

## Investigations on synthesis and bioactivity of novel organometallic complexes

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There is a pressing need in the medical world to develop synthetic routes that can give better drug candidates for existing health problems. In light of this, investigations have been centered in the recent past on the role of metals or metal species in bioactivity studies. In this context, we have focused on the bioactivity studies of various organometallic species, which can lead to the discovery of novel pharmaceutical applications. And these organometallic species are, in general, known as key intermediates in transition metal mediated reactions, active precursors in nanomaterial synthesis and commercial catalysts. The present work describes the synthesis of a variety of metal-alkyls, metal-alkenyls and metallacycles with different ligand systems. It has been shown that these molecules can undergo novel transformations in solutions and the product distribution strongly depends on factors such as temperature, nature of ligand and metal, solvent and either length of alkyl/ alkenyl chains or size of the ring respectively.

### Biography

Akella Sivaramakrishna is currently Associate Professor of the Chemistry Division, School of Advanced Sciences at VIT University in India. He is the recipient of Gold Medal for securing first rank at Master's level and received his Ph.D. degree in 2000 at Andhra University under the supervision of Prof. U. Muralikrishna. Then he worked with Prof. M.N. Sudheendra Rao at Indian Institute of Technology Madras at Chennai in India with the main focus on inorganic heterocyclic compounds. After that he went to the Ben-Gurion University in Israel to work with Prof. Daniel Kost on the development of hypervalent silicates before he moved to Prof. John R. Moss at the University of Cape Town in South Africa and worked on synthetic organometallic chemistry of metal-alkyls, metal-alkenyls and metallacycles and catalysis. He also spent some time with Prof. F. Gordon A. Stone at Baylor University (Texas) where he concentrated on the synthesis and chemistry of monocarboranes and their metalla-carbollides. He is the author of over 80 journal and conference papers. Dr. Sivaramakrishna's research interests include the relationship between homogeneous and heterogeneous catalysis, and the synthesis of organometallic catalysts, mechanisms, and main group element chemistry.

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