DESCRIPTION

This book has so closely matched the requirements of its readership over the years that it has become the first choice for chemists worldwide.

Heterocyclic chemistry comprises at least half of all organic chemistry research worldwide. In particular, the vast majority of organic work done in the pharmaceutical and agrochemical industries is heterocyclic chemistry.

The fifth edition of Heterocyclic Chemistry maintains the principal objective of earlier editions – to teach the fundamentals of heterocyclic reactivity and synthesis in a way that is understandable to second- and third-year undergraduate chemistry students. The inclusion of more advanced and current material also makes the book a valuable reference text for postgraduate taught courses, postgraduate researchers, and chemists at all levels working with heterocyclic compounds in industry.

Fully updated and expanded to reflect important 21st century advances, the fifth edition of this classic text includes the following innovations:

• Extensive use of colour to highlight changes in structure and bonding during reactions

• Entirely new chapters on organometallic heterocyclic chemistry, heterocyclic natural products, especially in biochemical processes, and heterocycles in medicine

• New sections focusing on heterocyclic fluorine compounds, isotopically labeled heterocycles, and solid-phase chemistry, microwave heating and flow reactors in the heterocyclic context
Essential teaching material in the early chapters is followed by short chapters throughout the text which capture the essence of heterocyclic reactivity in concise resumés suitable as introductions or summaries, for example for examination preparation. Detailed, systematic discussions cover the reactivity and synthesis of all the important heterocyclic systems. Original references and references to reviews are given throughout the text, vital for postgraduate teaching and for research scientists. Problems, divided into straightforward revision exercises, and more challenging questions (with solutions available online), help the reader to understand and apply the principles of heterocyclic reactivity and synthesis.

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### ABOUT THE AUTHOR

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### NEW TO EDITION

- The authors have thoroughly reviewed the material included in the earlier Editions, to make amendments in the light of new knowledge, and to include many important 21st Century advances.

- Entirely, new sections include ‘Organometallic heterocyclic chemistry’, ‘Heterocycles in medicine’, reflecting the large part that heterocyclic chemistry plays in the pharmaceutical industry, and ‘Heterocycles in biochemistry; heterocyclic natural products’.

- Also included are new sections dealing explicitly with a number of topics important in the heterocyclic context: (i) heterocyclic fluorine compounds, (ii) isotopically labeled heterocycles, and (iii) the modern techniques of solid-phase chemistry, microwave heating and flow reactors.
Two colour diagrams indicate where a change in structure or bonding has taken place, facilitating comprehension and understanding of the chemical changes that are occurring.

FEATURES

- The use of colour in the schemes clearly highlights those parts of products (or intermediates) where a change in structure or bonding has taken place, facilitating comprehension and understanding of the chemical changes that are occurring.

- Essential teaching material in the early chapters aims to capture the essence of heterocyclic reactivity in concise resumes suitable either as introductions, or as revisions/summaries for examination preparation.

- Problems, divided into straightforward revision exercises and more challenging questions (with solutions as an Appendix), help the reader to understand and apply the principles of heterocyclic reactivity and synthesis.

- All of the most significant heterocyclic chemistry of the 20th Century and many important 21st Century advances are covered.

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