

## A study for improving efficiency of white organic light-emitting devices

Liu yanpeng, 이동현, 조성민\*  
성균관대학교  
(sungmcho@skku.edu\*)

Recently, white organic/polymeric light-emitting diodes (OLEDs/PLEDs) are attracting increasing attention because of their promising production of highly efficient large area light sources. The advantages of using white OLEDs/PLEDs are their light weight, mechanical flexibility, and low-temperature fabrication. We report high efficiency phosphorescent white organic light-emitting devices (WOLEDs) employing single emissive layer (EML) based on doped different hole transport materials and solution-process multilayer. Effective exciton/charge confinement and balanced recombination within EML was achieved by employing adequate interlayer, stepwise hole transporting layer (step HTL) system. This step HTL system lower driving voltage of WOLEDs, therefore Current efficiency was enhanced over 35.6%. Moreover, doped with TCTA, these WOLEDs showed maximum luminance of 24500cd/ m<sup>2</sup>, and maximum current efficiencies of 19.72cd/A without outcoupling enhancements.