

Synthesis of Cyclic Polymers by Atom Transfer Reactions

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ABSTRACT

Cyclic polymers and other topologically interesting macromolecules continue to attract interest in the polymer community and beyond. While methods such as ring opening metathesis can lead to macrocycles, perhaps the most common technique involves chain-end closure of linear polymer precursors. This talk will focus on the use of polymer diradicals in ring-closing reactions, assisted by radical traps that alter the mechanism pathway. Much of the focus will be on model reactions of one-ended polymers, allowing for easier assessment of the coupling reactions and a more straight-forward establishment of the mechanistic details. Recent insights into the role of the radical trap, solvent, and structural features of the chain end will be highlighted.









