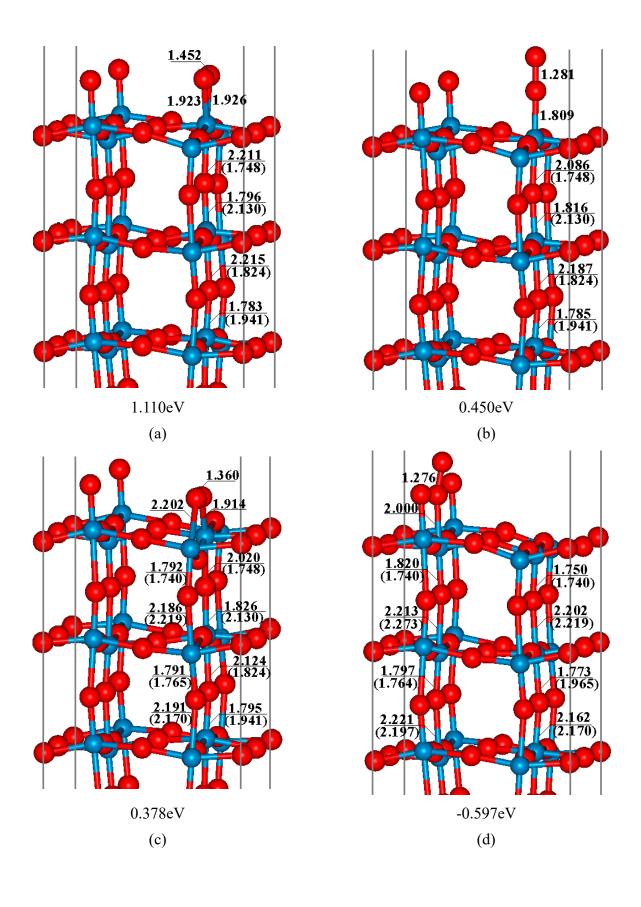
Supplementary Materials





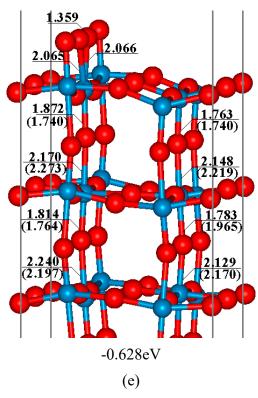


Figure S1. Possible adsorption configurations for O_2 adsorption on the defective $WO_3(001)$ surface. The bond lengths (Å) close to the adsorption site are given, and the data in the parenthesis are in relative to the defective $WO_3(001)$ surface before O_2 adsorption. In addition, the corresponding adsorption energies have also been provided.