



Mousumi Chakraborty
Professor
Department of Chemical Engineering
Postdoc, Humboldt Fellowship, Germany, 2005
Ph.D., Jadavpur University, 2003
M.Tech., Calcutta University, 1996
B.Tech., Calcutta University, 1994
Joined SVNIT in 1996

RESEARCH AREA:

- **Nano materials:** Synthesis by Mechanochemical, Ball milling, Sonochemical and Microemulsion technique and application of nanomaterials as catalyst and fuel additives.
- **Green Chemistry:** Ionic liquid as a membrane or solvent & catalyst for organic synthesis, Microwave assisted organic synthesis.
- **Separation Processes:** Emulsion liquid membrane & supported liquid membrane for separation of heavy metals, hydrocarbons and bio compounds etc.
- **Wastewater Treatment:** Advanced oxidation process like UV treatment, Ozonation, Sonication, Microwave assisted digestion etc.

PUBLICATIONS:

- International Journal: 110 Book Chapters: 2 International Conferences: 09
- National Journal: 20 Conferences: 25

RESEARCH PROJECT:

- **DST-WOS-A** grant (35.76 Lacs) for “**A study evaluating the efficiency of smart carbonated water in maximizing both the amount of CO₂ sequestered and oil recovered during enhanced oil recovery process in a mature oil field in India**” (Mentor, 2023-26).
- **DST** grant, Technology Development & Transfer Division (6.71 Lacs) for “**Environmentally Safe Disposal of Refinery Sludges via Catalytic Conversion to Value-added Hydrocarbon**” (Co-Investigator, 2017-19).
- **BRNS** grant (Rs. 26.5 Lacs) for “**Synthesis of alumina supported ruthenium nanocatalyst for studies on feasibility in application to hydrogenation of benzo crown compound**” (Principal Investigator, 2011-14)

- **DST R & D grant (Rs 5.76 Lacs) for “Synthesis of alumina supported ruthenium nanocatalyst using microemulsion technique”** (Principal Investigator, 2010-12).
- **AICTE (R&D) grant (Rs.4.8 Lacs) for “Multicomponent metal extraction from wastewater by liquid surfactant membrane”** (Principal Investigator, 2003-06).
- **MHRD R & D grant (Rs 4.00 Lacs) “Hydrogenation of carbon-dioxide”** (Co-Investigator, 2000-02).

ACHIEVEMENTS:

- **Humboldt Re-invitation Fellowship**, University of Kaiserslautern, Germany, May 15, 2017 to July 15, 2017
- **Humboldt Re-invitation Fellowship**, University of Kaiserslautern, Germany, April 15, 2009 to June 15, 2009.
- Worked as a Post Doctoral Fellow (**Humboldt Fellowship**) in the Department of Mechanical and Process Engineering at the University of Kaiserslautern, Germany in 2004-05.
- **Reviewer** of 22 Peer Reviewed International/National Journals in the field of Chemical Engineering and Separation Techniques.
- PhD student Himanshu Pradeep Kohil's (D16CH002) thesis “Application of Liquid Membranes for the Separation of Organic Compounds” received IChE Award for the Year 2023: Prof Shyamal Kanti Sanyal Memorial Award for the **Best Ph.D. Thesis** in the Area of Membranes Research with Significant Commercial Potential.

POST GRADUATE STUDENTS:

- M. Tech. Dissertations Guide: 24 (completed) & 1 (ongoing)
- Ph.D. Supervisor: 12 (completed) & 5 (ongoing)

MEMBERSHIPS IN PROFESSIONAL BODIES:

- Life Member of Indian Institute of Chemical Engineers (IChE).
- Life Member of Indian Society of Technical Education (ISTE).
- Life Member of the Society for Advancement of Electrochemical Science and Technology (SAEST).
- Life Member of The Institution of Engineers (India)

SELECTED PUBLICATIONS:

BOOK CHAPTER

1. Mousumi Chakraborty, Chiranjib Bhattacharya and Siddhartha Datta, “**Emulsion liquid membranes: definitions and classification, theories, module design, applications,**

new directions and perspectives" (2009) 141-199 in the book "Liquid Membrane"
Elsevier, Netherlands.

2. Smita Gupta, Mousumi Chakraborty and Z.V.P.Murthy, "**MEMBRANE SEPARATIONS: Liquid Membranes: An Overview**", Elsevier Reference Module in "Chemistry, Molecular Sciences and Chemical Engineering", edited by Jan Reedijk, Waltham, MA: **Elsevier**. 29-Nov-2013 doi:10.1016/B978-0-12-409547-2.05832-7.

PUBLICATION IN JOURNALS & INTERNATIONAL CONFERENCES

2023

1. M.S. Vichare, M. Chakraborty, A. K. Jana, Engine performance study for solketal-gasoline fuel blend in a four-stroke SI engine, **Clean Technologies and Environmental Policy**, 25 (2023) 3381-3391 (Impact Factor: 4.7/2023).
2. M.S. Vichare, M. Chakraborty, A. K. Jana, Microwave-assisted solketal synthesis using modified sulfated zirconia and its monitoring by ultrasonic velocity measurement, **Biomass Conversion and Biorefinery** (2023)1-14(Impact Factor: 4.0/2023).
3. A. Sharma, V.K. Rathore, M. Chakraborty, Adsorptive removal of diclofenac sodium from aqueous solution by highly efficient metal organic framework (UiO-66)/multi-walled carbon nanotube composite, **Environmental Science and Pollution Research** (2023)1-14(Impact Factor: 5.19/2023).
4. M. Chakraborty, A.K. Jana, M. Vichare, Optimization of Process Parameters for Solketal Synthesis Using Microwave Reactor: Catalytic Activity and Reactor Energy Model, 2023 **AIChE Annual Meeting**.
5. A. Sharma, H.P. Kohli, M. Chakraborty, Removal of diclofenac using Fe₂O₃ nanoparticles stabilised emulsion nanofluid membrane, **Materials Today: Proceedings**
6. A. Sharma, H.P. Kohli, M. Chakraborty, Recycling of nanoparticles stabilized emulsion nanofluid membrane for the removal of Diclofenac: Stability and performance assessment, **Colloid Journal**, 85(2) (2023) 298-313(Impact Factor: 1.1/2022).
7. R. Shirasangi, H.P. Kohli, M. Chakraborty, Stability of emulsion liquid membrane using blended nonionic surfactant and multi-walled carbon nanotubes (MWCNTs) for methylparaben removal, **Journal of Dispersion Science and Technology** (2023)1-7(Impact Factor: 2.3/2021).
8. V.R. Umrigar, M. Chakraborty, P.A. Parikh, Optimization of microwave-assisted esterification of succinic acid using Box-Behnken design approach, **Environmental Science and Pollution Research** (2023) 1-10(Impact Factor: 5.19/2023).

2022

9. V. Umrigar, M. Chakraborty, P.A.Parikh, H.P. Kohli, Optimization of process parameters for oleic acid esterification using microwave reactor: Catalytic activity, product distribution and reactor energy model, **Energy Nexus** 7 (2022)100127
10. P. Sarang, H.P. Kohli, A.K. Mungray, M. Chakraborty, Artificial neural network approach towards the separation of ethylparaben and diclofenac using pseudo-emulsion hollow fiber strip dispersion technique, **Chemical Data Collections** 40 (2022)100890 (Impact Factor: 2.218/2022).
11. J.M. Barad, H.P. Kohli, M. Chakraborty, Adsorption of hexavalent chromium from aqueous stream by maghemite nanoparticles synthesized by the microemulsion method, **Energy Nexus** 5 (2022)100035

2021

12. R. Shirasangi, H.P. Kohli, S. Gupta, M. Chakraborty, Separation of methylparaben from aqueous source stream by pseudo-emulsion hollow fiber membrane strip dispersion technique: Optimization of process parameters using Grey-Taguchi method, **Chemical Engineering and Processing-Process Intensification**, 161 (2021) 108302 (Impact Factor: 3.031/2019).
13. H.P. Kohli, S. Gupta, M. Chakraborty, Comparative studies on the separation of endocrine disrupting compounds from aquatic environment by emulsion liquid membrane and hollow fiber supported liquid membrane, **International Journal of Chemical Reactor Engineering**. Feb (2021)1-10 (Impact Factor: 1.01/2019).
14. K. Gupta, A.K. Jana, M. Chakraborty, P.A. Parikh, Treating crude oil storage tank sludge by catalytic process and recovering valuable hydrocarbons, **Chemical Papers** (2021)1-12 (Impact Factor: 1.68/2019).
15. H.P. Kohli, S. Gupta, M. Chakraborty, Statistical analysis of operating variables for pseudo-emulsion hollow fiber strip dispersion technique: ethylparaben separation from aqueous feed stream, **Chemical Papers**,75 (2) (2021), 629-640 (Impact Factor: 1.68/2019).

2020

16. S.K. Nandwani, N.I. Malek, M. Chakraborty, S. Gupta, A comprehensive study based on the application of different genre of Surface-Active Ionic Liquid and alkali combination systems in surfactant flooding, **Energy & Fuels**, 34(8)(2020) 9411-9425(Impact Factor: 3.421/2019).
17. S.K. Nandwani, N.I. Malek, M. Chakraborty, S. Gupta, Insight into the Application of Surface-Active Ionic Liquids in Surfactant based Enhanced Oil Recovery Processes—a guide leading to research advances, **Energy & Fuels**, 34(6) (2020) 6544-6557(Impact Factor: 3.421/2019).
18. R. Shirasangi, H.P. Kohli, S. Gupta, M.Chakraborty, Separation of Methylparaben by emulsion liquid membrane: Optimization, characterization, stability and multiple cycles

studies, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 597 (2020) 124761(Impact Factor: 3.99/2020).

19. H.P. Kohli, S. Gupta, M.Chakraborty, Characterization and stability study of pseudo-emulsion hollow fiber membrane: Separation of Ethylparaben, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 587(2020)124308(Impact Factor: 3.99/2020).
20. V. Umrigar, M. Chakraborty, P.A.Parikh, Cleaner Production of Methyl Benzoate Using Solid Heterogenous Catalyst via Electromagnetic Waves as an Energy Source, **Journal of The Institution of Engineers (India): Series E**, 101(2020)109-114.
21. H.P. Kohli, S. Gupta, M.Chakraborty, Applicability of hollow fiber strip dispersion for the removal of metal ions from aqueous streams, **Journal of The Institution of Engineers (India): Series E**, 101 (1), 91-97

2019

22. H.P. Kohli, S. Gupta, M.Chakraborty, Separation of Diclofenac using pseudo-emulsion hollow fiber membrane: Optimization by Box-Behnken response surface design, **Journal of Water Process Engineering**, 32 (2019)100880(Impact Factor: 3.465/2020).
23. H.P. Kohli, S. Gupta, M.Chakraborty, Stability and performance study of emulsion nanofluid membrane: A combined approach of adsorption and extraction of Ethylparaben, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 579 (2019)123675 (Impact Factor: 3.99/2020).
24. S.K. Nandwani, M. Chakraborty, S. Gupta, Adsorption of surface active ionic liquids on different rock types under high salinity conditions, **Scientific reports**, 9(1)(2019)1-16 (Impact Factor: 4.12/2020).
25. V. Umrigar, M. Chakraborty, P.A.Parikh, Esterification and ketalization of levulinic acid with desilicated zeolite β and pseudo-homogeneous model for reaction kinetics, **International Journal of Chemical Kinetics**, 51 (4) (2019) 299-308 (Impact Factor: 1.531/2019).
26. S.K. Nandwani, M. Chakraborty, S. Gupta, Chemical flooding with ionic liquid and nonionic surfactant mixture in artificially prepared carbonate cores: A diffusion controlled CFD simulation, **Journal of Petroleum Science and Engineering**, 173 (2019) 835-843 (Impact Factor: 2.382/2018).
27. Y. R. Suryawanshi, Mousumi Chakraborty, S. Jauhari, S. Mukhopadhyay, K. T. Shenoy, Hydrogenation of Dibenzo-18-Crown-6 Ether Using γ -Al₂O₃ Supported Ru-Pd and Ru-Ni Bimetallic Nanoalloy Catalysts, **International Journal of Chemical Reactor Engineering**, 17 (4) (2019).DOI: <https://doi.org/10.1515/ijcre-2018-0049>(Impact factor: 0.881/2017).
28. S. Gupta, P. B Khandale, Mousumi Chakraborty, Application of emulsion liquid membrane for the extraction of diclofenac and relationship with the stability of water-in-Oil emulsions,

Journal of Dispersion Science and Technology,41(3)(2019)393-401(Impact Factor: 1.454/2017).

29. Y.D.Shinde, Mousumi Chakraborty, P.A. Parikh Combined influence of alkaline earth metals and CO₂ on performance of hierarchical zeolite Beta in *n*-hexane isomerization, **Applied Petrochemical Research** 9 (2019) 57-62.

2018

30. Shilpa K. Nandwani, Naved Malek, Mousumi Chakraborty, Smita Gupta, Potential of a Novel Surfactant Slug in Recovering Additional Oil from Highly Saline Calcite Cores during the EOR Process: Synergistic Blend of Surface Active Ionic Liquid and Nonionic Surfactant, **Energy & Fuels**,33 (1) (2018) 541-550 (Impact factor: 3.091/2016).
31. V. Umrigar, Mousumi Chakraborty, P A Parikh Catalytic activity of zeolite H β for the preparation of fuels' additives: Its product distribution and scale up calculation for the biofuel formation in a microwave assisted batch reactor, **Journal of Environmental Chemical Engineering**, 6 (6) (2018) 6816-6827 (SNIP factor: 1.385/2018).
32. Shilpa K. Nandwani, Mousumi Chakraborty, Hans-Jörg Bart, Smita Gupta Synergism, Phase behaviour and characterization of ionic liquid-nonionic surfactant mixture in high salinity environment of oil reservoirs, **Fuel**, 229 (2018) 167-179 (Impact factor: 4.601/2016).
33. Himanshu P. Kohli, Smita Gupta, Mousumi Chakraborty, Extraction of Ethylparaben by emulsion liquid membrane: Statistical analysis of operating parameters **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 539(2018)371-381 (Impact Factor: 2.714/2016).

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34. Shilpa K. Nandwani, Naved I. Malek, V.N. Lad, Mousumi Chakraborty, Smita Gupta, Study on interfacial properties of Imidazolium ionic liquids as surfactant and their application in enhanced oil recovery, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 516(2017)383-393(Impact Factor: 2.714/2016).
35. Y.D.Shinde, Mousumi Chakraborty, P.A. Parikh, *n*-Hexane isomerisation: exploit hydrogen spillover to reduce catalyst costs, **Progress in Reaction Kinetics and Mechanism**, 42(1) (2017) 62-69 (Impact Factor:0.354/2015).
36. V. Umrigar, Mousumi Chakraborty, P A Parikh, Study of the reaction paths for cleaner production of nitrochlorobenzenes using microwave irradiation, **Chemical Engineering Research and Design** 117(2017) 369-375(Impact Factor:2.81/2015).
37. Bhagwan Pralhad Parihar, Mousumi Chakraborty, Smita Gupta, Application of pseudo-emulsion hollow fiber strip dispersion system for the removal of propylparaben from the

aqueous solutions, **Desalination and Water Treatment**, 73 (2017) 301-307 (Impact Factor: 1.272/2016).

38. Y. R. Suryawanshi, Mousumi Chakraborty, S. Jauhari, S. Mukhopadhyay, K. T. Shenoy, **Selective** Hydrogenation of 4',4''(5'')-Di-Tert-Butyldibenzo-18-Crown-6 Ether over Rh/ γ -Al₂O₃ Nanocatalyst, **International Journal of Chemical Reactor Engineering**, 15 (2017) 35-44 (Impact factor: 0.881/2017).

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39. Gedela Ashok Kumar Naidu, Smita Gupta, Mousumi Chakraborty, Application of pseudo-emulsion-based hollow fiber strip dispersion for the extraction of p-nitrophenol from aqueous solutions, **Environmental Technology**, 37(22) (2016) 2924-2934 (Impact Factor:1.76/2015).
40. P. Pokhalekar, M. Chakraborty, Degradation of bisphenol A and 4-tert-octylphenol: a comparison between ultrasonic and photocatalytic technique, **Desalination and Water Treatment**, 57 (22) (2016) 10370-10377 (Impact Factor: 1.272/2016).
41. S. U. Nandanwar, A. A. Dabbawala, M. Chakraborty, H. C. Bajaj, S. Mukhopadhyay and K. T. Shenoy, Partial hydrogenation of benzene to cyclohexene over Ru/ γ -Al₂O₃ nanocatalyst via w/o microemulsion using boric acid and ethanolamine additives, **Research on Chemical Intermediates**, 42 (2)(2016) 1557-1569 (Impact Factor: 1.833/2016).
42. J.M. Barad, S.U. Nandanwar, M. Chakraborty, Selection of microemulsion composition via study of phase behavior for synthesis of stable monodisperse platinum nanoparticles and optimization of experimental parameters, **Particulate Science and Technology**, 30 (2016) 533-542 (Impact Factor: 0.707/2016).
43. A.N. Raut, S.U. Nandanwar, Y.R. Suryawanshi, M. Chakraborty, S. Jauhari, Liquid phase selective hydrogenation of phenol to cyclohexanone over Ru/Al₂O₃ nanocatalyst under mild conditions, **Kinetics and Catalysis**, 57 (1) (2016) 39-46 (Impact Factor: 0.632/2016).
44. R.N. Mehta, U. More, N. Malek, M. Chakraborty, P.A. Parikh, Study of stability and thermodynamic properties of water-in-diesel nanoemulsion fuels with nano-Al additive, **Applied Nanoscience**, 5 (8) (2016) 891-900 (Impact Factor: 3.325/2017).
45. C.M. Patel, M.Chakraborty, Z.V.P. Murthy, Fast and scalable preparation of starch nanoparticles by stirred media milling, **Advanced Powder Technology** 27 (4)(2016)1287-1294(Impact Factor: 2.478/2016).
46. S Nandwani, M Chakraborty, A Mungray, Sonochemical degradation of p-chlorophenol assisted by H₂O₂ and Ag-TiO₂/TiO₂ catalyst, **Indian Journal of Chemical Technology**, 22 (1-2), 73-77(Impact Factor: 0.491/2016).
47. A B Madavi, S U Nandanwar, M Chakraborty, Kinetics study of a palladium–nickel colloidal nanocatalyst synthesized by a wet-chemical method for reduction of nitrophenol, nitroaniline,

and 4-nitrobenzo-15-crown compounds, **Particulate Science and Technology** (2016)1-10(Impact Factor: 0.707/2016).

48. K Rochlani, R Vadakkekara, M Chakraborty, S Dasgupta, Antibacterial activity of biostabilized silver nanoparticles, **Indian Journal of Chemical Technology**, 23 (2016) 520-526(Impact Factor: 0.491/2016).

2015

49. Raji V., Mousumi Chakraborty and P. A. Parikh, Room temperature benzaldehyde oxidation using air over gold-silver nanoalloy catalysts, **Journal of the Taiwan Institute of Chemical Engineers**, 50(2015) 84-92 (Impact Factor: 2.637/2013).
50. C.M. Patel, Mousumi Chakraborty and Z. V. P. Murthy, Influence of pH on the stability of alumina and silica nanosuspension produced by wet grinding, **Particulate Science and Technology**, 33(2015)240-245 (Impact Factor: 0.523/2015).
51. R. R. Patel, J. M. Barad, S.U. Nandanwar, Mousumi Chakraborty, A. A. Dabbawala, P. A. Parikh and H.C.Bajaj, Cellulose supported ruthenium nanoclusters as an efficient and recyclable catalytic system for Benzene Hydrogenation under mild conditions, **Kinetics and Catalysis**, 56(2015)173-180 (Impact Factor: 0.758/2014).
52. S. U. Nandanwar, J. M. Barad, S. Nandwani and Mousumi Chakraborty, Optimization of process parameters for ruthenium nanoparticles synthesis by (w/o) reverse microemulsion, **Applied Nanoscience**, 5(3) (2015) 321-329 (Impact Factor: 3.325/2017).
53. Y. R. Suryawanshi, Mousumi Chakraborty, S. Jauhari, S. Mukhopadhyay, K. T. Shenoy Selective hydrogenation of Dibenzo-18-crown-6 ether over highly active monodispersed Ru/ γ -Al₂O₃ nanocatalyst, **Bulletin of Chemical Reaction Engineering and Catalysis**, 10(1) (2015) 23-29.

2014

54. Rakhi N. Mehta, Mousumi Chakraborty and P. A. Parikh, Impact of hydrogen generated by splitting water with nano-silicon and nano-aluminum on diesel engine performance, **International Journal of Hydrogen Energy**, 39 (2014) 8098-8105 (Impact Factor: 2.93/2012).
55. Rakhi Mehta, Mousumi Chakraborty and P. A. Parikh, Nanofuels: Combustion, Engine Performance and Emissions, **Fuel**, 120 (2014) 91-97 (Impact Factor: 3.35/2012)
56. Raji V., Mousumi Chakraborty and P. A. Parikh, Synthesis, Characterization and Application of Monodisperse Gelatin-Stabilized Silver Nanospheres in Reduction of Aromatic Nitro Compounds, **Colloid Journal**, 76 (2014) 12-18 (Impact Factor: 0.625/2010).

57. Jaydeep M. Barad and Mousumi Chakraborty, Reduction of 4-nitrophenol and 4-nitrobenzo-15-Crown with Colloidal Platinum Nanoparticles Synthesized by Microemulsion Technique, **Particulate Science and Technology**, 32 (2014)164-170 (Impact Factor: 0.545/2011).
58. Chetan M. Patel, Mousumi Chakraborty and Z.V.P. Murthy, Study on the Stability and Microstructural Properties of Barium Sulfate Nanoparticles Produced by Nanomilling, **Advanced Powder Technology**, 25 (2014) 226-235 (Impact Factor: 1.650/2012).
59. Smita Gupta, Mousumi Chakraborty and Z.V.P. Murthy, Performance Study of Hollow Fiber Supported Liquid Membrane System for the Separation of Bisphenol A from Aqueous Solutions, **Journal of Industrial and Engineering Chemistry**, 20(2014)2138-45 (Impact Factor: 2.145/2012).
60. Chetan M. Patel, Mousumi Chakraborty and Z.V.P. Murthy, Enhancement of Stirred Media Mill Performance by a New Mixed Media Grinding Strategy, **Journal of Industrial and Engineering Chemistry**, 20(2014)2111-18 (Impact Factor: 2.145/2012).
61. Chetan M. Patel, Mousumi Chakraborty and Z.V.P. Murthy, Preparation of Fenofibrate Nanoparticles by Combined Stirred Media Milling and Ultrasonication Method, **Ultrasonics Sonochemistry**, 21(2014)1100-07 (Impact Factor: 3.516/2012).
62. Raji V., Mousumi Chakraborty and P. A. Parikh, Hollow mesoporous silica spheres supported Ag and Ag-Au catalyzed reduction of 4-nitrobenzo-15-crown, **Journal of Industrial and Engineering Chemistry**, 20 (2014)767-774 (Impact Factor: 2.149/2010).

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63. Smita Gupta, Mousumi Chakraborty and Z.V.P. Murthy, Optimization of Process Parameters for Mercury Extraction Through Pseudo-emulsion Hollow Fiber Strip Dispersion System, **Separation and Purification Technology**, 114 (2013) 43–52 (Impact Factor:2.894/2012).
64. S. U. Nandanwar, Mousumi Chakraborty, S. Mukhopadhyay and K. T. Shenoy, Benzene hydrogenation over highly active monodisperse Ru/ γ -Al₂O₃ nanocatalyst synthesized by (w/o) reverse microemulsion, **Reaction Kinetics, Mechanisms and Catalysis**, 108(2) (2013) 473-489 (Impact Factor: 0.557/2009).
65. Y. R. Suryawanshi, Mousumi Chakraborty, S. Jauhari, S. Mukhopadhyay, K. T. Shenoy and R. Shridharkrishna, Microwave Irradiation Solvothermal Technique: An optimized protocol for size-control synthesis of Ru nanoparticles, **Crystal Research and Technology**, 48, No. 2, 69–74 (2013) (Impact Factor: 0.946/2011).
66. Smita Gupta, Mousumi Chakraborty and Z.V.P. Murthy, Removal of Mercury by Emulsion Liquid Membranes: Studies on Emulsion Stability and Scale Up, **Journal of Dispersion Science and Technology**, 34 (2013) 1733-1741 (Impact Factor: 1.454/2017).

2012

67. Vadakkekara Raji, Mousumi Chakraborty and Parimal A. Parikh, Catalytic performance of silica supported silver nanoparticles for liquid phase oxidation of ethyl benzene, **Industrial and Engineering Chemistry**, 51 (2012) 5691–5698 (Impact Factor: 2.237/2011).
68. Raji Vadakkekara, Mousumi Chakraborty and Parimal A. Parikh, Reduction of aromatic nitro compounds on colloidal hollow silver nanospheres, **Colloids and Surface A: Physicochemical and Engineering Aspects**, 399 (2012) 11-17 (Impact Factor: 2.24/2010).
69. Chetan M. Patel, Z.V.P. Murthy and Mousumi Chakraborty, Effects of operating parameters on the production of barium sulfate nanoparticles in stirred media mill, **Journal of Industrial and Engineering Chemistry**, 18 (2012) 1450–1457 (Impact Factor: 2.149/2010).
70. S. U. Nandanwar and Mousumi Chakraborty, Synthesis of colloidal CuO/ γ -Al₂O₃ by microemulsion and its catalytic reduction of aromatic nitro compounds, **Chinese Journal of Catalysis**, 33 (3) (2012) 1532–1541 (Impact Factor: 1.17/2011).
71. Mousumi Chakraborty, Sanjay Baweja, Sunita Bhagat and Tejpal Singh Chundawat, Microwave assisted synthesis of schiff bases: A Green Approach, **International Journal of Chemical Reactor Engineering**, 10 (1) (2012) 1542-6580 (Impact factor 0.790/2011).
72. Rakhi Mehta, Mousumi Chakraborty and P. A. Parikh, Comparative study of stability and properties of alcohol-diesel blends, **Indian Journal of Chemical Technology**, 19 (2012) 134-139 (Impact Factor: 0.606/2011).
73. Mousumi Chakraborty, D. Dobaria and P. A. Parikh, The separation of aromatic hydrocarbons through a Supported Ionic Liquid Membrane, **Petroleum Science and Technology**, 30 (2012) 2504-2512 (Impact Factor: 0.335/2011).
74. Abhilasha Dixit, A. K. Mungray and Mousumi Chakraborty, Photochemical oxidation of phenolic wastewaters and its kinetic study, **Desalination and Water Treatment**, 40 (2012) 56–62 (Impact Factor: 0.752/2011).
75. Jyoti V. Tolia, Mousumi Chakraborty and Z.V.P. Murthy, Mechanochemical synthesis and characterization of group II-VI semiconductor nanocrystals, **Particulate Science and Technology**, 30 (2012) 533-542 (Impact Factor: 0.545/2011).
76. V. Raji, M. Chakraborty and P. A. Parikh, Synthesis of starch-stabilized silver nanoparticles and their antimicrobial activity, **Particulate Science and Technology**, 30 (2012) 565-577 (Impact Factor: 0.545/2011).
77. Jyoti V. Tolia, Mousumi Chakraborty and Z.V.P. Murthy, Photocatalytic degradation of malachite green dye using doped and undoped ZnS nanoparticles, **Polish Journal of Chemical Technology**, 14 (2012) 16-21 (Impact Factor: 0.333/2010).

78. Jyoti Tolia, Mousumi Chakraborty and Z.V.P. Murthy, Synthesis and characterization of semiconductor metal sulfide nanocrystals using microemulsion technique, **Crystal Research and Technology**, 47 (2012) 909–916 (Impact Factor: 0.946/2011).
79. Jyoti Tolia, Mousumi Chakraborty and Z.V. P. Murthy, Study of dye interaction with Mn doped ZnS using photoluminescence: characteristics in degradation of malachite green, **International Journal of Chemical Engineering and Applications**, 3 (2012)136-140.

2011

80. Smita Gupta, Mousumi Chakraborty and Z.V.P. Murthy, Response surface modelling and optimization of mercury extraction through emulsion liquid membrane, **Separation Science and Technology**, 46 (15) (2011) 2332-2340 (Impact Factor: 1.088/2011).
81. Sachin U. Nandanwar, Mousumi Chakraborty and Z.V.P. Murthy, Study of formation of ruthenium nanoparticles by mixing of two reactive microemulsions, **Industrial & Engineering Chemistry Research**, 50 (19) (2011) 11445-11451 (Impact Factor: 2.237/2011).
82. Abhilasha Dixit, A. K. Mungray and Mousumi Chakraborty, Degradation of 2, 4 DCP by sequential biological-advanced oxidation process using UASB and UV/TiO₂/H₂O₂, **Desalination**, 272 (2011) 265-269 (Impact Factor: 2.590/2011).
83. Shilpa Nandwani, A. K. Mungray and Mousumi Chakraborty, Modeling and optimization of process parameters by Taguchi method: degradation of phenolic compounds by UV/TiO₂/H₂O₂ process, **Chemical Product and Process Modeling**, Article 18, 6 (1) (2011) 1-17.
84. Saurabh Singh, Mousumi Chakraborty and Z.V.P. Murthy, Microwave-assisted synthesis of poly(ethersulfone)-advantages over conventional synthesis, **Journal of Polymer Materials**, 28 (1) (2011) 233-245 (Impact Factor: 0.319/2011).
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