Curriculum vitae

Dr. Shiwani Berry

Personal Details

Address: **Assistant Professor, Department of Chemistry and Chemical Sciences, School of Physical & Material Sciences, Central University of Himachal Pradesh, India**
Citizenship India
E-mail: **shiwanipu@gmail.com**
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Professional Qualifications

Ph.D. Organic Chemistry (Panjab University, Chandigarh)
M.Sc. Chemistry (NIT Jalandhar)

Employment History

1. January, 2020 – till date – Assistant Professor, Department of Chemistry and Chemical Sciences, Central University of Himachal Pradesh, Dharamshala.
2. From August, 2018 – December 2019 – Department of Chemistry and Chemical Sciences, Central University of Himachal Pradesh, Dharamshala, HP.
3. January, 2018 – May, 2018 – Assistant Professor, Department of Chemistry, MCM DAV College for Women, Sector 36-A, Chandigarh.

Specialisation

Organic Chemistry

Research Interest

Organic Synthesis, Green Chemistry, Heterogeneous Catalysis, Nanomaterial Fabrication for Environmental and Biological Applications

Teaching

Organic Chemistry, Inorganic Chemistry, Bioinorganic Chemistry, Natural Products
Atomic Structure, Bonding & General Organic Chemistry
Electrochemistry, Organic Stereochemistry and Spectroscopy
Data Analysis and Interpretation
Review of Literature

Doctoral Thesis Supervision

Supervising 4 Ph.D. students (ongoing)

Research Projects

Year	Source of funds	Project title	Amount
2021-2024 *(Completed)*	UGC	Synthesis and Characterization of Novel Pyrazole linked Thiazolidinones and Hybrid β–Lactams: Potential Antibacterial Heterocycles	10.00 Lakhs

Publications

Refereed Journal Articles

1. Hussain, S., Raza, M. S., & **Berry, S*. (2025).** Schiff Base enfold ZnS nanoparticles: Dual application in dye degradation using response surface methodology and Hg^{2+} ion detection in real water sample. *Journal of Water Process Engineering*, *77*, 108497.
2. Garg, A., Dureja, D., Vijeata, A., Chaudhary, G. R., **Berry, S.,** Chaudhary, S., & Bhalla, A. **(2025).** Synthesis of novel α-carboxylate-β-bismethylsulfanyl pyrazolyl Schiff base derivatives: Targeting DNA gyrase in antibacterial activity. *Journal of Molecular Structure*, *1337*, 141954.
3. Chadha, M., Hussain, S., & **Berry, S*. (2025).** An in-depth investigation for biodiesel production and Knoevenagel condensation using pineapple peels-derived eco-friendly catalyst. *Research on Chemical Intermediates*, 1-34.
4. Hussain, S., & **Berry, S*. (2025).** Sustainable approach for schiff base synthesis: turn off fluorescent sensor for selective detection of Fe^{3+} in tap water. *Journal of Coordination Chemistry*, 1-14.
5. Kumari, M., Garg, P., & **Berry, S*. (2025).** Structural, optical and antibacterial properties of Nd^{3+} doped cadmium oxide nanoparticles using Vitex negundo leaf extract. *Ceramics International*, *51*(6), 7527-7538.
6. Chadha, M., & **Berry, S*. (2025).** Waste to wealth: water extract of papaya peel ash as a biodegradable alternative of conventional catalyst for the sustainable C–C bond formation via Knoevenagel condensation reaction. *Research on Chemical Intermediates*, *51*(2), 875-899.
7. Yadav, P., **Berry, S. ***, & Bhalla, A. **(2025).** Chemical methods for the construction of spirocyclic β-lactams and their biological importance. *Synthesis*, *57*(02), 251-274.
8. Yadav, P., Fatimah, N., Sahoo, S. C., Kumari, S., **Berry, S**., Reenu, Kumar Pinnaka, A., & Bhalla, A. **(2024).** Design, synthesis and biological evaluation of C3-indolyl/(3-chloro-indolyl)-C4-aryl/heteroaryl-azetidin-2-ones. *ChemMedChem*, *19*(17), e202400157.
9. Bhalla, A., Modi, G., Kumar, P., Kaur, J., **Berry, S.**, Bari, S. S., & Banik, B. K. **(2024).** Optimization and effect of substituents on the transformation of 3-(substituted acetoxy) azetidin-2-ones to chiral 3-hydroxyazetidin-2-ones, molecular docking and enantiomeric excess determination. *Letters in Organic Chemistry*, *21*(6), 520-529.
10. Chadha, M., Garg, A., Bhalla, A., & **Berry, S*. (2024).** Green methods mediated synthesis of chromene derivatives using magnetic nanoparticles as heterogeneous and reusable nanocatalyst: A review. *Tetrahedron*, *150*, 133741.
11. Hussain, S., & **Berry, S*. (2024).** A review study on green synthesis of chitosan derived schiff bases and their applications. *Carbohydrate Research*, *535*, 109002.
12. Kumar, P., Kaur, J., Kumari, S., Paliwal, S., **Berry, S**., Pinnaka, A. K., & Bhalla, A. **(2024).** Aroyl-isothiocyanates/isoselenocyanates as precursors to obtain novel *cis*-3-aroyl-

thiourea/urea-β-lactams: design, synthesis, docking and biological evaluation. *New Journal of Chemistry*, *48*(1), 67-78.

13. **Berry, S.,** Bari, S. S., Yadav, P., Garg, A., Khullar, S., Mandal, S. K., & Bhalla, A. **(2020).** Stereoselective synthesis of *trans*-3-functionalized-4-pyrazolo [5, 1-*b*] thiazole-3-carboxylate substituted β-lactams: potential synthons for diverse biologically active agents. *Synthetic Communications*, *50*(19), 2969-2980.
14. Kumari, A., Bari, S. S., Modi, G., **Berry, S**., Khullar, S., Mandal, S. K., & Bhalla, A. **(2018).** Comprehensive study towards the desulfonylation/desulfinylation of cis-3-functionalized 3-phenylsulfonyl/sulfinyl-β-lactams to access novel cis-3-monosubstituted-β-lactams. *Tetrahedron*, *74*(33), 4400-4408.
15. Bhalla, A., Nagpal, Y., **Berry, S**., Narula, D., Bari, S. S., Bhasin, K. K., & Kumar, R. **(2018).** Stereoselective synthesis, spectroscopic and X-ray crystallographic characterization of novel *trans*- and *cis*-3-methylseleno substituted monocyclic β-lactams: potential synthons for C-3 functionalized/bicyclic/halospiroseleno-β-lactams of medicinal interest. *Inorganica Chimica Acta*, *477*, 172-182.
16. Hundal, Q., **Berry, S.,** Narula, D., Bari, S. S., & Bhalla, A. **(2018).** Facile synthesis of novel α-methylene-pyrazole-carboxylate substituted imines and *trans*-β-lactams: Versatile synthons for diverse heterocyclic molecules. *Synthetic Communications*, *48*(10), 1190-1198.
17. **Berry, S.,** Bari, S. S., Banik, B. K., & Bhalla, A. **(2017).** Stereoselective synthesis of novel monocyclic *trans*-3-halogenated-4-pyrazolyl-β-lactams: Potential synthons and promising biologically active agents. *Synthetic Communications*, *47*(23), 2239-2246.
18. Bhalla, A., Modi, G., Bari, S. S., Kumari, A., **Berry, S**., & Hundal, G. **(2017).** Stereoselective synthesis of novel C-3 functionalized 3-sulfonyl-β-lactams: promising biologically active heterocyclic scaffolds. *Tetrahedron Lett. 58*, 1160-1165
19. Bhalla, A., Modi, G., Bari, S. S., Kumari, A., Narula, D., & **Berry, S. (2017).** An investigation towards the diastereoselective synthesis of 3-acetoxy/methoxy/phthalimido-β-lactams using chiral imines. *Tetrahedron: Asymmetry*, *28*(2), 307-316.
20. Bhalla, A., Bari, S. S., **Berry, S.,** Bhalla, J., Vats, S., Mandal, S., & Khullar, S. **(2015).** Facile synthesis of novel monocyclic *trans*- and *cis*-3-oxy/thio/seleno-4-pyrazolyl-β-lactams. *ARKIVOC: Online Journal of Organic Chemistry*, *2015* vii, 10–27.

Book Chapters

1. Kumari M, **Berry S*,** Agrawal PR. **2024**. Environmental Management System and Sustainable Textile Production. In Dye Pollution from Textile Industry: Challenges and Opportunities for Sustainable Development. (pp. 239-261). Singapore: Springer Nature Singapore.
2. Priya, **Berry S***, Agrawal PR. **2024.** Sustainable Textile Production in the Developing Countries: Major Challenges or Concerns and Their Possible Solutions. In Dye Pollution from Textile Industry: Challenges and Opportunities for Sustainable Development (pp. 263-278). Singapore: Springer Nature Singapore.
3. Kumari M, Chadha M, **Berry S*. 2024.** Processing and Characterization of Bionanocomposites. In Nanomanufacturing Techniques in Sustainable Healthcare Applications (pp. 25-38). CRC Press.
4. Hussain S, Priya, **Berry S*. 2024.** Bio-based Starch Blends in Active Food Packaging Applications. In Nanomanufacturing Techniques in Sustainable Healthcare Applications (pp. 94-109). CRC Press.