SYNTHESIS OF SOLUBLE POLY(PERYLENECARBOXIMIDES)

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Perylene polyimides are one of the best candidate polymers in high technologies for new materials offering advanced thermal and photochemical stability, optical conductivity, and electrographic and other special properties. On the other hand, it is well known that aromatic polyimides generally show rather poor solubility in organic solvents, especially for those derived from rigid dianhydrides.

The aim of this study is to synthesize and characterize soluble perylene polyimides. With this respect perylene diimide, $G\text{-PDI}$ and poliimide, $G\text{-PPI}$ were synthesized [1]. The products were purified by flash chromatography on silica gel and characterized by UV-Vis, IR, NMR, MS, GPC, DSC, TGA and CV measurements. The TGA results revealed that perylene polyimides are much more stable than the perylene diimide even with long chain substituents. The perylene polymer, $G\text{-PPI}$ is highly soluble in organic solvents and capable to form films.

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