

Electronic Supplementary Information (ESI)

Visible-light-driven nonsacrificial water oxidation over tungsten trioxide powder modified with two different cocatalysts

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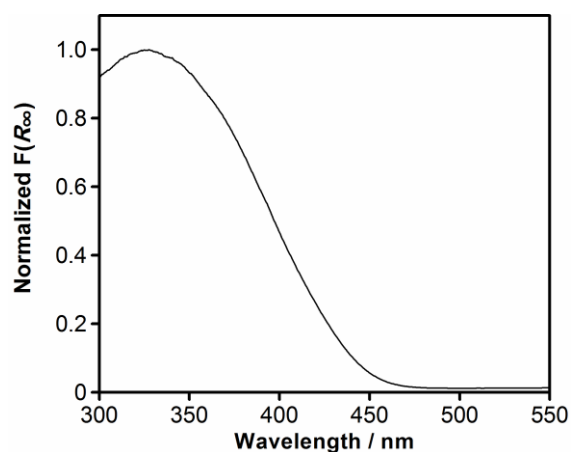


Fig. S1 Diffuse reflectance spectrum of WO_3 powder.

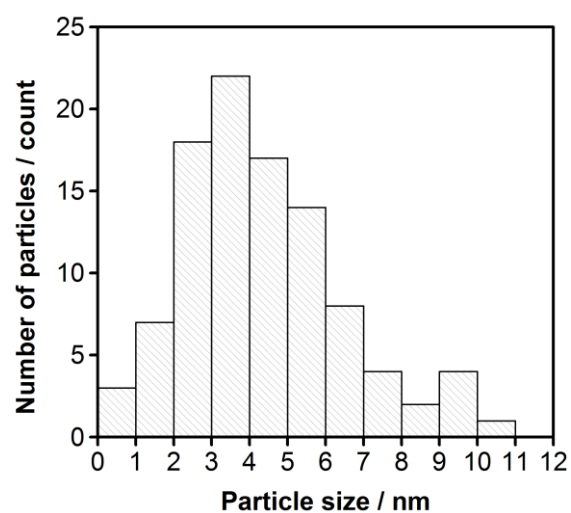


Fig. S2 Particle size distribution histograms for nanoparticulate Pt species on WO_3 .

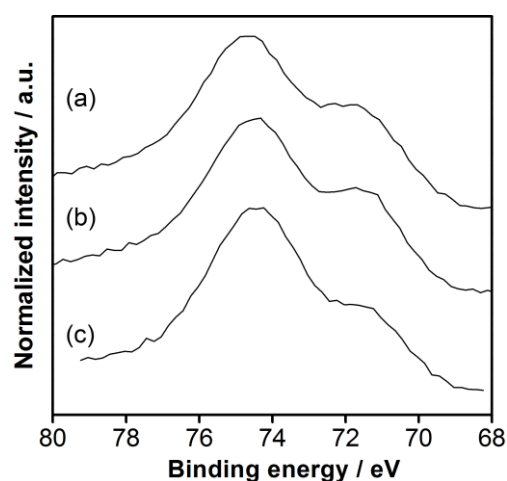


Fig. S3 XPS spectra for Pt 4f of (a) Pt/WO_3 , (b) 0.001 wt% RuO_2 -loaded Pt/WO_3 , and (c) the sample (b) after 5 h of photocatalytic reaction.

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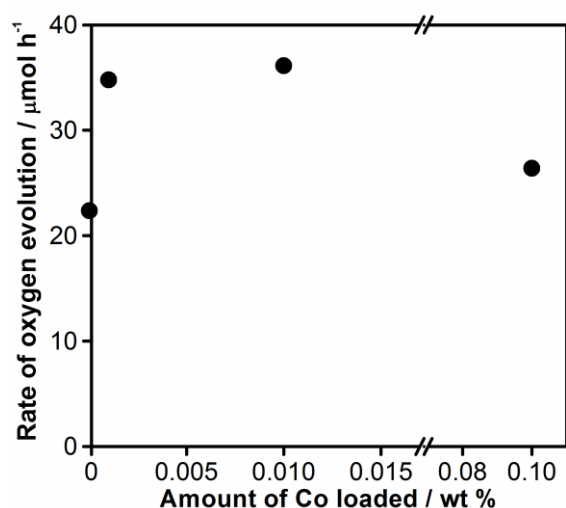


Fig. S4 Rates of O_2 evolution over the optimized PtO_x/WO_3 further modified with various loading amount of CoO_x . Reaction conditions: catalyst, 100 mg; aqueous NaIO_3 solution, 100 mL (10 mM); light source, xenon lamp (300 W) fitted with a cold mirror (CM-1) and a cutoff filter (L42); reaction vessel, Pyrex top-irradiation type; irradiation wavelength, $420 < \lambda < 800$ nm.

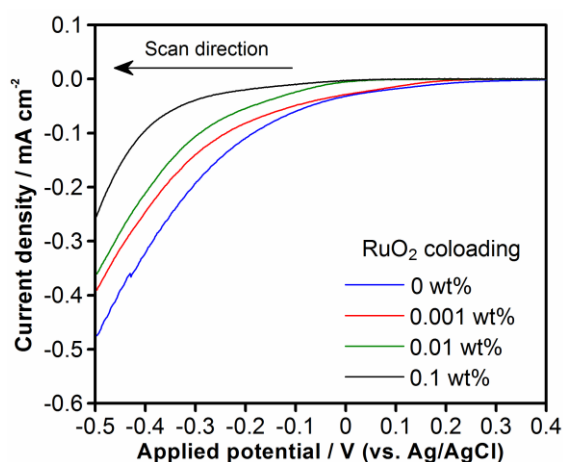


Fig. S5 Current-voltage curves for porous PtO_x/WO_3 electrodes loaded with different amounts of RuO_2 under dark conditions in an aqueous solution containing 0.1 M Na_2SO_4 and 10 mM NaIO_3 . Scan rate: $20 \text{ mV} \cdot \text{s}^{-1}$.