Expt. No : 4
Date : 26.9.23

Hydrolysis

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Aromatic acid from an ethyl Benzoate (ester)

Aim :-

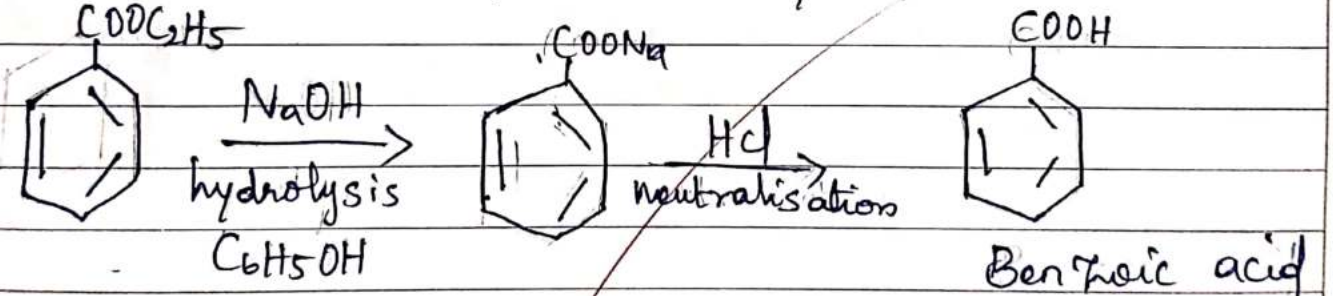
To prepare a pure Sample of benzoic acid from ethyl benzoate.

Principle :-

Esters are readily hydrolysed by a Strong Solution of Alkali. Sodium Salt of the acid obtained is neutralised with a mineral acid like con. HCl then benzoic acid is prepeipitated a white crystals.

Chemical Required.

1. Ethyl benzoate = 5 ml
2. 10% Sodium hydroxide Solution = 30 ml



Procedure :-

About 5 ml of ethyl benzoate and 30 ml of 10% Sodium hydroxide Solution are placed in a R.B flask. A few porcelain Chips or a glass bead is introduced into it. The flask is fitted with reflux Condenser and held in position. It is heated on a wire gauze until an oily drops of

ethyl benzoate are seen in the R.B. flask. The heating is then discontinued and the flask is cooled. The contents are poured into a beaker containing 200 ml water and stirred well. About 10 ml of 1:1 HCl solution is added in small quantities at a time till the solution is slightly acidic. It is tested by placing a drop of the solution on a blue litmus paper which turns red. A white precipitate of benzoic acid crystals is readily formed in the beaker on cooling. It is filtered off using Buchner funnel. Washed well with water and dried.

Recrystallisation :-

About 1 g of the benzoic acid is dissolved in boiling water and recrystallised white crystals of benzoic acid are separated and dried.

Report :-

The yield of benzoic acid crystals = 1.721 gm

Melting point = 121°C