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Synthesis and HRTEM Electron Diffraction Characterization of Monocrystalline V_2O_5 LUISA TAFOYA, LUIS RENDON, PATRICIA SANTIAGO, Instituto de Fisica, Universidad Nacional Autónoma de México, 04510 México D. F., México, ELIZABETH CHAVIRA, Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, 04510 México D. F., México, ERNESTO E. MARINERO, HGST San José Research Center, 3404 Yerba Buena Rd., San Jose, CA 95135, USA, VICENTE GARIBAY, Instituto Mexicano del Petroleo, de Fisica, Eje Lázaro Cárdenas Norte 152. Col. San Bartolo Atepehuacan, 07730; Mexico D.F., México, LEONARDO GONZALEZ, Universidad Autonoma Metropolitana, Azcapotzalco, Av, San Pablo 180, Col. Reynosa , 02200; Mexico D.F., México — We have synthesized V_2O_5 nanorods via solvothermal synthesis. By controlling the synthesis conditions, unidirectional crystalline growth is achieved. HRTEM and XRD studies reveal that the resulting nanorods are monocrystalline and are on average 80 nm in width and readily grow to a few microns in length. Utilizing electron diffraction we investigate the growth of these nanostructures along preferential crystalline planes. XRD confirms also that the crystalline phase of the nanorods is orthorhombic.

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