

## Self-assembly of Pyrrole Derivatives in the Organic Solvent

김형태, 동현배, 이인호, 최주영, 이상엽\*

연세대학교

(leessy@yonsei.ac.kr\*)

The molecular biomimetics is a promising research field in which the natural molecular structure of biomolecules is mimicked to form artificial molecules. We designed a pyrrole derivative molecule mimicking the diphenylalanine which forming a self-assembled structure in the 1,1,1,3,3,3-Hexafluoro-2-Propanol(HFP). This pyrrole derivative molecule was synthesized by conjugating two different pyrrole derivatives with the peptide bond. Subsequently, the peptide bond functions as a hydrophilic center while two pyrrole rings functions as hydrophobic tails. N-ethyl-N'-propylamidebispyrrole were self-assembled to form needle-like assemblies in HFP. The morphology of self-assembly was confirmed with transmission electron microscopy (TEM) and the chemical structure of pyrrole derivative molecules were investigated using nuclear magnetic resonance (NMR). This study would provide insight for the self-assembly of biomimetic molecules.