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Supporting information for article:

Growth of *c*-Plane and *m*-Plane Aluminum-Doped Zinc Oxide Thin Films: Epitaxy on Flexible Substrates with Cubic-Structure Seeds

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Supporting information

S1. HRXRD 2θ-θ scan of the ground AZO sputtering-target powder

The HRXRD 2θ-θ scan of the ground AZO target powder is presented in Figure S1, which is used for the calculation of the strain-free AZO lattice parameters.

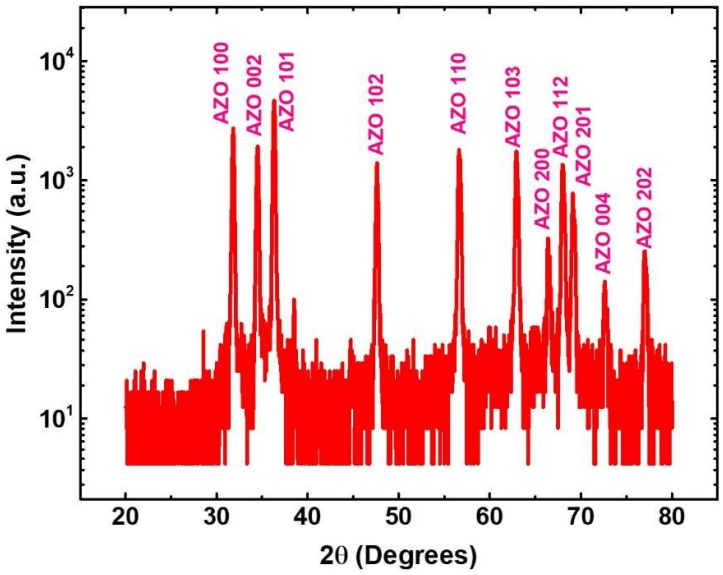

Figure S1 HRXRD 2θ-θ scan of the ground AZO target powder.

S2. Grain size of LMO

As depicted in Figure S2, the grain size of the LMO buffer on Hastelloy spans the range of 10-50 nm, compared to the *m*-plane AZO film on LMO which has a grain size of 50-100 nm. Therefore, the AZO grains are built over several LMO grains mitigating the difference in LMO lattice parameters *a* and *b*, considering the orthogonal configuration of AZO axis in-plane. In this sense, we treat LMO as a tetragonal crystal with *a* of ~0.565 nm (by averaging *a* and *b*) and *c* of ~0.769 nm.

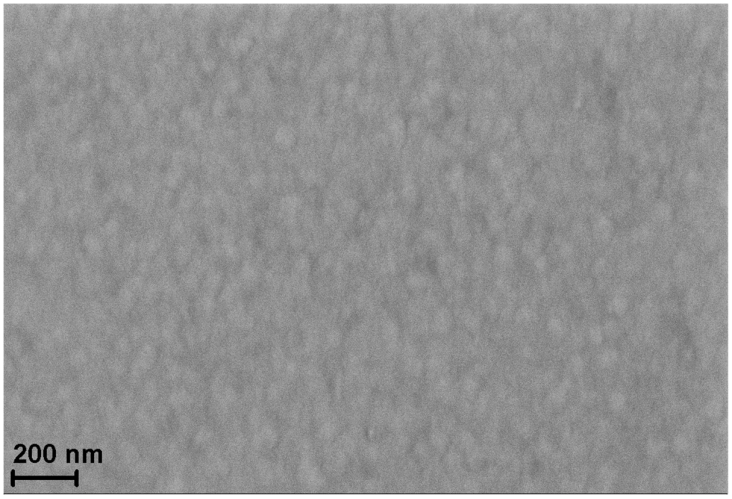

Figure S2 SEM image of the LMO buffer layer on Hastelloy substrates.