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n-TYPE POLYIMIDES INCORPORATING OXADIAZOLE AND PERYLENE FLUOROPHORES

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Abstract

The main topic of this study is the photo-optical and electrochemical behavior of a series of fluorinated copolyimides containing both oxadiazole and perylene moieties in the main chain. The polymers prove a strong photo-optical stability on a large temperature domain and display different types of photoluminescent behavior in solution and in solid state, with emission maxima in the bluish and green–yellow domains. Cyclic voltammetry investigations suggest that the polymers can be easily n-doped and show very good electron injection and transport characteristics. The polymers are suitable for application as thermally stable, light-emitting and electron transporting materials for opto-electronic devices.

Key words: electrochemistry, films, optical properties, optoelectronic applications, polyimides

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