The Effects of in-situ Atomic Layer Annealing on Thermal Atomic Layer Deposited Silicon Nitride

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Figure 1. (a) GPC, (b) RI, (c), WER, and (d) density as a function of the deposition temperature of thermal ALD (red), ALD/ALA 10:1 ratio (blue), and ALD/ALA 1:1 ratio (green) of SiN_x thin films. The WER was evaluated in a diluted 200:1 HF solution. The LP-CVD SiN_x sample was prepared using SiH_2Cl_2 and NH_3 at 730°C.



Figure 2. High resolution TEM images of as-deposited ALD/ALA SiN_x thin film at 410 °C over 6:1 AR trenches.