

JOC *Recent Reviews*

Number 68

compiled by Veronica M. Cornel

Department of Chemistry, Reedley College, 339 West Carpenter Avenue, Reedley, California 93654

vmcornel@scccd.org

Reviews are listed in order of appearance in the sources indicated. In multidisciplinary review journals, only those reviews which fall within the scope of this Journal are included. Sources are listed alphabetically in three categories: regularly issued review journals and series volumes, contributed volumes, and other monographs. Titles are numbered serially, and these numbers are used for reference in the index.

Major English-language sources of critical reviews are covered. Encyclopedic treatises, annual surveys such as *Specialist Periodical Reports*, and compilations of symposia proceedings are omitted.

This installment of Recent Reviews covers principally the latter part of the 2002 literature. Previous installment: *J. Org. Chem.* **2003**, 68(1), 198–205.

Supporting Information Available: A file containing this Recent Review compilation in Microsoft Word and the data in rtf format. This material is available free of charge via the Internet at <http://pubs.acs.org>.

Regularly Issued Journals and Series Volumes

Accounts of Chemical Research

1. Xie, Z. Cyclopentadienyl-Carboranyl Hybrid Compounds: A New Class of Versatile Ligands for Organometallic Chemistry. **2003**, 36(1), 1–9.

2. Taggi, A. E.; Hafez, A. M.; Lectka, T. α -Imino Esters: Versatile Substrates for the Catalytic, Asymmetric Synthesis of α - and β -Amino Acids and β -Lactams. **2003**, 36(1), 10–19.

3. Lautens, M.; Fagnou, K.; Hiebert, S. Transition Metal-Catalyzed Enantioselective Ring-Opening Reactions of Oxabicyclic Alkenes. **2003**, 36(1), 48–58.

4. Weinreb, S. M. Lepadiformine: A Case Study of the Value of Total Synthesis in Natural Product Structure Elucidation. **2003**, 36(1), 59–65.

5. Mayr, H.; Kempf, B.; Ofial, A. R. π -Nucleophilicity in Carbon–Carbon Bond-Forming Reactions. **2003**, 36(1), 66–77.

6. Lee, K.; Song, H.; Park, J. T. [60]Fullerene–Metal Cluster Complexes: Novel Bonding Modes and Electronic Communication. **2003**, 36(1), 78–86.

7. Williams, R. M.; Cox, R. J. Paraherquamides, Brevianamides, and Asperparalines: Laboratory Synthesis and Biosynthesis. An Interim Report. **2003**, 36(2), 127–39.

8. Jones, W. D. Isotope Effects in C–H Bond Activation Reactions by Transition Metals. **2003**, 36(2), 140–6.

Advanced Synthesis and Catalysis

9. Sinou, D. Asymmetric Organometallic-Catalyzed Reactions in Aqueous Media. **2002**, 344(3–4), 221–37.

10. Dwars, T.; Oehme, G. Complex-Catalyzed Hydrogenation Reactions in Aqueous Media. **2002**, 344(3–4), 239–60.

11. Gansaeuer, A.; Narayan, S. Titanocene-Catalyzed Electron Transfer-Mediated Opening of Epoxides. **2002**, 344(5), 465–75.

12. Mulzer, J.; Ohler, E.; Enev, V. S.; Hanbauer, M. Grubbs' RCM in the Total Synthesis of the Microtubule Stabilizing Drug Laulimalide. **2002**, 344(6–7), 573–84.

13. Semeril, D.; Bruneau, C.; Dixneuf, P. H. Imidazolium and Imidazolium Salts as Carbene Precursors or Solvent for Ruthenium-Catalyzed Diene and Enyne Metathesis. **2002**, 344(6–7), 585–95.

Advances in Heterocyclic Chemistry

14. Bergman, J.; Janosik, T.; Wahlstrom, N. Indolocarbazoles. **2001**, 80, 1–71.

15. Hashem, A.; Kleinpeter, E. The Chemistry of 2(5H)-Furanones. **2001**, 81, 107–65.

16. Stanovnik, B.; Tisler, M.; Katritzky, A. R.; Denisko, O. V. The Tautomerism of Heterocycles. Six-Membered Heterocycles: Part 1, Annular Tautomerism. **2001**, 81, 253–303.

Aldrichimica Acta

17. Lebreton, S.; Monaghan, S.; Bradley, M. Solid-Phase Dendrimer Chemistry: Synthesis and Application. **2001**, 34(2), 75–83.

18. Koser, G. F. [Hydroxy(tosyloxy)iodo]benzene and Closely Related Iodanes: The Second Stage of Development. **2001**, 34(3), 89–102.

19. Cho, B. T. Boron-Based Reducing Agents for the Asymmetrical Reduction of Functionalized Ketones and Ketimines. **2002**, 35(1), 3–16.

20. Ramachandran, P. V. Pinane-Based Versatile "Allyl" Boranes. **2002**, 35(1), 23–35.

Angewandte Chemie, International Edition in English

21. Noyori, R. Asymmetric Catalysis: Science and Opportunities (Nobel Lecture). **2002**, *41*(12), 2008–22.

22. Fox, D. J.; House, D.; Warren, S. Mechanisms of Sulfonyl (RS) Migrations: Synthesis of Heterocycles. **2002**, *41*(14), 2462–82.

23. Nicolaou, K. C.; Baran, P. S. The CP Molecule Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis. **2002**, *41*(15), 2678–720.

24. Breinbauer, R.; Vetter, I. R.; Waldmann, H. From Protein Domains to Drug Candidates: Natural Products as Guiding Principles in the Design and Synthesis of Compound Libraries. **2002**, *41*(16), 2878–90.

25. Hoffmann-Roder, A.; Krause, N. Enantioselective Synthesis of and with Allenes. **2002**, *41*(16), 2933–5.

Chemical Reviews

26. Leadbeater, N. E.; Marco, M. Preparation of Polymer-Supported Ligands and Metal Complexes for Use in Catalysis. **2002**, *102*(10), 3217–73.

27. McNamara, C. A.; Dixon, M. J.; Bradley, M. Recoverable Catalysts and Reagents Using Recyclable Polystyrene-Based Supports. **2002**, *102*(10), 3275–99.

28. Dickerson, T. J.; Reed, N. N.; Janda, K. D. Soluble Polymers as Scaffolds for Recoverable Catalysts and Reagents. **2002**, *102*(10), 3325–43.

29. Fan, Q.-H.; Li, Y.-M.; Chan, A. S. C. Recoverable Catalysts for Asymmetric Organic Synthesis. **2002**, *102*(10), 3385–465.

30. Rechavi, D.; Lemaire, M. Enantioselective Catalysis Using Heterogeneous Bis(oxazoline) Ligands: Which Factors Influence the Enantioselectivity? **2002**, *102*(10), 3467–93.

31. Lu, Z.-l.; Lindner, E.; Mayer, H. A. Applications of Sol–Gel-Processed Interphase Catalysts. **2002**, *102*(10), 3543–77.

32. Yoshida, J.; Itami, K. Tag Strategy for Separation and Recovery. **2002**, *102*(10), 3693–716.

33. Van Heerbeek, R.; Kamer, P. C. J.; Van Leeuwen, P. W. N. M.; Reek, J. N. H. Dendrimers as Support for Recoverable Catalysts and Reagents. **2002**, *102*(10), 3717–56.

34. Corma, A.; Garcia, H. Lewis Acids as Catalysts in Oxidation Reactions: From Homogeneous to Heterogeneous Systems. **2002**, *102*(10), 3837–92.

35. Stuedel, R. The Chemistry of Organic Polysulfanes R–S_n–R (n > 2). **2002**, *102*(11), 3905–45.

36. Garcia, H.; Roth, H. D. Generation and Reactions of Organic Radical Cations in Zeolites. **2002**, *102*(11), 3947–4007.

37. Alonso, F.; Beletskaya, I. P.; Yus, M. Metal-Mediated Reductive Hydrodehalogenation of Organic Halides. **2002**, *102*(11), 4009–91.

38. Knoelker, H.-J.; Reddy, K. R. Isolation and Synthesis of Biologically Active Carbazole Alkaloids. **2002**, *102*(11), 4303–427.

39. Nenajdenko, V. G.; Shevchenko, N. E.; Balenkova, E. S.; Alabugin, I. V. 1,2-Dications in Organic Main Group Systems. **2003**, *103*(1), 229–82.

Chemical Society Reviews

40. Todd, M. H. Asymmetric Autocatalysis: Product Recruitment for the Increase in the Chiral Environment (PRICE). **2002**, *31*(4), 211–22.

41. Magnus, A.; Bertilsson, S. K.; Andersson, P. G. Asymmetric Base-Mediated Epoxide Isomerization. **2002**, *31*(4), 223–9.

42. Cooke, G.; Rotello, V. M. Methods of Modulating Hydrogen Bonded Interactions in Synthetic Host–Guest Systems. **2002**, *31*(5), 275–86.

Chemistry – A European Journal

43. Yoshida, J.-I.; Suga, S. Basic Concepts of “Cation Pool” and “Cation Flow” Methods and Their Applications in Conventional and Combinatorial Organic Synthesis. **2002**, *8*(12), 2650–8.

44. Kuniyasu, H.; Kurosawa, H. Transition-Metal-Catalyzed Carbon-Heteroatom Three-Component Cross-Coupling Reactions: A New Concept for Carbothiolation of Alkynes. **2002**, *8*(12), 2660–5.

45. Plauevent, J.-C.; Perrard, T.; Cahard, D. New Insights in the Search for Chiral Bronsted Bases. **2002**, *8*(15), 3300–7.

46. Marmsater, F. P.; West, F. G. New Efficient Iterative Approaches to Polycyclic Ethers. **2002**, *8*(19), 4346–53.

Chemistry in Britain

47. Houlton, S. Sweet Synthesis. **2002**, *38*(4), 46–9.

Chemistry of Heterocyclic Compounds

48. Pozharskii, A. F.; Gulevskaya, A. V. Nucleophilic Substitution of Hydrogen Atoms in the Pyridazine Series. **2001**, *37*(12), 1461–87.

49. Furin, G. G.; Zhuzhgov, E. L. Synthesis of Sulfur-Containing Heterocyclic Compounds Based on Isothiocyanate Derivatives of Perfluoroolefins (Review). **2002**, *38*(2), 129–50.

CHEMTRACTS: Organic Chemistry

50. Paquette, L. A. The Diverse Challenges that Face the Stereocontrolled Elaboration of Natural Products Incorporating an Oxygenated Five-Membered Ring. **2002**, *15*(7), 345–66.

51. Sklenicka, H. M.; Hsung, R. P. Recent Approaches to *cis*-Azadecalins: Synthesis of Dendrobatid Alkaloid Pumiliotoxin C. **2002**, *15*(7), 391–401.

52. Woo, L. K. Alkyl Exchange Reactions of Organocobalt Porphyrins: A Bimolecular Homolytic Substitution Reaction. **2002**, *15*(8), 404–9.

53. Duvall, B. R.; Jarvis, B. B. The Total Synthesis of Proteasome Inhibitors TMC-95A and TMC-95B: Discovery of a New Method to Generate *cis*-Propenyl Amides. **2002**, *15*(9), 475–80.

Chirality

54. Gawronski, J.; Kacprzak, K. Architecture and Function of Atropisomeric Molecular Triads. **2002**, *14*(9), 689–702.

55. Polavarapu, P. L. Optical Rotation: Recent Advances in Determining the Absolute Configuration. **2002**, *14*(10), 768–81.

Collection of Czechoslovak Chemical Communications

56. Lacroix-Desmazes, P.; Ameduri, B.; Boutevin, B. Use of Fluorinated Organic Compounds in Living Radical Polymerizations. **2002**, *67*(10), 1383–415.

Coordination Chemistry Reviews

57. Fruhauf, H.-W. Organotransition Metal [3+2] Cycloaddition Reactions. **2002**, *230*(1–2), 79–96.

58. Meijer, M. D.; van Klink, G. P. M.; van Koten, G. Metal-Chelating Capacities Attached to Fullerenes. **2002**, *230*(1–2), 141–63.

59. Xie, Z. Advances in the Chemistry of Metallocarboranes of f-Block Elements. **2002**, *231*(1–2), 23–46.

60. Kang, S. O.; Lee, J.; Ko, J. Transition Metal-Catalyzed Double Silylation and Germylation with 1,2-Bis(dimethylsilyl)carborane and 1,2-Bis(dimethylgermyl)carborane. **2002**, *231*(1–2), 47–65.

61. Shapiro, P. J. The Evolution of the Ansa-Bridge and its Effect on the Scope of Metallocene Chemistry. **2002**, *231*(1–2), 67–81.

62. Che, C.-M.; Huang, J.-S. Ruthenium and Osmium Porphyrin Carbene Complexes: Synthesis, Structure, and Connection to the Metal-Mediated Cyclopropanation of Alkenes. **2002**, *231*(1–2), 151–64.

63. Epstein, L. M.; Shubina, E. S. New Types of Hydrogen Bonding in Organometallic Chemistry. **2002**, *231*(1–2), 165–81.

64. Pasynkiewicz, S.; Pietrzykowski, A. From Nickelocene to Novel Organonickel Compounds. **2002**, *231*(1–2), 199–206.

65. Murahashi, T.; Kurosawa, H. Organopalladium Complexes Containing Palladium–Palladium Bonds. **2002**, *231*(1–2), 207–28.

Current Medicinal Chemistry

66. Santagada, V.; Perissutti, E.; Caliendo, G. The Application of Microwave Irradiation as New Convenient Synthetic Procedure in Drug Discovery. **2002**, *9*(13), 1251–83.

67. Oikawa, H. Synthesis of Specific Protein Phosphatase Inhibitors, Tautomycin and Tautomycetin Toward Structure–Activity Relationship Study. **2002**, *9*(22), 2033–54.

68. Scicinski, J. J.; Congreve, M. S.; Kay, C.; Ley, S. V. Analytical Techniques for Small Molecule Solid-Phase Synthesis. **2002**, *9*(23), 2103–27.

69. Breinbauer, R.; Manger, M.; Scheck, M.; Waldmann, H. Natural Product Guided Compound Library Development. **2002**, *9*(23), 2129–45.

Current Organic Chemistry

70. Velazquez, F.; Olivo, H. F. The Application of Chiral Oxazolidinethiones and Thiazolidinethiones in Asymmetric Synthesis. **2002**, *6*(4), 303–40.

71. Soloshonok, V. A. Highly Diastereoselective Michael Addition Reactions between Nucleophilic Glycine Equiva-

lents and β -Substituted- α,β -Unsaturated Carboxylic Acid Derivatives; A General Approach to the Stereochemically Defined and Sterically χ -Constrained α -Amino Acids. **2002**, *6*(4), 341–64.

72. Li, P.; Roller, P. P.; Xu, J. Current Synthetic Approaches to Peptide and Peptidomimetic Cyclization. **2002**, *6*(5), 411–40.

73. Robina, I.; Vogel, P. The Synthesis of Disaccharides, Oligosaccharides and Analogues Containing Thiosugars. **2002**, *6*(5), 471–91.

74. Ishikura, M. Applications of Heteroarylboron Compounds to Organic Synthesis. **2002**, *6*(6), 507–21.

75. Chemla, F.; Ferreira, F. Alkynyloxiranes and -Aziridines: Synthesis and Ring Opening Reactions with Carbon Nucleophiles. **2002**, *6*(6), 539–70.

76. Arjona, O.; Plumet, J. The Ring Opening of Oxabicyclic Compounds Controlled by a Phenylsulfonyl Group. Synthetic Applications. **2002**, *6*(7), 571–95.

77. Finet, J.-P.; Fedorov, A. Y.; Combes, S.; Boyer, G. Recent Advances in Ullmann Reaction: Copper(II) Diacetate Catalyzed N-, O- and S-Arylation Involving Polycoordinate Heteroatomic Derivatives. **2002**, *6*(7), 597–626.

78. Kim, J. N.; Lee, K. Y. Synthesis of Cyclic Compounds from the Baylis–Hillman Adducts. **2002**, *6*(7), 627–45.

79. Shibata, I.; Baba, A. Ionic Activation of Tin Hydrides. **2002**, *6*(8), 665–93.

80. Lombardo, M.; Trombini, C. The Reaction of Nitrones with Organometallic Compounds: Scope, Limitations and Synthetic Applications. **2002**, *6*(8), 695–713.

81. Pae, A. N.; Cho, Y. S. Indium-Mediated Organic Reactions in Aqueous Media. **2002**, *6*(8), 715–37.

82. Jeevanandam, A.; Ghule, A.; Ling, Y.-C. Palladium Catalyzed Transformation of Acyclic Units to Furans. **2002**, *6*(10), 841–64.

83. Zhang, J.; Zhou, H.-B.; Xie, R.-G. N-Substituted Amides as Chiral Ligands for Catalytic Asymmetric Reactions. **2002**, *6*(10), 865–90.

84. Keglevich, G. [4+2] Versus [2+2] Cycloadditions in the Sphere of P-Heterocycles as Useful Synthetic Tools. **2002**, *6*(10), 891–912.

85. Carpentier, J.-F.; Bette, V. Chemo- and Enantioselective Hydrosilylation of Carbonyl and Imino Groups. An Emphasis on Non-Traditional Catalyst Systems. **2002**, *6*(10), 913–36.

86. Phoon, C. W.; Sim, M. M. The Scope and Future of Traceless Synthesis in Organic Chemistry. **2002**, *6*(11), 937–64.

87. Zhang, W. Discovery and Development of Cyclobutanone-Based Free Radical Ring Expansion and Annulation Reactions. **2002**, *6*(11), 1015–29.

88. Delgado, M.; Janda, K. D. Polymeric Supports for Solid-Phase Organic Synthesis. **2002**, *6*(12), 1031–43.

89. Paquette, L. A. The Development of Strategies for the Elaboration of Linear Triquinane Sesquiterpenoids: Hypnophilin and Ceratopicanol as Exemplary Case Studies. **2002**, *6*(12), 1045–56.

90. Zhu, S. Z.; Wang, Y. L.; Peng, W. M.; Song, L. P.; Jin, G. F. Synthesis of Fluoroalkyl Substituted Heterocycles using Fluorine-Containing Building Blocks. **2002**, *6*(12), 1057–96.

91. Skoda-Foldes, R.; Kollar, L. Synthetic Applications of Palladium Catalyzed Carbonylation of Organic Halides. **2002**, *6*(12), 1097–119.

Heteroatom Chemistry

92. Akiba, K.-y.; Matsukawa, S.; Kajiyama, K.; Nakamoto, M.; Kojima, S.; Yamamoto, Y. Novel Results Obtained by Freezing Berry Pseudorotation of Phosphoranes (10-P-5). **2002**, *13*(5), 390–6.

93. Furukawa, N.; Sato, S. Chalcogenuranyl Dications Bearing Unusual Bonds and Charges. **2002**, *13*(5), 406–13.

94. Sato, R. Heteroatom Chemistry of Cyclic Benzopolychalcogenides: Synthesis and Characterization. **2002**, *13*(5), 419–23.

95. Drabowicz, J. Unexpected Conversions of Selected Heteroorganic Compounds. **2002**, *13*(5), 437–42.

96. Solladie, G. Applications of Chiral Sulfoxides in Enantioselective Synthesis of Diols and Total Synthesis of Natural Products. **2002**, *13*(5), 443–52.

97. Ruano, J. L. G.; Castro, A. M. M.; Ramos, J. H. R. Search for Ideal Sulfinyl Dienophile and Dipolarophile. **2002**, *13*(5), 453–62.

98. Tang, Y.; Ye, S.; Huang, Z.-Z.; Huang, Y.-Z. Telluronium Ylides in Cyclopropanation and Catalytic Olefination. **2002**, *13*(5), 463–6.

99. Davis, F. A.; Chao, B.; Andemichael, Y. W.; Mohanty, P. K.; Fang, T.; Burns, D. M.; Rao, A.; Szweczyk, J. M. Asymmetric Synthesis of Alkaloids using Polyfunctionalized Chiral Building Blocks. **2002**, *13*(5), 486–92.

100. Roesky, P. W. P–N Ligands in Lanthanide Chemistry. **2002**, *13*(6), 514–20.

101. Lang, H.; Leschke, M. From Heterobimetallic Transition Metal Complexes to Linear Coordination Polymers Based on *cis*- and *trans*-L₂Pt(C≡CPh)₂. **2002**, *13*(6), 521–33.

102. Arnold, P. L. Organometallic Chemistry of Silver and Copper N–Heterocyclic Carbene Complexes. **2002**, *13*(6), 534–9.

103. Hahn, F. E.; Langenhahn, V.; Le Van, D.; Tamm, M.; Wittenbecher, L.; Lugger, T. Cyclic Polycarbene Ligands with Crown Ether Structure. **2002**, *13*(6), 540–9.

104. Tyrra, W. Silver(I) Fluoride and Related Compounds in Chemical Synthesis. **2002**, *13*(6), 561–6.

Heterocycles

105. Ha, H.-J.; Lee, W. K. Synthetic Applications of Lewis Acid-Induced *N*-Methylethylamine Equivalents. **2002**, *57*(8), 1525–38.

106. Wojciechowski, K. 1,3-Dihydro-2,1-benzisothiazole 2,2-Dioxides (Benzosultams) in Organic Synthesis. **2002**, *57*(9), 1717–40.

Journal of Heterocyclic Chemistry

107. Stanetty, P. Synthesis of Annelated 1,2,3-Thiadiazole Derivatives. **2002**, *39*(3), 487–98.

108. Dal Piaz, V.; Pieretti, S.; Vergelli, C.; Castellana, M. C.; Giovannoni, M. P. 4-Amino-5-vinyl-3(2H)-pyridazinones and Related Compounds: Synthesis and Evaluation of Antinociceptive Activity. **2002**, *39*(3), 523–33.

109. Maes, B. U. W.; Kosmrlj, J.; Lemiere, G. L. F. Palladium-Catalyzed Reactions of Chloropyridazines. **2002**, *39*(3), 535–43.

110. Cignarella, G.; Barlocco, D. Versatility of the Pyridazine System: Chemistry and Biology. **2002**, *39*(3), 545–50.

111. Kurasawa, Y.; Kim, H. S. Synthesis and Biological Activities of Quinolone Analogues: Pyridazino[3,4-b]quinoxalin-4-ones. **2002**, *39*(3), 551–70.

112. Puentes, C. O.; Kouznetsov, V. Recent Advancements in the Homoallylamine Chemistry. **2002**, *39*(4), 595–614.

Journal of Physical Organic Chemistry

113. Kraka, E.; Cremer, D. Mechanism and Dynamics of Organic Reactions: 1,2-H Shift in Methylchlorocarbene. **2002**, *15*(8), 431–47.

114. Fukuzumi, S. Catalysis in Electron-Transfer Reactions: Facts and Mechanistic Insights. **2002**, *15*(8), 448–60.

115. Kass, S. R.; Broadus, K. M. Reactive Intermediates via Fourier Transform Mass Spectrometry. **2002**, *15*(8), 461–8.

116. Speranza, M. Microsolvated Ion Stereochemistry. **2002**, *15*(8), 469–75.

117. Bethke, S.; Brand, S.; Treptow, B.; Gleiter, R. Strained Hydrocarbons from Cyclic Diynes-Preparation and Reactivity. **2002**, *15*(8), 484–9.

118. Pascal, R. Induced Intramolecularity in the Reference Reaction can be Responsible for the Low Effective Molarity of Intramolecular General Acid–Base Catalysis. **2002**, *15*(8), 566–9.

Journal of the Chemical Society, Perkin Transactions 1

119. Duggan, P. J.; Tyndall, E. M. Boron Acids as Protective Agents and Catalysts in Synthesis. **2002**, (11), 1325–39.

120. Kennedy, R. D.; Lloyd, D.; McNab, H. Annulenes, 1980–2000. **2002**, (14), 1601–21.

121. Roberts, S. M.; Santoro, M. G.; Sickle, E. S. The Emergence of the Cyclopentenone Prostaglandins as Important, Biologically Active Compounds. **2002**, (15), 1735–42.

122. Fletcher, N. C. Chiral 2,2'-Bipyridines: Ligands for Asymmetric Induction. **2002**, (16), 1831–42.

Natural Product Reports

123. Hanson, J. R. Steroids: Reactions and Partial Synthesis. **2002**, *19*(4), 381–9.

124. Hale, K. J.; Hummersone, M. G.; Manaviazar, S.; Frigerio, M. The Chemistry and Biology of the Bryostatin Antitumour Macrolides. **2002**, *19*(4), 413–53.

125. Jin, Z.; Li, Z.; Huang, R. Muscarine, Imidazole, Oxazole, Thiazole, Amaryllidaceae and Scetium Alkaloids. **2002**, *19*(4), 454–76.

126. Ferreira, D.; Slade, D. Oligomeric Proanthocyanidins: Naturally Occurring O-Heterocycles. **2002**, *19*(5), 517–41.

127. Berlinck, R. G. S. Natural Guanidine Derivatives. **2002**, *19*(5), 617–49.

128. Fraga, B. M. Natural Sesquiterpenoids. **2002**, *19*(5), 650–72.

Organic Preparations and Procedures International

129. Arason, K. M.; Bergmeier, S. C. The Synthesis of Succinic Acids and Derivatives. A Review. **2002**, *34*(4), 337, 339–66.

130. Pellissier, H. Syntheses of L-Iduronyl Synthons. A Review. **2002**, *34*(5), 441–64.

Pure and Applied Chemistry

131. Pearson, W. H. Alkaloid Synthesis via [3+2] Cycloadditions. **2002**, *74*(8), 1339–47.

132. Liu, R. S. H. Photoisomerization by Hula-Twist. Photoactive Biopigments. **2002**, *74*(8), 1391–6.

Research on Chemical Intermediates

133. Alberti, A.; Benaglia, M.; Macciantelli, D. Phosphoryl and Thiophosphoryldithioformates as Spin Traps: From EPR Studies to Practical Applications. **2002**, *28*(2–3), 143–58.

Russian Chemical Reviews

134. Kereselidze, J. A.; Zarqua, T. S.; Kikalishvili, T. J.; Churgulia, E. J.; Makaridze, M. S. Some New Views on the Mechanism of Tautomeric Transformations. **2002**, *71*(12), 1120–31.

135. Kachalova, A. V.; Zubin, E. M.; Oretskaya, T. S. Methods of Synthesis of Oligonucleotides Containing Reactive Electrophilic Groups. **2002**, *71*(12), 1173–92.

136. Chuiko, V. A.; Vyglazov, O. G. Skeletal Rearrangements of Monoterpenoids of the Carane Series. **2003**, *72*(1), 54–74.

137. Litvinov, V. P. Multicomponent Cascade Heterocyclization as a Promising Route for Targeted Synthesis of Polyfunctional Pyridines. **2003**, *72*(1), 75–92.

138. Sheremetev, A. B.; Yudin, I. L. Advances in the Chemistry of Furazano[3,4-*b*]pyrazines and Their Analogues. **2003**, *72*(1), 93–107.

Russian Journal of Organic Chemistry

139. Koval, I. V. N-Halo Reagents. N-Halosuccinimides in Organic Synthesis and in Chemistry of Natural Compounds. **2002**, *38*(3), 301–37.

140. Moskvina, A. V.; Reznikova, N. R.; Ivin, B. A. Condensation of Hydroxypyrimidines with Carbonyl Compounds: I. Barbituric Acids. **2002**, *38*(4), 463–74.

Science

141. Gasper, P. P. Silicon Chemistry: R_3Si^+ —Free at Last. **2002**, *297*(5582), 785–6.

142. Hartwig, J. F. Chemical Synthesis: Raising the Bar for the “Perfect Reaction”. **2002**, *297*(5587), 1653–4.

Sulfur Reports

143. Elassar, A.-Z. A.-A. Bridgehead Nitrogen Thiazopyrimidines. **2002**, *23*(1), 47–77.

144. Taubert, K.; Kraus, S.; Schulze, B. Isothiazol-3(2H)-ones. Part I. Synthesis, Reactions, and Biological Activity. **2002**, *23*(1), 79–121.

Synlett

145. Beck, G. Synthesis of Chiral Drug Substances. **2002**, (6), 837–50.

146. Familoni, O. B. Metalated Sulfonamides and Their Synthetic Applications. **2002**, (8), 1181–210.

147. Toyota, M.; Ihara, M. Development of Palladium-Catalyzed Cycloalkenylation and its Application to Natural Product Synthesis. **2002**, (8), 1211–22.

148. Donohoe, T. J. Development of the Directed Dihydroxylation Reaction. **2002**, (8), 1223–32.

149. Ishihara, K.; Hasegawa, A.; Yamamoto, H. Single-Pass Reaction Column System with Super Bronsted Acid-Loaded Resin. **2002**, (8), 1296–8.

150. Kanemasa, S. Metal-Assisted Stereocontrol of 1,3-Dipolar Cycloaddition Reactions. **2002**, (9), 1371–87.

151. Najera, C. From α -Amino Acids to Peptides: All You Need for the Journey. **2002**, (9), 1388–403.

152. Fischer, S. Dicobalt Octacarbonyl. **2002**, (9), 1558–9.

Synthesis—Stuttgart

153. Meier, H. Arene-Condensed Annulenes—Extended Discotic Mesogens. **2002**, (9), 1213–28.

154. Grimsdale, A. C.; Bauer, R.; Weil, T.; Tchegotareva, N.; Wu, J.; Watson, M.; Mullen, K. The Chemical Desymmetrization of Two- and Three-Dimensional Polyphenylenes as a Key Step to Functional Nanoparticles. **2002**, (9), 1229–38.

155. Bartholomew, G. P.; Bazan, G. C. Strategies for the Synthesis of “Through-Space” Chromophore Dimers Based on [2.2]Paracyclophane. **2002**, (9), 1245–55.

156. Reddy, G. M.; Bhavani, A. K. D.; Reddy, P. P.; Reddy, P. S. N. Synthesis of N,N'-Linked Bisazaheterocycles. **2002**, (10), 1311–43.

157. Hartung, J.; Gottwald, T.; Spehar, K. Selectivity in the Chemistry of Oxygen-Centered Radicals—The Formation of Carbon–Oxygen Bonds. **2002**, (11), 1469–98.

158. Bose, A. K.; Manhas, M. S.; Ganguly, S. N.; Sharma, A. H.; Banik, B. K. MORE Chemistry for Less Pollution: Applications for Process Development. **2002**, (11), 1578–91.

159. Hodgson, D. M.; Gras, E. Recent Developments in the Chemistry of Lithiated Epoxides. **2002**, (12), 1625–42.

160. Krause, N.; Hoffmann-Roder, A.; Canisius, J. From Amino Acids to Dihydrofurans: Functionalized Allenes in Modern Organic Synthesis. **2002**, (12), 1759–74.

161. Ferraz, H. M. C.; Longo, L. S., Jr.; Grazini, M. V. A. Syntheses of Mintlactone and Isomintlactone. **2002**, (15), 2155–64.

Tetrahedron

162. Fletcher, P. D. I.; Haswell, S. J.; Pombo-Villar, E.; Warrington, B. H.; Watts, P.; Wong, S. Y. F.; Zhang,

X. Micro Reactors: Principles and Applications in Organic Synthesis. **2002**, 58(24), 4735–57.

163. Jenner, G. Comparative Activation Modes in Organic Synthesis. The Specific Role of High Pressure. **2002**, 58(26), 5185–202.

164. Van De Water, R. W.; Pettus, T. R. R. o-Quinone Methides: Intermediates Underdeveloped and Underutilized in Organic Synthesis. **2002**, 58(27), 5367–405.

165. List, B. Proline-Catalyzed Asymmetric Reactions. **2002**, 58(28), 5573–90.

166. Hamama, W. S.; Zoorob, H. H. Chemistry of Bicyclic Pyridines Containing a Ring-Junction Nitrogen. **2002**, 58(31), 6143–62.

167. Kishi, Y. Palytoxin: An Inexhaustible Source of Inspiration—Personal Perspective. **2002**, 58(32), 6239–58.

168. Reetz, M. T. Directed Evolution of Selective Enzymes and Hybrid Catalysts. **2002**, 58(32), 6595–602.

169. Heydari, A. Organic Synthesis in an Unconventional Solvent, 5.0 M Lithium Perchlorate/Diethyl Ether. **2002**, 58(34), 6777–93.

Contributed Volumes

Progress in the Chemistry of Organic Natural Products. Volume 84. Herz, W., Falk, H., Kirby, G. W., Eds.; Springer-Verlag Wien: Vienna, Austria, 2002.

170. Montforts, F.-P.; Glasenapp-Breiling, M. Naturally Occurring Cyclic Tetrapyrroles.

171. Kingston, D. G. I.; Jagtap, P. G.; Yuan, H.; Samala, L. The Chemistry of Taxol and Related Taxoids.

Progress in the Chemistry of Organic Natural Products. Volume 85. Herz, W., Falk, H., Kirby, G. W., Eds., Springer-Verlag Wien: Vienna, Austria, 2003.

172. Messner, P.; Schäffer, C. Prokaryotic Glycoproteins.

173. Chakraborty, D. P.; Roy, S. Carbazole Alkaloids IV.

174. Krohn, K. Natural Products Derived from Naphthalenoid Precursors by Oxidative Dimerization.

Second Supplements to the Second Edition of Rodd's Chemistry of Carbon Compounds, Volume V: Asymmetric Catalysis. Sainsbury, M., Ed., Elsevier: Amsterdam, Netherlands, 2001.

175. Liu, M. Epoxidation of Alkenes.

176. Eames, J.; Watkinson, M. Oxidation not Involving Epoxidation.

177. Hodgson, D. M. et al. Reactions Involving Metal-carbenes.

178. Lygo, B. Phase-Transfer Reactions.

179. Franklin, A. S. Additions to Carbonyl Compounds.

180. Tomkinson, N. C. O. Conjugate Addition Reactions.

181. Merritt, A. Combinatorial Approaches to Asymmetric Catalysis.

182. Willis, M. C. Enantioselective Cycloaddition Reactions.

183. Frost, C. Palladium Catalysed Coupling Reactions.

Second Supplements to the Second Edition of Rodd's Chemistry of Carbon Compounds, Volume V: Organic Electrochemistry. Sainsbury, M., Ed.; Elsevier: Amsterdam, Netherlands, 2002.

184. Klein, L. J.; Peters, D. G. Electrochemistry of Halogenated Organic Compounds.

185. Grimshaw, J. Carbonyl Compounds (Aldehydes, Ketones, Acetals, Esters, Amides and Acids).

186. Lund, H. Nitro Compounds, Azides and Related Compounds.

187. Savall, A. J. The Electrochemistry of Arenes and Styrenes and Arylalkynes.

188. Yamamura, S. Polycyclic Arenes, Quinomethanes and Larger Ring Systems, Including Heterocycles.

189. Duñach, E. The Electrochemistry of Ethers, Epoxides, Azirines, Aziridines, Oxetanes, and Lactams.

190. Barba, F.; Batanero, B. The Electrochemistry of Six-Membered Heterocycles and Their Benzo Derivatives.

191. Parrish, J. D.; Little, R. D. Natural Products and Medicinally Important Compounds.

Monographs

192. Allen, D. W.; Tebby, J. C., Eds. Organophosphorus Chemistry. Volume 32. Royal Society of Chemistry: Cambridge, U.K., 2002.

193. Atta ur, R., Ed. Studies in Natural Products Chemistry, Volume 26: Bioactive Natural Products (Part G). Elsevier Science B: Amsterdam, Netherlands, 2002.

194. Bannwarth, W.; Felder, E., Eds. Combinatorial Chemistry: A Practical Approach. [In: *Methods Princ. Med. Chem.*, **2000**; 9] VCH: Weinheim, Germany, 2000.

195. Bittner, C.; Busemann, A. S.; Griesbach, U.; Haunert, F.; Krahnert, W.-R.; Modi, A.; Olschimke, J.; Steck, P. L. Organic Synthesis Workbook II Wiley-VCH: Weinheim, Germany, 2001.

196. Fraser-Reid, B. O., Tatsuta, K., Thiem, J., Eds. Glycoscience: Chemistry and Chemical Biology, Volumes 1–3. Springer-Verlag: Berlin, Germany, 2001.

197. Gewert, J. A.; Görlitzer, J.; Götze, S.; Looft, J.; Menningen, P.; Nöbel, T.; Schirok, H.; Wulff, C.; E., R.

W.; Carreira, E. M. *Organic Synthesis Workbook*. Wiley-VCH: Weinheim, Germany, 2000.

198. Hopf, H. *Classics in Hydrocarbon Chemistry: Syntheses, Concepts, Perspectives*. Wiley-VCH: Weinheim, Germany, 2000.

199. Jones, R. A. *Quaternary Ammonium Salts: Their Use in Phase-Transfer Catalyzed Reaction*. Academic: San Diego, CA, 2000.

200. Kisaurek, M. V., Rosemeyer, H., Eds. *Perspectives in Nucleoside and Nucleic Acid Chemistry*. Wiley-VCH: Weinheim, Germany, 2000.

201. Krause, N., Ed. *Modern Organocopper Chemistry*. Wiley-VCH: Weinheim, Germany, 2002.

202. Lappert, M. F., Evans, W. J., Mingos, D. M. P., Eds. *Special Issue: Recent Advances in the Organometallic Chemistry of the Group 3 and Lanthanoid Elements*. [In: *J. Organomet. Chem.*, **2002**; 647(1–2)] Amsterdam, Netherlands: Elsevier Science B., 2002.

203. Neier, R., Ed. *Science of Synthesis*. Volume 12. *Houben-Weyl Methods of Molecular Transformations*;

Hetarenes and Related Ring Systems. *Five-Membered Hetarenes with Two Nitrogen or Phosphorus Atoms*. Georg Thieme Verlag: Stuttgart, Germany, 2002.

204. Padwa, A., Pearson, W. H., Eds. *Synthetic Applications of 1,3-Dipolar Cycloaddition Chemistry Toward Heterocycles and Natural Products*. [In: *Chem. Heterocycl. Comp.*, **2002**; 59], 2002.

205. Rappoport, Z., Apeloig, Y., Eds. *The Chemistry of Organic Silicon Compounds*. Volume 3. John Wiley & Sons: Chichester, U.K., 2001.

206. Stick, R. V. *Carbohydrates: The Sweet Molecules of Life*. Academic Press: San Diego, CA, 2001.

207. Thomas, E. J., Ed. *Science of Synthesis*. Volume 10. *Houben-Weyl Methods of Molecular Transformations; Hetarenes and Related Ring Systems: Fused Five-Membered Hetarenes with One Heteroatom*. Georg Thieme Verlag: Stuttgart, Germany, 2001.

208. Yamamoto, H., Ed. *Lewis Acids in Organic Synthesis*, Volume 2. Wiley-VCH: Weinheim, Germany, 2000.

Index

- Activation in synthesis, high pressure, 163
 Alcohols, dihydroxylation, 148
 Aldehydes, double silylation, 60
 Alkaloids, synthesis via [3+2] cycloaddition, 131
 Alkenes, cyclopropanation, 62
 double silylation, 60
 epoxidation, book, 175
 Alkynes, carbothiolation, 44
 Alkynylaziridines, 75
 Alkynyloxiranes, 75
 Allenes, enantioselectivity, 25
 hydroxy, 160
 Allylation, homoallylamine, 112
 Allylboranes, pinane based, 20
 Amaryllidaceae alkaloids, 125
 Amides, dihydroxylation, 148
 N-substituted, chiral ligands, 83
 propenyl, 53
 Amines, allenyl, homopropargyl preparation, 75
 perfect synthesis, 142
 Amino acids, α -, allenic, 160
 unnatural stereoselective synthesis, 71
 via imine esters, 2
 Aminovinylpyridazinones, antinociceptive activity, 108
 Annulenes, 120
 areno condensed, 153
 Antibacterial agents, 111
 isothiazolones, 144
 Anticancer agents, 23
 Anticholesterol agents, 23
 Antifungal agents, 111
 isothiazolones, 144
 Antitumor agents, bryostatin, 124
 Aqueous reactions, asymmetric, catalyzed, 9
 catalyzed, 10
 indium mediated, 81
 Arenes, electrochemistry, book, 187
 Arylalkynes, electrochemistry, book, 187
 Asperparalines, synthesis, 7
 Asymmetric catalysis, 21
 book, 175–83
 Asymmetric reactions, amide ligand catalysts, 83
 proline catalyst, 165
 Atropisomeric molecular triads, 54
 Autocatalysis, asymmetric, increased chirality, 40
 Azadecalins, 51
 Azetidine homoallylamine preparation, 112
 Bacteriochlorins, book, 170
 Bacteriorhodopsin photoisomerization, 132
 Barbituric acids, with aldehydes, 140
 with ketones, 140
 Benzannulenes, 120
 Benzenesulfonamides, metalated, 146
 Benzopentathiepins, 94
 Benzosuberones, preparation, 87
 Benzosultams, 106
 Benzotetrathians, 94
 Benzotrithioles, 94
 Bicyclo[4.1.0]heptanes, 136
 Bilirubin, photoisomerization, 132
 Bipyridines, chiral, 122
 Bisoxazoline ligands, 30
 Bonsted bases, chiral, 45
 Boron acids, catalysts, 119
 protective agents, 119
 Brevianamides, synthesis, 7
 Buchwald Hartwig amination, with chloropyridazine, 109
 Butenaminepreparation, 112
 Cage compounds, preparation, 117
 Carbazole alkaloids, 38
 book, 173
 Carbohydrates, book, 206
 Carbon compounds, book, 175–91
 Carbon–oxygen bond formation, 157
 Carbonylation of organic halides, Pd catalyst, 91
 Carbonyls, hydrosilylation, enantioselective, 85
 Carotenoids, photoisomerization, 132
 Cascade reactions, 17
 Catalysts, hybrid, 168
 interphase, sol gel processed, 31
 recoverable, 27–9
 recoverable, dendrimer supported, 33
 recoverable, polystyrene supported, 27
 Catechins, 126
 Cation flow method, 43
 Cation pool method, 43
 C–C bonds, π nucleophilicity, 5
 C–H bond activation, 8
 Chalcogenuranyl dications, 93
 Chiral drug substances, 145
 Chlorins, book, 170
 Chlorocyclobutanones, cyclization, 87
 Chloropyridazines Pd catalyzed reaction, 109
 Chromophore dimers, 155
 Cobalt, carbonyl, 152
 Cocaine synthesis, 131
 Columns, Bronsted acid loaded, 149
 Combinatorial chemistry, 194
 microwave assisted, 66
 Combinatorial libraries, natural product guided, 69
 Combinatorial synthesis, 43
 natural products, 24
 Corrins, book, 170
 CP molecules, 23
 Crotylboration, 20
 Cyclic compounds, from Baylis Hillman adduct, 78
 Cycloaddition, [3+2], organo transition metal, 57
 1,3-dipolar, metal assisted, 150
 Cycloalkenylation, Pd catalyzed, 147
 Cyclobutanones, radical annulation, 87
 ring enlargement, 87
 Cyclopentadienyl carboranyl hybrids, 1
 Cyclopentenone prostaglandins, 121
 Dehydroannulenes, 120
 Dendrimers, solid phase, 17
 Dendrobatid alkaloids, 51
 Dications, 39
 Diels–Alder reaction, 97
 Diene metathesis, Ru catalyzed, 13
 Dienophiles, sulfinyl, 97
 Dihydrobenzothiazole dioxide, 106
 Dihydrofurans, from amino acids, 160
 Dihydroxylation, directed, 148
 stereoselective, 145
 Dimethylgermyl carborane, 60
 Dimethylsilyl carborane, 60
 Diols, enantioselective synthesis with chiral sulfoxide, 96
 Dipolarophiles, sulfinyl, 97
 Disaccharides, 73
 uronic acid, 130
 Diynes, cyclic, 117
 Electron transfer, catalysis, mechanism, 114
 Enyne metathesis, Ru catalyzed, 13
 Enzymes, enantioselective, 168
 Epoxidation, stereoselective, 145
 Epoxides, isomerization, 41
 lithiated, 159
 ring opening, with titanocene, 11
 Flavanols, 126
 Fluorinated compounds, in living radical polymerizations, 56
 Fluoromonomers, 56
 Free radical polymerizations, living, 56
 Fullerenes, metal chelating, 58
 metal clusters, 6
 Furan preparation, Pd catalyzed, 82
 Furanones, preparation, 15
 Furazans, fused to pyrazines, 138
 Glycine, nucleophilic, Michael addition with carboxylic acid, 71
 Glycopeptides, book, 172
 Glycoproteins, book, 172
 Glycoscience, book, 196
 Glycosides, 47
 Glycosylation, 73
 Green chemistry, 158
 indium organic reactions, 81
 Guanidine derivatives, natural, 127
 Halides, organic, hydrodehalogenation, 37
 Halosuccinimides, in synthesis, 139
 Hetarenes, book, 203, 207
 Heteroaryl boron compounds, 74
 Heterobimetallic platinum complex, 101
 Heterocycles, fluoroalkyl, 90
 metalla-, preparation, 57
 nitrogen linked, 156
 phosphorus, cycloaddition, 84
 phosphorus, Diels Alder, 84
 six-membered, annular tautomerism, 16
 synthesis, sulfanyl migrations, 22
 synthesis, via double silylation, 60
 synthesis, with benzosultams, 106
 via 1,3-dipolar cycloaddition, 204
 Heterocyclic carbene complex, 102–3
 Heterofullerenes, 14
 Heteroorganic compounds, conversion, 95
 Heterophosphinyl compounds, conversion, 95

- Heterosulfonyl compounds, conversion, 95
- Heterosulfonyl compounds, conversion, 95
- Hexaperihexabenzocoronene preparation, 154
- Hexaphenylbenzene, 154
- Homoallylamine preparation, 112
- Host-guest systems, hydrogen bonding, 42
- Houben Weyl method, book, 203, 207
- Hydroaminomethylation, rhodium complex, 142
- Hydrocarbons, book, 198
- Hydrogenation, complex catalyst, aqueous, 10
- stereoselective, 145
- Hydroporphyrins, book, 170
- Hydrosilylation catalyst, 85
- Hydroxypyrimidines, condensation with carbonyl compounds, 140
- Hydroxytosyloxyiodobenzene, 18
- Iduronyl synthons, 130
- Imidazole alkaloids, 125
- Imines, hydrosilylation, enantioselective, 85
- Indium mediated organic reaction, 81
- Indolocarbazoles, 14
- Indonylborate cross coupling, 74
- Intermediates, reactive, via FT mass spectrometry, 115
- Intramolecular acid base catalysis, induced, 118
- Iodanes, 18
- Iso mintlactone, 161
- Isoquinolones, from sulfinimines, 99
- Isothiazolone derivatives, 144
- Isotope effect, C-H bond activation, 8
- Ketimines, boron based reducing agents, 19
- Ketones, boron based reducing agents, 19
- Lactams, via imine ester, 2
- Lanthanides, P, N ligands, 100
- Lapidilectine indolizidine synthesis, 131
- Laulimalide synthesis, ring closure metathesis, 12
- Lepadiformine, 4
- synthesis, 131
- Lewis acids, book, 208
- in oxidation, 34
- Ligands, chiral bipyridines, 122
- cyclopentadienyl carboranyl, 1
- polymer bound, 26
- Metallacarboranes, actinide, 59
- Metallocarbenes, book, 177
- Metallocenes, ansa bridge, 61
- polymer supported, 26
- Methanoannulenes, 120
- Methylchlorocarbenes, hydrogen shift, 113
- Methyleneamines, in synthesis, 105
- Microreactors, 162
- Microsolvated ion stereochemistry, 116
- Microtubule stabilizing agent, 12
- Microwaves, hetrocyclic synthesis, 66
- in synthesis, 158
- Mintlactone, 161
- Monoterpenoids, carane, rearrangement, 136
- Muscarine alkaloids, 125
- Naphthalenoid precursors, book, 174
- Natural products, acerosolide, 50
- bioactive, book, 193
- gorgiacerone, 50
- lophotoxin, 50
- ras farnesyl transferase inhibitors, 23
- squalene synthetase inhibitors, 23
- Tobago, 50
- Nickelocenes, 64
- Nitrones, reaction with organometallics, 80
- Nucleic acids, book, 200
- Nucleosides, book, 200
- Nucleotides, transglycosidation, 47
- Olefin metathesis, polymer supported, 26
- Oligonucleotides, carboxyl-, 135
- with aldehydes, 135
- Oligosaccharide, 73
- solid-phase synthesis, 47
- Optical rotation, absolute configuration, 55
- Organic electrochemistry, book, 184-91
- Organic halides, carbonylation, 91
- Organocobalt porphyrins, 52
- Organocopper complexes, 102
- book, 201
- Organometallics, group 3, 202
- hydrogen bonding, 63
- lanthanides, 202
- Organonickel compounds, 64
- Organopalladium complexes, 65
- Organophosphorus compounds, book, 192
- Organosilicon compounds, book, 205
- Organosilver complexes, 102, 104
- Organotin hydrides, reducing agent, 79
- Oxabicyclics, ring opening, 76
- Oxabicycloalkenes, ring-opening, 3
- Oxazole alkaloids, 125
- Oxazolidinethiones, chiral, asymmetric synthesis, 70
- Palytoxin, 167
- Paracyclophanes, chromophore dimmers, 155
- Paraherquamides, synthesis, 7
- Peptides, cyclization, 72
- from amino acids, 151
- Peptidomimetics, cyclization, 72
- Perfluoroalkyl heterocycles, isothiocyanate, 49
- Phase tagging, 32
- Phase transfer catalysis, book, 199
- Phosphinimino lanthanide complex, 100
- Phosphinoamide lanthanide complex, 100
- Phosphoranes, berry pseudorotation, 92
- Phosphoryldithioformates, spin traps, 133
- Photoisomerization, Hula twist, 132
- Phytochromes, photoisomerization, 132
- Piperidine homoallylamine preparation, 112
- Piperidines, asymmetric synthesis, 99
- Platinum bisalkynyl complex, 101
- Polycarbene ligands, cyclic, crown ether, 103
- Polycyclic arenes, book, 188
- Polycyclic ethers, fused rings, 46
- Polyethers, marine, 46
- Polymers, fluorinated, 56
- Polyphenylenes, desymmetrization, 154
- Polysulfanes, 35
- Porphyrins, book, 170
- cobalt-, alkyl exchange, 52
- Proanthocyanidins, 126
- Proteasome inhibitors, synthesis, 53
- Protein phosphatase inhibitors, 67
- Pumiliotoxin C, 51
- Pyrazines, furazan fused, 138
- Pyridazines, aldose reductase inhibitor, 110
- analgesic, 110
- nucleophilic substitution, 48
- Pyridazinoquinoxalinones, 111
- Pyridines, bicyclic, ring-junction N, 166
- from cascade heterocyclization, 137
- polyfunctional, synthesis, 137
- Pyridylborane cross coupling, 74
- Pyrrolidine homoallylamine preparation, 112
- Quaternary ammonium salts, book, 199
- Quinomethanes, book, 188
- Quinone methide intermediates, 164
- Radicals, oxygen centered, 157
- Recoverable reagents, 28
- dendrimer supported, 33
- Recyclable reagents, polystyrene supported, 27
- Resins, polystyrene, super Bronsted acid, 149
- Rhodopsin, photoisomerization, 132
- Saccharide preparation, 47
- Sceletium alkaloids, 125
- Sesquiterpenoids, 128
- tricyclopentanoid, 89
- triquinane, linear, 89
- Silicon, triorgano cation, 141
- Silver fluoride in synthesis, 104
- Silylium cation, 141
- Solid-phase chemistry, 86
- Solid-phase synthesis, natural products, 24
- polymer supports, 88
- small molecules, 68
- Solvent, lithium perchlorate diethyl ether, 169
- Spirobisnaphthalenes, book, 174
- Spirocyclic ketones, ring enlargement, 87
- Spirophosphoranes, 92
- Steroids, 123
- Stille coupling, with chloropyridazine, 109
- Strained hydrocarbons, 117
- Styrenes, electrochemistry, book, 187
- Succinic acid derivatives, 129
- Sulfanyl episulfonium migration, 22
- Sulfinylaminoketoesters, chiral synthons, 99
- Sulfonamides, metalated, 146
- Sulfoxides, chiral, natural product synthesis, 96
- Suzuki coupling, with chloropyridazine, 109
- Synthesis, workbook, 195, 197
- Tautomeric transformations, 134
- Tautomycetin synthesis, 67
- Tautomycin synthesis, 67
- Taxoids, book, 171
- Taxol, book, 171
- Telluronium ylides, cyclopropanation, 98
- olefination, 98
- Terpenoids, via cycloalkenylation, 147
- Tetrahydrobenzazepine homoallylamine preparation, 112

- Tetrahydroisoquinolines, asymmetric synthesis, 99
Tetrahydroquinoline homoallylamine preparation, 112
Tetramethylethylenediamine osmium oxide, 148
Tetrapyrroles, cyclic, book, 170
Thiadiazole derivatives, annelated, 107
Thiazole alkaloids, 49, 125
Thiazolidinethiones, chiral, asymmetric synthesis, 70
Thiazolines, synthesis, 49
Thiazolopyrimidines, bridgehead nitrogen, 143
Thiophosphoryldithioformates, spin traps, 133
Thiosugars, 73
Tin hydrides, reducing agent, 79
Titanocenes, epoxide ring opening, 11
Tolylsulfinylacrylonitrile dienophile, 97
Traceless synthesis, 86
Triquinane sesquiterpenoids, 89
Ullmann reaction, arylation, 77
Zeolites, and organic radical cations, 36

JO023595K