NEW COPPER (II) COORDINATION COMPOUNDS BASED ON FLEXIBLE IMINODIPROPIONIC LIGANDS

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Polynuclear coordination compounds are those that present inorganic nodes (metal ions or metal containing clusters) connected by organic polytopic ligands that act as linkers.[1] The development of these materials is a subject of significant interest due to their promising applications in gas storage, catalysis, drug delivery, magnetochemistry and supramolecular chemistry. During the last years we have been working in the synthesis and characterization of novel polynuclear coordination compounds, using flexible polytopic ligands.[2,3] Here, we present our work based on the 3-[(2-carboxyethyl)(4-methoxyphenyl)amino]propionic acid (H_2NPhOMe, fig.1a) and *N*-isopropyliminodipropionic acid (H_2ipidp, fig.1b) as ligands in the preparation of different copper coordination compounds. The ligands were synthesized following previously described procedures [4] and the complex were prepared by direct reaction with different copper(II) salts in aqueous acidic solution (pH values between 3 and 5) to attain the protonation of the nitrogen atom and attempt to avoid the interaction of this atom with the metal ions. This fact facilitates the polytopic capability of the dicarboxylate compounds resulting in different architectures, depending of the nature of the starting materials (fig.1c). Four new homonuclear Cu(II) or heteropolynuclear Cu(II)/Na(I) compounds were characterized at the solid state by FT-IR spectroscopy, elemental analysis, thermogravimetric analysis and single crystal X-ray diffraction.

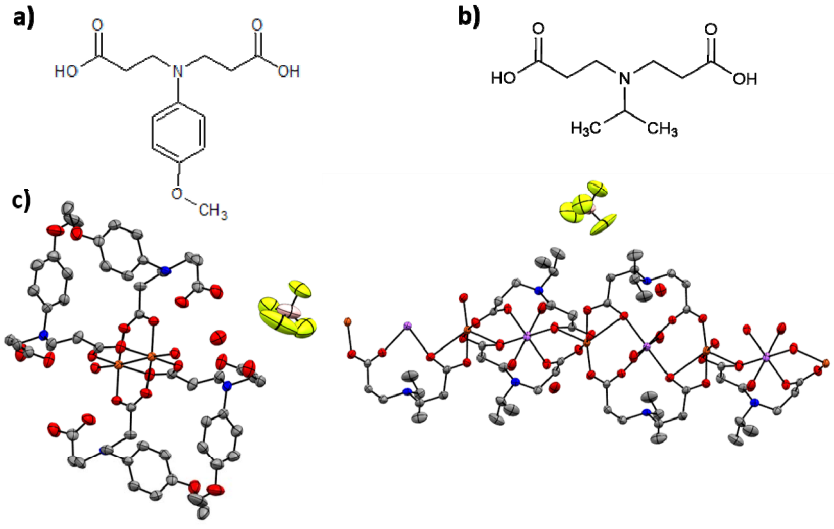

Figure 1

[1] Loukopoulos, E.; Kostakis, G. E., *J. Coord. Chem.* **2018**, *71*, 371.

[2] Braña, E. et al, *J. Coord. Chem*. **2016**, *69*, 3650.

[3] Braña, E. et al, *Inorg. Chim. Acta*. **2014**, *417*, 192.

[4] Tumosienė, I.; Beresnevičius, Z., Chemija, **2008**, *19*, 44.