

Comparing photocatalytic activities of
g-C₃N₄ and WO_x/g-C₃N₄ heterojunction

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Eco-friendly renewable hydrogen energy is in the spotlight due to the problem of global warming caused by carbon dioxide emitted from the use fossil fuel. Photocatalytic water splitting is an ideal method utilizing only solar energy to produce hydrogen in a clean way with no greenhouse gas emission. The candidate material as a photocatalyst is g-C₃N₄, which has high chemical and thermal stability and low cost. However, single g-C₃N₄ could not achieve best photocatalytic activities because of its fast recombination of photogenerated electron-hole pairs. To solve this problem, we synthesized WO_x/g-C₃N₄ heterojunction with a facile two steps. The photocatalytic activities of g-C₃N₄ and WO_x/g-C₃N₄ heterojunction were evaluated with hydrogen production.