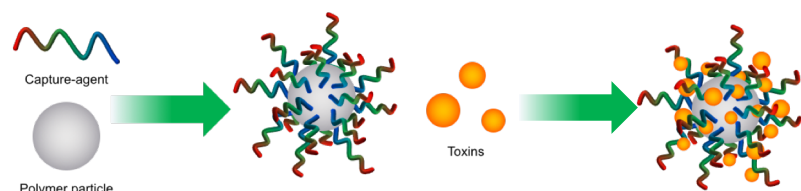


THE SCHULZ RESEARCH GROUP

Polymer Sequestrants for Environmental and Biological Applications

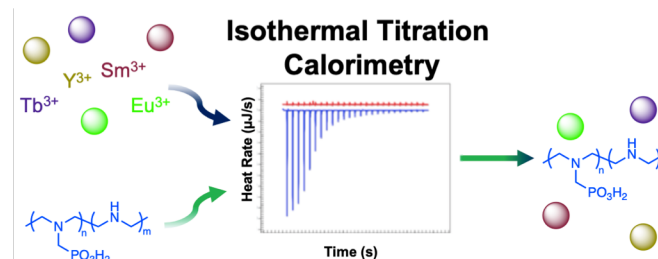
Bacterial Toxins and Virus Capture

- Functionalize polymers with small molecule virus- and toxin-binding compounds
- Investigate interactions between polymer and viral/toxin surface
- Optimize polymer parameters to enhance viral inhibition and toxin sequestration

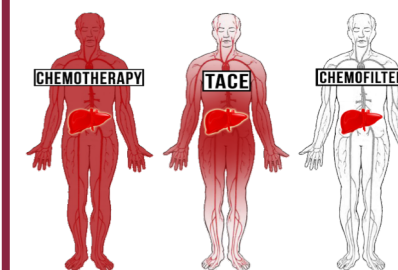


Metal Ion Extraction

- Design and synthesize polymer platforms capable of extracting critical metals from complex solutions
- Analyze polymer-metal binding using isothermal titration calorimetry



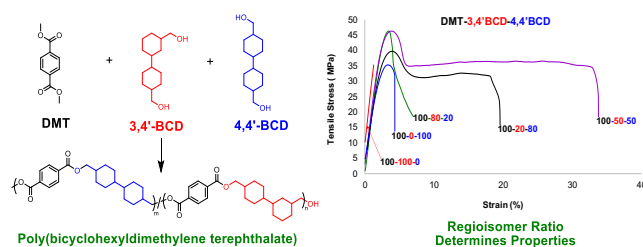
Chemotherapy Agent Sequestration



- Prevent chemotherapeutic medicines from exiting target tumor(s)
- Functionalize polymeric surfaces for use as drug capture devices
- Sequester pharmaceutical compounds and pesticides from industrial waste stream

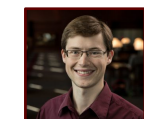
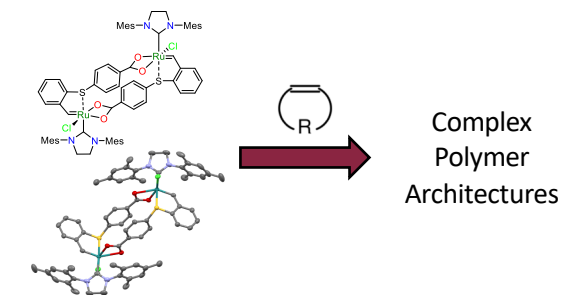
Novel Polyesters Synthesis

- Design a new class of polyesters with cyclohexyl-containing monomers that possess:
- Enhanced thermal over PET and PCT: Higher T_g , Lower T_m
- Improved elongation properties



Polymerization Catalyst Development

- Design catalysts capable of producing polymers with precise architectures



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