supplementary material

Tunable Magnetoelectric Coupling and Electrical Features in an Ultrathin $Cr_2Si_2Te_6$ / In_2Se_3 Heterostructure

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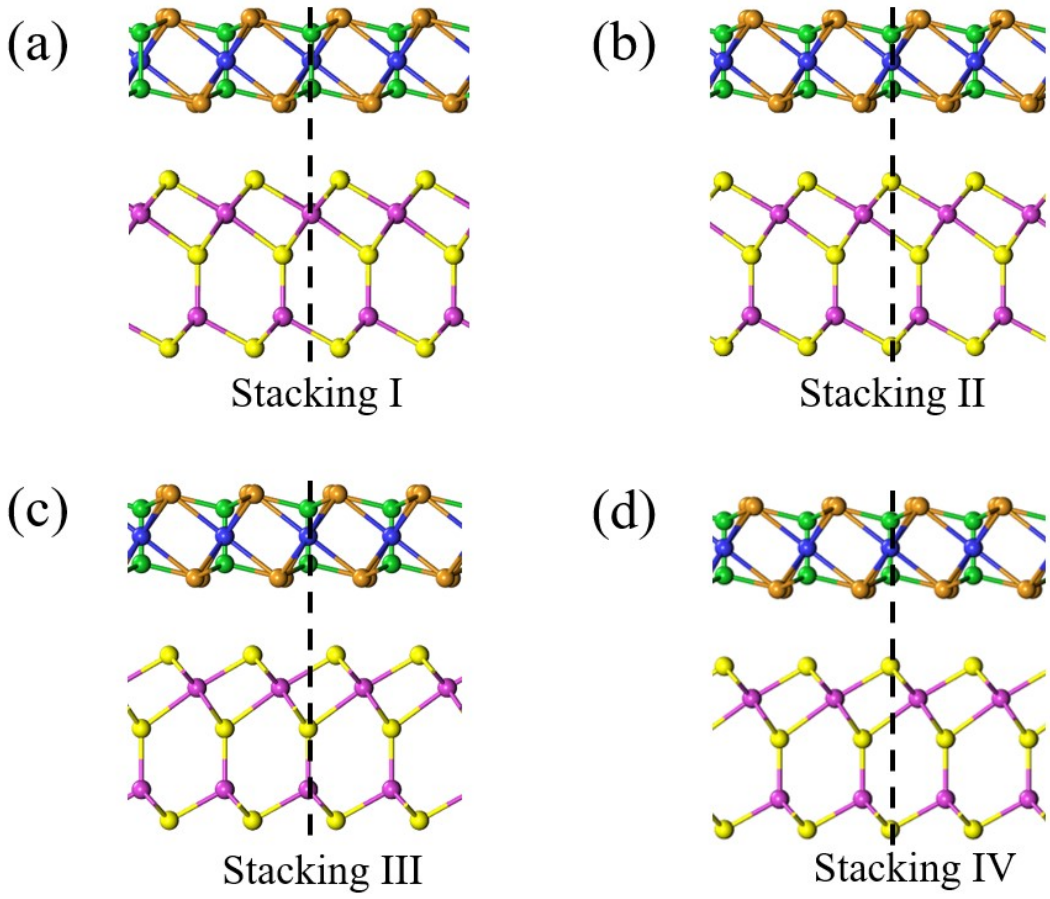

Fig. S1. Different stacking structure of ultrathin $Cr_2Si_2Te_6$ / In_2Se_3 heterostructure.

There are six different stacking structures calculated through the DFT calculation, among them, four stacking structures can exist after structural optimization. The energy difference of different stacking structures has been listed in the Table S1, apparently, Stacking I is the most stable structure.

Table. S1. Energy difference of four stacking structure of ultrathin $Cr_2Si_2Te_6$ / In_2Se_3 heterostructure.

Structure	I	II	III	IV
Energy difference (meV)	0	25.7	17.8	17.3

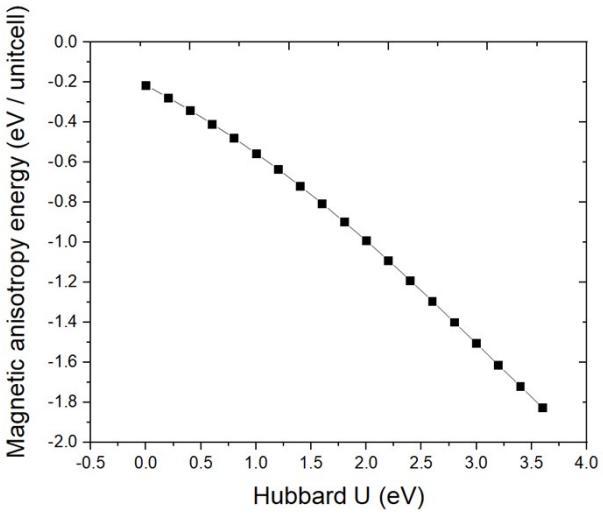

Fig. S2. Magneto-crystalline anisotropy energy of 1L in different Hubbard parameter.

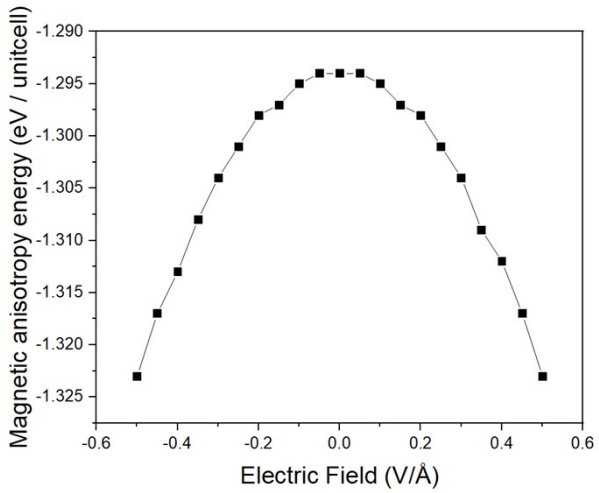

Fig. S3. Magneto-crystalline anisotropy energy of 1L $Cr_2Si_2Te_6$ in different Electric field.