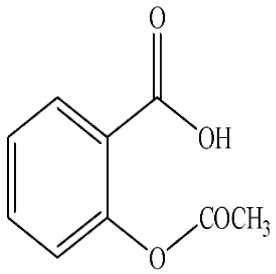
EXPT: 6

PREPARATION OF DRUG

(ASPIRIN)

Aim: To prepare and characterize the drug Aspirin.

The Acetyl derivative of salicylic acid is ASPIRIN, which is a drug widely used for its analgesic, antipyretic and antirheumatic effects. It is known to act as an inhibitor of the enzyme 'cyclooxygenase' and thereby prevent the formation of prostaglandins whose stimulating effect on nerves caused pain. This drug is easily prepared by the acetylation of salicylic acid.



Aspirin

Materials Required:

Chemicals:

1. Salicylic acid – 2gm
2. Acetic Anhydride – 3mL
3. Sulphuric acid – 3drops
4. Ethanol

Glassware & other requirements:

1. 100mL Beaker
2. Measuring Cylinder – 10mL
3. Measuring Cylinder – 50mL
4. 100mL RBF

5. Glass rod

6. Melting Point Apparatus

7. Water bath

8. Suction pump

9. Ice

Preparation of Aspirin:

Procedure: place 2.0 g of dry salicylic acid and 3 ml of acetic anhydride in a 100 ml beaker. Add cautiously 3 drops of conc. Sulphuric acid to the mixture and shake thoroughly for uniform mixing. Warm in a water bath for about 15 min. Cool and add about 50 ml of water, stir well with a glass rod and filter using suction, dry the product in air and note down the yield.

Dissolve by heating (gently) about 0.5 g of this solid in about 2 ml of ethanol. Filter the hot clear solution for removing any undissolved impurity and cool it to obtain nice crystals of aspirin. Separate it by filtration, dry, and determine its melting point.

Experimental Readings:

Aspirin

Amount of salicylic acid	=	g
Amount of Acetic Anhydride	=	ml
Yield of product	=	%
Colour of the compound	=	(crude)
	=	(Recrystallized)
Melting point of the recrystallized compound	=	ºC
Recrystallized sample submitted	=	Yes / No