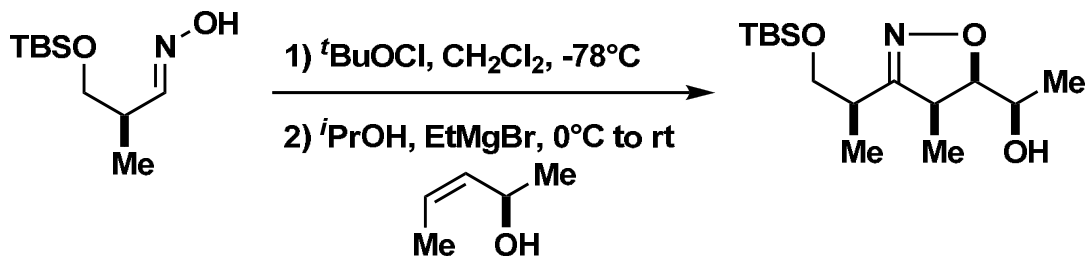


Group Meeting Problems

Wednesday, October 08, 2008

1. Recently, Carreira and coworkers published a general approach for the synthesis of polyketide building blocks by means of Kanemasa's Mg^{II} -mediated cycloadditions of nitrile oxides to allylic alcohols. Please provide a mechanism for the following transformation including a rationale for the *syn* selectivity.



2. This proline-catalyzed Mannich reaction reported in 2002 proceeds with an outstanding stereochemical control. Please provide a transition state that accounts for the excellent diastereo and enantioselectivity of this process.

