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SYNTHESIS, STRUCTURAL AND SPECTRAL STUDIES OF Cu(II) AND V(IV) COMPLEXES OF A NOVEL SCHIFF BASE DERIVED FROM PYRIDOXAL. ANTIMICROBIAL ACTIVITY

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A novel Schiff base, N-(4-amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one) pyridoxaldimine (HL·HCl), was prepared and structurally characterized on the basis of elemental analyses, ^{1}H NMR, ^{13}C NMR and IR spectral data. The synthesis and characterization of several Cu(II) (**1**–**6**) and V(IV) (**7**) complexes with N-(4-amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one)pyridoxaldimine are reported.

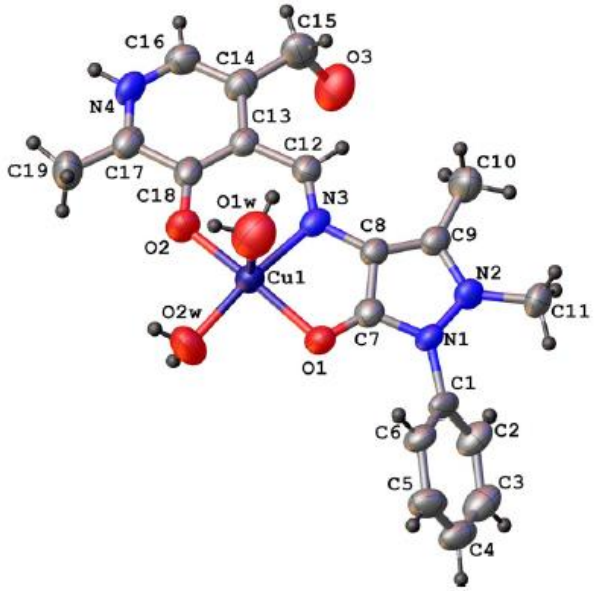


Fig. 1 Structure of $[CuHL(H_2O)_2]^+$ cation in 1

The composition and structures of the copper(II) and vanadium(IV) complexeswere proposed based on elemental analyses, molar conductance, magnetic susceptibility measurements, IR, electronic and EPR spectroscopy. In addition, the structures of the ligand and the complex $[CuL(H_2O)_2]NO_3 \cdot 2.25H_2O$ (1) have been determined by single-crystal X-ray diffraction, showing that the Cu(II) center has a distorted square-pyramidal geometry. The ligand and the complexes were also tested for their in vitro antibacterial activity.