



Dr. Manobjyoti Bordoloi

Professor,

(Former Chief Scientist & Head, Chemical Science & Technology Division, CSIR North East Institute of Science & Technology, Jorhat, Assam and Former Professor at Assam University (Central University), Silchar, Assam)

Ph.D. : RRL, Jorhat (now NEIST Jorhat) 1988

Specializations: Organic Chemistry (a) Natural Products Chemistry (b) Isolation and characterization of biologically important natural products (c) Chemical transformations (d) Patent (e) Science popularization

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Joined the University : 24-November-2021

Research interests

(a) Natural Products Chemistry (b) Isolation and characterization of natural products with anticancer, antimicrobial, antihelmintic, etc. biological activities (c) Herbal Drug Development (d) Chemical transformations

Published papers: 107

Seminar Presentation : 128

Some papers:

1. KJ. Tamuli, M Bordoloi*; Metal free synthesis of 1,3-diynes through Csp–Csp homo- and

hetero-coupling reaction of terminal alkynes; *Sustainable Chemistry and Pharmacy*; 2022, 28, 100734, <https://doi.org/10.1016/j.scp.2022.100734>, IF 5.464

2. Snigdha Saikia, Kashyap J. Tamuli, Bardwi Narzary, Manobjyoti Bordoloi* and Dipanwita Banik; Chemical Composition, Antimicrobial Activity and Cytotoxicity of *Murraya paniculata* (L.) Jack Leaf Essential Oil from Assam, India : the Effect of Oil on Cellular Morphology of Micro-organisms; *Archives of Microbiology*; 2022, 204:99; <https://doi.org/10.1007/s00203-021-02665-0> , IF 2.552
3. Shyamalendu Nath, Kashyap J. Tamuli, Snigdha Saikia, Bardwi Narzary, Barnali Gogoi, Manobjyoti Bordoloi,* Neipihoi, Deepjyoti Dutt,| Ranjan K. Sahoo, Aparoop Das, Iswar C. Barua, Chandana C. Baruah; Essential oil from the leaves of *Elsholtzia communis* (Collett & Hemsl.) Diels from North East India: Studies on chemical profiling, antimicrobial, cytotoxic and ACE inhibitory activities; *Flavour and Fragrance Journal*. 2021; 36(6); 626-636. IF 2.576.
4. S. Shaligram, NP Narwade, SV Kumbhare, Manobjyoti Bordoloi,* KJ Tamuli, S Nath, T. Parimelazhagan, VS. Patil, A Kapley, SP Pawar, DP Dhotre, MG Muddeshwar, HJ Purohit, YS Shouche; Integrated Genomic and Functional Characterization of the Anti-diabetic Potential of *Arthrobacter* sp. SW1; *Current Microbiology*; 2021; 78, 2577–2588. IF 2.188
5. Kashyap J. Tamuli, Shyamalendu Nath, Manobjyoti Bordoloi*; In water organic synthesis: Introducing itaconic acid as a recyclable acidic promoter for efficient and scalable synthesis of quinoxaline derivatives at room temperature; *J Heterocyclic Chem*. 2021;1–20, DOI: 10.1002/jhet.4231; IF 2.193
6. Barnali Gogoi, Kashyap J. Tamuli, Neipihoi, Manobjyoti Bordoloi*, Hemanta K. Sharma; Isolation and characterization of chemical constituents with in vitro antihypertensive and anthelmintic activities of *Cinnamomum bejolghota* (Buch.-Ham.) sweet leaves: An ethno medicinal plant of North East India; *South African Journal of Botany*; 2021, 140, 161–166. . <https://doi.org/10.1016/j.sajb.2021.04.004>; IF 2.315
7. Manobjyoti Bordoloi*, Ranjan K. Sahoo, Kashyap J. Tamuli, Surovi Saikia and Partha P. Dutta; Plant Extracts Promoted Preparation of Silver and Gold Nanoparticles: A Systematic Review; *NANO: Brief Reports and Reviews*, 2020, Volume 15 (2), 2030001 (24 pages) © World Scientific Publishing Company DOI: 10.1142/S1793292020300017; IF 1.556
8. Ranjan K. Sahoo, Kashyap J. Tamuli, Neipihoi Lhouvum, Deepjyoti Dutta, Manobjyoti Bordoloi*, Hemanta K. Sharma, Kabita Gogoi, Dibya R. Bhattacharyya; Phytochemical constituents from *Xanthium strumarium* L. and evaluation of their in vitro antimalarial activities; *South African Journal of Botany*; 2020, 135, 35–40. <https://doi.org/10.1016/j.sajb.2020.08.006>; IF 2.315.
9. Neipihoi, Brdwi Narzary, Snigdha Saikia, Surovi Saikia, Kashyap J. Tamuli, Ranjan K. Sahoo, Deepjyoti Dutta and Manobjyoti Bordoloi*; Anticancer and antimicrobial compounds from *Croton caudatus* Gieseler and *Eurya acuminata* DC: Two edible plants used in the traditional medicine of the Kuki tribes; September 2020, *Natural Product Research*; DOI:10.1080/14786419.2020.1815737; IF 2.861

10. R Devi, S Gogoi, HS Dutta, Manobjyoti Bordoloi, SK. Sanghid and R Khan; Au/NiFe₂O₄ nanoparticle-decorated graphene oxide nanosheets for electrochemical immunosensing of amyloid beta peptide; **Nanoscale Advances**; 2020, 2, 239-248, DOI: 10.1039/c9na00578a; IF 4.38
11. Kashyap J. Tamuli, Ranjan K. Sahoo and Manobjyoti Bordoloi*; Biocatalytic green alternative to existing hazardous reaction media: synthesis of chalcone and flavone derivatives via the Claisen–Schmidt reaction at room temperature; **New Journal of Chemistry**, 2020, 44, 20956-20965; IF 3.591
12. S Nath, KJ Tamuli, B Gogoi, Manobjyoti Bordoloi*, A Das, CC Barua and I C Barua; Antioxidant properties, phenolic and mineral profiling, assessment of angiotensin I converting enzyme (ACE) inhibitory potential of *Elsholtzia communis* (Collett & Hemsl.) Diels from North East India; **European Journal of Integrative Medicine**; 2020; 40, 101247. DOI: 10.1039/d0nj03839c; IF 1.314.
13. Dipak Roy, Kashyap Jyoti Tamuli, Manobjyoti Bordoloi*, Exploiting silver trifluoromethanesulfonate as efficient and reusable catalyst for the synthesis of dihydropyrimidine derivatives under different reaction environments, **Journal of Heterocyclic Chemistry**. 2019, 56 (12), 3313-3323. <https://doi.org/10.1002/jhet.3728> IF 2.193.
14. M Dutta, N Islam, S Rabha, B Narzary, M Bordoloi, D Saikia, LF.O. Silva, B K Saikia, Acid mine drainage in an Indian high-sulphur coal mining area: cytotoxicity assay and remediation study, **Journal of Hazardous Materials**; (Elsevier Journal), 389, 121851, doi.org/10.1016/j.jhazmat.2019.121851, IF 9.098
15. RK. Sahoo, K J. Tamuli, B Narzary, Manobjyoti Bordoloi*, H K Sharma, K Gogoi, DR Bhattacharyya, *Clerodendrum viscosum* Vent leaf extract supported nanosilver particles: Characterization, antiplasmodial and anticancer activity, 2020, **Chemical Physics Letters** (Elsevier Journal), 738, 136893, doi.org/10.1016/j.cplett.2019.136893; IF 2.328,
16. Kashyap J. Tamuli Manobjyoti Bordoloi*, Recyclable Itaconic Acid with Water as Green Catalytic System: Synthesis of Substituted 1,5-Benzodiazepine Derivatives at Room Temperature, 2020, **ChemistrySelect**, Wiley Periodicals Inc., 5, 1353–1358, DOI: 10.1002/slct.201904408 IF 2.10
17. Snigdha Saikia Kashyap J. Tamuli, Bardwi Narzary Dipanwita Banik· Manobjyoti Bordoloi*, Chemical characterization, antimicrobial activity, and cytotoxic activity of *Mikania micrantha* Kunth flower essential oil from North East India, 2020, **Chemical Papers**, Springer Journal, 74:2515–2528, doi.org/10.1007/s11696-020-01077-6; IF 1.680
18. S Gogoi, R Devi, HS Dutta, M Bordoloi, R Khan, Ratiometric fluorescence response of a dual light emitting reduced carbon dot/graphene quantum dot nanohybrid towards As(III), **Journal of Materials Chemistry C** (The Royal Society of Chemistry) , 2019, 7, 10309-10317, DOI: 10.1039/c9tc02199j; IF 7.059,
19. S Saikia, M Bordoloi*, R Sarmah, B Kolita; Antiviral compound screening, peptide designing, and protein Network construction of influenza a virus (strain a/Puerto Rico/8/1934 H1N1); **Drug Development Research**; 2019, 80, 106–124. IF 4.360

20. S Saikia, M Bordoloi*, R Sarmah; Established and In-trial GPCR Families in Clinical Trials: A Review for Target Selection; **Current Drug Targets**, 2019, 20, 522-539. IF 3.465
21. S Saikia and M Bordoloi*; Molecular Docking: Challenges, Advances and its Use in Drug Discovery Perspective; **Current Drug Targets**; 2019, 20(5): 501 – 521. IF 3.465
22. T Das, BK Saikia, HP Dekaboruah, M Bordoloi, D Neog, JJ Bora, J Lahkar, B Narzary, Si Roy, D Ramaiah; Blue-fluorescent and biocompatible carbon dots derived from abundant low quality Coals; **Journal of Photochemistry & Photobiology, B: Biology**; 2019, 195, 1–11. IF 6.252
23. KJ Tamuli and M Bordoloi*; KI-I₂-DMSO: An Improved Microwave-Assisted Selective Oxidation of Alkenes into 1,2-Diketones; **ChemistrySelect**; : 2018, 3, 7513 – 7517. IF 2.10
24. M Bordoloi*, S Saikia, B Kolita, R Sarmah, S Roy and B Narzary; Volatile Inhibitors of Phosphatidylinositol-3-Kinase (PI3K) Pathway: Anti-Cancer Potential of Aroma Compounds of Plant Essential Oils; **Anti-Cancer Agents in Medicinal Chemistry**, 2018, 18, 87-109. IF 2.505
25. KJ Tamuli, D Dutta, S Nath, and M Bordoloi*; A Greener and Facile Synthesis of Imidazole and Dihydropyrimidine Derivatives under Solvent-Free Condition Using Nature-Derived Catalyst; **ChemistrySelect** 2017, 2, 7787– 7791. IF 2.10
26. N Hazarika, B Sarmah, M Bordoloi, P Phukan and G Baishya; Diastereoselective synthesis of tetrahydropyrans via Prins–Ritter and Prins–arythiolation cyclization reactions; **Org. Biomol. Chem.**, 2017, 15, 2003. IF 3.876.
27. M Bordoloi*, P K. Bordoloi, S Saikia, B Kolita, PP Dutta, PD Bhuyan, SC Dutta, PG. Rao; Isolation, characterization and antifungal activity of very long chain alkane derivatives from *Cinnamomum obtusifolium*, *Elaeocarpus lanceifolius* and *Baccaurea sapida*; **Journal of Molecular Structure** 1142 (2017) 200-210. IF 3.196.
28. PP. Dutta, M Bordoloi*, K Gogoi, S Roy, B Narzary, DR. Bhattacharyya, PK. Mohapatra, B Mazumder; Antimalarial silver and gold nanoparticles: Green synthesis, characterization and in vitro study; **Biomedicine & Pharmacotherapy** 91 (2017) 567–580. IF 6.529
29. A Baruah, M Bordoloi*, H P Deka Baruah; “*Aloe vera*: A multipurpose industrial crop”, **Industrial Crops & Products** ; 2016, 94, 951–963. IF5.645
30. M. Talukdar, M. Bordoloi*, P.P. Dutta, S. Saikia, B. Kolita, S. Talukdar, S. Nath, A. Yadav, R. Saikia, D.K. Jha and T.C. Bora; Structure elucidation and biological activity of antibacterial compound from *Micromonospora auratinigra*, a soil Actinomycetes; **Journal of Applied Microbiology**; 2016, 121 (4), 973–987. IF 3.772.
31. M Bordoloi*, PK Bordoloi, PP Dutta, V Singh, S Nath, B Narzary, PD Bhuyan, PG Rao, IC Barua; Studies on some edible herbs: Antioxidant activity, phenolic content, mineral content and antifungal properties; **Journal of Functional Foods**, 2016, 23, 220–229. IF 4.451
32. S Saikia , B Kolita, PP. Dutta, DJ Dutta, Neipihoi, S Nath, M Bordoloi*, P M Quan, TT Thuy, DL Phuong, PQ Long; Marine steroids as potential anticancer drug candidates: In silico

investigation in search of inhibitors of Bcl-2 and CDK-4/Cyclin D1; *Steroids*, 2015, 102, 7–16. IF 2.668

33. R Kundu, S Dasgupta, A Biswas, S Bhattacharya, B C. Pal, S Bhattacharya, P.G. Rao, N.C. Barua, M Bordoloi, S Bhattacharya; Carlinoside reduces hepatic bilirubin accumulation by stimulating bilirubin-UGT activity through Nrf2 gene expression; *Biochemical Pharmacology* (Elsevier Journal); 2011; 82, 1186–1197. IF 5.858
34. P Chowdhury, J M Borah, M Bordoloi, P K. Goswami, A Goswami, N C.Barua and P G. Rao; A Simple Efficient Process for the Synthesis of 16-Dehydropregnenolone Acetate (16-Dpa)—A Key Steroid Drug Intermediate from Diosgenin; *Journal of Chemical Engineering & Process Technology* (The International Open Access Journal of Chemical Engineering & Process Technology Studies); 2011, 2:5. IF 1.728
35. M. Bordoloi*, R. Kotoky, J. J. Mahanta, T. C. Sarma, P. B. Kanjilal, Anti-genotoxic hydrazide from *Crinum defixum*; *European Journal of Medicinal Chemistry*; 2009, 44(6), 2754-57. IF 6.514
36. P.K. Bordoloi, P. D. Bhuyan, P. Boruah, M. Bordoloi*, P. G. Rao; A long chain alkylated α -methylene- γ -butyrolactone from *Artabotrys odoratissimus* fruit, *Phytochemistry Letters*; 2009, 2(1), 22-24. IF 1.679
37. G.N. Bordoloi, B. Kumari, A. Guha, M Bordoloi*, R.N.S. Yadav, M. K. Roy, T. C. Bora, Isolation and Structure Elucidation of a New Antifungal and Antibacterial Antibiotic Produced by *Streptomyces* sp.201, *Biosc.Biochem. Biotechnol.* 2001, 65(8),1856-1858. IF 2.043
38. M Bordoloi, VS Shukla, SC Nath, RP Sharma, Naturally Occurring Cadinenes- A review, *Phytochemistry*, 1989, 28(9),3002-2037. IF 2.547

Book Chapters authored: 9

Book authored : 1

1. Chandan Tamuly and Manobjyoti Bordoloi: Flora of North East India: Secondary Metabolites and Nutritional Value” A book published by LAMBERT Academic Publishing, OmniScriptum GmbH & Co. KG, Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany, 2014.

Research scholar's information

Ph.D got 14 Currently guiding : 4
P.G dissertation: 50

Teaching classes

Natural products Chemistry, Medicinal Chemistry, Heterocyclic Chemistry, Research Methodology in Chemistry

Major noticeable achievements/awards/fellowships

- (1) CSIR National Young Scientist Award, 1995 in chemistry on 26 September, 1995 in New Delhi
- (2) CSIR National Technology Award, 2013 on 26 September, 2013 in New Delhi
- (3) Prof Harish Chandra Goswami memorial Fellowship-2018 on 30 January, 2019 by Assam Science Society, Guwahati at Digboi.
- (4) The following paper has been recognized as the top downloaded and most read paper in 2020 as certified by Wiley Publishers :
S Saikia, M Bordoloi,* R Sarmah, B Kolita; Antiviral compound screening, peptide designing, and protein Network construction of influenza a virus (strain a/Puerto Rico/8/1934 H1N1); Drug Development Research; 2019, 80, 106–124.
- (5) The following paper has been recognized as the top downloaded and most read paper in 2020 as certified by Wiley Publishers :
KJ Tamuli and M Bordoloi,* KI-I₂-DMSO: An Improved Microwave-Assisted Selective Oxidation of Alkenes into 1,2-Diketones; ChemistrySelect; : 2018, 3, 7513 – 7517.
- (6) The following paper has been selected as the Editor’s choice for the first six months of 2020 by World Scientific Co. USA
(a) Manobjyoti Bordoloi,* Ranjan K. Sahoo, Kashyap J. Tamuli, Surovi Saikia and Partha P. Dutta; Plant Extracts Promoted Preparation of Silver and Gold Nanoparticles: A Systematic Review; NANO: Brief Reports and Reviews; 2020, VOL. 15, No. 2, 2030001
- (7) Award Winner of Science based quiz “Chamatkar Science Quiz” organized in 2006 among the participants from eight North Eastern States, West Bengal and Orissa in the age group of 20 to 50 years from diverse disciplines. The competition was sponsored by ISRO and DST and organized by UTV, Mumbai at Mumbai.
- (8) Late Jayanta Borthakur award in J.B. College for securing highest mark in chemistry honours of B.Sc. Examination in 1979.
- (9) NET JRFship through the National Eligibility Test conducted by CSIR, from the first batch started in 1983.
- (10) National Scholarships for studying from metric HSLC onward. etc.

Total Projects completed

CSIR, DBT, DST, DRDO (12 including three mega-projects)

Reviewer of Journals and thesis:

A large number of manuscripts were reviewed for publication suitability regularly. Also, many theses were evaluated from different universities of the country for PhD.

Popular Science Articles

Popular science articles are published in Natun Awiscar, Prantik, Dainik Janambhumi, Saptahic Janambhumi, Safura, Akanir Rongmela, university magazine, college magazine, Anwasha, different souvenirs, etc.

Professional Affiliations

1. Life member of Assam Science Society, Assam
2. Life member of Indian Society of Chemists & Biologists, Lucknow.
3. Life member of Chemical Research Society of India
4. Life member of Indian Chemical Society
5. Life member of Folk Medicine Healers Association of Assam.