Assignment Previewer

Previewer Tools
Show All   In View:

Chapter 3 (397902)

Hide All   Hidden: Assignment Score | Mark | Help/Hints | Key |
                     Solution

Show New Randomization | Reload from Editor | 🖶 | Details

About this Assignment

Description
Molecules, ions and Compounds

Instructions
Molecules, ions and Compounds

---

1. KT6 3.P.008. [467172]   Show Details

Give the symbol, including the correct charge, for each of the following ions. (Type your answer using the format [NO3]- for NO_3^-.)

(a) dihydrogen phosphate ion

(b) perchlorate ion

(c) phosphate ion

(d) hypochlorite ion

(e) sulfate ion

(f) sulfite ion

---

2. KT6 3.P.019. [467313]   Show Details

Name each of the following ionic compounds.

(a) K_2S

(b) $NiSO_4$

(c) $KMnO_4$

(d) $(NH_4)_3PO_4$

---

3. KT6 3.P.032. [467550]   Show Details

Calculate the molar mass of each of the following compounds.

(a) $Fe(C_6H_{11}O_7)_2$, iron(II) gluconate, a dietary supplement
          g/mol
(b) $CH_3CH_2CH_2CH_2SH$, butanethiol, has a skunk-like odor
          g/mol
(c) $C_{20}H_{24}N_2O_2$, quinine, used as an antimalarial drug
          g/mol

---

4. KT6 3.P.036. [489882]   Show Details

Assume you have 0.250 mol of each of the following compounds. What mass of each is present?

(a) $C_{14}H_{10}O_4$, benzoyl peroxide, used in acne medications

[4.0 ✓] [＿＿＿＿＿＿] g

(b) $Pt(NH_3)_2Cl_2$, cisplatin, a cancer chemotherapy agent

[4.0 ✓] [＿＿＿＿＿＿] g

---

5. KT6 3.P.041. [467590]   Show Details

Calculate the mass percent of each element in the following compounds, to the nearest 0.1%.

(a) PbS, lead (II) sulfide, galena
%Pb
[4.0 ✓] [＿＿＿＿＿＿] %
%S
[4.0 ✓] [＿＿＿＿＿＿] %
(b) NH_4NO_3, ammonium nitrate, a fertilizer
%H
[4.0 ✓] [＿＿＿＿＿＿] %
%O
[4.0 ✓] [＿＿＿＿＿＿] %
%N
[4.0 ✓] [＿＿＿＿＿＿] %
(c) $MgCO_3$, magnesium carbonate
%Mg
[4.0 ✓] [＿＿＿＿＿＿] %
%C
[4.0 ✓] [＿＿＿＿＿＿] %
%O
[4.0 ✓] [＿＿＿＿＿＿] %

---

6. KT6 3.P.058. [467522]   Show Details

The "alum" used in cooking is potassium aluminum sulfate hydrate, $KAl(SO_4)_2 \cdot x\,H_2O$. To find the value of x, you can heat a sample of the compound to drive off all of the water and leave only $KAl(SO_4)_2$. Assume you heat 4.74 g of the hydrated compound and that the sample loses 2.16 g of water. What is the value of x?

[＿＿＿＿＿＿]

---

7. KT6 3.P.013. [467292]   Show Details

For each of the following compounds, give the formula (without charge), the charge, and the number of each ion that makes up the compound. (Type your answer using the format CO2 for CO_2.)

(a) K_2S (b) $Ca(CH_3CO_2)_2$ (c) $Ca(ClO)_2$
cation   cation   cation
formula   formula   formula
[＿＿＿＿＿]   [＿＿＿＿＿]   [＿＿＿＿＿]

charge   charge   charge
[＿＿＿＿＿]   [＿＿＿＿＿]   [＿＿＿＿＿]

# of ions present   # of ions present   # of ions present

anion
formula

charge

# of ions present

anion
formula

charge

# of ions present

anion
formula

charge

# of ions present

(d) $Ti(SO_4)_2$
cation
formula

charge

# of ions present

anion
formula

charge

# of ions present

(e) $Mg(CH_3CO_2)_2$
cation
formula

charge

# of ions present

anion
formula

charge

# of ions present

8. KT6 3.P.022. [467305] Show Details

Give the formula for each of the following ionic compounds. (Type your answer using the format Al(OH)3 for Al(OH)$_3$.)

(a) ammonium phosphate

(b) magnesium perchlorate

(c) sodium sulfite

(d) potassium sulfide

(e) barium nitrite

9. KT6 3.P.027. [467583] Show Details

Give the name for each of the following binary, nonionic compounds.

(a) NF_3

(b) HI

(c) SCl_2

(d) PF_5

---

10. KT6 3.P.039. [489842]   Show Details

Sulfur trioxide, SO_3, is made industrially in enormous quantities by combining oxygen and sulfur dioxide, SO_2. What amount (moles) of SO_3 is represented by 2.00 kg of sulfur trioxide?

4.0 ☑ [   ] mol

How many molecules?

4.0 ☑ [   ] molecules

How many sulfur atoms?

4.0 ☑ [   ] atoms

How many oxygen atoms?

4.0 ☑ [   ] atoms

Submit for Testing