

Biopolymers and Bioplastics

October 19-20, 2017 San Francisco, USA

Preparation of functionalized PCL-based materials for biomedical application

So far, aliphatic polyesters, especially, poly(glycolide) (PGA), poly(lactide) (PLA), poly(ϵ -caprolactone) (PCL) and their copolymers have withdrawn much attentions as biodegradable polymeric materials, because of their superior properties, such as mechanical strength, easiness of polymerization and manufacturing, biodegradability, and so on. Among them, there are many PCL-related researches as biodegradable materials have been already used as artificial dura mater clinically. We have reported that surface shape memory materials derived from PCL could contribute to mechano-biological studies using the same materials with modulated elasticity and viscosity by only temperature change. Furthermore, drug permeation control near body temperature could be succeeded by effective melting point modulation. In this study, new PCL network material which has cationic groups is prepared. The cationic moieties would interact to anionic groups easily, for example sialic acid in sugar chains. As other functional materials, we have been studying the methodology to introduce functional