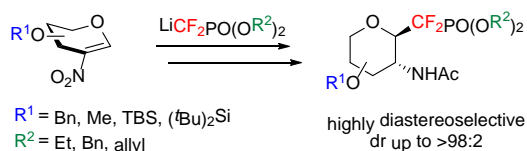


Highly Stereoselective Synthesis of Fluorinated Aminoglycosyl Phosphonates

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N-Acetylglycosyl sugar phosphates are ubiquitous intermediates and regulators of carbohydrate metabolism. They serve a variety of important functions, *e.g.* in the activation of monosaccharide substrates for the controlled enzymatic synthesis of oligosaccharides and related glycoconjugates. As a consequence, the inhibition of this transfer reaction provides an excellent opportunity for the potential modulation of oligosaccharide biosynthesis and interference with biological signaling and metabolism. Scheme 1 outlined a novel, highly stereoselective route to hydrolytically stable mimics of naturally occurring sugar phosphates based on the conjugate addition of lithiated difluoromethanephosphonates to readily available 2-nitroglycals.



Scheme 1.