Homologation of α-Amino Acids to β-Amino Acids via a Modified Arndt-Eistert Synthesis

James Carolan, '10
Illinois Wesleyan University

Brian Brennan, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: https://digitalcommons.iwu.edu/jwprc

https://digitalcommons.iwu.edu/jwprc/2009/posters/4

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.
©Copyright is owned by the author of this document.
The synthesis of molecules that mimic the structure and function of natural peptides has substantial therapeutic potential. Of the many peptidomimetics described in the literature, none have been studied as intensely as β-peptides. Their stability in cells and ability to bind to protein surfaces have made them invaluable tools to study and modulate biological systems. Composed of β-amino acids, these polymers are often synthesized on solid support. Unfortunately, the synthesis of the monomer β-amino acids often involves the use of explosive and toxic reagents. My research is focused on synthesizing β-amino acid monomers using more environmental and laboratory friendly reagents. Towards this end, I have employed a modified Arndt-Eistert synthesis to convert cheap, commercially available α-amino acids into their β-amino acid counterpart.