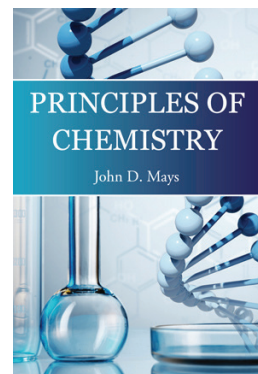


Principles of Chemistry

Errata

We always strive to make our textbooks as accurate as possible, but sadly, errors are a reality. We very much appreciate friends who report errata that are not included in this document!

Please send new errata to info@centripetalpress.com



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Principles of Chemistry (2016)

Chapter 1 Exercises

10.d. The answer in kelvins is $255.37\bar{2}$.

Chapter 2 Exercises

33c. 2.91×10^{22} atoms

Exam 2, #6: Answer should be 60.052 g/mol

Chapter 3 Exercises

20i. neodymium

23. No: $[\text{Rn}]7s^25f^{14}$

33c 2.91×10^{22}

38. Units in the answer should be cm^3 .

46e. 1300.05 bar

Chapter 4

p. 104 The opening of the first paragraph should read, "The first 92 elements...are found in nature. Elements 93–118 have been synthesized in laboratories..."

Chapter 4 Exercises

10. The problem statement should refer to cesium (Cs). Answer: $\text{Mg} < \text{Na} < \text{Ba} < \text{Cs}$

Chapter 5 Exercises

20a The Be—F bond is ionic

22. The molar mass of CaCO_3 is 100.087, giving a result of 1.8051×10^{24} .

Chapter 7 Exercises

14i. reaction products should be $\text{LiI}(\text{aq})$ and $\text{K}(\text{s})$

20. The question should say that the reaction takes place in excess *carbon monoxide*.

Chapter 9

14b. 4.20×10^2 kg

Chapter 10

34. The first answer is 3.46 m

46. 8.50 atm

Chapter 11 Exercises

4g. The answer is diprotic

21. Add the following note to the answers given in the text: These answers all show the formation of carbonic acid, H_2CO_3 . This acid is unstable and immediately breaks down to CO_2 and water. Thus, each equation could be shown as: $\dots + \text{CO}_2 + \text{H}_2\text{O}$.

25. The first two sentences of the question should read: According to the activity series of metals (Table 7.2), copper does not react with sulfuric acid. However, if the acid is hot enough and concentrated enough, copper reacts with H_2SO_4 in a single-replacement reaction.

28g. *basic*

Chapter 12 Exercises

For exercise 2, the following descriptions should accompany the equations in the answer key.

- a. Not a redox reaction.
- b. Cl is reduced; it is the oxidizing agent. O is oxidized; it is the reducing agent.
- c. S is reduced; it is the oxidizing agent. Br is oxidized; it is the reducing agent.
- d. Not a redox reaction.
- e. Cl is reduced; it is the oxidizing agent. I is oxidized; it is the reducing agent.
- f. N is reduced; it is the oxidizing agent. S is oxidized; it is the reducing agent.

For exercise 7, the following descriptions should accompany the equations in the answer key.

- a. oxidizing agent: Fe; reducing agent: S
- b. oxidizing agent: Cl; reducing agent: I
- c. oxidizing agent: Mn; reducing agent: C
- d. oxidizing agent: Cl; reducing agent: O
- e. oxidizing agent: N; reducing agent: Al
- f. oxidizing agent: Mn; reducing agent: Cl
- g. oxidizing agent: N; reducing agent: S
- h. oxidizing agent: Mn; reducing agent: Br

Digital Resources

Exam 2

#6: Answer should be 60.052 g/mol

Fall Semester Exam

- 1d. The compound should be Cl_2O . The answer given is for this compound.
4. Our given solution is correct except for the final result, which should be 1.549×10^{-19} J.
10. The molecular mass of propane used in our solution is incorrect. It should be 44.096 g/mol, giving a result of 8.194×10^{25} carbon atoms.
- 16.b. iron(III) oxide
20. Correct answer is $\text{Mg} < \text{Ca} < \text{Sr}^{2+} < \text{Sr} < \text{Ba}^{2+}$

Spring Semester Exam

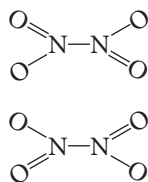
- 7b. The ionic equation should have $2\text{Ag}^+(\text{aq})$ on both sides (not $2\text{Ag}^{2+}(\text{aq})$)

Principles of Chemistry Solutions Manual

Chapter 3 Exercises

- 46e. 1300.05 bar

Chapter 5 Exercises



- 12 o. N_2O_4

Chapter 7

$$750 \text{ mg Al(OH)}_3 \cdot \frac{1 \text{ g}}{1000 \text{ mg}} \cdot \frac{\text{mol}}{78.0034 \text{ g}} = 0.00961 \text{ mol Al(OH)}_3$$

$$0.00961 \text{ mol Al(OH)}_3 \cdot \frac{3 \text{ mol HCl}}{1 \text{ mol Al(OH)}_3} = 0.0288 \text{ mol HCl}$$

19a.

Rounding this result to 2 sig digs gives 0.029 mol HCl.

$$750 \text{ mg Al(OH)}_3 \cdot \frac{1 \text{ g}}{1000 \text{ mg}} \cdot \frac{\text{mol}}{78.0034 \text{ g}} = 0.00961 \text{ mol Al(OH)}_3$$

$$0.00961 \text{ mol Al(OH)}_3 \cdot \frac{3 \text{ mol H}_2\text{O}}{1 \text{ mol Al(OH)}_3} = 0.0288 \text{ mol H}_2\text{O}$$

$$0.0288 \text{ mol H}_2\text{O} \cdot \frac{18.02 \text{ g}}{\text{mol}} = 0.5198 \text{ g H}_2\text{O}$$

19b.

After the 7-19b solution, write: Rounding this result to 2 sig digs gives 0.52 g H_2O .