

Metal-Based Catalysts and its Applications
Recent Advances in Modern Catalysis

ISBN: 978-93-85822-94-0

Metal-Based Catalysts and its Applications
Recent Advances in Modern Catalysis

Authors:

Mukesh Sharma,
Tezpur University

Biraj Das
Tezpur University

Mitu Sharma
Tezpur University

First Impression: 2019

©Krishi Sanskriti Publications
www.Krishi Sanskriti.org/Publication.html

No part of this publication may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owners.

DISCLAIMER

The authors are solely responsible for the contents of the papers compiled in this volume. The publishers or editors do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future

ISBN: 978-93-85822-94-0

Price: Rs. 1200/-

USD: 25

Typeset and Design by:
Krishi Sanskriti, New Delhi

Krishi Sanskriti Publications

E-47, Bhoop Singh Enclave,
Rajpur Khurd Extension,
P.O.- I.G.N.O.U (Maidan Garhi),
New Delhi, Pin-110068
Contact No. : +91- 8527006560

Dr. G.C. Mishra Educational Foundation Campus

Institutional Area, Paktola,
Post Office-Radhi,
District-Darbhanga, Bihar,
Pin -847302

Website: www.Krishi Sanskriti.org/Publication.html

Preface

This is the first Edition of **Metal-Based Catalysts and its Applications**, *Recent Advances in Modern Catalysis*. We three authors attempted to bring to the young researchers (like us!) in an exciting new arena of modern catalysis as well as new fresh viewpoints on few other topics. A broad range of examples of different catalysts related to the recent ongoing research areas would be given more emphasis throughout the chapters. In the current edition, we have enlisted chapters and further reorganized them to suit most of the readers.

At last we would like to thank our family members for their constant support and moral boost for enhancing our mental strength (like catalysts!). We wish the readers all the success for their future endeavors.

Mukesh Sharma

Biraj Das

Mitu Sharma

Contents

ISBN: 978-93-85822-94-0

| Sl. No. | Chapter Title | Page number |
|----------------|---|--------------------|
| Chapter 1 | Structure, Composition, Classification of Zeolites and its Carbon Hybridized Nanocomposites <i>Mukesh Sharma, Biraj Das, Mitu Sharma and Kusum K. Bania</i> | 1-11 |
| Chapter 2 | Application of Zeolite-based Nanocomposites <i>Mukesh Sharma, Mitu Sharma and Biraj Das</i> | 12-22 |
| Chapter 3 | Heterogeneous Nanocomposites in Benzyl Alcohol Oxidation <i>Mukesh Sharma, Biraj Das and Mitu Sharma</i> | 23-37 |
| Chapter 4 | Zeolitic Modified Materials as Electrode <i>Mukesh Sharma, Biraj Das, Mitu Sharma and Subir Biswas</i> | 38-51 |
| Chapter 5 | Different routes for Cinnamaldehyde Synthesis <i>Mitu Sharma, Mukesh Sharma, Biraj Das and Subir Biswas</i> | 52-64 |
| Chapter 6 | Zeolite-Based Nanocomposites in Asymmetric Synthesis, C-Cl Bond Activation, and Methanol Oxidation <i>Mukesh Sharma, Biraj Das, Mitu Sharma and Kusum K Bania</i> | 65-86 |
| Chapter 7 | Ag-Based Cluster in diverse Organic Transformations <i>Biraj Das, Mitu Sharma, Mukesh Sharma and Arup J. Das</i> | 87-98 |

| | | |
|------------|--|---------|
| Chapter 8 | Description of Dye and its Removal Processes <i>Biraj Das, Mukesh Sharma, Mitu Sharma, Arup J. Das and Kusum K. Bania</i> | 99-109 |
| Chapter 9 | Silver Vanadate Nanomaterial and its Photocatalytic Application <i>Biraj Das, Mukesh Sharma, Mitu Sharma and Kusum K Bania</i> | 110-126 |
| Chapter 10 | Vanadium-based Nanocomposites in Oxidation of Benzyl Alcohol <i>Biraj Das, Mukesh Sharma, Mitu Sharma and Arup J. Das</i> | 127-142 |
| Chapter 11 | Application of Copper-based Catalysts <i>Mitu Sharma, Mukesh Sharma and Biraj Das</i> | 143-152 |