## **Supporting Information**

## Size and morphology effects on the high pressure behaviors of \$\$Mn\_3O\_4\$ nanorods

Juanying Li<sup>1</sup>, Bo Liu<sup>1</sup>, Junyan Dong<sup>1</sup>, Chenyi Li<sup>1</sup>, Qing Dong<sup>1</sup>, Tao Lin<sup>1</sup>, Ran Liu<sup>1</sup>, Peng Wang<sup>1</sup>, Pengfei Shen<sup>2</sup>, Quanjun Li<sup>1\*</sup>, Bingbing Liu<sup>1\*</sup>

1 State Key Laboratory of Superhard Materials, College of Physics, Jilin University, No. 2699 Qianjin Street, Changchun 130012, People's Republic of China

2 Academy for Advanced Interdisciplinary Studies, Southern University of Science and Technology, Shenzhen, 518055, China

The corresponding author E-mail: liquanjun@jlu.edu.cn; liubb@jlu.edu.cn

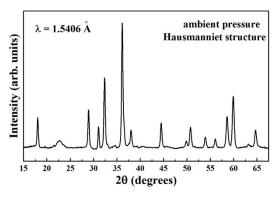
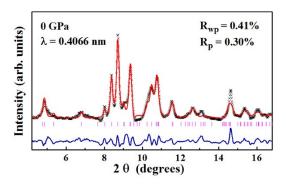


Figure S1. (a) XRD pattern of Mn<sub>3</sub>O<sub>4</sub> nanorods before compression.



**Figure S2.** XRD data of Mn<sub>3</sub>O<sub>4</sub> nanorods was released to ambient pressure were refined. Red solid curve is the result of the Rietveld refinement with marokite-like phase (*Pbcm*) model.

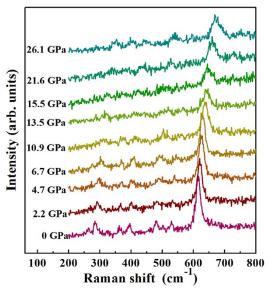


Figure S3. Raman spectra of Mn<sub>3</sub>O<sub>4</sub> nanorods during decompression.