

Supporting Information

Multi-wavelength light emission from InGaN nanowires on pyramid-textured Si (100) substrate grown by stationary plasma-assisted molecular beam epitaxy

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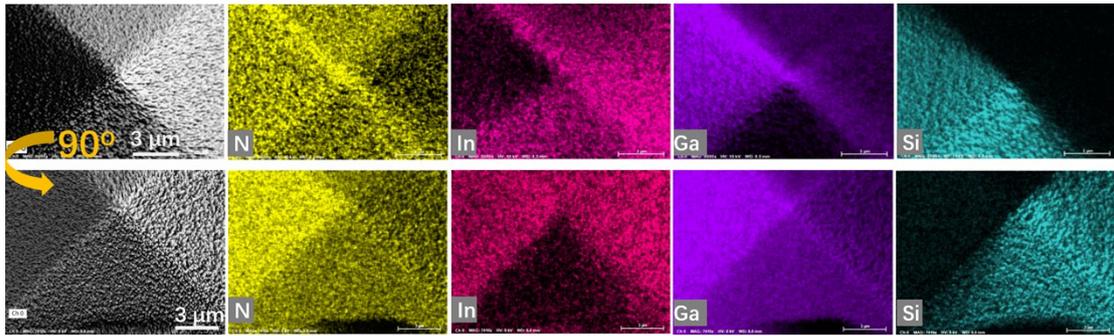


Figure S1. EDX element mapping results for 90° rotation of a sample grown at higher temperature

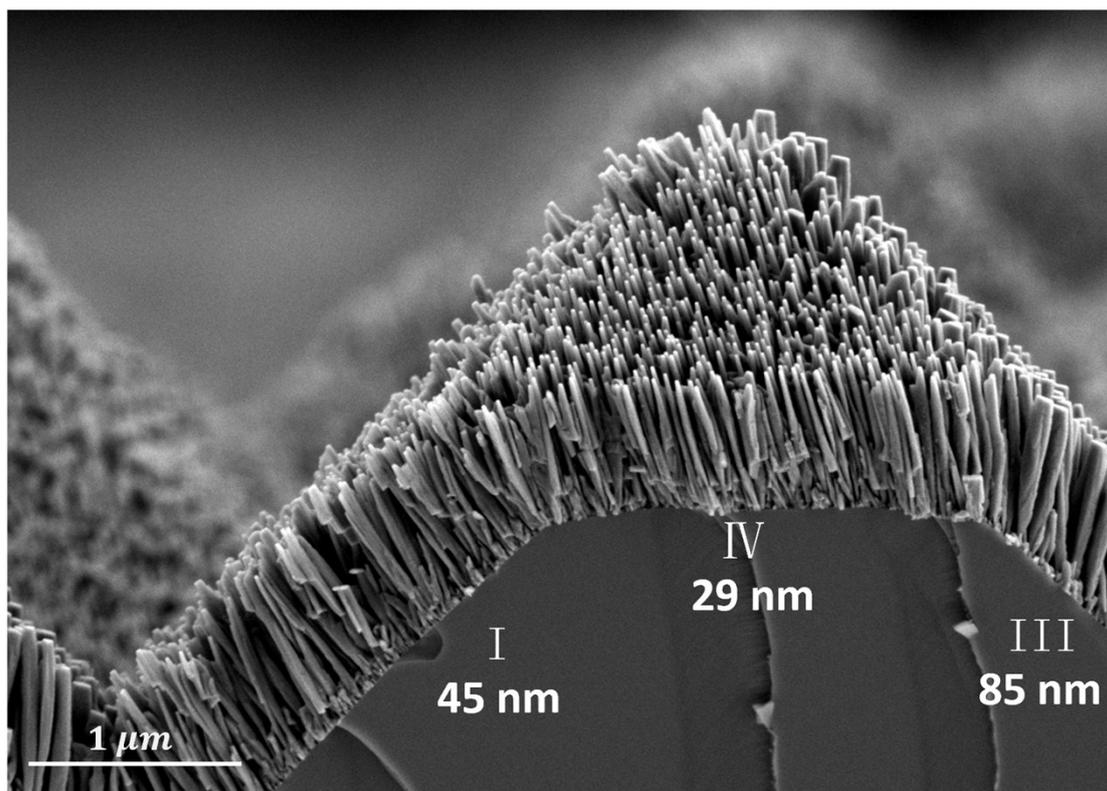


Figure S2. SEM cross-sectional image of the InGaN NWs on pyramid textured Si (100) substrate grown at 660°C. Three pyramid facets are exposed labeled I, III and IV, as in Fig. 3. The average nanowire diameter are also indicated. The pyramid shown here and that in Fig. 3 have similar size. Experimentally, pyramids of similar size exhibit similar In contents of the NWs on respective facets with variations well within the fluctuations of the In contents for individual facets.

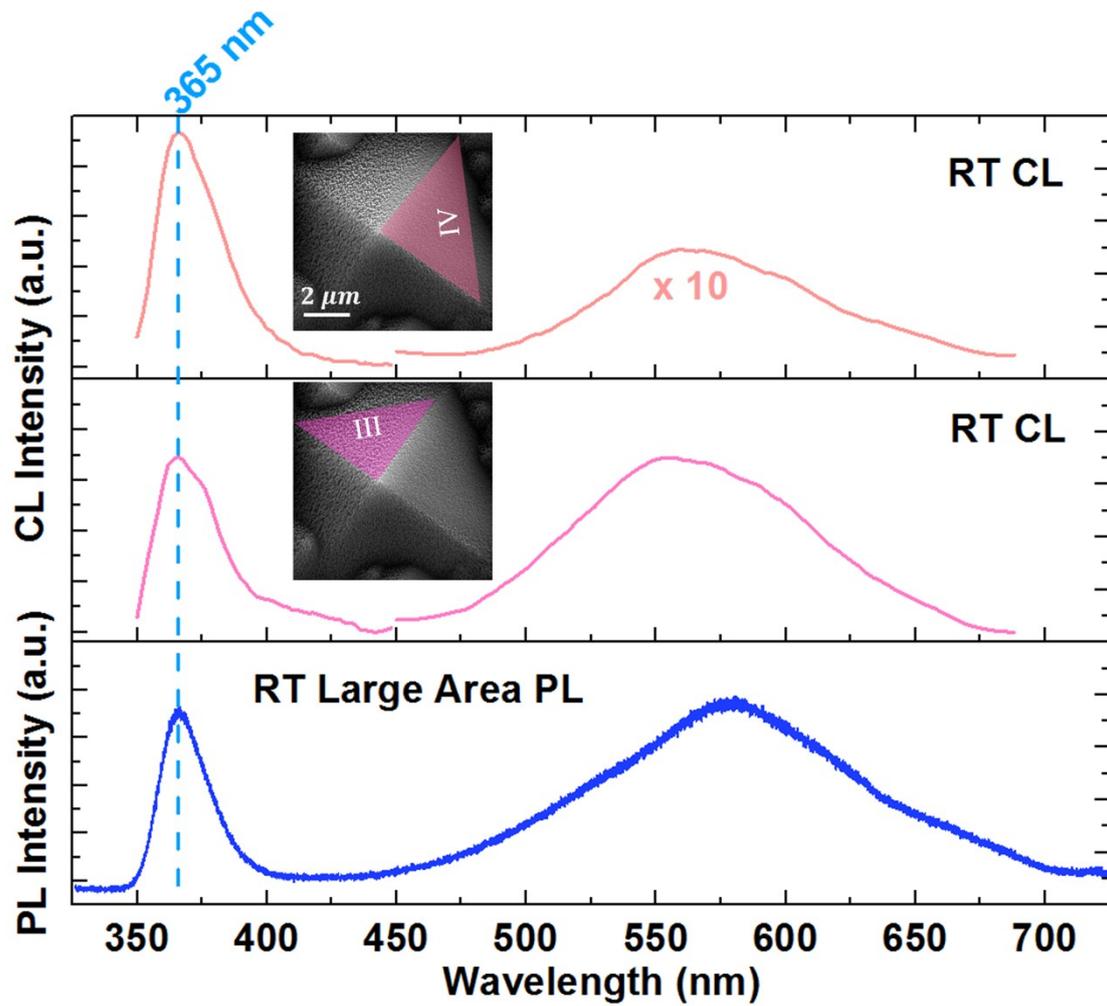


Figure S3. Extended range local area CL spectra taken at RT of InGaN NWs on Si pyramid facets IV (top) and III (middle), as indicated in the SEM images in the insets and in Fig. 6 (c). The emission peaked at 365nm is due to pure GaN. Extended range large area RT PL spectrum (bottom), supplementing the CL measurements.

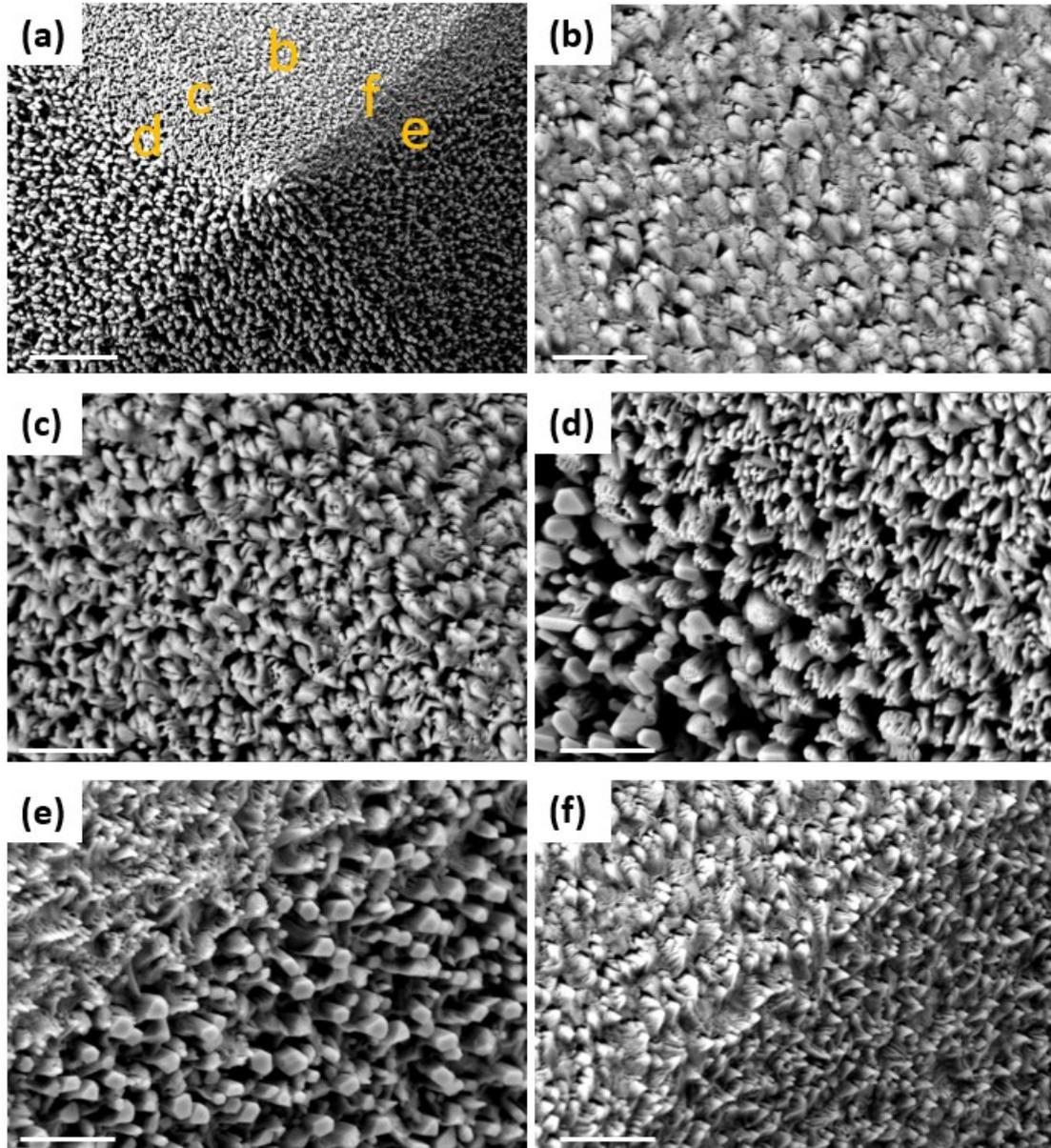


Figure S4. (a) SEM top-view image of InGaN NWs grown at 700°C on the Si pyramid in Fig. 8 (a) with larger magnification. (b-f) Zoomed-in SEM top-view images of the areas labeled b, c, d, e and f in (a). Scale bar indicate 2 μm in (a) and 0.5 μm (b-f).