

**APPROACH TO THE ENANTIOSELECTIVE SYNTHESIS OF ACHILLEOL A UTILIZING OXIDOSQUALENE LANOSTEROL CYCLASE.** Helen W. German, Dr. Mark Novak. Department of Chemistry, Florida Institute of Technology, 150 W. University Blvd. Melbourne, FL 32901.

Oxidosqualene Lanosterol Cyclase (OSLC) from *Saccharomyces cerevisiae* has been shown to produce a range of structures possessing differing numbers of rings and chiral centers in a one step process. Rational design of unnatural substrates has the potential to become a powerful tool for the enantioselective synthesis of one- to four-ringed compounds common to biological systems. Presented herein is our approach to the enantioselective synthesis of Achilleol A, utilizing OSLC as a reagent in the key step. A modification of Yamamoto's activated barium chemistry resulted in an improved method to obtain a homoallylic alcohol synthon in a single step, resulting in an improved synthesis of the OSLC substrate which was successfully cyclized.