Dr. Ajinkya Ajit Patravale [M.Sc., Ph.D.]

Permanent Address:
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Male, born on October 19, 1986, Married
Languages known: English, Hindi, Marathi (Write, Read, Speak)

Career Objectives:

To develop career in **teaching** and **research** where, I can work in innovating & challenging environment in the field of discovery of new chemical entities, and share my experimental skills of **organic synthesis and analytical chemistry, medicinal chemistry** (drug discovery and development) for superior **growth** of **institute** and **nation**.

Highlights

A self-motivated result oriented organic chemist in designing and executing multicomponent syntheses to construct from simple organic to bio efficientheterocycles. Nature inspired highly potent, drug-likeactive lead compoundswas designed and synthesized involving synthetic, medicinal and computational chemistry, structural biology.Strong understanding of Virtual screening, SAR and ADME towards the structure based drug design. Good communication potential with excellent relationship management and collaborative skills.Presentlyworking on synthesis anti-cancer, anti HIV moleculesand anti-microbial which are selectively react with targeted disease and study the toxicity of synthesized indeno coupled nitrogen heterocycles on normal cells.

Teaching experience : 12 Years

- **Working as *Assistant professor* at Department of Chemistry, Dattajirav Kadam Arts Science Commerce College, Kolhapur since [1st Sept 2024 to till date (1 month)]**.
  To delivered Lectures and practical's for B.Sc Chemistry and M.Sc. Organic chemistry students.
- **Working as *Assistant professor* at Department of Chemistry, Vivekanand College, Kolhapur since [6th Jan 2016 to 31 Aug 2024 (08 Years)]**.
  To delivered Lectures and practical's for B.Sc Chemistry and M.Sc. Organic chemistry students.
- Worked as a ***Contributory Teacher*** at Department of Industrial Chemistry, Shivaji University, Kolhapur since last **4 Years 06 Month** [1St June 2011 to 31st Dec 2015].
  To delivered Lectures and practical's for M.Sc I and II Industrial chemistry students

Research Experience: 12Yeas

- **Nov 2014 to July 2015** worked as a***DST-PURSE Research Assistant***at ***Department of Chemistry, Shivaji University, Kolhapur***.
- **April 2014 to Jan 2014/April 2011to March 2013**worked as a ***Senior Research Fellow (SRF)/Junior Research Fellow (JRF)***on the Major Research Project funded by UGC(Amt. Rs. 8, 69,800/-)entitled,***"Synthesis, Characterization and Bioactivity of Nitrogen Containing Heterocycles"***at Department of Chemistry, Shivaji University, Kolhapur.
  Exploring the applicability Knoevenagel, Michael and Friedländer condensation reactions and study the mechanistic chemistry behind the new synthetic multicomponent methodology, study the structures of N-containing heterocycles by spectroscopic techniques and find out the application of synthesized molecules in biomedical field. In this work, reported trouble free multi-component methods to synthesize nitrogen containing heterocyclic derivatives such as Indenopyrimidine, Indenopyridines, Indenospiro compounds and Indenoqunolines tackling the subject of drug design from different view point ssuch as computational, physico-chemical parameters, cell based assay and morphological cellular apoptosis.

Educational Qualification:

- **Oct 2015Ph. D.** in Organic Chemistry entitled thesis, "**Synthesis, Characterization and Bioactivity of Nitrogen Containing Heterocycles**" from Shivaji University, Kolhapur.
- **2010M.Sc** in Industrial Chemistry (**72%, Distinction**)Dept of Chemistry, SUK.
- **2008B.Sc** in Chemistry having **69.32%**, Rajaram College, SUK.
- **2004 H.S.C (Phy, Chem, Bio, MathsMarathi ,English)**fromKolhapur boardhaving got **55.30%**
- **2002 S.S.C (Marathi, Sanskrit, English, Maths, Science, Social Science)**fromKolhapur boardhaving got **65.06%**.

Experimental techniques /Instruments handled

Good practice of synthesis of bioactive molecules.
Experience in organic synthesis with proven synthetic problem solving skills
Purification of solvents, products through distillation, recrystallizationand chromatography methods, preparation of single crystals
Primary knowledge of drug-like properties and their significance in drug design.
Well awareness and handling structure drawing software with chem draw, ISI draw, etc.
Expertise in mining scientific databases: SciFinder, science direct,ACS, RSC society, PubMed.
Well awareness with all aspects governing R&D activities and up-to-date knowledge of latest technological developments, regulations/ guidelines (GMP/GLP) in the industry.
Hands on handling of instrumentsNMR 300Hz–(Bruker), IR (Perkin Elmer FT-100 and JASCO 4600)and structural elucidation of synthesized compounds is carried out.

Industrial Experience:

- Dec 2010 to March 2010 worked as a ***Research Assistant (R &D)*** at **Konduskar Pharma, Kolhapur**
We develop economically feasible, safe, efficient and qualified process for the synthesis of anticancer molecule mycophenolic moftil(API). To develop a process for production from gram level to commercialization,and to solve the trouble shooting problems and scale up problems on pilot level. Documentation related to development report, Literature survey
- May 2010 to Dec 2010 worked as a ***Trainee Analyst (QC)*** at **Cipla Ltd Mumbai, India**.
Mobil phase preparation. Sampling of raw material (excipients and API), finished products and packaging material. Pack line inspection of finished product. Review of intimation documents for correctness of details.

List of Publications:

Patent:

1] Device for Synthesis of Anti Breast Cancer Indandion-Coupled Pyrimidine, UK-Design Patent

Publication: 28, citation: 337, h- index: 12, I-index: 15

1] **Ajinkya A. Patravale**, Anil H. Gore, Govind B. Kolekar, Madhukar B. Deshmukh, Prafulla B. Choudhari, Manish S. Bhatia, ShivadattaPrabhu, Mahendra D. Jamdhade, Milind. S. Patole, Prashant. V. Anbhule. Synthesis, Biological Evaluation and Molecular Docking Studies of Some Novel Indenospiro Derivatives as Anticancer Agents.**(*J Taiwan Inst of ChemEngi* 2016, *68*, 105-118, IF 5.87, Elsevier, Citation 22)**

2] **Ajinkya A. Patravale**, Anil H. Gore, Dipti R. Patil, Govind B. Kolekar, Madhukar B. Deshmukh,Prashant V. Anbhule Trouble-Free Multicomponent Method for Combinatorial Synthesis of 2-Amino-4-phenyl-5-H-indeno[1,2-d]pyrimidine-5-one and Their Screening against Cancer Cell Lines**. (*Ind. Eng. Chem. Res.* 2014, *53,* 16568−16578, IF 3.76, ACS, Cited 28)**

3] **Ajinkya A. Patravale**, Anil H. Gore, Dipti R. Patil, Govind B. Kolekar, Madhukar B. Deshmukh, Prafulla B. Choudhari, Manish S. Bhatia, Prashant V. Anbhule Contemporary Development in Sequential Knoevenagel, Michael Addition Multicomponent Reaction for the Synthesis of 4-Aryl-5-oxo-5*H*-indeno[1,2-*b*]pyridine-3-carbonitrile. **(*Res Chem Intermed* 2016, *42*, 2919-2935, IF 2.91, Springer,Citation 14)**

4] Prasad Swami, **Ajinkya Patravale,** Sanket Rathod, Prafulla Choudhari, Devashree Patil, Yogesh Nalwar, Sandeep Sankpal, Shankar Hangirgekar Fe_3O_4@ SiO_2@ TDI@ DES: A novel magnetically separable catalyst for the synthesis of oxindoles.(***Journal of Molecular Structure, Elsevier, 1292, 136079. citation 02)*.**

5] Vishram Karande, **Ajinkya Patravale,** Priyanka Mohire, Shubham Deshmukh, Vikram Desai, Dattatray Chandam, Sandeep Sankpal, Madhukar Deshmukh. An efficient synthesis of pyranopyrimidine derivatives by using glyoxylic acid: L-proline deep eutectic solvent as a novel designer reaction promoter. ***Indian Journal of Chemistry (IJC) 62/4,339-349.***

6] Vishram Karande, **Ajinkya Patravale,** Priyanka Mohire, Shubham Deshmukh, Vikram Desai, Dattatray Chandam, Sandeep Sankpal, Madhukar Deshmukh. Green and highly efficient synthesis of pyrimidine derivatives in a novel glycolic acid: urea-based low transition temperature mixture via C–C and C–O bond formation. ***(Journal of Heterocyclic Chemistry, John Wiley & Sons, Inc. 59/12, 2022.)***

7] Priyanka P Mohire, **Ajinkya A Patravale,** Dattatray R Chandam, Prafulla Choudhari, Vishram Karande, Jai S Ghosh, Madhukar B Deshmukh An expedient four component synthesis of substituted pyrido-pyrimidine heterocycles in glycerol: proline based low transition temperature mixture and their antioxidant activity with molecular docking studies. (***Polycyclic Aromatic Compounds, Taylor & Francis,* 42/1, 137-155, 2022, citation 09)**

8] Vishram Karande**, Ajinkya Patravale**, Priyanka Mohire, Prasad Patil, Tanaji Bhosale, Dattatray Chandam, Digambar Kumbhar, MadhukarDeshmukh,An Efficient Synthesis of BenzimidazoleDerivativesusing Oxalic Acid Dihydrate And Proline Based Low Transition Temperature Mixture. ***(Research Journal of Life science, bioinformatics, Pharmaceutical and Chemical Science, RJLBPCS, 2020, 6(4), 134-146, Life Science Information Publication. ISSN 2454-6348)***

9] Ramchandra Awalekar, **Ajinkya Patravale,**Priyanka Mohire, ShilpaSalunkhe, Shams Usmani, DattatrayJamale, Shankar Hangirgekar, GovindKolekar, Prashant Anbhule. Total Stereospecific Synthesis of (3E, 7Z)-Tetradecadienyl Acetate, the Major Sex Pheromone Component of the Potato Pest Symmetrischematangolias. ***(Chem of Nat Comp, 2021, 57, 1000–1004, Springer,* citation 03).**

10] Priyanka Mohire, **Ajinkya Patravale,**DattatrayChandam,PrafullaChoudhari, VishramKarande, Jai Ghos, MadhukarDeshmuk.An expedient four component synthesis of substituted pyrido-pyrimidine heterocycles in glycerol: proline based low transition temperature mixture and their antioxidant activity with molecular docking studies. (***Pol Arom Comp 42/1, 2022, 137-155, IF 3.74, Taylor and Francis)***

11]Dipak S Gaikwad, Kedar A Undale, **Ajinkya Patravale,** Prafulla B. Choudhari Dual basic ionic liquid as a catalyst for synthesis of (2-amino-3-cyano-4H-chromen-4-yl) phosphonic acid diethyl ester and its molecular docking study. **(*Res Chem Intermed*2020, *46*/1,621-637, IF 2.91, Springer, citation 02)**

12] Priyanka Mohire, DattatrayChandam, Reshmapatil**, Ajinkya Patravale**, Jai Ghosh, MadhukarDeshmuk. Low Melting Mixture Glycerol: Proline as an Innovative Designer Solvent for the Synthesis of Novel Chromeno Fused Thiazolopyrimidinone Derivatives: An Excellent Correlation with Green Chemistry Metrics. **(*J of Mol liquids*, 2019, 283, 69-80,IF 6.16, Elsevier, Citation 07)**

13]Dipak S Gaikwad, KedarA Undale, DilipB Patil, **Ajinkya Patravale**, AA KambleA task-specific biodegradable ionic liquid: a novel catalyst for synthesis of bicyclic ortho-aminocarbonitriles**(*J of the Iran ChemiSoc,*2018, *15/5*, 1175-1180.,IF1.88, Springer, Citation 05)**

14] Priyanka P Mohire, Dattatray R Chandam, Reshma B Patil, Digambar R Kumbhar, Sunetra J Jadhav,**Ajinkya Patravale**, Vijaya P Godase, Jai S Ghosh, Madhukar B Deshmukh.Protic Ionic Liquid Promoted One Pot Synthesis of 2-amino-4-(phenyl)-7-methyl-5-oxo-4*H*, 5*H*-pyrano [4, 3-b] pyran-3-carbonitrile Derivatives in Water and Their Antimycobacterial Activity.**(*J. Heterocycl. Chem.,*2018,** 55/04 1010-1023, **IF 2.19, Wiley,Citation 08)**

15]Digambar Kumbhar, DattatrayChandam, ReshmaPatil, SunetraJadhav, DayanandPatil, **Ajinkya Patravale,**MadhukarDeshmuk. Synthesis and Antimicrobial Activity of Novel Derivatives of 7-aryl-10-thioxo-7, 10, 11, 12 – tertahydro-9H-benzo[H] pyrimido [4,5-b] quinoline-8-one**(J. Heterocycl. Chem., 2018, *55/3,* 692-698, IF2.19, Wiley,Citation 07)**

16]Priyanka P Mohire, Reshma B Patil, Dattatraya R Chandam, Sunetra J Jadhav, **Ajinkya A Patravale**, Digambar R Kumbhar, Jai S Ghosh, Madhukar B Deshmukh. Low transition temperature mixtures prompted one-pot synthesis of 5, 10 dihydropyrimido [4, 5-b] quinoline-2, 4 (1H, 3H)-dione derivatives**(*Res ChemIntermed*, 2017, 43, 12, 7013- 7028.IF1.67, Springer, Citation 06)**

17]Dattatraya R. Chandam, **Ajinkya Patravale,** Sunetra. J. Jadhav, Madhukar B. Deshmukh.Low melting oxalic acid dihydrate: Proline mixture as dual solvent/catalyst for synthesis of spiro [indoline-3, 9′-xanthene] trione and dibarbiturate derivatives. **(*J of Mol liquids*, 2017, *240*, 98-105, IF 6.16, Elsevier Citation 19)**

18]Sunetra J. Jadhav, Reshma B. Patil, Digambar R. Kumbhar, **Ajinkya A. Patravale**, Dattatraya R. Chandam, Madhukar B. Deshmukh. Sulfamic Acid Catalyzed Atom Economic, Eco-friendly Synthesis of Novel 7-(Aryl)-10-thioxo-7,9,10,11-tetrahedro-6H-pyrimido-[5′4′:5,6]pyrano[3,2-c]quinoline-6,8(5H)-dione and its Derivatives. **(*J. Heterocycl. Chem*., 2017, *54/4,* 2206–2215, IF 1.14, Wiley,Citation 05)**

19]Sunetra J. Jadhav, Reshma B. Patil, Digambar R. Kumbhar, **Ajinkya A. Patravale**, Dattatraya R. Chandam, Madhukar B. DeshmukhSulfamic Acid Catalysed Multicomponent Synthesis of 7-phenyl-7,12 dihydrobenzo(h)pyrido[2,3-b]naphthydrin6(5H)-one Derivatives : A Green Avenue. **(*Res ChemIntermed.* 2016,*43/4*, 2529-2543,IF2.91, Springer,Citation 02)**

20] Praffula. B. Choudhari, **Ajinkya A. Patravale**, Prajakta P Subramani, Shivaratna V Khare, Sujata PChoudhari, SiddharthP Phalle, Santosh S Kumbhar, Vikram S Kavade. Investigation on quantitative structure activity relationships of benzoylamino benzoic acid derivatives asB-ketoacyl-acyl carrier protein synthase iii (FABH) inhibitors.**ISSN: 1309-0801**. **(Marmara Pharmaceutical Journal, 2017, 21/3. 631-643, Citation 01)**

21] Sunetra J. Jadhav, Reshma B. Patil, Digambar R. Kumbhar, **Ajinkya A. Patravale**, Dattatraya R. Chandam, Madhukar B. Deshmukh.Sulfamic Acid Catalysed Novel and Atom Economic Multicomponent Synthesis of 5-phenyl-2-thioxo-1,2,3,5-tetrahydro-4H-pyrimido[4,5-d][1,3]thiazolo[3,2-a]pyrimidin-4-one Derivatives.**(Current Green Chemistry, 2016, *3/3*, 227-234, Bentham Science, Cited 04)**

22] Dattatray R. Chandam, Abhijeet G. Mulik, Dayanad R. Patil, **Ajinkya A. Patravale**, Digambar R. Kumbhar, Madhukar B. DeshmukhOxalic acid dihydrate and proline based low transition temperature mixture: an efficient synthesis of spiro [diindenopyridine-indoline] triones derivatives.**(*J of Mol liquids*, 2016, *219*, 573-578,IF 6.16, Elsevier,Citation 14)**

23] Santosh S. Undare,Navnath J. Valekar **Ajinkya A. Patravale**, Dattatraya K. JamaleGovind B. Kolekar, Madhukar B. Deshmukh, Prashant V. AnbhuleOne pot synthesis and *in vivo* biological evaluation of new

pyrimidine privileged scaffolds as potent anti-inflammatory agents. **(*Res ChemIntermed* 2016, *42/5*, 4373-4386, IF 2.91, Springer,Citation 14)**

24] Santosh S. Undare, Navnath J. Valekar,**Ajinkya A. Patravale**, Dattatraya K. JamaleSunil S Vibhute, Laxman S Walekar, Govind B. Kolekar, Madhukar B. Deshmukh, Prashant V. AnbhuleSynthesis, anti-inflammatory, ulcerogenic and cyclooxygenase activities of indenopyrimidinederivatives.**(*Bioorg. Med. Chem. Lett.*, 2016, *26/3*, 814–818, IF 2.83, Elsevier, Cited 14)**

25] DigambarR. Kumbhar, Reshma B.Patil, DayanandR. Patil, **Ajinkya Patravale**, DattatrayR. Chandam, SunetraJ. Jadhav,Madhukar BDeshmukh.(±)-Camphor-10-Sulfonic Acid as Recyclable andEfficient Catalyst for the Synthesis of Some NovelCoumarin Derivatives**. (*Synth Commun,* 2016, *46/1,* 85-92, IF 2.00,Taylor & Francis, Cited 14)**

26]DigambarR. Kumbhar, Reshma B.Patil, DayanandR. Patil, **Ajinkya Patravale**, DattatrayR. Chandam, SunetraJ. Jadhav, DattatrayChavan, PrafullaB. Choudhari,ManishS.Bhatia, Madhukar B.Deshmukh Target Oriented Selective Synthesis of Antibacterial Active Tyrosinase Enzyme Inhibitor Coumarin Core Derivatives **ISSN 0974-4169. (*Asian J. Research Chem.*2015, *8 (8),* 511-520, Cited 04)**

27] ReshmaPatil, Digambhar Kumbhar, **AjinkyaPatravale**, SunetraJadhavMadhukarDeshmukhDBN catalyzed efficient synthesis and antioxidant activity of pyrano pyrimidine derivatives. **ISSN 2278-6783**. **(*Chemical Science Review and Letter* 2015, *4/16,* 979-984, SJF-4.01)**

28]Sunetra J. Jadhav, Reshma B. Patil, Digambar R. Kumbhar, **Ajinkya A. Patravale**, Dattatraya R. Chandam, Madhukar B. DeshmukhDABCO promoted one pot efficient synthesis and antioxidant activity of 2-Amino-4-phenyl-5-oxo-5, 6dihydro-4*H*-pyrano [3,2-c]quinoline-3-carbonitrile derivatives. ISSN 0964-044X.**(*Int .J. Pharm Sci Rev and Res,*2015, *35/2,* 75-82. Citation 03)**

Papers Presented in Conferences/Workshops/Seminars:

- **Oral presentation** in National Conference on, "Recent Advances in Chemical and Environmental Science" held at Arya post graduate college, Panipath, Haryana on 27th-28th Feb 2015.
- **Poster presentation** in one day National Conference on, 'New Trends in Pest Management', held atDepartment of Agrochemicals and Pest Management, Shivaji University, Kolhapur held on 31st Jan. 2014
- **Poster presentation** in National Conference on "Current Trends in Chemical Sciences" held at Department of Chemistry, Shivaji University, Kolhapur on 17th and 18th Jan. 2014.
- **Poster presentation** in National Conference on "Current Research in Chemical Sciences" held at Department of Chemistry, Shivaji University, Kolhapur on 22nd and 23rd Jan. 2013.
- **Poster Presentation** in "National Seminar on "Recent Advances in Synthetic Chemistry and Nanomaterials" held at Department of Chemistry, Shivaji University, Kolhapur on 21st -22nd Jan. 2012

References:

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Date: / /

Yours Faithfully,

Place: Kolhapur

(Dr. Ajinkya A Patravale)