

Enhanced charge separation in La_2NiO_4 nanoplates by coupled piezocatalysis and photocatalysis for efficient H_2 evolution

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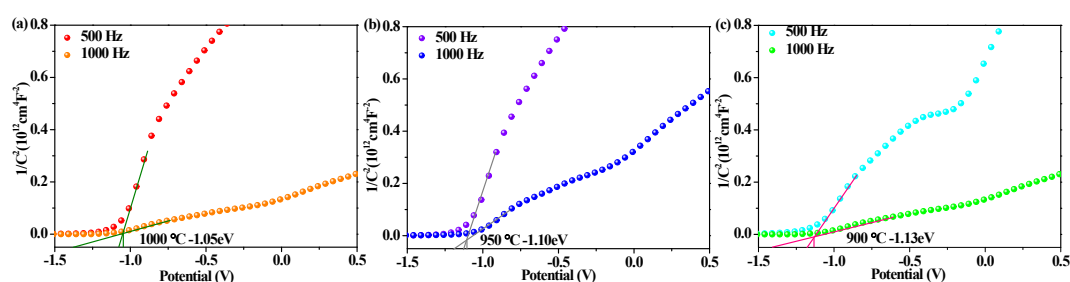


Fig. S1. The Mott-Schottky curves plots with different frequency of La_2NiO_4 synthesized at 1000 °C, 950 °C and 900 °C.

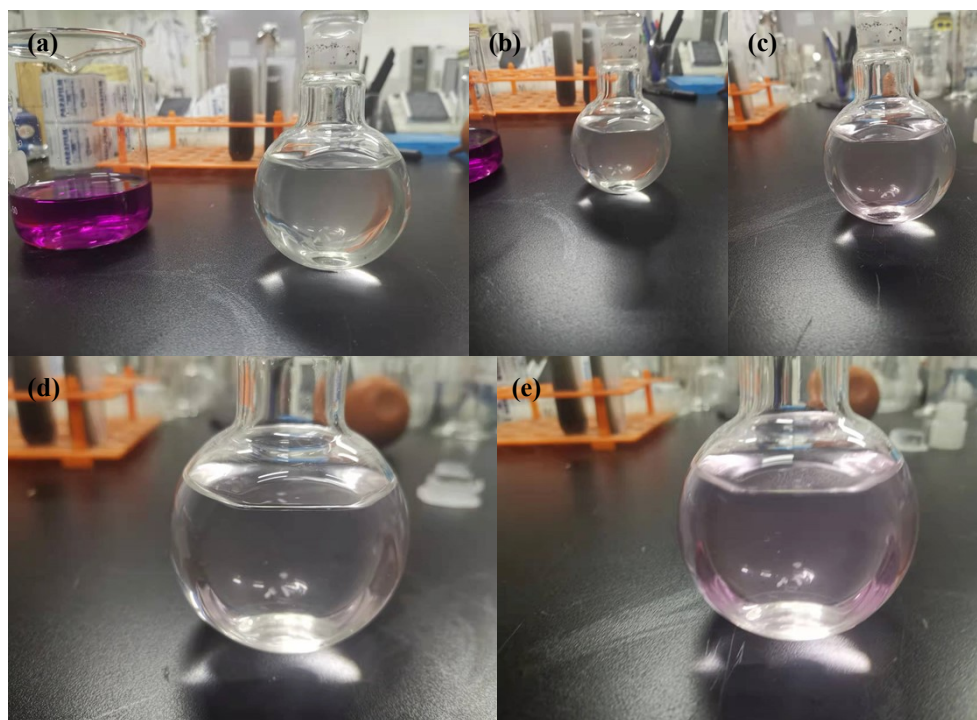


Fig. S2. The color of the solution after the reaction changes with the increase of the titer of acid potassium permanganate solution: (a) photo of the solution after the reaction clarified by

centrifugation, (b) photo of the solution after dropping 100 μL 0.002 mol/L acidic potassium permanganate solution, (c) photo of the solution after dropping 200 μL 0.002 mol/L acidic potassium permanganate solution, (d) photo of the solution after 10 minutes of rest, (e) photo of the solution after dropping 300 μL 0.002 mol/L acidic potassium permanganate solution.

The prepared solution of 0.002 mol/L potassium permanganate acidified with sulfuric acid was dropped into the solution after the hydrogen evolution reaction clarified by centrifugation as can be seen in Fig. S2a. After the first addition of 100 μL acidic potassium permanganate solution, the solution after the hydrogen evolution reaction remained colorless and transparent as shown in Fig. S2b. After 100 μL acidic potassium permanganate solution was added a second time, the solution after the hydrogen evolution reaction showed a slight pink color as can be seen in Fig. S2c. Then letting the solution after the hydrogen evolution reaction stand for 10 minutes and basically faded to clear (Fig. S2d). And then, after adding another 100 μL of acid potassium permanganate solution, the solution after the hydrogen evolution reaction became pink and did not fade, as shown in Fig. S2e.