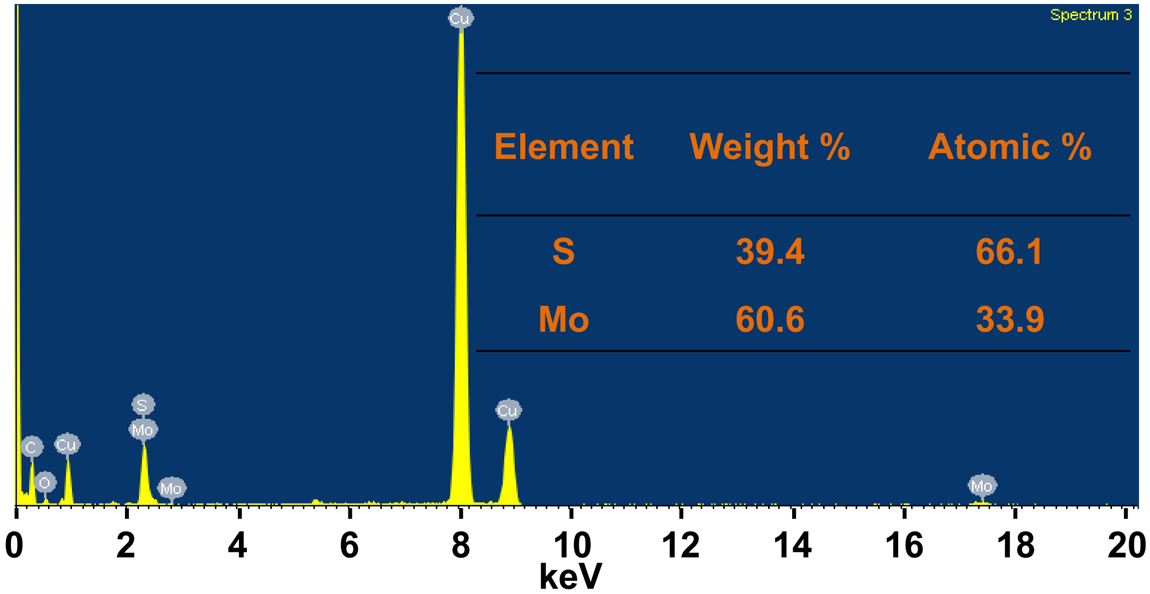
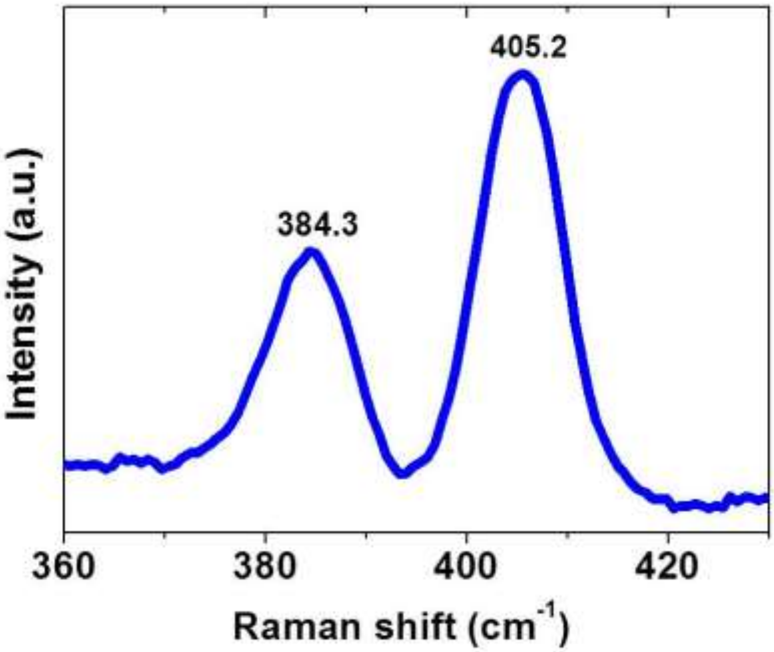
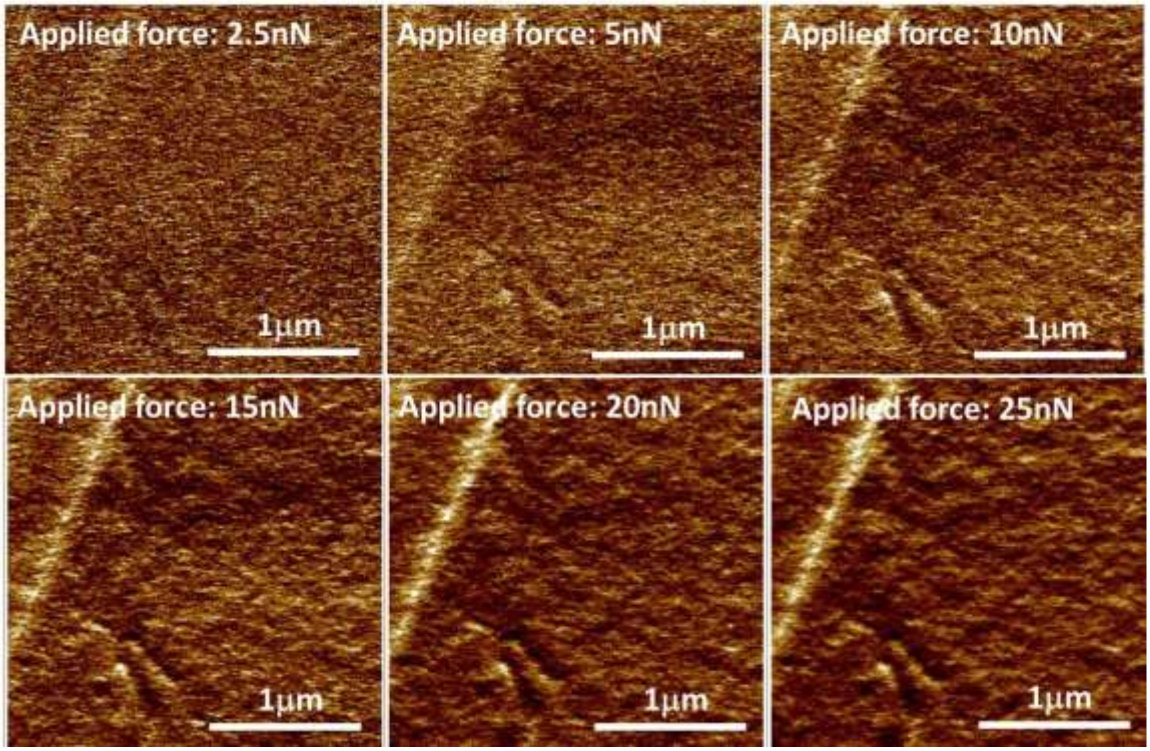


Element	Weight %	Atomic %
S	39.4	66.1
Mo	60.6	33.9

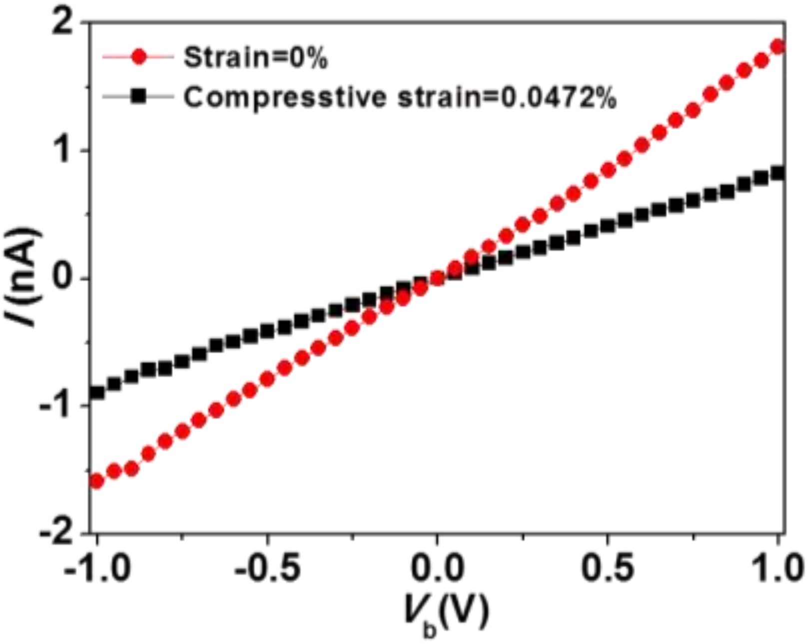
Supplementary Figure 1 TEM-based energy dispersive spectroscopy (TEM-EDS) analysis of the composition ratio of monolayer MoS_2 triangles.



Supplementary Figure 2 Raman spectra for the transferred monolayer MoS_2 on silicon dioxide.



Supplementary Figure 3 Deformation images acquired over a 2.5×2.5μm^2 area in the central region of MoS_2 device under variable mechanical loading forces applied by AFM tip.



Supplementary Figure 4 I-V_b curves for the highest gauge factor of 1160 in our CVD monolayer MoS_2 strain sensor under free of strain and a mechanical load equivalent to 10nN (strain=0.0472%).