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Department Of Chemistry

Publications Details

Journal Publications: 2024

1. Asha, S. C., **Mahesh, B.**, Ravikumar, C. R., **Chamaraja, N. A.**, Anand Murthy
Green Synthesis of Calcium Oxide Nanoparticles using Ocimum sanctum leaves
extracts: Photocatalytic and electrochemical sensor applications. *Journal of
Materials Science: Materials in Electronics*, 2024,
<https://doi.org/10.1007/s10854-024-13374-x>
2. **Kathyayani, D., Mahesh, B.**, Sionkowska, A., Manjula, S. N., Veeranna, S., &
Vicini, S. Insights into the Physicochemical Characteristics and Miscibility of
Chitosan/Polypeptide Blends: Promising Material for Wound Healing in Sprague-
Dawley Rats. *ACS biomaterials science & engineering*.
<https://doi.org/10.1021/acsbiomaterials.4c01123>
3. Shubha, J. P., **Roopashree, B.**, Sushma, N. V., Kiran, K., Ravikumar, R., Kuniyil,
M., Mohammed Rafi Shaik, Mujeeb Khan, Adil, S. F. (2024). Photocatalytic and
eco-emission applications of green synthesized ZnO-CB nanoparticles. *Journal
of King Saud University-Science*, 36(9), 103373.
<https://doi.org/10.1016/j.jksus.2024.103373>
4. Kavya, H. V., Sachhidananda, S., Sangamesha, M. A., Rekha, N. D.,
Kendagannaswamy, B. K., **Chamaraja, N. A.**, & Mallesha, L. (2024). Optical,
electrical, and biological properties of PVP-PVA/Ca-doped CoO nanocomposites
for opto-electronic and biological applications. *Ionics*, 1-
11. <https://doi.org/10.1007/s11581-024-05746-4>
5. Manjunatha, A. S., Prakruthi, P. R., **Puneetha, J.**, Shashank, M., & Nagaraju, G.
(2024). Cocos nucifera mediated green synthesis and characterization of BiOCl-
Fe₂O₃ nanocomposite for photocatalytic dye degradation and electrochemical
sensing of dopamine. *Sustainable Chemistry for the Environment*, 7,
100138. <https://doi.org/10.1016/j.scenv.2024.100138>.
6. Surendra, D. M., Kumar, C. P., Nandini, C., **Chamaraja, N. A.**, Raghu, A. V.,
Majani, S. S., ... & Kollur, S. P. (2024). Synthesis, characterization, and

assessment of anticancer potency of oxcarbazepine with folic acid conjugated Fe₂O₃ nanostructures as nano-drugs. *Journal of Molecular Structure*, 1306, 137842. <https://doi.org/10.1016/j.molstruc.2024.137842>

7. Nanjundaswamy Gumatapura Siddamallappa, **Mahesh Basavaraju**, Alina Sionkowska, Channe Gowda Dase Gowda, (2024). A review on synthetic polypeptide-based blends with other polymers: Emerging trends and advances. *European Polymer Journal*, 113225. <https://doi.org/10.1016/j.eurpolymj.2024.113225>
8. **Chamaraja, N.A.**, Khan, M.M., Hemalatha, H.N. *et al.* Ca-doped ZnO nanoparticles for MB dye degradation and adsorptive removal of tinidazole. *Environ Monit Assess* **196**, 710 (2024). <https://doi.org/10.1007/s10661-024-12843-4>
9. **Puneetha, J.**, Kottam, N., & Rajendrachari, S. (2024). Modern trends in carbon nanostructured material-based electrochemical biosensing systems. *Novel Nanostructured Materials for Electrochemical Bio-Sensing Applications*, book chapters, 21-36.

Journal Publications: 2023

1. Divakara, S. G., & **Mahesh B.** (2023) A comprehensive review on current trends in greener and sustainable synthesis of ferrite nanoparticles and their promising applications, *Results in Engineering*, 101702
2. **Kathyayani, D., Mahesh, B.**, Gowda, D. C., Sionkowska, A., & Veeranna, S. (2023) Investigation of miscibility and physicochemical properties of synthetic polypeptide with collagen blends and their wound healing characteristics, *International Journal of Biological Macromolecules*, 125704. <https://doi.org/10.1016/j.ijbiomac.2023.125704>
3. **Mahesh, B.**, & Mruthunjaya, K Aathira, P. Suresh., Nallupillai Paramakrishnan. (2023) A Comprehensive Review on *Cardiospermum halicacabum*, *Journal of Natural Remedies*, 23(2), 284–293. <https://doi.org/10.18311/jnr/2023/29382>
4. **Mahesh, B.**, Lokesh, H. R., **Kathyayani, D.**, Sionkowska, A., Gowda, D. C., & Adamiak, K. (2023). Interaction between synthetic elastin-like polypeptide and collagen: Investigation of miscibility and physicochemical properties. *Polymer*, 272, 125833. <https://doi.org/10.1016/j.polymer.2023.125833>

5. Lakshminarayana, Shilpa Madhugiri, **Roopashree Boregowda**, and Gayathri Virupaiah. (2023). "Reusable palladium–quinolyl benzimidazole complex immobilized on a polymer for the hydrogenation of organic substrates." *Chemical Papers*, 1-13. <https://doi.org/10.1007/s11696-023-02721-7>
6. **Roopashree, B., Mahesh, B.**, Ramu, R., Rekha, N. D., Manjula, S. N., Preethi, G., & Gayathri, V. (2023). An insight into the cytotoxic, antimicrobial, antioxidant, and biocontrol perspective of novel Iron (III) complexes of substituted benzimidazoles: Inhibition kinetics and molecular simulations. *Journal of Biomolecular Structure and Dynamics*, 1-17.
7. Shubha, J. P., **Roopashree, B.**, Patil, R. C., Khan, M., Shaik, M. R., Alaqarbeh, M., & Adil, S. F. (2023). Facile synthesis of ZnO/CuO/Eu heterostructure photocatalyst for the degradation of industrial effluent. *Arabian Journal of Chemistry*, 16(3), 104547. <https://doi.org/10.1016/j.arabjc.2023.104547>
8. Kokila, N. R., **Mahesh, B.**, Ramu, R., **Roopashree, B.**, & Mruthunjaya, K. (2023). α -Amylase inhibitory potential of Thunbergia mysorensis leaves extract and bioactive compounds by in vitro and computational approach. *Journal of Biomolecular Structure and Dynamics*, 1-17. <https://doi.org/10.1080/07391102.2023.2190408>
9. **Siddegowda Kathrikenahalli Somashekarappa, Mahesh Basavaraju, Chamaraja Nelligere Arakeshwaraiyah**, Roopa Kotthathi Papanna, Kumara Swamy Ningappa, Divakara Soorly Gopala, Jayarame Gowda (2023). Rapid Electrochemical Investigation of Gemfibrozil Using NiONPs/Multiwalled Carbon Nanotube Modified Carbon Paste Electrode: Analysis of Human Urine Sample and Antimicrobial Activity. *Chemistry Select*, 8(48), e202302407.
10. **Bindhu, S.**, Raj, V., Nanjundaswamy, S., Hemavathi, M., Sandeep, S., Renganathan, R. A., & Rai, V. R. (2023). Insight into the conformational analysis of 3-phenyl-N-(3-(trimethoxysilyl) propyl) prop-2-en-1-imine (PTP) as a biocidal candidate: In-silico and quantum computational approach. *Results in Chemistry*, 5, 100685.
11. Surendra, D. M., **Chamaraja, N. A.**, Yallappa, S., Bhavya, D. K., Joseph, S., Varma, R. S., & Patel, B. B. (2023). Efficacy of phytochemical-functionalized silver nanoparticles to control Flacherie and Sappe silkworm diseases in Bombyx mori L. larvae. *Plant Nano Biology*, 5, 100048.
12. Yaidikar, Lavanya, Pydiraju Kondrapu, Astha Mishra, Pramod Bhaskar Kumar, Arshad Ahmad, K. A. Shaima, **N. A. Chamaraja**, and Shubhangi Tripathi. (2023)

"Screening and discovery of novel carbamate compounds for cancer therapy."
Journal of Cardiovascular Disease Research, 678-697.

Journal Publications: 2022

1. Kokila, N. R., Mahesh, B., Ramu, R., Mruthunjaya, K., Bettadaiah, B. K., &Madhyastha, H. (2022). Inhibitory effect of gallic acid from *Thunbergia mysorensis* against α -glucosidase, α -amylase, aldose reductase and their interaction: Inhibition kinetics and molecular simulations. *Journal of Biomolecular Structure and Dynamics*, 1-17.
2. S.YallappaD.M.Surendra, **N.A.Chamaraja**, S.S.Godipurge, Synthesis and functionalization of silver ferrite (AgFe₂O₃) nanoparticles with l-methionine: In vivo toxicity studies against *Drosophila melanogaster* (Diptera: Drosophilidae), *Results in Chemistry*, Vol-4, October-2022. <https://doi.org/10.1016/j.rechem.2022.100565>
3. K.P. Roopa, K. Keshavamurthy, **B.Mahesh**, K.P. Veena, B.S. Shankara , K. Basavaiah, Determination of Vardenafil in Pure and Dosage Forms by Spectrophotometry. *Zhurnal Prikladnoii Spektroskopii*. 2022;89(4):599. <https://doi.org/10.1007/s10812-022-01429-y>
4. **N. A. Chamaraja & B. Mahesh** Design and Development of a Novel Reagent for the Spectrophotometric Assay of Phosphate in Water and Soil Samples, *JSS Journal of Scientific studies*, Vol.1, July-2022
5. **D.Kathyayani, B. Mahesh, N.A.Chamaraja, B.S.Madhukar & D. Channe Gowda**, Synthesis and structural characterization of elastin-based polypentapeptide/hydroxypropylmethylcellulose blend films: Assessment of miscibility, thermal stability and surface characteristics, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, Vol.649, June-2022. <https://doi.org/10.1016/j.colsurfa.2022.129503>
6. **N. A. Chamaraja, B. Mahesh & N. D. Rekha**, Green synthesis of Zn/Cu oxide nanoparticles by *Vernicia fordii* seed extract: their photocatalytic activity toward industrial dye degradation and their biological activity, *Inorganic and Nano-Metal Chemistry*, May-2022. <https://doi.org/10.1080/24701556.2022.2069123>
7. Saligrama Mahesh Abhishek, Ningappa Kumara Swamy, Shivamurthy Ravindra Yashas, Harikaranahalli Puttaiah Shivaraju & **Nelligere Arkeswaraiah Chamaraja**, Soft-chemical synthesis and rational application of transition-metal tetrachalcogenide for LED-driven photocatalytic degradation of lomefloxacin in water, *Journal of Materials Science: Materials in Electronics*, April-2022. <https://doi.org/10.1007/s10854-022-08193-x>
8. Kavya H. V, Nithin K. S, Sachhidananda S, Kendagannaswamy B. K., **Chamaraja N. A***, Optical, Electrical and Thermal Behaviors of CaZnO₂ Nanofillers Loaded PVP-PVA Nanocomposite Thick Films, *Polymer Science Series A*, April, 2022. <https://doi.org/10.1134/S0965545X22200068>

9. Kokila N R, **Mahesh B**, Roopa K P, Daruka Prasad B, Kalyanraj, Manjula S N, Mrutunjaya K, Ramith Ram, Thunbergia mysorensis mediated Nano Silver Oxide for Enhanced Antibacterial, Antioxidant, Anticancer potential and in vitro Hemolysis Evaluation, Journal of Molecular Structure, 1255, 132455, May 2022, <https://doi.org/10.1016/j.molstruc.2022.132455>.
10. **B. Mahesh**, **D. Kathyayani**, D. Channe Gowda, Alina Sionkowska, Seeram Ramakrishna, Miscibility and thermal stability of synthetic glutamic acid comprising polypeptide with polyvinyl alcohol: Fabrication of nanofibrous electrospun membranes, Materials Chemistry and Physics, Vol. 281, 125847, April 2022, <https://doi.org/10.1016/j.matchemphys.2022.125847>.
11. Nasreen Taj M; B Daruka Prasad; Rama Rao Narapareddy; H Nagabhushana ; G. Ramakrishna; **B. Mahesh**; Sunanda Damini, PANI - Molybdate Nanocomposites: Structural, Morphological and Dielectric properties for the effective EMI Shielding Applications in X-Band, Applied Surface Science Advances, February 2022, Vol. 7, Pages 100203, <https://doi.org/10.1016/j.apsadv.2021.100203>.
12. Malini, S, Roy, A, Raj, K, Raju, K, Ali, I. H, **Mahesh, B**, Lee, S. S., Sensing beyond Senses: An Overview of Outstanding Strides in Architecting Nanopolymer-Enabled Sensors for Biomedical Applications, Polymers, 14(3), January 2022, <https://doi.org/10.3390/polym14030601>.
13. Hattna Shivarudraiah Vedhavathi; Ballur Prasanna Sanjay; **Mahesh Basavaraju**; Beejaganahalli Sangameshwara Madhukar; Ningappa Kumara Swamy, Development of ciprofloxacin sensor using iron-doped graphitic carbon nitride as transducer matrix: Analysis of ciprofloxacin in blood samples, Journal of Electrochemical Science and Engineering (ISSN 1847-9286), Nov 2021, Page No.1-12, <http://dx.doi.org/10.5599/jese.1112>.

Journal Publications: 2021

1. Roopa K P, Basavaiah K, Shankar B S, S.B. **Mahesh B**, Veena K P, Determination of Solifenacin Succinate in Pure and Pharmaceutical Dosage forms by Spectrophotometry, J Anal Chem, Nov 2021, **Vol 76**, 1262–1270, <https://doi.org/10.1134/S1061934821110101>.
2. A.S.Santhosh S. Sandeep H.M. Manukumar **B. Mahesh N. Kumara Swamy**, Green synthesis of silver nanoparticles using cow urine: Antimicrobial and blood biocompatibility studies, JCIS Open, Vol. 3, October 2021, <https://doi.org/10.1016/j.jciso.2021.100023>.
3. HV Kavya, KS Nithin, BK Kendagannaswamy, S Sachhidananda, **NA Chamaraja**, Optical Performance Appraisal of Mechanically Flexible and Visibly Clear PVP-PVA/Calcium doped Zirconium Oxide Nanocomposites for UV Shielding Applications, Optik, Volume 227, February 2021, 166008, <https://doi.org/10.1016/j.ijleo.2020.166008>.
4. B. Mahesh, D. Kathyayani, H.R. Lokesh, D. Channe Gowda, Alina Sionkowska, Insights into the miscibility characteristics of plastic-mimetic polypeptide with hydroxypropylmethylcellulose: Investigation of thermal degradability and

- intermolecular interactions, *Colloids and Surfaces B: Biointerfaces*, Vol. 205, May, 2021, <https://doi.org/10.1016/j.colsurfb.2021.111877>.
5. Surendra Doddarasinakere Mariswamy; Chandrashekar Kagepura Thimmaiah; Vasantha Kumar Basappachidananda; **Mahesh Basavaraju**; Chamaraja Nelligere Arkeswaraiah Antimicrobial Aqueous Extracts of *Rubia cordifolia*, *Int. J. Pharm. Sci. Rev. Res.*, April 2021, 67(2), 174-184, <http://dx.doi.org/10.47583/ijpsrr.2021.v67i02.028>
 6. N.A. Chamaraja, B. Mahesh, C.B. and Praveen Kumar, Colorimetric detection of chromium (VI) using peroxidase mimetic IONPs with 4- aminoantipyrene and 3- aminophenol as a chromogen, *Environmental Nanotechnology, Monitoring & Management*, Vol. 16, April, 2021, <https://doi.org/10.1016/j.enmm.2021.100471>
 7. J. Puneetha, Nagaraju Kottam, A. Rathna, Investigation of photocatalytic degradation of crystal violet and its correlation with bandgap in ZnO and ZnO/GO nanohybrid, *Inorganic Chemistry Communications*, Vol. 125, March, 2021 <https://doi.org/10.1016/j.inoche.2021.108460>
 8. K. P. Roopa, K. Basavaiah, B. S. Shankara, and B. Mahesh, Development and Validation of Spectrophotometric Methods for the Assay of Mirabegron in Bulk and Pharmaceutical Formulations, *Journal of Applied Spectroscopy*, Vol. 87, No. 6, January, 2021, <https://doi.org/10.1007/s10812-021-01126-2>.
 9. Ramanath Prabhu, B. Roopashree, T. Jeevananda, Srilatha Rao, Kakarla Raghava Reddy, Anjanapura V. Raghu, Synthesis and corrosion resistance properties of novel conjugated polymer-Cu₂Cl₄L₃ composites, *Materials Science for Energy Technologies*, Vol 4 pg no. 92–99, January, 2021, <https://doi.org/10.1016/j.mset.2021.01.001>

Journal Publications: 2020

1. H.V. Kavya, K.S. Nithin, B.K. Kendagannaswamy, S. Sachhidananda, N.A. Chamaraja, Optical Performance Appraisal of Mechanically Flexible and Visibly Clear PVP-PVA/Calcium doped Zirconium Oxide Nanocomposites for UV Shielding Applications, Vol. 227, *Optic*, November, 2020, <https://doi.org/10.1016/j.ijleo.2020.166008>
2. Nanjundaswamy G S , Mahesh B , Channe Gowda D , Chamaraja N A & Gangadhar Angadi, Examination of miscibility characteristics of the synthetic plastic-mimetic peptide with polyacrylamide: development of nonwoven mats by electrospinning, *Polymer-Plastics Technology and Materials*, Vol. 60, No. 4, 405–418, August, 2020, <https://doi.org/10.1080/25740881.2020.1811322>
3. B. Mahesh, D. Kathyayani, D. Channe Gowda, K. Mrutunjaya, Blends of synthetic plastic-derived polypeptide with Hydroxypropylmethylcellulose and polyvinyl alcohol: unraveling the specific interaction parameters, morphology and thermal stability of the polymers couple, *Journal of Polymer Research*, Springer 27, 278 (2020). <https://doi.org/10.1007/s10965-020-02191-5>
4. B. Mahesh , K.S. Siddegowda , N.A. Chamaraja , B. Roopashree , N. Kumara swamy , G.S. Nanjundaswamy, Zinc oxide Nanoparticles Supported on Multi-Walled Carbon Nanotube Modified Electrode for Electrochemical Sensing of a

- Fluoroquinolone Drug, *Electroanalysis*, Wiley USA, 32, 1–11, June, 2020, <https://doi.org/10.1002/elan.202000010>
5. N.A. Chamaraja, B. Mahesh, N. Kumara Swamy, Enzymatic method and its validation for the micromolar assay of glucose in human serum samples, *Analytical Biochemistry*, Elsevier, 590,11536, 2020 <https://doi.org/10.1016/j.ab.2019.113536>
 6. N.R. Kokila, B. Mahesh, K. Mruthunjaya, Exploration of bioactive components of *thunbergia coccinea*, its Pharmacognostic, antioxidant, GCMS and antihyperglycemic studies, *International Journal of Pharmacy and Pharmaceutical Sciences*, Innovare Academic Sciences Pvt. Ltd. India,12(6), 45-54, 2020, <http://dx.doi.org/10.22159/ijpps.2020v12i6.37290>
 7. J. Puneetha ,NagarajuKottam, G. Nagaraju , A. Rathna, Visible light active ZnO nanostructures prepared by simple co-precipitation method, *Photonics and Nanostructures - Fundamentals and Applications*, Elsevier, 29, 2020. <http://dx.doi.org/10.1016/j.photonics.2020.100781>

Journal Publications: 2019

1. B. Roopahsree, V. Gayathri, Synthesis, Characterization and Antimicrobial activities of Copper (II) Complexes of Schiff base ligand 2-[(3'-N-Salicylidinephenyl) benzimidazole], *Asian Journal of Chemistry*, Asian Publication Corporation, 31, 9, April, 2019. <https://doi.org/10.14233/ajchem.2019.22067>
2. A.S. Santhosh, S. Sandeep, S.N. Kumara, J.S. Melo, N.A. Chamaraja, Fabrication of Potentiometric Glucose Biosensor Based on Two Variant Dimensions of Green Synthesized Silver Nanostructures as a Single Nanohybrid Compartment—A Green Approach, *Sensor Letters*, American Scientific Publishers, 17, 11, 2019. <http://dx.doi.org/10.1166/sl.2019.4147>
3. B. Mahesh, D. Kathyayani, G.S. Nanjundaswamy, D.C. Gowda, R. Sridhar, Miscibility studies of plastic-mimetic polypeptide with hydroxypropylmethylcellulose blends and generation of non-woven fabrics, *Carbohydrate Polymers*, Elsevier, 212,129-141, 2019. <http://dx.doi.org/10.1016/j.carbpol.2019.02.042>
4. B. Mahesh, G. S. Nanjundaswamy, D. Kathyayani, D. Channe Gowda, Siddaramaiah, Impact of Blend Proportion on the Miscibility and Thermal Characteristics of Synthetic Plastic-Derived Polypentapeptide with Commercially Available Polyvinyl Alcohol, *Journal of Polymers and the Environment*, Springer, 27,2267–2280, 2019. <https://doi.org/10.1007/s10924-019-01511-1>

Journal Publications: 2018

1. K.S. Siddegowda, B. Mahesh, N. Kumaraswamy, Fabrication of copper oxide nanoparticles modified carbon paste electrode and its application in simultaneous electroanalysis of guanine, adenine and thymine, *Sensors and Actuators A: Physical*, Elsevier, 280, 277-286, 2018. <https://doi.org/10.1016/j.sna.2018.07.049>
2. G. S. Nanjundaswamy, B. Mahesh, D. Channe Gowda, Elastin-based polymer: synthesis, characterization and examination of its miscibility characteristics with poly(vinyl alcohol) and electrospinning of the miscible blends, *Polymer International*, Wiley Online Library, USA, 67,11, 2018. <https://doi.org/10.1002/pi.5669>
3. S. Sandeep, A.S. Santhosh, N. Kumara Swamy, G.S. Suresh, J.S. Melo, N.A. Chamaraja, Biosensor based on graphene nanoribbons/silver nanoparticle/polyphenol oxidase composite matrix on graphite electrode: Application in the analysis of catechol in green tea samples, *New Journal of Chemistry*, Royal Society of Chemistry, 42, 20, 2018. <https://doi.org/10.1039/C8NJ02325E>

Journal Publications: 2017

1. B. Mahesh, G. S. Nanjundaswamy, D.Channe Gowda, Siddaramaiah, Synthesis and evaluation of interaction parameters of synthetic elastin-derived polypentapeptide with poly(vinylpyrrolidone) in solution and solid phase, *Journal of Applied Polymer Science*, Wiley online library, USA, 134, 36, 2017. <https://doi.org/10.1002/app.44624>
2. B. Mahesh, G. S. Nanjundaswamy, D. Channe Gowda, Siddaramaiah, Synthesis of elastin-based polymer and evaluation of its intermolecular interactions with hydroxypropyl methylcellulose, *Journal of Applied Polymer Science*, Wiley online library, USA, 134, 36, 2017. <https://doi.org/10.1002/app.44624>
3. G.R. Suman, S.G.Bubbly, S.B.Gudennavar, B. Roopashree, S. Muthu , V. Gayathri, N.M. Nanje Gowda, Structural investigation, spectroscopic and energy level studies of Schiff base: 2 [(3'-N-salicylidene)phenyl] benzimidazole] using experimental and DFT methods, *Journal of Molecular structure*, Elsevier, 1139, 2017. <https://doi.org/10.1016/j.molstruc.2017.03.043>

Journal Publications: 2016

1. B. Mahesh, G. S. Nanjundaswamy, D.Channe Gowda, Siddaramaiah, Investigation on miscibility behaviors of elastin-like polypentapeptide blends with polyvinyl alcohol in aqueous and solid state, *Journal of Applied Polymer Science*, Wiley online library, USA, 134,12, 2016. <https://doi.org/10.1002/app.44624>.

Journal Publications: 2015

1. K. Lokesh, S. HariPrasad, B. Roopashree, V. Gayathri, Synthesis, Characterization and Catalytic Activity of a Novel 2-(3'- aminophenyl) benzimidazolPalladium(II) Complex, Current Catalysis, Bentham Science, 4, 2, 2015. <https://doi.org/10.2174/2211544704666150508221808>