MS35-P128 - LATE | INTERACTIONS IN COPPER(II), NICKEL(II) AND COBALT(II) COMPLEXES WITH N-METHYL-, N-ETHYL- AND N-PROPYLGLYCINE: MONOMERS, DIMERS AND POLYMERS

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N-alkylated amino acids play an important role in the studies related to the structural properties and biological activity and are very interesting compounds in fields such as medicinal chemistry and crystal engineering. We are interested in structures and properties of essential metal complexes with amino acids and their derivatives [1] (grant of the Croatian Science Foundation IP-2014-09-4274).

In this research we have synthesized and structurally characterized twelve new copper(II), nickel(II) and cobalt(II)/cobalt(III) compounds with N-methyl-, N-ethyl- and N-propylglycine. In nine monomeric complexes, $[M(Rgly)_2(H_2O)_2]$ (M = Co, Ni; R = Me, Et, or Pr), the metal ion is octahedrally coordinated with two *O*,*N*-donating Rgly ligands in the *trans*-fashion and two water molecules in the axial positions. In eight complexes the hydrogen bond donors (N-H and O_{water}-H) interact with the neighboring carboxylic groups forming 2D networks. The alkyl groups point outward of the layers so there are only van der Waals interactions between them. Of the monomeric compounds only $[Cu(Megly)_2(H_2O)_2]$ forms a 3D network. In $[\{Co(Etgly)_2\}_2(\mu\text{-}OH)_2]\cdot 2H_2O$ oxidation occured and it is a dimeric Co(III) complex with a 3D network. [Cu(μ-Rgly)2]n R = Me or Et) are coordination polymers with 2D layered structures. Influence of alkyl chain length, intermolecular interactions, isostructurality, polymorphs and other structural details and properties will be discussed.

[1] Vušak, D. *et al*. (2017). *Cryst. Growth Des.* **17**, 6049–6061.