r>r$_{cut}$, reverse/no reaction, leaving type 2
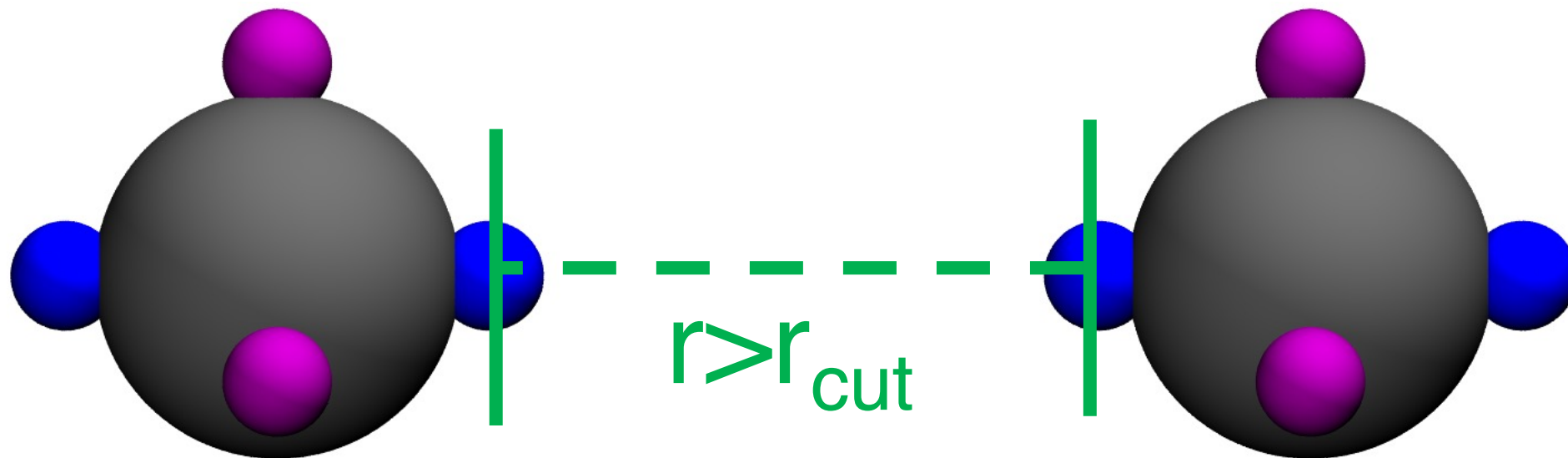
r>r$_{cut}$

r<rcut, reaction occurs turning 2 to 4

r<r$_{cut}$