

CURRICULUM VITAE

Dr. SANJAY S. GAIKWAD

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OBJECTIVE:

To efficiently utilize my knowledge, abilities, and skill as a researcher in Organic chemistry

ACADEMIC QUALIFICATIONS:

Ph.D. (Dec. 2022): Chemistry, SPPU

M.Sc. (July 2012): Organic Chemistry, (University of Pune, MS, India)

B.Sc. (July 2010): Chemistry, (University of Pune, MS, India)

RESEARCH EXPERIENCE:

Area of work: Organic Synthesis, Organic Methodology,

UGC Sponsored minor research project - Completed

ACHIEVEMENTS AND AWARDS/FELLOSHIPS:

- **CSIR-UGC-NET (June 2012):** Qualified '*National Eligibility Test*' in Chemical Sciences, Jointly Conducted by the Council of Scientific and Industrial Research (CSIR) and University Grant Commission (UGC) (India)
 - **GATE- (Feb 2012):** Qualified '*Graduate Aptitude Test*' administered by the *IIT India*
 - **Young Scientist Award** by Indian Council of Chemists, 38th Annual National Conference, 26th - 28th Dec 2019, at Jaipur National University in Organic Chemistry Section.
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RESEARCH INTEREST:

- **Development of Novel Synthetic Methodologies:** The creation of new carbon-carbon and carbon-heteroatom bonds through synthetic functionalization is a cornerstone of modern organic chemistry. This research aims to develop novel strategies for the formation of these bonds, enabling the synthesis of complex molecular structures that are pivotal in the design of bioactive molecules and advanced materials critical to modern life.
- **C-H Activation:** We focus on the development of selective metal-catalyzed C-H bond activation methodologies. These reactions are essential for the efficient formation of C-C and C-heteroatom bonds. Our goal is to achieve chemo- and regio-selectivity in C-H activation, providing new avenues for the synthesis of complex organic compounds with diverse applications in materials science and drug discovery.
- **Design and Synthesis of Targeting Ligands:** Our research involves the design and synthesis of heterocyclic and carbocyclic compounds with significant biological relevance. We aim to develop innovative synthetic methodologies for the formation of C-C and C-X bonds, with a focus on the generation of novel targeting ligands. These ligands are intended for diagnostic and therapeutic applications, particularly in the context of cancer targeting.
- **Green Chemistry:** Our research also emphasizes the principles of green chemistry, aiming to develop sustainable synthetic methodologies. This includes the design of processes that minimize environmental impact by reducing waste, energy consumption, and the use of toxic reagents, thus contributing to more environmentally friendly chemical synthesis practices.

PROFESSIONAL SKILL:

- Hard-working, excellent communication/presentation skills, ability to work in a team as well as an individual.
- Broad and in-depth knowledge of the development of organic molecules
- Proficient in designing novel routes and multi-step synthesis of complex target molecules
- Expertise in the interpretation of spectral (NMR including ^1H , ^{13}C , and 2D NMR techniques, Mass, IR) data to elucidate the chemical structure.

LABORATORY SKILL:

- **General Techniques:** Proficiency in modern laboratory techniques such as isolation, purification, and separation. Expertise in syringe operations, air, and water-sensitive organic reactions/reagents scaling of reactions (mg to multigram)
- **Instruments:** Knowledge in handling instruments FTIR, GC, UV, Polarimeter, etc.
- **Computer programs and database searching:** Expertise in handling computer software Chemdraw, MestRe-nova, Scifinder Scholar, Autodock etc.

PUBLICATIONS:

1. Amardeep R. Jadhao, **Sanjay S. Gaikwad**., Patil, L.R. *et al.* Sonication-assisted one pot, metal-free synthesis of β -keto sulfones from styrenes, NBS and aromatic sodium sulfinate salts. *Chem. Pap.* **75**, 4959–4968 (2021). <https://doi.org/10.1007/s11696-021-01719-3>
2. **Sanjay S. Gaikwad**, Nitin Thorat, Limbraj Patil*, Sonication Assisted One-Pot Synthesis of Substituted Imidazopyridine from Styrene in Water, *Current Organic Synthesis* Vol. 18 , Issue 4 , 2021, [DOI: 10.2174/1570179417999201105160447](https://doi.org/10.2174/1570179417999201105160447)
3. Dhawale, K. D.; Ingale, A. P.; Pansare, M. S.; **Gaikwad, S. S.**; Thorat, N. M.; Patil, L. R. Sulfated Tungstate as a Heterogeneous Catalyst for Synthesis of 3-Functionalized Coumarins under Solvent-Free Conditions. *Polycyclic Aromatic Compounds* 2022, 1–13. **Polycyclic Aromatic Compounds**, 2022. <https://doi.org/10.1080/10406638.2022.2074477>
4. **Sanjay S. Gaikwad**, Shankesh C. Zyate, Suresh B. Waghmode, Amardeep R. Jadhao, Pd-Catalysed Selective C(sp³)-H Acetoxylation of Quinazolinones, *Tetrahedron*, **Vol. 138**, 30 May 2023, 133405, <https://doi.org/10.1016/j.tet.2023.133405>
5. Amardeep R. Jadhao* and **Sanjay S Gaikwad***Copper-Catalyzed Direct Thiolation of Ketones Using Sulfonylhydrazides: A Synthetic Route to Benzylic Thioethers, *J. Org. Chem.* 2023, 88, 19, 14078–14087, <https://doi.org/10.1021/acs.joc.3c01598>
6. **Sanjay S. Gaikwad**, Snehal K. Nimal, Rushikesh Pol, Datta Markad, Amardeep R. Jadhao, Umesh Jadhav, Anup N. Kate, Rajesh N. Gacche, Limbraj R. Patil, Rajeev C. Chikate, Targeting AKT2 in MDA-MB-231 Cells by Pyrazole Hybrids: Structural, Biological and Molecular Docking Studies, *Chemistry & Biodiversity*, Vol.20, Issue11, 2023, e202300799, <https://doi.org/10.1002/cbdv.202300799>
7. Jadhao, Amardeep R, Zyate, Shankesh C, **Gaikwad, Sanjay S***, Blue LED irradiation (BLI);C-N bond formation;Transition metal-free;IPs, *IJC*, Vol.63(02) 2024], 203-210, <https://doi.org/10.56042/ijc.v63i2.6338>

LIST OF BOOK CHAPTER:

1. Nirbhay S. Pimple & **Sanjay S. Gaikwad**, Title: Recent Trends And Latest Innovations In Life Sciences Global Academy Publication, Publisher: Global Academy, ISBN: 978-625-8284-03-4,

Study of Length-Weight Relationship of *Nipponocypris Temminckii* (Temminck & Schlegel, 1846)

2. Kiran Dhawale, **Sanjay Gaikwad**, Limbraj R. Patil, Medicinal And Biological Prominence Of Heterocyclic Compounds, Futuristic Trends in Chemical Material Sciences & Nano Technology Vol.3 Book 25, DOI: [10.58532/V3BECS25P1CH4](https://doi.org/10.58532/V3BECS25P1CH4)

ATTENDANCE/PRESENTATIONS at NATIONAL/INTERNATIONAL SYMPOSIA:

1. Participated in International Symposium in Indian council of chemists, 38th Annual National Conference, 26th -28th Dec 2019, at Jaipur National University in Organic Chemistry Section.
2. Participated in International Symposium in “Exploring New Horizons in Chemical Sciences” Deogiri College, Aurangabad (10th-12thJan 2019)
3. Participated in a Paper at the National Conference “Frontiers of Research in Chemistry” organized by the Department of chemistry, Sadguru Gadage Maharaj College, Karad. 26th -27th Dec 2013

EXTRA CURRICULAR:

- 2015-2019** Participated in the preparation of research proposals for funding (UGC, DST, University of Pune).
- 2019-2021** Worked in collaboration with the Department of Bioinformatics and Biotechnology, University of Pune.
- 2013-2024** Actively participated in social activities, blood donations camp, etc.
- 2013-2024** Supervised B.Sc., and M.Sc. students.
- 2013-2024** Participated and presented research papers at national/international conferences.