



Preface

It has been a great pleasure to edit and bring out some of the selected papers presented at the 15th National Symposium on Catalysis (Catsymp-15) and the Second Conference of the Indo-Pacific Catalysis Association (IPCAT-2) organized jointly by the Indo-Pacific Catalysis Association and the Catalysis Society of India at the National Chemical Laboratory, Pune, India, during 23–25 January 2001. Three hundred and eighty-five delegates from 30 countries attended this meeting, in which six plenary lectures, 20 invited lectures, 63 oral and 120 poster papers were presented. After a peer review, 32 papers have been selected from the oral presentations for publication in this special issue of the *Journal of Molecular Catalysis A*.

The papers cover a broad range of topics, mainly in heterogeneous catalysis. The first 15 papers under Section A report on the design, preparation and characterization of a variety of solid catalysts. In the first paper, Raja and Thomas discuss the strategies for design of catalysts for selective oxidation and hydrogenation. This is followed by the techniques for controlled pore size narrowing in zeolites (by silylation, O'Connor et al. and Chuah et al.) as well as the widening of the pores of alumina supports (by steaming) for the preparation of catalyst for hydrodemetallation by Stanislaus et al. Novel modifications and applications of zeolites in the production of carbon nanotubes (Nagaraju et al.) and conversion of hydrofluorocarbons (Howe et al. and Padmasri et al.) are discussed next. The methodologies for the encapsulation of catalytically active transition metal complexes in porous solids such as pillared montmorillonite (Krishnan et al.) and in mesoporous molecular sieves are presented in the following articles. Papers on the preparation of novel hydrotreatment catalyst based on Al-HMS, hydrogenation/oxidation catalyst (Pd incorporated vanadium phosphates), Co-Zn-TiO₂ catalyst

for Fischer–Tropsch synthesis and a highly active and stable catalyst for hydrogen production from methane (Ni-CeO₂-ZrO₂ by Roh et al.) conclude this section.

Section B on catalytic transformations starts with an interesting paper on production of H₂O₂ from H₂ and O₂ on supported Pd catalysts by Gaikwad et al. The reactions of phenol to catechol and hydroquinone over ternary hydrotalcites by Dubey et al., methylation of catechol to guaiacol over a solid base, Cs-SiO₂ by Bal et al., and use of an alkali promoted rare earth metal phosphates in alkylation of phenol to anisole follow. The next five presentations cover a range of organic transformations over solid catalysts, condensation of acetophenone to dipnone, pinacol rearrangement, alkylation of naphthalene, and acylation of alcohols, thiols and amines with carboxylic acids and hydrodechlorination. A novel finding by Gopinath et al. is that a lower dispersion of Pd in Pd-Nb₂O₅ is actually beneficial in the hydrodechlorination of chlorobenzene! This section concludes with an example each from homogeneous (biphasic carbonylation of vinyl aromatics) and bio-catalysis.

Section C (Kinetics, Modeling and Mechanism) covers reactions involving phase transfer catalysts by Bhattacharya and Mungikar, zeolites and SAPOs for propylation of benzene (Sridevi et al.) and the FCC riser kinetics (Pareek et al.). The mechanism of generation of acidity and basicity in zeolites (Deka and Hirao) and aromatization of methane over Mo-ZSM-5 (Vu et al.) are followed by the final article by Anderson et al., wherein a combined theoretical and experimental approach to predict the features of an optimum catalyst for cracking of paraffins to light olefins is attempted.

We may mention here that the first conference of the Indo-Pacific Catalysis Association (IPCAT-1) was held in Capetown in January 1998 and that IPCAT-3 will be held during 15–17 June 2003 at Taipei,

Taiwan, which is being organized by the Catalysis Society of Taiwan. The 16th National Symposium on Catalysis organized by the Catalysis Society of India will be held at Indian Institute of Chemical Technology, Hyderabad, India in February 2003. These conferences attract increasingly larger participation not only from the Indo-Pacific region but also from all over the world. It augurs well for the growth of the science of catalysis, engineering and technology.

We would like to thank all the authors for their contributions and cooperation. We hope that the special

issue will be valuable to the catalysis community in general.

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