## **Supporting Information**

## Synthesis of High-Density Indium Oxide Nanowires with Low Electrical Resistivity

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Figure S1. SEM images of indium oxide nanowires grown at different growth conditions.

Figure S1 shows SEM images of the nanowires grown at different growth conditions. Figure S1 (a-c) show the nanowires grown at different temperatures for 20 minutes. The reaction temperature for Figure S1 (a-c) was 860 °C, 860 °C, 880 °C and the deposition temperature was 540 °C, 580 °C, 540 °C, respectively. Figure S1 (d-f) show the nanowires grown at 4, 6, 8 torr for 45 minutes. Figure S1 (g-i) show the nanowires grown with reaction duration of 30, 45, 60 minutes. Figure S1 (j-l) show the nanowires grown with different indium oxide weight of 0.1, 0.15, 0.2 g for 45 minutes.



Figure S2. EDS analysis of the indium oxide nanowire.

Figure S2 is the EDS analysis for the In<sub>2</sub>O<sub>3</sub> nanowire, indicating that the atomic ratio of O/In is

1.39; the deviation may be attributed to the presence of oxygen vacancies.