Surface halogenation of amorphous carbon for defect-free area-selective deposition of metal oxides

M. Krishtab[a,b], A. Armini[b], S. De Gendt[b,c], R. Ameloot[a]

[a]Centre for Surface Chemistry and Catalysis, KU Leuven, 3001 Leuven, Belgium
[b]imec, Kapeldreef 75, 3001 Leuven, Belgium
[c]Department of Chemistry, KU Leuven, 3001 Leuven, Belgium

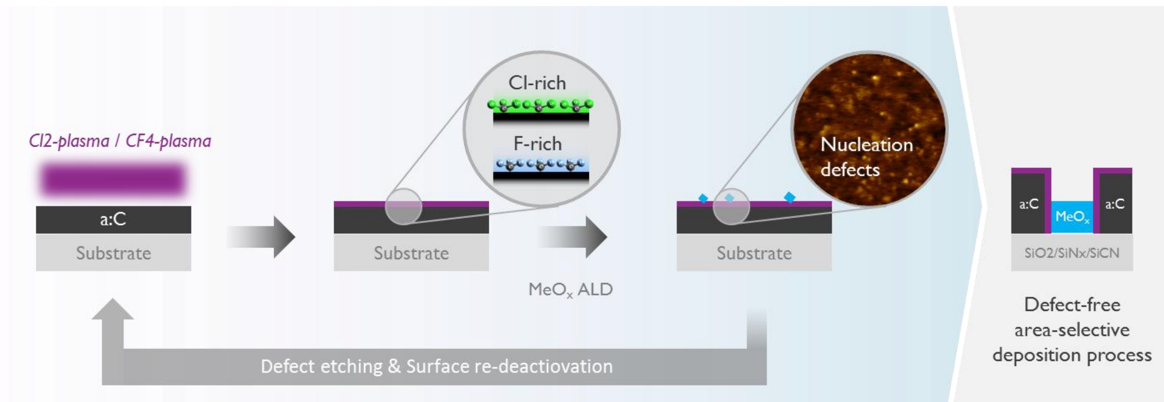

Figure 1. The examined scheme for defect-free area-selective deposition of metal oxides (MeOx) enabled by plasma halogenation of the amorphous carbon surface.

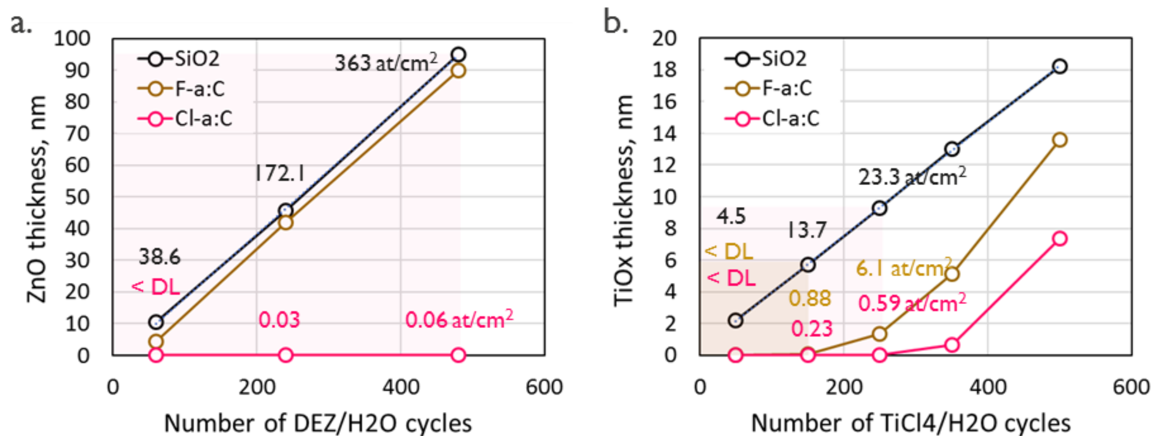

Figure 2. The growth curves of (a) ALD ZnO and (b) ALD TiO_x on top of silicon oxide and plasma fluorinated (F-a:C) / chlorinated (Cl-a:C) amorphous carbon films. The thickness is estimated by ex-situ ellipsometry. The inset values represent areal density of Zn atoms estimated by Rutherford backscattering spectroscopy.