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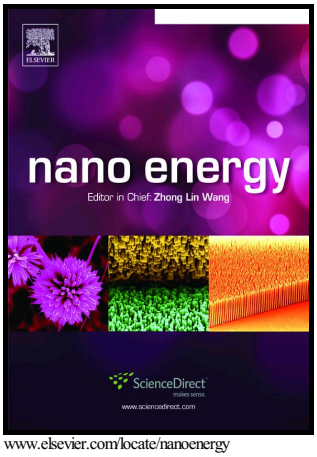

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Shanshan Liu,[a,b] Zhibin Luo,[a,b] Lulu Li, [a,b] Huimin Li, [a,b] Mengxin Chen,[a,b] Tuo Wang,[a,b,] and Jinlong Gong[*,a,b]*

[a]Key Laboratory for Green Chemical Technology of Ministry of Education, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China

[b]Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China.

E-mail: jlgong@tju.edu.cn

wangtuo@tju.edu.cn

[*]**Corresponding Authors:** Fax: +86 22 87401818

The application of Si-based photocathode for water splitting is largely limited by the low photovoltage and inherent corrosion in aqueous media, where the extraction of photovoltage from Si always requires high temperature doping or complicated deposition techniques. This paper describes a facile solution processed p-Si/n-CdS heterojunction for low cost photovoltage generation from commercially available p-Si substrates, which is further covered by a TiO_2 layer.