



Dr. N. SENGOTTUVELAN
Assistant Professor

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Academic Qualifications: M.Sc., B. Ed., Ph.D.

Teaching Experience: 08 Years

Research Experience: 15 Years

Additional Responsibilities

1. Co-ordinator, M. Sc., Chemistry, Personal Contact Program, Directorate of Distance Education, Alagappa University.

Areas of Research

1. Bio-Inorganic Chemistry
2. Material Chemistry
3. Organic Light emitting diodes

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	03	03
	M.Phil.	03	02
Project	PG	07	02

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
34	10	4	20	02

Cumulative Impact Factor (as per JCR) :	61.79
h-index :	11
i10 index :	12
Total Citations :	362

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	Alagappa University Research Fund, (AURF)	2011		Ferrocene grafted hydroxy terminated polybutadiene (Fc-HTPB): Burningrate evaluation studies as ballistic modifier in high energy rocket propellant binder.	0.64
2	DST- Fast Tract project	2010	2013	Metallonuclease activity and structural analysis of binuclear metal complexes of pendant functionalized tetraazamacro cyclic ligand	16
3	UGC-MRP	2011	2014	Development of High-Efficiency Phosphorescent Cationic Iridium (III)Complexes for Organic Light Emitting Devices	12.15

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized:

1. Acted as Organizing Secretary in the National workshop on “Expansion and Enrichment of Distance Learning” [EEDL – 2012], in the Directorate of Distance Education, Alagappa University, Karaikudi held on March, 27-28, 2012.

Events Participated

Conferences / Seminars / Workshops: 30

Other Training Programs:

1. Participated Orientation Course for College and University Teachers held at Bharathidasan University, Tiruchirappalli between 09.11.2010 to 06.12.2010.
2. Participated Refresher Course in Chemistry for College and University teachers held at Bharathidasan University, Tiruchirappalli between 20.11.2012 to 10.12.2012.
3. Refresher Course in Chemistry for College and University teachers held at Bharathiar University, Coimbatore between 15.07.2016 to 04.08.2016.

Overseas Exposure / Visits

1. Visited as Post Doctoral Researcher to Pusan National University, Pusan, South Korea from May 2007 to December 2008.

Membership in

Professional Bodies

1. Life Member: Indian Society for Analytical Chemists (ISAC), Mumbai.
2. Life Member: Indian National Science Congress

Academic Bodies (such as Board of Studies etc.,)

1. Member - Board of Studies: M. Sc., Chemistry, Directorate of Distance Education, Alagappa University
2. Member - Board of studies: DDE, B.Sc., Zoology, Allied chemistry, Directorate of Distance Education, Alagappa University

Others

1. No. of PhD Thesis evaluated : 04
2. No. of PhD Public Viva Voce Examination conducted : 04

Recent Publications

1. V. Thamilarasan, P. Karunakaran, N. Kavitha, C. Selvaraju, N. Sengottuvelan, (2016) "Red emitting cyclometallated iridium(III) complexes: Synthesis, characterization and evaluation of biological activities" *Polyhedron*, 118 12-24. (I. F = 2.10).
2. V.Thamilarasan, N. Sengottuvelan, A. Sudha, P. Srinivasan, G.Chakkaravarthi, (2016) "Cobalt(III) complexes as potential anticancer agents: Physicochemical, structural, cytotoxic activity and DNA/protein interactions", *Journal of Photochemistry and Photobiology B: Biology*, 162 558-569. (I. F = 3.03).
3. V. Thamilarasan, N. Sengottuvelan, N. Stalin, P. Srinivasan, G. Chakkaravarthi, (2016), "Synthesis, interactions, molecular structure, biological properties and molecular docking studies on Mn, Co, Zn complexes containing acetylacetonone and pyridine ligands with DNA duplex", *Journal of Photochemistry and Photobiology B: Biology*, 160, 110-120. (I. F = 3.03).
4. A. Sudha, P. Srinivasan, V. Thamilarasan, N. Sengottuvelan, (2016), "Exploring the binding mechanism of 5-hydroxy-3',4',7-trimethoxyflavone with bovine serumalbumin: Spectroscopic and computational approach", *Spectro chimica Acta A: Molecular and Biomol. Spectros.*, 157, 170-181. (I. F = 2.65).
5. A. Jayamani, N. Sengottuvelan, S. K. Kang, Y.-I. Kim, (2015), "Mono- and binuclear copper(II) complexes of the bipyridine ligand: Structural, electrochemical and biological studies", *Polyhedron*, 98, 203-216. (I.F = 2.108).
6. V. Thamilarasan, N. Sengottuvelan*, A. Sudha, P. Srinivasan, A. Siva, (2015), "Synthesis, molecular structure, theoretical calculation, DNA/protein interaction and cytotoxic activity of manganese(III) complex with 8-hydroxyquinoline", *Journal of Photochemistry and Photobiology B: Biology*, 142, 220-231. (I.F = 3.03).
7. V. Thamilarasan, A. Jayamani, N. Sengottuvelan, (2015), "Synthesis, molecular structure, biological properties and molecular docking studies on MnII, CoII and ZnII complexes containing bipyridine-azide ligands". *European Journal of Medicinal Chemistry*, 89, 266-278. (I.F = 3.902).

8. A. Jayamani, N. Sengottuvelan, S.K. Kang, Y-I. Kim, (2014) "Studies on nucleic acid/protein interaction, molecular docking and antimicrobial properties of mononuclear nickel(II) complexes of piperazine based Schiff base", *Inorg. Chem. Commun.*, 48, 147-152. (I.F = 1.762).
9. A. Jayamani, N. Sengottuvelan, G. Chakkaravarthi, (2014), "Synthesis, structural, electrochemical, DNA interaction, antimicrobial and molecular docking studies on the dimeric copper(II) complexes involving some potential bidentate ligands", *Polyhedron*, 81, 764-776. (I.F = 2.108).
10. Jayamani, V. Thamilarasan, N. Sengottuvelan, P. Manisankar, S.K. Kang, Y-I. Kim, V. Ganesan, (2014), "Synthesis of mononuclear copper(II) complexes of acyclic Schiff's base ligands: Spectral, structural, electrochemical, antibacterial, DNA binding and cleavage activity", *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 25, 365-374. (I.F = 2.65).
11. Jayamani, V. Thamilarasan, V. Ganesan, N. Sengottuvelan, (2013), "Structural, Electrochemical, DNA Binding and Cleavage Properties of Nickel(II) Complex", $[\text{Ni}(\text{H}_2\text{biim})_2(\text{H}_2\text{O})_2]^{2+}$ of 2,2'-Biimidazole", *Bull. Korean Chem. Soc.* 34, 3695 - 3702. (I.F = 0.79).
12. Saravanan, A. Jayamani, N. Sengottuvelan, G. Chakkaravarthi V. Manivannan, (2013), "Di- μ -hydroxido- κ 4O:O-di- μ -perchlorato- κ 4O:O'-bis[(2,2_-bipyridine- κ 2N,N') copper(II)]", *Acta Cryst. E*69, m600. (I.F = 0.34).
13. V. Thamilarasan, A. Jayamani, P. Manisankar, Young-Inn Kim, N. Sengottuvelan, (2013), "Green-emitting phosphorescent iridium(III) complex: Structural, photophysical and electrochemical properties", *Inorganica Chimica Acta*, 408, 240 - 245. (I.F = 1.853).
14. Saravanan, V. Thamilarasan, N. Sengottuvelan, G. Chakkaravarthi, V. Manivannan, (2013), " 6-Chloro-2-(4-methoxyphenyl)-4-phenylquinoline", *Acta Cryst. E*69, o1463. (I.F = 0.34).
15. B. Saravanan, A. Jayamani, N. Sengottuvelan, G. Chakkaravarthi, V. Manivannan, (2013), "1,2-Bis(2-hydroxy-5-methylbenzylidene)-hydrazine", *Acta Cryst. E*69, o1394-o1395. (I.F = 0.34).
16. S. Nagasubramanian, V.Thamilarasan, A. Jayamani, S. Kang, Y.-I. Kim, N. Sengottuvelan, (2013), "Synthesis, characterization and crystal structure of dimeric copper(II) complex bearing mixed ligands acetylacetone and biimidazole: DNA binding and cleavage studies", *Bull. Korean Chem. Soc.* 34, 1875. (I.F = 0.79).
17. B. Gunasekaran, A. Jayamani, N. Sengottuvelan, G. Chakkaravarthi, (2013), "2-Hydroxy-3-methoxymethyl-5-methylbenzaldehyde", *Acta Cryst. E*69, o317. (I.F = 0.34).

18. N. Sengottuvelan, S.J. Yun, D.Y. Kim, I. Hwang, S. Kang, Y.-I. Kim, (2013), "Highly Efficient Red Emissive Heteroleptic Cyclometalated Iridium(III) Complexes Bearing Two Substituted 2-Phenylquinoxaline and One 2-Pyrazinecarboxylic Acid", *Bull. Korean Chem. Soc.* 34, 167. (I.F = 0.79).
19. N. Sengottuvelan, P. Srinivasan, M. Kandaswamy, H.K. Fun, (2013), "DNA Cleavage, Electrochemical and Magnetic Studies of Scorpionand Copper(II) complex", *International Journal of Chem. Tech Research*, 5, 367-375.
20. S. K. Kang, H.W. Lee, N. Sengottuvelan, Y.-I. Kim, (2012), "Extended Bifurcated Hydrogen Bonds Network Material of Copper(II) Complexes with 2-Dimethylaminomethyl-3-hydroxypyridine: Structures and Magnetic Properties, *Bull. Korean Chem. Soc.*, 33, 95. (I.F = 0.79).
21. N. Sengottuvelan, S.J. Yun, S. K. Kang, Y.-I. Kim, (2011), "Red-orange emissive cyclometalated neutral Iridium(III) Complexes and Hydridoiridium(III) complex Based on 2-Phenylquinoxaline: Structure, Photophysics and Reactivity of acetylacetonate Towards Cyclometalated Iridium Dimer", *Bull. Korean Chem. Soc.* 32, 12, 4321-4326. (I.F= 0.797).
22. Saravanakumar, N. Sengottuvelan, V. Narayanan, M. Kandaswamy, T. L. Varghese, (2011), "Burning-Rate Enhancement of a High-Energy Rocket Composite Solid Propellant Based on Ferrocene-Grafted Hydroxyl-Terminated Polybutadiene Binder" *Journal of Applied Polymer Science*, 119, , 2517-2524. (I.F = 1.6).
23. N. Sengottuvelan, H.-J. Seo, S.K Kang, Y.-I. Kim, (2010), "Tuning Photophysical and Electrochemical Properties of Heteroleptic Cationic Iridium(III) Complexes Containing Substituted 2-Phenylquinoxaline and Biimidazole" *Bull. Korean Chem. Soc.*, 31, 8, 2309 - 14. (I.F = 0.797).
24. N. Sengottuvelan, Y.-S. Lee, H.-S. Lim, Y.-I. Kim S. K. Kang, (2009), "Bis(3-methylpyridinium) tetrachloridocuprate(II)", *Acta Cryst.* E65, m384. (I.F = 0.34).
25. N. Sengottuvelan, Y.-S. Lee, H.-S. Lim, Y.-I. Kim S. K. Kang, (2008), "Coordination modes of 2-dimethyl aminomethyl-3-hydroxypyridine with nickel(II) halides: Structural and Electrochemical properties", *Bull. Korean Chem. Soc.* 29, 9, 1784. (I.F= 0.797).
26. N. Sengottuvelan, Y.-S. Lee, H.-S. Lim, Y.-I. Kim S. K. Kang, (2008), "Structural and magnetic properties of monomeric and dimeric copper(II) complexes with phenyl-N-[(pyridine-2-yl)methylene] methanamide", *Bull. Korean Chem. Soc.*, 29, 9, 1711. (I.F= 0.797).
27. N. Sengottuvelan, D. Saravanakumar, M. Kandaswamy, (2007), "Electrochemical, magnetic, catalytic and DNA cleavage studies of binuclear copper(II) complexes derived from pendant substituted tetraaza macrobicyclic compartmental ligands", *Polyhedron*, 26, 3825. (I. F = 2.10).

28. Saravanakumar, N. Sengottuvelan, M. Kandaswamy, P. G. Aravindan, D. Velmurugan. (2005), "Amide–nitrophenyl based colorimetric receptors for selective sensing of fluoride ions", *Tetrahedron Letters*, 46, 7255. (I. F = 1,75).
29. D. Saravanakumar, N. Sengottuvelan, M. Kandaswamy, (2005), "Ferrocene substituted N,N'-bis(3-aminopropyl)oxamide: A new electrochemical sensor for copper(II) and fluoride ions in the biological pH range", *Inorganic Chemistry Communications*, 8, 386. (I. F = 1.80).
30. N. Sengottuvelan, D. Saravanakumar, M. Kandaswamy, (2005), "Synthesis and characterization of formyl group containing N-monofunctionalised tetraaza macrocyclic ligand and its nickel(II) complex", *Inorganic Chemistry Communications*, 8, 297.
31. D. Saravanakumar, N. Sengottuvelan, V. Narayanan, M. Kandaswamy, K. Chinnakali, G. Senthilkumar, H. K. Fun, (2004), "Synthesis, structural, magnetic and electrochemical studies of antiferromagnetically coupled symmetric oxamidate bridged binuclear copper(II) complexes", *European Journal of Inorganic Chemistry*, 872. 33. (I. F = 3.20).
32. D. Saravanakumar, N. Sengottuvelan, G. Priyadarshni, M. Kandaswamy, H. Okawa (2004), "Synthesis of unsymmetrical 'end-off' phenoxo and oximinato di bridged Copper(II) and Nickel(II) Complexes: Spectral, electrochemical and magnetic properties", *Polyhedron*, 23, 665. (I. F = 2.10).
33. N. Sengottuvelan, D. Saravanakumar, S. Sridevi, V. Narayanan, M. Kandaswamy. (2004), "Macrocyclic Unsymmetrical Binuclear Copper(II) complexes as Ligands: spectral, structural, magnetic and electrochemical studies", *Supramolecular Chemistry*, 16, 129. (I. F = 2.10).
34. N. Sengottuvelan, D. Saravanakumar, V. Narayanan and M. Kandaswamy, K. Chinnakali, G. Senthilkumar, (2004), "Synthesis and characterization of new macrocyclic dendrons and their Copper(II) and nickel(II) complexes: Electrochemical, magnetic and catalytic studies" *Bulletin of the Journal of chemical Society of Japan*, 77, 1153. (I. F = 2.0).
35. N. Sengottuvelan, D. Saravanakumar, G. Thirumal, T. Prabu, V. Narayanan, M. Kandaswamy, (2003), "Epoxidation of olefin using Mn(III) tetraphenylporphyrin complex as catalyst" *Indian Journal of Chemical Technology*, 10, 505. (I. F = 0.7).
36. N. Sengottuvelan, J. Manonmani, M. Kandaswamy, (2002), "Synthesis of unsymmetrical compartmental oxime nickel(II) and copper(II) complexes: Spectral, Electrochemical and Magnetic studies", *Polyhedron*, 21, 2767-2772. (I. F = 2.10).
37. Prabusankar, G. Ashok, N. Sengottuvelan, D. Saravanakumar, V. Narayanan, M. Kandaswamy, (2002), "Synthesis, spectral and electrochemical studies of novel porphyrin bound tetranuclear acyclic manganese(III) and copper(II) complexes", *Indian Journal of Chemical Technology*, 9, 9. (I. F = 0.7).