

ENHANCED THE PERFORMANCES OF BLUE ORGANIC LIGHT EMITTING DIODE (OLED) BASED ON 4,4'-BIS(2,2'DIPHENYLVINYL)-1,1'- BIPHENYL (DPVBi).

Mohd Khairy Othman and Muhamad Mat Salleh

*Institute of Microengineering and Nanoelectronics (IMEN),
Universiti Kebangsaan Malaysia,
43600 Bangi Selangor.*

E-mail : mohd_khairi@yahoo.com

ABSTRACTS

Enhanced blue organic light emitting diode (OLED) has been observed from vacuum deposited of 4,4'-bis(2,2'diphenylvinyl)-1,1'-biphenyl (DPVBi) emitting material. The two-layer device structure consists of indium tin oxide (ITO)/PVK/DPVBi/Al has been studied. Here the indium tin oxide (ITO) used as anode, poly-9-vinylcarbazole (PVK) as hole transporting layer, 4,4'-bis(2,2'diphenylvinyl)-1,1'-biphenyl (DPVBi) as the blue emitting layer and Aluminum (Al) as the cathode. Optical properties of DPVBi thin film prepared from thermal evaporation technique were characterized using UV-VIS spectrophotometer. The performances of device were analyzed through current-voltage (IV) curve and the electroluminescent (EL) spectrum. The two-layer OLED device of ITO/PVK (98 nm)/DPVBi (56 nm)/Al (150nm) shows enhancement of blue light emission and better diodes behavior. The device shows blue emission at peak of 483 nm and the turn-on voltage are at 8.0 V.

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