

Abstract Submitted
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Toughening and reinforcing degradable polymers to extend their properties and applications SUPING LYU, Medtronic Inc, JIANBIN ZHANG, ADAM BUCKALEW, JIM SCHLEY, BRYANT PUDIL, LIAN LUO, CHRIS HOBOT, MIKE BENZ, RANDY SPARER, JULIE TRUDEL — Polymer materials made from renewable feedstocks mainly are cellulose derivatives and aliphatic polyesters such as polylactide. There are two challenges in the use of these materials to replace petroleum based polymers. One is how to easily process these materials to make them into needed shapes and other is how to broaden the properties of these materials so that they can be used for applications where petroleum based polymers play major roles. Most of the renewable source based materials are brittle. This abstract presents a method of how to toughen and reinforce polylactide to make a family of polymers that cover broad ranges of toughness and strength for various applications such as biomedical device manufacturing.

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