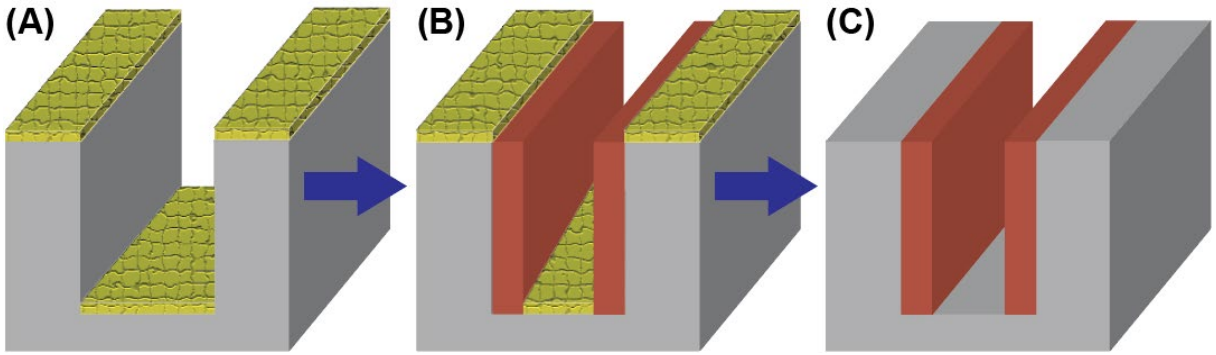

Figure 1 A schematic overview of the TSD strategy: (A) First, horizontally-oriented surfaces are selectively covered by an aC inhibition layer. (B) The subsequent ALD of a target material proceeds selectively on vertically-oriented surfaces. (C) Finally, the removal of the aC inhibition layer results in vertical TSD of the target material.

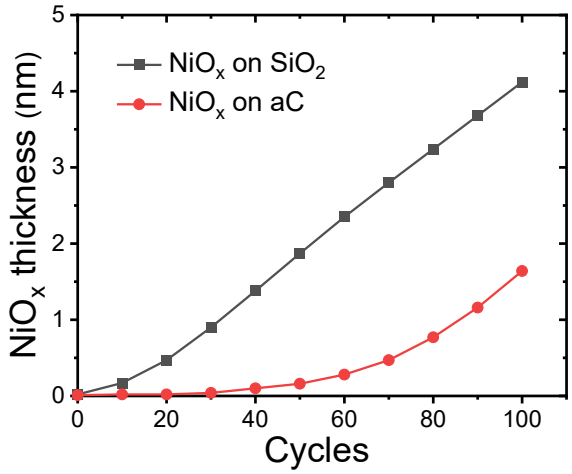

Figure 2 The deposition of NiO_x proceeds on SiO_2, while a significant nucleation delay is observed on the aC layer.

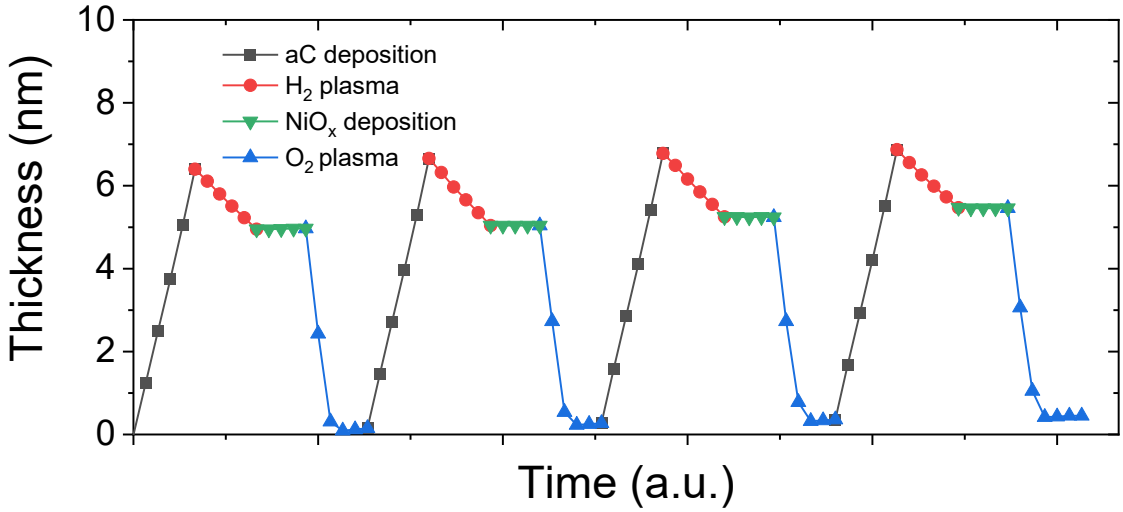

Figure 3 The thickness of the aC layer on a Si wafer during the TSD supercycle as measured by spectroscopic ellipsometry. First, the aC layer is deposited in 100 pulses of the Ar/CH_4 plasma. Second, a 50 second H_2 plasma is applied to enhance the achievable selectivity, which also slightly etches the aC film. Next, during 40 cycles of NiO_x ALD, no changes are observed as the aC remains unaffected. Lastly, a 25 second O_2 plasma removes the aC layer and allows for the TSD supercycle to start again with the deposition of a new aC inhibition layer.