

Name : Dr. M. Mohanraj
Designation : Assistant Professor
Department : Chemistry
Qualification : M.Sc., B.Ed., M.Phil., Ph.D
Experience : Teaching : 5.5 Years Research: 04 Years
Area of Specialization(s) : Coordination and Organometallic chemistry
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Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D.	Chemistry	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore	May 2017
M.Phil.	Chemistry	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore	Oct 2012
M.Sc.	Chemistry	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore	May 2011
B.Ed.	Chemistry	Park College of Education Coimbatore.	June 2009
B.Sc.	Chemistry	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore.	May 2008

Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University / Agency Name	Year
NPTEL	Bioinorganic Chemistry	IIT Kanpur	2019
Chemistry	Pharmaceutical Chemistry	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore.	2007

International

1. M. Mohanraj, G. Ayyannan, G. Raja, C. Jayabalakrishnan, **Synthesis, spectral characterization, DNA interaction, radical scavenging and cytotoxicity studies of ruthenium(II) hydrazone complexes**, *Journal of Photochemistry and Photobiology B: Biology* **158** (2016) 164-173.
2. M. Mohanraj, G. Ayyannan, G. Raja, C. Jayabalakrishnan, **Ruthenium(II) complexes containing 4-methoxybenzhydrazone ligands: synthesis, characterization, DNA binding, DNA cleavage, radical scavenging and *in vitro* cytotoxic activity**. *Applied Organometallic Chemistry*, **30** (2016) 550-560.
3. M. Mohanraj, G. Ayyannan, G. Raja, C. Jayabalakrishnan, **Evaluation of DNA binding, DNA cleavage, protein binding, radical scavenging and *in vitro* cytotoxic activities of ruthenium(II) complexes containing 2,4-dihydroxy benzylidene ligands**. *Materials Science and Engineering C*, **69** (2016) 1297-1306.
4. M. Mohanraj, G. Ayyannan, G. Raja, C. Jayabalakrishnan, **Synthesis, characterization, DNA binding, DNA cleavage, antioxidant and *in vitro* cytotoxicity studies of ruthenium(II) complexes containing hydrazone ligands**, *Journal of Coordination Chemistry* **69** (2016) 3545-3559.
5. M. Mohanraj, G. Ayyannan, G. Raja, C. Jayabalakrishnan, **Synthesis, characterization and *in vitro* biological assays of copper(II) and nickel(II) complexes with furan-2-carboxylic acid hydrazide**. *Applied Organometallic Chemistry*, **31** (2017) e3582
6. G. Ayyannan, M. Mohanraj, G. Raja, N. Bhuvanesh, R. Nandhakumar, C. Jayabalakrishnan, **New palladium(II) hydrazone complexes: Synthesis, structure and biological evaluation**. *Journal of Photochemistry & Photobiology, B: Biology* **163** (2016) 1-13.
7. G. Ayyannan, M. Mohanraj, G. Raja, N. Bhuvanesh, R. Nandhakumar, C. Jayabalakrishnan, **Design, synthesis, structure and biological evaluation of new palladium(II) hydrazone complexes**. *Inorganica Chimica Acta*, **453** (2016) 562-573.
8. G. Ayyannan, P. Veerasamy, M. Mohanraj, G. Raja, A. Manimaran, M. Velusamy, N. Bhuvanesh, R. Nandhakumar, C. Jayabalakrishnan, **Biological evaluation of organometallic palladium(II) complexes containing 4-hydroxybenzoic acid (3-ethoxy-2-**

hydroxybenzylidene) hydrazide: Synthesis, structure, DNA/protein binding, antioxidant activity and cytotoxicity. Applied Organometallic Chemistry 31 (2017) e3599

9. K. Sampath, M. Mohanraj, C. Jayabalakrishnan, **DNA interaction and antioxidant studies of ruthenium(II) complexes containing mixed ligands** Inorganic and Nano-metal chemistry 47 (2017) 1049-1056
10. R. Rajkumar, M. Mohanraj, S.P. Rajendran **An expedient method for one pot three component synthesis of fused Benzo [1,8] naphthyridine derivatives,** Indian Journal of Heterocyclic Chemistry 29 (2019) 47-52.
11. G. Ayyannan, M. Mohanraj, M. Gopiraman, R. Uthayamalar, G. Raja, N. Bhuvanesh, Nandhakumar, C. Jayabalakrishnan **New Palladium(II) complexes with ONO chelated hydrazine ligand: Synthesis, characterization, DNA/BSA interaction, antioxidant and cytotoxicity.** Inorganica Chimica Acta, 512 (2020) 11986.
12. R. Rajkumar, M. Mohanraj and Raju Ravikumar, **Important roles of cyclic di-keto compounds to one pot syntheses of nitrogen heterocyclic systems.** International journal of creative research thoughts 10 (2022) 592-604.
13. M. Mohanraj, R. Pooja, R. Rajkumar and R. Ravikumar, **A review on therapeutic application of ruthenium complexes.** International journal of creative research thoughts 10 (2022) e900-906.
14. M. Mohanraj, M. Dineshkumar, R. Rajkumar and R. Ravikumar, **Essential oil, phytochemical analysis and biological activity of *Plectranthus wightii* benth.** International journal of creative research thoughts 10 (2022) e26-34.

Book Publications

1. Volumetric Analysis and Preparation; Lab Manual for UG students, M. Mohanraj, R. Rajkumar, Published by Dr. Thavamani D Palaniswami Publisher, Dr. N.G.P Arts and Science College, Coimbatore, 2022. **ISBN-978-81-960554-8-6.**

Presentations in Conference

International

1. Studies on synthesis, characterization, DNA binding, radical scavenging and cytotoxic activities of ruthenium(II) hydrazone complexes, International Conference on “Recent Advances in Materials and Chemical Sciences organized by Department of Chemistry, Gandhigram Rural Institute-Deemed University, Gandhigram, Dindigul, 14-12-2015 & 15-Dec-2015.
2. Synthesis, characterization, DNA binding and *in vitro* cytotoxic studies of ruthenium(II) hydrazone complex, International Conference on Renewable Energy and Environment organized by Department of Physics, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 15-12-2016 & 16-12-2016.
3. Synthesis, characterization, DNA binding and *in vitro* cytotoxic studies of copper complex, International virtual Conference on future prospects in chemical research organized by Department of Chemistry, Seethalakshmi Ramaswami college, Tiruchirappalli, 21-12-2022 & 22-12-2022.

National

1. Design, synthesis, characterization, DNA binding and *in vitro* cytotoxic studies of ruthenium(II) complexes containing hydrazone ligand, National conference on “Recent trends in Chemistry-2020 (RTC’20)” organized by Department of chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 07-02-2020.
2. New ruthenium (II) hydrazone complexes: design synthesis, characterization and *in vitro* biological studies, National conference on Recent trends in Chemical Sciences organized by Department of chemistry, Pachamuthu College of Arts and Science for women, Dharmapuri, 19-09-2018.
4. Design, synthesis, characterization and biological evolution of new ruthenium(II) hydrazone complexes, National conference on Chemistry of Advanced Materials and

Biomedical Applications organized by Department of chemistry, Kumaraguru College of Technology, Coimbatore, 20&21-04-2018.

5. Ruthenium(II) complexes containing hydrazone ligands: synthesis, characterization, DNA binding and DNA cleavage studies, National conference on Emerging Trends in Material, Medicinal and Environmental Chemistry organized by Department of Chemistry, Karpagam Academy of Higher Education, Coimbatore, 08-03-2018 & 09-03-2018.
6. DNA interaction, radical scavenging and *in vitro* cytotoxic activity of ruthenium(ii) complexes containing 4-nitrobenzhydrazone ligands, National conference on Recent trends in Bio-Inorganic & Organometallic Chemistry organized by Department of Chemistry, Sri Shakthi Institute of Engineering and Technology, Coimbatore, 15-17-10-2015.
7. Synthesis, spectral characterization, DNA interaction and cytotoxicity studies on ruthenium(II) hydrazone complexes, National Level Seminar on Emerging Trends in Frontiers of Chemistry organized by Department of Chemistry, GVG College for Women, Udumalpet, 30-12-2014.
8. Evaluation of DNA binding and *in vitro* cytotoxic activities of ruthenium(II) complexes containing hydrazone ligands, National conference on Recent trends in Medicinal Chemistry organized by Department of Chemistry, Government Arts College, Coimbatore, 19 &20-02-2015
9. Synthesis, Characterization, DNA Binding and DNA Cleavage Studies on Ruthenium(II) Complexes containing Schiff base ligand, National Conference on Recent Advances in Nanotechnology, Chemistry and Environmental Research organized by Department of Chemistry, Kongu Engineering College, Perundurai, Erode, 11&12-12-2014.
10. Applications of Nano products, National seminar on Nano science and Technology-A Chemistry Perspective organized by Department of Chemistry at Nirmala college for Women, Coimbatore, 24-09-2009.

Participation in Seminars

- ❖ Seminar on Novel Approaches in Chemistry & its Environmental Impacts held at Department of Chemistry, KPR Institute of Engineering and Technology, Coimbatore, 26-09-2015.

Participation in Workshop

- ❖ Workshop on Spectroscopy held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 07-03-2012.
- ❖ Workshop on 1D and 2D NMR Spectroscopy and their applications held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 13-09-2010.
- ❖ Workshop on Current Trends in Chemistry held at Department of Chemistry, Karunya University, Coimbatore, 11-03-2011.
- ❖ Workshop on Micro Scale Chemistry Experiments for Cost Reduction held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 16-08-2016.
- ❖ Workshop on Intercollegiate Chemistry Students Meet Chemfusion 16 held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 18-03-2016.
- ❖ Workshop on Hands on Training of Sophisticated Instruments for Research Scholars held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, 08-03-2016.
- ❖ Workshop on State level intercollegiate Chemistry Students Meet Chemfusion 07 held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore, on 13-09-2007.
- ❖ Workshop on intercollegiate Chemistry Students Meet Chemfusion 09 held at Department of Chemistry, Sri Ramakrishna Mission Vidyalya College of Arts and Science, Coimbatore-20, on 24-07-2009.

Participation in Faculty Development Programme

- ❖ Faculty development programme on Bioinorganic Chemistry NPTEL course, conducted by IIT Kanpur, from Aug 2019 to Sep 2019
- ❖ Faculty development programme on Environmental Science and Engineering held at Department of Chemistry, N.G.P Institute of Technology, Coimbatore, 20-07-2018.