3.76 and 3.85 (each 1 H, each d, J = 9 Hz, 4-CH_2), 5.22 (1 H, q, J = 5 Hz, OCH).

Biochemical Methods. (a) Binding Studies. Membranes were prepared from 250–300-g Male Sprague–Dawley rats as described previously[5] and resuspended in 20 mM HEPES Krebs' buffer (pH 7.4) for [^{3}H]-*N*-methylscopolamine binding and 20 mM HEPES buffer (pH 7.4) for [^{3}H]oxotremorine M binding (1 mL total assay volume). Assays were incubated at 30 °C for 60 and 40 min, respectively, and were terminated by filtration through Whatman GF/B and 0.05% polyethylene imine presoaked GF/C filters by using a Brandel cell harvester. Drug displacement curves were assessed by using 0.1 nM [^{3}H]-*N*-methylscopolamine and 3.0 nM [^{3}H]oxotremorine-M.

(b) Hydrolysis of Inositol Phospholipids. Tissue slices of rat cerebral cortex (350 × 350 μm) were prepared by using a McIlwain tissue chopper and were washed three times in Krebs–bicarbonate buffer, followed by a 30-min preincubation in the presence of [^{3}H]-*myo*-2-inositol, 2 μCi, (Amersham International, TRK 807 13.8 Ci/mmol) and 10 mM lithium. Tissue slices were subsequently incubated in the presence of muscarinic agonists for 45 min in a 250-μL volume. The reaction was terminated by addition of 940 μL of chloroform/methanol (1:2), and water-soluble inositol monophosphates were isolated by ion-exchange chromatography. The elution methods have previously been described in detail by Brown and colleagues.[19] Radioactivity in the inositol monophosphate fraction was estimated by liquid scintillation spectrometry. All drugs were added in a volume of 10 μL.

(19) Brown, E.; Kendall, D. A.; Nahorski, S. R. *J. Neurochem.* **1984**, *42*, 1379.

Book Reviews

Writing the Laboratory Notebook. By Howard M. Kanare. American Chemical Society, Washington, D.C. 1985. xii + 146 pp. 17 × 24 cm. ISBN 0-8412-0906-5. $19.95.

The aim of this book is to provide laboratory workers and others vitally concerned with recording and use of experimental data with guidelines to record the course of experimentation. Comment on the dustjacket tells us that this is the first text that has "thoroughly covered the myriad aspects of writing and using a laboratory notebook". Mr. Kanare is a chemist and materials scientist but he has structured the book to appeal to a broad scientific readership. Has the author reached his goal? The answer is ambivalent, "Yes" in some ways, "No" in others. The book is concisely and clearly written with frequent useful summaries. Senior and junior personnel will both find much that is instructive in the Reasons, Ethical Aspects, and Patents chapters (1, 3, and 7, respectively).

The Management and Organizing chapters (4 and 5) are also very useful ones. The Ethics and Patents chapters (3 and 7), which should be back-to-back, are critical ones for industrial scientists. Confidentiality is not stressed adequately and the importance of establishing a good working relationship with the patent agent responsible for the area of interest was omitted. The frequently used practice of using separate "idea" notebooks also failed to be mentioned.

Managers charged with responsibilities for setting up organizational record-keeping procedures will find Chapters 4 and 2 (Management and Hardware) valuable.

Scientists outside of chemistry and electronics will not find this book very useful; scope should have been confined to chemists. And chemists must review the book carefully before recommending it to students and junior employees. The transformation of the scientist from "activist"—planning and conducting an experiment—to "judge"—dispassionately weighing the data—and recording both aspects objectively is not stressed. The examples of a well-written notebook (Chapter 6) are not well-chosen. The experiments are trivial and the author advocates a first-person style of writing notes which has led to a wordy, overly personalized series of model pages.

Why the author has failed to reference ACS journals which demand clear, well-written experimentals for publication or other experimental record works, such as "Organic Syntheses", is difficult to understand.

The topic of supplementary records (spectra, chromatography traces, etc.) and how to key them to the notebook is treated too lightly.

The Electronic Notebook (Chapter 8) compares use of a computer terminal for experimental data entry with the traditional handwritten method. Some chemists may have a choice; more typically, the dilemma is how to correlate manual and electronic data records. This chapter is of little aid in solving this problem.

The text is reasonably error-free with high-quality paper and binding and is reasonably priced. The index is adequate while the references vary from appropriate and recent to nonexistent depending on the chapter.

In summary, this text is a useful teaching aid/reference provided that the teacher or supervisor uses discretion.

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Radiation Chemistry. Principles and Applications. Edited by Farhataziz and Michael A. J. Rodgers. VCH, New York. 1987. xii + 641 pp. 16 × 24 cm. ISBN 0-89573-127-4. $95.00.

In its broadest sense radiation chemistry implies the study of chemical changes induced by the interaction of any form of radiation with matter; however it is generally agreed that the scope of the field embraces only those photons (γ and X-rays) and particles (electrons, protons, α and other heavy particles) which possess sufficient energy to induce ionization of the components of a material. Thus it is distinguished from photochemistry, which is concerned with lower energy photons generally capable of producing excited states of molecules but not ions as primary products. In accordance with this, the editors' intent is to provide a broad exposition of radiation chemistry and a description of some scientific areas which depend on it, suitable for students of the field, whether graduate students newly entering the field or practicing scientists in other areas desiring information on radiation chemistry.

The volume consists of 20 chapters, authored by a variety of specialists. The first four chapters are introductory, laying out fundamentals of the interactions of photons and charged particles with matter, the initial products of these interactions, detection methods and instrumentation, and an introduction to the kinetics governing their behavior. The next two chapters are theoretical in nature, covering early phenomena in ionization processes, the structure of ionization tracks and reactions therein. The middle group of chapters develop specific fundamental areas, such as the properties and reactions of the electron and the solvated electron, the radiation chemistry of gases, aqueous and organic liquids, colloidal aggregates, and organic solids. The final several chapters describe the application of radiation chemistry fundamentals to radiation science of polymers, biopolymers, and other biochemicals and the radiation biology of microorganisms and mammalian cells.

Just as the first two-thirds of the book demonstrates the maturity of the field in terms of fundamental studies in simple inorganic and organic systems, so the last several chapters show that there is much current interest in more complex systems, such