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研究论文

用聚合--溶解--析出法制备强疏水性聚酯

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摘要: 以聚对苯二甲酸乙二酯(PET)为分子链主要成分, 引入第三单体聚羟基氟硅油(FGX), 共聚出疏水改性共聚酯(MPET)。用^{1}H--NMR、ESCA对MPET进行表征, 研究了溶解--析出条件对MPET材料表面形貌、疏水性能及力学性能的影响。结果表明, 样品表面结晶析出粒子的形状和疏水效果与溶解时间相关。用溶解--析出法制备的强疏水聚酯具有与荷叶相类似的微纳米阶层结构。

关键词: 有机高分子材料 强疏水性聚酯 聚合--溶解--析出法 微观结构

A High－hydrophobic Polyester Prepared by Polymerization－Dissolution－Precipitation Method

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Abstract: Hydrophobically－modified polyester (MPET) was synthesized by employing poly(ethylene terephthalate) (PET) as the major components of molecular chain and hydroxy－fluorosilicone polymer (FGX) as the third monomer, was characterized by 1H－NMR and ESCA, and the influence of dissolution－precipitation factors on the surface morphology, hydrophobicity and tensile strength were investigated. It was found that the likeness of the surface particles and the hydrophobicity of the samples were connected with the dissolving time. The high－hydrophobic polyester prepared by dissolution－precipitation method has the similar micro－ and nanostructured surface to loft surface.

Keywords: organic polymer materials high－hydrophobic polyester polymerization－dissolution－precipitation microstructure

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