

Myles Ma



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Work Experience

LABORATORY ASST FOR ASTROMATERIAL CURATION *Canadian Space Agency* | 2024

- Assist in the research and development of the equipment and procedures in the to-be-built ISO 5 and 7 clean rooms in preparation for the receipt of a portion of the Asteroid Bennu sample as part of NASA's OSIRIS-REx mission
- Conduct tests and draft reports on findings regarding critical components within the cleanrooms in accordance with ISO 5 and 7 procedures
- Write SOPs for the procedure of curation and participate in dry runs
- Aid in other projects related to the mission as well as around the Agency

JUNIOR SYNTHETIC CHEMIST

TLC Pharmaceutical Standards Ltd. | 2023

- Prepare, set up, monitor, purify, characterize and scale up synthetic organic chemistry reactions (nitrosylations, deacetylation, etc.) under various conditions
- Review analytical results and critically problem solve with regard to each step in the proposed synthetic route(s) in all seven research projects assigned
- Present and consult findings in biweekly meetings with departmental staff
- Aid in the redesign and reassignment of the lab chemical inventory

LABORATORY TECHNICIAN

Advanced Electrophoresis Solutions Ltd. | 2022

- Prepare chemical solutions and perform detailed and complex analytical procedures following SOP's and established test protocols for quality control documentation
- Test and review instrument consumables following established procedures
- Perform sample tests in protein separation cartridges and characterization
- Draw, design, and 3-D model different parts in lab-related projects

VISITING RESEARCH STUDENT

Université de Montréal | 2021, 2022

- Working with the Hanessian Group and Prof. Stephen Hanessian in a hands-on organic chemistry lab setting
- Aiding in the process of creating medicinal indole compounds through the execution and monitoring of addition, protection, deprotection, coupling, benzylation, esterification, reduction, cyclization etc. reactions
- Using complex instruments (NMR, LCMS, MS, HPLC) and simple analytical methods to characterize and purify crude compounds
- Utilizing software to draw chemicals, create reactions and present data

Publications

2-Oxa-5-azabicyclo[2.2.1]heptane as a Platform for Functional Diversity: Synthesis of Backbone-Constrained γ -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

University of Waterloo 2020 - 2025
Fourth Year | Medicinal Chemistry (Co-op)

The Knowledge Society 2019 - 2020
Innovator | Current Alumni

SHAD (STEAM & Entrepreneurship) 2019
Western University | Current SHAD Fellow

Lisgar Collegiate Institute 2016 - 2020
Gifted Program

Languages & Skills

- English, Cantonese, Mandarin, (French)
- NMR, (LC-)MS, HPLC, IR, MP Analysis
- Organic Synthesis, Analytical Techniques
- ChemDraw, FindMolecule, Gaussian
- Word, Excel, PowerPoint, Google G Suite
- AutoCAD (3D Printing), Wix Web Design

Awards & Certifications

- President's \$2000 Scholarship
- John Franklin \$2500 Scholarship
- SHAD Alumni \$1000 Science Scholarship
- University of Toronto National Book Award
- 4-time Silver Medal and Honour Roll Recipient
- Honours with Distinction - RCM Grade 9 Piano
- 2nd place at Ottawa Regional Science Fair
- National Lifeguard Certification
- Standard First Aid, CPR "C", AED
- COVID-19 Plan to Protect Training

Extracurriculars

- Goaltending Instructor (Rick Heinz Goalie School)
- University of Waterloo Hong Kong Student's Association Vice President
- University of Waterloo Taiwanese Student Society Vice President
- Univ. of Waterloo Varsity Ice Hockey Goaltender (affiliate) and Junior Ice Hockey Goaltender
- Nexus Laboratories Researcher (2020)