

Accepted Manuscript

Title: Scalable synthesis of heterostructure molybdenum and nickel sulfides nanosheets for efficient hydrogen generation in alkaline electrolyte

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PII: S0920-5861(18)30204-9
DOI: <https://doi.org/10.1016/j.cattod.2018.03.010>
Reference: CATTOD 11293

To appear in: *Catalysis Today*

Received date: 31-12-2017
Revised date: 4-3-2018
Accepted date: 7-3-2018

Please cite this article as: Tang C, Zhang H, Xu K, Hu Q, Li F, He C, Zhang Q, Liu J, Fan L, Scalable synthesis of heterostructure molybdenum and nickel sulfides nanosheets for efficient hydrogen generation in alkaline electrolyte, *Catalysis Today* (2018), <https://doi.org/10.1016/j.cattod.2018.03.010>

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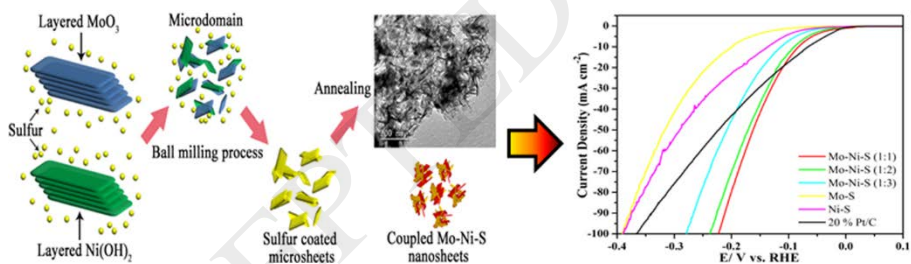
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Graphical abstract



Highlights

- MoS₂-NiS_x electrocatalysts are prepared by scalable mechanical ball milling method
- NiS_x addition exposes edge sites of MoS₂ and creates active hetero-interfaces
- Synergistic effect takes place in the heterostructure MoS₂-NiS_x
- Ni-Mo-S (1:1:10) give the best HER activity (Tafel slope 66 mV dec⁻¹ and η₁₀ 83 mV), better than literature

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