Supporting Information

Controlling electronic and geometric structures of 2D insertions to realize high

## performance Metal/insertion-MoS<sub>2</sub> sandwich interfaces

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Figure S1. Partial density of states (PDOS) of Pt/insertion- $MoS_2$  interfaces. The insertion represents (a) graphene, (b) BN, (c) silicene, (d) blue phosphorene, (e) germanene, (f) arsenene, (g) stanene, and (h) antimonene, respectively. Here,

graphene, silicene, blue phosphorene, germanene, arsenene, stanene, and antimonene are abbreviated as C, Si, P, Ge, As, Sn, and Sb, respectively. The "up", "down", "con" and "non" are illustrated in Figure 1.