Enhanced quantum efficiency from a mosaic of two dimensional MoS$_2$ formed onto aminosilane functionalised substrates

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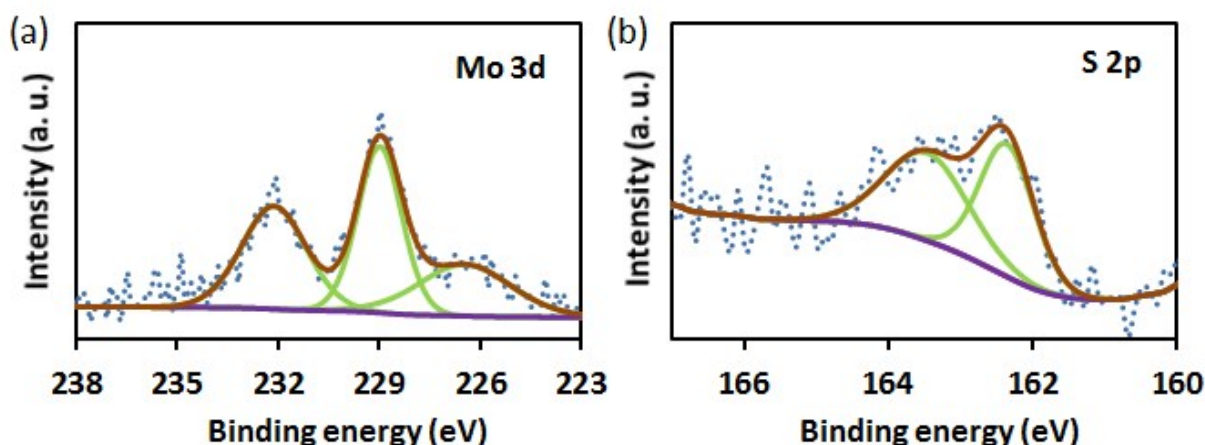
Figure S1. XPS spectra of (a) Mo 3d and (b) S 2p binding energies from MoS$_2$ grown on (3-Aminopropyl)triethoxysilane (APTES) silanised substrate.
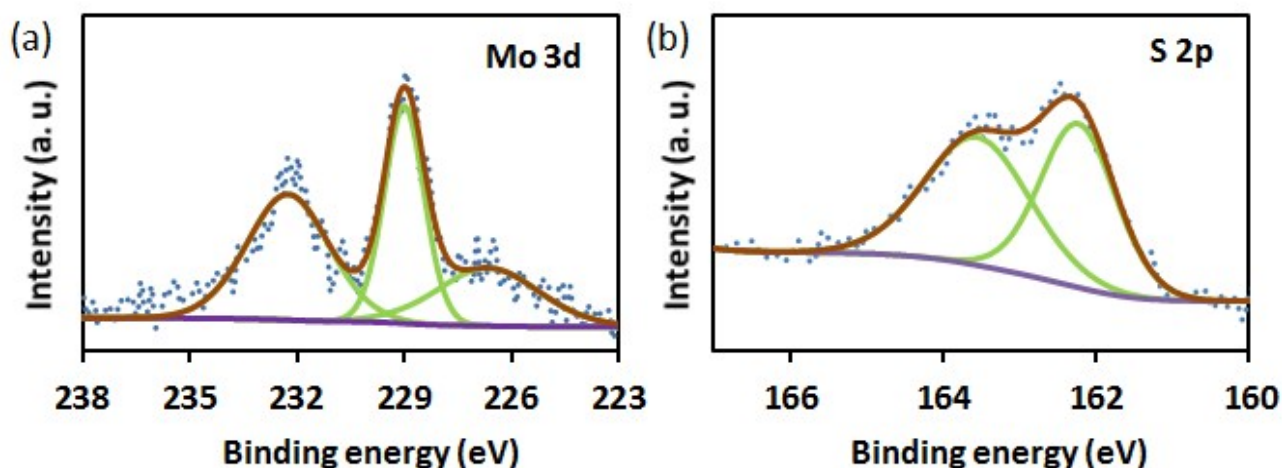
Figure S2. XPS spectra of (a) Mo 3d and (b) S 2p binding energies from MoS$_2$ grown on *N*-[3-(Trimethoxysilyl)propyl]ethylenediamine (AEAPTMS) silanised substrate.
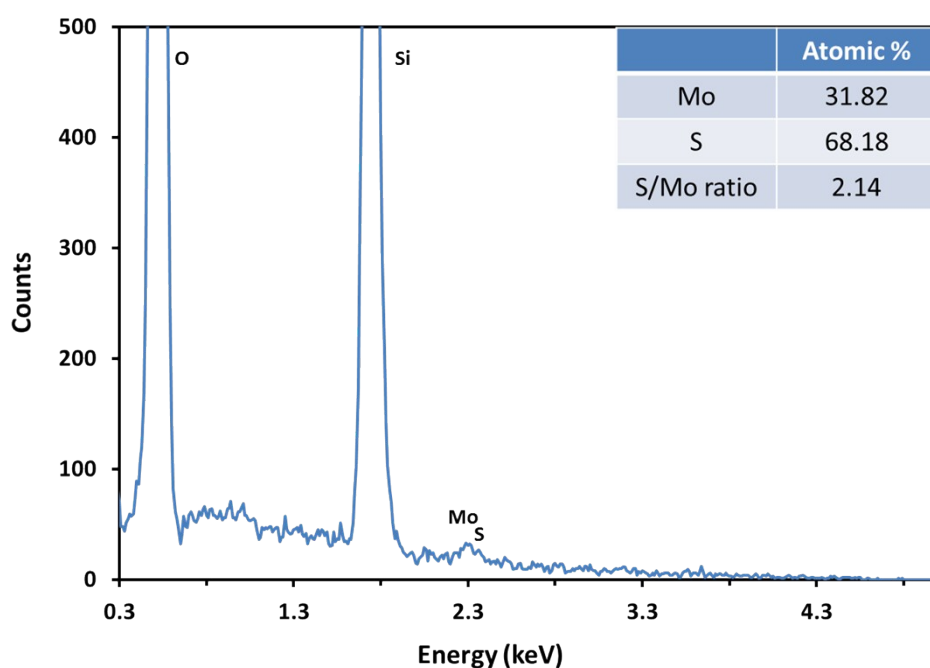

	Atomic %
Mo	31.82
S	68.18
S/Mo ratio	2.14

Figure S3. EDS spectrum of the MoS$_2$ flake. Inset shows the stoichiometry of the MoS$_2$ flake.
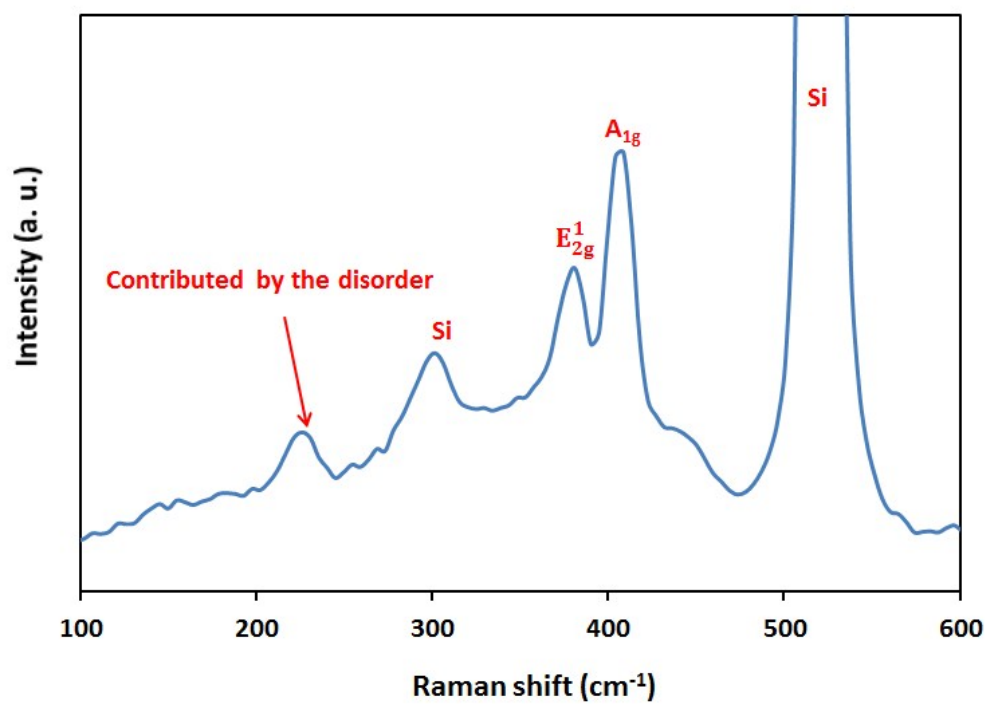
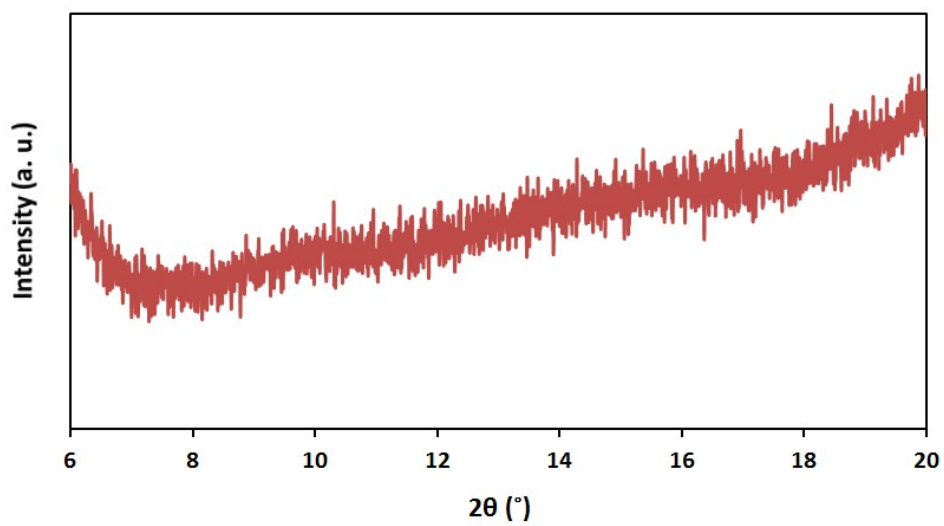**Figure S4**. Raman spectrum of DETA silanised MoS_2 on Si/SiO_2 substrate.

Figure S5. XRD pattern of quasi 2D MoS_2 sheets.