

# Preparation of a Schiff Base Compound, 5-bromo salicylidine-*o*-hydroxy phenyl hydrazone

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**Abstract :** The Schiff base compound 5-bromo salicylidine-*o*-hydroxy phenyl hydrazone has been prepared by the condensation of 5-bromo salicylaldehyde and *o*-hydroxy phenyl hydrazine under suitable conditions.

**Key-words :** Preparation, condensation, precipitate, ice-bath, aqueous-ethanolic solution, analysis, water-bath, volume, solvent, compound, etc.

## I. INTRODUCTION

A considerable amount of Schiff bases containing nitrogen and oxygen atoms as their donor sites have been studied in detail but at least Schiff base containing Bromine in its moiety have been reported. In this paper, I report such Schiff base 5-bromo salicylidine-*o*-hydroxy phenyl hydrazine which contains Bromine atom in its moiety.

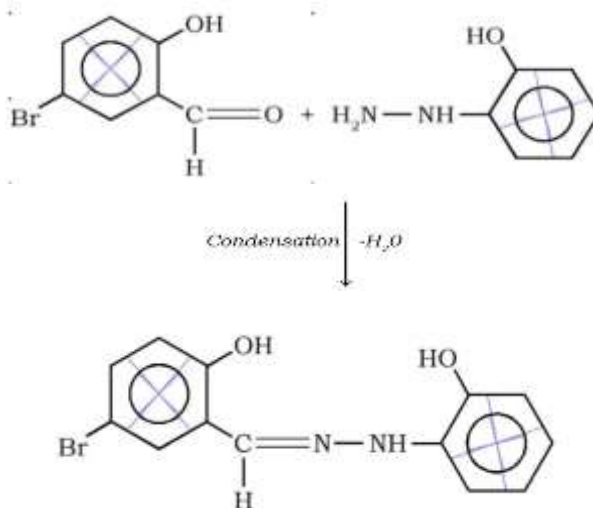
## II. PROCEDURE FOR THE PREPARATION OF THE COMPOUND

A paste of 18.5g (0.1 mole) of 5-bromo salicylaldehyde in ethyl alcohol was allowed to react with an ethanolic solution of 12.4g (0.01 mole) of *o*-hydroxy phenyl hydrazine hydrochloride. A minimum volume of 10% solution of sodium acetate was added to the resulting solution to neutralise the solution. The resulting solution was shaken well and then heated on a water-bath for about two and half an hour. After that, the solution was cooled under tap-water followed by ice-bath. During the course of cooling, a faint yellow coloured solid was obtained. The solid was filtered under suction pump. Then the solid was washed with cold water and a little ether. The compound was found to be soluble in organic solvents but more soluble in hot ethanol.

The solid was recrystallized with ether and dried over in an oven. The melting point of the compound was recorded and found to be  $\pm 2$ , 187°C.

The compound was further analysed and found to contain Carbon=53.32%, Hydrogen=3.76%, Nitrogen=9.64% and Bromine=27.24% which correspond to the molecular formula  $C_{13}H_{11}N_2OBr$ .

During the course of condensation process, following chemical reaction is expected to occur –



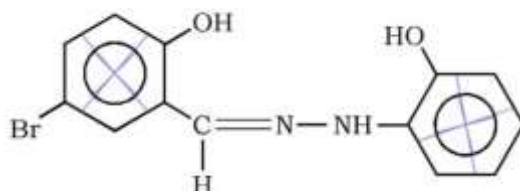
(5-bromo salicylidine-*o*-hydroxy phenyl hydrazone)

The identification of the compound has been confirmed by I.R. and  $^1\text{H}$ NMR spectroscopy.

**I.R. (KBr):**  $\delta$ ,  $570\text{cm}^{-1}$  (C-Br),  $1510\text{cm}^{-1}$  (C-O, phenolic),  $1630\text{cm}^{-1}$  ( $>\text{C}=\text{N}$ -),  $2750\text{cm}^{-1}$  (C-H, aldimino),  $3020\text{cm}^{-1}$  (C-HAr),  $3440\text{cm}^{-1}$  (C-O-H, phenolic),  $3540\text{cm}^{-1}$  (N-H),  $650\text{cm}^{-1}$  (N-N).

**$^1\text{H}$ NMR ( $\text{CDCl}_3$ ):**  $\delta$  = 4.36 (s, 1H, aldimino), 5.32-6.34 (b, 2H, -OH, phenolic), 7.30-8.76 (m-7HAr).

Thus, on the basis of elemental analysis, I.R. and  $^1\text{H}$ NMR spectroscopy, the following structure for 5-bromo salicylalidine-o-hydroxyphenylhydrazone has been assigned-



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