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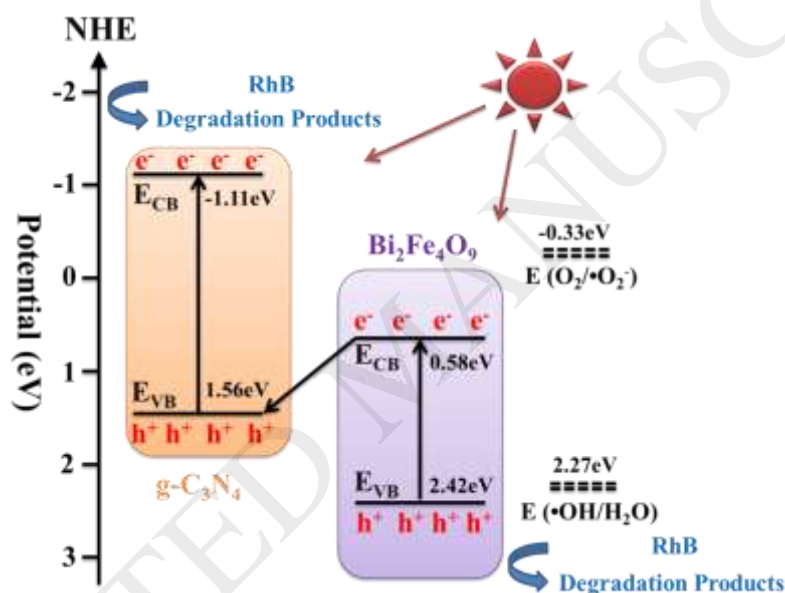
Enhanced visible-light-driven photocatalytic activities of $\text{Bi}_2\text{Fe}_4\text{O}_9/\text{g-C}_3\text{N}_4$ composite photocatalysts

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Graphical abstract



The Z-scheme mechanism is proposed in $\text{Bi}_2\text{Fe}_4\text{O}_9/\text{g-C}_3\text{N}_4$ composites. The photoinduced electrons in the CB of $\text{Bi}_2\text{Fe}_4\text{O}_9$ will move to the VB of $\text{g-C}_3\text{N}_4$ and recombine with those holes in its VB. The holes of $\text{Bi}_2\text{Fe}_4\text{O}_9$ and electrons of $\text{g-C}_3\text{N}_4$ can be efficiently separated from each other. Those separated electrons in the VB of $\text{Bi}_2\text{Fe}_4\text{O}_9$ and those separated holes in the CB of $\text{g-C}_3\text{N}_4$ can carry out the reduction and oxidation reactions of RhB, which leads to the improved visible-light-driven photocatalytic activities compared with those of its single components.

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