Structural Features of Oxydiacetate and Thiodiacetate Complexes and Crystal Structures of Magnesium Derivatives

<u>Agustín Galindo</u>^a, Abdessamad Grirrane^a, Eleuterio Álvarez^b, Francisco Montilla^a, Antonio Pastor^a, ^aDepartamento de Química Inorgánica, US, Sevilla, Spain. ^bIIQ, CSIC-US, Sevilla, Spain. E-mail: galindo@us.es

In this communication we will review the structural features of oxydiacetate (oda) and thiodiacetate (tda) compounds, illustrating the similarity and differences between the ample diversity of coordination modes that exhibits this type of ligands.



X = O, oda; S, tda

Additionally, we will report novel magnesium oxydiacetate and thiodiacetate complexes, $[{Mg(oda)(H_2O)_2} H_2O]_n$ (1) and $[Mg(tda)(H_2O)_3] H_2O$ (2), which were synthesized from the reaction of aqueous solutions of magnesium dichloride with a 1:1 mixture of Na₂CO₃ and oxydiacetic acid or thiodiacetic acid, respectively. Complex 1 is a one-dimensional polymer with a planar bridging oxydiacetate ligand in a meridional disposition; whereas 2 is a monomer containing the typical tridentate thiodiacetate ligand with a facial configuration. Both are, as far as we know, the first structural determinations of Mg-oda and Mg-tda complexes [1].

[1] Grirrane A., Pastor A., Álvarez E., Galindo A., Inorg. Chemm. Commun., accepted.

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