

01/02/2025

CERTIFICATE

This is to certify that the thesis entitled, “**DESIGN AND SYNTHESIS OF NOVEL CHEMICAL ENTITIES FOR THE TREATMENT OF ALZHEIMER’S DISEASE**” submitted for the award of Ph. D. Degree in Pharmacy by **Mr. Rahul Barot** incorporated original research work carried out by him under my supervision and no part of this work has been previously submitted for any degree.

Supervisor
(Dr. Prashant R. Murumkar)

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(Dr. Kirti Patel)

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(Dr. Kirti Patel)

01/02/2025

CERTIFICATE

This is to certify that the following publications have arisen out of the research work carried out by my Ph. D student **Mr. Rahul Barot** who wishes to submit this thesis entitled, “**DESIGN AND SYNTHESIS OF NOVEL CHEMICAL ENTITIES FOR THE TREATMENT OF ALZHEIMER’S DISEASE**” to The Maharaja Sayajirao University of Baroda, Vadodara for the award of Ph. D in Pharmacy.

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1. Book Chapters

- Yadav, M. R.; Murumkar, P. R.; Joshi, K.; **Barot, R.**; Yadav, R. Approved Cholinesterase Inhibitor-Based Derivatives: Synthesis and Their Biological Evaluation. *In* Natural Product-Based Synthetic Drug Molecules in Alzheimer's disease: Therapeutic & Theranostic Agents; Springer Nature Singapore, 2023; pp 157–183.
- Yadav, M. R.; Murumkar, P. R.; **Barot, R.**; Yadav, R.; Joshi, K.; Chauhan, M. Role of Computational Modeling in Drug Discovery for Alzheimer’s Disease. *In* Current Trends in Computational Modeling for Drug Discovery; Springer International Publishing, 2023; pp 57–107.
- Yadav, M. R.; Murumkar, P. R.; Ghuge, R. B.; **Barot, R. R.**; Chauhan, M.; Yadav, R. Biological Activity Spectrum of Oxadiazoles as a Privileged Scaffold in Medicinal Chemistry. *In* Advances in Medicine and Biology; Berhardt, L. V., Ed.; Nova Science Publishers, USA, 2021; Vol. 174, Chapter 1, pp 1–87.

- Yadav, M. R.; Murumkar, P. R.; Chauhan, M.; Ghuge, R. B.; **Barot, R. R.** Exploring Decaprenylphosphoryl- β -D-ribose 2'-Epimerase 1 (DprE1): A Target for Anti-Tubercular Drugs. *In* Tuberculosis: Integrated Studies for a Complex Disease; Rezaei, N., Ed.; Springer, 2023; Vol. VIII, Chapter 24, pp 497–536. ISBN: 978-3-031-159541.

2. Research/Review article

- Chauhan, M.; Prajapati, C.; Mirza, S.; **Barot, R.**; Yadav, R.; Barmade, M.; Kakadiya, D.; Vijayvargia, R.; Haobam, B.; Baidya, A. T.; Kumar, R. Design, Synthesis, Biological Evaluation and Molecular Dynamics of Some Novel 3-Phenylpyrazolo[1,5-a]pyrimidine-2,7(1H,4H)-dione Based Compounds as Anti-Tubercular Agents. *J. Biomol. Struct. Dyn.* **2024**, *42* (17), 9031–9049.
- Chauhan, M.; **Barot, R.**; Yadav, R.; Joshi, K.; Mirza, S.; Chikhale, R.; Srivastava, V. K.; Yadav, M. R.; Murumkar, P. R. The *Mycobacterium tuberculosis* Cell Wall: An Alluring Drug Target for Developing Newer Anti-TB Drugs—A Perspective. *Chem. Biol. Drug Des.* **2024**, *104* (3), e14612.
- Ghuge, R. B.; Murumkar, P. R.; Choudhary, K. M.; Joshi, K. D.; Chauhan, M.; **Barot, R. R.**; Yadav, M. R. Development of Steroidal Aromatase Inhibitors as Potential Anti-Breast Cancer Agents. *Curr. Enzyme Inhib.* **2020**, *16* (1), 45–62.
- Murumkar, P. R.; Ghuge, R. B.; Chauhan, M.; **Barot, R. R.**; Sorathiya, S.; Choudhary, K. M.; Joshi, K. D.; Yadav, M. R. Recent Developments and Strategies for the Discovery of TACE Inhibitors. *Expert Opin. Drug Discov.* **2020**, *15* (7), 779–801.