

Innovative catalyst design as an efficient electro catalyst and its applications in quantum-dot sensitized solar cells and oxygen reduction reaction for fuel cells

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Cross-sectional view images

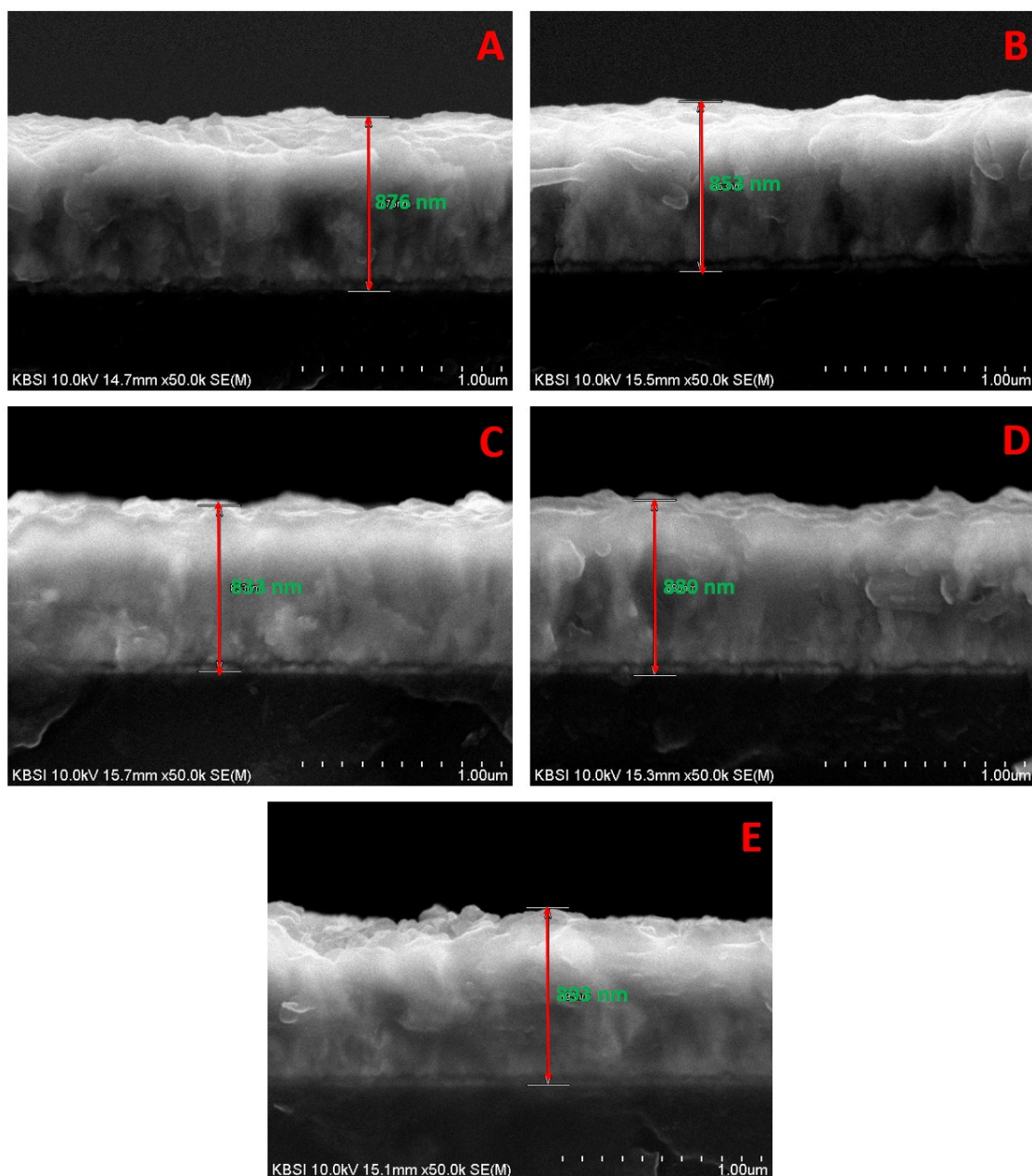


Fig. S1 Cross-sectional HR-SEM images of (A) Co_{100%}Ni_{0%}, (B) Co_{90%}Ni_{10%}, (C) Co_{85%}Ni_{15%}, (D) Co_{65%}Ni_{35%} and (E) Co_{0%}Ni_{100%} thin films deposited on FTO substrate.

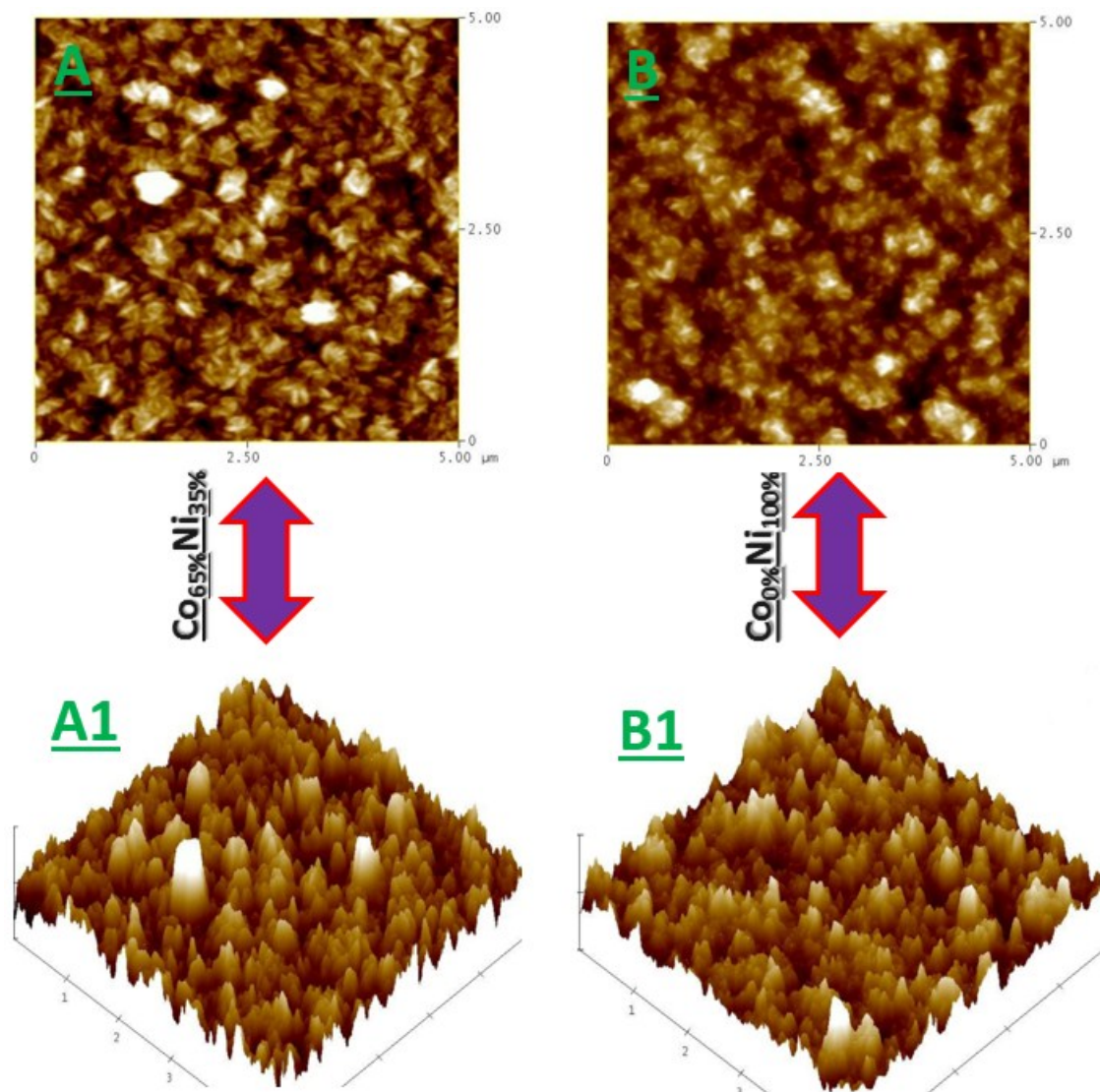


Fig. S2 2-Dimensional (2D) and 3-Dimensional (3D) AFM images of the elemental concentration varied thin films on the FTO substrate. (A) $\text{Co}_{65\%}\text{Ni}_{35\%}$, and (B) $\text{Co}_{0\%}\text{Ni}_{100\%}$ CEs, respectively.

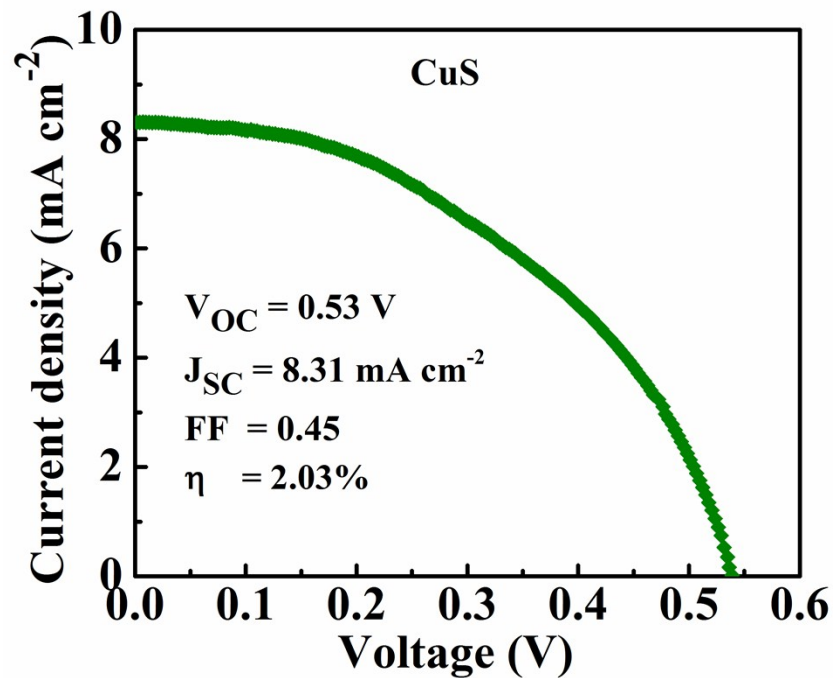


Fig. S3 J-V curve for the QDSSCs assembled using the CuS CE under simulated solar illumination at 100 mW cm⁻².

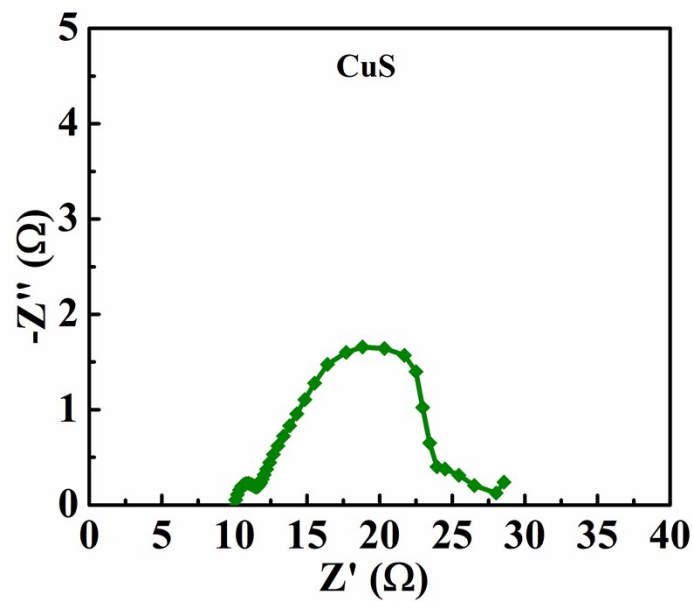


Fig. S4 Nyquist plot for the QDSSCs assembled using the CuS CE under simulated solar illumination at 100 mW cm⁻².