

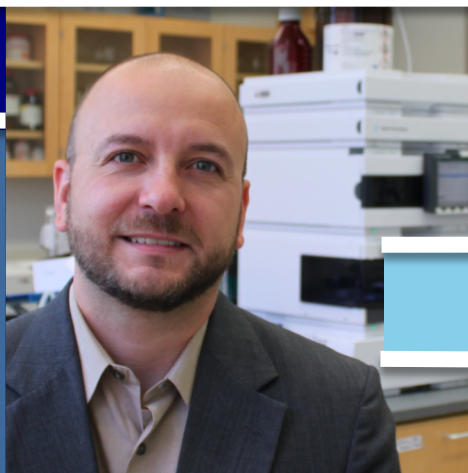


Prof. Justin Kennemur

“Leveraging Equilibrium
Polymerization Thermodynamics to
Produce New Materials
from Stubborn Monomers”

Florida State University
Assistant Professor
Department of Chemistry & Biochemistry

Host: John Matson



Abstract: A launch-point for potentially transformative materials is the synthetic design of polymer microstructures capable of offering precise and unique branch periodicities outside of those provided by traditional monomers and methods. The concept of using low ring strain cycloolefin monomers, such as cyclopentenes, for enthalpy-driven ring-opening metathesis polymerization (ROMP) is contradictory since the release of ring-strain is the driving force for success. Our research has leveraged thermodynamic principles to gain near living-like control and high conversion from variable temperature (VT)-ROMP of these systems. We have now carried this success forward to instill more precise architectural complexities such as highly isotactic and regioregular systems, precision polyelectrolytes, and bottlebrush polymers with precise five-carbon branch periodicities. Our findings on the efficacy of targeted materials and their properties will be discussed.

Florida State University
Department of Chemistry &
Biochemistry
Tallahassee, Florida, 32306
Phone: 850-644-3875
E-mail: kennemur@chem.fsu.edu

Bio: Justin G. Kennemur graduated from Radford University, VA (B.S. Chemistry, 2002) then worked in industry for three years at Polymer Solutions Incorporated in Blacksburg, VA as an Analytical Polymer Chemist. He received a Ph.D. in Polymer Chemistry at North Carolina State University in 2010 under the advisement of Professor Bruce M. Novak. After a post-doctoral appointment at the University of Minnesota co-advised by Professors Marc A. Hillmyer and Frank S. Bates, he began his independent career in the Department of Chemistry and Biochemistry at Florida State University in August of 2014. As a principle investigator, JGK has received an ACS-PRF Doctoral New Investigator Award (2015), the NSF CAREER Award (2018) and was awarded as a 2018 ACS PMSE Young Investigator.

Sponsored by the
Solvay International Chemical Group

DATE: MARCH 27, 2019
TIME: 11:15AM-12:15PM
LOCATION: KELLY HALL 310

