

CATALYSIS IN GREEN CHEMISTRY AND ENGINEERING

AN OFFICIAL JOURNAL OF THE CATALYSIS SOCIETY OF INDIA

CONTENTS VOLUME 1, 2018

Page Range of Issues

Issue 1: 1–103; Issue 2: 105–188; Issue 3: 189–291; Issue 4: 293–385

Issue 1

SPECIAL ISSUE: BEGINNING OF A NEW ERA: INAUGURAL ISSUE OF CATALYSIS IN GREEN CHEMISTRY AND ENGINEERING

GUEST EDITORS: GANAPATI D. YADAV & M. LAKSHMI KANTAM

Preface: Beginning of a New Era: Inaugural Issue of Catalysis in Green Chemistry and Engineering <i>G.D. Yadav & M. Lakshmi Kantam</i>	v
PEG Supported Proline as a Liquid-Liquid Biphasic Catalyst in Knoevenagel Condensation Reactions <i>N.D. Kadam & R.V. Jayaram</i>	1
Hydrogenolysis of Glycerol: Comparison of Continuous and Batch Mode Reactions over Ni-ZnO Catalysts <i>M. Balaraju, V. Rekha, N. Raju, & N. Lingaiah</i>	13
Synthesis of Highly Pure <i>L</i> -3-Hydroxy- γ -Butyrolactone from <i>L</i> -Malic Acid and <i>L</i> -Alaninol from Alanine by Selective Hydrogenation over Pt-ReO X/C Catalyst <i>B.S. Bal'zhinimaev, A.P. Suknev, E.A. Paukshtis, & I.S. Batueva</i>	27
Platinum/Graphene as a Recyclable Catalyst for Asymmetric Hydrogenation of α -Ketoesters <i>P. Sharma & R.K. Sharma</i>	43
Epoxidation of Canola Oil for the Production of Biolubricants Using Silica-Titania TiSBA-15 Heterogeneous Catalysts <i>C.S. Madankar, R.V. Sharma, A.K. Dalai, & S.N. Naik</i>	51
Wet Air Oxidation of Bisphenol-A, Isophorone, <i>p</i> -Hydroxybenzoic Acid, and <i>p</i> -Toluidine over an Ru/C Catalyst <i>S.Y. Vemula & P.D. Vaidya</i>	65
Selective Transesterification of Glycerol to Glycerol Carbonate over SrO-ZrO ₂ Base Catalysts <i>G. Parameswaram, A. Srivani, C. Sumana, G.N. Rao, & N. Lingaiah</i>	79
Synthesis of 3-Methoxycatechol from Pyrogallol and Dimethyl Carbonate in Liquid Phase Slurry Reactor <i>P.R. Tambe, R. Keiski, & G.D. Yadav</i>	91

Issue 2

SPECIAL ISSUE: CATALYSIS FOR SUSTAINABLE DEVELOPMENT, PEACE AND PROSPERITY

GUEST EDITORS: GANAPATI D. YADAV & M. LAKSHMI KANTAM

Editorial <i>G.D. Yadav & M. Lakshmi Kantam</i>	vii
Ruthenium Nanoparticles Stabilized on Nano Magnesium Oxide in the Presence of Ionic Liquids: A Highly Active and Efficient Electrocatalyst for Hydrogen Evolution Reaction <i>M. Sahu, M. Shaikh, S. Khilari, & K.V.S. Ranganath</i>	105

Amino-Functionalized Activated Carbon Materials in Base-Catalyzed Reactions	113
<i>S.C. Thakare, R.V. Jayaram</i>	
Mesoporous Ni/NiO-SiO₂ for Effective Hydrodeoxygenation of Stearin into Diesel Range Hydrocarbons	127
<i>H. Singh & A.K. Sinha</i>	
Hydroprocessing of Light Cycle Oil and Gas Oil Blends over Sulfided Ni–Mo/SiO₂–Al₂O₃ Catalyst in Microchannel and Fixed Bed Reactors	139
<i>A. Rai, M. Anand, S.A. Farooqui, G. Escalona, & A.K. Sinha</i>	
Sustainable Catalyst for Friedel–Crafts Acylation	153
<i>K. Kumar Nandi</i>	
Effect of Anion Variation of Imidazolium-Based Ionic Liquids on Hydrogenation of Levulinic Acid to γ-Valerolactone and Pentanoic Acid over RU/C Catalyst	155
<i>V. Patil, S. Shinde, A. Coronas, K. Patil, & C. Rode</i>	
Dendritic Unimolecular Micelle Stabilized Au/Pd Bimetallic Nanoparticles: Synthesis and Aqueous Phase Catalysis	167
<i>R. Rangasamy & E. Muruga</i>	
Effect of Bicarbonate and Chloride Electrolytes on Product Distribution for CO₂ Electrochemical Reduction on Cu Electrode	179
<i>G. Keerthiga, B. Viswanathan, & R. Chetty</i>	

Issue 3

Hydrophobicity Analysis of Organosilane Tempered Hierarchical Mesoporous MFI Zeolites by Advanced Water Adsorption Study	189
<i>R. Kumar, P.K. Das, & A.K. Sinha</i>	
Catalytic Wet Air Oxidation Using Graphene Oxide and Ruthenium Nanoparticles Supported on Graphene Oxide	201
<i>S.Y. Vemula & P.D. Vaidya</i>	
Selective Production of Alkyl Levulinate Directly from Furfural via Transfer Hydrogenation over Zr-Based Heterogeneous Catalysts	213
<i>S. Shinde & C. Rode</i>	
Kinetics of Solventless Hydroarylation of Styrene with Anisole Using Novel Heterogeneous Cs-DTPA Catalyst Supported on Mesocellular Foam (MCF) Silica	223
<i>K.H. Bhadra & G.D. Yadav</i>	
Ordered Nanostructured Carbons, NCCR-41 and CMK-3: Synthesis, Characterization, and Hydrogen Sorption Studies	235
<i>T.V.R. Mohan, B. Kuppan, & P. Selvam</i>	
Efficient Conversion of Sugars to Sugar Alcohols in Presence of Ru/C Catalyst under Mild Reaction Condition	247
<i>M.G. Dohade & P.L. Dhepe</i>	

In Situ Drifts Studies of the Novel Superacidic Sulfated Zirconia Catalyst: An Investigation of Acidity, Catalytic Activity, Deactivation Phenomenon and Regeneration of Active Sites	263
<i>B.A. Gawade, G.D. Yadav, A.K. Dalai, & H. Wang</i>	
Novelties of Mg-Al Calcined Hydrotalcite Catalyzed One-Pot Synthesis of 2-Phenyl-1,3-Dinitropropane: Reaction Mechanism and Kinetics	277
<i>A.A. Kadam & G.D. Yadav</i>	

Issue 4

ZnO-Nanoparticles Decorated on CeO₂ Nanorods: An Efficient Catalyst for CO Oxidation	293
<i>P. Venkataswamy, D. Devaiah, D. Mukherjee, M. Vithal, & B.M. Reddy</i>	

Efficient Removal of Anionic Dye Pollutant by NiMgAl Layered Double Hydroxides of Variable Composition <i>D. Bharali, P. Bharali, & R.Ch. Deka</i>	307
Novelties of Selectivity in Triliquid Phase-Transfer-Catalyzed Dibenzylation of Resorcinol <i>O.V. Badure & G.D. Yadav</i>	325
Preparation of Combi-Magnetic Cross-Linked Enzyme Aggregates of Cellulase and Lipase <i>G.S. Nhivekar & V.K. Rathod</i>	345
Enzyme Mimic Oxidase-Like Activity of Fe₃O₄ Magnetic Nanoparticles for Dopamine Detection <i>S.V. Yadav & V.K. Rathod</i>	357
Hybrid Density Functional and Molecular Mechanics Study of the CO Oxidation Mechanism on Faujasite-Supported Au Monomers <i>S. Baishya & R.Ch. Deka</i>	369
Index, Volume 1, 2018	386

CATALYSIS IN GREEN

CHEMISTRY AND ENGINEERING

AN OFFICIAL JOURNAL OF THE CATALYSIS SOCIETY OF INDIA

AUTHOR INDEX VOLUME 1, 2018

Page Range of Issues

Issue 1: 1–103; Issue 2: 105–188; Issue 3: 189–291; Issue 4: 293–385

Anand, M., 139	Khilari, S., 105	Rode, C., 155, 213
Badure, O.V., 325	Kumar, R., 189	Sahu, M., 105
Baishya, S., 386	Kuppan, B., 235	Selvam, P., 235
Bal'zhinimaev, B.S., 27	Lakshmi Kantam, M., v,vii	Shaikh, M., 105
Balaraju, M., 13	Lingaiah, N., 13,79	Sharma, P., 43
Batueva, I.S., 27	Madankar, C.S., 51	Sharma, R.K., 43
Bhadra, K.H., 223	Mohan, T.V.R., 235	Sharma, R.V., 51
Bharali, D., 307	Mukherjee, D., 293	Shinde, S., 155, 213
Bharali, P., 307	Muruga, E., 167	Singh, H., 127
Chetty, R., 179	Naik, S.N., 51	Sinha, A.K., 127, 139, 189
Coronas, A., 155	Nandi Kumar, K., 153	Srivani, A., 79
Dalai, A.K., 51, 263	Nhivekar, G.S., 345	Suknev, A.P., 27
Das, P.K., 189	Parameswaram, G., 79	Sumana, C., 79
Deka, R.Ch., 307,386	Patil, K., 155	Tambe, P.R., 91
Devaiah, D., 293	Patil, V., 155	Thakare, S.C., 113
Dhepe, P.L., 247	Paukshtis, E.A., 27	Vaidya, P.D., 65, 201
Dohade, M.G., 247	Rai, A., 139	Vemula, S.Y., 65, 201
Escalona, G., 139	Raju, N., 13	Venkataswamy, P., 293
Farooqui, S.A., 139	Ranganath, K.V.S., 105	Viswanathan, B., 179
Gawade, B.A., 263	Rangasamy, R., 167	Vithal, M., 293
Jayaram, R.V., 1,113	Rao, G.N., 79	Wang, H., 263
Kadam, A.A., 277	Rathod, V.K., 345,357	Yadav, G.D., vii, 91, v, 223, 263, 277, 325
Kadam, N.D., 1	Reddy, B.M., 293	Yadav, S.V., 357
Keerthiga,G., 179	Rekha, V., 13	

CATALYSIS IN GREEN

CHEMISTRY AND ENGINEERING

AN OFFICIAL JOURNAL OF THE CATALYSIS SOCIETY OF INDIA

SUBJECT INDEX VOLUME 1, 2018

Page Range of Issues

Issue 1: 1–103; Issue 2: 105–188; Issue 3: 189–291; Issue 4: 293–385

1,2,3-trimethoxy benzene (pyrogallol), 91	epoxidized canola oil, 51	metal oxide, 149
1,2-propanediol, 13	fuel, 155	methyl orange, 307
1,3-dibenzoyloxybenzene, 325	furfural, 213	Michael addition, 277
3-methoxy catechol, 91	glycerol carbonate, 79	microchannel, 139
acid catalyst, 1	glycerol, 13, 79	multiphase reaction, 325
activated carbon, 113	graphene oxide, 201	nano MgO, 105
acylation, 149	graphene, 43	nanocatalyst, 263
adsorption, 307	green chemistry, 149	NCCR-41, 235
alanine, 27	GVL, 155	nickel, 13
alcoholysis, 213	HER, 105	nitroaldol, 277
alkyl levulinate, 213	heterogeneous catalysis, 43, 263, 277	nitrobenzene, 167
amphiphilic, 167	heteropoly acid, 223	ordered mesoporous carbons, 235
aqueous, 167	hydroarylation of styrene, 223	organosilane, 189
artificial enzyme activity, 357	hydrocarbon, 179	overpotential, 105
benzyl chloride, 325	hydrodeoxygenation, 127	oxygen vacancies, 293
bimetallic, 167	hydrogen evolution, 179	phase transfer catalysis (PTC), 325
biolubricant, 51	hydrogen sorption, 235	phase, 167
bisphenol-A, 65, 201	hydrogenation, 27, 155	p-hydroxy benzoic acid, 201
calcined hydrotalcite, 91	hydrogenolysis, 13	p-hydroxybenzoic acid, 65
canola oil, 51	hydrophobicity, 189	platinum, 43
carbonate intermediate, 369	hydrotalcite, 277	polynuclear aromatic hydrocarbon (PAH), 139
catalysis, 113	hydrothermal, 127	proline, 1
catalytic wet air oxidation, 201	in situ DRIFTS, 263	protected, 167
cellulase, 345	interfacial interaction, 293	ptoluidine, 65, 201
CeO ₂ nanorods, 293	ionic liquid, 155	Pt-ReOx catalyst, 27
chirality, 27	isophorone, 65, 201	quantum mechanics/molecular mechanics, 369
cinchonine, 43	isotherm, 307	racemization, 27
CMK-3, 235	kinetic study, 1	resorcinol, 325
CO oxidation, 293	kinetics, 277, 325	Ru nanoparticle, 105
CO ₂ electrochemical reduction, 179	Knoevenagel condensation, 1	Ru/C, 155
colorimetric detection, 357	L-3-hydroxy-γ-butyrolactone, 27	ruthenium catalyst, 247
combi-mCLEAs, 345	L-alaninol, 27	ruthenium, 201
combustion synthesis, 263	Langmuir–Hinshelwood, 369	single gold atom, 369
cross-linking, 345	layered double hydroxide, 307	solid acid catalyst, 223
crystal plane, 293	LCO-gas oil blends, 139	solid base, 91, 277
Cs _{2.5} H _{0.5} PW ₁₂ O ₄₀ , 223	Lewis and Bronsted acidity, 263	solid catalyst, 51
Cu electrode, 179	light cycle oil, 139	sorbitol, 247
dendrimer catalyst, 167	lipase, 345	stearin, 127
dimethyl carbonate, 79, 91	L-L-L reactions, 325	strontium oxide, 79
dopamine-o-quinone, 357	L-malic acid, 27	structural properties, 307
dye, 307	low temperature-reducibility, 293	sugar alcohol, 247
eco-friendly, 149	magnetic nanoparticles, 345	sugar, 247
electrocatalysis, 105	magnetically separable, 357	sulfated zirconia, 263
Eley–Rideal mechanism, 369	MCF silica, 223	supporting electrolyte, 179
epoxidation, 51	mesoporous Ni/NiO-SiO ₂ ,	

surface modification, 113
total organic carbon, 65
transesterification, 79
transfer hydrogenation, 213

unimolecular micelle, 167
water adsorption, 189
wet oxidation, 65
xylitol, 247

zeolite, 369
zinc, 13
zirconium oxide, 79
ZnO nanoparticles, 293

