

Supplemental Materials

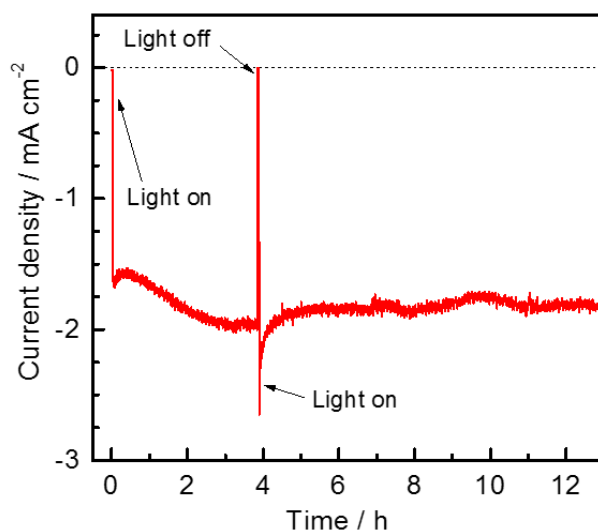


Figure S1. Current-time curve at 0 V_{RHE} for Pt/AGSe electrode. A 150 W Xe lamp was used as light source. A 0.1 M aqueous Na_2SO_4 solution (adjusted to pH 9 by NaOH addition) was employed as the electrolyte.

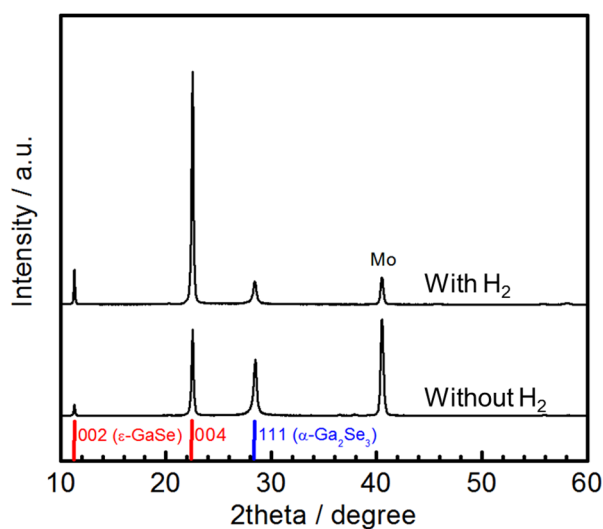


Figure S2. XRD patterns of AGSe film (Ag/Ga = 2%) with/without hydrogen gas introduction during AGSe deposition.

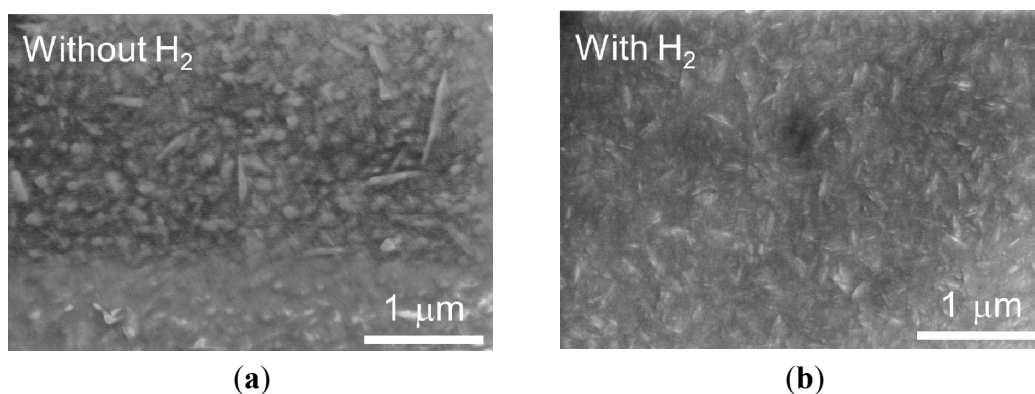


Figure S3. SEM plan view of AGSe film (Ag/Ga = 2%) with/without hydrogen gas introduction during AGSe deposition.

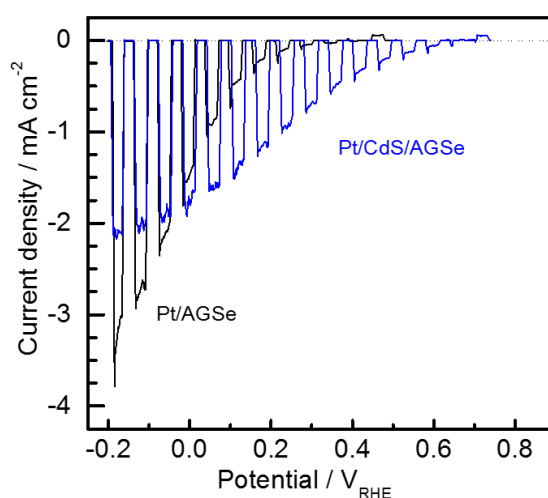


Figure S4. Current-potential curves of Pt/AGSe and Pt/CdS/AGSe electrodes without hydrogen gas introduction during AGSe deposition. A 0.1 M aqueous Na₂SO₄ solution (adjusted to pH 9 by NaOH addition) was employed as the electrolyte.

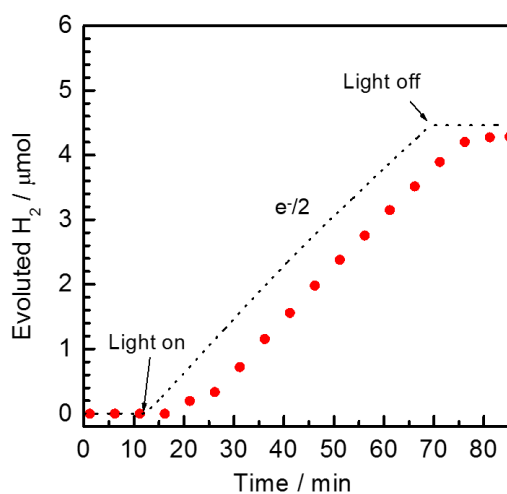


Figure S5. Amount of evolved hydrogen from Pt/CdS/AGSe(H₂) electrode under irradiation by a 300 W Xe lamp at 0 V_{RHE}. A 0.1 M aqueous Na₂SO₄ solution (adjusted to pH 9 by NaOH addition) was employed as the electrolyte.