

## Epitaxial growth of Bi<sub>2</sub>S<sub>3</sub> nanowires on BiVO<sub>4</sub> nanostructures for enhancing photoelectrochemical performance

Canjun Liu <sup>a</sup>, Jie Li <sup>a</sup>, Yaomin Li <sup>b</sup>, Wenzhang Li <sup>a,\*</sup>, Yanghui Yang <sup>c</sup>, Qiyuan Chen <sup>a</sup>

<sup>a</sup>School of Chemistry and Chemical Engineering, Central South University, Changsha  
410083 China

<sup>b</sup> Department of Chemistry, University College London, 20 Gordon Street,  
London, WC1H 0AJ, UK

<sup>c</sup> College of Resources and Environment, Hunan Agricultural University, Changsha  
410128, China

\*Corresponding author. Tel.: +86 731 8887 9616; fax: +86 731 8887 9616.

E-mail addresses: liwenzhang@csu.edu.cn, lijieliu@csu.edu.cn.

### Supporting Information

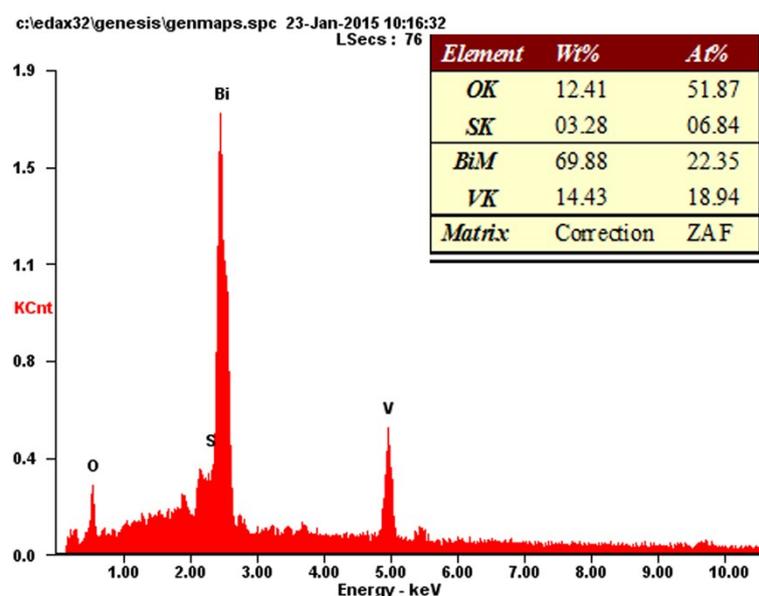


Fig. S1 EDX of the Bi<sub>2</sub>S<sub>3</sub>/BiVO<sub>4</sub> heterojunction films

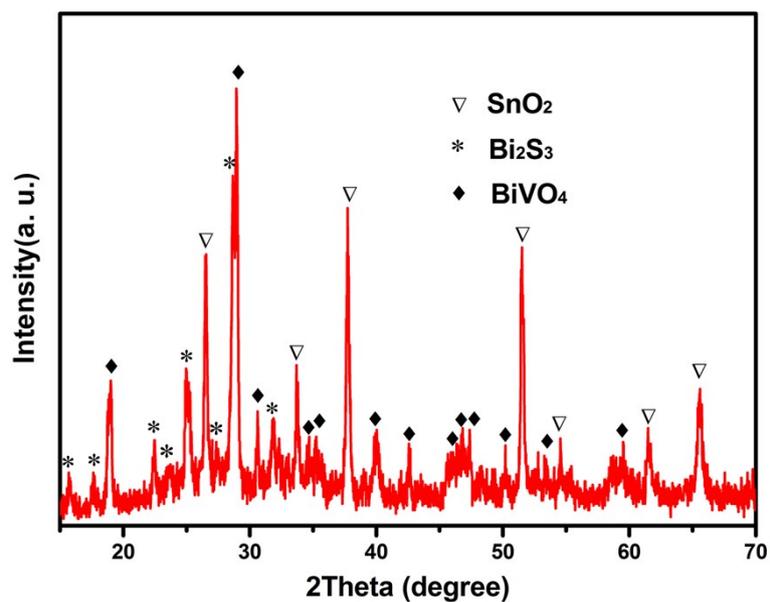


Fig. S2 XRD pattern of  $\text{BiVO}_4$  film after LSV measurement in the aqueous solution containing 0.35 M  $\text{Na}_2\text{SO}_3$  and 0.25 M  $\text{Na}_2\text{S}$ .

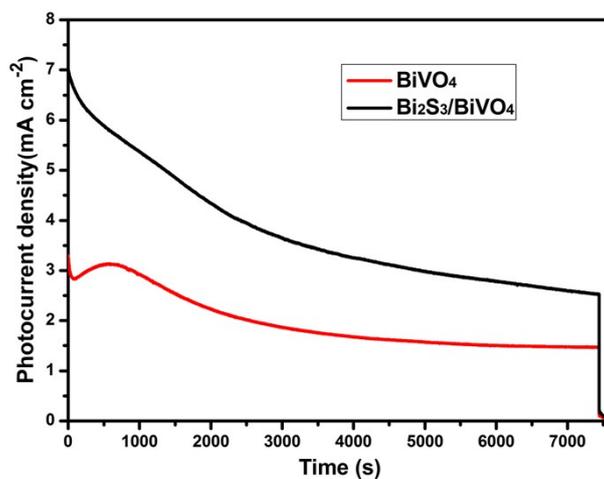


Fig. S3 (a) Photocurrent-time plot of the photoelectrodes at 0.6761 V vs. RHE (-0.2 V vs. Ag/AgCl)