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Application of punica granatum L functionalised bimetallic nano-oxides on PVP with high catalytic activities via facile green process

Xolile Fuku^{1,2} and Malik Maaza^{1,2}

¹University of South Africa, South Africa

²Nanosciences African Network – iThemba LABS, South Africa

Bimetallic nano-oxides on polyvinylpyrrolidone will be synthesised by simple and facile green route. The green synthesised nanocomposite will be characterised by different techniques and methods. Detailed structural, compositional, optical, photoelectrochemical and electrochemical properties of the obtained nanomaterials will be analysed by X-ray diffraction (XRD), high resolution-transmission electron microscopy (HR-TEM), ultraviolet-visible spectroscopy (UV-Vis), impedance spectroscopy (EIS), cyclic voltammetry (CV), galvanostatic charge-discharge (CDG) and FTIR spectroscopy techniques. Ni substrate and boron doped diamond (BDD) will be used as electrochemical transducer for the fabrication of the potential energy storage devices. Furthermore, the nanocomposites will be used as a catalyst and in other applications such as solar absorbers.

Biography

Xolile Fuku is a Chemist and obtained his PhD in 2014 at the University of the Western Cape, SensorLab Research Group. Presently, he doing his Post-doctoral studies at iThemba LABS under UNISA/UNESCO African chair. His research platform is in nanotechnology, material science and electro-analytical chemistry, which focuses on fundamental and applied electrodynamics of materials and sensors.

fuku@tlabs.ac.za

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