

Supplementary Document

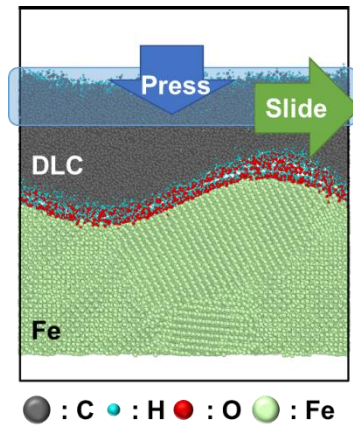


Fig.1 Sliding simulation model of DLC/Fe.

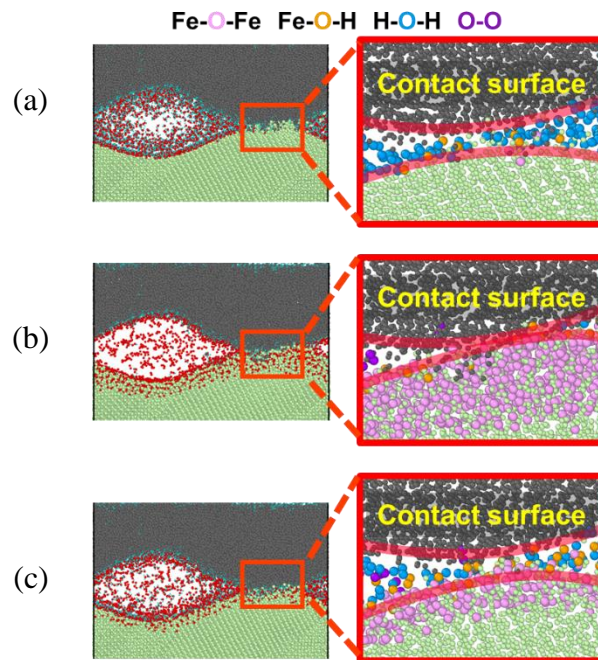


Fig.2 Snapshots of the sliding simulations for (a) H₂O model (b) O₂ models and (c) H₂O+ O₂ model at 50 ps. O atoms are shown by different colors. Magenta, orange, blue, and purple balls indicate O atoms in Fe-O-Fe group, Fe-OH group, H₂O molecule and O₂ molecule, respectively.