



Recent Progress in Diverse Heterostructured Photocatalysts and Their Performance

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Message from the Guest Editor

Dear Colleagues,

The recent progress in diverse heterostructured photocatalysts has shown great promise in promoting photocatalytic performance in various applications. These advancements have focused on enhancing the efficiency of important reactions such as water splitting, methane oxidation, CO₂ reduction, and organic degradation.

Photocatalysts play a vital role in harnessing solar energy to drive chemical reactions. By utilizing heterostructures, which consist of multiple semiconductor materials, researchers have been able to enhance the light absorption, charge separation, and catalytic activity of these materials. The heterostructured photocatalysts are successful in degrading organic pollutants under visible-light irradiation. In water splitting, they efficiently convert water into hydrogen and oxygen using sunlight. For methane oxidation, they effectively convert methane into less harmful byproducts. In CO₂ reduction, they transform carbon dioxide into valuable fuels or chemicals.

This Special Issue also includes combined processes that integrate photocatalysis techniques as pre-treatment or post-treatment stages.

