Improvement in hole transporting ability and device performance in quantum dot light emitting diodes

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Figure S1. (a) Current density–voltage–brightness, (b) current efficiency–current density and (c) EQE–voltage characteristics of the device ITO/PEDOT:PSS/PVK/CdSe QDs/ZnO NPs/Al.
Table S1. Performance of the device ITO/PEDOT:PSS/PVK/ CdSe QDs/ZnO NPs/Al.

| Turn-on voltage $^a$ (V) | Max brightness [cd/m$^2$ @V] | Max current efficiency [cd/A @V] | Max EQE [% @V] |
|--------------------------|-------------------------------|----------------------------------|----------------|
| 5.3                      | 14,673 @7.56                  | 11.27 @7.5                       | 2.54 @7.5      |

$^a$ defined as the operating voltage when the brightness reached 1 cd/m$^2$.

Figure S2. (a) Current density–voltage–brightness, (b) current efficiency–current density and (c) EQE–voltage characteristics of the device ITO/PEDOT:PSS+0.5 wt% BYK-P105/PVK/CdSe QDs/ZnO NPs/PEIE/LiF/Al.
Table S2. Performance of the device ITO/PEDOT:PSS+0.5 wt% BYK-P105/PVK/CdSe QDs/ZnO NPs/PEIE/LiF/Al.

| Turn-on voltage \(^a\) (V) | Max brightness \([\text{cd/m}^2 @V]\) | Max current efficiency \([\text{cd/A @V}]\) | Max EQE \([\% @V]\) |
|---------------------------|-------------------------------|---------------------------------|-----------------|
| 3.8                       | 111,458 @9.9                  | 20.5 @6.5                       | 4.6 @6.5        |

\(^a\) defined as the operating voltage when the brightness reached 1 cd/m\(^2\).

Figure S3. Top-view SEM images of (a) PEDOT:PSS, (b) PEDOT:PSS+BYK-P105, (c) PVK and (d) PVK+BYK-P105 thin films.