

sequence of this barrier effect, the thermodynamic activity of the migrant is decreased, thus causing a decrease in its mobility." The most charitable view of this sentence and the equations which derive the relation based on it is that the term "thermodynamic activity" slipped into the text by accident, and that the authors really intend it to represent some quite different empirical quantity.

Nevertheless, "Ionography" should be a book of great utility to all those interested in the separation of natural products or in their characterization by the electrophoretic method. The field is a very new one, as the dates of the references clearly show, and the authors have reviewed it completely. Even though, as they themselves admit, their own point of view is stressed, other points of view are given full airing. No other source of reference to the complete literature of electrophoresis in supported media is available.

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The Chemistry of Petroleum Hydrocarbons. Volume I.

Edited by BENJAMIN T. BROOKS, CECIL E. BOORD, STEWART S. KURTZ, and LOUIS SCHMERLING. Reinhold Publishing Corporation, 430 Park Avenue, New York 22, N. Y. 1955. viii + 664 pp. 16 × 23 cm. Price, \$18.00. **Volume II.** vi + 448 pp. 16 × 23 cm. Price, \$13.50. **Volume III.** vii + 690 pp. 16 × 23 cm. Price, \$18.00.

This compendium is very appropriately dedicated to Vladimir N. Ipatieff and Frank C. Whitmore who contributed so voluminously to the development of this subject. The set of books represents a tremendous undertaking and the reviewer is reminded of two reviews of "Textbook of Physical Chemistry" by Glasstone, which appeared in *Trans. Faraday Soc.*, **38**, 120, 214 (1942). The first causti-

cally criticizes the attempt to cover all of physical chemistry in a single work. The second views it as a noble and well deserved effort, stating that it is a guide book to the subject. This reviewer feels that the present work is of the latter nature and that Dr. Brooks and his co-editors are deserving of high compliment. They have brought together a large number of contributing experts who have done on the whole a splendid job.

Volume I is concerned primarily with the physical chemistry and the physical processes of petroleum and petroleum fractions, although it also embraces some synthetic work and the Fischer-Tropsch reaction. The latter two subjects might have been more appropriately included in Volume II (the smallest of the three) and in their stead to have presented discussions of the thermodynamic properties of hydrocarbons, such as free energies of formation, equilibria, heats of hydrogenation and bond energies.

Volumes II and III deal with chemical reactions of petroleum hydrocarbons and, hence, are probably of the greater interest to most chemists. Space here does not permit a definite description of the volumes' contents. The omission of a discussion of the phenomenon of "knock" and its relation to chemical composition is regrettable. Likewise it is unfortunate that the current studies on low pressure ethylene polymerization (such as "Ziegler chemistry" and the Phillips Company's work) have been reported so recently as to have precluded inclusion of them in the chapter on this subject. Another field which is virtually ignored is that of both "normal" (ionic) and "abnormal" (free radical) additions to olefins.

The Publishers have done an excellent job in preparing this work and only a few minor errors have been found. The prices may seem high but, under the circumstances, are probably justified, as such a large amount of material is covered. The set is recommended to those chemists who are interested in petroleum.

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