

ZUBEDA BEGUM

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To get placed in an exemplary organization where there is an opportunity to share and contribute my experience of organic synthesis of natural product molecules and novel synthetic methodologies for the development of organization served.

ACADEMICS

Ph.D. (Organic Chemistry) from Indian Institute of Chemical Technology, Hyderabad (2009 - 2016)
(Research supervisor): ***Dr. B.V.Subba Reddy (Scientist F, IICT).***

Thesis entitled: *Functionalisation of Indoles, Aminoquinolines, Glucal via CH activation and a Formal synthesis of (+)-Neopeltolide.*

- Scored **71.4%** in the Post Graduation from P. G. College of Science –Saifabad, Osmania University. (During 2006-2008).
- Scored **91.4%** in the Under Graduation, Pragathi Womens College, Osmania University, Telangana. (During 2003-2006).
- Scored **95%** in the Intermediate, Pragathi College, Osmania University, Telangana. (During 2001-2003).
- Scored **81.6%** in the Class X, Jeevan Jyothi High School, Telangana (2001).

INDUSTRIAL EXPERIENCE

- Worked as a TECHNICAL TRAINEE in Dr.Reddy's Laboratories (recruited through Campus Selection) from April 2008 to November 2008.
- Currently working as a SENIOR RESEARCH ASSOCIATE in Albany Molecular Research Limited from August 2016 to Till Date.

RESEARCH HIGHLIGHTS

- Executed the stereo selective formal synthesis of (+)-Neopeltolide, a potent cytotoxic activity against several cancer cell lines, starting from Tri-O-Acetyl-D-Glucal. Herein, the synthesis involves Oxymercuration, *insitu* one pot Wittig and oxa Michael addition, Parikh-Doering oxidation, and Grubbs Cross metathesis as the key reactions .
- Developed a simple, convenient method of Prins cyclization for the synthesis of bridged benzopyran derivatives. Bridged tricyclic benzopyran core is often found in diverse complex natural products such as diinsinin, oxabicyclononane, cannabicylol and ranhuadujanine A . They are found to display a wide range of biological activities.

- Developed a novel three-component reactions for the rapid synthesis of highly substituted N-aryltetrahydropyridines from δ -hydroxy- α,β -unsaturated aldehydes, aryl amines and 1,3-diketones using InCl_3 under mild conditions.
- Developed C-H Activation methods on Indole and 8-Aminoquinolinamides under very mild conditions with good yields and regioselectivity.

CORE COMPETENCIES

- Vast experience in synthesis & purification of organic compounds by a wide range of modern synthetic organic chemistry methods and their characterization using spectroscopic techniques of (^1H , ^{13}C), NMR, IR, UV, mass spectra LC-MS.
- Ability to analyze, evaluate and planning of possible synthetic routes and development of methods for various research projects and gathering the details of documented reports for its successful execution. Expertise in chemistry related softwares like ChemDraw, Reaxys, Sci Finder along with MS Office. Ability of preparation of research work reports and manuscripts for publication.
- Well versed with the synthesis, characterization and the application of a wide range of heterogeneous and homogeneous catalysts for chemical transformations. Expertise in designing and executing the multi-step synthesis of bioactive natural products and development of new methodologies. Able to perform any organic reaction from millimolar scale to kilogram scale. Ability to design Scaffold and its Templates.
- Capable of carrying independent and collaborative research and maintaining good interpersonal relationships. Ability to produce best result in pressure situation. Ability to identify research problems and solving them independently, interpretation of data and preparation of manuscript for publication.
- Keen interest in learning research techniques in a comprehensive R & D setup supported by extensive & modern research facilities and studying the latest developments in the field of Chemistry.

AWARDS AND HONOUR

- **CSIR (NET) JRF**, December 2007.
- **Senior Research Fellowship (SRF)** in Chemical Sciences by Council of Scientific and Industrial Research (CSIR), New Delhi, India-2011-2014.
- **Junior Research Fellowship (JRF)** in Chemical Sciences by Council of Scientific and Industrial Research (CSIR), New Delhi, India-2009-2011.

CONFERENCES ATTENDED

- Participated in the “**ORGANIC SYNTHESIS AND HUMAN WELL BEING EMERGING OPPORTUNITIES AND CHALLENGES**” held at ICT, Hyderabad, India (1-4th August, 2010).
- Participated in **2nd UK-INDIA MEDCHEM CONGRESS**, CSIR-Indian Institute of Chemical Technology, Tarnaka, Hyderabad, India. Mar 22-23 2013.

PUBLICATIONS

- A Formal Synthesis of (+)-Neopeltolide, via a Glycal Approach.
B. V. Subba Reddy, **Zubeda Begum**, K.Sirisha *Manuscript submitted*
- Direct cross coupling reaction between the Glycals and Benzoic Acids.
B. V. Subba Reddy, **Zubeda Begum**, K.Sirisha *Manuscript submitted*
- Metal free Remote C-5 Oxytosylation of 8-Aminoquinoline amides.
B. V. Subba Reddy, **Zubeda Begum**, B.Sridhar *Manuscript submitted*
- Tandem Prins cyclisation for the synthesis of bridged benzopyran derivatives.
B. V. Subba Reddy, Nikhil Srivastava, **Zubeda Begum**, J. K. Lakshmi, B. Sridhar *Accepted in Asian Journal of chemistry*
- Pd(OAc)₂-catalysed C-H activation of indoles: a facile synthesis of 3-cyano Indoles.
B. V. Subba Reddy, **Zubeda Begum**, Y. Jayasudhan Reddy, J. S. Yadav *Tetrahedron letters*, 2010, 51, 3334
- Aza-Ferrier rearrangement of glycals with amides promoted by iodine.
Zubeda Begum, Ch. Kishore, V. Veerabhadra Reddy, B. V. Subba Reddy *Tetrahedron letters*, 2014, 55, 6048-6050
- InCl₃ catalyzed novel synthesis of sugar annulated N-aryltetrahydropyridines.
B. V. Subba Reddy, Divya Vani, **Zubeda Begum**, J. S. Yadav, T. Prabhakar Rao *Synthesis*, 2011, 1, 168
- Three-component reaction of δ -hydroxy- α,β -unsaturated aldehyde, aryl amine 1,3-diketone: a novel synthesis of oxa-aza bicycles.
J. S. Yadav, B. V. Subba Reddy, *Ch. Divyavani, **Zubeda Begum**. *Synthesis*, 2010, 10, 1719

REFERENCES

- 1. Dr. J. S. Yadav, { CSIR Bhatnagar Fellow, Former Director }**
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- 2. Dr. B.V Subba Reddy { Scientist-E }**
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