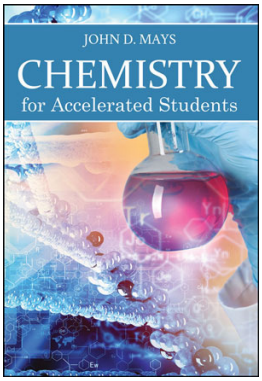
Chemistry for Accelerated Students



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@novarescienceandmath.com

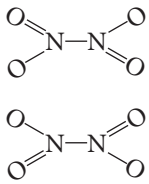
Last revised: May 14, 2020

Chemistry for Accelerated Students 2nd ed. (2018)

Chapter 1

28c. 2.91 x 10^{22} atoms

Chapter 3 Exercises



12 o. N_2O_4

22a. The Be—F bond is ionic

Chapter 5

13i. reaction products should be LiI(aq) and K(s)

Chapter 7

14b. 4.20 x 10^2 kg

Chapter 8

40. the first answer is 3.46 m

Chapter 9

4g. 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 break down to CO_2 and water. Thus, each equation could be shown as: ...+ CO_2 + H_2O.

Chapter 10 Text

52. 8.50 atm

Digital Resources/Resource CD

Exam 2

6. Answer should be 60.052 g/mol

Quiz 5

2. Result should be rounded to hundredths place, giving 24.31.

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.

9. 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.

Chemistry for Accelerated Students (2016)

Chapter 1 Exercises

16 Yb: [Xe]6s24f14

Es: [Rn]7s25f11

No: [Rn]7s25f14

28c. 2.91×10^{22} atoms

Chapter 2 text

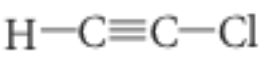
p. 52, The opening of the first paragraph should read, "The first 92 elements...are found in nature. Elements 93–118 have been synthesized in laboratories..."

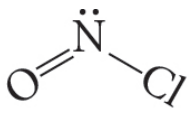
Chapter 2 Exercises

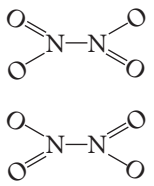
10. The problem statement should refer to cesium (Cs).

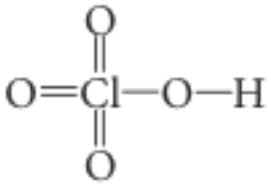
Answer: Mg < Na < Ba < Cs

Chapter 3 Answer Key

12a. 

12l. 

12 o.  N_2O_4

12s. 

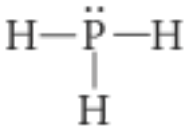
15d. perchoric acid

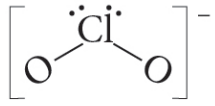
15f. bromous acid

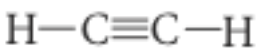
18i. $Cr(SO_3)_3$ chromium(VI) sulfite

22a. The Be—F bond is ionic

Chapter 4 Answer Key

2a.  tetrahedral/pyramidal

2g.  tetradehral/bent

2i.  linear/linear

3e. N: *sp2* O: *sp3*

3f. sp3

Chapter 5 Answer Key

13i. reaction products should be LiI(aq) and K(s)

14d. $2Al(s) + 3H_2SO_4(aq) \rightarrow Al_2(SO_4)_3(aq) + 3H_2(g)$

14f. $Ba(s) + 2H_2O(l) \rightarrow Ba(OH)_2(aq) + H_2(g)$

19a. $750 \text{ mg } Al(OH)_3 \cdot \frac{1 \text{ g}}{1000 \text{ mg}} \cdot \frac{\text{mol}}{78.0034 \text{ g}} = 0.00961 \text{ mol } Al(OH)_3$

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

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

19b.

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

$$0.00961 \text{ mol } Al(OH)_3 \cdot \frac{3 \text{ mol } H_2O}{1 \text{ mol } Al(OH)_3} = 0.0288 \text{ mol } H_2O$$

$$0.0288 \text{ mol } H_2O \cdot \frac{18.02 \text{ g}}{\text{mol}} = 0.5198 \text{ g } H_2O$$

Rounding this result to 2 sig digs gives 0.52 g H_2O.

Chapter 7

14b. 4.20 x 10^2 kg

Chapter 8

40. the first answer is 3.46 m

Chapter 9 Exercises

4g. 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 break down to CO_2 and water. Thus, each equation could be shown as: ...+ CO_2 + H_2O.

25. The first two sentences of the question should read: According to the activity series of metals (Table 5.2), 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.

28. Item (g) is *basic*.

36c.

$$20.87 \text{ mL} \cdot \frac{1 \text{ L}}{1000 \text{ mL}} \cdot 4.077 \times 10^{-2} \ M = 8.509 \times 10^{-4} \text{ mol } HClO_4$$

$Ca(OH)_2$ provides two moles of OH^- ions for each mole of $Ca(OH)_2$. So only half as many moles of $Ca(OH)_2$ are required to neutralize $HClO_4$.

$$\frac{8.509 \times 10^{-4} \text{ mol } HClO_4}{2} \rightarrow 4.254 \times 10^{-4} \text{ mol } Ca(OH)_2$$

$$M_{Ca(OH)_2} \cdot 22.94 \text{ mL} \cdot \frac{1 \text{ L}}{1000 \text{ mL}} = 4.254 \times 10^{-4} \text{ mol } Ca(OH)_2$$

$$M_{Ca(OH)_2} = \frac{4.254 \times 10^{-4} \text{ mol } Ca(OH)_2}{0.02294 \text{ L}} = 0.01855 \ M \ Ca(OH)_2$$

Chapter 10 Text

Table 10-3, p. 304, Second column, fourth row should read "decreases disorder."

52. 8.50 atm