

## MS14-P09 | CRYSTAL STRUCTURE AND HIRSHFELD SURFACE ANALYSES OF A NEW ORGANOGOLD (III) WITH THIOSEMICARBAZONE

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The thiosemicarbazones have been extensively studied, mainly due to their biological activities, properties and facility of coordination with many transition metals, due the presence of electron donor NNS atoms.

We describe the synthesis and crystal structure of new organogold(III) [Au(L)Cl] with 2-acetyl thiophene N4-methylthiosemicarbazone (HL). The metal center is coordinated by the N(1) and S(1) atoms and also by the C(3) - ketothyl group present on the thiosemicarbazone double-desprotonated. The coordination sphere with planar square geometry to the metal center is completed with a chloride ion with Au-Cl distance of 2.288(4) Å. The compound were characterized also by and spectral analyzes (IR, UV-Vis,  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR) and the results are agree with similar works reported in the literature.

The Hirshfeld Surface Analysis is fundamental to study unusual interactions present in the packing architectures revealed by single crystal X-ray diffraction analysis. Interestingly, intermolecular hydrogen bonds form a one-dimensional molecular arrangement.