

Recent Reviews. 58

compiled by Veronica M. Cornel

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

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 2000 literature. Previous installment: *J. Org. Chem.* **2000**, 65(14), 4464–74.

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. Baciocchi, E.; Bietti, M.; Lanzalunga, O. Mechanistic Aspects of β -Bond-Cleavage Reactions of Aromatic Radical Cations. **2000**, 33(4), 243–51.

2. Helmchen, G.; Pfaltz, A. Phosphinooxazolines—A New Class of Versatile, Modular P,N- Ligands for Asymmetric Catalysis. **2000**, 33(6), 336–45.

3. Feringa, B. L. Phosphoramidites: Marvellous Ligands in Catalytic Asymmetric Conjugate Addition. **2000**, 33(6), 346–53.

4. Hayashi, T. Chiral Monodentate Phosphine Ligand MOP for Transition Metal-Catalyzed Asymmetric Reactions. **2000**, 33(6), 354–62.

5. Burk, M. J. Modular Phospholane Ligands in Asymmetric Catalysis. **2000**, 33(6), 363–72.

6. Frantz, D. E.; Faessler, R.; Tomooka, C. S.; Carreira, E. M. The Discovery of Novel Reactivity in the Development of C–C Bond-Forming Reactions: In Situ Generation of Zinc Acetylides with $ZnII/R_3N$. **2000**, 33(6), 373–81.

7. Soai, K.; Shibata, T.; Sato, I. Enantioselective Automultiplication of Chiral Molecules by Asymmetric Autocatalysis. **2000**, 33(6), 382–90.

8. Blackmond, D. G. Kinetic Aspects of Nonlinear Effects in Asymmetric Catalysis. **2000**, 33(6), 402–11.

9. Fu, G. C. Enantioselective Nucleophilic Catalysis with “Planar-Chiral” Heterocycles. **2000**, 33(6), 412–20.

10. Jacobsen, E. N. Asymmetric Catalysis of Epoxide Ring-Opening Reactions. **2000**, 33(6), 421–31.

11. Denmark, S. E.; Stavenger, R. A. Asymmetric Catalysis of Aldol Reactions with Chiral Lewis Bases. **2000**, 33(6), 432–40.

12. Montgomery, J. Nickel-Catalyzed Cyclizations, Couplings, and Cycloadditions Involving Three Reactive Components. **2000**, 33(7), 467–73.

Advances in Carbohydrate Chemistry and Biochemistry

13. Fernandez, J. M. G.; Mellet, C. O. Chemistry and Developments of N-Thiocarbonyl Carbohydrate Derivatives: Sugar Isothiocyanates, Thioamides, Thioureas, Thiocarbamates, and Their Conjugates. **2000**, (55), 35–135.

14. El Khadem, H. S.; Fatiadi, A. J. Hydrazine Derivatives of Carbohydrates and Related Compounds. **2000**, (55), 175–263.

Aldrichimica Acta

15. Hopps, H. B. Purpald: A Reagent that Turns Aldehydes Purple! **2000**, 33(1), 28–30.

Angewandte Chemie, International Edition in English

16. Falk, H. From the Photosensitizer Hypericin to the Photoreceptor Stentorin—The Chemistry of Phenanthroperylene Quinones. **1999**, 38(21), 3117–36.

17. Sturmer, R. Take the Right Catalyst: Palladium-Catalyzed C–C, C–N, and C–O Bond Formation on Chloroarenes. **1999**, 38(22), 3307–8.

18. Feringa, B. L.; Van Delden, R. A. Absolute Asymmetric Synthesis: The Origin, Control, and Amplification of Chirality. **1999**, 38(23), 3419–38.

19. Nicolaou, K. C.; Vourloumis, D.; Winssinger, N.; Baran, P. S. The Art and Science of Total Synthesis at the Dawn of the Twenty-First Century. **2000**, 39(1), 44–122.

20. Kuck, D. Thermochemical Data of Organic Ions Obtained from Investigations in the More or Less “Diluted” Gas Phase. **2000**, 39(1), 125–30.

21. Rau, H. K.; DeJonge, N.; Haehnel, W. Combinatorial Synthesis of Four-Helix Bundle Hemoproteins for Tuning of Cofactor Properties. **2000**, 39(1), 250–3.

22. Stephan, D. W. Zirconium–Phosphorus Chemistry: Strategies in Syntheses, Reactivity, Catalysis and Utility. **2000**, 39(2), 315–29.

23. Wirth, T. Oxygen and Osmium – A New Alliance for Dihydroxylations? **2000**, 39(2), 334–5.

24. Kempe, R. Highlights in the Renaissance of Amido-metal Chemistry. **2000**, 39(3), 468–93.

25. Heller, D.; Drexler, H.-J.; Fischer, C.; Buschmann, H.; Baumann, W.; Heller, B. How Long have Nonlinear Effects been Known in the Field of Catalysis? **2000**, 39(3), 495–9.

26. Stephan, D. W. “Breaking the Rules”: A Planar Phosphonium Cation. **2000**, 39(3), 501–2.

27. Danishefsky, S. J.; Allen, J. R. From the Laboratory to the Clinic: A Retrospective on Fully Synthetic Carbohydrate-Based Anticancer Vaccines. **2000**, 39(5), 836–63.

28. Eames, J. Parallel Kinetic Resolutions. **2000**, 39(5), 885–8.

29. Hartmann, M.; Ernst, S. Selective Oxidations of Linear Alkanes with Molecular Oxygen on Molecular Sieve Catalysts – A Breakthrough? **2000**, 39(5), 888–90.

30. Beller, M.; Eckert, M. Amidocarbonylation – An Efficient Route to Amino Acid Derivatives. **2000**, 39(6), 1010–27.

31. St. Hilaire, P. M.; Meldal, M. Glycopeptide and Oligosaccharide Libraries. **2000**, 39(7), 1163–79.

32. Starr, J. T.; Carreira, E. M. Syntheses of CP-225, 917 and CP-263,114. **2000**, 39(8), 1415–21.

33. Zenobi, R.; Deckert, V. Scanning Near-Field Optical Microscopy and Spectroscopy as a Tool for Chemical Analysis. **2000**, 39(10), 1747–56.

Canadian Journal of Chemistry

34. Leznoff, C. C. 1999 Alfred Bader Award Lecture. From Early Developments in Multi-Step Organic Synthesis on Solid Phases to Multi-Nuclear Phthalocyanines. **2000**, 78(2), 167–83.

Chemical Reviews

35. Siemeling, U. Chelate Complexes of Cyclopentadienyl Ligands Bearing Pendant O-Donors. **2000**, 100(4), 1495–526.

36. Feringa, B. L.; van Delden, R. A.; Koumura, N.; Geertsema, E. M. Chiroptical Molecular Switches. **2000**, 100(5), 1789–816.

37. McQuade, D. T.; Pullen, A. E.; Swager, T. M. Conjugated Polymer-Based Chemical Sensors. **2000**, 100(7), 2537–74.

38. Albert, K. J.; Lewis, N. S.; Schauer, C. L.; Sotzing, G. A.; Stitzel, S. E.; Vaid, T. P.; Walt, D. R. Cross-Reactive Chemical Sensor Arrays. **2000**, 100(7), 2595–626.

39. Grate, J. W. Acoustic Wave Microsensor Arrays for Vapor Sensing. **2000**, 100(7), 2627–47.

40. Jurs, P. C.; Bakken, G. A.; McClelland, H. E. Computational Methods for the Analysis of Chemical Sensor Array Data from Volatile Analytes. **2000**, 100(7), 2649–78.

Chemical Society Reviews

41. Nielsen, M. B.; Lomholt, C.; Becher, J. Tetrathiafulvalenes as Building Blocks in Supramolecular Chemistry II. **2000**, 29(3), 153–64.

42. Cousins, G. S.; Hoberg, J. O. Synthesis and Chemistry of Cyclopropanated Carbohydrates. **2000**, 29(3), 165–74.

43. van Doren, H. A.; Smits, E.; Pestman, J. M.; Engberts, J. B. F. N.; Kellogg, R. M. Mesogenic Sugars. From Aldoses to Liquid Crystals and Surfactants. **2000**, 29(3), 183–99.

44. Vankar, Y. D.; Schmidt, R. R. Chemistry of Glycosphingolipids—Carbohydrate Molecules of Biological Significance. **2000**, 29(3), 201–16.

45. Elander, N.; Jones, J. R.; Lu, S.-Y.; Stone-Elander, S. Microwave-Enhanced Radiochemistry. **2000**, 29(4), 239–49.

46. Pierre, J.-L. One Electron at a Time Oxidations and Enzymatic Paradigms: From Metallic to Non-Metallic Redox Centers. **2000**, 29(4), 251–7.

47. Mrksich, M. A Surface Chemistry Approach to Studying Cell Adhesion. **2000**, 29(4), 267–73.

Chemistry – A European Journal

48. Rottlander, M.; Boymond, L.; Berillon, L.; Lepretre, A.; Varchi, G.; Avolio, S.; Laaziri, H.; Queguiner, G.; Ricci, A.; Cahiez, G.; Knochel, P. New Polyfunctional Magnesium Reagents for Organic Synthesis. **2000**, 6(5), 767–70.

49. Groger, H.; Hammer, B. Catalytic Concepts for the Enantioselective Synthesis of α -Amino and α -Hydroxy Phosphonates. **2000**, 6(6), 943–8.

Chemistry and Industry

50. Gibson, T.; Prosser, O.; Hulbert, J. Electronic Noses: An Inspired Idea? **2000**, (8), 287–9.

CHEMTECH

51. Sawamoto, M.; Kamigaito, M. Transition-Metal-Catalyzed Living-Radical Polymerization. **1999**, 29(6), 30–8.

52. Matteson, D. S. α -Haloboronic Esters: Versatile Reagents for Asymmetric Synthesis. **1999**, 29(7), 6–14.

53. Vaccaro, E.; Scola, D. A. New Applications of Polyaminoquinones. **1999**, 29(7), 15–23.

54. Bennett, A. M. A. Novel, Highly Active Iron and Cobalt Catalysts for Olefin Polymerization. **1999**, 29(7), 24–8.

55. Sessler, J. L.; Allen, W. E. Anion Carriers: New Tools for Crossing Membranes. **1999**, 29(9), 16–24.

56. Uyama, H.; Kobayashi, S. Enzymatic Polymerization Yields Useful Polyphenols. **1999**, 29(10), 22–8.

57. Arkles, B. Hybrid Polymers in the Marketplace. **1999**, 29(12), 7–14.

CHEMTRACTS: Organic Chemistry

58. Khosla, C. Combinatorial Biosynthesis: New Tools for the Medicinal Chemist. **1998**, 11(1), 1–15.

59. Wender, P. A.; Floreancig, P. E. Total Synthesis of (\pm)-Taxusin. **1998**, 11(1), 16–22.

60. Narasaka, K.; Iwasawa, N. Total Synthesis of Taxol. **1998**, 11(1), 23–8.

61. Venkatesan, H.; Liotta, D. C. The Baylis–Hillman Reaction: Practical Improvements and Asymmetric Synthesis. **1998**, 11(1), 29–34.

- 62.** Yamada, T.; Mukaiyama, T. Reaction of Nitric Oxide with Amines and Arylhydrazines. **1998**, *11*(1), 35–7.
- 63.** Koprowski, H., II; Posner, G. H. Nonbiaryl Atropisomers: New Classes of Chiral Reagents, Auxiliaries, and Ligands? **1998**, *11*(1), 38–40.
- 64.** Groaning, M. D.; Meyers, A. I. Asymmetric Diels–Alder Reaction of Chiral 1-Amino-3-siloxy-1,3-butadiene: Application to the Enantioselective Synthesis of (–)- α -Elemene. **1998**, *11*(1), 41–5.
- 65.** Dai, L.-X.; Zhou, Y.-G. Highly Enantioselective Rh-Catalyzed Hydrogenations with a New Chiral 1,4-Bisphosphine Containing a Cyclic Backbone. **1998**, *11*(1), 46–51.
- 66.** Dax, S. L. 5,6-Cis-Penems: Broad-Spectrum Anti-Methicillin-Resistant *Staphylococcus Aureus* β -Lactam Antibiotics. **1998**, *11*(1), 52–6.
- 67.** Hong, F.-T.; Paquette, L. A. Bu_3SnH -Catalyzed Barton-McCombie Deoxygenation of Alcohols. Single-Step Process for the Reductive Deoxygenation of Unhindered Alcohols. **1998**, *11*(1), 67–72.
- 68.** Bionchini, C. Highly Efficient Epoxidation of Olefins using Aqueous H_2O_2 and Catalytic Methyltrioxorhenium/Pyridine: Pyridine-Mediated Acceleration. **1998**, *11*(2), 85–8.
- 69.** Van Horn, J. D.; Richmond, T. G. A C2 Symmetric Chiral Ketone for Catalytic Asymmetric Epoxidation of Unfunctionalized Olefins. Highly Enantioselective Epoxidation of Trans-Stilbenes Catalyzed by Chiral Ketones. **1998**, *11*(2), 89–94.
- 70.** Ho, R. Y. N.; Que, L., Jr. Oxidation of Hydrocarbons by $[(\text{Phen})_2\text{Mn}(\mu\text{-O})_2\text{Mn}(\text{phen})_2]^{3+}$ via Hydrogen Atom Abstraction. **1998**, *11*(2), 95–8.
- 71.** Bianchini, C. Aqueous Catalysis: Methylrhodium Trioxide (MTO) as a Homogeneous Catalyst for the Diels–Alder reaction. **1998**, *11*(2), 99–103.
- 72.** Hughes, R. P.; Trujillo, H. A. Selective Solubility of Organometallic Complexes in Saturated Fluorocarbons. Synthesis of Cyclopentadienyl Ligands with Fluorinated Ponytails. **1998**, *11*(2), 141–2.
- 73.** Fujimura, O.; De La Mata, F. J.; Grubbs, R. H. Synthesis of New Chiral Ligands and Their Group VI Metal Alkylidene Complexes. **1998**, *11*(2), 143–44.
- 74.** Schnaar, R. L. Influenza Neuraminidase Inhibitors Possessing a Novel Hydrophobic Interaction in the Enzyme Active Site: Design, Synthesis, and Structural Analysis of Carbocyclic Sialic Acid Analogues with Potent Anti-Influenza Activity. **1998**, *11*(3), 222–8.
- 75.** Molander, G. A. Application of Lanthanide and Group 3 Metallocene Catalysts to Small-Molecule Synthesis. **1998**, *11*(4), 237–63.
- 76.** Ruck-Braun, K.; Kunz, H. Catalytic Asymmetric Synthesis Using Rare Earth-Derived Heterobimetallic BINOL Complexes. **1998**, *11*(4), 264–7.
- 77.** Wender, P. A.; Dore, T. M. Radical Carboxylation: Ester Synthesis from Alkyl Iodides, Carbon Monoxide, and Alcohols under Irradiation Conditions. **1998**, *11*(4), 268–73.
- 78.** Wentland, M. P. 5-Substituted 2-Aminopyridine C–Nucleosides as Protonated Cytidine Equivalents: Increasing Efficiency and Selectivity in DNA Triple-Helix Formation. **1998**, *11*(4), 274–81.
- 79.** Davidov, P.; Houk, K. N. Chirality-Memory Molecule: A D2-Symmetric Fully Substituted Porphyrin as a Conceptually New Chirality Sensor. **1998**, *11*(4), 282–6.
- 80.** Zamojski, A. Enantioselective Catalytic Ring Opening of Epoxides with Carboxylic Acids. **1998**, *11*(4), 287–90.
- 81.** Walters, M. A. Macrocyclization on Solid Support using Heck Reaction. **1998**, *11*(4), 291–6.
- 82.** Figueiredo, T. L. C.; Dolphin, D. H. Meso-Arylporphyrins as Dienophiles in Diels–Alder Reactions: A Novel Approach to the Synthesis of Chlorins, Bacteriochlorins, and Naphthoporphyrins. **1998**, *11*(4), 297–300.
- 83.** Woo, L. K. Density Functional Study of the [2 + 2]- and [2 + 3]-Cycloaddition Mechanisms for the Osmium-Catalyzed Dihydroxylation of Olefins. **1998**, *11*(5), 319–326.
- 84.** Vlcek, A., Jr. Photochemical Activation of Metalloporphyrin Carbene Complexes. **1998**, *11*(5), 333–8.
- 85.** Morales, D.; Poli, R. Liquid-Biphase Hydrogenolysis of Benzo[*b*]thiophene by Rhodium Catalysis. **1998**, *11*(5), 346–51.
- 86.** Raymo, F. M.; Stoddart, J. F. From Supramolecular Complexes to Interlocked Molecular Compounds. **1998**, *11*(7), 491–511.
- 87.** Scheidt, K. A.; Roush, W. R. Applications of Zr-Catalyzed Carbomagnesation and Mo-Catalyzed Macrocyclic Ring Closing Metathesis in Asymmetric Synthesis. Enantioselective Synthesis of Sch 38516 (Fluvirucin B₁). **1998**, *11*(7), 522–30.
- 88.** Dakin, L. A.; Panek, J. S. Recent Advances in Catalytic Asymmetric Epoxidation of Trisubstituted and Trans-Olefins. **1998**, *11*(7), 531–6.
- 89.** Rotella, D. P. Orally Active Trifluoromethyl Ketone Inhibitors of Human Leukocyte Elastase. **1998**, *11*(7), 546–9.
- 90.** Trumpp-Kallmeyer, S.; Showalter, H. D. H. Use of a Pharmacophore Model for the Design of EGFR Tyrosine Kinase Inhibitors: 4-(Phenylamino)pyrazolo[3,4-*d*]pyrimidines. **1998**, *11*(7), 550–60.
- 91.** Crawford, K. R.; Posner, G. H. A Highly Stereoselective Pentannulation of Prochiral Cyclic Enones Using a Chiral 1,3-Dipole Equivalent. **1998**, *11*(7), 561–4.
- 92.** Lupinetti, A. J.; Strauss, S. H. Superweak Anions – Chemistry and Catalysis: A Symposium Report. **1998**, *11*(8), 565–95.
- 93.** Marko, I. E.; Giles, P. R.; Tsukazaki, M.; Chelle-Regnaut, I.; Urch, C. J.; Brown, S. M.; Bianchini, C.; Barbaro, P. Efficient, Aerobic, Ruthenium-Catalyzed Oxidation of Alcohols into Aldehydes and Ketones. **1998**, *11*(8), 626–8.
- 94.** Sato, K.; Aoki, M.; Takagi, J.; Noyori, R.; Bianchini, C.; Barbaro, P. Organic Solvent- and Halide-Free Oxidation of Alcohols with Aqueous Hydrogen Peroxide. **1998**, *11*(8), 629–31.
- 95.** Barvian, M. R. Solution-Phase Combinatorial Chemistry: Synthesis of Novel Heterocyclic Libraries. **1998**, *11*(9), 639–46.
- 96.** Boger, D. L.; Searcey, M. The First Synthesis of a Daphnane Diterpene: The Enantiocontrolled Total Synthesis of (+)-Resiniferatoxin. **1998**, *11*(9), 647–51.
- 97.** Walters, M. A. Solid-Phase Synthesis of Hybrid Thiazolidinedione-Fatty Acid PPAR γ Ligands. **1998**, *11*(9), 662–6.
- 98.** Buck, S. B.; Victory, S. F.; Himes, R. H.; Georg, G. I. Eptophilones, A New Class of Microtubule-Stabilizing Agents with a Taxol-like Mechanism of Action. **1998**, *11*(9), 671–7.

99. Appendino, G.; Casiraghi, G. The Synthesis of Epothilones: Highlights from a Year's Race. **1998**, *11*(9), 678–96.

100. Marshall, J. A. Stereo- and Enantioselective Additions of Allylic, Propargylic, and Allenic Trihalosilanes to Aldehydes. **1998**, *11*(9), 697–712.

101. Burk, M. J. The DuPHOS Ligands – A Historical Account. **1998**, *11*(11), 787–802.

102. Casiraghi, G.; Zanardi, F.; Battistini, L.; Rassa, G.; Appendino, G. Current Advances in the Chemical Synthesis of Annonaceous Acetogenins and Relatives. **1998**, *11*(11), 803–27.

103. Marshall, J. A. A Novel Method for Inside Selective Silylation of 1,2-Diols. **1998**, *11*(11), 828–31.

104. Celatka, C. A.; Panek, J. S. Chiral Magnesium Bis(sulfonamide) Complexes as Catalysts for the Merged Enolization and Enantioselective Amination of N-Acylloxazolidinones. A Catalytic Approach to the Synthesis of Arylglycines. **1998**, *11*(11), 836–9.

105. Chen, L.-B.; Berbreiter, D. E. Highly Active Pd(II) PCP-type Catalysts for the Heck Reaction. **1998**, *11*(11), 845–9.

106. Marshall, J. A. Catalytic Asymmetric Allylation of Imines via Chiral Bis- π -allylpalladium Complexes. **1998**, *11*(11), 855–8.

107. Vlcek, A., Jr. Topological Effects on Intramolecular Electron Transfer via Quantum Interference. **1998**, *11*(12), 859–65.

108. Male, J. L.; Braden, D. A.; Tyler, D. R. Time-Resolved Infrared Spectral Studies of Photochemically Induced Oxidative Addition of Benzene to Trans-RhCl(CO)(PMe₃)₂. **1998**, *11*(12), 879–83.

109. Burwell, R. L., Jr. A New Generation of Homogeneous Arene Hydrogenation Catalysts. **1998**, *11*(12), 884–92.

110. Gallou, F.; Paquette, L. A. $[6\pi + 2\pi]$ and $[6\pi + 4\pi]$ Higher-Order Cycloadditions and Their Deployment in Total Synthesis. **2000**, *13*(4), 223–8.

111. Nair, S. K.; Henri, J. T.; Georg, G. I. An Efficient Gram-Scale Synthesis of (+)-Discodermolide. **2000**, *13*(4), 229–36.

112. Kellogg, R. M. A Practical Method for Alcohol Oxidation with Aqueous Hydrogen Peroxide under Organic Solvent- and Halide-Free Conditions. **2000**, *13*(4), 249–52.

113. Marshall, J. A. Carbon–Carbon Bond Formation via Palladium-Catalyzed Reductive Coupling in Air. **2000**, *13*(4), 265–7.

114. Walters, M. A. Synthesis and Preliminary Evaluation of a Library of Polycyclic Small Molecules for Use in Chemical Genetic Assays. **2000**, *13*(4), 268–75.

115. Carruthers, N. I.; Li, X. Design, Synthesis, and Structure–Activity Relationships of Acetylene-Based Histamine H₃ Receptor Antagonists. **2000**, *13*(4), 276–80.

Chirality

116. Huang, X.; Nakanishi, K.; Berova, N. Porphyrins and Metalloporphyrins: Versatile Circular Dichroic Reporter Groups for Structural Studies. **2000**, *12*(4), 237–55.

Coordination Chemistry Reviews

117. Munakata, M.; Wu, L. P.; Ning, G. L. A New Type of Multilayer System-Silver(I) Complexes of Polycyclic Aromatic Compounds. **2000**, (198), 171–203.

118. Okazaki, M.; Yuki, M.; Kuge, K.; Ogino, H. Cluster Synthesis by the Reactions of $[\text{Cp}'_2\text{M}_2\text{S}_4]$ with Metal Complexes (Cp' = Cp and Substituted Cyclopentadienyl Ligands, M = Fe, Ru). **2000**, (198), 367–78.

119. Osakada, K.; Yamamoto, T. Transmetalation of Alkynyl and Aryl Complexes of Group 10 Transition Metals. **2000**, (198), 379–99.

Current Medicinal Chemistry

120. Proctor, G. R.; Harvey, A. L. Synthesis of Tacrine Analogues and Their Structure–Activity Relationships. **2000**, *7*(3), 295–302.

121. Jagt, D. L. V.; Deck, L. M.; Royer, R. E. Gossypol: Prototype of Inhibitors Targeted to Dinucleotide Folds. **2000**, *7*(4), 479–98.

Current Organic Chemistry

122. Mile, B. Free Radical Participation in Organic Chemistry: Electron Spin Resonance (ESR) Studies of Their Structures and Reactions. **2000**, *4*(1), 55–83.

123. McNulty, J.; Still, I. W. J. Synthetic Approaches to the Eudistomin Marine Alkaloids. **2000**, *4*(2), 121–38.

124. Vicente, M. G. H.; Smith, K. M. Porphyrins and Derivatives: Synthetic Strategies and Reactivity Profiles. **2000**, *4*(2), 139–74.

125. Padwa, A.; Waterson, A. G. Synthesis of Nitrogen Heterocycles Using the Intramolecular Pummerer reaction. **2000**, *4*(2), 175–203.

126. Jefford, C. W. Pyrroles as Building Blocks for the Enantioselective Synthesis of Indolizidines. **2000**, *4*(2), 205–30.

127. Danieli, B.; Lesma, G.; Passarella, D.; Silvani, A. A Chemo-Enzymic Approach to Some Indole and Quinolizidine Alkaloids from Cs-Symmetric Precursors. **2000**, *4*(2), 231–61.

128. Novak, B. H.; Hudlicky, T.; Reed, J. W.; Mulzer, J.; Trauner, D. Morphine Synthesis and Biosynthesis—An Update. **2000**, *4*(3), 343–62.

European Journal of Organic Chemistry

129. Benschafut, R.; Shabtai, E.; Rabinovitz, M.; Scott, L. T. π -Conjugated Anions: From Carbon-Rich Anions to Charged Carbon Allotropes. **2000**, (7), 1091–106.

130. Toda, F. Naphthocyclobutenes and Benzodicyclobutadienes: Synthesis in the Solid State and Anomalies in the Bond Lengths. **2000**, (8), 1377–86.

Heterocycles

131. Ohmizu, H.; Ogiku, T.; Iwasaki, T. Stereocontrolled Synthesis of Unsymmetrically Substituted Furofuran Lignans. **2000**, *52*(3), 1399–409.

132. Saloutin, V. I.; Burgart, Y. V.; Kappe, C. O.; Chupakhin, O. N. Perfluorinated Acyl(aroyl)pyruvates as Building Blocks for the Synthesis of Heterocycles. **2000**, *52*(3), 1411–34.

133. Sekhar, B. C.; Ramadas, S. R.; Ramana, D. V. β -Halovinyl Aldehydes as Versatile Reactive Intermediates in the Syntheses of Condensed Fused-Ring Polycyclic Heterocycles. **2000**, *53*(4), 941–77.

134. Levai, A.; Timar, T.; Sebok, P.; Eszenyi, T. Synthesis of 2,2-Dimethyl-2*H*-chromenes. **2000**, *53*(5), 1193–203.

Journal of Combinatorial Chemistry

135. Franzen, R. G. Recent Advances in the Preparation of Heterocycles on Solid Support: A Review of the Literature. **2000**, *2*(3), 195–214.

Journal of Fluorine Chemistry

136. Kharitonov, A. P. Practical Applications of the Direct Fluorination of Polymers. **2000**, *103*(2), 123–7.

Journal of Heterocyclic Chemistry

137. Levai, A. Synthesis and Chemical Transformations of 1,5-Benzothiazepines. **2000**, *37*(2), 199–214.

Natural Product Reports

138. Allenmark, S. G. Chiroptical Methods in the Stereochemical Analysis of Natural Products (1975 to 1999). **2000**, *17*(2), 145–55.

139. Hanson, J. R. Diterpenoids (1998). **2000**, *17*(2), 165–74.

140. Lounasmaa, M.; Tolvanen, A. Simple Indole Alkaloids and Those with a Nonrearranged Monoterpenoid Unit (July 1997 to December 1998). **2000**, *17*(2), 175–91.

141. Ferreira, D.; Li, X.-C. Oligomeric Proanthocyanidins: Naturally Occurring O-Heterocycles (January 1996 to December 1998). **2000**, *17*(2), 193–212.

Organic Preparations and Procedures International

142. Nikalje, M. D.; Phukan, P.; Sudalai, A. Recent Advances in Clay-Catalyzed Organic Transformations. **2000**, *32*(1), 1–40.

Research on Chemical Intermediates

143. Percino, M. J.; Chapela, V. M. Unexpected Intermediate 1-Phenyl-2-(4-pyridyl)ethanol Isolated from Benzaldehyde and 4-Picoline Condensation Reaction. **2000**, *26*(3), 303–7.

Russian Chemical Reviews

144. Tomilov, Yu. V.; Kostyuchenko, I. V.; Nefedov, O. M. Synthesis and Properties of Nitrogenous Heterocycles Containing a Spiro Cyclopropane Fragment. **2000**, *69*(6), 507–27.

145. Furin, G. G. Novel Aspects of Perfluoroalkyl Halide Application to the Synthesis of Fluorine-Containing Organic Compounds. **2000**, *69*(6), 538–71.

146. Grigorieva, N. Ya.; Tsiklauri, P. G. Syntheses of Insect Pheromones with a (Z)-Trisubstituted Olefinic Fragment. **2000**, *69*(7), 624–41.

147. Maretina, I. A.; Trofimov, B. A. Diacetylene: Industrially Promising Reactions. **2000**, *69*(7), 642–60.

148. Boltalina, O. V.; Galeva, N. A. Direct Fluorination of Fullerenes. **2000**, *69*(7), 661–74.

Russian Journal of Organic Chemistry

149. Kriven'ko, A. P.; Sorokin, V. B. Synthesis and Reactions of 3-R-2,4-Diacetyl(diethoxycarbonyl)-5-hydroxy-5-methylcyclohexanones and Related Substances. **1999**, *35*(8), 1097–112.

150. Sokolov, V. I. Chiral History of Fullerenes. **1999**, *35*(9), 1257–63.

151. Gorbunova, T. I.; Zapevalov, A. Y.; Saloutin, V. I. Synthesis of Polyfluorinated Dienes. **1999**, *35*(11), 1557–66.

Science

152. Deniz, A. A.; Peters, K. S.; Snyder, G. J. Experimental Determination of the Antiaromaticity of Cyclobutadiene. **1999**, *286*(5442), 1119–22.

153. ten Brink, G.-j.; Arends, I. W. C. E.; Sheldon, R. A. Green, Catalytic Oxidation of Alcohols in Water. **2000**, *287*(5458), 1636–9.

154. Rademann, J.; Jung, G. Techview: Drug Discovery: Integrating Combinatorial Synthesis and Bioassays. **2000**, *287*(5460), 1947–8.

155. Schreiber, S. L. Target-Oriented and Diversity-Oriented Organic Synthesis in Drug Discovery. **2000**, *287*(5460), 1964–9.

156. Jia, C.; Piao, D.; Oyamada, J.; Lu, W.; Kitamura, T.; Fujiwara, Y. Efficient Activation of Aromatic C–H Bonds for Addition to C–C Multiple Bonds. **2000**, *287*(5460), 1992–5.

157. Buron, C.; Gornitzka, H.; Romanenko, V.; Bertrand, G. Stable Versions of Transient Push–Pull Carbenes: Extending Lifetimes from Nanoseconds to Weeks. **2000**, *288*(5467), 834–6.

Synlett

158. El Ali, B.; Alper, H. The Application of Transition Metal Catalysis for Selective Cyclocarbonylation Reactions. Synthesis of Lactones and Lactams. **2000**, (2), 161–71.

159. Pons, M.; Albericio, F.; Royo, M.; Giralt, E. Disulfide Bonded Cyclic Peptide Dimers and Trimers: An Easy Entry to High-Symmetry Peptide Frameworks. **2000**, (2), 172–81.

160. Lash, T. D. Carbaporphyrinoids: Taking the Heterocycle Out of Nature's [18]Annulene. **2000**, (3), 279–95.

161. Robinson, J. A. The Design, Synthesis and Conformation of Some New β -Hairpin Mimetics: Novel Reagents for Drug and Vaccine Discovery. **2000**, (4), 429–41.

162. Merino, P.; Franco, S.; Merchan, F. L.; Tejero, T. Nucleophilic Additions to Chiral Nitrones: New Approaches to Nitrogenated Compounds. **2000**, (4), 442–54.

Synthesis–Stuttgart

163. Gao, H.; Mitra, A. K. Synthesis of Acyclovir, Ganciclovir and Their Prodrugs: A Review. **2000**, (3), 329–51.

164. Pedersen, O. S.; Pedersen, E. B. The Flourishing Syntheses of Non-Nucleoside Reverse Transcriptase Inhibitors. **2000**, (4), 479–95.

165. Gebauer, O.; Bruckner, R. β -Alkoxy carbonyl Enol Triflates as Precursors of Stereopure 3-Ene-1,5-diyne Building Blocks for the Chromophores of Neocarzinostatin, C-1027, Kedarcidin, Maduropeptin, and N1999A2. **2000**, (4), 588–602.

Tetrahedron

166. Mehta, G.; Venkateswaran, R. V. Haller–Bauer Reaction Revisited: Synthetic Applications of a Versatile C–C Bond Scission Reaction. **2000**, 56(11), 1399–422.

167. Stratakis, M.; Orfanopoulos, M. Regioselectivity in the Ene Reaction of Singlet Oxygen with Alkenes. **2000**, 56(12), 1595–615.

168. Krygowski, T. M.; Cyranski, M. K.; Czarnocki, Z.; Hafelinger, G.; Katritzky, A. R. Aromaticity: A Theoretical Concept of Immense Practical Importance. **2000**, 56(13), 1783–96.

169. Brimble, M. A.; Nairn, M. R.; Prabakaran, H. Synthetic Strategies Toward Pyranonaphthoquinone Antibiotics. **2000**, 56(14), 1937–92.

170. Spencer, R. P.; Schwartz, J. Titanium(III) Reagents in Carbohydrate Chemistry: Glycal and C-Glycoside Synthesis. **2000**, 56(15), 2103–12.

171. Theodoridis, G. Nitrogen Protecting Groups: Recent Developments and New Applications. **2000**, 56(16), 2339–58.

172. Bergmeier, S. C. The Synthesis of Vicinal Amino Alcohols. **2000**, 56(17), 2561–76.

Tetrahedron: Asymmetry

173. Cativiela, C.; Diaz-De-Villegas, M. D. Stereoselective Synthesis of Quaternary α -Amino Acids. Part 2: Cyclic Compounds. **2000**, 11(3), 645–732.

Trends in Biotechnology

174. Wentworth, P. Recent Developments and Applications of Liquid-Phase Strategies in Organic Synthesis. **1999**, 17(11), 448–52.

175. Mayo, K. H. Recent Advances in the Design and Construction of Synthetic Peptides: For the Love of Basics or Just for the Technology of It. **2000**, 18(5), 212–7.

Monographs

176. Finch, P., Ed. Carbohydrates, Structures, Syntheses and Dynamics. Kluwer: Dordrecht, Netherlands, 1999.

177. Fleet, G. W. J., Ed. Special Issue: Carbohydrate Science, Part 2. [In *Tetrahedron: Asymmetry*, **2000**, 11(2)]. Elsevier: Oxford, U.K., 2000.

178. Gawronski, J.; Gawronska, K. Tartaric and Malic Acids in Synthesis: A Source Book of Building Blocks, Ligands, Auxiliaries, and Resolving Agents. Wiley: New York, 1998.

179. Gorog, S. Identification and Determination of Impurities in Drugs; Vol. 34. Elsevier Science: Amsterdam, The Netherlands, 2000.

180. Greenberg, A.; Breneman, C. M.; Liebman, J. F., Eds. Amide Linkage: Selected Structural Aspects in Chemistry, Biochemistry, and Materials Science. Wiley: New York, 2000.

181. Gupta, R. R.; Kumar, M.; Gupta, V. Heterocyclic Chemistry I. Springer: Berlin, Germany, 1998.

182. Haiduc, I.; Edelmann, F. T. Supramolecular Organometallic Chemistry. Wiley-VCH: Weinheim, Germany, 1999.

183. Harmata, M., Ed. Advances in Cycloaddition; Vol. 6. JAI: Stamford, Connecticut, 1999.

184. Jacobsen, E. N.; Pfaltz, A.; Yamamoto, H., Eds. Comprehensive Asymmetric Catalysis; Vol. 1–3. Springer: Berlin, Germany, 1999.

185. Jaouen, G. Special Issue on Bioorganometallic Chemistry. [In: *J. Organomet. Chem.*, **1999**; 589(1)]. Elsevier: Lausanne, Switzerland, 1999.

186. Kelly, S. M. Flat Panel Displays: Advanced Organic Materials. The Royal Society of Chemistry: Cambridge, U.K., 2000.

187. Leach, M. R. Lewis Acid/Base Reaction Chemistry. Meta-Synthesis.Com: Brighton, U.K., 1999.

188. Lednicer, D.; Mitscher, A. The Organic Chemistry of Drug Synthesis; Vol. 6. Wiley: New York, 1998.

189. Lide, D. R., Jr., Ed. Properties of Organic Compounds CRCnetBASE 1999. Springer: Berlin, Germany, 1998.

190. Lightner, D. A.; Gurst, J. E. Organic Conformational Analysis and Stereochemistry from Circular Dichroism Spectroscopy. Wiley-VCH: New York, 2000.

191. Marko, I. E. Oxidations. Oxford University Press: Oxford, U.K., 1998.

192. Moro-oka, Y.; Yamazoe, N.; Kagawa, S.; Iwamoto, M., Eds. Special Issue: Structure–Function Relationship in Catalytic Chemistry. (A Collection of Papers Published in Memory of the Late Tetsuro Seiyama (1920–1997).) [In: *J. Mol. Catal. A: Chem.*, **2000**; 155(1–2)]. Elsevier: Amsterdam, Netherlands, 2000.

193. Pandalai, S. G., Ed. Recent Research Developments in Organic Chemistry; Vol. 2, Part 1. Transworld Research Network: Trivandrum, India, 1999.

194. Porco, J. A., Jr.; Labadie, J. W., Eds. Special Issue on Polymer Supports for Streamlined Organic Synthesis. [In: *Biotechnol. Bioeng.*, **2000**; 71(1)]. Wiley: New York, 2000.

195. Romeo, J. T.; Ibrahim, R.; Varin, L.; De Luca, V. Evolution of Metabolic Pathways: Recent Advances in Phytochemistry; Vol. 34. Elsevier Science: Amsterdam, The Netherlands, 2000.

196. Sauvage, J. P.; Dietrich-Buchecker, C., Eds. Molecular Catenanes, Rotaxanes and Knots: A Journey Through the World of Molecular Topology. Wiley-VCH: Weinheim, Germany, 1999.

197. Scrimin, P.; Taddei, M.; Brandi, A.; Riccio, R., Eds. Seminars in Organic Synthesis; Vol. 9. Italian Chemical Society: Rome, Italy, 2000.

198. Soloshonok, V. A., Ed. Enantiocontrolled Synthesis of Fluoro-Organic Compounds: Stereochemical Challenges and Biomedical Targets. Wiley: Chichester, W. Sussex, U.K., 1999.

199. Wade, L. G. Organic Chemistry, 4th ed. Prentice Hall: Upper Saddle River, NJ, 1998.

Index

- Acetogenins, 102
 Acetylcholinesterase inhibitor, 120
 Acyclovir, synthesis, 163
 Acyloxazolidinone, chiral amination, 104
 Adhesion promoters, polyaminoquinones, 53
 Alcohol oxidation, in aqueous hydrogen peroxide, 94, 112
 ruthenium catalyzed, 93
 Alcohols, Barton McCombie deoxygenation, 67
 deoxygenation, with tributylstanane, 67
 oxidation in water, 153
 Aldehydes, environmentally clean preparation, 153
 from alcohols, 93
 halovinyl, fused heterocycles, 133
 silane stereoselective addition, 100
 spectrophotometry, 15
 Aldol condensation, with zinc acetylde, 6
 Aldol reaction, asymmetric catalysis, 11
 Lewis bases, 11
 Alkaloids, indole, 127, 140
 indolizidine, preparation, 126
 marine, 123
 quinolizidine, preparation, 127
 Alkanes, linear, oxidation, over molecular sieves, 29
 Alkanethiolates, on gold, cell adhesion model, 47
 Alkenes, asymmetric epoxidation, 88
 dihydroxylation, with osmium, 83
 enantioselective epoxidation, 69
 ene reaction with singlet oxygen, 167
 epoxidation, 68
 polymerization, 54
 Amide linkages, book, 180
 Amido transition metal reactions, 24
 Amidocarbonylation, 30
 Amines, reaction with nitric oxide, 62
 Amino acids, derivatives, 30
 quaternary α -, 173
 Amino alcohols, vicinal, synthesis, 172
 Aminocycloalkylcarboxylic acids, 173
 Aminopyridine C-nucleosides, 78
 Analysis, odor, 50
 scanning near-field optical microscopy, 33
 Anions, superweak, 92
 Anions, π -conjugated, 129
 Annonaceous acetogenin, synthesis, 102
 Antibiotics, chromophores, 165
 for methicillin resistant staph., 66
 penem, 66
 pyranonaphthoquinone, 169
 β -lactam, 66
 Anticancer agents, gossypol, 121
 Anticancer vaccine, synthetic carbohydrates, 27
 Antifertility agents, gossypol, 121
 Anti-herpes agents, 163
 Antihistamine, 115
 Anti-influenza agents, 74
 Antitumor agents, phenylaminopyrazolopyrimidine, 90
 Antiviral agents, gossypol, 121
 Arenes, hydrogenation, 109
 Aromatic radical cations, β -bond cleavage, 1
 Aromaticity, 168
 Aromatics, C–H bond activation, 156
 Arylglycine preparation, 104
 Arylhydrazine, reaction with nitric oxide, 62
 Asymmetric autocatalysis, 7
 Asymmetric catalysis, nonlinear effects, 8
 Asymmetric synthesis, 18
 BINOL catalyst, 76
 with α -haloboronic esters, 52
 Atropisomers, nonbiaryl chiral reagent, 63
 Autoxidation catalysts, zeolites, 29
 Azepanecarboxylic acid, alkyl, 173
 Aziridincarboxylic acid, 173
 Azlactone, acylated, rearrangement, 9
 Azocanecarboxylic acid, alkyl, 173
 Bacteriochlorin, 82
 Baylis–Hillman asymmetric synthesis, 61
 Benzaldehyde, with picoline, 143
 Benzodicyclobutadienes, preparation, 130
 Benzopyran, preparation, 134
 Benzothiazepines, 137
 Benzothiophene, hydrogenolysis, 85
 Benzothiopyran, preparation, 134
 Biomimetics, metalloenzymes, 46
 Bioorganometallic chemistry, 185
 Biphosphine chiral ligand, for hydrogenation, 65
 Brassinosteroids, book, 195
 Butadiene, aminosiloxy, Diels–Alder reaction, 64
 Calixpyrroles, 55
 Carbaporphyrinoids, 160
 Carbenes, bistrifluoromethylphenyl phosphanyl, 157
 phosphino trifluoromethyl, 157
 Carbohydrates, 177
 amphiphilic sugars, 43
 book, 176
 C-glycoside synthesis, 170
 cyclopropanated, 42
 hydrazine derivatives, 14
 hydrazone derivatives, 14
 osazone derivatives, 14
 thiocarbonyl, 13
 titanocene reagents, 170
 zirconocene reagents, 170
 Carbomagnesation, in fluvirucin synthesis, 87
 Carbon allotropes, charged, 129
 Carboxylation, of alkyl iodides, 77
 Catalysis, asymmetric, book, 184
 structure–function, book, 192
 Catalysts, chiral, magnesium bisulfonamide, 104
 chiral, nucleophilic, 9
 methyltrioxorhenium/pyridine, 68
 montmorillonite clay, 142
 nickel complexes, 51
 palladium PCP-type, 105
 rare earth BINOL complex, 76
 rhodium, hydrogenation, 65
 ruthenium complexes, 51
 Catenanes, book, 196
 recognition, 86
 self-assembly, 86
 C–C bond formation catalyst, 6
 C–C bond scission, 166
 C–C bond, via reductive coupling, 113
 Cell adhesion model, 47
 Chemical sensors, arrays, 38–40
 conjugated polymer, 37
 Chiral molecules, automultiplication, 7
 Chirality sensor, porphyrin, 79
 Chlorin, 82
 Chloroarenes, palladium catalyzed reactions, 17
 Chromenes, dimethyl preparation, 134
 Circular dichroism spectroscopy, book, 190
 Combinatorial biosynthesis, medicinal chemistry, 58
 Combinatorial chemistry, 34, 197
 and bioassay, 154
 drug discovery, 154
 solution phase, 95
 Combinatorial libraries, glycopeptides, 31
 oligosaccharides, 31
 solution phase, 174
 Corrosion inhibitors, polyaminoquinones, 53
 Coupling reaction, Ni-catalyzed, 12
 Cyclization, nickel catalyzed, 12
 Cycloaddition, book, 183
 natural product synthesis, 110
 Ni-catalyzed, 12
 Cycloalkylcarboxylic amino acid, 173
 Cyclobutadiene, antiaromaticity, 152
 Cyclocarbonylation reactions, transition metal catalyst, 158
 Cyclopentadienyl ligands, with fluorinated ponytail, 72
 Cytidine equivalents, 78
 Cytochrome P450, in plant, book, 195
 Daphnane diterpene, 96
 Diacetylene, 147
 Diacetylhydroxymethyl cyclohexanone preparation, 149
 Diels–Alder reaction, aminosiloxybutadiene, 64
 methylrhenium trioxide catalyst, 71
 with meso-arylporphyrins, 82
 Dienes, polyfluorinated, synthesis, 151
 Dihydroxylation, with oxygen and osmium, 23
 Diols, selective silylation, 103
 Discodermolide, gram scale synthesis, 111
 Diterpenes, 139
 DNA triplex-helix formation, 78
 Drug delivery, anions, 55
 Drugs, impurities, book, 179
 Electroluminescent organic materials, book, 186
 Electron transfer, intramolecular, quantum interference, 107
 Electronic nose, 50
 Elemene, enantioselective synthesis, 64
 Eneidyne synthons, 165
 Enol triflates, alkynyl, precursors, 165
 Enones, prochiral cyclic, stereoselective pentannulation, 91
 Enzyme inhibitors, dinucleotide folds, 121
 Enzymes, mimetics, 46
 plant, book, 195
 Epidermal growth factor receptor inhibitor, 90

- Epithilone preparation, 98–9
Epoxides, ring opening, 10, 80
Esters, carboxylate, preparation with irradiation, 77
 α -haloboronic, 52
Ethanol, phenylpyridyl-, preparation, 143
Ferrocenyl benzene, electronic coupling, 107
Fluorination, book, 198
Fluorination, perfluoroalkyl halides, 145
Free radicals, ESR, 122
Fullerenes, chiral, 150
 fluorination, 148
Functional group transformation, 197
Fungal metabolites, preparation, 32
Ganciclovir, synthesis, 163
Glucosides, cyanogenic, book, 195
Glycopeptides, combinatorial library, 31
Glycosphingolipids, 44
Haller Bauer reaction, 166
Heck reaction, Pd catalysts, 105
Hemoproteins, preparation, 21
Heterocycles, book, 181
 fused polycyclic, 133
 library, 95
 nitrogenous, preparation, 125
 nitrogenous, spiro cyclopropane, 144
 nitrogenous, synthesis, book, 197
 oxygen-containing, 141
 planar, chiral, 9
 synthesis on solid supports, 135
Histamine antagonists, 115
Homogeneous catalysts, arene hydrogenation, 109
Hydrocarbon oxidation, hydrogen abstraction, 70
 with manganese phenanthrene, 70
Hydroxylamines, synthesis, 162
Hydroxylation, with oxygen and osmium, 23
Imines, allylation, 106
Indole alkaloids, 140
 preparation, 127
Indolizidine preparation, from pyrroles, 126
Influenza neuraminidase inhibitor, 74
Ketenes, reaction with alcohols, 9
Ketones, environmentally clean preparation, 153
 from alcohols, 93
Lactams, β -, synthesis, 197
Lactanes, synthesis, 158
Lactones, synthesis, 158
Lanthanides, small molecule synthesis, 75
Leukocyte elastase inhibitor, 89
Lewis acids, book, 187
Lewis bases, book, 187
Ligands, chiral, asymmetric reactions, 4
 chiral, group VI metal alkylidene, 73
 chiral, monodentate phosphine, 4
 cyclopentadienyl, chelate complex, 35
 phosphino oxazoline, asymmetric catalysis, 2
Lignans, furofuran, preparation, 131
Macrocyclization, solid support, Heck reaction, 81
Macrolactonization, in fluvirucin synthesis, 87
Magnesium reagent, in synthesis, 48
Malic acid, book, 178
Metalloenes, small molecule synthesis, 75
Metalloenzymes, biomimetics, 46
Metalloporphyrins, carbene complexes, photochemistry, 84
 CD chromophore, 116
Methylchromene, preparation, 134
Microtubule stabilizing agents, 98
Microwaves, in radiochemistry, 45
Molecular recognition, 86
Molecular sieves, alkane oxidation, 29
Molecular switches, chiroptical, 36
Montmorillonite clay, catalysis, 142
Morphine, synthesis, 128
Naphthocyclobutenes, preparation, 130
Naphthoporphyrins, 82
Natural products, configuration, 138
 in evolution, book, 195
 optical rotation, 138
 synthesis, book, 197
 synthesis, cycloaddition, 110
 total synthesis, 19
Nickel catalyst, 12
Nitrogen protective groups, 171
Nitrogenated compounds, 162
Nitrones, nucleophilic addition, 162
Nonlinear effects, in catalysis, 25
Olefins, trans, asymmetric epoxidation, 88
 trisubstituted, epoxidation, 88
Oligosaccharide, combinatorial library, 31
Organic chemistry, general, book, 193, 199
Organic ions, gas phase, thermochemistry, 20
Organic light-emitting diodes, book, 186
Organic properties, computer optical disk, 189
Organofluorine compounds, book, 198
Organoiron complexes, 118
Organometallic complexes, in saturated fluorocarbons, 72
 in synthesis, 197
Organoruthenium complexes, 118
Organosilver compounds, sandwich, 117
Organosulfur complexes, 118
Oxidations, book, 191
Palladium, in synthesis, 197
Parallel kinetic resolutions, 28
Pentafluorobenzoylpyruvate, heterocycle synthesis, 132
Peptides, cyclic, dimers, 159
 high symmetry, 159
 mimetic β -hairpin, 161
 synthesis, 175
Pharmaceuticals, diversity oriented discovery, 155
 synthesis, book, 188
 target oriented discovery, 155
Phenanthroperylene quinones, 16
Phenols, in plants, book, 195
Phenylaminopyrazolopyrimidine, 90
Phenylpyridylethanol intermediate, 143
Pheromones, (Z)-trisubstituted olefins, 146
 insect, synthesis, 146
Phosphino oxazoline ligands, 2
Phospholane ligands, asymmetric catalysis, 5
Phospholano benzene ligand, catalyst, 101
Phosphonates, α -amino, 49
 α -hydroxy, 49
Phosphonium cation, planar, 26
Phosphoramidites, for asymmetric conjugate addition, 3
Photochemistry, asymmetric synthesis, 18
Photoreceptors, stentorin, 16
Photosensitizers, hypericin, 16
Phthalocyanines, solid-phase synthesis, 34
Photochemistry, book, 195
Pipicolic acid, alkyl, 173
Polyaminoquinones, 53
Polycyclic libraries, for genetic assay, 114
Polyethylene, catalysts, 54
Polyfluorinated dienes, 151
Polyfluoroacetylpyruvate, heterocycle synthesis, 132
Polyketides, book, 195
 combinatorial chemistry, 58
Polymerization, living radical, 51
Polymers, acrylic, catalyzed, 51
 fluorination, 136
 light-emitting, book, 186
 organic–inorganic hybrid, 57
 styrenic, catalysts, 51
 supports, in organic synthesis, book, 194
Polyphenols, from natural phenols, 56
Porphyrins, 124
 CD chromophore, 116
 chirality sensors, 79
 D2 symmetric, 79
 solid-phase synthesis, 34
Proanthocyanidin, from flavanol, 141
Proteins, chalcone synthase, book, 195
Pummerer reaction, intramolecular, 125
Purpald reagent, with aldehydes, 15
Quinolizidine alkaloids, preparation, 127
Receptors, synthetic, 197
Resiniferatoxin, enantiocontrolled synthesis, 96
Reverse transcriptase inhibitors, non-nucleoside, 164
Rhodium complex, oxidative addition of benzene, 108
Ring closure, molybdenum catalyst, 87
Rotaxanes, book, 196
Sapphyrins, separating oligonucleotides, 55
Scanning microscopy, 33
Sialic acid analogues, 74
Silver, polycyclic aromatic multilayer, 117
Solid-phase synthesis, phthalocyanines, 34
 porphyrins, 34
Solvents, fluorocarbons, 72
Stilbenes, enantioselective epoxidation, 69
Sugar isothiocyanates, 13
Supramolecular chemistry, 41
Supramolecular systems, 197
Supramolecules, book, 182
 spectroscopy, 33
Synthesis, liquid phase, 174
Tacrine analogues, synthesis, 120
Tartaric acid, book, 178
Taxanes, taxusin, 59
Taxol, equivalents, 96
 total synthesis, 60
Taxusin, total synthesis, 59
Terpene alkaloids, 140
Terpenoids, in conifers, book, 195
Tetrathiafulvalene, 41
Thiazolidinedione fatty acid ligands, synthesis, 97
Thioamides, preparation, 13

- Thiocarbamates, preparation, 13
Thiochromene, preparation, 134
Thiourea, preparation, 13
Titanocenes, carbohydrate synthesis, 170
Transmetalation, of alkynylmetal complex, 119
- of arylmetal complex, 119
Trifluoromethyl ketone inhibitor, 89
Volatile organic compounds, sensing, 39–40
Zeolites, alkane oxidation, 29
Co-containing, 29
Mn-containing, 29
- Zirconium catalyst, carbomagnesation, 87
Zirconium phosphorus chemistry, 22
Zirconocenes, carbohydrate synthesis, 170
JO004006I