Supplementary Information

Planar Fe_2B Monolayer with Room Temperature Antiferromagnetism

Index **Page**

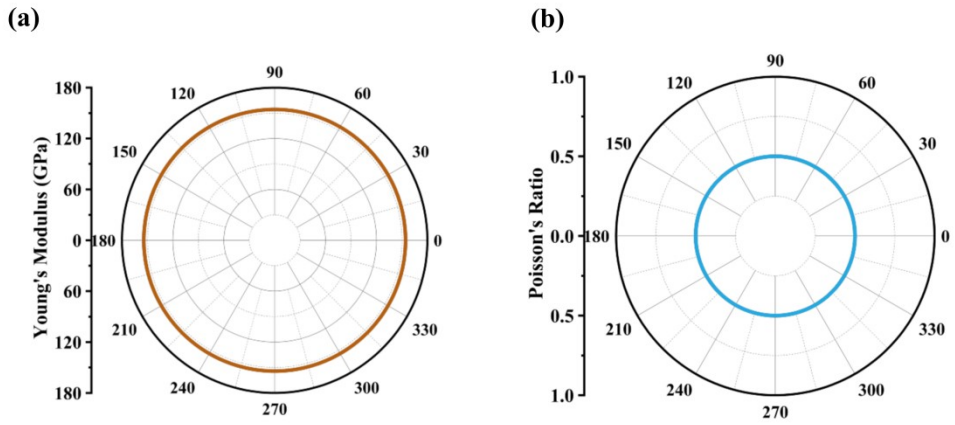

Fig. S1 (a) Young's modulus and (b) Poisson's ratio of the Fe_2B monolayer.

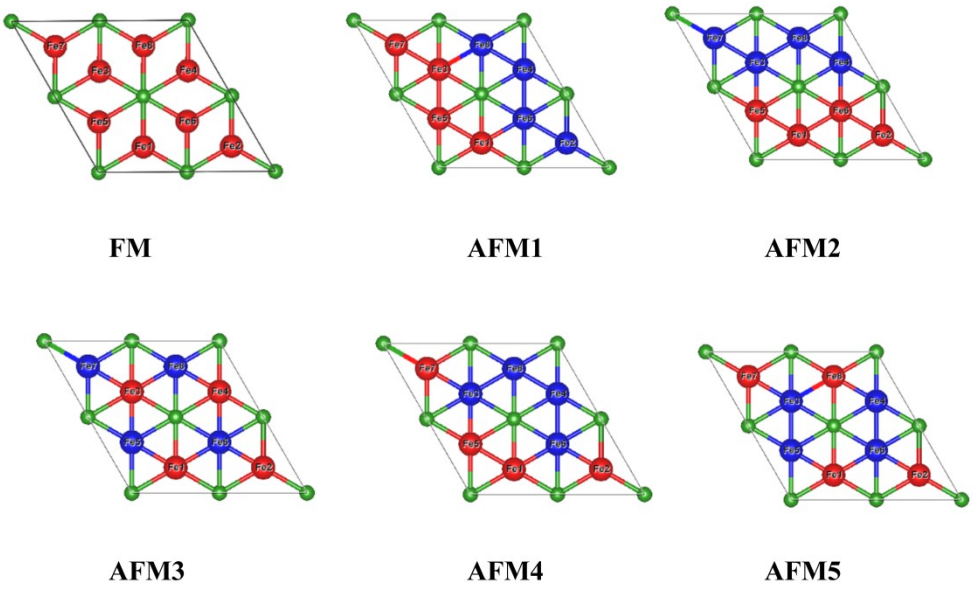

Fig. S2 Six different magnetic configurations of the Fe_2B monolayer, the red and blue balls represent spin-up and spin-down Fe atoms, respectively.

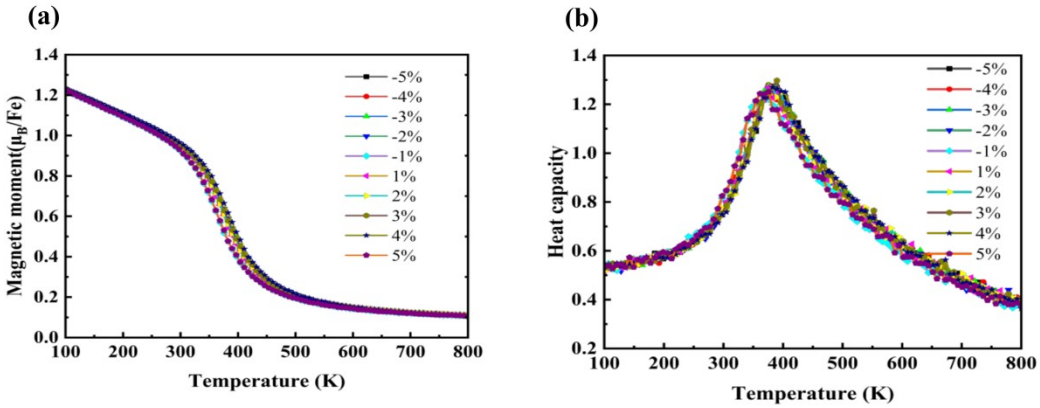

Fig. S3 (a) The temperature-depended M_Z and (b) C_V the Fe_2B monolayer under biaxial strain.

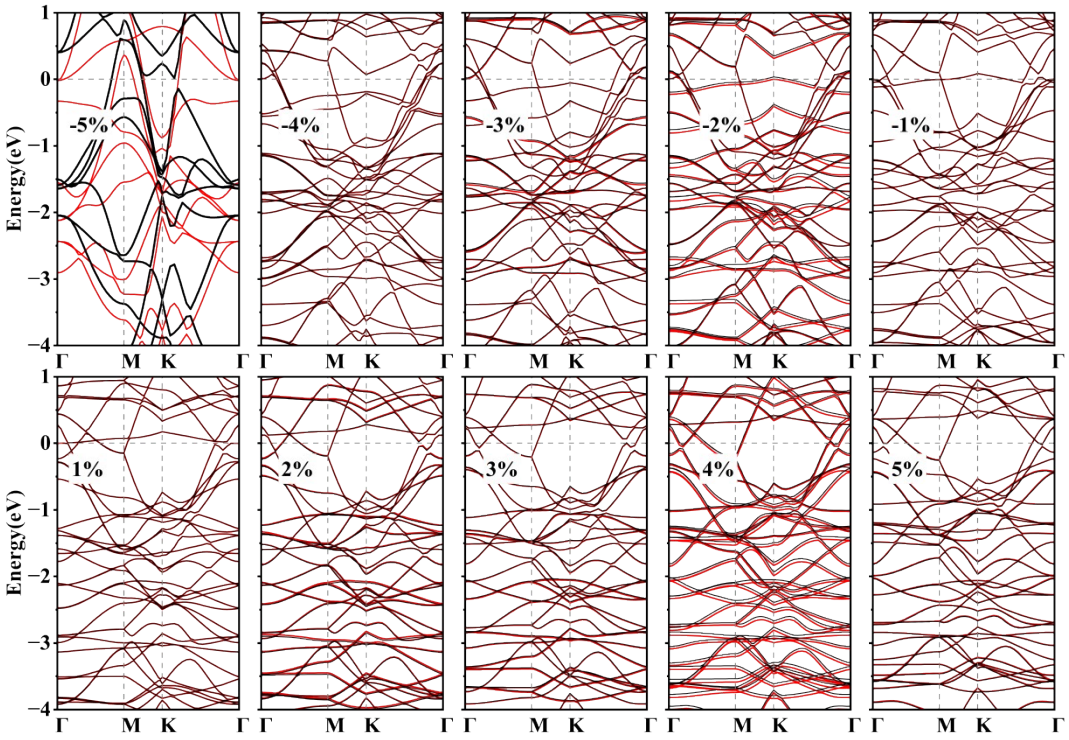

Fig. S4 Spin-polarized band structure of the Fe_2B monolayer under biaxial strain.

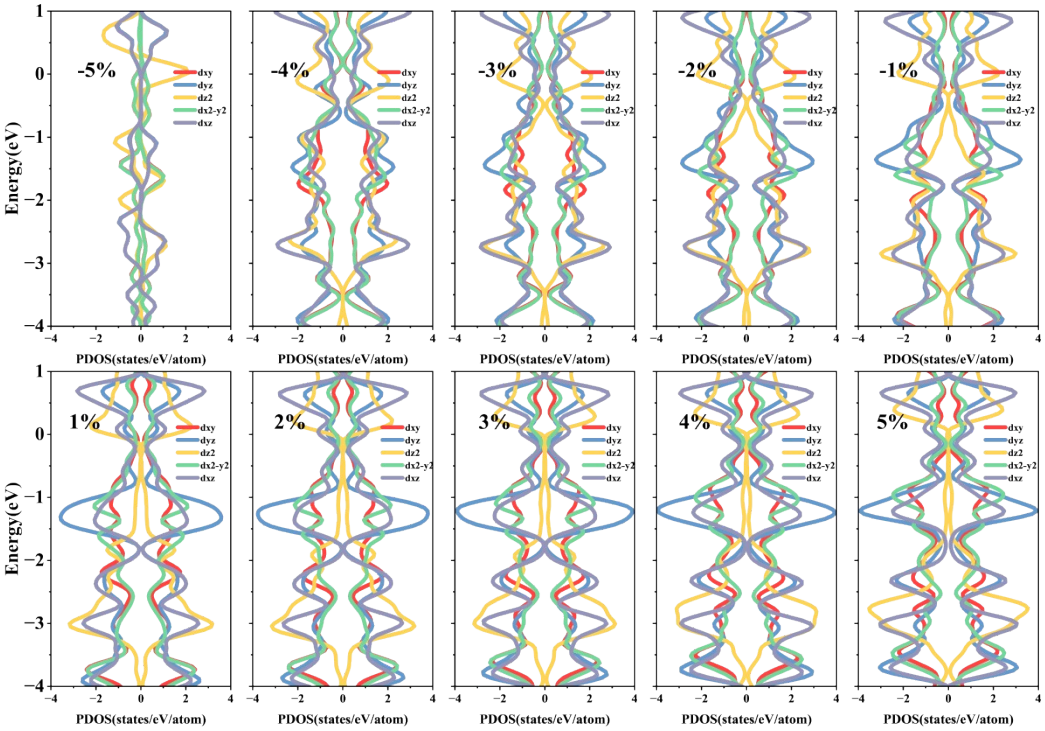

Fig. S5 Partial density of states (PDOS) of Fe atoms in the Fe_2B monolayer under biaxial strain.