Hexagonal $MoTe_2$ with Amorphous BN Passivation Layer for Improved Oxidation Resistance and Endurance of 2D Field Effect Transistors

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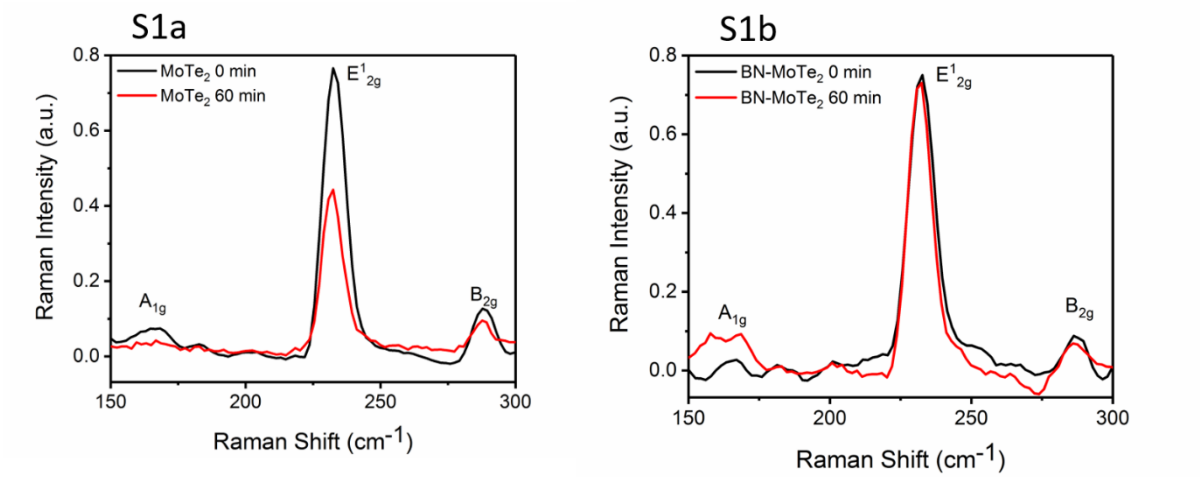
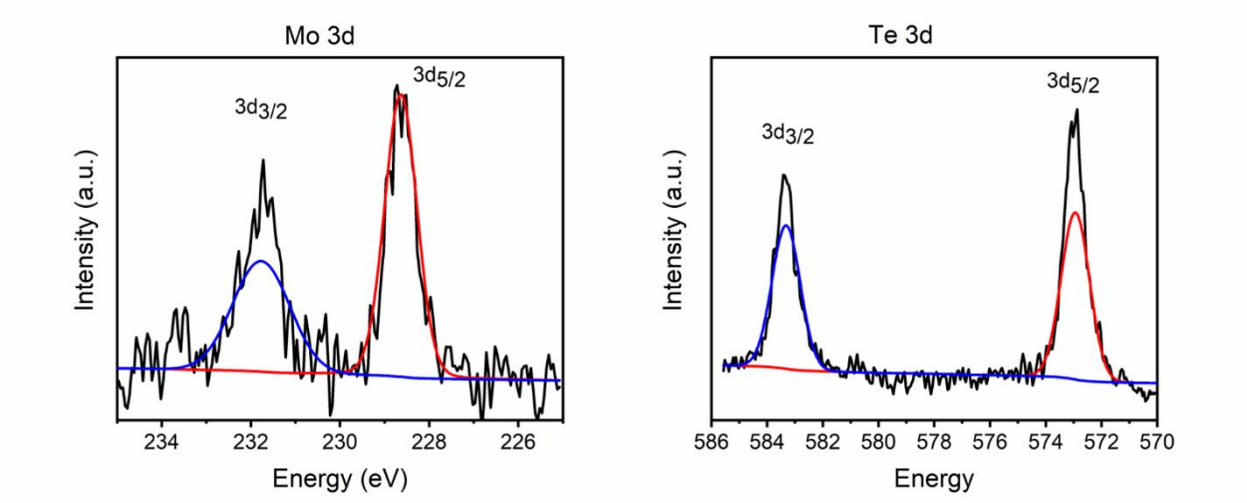
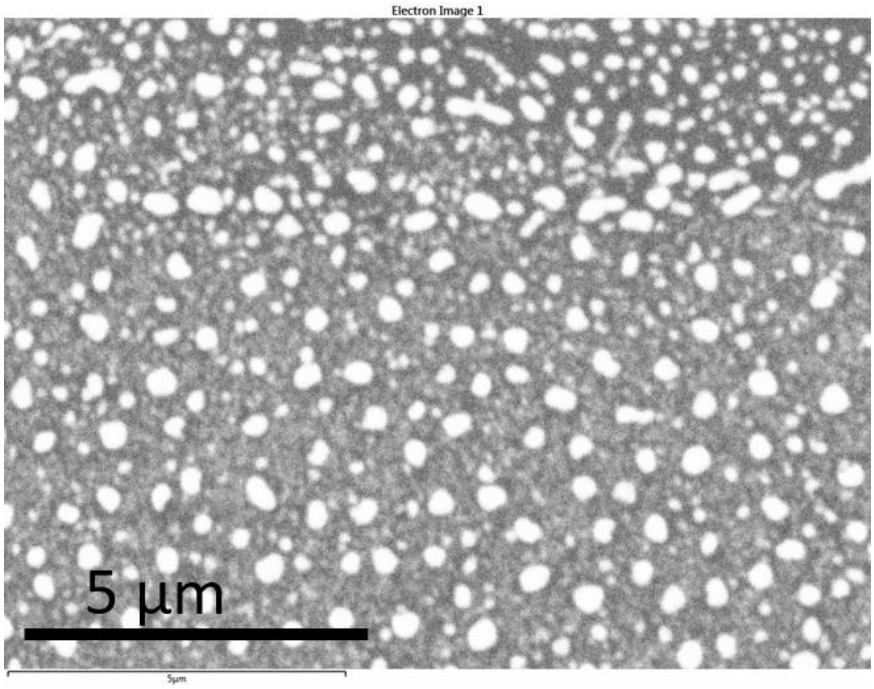
Supplementary Information:



Supplementary Figure 1. Raman spectra of uncapped and BN-capped $MoTe_2$ before and after 60 min of heating at 100 °C. Data was normalized to the substrate's Si 520.5 cm^{-1} peak (not shown).



Supplementary Figure 2. XPS spectra of freshly exfoliated $MoTe_2$ flake. Mo binding energies at 228.64 eV and 231.77 eV correspond to $3d_{5/2}$ and $3d_{3/2}$ Mo orbitals, respectively. Te binding energies at 572.93 eV and 583.31 eV correspond to $3d_{5/2}$ and $3d_{3/2}$ Te orbitals, respectively. This is in good agreement with Te-Mo bonding.



Au dewetting from 300 C heating

Supplementary Figure 3. SEM image of Ti/Au film after heating at 300 °C showing the formation of droplets due to dewetting.