

## Preface

This is the second special issue of Coordination Chemistry Reviews devoted to Anion Complexation. The first special issue (2003, vol. 240) was well received with 6 out of 10 of the most highly cited reviews in CCR from 2003 to date coming from that issue. This reflects that anion complexation is now receiving considerable attention from the supramolecular chemistry community.

This issue is designed to be complementary to the first with a mix of new authors and contributors to the previous volume. Presented here are a variety of articles on different aspects of anion recognition, sensing and the role anions can play in self-assembling systems.

A general review of progress in anion complexation in the years 2002–2004 has been provided by Gale and Quesada. Schmidtchen has written a thought-provoking account of the thermodynamic aspects of anion complexation, Anzenbacher and co-workers have reviewed recent progress in the study of the anion complexation properties of *N*-confused calix[4]pyrrole and Davis has covered the binding and transport properties of steroid-based anion receptor systems—some of the most effective anion complexation agents known. García-España has reported on anion recognition in water by polyammonium-based receptors containing aromatic rings whilst Gloe and co-workers have looked at anion-extraction by polyamines and also structural studies of the same systems.

Sessler and co-workers have approached anion complexation from a different point of view looking at receptors for tetrahedral oxyanions and Bowman-James and co-workers have covered amide-based receptors particularly looking at the effects of charge and higher dimensionality in these systems. Schmuck has reviewed aspects of peptide recognition in water and O'Neil and Smith have looked at recent advances in the use of dimetallic complexes for anion complexation.

Moving into the field of sensors, Martínez-Máñez and San-cenon have provided an excellent account of chemodosimeters and inorganic hosts and Gunnlaugsson and co-workers have looked at a variety of other luminescent and colorimetric anion sensors. An alternative and powerful approach to sensing is reviewed by Anslyn and Nguyen, namely the displacement assay strategy while in a related area to anion complexation and one of great relevance to a variety of sensor systems, Ward has reviewed the photophysical properties of  $[\text{Ru}(\text{bipy})(\text{CN})_4]^{2-}$  and its application in photoactive supramolecular assemblies.

In the assembly arena, Lankshear and Beer have covered strategic anion templation whilst Vilar has reviewed the application of anion templation in both supramolecular and coordination chemistry. Rice has reported on progress in metal-assembled anion receptor systems and Filby and Steed have reviewed progress in developing modular approaches to anion complexation.

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