CURRICULUM VITAE OF DR. GOUTAM BRAHMACHARI

In Brief: Goutam Brahmachari, *PhD, D.Sc., FRSC*, is a full professor of organic chemistry at Visva-Bharati University, Santiniketan, India. With more than 25 years of experience in teaching and research, he has produced 260 scientific publications, including original research papers, review articles, books, and invited book chapters in synthetic organic chemistry and natural products chemistry. He has already authored/edited 26 books from the leading scientific publishers. He is the Series Editor of the Elsevier Book Series '*Natural Product Drug Discovery*'. Prof. Brahmachari is an Elected Fellow of the Royal Society of Chemistry, and a recipient of CRSI (Chemical Research Society of India) Bronze Medal-2021 (contributions to research in chemistry), Dr. Basudev Banerjee Memorial Award-2021 (Contribution in chemical sciences) from the Indian Chemical Society, INSA (Indian National Science Academy) Teachers Award-2019, Dr. Kalam Best Teaching Faculty Award-2017, and Academic Brilliance Award-2015 (Excellence in Research). Prof. Brahmachari was featured in the World Ranking of the Top 2% Scientists (Organic Chemistry Category) in 2020, 2021,2022 and the AD Scientific World Ranking of Scientists -2022, 2023.

(ORCID: http://orcid.org/0000-0001-9925-6281)
VIDWAN: https://vidwan.inflibnet.ac.in/profile/152899

Prof. G. Brahmachari
(CRSI Bronze Medal Awadee-2021; Dr. Basudev Banerjee Memorial Awardee 2021; INSA Teachers Awardee-2019)

1. Name in Full: **BRAHMACHARI** // **GOUTAM**
Surname Forename

2. Designation and Name of the Institution: **Professor and Head, Department of Chemistry, Siksha-Bhavana, VISVA-BHARATI (A Central University), Santiniketan-731235, West Bengal, India** [University Employee ID No. 1998048]

3. a. Date of Birth: 14th April 1969 (14.04.1969)
b. Citizen: Indian c. Gender: Male

4. Fellow & Life membership

(a) Fellow: Royal Society of Chemistry, London (UK) (**FRSC**)
(b) Life Member: **CRSI** (LM 1914), **ISCA** (L24650), **IACS**

5. Address

(a) Official: **Laboratory of Natural Products & Organic Synthesis, Department of Chemistry, Siksha-Bhavana, Visva-Bharati (A Central University), Santiniketan-731235, Birbhum, West Bengal, India**
(b) Residential: **Dinendrapalli, Simantapalli (North), Santiniketan-731235, Birbhum, WB, India**
(c) Email: brahmg2001@yahoo.co.in; brahmg2001@gmail.com; goutam.brahmachari@visva-bharati.ac.in
(d) Mobile No./Contact No: + **91-9434385744 / +91-8617324394**

6. Subject: CHEMICAL SCIENCES (Organic Chemistry)

7. Educational Qualifications: M.Sc. (1st Class 1st), Ph.D. (Organic Chemistry), D.Sc. (Organic Chemistry)

8. Professional Experience

Teaching and Research (Independent) at University Level: More than 25 years

9. Field of Research

Synthetic organic chemistry, Green chemistry, Natural Product Chemistry

10. Administrative experiences: Head/Chairman of the Department of Chemistry, Visva-Bharati University for more than 3.5 years (continuing); In-Charge/Co-Ordinator of the University International Collaboration Wing; Member of Students' Grievance Redressal Committee of the University

11. Master's and Doctoral Dissertations Supervised

Ph. D. students supervised: 20
Present PhD fellows working with: 05
Master's Dissertations supervised: 51

12. Project Coordinator (Sponsored Research Projects)

Successfully completed several research projects sponsored by UGC (New Delhi), CSIR (New Delhi), DST (West Bengal), DBT (New Delhi) and SERB-DST (New Delhi)

I. Completed

- Research Project entitled "Studies on the chemical constituents and biological activities of *Casia sophera* Linn. (Caesalpiniaceae) – an important Indian medicinal plant" sponsored by CSIR, New Delhi, No. 02(0260)/16/EMR-II dt 28.04.16; (1.6.2016 to 31.05.2019) Amount: INR 20 Lakh [**Completed**].

- Research Project entitled "*Design for Energy-Efficient Synthesis of Biologically Relevant Heterocycles*" sponsored by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), New Delhi, No. EMR/2014/001220 dt 08.09.2015 (2015-2018); Amount: INR 35.26 Lakh [**Completed**].

- Research Project entitled "*A sincere drive to develop eco-friendly methodologies for some useful organic transformations in the absence of organic solvents*" sponsored by CSIR, New Delhi, No. 02(0110)/12/EMR-II dt 01.11.2012 (2012-2015); Amount: INR 12.65 Lakh [**Completed**].

- Research Project entitled "*Acaciaside A from Acacia auriculiformis: a novel compound for the control of bancroftian filariasis*" sponsored by Department of Biotechnology, Ministry of Science & Technology, Govt. of India, No. BT/PR8779/Med/14/1282/2007 dt. 24.09.2008 (period 24.09.2008-23.09.2011), Amount: INR 45.81 Lakh [as *project Joint-investigator*] [**Completed**].

- Research Project entitled "*Naturally Occurring Flavonoids: Isolation, Chemistry and Assessment of Bio-Activity*" sponsored by UGC, New Delhi, No. F.34-357/2008(SR) dt 02.01.2009 (period 01.02.2009 – 31.01.2012). Amount: INR 6,76,800/- [**Completed**].

- Research Project entitled "*Studies on chemical constituents of Limnophila plants available around Santiniketan (Birbhum, West Bengal)*" sponsored by the Department of Science & Technology (West Bengal) [No. 230(Sanc.)/ST/P/S&T/2G-7/2007 dt. 24.07.2008 (2008-2011)]. Amount: INR 7,01,500/- [**Completed**].

- Research Project entitled "*Studies on naturally occurring flavonoids*" sponsored by UGC, New Delhi, No. F.31-152/2005(SR) dt. 31.03.2006 (period 01.05.2006 – 30.04.2008) [**Completed**].

II) Ongoing Major Research Projects:

- Research Project entitled "*Electrosynthesis of functionalized heterocycles via C-H functionalization*" sponsored by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), New Delhi, No. No. CRG/2022/000275 dated 08.12.2022 (2012-2025); Amount: INR 50 Lakh.

- Research Project entitled "electrochemical synthesis of functionalized heterocycles of biological relevance" sponsored by CSIR, New Delhi, No. No. 02/0464/23/EMR-II dated 07.07.2023 (2023-2026) Amount: INR 30 Lakh.

13. Academic career and professional attainments:

(a) Academic career

Degree	**Institution**	**Year**	**Remarks**
Bachelors [B.Sc. (Hons.) in Chemistry]	VISVA-BHARATI	1990	First Class Second
Masters [M.Sc. in Chemistry (Organic Chemistry Specialization)]	VISVA-BHARATI	1992	First Class First
Ph.D.	VISVA-BHARATI	1997	Organic Chemistry
D.Sc.	VISVA-BHARATI	2023	Organic Chemistry

(b) Professional attainments

Positions held	Institution	From (year)	To (year)	Remarks
Head of the Department	Chemistry Department, Visva-Bharati (a Central University), WB, India	4.03.2020	continuing	
Full Professor of Chemistry	-do-	24.07.2011	Continuing	
Associate Professor	-do-	24.08.2008	23.07.2011	
Reader (selected and joined afresh in an open post)	-do-	24.07.2005	23.07.2008	
Lecturer (Senior scale)	-do-	08.12.2002	23.07.2005	
Lecturer in Chemistry	-do-	08.12.1998	07.12.2002	

(c) Awards & Recognition

(29) **Dr. Basudev Banerjee Memorial Award-2021 (contributions in chemical sciences) from the Indian Chemical Society**; (28) Co-Editor-in-Chief (Current Green Chemistry); (27) **Elected Fellow, Royal Society of Chemistry since 2017**; (26) **Featured in the AD Scientific Index (World Ranking of Scientists -2022 & 2023)**; (25) **CRSI Bronze Medal-2021**; (24) **"Featured in World Ranking of Top 2% Scientists from India" in Organic Chemistry Section.– 2020, 2021, 2022**; (23) **INSA (Indian National Science Academy) Teachers Award-2019**; (22) (21) **CAS Registry® Innovator-2020 by ACS**; (20) Reviewer Excellence Awardee-2019 by the Journal of Chemical Sciences; (19) Publons 1%Top Reviewer Award-2019; (18) **Dr. Kalam Best Teaching Award-2017**; (17) **Academic Brilliance Award-2015** (Award for Excellence in Research); (16) Publons 1%Top Reviewer Award-2018; (15) **Elsevier Book Founder Series Editor (Natural Product Drug Discovery)**; (14) Author and editor of more than 25 major research reference volumes; (13) Highly cited author (2014-15) for *ACS Sustainable Chemistry & Engineering*; (12) Guest-Editor for: *Current Organocatalysis* (one thematic issue); *Current Green Chemistry* (two thematic issues); (11) Session Chairing in Seminars/Conferences and Invited Talks delivered in several national and international symposia; (10) External Member in Board of Studies in other Universities; (9) Member, Editorial Advisory Board Member: *Tetrahedron Green Chemistry*, *Current Catalysis*, *Current Organocatalysis*, *Current Green Chemistry; Rasayan Journal of Chemistry*; *Journal of Biochemistry and Molecular Biology Research; Journal of*

Scientific Research and Advances; *Iranian Chemical Communication*; (8) Life-member of Scientific Organizations: Indian Association for the Cultivation of Science (IACS), Indian Science Congress Association (ISCA), and Chemical Research Society of India (CRSI); (7) Nominated to the Visitor's Award-2016 by the sponsoring University; (6) Who's Who in the World Listee (Marquis, USA); (5) UGC-New Delhi — Senior Research Fellow (1995-1998); (4) UGC-New Delhi — Junior Research Fellow (1993-1995); (3) National Scholarship and University Merit Scholarship; (2) Associate Editor – *Current Green Chemistry (up to 2022)*; (1) Top 10% of Highly Cited Authors in Royal Society of Chemistry's General Chemistry Portfolio of Journals-2018.

14. Website Pages for Publicly View

VB Webpage: https://www.visvabharati.ac.in/GautamBrahamachari.html

Departmental website: http://vbchem.ac.in/GoutamBrahamachari/

ORCID ID: http://orcid.org/0000-0001-9925-6281

Google Scholar: https://scholar.google.co.in/citations?hl=en&user=aj7NvGQAAAAJ&view_op=list_works

Research Gate Page: https://www.researchgate.net/profile/Goutam_Brahmachari2/publications

LinkedIn page: https://in.linkedin.com/in/goutam-brahmachari-9308b662

VIDWAN: https://vidwan.inflibnet.ac.in/profile/152899

Scopus Page: https://www.scopus.com/authid/detail.uri?authorId=6603056427

Exaly Project Webpage: https://exaly.com/author/2358812/g-brahmachari/rankings

Web of Science: https://www.webofscience.com/wos/author/record/736637

15. Citation Indices

Citations: 5782; h-index: 39; i10-index: 106 (as accessed on 25.09.2023 as per Google Scholar; https://scholar.google.co.in/citations?user=aj7NvGQAAAAJ&hl=en

Scopus Platform

Citations: 3748; h-index: 33 (as on 23.09.2023)

https://www.scopus.com/authid/detail.uri?authorId=6603056427

16. Editorship of Book Series

Elsevier Series Editor – Book Series 'Natural Product Drug Discovery'
(https://www.elsevier.com/catalog/all/all/all/natural-product-drug-discovery)

17. A list of ten (10) best research publications published in recent times (Please note: All the works were planned, designed and performed exclusively working in India)

No.	Paper details	Remarks
1.	Anindita Bhowmick, **Goutam Brahmachari*** (2023). C(sp)–C(sp3) Bond formation through ligand- and additive-free CuO-mediated decarboxylative direct cross-coupling of coumarin-/chromone-3-carboxylic acids and terminal alkynes. *Organic Letters*, ASAP article first published online on 22 September 2023, https://doi.org/10.1021/acs.orglett.3c02369	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
2.	Pintu Karmakar, Indrajit Karmakar, Debojyoti Mukherjee, Anindita Bhowmick, **Goutam Brahmachari*** (2023). Mechanochemical solvent-free one-pot synthesis of poly-functionalized 5-	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the

	(arylselanyl)-1*H*-1,2,3-triazoles through a copper(I)-catalyzed click reaction. *Chemistry – a European Journal*, e202302539 (First published online on 04 September 2023), https://doi.org/10.1002/chem.202302539	manuscript
3.	Pintu Karmakar, Indrajit Karmakar, Debopam Pal, Suravi Das, **Goutam Brahmachari*** (2023). Electrochemical regioselective C(*sp*2)–H selenylation and sulfenylation of substituted 2-amino-1,4-naphthoquinones. *The Journal of Organic Chemistry*, **88**, 1049-1060.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
4.	Indrajit Karmakar and **Goutam Brahmachari*** (2022), Electrochemical and mechanochemical synthesis of dihydrofuro[3,2-*c*]chromenones via intramolecular C_{sp3}–H cross-dehydrogenative oxygenation within warfarin frameworks: an efficient and straightforward dual approach. *Green Chemistry*, **24**, 2825-2838. (***Selected as a 2022 HOT Green Chemistry Article***)	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
5.	Mullicka Mandal and **Goutam Brahmachari*** (2022), Visible light-promoted intramolecular C-O bond formation via Csp3-H functionalization: a straightforward synthetic route to biorelevant dihydrofuro[3,2-*c*]chromenone derivatives. *The Journal of Organic Chemistry*, **87**, 4777-4787.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
6.	**Goutam Brahmachari***, Anindita Bhowmick and Indrajit Karmakar (2021), Visible light-driven and singlet oxygen-mediated photochemical cross-dehydrogenative C_3–H sulfenylation of 4-hydroxycoumarins with thiols using rose bengal as a photosensitizer. *The Journal of Organic Chemistry*, **86**, 9658-9669.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
7.	Goutam Brahmachari*, Indrajit Karmakar and Pintu Karmakar (2021), Catalyst- and solvent-free C*sp2*–H functionalization of 4-hydroxycoumarins *via* C-3 dehydrogenative aza-coupling under ball-milling. *Green Chemistry*, **23**, 4762-4770.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
8.	**Goutam Brahmachari*** (2020). Catalyst- and additive-free decarboxylative C-4 phosphorylation of coumarin-3-carboxylic acids at ambient conditions. *Advanced Synthesis & Catalysis*, **362**, 5411-5421.	Single-authored
9.	**Goutam Brahmachari*** and Indrajit Karmakar (2020), Visible light-induced and singlet oxygen-mediated photochemical conversion of 4-hydroxy-alpha-benzopyrones to 2-hydroxy-3-oxo-2,3-dihydrobenzofuran-2-carboxamides/carboxylates using rose bengal as a photosensitizer. *The Journal*	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript

	of Organic Chemistry, **85**, 8851-8864.	
10.	**Goutam Brahmachari***, Nayana Nayek, Indrajit Karmakar, Khondekar Nurjamal, Swapan K. Chandra, Anindita Bhowmick (2020). Series of functionalized 5-(2-arylimidazo[1,2-*a*]pyridin-3-yl)pyrimidine-2,4(1*H*,3*H*)-diones: a water-mediated three-component catalyst-free protocol revisited. *The Journal of Organic Chemistry*, **85**, 8405-8414.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript

18. A list of five (5) best research publications in the entire career (Please note: All the works were planned, designed and performed exclusively working in India)

No.	Paper details	Remarks
1.	Anindita Bhowmick, **Goutam Brahmachari*** (2023). C(sp)–C(sp3) Bond formation through ligand- and additive-free CuO-mediated decarboxylative direct cross-coupling of coumarin-/chromone-3-carboxylic acids and terminal alkynes. *Organic Letters*, ASAP article first published online on 22 September 2023, https://doi.org/10.1021/acs.orglett.3c02369	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
2.	Pintu Karmakar, Indrajit Karmakar, Debojyoti Mukherjee, Anindita Bhowmick, **Goutam Brahmachari*** (2023). Mechanochemical solvent-free one-pot synthesis of poly-functionalized 5-(arylselanyl)-1*H*-1,2,3-triazoles through a copper(I)-catalyzed click reaction. *Chemistry – a European Journal*, e202302539 (First published online on 04 September 2023), https://doi.org/10.1002/chem.202302539	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
3.	Pintu Karmakar, Indrajit Karmakar, Debopam Pal, Suravi Das, **Goutam Brahmachari*** (2023). Electrochemical regioselective C(*sp*2)–H selenylation and sulfenylation of substituted 2-amino-1,4-naphthoquinones. *The Journal of Organic Chemistry*, **88**, 1049-1060.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
4.	Indrajit Karmakar and **Goutam Brahmachari*** (2022), Electrochemical and mechanochemical synthesis of dihydrofuro[3,2-*c*]chromenones via intramolecular C_{sp3}–H cross-dehydrogenative oxygenation within warfarin frameworks: an efficient and straightforward dual approach. *Green Chemistry*, **24**, 2825-2838.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript
5.	**Goutam Brahmachari*** and Indrajit Karmakar (2020), Visible light-induced and singlet oxygen-mediated photochemical conversion of 4-hydroxy-alpha-benzopyrones to 2-hydroxy-3-oxo-2,3-	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the

	dihydrobenzofuran-2-carboxamides/carboxylates using rose bengal as a photosensitizer. *The Journal of Organic Chemistry*, **85**, 8851-8864.	manuscript

19. Research Publications and Copyrighted Materials

Publication Summary at a glance

Original Research Articles: **151** Scientific Reviews: **26** Educational/popular articles/reports: 03 Editorials in guest-edited journal issues: 03 Invited Book Chapters in edited volumes: 51 Books: 26	***Total: 260 (as of 25.09.2023)*** **Conference Proceedings: 130** **Invited Talks: 40**

(a) Original Research Papers Published

151. Anindita Bhowmick, **Goutam Brahmachari*** (2023). C(sp)–C(sp3) Bond formation through ligand- and additive-free CuO-mediated decarboxylative direct cross-coupling of coumarin-/chromone-3-carboxylic acids and terminal alkynes. *Organic Letters*, ASAP article first published online on 22 September 2023, https://doi.org/10.1021/acs.orglett.3c02369

150. Pintu Karmakar, Indrajit Karmakar, Debojyoti Mukherjee, Anindita Bhowmick, **Goutam Brahmachari*** (2023). Mechanochemical solvent-free one-pot synthesis of poly-functionalized 5-(arylselanyl)-1*H*-1,2,3-triazoles through a copper(I)-catalyzed click reaction. *Chemistry – a European Journal*, e202302539 (First published online on 04 September 2023), https://doi.org/10.1002/chem.202302539

149. A. K. Vishwkarma, T. Yadav,* E. Shakerzadeh, I. Karmakar, **Goutam Brahmachari**,* A. Kumar, P. K. Singh, M. Srivastava, A. Pathak (2023). Structural and vibrational spectroscopic signature of a bio-relevant molecule: (*E*)-3-(2-(4-methoxyphenyl)hydrazineylidene)chromane-2, 4-dione. *Computational and Theoretical Chemistry*, **1229**, 114306.

148. S. Dutta, S. Mahalanobish, S. Saha, M. Mandal, S. Begam, P. Sadhukhan, S. Ghosh, **Goutam Brahmachari**, P. C. Sil (2023). Biological evaluation of the novel 3,3′-((4-nitrophenyl)methylene)bis(4-hydroxy-2*H*-chromen-2-one) derivative as potential anticancer agents via the selective induction of reactive oxygen species-mediated apoptosis. *Cellular Signalling*, **111**, 110886.

147. Pintu Karmakar, Indrajit Karmakar, Debopam Pal, Suravi Das, **Goutam Brahmachari*** (2023). Electrochemical regioselective C(*sp*2)–H selenylation and sulfenylation of substituted 2-amino-1,4-naphthoquinones. *The Journal of Organic Chemistry*, **88**, 1049-1060.

146. Anindita Bhowmick, **Goutam Brahmachari*** (2023). $PhI(OAc)_2/I_2$-Mediated Decarboxylative C_4-amination of coumarin-3-carboxylic acids via C sp2 –H dehydrogenative C–N cross-coupling under ambient conditions. *European Journal of Organic Chemistry*, **26**, e202300192.

145. Nayana Nayek, **Goutam Brahmachari*** (2023). Visible-light-mediated self-sensitized oxidative and regioselective C(sp2)−H selenylation and sulfenylation of substituted 2-amino-1,4-naphthoquinones. *European Journal of Organic Chemistry*, **26**, e202201343.

144. A. K. Vishwkarma, T. Yadav,* **Goutam Brahmachari,*** I. Karmakar, P. Yadav, S. Saha, C. Mahapatra, G. N. Pandey, C. S. P. Tripathi, P. K. Tripathi, V. K. Verma, A. Pathak (2023). Conformational search and spectroscopic analysis of biorelevant molecule: 5-chloro-2-hydroxy-*N*-isobutyl-3-oxo-2,3-dihydrobenzofuran-2-carboxamide. *Polycyclic Aromatic Compounds*, **43**, 7474-7488.

143. A. K., Vishwkarma, T., Yadav, A. Pathak, **Goutam Brahmachari** (2023). Interaction of a synthetic bio-relevant drug-molecule with C_{24} and $B_{12}N_{12}$ fullerene: A first-principles quantum chemical investigation. *Diamond and Related Materials*, **132**, 109639.

142. T. Yadav,* A. K., Vishwkarma, M., Mandal, I., Karmakar, Pathak, A., **Goutam Brahmachari,*** P. K. Tripathi, A. K., Maddheshiya, N. P. Yadav, C. Mahapatra (2023). Molecular modeling, vibrational dynamics and NBO analysis of a synthetic bio-relevant warfarin analog. *Journal of Molecular Structure*, **1284**, 135347.

141. Ambrish Kumar Srivastava, Abhishek Kumar, Harshita Srivastava, Saurabh Pandey, Narendra Kumar, **Goutam Brahmachari**, Neeraj, Misra (2023). Molecular dynamics and quantum chemical studies on piperine, a naturally occurring alkaloid. *SSRN Electronic Journal*, doi: 10.2139/ssrn.4377414

140. Varun Sharma, Anindita Bhowmick, Indrajit Karmakar, **Goutam Brahmachari**, Vivek Kumar Gupta (2023). Synthesis, characterization, Hirshfeld surface analysis and molecular docking studies of 3-(cyclohexylthio)-4-hydroxy-6-methyl-2*H*-chromen-2-one, *Molecular Crystals and Liquid Crystals*, **757:1**, 62-77.

139. Varun Sharma, Anindita Bhowmick, Indrajit Karmakar, **Goutam Brahmachari**, Vivek Kumar Gupta (2023). Crystallographic structure, quantum and in silico interaction analysis of 3-(benzylthio)-4-hydroxy-2*H*-chromen-2-one, *Molecular Crystals and Liquid Crystals*, **757:1**, 1-18.

138. **Goutam Brahmachari**,* Anindita Bhowmick, Indrajit Karmakar (2022). Catalyst- and additive-free C(sp3)–H functionalization of (thio)barbituric acids via C-5 dehydrogenative aza-coupling under ambient conditions. *ACS Omega*, **7**, 30051-30063.

137. Nayana Nayek, Pintu Karmakar, Mullicka Mandal, Indrajit Karmakar, **Goutam Brahmachari*** (2022), Photochemical and electrochemical regioselective cross-dehydrogenative C(sp2)-H sulfenylation and selenylation of substituted benzo[*a*]phenazin-5-ols. *New Journal of Chemistry*, **46**, 13483-13497.

136. Piyanki Das, **Goutam Brahmachari**, Koustav Chatterjee, Tathagata Choudhuri (2022). Synthetic antioxidants from a natural source can overtake the oncogenic stress management system and activate the stress-sensitized death of KSHV-infected cancer cells. *International Journal of Molecular Medicine*, **50**:117.

135. Abhishek Kumar Das, Uday Hossain, Sumit Ghosh, Sima Biswas, Mullicka Mandal, Bhagirath Mandal, **Goutam Brahmachari**, Angshuman Bagchi, Parames C. Sil (2022). Amelioration of oxidative stress-mediated inflammation and apoptosis in pancreatic islets by Lupeol in STZ-induced hyperglycaemic mice. *Life Sciences*, **305**, 120769.

134. T. Yadav,* **Goutam Brahmachari**,* I. Karmakar, S. Saha, J. Chowdhury, A. Pathak, R. Kumar, R. Sharma, R. R. F. Bento, N.P. Yadav (2022). Spectroscopic investigation of electron-releasing functional groups substituted *N*-iso-butyl, *S*-2-nitro-1-phenylethyl dithiocarbamate – a DFT approach. *Polycyclic Aromatic Compounds*, **42**, 6917-6931.

133. T. Yadav*, A. K. Vishwkarma, **Goutam Brahmachari***, Indrajit Karmakar, P. Yadav, S. Kumar, C. Mahapatra, J. Chowdhury, R. Kumar, G. N. Pandey, P. K. Tripathi, A. Pathak (2022), Structural confirmation and spectroscopic signature of *N*-Allyl-2-hydroxy-5-methyl-3-oxo-2,3-dihydrobenzofuran-2-carboxamide and its monohydrate cluster. *Journal of Molecular Structure*, **1267**:133566.

132. V. Sharma, I. Karmakar, **Goutam Brahmachari**, V. K. Gupta (2022), X-ray crystal structure analysis of *N*'-acetyl-*N*'-phenyl-2-naphthohydrazide. *European Journal of Chemistry*, **13**, 253-358.

131. P. Sharma, I. Karmakar, **Goutam Brahmachari**, V. K. Gupta (2022). X-Ray Analysis of *N'*-acetyl-4-formyl-*N'*-phenylbenzohydrazide. *Crystallography Reports*, **67**, 1214-1217.

130. V. Sharma, I. Karmakar, **Goutam Brahmachari**, V. K. Gupta (2022), Synthesis, characterization, Hirshfeld surface analysis and molecular docking studies of 3-(cyclohexylthio)-4-hydroxy-6-methyl-2*H*-chromen-2-one. *Molecular Crystals and Liquid Crystals*, **757**, 62-77.

129. V. Sharma, V. K. Gupta, **Goutam Brahmachari**, A. Bhowmick (2022), Crystal structure, Hirshfeld surface analysis and molecular docking studies of 3-(*sec*-butylthio)-4-hydroxy-2*H*-chromen-2-one. *Molecular Crystals and Liquid Crystals*, **732**, 50-53.

128. Indrajit Karmakar, **Goutam Brahmachari**[*] (2022), Electrochemical and mechanochemical synthesis of dihydrofuro[3,2-*c*]chromenones via intramolecular C_{sp3}–H cross-dehydrogenative oxygenation within warfarin frameworks: an efficient and straightforward dual approach. *Green Chemistry*, **24**, 2825-2838. (***Selected as a 2022 Hot Article in Green Chemistry***)

127. Mallicka Mandal, **Goutam Brahmachari*** (2022), Visible light-promoted intramolecular C-O bond formation via Csp3-H functionalization: a straightforward synthetic route to biorelevant dihydrofuro[3,2-c]chromenone derivatives. *The Journal of Organic Chemistry*, **87**, 4777-4787.

126. **Goutam Brahmachari**,* Indrajit Karmakar (2022), Visible light-driven and singlet oxygen-mediated synthesis of 2-hydroxyphenylated-α-ketoamides through decarboxylative amidation of 4-hydroxycoumarins. *Asian Journal of Organic Chemistry*, **11**, e202100800.

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> ***Book review:*** "…….This book Catalyst-free organic synthesis, by Goutam Brahmachari, is very comprehensive, and has exhibited the state-of-the-art technology in green chemistry. This book is a great piece of technical literature and unique in regards to being about "Catalyst-free" as there are many books on "catalyst-based organic synthesis". ……The book provides a broad overview of state-of-the-art catalyst-free reactions in organic synthesis. It is strongly recommended for chemical researchers as well as for interested teachers and students, especially those who are involved in catalysis' (*Green Process and Synthesis*, 2018, 7, 180, https://doi.org/10.1515/gps-2017-0184) reviewed by Prof. Can Jin: Zhejiang University of Technology, Hangzhou 310014, P.R. China; and Department of Chemical Engineering and Chemistry, Eindhoven University of Technology, 5612 AP Eindhoven, The Netherlands.

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> ***Book Revew-1.*** "…the author has succeeded in compiling an impressive and highly informative reference text on many pharmaceutically relevant natural products. I would recommend this book to everyone involved in research with biologically active natural products as a convenient and practical source of high quality information….."

(*ChemMedChem*, 2010, 5, 10, 1788-1789) reviewed by Prof. Dr. Karl-Heinz Altmann, ETH Zrich (Switzerland).

Book Review-2. "… a useful addition to the bookshelf of every natural material specialist…" – *Pharmazie in unserer Zeit*, 2010, 39(5), 415 (review in German) by Prof. Dr. Thomas Winckler, Jena (Germany).

Book Review-3. "…..This book is clearly for specialists, the natural product chemist and the pharmaceutical chemist… I do not know whether Goutam Brahmachari intends a revised edition in the future but I am sure there will be an ongoing demand for a book like this" (*Reference Reviews*, 2011, 25, 3, 42-43) by John Goodier, Consultant, Goldhawk Information, London, UK. Visit: http://www.wiley-vch.de/publish/en/books/ISBN3-527-32148-9/

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17. **Discovery and Development of Anti-Breast Cancer Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 5)** (*with foreword by* Prof. Subrata Ghosh and Prof. Ramapati Tripathi), Elsevier, 2021. ISBN: 9780128212776

16. **Green Synthetic Approaches for Biologically Relevant Heterocycles – Volume 1**, (*with a foreword by Prof. Dr. Peter Licence*), 2nd edition, **Elsevier Inc**., Waltham, MA, USA, 2021 (ISBN: 978-0-12-820586-0)

15. **Green Synthetic Approaches for Biologically Relevant Heterocycles – Volume 2**, (*with a foreword by Prof. Dr. Vinod K. Singh*), 2nd edition, **Elsevier Inc**., Waltham, MA, USA, 2021 (ISBN: 978-0-12-820792-5)

14. **Discovery and Development of Anti-Inflammatory Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 4)** (*with foreword by* Prof. G. Mugesh, IISc, Bangalore), Elsevier, 2019. ISBN: 9780128169926

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12. **Discovery and Development of Neuroprotective Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 2)** (*with foreword by* Dr. Volkan

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Book Review 1. (E. A. Abourashed, *Journal of Natural Products*, **2018**, *81*, 1917-1918) "….As health care providers continue to seek new and effective approaches for managing neurodegenerative diseases, Discovery and Development of Neuroprotective Agents from Natural Products attempts to narrow the drug discovery gap through its current and comprehensive coverage of the subject matter. The book provides a well-balanced content that spans major neurodegenerative diseases and potential therapeutic agents that may be obtained from natural sources and/or synthetic routes based on naturally occurring lead compounds…..The book should appeal to a broad audience with diverse backgrounds including chemistry, biology, pharmacy, and medicine. It can also be a valuable resource for researchers, academicians, and graduate students. In addition to enjoying the book's content, its readers will probably be able to identify viable research directions for the discovery and development of new and promising neuroprotective agents." Prof. Ehab A. Abourashed, Medical College of Wisconsin School of Pharmacy, Milwaukee, Wisconsin, United States.

Book Review 2. (S. Chandrasekhar, *Current Science*, **2018**, *115*, 2164-2165) "This book discusses about recent developments in the area of neuroprotective natural products with respect to their isolation, characterization, and their pharmaceutical applications in the area of neurodegenerative diseases……..Overall the book gives a detailed insight into natural products as neuroprotective agents and is recommended for colleges/institutions and industries working in the areas of natural products isolation and/or in the exploration of compounds for their activity on the central nervous system." Prof. Srivari Chandrasekhar, CSIR-Indian Institute of Chemical Technology, Hyderabad, India,

11. **Discovery and Development of Antidiabetic Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 1)** (*with a foreword by Dr. David G. I. Kingston and Dr. Arnold L. Demain*), Elsevier, 2016. ISBN: 9780128094501

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4. **Natural Bioactive Molecules: Impacts & Prospects**, (*with a foreword by Prof. Dr. Arnold Demain*), Alpha Science International Ltd., Oxford, U.K., 2013 (ISBN: 978-1-84265-780-5); co-published by Narosa Publishing House Private Ltd., New Delhi, India, 2013 (ISBN: 978-81-8487-235-4).

3. **Bioactive Natural Products: Opportunities and Challenges in Medicinal Chemistry**, (*with a foreword by Dr. David J. Newman*), World Scientific Publishing Co., Singapore, 2011 (ISBN: 978-981-4335-37-9).

2. **Natural Products: Chemistry, Biochemistry and Pharmacology**, (*with a foreword by Prof. Jorg Heukelbach and Prof. Ricke Speare*), Alpha Science International Ltd., Oxford, U.K., 2009 (ISBN: 978-1-84265-450-7); co-published by Narosa Publishing House Private Ltd., New Delhi, India, 2009 (ISBN: 978-81-7319-886-1).

1. **Chemistry of Natural Products: Recent Trends and Developments**, (*with a foreword by Dr. Manksukh C. Wani*), Research Signpost, Trivandrum, Kerala, India 2006 (ISBN: 81-308-0140-X).

19. Scientific Contributions of Professor Goutam Brahmachari

(a) In Brief (50 words)

Professor Goutam Brahmachari has made a significant contribution to synthetic organic chemistry, particularly in developing effective and practical methodologies for carbon and carbon-heteroatom bond formation in constructing medicinally important heterocyclic scaffolds using C-H functionalization, cascade and cross-coupling approaches. In addition, Professor Brahmachari also made outstanding contributions to natural products chemistry.

(b) Scientific contribution (200 words)

In his longstanding professional and scientific career, Professor Goutam Brahmachari has demonstrated original and significant research contributions in organic chemistry. His main research activities include the development of new synthetic methodologies, green chemistry and natural products chemistry. Brahmachari's group contributed significantly to developing effective and practical synthetic methods for carbon and carbon-heteroatom bond formation in constructing medicinally important heterocyclic scaffolds using C-H functionalization, cascade and cross-coupling approaches. In addition, Prof. Brahmachari also made outstanding contributions to natural products chemistry by unearthing the chemical profiles of several traditionally used Indian medicinal plants, studying their chemistry and biology, and thus presenting novel phytochemicals of interest. He has produced **260** independent scientific publications, including original research papers, review articles, books, and invited book chapters in synthetic organic chemistry and natural products chemistry. In recognition of his academic and scientific contributions, Prof. Brahmachari has been conferred with several awards and accolades, including elected Fellow of the Royal Society of Chemistry, CRSI Bronze Medal-2021, Dr. Basudev Banerjee Memorial Award-2021, INSA Teachers Award-2019, Founder Series Editorship of Elsevier Book Series, '*Natural Product Drug Discovery*', and also has been featured in the World Ranking of the Top 2% Scientists (Organic Chemistry Category published by Standford University Scientists) in the three consecutive years, 2020-2022.

(c) Scientific contribution in extended form

During more than twenty-five years of his professional career in a well-regarded Central University in India, Professor Goutam Brahmachari, *PhD, DSc., FRSC*, has executed commendable scientific endeavours with utmost sincerity in Chemical Sciences. Beyond serving the role of a university teacher in training and motivating thousands of his undergraduate and postgraduate students during this longstanding tenure to helping them to become successful human resources of our great nation in their fields (as teachers, chemists, scientists and molecular inventors), he has also been contributing in the domain of scientific knowledge concerned by dint of undertaking dedicated research programmes supported by all the leading sponsoring bodies in India, such as UGC, CSIR, SERB-DST and DBT. His main research contributions address the broad field of organic chemistry, categorized into two distinct sections: Synthetic Organic Chemistry, focusing on Green and Sustainable Chemistry, and *Natural Products Chemistry*. Dr. Brahmachari's primary research interests include (i) Synthetic organic chemistry, (ii) the Practice of green and sustainable chemistry, (iii) Bioactive natural products from traditionally used medicinal plants, (iv) Semi-synthetic studies with natural products, and (v) Evaluation of biological activities and pharmacological potential of natural and synthetic compounds.

Dr. Brahmachari has contributed significantly to the field of synthetic organic chemistry. As part of his ongoing research in this domain, he has developed a legacy in practising green chemistry by designing several distinct and innovative green protocols for a considerable number of new series of bio-relevant heterocyclic scaffolds based on his views '*Benign by Design*'. His dedicated endeavour to the green and sustainable chemistry research programme focuses on energy-efficiency issues besides other usual greener aspects in designing relatively benign synthetic protocols for functional organic molecules. Using conventional energy sources (fossil fuels) is one of the major causes of environmental pollution, with all kinds of subsequent outcomes, including rapid depletion of traditional energy sources. In resonance with this view, his dedicated research programme aims to attain energy efficiency in performing a chemical reaction by carefully screening reaction conditions capable of carrying out a particular transformation at ambient conditions. Besides, designing catalyst-free synthetic processes is a somewhat challenging concept toward a safe, cost-effective, waste-free, simple, and sustainable environment! His research group has published a significant amount of research in designing room temperature-based and/or catalyst-free synthetic methods for biologically relevant organic scaffolds (satisfying recent trends in molecular hybridizations) without cooling and/or heating to make good use of Nature's spontaneous energy source to find out an effective way-out toward the steps in protecting our environment and its sustainability from the perspective of a chemical inventor. In addition, he and his team have explored the practical applications of several green tools, such as ball-milling, ultrasound irradiation, visible light (including abundant sunlight) and electrosynthesis in developing new synthetic methodologies.

As a natural product chemist, he has unearthed chemical profiles of several traditionally used Indian medicinal plants, studied their chemistry and biology, and thus presented novel naturally occurring leads and their derivatives for their further exploration in the field of ongoing research in drug discovery and development by the organic, medicinal and pharmaceutical chemists working globally in this remarkable area of prime interest. Besides his dedicated research in this remarkable field, he has also been contributing to this goal by serving as the founder series editor of the Elsevier book series, '*Natural Product Drug Discovery'*. In addition, he has also contributed to the theoretical/computational exploration of many of these novel natural and synthetic molecules and their X-ray crystallographic behaviour.

All such credentials are reflected in his 260 scientific publications, including original research papers, review articles, books and invited book chapters in edited volumes in the field of organic synthesis and natural products, published from internationally reputed presses including ACS, RSC,

Elsevier, Wiley, Springer, Taylor & Francis, CSIR, and others. Dr. Brahmachari serves international journals as an editorial advisory board member and serves *Current Green Chemistry* as associate editor. He guest-edited some internationally reputed journal special issues as well. He has been contributing regularly (focusing on green advances in the field since its 45th volume) to the RSC's SPR on Organophosphorus Chemistry – the most prestigious book series. In addition, he serves the scientific community professionally in many other ways; he also serves CRSI, IACS and ISCA as a life member and RSC as its Fellow.

In addition to his original research contributions, Dr. Brahmachari is also deeply involved in authoring and editing major reference books with a motto to boost the ongoing research globally and contribute to the knowledge in the existing domain. Such major reference works would guide and help advanced students and young researchers in the field. As mentioned in the publication list, Dr. Brahmachari has already produced quite a large number of such books (major references; authored and edited; **26** so far), which have been published by internationally reputed publishing houses such as Academic Press, Elsevier, Wiley-VCH, CRC Press/Taylor & Francis, World Scientific, Alpha Science International, and the Royal Society of Chemistry. These books have received forewords from internationally distinguished scientists, and many of these publications were also reviewed in reputed journals by eminent scholars. In the recent past, Dr. Brahmachari authored two land-marking books – '*Room Temperature Organic Synthesis* (ISBN: 9780128010259)' (2015) from Elsevier and '*Catalyst-free Organic Synthesis* (ISBN: 978-1-78262-412-7) (2018) from RSC under their Green Chemistry Series) for the first-time of their kinds in the global scientific platform, and a two-volume set edited book '*Green Synthetic Approaches for Biologically Relevant Heterocycles – Vol.1 & 2* (ISBN: 978-0-12-820586-0 & ISBN: 978-0-12-820792-5)' (2021) from Elsevier. Dr. Brahmachari has also produced **51** authoritative book chapters in edited volumes.

He has produced 260 independent scientific publications, including original research papers, review articles, books, and invited book chapters in synthetic organic chemistry and natural products chemistry. Twenty students completed their PhDs under Prof. Brahmachari's supervision. His current *h*-index is 39, *i*-10 is 106, and total citations are 5782 [https://scholar.google.co.in/citations?user=aj7NvGQAAAAJ&hl=en]. In recognition of his academic and scientific contributions, Prof. Brahmachari has been conferred with several awards and accolades, including elected Fellow of the Royal Society of Chemistry, CRSI Bronze Medal-2021, Dr. Basudev Banerjee Memorial Award-2021 (Contribution in chemical sciences) from the Indian Chemical Society, INSA Teachers Award-2019, Founder Series Editorship of Elsevier Book Series, '*Natural Product Drug Discovery*', and also was featured in the World Ranking of the Top 2% Scientists (Organic Chemistry Category published by Stanford University Scientists) in the three consecutive years, in 2020, 2021, 2022, and the AD Scientific World Ranking of Scientists -2022, 2023.