Journal of Organometallic Chemistry 695 (2010) 2695

Contents lists available at ScienceDirect

Journal of Organometallic Chemistry

journal homepage: www.elsevier.com/locate/jorganchem

Foreword

Foreword to the special issue on the Pacifichem 2010 symposium "Organo-*f*-element compounds: From novel chemical transformations to applications in catalysis and materials science"

Dedicated to the memory of Herbert Schumann (1935–2010).

The contents of this special issue are derived from invited and contributed presentations given at the symposium #46 "Organo-*f*-Element Compounds: From Novel Chemical Transformations to Applications in Catalysis and Materials Science" at the Pacifichem 2010 conference held in Honolulu, Hawaii, USA, December 15–20, 2010. The symposium was organized by Frank T. Edelmann (Germany), Glen B. Deacon (Australia), David J. Berg (Canada), Zhaomin Hou (Japan), and Jaqueline L. Kiplinger (USA) and is intended to cover all fundamental and technological aspects of organo-*f*-element chemistry. Today, the rare-earth elements play a critical role in many high-tech applications, e.g. magnets in today's computer disc drives and in electricity-generating windmills, batteries for hybrid-electric cars, lasers, rare-earth phosphors in flat-panel displays and fluorescent light bulbs, catalysts for the industrial production of artificial rubber, and many more, all accounting for the enormous commercial value of rare-earth-based materials. While the fundamental aspects of organo-*f*-element chemistry have now reached a high level of sophistication, their potential applications in chemistry and technology are far from being fully exploited, although highly promising trends have already become apparent. Organo-*f*-element chemistry is continuously one of the most attractive fields for potential applications in homogeneous catalysis and organic synthesis. Especially hydrocarbyl complexes of the *f*-elements are highly active species that exhibit unique reactivity including *e.g.* hydrocarbon activation, alkane functionalization, and CO oligomerization. Exciting novel reaction pathways have also been discovered for reduced complexes of f-block elements. On the other hand, due to their high oxidation potential, cerium(IV) compounds are widely used in organic synthesis, bioinorganic chemistry, materials science, and industrial catalysis (automotive three-way catalysts, oxygen storage etc.). In materials science, rare earth oxides (REOs) are highly desired materials for various applications, especially in microelectronics. The main goal of this symposium is to bring together the leading experts in the field to discuss and elucidate current trends in fundamental and applied organo-*f*-element chemistry and to identify the most promising future developments for the next decade. The symposium is sponsored by MBraun Glovebox Systems and Inert Gas Technology and the Royal Australian Chemical Institute (RACI) Invited speakers at the symposium are: Reiner Anwander (DE), Polly Arnold (UK), Yaofeng Chen (CH),Geoff Cloke (UK),Dongmei Cui (CH), Paula Diaconescu (US), William J. Evans (US), Michael Gardiner (AU), Peter Junk (AU), Rhett Kempe (DE), Tobin J. Marks (US), Marinella Mazzanti (FR), Karsten Meyer (DE), Jun Okuda (DE), Peter W. Roesky (DE), Qi Shen (CH), Josef Takats (CA). This special issue of the Journal of Organometallic Chemistry was planned and scheduled so early in advance that it should come out at the time of the conference, rather than many months later.

With this special issue we also want to pay tribute to the late Professor Herbert Schumann, TU Berlin, who passed away on January 12, 2010. Herbert Schumann was a great pioneer of organolanthanide chemistry who was admired by colleagues around the world not only as a creative and productive scientist, but also as an inspiring teacher and an extraordinary person. He pioneered international collaboration in rare-earth chemistry and was a terrific mentor for young scientists. With his ground-breaking research in organolanthanide chemistry he layed the foundation for much of the current work in the field. He will be sadly missed at the symposium.

Frank T. Edelmann*
Chemisches Institut der Otto-von-Guericke-Universität Magdeburg, Universitätsplatz 2, D-39106 Magdeburg, Germany
* Tel.: +49 391 6718327; fax: +49 391 6712933
E-mail address: frank.edelmann@ovgu.de

0022-328X/$ – see front matter
doi:10.1016/j.jorganchem.2010.10.007