SUPPLEMENTARY INFORMATION

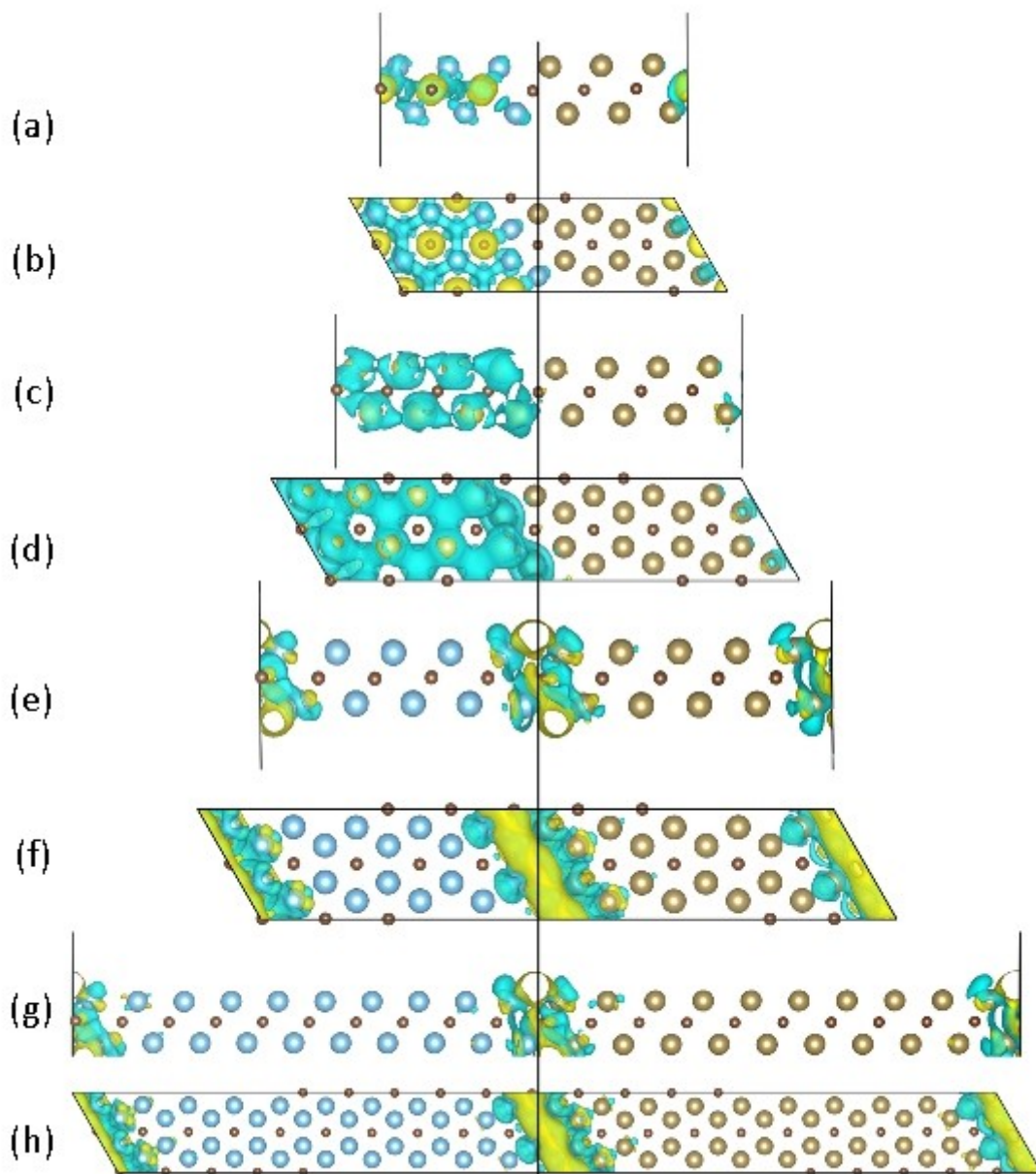

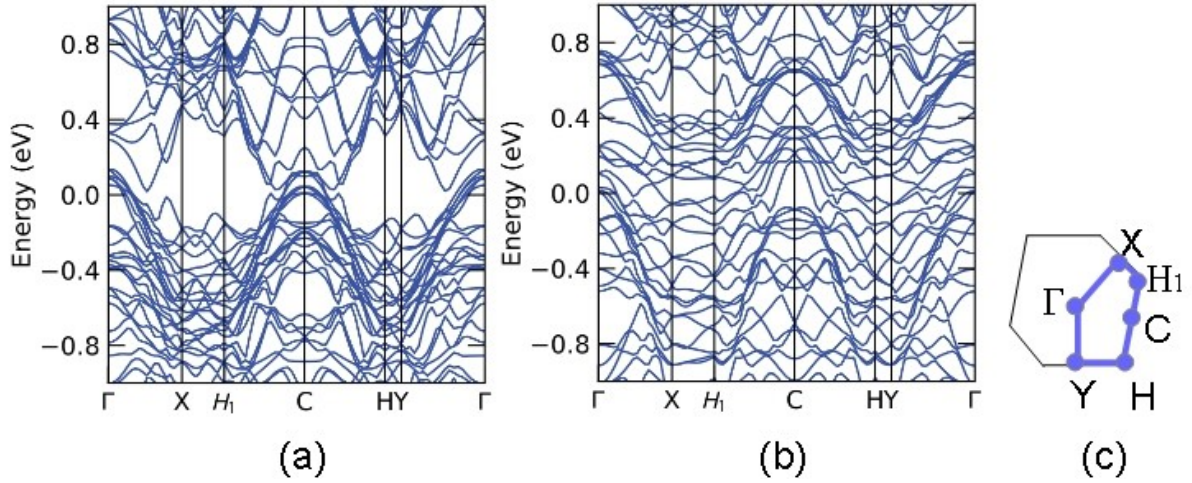Fig. S1. (a-c-e-g) Side and (b-d-f-h) top views of the charge density difference for the $(Ti_2C)_p/(Ta_2C)_q$ p=q = 3,4,5,10, respectively.

Fig. S2. (a) Spin up, and (b) spin down band structures of $(Ti_2C)_3/(Ta_2C)_3$. The Fermi level is set at 0 eV. (c) High symmetry points in the Brillouin zone of $(Ti_2C)_3/(Ta_2C)_3$.

Table S1. The total energy values determining the energy cutoff for $(Ti_2C)_3/(Ta_2C)_3$.

Encut (eV)	Energy (eV)
450	-279.36617
550	-279,33973
650	-279,36160
750	-279,37616
850	-279,37900

In this paper, the chosen 450 eV plane wave cutoff energy is based on the energy difference becoming of the order of 1×10^{-2} eV. The total energies reported in the table are calculated for the $(Ti_2C)_3/(Ta_2C)_3$, using spin-polarized calculation.