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Intrinsic viscosity and chemical compositionof the polyanhydridepoly(Sebacic acid-co-Azelaic acid) synthesized by microwave irradiation

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Abstract: Poly(Sebacicanhydride:azelaicanhydride) poly(SA:AA) wassynthesizedbymicrowaveirradiation at three molar rations (25:75, 50:50 and 75:25) and irradiation times of 3 to 5 minutes. Theintrinsicviscosity of poly (SA:AA) at molar ratio of 50:50 at 5 minutes washigheraccordingwithequations of Huggins, Kraemer, solomon-Ciutaand Martin. Thechemicalcomposition and morphology of thispolymerwasanalyzedbyinfraredspectroscopy FTIR, nuclear magneticresonance (NMR) and scanningelectronmicroscopy (SEM). Anhydride bond wasfound in twoabsorptionbands at 1742 and 1812 cm^{-1}. Acetylgroupswascorroborated at 2.4 ppm by ^{1}H NMR spectrum. In addition, the SEM imagesshowedtheformation of a compact material withoutpresence of porositiesormicrocanalsonitssurface, suggestingtheformation of a homogeneouscopolymer.
Keywords :polyahydride, sebacicacid, azelaicacid, Microwave, irradiation, intrinsicviscosity.

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