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OXIDO- AND DIOXIDOVANADIUM(V) COMPLEXES WITH *O*-VANILLIN SEMICARBAZONE: SYNTHESIS AND CRYSTAL STRUCTURE

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Abstract. Two mononuclear oxido- and dioxidovanadium(V) coordination compounds $[VO(HL)(EtO)(EtOH)_{0.6}(H_2O)_{0.4}][VO(HL)(SO_4)(EtO)]\cdot 0.4EtOH$ (**1**) and $[VO_2(HL)]\cdot 2H_2O$ (**2**) have been prepared by reactions of *o*-vanillin semicarbazone (H_2L) with $VOSO_4\cdot 5H_2O$ and NH_4VO_3 in 1:2 and 1:1 molar ratios in alcohol and alcohol/ammonia mixture. The single crystal X-ray diffraction study shows that in these compounds, the monoanionic HL^- organic ligand with deprotonated hydroxy group coordinates in the ONO tridentate mode, and the methoxy-group does not participate in coordination to the metal center. Compound **1** comprises complex cations and complex anions with VO^{3+} core and distorted octahedral geometries of vanadium atom. In complex **2**, vanadium has a distorted square-pyramidal environment typical for complexes with VO_2^+ core.

Keywords: oxidovanadium(V), dioxidovanadium(V), *o*-vanillin semicarbazone, NMR spectroscopy, X-ray diffraction study.

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