

## Contents

### Vol. 189, No. 1

#### SPECIAL ISSUE:

Progress Towards the Development of Catalytic Systems  
for Selective Organic Transformations via the  
Activation of Aliphatic C–H and C–C Bonds

Guest Editor: C.M. Jensen

Preface .....	1
<b>Articles</b>	
Intramolecular C–H activation by dicationic Pt(II) complexes A.G. Wong-Foy, L.M. Henling, M. Day, J.A. Labinger and J.E. Bercaw (Pasadena, CA, USA) .....	3
Catalytic hydroxylation using chloroplatinum compounds N. DeVries, D.C. Roe and D.L. Thorn (Wilmington, DE, USA) .....	17
Reversible heterolytic C–H cleavage by intramolecular C–H activation at diazabutadiene ligands at iridium B.J. Wik, C. Rømming and M. Tilset (Oslo, Norway) .....	23
Palladium-mediated aerobic oxidation of organic substrates: the role of metal versus hydrogen peroxide J.E. Remias and A. Sen (University Park, PA, USA) .....	33
Metal-catalyzed hydrocarbon oxygenations in solutions: the dramatic role of additives: a review G.B. Shul'pin (Moscow, Russia) .....	39
Carbonylation of hydrocarbons and alcohols by cationic metal carbonyl catalysts Y. Souma (Osaka, Japan), N. Tsumori (Hyogo, Japan), H. Willner (Duisburg, Germany), Q. Xu, H. Mori and Y. Morisaki (Osaka, Japan) .....	67
Cationic Ir(III) alkyl and hydride complexes: stoichiometric and catalytic C–H activation by Cp*(PMe <sub>3</sub> )Ir(R)(X) in homoge- neous solution S.R. Klei, J.T. Golden, P. Burger and R.G. Bergman (Berkeley, CA, USA) .....	79
Computational and experimental studies of the mechanism of (PCP)Ir-catalyzed acceptorless dehydrogenation of alkanes K. Krogh-Jespersen, M. Czerw and A.S. Goldman (New Brunswick, NJ, USA) .....	95
Density functional studies of catalytic alkane dehydrogenation by an iridium pincer complex with and without a hydrogen acceptor H.-J. Fan and M.B. Hall (College Station, TX, USA) .....	111
Dehydrogenation of secondary amines to imines catalyzed by an iridium PCP pincer complex: initial aliphatic or direct amino dehydrogenation? X.-Q. Gu, W. Chen, D. Morales-Morales and C.M. Jensen (Honolulu, HI, USA) .....	119
Catalytic asymmetric C–H activation of sp <sup>3</sup> hybridized C–H bonds by means of carbenoid C–H insertions: applications in organic synthesis H.M.L. Davies (Buffalo, NY, USA) .....	125
Aluminum bis(iminophosphorano)methanide and methandiide complexes—transition metal-free ethylene polymerization catio- nic catalyst precursors R.G. Cavell, K. Aparna, R.P. Kamalesh Babu (Edmonton, Canada) and Q. Wang (Calgary, Canada) .....	137
Chelation-assisted carbon–carbon bond activation by Rh(I) catalysts C.-H. Jun, C.W. Moon, H. Lee and D.-Y. Lee (Seoul, South Korea) .....	145

Cleavage of the carbon–carbon bond in biphenylene using transition metals C. Perthuisot, B.L. Edelbach, D.L. Zubris, N. Simhai, C.N. Iverson, C. Müller, T. Satoh and W.D. Jones (Rochester, NY, USA) .....	157
--	-----

## Vol. 189, No. 2

### Articles

#### *Organometallic and biomimetic catalysis*

Isomerisation of <i>N</i> -allyl- <i>N</i> -arylethanamides catalysed by ruthenium complexes S. Krompiec, M. Pigulla, T. Bieg, W. Szczepankiewicz, N. Kuźnik, M. Krompiec (Gliwice, Poland) and M. Kubicki (Poznań, Poland) .....	169
Synthesis of hetero-bimetallic metallocene complexes and their catalytic activities for ethylene polymerization J. Huang, Z. Feng, H. Wang, Y. Qian (Shanghai, PR China), J. Sun, Y. Xu (Hangzhou, PR China), W. Chen and G. Zheng (Beijing, PR China) .....	187
CTAB micelles and the hydroformylation of octene with rhodium/TPPTS catalysts. Evidence for the interaction of TPPTS with micelle surfaces A. Riisager (Lyngby, Denmark) and B.E. Hanson (Blacksburg, VA, USA) .....	195

#### *Ionic catalysis by acids, bases and metal ions*

Rhodium complexes supported on zinc aluminate spinel as catalysts for hydroformylation and hydrogenation: preparation and activity J. Wrzyszczyk, M. Zawadzki, A.M. Trzeciak and J.J. Ziółkowski (Wrocław, Poland) .....	203
The biphasic regioselective hydrogenation of benzo[b]thiophene and quinoline catalyzed by Ru(II) species, deriving from the water soluble phosphine TPPTS (tris- <i>meta</i> -sulfonato-phenylphosphine) and stabilized by nitrogen donor ligands M.A. Busolo, F. Lopez-Linares, A. Andriollo and D.E. Páez (Caracas, Venezuela) .....	211

#### *Heterogeneous catalysis*

Enantioselective hydrogenation of ethyl pyruvate catalyzed by polyvinylpyrrolidone-stabilized and supported rhodium nanocluster Y. Huang, Y. Li, J. Hu, P. Cheng, H. Chen, R. Li, X. Li (Chengdu, PR China), C.W. Yip and A.S.C. Chan (Hong Kong, PR China) .....	219
Pd-containing perovskite-type oxides used for three-way catalysts K. Zhou, H. Chen, Q. Tian, Z. Hao, D. Shen and X. Xu (Beijing, China) .....	225
Evaluation of silica-supported zirconocenes in ethylene/1-hexene copolymerization G.B. Galland, M. Seferin, R. Guimarães, J.A. Rohrmann, F.C. Stedile and J.H.Z. dos Santos (Porto Alegre, Brazil) .....	233
Activity and characterization of bimetallic ZSM-5 for the selective catalytic reduction of NO <sub>x</sub> I.M. Saaid, A.R. Mohamed and S. Bhatia (Nibong Tebal, Malaysia) .....	241
Kinetics of 2-methoxynaphthalene acetylation with acetic anhydride over dealuminated HY zeolites P. Meric, A. Finiels and P. Moreau (Montpellier, France) .....	251
Effect of Pd-photodeposition over TiO <sub>2</sub> on product selectivity in photocatalytic degradation of vinyl chloride monomer T. Sano, S. Kutsuna, N. Negishi and K. Takeuchi (Ibaraki, Japan) .....	263
Preparation, physico-chemical characterization and catalytic activity of sulphated ZrO <sub>2</sub> -TiO <sub>2</sub> mixed oxides D. Das, H.K. Mishra (Saskatoon, Canada), K.M. Parida (Bhubaneswar, India) and A.K. Dalai (Saskatoon, Canada) .....	271
Pulse study on the partial oxidation of methane over Ni/θ-Al <sub>2</sub> O <sub>3</sub> catalyst Z.-W. Liu, K.-W. Jun, H.-S. Roh, S.-C. Baek and S.-E. Park (Daejeon, South Korea) .....	283
Author Index .....	295
Subject Index .....	299
Volume contents .....	305