

Vita

Candidate's name: Cameron Joseph Keyes

Universities
Attended: St. Francis Xavier University (2022)
Bachelor of Science

University of New Brunswick (2024)
Masters of Science

Conference Presentation:

"A New Synthetic Route to the Himachalene Skeleton" C. Keyes, M. A. Algamal, D. I. MaGee. University of New Brunswick Toole Lecture Series, November 9, 2023.

A New Synthetic Route to the Himachalene Family

UNIVERSITY OF NEW BRUNSWICK
THESIS DEFENCE AND EXAMINATION
in Partial Fulfillment
of the Requirement for the Degree of
Master of Science

by

Cameron J. Keyes

in the Department of Chemistry
U.N.B., Fredericton, N.B.

**Tuesday, July 16th, 2024
10:00 a.m.**

Toole Hall, Room 303

Examining Committee

Dr. David MaGee	Supervisor
Dr. Sara Eisler	Internal Examiner
Dr. Janice Lawrence	Int-Ext Examiner
Dr. John Neville	Chair of Oral Examination

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Abstract

Himachalene sesquiterpenes are believed to play a significant role in the chemical signaling between Blueberry Flea beetles, a pest of interest in Atlantic Canada. Due to their role in blueberry crop loss, controlling the outbreak of this pest is of significant economic importance, especially in Atlantic Canada. Attempts to synthesize the himachalenes using previously reported schemes in the literature have proved inconsistent. A new synthetic approach to the himachalene skeleton is investigated, building upon the work of Dr. Algamal and his attempts at reaching the himachalene skeleton. This new synthetic approach begins with cheap and readily available starting materials and aims to eliminate the common challenges associated with established syntheses. The 12-step synthesis developed in this thesis provides a more consistent route to the himachalenes of interest.