

CURRICULUM VITAE

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OBJECTIVES

Seeking a challenging and rewarding career in a multidisciplinary research environment in the area of medicinal chemistry to contribute the best in the development of bioactive heterocyclic compounds by adopting modern techniques.

RESEARCH EXPERIENCE

- **Post-Doctoral Research Fellow (Jan 2017 to present):** at University of Arkansas for Medical Sciences (UAMS), College of Pharmacy, Little Rock, Arkansas, USA
- **Scientist (Sept 2015-Dec 2016):** at GMK Research Laboratories, Department of Research & Development, Hyderabad, India
- **Post-Doc Research Fellow (Feb 2012 to Aug 2015):** at Academia Sinica, Institute of Chemistry, New Taipei city, Taiwan (R.O.C)

RESEARCH AND EDUCATION

- **Ph.D Medicinal Chemistry (2007-2012)**
Department of Chemistry, National Institute of Technology, Warangal, TS, INDIA
Thesis Title: Synthesis and biological studies of fused heteroaryls
- **M.Sc, Medicinal Chemistry, First Division with Distinction (2005-2007)**
National Institute of Technology, Warangal, TS, INDIA
- **B.Sc, Maths, Physics, Chemistry, First Division (2002-2005)**
Osmania University, TS, INDIA.

FELLOWSHIPS

- **Junior Research Fellow** under Council of Scientific and Industrial Research (CSIR), Govt. of India at New Delhi
- **Senior Research Fellow** under Council of Scientific and Industrial Research (CSIR), Govt. of India at New Delhi

AWARDS

- Selected for Direct **CSIR-SRF Fellowship**, conducted by Council of Scientific and Industrial Research, Govt. of India at New Delhi.
(CHEM-21, Ack. No 121062/2K9/1)
- Selected as a **Junior Research Fellow** for the CSIR funded major research project.
- Qualified in **Graduate Aptitude Test in Engineering-2007**.

RESEARCH INTERESTS

- Synthetic organic and chiral auxiliary based asymmetric synthesis
- Bioorganic and medicinal chemistry
- Design and synthesis of novel chemical entities for drug discovery by innovative strategies, also exploration in the development of new useful methodologies in organic synthesis. Our research group focuses on the design, synthesis, and structure-activity relationship study of novel GSK-3 β inhibitors, protein aggregation inhibitors, bio-film formation inhibitors and metal ionophores for exploring the metal hypothesis of Alzheimer's Disease. We are also focusing on the design and synthesis of TDZD analogs as anti-cancer agents and also sesquiterpene lactone parthenolide analogs melampomagnolide B, prodrugs and co-drugs as anti-leukemic agents. Our research group is also interested in the eco-friendly process development of Active Pharma Ingredients (API), in cost effective synthetic methodologies including microwave irradiation techniques in order to prepare the library of compounds in short time with good quality and yield.

PROFESSIONAL COMPETENCE

@Organic Synthesis:

- Design and synthesis of novel molecules of biological interest and structure elucidation of organic molecules by analytical and spectroscopic studies (UV, FTIR, Mass and NMR, GC MS).
- Product recovery, solvent extraction, distillation, and crystallization.
- Developing non-infringing, operationally viable, safe, eco-friendly and cost efficient manufacturing processes for pharmaceutical drugs and intermediates.
- Evaluating impurity profile of drugs/intermediates and developing of control measures.
- Coordinating with Chemical Production, Environment, Health & Safety and Quality functions in technology transfer, trouble shooting, and validation and commercialization activities.

@Instrumentation:

the following instruments:

- FT-NMR (500MHz, 400 MHz & 300 MHz)
- GC-MS; Preparative HPLC and Advion Compact Mass Spectrometer (CMS)
- FT-IR, UV-VIS Spectrophotometer and Digital Polarimeter

@Biological analysis

A β ₁₋₄₂, GSK-3 β and ChE assays

@Modeling

Experience in operating Schrodinger's protein-ligand docking

COMPUTER PROFICIENCY

- Computer ability in MS office, Excel, Power Point, Chemdraw and literature background by accessing the Web of Science and SciFinder, Reaxys databases for searching the corresponding references.

REVIEWER

Reviewed **40** articles to the following international journals.

1. Bioorganic and Medicinal Chemistry
2. Bioorganic and Medicinal Chemistry Letters
3. Pest management science
4. Tetrahedron Letters
5. Synthetic communications
6. Natural Product Research
7. Current Organic Chemistry
8. Heterocyclic communications
9. Green Chemistry Letters and Reviews
10. Journal of Organometallic Chemistry
11. Der Pharma Chemica.
12. Medicinal Chemistry

ASSOCIATION WITH PROFESSIONAL ORGANIZATIONS

- American Chemical Society-Member-(Since-2017)
- American Association of pharmaceutical Scientists (AAPS)-Member (Since 2017).

PATENT

- 1) NOVEL TDZD ANALOGS AS AGENTS THAT DELAY, PREVENT, OR REVERSE AGE-ASSOCIATED DISEASES; AND AS ANTI-CANCER AND ANTILEUKEMIC AGENTS"

No. 37759.0276U1

First named inventor: Bowroju Suresh Kuarm

LIST OF PUBLICATIONS: (Total citations 444)

- 1) Identification of the Major Sex Pheromone Component of the Scale Insect *AULACASPIS MURRAYAE* Takahashi. Hsiao-Yung Ho^{*},
Bowroju Suresh Kuarm, Chi-Hung Ke, Yi-Kai Ma, Han-Jung Lee, Chao-Chih Cheng,

Kelvin Kwen Liu, and Jocelyn G. Millar

Journal of Chemical Ecology 2014, 40, 379

- 2) 3-[Benzimidazo- and 3-[benzothiadiazoleimidazo-(1,2-c)quinazolin-5-yl]-2H- chromene-2-ones as potent antimicrobial agents

B. Suresh Kuarm, Y. Thirupathi Reddy, J.Venumadhav, Peter. A. Crooks, B.Rajitha*

Bioorganic and Medicinal Chemistry Letters 2011, 21, 524-527

- 3) Synthesis and evaluation of chromenyl barbiturates and thiobarbiturates as potential antituberculosis agents

S.Vijaya Laxmi, Y. Thirupathi Reddy, **B. Suresh Kuarm**, P. Narsimha Reddy, Peter. A. Crooks, B.Rajitha*

Bioorganic and Medicinal Chemistry Letters 2011, 21, 4329-4331

- 4) Cellulose sulfuric acid: An efficient biodegradable and recyclable solid acid catalyst for the one- pot synthesis of aryl-14H-dibenzo [a,j] xanthenes under solvent-free conditions. J. Venu Madhav, Y. Thirupathi Reddy, P. Narsimha Reddy, M. Nikhil Reddy, **Suresh Kuarm**, Peter. A. Crooks, B.Rajitha*

Journal of Molecular Catalysis A: Chemical 2009, 304, 85–87.

- 5) Synthesis and antimicrobial studies of selenadiazolo benzimidazoles

B. Suresh Kuarm, J. Venu Madhav, B. Rajitha *

Journal of Heterocyclic Chemistry 2013, 50, 1337

- 6) Xanthan sulfuric acid: an efficient and recyclable solid acid catalyst for Pechmann Condensation

B. Suresh Kuarm, J.Venumadhav and B.Rajitha*

Synthetic Communications 2012, 42, 1770

- 7) Cellulose sulfuric acid: Novel and efficient biodegradable and recyclable acid catalyst for the solid state Synthesis of Thiadiazolo benzimidazoles.

B. Suresh Kuarm, J. Venu Madhav, B. Rajitha * Y.Thirupathi Reddy, P. Narsimha Reddy, Peter. A. Crooks

Synthetic Communications 2011, 41, 662

- 8) Synthesis of 3-[6-(2-amino-ethoxy)-3-methyl-5-(3-morpholin-4-yl-propionyl)-benzofuran-2 carbonyl]-chromen-2-one under microwave irradiation conditions.

B. Suresh Kuarm, V. Naveen Kumar, J. Venu Madhav, and B. Rajitha*

Green Chemistry Letters and Reviews 2011, 4, 97

- 9) Xanthan sulfuric acid: A new and efficient bio-supported solid acid catalyst for the synthesis of 3,4-dihydropyrimidin-2(1H)-ones
B. Suresh Kuarm, J. Venu Madhav, S.Vijaya Laxmi, B. Rajitha *
Synthetic Communications 2012, 42, 1211
- 10) An expeditious Pechmann condensation by using Biodegradable Cellulose sulfuric acid as a solid acid catalyst.
B. Suresh Kuarm, J. Venu Madhav, S.Vijaya Laxmi, B. Rajitha* Y.Thirupathi Reddy, P. Narsimha Reddy, Peter. A. Crooks
Synthetic Communications 2010, 40, 3358.
- 11) Cellulose sulfuric acid: An efficient biodegradable and recyclable solid acid catalyst for the synthesis of 1-Oxo-hexahydroxanthene
B. Suresh Kuarm, J. Venu Madhav, S.Vijaya Laxmi, B. Rajitha * Y.Thirupathi Reddy, P. Narsimha Reddy, Peter. A. Crooks
Synthetic Communications 2011, 41, 1719
- 12) Xanthan sulfuric acid: An efficient bio-supported and recyclable solid acid catalyst for the synthesis of 4,4^l-(arylmethylene)bis(1H-pyrazol-5-ols)
B. Suresh Kuarm, B. Rajitha *
Synthetic Communications 2012, 42, 2382
- 13) Xanthan sulfuric acid: An efficient bio-supported and recyclable solid acid catalyst for the synthesis of 2-aminothiazole-5-carboxylates and 2-aminoselenazole-5-carboxylates
B. Suresh Kuarm, J. Venu Madhav, B. Rajitha*.
Letters in organic Chemistry 2011, 8, 549
- 14) Xanthan sulfuric acid: An efficient bio-supported and recyclable solid acid catalyst for the synthesis 2-substituted Thiadiazolo benzimidazoles"
B. Suresh Kuarm, B. Janardan, B. Rajitha
Chinese Journal of Chemistry 2012, 30, 947
- 15) An expeditious synthesis of quinoxalines by using biodegradable cellulose sulfuric acid as a solid acid catalyst
B. Suresh Kuarm, J. Venu Madhav and B. Rajitha*
Green Chemistry Letters and Reviews 2013, 6, 228
- 16) Synthesis and antimicrobial activity of coumarin pyrazole pyrimidine 2,4,6 (1H,3H,5H) triones and thioxopyrimidine4,6(1H,5H)diones”

S.Vijaya Laxmi, **B. Suresh Kuarm**, B. Rajitha *

Medicinal chemistry research 2013, 22, 768

17) CuPy₂Cl₂: A novel and efficient catalyst for synthesis of propargylamines under conventional method and microwave irradiation.,

J. Venu Madhav, **B. Suresh Kuarm**, P. Someshwar, B. Rajitha * Y.Thirupathi Reddy, Peter. A. Crooks

Synthetic Communications 2008, 38, 3215–3223

18) The solid state synthesis of 1, 3-Selenazoles by employing the CuPy₂Cl₂ as a Lewis Acid catalyst.

J. Venu Madhav, **B. Suresh Kuarm** and B. Rajitha*

Synthetic Communications 2008, 38, 3514-3522

19) Dipyridine copper chloride as a mild and efficient catalyst for the solid state synthesis of 2- substituted benzimidazoles.

J.Venu Madhav, **B. Suresh Kuarm** and B.Rajitha*

Arkivoc 2008, (xiii), 145-150

20) Dipyridine cobalt chloride: a novel catalyst for the synthesis of coumarins via Pechmann condensation.

Janganati Venu Madhav, **Bowroju Suresh Kuarm**, Pola Someshwar, Bavanthula Rajitha* Yerram Reddy Thirupathi Reddy, Peter. A. Crooks

Journal of Chemical Research 2008, 232–234

21) Dipyridine cobalt chloride: a novel and efficient catalyst for the synthesis of aryl- 4H-dibenzo [a,j] xanthenes under solvent free conditions.

J. Venu Madhav, **B. Suresh Kuarm**, B. Rajitha*. *Arkivoc*, 2008, (xii), 204.

22) Xanthan sulfuric acid: An efficient biodegradable solid acid catalyst for the synthesis of 14-aryl-14H-dibenzo[a,i]xanthene-8,13-diones

B. Suresh Kuarm , Peter. A. Crooks and B. Rajitha*

Adv. Appl. Sci. Res., 2012, 3(1):1-5

23) Polyvinylsulfonic acid: An Efficient and Recyclable Bronsted Acid Catalyst for Pechmann condensation

B. Suresh Kuarm , Peter. A. Crooks and B. Rajitha*

Int. J. Res. Pharm. Biomed. Sci, 2012, 3, 50-53

PAPERS PRESENTED IN INTERNATIONAL CONFERENCES

1. "Synthesis and Antimicrobial Studies of Hetero Aryl Quinazoline Derivatives Carrying Coumarin Moiety" 4th International symposium on Current Trends in Drug Discovery Research (CTDDR-2010) to be organized by Central Drug Research Institute (CDRI), Lucknow from 17 -21 February 2010.
2. Synthesis and Evaluation of Novel Drug Molecules to Prevent and Treat Age-related Sarcopenia. MALTO-2017 May 21-23, 2017 at University of Louisiana Monroe, Monroe, LA.
3. Design And Synthesis Of Cyanoresveratrol Analogs To Prevent And Treat Age-Related Sarcopenia. DDDC-2017 June 15-17 Dodd Wilson Building, UAMS, Little Rock, AR
4. Cyanoresveratrol Analogs: A New Scaffold for the Treatment of Age-Related Sarcopenia. AAPS - 2017 NOV-12-15 at San diego, California, USA
5. Design and Synthesis of MMB-TDZD Analog as a Potential Lead Molecule for the Treatment of Acute Myelogenous Leukemia. MALTO-2018 May 23-25 at Texas, USA
6. Carbamate derivatives of MMB - 1,2,4-thiadiazolidine-3,5-diones as potent antileukemic agents. DDDC-2018 June 21-23 Dodd Wilson Building, UAMS, Little Rock, AR
7. Design, Synthesis and anti-cancer activity evaluation of MMB-TDZD Carbamate Conjugates. ACS-Southwest Regional Meeting, 2018, Nov 7-10, Little Rock, AR
8. Synthesis and Releasing Study Of Signaling Molecule, Hydrogen Sulfide By 1, 2, 4-Thiadiazolidine-3, 5-Dione Derivatives. 46th Annual MALTO Medicinal Chemistry-Pharmacognosy Meeting-in-Miniature May 20-22, 2019 at the University of Tennessee Health Science Center, Memphis, TN
9. Releasing Study of Signaling Molecule, Hydrogen Sulfide by 1, 2, 4-Thiadiazolidine-3, 5-Dione Derivatives. DDDC-2018 June 13-15 Dodd Wilson Building, UAMS, Little Rock, AR

PAPERS PRESENTED IN NATIONAL CONFERENCES

1. 'The solid state synthesis of 1, 3-Selenazoles by employing the CuPy₂Cl₂ as a Lewis Acid catalyst'. 2th CRSI National and 4th CRSI-RSC Symposium in Chemistry will jointly organized by IICT, Hyderabad and NIPER, Hyderabad from 4-7 February, **2010**.
2. 'Synthesis and evaluation of chromenyl barbiturates and thiobarbiturates as potential antituberculosis agents' National Symposium on future trends in medicinal and aromatic plants technologies and strategies 17th November, **2009** Central Institute of Medicinal and Aromatic Plants Resource Centre, Hyderabad.