Supporting Information

Figure 1. (A) Top view of MoS$_2$ ribbon/Gra at the same inter-layer distance to that of MoS$_2$ monolayer/Gra; (B) Band structure of ribbon/Gra. It is clear that the overall shape is similar to the ribbon/Gra with optimized distance (Fig. 2 in the manuscript). Thus it is safe to conclude that the resulted different electronic properties of MoS$_2$ structures on graphene is totally due to the influence of edges.