Figure 1

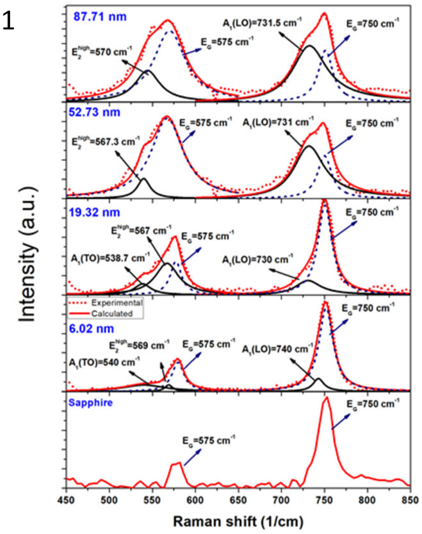

Figure 2

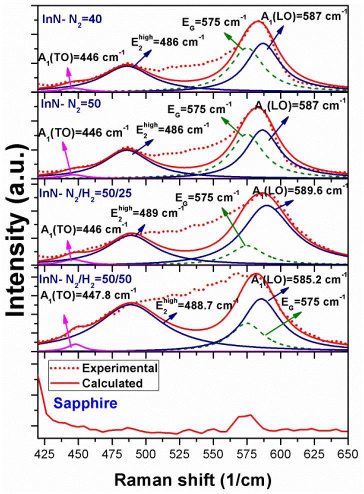

Figure 3

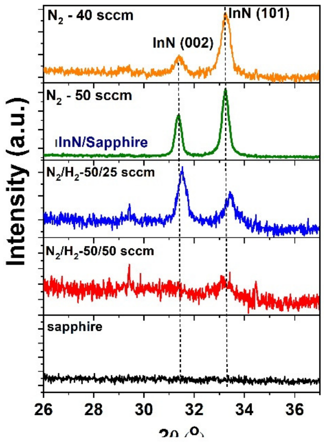

Figure 4

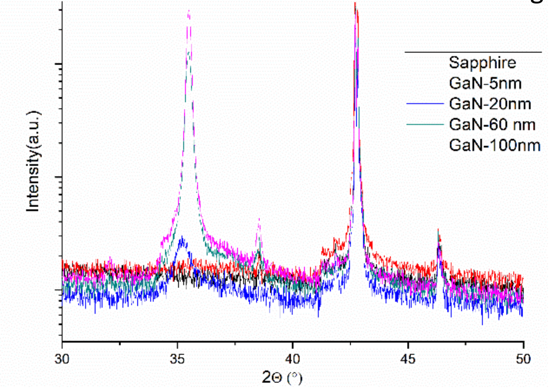

Figure 5

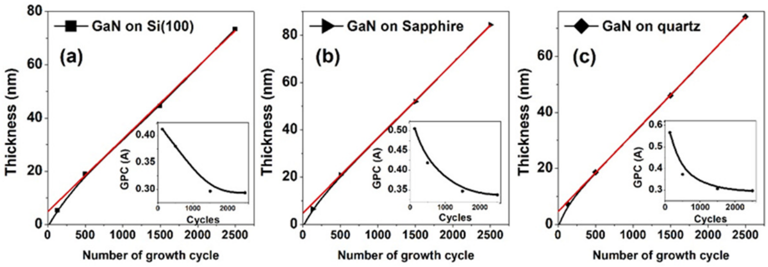

Figure 1 Evalution of Raman spectra for GaN films on Sapphire with different thickness

Figure 2 Evalution of Raman spectra for GaN films on Sapphire with different N_2/H_2 plasma flows

Figure 3 XRD spectra measured on InN films deposited on sapphire substrates using different plasma flows

Figure 4 XRD spectra measured on GaN films deposited on sapphire substrates with different thickness

Figure 5 Dependency of GPC on the substrate. Substrate-enhanced growth of **(a)** GaN on Si(100) **(b)** GaN on sapphire, and **(c)** GaN on quartz with different thicknesses grown by HCPA-ALD.