

PRABUDDHA BHATTACHARYA



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Academic Background

Degree	University/Institute	Year	Marks (Percentage)
B.Sc. (Chemistry Hons.)	University of Calcutta (St. Xavier's College, Kolkata)	2008	73.75
M.Sc. (Specialisation in Organic Chemistry)	University of Calcutta (Raja Bazar Science College)	2010	76.80
Ph.D. Supervisor: Prof. Amit Basak (Topic: Synthesis of Bio-Active Heterocycles from Alkenyl Propargyl Ethers and Sulfones)	Department of Chemistry, Indian Institute of Technology Kharagpur	2016	-

Professional Experience

Position	University/Institute	Duration
Institute Post-Doctoral Project Fellow Supervisor: Prof. Amit Basak (Topic: Synthesis and DNA Binding Studies of Chroman)	Department of Chemistry, Indian Institute of Technology Kharagpur	2016-2017
Assistant Professor	Department of Chemistry, Adamas University, Kolkata	2017-2020
Assistant Professor	Department of Chemistry, Mrinalini Datta Mahavidyalaya, Kolkata	2020-Till date

Current Research Interest(s): Bio-organic Chemistry, Computer Aided Drug Design

Other Important Awards/Achievements:

- **Departmental Gold Medallist from St. Xavier's Kolkata** (Under Calcutta University), for securing the highest marks in B.Sc (3 Years) Chemistry Honours (2005-2008).
- **Qualified NET** in Chemical Sciences, December 2009 and awarded **CSIR-JRF fellowship** by CSIR-UGC (Govt. of India) (AIR 114)
- **Qualified GATE** in Chemistry, 2010 (AIR 149)

Other Teaching Experiences:

- **Teaching Assistant (TA)** in the following NPTEL courses conducted by IIT Kharagpur, under Ministry of Education, Govt. of India (2020 – present): a) Structure, Stereochemistry and Reactivity of Organic Compounds and Intermediates: A Problem-Solving Approach (*Level: PG*); b) Organic Chemistry in Biology and Drug Development (*Level: PG*); c) Stereochemistry (*Level: UG*)
- **Teaching Assistant (TA)** at IIT Kharagpur: M. Sc. Biochemistry lab - 1 semester; B.Tech Organic lab - 3 semesters; B.Tech Organic tutorial - 4 semesters.

Project Students Supervised:

- **M.Sc. Project** - Ms. Srasta Mukherjee (2018-2019), Mr. Raunak Panda (2019-2020), Ms. Anisha Das (2019-2020).
- **B.Sc. Project** - Mr. Subham Choudhury (2017-2018), Ms. Sarmita Neogi (2018-2019)
(All the students were affiliated to Adamas University)

Oral Presentations/Invited Lectures/Session Chaired:

- **Oral Presentation** at Two Day National Symposium organized by St. Xavier's College, Kolkata, entitled, "FACETS OF CHEMISTRY IN MATERIALS AND BIOLOGY" (FOCMB-2018), on 16th and 17th February, 2018, St. Xavier's College, Kolkata.
- **Oral Presentation** at Two Day National Symposium jointly organized by Royal Society of Chemistry (RSC) Eastern India section and St. Xavier's College, Kolkata, entitled, "MODERN RESEARCH TRENDS IN CHEMISTRY" (MRTC-2019), on 22nd and 23rd February, 2019, St. Xavier's College, Kolkata.
- **Invited Lecture** on "STRUCTURAL CHEMISTRY OF PROTEINS: INTRODUCTION TO DRUG DESIGN" as a Resource Person at "CHEMONATION-6" organized by Surendranath College, Kolkata on 1st April, 2022.
- Invited to **Chair a Scientific Session** at "NATIONAL SYMPOSIUM ON CHEMICAL SCIENCES" (NSCS), on 15th and 16th of September 2022, St. Xavier's College, Kolkata.

Publications:

1. **Bhattacharya, P.; Basak, A.*** An unexpected one step domino conversion of TMS-alkyne to protected ketones in 4-chromenone system. *Tetrahedron Lett.* **2013**, 54, 5137.

2. Mitra, T.; Jana, S.; Pandey, S.; **Bhattacharya, P.**; Khamrai, U. K.; Anoop, A.; Basak, A.* Asymmetric Garratt-Braverman Cyclization: A Route to Axially Chiral Aryl Naphthalene-Amino Acid Hybrids. *J. Org. Chem.* **2014**, *79*, 5608.
3. **Bhattacharya, P.**; Senapati, K.; Chatterjee, K.; Mandal, S. M.; Basak, A.* Synthesis of benzochromenes and dihydrophenanthridines with helical motifs using Garratt-Braverman and Buchwald-Hartwig reactions. *RSC Adv.* **2015**, *5*, 61562.
4. **Bhattacharya, P.**; Mandal, S. M.; Basak, A.* Synthesis of DNA-Intercalating 6H-Benzo[c]chromen-6- one Derivatives through a Strategic Combination of Garratt-Braverman and Minisci Acyloxylation. Reactions. *Eur. J. Org. Chem.* **2016**, 1439.
5. Das, M.*; Senapati, K.*; Panda, S. S.; **Bhattacharya, P.**; Jana, S.; Mandal, S. M.; Basak, A.* π -Stacking assisted redox active peptide-gallol conjugate: synthesis of a new generation of low toxicity antimicrobial silver nanoparticles. *RSC Adv.*, **2016**, *6*, 85254. (* = equal contribution)
6. Mandal, A.; Maity, A.; Bag, S.; **Bhattacharya, P.**; Das, A. K.; Basak, A.* Design and synthesis of dual probes for detection of metal ions by LALDI MS and fluorescence: application in Zn(II) imaging in cells. *RSC Adv.* **2017**, *7*, 7163.
7. **Bhattacharya, P.**; Dutta, S.; Chandra, K.; Basak, A.* The never-ending story of β -lactams: Use as molecular scaffolds and building blocks. In *Beta-Lactams: Novel Synthetic Pathways and Applications*. Banik, B. K. Ed.; Springer International Publishing: Switzerland, **2017**, pp 373-419. (BOOK CHAPTER) [ISBN: 978-3-319-55620-8 (Print), 978-3-319-55621-5 (Online)].
8. Ghosh, D.; Basu, S.; Singha, M.; Das, J.; **Bhattacharya, P.***; Basak, A.* Synthesis of Crescent Shaped Heterocycle-fused Aromatics via Garratt-Braverman Cyclization and Their DNA-binding Studies. *Tetrahedron Lett.* **2017**, *58*, 1014. (As joint corresponding author).
9. Singha, M.*; Roy, S.; Bag, S. S.; Pandey, S. D.; **Bhattacharya, P.**; Das, M.; Ghosh, A. S.; Ray, D.; Basak, A.* Use of azidonaphthalimide carboxylic acids as fluorescent templates with a built-in photoreactive group and a flexible linker simplifies protein labeling studies: applications in selective tagging of HCAII and penicillin binding proteins. *Chem. Commun.* **2017**, *53*, 13015.
10. **Bhattacharya, P.**; Basak, A.*; Campbell, A.; Alabugin, I. V.* Photochemical Activation of Enediyne Warheads: A Potential Tool for Targeted Antitumor Therapy. *Mol. Pharmaceutics* **2018**, *15*, 768.
11. **Bhattacharya, P.**; Singha, M.; Senapati, K.; Saha, S.; Mandal, S.; Mandal, S. M. *; Ghosh, A. K.; Basak, A.* Chloramphenicol-borate/boronate complex: A New Antibacterial Agent to control Infections by Chloramphenicol resistant Gram-negative bacilli. *RSC Adv.* **2018**, *8*, 18016.
12. **Bhattacharya, P.***; Singha, M.; Das, E.; Mandal, A.; Maji, M.; Basak, A.* Recent Advances in Garratt-Braverman Cyclization: Mechanistic and Synthetic Explorations. *Tetrahedron Lett.* **2018**, *59*, 3033. (As first and joint corresponding author).
13. Mandal, A.*; **Bhattacharya, P.***; Das, A. K.; Basak, A.*. A Garratt-Braverman Cyclization Route towards the Synthesis of Phenanthridine Derivatives and their DNA-Binding Studies. (* = equal contribution) (As joint first and joint corresponding author) *Tetrahedron* **2019**, *75*, 1975.
14. **Bhattacharya, P.***; Mukherjee, S.; Mandal, S. M.*. Fluoroquinolone antibiotics show genotoxic effect through DNA-binding and oxidative damage. *Spectrochim. Acta A* **2020**, *75*, 117634. (As first and joint corresponding author).
15. **Bhattacharya, P.**; Singha, M.; Das, E.; Gupta, M.; Basak, A.*. Pseudoasymmetry Paradox: A Suggestion to Introduce the Term Pseudostereogenicity and Address Reflection Issues. *Tetrahedron* **2020**, *76*, 131244.
16. Singha, M.; **Bhattacharya, P.**; Ray, d.; Basak, A.* Sterically hindering the trajectory of nucleophilic attack towards *p*-benzynes by a properly oriented hydrogen atom: an approach to achieve regioselectivity. *Org. Biomol. Chem.* **2021**, *19*, 5148.
17. **Bhattacharya, P.***; Chakraborty, S.; Balaji, A.; Basak, A.* Angle Distortion Model for Predicting Enediyne Activation Towards Bergman Cyclization: An Alternate to the Distance Theory. *RSC Adv.*, **2022**, *12*, 23552. (As first and joint corresponding author)
18. Jana, I. D.*; **Bhattacharya, P.***; Mayilsamy, K.; Banerjee, S.; Bhattacharje, G.; Das, S.; Aditya, S.; Ghosh, A.; McGill, A. R.; Srikrishnan, S.; Das, A. K.; Basak, A.; Mohapatra, S. S.; Chandran, B.; Bhimsaria, D.; Mohapatra, S.*; Roy, A.*; Mondal, A.* Targeting an evolutionarily conserved “E-L-L” motif in spike protein to identify a small molecule fusion inhibitor against SARS-CoV-2. *PNAS Nexus*, **2022**, *1*, pgac198 (As joint first author) (* = equal contribution)
19. Fatimaa, A.*; Arora, H.*; **Bhattacharya, P.**; Siddiqui, N.; Abualnaja, K. M.; Garg, P.; Javed, S*. DFT, Molecular Docking, Molecular Dynamics Simulation, MMGBSA Calculation and Hirshfeld Surface Analysis of 5-Sulfosalicylic Acid. (* = equal contribution). *J. Mol. Struct.* **2023**, *1273*, 134242.
20. **Bhattacharya, P.**; Abualnaja, K. M.; Javed, S*. Theoretical Studies, Spectroscopic Investigation, Molecular Docking, Molecular Dynamics and MMGBSA Calculations with 2-Hydrazinoquinoline *J. Mol. Struct.* **2023**, *1273*, 134242.
21. Fatima, A.; Khanum, G.; Srivastava, S. K.; **Bhattacharya, P.**; Ali, A.; Arora, H.; Siddiqui, N.; Javed, S*. Synthesis, experimental spectroscopic, Quantum computational, Hirshfeld surface and molecular docking studies on Ethyl-2-amino-4-methylthiophene-3-carboxylate. *J. Biomol. Struct. Dyn.* (Just Accepted).
22. Agrawal, N.; Fatima, A.; **Bhattacharya, P.**; Siddiqui, N.; Javed, S*. Evaluation of experimental, Computational, Molecular docking and Dynamic Simulation of flucytosine. *J. Biomol. Struct. Dyn.* (Just Accepted).