

## ABSTRACT

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Title: OPTIMIZATION OF SUZUKI-MIYAJIURA REACTION CONDITIONS  
AND ANTIBACTERIAL ASSESMENT OF OXAZABOROLIDINE  
DERIVATIVES

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Oxazaborolidines are heterocyclic compounds that contain two carbons, a boron-oxygen bond, and a boron-nitrogen bond. Outside their use as a protecting group or as catalyst, oxazaborolidines show potential for antibacterial activity and usage as a precursor in the Suzuki-Miyajura cross-coupling reaction. The first goal of the project, which began as part of Cory Williams' thesis project, is to develop and test various oxazaborolidine compounds for their antibacterial properties and effectiveness to undergo a Suzuki-Miyajura reaction. The first goal of this project, as a continuation of Williams' project, is to determine the optimal reaction conditions using the oxazaborolidine compounds that have shown reactivity to undergo a Suzuki-Miyajura reaction. Any new oxazaborolidine derivatives synthesized will also be tested against several bacterial species.