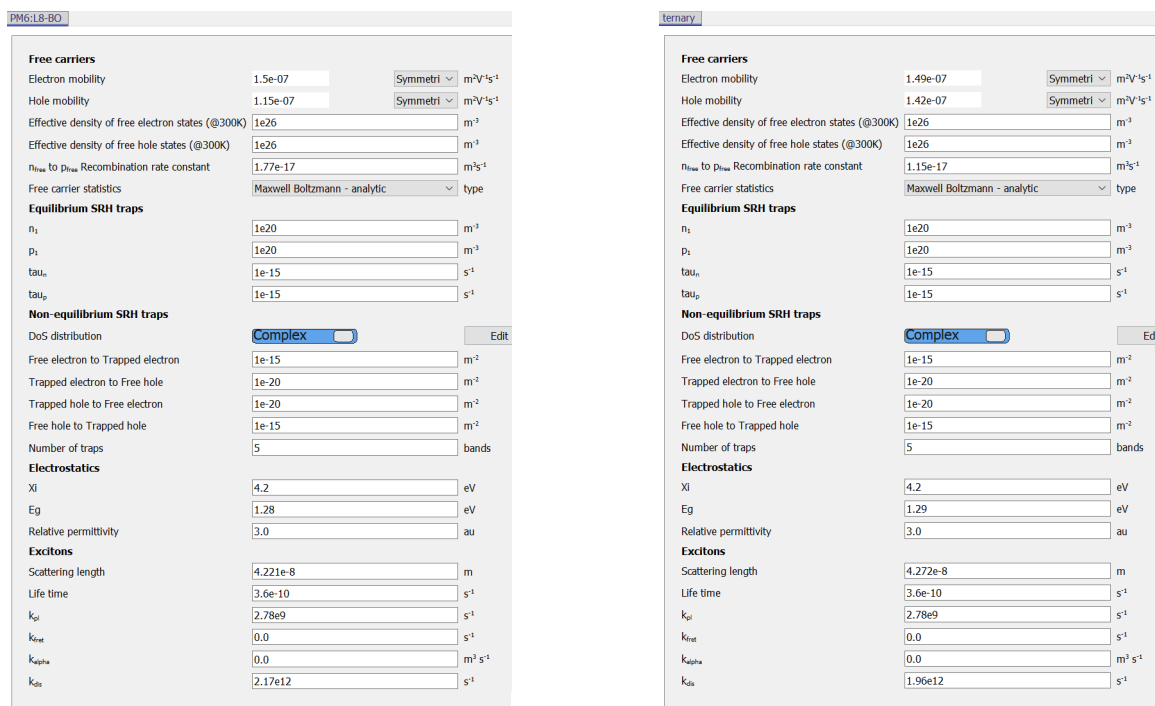


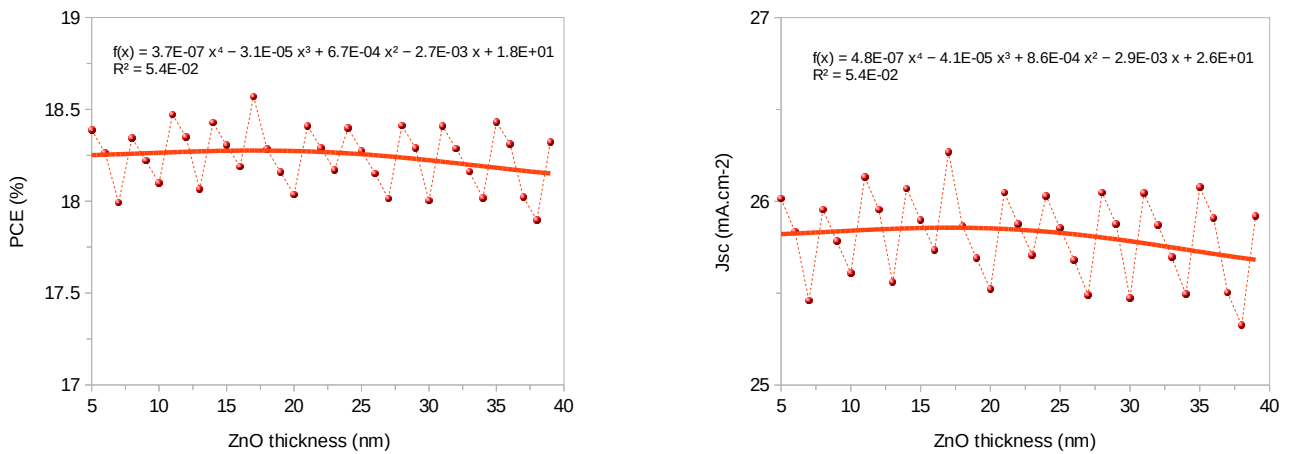
# Supplementary information

Figure S1 presents screenshots of the Oghmanano software interface, showcasing detailed electrical parameters of the active layers used in this study along with their corresponding values, which complement Table 1.



**Figure S1.** Screenshots from the OghmaNano software interface, illustrating electrical parameters for the active layers, (binary on the left and ternary on the right).

Figure S2 illustrates raw results (PCE and J<sub>sc</sub>) obtained from the OghmaNano software while varying the ETL thickness in 1 nm increments. A detailed zoom on the vertical scale highlights oscillations in the numerical data caused by mesh effects. Here, only the data for ZnO ETL is shown as dots, but similar oscillation patterns occur with the other ETLs studied. For clarity and ease of comparison among different materials, smoothing using fourth-degree polynomials (thick lines) was applied. Additionally, this issue was less noticeable in Voc and FF data.



**Fig. S2.** Example of raw results (dots) obtained with OghmaNano ((a) PCE on the left and (b) J<sub>sc</sub> on the right) fitted by fourth-degree polynomials (thick lines). The simulated iOPVs have a binary blend, a ZnO ETL, and a MoO<sub>3</sub> HTL.