

Graduate Research in synthetic organic chemistry, Cornell University (2005 – 2010)

- Synthetic approaches to the hypoxetone family of natural products
- Formal synthesis of platensimycin
- Total synthesis of varitriol
- Synthetic approaches to the guttiferone family of natural products

Graduate Research in synthetic organic chemistry, University of Minnesota-Duluth (2003 – 2005)

- Explored the utility of *O,S*-stabilized carbanions in organic synthesis

Senior Thesis Research in organic chemistry, University of Minnesota-Duluth (2001 – 2003)

- Explored conjugated enynes as substrates for stepwise electrophilic addition reactions

TEACHING EXPERIENCE

Instructor for CHM 103 Laboratory, University of Wisconsin-La Crosse (Spring 2014, Spring 2016)

- Introductory laboratory course in general chemistry

Instructor for CHM 300 Lecture, University of Wisconsin-La Crosse (Summer 2015)

- Survey course in organic chemistry

Instructor for CHM 300 Lab, University of Wisconsin-La Crosse (Fall 2015, Spring 2016)

- Survey course in organic chemistry

Instructor for CHM 303, University of Wisconsin-La Crosse (Fall 2013-Spring 2016)

- Lecture course in organic chemistry theory

Instructor for CHM 305, University of Wisconsin-La Crosse (Fall 2013-Fall 2015)

- Laboratory course in organic chemistry

Instructor for CHM 405, University of Wisconsin-La Crosse (Spring 2015)

- Advanced laboratory course in organic chemistry

Co-instructor for undergraduate biology course, University of Wisconsin-Madison (2011)

- New course for incoming freshman interested in science

HHMI Teaching Fellow, University of Wisconsin-Madison (2010)

- Learned how to be an effective instructor in the physical sciences

HONORS RECEIVED

NIH Ruth Kirschstein (NRSA) Fellowship (2011 – 2013)

HHMI Teaching Fellows Program (2010 – 2011)

NIH Chemistry Biology Interface (CBI) Trainee (2007 – 2010)

Bayer Teaching Excellence Award (2006 – 2007)

John C. Cothran Memorial Award for Research (2004 – 2005)

CSE Outstanding Graduate Teaching Assistant Award (2004 – 2005)

F.B. Moore Award for Undergraduate Research (2003 – 2004)

PUBLICATIONS

1. Lucas, K. M.; Kleman, A. F.; Sadergaski, L. R.; Jolly, C. L.; Bollinger, B. S.; Mackesey, B. L.; McGrath, N. A. Versatile, mild, and selective reduction of various carbonyl groups using an electron-deficient boron catalyst. *Org. Biomol. Chem.* **2016**, *14*, 5774-5778. {Invited “New Talent” Issue}

2. Andersen, K. A.; Aronoff, M. R.; McGrath, N. A.; Raines, R. T. Diazo Groups Endure Metabolism and Enable Chemoselectivity in cellulose. *J. Am. Chem. Soc.* **2015**, *137*, 2412-2415.
3. McGrath, N. A.; Andersen, K. A.; Davis, A. K. F.; Lomax, J. E.; Raines, R. T. Diazo Compounds for the Bioreversible Esterification of Proteins. *Chem. Sci.* **2015**, *6*, 752-755. {Co-first author}
4. Marshall, C. J.; Agarwal, N.; Kalia, J.; Grosskopf, V. A.; McGrath, N. A.; Abbott, N. L.; Raines, R. T.; Shusta, E. V. Facile Chemical Functionalization of Proteins Through Intein-Linked Yeast Display, *Bioconjugate Chemistry* **2013**, *24*, 1634-1644.
5. McGrath, N. A.; Raines, R. T. Diazo-Compounds as Highly Tunable Reactants in 1,3-Dipolar Cycloaddition Reactions With Cycloalkynes, *Chem. Sci.* **2012**, *3*, 3237-3240.
6. McGrath, N. A.; Brichacek, M. Trifluoroacetic Acid, *Encyclopedia of Reagents for Organic Synthesis*, **2012**, John Wiley & Sons Ltd.
7. Palte, M. J.; Davis, A. K. F.; McGrath, N. A.; Raines, R. T. Ribonucleoside 3'-Phosphates as Pro-moieties for an Orally Administered Drug, *ChemMedChem* **2012**, *7*, 1361-1364.
8. Ellis, G. A.; McGrath, N. A.; Palte, M. J.; Raines, R. T. Ribonuclease-Activated Cancer Prodrug, *ACS Med. Chem. Lett.* **2012**, *3*, 268-272. {Co-first author}
9. McGrath, N. A.; Raines, R. T. Chemoselectivity in Chemical Biology: Acyl Transfer Reactions with Sulfur and Selenium, *Acc. Chem. Res.* **2011**, *44*, 752-761.
10. McGrath, N. A.; Binner, J. R.; Markopoulos, G.; Brichacek, M.; Njardarson, J. T. An Efficient Oxidative Dearomatization-Radical Cyclization Approach to Symmetrically Substituted Bicyclic Guttiferone Natural Product, *Chem. Comm.* **2011**, *47*, 209-211.
11. Brichacek, M.; Batory, L. A.; McGrath, N. A.; Njardarson, J. T. The Strategic Marriage of Method and Motif, *Tetrahedron* **2010**, *66*, 4832-4840.
12. McGrath, N. A.; Brichacek, M.; Njardarson, J. T. A Graphical Journey of Innovative Organic Architectures That Have Improved Our Lives, *J. Chem. Educ.* **2010**, *87*, 1348-1349.
13. McGrath, N. A.; Bartlett, E. S.; Sittihan, S.; Njardarson, J. T. A Concise Ring Expansion Route to the Compact Core of Platensimycin, *Angew. Chem. Int. Ed.* **2009**, *48*, 8543-8546.
14. McGrath, N. A.; Lee, C. A.; Araki, H.; Brichacek, M.; Njardarson, J. T. An Efficient Substrate-controlled Route Towards Hypoestoxide, a Member of a Family of Diterpenoid Natural Products with an Inside-out [9.3.1] Bicyclic Core, *Angew. Chem. Int. Ed.* **2008**, *47*, 9450-9453.
15. Lazareva, M. I.; Nguyen, S. T.; Nguyen, M. C.; Emiru, H.; McGrath, N. A.; Caple, R.; Smit, W. A. μ -Alkyne Dicobalt Hexacarbonyl Complexes of Conjugated Enynes as Substrates in the Arylthio-mediated Stepwise AdE Reactions, *Mendeleev. Commun.* **2001**, *6*, 224-227.