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# Visible-Light-Driven Overall Water Splitting with a Largely-Enhanced Efficiency over a Cu<sub>2</sub>O@ZnCr-Layered Double Hydroxide Photocatalyst

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## ABSTRACT:

Overall water splitting through solar radiation is highly attractive for alternative energy utilization. Herein, we designed and fabricated a Cu<sub>2</sub>O@ZnCr-layered double hydroxide (LDH) core-shell photocatalyst to achieve a high-performance, visible-light overall water splitting. The Cu<sub>2</sub>O@ZnCr-LDH nanostructure exhibits a high activity (with H<sub>2</sub> and O<sub>2</sub> production rate of 0.90 and 0.44 μmol h<sup>-1</sup>, respectively) under visible-light without any sacrificial agent and co-catalyst,

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