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Preface

Polyhedron Symposia-in-Print, number 25 Supramolecular Chemistry

Supramolecular Chemistry has made steady progress since the award in 1987 of the Nobel Prize to Donald J. Cram, Jean-Marie Lehn and Charles J. Pedersen 'for their development and use of molecules with structure-specific interactions of high selectivity'. In a definition that has stood the test of time, Lehn stated in his Nobel Lecture that supramolecular chemistry "is the chemistry of the intermolecular bond, covering the structures and functions of the entities formed by association of two or more chemical species" Today, supramolecular chemistry is a truly mature, multidisciplinary and interdisciplinary research field that encompasses chemistry, biology, physics, materials science and the newly emerging nanosciences.

For a discipline that is often thought of as being dominated by 'organic' chemistry, it is interesting to note that 'inorganic chemistry', or more specifically metal-ligand interactions, have played a pivotal role in the development of the subject and has been critical in defining crucial concepts and processes. The role of metal-ligand interactions in host-guest chemistry was early recognised in the Nobel Award. These pioneering studies involved primarily interactions of Group 1 and Group 2 metal ions with hard donor ligands such as the crown ethers and cryptands. More recently, the trend has been towards the use of transition metal ions in supramolecular chemistry, a choice dictated by their well-understood preferences for particular coordination geometries and numbers. This has allowed the metal centres to be used as an assembly principle for an

astonishing array of topologically and topographically novel species, which were genuinely unachievable through linear covalent synthesis. Although metal-ligand bonds are relatively strong, they exhibit an enormous range of ligand exchange rates permitting the development of strategies for the preparation of kinetically or thermodynamically favoured products.

In this Symposium in Print, papers from many of the leading practitioners of Metallosupramolecular Chemistry have been collected to give a topical overview of the extent of activity and the vast breadth of the topic as chemistry considers its future directions at the beginning of a new Millennium.

My thanks must be extended to all of the authors for their prompt and positive responses to requests for papers for yet another special issue of a journal! Naturally, the issue would not have been possible without the constant assistance (and occasional cajoling) of the Executive Editors and the excellent team at Elsevier lead by Sandra Migchielsen.

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