PRUSSIAN BLUE ANALOGUE CATHODE MATERIALS AND ELECTROCHEMICAL ENERGY STORAGE DEVICES

Abstract

A Prussian blue positive electrode material and an electrochemical energy storage device, which consists of a positive electrode, a negative electrode, a separator between the two and an electrolyte with ionic conductivity. The positive electrode is composite of Prussian blue compounds and conductive carbon materials, the negative electrode is composite of polyanionic sodium storage materials and conductive carbon materials, the electrode is porous self-supporting thick electrode with the active material load of 0.001-0.2g /cm^2, thickness of 0.1-2 mm, and porosity of 15-60%. Battery capacity is controlled by the negative electrode. The electrolyte is an aqueous solution containing metallic sodium ions, an organic electrolyte, or a mixture of both.

Figure 1 accompanies the abstract.