Electronic Supplementary Information

Nano-imprinting of refractive-index matched indium tin oxide sol-gel in light-emitting diodes for eliminating total internal reflection

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Supplementary figures, Fig. S1-S4
Figure S1. (a) Schematic illustration of photochemical etching of N polar GaN surface. (b) Nitrogen terminated layer with one negatively charged dangling bond on each nitrogen atom; (c) adsorption of hydroxide ions; (d) formation of oxides; (e) dissolving the oxides.
Figure S2. SEM images of nano-imprinted ITO sol-gel surfaces, as a function of the annealing temperature. The inset shows the cross-sectional images.
Figure S3. X-ray photoelectron spectra (wide scans) of as-coated, 300°C, and 500°C annealed ITO sol-gel films.
Figure S4. Fabrication flow of ITO sol-gel imprint, expressed as schematic illustrations and photographs.