

Book review

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"Organic Chemistry of Sulfur", S. Oae, editor, Plenum Press, New York, 1977, ix + 713, \$40.00.

There are only limited resources to aid the student and researcher in keeping abreast of the fast moving field of organic sulfur chemistry. Apart from the biennial Specialist Periodical Reports on Sulfur, Selenium and Tellurium, occasional symposium volumes, and various monographs on special topics, the few available books presenting a general overview of organosulfur are mostly 15 years out of date.\* It is therefore gratifying to note the appearance of this 700 page volume edited by Professor Oae, who himself has contributed extensively to the rapid growth in this field. Oae has assembled an international group of experts to present well organized surveys of sulfur bonding, elemental sulfur and vulcanization, and functional groups including thiols, thiones, sulfides, disulfides and polysulfides, sulfoxides and sulfilimines, sulfonium salts, sulfones and sulfoximines, sulfinic acids and esters, and sulfonate and sulfate esters.

To his credit Oae has covered the field well with this "functional group" approach and has obtained from his contributors a satisfactory uniformity of organization within each chapter. Only a handful of errors have been found. There is, however, a serious weakness in this volume. Despite the phenomenal growth of organic sulfur chemistry in recent years, only about 10% of the several thousand references in the present volume are to post-1970 literature and of these, the most recent (1973) number

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\* Two recent books include a general monograph on sulfur chemistry, Eric Block, "Reactions of Organosulfur Compounds," Academic Press, New York, 1978, and a general discussion of bonding in s, sp and p compounds, H. Kwart and K. King, "The Question of d-Orbital Involvement in the Chemistry of Silicon, Phosphorus and Sulfur," Verlag Chemie Weinheim, 1977.

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only half a dozen. Thus omitted from consideration, or given only limited mention, are such topics as umpolung through sulfur-containing reagents, salt effects on conformational preferences of  $\alpha$ -sulfinyl carbanions, current theoretical work on d orbital effects in sulfur compounds, thiocarbonyl ylides, thiabenzenes as ylides, recent synthetic applications of the thio-Claisen reaction, sulfur compounds in cyclophane synthesis, recent work on the equilibrium acidities of sulfur compounds in DMSO, and a large number of recent applications of sulfides, sulfoxides, sulfones and sulfur ylides in the synthesis of natural products.

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