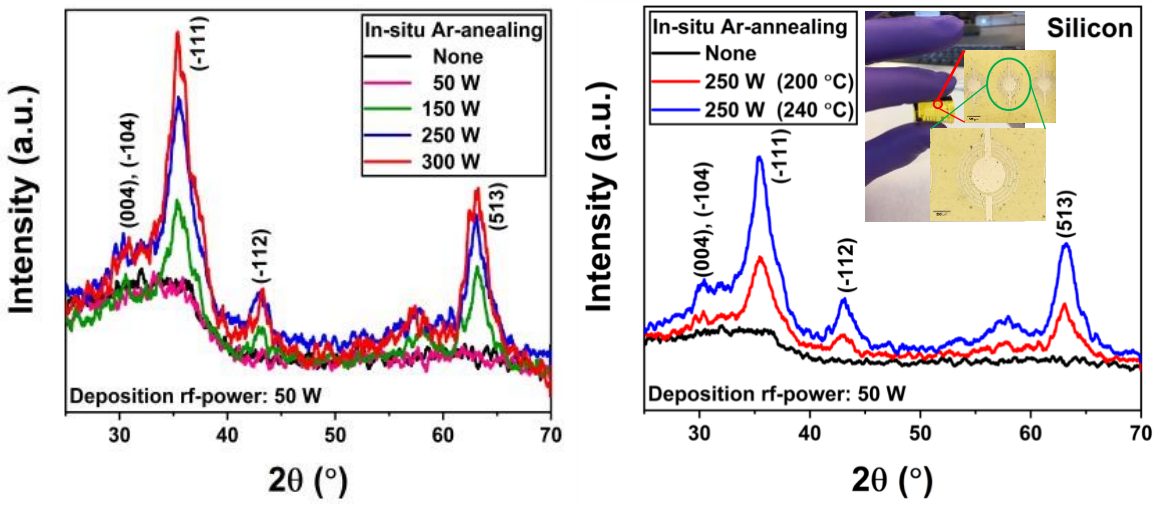

Figure 1. GIXRD spectra of 300-cycle grown Ga_2O_3 films at 50 W (a) with varying *in-situ* Ar-annealing plasma powers. (b) at 250 W *in-situ* Ar-annealing power as a function of changing substrate temperature. Inset in (b) shows a proof-of-concept inter-digitated device structures fabricated by growing Ga_2O_3 as an active layer on Kapton flexible substrate.

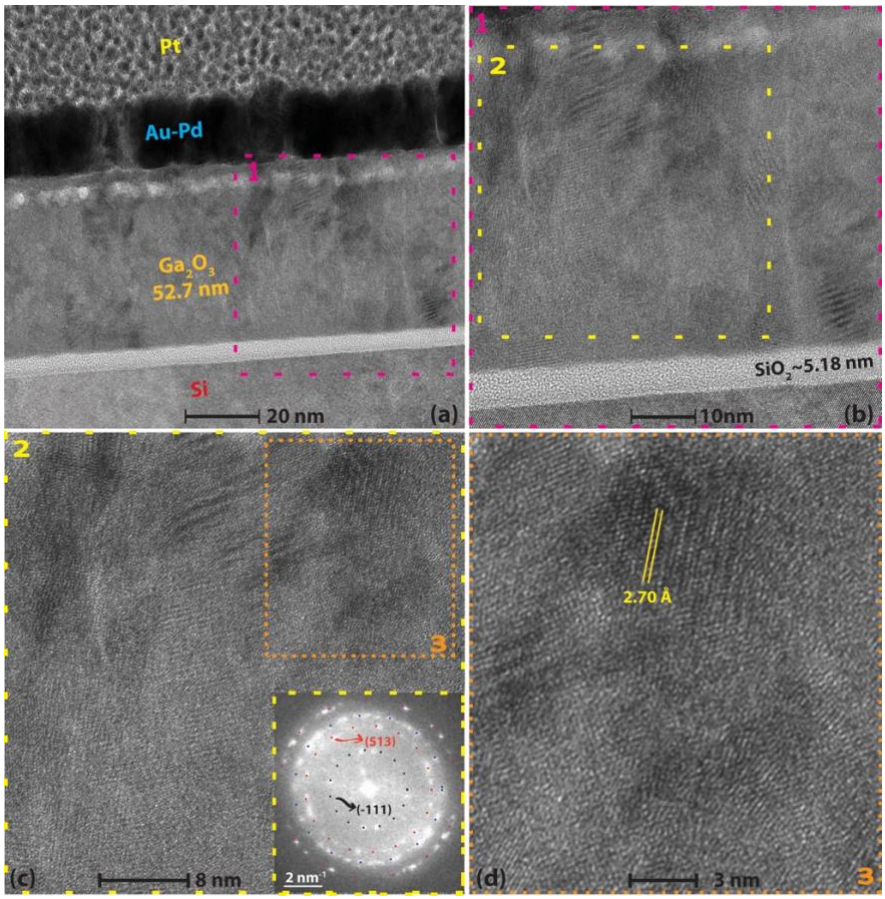

Figure 2. (a) HR-TEM micrographs of 500-cycle Ga_2O_3 sample grown at 240 °C substrate temperature with 50 W Ar/O_2 plasma and 250 W *in situ* Ar-plasma annealing. (b) Zoomed-in image over the selected region #1 as drawn in (a) showing several randomly oriented crystal domains. (c) Close-up view of HR-TEM scan over the selected region #2 as depicted in (b) along with its Fast Fourier Transform (FFT) as an inset, displaying ring-like patterns of the polycrystalline film structure. (d) Magnified HR-TEM micrograph over the smaller region #3 as shown in (c), further revealing the high-resolution lattice features of Ga_2O_3 sample.