Supporting Information

Epitaxial Growth and Composition-dependent Optical Properties of Vertically Aligned $ZnS_{1-x}Se_x$ Alloy Nanowire Arrays

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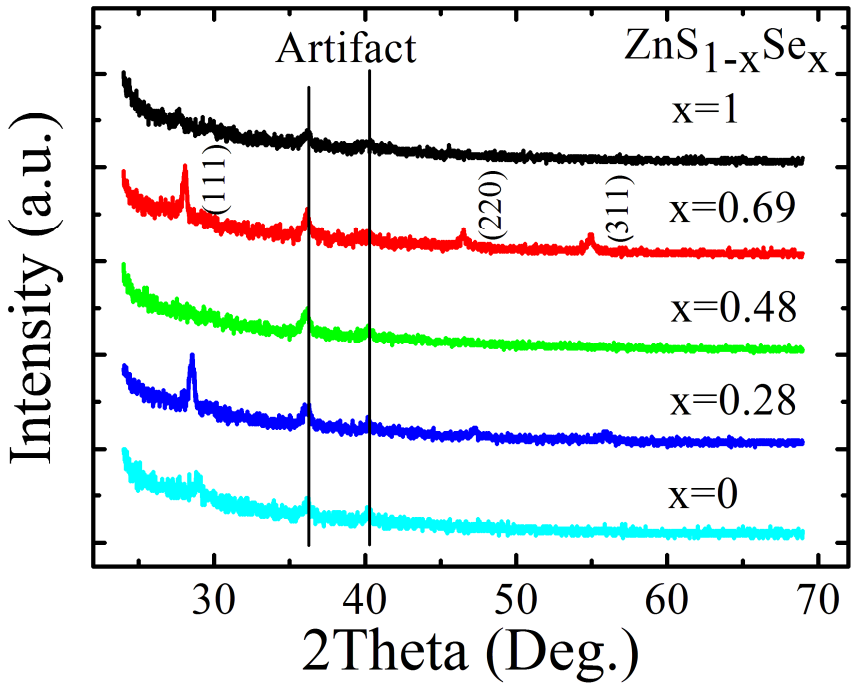

Figure S1. XRD patterns taken from the samples of different compositions. The samples were tilted by several degrees to suppress the intensity of (111) peak.

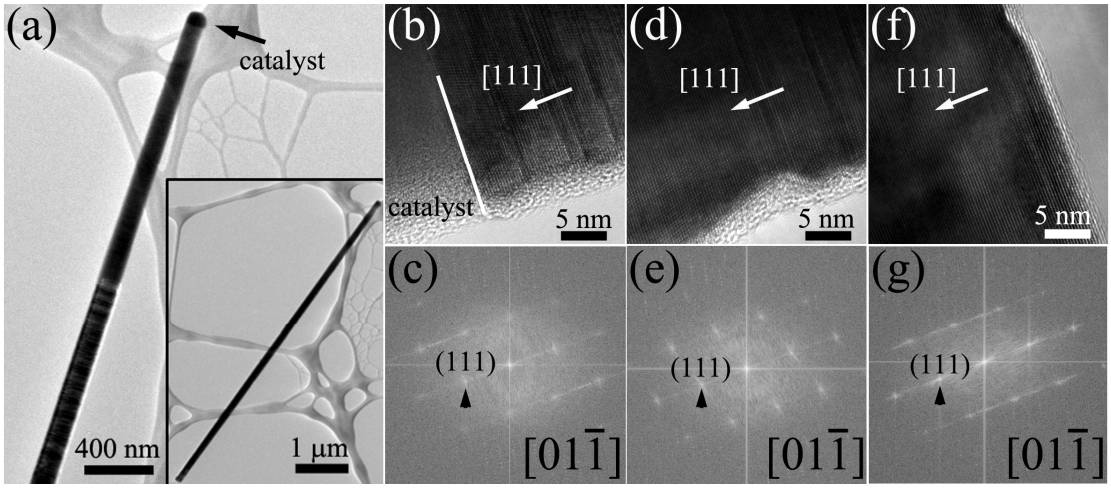

Figure S2. A typical $ZnS_{0.31}Se_{0.69}$ nanowire. (a) A catalyst particle is pointed out by the arrow. Inset shows the whole nanowire. The HRTEM images and the corresponding FFT patterns taken from (b) & (c) near the tip; (d) & (e) in the middle; and (f) & (g) near the end of the nanowire.

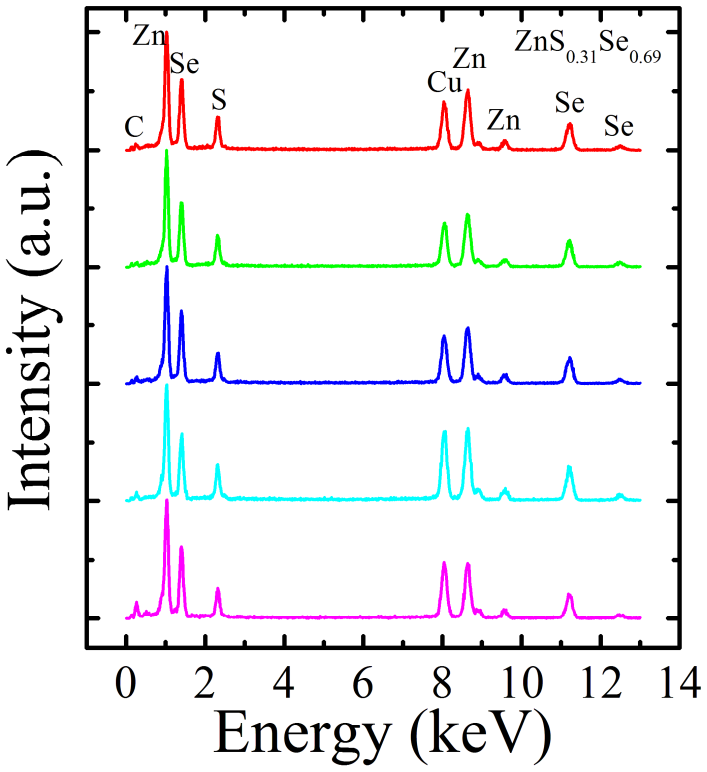

Figure S3. EDX spectra taken from different regions of the $ZnS_{0.31}Se_{0.69}$ nanowire along its growth direction.

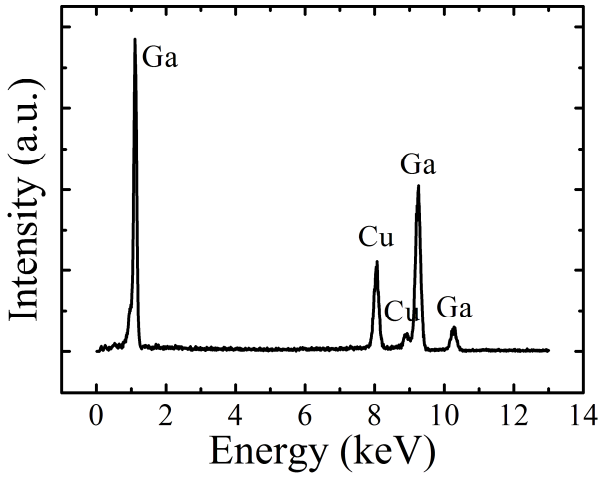

Figure S4. An EDX spectrum taken from the catalyst, confirming that metal Ga acts as catalyst.