

Noble intaglio transfer printing for high resolution ultrathin, wearable quantum dot LED array

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As smartphones with curved and/or flexible display are developed and various wearable devices are emerged as the next generation of electronic devices, the high resolution flexible and deformable display is getting important. However, previous light-emitting diodes (LEDs), such as organic LEDs or inorganic LEDs, still have practical challenges in terms of thick encapsulation and difficult 3D deformation. Here, we demonstrate ultrathin, wearable quantum dot LEDs with high resolution red-green-blue pixels. We suggest a novel transfer printing technique, intaglio transfer printing, to achieve highly precise, efficient, and aligned RGB pixels for pixelated white LEDs.