Heterostructured g-C_3N_4/TiO_2 composite for efficient photocatalytic hydrogen production

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The g-C_3N_4/TiO_2 nano-heterojunction is synthesized via the continuous hydrothermal deposition and reduction processes. The formation of heterojunction significantly reduced the recombination of generated charges, which was analyzed by time-resolved photoluminescence (TRPL). The as-prepared g-C_3N_4/TiO_2 composites exhibited a great enhancement in photocatalytic hydrogen generation which can be attributed to the built-in electric field. This work gives a way to highly improve solar water splitting.