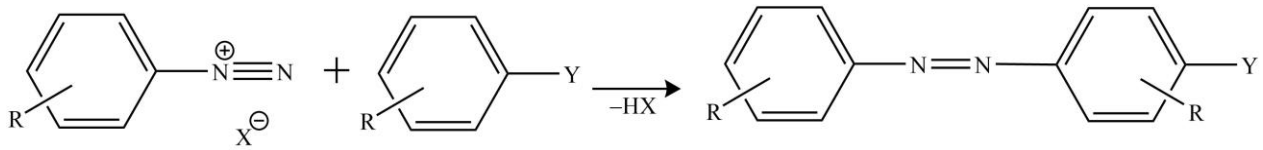
❖ Diazonium Coupling

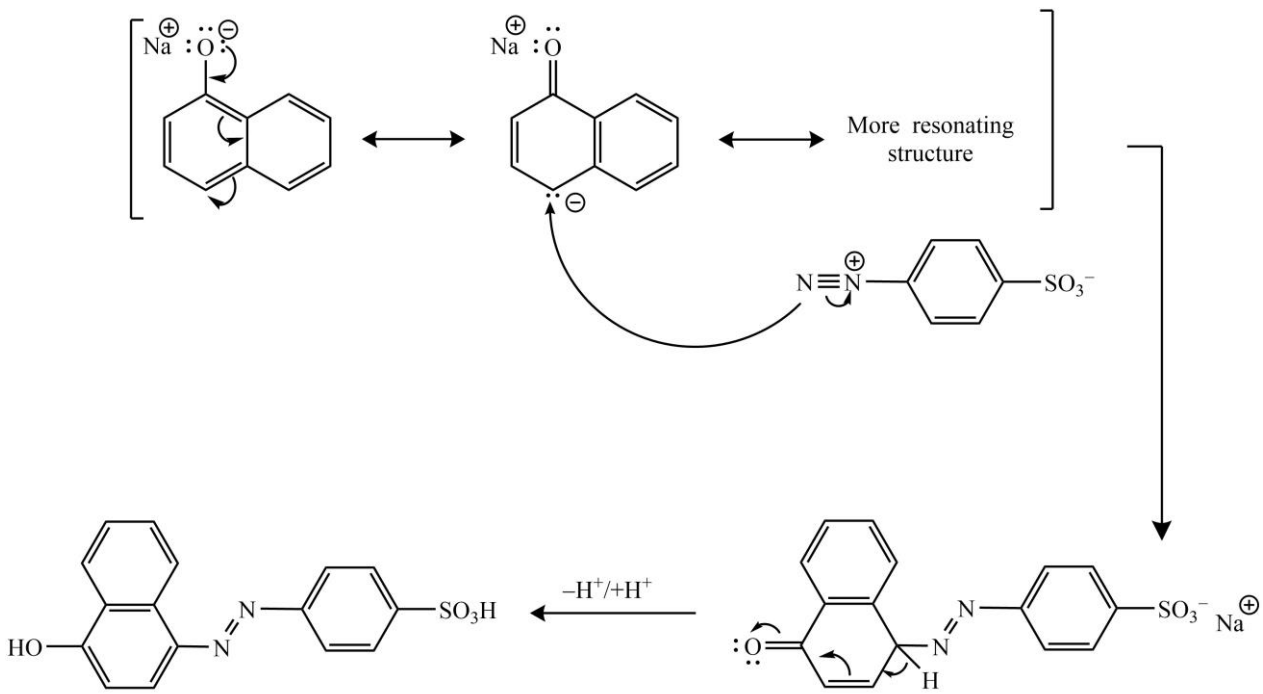
The diazonium coupling may simply be defined as the reaction between a diazonium salt and an aromatic compound to give rise to an azo compound.

In this type of aromatic electrophilic substitution, the aryldiazonium cation acts as the electrophile whereas the activated arene behaves as a nucleophile; and the resulting diazonium compound is also aromatic in most cases.

Illustrative Reaction: The general chemical reaction showing the diazonium coupling in aromatic compounds is shown below.



Mechanism Involved: The mechanism involved in the diazonium coupling reaction that gives rise to Orange-I dye is shown below.



Orange I

Some of the most important applications of diazonium coupling in industries include the synthesis of dyes, pigments, and lakes.

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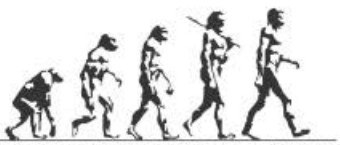

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