaction 1 with ammonia forming primary amine

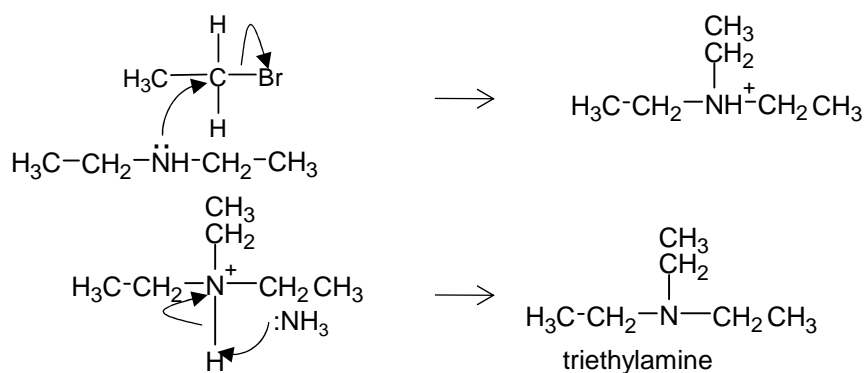


Reaction 2 forming secondary amine

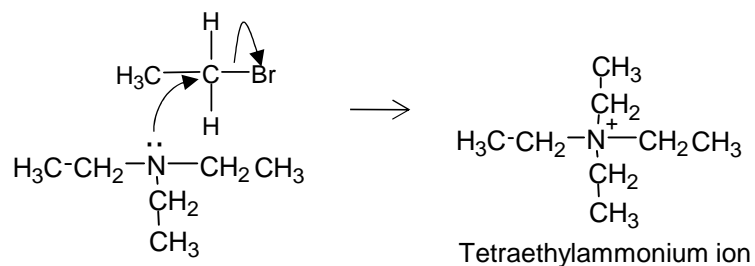
The amine formed in the first reaction has a lone pair of electrons on the nitrogen and will react further with the haloalkane.



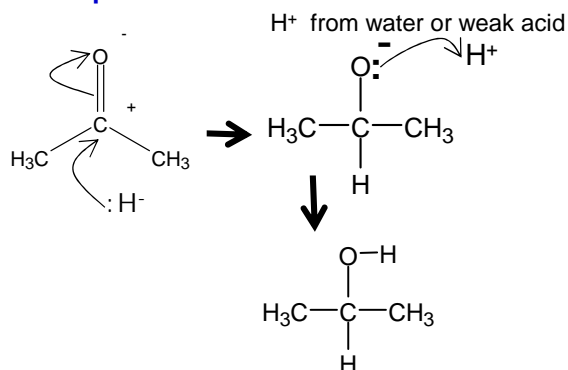
Reaction 3 forming a tertiary amine



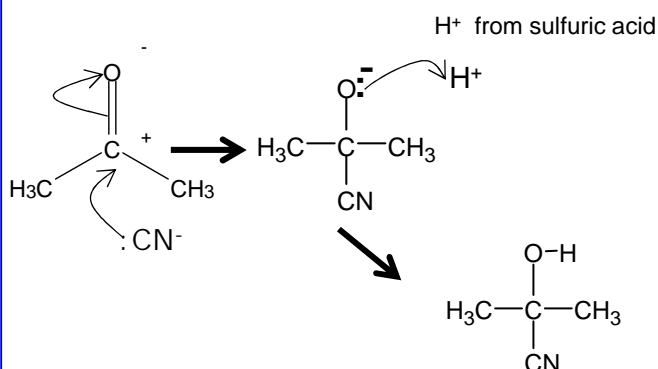
Reaction 4 forming a quaternary ammonium salt



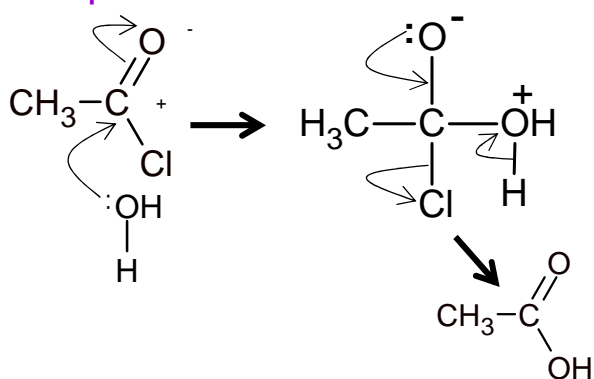
Nucleophilic Addition Mechanism



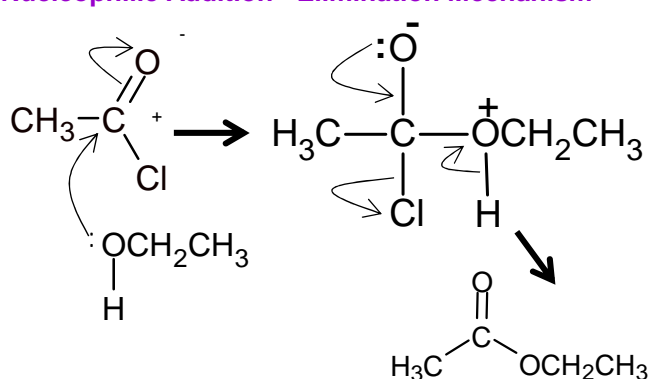
Nucleophilic Addition Mechanism



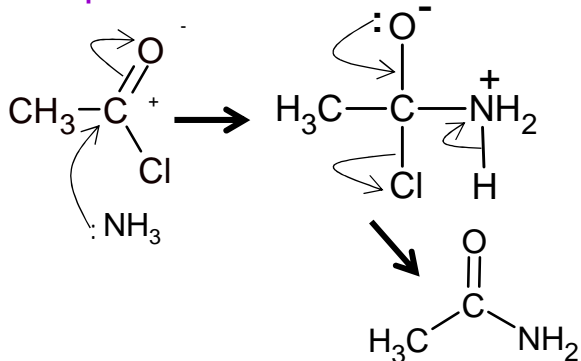
Nucleophilic Addition – Elimination Mechanism



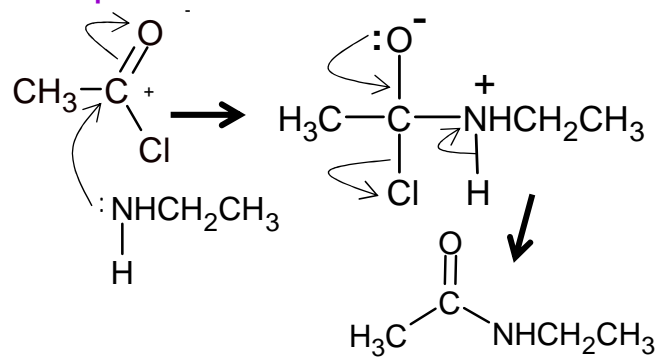
Nucleophilic Addition – Elimination Mechanism



Nucleophilic Addition – Elimination Mechanism

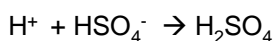
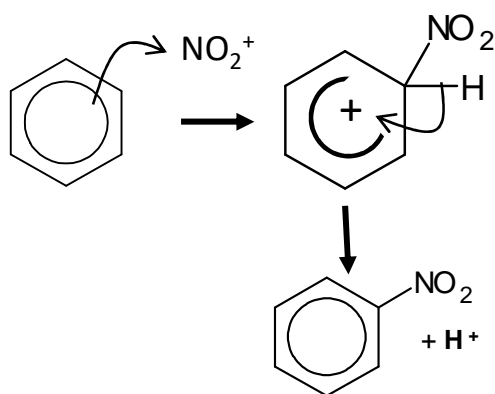
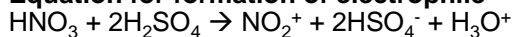


Nucleophilic Addition – Elimination Mechanism



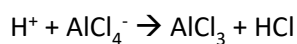
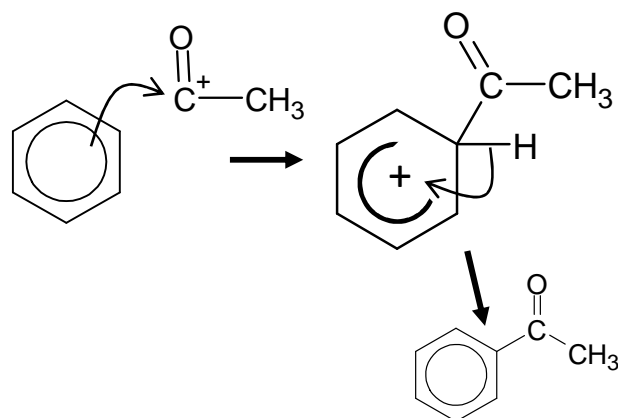
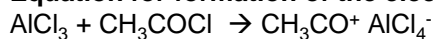
Electrophilic Substitution

Equation for formation of electrophile

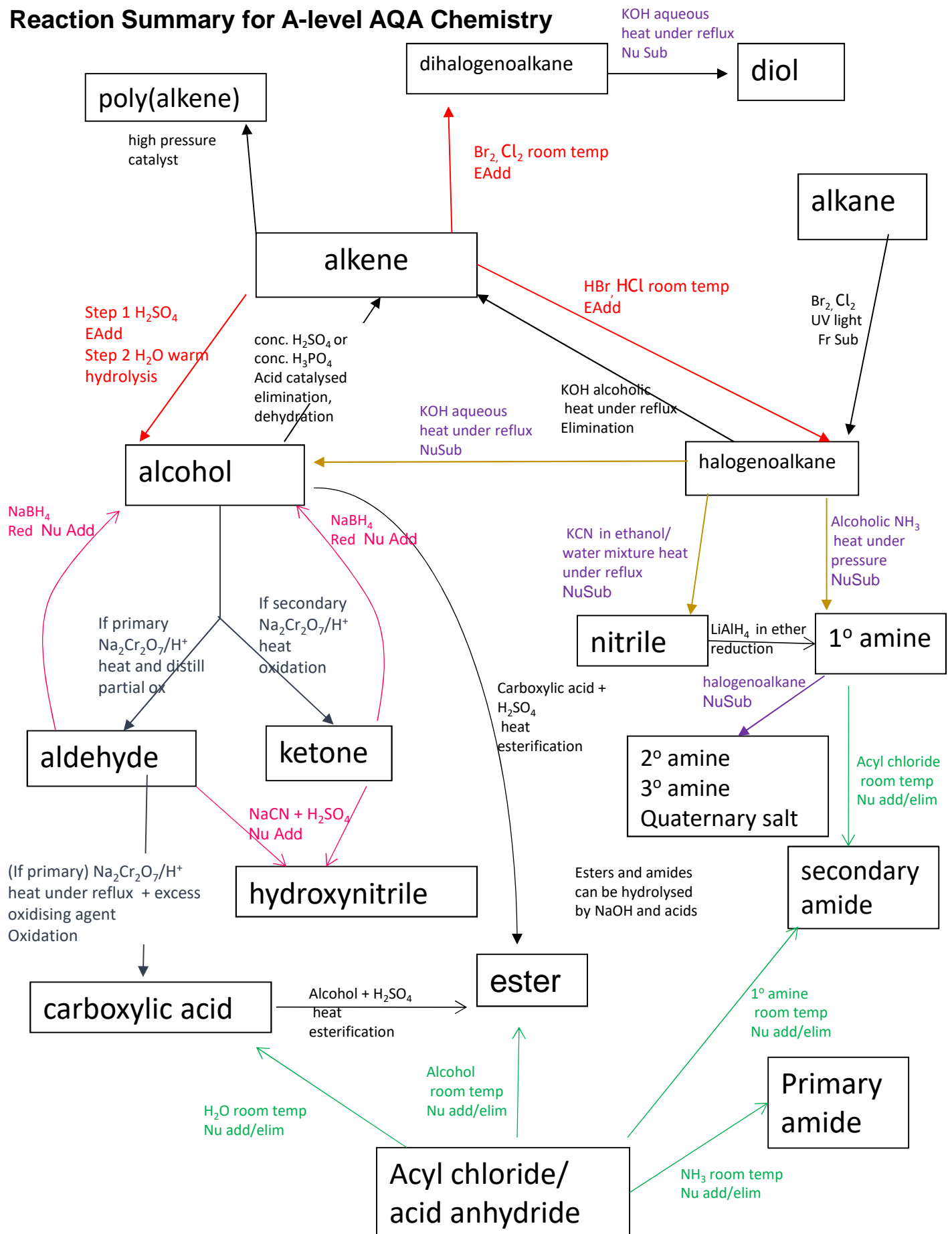


Electrophilic Substitution

Equation for formation of the electrophile.



Reaction Summary for A-level AQA Chemistry



Aromatic synthetic routes

