



## Diamination of Olefins

Amines and their derivatives are very important functional moieties present in a wide variety of biologically and chemically significant molecules. Various amination methods have been developed for the construction of C-N bonds, but modern research demands increasingly sophisticated catalytic systems that must offer very high regio- and stereo- selectivities.

This technology contains a suite of highly active catalysts and chemical systems which offer unprecedented control in the diamination of a variety of olefins. Through selection of the appropriate catalyst and conditions, vicinal amines may be added in a variety of locations – usually with stereochemical control – to substrates containing one or more double bonds. Depending on the specific system, the vicinal amines may be added directly to the double bond or to the allylic and homoallylic carbons through a C-H activation process. The versatility of this technology is achieved by the use of a crucial nitrogen-donor compound paired with one of several relatively simple catalysts. In some cases, the reactions may be run without solvent, further decreasing complexity and cost.

**ID: CSURF 08-002**

### Inventor Information

Yian Shi

### Features and Benefits

- Vicinal diamines added to a variety of olefins in high yield
- Excellent regio- and stereo- control
- Versatile system offers complementary array of diamine products
- Solvent-free systems are possible

### Contact Information:

*Dian Kammeyer*

Phone: 970.482.2916

Email: [dian.kammeyer@csurf.colostate.edu](mailto:dian.kammeyer@csurf.colostate.edu)

[www.csuventures.org](http://www.csuventures.org)