



## Synthesis and Crystal Structure of Dibromido{[(2-Pyridyl) methyl] (p-ethylphenyl)amine} Zinc

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### ABSTRACT

Within this work, the crystallographic investigation of the structure of compound was carried out. The compound was crystallized in the monoclinic space group P 21/c. The compound was then synthesized from the reaction of ZnBr<sub>2</sub> metal salt with 4-ethyl-N-((pyridin-2-yl) methylene) benzeneamine. Finally, UV-Vis, IR and MS spectroscopic techniques and elemental analysis were employed for characterizing the compound.

## 1. Introduction

Owing to their chemical stability, biological functions, suitable photophysical properties, and easy production, researchers have focused on zinc (II) complexes which have diimine ligands [1–3]. Also, such complexes have important bioinorganic chemistry since they are similar to oxygen and nitrogen after they exist as a ligator atom in model or biochemically relevant compounds [4].

The biological potentials of such complexes are impacted by the metal ions and their physiochemical properties are modified as well. For more than 150 years, Schiff<sup>7</sup> base ligands have been in chemistry catalogues. One of the leading causes of advancement in chemistry science is the carbon-nitrogen double bond's chemistry [5]. Medical substrates and fine chemicals are potential applications of Schiff base compounds. Nickel and iron<sup>7</sup> multidentate complexes have recently exhibited great activity for ethylene polymerization and oligomerization [6]. As a significant class of organic compounds, Schiff<sup>7</sup> bases are considered significant in medicine and pharmaceuticals. Therefore, medicinal and organic chemists have turned their attention to the synthesis and development of new derivatives of Schiff<sup>7</sup> bases [7].

Researchers have tested numerous Schiff<sup>7</sup> bases for herbicidal, anti-cancer, anti-fungal and anti-bacterial activities [8]. Researchers first discovered the metal complexes of Schiff<sup>7</sup> bases in the 19<sup>th</sup> century. Within material science and chemical research, most effort has been put into investigating metal-organic complexes [9, 10]. Having a azomethine functional group, Schiff<sup>7</sup> bases are formed when active carbonyl groups and primary amines are condensed and they are an important class of organic compounds.

## 2. Experimental Details

### 2.1. Materials

The chemicals that were used were of reagent grade and were utilized after they were received. The method adopted in the literature was used for purifying the solvents which were utilized in the reactions [11]. CHN-O-RAPID analyzer was employed to perform the elemental analysis. On a Bruker Tensor 27 spectrophotometer, we recorded the infrared spectra and on a JASCO V-570 spectrophotometer, we recorded the electronic absorption spectra. Based on the

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