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基于4-辛氧基联苯酚-3,5-二氨基苯甲酸酯的 聚酰亚胺的合成及性能研究

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摘要： 利用4-辛氧基联苯酚-3,5-二氨基苯甲酸酯(C8)、3,3'-二甲基-4,4'-亚甲基二苯胺(DMMDA)以不同比例与4,4-氧双邻苯二甲酸酐(ODPA)一步法聚合制得第一体系不同二胺含量的聚酰亚胺(PI)。研究了二胺含量对PI的溶解性、取向性、预倾角和热稳定性的影响。用C8、DMMDA以相同比例与ODPA、均苯四甲酸酐(PMDA)、3,3',4,4'-二苯甲酮四羧酸二酐(BTDA)一步法反应,制得第二体系不同二酐结构的PI,研究了二酐结构对PI溶解性和热稳定性的影响。

关键词： 聚酰亚胺 溶解性 取向性 预倾角 热稳定性

Properties and Synthesis of Polyimides Based on 4-Octyloxy-Biphenyl-3,5-Diaminobenzoate

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Abstract: The first series of polyimides with different ratio of side chain were copolymerized from 4-octyloxy-biphenyl-3,5-diaminobenzoate(C8),3,3'-dimethyl -4,4'-methyl-enedianiline (DMMDA) and 4,4-oxydiphthalic(ODPA) via one-step method.The effect of the diamine content of these PIs on their solubility,alignment,pretilt angle and thermal stability was investigated. Similarly,the second series of polyimides with different main chain were copolymerized from C8,DMMDA and different dianhydrides which include ODPA,pyromellitic dianhydride (PMDA),3,3',4,4'-dibenzophenonetetracarboxylic dianhydride (BTDA) via one-step method. The effect of dianhydride structure on the solubility and thermal stability was explored.

Keywords: polyimides solubility alignment pretilt angle thermal stability

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