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**Electrochemical Zinc Oxide Nanowires Grown in the Presence of a Lithium Donor Ion** BENJAMIN WUTZKE, BJOERN SEIPEL, Portland State University — We report on the electrolytic growth of zinc oxide in the presence of lithium or potassium donor ions. It is observed that a lithium ion donor precedes a morphological increase in wire diameter by ∼300 percent (potassium 100 nanometers to lithium at 300 nanometers, Fig. 1,3). Novel structures were found in trials of ZnO grown in the presence of both lithium and potassium with identical cell parameters and dopant electrolyte concentrations (Fig. 10). Deposition currents indicate divergent growth kinetics in the assemblage of ZnO structures in the presence of lithium or potassium and that this divergence relies upon the addition of a copper electrolyte.

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