

W0339

Understanding Coordination, Packing, and Hydrogen Bond Patterns of Metal Carboxylates. Graciela Díaz de Delgado, Laboratorio de Cristalografía, Dept. de Química, Facultad de Ciencias, Univ. de Los Andes, Mérida, 5101, Venezuela.

Over the years, we have prepared a great variety of metal derivatives of unsaturated carboxylic acids such as maleic, fumaric, methylmaleic, methylfumaric, itaconic, *cis*-4-cyclohexene-1,2-dicarboxylic, nicotinic, and isonicotinic acids. We have characterized them by spectroscopic, thermal, and X-ray diffraction methods. The magnetic properties of some of these compounds have also been examined. Some of the materials suffer interesting decomposition reactions upon heating in the solid state. Although most of them crystallize as two-dimensional coordination polymers, some crystallize in three-dimensional structures. Hydrogen bonds provide strong interactions within and between layers. Recently, hydrothermal methods of synthesis have allowed us to prepare derivatives which display relatively open structures or structures different from the ones obtained at room temperature. An overview of the structural aspects of these materials will be presented.

This work was supported by FONACIT-Venezuela through grant LAB-97000821. Parts of this work made use of the MRL-UCSB Central Facilities, supported by the National Science Foundation under Award No. DMR00-80034.