

Supporting Information

**A novel photoanode for dye-sensitized solar cells with enhanced light
harvesting and electron collection efficiency**

*Weixing Song,[†] Yudong Gong,[†] Jianjun Tian,[‡] Guozhong Cao,[§] Huabo Zhao,[†]
Chunwen Sun*,[†]*

[†]Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences;
National Center for Nanoscience and Technology (NCNST), Beijing 100083, China

[‡]Advanced Materials and Technology Institute, University of Science and Technology
Beijing, Beijing 100083, China

[§]Department of Materials and Engineering, University of Washington, Seattle, WA
98195-2120, USA

*E-mail: sunchunwen@binn.cas.cn

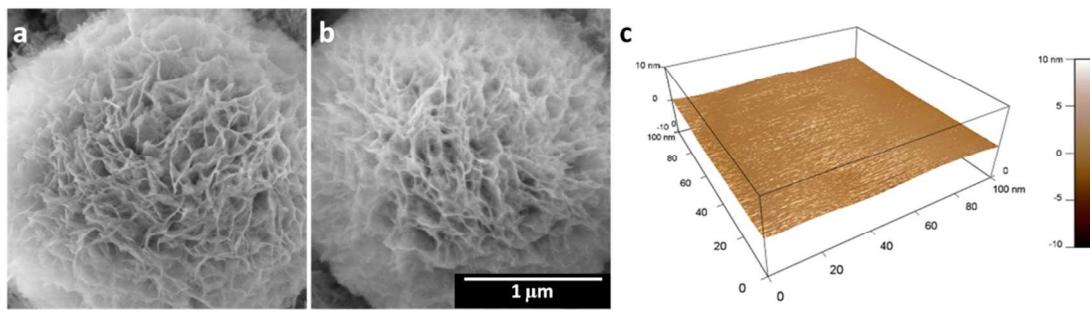


Figure S1. a) A CeO₂ microsphere and b) A CeO₂ microsphere coated by an ALD-deposited TiO₂ film. c) An AFM image of an ALD-deposited TiO₂ film on a silicon wafer.

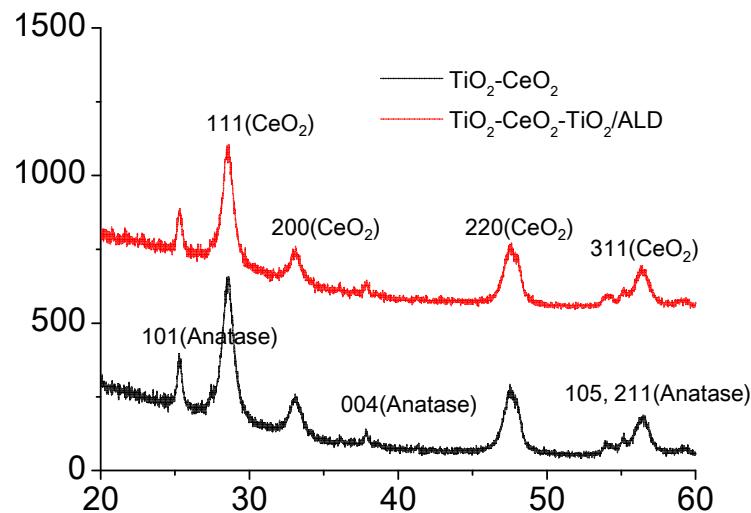


Figure S2. XRD patterns of the TiO₂ and CeO₂ bilayer with and without ALD film on glass.

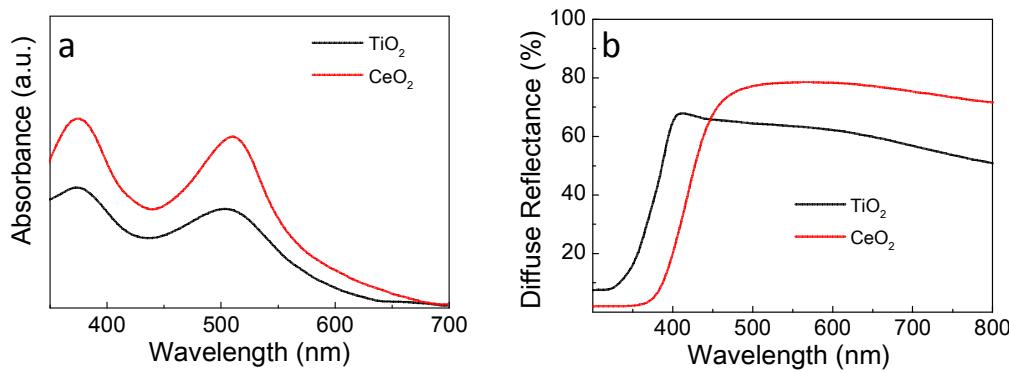


Figure S3. a) Normalized absorption spectra of dye loading, and b) diffuse reflectance of the photoanodes based on the TiO₂ and CeO₂ electrodes, separately.

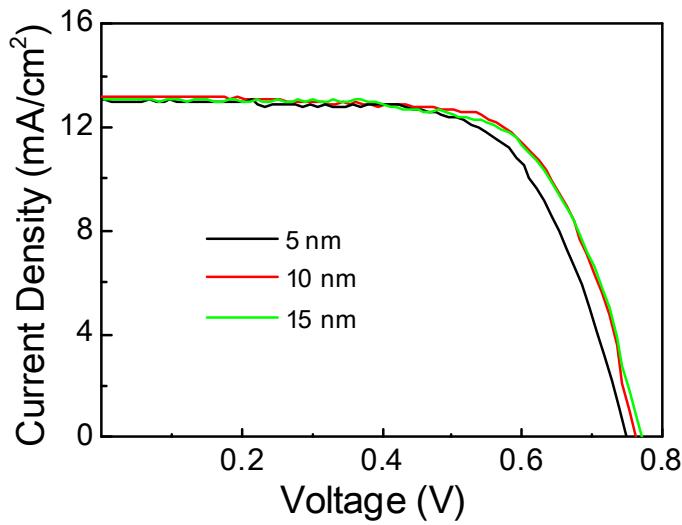


Figure S4. The current-voltage curves for TiO₂-CeO₂ based DSSCs with ALD TiO₂ film of different thicknesses.

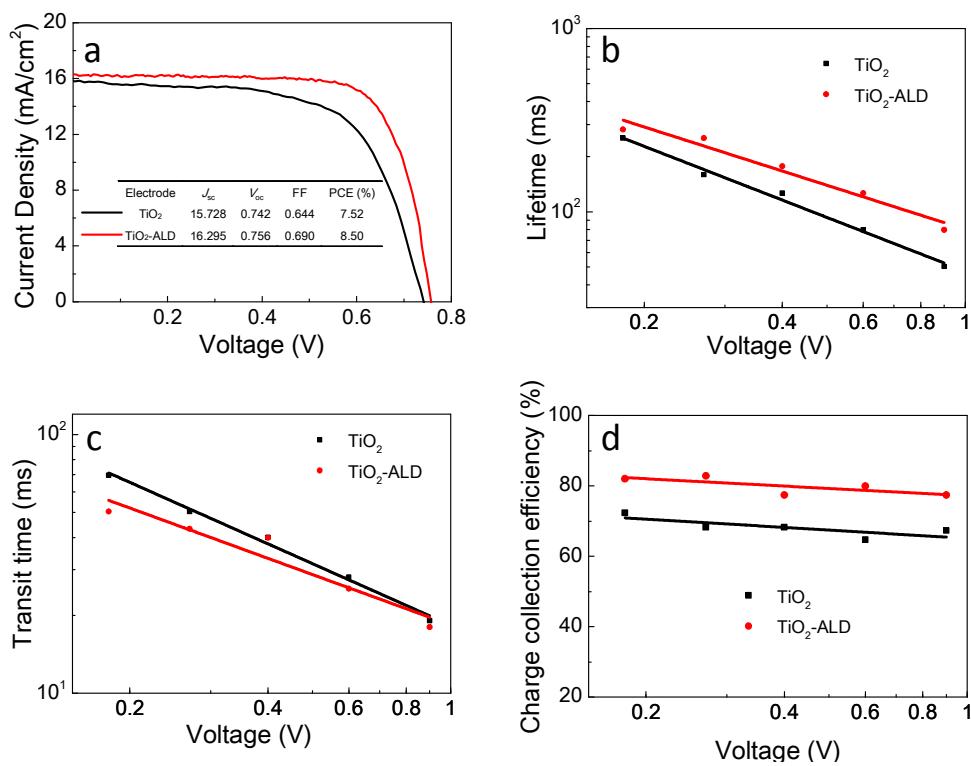


Figure S5. a) The current-voltage curves measured under AM 1.5 G solar irradiance (100 mW/cm²), b) Electron lifetime and c) transit time for the DSSCs based on different photoanodes composed of TiO₂ layer with and without ALD TiO₂ film separately, and d) charge collection efficiency calculated by b) and c).