Supplementary Information

Formation of $MoTe_2$ Based Schottky Junction Employing Ultra-low and High Resistive Metal Contacts

Sikandar Aftab[a], Muhammad Waqas Iqbal[b]*, Amir Muhammad Afzal[a], M. Farooq Khan[a], Muhammad Waqas Iqbal[b]*, Ghulam Hussain[b], Hafiza Sumaira Waheed[b] Muhammad Arshad Kamran[c]

[a]Department of Physics & Astronomy and Graphene Research Institute, Sejong University, Seoul 05006, Korea

[b]Department of Physics, Riphah Institute of Computing and Applied Sciences (RICAS), Riphah International University, 14 Ali Road, Lahore, Pakistan

[c]Department of Physics, College of Science, Majmaah University, P.O. Box no. 1712, Al-Zulfi 11932, Saudi Arabia.

E-mail: waqas.iqbal@riphah.edu.pk

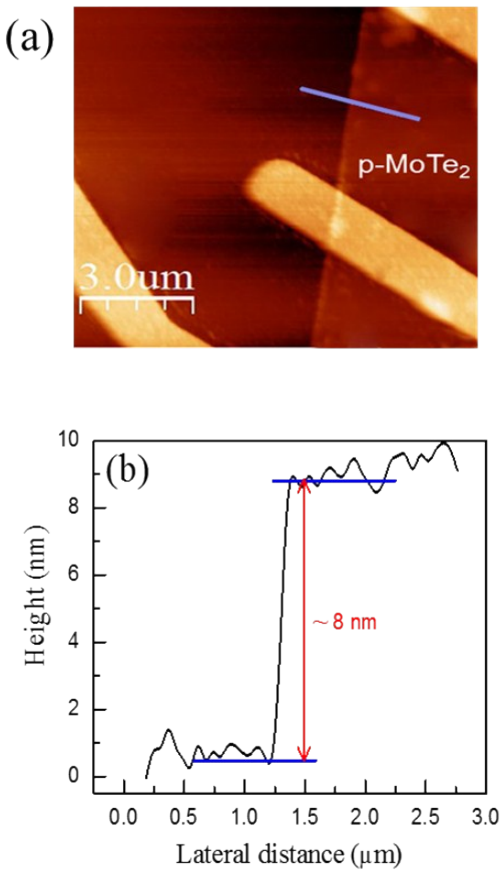

Figure S1. (a) Typical AFM image of p-$MoTe_2$ Schottky junction on SiO_2/p^+ - Si substrate. Corresponding step height profile from the AFM lines scan as shown. The p-$MoTe_2$ flakes have a thickness of ~8 nm.

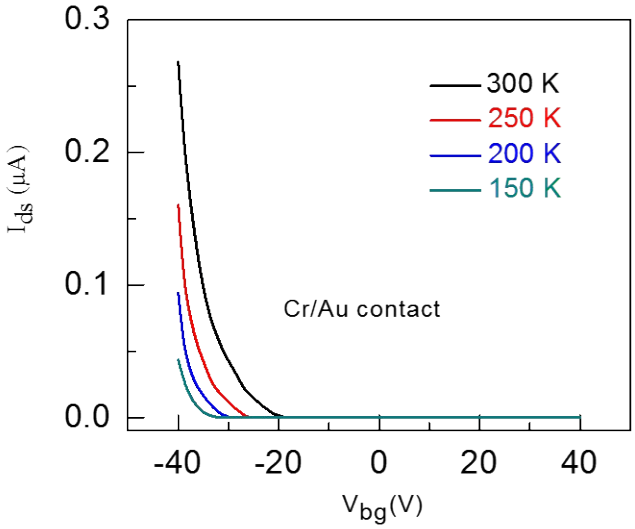

Figure S2. Transfer characteristics at different temperatures with Cr/Au metal contacts.

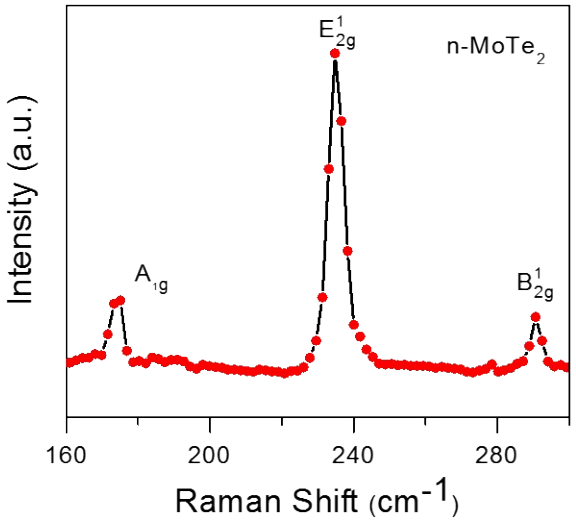

Figure S3. Raman spectra of p-$MoTe_2$ nano-flakes.