## Supplementary file

## **Development of Crystalline Cu2S Nanowires via A Directly Synthesis Process and Its Potential Applications**

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The SEM images in Figure S1 reveals the volume of 4 ml, 7ml, and 10 ml ethylenediamine which were added respectively into the reaction solutions with 10 g sodium hydroxide at 70  $^{\circ}$ C for 10 h. Figure S1 show a certain amount of ethylenediamine was indispensable to control the morphology and density of nanowires as shown in Figure S1 (see supplementary file).

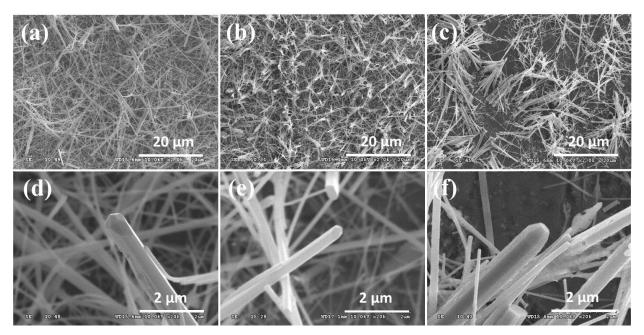


Figure S1. SEM images of as-prepared free standing Cu<sub>2</sub>S nanowire grown under different reaction conditions. The three conditions are added (a) 4 ml, (b) 7 ml, (c) 10 ml ethylenediamine with 10 g sodium hydroxide at 70  $^{\circ}$ C for 10 hours.