

Figure 1. XRD spectra of 500-cycle grown Ga_2O_3 films using 50 W deposition and 250 W *in-situ* Ar-annealing plasma powers at 240 $^\circ\text{C}$ on sapphire substrate. Inset shows the GIXRD spectra of 500-cycle grown Ga_2O_3 films under the same conditions while on Si and glass templates.

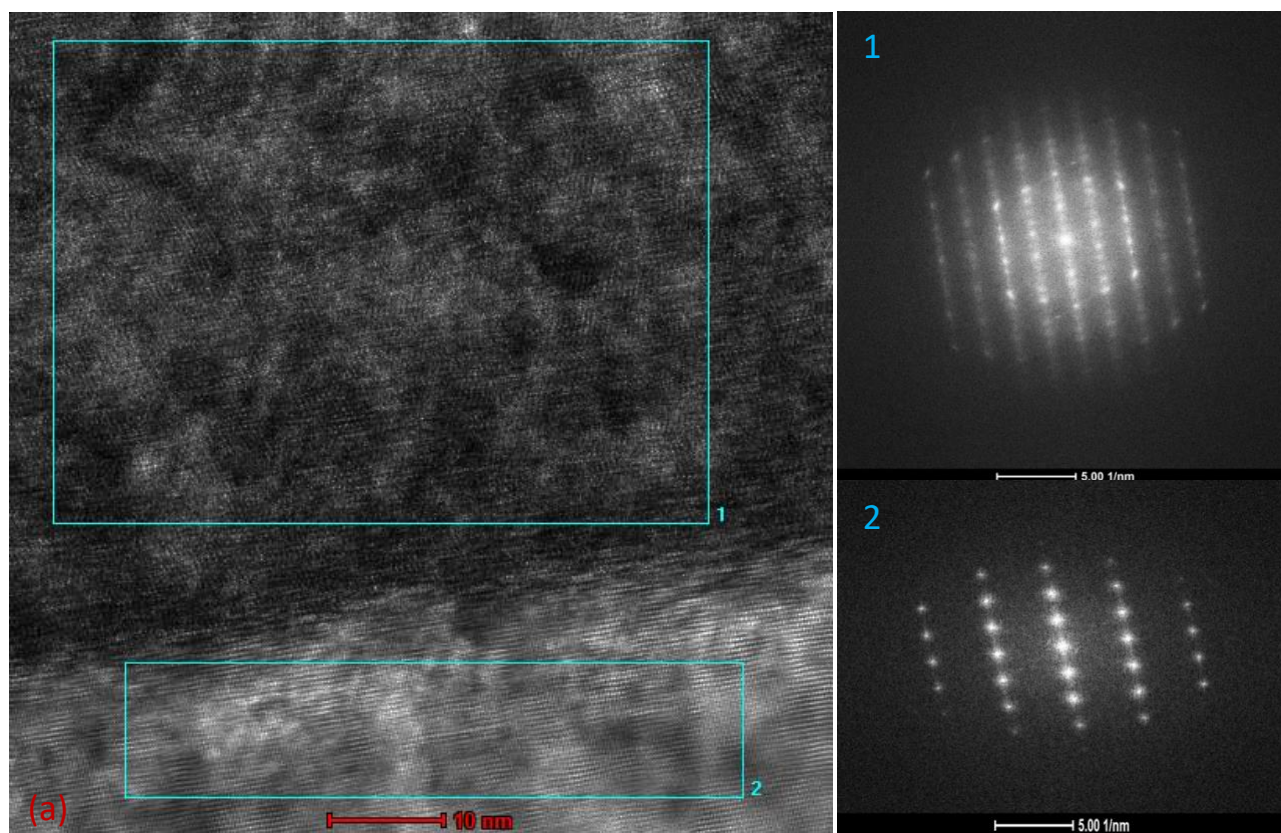


Figure 2. (a) HR-TEM micrograph of 500-cycle Ga_2O_3 sample grown at 240 $^\circ\text{C}$ substrate temperature on sapphire with 50 W Ar/O_2 plasma and 250 W *in situ* Ar-plasma annealing. Fast Fourier Transform (FFT) over the selected regions in (a), displaying dot-like patterns of the epitaxial structure (1) over the Ga_2O_3 layer and (2) over the sapphire substrate.