Enhancing photocatalytic performances of the porous g-C_3N_4 by adding n-type components

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Graphitic carbon nitride (g-C_3N_4) issued tunable electronic semiconductor, which are attracted by visible-light activity, facile synthesis from low-cost materials, chemical stability, and unique layered structure. The two-dimensional g-C_3N_4 has suitable band gap (about 2.83eV) that expects to enhance photocurrent density under the visible light. However, the pristine g-C_3N_4 has the low charge transportation efficiency and chemical instability. Hence, we fabricated g-C_3N_4 in the form of porous heterostructure photocatalysts. The slurry from photocatalysts was loaded on to the FTO glass surface by doctor-blade method. The thin photocatalytic film added n-type components via the spin coating method. It provides versatile photoelectrochemical properties for the efficient design of visible light active photocatalysts and promising electrode materials for H_2 evolution and environmental remediation.