REGIONAL CENTRE FOR BIOTECHNOLOGY
Seminar series

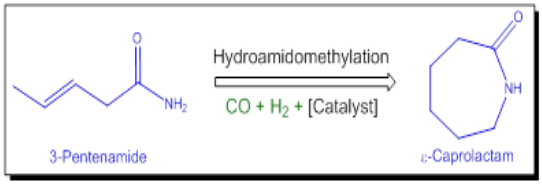
Enabling Catalysis Technology for Sustainable Production of consumable polymer

Susmit Basu, PhD

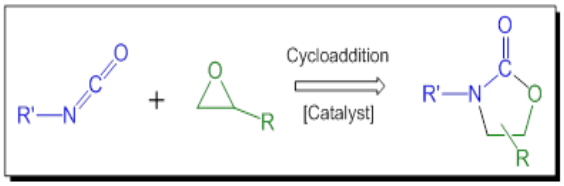
Bayer Material Science, CAT Catalytic Center,
Worringerweg 1, 52074 Aachen, Germany

Wednesday, December 7, 2011
11:00 am
Seminar Room

Polymer materials are the essential backbone for the modern industrialized society from both developed and developing countries. Sustainability in industrial production and use of products is an objective, which runs like a cross section business through the entire company. Product development, process design, pre- and after-sales-services and the communication between producers and consumers along the value chain are to be made accordingly. In Bayer Material Science (Leverkusen, Germany) a part of the R&D sector is dedicated to build up catalysis technology to meet the continuous market demand of polymeric materials. This approach is bifurcated in two ways: one is to reconsider and redevelop the existing catalytic process by making it more environmental benign and economically viable and second is, to develop polymeric materials with newer and more value-added properties into its inherent chemical structure. This seminar will address the aforementioned issues in more detail and will guide the audience how the modern catalysis technology is helping us at present in making a sustainable modern society and building up an atom-economic process. Two topics will be highlighted: hydroamidomethylation (route to green nylon) and catalytic 2-oxazolidinone synthesis (route to thermally and chemically stable polymer) [Scheme 1].



(a)



(b)

Scheme 1: Targeted catalytic reactions to form (a) green nylon and (b) thermally and chemically stable polymers.