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# Fabrication of solution-processed pure blue fluorescent OLED using exciplex host

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## ABSTRACT

Exciplex host in organic light-emitting diodes (OLEDs) can use radiative energy of upconverted singlet excitons by reverse intersystem crossing and thus transfer the energy to guest emission to effectively enhance the device performance. However, investigation of OLED with pure blue emission using exciplex host has rarely been reported. In this contribution, solution-processed OLEDs using exciplex host with pure blue fluorescence-type guest emission have been achieved. Through optimization of guest concentration, improved efficiency and blue-shifted electroluminescence spectrum of the OLED device was obtained. This study provides a method to fabricate efficient OLEDs with deeper blue emission for application in full-color display and white lighting source with high color rendering index.

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