Supplementary Material: The effects of c-Si/a-SiO₂ interface atomic structure on its band alignment: an *ab initio* study

Fan Zheng,¹ Hieu H. Pham,¹ and Lin-Wang Wang¹

¹Joint Center for Artificial Photosynthesis and Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, California 94720, USA.



FIG. S1. The selected density of states (DOS) summed for the atoms within a distance range along the [001] direction for HSE calculated n=2 structure. From top to bottom, it follows from Si-part to SiO₂-part. The distance on the right side corresponds to the x-axis of Fig.5 and 6 in the main text. Red circles indicate the band edge positions.



FIG. S2. The selected density of states (DOS) summed for the atoms within a distance range along the [001] direction for HSE calculated n=3 structure. From top to bottom, it follows from Si-part to SiO₂-part. The distance on the right side corresponds to the x-axis of Fig.5 and 6 in the main text. Red circles indicate the band edge positions.



FIG. S3. The selected density of states (DOS) summed for the atoms within a distance range along the [001] direction for HSE calculated n=4 structure. From top to bottom, it follows from Si-part to SiO₂-part. The distance on the right side corresponds to the x-axis of Fig.5 and 6 in the main text. Red circles indicate the band edge positions.