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

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Poster Presentation P7

**HOMOLOGATION OF α -AMINO ACIDS TO β -AMINO ACIDS VIA A MODIFIED
ARNDT-EISTERT SYNTHESIS**

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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.