Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information: The self-oriented $La_2O_2CO_3$ layer: an integration tool for solution-derived thin films

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CA measurements and surface energy calculations of different PVP film thicknesses

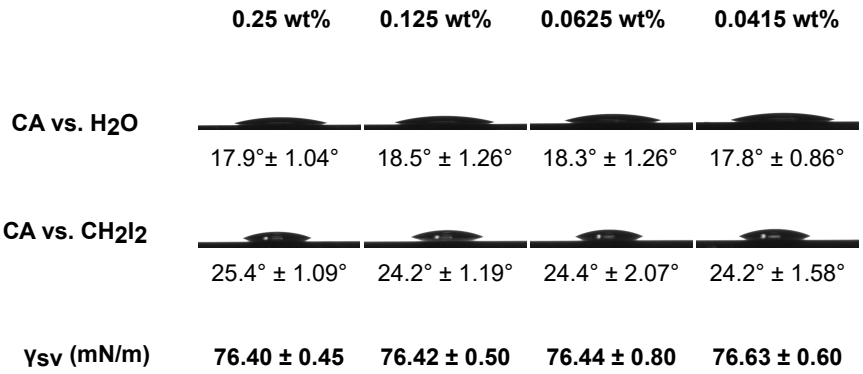

Figure S1: The thickness of the PVP film does not affect the surface properties because the contact angles and the respective surface energy are independent of the PVP thicknesses. The thicknesses are expressed here expressed by the wt% PVP, since the film thicknesses were too small to determine accurately.

2D detector images of the $La_2O_2CO_3$ (130) plane

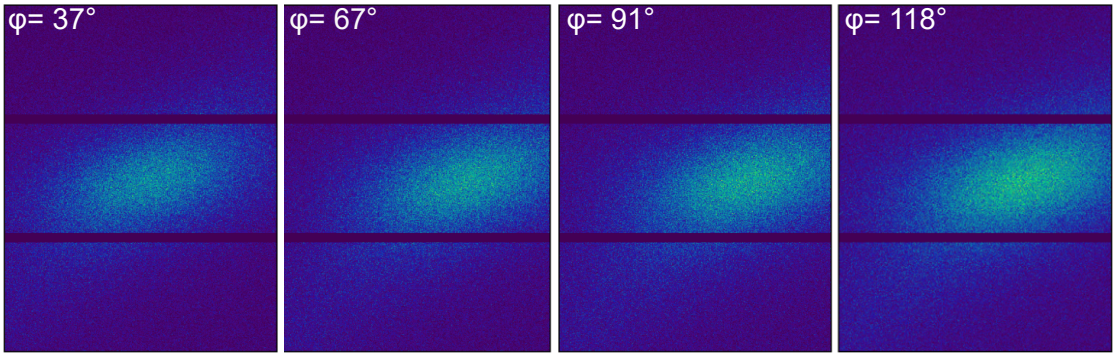

Figure S2: 2D detector images of the $La_2O_2CO_3$ (130) plane at different ϕ-angles. The integrated intensity curve is obtained by intensity integration of a 50 x 50 pixels (pixel size = 0.172 microns) region of interest (ROI).

XRD of the $La_2O_2CO_3$ film processed with and without underlying PVP film

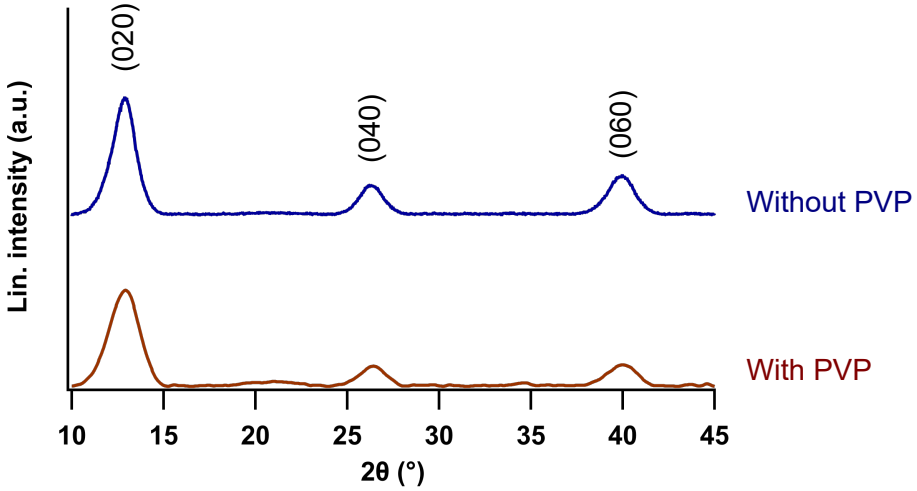

Figure S3: Phase formation and the out-of-plane orientation of the $La_2O_2CO_3$ film is independent of the PVP film. Consequently, the PVP film does not act as a CO_2 and H_2O source for the formation of the $La_2O_2CO_3$ film.

XRD of $Pb(Zr,Ti)O_3$ films integrated on various substrates via the $La_2O_2CO_3$ film

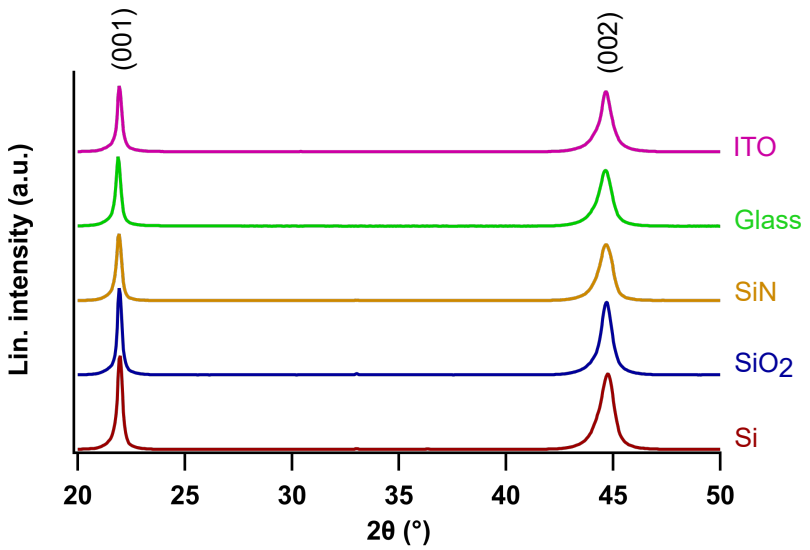

Figure S4: $\theta - 2\theta$ measurements of $Pb(Zr,Ti)O_3$ film deposited on different substrates via the use of the $La_2O_2CO_3$ film. In all cases out-of-plane texture was present.