

## Synthesis and Characterization of New Polyesters Based on Diarylidene-1-Methyl-4-Piperidone

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**Abstract :** New interesting thermal stable polyesters containing 1-methyl-4-piperidone moiety in the main chain have been synthesized. These polyesters were synthesized by interfacial polycondensation technique of 3,5-bis(4-hydroxybenzylidene)-1-methyl-4-piperidone (I) and 3,5-bis(4-hydroxy-3-methoxy benzylidene)-1-methyl-4-piperidone (II) with terphthaloyl, isophthaloyl, 4,4'-diphenic, adipoyl and sebacoyl dichlorides. The yield and the values of the reduced viscosity of the produced polyesters were found to be affected by the type of an organic phase. In order to characterize these polymers, the necessary model compounds (A), (B) were prepared from (I), (II) respectively and benzoyl chloride. The structure of monomers (I), (II), model compounds and resulting polyesters were confirmed by IR, elemental analysis and <sup>1</sup>HNMR spectroscopy. The various characteristic of the resulting polymers including solubility, thermal properties, viscosity and X-ray analysis were also studied.

**Keywords :** synthesis, characterization, new polyesters, chemistry

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