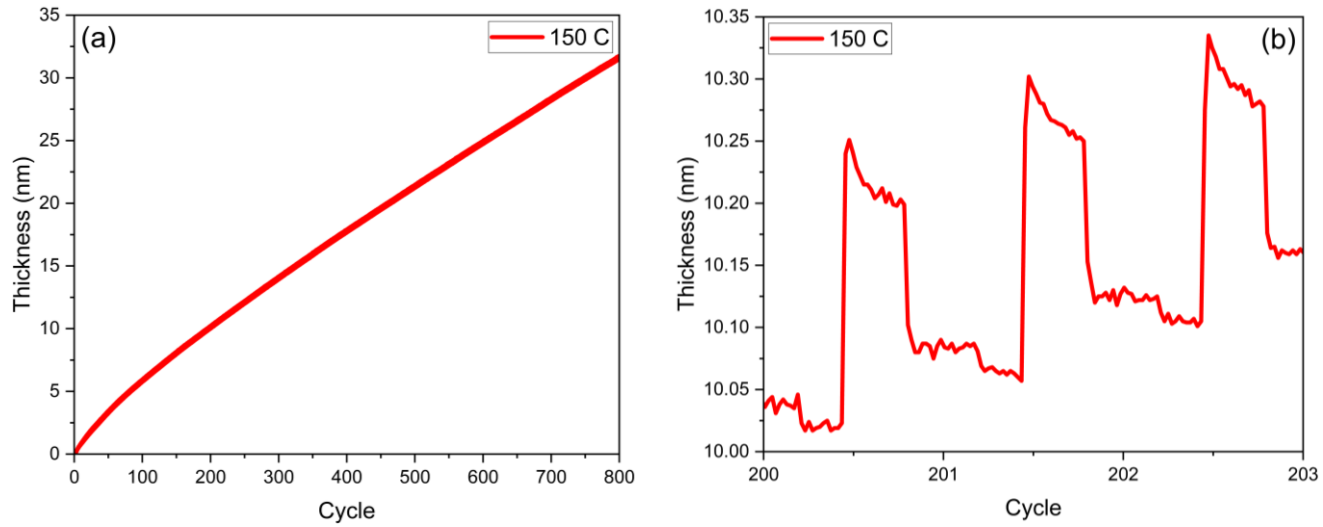

Figure 1. NiO linearity curve recorded with real-time *in-situ* ellipsometry for long run at 150 °C. (a) 800-cycle linearity curve depicting a slight substrate-enhanced initial growth behavior; (b) close-up view of three ALD-cycles, showing Ni-precursor chemical surface adsorption and plasma-assisted ligand removal steps.

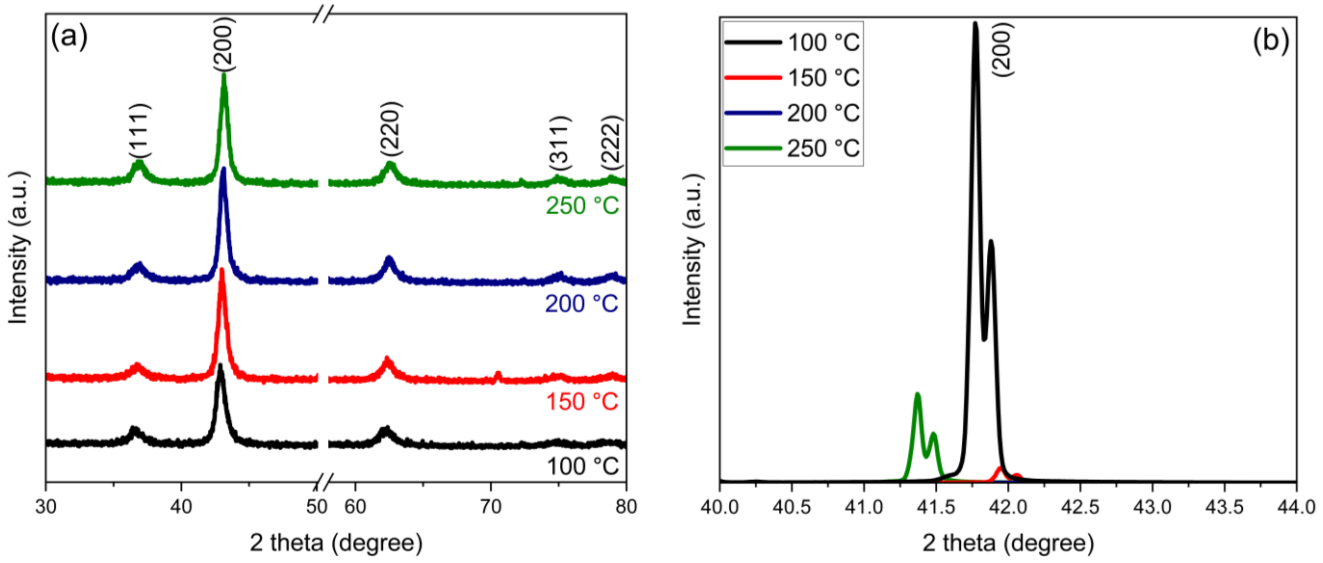

Figure 2. X-ray diffraction patterns of hollow-cathode plasma-enhanced ALD (HCP-ALD) grown NiO films. (a) Grazing-incidence XRD (GIXRD) measurements of the films on Si substrates confirming the polycrystalline film character on Si surfaces; (b) XRD ($\theta - 2\theta$) measurements of the NiO films grown on sapphire substrates confirming highly (200) oriented cubic NiO growth with 100 °C (lowest temperature) sample displaying a substantially higher peak intensity.