Oxygen Vacancy-Induced Dipole Moment Enhancement in $BiVO_4$ for Efficient Pyro-Catalytic Hydrogen Evolution

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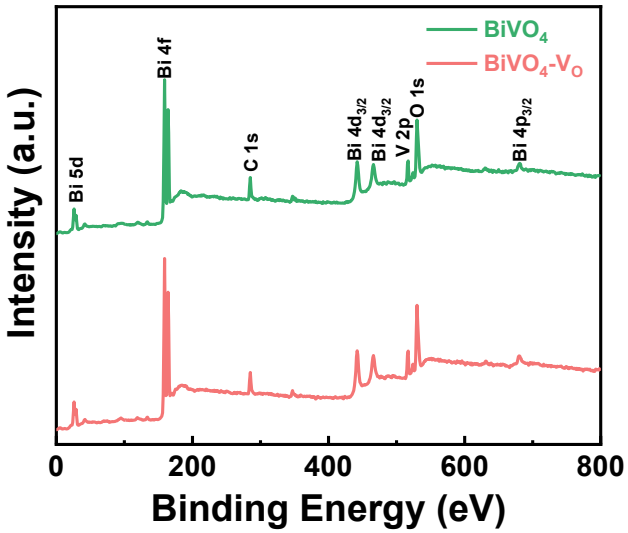

Fig. S1. XPS survey spectra of $BiVO_4$ and $BiVO_4$-V_O.

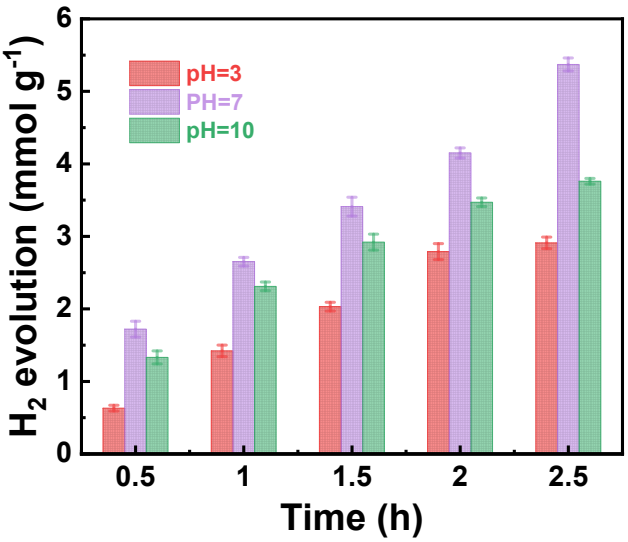

Fig. S2. The hydrogen production performance of $BiVO_4$-V_O at different pH values.

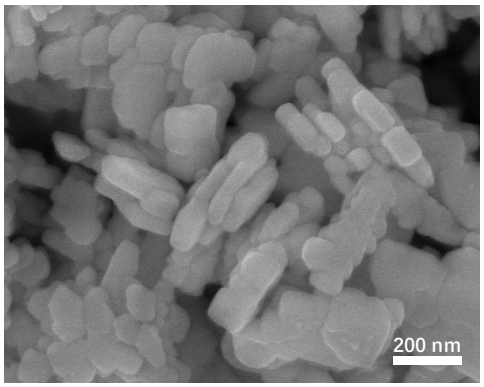

Fig. S3. SEM image of $BiVO_4$-V_O after the reaction.

Table S1. The hydrogen evolution activity of pyroelectric catalyst in earlier literature.

Compounds	Method	Activity ($mmol \cdot h^{-1} \cdot g^{-1}$)	Ref
$KNbO_3$	Hydrothermal	0.22	[1]
$Ba_{0.7}Sr_{0.3}TiO_3$	Hydrothermal	0.13	[2]
CdS	Hydrothermal	0.59	[3]
2D-BP	Calcination	0.54	[4]
PVDF/Fe_3O_4@g-C_3N_4	Calcination	0.42	[5]
Co-CdS	Hydrothermal	0.12	[6]
$BiVO_4$-V_O	**Hydrothermal**	**5.38**	**This work**

Table S2. The activity retention rate of $BiVO_4$-V_O for four consecutive cycles.

Cycle Number	Activity retention rate
1 st	100%
2 nd	99.3%
3 rd	99.8%
4 th	98.3%

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