Supplementary information of the manuscript entitled: "P-doping mechanisms in catalyst-free gallium arsenide nanowires"

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The structure of the nanowires has been investigated by High Resolution Transmission Electron Microscopy (TEM). The HRTEM measurements were carried out in a CM300 LaB6 microscope with a point to point resolution of 0.17 nm. The structure of the nanowires investigated in the manuscript was found to be homogeneous in the whole length. As an example, we provide micrographs taken at two different points of the nanowire (sample corresponding to the conditions of Fig. S1). The nanowire is composed of pure zinc-blende structure. This area is characterized for having low presence of twin defects. No structural difference is observed between the external part of the nanowire and the core.

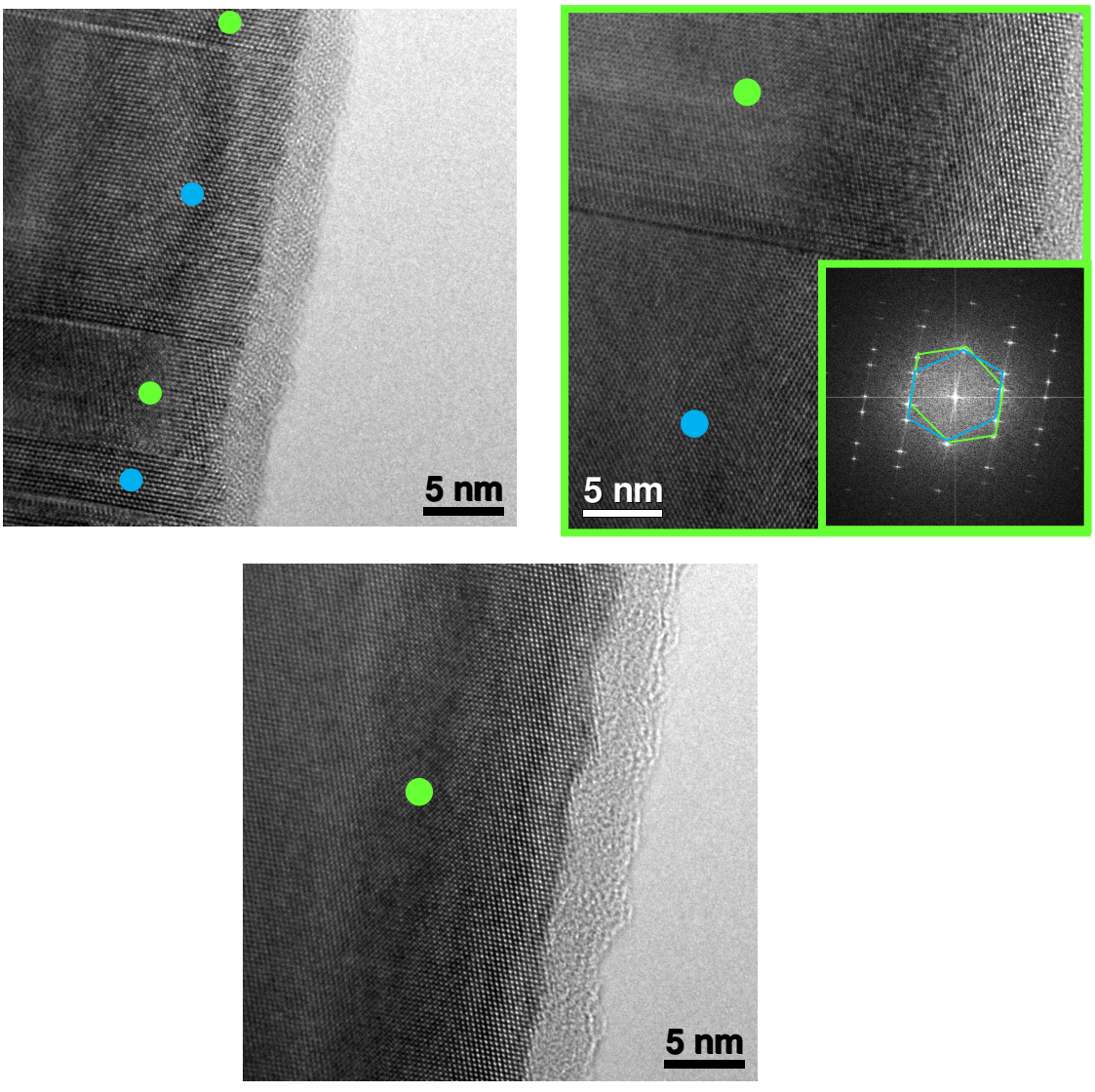

Figure S1. Representative HRTEM Micrographs taken at three different points of the nanowire (base, middle and top). The inset corresponds to the Fourier Transform of the image, indicating the twining relation between the two sections shown in the micrograph