

## Formation 1-Dimensional ZnTe Nanowires by self-organization from an ultrasonic aerosol spray system

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Zinc telluride nanowires were obtained from the ultrasonic aerosol spray system using a mixture of ZnO/OA/TOPO/ODE and Te/TOP. The product was characterized by means of scanning electron microscopy, transmission electron microscopy, energy-dispersive X-ray spectroscopy, and X-ray powder diffraction. ZnTe nanoparticles were found to spontaneously reorganize into crystalline nanowires. The formation from nanoparticles to nanowires was controlled by varying the reaction temperature. The intermediate step in the nanowire formation was found to be pearl-necklace-type aggregates. Strong dipole-dipole interaction may be the driving force of self-organization. The linear aggregates subsequently recrystallized into nanowires which have high aspect ratio and uniformity.