

Figure 1: ZnO thickness as a function of the number of plasma-assisted ALE cycles. From left to right alternating pulses of: Hacac and O₂ gas (blue), Hacac and O₂ plasma (black) and only O₂ plasma (red).

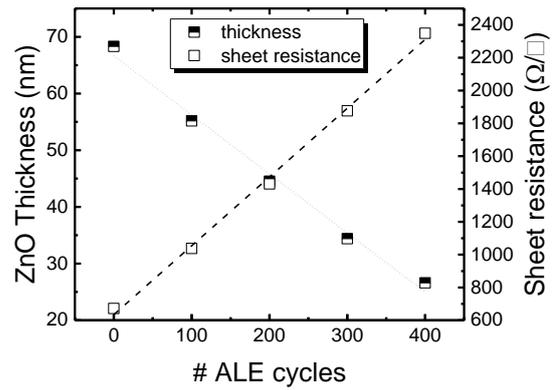


Figure 2: ZnO thickness and sheet resistance measured by four point probe as a function of the number of plasma-assisted ALE cycles.

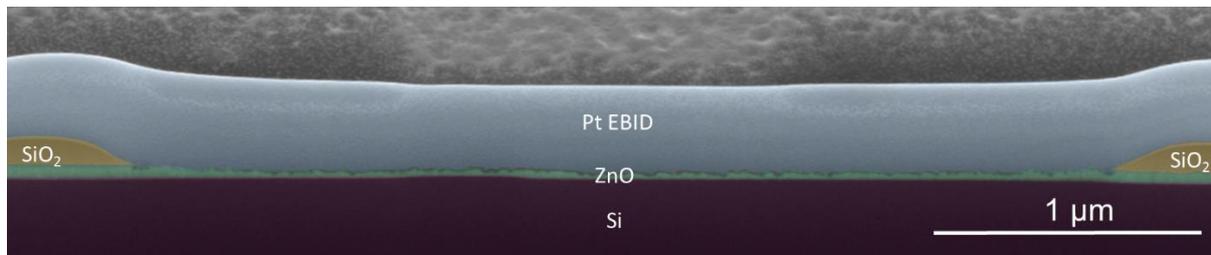


Figure 3: False colour SEM cross-section (52°-tilted) of SiO₂ pads (500 x 500 nm²) deposited by electron beam induced deposition (EBID) onto ALD grown ZnO. The SiO₂ pads (in orange) served as a hard mask during the PA-ALE process. ZnO (light green) was etched only in the non-masked region. The ZnO thicknesses estimated from this cross-section are 58 ± 5 nm in the masked area and 26 ± 6 nm in the middle of the non-masked region. Pt EBID (light blue) was deposited before preparing the cross-section to protect the underlying structure and to provide sufficient contrast.

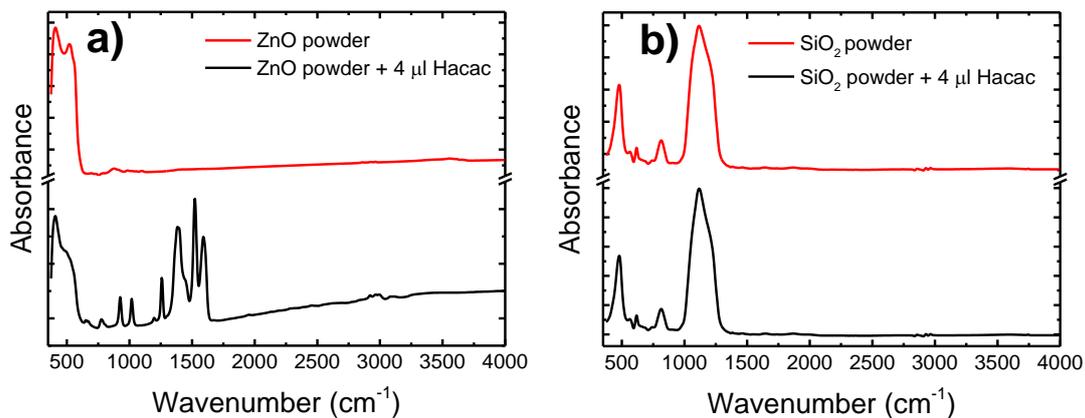


Figure 4: FTIR spectra of: a) ZnO powder bare and with 4 μl of Hacac, b) SiO₂ powder bare and with 4 μl of Hacac. The powders exposed to Hacac were dried in air before collecting the FTIR spectra. Conversely to what measured for ZnO, no Hacac adsorption was observed on SiO₂, which explains the selectivity of the ALE process.