



## Dr. Abraham Joseph

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Senior Professor  
Department of Chemistry  
University of Calicut

### Contact

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<https://www.esclabuooc.com/>  
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<https://www.researchgate.net/profile/Abraham-Joseph-3>

Dedicated Professor at the University of Calicut, India, with a passion for teaching and a strong commitment to fostering academic excellence. Adept at creating an engaging learning environment and imparting knowledge in the field of Chemistry. Demonstrated commitment to research driven by genuine curiosity, contributing to the advancement of scientific knowledge. Proven track record of balancing teaching responsibilities with active involvement in meaningful research endeavors. Committed to inspiring students and cultivating a culture of curiosity and critical thinking.

## RESEARCH INTEREST

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Experimental corrosion studies  
Computational corrosion studies  
Environmental remediation  
Nature-dynamic studies  
Phyto-mediated nanomaterials  
Bio-responsive nanomaterials  
Fluorescence and sensing

## ACADEMIC INTEREST

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Coordination Chemistry  
Bioinorganic Chemistry  
Inorganic Spectroscopy  
Analytical Chemistry

## CAREER PROFILE

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**Senior Professor** (Since 2021)  
Department of Chemistry  
University of Calicut

**Professor** (2011 - 2021)  
Department of Chemistry  
University of Calicut

**Associate Professor** (2008 - 2011)  
Department of Chemistry  
University of Calicut

**Reader** (2005 - 2008)  
Department of Chemistry  
University of Calicut

**Senior Lecturer** (2000 - 2005)  
St.Pius X College, Rajapuram  
Kasararagod

**Lecturer** (1992 - 2000)  
Nirmalagiri College, Kuthuparamba  
Kannur

## RESEARCH PROFILE

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### Ph. D.

1996 - 2000

*'Studies on Nitrogen, Oxygen and Sulfur Donor Ligands as Analytical Reagents, Complexing Agents and Corrosion Inhibitors'*

Mangalore University, Karnataka, with Prof., B, NARAYANA

### M. Phil.

1991 - 1992

*'Studies on the Complexing Behavior of Substituted 1,2,4-triazine and Complexometric Determination of Thallium(III)'*

Mangalore University, Karnataka, with Prof., B, NARAYANA

## RESEARCH SUMMARY

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|                          |      |
|--------------------------|------|
| No. of Journal Articles  | 138  |
| No. of Reviews           | 1    |
| No. of Book Chapters     | 3    |
| No. of Citations         | 4283 |
| h -index (total)         | 37   |
| h -index (last 5 years)  | 30   |
| i10-index (total)        | 88   |
| i10-index (last 5 years) | 69   |

## PROJECTS

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|       |      |                                                                                                                                                                                                         |
|-------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2008- | 2011 | Studies on substituted triazine and triazole derivatives as corrosion inhibitors for mild steel, copper, brass and aluminium in acid Solutions<br>Funding Agency: KSCSTE Kerala- India                  |
| 2011- | 2014 | Amino acid derived green inhibitors for the corrosion of mild steel and copper in acid solutions<br>Funding Agency: University Grant Commission- India                                                  |
| 2016- | 2017 | Carbohydrate become 'sweeter' on structural modifications with nanomaterials-A novel method for the protection of mild steel in acid Environments<br>Funding Agency: University Grant Commission- India |
| 2023- | 2024 | Harvesting renewable energy for a sustainable future exploration on designer molecules and functional materials<br>Funding agency: DST-PURSE (Co-ordinator)                                             |

## **ACADEMIC/ADMINISTRATIVE/RESEARCH POSITIONS HELD**

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|------|-------------|-----------------------------------------------------------------------------------------------------------|
| 2024 | (till date) | Director, IQAC, University of Calicut                                                                     |
| 2021 | -June 2026  | Director, Project Cell, University of Calicut                                                             |
| 2021 | -June 2026  | Director, Directorate of Consultancy, University of Calicut                                               |
| 2015 | -2015       | Director, Directorate of Research, University of Calicut                                                  |
| 2016 | -2019       | Chairman, PGBOS Chemistry, University of Calicut                                                          |
| 2016 | -2018       | Dean, Faculty of Science, University of Calicut                                                           |
| 2014 | -2015       | Director, College Development Council (CDC), University of Calicut                                        |
| 2012 | -2014       | Registrar, Kerala University of Fisheries and Ocean Studies (KUFOS)                                       |
| 2014 | -2025       | Planning Board Member, University of Calicut                                                              |
| 2015 | (till date) | Member, Research Advisory Committee (RAC), University of Calicut                                          |
| 2015 | (till date) | Member IQAC, University of Calicut                                                                        |
| 2020 | -2023       | Member Library Advisory Committee, Department of Lifelong Learning and Extension, University of Calicut   |
| 2018 | -2020       | Member, Library Advisory Committee, University of Calicut                                                 |
| 2018 | -2024       | Member, Governing body, Christian Chair, University of Calicut                                            |
| 2024 | (till date) | Member, Governing body, S. H. college (Autonomous), Chalakkudy                                            |
| 2016 | (till date) | Member, Governing body, Nirmalagiri College (Autonomous), Kuthuparamba                                    |
| 2019 | -2021       | Member, Governing body. St Joseph's College, Devagiri, (Autonomous), India                                |
| 2024 | (till date) | Academic Council Member, Providence College, Calicut                                                      |
| 2024 | (till date) | Academic Council Member, LEAD College (Autonomous), Palakkad                                              |
| 2020 | (till date) | Member, Board of Studies in Chemistry, Mangalore University, India                                        |
| 2019 | (till date) | Member, Board of Studies in Applied Chemistry, Cochin University of Science and Technology (CUSAT), India |

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|------|-------------|-------------------------------------------------------------------------------------------------------|
| 2026 | -2029       | Member, Board of Studies in Chemistry, St. Joseph's College for Women (Autonomous), Alappuzha         |
| 2021 | --2024      | Member, Board of Studies in Chemistry, St Joseph's College, Irinjalakkuda (Autonomous), Kerala- India |
| 2026 | -2029       | Member, Board of Studies in Chemistry, M. A. College, Kothamagalam, Kerala- India                     |
| 2017 | -2020       | Member, Board of Studies in Chemistry, St Thomas College (Autonomous), Thrissur, Kerala, India        |
| 2019 | (till date) | Member, Research Advisory Committee (RAC), St. Joseph's College, Devagiri (VC Nominee), Kerala, India |
| 2018 | (till date) | Member, Research Advisory Committee (RAC), MES Mannarkkad College (VC Nominee), Kerala, India         |
| 2018 | (till date) | Member, Research Advisory Committee (RAC), Govt. College, Madapally, (VC Nominee), Kerala, India      |

Life Member, Indian Chemical Society, F/6754 (LM) (2007)

Life Member, Chemical Research Society of India (CRSI) LM/1151

Co-Chairman, Kerala Science Congress- at University of Calicut (Jan28-30 2016)

## THESIS PRODUCED

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|      |                                                                                                                                                                 |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 | <i>Synthesis, characterization and sensing applications of novel schiff base ligands</i><br><b>Dr. Muhammed Arshad</b>                                          |
| 2023 | <i>Thiophene bearing bis-chalcone based monomers and polymers for environmental applications</i><br><b>Dr. Sowmya P.</b>                                        |
| 2023 | <i>Tunable synthesis and characterization of phytoconjugated nanoparticles for water remediation</i><br><b>Dr. Julia Garwasis</b>                               |
| 2022 | <i>Mitigation of mild steel corrosion in hydrochloric acid using N, S,O donar phytorich extracts of selected medicinal plants</i><br><b>Dr. Jeejarani A. T.</b> |
| 2021 | <i>Synthetic and Natural N, S, O donor systems as corrosion inhibitors for mild steel in acid environments</i><br><b>Dr. Asha Thomas</b>                        |
| 2021 | <i>Protection of mild steel in aggressive media using carbohydrate polymers</i><br><b>Dr. Shamseera K. O.</b>                                                   |

- 2021 *Biological and environmental applications of phytogetic ZnO nanoparticles*  
**Dr. Anupama R. Prasad**
- 2021 *Synthesis, characterization and analytical applications of titania nanohybrids*  
**Dr. Jaseela P. K.**
- 2018 *Synthesis, characterization, biological screening and corrosion inhibition studies of N, S, O donor heterocycles and some of their transition metal complexes*  
**Dr. Rugmini Ammal P.**
- 2017 *Corrosion inhibition study of medicinal plant extracts and some of their components for mild steel in acid media*  
**Dr. Prajila M.**
- 2017 *Synthesis, characterization and anticorrosion screening of N, S, O donor ligands and some of its metal complexes*  
**Dr. Shiny K. M.**
- 2016 *Amino acid based green inhibitors for the corrosion of mild steel and copper in different media*  
**Dr. Mathew Kuruvila**
- 2016 *Electrochemical studies on N, S, O donor heterocycles as corrosion protection agents for commercial metals in different environments*  
**Dr. Revathy Mohan**
- 2016 *Corrosion inhibition study of medicinal plant extracts and some of their components for mild steel in acid media*  
**Dr. Anupama K. K.**
- 2016 *N,S,O donor mixed ligand system as corrosion inhibitors for commercial metals in acid solutions*  
**Dr. Ramya K.**
- 2013 *Theoretical and electrochemical studies on the corrosion inhibition properties of triazine and triazole based Schiff bases towards mild steel and aluminium in acid solutions*  
**Dr. Sam John**
- 2011 *Nitrogen Donor Heterocycles and their Schiff Bases as Analytical Reagents, Complexing Agents and Corrosion Inhibitors*  
**Dr. Bincy Joseph**

## RESEARCH PUBLICATIONS (2010 ONWARDS)

2026

1. Paul, A.; Sreelakshmi, T.; Joseph, A., Facile synthesis of nitro-puerarin and its integration with titania nanoparticles as a novel hybrid nano-filler for superior corrosion protection of mild steel in saline environments. *Progress in Organic Coatings* 2026, 219, 110378.
2. Kunnekkatt Oruvil, S.; Banu, S.; Joseph, A. Theoretical and Electroanalytical Assessment of Mild Steel Corrosion Using Ethanolic Extract of *Hemigraphis colorata*. *ChemistrySelect* 2026, 11 (19), e05928.
3. Sreelakshmi, T.; Joseph, A. Sustainable and eco-philic method for the detoxification arsenic from polluted water using green synthesised cubic ceria nanoparticles. *Applied Surface Science* 2026, 735, 166691.
4. Joseph, V.; Arshad, M.; Anupriya, K.; Joseph, A. Imine functionalized cross-linked chitosan based bio-sorbent as a pH tunable platform for efficient dye adsorption. *International Journal of Biological Macromolecules* 2026, 355, 151217.
5. Athira, C. M.; Sowmyashree, A. S.; Joy, M. N.; Joseph, A.; Korothe, P. A.; Raghavendra, N.; Haridas, K. R. Mechanistic Insights into the Corrosion Mitigation Performance of N-(Benzo[d]thiazol-2-yl) nicotinamide for Iron in 1 M HCl Solution: Experimental Inquiry Enhanced by Computational Analysis. *Journal of Bio- and Tribo-Corrosion* 2025, 12 (1), 32.
6. Shamsheera, K. O.; Rahma Sinu, C.; Joseph, A. Development of eco-friendly corrosion inhibitor from the ethanolic extract of *Chromolaena odorata* flower for mild steel in acidic media. *Canadian Metallurgical Quarterly* 2026, 1-13.

2025

7. Thomas, A.; Jeejarani, A. T.; Ajayan, A.; Joseph, A. Combined theoretical and experimental studies on *Myristica fragrans* fruit rind extracts as an efficient protecting agent for mild steel corrosion in 1M HCl. *Next Sustainability* 2025, 6, 100149.
8. Joseph, V.; Arshad, M.; Ajayan, A.; Joseph, A. Synthesis and applications of a fluorescent cyan 2-aryl benzimidazole for environmental sensing, luminescent ink, and coating technologies. *Journal of Photochemistry and Photobiology A: Chemistry* 2025, 465, 116346.
9. Prasad, A. R.; Kuruvilla, M.; Joseph, A. Synthesis and Fabrication of Green Nanoparticles. In *Nanoformulations for Agricultural Applications*, 2025; pp 35-61.
10. Sowmya, P.; Joseph, A. Effective removal of cationic dyes in a single aliquot using thiophene based bis-chalcone polymers. *Reactive and Functional Polymers* 2025, 210, 106189.
11. Paul, A.; Arshad, M.; Ajayan, A.; Joseph, A. Fossicking *Pueraria phaseoloides* leaf-derived N-doped carbon dot nanofillers engrafted anticorrosive epoxy coatings for mild steel in saline environments. *Surfaces and Interfaces* 2025, 58, 105784.

2024

12. Arshad, M.; Williams, L.; Ajayan, A.; Joseph, A. 2-hydroxy-1- Naphthaldehyde Based Colorimetric Probe for the Simultaneous Detection of Bivalent Copper and Nickel with High Sensitivity and Selectivity. *Journal of Fluorescence* 2024, 1.
13. Ajayan, A.; Joseph, V.; Paul, A.; Joseph, A., Coating Characterization with Electrochemical Techniques. In *Encapsulated Corrosion Inhibitors for Eco-Benign Smart Coatings*, CRC Press: pp 205-224.
14. T. S.; Prasad, A. R.; Joseph, A., Synthesis, characterization, and effective removal of dye pollutants from water bodies using a new ZnO nanocomposite. *J. Indian Chem. Soc.* 2024, 101 (8), 101183.
15. Arshad, M.; Ajayan, A.; Joseph, V.; Joseph, A., Highly sensitive detection of copper in aqueous media using a fluorescent probe developed from isophthalaldehyde and (E)-1-(hydrazonomethyl) naphthalen-2-ol. *Sensors and Actuators A: Physical* 2024, 373, 115436
16. Iyer, R. S.; Iyer, N. S.; P, R. A.; Joseph, A., Harnessing machine learning and virtual sample generation for corrosion studies of 2-alkyl benzimidazole scaffold small dataset with an experimental validation. *J. Mol. Struct.* 2024, 1306, 137767
17. Paul, A.; Ajayan, A.; Joseph, A. Protection of mild steel in acidic and saline media using a novel surface coat developed with *Pueraria phaseoloides* seed extract and epoxy resin. *Next Materials* 2024, 2, 100130.
18. Arshad, M.; Sowmya, P.; Paul, A.; Joseph, A. Sensing of picric acid using an AIEE active "Turn Off" fluorescent probe derived from hydroxy naphthalaldehyde and benzyloxy benzaldehyde. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2024, 305, 123465

2023

19. Arshad, M.; Ajayan, A.; Joseph, A. Exploring the dual sensing properties of an anthraldehyde based Schiff base for the successive determination of picric acid using AIEEF and copper using colorimetric methods. *Sensors and Actuators A: Physical* 2023, 364, 114787.
20. Arshad, M.; Jeejarani, A. T.; Ajayan, A.; Sebastian, C. D.; Joseph, A. Successive detection of bivalent zinc and picric acid using an organo-fluorescent sensor derived from 2-hydroxy-1- naphthaldehyde. *Sensors and Actuators A: Physical* 2023, 358, 114418.
21. Arshad, M.; Paul, A.; Joseph, A. Nanoscale detection of copper using an aggregation induced emission enhancement fluorescent sensor derived from hydroxy naphthaldehyde and benzyloxy benzaldehyde. *Journal of Photochemistry and Photobiology A: Chemistry* 2023, 444, 114983.
22. Arshad, M.; Jeejarani, A. T.; Joseph, V.; Joseph, A. Selective detection of picric acid in aqueous medium using a novel naphthaldehyde-based aggregation induced emission enhancement (AIEE) active "turn-off" fluorescent sensor. *Journal of Luminescence* 2023, 258, 119818.
23. Sowmya, P.; Williams, L.; Prakash, S.; Joseph, A. Design and synthesis of thiophene containing bis-chalcone-based mesoporous polymers for volatile iodine capture. *Journal of Hazardous Materials Advances* 2023, 10, 100272.
24. Sowmya, P.; Prakash, S.; Joseph, A. Adsorption of heavy metal ions by thiophene containing mesoporous polymers: An experimental and theoretical study. *J. Solid State Chem.* 2023, 320, 123836.
25. Jeeja Rani. A.T.; Arshad, M.; Kuruvilla, M.; Joseph, A. Computational modelling and correlation of physical parameters of 1-heptatriacotanol, phytol and 3, 7, 11, 15-tetra methyl-2-hexadecen-1-ol with the corrosion



inhibition efficiency of CIW for mild steel in HCl. Corrosion Engineering, Science and Technology 2023, 58 (3), 243-258.

26. Garvasis, J.; Prasad, A. R.; Shamsheera, K. O.; Nidheesh Roy, T. A.; Joseph, A. A facile one-pot synthesis of phyto-conjugate superparamagnetic magnetite nanoparticles for the rapid removal of hexavalent chromium from water bodies. Materials Research Bulletin 2023, 160, 112130.
27. Sowmya, P.; Prakash, S.; Joseph, A. A bis-chalcone based colorimetric probe for the selective detection of bisulfite/sulfite anions: exploring surfactant promoted Michael addition of anions to alpha, beta-unsaturated ketones. RSC Adv 2023, 13 (4), 2552-2560.

2022

28. Jeeja Rani, A. T.; Sreelakshmi, T.; Joseph, A. Effect of the addition of potassium iodide and thiourea on the corrosion inhibition effect of aqueous extract of Ayapana triplinervis towards mild steel in HCl at elevated temperatures-theoretical, electrochemical and surface studies. Journal of Molecular Liquids 2022, 366, 120211.
29. Garvasis, J.; Prasad, A. R.; Shamsheera, K. O.; Nidheesh Roy, T. A.; Joseph, A. Weed to nano seeds: Ultrasonic assisted one-pot fabrication of superparamagnetic magnetite nano adsorbents from Siam weed flower extract for the removal of lead from water. Journal of Hazardous Materials Advances 2022, 8, 100163.
30. Jeeja Rani, A. T.; Thomas, A.; Williams, L.; Joseph, A. Effect of Lunamarine, the Major Constituent of Boerhaavia diffusa Leave Extract on the Corrosion Inhibition of Mild Steel in Hydrochloric Acid; Computational Modelling, Surface Screening and Electroanalytical Studies. Journal of Bio- and Tribo-Corrosion 2021, 8 (1), 18.
31. Jeeja Rani, A. T.; Thomas, A.; Arshad, M.; Joseph, A. The influence of aqueous and alcoholic extracts of Garcinia cambogia fruit rind in the management of mild steel corrosion in hydrochloric acid: Theoretical and electroanalytical studies. Journal of Molecular Liquids 2022, 346, 117873.
32. Jeeja Rani A.T.; Asha Thomas.; Mathew Kuruvilla.; Muhammed Arshad.; Abraham Joseph. The co-adsorption of thymohydroquinone dimethyl ether (THQ) and coumarin present in the aqueous extract of Ayapana triplinervis on mild steel and its protection in hydrochloric acid up to 323 K: computational and physicochemical studies. RSC Advances. 2022, 12, 14328-14341.
33. Linda Williams.; Mohammed Arshad.; Jeeja Rani A.T.; Abraham Joseph. Biogenic MnO<sub>2</sub> nanoparticles derived from a Cedrus deodara pine needle extract and their composites with polyaniline/activated charcoal as an electrode material for supercapacitor applications. New J. Chem. 2022, 46, 4325-4333
34. Shamsheera K. O.; Anupama R Prasad.; Muhammed Arshad.; Abraham Joseph. A sustainable method of mitigating acid corrosion of mild steel using jackfruit pectin (JP) as green inhibitor: Theoretical and electrochemical studies. Journal of the Indian Chemical Society. 2021, 99.

2021

35. Asha Thomas.; Jeeja Rani A.T.; Abraham Joseph. Extended protection of mild steel in molar HCl using the Garcinia Indica fruit rind extract (GIW) and iodide ions; electrochemical, thermodynamic and kinetic studies. Journal of the Indian Chemical Society. 2021, 98.
36. Anupama R. Prasad.; P. Sowmya.; Julia Garvasis.; Abraham Joseph. Gamma-ray induced thermoluminescence emission of green synthesized zinc oxide nanophosphors. Journal of the Indian Chemical Society. 2021, 98.
37. Paul, A.; K.O. S.; Prasad, A. R.; Joseph, A. Electroanalytical and surface studies on the protective action of a coating of PVA@3WGO on mild steel in acidic and saline environment. Results in Surfaces and Interfaces 2021, 4, 100018.
38. Jeeja Rani, A. T.; Thomas, A.; Joseph, A. Inhibition of mild steel corrosion in HCl using aqueous and alcoholic extracts of Crotalaria Pallida – A combination of experimental, simulation and theoretical studies. Journal of Molecular Liquids 2021, 334, 116515.
39. Anupama R. Prasad.; Linda Williams.; Julia Garvasis.; K.O. Shamsheera.; Sabeel M. Basheer.; Mathew Kuruvilla.; Abraham Joseph. Applications of phytogenic ZnO nanoparticles: A review on recent advancements. Journal of Molecular Liquids. 2021, 331
40. K.O. Shamsheera.; Anupama R. Prasad.; P.K. Jaseela.; Abraham Joseph. Effect of surfactant addition to Guar Gum and protection of mild steel in hydrochloric acid at high temperatures: Experimental and theoretical studies. Journal of Molecular Liquids. 2021, 331.
41. Shamsheera K. O.; Anupama R Prasad.; Muhammed Arshad.; Abraham Joseph. A sustainable method of mitigating acid corrosion of mild steel using jackfruit pectin (JP) as green inhibitor: Theoretical and electrochemical studies. Journal of the Indian Chemical Society. 2021, 99.
42. Rani, A. T. J.; Thomas, A.; Arshad, M.; Joseph, A. The influence of aqueous and alcoholic extracts of Garcinia cambogia fruit rind in the management of mild steel corrosion in hydrochloric acid: Theoretical and electroanalytical studies. Journal of Molecular Liquids 2022, 346, 117873.
43. Anupama R. Prasad.; K.O. Shamsheera.; Abraham Joseph. Electrochemical and surface characterization of mild steel with corrosion resistant zirconia network fabricated by aqueous sol-gel technique. Journal of the Indian Chemical Society. 2021, 98.
44. Prasad, A.; Kuruvilla, M.; Joseph, A. Applications of cysteine in health and industries. 2021; pp 13-41

2020

45. K.O. Shamsheera.; Anupama R. Prasad.; Abraham Joseph. Extended protection of mild steel in saline and acidic environment using stearic acid grafted chitosan preloaded with mesoporous-hydrophobic silica (mhSiO<sub>2</sub>). Surface & Coatings Technology. 2020, 402.
46. Ammal P, R.; Prasad, A. R.; Joseph, A. Synthesis, characterization, in silico, and in vitro biological screening of coordination compounds with 1,2,4-triazine based biocompatible ligands and selected 3d-metal ions. Heliyon 2020, 6 (10), e05144.
47. P.K. Jaseela.; K.O. Shamsheera.; Abraham Joseph. Mesoporous Titania-Silica nanocomposite as an effective material for the degradation of Bisphenol A under visible light. Journal of Saudi Chemical Society. 2020, 24, 651-662.
48. Julia Garvasis.; Anupama R. Prasad.; K.O. Shamsheera.; P.K. Jaseela.; Abraham Joseph. Efficient removal of Congo red from aqueous solutions using phytogenic aluminum sulfate nano coagulant. Materials Chemistry and Physics. 2020, 251.



49. Asha Thomas,; P. Rugmini Ammal,; Abraham Joseph. A comprehensive study of mild steel corrosion in the aggressive acidic environment using CMPPC, a substituted pyrazole derivative. *Chemical Papers*. 2020, 74(9), 3025-3037.
50. Asha Thomas,; M. Prajila,; K.M. Shainy,; Abraham Joseph. A green approach to corrosion inhibition of mild steel in hydrochloric acid using fruit rind extract of *Garcinia indica* (Binda). *Journal of Molecular Liquids*. 2020, 312.
51. P.K. Jaseela,; Mathew Kuruvilla,; Linda Williams,; Chinju Jacob'; K.O. Shamsheera,; Abraham Joseph. Excellent protection of mild steel in sodium chloride solution for a substantial period of time using a hybrid nanocoating of poly vinyl alcohol and Titania. *Arabian Journal of Chemistry*. 2020, 13, 6921–6930.
52. Shamsheera K.O,; Anupama R. Prasad,; Jaseela PK,; Abraham Joseph. Development of self-assembled monolayer of stearic acid grafted chitosan on mild steel and inhibition of corrosion in hydrochloric acid. *Chemical Data Collections*. 2020, 28.
53. Jaseela, P. K.; Shamsheera, K. O.; Joseph, A. HMDS–GPTMS Modified Titania Silica Nanocomposite: A New Material for Oil–Water Separation. *Journal of Inorganic and Organometallic Polymers and Materials* 2020, 30 (6), 2134-2141.
54. Prasad, A. R.; Kunyankandy, A.; Joseph, A. Corrosion Inhibition in Oil and Gas Industry. In *Corrosion Inhibitors in the Oil and Gas Industry*, 2020; pp 135-150.
55. Linda Williams,; Anupama R. Prasad,; P. Sowmya,; Abraham Joseph. Characterization and Temperature dependent DC conductivity study of bio templated nickel oxide nanoparticles (NiO) and their composites using polyaniline (PANI). *Materials Chemistry and Physics*. 2020, 242.
56. Prasad, A. R.; Basheer, S. M.; Gupta, I. R.; Elyas, K. K.; Joseph, A. Investigation on Bovine Serum Albumin (BSA) binding efficiency and antibacterial activity of ZnO nanoparticles. *Materials Chemistry and Physics* 2020, 240, 122115.
57. Prasad, A. R.; M, A.; K. O, S.; Joseph, A. Bio-fabricated ZnO nanoparticles: direct sunlight-driven selective photodegradation, antibacterial activity, and thermoluminescence-emission characteristics. *New Journal of Chemistry* 2020, 44 (20), 8273-8279, 10.1039/D0NJ01611J.
58. K.O. Shamsheera,; R. Prasad Anupama,; Joseph Abraham. Computational simulation, surface characterization, adsorption studies and electrochemical investigation on the interaction of guar gum with mild steel in HCl environment. *Results in Chemistry* 2. 2020.

2019

59. K. O. Shamsheera; Anupama R Prasad,; Julia Garvasis,; Sabeel M Basheer,; Abraham Joseph. Stearic acid grafted chitosan/epoxy blend surface coating for prolonged protection of mild steel in saline environment. *Journal of Adhesion Science and Technology*. 2019, ( ), 1–15.
60. Rugmini Ammal P,; Anupama R Prasad,; K. Ramya; Sam John,; Abraham Joseph. Protection of mild steel in hydrochloric acid using methyl benzimidazole substituted 1, 3, 4-oxadiazole: computational, electroanalytical, thermodynamic and kinetic studies. *Journal of Adhesion Science and Technology*. 2019, ( ), 1–23.
61. Anupama R Prasad,; Sabeel M Basheer,; Linda Williams,; Abraham Joseph. Highly selective inhibition of  $\alpha$ -glucosidase by green synthesised ZnO nanoparticles - In-vitro screening and in-silico docking studies. *International Journal of Biological Macromolecules*. 2019, ( ), S0141813019318884.
62. Jaseela P K,; Julia Garvasis,; Abraham Joseph. Selective adsorption of Methylene Blue (MB) dye from aqueous mixture of MB and Methyl Orange (MO) using Mesoporous Titania (TiO<sub>2</sub>) – Poly Vinyl Alcohol (PVA) nanocomposite. *Journal of Molecular Liquids*. 2019, S0167-7322(19)30484-2.
63. Sam John,; Alfeena salam,; Anju Maria Baby,; Abraham Joseph. Corrosion inhibition of mild steel using chitosan / TiO<sub>2</sub> nanocomposite coatings. *Progress in Organic Coatings*. 2019, 129( ), 254–259.
64. Anupama R Prasad,; Julia Garvasis,; Shamsheera Kunnekkat Oruvil,; Abraham Joseph. Bio-inspired green synthesis of zinc oxide nanoparticles using *Abelmoschus esculentus* mucilage and selective degradation of cationic dye pollutants. *Journal of Physics and Chemistry of Solids*. 2019, 127( ), 265–274.
65. Kuruvilla, M.; Prasad, A. R.; Shainy, K. M.; Joseph, A. Protection of Metallic Copper from the Attack of Sulphuric Acid Using HDMMA, a Schiff Base Derived from L-Cysteine and 2-Hydroxy-1-naphthaldehyde. *Journal of Bio- and Tribo-Corrosion* 2018, 5 (1), 9.
66. Shainy, K.M.; Anupama R Prasad,; Asha Thomas,; Abraham Joseph. Synergistic interaction of 2-amino 4-methyl benzothiazole (AMBT) and benzotriazole (BTZ) offers excellent protection to mild steel exposed in acid atmosphere at elevated temperatures: Electrochemical, computational and surface studies. *Egyptian Journal of Petroleum*. 2019, ( ), S1110062118302496.

2018

67. P. Rugmini Ammal,; Anupama R Prasad,; Abraham Joseph. Comparative studies on the electrochemical and physicochemical behaviour of three different benzimidazole motifs as corrosion inhibitor for mild steel in hydrochloric acid. *Egyptian Journal of Petroleum*. 2018, ( ), S1110062118300187.
68. Rugmini Ammal, P.; Prajila, M.; Joseph, A. Effective inhibition of mild steel corrosion in hydrochloric acid using EBIMOT, a 1, 3, 4-oxadiazole derivative bearing a 2-ethylbenzimidazole moiety: Electro analytical, computational and kinetic studies. *Egyptian Journal of Petroleum* 2018, 27 (4), 823-833.
69. Shainy, K. M.; Rugmini Ammal, P.; Joseph, A. Development of passive film and enhancement of corrosion protection of mild steel in hydrochloric acid through the synergistic interaction of 2-amino-4-methyl benzo-thiazole (AMBT) and (E)-2-methylbenzo[d]thiazol-2-yl) imino-4-methyl) phenol (MBTP). *Egyptian Journal of Petroleum* 2018, 27 (4), 621-632.
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