

Synthesis of Carbon from KOH activated Sorona and fabrication of activated carbon–Ruthenium oxide composite for Asymmetric supercapacitor cells and its electrochemical characterization.

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Composite of Ruthenium Oxide and Activated carbons derived by the pyrolysis of Sorona [Activated by KOH] is used as the electrode material in asymmetric electrochemical supercapacitors and electrochemical behavior is investigated. Scanning electron micrographs reveal very small clusters of Ruthenium Oxide attached to large carbon Flakes in the composite sample. X-Ray diffraction studies of these carbons indicate the presence of small domains of coherent and parallel stacking of the graphene sheets and confirm the crystalline nature of RuO₂. N₂ adsorption analysis reveals an average Brunauer, Emmett and Teller surface area of 390m²g⁻¹ for KOH activated sorona carbon. Cyclic voltammetric studies show specific prolate rectangular shape and gives excellent capacitive properties.