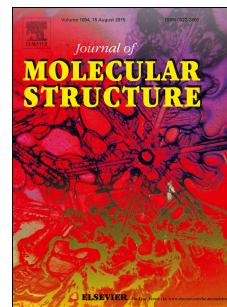


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## $\mu_2$ -Oxido bridged dinuclear vanadium(V) complex: Synthesis and characterization

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### Abstract:

$\mu_2$ -Oxido bridged dinuclear vanadium(V) Schiff base complex with the general formula  $[\text{VO}_2(\text{L})]_2 \cdot 2\text{CH}_3\text{OH}$  was synthesized and characterized. The X-ray results show the complex is dinuclear with two  $\mu$ -O bridging ions, and the vanadium centres have a octahedral  $\text{N}_2\text{O}_4$  coordination sphere. The tridentate Schiff base ligand L coordinated to vanadium(V) center as a monoanion in the basal plane. The basal plane is completed by one of the  $\mu$ -O bridges. The other  $\mu$ -O bridge coordinated to vanadium(V) center as apical direction. The two oxido bridged connected the two  $\text{V}^{\text{V}}$  centers together with the  $\text{V}^{\text{V}}\text{-O-V}^{\text{V}}$  angle of  $101.21(6)^\circ$ , the V-O distances of 1.70(6) and 2.31(7) Å and the V...V separation of 3.113(5) Å. Finally, the complex was calcinated at 600 °C for 3 h. The FT-IR spectrum of the product shows the formation of the  $\text{V}_2\text{O}_5$  particles.

**Keywords:** Vanadium(V) complex, Schiff base, Dinuclear, Octahedral

### 1. Introduction

Vanadium(V) complexes with Schiff base ligands have attracted considerable interest for their structures, properties and applications [1-3], and especially for the active role of vanadium complex in some biological systems [4-8]. Another widely utilized and studied

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