

Efficient and Selective Transformations of α -Keto Esters into α -Arylated α -Hydroxy Esters Using Continuous-Flow System

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This research explores the selective reactions of organolithium reagents with α -keto esters using a flow microreactor system. The study highlights the influence of precise temperature control and rapid mixing on enhancing reaction yield and selectivity. By optimizing conditions for aryllithium reagents bearing electrophilic functional groups and α -keto esters, the system demonstrated superior performance over traditional batch methods. This method efficiently minimized byproduct formation, providing high yields and excellent selectivity for sterically hindered substrates. The flow microreactor thus offers an innovative platform for complex organometallic transformations.

