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Hydrothermally grown nanoflowered WO_3 thin films on etched ITO for electrochromic studies

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Abstract: Herein, we present, for a first time, an electrochromic film of WO_3 fabricated on a ITO by etching process, adopting a low-cost, facile and template-free fabrication process. By using hydrothermal method, we obtained WO_3 films with a simplified architechture (ITO/HCl/WO_3) in which HCl supports WO_3 to form adhesive layer. Compared to ITO/WO_3 configuration, the ITO/HCl/WO_3 configuration exhibited a strong enhancement in terms of roughness, porosity, open-tunnel structure, current density and coloration efficiency (about 179cm^2C^{-1}). Moreover, electro-optical characterization illustrates high transmittance modulation (about 49% at 630 nm) with excellent stability, making it attractive for a practical application.

Biography

Dr. Anamika Vitthal Kadam has completed her PhD at the age of 31 years from Bharti Vidyapeeth University, Pune, MH, and India. She is working as Assistant Prof in D.Y. Patil Engg and Tech, Kolhapur, MH, India and having guideship of D.Y. Patil University. Se has published more than 25 papers in national and international journals and achieved a project under young scientist scheme with one minor research project.

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