

Project Title: Peptide Synthesis

Project Mentor: Professor Wallace Fu, Chemistry Department

Project Description: Peptides are small polyamides made from natural amino acids which are sequentially joined in an orderly manner. The first synthetic peptides (pituitary gland hormones oxytocin and vasopressin) were prepared synthetically by Dr. Du Vigneaud (Chemistry Nobel 1955). Later, Dr. Merrifield at Rockefeller University developed a solid phase peptide synthesis (SPPS) method which greatly simplified the work and increased the output efficiency. For that work Merrifield received the Chemistry Nobel prize in 1984. Many commercial peptide products are produced by this approach. The future of peptide chemistry and its impact on new therapeutics are unlimited. Dr. Fu is fortunate to receive a gift of a solid phase synthesizer from a commercial manufacturer. The Model 336X (<http://www.csbio.com/>) is a teaching/research instrument. To read more on the peptide synthesizer go to:

<http://www.hope.edu/academic/chemistry/facilities/index.html>

The emphasis here is help the students learn to use the computer to perform the synthesis. Such specialized skills will benefit the students who intend to seek employment in the biotechnology and pharmaceutical industries or for students wanting to further their education in the field of peptide synthesis.