

عنوان مقاله:

Preparation and Properties of new Thermally stable Polyamides

محل انتشار:

نهمین کنگره ملی مهندسی شیمی ایران (سال: 1383)

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خلاصه مقاله:

A series of new polyamides was prepared from new diacid containing sulfone, ether, amide and imide groups with various aromatic diamines. Novel diacid was synthesized via four steps, starting from reaction of 4-aminophenol with 4-nitrobenzoyl chloride in the presence of propylene oxide afforded N-(4-hydroxy phenyl)-4- nitrobenzamide(HPNB). In the second step, reduction of nitro group resulted in preparation of 4-amino-N-(4-hydroxy phenyl) benzamide (AHPB). In the next for the preparation of diamine the reaction of AHPB with bis-(4-chloro phenyl)sulfone) in the presence of K₂CO₃ was achieved. The prepared diamine was reacted with two moles of trimellitic anhydride to synthesize related sulfone-ether-amide-imide diacid (SEAID). The precursors and final monomer were characterized by FTIR, HNMR and elemental analysis. Direct polycondensation reaction of SEAID with different diamines in the presence of triphenyl phosphite afforded five different polymer (sulfone-ether-amideimide amide)s. The obtained polymers were fully characterized and their physical properties including thermal behavior, thermal stability, solubility, and inherent viscosity were studied.

کلمات کلیدی:

thermal property; polyamide; polycondensation

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