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
of

Chemistry

Synthesis and Properties of Novel Photosensitive Poly(amide-imide)s Containing Chalcone Moiety and Aromatic Diamines in the Main Chain

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Abstract: Six new poly(amide-imide)s were synthesized by the polycondensation reaction of 1,3-bis[4,4'-bis(trimellityimido) phenyl]-2-propenone (6) with 3,3'-diamino diphenyl sulfone (7a), 4,4'-diamino diphenyl sulfone (7b), 4,4'-diamino diphenyl ether (7c), 1,5-diamino naphthalene (7d), 6-phenyl-1,3,5-triazine (7e), and 6-choloro-1,3-diazine (7f) in a medium consisting of N-methyl-2- pyrrolidone, triphenyl phosphite, calcium chloride, and pyridine. The polycondensation reaction produced a series of novel poly(amide-imide)s (8a-f) in high yield and with inherent viscosities between 0.42 and 0.62 dL/g. The resulting polymers were characterized by elemental analysis, viscosity measurement, solubility testing, thermogravimetric analysis (TGA & DTG), FT-IR, and UV-VIS spectroscopy.

Key Words: Chalcone moiety; poly(amid-imide)s; 4,4'-diamino chalcone; 1,3-bis[4,4'-bis(trimellityimido) phenyl]-2-propenone.

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