

Supporting Information For:

Novel $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ heterojunction photocatalysts with enhanced visible light responsive activity and wastewater treatment

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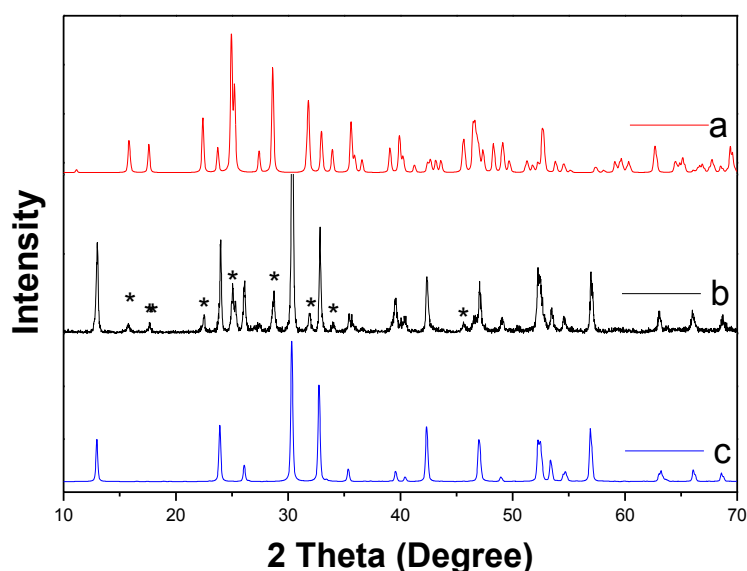


Fig. S1 XRD pattern of obtained 25 mol% $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ composite after further being treated by hydrothermal process at 180 °C for 6hrs (b), Bi_2S_3 (JCPDS card No. 17-0320, a) and $\text{Bi}_2\text{O}_2\text{CO}_3$ (JCPDS card No. 41-1488, c) standard patterns.

Fig. S1 shows that XRD pattern of the obtained 25 mol% $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ composite, which was further treated by hydrothermal process at 180 °C for 6hrs. From which one can see that Bi_2S_3 diffraction peaks (JCPDS card No. 17-0320) appear besides of that of $\text{Bi}_2\text{O}_2\text{CO}_3$ (JCPDS card No. 41-1488). This result indicates that $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ composite can be prepared, and the hydrothermal process is beneficial for the phase transformation of Bi_2S_3 from amorphous to crystalline. However, no diffraction peaks of Bi_2S_3 can be observed in 5 mol% $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ and 15 mol% $\text{Bi}_2\text{S}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ composites even they also be treated by hydrothermal process, because of low content of Bi_2S_3 and the high diffraction intensity of $\text{Bi}_2\text{O}_2\text{CO}_3$ which may cover the diffraction peaks of Bi_2S_3 .