# Supplementary Document

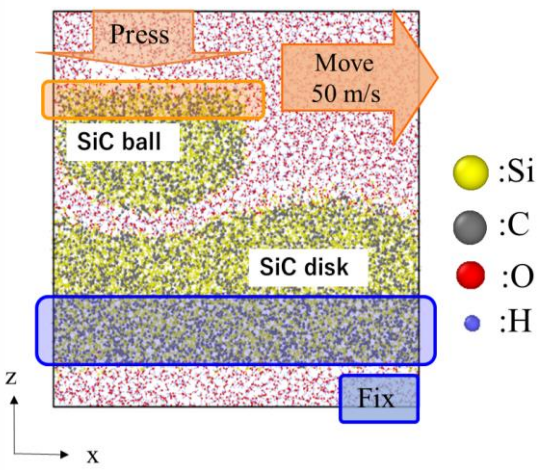


Fig.1: Simulation model of sliding interface of SiC in water.

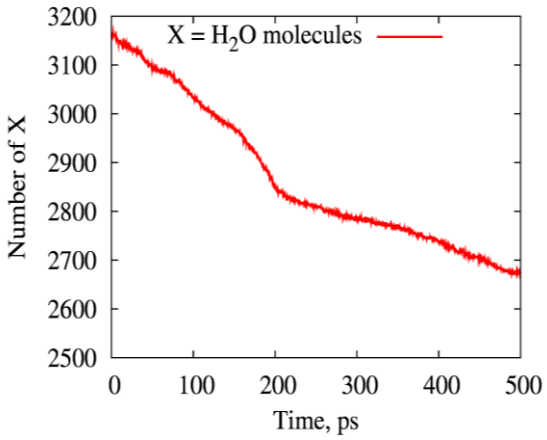


Fig.2: Variation of the number of water molecules in the system.

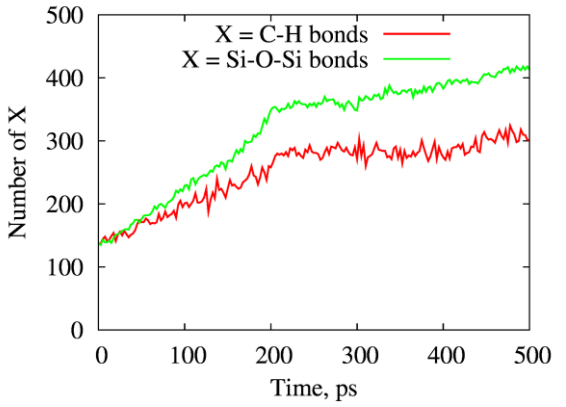


Fig.3: Variation of the number of Si-O-Si bonds and C-H bonds in the system.

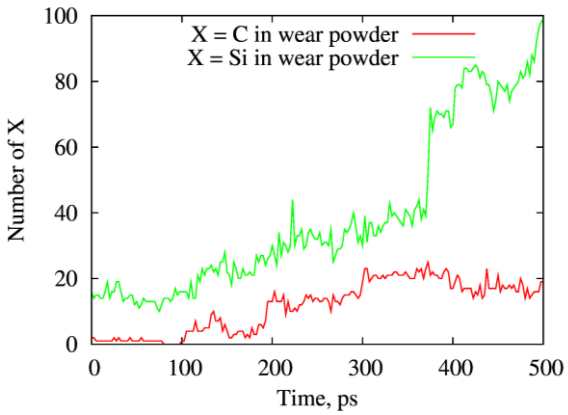


Fig.4: Change in the number of Si and C contained in the wear debris .

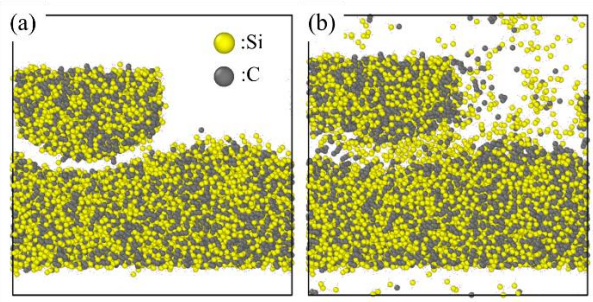


Fig.5: Snapshots of the model emphasizing Si and C at (a) 0 ps and (b) 500 ps.

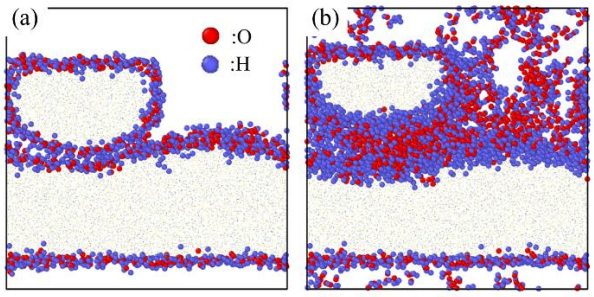


Fig.6: Snapshots of the model emphasizing H and O at (a) 0 ps and (b) 500 ps.