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Chapter 5 (397926)

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About this Assignment

Description

Reactions in Aqueous Solutions

Instructions

Reactions in Aqueous Solutions

1. KT6 5.P.003. [489832] [Show Details](#)

Which compound or compounds in each of the following groups is (are) expected to be soluble in water? (Select all that apply.)

(a)

- PbCO₃
 PbSO₄
 Pb(NO₃)₂

(b)

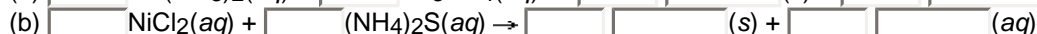
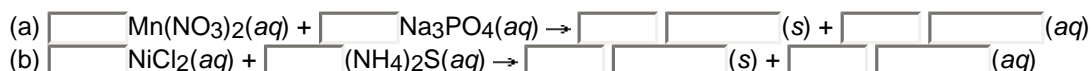
- NaCH₃CO₂
 NaClO₄
 Na₂SO₄

(c)

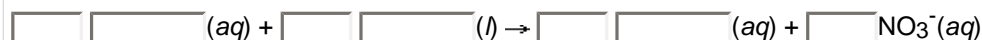
- AgBr
 KBr
 Al₂Br₆

2. KT6 5.P.011. [467604] [Show Details](#)

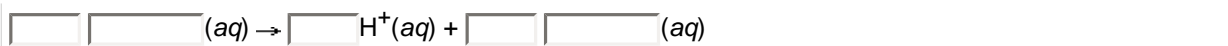
Predict the products of each precipitation reaction, and then balance the completed equation. (Type your answers using the format CH₄ for CH₄. Use the lowest possible coefficients.)

3. KT6 5.P.013. [467443] [Show Details](#)

Write a balanced equation for the ionization of nitric acid in water. (Type your answer using the format [PO₄]³⁻ for PO₄³⁻. Use the lowest possible coefficients.)

4. KT6 5.P.014. [489846] [Show Details](#)

Write a balanced equation for the ionization of perchloric acid in water. (Type your answer using the format [CO₃]²⁻ for CO₃²⁻. Use the lowest possible coefficients.)



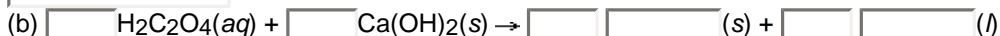
5. KT6 5.P.020. [489863] [Show Details](#)

Complete and balance the following acid-base reactions. Name the reactants and products. (Type your answer using the format CO2 for CO₂. Use the lowest possible coefficients.)



reactants in order from left to right

products in order from left to right



(H₂C₂O₄ is oxalic acid, an acid capable of donating two H⁺ ions.)

reactants in order from left to right

products in order from left to right

6. KT6 5.P.028. [489875] [Show Details](#)

The beautiful red mineral rhodochrosite is manganese(II) carbonate. Write an overall balanced equation for the reaction of the mineral with nitric acid. Name each reactant and product. (Type your answer using the format CH₄ for CH₄. Use the lowest possible coefficients.)

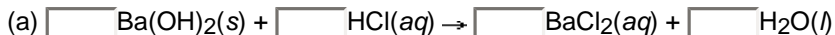


reactants in order from left to right

products in order from left to right

7. KT6 5.P.029. [467341] [Show Details](#)

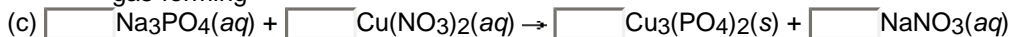
Balance the following reactions and then classify each one as a precipitation, acid-base reaction, or gas-forming reaction.



- precipitation
- acid-base
- gas-forming



- precipitation
- acid-base
- gas-forming



- precipitation
- acid-base

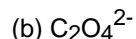
gas-forming

8. KT6 5.P.035. [467192] [Show Details](#)

Determine the oxidation number of each element in the following ions or compounds.



Br
 O



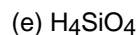
C
 O



F



Ca
 H



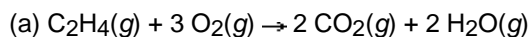
H
 Si
 O



S
 O

9. KT6 5.P.039. [467577] [Show Details](#)

In the following reactions, decide which reactant is oxidized and which is reduced. Designate the oxidizing agent and reducing agent. (Type your answer using the format CH₄ for CH₄.)

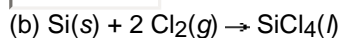


oxidized

reduced

oxidizing agent

reducing agent



oxidized

reduced

oxidizing agent

reducing agent

10. KT6 5.P.042. [486476] [Show Details](#)

Some potassium dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$), 2.325 g, is dissolved in enough water to make exactly 490. mL of solution. What is the molar concentration of the potassium dichromate?

4.0 M

What are the molar concentrations of the K^+ and $\text{Cr}_2\text{O}_7^{2-}$ ions?

K^+

M

$\text{Cr}_2\text{O}_7^{2-}$

M

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