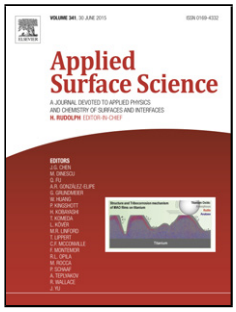
Accepted Manuscript



Title: Boosting the catalytic performance of MoS_x cocatalysts over CdS nanoparticles for photocatalytic H_2 evolution by Co doping *via* a facile photochemical route

Authors: Yonggang Lei, Jianhua Hou, Fang Wang, Xiaohua Ma, Zhiliang Jin, Jing Xu, Shixiong Min

PII: S0169-4332(17)31520-9
DOI: http://dx.doi.org/doi:10.1016/j.apsusc.2017.05.165
Reference: APSUSC 36100

To appear in: *APSUSC*

Received date: 1-5-2017
Revised date: 19-5-2017
Accepted date: 19-5-2017

Please cite this article as: Yonggang Lei, Jianhua Hou, Fang Wang, Xiaohua Ma, Zhiliang Jin, Jing Xu, Shixiong Min, Boosting the catalytic performance of MoSx cocatalysts over CdS nanoparticles for photocatalytic H2 evolution by Co doping via a facile photochemical route, Applied Surface Sciencehttp://dx.doi.org/10.1016/j.apsusc.2017.05.165

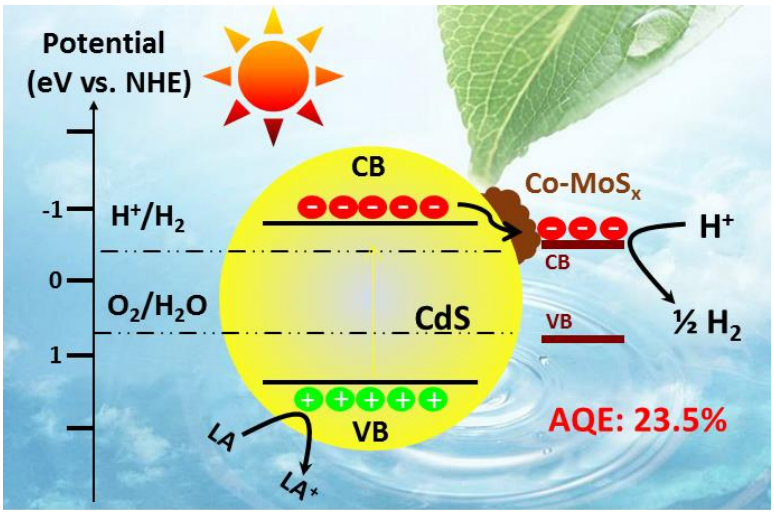
Boosting the catalytic performance of MoS_x cocatalysts over CdS nanoparticles for photocatalytic H_2 evolution by Co doping *via* a facile photochemical route

Yonggang Lei, Jianhua Hou, Fang Wang, Xiaohua Ma, Zhiliang Jin, Jing Xu, Shixiong Min*

School of Chemistry and Chemical Engineering, North Minzu University, Yinchuan, 750021, Ningxia Province, China.

*Corresponding author.
E-mail: sxmin@nun.edu.cn (S. Min).
Tel: 86-951-2067917; Fax: 86-951-2067915;

Graphical abstract



Highlights

- Co doped MoS_x was loaded on CdS nanoparticles *via* a facile photochemical method.
- The loaded Co-MoS_x catalysts can efficiently catalyze H_2 evolution reaction under visible light.
- An apparent quantum efficiency of 23.5% for H_2 evolution was achieved at 420 nm.
- Co-MoS_x cocatalyst was more active than noble metals for photocatalytic H_2 evolution.