

Figure 1 (a) A model of adsorbed TMA. Reaction energies of adsorbed TMA with (b) H<sub>2</sub>O<sub>2</sub> or (c) H<sub>2</sub>O.

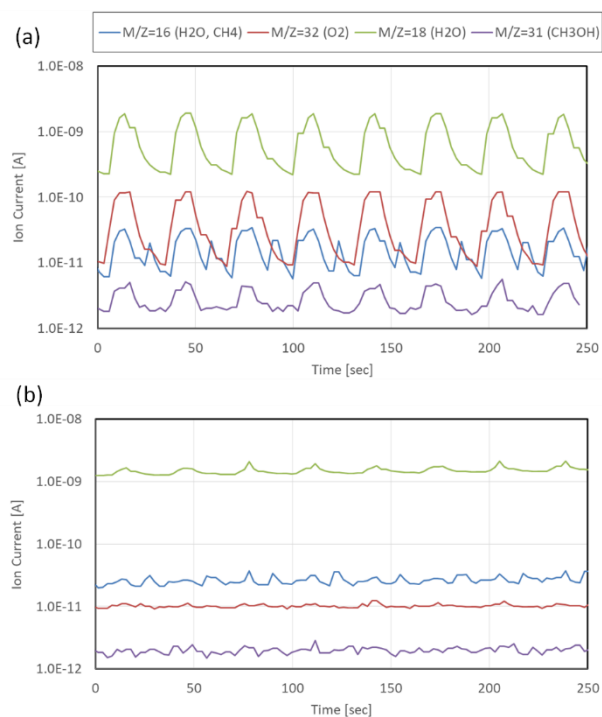


Fig. 2 Exhaust gas analyses during ALD using (a) TMA and the H<sub>2</sub>O<sub>2</sub>/H<sub>2</sub>O mixture, and (b) TMA and H<sub>2</sub>O.

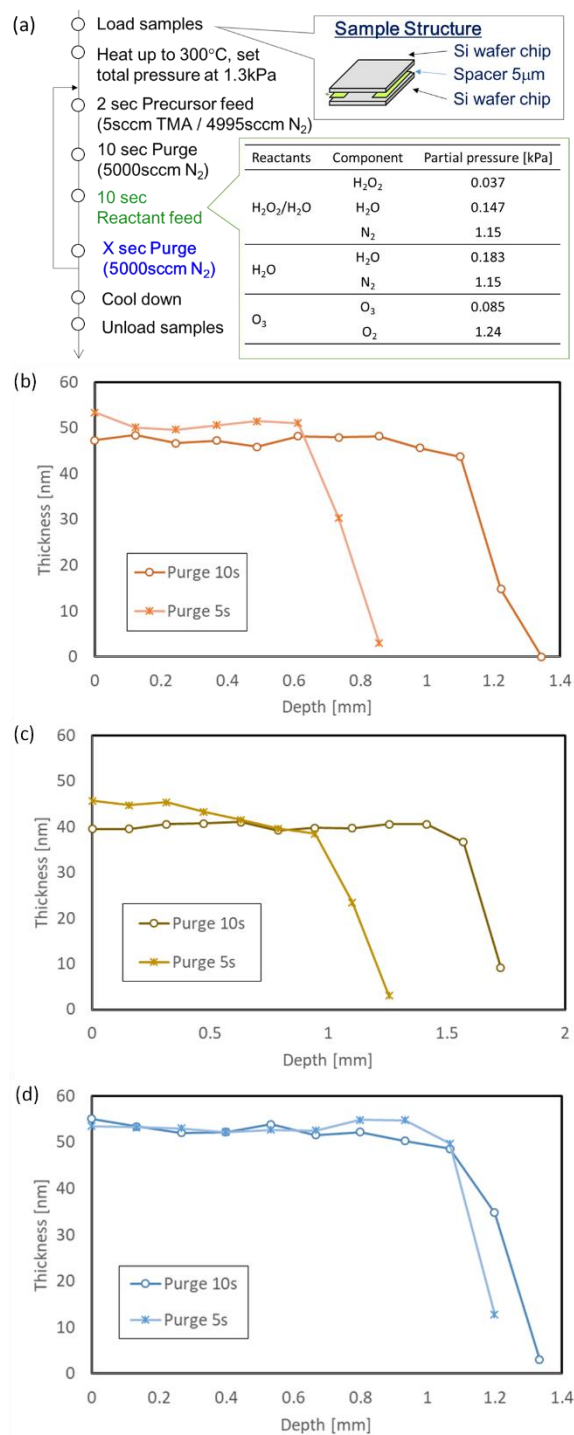


Fig. 3 (a) Al<sub>2</sub>O<sub>3</sub> ALD condition for a HAR structure (shown in the inset) and ALD thickness profiles for TMA reacting with (b) H<sub>2</sub>O, (c) O<sub>3</sub>, and (d) the H<sub>2</sub>O<sub>2</sub>/H<sub>2</sub>O mixture.