

Special Invited Lecture
Inter-Disciplinary Explorations in Chemistry (I-DEC 2018)

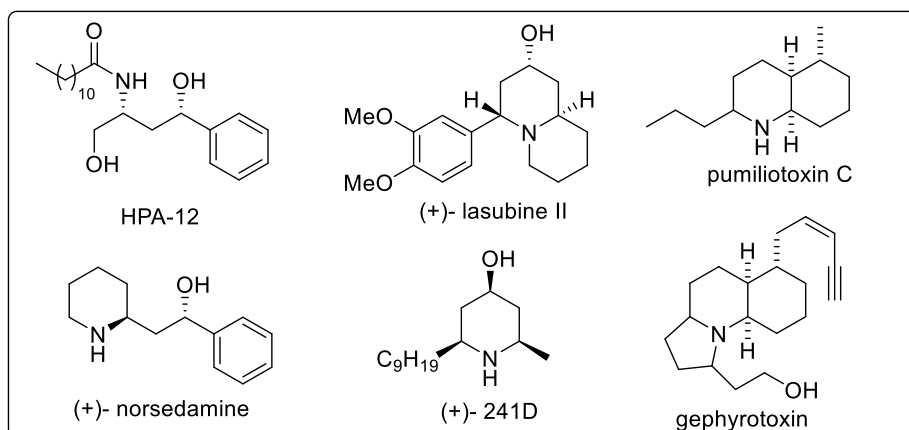
**An Unexpected Entry into the Realm of Sulfinimines en route to the Total
Synthesis of Macrolactone Natural Products**

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Abstract:

Our research group has been involved in the total synthesis of polyketide macrolactone natural products using chiral pool tartaric acid and chiral furyl carbinols as a four carbon four hydroxy synthon. During the course of our synthesis of the natural product schulzienes, we had an unexpected entry to the realm of sulfinimine chemistry. This led to us to develop procedures for the direct addition of ketones, substituted methyl enones and other nucleophiles to non-racemic sulfinimines. In this talk, these addition reactions and their application to the total synthesis of alkaloids will be discussed.¹⁻⁴



References and Notes:

1. Reddy, A. A.; Reddy, P. O.; Prasad, K. R. *J. Org. Chem.* **2016**, *81*, 11363–11371.
2. Reddy, A. A.; Prasad, K. R. *J. Org. Chem.* **2017**, *82*, 13488–13499.
3. Reddy, A. A.; Prasad, K. R. *J. Org. Chem.* **2018**, *83*, 10776–10785.
4. Khandare, S.; Prasad, K. R. (*unpublished results*)

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Bio-Sketch of Speaker

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Prasad (b.1969) obtained his B. Sc (Chemistry) from Andhra University, Visakhapatnam and MSc from Sri Krishnadevaraya University, Anantapur Andhra Pradesh. He obtained PhD from University of Pune in 1997 in asymmetric catalysis working at the National Chemical Laboratory (NCL), Pune under the guidance of Dr. N. N. Joshi. He held post-doctoral positions as the Alexander von Humboldt Foundation fellow (1998-2000) at the University of Muenster, Germany with Prof. Dr. Dieter Hoppe and another post-doctoral stay with Prof. Franklin A. Davis at Temple University, Philadelphia, PA, USA. After a brief stint as scientist in Medicinal Chemistry at Praecis Pharmaceuticals (presently GlaxoSmithKline) in Waltham, MA, USA, Prasad joined Department of Organic Chemistry, Indian Institute of Science in November 2003 where currently he is currently Professor.

Prasad's research interests are concerned with the development of synthetic strategies for the total synthesis of natural products of therapeutic significance and their evaluation as potent therapeutics.

Prasad is recipient of the Swarnajayanthi fellowship of the Department of Science and Technology (2006-2007), National Academy of Sciences-SCOPUS young scientist award administered by Elsevier (2009), Prof. N. S. Narasimhan Endowment lecture award of the University of Pune (2013), Rajib Goyal Prize (2012-2013) and the Shanti Swarup Bhatnagar Prize in chemical Sciences (2014). Prof. Prasad is an elected fellow of the Indian Academy of Sciences, Bangalore (2015).

Prof. Prasad is an Associate Editor of *Organic Letters* a premier journal in organic chemistry published by the American Chemical Society.