

Preface

Challenge and creativity have been associated with the achievements of humanity throughout the ages. From its beginnings around the end of the stone age, down to modern times, we have seen the fruits of the creative human spirit reflected in an extraordinary range of macro constructions—temples, cathedrals and impressive civil works of one sort or another. While this continues, a landmark change in human history occurred around two hundred years ago when the foundations of modern chemistry were laid down by the likes of Antoine Lavoisier and John Dalton. Since this time it has become ever more possible for our species to build structures on a different scale; namely, the molecular scale.

Increasingly, much of the above activity falls into the realm of supramolecular chemistry—in part reflecting the generally increased awareness by chemists of the latent steric and electronic information embedded in individual molecular entities. In particular systems the component structural units have typically been held together by weaker (non-covalent) interactions that include hydrogen bonds, dipole–dipole attractions, favourable solvation effects and/or stacking of π -electron clouds. However, metals have also been widely employed both as templating entities and as structural components in the final assembly—giving rise to the sub-field of metallosupramolecular chemistry. This latter forms a bridge between organic supramolecular chemistry and classical metal coordination chemistry. Indeed, as the present volume illustrates, there is a continuum across all three areas.

It is no surprise that activity in the field of metallosupramolecular chemistry continues to grow at a fast pace. Nature has provided a large number of metals, many of which are capable of existing in a variety of oxidation states and coordination numbers. This, coupled with their often unique spectral, magnetic, redox and/or photoactive properties, makes them very attractive for use in supramolecular construction both as templating entities and as structural elements. Moreover, they may play an important role as centres of functionality. Clearly, both new materials and new applications will continue to be the fruits of the metallosupramolecular enterprise—creativity and challenge remaining central to such future progress. It is an exciting time to be doing such chemistry!

Finally, I would like to thank the authors in the present volume for both their contributions and their patience.

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