Supplementary Information

**Figure S1:** Molecular energy levels for isolated nucleobase (A, T, C and G) of DNA. Fermi level is set at 0 eV.

**Figure S2:** Molecular electron density of states (DOS) for isolated nucleobase (A, T, C and G) of DNA. Fermi level is set at 0 eV.
**Figure S3.** A schematic of the STM like setup for Guanine + MoS$_2$.

**Figure S4.** A two terminal configuration of the transport model for G+MoS$_2$ conjugate system.
Figure S5. Transmission coefficients as a function of energy for pristine and nucleobase adsorbed MoS$_2$. 