Supplementary material

Stability and Phase Transition of Nanoporous Rutile TiO_2 under High Pressure

Quanjun Li[a], Ran Liu[a], Bingbing Liu*[a], Lin Wang[a], Dongmei Li[a], Bo Zou[a], Tian Cui[a], Jing Liu[b], Zhiqiang Chen[c]

[a] State Key Laboratory of Superhard Materials, Jilin University, Changchun 130012, China

[b] Beijing Synchrotron Radiation Facility, Institute of High Energy Physics, Chinese Academy of Sciences, Beijing 100049, China

[c] GeoScience Department, Stony Brook University, Stony Brook, NY 11794, USA

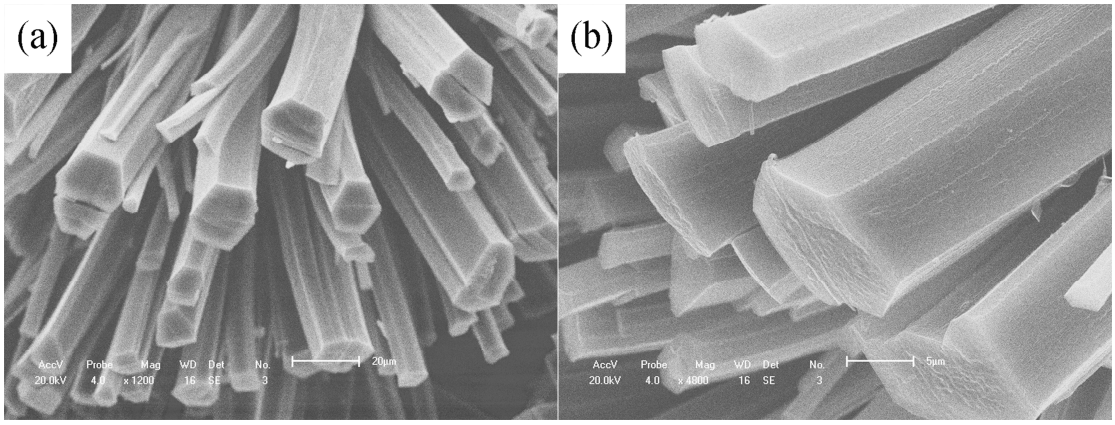

Fig. S1 SEM images of the nanoporous TiO_2 microrods.

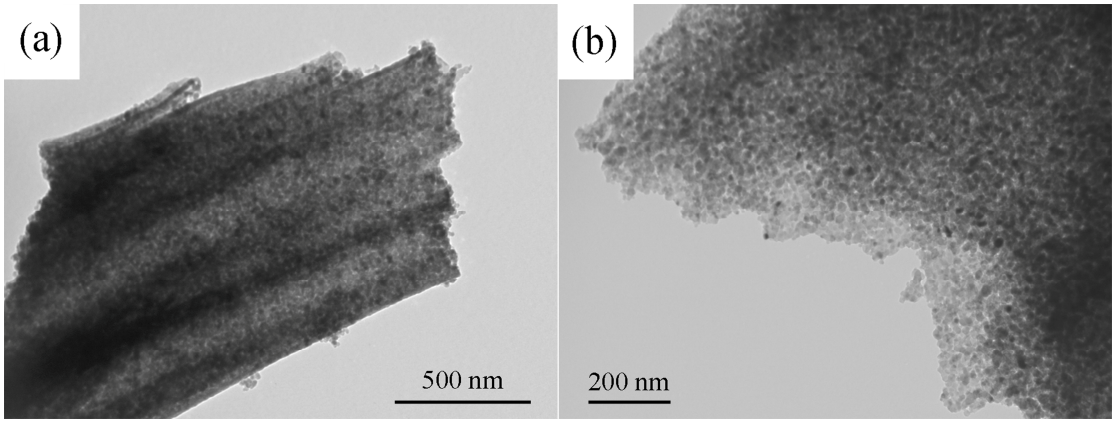

Fig. S2 TEM images of the nanoporous TiO_2 microrods.

As shown in Fig. S1, the TiO_2 microrods (our sample) are 1-20 μm in diameter and 80-100 μm in length. The cross-sections of these microrods are irregular polygons. Fig. S2 shows the typical TEM images of the TiO_2 microrods. It is clear that the microrods are nanoporous architecture that consists of numbers of small nanoparticles with size of ~10 nm. In this study, we investigated the s high pressure behaviors for the nanoporous TiO_2 microrods. The nanoporous architecture plays a crucial role in high pressure phase transition for the nanoporous TiO_2 microrods. Therefore, our sample was described as nanoporous TiO_2 in our work.