

(2019年05月07日) 报告人: M. KEVIN BROWN

题目: Interrupted Cross Coupling

报告人: M. KEVIN BROWN

Indiana University

Department of Chemistry

800 E. Kirkwood Ave. Bloomington, IN

e-mail: brownmkb@indiana.edu

Office Phone: 812-856-9114

时间: 2019年05月07日(星期二) 10:00~11:30AM

地点: 化学馆 120 室

### 报告人简介:

#### Appointments

Associate Professor, 2016-present Indiana University, Bloomington, IN Department of Chemistry

Assistant Professor, 2011-2016 Indiana University, Bloomington, IN Department of Chemistry

National Institutes of Health Postdoctoral Fellow, 2008-2011 Harvard University, Boston, MA

Research Advisor: Professor E. J. Corey

Graduate Research Assistant, 2002-2008 Boston College, Boston, MA Research Advisor:

Professor Amir H. Hoveyda

Undergraduate Research Assistant (NSF/REU Program), Summer 2001 University of Wyoming,

Laramie, WY Research Advisor: Professor Robert C. Corcoran

Undergraduate Research Assistant, Merck/American Association for the Advancement of Science

Program, Summer 2000 Hamilton College, Clinton, NY Research Advisor: Professor Ian J.

Rosenstein

#### Education:

Boston College, Boston, MA Ph.D., Organic Chemistry, 2002-2008 Thesis Advisor: Professor

Amir H. Hoveyda

Hamilton College, Clinton, NY B.A., Chemistry (Honors), 2002 Thesis Advisor: Professor Ian J.

Rosenstein

#### Awards

Novartis Early Career Award, 2016

Amgen Young Investigator Award, 2016

National Science Foundation CAREER Award, 2016

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Sloan Research Fellowship, 2015

IU Trustees Teaching Award, 2014

Thieme Chemistry Journal Awardee, 2013

National Institutes of Health, Ruth L. Kirschstein National Research Service Award, Harvard University, 2008-2011

ESF Research Conference on Natural Products Chemistry, Biology and Medicine III, Travel Award. European Science Foundation, 2010

Bristol-Myers Squibb Graduate Fellowship in Synthetic Organic Chemistry, Sponsored by

Bristol-Myers Squibb, 2006-2007

Graduate School of Arts and Sciences Academic Achievement Award Boston College, 2006

Excellence in Chemistry Award, Roche Biosciences, 2006

Graduate Fellowship in Organic Chemistry, American Chemical Society,

Sponsored by Schering-Plough, 2005-2006

Underwood Prize in Chemistry, Hamilton College, 2002

Elihu Root Fellowship, Hamilton College, 2002

Sigma Xi Scientific Research Society, Hamilton College, 2002

## Abstract

Stereospecific cross-coupling of chiral alkyl metal intermediates is a recognized challenge in modern organic synthesis. Here an alternative strategy is presented in which a chiral alkyl metal is generated as a catalytic intermediate by boryl-metalation of an alkene followed by cross coupling. This interrupted cross coupling represents an attractive approach in chemical synthesis because two new bonds and two new stereocenters are generated in a single operation. In addition, due to the synthetic versatility of the carbon-boron bond, a variety of structures can be readily prepared, thus representing a general approach toward carbofunctionalization of alkenes. The scope, mechanistic details, and application to complex molecule synthesis will be discussed.

