

Synthesis, Properties and Crystal Structure of a Novel Ni(II) Complex Derived from a 4-Heterocyclic Acylpyrazolone

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The new 4-acylpyrazolone 1-(4-chlorophenyl)-3-phenyl-4-thenoyl-1H-pyrazol-5-ol (HCPTP) and its Ni(II) complex $[\text{Ni}(\text{CPTP})_2(\text{C}_2\text{H}_5\text{OH})_2](\text{C}_2\text{H}_5\text{OH})_2$ were synthesized. The ligand and the complex were characterized by elemental analyses, IR and UV/Vis spectroscopy, thermal analyses, and single-crystal X-ray diffraction. Crystals of HCPTP are monoclinic, space group $P2_1/c$ with $Z = 4$ while $[\text{Ni}(\text{CPTP})_2(\text{C}_2\text{H}_5\text{OH})_2](\text{C}_2\text{H}_5\text{OH})_2$ belongs to the triclinic system, space group $P\bar{1}$ with $Z = 2$. The complex has a six-coordinated Ni(II) center in a distorted octahedral configuration with two ethanol ligands in *cis* position. These octahedral units are connected through hydrogen bonds *via* the coordinated and uncoordinated ethanol molecules.

Key words: Acylpyrazolone, Nickel Complex, Crystal Structure, Spectral Characterization