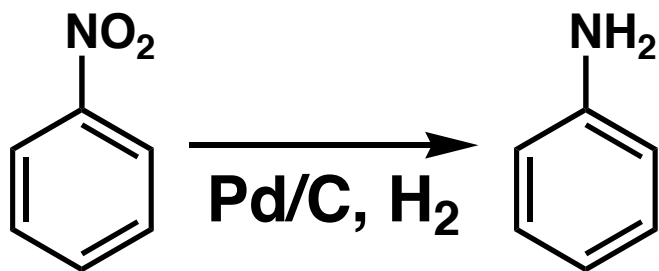
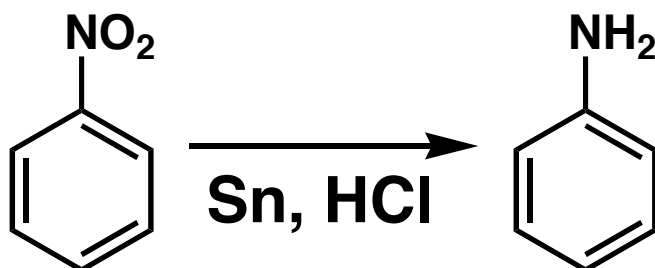


Anilines are Prepared by Reduction of the Nitro Group

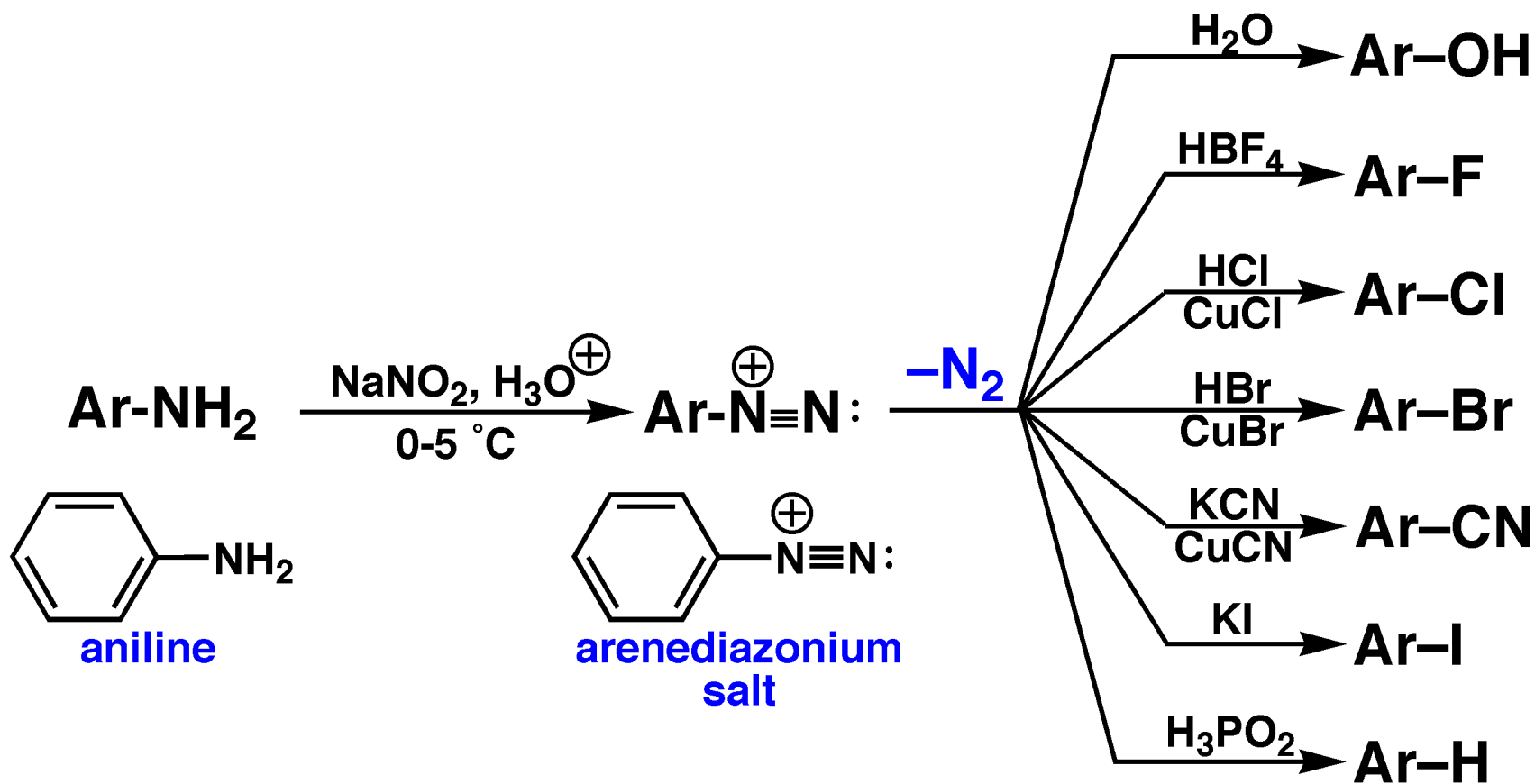
Anilines are commonly formed by the reduction of the nitro group. The reaction is accomplished by the reagents shown below. Given that the nitro group is easily introduced via electrophilic aromatic substitution, the synthetic sequence:

Nitration → reduction → diazotization → substitution

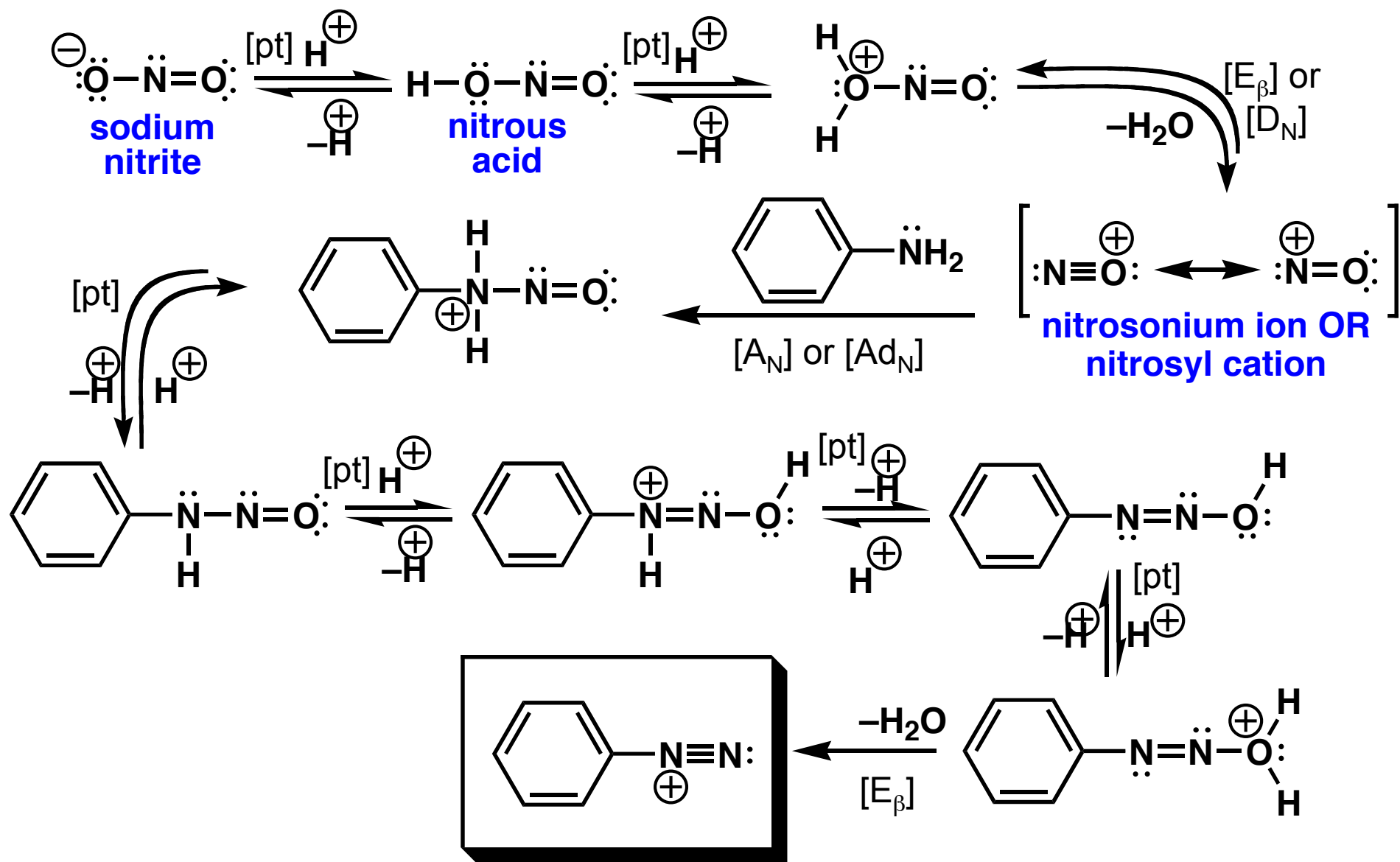
is a powerful route to many substituted arenes.



Substitution Reactions via Arenediazonium Salts

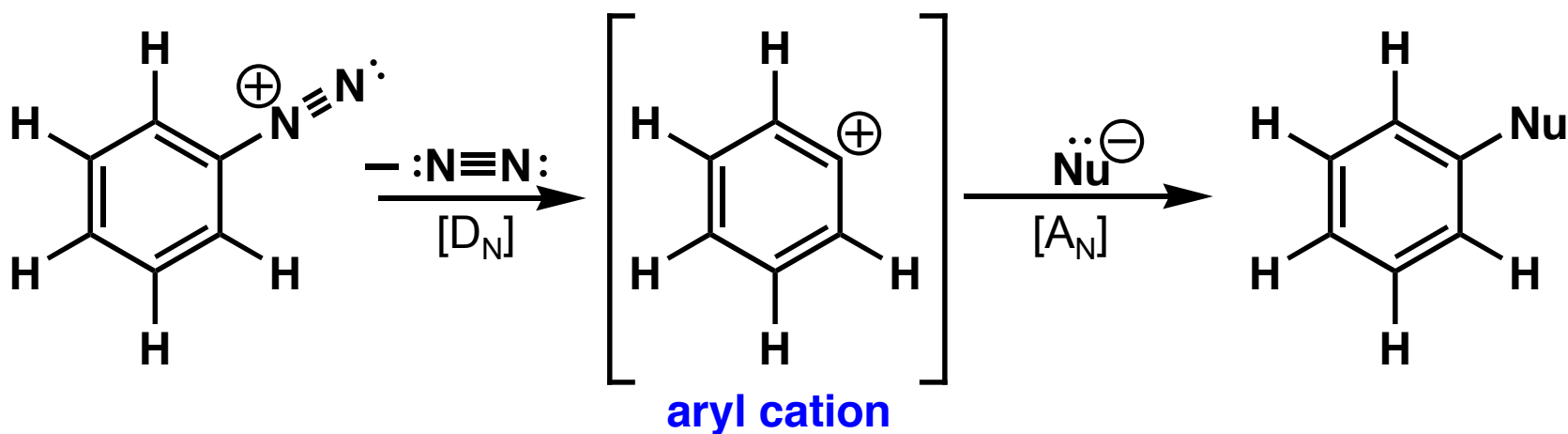


Mechanism of Diazotization



Mechanistic Considerations: Substitution of Arenediazonium Ions

In these reactions the leaving group leaves before the Nu adds
(compare to electrophilic aromatic substitution mechanism)



Although conveniently thought of as proceeding via nucleophilic capture of the aryl cation via an $[\text{A}_\text{N}]$ step, evidence suggests that many of these reactions may involve radical chain mechanisms (for example, see: *J. Am. Chem. Soc.* 72, 1950, 3013).