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Research Interests

Research in our group is in the area of organic synthesis with a focus on developing efficient methods for the construction of molecular structures of therapeutic importance. The focus is on the aspects of construction of C-C and C-Heteroatom bond formation by means of asymmetric catalysis/synthesis from chiral pool sources. Natural products of current interest include styryllactones, insect pheromones, γ -lactones, polyethers, Annonaceae acetogenins, indolizidine and isoquinoline alkaloids.

Representative Publications

Enantiodivergent synthesis of both antipodes of gypsy moth pheromone disparlure. Prasad, K.R.; Anbarasan, P. *J. Org. Chem.* 2007 (*in press*).

Stereoselective total synthesis of (-)-9-deoxy-goniopyrone. Prasad, K.R.; Dhaware, M. G. *Synlett*, 2007 (*in press*).

Stereoselective synthesis of γ -alkyl(aryl)- α,β -dihydroxy- γ -butyrolactones and naturally occurring lipid guggultetrol. Prasad, K.R.; Chandrakumar, A. *Tetrahedron* 2007, 63, 1798.

Stereoselective synthesis of (-)-centrolobine. Prasad, K.R.; Anbarasan, P. *Tetrahedron*, 2007, 63, 1089.

Stereoselective synthesis of (-)-microcarpalide. Prasad, K.R.; Penchalaiah, K.; Choudhary, A.; Anbarasan, P. *Tetrahedron Lett*, 2007, 48, 309.

Stereoselective synthesis of (-)-muricatacin from l-(+)-tartaric acid. Prasad, K. R.; Anbarasan, P. *Tetrahedron: Asymmetry*, 2006, 17, 2765.

Nucleophilic addition reactions of 1,4-diketones derived from tartaric acid: Synthesis of TADDOL analogues. Prasad, K.R.; Chandrakumar, A. *Synthesis*, 2006, 2159.

Stereoselective synthesis of (+)-goniothalesdiol. Prasad, K.R.; Gholap, S. L. *J. Org. Chem.* 2006, 71, 3643.

Stereoselective synthesis of (+)-boronolide and (-)-5-*epi*-boronolide. Prasad, K.R.; Anbarasan, P. *Tetrahedron: Asymmetry*, 2006, 17, 1146.

Enantiodivergent synthesis of both antipodes of hydroxy-*exo*-brevicomine from L-(+)-tartaric acid. Prasad, K.R.; Anbarasan, P. *Tetrahedron*, 2006, 62, 8303.

Asymmetric synthesis of α -methoxyarylacetic acid derivatives. Prasad, K.R.; Chandrakumar, A. *Tetrahedron: Asymmetry* 2005, 16, 1897.

Asymmetric synthesis of unsaturated α -benzyloxyaldehydes: An enantioselective synthesis of (+)-*exo*-brevicomine. Prasad, K.R.; Anbarasan, P. *Tetrahedron: Asymmetry* 2005, 16, 3951.

An expeditious enantiospecific total synthesis of (+)-7-*epi*-goniofufurone. Prasad, K.R.; Gholap, S. L. *Synlett*, 2005, 2260.