

A method to form a hybrid bipolar super capacitor

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ABSTRACT

A method (100) to form a hybrid bipolar supercapacitor is provided. The method (100) may include mixing Molybdenum disulfide (MoS₂) and carbon nanotubes (CNT) to obtain MoS₂-CNTink. Further, the method (100) may include drop casting MoS₂-CNTink on a substrate to obtain an electrode and using the electrode with an aqueous electrolyte. The Molybdenum disulfide (MoS₂) and carbon nanotubes (CNT) may be mixed in ratio of 20:80. The formed supercapacitor may facilitate bipolar supercapacitor performance with higher capacitance in negative potential by giving equal importance to both electrode and electrolyte.

KEY APPLICATION AREAS

- 1.Energy storage systems.
- 2.Hybrid bipolar supercapacitors.
- 3.Flexible and wearable electronics.
- 4.Portable electronic devices.
- 5.Electric vehicles and transportation.
- 6.Renewable energy storage and backup power.

POTENTIAL USE

- 1.High-performance charge storage devices.
- 2.Fast charging/discharging energy storage.
- 3.Flexible supercapacitor electrodes.
- 4.High-power backup and peak power delivery.
- 5.Energy buffering for portable and IoT devices.
- 6.Next-generation electrochemical energy storage solutions.