**Supporting Information**

# Few-Layer Tin Sulfide: A New Black-Phosphorus-Analogure 2D Material with Sizeable Band Gap, Odd-Even Quantum Confinement Effect, and High Carrier Mobility

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**Supporting Information Figures**

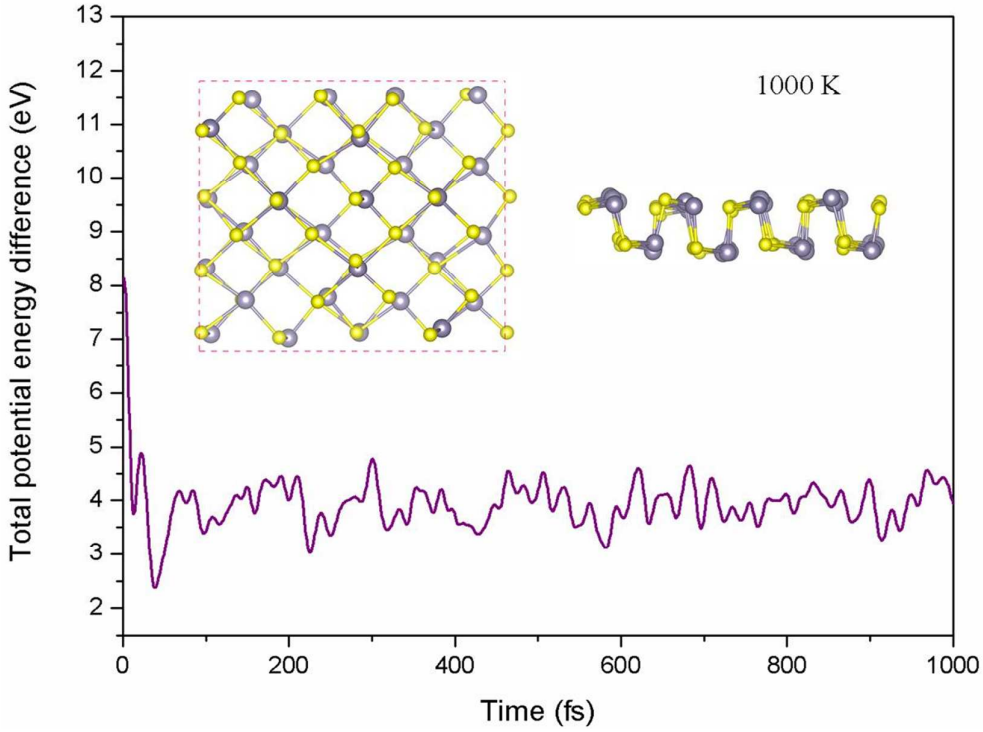


**Figure SI1.** Tolal potential energy fluctuation during AIMD simulations of monolayer SnS at 1000 K. The insets show the snapshot at 1*ps* for 4×4 supercell simulation.

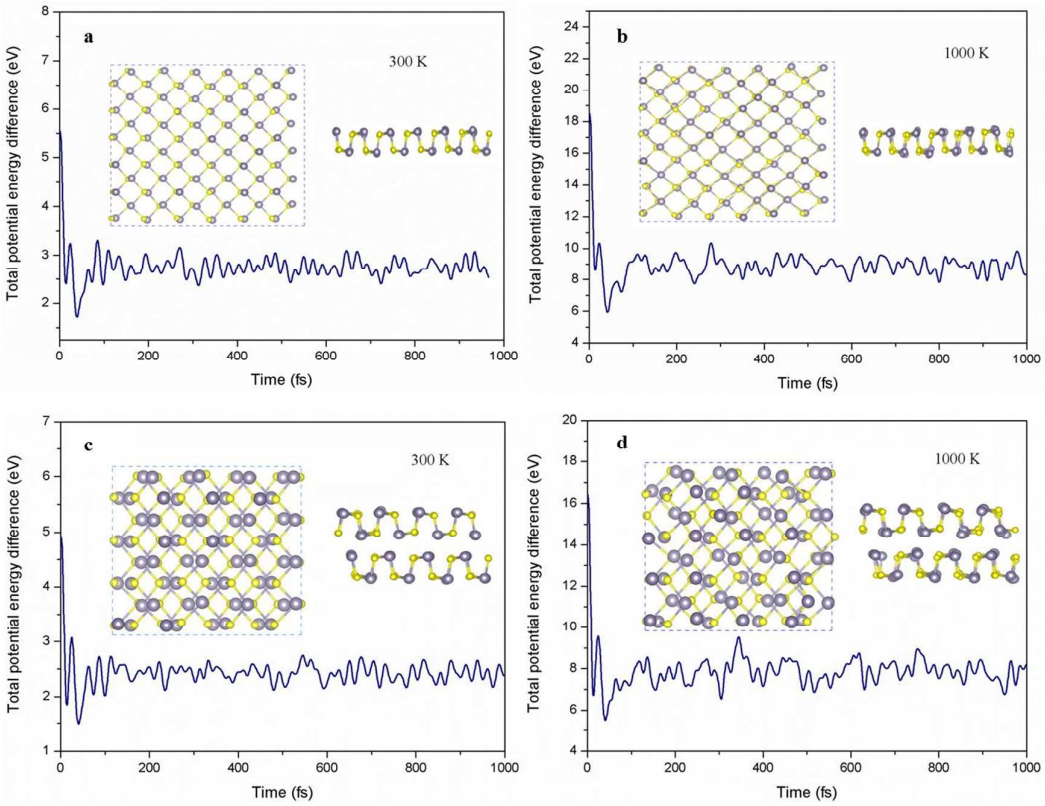


**Figure SI2.** Total potential energy fluctuation during AIMD simulations of SnS. (a,b) Monolayer at 300 K and 1000 K. (c,d) Bilayer at 300 K and 1000 K. The insets show the snapshot at 1*ps* for monolayer 6×6 and bilayer 4×4 supercell simulation.

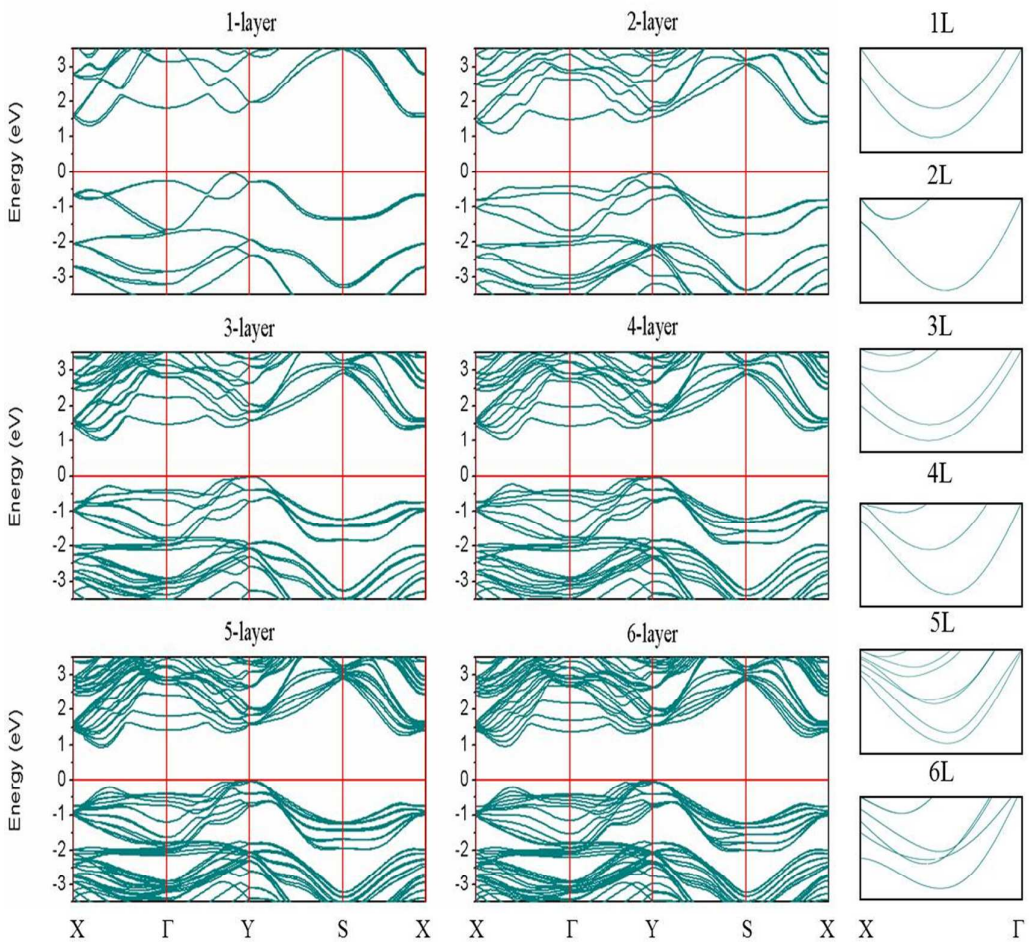


**Figure SI3.** Electronic band structures for bulk and few-layer (1-6) SnS. The magnified plotting of conduction-band minimum was placed at the right. Results were calculated using the PBE with SOC.

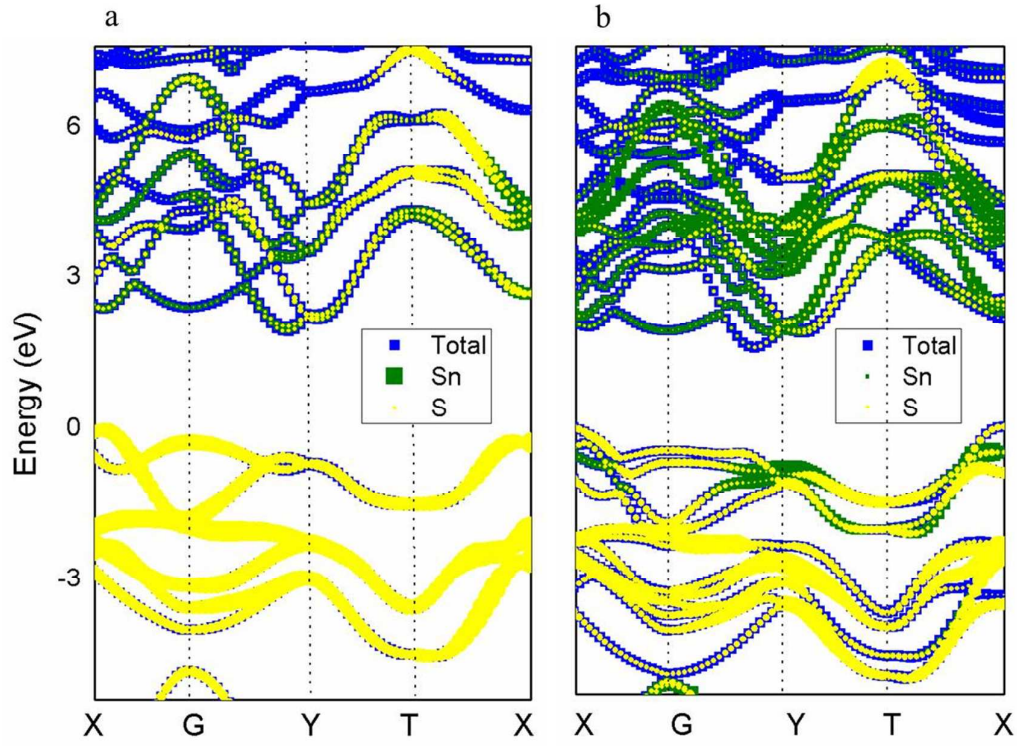


**Figure SI4.** Projection band structure of SnS. (a) monolayer, (b) bilayer.

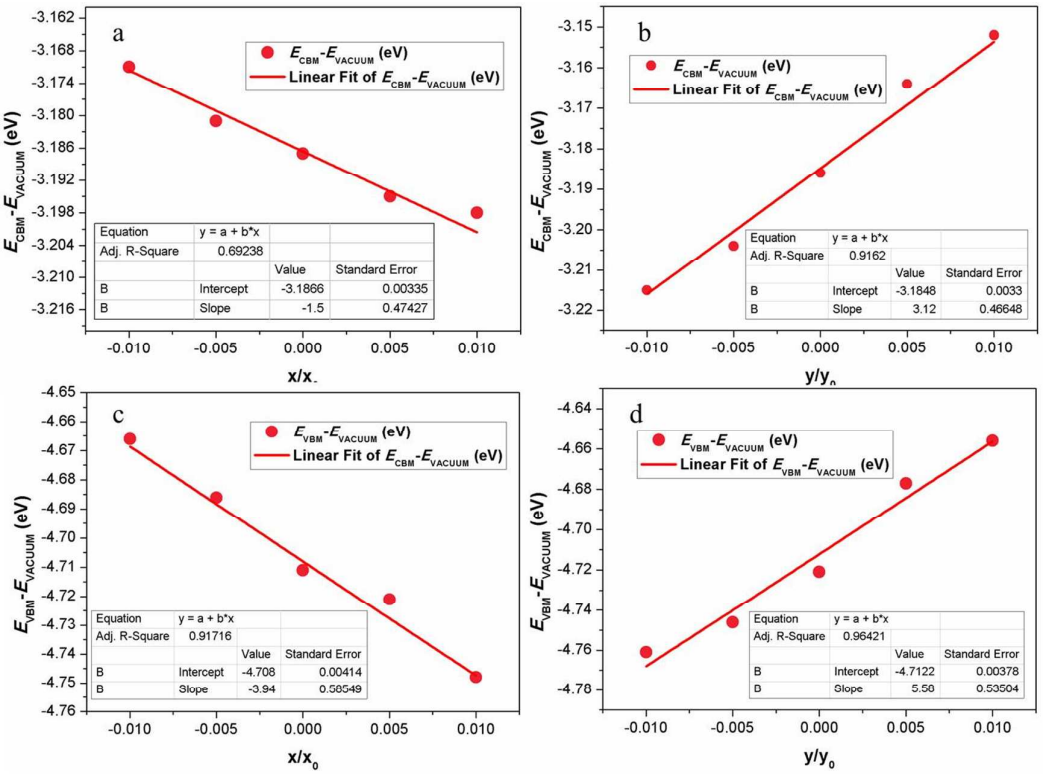


**Figure SI5.** Band energy of monolayer SnS. (a,b) The CBM of monolayer SnS. (c,d) The VBM of monolayer SnS.

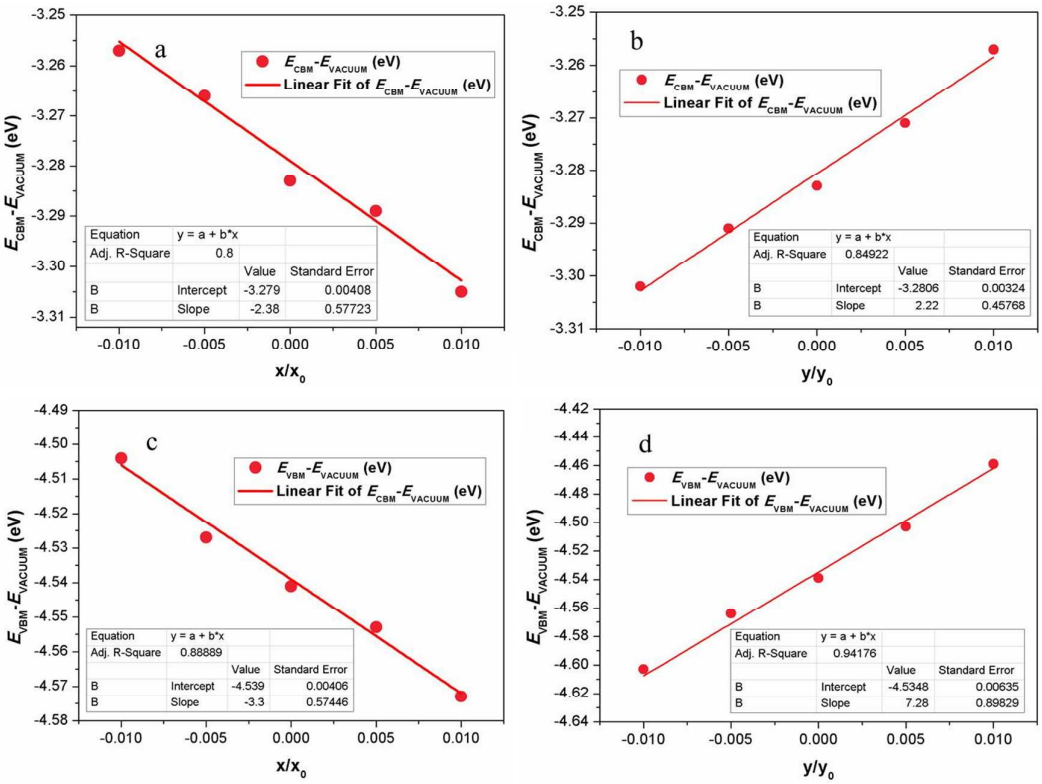


**Figure SI6.** Band energy of monolayer SnS. (a,b) The CBM of bilayer SnS. (c,d) The VBM of bilayer SnS.