

Figure S1 Strong hydrophobic-hydrophobic interactions at the interfaces of 14 RBD-antibody complexes.

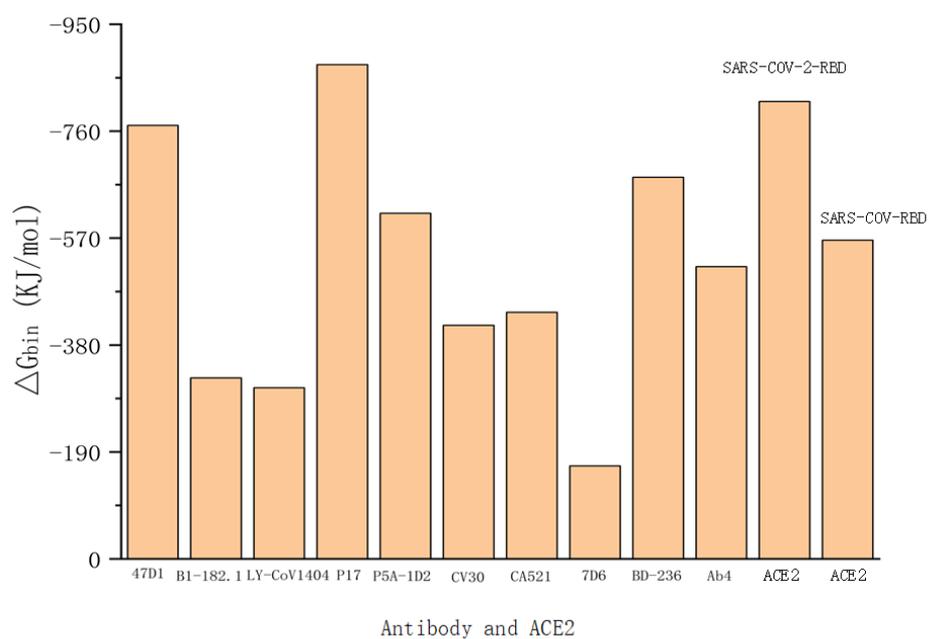
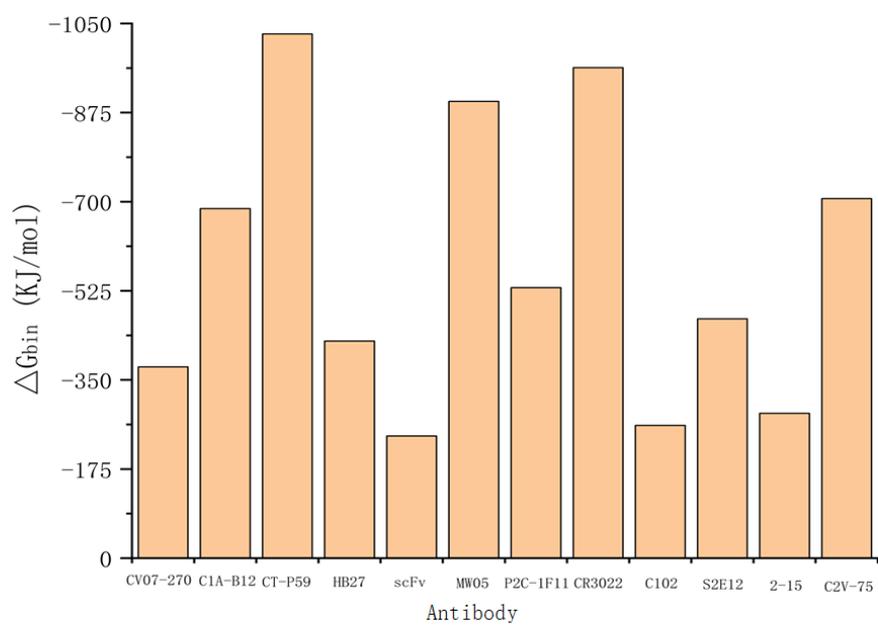


Figure S2 Binding energy ( $\Delta G_{bin}$ ) of the RBD-antibody complexes, the SARS-COV-S-RBD-ACE2 complex and the RBD-ACE2 complex.

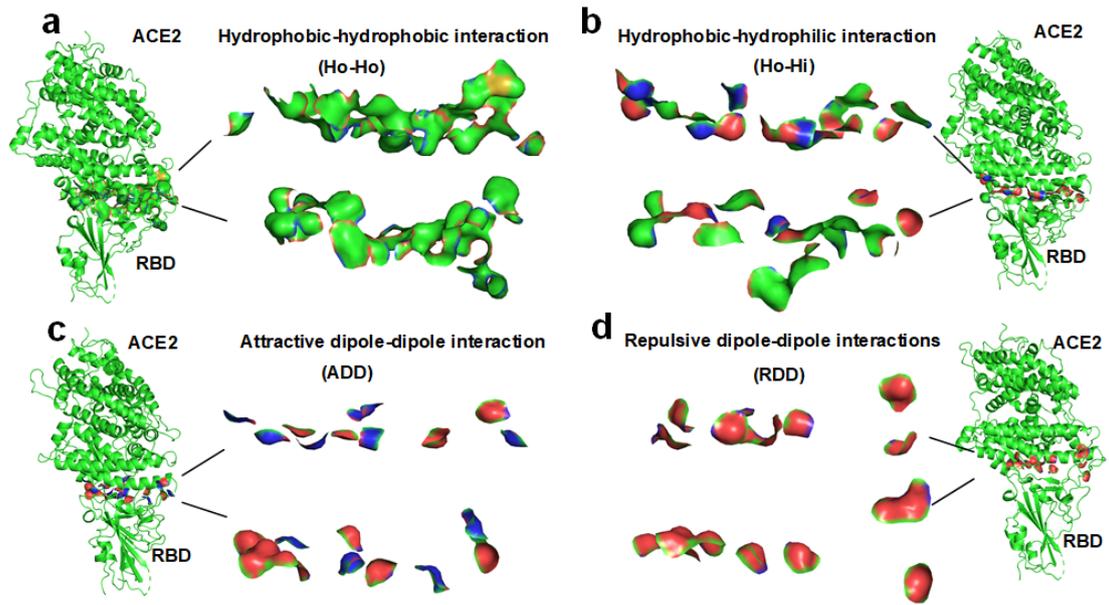


Figure S3 Four types of surface interactions in-between SARS-CoV-2 S RBD and ACE2 at the interface of the complex. The surface areas at the interface are spaced for demonstration.

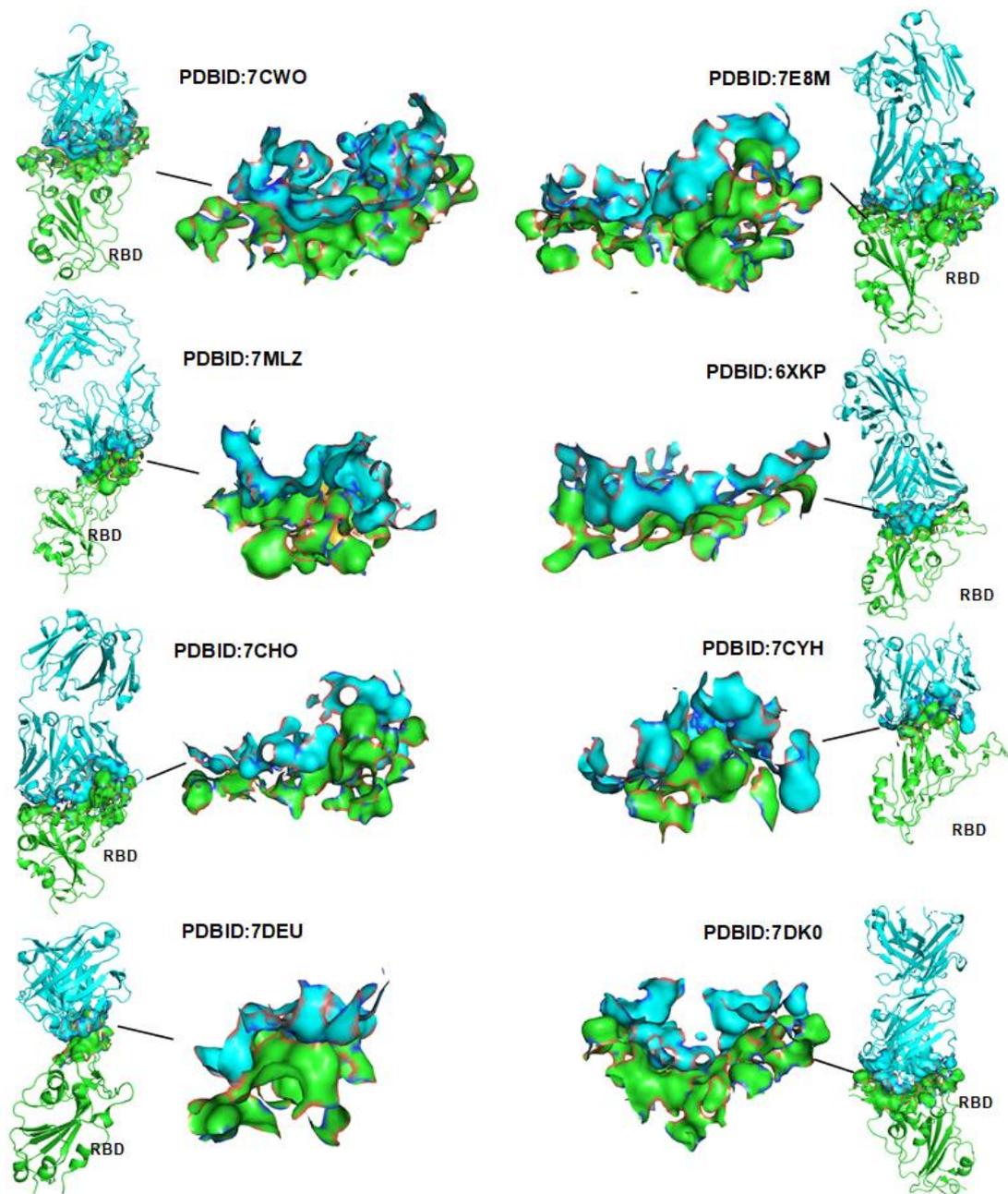


Figure S4 Strong hydrophobic-hydrophobic interactions at the interfaces of 8 RBD-antibody complexes. The structure of RBD and antibodies are colored in different colors.