

CURRICULUM VITAE OF DR. M. SEENIVASA PERUMAL

Assistant Professor
Department of Chemistry
Gandhigram Rural Institute
Gandhigram, Dindigul
Tamilnadu, India.

Phone: +91 9715145939 (M)

E-mail: mspchem99@gmail.com



PERSONAL DETAILS

Date of Birth: 03-04-1975
Marital Status: Married
Nationality: Indian
Gender: Male

EDUCATION

PERIOD	DEGREE
1999-2004	Ph. D. – Synthetic Organic Chemistry , University of Hyderabad (Central University), Hyderabad, INDIA
1997-1999	M. Sc. – Chemistry, I class, University of Hyderabad (Central University), Hyderabad, INDIA
1994-1997	B. Sc. – Chemistry, I class, Gandhigram Rural University, Gandhigram, Tamil Nadu, INDIA

RESEARCH EXPERIENCE

Synthetic Organic Chemist with 5 years of experience in academic and industry

Research Scientist-II (2008-present), Saiadvantium Pharma Limited, Hyderabad. India.

Post Doctoral Associate (2006 – 2008), Stockholm University, Sweden

Research Supervisor: **Prof. Kalman J. Szabo**

- Handled the project from AstraZeneca, Sweden
- Synthesis of Omeprazole and its analogs
- Asymmetric Synthesis of Various Heterocyclic Chiral Sulfoxides including Esomeprazole (Naxium®) using Modified Sharpless Catalyst
- Mechanistic Studies of Esomepyrazole in Asymmetric Sulfoxidation Process
- Employed Heterocyclic Chiral Sulfoxides as chiral Lewis base in Asymmetric allylation reactions
- Synthesis of Palladium Pincer Catalysts containing Sulfide Functionality

Research Chemist (2005-2006), Helvetica Industries (PVT) Ltd, Hyderabad.

Research Fellow (1999 – 2004), University of Hyderabad, Central University P. O., INDIA

Research Guide / Supervisor: **Prof. M. Periasamy**

Title of the thesis: “**Studies on the Synthesis of Chiral Amine Derivatives, 2,5-Diarylpyrroles and Catalytic Asymmetric Silylcyanation of Aldehydes Using Chiral β -amino alcohol/Ti(O-*i*-Pr)₄ Reagent system**”

- Synthesis of 1,2-diamines via opening of meso aziridinium ion prepared in situ using 1,2-amino alcohol
- Resolution of *trans*-(±)-1,2-diamine using dibenzoyl-L-tartaric acid
- Purification of non-racemic *trans*-(±)-1,2-diamine using fumaric acid
- Synthesis of new chiral amino ethers derivatives via opening of meso aziridinium ion intermediate prepared *in situ* using 1,2-amino alcohol
- Asymmetric silylcyanation of aromatic aldehydes using chiral β -amino alcohols/Ti(O-*i*-Pr)₄ reagent system

- Determination of enantiomeric excess of cyanohydrin derivatives via the ester derivative of achiral acid using HPLC and ¹H-NMR analysis
- Synthesis of (2*S*,5*S*)-2,5-diphenylpyrrolidine derivatives towards the application in asymmetric organic synthesis
- Synthesis of 2,5-diphenylpyrrole derivatives towards the synthesis of polypyrroles

M.Sc. Project Work (1999), University of Hyderabad, Central University P. O., INDIA

Dissertation Research Guide: Prof. Ashwini Nangia

Title of the thesis: "**Synthesis and crystal structure studies of 3,4-dihydro-3-[*p*-methylphenyl]-1,3,2*H*-Benzoxazine**".

B.Sc. Project Work (1997), Gandhigram Rural Institute, Gandhigram, Dindigul Dt, Tamilnadu, INDIA

Dissertation Guide: Dr. M. G. Sethuraman

Title of the thesis: "**Principles and practice of High Performance Liquid Chromatography**".

INDUSTRIAL EXPERIENCE

ORGANISATION	HELVETICA INDUSTRIES (PVT) LTD, HYDERABAD, INDIA
PERIOD	2005
DESIGNATION	RESEARCH CHEMIST
JOB DESCRIPTION	I have synthesized carbohydrate based small molecules.
ORGANISATION	SAI Advantium Pharma Ltd
PERIOD	2008-present
DESIGNATION	Research scientist-II
JOB DESCRIPTION	Handling 10 FTE programmes.

TECHNICAL SKILLS

Analytical	Purification / chromatography techniques, NMR, IR, Mass, HPLC and GC instruments
Literature	SciFinder, Beilstein, reaxys and hard copy literature sources
Software	Windows, MS office and Chemistry drawing softwares

SCHOLARSHIPS / AWARDS

PERIOD	DESCRIPTIONS
2001-2004	Senior Research Fellowship awarded by CSIR, New Delhi.
1999-2001	Junior Research Fellowship awarded by CSIR, New Delhi.
1999	Qualified in GATE 1999 examination at national level.
1999	Obtained gold medal In Msc for securing 1 st rank among the SC/ST students.

PUBLICATIONS / PRESENTATIONS

PAPERS

1. Resolution of C₂-symmetric 2,3-diphenylbutane-1,4-diol and purification of diastereomeric 1,4-diphenylbutane-1,4-diol using (S)-proline and boric acid, M. Periasamy, V. D. Rao, **M. Seenivasaperumal** *Tetrahedron: Asymmetry* **2001**, 12, 1887-1890.
2. Convenient Procedures for the Asymmetric Reduction of 1,4-Diphenylbutane-1,4-dione and Synthesis of 2,5-diphenylpyrrolidine Derivatives, M. Periasamy, **M. Seenivasaperumal**, V. D. Rao *Synthesis* **2003**, 2507-2510.
3. Synthesis of 2,3,4,5-tetrasubstituted pyrroles from aromatic ketoximes using the TiCl₄/Et₃N reagent system, M. Periasamy, G. Srinivas, **M. Seenivasaperumal** *J. Chem. Res. (S)* **2004**, 270-272.

4. Synthesis of *trans*-1,2-diamines via sequential opening of cyclohexene oxide and aziridinium ions, M. Periasamy, **M. Seenivasaperumal**, M. Padmaja, V. D. Rao *ARKIVOC* **2004**, (Viii), 4-11.
5. Synthesis of chiral amino ether derivatives: Synthetic applications of aziridinium ions, M. Periasamy, **M. Seenivasaperumal**, V. D. Rao *Tetrahedron: Asymmetry* **2004**, *15*, 3847-3852.
6. Boraxanes: Preparation and Applications, M. Periasamy, **M. Seenivasaperumal**, S. Sivakumar *Science of Synthesis*, Houben-Weyl Methods of Molecular Transformations, Georg Thieme Verlag, Stuttgart, *Volume 6*, **2005**, 301-320.
7. Factors influencing the selectivity in asymmetric oxidation of sulfides attached to nitrogen containing heterocycles, **M. Seenivasaperumal**, H-J. Federsel, A. Ertan, K. J. Szabo *Chem. Commun*, **2007**, 2787-2189.
8. Mechanism of the asymmetric sulfoxidation in the esomepyrazole process: Effects of the imidazole back bone for the enantioselection. **M. Seenivasaperumal**, H-J. Federsel, K. J. Szabo *Adv. Synth. Catal. Commun*, **2009**, 903-919.
9. Catalytic Asymmetric silylcyanation of aromatic aldehydes using chiral β -amino alcohols/Ti(O-i-Pr)₄ reagent system, M. Periasamy, **M. Seenivasaperumal** (manuscript under preparation)
10. Synthesis of 2,5-diarypyrroles M. Periasamy, **M. Seenivasaperumal**, G. P. M. Gopal (manuscript under preparation)
11. Synthesis and Resolution of *trans* (\pm)-1,2-diamines using dicarboxylic acids and binol-borate complex M. Periasamy, G. P. M. Gopal, **M. Seenivasaperumal**, (manuscript under preparation).

SEMINARS / CONFERENCES

1. Participated in the "First International Symposium on Academia and Industry Propelling Chemistry into the New Millennium" organized by A. V. Rama Rao Research Foundation, Hyderabad, April 2-4, 2000.
2. Synthesis of Chiral *C*₂-symmetric (*2S,5S*), (*3R,4R*) and (*3S,4S*)-diphenyl pyrrolidines, **M. Seenivasaperumal**, V. D. Rao, M. Periasamy poster presented in the "Indo-US Conference" held at IIT Madras, Chennai, December 10-12, 2003.
3. Synthesis and Applications of Chiral amines and Amino alcohols **M. Seenivasaperumal**, M. Periasamy paper presented in the "Chemfest 2004" in house symposium held at University of Hyderabad, Hyderabad, March 12, 2004.
4. Selectivity in asymmetric sulfoxidation of nitrogen containing heterocycles. **M. Seenivasaperumal**, H-J. Federsel, A. Ertan, K. J. Szabo paper presented in the 233rd ACS national meeting and exposition, Chicago, IL, USA, March 25-29, 2007.
5. Participated in the "Medchem congress" organized by RSC, NIPER and IICT Hyderabad, February 25-26, 2011.