

عنوان مقاله:

Evolution on the Effect of Grafting Esterification Catalyst on Molecular Weight of Final Nanocomposite

محل انتشار:

دوازدهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1395)

تعداد صفحات اصل مقاله: 2

نویسندگان:

Ehsan Avazverdi - Polymer and color engineering department, Amirkabir University of technology, Tehran, Iran

Hamid Mobedi - Novel drug delivery group, Polymer science department, Iran polymer and petrochemical Institute, Tehran, Iran

خلاصه مقاله:

Carbon nanotube attracts material scientist's attentions because of its unique electrical, thermal and mechanical properties. But its high surface area restricts dispersion of carbon nanotube in polymeric matrix. To overcome this imperfection grafting to strategy have been applied for surface modification of multi walled-carbon nanotube (MW-CNT) and reduce reduction of interfacial tension. In this study esterification catalyst was used to link -OH terminated Poly (lactide-co-glycolide) (PLGA) to -COOH functional group of MW-CNT. Presence of esterification catalyst in reaction medium caused hydrolysis in esteric bounds of polymer and decreased molecular weight by breaking down polymer backbone. Differential scanning calorimetry (DSC) and gel permission chromatography (GPC) was used to track changes in molecular weight (MW). GPC results showed that tin octoate is more destructive catalyst rather than DCC/DMAP. DSC illustrated that catalyst nature is more effective than reaction temperature on molecular weight decrease

کلمات کلیدی:

PLGA-CNT-Grafting to- esterification catalyst- Molecular weight

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/578507>

