

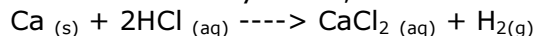
Reactions HW# 2

answers

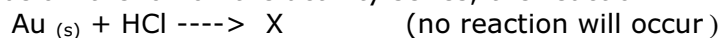
Table J and Single Replacement Reactions

Table J is the ACTIVITY SERIES for selected metals and non-metals. The elements are listed in order, highest activity levels at top, the lowest activity levels at bottom. Therefore, the "HIGHER" up on the list, the more able this atom can react in a single replacement reaction. Remember, it's not the list that sets what happens, the list reflects the atom's ability to react with other ions.

If the element is above the ion on the activity series, the reaction will occur. (Ca above H)



If the element is below the ion on the activity series, the reaction will not. (Au below H)



Change these word equations into balanced chemical reactions, with phase symbols.

If the reaction will not occur, put an "X" in the column at right.

1	Zinc reacts with hydrochloric acid	$\text{Zn}_{(s)} + 2\text{HCl}_{(aq)} \rightarrow \text{ZnCl}_{2(aq)} + \text{H}_{2(g)}$
2	Iron (II) nitrate solution plus silver metal	X no reaction
3	Fluorine gas mixed with sodium bromide solution	$\text{F}_{2(g)} + 2\text{NaBr}_{(aq)} \rightarrow \text{Br}_{2(l)} + 2\text{NaF}_{(aq)}$
4	Gold (III) chloride solution with magnesium metal	$2\text{AuCl}_{3(aq)} + 3\text{Mg}_{(s)} \rightarrow 3\text{MgCl}_{2(aq)} + 2\text{Au}_{(s)}$
5	Copper (II) sulfate solution with silver metal	X no reaction
6	Bromine liquid into ammonium iodide solution	$\text{Br}_{2(l)} + 2\text{NH}_4\text{I}_{(aq)} \rightarrow 2\text{NH}_4\text{Br}_{(aq)} + \text{I}_{2(s)}$
7	Ammonium fluoride solution with chlorine gas	X no reaction
8	Lithium hydroxide solution with titanium metal	X no reaction
9	Barium hydrogen carbonate and lithium metal	$\text{Ba}(\text{HCO}_3)_2(aq) + 2\text{Li}_{(s)} \rightarrow 2\text{LiHCO}_3(aq) + \text{Ba}_{(s)}$
10	Potassium sulfate solution with lead metal	X no reaction
11	Aluminum metal into nickel (II) chlorate solution	$3\text{Al}_{(s)} + 2\text{Ni}(\text{ClO}_3)_2(aq) \rightarrow 3\text{Al}(\text{ClO}_3)_3(aq) + 2\text{Ni}_{(s)}$