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The enhancement of photocatalytic hydrogen production via Ti^{3+} self-doping black TiO_2/g-C_3N_4 hollow core-shell nano-heterojunction

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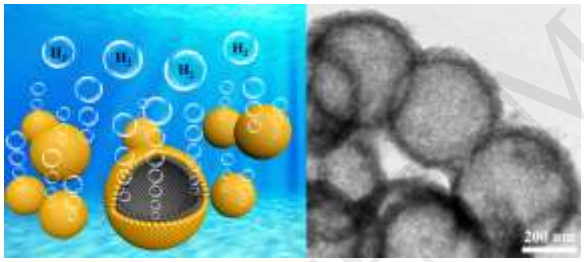
Graphical abstract



Highlights

- >Ti^{3+} could induce to form a hydrogenated shell to reduce the H_2 activation barrier
- > The heterojunction could promote the separation of photon-generated carrier
- > The hollow core-shell nanospheres would provide abundant specific surface areas

‘**Abstract**: The Ti^{3+} self-doping B-TiO_2/g-C_3N_4 hollow core-shell nano-heterojunction is synthesized via the continuous hydrothermal deposition and