

Organic Light Emitting Diode Performance of Tetra - Substituted Ethylene Derivatives Due to Anthracene Effect.

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We synthesized new bluish-green and sky-blue emitting materials, 1,1,2,2-tetrakis(4-tert-butylbiphenyl)ethane [TBBPE] and 1,1,2,2-tetrakis(4-(anthracen-9-yl)phenyl)ethene [TAPE]. TBBPE and TAPE film showed PL maximum value of 511 nm and 492 nm. TBBPE OLED device showed bluish-green C.I.E. value of (0.236, 0.412) and high luminance efficiency of 5.02 cd=A at 10 mA=cm². TAPE device also showed sky-blue C.I.E. value of (0.213, 0.323) and 3.17 cd=A at 10 mA=cm². It is found that TBBPE shows better luminance efficiency than TAPE and TAPE device exhibits relatively lower operating voltage and better C.I.E. value than TBBPE device.