

CHAPTER 8 STUDY GUIDE

Covalent Bonding

Section 8.1 The Covalent Bond

In your textbook, read about the nature of covalent bonds.

Use each of the terms below just once to complete the passage.

covalent bond	molecule	sigma bond	exothermic	pi bond
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When sharing of electrons occurs, the attachment between atoms that results is called a(n) **(1)** _____. When such an attachment is formed, bond dissociation energy is released, and the process is **(2)** _____. When two or more atoms bond by means of electron sharing, the resulting particle is called a(n) **(3)** _____. If the electrons shared are centered between the two atoms, the attachment is called a(n) **(4)** _____. If the sharing involves the overlap of parallel orbitals, the attachment is called a(n) **(5)** _____.

In your textbook, read about single and multiple bonds and bond strength.

Circle the letter of the choice that best completes the statement or answers the question.

- In what form do elements such as hydrogen, nitrogen, and oxygen normally occur?
 - as single atoms
 - as molecules containing two atoms
 - as molecules containing three atoms
 - as molecules containing four atoms
- How many electrons are shared in a double covalent bond?
 - none
 - one
 - two
 - four
- Bond length is the distance between
 - two molecules of the same substance.
 - the electrons in two attached atoms.
 - the nuclei of two attached atoms.
 - the orbitals of two attached atoms.
- Which of the following relationships relating to bond length is generally correct?
 - the shorter the bond, the stronger the bond
 - the shorter the bond, the weaker the bond
 - the shorter the bond, the fewer the electrons in it
 - the shorter the bond, the lower the bond dissociation energy

Chapter 9 Covalent Bonding Study Guide Answers

James E. Brady, Fred Senese



Chapter 9 Covalent Bonding Study Guide Answers:

Basic Concepts of Chemistry, 9e Study Guide and Solutions Manual Leo J. Malone, Theodore O. Dolter, 2012-01-03 The 9th edition of Malone's Basic Concepts of Chemistry provides many new and advanced features that continue to address general chemistry topics with an emphasis on outcomes assessment. New and advanced features include an objectives grid at the end of each chapter which ties the objectives to examples within the sections, assessment exercises at the end of each section, and relevant chapter problems at the end of each chapter. A new Math Check allows quick access to the needed basic skill. The first chapter now includes brief introductions to several fundamental chemical concepts, and Chapter Synthesis Problems have been added to the end of each chapter to bring key concepts into one encompassing problem. Every concept in the text is clearly illustrated with one or more step-by-step examples. Making it Real essays have been updated to present timely and engaging real-world applications, emphasizing the relevance of the material they are learning. This edition continues the end-of-chapter Student Workshop activities to cater to the many different learning styles and to engage users in the practical aspect of the material discussed in the chapter.

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