

## Supplementary file

### **Morphological, Optical, and Electrical Properties of p-type Nickel Oxide Thin Films by Non-Vacuum Deposition**

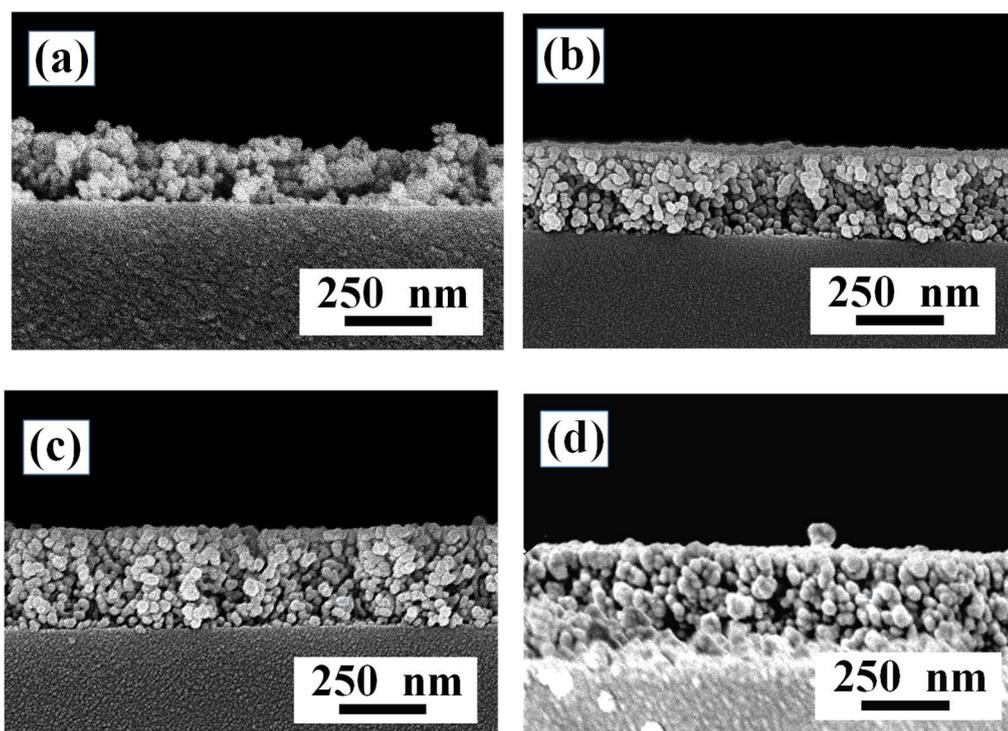
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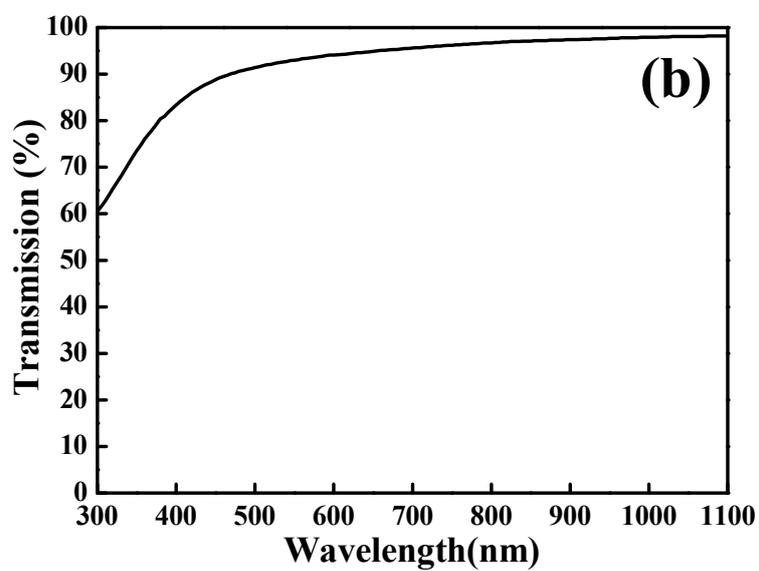
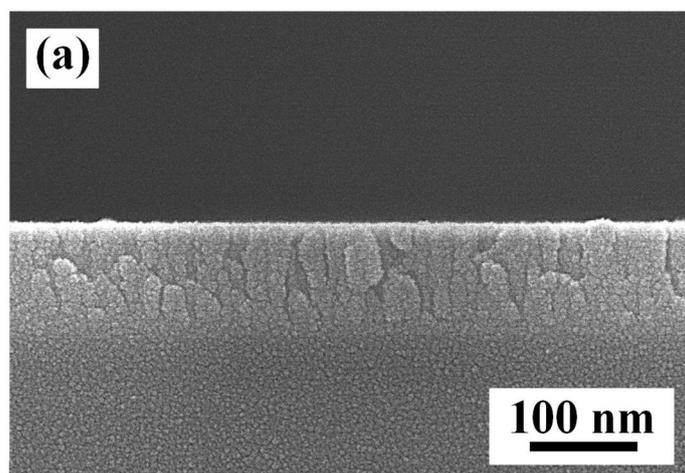
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**Figure S1** Cross-section SEM images of the L2NiO thin films as a function of annealing temperatures and times: (a) 400°C for 1 h, (b) 400°C for 3 h, (c) 500°C for 3 h, and (d) 600°C for 3 h.



**Figure S2** (a) Cross-section SEM image and (b) optical transmittance spectra of the ITO thin film.