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Subjects Organic Chemistry and Life Sciences

- Education and experience
- Ph. D.; June 2001; Indian Institute of Science, Bangalore
 - Postdoctoral Research Associate; Oct 2000 - Oct 2003; Department of Biochemistry, The University of Iowa, USA
 - Postdoctoral Research Associate; Dec 2003 - Aug 2006; Department of Chemistry, The University of Utah, USA
 - Scientist Gr IV (3) [Scientist E1]; 21/01/08 – Present; National Chemical Laboratory, Pune
- Achievements
- We have built the state of the art facility required to carry out the research in Chemistry-Biology interface specifically to study the Biosynthesis and Biocatalysis.
- Research Area
- Our group is involved in studying and utilization of many aspects of isoprenoid biosynthetic pathways, biocatalysis and assay based isolation and characterization of secondary metabolites.
 - The isoprenoid biosynthetic pathways provide intermediates for the synthesis of a vast variety of structurally and chemically diverse natural products that serve numerous biochemical functions in living systems. We are interested in elucidation of the isoprenoid biosynthetic pathways with special emphasis on establishing the mechanisms of the enzyme-catalyzed transformations and how the enzymes promote the reactions using the concepts and tools of molecular biology, biochemistry, synthetic biology, and organic chemistry. We are also interested in production of biologically important small molecules by using microbes or enzymes or through metabolic engineering.
- Recent publications
- P.P. Daramwar, R. Rincy, S. Niloferjhan, R. Sharma, H. V. Thulasiram. Transformation of (\pm)-Lavandulol and (\pm)-Tetrahydrolavandulol by a Fungal Strain *Rhizopus oryzae*. **Bioresource technol.** **2011** (<http://dx.doi.org/10.1016/j.biortech.2011.11.038>)
 - K. K. Suresh, S. D. Bhosale, H. V. Thulasiram and M. J. Kulkarni. Comparative and chemical proteomic approaches reveal gatifloxacin deregulates enzymes involved in glucose metabolism **J. Toxicol. Sci.** **2011**, *36*, (in Press).
 - K. N. Sathish Yadav, M.G. Adsul, K.B. Bastawde, D.D. Jadhav, H.V.Thulasiram, D.V. Gokhale; Differential induction, purification and characterization of cold active lipase from *Yarrowia lipolytica* NCIM 3639. **Bioresource technol.** **2011** *102*, 10663–10670.
 - Ajit Singh, Nar Singh Chauhan, H. V. Thulasiram, Vibha Taneja and Rakesh Sharma; Identification of two flavin monooxygenases from an effluent treatment plant sludge metagenomic library. **Bioresource technol.** **2010**, *101*, 8481-8484.
 - Thulasiram H. V., Erickson H. K., and Poulter C. D.; A Common Mechanism for Branching, Cyclopropanation, and Cyclobutanation Reactions in the Isoprenoid Biosynthetic Pathway. **J. Am. Chem. Soc.** **2008**, *130*, 1966-1971.
 - Thulasiram H. V., Erickson H. K., and Poulter C. D.; Chimeras of Two Isoprenoid Synthases Catalyze All Four Coupling Reactions in Isoprenoid Biosynthesis. **Science**, **2007**, *316*, 73 – 76.
 - Thulasiram H. V. and Poulter C. D.; Farnesyl Diphosphate Synthase: The Art of Compromise between Stereoselectivity and Substrate Selectivity. **J. Am. Chem. Soc.** **2006**, *128*, 15819 - 15823.
 - Thulasiram H. V. and Plapp B. V.; Formamides Mimic Aldehydes and Inhibit Liver Alcohol Dehydrogenases and Ethanol Metabolism. **J. Biol. Chem.** **2003**, *278*, 36699 - 36706.