

Title (en)

MODIFICATION OF POLYMER OPTOELECTRONIC PROPERTIES AFTER FILM FORMATION IMPURITY ADDITION OR REMOVAL

Title (de)

ÄNDERUNG DER OPTOELEKTRONISCHEN EIGENSCHAFTEN EINES POLYMERS NACH DER BILDUNG EINER DÜNSCHICHT, DER ZUGABE ODER ENTFERNUNG VON VERUNREINIGUNGEN

Title (fr)

MODIFICATION DES PROPRIETES OPTOELECTRONIQUES D'UN POLYMERE APRES FORMATION D'UNE COUCHE MINCE PAR ADDITION OU ELIMINATION D'IMPURETES

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9953529A2] The methods of this invention involve modification of the properties of an organic film after it has been deposited by either adding new components into it from its top or bottom surface, or by causing components to leave the film from its top or bottom surface. In the examples of these methods, the emitting color of light-emitting diodes are modified based on doped polymers by locally introducing dopants causing different color emission into the film by local application of a solution containing the desired dopant to the film surface (by ink jet printing, screen printing, local droplet application, etc.). This overcomes difficulties encountered with the direct patterning of three separately formed organic layers (each which uniformly coats an entire surface when formed) into regions for separate R, G, and B devices due to the sensitivities of the organic materials to chemicals typically used with conventional patterning technologies. Alternatively, dopants may be introduced in an organic film by diffusion from one layer into the film. Alternatively, dopants may be selectively removed from a film with solvents, etc.

[origin: WO9953529A2] The methods of this invention involve modification of an organic film after it has been deposited by either adding new dopants into it from top or bottom surface, or by causing dopants to leave the film from its top or bottom surface. In the examples of these methods, the emitting color of light emitting diodes are modified based on doped polymers by locally introducing dopants causing different color emission into the film by local application of a solution containing desired dopant to the film surface (by ink-jet printing, screen printing, local droplet application, etc.). This covers the difficulties of encountered with direct patterning of three separately formed organic layers (each which uniformly coats an entire surface when formed) into regions for separate R, G, and B devices due to sensitivities of the organic materials to chemicals typically used with conventional patterning technologies. Alternatively, dopants may be introduced in an organic film (16) by diffusion from one layer (18, 19) into the film (16). Alternatively, dopants may be selectively removed from a film with solvents, etc.

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