



# Ketul Patel, Ph.D.

Organic and Medicinal Chemist

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**Who Am I:** Doctorate in Pharmaceutical Technology (Process Chemistry); Recently I worked as a Senior Scientist in synthesis division of drug discovery based Aten Porus Lifesciences. Skilled organic and medicinal chemist having expertise in multi-step synthesis, Synthetic target design, Drug discovery (New project design), SAR studies. Methodology development, API synthesis, Decarboxylative C-C and C-N bond formation. Amide bond formation and Metal-catalyzed C-H functionalization. Expertise in small molecules based Hit to Lead to Optimized Lead Identification in different therapeutic disease areas mainly in immunology and metabolic disorders.

## WORK

- **Senior Scientist**, Aten Porus Lifesciences  
*March 2018-March 2020* *Bengaluru, India*

## EDUCATION

- **Doctorate of Philosophy (Ph.D.), Pharmaceutical Technology (Process Chemistry)**  
NIPER-SAS Nagar [CGPA: 9.0]  
*July 2014- December 2017* *Mohali, India*  
"Acylation and Application of  $\alpha$ -Oxocarboxylic Acids towards C-C and C-N Bond Formation Reactions"  
Research Supervisor - [Dr. Joydev K. Laha](#)
- **Master of Technology (M.Tech.), Pharmaceutical Technology (Process Chemistry)**  
NIPER-SAS Nagar [CGPA: 9.0]  
*June 2012- June 2014* *Mohali, India*  
"Direct *ortho*-Benzylation of Primary Heteroaryl Amides"
- **Bachelor of Pharmaceutical Sciences (B.Pharm)**  
L. M. College of Pharmacy [CGPA: 7.21]  
*June 2008- May 2012* *Ahmedabad, India*

## PATENT

- Kulkarni, A.; Goyal, S.; Dolas, A.; Raikar, S.; Khurana, P.; **Patel, K.**; Nagare, Y.; Raykar, D.; Agrawal, A. "Compounds and Methods for the Treatment of Non-Alcoholic Steatohepatitis"  
**WO/2019/111225**

## PREVIOUS PROFILE

- Design, Molecular docking (Using Schrodinger and Cresset by virtual screening or medchem based approaches) and execute synthesis and characterization of small molecules, intermediates and building blocks to support internal and collaborative drug discovery and development efforts.
- Apply structure-based drug design principles and integrate with other experimental data collected in the design of new molecules.
- Assist in the design of molecules and conduct appropriate synthetic follow-up studies to optimize bioactivity obtained in support of internal and collaborative programs.
- Multi-step synthesis (7-12 steps) of new molecules and analogues of lead candidates (milligram to gram scale) individually or in a library format.
- Design and evaluation of alternative synthetic routes for construction of target molecules.
- Development of route optimization strategies and schemes to permit larger scale synthesis of molecules and fragments
- Design and evaluation of new synthetic processes and improvement of existing procedures to support advanced compound development.

## MANAGEMENT SKILLS

- Led the team of 5 junior chemists .
- Project management which involve strategic completion of each designed molecule before deadlines.
- Lab and inventory management

## PUBLICATIONS

- **Research Papers: 8; Citations: 97; h-index 5**  
<https://scholar.google.co.in/citations?user=Var3rb4AAAAJ&hl=en>
- Goyal, S.; **Patel, K. V.**; Nagare, Y.; Raykar, D. B.; Raikar, S. S.; Dolas, A.; Khurana, P.; Cyriac, R.; Agrawal, A.; Kulkarni, A. "Identification and Structure-Activity Relationship of small Molecule Inhibitors of the Human Cathepsin D" (Manuscript under revision)
- Laha, J. K.; **Patel, K. V.**; Pande, S.; Vashisht, V.; Solanke G.; Saima "Scope of Regioselective Suzuki Reactions in the Synthesis of Arylpyridines and Benzylpyridines and their Subsequent Intramolecular Cyclizations to Azafluorenes and Azafluorenones" *New J. Chem.* **2018**, *42*, 16069-16074.
- Laha, J. K.; **Patel, K. V.**; Tummalapalli, K. S. S. "Palladium-Catalyzed Serendipitous Synthesis of Arylglyoxylic Amides from Arylglyoxylates and *N,N*-Dialkylamides in the Presence of Halopyridines" *ACS Omega* **2018**, *3*, 8787-8793.
- Laha, J. K.; **Patel, K. V.**; Sharma S. "Palladium-Catalyzed Decarboxylative ortho-Acylation of Tertiary Benzamides with Arylglyoxylic Acids" *ACS Omega* **2017**, *2*, 3806-3815.
- Laha, J. K.; **Patel, K. V.**; Dubey G.; Jethava K. P. "Intramolecular Minisci Acylation under Silver-Free Neutral Conditions for the Synthesis of Azafluorenones and Fluorenones" *Org. Biomol. Chem.* **2017**, *15*, 2199-2210.
- Laha, J. K.; Jethava, K. P.; Patel, S.; **Patel, K. V.** "Intramolecular Acylation of Unactivated Pyridines or Arenes via Multiple C-H Functionalizations: Synthesis of All Four Azafluorenones and Fluorenones" *J. Org. Chem.* **2017**, *82*, 76-85.
- Laha, J. K.; **Patel, K. V.**; Tummalapalli, K. S. S.; Dayal, N. "Formation of Amides, their Intramolecular Reactions for the Synthesis of N-heterocycles, and Preparation of a Marketed Drug, Sildenafil: a Comprehensive Coverage" *Chem. Commun.* **2016**, 52, 10245-10248.
- Laha, J. K.; Dayal, N.; Jain, R.; **Patel, K.** "Palladium-Catalyzed Regiocontrolled Domino Synthesis of *N*-Sulfonyl Dihydrophenanthridines and Dihydrodibenzo[*c,e*]azepines: Control over the Formation of Biaryl Sultams in the Intramolecular Direct Arylation" *J. Org. Chem.* **2014**, *79*, 10899-10907.

## POSTER PRESENTATION

- **Presented Posters at 21<sup>st</sup> International Conference on Organic Synthesis (ICOS 21)**, IIT Mumbai, 2016 and **21<sup>st</sup> CRSI National Symposium in Chemistry**, CSIR-IICT, Hyderabad, India, 2017.

## TECHNICAL SKILLS

**Synthesis:** Practical exposure in carrying out various organic reactions, Schlenk-tube reactions, air sensitive reactions, development of novel methodologies for the synthesis of novel chemical entities for particular target, Multi-step synthesis.

**Purification:** Good experience in purification of organic compounds using column chromatography, flash chromatography, preparative thin layer chromatography, high pressure liquid chromatography and crystallization techniques.

**Computational:** Familiar in the Molecular docking using Maestro-Schrodinger and Cresset software.

**Structural elucidation:** Well-versed with structural elucidation using UV-VIS spectrometer, FTIR, NMR 1D, 2D (300 and 400 MHz) & Mass spectroscopy (LCMS/GCMS/MALDI-TOF-TOF/HRMS).

**Scientific Writing:** Expertise in manuscript writing for peer reviewed journals and posters.

## AWARDS & HONOURS

**"Excellent Research Contribution Award"** for the year 2016-17 in JKL research group.

**Senior Research Fellow** under SERB-DST project (2016-2017).

**Junior Research Fellow** under SERB-DST project (2014-2016).

Awarded **NIPER fellowship** for M. Tech. (Pharm.) 2012-2014.