

Name : **S. Maharani**
Designation : **Lecturer (SF)**
Department : **Chemistry**
Date of Joining : **01.07.2016**
Email : **glory.maha88@gmail.com**
Educational Qualification : **M.Sc., M.Phil., Ph.D.,**



Degree	Subject	Name of the Institution	Course Duration
Ph.D	Chemistry	Madurai Kamaraj University, Madurai.	2012-16
M.Phil	Chemistry	Madurai Kamaraj University, Madurai.	2010-11
M.Sc	Chemistry	The American College, Madurai.	2008 -10
B.Sc	Chemistry	Fatima College, Madurai.	2005-08

AWARDS AND FELLOWSHIPS

- Senior research fellowship (SRF) by University Grants Commission and Basic Scientific Research (UGC-BSR) Meritorius Scheme
- Qualified in Graduate Aptitude Test in Engineering (GATE 2013)

RESEARCH INTERESTS

- Development of new synthetic methodologies for the synthesis of heterocyclic and biologically important molecules.
- Decipher the structural problems using various spectral data
- Identifying the mechanism for a chemical/biochemical process
- Biological screening of organic compounds

PUBLICATIONS

1. 'On-water' one-pot pseudo four-component domino protocol for the synthesis of novel benzo[a]cyclooctenes.
Seeni Maharani and Raju Ranjith Kumar, *Tetrahedron Letters*, **2013**, 54, 4800-4802.

2. Domino four-component synthesis of novel cycloocta[*b*]pyridines.
Seeni Maharani and Raju Ranjith Kumar, *Tetrahedron Letters*, **2015**, 56, 179-181.
3. Synthesis of cycloalkano[*b*]pyridines by multicomponent strategy: ring-size mediated product selectivity, substitution-induced axial chirality, and influence of the ¹⁴N quadrupole-relaxation
Seeni Maharani, Abdulrahman I. Almansour, Raju Suresh Kumar, Natarajan Arumugam, Raju Ranjith Kumar, *Tetrahedron*, **2016**, 72, 4582-4592
4. Crystal structure and molecular docking studies of octahydrocycloocta[*b*] pyridine-3-carbonitriles as potential inhibitors against *Mycobacterium tuberculosis*.
R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, *J. Mol. Biochem.* **2014**, 3, 77-84.
5. Crystal structure and docking studies of hexahydrocycloocta[*b*]pyridine-3-carbonitriles.
R. Vishnupriya, A.V.K.M. Kowsalyadevi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, *J. Mol. Biochem.* **2014**, 3, 50-57.
6. C-H...O and C-H...N interactions in three hexahydrocycloocta[*b*]pyridine-3-carbonitriles.
R. Vishnupriya, J. Suresh, **S. Maharani**, R. Ranjith Kumar, *Acta Cryst.* **2014**, C70, 236-240.
7. *rac*-2-Hydroxy-2-(2-oxocyclopentyl)-1H-indene-1,3(2H)-dione. J. Kalyana Sundar, **S. Maharani**, R. Ranjith Kumar, S. Natarajan, J. Suresh, P. L. Nilantha Lakshman, *Acta Cryst.* **2010**, E66, o2967.
8. 2-Methoxy-4-(2-methoxyphenyl)-5,6,7,8,9,10-hexahydrocycloocta[*b*]pyridine-3-carbonitrile.
R. Vishnupriya, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, E70, o656.
9. 4-(2-Fluorophenyl)-2-methoxy-5,6,7,8,9,10-hexahydrocycloocta[*b*]pyridine-3-carbonitrile. R. Vishnupriya, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, E70, o872.
10. Crystal structure of 2-benzylamino-4-(4-methoxyphenyl)-6,7,8,9-tetrahydro-5H-cyclohepta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, E70, 525-527.
11. Isotypic crystal structures of 1-benzyl-4-(4-bromophenyl)-2-imino-1,2,5,6,7,8,9,10-octahydrocycloocta[*b*]pyridine-3-carbonitrile and 1-benzyl-4-(4-fluorophenyl)-2-imino-1,2,5,6,7,8,9,10-octahydrocycloocta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, E70, 344-347.

12. Crystal structure of 1-benzyl-4-(2,4-dichlorophenyl)-2-imino-1,2,5,6,7,8,9,10-octahydrocycloocta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, *E70*, 441–443.
13. Crystal structure of 1-benzyl-4-(4-chlorophenyl)-2-imino-1,2,5,6,7,8,9,10-octahydrocycloocta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar P. L. Nilantha Lakshman, *Acta Cryst.* **2014**, *E70*, 167–169.
14. Crystal structure of 2-benzylamino-4-(4-bromophenyl)-6,7-dihydro-5H-cyclopenta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar P. L. Nilantha Lakshman, *Acta Cryst.* **2015**, *E71*, 296–298.
15. Crystal structures of 2-benzylamino-4-(4-bromophenyl)-6,7,8,9-tetrahydro-5H-cyclohepta[*b*]pyridine-3-carbonitrile and 2-benzylamino-4-(4-chlorophenyl)-6,7,8,9-tetrahydro-5H-cyclohepta-[*b*]pyridine-3-carbonitrile.
R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2015**, *E71*, 12–15.
16. Crystal structure of 2-benzylamino-4-p-tolyl-6,7-dihydro-5H-cyclopenta[*b*]pyridine-3-carbonitrile. R. A. Nagalakshmi, J. Suresh, **S. Maharani**, R. Ranjith Kumar, P. L. Nilantha Lakshman, *Acta Cryst.* **2015**, *E71*, 192–194.
17. Crystal structure and molecular docking studies of benzo[8]annulenes as potential inhibitors against *Mycobacterium tuberculosis*. R.A. Nagalakshmi, J. Suresh, S. Maharani and R. Ranjith Kumar, *Journal of Molecular Biochemistry* 2016, 5, 33-39.

Presentations in National/International Conferences

1. Antimycobacterial activity: Catalyst-free three-component domino “on water” protocol for the synthesis of functionalized benzo[*a*]cyclooctenes
S. Maharani and R. Ranjith Kumar
Poster presented in the International Conference on Multidisciplinary Frontiers of Medicinal Chemistry: Synthesis, Molecular Biology & Technology held on January 18 and 19, 2013 at Sastra University, Thanjavur, Tamilnadu.
2. “An atom economic three-component domino synthesis of cycloocta[*b*] pyridine-3-carbonitriles and benzo[*a*]cyclooctene-1,3-dicarbonitriles”
S. Maharani and R. Ranjith Kumar

Poster presented in the National Seminar on Current Trends in Organic Synthesis held on June 19, 2013 at the Madurai Kamaraj University, Madurai.

3. Domino four-component synthesis of fused cycloalkanopyridines: ring size mediated product selectivity and substitution induced axial chirality

S. Maharani and R. Ranjith Kumar

Poster presented in the 13th Euraisa Conference on Chemical Sciences held on December 14-18, 2014 at the Indian Institute of Science, Bangalore, India.

Participated in National/International Conferences

1. Participated in the International Conference on Advanced Materials, Processing and Devices (AMPD-2013) held on June 15 and 16, 2013 at the School of Chemistry, Madurai Kamaraj University, Madurai.
2. Participated in the Science Academies Lecture Workshop on “Advances in Chemistry” during July 26-27, 2013 at the School of Chemistry, Madurai Kamaraj University, Madurai.
3. Participated in the Academic and interaction sessions “6th Science Conclave 2013” **A congregation of Nobel Laureates and Eminent Scientists** during December 08-14, 2013 at the Indian Institute of Information Technology, Allahabad (IIIT-A).
4. Participated in the National Seminar on “Catalysis and Catalyzed Reactions” sponsored by University Grants Commission and Madurai Kamaraj University held on March 28, 2014 organized by the School of Chemistry, Madurai Kamaraj University, Madurai.
5. Participated in the National Seminar on “Recent Trends in Chemistry” sponsored by Department of Science and Technology and Madurai Kamaraj University held on 11th September organized by School of Chemistry, Madurai Kamaraj University, Madurai.

ANALYTICAL TECHNIQUES

Superior talents in

- Traditional chromatographic techniques
- Structural elucidation using NMR, IR & Mass data

Operational knowledge in

- Bruker 300 MHz NMR Spectrometer
- Column Chromatography For Library Samples
- Rotary vacuum evaporator
- Biotage Microwave Synthesizer