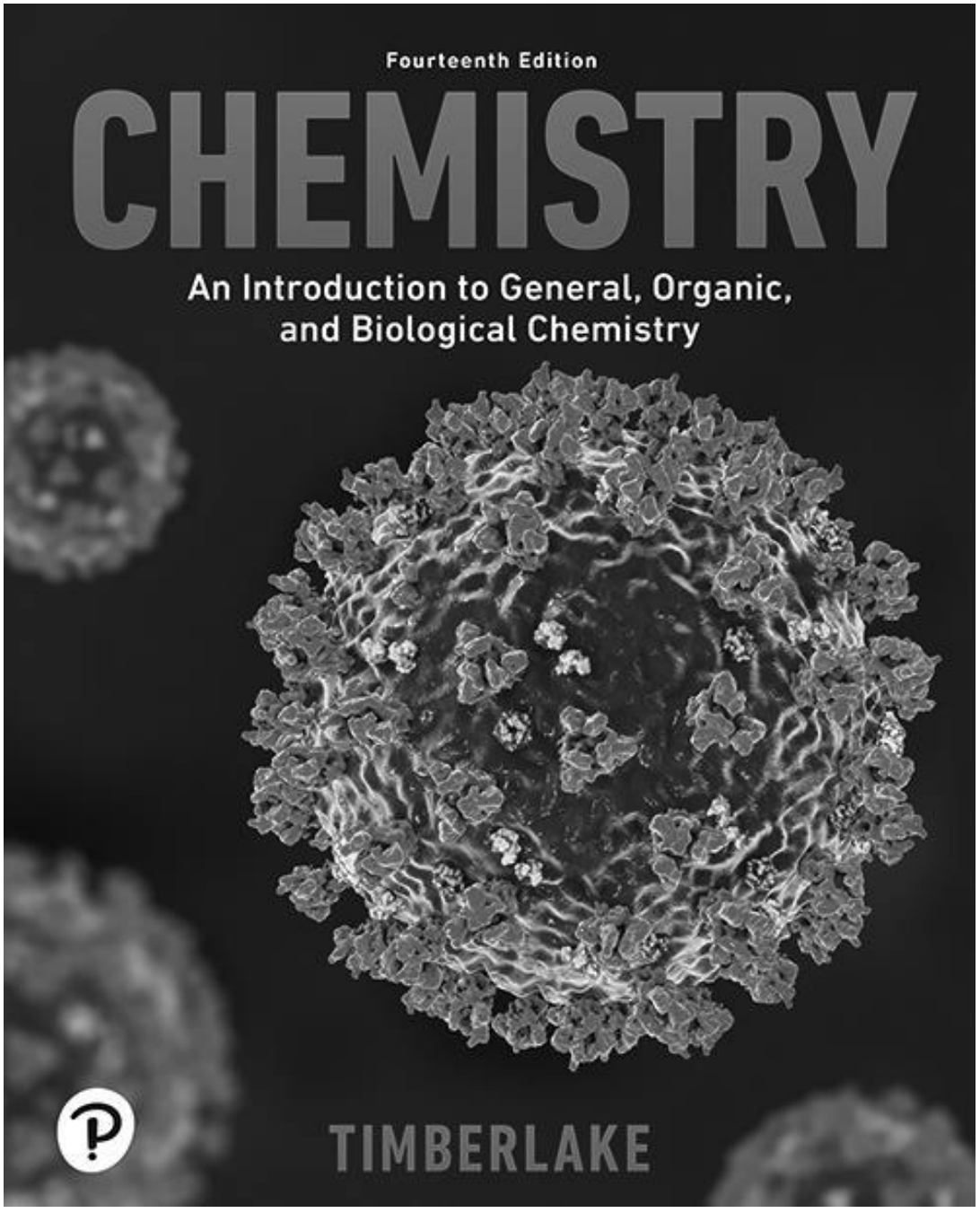
INSTRUCTOR SOLUTIONS MANUAL

Mark Quirie



INSTRUCTOR SOLUTIONS MANUAL

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Chemistry

An Introduction to General, Organic, and Biological Chemistry

Fourteenth Edition

Contents

Chemistry in Our Lives

Learning Goals

- Define the term chemistry, and identify chemicals.
- Describe the scientific method.
- Identify strategies that are effective for learning. Develop a study plan for learning chemistry.
- Review math concepts used in chemistry: place values, positive and negative numbers, percentages, solving equations, and interpreting graphs.
- Write a number in scientific notation.

Chapter Outline

Chapter Opener: Forensic Scientist

1.1 Chemistry and Chemicals

1.2 Scientific Method: Thinking Like a Scientist

Chemistry Link to Health: Early Chemist: Paracelsus

1.3 Studying and Learning Chemistry

1.4 Key Math Skills for Chemistry

1.5 Writing Numbers in Scientific Notation

Clinical Update: Forensic Evidence Helps Solve the Crime

Key Math Skills

- Identifying Place Values (1.4)
- Using Positive and Negative Numbers in Calculations (1.4)
- Calculating Percentages (1.4)
- Solving Equations (1.4)
- Interpreting Graphs (1.4)
- Writing Numbers in Scientific Notation (1.5)

Answers and Solutions to Text Problems

1.1 **a.** Chemistry is the study of the composition, structure, properties, and reactions of matter.

b. A chemical is a substance that has the same composition and properties wherever it is found.

1.2 Your friends may give a variety of answers, most of which will probably not agree with the definitions you provided.

1.3 Many chemicals are listed on a bottle of multivitamins such as vitamin A, vitamin B_3, vitamin B_{12}, vitamin C, and folic acid.