

# Supplementary Materials

## Two-Dimensional Hybrid Composites of SnS<sub>2</sub> Nanosheets Array Film with Graphene for Enhanced Photoelectric Performance

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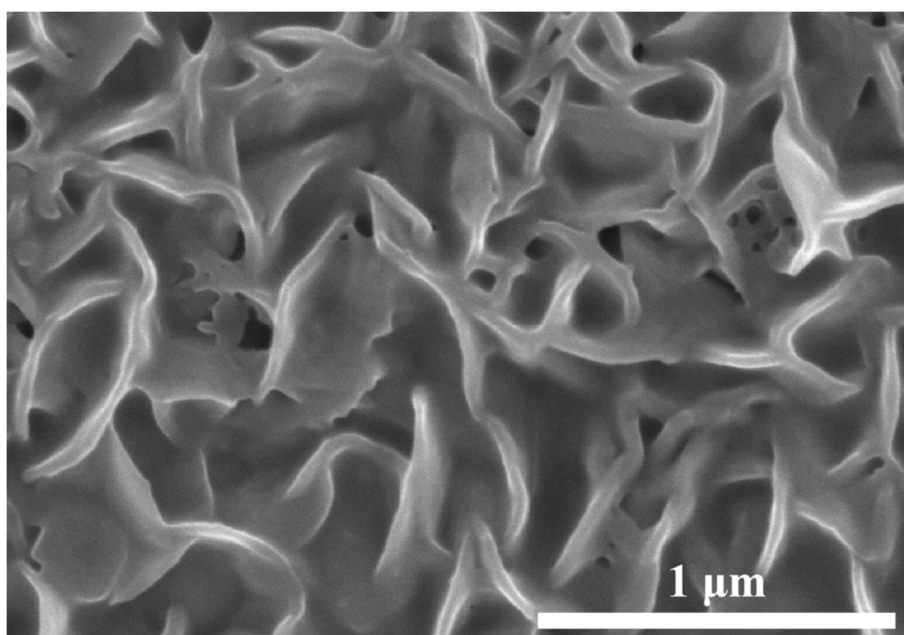
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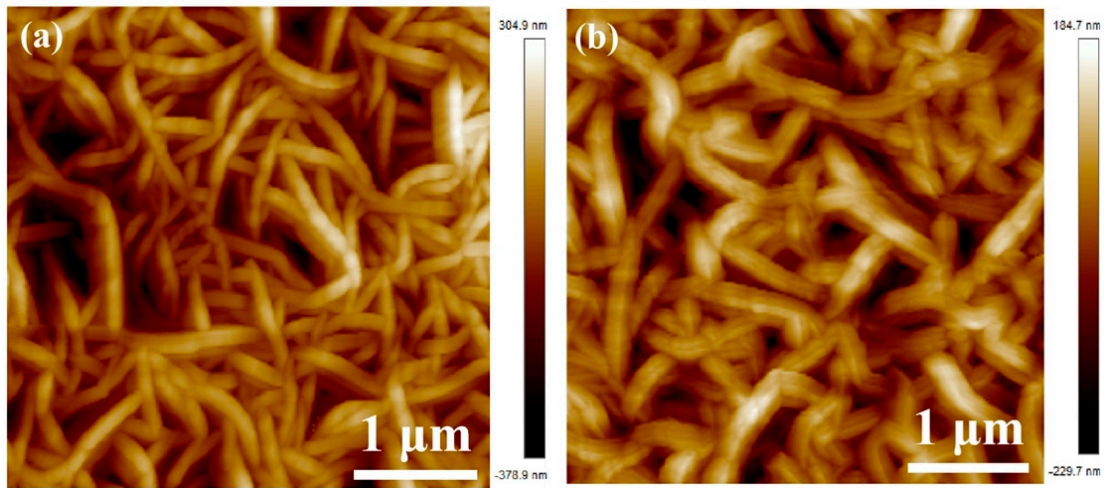
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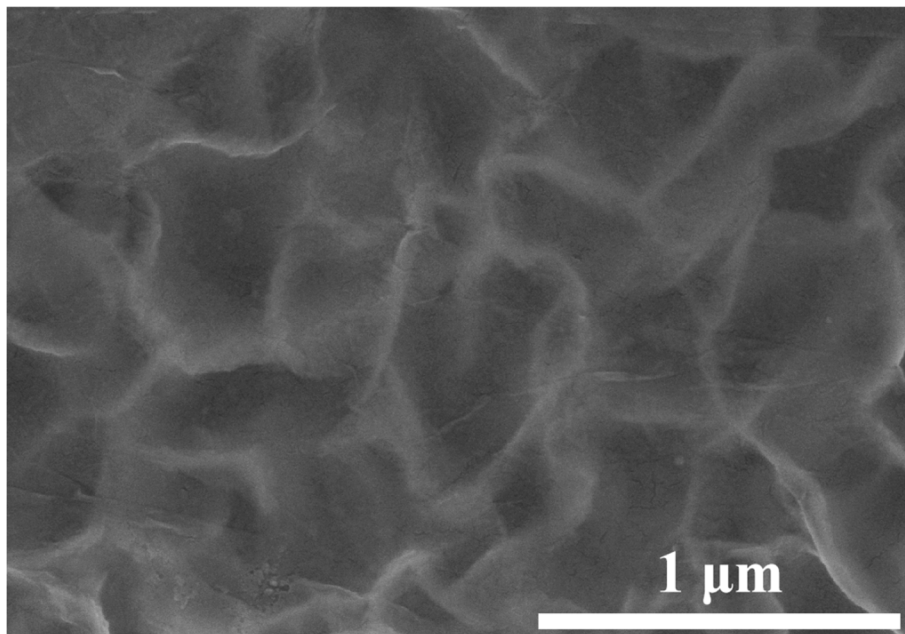
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**Figure 1.** top-view SEM image of pristine SnS<sub>2</sub> film on FTO prepared at 60 °C for 0.5 h.



**Figure 2.** AFM height image of (a) pristine SnS<sub>2</sub> film and (b) SnS<sub>2</sub>/ graphene heterostructure film on FTO prepared at 60 °C for 1 h.



**Figure 3.** top-view SEM image of SnS<sub>2</sub>/ graphene heterostructure film.

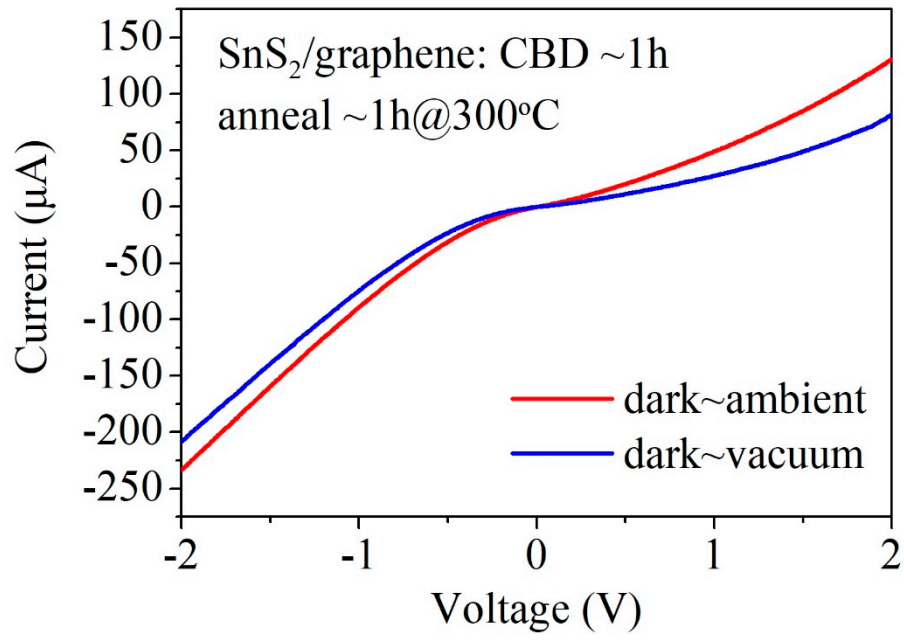


Figure 4. I-V curves of SnS<sub>2</sub>/ graphene photodetector under vacuum and ambient condition.