

**Title: Supramolecular Coordination Compounds**

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In the process of this work, three new compounds were synthesized: 3,3'-bis[3-(4-methylpyridin2-yl)-1H-pyrazol-5-yl]-1,1'-biphenyl (**L**),  $[\text{Fe}_9(\mu\text{-O})_{12}(\text{L})_6(\text{OH})_6](\text{BF}_4)_4 \cdot 4\text{H}_2\text{O}$  (**1**) and  $\text{PF}_6^-[\text{Co}_2\text{L}_2\text{L}](\text{PF}_6)_3 \cdot n\text{CH}_3\text{OH}$  (**2**). Compound **1** and **2** were synthesized through complexation reactions as from compound **L**. This type of reactions tried to produce dinuclear metallo-supramolecular helicate systems of M(II) (where M = Fe and Co) centers with anion encapsulation, like has occurred with the obtained product **2**, due to the particular properties of binding, rigidity and flexibility of the compound **L**. On the other hand, trying to synthesize this type of dinuclear and helicoidal complexes the unexpected and surprising compound **1** was obtained. This product is a complex with a [3x3] grid structure of iron atoms on, clearly, the water has intervened coordinating to the metal centers and oxidizing some of them. Because this novel complex had never been observed, its synthesis and crystalline structure will be well defined.

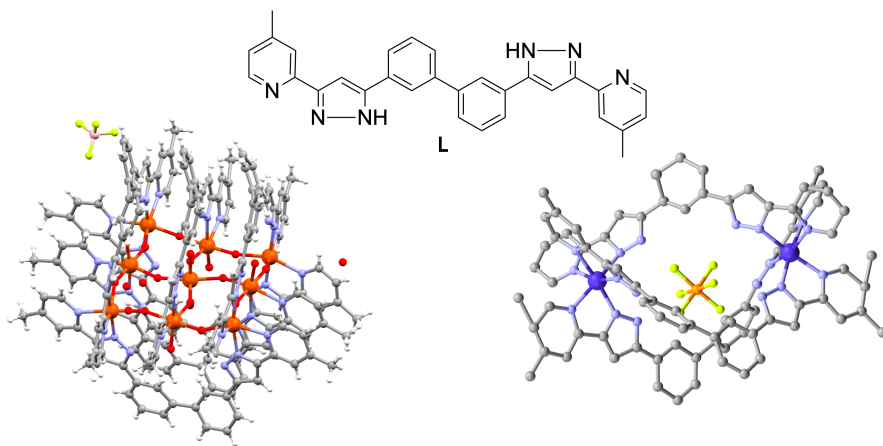


Fig.1. Compound **L** (top), compound **1** (left) and cationic part of compound **2** (right)