

CURRICULUM VITAE

Employee ID 32149
FRP file No. F.4-5(134)/2014(BSR)/FRP (ID: FRP13100)
Name Dr. Raju Jannapu Reddy (Dr RJ REDDY)
Date of Birth 11-June-1977
Designation UGC-Assistant Professor
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Academic Qualification

Degree	Year	Subject	University/Institution	% of Marks
10 th	1994	Maths, Science and Social	Board of Secondary Education	69.5%
12 th	1996	Chemistry, Physics and Maths	Board of Intermediate Education	68.6%
B.Sc.	1999	Chemistry, Physics and Maths	Kakatiya University, Warragal	66.0%
M.Sc.	2001	Organic Chemistry	Kakatiya University, Warragal	71.5% (Distin.)
Ph.D.*	2008	Organic Chemistry	University of Hyderabad	Awarded

**Ph.D. thesis title, Guide's Name, University, Year of Award. "Applications of the Baylis-Hillman adducts: Towards development of novel strategies for synthesis of spiro- and heterocyclic compounds" Prof. Deevi Basavaiah, School of Chemistry, University of Hyderabad; Submitted on 12-Dec-2007; Viva Voce held on 17-Apr-2008 and Result declared on 25-Apr-2008.*

Post-PhD Research and Teaching Experience (in chronological order)

Period of Position	Positions held	Name of the Institute
19-Jan-2015 to till date	UGC-Assistant Professor	Osmania University, India
21-Jan-2013 to 18-Jan-2015	Marie Curie Research Fellow	University of Birmingham, UK
20-Nov-2010 to 19-Nov-2012	JSPS Postdoctoral Fellow	Kyoto Pharmaceutical University, Japan
02-Aug-2008 to 22-Oct-2010	NSC Postdoctoral Fellow	National Taiwan Normal University
01-Aug-2001 to 31-Jul-2002	R & D Chemist	Dr. Reddy's Laboratories Pvt. Ltd., Hyd.

Sponsored Research Grants

Ongoing Projects			
Funding agency	Amount sanctioned	Duration	Project Status
ANRF-ARG	Rs. 65,00,000	To be commenced	Approved
<i>Title: Exploring Direct Vicinal Carbothiolation of Internal Alkynes for Concurrent Formation of C-C and C-S Bonds (File No.: ANRF/ARG/2025/005784/CS)</i>			
ANRF-PAIR	Rs. 52,00,000	20.09.2025 to 19.10.2030	Ongoing
<i>Task 64. Development of Photo-Biocatalysts for Enhanced Photodynamic Therapy in Cancer Treatment</i>			
ANRF-PAIR	Rs. 52,00,000	20.09.2025 to 19.10.2030.	Ongoing
<i>Task 71. Development of Novel and Selective Tubulin Binding Compounds for Cancer Therapy</i>			

Completed Projects			
SERB-CRG (PI)	Rs. 37,02,631	01-12-2021 to 31-03-2025	Completed
<i>Title: Design and Development of Atom Transfer Radical Cyclization (ATRC): Thiosulfonylation of Unactivated Carbon-Carbon Multiple Bonds (File No. CRG/2021/003544)</i>			
UGC-Startup+XII Plan (PI)	Rs. 7,00,000		Completed
<i>Title: Thiolation of heteroaromatics via C-H activation (File No. F.4-5/2006/BSR)</i>			
SERB-ECR (PI)	Rs. 33,10,900	23-03-2016 to 22-03-2019	Completed
<i>Title: Cascade C-H Functionalization for Synthesis of N,S-Heterocycles (File No. ECR/2015/000053)</i>			
OU DST-PURSE-II (PI)	Rs. 3,87,000	14-09-2017 to 28-02-2022	Completed
<i>Title: Divergent synthesis of dibenzothiazepines and their biological evaluation (File No. SR/PURSE Phase 2/32/G)</i>			
CSIR-EMR-II (PI)	Rs. 27,80,407	16-07-2018 to 31-01-2022	Completed
<i>Title: Oxidative Cross-Coupling for Divergent Synthesis of N-Heterocycles (File No. 02(0340)/18/EMR-II)</i>			
DST-WOS-A (Mentor)	Rs. 24,17,967	05-10-2020 to 04-10-2023	Completed
<i>Title: Photoredox Catalysis for Intermolecular Vicinal Thiosulfonylation of Alkynes and Alkenes (File No. SR/WOS-A/CS-14/2019)</i>			

Professional Recognition/Award/Prize/Certificate/Fellowship

S. No.	Recognition/ Award/ Prize/Certificate	Agency	Year
1.	Fellow of Telangana Academy of Sciences	Telangana Academy of Sciences	2025
2.	Life Member (LM 4580) of Chemical Research Society of India (CRSI)	Chemical Research Society of India (CRSI)	2025
3.	Thieme Chemistry Journals Award	Thieme Group, Stuttgart, Germany	2025
4.	Received a certificate from RSC for our "OBC review-2022" as recognized within the top 10 cited articles for 2022	Royal Society of Chemistry (RSC) publishers	2023
5.	Received a certificate from RSC for our "RSC Adv. Review-2022" as recognized within the top 10 cited articles for 2022	Royal Society of Chemistry (RSC) publishers	2023
6.	Invited as a "Chairperson" for J-NOST	J-NOST	2022
7.	Received a certificate of appreciation for research excellence during the Vice Chancellor Award 2022 on 3-Jan-2022	Osmania University	2022
8.	Received a certificate from Thieme Chemistry for our "SynOpen" as recognized within the top cited articles for 2021	Thieme Chemistry Journals	2022
9.	Highlighted our "SYNOPEN" paper in the "SynForm News"	Thieme Chemistry Journals	2021
10.	Associate Fellow	Telangana Academy of Sciences	2018
11.	Early Career Research Grant Award	SERB-ECR	2016
12.	UGC-Assistant Professor	UGC-Faculty Recharge Programme	2014
13.	Member of RSC (MRSC)	Royal Society of Chemistry (RSC)	2013
14.	Marie-Curie International Incoming Fellowships	European Commissions	2012
15.	Member of Pharmaceutical Society, Japan	Pharmaceutical Society of Japan	2011
16.	JSPS postdoctoral fellowship, Japan	JSPS overseas Postdoctoral Scheme, Japan	2010
17.	Received a certificate from RSC for "Chem. Soc. Rev." as recognized within the top 10 cited articles for 2018	Royal Society of Chemistry (RSC) publishers	2010
18.	Qualified CSIR and awarded JRF/SRF	Joint CSIR-UGC-JRF New Delhi, India	2001
19.	Qualified GATE-2001	Graduate Aptitude Test in Engineering	2001

LIST of PUBLICATIONS

Google Scholar link: <https://scholar.google.com/citations?user=cMrkAd0AAAAJ&hl=en>

No. of publications	40 Papers + 4 Review articles + 2 Book Chapters			
Total number of citations	2248			
<i>h</i> -index	25			
<i>i</i> ₁₀ -index	39			
Publications @ Osmania University as an Independent Researcher				
S. No	Author(s)	Title of Paper	Reference of Journal	Impact Factor (IF)/H5-Index
26	Sharadha, N. and Reddy, R. J.*	Substrate-Directed Annulative-Sulfonylation/Desulfonylation Cascade Using (<i>E</i>)- β -Iodovinyl Sulfones: A Diverse Approach for the Synthesis of Imidazo[1,2- <i>a</i>]pyridines with Sulfone Motifs	J. Org. Chem. 2025, 90, 15942-15955	IF: 3.6 H5: 239
25	A. H. Kumari, S. Ghosh, N. S. Veeranagaiah, R. Pallepogu, and Reddy, R. J.*	Metal-Free Four-component Strategy to Access Thioether-Derived Imidazo[1,2- <i>a</i>]pyridines and Imidazo[2,1- <i>b</i>]thiazoles	Eur. J. Org. Chem. 2025, 28, e202500394	IF: 2.7 H5: 167
24	Kumari, H. K., Kumar, J. J. and Reddy, R. J.*	Vicinal Thiosulfonylation of ortho-(Alkynyl)-Benzyl Thiosulfonates/Sulfurothioates for Direct Synthesis of Sulfonyl-derived Isothiochromenes	J. Org. Chem. 2025, 90, 3628-3638	IF: 3.6 H5: 239
23	Sharadha, N., Kumari, H. K. and Reddy, R. J.*	Transition-Metal-Free Annulation of Sulfonyl-Derived 1,3-Enynes: Simple and Efficient Construction of 2,4-Disubstituted Thiophenes and Vinyl Sulfone-Tethered 1,2,3- <i>NH</i> -Triazoles	Asian J. Org. Chem., 2024, 13, 202400211.	IF: 2.7 H5: 55
22	Kumari, H. K., Kumar, J. J., Sharadha, N., Krishna, G. R. and Reddy, R. J.*	Visible-Light-Induced Radical Sulfonylative-Cyclization Cascade of 1,6-Enynol Derivatives with Sulfinic Acids: A Sustainable Approach for the Synthesis of 2,3-Disubstituted Benzoheteroles	ChemSusChem 2024, 17, e202400227	IF: 6.6 H5: 187
21	Reddy, R. J.* Kumar, J. J. and Kumari, H. K.	Recent trends in the synthesis and applications of β -iodovinyl sulfones: A decade progress (Review article).	Org. Biomol. Chem. 2024, 22, 2492-2509.	IF: 2.8 H5: 130
20	Reddy, R. J.* Sharadha, N. and Krishna, G. R.	Pd(II)-Catalyzed Tandem Cycloannulative-Alkenylation of ortho-Alkynyl-Phenols/Anilines with (<i>E</i>)- β -Iodovinyl Sulfones: A Direct Strategy to Construct 3-(Vinyl Sulfonyl)-Benzoheterole Derivatives	J. Org. Chem. 2023, 88, 8889-8903.	IF: 3.6 H5: 239
19	Reddy, R. J.* Kumar, J. J. and Kumari, H. K.	Mn(OAc) ₃ -Mediated Unexpected Cycloannulative-Sulfonyl Migration Cascade using (<i>E</i>)- β -Iodovinyl Sulfones and ortho-Alkynylphenols: An Expedient Synthesis of Chromene-derived Vinyl Sulfones	Org. Lett. 2023, 25, 2207-2212.	IF: 5.0 H5: 252
18	Reddy, R. J.* Kumari, H. K. and Krishna, G. R.	Unified Radical Sulfonylative-Annulation of 1,6-Enynols with Sodium Sulfinates: A Modular Synthesis of 2,3-Disubstituted Benzoheteroles	J. Org. Chem. 2023, 88, 1635-1648	IF: 3.6 H5: 239
17	Reddy, R. J.* Kumari, A. H., Sharadha, N. and Krishna, G. R.	Solvent-Dependent Mono- and Bis-Thiolation of (<i>E</i>)- β -Iodovinyl Sulfones with Thiols for Flexible Synthesis of 1,2-Thiosulfonylalkenes and 1,2-Dithioalkenes	J. Org. Chem. 2022, 87, 3934-3951.	IF: 3.6 H5: 239

16	Reddy, R. J.* Kumar, J. J. and Krishna, G. R.	K ₃ PO ₄ -Promoted Cycloannulation of (<i>E</i>)- β -Iodovinyl Sulfones with <i>ortho</i> -Hydroxy-Chalcones/Cinnamates for the Synthesis of 2,3,4-Trisubstituted-4 <i>H</i> -Benzopyran Derivatives	Adv. Synth. Catal., 2022, 364, 4080–4087	IF: 4.0 H5: 168
15	Reddy, R. J.* Waheed, Md., Kumari, A. H., and Krishna, G. R.	Interrupted CuAAC-Thiolation for the Construction of 1,2,3-Triazole-Fused Eight-Membered Hetero-cycles from <i>O</i> -/ <i>N</i> -Propargyl derived Benzyl Thiosulfonates with Organic Azides	Adv. Synth. Catal. 2022, 364, 319-325	IF: 4.0 H5: 168
14	Reddy, R. J.* Sharadha, N. Kumari, A. H.	Base-mediated [3+2]-cycloannulation strategy for the synthesis of pyrazolo[1,5- <i>a</i>]pyridine derivatives using (<i>E</i>)- β -iodovinyl sulfones	Org. Biomol. Chem. 2022, 20, 4331-4337	IF: 2.8 H5: 130
13	Reddy, R. J.* Shankar, A., Kumar, J. J. Sharadha, N., and Krishna, G. R.	Diethyl phosphite-mediated switchable synthesis of bis(imidazoheterocycles) derived disulfanes and sulfanes using imidazoheterocycles and octasulfur	New. J. Chem. 2022, 46, 4784-4791	IF: 2.5 H5: 131
12	Kumari, A. H., Kumar, J. J., Krishna, G. R. and Reddy, R. J.*	Ni-Catalyzed Difunctionalization of Alkynyl Bromides with Thiosulfonates and <i>N</i> -Arylthio Succinimides: A Convenient Synthesis of 1,2-Thiosulfonylethenes and 1,1-Dithioethenes	Synthesis, 2021, 53, 2850–2864	IF: 2.3 H5: 151
11	Reddy, R. J.* Kumari, A. H. and Kumar, J. J.	Recent Advances in the Synthesis and Applications of β -Keto Sulfones: New Prospects for the Synthesis β -Keto Thiosulfones (Review article); <i>Recognized as a Top 10% cited article in 2022.</i>	Org. Biomol. Chem. 2021, 19, 3087-3118	IF: 2.8 H5: 130
10	Shankar, A., Waheed, Md. and Reddy, R. J.*	Simple and Efficient Synthesis of Allyl Sulfones through Cs ₂ CO ₃ -mediated Radical Sulfonylation of Morita-Baylis-Hillman Adducts with Thiosulfonates (Highlighted in the SynForm News and Top Cited Article 2022)	SynOpen, 2021, 5, 91–99 (Invited)	IF: 2.1 H5: 09
9	Reddy, R. J.* and Kumari, A. H.	Synthesis and Applications of Sodium Sulfinates (RSO ₂ Na): A Powerful Building Block for the Synthesis of Organosulfur Compounds (Review article); <i>Selected as Most Popular article and Recognized as a Top 10% cited article in 2022.</i>	RSC Adv., 2021, 11, 9130-9221	IF: 4.6 H5: 189
8	Reddy, R. J.* Waheed, Md. and Krishna, G. R.	Phenylboronic acid-catalyzed tandem construction of S–S and C–S bonds: a new method for the synthesis of benzyl disulfanylsulfone derivatives from S-benzyl thiosulfonates	Org. Biomol. Chem. 2020, 18, 3243-3248	IF: 2.8 H5: 130
7	Reddy, R. J.* Kumar, J. J., A. H. Kumari and G. R. Krishana	Pd-Catalysed Annulation of beta-Iodovinyl Sulfones with 2-Halophenols: A General Route for the Synthesis of 3-Sulfonyl Benzofuran Derivatives	Adv. Synth. Catal., 2020, 362, 1317-1322	IF: 4.0 H5: 168
6	Reddy, R. J.* Shankar, A. and Kumari, A. H.	Efficient, Sequential One-Pot Approach for Diverse C3-Functionalized Imidazo[1,2- <i>a</i>]pyridines Under Transition-Metal Free Conditions	Asian J. Org. Chem., 2019, 8, 2269-2275	IF: 2.7 H5: 55

5	Reddy, R. J.,* Kumar, J. J. and Kumari, A. H.	Unprecedented Reactivity of beta-Iodovinyl Sulfones: An Efficient Synthesis of β -Keto Sulfones and β -Keto Thiosulfones	Eur. J. Org. Chem., 2019, 3771-3775	IF: 2.7 H5: 167
4	Reddy, R. J.,* Kumari, A. H., Kumar, J. J. and Nanubolu, J. B.	Cs ₂ CO ₃ -Mediated Vicinal Thiosulfonyl-ation of 1,1-Dibromo-1-Alkenes with Thiosulfonates: An Expedient Synthesis of (<i>E</i>)-1,2-Thiosulfonylethenes	Adv. Synth. Catal. 2019, 361, 1587-1591.	IF: 4.0 H5: 168
3	Reddy, R. J.,* Waheed, Md. and Kumar, J. J.	A straightforward and convenient synthesis of functionalized allyl thiosulfonates and allyl disulfanes	RSC Adv., 2018, 8, 40446-40453	IF: 4.6 H5: 189
2	Reddy,* R. J., Shankar, A., Waheed, Md. and Nanubolu, J. B.	Metal-free highly regioselective sulfonylation of <i>NH</i> -1,2,3-triazoles with sodium sulfinates and thiosulfonates	Tetrahedron Lett., 2018, 59, 2014-2017	IF: 1.5 H5: 178
1	Reddy, R. J.,* Waheed, Md., Karthik, T. and Shankar, A.	Efficient synthesis of 4-aryl-5-multifunctional-2 <i>H</i> -1,2,3-triazoles from nitroallylic derivatives <i>via</i> cycloaddition-denitration process	New J. Chem., 2018, 42, 980-987	IF: 2.5 H5: 131

Publications during the Postdoc (UK, Japan and Taiwan) and PhD (Univ. of Hyderabad)

S. No	Author(s)	Title of Paper	Reference of Journal	Impact Factor (IF)/H5-Index
18	Reddy, R. J., Ball-Jones, M. P. and Davies, P. W.	Alkynyl thioethers in gold-catalysed annulations to form oxazoles	Angew. Chem. Int. Ed., 2017, 56, 13310-13316.	IF: 16.1 H5: 612
17	Garzon, M., Arcea, E. M., Reddy, R. J. and Davies, P. W.	General Entry into <i>o,o'</i> -Heteroatom-Linked <i>N</i> -(Hetero)aryl Imidazole Motifs by Gold-Catalysed Formal [3+2]-Dipolar Cycloaddition (<i>designated as VIP</i>)	Adv. Synth. Catal., 2017, 359, 1837-1843	IF: 4.4 H5: 168
16	Gillie, A. D., ⁺ Reddy, R. J., ⁺ and Davies, P. W. (<i>*equally contributed</i>)	Efficient and Flexible Synthesis of Highly Functionalised 4-Aminooxazoles by a Gold-Catalysed Intermolecular Formal [3+2] Dipolar cycloaddition (<i>designated as VIP</i>)	Adv. Synth. Catal., 2016, 358, 226-239	IF: 4.4 H5: 168
15	Reddy, R. J., Kawai, N., Uenishi, J.	Synthesis of 1-Phenethyltetrahydroisoquinoline Alkaloids (+)-Dysoxylone, (+)-Colchiethanamine and (+)-Colchiethine	J. Org. Chem., 2012, 77, 11101-11108	IF: 3.4 H5: 239
14	Reddy, R. J., Lee, P.-H., Magar, D. R., Chen, J.-H. and Chen, K.	Kinetic resolution of activated nitroallylic acetates with aldehydes and ketones <i>via</i> conjugate addition-elimination SN2' process	Eur. J. Org. Chem., 2012, 353-365	IF: 2.5 H5: 167
13	Reddy, R. J. and Chen, K.	Highly Efficient Organocatalytic Kinetic Resolution of Activated Nitroallylic Acetates with Aldehydes <i>via</i> Conjugate Addition-Elimination	Org. Lett., 2011, 13, 1458-1461	IF: 4.9 H5: 252
12	Ting, Y.-F., Chang, C., Reddy, R. J., Magar, D. R. and Chen, K.	Pyrrolidine-Camphor Derivatives as a New Class of Organocatalysts for Direct Asymmetric Michael Addition of Aldehydes and Ketones to β -Nitroalkenes	Chem. Eur. J., 2010, 16, 7030-7038	IF: 3.9 H5: 261
11	Kuan, H.-H., [†] Reddy, R. J. [†] and Chen, K. (<i>*equally contributed</i>)	An efficient Morita-Baylis-Hillman reaction for the synthesis of multifunctional 2-hydroxy-3-nitrobut-3-enoate derivatives	Tetrahedron 2010, 66, 9875-9879	IF: 2.1 H5: 231
10	Basavaiah, D., Reddy, R. J. and Lenin, D. V.	The Baylis-Hillman adducts as a valuable source for one-pot multistep synthesis: A facile synthesis of 5-substituted-2-piperidones	Helv. Chim. Act., 2010, 93, 1180-1186	IF: 1.5 H5: 86

9	Liu, P.-M., Chang, C., Reddy, R. J. , Ting, Y.-F., Kuan, H.-H. and Chen, K.	Remarkable reaction Rate and excellent enantioselective direct α -amination of aldehydes with azodicarboxylates catalyzed by pyrrolidinyl-camphor derived organocatalysts	Eur. J. Org. Chem., 2010, 42-46	IF: 25 H5: 167
8	Reddy, R. J. , Kuan, H.-H., Chou, T.-Y., and Chen, K.	Novel Prolinamide-Camphor Containing Organocatalysts for Direct Asymmetric Michael Addition of Unmodified Aldehydes to Nitroalkenes	Chem. Eur. J., 2009, 15, 9294-9298	IF: 3.9 H5: 261
7	Chang, C., Li, S.-H., Reddy, R. J. and Chen, K.	Pyrrolidine-Camphor Derivative as an Organocatalyst for Asymmetric Michael Additions of α,α -Disubstituted Aldehydes to β -Nitroalkenes: Construction of Quaternary Carbon Bearing Aldehydes under Solvent-Free Conditions	Adv. Syn. Catal., 2009, 351, 1273-1278	IF: 4.4 H5: 168
6	Tzeng, Z.-H., Chen, H.-Y., Reddy, R. J. , Huang, C.-T. and Chen, K.	Highly diastereo- and enantio-selective direct aldol reactions promoted by water-compatible organocatalysts bearing a pyrrolidinyl-camphor structural scaffold	Tetrahedron 2009, 65, 2879-2888	IF: 2.1 H5: 231
5	Basavaiah, D., and Reddy, R. J.	Simple and facile synthesis of tetralone-spiro-glutarimides and spiro-bis-glutarimides from Baylis-Hillman acetates	Org. Biomol. Chem., 2008, 6, 1034-1039	IF: 2.9 H5: 130
4	Basavaiah, D, Rao, K. V. and Reddy, R. J.	The Baylis-Hillman reaction: a novel source for attraction, opportunities, and challenges in synthetic chemistry (<i>Recognized as a Top 10% cited article in 2008</i>)	Chem. Soc. Rev., 2007, 36, 1581-1588	IF: 40.4 H5: 595
3	Basavaiah D, Reddy, R. J. and Rao, J. S.	Applications of Baylis-Hillman adducts: A simple, convenient, and one-pot synthesis of 3-benzoylquinolines	Tetrahedron Lett., 2006, 47, 73-77	IF: 1.5 H5: 178
2	Basavaiah, D., Rao, J. S., Reddy, R. J. and Rao, A. J.	TiCl ₄ catalyzed tandem construction of C-C and C-O bonds: a simple and one-pot atom-economical stereoselective synthesis of spiro-oxindoles	Chem. Commun., 2005, 2621-2623	IF: 4.3 H5: 363
1	Basavaiah, D., Rao, J. S., and Reddy, R. J.	Simple, facile and one-pot conversion of the Baylis-Hillman adducts into functionalized 1,2,3,4-tetrahydroacridines and cyclopenta-[b]quinolines	J. Org. Chem., 2004, 69, 7379-7382	IF: 3.4 H5: 239

Books/Book Chapters, etc.

SNo	Title of the Article	Author's Name	Publisher	Year of Publication
1.	Cycloannulation strategies for the direct construction of 3-functionalized benzoheteroles (Book Chapter) http://dx.medra.org/10.17374/targets.2024.27.222	Reddy, R. J. ,* A. H. Kumari and N. Sharadha	Italian Chemical Society	Targets in Heterocyclic Systems, 2023 , Volume 27, pages 222-252
2.	Other 2-substituted pyrrolidines as asymmetric organocatalysts (Book Chapter) ISBN: 9781782620570	Reddy, R. J. and Chen, K.*	Royal Society of Chemistry	Sustainable Catalysis, 2015 , Volume 2, Chapter 9, pp 200-235
3.	Applications of Baylis-Hillman adducts: A novel strategies for synthesis of spiro and heterocyclic compounds (Book Monograph)	Reddy, R. J.	LAMBERT Academic Publishing	2012 ISBN-10:365921707

Oral and poster presentations (*Represents presented poster)

- 1) As a **Resource Person**, delivered a talk entitled “*New Initiatives in the field of Chemistry in the 21st Century*” on 18th November 2024 to the participants of the “*CHEMFEST-2024*” at Dept. of Chemistry, SRI DURGA MALLESWARA SIDDHARTHA MAHILA KALASALA, Vijayawada.
- 2) **Invited talk** on “*Exploration of (E)-beta-Iodovinyl Sulfones in Organic Synthesis*” in “Organic Chemistry Symposium (OCS-2024)” held at School of Chemistry, University of Hyderabad on 7th November 2024.
- 3) **Invited talk** on “*Exploration of Cycloannulation Strategies using (E)-beta-Iodovinyl Sulfones*” in “Nature Inspired Initiatives in Chemical Trends (NIICT-2024)” held at CSIR-IICT, Hyderabad, during 7-9 March 2024.
- 4) **Invited talk** on “*Modular Catalytic Routes for Sulfonyl-Benzoheteroles*” in “Indo-French Seminar on “Fostering Catalysis for Societal Benefit (FCSB-2024)” held at School of Chemistry, University of Hyderabad, Hyderabad, during Jan 15-17, 2024.
- 5) **Invited talk** on “*Applications of (E)-beta-Iodovinyl Sulfones in Organic Synthesis*” in “2nd International Conference on Frontiers in Chemical Sciences (ICFCS-2023)” at the Department of Applied Chemistry, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, during October 26-27th, 2023.
- 6) As a **Resource Person**, delivered a talk entitled “*Principles, Practice of Green Chemistry and Beyond*” on 22nd Dec 2023 to the participants of the “*Certificate Course on Green Chemistry in Drug Discovery and Development*” organized by the RBVRR Women’s College of Pharmacy, Hyderabad.
- 7) **Invited talk** on “*Cycloannulation Strategies using (E)-beta-Iodovinyl Sulfones*” in international Conference on “FRONTIERS AT THE CHEMISTRY–ALLIED SCIENCES INTERFACE (FCASI-2023)” 20-21 April 2023, Department of Chemistry, University of Rajasthan, Jaipur.
- 8) As a **Resource Person**, delivered a talk entitled “*Visualize the role of chemistry in daily life*” on 28th February 2023 to the participants of the “*Faculty Induction Programme*” organized by the UGC-HRDC (*Academic Staff College*), Osmania University, Hyderabad from 01.02.2023 to 01.03.2023.
- 9) As a **Resource Person**, delivered a talk entitled “*Importance of Chemistry in Everyday Life*” on 24-Sept-2022 to the participants of the “*Faculty Induction Programme*” organized by the UGC-HRDC (*Academic Staff College*), Osmania University, Hyderabad from 06.09.2022 to 04.10.2022.
- 10) **Participated** as a member of Indian-JSPS Alumni Association in 12th India-Japan Science and Technology Conclave: “*International Conference on Frontier Areas of Science and Technology (ICFAST-2022)*,” held at the University of Hyderabad from September 09 to 10, 2022.
- 11) **Invited talk** on “*(E)-Iodovinyl Sulfones: Powerful Building Block in Organic Synthesis*” in a three-day INTERDISCIPLINARY INTERNATIONAL CONFERENCE ON CURRENT TRENDS IN APPLIED SCIENCES-2022 (IICCTAS-2022), 1st-3rd September, 2022, Department of Chemistry, Loyola Academy, Degree and PG College, Secunderabad.
- 12) As a **Resource Person**, delivered a talk entitled “*Chemistry in Everyday Life*” on 13-June-2022 to the participants of Three Week Industrial Training Programme for the faculty of Pharmacy of Government Polytechnic Colleges in Telangana state organized by the UGC-HRDC (*Academic Staff College*), Osmania University, Hyderabad from 01.06.2022 to 21.06.2022.
- 13) **Invited talk** on “ *β -Iodovinyl Sulfones: A Versatile Building Block in Organic Synthesis*” in international Conference on “*XXXX Annual National Conference of the Indian Council of Chemists*” going to be held at Satavahana University, Department of Chemistry, Karimnagar on 29th December, 2021.
- 14) **Invited talk** on “*Diverse Reactivity of Thiosulfonates in Organic Synthesis*” in NATIONAL CONFERENCE on “*EMERGING TRENDS IN INSTRUMENTAL METHODS OF CHEMICAL ANALYSIS (ETIMCA-2019)*” 30th-31st January, 2019, Department of Chemistry, National Institute of Technology Warangal.

- 15) **Invited talk** on “*Synthesis and Practical Applications of Thiosulfonates*” in international Conference on “*FRONTIERS AT THE CHEMISTRY–ALLIED SCIENCES INTERFACE*” 21-22 December 2018, Department of Chemistry, University of Rajasthan, Jaipur.
- 16) As a **Resource Person**, delivered a lecture “*Organic Chemistry Practical*” on 13-Dec-2018 in the “*Faculty Development Programme in Chemistry for UG Teachers: A Re-Orientation to the Restructured CBCS Curriculum*” organized by the Department of Chemistry, Osmania University.
- 17) **A poster presentation** in “*Peakdale synthesis in drug discovery and development: 3rd Symposium*” held at Leeds Metropolitan University, UK on September 3, 2014. Synthesis and Applications of 4*N*-Substituted Oxazoles, **Reddy R J**,* Gillie A, and Davies P W.
- 18) **A poster presentation** in “*RSC Organic Division Midlands Meeting 2014*” held at University of Nottingham, UK on April 25, 2014. Synthesis and Applications of 4*N*-Substituted Oxazoles, **Reddy R J**,* Gillie A, and Davies P W.
- 19) **Poster presentation** in “*The 7th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-7)*” held at Nanyang Technological University, Singapore, 11-14 Dec 2012. *The Use of Functionalized Racemic Nitroallylic Acetates in Organocascade Kinetic Resolution*, Roy S, Yeh L F, **Reddy R J**, Anwar S, Huang W-Y, Chen, Y-C, Kuan H-H, Chen Y-M, **Chen K***
- 20) **Presented oral and poster** in “*The 54th Symposium on the Chemistry of Natural Products, Tokyo 2012*” held at Tokyo University of Agriculture, Setagaya Campus, 18-20 Sept, 2012. Synthesis of Isoquinoline Alkaloids by a Catalytic Intramolecular 1,3-Chirality Transfer Reaction, **Reddy R J**,* Ueda T, Mendu N, Kawai N, Uenishi J.
- 21) **Oral presentation** in “*The 132 Annual Meeting of the Pharmaceutical Society of Japan*” held at Hokkaido University, Sapporo, Japan 28-31 March 2012. Asymmetric total synthesis of (+)-Dysosyline and (+)-Colchiethanamine, **Reddy R J**,* Kawai N, Uenishi J.
- 22) **Presented a poster** in “*The Frontier Research in Medical Science Based on Biomolecular System*” held at Kyoto Pharmaceutical University, Japan, 18 February 2012. Construction of chiral 1-substituted tetrahydroisoquinoline ring and Its application to the synthesis of (+)-Dysosyline and (+)-Colchiethanamine, **Reddy R J**,* Ueda T, Kawai N, Uenishi J.
- 23) **Presented a poster** in the “*8th AFMC International Medicinal Chemistry Symposium "Frontier of Medicinal Science"*” held at Keio Plaza Hotel Tokyo (Japan), 29 Nov-2 Dec 2011 and also presented a poster, *Neutral Organocatalysts Promoting Dehydrative Cyclization with 1,3-Chirality Transfer*; **Kawai N**,* Ishibashi K; **Reddy R J** and Uenishi J.
- 24) **Presented a poster** in the “*5th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-5) and the 1st New phase International Conference on Cutting-Edge Organic Chemistry in Asia (NICCEOCA-1)*” held at Hsinchu, Taiwan, 7-11 November 2010; Pyrrolidinyl-Camphor Derived Organocatalysts in Asymmetric Reactions **Reddy R J**, Chang C, Liu P-M, Ting Y-F and **Chen K***
- 25) **Oral and a poster** presented in 5th in-house symposium “*Chemfest-2008*” held at University of Hyderabad, Hyderabad (India), 01 & 02 March 2008. Simple and facile synthesis of tetralone-spiro-glutarimides and spiro-bisglutarimides from Baylis-Hillman acetates Basavaiah D and **Reddy R J**.*
- 26) **Presented a poster** in the “*National conference on "Current research trends & developments in heterocyclic chemistry"*” held at Osmania University, Hyderabad (India), 17 & 18 March 2006. Applications of Baylis-Hillman adducts: A simple, convenient, and one-pot synthesis of 3-benzoylquinolines Basavaiah D, **Reddy R J*** and Rao J S.
- 27) **Presented a poster** in “*3rd in-house symposium "Chemfest-2006"*” held at University of Hyderabad, Hyderabad (India), 04 March 2006. Applications of Baylis-Hillman adducts: A simple, convenient, and one-pot synthesis of 3-benzoylquinolines Basavaiah D, **Reddy R J*** and Rao J S.

- 28) **Presented a poster** in the "National conference on "Chemistry in Drug industry" held at National Institute of Technology (NIT), Warangal (India), 07 & 08 October 2005. Simple, facile and one-pot conversion of the Baylis-Hillman adducts into functionalized 1,2,3,4-tetrahydroacridines and cyclopenta[b]quinolines Basavaiah D, Rao J S and **Reddy R.J.***
- 29) **Presented a poster** in "2nd in-house symposium "Chemfest-2005" held at University of Hyderabad, Hyderabad (India), 07 February 2005. TiCl₄ catalyzed tandem construction of C-C and C-O bonds: a simple and one-pot atom-economical stereoselective synthesis of spiro-oxindoles Basavaiah D, Rao J S, **Reddy R.J.*** and Rao A J.
- 30) Participated in the IUPAC International Conference on "Biodiversity and Natural Products: Chemistry and Medical Applications" held at New Delhi (India), 26-31 January 2004.

Names and Addresses of Professional Referees

Professor Deevi Basavaiah , School of Chemistry, University of Hyderabad, Hyderabad-500 046, India. Email: basavaiahdchem@uohyd.ac.in ; Tel: +91-9949093977.
Professor Paul W. Davies , School of Chemistry, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK. Email: p.w.davies@bham.ac.uk ; Tel: +44 (0) 121 414 4408.
Professor Kwunmin Chen , Distinguished Professor, Department of Chemistry, National Taiwan Normal University, 88 Sec. 4, Taipei 116, Taiwan. Email: kchen@ntnu.edu.tw ; Tel: +886-2-89315831.
Professor Jun'ichi Uenishi , Department of Pharmaceutical Chemistry, Kyoto Pharmaceutical University, Kyoto 607-8412, Japan. Email: juenishi@phs.osaka-u.ac.jp ; Tel: + 81-75-595-4600.

TEACHING @ OSMANIA UNIVERSITY

Course	Subject
PhD Course work, Dept. of Chemistry, UCS, OU	<ul style="list-style-type: none"> ○ Strategies-Design of Organic Synthesis ○ Mass Spectrometry
M. Pharmacy, UCT, OU	SEM-I: Modern Pharmaceutical Analytical Techniques (101T) & SEM-II: Advanced Spectral Analysis (201T) <ul style="list-style-type: none"> ○ Mass Spectrometry ○ NMR Spectroscopy SEM-I: Advanced Organic Chemistry – I (MPC 102T) <ul style="list-style-type: none"> ○ Synthetic Reagents & Applications ○ Synthon approach and retrosynthesis applications SEM-II ADVANCED ORGANIC CHEMISTRY - II (MPC 202T) <ul style="list-style-type: none"> ○ Stereochemistry & Asymmetric Synthesis ○ Pericyclic Reactions and Photochemistry
M.Sc. Forensic Science, UCS, OU	FS 103 Instrumental Methods of Analysis-I <ul style="list-style-type: none"> ○ UNIT I Atomic Spectrometry ○ UNIT III Infrared, Raman and NMR Spectrometry FS 202 Instrumental Methods of Analysis-II <ul style="list-style-type: none"> ○ UNIT I Molecular Mass Spectrometry ○ UNIT IV Unit Measurements, signals and data
University College of Science, Saifabad, UCS, OU	C(CB3)-12: Supramolecular chemistry OC(CB3)-26: Structure determination of natural products

	OC-24: Chiral drugs PO-(CB3)-27: Structure determination of natural products by chemical and spectral methods
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Orientation/Refresher/Training programs attended.

1. Participated in **Refresher Course** for Teachers on “Recent trends in Chemical Science and Technology” UGC’s Academic Staff College, OU, from Feb 15, 2018 to March 08, 2018.
2. Participated in **84th Orientation Programme** for Teachers: UGC’s Academic Staff College, OU, from Jan 19, 2017 to Feb 16, 2017.
3. Participated in a one-Day Workshop on “**Teaching, Learning & Assessment Methodologies**” UCS, OU (17th Dec 2016).
4. Participated in “**Faculty Development Programme in Chemistry for UG Teachers: A Re-Orientation to the Restructured CBCS Curriculum**” from 13th-18th Dec-2018, organized by the Department of Chemistry, Osmania University.
5. Participated in “**5-Day Faculty Development Programme**” entitled “*Innovative Techniques in Chemical Sciences*”, organized by the Department of Chemistry, A.V. College of Arts, Science and Commerce in collaboration with S. N. Vanitha Mahavidyalaya, Hyderabad, held from 23rd September to 28th September, 2021 (Virtual mode).
6. Participated in “**5-Day National Faculty Development Programme**” entitled “*Research Documentation-Fundamentals, Tools and Ethics*”, organized by the Teaching Learning Centre in collaboration with the Research and Development from 28th July to 2nd August, 2025.
7. Participated in “**6-Day Online Faculty Development Programme**” entitled “*Holistic Insights into Pharma 4.0: Technology Driven Innovation in Drug Discovery and Development*”, organized by Malla Reddy Institute of Pharmaceutical Sciences, A Constituent Unit of Malla Reddy Vishwavidyapeeth, Secunderabad -500100, Telangana, India, from 6th to 11th October, 2025.

RESEARCH @ OSMANIA UNIVERSITY

Present Research Group Members

PhD Scholars:

1. Mrs. K. Shravika	<i>PhD & Project Fellow</i>	<i>Ongoing</i>
2. Mrs. Mamatha	Part-time PhD	<i>Ongoing</i>
3. Mrs. Shreya Ghosh	<i>Project Fellow</i>	<i>Ongoing</i>
4. Mr. V. S. Savar	<i>Temp. Project Fellow</i>	<i>Ongoing</i>

Past Research Group Members

Dr. N. Sharadha, Thesis Title: *Cycloannulation strategies using (E)- β -iodovinyl sulfones for the construction of pyrazolo[1,5-a]pyridines, vinyl sulfone-derived benzoheteroles/1,2,3-triazoles and 2,4-disubstituted thiophenes, submitted on 16-Aug-2024 and awarded on 17-March-2025.*

Dr. A. Haritha Kumari, Thesis Title: *Exploration of Novel Diheterofunctionalization an Expedient Construction of 1,2-Thiosulfonylethenes, 1,1-1,2-Dithioalkenes, and 2,3-Disubstituted Benzoheteroles, submitted on 25-Aug-2023 and awarded on 26-Feb-2024.*

Dr. J. Jagadeesh Kumar, Thesis Title: *Applications of (E)- β -Iodovinyl Sulfones Towards the Synthesis of novel B-Keto (Thio)Sulfones, Sulfonyl-Derived Benzofurans and Benzopyrans, submitted on 24-Aug-2023 and awarded on 12-Feb-2024.*

Dr. A. Shankar, Thesis Title: *Studies Towards the Synthesis of N-Sulfonyl Triazoles, Allyl Sulfones and C3-Functionalized Imidazo[1,2-a]pyridines under Metal-Free Conditions, submitted on 29-Apr-2022 and awarded on 29-Nov-2022.*

Dr. Md. Waheed, Thesis Title: *Development of novel methodologies for the synthesis and applications of thiosulfonates: a facile construction of 4,5-disubstituted-1,2,3-triazoles, submitted on 25-Jan-2022 and awarded on 05-Jul-2022.*

M. Sc./M. Pharm. Dissertations

- | | |
|---|------------------|
| 1. Mr. Vankudothu Gandhi from NIT Raurkela, July-2018 (3 months) | Completed |
| <i>Synthesis and applications of vinyl dibromides and para-quinone methides</i> | |
| 2. Ms. V. Niharika from Loyola Academy, Hyderabad, March 2019 (3 months) | Completed |
| <i>Divergent synthesis of aryl vinylsulfonyl ethers from beta-iodovinyl sulfones</i> | |
| 3. Mr. R. Laxmareddy from Loyola Academy, Hyderabad, March 2019 (3 months) | Completed |
| <i>Metal free sulfenylation of imidazo[1,2-a]pyridines and an efficient synthesis of allyl sulfones</i> | |
| 4. Ms. Sandhya from Loyola Academy, Hyderabad, July 2019 (3 months) | Completed |
| <i>Synthesis of 2-aryl-imidazo[1,2-a]pyridines and 2-aryl-3-formyl-imidazo[1,2-a]pyridines</i> | |
| 5. Mr. Rabani from Loyola Academy, Hyderabad, July 2019 (3 months) | Completed |
| <i>Synthesis of gem-dibromolefins and their utility in organic synthesis</i> | |
| 6. Mr. Sai Naresh from University College of Technology, OU, Sept-2020 (1 Year) | Completed |
| <i>A convenient synthesis of new thiosulfonates towards the synthesis sulfur-heterocycles</i> | |
| 7. Mr. Aravindu from University College of Technology, OU, Sept-2020 (1 Year) | Completed |
| <i>A facile synthesis of beta-keto thiosulfones using thiosulfonates by geminal thiosulfonylation</i> | |
| 8. Mr. Rajashekar from Palamuru University, May 2021 (3 months) | Completed |
| <i>Synthesis of gem-dibromolefins and their utility in organic synthesis</i> | |
| 9. Miss Sadhiya Begum from Palamuru University, May 2021 (3 months) | Completed |
| <i>Synthesis of Deuterated (E)-beta-Iodovinyl Sulfones</i> | |
| 10. Miss B. Maheshwari from Palamuru University, July 2022 (3 months) | Completed |
| <i>Simple and Convenient Synthesis of O-Vinyl Propargyl Alcohol and its Thioether derivatives</i> | |
| 11. Miss G. Navyasri from Palamuru University, July 2022 (3 months) | Completed |
| <i>Synthesis and Applications of (E)-beta-Iodovinyl Sulfones</i> | |
| 12. Miss Y. Jahnavi Satya Sri from Loyola Academy, Hyderabad, Oct-2022 (3 months) | Completed |
| <i>Applications of (E)-beta-iodovinyl sulfones for the synthesis of vinyl sulfone-containing 1,6-enynes</i> | |
| 13. Mr. M. Ramesh from Loyola Academy, Hyderabad, Oct-2022 (3 months) | Completed |
| <i>Convenient Synthesis of Sulfonamide-derived 1,6-Enynes</i> | |
| 14. Miss Afra from Sir Syed College, Taliparamba, Kerala, Feb-2023 (3 months) | Completed |
| <i>Convenient Synthesis of Acetyl-Derived 1,6-Enynols</i> | |
| 15. Miss Lubna C C from Sir Syed College, Taliparamba, Kerala, Feb-2023 (3 months) | Completed |
| <i>Simple and Facile Synthesis of S-2-(Phenylethynyl)Benzyl Thiosulfonates</i> | |
| 16. Mr. D. Pandu Rangadu from Palamuru University, May-2023 (3 months) | Completed |
| <i>Simple and Efficient Synthesis of Ortho-Alkynyl Benzyl Thiosulfonates</i> | |
| 17. Mr. Surigi Ramesh from Palamuru University, May-2023 (3 months) | Completed |
| <i>Simple and Expedient Synthesis of Ortho- Propargyl-Phenols/Anilines</i> | |
| 18. Miss M. A. KHADEEJA from Sir Syed College, Kerala, March-2024 (3 months) | Completed |
| <i>Synthesis of 2-phenylimidazo[1,2-a]pyridine using (E)-b-iodovinyl sulfones</i> | |
| 19. Miss K. RAJEENA from Sir Syed College, Kerala, March-2024 (3 months) | Completed |

- Application of (E)-b-Iodovinyl Sulfones for Synthesis of (E)-b-Iodovinyl Thioether*
20. **Mr. K. SAI KIRAN** from Kakatiya University, **March-2024** (3 months) **Completed**
Utilization of phenylethynyl benzyl bromide for the synthesis of phenylethynyl benzyl thiol/sulfone
21. **Miss SHREYA GHOSH** from Loyola Academy, Hyderabad, **July-2024** (3 months) **Completed**
Synthetic Approaches for 1,7-Enynol, 2-Vinyloxy Chalcone and 1,6-Diynol
22. **Mr. G. Santosh Majhi** from Loyola Academy, Hyderabad, **July-2024** (3 months) **Completed**
Convenient Synthesis of 2-(Vinyloxy)Benzene Alkynyl Derivatives
23. **Mr. VS Savar** from Loyola Academy, Hyderabad, **June-2025** (3 months) **Completed**
Synthesis of N-Benzyl Imidazo[1,2-a]pyridinium Salts
24. **Ms. G. POOJITHA** from SIDDHARATHA PG COLLEGE, **June-2025** (3 months) **Completed**
Synthesis and Applications of ortho-Alkynylphenol Derivatives
25. **Ms. J. SHIVANI** from SIDDHARATHA PG COLLEGE, **June-2025** (3 months) **Completed**
Synthesis of 3-quinolinyl-derived β -Iodovinyl Sulfones and Thioacetate
26. **Ms. D. VAISHANAVI** from SIDDHARATHA PG COLLEGE, **June-2025** (3 months) **Completed**
Applications of 2-Substituted-3-Hydroxychromenones

Focused Research Areas

Our group is enthusiastically involved in the fundamental research on synthetic organic chemistry, especially **organosulfur chemistry and total syntheses of tetrahydroisoquinoline natural products**.

- ❖ **Organosulfur Chemistry** – To develop novel **photoredox catalytic** or **electrochemical sustainable methodologies** for synthesizing sulfur-containing pharmaceutical ingredients and bioactive heterocycles.
- ❖ **Asymmetric total syntheses of tetrahydroisoquinoline natural products** – To establish a new asymmetric organocatalytic methodology for synthesis of enantiomerically pure tetrahydroisoquinoline scaffold a key intermediate, which can utilize target synthesis of tetrahydroisoquinoline alkaloids/medicinal related motifs.

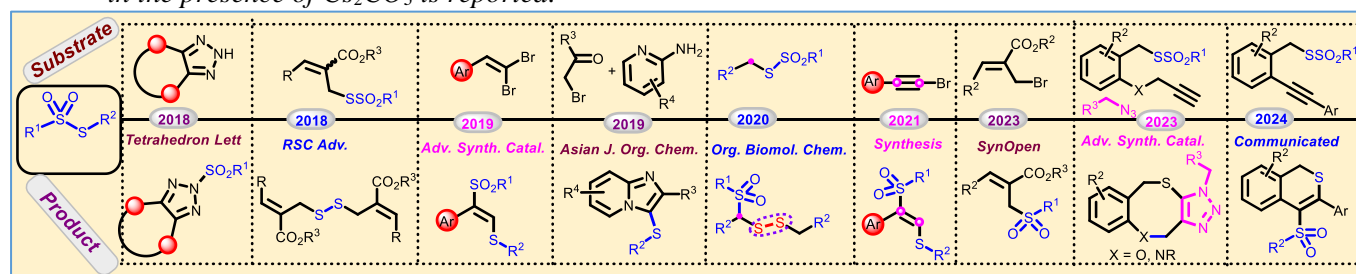
Research Outcome @ Osmania University

Our research group is actively engaged in organosulfur chemistry, with particular focus on the applications of **thiosulfonates** and **β -iodovinyl sulfones**, which have been extensively demonstrated. Several research projects are currently underway; some results have already been published, while others are in various stages of preparation for publication.

To mention few achievements:

- (i) **Thiosulfonates (RS-SO₂R¹) are the privileged class of organosulfur substrate and successfully demonstrated as a versatile precursor in organic synthesis (see pictorial representation).**
 - a. **Sulfonylating agent:** A novel oxidative difunctionalization of β -iodovinyl sulfones with thiosulfonates and NaOAc in DMF has been developed to access a wide range of β -keto thiosulfones (*Eur. J. Org. Chem.* **2019**, 3771). We have successfully developed an efficient and environmentally benign sequential one-pot protocol for the synthesis of 3-sulfonylimidazo[1, 2-a]pyridines using series of α -bromomethyl ketones, 2-aminopyridines and thiosulfonates (*Asian J. Org. Chem.*, **2019**, 8, 2269). Cu(I)-catalyzed interrupted click-sulfonylation of O-/N-propargyl benzyl thiosulfonates with organic azides has been disclosed to provides a range of triazole-fused eight-membered heterocycles in good

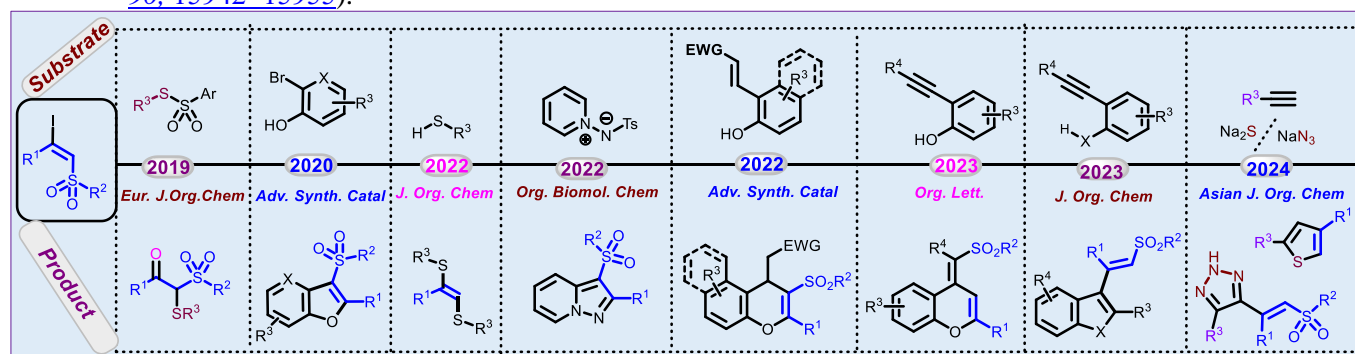
- to high yields ([Adv. Synth. Catal.](#) **2022**, *364*, 319).
- b. **Sulfonylation agent:** A highly regioselective, iodine-mediated sulfonylation of NH-1,2,3-triazoles using sodium thiosulfonates has been demonstrated to provide N-sulfonyl triazoles in moderate to high yields ([Tetrahedron Lett.](#) **2018**, *59*, 2014). Cs₂CO₃-promoted radical sulfonylation of Morita–Baylis–Hillman (MBH) bromides with thiosulfonates under mild conditions to access a series of allyl sulfones ([SynOpen](#), **2021**, *5*, 91).
- c. **Thiosulfonylation agent:** (i) A new and highly efficient vicinal thiosulfonylation of 1,1-dibromo-1-alkenes or 1-bromoalkynes with thiosulfonates in the presence of cesium carbonate has been developed for the synthesis of a wide range of (E)-1,2-thiosulfonyl ethenes in moderate to high yields ([Adv. Synth. Catal.](#) **2019**, *361*, 1587; [Synthesis](#), **2021**, *53*, 2850). (ii) A unique phenylboronic acid-catalyzed dimerization–sulfonylation of S-benzyl thiosulfonates has been disclosed for tandem construction of S–S and C–S bonds to access a wide range of benzyl disulfanylsulfone derivatives in high to excellent yields ([Org. Biomol. Chem.](#) **2020**, *18*, 3243). (iii) A unique Au-catalyzed atom transfer radical cyclization (ATRC) of ortho-alkynyl benzyl thiosulfonates has been successfully achieved, producing sulfonyl-derived isothiochromenes as a major product through a favored 6-endo-dig cyclization ([J. Org. Chem.](#) **2025**, *90*, 3628–3638).
- d. Moreover, the allyl thiosulfonates were readily-assembled using the Morita–Baylis–Hillman allyl bromides and sodium arylthiosulfonates without any reagent/catalyst ([RSC Adv.](#) **2018**, *8*, 40446). The allyl thiosulfonates were successfully transformed into a set of two synthetically viable allyl disulfanes in the presence of Cs₂CO₃ is reported.



(ii) Unprecedented reactivity of ‘beta-iodovinyl sulfones’ was explored for first time in our laboratory (see Schematic Diagram).

- a. The palladium-catalyzed annulation between β -iodovinyl sulfones and 2-halophenols involving oxa-Michael addition-elimination and intramolecular Heck reaction leading to form 2,3-disubstituted benzofurans in good to high yields ([Adv. Synth. Catal.](#) **2020**, *362*, 1317).
- b. A unique vicinal bithiolation of (E)- β -iodovinyl sulfones with thiols under the influence of K₂CO₃/DMSO at room temperature for quick assembly of (E)-1,2-dithio-1-alkenes is demonstrated ([J. Org. Chem.](#) **2022**, *87*, 3934).
- c. A novel cycloannulation between β -iodovinyl sulfones and N-tosyl-aminopyridines was also successfully developed for the synthesis of 3-sulfonylpyrazolo[1,5-a]pyridines ([Org. Biomol. Chem.](#) **2022**, *20*, 4331).
- d. K₃PO₄-mediated cycloannulation of (E)- β -iodovinyl sulfones with ortho-hydroxy chalcones/ortho-hydroxy cinnamates has been realized to access 2,3,4-trisubstituted-4H-benzopyran derivatives ([Adv. Synth. Catal.](#) **2022**, *364*, 4080).
- e. Base-mediated oxa-Michael addition-elimination of (E)- β -iodovinyl sulfones with ortho-alkynylphenols, followed by cycloisomerization and unique stereoselective sulfonyl migration in one-pot, is realized under the influence of Mn(OAc)₃·2H₂O were readily accessed a broad range of vinyl sulfone-tethered chromenes in high yields ([Org. Lett.](#) **2023**, *25*, 2207).
- f. A general and highly efficient Pd(OAc)₂-catalyzed intramolecular cyclization and vinylation of ortho-alkynylphenols/ortho-alkynylanilines with (E)- β -iodovinyl sulfones under mild reaction conditions for the diversity-oriented synthesis of vinyl sulfone-tethered benzofurans and indoles in good to high

- yields (*J. Org. Chem.* **2023**, *88*, 8889).
- g. We present an efficient and transition-metal-free [4+1]-thioannulation of sulfonyl-tethered 1,3-enynes with Na₂S in the presence of Cs₂CO₃ to generate 2,4-disubstituted thiophenes in good to high yields. We also established a formal [3+2]-cycloaddition of 1,3-sulfonylenynes with NaN₃ under metal- and base-free conditions to synthesize vinyl sulfone-containing 1,2,3-NH-triazole derivatives in moderate to high yields (*Asian J. Org. Chem.*, **2024**, *13*, e202400211).
- h. We have successfully demonstrated a highly efficient base-mediated cascade annulative-sulfonylation of 4-(pseudo)halo-2-aminopyridines with (E)-β-iodovinyl sulfones in polyethylene glycol. This innovative method features an unexpected sulfonyl shift, enabling the first preparative synthesis of 7-sulfonyl-derived imidazo[1,2-a]pyridines in good to high yields. Distinctively, other substituted 2-aminopyridines undergo annulative-desulfonylation with (E)-β-iodovinyl sulfones, leading to the formation of 3-substituted imidazo[1,2-a]pyridines in moderate to high yields (*J. Org. Chem.* **2025**, *90*, 15942–15955).



Details of Major Equipment/Asset in the PI Laboratory

Establishing an independent research laboratory has been a challenging endeavor that began from the ground up. The process has involved numerous obstacles, including persistent funding constraints and administrative hurdles commonly encountered in state universities such as Osmania University. Consequently, the initial two years were primarily devoted to standardizing protocols and setting up the laboratory through sustained effort and the strategic use of available research grants. Additionally, securing new grants has remained difficult, compounded by the substantial responsibility of guiding research scholars effectively and inspiring students to engage more deeply in scientific inquiry.

SNo.	Generic Name of Equipment	Model & Make Year of Purchase	Working (Yes/No)	Utilization Rate (%)
1	Digital Balance 4 decimal with Chemical resistant and UPS	Sartorius & BSA 224S-CW & 2016	Yes	100%
2	Hot Air Oven (Mettler Type)	Vihhan & SSHO & 2016	Yes	100%
3	Melting Point apparatus	DBK-Mumbai & 10 MPA 03 & 2016	No	NA
4	Refrigerator (SBS 591 L with twin cooling)	Samsung & RS552NRUA7E & 2016	Yes	100%
5	Rotary Evaporator, Vacuum Pump, Vacuum Controller, Rotachill	Heidolph & 2016	Yes	100%
6	Computer, Printer and UPS (1KVA)	HP & I7-4770, HP Laser Jet 226 DN, APC/Numeric & 2016	Yes	100%
7	Fume Hood with Monkey bar stand	Cassia & CAF-1803 & 2016	Yes	100%

8	Magnetic Stirrer with Hot Plate (8 No's)	Heidolph & MR Hei & 2016	Yes	100%
9	High Vacuum Pump	HHV Pumps & FD 12 & 2016	Yes	100%
10	Nitrogen and Argon gas cylinders with regulators	Cubic meter & Capacity-6 & 2016	Yes	100%
11	Rotary Evaporator, Vacuum controller and rotavac pump	Heidolph & 2019	Yes	100%
12	Refrigerator, 220 Lit.	Samsung & 2019	Yes	100%
13	Ultrachill Low Bath Temp.	Siskin & 2022	Yes	80%
14	Digital Balance 4 decimal with Chemical resistant and UPS	Contech & 2022	Yes	100%
15	High Vacuum Pump	Hinduvac FD 12 & 2022	Yes	100%