

Student Publications: 2010 – 2014

(Chemistry undergraduate authors are underlined)

2010

2011

2012

Kwan, M.L.; Conry, S.J.; Carfagna, C.S.; Press, L.P.; Ozerov, O.V.; Hoffman, N.W.; Sykora, R.E. {2,6-Bis[(2,6-diisopropylphosphanyl)oxy]-4-fluorophenyl- κ^3 P,C1,P'} (1H- Pyrazole-N)nickel(II) hexafluorophosphate. *Acta Crystallogr. Sect. E: Struct. Rep. Online*, **2012**, 68 (10), m1282-m1283.

2013

Patil, P.; Cousins, K.; Smith, M.; Weiskamp, S.; Ferrara, M.; Bruce, C.D.; Lee, M. Controlling the radical 5-exo-trig cyclization, and selective synthesis of seco-iso-cyclopropylfurano[e]indoline (seco-iso-CFI) and seco-cyclopropylthiophene[e]indoline (seco-CTI) DNA alkylating subunit of the duocarmycins. *Tetrahedron Lett.*, **2013**, 54, 4756-4759.

2014

Smolik, A.; Bengez-Pudja, L.; Cheng, I.; Mascotti, D. Characterization of E. coli Manganese Superoxide Dismutase Binding to RNA and DNA. *Biochem. Biophys. Acta: Proteins & Proteomics*, **2014**, 1844, 2251-2256.

Student Presentations: 2010 – 2014

(Chemistry undergraduate presenters are underlined; awards received are **bold underlined**)

2010

Andang, H.; Anderson, D.; Calig, G.; Cassidy, E.; Deptowicz, D.; Harr, A.; Hatem, C.; Hibbard, A.; Sanko, H. Seventeenth Century Madame de Sévigné and her Correspondence. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Bartholet, M.; Bailey, I.; Burke, T.; Mariano, P.; Ruchames, G.; Loya, M.; Carano, M.; Donnelly, D. Six Contemporary Catholics: Jim Caviezel, Steven Colbert, Mary Ann Glendon, Anne Rice, Tim Rusert, & Tim Shriver. Presented at Celebration of Scholarship Panel Session, John Carroll University, University Heights, OH, March 2010.

Brown, M.; Nichols, M.A. Synthesis and Use of the Ligand PQAM in Copper Analysis. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Challen, P.R.; Kwan, M.L.; Luu, W.; Essi, D.F.; Beach, D.W.; Krystosik, A.R.; Steenburg, S.P.; Johnson, M.; Updegraff, J.B., III; Protasiewicz, J.D. Synthesis and Structural Characterization of Terphenyl Scaffolded S-C-S Palladium Pincer Complexes and Studies of their Catalytic Activity in the Suzuki Coupling Reaction. Presented at ACS Central Regional Meeting, Dayton, OH, June 2010.

Cody, J.; Aytekin, M.; Haserodt, S.; Dweik, R. Effect of Nitric Oxide on TIMP-2 Expression in Pulmonary Hypertension Patients. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Csok, A.; D'Mello, E.; Hocevar, E. The Effects of Global Warming on Animals. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Ghosh, P.; Wallace, A.; McCartney, M. P-glycoprotein-mediated cholesterol trafficking is required for polarization of plasma membrane microviscosity during endothelial cell migration. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Giorgio, C.; Nichols, M. Kinetic and Mechanistic Studies of the Deuterium Exchange in Classical Keto-Enol Tautomeric Equilibrium Reactions. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Hiznay, J.; Berkner, K.L.; Rishavy, M.A.; Hallgren, K.W. Propeptide Activation of Mutant γ -Glutamyl Carboxylase in Pseudoxanthoma Elasticum Patients. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Hiznay, J.M.; Waner, M.J.; Mascotti, D.P. Fluorimetric Evidence for Structural Cooperativity in the Binding of Biotin to Streptavidin. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Mahfouz, G.; Nichols, M. Preparing Short Chains of Polystyrene Polymer with Low Molecular Weight. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Maholtz, D.; Nichols, M. Analysis of Hydrogen Peroxide-Fe²⁺- Mediated Linoleic Acid Peroxidation Products Using GC-MS. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Tillmaand, E.G.; Chandrasekharan, U.M.; DiCorleto, P.E. Identification of MAP Kinase Phosphatase-1 (MKP-1)-Regulated Genes in Endothelial Cells. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Toney, N.; Nichols, M. Kinetic and Mechanistic Studies of the Deuterium Exchange in Classical Keto-Enol Tautomeric Equilibrium Reactions. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Vaccarino, M.A.; Tillmaand, E.G.; Martin, M.P.; Johansen, J.R. Phylogenetic placement of the Microchaetaceae (Cyanobacteria). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

Zunica, E.; Chakravarti, R.; Stuehr, D. the effect of SYK kinase on the expression and activity of iNOS. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2010.

2011

Alnadi, M.; Faist, A.; Flanick, L.; Standish, J.; Masterson, T. The Psychology of Autism Cause: A Reflection of a New Special Topics Course at JCU. Presented at Celebration of Scholarship Panel Session, John Carroll University, University Heights, OH, March 2011.

Arif, A.; Jia, J.; Moodt, R.A.; DiCorleto, P.E.; Fox, P.L. Phosphorylation of glutamyl-prolyl +RNA synthetase by cyclin-dependent kinase 5 dictates transcript-selective translational control. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Bartlett, D.; Nebelski, B.; Beach, D.; Kwan, M.L.; Challen, P. New Pincer Complex for Catalysis of Suzuki Coupling Reactions. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Benson, H. The Effects of Orally Administered Adderall XR on Spatial Learning and Memory, Activity, Body Weight and Food Consumption in Long-Evans Rats. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Brown, M. Synthesis and Use of the Ligand PQAM in Copper Analysis. B.S. Honors Thesis, John Carroll University, University Heights, OH, May 2011.

Brown, M.; Nichols, M.A. Synthesis and Use of the Ligand PQAM in Copper Analysis. Presented at the Cleveland Section ACS Meeting-in-Miniature, Ursuline College, Pepper Pike, OH, March 2011.

Brown, M.; Nichols, M. Synthesis and Structural Characterization of PQAM and CuCl₂-PMAQ. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Challen, P.R.; Kwan, M.L.; Bartlett, D.J. Synthesis and Structural Characterization of Terphenyl Scaffolded S-C-S Palladium Pincer Complexes and Studies of their Catalytic Activity in the Suzuki Coupling Reaction. Presented at ACS Central Regional Meeting, Indianapolis, IN, June 2011.

Clack, S.; Chahoud, R.; Mascotti, D.P.; Martin, M.P. Comparison of Transcription using Short Single, Double, and Snapback DNA Templates. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Clack, S.; Lahood, T.; Kozlovskaya, O.; Chahoud, R.; Martin, M.P.; Mascotti, D.P. Comparison of Transcription using Short Single, double, and Snapback DNA Templates. Presented at Rustbelt RNA Meeting, Dayton, OH, October 2011.

Curatolo, B.; Tian, P. Monte Carlo Simulation of Point Spread Functions for Multi-Wavelength Wide Field Optical Imaging. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Flanick, L.; Masterson, T.L. The Impact of Autism Spectrum Disorder on Typical Siblings: A Review. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Fox, P.L.; Ghosh, P.K.; McCartney, M.A.; Wallace, A.M.; Schwartz, K.R. Polarization of HMG-CoA reductase in migrating endothelial cells. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Johnson, M.; Huang, K.; Rzayev, J. Organic Nanotubes Assembled from Macromolecular Polymer Brushes. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Lewis, E.; Shoonmaker, R.; Mascotti, D.P. Interactions of Human Superoxide Dismutase 2 with RNA. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Lewis, E.; Schoonmaker, R.; Mascotti, D.P. Interaction of Human Superoxide Dismutase 2 with RNA. Presented at Rustbelt RNA Meeting, Dayton, OH, October 2011.

Mahfouz, G.; Waner, M.; Nichols, M.A. Solvent and Concentration Effects on the Thermodynamics of the Keto-Enol Equilibrium of Ethyl Acetoacetate and Acetylacetone. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Mahfouz, G.; Waner, M.; Nichols, M.A. Solvent and Concentration Effects on the Thermodynamics of the Keto-Enol Equilibrium of Ethyl Acetoacetate and Acetylacetone. Presented at OFIC Poster Session, State Capital Building, Columbus, OH, April 2011.

Maholtz, D. Analysis of Hydrogen Peroxide-Fe²⁺- Mediated Linoleic Acid Peroxidation Products Using GC- MS. B.S. Honors Thesis, John Carroll University, University Heights, OH, May 2011.

Maholtz, D.; Nichols, M.A. Iron (II), Hydrogen Peroxide, and Oxygen Lipid Peroxidation of Linoleic Acid. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Maholtz, D.; Nichols, M.A. Analysis of Hydrogen Peroxide-Fe²⁺- Mediated Linoleic Acid Peroxidation Products Using GC- MS. Presented at the Cleveland Section ACS Meeting-in-Miniature, Ursuline College, Pepper Pike, OH, March 2011.

Protasiewicz, J.D.; Challen, P.R.; Kwan, M.L.; Bartlett, D.J.; Deligonul, N. Synthesis and Structural Characterization of Terphenyl Scaffolded S-C-S Palladium Pincer Complexes and Studies of their Catalytic Activity in the Suzuki Coupling Reaction. Presented at ACS Central Regional Meeting, Indianapolis, IN, June 2011.

Schoonmaker, R.A.; Lewis, E.A.; Mascotti, D.P. Interactions of Human Superoxide Dismutase 2 with RNA. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Steenberge, S.P.; Bandyopadhyay, S.; DiCorleto, P.E. Investigation of splicing factor PSF regulation of E-selection induction in Endothelial Cells. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Tyler, S.; Boyd, K. The aggregation Phenomena of Acetylacetonate (acac). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Zessin, A.; Kurup, S.; Steffey, M.E.; Soellner, M.B. Identification of non-peptidic, substrate competitive Abl kinase inhibitors. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

Zessin, A.; Martin, M. Characterization of a spontaneous suppressor in the budding yeast *Saccharomyces cerevisiae*. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2011.

2012

Alzayed, A. Prostate Cancer Secretome Analysis. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Bailey, I.; Ludgin, J.; Johnson, E.E. Effects of Iron Metabolism on Immune Response. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Bailey, I.; Miniard, A.; Driscoll, D.M. Identifying the Regulating Factors in the Expression of the Selenoproteome. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Brock, L.; Panko, M.; Chung, M. Neurocognitive Function in Atrial Fibrillation Ablation Patients. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Clack, S.; Kozlovskaya, O.; Martin, M.P.; Mascotti, D.P. Comparison of Transcription using Short, Single, Double, and Snapback DNA Templates. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Habursky, J.N.; Nichols, M.A. Effects of Buffer, pH, and Antioxidants on the Oxidation of Linoleic Acid. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Kennedy, D.J.; Bartlett, D.J.; Xie, Z.; Shapiro, J.I.; Silverstein, R.L. CD36-Na/K ATPase Signal Complex Mediates a Pro-inflammatory Signaling Loop in KIDNEY Kidney. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Lewis, E.; Schoonmaker, R.; Mascotti, D.P. Interactions of Human Superoxide Dismutase 2 with RNA. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Lyons, K.; Chandrasekharan, U.M.; DiCorleto, P.E. Dominant negative activity of the cytosolic domain of TNF receptor-II in TNF-mediated gene induction. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Schott, M. Design of a 3-D Radio Frequency Laminar-Constructed Hexapole Ion Trap. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Stahon, K.E.; Clack, S.; Martin, M.P.; Mascotti, D.P. Kinetic Analysis of T7 RNA Polymerase from Novel DNA Templates. Presented at Rustbelt RNA Meeting, Dayton, OH, October 2012.

Snyder, A.; Nichols, M.A. Development of a Spectrofluorimetric Assay for Copper using 8-Aminoquinoline and 2- Pyridinecarboxaldehyde. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Sypert, M.; Bandyopadhyay, S.; DiCorleto, P.E. A gene study of PSF in human umbilical vein endothelial cells. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

Tyler, S. Aggregation Phenomenon of Acetylacetone. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, March 2012.

2013

Bartlett, R.; Boerckel, J.; DiCorleto, P.E. Mitogen-activated protein kinase phosphatase-1 (MKP-1) positively regulates angiogenesis in vivo and in vitro. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Bruce, C.D.; Ferrara, M.M.; Manka, J.L. Docking studies of DNA minor groove binder Hx-IP by binding affinity calculations. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Chessler, K.; Elias, M.; Kwan, M.L.; Challen, P.R. Synthesis of New Pincer Complex using Grignard Technique. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Cox, R.; Romaker, D.; Wessely, O. Torin2 Significantly Reduces Proximal Tubular Development of the *Xenopus laevis* Pronephric Kidney. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Ekstrand, D.; Tarchicks, M.; Murphy, H.M.; Wideman, C.H. The Effects of Modafinil (Provigil) on Working Memory in Rats. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Escano, J.; Torres, Y.; Lissemore, J. Diabetic Retinopathy. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Maxwell, T.; Harris, D.; DiCorleto, P. NF- κ B p65 Methylation by Protein Arginine Methyltransferase 5 (PRMT5) is Necessary for the Transcriptional Induction of CXCL10 by

TNF. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Salata, R.R.; Setter, M.P. Analysis of the Surface Chemistry of Copper Oxide. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Scholtz, J.; Chakravarti R.; Stuehr, D. Trx1 mediated denitrosylation of SNO-GAPDH: an in vitro study. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

Zaleski, J.; Bachleda, A.; Runkle, A.; Brunet, S.; Baltan, S. Age-dependent activity of nitric oxide synthase during ischemic white matter injury. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2013.

2014

Azadi, S.; Bou-Anak, S.; Kaltenbach, J.A. Serial Block Face Scanning Electron Microscopy Study of Synapses on Fusiform Cells in the Dorsal Cochlear Nucleus. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Brown, R. The Mechanisms of the Inhibition of Retinopathy of Prematurity using Dimethyloxalylglycine. Senior Honors Program Project (Advisor: Dr. Y. Chai, Chemistry). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Bucur, P.; Kennedy, D. Cardiotonic steroids signal through the Na/K ATPase to promote renal inflammation and fibrosis in volume expanded states. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Chessler, K. Effects of Oxidative Stress on J774 Macrophages. Senior Honors Program Project (Advisor: Dr. Y. Chai, Chemistry). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Chessler, K.M.; Chai, Y. Effects of Oxidative Stress on J774 Macrophages. Presented at Cleveland Section ACS Meeting-in-Miniature, Baldwin Wallace University, Berea, OH, March 2014. **Outstanding Undergraduate Research Award**

DeLeonibus, A.; Kwan, M.L. JCU PaperLESS: Enhancing Student Learning. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Miller, K. Exploring Diphosphene Synthesis with Trimethylsilylated and Imidazolidine Reductants. Senior Honors Program Project (Advisor: Dr. Paul Challen, Chemistry).

Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Myers, A.; Kwan, M.L. JCU PaperLESS: Reducing Paper Consumption and the Environment. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Pacer, C.; Nichols, M.A. Studies of the Keto-Enol Equilibria and Thermodynamics for Four β -Dicarbonyl Compounds. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Polsinelli, C. Molecular Dynamics Simulations as a Characterization Method of Biologically Relevant Segments of DNA. Senior Honors Program Project (Advisor: Dr. Chrystal Bruce, Chemistry). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Polsinelli, C.; Bruce, C.D. Molecular Dynamics Simulations as a Characterization Method of Biologically Relevant Segments of DNA. Presented at Cleveland Section ACS Meeting-in-Miniature, Baldwin Wallace University, Berea, OH, March 2014.

Polsinelli, C.; Vancil, C.; Bruce, C.D. Molecular Dynamics Simulations as a Characterization Method of Biologically Relevant Segments of DNA. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Scarl, R. The Effect of Mutations in PRMT5 on its Ability to Oligomerize. Senior Honors Program Project (Advisor: Dr. Jim Lissemore, Biology). Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Stahon, K.; Chinthasagar, B.; Grahame, K.; Sylvain, B.; Selva, B. Age-dependent modifications of axons, mitochondrial dynamics, and calcium homeostasis underlie the vulnerability of aging white matter to ischemia. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Vancil, C.; Kwit, A.; Bruce, C.D. Molecular Dynamics Simulations: Using Computational Chemistry to Study DNA-polyamide Complexes as a Characterization of Cognate DNA Strands. Presented at Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH, April 2014.

Washburne, B.S.; Salata, R.R.; Challen, P.R.; Dyck, J.S. Nanopowder Synthesis and Characterization of the Natural Superlattice $(\text{Bi}_2)_m(\text{Bi}_2\text{Te}_3)_n$ for Prospective Thermoelectric Materials. Presented at Annual Spring Meeting of the American Physical Society, Ohio-Region Section, Youngstown, OH, April 2014.

Woods, J.; Nichols, M.A. Kinetic and Mechanistic Studies of the Deuterium Exchange in Classical Keto-Enol Tautomeric Equilibrium Reactions: The Role of Impurities. Presented at



Celebration of Scholarship Poster Session, John Carroll University, University Heights, OH,
April 2014.