

# Dr. Ronald J. Rahaim, Jr.

Department of Chemistry

Dr. Ronald J. Rahaim, Jr. conducted graduate studies at Michigan State University earning a doctorate in 2006. During his graduate program, he developed a chemical method known as dehalogenation, which is now employed at Johnson & Johnson. He completed postdoctoral studies at the Broad Institute of MIT and Harvard in the chemical biology department. Rahaim continued postdoctoral studies at the Scripps Research Institute working on medicinal chemistry projects. Specifically, he prepared diverse libraries of compounds to probe the substrate-binding pockets of proteins for scaffolds that could lead to therapeutics for blood born diseases like sickle cell anemia. While at Scripps Rahaim also performed lead optimization on a purine scaffold hit, preparing a purine analog that is a selective and potent inhibitor of CK1 $\delta$  (IC<sub>50</sub> of 2 $\eta$ M), which resultantly inhibits Wee1 degradation, mitotic entry, and cerebellar granule cell proliferation, and is currently being optimized as a potential cancer and Alzheimer's therapeutic.

One of the challenges facing modern society is the invention of technology that is environmentally friendly. The Rahaim research group focuses on the development of reagents, catalysts, and methodology that use common field stock chemicals, such as carbon dioxide, to construct complex molecules in an economical (atom, redox, step) manner and with diversity. The developed technology is then utilized in the synthesis of biologically active compounds, via library preparation (the synthesis of hundreds to thousands of compounds), or natural product synthesis. The goal of which is the identification of potential new therapies for cancer, infectious, and neurological diseases.



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