Dr. K. M. Lokanatha Rai, M.Sc., Ph.D.
Professor of Chemistry
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CURRICULUM VITAE

Date of birth : 7th December 1954.

Place of birth : Madavu, Keyyur village, Puttur Tq, Daksina Kannada

Father Name : Late K. M. Hukrappa Rai

Mother Name : Smt. Devaki Rai

ACADEMIC QUALIFICATIONS

Primary education : Govt. Primary school, Madavu, Puttu Tq. S.K

High School : Govt. High School, Bellare, Sullia Tq. S. K

S.S.L.C: First Class from KSSE Board, Bangalore [1971].

Pre University College : Govt. Junior College, Bellare, Sullia Tq. S. K

P.U.C: First Class from KPUE Board, Bangalore [1973].

Degree College (1st Year) : S. J. V.P. College, Harihar, Chithradurga

(2nd & 3rd year) : St. Philomina College, Puttur, S.K

B. Sc.: First Class from University of Mysore [1976].

Post Graduation : University of Mysore, Manasagangotri, Mysore

M. Sc. (Chemistry): In First Class from University of Mysore [1978].

Ph.D. (Chemistry): From University of Mysore [1984].

(Topic: Synthesis in the field of podophyllotoxin derivatives

Under the guidance of Prof. C. Anjanamurthy)

Post Doctoral Study : Bar Ilan University, Ramat-Gan, Israel

Under the guidance of Prof. Alfred Hassner

Awards: **Bharatha Rathna Dr. Radhakrishnan Gold Medal award (Sept. 2018)** for Outstanding Individual Achievement in Education and Reasearch

Bharatha Rathna Dr. Abdul Kalamn Gold Medal award (July. 2019) for Outstanding Individual Achievement in Education and Reasearch

Lifetime Achievement Award (**July 2020**) by VDGOOD International Scientist Awards on Engineering, Science and medicine, Coimbatore, India.

PROFESSIONAL CARRIER

- **Lecturer**: [**1982-1995**] DOS in Chemistry, Manasagangothri, University of Mysore, Mysore.
- **Reader**: [**1995-2003**] DOS in Chemistry, Manasagangothri, University of Mysore, Mysore.
- **Professor**: [**2003-till today**] DOS in Chemistry, Manasagangothri, University of Mysore, Mysore.

SUBJECTS TAUGHT: Reaction Mechanism, Photochemistry, Natural products, Biogenesis, Organometallics, Heterocyclic chemistry, Chemical bonding, Spectroscopy etc.

RESEARCH EXPERIENCE: 37 Years.

THRUST AREA OF RESEARCH	
1.	Novel 1,3-dipolar cycloaddition reaction and their application to synthesis of biologically active heterocycles
2.	[4+2] cycloaddition reactions of nitrosoolefin and imino olefins with alkenes and their applications
3.	Synthesis of podophyllotoxin derivatives, an anticancer agent via newer methods
4.	Development of newer reagents for organic synthesis
5.	Photocatalysis: degradation of organic contaminants in the environment using photocatalytic materials
6.	Synthesis of ferro and antiferoelectric liquid crystals

		RESEARCH PUBLICATIONS			
NATIONAL	INTERNATIONAL	CITATATIONS	h-INDEX	i-INDEX	RG-score
59	**156**	**3225** [14.40 per paper]	**30**	**64**	**39.06**

RESEARCH PUBLICATIONS

Sl. No.	Authors; Title of the paper, *Journal*, **Year**, Volume, Pages.

1. A new one step preparation of β-apopicropodophyllin from Podophyllotoxin, C.A. Murthy and **K.M.L. Rai.,** *Indian J. Chem*., **1982,** 21B, 62-63 (**Impact Factor: 0.69 Citations: 10)**

2. A new one step preparation of Picropodophyllone from Podophyllotoxin, C.A. Murthy and **K.M.L. Rai**., *Curr. Sci.*, **1983**, 52, 62 (**Impact Factor: 0.76 Citations: 05)**

3. Oxidation by anhydrous chloramine-T in non-aqueous medium, C.A. Murthy and **K.M.L. Rai,** *J. of Mys. Univ.*, Sect.B, **1983**, 74.

4. Synthesis of Podophyllotoxin and related analogue: Part 1: Synthesis of β-apopicropodophyllin analogues with expanded lactone ring, C. A. Murthy and **K. M. L. Rai,** *Indian J. Chem.,* **1985**, 24B, 502. [*Chem. Abstr*., **1986**, 104, 186181d] (**Impact Factor: 1.496 Citations: 12)**

5. Synthesis of Podophyllotoxin and related analogue: Part II: Synthesis of β-apopicropodophyllin analogues with modified hydroaromatic ring B, C.A. Murthy and **K.M.L. Rai**., *Indian J. Chem.*, **1985**, 24B, 505. [*Chem. Abstr*., **1986**, 104, 186182e] (**Impact Factor: 1.496 Citations: 10**)

6. Synthesis of Podophyllotoxin and related analogue: Part IV: Synthesis of Podophyllotoxin analogues with expanded lactone ring, C. A. Murthy and **K.M.L. Rai**., *Curr. Sci*., **1985**, 54, 67. [*Chem. Abstr*., **1985**, 103, 141666d] (**Impact Factor: 0.76 Citations: 05)**

7. Biological assay and antimitotic activity of synthetic derivatives of Podophyllotoxin, **K.M.L. Rai** and C.A. Murthy., *Curr. Sci.*, **1986**, 55, 702. [*Chem. Abstr*., **1986**, 105, 164568d] (**Impact Factor: 0.76 Citations: 08)**

8. Synthesis of Podophyllotoxin and related analogue: Part III: Synthesis of β-apopicropodophyllin analogues with modified lactone ring, C.A. Murthy and **K.M.L. Rai;**., *Indian J. Chem*., **1987**, 26B, 131. [*Chem. Abstr*., **1988**, 108, 37474g] (**Impact Factor: 1.496 Citations: 08)**

9. A new method for the formation of nitrile oxide and its application to the synthesis of 2-isoxazolines, Hassner A and **K.M.L. Rai**., *Synthesis*, **1989**, 57. [*Chem. Abstr*., **1986**, 110, 231489; cited in Fieser's "**Reagent for organic synthesis**", ed. by Mary Fieser, John Willey and Sons Inv. New York, **1990**, vol 15, 78] and in ***Aldritch Catalogue***, under chloaramine-T, **1992-93**, p 266; **1998-1999**, p 353 and in **Acros organics catalogue of fine chemicals** 1998-99, p 394] (**Impact Factor: 2.867 Citations: 130)**

10. Chloramine-T in heterocyclic synthesis: A simple procedure for the generation of nitrilimines and its application to the synthesis of pyrozolines, **K.M.L. Rai** and A. Hassner., *Synth. Commu*., **1989**, 19, 2799. [*Chem. Abstr*., **1990**, 112, 198206u] and cited in ***Lancaster Catalogue***, under chloramine-T, **1997-98**, p 368 (**Impact Factor: 1.37 Citations: 60)**

11. Versatile methods of synthesis of 4 to 8 membered ring heterocycles via intramolecular cycloadditions of allylamines, **K.M.L. Rai** and A. Hassner., *Heterocycles*, **1990**, 30, 817. [*Chem. Abstr*., **1990**, 113, 171926n] (**Impact Factor: 1.08 Citations: 23)**

12. An improved method for the synthesis of cyclopropyl ketoesters, **K.M L. Rai**, C.A

13. . Murthy and P.M. Radhakrishna, *Synth. Commun*., **1990**, 20, 1273: [*Chem. Abstr*., **1991**, 115, 231803y] (**Impact Factor: 1.37 Citations: 21)**

13. Thermotrophic liquid crystalline phases in binary mixtures of non-mesogenic compounds, M. Marthandappa, Nagappa and **K.M L. Rai,** *J. Phy. Chem*., **1991**, 95, 6369. [*Chem. Abstr*., **1991**, 115, 82684f] (**Impact Factor: 4.189 Citations: 36)**

14. Mesomeric behaviour of binary mixtures of non-mesogenic compounds, M. Marthandappa, Nagappa, Somashekar and **K.M.L. Rai,** *Physica Status Solidi*., **1992**, 129, 389-395 (**Impact Factor: 1.468 Citations: 08)**

15. A convenient method for the generation of nitrile oxide and its application to the synthesis of 2-isoxazolines, **K.M.L. Rai**, N. Liganna, A. Hassner and C. A. Murthy., *Org. Prep. and Proc. Int*., **1992**, 24, 91 (**Impact Factor: 1.38 Citations: 40)**

16. Biochemical analysis of root exudates from downy mildow resistent and suceptible pearl millet seedings, N. Raju, Krishnappa, **K. M. Lokanatha Rai**, S. Shashikanth, S. A. Shetty and S. H. Shetty, *Millet News Lett*., **1992**, 12, 213.

17. Synthesis of β-apopicropodophyllin analogues, **K.M.L. Rai** and C. A. Murthy., *J. Mys. Univ*., Sect.B, **1993**, 83.

18. Mass spectra of Podophyllotoxin derivatives with modified hydroaromatic ring B, **K. M. Lokanatha Rai** and C.A. Murthy, *J. Mys. Univ*., Sect.B, **1993**, 89.

19. Mass spectra of β-apopicropodophyllin derivatives with modified lactone ring C, **K. M. Lokanatha Rai** and C. A. Murthy., *Indian J of Heterocycl. Chem.*, **1994**, 51.

20. Stereoselective formation of functionalized 2-aryl tetrahydrofuran from aromatic aldehyde via Intramolecular 1,3-Dipolar cycloadditions (IOOC and INOC), Hassner A, **K. M. Lokanatha Rai** and Wim Dehaen, *Synth. Commun.*, **1994**, 24, 1669; cited in Fieser's "**Reagent for organic synthesis**", ed. by Tsc-Lok Ho, John Willey and Sons Inv. New York, **1999**, vol 18, 354 (**Impact Factor: 1.37 Citations: 33)**

21. Micellar Nematic Lyophase in the mixture of sodium oleate and glacial acetic acid, Nagappa, R. Hanumantha Nayak, K. N. Jagadish, A. Shivaprasad, R. Somashekar and **K. M. Lokanatha Rai,** *Mol. Cryst. Liq. Cryst*., **1995**, 260, 631-641 (**Impact Factor 0.559 Citations: 05)**

22. Synthesis of Podophyllotoxin derivatives with modified hydroaromatic ring B., **K. M. Lokanatha Rai** and C.A. Murthy, *Indian J of Heterocycl. Chem.*, **1995**, 63 (**Impact Factor: 0.244 Citations: 01)**

23. Chloramine-T as a new Reagent for the determination of Iodine Number of Oils, **K. M. Lokanatha Rai**, C. Anjanamurthy and S.Y. Ambekar, *The Analyst*, **1995**, 120, 2767 (**Impact Factor: 3.98 Citations: 09)**

24. Chloramine-T in Organic synthesis. A simple prcedure for the synthesis of amino oxadizoles, **K. M. Lokanatha Rai**, N. Liganna, A. Hassner and C. A. Murthy., *J. of Science Society of Thailand*, **1996**, 22, 71-74: [*Chem. Abstr*., **1996**, 125, 195529j] (**Impact (Factor: 0.452 Citations: 02)**

25. Intermolecular 1,3-Dipolar cycloaddition of performed nitrile oxide with phenyl vinyl sulphone, **K. M. Lokanatha Rai** and A. Hassner, *Synth. Commun*., **1997**, 27, 467 (**Impact Factor: 1.37 Citations: 16)**

26. Synthesis and electron impact studies on 2,5-diaryl oxadiazole, **K. M. Lokanatha Rai** and B. Linganna, *Indian J of Heterocycl. Chem.*, **1997**, 6, 239: [*Chem. Abstr*., 1997, 126, 30579p] (**Impact Factor: 0.244 Citations: 02)**

27. Intermolecular 1,3-Dipolar cycloaddition of nitrile oxide with vinyl acetate and acrylonitrile, **K. M. Lokanatha Rai** and A. Hassner, *Indian J. of Chem. Sect.B*, **1997**, 36B, 242-45 (**Impact Factor: 0527 Citations: 32)**

28. Mechanistic investigations of oxidation of amino sugars by sodio-*N*-chloro-p-toluenesulphonamide in alkaline medium, M. P. Raghavendra, K. S. Rangappa, **K. M. Lokanatha Rai** and D. S. Mahadevappa*, J. of Carbohydrate Research*, **1997**, 16, 343-58: [*Chem. Abstr*., **1997,** 127, 34439f] (**Impact Factor: 1.970 Citations: 15)**

29. Thermal and photochemical decomposition of aqueous bromamine-B, H.S. Yathirajan, N. Mohana, A.S. Anandamurthy and **K. M. Lokanatha Rai,** Asian J. of Chem., **1997**, 9, 797(**Impact Factor: 0.435 Citations: 05)**

30. Liquid crystalline behaviour of binary mixtures of two nonmeogenic compounds, Nagappa, R. Hanumantha Naik, J. Mahadev, **K. M. Lokanatha Rai** and P.R. Alapathi, *Mol. Cryst. Liq. Cryst*., **1997**, 301, 7-12 (**Impact Factor: 0.537 Citations: 01)**

31. Synthesis of a new ferroelectric liquid crystalline compound with ester linkage, K. Rajashekar Prasad, **K. M. Lokanatha Rai**, Nagappa and P.R. Alapathi, *Mol. Cryst. Liq. Cryst.,* **1997**, 302, 271-76, and *Mol. Cryst. Liq. Cryst. Sci. Technol. Sect. A*, **1997**, 302, 1259-64 [*Chem. Abstr*., **1998**, 128, 82471c] (**Impact Factor: 0.537 Citations: 01)**

32. Mercuric acetate in heterocyclic synthesis: A simple procedure for the generation of nitrilimines and its application to the synthesis of pyrozolines, **K. M. Lokanatha Rai** and N. Linganna *, Synth. **Commun.***, **1997**, 27, 3737; cited in Fieser's "**Reagent for organic synthesis**", ed. by Tsc-Lok Ho, John Willey and Sons Inv. New York, **2000**, vol 20, 354 (**Impact Factor: 1.37 Citations: 24)**

33. Oxidation of methyl pentoses by sodio-*N*-chloro-benzene-sulphonamide in alkaline medium, a kinetic and mechanistic study, M.P. Raghavendra, K.S. Rangappa, **K. M. Lokanatha Rai,** D.S. Mahadevappa and D. Channe Gowda: Proc. of Indian Acad. of Sci, (J. Chem. Sci.), **1998**, 110, 53-64 (**Impact Factor: 1.30 Citations: 02)**

34. Syntheis and characterization of new mesogenic 4-(n-alkoxy)-3-methoxy-benzaldehyde semicarbazones, K.R. Prasad, Nagappa and **K. M. Lokanatha Rai; ***Synth. Commun*., **1998**, 28, 4605 (**Impact Factor: 1.37 Citations: 02)**

35. Transformation of 1,3,4-oxadiazoles to 1,3,4-thiadiazoles using thiourea, N. Linganna and **K. M. Lokanatha Rai,** *Synth. Commun*., **1998**, 28, 4611; cited in Fieser's "**Reagent for organic synthesis**", ed. by Tsc-Lok Ho, John Willey and Sons Inv. New York, **2000**, Vol 20, 374 (**Impact Factor: 1.37 Citations: 26)**

36. Phase behaviour of liquid crystalline phases in the mixture of two nonmesogenic compounds, B.T. Raju, Nagappa, R. Somashekar, P. Nagaraju and **K. M. Lokanatha Rai;** Proceedings of Solid State Physics symposium, **1998**, 41, 144-146.

37. Synthesis and characterization of newly synthesized mesogenic compounds, Nagappa, J. Mahadeva, **K. M. Lokanatha Rai** and K.R. Prasad; Proceedings of Solid State Physics symposium, **1998**, 41, 201-204.

38. Determination of molecular weight of neutral amino acids, **K. M. Lokanatha Rai**, K.B. Umesha and H.S. Yathirajan, *J. of Indian Chem. Soc*., **1999,** 76, 170 (**Impact Factor: 0.275 Citations: 03**

39. Kinetics of the Ruthenium (III) catalyzed oxidation of amide by sodium-N-bromo-toluenesulphonamide in hydrochloric acid solution, S. Ananda, M.B. Jagadeesha,, **K. M. Lokanatha Rai** and N.M.M. Gowda, *Synth. and React. in Inoorg. and metal- Org. Chem*., **1999**, 29, 1 (**Impact Factor: 0.50 Citations: 03)**

40. Crystal growth of Nd:RVO_4 (where R=Y, Gd) under mild hydrothermal conditions, K. Byrappa, B. Nirmala, **K. M. Lokanatha Rai** and A.B. Kulkarni, Proceedings of the National conference on electronic materials, devices and systems, held at University of Gulbarga, Gulbarga, India (Page No. 248-255, Jan. **1999**).

41. A new method for the synthesis of 1-Aryl-phthalazines, S. Shashikanth, Shadid Khalid Ahmed, Ganesh Hegde, **K. M. Lokanatha Rai,** *Synth. Commun*., **1999**, 29, 3503-07 (**Impact Factor: 1.37 Citations: 02)**

42. Synthesis of 2-(4'-pyridyl)-5-alkoxy-1,3,4-oxadiazoles of biological importance, **K. M. Lokanatha Rai**, K.C. Manoj, H. Shekar Shetty, K.R. Prasad and N. Niranjana, *Indian J. Heterocycl. Chem*., **1999**, 8, 335 (**Impact Factor: 0.275 Citations: 05)**

43. Anodically generated manganese (III) sulphate for the oxidation of aldo and keto hexoses, a kinetic and mechanistic study, N. Anitha, K.S. Rangappa and **K. M. Lokanatha Rai**, Indian J. of Chem., Sect B, **1999**, 38B, 1046 (**Impact Factor: 0.69 Citations: 05)**

44. Electrolytically generated manganese(III) sulphate for the oxidation of aldopentoses in aqueous sulphuric acid medium, kinetic and mechanisim, Ayesha Nikath, N. Anitha, **K. M. Lokanatha Rai** and K.S. Rangappa, *Trends in Carbohydrate Chemistry*, **1999**, 4, 109-117 (**Impact Factor: 0.120 Citations: 03)**

45. Kinetic and mechanistic study of oxidation of diethylamine by N-sodio-bromobenzene sulphonamide (Bromamine-B) in aqueous solution catalyzed by Ru(III), S. Ananda, Ravi J. Saldhana, **K. M. Lokanatha Rai** and B.M. Venkatesh; *International J. of Chem. Kinetics*., **1999**, 31, 744-752 (**Impact Factor: 0.81, Citations: 02)**

46. Synthesis of bishydrazones aldazines), N. Linganna, **K. M. Lokanatha Rai** and S. Shashikanth, *Indian J. Chem., Sect. B*, **1999**, 38B, 1126 (**Impact Factor: 0.69 Citations: 09)**

47. Synthesis and Characterization of TiO_2 compounds, K. Byrappa, B. Nirmala and **K. M. Lokanatha Rai,** *J. Crystal Growth.,* **1999**, 138, 278-285 (**Impact Factor: 1.573 Citations: 01)**

48. Growth of R:MVO_4 (where R = Nd, Eu; M = Y, Gd) Crystals under Mild K Hydrothermal Conditions, K. Byrappa, B. Nirmala, **K. M. Lokanatha Rai** and R.V. Rao, *J. Materials Research*, USA, **1999**, 432 (**Impact Factor: 0.96 Citations: 02)**

49. K. Byrappa, B. Nirmala, **K. M. Lokanatha Rai** and Yoshimura M., Material Sci. Forum., 1999, 506, 315. **Impact Factor: 0.350**

50. Tetralone esters as intermediate for the synthesis of podophyllotoxin derivatives via cyclopropanation of chalcones, N. Nanjundaswamy, C.A. Murthy, S. Shashikanth and **K. M. Lokanatha Rai**, *Synth. Commun*., **2000**, 30, 1179 (**Impact Factor: 1.37 Citations: 03)**

51. Synthesis and evaluation of antimitotic activity of alkylated 2-Amino-1,3,4-Oxadiazole derivatives, **K. M. Lokanatha Rai** and N. Linganna *Il farmica*, **2000**, 55, 389 (**Impact Factor: 0.38 Citations:65)**

52. A convenient method for the synthesis of imines, K. Ajay Kumar, **K. M. Lokanatha Rai**, and K.B. Umesha, *Indian J. of Heterocycl. Chem.,* **2000**, 10, 79-80 (**Impact Factor: 0.25 Citations: 01)**

53. Photochemical decomposition of sodium salt of N-bromo-4-toluene-sulphonamide, H.S. Yathirajan, P. Nagendra, K.N. Mohana, **K. M. Lokanatha Rai**, K.S. Rangappa and A.S. Anandamurthy: *Indian J. of Chem., Sect.A*, **2000**, 39A, 1218-1221 (**Impact Factor: 0.483 Citations: 01)**

54. "Photocatalytic degradation of phenols using impregnated activated carbon", K. Byrappa, **K. M. Lokanatha Rai**, R. Dinesh and M. Yoshimura; Proceedings of the Joint 6th International Sympossium on Hydrothermal Reaction (ISHR) and 4th International Conference on Solvo-Thermal Reactions (CSTR), held at Kochi, Japan, **2000**, 565-569].

55. Hydrothermal Preparation of TiO_2 and degradation of HCCH and DDT, K. Byrappa, **K. M. Lokanatha Rai** and M. Yoshimura, Environmental Science and Technology, USA **2000**, 21, 1085-1090 (**Impact Factor: 7.19 Citations: 30)**

56. A new method for the determination of number of keto groups in a carbonyl compound using chloramine-T method, K. B. Umesha, **K. M. Lokanatha Rai**, K. Ajay Kumar, K.R. Prasad and S. Shashikanth, *Chem. Anal*., (Warsaw) **2001,** 46, 269-74 (**Impact Factor: 0.428 Citations: 05)**

57. Hydrothermal crystallization and electrical conductivity of aluminophosphate zeolites, A.V. Sureshkumar, K. Byrappa, S. Anand and **K. M. Lokanatha Rai** *Indian J. Phys*., **2001**, 75, 113-115 (**Impact Factor: 1.242 Citations: 01)**

58. Synthesis of Ethyl-6-methoxy-7-methyl-1-aryl/cyclohexyl-4-oxo-2-naphthoates as an Intermediate for Synthesis of β-Apopicropodophyllin Analolgues, N. Nanjundaswamy, **K. M. Lokanatha Rai**, C.A. Murthy and S. Shashikanth, *Indian J. Chem., Sect. B*, **2001**, 40B, 269-273 (**Impact Factor: 0.63 Citations: 01)**

59. Synthesis of pyrrolo(3,4-d)-3-aryl-5N-aryl-4,6-dioxoisoxazolines via 1,3-diplolar cycloaddition reaction, K. Ajay Kumar, **K. M. Lokanatha Rai**, K.B Umesha and K. Rajasekhara Prasad, *Indian J. Chem., Sect. B*, **2001**, 40B, 274-277 (**Impact Factor: 0.63 Citations: 05)**

60. A new approach for the transformation of alkenes to pyrrolines via aziridine intermediates, K. Ajay Kumar, **K. M. Lokanatha Rai** and K.B. Umesha, *Tetrahedron*, **2001**, 57, 6993-96 (**Impact Factor: 2.645 Citations: 20)**

61. Oxidation of Uronic acids by Manganese (III) sulphate in acid solution, K.S. Rangappa, N. Anitha, Ayesha Nikath, **K. M. Lokanatha Rai** and N.M. Made Gowda, *Synth. and React. in Inoorg. and metal- Org. Chem*., **2001**, 31, 713-723 (**Impact Factor: 0779 Citations: 05)**

62. Synthesis and evaluation of antifungal activity of ethyl-3,5-diaryl-isoxazole carboxylates, K. Ajay Kumar, **K. M. Lokanatha Rai** and K.B. Umesha, *J. Chem. Res*., **2001** 436-438 (**Impact Factor: 0.61 Citations: 22)**

63. Mesomorphic phases in the mixtures of the two non-mesogenic compounds, Nagappa, J. Mahadeva, **K. M. Lokanatha Rai**, C. H. Satyanarayana and P. Nagaraj, *Mol. Cryst. and Liq. Cryst*., **2001**, 367, 555-563 (**Impact Factor: 0.537 Citations: 01)**

64. Oxidimimetric determination of isoionizd and amino acids with bromamine-T in buffer medium, C.R. Raju, H.S. Yathirajan, K.S. Rangappa, K.N. Mohana and **K. M. Lokanatha Rai**, *Oxid. Commun*., **2001**, 24, 393-399 (**Impact Factor: 0.234 Citations: 08)**

65. Evaluation of antibacterial activity of 3,5-dicyano-4,6-diaryl-4-ethoxycarbonyl-piperid-2-ones, K. Ajay Kumar, **K. M. Lokanatha Rai** and K.B. Umesha, *J. Pharma. And Biomed. Analysis*, **2002**, 27, 837-840 (**Impact Factor: 0.73 Citations: 67)**

66. An efficient route for the snythesis of chloroacetic anhydride and benzyl mercaptan, R.L. Jagadish, T.R. Vijayakumar and **K. M. Lokanatha Rai,** *Indian J. of Chem. Technol*., **2002**, 9, 261-262 (**Impact Factor: 0.614 Citations: 01)**

67. Synthesis of Podophyllotoxin analogues Part-XII. Synthesis of β-apopicropodophyllin analogues, N. Nanjundaswamy, S. Shashikanth, C.A. Murthy and **K. M. Lokanatha Rai**, *Synth. Commun*., **2002**, 32, 1475-83 (**Impact Factor: 1.37 Citations: 03)**

68. Synthesis of ethyl-N-aryl-2,6-dioxo-piperid-3-ene-4-carboxylates from ethyl-2,4-dioxo-3(aryl)-azabicyclo[3,1,0]hexane-6-carboxylate under photolytic condition, K. Ajay Kumar and **K. M. Lokanatha Rai**, *Indian J. Heterocycl. Chem*., **2002**, 11, 341-42 (**Impact Factor: 0.68 Citations: 01)**

69. A novel synthesis of isoxazoles via 1,3-dipolar cycloaddition of nitrile oxides to acetyl acetone, K.B. Umesha, K. Ajay Kumar and **K. M. Lokanatha Rai**, *Synth. Commun*., **2002**, 32, 1841-46 (**Impact Factor: 1.058 Citations: 26)**

70. Synthesis and characterization of new mesogenic oximes, **K. M. Lokanatha Rai**, K.R. Prasad, Nagappa and J. Mahadeva, *Indian J. Chem*., **2002**, 41B, 1676-1680 (**Impact Factor: 0.14 Citations: 01)**

71. A new approach for the synthesis of pyrazoles via 1,3-dipolar cycloaddition of nitrile imines to acetyl acetone, K.B. Umesha, K. Ajay Kumar and **K. M. Lokanatha Rai**, *Indian J. Chem.,* **2002**, 41B, 1450-1453 (**Impact Factor: 0.14 Citations: 30)**

72. A simple iodometric method for the determination of molecular weight of ascorbic acid and estimation of pharmaceutical vitamin tablets using chloramines-T, K.B. Umesha, K. Ajay Kumar and **K. M. Lokanatha Rai**, *Oxidation Commun.,* **2002**, 25, 566-570 (**Impact Factor: 0.234 Citations: 01)**

73. The role of $AlPO_4$-11 in the synthesis of bisphenol-A and cinnamic acid, B.V. Suresh Kumar, K. Byrappa, **K. M. Lokanatha Rai**, S. Anand and R.V. Rao, *Indian J. Chem. Technol*., **2002**, 9, 543-544 (**Impact Factor: 0.614 Citations: 01)**

74. Effect of ionic conductivity in aluminophosphates with difference organic structure directing templates, B. V. Suresh Kumar, K. Byrappa, S. Anand and **K. M. Lokanatha Rai**, *Asian J. Chem*., **2002**, 14, 1513-1517 (**Impact Factor: 3.69 Citations: 01)**

75. Crystal Growth and reactions mechanism of rare earth and alkali rare earth phosphates, K. Byrappa, J.R. Paramesha, S. Ananda and **K. M. Lokanatha Rai**; *Crystal Growth of Technologically important electronic materials,* (Ed) by K. Byrapp, H. Klapper, To Ohachi and R. Fornari, Allied Publishers Pvt. Ltd, **2003**, 224-23.

76. Hydrothermal impregnation of designer particulates on activated carbon, K. Byrappa, A.K. Subramani, **K. M. Lokanatha Rai**, B. Basavalingu, S. Ananda and S. Srikantaswamy, *Crystal Growth of Technologically important electronic materials,* (Ed) by K. Byrapp, H. Klapper, To Ohachi and R. Fornari, Allied Publishers Pvt. Ltd, **2003**, 291-297.

77. Crystal Growth mechanism for rare earth vanadates under mild hydrothermal conditions, K. Byrappa, B. Nirmala, **K. M. Lokanatha Rai** and S. Ananda, *Crystal Growth of Technologically important electronic materials,* (Ed) by K. Byrappa, H. Klapper, To Ohachi and R. Fornari, Allied Publishers Pvt. Ltd, **2003**, 298-305.

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89. ***Sumana Y Kotian**, Narayana U Kudva N, K M Lokanatha Rai and K. Byrappa Poster Presentation on "Synthesis of new series of 4, 5-dihydroisoxazole-5-carbonitrile derivatives for the study of their liquid crystalline properties", at International Conference on Materials Research and Applications held at CMR Technical campus, Hyderabad during 11-13th, March 2016.*

90. ***Sumana Y Kotian**, Narayana U Kudva N, K M Lokanatha Rai and K. Byrappa Poster Presentationed on "Synthesis of new series of 4, 5-dihydroisoxazole-5- carboxylate derivatives for the study of their liquid crystalline properties", at Indian Science Congress conference at University of Mysore, held during 3rd-7th, January 2016.*

91. ***Sumana Y Kotian**, Narayana U Kudva N, K M Lokanatha Rai and K. Byrappa Poster Presentationed on "Synthesis of new series of isoxazoline derivatives for the study of their liquid crystalline properties", at International Conference on Science and Technology: Future Challenges and Solutions held at University of Mysore, held during 8th-9th August, 2016.*

92. ***Sumana Y Kotian** and K M Lokanatha Rai Poster presentation on "Synthesis, Characterization and Evaluation of Liquid Crystalline Properties of 2-Heptadecyl-5-phenyl-1,3,4-oxadiazole Derivatives", paper presentation at National conference on Recent innovations in medicinal and Material Chemistry (RIMMC-2019) held at University of Mysore, during 8th and 9th March, 2019.*

RESEARCH PROJECTS UNDERTAKEN

1. **Principal Investigator:** Project entitled "**Synthesis of heterocycles via cycloaddition reactions"** Funded by Astrazeneca, Bangalore. (2002) [Rs.].

2. **Co-Investigator:** Project entitled **"Synthesis of ferroelectric liquid crystals**" with Dr. Nagappa, Reader in Physics, University of Mysore, Funded by DST, New Delhi (1994-97) [Rs.].

3. **Co-Investigator:** Project entitled "**Mechanistic studies on the interactions of carcinogen derived from aromatic amine and amides with nucleotides**" with Dr. K.S. Rangappa, DOS in Chemistry, University of Mysore, Funded by DST, New Delhi (1997-2000) [Rs.].

4. **Co-Investigator:** Project entitled "**Growth of laser crystals-alkali rare earth phosphates and rae earth vanadates**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by DAE-NLP, New Delhi (1997-2000) [Rs.].

5. **Co-Investigator:** Project entitled "**Hydrothermal treatment of activated materials and their application in the environmental issue**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by Joint Indo-Japaneese Research project (1999-2001) [Rs.].

6. **Co-Investigator:** Project entitled "**Synthesis and processing of ecomaterials for the degradation of toxic organic wastes and effluent treatment**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by UGC, New Delhi (2002-2005) [Rs.].

7. **Co-Investigator:** Project entitled "**Genetic diversity and in vitro propagation and characterization of bioactive compounds of *Hypericum* species**" with Dr. Ravishankar Rai, DOS in Microbiology, University of Mysore, Funded by UGC, New Delhi (2008-11) [Rs.].

8. **Co-Investigator:** Project entitled "**Biodiversity, conservation and Phytochemical, Molecular Characterization of rare Medicinal Plants of Western Ghats**" with Dr. Ravishankar Rai, DOS in Microbiology, University of Mysore, Funded by Govt of India, Institution of Excellence (IOE) Research project (2009-12) [Rs.].

9. **Co-Investigator:** Project entitled "**Synthesis and processing of ecomaterials for the degradation of toxic organic wastes and effluent treatment**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by UGC, New Delhi (2002-2005) [Rs.].

10. **Co-Investigator:** Project entitled "**Ex-situ conservation and utilization of medicinal plants of Karnataka for sustainable development**" with Dr. Ravishankar Rai, DOS in Microbiology, University of Mysore, Funded by National Medicinal Plant Board, Government of India (2006-12) [Rs. 15 lakhs].

11. **Co-Investigator:** Project entitled "**Hydrothermal preparation of rutile, anatase and zincite nanomaineral particles for photocatalytic applications**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by UGC, New Delhi (2010-2013) [Rs. 15 lakhs].

12. **Chief Co-Ordinator:** Project entitled "**Processing, characterization and applications of advanced functional nanomaterials**", **Centre with Potential for Excellance in Particular Area,** University of Mysore, Funded by UGC, New Delhi (2012-2017) [Rs. 4.5 Crores].

13. **Chief Co-Ordinator:** Project entitled "**Processing, characterization and applications of advanced functional materials**", **University with Potential for Excellance (UPE),** University of Mysore, Funded by UGC, New Delhi (2012-2017) [Rs. 50 Crores].

14. **Principal -Investigator:** Project entitled "**Metal oxides based advanced technology for industrial pollution control**" with Dr. K. Byrappa, DOS in Geology, University of Mysore, Funded by UGC, New Delhi (2015-2018) [Rs. 25 lakhs].

GUIDANCE FOR M.PHIL. DEGREE			
Sl. No.	Name of the candidate	Title of Dissertation	Year
1	Ravi Ganapathi Hegde	Studies on formation and 1,3-dipolar cycloadition reactions of nitrile oxides	1996
2	K. C. Manoj	Syntheis of biological and mesogenic 1,3,4-oxadiazoles	1998
3	K. N. Shivakumar	Friedel Craft's acylation of aromatic hydrocarbons using silver nitrate	2003
4	U. Vathsala	Quantitative estimation of gluose using chloramine-T by iodometric method	2008

5	Rakesh H Acharya	Synthesis of oxadiazolemand thiadiazole derivatives by solvothermal process	2012

GUIDANCE FOR Ph.D. DEGREE				
Sl. No.	**Name of the candidate**	**Title of Thesis**	**Nature**	**Year of Award**
1	N. Linganna	Application of 1,3-Dipolar Cycloaddition Reaction in the synthesis of Bioliologically active heterocycles	UPGRF	1989
2	Rajashekara Prasad Kottapalli	Synthesis of Ferroelectric Liquid Crystals	DST Project	2000
3	K. Ajay Kumar	Synthesis of Biologically active heterocycles via imines, aziridines and N-aryl maleimides	FIP Fellow	2003
4	K. B. Umesha	Synthetic and analytical applications of Chloramine-T	FIP Fellow	2003
5	B. Nirmala	Crystal Growth and Morphology of Neodymium doped Rare earth vanadates under hydrothermal conditions	DAE Project	2005
6	R. Dinesh	Hydrothermal treatment of activated materials and their application in the environmental issue	Indo-Japan fellowship	2006
7	Sidde Gowda	Synthetic application of Manganese (III) acetate	Self-financing	2006
8	S. L. Gaonkar	Synthesis of Biologically active heterocycles via 4+2 cycloaddition of nitroso olefin with alkenes	Self-financing	2007
9	K. Jailakshmi	Synthesis, characterization and applications of salen complexes	Self-financing	2008
10	Sureshbabu	Synthetic applications of Nickel Chloride	Self-financing	2009
11	B. Jayashankar	Synthesis of biologically active heterocycles via cycloaddition reactions	RGN fellowship	2009
12	K. Manjula	Synthesis of novel heterocycles of biological interest via cycloaddition reactions	FIP Fellow	2009
13	Ebrahaim Abdu Musad	Synthesis of new heterocycles having Industrial application	Foreign Fellow	2012
14	Phaniraj	Heterocyclic compounds of biological interest	Self-financing	2012
15	S. N. Hemavathi	Synthesis and characterization of certain heterocyclic compounds of industrial and biological importance	Self-financing	2012
16	P. Sunilkumar	Synthesis of podophyllotoxin derivatives vai [4+2] cycloaddition reactions	Self-financing	2013
17	Raad Kasim Yhya	Synthesis, characterization and biological evaluation of pyrazoles, isoxazolines and 1,2-oxazine derivatives	Self finance (Foreign National)	2015
18	Doddamani Shridevi Doddaramappa	Synthesis and Biological studies of substituted pyridazines and pyrazoline through cycloaddition reactions	RGNF-SRF	2015
19	Narayana U Kudva N	Synthesis and Characterization of Bioactive Heterocycles via Cycloaddition reactions	CSIR-SRF	2016
20	B. Sathish	Synthesis and Characterization of New Analogues of Benzoisoxazole, Benzoisothiazole, Pyridine and Piperidine	Self finance	2017
21	P.T. Soumya	Synthesis and Characterization of ferroelectric liquid crystals containing Isoxazoles and Pyrazoles	Inspire JRF	2017
22	K.R. Mahendra	Synthesis and Characterization of ferroelectric liquid crystals of thiadiazole compounds	BRNS Meritorious Fellowship	2017
23	Mary Anne Anitha	Synthesis and Characterization of ferroelectric liquid crystals containing Furan, Thiophene and pyrrole	BRNS Meritorious	2018

			Fellowship	
24.	Sumana Y. Kotian	Synthesis and Characterization of ferroelectric liquid crystals	UPE project fellow	2020

COLLABORATION		
NATIONAL	1	Prof. K. Byrappa, Department of Studies in Geology, University of Mysore, MYSORE.
	2	Prof. Raveesha, Department of Studies in Botany, University of Mysore, MYSORE.
	3	Dr. Sudharshan Singh, Department of Studies in Botany, University of Mysore, MYSORE.
	4	Prof. Ravishankar Rai, Department of Studies in Applied Botany, University of Mysore, MYSORE.
INTERNATIONAL	1	Prof. Alfred Hassner, Department of Chemistry, Bar Ilan University, Ramat Gan, ISRAEL, 52900.
	2	Prof. Wim Dahaen, Department of Organic Chemistry, Universiteit Leuven, Celesteijnenlaan, B3001 Heveriee, BELGIUM. Email: wim.dehaen@chem.kuleuven.ac.be

CONFERENCES ATTENDED	
IN INDIA	**IN FOREIGN COUNTRIES**
08	01

MEMBERSHIP IN PROFESSIONAL BODIES

Year	Position		University
1991-93	Member	Faculty of Science and Technology	University of Mysore
1996-97	Member	Board of Examinations (PG)	University of Mysore
1998-01	Member	Board of Studies (PG]	University of Mysore
1999-00	Member	Board of Examinations (PG)	University of Mysore
2001-04	Member	Board of Studies (PG]	University of Mysore
2004-05	Member	Board of Examinations (PG), Applied Chemistry	Mangalore University
2004-05	Member	Board of Examinations, Applied Chemistry (PG)	Karnatak University
2005-	Member	Faculty of Science and Technology	University of Mysore
2005-07	Member	Board of Studies (UG),	Govt. Boys College (Autonomous), Mandya
2005-07	Member	Board of Studies (UG),	Yuvaraja's College (Autonomous), UOM
2005-07	Co-ordinator	Post Graduate Course in Chemistry	Yuvaraja's College (Autonomous), UOM
2005-08	Member	Board of Studies, Sugar Technology (PG)	Sir MVPG Centre, Mandya, UOM
2006-07	Chairman	Board of Studies (UG),	Yuvaraja's College (Autonomous), UOM
2006-07	Member	Board of Examinations (PG)	University of Mysore
2006	Co-ordinator	Second Refresher Course in Material Science, Academic Staff College	

2007-11	Co-ordinator	5 Year Integrated M.Sc. Course in Chemistry	University of Mysore
2007-14	Co-ordinator	Post Graduate Course in Organic Chemistry	University of Mysore
2007-09	Chairman	Board of Studies, Organic Chemistry (PG)	University of Mysore
2007-09	Member	Board of Studies, Geology (PG)	University of Mysore
2008-09	Chairman	Board of Examinations (PG)	University of Mysore
2008-09	Member	Board of Examinations (PG)	Bangalore University
2008-09	Member	Board of Examinations, Chemistry (PG)	Karnataka University
2008-10	Member	Board of Studies (UG),	Govt. Boys College (Autonomous), Mandya
2008-10	Member	Board of Studies (UG),	Gulbarga University
2008-10	Member	Board of Studies (UG),	JSS College (Autonomous) Ooty Road, Mysuru
2009-12	Member	Board of Studies, Organic Chemistry (PG)	University of Mysore
2009-10	Member	Board of Examination, Organic Chemistry (PG)	University of Mysore
2010-11	Member	Board of Examinations (PG)	Bangalore University
2010-11	Member	Board of Examinations, Industrial Chemistry (PG)	Mangalore University
2010-12	Member	Board of Studies, Chemistry (PG)	Bharathiar University, Coimbatore
2010-12	Member	Board of Studies, Chemistry (PG)	Kuvempu University
2010-11	Member	Board of Examinations, Material science (PG)	Mangalore University
2010-11	Member	Board of Examinations, Chemistry (PG)	Karnataka University
2011	Subject expert	Board of appointment, Chemistry	Kuvempu University
2011-12	Member	Board of Examinations, Chemistry (PG)	University of Mysore
2011-12	Member	Board of Examinations, Chemistry (PG)	Sri Krishnadevaraya University, Bellary.
2011-12	Member	Board of Examinations, Chemistry (PG)	Kuempu University, Shimoga.
2012	Subject expert	Board of appointment, Chemistry	Shivaji University, Kolhapur, Maharastra
2012-13	Chairman	Board of Examination, Organic Chemistry (PG)	University of Mysore
2012-13	Member	Board of Examination, M. Tech in Material Science	University of Mysore
2011-13	Member	Board of Studies (UG),	JSS College (Autonomous) Ooty Road, Mysuru
2012-13	Member	Board of Examinations, Chemistry (PG)	Bangalore University
2011-12	Member	Board of Examinations, Chemistry (PG)	Kuempu University, Shimoga.
2012-13	Member	Board of Examinations, Material science (PG)	Mangalore University
2012-13	Member	Board of Examinations, Chemistry (PG)	Karnataka University
2012-15	Member	Board of Studies, Organic Chemistry (PG)	Kuvempu University, Shimoga
2012-16	Coordinator	Sap, Department of Chemistry	University of Mysore
2013-16	Member	Board of Studies, Chemistry (PG)	University of Mysore
2013-16	Member	Board of Studies, Organic Chemistry (PG)	University of Mysore
2014	Subject expert	Board of appointment, Chemistry	Bangalore University

2014-15	Member	Board of Examination, Organic Chemistry (PG)	University of Mysore
2014-15	Member	Board of Examinations, Material science (PG)	Mangalore University
2014-15	Member	Board of Examinations, Ph. D Course work in Chemistry	Mangalore University
2014-16	Chairman	Department of Chemistry	University of Mysore
2015	Subject expert	Board of appointment, Chemistry	Bangalore University
2014-16	Chief Co-ordinator	Centre with potential for excellance in particular area	University of Mysore
2015-16	Member	Board of Examinations, Chemistry (PG)	Karnataka University
2014-16	Chief Co-ordinator	University with potential for excellance	University of Mysore
2016	Sectional President	Indian Social Science Congress Conference	University of Mysore
2017-	Visiting Scintist	University with potential for excellance Vignana Bhavan	University of Mysore
2017-	Visiting Professor	PG Centre, Chikaaluvar, Kodagu	Mangalore University
2016-	Member		Katrnataka Science and technology centre, Chamaranagar Dist
2017	Subject expert	Board of appointment, Chemistry	KPSC, Bangalore
2018	Subject expert	Board of appointment, Chemistry	KPSC, Bangalore
2019	Member	Board of Examinations, Chemistry (PG)	Autonomous Science College, Hassan
2021 (7th April)	Member	Assessment committee to assess Grade III	CFTRI,Mysuru

MEMBERSHIP/POSITIONS IN SCIENTIFIC JOURNALS

- **Life Member**: Indian Council of Chemists, INDIA.
- **Life Member**: Indian Association for Mass spectroscopy, INDIA.
- **Life Member**: Indian Society of Analytical Scientists, BARC, Bombay, INDIA.
- **Editororial board member**: International Journal of Biomedical Sciences, New York, USA [**2006-**].
- **Life Member**: Indian Science Congress Association, INDIA – Membership No. L25012

INSTITUTIONS VISITED IN ABROAD AND NATURE OF WORK DONE

- **Post Doctoral Fellow**: Worked on the topic entitled "A Novel 1,3-Dipolar Cycloaddition Reactions and their applications to the synthesis of smaller ring Heterocycles", Under the supervision of Prof. Alfred Hassner, Bar-Ilan University, Ramat-Gan, **ISRAEL**. [**1987-89**].

- **Visiting Professor**: Delivered an invited talk on "Photochemical degradation of Organic Pollutants using Impregnated Activated Carbon", Tokyo Institute of Technology, Yokahama, **JAPAN**. [**31st July, 2000**].

PROJECT WORK GUIDANCE TO M.Sc. STUDENTS

1. Dissertation entitled ***Studies on polyaromatic hydrocarbons in the enviornment and decontamination*****,** Submitted by Malini Bharadwaj, M. Sc., (Environmental Science) [**August 1996**].
2. Dissertation entitled ***Analysis of Tetramethylthiuramidisulphide (Thiram) fungicide*****,** Submitted by K. Geetha, M. Sc., (Environmental Science) [**August 1997**].
3. Dissertation entitled ***Analysis of Benziimidazole fungicide***, Submitted by B.S. Ravi, M.Sc., (Environmental Science) [**August 1997**].
4. Dissertation entitled ***Photocatalyzed degradation of Aromatic Hydrocarbon***, Submitted by R. N. Shobha, M. Sc., (Environmental Science) [**July 1998**].
5. Dissertation entitled ***Photocatalyzed degradation of hexachlorocyclohexane and dichloro diphenyl trichloroethane***, Submitted by J. Chandramouli, M.Sc., (Environmental Science) [**July 1998**].
6. Dissertation entitled ***Photocatalyzed degradation of Phenols using impregnated activated carbon***, Submitted by V. Kashivisweshwari, M. Sc., (Environmental Science) [**July 1999**].
7. Dissertation entitled ***Photocatalyzed degradation of Nitroarenes using impregnated activated carbon***, Submitted by Murali, M. Sc., (Environmental Science) [**July 1999**].
8. Dissertation entitled ***Photocatalyzed degradation of Industrial waste from effluents using impregnated activated carbon***, Submitted by K.B. Rangaswamy, M.Sc., (Environmental Science) [**July 2000**].
9. Dissertation entitled ***Photocatalyzed degradation of textile effluents using Zinc oxide (ZnO)***, Submitted by Rajkumari Sannayaima Devi, M.Sc., (Environmental Science) [**June 2002**].
10. Dissertation entitled ***Photocatalyzed degradation of distillery effluents using impregnated activated carbon***, Submitted by G. K. Deepa. M.Sc., (Environmental Science) [July **2002**].
11. Dissertation entitled ***Photocatalyzed degradation of indigocarmine impregnated activated carbon***, Submitted by K. Kokila., M.Sc., (Environmental Science) [July **2003**].
12. Dissertation entitled ***Thionation of esters and amides using thiourea under microwave condition*** Submitted by C.S. Ranjitha, M. Sc., (Chemistry) [**July 2003**].
13. Dissertation entitled ***Synthesis of thioesters and thioamides under solvothermal condition using potassium thiocycanate as thionating agent,*** Submitted by Deodara Mtagona, M. Sc., (Chemistry) [**July 2003**].
14. Dissertation entitled ***Thionation of esters and amides using potassium thiocyanate under microwave condition,*** Submitted by Jayan Joseph, M. Sc., (Chemistry) [**July 2003**].
15. Dissertation entitled ***Synthesis of thioesters and thioamides under solvothermal condition using thiourea as thionating agent,*** Submitted by E. Aparna, M. Sc., (Chemistry) [**July 2003**].
16. Dissertation entitled ***Synthesis 2-1mino-5-aryl-1,3,4-oxadiazoles via dipolar cycloaddition using chloramines-B as oxidant***, Submitted by V. Girish, M. Sc., (Chemistry) [**July 2004**].
17. Dissertation entitled ***Aziridination of alkenes using chloramines-B and zinc as reagents*****,** Submitted by S. Ranjith, M. Sc., (Chemistry) [**July 2004**].
18. Dissertation entitled ***Studies on formation and 1,3-dipolar cycloaddition reactions of nitrile oxides using chloramines-B as oxidant*****,** Submitted by H.M. Prasannakumar, M. Sc., (Chemistry) [**June 2004**].
19. Dissertation entitled ***Application of salicylic acid in organic synthesis*****,** Submitted by S.N. Hemavathi, M. Sc., (Chemistry) [**June 2005**].
20. Dissertation entitled ***Synthesis and derivatization of phenoxyacetic acid and its applications*****,** Submitted by M. Nagarjuna Reddy, M. Sc., (Chemistry) [**June 2006**].

21. Dissertation entitled ***Synthesis of 1,3-oxathiolanes under microwave condition and its application in the synthesis of aryl ketones*****,** Submitted by K. Naveenkumar, M. Sc., (Chemistry) [**June 2006**]**.**

22. Dissertation entitled ***Synthesis of 1,3-oxazolines under microwave condition*****,** Submitted by R. Nagendra, M. Sc., (Chemistry) [**June 2006**]**.**

23. Dissertation entitled ***Solvothermal synthesis of 1,3-oxathiolanes and its application in the synthesis of aryl ketones*****,** Submitted by B.S. Sreedevi, M. Sc., (Chemistry) [**June 2006**]**.**
24. Dissertation entitled ***Synthesis of 4-chloro-1H-pyrazolo(3,4-d)pyrimidine and 4-chloroisoxozolo(5,4-d)pyrimidine***, Submitted by D. N. Rekha, M. Sc., (Organic Chemistry) [**July 2009**]**.**

25. Dissertation entitled ***Studies of novel 5-benzyl substiututed isoxazoline derivatives via cycloaddition reaction*****,** Submitted by J. Manasa, M. Sc., (Chemistry) [**July 2011**]**.**

26. Dissertation entitled ***Studies of novel 5-allyl substiututed isoxazoline derivatives via cycloaddition reaction*****,** Submitted by B.M. Padmashree, M. Sc., (Chemistry) [**July 2011**]**.**

27. Dissertation entitled ***Studies of novel substiututed pyrazoline derivatives via cycloaddition reaction*****,** Submitted by V. Anjalinarayan, M. Sc., (Chemistry) [**July 2011**]**.**

28. Dissertation entitled ***Studies of novel substiututed pyrazoline derivatives via cycloaddition reaction*****,** Submitted by D.I. Tejashwini, M. Sc., (Chemistry) [**July 2011**]**.**

29. Dissertation entitled ***Reduction of nitro compounds using iron as catalyst in dioxolane medium,*** Submitted by M.S. Vishwanath, M. Sc., (Organic Chemistry) [**July 2011**]**.**

30. Dissertation entitled ***Reduction of nitro compounds using copper as catalyst in dioxolane medium***, Submitted by Vinay, M. Sc., (Organic Chemistry) [**July 2011**]**.**

31. Dissertation entitled ***Synthesis and characterization of 2,5-disubstituted-1,3,4-oxadiazoles from myyrstic acid,*** Submitted by Punyavathi, 5 year Integrated M. Sc., course in Chemistry [**July 2012**]**.**

32. Dissertation entitled ***Synthesis of 2,5-disubstituted-1,3,4-oxadiazoles under solvothermal condition***, Submitted by Ngangom Premchandra Meeteii, M. Sc., (Chemistry) [**July 2012**]**.**

33. Dissertation entitled ***Synthesis of esters from aldehydes using zinc in tetrahydrofuran medium***, Submitted by M. Kavyashree, M. Sc., (Chemistry) [**July 2013**]**.**

34. Dissertation entitled ***Synthesis of esters using iorn in tetrahydrofuran medium***, Submitted by M. Karthik, M. Sc., (Chemistry) [**July 2013**]**.**

35. Dissertation entitled "***Reduction of nitro* compounds *using copper in tetrahydrofuran medium***, Submitted by H. R. Chanidni, M. Sc., (Chemistry) [**July 2013**]**.**

36. Dissertation entitled ***Synthesis of 4-(benzylhydryloxy)-1,1-diphenylbutan-1-ol and 3-(9-hydroxy-2-trifluromethyl)-9H-thioxanthen-9-yl)propyl methane sulfonate***, Submitted by M. Shashikumar, M. Sc., (Organic Chemistry) [**July 2013**]**.**

37. Dissertation entitled "A ***Review on non-steroidal anti-inflammatory drugs and synthesis of 0-acetyl aryl amines via aza-Fries rearrangement*** Submitted by S. P Sneha, M. Sc., (Chemistry) [**July 2014**]**.**

38. Dissertation entitled "**A *Review on natural products as anti-oxidants and synthsis o phenols by Claisen rearrangement***, Submitted by Sukanya S, M. Sc., (Chemistry) [**July 2014**]**.**

39. Dissertation entitled "***Synthesis of 4H-chromone derivatives from chalvones***, Submitted by S. N Snjaykumar., (Chemistry) [**July 2014**]**.**

40. Dissertation entitled "**A *Review on antipyretics and synthesis of oxepine derivatives***, Submitted by Nurul Kasyfita, M. Sc., (Chemistry) [**July 2014**]**.**

41. Dissertation entitled "***Synthesis of novel isoxazoline derivatives and evaluation of their biological activity***", Submitted by Mr. G. Ravikumar, M. Sc., (Chemistry) [**July 2015**].

42. Dissertation entitled "***Synthesis of 2,5-disubstituted 1,3,5-oxadiazoles and review on anticancer agents***", Submitted by Miss. T. S. Shruthi, M. Sc., (Chemistry) [**July 2015**].

43. Dissertation entitled "**R*eview on synthesis of pyrazolines and synthesis of 3,5-disubstituted pyrazolines***", Submitted by Mr. N. Santhosh, M. Sc., (Chemistry) [**July 2015**].

44. Dissertation entitled "**A r*eview and solvent-free synthesis of N-substituted pyrazolines***", Submitted by Miss. D. Thejaswini, M. Sc., (Chemistry) [**July 2015**].

45. Dissertation entitled "**R*eview on Synthesis of pyrazolines and synthesis of 3,5-disubstituted pyrazolines***", Submitted by N. Santhosh, M. Sc., (Chemistry) [**July 2015**].

46. Dissertation entitled "***Synthesis of 2,5-disubstituted 1,3,5-oxadiazoles and review on artificial sweetners***", Submitted by Mr. D. Hemanth, M. Sc., (Chemistry) [**July 2015**].

47. Dissertation entitled "**Preparation and characterization of copper sericin-chelate**", Submitted by Miss. H. S. Kavashree M. Sc., (Organic Chemistry) [**July 2015**].

48. Dissertation entitled "**Improved process for the condensation of 5,6-dimethoxy-indanone with N-benzyl-piperidine=-4-carboxaldehyde by using methoxide**", Submitted by Mr. Ranjith Kumar, M. Sc., (Organic Chemistry) [**July 2015**].

49. Dissertation entitled "**Synthesis and characterization of 2,5-disubstituted 1,3,5-oxadiazoles**", Submitted by Miss. Srilakshmi, M. Sc., (Chemistry) [**July 2016**].

50. Dissertation entitled "**A R*eview on synthesis of pyrazolines and synthesis of novel isoxazoline derivativess***", Submitted by Miss. A. Yamuna, M. Sc., (Chemistry) [**July 2016**].

51. Dissertation entitled "**Synthesis and characterization of 2,5-disubstituted 1,3,5-oxadiazoles**", Submitted by Mr. Sakaleshkumar, M. Sc., (Chemistry) [**July 2016**].

52. Dissertation entitled "**A review on isoxazolines and synthesis of novel isoxazoline derivatives**", Submitted by Mr. Mahesh Kumar, M. Sc., (Chemistry) [**July 2016**].

53. Dissertation entitled "**R*eview on the biological activities of pyrimidine and synthesis of pyrrole by autoclave method"* s**ubmitted by Mr. Aravinda Kumar, M. Sc., (Chemistry) [**July 2016**].

54. Dissertation entitled "**R*eview on* chloramine-T based cycloaddition reactions and synthesis of pyrrole by microwave emthod**", Submitted by Mr. Manu Jhonson, M. Sc., (Chemistry) [**July 2016**].

55. Dissertation entitled "**Novel and simple method for the isolation of hydroxyl citric acid from Garcinia indica fruit**, Submitted by Mr. Yogesh Y. N M. Sc., (Organic Chemistry) [**July 2016**].

56. Dissertation entitled "**Synthesis and characterization related compound of fluphenazine dihdrochloride**", Submitted by Mr. Suchith S N M. Sc., (Organic Chemistry) [**July 2016**].

57. Dissertation entitled "**Synthesis and characterization of regorafenib impurity**", Submitted by Mr. Suresh R N M. Sc., (Organic Chemistry) [**July 2016**].

58. Dissertation entitled "**ANALYSIS OF AMITRIPTYLINE HYDROCHLORIDE, DOXYLAMINE SUCCINATE AND SYNTHESIS OF CYCLOHEXENONE VIA DEHYDROGENATION OF CYCLO HEXAONE USING KIO_3 AS OXIDANT**", Submitted by Miss. M. Harinakshi M. Sc., (Chemistry), Mangalore University, Chikakuvar, Kodagu [**May 2019**].

59. Dissertation entitled "**STUDY OF ANALYTICAL METHOD OF MINOXIDIL (ALOPECIA AND HYPERTENSIVE DRUG) AS PER PHARMACOPIA AND THE SYNTHESIS OF CYCLOHEXENONE VIA DEHYDROGENATION OF CYCLOHEXAONE USING KIO_3 AS OXIDANT**", Submitted by Miss. **Yashika P.B.** M. Sc., (Chemistry), Mangalore University, Chikakuvar, Kodagu [**May 2019**].

ORIGINAL CONTRIBUTIONS IN RESEARCH

- Developed **Onion root tip method** for studying the antimitotic activity of the newly synthesized molecules. **Curr. Sci**., **1986**, 55, 702.
- Developed **chloramine-T** as analytical reagent for the determination of iodine number of oils, ***Analyst***, **1995**, 120, 2767. [Adopted in practical classes syllabi of undergraduate and post graduate in many institutions/universities].
- Developed **chloramine-T** as analytical reagent for the estimation of neutral amino acids, ***Indian Chem. Soc***., **1999**, 171.
- Developed **chloramine-T** as analytical reagent for the determination of number of of keto groups in an organic compound, ***Chem Analyzia***, (Warsaw) **2001,** 46, 269-74. [Adopted in practical classes syllabi of post graduate course].
- Developed **chloramine-T** as analytical reagent for the estimation of ascorbic acid and estimation of pharmaceutical vitamin tablets using chloramines-T, *Oxidation Commun.,* **2002**, 25, 566-570. -[Adopted in practical classes syllabi of under graduate course].
- **Chloramine-T** as new synthetic reagent for the generation of highly reactive nitrile oxide intermediate; ***Synthesis***, **1989**, 57 - included as reagents in organic synthesis in ***Feiser's Reagents in Organic Synthesis,*** **Vol 15**, pp 78 and also cited in ***Aldritch chemicals***.
- **Chloramine-T** as new synthetic reagent for the generation of highly reactive nitrile imine intermediates; ***Synth. Commun***., **1989**, 19, 2799 – included as reagents in organic synthesis in **Lansester**, Catalogue for Chemicals, 1998, pp 368.
- **Cyanoethyl acetate** as new synthetic reagent for cyclopropanation of α,β-unsaturated ketones; ***Synth. Commun***., **1990,** 20, 1273 –
- **Mercuric acetate** as synthetic reagent for generation of highly reactive nitrile oxide intermediate; ***Org. Proc. Prep. Int***., **1992**, 24, 91 –
- **Stannous chloride** as new synthetic reagent for the reduction of nitrostyrene in presence of allyl alcohols; ***Synth. Commun***., **1994**, 20, 1669, - included as reagents in organic synthesis in ***Feiser's Reagents in Organic Synthesis***, **Vol 18**, pp 354.
- **Mercuric acetate** as new synthetic reagent for generation of highly reactive nitrile imine intermediate; ***Synth. Commun***., **1997**, 23, 3535 - included as reagents in organic synthesis in ***Feiser's Reagents in Organic Synthesis***, **Vol 20**, pp 238.
- **Thiourea** as new synthetic reagent for thionation of oxadiazoles, ***Synth. Commun***., **1999**, 24, 4611, included as reagents in organic synthesis in ***Feiser's Reagents in Organic Synthesis***, **Vol 20**, pp 374.
- **Chloramine-T** as new synthetic reagent for the generation of highly reactive nitroso olefins from ketooximes; J. Heterocyclic chemistry, **2005**, 42, 877
- **Chloramine-T** as new synthetic reagent for the generation of highly reactive α-azooleifins from ketone hydrazones; ***Tett. Lett.,*** **2005**, 46, 5969-5970

- **Silver nitrate:** as new synthetic reagent for the Friedel–Crafts acylation of benzene derivatives, Synth. Commun., 2011, 41: 953–955

- **Zinc and Aqueous Chelating Ethers** as new synthetic reagent for the Cleavage of 3-Aryl-5,6-dihydro-4H-1,2-oxazines, Letters in Organic Chemistry, **2012**, 9, 440-446

- **Iron** as a novel reagent for the reduction Reduction of Nitro Compounds, Journal of Chemistry and Chemical Sciences, Vol.8(5), 904-908, May 2018.

- **Potassium iodate (KIO_3)** as a novel reagent for the synthesis of isoxazolines: evaluation of antimicrobial activity of the products, *J. Chem. Sci.* (2019) 131:46 https://doi.org/10.1007/s12039-019-1622-9

PARTICIPATIONS IN NATIONAL/INTERNATIONAL SEMINARS, CONFERENCES AND SYMPOSIA

1. National symposium on bioactive molecules from discovery to industry; Organized by Department of studies in Biochemistry, Manasagangotri, University of Mysore, Mysore. [6th April 2009].

2. Emerging areas in chemistry NACEAC 2009; Organized by DOS in Chemistry, Universities, Govt. Organizations and industries. [31st July 2009].

3. International Conference on Chemistry and Thirty-sixth Annual Convention of Chemists on the Platinum Jubilee Celebration of the Society held at Calcutta [**11-12-1999** to **16-12-1999**].

4. Joint 6th International symposium on Hydrothermal Reaction and 4th International Conference on Solvo-Thermal Reactions held at Kochi, Japan. [**July 25-28, 2000**].

5. As **session chairman**, National conference on material science and engineering, organized by department of physics and electronics, JSS college og Arts, commerce and science, ooty road, Mysore [21st March 2014.

PARTICIPATIONS IN REFRESHER COURSES AND TRAINING/ORIENTATION PROGRAMMES

- **Participant**: Refreshers course in Chemistry conducted for the college teachers under the college teacher orientation scheme of UGC at Osmania University, Hyderabad. [**3-12-1992** to **30-12-1992**].

- **Participant**: Refreshers course in Chemistry conducted for the college teachers under the college teacher orientation scheme of UGC at Academic Staff College, Mansagangotri, University of Mysore, Mysore. [**19-08-1994** to **24-09-1994**].

- **Participant**: Discussion meeting on "Molecular Recognition: chemical and biochemical aspects" held at Indian Institute of Science, Bangalore, and Sponsored by Jawaharlal Nehru Centenary [**29-30, October 1992**].

- **Invited Speaker**: Refreshers course in Life Sciences, conducted for the college teachers under the college teacher orientation scheme of UGC at Academic Staff College, Mansagangotri, University of Mysore, Mysore. [**September 2010**].

- **Resource Person**: For practical classes in a Refreshers course in Life Sciences, conducted for the college teachers under the college teacher orientation scheme of UGC at Academic Staff College, Mansagangotri, University of Mysore, Mysore. [**September 2010**].

- **Invited Speaker**: Refreshers course in Life Sciences, conducted for the college teachers under the college teacher orientation scheme of UGC at Academic Staff College, Mansagangotri, University of Mysore, Mysore. [**2011**].

- **Invited Speaker**: Orientation programme for High School teachers conducted by the Academic Staff College, Mansagangotri, University of Mysore, Mysore. [**2010**].

- **Invited Speaker**: Orientation programme for meritorious High School students conducted by the Regional College, Mysore [**2011**].

- **Invited Speaker**: Delivered an Invited Lecture in Orientation programme for meritorious high school students, Regional College, Mysore, [**2009**].

- **Invited Speaker**: Delivered an Invited Lecture in Refresher's Course in Material Science, University of Mysore, Mysore, [**2009**].

- **Invited Speaker**: Delivered an Invited Lecture in Refresher's Course in Material Science, University of Mysore, Mysore, [**2012**].
- **Invited Speaker**: Delivered an Invited Lecture in Refresher's Course in Material Science, University of Mysore, Mysore, [**2016**].
- **Invited Speaker**: Delivered an Invited Lecture in Refresher's Course in Chemistry. University of Mysore, Mysore, [**2018**].

INVITED LECTURES

1. Delivered a Lecture in a one day work shop on Biodiversity, University of Mysore, Mysore. [**2010**].

2. Delivered a Lecture in a seminar on Cheminform Inauguration and Lecture series held at Government Science College, Hassan [**October 2010**].

3. Delivered a Lecture in a One day workshop on "extraction, isolation and characterization of bioactive molecules" under the Institution of excellence. [**13-07-2010**].

4. Delivered a Lecture in a One day workshop at Mahajana pre-University College, Mysore [**04-11-2011**].

5. Delivered a Lecture in a Training on emerging pedagogis and assessment practices in chemistry at senior secondary level (teachers), Regional College, Mysore [**22nd , 23rd , 26th** and **28th November 2011**].

6. Delivered a Lecture in a Training on emerging pedagogis and assessment practices in chemistry at senior level, Regional College, Mysore [**09-12, December 2011**].

7. Delivered a Lecture in a Chemical Society forum on "Mass spectroscopy" held at Maharani Government Science College, Mysore [**December 2012**].

8. Delivered a Lecture in a International Sympossium on Materials for Enviornement Sustainable Society and Global Empowerment (MESSAGE-2019) **20th December 2019** on "Importance of organic molecules in day to day life" held at Department of Nanotechnology, Visvesvaraya Technological University, Ceneter for Post Graduate Studies, Muddenahalli, Chikaballapur 562103, Karnataka.

9. Delivered a Lecture in a 9th Refresher Course in Material Science on "Importance of organic molecules in day to day life" held at Academic Staff College, Manasagangotri, Mysuru [5th F**ebruary 2020**].

10. Delivered a Lecture in a 9th Refresher Course in Material Science on "Organic synthesis under Solvothermal condition" held at Academic Staff College, Manasagangotri, Mysuru [9th F**ebruary 2020**].

11. Delivered a Lecture in a Chemical Society forum on "Organic synthesis under Solvothermal condition" held at Department of Chemistry, Manasagangotri, Mysuru [19th F**ebruary 2020**].

12.