

CURRICULUM VITAE

Name : Dr. BASUDE MANOHAR
 Date of Birth : 20-04-1965
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Educational Qualifications:

| <i>Exam Passed</i> | <i>Board / University</i> | <i>Subjects</i> | <i>Year of Passing</i> | <i>Division</i> | <i>% of Marks</i> |
|--------------------|--------------------------------|--------------------------------|------------------------|-----------------|-------------------|
| S.S.C. | Board of Secondary, Hyd (A P) | Maths, Sciences and Languages | 1980 | First | 73 |
| Intermediate | Board of Intermediate | Maths, Physics Chemistry | 1982 | First | 69 |
| B.Sc. | Osmania University, Hyd. | Maths, Physics Chemistry | 1985 | First | 67 |
| M.Sc. | Osmania University, Hyd. | Physical Chemistry | 1987 | First | 70 |
| Ph.D. | IICT (Osmania University, Hyd) | Physical Chemistry (Catalysis) | 1996 | - | - |

Ph.D. Thesis Title: *Synthesis and Characterization of Vanadia and Vanadium Phosphorus Oxide-based Oxidation and Ammoxidation Catalysts*

Synopsis of Thesis: Synthesis of unpromoted, promoted and supported vanadium phosphorus oxide based catalysts and their characterization by using techniques like XRD, ESR, FTIR, DTA, surface area and acidity measurements. The synthesized catalysts were

evaluated for 2-methylpyrazine and 3-picoline ammoxidation reaction of commercial significance. Attempts were made to correlate physicochemical properties with their catalytic activity.

Acquaintance of Techniques: Gas chromatography (FID and TCD), thermal analysis (DTA/TGA), FT-infrared (FTIR), electron spin resonance (ESR), X-ray diffraction (XRD), scanning electron microscopy (SEM), temperature programmed desorption (TPD), surface area measurement and acidity measurements.

ResearchInterests: Synthesis, characterization of aluminosilicates and aluminophosphates. Incorporation of transition elements into zeolites during synthesis and by post synthesis modification. Synthesis and modification of various inorganic single oxides (SiO_2 , Al_2O_3 , TiO_2 and ZrO_2) and mixed oxides ($\text{TiO}_2\text{-ZrO}_2$, $\text{TiO}_2\text{-SiO}_2$, $\text{TiO}_2\text{-Al}_2\text{O}_3$, $\text{ZrO}_2\text{-SiO}_2$ and $\text{TiO}_2\text{-ZrO}_2\text{-SiO}_2$) by different methods. Mixed oxides in Photo Catalysis.

Research Experience:

1. Post-doctoral research Fellow at University P.et.M. Curie, Paris from April 1995 to March 1996 (one year).
2. Research associate at Indian Institute of Chemical Technology from October 1996 to August 1997.
3. Senior Research Fellow at Indian Institute of Chemical Technology from 1992- 1995.
4. Junior Research Fellow at Indian Institute of Chemical Technology from 1990- 1992.
5. Qualified Joint CSIR-UGC National Level Test in 1989.

Minor Research Project: "Designing novel green zinc and zirconia based nano composite oxide solid catalysts for organic transformations and synthesis of fine chemicals"

Teaching Experience:

1. Assistant Professor of Chemistry at OUPG College, Bhiknur from 20 August 1997.
2. Held the post of warden for one year at OUPG College, Bhiknur.
3. Assistant Professor of Chemistry at OUPG College, Mirzapur from July 2001 to May, 2007 (Total 10 years experience at post graduate level).
4. Associate Professor of Chemistry at Nizam College from June, 2007.
5. Held the post of NSS Programme Officer for two years at OUPG college, Mirzapur.
6. Held the post of principal at OUPG College, Mirzapur from January 2004 to August 2005.
7. Departmental Committee Member.
8. Board of Studies Member.
9. President of Osmania University Teachers Association (OUTA) presently. General Secretary and Treasurer of OUTA posts held earlier.

Symposia and Workshops Attended:

1. CONIAPPS XX 20 th International Conference of International Academy of Physical Sciences on Recent Advances in Physical Sciences and Future Challenges July 14-16, 2017
2. Work Shop for Chemistry Teachers of Post Graduate Colleges conducted by Department of Chemistry, Osmania University, Hyderabad..

Present Status: Working as Professor of Chemistry at University College of Science, Osmania University, Hyderabad.

LIST OF PUBLICATIONS

1. Ag-Li-ZnO nanostructures for efficient photocatalytic degradation of organic dyes and textile wastewater under visible light treatment, K. Masula, R. Kore, Y. Bhongiri, S. Pola, M. Basude, J. Mol. Structure, 1305 (2024) 137750.
2. Eco-friendly synthesis and characterization of mono,bimetallic and non-metal doped sno 2: photodegradation of dye and its anti-microbial activity, K Vasavi, K Masula, M Basude, G Thalari, Rasayan Journal of Chemistry 16 (2023) 4.
3. Degradation of organic pollutants in the presence of new Mn (II) complexes under ambient light or darkness conditions, R Vallavoju, R Kore, P Radhika, M Subburu, M Basude, P Chetti, S Pola, Journal of Photochemistry and Photobiology A: Chemistry 442, (2023) 114775.
4. Synthesis and characterization of NiO–Bi₂O₃ nanocomposite material for effective photodegradation of the dyes and agricultural soil pollutants, K Masula, P Sreedhar, PV Kumar, Y Bhongiri, S Pola, M Basude, Materials Science in Semiconductor Processing 160 (2023) 107432.
5. Enhanced piezo-photocatalytic properties of new salophen based Ti (IV) complexes, R Vallavoju, R Kore, P Radhika, M Subburu, R Gade, M Basude, S Pola, Inorganic Chemistry Communications 148 (2023) 110272.
6. Evolution of photocatalytic activity of CeO₂–Bi₂O₃ composite material for wastewater degradation under visible-light irradiation, K Masula, Y Bhongiri, GR Rao, PV Kumar, S Pola, M Basude, Optical Materials 126 (2022) 112201.
7. Synthesis of titanates for photomineralization of industrial wastewater and organic pollutants, R. Gade, M. Basude, N. B. Simhachalam, S. Pola, P. Chetti, Environmental Science: Water Research & Technology 8 (2022) 3065-3078.
8. Design, synthesis and biological evaluation of selective hybrid coumarin-thiazolidinedione aldose reductase-II inhibitors as potential antidiabetics, V. K. Pasala, G. Gudipudi, V. Sankeshi, M. Basude, R. Gundla, S. Singh Jadav, Bioorganic Chemistry 114 (2021) 104970.
9. Highly active zinc oxide-supported lithium oxide catalyst for solvent-free Knoevenagel condensation, P. Sunkara, K. Masula, V. Puppala, Y. Bhongiri, V. K. Pasala, M. Basude, Journal of Chemical Sciences 133 (2021) 1-9.
10. Hantzsch synthesis of 1, 4-dihydropyridine derivatives over ZnO/ZrO₂ catalyst under solvent free condition, P Sunkara, M Keshavulu, V Puppala, PV Kumar, M Basude, (2021) 1055-1063.
11. A new Zn (ii) complex-composite material: piezo-enhanced photomineralization of organic pollutants and wastewater from the lubricant industry, D. V. Rao, M. Subburu,

- R Gade, M. Basude, P. Chetti, N. B. Simhachalam, P. Nagababu, Y. Bhongiri, S. Pola, *Environmental Science: Water Research & Technology* 7 (2021) 1737-1747.
12. Efficient, stable and reusable $\text{Bi}_2\text{O}_3/\text{ZrO}_2$ catalyzed one-pot synthesis of 3, 4-dihydropyrimidi-2(1H)-ones under solvent-free conditions. Vijaya Charan Guguloth, Gajula Raju, Manohar Basude and Satyanarayana Battu, *International Journal of Chemical and Analytical Science*, 5 (2014) 86-92.
 13. Knoevenagel condensation at room temperature using $\text{SeO}_2/\text{ZrO}_2$ catalyst in water-medium and solvent-free conditions, Vijaya Banothua, Manohar Basude and Satyanarayana Battu, *J. Chem. Pharm. Res*, 5(10) (2013) 97-101.
 14. ZnO catalyst for Knoevenagel condensation in aqueous medium at ambient temperature, Manohar Basude, Prasad Sunkara and Veera Somaiah Puppala, *J. Chem. Pharm. Res*, 5(9) (2013) 46.
 15. Benzylolation of aromatic compounds over environmentally benign antimony and bismuth supported zirconia catalysts, Manohar Basude, Prasad Sunkara, Rajkumar Sheelam and Lingaiah Paka, *J. Chem. Pharm. Res*, 4(2) (2012) 1136.
 16. Ammoxidation of 2-methylpyrazine to 2-cyanopyrazine over promoted VPO catalysts and alumina supported Sb-VPO catalyst, Manohar Basude, *J. Chem. Pharm. Res*, 4(5) (2012) 2781.
 17. Esterification of acetic acid with ethylene glycol over environmentally benign mixed oxide solid acid catalysts, Manohar Basude, *J. Chem. Pharm. Res*, 4(6) (2012) 3031.
 18. Ammoxidation of methyl N-heteroaromatic compounds over vanadium phosphorus oxide based catalysts, Manohar Basude, *J. Chem. Pharm. Res*, 3(4) (2011) 357.
 19. Ammoxidation of 3-picoline over antimony promoted VPO catalysts and alumina supported Sb-VPO catalyst, Manohar Basude, *J. Chem. Pharm. Res*, 3(5) (2011) 311.
 20. Oxygen chemisorption on titania-zirconia mixed oxide supported vanadium oxide catalysts, B.M. Reddy, B. Manohar and E.P. Reddy, *Langmuir*, 9 (1993) 1781.
 21. One step synthesis of acetonitrile from ethanol via ammoxidation over Sb-VPO/ Al_2O_3 catalyst, B. M. Reddy and B. Manohar, *J. Chem. Soc. Chem. Commun.*, (1993) 234.
 22. Synthesis of isobutyraldehyde from methanol and ethanol over mixed oxide supported vanadium oxide catalysts. B. M. Reddy, E. P. Reddy, B. Manohar, *Appl. Catal.*, 96 (1993) L1 - L5.
 23. One step synthesis of adiponitrile by catalytic ammoxidation over antimony-vanadium oxide catalysts, B. M. Reddy and B. Manohar, *J. Chem. Soc. Chem. Commun.*, (1993) 330.
 24. Ammoxidation of 3-picoline to nicotinonitrile on silica supported VPO catalyst, B.M. Reddy and B. Manohar, *Chemistry and Industry (London)*, (1992) 182.
 25. A single step Synthesis of isobutyraldehyde from methanol and ethanol over $\text{CuO-ZnO-Al}_2\text{O}_3$ catalyst, B.M. Reddy, E.P. Reddy and B. Manohar, *J. Chem. Soc. Chem. Commun.*, (1992) 997.
 26. Structure and reactivity of vanadium oxide monolayer catalysts supported on titania-zirconia mixed oxide, B.M. Reddy, E.P. Reddy, B. Manohar and Safia Mehdi, *Advances in Catalyst Design* (Eds., C.N.R. Rao and M. Graziani), World Scientific, Singapore, 2 (1993) 193-215.
 27. Reactivity of V_2O_5 with $\text{TiO}_2\text{-ZrO}_2$ mixed oxide an X-ray diffraction study, B.M. Reddy, B. Manohar and S. Mehdi, *J. Solid State Chem.*, 97 (1992) 233.
 28. Solid-Solid wetting: A simple and effective method for preparation of molybdenum sulfide/ alumina catalyst, B.M. Reddy and B. Manohar, *J. Chem. Soc. Chem. Commun.*, (1991) 1435.

29. Ammoxidation of 3-picoline to nicotinonitrile over vanadium phosphorus oxide based catalyst, B. M. Reddy and B. Manohar, J. Chem. Technol. Biotechnol., 71 (1998) 141.
30. Aniline synthesis from cyclohexanol and ammonia over mixed oxide catalysts, B. Manohar, I. Ganesh and B.M. Reddy, J. Mol. Catal., 129 (1998) L5.
31. Mo-ZrO₂ solid acid catalysts for transesterification of β -Ketoesters, B.M. Reddy V.R Reddy and B. Manohar, Synth. Commun., 29(7) (1999) 1235.
32. Esterification by ZrO₂ and Mo-ZrO₂ ecofriendly solid acid catalysts, B. Manohar, V.R Reddy and B.M. Reddy, Synth. Commun., 28 (1998) 3183.
33. Oxygen chemisorption on titania-zirconia mixed oxide supported vanadiumoxide catalysts, B. M. Reddy, B Manohar, E. P. Reddy, Langmuir 9 (1993) 1781-1785.
34. Mo-ZrO₂ Solid Acid Catalyst For Transesterification of β -Ketoesters, B. M. Reddy, V. R. Reddy, B Manohar, Synthetic communications 29 (1999) 1235-1239.
35. Ammoxidation of 3-picoline to nicotinonitrile over vanadium phosphorus oxide-based catalysts, B. Manohar, B. M. Reddy, Journal of Chemical Technology & Biotechnology, 71 (1998) 141-146.
36. Reactivity of V₂O₅ with TiO₂- ZrO₂ mixed oxide: An X-ray diffraction study, B. M. Reddy, B. Manohar, S. Mehdi, Journal of Solid State Chemistry 97 (1992), 233-238.
37. Esterification by ZrO₂ and Mo-ZrO₂ ECO-Friendly Solid Acid Catalysts, B Manohar, V. R. Reddy, B. M. Reddy, Synthetic communications 28 (1998) 3183-3187.
38. Synthesis of isobutyraldehyde from methanol and ethanol over mixed oxidesupported vanadium oxide catalysts, B. M. Reddy, E. P. Reddy, B. Manohar, Applied Catalysis A: General 96 (2), L1-L5, 1993.
39. One step synthesis of acetonitrile from ethanol via ammoxidation over Sb-V-P-O/Al₂O₃ catalyst, B. M. Reddy, B. Manohar, Journal of the Chemical Society, Chemical Communications, 234-235, 1993.

Book Chapter

1. Vanadium phosphorus oxide catalyst for Ammoxidation of 3-picoline to nicotinonitrile and 2-methyl pyrazine to 2-cyanopyrazine, B.M. Reddy, M. Vijay Kumar and B. Manohar, Catalysis of Organic Reactions (Eds. M.G. Scaros and M.L. Prunier) Marcel Dekker, New York, (1995) 487. (ISBN: 9781315138855)
2. R. Parikirala, S. Tiwari, G. Thalari, M. Basude, P. Chetti, **Someshwar Pola**, Chapter Fifteen- Electrochemical synthesis of graphene oxide and its analytical applications, Comprehensive Analytical Chemistry, 2024, 106, 435-460, <https://doi.org/10.1016/bs.coac.2024.03.003>.

Indian Patents Granted

1. A process for the preparation of a new catalyst useful for the preparation of 2-cyanopyrazine.
2. An improved process for the production of 2-cyanopyrazine from 2-methylpyrazine.