

# Atomic Layer Deposition of Chlorine Containing Titanium–Zinc Oxide Nanofilms Using the Supercycle Approach

Denis Nazarov <sup>1,2,\*</sup>, Lada Kozlova <sup>1</sup>, Aida Rudakova <sup>1</sup>, Elena Zemtsova <sup>1</sup>, Natalia Yudintceva <sup>3</sup>, Elizaveta Ovcharenko <sup>3</sup>, Alexandra Koroleva <sup>1</sup>, Igor Kasatkin <sup>1</sup>, Ludmila Kraeva <sup>4</sup>, Elizaveta Rogacheva <sup>4</sup> and Maxim Maximov <sup>2</sup>

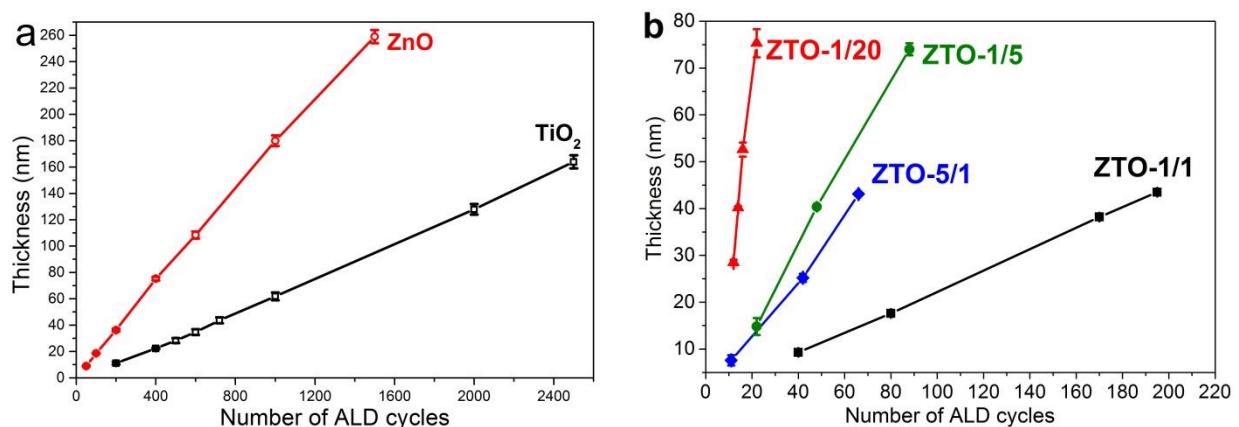
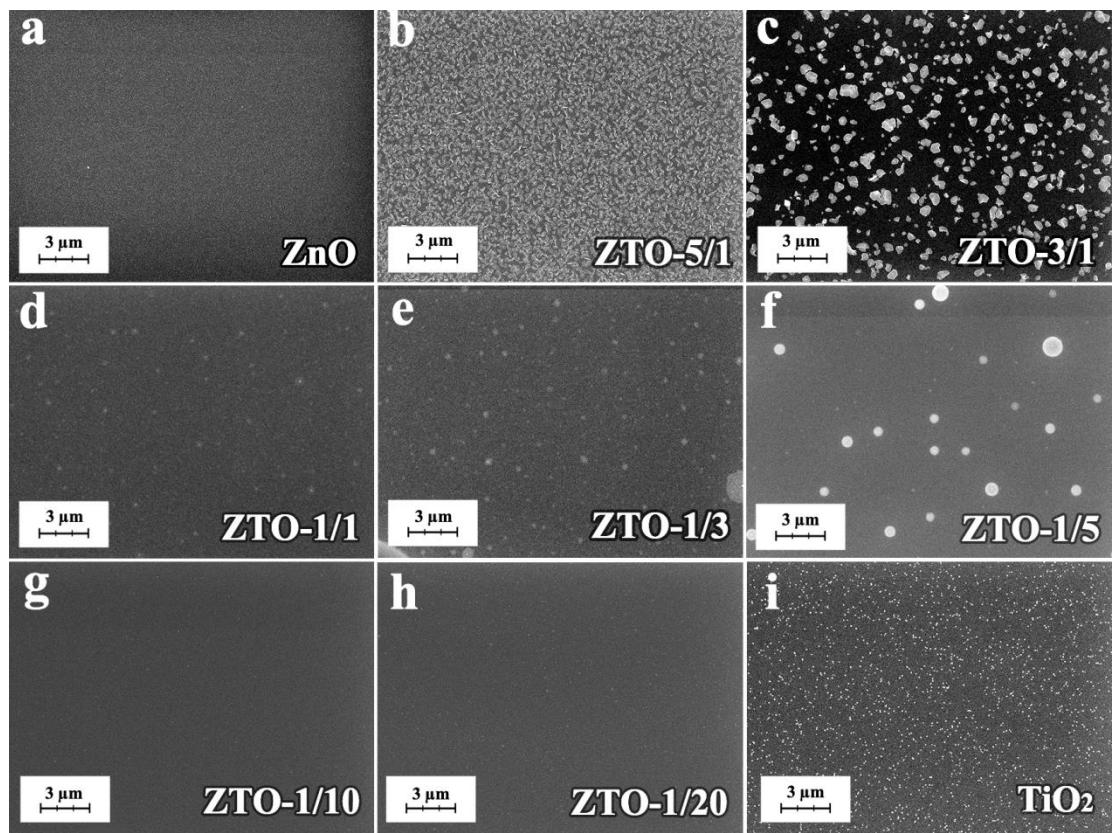


Figure S1. Thickness of ZnO and TiO<sub>2</sub> (a) and ZTO (b) films as a function of the number of ALD cycles.



**Figure S2.** Plan-view SEM images of ZnO, TiO<sub>2</sub>, and ZTO samples at magnification of 10,000. (a) ZnO, (b) ZTO-5/1 (c) ZTO-3/1, (d) ZTO-1/1 (e) ZTO-1/3 (f) ZTO-1/5 (g) ZTO-1/10 (h) ZTO-1/20 (i) TiO<sub>2</sub>.

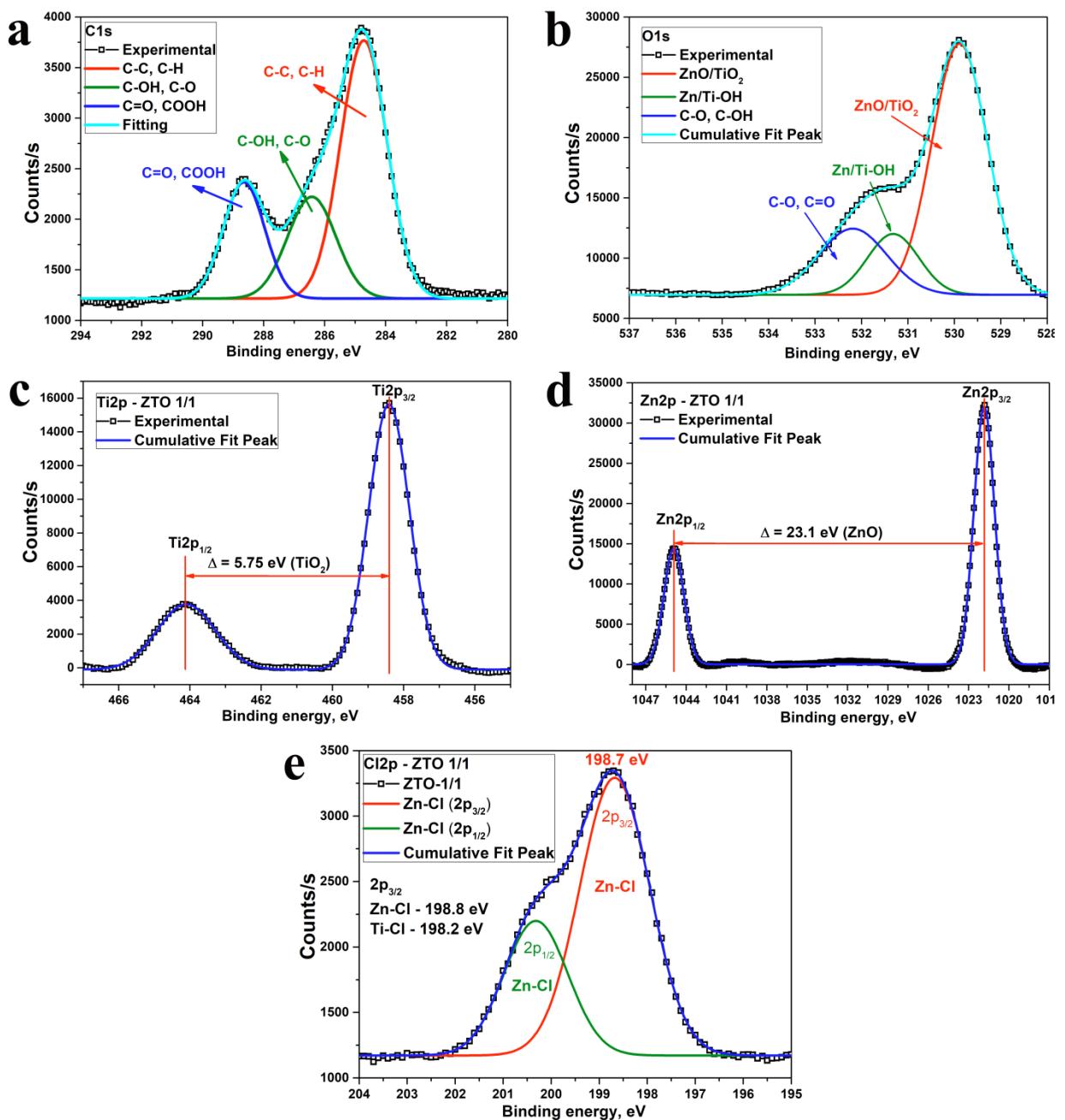


Figure S3. XPS spectra of ZTO-1/1 (a) C1s, (b) O1s, (c) Ti2p, (d) Zn2p, and (e) Cl2p.