Poster Presentation

MM.P14

General Synthetic Route and Structural Characterization of New 3d-4f Materials

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Within the field of coordination chemistry, the crystal engineering has been applied mainly through the design and synthesis of Metal-Organic Materials (MOMs), which are attractive not only by the wide variety of architectures and topologies that they present, but also by the potential applications in catalysis, ion exchange, molecular adsorption, fluorescence, nonlinear optics, and magnetism. From a structural and synthetic point of view, the literature shows that a wide variety of MOMs ranging from 0D to 3D structures have been rationally designed and synthesized by the appropriate selection of the metal centers and organic building blocks, as well as of the reaction pathways.1-3 In this work, we present the a general synthetic route and the structural characterization to a new MII(3d)-M'III(4f) (M = Co, Ni ; M' = Ce) MOMs. The assembly of paramagnetic ions of transition metal centers together with simple and versatile ligands permits to obtain this new heterometallic three dimensional structures. From a structural point of view, the 3D MOM, present a cubic structure and crystallizes in the Fm-3m spatial group. Details of synthetic methodology and structural characteristic of the synthesized MOM should be discussed. Figure 1: Lanthanide ions are cubically surrounded by transitions ions which defines a covalent cubic tridimensional lattice. Acknowledgements: The authors acknowledge financial support from FONDECYT 1130643 and Financiamiento Basal, FB0807. B.B. thanks UNAB Doctoral Scholarship 2013 and CONICYT Fellowship.

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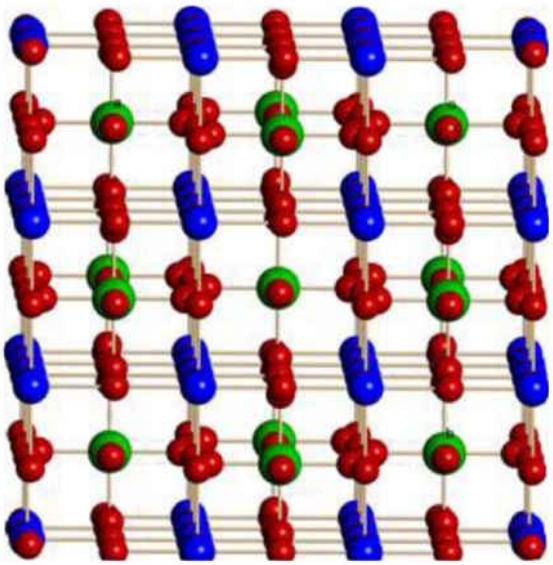

Keywords: Lanthanide, transition metal, lattice