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Metallosupramolecular Architectures Derived from Aroylhydrazone Ligands

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Supra molecular architectures based on coordination compounds, where the metal centres are bridged by organic ligands are continuing to be an interesting area of research. Such architectures exhibit a wide variety of properties and therefore represent attractive materials in connection with numerous possible applications. They can in principle be generated by self-assembly of a wide range of suitable building blocks in solution as well as in the solid-state. However, reports on Mo(VI) metallosupramolecular compounds are relatively rare. Recently, interest in such architectures led to formation of the molecular squares, hexagons and zigzag chains derived from isoniazid-related hydrazones. Here we present studies of coordination polymers, tetranuclear and dinuclear cyclic assemblies of the general formula$[MoO_2(L)]_x$, where $x = n$, *4* or *2* and L=nicotinylhydrazoate or aminobenzoylhydrazonate ligands. The study examines the formation of the self-assembled architectures and the factors that affects their formation (geometric control, substituents of the aroylhydrazone ligands, reaction conditions and choice of solvent). In all compounds the ligand is coordinated in the dianionic form to the *cis*-$\{MoO_2\}^{2+}$ core *via* the *O*,*N*,*O* donor atoms whereas the remaining sixth coordination site is occupied by the nitrogen atom of the nicotinoyl (or aminobenzoyl) moiety of the neighboring molecule thus forming such metallo-assemblies.

Biography:

Visnja Vrdoljak obtained a Ph.D degree of Inorganic chemistry in 1996 from the Faculty of Science, University of Zagreb. Following post-doctoral fellowship at the University of Trieste, Italy. She joined the Faculty of science at the University of Zagreb. She is now Full professor. Her current research interests are focused on the development of POM based materials, metal supramolecular architectures and mononuclear complexes for applications in catalysis. Her interests include design, synthesis and characterization of novel inorganic-organic hybrid materials.