

## Article

# Supporting Materials of Highly Efficient Perovskite Nanocrystal Light-Emitting Diodes via Inkjet Printing

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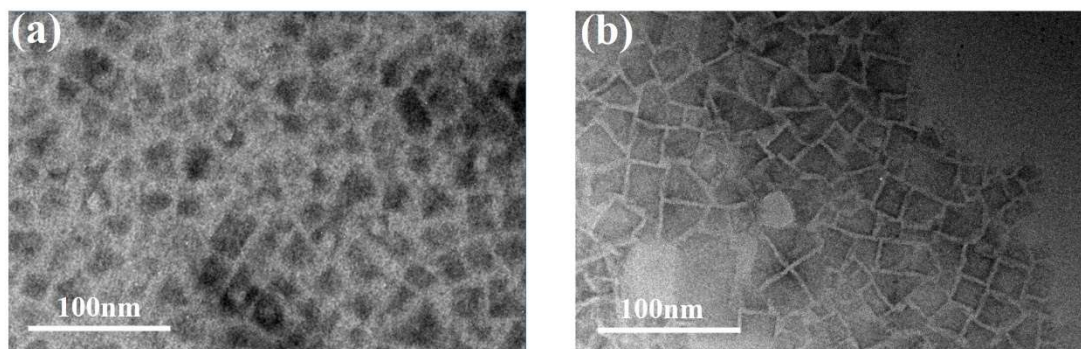
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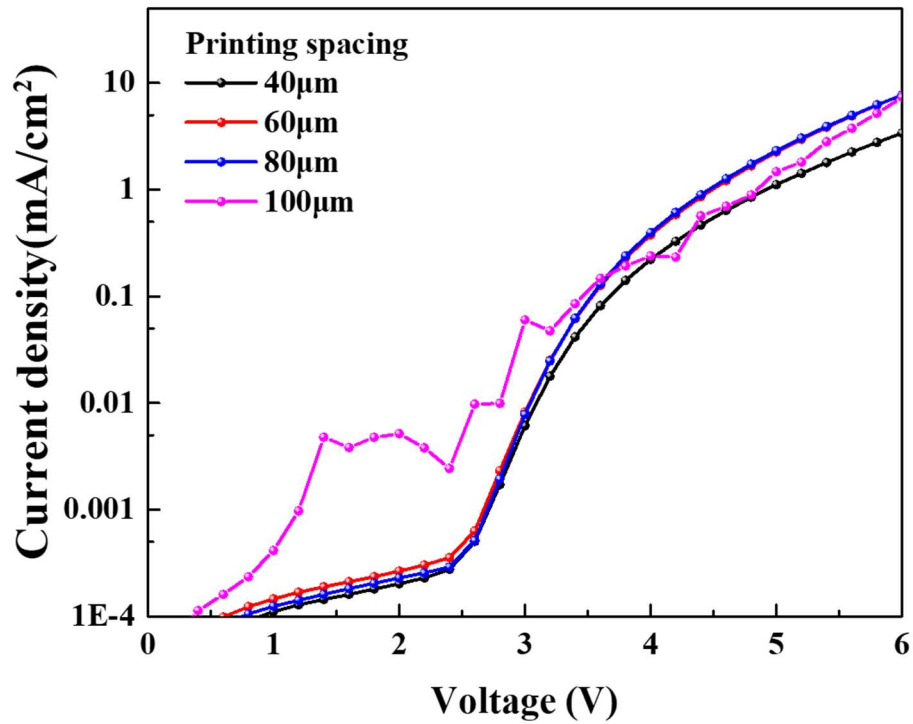
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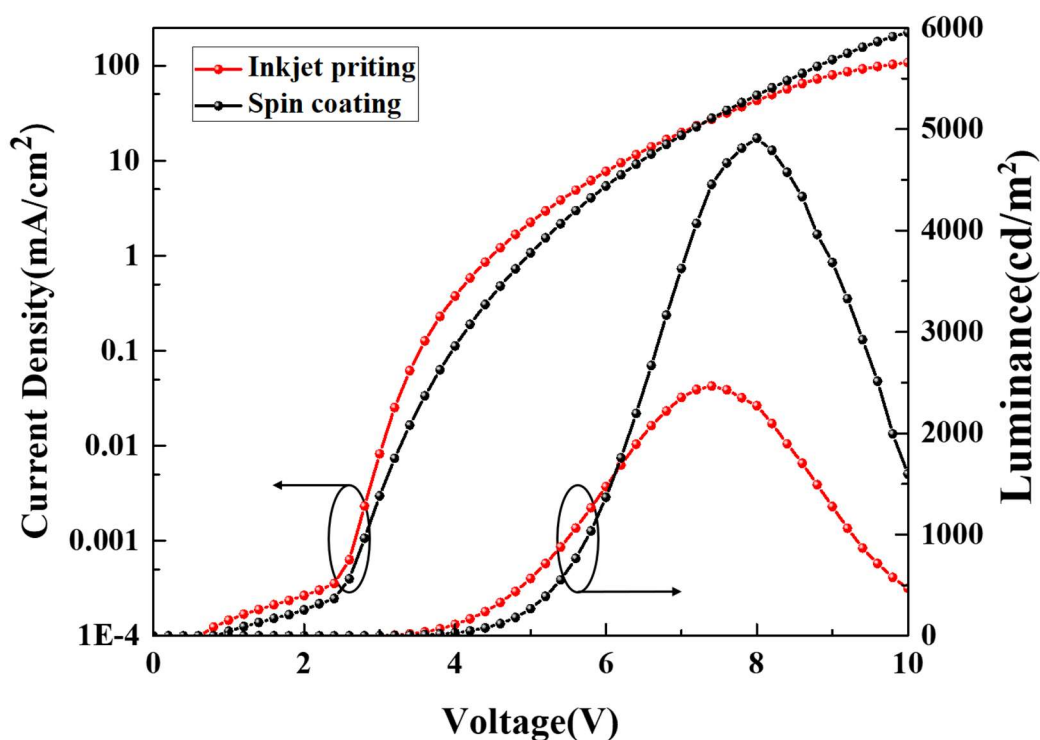
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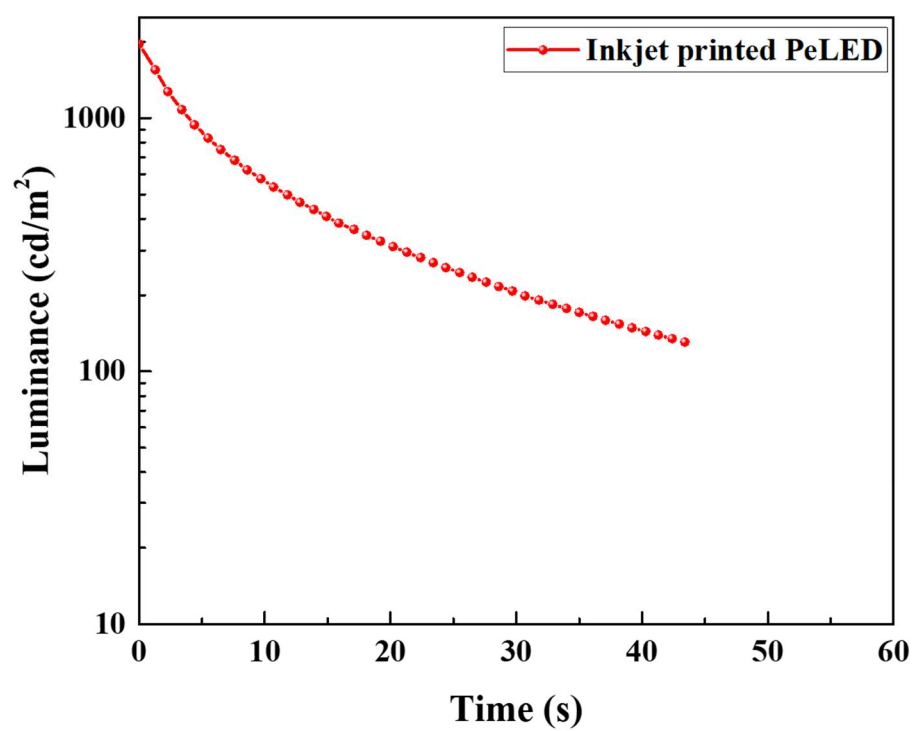
**Figure S1.** (a) TEM image of perovskite nanocrystal in ink; (b) TEM image of perovskite nanocrystal in initial solution.



**Figure S2.** Current density of printed PeLED devices with different print spacings of 40, 60, 80, and 100 μm at low voltage. At a print spacing of 100 μm, obvious current leakage was found between 1 and 3 V.



**Figure S3.** Device performance comparison between devices fabricated via inkjet printing and spin coating. As shown in this figure, the inkjet printing device had a lower turn-on voltage and higher current density when the applied voltage was lower than 6V, but the spin-coating device had a higher luminance than the inkjet-printed device. The possible reason for the performance difference is the slight dissolution of PVK layer due to the long residence time of ink. It may dissolve the PVK layer slightly and increase the contact area between the PVK and perovskite layer. This benefitted the carrier injection and reduced the turn-on voltage at a lower external voltage (<6V). However, the roughness of PVK layer increased at the same time, and more interface defects would therefore be generated, which would accelerate device degradation at high external voltage (>6V).



**Figure S4.** Luminance against the operation time of inkjet-printed PeLED under a constant current density of 10 mA/cm<sup>2</sup> and initial luminance of 2000 cd/m<sup>2</sup>.