

**Evaluation of an Immobilized Transaminase for Preparation of an Intermediate to  
Glasdegib**

A Major Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

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Date:

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Approved:

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*This report represents the work of WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see <http://www.wpi.edu/academics/ugradstudies/project-learning.html>*

This MQP contains information deemed confidential to the business interest of the industrial sponsor. Please contact Stephen Kmiotek at [sjkmiotek@wpi.edu](mailto:sjkmiotek@wpi.edu) for additional information.

The student worked with Pfizer Inc. to study the feasibility of an immobilized enzyme in the preparation of an intermediate to Glasdegib, a Phase I clinical SMO inhibitor that has shown promise in the inhibition of tumor growth for human colorectal and pancreatic cancers. The project resulted in an optimization of one immobilized resin based on the activity of the enzyme, enzyme stability in organic solvents, and reuse of the biocatalyst as well as a preliminary scale-up study utilizing AspenPlus.