Examining large grain growth and low temperature crystallization kinetics for TiO_2 thin films prepared by atomic layer deposition (ALD)

Jamie P. Wooding,[1] Kyriaki Kalaitzidou,[2] Mark D. Losego[1]

[1]School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA
[2]The George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA

AF9: Growth and Characterization: Characterization of ALD Films

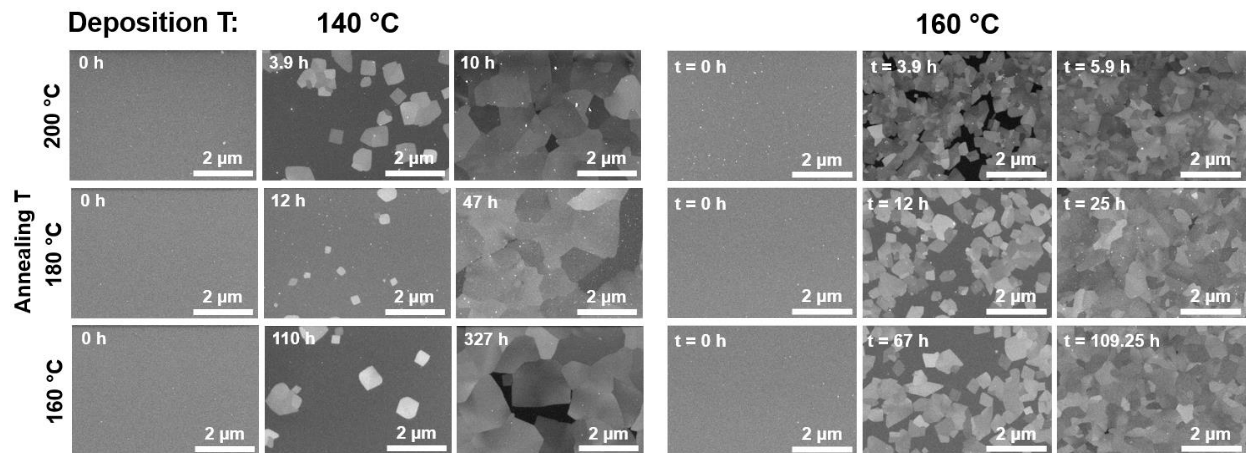

Figure 1. *SEM image grid for TiO_2 films deposited at 140 °C and 160 °C and post-deposition annealed at 160 °C, 180 °C, and 200 °C for the specified time duration.*

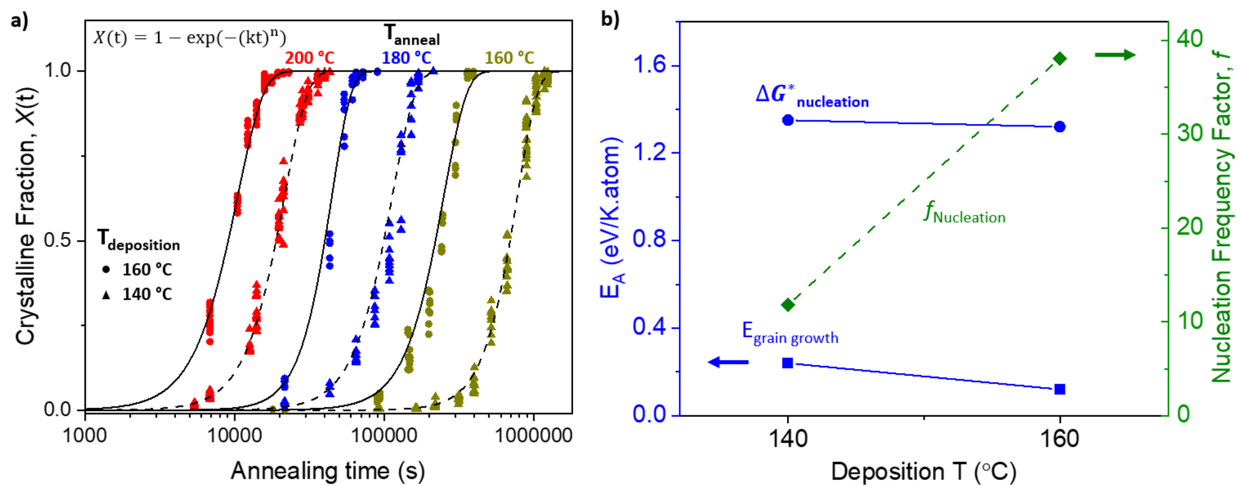

Figure 2. a) *Amorphous TiO_2 to anatase phase transformation curves for films deposited at 140 °C and 160 °C and post-deposition annealed at 160 °C, 180 °C, and 200 °C.* **b)** *Calculated critical free energy for nucleation and activation energy for grain growth for films deposited at 140 °C and 160 °C. Second y-axis on the right plots the nucleation frequency factor.*