P-148 POLYMER COMPOSITE MATERIALS BASED ON POLYPHENYLQUINOLINES: THE STRUCTURE AND PHOTOPHYSICAL PROPERTIES

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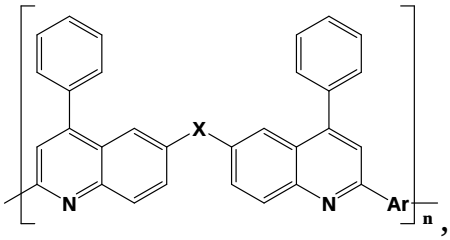
Polyphenylquinolines (PPQs) - polymers of chemical structure:



where (X= -O- or =NPh) are bridging groups between quinoline rings and (Ar) is alkyl substituted carbazole or indolocarbazole in the polymer repeating unit were synthesized. The following three types of the composite materials based on these PPQs were prepared.

1. A composite mixture of PPQs of different chemical structure. Variation of the structure made it possible to vary the polymer photoluminescence over a wide range of wavelengths and intensities;
2. Compositions of PPQ and 2,1,3-benzothiadiazole low-weight molecules as an electron acceptor. The preparation of such composites allows us to regulate the drift mobility of charge carriers;
3. PPQ introduced into various polymer matrices: **poly(methyl methacrylate)**, poly(vinylcarbazole), polystyrene, **poly(vinyl alcohol-vinyl acetate) copolymer.** The preparation of such composites provides tuning chromaticity coordinates (CIE 1931) of electroluminescent devices in a wide range including to white light.

We consider the correlation between optoelectronic properties and chemical structure of the **synthesized** PPQ polymers including their compositions and suggest recommendations on promising structures of PPQ for use in optoelectronic devices [1-3].

References

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