Buffer layer-less fabrication of a high-mobility transparent oxide semiconductor, La-doped BaSnO₃

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We show that the electron mobility of the La-doped BaSnO₃ (LBSO) films can be improved without the insertion of any buffer layers if the films are grown under highly oxidative ozone atmospheres. The resultant O₃-LBSO films show improved mobility values up to 115 cm² V⁻¹ s⁻¹, which are among the highest values reported for the LBSO films on SrTiO₃ substrates and comparable to those of the LBSO films with buffer layers.