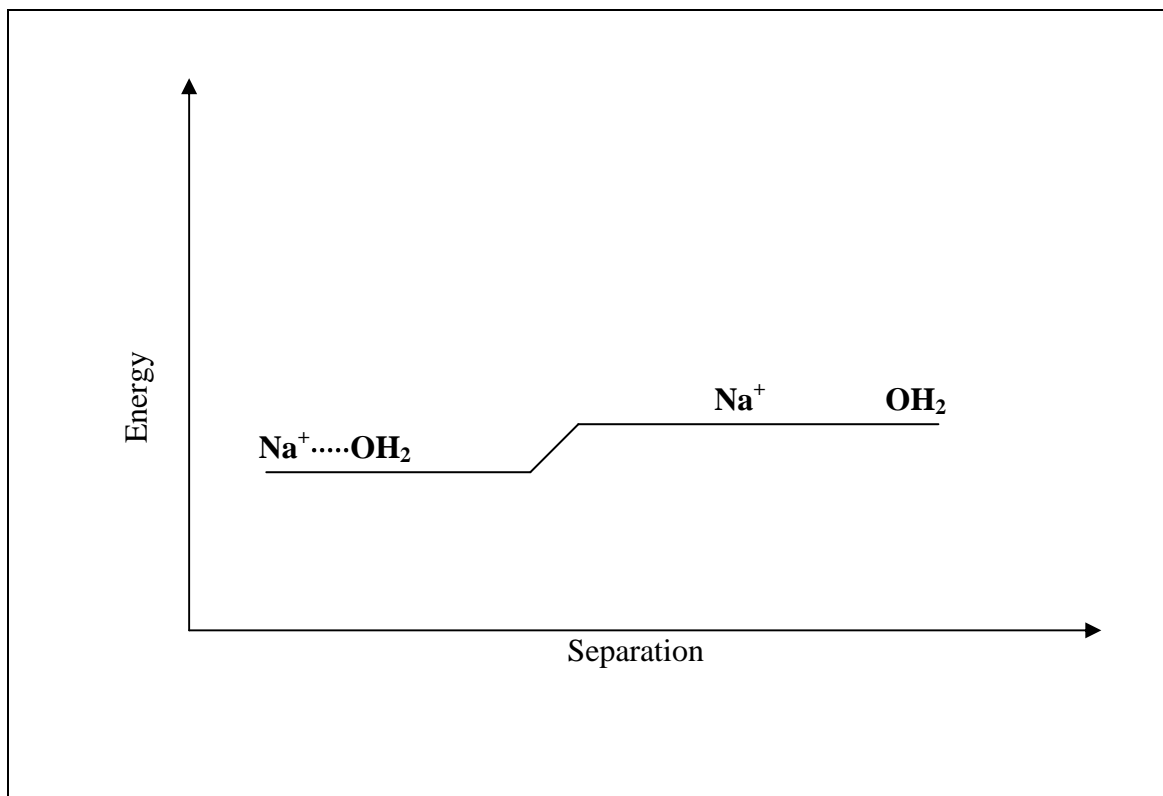


Marks
6

- Shown below is the energy profile for the separation of Na^+ from H_2O . Draw energy profiles for the separation of Mg^{2+} from Cl^- and for the breaking of the C–C bond in ethane to the same scales (approximately).



Name the inter- or intra-molecular forces involved in each of these three interactions.

$\text{Na}^+ \text{ OH}_2$

$\text{Mg}^{2+} \text{ Cl}^-$

C C

Explain why bonds such as C–C are generally considered to be stronger than interactions such as that between Mg^{2+} and Cl^- .