Book Reviews

Donald J. Cram and Jane M. Cram, *Container Molecules and Their Guests*, Royal Society of Chemistry, Cambridge (1994). ISBN 0-85186-972-6, 223 pp, £49.50.

This is the fourth volume in the series *Monographs in Supramolecular Chemistry* edited by Fraser Stoddart. Previous volumes have presented clear, stimulating, authoritative accounts of calixarenes (Gutsche), cyclophanes (Diederich), crown ethers and cryptands (Gokel), all aided by superb graphics.

The current volume maintains this high standard in presenting a personal account by Donald and Jane Cram of the evolution of host-guest chemistry at UCLA over the 25-year period from 1970 to 1994. Details of Donald Cram's significant contributions to organic chemistry prior to 1970 can be found in the autobiographical volume *From Design to Discovery* (see *J. Incl. Phenom.* **11**, 299 (1991)). This book reveals the stories behind the concepts and terms which are now familiar to those of us involved in host-guest chemistry: an amino acid resolving machine; spherands and hemispherands; spheraplexes; the principles of complementarity and preorganisation; cavitands; velcrands; velcraplexes; carcerands and carceplexes; hemicarcerands. The authors inform us that the contents of the book are based on an estimated 375 person-research years and that it contains about 100 crystal structures. The reviewer estimates that it also contains about 500 structural formulae.

This is obviously a book which should be in every organic research laboratory – for the benefit of both post-graduate students and supervisors. It represents exceptional value – both scientifically and financially.

Lancaster University J. E. D. Davies

G. W. Gokel (Ed.), *Advances in Supramolecular Chemistry*, Volume 3, Jai Press Inc., Greenwich (1993). ISBN 1-55938-546-8, 219 pp, £58.

This is the third volume in this series of monographs devoted to a broad coverage of the field of supramolecular chemistry.

Three chapters are devoted to the use of organic hosts: '*Cryptophanes as Receptors for Tetrahedral Molecules*' by Collet *et al.*; '*Functionalized Tetraazamacrocycles*' by Kaden, and '*Calixarenes as the Third Supramolecular Host*' (the first two being crowns and cyclodextrins) by Shinkai. The chapter by Reinhoudt *et al.*, '*Molecular Recogniton of Neutral Molecules by Synthetic Receptors*', presents a wide ranging review of both organic and organometallic receptors.

Two chapters are devoted to applications of supramolecular systems: '*Inclusion Polymerization in Steroidal Canal Complexes*' by Takemoto and Miyata, and '*Fluorescent Chemosensors for Metal and Non-metal Ions in Aqueous Solution based on the "Chef" Paradigm*' by Czarnik.

This latest volume maintains the high standards set by the previous volumes in the series. Chapter 2 does, however, show evidence of a lack of editorial oversight.

Lancaster University J. E. D. Davies