Organic Chemistry

EIGHTH EDITION

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Using the *E,Z* system to name alkenes was moved to Chapter 4, so now it appears immediately after using cis and trans to distinguish alkene stereoisomers.

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Catalytic hydrogenation and relative stabilities of alkenes were moved from Chapter 6 to Chapter 5 (thermodynamics), so they can be used to illustrate how $\Delta H°$ values can be used to determine relative stabilities.

All the reactions in Chapter 6 follow the same mechanism the first step is always addition of the electrophile to the sp^2 carbon bonded to the most hydrogens.

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Traditionally, electronic effects are taught so students can understand the directing effects of substituents on benzene rings. Now that most of the chemistry of benzene follows carbonyl chemistry, students need to know about electronic effects before they get to benzene chemistry (so they are better prepared for spectroscopy and carbonyl chemistry). Therefore, electronic effects are now discussed in Chapter 8 and used to teach students how substituents affect the pK_a values of phenols, benzoic acids, and anilinium ions. Electronic effects are then reviewed in the chapter on benzene.

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The two chapters in the previous edition on substitution and elimination reactions of alkenes have been combined into one chapter. The recent compelling evidence showing that secondary alkyl halides do not undergo S_N1 solvolysis reactions has allowed this material to be greatly simplified, so now it fits nicely into one chapter.

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The discussion of palladium-catalyzed coupling reactions has been expanded, and the cyclic catalytic mechanisms are shown.

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- Curved Arrows in Radical Systems: Drawing Curved Arrows
- Curved Arrows in Radical Systems: Drawing Resonance Contributors

In addition to the more than 170 spectroscopy problems in Chapters 13 and 14, there are 60 additional spectroscopy problems in the *Study Guide and Solutions Manual*.

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