Jatropha Oil Cake Based Activated Carbon for Symmetric Supercapacitor Application: A Comparative Study on Conventional and Hydrothermal Carbonization Processes

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Graphical Abstract

The Jatropha oilcake was effectively converted into pristine and activated biocarbons employing conventional and hydrothermal carbonizations. Activation process enhanced the specific surface area of Jatropha oilcake based carbon materials, which showed higher specific surface area. The synthesized pristine and activated biocarbons were explored for supercapacitor applications. Activated biocarbon derived through hydrothermal carbonization showed highest specific capacity of 174.78 F/g.