

MoS₂ coated CoS₂ nanocomposites as Counter Electrode in Pt-free Dye-sensitized Solar Cells

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Supplementary Information

Figure. S1 FE-SEM images of (a, b) CoS₂ (c, d) MoS₂ coated CoS₂ nanocomposite

Figure. S2 SEM images of MoS₂

Figure. S3 SAED pattern of CoS₂ (a), MoS₂ coated CoS₂ (b), elemental mapping of MoS₂ coated CoS₂ nanocomposite (c, d, e, f)

Figure. S4 (a) HR-TEM image of CoS₂ (b) Raman spectra of MoS₂ and MoS₂ coated CoS₂ nanocomposite

Figure. S5 Nyquist plots of DSSCs fabricated with (a) Pt (b) CoS₂ (c) MoS₂ coated CoS₂ CEs under dark and illumination conditions

Figure. S6 Bode-phase plots of DSSCs fabricated with Pt, CoS₂, and MoS₂ coated CoS₂ CEs (a) under dark (b) illumination conditions.

Figure. S7 Tafel plot of dummy cells fabricated with Pt, CoS₂, and MoS₂ coated CoS₂ CEs.

Figure. S8 EQE spectra of DSSCs fabricated with Pt, CoS₂ and MoS₂ coated CoS₂ nanocomposite CEs respectively.

Figure. S9 (a) J-V plot, (b) Nyquist plot, (c) Bode-Phase plot, (d) EQE plot of DSSCs with MoS₂ CE

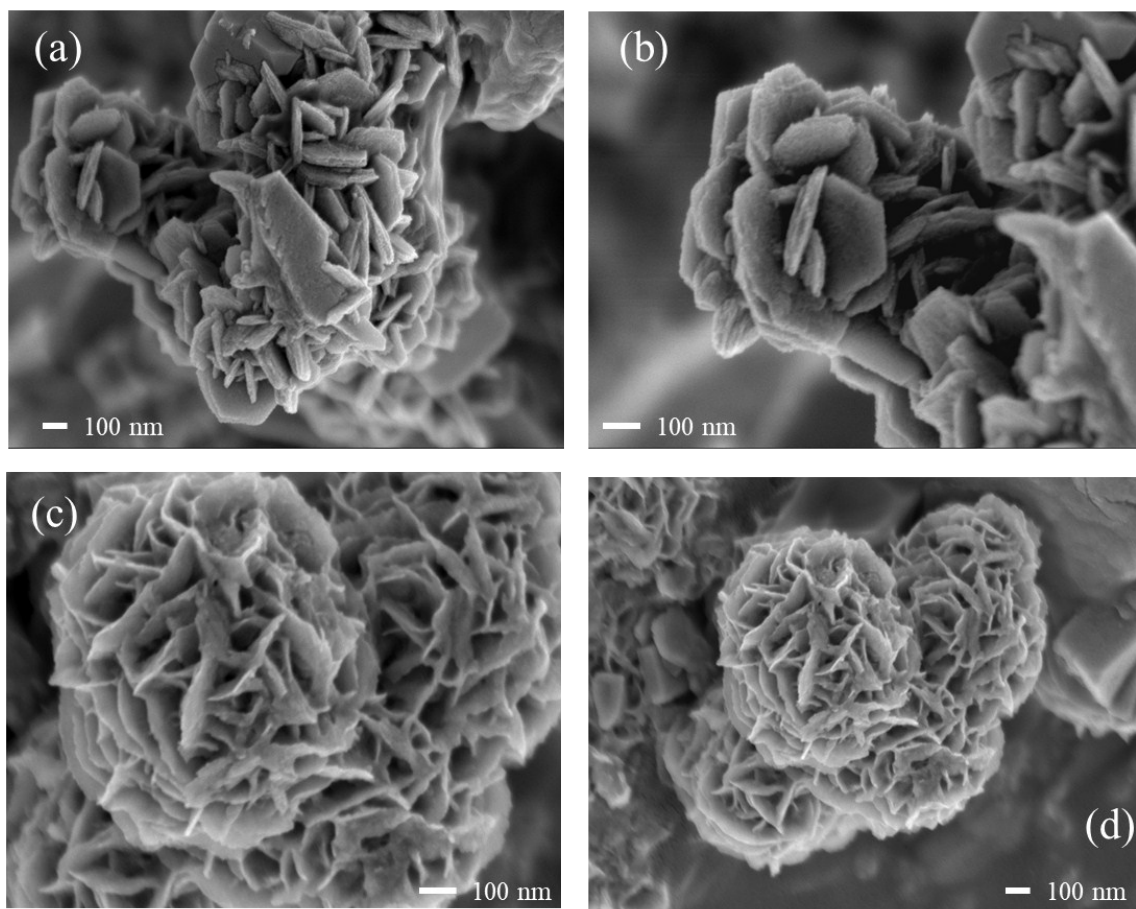


Figure S1. FE-SEM images of (a, b) CoS₂ (c, d) MoS₂ coated CoS₂ nanocomposite, respectively.

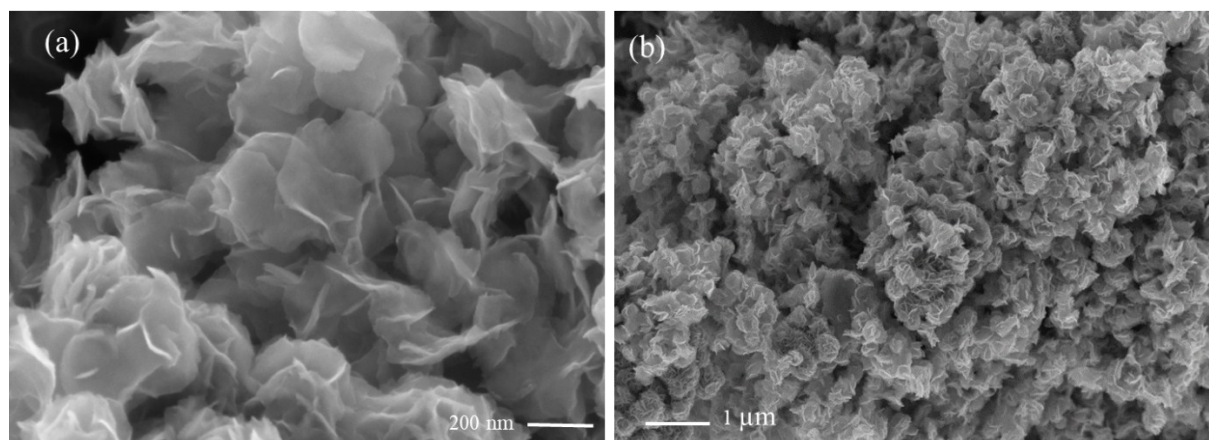


Figure S2. SEM images of MoS₂

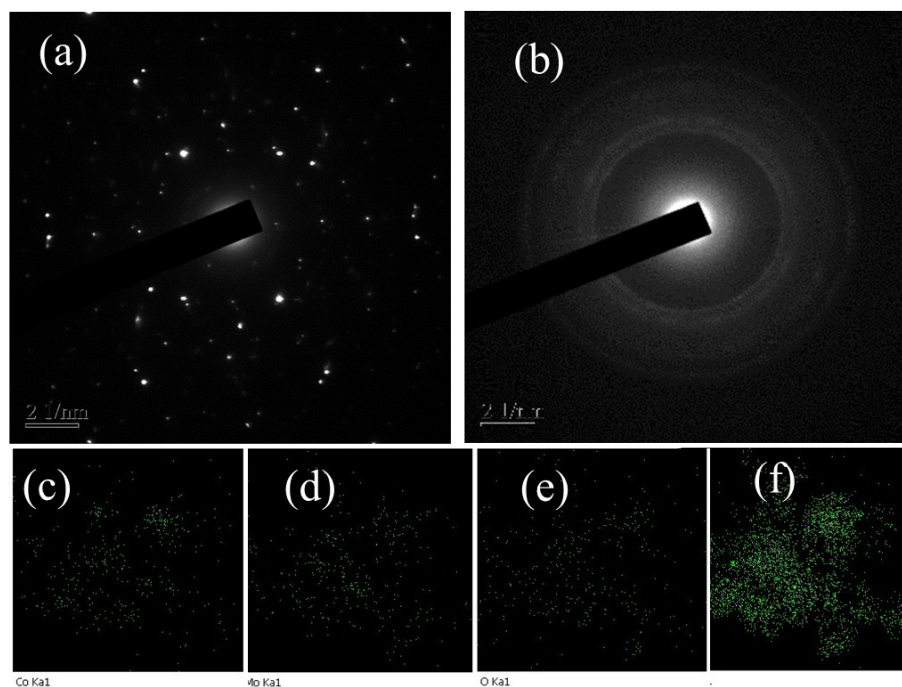


Figure S3. SAED pattern of CoS_2 (a), MoS_2 coated CoS_2 (b), elemental mapping of MoS_2 coated CoS_2 nanocomposite (c, d, e, f)

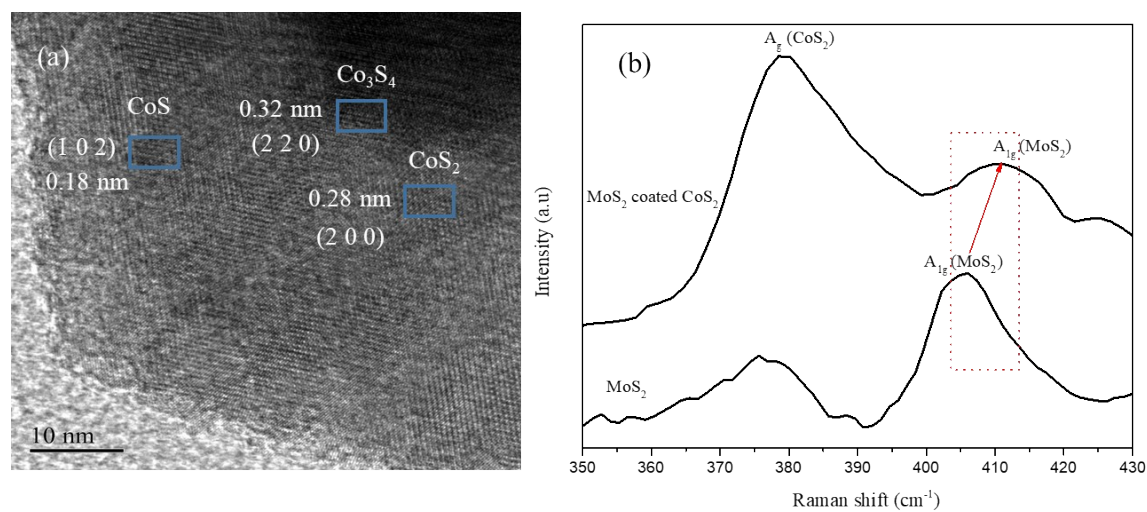


Figure S4. (a) HR-TEM image of CoS_2 (b) Raman spectra of MoS_2 and MoS_2 coated CoS_2 nanocomposite

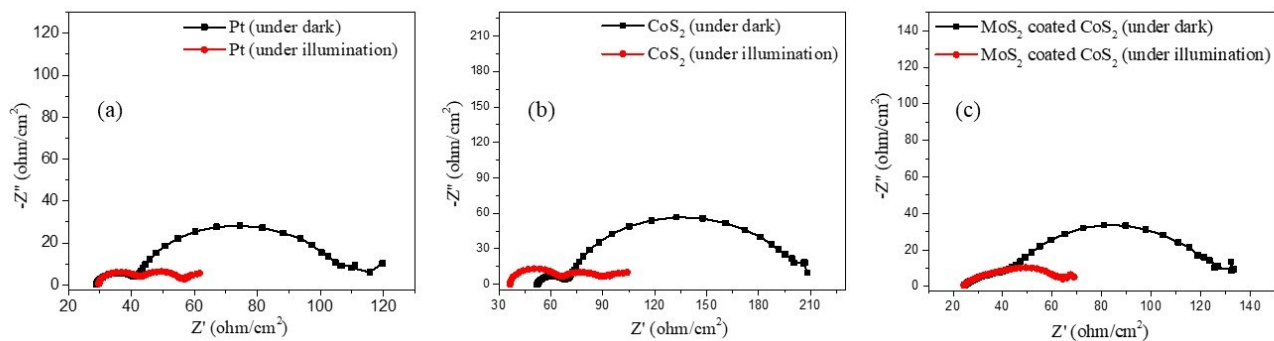


Figure S5. Nyquist plots of DSSCs fabricated with (a) Pt (b) CoS₂ (c) MoS₂ coated CoS₂ CEs under dark and illumination conditions

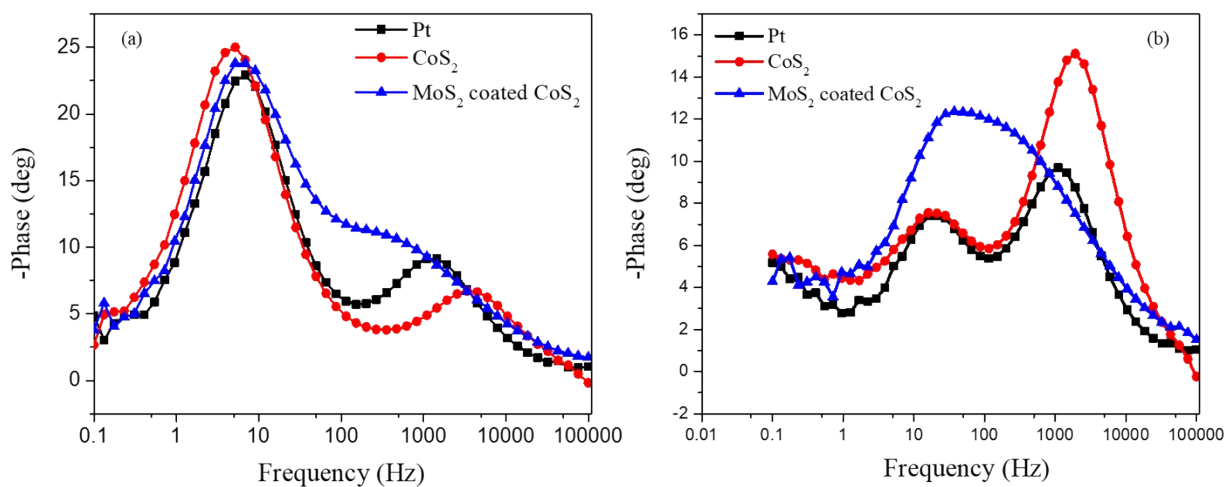


Figure S6. Bode-phase plots of DSSCs fabricated with Pt, CoS₂, and MoS₂ coated CoS₂ CEs (a) under dark and (b) under illumination conditions.

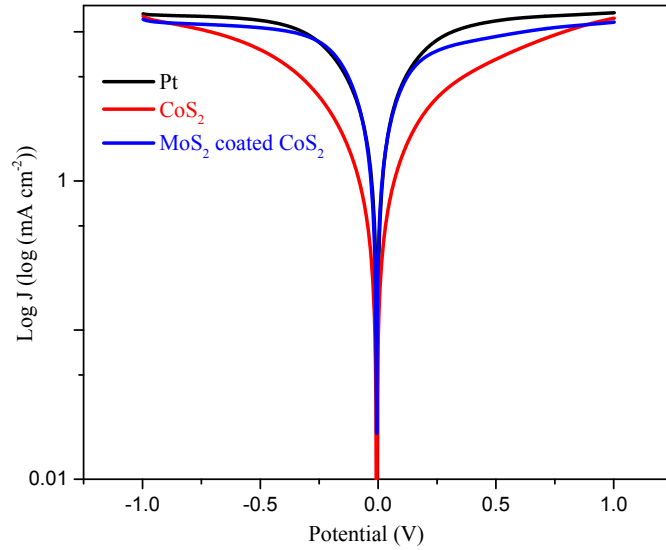


Figure S7. Tafel plot of dummy cells fabricated with Pt, CoS₂, and MoS₂ coated CoS₂ CEs.

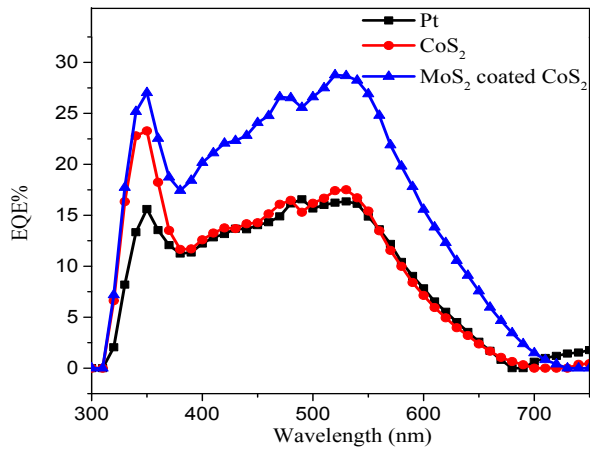


Figure S8. EQE spectra of DSSCs fabricated with Pt, CoS₂ and MoS₂ coated CoS₂ nanocomposite CEs respectively.

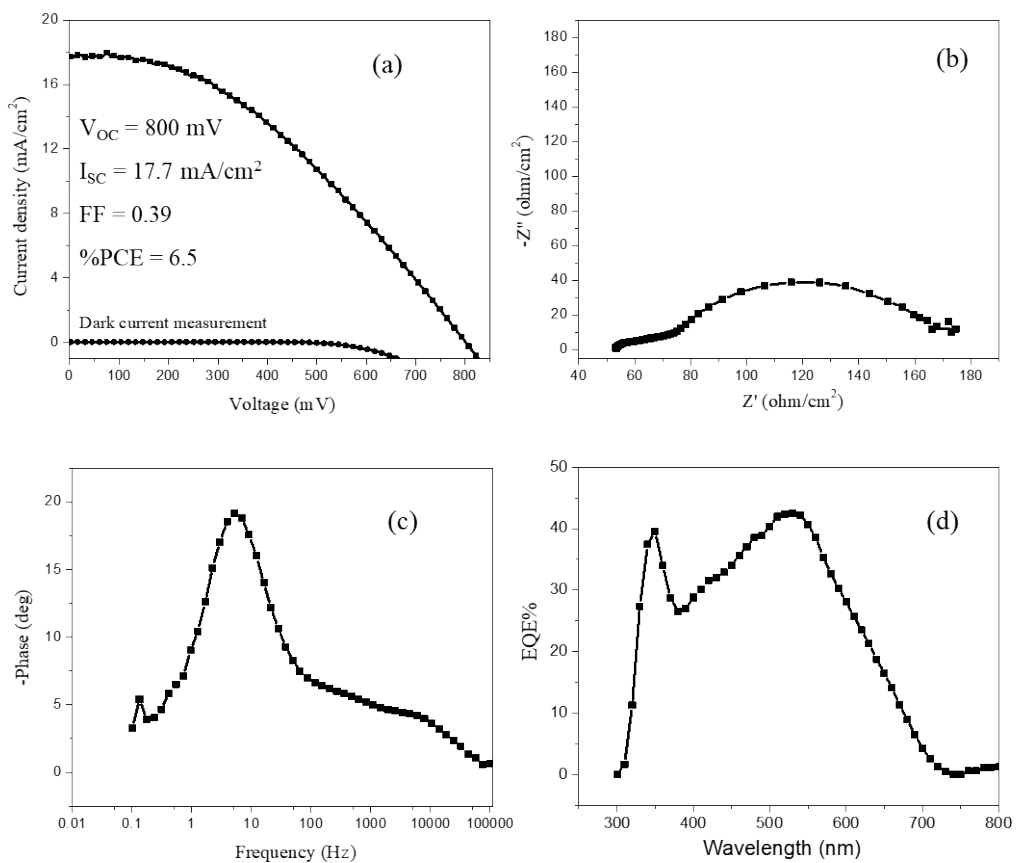


Figure S9. (a) J-V plot with parameters inset, (b) Nyquist plot, (c) Bode-Phase plot, and (d) EQE spectra of DSSCs with MoS₂ CE.