CURRICULUM VITAE

Makeda Tekle-Smith | 3000 Broadway Ave | New York, NY 10027 | mt2992@columbia.edu

EDUCATION

UNIVERSITY OF CALIFORNIA LOS ANGELES **LOS ANGELES, CA**

Postdoctoral Fellow, Department of Chemistry, July 2021 – June 2022.

PRINCETON UNIVERSITY **PRINCETON, NJ**

Princeton Presidential Postdoctoral Fellow, Department of Chemistry, September 2019 – July 2021.

COLUMBIA UNIVERSITY **NEW YORK, NY**

Ph.D., Department of Chemistry, August 2014 – June 2019.

POMONA COLLEGE **CLAREMONT, CA**

Bachelor of Arts, Chemistry, August 2010 – May 2014.

CAMBRIDGE UNIVERSITY **CAMBRIDGE, UK**

Exchange student, Jesus College, January –July 2013.

RESEARCH EXPERIENCE

PRINCETON UNIVERSITY AND UCLA | DEPARTMENT OF CHEMISTRY | SEPTEMBER 2019-PRESENT

Advisor: Professor Abigail Doyle
Research focuses on developing methods that harness highly reactive radical species to deliver novel bond transformations.

COLUMBIA UNIVERSITY | DEPARTMENT OF CHEMISTRY | AUGUST 2014-JUNE 2019

Advisor: Professor James Leighton
Research focused on advancing carbon-carbon bond forming reactions by exploiting strained-silane lewis acids and the application of these methods in the total synthesis of natural products.

POMONA COLLEGE | DEPARTMENT OF CHEMISTRY | AUGUST 2012-2014

Advisor: Professor Cynthia Selassie
Designed and synthesized a library of DHFR inhibiting anti-malarial therapeutics to target drug-resistant strains of *Plasmodium falciparum*.

UNIVERSITY OF CALIFORNIA SANTA BARBARA | DEPARTMENT OF CHEMISTRY | JUNE-AUGUST 2009

Advisor: Professor Alison Butler
Research focused on novel siderophore isolation and structural characterization. The photochemical cycling pathway of these siderophores was also examined.

TEACHING EXPERIENCE

COLUMBIA UNIVERSITY

Organic Chemistry Laboratory Instructor (Summer Semester 2019)
Courses: CHEMS2543_001_2019_2, CHEMS2543_002_2019_2
Lead Teaching Fellow (July 2017 – July 2018)
Organic Chemistry Laboratory Teaching Assistant (August 2014 – December 2015)

POMONA COLLEGE

Organic Chemistry Laboratory Teaching Assistant (August 2013 – May 2014)
Physical Chemistry Teaching Assistant (August – December 2013)

PUBLICATIONS AND PRESENTATIONS

A General Strategy for C(sp^3)–H Functionalization with Nucleophiles Using Methyl Radical as a Hydrogen Atom Abstractor. Leibler, I. N.-M. *; Tekle-Smith, M. A.*; Doyle, A. G. *Nat. Commun.* 2021, 12, 6950.

N-Acetoxyphthalimide. Leibler, I. N.-M.; Tekle-Smith, M. A.† Encyclopedia of Reagents for Organic Synthesis; John Wiley & Sons, Ltd: Chichester, United Kingdom, 2021.

Nickel/Photoredox-Catalyzed Methylation of (Hetero)aryl Chlorides Using Trimethyl Orthoformate as a Methyl Radical Source. Kariofillis, S. K.; Shields, B. J.*; Tekle-Smith, M. A.*; Zacuto, M. J.; Doyle, A. G. *J. Am. Chem. Soc.* 2020, 142, 16, 7683–7689.

Design, 22-step synthesis, and evaluation of highly potent linker-equipped analogs of spongistatin 1. Suen, L. M.; Tekle-Smith, M. A.; Williamson, K. S.; Infantine, J. R.; Reznik, S. K.; Tanis, P. S.; Casselman, T. D.; Sackett, D. L.; Leighton, J. L. *Nat. Commun.* 2018, *9*, 4710.

Direct, Mild, and General *n*-Bu_4NBr-Catalyzed Aldehyde Allylsilylation with Allyl Chlorides. Tekle-Smith, M. A.; Williamson, K. S.; Hughes, I. F.; Leighton, J. L. *Org. Lett.* 2017, *19*, 6024–6027.

Methyl Radical: A Key Intermediate in Synthetic Applications**.** Tekle-Smith, M. A.; Leibler, I. N.-M.; Kariofillis, S. K.; Doyle, A. G. 263rd ACS National Meeting, Earle B. Barnes Award for Leadership in Chemical Research Management Symposium, San Diego, March 2022. *Invited talk*.

Nucleophilic C(sp^3)–H Fluorination. Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A.G. Merck Underrepresented Chemists of Color Award Symposium, October 2021.

Nucleophilic C(sp^3)–H Fluorination. Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A. G. SoCal Merck Symposium 2021, July 2021. *Invited talk*.

Nucleophilic C(sp^3)–H Fluorination Enabled by Photoredox Catalysis. Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A. G. University of Chicago Future Faculty Symposium, May 2021. *Invited talk*.

A General Strategy for C(sp^3)–H functionalization. Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A. G. CAS Future Leaders Award Symposium, November 2020. *Invited talk*.

Harnessing Reactive Intermediates to Address Challenges in Synthesis. Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A. G. Stanford University (Du Bois Group), October 2020. *Invited talk*.

Nucleophilic Fluorination Enabled by Photoredox Catalysis**.** Tekle-Smith, M. A.; Leibler, I. N.-M.; Doyle, A. G. Virtual Chemistry Spotlight@Pfizer Symposium, September 2020.

Anion-catalyzed silicon Lewis acid activation of carbonyls**.** Tekle-Smith, M. A.; Leighton, J. L. 258th ACS National Meeting, Remarkable Women in Organic Chemistry Symposium, San Diego, August 2019. *Invited talk*.

Developing New Tools for Organic Chemists. Tekle-Smith, M. A.; Leighton, J. L. 3rd Women in Science at Columbia Graduate Research Symposium, New York, April 2019.

Design, Synthesis, and Evaluation of Highly Potent Linker-Equipped Analogs of Spongistatin 1 for Targeted Delivery Approaches. Tekle-Smith, M. A.; Suen, L. M.; Williamson, K. S.; Infantine, J. R.; Reznik, S. K.; Tanis, P. S.; Casselman, T. D.; Sackett, D. L.; Leighton, J. L. 256th ACS National Meeting, Women Chemists Committee Merck Research Award Symposium, Boston, August 2018.

Synthetic Innovations Towards the Total Synthesis of Highly Potent Linker-Equipped Analogs of Spongistatin 1. Tekle-Smith, M. A.; Suen, L. M.; Williamson, K. S.; Infantine, J. R.; Reznik, S. K.; Tanis, P. S.; Casselman, T. D.; Sackett, D. L.; Leighton, J. L. 2018 Chirality Conference, Poster Session, Princeton University, June 2018. Awarded 3rd prize.

Design, Synthesis, and Evaluation of Highly Potent Linker-Equipped Analogs of Spongistatin 1 for Targeted Delivery Approaches. Tekle-Smith, M. A.; Suen, L. M.; Williamson, K. S.; Infantine, J. R.; Reznik, S. K.; Tanis, P. S.; Casselman, T. D.; Sackett, D. L.; Leighton, J. L. 2nd Women in Science at Columbia Graduate Research Symposium, New York, April 2018. Awarded 1st prize.

Synthesis of 4,6-diamino-1,2-dihydro-2,2-dimethyl-1-(3'-(3''-X-anilinomethyl)phenyl)-s-triazines as potential Plasmodium falciparum DHFR inhibitors. Tekle-Smith, M. A.; Selassie, C. 247th ACS National Meeting, Division of Medicinal Chemistry, Dallas, March 2014.

*equal contribution
† corresponding author

SERVICE

Chem-STEM Outreach Initiative at Princeton	Volunteer
Women in Chemistry at Princeton	Outreach Coordinator
Initiative for Diversity in Engineering and Science (IDEaS) at Columbia University	Co-Founder and Co-President
Columbia University Bridge to the PhD Program	Mentor
Columbia Chemistry Organic Problem Set Sessions	Program Organizer
Women in Science at Columbia	Member
Women in Chemistry at Columbia	Member
Columbia Laboratory Environment and Energy Network	Founding Member
Columbia University March Materials Madness Outreach Program	Volunteer
Columbia University PhD for a Day Outreach Program	Volunteer
American Chemical Society Scholar Program	Mentor

AWARDS AND MEMBERSHIPS

Merck Research Award for Underrepresented Chemists of Color (2021)

Selected to attend the University of Chicago Future Faculty Workshop (2021)

CAS Future Leaders Award (2020)

Princeton University Presidential Postdoctoral Research Fellowship (2019-2021)

Pegram Award for meritorious achievements in research (2019)

Selected to attend the University of Michigan Future Faculty Workshop (2019)

WCC/Merck Research Award (2018)

National Science Foundation Graduate Research Fellow (2016-2019)

Jack Miller Teaching Award (2017)

Columbia University Dean's Diversity Fellow (2014-2015)

Robert Rowan III '68 Memorial Prize in Chemistry (2014)

Sigma Xi Member (2014)

Burnand-Partridge Foundation Scholar (2014)

Pomona College Office of Black Student Affairs Academic Excellence Award (2012-2014)

Y.M. and Helen Posthuma Scholar (2012-2014)

American Chemical Society Scholar (2010-2014)

FUNDED APPLICATIONS

NSF CHE Award | Title: "(Radio)Fluorination and other nucleophilic functionalizations enabled by photocatalytic radical-polar crossover" | Written with Professor Abigail Doyle.

Princeton Center for Complex Materials Seed Grant | Title: "Organo-phosphonium salts to drive 2D perovskite assembly" | Developed as a new collaboration between the Doyle group and the Loo group (Engineering Department, Princeton University).

Princeton University Presidential Postdoctoral Research Fellowship | Title: "Radical Redox Chemistry to Enable C–H Fluorination with Applications to PET Imaging"

National Science Foundation Graduate Research Fellowship | Title: "Developing Spongistatin 1 as a Viable Anti-Cancer Therapeutic"