

Contents

List of Contributors v
 Preface xiii

■ Efficiency in Organic Synthesis

- | | |
|---|-----|
| 1. Transition Metal Organometallics in Organic Syntheses | 3 |
| G. Wilke, K. Angermund, G. Fink, C. Krieger, Th. Leven,
A. Mollbach, J. Monkiewicz, S. Rink, H. Schwager, and K. H. Walter | |
| 2. Metal Catalyzed Routes to Carbonyl Compounds | 19 |
| H. Alper | |
| 3. Palladium-catalyzed Organic Reactions in Aqueous Media | 31 |
| I. P. Beletskaya | |
| 4. Selective Catalysts and New Reagents for Control in Organic Synthesis | 43 |
| K. Smith | |
| 5. Enantioselective Asymmetric Synthesis Using Chiral Lithium Amides | 67 |
| K. Koga | |
| 6. The CN(R,S) Synthons as Tools for Asymmetric Synthesis | 87 |
| H.-P. Husson | |
| 7. Acyclic Diastereoselective Synthesis Using Functionalized Thiazoles.
Routes to Carbohydrates and Related Natural Products | 105 |
| A. Dondoni | |
| 8. Structure and Reactivity of Pentacoordinate Silicates and
Application to Organic Synthesis | 129 |
| H. Sakurai | |
| 9. Crystal Structure and Reactivity (Selectivity) of Oxygen (Aryloxy;
Carbamoyloxy; Silyloxy)-Substituted Lithium Compounds | 159 |
| G. Boche, F. Haller, K. Harms, D. Hoppe,
W. Koch, J. Lohrenz, M. Marsch, A. Opel,
C. Thiimmler, and O. Zschage | |
| 10. Fine Chemistry with Small Rings—Cyclopropyl Compounds for
Efficient Syntheses | 181 |
| A. de Meijere | |

11. The Tandem Cycloaddition Chemistry of Nitroalkenes S. E. Denmark, C. B. W. Senanayake, M. E. Schnute, Y.-C. Moon, G. Dai-Ho, and D. S. Middleton	215
11. Organic Synthesis for Materials Science	
12. Syntheses, Properties and Uses of Alkalides and Electrides J. L. Dye, J. E. Jackson, and P. Cauliez	243
13. Polyanilines: Synthesis, Chemistry and Processing A. G. MacDiarmid and A. J. Epstein	271
14. Synthesis and Conducting Properties of Poly[(disilanylene)- ethynylenes] M. Ishikawa, A. Kunai, T. Horio, and T. Hatano	299
15. Molecular Design of Organic Materials for Optoelectronics J. O. Morley	321
16. Synthesis of Stable Radicals for the Study of Potential Organic Magnets L. Y. Chiang, R. B. Upasani, and J. W. Swirczewski	347
17. Organic Nonlinear Optical Materials and Their Molecular Design A. Kakuta	379
18. The Synthesis of Novel Organic Materials for Fundamental Studies in Nonlinear Optics D. S. Donald	407
III. Organic Synthesis for Life Science	
19. Chemistry of Lantibiotics T. Shiba	429
20. Microbial and Enzymatic Processes for the Production of Biologically and Chemically Useful Compounds H. Yamada and S. Shimizu	455
21. Progress Toward the Generation of Antibodies Containing Catalytic Dyads D. Y. Jackson and P. G. Schultz	469
22. Selective Oxidations in Organic Chemistry Using Biomimetic Catalysts D. Mansuy	477
23. Chemical Structure of Ion Channels Y. Kanaoka	499
Index	519