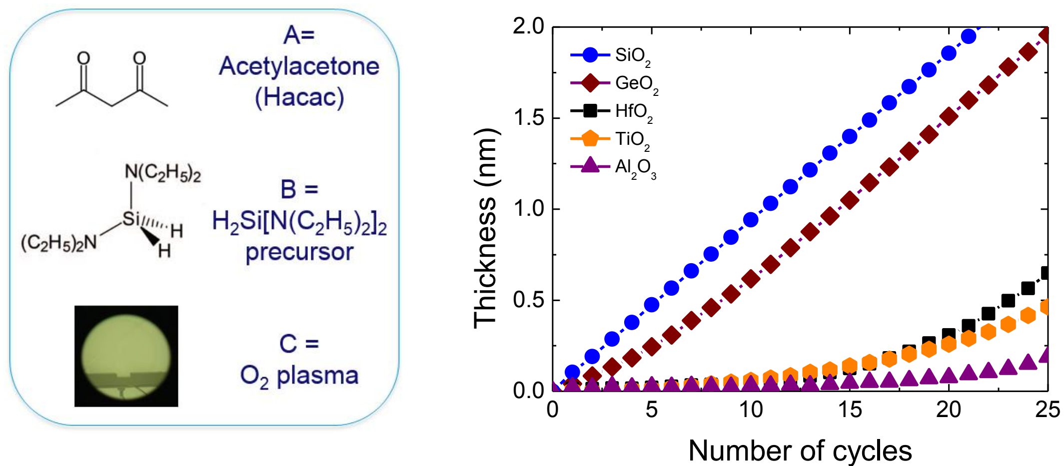

Figure 1. (left) The cycle for area-selective ALD of SiO_2 consists of acetylacetone (step A), $H_2Si[N(C_2H_5)_2]_2$ precursor (step B), and O_2 plasma (step C). (right) Nucleation curves measured by *in-situ* spectroscopic ellipsometry (SE) for SiO_2 ABC ALD cycles on different starting materials. Immediate growth is obtained on SiO_2 and GeO_2, while nucleation delays occur on Al_2O_3, TiO_2, and HfO_2.

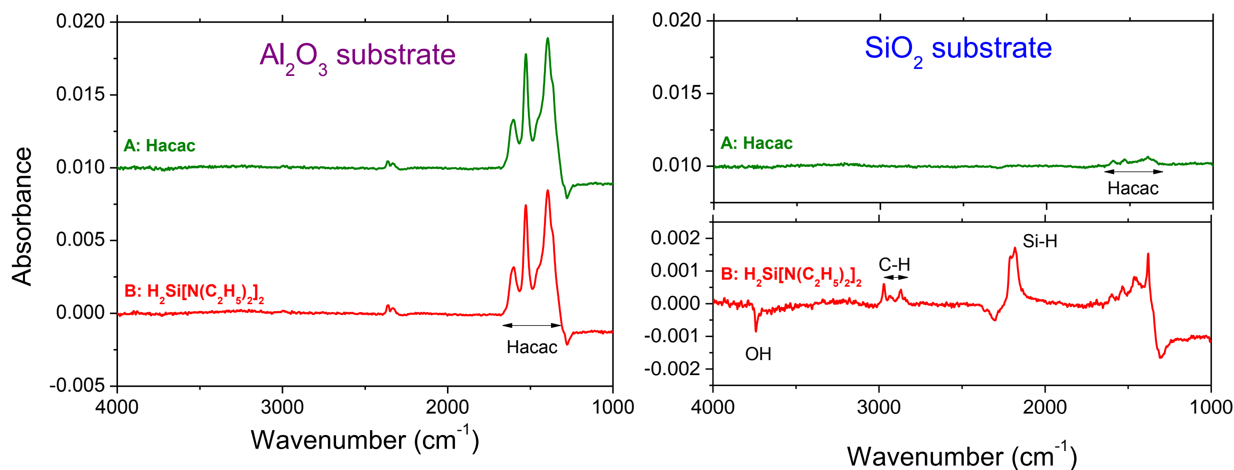

Figure 2. *In-situ* Fourier transform infrared (FTIR) spectra recorded after Hacac dosing (A) and $H_2Si[N(C_2H_5)_2]_2$ precursor dosing (B) during SiO_2 ABC ALD cycles on (left) an Al_2O_3-coated substrate, (right) a SiO_2-coated substrate. The graph for Al_2O_3 shows adsorption of a large amount of Hacac, and blocking of $H_2Si[N(C_2H_5)_2]_2$ precursor adsorption during the subsequent pulse. The graph for SiO_2 reveals that only a small amount of Hacac adsorbs on SiO_2, which does not significantly affect the adsorption of the $H_2Si[N(C_2H_5)_2]_2$ precursor.