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Project Title: Poly (ester amide) Coated Inorganic Nanospheres for Drug Delivery and Drug Release Control

Project Description:

Controlled-release systems increase the overall efficacy of drugs by maintaining drug concentration in the body within the optimum therapeutic range while preventing over-dosage of drugs by keeping released concentrations under toxic levels. However, these designed systems often have limitations such as poor chemical stability, limited route of admission, biointegration and immunogenicity. The proposed research project will attempt to further efforts for better controlled drug delivery by using inorganic microspheres in conjugation with amino acid passed poly (ester amide)s (PEAs) which have been shown by the Chu group to be easily biodegradable by enzymes while maintaining stability in buffer solution for storage. Various methods of entrapment will be investigated for optimization of drug release profiles.