

# AMINES AND UREA

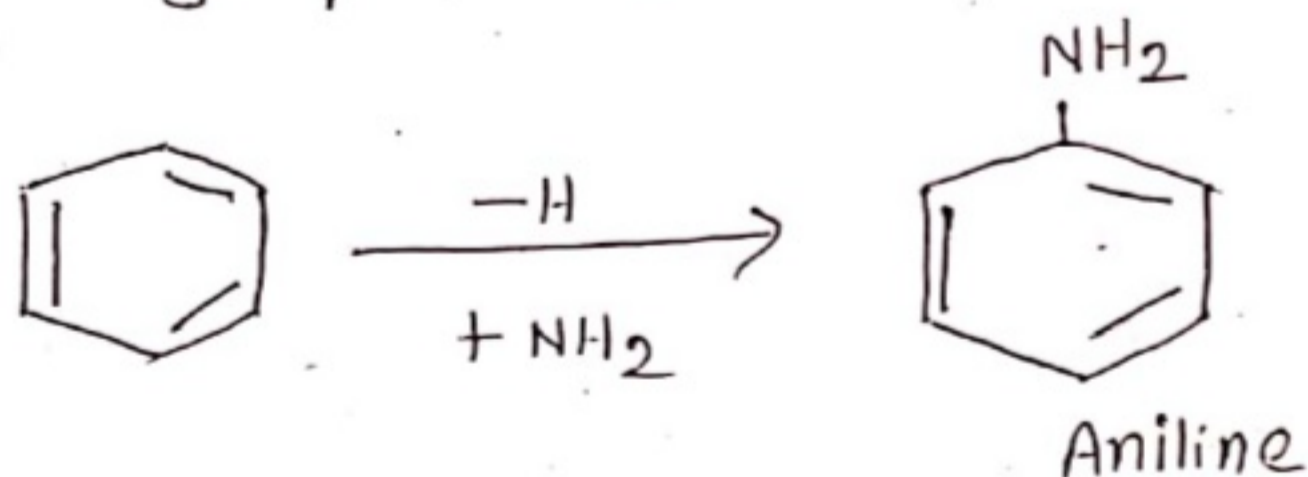
1.

08-05-2020 (Lecture-5) Deg-I (H&S)

## TOPIC - PREPARATION & PROPERTIES OF AROMATIC AMINES.

### ~AROMATIC AMINES~

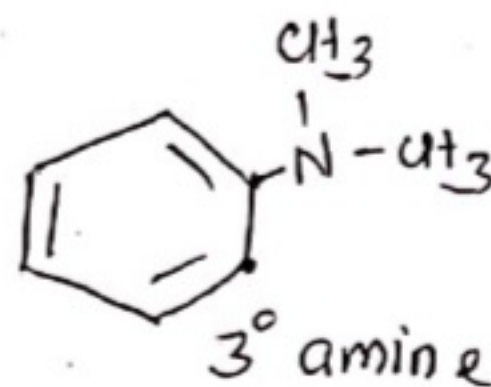
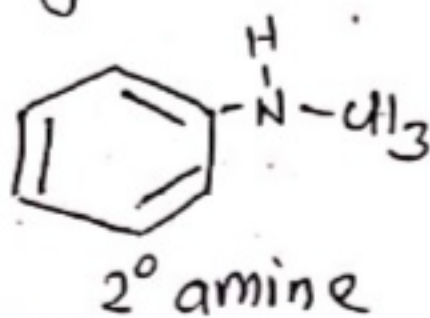
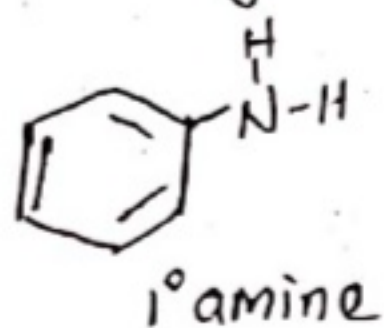
- \* Aromatic amines are derivatives of aromatic hydrocarbon
- \* Hydrogen of the benzene ring has been replaced by an amino group  $-NH_2$ .



All such compounds in which an amino or substituted amino group is bonded directly to an aromatic ring are termed aromatic amines.

- \* Aromatic amine also classified as:-

Primary, Secondary or tertiary.

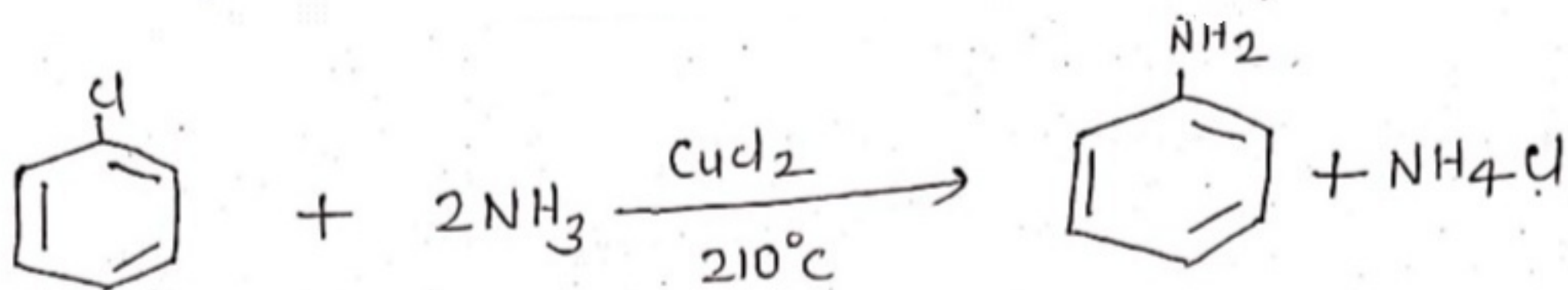




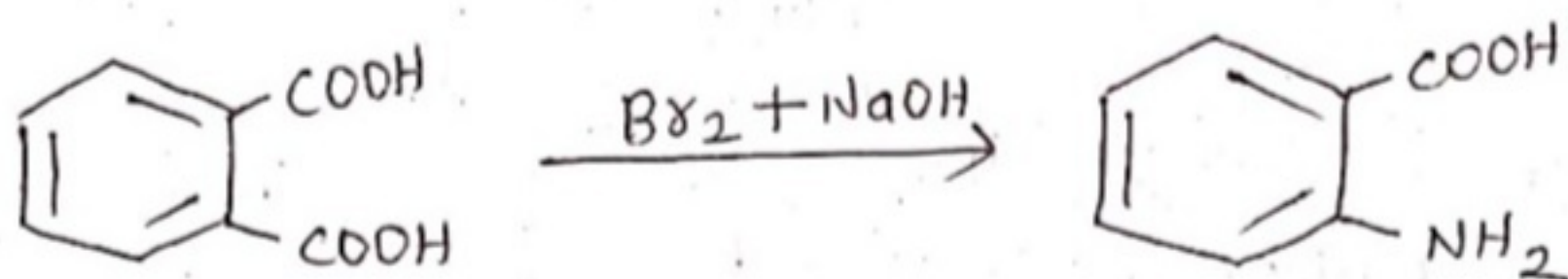
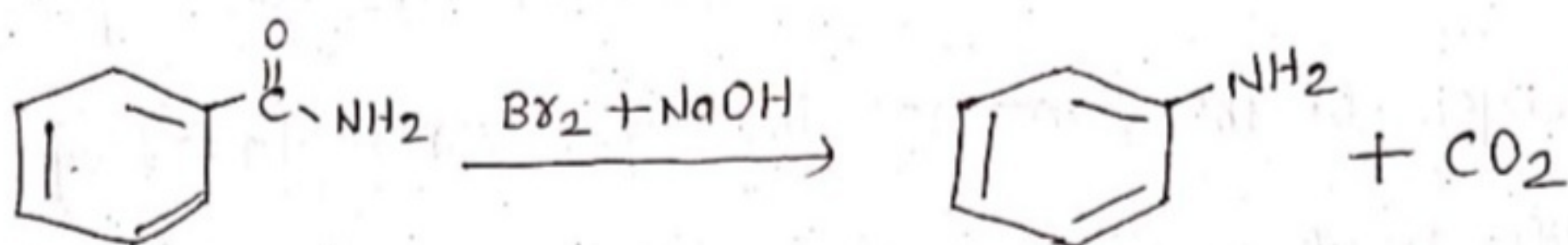
# METHODS OF PREPARATION

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## 1. Ammonolysis of Aryl chloride



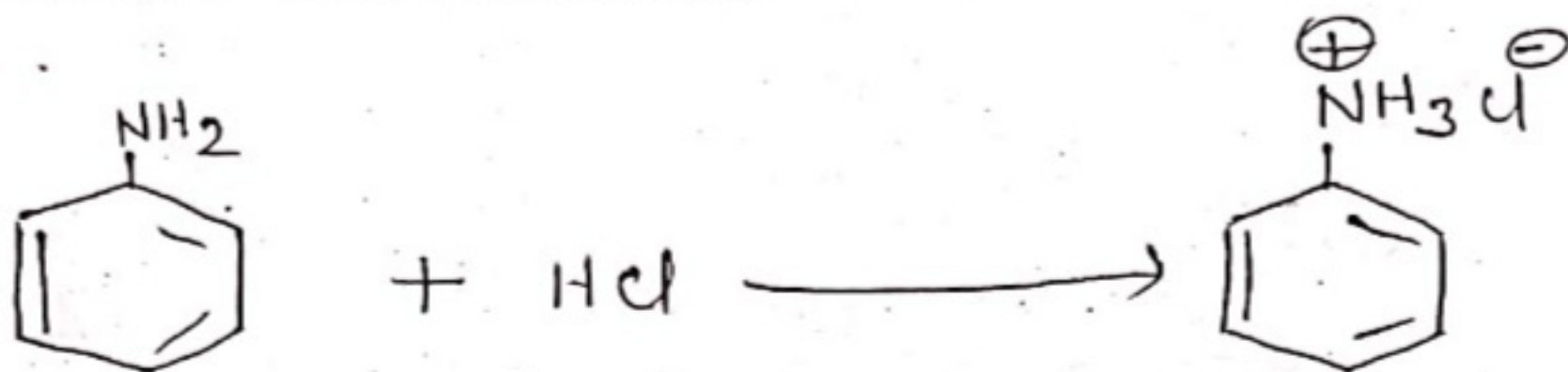
## 2. Hoffman Rearrangement



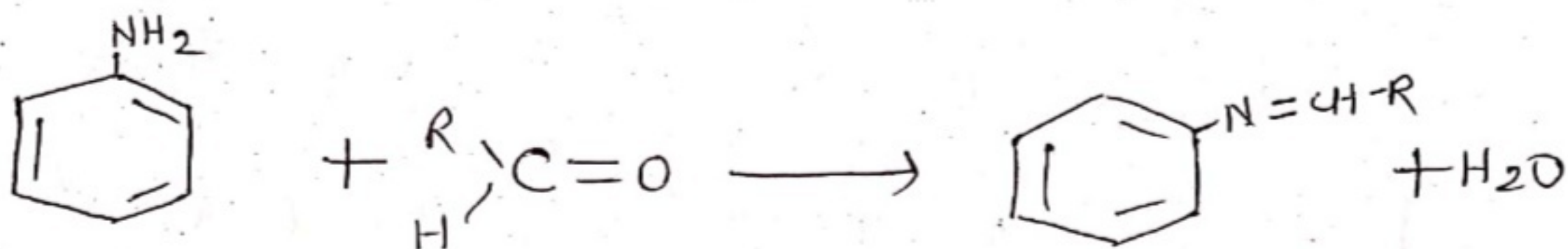
## PHYSICAL PROPERTIES

1. Aromatic amines are colourless liquids or solids.
2. Aromatic amines have a characteristic odour which is not pleasant. They turn brown in air owing to oxidation.
3. They have high melting and boiling points compared to analogous alkanes.
4. Sparingly soluble in  $\text{H}_2\text{O}$ .

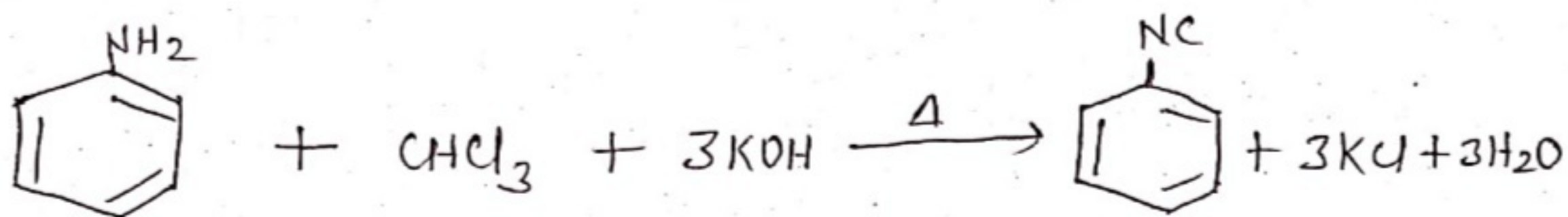
## 1. Salt Formation



## 2. Reaction with Aldehyde

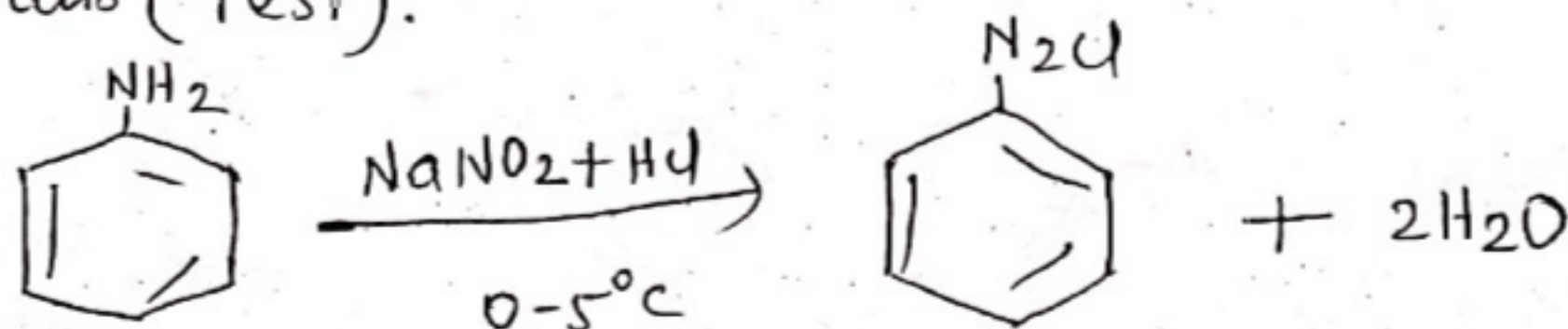


## 3. Carbyl amine reaction



## 4. Reaction with Nitrous Acid

Aromatic amine undergo diazotization to give diazonium salts (Test).

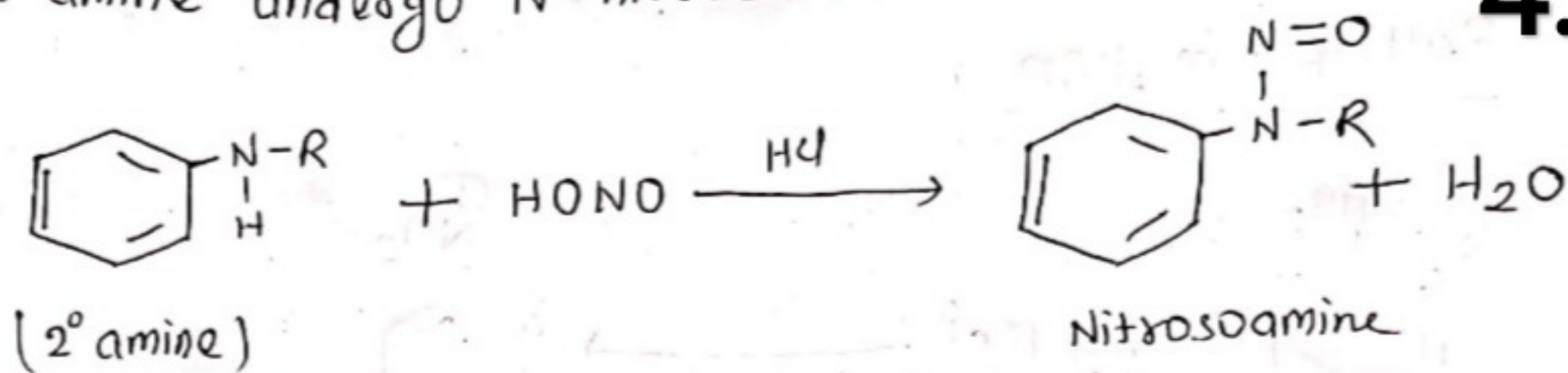


1° amine

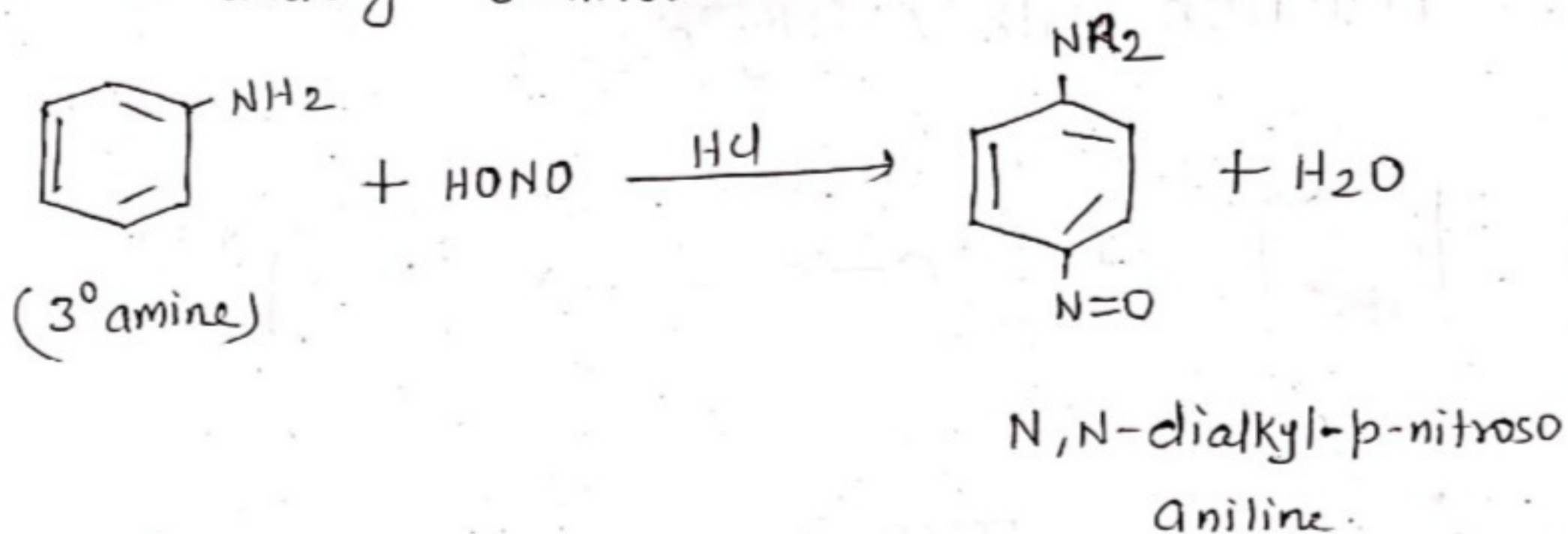


2° amine undergo N-nitrosation.

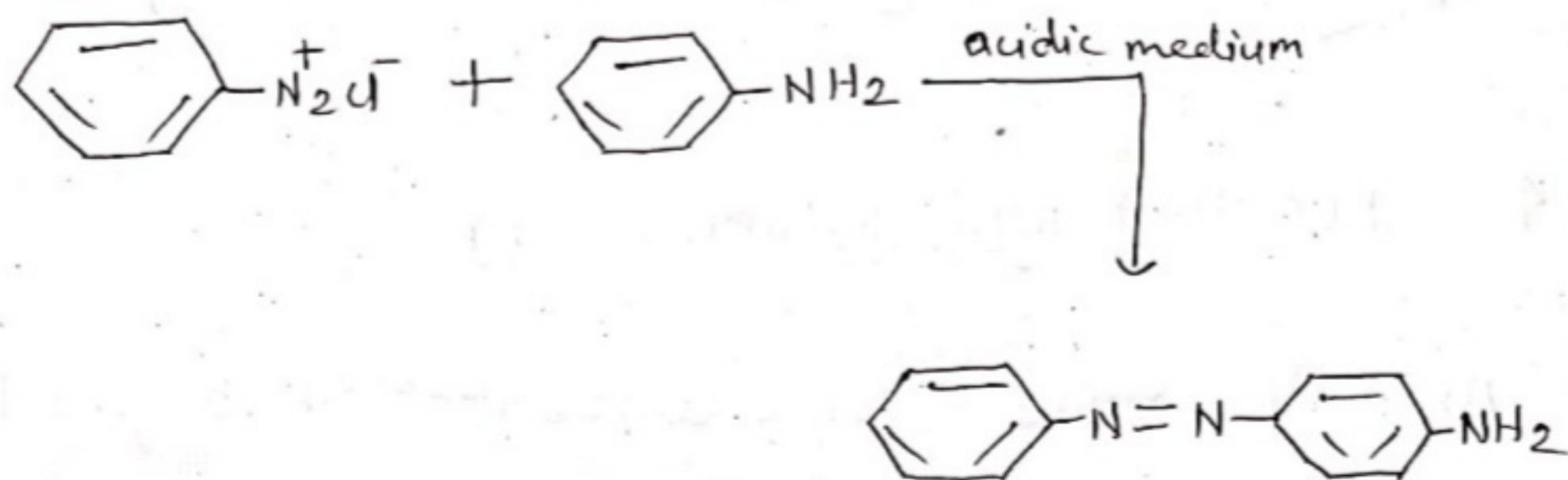
4.



3° amines undergo C-nitrosation.



## 5. Diazo-Coupling Reaction



### USES OF AROMATIC AMINES

1. For Preparation of dyes.
2. For manufacturer of antioxidant.
3. For making isocyanates required for polyurethane plastic used for insulation.

**Aromatic Amines as well as Amines Completed.**