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SPECIAL PUBLICATION No. 28

Recent Advances in the Chemistry of **B-Lactam Antibiotics**

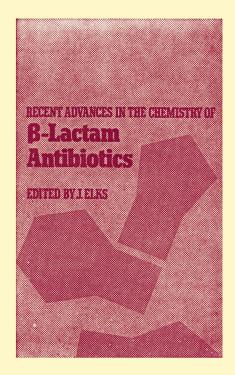
Edited by J. Elks

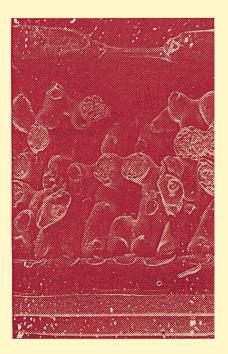
More than thirty years after the introduction of penicillin G into clinical practice, the B-lactams remain much the most widely used group of antibiotics.

Until a few years ago the chemistry of the \$\beta\$-lactam antibiotics was limited to changes on the periphery of the intact penam or cephem nucleus. Methods have now been developed for the cleavage of the thiazolidine ring of penicillins, modification or replacement of the residue attached to the \$\beta\$-lactam ring, and subsequent re-cyclisation to give a new penicillin, a cephalosporin, or a fused \$\beta\$-lactam system unknown in Nature. By such partially synthetic, as well as by new totally synthetic methods, a greatly increased range of structures is being produced, with the probability that some, at least, will possess valuable biological properties.

The Symposium on "Recent Advances in the Chemistry of β-Lactam Antibiotics" held in Cambridge in June 1976, reflected most of these lines of research and so provided a timely review of this rapidly unfolding topic. By the same token, this volume should provide some useful signposts to future developments,

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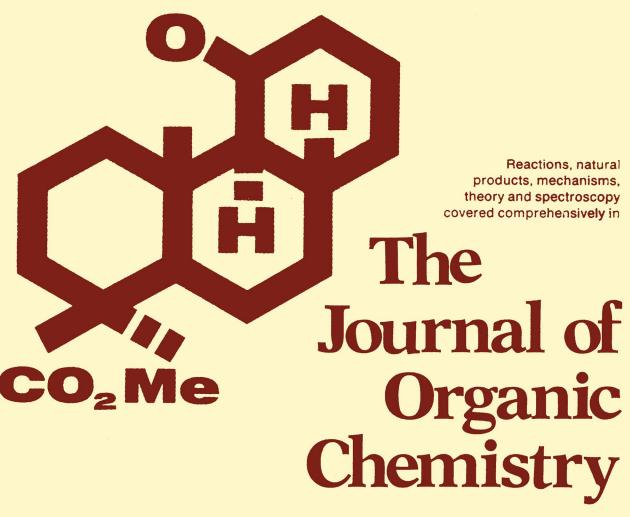
SPECIAL PUBLICATION No. 29

Herbicides and Fungicides Factors affecting their activity

Edited by N. R. McFARLANE, Shell Research Ltd.

A wider understanding of the factors affecting the biological activity of herbicides and fungicides provides complex challenges. This volume provides a historical and current perspective of the general areas, including future problems and opportunities, mode of action of some well-known fungicides and their use in practice, criteria affecting efficiency of penetration and translocation of some herbicides. It then goes on to deal with important current experimentation including the influence of adjuvants and humidity, the action of 2,4-dichlorophenoxyacetic acid, inorganic glasses for the slow release of fungicides and herbicides, and spirolactone fungicides related to benzoquinones. The final papers cover theoretical aspects including partition coefficients and systemic activity and the concept of optimal lipophilicity.

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