

Details of Research Publications during the Period

April 2012- March 2013

An Overview

Articles/Papers published in Academic Journals

Sr. No.	Department	Number
1.	Biosciences	52
2.	Chemistry	79
3.	Computer Science	34
4.	Electronics	04
5.	Materials Science	04
6.	Mathematics	15
7.	Physics	73
8.	Home Science	02
9.	Statistics	08
	Total	271

Books/Chapters in Book

Sr. No.	Department	Books	Chapters in Book
1.	Biosciences	1	3
2.	Computer Science	1	2
3.	Mathematics	2	-

Papers published in Academic Journals during April 2012- March 2013 Basic Science Departments

Department of Biosciences

1. Bhaumik R Dave, Ankit P Sudhir, Pritesh Parmar, Saurabh Pathak, Dharmesh P Raykundaliya and RB Subramanian. Enhancement of Cellulase Activity from a New Strain of *Thermoascus aurantiacus* by Response Surface Methodology. Biocatalysis and Agricultural Biotechnology, (In Press), (2013). 2 (2): 108-115
2. Prakash R Patel and TV Ramana Rao. Physiological changes in Karanda (*Carissa carandus L.*) fruit during growth and ripening. Nutrition and Food Science, (In Press), (2012). 43 (2): 128-136
3. Rajput KS, VS Patil and KS Rao. Wood Anatomy and development of interxylary phloem of *Ipomoea herdifolia Linn.* (Convolvulaceae). Journal of Plant Growth Regulation, (In Press), (2013). DOI: 10.1007/s00344-013-9334-8
4. Jain K, Shah V, Chapla D and Madamwar D. Decolorization and degradation of azo dye – Reactive Violet 5R by an acclimatized indigenous bacterial mixed cultures-SB4 isolated from anthropogenic dye contaminated soil. Journal of Hazardous Materials, Doi: 10.1016/j.jhazmat.2012.02.010 (In Press), (2012).
5. Soumya V Menon and TV Ramana Rao. Nutritional quality evaluation of nonnetted muskmelon fruit during its development and ripening. Nutrition and Food Science. Vol. 43, Issue 4, (2012).
6. Oturkar CC, Patole MS, Gawai KR and Madamwar D. Enzyme based cleavage strategy of *Bacillus lentinus* BI377 in response to metabolism of azoic recalcitrant. Bioresource Technology, 130: 360-365, (2013).
7. Parmar A, Singh NK, Dhoke R and Madamwar D. Influence of light on phycobiliprotein production in three marine cyanobacterial cultures. Acta Physiol Plant, Doi: 10.1007/s11738-013-1219-8, (2013).
8. Pramod S, Karumanchi S Rao, and Anna Sundberg, Structural, histochemical and chemical characterization of normal, tension and opposite wood of Subabul (*Leucaena leucocephala*). Wood Science and Technology, DOI: 10.1007/s00226-013-0528-9, (2013).
9. Rupal A. Vasant and AVRL Narasimhacharya. Limonia fruit as a food supplement to regulate fluoride-induced hyperglycaemia and hyperlipidaemia. Journal of the Science of Food and Agriculture, 93 (2): 422-426, (2013).
10. JH Bavaria and AVRL Narasimhacharya. Systematic study to evaluate anti-diabetic potential of *Amaranthus spinosus* on type-1 and type-2 diabetes. Cellular and Molecular Biology, 59 (Suppl): OL1818-L1825, (2013).
11. Rupal A. Vasant and AVRL Narasimhacharya. Response to Comments by Varol and Varol. Journal of the Science of Food and Agriculture, 93 (2): 428, (2013).
12. Pramod S, Komal S Patel and KS Rao. Effect of exogenous plant growth regulatorson pattern of xylogenesis in young shoots of *Leucaena leucocephala*. Acta Botanica Hungarica, 55 (1): 81-97, (2013).

13. Shah V and Madamwar D. Community genomics: Isolation, characterization and expression of gene coding for azoreductase. International Biodeterioration and Biodegradation, 79: 1-8, (2013).
14. Matkar K, Chapla D, Divecha J, Nighojkar A, Madamwar D. Production of cellulase by a newly isolated strain of *Aspergillus sydowii* and its optimization under submerged fermentation. International Biodeterioration and Biodegradation, 78: 24-33, (2013).
15. Rupal A. Vasant and AVRL Narasimhacharya. A multigrain protein enriched diet mitigates fluoride toxicity. Journal of Food Science and Technology, 50 (3): 528-234, (2013).
16. Pritesh Parmar, Bhaumik Dave, Ankit Sudhir, Ketan Panchal and RB Subramanian. Physiological, biochemical and molecular response of plants against heavy metals stress. International Journal of Current Research, 5 (1) 80-89, (2013).
17. Patel V, Cheturvedula S and Madamwar D. Phenanthrene degradation by *Pseudoxanthomonas* sp. DMVP2 isolated from hydrocarbon contaminated sediment of Amlakhadi canal, Gujarat, India. Journal of Hazardous Materials, 201-202: 43-51, (2012).
18. Patel V, Jain S and Madamwar D, Naphthalene degradation by bacterial consortium (DV-AL) developed from Alang-Sosiya ship breaking yard, Gujarat, India. Bioresource Technology, 107: 122-130, (2012).
19. Chapla D, Patel H, Madamwar D, Shah A. Assessment of a thermostable xylanase from *Paenibacillus* sp. ASCD2 for application in prebleaching of eucalyptus kraft pulp. Waste and Biomass Valorization, 3:269-274, (2012).
20. Narra M, Dixit G, Divecha J, Madamwar D and Shah A. Production of cellulases by solid state fermentation with *Aspergillus terreus* and enzymatic hydrolysis of mild alkali-treated rice straw. Bioresource Technology, 121: 355-361, (2012).
21. Mohan SV, Babu PS, Naresh K, Velvizhi G and Madamwar D. Acid azo dye remediation in anoxic-aerobic-anoxic microenvironment under period discontinuous batch operation: Bio-electro kinetics and microbial inventory. Bioresource Technology, 119: 362-372, (2012).
22. Oturkar CC, Othman MA, Kulkarni MJ, Madamwar D and Gawai KR. Synergistic action of flavin containing NADH dependant azoreductase and cytochrome P450 monooxygenase in azoaromatic mineralization. RSC Advances, 3: 3062-3070, (2012).
23. Joshi N, Subramanian RB and KS Rao. Identification of yellowing inducing strain of *Fusarium oxysporum* F. Sp. Ciceris from India. Journal of Cell and Tissue Research, 12(3): 3297-3305, (2012).
24. Pramod S and Karumanchi S Rao. Anatomical changes during transition from juvenile to adult wood in branch and main trunk xylem of subabul (*Leucaena leucocephala* (lam.) de wit.). Journal of Sustainable Forestry, 31: 1-11, (2012).
25. Rao KS, Kim YS and Pramod S. Ultrastructural changes in the cell walls of cambial derivatives during wood formation in Indian elm (*Holoptelea integrifolia* (Roxb.) Planch). IAWA Journal, 33 (4): 403-416, (2012).
26. Pramod S, Priti B Patel and Karumanchi S Rao. Ethylene and its interaction with other hormones in tension wood formation in *Leucaena leucocephala*. Journal of the Indian Academy of Wood Science, 9(2):130-139, (2012).
27. Singh NK, Kiran K, Patel J. A survey on prevalence rate & antibiotic susceptibility test (AST) pattern of methicillin resistant *Staphylococcus aureus* (MRSA) isolate from various types of

- clinical specimen & healthy hospital staff as carriers, Anand district. Journal of Pharmaceutical and Biomedical Sciences, 16(16), (2012).
- 28. Singh NK, Kiran K, Patel J. Prevalence of methicillin resistant *Staphylococcus aureus* and MDR pattern in physical and mentally handicapped children of Anoop mission, Anand, Gujarat. Advances in Bioreserach, 3(1): 73-77, (2012).
 - 29. Rupal A. Vasant and AVRL Narasimhacharya. Amla as an antihyperglycemic and hepatorenal protective agent in fluoride induced toxicity. Journal of Pharmacy and Bioallied Sciences, 4 (3): 250-254, (2012).
 - 30. Mohan N Patel, Bhupesh S Bhatt. Promise A Dosi, AVRL Narasimhacharya and Hetal V Movaliya, Synthesis, spectral investigation and biological interphase of drug-based cytotoxic square pyramidal coordination compounds. Applied Organometallic Chemistry, 26 (5): 217-224, (2012).
 - 31. Rupal A. Vasant and AVRL Narasimhacharya. Ameliorative effect of tamarind leaf on fluoride-induced metabolic alterations. Environmental Health and Preventive Medicine, 17 (6): 484-493, (2012).
 - 32. Rupal A. Vasant and AVRL Narasimhacharya. Alleviatory potential of *Emblica officinalis* G. as a food supplement in fluoride induced hyperlipemia and oxidative stress. International Journal of Pharmacy and Pharmaceutical Sciences, 4 (1): 404-408, (2012).
 - 33. Nilanjana S Baraiya, Neeta B Gol and TV Ramana Rao. Influence of polysaccharide based edible coatings on the shelf life and nutritional quality of tomato fruit. Food, 6(1): 22-27, (2012).
 - 34. Soumya V Menon and TV Ramana Rao. Nutritional quality of muskmelon fruit as revealed by its biochemical properties during different rates of ripening. International Food Research Journal, 19 (4): 1621-1628, (2012).
 - 35. Soumya V Menon and TV Ramana Rao. Enzyme activities during the development and ripening of watermelon (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) fruit. International Journal of Plant Developmental Biology, 6 (1): 21-26, (2012).
 - 36. Prakash R Patel and TV Ramana Rao. Screening of antibacterial activity of some underutilized fruits of Sapotaceae International Food Research Journal, 19 (3): 1227-1231, (2012).
 - 37. Prakash R Patel and TV Ramana Rao. Antibacterial activity of underutilized fruits of Jamun (*Syzygium cumini*) International Journal of Current Pharmaceutical Research, 4 (1): 36-39, (2012).
 - 38. Prakash R Patel and TV Ramana Rao. Influence of growth and ripening of *Physalis minima* L. fruit on its antibacterial potential. Research Journal of Medicinal Plants 6 (4): 326-333, (2012).
 - 39. Bharvad Purvesh B and JSS Mohan. *In vitro* Propagation of a Rare Medicinal Herb: *Schweinfurthia papilionacea* A. Br. (Scrophulariaceae). Indian Journal of Biotechnology, 11: 476-480, (2012).
 - 40. Ankit Sudhir, Bhaumik Dave, Kalkal Trivedi and R.B. Subramanian. Production and amplification of an L-asparaginase gene from actinomycetes isolate streptomyces ABR2. Annals of Microbiology, DOI 10.1007/s13213-011-0417-0, (2012).

41. Pritesh Parmar, Madhvi Gandhi and RB Subramanian. Isolation and molecular characterization of avirulence gene from Indian isolates of *Fusarium oxysporum* f. sp. *lycopersici*. Journal of Cell and Tissue Research, 12 (1): 3061-3067, (2012).
42. Pritesh Parmar, Mandakini Patel, Bhaumik Dave and RB Subramanian. Identification of *Colocassia esculentum* a novel plant spp for the application of phytoremediation. World Applied Science Journal, 4(3): 67-72, (2012).
43. Sneha Trivedi, Jyoti Divecha and Amita Shah. Optimization of inulinase production by newly isolated *Aspergillus tubingensis* CR16 using low cost substrates. Carbohydrate polymers, 90: 483-490, (2012).
44. B Kavita and Keharia H. Reduction of hexavalent chromium by *Ochrobactrum intermedium* BCR400 isolated from a chromium-contaminated soil. 3 Biotech, 2: 79-87, (2012).
45. Bindya H Soni, MP Deshpande, Sandip V Bhatt, Sunil H Chaki and Haresh Keharia. Study on antimicrobial activity of undoped and Mn doped ZnO nanoparticles synthesized by microwave irradiation. Archives of Applied Science Research, 3 (6): 173-179, (2012).
46. Kavita B and Keharia H. Biosorption potential of *Pythium* biomass for removal of Cr (VI) from electroplating industrial effluent. International Journal of Chemical Technology: doi:10.1155/2012/305462, (2012).
47. Khyati V Pathak, Haresh Keharia, Kallol Gupta, Suman S Thakur, Padmanabhan Balaram. Lipopeptides from the banyan Endophyte, *Bacillus subtilis* K1: Mass spectrometric characterization of a library of fengycins. Journal of American Society of Mass Spectrometry, 23(10): 1716-28, (2012).
48. Harsur M. Jajda and Vasudev R Thakkar. Control of *Aspergillus niger* infection in varieties of *Arachis hypogaea* L. by supplementation of zinc ions during seed germination. Archive of Phytopathology and Plant Protection, 45: 1468-1478, (2012).
49. Himanshu Bariya, Vasudev Thakkar, Saurabh Tanna and RB Subramanian. Biochemical and molecular determinants of resistance and susceptibility in *Solanum tuberosum* (potato) plants challenged with *Phytophthora infestans*. Archive of Phytopathology and Plant Protection, 45: 1429-1438, (2012).

Department of Chemistry

50. Yogesh S. Patel, Ritu B. Dixit, Hasmukh S. Patel. Synthesis, characterization and biological activity of coordination polymers derived from pyromellitic dianhydride. Turkish Journal of Chemistry, Likely to accept. (I. F. = N/A)
51. Khyati D. Patel, Hasmukh S. Patel. Synthesis, spectroscopic characterization and thermal studies of some divalent transition metal complexes of 8-hydroxyquinoline. Arabian Journal of Chemistry, (Accepted on 25-03-2013), (I .F.– 1.346); <http://dx.doi.org/10.1016/j.arabjc.2013.03.019>
52. Yogesh S. Patel, Hasmukh S. Patel. Studies on novel coordination polymer based on pyromellitic dianhydride, Elixir Appl. Chem., 44, 7238-7242, (2012), (I. F. = 0.372)
53. Yogesh S. Patel, Hasmukh S. Patel, Bolishetti Srinivasulu. Synthesis, spectral, magnetic, thermal and biological aspects of pyromellitic dianhydride based co-ordination polymers, Int. J. Plast. Technol., 16(02), 117-124, (2012).
54. Yogesh S. Patel, Hasmukh S. Patel. Thermoplastic-thermsetting merged polyimides derived from furan-maleimide' J. of res. updates in poly. Scie., 1, 75-83, (2012).

55. Visha P. Modi, Paresh N. Patel, Hasmukh S. Patel. Studies on synthesis, characterization and solvatochromic effect of novel tris(heteroaryl)bisazo dyes for dyeing polyester fabric, *Elixir Org. Chem.*, 44, 7192-7201, (2012), (I. F. = 0.372)
56. Paresh N. Patel, Hasmukh S. Patel. Removal and decolorization of dye bearing textile effluents by sulfinated furfural-acetone resin, *Advances in Appl. Scie. Res.*, 3 (5):2693-2699, (2012), (I. F.- N.A.)
57. Anil K. Patel, Niraj H. Patel, Mehul A. Patel and Dinkar I. Brahmbhatt. Synthesis of some 3-(4-aryl-benzofuro[3,2-b]pyridin-2-yl)coumarin derivatives and their antimicrobial screening, *J.Heterocyclic Chem.*, 49, 3, 504-510, (2012), (I. F. -1.22)
58. Mehul A. Patel, Varun G. Bhila, Niraj H. Patel, Anil K. Patel and Dinker I. Brahmbhatt. Synthesis characterization and biological evaluation of some pyridine and quinoline fused chromenone derivatives, *Med. Chem. Res.*, 21, 4381-4388, (2012), (I. F. -1.271).
59. Nandhibatla V. Sastry, Thummarr A. D. and Sanjay H. Punjabi. Mixed Micelles of Trisloxane Based Silicone and Hydrocarbon Surfactants Systems in Aqueous Media : Dilute Aqueous Solution Phase Diagrams, Surface Tension Isotherms, Dilute Solution Viscosities, Critical Micelle Concentrations and Application of Regular Solution Theory, *Journal of Surfactants and Detergents*, (I. F. 1.545)
60. Nandhibatla V. Sastry*, Nilesh M. Vaghela and Pradip M Macwan. Densities and partial molar volumes for water + 1-butyl- or, 1-hexyl- or, 1-octyl-3-methylimidazolium halide ionic liquids at $T = (298.15 \text{ and } 308.15) \text{ K}$. *J. Mol. Liquids*, 180, 12–18 (2013), (I. F.-1.649)
61. N. V. Sastry*, S. H. Punjabi and I. R. Ravalji. Effect of t-Octylphenoxylpolyethoxyethanol (TX-100) on the Dilute Aqueous Solution Phase Diagrams, Surface Activity and Micellization Behavior of Non-ionic Silicone Surfactants (SS) in Aqueous Media, *J. Mol. Liquids*, 177, 215 – 224, (2013), (I. F.-1.649)
62. Nandhibatla V. Sastry, Sunil R. Patel, Saurabh S. Soni*. Densities, Viscosities, Speeds of Sound and Relative Permittivities for Esters + Cylcohexane at $T = (298.15 \text{ and } 303.15) \text{ K}$, *J. Mol. Liquids* (I. F.-1.649)
63. Nandhibatla V Sastry, Nilesh M Vaghela and Vindo K Aswal. Effect of alkyl chain length and head group on surface active and aggregation behavior of ionic liquids in water. *Fluid Phase quilibria*, 327, 22 -29 (2012), (I. F.-2.253)
64. N. V. Sastry, N. M. Vaghela, P. M. Macwan, S. S. Soni, V. K. Awwal and A. Gibaud. Aggregation Behavior of Pyridinium Based Ionic Liquids in Water – Surface Tension, ^1H NMR Chemical Shifts, SANS and SAXS Measurements. *Journal of Colloid and Interface Science*, 371, 52 – 61 (2012), (I. F.-3.066)
65. Mohan N. Patel, Promise A. Dosi, Bhupesh S. Bhatt. Synthesis, characterization, antibacterial activity and DNA interaction studies of drug- based mixed ligand copper(II) complexes with terpyridines. *Med. Chem. Res.*, 21, 2723–2733, (2012), (I. F.-1.271)
66. M. N. Patel, D. S. Gandhi, P. A. Parmar, B. S. Bhatt, A. P. Patidar. Cis-platin analogus of bipyridines; covalent binding and degree of unwinding. *Z. Anorg. Allg. Chem.*, 638(5), 838–843, (2012), (I. F.-1.249)
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69. M. N. Patel, B. S. Bhatt, P. A. Dosi, A. V. R. L. Narshimacharya, H. V. Movaliya. Synthesis, spectral investigation and biological interphase of drug based cytotoxic square pyramidal coordination compounds. *Appl. Organometal. Chem.*, 26, 217–224, (2012), (I. F.–2.061)
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75. M. N. Patel, C. R. Patel, H. N. Joshi. Interaction of drug based copper(II) complexes with Sperm Herring DNA and their biological activities. *Spectrochim. Acta, Part A*, 97, 54-79, (2012), (I. F.–1.952)
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78. M. N. Patel, P. A. Dosi, B. S. Bhatt. Square planar palladium(II) complexes of bipyridines: synthesis, characterization and biological studies. *J. Coord. Chem.*, 65, 3833-3844, (2012), (I. F.–1.547)
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80. Harshad G. Kathroliya and Manish P. Patel. Synthesis and identification of β -aryloxyquinoline based diversely fluorine substituted N-aryl quinolone derivatives as a new class of antimicrobial, antituberculosis and antioxidant agents. *Eur. J. Med. Chem.*, 63, 675-684, (2013), (I. F.– 3.346)
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83. Nimesh M. Shah, Manish P. Patel, Ranjan G. Patel. New N-arylamino biquinoline derivatives: microwave-assisted synthesis and their antimicrobial activities. *Med. Chem. Res.*, 22, 312-322, (2013), (I. F.–1.271)
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87. Jigar A. Makawana, Manish P. Patel, Ranjan G. Patel. Synthesis and in vitro antimicrobial evaluation of penta-substituted pyridine derivatives bearing the quinoline nucleus. *Med. Chem. Res.*, 21, 616-623, (2012), (I. F.–1.271)
88. Yatin N. Patel and Manish P. Patel. Novel Cationic Poly[AAm/NVP/DAPB] Hydrogels for Removal of Some Textile Anionic Dyes from Aqueous Solution. *J. Macromol. Sci. A.*, 49, 1-12, (2012), (I. F.–0.887)
89. Chetan. B. Sangani, Divyesh. C. Mungra, Manish P. Patel, Ranjan G. Patel. Synthesis and in vitro antimicrobial screening of new pyrano[4-3-b]pyran derivatives of 1H-pyrazole. *Chin. Chem. Let.* 23, 57-60. (2012), (I. F.–0.978)
90. Jigar A. Makawana, Manish P. Patel, Ranjan G. Patel. Synthesis and in vitro antimicrobial activity of N-arylquinoline derivatives bearing 2-morpholinoquinoline moiety. *Chin. Chem. Let.*, 23, 427-430, (2012), (I. F.–0.978)
91. Nimesh. M. Shah, Manish P. Patel, Ranjan G. Patel. New N-arylamino biquinoline derivatives: Synthesis, antimicrobial, antituberculosis, and antimalarial evaluation. *Eur. J. Med. Chem.*, 54, 239-247, (2012), (I. F.–3.346)
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93. Hardik. H. Jardosh and Manish P. Patel. Lanthanum triflate-triggered synthesis of tetrahydroquinazolinone derivatives of N-allylquinolone and their biological assessment. *J. Serb. Chem. Soc.*, 77 (11), 1561-1570, (2012), (I.F-0.879)
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96. Chetan. B. Sangani, Divyesh. C. Mungra, Manish P. Patel, Ranjan G. Patel. A one-pot synthesis of pyrano[6,5-b]quinoline derivative and their biological studies. *J. Serb. Chem. Soc.*, 77 (9), 1165-1174, (2012), (I. F.-0.879)
97. Nirav K. Shah, Nimish M. Shah, Manish P. Patel, Ranjan G. Patel. The design, synthesis and antimicrobial activity of new biquinoline derivatives. *J. Serb. Chem. Soc.*, 77 (3), 279-286, (2012), (I. F.- 0.879)
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99. Divyesh C. Mungra, Harshad G. Kathroiya, Niraj K. Ladani, Manish P. Patel, Ranjan G. Patel. Molecular iodine catalyzed synthesis of tetrazolo[1,5-a]-quinoline based imidazoles as a new class of antimicrobial and antituberculosis agents. *Chin. Chem. Let.*, 23, 1367-1370, (2012), (I. F.-0.978)
100. Harshad G. Kathroiya, Ranjan G. Patel, Manish P. Patel. Microwave-assisted multicompetent synthesis of 3'-indolyl substituted pyrano[2,3-c]pyrazoles and their antimicrobial activity. *J. Serb. Chem. Soc.*, 77 (8), 983-991, (2012), (I. F.-0.879)
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