

CATALYTIC STEREORETENTIVE SYNTHESIS OF AMIDES FROM CYCLIC ALCOHOLS: EVIDENCE FOR CONFIGURATIONALLY STABLE CARBOCATIONS. Mohammed Alhuniti, Deboprosad Mondal, and Salvatore D. Lepore. Department of Chemistry, Florida Atlantic University, 777 Glades Road, Boca Raton, FL 33431.

We have recently demonstrated a direct conversion of secondary alcohols to amides with retention of configuration involving the *in situ* formation of chlorosulfites followed by reaction with a large excess of nitrile and Ti(IV) fluoride. In this presentation, we demonstrate our successful adaptation of this method to allow for catalytic amounts of Cu(II) and stoichiometric nitrile. Under the reaction conditions, Cu(II)-nitrile complexes are thought to chelate chlorosulfites to create carbocations that are quickly captured by nitrile nucleophiles *via* a front-side attack mechanism. Importantly, these cyclic carbocations are believed to be significantly stabilized by hyperconjugation allowing for configurational stability under the mild conditions of their formation. Generality studies as well as experiments aimed at further elucidation of the mechanism will also be presented.