

Preface

This special issue of *Main Group Chemistry* is composed of a series of papers presented at the 'Early Main Group Metal Chemistry' symposium as part of the Pacifichem 2005 conference held in Honolulu, Hawaii from December 15th–20th, 2005. This symposium built upon the highly successful Main Group Chemistry I & II symposia held at Pacifichem 2000. Whereas the previous sessions focused mainly on Groups 15 and 16, and on electron-rich main group chemistry, this meeting was directed towards the chemistry of the elements from Groups 1, 2 and 13. The symposium was designed to be international and multidisciplinary, and the contributing researchers certainly reflected this goal, coming from nine different countries with expertise in a wide variety of sub-disciplines. Three areas of focus were concentrated upon during the symposium: (i) the synthesis, characterization and elucidation of structural patterns in early main group chemistry, (ii) solution phase and mechanistic chemistry, and (iii) applications of early main group complexes in synthesis and materials chemistry.

I am delighted to have the opportunity of bringing together a series of papers from a selection of the presenters at this symposium. The research covered in this issue reflects the broad interests of the participants. Junk demonstrates the use of sterically congested phenolate ligands to stabilize antimony and bismuth (III) complexes as unusual trigonal pyramidal monomers. Uhl also outlines the use of sterically congested silyl ligands in the unexpected preparation of lithium dialkylaluminumates by a salt elimination strategy. The synthesis of a series of organogallium complexes using tridentate diol proligands is detailed by Muñoz-Hernández, and these complexes are subsequently applied as catalysts in Diels-Alder cycloaddition reactions. Davidson and O'Hara continue the theme of catalysis through the preparation of an amidomagnesium bis(phenolate) complex and investigating its use in mediating the ring opening polymerization of ϵ -caprolactone and L-lactide. Pinkas details the ability of aromatic alumazene molecules to form both mono- and bis-adducts with triphenylphosphine oxide. Fromm outlines the synthesis of large molecular aggregates using the alkaline earth metals and presents the characterization of a Sr₁₂ anionic cage complex composed of two oxo-centered Sr₆-octahedra bridged *via* iodide. The use of the principles of self-assembly to construct antimony thiolate complexes that display potential in the chelation of toxic ions is detailed by Johnson. Finally, the use of self-assembled trimeric magnesium aryldicarboxylates in the construction of two- and three-dimensional metal-organic frameworks is presented by our own group. From the work herein it is clear that research involving the highly electropositive elements is in a very healthy state and we can look forward to the field developing greatly over the next few years.

I give my sincere thanks to all of the contributors at the original symposium and especially to those who have participated in constructing this present special issue of *Main Group Chemistry*. I also thank the Editor-in-Chief, David A. Atwood, for his help and encouragement throughout the process.

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