CURRICULUM VITAE OF DR. GOUTAM BRAHMACHARI
(As of 13.05.2024)

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 about 270 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 27 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 2020-23 (both in whole career and single years), in the AD Scientific World Ranking of Scientists -2022-2024, as the ScholarGPS Highly Ranked Scholar-2022 (Lifetime, securing a position in the top 0.05% ao all scholars worldwide).

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

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

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

2. Designation and Name of the Institution: **Full Professor of Chemistry, 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), **ICS (8547)**

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 the 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 the period of 04.03.2020 to 22.12.2023; 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
Full Professor of Chemistry	Chemistry Department, Visva-Bharati (a Central University), WB, India	24.07.2011	Continuing	
Head of the Department	-do-	4.03.2020	22.12.2023	
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

(21) Awarded Doctor of Science (D.Sc.) Degree in 2023 (Visva-Bharati University); (20) Dr. Basudev Banerjee Memorial Award-2021 (contributions in chemical sciences) from the Indian Chemical Society; (19) CRSI Bronze Medal Award-2021 (for his contribution to research in Chemistry) by the Chemical Research Society of India; (18) Elected Fellow, Royal Society of Chemistry (FRSC, since 2017); (17) Featured in"the World Ranking of Top 2% Scientists" in the Organic Chemistry category (both whole career and single years) – 2020-23 (published by Standford University Scientists); (16) Featured in the "AD Scientific World Ranking of Scientists" in 2022-2024; **(15) Featured as the ScholarGPS Highly Ranked Scholar-2022 (Lifetime, securing a position in the top 0.05% of all scholars worldwide)** (Highly Ranked Scholars | ScholarGPS); (14) CAS Registry® Innovator-2020 by ACS; **(13) INSA Teachers Award-2019 (by Indian National Science Academy, New Delhi);** (12) Dr. Kalam Best Teaching Award-2017 (Dr. Kalam Educational Trust, Chennai); (11) Reviewer Excellence Awardee-2019 by the Journal of Chemical Sciences; (10) Publons 1%Top Reviewer Award-2018 & 2019; (9) Academic Brilliance Award-2015 (Award for Excellence in Research); **(8) Elsevier Book Series Editor (Natural Product Drug Discovery);** (7) Co-Editor-Chief for *Current Green*

Chemistry; (6) Guest-Editor for: *Current Organocatalysis* (one thematic issue), *Current Green Chemistry* (three thematic issues); (5) Author/editor of 27 major research reference books published by leading publishing houses, including Elsevier, Royal Society of Chemistry, Academic Press, Wiley-VCH, CRC Press (Taylor & Francis), World Scientific, etc.; (4) Member, Editorial Advisory Board Member: Tetrahedron Green Chemistry, University Journal of 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*, and others; (3) Highly cited author (2014-15) for ACS Sustainable Chemistry & Engineering; (2) Session Chairing in Seminars/Conferences and Invited Talks delivered at several national and international symposia; (1) Life-member of Scientific Organizations: Indian Chemical Society (ICS) of India (Life Member, **No. 8547**), Indian Science Congress Association (ISCA) (**ISCA, L24650**), and Chemical Research Society of India (CRSI) (**CRSI, LM 1914**).

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: 6383; h-index: 41; i10-index: 122 (as accessed on 13.05.2024 as per Google Scholar; https://scholar.google.co.in/citations?user=aj7NvGQAAAAJ&hl=en

Scopus Platform

Citations: 4062; h-index: 36 (as on 13.05.2024)

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.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript

	Organic Letters, **25**, 7095-7099.	
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*, **29**, e202302539.	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. (***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-	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses,

	alpha-benzopyrones to 2-hydroxy-3-oxo-2,3-dihydrobenzofuran-2-carboxamides/carboxylates using rose bengal as a photosensitizer. *The Journal of Organic Chemistry*, **85**, 8851-8864.	and writing and editing of the manuscript
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*, **25**, 7095-7099.	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*, **29**, e202302539.	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.	**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
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-dihydrobenzofuran-2-carboxamides/carboxylates using rose bengal as a photosensitizer. *The Journal of Organic Chemistry*, **85**, 8851-8864.	Conceptualization of the problem, design and development of the strategy, monitoring, data analyses, and writing and editing of the manuscript

19. Detailed List of Publications

Publication Summary at a glance

Total publications: 269 (as of 13.05.2024) Original Research Articles: **157** Scientific Reviews: **26** Educational/popular articles/reports: **03** Editorials in guest-edited journal issues: **04** Invited Book Chapters in edited volumes: **52** Books: **27**	***Others*** **Conference Proceedings: 130** **Invited Talks: 45**

(a) Original Research Papers Published

157. **Goutam Brahmachari**,* Indrajit Karmakar, Mullicka Mandal, Bhagirath Mandal (2024). Ultrasound-assisted catalyst-free Knoevenagel condensation of carbonyl compounds with C – H acids in water. *Current Green Chemistry*, **11**, 210-220.

156. 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*, **29**, e202302539.

155. 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*, **25**, 7095-7099.

154. 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.

153. 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.

152. 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.

151. 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.

150. 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.

149. 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.

148. 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.

147. 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.

146. 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

145. 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.

144. 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.

143. **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.

142. 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.

141. 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.

140. 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.

139. 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.

138. 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.

137. 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.

136. 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.

135. 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.

134. 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.

133. 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***)

132. 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.

131. **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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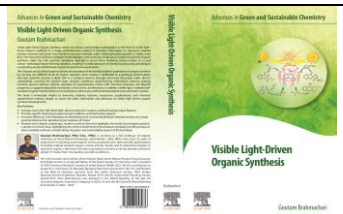
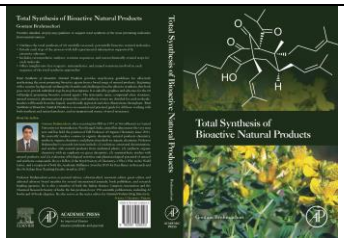
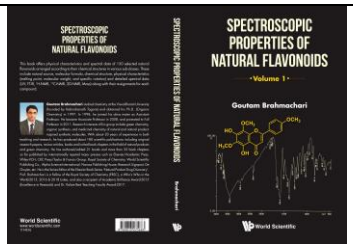
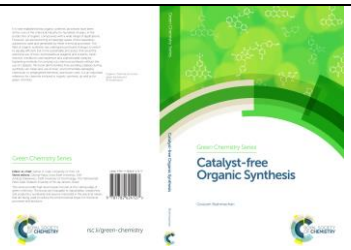
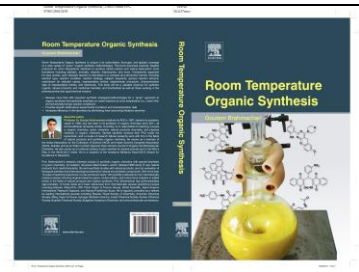
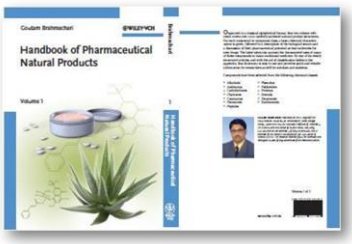
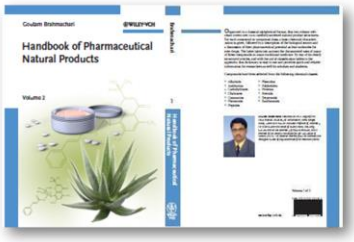
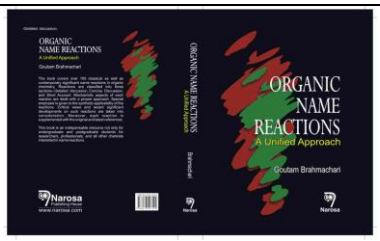
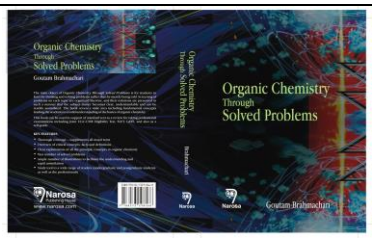
9		**Visible Light-Driven Organic Synthesis** (*with a foreword by Prof. Lutz Ackermann*), 1st Edn., Elsevier, Amsterdam, The Netherlands, 2024; ISBN: 9780323958936 (Forthcoming).
8		**Total Synthesis of Bioactive Natural Products** (*with a foreword by Prof. Srinivasan Chandrasekaran*), Academic Press (Elsevier), Amsterdam, The Netherlands, May 2019; ISBN: 9780081028223
7		**Spectroscopic Properties of Natural Flavonoids** (*with a foreword by Prof. Amit Basak*), World Scientific Publishing Co., Singapore, October 2018; ISBN: 978-981-3275-68-3

6		**Catalyst-Free Organic Synthesis** (under Green Chemistry Series; Book No. 51), The Royal Society of Chemistry, Cambridge, London, November 2017, ISBN: 978-1-78262-412-7. ***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.
5		**Room Temperature Organic Synthesis** (*with a foreword by Prof. Paul Anastas*), Elsevier, Amsterdam, The Netherlands, March 2015; ISBN: 9780128010259.
4		**Handbook of Pharmaceutical Natural Products - Vol. 1** (Hardcover), 1st Edition, 2010. XX, 926 Pages, ISBN-10: 3-527-32148-9; ISBN-13: 978-3-527-32148-3. Publisher: Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany.
3		**Handbook of Pharmaceutical Natural Products - Vol. 2** (Hardcover), 1st Edition, 2010. XX, 926 Pages, ISBN-10: 3-527-32148-9; ISBN-13: 978-3-527-32148-3. Publisher: Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany. ***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/
2		**Organic Name Reactions: A Unified Approach**, (*with a foreword by Prof. S. Chandrasekaran*), Alpha Science International Ltd., Oxford, U.K., 2006 (ISBN: 1-84265-304-0); co-published by Narosa Publishing House Private Ltd., New Delhi, India, 2006 (ISBN: 81-7319-719-2), Reprints 2007, 2009, 2011, 2012, 2014, 2016, 2017, 2021.
1		**Organic Chemistry Through Solved Problems** (*with a foreword by Prof. Swapnadip Thakur*), Narosa Publishing House Private Ltd., New Delhi, India, 2007 (ISBN: 81-7319-816-0), Reprints 2009, 2011, 2012, 2014, 2017.

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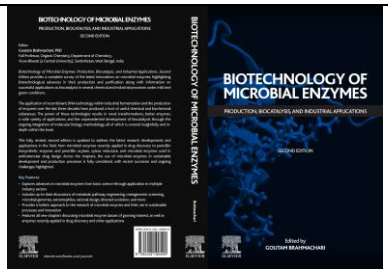
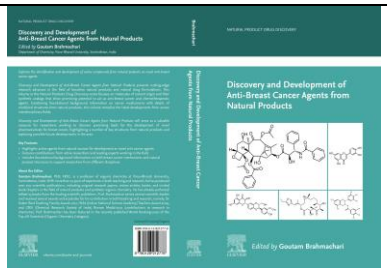
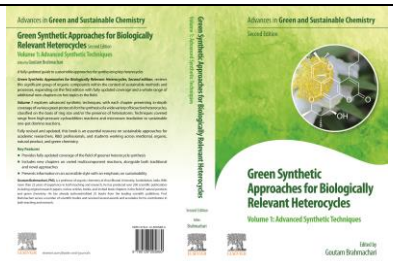
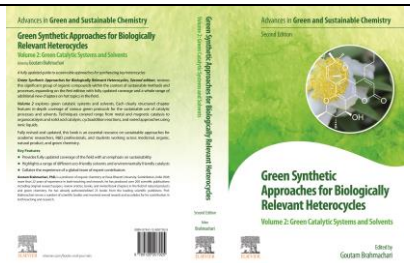
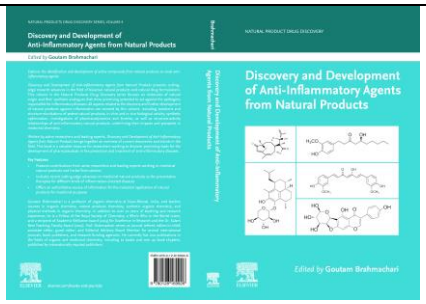
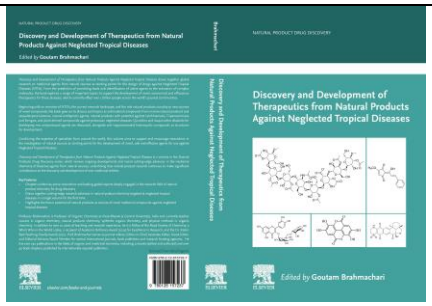
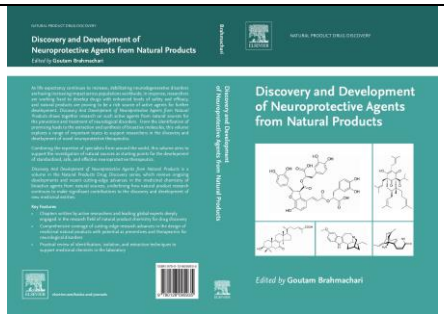
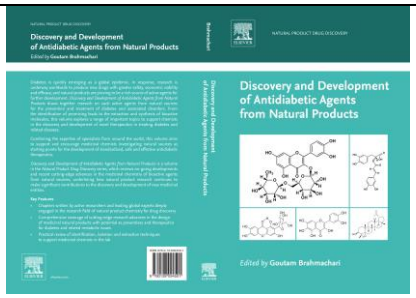
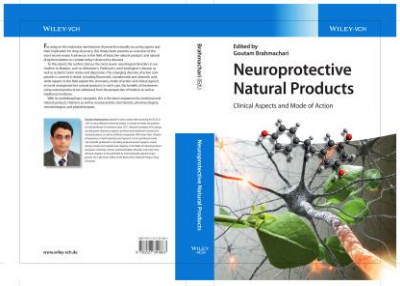
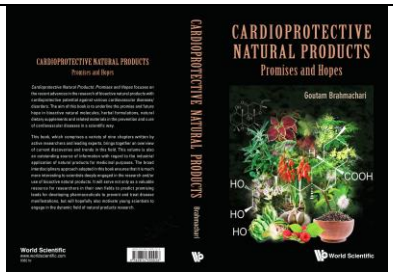
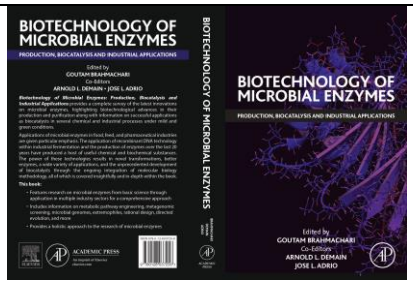
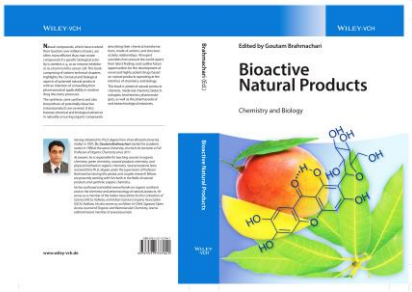
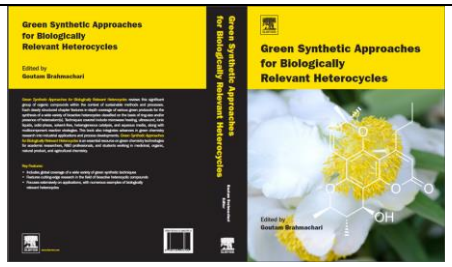
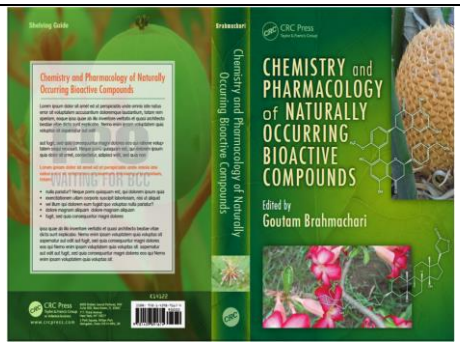
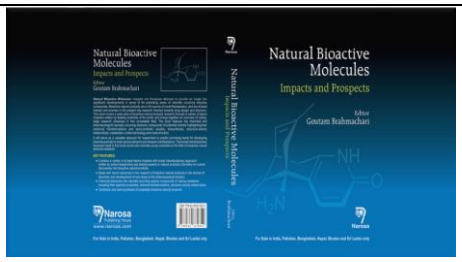
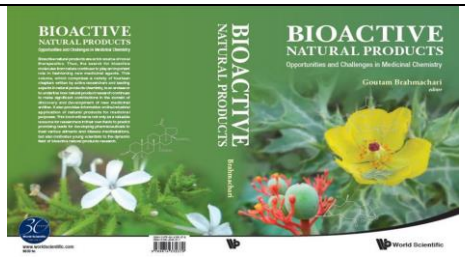
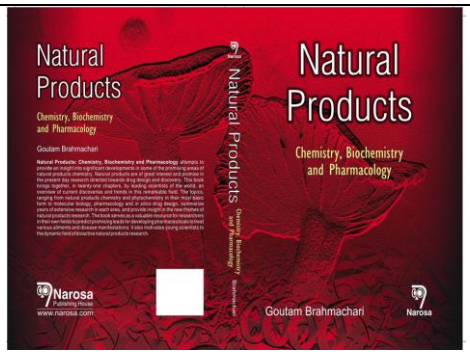
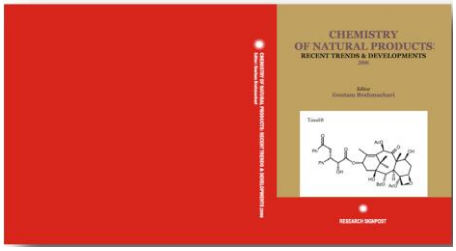
18		**Biotechnology of Microbial Enzymes: Production, Biocatalysis and Industrial Applications**, 2nd Edition, Academic Press, London, Elsevier, ISBN: 9780443190599
17		**Discovery and Development of Anti-Breast Cancer Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 5)** (*with 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 a foreword by* Prof. G. Mugesh, IISc, Bangalore), Elsevier, 2019. ISBN: 9780128169926

13		**Discovery and Development of Therapeutics from Natural Products Against Neglected Tropical Diseases (Natural Product Drug Discovery Series – Vol. 3)** (*with a foreword by Prof. Alan Fairlamb, University of Dundee, UK*), Elsevier, April, 2019. ISBN: 978-0-12-815723-7
12		**Discovery and Development of Neuroprotective Agents from Natural Products (Natural Product Drug Discovery Series – Vol. 2)** (*with a foreword by* Dr. Volkan Kisakürek, Zürich, Switzerland), Elsevier, 2017. ISBN: 9780128095935 (June, 2017) **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
10		**Neuroprotective Natural Products: Clinical Aspects and Mode of Action**, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, 2017 (ISBN: 978-3527341863).
9		**Cardioprotective Natural Products: Promises and Hopes**, (*with a foreword by Dr. Bradley K. McConnell, University of Houston, USA*), World Scientific Publishing Co., Singapore, November 2017 (ISBN: 978-981-3231-15-3)
8		**Biotechnology of Microbial Enzymes: Production, Biocatalysis and Industrial Applications** (ISSBN: 978-0-12-803725-6), **Academic Press**, London, Elsevier, 2016 (co-editors: Dr. Arnold L. Demain and Dr. Jose L. Adrio).
7		**Bioactive Natural Products: Chemistry & Biology** (*with a foreword by Prof. Bimal K Banik*), **Wiley-VCH Verlag GmbH & Co. KGaA**, Weinheim, Germany, 2015 (ISBN: 9783527337941).

6		**Green Synthetic Approaches for Biologically Relevant Heterocycles**, (*with a foreword by Prof. Sciott McN. Sieburth*), **Elsevier Inc**., Waltham, MA, USA, 2014 (ISBN: 978-0-12-800700-0).
5		**Chemistry and Pharmacology of Naturally Occurring Bioactive Compounds**, (*with a foreword by Prof. Raphael Mechoulam and Prof. Takuo Okuda*), **CRC Press/Taylor Francis Group**, LLC, USA, 2013 (ISBN: 978-1-4398-9167-4).
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-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 the chemistry of natural products.

(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 product chemistry. Brahmachari's group contributed significantly to developing effective and practical synthetic methods for carbon-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 product 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 about **270** 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, Dr. Kalam Best Teaching Faculty Award-2017, and Academic Brilliance Award-2015 (Excellence in Research), and Founder Series Editorship of Elsevier Book Series, '*Natural Products Drug Discovery*'. Prof. Brahmachari has also been featured in the World Ranking of the Top 2% Scientists (Organic Chemistry Category) in 2020-23 (both in whole career and single years), in the AD Scientific World Ranking of Scientists -2022-2024, as the ScholarGPS Highly Ranked Scholar-2022 (Lifetime, securing a position in the top 0.05% ao all scholars worldwide).

(c) Scientific contribution in extended form

During more than twenty-five years of his professional and scientific 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 the leading funding 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 Product Chemistry*. 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.

Brahmachari's group contributed significantly to developing effective and practical synthetic methods for carbon-carbon and carbon-heteroatom bond formation in constructing medicinally important heterocyclic scaffolds using C-H functionalization, cascade and cross-coupling approaches. 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 many 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 eco-friendly 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 explored the practical applications of several green energy 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 about 270 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 in several international journals as an editorial advisory board member and co-editor-in-chief for *Current Green Chemistry*. 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 – one of 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 ongoing global research and contribute to 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; **27** 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 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 three land-marking books – *'Visible Light-Driven Organic Synthesis* (ISBN: 9780323958936)' (2024) and '*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 **52** authoritative book chapters in edited volumes.

He has produced about **270** 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 41, *i*-10 is 122, and total citations are 6383 [as on 13.05.2024; 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*'. Prof. Brahmachari has also been featured in the World Ranking of the Top 2% Scientists (Organic Chemistry Category) in 2020-23 (both in whole career and single years), in the AD Scientific World Ranking of Scientists -2022-2024, as the ScholarGPS Highly Ranked Scholar-2022 (Lifetime, securing a position in the top 0.05% ao all scholars worldwide).