

From Synthetic Polypeptides to Site-Specific Antibody-Conjugates

Abstract

Synthetic polymers and biopolymers are distinct, and yet often complimentary, in many aspects including structures, properties and functions. Lu's researches at different stages share the theme of bridging the worlds of synthetic and natural polymers. Particularly, he will discuss two topics in his talk: 1) synthetic polypeptides prepared by the ring-opening polymerization (ROP) of α -amino acid *N*-carboxyanhydrides (NCAs), and 2) site-specific antibody-conjugates for targeted cancer therapy. In the first topic, he will focus on design, synthesis, and biological applications of a class of novel ionic polypeptides with unusual helical stability. In the second topic, he will present promising anti-cancer approaches such as targeted siRNA delivery mediated by site-specific antibody-polymer conjugates (APC) and targeted immunotherapy for acute myeloid leukemia (AML) treatment using bispecific antibody conjugates.