



Inorganic Chemistry Seminar Series

Tuesday, March 5, 2019, 12:30 pm
Seaver Science Library, Room 150
SSC Auditorium next to the library

Professor Lawrence Sita

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Organometallic, Polymer, and Material Science of the Living Coordinative Chain Transfer Polymerization of Olefins

New paradigms are required that have the potential to dramatically change the range and pace at which olefin commodity feedstocks, such as ethylene and propylene, can be converted into new categories of polyolefins, hydrocarbons, and specialty chemicals of commercial and societal value. In this regard we have been pursuing, within a living coordination polymerization system, the identification of dynamic, fast, and reversible bimolecular processes that are competitive with chain-growth propagation. We also seek to establish mechanistic control points that can provide external control over the relative rates of these processes. When combined with living coordinative chain-transfer polymerization (LCCTP) that employs an excess of a main group metal alkyl as 'surrogate' chain-growth sites, practical (commercial) production of a broad range of 'precision' polyolefins and low molecular weight precision hydrocarbons can be brought closer to realization. This talk will provide an overview of our results in pursuit of these goals, including the discovery and development of a new class of sugar-polyolefin conjugates that self-assemble into a variety of intriguing nanostructured solid-state mesophases that are of interest for a range of nanotechnologies.

Hosted by Professor Michael Inkpen

The scientific community is invited

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