Free Radicals in Inorganic Chemistry. Advances in Chemistry Series, No. 36. Edited by ROBERT F. GOULD. American Chemical Society, 1155 Sixteenth St., N.W., Washington 6, D. C. 1962. 165 pp. 15.5 × 23.5 cm. $7.

The study of inorganic free radicals has received considerable impetus in recent years from the application of relatively new physical techniques in free radical chemistry. The results have stimulated the extension of standard chemical techniques to these studies, and this issue of the Advances in Chemistry Series reports the papers from a symposium convened in Atlantic City in Sept. 1962 for the purpose of giving a status report on the field of the inorganic chemistry of free radicals.

The papers are divided into several major topics. There are six papers discussing the application of electron paramagnetic (spin) resonance, one (Basco) dealing predominantly with the optical spectroscopy of inorganic radicals, one (Foner and Hudson) on mass spectrometric techniques, one (Page) on the use of the magnetron principle to study electron affinities of free radicals and atoms, and nine on classical chemical techniques. The paper by Johnson is included in both the first and last categories, making seventeen papers in all. Together they form a comprehensive picture of the status of free radical research in inorganic chemistry as of the Fall of 1962.

Most of the results reported in these papers have appeared in print elsewhere. The value of this compendium is the collection of results from widely different technical approaches in one volume, thereby aiding the reader in evaluating these techniques for his own use.

The following is a list of most of the free radicals studied or postulated: S, CS, CH, CH_2, CH_3, CF_3, SiH_3, I, Cl, Br, F, O, NO, NO_2, NH, NH_2, NF_2, N_2H_3, $HN_2(CH_3)_2$, H_2CN, H, OH, HO_2, O_3, CN, C_2, C_3, HNO, HCO, RCO, NCO, PH, PH_2, BH, SF_6, SO_3F, ClO, ClO_2, ClO_3, C_2H_5, C_2H_3, HS, SCN, C_3H_7, C_4H_9, C_6H_5, $C_6H_5CH_2$, SO, SO_2^-, SO_3^-, PO_3^{2-}, HPO_2^-, Cl_2^-, CO_2^-, O_2^-, O_3^-, NO_2^{2-}, NO_3, N_2^-, $N(SO_3)_2^{2-}$, NO_3^{2-} R_2NO, R_2CO^-, NH_3^+, $-O_3SNH_2^+$, $ON(SO_3)_2^{2-}$.

DEPARTMENT OF PHYSICS R. H. SANDS
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

BOOKS RECEIVED

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"Flame Spectroscopy." Parts I and III by RADU MAVRODINEANU. Part II by HENRI BOITEUX. John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 10016. 1965. xiv + 721 pp. $42.

H. H. JAFFÉ and MILTON ORCHIN. "Symmetry in Chemistry." John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y, 10016. 1965. x + 191 pp. Clothbound, $5.50; paperbound. $3.95.