

Electronic Supplementary Information (ESI) for

Antiferromagnetic Topological Insulator MnBi_2Te_4 : Synthesis and Magnetic properties Electronic

Hao Li,^{‡ad} Shengsheng Liu,^{‡aefg} Chang Liu,^c Jinsong Zhang,^c Yong Xu,^c Rong Yu,^{aefg} Yang Wu,^{*bd} Yuegang Zhang,^{*cd} and Shoushan Fan^{cd}

^aSchool of Materials Science and Engineering, Tsinghua University, Beijing, 100084, P. R. China

^bDepartment of Mechanical Engineering, Tsinghua University, Beijing, 100084, P. R. China. E-mail: wuyangthu@tsinghua.edu.cn

^cState Key Laboratory of Low Dimensional Quantum Physics and Department of Physics, Tsinghua University, Beijing 100084, P. R. China E-mail: yuegang.zhang@tsinghua.edu.cn

^dTsinghua-Foxconn Nanotechnology Research Center, Tsinghua University, Beijing 100084, P. R. China

^eNational Center for Electron Microscopy in Beijing, School of Materials Science and Engineering, Tsinghua University, Beijing, 100084, P. R. China

^fKey Laboratory of Advanced Materials of Ministry of Education of China, Tsinghua University, Beijing, 100084, P. R. China

^gState Key Laboratory of New Ceramics and Fine Processing, Tsinghua University, Beijing 100084, P. R. China

[‡] These authors contributed equally to this work.

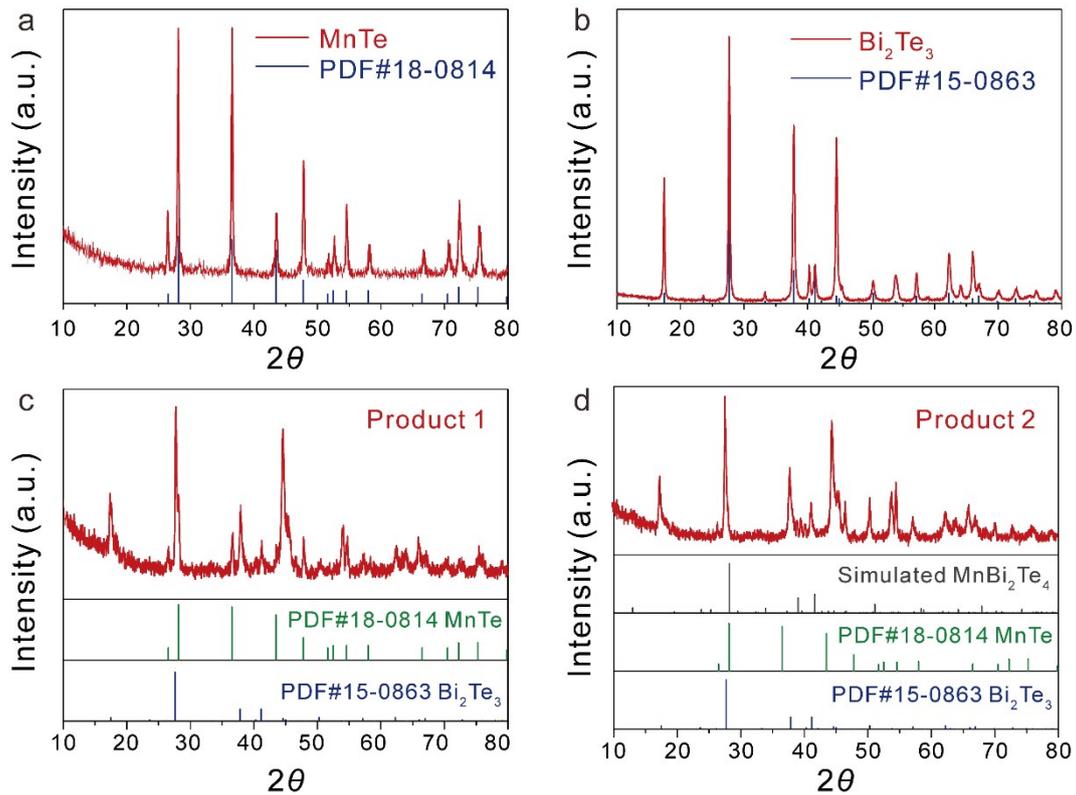


Figure S1. Experimental and reference PXRD patterns of (a) MnTe, (b) Bi₂Te₃ and (c) Product 1. (d) Product 2

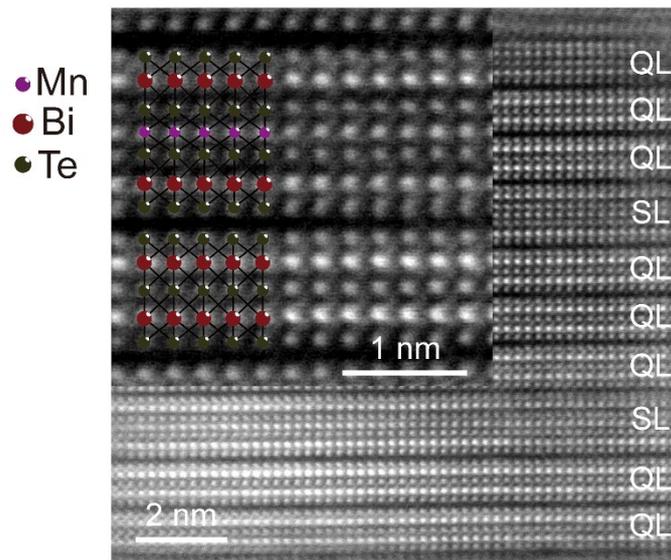


Figure S2. HAADF-STEM image for the (0 1 0) crystallographic plane of Product 2. Inset: enlarged HAADF-STEM image superimposed with the schematic structure of the (0 1 0) crystallographic plane of MnBi₂Te₄ and Bi₂Te₃.

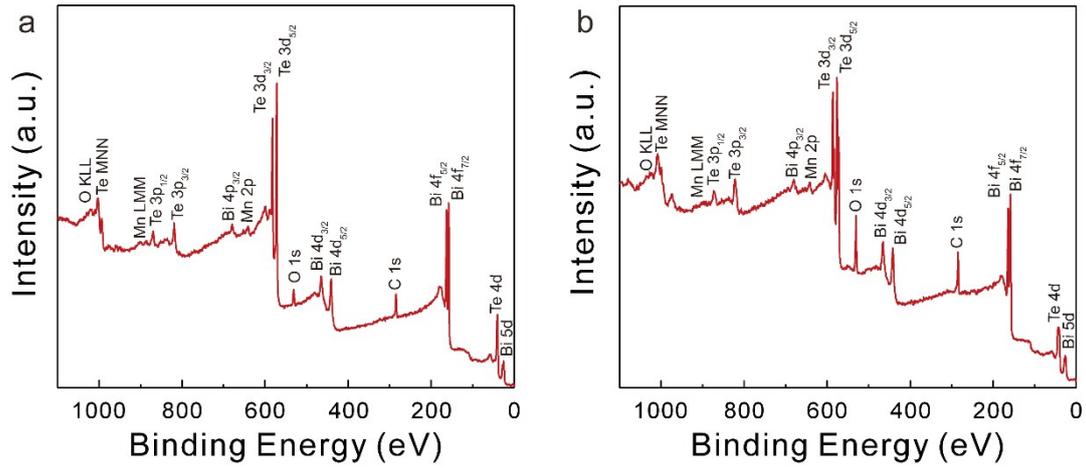


Figure S3. Survey XPS spectra of (a) fresh and (b) oxidized MnBi_2Te_4 surfaces.

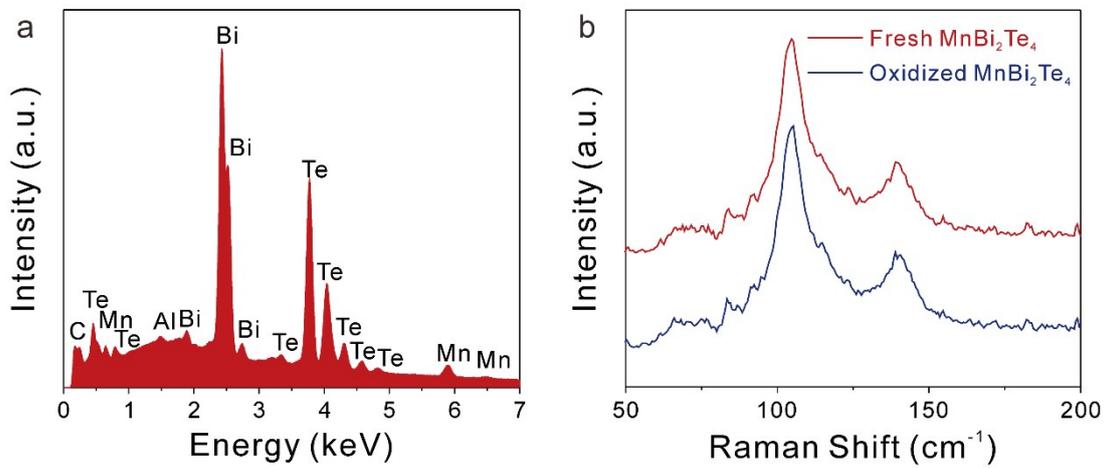


Figure S4. (a) EDX spectrum of oxidized MnBi_2Te_4 . (b) Raman spectrum of oxidized and fresh MnBi_2Te_4 .

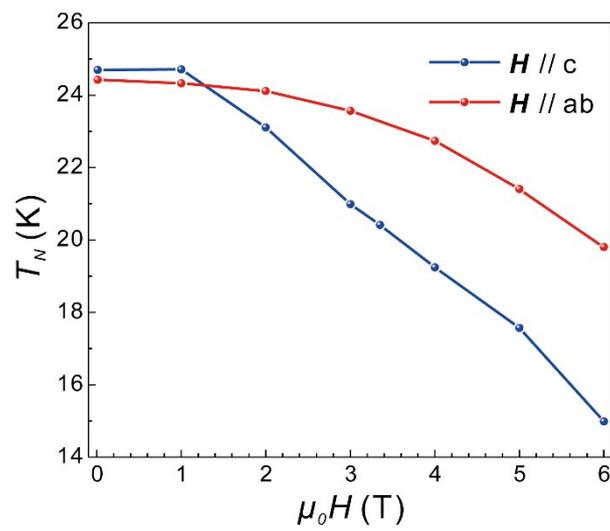


Figure S5. Suppression of T_N with increasing applied magnetic fields.