

and 24, all contain spectroscopy sections as well as examples and problems based on display spectra.

INTEGRATION OF TOPICS

Too often, in too many courses (and not just in organic chemistry), too many interesting topics never get covered because they are relegated to the end of the text as “special topic chapters” that, unfortunately, fall by the wayside as the end of the term approaches. We have, from the beginning and with each succeeding edition, looked for opportunities to integrate the most important of these “special” topics into the core material. I am pleased with the results. Typically, this integration is accomplished by breaking a topic into its component elements and linking each of those elements to one or more conceptually related core topics.

There is, for example, no end-of-text chapter entitled “Heterocyclic Compounds.” Rather, heteroatoms are defined in Chapter 1 and nonaromatic heterocyclic compounds introduced in Chapter 3; heterocyclic aromatic compounds are included in Chapter 11, and their electrophilic and nucleophilic aromatic substitution reactions described in Chapters 12 and 23, respectively. Heterocyclic compounds appear in numerous ways throughout the text and the biological role of two classes of them—the purines and pyrimidines—features prominently in the discussion of nucleic acids in Chapter 27.

The economic impact of synthetic polymers is too great to send them to the end of the book as a separate chapter or to group them with biopolymers. We regard polymers as a natural part of organic chemistry and pay attention to them throughout the text. The preparation of vinyl polymers is described in Chapter 6, polymer stereochemistry in Chapter 7, diene polymers in Chapter 10, Ziegler–Natta catalysis in Chapter 14, and condensation polymers in Chapter 20.

INTEGRATING THE CHEMISTRY CURRICULUM

I always thought that the general chemistry course would be improved if more organic chemists taught it, and have done just that myself for the past nine years. I now see that just as general chemistry can benefit from the perspective that an organic chemist brings to it, so can the teaching and learning of organic chemistry be improved by making the transition from general chemistry to organic smoother. Usually this is more a matter of style and terminology than content—an incremental rather than a radical change. I started making such changes in the third edition and continue here.

I liked, for example, writing the new boxed essay “Laws, Theories, and the Scientific Method” and placing it in Chapter 6. The scientific method is one thing that everyone who takes a college-level chemistry course should be familiar with, but most aren’t. It normally appears in Chapter 1 of general chemistry texts, before the students have enough factual knowledge to really understand it, and it’s rarely mentioned again. By the time our organic chemistry students get to “Laws, Theories, and the Scientific Method,” however, we have told them about the experimental *observations* that led to Markovnikov’s law, and how our understanding has progressed to the level of a broadly accepted *theory* based on carbocation stability. It makes a nice story. Let’s use it.

FEWER TOPICS EQUALS MORE HELP

By being selective in the topics we cover, we can include more material designed to help the student learn.

Solved sample problems: In addition to a generous number of end-of-chapter problems, the text includes more than 450 problems within the chapters themselves. Of these in-chapter problems approximately one-third are multipart exercises that contain a detailed solution to part (a) outlining the reasoning behind the answer.

Summary tables: Annotated summary tables have been a staple of *Organic Chemistry* ever since the first edition and have increased in number to more than 50. Well received by students and faculty alike, they remain one of the text’s strengths.

End-of-chapter summaries: Our experience with the summary tables prompted us to recast the narrative part of the end-of-chapter summaries into a more open, easier-to-read format.

SUPPLEMENTS

For the Student

Study Guide and Solutions Manual by Francis A. Carey and Robert C. Atkins. This valuable supplement provides solutions to all problems in the text. More than simply providing answers, most solutions guide the student with the reasoning behind each problem. In addition, each chapter of the *Study Guide and Solutions Manual* concludes with a Self-Test designed to assess the student’s mastery of the material.

Online Learning Center

At www.mhhe.com/carey, this comprehensive, exclusive Web site provides a wealth of electronic resources for