

Two new complexes of V^V and Fe^{III} atoms containing 4-hydroxy-pyridine-2,6-dicarboxylic acid and 2-aminopyrimidine

ligands: Synthesis, X-ray crystal structure, and thermal property

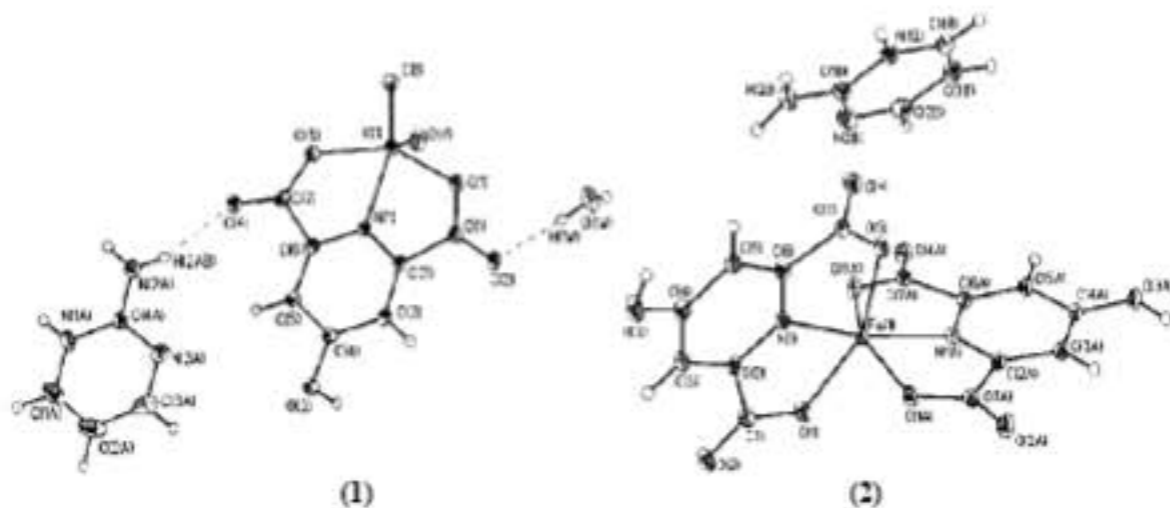
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The reaction of the 4-hydroxy-pyridine-2,6-dicarboxylic acid (for short H₂hypydc) and 2-aminopyrimidine (for short 2-apym) w vanadium^{III} and iron^{III} chloride in distilled water medium produces prism brown crystals of (2-apymH)[VO₂(hypydc)].H₂O (1) and nees colorless crystals of (2-apymH)[Fe(hypydc)] (2), respectively. Both crystal structures were thoroughly characterized by CHN elemens

analyses, FTIR spectroscopy, TGA, and SXRD methods. 1 and 2 crystallize in the space group $P\bar{1}$ of triclinic and $Pbca$ of orthorhombic systems, where the final *R* values for 1 and 2 are 0.0312 for 3641 reflections collected and 0.0315 for 5016 reflecti collected, respectively. The unit cell dimensions for 1 are: *a* = 6.3875(4) Å, *b* = 7.9518(5) Å, *c* = 13.8489(9) Å and α = 94.9210(10)^o, β = 94.4130(10)^o, γ = 90.3460(10)^o and for 2 are *a* = 7.8679(3) Å, *b* = 16.0020(6) Å, *c* = 30.0965(11) Å. The VO₂⁺ group is coordinated to two oxygen and one nitrogen atoms of the (hypydc)²⁻ ligand and Fe^{III} atom is coordinated by four oxygen and two nitrogen atoms of (hypydc)²⁻ ligand. The coordination geometry around V^V and Fe^{III} centres are distorted trigonal bipyramid and distorted octahedra respectively.



Reference

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