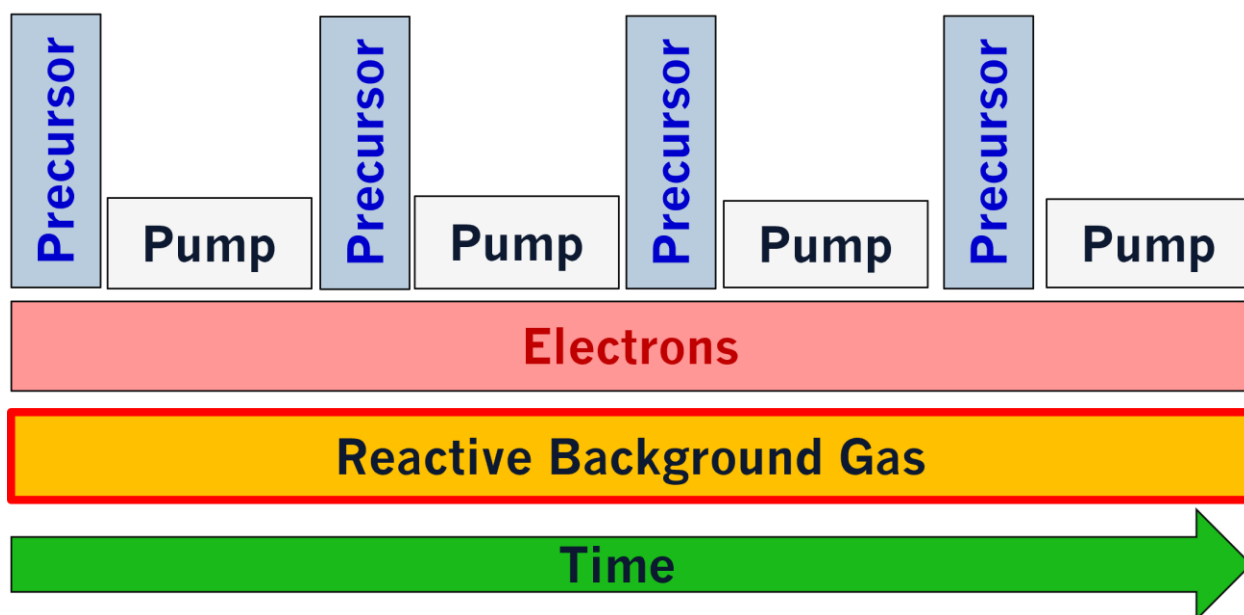


**Figure 1.** Schematic of EE-ALD performed with continuous reactive background gas. Sequential precursor and electron exposures define EE-ALD. The continuous reactive background gas present during EE-ALD can tune the EE-ALD film composition.



**Figure 2.** Schematic of EE-CVD performed with continuous reactive background gas and electron exposures. The series of precursor exposures define EE-CVD. The continuous reactive background gas and electron exposures can tune the EE-CVD film composition.