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Supporting Information

Fabrication of a novel ternary heterojunction composite

 $Ag_2MoO_4/Ag_2S/MoS_2$ with significantly enhanced photocatalytic

performance

Luqiu Li¹, Dongguang Yin¹*, Linlin Deng¹, Songtao Xiao²*, Yinggen Ouyan^{2*}, Kyu Kyu Khaing¹, Xiandi Guo¹, Jun Wang¹, Zhaoyue Luo¹

¹School of Environmental and Chemical Engineering, Shanghai University, Shanghai, 200444, China

²China Institute of Atomic Energy, Beijing, P. O. Box 275-26, 102413, China



Figure S1. XRD patterns of Ag₂MoO₄/Ag₂S-25%/MoS₂-30%.



Figure S2. Photocatalytic degradation of RhB curves over Ag_2MoO_4/Ag_2S with different Ag_2S contents and $Ag_2MoO_4/Ag_2S/MoS_2$ with different MoS_2 contents under simulated sunlight irradiation (a, c) and corresponding kinetics plots (b, d).



Figure S3. Photocatalytic degradation of RhB curves over Ag_2MoO_4/Ag_2S and $Ag_2MoO_4/Ag_2S/MoS_2$ with and without surface covering of SiO₂ (a) and corresponding kinetics plots (b).