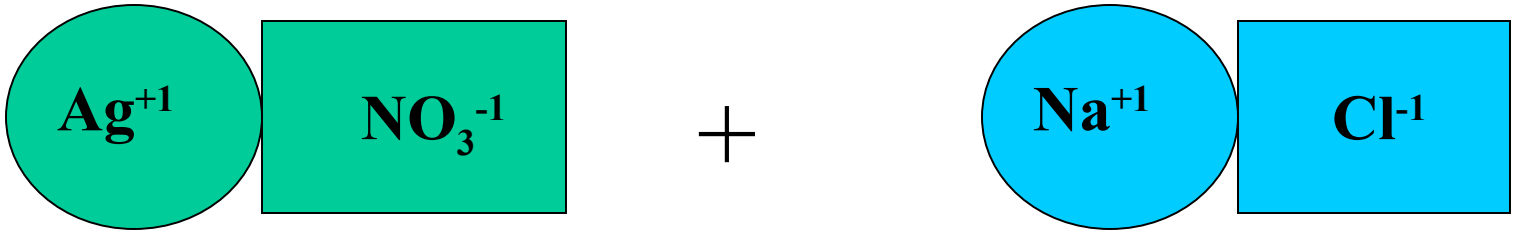
Predict the products of the reaction of $AgNO_3$ and NaCl

When two ionic compounds react,
the ions trade places,
to make new ionic compounds



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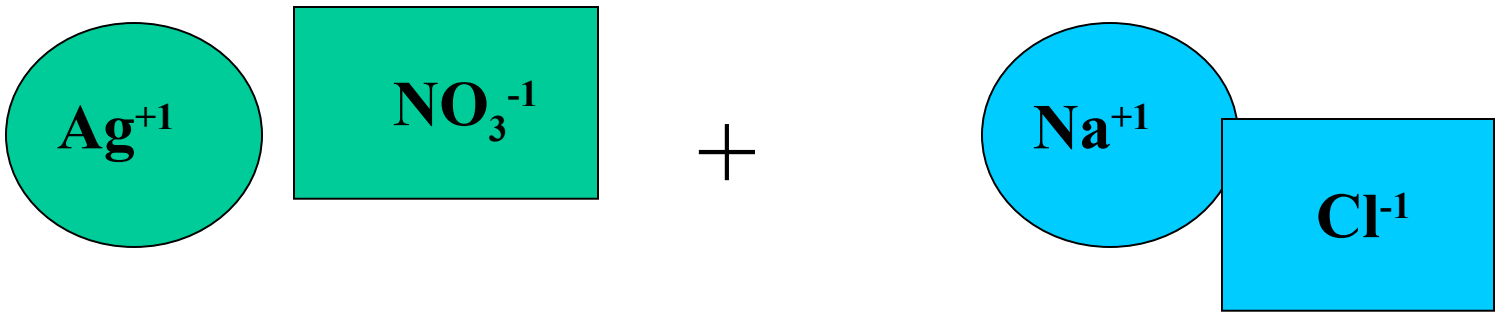

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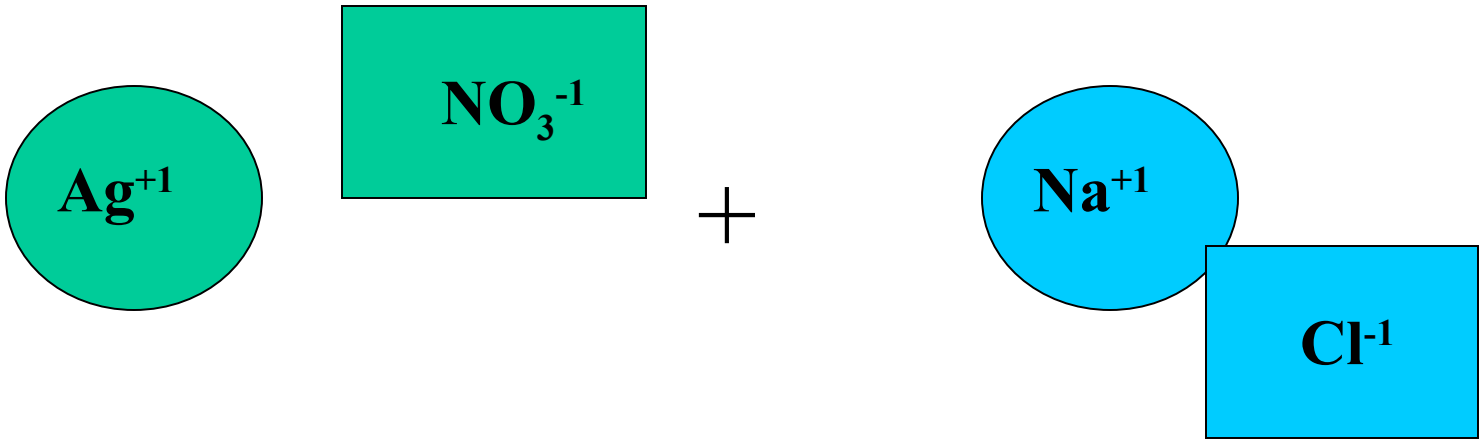

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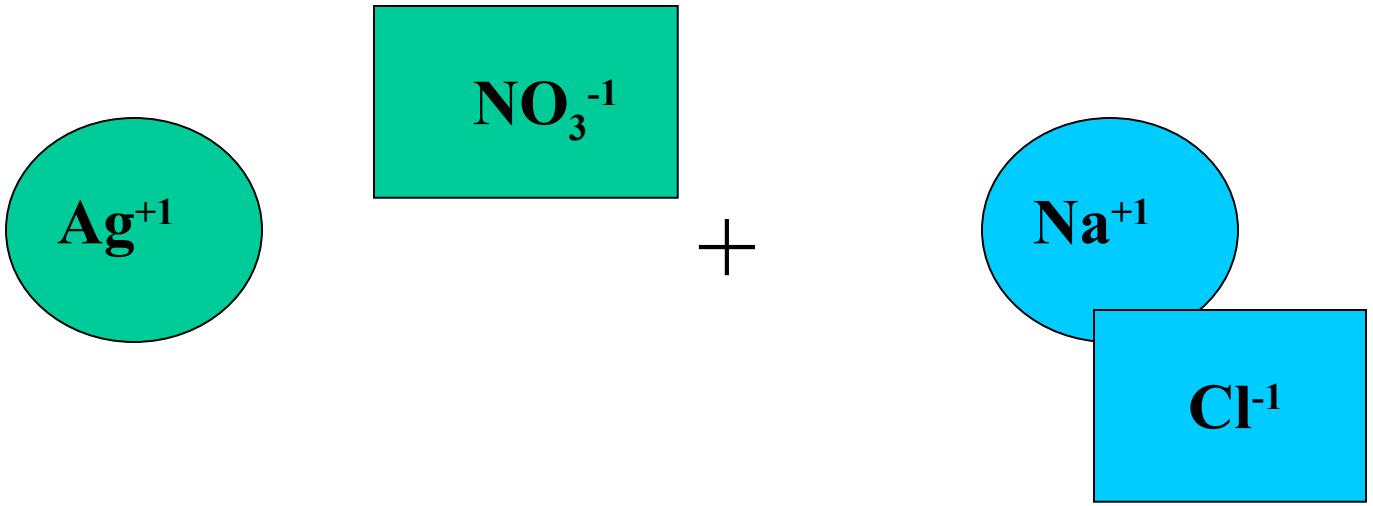

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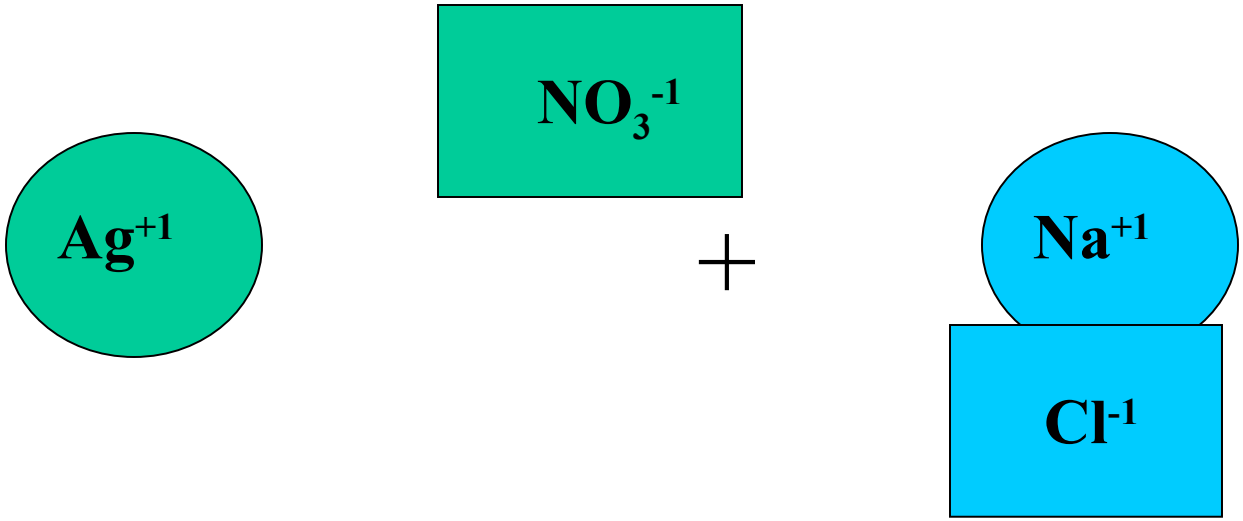

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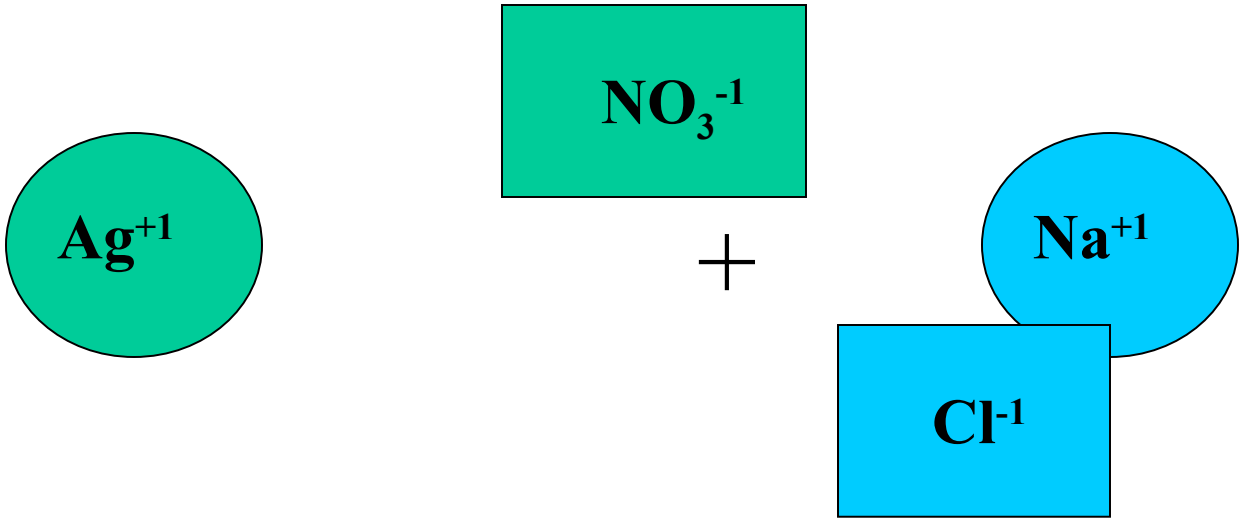

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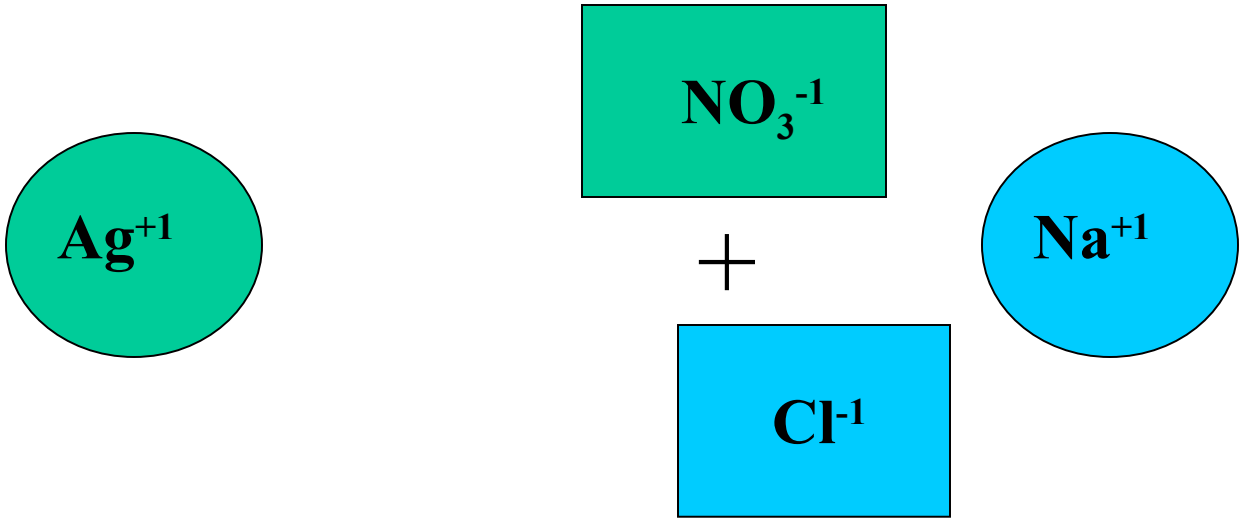

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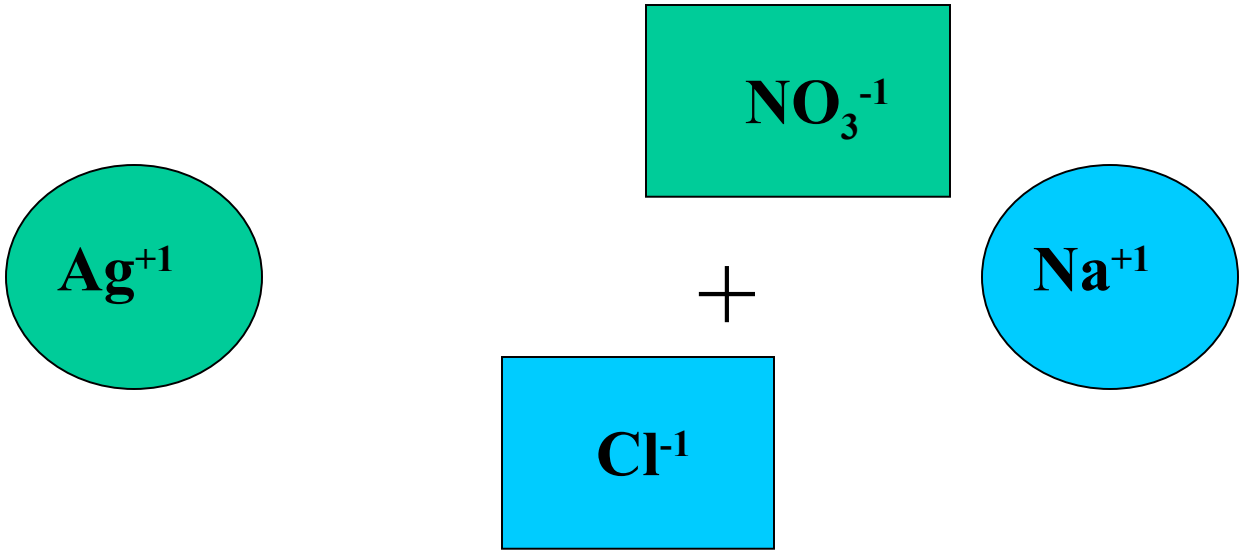

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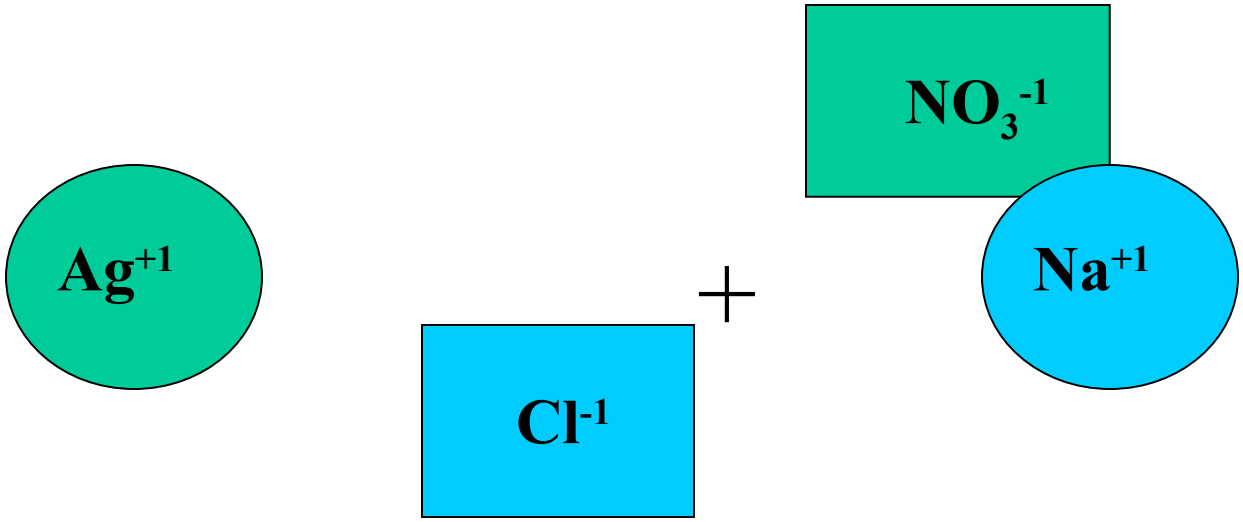

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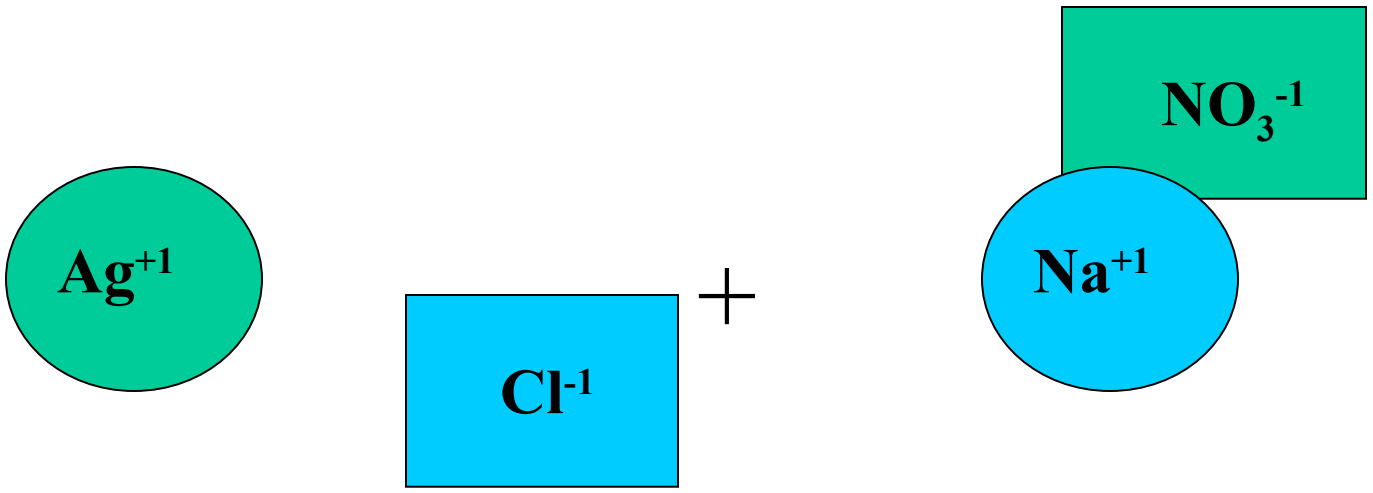

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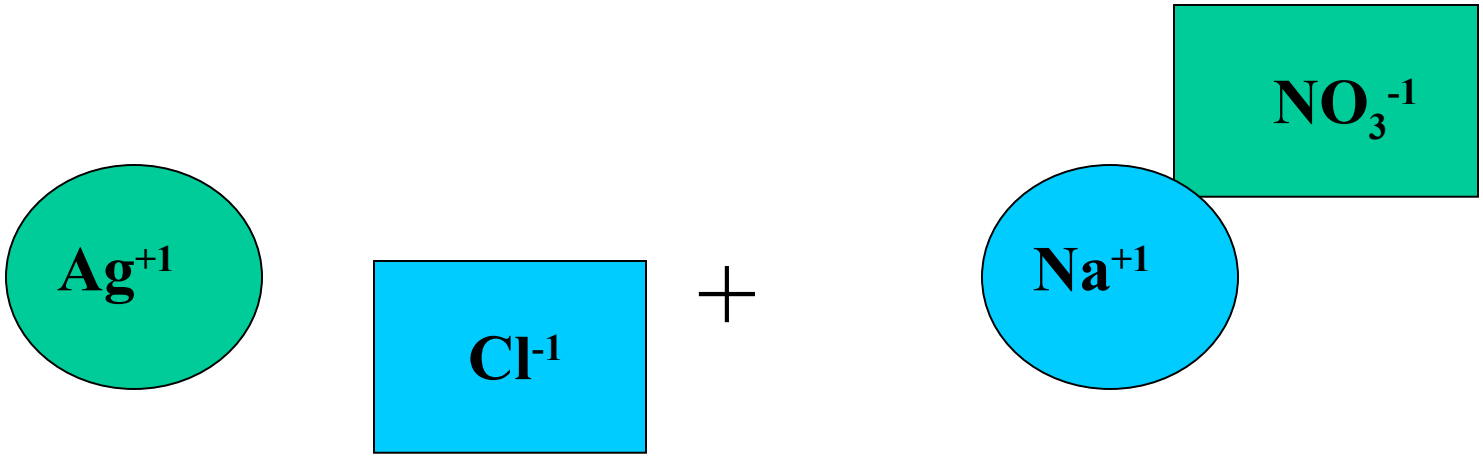

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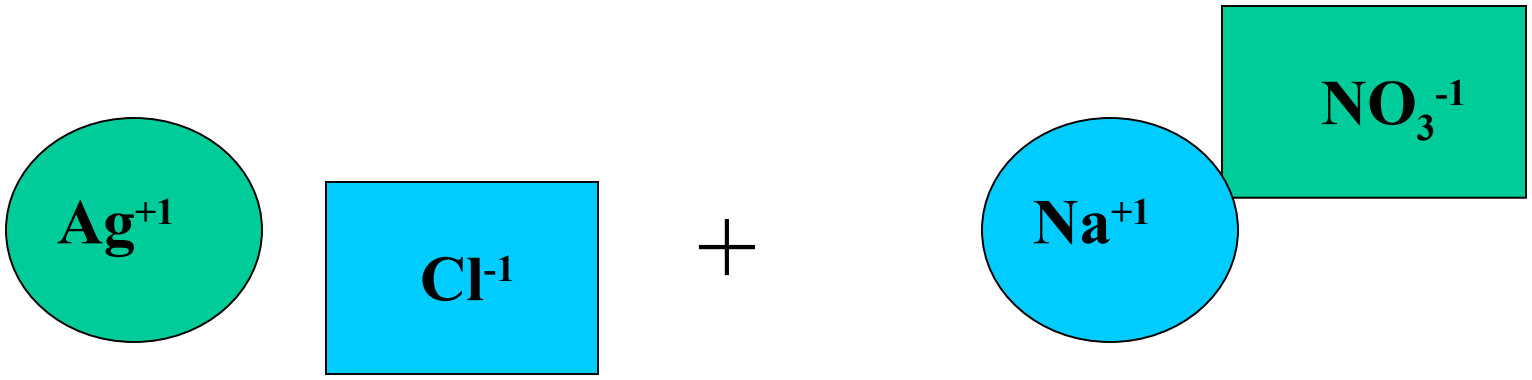

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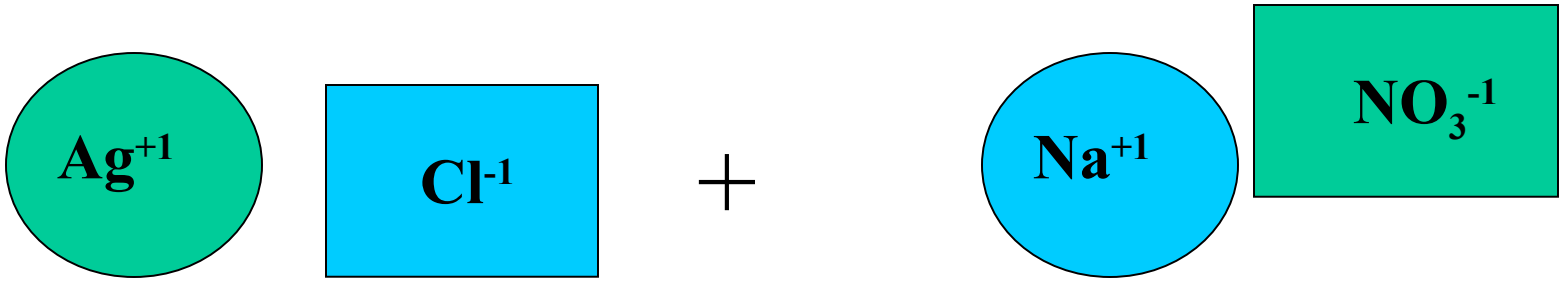

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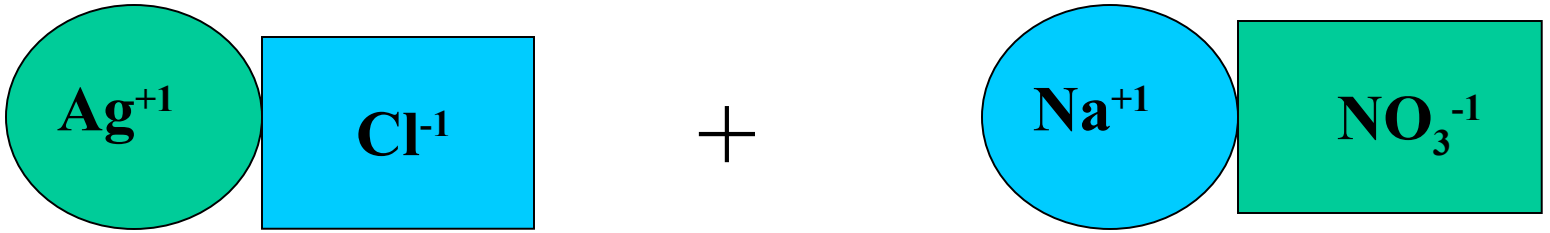


Balanced chemical reaction

$AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

Predict the products of the reaction of CaI_2 and KOH

When two ionic compounds react,
the ions trade places,
to make new ionic compounds

CaI_2 and KOH

Cation: Ca^{+2}

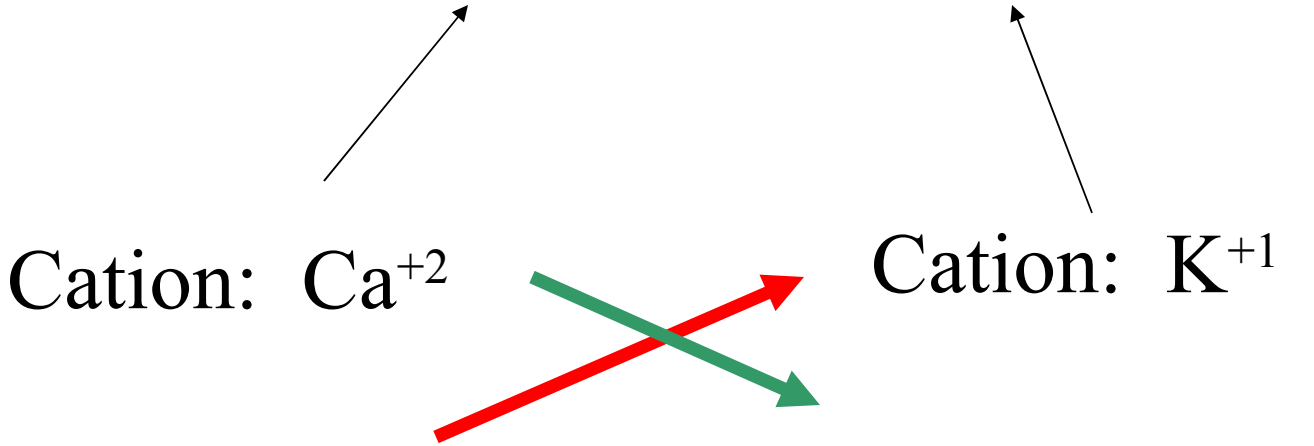
Anion: I^-

Cation: K^{+1}

Anion: OH^{-1}

When two ionic compounds react,
the ions trade places,
to make new ionic compounds

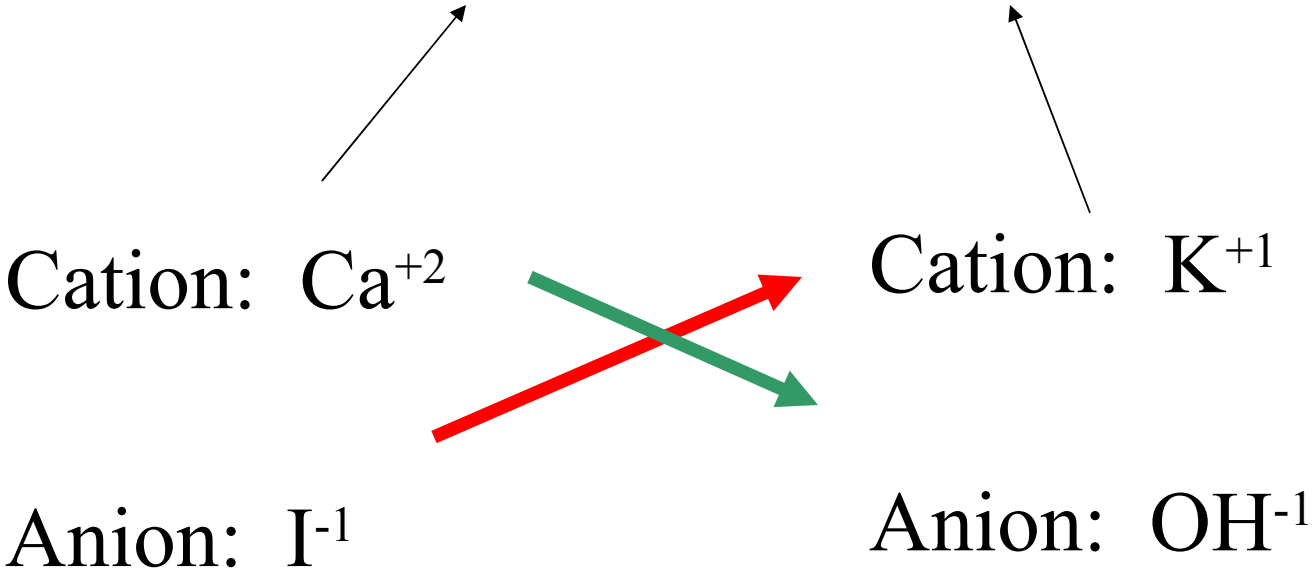
CaI_2 and KOH



The Ca^{+2} ion hooks up with the OH^{-1} ion

The K^{+1} ion hooks up with the I^{-1} ion

CaI_2 and KOH



The Ca^{+2} ion hooks up with the OH^{-1} ion

The K^{+1} ion hooks up with the I^{-1} ion

This means the products are

$Ca(OH)_2 + KI$

(for help see how to write neutral ionic compounds)

This means the products are $Ca(OH)_2 + KI$

Now your reaction looks like:

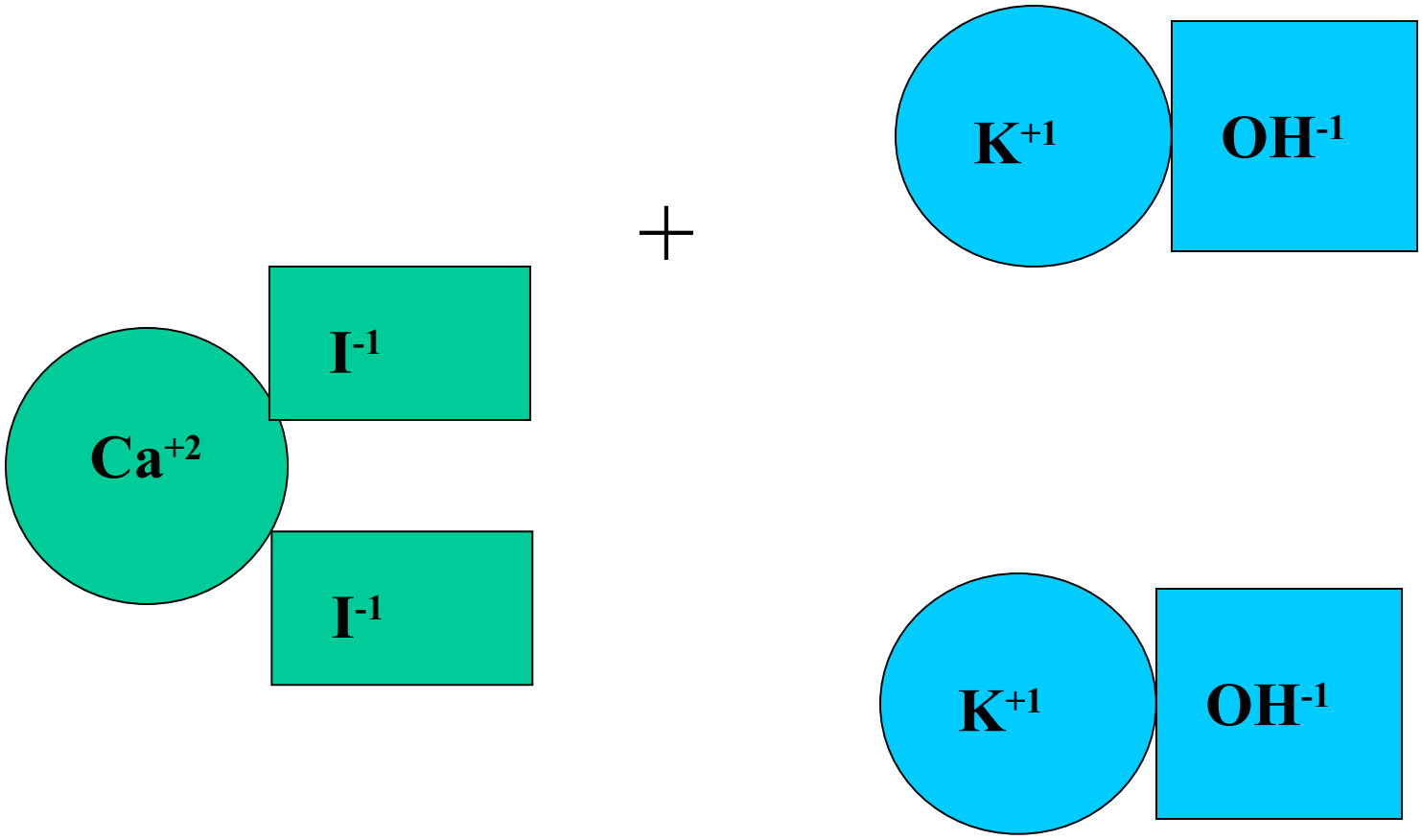
$$CaI_2 + KOH \rightarrow Ca(OH)_2 + KI$$

This equation is not balanced!!

Balanced chemical reaction

$$CaI_2 + 2KOH \rightarrow Ca(OH)_2 + 2KI$$

Animation



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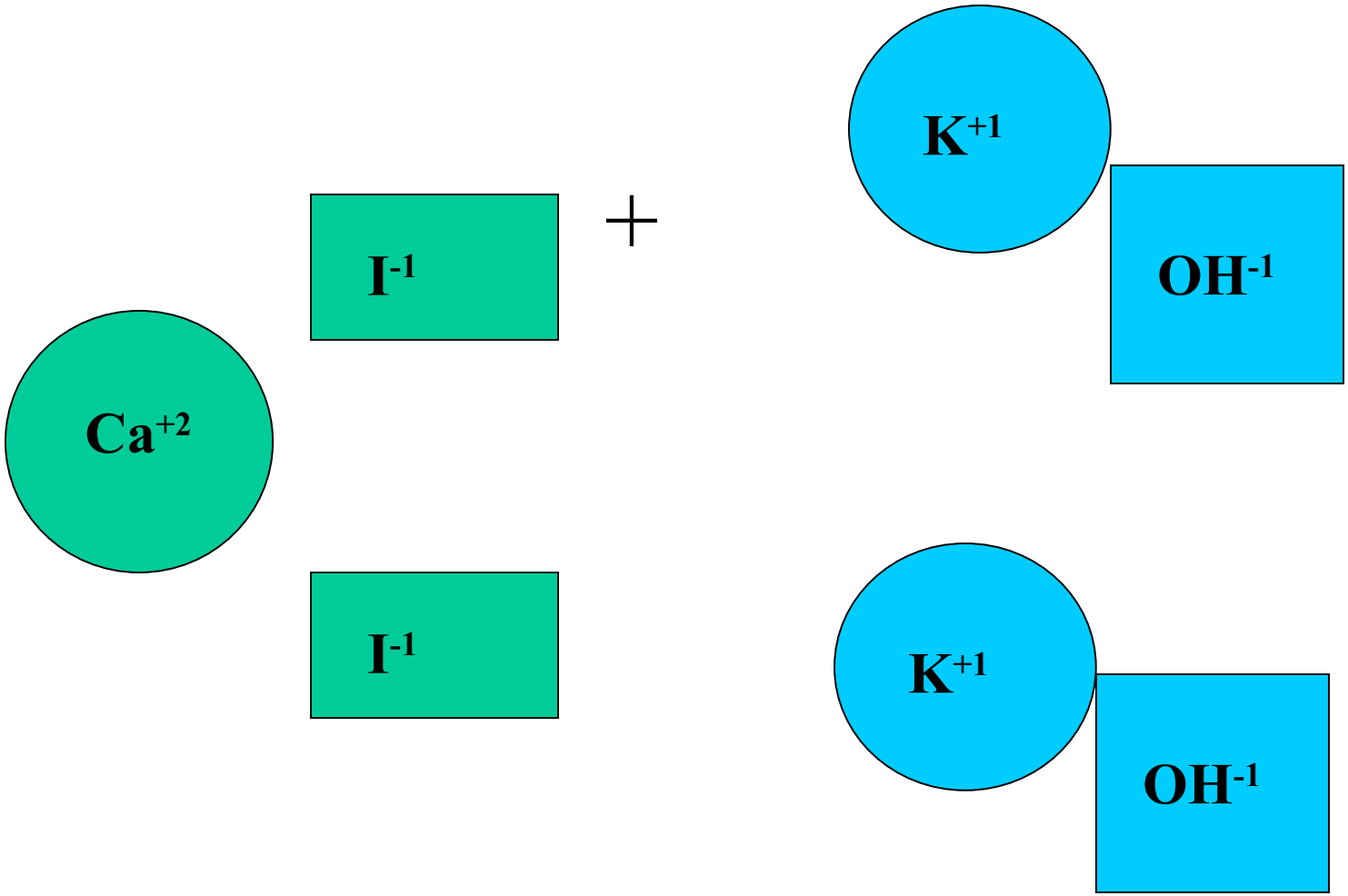

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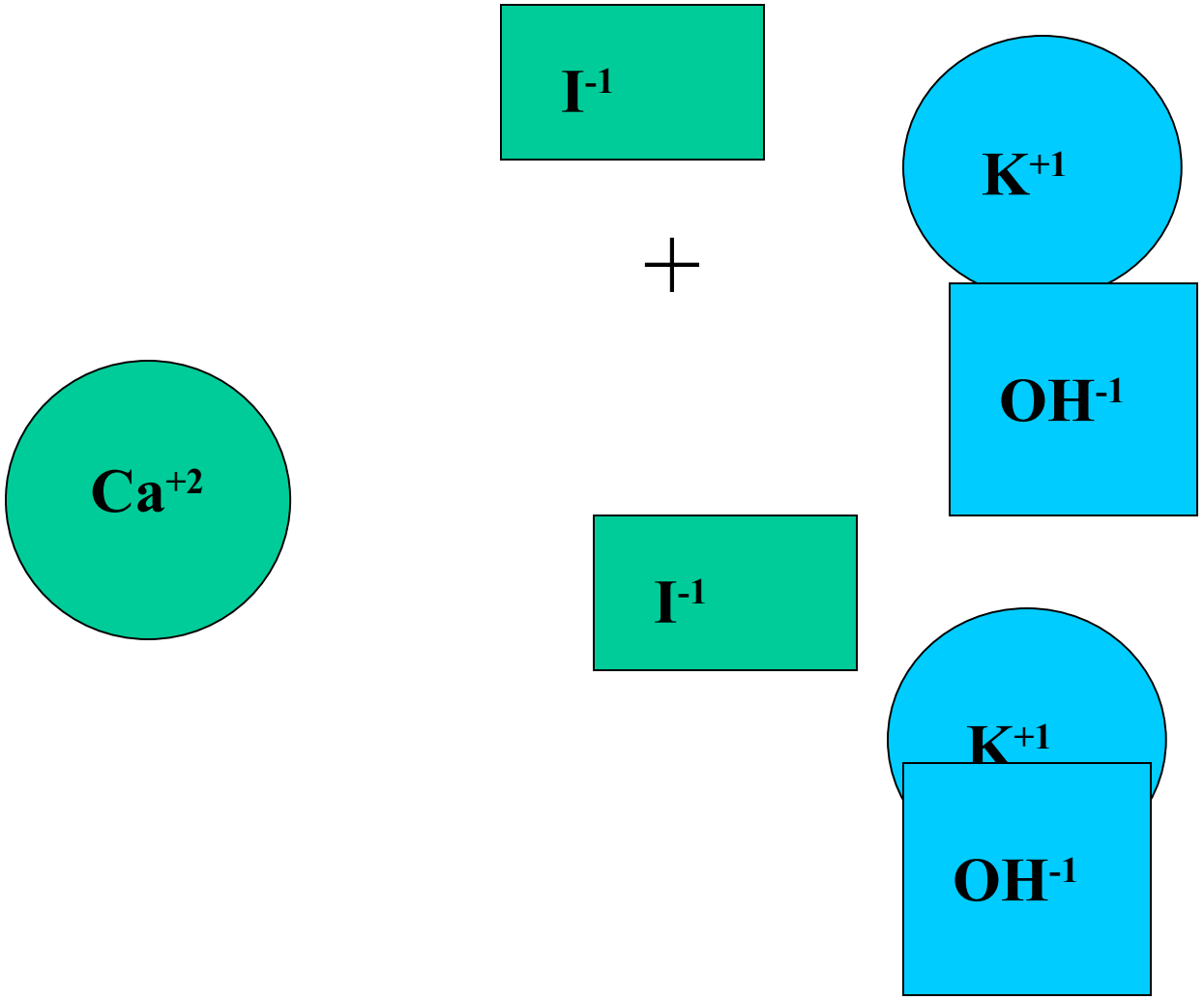

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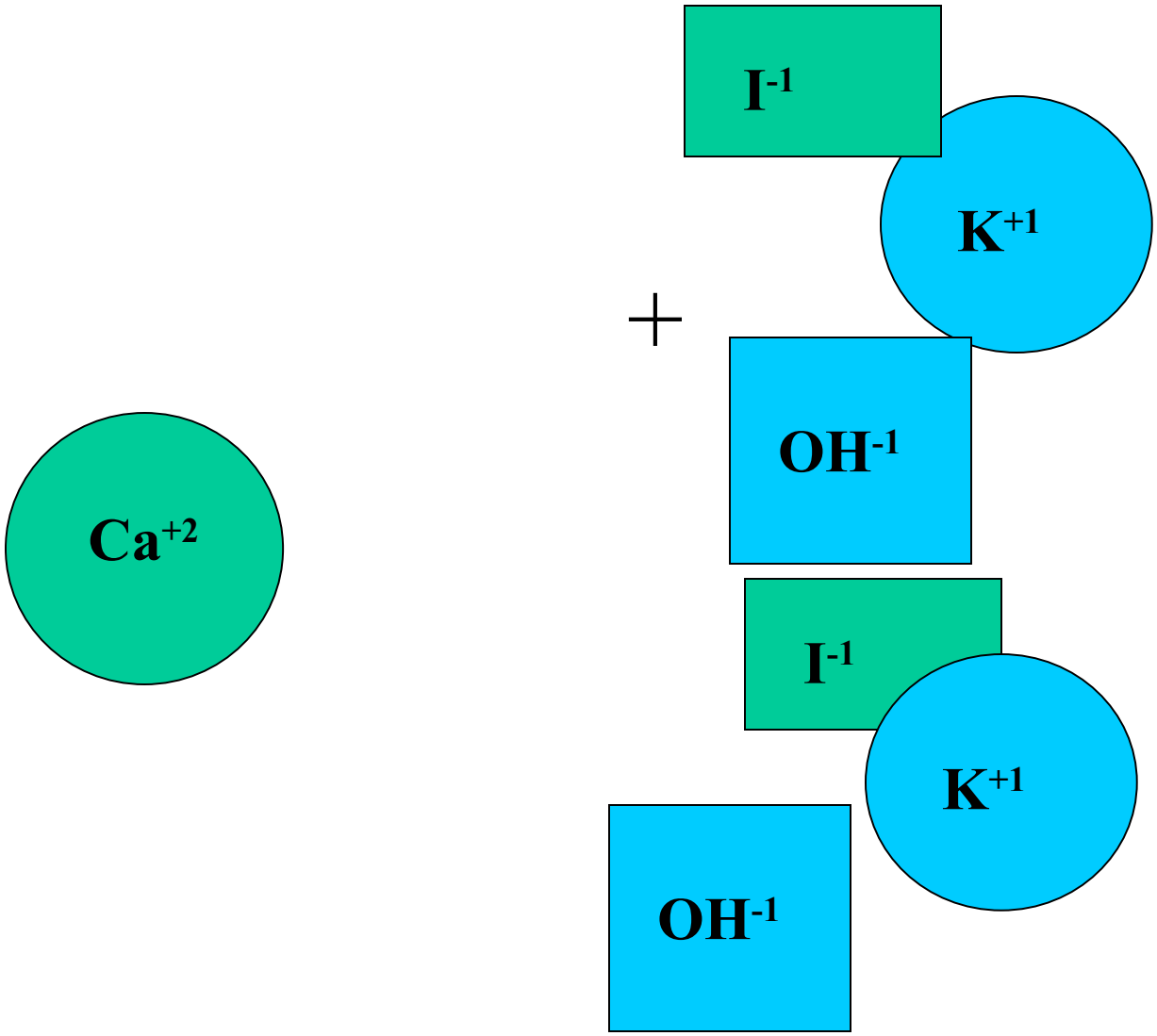

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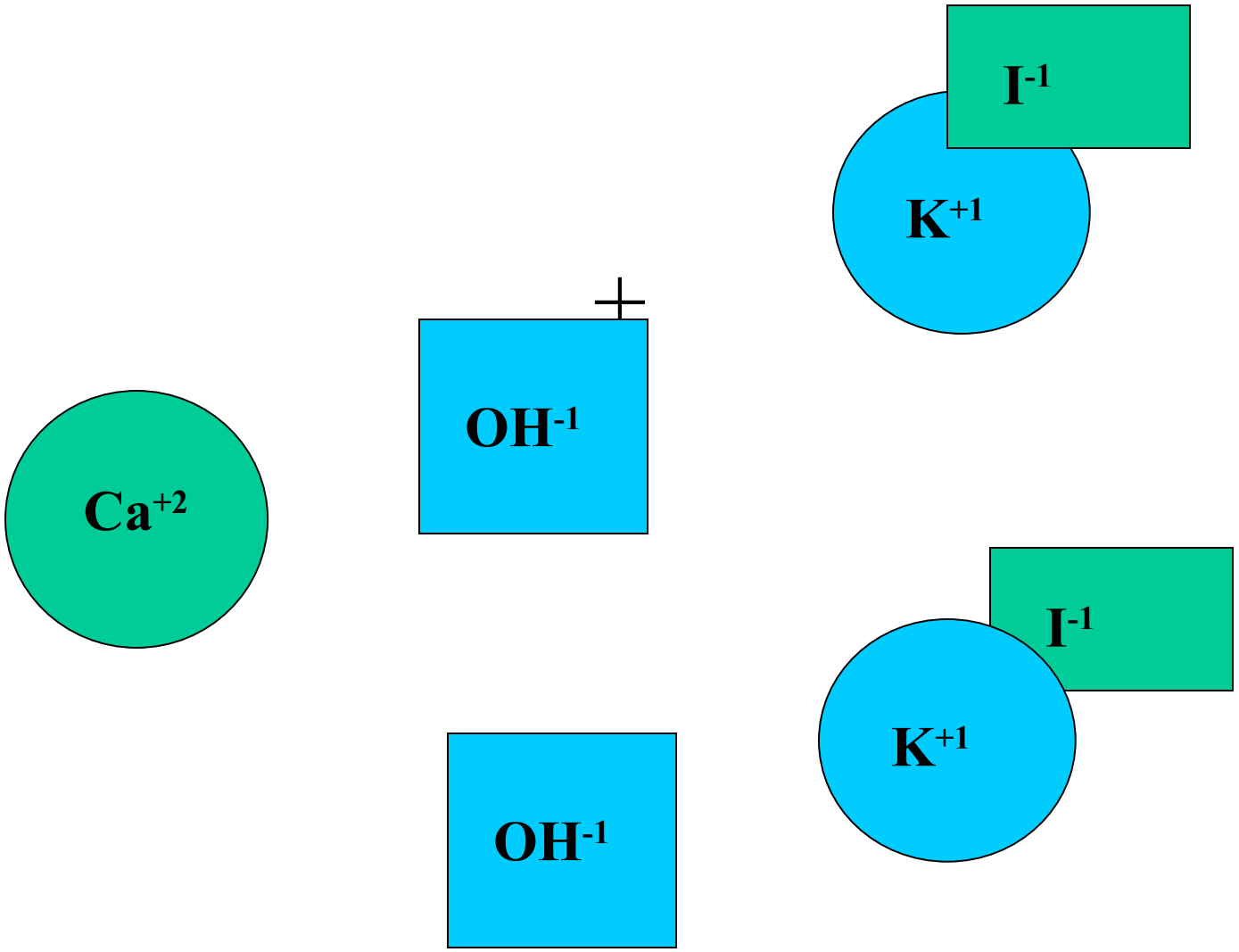

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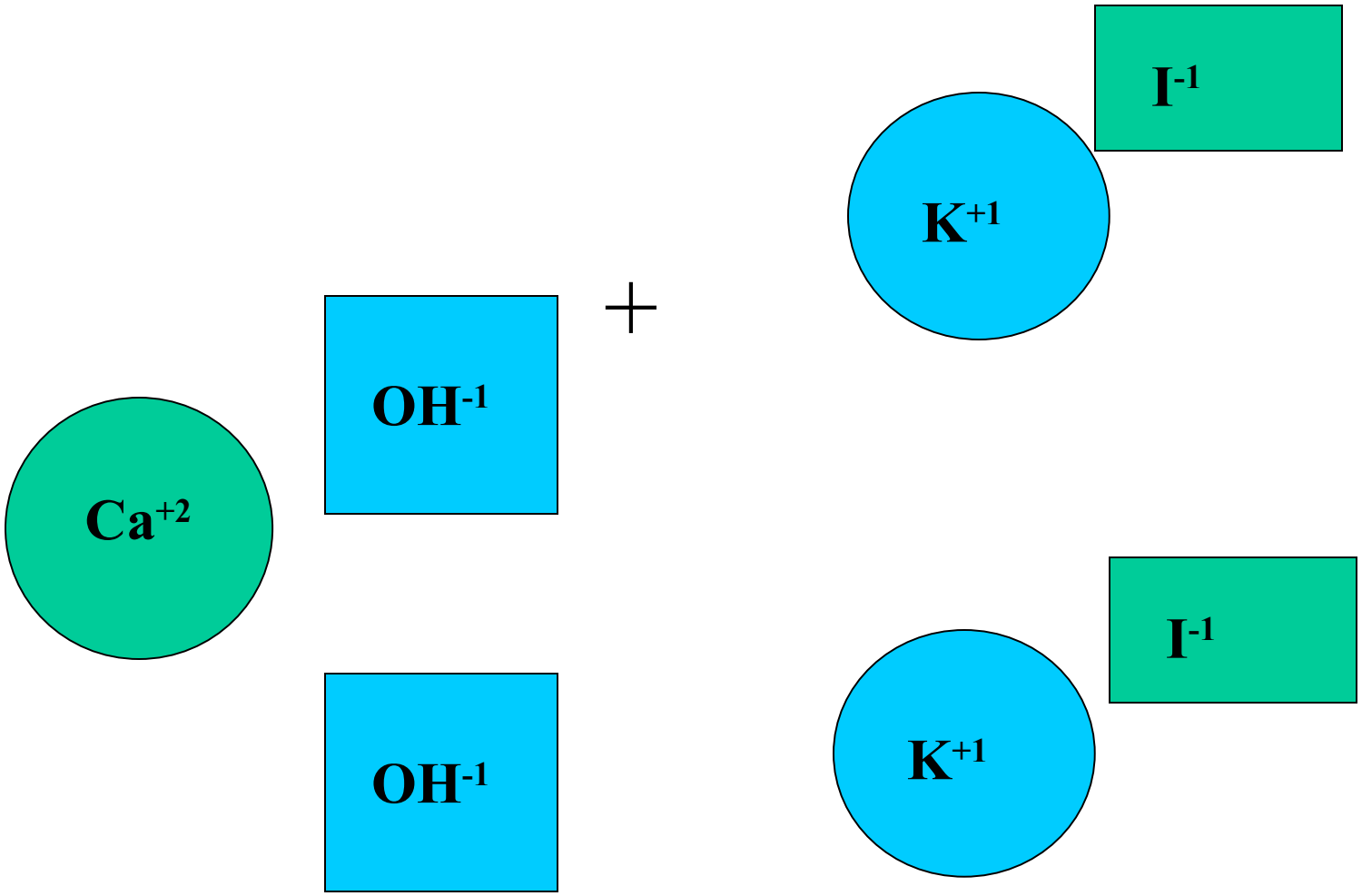

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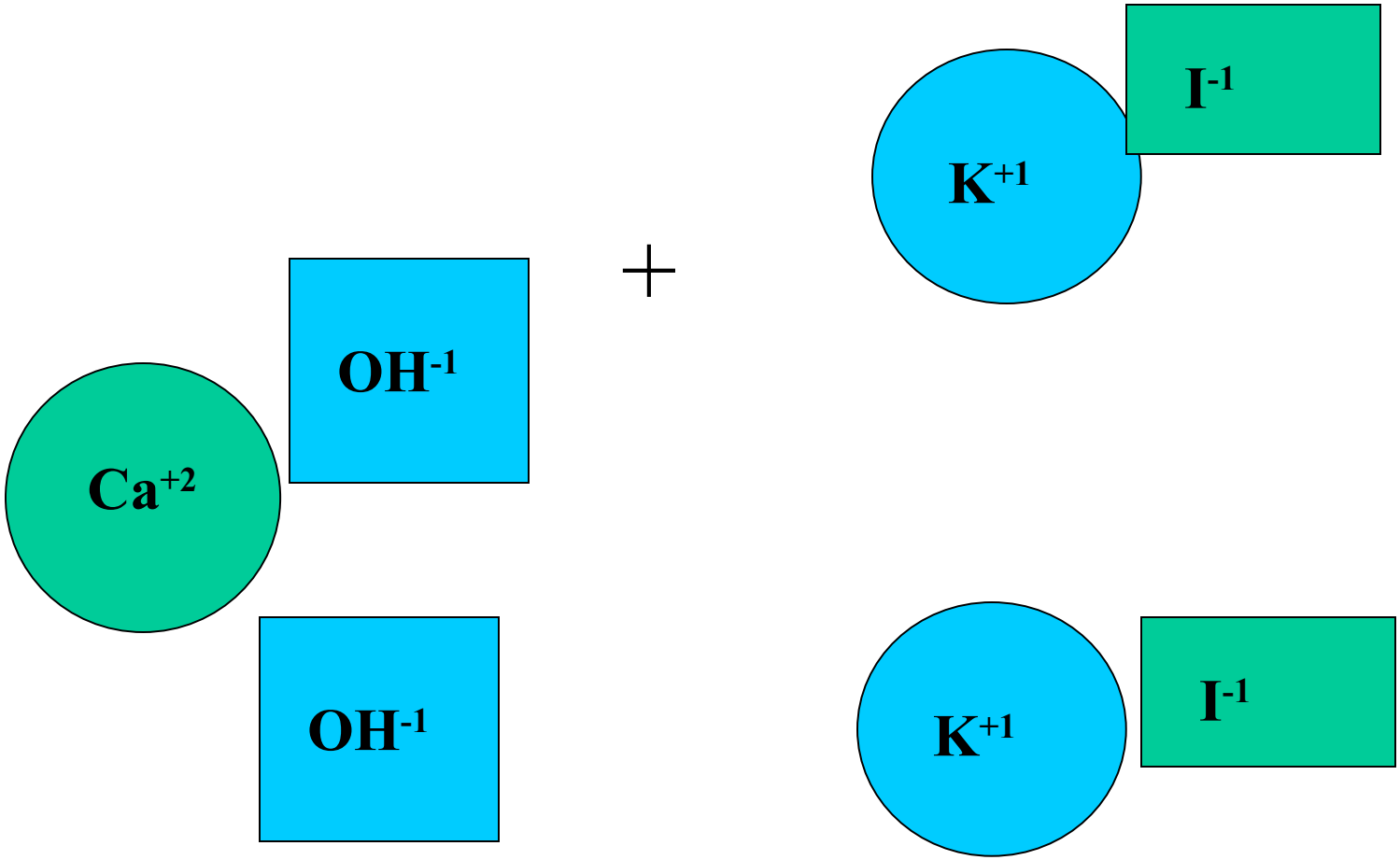

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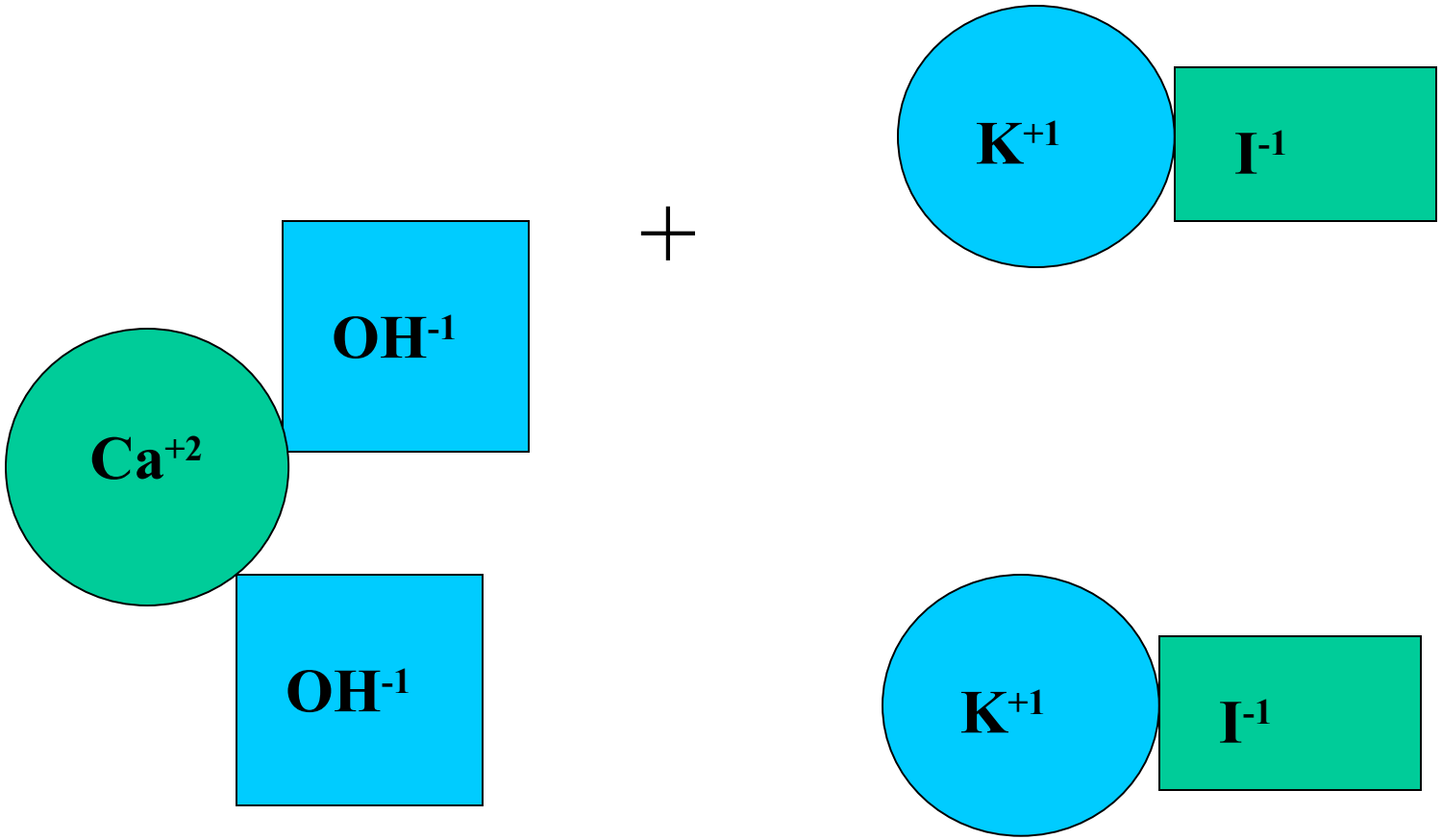

Predict the products and balance the equation for the reaction of $AlCl_3$ and Na_2S

$$AlCl_3 + Na_2S \rightarrow ?$$

Cation: Al^{+3}

Anion: Cl^{-1}

Cation: Na^{+1}

Anion: S^{-2}

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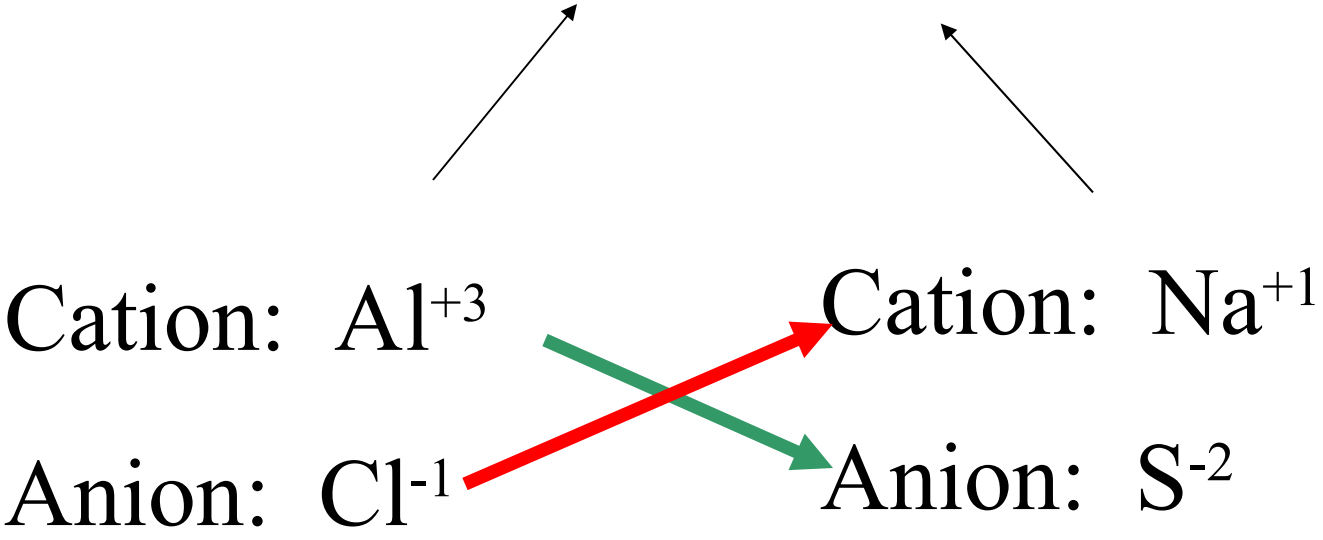

Al^{+3} hooks up with S^{-2}

Na^{+1} hooks up with Cl^{-1}

This means the products must be:

Al_2S_3 and NaCl

So now the reaction is:

$AlCl_3 + Na_2S \rightarrow Al_2S_3 + NaCl$

UNBALANCED!

Balanced chemical reaction

$$2AlCl_3 + 3Na_2S \rightarrow Al_2S_3 + 6NaCl$$

For help on balancing, see help sheet on balancing chemical reactions