

JOC *Recent Reviews*

Number 79

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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 middle part of the 2005 literature. Previous installment: *J. Org. Chem.* **2005**, 70(20), 8256–64.

Supporting Information Available: A file containing this Recent Review compilation in Microsoft Word and the data in plain text that can be imported into Endnote (using Refer style) and Reference Manager databases. 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. Fagnoni, M.; Albini, A. Arylation Reactions: The Photo- S_N1 Path via Phenyl Cation as an Alternative to Metal Catalysis. **2005**, 38(9), 713–21.

2. Senge, M. O. Nucleophilic Substitution as a Tool for the Synthesis of Unsymmetrical Porphyrins. **2005**, 38(9), 733–43.

3. Walton, J. C.; Studer, A. Evolution of Functional Cyclohexadiene-Based Synthetic Reagents: The Importance of Becoming Aromatic. **2005**, 38(10), 794–802.

4. Rozen, S. Attaching the Fluorine Atom to Organic Molecules Using BrF_3 and Other Reagents Directly Derived from F_2 . **2005**, 38(10), 803–12.

Advanced Synthesis and Catalysis

5. Methot, J. L.; Roush, W. R. Nucleophilic Phosphine Organocatalysis. **2004**, 346(9+10), 1035–50.

6. Legros, J.; Dehli, J. R.; Bolm, C. Applications of Catalytic Asymmetric Sulfide Oxidations to the Syntheses of Biologically Active Sulfoxides. **2005**, 347(1), 19–31.

7. Mashima, K. Ligand Architecture on Stereocontrol of Half-Metallocene Benzylidene Complexes of Tantalum. **2005**, 347(2+3), 323–8.

8. Arndt, S.; Okuda, J. Cationic Alkyl Complexes of the Rare-Earth Metals: Synthesis, Structure, and Reactivity. **2005**, 347(2+3), 339–54.

Advances in Heterocyclic Chemistry

9. Rybar, A. Annulated Heterocyclo-Purines. I. Fused Five-Membered Heterocyclo-Purinediones, -Purinones, and -Purine-imines. **2004**, (87), 85–139.

10. Varvounis, G.; Fiamegos, Y.; Pilidis, G. Pyrazol-3-ones. Part II: Reactions of the Ring Atoms. **2004**, (87), 141–272.

11. Furin, G. G. Fluorine-Containing Heterocycles. Part II. Synthesis of Perfluoroalkyl Heterocycles from Carbonyl Compounds. **2004**, (87), 273–383.

Advances in Physical Organic Chemistry

12. Detty, M. R.; Logan, M. E. One- and Two-Electron Oxidations and Reductions of Organoselenium and Organotellurium Compounds. **2004**, (39), 79–145.

Aldrichimica Acta

13. Vernall, A. J.; Abell, A. D. Cross Metathesis of Nitrogen-Containing Systems. **2003**, 36(3), 93–105.

14. Pasumansky, L.; Singaram, B. Recent Advances in the Chemistry of Lithium Aminoborohydrides. **2005**, 38(2), 61–5.

Angewandte Chemie, International Edition in English

15. Burley, G. A. Trannulenes with “In-Plane” Aromaticity: Candidates for Harvesting Light Energy. **2005**, 44(21), 3176–8.

16. Adolfsson, H. Organocatalytic Hydride Transfers: A New Concept in Asymmetric Hydrogenations. **2005**, 44(22), 3340–2.

17. Davies, H. M. L.; Long, M. S. Recent Advances in Catalytic Intramolecular C–H Aminations. **2005**, 44(23), 3518–20.

18. Rissanen, K. Very Large Container Molecules. **2005**, 44(24), 3652–4.

19. Wirth, T. Hypervalent Iodine Chemistry in Synthesis: Scope and New Directions. **2005**, *44*(24), 3656–65.

20. Hoeger, S. Shape-Persistent Phenylene-Acetylene Macrocycles: Large Rings-Low Yield? **2005**, *44*(25), 3806–8.

21. Echavarren, A. M. Couplings with Monoorganotin Compounds: A “Radical” Twist from the Original Stille Reaction. **2005**, *44*(26), 3962–5.

22. Vedejs, E.; Jure, M. Efficiency in Nonenzymatic Kinetic Resolution. **2005**, *44*(26), 3974–4001.

23. Janey, J. M. Recent Advances in Catalytic, Enantioselective α -Aminations and α -Oxygenations of Carbonyl Compounds. **2005**, *44*(28), 4292–300.

24. Blackmond, D. G. Reaction Progress Kinetic Analysis: A Powerful Methodology for Mechanistic Studies of Complex Catalytic Reactions. **2005**, *44*(28), 4302–20.

25. Yorimitsu, H.; Oshima, K. Recent Progress in Asymmetric Allylic Substitutions Catalyzed by Chiral Copper Complexes. **2005**, *44*(29), 4435–9.

26. Nicolaou, K. C.; Bulger, P. G.; Sarlah, D. Palladium-Catalyzed Cross-Coupling Reactions in Total Synthesis. **2005**, *44*(29), 4442–89.

27. Nicolaou, K. C.; Bulger, P. G.; Sarlah, D. Metathesis Reactions in Total Synthesis. **2005**, *44*(29), 4490–527.

28. Gschwind, R. M. Residual Dipolar Couplings-A Valuable NMR Parameter for Small Organic Molecules. **2005**, *44*(30), 4666–68.

29. Denmark, S. E.; Heemstra, J. R., Jr.; Beutner, G. L. Catalytic, Enantioselective, Vinylogous Aldol Reactions. **2005**, *44*(30), 4682–98.

30. Lagona, J.; Mukhopadhyay, P.; Chakrabarti, S.; Isaacs, L. The Cucurbit[n]uril Family. **2005**, *44*(31), 4844–70.

31. Braese, S.; Gil, C.; Knepper, K.; Zimmermann, V. Organic Azides. An Exploding Diversity of a Unique Class of Compounds. **2005**, *44*(33), 5188–240.

32. Podlech, J.; Gehring, T. New Aspects of Soai’s Asymmetric Autocatalysis. **2005**, *44*(36), 5776–7.

Canadian Journal of Chemistry

33. Pool, J. A.; Chirik, P. J. The Importance of Cyclopentadienyl Substituent Effects in Group 4 Metallocene Dinitrogen Chemistry. **2005**, *83*(4), 286–95.

34. Evans, W. J.; Lee, D. S. Early Developments in Lanthanide-Based Dinitrogen Reduction Chemistry. **2005**, *83*(4), 375–84.

Chemical Reviews

35. Cacchi, S.; Fabrizi, G. Synthesis and Functionalization of Indoles Through Palladium-Catalyzed Reactions. **2005**, *105*(7), 2873–920.

36. Coldham, I.; Hufton, R. Intramolecular Dipolar Cycloaddition Reactions of Azomethine Ylides. **2005**, *105*(7), 2765–809.

37. Pregosin, P. S.; Kumar, P. G. A.; Fernandez, I. Pulsed Gradient Spin-Echo (PGSE) Diffusion and ^1H , ^{19}F Heteronuclear Overhauser Spectroscopy (HOESY) NMR Methods in Inorganic and Organometallic Chemistry: Something Old and Something New. **2005**, *105*(8), 2977–98.

38. Li, C.-J. Organic Reactions in Aqueous Media with a Focus on Carbon–Carbon Bond Formations. A Decade Update. **2005**, *105*(8), 3095–165.

39. Viso, A.; Fernandez de la Pradilla, R.; Garcia, A.; Flores, A. α,β -Diamino acids. Biological Significance and Synthetic Approaches. **2005**, *105*(8), 3167–96.

40. Cui, X.; Burgess, K. Catalytic Homogeneous Asymmetric Hydrogenations of Largely Unfunctionalized Alkenes. **2005**, *105*(9), 3272–96.

41. Adam, W.; Kazakov, D. V.; Kazakov, V. P. Singlet-Oxygen Chemiluminescence in Peroxide Reactions. **2005**, *105*(9), 3371–87.

42. Krygowski, T. M.; Stepien, B. T. σ - and π -Electron Delocalization: Focus on Substituent Effects. **2005**, *105*(10), 3482–512.

43. Raczynska, E. D.; Kosinska, W.; Osmialowski, B.; Gawinecki, R. Tautomeric Equilibria in Relation to π -Electron Delocalization. **2005**, *105*(10), 3561–612.

44. Chen, Z.; King, R. B. Spherical Aromaticity: Recent Work on Fullerenes, Polyhedral Boranes, and Related Structures. **2005**, *105*(10), 3613–42.

45. Geuenich, D.; Hess, K.; Koehler, F.; Herges, R. Anisotropy of the Induced Current Density (ACID), a General Method to Quantify and Visualize Electronic Delocalization. **2005**, *105*(10), 3758–72.

46. Cyranski, M. K. Energetic Aspects of Cyclic π -Electron Delocalization: Evaluation of the Methods of Estimating Aromatic Stabilization Energies. **2005**, *105*(10), 3773–811.

47. Poater, J.; Duran, M.; Sola, M.; Silvi, B. Theoretical Evaluation of Electron Delocalization in Aromatic Molecules by Means of Atoms in Molecules (AIM) and Electron Localization Function (ELF) Topological Approaches. **2005**, *105*(10), 3911–47.

Chemical Society Reviews

48. Albrecht, M.; Stortz, P. Metallacyclopeptides: Artificial Analogues of Naturally Occurring Peptides. **2005**, *34*(6), 496–506.

49. Rueck-Braun, K.; Freysoldt, T. H. E.; Wierschem, F. 1,3-Dipolar Cycloaddition on Solid Supports: Nitron Approach Towards Isoxazolidines and Isoxazolines and Subsequent Transformations. **2005**, *34*(6), 507–16.

50. Sukumaran, J.; Hanefeld, U. Enantioselective C–C Bond Synthesis Catalyzed by Enzymes. **2005**, *34*(6), 530–42.

51. Begue, J.-P.; Bonnet-Delpon, D.; Crousse, B.; Legros, J. The Chemistry of Trifluoromethyl Imines and Related Acetals Derived from Fluoral. **2005**, *34*(7), 562–72.

52. Rose, E.; Andrioletti, B.; Zrig, S.; Quelquejeu-Etheve, M. Enantioselective Epoxidation of Olefins with Chiral Metalloporphyrin Catalysts. **2005**, *34*(7), 573–83.

53. Siemeling, U.; Auch, T.-C. 1,1’-Di(heteroatom)-Functionalized Ferrocenes as [N,N], [O,O] and [S,S] Chelate Ligands in Transition Metal Chemistry. **2005**, *34*(7), 584–94.

54. Zhou, J.; Tang, Y. The Development and Application of Chiral Trisoxazolines in Asymmetric Catalysis and Molecular Recognition. **2005**, *34*(8), 664–76.

55. Koskinen, A. M. P.; Karisalmi, K. Polyketide Stereotetrads in Natural Products. **2005**, *34*(8), 677–90.

56. Castillon, S.; Claver, C.; Diaz, Y. C1 and C2-Symmetric Carbohydrate Phosphorus Ligands in Asymmetric Catalysis. **2005**, *34*(8), 702–13.

57. Walsh, R. The Cyclopropene Pyrolysis Story. **2005**, *34*(8), 714–32.

58. Barluenga, J.; Rodriguez, F.; Alvarez-Rodrigo, L.; Fananas, F. J. Coupling Reactions of Zirconocene Complexes and Heterosubstituted Alkenes. **2005**, *34*(9), 762–8.

59. Codee, J. D. C.; Litjens, R. E. J. N.; Van den Bos, L. J.; Overkleeft, H. S.; Van der Marel, G. A. Thio-Glycosides in Sequential Glycosylation Strategies. **2005**, *34*(9), 769–82.

Chemistry – A European Journal

60. Hahn, C. Enhancing Electrophilic Alkene Activation by Increasing the Positive Net Charge in Transition-Metal Complexes and Application in Homogeneous Catalysis. **2004**, *10*(23), 5888–99.

61. Tejedor, D.; Gonzalez-Cruz, D.; Santos-Exposito, A.; Marrero-Tellado, J. J.; de Armas, P.; Garcia-Tellado, F. Multi-component Domino Processes Based on the Organocatalytic Generation of Conjugated Acetylides: Efficient Synthetic Manifolds for Diversity-Oriented Molecular Construction. **2005**, *11*(12), 3502–10.

62. Ward, T. R. Artificial Metalloenzymes for Enantioselective Catalysis Based on the Noncovalent Incorporation of Organometallic Moieties in a Host Protein. **2005**, *11*(13), 3798–804.

Chemistry of Heterocyclic Compounds

63. Egorova, A. Y.; Timofeeva, Z. Y. Reactivity of Pyrrol-2-ones. **2004**, *40*(10), 1243–61.

64. Olsufyeva, E. N.; Preobrazhenskaya, M. N. Antibiotics Produced at the G. F. Gauze Scientific-Research Institute of New Antibiotics, Russian Academy of Medical Sciences (Marking the Fiftieth Anniversary of the Institute). (Review). **2004**, *40*(11), 1381–95.

65. Abele, E.; Abele, R.; Rubina, K.; Lukevics, E. Quinoline Oximes: Synthesis, Reactions, and Biological Activity. (Review). **2005**, *41*(2), 137–62.

CHEMTRACTS: Organic Chemistry

66. Brunet, J. J.; Poli, R. Hydroamination of Vinylarenes: Full Regioselectivity Control by the Choice of the Catalyst. **2004**, *17*(7), 381–7.

67. Poli, G.; Prestat, G. Palladium-Catalyzed Cyclization of Allylsilanes with Nucleophilic Displacement of the Silyl Group. **2004**, *17*(7), 388–95.

68. Kellogg, R. M. Synthesis and Reactions of (2,2,2-Trifluoroethyl)triphenylphosphonium Trifluoromethanesulfonate. **2004**, *17*(8), 401–6.

69. Kresge, A. J. Comparison of Activation Parameters for Ionization Reactions within Zeolites and in Aqueous Methanol Solution. **2004**, *17*(11), 585–6.

70. Brittain, D. E. A.; Ley, S. V. The First Lewis Acid-Catalyzed Allylboronate Additions to Aldehydes. **2004**, *17*(11), 620–6.

Collection of Czechoslovak Chemical Communications

71. Hajicek, J. A Review on Recent Developments in Syntheses of the Post-Secodine Indole Alkaloids. Part I: The Primary Alkaloid Types. **2004**, *69*(9), 1681–767.

Coordination Chemistry Reviews

72. Clapham, S. E.; Hadzovic, A.; Morris, R. H. Mechanisms of the H₂-Hydrogenation and Transfer Hydrogenation of Polar

Bonds Catalyzed by Ruthenium Hydride Complexes. **2004**, *248*(21–24), 2201–37.

73. Weber, L. Recent Developments in the Chemistry of Metallophosphaalkenes. **2005**, *249*(7–8), 741–63.

74. Saito, M.; Yoshioka, M. The Anions and Dianions of Group 14 Metalloles. **2005**, *249*(7–8), 765–80.

75. Lerner, H.-W. Silicon Derivatives of Group 1, 2, 11 and 12 Elements. **2005**, *249*(7–8), 781–98.

76. Kuhn, N.; Al-Sheikh, A. 2,3-Dihydroimidazol-2-ylidenes and Their Main Group Element Chemistry. **2005**, *249*(7–8), 829–57.

77. Guha, S.; Nakamoto, K. Electronic Structures and Spectral Properties of Endohedral Fullerenes. **2005**, *249*(9–10), 1111–32.

Current Medicinal Chemistry

78. Janecka, A.; Kruszynski, R. Conformationally Restricted Peptides as Tools in Opioid Receptor Studies. **2005**, *12*(4), 471–81.

79. Kajihara, Y.; Yamamoto, N.; Miyazaki, T.; Sato, H. Synthesis of Diverse Asparagine Linked Oligosaccharides and Synthesis of Sialylglycopeptide on Solid Phase. **2005**, *12*(5), 527–50.

80. Mateeva, N. N.; Winfield, L. L.; Redda, K. K. The Chemistry and Pharmacology of Tetrahydropyridines. **2005**, *12*(5), 551–71.

81. Silva, A. M. S.; Pinto, D. C. G. A. Structure Elucidation of Xanthone Derivatives. Studies of Nuclear Magnetic Resonance Spectroscopy. **2005**, *12*(21), 2481–97.

82. Gales, L.; Damas, A. M. Xanthones. A Structural Perspective. **2005**, *12*(21), 2499–515.

Current Organic Chemistry

83. Yu, B.; Yang, Z.; Cao, H. One-pot Glycosylation (OPG) for the Chemical Synthesis of Oligosaccharides. **2005**, *9*(2), 179–94.

84. Vicario, J. L.; Badia, D.; Carrillo, L.; Reyes, E.; Etxebarria, J. α -Amino Acids, β -Amino Alcohols and Related Compounds as Chiral Auxiliaries, Ligands and Catalysts in the Asymmetric Aldol Reaction. **2005**, *9*(3), 219–35.

85. Ortuno, R. M.; Moglioni, A. G.; Moltrasio, G. Y. Cyclobutane Biomolecules: Synthetic Approaches to Amino Acids, Peptides and Nucleosides. **2005**, *9*(3), 237–59.

86. Joshi, U.; Pipelier, M.; Naud, S.; Dubreuil, D. Ring Contraction Methodology for the Synthesis of Pyrroles. **2005**, *9*(3), 261–88.

87. Jiang, H.-F. Transition Metal-Catalyzed Organic Reactions in Supercritical Carbon Dioxide. **2005**, *9*(3), 289–97.

88. Biaggio, F. C.; Rufino, A. R.; Zaim, M. H.; Zaim, C. Y. H.; Bueno, M. A.; Rodrigues, A. Synthesis and Biological Activity of Prostaglandin Analogs Containing Heteroatoms in the Cyclopentane Ring. **2005**, *9*(5), 419–57.

89. Foubelo, F.; Yus, M. Organodilithium Intermediates as Useful Dianionic Synthons: Recent Advances. **2005**, *9*(5), 459–90.

90. Mohan, S. R. K.; Hamachi, I. Synthesis of New Supramolecular Polymers Based on Glycosylated Amino Acid and Their Applications. **2005**, *9*(5), 491–502.

91. Kumar, S.; Kaur, P.; Kumar, V. Indium Reagents in Heterocyclic Chemistry. **2005**, *9*(13), 1205–35.

92. Kaczor, A.; Matosiuk, D. EMCA and DEEM as Michael Reagents Used in Organic Synthesis. **2005**, 9(13), 1237–59.

93. Csende, F.; Stajer, G. Approaches to the Formation of Condensed Isoindolones. **2005**, 9(13), 1261–76.

94. Stajer, G.; Csende, F. Advanced Methods for the Synthesis of 3-Substituted 1H-Isoindol-1-ones. **2005**, 9(13), 1277–86.

95. Vilaivan, T.; Bhanthumnavin, W.; Sritana-Anant, Y. Recent Advances in Catalytic Asymmetric Addition to Imines and Related C=N Systems. **2005**, 9(14), 1315–92.

96. Pyne, S. G.; Tang, M. The Structure, Biological Activities and Synthesis of 3-Hydroxypyrrolizidine Alkaloids and Related Compounds. **2005**, 9(14), 1393–418.

97. Takayama, H.; Kitajima, M.; Kogure, N. Chemistry of Indole Alkaloids Related to the Corynanthe-Type from *Uncaria*, *Nauclaea* and *Mitragyna* plants. **2005**, 9(15), 1445–64.

98. Borschberg, H.-J. New Strategies for the Synthesis of Monoterpene Indole Alkaloids. **2005**, 9(15), 1465–91.

99. Baxendale, I. R.; Ley, S. V. Synthesis of Alkaloid Natural Products Using Solid-Supported Reagents and Scavengers. **2005**, 9(15), 1521–34.

100. Brenneman, J. B.; Martin, S. F. Ring-closing Metathesis as a Construct for the Synthesis of Polycyclic Alkaloids. **2005**, 9(15), 1535–49.

101. Harayama, Y.; Kita, Y. Pyrroloiminoquinone Alkaloids. Discorhabdins and Makaluvamines. **2005**, 9(15), 1567–88.

102. Banwell, M. G.; Beck, D. A. S.; Stanislawski, P. C.; Sydnes, M. O.; Taylor, R. M. Pyrroles and Gem-Dihalocyclopropanes as Building Blocks for Alkaloid Synthesis. **2005**, 9(15), 1589–600.

Current Organic Synthesis

103. Langenhan, J. M.; Thorson, J. S. Recent Carbohydrate-Based Chemoselective Ligation Applications. **2005**, 2(1), 59–81.

104. Lakshman, M. K. Synthesis of Biologically Important Nucleoside Analogs by Palladium-Catalyzed C–N Bond-Formation. **2005**, 2(1), 83–112.

105. Beadham, I.; Micklefield, J. Reagents for Carbonyl Methylation in Organic Synthesis. **2005**, 2(2), 231–59.

106. Mischne, M. Progress in the Synthesis of Guanacastepenes. **2005**, 2(2), 261–79.

Current Topics in Medicinal Chemistry

107. Levin, J. I. The Design and Synthesis of Aryl Hydroxamic Acid Inhibitors of MMPs and TACE. **2004**, 4(12), 1289–310.

European Journal of Organic Chemistry

108. Rozen, S. Elemental Fluorine and HOF·CH₃CN in Service of General Organic Chemistry. **2005**, (12), 2433–47.

109. Tamaru, Y. Activation of Allyl Alcohols as Allyl Cations, Allyl Anions, and Amphiphilic Allylic Species by Palladium. **2005**, (13), 2647–56.

110. Eisch, J. J.; Adeosun, A. A.; Dutta, S.; Fregene, P. O. Organic Chemistry of Subvalent Transition Metal Complexes. 33. The Decomposition of Transition Metal Alkyls Revisited: Surprising Wellspring of Novel Reagents for Organic Synthesis. **2005**, (13), 2657–70.

111. Bartoli, G.; Bartolacci, M.; Giuliani, A.; Marcantoni, E.; Massaccesi, M. Diastereoselective Lewis Acid-Mediated Reductions of α -Alkyl- β -Functionalized Carbonyl Compounds. **2005**, (14), 2867–79.

112. Friestad, G. K. Chiral N-Acylhydrazones: Versatile Imino Acceptors for Asymmetric Amine Synthesis. **2005**, (15), 3157–72.

113. Jarosz, S.; Gawel, A. Sugar Allyl Tin Compounds: Preparation and Application in Organic Synthesis. **2005**, (16), 3415–32.

Heterocycles

114. Pradhan, T. K.; De, A. Synthesis of Polynuclear Aromatic Compounds Incorporating a Fused Thiophene Ring. **2005**, 65(6), 1491–513.

115. Sliwa, W.; Zujewska, T. Interlocked Molecules Containing Quaternary Azaaromatic Moieties. **2005**, 65(7), 1713–39.

116. Matsuya, Y.; Nemoto, H. Recent Advances in Macrophelide Synthesis. **2005**, 65(7), 1741–9.

117. Duan, X.-F.; Zhang, Z.-B. Recent Progress of Halogen-Dance Reactions in Heterocycles. **2005**, 65(8), 2005–12.

Journal of Fluorine Chemistry

118. Gautier, A.; Lopin, C.; Garipova, G.; Kalinina, I.; Salcedo, C.; Balieu, S.; Piettre, S. R. Analogues of Nucleotides and Oligonucleotides Featuring Difluorophosphonate, Difluorophosphonothioate and Difluorophosphinate Functional Groups. **2004**, 125(11), 1745–56.

119. Uneyama, K.; Amii, H.; Katagiri, T.; Kobayashi, T.; Hosokawa, T. A Rich Chemistry of Fluorinated Imidoyl Halides. **2005**, 126(2), 165–71.

120. Langlois, B. R.; Billard, T.; Roussel, S. Nucleophilic Trifluoromethylation. Some Recent Reagents and Their Stereoselective Aspects. **2005**, 126(2), 173–9.

121. Billard, T.; Gille, S.; Ferry, A.; Barthelemy, A.; Christophe, C.; Langlois, B. R. From Fluoral to Heterocycles: A Survey of Polyfluorinated Iminium Chemistry. **2005**, 126(2), 189–96.

122. Petrova, T. D.; Platonov, V. E. Polyfluoroaromatic Compounds with a N:CCIR group. A Reactive Type of Polyfluoroarene. **2005**, 126(6), 860–76.

Journal of Organometallic Chemistry

123. Lin, I. J. B.; Vasam, C. S. Metal-Containing Ionic Liquids and Ionic Liquid Crystals Based on Imidazolium Moiety. **2005**, 690(15), 3498–512.

124. Flannigan, D. J.; Hopkins, S. D.; Suslick, K. S. Sonochemistry and Sonoluminescence in Ionic Liquids, Molten Salts, and Concentrated Electrolyte Solutions. **2005**, 690(15), 3513–7.

Journal of the Brazilian Chemical Society

125. Dupont, J. On the Solid, Liquid and Solution Structural Organization of Imidazolium Ionic Liquids. **2004**, 15(3), 341–50.

Natural Product Reports

126. Hanson, J. R. Steroids: Reactions and Partial Synthesis. **2005**, 22(1), 104–10.

127. Chen, J. C.; Chiu, M. H.; Nie, R. L.; Cordell, G. A.; Qiu, S. X. Cucurbitacins and Cucurbitane Glycosides. Structures and Biological Activities. **2005**, 22(3), 386–99.

128. Fraga, B. M. Natural Sesquiterpenoids. **2005**, 22(4), 465–86.

New Journal of Chemistry

129. Kharisov, B. I.; Ortiz Mendez, U.; Almaraz Garza, J. L.; Almaguer Rodriguez, J. R. Synthesis of Non-Substituted Phthalocyanines by Standard and Non-Standard Techniques. Influence of Solvent Nature in Phthalocyanine Preparation at Low Temperature by UV-Treatment of the Reaction System. **2005**, 29(5), 686–92.

Photochemistry

130. Horspool, W. M. Photolysis of Carbonyl Compounds. **2004**, (35), 1–16.

131. Horspool, W. M. Enone Cycloadditions and Rearrangements: Photoreactions of Dienones and Quinones. **2004**, (35), 17–46.

132. Horspool, W. M. Photochemistry of Alkenes, Alkynes and Related Compounds. **2004**, (35), 47–78.

Progress in Nuclear Magnetic Resonance Spectroscopy

133. Dziembowska, T.; Hansen, P. E.; Rozwadowski, Z. Studies Based on Deuterium Isotope Effect on ^{13}C Chemical Shifts. **2004**, 45(1–2), 1–29.

Pure and Applied Chemistry

134. Credi, A.; Ferrer, B. Rotaxane-Based Molecular Machines Operated by Photoinduced Electron Transfer. **2005**, 77(6), 1051–7.

135. Griesbeck, A. G.; El-Idreesy, T. T.; Bartoschek, A. Photooxygenation in Polymer Matrices: *en route* to Highly Active Antimalarial Peroxides. **2005**, 77(6), 1059–74.

136. Roth, H. D. Return Electron Transfer in Radical Ion Pairs of Triplet Multiplicity. **2005**, 77(6), 1075–85.

137. Yoshizawa, M.; Fujita, M. Self-Assembled Coordination Cage as a Molecular Flask. **2005**, 77(7), 1107–12.

138. Ley, S. V. Development of Methods Suitable for Natural Product Synthesis: The Azadirachtin Story. **2005**, 77(7), 1115–30.

139. Bedel, O.; Haudrechy, A.; Pouilhes, A.; Langlois, Y. Syntheses of Antiangiogenic or Cytotoxic Natural Products: Fumagillin and Bengacarbolone. **2005**, 77(7), 1139–52.

140. Pilli, R. A.; Correa, I. R., Jr.; Maldaner, A. O.; Rosso, G. B. Total Synthesis and Structural Elucidation of Natural Products: (–)-Delactonmycin, (+)-Plumerinine, and (–)-Parvistemoamide. **2005**, 77(7), 1153–60.

141. Timmer, M. S. M.; Verhelst, S. H. L.; Grotenbreg, G. M.; Overhand, M.; Overkleeft, H. S. Carbohydrates as Versatile Platforms in the Construction of Small Compound Libraries. **2005**, 77(7), 1173–81.

142. Chiu, P. Application of the Carbene Cyclization-Cycloaddition Cascade in Total Synthesis. **2005**, 77(7), 1183–9.

143. Nair, V.; Menon, R. S.; Sreekumar, V. Multicomponent Reactions Based on Nucleophilic Carbenes and Their Applications in Organic Synthesis. **2005**, 77(7), 1191–8.

144. Cheng, H.-S.; Loh, T.-P. General and Practical Approach to the Syntheses of Linear Homoallylic Alcohols. **2005**, 77(7), 1199–206.

145. Martin, S. F. Ring-Closing Metathesis: A Facile Construct for Alkaloid Synthesis. **2005**, 77(7), 1207–12.

146. Luh, T.-Y. Annulation of Propargylic Dithioacetals Leading to Furan-Containing Oligoaryls. **2005**, 77(7), 1213–9.

147. Liao, C.-C. Masked *o*-Benzoquinone Strategy in Organic Synthesis: Short and Efficient Construction of *cis*-Decalins and Linear Triquinanes from 2-Methoxyphenols. **2005**, 77(7), 1221–34.

148. Juaristi, E.; Avina, J. Diastereoselective Alkylation of Cyclo- β -dipeptides en route to Enantiopure β -Amino Acids. **2005**, 77(7), 1235–41.

149. Catellani, M.; Motti, E.; Faccini, F.; Ferraccioli, R. New Catalytic Methods for the Synthesis of Selectively Substituted Aromatics through Palladacycles. **2005**, 77(7), 1243–8.

150. Ding, K. Combinatorial Approach to the Discovery of Chiral Catalysts for Asymmetric Reactions. **2005**, 77(7), 1251–7.

151. Charette, A. B.; Boezio, A. A.; Cote, A.; Moreau, E.; Pytkowicz, J.; Desrosiers, J.-N.; Legault, C. Asymmetric Catalytic Addition of Diorganozinc Reagents to Imines: Scope and Application. **2005**, 77(7), 1259–67.

Russian Chemical Reviews

152. Kornev, A. N. The Tris(Trimethylsilyl)Silyl Group in Organic, Coordination and Organometallic Chemistry. **2004**, 73(11), 1065–89.

153. Krivopalov, V. P.; Shkurko, O. P. 1,2,3-Triazole and Its Derivatives. Development of Methods for the Formation of the Triazole Ring. **2005**, 74(4), 339–79.

Russian Journal of Organic Chemistry

154. Shokova, E. A.; Kovalev, V. V. Homooxalixarenes: II. Receptor Properties. **2004**, 40(11), 1547–71.

155. Salomatina, O. V.; Yarovaya, O. I.; Barkhash, V. A. Intramolecular Involvement of an Oxygen-Containing Nucleophilic Group in Epoxy Ring Opening. **2005**, 41(2), 155–85.

156. Borodkin, G. I.; Shubin, V. G. Nitrenium Ions and Problem of Direct Electrophilic Amination of Aromatic Compounds. **2005**, 41(4), 473–504.

Science

157. Troshin, P. A.; Avent, A. G.; Darwish, A. D.; Martsinovich, N.; Abdul-Sada, A. a. K.; Street, J. M.; Taylor, R. Isolation of Two Seven-Membered Ring C_{58} Fullerene Derivatives: $\text{C}_{58}\text{F}_{17}\text{CF}_3$ and $\text{C}_{58}\text{F}_{18}$. **2005**, 309(5732), 278–81.

158. Anfinrud, P.; Schotte, F. Chemistry: X-Ray Fingerprinting of Chemical Intermediates in Solution. **2005**, 309(5738), 1192–3.

159. Zheng, J.; Kwak, K.; Asbury, J.; Chen, X.; Piletic, I. R.; Fayer, M. D. Ultrafast Dynamics of Solute–Solvent Complexation Observed at Thermal Equilibrium in Real Time. **2005**, 309(5739), 1338–43.

Synlett

160. Hou, X.-L.; Huang, H.; Wong, H. N. C. Planar Dehydro-[8]Annulenes and Their Ramifications: Substituted Tribenzo-

[a,c,e]cyclooctenes and Tetrabenz[a,c,e,g]cyclooctenes. **2005**, (7), 1073–89.

161. Postema, M. H. D.; Piper, J. L.; Betts, R. L. Synthesis of Stable Carbohydrate Mimetics as Potential Glyco-Therapeutics. **2005**, (9), 1345–58.

162. Capriati, V.; Florio, S.; Luisi, R. α -Lithiated Aryloxiranes: Useful Reactive Intermediates. **2005**, (9), 1359–69.

163. Kanai, M.; Kato, N.; Ichikawa, E.; Shibasaki, M. Power of Cooperativity: Lewis Acid-Lewis Base Bifunctional Asymmetric Catalysis. **2005**, (10), 1491–508.

164. Murai, T. Synthesis and Reactions of Selenothioic Acid S-Esters and Diselenoic Acid Esters. **2005**, (10), 1509–20.

165. Miyabe, H.; Takemoto, Y. Regio- and Stereocontrolled Palladium- or Iridium-Catalyzed Allylation. **2005**, (11), 1641–55.

166. Katritzky, A. R.; Suzuki, K.; Wang, Z. Acylbenzotriazoles as Advantageous N-, C-, S-, and O-Acylating Agents. **2005**, (11), 1656–65.

167. Goodall, K. J.; Barker, D.; Brimble, M. A. A Review of Advances in the Synthesis of Analogues of the Delphinium Alkaloid Methyllycaconitine. **2005**, (12), 1809–27.

168. Achard, T. R. J.; Clutterbuck, L. A.; North, M. Asymmetric Catalysis of Carbon–Carbon Bond-Forming Reactions Using Metal(salen) Complexes. **2005**, (12), 1828–47.

169. Degl'Innocenti, A.; Capperucci, A.; Castagnoli, G.; Malesci, I. Hexamethyldisilathiane-based Thionation of Carbonyl Compounds. A Versatile Approach to Sulfur-Containing Heterocycles. **2005**, (13), 1965–83.

Synthesis—Stuttgart

170. Weinreb, S. M.; Orr, R. K. N-Phosphinoylimines: An Emerging Class of Reactive Intermediates for Stereoselective Organic Synthesis. **2005**, (8), 1205–27.

171. Fogassy, E.; Nogradi, M.; Palovics, E.; Schindler, J. Resolution of Enantiomers by Non-Conventional Methods. **2005**, (10), 1555–68.

172. Rendler, S.; Oestreich, M. Hypervalent Silicon as a Reactive Site in Selective Bond-Forming Processes. **2005**, (11), 1727–47.

173. Riego, E.; Hernandez, D.; Albericio, F.; Alvarez, M. Directly Linked Polyazoles: Important Moieties in Natural Products. **2005**, (12), 1907–22.

174. Hilt, G.; Bolze, P. Boron-Substituted Building Blocks in Diels–Alder and Other Cycloaddition Reactions. **2005**, (13), 2091–115.

Tetrahedron

175. Clayden, J.; Read, B.; Hebditch, K. R. Chemistry of Domoic Acid, Isodomoic Acids, and Their Analogs. **2005**, 61(24), 5713–24.

176. Muzart, J. Palladium-Catalyzed Reactions of Alcohols. Part C: Formation of Ether Linkages. **2005**, 61(25), 5955–6008.

177. Pellissier, H. Recent Developments in the Nazarov Process. **2005**, 61(27), 6479–517.

178. Clennan, E. L.; Pace, A. Advances in Singlet Oxygen Chemistry. **2005**, 61(28), 6665–91.

179. Amblard, F.; Nolan, S. P.; Agrofoglio, L. A. Metathesis Strategy in Nucleoside Chemistry. **2005**, 61(30), 7067–80.

180. Ilas, J.; Anderluh, P. S.; Dolenc, M. S.; Kikelj, D. Recent Advances in the Synthesis of 2H-1,4-Benzoxazin-3-(4H)-ones and 3,4-Dihydro-2H-1,4-benzoxazines. **2005**, 61(31), 7325–48.

181. Frontier, A. J.; Collison, C. The Nazarov Cyclization in Organic Synthesis. Recent Advances. **2005**, 61(32), 7577–606.

182. Weissman, S. A.; Zewge, D. Recent Advances in Ether Dealkylation. **2005**, 61(33), 7833–63.

183. Matsunaga, H.; Ishizuka, T.; Kunieda, T. Synthetic Utility of Five-Membered Heterocycles-Chiral Functionalization and Applications. **2005**, 61(34), 8073–94.

184. Kaczorowska, K.; Kolarska, Z.; Mitka, K.; Kowalski, P. Oxidation of Sulfides to Sulfoxides. Part 2. Oxidation by Hydrogen Peroxide. **2005**, 61(35), 8315–27.

185. Ballini, R.; Bosica, G.; Fiorini, D.; Palmieri, A. Acyclic α -Nitro Ketones. A Versatile Class of α -Functionalized Ketones in Organic Synthesis. **2005**, 61(38), 8971–93.

186. Muzart, J. Palladium-Catalyzed Reactions of Alcohols. Part D. Rearrangements, Carbonylations, Carboxylations and Miscellaneous Reactions. **2005**, 61(40), 9423–63.

Tetrahedron: Asymmetry

187. Husinec, S.; Savic, V. Chiral Catalysts in the Stereoselective Synthesis of Pyrrolidine Derivatives via Metallo-azomethine Ylides. **2005**, 16(12), 2047–61.

188. Chelucci, G. Stereoselective Synthesis of Optically Active 1-Substituted-1-Pyridyl-Methylamines. **2005**, 16(14), 2353–83.

Topics in Catalysis

189. Koetzle, T. F.; Schultz, A. J. Single-Crystal Neutron Diffraction: A Valuable Tool for Probing Bond Activation in Transition Metal σ Complexes. **2005**, 32(3–4), 251–5.

190. Marks, T. J.; Stair, P. C. The Interface Between Heterogeneous and Homogeneous Catalysis. **2005**, 34(1–4), 1.

Topics in Current Chemistry

191. Basler, B.; Brandes, S.; Spiegel, A.; Bach, T. Total Syntheses of Kelsoene and Preussin. **2005**, 243(Natural Product Synthesis I), 1–42.

192. Bandichhor, R.; Nosse, B.; Reiser, O. Paraconic Acids – The Natural Products from Lichen Symbiont. **2005**, 243, 43–72.

193. Wessjohann, L. A.; Ruijter, E. Strategies for Total and Diversity-Oriented Synthesis of Natural Product(-like) Macrocycles. **2005**, 243, 137–84.

194. Sefkow, M. Enantioselective Synthesis of C(8)-Hydroxylated Lignans: Early Approaches and Recent Advances. **2005**, 243, 185–224.

195. Ivanov, A. V.; Antzutkin, O. N. Natural Abundance ^{15}N and ^{13}C CP/MAS NMR of Dialkylthiocarbamate Compounds with Ni(II) and Zn(II). **2005**, 246(New Techniques in Solid-State NMR), 271–337.

196. Fujiwara, S.-i.; Kambe, N. Thio-, Seleno-, and Telluro-Carboxylic Acid Esters. **2005**, 251(Chalcogenocarboxylic Acid Derivatives), 87–140.

197. Ishii, A.; Nakayama, J. Carbodithioic Acid Esters. **2005**, 251, 181–225.

198. Ishii, A.; Nakayama, J. Carboselenothioic and Carbo-diselenoic Acid Derivatives and Related Compounds. **2005**, *251*, 227–46.

199. Murai, T. Thio-, Seleno-, Telluro-Amides. **2005**, *251*, 247–72.

Monographs

201. Atta ur R., Ed. Bioactive Natural Products (Part K). [In: *Stud. Nat. Prod. Chem.*; **2005**, *30*]. Elsevier: Amsterdam, Netherlands, 2005.

202. Baasner, Hagemann, Tatlow, Eds. Methods of Organic Chemistry; Additional and Supplementary Volumes to the 4th Edition, Volume E 10 a–c: Organo-Fluorine Compounds. Thieme Medical Publishers: New York, 2000.

203. Banfi, L.; Heintzelman, G. R.; Mahajan, Y. R.; Meigh, I. R.; Riva, R.; Weinreb, S. M. Organic Reactions, Volume 65. John Wiley: Hoboken, NJ, 2005.

204. Berkessel, A.; Groeger, H. Asymmetric Organocatalysis. Wiley-VCH: Weinheim, Germany, 2005.

205. Black, D. S., Ed. Hetarenes and Related Ring Systems Six-Membered Hetarenes with One Nitrogen or Phosphorus Atom. [In: *Sci. Synth.*; **2005**, *15*]. Georg Thieme Verlag: Stuttgart, Germany, 2005.

206. Buchmeiser, M. Polymeric Materials in Organic Synthesis and Catalysis. John Wiley: Chichester, U.K., 2003.

207. Cesaro, A., Horton, D., Eds. Special Issue: Conformations of Oligo- and Poly-saccharides. [In: *Carbohydr. Res.*; **2005**, *340*(5)]. Elsevier: Amsterdam, Netherlands, 2005.

208. Chatgililoglu, C. Organosilanes in Radical Chemistry. John Wiley: Chichester, U.K., 2004.

209. Clayden, J. Organolithiums: Selectivity for Synthesis. Elsevier: Oxford, U.K., 2002.

210. Cossy, J., Ed. Compounds with Two Carbon-Heteroatom Bonds: Ketones. [In: *Sci. Synth.*; **2005**, *26*]. Georg Thieme Verlag: Stuttgart, Germany, 2005.

211. Cotarca, L.; Eckert, H. Phosgenations: A Handbook. John Wiley: Chichester, U.K., 2003.

212. Cremllyn, R. J. Chlorosulfonic Acid: A Versatile Reagent. Royal Society of Chemistry: Cambridge, U.K., 2002.

213. D'Amore, A., Zaikov, G. E., Eds. Physical Organic Chemistry: Theory and Practice. Nova Science: Hauppauge, NY, 2005.

214. de Meijere, A., Diederich, F., Eds. Metal-Catalyzed Cross-Coupling Reactions, Second Completely Revised and Enlarged Edition; Volume 2. Wiley-VCH: Weinheim, Germany, 2004.

215. Dhar, D. N., Dhar, P., Eds. The Chemistry of Chlorosulfonyl Isocyanate. World Scientific: Singapore, 2002.

216. Doetz, K. H., Ed. Metal Carbenes in Organic Synthesis. [In: *Top. Organomet. Chem.*, **2004**, *13*]. Springer: Berlin, Germany, 2004.

217. Eames, J.; Peach, J. M. Stereochemistry at a Glance. Blackwell: Oxford, U.K., 2003.

218. Eicher, T.; Haputmann, S.; Suschitzky, H. The Chemistry of Heterocycles: Structure, Reactions, Syntheses and Applications. John Wiley: Chichester, U.K., 2003.

219. Engel, R.; Iolani Cohen, J. Synthesis of Carbon–Phosphorus Bonds, Second Edition. CRC Press: Boca Raton, FL, 2004.

200. Scheffer, J. R.; Xia, W. Asymmetric Induction in Organic Photochemistry via the Solid-State Ionic Chiral Auxiliary Approach. **2005**, *254*(Organic Solid State Reactions), 233–62.

220. Evans, P. A., Ed. Modern Rhodium-Catalyzed Organic Reactions. Wiley-VCH: Weinheim, Germany, 2005.

221. Fieser, L.; Fieser, M.; Ho, T.-L. Fieser's Reagents for Organic Synthesis, 21 Volume Set and Index to Volumes 1–12. John Wiley: Chichester, U.K., 2002.

222. Fringuelli, F.; Taticchi, A. The Diels–Alder Reaction: Selected Practical Methods. John Wiley: Chichester, U.K., 2002.

223. Fuhrhop, J.; Li, G. Organic Synthesis: Concepts, Methods, Starting Materials with a Foreword by E. J. Corey. John Wiley: Chichester, U.K., 2003.

224. Gielen, M., Willem, R., Wrackmeyer, B., Eds. Fluxional Organometallic and Coordination Compounds. [In: *Phys. Organomet. Chem.*, **2004**, *4*]. John Wiley: Chichester, U.K., 2004.

225. Gokel, G. W., Ed. Advances in Supramolecular Chemistry, Volume 9. Cerberus Press: Miami, FL, 2003.

226. Harmata, M., Ed. Strategies and Tactics in Organic Synthesis, Volume 5. Elsevier: London, U.K., 2004.

227. Hassner, A.; Stumer, C. Organic Syntheses Based on Name Reactions, Second Edition. Elsevier: Oxford, U.K., 2002.

228. Hodnett, B. K. Heterogeneous Catalytic Oxidation: Fundamental and Technological Aspects of the Selective and Total Oxidation of Organic Compounds. John Wiley: New York, 2000.

229. Horton, D., Ed. Advances in Carbohydrate Chemistry and Biochemistry, Volume 59. Elsevier: San Diego, CA, 2004.

230. Howl, J., Ed. Peptide Synthesis and Applications, [In: *Methods Mol. Biol.*; **2005**, *298*]. Humana Press: Totowa, NJ, 2005.

231. Jackson, R. A. Mechanisms in Organic Reactions. Royal Society of Chemistry: Cambridge, U.K., 2004.

232. Katritzky, A. R., Pozharskii, A. F., Eds. Handbook of Heterocyclic Chemistry, Second Edition. Pergamon Press: New York, 2000.

233. Katritzky, A. R., Taylor, R. J. K., Eds. Comprehensive Organic Functional Group Transformations II, Volumes 1–7. Elsevier: Oxford, U.K., 2005.

234. Kaufmann, D. E., Matteson, D. S., Eds. Organometallics: Boron Compounds. [In: *Sci. Synth.*; **2004**, *6*]. Georg Thieme Verlag: Stuttgart, Germany, 2004.

235. Knight, J. G., Ed. Compounds with Four and Three Carbon-Heteroatom Bonds. [In: *Sci. Synth.*; **2005**, *18*]. Georg Thieme Verlag: Stuttgart, Germany, 2005.

236. Krause, N., Hashmi, A. S. K., Eds. Modern Allene Chemistry, Volumes 1–2. Wiley-VCH: Weinheim, Germany, 2004.

237. Lemke, T. L. Review of Organic Functional Groups, 4th Edition. Lippincott Williams & Wilkins: Philadelphia, PA, 2003.

238. Li, J. J. Name Reactions: A Collection of Detailed Reaction Mechanisms. Springer: Berlin, Germany, 2002.

- 239.** Lin, G.-Q.; Li, Y.-M.; Chan, A. S. C. *Principles and Applications of Asymmetric Synthesis*. John Wiley: New York, 2001.
- 240.** Lindhorst, T. K.; Albertina, C. *Essentials of Carbohydrate Chemistry and Biochemistry*. John Wiley: Chichester, U.K., 2003.
- 241.** Mahrwald, R., Ed. *Modern Aldol Reactions, Volume 1: Enolates, Organocatalysis, Biocatalysis and Natural Product Synthesis*. Wiley-VCH: Weinheim, Germany, 2004.
- 242.** Mahrwald, R., Ed. *Modern Aldol Reactions, Volume 2: Metal Catalysis*. Wiley-VCH: Weinheim, Germany, 2004.
- 243.** Marcel Dekker, Inc. *Polysaccharides: Structural Diversity and Functional Versatility, Second Edition*. Marcel Dekker: New York, 2005.
- 244.** Morales, G. A., Ed. *Special Issue: Natural Products and Macrocyclic Derivatives*. [In: *Mol. Divers.*; **2005**, 9(1–3)]. Springer: Dordrecht, Netherlands, 2005.
- 245.** Mundy, B. P.; Eller, M. G.; Poon, T. *Name Reactions, Reagents, and Rules in Organic Synthesis; 2nd Edition*. John Wiley: Chichester, U.K., 2003.
- 246.** Murahashi, S. I., Ed. *Compounds with Four and Three Carbon – Heteroatom Bonds. Three Carbon–Heteroatom Bonds: Nitriles, Isocyanides, and Derivatives*. [In: *Sci. Synth.*; **2004**, 19]. Georg Thieme Verlag: Stuttgart, Germany, 2004.
- 247.** Murphy, P. J., Ed. *Organophosphorus Reagents: A Practical Approach in Chemistry*. Oxford University Press: Oxford, U.K., 2004.
- 248.** Nicolaou, K. C.; Snyder, A. *Classics in Total Synthesis II: Targets, Strategies, Methods*. John Wiley & Sons: Chichester, U.K., 2003.
- 249.** Otera, J. *Esterification: Methods, Reactions and Applications*. John Wiley & Sons: Chichester, U.K., 2003.
- 250.** Pandalai, S. G., Ed. *Recent Research Developments in Organic Chemistry, Volumes 6–7*. Transworld Research Network: Trivandrum, India, 2003.
- 251.** Pretsch, E.; Buehlmann, P.; Affolter, C. *Structure Determination of Organic Compounds: Tables of Spectral Data*. Springer: Berlin, Germany, 2003.
- 252.** Rappoport, Z., Ed. *The Chemistry of Phenols: Parts 1 and 2 of 'The Chemistry of Functional Groups' Series*. John Wiley: Chichester, U.K., 2003.
- 253.** Rappoport, Z.; Marek, I., Eds. *The Chemistry of Organolithium Compounds, Volumes 1–2*. John Wiley: Chichester, U.K., 2004.
- 254.** Reichardt, C. *Solvents and Solvent Effects in Organic Chemistry, third Edition*. John Wiley: Chichester, U.K., 2003.
- 255.** Roberts, S. M.; Poignant, G., Eds. *Hydrolysis, Oxidation and Reduction*. John Wiley: Chichester, U.K., 2002.
- 256.** Roos, G. H., Ed. *Compendium of Chiral Auxiliary Applications*. Academic Press: San Diego, CA, 2001.
- 257.** Savignac, P.; Iorga, B. *Modern Phosphonate Chemistry*. CRC Press: Boca Raton, FL, 2003.
- 258.** Sell, C. S. *A Fragrant Introduction to Terpenoid Chemistry*. Royal Society of Chemistry: Cambridge, U.K., 2003.
- 259.** Shibasaki, M.; Yamamoto, Y., Eds. *Multimetallic Catalysts in Organic Synthesis*. Wiley-VCH: Weinheim, Germany, 2004.
- 260.** Smith, M. B. *Compendium of Organic Synthetic Methods, Volumes 9–11*. John Wiley: Chichester, U.K., 2003.
- 261.** Takahashi, T., Ed. *Metalloenes in Regio- and Stereoselective Synthesis*. [In: *Top. Organomet. Chem.*, **2005**; 8]. Springer: Berlin, Germany, 2005.
- 262.** Takeda, T., Ed. *Modern Carbonyl Olefination*. Wiley-VCH: Weinheim, Germany, 2004.
- 263.** Tanaka, K.; Toda, F. *Solvent-Free Organic Synthesis*. John Wiley: Chichester, U.K., 2003.
- 264.** Tierney, J. P.; Lidstrom, P., Eds. *Microwave Assisted Organic Synthesis*. Blackwell: Oxford, U.K., 2005.
- 265.** Toda, F.; Bishop, R., Eds. *Separations and Reactions in Organic Supramolecular Chemistry*. [In: *Perspect. Supramol. Chem.*; **2004**, 8]. John Wiley: Chichester, U.K., 2004.
- 266.** Todeschini, R.; Consonni, V. *Handbook of Molecular Descriptors*. Wiley-VCH: Berlin, Germany, 2000.
- 267.** Togni, A.; Gruetzmacher, H.-J. *Catalytic Heterofunctionalization*. John Wiley: Chichester, U.K., 2000.
- 268.** Van der Eycken, E.; Van der Eycken, J., Eds. *Microwaves in Combinatorial and High-Throughput Synthesis*. [In: *QSAR Comb. Sci.*; **2004**, 23(10)]. Wiley-VCH: Weinheim, Germany, 2004.
- 269.** Vill, V., Ed. *Numerical Data and Functional Relationships in Science and Technology-New Series, Index of Organic Compounds*. Springer-Verlag: Berlin, Germany, 2001.
- 270.** Weber, P. *Combinatorial Strategies in Biology and Chemistry*. John Wiley: Hoboken, NJ, 2002.
- 271.** Yamamoto, H., Ed. *Organofluorine Compounds: Chemistry and Applications*. Springer-Verlag: New York, 2005.
- 272.** Zaragoza, F. *Organic Synthesis on Solid Phase: Supports, Links, Reactions*. John Wiley: Chichester, U.K., 2000.

Index

- Acetylides, conjugated, 61
 Acylbenzotriazoles, 166
 Acylhydrazones, chiral, 112
 Acylonucleosides, via metathesis, 179
 Alcohols, carbonylation, 186
 carboxylations, 186
 linear, homoallylic, 144
 Pd catalysis, 176, 186
 Aldehydes, allylation, 144
 allylboronate addition, 70
 cyanosilylation, 163
 Aldol reaction, enantioselective, 29
 vinylogous, 29
 α -amino acids, 84
 β -amino alcohols, 84
 biocatalysis, book, 241
 enolate synthesis, book, 241
 metal catalysis, book, 242
 natural product synthesis, book, 241
 organocatalysis, book, 241
 Alkaloids, polycyclic, synthesis, 100
 synthesis, 145
 via supported reagents, 99
 Alkenes, activation, electrophilic, 60
 asymmetric hydrogenation, 40
 N-, cross metathesis, 13
 with nitrones, solid-phase, 49
 Alkynes, metathesis, 27
 with nitrones, solid-phase, 49
 Allenes, book, 236
 Allyl alcohol activation, Pd, 109
 Allylation, with Ir, 165
 with Pd, 165
 Allylic substitutions, asymmetric,
 chiral Cu, 25
 Allylsilanes, cyclization, 67
 Allyltins, sugar derivatives, 113
 Amides, chalcogen-, 199
 Amination, intramolecular, 17
 Amine synthesis, asymmetric, 112
 Amino acid esters, glycosylated, 90
 Amino acids, synthesis with metal(salen),
 168
 α -, synthesis, 23
 β -, 148
 Annulenes, "in-plane" aromaticity, 15
 Antibiotics, 64
 paraconic acids, 192
 Antifungal agents, pseudolaric acids, 142
 Antimalarial peroxides, 135
 Antitumor agents, paraconic acids, 192
 pseudolaric acids, 142
 pyrroloiminoquinones, 101
 Aqueous solvents, C–C bond formation, 38
 Aromatics, alkylation, 149
 amination, 156
 arylation, 149
 polynuclear, fused thiophene, 114
 Aryl amination, Pd catalyst, 104
 Aryl hydroxamic acid inhibitors, 107
 Aryloxiranes, lithiated, 162
 Asparagine linked oligosaccharides, 79
 Asymmetric synthesis, book, 239
 Azaaromatic rotaxanes, 115
 Azides, organic, 31
 Azomethine ylides, cycloaddition, 36
 Benzoquinones, Diels–Alder, 147
 Benzoxazinones, synthesis, 180
 Boranes, polyhedral, aromaticity, 44
 Boron building blocks, 174
 Butyrolactone natural products, 192
 Carbenes, cyclization-cycloaddition
 cascade, 142
 nucleophilic, 143
 Carbodiselenoic acid, 198
 Carbohydrates, book, 229, 240
 mimetics, 161
 in combinatorial chemistry, 141
 in ring-closing metathesis, 141
 phosphorus ligands, 56
 Carbon–heteroatom bonds, book, 235
 Carbon–phosphorus bonds, book, 219
 Carbonyl methylenation, 105
 Carbonyls, hydrogenation, 72
 α -amination, 23
 α -oxygenation, 23
 Carboselenothioic acid, 198
 Carboxylic acids, chalcogen-, 196.
 Carboxylic acids, chalcogen-, 196–9
 Catalysts, Lewis acid/base, 163
 Catenanes, azaaromatic, 115
 C–C bond formation, with enzymes, 50
 Chemiluminescence, peroxide reactions, 41
 Chiral auxiliaries, book, 256
 Chlorosulfonic acid reagent, book, 212
 Chlorosulfonyl isocyanate, book, 215
 C–N bond formation, 17
 Combinatorial chemistry, chiral catalysts,
 150
 Combinatorial synthesis, book, 270
 Cross metathesis, N-alkenes, 13
 N-alkynes, 13
 Cross-coupling, monoorganotin, 21
 Pd catalyst, 26
 Cucurbitacins, 127
 Cucurbituril, 30
 Cyanohydrins, synthesis with metal(salen),
 168
 Cyclobutane biomolecules, 85
 Cyclohexadienes, radicals, 3
 Cyclopropane pyrolysis, 57
 Decalins, cis-, synthesis, 147
 Dehydro[8]annulenes, 160
 Delphinium alkaloids, methyllycaconitine,
 167
 Dialkyldithiocarbamates, CP/MAS NMR,
 195
 Diamino acids, 39
 Diels Alder reaction book, 222
 boron dienes, 174
 imino dienophiles, book, 203
 Dihalocyclopropanes, in alkaloid synthesis,
 102
 Dihydrobenzoxazines, synthesis, 180
 Dihydroimidazolones, 183
 Dihydroimidazolylidenes, 76
 Dipeptides, cyclo- β -, 148
 Dithioates, 197
 Dithioic acid esters, 197
 Domino reactions, 61
 Domoic acid, 175
 Enantiomers, resolution, 171
 Enone cycloaddition, 131
 Enyne metathesis, 27
 Epoxy ring opening, 155
 Esterification, book, 249
 Ethers, dealkylation, 182
 from alcohols, with Pd, 176
 Ferrocenes, diheteroatom, 53
 Flesers' reagents, 221
 Fluoral derivatives, 51
 Fluorinated homoallylamines, 121
 Fluorinated imidoyl halides, 119
 Fluorinated iminium ions, 121
 Fluorination, 4
 Fluxional organometallic compounds, book,
 224
 Fullerenes, aromaticity, 44
 endohedral, 77
 fluorinated, 157
 Functional groups, organic, book, 237
 transformation, book, 233
 Glycoluril hexamer, 30
 Glycosylation, sequential, 59
 Guanacastepenes, synthesis, 106
 Halogen dance reactions, heterocycles, 117
 Hetarenes, book, 205
 Heteroaromatics, polynuclear, fused
 thiophene, 114
 Heterocycles, book, 218, 232
 five-membered, 183
 fluorinated, 11
 perfluoroalkyl, 11
 thionation, 169
 Heterocyclo-purines, 9
 Heterofunctionalization, catalytic, book, 267
 Heterogeneous/homogeneous catalysis, 190
 Hexamethyldisilathiane, 169
 Homooxacalixarenes, 154
 Hydrolysis, book, 255
 Hydroporphyrins, synthesis, 2
 Hydroxylpyrrolizidine alkaloids, 96
 Imines, addition, 95
 diorganozinc, 151
 hydrogenation, 72
 Indiu reagents, heterocyclic chemistry, 91
 Indole alkaloids, Corynanthe-, 97
 monoterpene, 98
 secodine, 71
 aspidospermane, 71
 ibogane, 71
 pseudoaspidospermane, 71
 Indoles, synthesis with Pd, 35
 Indolizidines, solid-phase synthesis, 141
 Intermediates, X-ray fingerprinting, 158
 Iodine, hypervalent, reagent, 19
 Ionic liquids, imidazolium, 123, 125
 Ionic solvents, sonochemistry, 124
 Isocyanides, book, 246
 Isodomoic acid, 175
 Isoindoles, 93
 Isoindolones, 3-substituted, 94
 Isoxazolines, 49
 Isoxazolines, 49
 Ketimines, Strecker reaction, 163
 Ketones, book, 210
 cyanosilylation, 163
 functionalized, reduction, 111

- α -nitro, 185
 Kinetic resolution, nonenzymatic, 22
 Lanthanide dinitrogen, 34
 Ligation, chemoselective, 103
 Lignans, α -hydroxylated, 194
 Lithium aminoborohydrides, 14
 Macrocycles, cucurbituril, 30
 phenylene-acetylene, 20
 Macrophelide synthesis, 116
 Mechanisms, book, 231
 kinetic analysis, 24
 name reactions, book, 238
 Metal carbenes, in synthesis, book, 216
 Metal catalysis, cross coupling, book, 214
 Metal(salen) complexes, 168
 Metallacyclopentadienes, dianions, 74
 Metallacyclopeptides, 48
 Metallocenes, book, 261
 Zr dinitrogen, 33
 Metalloenzymes, enantioselective catalysts, 62
 Metalloles, benzannulated, 74
 Metallophosphaalkenes, 73
 Methyl cyanide, HOF complex, 108
 Michael reagents, 92
 Microwaves, combinatorial synthesis, book, 268
 in synthesis, book, 264
 Molecular descriptors, book, 266
 Molecular machines, rotaxanes, 134
 Multimetallic catalysts, book, 259
 Natural products, azadirachtin, 138
 bengacarboline, 139
 bioactive, book, 201
 delactonmycin, 140
 fumagillin, 139
 kelsoene, 191
 macrocycles, 193
 macrocycles, book, 244
 preussin, 191
 synthesis, book, 248
 Nazarov cyclization, 177, 181
 Nitriles, book, 246
 NMR, deuterium isotope effect, 133
 heteronuclear Overhauser spectroscopy, 37
 pulsed gradient spin-echo, 37
 small molecule alignment, 28
 Norrish reactions, 130
 Nucleoside analogs, Pd catalyzed synthesis, 104
 Nucleosides, via metathesis, 179
 Nucleotides, difluorophosphinates, 118
 difluorophosphonates, 118
 difluorophosphonothioates, 118
 Numerical data, book, 269
 Olefination, carbonyls, book, 262
 Olefins, asymmetric hydrogenation, 16
 epoxidation, with metalloporphyrins, 52
 metathesis, 27
 oxygenation, 178
 Oligoaryls, benzene-furan, 146
 Oligosaccharides, book, 207
 one-pot synthesis, 83
 Opioid receptor studies, 78
 Organoboron compounds, book, 234
 Organocatalysis, asymmetric, book, 204
 Organodilithium intermediates, 89
 Organofluorine compounds, book, 202, 271
 Organolithium compounds, book, 209, 253
 Organonickel compounds, NMR, 195
 Organophosphorus reagent, book, 247
 Organoselenium, oxidation, 12
 Organoselenium, reduction, 12
 Organosilanes, book, 208
 Organotellurium, oxidation, 12
 reduction, 12
 Organozinc compounds, NMR, 195
 Oxazolones, 183
 Oxidation, book, 255
 catalyzed, book, 228
 Paladacycles, substituted aromatic synthesis, 149
 Paraconic acid, 192
 Passerini reaction, book, 203
 Peptides, book, 230
 conformationally restricted, 78
 opioid, 78
 Phenols, book, 252
 Phenyl cations, 1
 Phosgenation, book, 211
 Phosphine carbohydrate ligands, 56
 Phosphine organocatalysis, 5
 Phosphinoylimines, 170
 Phosphonates, book, 257
 Photochemistry, alkenes, 132
 alkynes, 132
 carbonyls, 130
 phenyl cations, 1
 solid-state ionic chiral auxiliary, 200
 triplet return electron transfer, 136
 Photodecarbonylations, 130
 Photodecarboxylations, 130
 Photolysis, carbonyls, 130
 Photoreactions, dienones, 131
 quinines, 131
 Phthalocyanines, synthesis, 129
 Physical organic chemistry, book, 213
 Pi-electron delocalization, 42–7
 Polyazoles, 173
 Polyfluorinated aldehydes, 121
 Polyfluoroarenes, 122
 Polyketide stereotetrad, 55
 Polymers, catalysts, book, 206
 in synthesis, book, 206
 photooxygenation, 135
 Polysaccharides, book, 207, 243
 Porphyrins, unsymmetrical, synthesis, 2
 Prostaglandin analogs, 88
 Pyrazolones, reactions, 10
 Pyridylmethylamines, synthesis, 188
 Pyrroles, alkaloid synthesis, 102
 from azomethine ylides, 36
 via ring contraction, 86
 Pyrrolidines, from azomethine ylides, 36
 preussin, synthesis, 191
 via metallo-azomethine ylides, 187
 Pyrroloiminoquinone alkaloids, 101
 Pyroones, 63
 Quinoline oximes, 65
 Quinolines, Reissert reaction, 163
 Quinolizidines, solid-phase synthesis, 141
 Rare-earth metal complexes, 8
 Reduction, book, 255
 Research, book, 250
 Rhodium catalyst, book, 220
 Ring-closing metathesis, alkaloids, 145
 Rotaxanes, azaaromatic, 115
 Selenoamides, 199
 Selenol esters, 196
 Selenothioic acid thioesters, 164
 Self-assembled cages, 137
 Sesquiterpenoids, 128
 kelsoene, synthesis, 191
 Sialylglycopeptides, solid-phase synthesis, 79
 Silanes, hypervalent, 172
 Silanides, alkali metal, 75
 Silyl anions, 75
 Single-crystal neutron diffraction, 189
 Singlet oxygen, heterogeneous media, 178
 Soai's asymmetric autocatalysis, 32
 Solid-phase synthesis, book, 272
 Solid-state NMR, 195
 Solid-state reactions, 200
 Solute-solvent complexation, 159
 Solvent-free synthesis, book, 263
 Solvents, book, 254
 supercritical CO₂, 87
 Spectrometry, book, 251
 Stereochemistry, book, 217
 Steroids, 126
 Stille reaction, monoorganotin, 21
 Sulfides, peroxide oxidation, 184
 Sulfoxides, from sulfides, 184
 synthesis, 6
 Supramolecular chemistry, book, 225, 265
 Supramolecules, glycosylated amino acids, 90
 Synthesis, book, 223, 226–7, 245, 260
 Tantalum half metallocene benzylidene complexes, 7
 Tautomeric equilibria, 43
 Telluroamides, 199
 Telluroaldehydes, 196
 Terpenoids, book, 258
 Tetraalkylthiuram disulfides, NMR, 195
 Tetrahydropyridines, 80
 Thiazolones, 183
 Thioaldehydes, 169
 Thioamides, 199
 Thioglycosides, 59
 Thioketones, 169
 Thiol esters, 196
 Trannulenes, 15
 Transition metal alkyls, decomposition, 110
 Triazoles, 1,2,3-substituted, 153
 Trifluoroacetimidoyl metals, 119
 Trifluoroethyl-triphenylphosphonium-trifluoromethansulfonate, 68
 Trifluorolactimidoyl halides, 119
 Trifluoromethyl imines, 51
 Trifluoromethylation, nucleophilic, 120
 Triquinanes, synthesis, 147
 Tris(trimethylsilyl)silyl group, 152
 Trisoxazolines, chiral, 54
 Vinylarenes, hydroamination, 66
 Xanthenes, 82
 NMR, 81
 Zeolites, ionization reactions, 69
 Zirconocenes, coupling, 58