

Supplementary Information for

Electronic transport property of in-plane heterostructures constructed by MoS₂ and WS₂ nanoribbons

Yi Zhou, JiChen Dong, Hui Li*

*Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials,
Ministry of Education, Shandong University, Jinan 250061, People's Republic of
China*

Electronic mail: lihuilmy@hotmail.com

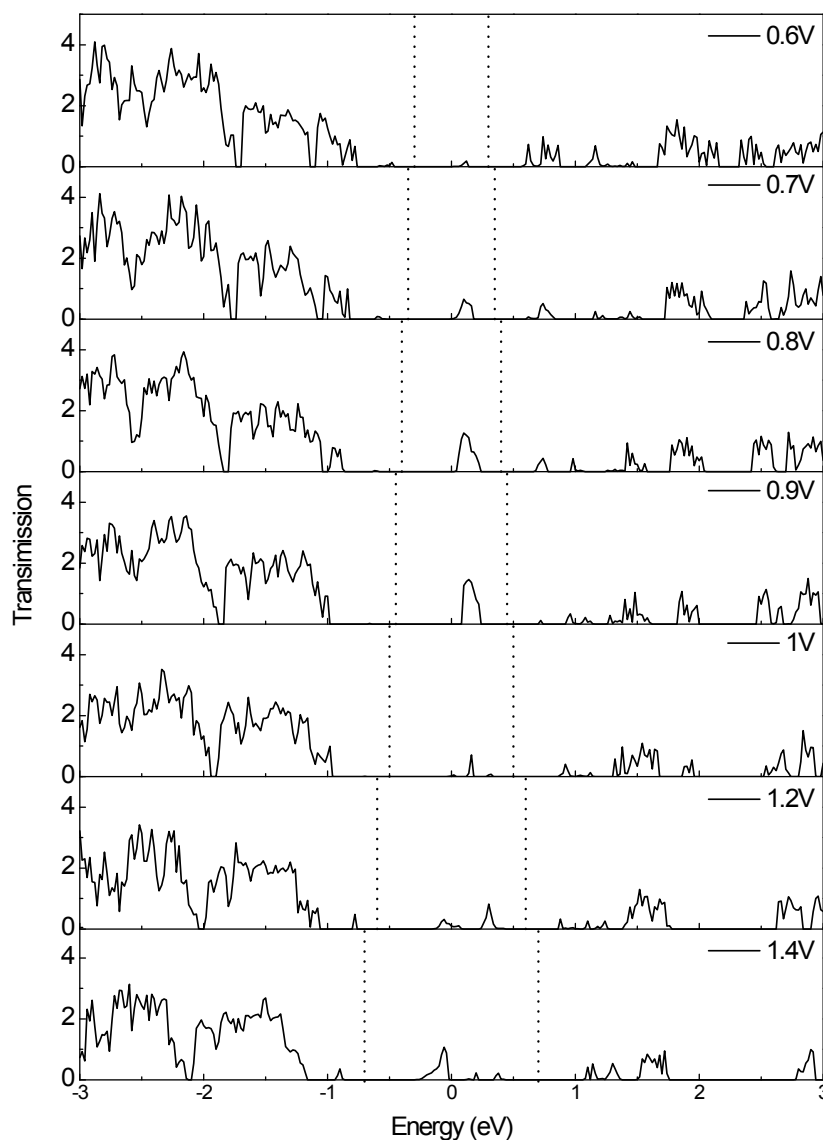
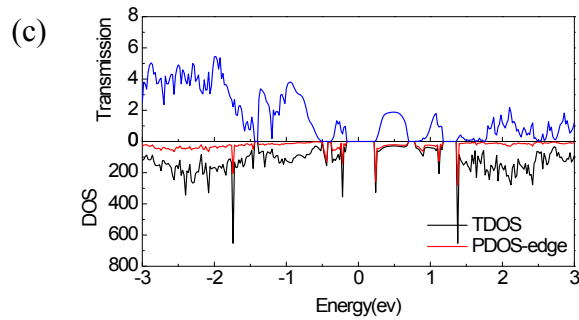
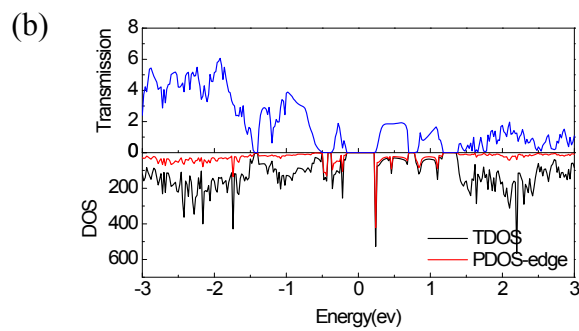
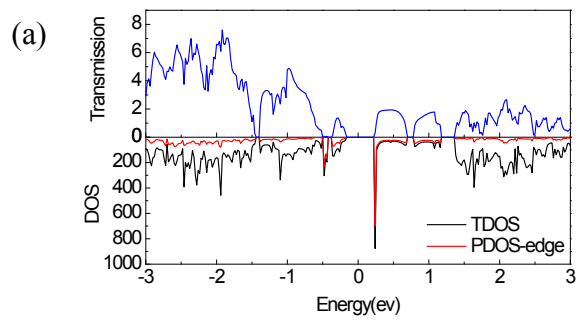
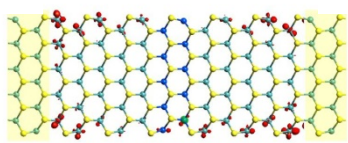


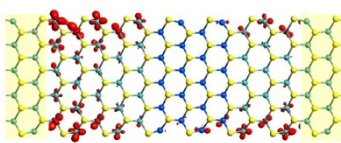
Figure S1. Transmission spectrum for M(3a) from 0.6 to 1.4V. Dotted line represent chemical potentials of the source and drain electrodes.



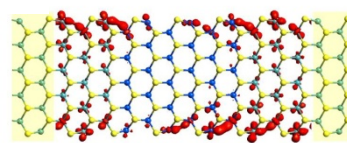
(d)



(e)



(f)



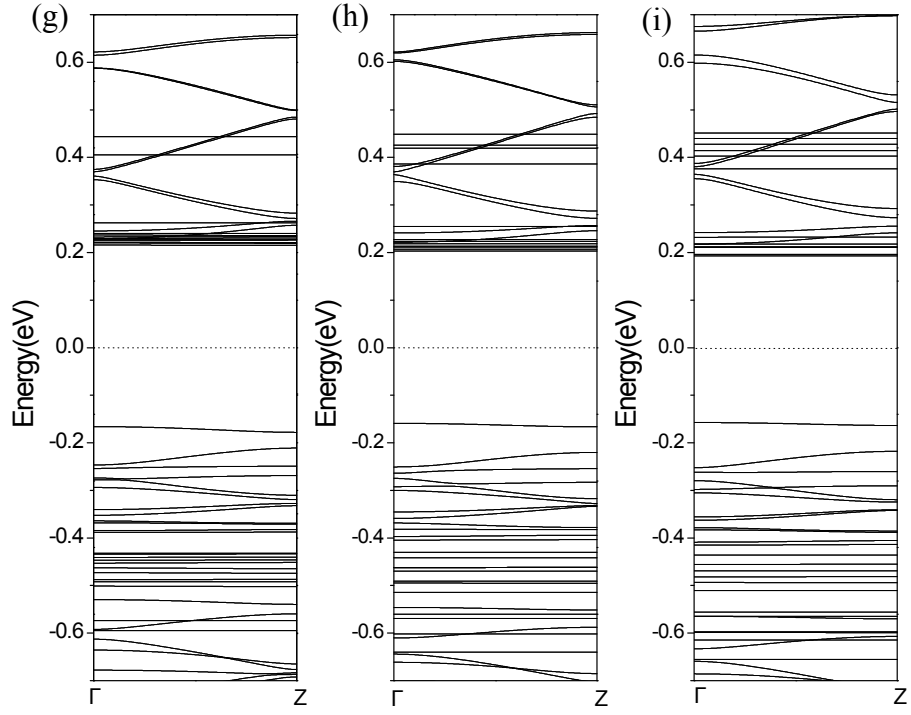


Figure S2. Equilibrium transmission spectrum and total and projected DOS of (a) M(1a), (b) M(2a), (c) M(3a). LDOS at $E_F - 0.18$ eV of (d) M(1a), (e) M(2a), (f) M(3a) with an isovalue of 0.1. Band structures of (g) M(1a), (h) M(2a), (i) M(3a)..

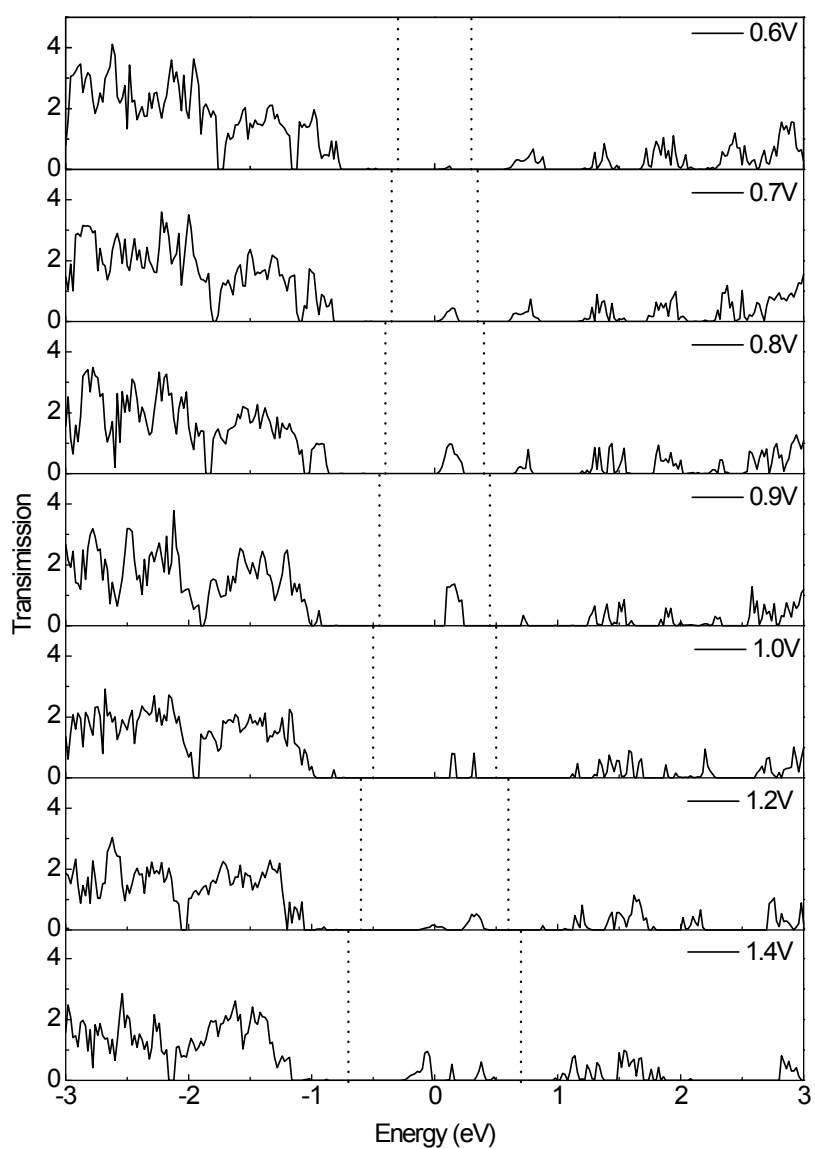


Figure S3. Transmission spectrum for M(1z) from 0.6 to 1.4V. Dotted line represent chemical potentials of the source and drain electrodes.

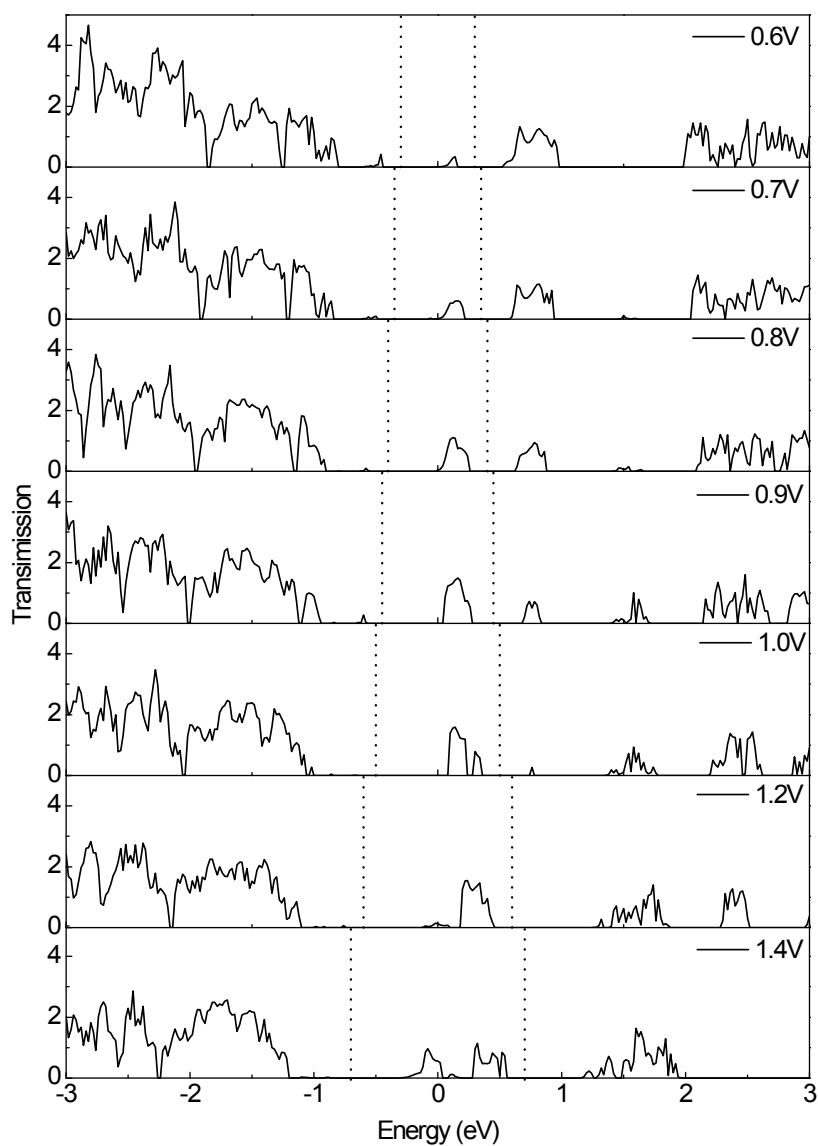
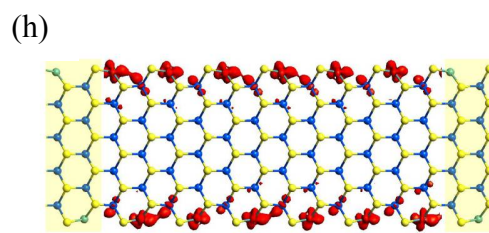
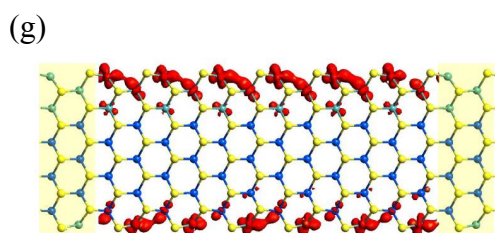
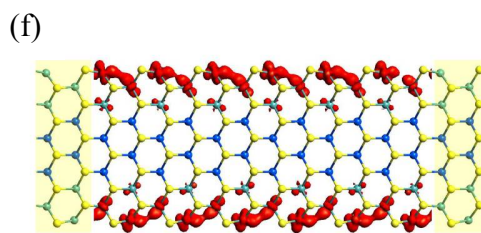
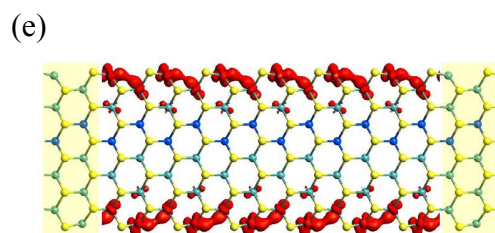
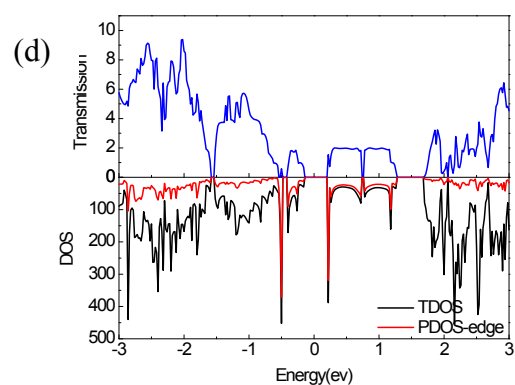
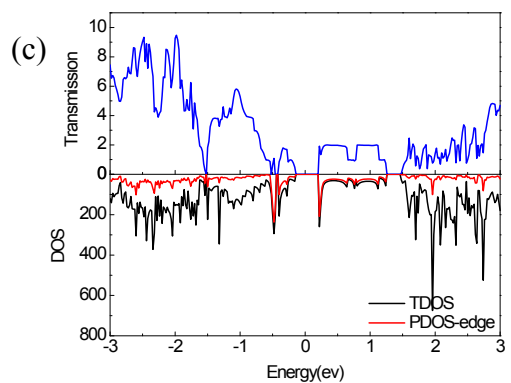
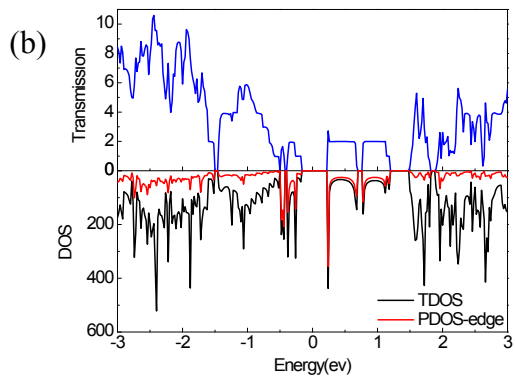
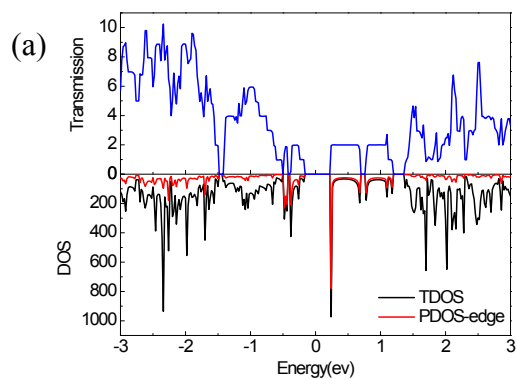


Figure S4. Transmission spectrum for M(4z) from 0.6 to 1.4V. Dotted line represent chemical potentials of the source and drain electrodes.



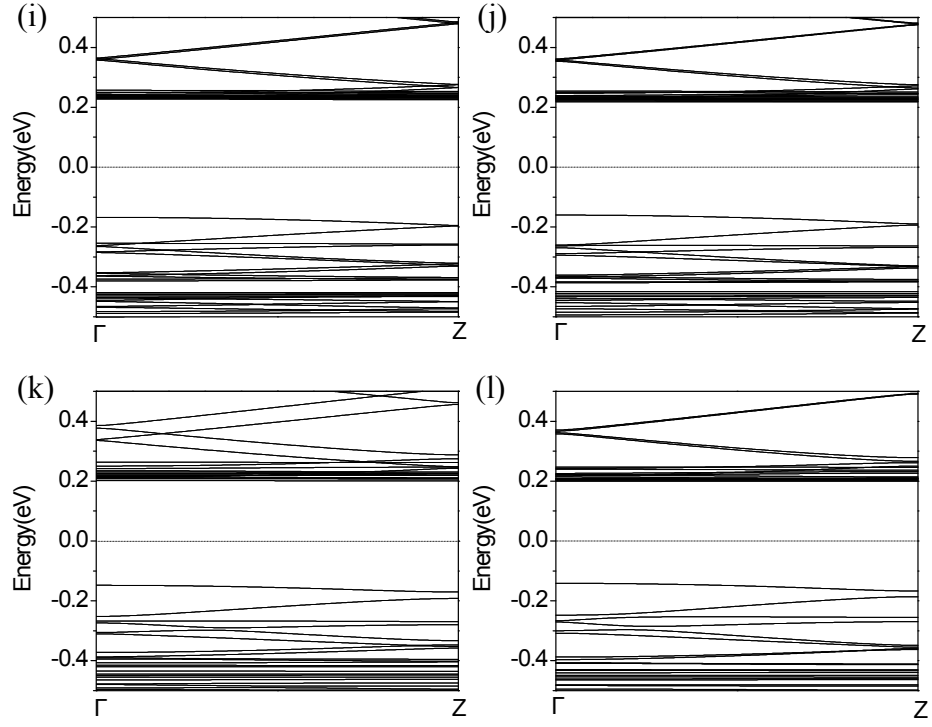


Figure S5. Equilibrium transmission spectrum and total and projected DOS of (a) M(1z), (b) M(2z), (c) M(3z), (d) M(4z). LDOS at $E_F - 0.18$ eV of (e) M(1z), (f) M(2z), (g) M(3z), (h) M(4z) with an isovalue of 0.1. Band structures of (i) M(1z), (j) M(2z), (k) M(3z), (l) M(4z).

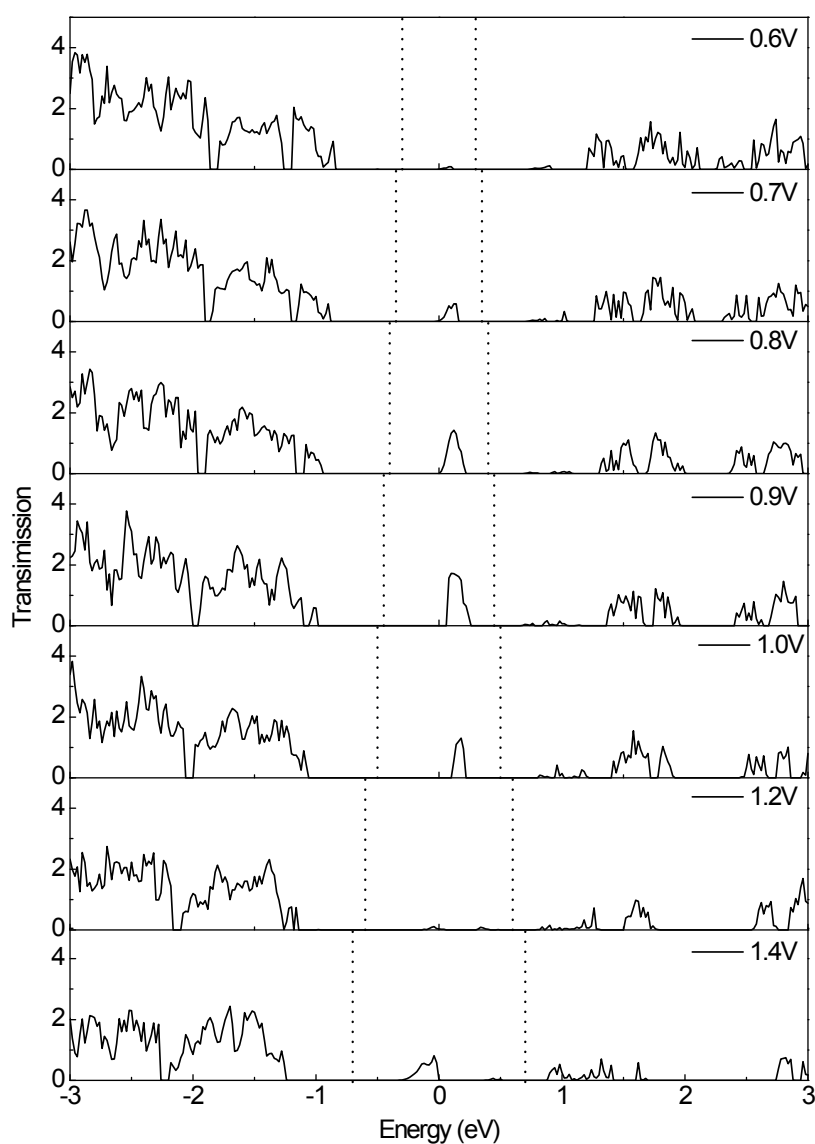


Figure S6. Transmission spectrum for M(edge) from 0.6 to 1.4V. Dotted line represent chemical potentials of the source and drain electrodes.