

Acrylic Copolymer Structures from Photoredox-Mediated Polymerizations

Controlled polymerization techniques (e.g., reversible addition-fragmentation chain transfer (RAFT) polymerization) provide access to defined copolymer structures where block sequence, monomer composition, and architecture can be readily tuned. Herein, syntheses approaches will be discussed that take advantage of photoinduced electron/energy transfer (PET) catalysis to control mechanisms of radical introduction. For example, defined structures with more precise control over monomer placement and sequence will be discussed. Additionally, inherently photoactive enzymes will be introduced that can mediate RAFT polymerizations. Overall, new synthetic design considerations for acrylic polymers using RAFT polymerization will be discussed.