Total synthesis of 6-deoxyerythronolide B

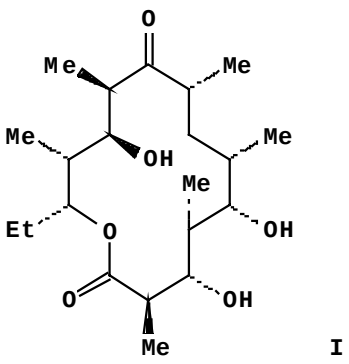
Prof. SHAIKH ASROF ALI

Dept. of Chemistry , College of Science ,
King Fahd University of Petroleum & Minerals

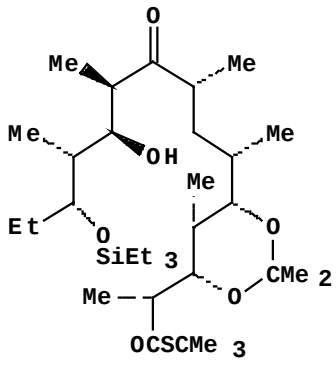
http://www.kfupm.edu.s

ABSTRACT

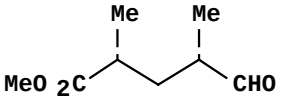
An efficient and stereoselective synthesis of 6-deoxyerythronolide B (I) has been achieved essentially through 4 aldol condensations and final lactonization. Each aldol reaction using a chiral enolate with its B or Li cation proceeds with remarkable stereoselection (14-100:1), creating two new asym. centers with the desired stereochem. Thus the 16-step synthesis of a seco-acid thiol ester (II) is completed in 11% overall yield based on (-)-aldehyde III. Lactonization of II, after minor modification of functional groups, is effected by CuO3SMe in benzene, and straightforward transformation of the resulting lactone complete the synthesis of I.



I



II



III