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## Microwave Assisted Synthesis, Spectrofluorometric Characterization of Azomethine as Intermediate for Transition Metal Complexes with Biological Application

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### Abstract

Azomethine (1, 5 - Dimethyl - 2 - phenyl -[(3, 4, 5 - trimethoxybenzylidene) amino] -1, 2 - dihydropyrazol - 3 - one) (DTAD) was synthesized by the reaction of 4-aminophenazone with 3,4,5 trimethoxybenzaldehyd by microwave irradiation. Physicochemical studies such as electronic absorption, molar absorptivity, oscillator strength, dipole moment, florescent quantum yield were investigated in order to explore the analytical potential of azomethine dye. Azomethine go through the solubilization in different micelles and may be used as a probe or quencher to determine the critical micelle concentration (CMC) of SDS and CTAB. It's coordinate to metal salt through the pyrazol-3-one oxygen and the azomethine nitrogen. The structure of ligand and its meal complexes was elucidated by IR, H-1, C-13-NMR, EI-MS spectroscopic methods and elemental analysis. The antibacterial activity of these compounds were first tested in vitro by the disc diffusion assay against two Gram-positive and two Gram-negative bacteria, and then the minimum inhibitory concentration was using chloramphenicol as reference drug. The results showed that compound 1.1 is better inhibitor of both types of tested bacteria as compared to chloramphenicol.

### Keywords

**Author Keywords:** Azomethine; Physicochemical; CMC; Metal complex; Antibacterial activity; Chloramphenicol

**KeyWords Plus:** SCHIFF-BASE; ANTIBACTERIAL ACTIVITIES; SOLVENT POLARITY; GREEN-SYNTHESIS; DIPOLE-MOMENTS; DYE; PHOTOSTABILITY; DERIVATIVES; PARAMETERS; CHALCONE

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