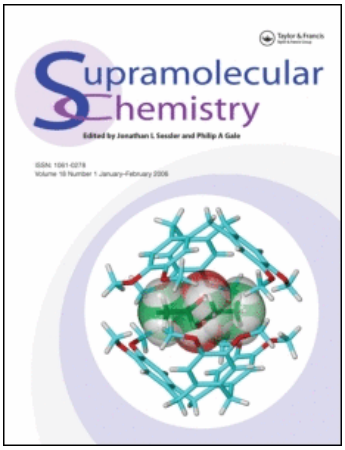

Supramolecular Chemistry
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713649759

Editorial

Online publication date: 29 October 2010

To cite this Article (2002) 'Editorial', Supramolecular Chemistry, 14: 2, 93 — 94
To link to this Article: DOI: 10.1080/10610270290025988
URL: http://dx.doi.org/10.1080/10610270290025988

Supramolecular Chemistry, 2002 Vol. 14 (2-3), pp. 93–94

Editorial

It is with great pleasure that Dr Philip A. Gale and I are able to attach our names as editors to this special issue of *Supramolecular Chemistry* honoring Professor Eiichi Kimura. The publication of this special issue is timed to mark the retirement of Prof. Kimura from the Faculty of Medicine of the Hiroshima University. That it is so rich in science, containing contributions from many, if not most, of the top researchers in the macrocyclic and supramolecular chemical areas, is a testament to the high regard in which Prof. Kimura is held by the community and to the vast number of well-regarded colleagues who count him as a friend. We are all grateful for what Prof. Kimura has done for us, for Japanese science, and for chemistry and it is pleasing to see this gratitude so generously reflected in this special issue. It is hard to write and contribute papers for these kinds of non-routine publication projects. However, in this case I know I speak for all authors in saying that it was both a joy and a pleasure. All involved with this issue feel privileged to be able to help honor Prof. Kimura.

While Prof. Kimura is likely a household name to the normal readership of this journal, it is nonetheless appropriate to summarize here some of his many accomplishments and to review for the benefit of posterity a bit of his scientific history. Prof. Kimura was born in 1938 in Shizuoka city, Japan. He received his B.S. and M.S. degrees from the University of Tokyo and his Ph.D. degree from the University of North Carolina at Chapel Hill in 1967 under the supervision of Prof. James P. Collman. Following postdoctoral positions at Syntex and the University of Chicago (with Prof. Jack Halpern), he joined the Faculty of Medicine in 1970, Hiroshima University.

Prof. Kimura was one of the pioneers in macrocyclic chemistry. In middle of 1970s, he started exploring macrocyclic polyamines and their metal complexation properties, something to which little attention had previously been paid. The quality and breadth of his research soon made him a star in the area of generalized host-guest chemistry and supramolecular chemistry. Complementing his accomplishments in the metal coordination area, was Prof. Kimura's serendipitous discovery that certain macrocyclic polyamines moved to the positive electrode during electrophoresis in citrate buffer. This startling result helped spawn the now-popular area of anion recognition chemistry and led Prof. Kimura to detail the interactions of polycationic macrocyclic polyamines with a range of biologically important polyanions, including citrate, succinate, and ATP in aqueous solution.

After creating a number of novel functional macrocyclic ligands, Prof. Kimura and his group began focusing efforts on macrocyclic zinc(II) chemistry in the early 1990s. In this context, Prof. Kimura was able to use zinc(II)–macrocyclic polyamine complexes to provide insights as to why zinc(II) atoms are found at the active sites of some many enzymes. He was also able to build a fluorescence sensor for zinc(II) ions, a dansylamide-pendant macrocyclic polyamine, that is endowed not only with a beautiful architecture, but is now also commercially available.

In 1993, Prof. Kimura and his group found that zinc(II) complexes are selective and efficient receptors of imide-containing nucleobases such as thymidine and uridine. Zinc(II) complexes are novel receptors for nucleic acids, because they are capable of breaking A-T hydrogen bonds, thereby unzipping the A-T duplex in DNA; they are also capable of binding to thymidine subunits even in single-stranded RNA. This mode of recognition, a small taste of which is provided in a contribution appearing in this issue, stands in marked contrast to what is known for more classic DNA minor groove binders, such as distamycin and netropsin, that act to stabilize DNA double-strands. Through the design and synthesis of multinuclear zinc(II) complexes, the control of gene expression is now becoming a reality, something that once again shows the breadth and importance of Prof. Kimura's contributions.

Prof. Kimura and his group have also contributed to the very active field of inorganic supramolecular chemistry. Specifically, they have detailed the synthesis of supramolecular polyhedrons generated *via* the three-dimensional self-assembly of multinuclear zinc(II) complexes with polyanionic compounds in aqueous solution. Further, and most

ISSN 1061-0278 print/ISSN 1029-0478 online © 2002 Taylor & Francis Ltd
DOI: 10.1080/10610270290025988

interestingly, Prof. Kimura and coworkers have discovered that a 4:4 complexation of a C_3 host, a trinuclear zinc(II) complex, with a C_3 guest, trianionic trithiocyanuric acid, yields a cuboctahedral cage, into which hydrophobic and size-matched guest molecules are encapsulated. These are seminal findings that are sure to animate the field for years to come.

Prof. Kimura is the author or coauthor of over 240 scientific publications, reviews, and monographs. He has also acted as the organizer and host for many international symposia, including the 12th International Symposium on Macrocyclic Chemistry (XII ISMC) in 1987, the 7th Asian Chemical Congress in 1997, and the 26th ISMC satellite-symposium in 2001. He was given Chemical Society of Japan award in Inorganic Chemistry in 1985, the 2nd Izatt-Christen Award for Macrocyclic Chemistry in 1992, and the Pharmaceutical Society of Japan Award in 1996.

Please enjoy this special issue for the science it contains and the honor it provides Prof. Kimura. And, please join me in wishing Prof. Kimura the greatest of success in his future endeavors.

Jonathan Sessler
Editor