

Contact Information

Department of Chemistry
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Research Interests

Synthesis and Study of Complex Natural Products; Development of Transformations and Reagents of Broad Utility for Organic Synthesis.

Education

5/2006 Ph.D. in Chemistry, Harvard University

5/2002 B.S. in Chemistry, Temple University

5/1997 High School Diploma, Valley Forge Military Academy and College

Academic Positions

6/2008 – Present, Yale University

Assistant Professor of Chemistry.

8/2006 – 5/2008, University of Illinois

National Institutes of Health postdoctoral fellow with Professor John F. Hartwig. Projects include the development and mechanistic study of transition metal-catalyzed C–H bond functionalization reactions and new strategies for reaction discovery.

8/2002 – 5/2006, Harvard University

Graduate student with Professor Andrew G. Myers. Development of a convergent, enantioselective synthesis of the complex alkaloids stephacidin B and avrainvillamide. Studies on the preparation and reactivity of the 3-alkylidene-3*H*-indole 1-oxide function of avrainvillamide.

9/1999 – 7/2002, Temple University

Research assistant with Professor Grant R. Krow. Studies on the preparation and reactivity of 2-azabicyclo[2.1.1]hexanes. Synthesis of conformationally constrained proline analogs based on this core structure.

5/2001 – 8/2001, Merck Research Laboratories

Intern in the Department of Medicinal Chemistry. Synthesis of non-peptidic HIV Integrase inhibitors.

Distinctions

- 2008 Finalist, Damon Runyon-Rachleff Innovator Award
- 2008 Eli Lilly New Faculty Award
- 2006 National Institutes of Health Postdoctoral Fellowship
- 2003 Harvard University Certificate of Distinction in Teaching
- 2003 National Science Foundation Graduate Research Fellowship
- 2002 The F. Albert Cotton and Al Tulinsky Prize (awarded to the member of the graduating class with the highest GPA in chemistry)
- 2002 Elected to Phi Beta Kappa
- 2001 – 2002 Petroleum Research Fund Undergraduate Research Fellowship

Publications

1. 2-Azabicyclo[2.1.1]hexanes. 2. Substituent Effects on the Bromine-Mediated Rearrangement of 2-Azabicyclo[2.2.0]hex-5-enes. Grant R. Krow, Yoon B. Lee, Walden S. Lester, Nian Liu, Jing Yuan, Jinqi Duo, Seth B. Herzon, Yen Nguyen, and David Zacharias, *J. Org. Chem.* **2001**, *66*, 1805, DOI: 10.1021/jo0015570.
2. Synthesis of Novel 2-Azabicyclo[2.2.0]- and [2.1.1]hexanols. Grant R. Krow, Walden S. Lester, Nian Liu, Jing Yuan, Amanda Hiller, Jinqi Duo, Seth B. Herzon, Yen Nguyen, and Kevin Cannon, *J. Org. Chem.* **2001**, *66*, 1811, DOI: 10.1021/jo001558s.
3. Complex-Induced Proximity Effects. Temperature-Dependent Regiochemical Diversity in Lithiation-Electrophilic Substitution Reactions of *N*-Boc-2-Azabicyclo[2.1.1]hexane. 2,4- and 3,5-Methanoproline. Grant R. Krow, Seth B. Herzon, Gouliang Lin, Feng Qiu, and Philip E. Sonnet, *Org. Lett.* **2002**, *4*, 3151, DOI: 10.1021/ol026509b.
4. The Rearrangement Route to 2-Azabicyclo[2.1.1]hexanes. Solvent and Electrophile Control of Neighboring Group Participation. Grant R. Krow, Gouliang Lin, Deepa Rapolu, Yuhong Fang, Walden S. Lester, Seth B. Herzon, and Philip E. Sonnet, *J. Org. Chem.* **2003**, *68*, 5292, DOI: 10.1021/jo034394z.

5. Convenient Preparations of 2,4-Methanopyrrolidine and 5-Carboxy-2,4-methanopyrrolidines. Grant R. Krow, Guoliang Lin, Seth B. Herzon, Andrew M. Thomas, Keith P. Moore, Qiuli Huang, and Patrick J. Carroll, *J. Org. Chem.* **2003**, *68*, 7562, DOI: 10.1021/jo0348672.
6. Identification of a Novel Michael Acceptor Group for the Reversible Addition of Oxygen- and Sulfur-Based Nucleophiles. Synthesis and Reactivity of the 3-Alkylidene-3*H*-indole 1-Oxide Function of Avrainvillamide. Andrew G. Myers and Seth B. Herzon, *J. Am. Chem. Soc.* **2003**, *125*, 12080, DOI: 10.1021/ja0372006.
7. Enantioselective Synthesis of Stephacidin B. Seth B. Herzon and Andrew G. Myers, *J. Am. Chem. Soc.* **2005**, *127*, 5342, DOI: 10.1021/ja0510616.

For commentary, see: Stephacidin B, the Avrainvillamide Dimer: A Formidable Synthetic Challenge. Carmen Escolano, *Angew. Chem., Int. Ed. Engl.* **2005**, *44*, 7670, DOI: 10.1002/anie.200502383.
8. Evidence for the Rapid Conversion of Stephacidin B into the Electrophilic Monomer Avrainvillamide in Cell Culture. Jeremy E. Wulff, Seth B. Herzon, Romain Siegrist, and Andrew G. Myers, *J. Am. Chem. Soc.* **2007**, *129*, 4898, DOI: 10.1021/ja0690971.
9. Direct, Catalytic Hydroaminoalkylation of Unactivated Olefins with *N*-Alkyl Arylamines. Seth B. Herzon and John F. Hartwig, *J. Am. Chem. Soc.* **2007**, *129*, 6690, DOI: 10.1021/ja0718366.

For commentary, see: Amine Synthesis Gains Utility. Stephen K. Ritter, *Chem. Eng. News* **2007**, *85*, 9.
10. Hydroaminoalkylation of Unactivated Olefins with Dialkylamines. Seth B. Herzon and John F. Hartwig, *J. Am. Chem. Soc.* **2008**, *130*, 14940, DOI: 10.1021/ja806367e.

For commentary, see: (a) Ta(V)-Catalyzed Hydroaminoalkylation of Olefins with Dialkylamines. Paul Knochel and Andrei Gavryushin, *SYNFACTS* **2009**, 193, DOI: 10.1055/s-0028-1087647. (b) Catalytic Hydroaminoalkylation. Peter W. Roesky, *Angew. Chem., Int. Ed. Engl.* **2009**, *48*, 4892, DOI: 10.1002/anie.200900735.
11. Synthesis of the Fully Glycosylated Cyclohexenone Core of Lomaiviticin A. Shivajirao L. Gholap, Christina M. Woo, P. C. Ravikumar, and Seth B. Herzon *Org. Lett.* **2009**, *11*, 4322. DOI: 10.1021/ol901710b.