Curriculum Vitae of Prof. Dr. Gautam Panda

I. Name GAUTAM PANDA

II. Date of birth 30.11.1969

III. Permanent Address Prof. Dr. Gautam Panda
s/o Late Jadabendra Panda
Athilagari, Haripada Pahari Sarani
P.O. Contai, Dist. Midnapore (East)
West Bengal, India, Pin 721401

IV. Corresponding Address Scientist F & Senior Principal Scientist
Room No CSS 110,
Medicinal and Process Chemistry Division
Professor in AcSIR (Academy of Scientific
and Innovative Research, Chemical Sciences)
CSIR-Central Drug Research Institute
Jankipuram Extension, Sitapur Road, Lucknow 226031
Phone(Off): 0522-2772450, 2772550, Ext 4659, 4662
Phone (Mobile): 09450657049
Fax: 0522-2771941
E-mail: gautam.panda@gmail.com,
gautam_panda@cdri.res.in
Webpage: https://www.cdri.res.in/1547.aspx?id=1547
https://sites.google.com/view/profdrgautampanda-home/home
https://orcid.org/0000-0003-4248-4579

https://sites.google.com/view/profdrgautampanda-home/home

Residential Address: Tower T1/1205, ELDECO ETERNIA, Near Over Bridge and Madiyaon Police Station, Mohibullapur, Madiyanva, Sitapur Road, Lucknow, Uttar Pradesh 226021

V. Academic qualifications:

Serial No.	Degree	Subject	Year	University
1	Ph.D.	Synthetic Organic Chemistry	1999	University of Hyderabad (4 years 9 months) and Indian Institute of Science (IISc.), Bangalore (one year and 3 months)
2	M. Sc.	Chemical Sciences	1993	Indian Institute of Technology, Kharagpur, India
3	B. Sc.	Chemistry, Physics, Math	1990	Ramakrishna Mission Residential College, Narendrapur (Calcutta University)

VI. Title of Ph.D. Thesis and name of the guide who supervised the PhD work:

"Quest for [60]-fullerene and its fragments through classical synthetic design"

Supervisor: **Professor Goverdhan Mehta**, School of Chemistry, University of Hyderabad, Hyderabad-500046, and AP, INDIA.

VII. Professional Society Involvement: (active membership in bold face)

2004 **Chemical Research Society of India (CRSI), Life member**
2003 UP Science and Technology, Life member
2014 Member of National Academy of Sciences (MNASc), Allahabad
2013 Member of Indian JSPS Alumni Association (IJAA)
2016 Member of Evaluation Committee of MEXT fellowships, Japan
2019 Fellow of Academy of Science & Technology (FAScT), WB

Review Assignments: Ad hoc reviewer for the following journals since 2004.
Journal of Combinatorial Chemistry (JCC); *Journal of Organic Chemistry (JOC), Bioorg. Med. Chem. Lett.(BMCL)*; *Bioorg. Med. Chem. (BMC)*, *Tetrahedron Letters (TL)*; *Tetrahedron (T)*; *Tetrahedron Asymmetry (Tet Asym); Current Medicinal Chemistry (CMC)*, *European Journal of Organic Chemistry (EJOC)*; *European Journal of Medicinal Chemistry (EJMC)*; *Organic & Biomolecular Chemistry (OBC)*, *Organic Letters (OL), J. Org. Chem (JOC), Chem Med Chem, RSC Advances,*

Ad hoc Grant Reviewer for agencies; Council of Scientific and Industrial Research (CSIR), New Delhi, Department of Science and Technology (DST), Indian Council of Medical Research (ICMR), New Delhi, Department of Biotechnology (DBT), New Delhi

Thesis Reviewer: Thesis on Chemical Sciences from various Universities, National Labs and Institutes. Jadavpur University, Jadavpur; National Chemical Laboratory, Pune; Regional Research Laboratory, Trivandrum; Indian Institute of Chemical Technology, Hyderabad, Indian Institute of Science Education & Research etc., Gujrat Technological University, Ahmedabad

VIII. Awards/Fellowships/Recognitions

JSPS-Bridge Fellowship 2020
Fellow of Academy of Science & Technology (FAScT), WB, 2019
Member of Evaluation Committee of MEXT Fellowships, Japan 2016 -todate
Membership of National Academy of Sciences (MNASc), Allahabad, 2014
JSPS Invitation Fellowship Program for Research in Japan for 10 months with Professor Hidehiro Sakurai, Institute for Molecular Science Myodaiji, Okazaki 444-8787, Japan
Chemical Research Society of India Bronze Medal (CRSI) in Chemistry for 2012
CDRI Incentive Award 2008 on paper of Impact Factor >5.00 in Chemical Sciences from CDRI, Lucknow
CDRI Incentive Award 2007 on paper of Impact Factor >4.00 from CDRI, Lucknow
Visited Heinerich Heine University, Duesseldorf, Germany for three months under Indian National Science Academy, India - DFG, Germany Exchange Fellowship Programme

IX. Research Experience

1st March 2020-1st June 2020: JSPS-Bridge Invited Professor at Osaka University, Osaka, Japan
26th Sept., 2011-25th July, 2012: IMS, Myodaiji, Okazaki 444-8787, Japan
2007 (for three months): Indian National Science Academy, India - DFG, Germany Programme with **Prof. Matthias U. Kassack**, at Heinerich Heine University, Duesseldorf, Germany

2002 (February)-to date: Scientist (22.02.2002-21.02.2006), Senior Scientist & Assistant Professor (22.02.2006-21.02.2010), Principal Scientist & Associate Professor (22.02.2010-21.02.2015);
Senior Principal Scientist & Professor (21.02.2015-todate); Medicinal and Process Chemistry Division, CSIR-Central Drug Research Institute, Lucknow
2001 (August)-2002 (Jan.) Research Associate, Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore with **Prof. Goverdhan Mehta**
2000 (Jan)-2001 (June) NSERC Fellow, with **Prof. Howard Alper**, Department of Chemistry, University of Ottawa and **Dr. Prabhat Arya**, National Research Council, Ottawa, Canada
1999 (August)-1999 (Oct.): Visiting Fellow, National Chiao Tung Univ., Hsinchu, Taiwan, with **Prof. Tse Lok Ho**, Taiwan
1993 (August)-1999 (May) Doctoral Research, School of Chemistry, University of Hyderabad, Hyderabad and Indian Institute of Science, Bangalore; India with **Prof. Goverdhan Mehta**

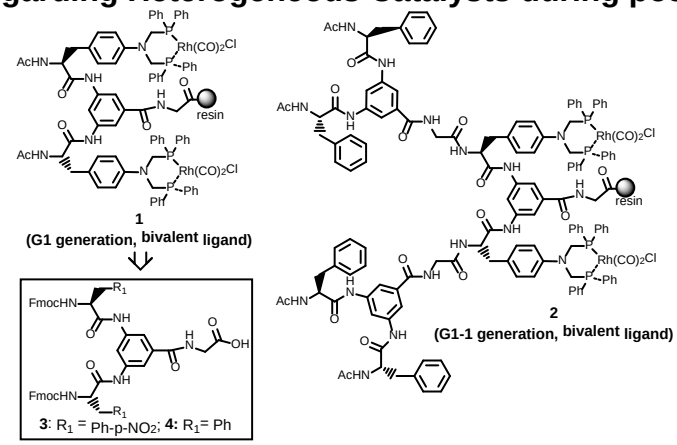
X. Teaching and Coordinating and Administrative Experience

Teaching for the course work under Chemical Science for the candidates working at CDRI, Lucknow and registered for Ph.D. either in Jawaharlal Nehru University (JNU), New Delhi or Academy of Scientific and Innovative Research (AcSIR), New Delhi as part of the Ph.D. program.
Courses being taught: a) Conformational Analysis b) Reactive Intermediates c) Chemistry and Biology of Heterocycles d) Selected reagents for organic synthesis e) Methods for stereoselective synthesis f) Selected name reactions g) structure based drug design h) Introduction and Advances in Chemical Biology i) Green and Sustainable Chemistry j) Natural products and drug discovery
Teaching for the course work on "**Logic in Organic Synthesis-I** (MC-520, 3 credits) in Semester-I and "**Logic in Organic Synthesis-II** (MC-620, 3 credits) in Semester-II at NIPER, Raebareli from 2010 to 2014
Course Coordinator from 2002 to 2009 for candidates registered for Ph.D. in JNU
Coordinator of Tuberculosis and Microbial Infection in CDRI from 2009 onwards
Nodal Scientist of all chemists of CDRI for R & D projects under 'Chemical Theme' to CSIR

XI. Area of Expertise during doctoral and postdoctoral studies:

***Doctoral Research**:* G. Panda was involved in total synthesis of Buckminsterfullerene (C_{60}). Several new and conceptually simple approaches to fullerene fragments (bucky-bowls) that can be applied to fullerenes (bucky-balls) have been conceived and explored
***Postdoctoral Research**:* G. Panda explored Solid Phase Synthesis (SPS) of heterogeneous catalysts and their development as new catalytic systems for exhibiting enhanced reactivity. A bio-mimetic approach in designing Rh-based heterogenized catalysts that exhibited prolonged activity during hydroformylation reactions was developed.

Achievements regarding Heterogeneous Catalysts during postdoctoral studies



J. Am. Chem. Soc., **2001,** *123*, 2889-2890

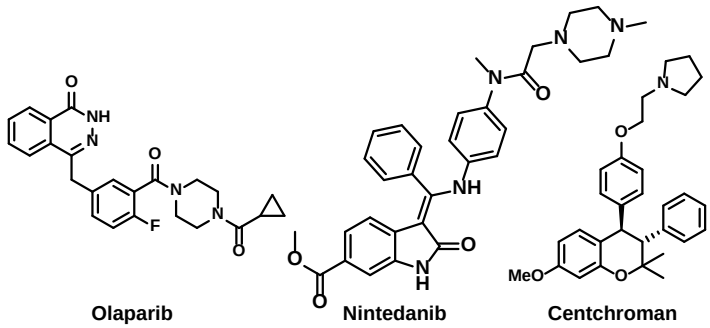
XII. Current Broad Area of Research

- **Synthetic Organic Chemistry, Bioorganic and Medicinal Chemistry, Chemical Biology, Chemo and Bioinformatics**

Sub Area of Research

i) Repurposing of Selected Ongoing Clinical Trial Drugs but nonavailable in India as COVID-19 Therapeutics

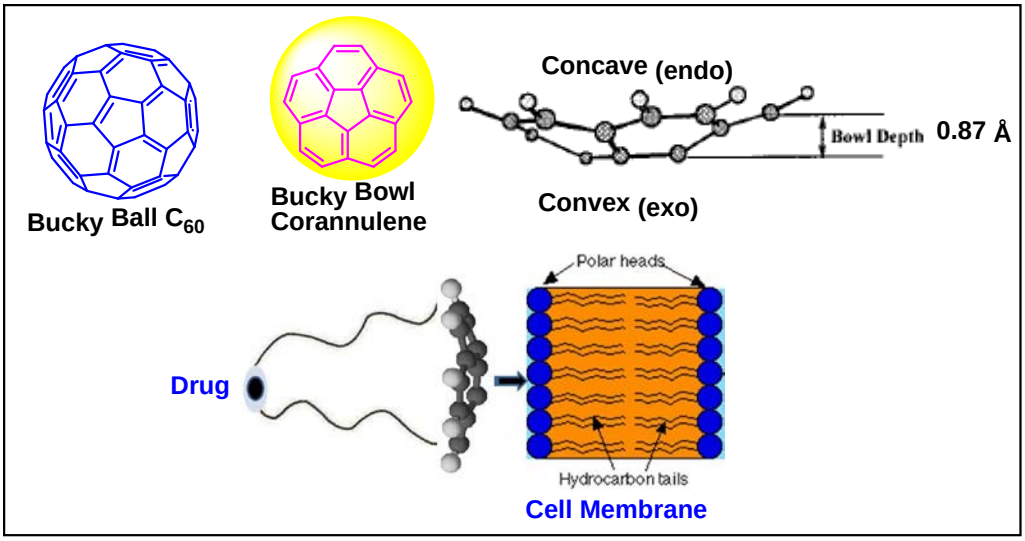
ii) Atom-economic and cost-effective synthesis of Nintedanib, Centchroman and Olaparib



iii) Amino acid based inhibitors as dual acting ULK1 and HDAC for autophagy

iv) Asymmetric Synthesis of Trisubstituted Methanes (TRSMs) as new bioactives

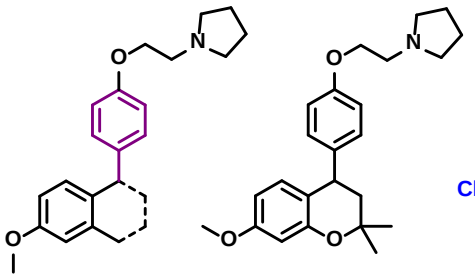
v) Buckybowl Corannulene derived Amphipathic peptides; Synthesis and Studies on synergistic activities



vi) Q203 analogs as energy metabolism inhibitors for M Tb

Under Broad Area of Synthetic Organic Chemistry

Disruptive Innovative Synthetic Attempts for Drugs like Bedaquiline, Dearylated Lasofoxifene, Centchroman, Meclizine and Cetirizine

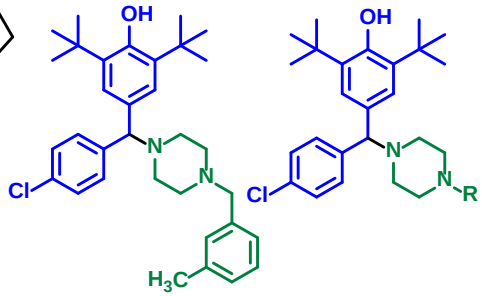


Dearylated Lasofoxifene

Dearylated Centchroman

Eur J Org Chem, 2019, 753-758

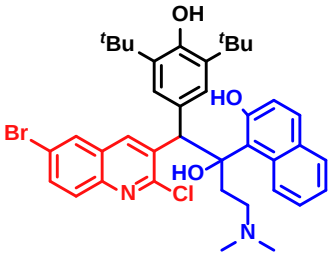
Metal free approach & tolerance of labile groups for SERMs, Contraceptives



Meclizine, Cetirizine like Molecules

Synthesis 2019, 51, 4434-4442

Low-cost, high atom economy easy scale up for Antihistamines

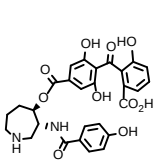


Bedaquiline (TMC 207) like

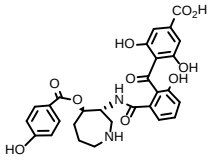
Journal of Molecular Structure 2021, 130493

Drugs against MDR TB

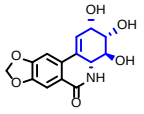
Synthesized Bioactive Natural Products From Amino Acids



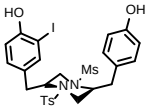
(-)-Balanol
Chem. Eur. J, 2008, 14, 4675-4688
Inhibitor of protein kinase C



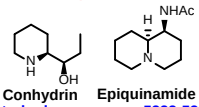
Ophiocordin
Chem. Eur. J, 2008, 14, 4675-4688
Antifungal Antibiotic



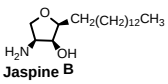
C_3-*epi*-(+)-lycoricidine
Tetrahedron Letters, 2015, 56, 146-149
Antimitotic



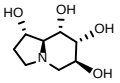
piperazine core of piperazinomycin
Chem-Asian J. 2011, 6, 189-197
Antibiotic



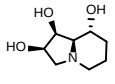
Conhydrin **Epiquinamide**
Tetrahedron 2009, 65, 5322-5327
Nicotinic agonists



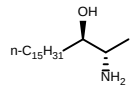
Jaspine B
RSC Adv., 2013, 3, 16795-16801
Antimitotic



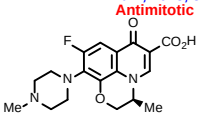
8,8a-diepicastanospermine



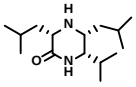
(-)-Swainsonine



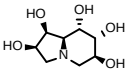
Spisulosine
Tetrahedron, 2010, 66, 9304-9309
Anticancer



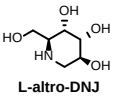
Levofloxacin
Tetrahedron Letters, 2009, 50, 4703-4705
Antibiotic



Piperazirum
Tetrahedron 2012, 68, 10114-10121
Anticancer



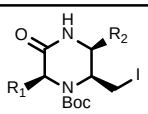
octahydroindolizine -1,2,6,7,8-pentaol
Tetrahedron, 70, 2014, 1363-1374



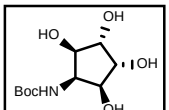
L-altro-DNJ
RSC Adv., 2014, 4, 2161-2166
Inhibitor of glucosidase enzymes

Reviews: Chemistry A European Journal; 2020, 26, 5131-5156, Tetrahedron 2017, 73, 1911-2008 (cover page)

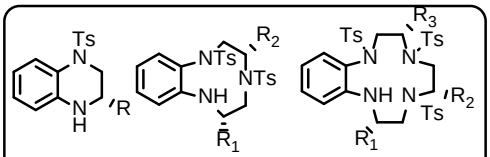
Bioactive Priviledged Heterocycles from Amino Acids



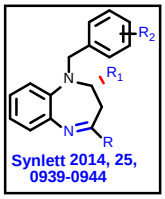
Oxopiperazine
Tet, 2012, 10114-10121



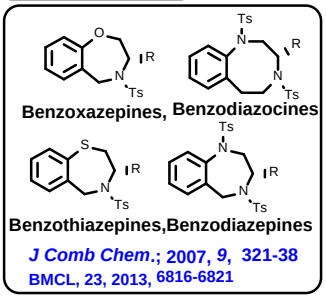
RSC Adv., 2013, 3, 9916-9923



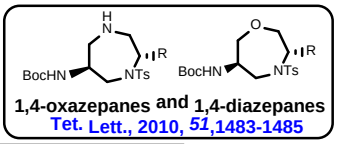
Benzo-annulated di, tri and tetra-aza
Org Biomol Chem 2012, *10*, 1553–1564



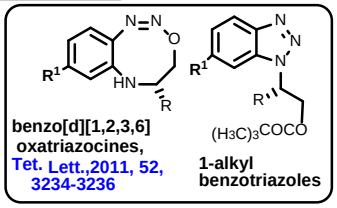
Synlett 2014, 25, 0939-0944



Benzoxazepines, Benzodiazocines
Benzothiazepines,Benzodiazepines
J Comb Chem.; 2007, *9*, 321-38
BMCL, 23, 2013, 6816-6821

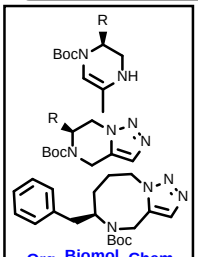


1,4-oxazepanes and 1,4-diazepanes
Tet. Lett., 2010, *51*,1483-1485

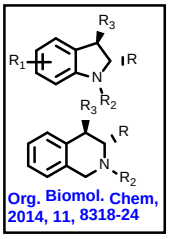


benzo[d][1,2,3,6] oxatriazocines,
Tet. Lett.,2011, 52, 3234-3236

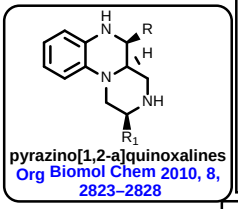
1-alkyl benzotriazoles



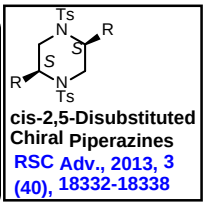
Org. Biomol. Chem., 2014, 3976 - 3985



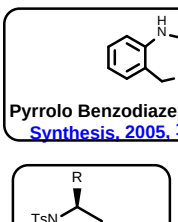
Org. Biomol. Chem, 2014, 11, 8318-24



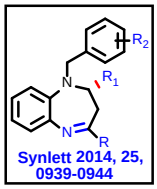
pyrazino[1,2-a]quinoxalines
Org Biomol Chem 2010, 8, 2823–2828



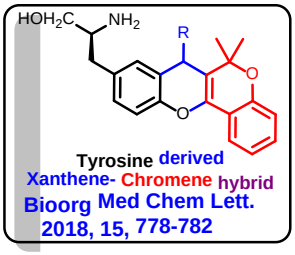
cis-2,5-Disubstituted Chiral Piperazines
RSC Adv., 2013, 3 (40), 18332-18338



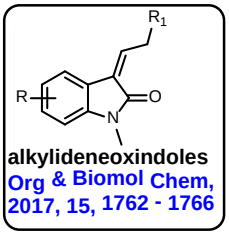
de >99%
X = O, S, NBn
ACS Comb Sc 2012
RSC Adv., 2013, 3, 18332 - 18338



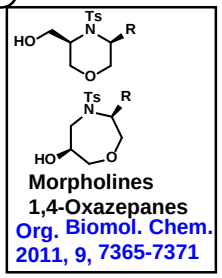
Synlett 2014, 25, 0939-0944



Tyrosine derived Xanthene- Chromene hybrid
Bioorg Med Chem Lett. 2018, 15, 778-782



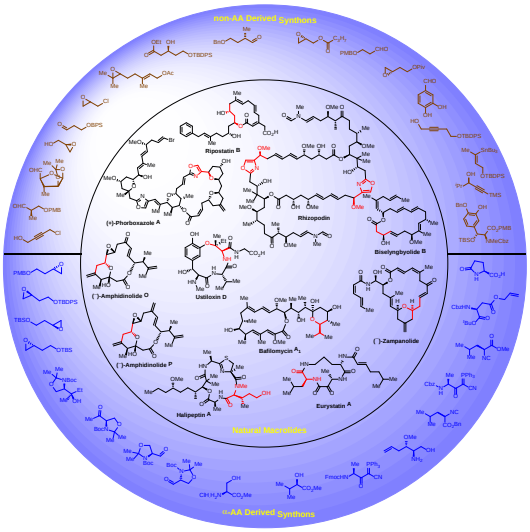
alkylideneoxindoles
Org & Biomol Chem, 2017, 15, 1762 - 1766



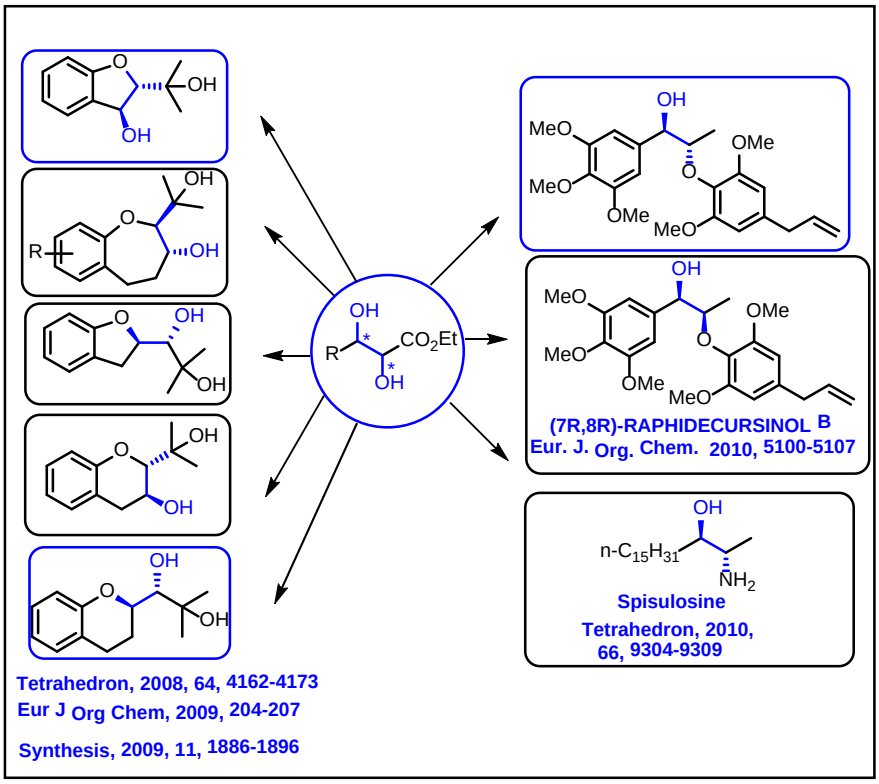
Morpholines
1,4-Oxazepanes
Org. Biomol. Chem. 2011, 9, 7365-7371

Review: Org. Biomol. Chem., 2014, 6297-6339

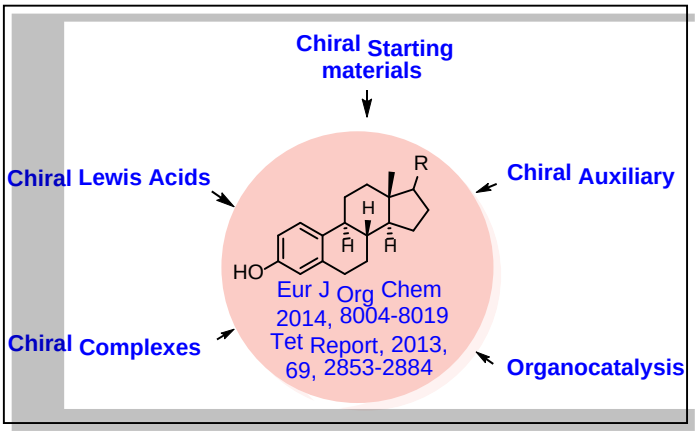
Macrolides and cyclopeptides have immense application in drug discovery research, with more than 100 approved drugs or clinical drug candidates bearing the macrocyclic scaffolds as biologically active components. The review provides an interesting comparative perspective about the use of both amino acid derived and non-amino acid derived synthons towards synthesis of selected natural macrolides.

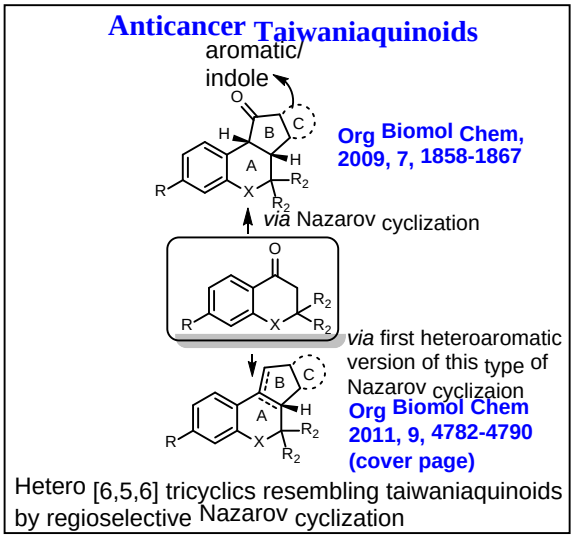


A Comparative Synthetic Strategy Perspective on α-Amino Acids (α-AA) and Non-Amino Acid Derived Synthons towards Total Syntheses of Selected Natural Macrolides

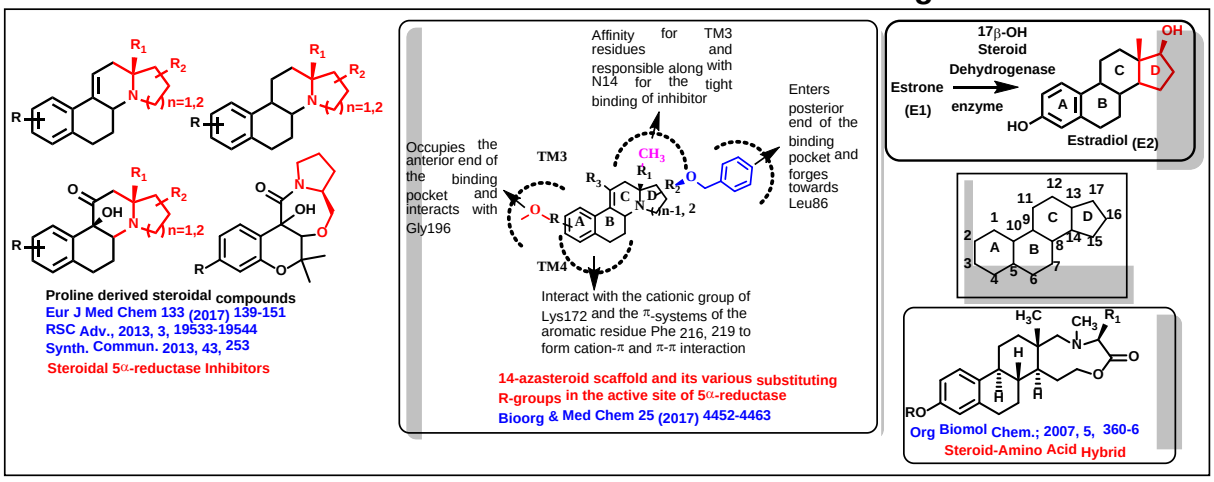


Approach to Taiwaiaquinoids and Heterosteroids

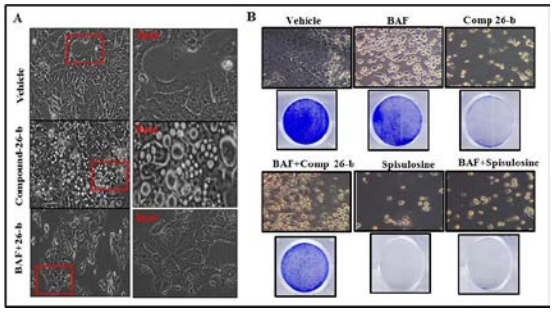




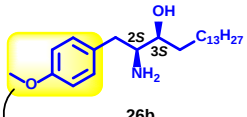
Quest for Steroidomimetics: Amino Acids Derived Chiral Steroidal and non-steroidal architectures as anti breast cancer agents



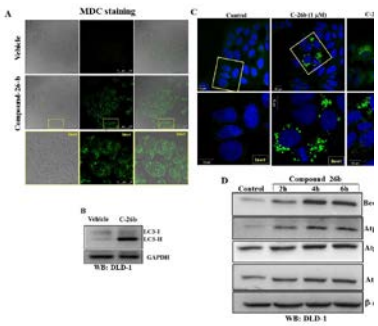
New Spisulosine Derivative Promotes Robust Autophagic Response to Cancer Cells



New Spisulosine Derivative promotes autophagic cell death. DLD1 cells were treated with either vehicle or new lead (7.5 μM) or autophagy inhibitor Bafilomycin A1 (100nm) plus new lead (7.5 μM) for 24 hours and analyzed under phase-contrast microscope

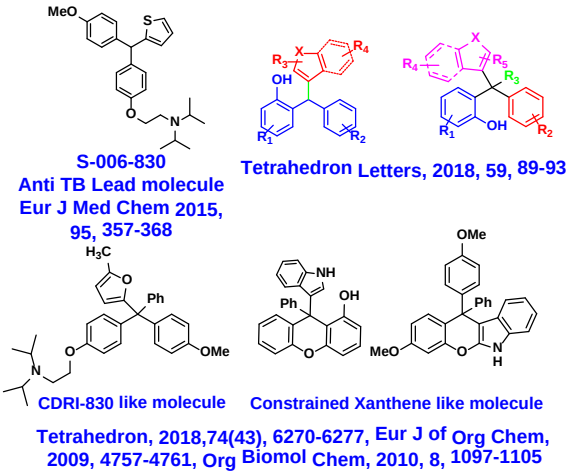


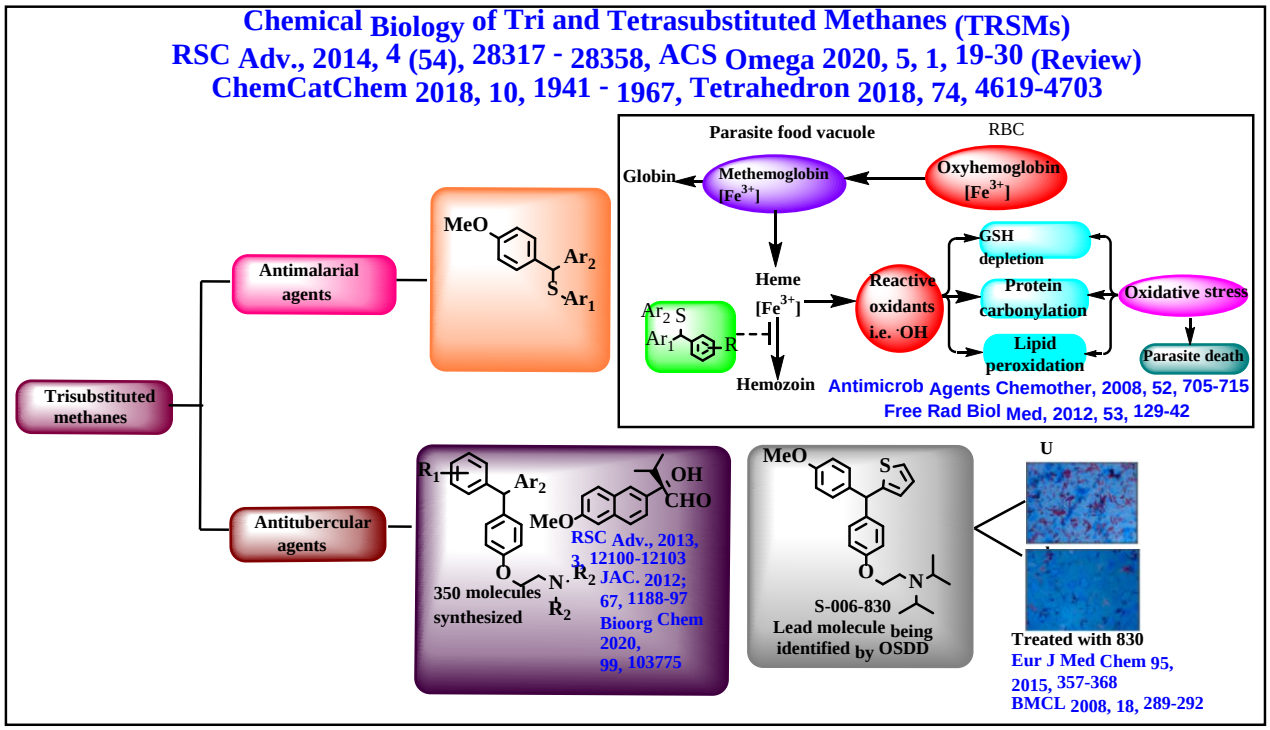
Switched its cytotoxic function from apoptosis to autophagy
European Journal of Medicinal Chemistry 188 (2020) 112011



New Spisulosine Derivative promotes Autophagic cell death. Panel A-B, DLD-1 cells were treated with either vehicle or lead at 7.5 μM for 18 hours. Cells were stained with autophagy marker MDC (monodancycadaverin) and analyzed under confocal microscope

Chemistry around Chiral Tri and Tetrasubstituted Methanes (TRSMs) as M tb ATP Synthase inhibitors; Asymmetric Synthesis of 9-substituted Xanthenes as constrained TRSMs having anti-TB properties

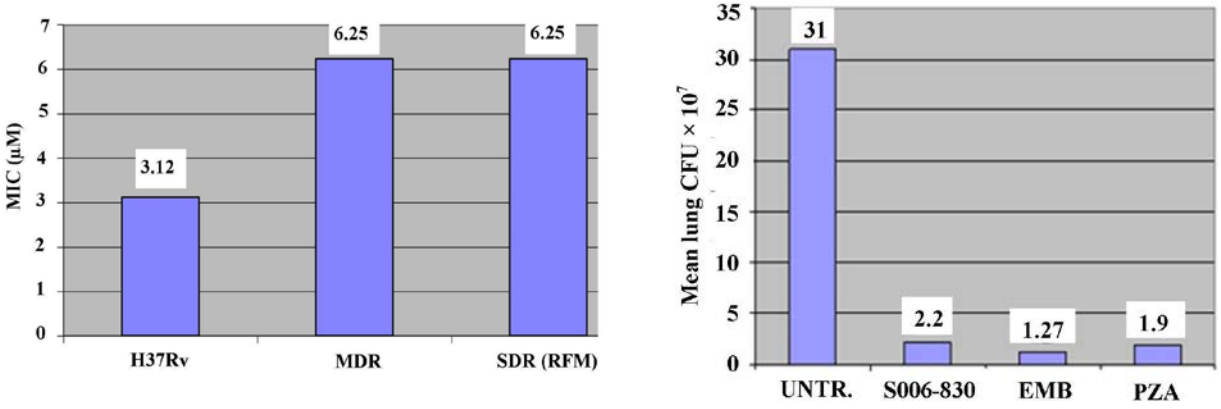




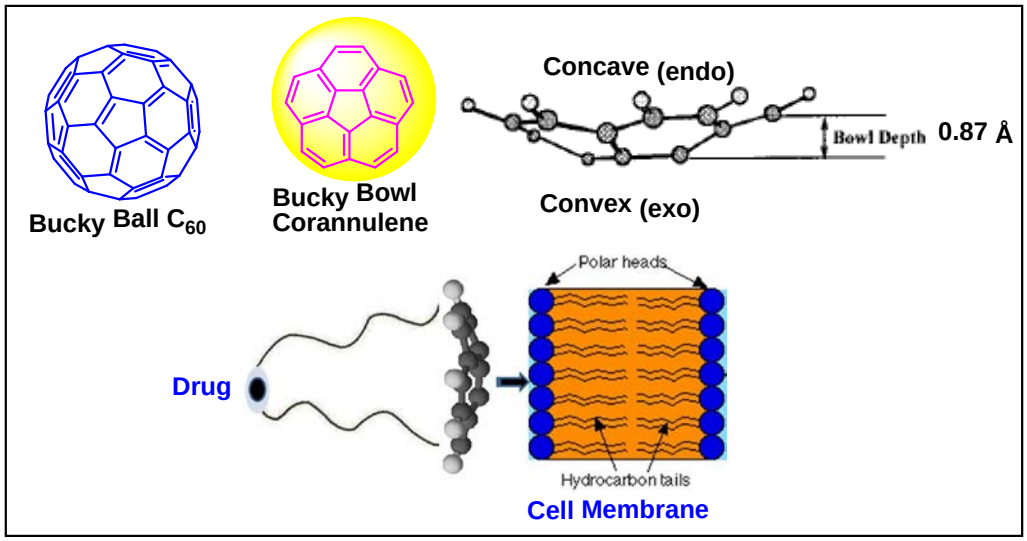
(European Journal of Medicinal Chemistry **2015**, *95*, 357-368, *J Antimicrob Chemother*. **2012**; *67(5)*:1188-97, *Bioorg Med Chem Lett*, **2008,** *18*, 289-292)

S006-830 against H37RV, single, multi-drug resistant M. tuberculosis; CFU in the lungs with S006-830, EMB, PZA

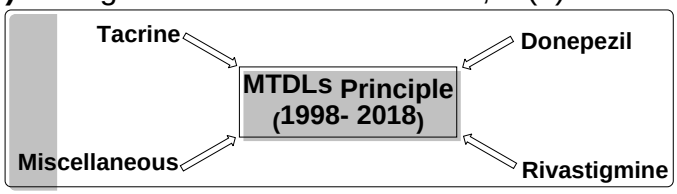
Eur J Med Chem 95, 2015, 357-368; BMCL 2008, 18, 289-292



Applications of Bucky-Bowls as biomaterials and carriers for drugs



Anti-cholinesterase hybrids as multi-target-directed ligands against Alzheimer's disease (1998- 2018) Bioorg Med Chem. 2019 Mar 15;27(6):895-930 (cover page)



Students' welfare activities:

Research Guidance	Number Completed	Number in Progress
a. Guidance at Doctoral label	17	7
b. Guidance at Masters label	18	2
c. Guidance at Project Assistant label	7	2
d. Guidance at Postdoc label	1	

Past Doctoral (Ph.D.) students:

1. Shagufta (2002-2007), Thesis Title: "**Design and Synthesis of Antiestrogens for Contraception, Osteoporosis and management of other estrogen related disorders**"
PDF, Donna Nelson, University of Oklahoma, USA; PDF, A. IJzerman, Leiden/Amsterdam Centre for Drug Research, University of Leiden, Netherland;
Now as Assistant Professor –Chemistry, American University of Ras Al khaimah, Ras Al Khaimah, UAE (http://aurak.ac.ae/en/dr-shagufta-waseem/)

2. Jitendra Kumar Mishra (2002-2007), Thesis Title: **Quest for Potential Bio-dynamic Agents**
PDF, Peter Wipf, Department of Chemistry, University of Pittsburgh, USA, PDF, William R Roush, The Scripps Florida, USA,
Now as Staff Scientist, St. Jude Children's Research Hospital, Memphis, TN, USA (https://www.linkedin.com/in/jitendra-mishra-5446ba11/)

3. Ajay Kumar Srivastava (2003-2008), Thesis Title: **An Approach to Target and Diversity Oriented Synthesis in Drug Discovery (Best Thesis Dr. M M Dhar Memorial Award, CDRI)**
PDF, S. B. Park, Department of Chemistry, Seoul National University, Korea
Now as Scientist C, CSIR-Central Drug Research Institute, Lucknow (http://www.cdri.res.in/Profile_all.aspx?fid=4&id=1868)

4. Sajal Kumar Das (2003-2008), Thesis Title: **Diversity Oriented Organic Synthesis of Biologically Important Molecules**
PDF, Bong Rae Cho, Department of Chemistry, Korea University, Korea; PDF, Alfred Hassner, Department of Chemistry, Bar-Ilan University, Israel;
Now Assistant Prof, Tezpur Central University, Assam (http://www.tezu.ernet.in/dcs/people/faculty/~sajal/)

5. Maloy Kumar Parai (2004-2009), Thesis Title: **Design, Synthesis and Evaluation of Bio-active Privileged Structures for Drug Discovery**
Postdoc with Tariq M. Rana, Birmingham Institute, California, USA;
now as postdoc with Prof. James Sacchettini, Department of Biochemistry and Biophysics, Texas A & M University, 300 Olsen Boulevard, College Station, TX 77843-2128 (https://www.sacclab.com/leadership).

6. Krishnananda Samanta (2007-2012), Thesis Title: **Synthesis of Bioactive Natural Products and Chiral Heterocycles from α-Amino Acids**
Postdoc, Professor Jean-Francois Hernandez, CNRS UMR5247, Faculté de Pharmacie, 34093 Montpellier cedex 5, France;
Now Postdoc, Prof. Carsten Schmuck, Institute of Organic Chemistry, University Duisburg-Essen, Universitätsstraße 7, 45117 Essen, Room: S07 S04 C46, Germany (https://www.uni-due.de/akschmuck/krishnananda_samanta.php)

7. Sanjit Kumar Das (2007-2012), Thesis Title: **α-Amino Acids Based Stereoselective Synthesis of Biologically Important Natural Products and Natural Product-like Molecules**
Working in Department of Chemistry 7.32 H3D Lab Suite, PD Hahn Building, Level 7 North Lane off Ring Road Upper Campus, University of Cape Town Rondebosch, 7700, South Africa (http://www.h3d.uct.ac.za/hd3/about-h3d/our-team)

8. Subal Kumar Dinda (2007-2012), Thesis Title: **Design, Synthesis and Pharmacological Evaluation of Small Organic Molecules for Therapeutic Agent**
Working in a company

9. Ritesh Singh (2006-2011), Thesis Title: **Quest for Heteropolycycles as Therapeutic Agents**
Postdoc with Prof. Rudi Fasan, Department of Chemistry, 416 Hutchison Hall, RC Box 270216, University of Rochester, NY 14627-0216
Postdoc, Chi-Moen Park, Korea,
JSPS fellow at Kyoto Prefectural university of Medicine Department of chemistry, Japan (http://www.f.kpu-m.ac.jp/y/chemistry/English/members.html)
Joined as Assistant Prof. in Central Univ of Rajasthan, Jaipur
10. Priyanka Singh (2009-2014), Thesis Title: **Carbohydrate and Amino Acid as Chiral Synthons: Approach towards Natural Product and Natural Product like Designer Synthetic Molecules**
Postdoc, Professor Jean-Francois Hernandez, Institut des Biomolécules Max Mousseron, CNRS UMR5247, Faculté de Pharmacie, 34093 Montpellier cedex 5, France
11. Saurav Bera (2009-2014), Thesis Title: **Quest for Target and Diversity Oriented Synthesis of Medicinally Important Natural Product and Natural Product-like Molecules from Amino Acids**
Working in Dr. KPC life Sciences, Kolkata as research scientist
Joined as Postdoctoral Research Fellow at Zhejiang University, China
12. Amit Kumar Jana (2009-2014), Thesis Title: **Synthetic Approach towards Alkaloids using Amino Acids as Building Blocks**
Working in TCG Life Sciences, Kolkata
13. Sudipta Kumar Manna (2009-2014), Thesis Title: **Synthetic Approach towards Amino Acid and Benzopyran Based Tetracyclic Architectures of Biological Importance**
Worked in TCG Life Sciences, Kolkata
Now as JSPS postdoc in Prof. Masato Kitamura's group, University of Nagoya, Japan.
14. Sankalan Mondal (2009-2015), Thesis Title: **Design, Synthesis & Molecular Modelling Studies & Bio evaluation of Trisubstituted Methanes and Amino Acids Derived Heterocycles**
Joined as DST National Postdoctoral Fellow in BHU, Varanasi
15. **Srinivas Lavanya Kumar M** (**2012-2018**), Thesis Title: "**Amino Acid Derived Benzofused Architectures as Possible Anticancer Agents**" Working in LAKSHYA LIFESCIENCES PRIVATE LIMITED in Hyderabad
16. Bidhu Bhusan Karkara (2015-2019): Thesis Title: **QUEST FOR ANTIMYCOBACTERIAL AGENTS FROM TRISUBSTITUTED METHANES AND NITROGENS**"
Joined as Assistant Professor in Vignan's Foundation for Science, Technology and Research University (Deemed to be University) Guntur, Andhra Pradesh
17. Asha Ganeshar (2014-2019): Thesis Title: "AMINO ACIDS AS CHIRONS: APPROACHES
TOWARDS NATURAL PRODUCT-LIKE MOLECULES AS ANTICANCER AND ANTITUBERCULAR AGENTS"
Past Postdocs (minimum one year**):**
1. Dr. Preeti Gupta, PDF & DST-Inspire Faculty, Gautam Panda, CDRI, Lucknow, Now as Assistant Professor, Dr. Bhimrao Ambedkar University, Lucknow (http://www.bbau.ac.in/new/DAC_DepartmentDetails.aspx)
Past Project Assistants (minimum one year**):**

1. Sailaja Ireddy, Project Assistant, OSDD
2. Tiash Saha, Project Assistant
3. Pankaj Mishra, TATA-CSIR OSDD Fellow
4. Mangeram, TATA-CSIR OSDD Fellow
Past Master's dissertation (minimum six months**):**
1. Ms. Deepshikha, M.Sc. Pharmaceutical Chemistry, Banasthali University, Banasthali, Rajasthan
2. Mr. Manish Sinha, M. Pharm. Birla Institute of Technology, Mesra, Ranchi
3. Monica, M. Pharm
4. Ms. Nancy Gupta, M.Sc. in Pharmaceutical Chemistry, Banasthali University, Banasthali, Rajasthan
5. Sarpate Nikhil Datta, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli
6. Prerna Ganwir, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli
7. Raginee Niranjan, M.Sc. Applied Chemistry, Bundelkhand University, Jhansi
8. Mr. Sandip Chakraborty, M. Tech, Vellore Institute of Technology-University, Vellore, Tamil Nadu,
9. Sonia Khurana, M. Pharm, Uttar Pradesh Technical University, Lucknow
10. Amit Kumar, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli
11. Rajesh Pawar, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli
12. **Vijeta Sah**, M. Pharm, INTEGRAL UNIVERSITY, LUCKNOW
13. **Aakrusta Charana Panigrahy**, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli
14. Shashank Shekhar Mishra, M. Pharm, Rajasthan University of Health Sciences, Jaipur
15. Rahul Kumar, Department of Medicinal Chemistry, NIPER, Raebareli
16. Surabhi Jain, Skill Development Trainee, Ph.D. GTU, Ahmedabad pursuing
17. Vijeta Sah, M.Sc., Integral University, Lucknow
18. Priya Kalluri, M. Pharm, Department of Medicinal Chemistry, NIPER, Raebareli

Current Group Members:
Mr. Ashok Sharma, Technical Officer
Saroj Kumar Maji
Deblina Roy
Indranil Chatterjee
Kasim Ali
Arpita Banerjee
Amit Kumar
Sandeep Bhattacharya
Divya Tiwari

XIII. Ongoing/Completed Project Title: with file no

1) "**Design and Development of Tissue Selective Antiestrogens**" (File No. SR/FTP/CSA-05/2002) of worth Rs. eleven lakhs, DST, New Delhi (2003- 2006).

2) "**Design and Synthesis of Novel SERMs (Selective Estrogen Receptor Modulators) for the management of Osteoporosis and other estrogen related**

disorders" (File No. 58/1/2003-BMS) of Rs. seventeen lakhs, ICMR, New Delhi (2003-2006)- 58/1/2003-BMS.

3) "**Diversity Oriented Organic Synthesis of Small but Smart Molecules in Drug Discovery Research**" (File No. SR/S1/OC-23/2005) of worth Rs. twenty lakhs, DST, New Delhi (2006-2009).

4) "**Amino Acids as chiral Synthons: Development of new synthetic protocols for creating Natural Products and related diversity in quest for anticancer agent" (File No. SR/S1/OC-74/2009)** of Rs. 35 lakhs, DST, New Delhi (2010-2013).

5) Project Coordinator from CDRI on "**Synthetic Biology (Metabolic Engineering of Vinca Alkaloid Pathway** (Rs 81 lakhs) **and Metabolic Engineering of Azadirachtin biosynthetic pathway** (Rs 35 lakhs)" (2010-2013)

6) "Design, synthesis and evaluation of new chemical entities against atypical mycobacterium, *Mycobacterium fortuitum*" of Rs. 40 lakhs, ICMR, New Delhi (2011-2013)- IRIS ID: 2009-04190.

7) **"Quest for Corannulene based Polyfunctional Molecules in Nanobiotechnology and Nanomedicine: Transporting and Translocating properties of Corannulene derived carrier systems" (File No. SB/S1/OC-93 /2013)** of Rs 53 lakhs, DST, New Delhi (2015-2018).

8) **Ligand and structure-based screening of designed and synthesized chemical library around Psammaplin A against DNA methyltransferase 1 (DNMT1) and Diversity oriented synthesis of Halimide & Phenylahistin related analogs as anticancer agents (File No. MoES/09-DS/3/201P5C –IV), of Rs 45 lakhs (2016-2019)** from MoES, New Delhi.

9) "**Amino acids derived steroidal and non-steroidal Ligands as inhibitors of steroid 5-α-reductase in cancer" (File No. 3511410812018-BRNS/35032) of Rs 35 lakhs from BRNS (2018-2021)**

10) "Inhibition of ATP synthase enzyme of drug-resistant Mycobacterium tuberculosis through chemical library of Asymmetric Tri and Tetrasubstituted methanes (TRSMs) and ethanes (TRSEs)" (File No. SERB/F/8968/2019-2020) of Rs 45 lakhs from DST approved (2020-todate)

XIV. Past and Present Research Collaboration with foreign scientists:

Studies on novel caged compounds having a Two Photon-responsive chromophore in treating cancerous cells with Prof. Manabu Abe, Department of Chemistry, Hiroshima University, Japan.

"Design, Synthesis and functional evaluation of Bucky-Bowls and related diversity" with Professor Hidehiro Sakurai, Research Center for Molecular Scale Nanoscience, Institute for Molecular Science Myodaiji, Okazaki 444-8787, JAPAN.

XV. List of Publications

A) Articles in journals

G. Panda as corresponding author

(Arranged in reverse chronological order), **CI means Citation Index as obtained from google scholar on 20.03.2019**

108. Novel candidates in the clinical development pipeline for TB drug development and their Synthetic Approaches; Amit Kumar, Bidhu Bhusan Karkara,

Gautam Panda * Chemical Biology & Drug Design 15 August 2021 https://doi.org/10.1111/cbdd.13934

107. Unveiling p-Quinone methide (QM) chemistry to synthesize Bedaquiline (TMC 207) like architectures, Deblina Roy, Kasim Ali and Gautam Panda, Journal of Molecular Structure Volume 1239, 5 September 2021, 130493; https://doi.org/10.1016/j.molstruc.2021.130493

106. Magnesium Chloride ($MgCl_2$) catalyzed highly Regioselective C-3 Ring Opening of 2,3 Epoxy Alcohols by N-Nucleophile, Amit Kumar, Gautam Panda, Tetrahedron Letters 2021, 153013; https://doi.org/10.1016/j.tetlet.2021.153013

105. One Pot Synthesis of N-monoalkylated Plinabulin Derivatives via Multicomponent Protocol and their application as Anticancer Agents; Asha Ganesher, Priyank Chaturvedi, Bidhu Bhusan Karkara, Indranil Chatterjee, Dipak Datta, Gautam Panda; Journal of Molecular Structure, 2021, Volume 1229, 129830 https://doi.org/10.1016/j.molstruc.2020.129830

104. Design, Synthesis and Biological evaluation of Psammaplin inspired Oxime lacking chemical libraries as anti-cancer agents; Srinivas Lavanya Kumar M, Kasim Ali, Priyank Chaturvedi, Sanjeev Meena, Dipak Datta, Gautam Panda**,** Journal of Molecular Structure; 2021, Volume 1225, 129173 DOI: 10.1016/j.molstruc.2020.129173

103. Metal free highly efficient C-N bond formation through 1,6-addition: Synthesis and photophysical studies of diaryl methyl amino acid esters (DMAAEs); Deblina Roy, Abhineet Verma, Satyen Saha, and Gautam Panda, New Journal of Chemistry, 2020, 44, 14859 - 14864, DOI: 10.1039/D0NJ01587C

102. **Synthesis of 2-methoxy-3-(thiophen-2-ylmethyl)quinoline containing Amino Carbinols as Antitubercular Agents;** Bidhu Bhusan Karkara, Shashank Shekhar Mishra, Bhupendra N. Singh, Gautam Panda; Bioorganic Chemistry, 2020, 99, 103775 https://doi.org/10.1016/j.bioorg.2020.103775

101. **New Spisulosine Derivative Promotes Robust Autophagic Response to Cancer Cells;** Asha Ganesher, Priyank Chaturvedi, Rohit Sahai, Sanjeev Meena, Kalyan Mitra, Dipak Datta*, Gautam Panda*, European Journal of Medicinal Chemistry, 2020, 188, 112011 doi: 10.1016/j.ejmech.2019.112011. Epub 2020 Jan 2

100. **A Comparative Synthetic Strategy Perspective on α-Amino Acids (α-AA) and Non-Amino Acid Derived Synthons towards Total Syntheses of Selected Natural Macrolides**; Srinivas Lavanya Kumar M, Shashank Tripathi, Anirban Ghoshal, Mayur D. Ambule, Ajay Kumar Srivastava, and Gautam Panda, Chemistry A European Journal; 2020, 26, 5131-5156; **https://doi.org/10.1002/chem.201904564**

99. **Benzhydryl amines: Synthesis and their Biological Perspective**, Deblina Roy and Gautam Panda, ACS Omega 2020, 5, 1, 19–30. https://doi.org/10.1021/acsomega.9b03090

98. **TFA-catalysed tandem double cyclisation: A one-pot, metal-free routes for novel indolo-imidazo[1,2-a]pyridine derivatives**; Asha Ganesher, Gautam Panda, Tetrahedron Letters, 2019, 60, 151317 (https://doi.org/10.1016/j.tetlet.2019.151317)

97. **Base mediated 1,6- Aza-Michael addition of heterocyclic amines and amides to p-QMs leading to Meclizine, Hydroxyzine and Cetirizine like architectures**, Deblina Roy, Gautam Panda, Synthesis 2019, 51, 4434-4442 (10.1055/s-0039-

1690677) https://www.thieme.de/en/thieme-chemistry/synform-news-novel-approach-to-antihistamine-type-scaffolds-148429.htm#

96. **Anti-cholinesterase hybrids as multi-target-directed ligands against Alzheimer's disease**, Pankaj Mishra, Amit Kumar and Gautam Panda, Bioorg Med Chem. 2019 Mar 15;27(6):895-930 (coverpage) doi: 10.1016/j.bmc.2019.01.025. Epub 2019 Jan 25

https://reader.elsevier.com/reader/sd/pii/S096808961831664X?token=933F6C79611340E99564BF674471F930B4AE33CFC1296F7ABC112FC9108E95917727ADA0083525B59377637A89529C6E

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XVI. List of Publications in Journals wise with Impact factors and Citation Index (CI) as on Dec, 2018:

Name of the Journal	**Name of the Publishers**	**Impact factor**	**Quantity of papers**	**Citation Index**
Journal of the American Chemical Society (JACS)	American Chemical Society (ACS)	14.357	1	96
Chemical Communication	Royal Society of Chemistry (RSC)	6.290	1	23
Free Radical Biology & Medicine	Elsevier	5.836	1	
J Antimicrob Chemother	Oxford Academic	5.217	1	
Chemistry A European Journal	Wiley	5.160	1	59
European Journal of Medicinal Chemistry	Elsevier	4.816	5	57+7+5+3
J. Org. Chem	American Chemical	4.805	1	

	Society (ACS)			
ChemCatChem	Wiley	4.803	1	
Antimicrobial Agents and Chemotherapy	American Society of Microbiology	4.576	1	55
Frontiers in Microbiology	Europe	4.076	1	
Molecular and Cellular Endocrinology	Elsevier	3.889	1	
Chemistry an Asian Journal	Wiley	3.692	1	
Organic & Biomolecular Chemistry	Royal Society of Chemistry (RSC)	3.664	11	31+29+25+22+18+ 13+13+5+1
ACS Comb Science	ACS	3.500	2	74+
ChemMedChem	Wiley	3.325	1	
RSC Adv	RSC	2.936	10	85+18+13+11+10+ 8+4+4+2+2
Tetrahedron	Elsevier	2.745	11	50+37+22+20+19+ 15+8+5+1+
Eur J Org Chem	Wiley	2.834	5	
Bioorg & Med Chem	Elsevier	2.893	4	52+51+1
Bioorg Med Chem Lett	Elsevier	2.62	10	152+48+46+44+35 +26+13+4
Synthesis	Thieme	2.689	3	
Tetrahedron Letters	Elsevier	2.579	14	74+59+28+25+19+ 13+9+7+6+6+6+5+ 5+2
Synlett	Thieme	2.369	1	
Journal of Molecular Modeling	Springer	1.507	1	36
Chem Lett	Chemical Society of Japan	1.550	1	
Synth. Commun	Taylor & Francis Online	1.377	1	
Arkivoc	ARKAT USA, Inc	1.265	1	
Indian Journal of Chemistry Sec B	Indian	0.525	3	
SAR and QSAR in Environmental Research	Taylor & Francis	0.312	1	
Proceedings of the Indian National Science Academy	Indian	0.396	1	

XVII. List of Manuscripts Submitted/Under Preparation:

1. Combating azole drug resistance in Candida albicans: targeting and molecular dissection studies of TAC1, a transcription activator of CDR genes, Tushar Jain, Pankaj Mishra, Gautam Panda, Dibyendu Banerjee

2. **Screening, Identification and biological evaluation of IS 305 and IS 331 belonging to substituted N-alkylphenyl-3,5-dinitrobenzamides as potent inhibitors of *M. fortuitum*,** Alok Kumar SINGH, Pratiksha KARAULIA, Bidhu Bhusan KARKARA, Gautam PANDA, Ram A Viswakarma, Sidharth CHOPRA and Arunava DASGUPTA

3. **Use of Non-aromatic Hydrophobic α-Amino Acids (α-AA) and Non-Amino Acid Derived Synthons: Comparative Studies towards Total Syntheses of Selected Bioactive Natural Alkaloids**, Asha Ganesher, Srinivas Lavanya Kumar M, and Gautam Panda

4. **Tyrosine Derived Novel Benzoxazine active in Rat syngenic mammary tumor model in Breast Cancer**
Amit Kumar Jana, Jyotsana Singh, Asha Ganesher, Amit Kumar, Arpita Banerjee, Deepak Kumar, Sarvesh Kumar Verma, Ashok Kumar Sharma, Rabi Sankar Bhatta, Rituraj Konwar, Gautam Panda

5. **Targeting pathways contributing to Epithelial-Mesenchymal Transition (EMT) by modulating ER-α and IGF1R pathway**
Jyotsana Singh, Asha Ganesher, Amit Kumar, Gautam Panda, Rituraj Konwar

6. **Total synthesis of selected bioactive alkaloids, their structure-function relationships and molecular target interactions: A comparative synthetic analysis of Tryptophan originated chiral pool approaches vs other synthons**, Arpita Banerjee and Gautam Panda

8. **Aromatic or Heteroaromatic Directly Attached Tri and Tetrasubstituted Methanes (TRSMs): New Chemical Entities as Anti-infectives,** Deblina Roy and Gautam Panda

9. **Comparative Perspective on Synthesis and Properties of C60 Fullerene and Corannulene based Amine, Amino Acids and Peptides,** Indranil Chatterjee and Gautam Panda

10. **Corannulene Containing Unnatural α-Amino Acids and Amphipathic Peptides: Synthesis, Conformational Studies and Antibacterial Activities having Synergistic Effects with Rifampicin,** Saroj Maji, Indranil Chatterjee, Jayanti Vaishnav, Devesh Pratap Verma, Neeraj Kumar Verma, Hidehiro Sakurai, Jimut Kanti Ghosh, Ravi Sankar Ampapathi, Gautam Panda

11. **Total synthesis of selected alkaloids: a comparative analysis of tyrosine-based chiral pool approaches vs other synthons**, Arpita Banerjee and Gautam Panda

12. **Discovery and biological evaluation of Novel Diarylmethyl amines active against drug-resistant S. aureus**; Deblina Roy, Grace Kaul, Abdul Akhir, Sidharth Chopra, and Gautam Panda

13. **Quinone Methide Chemistry leading to Trisubstituted Methane (TRSM) containing Heterocycles and Bioactives: Synthesis and its Applications**

XIX. Patent filed:

1. Aryl aryl methyl thio arenes (AAMTAs) as antimalarial agents and a process for the preparation thereof; **Gautam Panda**, Priyanka Singh, Sanjit Kumar Das, Subal Kumar Dinda, Manish Goyal, Uday Bandyopadhyay; 0020NF2011/IN; **0364DEL2011**; 31-Jan-2012

2. Diaryloxy Methano Phenanthrenes: A New Class of Antituberculosis Agents, **Gautam Panda**, Shagufta, Jitendra Kumar Mishra, Vinita Chaturvedi, Anil K. Srivastava, Manju,

Ranjana Srivastava and Brahm S. Srivastava, 2003, Patent No. 535/03. **1178/DEL/2004** Filing date 24/06/04

3. Thiophene containing Trisubstituted Methanes (TRSMs) as antitubercular agents, **Gautam Panda**, Maloy Kumar Parai, Priyanka Singh, Sudhir Sinha, Vinita Chaturvedi, Anil Gaikwad, (**685/DEL/2010**) dt 20-2-2010.

4. New Synthesis of Almitrine, its key starting materials and key synthetic intermediates and their uses thereof; Gautam Panda, Deblina Roy, Arpita Banerjee, 0209NF2020- Application number 202111003021 dated 21.01.2021

5. New Synthesis of Ifenprodil, its key starting materials and key synthetic intermediates and their uses thereof; Gautam Panda, Deblina Roy, 0210NF2020- Application number 202111015502 dated 31.03.2021

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Cited by VIEW ALL

	All	Since 2016
Citations	2550	1146
h-index	27	17
i10-index	66	44

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Scientific Contribution in Brief of Dr. Gautam Panda:

Dr. Gautam Panda extensively, ingeniously harnessed chiral amino acids (AAs) in synthesis of potent inhibitor of protein kinase C (-)-Balanol, antifungal antibiotic Ophiocordin, nicotinic agonists (+)-epiquinamide, (+)-α- conhydrine, antimitotic C_3-*epi*-(+)-lycoricidine, Jaspine B, potent inhibitor of glucosidase enzymes 8,8a-diepicastanospermine, (-)-Swainsonine, antibacterial levofloxacin, antimalarial (─)-Raphidecursinol B, novel antitumoral of marine origin spisulosine etc. Hetero [6-5-6] tricyclics resembling Taiwaniaquinoids and C-nor-D-homo steroids were synthesized through first heteroaromatic Nazarov type cyclization with excellent regioselectivity. His chiral serine azide through Weinreb amide to reduce acidity of α-proton is widely utilized. In quest for steroidomimetics, he envisages to employ Amino Acids to incorporate chiral space towards difficult asymmetric steroids. Thus, tyrosine-derived benzoxazine lead regressed tumor growth at 5mg/Kg and 20mg/Kg without causing any mortality in rat syngenic mammary tumor model. His work on spisulosine that markedly induces autophagic cell death to cancer cells is very interesting. Mild toxicity issues of leads are being addressed by his group. His consistent effort has resulted in bringing **S006-830** with CFU count of 2.2×10^7 with comparable efficacies to ethambutol and PZA. Mild hERG liability of **S006-830** prevented its further development**.** He has published new effective routes for Meclizine, Hydroxyzine and Cetirizine like molecules using para-Quinone Methides chemistry. He has filed patents on process routes for two off-patented drugs (having no suppliers in India) like Almitrine and Ifenprodil which are at Phase III trials as repurposed drugs for Covid-19 by industries of France and UK. Collaborative MoU has been signed with Reliance Rasayan Private Limited (RRPL), Ahmedabad to reposition them as Covid-19 therapeutics in India.