

Contents

Vol. 220, No. 1

Preface	5
Perspectives on some challenges and approaches for developing the next generation of selective, low temperature, oxidation catalysts for alkane hydroxylation based on the CH activation reaction R.A. Periana, G. Bhalla, W.J. Tenn III, K.J.H. Young, X.Y. Liu, O. Mironov, C. Jones and V.R. Ziatdinov (Los Angeles, CA, USA)	7
Selective alkane oxidation: hot and cold approaches to a hot problem J.A. Labinger (Pasadena, CA, USA)	27
Osmium silsesquioxane as model compound and homogeneous catalyst for the dihydroxylation of alkenes P.P. Pescarmona (Sydney, Australia and Julianalaan, The Netherlands), A.F. Masters (Sydney, Australia), J.C. van der Waal (Julianalaan, The Netherlands) and T. Maschmeyer (Sydney, Australia and Julianalaan, The Netherlands)	37
The oxyfunctionalization of cycloalkanes with dioxygen catalyzed by soluble and supported metalloporphyrins J. Połtowicz and J. Haber (Krakow, Poland)	43
Effect of chlorine on redox and adsorption characteristics of Mo/Si:Ti catalysts in the oxidative dehydrogenation of ethane C. Liu and U.S. Ozkan (Columbus, OH, USA)	53
Strategy in achieving propane selective oxidation over multi-functional Mo-based oxide catalysts D. Vitry (Sapporo, Japan), J.-L. Dubois (Pierre-Bénite Cedex, France) and W. Ueda (Sapporo, Japan)	67
The oxidative dehydrogenation of propane using gallium–molybdenum oxide-based catalysts T. Davies and S.H. Taylor (Cardiff, UK)	77
Promotion of vanadium phosphate catalysts using gallium compounds: effect of low Ga/V molar ratios L. Sartoni, J.K. Bartley (Cardiff, UK), R.P.K. Wells (Aberdeen, UK), C.J. Kiely (Bethlehem, PA, USA), J.C. Volta (Villeurbanne, France) and G.J. Hutchings (Cardiff, UK)	85
Novel microstructures and reactivity for <i>n</i> -butane oxidation: advances and challenges in vapor phase alkane oxidation catalysis K. Kourtakis and P.L. Gai (Wilmington, DE, USA)	93
Microstructures of V-P-O catalysts derived from VOHPO ₄ ·0.5H ₂ O of different crystallite sizes Y. Kamiya (Kawaguchi, Japan), N. Hiyoshi, N. Ryumon and T. Okuhara (Sapporo, Japan)	103
Preparation of vanadium phosphate catalysts from VOPO ₄ ·2H ₂ O: effect of VOPO ₄ ·2H ₂ O preparation on catalyst performance L. Griesel, J.K. Bartley (Cardiff, UK), R.P.K. Wells (Aberdeen, UK) and G.J. Hutchings (Cardiff, UK)	113

Vol. 220, No. 2

Organometallic and biomimetic catalysis

Model reaction related to cytochrome P-450: effect of substitution on the rate of naphthalene oxidation H.R. Khavasi and N. Safari (Tehran, Iran)	127
Olefin polymerization by (cyclopentadienyl)(ketimide)titanium(IV) complexes of the type, Cp ⁺ TiCl ₂ (N=C ⁺ Bu ₂)-methylaluminoxane (MAO) catalyst systems K. Nomura, K. Fujita and M. Fujiki (Ikoma Nara, Japan)	133

Ionic catalysis by acids, bases and metal ions

Application of chiral dipyrityldimethane ligands in the enantioselective palladium-catalyzed allylic alkylation G. Chelucci, S. Chessa and G. Orrù (Sassari, Italy)	145
Acylation cleavage of aziridines with acid anhydrides catalyzed by Scandium triflate J.S. Yadav, B.V.S. Reddy, K. Sadashiv, K. Harikishan and A.V. Narsaiah (Hyderabad, India)	153
Ruthenium-catalyzed one-pot hydroformylation of alkenes using carbon dioxide as a reactant K.-i. Tominaga and Y. Sasaki (Ibaraki, Japan)	159
Kinetics and mechanism of the hydroformylation of styrene catalysed by the rhodium/TPP system (TPP = 1,2,5-triphenyl-1 <i>H</i> -phosphole) C. Bergounhou, D. Neibecker and R. Mathieu (Toulouse, France)	167

Molecular aspects of heterogeneous catalysis

Phenol oxidation into catechol and hydroquinone over H-MFI, H-MOR, H-USY and H-BEA in the presence of ketone T. Atoguchi, T. Kanougi, T. Yamamoto and S. Yao (Chiba, Japan)	183
--	-----

A theoretical study on the cyclopropane adsorption onto the copper surfaces by density functional theory and quantum chemical molecular dynamics methods X. Wang (Sendai, Japan), P. Selvam (Mumbai, India), C. Lv (Sendai, Japan), M. Kubo (Sendai, Japan and Saitama, Japan) and A. Miyamoto (Sendai, Japan)	189
TiCl ₄ (THF) ₂ impregnation on a flat SiO _x /Si(1 0 0) and on polycrystalline Au foil: determination of surface species using XPS S. Ntais, V. Dracopoulos and A. Siokou (Patras, Greece)	199
Surface Raman characterization of cinchonidine-modified polycrystalline platinum in ethanol: effects of temperature and comparison with 10,11-dihydrocinchonidine R.J. LeBlanc and C.T. Williams (Columbia, SC, USA)	207
Guerbet condensation of methanol with <i>n</i> -propanol to isobutyl alcohol over heterogeneous copper chromite/Mg–Al mixed oxides catalysts C. Carlini (Pisa, Italy), C. Flego, M. Marchionna (Donato Milanese MI, Italy), M. Novello, A.M. Raspolli Galletti, G. Sbrana (Pisa, Italy), F. Basile and A. Vaccari (Bologna, Italy)	215
A theoretical study of amines adsorption in HMOR by using ONIOM2 method N. Jiang, S. Yuan, J. Wang, H. Jiao (Taiyuan, PR China), Z. Qin (Taiyuan, PR China and Rostock, Germany) and Y.-W. Li (Taiyuan, PR China)	221
Preparation of TiO ₂ –ZrO ₂ mixed oxides with controlled acid–basic properties M.E. Manríquez, T. López, R. Gómez and J. Navarrete (México, Mexico)	229
Toluene disproportionation and coking on zeolites Y modified with Lewis-connected InO ⁺ acid sites V. Mavrodinova, M. Popova (Sofia, Bulgaria), R.M. Mihályi, G. Pál-Borbély (Budapest, Hungary) and Ch. Minchev (Sofia, Bulgaria) . .	239
Investigation of the effect of carbon monoxide on the oxidative carbonylation of methanol to dimethyl carbonate over Cu ⁺ X and Cu ⁺ ZSM-5 zeolites S.A. Anderson and T.W. Root (Madison, WI, USA)	247
Transformation of 5-hydroxymethylene-5H-6,7-dihydrodibenzo[<i>a,c</i>]cyclohepten-6-one over Ru-containing BEA zeolites S.M. Coman, A. Dobre, M.D. Banciu, A. Petride, V. Cimpeanu (Bucharest, Romania), G. Poncelet (Louvain-la-Neuve, Belgium) and V.I. Parvulescu (Bucharest, Romania)	257
Liquid-phase Oppenauer oxidation of primary allylic and benzylic alcohols to corresponding aldehydes by solid zirconia catalysts S.H. Liu, G.K. Chuah and S. Jaenicke (Singapore, Singapore)	267
α-Zirconium phosphonates as new supports for metallocene catalysts S. Beck (Norwich, UK), A.R. Brough (Leeds, UK) and M. Bochmann (Norwich, UK)	275
Modified silicas as supports for single-site zirconocene catalysts C. Alonso, A. Antiñolo, F. Carrillo-Hermosilla, P. Carrión, A. Otero (Ciudad Real, Spain), J. Sancho (Móstoles, Spain) and E. Villaseñor (Ciudad Real, Spain)	285
Author Index	297
Subject Index	299
Volume contents	305