

CRYSTAL STRUCTURE AND CHARACTERIZATION OF NEUTRAL COBALT(III) 2,3-PYRIDINEDICARBOXYLATE COMPLEX

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Abstract. A new Co(III) complex [Co^{III}(2,3-pdcH)₃].3H₂O, (2,3-pdcH₂ - 2,3-pyridinedicarboxylic acid) has been synthesized from a Co(II) salt at room temperature by using (NH₄)₂S₂O₈ as oxidant. The complex was characterized by elemental analysis, IR and UV-Vis spectroscopy, X-ray diffraction and thermogravimetric analyses. The complex crystallizes in the monoclinic space group *P2₁/c*. The crystal structure reveals a homoleptic complex with a distorted octahedral geometry, where the ligand acts as a monodeprotonated N, O-chelating anion.

Keywords: Co(III) complex, 2,3-pyridinedicarboxylic acid, thermal analysis, X-ray diffraction.

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