

Synthesis and characterization of aromatic polyamide having pendant ethoxycarbonyl group

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A new type of aromatic polyamides having benzoxazinone or quinazolinedione unit in the main chain were synthesized by solution polymerization of aromatic dicarboxylic acid halides and various aromatic diamines with pendant carboxylic acid derivatives in ortho position. The open-chain prepolymers of high molecular weight were obtained by low temperature solution polymerization technique in the first step. The prepolymers were subsequently undergone thermal cyclization along the polymer chain at 200-350°C in the second step. Thermal, mechanical and solution properties of cyclized and uncyclized aromatic polyamides will be discussed.