

Michel R. Gagné

Department of Chemistry, CB#3290
University of North Carolina
Chapel Hill, NC 27599

(919)962-6341
mgagne@unc.edu

EDUCATION AND RESEARCH EXPERIENCE

- 2012-present, Mary Ann Smith Distinguished Professor of Chemistry
- 2006-present, Professor, University of North Carolina, Chapel Hill
- 2001-2006, Associate Professor, University of North Carolina, Chapel Hill
- 1995-2001, Assistant Professor, University of North Carolina, Chapel Hill
- 1992-1995, Post-Doctoral Fellow, Harvard University (Prof. David A. Evans)
- 1991-1992, Post-Doctoral Fellow, Caltech (Prof. Robert H. Grubbs)
- 1987-1991, Ph.D., Northwestern University (Prof. Tobin J. Marks)
- 1984-1987, B.Sc., with First Class Honors, University of Alberta (Prof. Josef Takats)

AWARDS AND MEMBERSHIPS

- Fellow, Royal Society of Chemistry (2016); RSC "Catalysis in Organic Chemistry" Award (2016); Fellow, American Association for the Advancement of Science (2012), University of Alberta Alumni Honour Award (2011), "Excellent" Poster Award (2004, ICOS, Nagoya Japan), Camille Dreyfus Teacher Scholar Award (2000), Union Carbide Innovation Recognition Faculty Research Award (2000), 3M Untenured Faculty Award (1999-2000), NSF CAREER Award (1996-2000), Fred H. Irwin Memorial Prize in Organic Chemistry, 1986.
- Senior Visiting Fellow, Magdalen College (Oxford University 2025), Henry J. Shine Lecturer (Texas Tech, 2023), EastChem Visiting Professor (University of St. Andrews, and University of Edinburgh Aug 2014), Visiting Professor (Duke University, Spring 2011), CaRLa Fellow, University of Heidelberg (June 2008), W.R. Kenan Jr. UNC Leave (2005-2006); Visiting Fellow, Exeter College; SCR Member Wadham College (Oxford University 2005-2006)
- NSERC Funding task force (2011-2012), NSERC Banting Fellows Selection Committee (2010-2013), EPSRC College (2006-2009), GSC-24 NSERC Grants Selection Committee (2005-2008), NIH SBCB ad hoc 10/05
- Board of Editors, Canadian Journal of Chemistry (2002-2005), International Advisory Board of *ChemCatChem* (2016-2021), Deputy Editor *Science Advances* (2022-), Board of Editors (*Science Advances*, 2022-)
- NSERC of Canada postdoctoral fellowship, 1992-1994
- American Chemical Society (Inorganic and Organic Divisions), Canadian Institute of Chemistry, Royal Society of Chemistry

PUBLICATIONS (h-index 59)

- (173) "Mixed Chloro-/Fluoroaryl Boranes as Lewis Acid Catalysts for C–O Bond Cleavage/Reduction" N. E. DeSousa, M. R. Gagné *Organometallics*, **2024**, *43*, 3062-3066.
- (172) "The Higher Propensity of Pd-SiHET₂⁺ over Pd-SiMe₂Et⁺ to Transfer Silylium to Silyl Ether Intermediates Explains Divergent Products in Ketone Hydrosilylation Catalysis" E. W. Roos, K. Basemann, M. R. Gagné *Organometallics* **2024**, *43*, 1256-1263.
- (171) "Stimulus-Induced Relief of Intentionally Incorporated Frustration Drives Refolding of a Water-Soluble Biomimetic Foldamer" H. C. Henriksen, A. J. Sower, C. R. Travis, T. D. Vulpis, T. A. Cope, S. K. Ouslander, A. F. Russell, M. R. Gagné, P. Pophristic, Z. Liu, M. L. Waters *J. Am. Chem. Soc.* **2023**, *145*, 27672-27679.
- (170) "N–Si Heterolysis by Chiral (BOX)Cu(OTf)₂ Catalysts for the synthesis of Indole Glycosides" N. Romano, T. L. Mcminn, M. R. Gagné *Organic Letters* **2024**, *26*, 4975-4979.
- (169) "Inverting Pt–I Bond Polarization to Generate Iodonium Character" K. R. Neff, K. Basemann, N. Romano, J. J. Becker, M. R. Gagné *Organometallics* **2024**, *43*, 1256-1263.

- (168) "Electronic Rearrangements in Steps of Reductive Elimination of Polar Electrophiles Leads to Refinement of Redox Events" K. Basemann, J. J. Becker, T. Windus, M. R. Gagné *Organometallics* **2023**, *42*, 2171-2176.
- (167) "Achieving Site-Selective C–O Bond Reduction for High-Value Cellulosic Valorization" J. J. Clarke, Y. Seo, M. R. Gagné, T. A. Bender *ACS Catalysis*, **2022**, *12*, 14220-14226.
- (166) "Iodinium or Phosphonium: The Ambi-valent Character of Iodophosphonium Complexes" K. Basemann, K.M. Riley, J.J. Becker, M. R. Gagné *Inorg. Chem.* **2022**, *61*, 17550-17556.
- (165) "A Uniquely Enabling Mechanism for Bis-Oxazoline Copper(II) Catalyzed Azidation of Pyranosides and Furanosides" N. Romano, N. M. Hein, K. Basemann, Y. Seo, M. R. Gagné *ACS Catalysis* **2022**, *12*, 12500-12510.
- (164) "Precyclization conformer profiles of -SiR₃⁺ and -Bcat⁺ activated linear Si-protected hexitols explain condensative cyclization selectivities" J. Lowe, Y. Seo, J. J. Clarke, M. R. Gagné *J. Org. Chem.* **2022**, *87*, 12065-12071.
- (163) "Borane and Silylium-Catalyzed Difunctionalization of Carbohydrates: 3,6-Anhydrosugar Enabled 1,6-Site Selectivity" J. J. Clarke, K. Basemann, N. Romano, S. J. Lee, M. R. Gagné *Org. Lett.* **2022**, *24*, 4135-4139.
- (162) "Probing the Source of Enhanced Activity in Multi-Borylated Silsesquioxane Catalysts for C–O Bond Reduction" H. E. Starr, M. R. Gagné *Organometallics*, **2022**, *41*, 3152-3160.
- (161) "Switching between X-Pyrano-, X-Furano-, and Anhydro-X-pyranoside Synthesis (X= C, N)" Y. Seo, J. M. Lowe, N. Romano, M. R. Gagné *Org. Lett.* **2021**, *23*, 5636-5640.
- (160) "Spectroscopic and Computational Assessment of Silicon's Electrophilicity in Phosphinosilylium Cations" K. M. Riley, A. L. Wierschen, S. J. Lee, M. R. Gagné *Organometallics* **2020**, *39*, 1683-1687.
- (159) "Modulating electrostatic interactions in ion pair intermediates can alter site-selectivity in C–O deoxygenation of sugars" J. L. Lowe, B. Bowers, Y. R. Seo, M. R. Gagné *Angew. Chem.* **2020**, *59*, 17297-17300.
- (158) "Silylpalladium Cations Enable the Cleavage of Nitrile C–CN Bonds" A. L. Wierschen, J. Lowe, N. Romano, S. J. Lee, M. R. Gagné *Organometallics*, **2020**, *39*, 1258-1268.
- (157) "Selective deoxygenation of gibberellic acid with fluoroarylborane catalysts" Y. Seo, A. Gudz, J. M. Lowe, M. R. Gagné *Tetrahedron* **2019**, *75*, 130712.
- (156) "Silylpalladium Cations Enable the Oxidative Addition C(sp³)–O Bonds" A. Wierschen, N. Romano, S. J. Lee, M. R. Gagné *J. Am. Chem. Soc.* **2019**, *141*, 16024-16032.
- (155) "Si–H Bond Activation by Main Group Lewis Acids" Chapter in *Modern Organosilicon Chemistry*, Wiley-VCH, **2019**.
- (154) "Controlling Sugar Deoxygenation Products from Biomass by Choice of Fluoroarylborane Catalyst" Y. Seo, J. M. Lowe, M. R. Gagné *ACS Catalysis* **2019**, *9*, 6648-6652.
- (153) "Site selective amide reduction of cyclosporine A opens new structural space for an important cyclic peptide" M. T. Peruzzi, F. Gallou, S. J. Lee, M. R. Gagné *Org. Lett.* **2019**, *21*, 3451-3455.
- (152) "Harnessing the Reactivity of Poly(methylhydrosiloxane) for the Reduction and Cyclization of Biomass to High-Value Products" N. M. Hein, Y. Seo, S. J. Lee, M. R. Gagné, *Green Chem.* **2019**, *21*, 2662-2669.
- (151) "Silylium (R₃Si⁺) catalyzed condensative cyclization for anhydrosugar synthesis" Y. Seo, M. R. Gagné, *ACS Catalysis* **2018**, *8*, 6993-6999.
- (150) "Boron-Catalyzed Reduction of Carbohydrate Derivatives with Catecholborane" J. Lowe, Y. Seo, M. R. Gagné, *ACS Catalysis* **2018**, *8*, 8192-8198.
- (149) "Chemoselective amide reductions by heteroleptic fluoroaryl boron Lewis acids" M. T. Peruzzi,^a Q. Q. Mei,^a S. J. Lee,^b M. R. Gagné, *Chem Commun.* **2018**, *54*, 5855-5858.
- (148) "Computed thermodynamic stabilities of silylium Lewis base adducts" C. Roselli, M. R. Gagné, *Org. Biomol Chem.* **2018**, *16*, 2318-2323.
- (147) "Positional selectivity in the hydrosilylative partial deoxygenation of disaccharides by boron-catalysts" Y. Seo, M. R. Gagné, *ACS Catalysis*, **2018**, *8*, 81-85.
- (146) "Late-Stage Chemoselective Functionalization of Bioactive Natural Products with "Non-Existent" Silylium Ions" T. A. Bender, P. R. Payne, M. R. Gagné, *Nature: Chemistry* **2018**, *10*, 85-90.
- (145) "Reactions of Monosilyloxonium Ions with Pd(0) Nucleophiles: Reversible Si–O Bond Cleavage and the Trapping of a Pd–Silyl Cation" A. L. Wierschen, M. R. Gagné, *Organometallics*, Submitted.
- (142) "Homogeneous Catalysis for the Valorization of Cellulosic Biomass: Low-Volume High-Value Components of the Integrated Biorefinery" T. A. Bender, J. A. Dabrowski, M. R. Gagné, *Nature Reviews Chemistry* **2018**, *2*, 35-46.
- (144) "Phosphines as Silylium Ion Carriers for Controlled C–O Deoxygenation: Catalyst Speciation and Turnover Mechanisms" A. Gudz, P. Payne, M. R. Gagné, *Organometallics*, **2017**, *36*, 4047-4053.

- (143) "Biomimetic Platinum-Promoted Polyene Polycyclizations – Influence of Alkene Substitution and Pre-Cyclization Conformations" C. McCulley, M. J. Geier, B. M. Hudson, M. R. Gagné, D. J. Tantillo, *J. Am. Chem. Soc.* **2017**, *139*, 11158-11164.
- (141) "Taming Silylium Ions for Synthesis: *N*-Heterocycle Synthesis *via* Stereospecific C–C Bond Formation" B. S. Moyer, M. R. Gagné, *Synlett*, **2017**, *28*, 2429-2434.
- (140) "Gold(I) catalyzed dearomative Claisen rearrangement of allyl, allenyl methyl, and propargyl aryl ethers" M. T. Peruzzi, S. J. Lee, M. R. Gagné, *Org. Lett.* **2017**, *19*, 6256-6259.
- (139) "Delineating The Multiple Roles of B(C₆F₅)₃ in the Chemoselective Deoxygenation of Unsaturated Polyols" T. A. Bender, J. A. Dabrowski, M. R. Gagné, *ACS Cat.* **2016**, *6*, 8399-8403.
- (138) "Investigation of a Catenane with a Responsive Noncovalent Network: Mimicking a Long Range Responses in Proteins" M. K. Chung, P.S. White, S. J. Lee, M. R. Gagné, M. L. Waters, *J. Am. Chem. Soc.* **2016**, *138*, 13344-13352.
- (137) "Tetrameric Pseudo-Peptide Receptors with Allosteric Properties" M. K. Chung, S. J. Lee, M. L. Waters, M. R. Gagné, *Chem. Commun.* **2016**, *52*, 8103.
- (136) "Gold(I)- Catalyzed Addition of Aldehydes to Cyclopropylidene Bearing 1,5-Enynes" C. Roselli, M. R. Gagné, *Org. & Biomol. Chem.* **2016**, *14*, 11261-11265.
- (135) "Chemoselective conversion of biologically sourced polyols into chiral synthons" L. A. Adduci, T. A. Bender, J. A. Dabrowski, M. R. Gagné, *Synform* **2015**, *12*, A169-A171.
- (134) "Diastereoselective B(C₆F₅)₃-Catalyzed Reductive Carbocyclization of Unsaturated Carbohydrates" T. A. Bender, J. A. Dabrowski, H. Zhong, M. R. Gagné, *Org. Lett.* **2016**, *18*, 4120-4123.
- (133) "NHC Carbenes in Catalytic Organic synthesis: Hydroamination" P. R. Payne, M. R. Gagné, *Science of Synthesis* **2016**, *1*, 361.
- (132) "The need for Speed, Targeted Library Screening Yields Minimalist Enzymes for Chem-Bio Decontamination" M. R. Gagné, *JSTO in the news* **2014**, *4(12)*, 1-3.
- (131) "Promoting C–C bond coupling of benzyne and methyl ligands in electron deficient (triphos)Pt–CH₃⁺ complexes" M. D. Aseman, C. A. Roselli, M. R. Gagné, *Organometallics* **2015**, *34*, 2707-2709.
- (130) "Chemoselective conversion of biologically sourced polyols into chiral synthons" L. A. Adduci, T. A. Bender, J. A. Dabrowski, M. R. Gagné *Nature: Chemistry* **2015**, *7*, 576-581.
- (129) "Effects of Helix Macrodipole and Local Interactions on Catalysis of Acyl Transfer by α -Helical Peptides" Q. N. N. Nguyen, M. A. Lodewyk, S. Bezer, M. R. Gagné, M. L. Waters, D. J. Tantillo *ACS Catalysis*, **2015**, *5*, 1617-1622.
- (128) "Aurophilicity in Gold(I) Catalysis – For Better or Worse?" D. Weber and M. R. Gagné, *Topics in Current Chemistry: Homogeneous Gold Catalysis*, **2015**, *357*, 167-211.
- (127) "Cross-strand histidine-aromatic interactions enhance acyl-transfer rates in beta-hairpin peptide catalysts" M. Matsumoto,^a S. J. Lee,^b M. R. Gagné, and M. L. Waters, *Org. Biomol. Chem.* **2014**, *12*, 8711-8718.
- (126) "Anion Dependent Switch in Reductive Elimination Diastereoselectivity" M. J. Geier, M. D. Aseman, M. R. Gagné, *Organometallics* **2014**, *33*, 4353-4356.
- (125) "Selective transamidation of the 3-oxo-*N*-acyl homoserine lactones by hydrazine derivatives" M. A. Bertucci, S. J. Lee, M. R. Gagné, *Org. Biomol. Chem.* **2014**, *12*, 7197-7200.
- (124) "A Catalyst Selection Protocol that Identifies Biomimetic Motifs from Beta-Hairpin Libraries: M. Matsumoto, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2014**, *136*, 15817-15820.
- (123) "Gold-Catalyzed Enantioselective Ring Expanding Cycloisomerization of Cyclopropylidene Bearing 1,5-Enynes" H. Zheng, R. J. Felix, M. R. Gagné, *Org. Lett.* **2014**, *16*, 2272-2275.
- (122) "Gold-Catalyzed Diastereoselective Cycloisomerization of Alkylidene Cyclopropane-Bearing 1,6-Diynes" H. Zheng, L. L. Adduci, R. J. Felix, M. R. Gagné, *Angew. Chem. Int. Ed.* **2014**, *53*, 7904-7907.
- (121) "Electrophilic Pt(II) Complexes: Precision Instruments for the Initiation of Transformations Mediated by the Cation-Olefin Reaction" R. J. Felix, C. Munro-Leighton, M. R. Gagné, *Accounts Chem Res.* **2014**, *47*, 2319-2331.
- (120) "Diastereoselective Pt Catalyzed Cycloisomerization of Polyenes to Polycycles" M. J. Geier, M. R. Gagné, *J. Am. Chem. Soc.* **2014**, *136*, 3032-3035.
- (119) "Enantioselective Cascade Cyclization/Protodemetalation of Polyenes with N₃Pt²⁺ Catalysts" H. Nguyen, M. R. Gagné *ACS Cat.* **2014**, *4*, 855-859.
- (118) "Metal-free Deoxygenation of Carbohydrates" L. L. Adduci, M. P. McLaughlin, T. A. Bender, J. J. Becker, M. R. Gagné *Angew. Chem. Int. Ed.* **2014**, *53*, 1646-1649.

- (117) "Identification and optimization of short helical peptides with novel reactive functionality as catalysts for acyl transfer by reactive tagging" S. Bezer, M. Matsumoto, M. Lodewyk, S. J. Lee, D. Tantillo, M. R. Gagné, M. L. Waters *Org. Biomol. Chem.* **2014**, *12*, 1488-1494.
- (116) "Carbonium vs. Carbenium Ion-like Transition State Geometries for Carbocation Cyclization—How Strain Associated with Bridging Affects 5-*exo* vs. 6-*endo* Selectivity" O. Gutierrez, J. G. Harrison, R. J. Felix, F. Cortés Guzman, M. R. Gagné and D. J. Tantillo, *Chem. Sci.* **2013**, *4*, 3894-3898.
- (115) "Gold(I)-Catalyzed Formation of Bicyclo[4.2.0]oct-1-enes" R. J. Felix, O. Gutierrez, D. J. Tantillo, M. R. Gagné, *J. Org. Chem.* **2013**, *78*, 5685-5690.
- (114) "Thiourea-Catalyzed Aminolysis of N-Acyl Homoserine Lactones" M. A. Bertucci, S. J. Lee, M. R. Gagné *Chem. Commun.* **2013**, *49*, 2055-2057.
- (113) "Catalytic Enantioselective Cyclization and C3-Fluorination of Polyprenoids" N. A. Cochrane, H. Nguyen, M. R. Gagné, *J. Am. Chem. Soc.* **2013**, *135*, 628-631.
- (112) "Catalytic Platinum-Catalyzed Cation-Olefin Reactions with Alkene Terminating Groups" J. G. Sokol, N. A. Cochrane, J. J. Becker, M. R. Gagné, *Chem Commun.* **2013**, *49*, 5046-5048.
- (111) "Iridium-catalyzed hydrosilylative reduction of glucose to hexane(s)" M. P. McLaughlin, L. A. Adduci, J. J. Becker, M. R. Gagné, *J. Am. Chem. Soc.* **2013**, *135*, 1225-1227.
- (110) " σ - π -diauration as an alternative binding mode for digold intermediates in gold(I) catalysis" D. Weber, M. R. Gagné, *Chem. Sci.* **2013**, *4*, 335-338.
- (109) "An Oxidation Induced Cyclization/Oxygenation Scheme for the Conversion of Polyenes into C3-Oxygenated Polycycles" M. J. Geier, M. R. Gagné, *Organometallics* **2013**, *32*, 380-383.
- (108) "Mechanistic Analysis of the Gold(I)-Catalyzed Intramolecular Allene Hydroalkoxylation Reveals an Off-Cycle Bis(gold) Vinyl Species and Reversible C–O Bond Formation" T. J. Brown, D. Weber, M. R. Gagné, R. A. Widenhofer, *J. Am. Chem. Soc.* **2012**, *134*, 9134-9137.
- (107) "Self-Assembled Multi-Component Catenanes: Structural Insights into an Adaptable Class of Molecular Receptors and [2]-Catenanes" M.K. Chung, P. S. White, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2012**, *134*, 11415-11429.
- (106) "Self-Assembled Multi-Component Catenanes: The Effect of Multivalency and Cooperativity on Structure and Stability" M.K. Chung, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2012**, *134*, 11430-11443.
- (105) "A Photo-Flow Reactor for the Continuous Photoredox-Mediated Synthesis of C-Glycoamino Acids and C-Glycolids" R. S. Andrews, J. J. Becker, M. R. Gagné, *Angew. Chem. Int. Ed.* **2012**, *51*, 4140-4143.
- (104) "The Role of Electronics and Counterions on Geminal Digold Formation and Reactivity as Revealed by Gold (I)-Aryl Model Complexes" D. Weber, T. D. Jones, L. L. Adduci, M. R. Gagné, *Angew. Chem. Int. Ed.* **2012**, *51*, 2452-2456.
- (103) "Au-Catalyzed Enantioselective Cope Rearrangement of Alkenyl-Methylene Cyclopropanes" R. J. Felix, D. S. Weber, Osvaldo Gutierrez, D. J. Tantillo, M. R. Gagné, *Nature: Chem.* **2012**, *4*, 405-409.
- (102) "Electrophilic Fluorination of Cationic Pt-aryl Complexes" S. B. Zhao, R. Y. Wang, H. Nguyen, J. J. Becker, M. R. Gagné *Chem. Commun.* **2012**, *48*, 443-445.
- (101) "{Bis[2-(diphenylphosphanyl)ethyl]phenylphosphane- κ^3 P',P''}[(Z)-8-mesitylcyclooct-4-en-1-yl]platinum(II) tetrafluoridoborate dichloromethane disolvate" S. B. Zhao, R.-U. Wang, M. R. Gagné *Acta Cryst.* **2011**, *E67*, m972.
- (100) "Oxidative Addition of Secondary C-X Bonds to Pd(0): A Beneficial Anomeric Acceleration" C. Munro-Leighton, L. L. Adduci, J. J. Becker, and M. R. Gagné, *Organometallics*, **2011**, *30*, 2646-2649.
- (99) "Investigating the Rate of Photoreductive Glucosyl Radical Generation" R. S. Andrews, J. J. Becker, M. R. Gagné, *Org. Lett.* **2011**, *13*, 2406-2409.
- (98) "Driving Catalyst Reoxidation in Wacker Cyclizations with Acetal-Based Metal-Hydride Abstractors" N. A. Cochrane, M. S. Brookhart, M. R. Gagné, *Organometallics* **2011**, *30*, 2457-2460.
- (97) "Pd(0)/Au(I) RedOx Incompatibilities as Revealed by Pd-Catalyzed Homo-Coupling of Arylgold(I)-Complexes" D. Weber, M. R. Gagné, *Chem. Commun.* **2011**, *47*, 5172 - 5174.
- (96) "Terminating Pt-Initiated Cation-Olefin Reactions with Simple Alkenes" J. G. Sokol, K. C. Sekhar, J. J. Becker, M. R. Gagné, *Angew. Chem. Int. Ed.*, **2011**, *50*, 5658-5661.
- (95) "Facile Synthesis of Salmochelin S1, S2, MGE, DGE and TGE" X. Yu, Y. Dai, T. Yang, J. J. Becker, M. R. Gagné, H. Gong *Tetrahedron*, **2011**, *67*, 144-151.
- (94) "Steric Crowding Makes Challenging C_{sp3}-F Reductive Elimination Feasible" S.B. Zhao, J. J. Becker, M. R. Gagné, *Organometallics* **2011**, *30*, 3926-3929.

- (93) "Constitutionally selective amplification of multicomponent 84-membered macrocyclic hosts for (-)-cytidine•H⁺" M. K. Chung, K. Severin, S. J. Lee, M. L. Waters, M. R. Gagné, *Chem. Sci.* **2011**, *2*, 744-747.
- (92) "Visible Light-Mediated Intermolecular Addition of Glycosyl Halides to Alkenes" R. S. Andrews, J. J. Becker, M. R. Gagné, *Angew. Chem., Int. Ed.* **2010**, *49*, 7274-7276.
- (91) "Dynamic Cyclic Thiopeptide Libraries From Thiol-Thioester Exchange" S. Ghosh, L. A. Ingerman, A. Frye, S. J. Lee, M. R. Gagné, M. L. Waters, *Org. Lett.* **2010**, *12*, 1860-1863.
- (90) "A Dinuclear Gold-Silver Resting State May Explain Silver Effects in Gold(I)-Catalysis" D. Weber, M. R. Gagné, *Org. Lett.* **2009**, *11*, 4962-4965.
- (89) "Hindered Ureas as Masked Isocyanates: Facile Carbamoylation of Nucleophiles under Neutral Conditions" M. Hutchby, C. E. Houlden, J. G. Ford, S. N. G. Tyler, M. R. Gagné, G. C. Lloyd-Jones, K. I. Booker-Milburn, *Angew. Chem. Int. Ed.* **2009**, *48*, 8721-8724.
- (88) "Synthesis of interlocked 56-membered rings by dynamic self-templating" M. K. Chung, P. S. White, S. J. Lee, M. R. Gagné, *Angew. Chem. Int. Ed.* **2009**, *48*, 8683-8686.
- (87) "Gold(I)-Catalyzed Cascade Cyclization of Allenyl Epoxides" M. A. Tarselli, J. L. Zuccarello, S. J. Lee, M. R. Gagné, *Org. Lett.* **2009**, *11*, 3490-3492.
- (86) "Mechanistic Surprises in the Gold(I)-Catalyzed Intramolecular Hydroarylation of Allenes" D. Weber, M. A. Tarselli, M. R. Gagné, *Angew. Chem. Int. Ed.* **2009**, *48*, 5733-5736.
- (85) "Sn-Free Ni-Catalyzed Reductive Coupling of Glycosyl Bromides with Activated Alkenes" H. Gong, R. S. Andrews, J. L. Zuccarello, S. J. Lee, M. R. Gagné, *Org. Lett.* **2009**, *11*, 879-882.
- (84) "Room Temperature Pd(II) Catalyzed Carbonylation of Aryl Urea Derivatives by Selective C-H Activation" C.E. Houlden, M. Hutchby, C.D. Bailey, J.G. Ford, S.N.G. Tyler, M.R. Gagné, G.C. Lloyd-Jones, K. I. Booker-Milburn, *Angew. Chem. Int. Ed.* **2009**, *48*, 1830-1833.
- (83) "Oxidative Addition of Glycosylbromides to trans-Ir(PMe₃)₂(CO)Cl" E. M. Pelczar, P. S. White, M. R. Gagné, *Organometallics* **2009**, *28*, 663-665.
- (82) "Platinum(II) Enyne Cycloisomerization Catalysis: Intermediates and Resting States" D.L. Nelson, M.R. Gagné, *Organometallics* **2009**, *28*, 950-952.
- (81) "Computational Studies on the Pt(II)-Catalyzed Cycloisomerization of 1,6-dienes into Bicyclopropanes: A Mechanistic Quandary Evaluated by DFT" F. Bell, J. Holland, J. C. Green, M. R. Gagné, *Organometallics* **2009**, *28*, 2038-2045.
- (80) "Gold(I)-catalyzed intermolecular hydroarylation of allenes with nucleophilic arenes: scope and limitations" M. A. Tarselli, A. Liu, M. R. Gagné, *Tetrahedron* **2009**, *65*, 1785-1789.
- (79) "A Diastereoselective Ni-Catalyzed Negishi Cross-Coupling Approach to Saturated, Fully Oxygenated C-Alkyl and C-Aryl Glycosides" H. Gong, M. R. Gagné, *J. Am. Chem. Soc.* **2008**, *130*, 12177-12183.
- (78) "The Effect of Gas-Phase Reactions on the Quantitation of Cyclic Hydrazone Libraries by Electrospray Ionization (ESI) Mass Spec" H. Schiltz, M.-K. Chung, S. J. Lee and M. R. Gagné, *Org. Biomol. Chem.* **2008**, *6*, 3597-3600.
- (77) "Deracemization of a Dynamic Combinatorial Library Induced by (-)-Cytidine and (-)-2-Thiocytidine" M.-K. Chung, C. M. Hebling, J. W. Jorgenson, K. Severin, S. J. Lee, M. R. Gagné, *J. Am. Chem. Soc.* **2008**, *130*, 11819-11827.
- (76) "Distinct Reactivity of Pd(OTf)₂: the Intermolecular Pd(II)-Catalyzed 1,2-Carboamination of Dienes" C. E. Houlden, C. D. Bailey, G. J. Ford, M. R. Gagné, G. C. Lloyd-Jones and K. I. Booker-Milburn, *J. Am. Chem. Soc.* **2008**, *130*, 10066-10067.
- (75) "Asymmetric Oxidative Cation-Olefin Cyclization of Poly-enes: Evidence for Reversible Cascade Cyclization" C. A. Mullen, A. N. Campbell, *Angew. Chem. Int. Ed.* **2008**, *47*, 6011-6014.
- (74) "Chiral Selection in DCC" J. J. Becker, M. R. Gagné, Submitted to "Dynamic Combinatorial Chemistry in Drug Discovery, Bioorganic Chemistry, and Materials Science", Wiley VCH, Ben Miller, Ed. **2009**.
- (73) "The aerobic oxidation of alcohols with a ruthenium porphyrin catalyst in organic and fluorinated solvents" V. N. Korotchenko, K. Severin, M. R. Gagné, *Org. Bio. Chem.* **2008**, *6*, 1961-1965.
- (72) "Gold(I)-Catalyzed Intramolecular Hydroarylation of Allenes" M. A. Tarselli, M. R. Gagné, *J. Org. Chem.* **2008**, *73*, 2439-2441.
- (71) "Reversibility Effects on the Stereoselectivity of Pt(II)-Mediated Cascade Poly-ene Cyclizations" J. A. Feducia, M. R. Gagné, *J. Am. Chem. Soc.* **2008**, *130*, 592-599.
- (70) "Palladium-Catalyzed Cyclizations of 1,ω-Dienols: Multiple Ways to Intramolecularly Trap a Carbocation" V. N. Korotchenko, M. R. Gagné, *J. Org. Chem.* **2007**, *72*, 4877-4881.

- (69) "Regioselective Oxidative Cation-Olefin Cyclization of Poly-enes: Catalyst Turnover via Hydride Abstraction" C. A. Mullen, M. R. Gagné, *J. Am. Chem. Soc.* **2007**, *129*, 11880-11881.
- (68) "Gold(I)-Catalyzed Asymmetric Cycloisomerization of Ene-Allenenes into Vinyl-cyclohexenes" M. A. Tarselli, A. R. Chianese, S. J. Lee, M. R. Gagné, *Angew. Chem. Int. Ed.* **2007**, *46*, 6670-6673.
- (67) "A Room Temperature Negishi Cross-Coupling Approach to C-Alkyl Glycosides" H. Gong, R. Sinisi, M. R. Gagné, *J. Am. Chem. Soc.* **2007**, *129*, 1908-1909.
- (66) "Room Temperature β -H Elimination in (P₂P)Pt(OR) Cations: Convenient Synthesis of a Platinum Hydride" A. N. Campbell, M. R. Gagné, *Organometallics* **2007**, *26*, 2788-2790.
- (65) "Electrophilic Activation of Alkenes by Pt(II): So Much More Than a Slow Version of Pd(II)" A. R. Chianese, S. J. Lee, M. R. Gagné, *Angew. Chem. Int. Ed.* **2007**, *46*, 4042-4059.
- (64) "The Discovery of an Enantioselective Receptor for (-)-adenosine from a Racemic Dynamic Combinatorial Library" S. M. Voshell, S. J. Lee, M. R. Gagné, *J. Am. Chem. Soc.* **2006**, *128*, 12422-12423.
- (63) "Density Functional Study of Platinum(II)-Mediated Bicyclization of 1,6-Dienylphenols" T. Nowrozi-Isfahani; D. G. Musaev; K. Morokuma; M. R. Gagné, *Organometallics* **2007**, *26*, 2540-2549.
- (62) "Modular Catalysts for Diene Cycloisomerization: Rapid and Enantioselective Variants for Bicyclopropane Synthesis" J. A. Feducia; A. N. Campbell; M. Q. Doherty; M. R. Gagné *J. Am. Chem. Soc.* **2006**, *128*, 13290-13297.
- (61) "Modulating the Activity and Selectivity of an Immobilized Ru-Porphyrin Catalyst using a Fluorous Solvent" E. Burri, S. M. Leeder, K. Severin, M. R. Gagné, *Adv. Synth. & Cat.* **2006**, *348*, 1640-1644.
- (60) "Catalytic Asymmetric Prins-Cyclizations: Cation Generation and Trapping with (BINAP)Pt-dications" C. A. Mullen, M. R. Gagné, *Org. Lett.* **2006**, *8*, 665-668.
- (59) "Fluorophobic Enhanced Decontamination of a Mustard Simulant by Porous Monolithic Flow Through Columns" V. N. Korotchenko, M. R. Gagné, *React. & Func. Polym.* **2007**, *67*, 422-431.
- (58) "Rigidified Dendritic Structures for Imprinting Chiral Information" S. M. Voshell, M. R. Gagné, *Organometallics* **2005**, *26*, 6338-6350.
- (57) "Synthesis and Characterization of Bifunctional Compounds: Templates for Metal Crown-Ether Assemblies" D. L. Nelsen, P. S. White, M. R. Gagné, *Organometallics* **2005**, *24*, 5479-5483.
- (56) "Cycloisomerization of Dienes with Carbophilic Lewis Acids: Mimicking Terpene Biosynthesis with Pt(II) Catalysts" W. D. Kerber, M. R. Gagné, *Org. Lett.* **2005**, *7*, 3379-3381.
- (55) "Protonation of Cationic Pt-C Bonds under Mild Conditions: A Role for Ligand torsional Effects? J. A. Feducia, J. W. Anthis, A. N. Campbell, M. R. Gagné *Organometallics* **2006**, *25*, 3114-3117.
- (54) "Synthesis and Ligand Exchange Reactions of P₂Pd(II) and P₂Pt(II) Salicylaldimates" W. D. Kerber, D. L. Nelsen, P. S. White, M. R. Gagné *J. Chem. Soc. Dalton* **2005**, 1948-1951.
- (53) "Platinum(II)-Catalyzed 1,6-Diene Cycloisomerizations: Turnover in the Absence of β -Hydride Elimination" W. D. Kerber, J. H. Koh, M. R. Gagné, *Org. Lett.* **2004**, *6*, 3013-3015.
- (52) "Pd(II)-Catalyzed Cyclogeneration of Carbocations: Subsequent Rearrangement and Trapping under Oxidative Conditions" J. H. Koh, C. Mascarenhas, M. R. Gagné, *Tetrahedron* **2004**, *60*, 7405-7410 (Invited contribution in commemoration of the RH Grubbs Tetrahedron Prize)
- (51) "Exploiting the Synergy Between Coordination Chemistry and Molecular Imprinting in the Quest for New Catalysts" J. J. Becker, M. R. Gagné, *Acc. Chem. Res.* **2004**, *37*, 798-804.
- (50) "Amino-Acid Containing Metallomonomers Copolymerized into Porous Organic Polymers: Applicability to Allylic Alkylation Catalysis" H. Aït-Haddou, S. M. Leeder, M. R. Gagné, *Inorg. Chim. Acta.* **2004**, *357*, 3854-3864 (Invited Submission for Prof. Tobin J. Marks 60th Birthday).
- (49) "Persistent N-Chirality as the Only Source of Asymmetry in Non-Racemic N₂PdCl₂ Complexes" K. A. Pelz, P. S. White, M. R. Gagné, *Organometallics* **2004**, *23*, 3210-3217.
- (48) "Pd(II)- and Pt(II)-Mediated Multicyclization Reactions of 1,5- and 1,6-Dienes. Evidence in Support of Carbocation Intermediates" J. H. Koh, M. R. Gagné, *Angew. Chem. Int. Ed.* **2004**, *43*, 3459-3461.
- (47) "Accessing a crown-ether functionalised second coordination sphere palladium catalyst by molecular imprinting" F. Viton, P. S. White, M. R. Gagné *Chem. Commun.* **2003**, 3041-3042.
- (46) "The fluorophobic Effect Promotes Partitioning of Organics into Macroporous Organic Polymers. A Method for Achieving High Local Concentrations" S. Leeder, M. R. Gagné *J. Am. Chem. Soc.* **2003**, *125*, 9048-9054.

- (45) "Synthesis and Characterization of Chiral Diphosphine Platinum(II) VANOL and VAPOL Complexes" J. J. Becker, P. S. White, M. R. Gagné *Organometallics* **2003**, *22*, 3245-3249.
- (44) "Ethylene-Linked bis(phenol) Ligands: Efficient Synthesis, Ti(IV) Coordination Chemistry, and Lewis Acid Catalysis" J. W. Anthis, A. O. Larsen, P. S. White, and M. R. Gagné, *J. Organometal. Chem.*, **2003**, *688*, 121-124.
- (43) "Imprinting Chiral Information into Rigidified Dendrimers" J. J. Becker, M. R. Gagné, *Organometallics*, **2003**, *22*, 4984-4998.
- (42) "The NMR Structure of an Unusual Pt₂(BINOL) Dimer: More Surprises From a Seemingly Simple Chiral Ligand" N. M. Brunkan, M. R. Gagné, *Organometallics*, **2002**, *21*, 4711-4717.
- (41) "Electron poor benzonitriles as labile, stabilizing ligands in asymmetric catalysis" J.J. Becker, L.J. Van Orden, P.S. White, M.R. Gagné, *Organic Letters*, **2002**, *4*, 727-730.
- (40) "Thermodynamic and Kinetic Relationship Between Lewis Acid-Lewis Base Complexes Relevant to the P₂Pt(OTf)₂-Catalyzed Diels-Alder Reaction" N. M. Brunkan, P. S. White, M. R. Gagné, *Organometallics* **2002**, *21*, 1565-1575.
- (39) "(dppe)Pt(OTf)₂ and (R-BINAP)Pt(OTf)₂ Lewis acids Catalyze the Diels-Alder Reaction by different Mechanisms" N. M. Brunkan, M. R. Gagné, *Organometallics* **2002**, *21*, 1576-1582.
- (38) "Structure and Reactivity of Mixed Alkali-Metal Alkoxide / Aryloxide Catalysts" R. M. Kissling, M. R. Gagné, *J. Org. Chem.* **2001**, *66*, 9005-9010.
- (37) "The Disparate Roles of Chiral Ligands and Molecularly Imprinted Cavities in Asymmetric Catalysis and Chiral Poisoning" J. H. Koh, A. O. Larsen, P.S. White, M. R. Gagné, *Organometallics* **2002**, *21*, 7-9.
- (36) "Asymmetric Catalysis with the Normally Unresolvable, Conformationally Dynamic 1,1'-bis(diphenylphosphino)biphenyl (Biphep)" J. J. Becker, P. S. White, M. R. Gagné, *J. Am. Chem. Soc.* **2001**, *123*, 9476-9477.
- (35) "Can a fluorous biphase solvent system improve a polymer immobilized heterogeneous hydrogenation catalyst?" S. L. Vinson, and M. R. Gagné, *Chem. Commun.* **2001**, 1130-1131.
- (34) "Pt(II)-Catalyzed Ene Reactions: Counterion Dependent Additive and Diphosphine Electronic Effects on Asymmetric Catalysis", J. H. Koh, A. O. Larsen, and M. R. Gagné, *Org. Lett.* **2001**, *3*, 1233-1236.
- (33) "Improved ester interchange catalysts", Rebecca Kissling, Michel R. Gagné, *Org. Lett.* **2000**, *2*, 4209-4212.
- (32) "Porogen and Crosslinking Effects on the Surface Area, Pore Volume Distribution, and Morphology of Macroporous Polymers Obtained by Bulk Polymerization" B. P. Santora, M. R. Gagné, K. G. Moley, N. S. Radu, *Macromolecules* **2001**, *34*, 658-661.
- (31) "The Mechanism of Diastereomer Interconversion in Chiral BihepPtX₂ Complexes" M. Tudor, J. J. Becker, P. S. White, and M. R. Gagné, *Organometallics* **2000**, *19*, 4376-4384.
- (30) "Simultaneous Atom Transfer and Nitroxide Mediated Controlled Free Radical Polymerization of Styrene" M. R. Korn, M. R. Gagné, *Chem. Commun.* **2000**, 1711-1712.
- (29) "A Polymer-Supported Rhodium Catalyst Useful in Polar Protic Solvents" R. A. Taylor, B. P. Santora, M. R. Gagné, *Organic Letters* **2000**, *2*, 1781-1783.
- (28) "Effect of Chiral Cavities Associated with Molecularly Imprinted Platinum Centers on the Selectivity of Ligand Exchange Reactions at Platinum" N. Brunkan, MR. Gagné, *J. Am. Chem. Soc.* **2000**, *122*, 6217-6225.
- (27) "Asymmetric Synthesis of Rigid C₂-Symmetric Bisferrocenyl Diol and Diamine Ligands" A. O. Larsen, R. A. Taylor, P. S. White, and M. R. Gagné, *Organometallics* **1999**, *18*, 5157-5162.
- (26) "Acid-Base Adducts of Catalytically Active Titanium(IV) Lewis Acids" A. O. Larsen, P. S. White, and M. R. Gagné, *Inorg. Chem.* **1999**, *38*, 4824-4828.
- (25) "A Novel Catalytic Approach to the Chemical Detoxification of P-Ester Nerve Agents" W. Y. Mills, R. M. Kissling, and M. R. Gagné, *Chem. Commun.* **1999**, 1713-1714.
- (24) "Heterotelechelic Poly(Σ -caprolactone) via Ring-Opening/Chain Transfer Polymerization: Expedient Route to AB and ABC Block Copolymers" M. R. Korn, J. D. Lennon, G. L. Glish, and M. R. Gagné, *Macromolecules* **1999**, *32*, 5149-5153.
- (23) "Methods for the Synthesis of the Diels-Alder Catalysts (ArO)₂TiX₂ (X = Cl, Br, I; Ar = 2-*tert*-butyl-6-methylphenyl)" B. P. Santora, P. S. White, and M. R. Gagné, *Organometallics* **1999**, *18*, 2557-2560.

- (22) "Alkali Metal Alkoxide Clusters: Convenient Catalysts for the Synthesis of Methylphosphonates" R. M. Kissling and M. R. Gagné, *J. Org. Chem.* **1999**, *64*, 1585-1590.
- (21) "Synthesis and Characterization of Chiral Platinum(II) Sulfonamides: (dppe)Pt(NN) and (dppe)Pt(NO) Complexes" J. J. Becker, P. S. White, and M. R. Gagné, *Inorg. Chem.* **1999**, *38*, 798-801.
- (20) "Synthesis and Reactivity of Ti(IV)-Salen Complexes Containing Oxygen and Chloride Ligands" H. Chen, P. S. White, and M. R. Gagné, *Organometallics* **1998**, *17*, 5358-5366.
- (19) "Unorthodox C,O Binding Mode of Me₂BINOL in Pt(II) Complexes" N. M. Brunkan, P. S. White, and M. R. Gagné, *J. Am. Chem. Soc.* **1998**, *120*, 11002-11003.
- (18) "Synthesis and Structure of Chiral Titanium(IV) Complexes Containing N-Substituted Amino Alcohols" L. T. Armistead, P. S. White, and M. R. Gagné, *Organometallics* **1998**, *17*, 4232-4239.
- (17) "Molecularly Imprinted Ti-Lewis Acid Catalysts: Applications to the Diels-Alder Reaction" B. P. Santora, A. O. Larsen, and M. R. Gagné, *Organometallics* **1998**, *17*, 3138-3140.
- (16) "A Depolymerization/Chain Transfer Approach to the Synthesis of Telechelic Polycarbonates" M. R. Korn, M. R. Gagné, *Macromolecules* **1998**, *31*, 4023-4026.
- (15) "'New' Catalysts for the Ester-Metathesis Reaction: The Role of Alkali-Metal Alkoxide Clusters in Achieving Unprecedented Reaction Rates" M. G. Stanton, C. B. Allen, R. Kissling, A. L. Lincoln, and M. R. Gagné, *J. Am. Chem. Soc.* **1998**, *120*, 5981-5989.
- (14) "Platinum(II) Complexes with Constructive and Destructive Interaction of Diphosphane and Binaphthol Ligands" N. M. Brunkan, P. S. White, and M. R. Gagné, *Angew. Chem. Int. Ed. Engl.*, **1998**, *37*, 1579-1582.
- (13) "Synthesis and Structure of Titanium(IV) Amido Complexes Containing C₂-Symmetric Bissulfonamide Ligands" L. T. Armistead, M. R. Gagné, *Organometallics* **1998**, *17*, 216-220.
- (12) "A Mild Protocol for the Conversion of Simple Esters to *tert*-Butyl Esters" M. G. Stanton, M. R. Gagné, *J. Org. Chem.* **1997**, *62*, 8240-8242.
- (11) "The Remarkable Catalytic Activity of Alkali-Metal Alkoxide Clusters in the Ester Interchange Reaction" M. G. Stanton, M. R. Gagné, *J. Am. Chem. Soc.* **1997**, *119*, 5075-5076.

PUBLICATIONS (As a Co-Author)

- "Application of Chiral Mixed Phosphorus/Sulfur Ligands to Palladium-Catalyzed Allylic Substitutions" David A. Evans, Kevin R. Campos, Jason S. Tedrow, Forrest E. Michael, Michel R. Gagné *J. Am. Chem. Soc.* **2000**, *122*, 7905-7920.
- "Chiral Mixed Phosphorus/Sulfur Ligands for Palladium-Catalyzed Allylic Alkylations and Aminations" D. A. Evans, Kevin R. Campos, Jason S. Tedrow, Forrest E. Michael, M. R. Gagné, *J. Org. Chem.* **1999**, *64*, 2994-2995.
- "Chiral Organolanthanides Designed for Asymmetric Catalysis. A Kinetic and Mechanistic Study of Enantioselective Olefin Hydroamination and Hydrogenation" M. A. Giardello, V. P. Conticello, L. Brard, M. R. Gagné, T. J. Marks *J. Am. Chem. Soc.* **1994**, *116*, 10241-10254.
- "A Chiral Samarium-Based Catalyst for the Asymmetric Meerwein-Ponndorf-Verley Reduction" D. A. Evans, S. G. Nelson, M. R. Gagné, A. R. Muci *J. Am. Chem. Soc.* **1993**, *115*, 9800-9801.
- "Organolanthanide-Catalyzed Hydroamination of Olefins: A Complete Kinetic, Mechanistic, and Diastereoselectivity Study of the Cyclization of N-Unprotected Amino Olefins." M. R. Gagné, C. L. Stern, T. J. Marks *J. Am. Chem. Soc.* **1992**, *114*, 275-294.
- "Catalytic Activity of a Well-Defined Binuclear Ruthenium Alkylidene Complex" M. R. Gagné, R. H. Grubbs, J. Feldman, J. W. Ziller *Organometallics* **1992**, *11*, 3933-3935.
- "Stereoselection Effects in the Catalytic Hydroamination/Cyclization of Amino olefins at Chiral Organolanthanide Centers." M. R. Gagné, L. Brard, V. P. Conticello, M. A. Giardello, T. J. Marks *Organometallics* **1992**, *11*, 2003-2005.
- "Organolanthanide-Centered Hydroamination/Cyclization of Amino Olefins. Expedient Oxidative access to Catalytic Cycles." M. R. Gagné, S. P. Nolan, T. J. Marks *Organometallics* **1990**, *9*, 1716-1718.
- "Organolanthanide-Catalyzed Hydroamination. Facile, Regioselective Cyclization of Unprotected Amino-Olefins." M. R. Gagné, T. J. Marks *J. Am. Chem. Soc.* **1989**, *111*, 4108-4109.

"Directed Syntheses of Dimetallacyclobutenes: Reactions of $M(CO)_4(\eta^2-CF_3C\equiv CCF_3)$ ($M= Ru, Os$) with other $18 e^-$ Species." M. R. Gagné, J. Takats *Organometallics* **1988**, *7*, 561-563.

NON REFEREED PUBLICATIONS

"Metal Catalyzed Cascade Reactions. Topics in Organometallic Chemistry 9", Book Review, M. A. Tarselli, M. R. Gagné, *J. Am. Chem. Soc.* **2007**, *129*, 2196-2197.

"A Wolf in Sheep's Clothing" B. P. Santora, M. R. Gagné, *Chem. Innov.*, **2000**, August, 23-29.

"A Molecular Imprinting Approach to Controlling Catalyst Selectivities" *Poly. Prep.* **2000**, *41*(1), 404.

"Synthesis of telechelic polycarbonates and polyesters as precursors to ABA and ABC triblock polymers" M. R. Korn, M. R. Gagné *Polymer Preprints* **1998**, *39*(3), 216.

PATENTS

- "Phosphorus-Containing Compositions and Their Use in Hydrocyanation, Isomerization and Hydroformylation Reactions" M. R. Gagné, K. G. Moloy, N. S. Radu, B. P. Santora, W. Tam, U.S. Patent # 6,660,876.
- "Methods of Making Telechelic Oligomers, Methods of Making Block Copolymers and Novel Block Copolymers" M. R. Gagné, M. Korn, U.S. Patent # 6,642,322.
- "Catalyst for Ester Metathesis" M. R. Gagné, M. Korn, U.S. Patent # 6,143,801.
- "Organolanthanide-Catalyzed Hydroamination of Olefins: A Method for the Catalytic Addition of N-H Bonds to C-C Double Bonds" M. R. Gagné, T. J. Marks, U.S. Patent # 5,043,453.
- "Organosamarium Catalysts for the Hydroamination of Olefins" T. J. Marks, M. R. Gagné, S. P. Nolan, U.S. Patent # 5,110,948.

CURRENT ACTIVE GRANTS (total costs shown)

National Institutes of Health, Institute of General Medicine (303K/year, 2018-2023)

Department of Energy, Office of Basic Energy Sciences (150K/year, 2016-2013)

National Science Foundation (160K/year, 2022-2026)

CURRENT STUDENT/POSTDOCTORAL COLLABORATORS (Ugrads not included)

Ashleigh Arrington (SUNY New Palz) 2022-

Nathan DeSousa (Juniata College) 2020-

William Hearne (Notre Dame) 2020-

Tanner McMinn (App State Univ) 2022-

Bradley Owen (SUNY Oswego) 2021-

Sarah Quigley (Berry College) 2024-

DEGREES CONFERRED:

1997: Matthew Stanton, M. Sc. "*The Alkali-Metal Alkoxide Catalyzed Ester-Interchange Reaction: Mechanistic Investigations and Synthetic Utility*"

1998: Lori T. Armistead, M. Sc. "*Towards the Synthesis of Ti(IV)-Based Template Molecules for use in Molecular Imprinting and Catalysis*"

1999: Wendy Y. Mills, M. Sc. "*The Syntheses of Carbonates and Esters for a New Polycarbonate Recycling Methodology*"

2000: Brian P. Santora, Ph. D. "*Macroporous Polymers as Supports for Transition Metal Catalysts*"
Rebecca A. Taylor, M. Sc. "*The Utility of Polymer-Supported Rhodium Catalysts in Olefin Transformations*"

Melanie D. Tudor, M. Sc. "*The Mechanism of Diastereomer Interconversion in Chiral BiphepPtX₂ Complexes*"

- 2001:** Nicole M. Brunkan, Ph.D. *"Diphosphine Platinum(II) Binaphtholates: Structures and Application to Molecular Imprinting and Lewis Acid Catalysis"*
 Juliet Nabakka, M. Sc. *"Synthesis of Functionalized Binaphthol Ligands for Use in Molecular Imprinting"*
 Rebecca M. Kissling, Ph. D. *"Alkali Metal Alkoxide and Mixed Alkoxide/Aryloxide Ester Interchange Catalysts"*
 Andrew O. Larsen, Ph. D. *"Rational Design of New Transition Metal Complexes for use in Molecular Imprinting Based Catalysts"*
- 2002:** Jennifer J. Becker, Ph. D. *"Pt(II) and Pd(II) Complexes for use in Molecular Imprinting and Asymmetric Catalysis"*
- 2004:** Kathryn A. Pelz, M. Sc. *"Persistent N-Chirality as the Only Source of Asymmetry in Non-Racemic N₂PdCl₂ Complexes"*
 Shannon M. Leeder, Ph. D. *"Solid-Phase Media for Use in Heterogeneous Catalysis: A New Strategy for Differentiating Reactants Based on Sorption Differences"*
- 2005:** William Kerber, Ph.D. *"Platinum(II)-Catalyzed Diene Cycloisomerizations: Rearrangements of Intermediate Metal-Alkyl Cations"*
 Kathryn Kilby, M.Sc. *"The Initiation of Catalytic Prins Reactions via Electrophilic Pt(II) Catalysts"*
 Chalmers H. Congdon, M.Sc. *"New Diphosphine Syntheses"*
- 2006:** Sharon Voshell, Ph.D. *"Molecular Recognition in Synthetic Systems I. Rigidified Dendritic Systems for Imparting Enantioselective Molecular Recognition to Platinum-Containing Molecularly Imprinted Polymers II. Using Laser Polarimetry to Identify an Enantioselective Receptor for (-)-Adenosine from a Racemic Dynamic Combinatorial Library"*
- 2007:** Jeremiah A. Feducia, Ph.D. *"Exploring the Reactivity of Electrophilic Trisphosphine Platinum(II) Complexes in the Cycloisomerization of Dienes"*
 Charles Mullen, Ph.D. *"The Reactivity of Highly Electrophilic Chiral P₂Pt-dications"*
 Andrew Blanchard, MSc. *"Studies on the Synthesis of C-Glycosides"*
- 2008:** Michael Rizzo, MSc. *"Synthesis of Chiral and Achiral Bidentate PN Ligands for Use in Platinum(II) Mechanistic Investigations"*
 Holly Schiltz, MSc. "
 Alison Campbell, Ph.D. *"Platinum(II) Catalyzed Diene Cyclizations"*
 Luke Nelson, Ph.D. *"Electrophilic Reactions with Dicationic Platinum"*
 Michael A. Tarselli, Ph.D. *"Gold-Catalyzed Allene Activation Reactions"*
- 2009:** Alissa Roland, MSc. *"Development of new DCLs Composed of Pincer-Shaped Receptors for Recognition, Sensing and Response to External Stimuli"*
- 2010:** Leila Flagg, MSc, *"Water soluble libraries for Dynamic Combinatorial Chemistry"*
- 2012:** Steve Andrews, Ph.D. *"Mild Methods of Glycosyl Radical Generation for C-Glycoside Synthesis"*
 Dieter Weber, Ph.D. *"Investigation of Gold-Vinyl Intermediates Opens New Avenues in Gold Catalysis"*
- 2013:** Ryan Felix, Ph.D. *"Electrophilic Activation of Carbon-Carbon Bond Unsaturation by Au(I) and Pt(II): Experimental and Theoretical Considerations"*
 Nikki Cochrane, Ph.D. *"New Developments in Platinum-Catalyzed Cyclization and Fluorination of Polyenes"*
 Joseph Sokol, Ph.D. *"Dicationic Platinum-Initiated Cation-Olefin Reactions of Simple Alkenes"*
- 2014:** Allison Hulchanski, MSc. *"Mechanistic Insights into the Role of Silver in Asymmetric Gold(I) Catalyzed Cycloisomerization of 1,6-Ene Allenes"*
 Michael Bertucci, Ph.D. *"Synthetic Agents for the Derivatization of N-Acyl Homoserine Lactones"*
 Michael Geier, Ph. D. *"New Mechanisms for Turnover and Functionalization in the Platinum Initiated Cyclization of Polyenes"*
 Laura Adduci, Ph.D. *"Methods of Carbohydrate Functionalization and Defunctionalization"*
- 2015:** Stephanie Kramer, Ph.D. *"Synthesis of Polymeric Materials for Drug Delivery and Industrial Applications"*

- 2016:** Ha Nguyen, MSc
- 2017:** Trandon Bender, Ph.D. *“Methods for the selective modification of carbohydrates and natural products”*
Brandon Moyer, Ph.D. *“1) Catalytic Stereoselective Installation of Boron via C–C Bond Formation
2) Stereospecific Synthesis of N-Heterocyclic Scaffolds via Main Group Lewis Acid Catalysis”*
- 2018:** Christina Roselli, Ph.D. *Strategies for Achieving Selectivity in Homogeneous Catalysis*
- 2019:** Michael Peruzzi, Ph.D. *Catalytic Methods for Dearomatization and Chemoselective Amide Reduction*
- 2020:** Jared Lowe, Ph.D. *Selective Modification of Carbohydrates: Role of Boronium Ions, Solvent, and Computational Investigation*
Andreas Wierschen, Ph.D. *Synthesis, Characterization, and Reactivity of Silylpalladium Cations*
Anton Gudz, Ph.D. *Lewis and Brønsted Acidic Homogeneous Catalysis for C–O Bond Reduction and Late-Stage Natural Product Functionalization*
- 2022:** Hannah Starr, Ph.D. *A Homogeneous Approach to a Heterogeneous Problem: Investigating the Catalytic Activity of Borylated Silsesquioxanes and Silica Nanoparticles*
- 2023:** Kathleen Neff, Ph.D. *Kat-alysis: Tuning the Electrophilic Behavior of P–Si⁺, M–Si⁺, and M–I⁺ Complexes*
Neyen Roman, Ph.D. *Transition metal based silylium transfer mechanisms for catalysis*
- 2024:** Eric Roos, Ph.D. *Leveraging Silyl-Palladium Cations for Catalytic C–O Bond Reduction and Functionalization*