

Figure 1. (a) $\text{Er}_x\text{Ni}_y\text{O}_z$ growth per cycle (GPC) determined by X-ray reflectometry (XRR) as a function of the NiO cycle ratio (b) Ni atomic percentage (Ni/Ni+Er) as a function of NiO cycle ratio, as found by *in vacuo* XPS. In both cases the GPC and Ni composition as determined by the rule of mixtures is plot as the dashed curve.⁴

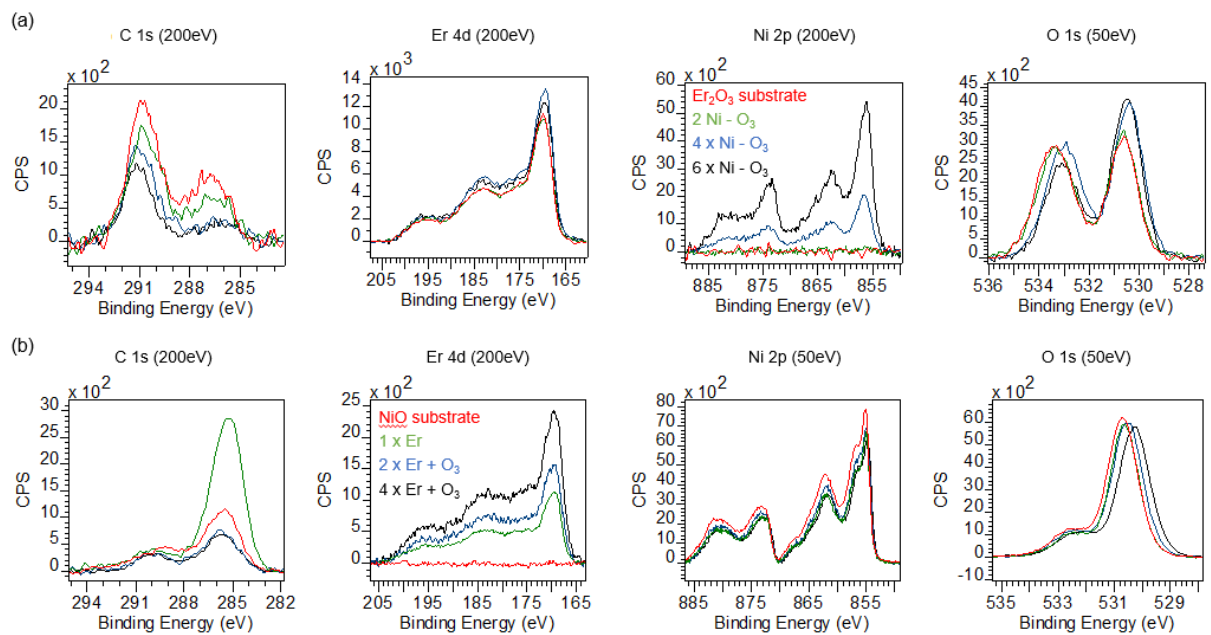


Figure 2. *In vacuo* XPS nucleation study during ALD growth of (a) NiO on an ALD Er_2O_3 substrate and (b) Er_2O_3 on an ALD NiO substrate. All spectra were background-subtracted, and the pass energy of the hemispherical analyzer is indicated above each spectrum between brackets.

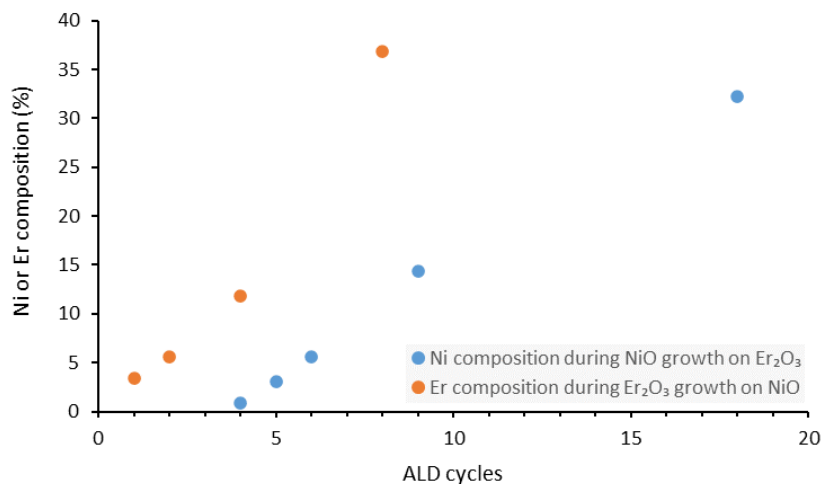


Figure 3. Ni and Er atomic percentage ($x/x+y$) as found by *in vacuo* XPS during nucleation of NiO on Er_2O_3 ($x=\text{Ni}$, $y=\text{Er}$) and Er_2O_3 on NiO ($x=\text{Er}$, $y=\text{Ni}$), respectively.