

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

**Hierachically grown RuO<sub>2</sub> nanowires on electrospun IrO<sub>2</sub> nanofiber** JAEYEON LEE, Department of Chemistry & Nano Science, Ewha Womans University, HEE-SUNG YANG, Department of Nano Science & Technology, Sejong University, YUKYUNG CHO, Department of Chemistry & Nano Science, Ewha Womans University, HAE-YOUNG SHIN, SEOKHYUN YOON, Department of Physics, Ewha Womans University, JEONG MIN BAIK, School of Mechanical and Advanced Materials Engineering, Ulsan National Institute of Science and Technology, YOUNG-SOO SEO, Department of Nano Science & Technology, Sejong University, MYUNG HWA KIM, Department of Chemistry & Nano Science, Ewha Womans University — Electrospinning is a well known tool to synthesize nanofibers with the various diameters. Iridium oxide(IrO<sub>2</sub>) and Ruthenium oxide(RuO<sub>2</sub>) have a great potential as materials for electrodes in electrochemical devices due to their high electrical conductivity, chemical stability, and characteristics. So when they are mixed, we expect superior electrochemical properties and stability. We synthesize IrO<sub>2</sub> nanofibers from mixture of Iridium precursor and polymer. At certain condition, we were able to obtain uniform and continuous fibers that the average diameter of nanofibers is approximately 150 nm. After calcination, RuO<sub>2</sub> nanowires were then hierarchically grown on IrO<sub>2</sub> nanofibers by APCVD at about 650 ° without any catalyst. The diameters of nanowires are about 50 nm and the length is ~ 1.5 μm. The structures and morphologies were examined using scanning electron microscopy (FE-SEM), high resolution electron microscopy (HRTEM), X-ray diffraction (XRD) spectrum and Raman spectroscopy.

Jaeyeon Lee  
Department of Chemistry & Nano Science, Ewha Womans University

Date submitted: 15 Nov 2011

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