Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information

Engineering n-p junction for photo-electrochemical hydrogen production

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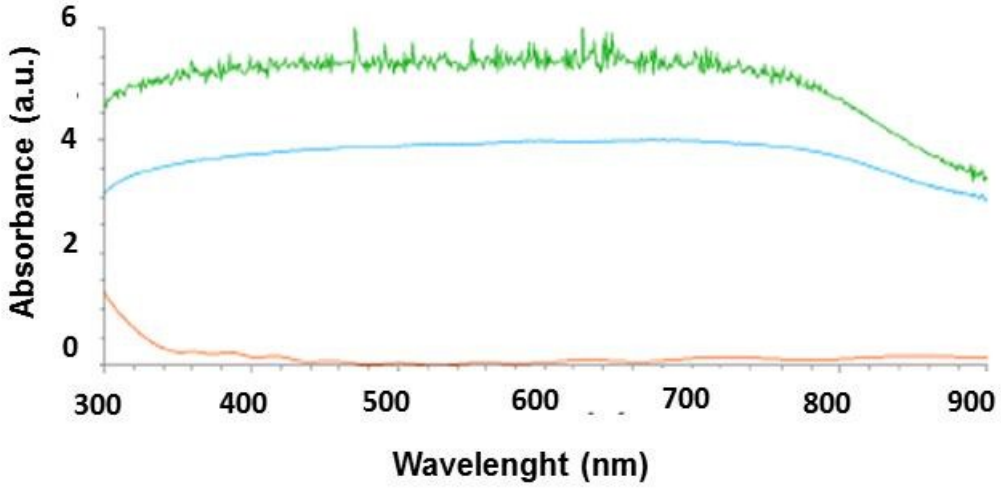

Figure SI.1. UV–vis spectra for $BaTiO_3$ alone (orange), $Cu/Cu_2O/CuO$ photoelectrode (blue) and $Cu/Cu_2O/CuO/BaTiO_3$ (green).

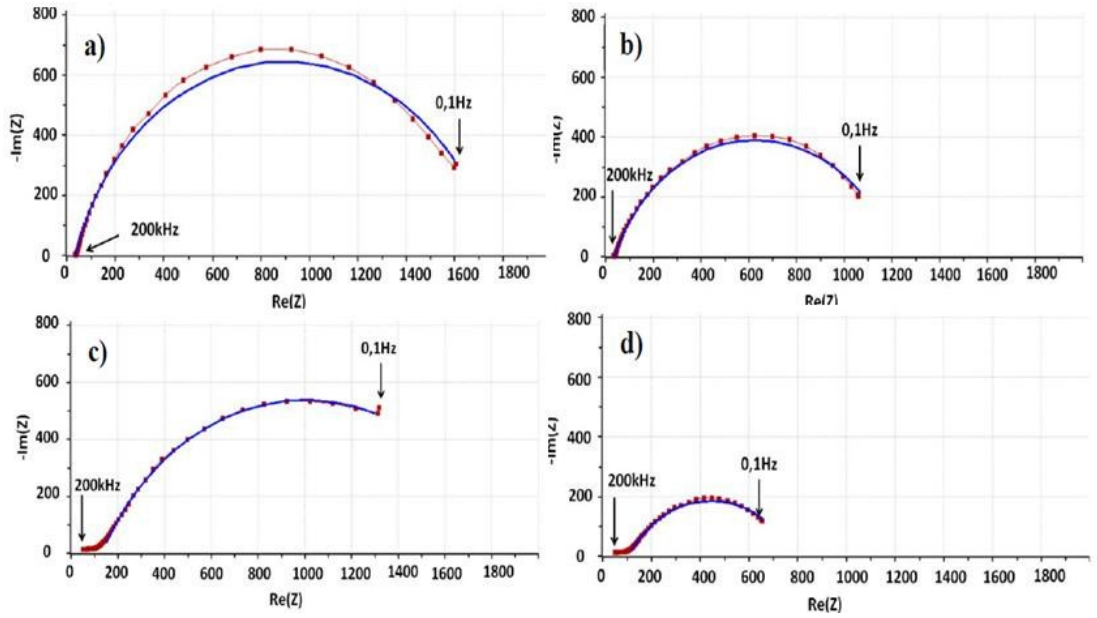

Figure SI.2 . Nyquist diagrams measured at pH = 6 for unprotected EA 20–20 $Cu/Cu_2O/CuO$ electrodes in the dark (a), under 3 sun visible-light irradiation (b) and $BaTiO_3$–protected EA 20–20 $Cu/Cu_2O/CuO$ electrodes in the dark (c), under 3 sun visible–light irradiation (d). Experimental values are shown in red and the simulation with a Randles equivalent circuit in blue.

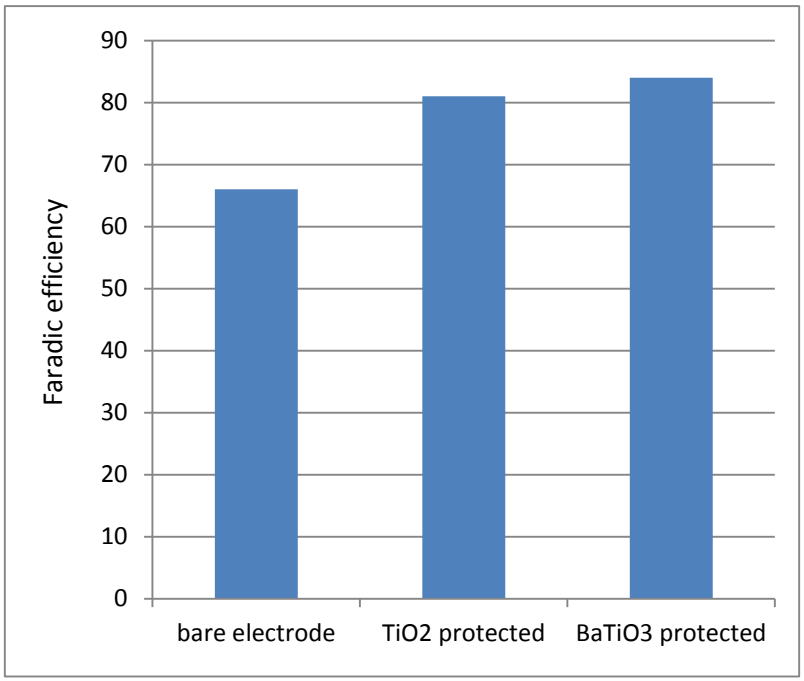

Figure SI.3. Faradic efficiency for bare electrode and TiO_2 and $BaTiO_3$ protected photoelectrodes.