Title: Synergistic Effect based Ni_xCo_{1-x} Architected $Zn_{0.75}Cd_{0.25}S$ Nanocrystals: An Ultrahigh and Stable Photocatalysts for Hydrogen Evolution from Water Splitting

Authors: Xinzheng Yue, Shasha Yi, Runwei Wang, Zongtao Zhang, Shilun Qiu

PII: S0926-3373(17)30922-0
DOI: https://doi.org/10.1016/j.apcatb.2017.10.010
Reference: APCATB 16090

To appear in: *Applied Catalysis B: Environmental*

Received date: 30-6-2017
Revised date: 26-9-2017
Accepted date: 6-10-2017

Please cite this article as: Xinzheng Yue, Shasha Yi, Runwei Wang, Zongtao Zhang, Shilun Qiu, Synergistic Effect based NixCo1-x Architected Zn0.75Cd0.25S Nanocrystals: An Ultrahigh and Stable Photocatalysts for Hydrogen Evolution from Water Splitting, Applied Catalysis B, Environmental https://doi.org/10.1016/j.apcatb.2017.10.010

Synergistic Effect based Ni_xCo_{1-x} Architected $Zn_{0.75}Cd_{0.25}S$ Nanocrystals: An Ultrahigh and Stable Photocatalysts for Hydrogen Evolution from Water Splitting

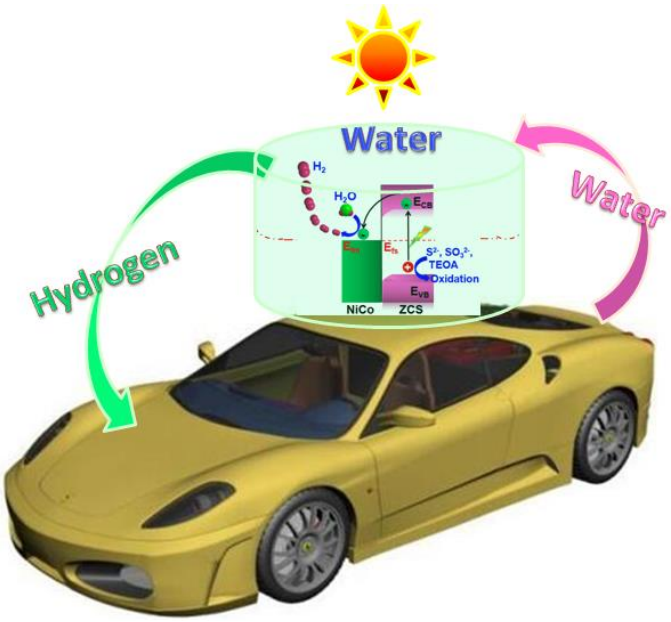
Xinzheng Yue[1], Shasha Yi[2], Runwei Wang[1], Zongtao Zhang[1,] and Shilun Qiu[1]*

[1]State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun 130012, China.

E-mail: zzhang@jlu.edu.cn

[2]Key Laboratory of Automobile Materials, Ministry of Education, Department of Materials Science and Engineering, Jilin University, Changchun, 130022, China.

Graphical Abstract



Highlights

- $Ni_xCo_{1-x}/Zn_{0.75}Cd_{0.25}S$ nanophotocatalysts are constructed by a facile chemical reduction method.
- The obtained catalyst shows ultrahigh photocatalytic H_2 evolution from water splitting.
- The material shows remarkable stability for 20 h.
- A synergetic catalytic mechanism is proposed and studied in detail.

Abstract