Dr. Rupesh Chandrakant Patil

Designation: Assistant Professor

Department: Department of Chemistry

Contact Information

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Educational Background

- Doctor of Philosophy (Ph. D.), Synthetic Organic Chemistry, Shivaji University, Kolhapur, 2022
- Master of Science (M. Sc.), Organic Chemistry, Shivaji University, Kolhapur, 2017

Areas of Expertise / Research Interests

- Catalysis, Green Chemistry, Heterocyclic Chemistry, Synthetic Organic Chemistry

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Teaching Interests

- Courses or subjects taught: Organic Chemistry, Physical Chemistry, Inorganic Chemistry, Analytical Chemistry.

Professional Experience

- 26th July 2024 to till date: **Assistant professor,** at Department of Chemistry, B. N. Bandodkar College of Science, Thane (Autonomous)
- July, 2022 to 25th July 2024: **Assistant professor**, at Department of Chemistry, Shivraj College of Arts, Commerce & D. S. Kadam Science College, Gadhinglaj, Maharashtra.

Publications & Research

1. Sawdust-APTS-Pd: A sustainable benchmark for Suzuki-Miyaura reaction, A. A. Jagdale, **R. C. Patil,** B. V. Tamhankar, S. S. Patil, Research on Chemical Intermediates, 2025, 1-22, 10.1007/s11164-025-05856-2.

2. Waste-derived catalyst assisted synthesis, antibacterial evaluation, docking simulation and DFT correlation studies of biscoumarins, **R. C. Patil,** P. R. Dongare, U. P. Patil, S. K. Shinde, S. R. Mali, M. U. Patil, S. P. Patil, P. M. Mhaldar, P. L. Savekar, S. S. Patil, S. S. Patil, Journal of Molecular Structure, 2025, 143701

3. Magnetically retrievable nanocatalysis for eco-friendly synthesis of functional chromenes: Sustainable innovations and insights, U. P. Patil, **R. C. Patil,** S. U. Patil, Journal of Organometallic Chemistry, 2025, 123786

4. Aqueous extract of CAP-ash: A greener benchmark for Suzuki-Miyaura coupling reaction in palladium catalyzed ligand-free condition, **R. C. Patil,** P. R. Dongare, S. S. Patil, Journal of Molecular Structure, 2024, 1321, 140160

5. Chickpea leaf exudates (CLE) mediated Knoevenagel-Michael reactions for the synthesis of diketodiols and biscoumarins, **R. C. Patil,** D. N. Zambare, S. A. Damate, A. A. Jagdale, S. R. Mali, S. K. Shinde, S. S. Patil, Research on Chemical Intermediates, 2022, 48, 2181-2198.

6. Chickpea Leaf Exudates: A highly efficient natural Bronsted acidic medium for the synthesis of pyran-annulated heterocycles, S. R. Mali, S. K. Shinde, B. M. Patil, **R. C. Patil,** S. S. Patil, Letters in Organic Chemistry, 2022, 19, 651-661.

7. Chickpea Leaf Exudates: A green Bronsted acid type biosurfactant for bis(indole)methanes and bis(pyrazolyl)methanes synthesis; **R. C. Patil,** S. A. Damate, D. N. Zambare, S.S. Patil, New Journal of Chemistry, 2021, 45, 9152-9162.

8. Agro-waste generated Pd/CAP-ash catalyzed ligand free approach for Suzuki Miyaura coupling reaction, **R. C. Patil,** A. A. Jagdale, U. P. Patil, S. S. Patil, Catalysis Letters, 2021, 151, 3617-3631.

9. A synergetic role of Aegle marmelos fruit ash in the synthesis of biscoumarins and 2-amino-4H-chromenes; **R. C. Patil,** S. K. Shinde, U. P. Patil, A. T. Birajdar, S. S. Patil, Research on Chemical Intermediates, 2021, 47, 1675-1691.

10. Biowaste-Derived Heterogeneous Catalyst for the One-Pot Multicomponent Synthesis of Diverse and Densely Functionalized 2-Amino-4H-Chromenes; U. P. Patil, **R. C. Patil,** S. S. Patil, Organic Preparation and Procedure International, 2021, 53, 190-199.

11. Revisit to Henry reaction by non-conventional heterogeneous and efficient catalyst for nitro alcohol synthesis, S. D. Jadhav, **R. C. Patil,** A. A. Jagdale, S. S. Patil, Research on Chemical Intermediates, 2021, 48, 593-606.

12. Ash of pomegranate peels (APP): A bio-waste heterogeneous catalyst for sustainable synthesis of α,α′-bis(substituted benzylidine)cycloalkanones and 2-arylidene-1-tetralones; **R. C. Patil,** U. P. Patil, A. A. Jagdale, S. K. Shinde, S. S. Patil, Research on Chemical Intermediates, 2020, 46, 3527-3543.

13. Waste mussel shell as a highly efficient heterogeneous catalyst for the synthesis of polyfunctionalized 4H-pyrans in aqueous media; U. P. Patil, **R. C. Patil,** S. S. Patil, Reaction Kinetics, Mechanisms and Catalysis, 2020, 129, 679-691.

14. An Eco-friendly Catalytic System for One-pot Multicomponent Synthesis of Diverse and Densely Functionalized Pyranopyrazole and Benzochromene Derivatives; U. P. Patil, **R. C. Patil,** S. S. Patil, Journal of Heterocyclic Chemistry, 2019, 56, 1898-1913.

Patent:

1. Bio-based catalytic system for the synthesis of bioactive heterocycles in aqueous medium. Indian patent, Application No. 202521078022A, Publication Date: 29/08/2025
2. IOT enabled apparatus for synthesis of nanoparticles, Indian Design Patent, Design No. 460971-001, Application Date: 02/06/2025, Publication Date: 29/09/2025
3. Device for developing synthetic derivatives of organic compounds, Indian Design Patent, Design No. 461670-001, Publication Date: 21/08/2025
4. Phytochemical analysis multi chambered device, Indian Design Patent, Design No. 464346-001, Application Date: 02/07/2025, Publication Date: 29/09/2025

Awards & Recognitions

1. "**Best Oral Presentation award**" in international conference on "An interdisciplinary nature of science" dated 29th March, 2023 organized by Faculty of Science & Technology, Shivraj College of Arts, Commerce & D. S. Kadam Science College, Gadhinglaj, Maharashtra.
2. '**Young Researcher Award 2020**' from Institute of Scholar, Bangalore.

3. Award of Research Fellowship for Ph.D. under **Chief Minister Special Research Fellowship-2019** from Chhatrapati Shahu Maharaj Research Training and Human Development Institute (SARTHI), Pune (Government of Maharashtra), India

4. **Best Poster Presentation** award in the International Conference on Chemistry, Environment and Energy (ICCEE-2019) held at Department of Chemistry, Yashwantrao Chavan Institute of Science, Satara, (Autonomous) Maharashtra, India