

Supporting information for

**Understanding the contribution of hydroxyl to energy band
of semiconductor: $\text{Bi}_2\text{O}(\text{OH})_2\text{SO}_4$ vs. $\text{Bi}_6\text{S}_2\text{O}_{15}$**

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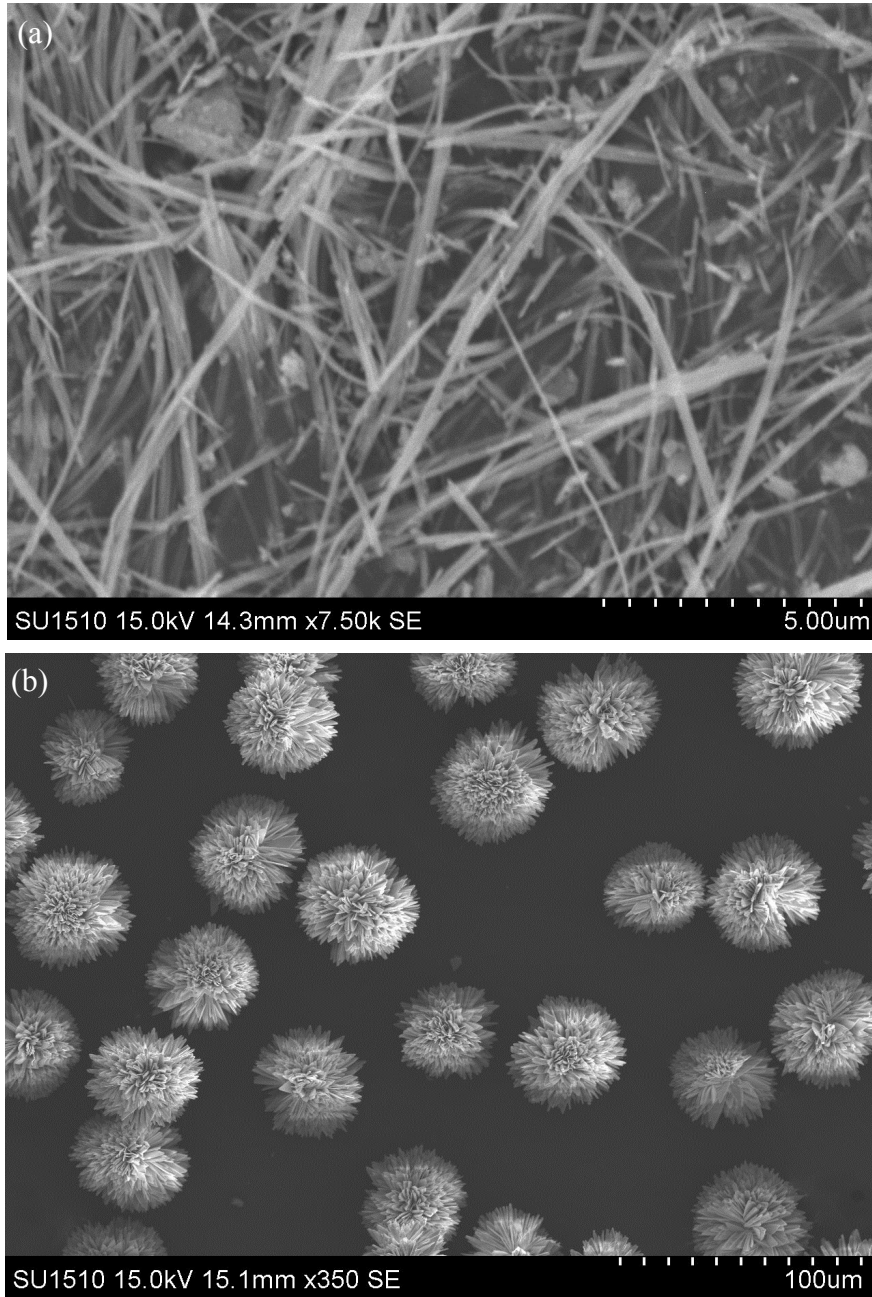


Figure S1. SEM images of as-prepared samples of (a) $\text{Bi}_6\text{S}_2\text{O}_{15}$ and (b) $\text{Bi}_2\text{O}(\text{OH})_2\text{SO}_4$.

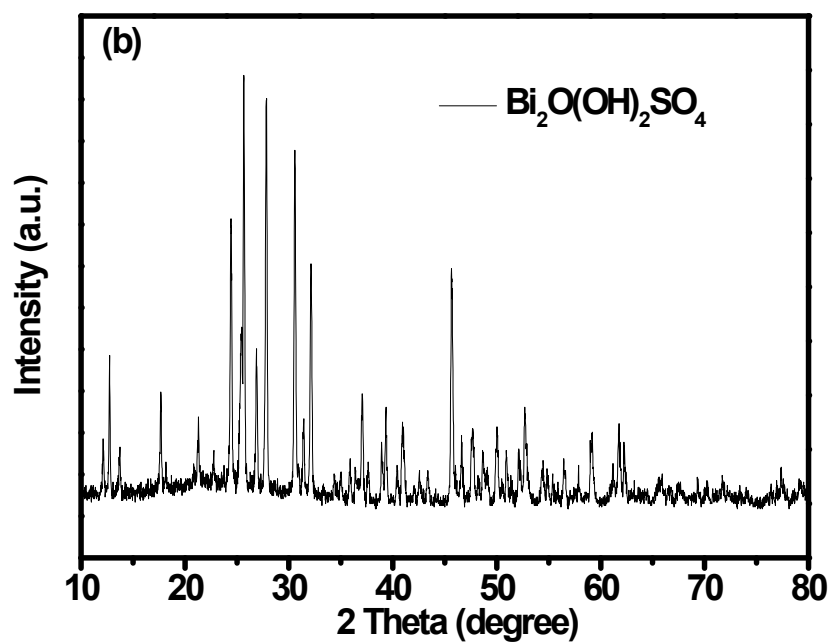
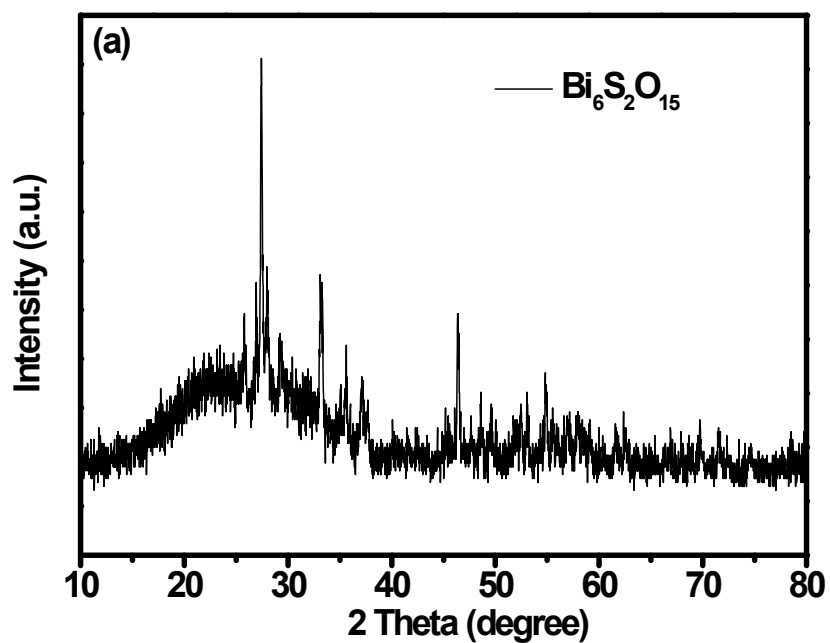


Figure S2. XRD pattern of as-prepared samples of (a) $\text{Bi}_6\text{S}_2\text{O}_{15}$ and (b) $\text{Bi}_2\text{O}(\text{OH})_2\text{SO}_4$.