

Third Edition

ORGANIC CHEMISTRY

ROBERT THORNTON MORRISON

ROBERT NEILSON BOYD

New York University

ALLYN AND BACON, INC.

BOSTON

© COPYRIGHT 1973 BY ALLYN AND BACON, INC
© COPYRIGHT 1966 BY ALLYN AND BACON, INC.
© COPYRIGHT 1959 BY ALLYN AND BACON, INC.
470 ATLANTIC AVENUE, BOSTON

ALL RIGHTS RESERVED

No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

LIBRARY OF CONGRESS CATALOG CARD NUMBER: 7



Sixth printing August, 1974

PRINTED IN THE UNITED STATES OF AMERICA

Contents

<i>Preface</i>	vii
<i>Acknowledgments</i>	xi

PART I The Fundamentals

1. Structure and Properties	1
2. Methane <i>Energy of Activation. Transition State</i>	40
3. Alkanes <i>Free-Radical Substitution</i>	73
4. Stereochemistry I. Stereoisomers	115
5. Alkenes I. Structure and Preparation <i>Elimination</i>	143
6. Alkenes II. Reactions of the Carbon–Carbon Double Bond <i>Electrophilic and Free-Radical Addition</i>	177
7. Stereochemistry II. Preparation and Reactions of Stereoisomers	225
8. Alkynes and Dienes	248
9. Alicyclic Hydrocarbons	283
10. Benzene <i>Aromatic Character</i>	318
11. Electrophilic Aromatic Substitution	337
12. Arenes	372
13. Spectroscopy and Structure	405

14. Alkyl Halides	<i>Nucleophilic Aliphatic Substitution. Elimination</i>	452
15. Alcohols I.	Preparation and Physical Properties	492
16. Alcohols II.	Reactions	518
17. Ethers and Epoxides		552
18. Carboxylic Acids		579
19. Aldehydes and Ketones	<i>Nucleophilic Addition</i>	617
20. Functional Derivatives of Carboxylic Acids	<i>Nucleophilic Acyl Substitution</i>	658
21. Carbanions I	<i>Aldol and Claisen Condensations</i>	701
22. Amines I.	Preparation and Physical Properties	727
23. Amines II.	Reactions	745
24. Phenols		787

PART II Special Topics

25. Aryl Halides	<i>Nucleophilic Aromatic Substitution</i>	817
26. Carbanions II	<i>Malonic Ester and Acetoacetic Ester Syntheses</i>	846
27. α,β -Unsaturated Carbonyl Compounds	<i>Conjugate Addition</i>	865
28. Rearrangements and Neighboring Group Effects	<i>Nonclassical Ions</i>	885
29. Molecular Orbitals.	Orbital Symmetry	925
30. Polynuclear Aromatic Compounds		967
31. Heterocyclic Compounds		1002
32. Macromolecules.	Polymers and Polymerization	1027

PART III Biomolecules

33. Fats	1055
34. Carbohydrates I. Monosaccharides	1070
35. Carbohydrates II. Disaccharides and Polysaccharides	1112
36. Amino Acids and Proteins	1132
37. Biochemical Processes <i>Molecular Biology</i>	1164
	<i>Suggested Readings</i> 1185
	<i>Answers to Problems</i> 1193
	<i>Index</i> 1211

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.