

Coordination compounds of silver: on the edge of liquid crystals?

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Alkaline earth metal ions, group 11 elements and lanthanides are often found in oxide materials such as superconductors. For the synthesis of such materials, two techniques, MO-CVD (metal-organic chemical vapor deposition) and sol-gel, can be employed. In order to synthesize new precursors for such methods, we have been investigating alkali and alkaline earth metal aggregates as well as Cu(I, II) [1] and Ag(I) coordination compounds, [2] including metallacyclic and polymer structures. A strong structural anisotropy is a prerequisite for the formation of liquid crystals. As our compounds fulfill this first requirement, they were tested for their metallo-mesogenic behaviour. On this poster, the solid state structures of Ag(I) coordination compounds (Fig. 1) will be shown in their multitude of polymorphs and pseudo-polymorphs, and the results of the investigations for liquid crystal behavior will be presented. [3]

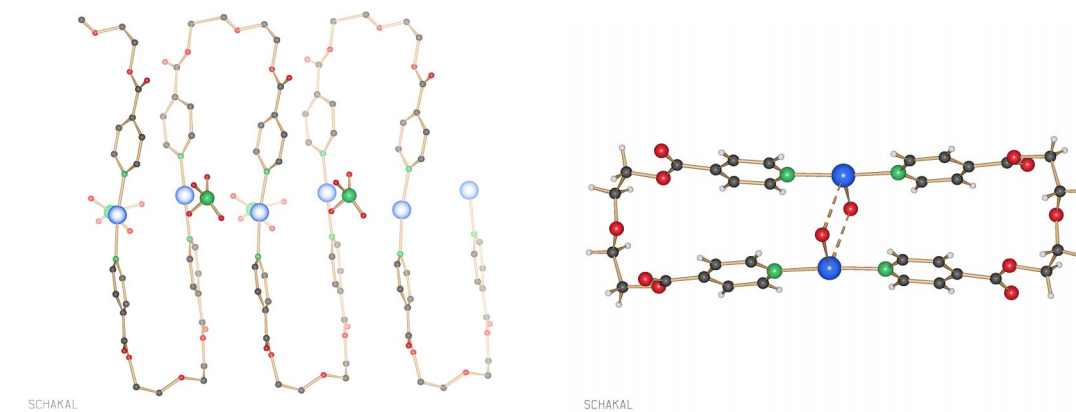


Figure 1: Coordination polymer and metallacycle of Ag(I) compounds

[1] A. Y. Robin, K. M. Fromm, H. Goesmann, G. Bernardinelli, *Cryst. Eng. Comm.*, **2003**, *5(71)*, 405–410

[2] K. M. Fromm, A. Y. Robin, M. Meuwly, H. Goesmann, G. Bernardinelli, *Cryst. Eng. Comm.* **2004**, *6(60)*, 336–343

[3] K. M. Fromm, E. D. Gueneau, A. Y. Robin, W. Maudez, J. Sague, R. Bergougnant, *Z. Anorg. Allg. Chem.* **2005**, in the press