

Department of Chemistry

Sarah Bernard

Mentor: Christian Rojas

Amidoglycosylation Reactions via Metal Nitrenoids  
of Glucal-3-Carbamates

Amidoglycosylation reactions were performed on *t*-butyl silylene protected glucal-3-carbamates resulting in oxazolidinone-protected mannosamine derivatives. These reactions proceeded via a metal nitrenoid intermediate. This results in the formation of a stereospecific carbon-nitrogen bond *cis* to the C3-oxygen bond. Formation of a new carbon-oxygen bond is also seen at the anomeric carbon with preference for the  $\alpha$ -anomer. Minor products, the  $\beta$ -anomer, as well as the byproduct, dihydro-4-propane, were isolated. Studies were made in the effects of solvent polarity, and varying reactants on the overall yields, which were determined by NMR and chromatographic isolation.