

Seminar

9:45 a.m. Thursday, January 19
331 Smith Hall

Postdoctoral Fellow

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Northwestern University



***Catalyst-Economical Syntheses of End-Functionalized Polymers
by Ring-Opening Metathesis Polymerization
and***

Dynamic Peptide-Based Biomaterials for Drug Delivery and Signaling

Abstract

The addition of specific polymer end groups to one or both ends of a polymer chain remains a synthetic challenge in many polymerization techniques. Here a new technique for polymer end capping in living ring-opening metathesis polymerization (ROMP) is presented, allowing for the installation of a wide variety of functional groups. Extension of this methodology to a catalyst-regenerating system enables the synthesis of telechelic polymers using up to seven-fold less catalyst than traditional ROMP.

Peptide amphiphiles (PAs) are small molecule gelators made by attaching a hydrophobic alkyl tail to a short peptide sequence. Programmed self-assembly of PAs into supramolecular polymers has commonly been used to efficiently display immobilized peptidic signals on the surface of PA nanofibers. Novel forms of these molecules will be presented with incorporated small molecule-releasing chemical functionalities, allowing for the controlled delivery of soluble signaling cues to cells.

Hosts: Professors Christopher Cramer & Marc Hillmyer
Refreshments will be served prior to the seminar.