

Diversity oriented approaches to unusual amino acid derivatives and peptides-Implications in drug discovery

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This talk covers our work about new methodologies developed in our laboratory regarding unusual amino acid derivatives. During the past couple of decades our group has engaged in design and synthesis of unusual amino acid derivatives and peptides. We have used modern synthetic strategies to prepare the required amino acid based building blocks and modified peptides. Some of these include enyne metathesis, cross-metathesis, Suzuki coupling, Diels-Alder reaction, [3+2] cycloaddition and [2+2+2] cyclotrimerization. In addition, we have also used ronalite as a useful green reagent for the preparation of benzosultine derivatives, which are the latent precursors to o-xylylene intermediates. These advances in designing new methodologies will impact the synthesis of modified amino acid derivatives and peptides and ultimately in drug discovery process.

Biography

Sambasivarao Kotha graduated with M.Sc. degree in Organic Chemistry from University of Hyderabad and obtained Ph.D. in synthetic organic chemistry from University of Hyderabad in 1985. He continued his research at university of Hyderabad as a postdoctoral fellow for one and half year. Later, he moved to UMIST Manchester UK and University of Wisconsin as a research associate. Subsequently he was appointed as a visiting scientist at Cornell University and research chemist at Hoechst Celanese Texas prior to joining IIT Bombay in 1994 as an assistant professor and presently he occupies. Pramod Chaudhari Chair for Green Chemistry and Industrial Biotechnology

His research interests include organic synthesis, development of new synthetic methods for unusual amino acids, peptide modification, and Green Chemistry. He is a recipient of B. M. Birla Science Prize (1996), Bronze Medal, Chemical Research Society of India (2004), Bhagyatara National Award-Punjab University (2005), Prof. Y. T. Thathachari National award-Bhramara trust-Mysore (2010) and J. C. Bose Fellowship (2010), Fellow of the Indian Academy of Sciences and National Academy of Sciences India and Fellow of Royal Society of Chemistry. He also serves on the Editorial Advisory Board of Indian Journal of Chemistry, Journal of Amino Acids, and Catalysis Journal.

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