Supplementary information

Application of $BiVO_4/ZnIn_2S_4$ composite to photocatalytic degrade Congo red

Xinyue Liu[1,2], Yixin Zhang[2], Jiaxing Yu[2], Ming Li[2*]

[1]Nanjing-Helsinki Institute in Atmospheric and Earth System Sciences, Nanjing University, Suzhou 215163, China

[2]College of Forestry, Northeast Forestry University, Harbin 150040, China

[*]**Corresponding author:** Prof. Ming Li

College of Forestry, Northeast Forestry University, Harbin 150040, China
Tel: 86-451-82192120

E-mail: liming1986@nefu.edu.cn **(M. Li)**

Table S1 Specific surface area, pore size, and pore volume of $BiVO_4$, $ZnIn_2S_4$, and $BiVO_4/ZnIn_2S_4$

Catalyst	S_{BET} (m^2/g)	Pore size (nm)	Pore volume (cm^3/g)
$BiVO_4$	3.583	11.77	0.01055
$ZnIn_2S_4$	55.75	14.24	0.2199
$BiVO_4/ZnIn_2S_4$	61.75	15.28	0.2129

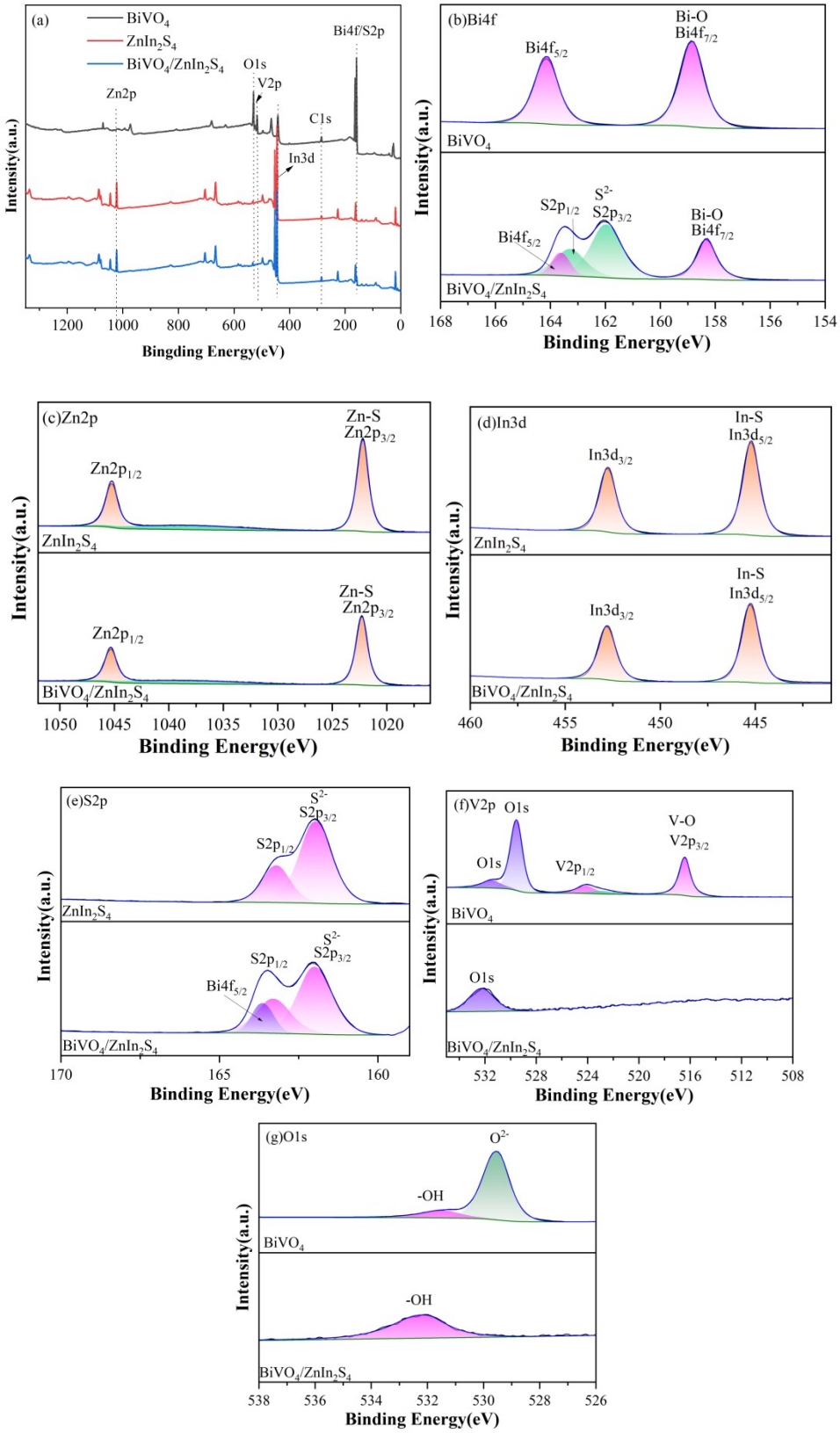

Fig. S1 XPS spectra of $BiVO_4$ and $BiVO_4/ZnIn_2S_4$: Full spectrum (a), Bi 4f (b), Zn 2p (c), In 3d (d), S 2p (e), V 2p (f), O 1s (g).

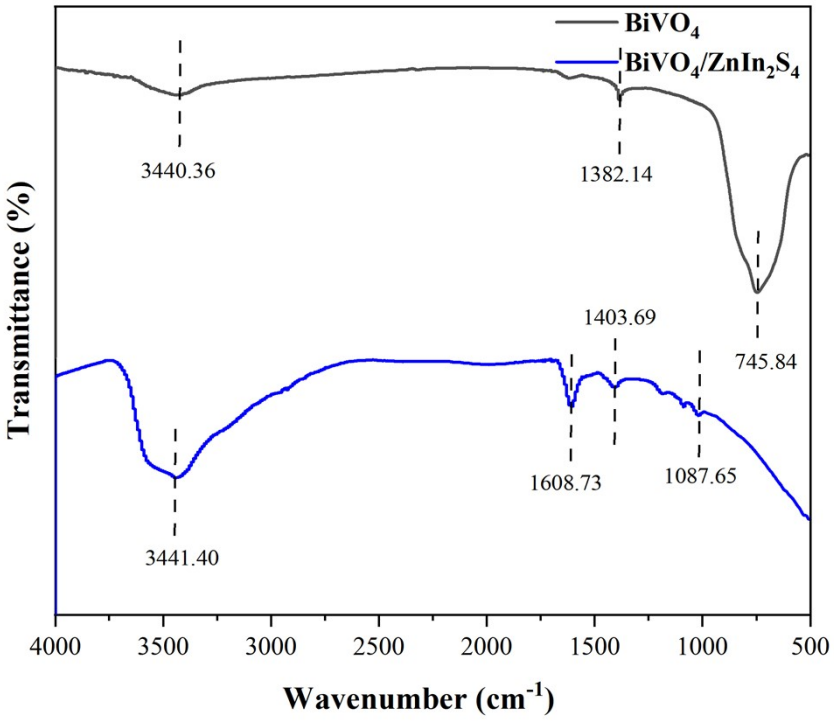

Fig. S2 FT-IR spectra of $BiVO_4$ and $BiVO_4/ZnIn_2S_4$

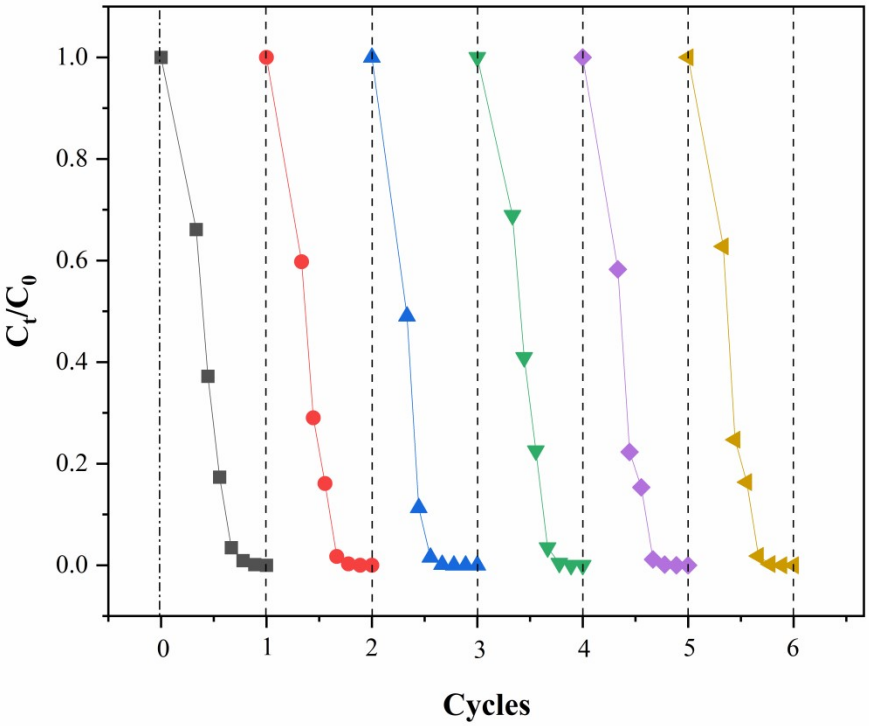

Fig. S3 Degradation efficiency of $BiVO_4/Znln_2S_4$ during six cycles

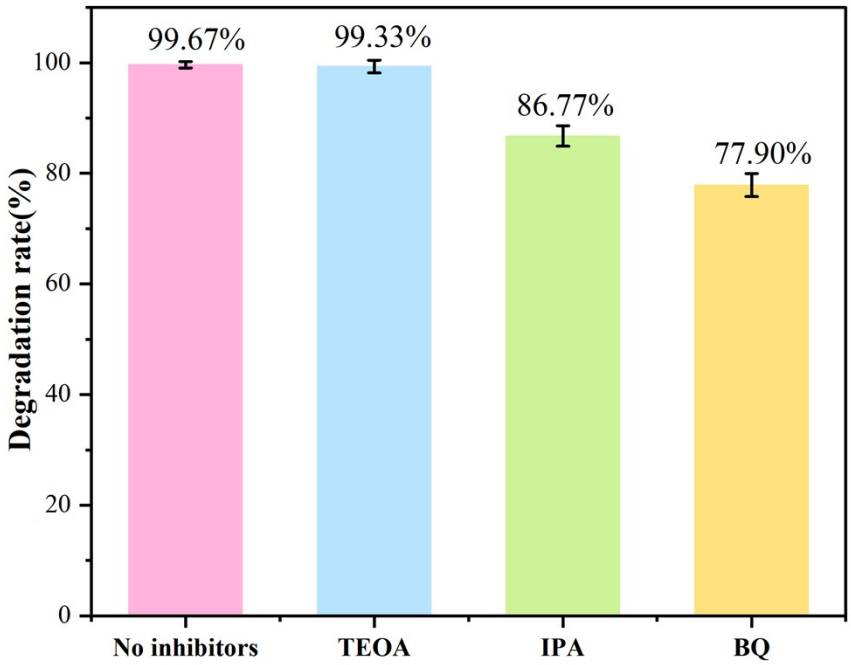

Fig. S4 Influence of scavengers on photocatalytic degradation rate of CR by 7% $BiVO_4/Znln_2S_4$

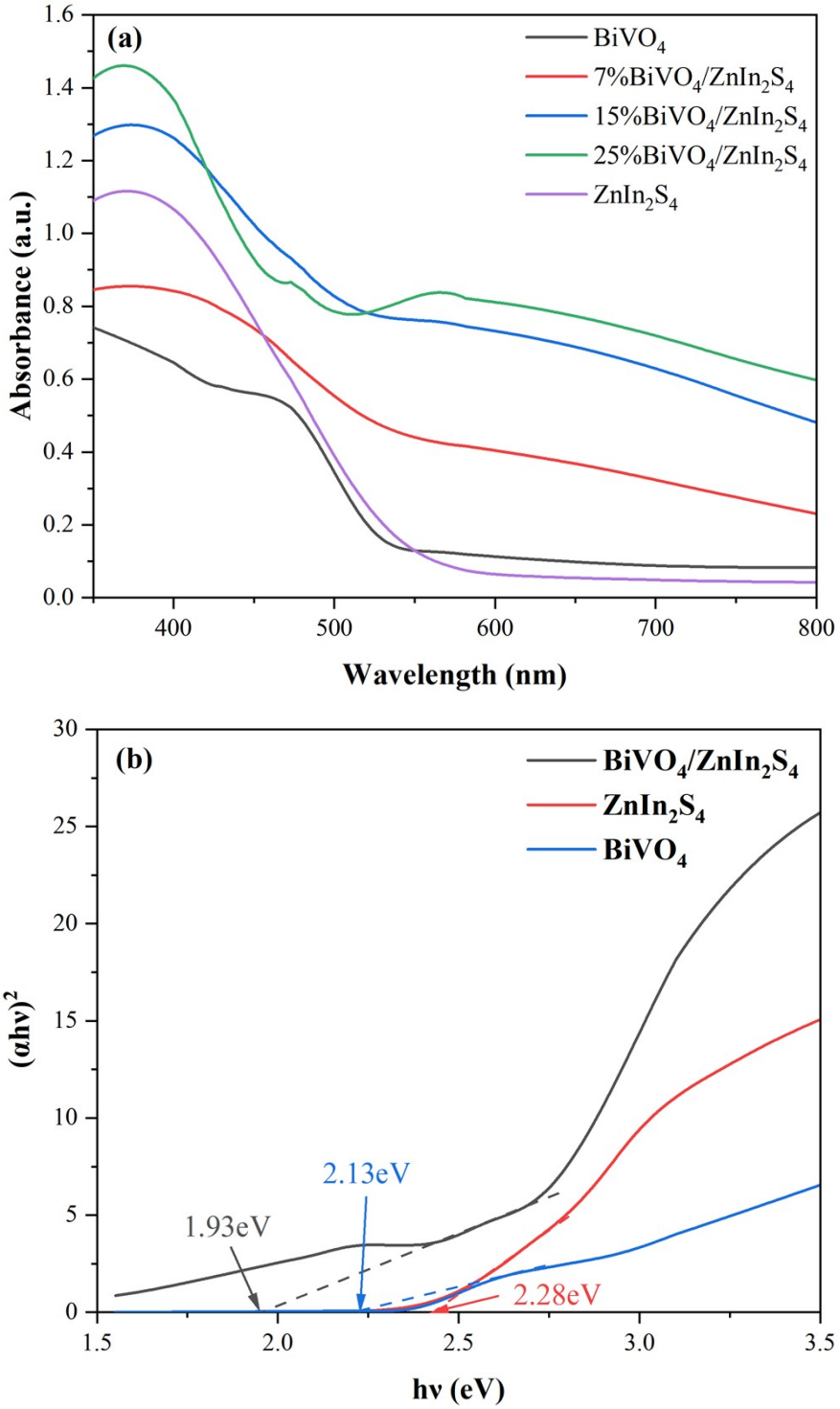

Fig. S5 Diffuse reflectance UV-vis spectra of samples (a), Plots of $(ahv)^2$ versus the photon energy (hv) of $ZnIn_2S_4$ and $BiVO_4$ with the corresponding Eg (b)