Graft Copolymers

Subjects: Polymer Science

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Graft Copolymers are branched macromolecules in which side chains of one composition grow from a backbone of another, so the two components stay covalently joined but phase-separate locally [1]. Poly(3-hydroxyalkanoate) grafts have been reviewed across synthesis routes, properties and end uses [1]. Polyisobutylene-polyester grafts combine a rubbery backbone with hydrolytically labile side chains, and their degradation follows from that architecture [2]. Branched polystyrene-graft-polyfluorene copolymers carry optoelectronic function in the side chains while the backbone sets film quality [3]. Grafting onto starch yields a material with semiconducting behaviour, the polysaccharide providing the scaffold [4]. Molecular design of block and graft copolymers containing polyoxyethylene segments shows how branch length and density control the final morphology [5].

graft copolymer | branched polymer | backbone | side chain | grafting | phase separation

References

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