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Effect of growth time on solvothermal synthesis of vanadium dioxide for electrochemical supercapacitor application

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ABSTRACT

In this work, we report the time-dependent morphological evolution of the as-prepared vanadium dioxide (VO₂) and its electrochemical performance for supercapacitor applications. VO₂ with different morphologies (microspheres and nanosheets) were successfully synthesised by solvothermal method for time growth ranging from 2 h 30min to 12 h at a temperature of 200 °C. X-ray diffraction (XRD), Raman spectroscopy, scanning electron microscope (SEM), high resolution transmission electron microscopy (HRTEM), energy dispersive spectroscopy (EDS), gas adsorption/desorption analysis and X-ray photoelectron spectroscopy (XPS) were used to

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