University of Minnesota
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Department of Chemistry

Seminar

9:45 a.m. Thursday, November 14, 2013 • 331 Smith Hall

Professor

Paul Floreancig

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University of Pittsburgh

Oxidative Carbon–Hydrogen Bond Functionalization in Complex Molecule Synthesis

Research interests: developing fundamentally new transformations and highlighting their utility for complex molecule synthesis. Much of his work in reaction design has been devoted to utilizing oxidation processes to form electrophiles.

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Abstract

Oxidative carbon–hydrogen bond functionalization reactions can significantly streamline complex molecule synthesis by alleaviating the need for wasteful functional group introductions and protecting group manipulations. Chemoselectivity for a particular carbon–hydrogen bond, functional group tolerance, and substrate scope present significant challenges for broad applications of this strategy. This seminar will describe the use of 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) in oxidative carbon–hydrogen bond functionalization reaction that yield oxygen-, nitrogen-, and sulfur-containing heterocycles via oxidative carbocation formation. Applications to natural product total synthesis and to reactions that benefit from oxidative, rather than conventional ionization-based, cation formation will be highlighted.

Host: Professor Thomas Hoye
Refreshments will be served prior to the seminar.