

Ring-Opening Polymerization of L-Lactide in Supercritical fluids

이항수*
한국과학기술연구원
(agira-al@hanmail.net*)

The polymerization of homopolymer and copolymers of lactide has been studied to a great extent because of an interest in using these biodegradable and biocompatible polymers in a wide variety of biomaterial applications. We are the first to report that supercritical Dimethyl Ether (scDME) can be successfully utilized as the solvent for the ring-opening polymerization of L-LA, followed by the in situ preparation of poly(L-lactide) (PLLA) microspheres, without any residual monomer and solvent, by using a continuous supercritical anti-solvent process. The ring-opening polymerization of L-lactide initiated by stannous octoate was carried out in supercritical dimethyl Ether(scDME) at various reaction conditions(time and temperature) and reactant concentrations(initiator, monomer, and solvent).