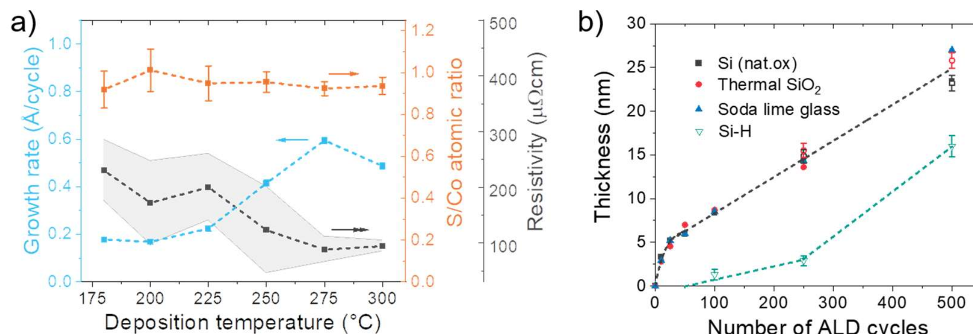

Figure 1. a) Effect of deposition temperature on growth rate, resistivity, and S/Co ratio. b) Film thickness versus number of ALD cycles showing substrate-enhanced growth on oxide-covered silicon and soda lime glass and substrate-inhibited growth on Si-H at 275 °C.

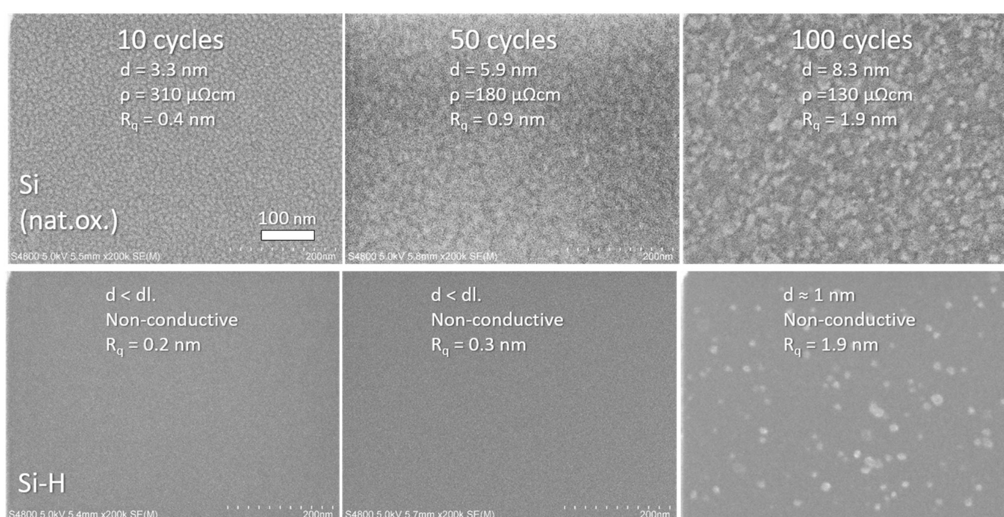

Figure 2. Scanning electron microscopy images illustrating the formation of a ~3 nm electrically conductive film on silicon (native oxide) as well as the selectivity against Si-H at 275 °C. The thickness (d), resistivity (ρ), and roughness (R_q) are indicated.

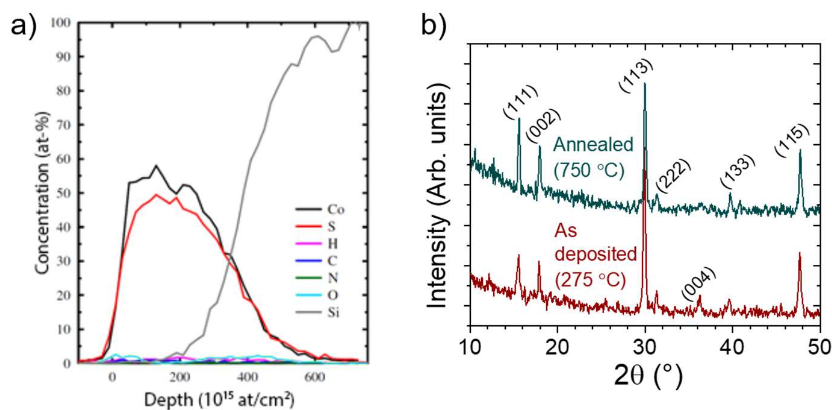

Figure 3. a) Compositional depth profile (ToF-ERDA) proving the high purity of a Co_9S_8 film deposited on silicon at at 275 °C. b) Grazing incidence X-ray diffractograms showing crystallinity of the deposited films and their stability after annealing at 750 °C under N_2 (all peaks can be indexed to Co_9S_8).