

Sarah Mitchell

PhD Candidate

Case Western Reserve University, Department of Chemistry
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Summary

Hardworking and determined organic chemist with knowledge of synthesizing and characterizing small molecules and polymers. Experienced in NMR (^1H , ^{13}C , ^{29}Si , HSQC), FTIR spectroscopy (ATR), mass spectrometry (GC-MS, LC-MS), and gel permeation chromatography.

Education

Ph.D. Chemistry (Case Western Reserve University, Cleveland, OH) **2016-present**

Expected graduation 2021

Project title: *Group Transfer Polymerization of Silyl Ketene Monomers* (Advisor: Dr. Emily Pentzer)

B.S. Chemistry (Mercyhurst University, Erie, PA) **2012-2016**

Thesis title: *Progress Towards a Catalytic Method for Generating Imine Nucleophiles* (Advisor: Dr. Christopher Taylor)

Related Experience

Research Assistant, Materials Science and Engineering **2019-present**

Texas A&M University (College Station, TX)

Performs thesis research in Pentzer Lab on the synthesis of redox active small molecules and the polymerization of silyl ketenes.

Laboratory Safety and Waste Officer **2017-present**

Case Western Reserve University (Cleveland, OH)

Supervises laboratory safety and proper waste storage and disposal in Pentzer Lab.

CGSA (chemistry graduate student association) Secretary **2017-2019**

Case Western Reserve University (Cleveland, OH)

Organized meetings, recorded notes, and contacted students.

Grading Coordinator **2017-2018**

Case Western Reserve University (Cleveland, OH)

Coordinated a group of 3-4 graders for introductory general and organic chemistry lectures (180-300 students). Distributed grading assignments to a team of graders.

Teaching Assistant

2016-2017

Case Western Reserve University (Cleveland, OH)
Introductory Organic I and II Labs
Assisted laboratory professor and managed 8-12 students through experiment.

Undergraduate Teaching Assistant

2015-2016

Mercyhurst University (Erie, PA)
Introductory Organic I and II Labs
Assisted laboratory professor and managed 12-16 students through experiment.

Cashier, Eagle's Nest Attendant, Stock Clerk

2012-2016

Giant Eagle (Harborcreek, PA)
Managed children ages 3-9 and performed typical cashier duties. Worked independently in HBW department, stocking shelves and organizing department.

Publications

Published

- (1) Lewis Acid-Activated Reactions of Silyl Ketenes for the Preparation of α -Silyl Carbonyls; **Sarah M. Mitchell**, Yuanhui Xiang, Rachael Matthews, Alexis M. Amburgey, Emily B. Pentzer, *J. Org. Chem.* 2019, 84, 22, 14461-14468

In Review

- (1) TEMPO-functionalized Imidazolium, Ammonium and Pyridinium Salts in Ethaline Deep Eutectic Solvent for Energy Storage; Brian Chen⁺, **Sarah Mitchell⁺**, Emily Pentzer, Burcu Gurkan.

Awards

Hillborn Endowment recipient from the Department of Chemistry (CWRU) **2017**

Poster Presentations

EFRC Principal Investigators' Meeting **2019**

Poster title: Redox Active Small Molecule Salts in Deep Eutectic Solvents: Synthesis, Characterization, and Activity

GPC 2019 **2019**

Poster title: Lewis Acid-Activated Reactions of Silyl Ketenes for the Preparation of α -Silyl Carbonyls

Research Showcase **2019**

Poster title: Lewis Acid-Activated Reactions of Silyl Ketenes for the Preparation of α -Silyl Carbonyls

BEES All Hands Meeting

2019

Poster title: TEMPO Functionalized Small Molecules and Redox-Active Salts for Deep Eutectic Solvents

251st ACS National Conference Meeting & Exposition

2016

Poster title: Progress Towards a Catalytic Method for Generating Imine Nucleophiles

Mercyhurst Illumination

2015, 2016

Undergraduate Research

Additional Skills

- Proficient with molecule editor, ChemDraw
- Proficient in common data analysis software (MestreNova, Origin, Microsoft Excel)
- Ability to work in a team
- Ability to communicate complex ideas in written documents and oral presentations
- Time management and organizational skills
- Good with problem solving