

Figure 1: Conversion of absorbance from Al-O stretching vibration to B-O stretching vibration revealing the conversion reaction of  $Al_2O_3$  to  $B_2O_3$  during initial  $BCl_3$  exposures on  $Al_2O_3$  at  $300^{\circ}C$ .

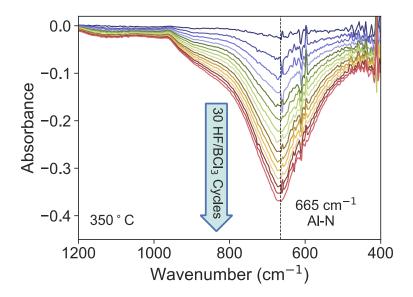


Figure 2: Absorbance loss of Al-N stretching vibration showing etching of ALD-grown aluminum nitride with sequential exposures of HF/BCl<sub>3</sub> at 350°C.