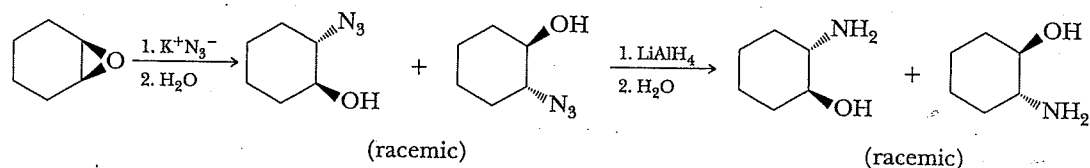
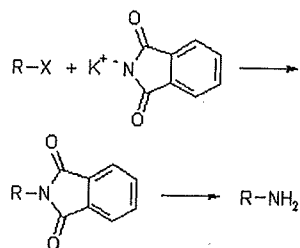


6. Alkylation of Azide Ion Followed by Reduction (Section 23.7B) Azides are prepared by treatment of a primary or secondary alkyl halide of an epoxide with KN_3 and are reduced to primary amines by a variety of reducing agents including lithium aluminum hydride.



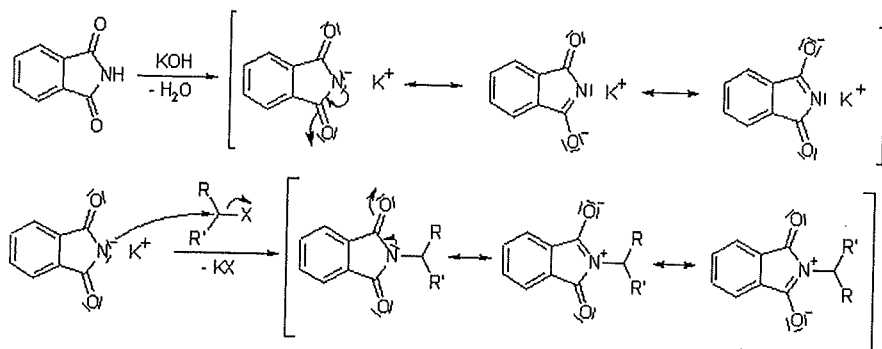
Gabriel Synthesis



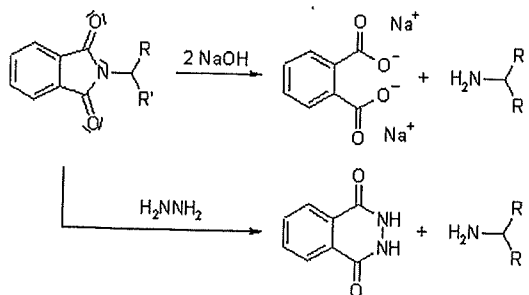
Potassium phthalimide is a NH_2 -synthon which allows the preparation of primary amines by reaction with alkyl halides. After alkylation, the phthalimide is not nucleophilic and does not react anymore. Product is cleaved by reaction with base or hydrazine, which leads to a stable cyclic product.

Mechanism of the Gabriel Synthesis

Note: Phthalimide is acidic!



Cleavage:



14. **Sandmeyer Reaction (Section 23.8E)** Treatment of an arenediazonium salt with CuCl , CuBr , or CuCN results in replacement of the diazonium group by $-\text{Cl}$, $-\text{Br}$, or $-\text{CN}$, respectively.

