ABSTRACT

In view of the characteristics of Prussian blue material, this invention describes a co-solvent electrolyte system, which is a mixture of co-solvents and deionized water, to be used with Prussian blue analogs . The co-solvents can reduce the occurrence of side reactions in aqueous electrolytes, while the addition of deionized water improves the conductivity of the electrolyte as a whole. The system has the following advantages: 1. Greatly extending electrode life; 2. Effectively broadening the electrochemical window and limiting the occurrence of water electrolysis side reactions during battery operation; 3. The battery able to operate in a wide temperature range (capacity retention rate greater than 70% at -30 ℃); and 4. Inexpensive electrolyte with intrinsic safety characteristics.

Figure 1 to accompany Abstract