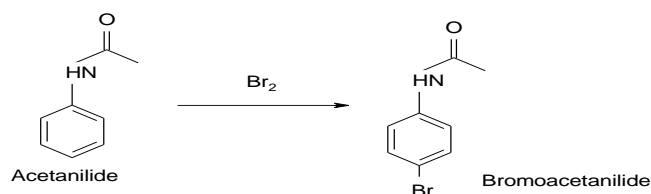


Exp.06: preparation of p-bromo acetanilide**Objectives:**

- Preparation of p-bromo acetanilide (Bromination reaction).

Discussion:

This mechanism is a classic example of electrophilic aromatic substitution. An amine may lead to di- and tri- substituted products. If an amide is used in place of the amine, monosubstitution usually predominates (the electron-withdrawing carbonyl group makes the benzene ring less nucleophilic). This ortho-, para- directing group will tend to only add groups para- to itself because of the steric bulk of the amide group.



Experimental Procedure:(all manipulations should be done in the chemical fume hood).

- Place 3 g (0.022 mol) of acetanilide into a 100 mL conical vial. Add 10 mL of glacial acetic acid. Stirring with a glass rod may be necessary to help dissolve the acetanilide (r.t).
- **Now, in the hood,**prepare the bromine solution by adding 1.5 mL of bromine into 10 mL of acetic acid (**first but 10 mL of the acid then 1.5 mL of bromine using dropper “Fast”**)
- **in the hood,**add bromine-acetic acid solution to acetanilide solution with stirring then leave the mixture 15 min.

(Wear gloves and, of course, goggles. Use extreme caution. Bromine burns can be quite severe).

- Transfer the mixture into beaker contain 100 mL of water with stirring.
- Collect the product by vacuum filtration using Büchner funnel.
- Purify the product by crystallization method using ethanol.
- Collect the white crystals by vacuum filtration, dried and weigh and calculate the percent yield.
- Obtain melting point and compare with literature data. Obtain the ¹H NMR spectra and compare to what is given.

Laboratory Report

Name: -----

Date: -----

Experiment Subject: -----

- Reaction:

Calculations:

Compound	Mol. Formula	Mol. Wight	Moles	Wight, mg	Density	Volume	Limiting reagent

Purification:

Recrystallization solvent: -----

Purity check by melting range: -----

TLC: -----

Physical Data (Product):

State: -----

Melting Point: -----

Color: -----

Solubility: -----

Yield:

Characterization:
