Lisa Qian

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

Bachelor of Science in **Chemistry**, GPA: 3.87 (Dean's List all semesters) — **May** 2020

Master of Science in Chemistry — **Dec** 2020

RESEARCH & WORK EXPERIENCE

Research Assistant– Institute of Green Science, Carnegie Mellon University, Pittsburgh PA — June 2017 – **Present**

- Tested and helped synthesize TAML catalysts (P-450 enzyme mimic) capable of oxidizing micropollutant compounds
- Conducted series of UV-spectroscopy experiments to determine kinetic rate constants of TAMLs and substrates
- Performed air-free, water-free synthesis techniques to develop novel organic structures to create a new TAML
- Optimized synthetic route for selective oxidation of sulfur compounds
- Analyzed kinetic data trends using SigmaPlot, and deduced chemical structures using NMR TopSpin data

Teaching Assistant – PROPEL Course, Carnegie Mellon University, Pittsburgh PA — **Mar2020– May 2020**

- Graded homework, answered questions on Piazza, facilitated course teaching

Office Assistant – Computing Services, Carnegie Mellon University, Pittsburgh PA — **Feb2019 – Dec 2019**

- Assisted in daily office tasks and maintained inventory to ensure smooth day-to-day function
- Communicated with visitors and staff, guided guests and set up for meetings

Research Intern– Centre of Green Chemical Science, University of Auckland, New Zealand — **June2018– Aug 2018**

- Analyzed performance of novel smart, functionalized polymer structures anchored with TAML catalysts
- Monitored the rates at which catalyst bleached substrates and leached into the solution using UV-vis spectroscopy
- Developed and plotted calibration curves using Microsoft Excel software

ACADEMIC PROJECTS & AWARDS

Handlos Undergraduate Award for Chemistry, CMU — **May 2018 & May 2019**

International Summer Undergraduate Research Fellowship, CMU — **June 2018**

Summer Undergraduate Research Fellowship, CMU — **June 2017**

Fluorescent Detection of DNA Hybridization, Bioorganic Lab, CMU — **Nov 2018- Dec 2018**

- Synthesized organic cyanine dyes
- Used click chemistry reactions to bind cyanine dye to DNA molecules
- Developed fluorescent detection system to detect the hybridization of DNA

Quantification of Nicotine in Cigarettes and Cigars, Lab I, CMU — **Nov 2017- Dec 2017**

- Accurately extracted and quantified nicotine content using HPLC and novel UV-vis spectroscopy techniques

TECHNICAL SKILLS

Research: Kinetics, UV-vis spectroscopy, high-pressure liquid chromatography, infrared spectroscopy, nuclear magnetic resonance, rotary evaporation, gas chromatography, distillation, boiling point determination, column chromatography, thin-layer chromatography, Schlenk techniques, crystallization, repurification, exposure to Raman and fluorescence spectrocopies, exposure to EPR spectroscopy, micro-pipetting, bioorganic reactions, organic synthesis

Computer: Excel,Word, PowerPoint, MatLab, SigmaPlot, ChemDraw, Mathematica, Adobe Photoshop, Python, Java

Language: Conversational in Mandarin Chinese

EXTRACURRICULAR & LEADERSHIP ACTIVITIES

Alpha Phi Omega, Historian & Member — Sept 2018 – Present

- Photographed, organized, and created scrapbook for posterity
- Volunteered 80+ hours in various nonprofit organizations

University Disciplinary Committee & Academic Review Board, Member — **Aug 2017- Present**

- Collaborated with student & faculty members to interview students & resolve academic, disciplinary, and Title IX concerns

The Tartan, Photo Editor & Staff Artist — **Sep 2016 – Present**

- Managed team of photo staff, responsible for training new photographers
- Used DSLR to provide coverage of on-campus and off-campus events