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Synthesis of Zinc Oxide Nanowires by Chemical Vapor Deposition[1] GANG SHEN, The University of Alabama, DAVID WILBERT, BABATUNDE AJILORE, MATTHEW YORK, WILLIAM BAUGHMAN, MICHAEL MURPHY, JONGSU KIM, SEONGSIN M. KIM, PATRICK KUNG — One-dimensional nanostructures of zinc oxide (ZnO) are promising structures for future nano-optoelectronic devices and applications ranging from solid-state lighting to photovoltaics. They can also potentially serve as template matrices for nanoscale sensors. Realizing well aligned nanostructures has remained challenging. We present here the growth of ZnO nanowires by chemical vapor deposition using a variety of metal and non-metallic catalysts, as well as using a catalyst-free approach. The resulting nanowires were characterized through electron microscopy, optical absorption, photoluminescence, and confocal Raman spectroscopy.

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