

Supporting Information

1. EQE spectra for the best performing Chi@RGO-CIS DSSCs

Generally, the quantum efficiency QE refers to the external quantum efficiency EQE, also known as the incident photon-electron conversion efficiency IPCE (Incident Photon-Electron Conversion Efficiency).

External Quantum Efficiency (EQE) can calculate through the number of electrons produced by the total number of incident photons. From the graph, the EQE spectra versus wavelength from 400 to 800 nm of the best Chi@RGO-CIS has an initial value of about 15% at a wavelength of about 400 nm and then increases the value to 48% at 550 nm. The high EQE of the Chi@RGO-CIS suggests the improvement in the light scattering and high carrier (electrons and holes) generation. The reason could be due to improved dye absorption of photons through the high surface area of the photoanode and excellence in collecting electrons from the external circuit and reducing the regeneration of dye sensitizer in the counter electrode.

The EQE graph was added to the supporting documentation.

