

Fig. 1 Growth rates of Cu-doped NiO ALD processes with super-cycles consisting of  $a$  cycles of Ni(tBuAMD)<sub>2</sub>/co-reactant and  $b$  cycles of Cu(dmap)<sub>2</sub>/co-reactant, where the co-reactant was either H<sub>2</sub>O or O<sub>3</sub>.

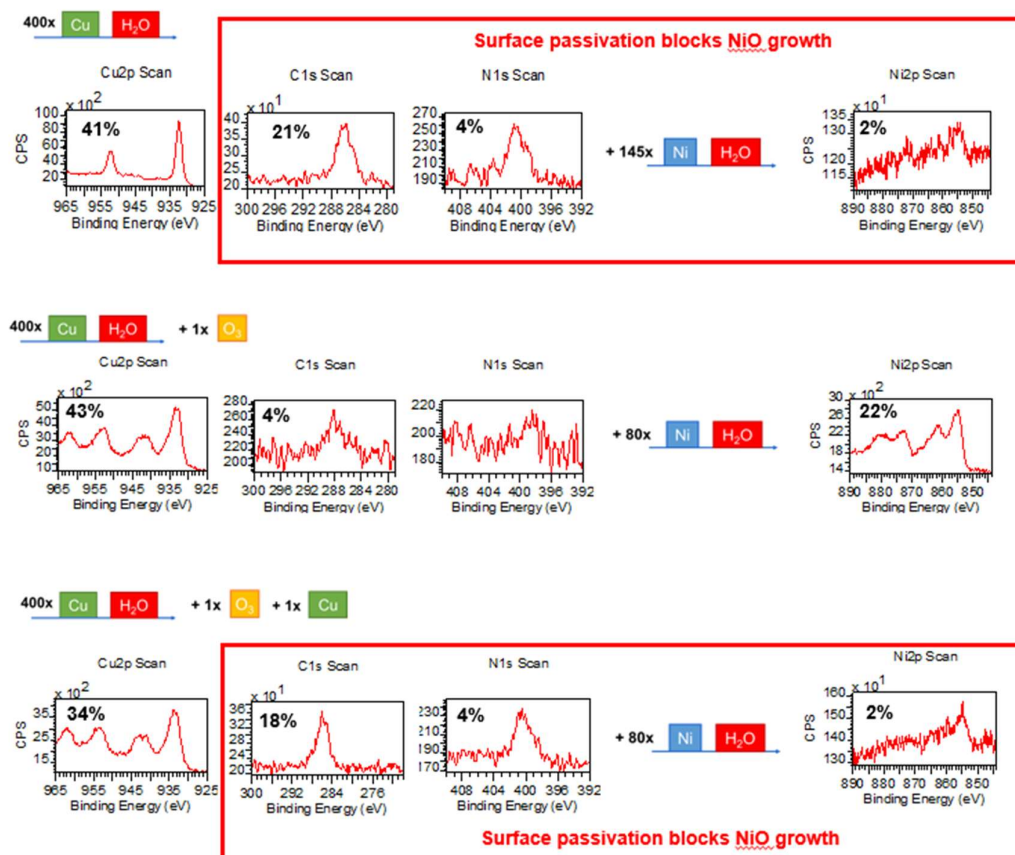


Fig. 2 In vacuo XPS data demonstrating that the Cu(dmap)<sub>2</sub> precursor ligands passivate the surface, blocking NiO growth. The O1s spectra are not shown on the left side of the figure but the concentrations can be calculated by subtracting the other concentrations from 100%. For Cu<sub>2</sub>O the Cu2p spectrum only contains the 2p<sub>3/2</sub> and 2p<sub>1/2</sub> doublet, while for CuO the Cu2p spectrum contains two additional satellite peaks.

References:

- [1] Natu et al. *ACS Appl. Mater. Interfaces* (2012), **4**, 5922
- [2] Zhang et al. *Appl. Phys. Lett.* (2018), **113**, 262102.
- [3] Avila et al. *J. Vac. Sci. Technol. A* (2020), **38**, 042403.