**Poster**

# Supramolecular isomerism in coordination polymers of Cd(II) with an imidazole based dipodal ligand

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Research on coordination complexes dates back to the end of the 19th century and has not lost interest to this day, on the contrary. The main reason for its growing popularity is the structural diversity of such compounds, varying from mononuclear to polymeric structures, as well as their potential applications. For example, coordination polymers can be used in catalysis, ion exchange, gas sorption, etc. [1]. The diversity among the structures of coordination polymers initiated topological studies of this type of species [2,3], especially since small changes in reaction conditions, such as pH, solvent and temperature, can lead to the formation of products with different structures [4]. The phenomenon of supramolecular isomerism is a result of topological or conformational diversity, resulting in products exhibiting different properties.

Here we would like to present three new neutral polymeric metal complexes, which are supramolecular isomers, isolated by reacting cadmium salts with 1,3-bis(2-methylimidazol-1-ylmethyl)-2,4,6-trimethylbenzene (**L**) under different conditions. These compounds exhibit 1D structures. Synthetic details, along with a detailed description of intermolecular interactions and further supporting studies, will be presented.

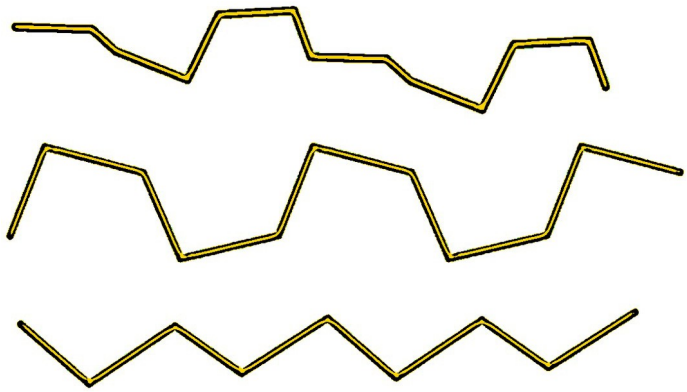

**Figure 1**. Isolated conformational supramolecular isomers: simplified fragments of 1D chains revealed in $\{[Cd\mathbf{L}Cl_2]\}_n$.

[1] Batten S. R., Neville S. M., Turner D. R. (2009). *Coordination Polymers: Design, Analysis and Application*, Royal Society of Chemistry.

[2] Blatov V. A., Shevchenko A. P., and Proserpio D. M. (2014), *Cryst. Growth Des.*, **14**, 7, 3576–3586

[3] Shevchenko A. P., Shabalin A. A., Karpukhin I. Y., Blatov V. A. (2022), *Sci. Technol. Adv. Mater. Meth*., **2**, 250-265

[4] Leong W. L., Vittal J. J. (2011), *Chem. Rev.*, **111**, 2, 688–764

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