Biodegradable Immiscible Blends of Poly(Lactic-acid) and Acetylated Lignin

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Biodegradable blending films were prepared using poly(lactic-acid) (PLA) and kraft lignin, and characterized them by several analytical methods. To enhance organic compatibility of kraft lignin, we modified them by acetylation and tested by FT-IR and NMR. They were used in the shape of particles incorporated at 5 wt% in PLA. Blending films were prepared by solvent casting at controlled temperature (25℃) and thickness (30 μm). The efficiency of acetylation of lignin was studied and discussed, as well as its effects on film structure, transmittance and mechanical properties. The obtained results are explained in terms of compatibility between PLA and kraft lignin with or without acetylation.