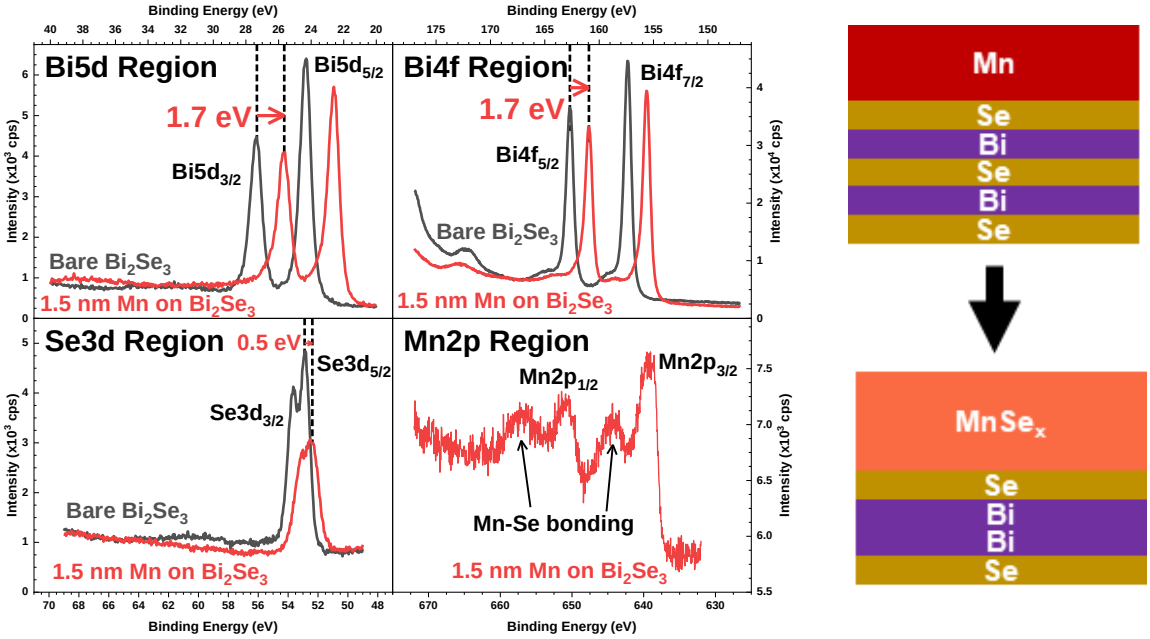

Figure 1 – Core level XPS on 1.5 nm Mn metal overlayer on Bi_2Se_3 demonstrating a ~1.7 eV reduction in binding energy in Bi core levels compared to pristine Bi_2Se_3. Se migrates from below Bi_2Se_3 surface into the growing Mn metal.

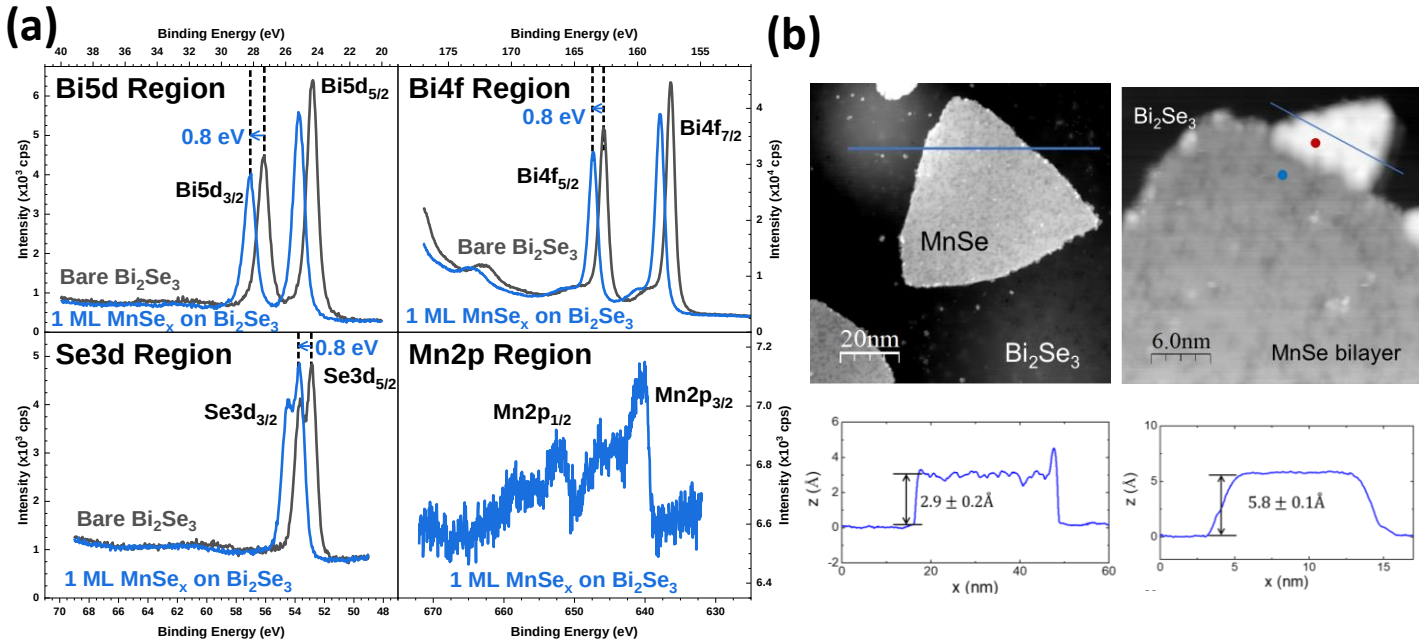

Figure 2 – (a) Core level XPS on 1 ML $MnSe_x$ overlayer on Bi_2Se_3 showing a rigid 0.8 eV shift toward higher binding energy in all Bi_2Se_3 core levels. (b) STM height maps showing variation across the sample surface in monolayer thickness due to formation of α-MnSe vs. $MnSe_2$.

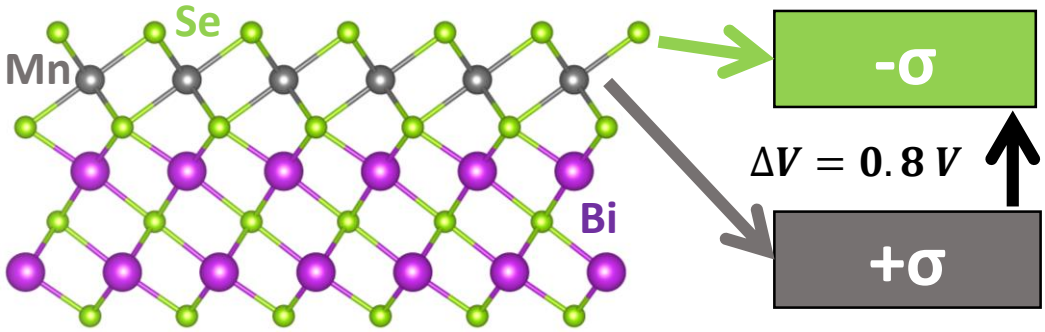

Figure 3 – Schematic view of expected interface between α-MnSe and Bi_2Se_3. Negatively charged sheets of Se anions sit above positively charged Mn cations creating dipole at the sample surface