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Supporting Information

for

Properties of tin oxide films grown by atomic layer deposition from tin tetraiodide and ozone

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Supplementary material

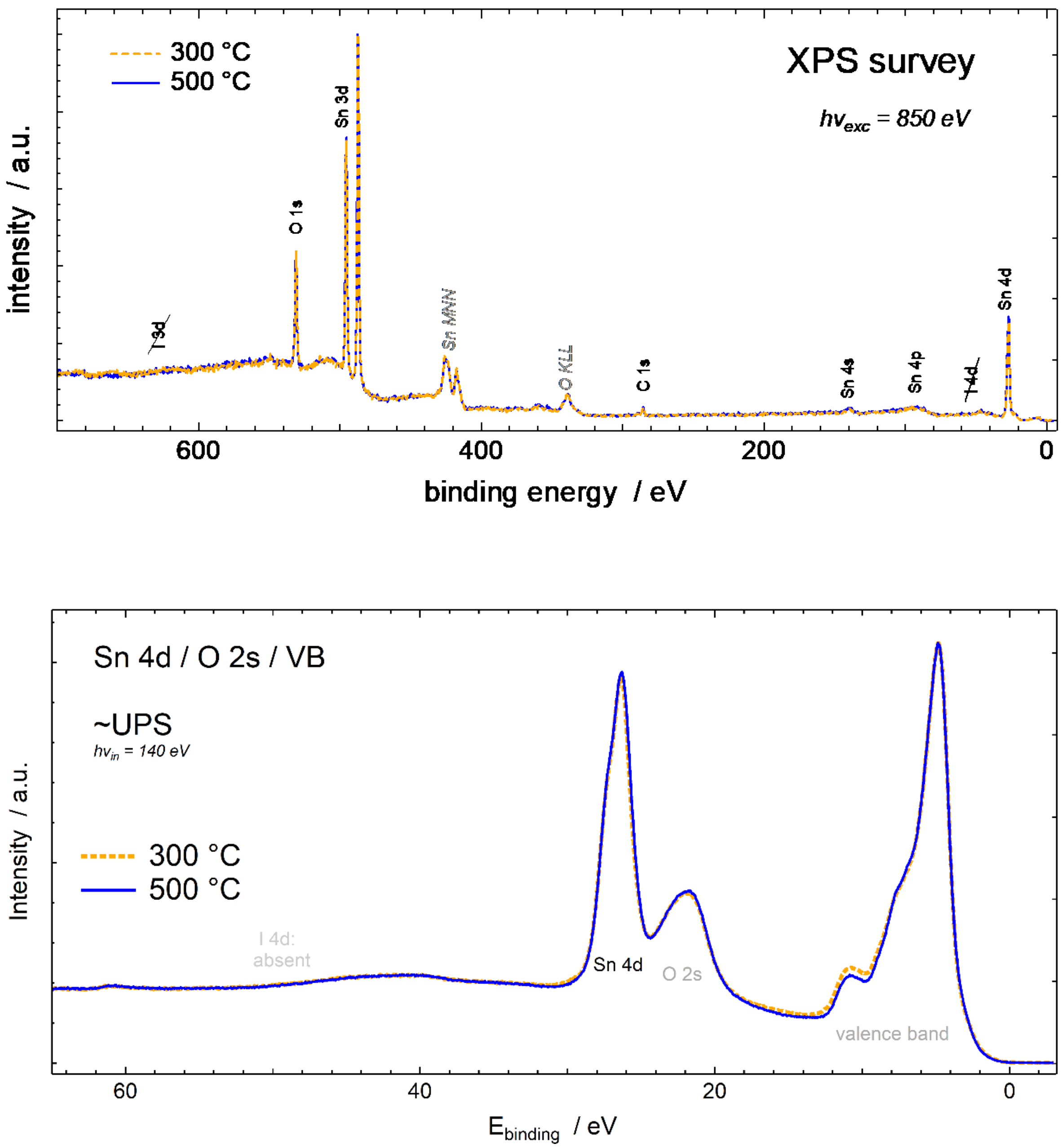

Figure S1: Top panel: XPS survey spectra visualising the virtually coinciding tin/oxygen content ratio and the absence of any residual iodine compounds even in the 300 °C sample. Bottom panel: an extended valence-band (and shallow core) binding energy region photoelectron spectrum. We note that the kinetic energy of the I 4d electrons is different in these two panels (ca. 800 vs. ca. 90 eV); therefore, also the probe depth differs. The inelastic mean free path of the photoelectrons changes from ca. 1.5 to 0.5 nm.

This can be compared to the truly bulk-sensitive XRD results, which indicate some iodine present in the 300 °C sample. A plausible explanation would be that although iodine sublimates from the surface region even at 300 °C (and is therefore not seen in XPS), it is not as mobile to segregate to the surface at this temperature (and appears therefore as present in the XRD data).

The C 1s XPS in Figure S2 is taken as a reference to assure that the sample is not charging. It indicates only a very limited adventitious carbon content and, for example, no alien carbonate species.

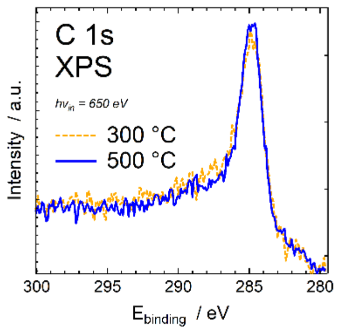

Figure S2: C 1s XPS results.