X-ray Studies of some Tetradentate Schiff Base Oxovanadium(IV) Complexes

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Vanadium chemistry has attracted attention due to its interesting structural features and biological relevance. In recent years, various vanadium complexes of dianionic tetradentate Schiff bases have been proposed for potential use as insulin mimetic agents. These ligands are of particular interest because they provide coordination environments which efficiently stabilize different oxidation states of vanadium, while still providing active sites capable of binding other molecules [1]. These compounds also show a great catalytic reactivity towards organic substrates, in particular the oxidation of organic substrates such as alkenes and sulfides. When chiral Schiff bases are used as ligands, vanadyl complexes can effectively catalyze asymmetric oxidation of sulfides, disulfides and dithioacetals [2].The free ligand and the corresponding vanadyl complexes with Schiff bases derived from trans-Salcn were characterized by elemental analysis (C,H,N) and X-ray diffraction. A monocrystal of each compound was sent to the Enraf Nonius CAD4 diffractometer and submitted to its routine analysis using the WINGX [3] program. The structure resolutions were obtained with Patterson and the several refinements were obtained by SHELXL program.

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