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## Volume Editors' Preface

This volume of **Science of Synthesis** includes a wide variety of five-membered heteroarenes containing three or more heteroatoms in the ring. The types and arrangements of heteroatoms in these structures are great. Many of the structures that contain combinations of carbon with nitrogen, oxygen, and sulfur are well-known to most organic chemists, but others that contain elements such as phosphorus, arsenic, antimony, and selenium among the heteroatoms are much less familiar. Most of the known ring systems that include combinations of these heteroatoms are included.

The main purpose of the volume, like others in the **Science of Synthesis** series, is to describe reliable methods of synthesis for structures in each product class. Other aspects of the chemistry of the ring systems are covered only briefly unless they are relevant to methods for preparation of compounds in the class. Substitution reactions that lead to new derivatives of the ring systems are included since they represent important methods of preparation in most of the product classes. The principal methods of synthesis are, however, those that involve construction of the ring systems from acyclic starting materials. A wide range of building blocks can potentially be used because of the presence of several heteroatoms in the target ring systems and this leads to a choice of several different methods of construction for most of the ring systems.

The commercial importance of several of the heteroarenes covered in this volume can hardly be overestimated since they are key components of some of the most common pharmaceuticals, agrochemicals, and dyestuffs and have many other applications. We may not be the only chemists who were initially unfamiliar with the chemistry and uses of some of the less common ring systems, or even of their existence: the (inorganic) pentaphosphide anion (Product Class 13.26) and its use as a ligand is a case in point. We are grateful to all the members of the team of experts who have contributed to the volume and have enabled us to include such a variety of chemistry. We owe particular thanks to those authors who produced contributions at short notice when we needed them. The quality of the volume depends to a great extent on the impressive skills of Dr. M. Fiona Shortt de Hernandez and her team at Thieme and we are most grateful for their unfailing cooperation, thoroughness and patience, especially during the periods when deadlines were short.

### Volume Editors

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