

Supplementary materials

The simulation model of BaTiO_3 (101) and (111) ultrathin films with dimension of $1 \times 1 \times 6$

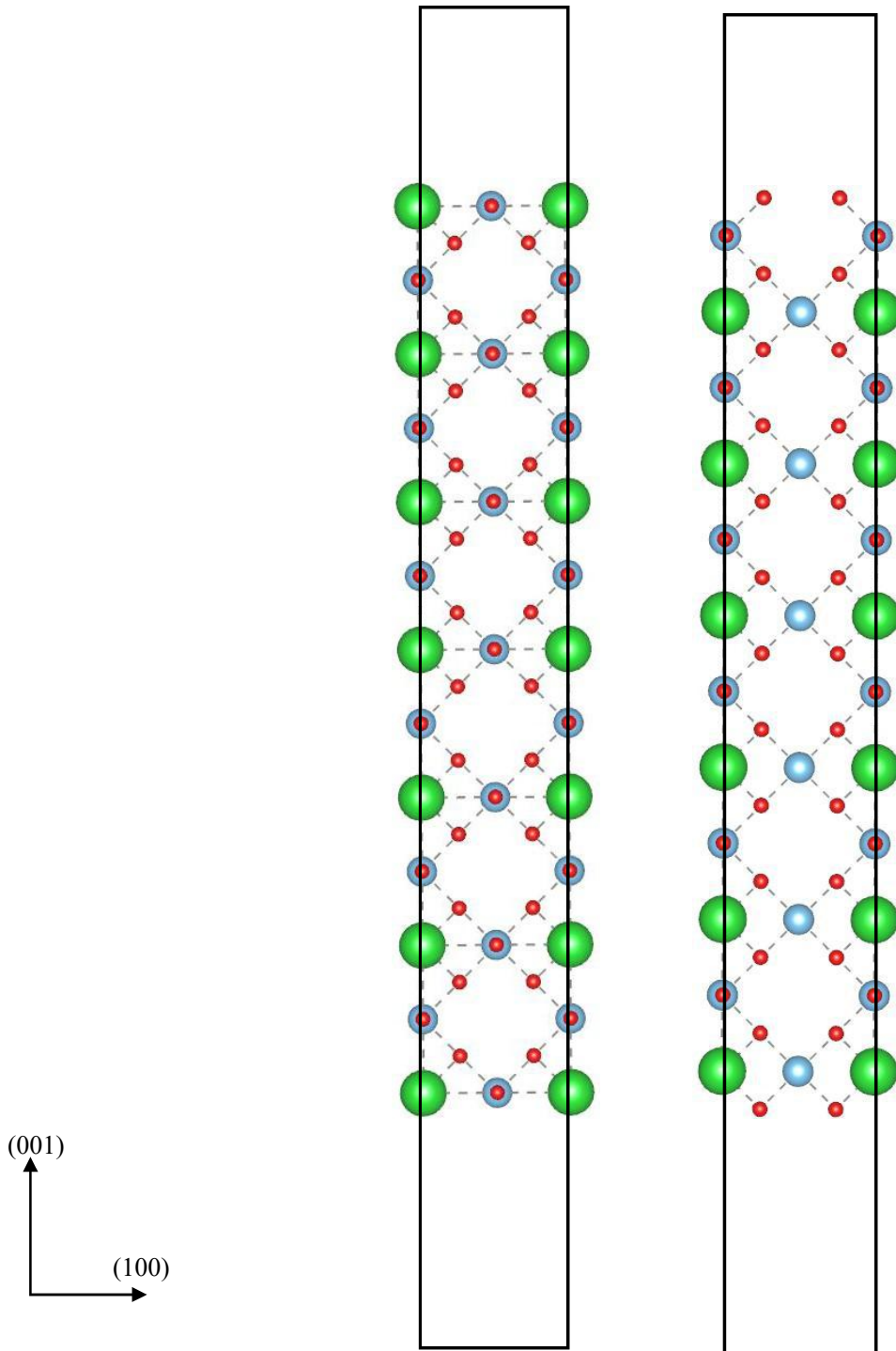


Figure 1 The BaTiO_3 (101) ultrathin films with paraelectric structures and
(a) BaTiO - (b) O_2 - terminations

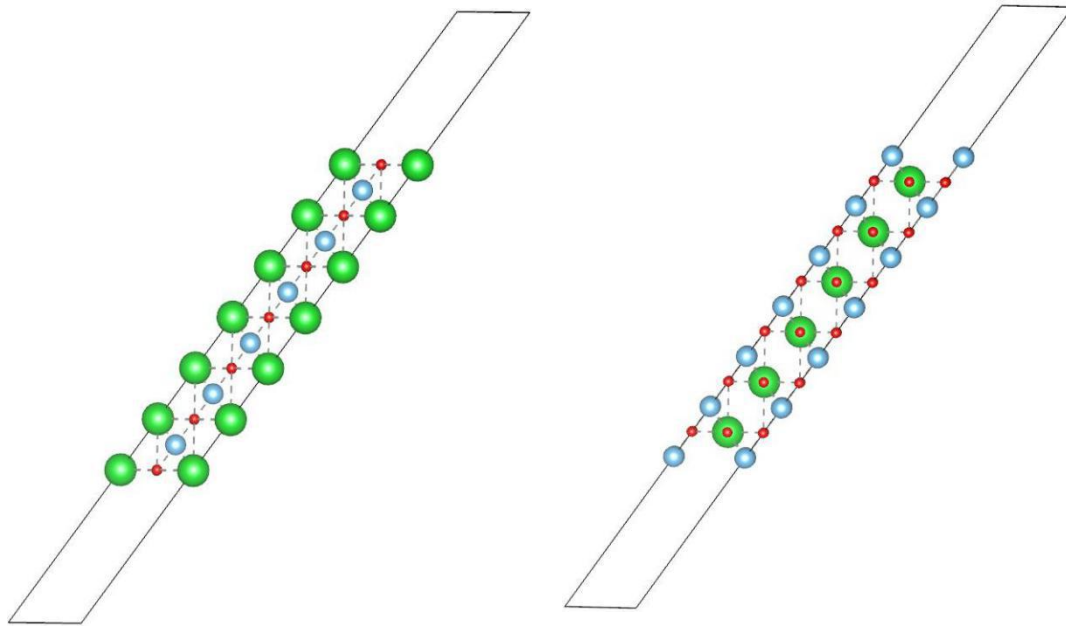


Figure 2 The BaTiO₃ (111) ultrathin films with paraelectric structures and
(a) BaO₃- (b) Ti- terminations