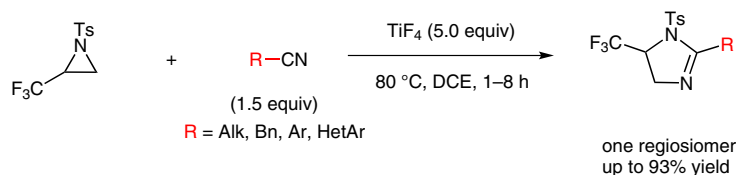
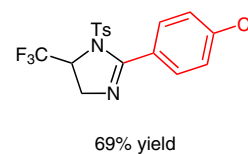
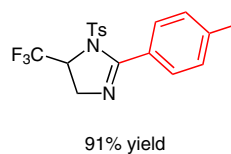
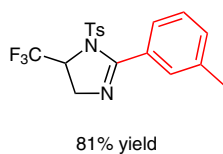
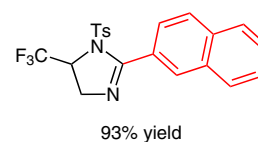
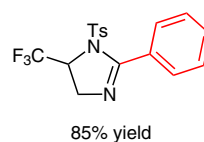
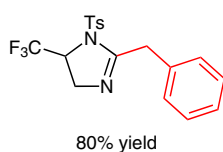


M. YOSHIKAI, R. ISHIBASHI, Y. YAMADA, T. HANAMOTO* (SAGA UNIVERSITY, JAPAN)
 TiF₄-Mediated Regioselective Cycloaddition of 2-(Trifluoromethyl)-*N*-tosylaziridine to Nitriles
Org. Lett. **2014**, *16*, 5509–5511.

Titanium-Mediated Cycloaddition



Selected examples:



Significance: The authors describe a mild and efficient [3+2] cycloaddition of 2-(trifluoromethyl)-*N*-tosylaziridine to various nitriles using TiF₄ as a Lewis acid, to give the corresponding 4-(trifluoromethyl)-1,3-imidazoles in good yields and excellent regioselectivity.

Comment: From a mechanistic point of view, the authors assume that the aziridine is activated by TiF₄, which is then attacked by the nitrile to afford the betaine intermediate, which collapses to form the 1,3-imidazole.