

Strain Engineering of Optoelectronic and Ferroelectric Properties in R3-Phase Zn_3TeO_6 : A First-Principles Study

Supporting Information

Xing-Yuan Chen ^{1*}, Guo-Wei Lai¹, Tu-Rong Ning¹, Yan-Li Hu¹, Xiao-Dong Yang¹, Shuang-Rui Chen², Yin Liu¹, Hua-Kai Xu^{1*}

¹Department of Physics, School of Science, Guangdong University of Petrochemical Technology, Maoming, Guangdong 525000, PR China

²Department of Architectural Engineering, Guangdong University of Petrochemical Technology

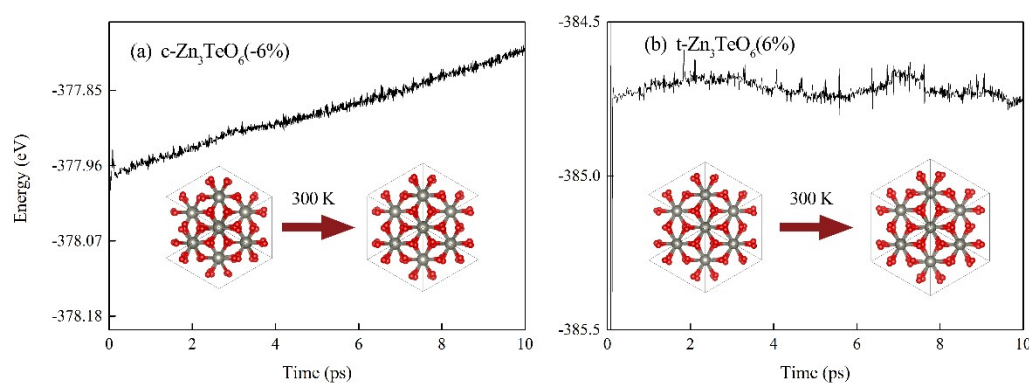


Fig.S1. AIMD energy evolution of Zn_3TeO_6 under (a) -6% compressive strain and (b) $+6\%$ tensile strain.

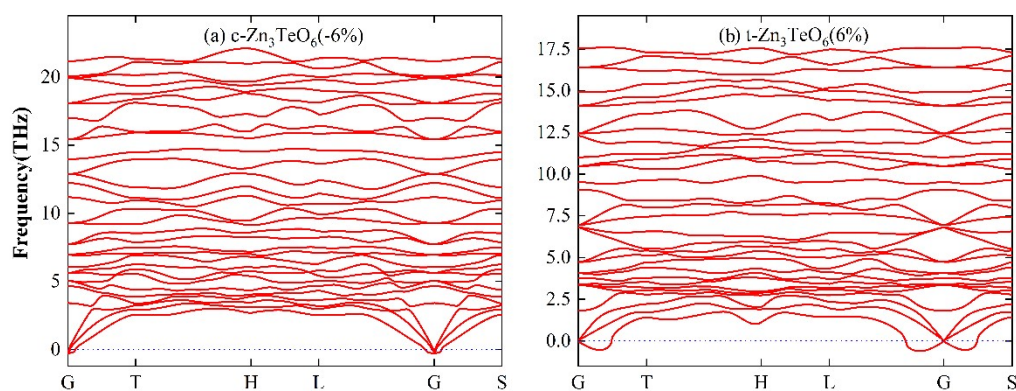


Fig.S2. The calculated phonon frequency of (a) -6% compressive strain and (b) $+6\%$ tensile strain.

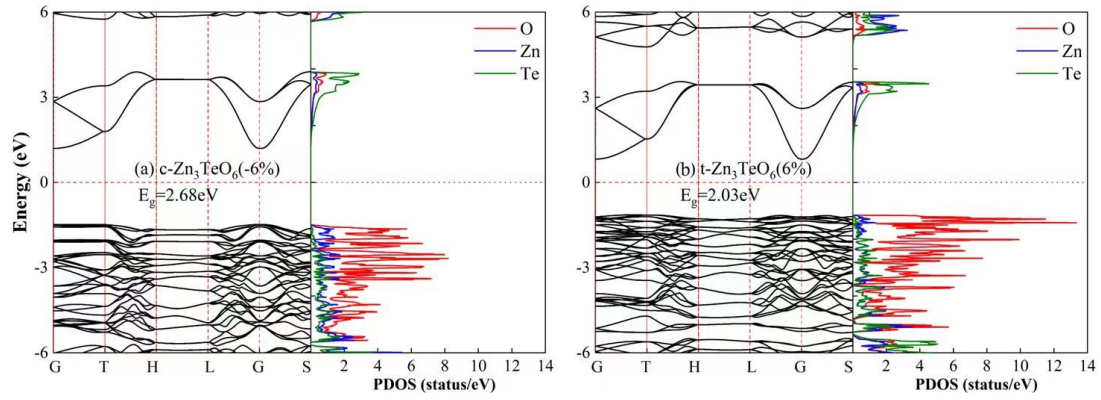


Fig.S3 The calculated band structure and density of states of (a) -6% compressive strain and (b) $+6\%$ tensile strain.

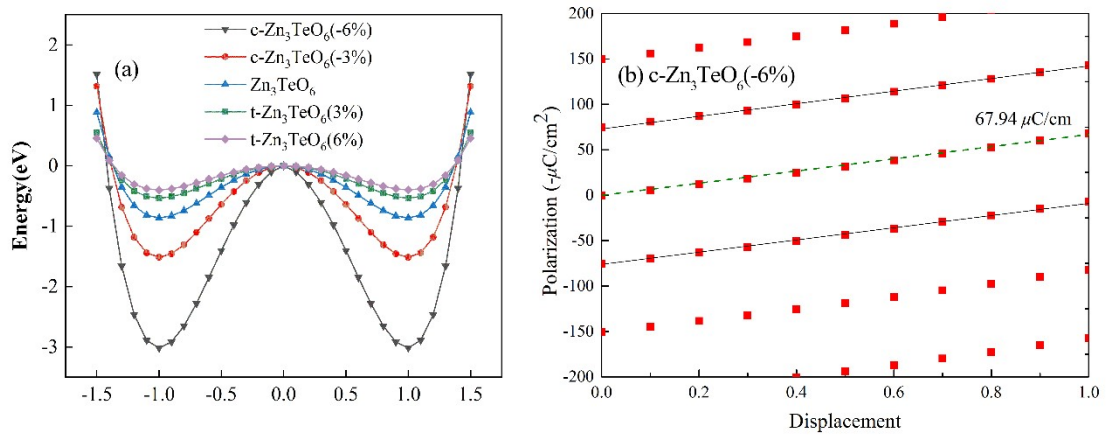


Fig.S4. (a) Potential energy curve and (b) ferroelectric polarization as a function of structural distortion under -6% compressive strain.