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# Strong coupling effect at the interface of Cobalt Phosphate-Carbon Dots boost Photocatalytic Water Splitting

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## Abstract

Hydrogen and oxygen produced by water splitting under solar energy are ideal future energy sources. At present, obtaining the efficient, stable and inexpensive photocatalyst for photocatalytic over water splitting is still a huge challenge. Cobalt phosphate ( $\text{Co}_3\text{PO}_4$ , CoPi) possesses proper band positions for water splitting. However, the fast recombination of photogenerated electron and hole pairs for CoPi restricts its application. Herein, strongly coupling  $\text{Co}_3\text{PO}_4$ -carbon dots (CoPi-CDs) composites was constructed as an effective strategy to depress the fast recombination behavior of photogenerated electron and hole pairs. CoPi-CDs show superior

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