Supplementary Information

GaN-based Vacuum Ultraviolet Detectors

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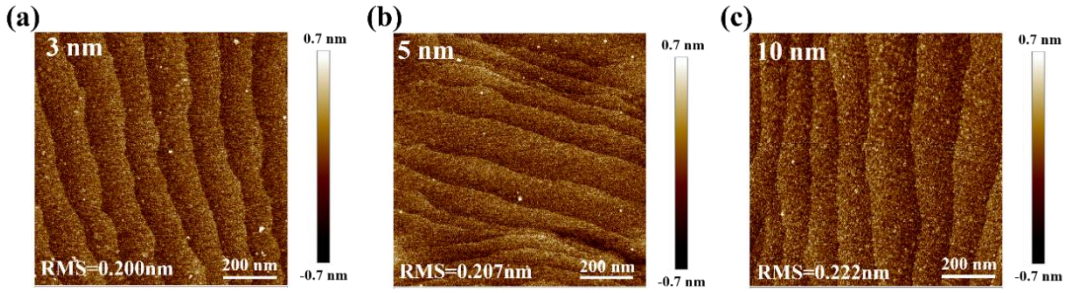

Fig. S1. (Color online) (a)~(c) AFM images with a scale of 1×1 μm^2 for the p-GaN after growing Al_2O_3 of different thicknesses. It can be seen that a relatively obvious step flow morphology is still visible on the surface after growing the three dielectric layer thicknesses. The roughness of the material surface is not significantly different from that before growth (~0.193 nm), and remains around ~0.2 nm, indicating that the material surface is still in a relatively smooth state and that the dielectric layer grown by ALD has good material quality.

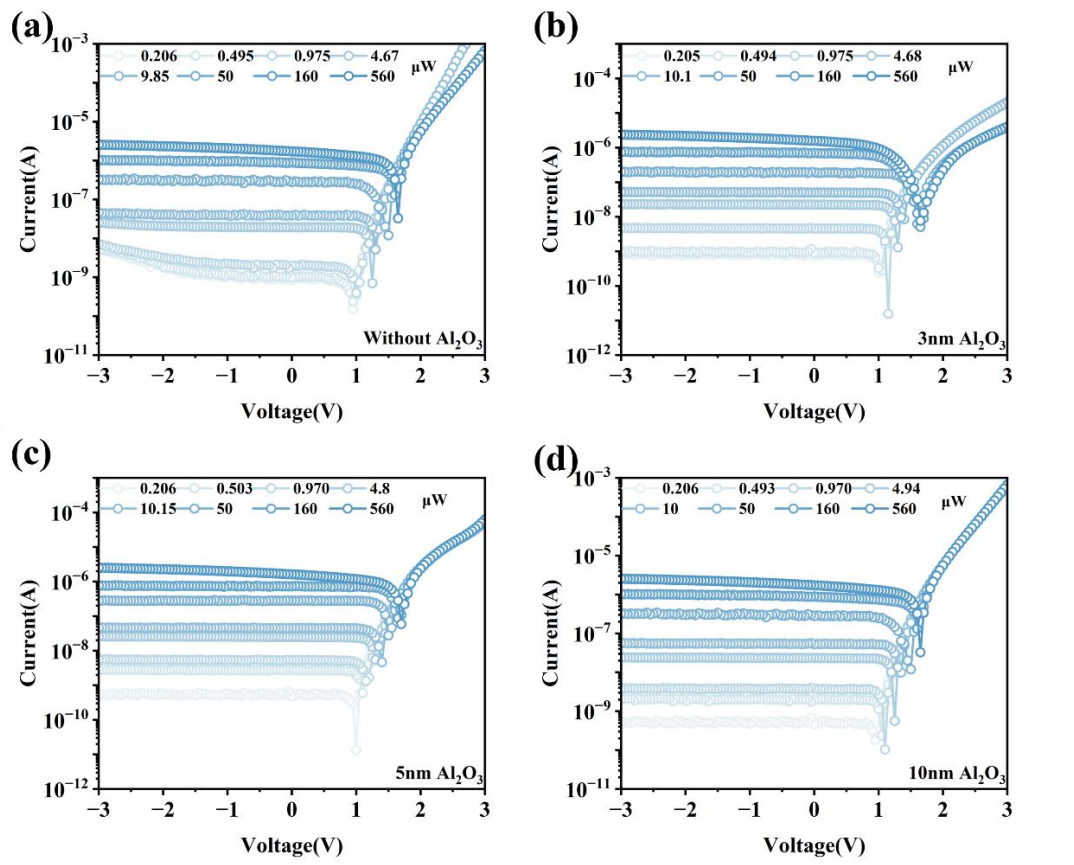

Fig. S2. (Color online) (a)~(d) I-V curves of the devices without Al_2O_3 layer and with different Al_2O_3 layer thickness under 193 nm illumination. The 193 nm laser optical power ranges from ~200 nW to ~560 μW. With increasing optical power, the I-V curves show an observable upward shift.