

Synthesis and electrical Properties of Various Bicarbazyl Derivatives as HTL

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This paper reports a new HTL material that has high glass-transition temperatures (T_g) and excellent thermal properties. The synthesized material was N,N'-diethyl-3,3'-bicarbazyl (DEBC), N,N'-diphenyl-3,3'-bicarbazyl (DPBC) and N,N'-dinaphthyl-3,3'-bicarbazyl (DNBC). The device that used DPBC as HTL showed the highest efficiency of 4.95 cd/A and 2.22 lm/W at 10 mA/cm². This is an improvement by more than 10% from the luminance efficiency of NPB, a commercialized material.