TABREZ KHAN

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Research Interest:
Development of novel catalytic/non-catalytic synthetic methodology employing light, electricity or both, heterocycles synthesis, organocatalysis, asymmetric synthesis, target & diversity-oriented synthesis of bioactive natural products.

Education:

- Ph.D. (Synthetic Org. Chem.), University of Mumbai, Maharashtra, India (2003-2009).
- M. Sc. (Org. Chem.), University of Mumbai, Maharashtra, India (2001-2003).
- B. Sc. (Chem.), K. J. Somaiya College of Science, Arts & Commerce, Mumbai, Maharashtra, India (1998-2001).

Research Experience:

- **Associate Professor- School of Basic Sciences**, **IIT Bhubaneswar**, Oct. 2022-Present
- **Assistant Professor- School of Basic Sciences**, **IIT Bhubaneswar**, April 2014- Oct. 2022
- Research Investigator- Medicinal Chemistry at **BBRC (**Biocon-BMS R&D Centre, Syngene Intl. Ltd), Bangalore, India, Sept. 2013- April 2014.
- Postdoctoral Researcher with **Prof. K. C. Nicolaou** at The Scripps Research Institute, CA, USA, 2012-2013.
- Postdoctoral Researcher with **Prof. Goverdhan Mehta** at Hyderabad Central University, India, 2010-2012.
- Postdoctoral Researcher with **Prof. Goverdhan Mehta** at Indian Institute of Science, Bangalore, India, 2009-2010.
- Research Associate at **GlaxoSmithKline Pharmaceuticals**, Maharashtra, India, 2008-2009.
- Doctoral Research at University of Mumbai with Prof. S. H. Mashraqui, Maharashtra, India, 2003-2009
  Dissertation title: *"Syntheses of chemoionophores and related system. Effect of Metal ions on Electronic and Optical properties".*

Honors & Awards

- Awarded the DST, SERB research project grant under the Core Research Grant (CRG), scheme (2024-2027)
- Awarded the DST, SERB research project grant under the extramural research funding scheme (2020-2023)
- Awarded the CSIR project research under the extramural research funding scheme (2017-20).
- Awarded the DST, SERB project research grant under the extramural research funding scheme (2015-18).

- Fulbright-Nehru Postdoctoral fellowship from the United States-India Education Foundation (USIEF), New Delhi, India (2012-2013).
- Dr. D. S. Kothari Postdoctoral fellowship from the University Grants Commission (UGC), New Delhi, India (2009-2012).
- Best Poster Award at Trombay Symposium for Radiation and Photochemistry from the Department of Atomic Energy, Govt. of India (2008).
- Best Talk Award at Ph.D Student Symposium from the Royal Society of Chemistry- West India Section (2007).
- Junior & Senior Research Fellowship Award from the Council of Scientific & Industrial Research (CSIR), New Delhi, India (2004-2008).
- Graduate Aptitude Test In Engineering (GATE) Award from the Indian Institute of Technology, India (2004).
- Maharashtra State level Eligibility for Lectureship Award from the University Grants Commission (UGC), New Delhi, India (2003).

No. of Students in the group:

M.Sc.	Ph.D.	Postdoc.
19 (Awarded); 02 (Presently working).	03 (Awarded); 07 (Presently working).	00

Publications (From the last 5 years only)

- "1,6-Hydrosulfonylation of *para*-Quinone Methides Enabled via Strain Release-/Aromaticity-Driven Alkyl Radical Generation and SO_2-Capture: Synthesis, Computational and Antiproliferative Activity of Sulfonylated Diarylmethanes" Dipun Kumar Penthi, Tonish Kumar Sahu, Rahimuddin Khan, Shanti Gopal Patra, **Tabrez Khan** *ChemRxiv* DOI https://doi.org/10.26434/chemrxiv-2025-x32fz
- "Strain-Release-/Aromaticity-Driven Radical Generation and SO_2-Capture Enables Acrylamides Bisfunctionalization via Photoredox Catalysis: Synthesis of S(VI) Functionalized Oxindoles" Abhaykumar Vishwakarma, Tonish Kumar Sahu, Shanti Gopal Patra, Chhanda Paul, **Tabrez Khan** *ChemRxiv* DOI https://doi.org/10.26434/chemrxiv-2025-npk7d
- "DABSO-mediated Pummerer reaction enables one-pot synthesis of pyrroloquinolines for accessing marinoquinolines: mechanistic, photophysical and pharmacological investigations" Rahimuddin Khan, Dipun Kumar Penthi, Aditi Chatterjee, Chandrakanta Sahoo, Shanti Gopal Patra, Viswanathan Arun Nagaraj and **Tabrez Khan**, *Org. Chem. Front.* **2025, *12*, 706-716.**
- "Thermal vs. Visible-Light Photoredox-Catalyzed Cascade Radical Cyclization Involving SO_2 Fixation to Access 6-Alkylsulfonylmethyl Phenanthridines" Tonish Kumar Sahu, Abhaykumar Vishwakarma, Vidyanshu Kumar, Rahimuddin Khan and **Tabrez Khan**, *Asian J. Org. Chem.* **2024,** 13(5), e20240002.
- "Total Synthesis of (-)-Magnoshinin and (+)-Merrilliaquinone: Application of a Late-Stage Oxidative Functionalization Protocol"; Abdus Salam, Dileep Kumar, Tonish Kumar Sahu, Rahimuddin Khan and **Tabrez Khan**, *Eur. J. Org. Chem.* **2022**, e202101452 (1-8).
- "DDQ-Catalyzed Oxidative C(sp3)−H Functionalization of Aryltetralins and Subsequent

Chemoselective Oxidative Demethylation to Access Dihydronaphthalenes and Dihydronaphthoquinones"; Dileep Kumar, Abdus Salam, Tonish Kumar Sahu, Sujit Soumitra Sahoo and **Tabrez Khan**, *J. Org. Chem.* **2021**, 86, 15096-15116.

- "Concise and Scalable Total Syntheses of Lamellarin Z and other Natural Lamellarins"; Virendra Kumar, Abdus Salam, Dileep Kumar and **Tabrez Khan**, *ChemistrySelect* **2020**, *5*, 14510-14514.

Presentations

- Delivered invited talk at IIT Kharagpur, NIPER Kolkata, Centurion University BBSR, IGNTU Amarkantak**,** IISER Berhmapur, Univ. of Hyderabad, Aligarh Muslim University during the period 2023-24.
- Delivered a virtual invited talk entitled "*Total Synthesis of some Natural and Unnatural Marine Pyrrole Alkaloids*" at RAHC-2022, organized by Ravenshaw University, Odisha, India.
- Delivered a keynote address entitled "*Total Synthesis of some Bioactive Marine Pyrrole Alkaloids and Molecules Inspired from them***"** in RTCPS-2019, Thakur College, Mumbai, India.
- Delivered an invited talk entitled "*Scalable Total Syntheses of Some Natural and Unnatural Marine Pyrrole Alkaloids: Application of a One-Pot Metal free Domino Process for the Regioselective Synthesis of the Central Pyrrole core*" at N-COS-2020 organized by Berhampur University, Odisha, India
- **Tabrez Khan**, Abdus Salam, Sayan Ray & Abu Zaid, "An IPKR based unified approach for the total syntheses of some iridoids and noriridoids" at Org-18, a RACI event organized at UWA, Perth, Australia, Dec. 2018.

Sponsored Projects Undertaken

Sponsored Research Grants	**2015** i) Development of a general synthetic approach directed towards the total synthesis of bioactive iridoid class of terpenoids. (DST, SERB); Project Cost: 32 Lakhs for 3 years (2015-18)	**Status: Completed in Nov. 2018**
	2017 ii) Synthesis of some natural marine pyrrole alkaloids and molecules inspired from them for the multi-drug resistance (MDR) cancer cells, (CSIR); Project Cost: 21.81 Lakhs for 3 years (2018-21)	**Status: Completed in March 2021**

	<u>2019</u> iii) Blending traditional and newer synthetic methods for regio-/stereoselective synthesis of functionalized carbo-/heterocycles: Application towards the asymmetric total synthesis of some complex bioactive terpenoid-alkaloids. (DST, SERB); Project Cost: 46.46 Lakhs for 3 years (2020-23)	**Status: Completed in Aug. 2023**
	<u>2024</u> iv) Development of Novel Catalytic Approaches for the Synthesis of Functionalized Polycarbo-/heterocycles Involving SO_2/SOX Fixation for Application in Complex Bioactive Natural Products/Pharmaceutically-Active Molecules/Agrochemicals Synthesis. (DST, SERB); Project Cost: 42.03 Lakhs for 3 years (2024-27)	**Status: Ongoing**