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AROMATIC POLYIMIDE BASED ORGANIC LIGHT-EMITTING DIODE, H. LIM, W. J. CHO, C. S. HA(Dept. of Polym. Sci. & Eng.. Pusan Nat'l Univ., Pusan 609-735, Korea), Y. KIM(Electronic Materials Research Lab., Institute for Adv. Eng., Yongin P.O. Box 25, Kyonggi-do 449-020, Korea) and J. G. LEE (Electronic Materials Research Lab.. Institute for Adv. Eng. / Dept. of System Eng., Ajou Univ., Suwon 442-800, Korea)

Recently, there have been extensive researches on organic light-emitting diodes (OLEDs) with the aim of achieving high luminous efficiency, stability or durability, and full color emission. However, the device stability is one of the most important requirments to commercialize the OLED. We have reported that polymeric light-emitting diodes using polyimide layer were successfully prepared and more stable than any other devices because of the outstanding properties such as high thermal stability, low thermal expansion, and high mechanical modulus. In the present study, aromatic polyimides were used as an common organic layer to give high stability of OLED. The related device performances such as J-V-L, electroluminescent spectra, and the durability will be discussed here.

P-074

ORGANIC ELECTROLUMINESCENT DEVICES HAVING POLYMERIC NETWORK STRUCTURE, J. H. KEUM, W. J. CHO, C. S. HA(Dept. of Polym. Sci. & Eng., Pusan Nat'l Univ., Pusan 609-735, Korea), Y. KIM(Electronic Materials Research Lab., IAE., Yongin P.O. Box 25, Kyonggi-do 449-020, Korea) and J. G. LEE (Electronic Materials Research Lab.. IAE. / Dept. of System Eng., Ajou Univ., Suwon 442-800, Korea)

Organic electroluminescent devices (OELDs) have attracted much attention due to their potential application for flat panel display. There have been extensive studies on OELDs to achieve high brightness and multicolor emission as well as the device durability. One of the serious problems in OELDs so far is low device stability under continuous operation owing to the intrinsically flexible and soft characteristics of the organic materials. We have already reported that the OELD using polyimide shows good thin film properties and high stability. In the present work, a polymeric network structure, as an alternative approach, was introduced to dissolve the stability problem. The detail characteristics of the polymeric network device will be discussed here.

P-075

ORGANIC LIGHT-EMITTING DEVICE USING THE BLEND OF POLYIMIDE AND POLY(9-VINYL CARBAZOLE), H. O. HA, W. J. CHO, C. S. HA (Dept. of Polym. Sci. & Eng., Pusan Nat'l Univ., Pusan 609-735, Korea), Y. KIM(Electronic Materials Research Lab., Institute for Adv. Eng., Yongin P.O. Box 25, Kyonggi-do 449-020, Korea) and J. G. LEE (Electronic Materials Research Lab., Institute for Adv. Eng. / Dept. of System Eng., Ajou Univ., Suwon 442-800, Korea)

To obtain thermally stable organic light-emitting device, the blend film of poly(9-vinylcarbazole) (PVK) and polyimide (PI) having high thermal stability, low thermal expansion, and good adhesion with metal was introduced as hole-transporting layer (HTL). The blend film was prepared via thermal imidization process of the soluble precursor of PI blended with PVK. The blend film was optically clear and showed high quality. As an emission layer (EML), organometallic complex dyes were vacuum deposited. Overall device structure was glass/anode/ HTL/EML/cathode. In the present work, we will discuss the electroluminescent spectra, luminous efficiency, current-brightness-voltage characteristics, lifetime and etc.

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SYNTHESIS OF SOLUBLE METAL PHTHALOCY -ANINE DE RIVATIVES AND APPLICATION FOR ORGANIC ELECTROLUMINESCENT DEVICES, S. H. JUNG, W. J. CHO, C. S. HA(Dept. of Polym. Sci. & Eng., Pusan Nat'l Univ., Pusan 609-735, Korea)

Metal phthalocyanine derivatives exhibit high electron transfer abilities, although they are insoluble in most common organic solvents, which has inhibited them from being employed in functional colorants that can take advantage of their useful electron transfer properties. But the solubility can be altered by substituting suitable functional group in the peripheral benzene rings of the phthalocyanine structure. Among the thermally stable soluble phthalocyanine compounds, amine groups substituted metal phthalocyanine derivaties are found to be promising. Though the amine derivatives of metal phthalocyanine have been previosly snthesized mostly for the preparation of inks, dyes and pigments, an efficient method was developed. And we used the phthalocyanine derivaties for making organic electrolumi -nescent divices by spin coating with poymer matrix.

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