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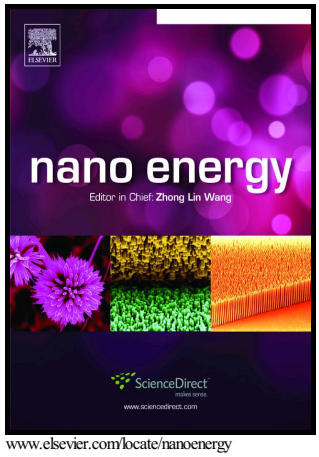

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Porous Cobalt Oxide Nanoplates Enriched with Oxygen Vacancies for Oxygen Evolution Reaction

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Highlights

- A solution phase is developed to create oxygen vacancies on thin cobalt oxide nanoplates
- The concentration of oxygen vacancies on nanoplates surface can be fine-tuned.
- The OER performance is highly dependent on the concentration of oxygen vacancies.
- Excellent OER performance is obtained by controlling the surface oxygen vacancies.

Abstract

Porous cobalt oxide nanoplates enriched with oxygen vacancies are synthesized using a ligand-assisted polyol reduction method. This method enables large-scale synthesis that offers superior uniformity, solution dispersity and controllable concentration of oxygen vacancies on surface. The large surface area of porous cobalt oxide nanoplates together with enriched oxygen vacancies provide more active sites; which promotes faster exchange of intermediates and more efficient