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Progress and perspective of iridium-containing phosphorescent polymers for light-emitting diodes

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Abstract

Phosphorescent polymer light-emitting diodes (PhPLEDs) have become the subject of intensive investigation due to their promising applications for displays and lighting. This review presents recent progress in single iridium-containing phosphorescent polymers for PhPLEDs according to their different emitting colors. These phosphorescent polymers are further classified as main chain, side chain, and chelating-types based on the manner in which the host and dopant units are connected. The relationship between the polymer structures and electroluminescence properties is the main focus of this review. Finally, some important rules for designing new efficient phosphorescent polymers are discussed.

Keywords: phosphorescent polymer light-emitting diodes; iridium(III) complex; triplet emitters

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