

Figure 1. Illustration of ALD regimes exemplified for the case of high aspect-ratio vertical pillar arrays. The ALD regime can be determined by comparing the evaluated width of the reaction front with the depth of the porous substrate. When the reaction front width is greater than the depth, the reaction-limited regime is expected (a); whereas the reaction front width much smaller than the depth of the porous substrate dictates the diffusion-limited regime (b).

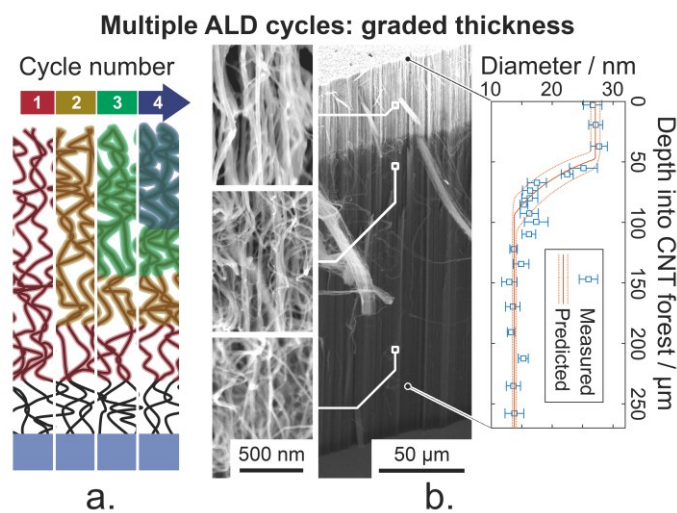


Figure 2. Keeping the precursor exposure constant in each ALD cycle, the coating depth decreases from one cycle to the next (a). Using the theoretical framework presented in this work, we successfully predicted the ALD coating profile on the forest of CNTs (b).