**Rapid Structural Diversification of Vinyl Polymers via Post-Polymerization Modification (PPM) Strategies**

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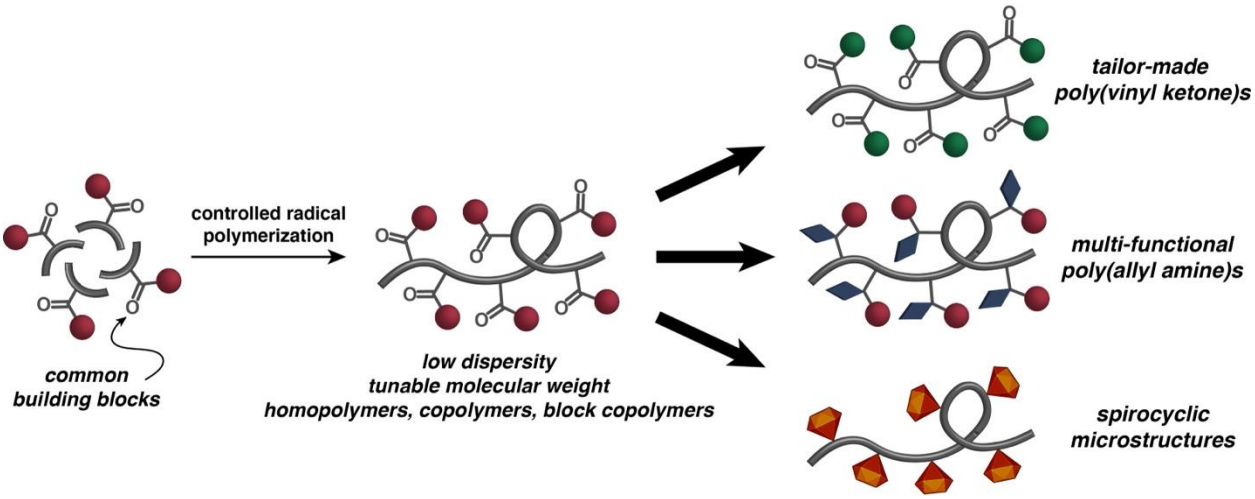
Synthetic polymers have transformed modern life to the extent that many have dubbed the current times the “Plastics Age.” Despite their obvious utility, the ability to rationally design the physical properties exhibited by synthetic polymers for next-generation chemistry, engineering, and biomedical applications is one of the grand challenges in modern polymer chemistry.

The identity and spatial arrangement of functional groups along a polymer backbone play an important role in determining the material’s ultimate utility. A successful approach to designing material functionality is post-polymerization modification (PPM). One project in the Teator Lab is focused on harnessing the tools of modern synthetic organic chemistry to exploit the innate functionality of commonly prepared and industrially useful synthetic polymers and generate new functional materials.




*Post-polymerization modification strategies to transform common polymers into new functional materials*

REU students that work in the Teator Lab will get hands-on training in synthetic organic and polymer chemistry. Students will be trained in advanced experimental techniques that require the use of inert atmospheres, using both Schlenk lines and nitrogen-filled gloveboxes. In addition, students will learn both organic and polymer chemistry analytical techniques through the use of KU core facilities (NMR spectroscopy, mass spectrometry, etc.) and our lab’s own suite of polymer characterization equipment (gel-permeation chromatography, dynamic scanning calorimetry, thermogravimetric analysis).