## **Supplemental information**



**Figure S1**. Schematic representation of **(a)** *type-A* defects (carbon adatoms) and **(b)** *type-B* defect (inverse Stone-Wales defect).



**Figure S2**. The initial configuration of a triangular GNR with *type-A* defects (carbon adatoms). In a time span of 29 *ps* the GNR transforms into a nano-tetrahedral.