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TiO2 Films on Si(111) by Dilute Aqueous Chemical Bath Deposition J.F. ANDERSON, University of Louisiana at Monroe, ERIE MORALES, Tulane University, AARON HAMILTON, University of Louisiana at Monroe, UL-RIKE DIEBOLD, Tulane University — Dilute Aqueous Chemical Bath Deposition (CBD) from highly acidic (pH < 1) TiCl<sub>3</sub> HCl solutions at room temperature and slightly higher ( $23^{\circ}$ C –  $40^{\circ}$ C) produced thin titanium dioxide films on clean Si(111). We report initial results of X-ray Photoelectron Spectroscopy (XPS), Scanning Electron Microscopy (SEM), and X-ray Diffraction (XRD). The films thicknesses varied from 300 nm to ~ 1  $\mu$ m. It was found that the films required annealing to ensure adherence to the Si(111) substrate. XRD showed that the rutile structure was present in the TiO<sub>2</sub>.

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