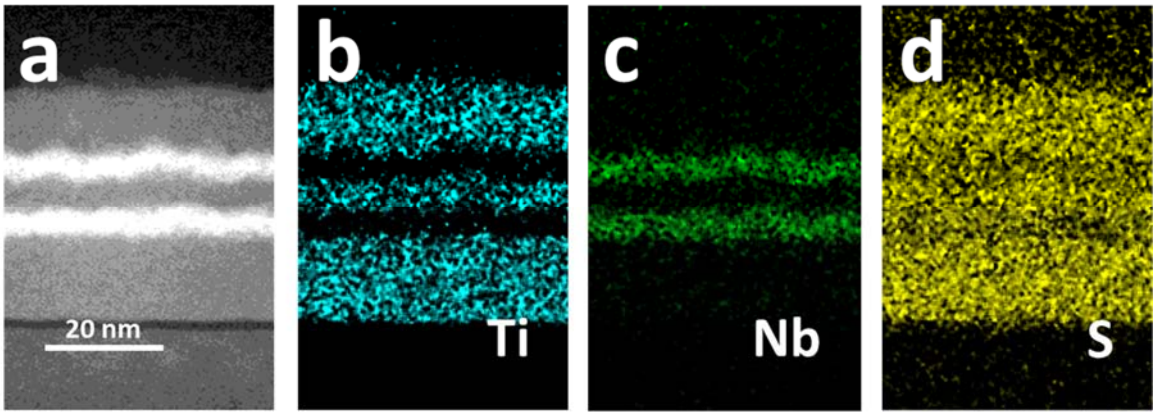

Figure 1: (a) Cross-section STEM image of the TiS_x-NbS_x heterostructure layers. (b-d) The corresponding EDX elemental mapping of Ti, Nb and S, respectively.

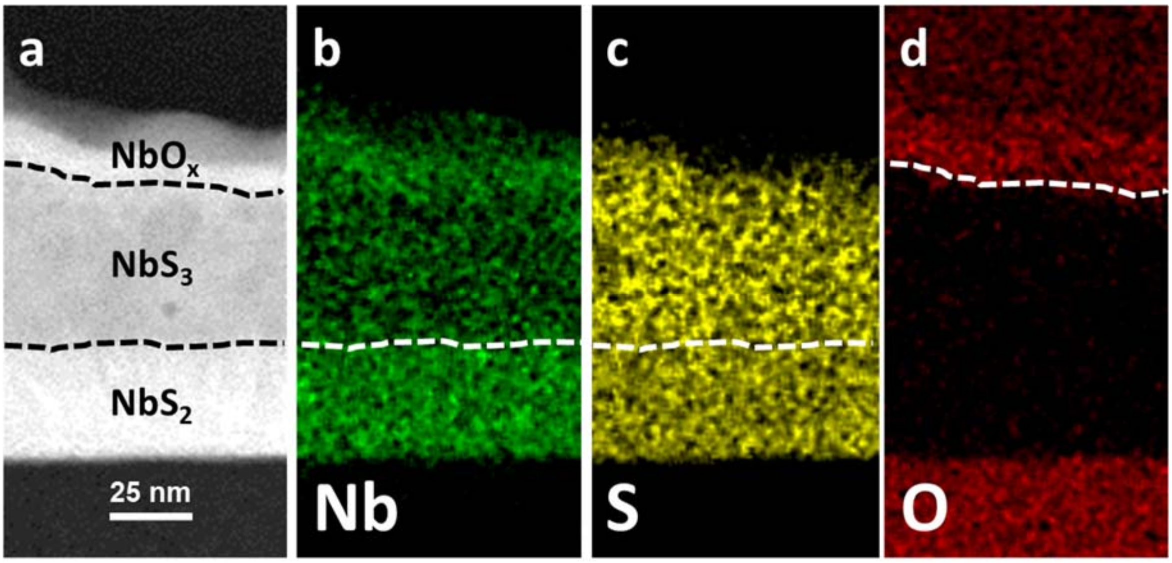

Figure 2. (a) STEM image showing a cross section of the deposited NbS_2-NbS_3 heterostructure with corresponding EDX elemental mapping of (b-d) Nb, S, and O. The dashed line highlights the interface between NbS_2 and NbS_3 layers. The top dashed line shows the surface oxidation of the film due to exposure to ambient condition and/or due to depositing SiO_2.