

Fig. 1: schematic time sequence of Ru ALD.

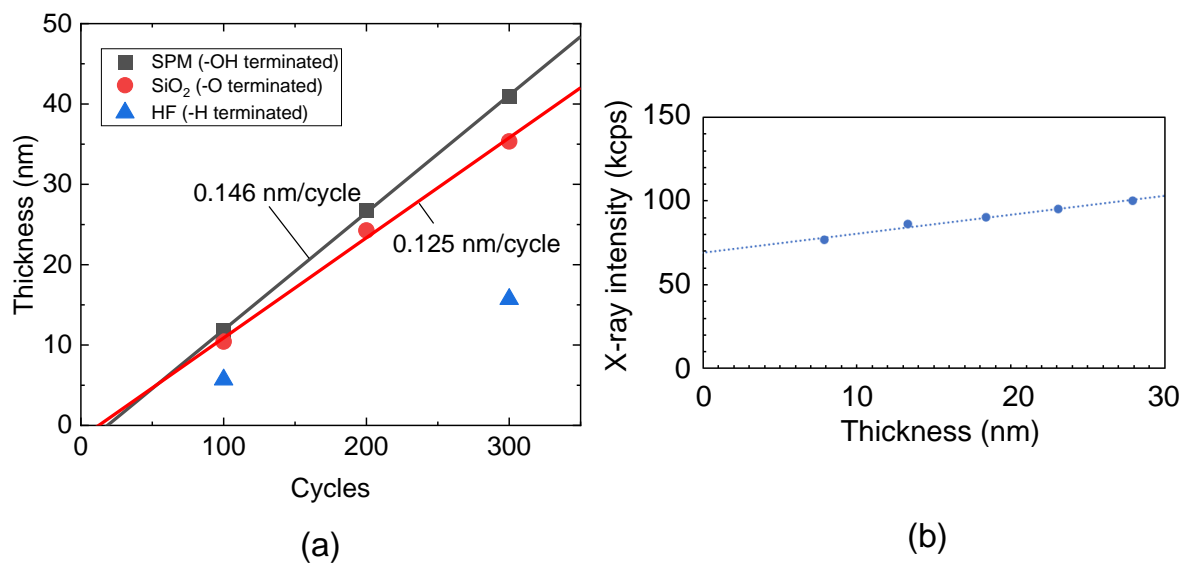


Fig. 2: (a) Ru film thicknesses of three different surfaces and (b) calibration curve between X-ray intensity and thickness of Ru film.