

Template-free Hydrothermal Synthesis of
Single-Crystalline Barium Titanate and Strontium
Titanate Nanowires

Joshi Upendra Anant, 이재성*
포항공과대학교
(jlee@postech.ac.kr*)

There has been considerable recent interest in synthesis and characterization of one dimensional nanostructures such as nanotubes, inorganic nanorods and nanowires. One dimensional nanostructure systems offer opportunity for investigating the influence of size and dimensionality of materials with respect to their collective optical, magnetic and electronic properties. Understanding the behavior of ferroelectric materials at the nanoscale is important to the development of molecular electronics, in particular for random access memory and logical circuitry. The most serious challenge scientists and engineers have to face to unfold the full potential of applications and prospects of nanotechnology, is the development of sustainable large-scale manufacturing techniques for the time and cost-effective productions of clean and reliable nanomaterials. In order to contribute to this new nanoworld challenges here we presents for the first time a template and surfactant-free hydrothermal synthesis of Single-crystalline barium titanate (BaTiO_3) and strontium titanate (SrTiO_3) nanowires.