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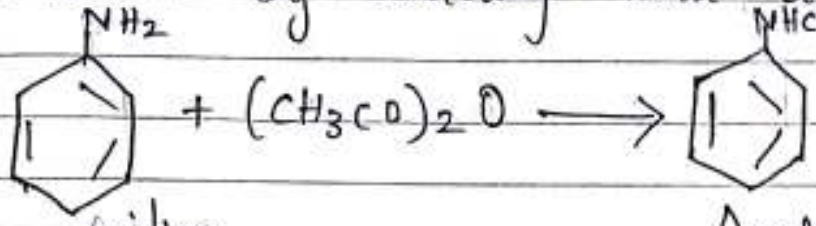
Acetanilide from Aniline (Acetylation).

~~Principle~~ Aim :-

Aniline is readily acetylated into acetanilide by reacting with acetic anhydride.



Aniline Acetanilide

Acetylation may also be carried out with glacial acetic acid instead of expensive acetic anhydride.

~~Procedure~~ principle :-

About 5ml of aniline is dissolved in 4.5 ml of conc. HCl in a beaker. The mixture is stirred well to get a clear solution. To this solution, about 6.5 ml of acetic anhydride is added with constant stirring and poured immediately to a solution of 8.5 gm of Sodium acetate in 25 ml of water taken in another beaker. The reaction mixture is stirred vigorously and cooled in ice. Acetanilide is precipitated as colourless crystals. The ppt is filtered through a Buchner funnel. washed with cold water and dried.

ii) Acetic acid method.

Chemicals required.

Aniline : 5 ml
Glacial acetic acid = 6.5 ml
Zinc dust : 0.1 gm

Procedure:

About 5 ml of aniline, 6.5 ml of glacial acetic acid and 0.1 gm of Zinc dust are taken in a RB flask. A few Porcelain pieces are added and the flask is heated gently on a wire gauze using a water Condenda for about 1.5 hours. The hot liquid is then poured in a thin Stream into 200 ml of water taken in a beaker with vigorous Stirring. The Contents of the beaker is cooled in ice and the precipitated acetanilide is filtered off. Using a Buchner funnel, washed with cold water and dried.