## **Electronic Supplementary Information**

for

## Single Nanomaterial Level Investigation of ZnO Nanorod Sulfidation Reaction via Position Resolved Confocal Raman Spectroscopy

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**Figure S1.** EDX elemental maps and spectra acquired from the middle (A) and end (B) position of a mildly sulfidized ZnO NR. The colored panels correspond to the EDX channels of Zn, O, and S as well as the merged view of the three channels, as specified in each frame. The merged elemental map from the NR middle data in (A) shows more clearly that the distribution of O, compared to that of S, tends to be closer to the NR core, whereas more S populates near the outer part of the NR. From the Zn: O : S atomic ratios determined from the EDX spectrum of the NR middle (A) versus end (B) position, NR end shows a higher S/O value than NR middle. These outcomes agree with the Raman results in Figures 6 and 7, as discussed in the paper.