

Supplementary Materials

On the Luminescence Properties and Surface Passivation Mechanism of III- and N-Polar Nanopillar Ultraviolet Multiple-Quantum-Well Light Emitting Diodes

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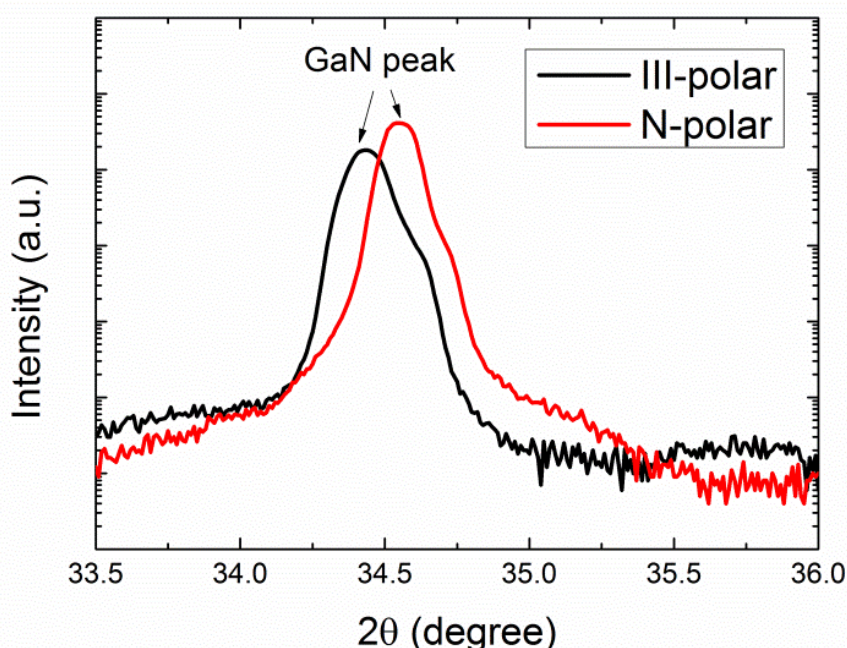


Figure S1. HRXRD symmetric ω -2 θ scans of III- and N-polar MQW samples.

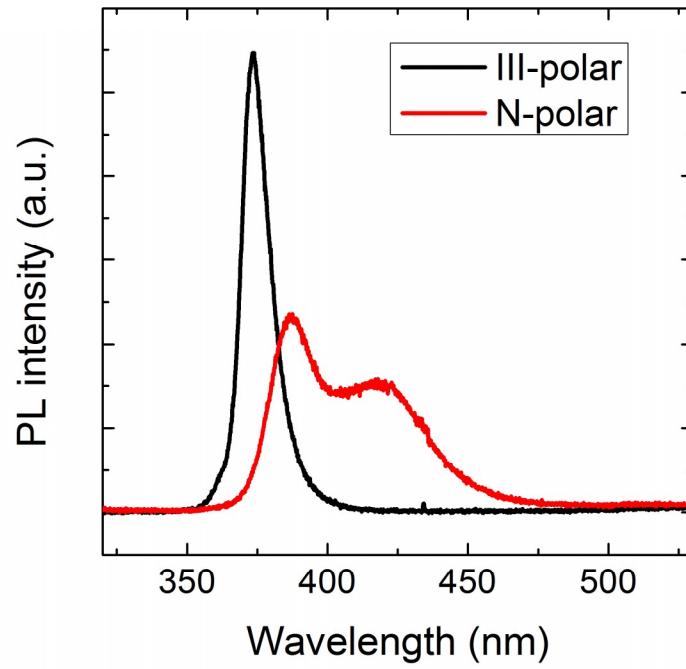


Figure S2. RT PL spectra of planar III-polar and N-polar MQW samples. Peak positions and shapes are almost identical to those of nanostructured samples.

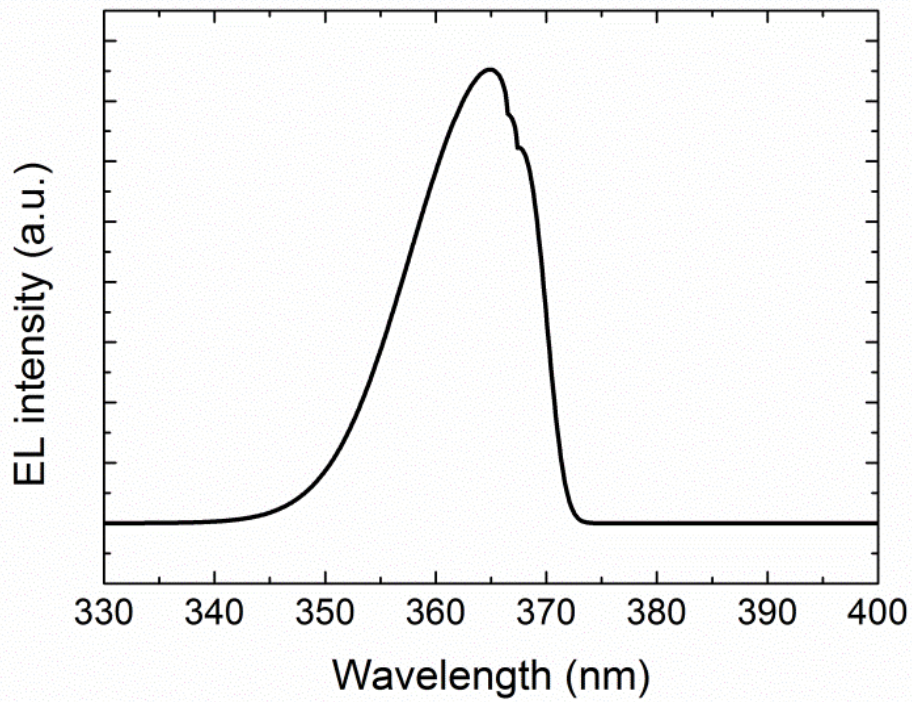


Figure S3. Simulated electroluminescence spectrum of UVA-LED with 3/11 nm $\text{In}_{0.03}\text{Ga}_{0.97}\text{N}/\text{GaN}$ MQW.

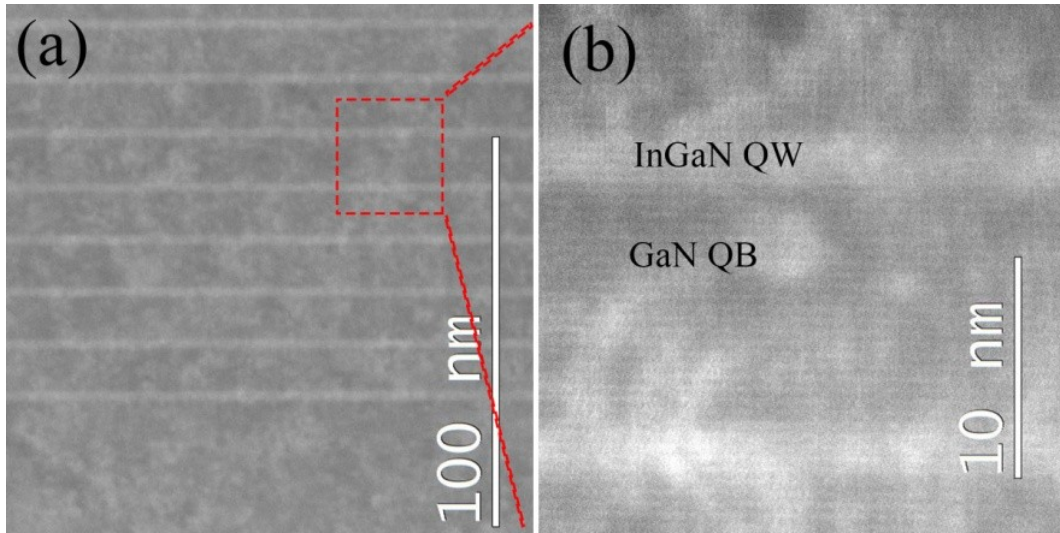


Figure S4. HAADF-STEM image of planar III-polar MQW samples with low magnification (a) and zoom-in view (b) of the individual QW and QB.

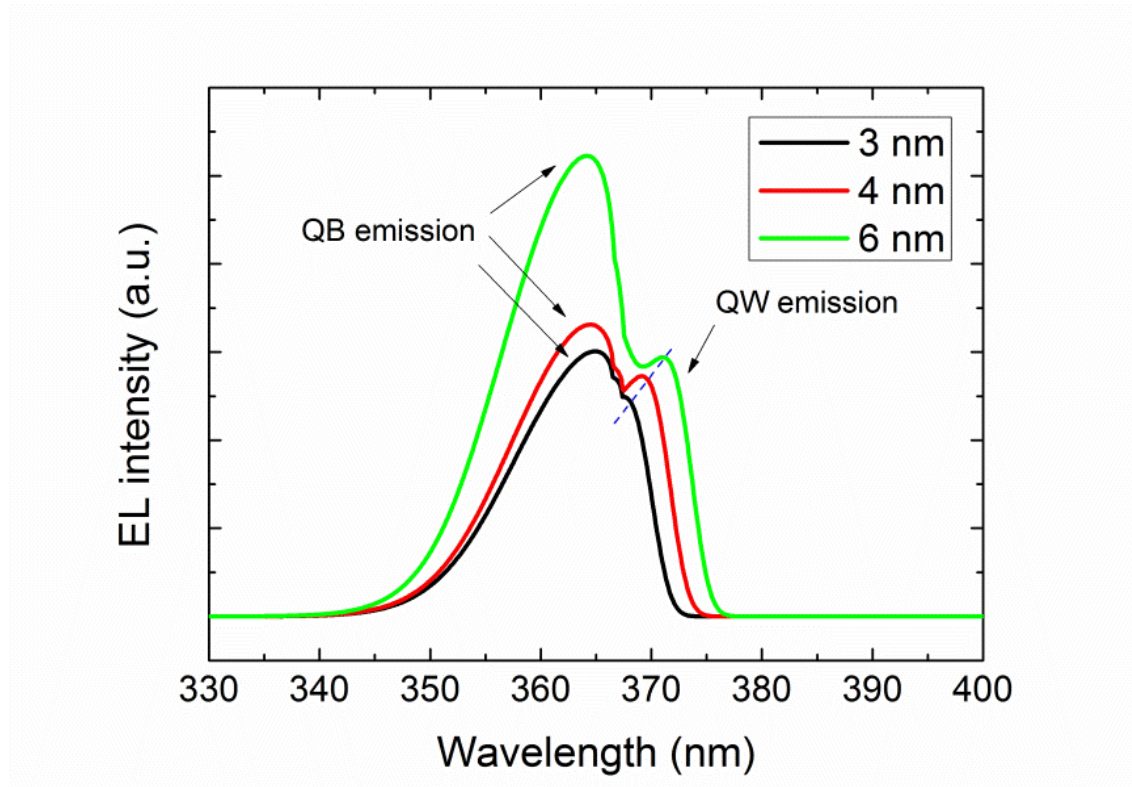


Figure S5. Simulated electroluminescence spectra of UVA-LED with $\text{In}_{0.03}\text{Ga}_{0.97}\text{N}/\text{GaN}$ MQWs of varying QW thicknesses. A small red shift of less than 7 nm is observed when doubling the QW thickness.