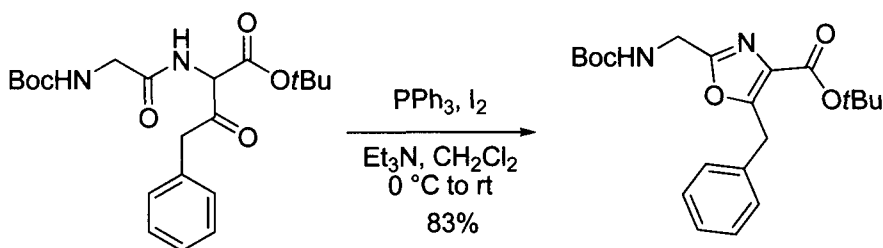
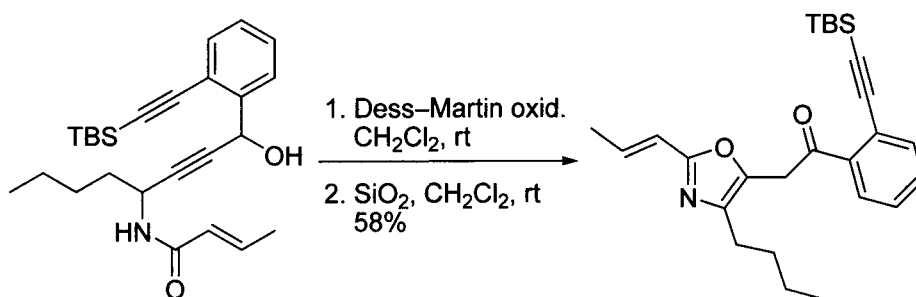


Similar in approach to linear methods discussed previously, the cyclodehydration of α -amido ketones is an alternative strategy for preparation of the oxazole nucleus. Treatment of the ketone with PPh_3 and I_2 results in cyclization to provide the fully substituted oxazole nucleus in excellent yield. This strategy was recently used in the synthesis of oxazole-modified glycopeptides, designed to target two classes of arthritis-associated proteins.³⁵ The oxazole was probed as a conformationally locked dipeptide mimic.



An alternative method for synthesis of 2,5-disubstituted oxazoles involves the cycloisomerization of propargyl amides. One such strategy, developed by Wipf and co-workers, relies on a mild silica-mediated process that produces substituted oxazoles with wide functional group compatibility.³⁶ As a representative example, the fully substituted oxazolyl ketone below was produced in good yield from the starting propargylic alcohol in two steps. The propargylic alcohol was produced via alkyne addition to the corresponding aldehyde, demonstrating the convergent nature of the approach.



6.2.2 Construction of the Benzoxazole Ring

Benzoxazoles are classically created through the cyclization of a 2-aminophenol with a carboxylic acid under highly acidic conditions at elevated temperatures. Alternatively, the amine of a 2-aminophenol is acylated and subsequently subjected to a number of cyclodehydration