

#### 4.1.11 BIOACTIVE AND PHOTOACTIVE SUPRAMOLECULAR ASSEMBLIES FOR BIOSENSING APPLICATIONS

D. A. Harrington, H. A. Behanna, G. N. Tew, R. Claussen, S. I. Stupp, "Supramolecular Fluorophores for Biological Studies: Phenylene Vinylene-Amino Acid Amphiphiles," *Chem. Biol.*, **2005**, *12*, 1085–1091.

Biosensing is of great interest as scientists develop methods to diagnose diseases more easily and effectively. NU-NSEC researchers have created a stepping-stone towards this goal by modifying noncytotoxic biologically active molecules with fluorophores.

These hybrid molecules are ingested by the cells, allowing for intracellular markers to be delivered to a specific region of the cell. The self-assembled nature of the aggregates allows delayed degradation, important in tracking and sensing applications. The fluorescent segment of the molecules can be varied to respond to a specified wavelength of light, while the peptide segment can enable binding to a wide variety of molecules. This class of molecules with dual functionality has great potential for light-initiated biosensing, cell targeting, and specific binding applications.

