Supplementary Information

Optimized CdS quantum dot-sensitized solar cell performance through atomic layer deposition of ultrathin TiO₂ coating

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Figure S1. Electrochemical impedance spectra of additional three differently coated cells (-△- 50c, -□- 100c, and -○- 150c) under illumination of one sun (AM 1.5G, 100 mW/cm²) at open circuit voltage. (a) Nyquist plots with peak frequencies indicated; (b) Bode phase plots.
Figure S2. I-V characterization of additional CdS-QDs-sensitized TiO$_2$ solar cells with an ALD-TiO$_2$ protection layer. Differently coated solar cells with TiO$_2$ of 50-cycle, 100-cycle, and 150-cycle tested (a) under illumination of one sun (AM 1.5G, 100 mW/cm$^2$), and (b) in the dark.
Figure S3. I-V characterization of the CdS-QDs sensitized TiO$_2$ solar cells with ALD-Al$_2$O$_3$ protection layer. Differently coated solar cells with Al$_2$O$_3$ of (a) 10-cycle, 1.3 nm, (b) 15-cycle, 1.85 nm, (c) 20-cycle, 2.6 nm were tested under illumination of one sun (AM 1.5G, 100 mW/cm$^2$). Each cell was measured three times under illumination.
Figure S4. I-V characterization of the CdS-QDs sensitized TiO₂ solar cells with ALD-Al₂O₃ protection layer. Differently coated solar cells with Al₂O₃ of (a) 1-cycle, 1.3 Å, (b) 2-cycle, 2.6 Å, (c) 3-cycle, 3.9 Å were tested under illumination of one sun (AM 1.5G, 100 mW/cm²). Each cell was measured three times under illumination.