

Curriculum Vitae

MARC C. PERRY

Point Loma Nazarene University
3900 Lomaland Dr
San Diego, CA 92106
Work: (619)849-2976
Cell: (619)244-1215
E-mail: mperry1@pointloma.edu

EDUCATION

Ph.D. / Chemistry

New Mexico State University, Las Cruces, NM, May 2000
Dissertation: Rhenium-Catalyzed Heteroatom Transfer Reactions
(Prof. Jeffrey B. Arterburn)

B.S. / Chemistry

New Mexico State University, Las Cruces, NM, May 1995

EXPERIENCE

- 2016-present
(Aug) **Department of Chemistry, Point Loma Nazarene University**, San Diego, California
Professor. Teach Organic Chemistry lecture and labs, Advanced Organic lecture and labs, and Chemistry and Society. I am also conducting research on new iron and cobalt-catalyzed cross-coupling reactions.
- 2011-2016
(Aug)(Aug) **Department of Chemistry, Point Loma Nazarene University**, San Diego, California
Associate Professor. Teach Organic Chemistry lecture and labs, Advanced Organic lecture and labs, and Chemistry and Society. I am also conducting research on new iron and cobalt-catalyzed cross-coupling reactions.
- 2010-2011
(Aug) **Department of Chemistry, Point Loma Nazarene University**, San Diego, California
Assistant Professor. Taught lectures and labs in the areas of organic and general chemistry. I am also conducting research on the use of iron as a catalyst in cross-coupling reactions as well as the development of new synthetic methods for monosubstituted imidazoles.
- 2003-2010
(Jun) **Department of Chemistry, University of Alaska Anchorage**, Anchorage, Alaska
Assistant Professor. I was primarily responsible for the sophomore organic lecture and labs. I also taught general chemistry lectures and labs as well as the first semester of a general-organic-biochemistry (GOB) course. In addition, I performed research utilizing undergraduates in the area of transition metal-catalyzed C-C bond formation.
- 2002-2003
(Aug) **Department of Chemistry, Texas A&M University**, College Station, Texas
Lecturer. I taught three section of sophomore organic chemistry for two semesters.
- 2000-2002
(Aug) **Department of Chemistry, Texas A&M University**, College Station, Texas
Postdoctoral Research Associate. Synthesized novel chiral iridium and rhodium carbene complexes which were screened in asymmetric hydrogenations of unfunctionalized alkenes. In addition, I synthesized some novel palladium carbene complexes which were screened in asymmetric heck, suzuki, and arylation reactions.
- 1995-2000 **Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, New Mexico**

Research Assistant. Developed rhenium-catalyzed oxidations of organic compounds including alcohols and thiols using DMSO as the terminal oxidant. Used a rhenium catalyst to transfer sulfur from thiiranes to a variety of phosphorus(III) compounds. Demonstrated the first catalytic imido group transfer from a diaryl and dialkyl sulfilimine to triphenylphosphine.

Teaching Assistant. Instructor in undergraduate general chemistry and organic chemistry laboratories.

HONORS AND AWARDS

Sophomore Award, for the outstanding sophomore in Chemistry and Biochemistry, New Mexico State University, 1993

Glenn Hamiel Award, for outstanding quantitative analysis student, New Mexico State University, 1994

Owen B. Weeks Award, for outstanding graduate student, Department of Chemistry and Biochemistry, New Mexico State University, 1998-1999

Who's Who Among America's Teachers, selected by a former student, 2005, 2007

AFFILIATIONS

American Chemical Society

GRANTS AWARDED

Faculty Development: Iron-Catalyzed C-C Bond Formation; \$1,000; July-December 2004

Faculty Development: Iron-Catalyzed Alpha-Arylation Reactions; \$4,500; July-December 2007

Petroleum Research Fund: N-Heterocyclic Carbenes in Iron-Catalyzed Cross-Coupling Reactions; \$65,000; August 2008 – August 2011

NSF-MRI: Co-PI; Enhancing Research and Education at the University of Alaska Anchorage with a state-of-the-art Liquid Chromatograph-Ion Trap Mass Spectrometer; \$411,539; August 08

RASP: Cobalt-catalyzed Hydroarylation of Alkenes; \$1,000; 2014.

RASP: Cobalt-catalyzed Cross-coupling Reactions; \$1920; 2016.

SELECTED PUBLICATIONS

"Organocatalysis by site-isolated N-heterocyclic carbenes doped into the UIO-67 framework." Shumacher, W.T.; Matthews, M.J.; Larson, S.A.; Lemmon, C.E.; Campbell, K.A.; Crabb, B.T.; Chicoine, B.J.-A.; Beauvais, L.G.; Perry, M.C. *Polyhedron*, **2016**, 114, 422-427.

"Improved Synthetic Utility of a Sluggish Electrophile: Reaction of Chlorosulfonyl Isocyanate with Unreactive and Reactive Alkenes." Shellhamer, Dale F.; Alexander, Kelsey L.; Bunting, Summer A.; Elwin, Sarah L.; Licata, Christine J.; Milligan, Jacob C.; Robinson, Ryan D.; Shipowick, Danielle E.; Smith, Lincoln B.; Perry, Marc C. *Synthesis*, **2015**, 47, 1944-1950.

"Kinetic Studies on the Reaction of Chlorosulfonyl Isocyanate with Monofluoroalkenes: Experimental Evidence for Both Stepwise and Concerted Mechanisms and a Pre-equilibrium Complex on the Reaction Pathway." Shellhamer, D.F.; Bunting, S.A.; Hickle, K.R.; Horn, P.C.; Milligan, J.C.; Shipowick, D.E.; Smith, L.B.; Vandebroek, D.J.; Perry, M.C.; Boatz, J.A. *J. Org. Chem.* **2013**, 78, 246-252.

"An unprecedented iron-catalyzed cross-coupling of primary and secondary alkyl Grignard reagents with non-activated aryl chlorides." Perry, M. C.; Gillett, A. N.; Law, T. C., *Tetrahedron Lett.* **2012**, 53, 4436-4439.

"Synthesis, crystal structure, and spectroscopy of *cis*-tetrakis(2,5-dimethylphenyl isocyanide)dichloroiron(II)." Perry, M. C.; Law, T. C.; Wheeler, K. A.; *J. Chem. Cryst.* **2010**, 40, 482-485.

"Chiral Imidazolylidene Ligands for Asymmetric Catalysis." Burgess, K.; Perry, M. C.; Cui, X. *Methodologies in Asymmetric Catalysis, ACS Symposium Series 880*, **2004**, Edited by Sanjay V. Malhotra, Oxford University Press, pp. 61-84.

"Chiral *N*-Heterocyclic Carbene Complexes in Asymmetric Catalysis." Perry, M. C.; Burgess, K. *Tetrahedron Asymmetry* **2003**, 14, 951-961.

"Optically Active Iridium Imidazol-2-ylidene-oxazoline Complexes: Preparation and Use in Asymmetric Hydrogenation of Arylalkenes." Perry, M. C.; Cui, X.; Powell, M. T.; Hou, D.-R.; Reibenspies, J. H.; Burgess, K. *J. Am. Chem. Soc.* **2003**, 125, 113-123.

"Polystyrene-Supported (Catecholato)oxorhenium Complexes: Catalysts for Alcohol Oxidation with DMSO and for Deoxygenation of Epoxides to Alkenes with Triphenylphosphine." Arterburn, J. B.; Liu, M.; Perry, M. C. *Helv. Chim. Acta* **2002**, 85, 3225-3236.

"A Modular Approach to *trans*-Chelating, *N*-Heterocyclic Carbene Ligand Complexes." Perry, M. C.; Cui, X.; Burgess, K. *Tetrahedron: Asymmetry* **2002**, 13, 1969-1972.

"Chiral Imidazolylidene Ligands for Asymmetric Hydrogenation of Aryl Alkenes." Powell, M.T.; Hou, D.-R.; Perry, M.C.; Cui, X.; Burgess, K. *J. Am. Chem. Soc.* **2001**, 123, 8878-8879.

"Rhenium-catalyzed heteroatom transfer reactions." Perry, M. C. **2000**, 127 pp. Dissertation.

"Solid-Supported Hydrazine Substrate for Labeling Estradiol Ligands with Rhenium." Arterburn, J.B.; Rao, K.V.; Perry, M.C. *Angewandte Chemie*. **2000**, 39, 771-772.

"Novel 17 α -Ethinylestradiol Derivatives: Sonogashira Couplings Using Unprotected Phenylhydrazines." Arterburn, J.B.; Rao, K.V.; Perry, M.C. *Tetrahedron Lett.* **2000**, 41, 839-842.

"Selective Rhenium-Catalyzed Oxidation of Secondary Alcohols with Methyl Sulfoxide in the Presence of Ethylene Glycol, A Convenient One-Pot Synthesis of Ketals." Arterburn, J.B.; Perry, M.C. *Organic Letters* **1999**, 1, 769-771.

"Trichlorooxo(triphenylphosphine)(triphenylphosphine oxide)rhenium(V)." Bryan, J.C.; Perry, M.C.; Arterburn, J.B. *Acta Crystallogr. (C)* **1998**, 54, 1607-1608.

"Rhenium Catalyzed Sulfurization of Phosphorus(III) Compounds with Thiiranes: New Reagents for Phosphorothioate Ester Synthesis." Arterburn, J.B.; Perry, M.C. *Tetrahedron Lett.* **1997**, 38, 7701-7704.

"Rhenium Catalyzed Oxidation of Thiols and Disulfides with Sulfoxides." Arterburn, J.B.; Perry, M.C.; Nelson, S.L.; Holguin, M.S.; Dible, B.R. *J. Am. Chem. Soc.* **1997**, 119, 9309-9310.

"Rhenium Catalyzed Sulfoxide Reduction." Arterburn, J. B.; Perry, M. C. *Tetrahedron Lett.* **1996**, 37, 7941-7944.

SELECTED PRESENTATIONS

Oral presentation entitled "Schlenk equilibrium effects on iron-catalyzed cross-coupling reactions of aryl chlorides with alkyl Grignard reagents," at the 243rd ACS National Meeting, San Diego, CA, March 25-29, 2012.

Oral presentation entitled "Iron-catalyzed cross-coupling of unactivated aryl chlorides with alkyl Grignards" at 239th ACS National Meeting, San Francisco, CA, March 24th, 2010.

Oral presentation entitled "Pi-Acidic ligands in the iron-catalyzed cross-coupling of aryl chlorides and secondary alkyl Grignards" at 237th ACS National Meeting, Salt Lake City, UT, March 25th, 2009.

Oral presentation entitled "Asymmetric Catalytic Hydrogenation of Alkenes using Chiral Carbene Ligands" at pIUCCP Graduate Research in Chemistry Symposium, October 1-4, 2001, Texas A&M University, College Station, TX.

Poster entitled "Selective Rhenium-Catalyzed Oxidation of Secondary Alcohols with DMSO: A One-Pot Oxidative Ketalization" at 218th National ACS Meeting in New Orleans, LA.

Poster entitled "Rhenium-Catalyzed Sulfurization of Phosphorus(III) Compounds with Thiiranes" at 14th Rocky Mountain Regional Meeting in Tucson, AZ.

SELECTED STUDENT POSTERS

"Role of dialkylmagnesium species in the cobalt-catalyzed Kumada coupling of aryl bromides," presented by Jasmine Myles at the 249th ACS National Meeting & Exposition, Denver, CO, United States, March 22-26, 2015.

"Isonitrile ligands in iron-catalyzed Kumada couplings of N-aryl chloride," presented by Kyle Dornhofer at the 249th ACS National Meeting & Exposition, Denver, CO, United States, March 22-26, 2015.

"The Role of diorganomagnesium species in the iron-catalyzed Kumada coupling of alkyl Grignard reagents," presented by Amber Gillett at the 245th ACS National Meeting, New Orleans, LA, April 7-11, 2013.

"Methylmagnesium bromide as a probe for the active oxidation state of iron in Kumada couplings of alkyl Grignard reagents," presented by James Bonner at the 245th ACS National Meeting, New Orleans, LA, April 7-11, 2013.

"Formaldehyde free procedure for the synthesis of bulky N-arylimidazoles," presented by Jack Kleinsasser and Justin Weststeyn at the 245th ACS National Meeting, New Orleans, LA, April 7-11, 2013.

"Cobalt-catalyzed hydroarylation of alkenes" presented by Tyler Sanders at the 247th ACS National Meeting, Dallas, TX, United States, March 16-20, 2014.

REFERENCES

Dr. Kevin Burgess
Department of Chemistry
Texas A&M University
College Station, TX 77843
(979)845-4345
burgess@mail.chem.tamu.edu

Dr. Jeffrey Arterburn
Department of Chemistry and Biochemistry
New Mexico State University
Las Cruces, NM 88001
(505)646-2738
jarterbu@nmsu.edu