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Title: Bi-metallic boride as the electrode material of aqueous battery enabling ultrahigh rate and cycling performances

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Source: JOURNAL OF POWER SOURCES **Volume:** 419 **Pages:** 6-11 **DOI:** 10.1016/j.jpowsour.2019.02.053 **Published Date:** 2019 APR 15

Times Cited in Web of Science Core Collection: 8

Total Times Cited: 8

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 67

Cited Reference Count: 32

Abstract: A facile chemical reduction method for preparation of Co-Ni-B was designed and developed. The obtained products showed outstanding electrochemical performances as positive electrode materials in aqueous electrolytes at different current densities (from 1 A g⁻¹ to 20 A g⁻¹). Co-Ni-B nanocomposite exhibited reversible specific capacity of 319.4 mAh g⁻¹, remarkable rate capability over 90% at 20 A g⁻¹, and excellent cyclability with no obvious decay over 100 cycles. The high surface area of Co-Ni-B facilitated the mass and charge transfer, which, in turn, boosted the electrochemical performances.

Accession Number: WOS:000463305900002

Language: English

Document Type: Article

Author Keywords: Aqueous battery; Electrode material; Bi-metallic boride; High current density; High surface area

KeyWords Plus: NICKEL-HYDROXIDE; BETA-NI(OH)(2); NANOPARTICLES; NANOSHEETS; OXIDATION; CATALYST

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Publisher: ELSEVIER SCIENCE BV

Publisher Address: PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Chemistry, Physical; Electrochemistry; Energy & Fuels; Materials Science, Multidisciplinary

Research Areas: Chemistry; Electrochemistry; Energy & Fuels; Materials Science

IDS Number: HR7BC

ISSN: 0378-7753

eISSN: 1873-2755

29-char Source Abbrev.: J POWER SOURCES

ISO Source Abbrev.: J. Power Sources

Source Item Page Count: 6

Funding:

Funding Agency	Grant Number
National Natural Science Foundations of China	21473128
	21373154

The authors wish to acknowledge the National Natural Science Foundations of China (No. 21473128 and 21373154) for financial assistance.

Output Date: 2026-01-06

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