

Recent Reviews. 62

compiled by Veronica M. Cornel

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

vmcornel@sccd.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 early part of the 2001 literature. Previous installment: *J. Org. Chem.* **2001**, 66(14), 4954–64.

Supporting Information Available: A file containing this Recent Review compilation in Microsoft Word and the data in text 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. Michelsen, H. A. The Reaction of Cl with CH₄: A Connection Between Kinetics and Dynamics. **2001**, 34(5), 331–7.

2. Hruby, V. J. Design in Topographical Space of Peptide and Peptidomimetic Ligands that Affect Behavior. A Chemist's Glimpse at the Mind–Body Problem. **2001**, 34(5), 389–97.

3. Shinkai, S.; Ikeda, M.; Sugasaki, A.; Takeuchi, M. Positive Allosteric Systems Designed on Dynamic Supramolecular Scaffolds: Toward Switching and Amplification of Guest Affinity and Selectivity. **2001**, 34(6), 494–503.

4. Kelly, T. R. Progress Toward a Rationally Designed Molecular Motor. **2001**, 34(6), 514–22.

5. Yoon, U. C.; Mariano, P. S. The Synthetic Potential of Phthalimide SET Photochemistry. **2001**, 34(7), 523–33.

6. Harmata, M. Exploration of Fundamental and Synthetic Aspects of the Intramolecular 4 + 3 Cycloaddition Reaction. **2001**, 34(7), 595–605.

Advanced Synthesis and Catalysis

7. Kagan, H. B. Practical Consequences of Non-Linear Effects in Asymmetric Synthesis. **2001**, 34(3), 227–33.

8. Kuroboshi, M.; Kanie, K.; Hiyama, T. Oxidative Desulfurization-Fluorination: A Facile Entry to a Wide Variety of Organofluorine Compounds Leading to Novel Liquid–Crystalline Materials. **2001**, 34(3), 235–50.

Aldrichimica Acta

9. Curran, D. P. Highlights from Two Decades of Synthetic Radical Chemistry. **2000**, 33(3), 104–10.

10. O'Donnell, M. J. The Preparation of Optically Active α -Amino Acids from the Benzophenone Imines of Glycine Derivatives. **2001**, 34(1), 3–15.

Angewandte Chemie, International Edition in English

11. Groger, H.; Wilken, J. The Application of L-Proline as an Enzyme Mimic and Further New Asymmetric Syntheses using Small Organic Molecules as Chiral Catalysts. **2001**, 40(3), 529–32.

12. Kirschning, A.; Monenschein, H.; Wittenberg, R. Functionalized Polymers-Emerging Versatile Tools for Solution-Phase Chemistry and Automated Parallel Synthesis. **2001**, 40(4), 650–79.

13. Hopf, H. Dendralenes: The Breakthrough. **2001**, 40(4), 705–7.

14. Bear, B. R.; Sparks, S. M.; Shea, K. J. The Type 2 Intramolecular Diels–Alder Reaction: Synthesis and Chemistry of Bridgehead Alkenes. **2001**, 40(5), 820–49.

15. Yet, L. Recent Developments in Catalytic Asymmetric Strecker-Type Reactions. **2001**, 40(5), 875–7.

16. Bong, D. T.; Clark, T. D.; Granja, J. R.; Ghadiri, M. R. Self-Assembling Organic Nanotubes. **2001**, 40(6), 988–1011.

17. Comely, A. C.; Gibson, S. E. Tracelessness Unmasked: A General Linker Nomenclature. **2001**, 40(6), 1012–32.

18. Komarov, I. V.; Borner, A. Highly Enantioselective or Not? Chiral Monodentate Monophosphorus Ligands in the Asymmetric Hydrogenation. **2001**, 40(7), 1197–200.

19. Fischer, H.; Radom, L. Factors Controlling the Addition of Carbon-Centered Radicals to Alkenes-An Experimental and Theoretical Perspective. **2001**, 40(8), 1340–71.

20. Nicolaou, K. C.; Mitchell, H. J. *Adventures in Carbohydrate Chemistry: New Synthetic Technologies, Chemical Synthesis, Molecular Design, and Chemical Biology.* **2001**, 40(9), 1576–624.

Applied Catalysis A – General

21. Lefebvre, F.; Thivolle-Cazat, J.; Dufaud, V.; Nicolai, G. P.; Basset, J.-M. Oxide Supported Surface Organometallic Complexes as a New Generation of Catalysts for Carbon–Carbon Bond Activation. **1999**, 182(1), 1–8.

22. Bond, G. C.; Hooper, A. D. Modification of Ruthenium Catalysts for Alkane Hydrogenolysis. **2000**, 191(1,2), 69–81.

23. Inoue, T.; Oyama, S. T.; Imoto, H.; Asakura, K.; Iwasawa, Y. Characterization and Selective Oxidation Catalysis of Modified Pt Particles on SbOx. **2000**, 191(1,2), 131–140.

24. Narayanan, S.; Deshpande, K. Aniline Alkylation over Solid Acid Catalysts. **2000**, 199(1), 1–31.

25. Akita, M. Deoxygenative Reduction of Organometallic Compounds by Hydrosilanes – An Organometallic Approach to Reaction Mechanisms of Catalytic CO Hydrogenation. **2000**, 200(1–2), 153–165.

26. Singh, U. K.; Vannice, M. A. Kinetics of Liquid-Phase Hydrogenation Reactions over Supported Metal Catalysts—A Review. **2001**, 213(1), 1–24.

Chemical Reviews

27. Boche, G.; Lohrenz, J. C. W. The Electrophilic Nature of Carbenoids, Nitrenoids, and Oxenoids. **2001**, 101(3), 697–756.

28. Pu, L.; Yu, H.-B. Catalytic Asymmetric Organozinc Additions to Carbonyl Compounds. **2001**, 101(3), 757–824.

29. Siskin, M.; Katritzky, A. R. Reactivity of Organic Compounds in Superheated Water: General Background. **2001**, 101(4), 825–35.

30. Katritzky, A. R.; Nichols, D. A.; Siskin, M.; Murugan, R.; Balasubramanian, M. Reactions in High-Temperature Aqueous Media. **2001**, 101(4), 837–92.

31. Andersen, N. G.; Keay, B. A. 2-Furyl Phosphines as Ligands for Transition-Metal-Mediated Organic Synthesis. **2001**, 101(4), 997–1030.

32. Buehl, M.; Hirsch, A. Spherical Aromaticity of Fullerenes. **2001**, 101(5), 1153–83.

33. Williams, R. V. Homoaromaticity. **2001**, 101(5), 1185–204.

34. Bleeke, J. R. Metallabenzenes. **2001**, 101(5), 1205–27.

35. Nyulaszi, L. Aromaticity of Phosphorus Heterocycles. **2001**, 101(5), 1229–46.

36. Minkin, V. I.; Minyaev, R. M. Cyclic Aromatic Systems with Hypervalent Centers. **2001**, 101(5), 1247–65.

37. Watson, M. D.; Fechtenkoetter, A.; Muellen, K. Big Is Beautiful—“Aromaticity” Revisited from the Viewpoint of Macromolecular and Supramolecular Benzene Chemistry. **2001**, 101(5), 1267–300.

38. Wiberg, K. B. Antiaromaticity in Monocyclic Conjugated Carbon Rings. **2001**, 101(5), 1317–31.

39. Allen, A. D.; Tidwell, T. T. Antiaromaticity in Open-Shell Cyclopropenyl to Cycloheptatrienyl Cations, Anions, Free Radicals, and Radical Ions. **2001**, 101(5), 1333–48.

40. Gomes, J. A. N. F.; Mallion, R. B. Aromaticity and Ring Currents. **2001**, 101(5), 1349–83.

41. Katritzky, A. R.; Jug, K.; Oniciu, D. C. Quantitative Measures of Aromaticity for Mono-, Bi-, and Tricyclic Penta- and Hexaatomic Heteroaromatic Ring Systems and Their Interrelationships. **2001**, 101(5), 1421–49.

42. De Proft, F.; Geerlings, P. Conceptual and Computational DFT in the Study of Aromaticity. **2001**, 101(5), 1451–64.

43. Schaad, L. J.; Hess, B. A., Jr. Dewar Resonance Energy. **2001**, 101(5), 1465–76.

44. Jug, K.; Hiberty, P. C.; Shaik, S. σ – π Energy Separation in Modern Electronic Theory for Ground States of Conjugated Systems. **2001**, 101(5), 1477–500.

45. Shaik, S.; Shurki, A.; Danovich, D.; Hiberty, P. C. A Different Story of π -Delocalization—The Distortivity of π -Electrons and its Chemical Manifestations. **2001**, 101(5), 1501–39.

46. Slayden, S. W.; Liebman, J. F. The Energetics of Aromatic Hydrocarbons: An Experimental Thermochemical Perspective. **2001**, 101(5), 1541–66.

Chemical Society Reviews

47. Robertson, J.; Pillai, J.; Lush, R. K. Radical Translocation Reactions in Synthesis. **2001**, 30(2), 94–103.

48. Szabo, K. J. Nature of the Interaction Between β -Substituents and the Allyl Moiety in (ϵ 3-Allyl)palladium Complexes. **2001**, 30(2), 136–43.

Chemistry and Industry

49. Holmes, A. B.; Stephenson, G. R. Organic Chemistry. **2001**, (4), 119–21.

50. Burgess, K. Organometallic Chemistry. **2001**, (4), 121–2.

51. Holmes, A. B.; Stephenson, G. R. Organic Chemistry. **2001**, (6), 187–9.

52. Burgess, K. Organometallic Chemistry. **2001**, (6), 189–90.

Chemistry – A European Journal

53. Hoveyda, A. H.; Schrock, R. R. Catalytic Asymmetric Olefin Metathesis. **2001**, 7(5), 945–50.

54. Studer, A. The Persistent Radical Effect in Organic Synthesis. **2001**, 7(6), 1159–64.

55. Sugihara, T.; Yamaguchi, M.; Nishizawa, M. Advances in the Pauson–Khand Reaction: Development of Reactive Cobalt Complexes. **2001**, 7(8), 1589–95.

CHEMTRACTS: Organic Chemistry

56. Bahmanyar, S.; Houk, K. N. Proline-Catalyzed Direct Asymmetric Aldol Reactions. Catalytic Asymmetric Synthesis of Anti-1,2-diols. **2000**, 13(14), 904–11.

57. Vlcek, A., Jr. Synthesis and Electrochemistry of Ferrocenyl-Diazabutadiene Metal Carbonyl Complexes (Fc-FSB)M(CO)₄ [M = Cr, Mo, W]. **2001**, 14(1), 7–11.

58. Cowley, A. H.; Macdonald, C. L. B. Stable “Transient” Carbenes. **2001**, 14(1), 25–9.

59. Kuhn, F. E.; Herrmann, W. A. Methyltrioxorhenium. **2001**, 14(2), 59–83.

60. Brennan, P. E.; Ley, S. V. New Catalysts for Olefin Metathesis. **2001**, 14(2), 88–93.

61. Reiser, O. A Demonstration of the Primary Stereoelectronic Effect in the Baeyer–Villiger Oxidation of α -Fluorocyclohexanones. **2001**, 14(2), 94–9.

62. Oestreich, M.; Hoppe, D. Stereospecific Preparation of Highly Enantiomerically Enriched Organomagnesium Reagents. **2001**, 14(2), 100–5.

63. Casiraghi, G.; Zanardi, F.; Appendino, G. Molecular Recognition of Carbonyl Compounds using Aluminum Tris(2,6-diphenylphenoxide) (ATPH): New Regio- and Stereoselective Alkylation of α,β -Unsaturated Carbonyl Compounds. **2001**, 14(2), 106–12.

64. Dai, L.-X. Highly Enantioselective Palladium(II)-Catalyzed Cyclization of (Z)-4'-Acetoxy-2'-butenyl-2-alkynoates: An Efficient Synthesis of Optically Active γ -Butyrolactones. **2001**, 14(2), 113–6.

Collection of Czechoslovak Chemical Communications

65. Loukova, G. V.; Strelets, V. V. A Review on Molecular Electrochemistry of Metallocene Dichloride and Dimethyl Complexes of Group 4 Metals: Redox Properties and Relation with Optical Ligand-to-Metal Charge-Transfer Transitions. **2001**, 66(2), 185–206.

66. Chardon-Noblat, S.; Deronziera, A.; Ziesse, R. Electrosynthesis of Electroactive Metal–Metal Bonded Polymers [Ru(CO)₂L]_n (L = 2,2'-Bipyridine Derivatives), Their Characterization and Catalytic Activity. A Review. **2001**, 66(2), 207–27.

67. Zaruba, K.; Setnicka, V.; Charvatova, J.; Rusin, O.; Tomankova, Z.; Hrdlicka, J.; Sykora, D.; Kral, V. Analytical Application of Oligopyrrole Macrocycles. **2001**, 66(5), 693–769.

Coordination Chemistry Reviews

68. Richmond, M. G. Annual Survey of Organometallic Metal Cluster Chemistry for the Year 1999. **2001**, 214, 1–42.

69. Herndon, J. W. The Chemistry of the Carbon-Transition Metal Double and Triple Bond: Annual Survey Covering the Year 1999. **2001**, 214, 215–85.

70. Sitzmann, H. Maximum Spin Cyclopentadienyl Complexes of 3d Transition Metals. **2001**, 214, 287–327.

71. Schulz, S. The Chemistry of Group 13/15 Compounds (III–V Compounds) with the Higher Homologues of Group 15, Sb and Bi. **2001**, 215, 1–37.

72. Weber, L. The Chemistry of 1,3,2-Diazaborolines (2,3-Dihydro-1H-1,3,2-diazaboroles). **2001**, 215, 39–77.

73. Nath, M.; Pokharia, S.; Yadav, R. Organotin(IV) Complexes of Amino Acids and Peptides. **2001**, 215, 99–149.

74. Jones, C. Recent Developments in Low Coordination Organo-Antimony and Bismuth Chemistry. **2001**, 215, 151–69.

75. Beckmann, J.; Jurkschat, K. Stannasiloxanes: From Rings to Polymers. **2001**, 215, 267–300.

Current Medicinal Chemistry

76. Leonida, M. D. Redox Enzymes Used in Chiral Syntheses Coupled to Coenzyme Regeneration. **2001**, 8(4), 345–69.

77. Hoekstra, W. J. The 2-Chlorotriptyl Resin: A Worthy Addition to the Medicinal Chemist's Toolbox. **2001**, 8(6), 715–9.

Current Organic Chemistry

78. Tatsuta, K. Significance of Total Synthesis of Bioactive Compounds. **2001**, 5(2), 207–31.

79. Araya-Maturana, R.; Delgado-Castro, T.; Cardona, W.; Weiss-Lopez, B. E. Use of Long-Range C–H ($nJ_{n>3}$) Heteronuclear Multiple Bond Connectivity in the Assignment of the ¹³C NMR Spectra of Complex Organic Molecules. **2001**, 5(3), 253–63.

80. Fuchs, R.; Budzikiewicz, H. Structural Studies of Pyoverdins by Mass Spectrometry. **2001**, 5(3), 265–88.

81. Dziembowska, T.; Rozwadowski, Z. Application of the Deuterium Isotope Effect on NMR Chemical Shift to Study Proton-Transfer Equilibrium. **2001**, 5(3), 289–313.

82. Sahu, N. P.; Achari, B. Advances in Structural Determination of Saponins and Terpenoid Glycosides. **2001**, 5(3), 315–34.

83. Herzfeld, R.; Nagy, P. Studies of the Solvent Effect Observed in the Absorption Spectra of Certain Types of Schiff Bases. **2001**, 5(3), 373–94.

84. Allin, S. M.; Baird, R. D. Development and Synthetic Applications of Asymmetric [3,3]-Sigmatropic Rearrangements. **2001**, 5(4), 395–415.

85. MacDonald, M.; Aube, J. Approaches to Cyclic Peptide β -Turn Mimics. **2001**, 5(4), 417–38.

European Journal of Organic Chemistry

86. Hartung, J. Stereoselective Construction of the Tetrahydrofuran Nucleus by Alkoxy Radical Cyclizations. **2001**, (4), 619–32.

87. Hirsch, A.; Vostrowsky, O. C₆₀ Hexakisadducts with an Octahedral Addition Pattern—A New Structure Motif in Organic Chemistry. **2001**, (5), 829–48.

88. Wege, D. Nonbenzenoid Cycloproparenes. **2001**, (5), 849–62.

89. Cahard, D.; Duhamel, P. Alkoxide-Mediated Preparation of Enolates from Silyl Enol Ethers and Enol Acetates—From Discovery to Synthetic Applications. **2001**, (6), 1023–31.

90. Raimondi, L.; Benaglia, M. Stereoselection in Reactions of Chiral Allyl Ethers: The Case of 1,3-Dipolar Cycloaddition. **2001**, (6), 1033–43.

91. Eames, J.; Watkinson, M. Polymeric Scavenger Reagents in Organic Synthesis. **2001**, (7), 1213–24.

92. Saettel, N. J.; Oxgaard, J.; Wiest, O. Pericyclic Reactions of Radical Cations. **2001**, (8), 1429–39.

Heterocycles

93. Pautet, F.; Nebois, P.; Bouaziz, Z.; Fillion, H. Cycloadditions of α,β -Unsaturated *N,N*-Dimethylhydrazones. A Diels–Alder Strategy for the Building of Azaheterocycles. **2001**, 54(2), 1095–138.

94. Funayama, S.; Murata, K.; Noshita, T. Quinoline Alkaloids of *Orixa Japonica*. **2001**, 54(2), 1139–48.

Journal of Organometallic Chemistry

95. Haas, A. The General Course of Reactions and Structural Correlations in S–N Chemistry Discussed in Terms of a Carbon and Sulfur(IV) Equivalence. **2001**, 623(1–2), 3–13.

96. Haiduc, I. Thiophosphorus and Related Ligands in Coordination, Organometallic and Supramolecular Chemistry. A Personal Account. **2001**, 623(1–2), 29–42.

97. Barrientos-Astigarraga, R. E.; Castalani, P.; Comasseto, J. V.; Formiga, H. B.; da Silva, N. C.; Sumida, C. Y.; Vieira, M. L. Carbon–Carbon Bond Formation by Means of Organotellurium Compounds. **2001**, 623(1–2), 43–7.

98. Barluenga, J.; Florez, J.; Fananas, F. J. Carbon Nucleophile Addition to sp^2 -Unsaturated Fischer Carbene Complexes. **2001**, 624(1–2), 5–17.

99. Sarkar, A.; Ganesh, S.; Sur, S.; Mandal, S. K.; Swamy, V. M.; Maity, B. C.; Kumar, T. S. Contra-Intuitive Stereocontrol: Endo-Selective Nucleophilic Additions on an Arene-Tricarbonylchromium Template. **2001**, 624(1–2), 18–25.

100. Liard, A.; Kaftanov, J.; Chechik, H.; Farhat, S.; Morlender-Vais, N.; Averbuj, C.; Marek, I. Addition- β -Elimination: A New Method for the Preparation of Organometallic Compounds. **2001**, 624(1–2), 26–33.

101. Ila, H.; Junjappa, H.; Barun, O. Studies on Regioselective Addition of Benzylic Organometallics to α -Oxoketene Dithioacetals in our Aromatic Annulation Protocol. **2001**, 624(1–2), 34–40.

102. Motherwell, W. B. On the Evolution of Organozinc Carbenoid Chemistry from Carbonyl Compounds—A Personal Account. **2001**, 624(1–2), 41–6.

Natural Product Reports

103. Connolly, J. D.; Hill, R. A. Triterpenoids (1998). **2001**, 18(2), 131–47.

104. Bentley, K. W. β -Phenylethylamines and the Isoquinoline Alkaloids (July 1999 to June 2000). **2001**, 18(2), 148–70.

Organic Preparations and Procedures International

105. Pellissier, H.; Santelli, M. Chemical and Biochemical Hydroxylations of Steroids. A Review. **2001**, 33(1), 1–58.

106. Vaughan, K. Recent Progress in the Synthesis of Bis-Triazenes. **2001**, 33(1), 59–74.

107. Karlsson, S.; Hogberg, H.-E. Asymmetric 1,3-Dipolar Cycloadditions for the Construction of Enantiomerically Pure Heterocycles. A Review. **2001**, 33(2), 103–72.

108. Albericio, F.; Chinchilla, R.; Dodsworth, D. J.; Najera, C. New Trends in Peptide Coupling Reagents. **2001**, 33(3), 203–303.

Pure and Applied Chemistry

109. Warnatz, J. Hydrocarbon Oxidation High-Temperature Chemistry. **2000**, 72(11), 2101–10.

110. Reuter, C.; Schmieder, R.; Vogtle, F. From Rotaxanes to Knots. Templating, Hydrogen Bond Patterns, and Cyclochirality. **2000**, 72(12), 2233–41.

111. Beak, P.; Anderson, D. R.; Jarboe, S. G.; Kurtzweil, M. L.; Woods, K. W. Mechanisms and Consequences of Oxygen Transfer Reactions. **2000**, 72(12), 2259–64.

112. Sanders, J. K. M. Adventures in Molecular Recognition. The ins and outs of Templating. **2000**, 72(12), 2265–74.

113. Sommer, J.; Jost, R. Carbenium and Carbonium Ions in Liquid- and Solid-Superacid-Catalyzed Activation of Small Alkanes. **2000**, 72(12), 2309–18.

114. Schwarz, H.; Schroder, D. Concepts of Metal-Mediated Methane Functionalization. An Intersection of Experiment and Theory. **2000**, 72(12), 2319–32.

115. Kira, M. Comparative Chemistry of Unsaturated Compounds of Group 14 Elements. **2000**, 72(12), 2333–42.

116. Bora, U.; Chaudhuri, M. K.; Dey, D.; Dhar, S. S. Peroxometal-Mediated Environmentally Favorable Route to Brominating Agents and Protocols for Bromination of Organics. **2001**, 73(1), 93–102.

117. Clark, J. H. Catalysis for Green Chemistry. **2001**, 73(1), 103–11.

118. Loch, J. A.; Crabtree, R. H. Rapid Screening and Combinatorial Methods in Homogeneous Organometallic Catalysis. **2001**, 73(1), 119–28.

119. Kidwai, M. Dry Media Reactions. **2001**, 73(1), 147–51.

120. Loupy, A.; Perreux, L.; Liagre, M.; Burle, K.; Moneuse, M. Reactivity and Selectivity under Microwaves in Organic Chemistry. Relation with Medium Effects and Reaction Mechanisms. **2001**, 73(1), 161–6.

121. Raunak; Prasad, A. K.; Shakil, N. A.; Hamanshu; Parmar, V. S. Selective Biotransformation Reactions on ($\pm$)-Aryl Alkyl Ketones, ($\pm$)-Benzoxazines, and D-Arabin- and D-Threo-Hydroxyalkyltriazoles. **2001**, 73(1), 167–74.

122. Ugi, I. Recent Progress in the Chemistry of Multicomponent Reactions. **2001**, 73(1), 187–91.

123. Varma, R. S. Solvent-Free Accelerated Organic Syntheses Using Microwaves. **2001**, 73(1), 193–8.

124. Yadav, J. S.; Meshram, H. M. Green Twist to an Old Theme. An Eco-Friendly Approach. **2001**, 73(1), 199–203.

125. Nakamura, E.; Sawamura, M. Chemistry of ϵ 5- Fullerene Metal Complexes. **2001**, 73(2), 355–9.

Research on Chemical Intermediates

126. Sheng, Z.; Song, Q.; Gao, F.; Zhou, X.; Li, J.; Dai, J.; Sun, H.; Li, Q.; Yu, S.; Ma, X. A Laser Flash Photolysis Study of Amino Acids and Dipeptides using 4-Nitroquinoline 1-Oxide as a Photosensitizer: The pH Dependence. **2000**, 26(7–8), 715–25.

127. Wu, S.-P.; Ding, B.-L.; Wu, J.-B.; Jiang, Z.-Q. Fluorescence Quenching Study on the Interaction of Bases of Nucleic Acid with Electron-Accepting Sensitizer and Serum Albumin Containing Electron-Rich Tryptophan Residue. **2000**, 26(7–8), 727–37.

128. Xu, H.-Y.; Zhang, K.; Yu, Z.; Chen, L.; Zhao, C.-X. ESR Studies of α -Hydro *p*-Substituted Phenyl Nitroxides and Correlation Analysis of Their HFSC Values. **2000**, 26(9), 839–48.

129. Kukula, P.; Cervený, L. Stereoselective Hydrogenation of (–)-Menthone and (+)-Isomenthone Mixture using Nickel Catalysts. **2000**, 26(9), 913–22.

130. Nair, V.; George, T. G.; Augustine, A.; Nair, L. G. Cerium(IV) Ammonium Nitrate Mediated Thiocyanation of Dienes: Some Interesting Observations. **2000**, 26(9), 923–9.

131. Hirata, Y.; Okada, T. Molecular Dynamics Simulation of the Geminate Radical Recombination in Solution: Effects of the Large Dipole Moment of the Radicals. **2001**, 27(1–2), 35–45.

132. Sasaki, S.; Kobori, Y.; Akiyama, K.; Tero-Kubota, S. Magnetic Field Effects on the Triplet Exciplex Dynamics in the Duroquinone-*N,N*-dimethylaniline Derivative Systems. **2001**, 27(1–2), 155–64.

133. Schoneich, C.; Miller, B.; Hug, G. L.; Bobrowski, K.; Marciniak, B. Intermolecular Complexes Between Sulfide Radical Cations from β -Hydroxy Sulfides and Phosphate. **2001**, 27(1–2), 165–75.

134. Hoshino, M.; Konishi, R.; Seto, H.; Seki, H.; Sonoki, H.; Yokoyama, T.; Shimamori, H. Studies on Reactivity of Benzoyl and Benzoylperoxy Radicals Produced by Laser Flash Photolysis of Dibenzoyldiazene in Aerated Solutions. **2001**, 27(1–2), 189–204.

Reviews on Heteroatom Chemistry

135. Kawabata, T. Asymmetric Synthesis Based on Enolate Chemistry: β -Lactam Synthesis and Memory of Chirality. **2000**, (22), 33–58.

136. Yano, Y. Flavin Chemistry with Oxidation-Active Flavin Mimics and Receptors. **2000**, (22), 151–79.

Russian Chemical Reviews

137. Ermolaev, V. L. Ultrafast Nonradiative Transitions Between Higher Excited States in Organic Molecules. **2001**, 70(6), 471–90.

138. Silnikov, V. N.; Vlassov, V. V. Design of Site-Specific RNA-Cleaving Reagents. **2001**, 70(6), 491–508.

139. Shishkina, I. G.; Levina, A. S.; Zarytova, V. F. Affinity Sorbents Containing Nucleic Acids and Their Fragments. **2001**, 70(6), 509–33.

140. Ogibin, Y. N.; Nikishin, G. I. Electrochemical Reactions of Alkenes Induced by Anodic Oxidation and Their Applications in Organic Synthesis. **2001**, 70(7), 619–55.

141. Mamardashvili, N. Z.; Golubchikov, O. A. Spectral Properties of Porphyrins, Their Precursors and Derivatives. **2001**, 70(7), 656–86.

142. Kotyatkina, A. I.; Zhabinskii, V. N.; Khripach, V. A. 1,3-Dipolar Cycloaddition Reactions of Nitrile Oxides in the Synthesis of Natural Compounds and Their Analogues. **2001**, 70(8), 730–43.

143. Lakeev, S. N.; Maidanova, I. O.; Galin, F. Z.; Tolstikov, G. A. Sulfur Ylides in the Synthesis of Hetero- and Carbocyclic Compounds. **2001**, 70(8), 744–62.

144. Stonik, V. A. Marine Polar Steroids. **2001**, 70(8), 763–808.

Russian Journal of Organic Chemistry

145. Koval, I. V. N-Halo Reagents. Reactions of *N,N*-Dihalosulfonamides. **2000**, 36(10), 1397–420.

146. Mamardashvili, N. Z.; Golubchikov, O. A. ^1H NMR Spectra of Porphyrins. **2000**, 36(10), 1529–44.

Science

147. Luo, Z.; Zhang, Q.; Oderaotoshi, Y.; Curran, D. P. Fluorous Mixture Synthesis: A Fluorous-Tagging Strategy for the Synthesis and Separation of Mixtures of Organic Compounds. **2001**, 291(5509), 1766–9.

148. Sears, P.; Wong, C.-H. Toward Automated Synthesis of Oligosaccharides and Glycoproteins. **2001**, 291(5512), 2344–50.

149. Levis, R. J.; Menkir, G. M.; Rabitz, H. Selective Bond Dissociation and Rearrangement with Optimally Tailored, Strong-Field Laser Pulses. **2001**, 292(5517), 709–13.

Synlett

150. Mitsudo, T.-A.; Kondo, T. Ruthenium Complex-Catalyzed Formation and Cleavage of Carbon–Carbon σ -Bonds. On the Requirement of Highly Qualified Tuning of the Reaction Conditions. **2001**(3), 309–21.

151. Shinokubo, H.; Oshima, K. Stereospecific or Stereoselective Elimination of Vicinal Alkoxy Iodo Alkanes by Means of Organometallic Reagents. **2001**(3), 322–28.

152. David, M. Phenylselenotrimethylsilane: PhSeTMS. **2001**(3), 445.

153. Iorga, B.; Savignac, P. Controlled Reactivity of Phosphonates by Temporary Silicon Connection. **2001**(4), 447–57.

154. Katritzky, A. R.; Toader, D. The Preparation of Mono-, 1,1-Di-, Trans-1,2-di- and Trisubstituted Ethylenes by Benzotriazole Methodology. **2001**(4), 458–66.

Synthesis—Stuttgart

155. Minami, T.; Okauchi, T.; Kouno, R. α -Phosphonovinyl Carbanions in Organic Synthesis. **2001**, (3), 349–57.

156. Kirschning, A.; Jesberger, M.; Schoning, K.-U. Concepts for the Total Synthesis of Deoxy Sugars. **2001**, (4), 507–40.

157. Silva, L. F., Jr. Total Synthesis of Bakkanes. **2001**, (5), 671–89.

Tetrahedron

158. Petragnani, N.; Stefani, H. A.; Valduga, C. J. Recent Advances in Selenocyclofunctionalization Reactions. **2001**, 57(8), 1411–48.

159. Suwinski, J.; Swierczek, K. Cine- and Tele-Substitution Reactions. **2001**, 57(9), 1639–62.

160. Rowlands, G. J. Ambifunctional Cooperative Catalysts. **2001**, 57(10), 1865–82.

161. Moser, W. H. The Brook Rearrangement in Tandem Bond Formation Strategies. **2001**, 57(11), 2065–84.

162. Kagan, H. B. Various Aspects of the Reaction of a Chiral Catalyst or Reagent with a Racemic or Enantiopure Substrate. **2001**, 57(13), 2449–68.

163. Caine, D. Reactions of Conjugated Haloenoates with Nucleophilic Reagents. **2001**, 57(14), 2643–84.

164. Mikami, K.; Shimizu, M.; Zhang, H. C.; Maryanoff, B. E. Acyclic Stereocontrol Between Remote Atom Centers via Intramolecular and Intermolecular Stereo-Communication. **2001**, 57(15), 2917–51.

165. Bur, S. K.; Martin, S. F. Vinylogous Mannich Reactions: Selectivity and Synthetic Utility. **2001**, 57(16), 3221–42.

Tetrahedron: Asymmetry

166. Eames, J.; Weerasooriya, N. Recent Advances into the Enantioselective Protonation of Prostereogenic Enol Derivatives. **2001**, 12(1), 1–24.

Monographs

167. Bornscheurer, U.; Kazlauskas, R. *Hydrolases in Organic Synthesis: Regio- or Stereoselective Biotransformations*. Wiley: New York, 1999.

168. Brinker, U. H. E. *Advances in Carbene Chemistry*; Vol. 3. Elsevier Science: Amsterdam, The Netherlands, 2001.

169. Centi, G., Cavani, F., Trifiro, F., Eds. *Selective Oxidation by Heterogeneous Catalysis*. Kluwer/Plenum Publishers: New York, 2001.

170. Czarnik, A. W., Ed. *Solid-Phase Organic Syntheses*, Volume 1. John Wiley & Sons: New York, 2001.

171. Dorwald, Z. F. *Metal Carbenes in Organic Synthesis*. Wiley-VCH: Weinheim, Germany, 1998.

172. Gerbeleu, N. V., Arion, V. B., Burgess, J., Eds. *Template Synthesis*. Wiley: Wiley, 1999.

173. Ghosh, A., Ed. *Special Issue on 1950–2000: Fifty Years of Theoretical Research on Porphyrins*. [In: *J.*

Porphyrins Phthalocyanines, **2001**; 5(3)]. Wiley: Chichester, U.K., 2001.

174. Hanson, J. R. *Functional Group Chemistry*. Royal Society of Chemistry: Cambridge, U.K., 2001.

175. Ho, T.-L. *Fieser and Fieser's Reagents for Organic Synthesis*, Vol. 19. Wiley: New York, 1999.

176. Jonah, C. D., Ed. *Radiation Chemistry: Present Status and Future Trends*. Elsevier Science: Amsterdam, The Netherlands, 2001.

177. Kates, S. A., Albericio, F., Eds. *Solid-Phase Synthesis*. Dekker: New York, 2000.

178. Mathey, F., Ed. *Phosphorus–Carbon Heterocyclic Chemistry: The Rise of a New Domain*. Elsevier Science: Amsterdam, The Netherlands, 2001.

179. Subramanian, G., Ed. *Chiral Separation Techniques: A Practical Approach*, 2nd ed. Wiley-VCH: Weinheim, Germany, 2001.

Index

- Aldol reactions, asymmetric, proline catalyst, 56
- Alkaloids, isoquinoline, 104
- Alkanes, activation, 113
- alkoxy, iodo, elimination, 151
- hydrogenolysis, Ru catalyst, 22
- Alkenes, addition of carbon-centered radicals, 19
- anodic oxidation, 140
- electrochemistry, 140
- hydrogenation, homogeneous, 52
- metathesis, 69
- polymerization catalysts, 50
- stereoselective preparation, 151
- Alkoxide, carbene insertion, book, 168
- Alkynediborane complexes, 55
- Allyl ethers, chiral, 90
- Aluminum trisdiphenylphenoxy recognition, 63
- Amino acids, chiral, from benzophenone imines, 10
- photolysis, pH effect, 126
- Strecker preparation, 15
- α -, 52
- Aniline alkylation, solid acid catalyst, 24
- Antiaromaticity, cycloheptatrienyl cations, 39
- cyclooctatetraene, 51
- cyclopropenyl cations, 39
- monocyclic conjugated carbon rings, 38
- Antibacterial agents, deoxy sugars, 156
- Antibiotics, synthesis, 78
- Anticancer agents, organotin, 73
- Antimicrobial agents, organotin, 73
- Antitumor agents, deoxy sugars, 156
- Aromaticity, 41
- DFT studies, 42
- macromolecular benzene, 37
- P-heterocycles, 35
- ring current, 40
- supramolecular benzene, 37
- Aromatics, cyclic, hypervalent centers, 36
- electron transfer, 137
- energetics, 44, 46
- substitution, metalation control, 51
- Asymmetric sigmatropic rearrangements, 84
- Asymmetric synthesis, nonlinear effect, 7
- Aza-Heterocycles, preparation, 93
- Benzotriazoles, methodology, 154
- Benzoxazines, hydroxyalkyl-, 121
- Benzoylperoxy radicals, olefin addition, 134
- Bicycloalkenes, preparation, 14
- Bistriazenes, preparation, 106
- Bond dissociation, selective, laser pulses, 149
- Bridgehead-olefins, carbenes, book, 168
- Brominating agents, environmentally friendly, 116
- Brook rearrangement, tandem synthesis, 161
- Butyrolactones, γ -, preparation, 64
- Capillary electrophoresis, multiplexed, catalyst screening, 50
- Carbanions, phosphonovinyl, 155
- Carbenes, book, 168
- metal, book, 171
- protonation, book, 168
- stable, transient, 58
- transition metal, 69
- Carbenium ions, alkane activation, 113
- Carbohydrates, 20
- Carbon dioxide, electroreduction, 66
- Carbon monoxide hydrogenation mechanism, 25
- Carbonium ions, alkane activation, 113
- Carbonyl compounds, molecular recognition, 63
- stereoselective alkylation, 63
- Carboxybenzophenone, 4-, 133
- Carbynes, transition metal, 69
- Catalysts, ambifunctional, cooperative, 160
- heterogeneous, book, 169
- homogeneous, P-heterocycles, book, 178
- Rh, hydrogenation, 18
- C–C bond activation, catalysts, 21
- C–C bond cleavage, ruthenium catalyzed, 150
- C–C bond formation, with organotellurium, 97
- Chiral catalysts, 162
- small, organic, 11
- Chiral separation, book, 179
- Chromium arene, nucleophilic addition, 99
- Chromopeptides, structure, 80
- Combinatorial chemistry, 12
- book, 170, 177
- Combinatorial libraries, polymerization catalysts, 50
- Combustion, 109
- Conjugated systems, energetics, 44, 46
- Cyclization, with selenium, 158
- Cycloaddition, asymmetric, 1,3-dipolar, 107
- dipolar, 90
- intramolecular, 6
- Cyclodextrins, porphyrin inclusion, 3
- Cyclohexadienylidenes, book, 168
- Cyclopentadienyl 3d complexes, high spin, 70
- Cyclopropenes, nonbenzanoid, 88
- Dendralenes, Diels–Alder reaction, 13
- Dewar resonance energy, 43
- Diazaborolines, 72
- Diels–Alder reaction, dendralenes, 13
- intramolecular, 14
- Dienes, thiocyanation, 130
- Dipeptides, photolysis, pH effect, 126
- Duroquinone dimethylaniline derivatives, 132
- Electrophiles, carbenoids, 27
- nitrenoids, 27
- oxenoids, 27
- Enolates, β -lactam synthesis, 135
- from silyl enol ethers, 89
- Enols, prostereogenic, enantioselective protonation, 166
- Enzymes, mimics, L-proline, 11
- redox, in asymmetric synthesis, 76
- synthesis, 78
- ESR nitroxide LFER hyperfine splitting, 128
- Ethanol,(2-methylthio), oxidation, 133
- Ethers, medium-ring ethers, 51
- Ferrocenyl diazabutadiene metal carbonyl complexes, 57
- Fischer carbenes, nucleophilic addition, 98
- Flavins, 136
- Fluorescence quenching study, nucleic acid bases, 127
- Fluorination, after oxidative desulfurization, 8
- Fluorocyclohexanones, Baeyer–Villiger oxidation, 61
- Fluorous tagging, 147
- Formaldehyde, photosensitized, 133
- Fullerenes, complexes, 125
- hexakisadduct, 87
- spherical aromaticity, 32
- Functional groups, book, 174
- Furylphosphines, 31
- Glycoproteins, automated synthesis, 148
- Green chemistry, catalysts, 117
- microwave irradiation, 124
- Grignard reagents, stereospecific preparation, 62
- Haloenoates, conjugated, with nucleophiles, 163
- Heteroaromatics, substitution, metalation control, 51
- Heterocycles, phosphorus, 35
- phosphorus, book, 178
- preparation, 71
- Hexoses, deoxygenated, synthesis, 156
- Homoaromaticity, 33
- Hydrazones, unsaturated, Diels–Alder reaction, 93
- Hydrocarbon oxidation, high temperature, 109
- Hydrogenation, kinetics, supported metal catalyst, 26
- Hydrolases, book, 167
- Hydrosilanes, deoxygenative reduction, 25
- Inhibitors, synthesis, 78
- Isobutane oxidation, 23
- Isobutene oxidation, 23
- Isomenthone, stereochemical hydrogenation, 129
- Isoquinoline alkaloids, 104
- Ketones, acetylation, 121
- deacetylation, 121
- Lactams, β -, asymmetric synthesis, 135
- Ligands, thiophosphorus, 96
- Liquid crystal preparation, 8
- Macrocycles, 67
- Mannich reaction, stereoselective, 165
- Menthone, stereochemical hydrogenation, 129
- Metalation, heteroatom substitution control, 51
- Metallabenzenes, 34
- Metallocenes, group 4 metals, 65
- Methacrolein preparation, 23
- Methane, functionalization, 114
- hydrogen abstraction, 1
- reaction with chlorine, 1
- Methylenebutyrolactones, synthesis, 157
- Methyltrioxorhenium, 59
- Microwaves, in synthesis, 119–20, 123–4
- Molecular motor, 4
- Molecular recognition, templating, 112
- Multicomponent reactions, isocyanide, 122
- Nanotubes, organic, self-assembling, 16
- Nitrenoids, electrophiles, 27
- Nitrile oxides, cycloaddition, 142

- NMR chemical shifts, deuterium isotope effect, 81
NMR, long-range C–H spin coupling, 79
Nucleic acids, polymer supports, 139
 reaction with tryptophan, 127
Olefin metathesis, catalysts, 60
 stereoselective, 53
Olefins, synthesis, 154
Oligonucleotides, polymer supports, 139
Oligopyrroles, macrocycles, 67
Oligosaccharides, automated synthesis, 148
Organoantimony complexes, 74
Organobismuth complexes, 74
Organofluorine compounds, 8
Organolithium-mediated cyclization, 51
Organomagnesium reagents, enantio-
 meric, 62
Organometallic catalysis, combinatorial
 screening, 118
Organometallic clusters, 68
Organometallic compounds, preparation,
 100
Organotin amino acid complexes, 73
Organotin peptide complexes, 73
Organozinc carbenoids, preparation, 102
Organozinc, addition to carbonyl com-
 pounds, 28
Oxenoids, electrophiles, 27
Oxidation, selective, book, 169
Oxoketene dithioacetal, regioselective ad-
 dition, 101
Oxygen transfer reactions, 111
Palladium complexes, allyl, β -substitu-
 ent, 48
Paracyclophane studies, 51
Pauson–Khand reaction, 55
Peptide coupling reagents, 108
Peptides, bioactive, conformation, 2
Peptides, cyclic, β -, preparation, 85
Peptides, from 2-chlorotrityl resin, 77
Phenylcarbenes, book, 168
Phenylethylamines, 104
Phenylnitrenes, book, 168
Phenylselenotrimethylsilane, 152
Phosphines, furyl, 31
Phosphonates, controlled reactivity, 153
Photochemistry, 137
 phthalimide, 5
Photolysis, 149
Photosensitizer, nitroquinoline oxide, 126
Phthalimides, SET photochemistry, 5
 π delocalization, 45
Polymers, functionalized, 12
 ruthenium, 66
Porphyrins, 141
 book, 173
 cyclodextrin inclusion, 3
 NMR, 146
 radiation, book, 176
 receptors, 67
Proline, enzyme mimic, 11
Proton-transfer equilibrium, 81
Pyoverdins, mass spectrometry, 80
Pyrroles, 67
Quinoline alkaloids, 94
Quinones, fused, 88
 radiation, book, 176
Radiation chemistry, book, 176
Radical cations, pericyclic reactions, 92
Radical recombination, 131
Radicals, in synthesis, 9, 51
Radicals, *p*-aminophenylthiyl, 131
Radicals, persistent, in synthesis, 54
Radicals, translocation, 47
Resin, 2-chlorotrityl, 77
Rhodium, hydrogenation catalyst, 18
RNA cleaving agents, 138
Rotaxanes, cyclochirality, 110
 hydrogen bonds, 110
 templates, 110
Ruthenium complexes, 66
Saccharide recognition, 67
Saponins, structure, 82
Sapphyrins, 67
Scavenger reagents, polymeric, 91
Schiff bases, UV absorption, solvent ef-
 fects, 83
Selenocyclofunctionalization, 158
Sesquiterpenes, bakkanes, synthesis, 157
Silylenes, 115
Silylphosphonates, syntheses, 153
Solid-phase synthesis, 12
 book, 170, 177
 nomenclature, 17
Solvents, superheated water, 29–30
Stannasiloxanes, polymers, 75
Stereocontrol, acyclic, 164
Steroids, hydroxylation, 105
 polar, marine, 144
Stille coupling, intermediates, 52
Strecker reaction, 15
Substitution, cine-, 159
Sulfide radicals, phosphate complex, 133
Sulfonamides, dihalo, 145
Sulfur ylides, 143
Supramolecular chemistry, thiophospho-
 rus ligands, 96
Sustitution, tele-, 159
Synthesis, 49
 reagents, book, 175
Telluration, 97
Templates, synthesis, book, 172
Terpenoids, structure, 82
Tetrahydrofurans, stereoselective prepa-
 ration, 86
Thiazyl cyano group, 95
Titanocenes, 65
Triazoles, polyhydroxyalkyl-, 121
Triterpenoids, 103
Zirconocenes, 65
JO012999U