

## Supporting Information

### The morphologies and optical properties of three-dimensional GaN nano-cone arrays

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#### Preliminary wet-etching experiments

The PL spectra of the sample firstly etched under 80W of ICP power and then dipped into 20% KOH aqueous solution at 50°C for 1, 3 and 5 minutes are shown in Fig. S1. It can be seen from Fig. S1 that the PL intensity of the GaN nano-cones wet-etched for 3 minutes is the largest.

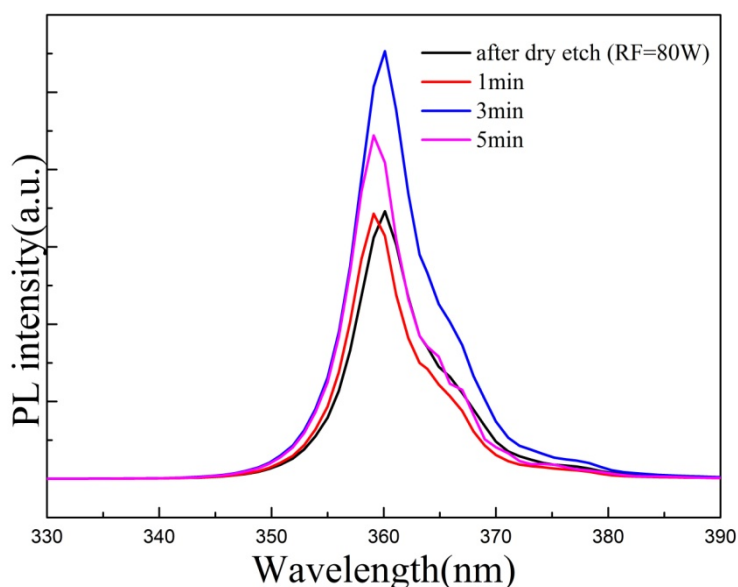


Fig. S1. PL spectra of GaN nano-cones treated with KOH aqueous solution for 1, 3 and 5 minutes, respectively.