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Variation of carboxylate binding mode in self-assembled Ni(II) complexes with tridentate reduced Schiff base ligand: Syntheses, structural analysis

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Two new Ni(II) complexes, $[Ni_2L^1{}_2(C_6H_5CH_2COO)](ClO_4)\cdot 2CH_3CN$ (**1**) and $[Ni_2L^1{}_2(C_6H_5\ CH_2COO)_2(H_2O)]\cdot 2H_2O$ (**2**) have been synthesized by using $Ni(ClO_4)_2\cdot 6H_2O$, a tridentate NNO donor reduced Schiff base ligand, HL^1 = [(3-dimethylamino-propylamino)-methyl]-phenol and phenylacetic acid as co-ligand. Both complexes have been characterized by single crystal X-ray crystallography, electronic and IR spectroscopy. Structural analysis reveals that Ni(II) ions possess distorted octahedral geometry in both complexes **1**-**2**. Bis-μ_2-phenoxido bridged complex **1** has one *syn-syn* phenylacetate bridging, whereas complex **2** possesses similar type of structure with additional terminal coordination (*syn*-monodentate-η^1 mode) by another phenylacetate molecule.

Keywords: Ni complexes, Reduced Schiff base ligands, Different coordination modes of carboxylate coligand, Structural characterization

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