SF₄ as a New Fluorine Reagent for Thermal ALE: Application to Al₂O₃ and VO₂ ALE

J.C. Gertsch¹, N.R. Johnson¹, V.M. Bright², and S.M. George^{1,2} ¹Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO, USA ²Department of Mechanical Engineering, University of Colorado, Boulder, CO, USA jonas.gertsch@colorado.edu



Figure 1. QCM measurements of mass change versus time showing 50 ALE cycles of VO₂ ALE using SF₄ and Sn(acac)₂ as the reactants. The etch rate is \sim 0.3 Å/cycle.



Figure 2. SE measurements of Al_2O_3 film thickness versus ALE cycle number showing temperature dependence of Al_2O_3 ALE using SF₄ and Sn(acac)₂ as the reactants.