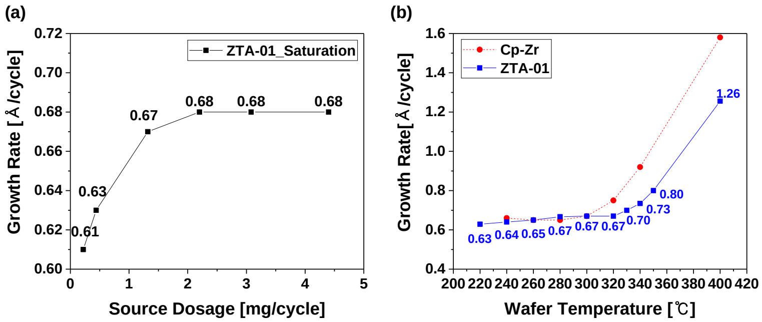

Figure 1. (a) ZrO2 films Growth Rate saturation graph with feeding amount of ZTA-01 Precursors. (b) ALD Window according to Wafer Temperature. The ALD window of ZTA-01 is about 20 ℃ higher than Cp-Zr.

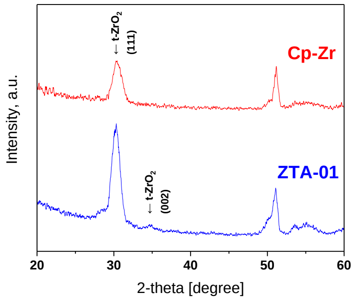

Figure 2. ZrO2 films XRD graph of Cp-Zr and ZTA-01 at wafer temperature 310 ℃.

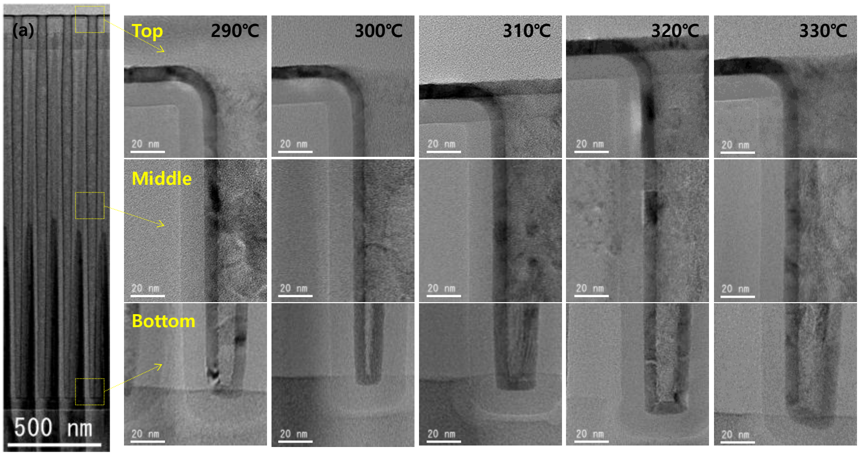

Figure 3. TEM images of Hole pattern(Aspect Ratio 60-65:1). This TEM Images are ZrO2 films in ALD Window using ZTA-01 as Zr precursors.

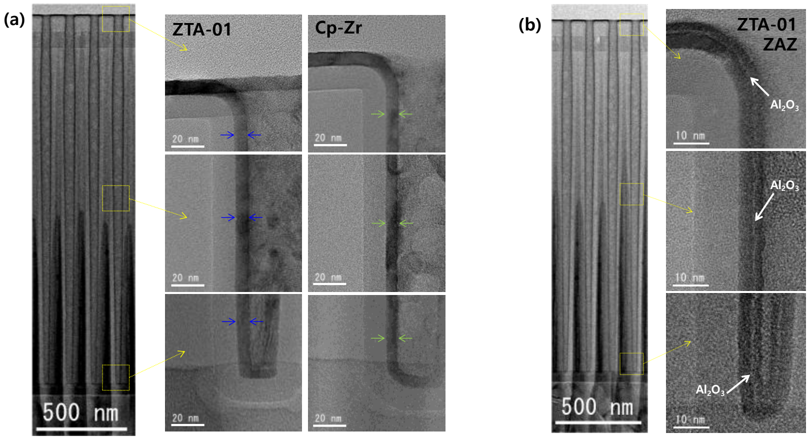

Figure 4. (a) TEM image of the step coverage of ZrO2 thin films using ZTA-01 and Cp-Zr, respectively. (b) TEM image of step coverage characteristics of ZAZ thin films using ZTA-01 and TMA.