In-situ antimony doping of solution-grown ZnO nanorods

Supplementary Information

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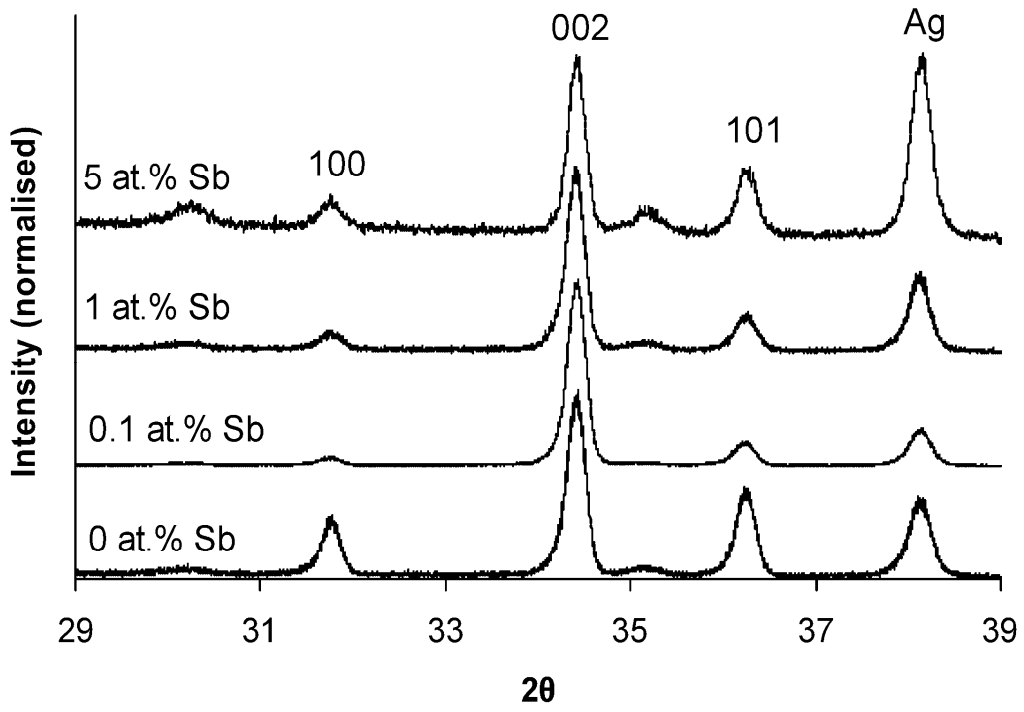

Fig. S1 X-ray diffraction data for samples grown on Ag-coated substrates doped with Sb by adding Sb acetate dissolved in ethylene glycol in proportions indicated. Plots were normalised to the 002 peak and then offset for comparison. This shows that for all samples with Sb added up to 5 at.% the material is still wurzite ZnO, with varying intensity signal also detected from the Ag substrate.

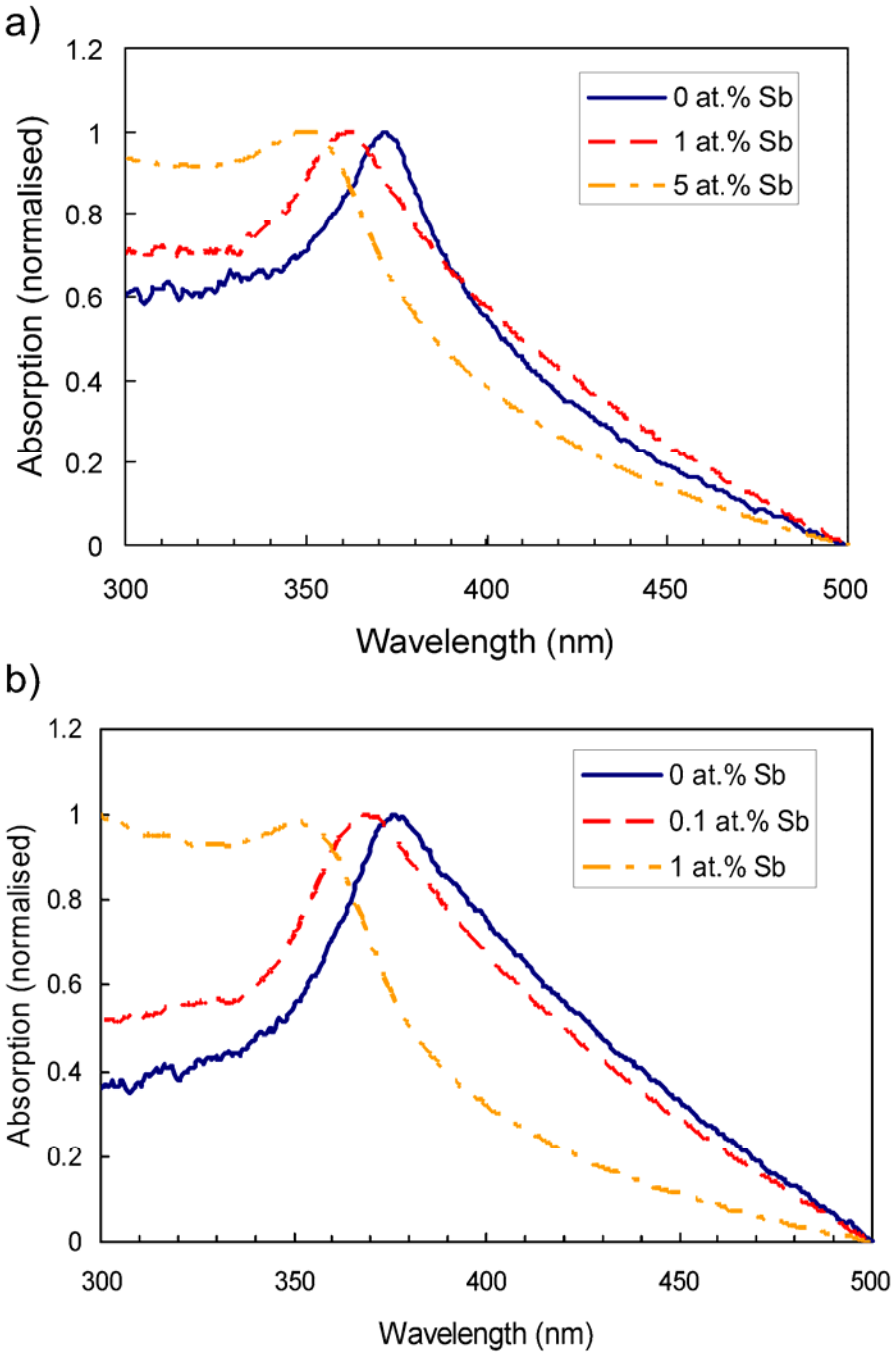

Fig. S2 Absorption spectra of undoped and Sb-doped ZnO. Sb added as Sb acetate either directly to the reaction (a), or dissolved in ethylene glycol first (b). The proportion of Sb added is shown. 0.1 at.% in a) and 5 at.% in b) are omitted because large amounts of dispersion in these samples meant that absorption peaks could not be resolved. In both sets of data there appears to be a blue shift in the absorption peak with increasing Sb content. There are many possible explanations for this including widening of the band gap, changes in morphology and many others. Further work is required to ascertain the cause of this shift.