Flexible Supercapacitor Having Seamless Interfaces Decreasing Interfacial Resistance Using Agarose/Activated Carbon Composite Electrode

김종식, 심태섭†
아주대학교
(tsshim@ajou.ac.kr†)

It is increasing that demands on flexible, wearable, and implantable electronic devices. Flexible energy devices are preferred because they provide a steady energy supply despite external mechanical deformation. To exhibit stable electrochemical performance even during mechanical deformation, flexible supercapacitor was manufactured using agarose hydrogel as flexible material and substrate. The supercapacitor is designed to have seamless interface between current collector/electrode and electrode/electrolyte layers. The mechanical strength is improved compared to the conventional sandwich type supercapacitor. And it was proved that the electrical performance was improved by reducing the resistance generated at the interface. In addition, the stability of electrical performance is confirmed through bending tests.