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Structural, thermal, rheological, morphological and mechanical properties of polypropylene functionalized in molten state with maleinized hyperbranched polyol polyester

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Highlights

- The FD determined by gravimetric and IR analyses presented a good correlation.
- The functionalization degree was 9.10 wt%
- The greatest reduction in value of the contact angle was 26.4°.
- None of the PP-*g*-MHBP presented a transition from viscous to elastic.

Abstract

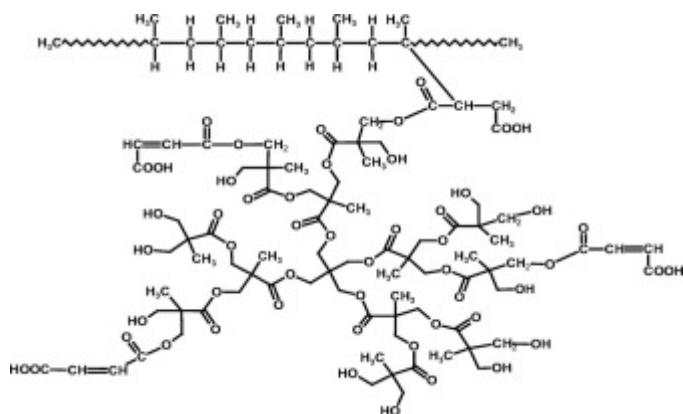
In a previous study, we realized the functionalization of polypropylene (PP) with maleinized hyperbranched polyol polyester (MHBP) by using dicumyl peroxide (DCP) as an initiator for obtaining the PP-*g*-MHBPs. This process was carried out in solution (it is not environmentally friendly). Therefore, in the present work was realized the synthesis in a molten state (free of organic solvent). The acid value (AV) of the PP-*g*-MHBP wa

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tensile strength and, the elongation at break of the PP-g-MHBPs were independent of the FD and DCP content.

Graphical abstract

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Keywords

Polypropylene; Hyperbranched polyester; Functionalization; Properties

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