BIODATA - Dr. M. Murali - Dean of Science

1. Name : Dr. M. Murali

2. Designation : Associate Professor

3. Department : Chemistry

4. Correspondence Address : Principal Investigator - SERB Project
Coordination and Bioinorganic Research Laboratory
Department of Chemistry
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6. Date of Birth : 25.05.1966

7. Gender : Male

8. Category (Gen/DNC/MBC/BCM/BC) : MBC

9. Whether differently abled : No

10. Academic Qualification

	Degree	Year	Subject	University/Institution	% of Marks
1.	B. Sc	1986	Chemistry	Bharathidasan University / St. Joseph's College	57.7
2.	M. Sc	1989	Chemistry	Bharathidasan University / National College	65.5
3.	M.Phil.	1990	Chemistry	Bharathidasan University	74.2
4.	Ph.D	2005	Chemistry	Bharathidasan University	COMMENDED

11. Ph.D thesis title : Synthesis, Structure, Spectra and Redox Properties of Ruthenium(II) and Ruthenium(III) Complexes of Chelating Ligands Containing Thioether and Pyridine and Benzimidazole Nitrogen Donors"

Guide's Name : Dr. M. Palaniandavar

Instituiton/ University : Bharathidasan University

Year of Award : December, 2005

12. Work Experience

S. No	Position held	Name of the Institute	From	To	Pay Scale
1.	Lecturer	National College	27.08.2001	22.12.2005	8000-275-13500
2.	Lecturer (SS)	National College	23.12.2005	31.12.2005	10000-325-15200
3.	Assistant Professor (SS)	National College	01.01.2006	14.12.2011	15600-39100-AGP 7000
4.	Assistant Professor (SG)	National College	15.12.2011	26.12.2014	25040-8000 AGP
5.	Associate Professor	National College	27.12.2014	Till date	37400-9000 AGP

13. Professional Recognition/ Award/ Certificate/ Fellowship received by the applicant

(a) Nominee for National Awards-2020 for the outstanding efforts in science and technology communication. Nominated by Dr. P. Manisankar, Vice-Chancellor, Bharathidasan University,Tiruchirappalli

(b) IASc-INSA-NASi Summer Research Fellowship, 2013 awarded by Science Academices, India – Professor Dr. P. Selvam, NCCR, IIT Madras, Chennai

(c) February 5, 2012, CRSI Best Teacher Award-2011, awarded by Chemical Research Society of India at CSIR-National Institute for Interdisciplinary Science and Technology, Trivandrum, India.

(d) Awarded BOYSCAST Fellow 2006-2007 by Department of Science and Technology, Government of India, New Delhi. He conducted advanced research in the area of Bioinorganic and Biomimetic Chemistry for a duration of twelve months under the guidance of Prof. Dr. J. Reedijk, Leiden Institute of Chemistry, Leiden University, 2300 RA Leiden, The Netherlands.

(e) April, 1996-April, 1999, Senior Research Fellowship, awarded by Council of Scientific and Industrial Research, New Delhi, India.

(f) June,1993-March,1996, Junior Research Fellowship, awarded by Department of Science and Technology, New Delhi, India.

(g) Qualified in SLST (State Level Screening Test) in 1990 conducted State wide by University of Madras, Chennai, India.

14. Publications

S. No.	**Author(s)**	**Title**	**Name of Journal**	**Volume**	**Page**	**Year**
1.	B. Selvakumaran, M. Murali, S. Shanmugavadivel, V. Sindhuja	Impressive Promiscuous Biomimetic Models of Ascorbate, Amine, and Catechol Oxidases	J. Inorg. Biochem	259	112671	2024

2.	K. Malakar, B. Selvakumaran, M. Murali, P. Arul Prakash, S. Sangeetha, W. P. Sohtun, M. S. Mohamed Jaabir and M. Velusamy	Copper(II) complexes of the CuN_4S core: selective cytotoxicity to cancerous cells, ROS generation and induction of apoptosis	New. J. Chem	47	20070	2023
3.	B. Selvakumaran, **M. Murali** and V. Sathya	Promising catalytic activity of a mononuclear copper(II) complex: Functional mimic for amine and catechol oxidases	Inorg. Chim. Acta	553	121514	2023
4.	**M. Murali**, J. Latha, P. Arul Prakash, S. Sangeetha, B. Selvakumaran, M. S. Mohamed Jaabir	Characterization of $[Ru(bpy)_2(diamine)]^{2+}$ complexes and their DNA binding and cleavage, BSA interaction, cytotoxic, and anticancer mechanistic properties	Polyhedron	223	115925	2022
5.	S. Sangeetha and **M. Murali**	Cytotoxic Ruthenium (II) complexes containing a dangling pyridine: Selectivity for diseased cells mediated by pH-dependent DNA binding	Inorg. Chem.	61	2864-2882	2022
6.	B. Selvakumaran and **M Murali**	Functional mimic for amine and catechol oxidases: Structural, spectral, electrochemical and catalytic properties of mononuclear copper (II) complex	Inorg. Chim. Acta	534	120819	2022
7.	S. Sangeetha, T. Ajaykamal and **M. Murali**	Copper(II) complexes of 2-methyl-8-hydroxy quinoline and tri/diimine co-ligand: DFT calculation, DNA and BSA binding,DNA cleavage, Cytotoxicity and induction of apoptosis	New J. Chem.	45	7578-7593	2021
8.	J. Manivel, S. Sangeetha, and **M. Murali**	DNA binding, in vitro cytotoxicity and anti cancer drug mechanism of copper(II) complex containing pyridyl-	J. Adv. Sci. Res.	12	166-175	2021

		triazine ligand				
9.	**M. Murali**, V. Sathya, and B. Selvakumaran	Fate of model complexes with monocopper center towards the functional properties of type-2 and type-3 copper oxidases	J. Biol. Inorg. Chem.	26	67-79	2021
10.	L. Pathaw, T. Khamrang, B. Selvakumaran, **M. Murali**, P. Arul Prakash, M. S. Mohamed Jaabir , M. Velusamy.	Synthesis, structure, characterization and biological evaluation of 3-substituted 1-pyridin-2-ylimidazo[1,5-a]pyridine-based copper(I)-phosphine complexes for anticancer drug screening	App. Organom et. Chem.	35	E6025	2021
11.	J. Manivel, S. Sangeetha, and **M. Murali**	DNA and BSA Interaction, DNA Cleavage and In Vitro Cytotoxicity of Copper(II) Complexes: $[Cu(bba)(phen)](ClO_4)_2$ is Promising Chemotherapeutic Scaffold	J. Sci. Res.	12	111-133	2020
12.	V. Sathya and **M. Murali**	Functional models for type-2 and type-3 copper oxidases: Self- assembled molecular association in $[Cu(L)(Hdpa)](ClO_4)$ determines the catalytic activity	Inorg. Chim. Acta	496	119016	2019
13.	V. Sathya and **M. Murali**	Synthesis, spectral, redox and catalytic properties of mononuclear copper(II) complex	J. Emerg. Tech. Innov. Res.	5	395-403	2018
14.	S. Sangeetha and **M. Murali**	Non-covalent DNA binding, protein interaction, DNA cleavage and cytotoxicity of $[Cu(quamol)Cl]\cdot H_2O$	Int. J. Biol. Macromol.	107	2501-2511	2018
15.	V. Sathya and **M. Murali**	Functional mimics of type-2 and type-3 copper oxidases: Self-assembled molecular association in mononuclear copper(II) complex enhances the catalytic activity	Inorg. Chem. Commun.	92	55-59	2018

16.	S. Sangeetha and **M. Murali**	Affinity of Cytotoxic Copper(II) Complex to Bovine Serum Albumin	J. Environ. Nanotech.	5	9-19	2016
17.	S. Sangeetha and **M. Murali**	Water Soluble Copper(II) Complex [Cu(dipica)(CH_3COO)]ClO_4: DNA Binding, pH Dependent DNA cleavage and cytotoxicity	Inorg. Chem. Commun.	59	46-49	2015
18.	**M. Murali**, S. Nayak, J. S. Costa, J. Ribas, I. Mutikainen, U. Turpeinen, M. Clemancey, R. Garcia-Serres, J.-M. Latour, P. Gamez, G. Blondin and J. Reedijk	Discrete tetrairon(III) cluster exhibiting a square-planar $Fe_4(\mu_4\text{-}O)$ core: Structural and magnetic properties	Inorg. Chem.	49	2427-2434	2010
19.	**M. Murali**, R. Mayilmurugan, and M. Palaniandavar	Synthesis, structure and spectral and electrochemical properties of new mononuclear ruthenium(III) complexes of tris(benzimidazol-2-yl)methylamine: Role of steric hindrance in tuning the catalytic oxidation activity	Eur. J. Inorg. Chem.	2009	3238-3249	2009
20.	V. Rajendiran, **M. Murali**, E. Suresh, M. Palaniandavar, V. S. Periasamy, and M. A. Akbarsha	Non-covalent DNA binding and cytotoxicity of certain mixed-ligand ruthenium(II) complexes of 2,2'-dipyridylamine and diimines	Dalton Trans.	16	2157-2170	2008
21.	V. Rajendiran, **M. Murali**, E. Suresh, S. Sinha, K. Somasundaram, and M. Palaniandavar	Mixed ligand ruthenium(II) complexes of bis(pyrid-2-yl)-/bis(benzimidazol-2-yl)-dithioether and diimines: Study of non-covelnt DNA binding and cytotoxicity	Dalton Trans.	1	148-163	2008

22.	**M. Murali** and M. Palaniandavar	Synthesis, spectral and electrochemical properties of mixed ligand ruthenium(II) complexes of bis(pyrid-2-yl)- and bis(benzimi dazol-2-yl)-dithioether ligands: Effect of an asymmetric diimine co-ligand	Polyhedron	26	3980-3992	2007
23.	**M. Murali** and M. Palaniandavar	Synthesis, structure and spectral and redox properties of new mixed ligand monomeric and dimeric Ru(II) complexes: predominant formation of the "cis-α" diastereoisomer and unusual 3MC emission by dimeric complexes	Dalton Trans.	5	730-743	2006
24.	P. Tamil Selvi, **M. Murali**, M. Palaniandavar, M. Kockerling, and G. Henkel	X-ray crystal structure of tetrakis(1-methyl cytosine)copper(II) perchlorate dehydrate: effect of 1-methyl substitution on cytosine on the spectral and redox behavior	Inorg. Chim. Acta	340	139-146	2002
25.	**M. Murali** and M. Palaniandavar	Synthesis and Characterization of $[Ru(NTB)Cl_2]^+$ [NTB = tris(benzimidazol-2-ylmethyl)amine] and its reactivity toward alkane functionalizations	Ind.J. Chem. Sec. A	1	120-121	2002
26.	**M. Murali** and M. Palaniandavar	Synthesis, structure and spectal and electrochemical Properties of new mixed ligand monomeric Ru(II) complexes of bis(pyrid-2-yl)- and bis(benzimi dazol-2-yl)-dithioether ligands	Proc. Ind. Acad. Sci. - Chem. Sci.	112	390	2000
27.	**M. Murali** and M. Palaniandavar	Mixed-ligand copper(II) complexes with positive redox potentials	Tran. Metal Chem.	21	142-148	1996
28.	T. Pandiyan , **M. Murali**, and M. Palaniandavar,	Copper(II)-thiolate complexes with novel tripodal- and tetrapodal-like benzimidazoles	Tran. Metal Chem.	20	440-444	1995

29.	**M. Murali**, M. Palaniandavar, and T. Pandiyan	Synthesis, spectra and electrochemical behavior of biomimetic copper(II) complexes with CuN_5 and CuN_6 chromophores	Inorg. Chim. Acta	224	19-25	1994

h-index : 11
i10 index : 16
Total citations : 544

15. Details of patents Nil

16. Books/ Reports/Chapters/General articles etc

S. No	Title	Author's Name	Publisher	Year of Publication
1.	Copper(II) Complexes Act as Potent Cytotoxic Agent	S. Sangeetha and M. Murali	LAMBERT Academic Publishing ISBN No. 978-620-2-09269-2	2017
2.	Ruthenium Complexes of Thioether Ligands: Syntheses, Structures and Spectral and Electrochemical Properties	M. Murali and M. Palaniandavar	VDM Verlag Dr. Müller, Germany ISBN No. 978-3-639-23888-4	2010

17. Research guidance

Ph.D.	: Awarded	: 03
	Submitted	: 00
	On going	: 02
M.Phil.	: Awarded	: 16
M.Sc. Dissertation	: Awarded	: 36

18. List of Completed/Ongoing/Submitted projects

S. No.	Project Title	Duration	Agency	Amount
1.	Mono- and Dicopper(II) Complexes of Tetradentate Tripodal Ligands as Models for Catechol Oxidases: Synthesis and Structure and Spectral, Magnetic, Redox and Catalytic Behaviour **(Ongoing)**	3 years	SERB	29,91,081
2.	Models for Type-2 and Type-3 Copper Oxidases: Synthesis, Sturcture and Spectral, Electrochemical and Catalytic Properties of Mononuclear Copper(II) Complexes **(Completed)**	3 years	SERB	36,88,600

19. Membership

(a) Professional bodies

(i) Life-Member, Chemical Research Society of India.

(ii) Life-Member, Prof. Ramasubbu Jeyaraman Science Foundation, Chennai, India

(b) Editorial board

(c) Advisory board

(i) Doctoral Committee Member, Bharathidasan University, Tiruchirappalli 620 024

(ii) Doctoral Committee Member, Bharathiar University, Coimbatore 641 602

(d) Academic bodies

(i) Coordinator, Rotaract Club of National College, Tiruchirappalli, India

(ii) Coordinator, Internal Quality Assurance Cell, Department of Chemistry, National College, Tiruchirappalli, India

(iii) Coordinator, Star College Scheme, DBT, India, Department of Chemistry, National College, Tiruchirappalli, India

(iv) Coordinator, RSC Students' Chapter, South India, National College, Tiruchirappalli.

(v) Member, Institutional Research Promotion Committee.

(vi) Coordinator for M.Sc. Chemistry, Distance Education Programme, Alagappa University, Karaikudi, India from January 2009 to 2011.

20. Countries visited - Taiwan, Netherlands

21. Any other Information

Nearly 72 posters presented in the National and International conferences from my research group. My Ph.D. Students received nearly 16 best paper awards from the International Conferences. The Principal Investigator conducted a lot of academic meetings in his college to promote CHEMISTRY EDUCATION. He delivered many invited lectures in India.

DECLARATION:-

I certify that the foregoing information is correct and complete to the best of my knowledge and belief.

Place: Trichy

Date: 25.07.2024 **Signature**