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Author Sin-Wei Wang
Author's Email Address No Public.
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Abstract
For most of OLED devices, the injected holes are more mobile than the injected electrons under the same electric field. The unbalanced charge accumulation originated from excessive holes injection into the EML limits the efficacy of an OLED device.
In this study, OLEDs with co-host or single system of tris (8 – hydroxyquinoline) aluminum (Alq3) and bathocuproine (BCP) or bis(10-hydroxybenzo-[h]quinolinato) beryllium (Bebq2) as the electron transporting layer(ETL) were fabricated. The results showed the luminance efficiency of the co-host BCP is improved by 64%~90% compared to the OLEDs with single material as the electron transport layer. The device structure is ITO/NPB/Alq3/ETL/LiF/Al. The results proves that the co-host Alq3 and BCP is suitable for the ETL of organic light-emitting devices(OLEDs).
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