



Trigger Responsive Camptothecin Conjugate for High Loading Nanoencapsulates

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Date: Wednesday, October 1, 2014

Time: 12:00 – 12:30 p.m. Central (10:00 – 10:30 a.m. Pacific)

Location: 1000 MNTL at Illinois (KL 361 at UC Merced)

Abstract:

Polymeric micelle is one of the most widely used drug delivery nanomedicine platforms; however, micelle drug delivery systems usually have very low drug loading and poorly defined composition, which greatly limited its further clinical translation. In the course of developing trigger responsive camptothecin conjugates, we discovered an unprecedented approach to prepare core-shell structured drug encapsulates. The polymeric nanoparticles have extremely high drug loading, quantitative loading efficiency as well as controlled release profile responsive to stimuli. Formulation studies indicated a non-micellar mechanism for nanoparticle formation instructing a completely new approach for polymeric nanoparticle design. Both in vitro and in vivo studies showed excellent therapeutic efficacy for cancer treatment. We believe that our strategy provides a new route to encapsulate hydrophobic drugs efficiently without complicated carrier polymer syntheses and screening.

Seminar Presented by:



CNST University of Illinois Center for Nanoscale Science and Technology