PHARMACEUTICAL ORGANIC CHEMISTRY-II- BP301T

UNIT: 2 Aromatic amines

CLASS: 7

TOPIC Synthetic applications of diazonium salts:

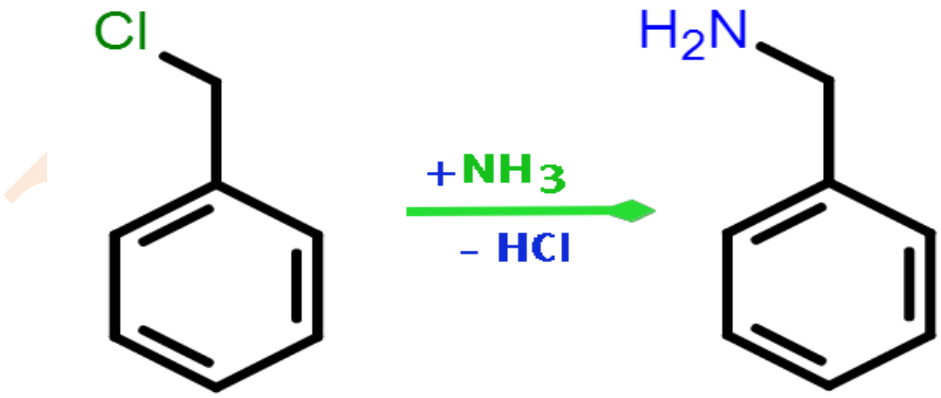
They find application in the dye and pigment industries and are used to produce dyed fabrics. They are useful in the synthesis of a large variety of organic compounds, especially aryl derivatives.

Diazonium salt may be derived from benzene and its homologues by replacing a hydrogen atom of the nucleus by a diazo group (-N=N-) they are representing by formulae ArN_{2X}.

$$ArNH_2 + HNO_2 + HCl \text{ ------> } ArN_2Cl + 2\ H_2O$$

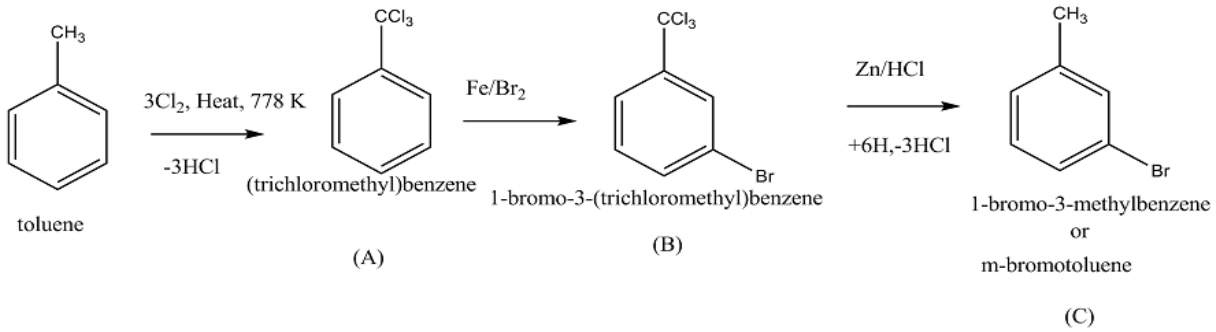
Aryl amine Aryl diazonium chloride

1) **Synthesis of benzyl amine:**



Benzylamine can be produced by several methods, the main industrial route being the reaction of benzyl chloride and ammonia. It is also produced by the reduction of benzonitrile and reductive amination of benzaldehyde, both done over Raney nickel.

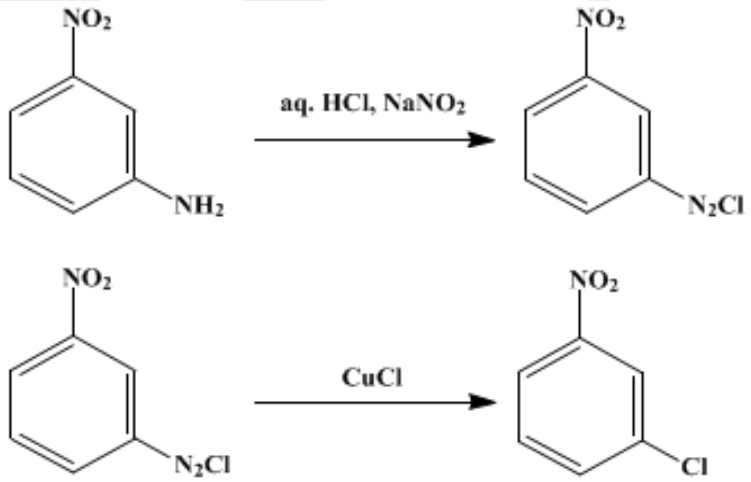
2) **Synthesis of m-bromo toluene:**



Toluene is reacting with in the presence of chlorine molecule to form tri chloro methyl benzene
Tri chloro methyl benzene is reacting with bromine molecule to form 1-bromo 3-tri chloro methyl benzene.
1-bromo 3-tri chloro methyl benzene reacting with Zn molecule to form m-bromo aniline.

3) **Synthesis of m-nitro chloro benzene:**

Nitration of benzene with conc nitric acid and conc sulphuric acid gives nitrobenzene. Chlorination with chlorine in presence of anhydrous aluminum chloride gives meta nitro chlorobenzene.



1) Synthesis of m-di chloro benzene:

The synthetic method of a Meta Dichlorobenzene, it is m-nitrochlorobenzene and the chlorine chlorination reaction under the initiator effect, comprise the mixing of m-nitrochlorobenzene, the reaction and separation processes of radical initiator and melting, it is characterized in that: mixed compound adds chlorination