

Special Issue

Photocatalytic CO₂ Reduction Utilizing Light Energy Effectively

Message from the Guest Editors

It has been known for years that photocatalysts can convert CO₂ into fuel such as CO, CH₄, CH₃OH, and so on. Recent efforts have focused on developing photocatalytic CO₂ reduction technology, which should be carbon-neutral to be successful and widely used. However, the amount of product available and conversion efficiency are both quite low, and there are certain significant barriers to solving this problem—for example, the lack of a source of light energy, which is necessary for photocatalytic CO₂ reduction. If light energy can be used effectively, it is expected that the CO₂ reduction performance of photocatalysts will be improved. Conversion efficiency, quantum efficiency, and wave length and intensity of light are also important factors. This Special Issue focuses on issues linked to CO₂ reduction technology and research that addresses the problems preventing us from achieving this goal.

Keywords

- Photocatalyst
- CO₂ reduction
- Visible light response
- Energy conversion
- Quantum efficiency

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