Tetrahedron Vol. 41, No. 17, p. xi, 1985
Pergamon Press Ltd. Printed in Great Britain

PREFACE

Some individual examples of additions of 1,3-dipoles (e.g. diazoalkanes, azides) to multiple bonds date back to the last century. However, the stage for a systematic exploration was not set until the early 1960s when Huisgen demonstrated impressively the overall concept of [3 + 2]-cycloadditions and its general application to the synthesis of five-membered heterocycles. It was, nevertheless, more than a decade later before this type of reaction became widely recognized as a strategic tool in target oriented synthesis.

The study and deployment of intramolecular versions has added an extra dimension to the versatility and selectivity of such processes which have served increasingly as the cornerstone in innovative and efficient syntheses of complex naturally occurring structures. Most of this work centres on nitrones and nitrile oxides, mainly because of their facile availability and the ease with which their adducts can be selectively modified. Very recently developed routes to the azomethine ylide dipole have opened an attractive access to the pyrrolidine skeleton.

These current trends are reflected by the content of this Symposium: five papers deal with intramolecular nitrone/olefin cyclizations (J. J. Tufariello, P. M. Wovkulich, W. R. Roush, R. L. Funk, W. Oppolzer), two articles are concerned with nitrile oxide/olefin additions (P. N. Confalone, V. Jäger) and four papers feature the preparation and cycloaddition of azomethine ylides (A. Padwa, G. A. Kraus, R. Grigg, T. Livinghouse). Most of these contributions address the challenging issue of natural product synthesis. Thus, elegant and fascinating approaches to structurally diverse alkaloids, amino sugars, amino acids and terpenes are described here.

It goes without saying that laboratories not represented here have also brilliantly contributed to this field. I hope, nevertheless, that this short Symposium provides a stimulating cross-section of the state of the art revealing the intriguing and immensely versatile potential of 1,3-dipolar additions in organic synthesis.

It remains to express my warmest thanks to the authors of this Symposium.

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