

## Preface

Enormous advances and growth in macrocyclic chemistry have occurred in the past decade. The number of new macrocyclic ligand molecules designed and synthesized has increased remarkably and their structures have become much more complex. One reason for the interest in this field is that it offers exciting possibilities for creative minds to construct novel supramolecular assemblies which exhibit highly specific molecular functions. The precise molecular recognition between macrocyclic ligands and their guests provides a good opportunity to study important problems in supramolecular science and technology, which are also significant in a variety of disciplines including chemistry, biology, physics, medicine, and related science and technology.

The symposium upon which this special issue was based was held in Okayama, Japan, 30–31 July 1994, the main subject being “Macrocyclic chemistry toward supramolecular functions”. This was one of the satellite symposia of the 30th International Conference on Coordination Chemistry, Kyoto, and was organized to present the current state of the art in macrocyclic chemistry and also to discuss its future directions toward supramolecular chemistry.

This special issue contains about 20 short reviews which were contributed by invited lecturers and selected poster presenters of the symposium. The papers were divided into the two categories of macrocyclic chemistry and supramolecular chemistry. Designs and syntheses of novel crown ethers, polyamines, calixarenes, oligopeptides, porphyrins, catenanes and related macrocycles are described. Most exhibit specific molecular recognition and further elegant functionalities such as signal-response complexation, chiral selection and membrane transport. They also offer an interesting molecular basis for construction of supramolecular assemblies which have potentialities comparable to biological systems. Although not all are covered, it is hoped that the most important recent developments in these growing research fields have been included.

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