

Solar Panel Reactions





Overview

What is the photovoltaic effect?

The photovoltaic effect is a process that generates voltage or electric current in a photovoltaic cell when it is exposed to sunlight. It is this effect that makes solar panels useful, as it is how the cells within the panel convert sunlight to electrical energy. The photovoltaic effect was first discovered in 1839 by Edmond Becquerel.

Can solar energy improve chemical transformation?

This research shows that solar energy can directly enable chemical conversion to multicarbon products—complex carbon molecules useful for industry. It thus unlocks the potential for innovating other chemical transformations driven directly by renewable energy.

Where does the photovoltaic effect occur?

The photovoltaic effect occurs in solar cells. These solar cells are composed of two different types of semiconductors - a p-type and an n-type - that are joined together to create a p-n junction. To read the background on what these semiconductors are and what the junction is, [click here](#).

How does a photovoltaic reaction work?

This reaction uses electricity from an integrated photovoltaic system to drive the chemical reaction. Without separation, ethylene in the outlet gas stream feeds directly to a thermo-catalytic reactor, where a nickel-based catalyst transforms ethylene into butene.



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How do solar panels work chemistry?

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The light reactions begin with the absorption of light (photons) by the antenna system, which delivers the excitation energy gained to two of the four protein complexes, Photosystem I (PSI) ...

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