

Dr. Laxma Reddy Kotha, M.Sc., Ph. D.

Asst. Professor

Department of Chemistry

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Education

■ **Doctor of Philosophy in Chemistry (Bio-Inorganic Chemistry), June 2010**

Research Title: “Design, Structural elucidation, DNA interaction and Antimicrobial activities of mixed ligand polypyridyl Ru(II) and Co(III) complexes”.

Supervisor: Professor Sirasani Satyanarayana, Department of Chemistry, Osmania University, Hyderabad, AP-500007

■ **Master of Science in Chemistry (Physical Chemistry), April 2002, First Division**

Osmania University, Hyderabad, T.S., India.

■ **Bachelor of Science (MPC), April 1999, First Division**

Osmania University, T.S., India

Teaching experience: Post Graduation: 10 years

Research Experience: 19years

Publications: International: 30 National: 4

Conference presentations: 25

Workshops Participated: 6

Fellowships, Awards and Grants

■ **2011 – 2012:** Fundação para a Ciência e a Tecnologia Research Fellow (FCT), Post-Doctoral Researcher, Bio-Inorganic& peptide design Lab group, Prof. Olga Iranzo, ITQB, Oeiras, Portugal.

Awards: *Young Scientist Award (Govt. of AP, 2009).*

Professional Experience

Instituto de Tecnologia Quimica e Biologica (ITQB), Portugal–Fundação para a Ciência e a Tecnologia Research Fellow (FCT)–July, 2011- Aug, 2012

- Sustainable Ruthenium metal complexes for asymmetric organic transformations: It includes design, synthesis and characterization of chiral ligands and their ruthenium metal complexes, and application towards organic transformations. Undergone good exposure to analytical skills like NMR, GC, UV-VIS spectrophotometer, FT-IR, and HPLC.
- Organic methodologies with ruthenium complexes:

Publications – Research Papers-34**Published Articles in Refereed Journals:**

1. S Yelagandula, RR Eragari, A Ramakrishna Reddy, **LR Kotha**, PR Adulla, Impact of Ce–Cu metal ions on structural, magneto-electrical properties of Co²⁺ based nano ferrites and their application in photo catalytic activity, *Chemical Papers*, vol 78, 5131-5150, 2024
2. V Jarupula, PK E, S Bujji, P Shivarathri, S Neeradi, M Morthad, **KL Reddy**, Synthesis of Novel Hybrids Containing 1, 2, 3-Triazole-Linked Tetrazole Moieties, Evaluation of Anticancer Activity and Molecular Docking Studies, *Russian Journal of General Chemistry*, 93 (Suppl 4), S849-S857, 2023.
3. L Bontha, PK Edigi, A Dokala, D Pingili, VR Putta, R Vuradi, **LR Kotha**, Synthesis, *in-silico* based virtual screening, anti-cancer potential of novel 1,2,3-triazole-thiadiazole hybrid derivatives as Aurora kinase A (ARK-A) and Extracellular, *Medicinal Chemistry Research* 32 (11), 2419-2431, 2023.
4. C Nagamani, PV Reddy, MR Reddy, **KL Reddy**, S Satyanarayana, Synthesis and Characterization of Ru(II) Polypyridyl Complexes with 2-(4-Methylbenzoate)-1H-imidazo[4,5-f][1,10]phenanthroline Ligand, and Their DNA Binding, *Russian Journal of General Chemistry*, 90, 2456-246, 2020
5. Nagamani Chintakuntla, Venkat Reddy Putta, Rajender Reddy Mallepally, Nagasuryaprasad K, Ravi Kumar Vuradi, **Laxma Reddy Kotha**, Satyanarayana Surya Singh, Satyanarayana Sirasani, Synthesis, structural characterization, in vitro DNA binding, and antitumor activity properties of Ru(II) compounds containing 2(2,6-dimethoxypyridine-3-yl)-1H-imidazo(4,5-f)[1, 10]phenanthroline, *Nucleosides, Nucleotides & Nucleic Acids*, 39 (5), 760-791, 2020.
6. Ravi Kumar Vuradi, Navaneetha Nambigari, Pushpanjali Pendyala, Srinivas Gopu, **Laxma Reddy Kotha**, Deepika G, Vinoda Rani M, Satyanarayana Sirasani, Study of Anti-Apoptotic mechanism of Ruthenium (II) Polypyridyl Complexes via RT-PCR and DNA binding, *Applied Organometallic Chemistry*, 34, 3, 5332, 2020
7. G. Srinivas, Vuradi Ravi Kumar, **Kotha Laxma Reddy**, Putta Venkat Reddy, S. Satyanarayana, DNA binding, Photocleavage, Antimicrobial and Cytotoxic properties of Ru(II) Polypyridyl Complexes containing BOPIP Ligand, (BOPIP = {2-(4-(benzyloxy) phenyl)-1H-imidazo [4,5-f] [1,10]phenanthroline}), *Nucleosides, Nucleotides and Nucleic Acids*, [doi. 10.1080/15257770.2018.1549329](https://doi.org/10.1080/15257770.2018.1549329), 2018
8. G. Srinivas, Vuradi Ravi Kumar, **Kotha Laxma Reddy**, Y. Praveen Kumar, S. Satyanarayana, Comparative Studies on DNA binding, Photocleavage, Photophysical, and Antimicrobial Properties of Ru (II) Complexes containing TIP (TIP = {2-(thiophen-2-yl)-1H-imidazo[4,5-f][1,10] phenanthroline) Ligand, *Russian Journal General Chemistry (Accepted Paper)* 2018.

9. Vuradi Ravi Kumar, Avudoddi Srishailam, Putta Venkat Reddy, **Kotha Laxma Reddy**, YataPraveen Kumar and **Sirasani Satyanarayana**, Synthesis, Characterization and Luminescence sensitivity with variance in pH, DNA and BSA binding studies of Ru(II) polypyridyl complexes, *J Fluoresc*, DOI : 10.1007/s10895-017-2029-y JOFL-D-16-00101.0. **2017**
10. N. Deepika, C. Shobha Devi, Y. Praveen Kumar, **Kotha. Laxma Reddy**, P. Venkat Reddy, D. Anil Kumar, Surya S. Singh, S. Satyanarayana, DNA-binding, cytotoxicity, cellular uptake, apoptosis and photocleavage studies of Ru(II) complexes, *Journal of Photochemistry and Photobiology B: Biology*, [doi:10.1016/j.jphotobiol.2016.03.061](https://doi.org/10.1016/j.jphotobiol.2016.03.061), **2016**.
11. Rajender Reddy Mallepally, Venkat Reddy, Ravi Kumar Vuradi, **Laxma Reddy Kotha**, Satyanarayana Sirasani: DNA Binding Behavior, Sensor Studies, Antimicrobial, Photocleavage and *In vitro* Cytotoxicity of Synthesized Ru(II) Complexes with Assorted Intercalating Polypyridyl Ligands, *J Fluoresc*, DOI 10.1007/s10895-016-1800-9. **2016**
12. A. Srishailam, Nazar M.D. Gabra, Yata Praveen Kumar, **Kotha Laxma Reddy**, C. Shobha Devi, D. Anil Kumar, Surya S. Singh, S. Satyanarayana; Synthesis, characterization; DNA binding and antitumor activity of ruthenium(II) polypyridyl complexes; *Journal of Photochemistry and Photobiology B: Biology*, [Volume 141](#), **2014**, Pages 47–58. **Impact factor 2.960**
13. S. Vidhisha, **Kotha Laxma Reddy**, Y. Praveen Kumar, M. Srijana, S. Satyanarayana “Synthesis, Characterization, Antibacterial Activity and Investigation of DNA Binding for Ru(II) Molecular ‘Light Switch Complexes’” *International Journal of Pharmaceutical Sciences Review and Research*, 25(1), **Mar – Apr 2014**; Article No. 34, Pages: 197-205. ISSN 0976 – 044X
14. Nazar Mohammed Gabra, Bakheit Mustafa, Yata Praveen Kumar, C. Shobha Devi, M. Shilpa, **Kotha Laxma Reddy**, S. Satyanarayana; DNA-binding and cleavage, cytotoxicity properties of Ru(II) complexes with 2-(40-chloro-phenyl) imidazo[4,5-f][1,10]phenanthroline, ligand and their “light switch” on–off effect, *Med Chem Res*, **January 2014**, Volume 23, [Issue 1](#), pp 224-235, DOI 10.1007/s00044-013-0617-1, **Impact factor 1.402**

15. Nazar M. Gabraa , Bakheit Mustafa, Yata. Praveen Kumar, C. Shobha Devi1, A. Srishailam, P. Venkat Reddy, **KothaLaxma Reddy** and S. Satyanarayana; Synthesis, Characterization, DNA Binding studies, Photocleavage, Cytotoxicityand Docking Studies of Ruthenium(II) Light switch Complexes: *Journal of Fluroscence*, January **2014**, Volume 24, Issue 1, pp 169-181, DOI 10.1007/s10895-013-1283-x; **Impact factor 2.1**.
16. Yata Praveen Kumar, C. Shobha Devi, N. Deepika, Nazar MD Gabra, Nishant Jain , A. Srishailam, **Kotha Laxma Reddy** and S. Satyanarayana “Synthesis, characterization, DNA-binding studies, photocleavage, cytotoxicity and docking studies of Co(III) mixed ligand complexes” *Transition Metal Chemistry*, **2013**, DOI 10.1007/s11243-013-9753-1, **Impact Factor: 1.306**
17. Nazar Mohammed Gabra, Bakheit Mustafa, S. Vidhisha, M. Rajender Reddy, **Kotha Laxma Reddy**, S. Satyanarayana; DNA Binding Studies, Light Switch, Photocleavage, *In Vitro* Cytotoxicity, Antibacterial and Docking Studies of Ru(II)/Co(III) Complexes: *Int. J. Pharm. Sci. Rev. Res.*, **2013**; 20, 115-124, ISSN 0976- 044X.
18. Praveen Kumar Yata, M. Shilpa, P. Nagababu, M. Rajender Reddy, **Laxma Reddy Kotha**, Nazar Md Gabra and S. Satyanarayana; Study of DNA Light Switch Ru(II) Complexes : Synthesis, Characterization, Photocleavage and Antimicrobial Activity., *Journal of Fluorescence*, **2012**, DOI;10.1007/s10895-011-1018-9, **IF- 2.107**
19. P Pallavi, P Nagababu, **Kotha Laxma Reddy**, T Padmaja and Sirasani Satyanarayana; Synthesis, DNA and Photocleavage studies of Ru(II) polypyridyl complexes: [Ru(dppz)(pyz)₄](ClO₄)₂ & [Ru(dppz)(dmpyz)₄](ClO₄)₂ complexes. *Chinese Journal of Chemistry*, 2012, *30*, 1641—1646, **IF- 0.755**
20. T Padmaja, P. Pallavi, **Kotha Laxma Reddy**, and Sirasani Satyanarayana; Synthesis, Characterization, DNA-binding and spectral properties of complex, [Ru(py)₄(dppz)]²⁺. *Journal of Chemical and Pharmaceutical Research*, 2012, 4(6):3309-3318.
21. T.Padmaja, **Kotha Laxma Reddy**, and Sirasani Satyanarayana; Synthesis, Characterization, Equilibria, Kinetics and DNA-Binding Studies. *Journal of Chemical and Pharmaceutical Research*, **2012**, 4(2):941-954.
22. **Kotha Laxma Reddy**, K. Ashwini Kumar, S. Vidhisha, and S. Satyanarayana*; Synthesis, DNA binding, DNA photocleavage of the Cobalt(III) complexes [Co(bpy)₂MDPPZ]³⁺, [Co(dmb)₂MDPPZ]³⁺ and [Co(phen)₂MDPPZ]³⁺ and their Antimicrobial activity. *Synthesis*

and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry, **2011**, 41:182, **IF-0.610**

23. K. Ashwini Kumar, **Kotha Laxma Reddy** and S. Satyanarayana*; Synthesis, Characterization and DNA binding and Photocleavage studies of $[\text{Co}(\text{bpy})_2\text{DMHBT}]^{3+}$, $[\text{Co}(\text{dmb})_2\text{DMHBT}]^{3+}$ and $[\text{Co}(\text{phen})_2\text{DMHBT}]^{3+}$ complexes and their antimicrobial activity. *Spectroscopy letters.*, 2011, 44:27–37, **IF- 0.852**
24. Penumaka Nagababu, Mynam Shilpa, J. Naveena Lavanya Latha, Ira Bhatnagar, P. N. B. S. Srinivas, Yata Praveen Kumar, **Kotha Laxma Reddy** and S. Satyanarayana; Synthesis, Characterization, DNA Binding Properties, Fluorescence Studies and Toxic Activity of Cobalt(III) and Ruthenium(II) Polypyridyl Complexes., *Journal of Fluorescence*, **2011**, 21:563–572, **IF- 2.107**
25. S. Vidhisha, **Kotha Laxma Reddy**, K.Ashwini Kumar and S. Satyanarayana*; Synthesis, DNA interactions of ruthenium(II) complexes with polypyridyl ligand:2-(2, 5-dimethoxyphenyl)-1*H*-imidazo [4,5-*f*][1,10]-phenanthroline, *Transition Metal Chemistry*, 2010. [Volume 35, Number 8](#), 1027-1034, **IF-1.306**
26. K. Ashwini Kumar, **Kotha Laxma Reddy** and S. Satyanarayana*, Study of the interaction between ruthenium (II) complexes and CT-DNA: Synthesis, Characterization, Photocleavage and Antimicrobial activity studies. *Supramolecular Chemistry*, **2010**. Vol. 22, No. 10, 629–643, **IF-2.394**
27. K. Ashwini Kumar, **Kotha Laxma Reddy** and S. Satyanarayana*; Synthesis, characterization and DNA binding studies of ruthenium(II) complexes with 2-benzo[*b*] furan-2-yl-1*H*-imidazo[4,5-*f*][1,10]phenanthroline as an intercalative ligand. *Journal of Coordination Chemistry*, **2010**, Vol. 63, No. 20, 20, 3676–3687. **IF-2.012**
28. K. Ashwini Kumar, **Kotha Laxma Reddy** and S. Satyanarayana*; Synthesis, DNA interaction and Photocleavage studies of ruthenium(II) complexes with 2-(pyrrole) imidazo [4,5-*f*] [1,10-phenanthroline as an intercalative ligand. *Transition Metal Chemistry*, **2010**, 35, 713–720, **IF-1.306**
29. **Kotha Laxma Reddy**, K. Ashwini Kumar, S. Vidhisha, P. Naga Babu and S. Satyanarayana*; Synthesis, characterization, Photocleavage, antimicrobial activity and DNA binding studies of $[\text{Co}(\text{bpy})_2\text{MHPIP}]^{3+}$, $[\text{Co}(\text{dmb})_2\text{MHPIP}]^{3+}$ and

[Co(phen)₂MHPIP]³⁺ complexes; *Journal of Coordination Chemistry*, **2009**, 62, 3997. **IF-2.012**

- 30. Kotha Laxma Reddy**, Y. Harish Kumar Reddy, and S. Satyanarayana*; DNA-binding and Photocleavage properties of Ru(II) polypyridyl complexes with DNA and their toxicity studies on eukaryotic microorganisms. *Nucleosides, Nucleotides and Nucleic Acids*, **2009**, 28: 953. **IF-1.32**
- 31. K. Ashwini Kumar, Kotha Laxma Reddy**, S. Vidhisha, and S. Satyanarayana*; Synthesis, Characterization and DNA binding and Photocleavage studies of [Ru(bpy)₂BDPPZ]²⁺, [Ru(dmb)₂BDPPZ]²⁺ and [Ru(phen)₂BDPPZ]²⁺ complexes and their antimicrobial activity. *Appl. Organometal. Chem.* **2009**, 23, 409–420. **IF-2.248**
- 32. Kotha Laxma Reddy**, Y. Harish Kumar Reddy, K. Ashwini Kumar, S. Vidhisha, and S. Satyanarayana*; Synthesis, Characterization, DNA-binding and DNA-photocleavage properties of [Co(bpy)₂(7-NO₂-dppz)]³⁺, [Co(dmb)₂(7-NO₂-dppz)]³⁺ and [Co(phen)₂(7-NO₂-dppz)]³⁺ complexes: (7-Nitro-dppz= 7-Nitro dipyrido[3,2-a:2'-3'-c]phenazine; bpy=2,2'-bipyridine; dmb=4,4'-dimethyl-2,2'-bipyridine; phen=1,10-phenanthroline) and their toxicity on different microorganisms. *Nucleosides, Nucleotides and Nucleic Acids*, 28:204–219, **2009**. **IF-1.32**
- 33. Kotha Laxma Reddy**, K. Ashwini Kumar, N. Ravi Kumar Reddy, Penumaka Nagababu, A. Panasa reddy, S. Satyanarayana*; Kinetics and Equilibria for the axial ligation of bromomethyl(aqua)cobaloxime with pyridines. Isolation, Characterization and DNA binding. *Journal of Chemical Sciences*. **2009**, 121(6), 1-8. **IF-1.177**
- 34. Penumaka Nagababu**, D. Aravind Kumar, **Kotha Laxma Reddy**, K. Ashwini Kumar, Md. B. Mustafa, Mynam Shilpa, and S. Satyanarayana; DNA Binding and Photocleavage Studies of Cobalt(III) Ethylenediamine Pyridine Complexes: [Co(en)₂(py)₂]³⁺ and [Co(en)₂(mepy)₂]³⁺. *Metal-Based Drugs*, **2008**, Volume 2008, Article ID 275084, 8 pages. **IF-1.00**.

RESEARCH PRESENTATIONS/SYMPOSIA/WORKSHOPS:

1. Presented a paper entitled “Study of Binding Properties and Photo-cleavage Studies of Ru(II) complexes With CT-DNA.....”, Symposium on advanced biological inorganic chemistry (SABIC-2009), Page.no-186, 2009. **Kotha Laxma Reddy**, S. Satyanarayana*
2. Presented a paper entitled” Synthesis, binding and photocleavage studies of DNA by mixed ligand Ruthenium (II) complexes of (benzo[i]dopyrido-[3,2-a;2',3'-

- c]phenazine) and phen/bpy/dmb. National Conference on Recent Advances in Chemical Research (NCRACR-2009), 6-7 Feb-2009. **Kotha Laxma Reddy**, S. Satyanarayana.
3. Presented a paper entitled “Synthesis and Characterization of $[\text{ICH}_2\text{Co(en)}_2\text{NH}_3]^{2+}$ Complex; Equilibria, Kinetics, DNA- Binding and antimicrobial activity. Fourth Indo-US Lecture Series on Discrete Mathematical Chemistry, 6-9 January-2009. **Kotha Laxma Reddy**, S. Satyanarayana
 4. Presented a paper entitled “Co(III) and Ru(II) Complexes Containing Bioactive Ligands: Synthesis, DNA Binding and Photocleavage Studies. National Symposium on “Chemistry- Technology Interface: A Synergistic Approach”. 1-2 October-2007. **Kotha Laxma Reddy**, S. Satyanarayana

WORKSHOPS:

1. Participated a workshop for “Chemistry teachers of post graduate colleges” (Nov 2007) organized by Department of Chemistry, Osmania University.
2. Participated in two day lecture workshop on “Frontier of organic chemistry” (Sep 2006) organized by Department of Chemistry, St. Pious XPG college for women, Osmania University under the aegis of Indian Academy of Sciences, Bangalore.
3. Participated a national workshop on “Green Chemistry-2006” (Jan 2006) organized by Department of Chemistry, Osmania University.
4. Participated in one day seminar on academia-industry interface-2014 (6th August-2014), organized by Department of Chemistry, Osmania University.
5. Participated in one day seminar on advances in chemical sciences-2015 (27th August-2015), organized by Department of Chemistry, Osmania University.

Sincerely,

Dr. Kotha Laxma Reddy