הטכניון - מכון טכנולוגי לישראל

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY

הפקולטה להנדסה כימית
ע"ש וולפסון
The Wolfson Department of Chemical Engineering

Wolfson Department of Chemical Engineering Seminar

Lecture Hall 6, Wolfson Department of Chemical Engineering, December 2nd, 2015, Wednesday, 13:30

יוצג ע"י:

Assist. Prof. Charles E. Diesendruck

Schulich Faculty of Chemistry, Technion – Israel Institute of Technology

על הנושא:

New Accounts of Polymer Mechanochemistry

Mechanical forces typical of daily life are several billion times stronger than the force between two atoms, such as a carbon - carbon bond. Although light and heat are routinely used as conventional energy inputs to drive chemical reactions, harnessing mechanical energy for the same goal is not trivial. In the 1930s, Staudinger found that polymers are able to undergo mechanically driven chemical bond scission, and, today, we are on the verge of understanding and exploiting this process at an unprecedented level. In the beginning of the talk, the experimental basis for this interesting energy transformation process will be presented. Then, some new accounts of polymer mechanochemistry will be discussed in more detail: complete mechanochemical unzipping of polymers to monomers, followed by repolymerization; mechanochemical reactions induced by polymer swelling; and mechanochemical production of acid in a bulk polymer, a considerable advance towards self-healing applications.

כבוד קל לפני ההרצאה בשעה 13:15 מאחורי אולם 6