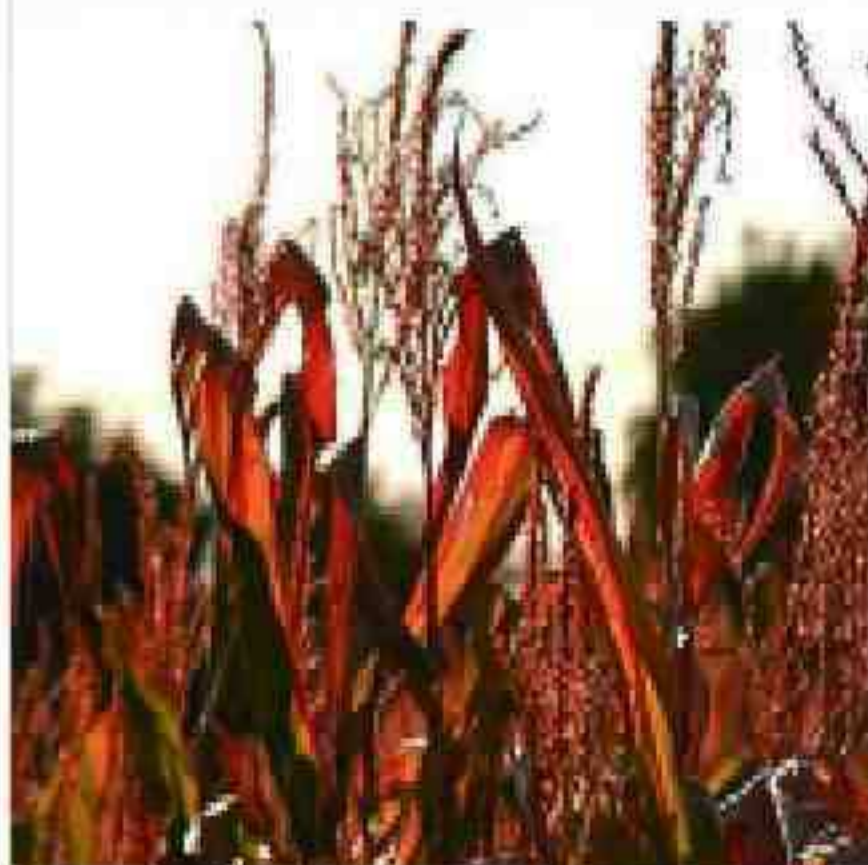
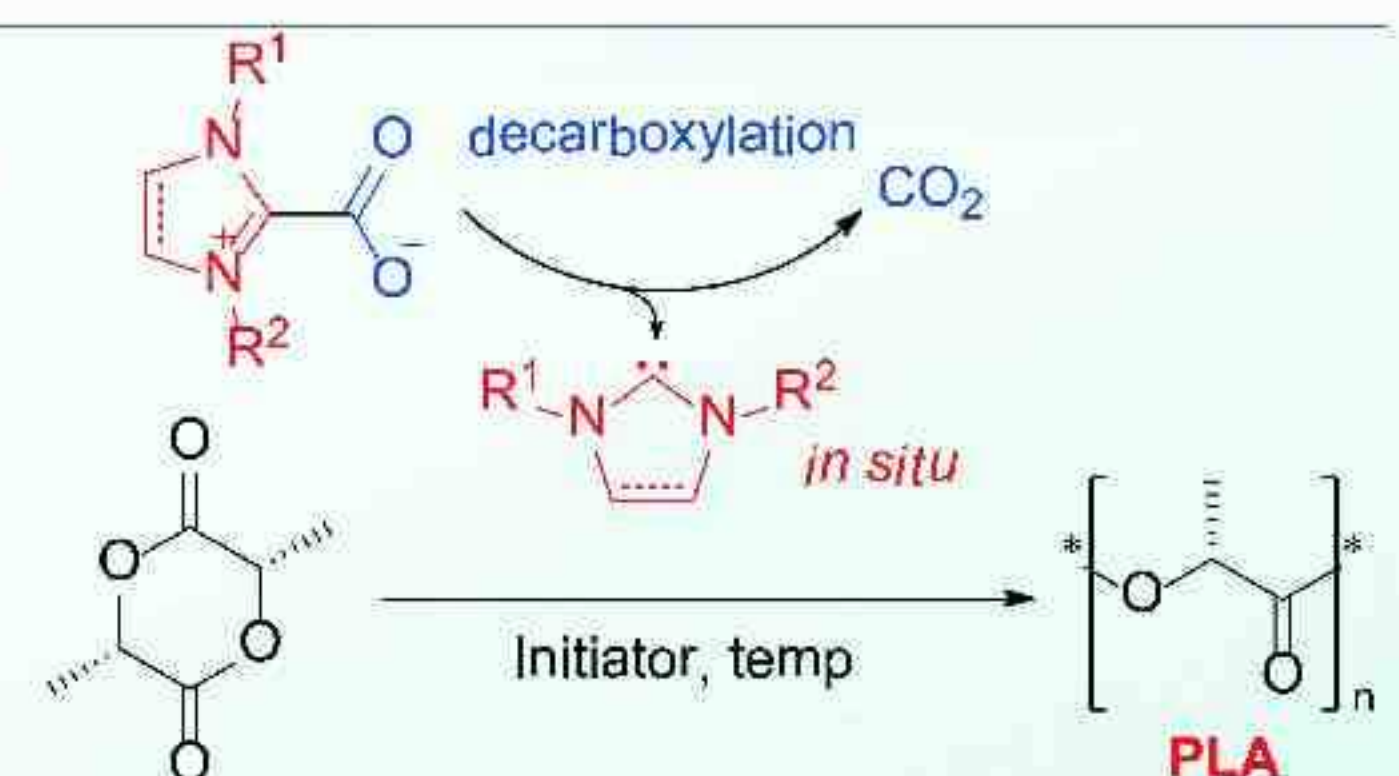


## PLA Research and Development in NJUT

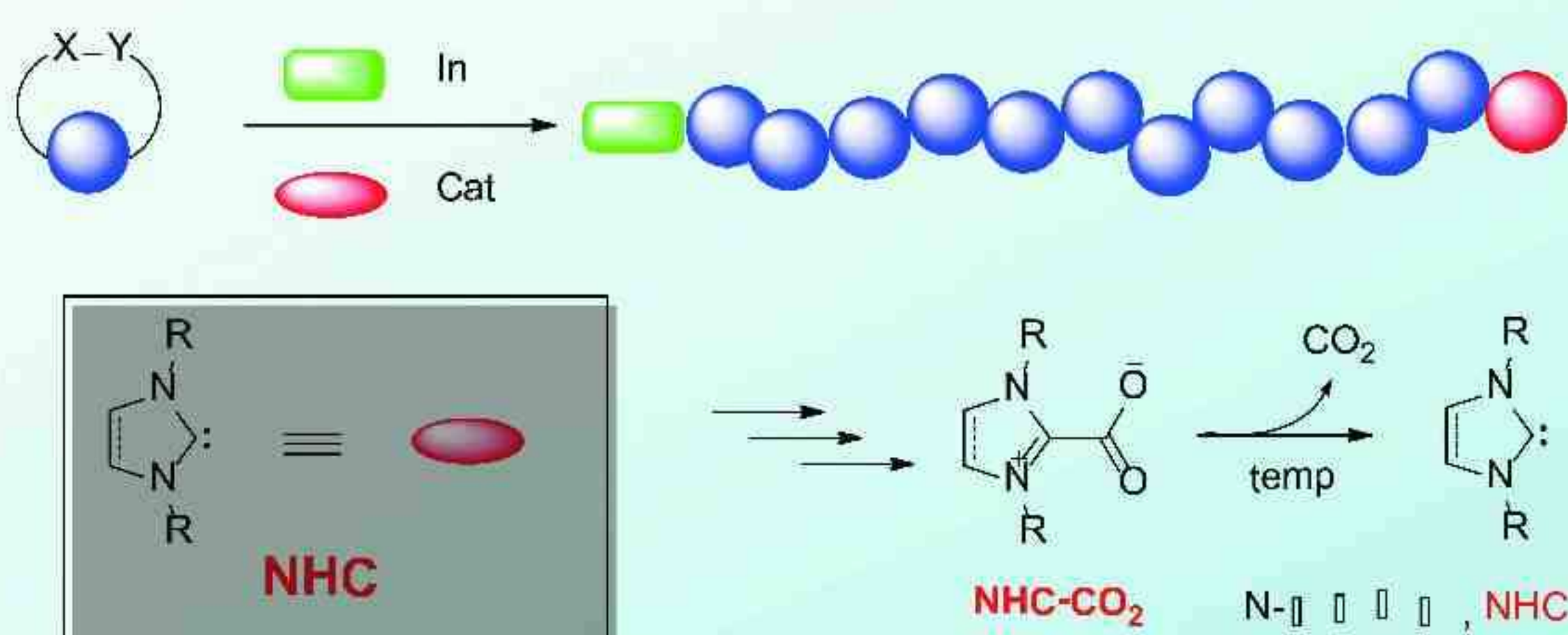


### PLA Produced from Lignocellulosic Feedstock

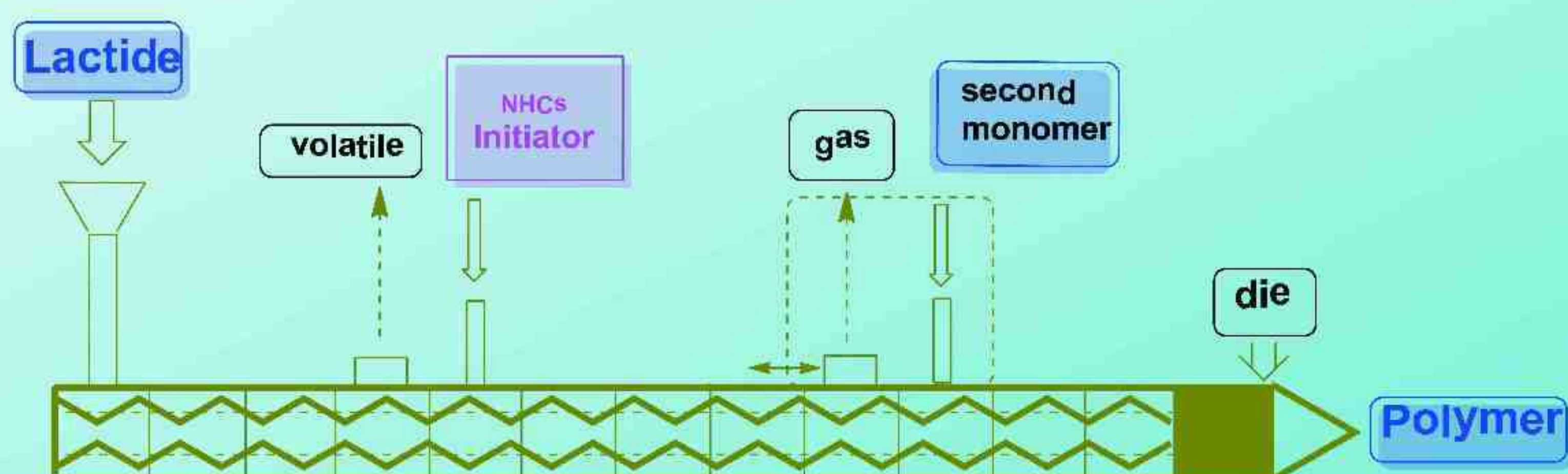


### NHC Catalysis and Polymerization

- PLA was synthesized via NHC catalyzed controlled/living ROP of lactide
- Featured with well defined PLA and fast polymerization
- Patents WO2010022683, WO2010022684, WO2010022685 (and the corresponding national patents in EU, USA, Japan, and China)



A general N-Heterocyclic Carbene (NHC) CO<sub>2</sub> adducts catalyzed ring-opening polymerization (ROP) of cyclic monomers were developed. WO2010022683



### An Integrated 1-Stage Process for PLA by ROP via Reactive Extrusion

Based on novel polymerization technique of lactide with NHC-CO<sub>2</sub>, WO2010022684, a reactive extrusion process was developed and the twin-extruder machine was designed for fast, one-stage polymerization of lactide. WO2010022685