**ALD conformality: Effects of process parameters on the simulated saturation profile**

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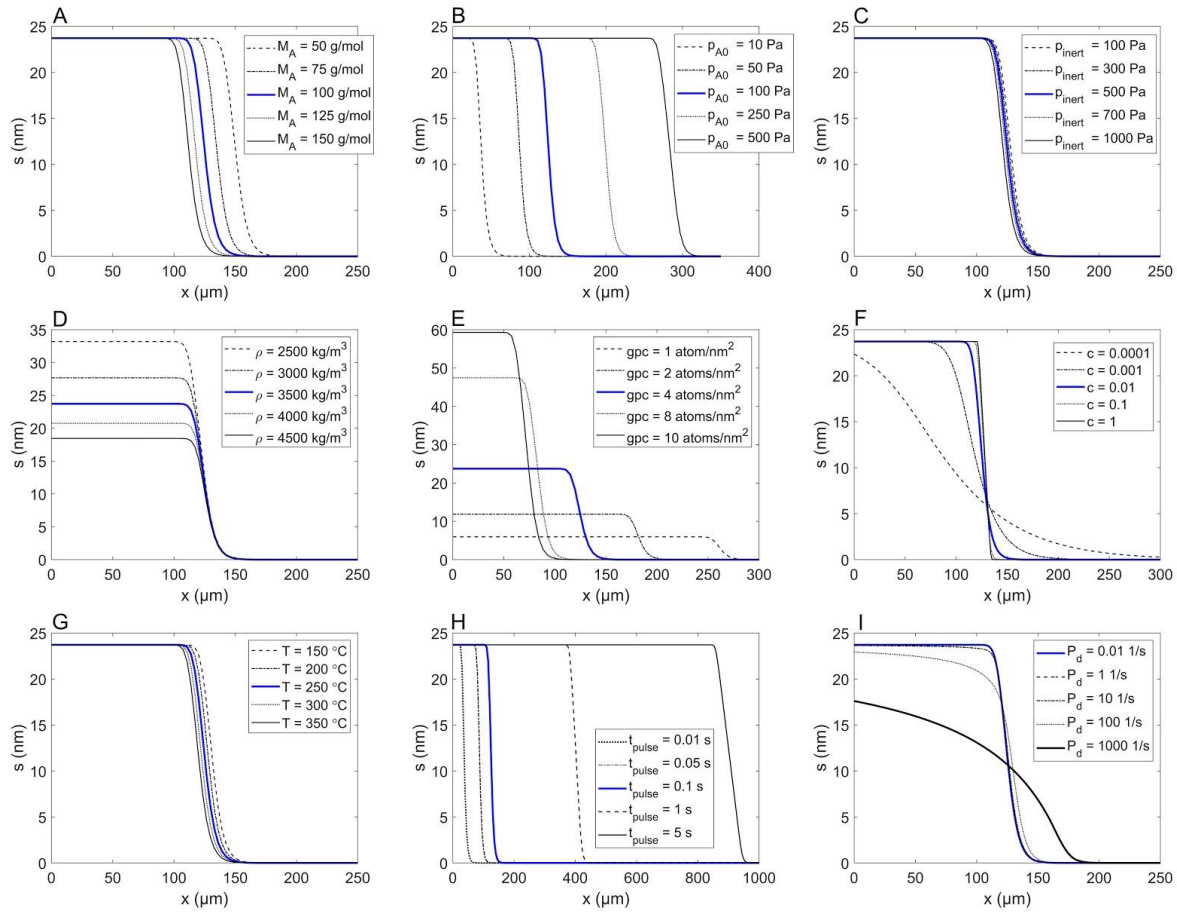


Figure 1. Effect of individual process parameters: (A) reactant molecular mass $M_A$, (B) initial partial pressure of the reactant $P_{A0}$, (C) inert pressure $P_{inert}$, (D) film density $\rho$, (E) growth per cycle, GPC, (F) lumped sticking coefficient $c$, (G) temperature T, (H) pulse time $t_{pulse}$, and (I) desorption probability $P_d$ on simulated saturation profile (thickness vs. distance inside the LHAR structure). The blue curves represent the baseline profile. Baseline parameters used: gap height of 0.5 µm, gap width of 0.1 mm, ALD cycles of 250, $t_{pulse}$ of 0.1 s, T of 250 °C, $P_{A0}$ of 100 Pa, reactant molecular diameter of 600 pm, $M_A$ of 0.1 kg/mol, $P_{inert}$ of 500 Pa, inert gas molecular diameter of 374 pm, inert gas molar mass of 0.028 kg/mol, $\rho$ of 3500 kg/m$^3$, GPC of 4 atoms/nm$^2$, $c$ of 0.01, and $P_d$ of 0.01 1/s.

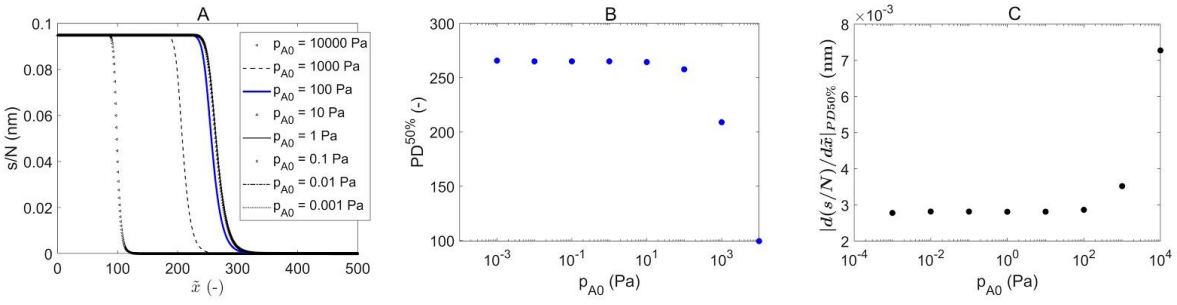


Figure 2. Effect of reactant partial pressure on (A) scaled saturation profile (GPC vs. dimensionless distance), (B) $PD^{50\%}$, and (C) absolute value of the slope of the leading edge of the saturation curve (LHAR gap height: 0.5 µm). The reactant dose was kept constant as 10 Pas, and the reactant to inert pressure ratio was constant as 1/5. Desorption probability $P_d$ of $1\times10^{-5}$ 1/s and equilibrium constant $K$ of $2.86\times10^6$ were used.