

Supplementary figures

The relation between pressure drop and compressive distance of left piston for FAU zeolite and MFI zeolite with different thickness is given in Figure 1.

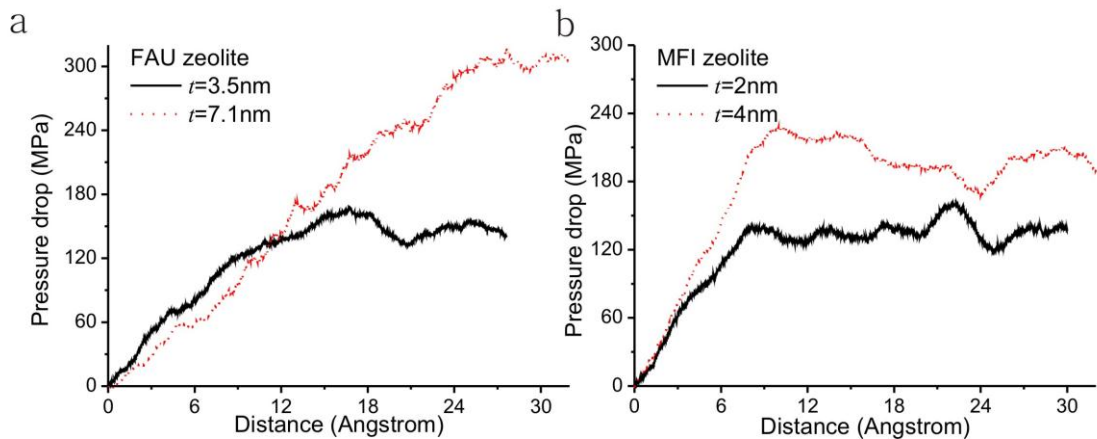


Figure 1 The pressure drop for FAU zeolite (a) and MFI zeolite (b).

The number of sodium ion during compression of left piston for FAU zeolite and MFI zeolite with different thickness is given in Figure 2.

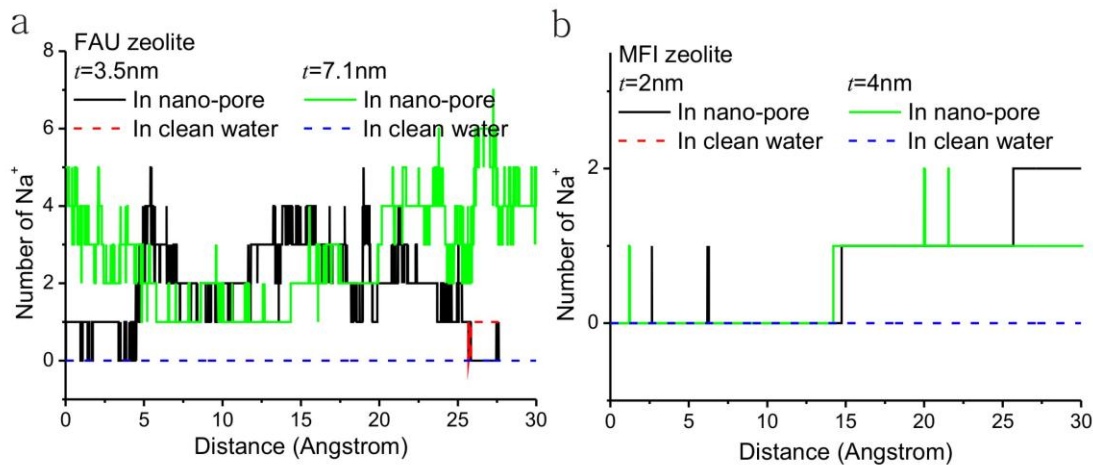


Figure 2 The sodium ions in nanopore and clean water region during compression for FAU zeolite (a) and MFI zeolite (b).

The relation between pressure drop and compressive distance of left piston for rigid and flexible membrane is given in Figure 3.

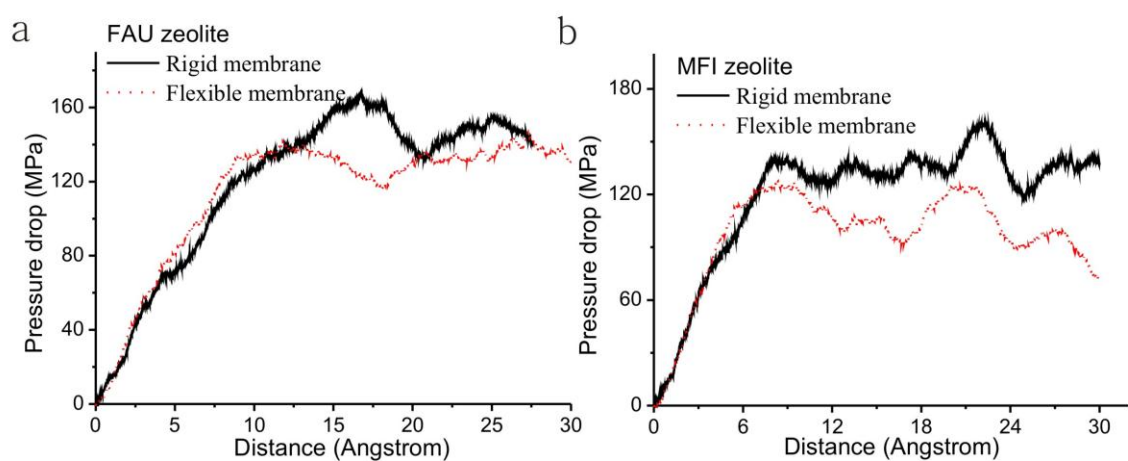


Figure 3 The pressure drop for FAU zeolite (a) and MFI zeolite (b).

The number of sodium ion during compression of left piston for rigid and flexible membrane is given in Figure 4.

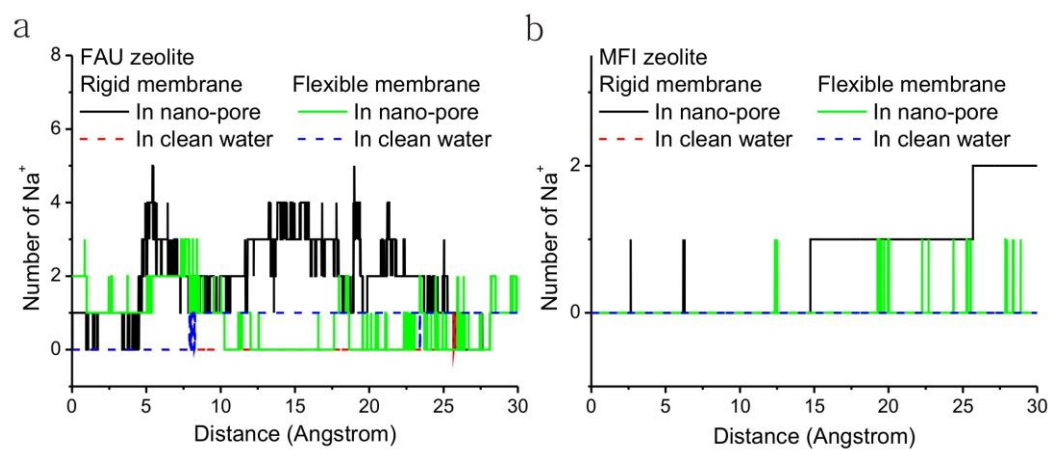


Figure 4 The sodium ions in nanopore and clean water region during compression for FAU zeolite (a) and MFI zeolite (b).