

Dr. JITENDER BHALLA

Ph.D. (Organic Chemistry), M.Sc. (Chemistry)

Assistant Professor

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RESEARCH EXPERIENCE

A. AREA OF EXPERTISE: SYNTHETIC ORGANIC CHEMISTRY

Working on: β -Lactam (Azetidin-2-one) chemistry, Heterocyclic synthesis, Asymmetric synthesis, Biological evaluation of heterocyclic compounds

B. RESEARCH PUBLICATIONS

Research/Review Articles:

1. Synthesis of Novel Pyrazolymethylene-Pyrimidine Heterocycles: Potential Synthons for Hybrid β -Lactams. *Can. Chem. Trans.* **2015**, *3*, 72-84.
2. Facile synthesis of novel monocyclic *trans*- and *cis*-3-oxy/thio/seleno-4-pyrazolyl- β -lactams. *Arkivoc* **2015**, (vii), 10-27
3. Facile synthesis of novel halogenated 4-pyrazolyl spirocyclic- β -lactams: versatile heterocyclic synthons. *Tetrahedron Lett.* **2016**, *57*, 2822-2828
4. One pot, simple, and efficient synthesis of (*E*)- and (*Z*)-3-allylidene- β -lactams from 3-allyl-3-phenylseleno- β -lactams: analogues of β -lactamase inhibitors. *Tetrahedron Lett.* **2016**, *57*, 4763-4766.
5. Pyrimidine and Pyrazole Linked Azetidin-2-ones: Entry to Novel Class of β -Lactam Heterocycles *J. Heterocycl. Chem.* **2017**, *54*, 2297-2306.
6. Diastereoselective synthesis of novel 3-aryloxy/alkoxy-4-benzothiazolylpyrazolyl- β -lactams: Potential synthons for novel aminoacids/nanocopolymers. *Synth. Commun.* **2017**, *47*, 1955-1962.
7. An efficient synthesis of novel benzothiazolylpyrazole substituted imines: Versatile synthons for heterocycles. *Heterocycl. Lett.* **2017**, *7*, 629-634.
8. Facile synthesis of novel benzothiazolylpyrazolyl anchored 3-thio/seleno/chloro- β -lactams: Synthetic intermediates for novel 3-sulfenyl/sulfonyl, C-3 functionalized monocyclic and spirocyclic β -lactams. *Synth. Commun.* **2018**, *48*, 2675-2682.
9. Facile and efficient synthesis of chiral sulfoxide esters: Versatile tool in asymmetric synthesis. *Synth. Commun.* **2019**, *49*, 279-285.

10. A Comprehensive Review on C-3 Functionalization of β -Lactams. *Curr. Org. Syn.* **2019**, *16*, 3-16.
11. A Rapid and Efficient Protocol for Chiral Sulfoxide Amides: Versatile Asymmetric Synthon. **2019**, *8*, 1223-1230.
12. Stereoselective synthesis and *in-silico* evaluation of C4-benzimidazoloxypheyl substituted *trans*- β -lactam derivatives as promoting novel PPAR γ activators. *Synth. Commun.* **2021**, *51*, 3758-3767.

Book Chapters:

1. Aman Bhalla, Shamsheer S. Bari, **Jitender Bhalla**; *Synthesis of diverse β -lactams: Role of appended hetero moiety on its activity* in *Beta-Lactams: Novel Synthetic Pathways and Applications*; Banik, B. Ed.; Springer, Germany, **2017**; pp 1-40. Doi: 10.1007/978-3-319-55621-5
2. Shamsheer S. Bari, Aman Bhalla, **Jitender Bhalla**; *Role of transition metal reagents in β -lactam synthesis: New paradigms* in *Beta-Lactams: Novel Synthetic Pathways and Applications*; Banik, B. Ed.; Springer, Germany, **2017**; pp 41-72. Doi: 10.1007/978-3-319-55621-5
3. **Jitender Bhalla**, Shamsheer S. Bari, Aman Bhalla; *Recent trends in nitron-olefin [3+2] cycloaddition reaction: Synthetic and biological potentials* in *Organic and Medicinal Chemistry*; Banik, B. Ed.; Nova Science Publisher, USA, **2019**; Vol. 1; pp 1-52.
4. **Jitender Bhalla**; *Recent advances in Copper-catalyzed Heterocyclic Synthesis* in *Advances in Organic Synthesis*; Atta-ur-Rahman Ed.; Bentham Science Publishers Pte. Ltd., Singapore, **2022**; Vol. 16; pp 1-62.

Conferences/Symposia/Workshop (Oral/Poster Presentation)

1. Attended a National Seminar on Emerging Trends in Chemistry organized by DAV College, Chandigarh held on 22-08-2008.
2. Attended a National Conference on Nanomaterials: Synthesis & Applications (NANO - 09) organized by DAV College, Jalandhar held on 06-02-2009.
3. Presented a poster in National Symposium on Frontiers in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 24-02-2012.
4. Presented a poster in National Symposium on Recent Advances in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 20-09-2012.
5. Presented a poster in National Symposium on New Developments in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 23-02-2013.

6. Delivered an Oral Presentation in 7th Chandigarh Science Congress CHASCON-2013 organized by Panjab University, Chandigarh held on 01-03-2013.
7. Presented a poster in International Conference on Interdisciplinary Areas with Chemical Sciences ICIACS-2013 organized by Department of Chemistry, Panjab University, Chandigarh held on 30-10-2013.
8. Presented a poster in Annual Convention of Chemists ACC-2013 by Indian Chemical Society organized by Department of Chemistry, Panjab University, Chandigarh held on 04-12-2013.
9. Presented a poster in National Symposium on New Visions in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 15-02-2014.
10. Attended an International Conference on Nano Science and Technology ICONSAT-2014 organized by Department of Chemistry, Panjab University, Chandigarh held on 02-03-2014.
11. Presented a poster in National Symposium on Recent Advances in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 18-10-2014.
12. Presented a poster in Asian Network for Natural and Unnatural Materials ANNUM-3 organized by Department of Chemistry, Panjab University, Chandigarh held on 28-02-2015.
13. Presented a poster in National Symposium on Innovations in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 20-03-2015.
14. Presented a poster in National Seminar on Environmental Management, Sustainable Development and Human Health organized by Panjab University, Chandigarh held on 25-03-2015.
15. Presented a poster in National Symposium on Progressive Trends in Chemical Sciences organized by Department of Chemistry, Panjab University, Chandigarh held on 23-01-2016.
16. Attended a Faculty Development Program on "Spectrum of Science" organized by DAV College, Chandigarh held from 20-01-2017 to 27-07-2017.
17. Presented a poster in Prof. Ram Chand Paul National Symposium (Virtual) on Emerging Chemical Sciences with Modern World organized by Department of Chemistry, Panjab University, Chandigarh held on 11-03-2022.
18. Attended a One Day HPLC Workshop organized by Central Instrumentation Laboratory, DAV College, Chandigarh held on 11-04-2022.

TEACHING EXPERIENCE

- Physical/Organic Chemistry (Lectures and Practicals) – B.Sc. II and B.Sc. III at DAV College, Chandigarh (w.e.f., 20-04-2021 to till date)
- Physical/Organic Chemistry (Lectures and Practicals) – B.Sc. I, II and III at Dev Samaj College for Women, Chandigarh (10-01-2018 to 20-04-2021)
- Physical/Organic Chemistry (Lectures and Practicals) – B.Sc. I, II and III at DAV College, Chandigarh (27-07-2017 to 09-01-2018)
- Physical/Organic Chemistry (Lectures and Practicals) – B.Sc. I, II and III at DAV College, Chandigarh (18-07-2016 to 12-04-2017)

ACADEMIC QUALIFICATIONS

- PhD. in Organic Chemistry from Department of Chemistry and Centre for Advanced studies in Chemistry, Panjab University, Chandigarh (2016).
- M.Sc. in Chemistry from Panjab University, Chandigarh (2010).
- B.Sc. in Medical from Kurukshetra University, Kurukshetra (2008).
- Higher secondary (12th) from HBSE, Bhiwani (2005).
- High School (10th) from HBSE, Bhiwani (2003).

COMPETITIVE EXAMINATION

- Qualified CSIR-UGC National Eligibility Test (NET) for JRF/SRF and LS in the subject of Chemical Sciences conducted by CSIR-UGC in 2010.

(Dr. JITENDER BHALLA)