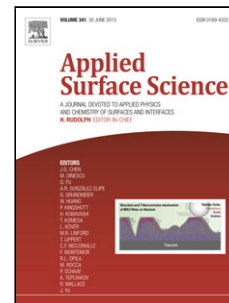


## Accepted Manuscript

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# Boosting the catalytic performance of MoS<sub>x</sub> cocatalysts over CdS nanoparticles for photocatalytic H<sub>2</sub> evolution by Co doping *via* a facile photochemical route

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

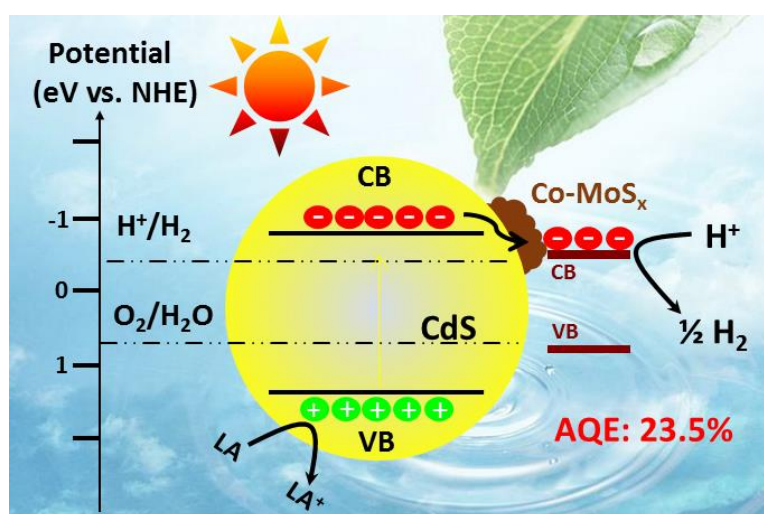
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Graphical abstract



## Highlights

- Co doped MoS<sub>x</sub> was loaded on CdS nanoparticles *via* a facile photochemical method.
- The loaded Co-MoS<sub>x</sub> catalysts can efficiently catalyze H<sub>2</sub> evolution reaction under visible light.
- An apparent quantum efficiency of 23.5% for H<sub>2</sub> evolution was achieved at 420 nm.
- Co-MoS<sub>x</sub> cocatalyst was more active than noble metals for photocatalytic H<sub>2</sub> evolution.



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