

## Synthesis of bismuth telluride nanoparticles

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On using common organic ligands, an inexpensive, wet-processed synthesis for nearly monodisperse bismuth telluride nanoparticles with less than 10 nm in diameter is presented. The total yield of a typical synthesis is of the gram scale and thus provides immediate advantages over lithographic approaches to the synthesis of this highly interesting material for thermoelectric applications.

Information on the shape and crystalline properties of the particles is provided by the means of HR-TEM, powder-XRD, SAED and EDX.

Several ligands are tested in terms of their ability to stabilize particles in colloidal solutions and particular attention is paid towards minimizing the total thickness of the ligand shell in order to provide low tunneling barriers for future applications of the particles as part of a thermoelectric device.

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