

SYNTHESIS OF BIODEGADABLE COPOLYMERS OF ETHYL VINYL ACETATE AND POLY(E-CAPROLACTONE)

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Grafted copolymers, EVA-g-PCL, were synthesized by reactive extrusion, through transesterification reaction between ethylene-vinyl-acetate copolymer (EVA) and poly(ϵ -caprolactone) (PCL) using titanium propoxide (Ti(OPr)₄) as catalyst. The effect of EVA molar mass on the amount of grafted copolymer and materials properties was evaluated. The prepared materials were characterized by several analytical techniques and the biodegradability was evaluated based on biochemical oxygen demand method. The results evidenced that the amount of copolymer increases as the amount of catalyst increases. Furthermore, using EVA with high molar mass, allowed to obtain a material exhibiting properties similar to conventional polymers with higher biodegradability.