ELSEVIER

Journal of Molecular Catalysis A: Chemical 117 (1997) 1

JOURNAL OF MOLECULAR CATALYSIS A: CHEMICAL

Preface

The 6th International Symposium on the Activation of Dioxygen and Homogeneous Catalytic Oxidation was held in Noordwijkerhout, The Netherlands, April 14–19, 1996. The symposium was organized under the auspices of the Royal Netherlands Chemical Society. Previous symposia in the series were held in College Station, Texas, U.S.A. (1993), Balatonfüred, Hungary (1990), Tsukuba, Japan (1987), Galzignano, Italy (1984) and Bendor, France (1979). The scientific program consisted of six plenary lectures, by D.H.R. Barton (U.S.A.), J.P. Collman (U.S.A.), W.A. Herrmann (Germany), P.A. Jacobs (Belgium), I.I. Moiseev (Russia) and S.-I. Murahashi (Japan), 15 invited lectures, 37 oral presentations and 87 posters. The symposium was attended by 230 participants from 22 countries.

The scientific program focused on catalytic oxidations with clean oxidants — O_2, H_2O_2 and RO_2H — in the liquid phase. Another major feature was bridging the gap between the different subdisciplines of catalysis: homogeneous, heterogeneous and biocatalysis. This was reflected in the themes of the various sessions: biomimetic oxidations, biocatalytic oxidations, catalytic oxidations with O_2, H_2O_2 and RO_2H and oxidations with heteropolyanions and redox molecular sieves as catalysts. Heteropolyanions can be considered to bridge the gap between homogeneous oxometal complexes and truly heterogeneous metal-substituted molecular sieves. Similarly, molecular sieve-based 'ship-in-the-bottle' catalysts can be viewed as 'mineral enzymes' (zeozymes) and, as such, bridging the gap between biomimetic and biocatalysis. Individual contributions ranged from fundamental mechanistic studies of the activation of O_2 and H_2O_2 to studies of commercial catalysts and processes, thus helping to bridge the gap between academic and industrial research on catalytic oxidations.

In short, the activation of dioxygen and catalytic oxidations will continue to be subjects of considerable academic and industrial interest. The 'dream reactions' of direct, non-classical epoxidation of olefins and hydroxylation of alkanes and aromatics with dioxygen still remain highly desirable albeit elusive goals for the catalytic oxidation community. Similarly, efficient methods for catalytic asymmetric (ep)oxidation with clean oxidants, such as H_2O_2, remain an important goal. Hence, we look forward to the progress reports at the 7th symposium in the series which will be held in York in 1999. We wish the Local Organizing Committee success in its endeavours to maintain the high standard of these symposia.

R.A. Sheldon
Delft University of Technology

PII S1381-1169(97)00025-3