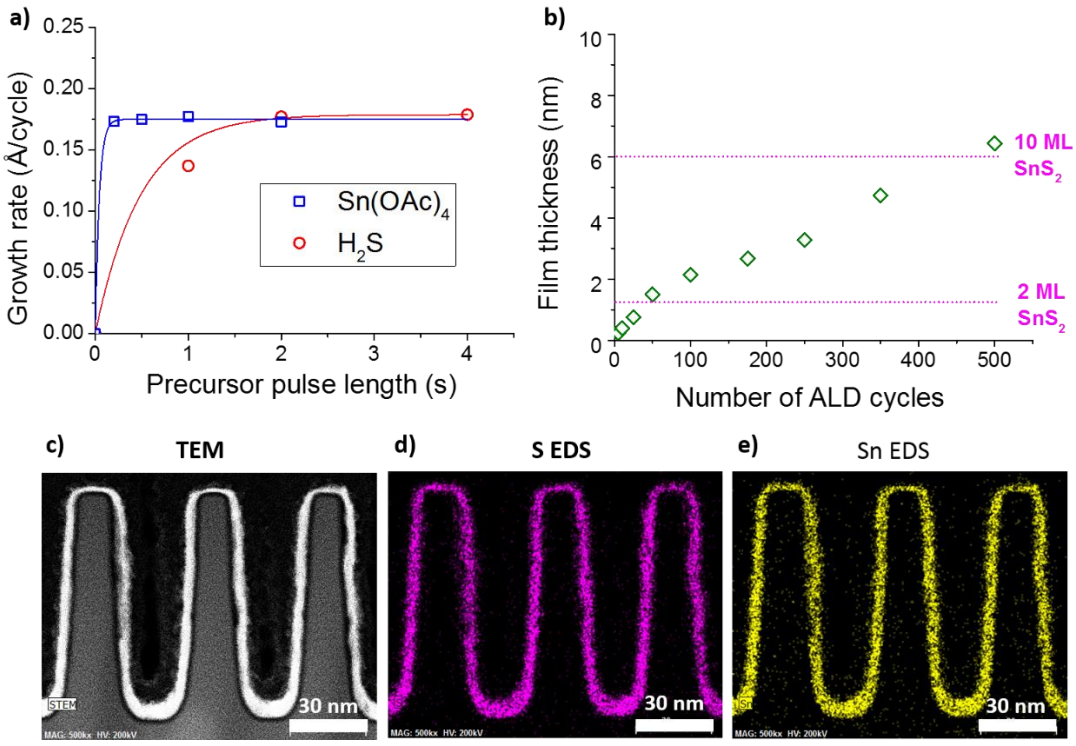


Figure 1 a) Growth rate versus precursor pulse length (as-deposited films) and b) thickness versus number of ALD cycles (annealed films) along with theoretical thicknesses for two and ten monolayers (ML) of $SnS_2$. c) Transmission electron microscopy (TEM) image and d) sulfur and e) tin elemental maps by energy-dispersive X-ray spectroscopy (EDS) of a $SnS_2$ film deposited in a trench.

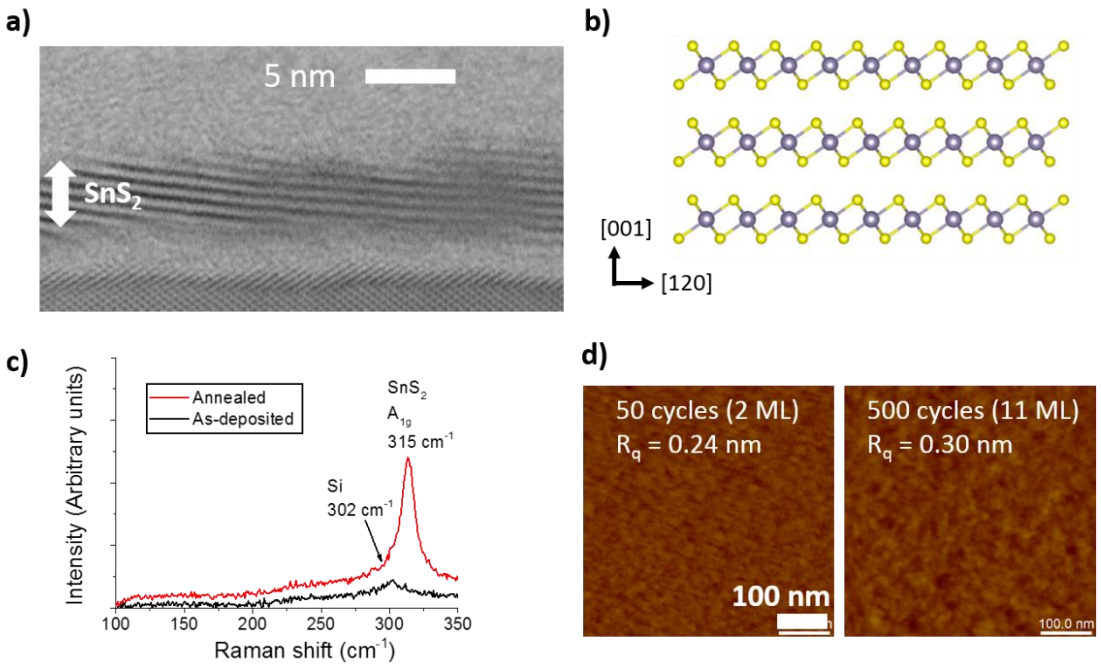


Figure 2 a) Bright-field cross-sectional TEM image of an approximately 6-monolayer $SnS_2$ film on native-oxide covered silicon substrate ($SnS_2$ layers appear bright). b) Crystal structure of $SnS_2$ showing the layered structure (Sn is gray, S yellow). c) Raman spectra of as-deposited and annealed $SnS_2$ films (250 cycles) on 90 nm $SiO_2$/Si substrate. d) AFM images and roughness values ($R_q$) of annealed $SnS_2$ films on silicon.