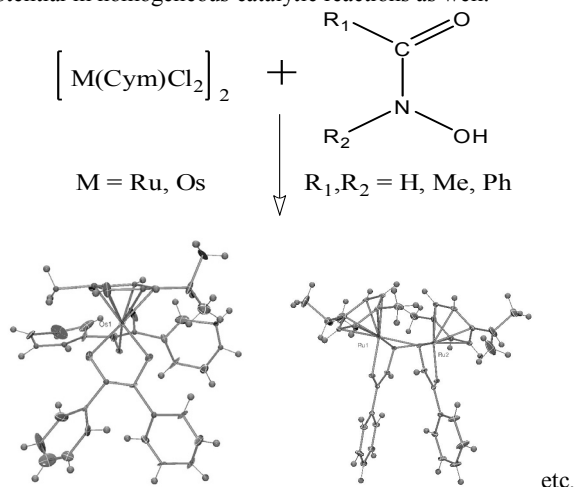


FA4-MS34-P07

Supramolecular Architecture of Novel Hydroxamate Complexes of Os(II) and Ru(II). Attila C. Bényei^a,

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Derivatives of hydroxamic acid gained significant importance as *hard* donors because of their biological relevance especially as inhibitors of deacetylases or antimicrobial activity. This feature is connected to their strong metal binding capabilities making them enzyme inhibitors or constituents of siderophores as well as their similarity to carboxylic acids. Some of us have shown very recently that hydroxamate complexes of *soft* platinum group metals could be prepared starting from the respective half-sandwich, organometallic p-cymene-containing precursor see below. [1] Supramolecular analysis of ten different complexes of Os(II) or Ru(II) revealed that careful balance of mono- or bidentate hydroxamate coordination, steric hindrance of the **R** substituents, stability of coordination of auxiliary pyridine ligand, π - π stacking of the phenyl rings as well as van der Waals and Coulombic interactions give as a result the final mono- or dinuclear complex having one or more molecules in the asymmetric unit. These compounds have significant potential in homogeneous catalytic reactions as well.



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[1] Buglyó, P., Farkas, E: Novel Half-sandwich Ru(II)-Hydroxamate Complexes: Synthesis, Characterization and Solution Study in Aqueous Solution, Dalton, 2009, 8063.

Keywords: hydroxamic acid, platinum group complexes, supramolecular structures

FA4-MS34-P08

Crystal structure of Na₃MoCl₆ – a new 3-1-6 phase of molybdenum(III). Martin Beran^a, Gerd Meyer^a,

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During attempts to secure new coordination compounds with the anionic cluster complex, $[\{\text{Mo}_6\}\text{Cl}_8\text{Cl}_6]^{2-}$, we have, except for normal solvents like water or volatile organic solvents, also explored ionic liquids and molten salts as solvents for $\text{MoCl}_2 = [\{\text{Mo}_6\}\text{Cl}_{8/1}\text{Cl}_{2/1}\text{Cl}_{6/2}]$.

The reaction of MoCl_2 in an excess of the flux $\text{AlCl}_3/\text{NaCl}$ (55:45 mol%) in a silica ampoule at 350°C yielded dark red, dodecahedrally shaped, air-sensitive single crystals of Na_3MoCl_6 . It crystallizes with the Na_3CrCl_6 -type of structure [1], trigonal, space group $P\bar{3}_1/c$ (no. 163), $a = 687.1(1)$, $c = 1225.3(2)$ pm, $Z = 2$.

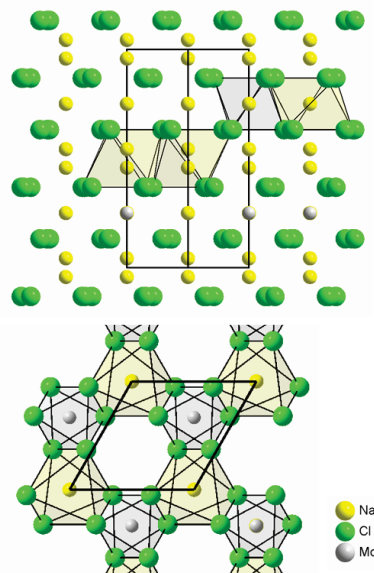


Fig. 1. Two views of the crystal structure of Na_3MoCl_6 : [1-10] projection (top) and projection of a Cl_6MoNa double layer onto (001) (bottom).

In Na_3MoCl_6 , hexagonal-closest packed layers of chloride ions are stacked in the [001] direction of the hexagonal unit cell, see Fig. 1. Two thirds of the octahedral interstices are filled between these layers with, alternatively, two sodium ions and sodium and molybdenum(III) ions, respectively. The structure is considerably different from that of K_3MoCl_6 [2] where the potassium ions are involved in the closest packed layers together with chloride ions and Mo(III) occupies octahedral voids between the K_3Cl_6 double layers, see also [3]. Mo—Cl distances are 245.2 pm in Na_3MoCl_6 and compare very well with the respective distances in K_3MoCl_6 , 244.7 pm on the average.

[1] Friedrich, G., Fink, H., Seifert, H.J., Z. Anorg. Allg. Chem., 1987, 548, 141-150.

[2] Amilius, Z., van Laar, B., Rietveld, H.M., Acta Cryst. 1969, B25, 400-402.

[3] Mattfeld, H., Meyer, G., Z. Anorg. Allg. Chem. 1992, 618, 13-17.

Keywords: Molybdenum, Flux, Crystal Structure

FA4-MS34-P09

Silver(I) isobutyrate, Ag(i-OBu), with dimers connected to layers, not chains. Thomas Bierke, Gerd Meyer *Department für Chemie, Universität zu Köln, Germany*

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