Discovery of New Useful Organic Reactions with Organocatalysis

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Abstract

In the past, metals have been predominantly used as catalysts for organic transformations. Recently, the development of new organic reactions that take advantage of organic acids or bases as catalysts has received considerable attention. These organocatalysts can access new modes of reactivity that could not be achieved by metal catalysis. Chiral phosphoric acids, chiral amines, and nitrogen-containing heterocyclic carbenes (NHCs) represent important families of organocatalysts that have been demonstrated to be versatile for a variety of novel reactions. In this lecture, I would like to introduce our recent progress in the development of several useful organic reactions with organocatalysis.

Biography

Jianwei Sun graduated with B.S and M.S. degrees from the Department of Chemistry of Nanjing University in 2001 and 2004, respectively. In 2008, he obtained his Ph.D. degree in Organic Chemistry from the University of Chicago (with Sergey Kozmin). He then worked as a postdoc associate in Massachusetts Institute of Technology (with Gregory Fu) in 2008-2010. In August 2010, he started his independent career as an Assistant Professor in the Department of Chemistry of the Hong Kong University of Science and Technology. He is the recipient of 2011 ACP Lectureship Award (by Japan) and Early Career Award (2012, by the Research Grants Council of Hong Kong). His current research interests are the development of new useful organic reactions with organocatalysts, with emphasis on asymmetric catalysis.