Fabrication of activated carbon derived microalgae via carbonization process and its application as supercapacitors

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Activated carbon is an adsorbent fabricated from a variety of carbonaceous source materials. In this study, activated carbon was prepared from microalgae by chemical activation with various KOH/char ratios for high surface area and porosity. The porosity of materials was made up of uniform micropores, most of them having sizes ＜1 um. The electrochemical properties of as-produced activated carbons were determined in three-electrode cell in 6 M KOH aqueous electrolytes using galvanostatic, voltammetry and impedance spectroscopy techniques. The physicochemical properties of activated carbon derived microalgae were characterized by thermogravimetric Analysis, Scanning electron microscope and Boehm titration methods.