

Ashley B. Biernesser

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Education

- 2011-present Graduate Student, Chemistry
Boston College, Chestnut Hill, MA
Advisor: Prof. Jeffery A. Byers
- 2007-2011 Bachelors of Science in Chemistry, minor in Math (Summa Cum Laude)
Duquesne University, Pittsburgh, PA
Thesis Title: "Structural and Mechanistic Investigation of Iron and Copper Catalyzed Atom Transfer Radical Addition"
Advisor: Prof. Tomislav Pintauer

Research Experience

- 2011-present Graduate Research
Boston College
with Prof. Jeffery A. Byers

- 2008-2011 Undergraduate Research
Duquesne University
with Prof. Tomislav Pintauer

Investigated mechanism of copper catalyzed atom transfer radical addition in the presence of free radical initiators as reducing agents

Developed novel iron catalysts for atom transfer radical addition

- 2007-2008 Undergraduate Research
Duquesne University
with Prof. Omar W. Steward

Studied crystal engineering of coordination compounds and ligand exchange reactions of metal β -diketonate complexes

Teaching Experience

2011-2013 *Boston College*

Served as teaching assistant for undergraduate courses in General Chemistry lab (one semester), Organic Chemistry lab (two semesters), and Honors Organic Chemistry lab (one semester).

Honors and Professional Societies

Division of Inorganic Chemistry Student Travel Award	2014
Brian Lawrence Gray Award for Best Organic/Organometallic Poster	2013
NSF Graduate Research Fellowship	2013
Thieme Chemistry SYNStar Award	2011
Omicron Delta Kappa National Leadership Honor Society	2010
Golden Key National Honor Society	2010
John V. Crable Undergraduate Chemistry Research Fellowship	2009
Connelly Chemistry Scholarship	2008
American Chemical Society	2008-present
Alpha Chi Sigma Professional Chemistry Fraternity	2007-present
Phi Eta Sigma National Honor Society	2007
BASF Science Scholarship	2007
Pittsburgh Regional Science Fair Scholarship to Duquesne University	2007

Publications

5. A.B. Biernesser, Bo Li, and Jeffery A. Byers. "Redox-Controlled Polymerization of Lactide Catalyzed by Bis(imino)pyridine Iron Bis(alkoxide) Complexes." *J. Am. Chem. Soc.* **2013**, *135* (44), 16553-16560.
4. W.T. Eckenhoff, A.B. Biernesser, T. Pintauer. "Kinetic and Mechanistic Aspects of Atom Transfer Radical Addition (ATRA) Catalyzed by Copper Complexes with Tris(2-pyridylmethyl)amine." *Inorg. Chem.* **2012**, *51*, 11917-11929.

3. W.T. Eckenhoff, A.B. Biernesser, T. Pintauer. "Structural characterization and investigation of iron(III) complexes with nitrogen and phosphorus based ligands in atom transfer radical addition (ATRA)". *Inorg. Chim. Acta* **2012**, 382, 84-95.
2. O.W. Steward, M.V. Kaltenbach, A.B. Biernesser, M.J. Taylor, K.J. Hovan, J.J.S. VerPlank, A. Haamid, I. Karpov, M.T. Munie. "Crystal Engineering: Synthesis and Structural Analysis of Coordination Polymers with Wavelike Properties." *Polymers* **2011**, 3, 1662-1672.
1. T. Pintauer, W.T. Eckenhoff, C. Ricardo, M.N.C. Balili, A.B. Biernesser, S. Noonan, M.J.W. Taylor. "Highly Efficient Ambient-Temperature Copper-Catalyzed Atom-Transfer Radical Addition (ATRA) in the Presence of Free-Radical Initiator (V-70) as a Reducing Agent." *Chem. Eur. J.* **2009**, 15, 38-41.

Posters and Presentations

19. Ashley B. Biernesser and Jeffery A. Byers. "Bis(imino)pyridine iron bis(alkoxide) catalysts for redox-controlled polymerization of cyclic esters." American Chemical Society National Meeting, March 19th, **2014**, Dallas, TX, oral presentation.
18. Ashley B. Biernesser and Jeffery A. Byers. "Redox-Controlled Polymerization of Lactide Catalyzed by Bis(imino)pyridine Iron Bis(alkoxide) Complexes." Boston Symposium on Organic & Bioorganic Chemistry, October 16th, **2013**, Merck Research Laboratories, Boston, MA, poster.
17. Ashley B. Biernesser and Jeffery A. Byers. "Redox-Controlled Polymerization of Lactide Catalyzed by Bis(imino)pyridine Iron Bis(alkoxide) Complexes." Boston College Graduate Student Symposium, October 14th, **2013**, Dover, MA, poster.
16. Ashley B. Biernesser and Jeffery A. Byers. "Development of Iron Pyridyl Diimine Catalysts for Production of Tunable Biodegradable Polymers." Boston Inorganic Supergroup Meeting. July 19th, **2013**, Brandeis University, Waltham, MA, oral presentation.
15. Hilan Z. Kaplan, Ashley B. Biernesser, and Jeffery A. Byers. "Synthesis and Characterization of Iron Complexes for Polymerization and Catalysis." Boston College Graduate Student Symposium, October 8th **2012**, Dover, MA, poster.
14. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. "Structural Characterization and Investigation of Iron Complexes as Eco-Friendly Catalysts for Atom Transfer Radical Addition." ACS National Meeting, March 29th, **2011**, Anaheim, CA, poster.
13. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. "Investigation of Iron Complexes as Biocompatible catalysts for atom transfer radical addition." Bridging Research Communities Symposium, October 16th, **2010**, Carnegie Mellon University, Pittsburgh, PA, poster.
12. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. "Increasing the Biocompatibility of Atom Transfer Radical Addition by using Iron Catalysts." Science2010 – Transformations Symposium, October 8, **2010**, University of Pittsburgh, Pittsburgh, PA, poster.
11. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. "Structural characterization and investigation of iron complexes as catalysts for atom transfer radical

addition.” Undergraduate Research Program Symposium, July 30th, **2010**, Duquesne University, Pittsburgh, PA, poster.

10. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “Intelligent Catalyst Design in Action: Application of Iron Complexes in Atom Transfer Radical Addition.” ACS Student Member Symposium, April 10th, **2010**, Duquesne University, Pittsburgh, PA, poster.

9. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “Iron catalyzed atom transfer radical addition in the presence of free radical initiators as reducing agents.” ACS National Meeting, March 23rd, **2010**, San Francisco, CA, poster.

8. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “The use of nitrogen and phosphorus containing ligands for iron catalyzed atom transfer radical addition.” Undergraduate Research and Scholarship Symposium, February 10th, **2010**, Duquesne University, Pittsburgh, PA, poster.

7. Ashley B. Biernesser, Matthew Taylor, Sean J. Noonan, Jonathon D. Gibbons, and Jessica Rabuck. “High Dimensionality of Duquesne University Student Affiliates.” ACS National Meeting, August 18th, **2009**, Washington D.C., poster.

6. Ashley B. Biernesser, Saichand Pakkala, William T. Eckenhoff, Jeffrey D. Evanseck, and Tomislav Pintauer. “Importance of Counter Ion Complexation in Copper Catalyzed Atom Transfer Radical Addition.” Undergraduate Research Program Symposium, July 31st, **2009**, Duquesne University, Pittsburgh, PA, poster.

5. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “Investigation of Fluxional Processes Occurring in Copper-catalyzed Atom Transfer Radical Addition.” ACS Student Member Symposium, April 18th, **2009**, Duquesne University, Pittsburgh, PA, poster.

4. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “A Study of the Fluxional Behavior of Nitrogen-based Heterocyclic Copper(II) Complexes in Atom Transfer Radical Addition.” Undergraduate Research and Scholarship Symposium, April 15th, **2009**, Duquesne University, Pittsburgh, PA, poster.

3. Ashley B. Biernesser, William T. Eckenhoff, and Tomislav Pintauer. “The Effect of Tetrabutylammonium Bromide and Tris(2-pyridylmethyl) amine on Copper Catalyzed Atom Transfer Radical Addition in the Presence of Free Radical Initiators as Reducing Agents.” ACS National Meeting, March 25th, **2009**, Salt Lake City, UT, poster.

2. Ashley B. Biernesser and Omar W. Steward. “Crystal Engineering: Crystal Structures of Metal Complexes as a Function of the β -Diketonate Ligand and the Difunctional Nitrogenous Base.” Undergraduate Research Program Symposium, July 27th, **2008**, Duquesne University, Pittsburgh, PA, poster.

1. Ashley B. Biernesser and Omar W. Steward. “Crystal Engineering of Coordination Compounds: A Study of Ligand Exchange Reactions of Metal β -Diketonate Complexes.” ACS Student Member Symposium, April 15th, **2008**, Duquesne University, Pittsburgh, PA, poster.