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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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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.

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