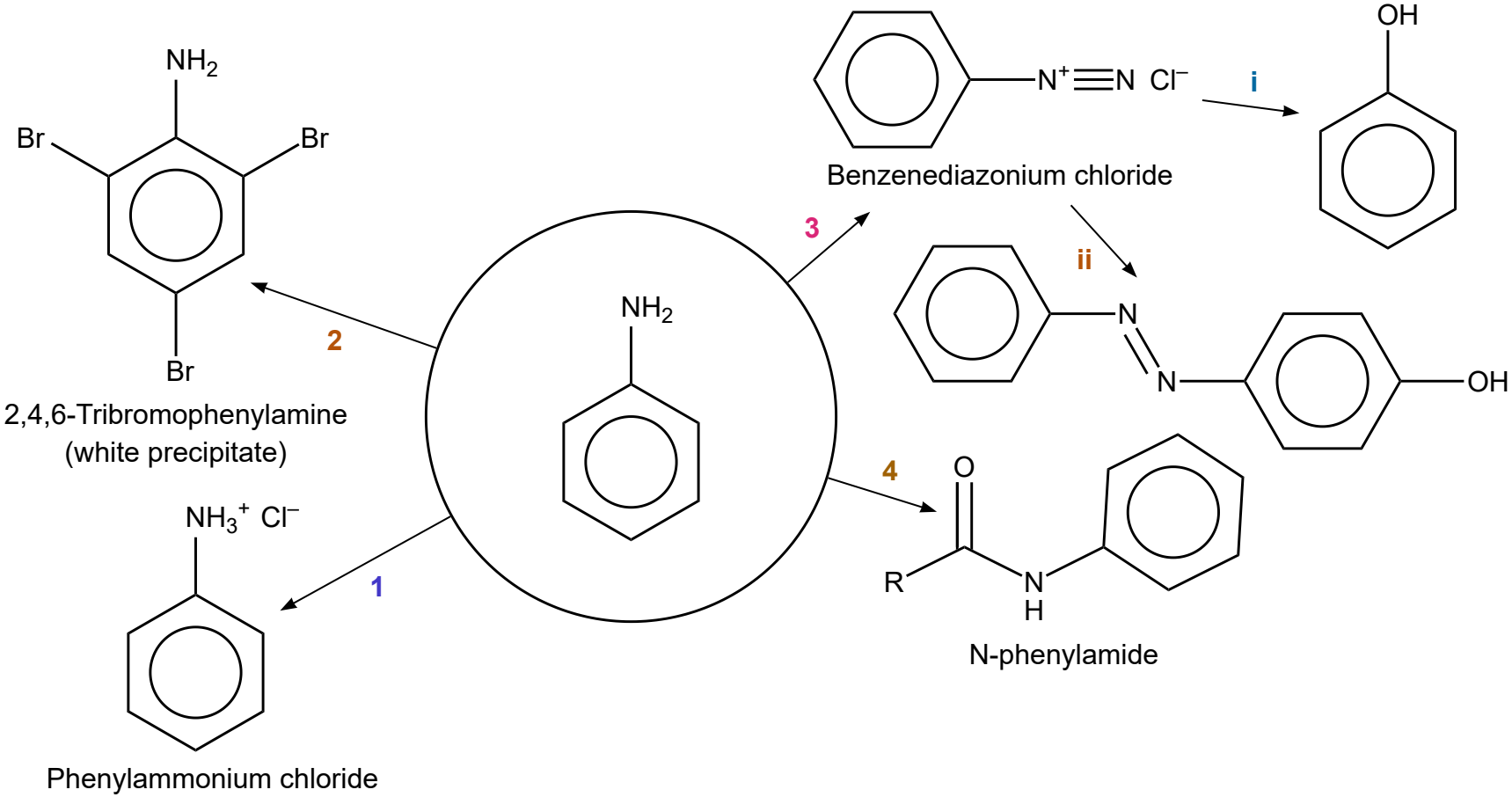
Phenylamine Map

Cambridge International AS & A Level Chemistry · Topic 34 Nitrogen compounds



1 acid-base: HCl(aq), room temperature

2 substitution (electrophilic): Br_2(aq), room temperature

3 diazotisation: HNO_2, or $NaNO_2$ and dilute acid, below 10 °C

i hydrolysis: warm with H_2O (N_2 given off) → phenol

ii substitution (coupling): phenol in NaOH(aq), below 10 °C → azo dye

4 condensation (addition-elimination): acyl chloride, RCOCl, room temperature

Phenylamine is a weaker base than ammonia: the N lone pair is delocalised into the ring.

Made from benzene: nitration, then hot Sn/conc. HCl, then NaOH(aq).

acid-base substitution diazotisation condensation hydrolysis

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