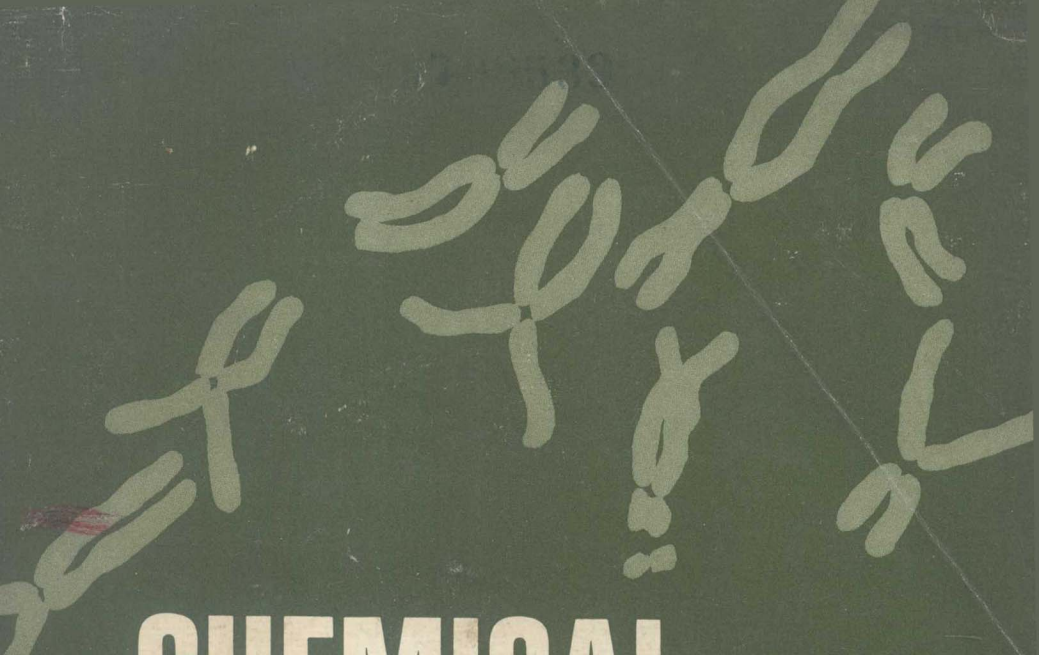

CHEMICAL MUTAGENS

Principles and Methods for Their Detection

Volume 3

Edited by A. Hollaender

Sponsored by the Environmental Mutagen Society

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Biology Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee
and
University of Tennessee, Knoxville

with the cooperation of
ERNST FREESE, KURT HIRSCHHORN,
AND MARVIN LEGATOR

PLENUM PRESS • NEW YORK-LONDON • 1973

First Printing - August 1973
Second Printing - August 1977

Library of Congress Catalog Card Number 73-128505
ISBN 0-306-37103-0

A Division of Plenum Publishing Corporation
227 West 17th Street, New York, N.Y. 10011

United Kingdom edition published by Plenum Press, London
A Division of Plenum Publishing Company, Ltd.
Davis House (4th Floor), 8 Scrubs Lane, Harlesden, London, NW10 6 SE, England

Printed in the United States of America

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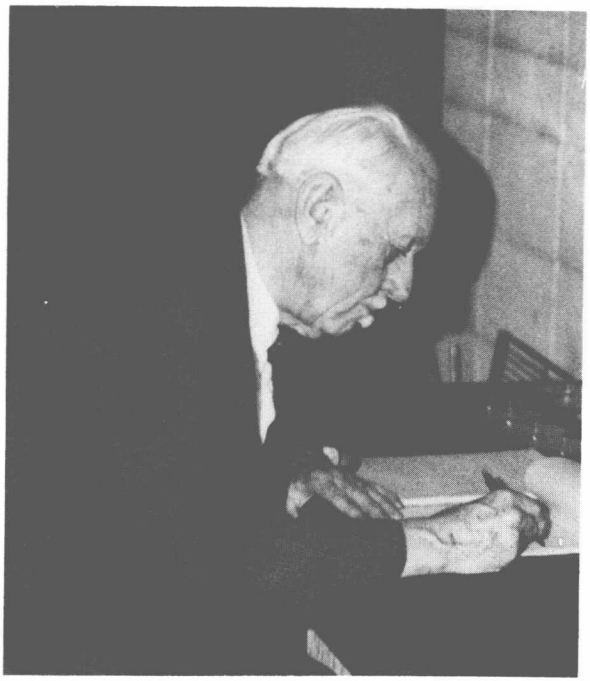

Dedicated to Professor Karl Sax
on the Occasion of His Eightieth Birthday

Professor Sax has long been recognized as the founder of the American school of experimental chromosome cytology. With his students and his wife, Hally Sax, he laid the foundations for much of our present knowledge concerning the effects of radiation and chemicals on the induction of chromosome aberrations. In a more fundamental sense, he employed these agents as tools to investigate chromosome structure and function. His interests and influence have not been limited to purely academic problems but have extended to relevant social questions as well. Before most scientists and the public were aware of the hazards of certain drugs and food additives, Professor Sax was studying their effects on cells, and long before the widespread concern with overpopulation, Professor Sax was warning us through his writing and lecturing of the dangers that lay ahead. It is hoped that Karl and Hally Sax will continue for many years to explore the intricacies of chromosomes with that special combination of insight, zest, and grace that is their trademark.

Preface

The ready acceptance and wide demand for copies of the first two volumes of *Chemical Mutagens: Principles and Methods for Their Detection* have demonstrated the need for wider dissemination of information on this timely and urgent subject. Therefore, it was imperative that a third volume be prepared to include more detailed discussions on techniques of some of the methods that were presented from a theoretical point of view in the first two volumes, and to update this rapidly expanding field with current findings and the new developments that have taken place in the past three years. Also included is a special chapter by Dr. Charlotte Auerbach giving the historical background of the discovery of chemical mutagenesis.

Methods for recognizing mutagenic compounds *in vitro* are a necessary preliminary step toward arriving at satisfactory solutions for recognizing significant mutation rates in man, which must be done before our test-tube methods of detection can be considered reliable. Two chapters in this volume make important contributions to this problem.

Due to the increasing activity in efforts to perfect techniques for detecting chemical mutagens and their effects on man, it is planned to continue this series of volumes as necessary to keep abreast of current findings.

Alexander Hollaender

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