TOWARDS THE DIASTEREOSELECTIVE SYNTHESIS OF CANNABISATIVINE: THE UTILIZATION OF BOTH CLASSICAL SYNTHETIC METHODOLOGY AND ENZYME-MEDIATED BIOTRANSFORMATION. Mark J. Novak, Department of Chemistry, Florida Institute of Technology, 150 W. University Blvd., Melbourne, FL 32901-6975

Cannabisativine, a macrocyclic alkaloid isolated from *Cannabis sativa* is one member of a class of alkaloids containing a spermidine residue coupled to an oxidized long chain fatty acid. As such, it presents several challenges as a synthetic target due to multiple chiral centers and the asymmetric nature of the spermidine moiety. An enzymatic enantioselective hydroxylation in combination with the Sharpeless asymmetric epoxidation yielded the three consecutive streocenters present in the side chain. Recent development of a novel tin (II)-mediated monofunctionalization of polyamines is being applied to selectively conjugate commercially available spermidine to the enzymatic substrate in a single step; thus avoiding the multi-step syntheses associated with the construction of this residue that were characteristic of previous approaches in cannabistavitine synthesis.