

Nicholas Dewayne Ball
Assistant Professor of Chemistry
Fall 2019

EDUCATION

Ph.D. Chemistry, University of Michigan–Ann Arbor (advisor: Melanie Sanford)	2011
B.A., Chemistry, Macalester College	2005

EMPLOYMENT

Pomona College	2015-present
Assistant Professor of Chemistry	
University of British Columbia	2018-19
Visiting Assistant Professor of Chemistry, (with Dr. Jennifer Love's group)	
Amherst College	2013-15
Assistant Professor of Chemistry	
California Institute of Technology	2011-12
NIH/NIGMS Postdoctoral Fellow, (Advisor: David Tirrell)	

FELLOWSHIPS AND GRANTS

NIH R15 grant (Under council review, Submitted June 2019)	2019
Hirsch Research Initiation Grant (\$5,600)	2018-19
American Chemical Society Petroleum Research Fund UNI Award (\$55,000)	2014-18
Professional Development Network Grant – Pomona College (\$2,500)	2015-16
Wig Fund Curriculum Development Grant (\$600)	2016
NSF CAREER (Reviewed, not funded)	2016
Research Corporation Cottrell Scholar Program (Reviewed, second round, not funded)	2016

HONORS AND AWARDS

Wig Distinguished Professor Award for Excellence in Teaching	2018
Ruth L. Kirschstein Postdoctoral National Research Service Award (F32)	2011 - 2014
Ruth L. Kirschstein Predoctoral National Research Service Award (F31)	2009 - 2011
Beckman Scholars Award	2003 - 2004
ACS Scholars Award	2001 - 2005

PUBLICATIONS

Published Articles (undergraduates are identified by year of graduation)

Ball, N. D. "Properties and Applications of S(VI) Fluorides" in *Emerging Fluorinated Motifs. Properties, Synthesis and Applications*, Cahard, D., Ma, J.-A., Ed.; Wiley-VCH Verlag GmbH & Co: Weinheim, ISBN 978-3-527-34681-3. *Accepted and under proofreading.*

Lee, C.; Ball, N. D.‡, and Sammis, G. M.‡* One-Pot Fluorosulfonylation of Grignard Reagents Using Sulfonyl Fluoride. *Chem. Comm.* **2019**, *55*, 14753-14756. [[link](#)]

Mukherjee, P.; Woroch, C. P. W. ('19)*; Cleary, L.; Ruzsna, M. ('18)*; Franzese, R. W. ('19)*; Reese, M. R.; Tucker, J. W.; Humphrey, J. M. ('19); Etuk, S. M. ('20)*; Kwan, S. C.*; am Ende, C. W.*, and Ball, N. D.‡*Sulfonamide Synthesis via Calcium Triflimide Activation of Sulfonyl Fluorides. *Org. Lett.* **2018**, *20*, 3943-3947. [[link](#)]

Tribby, A. L. ('17)*; Rodríguez, I. ('16)*; Shariffudin, S. (AC '15); **Ball, N. D.**; Pd-Catalyzed Conversion of Aryl Iodides to Sulfonyl Fluorides Using SO₂ Surrogate DABSO and Selectfluor. *J. Org. Chem.* **2017**, *82*, 2294-2299. [[link](#)]

- This work is highlighted in a virtual issue of *Organometallics* featuring undergraduate research programs [[link](#)]

Doctoral publications

Racowski, J. M.; **Ball, N. D.**; Sanford, M. S. Aryl C–H Activation at Pd(IV) Centers. *J. Am. Chem. Soc.* **2011**, *133*, 18022-18025. [[link](#)]

- One of the Top 20 most read JACS articles in October 2011

Ball, N. D.; Gary, J. B.; Ye, Y.; Sanford, M. S. Mechanistic and Computational Studies of Oxidatively-Induced Aryl–CF₃ Bond-Formation at Pd: Rational Design of Room Temperature Aryl Trifluoromethylation. *J. Am. Chem. Soc.* **2011**, *133*, 7577-7584. [[link](#)]

Ye, Y.; **Ball, N. D.**; Kampf, J. W.; Sanford, M. S. Oxidation of Catalytically Relevant Palladium Dimer with "CF₃⁺": Formation and Reactivity of a Monomeric Palladium(IV) Aquo Complex. *J. Am. Chem. Soc.* **2010**, *132*, 14682-14687. [[link](#)]

Ball, N. D.; Kampf, J. W.; Sanford, M. S. Aryl C–CF₃ Bond Forming Reductive Elimination from a Palladium(IV) Complex. *J. Am. Chem. Soc.* **2010**, *132*, 2878-2879. [[link](#)]

- One of the Top 20 most read JACS articles in February 2010

Ball, N. D.; Kampf, J. W.; Sanford, M. S. Synthesis and Reactivity of Palladium(II) Fluoride Complexes Containing Nitrogen-Donor Ligands. *Dalton Trans.* **2010**, *39*, 632-640. [[link](#)]

- Invited manuscript for the "New Talent" issue

Ball, N. D.; Sanford, M. S. Synthesis and Reactivity of a Mono-σ-Aryl Palladium(IV) Fluoride Complex. *J. Am. Chem. Soc.* **2009**, *131*, 3796-3797. [[link](#)]

- Highlighted in: *Chem. Eng. News* **2008**, *86* (35), 53-56.
- One of the Top 20 most read JACS articles in February 2009,

PRESENTATIONS

Invited seminars and conference talks

1. **Ball, N.D.** Unlocking Fluorine: Activation of Sulfur(VI) Fluorides Toward New Sulfur-Fluorine Exchange (SuFEx) Click Reactions. Workshop on Synthetic Organic Chemistry, Steamboat Springs, CO. August 6-8, 2019. [\[Link\]](#)
 - One of 15 pre-tenured faculty members selected to attend this workshop out of 120 junior faculty across U.S. and Canada. I was the sole faculty member from a PUI.
2. **Ball, N.D.** Unlocking Fluorine: Activation of Sulfur(VI) Fluorides Toward New Sulfur-Fluorine Exchange (SuFEx) Click Reactions. Barnard College. April 23th, 2019.
3. **Ball, N.D.** Unlocking Fluorine: Activation of Sulfur(VI) Fluorides Toward New Sulfur-Fluorine Exchange (SuFEx) Click Reactions. Santa Clara University. April 11th, 2019.
4. **Ball, N.D.** Unlocking Fluorine: Activation of Sulfur(VI) Fluorides Toward New Sulfur-Fluorine Exchange (SuFEx) Click Reactions. Denison University. November 6th, 2018.
5. **Ball, N.D.** Unlocking Fluorine: Activation of Sulfur(VI) Fluorides Toward New Sulfur-Fluorine Exchange (SuFEx) Click Reactions. University of British Columbia. October 18th, 2018.
6. **Ball, N.D.** Lewis Acid Mediated Activation of Aryl and Alkyl Sulfonyl Fluorides Toward Sulfonamides. Macalester College. September 26th, 2018.
7. **Ball, N. D.;** Woroch, C. P.*; Rusznak, M.; Cleary, L., Mukherjee, P.; am Ende, C.; Reese, M. R.; Tucker, J. W.; Humphrey J. M.; Franzese*, R. W.; Etuk*, S.M.; Kwan, S. C.* Calcium Triflimide Activation of Sulfonyl Fluorides to Sulfonamides. Oral and Poster Presentation. 22nd International Symposium on Fluorine Chemistry, Oxford, UK, July 2018.
8. **Ball, N. D.;** Woroch, C. P.; Rusznak, M.; Cleary, L., Mukherjee, P.; am Ende, C.; Reese, M. R.; Tucker, J. W.; Humphrey J. M.; Franzese, R. W.; Etuk, S.M.; Kwan, S. C. Lewis Acid-Mediated Activation of Aryl and Alkyl Sulfonyl Fluoride towards Sulfonamides. Invited Oral Presentation. American Chemical Society National Meeting, New Orleans, LA, March 2018.
9. **Ball, N. D.;** Rodriguez, I; Tribby, A. L.* Shariffudin, S.* One-Pot Pd-catalyzed Synthesis of Aromatic Sulfonyl Fluorides. Poster Presentation. Poster Presentation Japanese-American Kavli Frontiers in Science Symposium (National Academy of Sciences), Irvine, CA December 2016.
10. **Ball, N. D.;** Rodríguez, I.; Tribby, A. L.*; Shariffudin, S.* One-pot Pd-catalyzed Synthesis of Aromatic Sulfonyl Fluorides. Oral Presentation. 252nd American Chemical Society National Meeting, Philadelphia, PA, August 2016.
11. **Ball, N. D.** ACS Scholars Program Rising Stars in Academe. Oral Presentation and Panelist. 250th American Chemical Society National Meeting and Exposition, Philadelphia, PA, August 2, 2015.

OTHER PRESENTATIONS

1. **Ball, N. D.,** Woroch, C. P. Pollution to Products: Adventures in Sulfur. Oral Presentation. Pomona College Torchbearers Reception, Beverly Hills, CA, March 8, 2017.
2. **Ball, N. D.** Career Panel: Rising Stars in Academe. Panelist. Beckman Symposium, Irvine, CA, August 6, 2016.

PROFESSIONAL SERVICE

Reviewer for the following publications:

2012 - present

Journal of the American Chemical Society, Proceeding of the National Academy of Sciences, Journal of Organic Chemistry, Chemical Reviews, Chemical Science, Coordination Chemistry Reviews, Organic Letters, and Accounts of Chemical Research, Beilstein Journal of Organic Chemistry

American Chemical Society

2001 – present

COLLEGE SERVICE

Pomona College Admissions and Financial Aid Committee	2019-20
Pomona College Ad Hoc Committee on Promotion and Tenure	2016-18
Chemistry Department Professional Development Committee	2016-18
Chemistry Department Seminar Coordinator for the 5C Chemistry Seminar Series	Fall 2016-Spring 18
Faculty advisor to the Pomona College Chemistry Department student liaisons	Fall 2016-Fall 18