Dr. Bidhan A. Shinkre

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Profile

A result-oriented person with good leadership skills and hands on experience in drug discovery and process development. Executed high quality synthetic/medicinal chemistry projects for external customers in the CRO domain. Proficient in hit to lead optimization, synthesis of diverse heterocycles and chiral scaffolds. Excellent communication and interpersonal skills.

Education

Doctorate of Philosophy, Organic Chemistry, 1999 – 2004

- National Chemical Laboratory, Pune, India • Advisor: Prof. A. R. Deshmukh
  - Designed and developed novel chiral auxiliary derived from ephedrine
  - Synthesized chiral building blocks such as α-hydroxy-γ-butyrolactones and pantolactones utilizing chiral auxiliary derived from ephedrine
  - 3-hydroxy-4-aryl-β-lactams – an essential building block for the synthesis of unnatural amino acids- was synthesized with the aid of novel auxiliary derived from ephedrine

Master of Science, Organic Chemistry, 1996 – 1998
Goa University, Goa, India

Bachelor of Science, 1993 – 1996
P. E. S's College, Goa University, Goa, India

Professional Experience

Associate Professor (Organic Chemistry), School of Chemical Sciences, Goa University
Jan 2021 – till date

- Teaching/Research in Chemistry for M. Sc. Chemistry students at Goa University

Sr. Team Leader, Reference Standards and Metabolites Chemistry, Syngenta Biosciences Pvt. Ltd., Goa, India July 2013 – till Jan. 2021

- Synthesis of metabolites, by-products and reference materials which is required for registration of AI's
- Route screening for development of cost-efficient methods
- Process development in early phase AI's for key steps in synthetic schemes to ensure the knowledge generation would assist in producing the AI's on large scales

Senior Principal Investigator-II, Syngene Intl. Ltd., A Biocon Company, Bangalore, India
2009 – 2013

- Generated hits for biological targets *via* synthesis of focused libraries
- Conducted extensive SAR on lead structure to better potency, selectivity (both isoforms and off targets), microsomal stability, and physiochemical properties such as solubility, diffusion, half-life, etc.
- Leads with better *in vitro* profile were subjected to DMPK studies in multi species to understand their pharmacokinetics
- Synthesized diverse heterocycles in multi-gram quantities which served as important scaffolds in Drug Discovery programs
- Supervised a team of 4 – 6 scientists for Merck FTE projects

Post Doctoral Research, 2007 – 2009

• National Institutes of Health, Maryland, USA • Advisor: Dr. William C. Trenkle

- Synthesized ERAD inhibitor Eeyarestatin I and its analogs
- Screened several analogs against cancer cell lines for understanding their therapeutic potential
- Synthesized and evaluated 1,2,4-triazolo pyrimidine derivatives as A_{2A} receptor selective antagonists

Post Doctoral Research, 2004 – 2007

• University of Alabama, Birmingham, USA • Advisor: Prof. Sadanandan E. Velu

- Synthesized and evaluated novel *Staphylococcus aureus* Sortase A inhibitors as anti-bacterial agents
- Synthesized and characterized potent DHFR inhibitors as potential chemotherapeutic agents for treatment of Chaga's disease
- Synthesized about 40 non-natural analogs of Makaluvamines and tested their activity against cancer cell lines and Topoisomerase-II inhibition
- Accomplished total synthesis of natural product Secobatzelline B

Process Development Chemist, Feb. 1999 – Aug. 1999,
E. Merck (I) Ltd, Goa • Advisor: Prof. S. K. Paknikar

Awards/Scholarships

- NIH post-doctoral fellowship (2007 – 2009) – NIH, Maryland, USA
- Post-doctoral scholarship (2004 – 2007) - University of Alabama, Birmingham, USA
- CSIR research fellowship (1999-2004) - National Chemical Laboratory, Pune, India
- Cleared State Eligibility Test (Feb. 1998) for lectureship conducted by Pune University

Research Publications

1. Molecular probes for the A_{2A} adenosine receptor based on a Pyrazolo[4,3-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5-amine scaffold. T. Santhosh Kumar, Shilpi Mishra, Francesca Deflorian, Lena S. Yoo, Khai Phan, Miklos Kecskés, Angela Szabo, **Bidhan A. Shinkre**, Zhan-Guo Gao, William Trenkle, and Kenneth A. Jacobson. *Bioorg. Med. Chem. Lett.* **2011**, *21*, 2740-2745.

2. Striatal adenosine A_{2A} receptor-mediated positron emission tomographic imaging in 6-hydroxydopamine-lesioned rats using [^{18}F]-MRS5425. Abesh Kumar Bhattacharjee, Lixin Lang, Orit Jacobson, **Bidhan A. Shinkre**, Ying Ma, Gang Niu, William C. Trenkle, Kenneth A. Jacobson, Xiaoyuan Chen, and Dale O. Kiesewetter. *Nucl. Med. Biol*. **2011**, *38*, 897-906.
3. Synthesis and structure activity relationship studies of novel Staphylococcus aureus Sortase A inhibitors. Bala Chandra Chenna, Jason R. King, **Bidhan A. Shinkre**, Amanda Glover, Aaron L. Lucius, and Sadanandan E. Velu. *Eur.J. Med. Chem.* **2010**, *45*, 3752-3761.
4. Synthesis and evaluation of 1,2,4-Triazolo[1,5-c]pyrimidine derivatives as A_{2A} receptor-selective antagonists. **Bidhan A. Shinkre**, T. Santhosh Kumar, Zhan-Guo Gao, Francesca Deflorian, Kenneth A. Jacobson, and William C. Trenkle. *Bioorg. Med. Chem. Lett.* **2010**, *20*, 5690-5694.
5. The ERAD inhibitor Eeyarestatin I is a bifunctional compound with a membrane-binding domain and a p97/VCP inhibitory group. Qiuyan Wang, **Bidhan A. Shinkre**, Jin-gu Lee, Marc A. Weniger, Yanfen Liu, Weiping Chen, Adrian Wiestner, William C. Trenkle, and Yihong Ye. *PLoS One* **2010**, *5*, e15479.
6. Synthesis and characterization of potent inhibitors of *Trypanosoma cruzi* dihydrofolate reductase. Norbert Schormann, Sadanandan E. Velu, Srinivasan Murugesan, Olga Senkovich, Kiera Walker, Bala C. Chenna, **Bidhan A. Shinkre**, Amar Desai, and Debasish Chattopadhyay. *Bioorg. Med. Chem.* **2010**, *18*, 4056-4066.
7. Identification of novel inhibitors of bacterial surface enzyme Staphylococcus aureus Sortase A. Bala Chandra Chenna, **Bidhan A. Shinkre**, Jason R. King, Aaron L. Lucius, Sthanam V. L. Narayana, and Sadanandan E. Velu. *Bioorg. Med. Chem. Lett.* **2008**, *18*, 380-385.
8. Synthesis and antiproliferative activity of benzyl and phenethyl analogs of makaluvamines. **Bidhan A. Shinkre**, Kevin P. Raisch, Liming Fan, and Sadanandan E. Velu. *Bioorg. Med. Chem.* **2008**, *16*, 2541-2549.
9. Synthesis and crystal structures of *E* and *Z* isomers of 3-(2,5-dimethoxyphenyl)-2-(4-methoxyphenyl)acrylonitrile. **Bidhan A. Shinkre**, Dwayaja H. Nadkarni, Samuel B. Owens Jr., Gary M. Gray, and Sadanandan E. Velu. *J. Chem. Cryst.* **2008**, *38*, 205-209.
10. Synthesis, separation and crystal structures of *E* and *Z* isomers of 3-(2,5-dimethoxyphenyl)-2-(4-methoxyphenyl)acrylic acid. Balachandra Chenna, **Bidhan A. Shinkre**, Shweta Patel, Samuel B. Owens Jr., Gary M. Gray, and Sadanandan E. Velu. *J. Chem. Cryst.* **2008**, *38*, 189-194.
11. Structure-based approach to pharmacophore identification, *in silico* screening and 3D-QSAR studies for inhibitors of *Trypanosoma cruzi* DHFR function. Norbert Schormann, Olga Senkovich, Kiera Walker, D. L. Wright, A. C. Anderson, Andrew Rosowsky, Sam Ananthan, **Bidhan A. Shinkre**, Sadanandan E. Velu, and Debasish Chattopadhyay. *Proteins: Structure, Function and Bioinformatics*. **2008**, *73*, 889-901.
12. Analogs of the marine alkaloid makaluvamines: Synthesis, topoisomerase II inhibition and anti-cancer activity. **Bidhan A. Shinkre**, Kevin P. Raisch, Liming Fan, and Sadanandan E. Velu. *Bioorg. Med. Chem. Lett.* **2007**, *17*, 2890-2893.
13. Total synthesis of Secobatzelline B. **Bidhan A. Shinkre** and Sadanandan E. Velu. *Synth. Commun.* **2007**, *37*, 2399.
14. Azetidin-2-ones, synthon for biologically important compounds. A. R. A. S. Deshmukh, B. M. Bhawal, D. Krishnaswamy, Vidyesh V. Govande, **Bidhan A. Shinkre**, and A. Jayanthi. *Current Medicinal Chemistry* **2004**, *11*, 1889-1920.
15. The synthesis of (*S*)-(+)-pantolactone and its analogues from an ephedrine-derived morpholinone. **Bidhan A. Shinkre,** and A. R. A. S. Deshmukh. *Tetrahedron: Asymmetry* **2004**, *15*, 1081-1084.

16. Ephedrine derived reusable chiral auxiliary for the synthesis of optically pure 3-hydroxy-4-aryl-β-lactams. **Bidhan A. Shinkre**, Vedavati. G. Puranik, B. M. Bhawal, and A. R. A. S. Deshmukh. *Tetrahedron: Asymmetry* **2003**, *14*, 453-459.
17. Enantioselective synthesis of α-hydroxy-γ-butyrolactones from an ephedrine-derived morpholine-dione. Sunil V. Pansare, **Bidhan A. Shinkre,** and Annyt Bhattacharyya. *Tetrahedron* **2002**, *58*, 8985-8991.

Patent

1. Hydrazone and diacyl hydrazine compounds and methods of use. Adrian Wiestner, Yihong Ye, Qiuyan Wang, William C. Trenkle, and **Bidhan A. Shinkre**. US 8518968 B2, Aug. 27, 2013.
2. Novel compounds that are ERK inhibitors. Kevin Wilson, David Witter, Siliphaivanh Phieng, **Bidhan Shinkre**, Raman Bakshi, Ganesh Babu Karunakaran et al US 9233979 B2, Jan. 1, 2016.

Poster Presentations

1. Synthesis and Biological Evaluation of Fluorescently Labelled N-acetyl Glucosamine Analogues - **Bidhan A. Shinkre,** and William C. Trenkle, **Gordon Research Conference, 2008**.
2. Synthesis and biological evaluation of novel acridine-based topoisomerase poisons - **Bidhan A. Shinkre**, Sadanandan E. Velu et al, **American Chemical Society, 2006.**
3. Synthesis and biological evaluation of simpler analogs of makaluvamines – Amanda Plain, **Bidhan A. Shinkre**, and Sadanandan E. Velu et al, **57th Southwest Regional meeting**, **American Chemical Society, 2005.**
4. Inhibitors of Trypanosoma cruzi DHFR: Potential Chemotherapeutic agents for Chaga's disease - **Bidhan A. Shinkre**, Sadanandan E. Velu, Debasish Chattopadhyay et al **American Chemical Society, 2006.**

Training/Workshop

1. Secondment trip to Munchwilen, Switzerland (Aug. 2014-October 2014) for exposure and understanding Process technology concepts at Syngenta
2. Attended training program on "The 7 habits of highly effective people" conducted by FranklinCovey India and South Asia on 14th – 16th April 2011, Bangalore
3. Attended a 2 day workshop on "Scientific Leadership" by Human Capital Growth, Inc. in Feb. 2010, Bangalore