

Treatment of $[\text{Ti}(\text{C}_5\text{Me}_5)\text{Cl}_3]$ with the appropriate lithiated amino-pyridine species (RNHLi) results in the formation of new amido compounds $[\text{Ti}(\text{C}_5\text{Me}_5)(\text{NHR})_3]$. It is possible to deprotonate one of the amido ligands with a lithiated base, generating the mixed imido-amido derivatives $[\text{Ti}(\text{C}_5\text{Me}_5)(=\text{NR})(\text{NHR})_2]$ that show unusual structures. Interestingly, very few titanocene imido-amido species have been reported.[2] In this contribution we describe the synthesis, characterization and reactivity of these new imido compounds.

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Keywords: catalysis, organometallics, titanium

FA4-MS34-P28

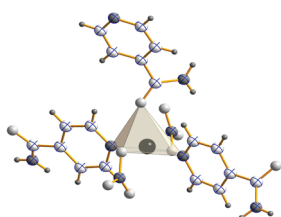
Additional Ligand in the Ru Coordination Sphere the Hoveyda-type Catalysts. Aleksandra Pazio^a, Anna Makal^a, Anna Szadkowska^b, Karol Greła^{b*} and Krzysztof Woźniak^{a*}, ^aDepartment of Chemistry, Warsaw University, Poland, ^bInstitute of Organic Chemistry, Polish Academy of Science, Warsaw, Poland
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A metathesis is a bimolecular process formally involving the exchange of a bond (or bonds) between similar interacting chemical species so that the bonding affiliations in the products are identical (or closely similar) to those in the reactants [1]. The reaction takes place in presence of some special type catalysts.

One of the most popular catalyst is ruthenium-alkylidene complex: II generation Hoveyda-type catalyst [2]. It is stable in presence of oxygen and moisture, it has a good reaction profile: long reaction time, high thermal stability and it is recyclable after reaction. For these reasons the catalyst has become the base for research that aims in its activity improvement.

During structural research on sulphoxide derivatives synthesized in K. Greła's group an additional ligands, water molecule, were found in ruthenium coordination sphere of some compounds [3]. They can coordinate ruthenium atom in solution or insert into coordination sphere during the crystallization. The additional ligands do not appear in other Hoveyda-type complexes. The presence of water molecule, as an additional ligand, is probably stimulated by basicity of other ligands and it leads to formation of dimers stable in the solid state. Such dimers are a very first example of a repeatable structural unit in crystalline metathesis catalysts.

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FA4-MS34-P29

Isonicotinamide as bridging ligand in the coordination polymer $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$. Ines Pinkert, Gerd Meyer Department für Chemie, Universität zu Köln, Germany
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Isonicotinamide (Ina) has been employed as a ligand for supramolecular assemblies in several Cu(II) complexes in which the amide moiety forms N-H...O hydrogen bonds resulting in infinite coordination polymers [1-3]. However, none of them seems to feature Ina as a direct bridging ligand for two Cu^{2+} cations.

For the synthesis of $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$, Ina and $\text{Cu}(\text{NO}_3)_2$ were dissolved in a 1:1 ratio in 40 mL of ethanol. After three days blue rhomboedric crystals grew by slow evaporation of the solvent at ambient temperature. $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$ crystallizes in the orthorhombic space group $P2_12_12_1$ (no. 19), $a = 1489.4(2)$, $b = 1354.0(2)$, $c = 787.43(7)$ pm, $Z = 4$.

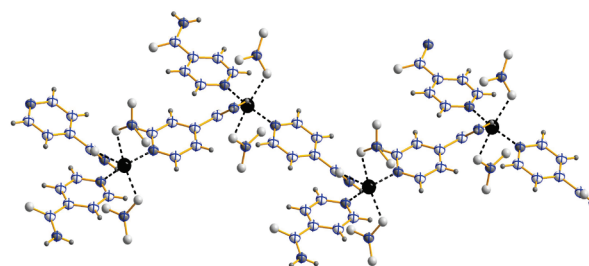


Fig. 1. Coordination sphere of Cu(II) in $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$ (top) and the connection to a zig-zag chain (bottom).

In $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$, Cu^{2+} is surrounded by three Ina and two nitrate ligands with $2\text{N}+2\text{O}+1\text{O}$ ligand atoms constituting the coordination polyhedron, roughly an elongated tetragonal pyramid, see Fig. 1, with Cu—O/N distances in the base of about 200 pm and an apical Cu—O distance of 232 pm. All five ligands surrounding Cu(II) are monodentate ligands of which the nitrate ligands and one Ina ligand are terminal. Two Ina ligands are bridging with the acetamide-O and the ring-N atoms acting as the ligating atoms. Thus, $\text{Cu}(\text{Ina})_2(\text{NO}_3)_2$ is a coordination polymer, according to $\text{Cu}(\text{Ina})_{1/1}(\text{NO}_3)_{2/1}(\text{Ina})_{2/2}$. The zig-zag chain is not formed by supramolecular (hydrogen) bonding, but by “normal” coordinative bonds, ...Cu—O...N—Cu..., with O...N symbolizing the isonicotinamide ligands.

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