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Supporting Information

Visible Light Active, Carbon-Nitrogen-Sulfur co-doped TiO_2/g-C_3N_4 Z-scheme Heterojunction as an Effective Photocatalyst to Remove Dye Pollutants

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1. Supplemental characterization analysis

The CNS-TiO_2/g-C_3N_4-2 was applied to degrade MO dye under coexistence condition for evaluate its reusability, and the chemical stability was tested by XRD and FTIR (in Fig. S1). After five cycles, the degradation rate of CNS-TiO_2/g-C_3N_4-2 on MO could still reach 95% in Fig. S1a, and the degradation rate of MO fluctuates slightly, which proves that the catalytic activity of CNS-TiO_2/g-C_3N_4-2 is stable. According to Fig. S1b and c, the XRD patterns and FTIR spectrum of CNS-TiO_2/g-C_3N_4-2 basically has no distinct changes after five degradation cycles. The above results indicate that the CNS-TiO_2/g-C_3N_4-2 composite catalyst possesses excellent chemical stability and light corrosion resistance and can be used as a new material for organic pollutants to degrade wastewater.

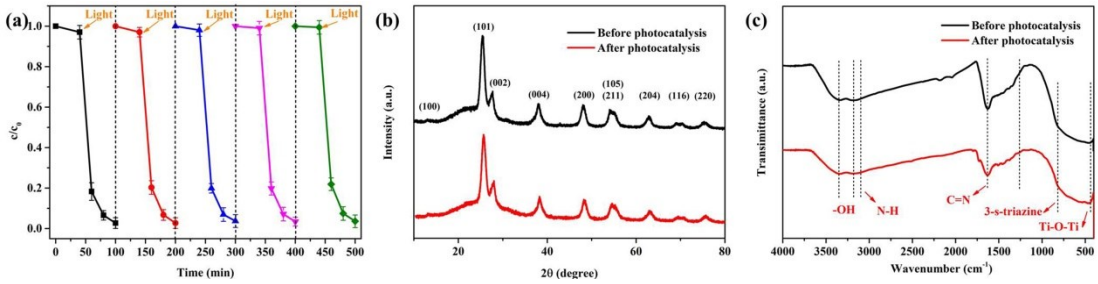

Fig. S1. (a) Recovery of CNS-TiO_2/g-C_3N_4-2 for cyclic degradation of MO dyes, (b) XRD patterns and (c) FTIR spectra of CNS-TiO_2/g-C_3N_4-2 before and after photocatalytic cycling five times.