

Supplementary Materials:

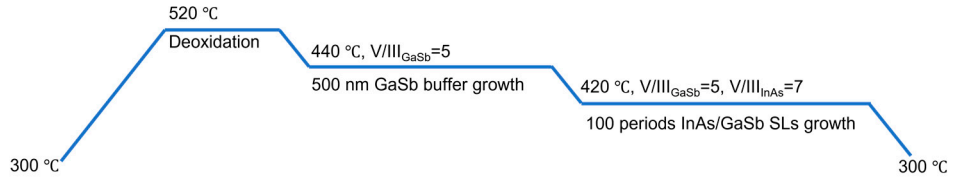


Figure S1. The growth process of superlattices.

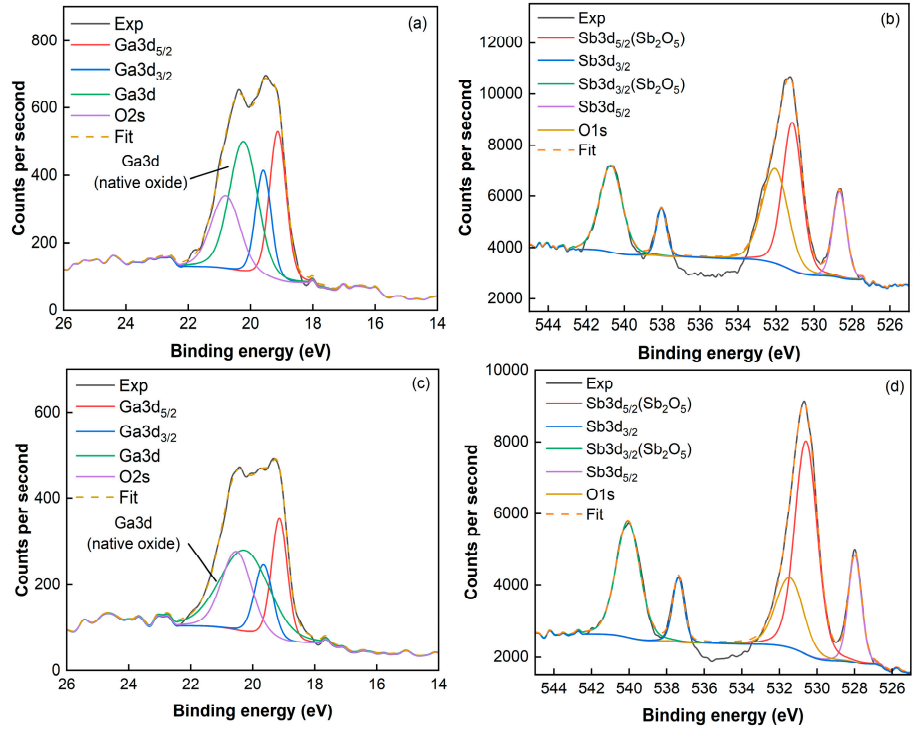


Figure S2. The binding rate of Ga and Sb to oxygen under different atmospheric exposure times. (a) The binding rate of Ga-O was 36.98% after 760 min of atmospheric exposure; (b) The binding rate of Sb-O was 21.51% after 760 min of atmospheric exposure; (c) The binding rate of Ga-O was 41.86% after 1440 min of atmospheric exposure; (d) The binding rate of Sb-O was 23.68% after 760 min of atmospheric exposure.

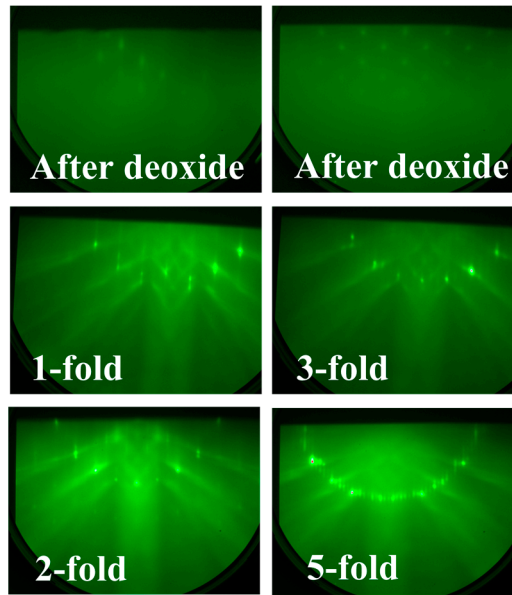


Figure S3. Reflection high energy electron diffraction of reconstruction processes.

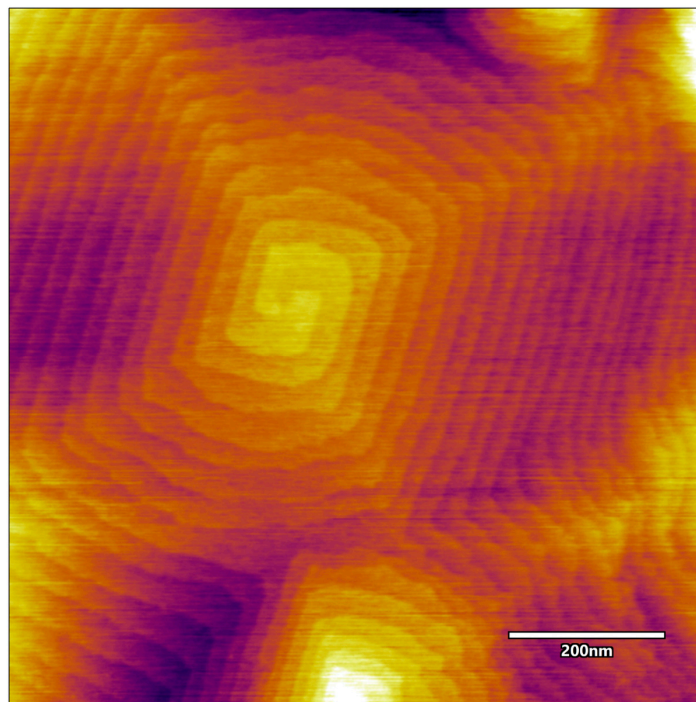


Figure S4. Spiral dislocations on the surface of GaSb buffers grown on GaSb substrates with 224.71Å oxide thickness were observed by atomic force microscopy.