

The Organic Chemistry of Tellurium; by Kurt J. Irgolic, Gordon and Breach, New York/London/Paris, 1974, xiv + 452 pages, £12.80.

This is a timely compendium which summarizes that fairly limited body of knowledge concerning the organic chemistry of tellurium, Research published through 1971 is reviewed, with the number of references cited (557) being close to the total number of papers published on organic tellurium chemistry.

The emphasis is on methods of synthesis and reactions of organytellurium compounds as these topics occupy over three-fourths of the text (Chapters IV-XII). Chapter IV presents a broad outline of methods for the introduction of tellurium into organic molecules. The material in Chapter IV could have been worked into subsequent chapters and would have resulted in less repetition and better continuity. Chapters V through XII cover synthetic routes to individual classes of tellurium compounds in more detail, starting with tellurocyanates and related compounds and finishing with heterocyclic tellurium compounds. The bulk of the material in Chapters IV and VI through XII covers standard reactions and synthetic routes for organytellurium compounds. An exception is a lengthy section in Chapter XI which treats organic tellurium compounds as ligands (mostly R_2Te and RTe^-) in metal carbonyl and organometallic complexes. In each chapter extensive tables listing compounds, preparative routes and yields, properties and references provide a valuable reference source. The manner in which compounds are listed varies, and I would have preferred to see the consistent use of formulas in all tables.

Chapter XIV presents and discusses in a phenomenological fashion spectroscopic and structural data for organic tellurium compounds. The tables of data will probably be of limited utility to the serious investigator but will provide ready access to the original literature. Other brief chapters on the element, nomenclature, biological aspects, analytical techniques and tellurium containing polymers round out this review.

Less than a dozen errors were found in the text with most of them being obvious and not serious (e.g. formulas 5 and 78). In section VI. C. 2., the reactions of $RTeX_3$ with thiourea are reported when, in fact, tetramethylthiourea was utilized. The compounds are correctly formulated in Table XIV-6.

As a compendium this text will be useful to workers in the field in pointing out research-deficient areas for future endeavors. To those who on occasion seek to prepare a particular organic tellurium compound this text will provide a ready entry to the literature. The author correctly states in his Preface that "This volume should serve as the starting point for further investigations, making available the thus far accumulated knowledge of organic tellurium chemistry in concentrated form".

Office of Naval Research
Arlington, Virginia 22217
(U.S.A.)

KENNETH J. WYNNE