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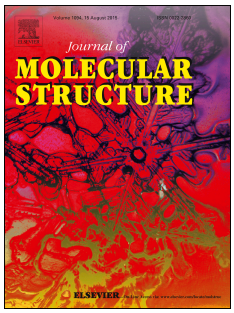

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Novel Mixed Ligand Complexes of Acesulfame / Nicotinamide with Some Transition Metals. Synthesis, Crystal Structural Characterization, and Biological Properties.

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Abstract

The salt type mixed ligand metal complexes of Co^{II} (**I**), Ni^{II} (**II**), Cu^{II} (**III**), Zn^{II} (**IV**) and Mn^{II} (**V**) were synthesized using neutral ligand nicotinamide and anionic ligand acesulfame. The structural characterizations of complexes were performed by using elemental analysis, magnetic susceptibility, solid-state UV–Vis, FTIR spectra, thermoanalytic TG-DTG/DTA, and single crystal X-ray diffraction methods. The complexes of **I**, **III**, **IV**, and **V** were obtained suitable crystal form for single crystal analysis by SC-XRD diffraction. The complexes of **II** was believed that the others structures so, the spectroscopic results of all the complexes are suitable for each other. The complexes are salt type compounds, and they have two moles nicotinamide ligands as monodentate coordination to metal center by pyridine N atoms and four moles aqua ligands in coordination sphere and two moles anionic acesulfamate ligands located outside of coordination unit as a counter ion. The metal(II) cationic atoms in complexes have octahedral geometry. Thermal decomposition steps of compounds are started with dehydration.

Key Words: Mixed ligand complexes, biological application, acesulfame, nicotinamide, crystal structure, thermal properties

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