



College of Liberal Arts and Sciences
Fall 2023 Chemistry Seminar Series
Friday, November 3rd

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Adventures in Aryne Chemistry

Abstract: In this seminar I'll describe our efforts to discover and develop new synthetic methods to generate and trap arynes. Central to our strategy is the use of super "onium" leaving groups and we have focused on iodonium and sulfonium salts as reagents and intermediates. These methods have enabled the practicing chemist to take readily available compounds, such as simple arenes, arylborons, and aryl iodides, off the shelf and generate (and trap) arynes within a couple of hours. We have demonstrated the application of these methods through the efficient synthesis of drug candidate molecules and in the derivatization of active pharmaceutical ingredients. Additionally, the use of an "onium" leaving group permits aryne generation with weak bases that are more functional group tolerant and I'll present a functional group comparison study for several methods to generate arynes.