

Curriculum Vitae

Personal Details

Name : R. MANIKANDAN
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Sex : Male
Marital Status : Married
Date of Birth : 14-07-1986
Languages Known : English and Tamil
Official address : Assistant Professor
Department of Chemistry
Loyola College of Arts and Science
Mettala, Oilpatty,
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Academic Qualifications

Degree	Institution	University	Class	Marks	Year of passing
Ph.D. Chemistry	Periyar University, Salem	Periyar University	Highly Recommended	-	2015
M.Phil. Chemistry	Periyar University, Salem	Periyar University	1 st class with distinction	81.58%	2010
M.Sc. Chemistry	Mahendra Arts & Science College, Kalippatti	Periyar University	1 st class	65.10%	2009
B.Sc. Chemistry	Thiruvalluvar Govt. Arts College, Rasipuram	Periyar University	1 st class	73.71%	2007

Details of Ph.D. and M.Phil. Thesis

Ph.D., - *Synthesis, characterization and crystal structure of Co(III), Ni(II), Ru(II) and Cd(II) complexes bearing thiosemicarbazone based ligands and their applications.* Under the guidance of Prof. Dr. P. Viswanathamurthi, Department of Chemistry, Periyar University, Salem, India.

M.Phil., - *Studies on new ruthenium(II) hydrazone Schiff base complexes containing PPh₃/AsPh₃ and other co-ligands.* Under the guidance of Prof. Dr. P. Viswanathamurthi, Department of Chemistry, Periyar University, Salem, India.

Area of Specialization : Inorganic Chemistry

Teaching Experience (3 Years 9 Months)

Course taught	Name of the college	Handling Subjects	Duration	Total Teaching Experience
B.Sc Chemistry	K.S.Rangasamy College of Arts and Science (Autonomous) Tiruchengode	Inorganic Chemistry, General Chemistry, Spectroscopy, Food Chemistry, Textile Chemistry	07.10.2014 to 06.06.2018	3 Years 8 Months
M.Sc Chemistry	K.S.Rangasamy College of Arts and Science (Autonomous) Tiruchengode	Inorganic Chemistry, Analytical Chemistry, Polymer Chemistry, Photo Chemistry	07.10.2014 to 06.06.2018	3 Years 8 Months
B.Sc Chemistry	Loyola College of Arts and Science Mettala, Oilpatty Rasipuram	Physical Chemistry, Polymer Chemistry, Dye Stuffs, General Chemistry	14.06.2018 to till date	2 Years 5 Months

Affiliations: Organizing secretary for National Seminar on Emerging Trends in Chemistry (ETC-2018), Department of Chemistry, K.S. Rangasamy College of Arts and Science, Tiruchengode.

Research Activities (Separate list is enclosed)

No. of Papers published in International Journals	No. of Papers presented in conferences	No. of Seminar/ workshop attended	No. of M. Sc students guided
22	15	15	12

Research Interests

1. Synthesis and characterization of coordination/organometallic complexes using various ligands.
2. Catalytic applications of transition metal complexes particularly ruthenium.
3. Biological applications of transition metal complexes.
4. Synthesis of nanoparticles from metal complexes.

Extra-Curricular Activities

Computer Skills: Computer – cum – Internet Literacy Programme.

Type Writing: Junior Grade Type Writing English in second class.

List of Publications in National /International Journals

1. Structural Investigation and Antimicrobial Activities of A Novel Schiff Base-2 Methoxy-6-Phenyliminomethylphenol and Its Transition Metals,
A. Sebastin Thangadurai, M. Paul Johnpeter, [R.Manikandan](#) and A. Paulraj, *Journal of Critical Reviews*, 7 (2020) 2779-2790, ISSN: 2394-5125. (Scopus).
2. Synthesis, Spectral Characterization and Biological Evaluation of Schiff Base Derived From 3-Methoxy Salicylaldehyde with Aniline and Its Transition Metals
A. Sebastin Thangadurai, M. Paul Johnpeter, [R.Manikandan](#) and A. Paulraj, *International Journal of Scientific & Technology Research*, 9 (2020) 5964-5970, ISSN: 2277-8616. (Scopus)
3. Efficient and versatile catalysis for β -alkylation of secondary alcohols through hydrogen auto transfer process with newly designed ruthenium(II) complexes containing ON donor aldazine ligands
P. Premkumar, [R. Manikandan](#), M. Nirmala, P. Viswanathamurthi, J.G. Małeckki, *J. Coord. Chem.*, 70 (2017) 3065-3079. **Impact factor-1.75 [Taylor and Francis]**
4. Palladium(II) pyridoxal thiosemicarbazone complexes as efficient and recyclable catalyst for the synthesis of propargylamines by a three-component coupling reactions in ionic liquids
[R. Manikandan](#), P. Anitha, P. Viswanathamurthi, J.G. Małeckki, *Polyhedron*, 119 (2016) 300-306. **Impact factor-1.93 [Elsevier]**
5. Synthesis, crystal structure and biological evaluation of Ni(II) complexes containing 4- chromone-*N*(4)-substituted thiosemicarbazone ligands
S. Selvamurugan, R. Ramachandran, P. Vijayan, [R. Manikandan](#), G. Prakash, P. Viswanathamurthi, K. Velmurugan, R. Nandhakumar, A. Endo, *Polyhedron*, 107 (2016) 57-67. **Impact factor-1.93 [Elsevier]**
6. Ruthenium(II) carbonyl complexes containing pyridoxal thiosemicarbazones and trans-bis(triphenyl phosphine/arsine): synthesis, structure and their recyclable catalysis of nitriles to amides and synthesis of imidazolines
[R. Manikandan](#), P. Anitha, G. Prakash, P. Vijayan, P. Viswanathamurthi, R.J. Butcher, J.G. Małeckki, *J. Mol. Catal. A: Chem*, 398 (2015) 312-324. **Impact factor-4.21 [Elsevier]**
7. Ruthenium(II) 8-quinolinolates: Synthesis, characterization, crystal structure and catalysis in the synthesis of 2-oxazolines
P. Anitha, [R. Manikandan](#), G. Prakash, B. Pachiyappan, P. Viswanathamurthi,

- J.G. Małecki, *J. Organomet. Chem.*, 791 (2015) 266-273. **Impact factor-2.18 [Elsevier]**
8. Rhodium(I) Complexes Containing 9,10-phenanthrenequinone-N-substituted thiosemicarbazone ligands: Synthesis, Structure, DFT study and Catalytic Diastereoselective Nitroaldol Reaction Studies
P. Anitha, [R. Manikandan](#), P. Vijayan, S. Anbuselvi, P. Viswanathamurthi, *J. Organomet. Chem.*, 791 (2015) 244-251. **Impact factor-2.18 [Elsevier]**
 9. Palladium(II) 9,10-phenanthrenequinone N-substituted thiosemicarbazone/semicarbazone complexes as efficient catalysts for N-arylation of imidazole
P. Anitha, [R. Manikandan](#), P. Viswanathamurthi, *J. Coord. Chem.*, 68 (2015) 3537-3550. **Impact factor-1.79 [Taylor and Francis]**
 10. Nickel(II) complexes containing ONS donor ligands: Synthesis, characterization, structure and catalytic application towards C-C cross coupling reactions
P. Anitha, [R. Manikandan](#), P. Vijayan, G. Prakash, P. Viswanathamurthi, R.J. Butcher, *J. Chem. Sci.*, 127 (2015) 597-608. **Impact factor-1.23 [Springer]**
 11. Synthesis, structure and *in vitro* biological activity of pyridoxal N(4)-substituted thiosemicarbazone cobalt(III) complexes
[R. Manikandan](#), P. Vijayan, P. Anitha, G. Prakash, P. Viswanathamurthi, R.J. Butcher, K. Velmurugan, R. Nandhakumar, *Inorg. Chim. Acta*, 421 (2014) 80-90. **Impact factor-2.0 [Elsevier]**
 12. Synthesis, spectral characterization and crystal structure of Ni(II) pyridoxal thiosemicarbazone complexes and their recyclable catalytic application in nitroaldol (Henry) reaction in ionic liquid media
[R. Manikandan](#), G. Prakash, P. Anitha, P. Vijayan, P. Viswanathamurthi, *Polyhedron*, 81 (2014) 619-627. **Impact factor-1.93 [Elsevier]**
 13. Synthesis, characterization and crystal structure of cobalt(III) complexes containing 2-acetylpyridine thiosemicarbazones: DNA/protein interaction, radical scavenging and cytotoxic activities
[R. Manikandan](#), P. Viswanathamurthi, K. Velmurugan, R. Nandhakumar, T. Hashimoto, A. Endo, *J. PhotoChem. Photobiol., B*, 130 (2014) 205-216. **Impact factor-2.67 [Elsevier]**
 14. Ruthenium(III) S-methylisothiosemicarbazone Schiff base complexes bearing PPh₃/AsPh₃ coligand: Synthesis, structure and biological investigations, including antioxidant, DNA and protein interaction, and *in-vitro* anticancer activities

- G. Prakash, [R. Manikandan](#), P. Viswanathamurthi, K. Velmurugan, R. Nandhakumar, *J. PhotoChem. Photobiol., B*, 138 (2014) 63-74. **Impact factor-2.67 [Elsevier]**
15. Ruthenium(II) complexes of hybrid 8-hydroxyquinoline-thiosemicarbazone ligands: Synthesis, characterization and catalytic applications
M. Nirmala, [R. Manikandan](#), G. Prakash, P. Viswanathamurthi, *Appl. Organomet. Chem.*, 28 (2014) 18-26. **Impact factor-2.31 [Wiley]**
 16. Evaluation of DNA-binding, radical scavenging and cytotoxic activity of five coordinated Cd(II) complexes containing 2-acetylpyridine-N⁴-substituted thiosemicarbazone
[R. Manikandan](#), N. Chitrapriya, Y. Jung Jang, P. Viswanathamurthi *RSC Advances*, 3 (2013) 11647-11657. **Impact factor-3.10 [RSC]**
 17. Ruthenium(II) carbonyl complexes bearing quinoline-based NNO tridentate ligands as catalyst for one-pot conversion of aldehydes to amides and *O*-allylation of phenols from cinnamyl chloride
[R. Manikandan](#), R. Kathirvel, P. Viswanathamurthi, *Spectrochim. Acta Part A*, 116 (2013) 501-508. **Impact factor-2.53 [Elsevier]**
 18. Coordination behavior of ligand based on NNS and NNO donors with ruthenium(III) complexes and their catalytic and DNA interaction studies
[R. Manikandan](#), P. Viswanathamurthi, *Spectrochim. Acta Part A*, 97 (2012) 864-870. **Impact factor-2.53 [Elsevier]**
 19. Ruthenium(II) complexes containing quinone based ligands: Synthesis, characterization, catalytic applications and DNA interaction
P. Anitha, [R. Manikandan](#), A. Endo, T. Hashimoto, P. Viswanathamurthi *Spectrochim. Acta Part A*, 99 (2012) 174-180. **Impact factor-2.53 [Elsevier]**
 20. Ruthenium(II) carbonyl complexes containing unsymmetrical Schiff bases: Synthesis, characterization and catalytic applications
P. Viswanathamurthi, R. Radha Iniya, [R. Manikandan](#), G. Prakash, *Synth. React. Inorg. Met.-org. Nano Met. Chem.*, 42 (2012) 771-778. **Impact factor-0.51 [Taylor and Francis]**
 21. Zinc(II) Schiff base complexes containing NNS and NNO donors: Synthesis and characterization
[R. Manikandan](#), R. Karthiga, P. Viswanathamurthi *Chem. Res. Lett.* 1 (2012) 52-61. **ISSN: 2319-6246**

22. Ruthenium(II) hydrazone Schiff base complexes: Synthesis, spectral study and catalytic applications
R. Manikandan, P. Viswanathamurthi, M. Muthukumar, *Spectrochim. Acta Part A*, 83 (2011) 297-303. **Impact factor-2.53 [Elsevier]**

Papers Presented in International Conferences

1. Co(II) and Ni(II) complexes containing PPh₃ and salicylidene amino benzoic acid ligands: Synthesis, characterization and their applications

R. Manikandan

1st International Conference on Advancement in Management, Engineering and Technology, RSP Conference Hub, Coimbatore, Tamilnadu, India, 10th & 11th October 2020.

2. 2-Mercaptoquinoline 4-methylthiosemicarbazone ligands containing Co(II) and Cu(II) complexes: Synthesis, characterization and biological applications

R. Manikandan

4th International Conference on Chemical and Environmental Research (ICCER-2018), PG and Research Department of Chemistry, Jammal Mohamed College (Autonomous), Tiruchirappali-620 0202, Tamilnadu, India, 19th December 2018.

3. Synthesis and characterization of copper aluminosilicate nanocomposites by sol-gel process for catalytic activity

R. Manikandan

International Conference on Frontier Areas of Nanometals, Shri Sakthikailassh Womens College, Salem, India, 14th July 2017.

4. Efficient catalysts of ruthenium(II) carbonyl complexes with pyridoxal thiosemicarbazone: Synthesis, structural studies and their recyclable catalyst of nitriles to amides

R. Manikandan, P. Viswanathamurthi

International conference on Recent Advances in Materials and Chemical Sciences, The Gandhigram Rural Institute – Deemed University, Gandhigram, Dindigul, India, 14-15th December 2015.

5. Coordination behaviour of quinoline based NNO donors with Ruthenium(II) carbonyl complexes

R. Manikandan, P. Viswanathamurthi

International conference on biological inorganic chemistry, Periyar University, Salem, India, 20-22nd February, 2013.

6. Coordination behaviour of ligand based on NNO and NNS donors with ruthenium(III) complexes and their catalytic and DNA interaction studies

[R. Manikandan](#), P. Viswanathamurthi

International conference on synthetic and structural chemistry, Mangalore University, Mangalore, India, 8-10th December, 2011.

Papers presented in National Conferences

1. Synthesis, spectral characterization and catalytic alcohol oxidation by metal complexes bearing 2-thioxoquinoline aminophenol Schiff base ligand

[R. Manikandan](#)

National Level Online Conference on Advances in Functionalized Materials, Department of Physics, Thanthai Periyar Government Institute of Technology, Vellore-632002, Tamilnadu, 08th & 09th October, 2020.

2. Catalytic reduction of nitrophenol using copper aluminosilicate ,

[R. Manikandan](#)

National Conference on Recent Advances in Chemistry and Nanomaterials (RACN-2019), Department of Chemistry, Sun Arts & Science College, Tiruvannamalai-606 755, 1st February 2019.

3. Synthesis, characterization and biological activity of 2-mercaptoquinoline thiosemicarbazone zinc(II) complexes

[R. Manikandan](#)

National Conference on Computational and Experimental Physics of Functional Materials, K.S.Rangasamy College of Arts and Science, Tiruchengode, Namakkal, India, 16th & 17th December, 2016.

4. Synthesis, spectral characterization and crystal structure of Ru(II) pyridoxal thiosemicarbazone complexes

[R. Manikandan](#), P. Viswanathamurthi

X-ray Diffraction and Recent Advances in Crystallography, Periyar University, Salem, India, 27-28th February 2015.

5. Synthesis, Characterization and antioxidant activity of Co(II), Ni(II) & Cu(II) complexes bearing 8-hydroxy quinoline based benzimidazole ligands

A.Gomathi, [R. Manikandan](#), P. Viswanathamurthi

National Conference on Fundamental and Applied Chemistry, Dhirajlal Gandhi College of Technology, Salem, India, 4th October, 2013.

6. Synthesis, characterization and biological applications of five coordinated Cd(II) complexes containing 2-acetylpyridine-N⁴-substituted thiosemicarbazone

[R. Manikandan](#), P. Viswanathamurthi

National Conference on Chemosensors, NIT-Trichy, India, 19-20th September, 2013.

7. 2-Acetyl pyridine thiosemicarbazone ligands containing ruthenium(III) complexes: Synthesis, Characterization, catalytic and DNA cleavage studies

[R. Manikandan](#), P. Viswanathamurthi

Tamilnadu Science organization 12th conference, Periyar University, Salem, India, 23-25th August, 2012.

8. Studies on new ruthenium(II) hydrazone Schiff base complexes containing triphenylphosphine/arsine and other coligands

[R. Manikandan](#), P. Viswanathamurthi

National conference on current trends in chemistry, Bharathiar University, Coimbatore, India, 2-3rd December, 2010.

Papers presented in State level Seminar

1. Synthesis and Characterization of Copper Aluminosilicate Nanocomposites by Co-Precipitation for catalytic activity

[R. Manikandan](#)

One day state level seminar on Recent Developments in Chemistry and Nano Science, Arignar Anna Government Arts College, Namakkal, 5th January, 2018.

List of Seminar and Workshop Participated in International/National

1. National Seminar on Frontier areas of Materials Research, K.S.Rangasamy College of Arts and Science, Tiruchengode, Namakkal, India, 28th September, 2016.
2. National Workshop on Entering the Life Science Research Area Through Big Data, K.S.Rangasamy College of Arts and Science, Tiruchengode, Namakkal, India, 23-24th August, 2016.
3. Faculty Development Programme on Computers for Biologists and Chemists, K.S.Rangasamy College of Arts and Science, Tiruchengode, Namakkal, India, 27th November, 2015.
4. National Seminar on Recent Advances in Chemistry, Kandaswami Kandars College, Velur, Namakkal, India, 13-14th August, 2015.

5. Transition – 2015 – Workshop for the College Chemistry Faculties, Central University of Tamil Nadu, Thiruvarur, India, 13-14th March, 2015.
6. National Workshop on Advanced Characterization Techniques, Periyar University, Salem, India, 29-30th January, 2015.
7. National Seminar on E-Resources For Teaching, Learning And Research, K.S.Rangasamy College of Arts and Science, Tiruchengode, Namakkal, India, 6th December 2014.
8. National Workshop on Green Initiatives in energy and Environment, Periyar University, Salem, India, 11th September, 2014.
9. National Workshop on Fluorescent Microscopy, Periyar University, Salem, India, 10th October, 2013.
10. International Workshop on Crystal Growth and Characterization of Advanced Materials and Devices Crystal Growth Centre, Anna University, Chennai, India, 16-19th December, 2012.
11. Workshop on Applications of Radioisotopes in Chemical Sciences, Periyar University, Salem, 28th September, 2012.
12. Workshop on Research Techniques/Funding Sources, Periyar University, Salem, India, 21, 22&31st March, 2011.
13. National Seminar on Frontiers in Organic Synthesis and Medicinal Chemistry, Periyar University, Salem, 17-18th February 2011.
14. Science Academies Lecture Workshop on Spectroscopy, NIT, Trichy, India, 4th December, 2010.
15. National level students' symposium on recent trends in analytical chemistry, NIT, Trichy, India, 3-4th October, 2008.

References

1. Dr. P. Viswanathamurthi
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Declaration

I hereby declare that all the information given here is true to the best of my knowledge and belief. I understand that if any of the information furnished by me above is found to be false at any time, the institute can summarily reject / terminate my candidature / service at any point of time.

R. Manikandan

Signature