

# Myles Ma

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## Technical Skills

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- **Synthetic Chemistry:** Cross-coupling, heterocycle synthesis, multi-step route design, reaction optimization
- **Process & Scale:** mg to multi-gram synthesis, process efficiency considerations, reproducibility
- **Analytical:**  $^1\text{H}/^{13}\text{C}$  NMR, LC-MS, GC-MS, HPLC purification
- **Software:** ChemDraw, MestReNova, Gaussian, Chimera
- **Laboratory Practices:** SOP development, ISO environments, documentation, QC procedures

## Experience

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### RESEARCH & TEACHING ASSISTANT

University of Toronto — Lautens Group | 2025 – Present

- Conducting transition-metal-based synthetic organic research under the supervision of Dr. Mark Lautens as part of the MSc. Chemistry program, with a publication in progress
- Dept. of Chemistry Teaching Assistant

### LABORATORY ASST. FOR ASTROMATERIAL CURATION

Canadian Space Agency | 2024

- Conducted R&D on critical components for the ISO 5 and 7 cleanrooms to support the Canadian curation of the OSIRIS-REx Asteroid Bennu sample
- Conducted dry runs and drafted SOPs, reports, and supporting documentation to establish curation protocol
- Assisted in judging of the Canadian Aqualunar Challenge

### JUNIOR SYNTHETIC CHEMIST

TLC Pharmaceutical Standards Ltd. | 2023

- Prepared, monitored, purified, characterized and scaled up synthetic organic chemistry reactions under various conditions
- Analyzed and presented data to departmental staff, aiding in the optimization of each synthetic step across seven research projects
- Led the redesign and documentation of the lab chemical inventory

### LABORATORY TECHNICIAN

Advanced Electrophoresis Solutions Ltd. | 2022

- Prepared chemical solutions and performed QC for protein separation cartridge testing, adhering to SOPs and established protocols towards an ISO 9001:2015 certification
- Designed and 3-D modelled components for lab-related projects

### VISITING RESEARCH STUDENT

Université de Montréal — Hanessian Group | 2021, 2022

- Conducted research on the synthesis of medicinal indole derivatives under the supervision of Dr. Stephen Hanessian, leading to a publication

## Research & Publications

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### Accessing Versatile 3-Alkynylindole Scaffolds through a Copper Promoted Process

Paper Publication in Progress

### The Synthesis of Monomeric N-Oxide Based Materials with Low Exciton Binding Energies for Conjugated Organic Solar Cells

Dr. Derek Schipper, University of Waterloo | Undergraduate Thesis

### The Advancement of Cleaning Procedures for the Curation of the Bennu Sample at the Canadian Space Agency

Hayabusa 2024 Symposium | Conference Publication

### 2-Oxa-5-azabicyclo[2.2.1]heptane as a Platform for Functional Diversity: Synthesis of Backbone-Constrained $\gamma$ -Amino Acid Analogues

Journal of Organic Chemistry | DOI: doi.org/10.1021/acs.joc.2c01338

### COVID-19 in Canada: A Self-Assessment and Review of Preparedness and Response

Journal of Global Health | DOI: 10.7189/jogh.10.0203104

## Education

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University of Toronto 2025 – Present

MSc. Chemistry Candidate, Dr. Mark Lautens

University of Waterloo 2020 – 2025

BSc. Honours Medicinal Chemistry (Co-op)

Graduated with Distinction

## Programs & Leadership

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- European Space Agency (ESA) Academy Alumni, ESA & ELGRA Gravity-Related Research Collaboration (2024)
- Univ of Waterloo Taiwanese Student Society VP (2023)
- Univ of Waterloo Hong Kong Students' Assc VP (2021)
- SHAD Fellow, Western University (2019)

## Awards & Certifications

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- Canadian Society for Chemistry Accreditation
- University of Waterloo IDEAL Scholar Gold Medal
- University of Waterloo President's Scholarship
- University of Waterloo John Franklin Scholarship
- SHAD Alumni Science Scholarship