Supporting Information for

Multiple Weyl Fermions and Topological Phase Transition in Two-dimensional Ferromagnetic CrS_2

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I. Band structures of monolayer CrS_2 under different van der Waals corrections

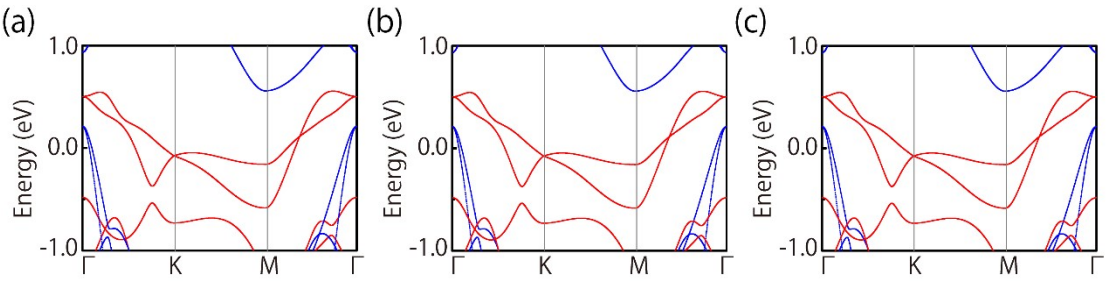

Figure S1. (a)-(c) are band structures of monolayer CrS_2 under DFT-D2, DFT-D3 and vdW-DF for van der Waals corrections, respectively. The red and blue lines correspond to the spin-up and spin-down band structures, respectively.

II. Comparison of the energy among different magnetic states under different *U* values

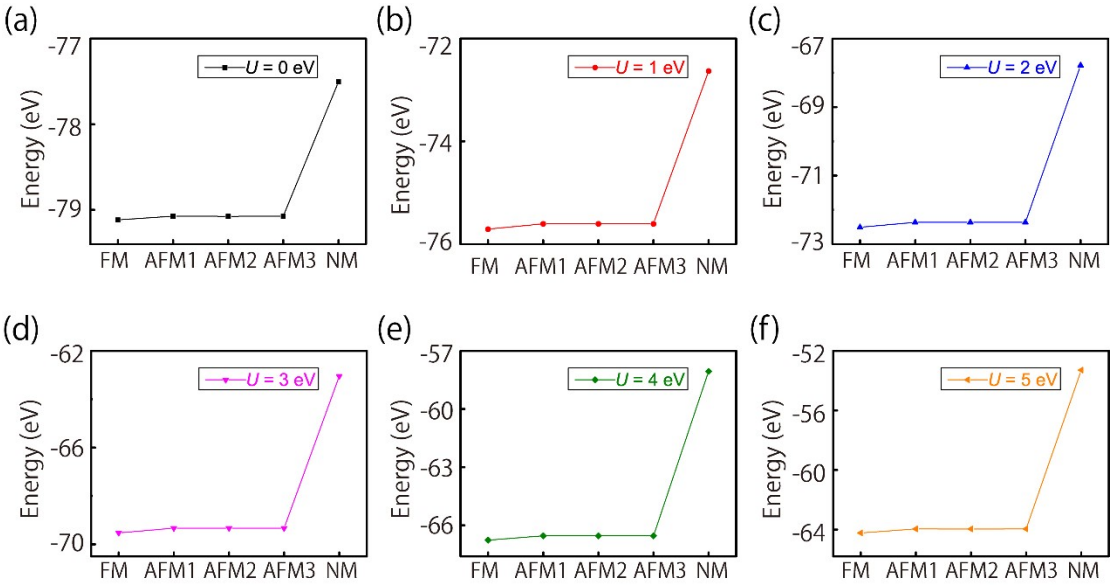

Figure S2. (a)-(f) Comparison of the energy among different magnetic states with *U* values ranging from 0 to 5 eV.

Ⅲ. Band structures of monolayer CrS_2 under different *U* values

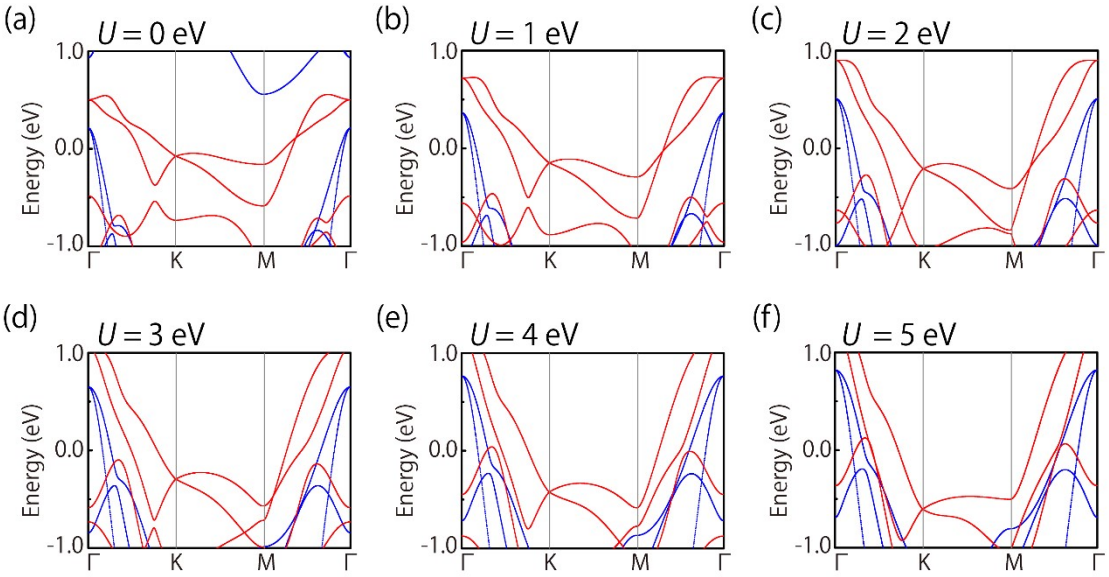

Figure S3. The band structures of monolayer CrS_2 when the *U* values are chosen as (a) 0, (b) 1, (c) 2, (d) 3, (e) 4, and (f) 5 eV. The red and blue lines correspond to the spin-up and spin-down band structures, respectively.