

Science of Synthesis, Volume 14; Edited by E. J. Thomas; Georg Thieme Verlag: Stuttgart, 2003; 1010 pp, hardback €2000, ISBN 3-13-118641-0 (RoW)/0-86577-953-8 (US)

Having agreed to review this publication I was overwhelmed with trepidation when the impressive, blue-bound volume containing over a thousand tightly filled pages, arrived at my desk. Volume 14, published in August 2003, is the sixth of the planned 9 volumes (of a total of 48 planned volumes in six general structure categories) dedicated to heteroarenes and deals with six membered heteroarenes and their benzannelated derivatives in which the heteroatom is oxygen, sulfur, selenium or tellurium.

With a multi-contributor work of this size and nature, it is usually inevitable for variations in style and approach to creep in to the reporting but this is not the case here. While the underlying reason for this lies in the strict house style laid down in its 'instructions to authors' by Thieme, credit too must be given to the volume editor, Jim Thomas, for his attention to detail in final manuscript production and his use of the minimal number of chapter contributors - thirteen in total of whom three (A. Nelson, W.-D. Rudolf and P. J. Murphy) are responsible for eight of the thirteen 'Product Class' chapters.

Naturally, in this general class of heteroarenes, the predominant chalcogen is oxygen and the first 5 chapters, constituting over two-thirds of the whole text, are given over to consideration of this basic heteroarene structural motif. The first chapter on 'Pyrilium Salts' by T. S. Balaban and A. T. Balaban is almost 200 pages long in itself and is followed by another extensive chapter on 'Benzopyrylium Salts' by N6grádi. The pattern is repeated with a chapter on 'Pyranones and Pyranthiones', written by Afarinkia and Vinader, being followed by a chapter on 'Benzopyranones and Benzopyranthiones', by Williams and Camp. This major section of the section of the book is completed by a chapter on '3-Oxidopyrylium Salts and Their Thio and Benzo-Fused Analogues', prepared by Nelson.

The next section deals with heteroarenes in which sulfur is the chalcogen and follows the order laid down in the first section with two offerings by Rudolf on 'Thiopyrylium Salts' and 'Benzothiopyrylium Salts', a chapter by

Faulkner, Whitehead and Aarons dealing with 'Thiopyranones and Thiopyranthiones' and a concluding chapter on 'Benzothiopyranones and Benzothiopyranthiones' by Nelson.

The less common chalcogens, selenium and tellurium are dealt with in four chapters, all contributed by Paddy Murphy. Following the now familiar order of the rest of this volume the themes of the first two chapters are 'Selenopyrylium and Benzoselenopyrylium Salts' and 'Selenopyranones and Benzoselenopyranones' followed by two equivalent chapters for their tellurium analogues.

The logical ordering of subject treatment throughout this book minimizes the 'hit-and-miss' aspect of subject browsing. In addition to a standardized subject coverage at the chapter level, the structure of each chapter follows the same general format as much as possible, covering synthesis of the target structures by ring closure, formation of a C-heteroatom bond, aromatization and substituent modification., reinforcing the logical construction and aiding the search for specific structures or reaction types. Finally, the detailed 'Keyword Index' and 'Author Index' at the end of the volume also help to break down into manageable portions what otherwise could have turned into an unwieldy and indigestible tome.

While, by the Volume Editor's own admission, Science of Synthesis is not intended to be comprehensive, this volume shares, with all its predecessors in this series, the broad subject coverage, high level of critical assessment, exhaustive referencing and inclusion of illustrative reaction protocols which will make the complete work (if the term 'complete' can ever be applied to such an immense project) a truly unique production in the area of organic chemistry. Each volume deservedly becomes an essential institutional reference work from the day that it is published. However, no matter how praiseworthy the aims of Science of Synthesis, the project would fail without the ability, enthusiasm and hard work of the contributing authors and the overriding diligence of each Volume Editor. In Volume 14 the Science of Synthesis series has been well served by its team of contributors.

Laurence Harwood, Reading University, UK