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Synthesis and characterization of starch-g-PE copolymer using ethylene carbonate

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Abstract

The banana starch reaction with polyethylene using ethylene carbonate was carried out by varying the starch/ethylene carbonate mass ratio (50–1000%). The starch-g-PE mass yield reached 89% mass conversion and a grafting yield of 0.52 when a starch/EC = 0.5 ratio was used, while the mass yield decreased until reaching a value of 26% when the starch/EC mass ratio increased. The final product was characterized by different instrumentals techniques to