

List of Publications and Patents(Selected)

2025

Avik Das, Satish K Mandal, Nitesh Kumar, Nayan Maity, Ashwani Kumar, Swarnsikha Sinha, Jitendra Bahadur, **Biswajit Chowdhury**,***Debasis Sen***

Diverse Pore Ordering in porous Silica: Synthesis and a Quantitative Structural Insights Combining Scattering and Imaging Techniques
Physical Chemistry Chemical Physics (Accepted)

2024

1. Anindya Ghosh, **Debjani Nag** *, Rupak Chatterjee, Anirudhha Singha, Pratik Swarup Dash, **Biswajit Chowdhury** and Asim Bhaumik
CO₂ to Dimethyl ether (DME): Structural and Functional Insights of Hybrid Catalysts (Review)
Catalysis Science and Technology 2024, 14,1387
2. Vivek Kumar Shrivastaw, Jyotishman Kaishyop, Dr. Tuhin Suvra Khan, Deepak Khurana, Gaje Singh, Dr. Subham Paul, **Dr. Biswajit Chowdhury** and **Dr. Ankur Bordoloi** *
On the Correlation between Group III-A Elements Doping and Structure Performance of Cu/ZnO/ZrO₂ Catalysts System for CO₂ Hydrogenation to Methanol
ChemCatChem 2024, e202400534 doi.org/10.1002/cctc.202400534
3. Wasim Enam, Avik Chowdhury, Kai Laichter, Ka Loi Lin, Akash Mandal, Bhabani Malakar, Asim Bhaumik*, Thomas E Muller* and **Biswajit Chowdhury** *
Hydrodeoxygenation of Glycerol to Propene over Molybdenum and Niobium Phosphate Catalysts
ChemCatChem 2024, 0, e202401281 doi.org/10.1002/cctc.202401281
4. **A catalyst for the synthesis of cyclic urea, a process for the preparation thereof**
Biswajit Chowdhury, Akash Surajlal Rane, Aniruddha Singha
Indian Patent Filed (Application Number: 202331045425) dated 07/10/2024
5. Kundu, T., Suyash, Gupta, M., * and **Chowdhury, B** * (2024)
Introduction to greenhouse gases composition and characteristics in Advances and Technology Development in Greenhouse Gases : Emission , Capture and Conversion (pp. 3-18). Elsevier Book Chapter

6.

7. **Boosting the simultaneous conversion of glycerol and CO₂ to lactate and formate using ZrO₂ supported NiO catalyst (Submitted)**

2023:

8. Aniruddha Singha, Jyotishman Kaishyop, Tuhin Suvra Khan, and **Biswajit Chowdhury***
Visible-light-driven toluene oxidation to benzaldehyde over WO₃ nanostructures
ACS Appl. Nano Mater. 2023, 6, 21818–21828
9. Anindya Ghosh, Aniruddha Singha, Rupak Chatterjee , Thomas E. Müller , Asim Bhaumik and **Biswajit Chowdhury ***
Heteroatom-doped Fe-carbon Sphere as Catalysts for the CO₂-mediated Oxidative Dehydrogenation of Ethylbenzene
Molecular Catalysis 535 (2023) 112836
10. A Ghosh, **B Chowdhury**, A Bhaumik
Synthesis of Hollow Mesoporous Silica Nanospheroids with O/W Emulsion and Al (III) Incorporation and Its Catalytic Activity for the Synthesis of 5-HMF from Carbohydrates
Catalysts 13 (2), 354
11. G Singh, D Khurana, TS Khan, IK Ghosh, B Chowdhury, AY Khodakov
Insight into Mn enhanced short-chain olefin selectivity in CO₂ hydrogenation over Na-CuFeO₂ catalyst
Applied Surface Science 616, (2023) 156401
12. Aniruddha Singha, Anil Chandra Kothari, Rajaram Bal, and **Biswajit Chowdhury***
Dioxygen-Triggered Oxidation of Benzylic C-H Bonds: Insight of the Synergistic Effect of Cu-Fe Bimetallic Oxide
React. Chem. Eng., 2023, DOI: 10.1039/D3RE00116D.
- 13.. KS Keshri and **B Chowdhury***
Synthesis and Applications of Nanomaterials and Nanocomposites, 361-394(2023/5/9)
Springer Book Chapter
14. A Singha, K Bhaduri, AC Kothari, **B Chowdhury***
Selective hydroxylation of benzene to phenol via CH activation over mesoporous Fe₂O₃-TiO₂ using H₂O₂
Molecular Catalysis 533, 112800 (2023)

15. **A process for preparation of cyclic/acyclic alkenes** (Granted Indian Patent)
Patent No 467958 ; File date 28/12/2018; Granted 10/11/2023

16. **A heterogeneous catalyst for the synthesis of acrylic acid from ethylene and CO₂**
Biswajit Chowdhury, Asim Bhaumik, Sudip Bhattacharjee, Aniruddha Singha Patent
Application Number: 202331021352 Filed on 25/03/2023; published 06/10/2023

2022

17. Kushanava Bhauduri, Anindya Ghosh, Aline Auroux, Sauvik Chatterjee, Asim Bhaumik and **Biswajit Chowdhury** *
Soft templating route for the synthesis of mesoporous tantalum phosphates and their catalytic activity in glycerol dehydration and carbonylation reactions
Molecular Catalysis 518 (2022) 112074

18. Ahmed Sadeq Al-Fatesh, Rawesh Kumar, Samsudeen Olajide Kasim, Ahmed Aidid Ibrahim, Anis Hamza Fakeeha, Ahmed Elhag Abasaeed, Haan Atia, Udo Armbruster, Carsten Kreyenschulte, Henrik Lund, Stephan Bartig, Yousef Ahmed Mohammed, Yousef Abdulrahman Albaqmaa, Mahmud Sofu Lanre, Mayakkmar Lakshmanbhai Chaudhary, Fahad Almubaddel, and **Biswajit Chowdhury**
Effect of Cerium Promoters on an MCM-41-Supported Nickel Catalyst in Dry Reforming of Methane
Industrial Engineering and Chemical Research 61 (2022) 164-174

19. Anindya Ghosh, G Naaresh Reddy, Mohammed Siddique P. K ., Sauvik Chatterjee, Sudip Bhattacharjee, Rahul Maitra, Sergey E. Lybimov, Ashot V. Arzumanyan, Alexander Naumkin Asim Bhaumik and **Biswajit Chowdhury** *
Fabrication of a hollow sphere N, S co-doped bifunctional carbon catalyst for sustainable fixation of CO₂ to cyclic carbonates
Green Chemistry 24 (2022) 1673.

20. Kumer Saurav Keshri, Sudip Bhattacharjee, Aniruddha Singha, Asim Bhaumik*, **Biswajit Chowdhury***
Synthesis of cyclic carbonates of different epoxides using CO₂ as a C1 building block over Ag/TUD-1 mesoporous silica catalyst: A solvent free approach
Molecular Catalysis 522 (2022) 112234

21. Kumer Saurav Keshri and **Biswajit Chowdhury** *
Effect of the Ag–CeO₂ interaction and the nature of pore structure on the catalytic activities of different Ag–CeO₂/mesoporous-SiO₂ catalysts on the reduction of 4-nitrophenol
Journal of Porous Material (2022) pages 1-14

22. Kushanava Bhaduri, Rupak Chatterjee , Asim Bhaumik* and **Biswajit Chowdhury** *
Metal-Free Phosphate Modified Hierarchically Porous Carbon-Silica Nanocomposites for Solvent-Free Glycerol Carbonylation and Esterification Reactions

23. Kushanava Bhaduri, Aline Auroux, Asim Bhaumik and **Biswajit Chowdhury***

Bifunctional molybdenum phosphate catalyst with tunable acidity-basicity for the sustainable synthesis of glycerol carbonate via solventless carbonylation of glycerol with urea

Applied Organometallic Chemistry 36 (12) e0694

24. Aniruddha Singha, Kushanava Bhaduri, Anil Chandra Kothari, **Biswajit Chowdhury***

Selective hydroxylation of benzene to phenol via C-H activation over mesoporous Fe₂O₃-TiO₂ using H₂O₂

Molecular Catalysis 533 (112800)

2021

25. Arindam Modak, Anindya Ghosh, Asim Bhaumik,* and **Biswajit Chowdhury***

CO₂ Hydrogenation over Functional Nanoporous Polymers and Metal-Organic Frameworks

Advances in Colloid and Interface Science 290 (2021) 102349

26. Sauvik Chatterjee, Kushanava Bhaduri, Arindam Modak, Manickam Selvaraj, Rajaram Bal, **Biswajit Chowdhury*** and Asim Bhaumik *

Catalytic transformation of ethanol to methane and butene over NiO NPs supported over mesoporous SBA-15

Molecular Catalysis 502 (2021) 111381

27. Arindam Modak, Anindya Ghosh, Akshay R. Mankar, Ashish Pandey, Manickam Selvaraj, **Kamal Kishore Pant, Biswajit Chowdhury*** and **Asim Bhaumik***

Cross-linked Porous Polymers as Heterogeneous Organocatalysts for Task-Specific Applications in Biomass Transformations, CO₂ Fixation and Asymmetric Reactions.

ACS Sustainable Chemistry & Engineering 9, 37, (2021)

28. **B. Chowdhury**, A. A. Zvinchuk, R. R. Aysin, E. A. Khakina, P. V. Cherkasova, S. E. Lyubimov,

Amine-iodine molecular adducts as simple but effective catalysts for the synthesis of organic carbonates from epoxides and CO₂,

Catalysis Survey from Asia, <https://doi.org/10.1007/s10563-021-09341-9>

29. S. E. Lyubimov, V. A. Olshevskaya, A. V. Zaitsev, A. A. Korlyukov, A. A. Zvinchuk, P. V. Cherkasova, **B Chowdhury**,

Synthesis of carborane-containing carbonates via CO₂ addition to epoxides,

Polyhedron, <https://doi.org/10.1016/j.poly.2021.115418>

2020

- 30..Anindya Ghosh, Anirudha Singha, Aline Auroux, Avik Das, Debasis Sen and **Biswajit Chowdhury***

A green approach for preparation of surfactant embedded sulfonated carbon catalyst towards glycerol acetalization reaction

Catalysis Science and Technology 10(14), (2020),pp. 4827-4844

31. Arindam Modak, Piyali Bhanja, Saikat Dutta, Biswajit Chowdhury and **Asim Bhaumik***

Catalytic Reduction of CO₂ to Fuels and Feedstocks

Green Chemistry , 22(13), (2020) pp. 4002-4033

- 32.S. E.Lyubimova,* ,A. A.Zvinchuka, M. V. Sokolovskaya, V.A.Davankov, **Biswajit Chowdhury**, P.V.Zhemchugov, A. .Arzumanyan

A simple synthesis of ethylene carbonate from carbon dioxide and 2-chloroethanol using silica gel as a catalyst

Applied Catalysis A General 592(2020) 117433

- 33.Kumer Saurav Keshri Giulia Spezzati Santu Ruidas E.J.M.Hensen and **Biswajit Chowdhury***

Role of bismuth on aerobic benzyl alcohol oxidation over ceria polymorph-supported gold nanoparticles

Catalysis Communication 140(2020) 106004

- 34.**Ahmed** Al-Fatesh^{1*}, Rawesh Kumar, S Olajide Kasim, A A Ibrahim, A Hamza Fakeeha, A E Abasaeed, R Alrasheed, A Bagabas ·M. Lakshmanbhai Chaudhary , Francesco Frusteri and **B. Chowdhury***

The Effect of Modifier Identity on the Performance of Ni-Based Catalyst Supported on in Dry Reforming of Methane

Catalysis Today 348 (2020) 236-242

35. Kushanava Bhaduri, Anindya Ghosh and **Biswajit Chowdhury***

Catalytic conversion of biomass derived glycerol to value added chemicals

Book Chapter

Catalysis for Clean Energy and Environmental Sustainability (Springer) Vol 1.

Biomass Conversion

eBook ISBN 978-3-030-65017-9

2019.

36. Prangya Paramita Das, Vinod C Prabhakaran, Samik Nanda, Debasis Sen, and **Biswajit Chowdhury***

Palladium Impregnated Amine Co-condensed Hexagonal Mesoporous Silica: A Novel Catalyst in Tailoring Suzuki and Heck Coupling Reactions in Base Free Condition

ChemistrySelect 2019 pp3823-3832

37. Kushanava Bhaduri, Bidya Dhar Das, Rawesh Kumar, Sujan Mondal, Sauvik Chatterjee, Sneha Shah, Juan J. Bravo-Suárez and **Biswajit Chowdhury***

Recyclable Au/SiO₂-shell/Fe₃O₄-core catalyst for the reduction of nitro aromatic compounds in aqueous solution

ACS Omega, 4 (2), (2019), pp 4071–4081

38. Anindya Ghosh, Kushanava Bhaduri, Sneha Shah, Aline Auroux, J. K. Pandey and **Biswajit Chowdhury ***

Dehydration of Isopropanol to Propylene over Fullerene[C₆₀] Containing Niobium Phosphate Catalyst: Study on Catalyst Recyclability

Molecular Catalysis 475 (2019)110470

39. Rawesh Kumar, Sneha Shah, Prangya Paramita Das, Gami Girish Kumar Bhagavanbhai, Ahmed Al Fatesh and **Biswajit Chowdhury***

An Overview of Caprolactam Synthesis

Catalysis Review Science and Engineering 61 (2019) 516-594

2018:

40. Shahid Hassan, Rawesh Kumar, Ankur Tewari, Weiyi Song, Lennart van Haandel, Jai Krishna Pandey Emiel Hensen and **Biswajit Chowdhury***

Role of Oxygen Vacancy in Cobalt doped Ceria Catalyst for Styrene Epoxidation using Molecular Oxygen

Molecular Catalysis 451 (2018) 238-246 *Invited*

41. Rawesh Kumar, Nagasuresh Enjamuri, Sneha Shah, Juan J Bravo-Surrez and **Biswajit Chowdhury***

Overview of Ketonization Reaction of Oxygenated Hydrocarbons on Oxide Based Catalysts

Catalysis Today 302 (2018) 16-49

42. Kanungo, Shamayita; Keshri, Kumer Saurav ; Hensen, Emiel; **Chowdhury, Biswajit**; Schouten, Jaap; **Neira d'Angelo, M. Fernanda***

Direct epoxidation of propene on silylated Au-Ti catalysts: A study on silylating procedures and effect on propane formation

Catalysis Science and Technology 8 (2018) 3052-3059

43. A.S.Al-Fatesh, A.H.Fakeeha, A.A.Ibrahim W.U.Khan H.Atia R.Eckelt K.Seshan **B.Chowdhury** *Decomposition of methane over alumina supported Fe and Ni-Fe bimetallic catalyst: Effect of preparation procedure and calcination temperature*
Journal of Saudi Chemical Society Volume 22, Issue 2 (2018) Pages 239-247
Q2 (IF = 4.71)

44. A PROCESS FOR PREPARATION OF CYCLIC/ACYCLIC ALKENES.

Sneha Shah and **Biswajit Chowdhury**

Indian Patent Application no. 201831036761

2017:

45. Sneha Shah, Nidhi Tiwari, Yogesh Kumar, S. N. Jha, Aline Auroux, Jai K. Pandey, and **Biswajit Chowdhury ***
Highly Acidic, Thermal Stable NbPO₄@Fullerene Catalyst for dehydration of Cyclohexanol
ChemistrySelect 2(20) (2017) 5640-5645

2016:

46. S. Kanungo, Kumer Saurav Keshri, A. J. F. van Hoof, M.F. Neira d' Angelo, J. C. Schouten T.A. Nijhuis E. J. M. Hensen, and **B. Chowdhury***
Silylation enhances performance of Au/Ti-SiO₂ catalysts in direct epoxidation of propylene using H₂ and O₂
Journal of Catalysis 344 (2016) 434-444
47. Chiranjit Santra, Sneha Shah, Aniruddha Mondal, Jai Krishna Pandey, Asit Baran Panda, Sudip Maity and **Biswajit Chowdhury***
Synthesis, characterization of VPO catalyst dispersed on mesoporous silica surface and catalytic activity for cyclohexane oxidation reaction
Microporous and Mesoporous Materials 223, (2016), 121-128
48. Rawesh Kumar, Prangya Paramita Das, J.K Pandey and **Biswajit Chowdhury ***
Highly active InOx/TUD-1 catalyst towards Baeyer Villiger Oxidation of cyclohexanone using molecular oxygen benzaldehyde
Catalysis Communications 74 (2016) 80-84
49. Sumbul Rahman, Sneha Shah, Debasis Sen, Sadanand Sharma, J.K Pandey, S. Mazumder and **Biswajit Chowdhury ***
Controllable synthesis of Niobium doped mesoporous silica materials with various morphologies and its activity for Oxidative catalysis
Microporous and Mesoporous Materials 226 (2016) 169-178
50. Rawesh Kumar, Srikanth Ponnada, Enjamuri Nagasuresh, Jai Krishna Pandey and **Biswajit Chowdhury***
Synthesis, characterization and correlation with the catalytic activity of efficient mesoporous Niobia and mesoporous Niobia-Zirconia mixed oxide catalyst
Catalysis Communication (Published online Jan 2016)
51. Chiranjit Santra, Aline Auroux and **Biswajit Chowdhury ***
Bi Doped CeO₂ Oxide Supported Gold Nanoparticle Catalysts for the Aerobic Oxidation of Alcohol
RSC Advances 6 (2016) 45330 – 45342

52. Rawesh Kumar, Jitendra Bahadur, Yuri. B. Melnichenko Debasis Sen, S. Mazumder, Sneha Shah, Chathakudath P. Vinod, and **Biswajit Chowdhury***

Highly stable In-SBA-15 Catalyst for Vapor Phase Beckmann Rearrangement Reaction

Microporous and Mesoporous Material 234(2016) 293-302

53. Nagasuresh Enjamuri, Shahid Hassan, Aline Auroux and **Biswajit Chowdhury***

Nobel metal free, oxidant free, solvent free catalytic transformation of alcohol to aldehyde over ZnO-CeO₂ mixed oxide catalyst

Applied Catalysis A Chemical 523(2016) 21-30

54. O. O James, S. Mandal, N Alele, **B. Chowdhury** and S Maity

Lower alkanes dehydrogenation: Strategies and reaction routes to corresponding alkenes

Fuel Processing Technology 149(2016) 239-255

55. Chiranjit Santra, Malay Pramanik, Kyoko K Bando, Sudip Maity and **Biswajit Chowdhury***

Gold Nanoparticle on Mesoporous Cerium-Tin mixed oxide for aerobic oxidation of benzyl alcohol

Journal of Molecular Catalysis A: Chemical 418 (2016) 41-55

2015

56. Vipin Amoli, Saleem Farooqui, Aditya Rai, Chiranjit Santra, Sumbul Rahman Anil Kumar Sinha and **Biswajit Chowdhury***

Indium oxide nanocluster doped TiO₂ catalyst for activation of molecular oxygen

RSC Advances 5 (2015) 67089–67092

57. Sumbul Rahman, S. A. Farooqui, Aditya Rai, Rawesh Kumar, Chiranjit Santra, Vinod C Prabhakaran, Sudip Maity, Anil Sinha and **Biswajit Chowdhury***

Mesoporous TUD-1 supported indium oxide nanoparticles for epoxidation of styrene using molecular O₂

RSC Advances 5 (58), pp. 46850-46860

58. S. Pahari, Pravas Pal, **Biswajit Chowdhury*** and A.B Panda*

Efficient oxidation of hydrocarbons over nanocrystalline Ce_{1-x} Sm_xO₂ (x= 0-0.1) synthesized using supercritical water

RSC Advances 5, (56), (2015) pp. 45144-45151

59. Sumbul Rahman, Kyoko K Bando, Debasis Sen, S. Mazumdar and **Biswajit Chowdhury***

Aerobic Baeyer-Villiger Oxidation of Cyclic Ketones over Periodic mesoporous silica Cu/Fe/Ni/Co-HMS-X

Applied Catalysis A: General, 505 (2015) 515-523

60. Rawesh Kumar, Nagasuresh Enjamuri, Jai Krishna Pandey, Debasis Sen, S. Mazumder, Asim Bhaumik, and **Biswajit. Chowdhury ***

Bismuth Supported SBA-15 Catalyst for Vapor Phase Beckmann Rearrangement Reaction of Cyclohexanone Oxime to Caprolactam

Applied Catalysis 497 (2015) 51-57

61. Olusola O. James, **Biswajit Choudhury** and Sudip Maity

Comparative TPR and TPD studies of Cu and Ca promotion on Fe-Zn and Fe-Zn-Zr based Fischer-Tropsch catalysts";

Oil & Gas Science and Technology 70 (3) (2015) pp. 511-519

62. The synthetic strategy for developing Mesoporous materials through nanocasting route

Invited Book Chapter:

WILEY-Scrivener Publishing, USA, Year of Publication 2015; Chapter 2

2014:

63. Sandip Mandal, Chiranjit Santra, Rawesh Kumar, Malay Pramanik, Sumbul Rahman, Asim Bhaumik, Debasis Sen, Sudip Maity and **Biswajit Chowdhury***

Niobium doped hexagonal Mesoporous silica (HMS-X) catalyst for Vapor phase Beckmann Rearrangement reaction

RSC Advances 4 (2014) 845-854

64. Sandip Mandal, Kyoko K Bando, Rawesh Kumar and **Biswajit Chowdhury***

XAFS, XPS Characterization of Cerium Promoted Ti-TUD-1 Catalyst and its activity for Styrene Oxidation Reaction

Catalysis Communication 46 (2014) 123-127

65. **Biswajit Chowdhury***, Chiranjit Santra, Rawesh Kumar, Sandip Mandal

Recent development on gold nanomaterial as a catalyst for oxidation reaction through green & sustainable route

Invited Book Chapter:

Advanced Materials for Agriculture, Food, and Environmental Safety

WILEY-Scrivener Publishing, USA, Year of Publication 2014; Chapter 8

66. Sumbul Rahman, Chiranjit Santra, Rawesh Kumar, Jitendra Bahadur, Asima Syltana, Ralf Schweins, Debasis Sen, Sudip Maity, S. Mazumdar and **Biswajit Chowdhury***

Highly active Ga promoted Co-HMS-X Catalyst towards Styrene Epoxidation Reaction using Molecular O₂

Applied Catalysis A General 482 (2014) 61-68

67. Rawesh Kumar and **Biswajit Chowdhury***

Comprehensive study for vapour phase Beckmann reaction over zeolite system

Industrial Engineering and Chemical Research 53 (43) (2014) pp 16587–16599

2013

68. Sandip Mandal, Kyoko K Bando, Chiranjit Santra, Sudip Maity, Olusola O. James, Divender Mehta and **Biswajit Chowdhury***

Sm-CeO₂ Supported Gold Nanoparticle Catalyst for Benzyl Alcohol Oxidation using Molecular O₂

Applied Catalysis A General 452, (2013) 94-104

69. Chiranjit Santra, Sumbul Rahman, Sreedhar Bojja, Sudip Maity, Debasis Sen, Sola James,,A K Mohanty, S. Mazumder and **Biswajit Chowdhury**

Barium, Calcium and Magnesium doped Mesoporous Ceria Supported Gold Nanoparticle for Benzyl Alcohol Oxidation using Molecular O₂

Catalysis Science & Technology 3 (2013) 360-370

70. Olusola O. James, Biswajit Chowdhury, Aline Auroux, **Sudip Maity***

Low CO₂ Selective Iron based Fischer-Tropsch Catalysts for Coal based Polygeneration

Applied Energy 107 (2013) 377-383

71. Olusola O. James, **Biswajit Chowdhury** and Sudip Maity

TPR and TPD studies of effects of Cu and Ca promotion on Fe-Zn based Fischer-Tropsch catalysts

Journal of Chemical Sciences Vol. 125, No. 3, May 2013, pp. 679–686

72. Sandip Mandal , Chiranjit Santra, Kyoko K Bando, Olusola O. James, Sudip Maity, Devender Mehta and **Biswajit Chowdhury***

Aerobic Oxidation of Benzyl Alcohol over Mesoporous Mn-doped Ceria supported Au Nanoparticle Catalyst

Journal of Molecular Catalysis A: Chemical 378 (2013) 47– 56

2012

73. **Biswajit Chowdhury***, K.K. Bando, J.J Bravo Suarez,S.Tsubota and M.Haruta

Activity of Silylated Titanosilicate Supported Gold Nanoparticles towards Direct Propylene Epoxidation Reaction in the presence of Trimethylamine

Journal of Molecular Catalysis 359 (2012) 21-27

74. Olusola O. James, Biswajit Chowdhury , M. Adediran Mesubi, **Sudip Maity***

Reflections on Chemistry of Fischer-Tropsch Synthesis

RSC Advances 2 (2012) 7347-7366 (**Hot Article**)

2011

75. Sandip Mandal, Apurba Sinhamahapatra, Batchu Rakesh, Rawesh Kumar, Asit B Panda, **Biswajit Chowdhury***

Synthesis, Characterization of Ga-TUD-1 Catalyst and its Activity towards Styrene Epoxidation Reaction

Catalysis Communication 12 (2011) 734-738

76. Bikash Karmakar, Apurva Sinhamahapatra, Asit Panda, Julie Banerjee, **Biswajit Chowdhury***

Ga-TUD-1: A new heterogeneous mesoporous catalyst for the solventless expeditious synthesis of α -aminonitriles

Applied Catalysis 392 (2011) 111-117

77. **B. Chowdhury**, S. Tsubota, M. Daté and M. Haruta
(Japanese patent granted (JP2006022076))

2010

78. **B. Chowdhury** and M. Haruta

3-D Mesoporous Silylated Titanosilicate Supported Gold Nanoparticles for Direct Vapor Phase

Epoxidation of Propylene: Role of Solid and Gaseous promoters

Chemistry & Chemical Engineering (ICCCCE) 2010 page 213

79. G. Postole **Biswajit Chowdhury**, Bikash Karmakar, Kumari Pinki, Julie Banerji, A. Auroux

Knoevenagel Condensation Reaction over Acid-Base Bifunctional Nanocrystalline $\text{Ce}_x\text{Zr}_{1-x}\text{O}_2$
Solid Solution

Journal of Catalysis Volume 269, Issue 1 (2010) 110-121

80. Bikash Karmakar; **Biswajit Chowdhury***; Julie Banerji

Mesoporous titanosilicate Ti-TUD-1 catalyzed Knoevenagel reaction: An efficient green synthesis of trisubstituted electrophilic olefins

Catalysis Communication Volume 11 (2010) 601-605

81. B.M.Reddy, I Ganesh and **B Chowdhury***

Vapor-Phase Selective Oxidation of 4-Methylanisole to Anisaldehyde over $\text{V}_2\text{O}_5/\text{Ga}_2\text{O}_3$ —
 TiO_2
Catalyst

Cheminiform Abstract (2010) DOI: 10.1002/chin.199809086 (online)

2009

82. Bikash Karmakar, Anupam Nayak, **Biswajit Chowdhury*** and Julie Banerji

A highly efficient, eco-friendly, room temperature synthesis of bis(indolyl)methanes using the mesoporous titanosilicate Ti-TUD-1: electrophilic substitution reactions of indoles

ARKIVOC Part-XXXIII (2009) (09-4225UP) [pp. 209-216]

Doctoral and Post Doctoral Research

83. **B. Chowdhury**, J. J. Bravo-Suárez, M. Date, S. Tsubota, M. Haruta

Trimethylamine as a Gas Phase Promoter: Highly Efficient Epoxidation of Propylene over Supported Gold Catalysts

Angewandte Chemie International Edition 45. Issue-3; (2006) 412 – 415.

84. **B. Chowdhury**, J. J. Bravo-Suárez, N. Mimura, S. Tsubota, M. Haruta

In situ UV/vis and EPR study on the formation of hydroperoxide species during direct gas phase propylene epoxidation over Au/Ti-SiO₂ catalyst

Journal of Physical Chemistry B, 110.Issue 43, (2006) 22995-22999

2005

85. B.M. Reddy, I. Ganesh, **B. Chowdhury** and V.R. Reddy

A process for the preparation of a new catalyst useful for oxidation reactions

(Patent Granted - **Application No.: 809/DEL/1999; Date of filing of Application: 27/05/1999; Publication Date: 04/11/2005).**

86. B.M. Reddy, I. Ganesh, **B. Chowdhury** and V.R. Reddy

An improved process for the preparation of substituted benzaldehydes

(Patent Granted - **Application 807/DEL/1999 published 2005-12-23, filed 1999-05-27) 2001**

2004

87. Improved process for preparation of quinolines

B.M. Reddy, I. Ganesh, **B. Chowdhury** and V.R. Reddy

Filed 29-08-2000 granted 24-07- 2004 IN193539

2002

88. Preparation of a mixed oxide catalyst useful for condensation Reaction

B.M. Reddy, I. Ganesh, **B. Chowdhury** and V.R. Reddy

Patent Granted India: PT-209; IN 2000DE00771; A 20071005; 12th April 2002

2001

89. B.M. Reddy, **B. Chowdhury**, E.P. Reddy, and A. Fernández

An XPS study of dispersion and chemical state of MoO₃ on Al₂O₃-TiO₂ binary oxide support

Applied Catalysis A: General, 213 (2001) 279 - 288.

90. B.M. Reddy, **B. Chowdhury**, and P.G. Smirniotis

An XPS study of La₂O₃ and In₂O₃ influence on the physicochemical properties of MoO₃/TiO₂ Catalysts

Applied Catalysis A: General, 219 (2001) 53 – 60.

91. B.M. Reddy, **B. Chowdhury** and P.G. Smirniotis

An XPS study of the dispersion of MoO₃ on TiO₂-ZrO₂, TiO₂-SiO₂, TiO₂ Al₂O₃ SiO₂-ZrO₂, and SiO₂- TiO₂-ZrO₂ mixed oxides

Applied Catalysis A: General, 211 (2001) 19-30

92. B.M. Reddy, **B. Chowdhury**, E.P. Reddy and A. Fernandez

X-ray photoelectron spectroscopy study of V₂O₅ dispersion on nanosized Al₂O₃-TiO₂ mixed oxide.

Langmuir 17 (2001) 1132-1137

2000

93. E.P. Reddy, T.C. Roja, A. Fernández, **B. Chowdhury** and B.M. Reddy,

Transmission Electron Spectroscopy and Energy-Dispersive X-Ray Spectroscopy Study of V₂O₅/TiO₂-ZrO₂ Catalyst

Langmuir, 16 (2000) 4217 – 4221.

94. B.M. Reddy, **B. Chowdhury**, E.P. Reddy and A. Fernandez

An X-ray photoelectron spectroscopy study of MoO₃/TiO₂-ZrO₂ Catalyst

Journal of Molecular Catalysis 162 (2000) 431-441.

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95. B.M. Reddy, I. Ganesh and **B. Chowdhury**

Design of stable and reactive vanadium oxide catalysts supported on binary oxides.

Catalysis Today, 49 (1999) 115-121.

96. I. Ganesh, **B. Chowdhury** and B.M. Reddy

One step synthesis of isobutyraldehyde from methanol and ethanol over binary oxide supported vanadium oxide catalysts

Recent Trends in Catalysis, Narosa Publishing House, New Delhi, **1999**, 136 - 141.(referred book

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1998

97. B.M. Reddy and B. Chowdhury

Dispersion and thermal stability of MoO₃ on TiO₂-ZrO₂ mixed oxide support

Journal of Catalysis, 179 (1998) 413-419.

98. B.M. Reddy and B. Chowdhury

Thermal spreading of vanadium oxide over titania-silica binary oxide support

Studies in Surface Science and Catalysis, 113 (1998) 251 – 257

99. B.M. Reddy, B. Chowdhury, I. Ganesh, E.P. Reddy, T.C. Rojas and A. Fernandez

Characterization of V₂O₅/TiO₂-ZrO₂ catalysts by XPS and other technique

Journal of Physical Chemistry, 102 (1998) 10176 – 10182

1997

100. B.M. Reddy, I. Ganesh and B. Chowdhury

Vapour phase selective oxidation of 4-methylanisole to anisaldehyde over V₂O₅/Ga₂O₃-TiO₂ catalyst.

Chemistry Letters, 1997, 1145 –1146.

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Projects

International Mobility project:

Participant in the UTFORSK 2024 project (UiT The Arctic University of Norway -IIT (ISM))
Funded by Norwegian Higher Education)

PI from UiT The Arctic University of Norway; Prof. Dilip Kumar Prasad

Title: *Artificial intelligence in sustainable environment, earth sciences, and remote sensing*
(Approved) (2024-2028)

Ongoing projects:

Ongoing projects: Consultancy/Testing project:

1. Steam reforming of Glycerol

Funded by Tata Steel Pvt Ltd; Jamshedpur

Layout 35.0 lakh INR

Duration (2023-25)

Completed Projects:

1. Title of the project: CO₂ and Biomass as Feedstock for the Production of Fuels and Chemical Intermediates CO₂BioFeed

Funded by Indo-German Center of Science and Technology Center

A Bilateral Institution of Government of India (DST) and Federal Ministry of Education and Research (BMBF)

Funding for IIT (ISM): 84.1 lakh

Total Outlay: 4 crores approx. in Indian side (Completed on 31st July 2024)

Indian Academic Partner	Prof. Asim Bhaumik, Indian Association for the Cultivation of Science, Kolkata
Indian Academic Partner	Prof. Biswajit Chowdhury, Indian Institute of Technology (Indian School of Mines), Dhanbad
Indian Industrial Partner	Dr. Praveen Chinthala, Reliance Industries Limited, Jamnagar

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German Academic Partner	<p>Prof. Dr. Thomas Ernst Müller, Ruhr-Universität Bochum, Bochum, Germany</p> <p>Förderkennzeichen: 01DQ20004A/B/C</p>
German Industrial Partner	<p>Dr. Jens Hannes, RWE Power Aktiengesellschaft, Essen, Germany</p> <p>Förderkennzeichen: 01DQ20004A/B/C</p>
German Industrial Partner	<p>Gernot Nell, Parr Instrument (Deutschland) GmbH, Frankfurt, Germany</p> <p>Förderkennzeichen: 01DQ20004A/B/C</p>

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External Research Projects (Major) Completed as PI

1. **CO₂ as a building block for synthesis of fine chemical and fuel over functionalized materials**

Indo-Russian bi-lateral project funded by DST, Govt of India and Russian Science Foundation (RSF), Russia. **Role PI Total outlay 63,12,032 Rs (Indian side)** DST/INT/RUS/RSF/P-25 (Completed) 31.12.2022 (PI)

Russian Side PI. Dr. Sci Sergey E. Lyubimov; Institute of Organoelements Compound, MOSCOW, RUSSIA

2. **Design of novel bifunctional gold-Ti- and Fe-modified zeolite functional materials for the catalytic oxidation of hydrocarbons**

India-the Netherland bi-lateral project (Project duration four years) (Funded by **DST, Govt of India** and NWO, Netherland) Role: Project leader

Co-Investigator Dr. Vinod Prabhakaran, NCL Pune

PI from Netherland: Prof Emiel Hensen; Eindhoven University of Technology, Netherland

Completed March 2018 Total Outlay 59 lakh (Indian Side)

Coordinating Institute: Indian Institute of Technology (Indian School of Mines), Dhanbad

3. **Mesoporous Mixed Oxide Supported Gold Nanoparticle for Oxidant free Dehydrogenation Reaction**

Project duration three years (Funded by DST, Govt. of India) Total outlay 49 lakh

Completed October 2016

4. **Design & Synthesis of Mesoporous Titanosilicate Supported Gold Nanoparticle Useful for mild Oxidation Reaction (DST, Govt of India, Completed) Total outlay 20 lakh**

5. **Catalytic transformation of Glycerol to Acrolein over porous Solid Acid Catalyst**

(Project duration three years; **CSIR; Govt. of India;**) **Total outlay 17 lakh Completed 2017**

6. **Development of Organic-Inorganic hybrid nanocomposites for Vapour phase Beckmann Rearrangement Reaction (Completed, Sponsored by UGC, Govt. Of**

***India,) Total outlay 10 lakh**

Co-PI

Establishment of Centre of Excellence for training and research in frontier areas of science and technology (FAST)

MHRD(COE)/RE/2014-15/402/INST:

Role Co-PI

PI. Prof. Mukul Das; Associate Professor; Dept of Electronics Engineering

Total outlay 4.00 crore

7. DST Infrastructural project as Co-PI (Departmental Level)

FIST Program to Augment the Research Facilities in the Department for purchasing a 400 MHz NMR (CoPI with Prof. G Udyabhanu (PI), Prof. Swapan Dey and Prof. S Sahu as Co PI) Sanction Order No SR/FST/CSI256/2013 dated Nil Nov, 2013)

Outlay 1.65 crore

8. Institute Project

Chemically functionalized metal oxide nanotubes with tunable chemical properties

(Sponsored by ISM, Dhanbad, completed) Total outlay 10 lakh

