

JOC *Recent Reviews*

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compiled by Veronica M. Cornel

Department of Chemistry, Reedley College, 995 Reed 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 2007 literature. Previous installment: *J. Org. Chem.* **2007**, 72 (7), 2699–706.

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. Crich, D.; Banerjee, A. Chemistry of the Hexahydropyrrolo[2,3-b]indoles: Configuration, Conformation, Reactivity, and Applications in Synthesis. **2007**, 40 (2), 151–61.
2. Lopez, F.; Minnaard, A. J.; Feringa, B. L. Catalytic Enantioselective Conjugate Addition with Grignard Reagents. **2007**, 40 (3), 179–88.
3. Miller, J. S.; Novoa, J. J. Four-Center Carbon–Carbon Bonding. **2007**, 40 (3), 189–96.
4. Litwinienko, G.; Ingold, K. U. Solvent Effects on the Rates and Mechanisms of Reaction of Phenols with Free Radicals. **2007**, 40 (3), 222–30.
5. Molander, G. A.; Ellis, N. Organotrifluoroborates: Protected Boronic Acids That Expand the Versatility of the Suzuki Coupling Reaction. **2007**, 40 (4), 275–86.

Advanced Synthesis and Catalysis

6. Helms, B.; Frechet, J. M. J. The Dendrimer Effect in Homogeneous Catalysis. **2006**, 348 (10+11), 1125–48.
7. Cozzi, F. Immobilization of Organic Catalysts. When, Why, and How. **2006**, 348 (12+13), 1367–90.
8. Corma, A.; Garcia, H. Silica-Bound Homogeneous Catalysts as Recoverable and Reusable Catalysts in Organic Synthesis. **2006**, 348 (12+13), 1391–412.
9. de Pater, J. J. M.; Deelman, B.-J.; Elsevier, C. J.; van Koten, G. Multiphase Systems for the Recycling of Alkoxy-carbonylation Catalysts. **2006**, 348 (12+13), 1447–58.
10. Behr, A.; Henze, G.; Schomaecker, R. Thermoregulated Liquid/Liquid Catalyst Separation and Recycling. **2006**, 348 (12+13), 1485–95.

11. Kobayashi, S.; Sugiura, M. Immobilization of Osmium Catalysts for Asymmetric Dihydroxylation of Olefins. **2006**, 348 (12+13), 1496–504.
12. Gruber, C. C.; Lavandera, I.; Faber, K.; Kroutil, W. From a Racemate to a Single Enantiomer. Deracemization by Stereo-inversion. **2006**, 348 (14), 1789–805.
13. Zhang, L.; Sun, J.; Kozmin, S. A. Gold and Platinum Catalysis of Enyne Cycloisomerization. **2006**, 348 (16 + 17), 2271–96.
14. Harmata, M. Asymmetric Catalytic [4+3] Cycloaddition Reactions. **2006**, 348 (16+17), 2297–306.
15. Chopade, P. R.; Louie, J. [2+2+2] Cycloaddition Reactions Catalyzed by Transition Metal Complexes. **2006**, 348 (16 + 17), 2307–27.
16. Shibata, T. Recent Advances in the Catalytic Pauson-Khand-Type Reaction. **2006**, 348 (16 + 17), 2328–36.
17. Zhang, W.; Moore, J. S. Alkyne Metathesis: Catalysts and Synthetic Applications. **2007**, 349 (1+2), 93–120.

Advances in Heterocyclic Chemistry

18. Sadimenko, A. P. Organometallic Complexes of B-, Si-(Ge-), and P- (As-, Sb-) Analogues of Pyridine. **2005**, (89), 125–57.
19. Singh, K.; Singh, H. Coenzyme 5,10-Methylene and Methenyltetrahydrofolate Models in Organic Synthesis. **2006**, (91), 159–88.

Advances in Organometallic Chemistry

20. McGrath, T. D.; Stone, F. G. A. Metal Complexes of Monocarbon Carboranes: A Neglected Area of Study? **2005**, (53), 1–40.

21. Jung, I. N.; Yoo, B. R. Synthesis of Novel Silicon-Containing Compounds via Lewis Acid-Catalyzed Reactions. **2005**, (53), 41–59.

22. Melaimi, M.; Gabbai, F. P. Bidentate Group 13 Lewis Acids with Ortho-Phenylene and Peri-Naphthalenediyl Backbones. **2005**, (53), 61–99.

23. Lorenz, V.; Edelman, F. T. Metallasilsesquioxanes. **2005**, (53), 101–53.

24. Mueller, T. Cations of Group 14 Organometallics. **2005**, (53), 155–215.

25. Nikonov, G. I. Recent Advances in Nonclassical Interligand Si···H Interactions. **2005**, (53), 217–309.

Advances in Physical Organic Chemistry

26. Whalen, D. L. Mechanisms of Hydrolysis and Rearrangements of Epoxides. **2005**, (40), 247–98.

Aldrichimica Acta

27. Mauger, C. C.; Mignani, G. A. Synthetic Applications of Buchwald's Phosphines in Palladium-Catalyzed Aromatic-Bond-Forming Reactions. **2006**, 39 (1), 17–24.

28. Shibasaki, M.; Kanai, M.; Matsunaga, S. Chiral, Poly-(Rare-Earth Metal) Complexes in Asymmetric Catalysis. **2006**, 39 (2), 31–9.

29. Whalem, L. J.; Wong, C.-H. Enzymes in Organic Synthesis: Aldolase-Mediated Synthesis of Iminocyclitols and Novel Heterocycles. **2006**, 39 (3), 63–71.

30. Lelais, G.; MacMillan, D. W. C. Modern Strategies in Organic Catalysis: The Advent and Development of Iminium Activation. **2006**, 39 (3), 79–87.

31. Kantchev, E. A. B.; O'Brien, C. J.; Organ, M. G. Pd-*N*-Heterocyclic Carbene (NHC) Catalysts for Cross-coupling Reactions. **2006**, 39 (4), 97–111.

Angewandte Chemie, International Edition in English

32. Nicolaou, K. C.; Edmonds, D. J.; Bulger, P. G. Cascade Reactions in Total Synthesis. **2006**, 45 (43), 7134–86.

33. Senge, M. O.; Sergeeva, N. N. Metamorphosis of Tetrapyrrole Macrocycles. **2006**, 45 (45), 7492–5.

34. Marcelli, T.; van Maarseveen, J. H.; Hiemstra, H. Cupreines and Cupreidines: An Emerging Class of Bifunctional Cinchona Organocatalysts. **2006**, 45 (45), 7496–504.

35. Schetter, B.; Mahrwald, R. Modern Aldol Methods for the Total Synthesis of Polyketides. **2006**, 45 (45), 7506–25.

36. Palomo, C.; Mielgo, A. Diarylprolinol Ethers: Expanding the Potential of Enamine/Iminium-Ion Catalysis. **2006**, 45 (47), 7876–80.

37. Kang, S. O.; Begum, R. A.; Bowmna-James, K. Amide-based Ligands for Anion Coordination. **2006**, 45 (47), 7882–94.

38. Torroba, T.; Garcia-Valverde, M. Rigid Annulated Carbon-Sulfur Structures. **2006**, 45 (48), 8092–6.

39. Brogan, A. P.; Dickerson, T. J.; Janda, K. D. Enamine-based Aldol Organocatalysis in Water: Are They Really "All Wet"? **2006**, 45 (48), 8100–2.

40. Angelici, R. J. Cyaphide (C≡P⁻): The Phosphorus Analog of Cyanide (C≡N⁻). **2007**, 46 (3), 330–2.

41. Kellogg, R. M. The Crystallization Behavior of Proline and its Role in Asymmetric Organocatalysis. **2007**, 46 (4), 494–7.

42. Rendler, S.; Oestreich, M. Polishing a Diamond in the Rough: "Cu–H" Catalysis with Silanes. **2007**, 46 (4), 498–504.

43. Mattay, J. Photochemistry of Arenes – Reloaded. **2007**, 46 (5), 663–5.

44. Weber, L. Azide-analogous Organophosphorus Chemistry: RNP₂ as a Ligand and P₂ Source. **2007**, 46 (6), 830–32.

45. Doucet, H.; Hierso, J.-C. Palladium-based Catalytic Systems for the Synthesis of Conjugated Enynes by Sonogashira Reactions and Related Alkynylations. **2007**, 46 (6), 834–71.

Beilstein Journal of Organic Chemistry

46. Barbero, A.; Pulido, F. J.; Sanudo, M. C. Allylsilanes in the Synthesis of Three to Seven Membered Rings: The Silylcuprate Strategy. **2007**, (3), 16.

The Chemical Record

47. Hirsch, A. New Concepts for Regio- and Stereoselective Bis- and Triscyclopropanations of C₆₀. **2005**, 5 (4), 196–208.

48. Alacid, E.; Alonso, D. A.; Botella, L.; Najera, C.; Pacheco, M. C. Oxime Palladacycles Revisited: Stone-Stable Complexes Nonetheless Very Active Catalysts. **2006**, 6 (3), 117–32.

49. Ohri, H. 2'-Deoxy-4'-C-ethynyl-2-fluoroadenosine, a Nucleoside Reverse Transcriptase Inhibitor, is Highly Potent Against all Human Immunodeficiency Viruses Type 1 and Has Low Toxicity. **2006**, 6 (3), 133–43.

50. Furusho, Y.; Yashima, E. Molecular Design and Synthesis of Artificial Double Helices. **2007**, 7 (1), 1–11.

51. Polavarapu, P. L. Renaissance in Chiroptical Spectroscopic Methods for Molecular Structure Determination. **2007**, 7 (2), 125–36.

Chemical Reviews

52. Herges, R. Topology in Chemistry: Designing Mobius Molecules. **2006**, 106 (12), 4820–43.

53. de Meijere, A.; Kozhushkov, S. I.; Schill, H. Three-Membered-Ring-Based Molecular Architectures. **2006**, 106 (12), 4926–96.

54. Koerbe, S.; Schreiber, P. J.; Michl, J. Chemistry of the Carba-closo-dodecaborate(−) Anion, CB₁₁H₁₂⁻. **2006**, 106 (12), 5208–49.

55. Alberico, D.; Scott, M. E.; Lautens, M. Aryl–Aryl Bond Formation by Transition-Metal-Catalyzed Direct Arylation. **2007**, 107 (1), 174–238.

56. Shiina, I. Total Synthesis of Natural 8- and 9-Membered Lactones: Recent Advancements in Medium-Sized Ring Formation. **2007**, 107 (1), 239–73.

57. Peters, K. S. Nature of Dynamic Processes Associated with the S_N1 Reaction Mechanism. **2007**, 107 (3), 859–73.

58. Chinchilla, R.; Najera, C. The Sonogashira Reaction: A Booming Methodology in Synthetic Organic Chemistry. **2007**, 107 (3), 874–922.

Chemical Society Reviews

59. Chelucci, G. Synthesis and Application in Asymmetric Catalysis of Camphor-Based Pyridine Ligands. **2006**, 35 (12), 1230–43.

60. Villar, H.; Frings, M.; Bolm, C. Ring Closing Enyne Metathesis: A Powerful Tool for the Synthesis of Heterocycles. **2007**, *36* (1), 55–66.

61. Macgregor, S. A. Transition Metal-Mediated P–C/X Exchange at Bound Phosphine Ligands (X = Aryl, Alkyl, NR₂, OR and F): Scope and Mechanisms. **2007**, *36* (1), 67–76.

62. Biros, S. M.; Rebek, J., Jr. Structure and Binding Properties of Water-Soluble Cavitands and Capsules. **2007**, *36* (1), 93–104.

63. Pluth, M. D.; Raymond, K. N. Reversible Guest Exchange Mechanisms in Supramolecular Host–Guest Assemblies. **2007**, *36* (2), 161–71.

64. Blondeau, P.; Segura, M.; Perez-Fernandez, R.; De Mendoza, J. Molecular Recognition of Oxoanions Based on Guanidinium Receptors. **2007**, *36* (2), 198–210.

65. Vickers, M. S.; Beer, P. D. Anion Templated Assembly of Mechanically Interlocked Structures. **2007**, *36* (2), 211–25.

66. Constable, E. C. 2,2':6',2''-Terpyridines: From Chemical Obscurity to Common Supramolecular Motifs. **2007**, *36* (2), 246–53.

67. Baldini, L.; Casnati, A.; Sansone, F.; Ungaro, R. Calixarene-based Multivalent Ligands. **2007**, *36* (2), 254–66.

68. Kim, K.; Selvapalam, N.; Ko, Y. H.; Park, K. M.; Kim, D.; Kim, J. Functionalized Cucurbiturils and Their Applications. **2007**, *36* (2), 267–79.

69. Davis, J. T.; Spada, G. P. Supramolecular Architectures Generated by Self-assembly of Guanosine Derivatives. **2007**, *36* (2), 296–313.

70. Heard, P. J. Dynamic Stereochemical Rearrangements in Chiral Organometallic Complexes. **2007**, *36* (3), 551–69.

Chemistry—A European Journal

71. Geyer, K.; Codee, J. D. C.; Seeberger, P. H. Microreactors as Tools for Synthetic Chemists - The Chemists' Round-Bottomed Flask of the 21st Century? **2006**, *12* (33), 8434–42.

72. Migowski, P.; Dupont, J. Catalytic Applications of Metal Nanoparticles in Imidazolium Ionic Liquids. **2006**, *13* (1), 32–9.

73. Sierra, M. A.; Gomez-Gallego, M.; Martinez-Alvarez, R. Fischer Carbene Complexes: Beautiful Playgrounds to Study Single Electron Transfer (SET) reactions. **2007**, *13* (3), 736–44.

74. Goerbitz, C. H. Microporous Organic Materials from Hydrophobic Dipeptides. **2007**, *13* (4), 1022–31.

75. Marco-Contelles, J.; Soriano, E. Recent Developments in the Metal-Catalyzed Reactions of Metallocarbenoids from Propargylic Esters. **2007**, *13* (5), 1350–7.

Chemistry of Heterocyclic Compounds

76. Sliwa, W.; Girek, T. Noncovalently-bound Cyclodextrin Dimers and Related Compounds. **2005**, *41* (11), 1343–61.

77. Abashev, G. G.; Shklyayeva, E. V. Synthesis of 1,3-Dithiole-2-thiones and Tetrathiafulvalenes using Oligo-(1,3-dithiole-2,4,5-trithione). **2006**, *42* (4), 423–39.

78. Kuznetsov, V. V. Borylation of Saturated Heterocycles with Several Heteroatoms. **2006**, *42* (5), 559–69.

79. Boltukhina, E. V.; Zubkov, F. I.; Varlamov, A. V. Methods for the Construction of [1,2]Isoindolo-Condensed

Benzazepines, Benzazocines, Quinolines, and Isoquinolines. Part 1. Isoindolobenzazepines, Isoindolobenzazocines. **2006**, *42* (7), 831–57.

80. Al-Masoudi, I. A.; Al-Soud, Y. A.; Al-Salihi, N. J.; Al-Masoudi, N. A. 1,2,4-Triazoles: Synthetic Approaches and Pharmacological Importance. **2006**, *42* (11), 1377–404.

CHEMTRACTS: Organic Chemistry

81. Jezek, E.; Reiser, O. Total Synthesis of Stemoamide using Ring-Closing Metathesis - A Comparison. **2005**, *18* (4), 200–6.

82. Timmons, C.; Li, G. Allylic Alkylation Reactions with Acyclic Cu-Enolates. **2005**, *18* (4), 215–20.

83. Lynch, J. K.; Park, C.-M. Syntheses of Colombiasin A and Elisapterosin B. **2005**, *18* (4), 236–45.

84. Shen, L.; Hsung, R. P. Synthesis of *N*-Sulfonyl Allenamides via [2,3]-Sigmatropic Rearrangements. **2005**, *18* (6), 331–8.

85. Gracias, V.; Iyengar, R. Recent Advances in Nickel-Catalyzed Suzuki Cross-Coupling Reactions. **2005**, *18* (6), 339–48.

86. Kurdyumov, A. V.; Hsung, R. P. Synthetic Approaches to Rhododaurichromanolic Acids A and B, Daurichromenic Acid, and Hongoquercins A and B. **2005**, *18* (10), 537–45.

87. Mortensen, M. S.; O'Doherty, G. A. Recent Advances in 1,2-Diamination of Alkenes. **2005**, *18* (10), 555–61.

88. Paquette, W. D.; Taylor, R. E. Conformationally Biased Macrolactonizations. **2005**, *18* (10), 584–90.

89. Kresge, A. J. 1,8-Bis(dimethylamino)naphthalene-2,7-diolate: A Simple Arylamine Nitrogen Base with Hydride Ion-Comparable Proton Affinity. **2006**, *19* (1), 28–30.

Coordination Chemistry Reviews

90. Mohr, F.; Priver, S. H.; Bhargava, S. K.; Bennett, M. A. Ortho-Metalated Transition Metal Complexes Derived from Tertiary Phosphine and Arsine Ligands. **2006**, *250* (15+16), 1851–88.

91. Wong, W.-Y.; Ho, C.-L. Di-, Oligo- and Polymetal-laynes: Syntheses, Photophysics, Structures and Applications. **2006**, *250* (19+20), 2627–90.

92. Schnepf, A. Metalloid Cluster Compounds of Germanium: A Novel Class of Germanium Cluster Compounds of Formulas Ge_nR_m (n > m). **2006**, *250* (21+22), 2758–70.

93. Kang, S. O.; Hossain, M. A.; Bowman-James, K. Influence of Dimensionality and Charge on Anion Binding in Amide-Based Macrocyclic Receptors. **2006**, *250* (23+24), 3038–52.

94. Lankshear, M. D.; Beer, P. D. Strategic Anion Templation. **2006**, *250* (23+24), 3142–60.

95. Mack, J.; Stillman, M. J.; Kobayashi, N. Application of MCD Spectroscopy to Porphyrinoids. **2007**, *251* (3+4), 429–53.

96. Diver, S. T. Ruthenium Vinyl Carbene Intermediates in Enyne Metathesis. **2007**, *251* (5+6), 671–701.

97. Gade, L. H.; Bellemin-Lapponnaz, S. Mixed Oxazoline-Carbenes as Stereodirecting Ligands for Asymmetric Catalysis. **2007**, *251* (5+6), 718–25.

98. Dragutan, V.; Dragutan, I.; Delaude, L.; Demonceau, A. NHC–Ru Complexes – Friendly Catalytic Tools for Manifold Chemical Transformations. **2007**, *251* (5+6), 765–94.

99. Trzeciak, A. M.; Ziolkowski, J. J. Monomolecular, Nanosized and Heterogenized Palladium Catalysts for the Heck Reaction. **2007**, *251* (9+10), 1281–93.

Current Organic Chemistry

100. Baraldi, P. G.; Tabrizi, M. A.; Romagnoli, R.; El-Kashef, H.; Preti, D.; Bovero, A.; Fruttarolo, F.; Gordaliza, M.; Borea, P. A. Pyrazolo[4,3-e][1,2,4]triazolo[1,5-c]pyrimidine Template: Organic and Medicinal Chemistry Approach. **2006**, *10* (3), 259–75.

101. Bourguignon, J. J.; Oumouch, S.; Schmitt, M. Use of Polyfunctionalized Pyridazines as Reactive Species for Building Chemical Diversity. **2006**, *10* (3), 277–95.

102. Zhou, J.; Wang, G.; Zhang, L.-H.; Ye, X.-S. From Exocyclic-Olefinic Carbohydrate Derivatives to Functionalized Carbocyclic Compounds. **2006**, *10* (6), 625–42.

103. Castro, E. A.; Barbiric, D. A. J. Molecular Modeling and Cyclodextrins: A Relationship Strengthened by Complexes. **2006**, *10* (7), 715–29.

104. Gossage, R. A. Zinc(II) Bromide: An Overview of its Solution Chemistry and Recent Applications in Synthesis. **2006**, *10* (9), 923–36.

105. Grant, K. B.; Kassai, M. Major Advances in the Hydrolysis of Peptides and Proteins by Metal Ions and Complexes. **2006**, *10* (9), 1035–49.

106. Browne, D. M.; Wirth, T. New Developments with Chiral Electrophilic Selenium Reagents. **2006**, *10* (15), 1893–903.

107. Zhu, C.; Huang, Y. Asymmetric Synthesis of Chiral Organoselenium Compounds. **2006**, *10* (15), 1905–20.

108. Braga, A. L.; Ludtke, D. S.; Vargas, F. Enantioselective Synthesis Mediated by Catalytic Chiral Organoselenium Compounds. **2006**, *10* (15), 1921–38.

109. Cardinal-David, B.; Brazeau, J.-F.; Katsoulis, I. A.; Guindon, Y. Phenylselenoethers as Precursors of Acyclic Free Radicals. Creating Tertiary and Quaternary Centers using Free Radical-Based Intermediates. **2006**, *10* (15), 1939–61.

110. Murai, T.; Kimura, T. Syntheses and Properties of Phosphinoselenic Chlorides, Acids, and Their Salts. **2006**, *10* (15), 1963–73.

111. Coles, M. P. Utilization of Nonbonded Interactions Involving Organoselenium Compounds. **2006**, *10* (15), 1993–2005.

112. Sliwa, W.; Bachowska, B.; Girek, T. Viologens as Components of Supramolecular Structures. **2007**, *11* (6), 497–513.

113. Ma, Y.; Wang, L.; Shao, J.; Tian, H. Recent Developments of Lewis Acids Catalysis: Lanthanide Catalysts with Long Perfluoro-Chain in Organic Chemistry. **2007**, *11* (6), 559–76.

Current Organic Synthesis

114. Graham, D.; Enright, A. Cycloadditions as a Method for Oligonucleotide Conjugation. **2006**, *3* (1), 9–17.

115. Fallahpour, R.-A. The Higher Oligopyridines and Their Metal Complexes. **2006**, *3* (1), 19–39.

116. Mondon, M.; Gesson, J. P. Asymmetric Synthesis of Styryl-Lactones. **2006**, *3* (1), 41–75.

117. Len, C.; Postel, D. Synthesis of 2',3'-Didehydro-2',3'-dideoxynucleosides via Nucleoside Route. **2006**, *3* (3), 261–81.

118. Karskela, T.; Virta, P.; Lonnberg, H. Synthesis of Bicyclic Peptides. **2006**, *3* (3), 283–311.

European Journal of Organic Chemistry

119. Rosenberg, M. G.; Brinker, U. H. Constrained Carbenes. **2006**, (24), 5423–40.

120. Boucard, V.; Broustal, G.; Campagne, J. M. Synthetic Approaches to α,β -Unsaturated δ -Lactones and Lactols. **2007**, (2), 225–36.

121. Madsen, R. Synthetic Strategies for Converting Carbohydrates into Carbocycles by the Use of Olefin Metathesis. **2007**, (3), 399–415.

122. Wolfe, J. P. Palladium-Catalyzed Carboetherification and Carboamination Reactions of ν -Hydroxy- and ν -Aminoalkenes for the Synthesis of Tetrahydrofurans and Pyrrolidines. **2007**, (4), 571–82.

123. Holmberg, K. Organic Reactions in Microemulsions. **2007**, (5), 731–42.

Heteroatom Chemistry

124. Brel, V. K. Phosphonoallenes for Building Organophosphorus Derivatives. **2006**, *17* (6), 547–56.

125. Galkin, V. I.; Bakhtiyarova, Y. V.; Sagdieva, R. I.; Galkina, I. V.; Cherkasov, R. A. The Synthesis and Reactions of Betaines Formed in Reactions of Tertiary Phosphines with Unsaturated Carboxylic Acids and Their Derivatives. **2006**, *17* (6), 557–66.

126. Akiba, K.-y.; Yamamoto, Y. Dynamic Aspects of Hypervalent Compounds Effected by the Formation of Three Center-Four Electron Bond in Heteroatoms. **2007**, *18* (2), 161–75.

Heterocycles

127. Hirama, M.; Akiyama, K.; Das, P.; Mita, T.; Lear, M. J.; Iida, K.-I.; Sato, I.; Yoshimura, F.; Usuki, T.; Tero-Kubota, S. Direct Observation of ESR Spectra of Bicyclic Nine-Membered Eneidyne at Ambient Temperature. **2006**, (69), 83–9.

128. Shipe, W. D.; Yang, F.; Zhao, Z.; Wolkenberg, S. E.; Nolt, M. B.; Lindsley, C. W. Convenient and General Microwave-Assisted Protocols for the Expedient Synthesis of Heterocycles. **2006**, (70), 655–89.

129. Brown, R. C. D.; Satcharoen, V. Ring-closing Metathesis of Heteroatom-substituted Dienes. **2006**, (70), 705–36.

Journal of Organometallic Chemistry

130. Van de Weghe, P.; Bissere, P.; Blanchard, N.; Eustache, J. Metathesis of Heteroatom-Substituted Olefins and Alkynes: Current Scope and Limitations. **2006**, *691* (24–25), 5078–108.

131. Arisawa, M.; Nishida, A.; Nakagawa, M. Preparation of Nitrogen-Containing Heterocycles Using Ring-Closing Metathesis (RCM) and its Application to Natural Product Synthesis. **2006**, *691* (24–25), 5109–21.

132. Dragutan, V.; Dragutan, I. A Resourceful New Strategy in Organic Synthesis: Tandem and Stepwise Metathesis/Non-Metathesis Catalytic Processes. **2006**, *691* (24–25), 5129–47.

133. Edlin, C. D.; Faulkner, J.; Fengas, D.; Helliwell, M.; Knight, C. K.; House, D.; Parker, J.; Preece, I.; Quayle, P.; Raftery, J.; Richards, S. N. Toward Catalyst Economy: A

Programmed Approach to the Synthesis of Bicyclic Lactones and Lactams. **2006**, 691 (24–25), 5375–82.

134. Suzaki, Y.; Yagyu, T.; Osakada, K. Transmetalation of Arylpalladium and Platinum Complexes. Mechanism and Factors to Control the Reaction. **2007**, 692 (1–3), 326–42.

135. Tokunaga, M.; Aoyama, H.; Kiyosu, J.; Shirogane, Y.; Iwasawa, T.; Obora, Y.; Tsuji, Y. Metal Complexes-Catalyzed Hydrolysis and Alcoholysis of Organic Substrates and Their Application to Kinetic Resolution. **2007**, 692 (1–3), 472–80.

136. Bala, M. D.; Coville, N. J. Organometallic Chemistry in the Melt Phase. **2007**, 692 (4), 709–30.

137. Erker, G. Group 4 Metallocenes in Bioorganometallic Chemistry. **2007**, 692 (6), 1187–97.

Journal of Physical Organic Chemistry

138. Uggerud, E. Reactivity Trends and Stereospecificity in Nucleophilic Substitution Reactions. **2006**, 19 (8–9), 461–6.

139. Baciocchi, E.; Bietti, M.; Lanzalunga, O. Fragmentation Reactions of Radical Cations. **2006**, 19 (8–9), 467–78.

140. Campidelli, S.; Klumpp, C.; Bianco, A.; Guldi, D. M.; Prato, M. Functionalization of CNT: Synthesis and Applications in Photovoltaics and Biology. **2006**, 19 (8–9), 531–9.

141. Dopfer, O. IR Spectroscopic Strategies for the Structural Characterization of Isolated and Microsolvated Arenium Ions. **2006**, 19 (8–9), 540–51.

142. Szabo, L. F. Reaction Mechanism and Chemotaxonomy in the Formation of the Type I Indole Alkaloids Derived from Secologanin. **2006**, 19 (8–9), 579–91.

143. Harvey, J. N.; Aggarwal, V. K.; Bathelt, C. M.; Carreon-Macedo, J.-L.; Gallagher, T.; Holzmann, N.; Mulholland, A. J.; Robiette, R. QM and QM/MM studies of Selectivity in Organic and Bioorganic Chemistry. **2006**, 19 (8–9), 608–15.

144. Moss, R. A.; Fu, X.; Sauers, R. R. S_Ni Fragmentations of Alkoxychlorocarbenes – A Perspective. **2007**, 20 (1), 1–10.

Natural Product Reports

145. Le Sann, C. Maleimide Spacers as Versatile Linkers in the Synthesis of Bioconjugates of Anthracyclines. **2006**, 23 (3), 357–67.

146. Rowan, A. S.; Hamilton, C. J. Recent Developments in Preparative Enzymatic Syntheses of Carbohydrates. **2006**, 23 (3), 412–43.

147. Bentley, K. W. β -Phenylethylamines and the Isoquinoline Alkaloids. **2006**, 23 (3), 444–63.

148. Jin, Z. Imidazole, Oxazole and Thiazole Alkaloids. **2006**, 23 (3), 464–96.

New Journal of Chemistry

149. Benaglia, M. Recoverable and Recyclable Chiral Organic Catalysts. **2006**, 30 (11), 1525–33.

150. Fairlamb, I. J. S.; Taylor, R. J. K.; Serrano, J. L.; Sanchez, G. Halide and Pseudohalide Effects in Pd-Catalyzed Cross-Coupling Reactions. **2006**, 30 (12), 1695–704.

Organic Preparations and Procedures International

151. Richardson, S. K.; Howell, A. R.; Taboada, R. Synthesis and Properties of Psico-Nucleosides. **2006**, 38 (2), 101–76.

152. Stephan, E. Synthesis of Modified Steroids in the Androstane and Androstene Series. **2006**, 38 (3), 217–305.

153. Boiadjev, S. E.; Lightner, D. A. Dipyrinones – Constituents of the Pigments of Life. A Review. **2006**, 38 (4), 347–99.

Organometallics

154. Wang, Y.; Robinson, G. H. Organometallics of the Group 13 M–M Bond (M = Al, Ga, In) and the Concept of Metalloaromaticity. **2007**, 26 (1), 2–11.

155. Suess-Fink, G.; Therrien, B. Dinuclear Ruthenium and Osmium Arene Trihydrido Complexes: Versatile Water-Soluble Synthons in Organometallic Chemistry. **2007**, 26 (4), 766–74.

Pure and Applied Chemistry

156. Hoffmann, N.; Bertrand, S.; Marinkovic, S.; Pesch, J. Efficient Radical Addition of Tertiary Amines to Alkenes Using Photochemical Electron Transfer. **2006**, 78 (12), 2227–46.

157. Berna, J.; Bottari, G.; Leigh, D. A.; Perez, E. M. Amide-based Molecular Shuttles (2001–2006). **2007**, 79 (1), 39–54.

158. Dias, L. C.; de Oliveira, L. G.; Meira, P. R. R. Recent Results toward the Stereoselective Synthesis of Biologically Active Natural Products. **2007**, 79 (2), 163–72.

159. Hissler, M.; Lescop, C.; Reau, R. Functional Phosphorus-Based π -Conjugated Systems: Structural Diversity without Multistep Synthesis. **2007**, 79 (2), 201–12.

160. Baeza, A.; Sansano, J. M.; Saa, J. M.; Najera, C. Enantioenriched Cyanohydrin O-Phosphates: Synthesis and Applications as Chiral Building Blocks. **2007**, 79 (2), 213–21.

161. Renaud, P.; Beauseigneur, A.; Brecht-Forster, A.; Becattini, B.; Darmency, V.; Kandhasamy, S.; Montermini, F.; Ollivier, C.; Panchaud, P.; Pozzi, D.; Scanlan, E. M.; Schaffner, A.-P.; Weber, V. Boron: A Key Element in Radical Reactions. **2007**, 79 (2), 223–33.

162. Kobayashi, S. Asymmetric Catalysis in Aqueous Media. **2007**, 79 (2), 235–45.

163. Crudden, C. M.; McEleney, K.; MacQuarrie, S. L.; Blanc, A.; Sateesh, M.; Webb, J. D. Modified Mesoporous Materials as Pd Scavengers and Catalyst Supports. **2007**, 79 (2), 247–60.

164. Ma, S. Control of Regio- and Stereoselectivity in Electrophilic Addition Reactions of Allenes. **2007**, 79 (2), 261–7.

165. Hodgson, D. M.; Humphreys, P. G.; Hughes, S. P. Widening the Usefulness of Epoxides and Aziridines in Synthesis. **2007**, 79 (2), 269–79.

166. McDonald, F. E.; Tong, R.; Valentine, J. C.; Bravo, F. Biomimetic Synthesis via Polyepoxide Cyclizations. **2007**, 79 (2), 281–91.

Russian Chemical Reviews

167. Kissounko, D. A.; Zabalov, M. V.; Brusova, G. P.; Lemenovskii, D. A. Principal Trends in the Chemistry of Amidinate Complexes of Main-Group and Transition Elements. **2006**, 75 (5), 351–74.

168. Litvinov, V. P. The Chemistry of 3-Cyanopyridine-2(1H)-Chalcogenones. **2006**, 75 (7), 577–99.

169. Vlasov, V. M. Energetics of Bimolecular Nucleophilic Reactions in Solution. **2006**, 75 (9), 765–96.

170. Kuznetsov, M. L. Theoretical Studies on [3+2]-Cycloaddition Reactions. **2006**, 75 (11), 935–60.

171. Skvortsova, M. I.; Stankevich, I. V.; Palyulin, V. A.; Zefirov, N. S. Molecular Similarity Concept and its Use for Predicting the Properties of Chemical Compounds. **2006**, *75* (11), 961–79.

172. Moiseev, A. M.; Balenkova, E. S.; Nenajdenko, V. G. Thiophene 1,1-Dioxides as Unique Building Blocks in Modern Organic Synthesis and Materials Chemistry. **2006**, *75* (12), 1015–48.

Russian Journal of Organic Chemistry

173. Trifonov, R. E.; Ostrovskii, V. A. Protolytic Equilibria in Tetrazoles. **2006**, *42* (11), 1585–605.

174. Borodkin, G. I.; Shubin, V. G. Electrophilic Reactions of Aromatic and Heteroaromatic Compounds in Ionic Liquids. **2006**, *42* (12), 1745–70.

Science

175. Swallen, S. F.; Kearns, K. L.; Mapes, M. K.; Kim, Y. S.; McMahon, R. J.; Ediger, M. D.; Wu, T.; Yu, L.; Satija, S. Organic Glasses with Exceptional Thermodynamic and Kinetic Stability. **2007**, *315* (5810), 353–6.

176. Voehringer-Martinez, E.; Hansmann, B.; Hernandez, H.; Francisco, J. S.; Troe, J.; Abel, B. Water Catalysis of a Radical-Molecule Gas-Phase Reaction. **2007**, *315* (5811), 497–501.

Synlett

177. Heck, R. F. Cobalt and Palladium Reagents in Organic Synthesis: The Beginning. **2006**, (18), 2855–60.

178. Nara, S.; Martinez, J.; Wermuth, C.-G.; Parrot, I. Palladium-Catalyzed Cross-Coupling Reactions on Pyridazine Moieties. **2006**, (19), 3185–204.

179. Shipman, M. Methyleneaziridines: Unusual Vehicles for Organic Synthesis. **2006**, (19), 3205–17.

180. Langer, P. Synthesis of Butenolides by One-Pot Cyclization Reactions of Silyl Enol Ethers with Oxalyl Chloride. **2006**, (20), 3369–81.

181. Daugulis, O.; Zaitsev, V. G.; Shabashov, D.; Pham, Q.-N.; Lazareva, A. Regioselective Functionalization of Unreactive Carbon-Hydrogen Bonds. **2006**, (20), 3382–8.

182. Richert, C.; Gruenefeld, P. Synthesis and Properties of Oligonucleotides with Acylamido Substituents. **2007**, (1), 1–18.

183. Zhang, W.; Shi, M. Chiral Thiophosphoramidate and Thioamide Ligands in Catalytic Asymmetric Carbon–Carbon Bond-Formation Reactions. **2007**, (1), 19–30.

184. Schaumann, E.; Kirschning, A. Domino Synthesis of Carbo- and Heterocycles Involving a 1,3 or 1,4 C→O Silyl Migration. **2007**, (2), 177–90.

185. Floreancig, P. E. Development and Applications of Electron-Transfer-Initiated Cyclization Reactions. **2007**, (2), 191–203.

Synthesis—Stuttgart

186. Schneider, C. Synthesis of 1,2-Difunctionalized Fine Chemicals through Catalytic, Enantioselective Ring-Opening Reactions of Epoxides. **2006**, (23), 3919–44.

187. Dyke, A. M.; Hester, A. J.; Lloyd-Jones, G. C. Organometallic Generation and Capture of Ortho-Arynes. **2006**, (24), 4093–112.

188. Chapman, C. J.; Frost, C. G. Tandem and Domino Catalytic Strategies for Enantioselective Synthesis. **2007**, (1), 1–21.

189. Petrini, M.; Torregiani, E. Recent Advances in Stereoselective Syntheses using *N*-Acyl Imines. **2007**, (2), 159–86.

190. Feist, H.; Langer, P. One-pot Synthesis of Functionalized Carbocycles by Formal [3+3] Cyclizations of 1,3-Bis(Silyl Enol Ethers) with 1,3-Dielectrophiles. **2007**, (3), 327–47.

191. Revuelta, J.; Cicchi, S.; Goti, A.; Brandi, A. Enantiopure Cyclic Nitrones: A Useful Class of Building Blocks for Asymmetric Syntheses. **2007**, (4), 485–504.

Tetrahedron

192. Shindo, M. Synthetic Uses of Ynolates. **2006**, *63* (1), 10–36.

193. Wolfe, J. P.; Hay, M. B. Recent Advances in the Stereoselective Synthesis of Tetrahydrofurans. **2006**, *63* (2), 261–90.

194. Majumdar, K. C.; Basu, P. K.; Chattopadhyay, S. K. Formation of Five- and Six-Membered Heterocyclic Rings Under Radical Cyclization Conditions. **2006**, *63* (4), 793–826.

195. Popowycz, F.; Routier, S.; Joseph, B.; Merour, J.-Y. Synthesis and Reactivity of 7-Azaindole (1H-Pyrrolo[2,3-b]-pyridine). **2006**, *63* (5), 1031–64.

196. Pellissier, H. Chiral Sulfur-Containing Ligands for Asymmetric Catalysis. **2006**, *63* (6), 1297–330.

197. Vrettou, M.; Gray, A. A.; Brewer, A. R. E.; Barrett, A. G. M. Strategies for the Synthesis of C2 Symmetric Natural Products—A Review. **2007**, *63* (7), 1487–536.

198. Ghanem, A. Trends in Lipase-Catalyzed Asymmetric Access to Enantiomerically Pure/Enriched Compounds. **2007**, *63* (8), 1721–54.

199. Stead, D.; O'Brien, P. Total Synthesis of the Lupin Alkaloid Cytisine: Comparison of Synthetic Strategies and Routes. **2007**, *63* (9), 1885–97.

200. Lewandowska, E. Substitution at the α -Carbons of α,β -Unsaturated Carbonyl Compounds: Anti-Michael Addition. **2007**, *63* (10), 2107–22.

201. Chowdhury, S.; Mohan, R. S.; Scott, J. L. Reactivity of Ionic Liquids. **2007**, *63* (11), 2363–89.

202. Friestad, G. K.; Mathies, A. K. Recent Developments in Asymmetric Catalytic Addition to C=N Bonds. **2007**, *63* (12), 2541–69.

Tetrahedron: Asymmetry

203. Boruwa, J.; Gogoi, N.; Saikia, P. P.; Barua, N. C. Catalytic Asymmetric Henry Reaction. **2007**, *17* (24), 3315–26.

204. Ordonez, M.; Cativiela, C. Stereoselective Synthesis of ν -Amino Acids. **2007**, *18* (1), 3–99.

Topics in Catalysis

205. Garin, F. Site Requirements in the Kinetics of Alkane Transformations Catalysed by Metals. **2006**, *39* (1–2), 11–27.

206. Kholdeeva, O. A. Titanium-Monosubstituted Polyoxometalates: Relation Between Homogeneous and Heterogeneous Ti-Single-Site-Based Catalysis. **2006**, *40* (1–4), 229–43.

Topics in Current Chemistry

207. Crich, D.; Brebion, F.; Suk, D.-H. Generation of Alkene Radical Cations by Heterolysis of β -Substituted Radicals: Mechanism, Stereochemistry, and Applications in Synthesis. **2006**, *263* (Radicals in Synthesis I), 1–38.

208. Hansen, S. G.; Skrydstrup, T. Modification of Amino Acids, Peptides, and Carbohydrates Through Radical Chemistry. **2006**, *264* (Radicals in Synthesis II), 135–62.

209. Quiclet-Sire, B.; Zard, S. Z. The Degenerative Radical Transfer of Xanthates and Related Derivatives: An Unusually Powerful Tool for the Creation of Carbon–Carbon Bonds. **2006**, *264*, 201–36.

210. Suna, E.; Mutule, I. Microwave-Assisted Heterocyclic Chemistry. **2006**, *266* (Microwave Methods in Organic Synthesis), 49–101.

211. Nilsson, P.; Olofsson, K.; Larhed, M. Microwave-Assisted and Metal-Catalyzed Coupling Reactions. **2006**, *266*, 103–44.

212. Zhang, W. Microwave-Enhanced High-Speed Fluorous Synthesis. **2006**, *266*, 145–66.

213. Strauss, C. R.; Varma, R. S. Microwaves in Green and Sustainable Chemistry. **2006**, *266*, 199–231.

Contributed Volumes

Advances in Organic Synthesis. Volume 1.

Atta-Ur-Rahman, Jenner, G., Eds., Bentham Science: Hilversum, Netherlands, 2005.

214. Bochet, C. G. Modern Organofluorine Chemistry-Synthetic Aspects.

215. Jenner, G. Pressure Activation in Organic Synthesis.

216. Bonrath, W.; Paz Schmidt, R. A. Ultrasound in Synthetic Organic Chemistry.

217. de la Hoz, A.; Diaz-Ortiz, A.; Moreno, A. Activation of Organic Reactions by Microwaves.

218. Loh, T.-P.; Chua, G.-L. Activation of Reactions by Lewis Acids Derived from Ga, In, Sb and Bi.

219. Deshpande, S. S.; Kumar, A. Activation of Organic Reactions by Perchlorates.

220. Song, C. E.; Park, Y. S. Improved Catalytic Performances of Supported Catalysts.

221. Kwong, F. Y.; Qiu, L. Q.; Lam, W. H.; Chan, A. S. C. Recent Developments in Asymmetric Hydrogenation of C=O Motif Compounds.

222. Rao, K. R.; Nageswar, Y. V. D.; Krishnaveni, N. S.; Surendra, K. Supramolecular Catalysis of Organic Reactions Involving Cyclodextrins.

223. Scherrmann, M. C.; Norsikian, S.; Lubineau, A. Solvophobic Activation in Organic Synthesis.

224. Moinet, C.; Hurvois, J.-P.; Jutand, A. Organic and Metal-Catalysed Electrosynthesis.

225. Azerad, R. Biocatalysis in Organic Synthesis.

226. Gouverneur, V.; Maud Reiter, M. Tactical Approaches to Catalytic Antibodies.

230. Zajc, B. Application of Xenon Difluoride in Synthesis.

231. Umemoto, T. *N*-Fluoropyridinium Salts, Synthesis and Fluorination Chemistry.

232. Reddy, V. P.; Prakash, G. K. S.; Olah, G. A. Onium-Poly Hydrogen Fluorides as Acid Catalysts, Ionic Liquids and Fluorinating Agents in Organic Reactions.

233. Stavber, S.; Zupan, M. *N*-Fluoro-1,4-Diazoniabicyclo-[2.2.2]octane Dication Salts; Efficient Fluorinating Agents and Functionalization Mediators for Organic Compounds.

234. Petrov, V. A. α,α -Fluoroalkyl(alkenyl) Amino Reagents (FAR) – Recent Development.

235. Singh, R. P.; Meshri, D. T.; Shreeve, J. M. DAST and Deoxofluor Mediated Nucleophilic Fluorination Reactions of Organic Compounds.

236. Reddy, V. P.; Perambuduru, M.; Alleti, R. Synthetic Approaches to gem-Difluoromethylene Compounds.

237. Okazaki, T.; Laali, K. K. Fluorinated Polycyclic Aromatic Hydrocarbons (PAHs) and Heterocyclic Aromatic Hydrocarbons (Hetero-PAHs); Synthesis and Utility.

238. Hein, M.; Miethchen, R. Fluorinated Carbohydrates.

239. Audouard, C.; Ma, J.-A.; Cahard, D. Enantioselective Electrophilic Fluorination: The Complete Story.

240. Kitazume, T., Matsuda, T., Nakamura, K. Synthesis of Chiral Fluorinated Materials via Biotransformation.

241. Konno, T.; Ishihara, T. Recent Advances in the Chemistry of Fluorine-Containing π -Allylmetal and Allenyl-metal Complexes.

242. Shen, Y. Synthetic Utility of Fluorinated β -Keto-Phosphonium Salts, -Phosphonates and Related Compounds.

The Alkaloids: Chemistry and Biology. Volume 63.

Cordell, G. A., Ed., Academic Press: San Diego, CA, 2006.

243. Facchini, P. J. Regulation of Alkaloid Biosynthesis in Plants.

244. Schardl, C. L. et al. Ergot Alkaloids – Biology and Molecular Biology.

245. Bastida, J. et al. Chemical and Biological Aspects of Narcissus Alkaloids.

246. Kam, T.-S.; Choo, Y. M. Bisindole Alkaloids.

Monographs

247. Bannwarth, W., Hinzen, B., Eds. Combinatorial Chemistry: From Theory to Application. [In: *Methods Princ. Med. Chem.*; **2006**, *26*]. Wiley-VCH Verlag: Weinheim, Germany, 2006.

248. Beller, M., Ed. Catalytic Carbonylation Reactions. [In: *Top. Organomet. Chem.*; **2006**, *18*]. Springer: Berlin, Germany, 2006.

249. Brueckner, R., Ed. Houben-Weyl Methods of Molecular Transformations; Category 4 Compounds with Two Carbon-Heteroatom Bonds: Aldehydes. [In: *Sci. Synth.*, **2006**; *25*]. Georg Thieme Verlag: Stuttgart, Germany, 2007.

250. Chiusoli, G. P., Maitlis, P. M., Eds. Metal-Catalysis in Industrial Organic Processes. Royal Society of Chemistry: Colchester, U.K., 2006.

251. Diederich, F., Stang, P. J., Tykwinski, R. R.; Eds. *Acetylene Chemistry: Chemistry, Biology and Material Science*. Wiley-VCH Verlag: Weinheim, Germany, 2005.

252. Haley, M. M., Tykwinski, R. R., Eds. *Carbon-Rich Compounds: From Molecules to Materials*. Wiley-VCH Verlag: Weinheim, Germany, 2006.

253. Ho, T.-L., Ed. *Fiesers' Reagents for Organic Synthesis*, Volume 23. John Wiley & Sons: Hoboken, NJ, 2007.

254. Larhed, M., Olofsson, K., Eds. *Microwave Methods in Organic Synthesis*. [In: *Curr. Chem.*; **2006**, 266]. Springer: Berlin, Germany, 2006.

255. Molander, G. A., Ed. *Houben-Weyl Methods of Molecular Transformations: Category 4 Compounds with Two Carbon-Heteroatom Bonds*, Volume 33. *Ene-X Compounds* (X = S, Se, Te, N, P). [In: *Sci. Synth.*, **2007**; 33]. Georg Thieme Verlag: Stuttgart, Germany, 2007.

256. Panek, J. S., Ed. *Compounds with Four and Three Carbon-Heteroatom Bonds: Three Carbon-Heteroatom Bonds:*

Esters and Lactones; Peroxy Acids and R(CO)OX Compounds; R(CO)X, X = S, Se, Te. [In: *Sci. Synth.*; **2006**, 20b]. Georg Thieme Verlag: Stuttgart, Germany, 2006.

257. Panek, J. S., Ed. *Houben-Weyl Methods of Molecular Transformations Category 3, Compounds with Four and Three Carbon-Heteroatom Bonds; Volume 20a. Three Carbon-Heteroatom Bonds: Acid Halides; Carboxylic Acids and Acid Salts*. [In: *Sci. Synth.*, **2006**; 20a]. Georg Thieme Verlag: Stuttgart, Germany, 2006.

258. Schaumann, E., Ed. *Houben-Weyl Methods of Molecular Transformations, Category 5 Compounds with One Saturated Carbon-Heteroatom Bond; Chlorine, Bromine, and Iodine*. [In: *Sci. Synth.*, **2007**; 35]. Georg Thieme Verlag: Stuttgart, Germany, 2007.

259. Tamaru, Y., Ed. *Modern Organonickel Chemistry*. Wiley-VCH Verlag: Weinheim, Germany, 2005.

260. Yuasa, H., Ed. *Nanotechnology in Carbohydrate Chemistry*. Transworld Research Network: Trivandrum, India, 2006.

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