

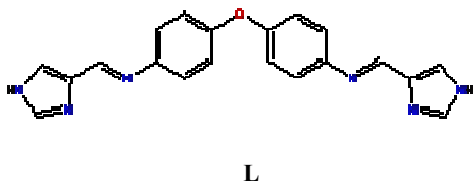
It was shown that optical properties of both **1** and **2** correlate with the local ligand environments observed in the crystal structures. In both cases, the rigidity of the stilbene linker increases upon coordination to the inorganic units through inhibition of torsion about the central ethylene bond, resulting in luminescent crystals with increased emission lifetimes compared to solutions of *trans*-stilbene. The emission spectrum of **2** is found to depend on the nature of the incorporated solvent molecules, suggesting use of this or related materials in sensor applications.

MS13 P13

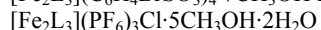
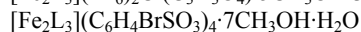
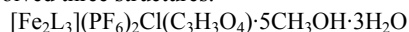
Spin crossover and supramolecular organization of a new family of iron (II) dinuclear complexes Bernard Tinant^a, Nicolas De Crom^b, Yann Garcia^b ^a*Unité de chimie structurale et des mécanismes réactionnels.* ^b *Unité de chimie des matériaux inorganiques et organiques, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.* E-mail: tinant@chim.ucl.ac.be

Keywords: Molecular switches; Spin-crossover; Iron (II) dinuclear complexes

Spin crossover materials are important coordination compounds wherein the spin state can be reversibly switched by external stimuli [1]. A novel family of dinuclear iron(II) compounds with a triple-helicate architecture has been recently synthesized [2] and their spin pairs population studied [3]. In the present work, new iron(II) complexes have been obtained with L as bis-bidentate ligand which could offer more H-bonding possibilities.



By varying the counter-anions and the conditions for crystallization, we obtained suitable single crystals and solved three structures:



The structure was refined at two temperatures for the third compound. Two iron sites are in the high-spin state at 250 K and are found in an intermediate state at 120 K (high-spin/low-spin). Complementary ⁵⁷Fe Mössbauer studies are in progress to shed more light on the spin crossover behaviour of this dinuclear compound. The structures will be presented in details.

[1] Gütlich P., Garcia Y., Goodwin H.A., *Chem. Soc. Rev.* 2000, 29, 419.

[2] Tuna F., et al., *Chem. Eur. J.* 2004, 10, 5737

[3] Garcia Y., et al., *Eur. J. Inorg. Chem.* 2006, 3333.

MS13 P14

Hydrogen bond in Tri (2-hydroxyanilinium) hexachlorostin (IV) chloride trihydrate. Sofiane Bouacida^{a,b*}, Hocine Merazig^b and Patricia Benard-Rocherulle^c *a)Dpt de Chimie, Université de Béjaia, Alegria. b) Lacmom, Université Constantine, Algeria. c) UMR 6226 CNRS, Université de Rennes I, France.* E-mail : Bouacida_sofiane@yahoo.fr

Keywords: Hydrogen bond, Single crystal, Hybrid materials.

Organic-inorganic hybrid materials of formula (R-NH₃), SnX_n, where X = F, Cl, Br or I, exhibit interesting magnetic, optical and electronic properties [1], [2]. Within our research of hybrid compounds based on tin a new crystal structure has been investigated.

The title compound, 3(C₆H₈NO⁺(SnCl₆)²⁻Cl · 3(H₂O), crystallized in Monoclinic system, with P 2₁/n space group.

The crystal structure can be described as double layers of [SnCl₆] octahedral and 2-hydroxyanilinium cations parallel to (10-1) plane, with the chloride ions and the water molecules sandwiched between the double layers.

In this structure, four types of hydrogen bonds are observed,

viz. cation-cation, cation-anion, cation-water and water-water,

with the N and O atoms of the cation and the water molecules acting as donors and with the Cl⁻ ions and the O atoms of the water molecules acting as acceptors.

These intermolecular bonds link the molecules within the layers and also link the layers together, delineating a three-dimensional network and reinforcing the cohesion of the structure.

[1] Aruta, C., Licci, F. Zappettini, A., Bolzoni, F., Rastelli, F., Ferro, P. & Besagni, T. (2005). *Appl. Phys. A* 81, 963-968..

[2] Knutson, J. L. & Martin J. D. (2005). *Inorg. Chem.* 44, 4699-4705.

MS13 P15

Synthesis, Characterization and Crystal Structure of a Three-Dimensional Alkaline-Earth Diphenatete Complex: [Ba(H₂O)₄(OOC-(C₆H₄)₂-COO)] 0.25 H₂O S. Djehni^a, F. Balegroune^a, A. Guehria-Laidoudi^a ^a*Laboratoire de Cristallographie-Thermodynamique, Faculté de Chimie, USTHB, BP32, El-Alia, Bab-Ezzouar, Alger, Algérie.* E-mail: fadilabalegroune@yahoo.fr

Keywords: diphenate, barium compounds, crystal structure analysis

Intense research activity during the last few years employing benzene carboxylic acids such as 2,2'-diphenyldicarboxylic acid (H₂dpdc) has resulted in many new compounds with fascinating structures. These coordination polymers possess one-, two- and three-dimensionally extended structures and are attractive for their diverse coordination modes, intriguing structures, porosity and many potential uses in the areas of catalysis, sorption and luminescence [1-4]. To the best of our