

UNIVERSITY OF RHODE ISLAND
Department of Chemistry
SEMINAR

Room 105 Beupre Center
2:00 p.m, Friday April 19, 2019

Clay Bennett

Tufts University

***"Stereocontrolled Glycosylations in the Absence
of Directing Groups"***

HOST

Jason Dwyer
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Stereocontrolled Glycosylations in the Absence of Directing Groups

Controlling the stereochemical outcome glycosylation reactions remains a significant challenge in organic chemistry. Traditional approaches to oligosaccharide synthesis, based on the use of protecting groups, can be time consuming, and do not always provide high levels of selectivity, especially in unusual systems. Our group has developed chemical glycosylation methods that where the stereochemical outcome of the reaction is dictated entirely by the glycosylation promoter. Depending on the nature of the promoter used, this approach permits the construction of glycosidic linkages with excellent to nearly perfect α - or β -selectivity, independent of the nature of the coupling partners. Both 2-deoxy-sugars, and more traditional donors containing oxygenation at the C-2 position, are competent substrates for these reactions. Recent developments in this work, including mechanistic studies to elucidate the origin of selectivity in the reaction, its scope and limitations, and its application to synthesis will be described.

