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(54) **METHOD OF CONTROLLING SHAPE OF SYNTHESIZED FERROELECTRIC OXIDE NANOCRYSTAL PARTICLES**

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(52) **U.S. Cl.**

CPC ***B82Y 40/00*** (2013.01); ***B82Y 30/00*** (2013.01); *C01P 2002/72* (2013.01); *C01P 2002/85* (2013.01); *C01P 2004/04* (2013.01); *C01P 2004/16* (2013.01); *C01P 2004/32* (2013.01); *C01P 2004/54* (2013.01); *C01P 2004/62* (2013.01); *C01P 2004/64* (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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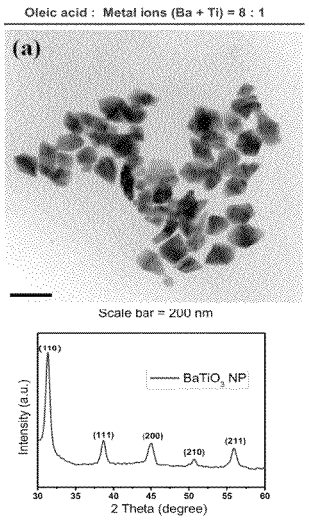
(57) **ABSTRACT**

Shape controlled synthesis of ferroelectric nanocrystals such as barium titanate ($BaTiO_3$) nanocrystals is described. By tuning the molar ratio between the surfactant and the metal precursors, $BaTiO_3$ nanocrystals with different shapes are readily obtained. This provides the nanoscopic ferroelectric building blocks for the fabrication of various electronic devices, as well as for fundamental research in nanoscience and nanotechnology.

8 Claims, 3 Drawing Sheets