

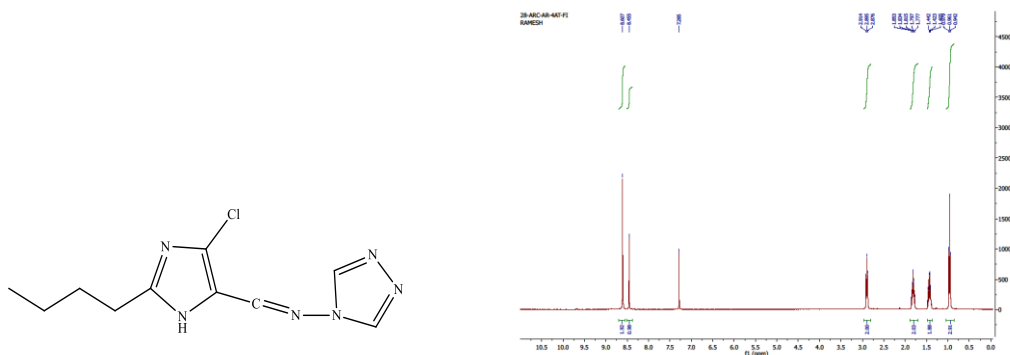
Synthesis and Characterization of A Novel Schiff Base Ligand, N-((2-Butyl-4-chloro-1H-imidazol-5-yl)methylene)-4H-1,2,4-triazol-4-amine

Ajmeera Ramesh[#] and A. Ramachandraiah^{*}

Department of Chemistry
National Institute of Technology Warangal
Warangal, 506004, Telangana
e-mail: archem@nitw.ac.in

Abstract

The Schiff base, N-((2-butyl-4-chloro-1H-imidazol-5-yl)methylene)-4H-1,2,4-triazol-4-amine, shown in the following structure, is expected to have a variety of applications in biological and pharmacological areas. It is prepared by condensation of 2-butyl-4-chloro-1H-imidazole-5-carbaldehyde with 4-amino-1,2,4-triazole. It is characterized by elemental analysis and ¹H-NMR, ¹³C-NMR, UV-Vis, Fluorescence and FTIR spectral methods. While the magnetic resonance spectra are in conformity with the structure, the infrared spectrum of the free ligand suggest that both carbonyl oxygen and azomethine nitrogens bind to metal ions to form 1:2 metal-ligand complexes. The TGA indicates presence of 2 water molecules in the coordination. Based on the UV-visible spectra of the free ligand and the complexes, Job's Plots are drawn to obtain the metal to ligand ratio.



Key Words: Schiff Base; 4-Aminotriazole; 2-Butyl-5-Carbaldehyde; Job's Plot

[#] Author Presenting Paper; ^{*} Author for Correspondence