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<AT>Hierarchical CdIn₂S₄ microspheres wrapped by mesoporous g-C₃N₄ ultrathin nanosheets with enhanced visible light driven photocatalytic reduction activity

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<PA>*Corresponding authors Graphicalabstract The heterostructures fabricated by mesoporous g-C₃N₄ nanosheets wrapped onto the CdIn₂S₄ microsphere exhibits highly efficient photocatalytic activity and excellent photo-stability during recycling runs.

<ABS-HEAD>Highlights ► We fabricated novel CdIn₂S₄/g-C₃N₄ catalysts through a simple hydrothermal route. ► Composite exhibited excellent stability because of the incorporation of g-C₃N₄. ► Composite is highly efficient photocatalyst for H₂ production and 4-NA reduction. ► The enhanced photocatalytic activity was ascribed to heterogeneous interface.

<ABS-HEAD>Abstract

<ABS-P>In this investigation, a series of hierarchical CdIn₂S₄/g-C₃N₄ nanocomposites were firstly synthesized by a facile one-pot hydrothermal strategy, wherein the mesoporous g-C₃N₄ nanosheets were in-situ self-wrapped onto CdIn₂S₄ nanosheets. Systematic characterization by XRD, FT-IR, UV-vis DRS, SEM, TEM, HAAF-STEM, XPS, photoelectrochemical tests were employed to analyze the phase structure, chemical composition, morphology and photocatalytic mechanism. The application, including photo-redox reaction and photocatalytic water splitting, were used to

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